ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

SPONSORS

Kinemetrics, Pasadena, U.S.A.

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

©2011 INTERNATIONAL SEISMOLOGICAL CENTRE
Pipers Lane, Thatcham, Berkshire, RG19 4NS, United Kingdom

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:05:19.4±0.7, 38.°46N×72.°14E, h0km, mb4.2/21, mb1 4.4/27, mb1mx4.3/35, mbtmp4.2/27, ML4.2/6, MS3.4/8, Ms1 3.4/8, ms1mx3.0/46, Error ellipse: s-maj=14.4km s-min=11.0km az=163.0*

*NEIC **01** 00:05:20.0±0.2, 38.°22N×72.°13E, h10km, mb4.6/18, Error ellipse: s-maj=5.3km s-min=3.1km az=217.0*

*NNC **01** 00:05:22.2±1.0, 38.°66N×71.°76E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=8.8km s-min=5.5km az=5.0*

*MOS **01** 00:05:24.3±1.4, 38.°65N×72.°02E, h33km, mb4.6/38, Error ellipse: s-maj=6.6km s-min=4.1km az=95.4*

*BJI **01** 00:05:25.1, 38.°98N×72.°05E, h27km, mB4.4/7, mb4.2/11, ML4.3/5, Ms4.5/8, Ms7 4.0/7*

*SZGRF **01** 00:05:38.3, 39.°73N×70.°97E, h33km, mb4.3, Tajikistan*

ISC 01 00:05:21.2±1.6**, 38.°35N**±0.°03×**72.°07E**±0.°04**, h17**km±10km**, n281, σ1.°83**/283**, mb4.4**/58**, MS3.6**/8**, 26C-15D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	3.26	68	Pn	Pn	00 06 10.5	-1.1
KSH				Sn	Sn	00 06 48.5	-1.6
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,1.0s						
AML	Almayashu	3.98	18	i PN	Pn	00 06 23.3	+1.5
AML	Almayashu	3.98	18	P	Pn	00 06 23.3	+1.5
	SNR=803						
UCH	Uchtor	4.30	25	P	Pb	00 06 32.2	-4.4
	SNR=13						
KZA	Kyzart	4.45	32	i PN	Pn	00 06 29.8	+1.5
KZA	Kyzart	4.45	32	P	Pn	00 06 29.8	+1.5
	SNR=49						
EKS2	Erkin-Say	4.50	16	ePN	Pn	00 06 30.5	+1.8
EKS2				e		00 07 22.6	
EKS2	Erkin-Say	4.50	16	ePn	Pn	00 06 30.5	+1.8
EKS2				eSn	Sn	00 07 22.6	+1.9
EKS2	Erkin-Say	4.50	16	P	Pn	00 06 30.6	+1.8
	SNR=67						
CEP	Cherat	4.51	182	P	Pb	00 06 38.2	-1.9
CEP				S	Sg	00 07 44.0	-2.2
KBL	Kabul	4.51	214	ePN	Pb	00 06 37.5	-2.6
KBL				e		00 07 37.9	
KBL	Kabul	4.51	214	ePn	Pb	00 06 37.5	-2.6
KBL				eSn	Sb	00 07 37.9	+3.6
AAK	Ala-Archa	4.66	23	Pn	Pn	00 06 32.8	+1.9
	comp=E,13nm,0.3s,baz=187,slow=5.5,SNR=88						
AAK				Sn	Sn	00 07 27.6	+2.8
	comp=E,17nm,0.3s,baz=135,slow=13,SNR=4.1						
AAK	Ala-Archa	4.66	23	d iPN	Pn	00 06 32.7	+1.7
AAK				pmax	pmax		
	comp=Z,84nm,0.6s						
AAK	Ala-Archa	4.66	23	ePn	Pn	00 06 32.8	+1.9
AAK				eSn	Sn	00 07 21.6	-3.2
AAK	Ala-Archa	4.66	23	P	Pn	00 06 33.0	+2.0
	SNR=91						
CHCP	Chirah Chowk	4.78	168	P	Pb	00 06 40.7	-3.8
KBK	Karagaybulak	4.83	26	i PN	Pn	00 06 35.1	+1.8
KBK	Karagaybulak	4.83	26	P	Pn	00 06 35.1	+1.8
	SNR=32						
FRU	Bishkek	4.88	23	⇓ePN	Pn	00 06 35.0	+1.1
FRU				eS	Sn	00 07 28.0	-2.0
FRU				pmax	pmax		
	comp=Z,230nm,1.6s						
FRU				smax	smax		
	comp=N,2μm,1.9s						
KK31	Karatay Array	4.90	346	⇓Pn	Pn	00 06 35.9	+1.8
	comp=N,64nm,0.5s,baz=168,slow=13,SNR=2049						
KK31				⇓Pg	Pb	00 06 45.1	-1.4
	comp=N,70nm,0.5s,baz=167,slow=15,SNR=4.6						
KK31				⇑Sn	Sn	00 07 32.1	+1.8
	comp=N,97nm,0.4s						
KK31				⇑Lg	Lg	00 07 44.6	
	comp=N,159nm,0.5s,baz=153,slow=29,SNR=5.8						
KK31	Karatay Array	4.90	346	i PN	Pn	00 06 35.8	+1.8
KK31				pmax	pmax		
	comp=Z,51nm,0.2s						
KKAR	Karatay Array	4.90	346	ePN	Pn	00 06 35.8	+1.8
KKAR				e		00 07 30.7	
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KKAR	Karatay Array	4.90	346	ePn	Pn	00 06 35.8	+1.8
	comp=Z,3.6nm,0.9s						
KKAR				eSn	Sn	00 07 30.7	+0.3
ULHL	Ulahol	5.03	38	i PN	Pn	00 06 38.4	+2.3
ULHL	Ulahol	5.03	38	P	Pn	00 06 38.4	+2.3
	SNR=9.0						
CHMS	Chumysh	5.08	23	i PN	Pn	00 06 38.3	+1.8
CHMS	Chumysh	5.08	23	P	Pn	00 06 38.3	+1.8
	SNR=55						
USP	Ospenovka	5.25	20	i PN	Pn	00 06 40.3	+1.4
USP	Ospenovka	5.25	20	P	Pn	00 06 40.2	+1.4
	SNR=54						
TKM2	Tokmak 2	5.30	29	⇑Pn	Pn	00 06 41.0	+1.3
	comp=Z,20nm,0.5s						
TKM2				⇑Pg	Pb	00 06 56.6	+3.1
	comp=Z,118nm,1.0s						
TKM2				⇑Lg	Lg	00 08 05.9	
	comp=Z,279nm,1.2s						
TKM2	Tokmak 2	5.30	29	i PN	Pn	00 06 40.9	+1.2
TKM2	Tokmak 2	5.30	29	ePn	Pn	00 06 41.1	+1.3
	comp=Z,129nm,0.9s						
TKM2	Tokmak 2	5.30	29	P	Pn	00 06 40.9	+1.3
	SNR=59						
THW	Thamme Wali	5.54	183	P	Pn	00 06 49.9	+6.9
KNDC	Almaty	6.12	36	⇑Pn	Pn	00 06 53.0	+2.1
	comp=Z,56nm,0.9s						
KNDC				Pg	Pb	00 07 12.2	+4.9
KNDC				⇑Lg	Lg	00 08 33.4	
	comp=Z,810nm,1.2s						
SDNR	Sundarnagar	7.92	148	eP	Pn	00 07 22.0	+6.4
SDNR				ex	x	00 08 57.0	
SMLA	Simla	8.33	148	i P	Pn	00 07 28.2	+7.1
SMLA				eS	Sn	00 08 53.5	-1.3
SMLA				⇓AML	AML	00 09 07.6	
	comp=N,443nm,0.6s						
SMLA				⇓AML	AML	00 09 07.6	
	comp=E,462nm,0.6s						
DDI	Dehra Dun	9.40	147	eP	Pn	00 07 41.5	+5.5
DDI				ex	x	00 09 27.3	
NDI	New Delhi	10.55	155	ex	Pn	00 07 53.0	+1.5
NDI				ex	Sn	00 09 54.0	+4.7
AYAN	Aya Nagar	10.70	155	eP	Pn	00 07 60.0	+6.3
AYAN				eS	Sn	00 09 49.7	-3.3
KHET	Khetri	10.71	162	eP	Pn	00 07 58.6	+4.8
KHET				eS	Sn	00 09 51.5	-1.8
KUDL	Kundal	10.82	159	eP	Pn	00 07 59.2	+4.0
KUDL				eS	Sn	00 09 53.8	-2.2
MK31	Makanchi Array	11.31	38	⇓Pn	Pn	00 08 05.6	+3.7
	comp=E,30nm,1.0s						
MK31				⇓Lg	Lg	00 11 13.5	
	comp=E,17nm,1.0s						
MK31	Makanchi Array	11.31	38	i P	Pn	00 08 02.9	+1.0
MK31				pmax	pmax		
	comp=Z,48nm,1.1s						
MK31	Makanchi Array	11.31	38	ePn	Pn	00 08 03.2	+1.3
MKAR	Makanchi Array	11.31	38	Pn	Pn	00 08 03.5	+1.6
	comp=Z,0.7nm,0.3s,baz=227,slow=16,SNR=62						
MKAR				Lg	Lg	00 11 15.2	
	comp=Z,0.3nm,0.3s,baz=228,slow=29,SNR=5.6						
MKAR				LR	LR	00 12 56.0	
	comp=Z,46nm,20.7s,baz=232,slow=41						
MKAR	Makanchi Array	11.31	38	P	Pn	00 08 03.5	+1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	11.31	38	Pn	Pn	00 08 03.5	+1.6
MKAR				Lg	Lg	00 11 15.2	
WMQ	Urumqi	12.99	60	eP	Pn	00 08 26.5	+1.6
WMQ				LR	LR		
	comp=N,490nm,7.8s						
WMQ				LR	LR		
	comp=E,210nm,5.4s						
WMQ				LR	LR		
	comp=Z,170nm,27.0s						
KURBB	Kurchatov Arra	13.11	18	Pn	Pn	00 08 23.5	-2.9
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=18						
KURBB				Sn	Sn	00 10 57.0	+5.3
	comp=Z,0.1nm,0.3s,baz=221,slow=29,SNR=3.1						
KURBB				Lg	Lg	00 12 06.4	
	comp=Z,0.1nm,0.3s,baz=210,slow=32,SNR=4.6						
KURBB				LR	LR	00 13 32.3	
	comp=Z,172nm,19.2s,baz=205,slow=38						
KURBB	Kurchatov Arra	13.11	18	⇑Pn	Pn	00 08 26.0	-0.4
	comp=Z,1.2nm,1.0s						
KURBB				⇓Lg	Lg	00 12 11.1	
	comp=Z,7.2nm,0.7s						
KURK	Kurchatov	13.21	18	⇓Pn	Pn	00 08 27.8	-0.1
	comp=Z,10nm,1.3s						
KURK				⇑Lg	Lg	00 12 14.6	
	comp=Z,70nm,1.2s						
KURK	Kurchatov	13.21	18	ceP	Pn	00 08 25.6	-2.3
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KURK	Kurchatov	13.21	18	ePn	Pn	00 08 24.9	-3.0
KURK				Sn	Sn	00 10 57.0	+2.7
KURK				Lg	Lg	00 12 06.4	
PYUN	Piuthan	13.70	135	eP	Pn	00 08 33.0	-1.8
	comp=Z,34nm,0.4s						
PYUN				eS	Sn	00 10 59.0	-7.6
PYUN	Piuthan	13.70	135	eP	Pn	00 08 33.0	-1.8
	comp=Z,34nm,0.4s						
PYUN				eS	Sn	00 10 59.0	-7.6
DANN	Dangsing	13.94	132	eP	Pn	00 08 36.4	-1.9
	comp=Z,19nm,0.4s						
DANN	Dangsing	13.94	132	eP	Pn	00 08 36.4	-1.9
	comp=Z,19nm,0.4s						
AB31	Akbulak array	13.97	325	⇑Pn	Pn	00 08 35.6	-2.6
	comp=Z,16nm,0.6s,baz=137,slow=12						
AB31				⇑Sn	Sn	00 11 08.2	-4.6
	comp=Z,17nm,0.7s,baz=143,slow=22						
AB31	Akbulak array	13.97	325	i P	Pn	00 08 34.8	-3.4
AB31				pmax	pmax		
	comp=Z,12nm,0.4s						
ABKAR	Akbulak array	13.97	325	ePn	Pn	00 08 34.7	-3.5
	comp=Z,22nm,0.6s						
ABKAR				eSn	Sn	00 10 59.8	-13
KOLN	Koldanda	14.29	134	eP	Pn	00 08 41.0	-2.0
	comp=Z,12nm,0.5s						
KOLN	Koldanda	14.29	134	eP	Pn	00 08 41.0	-2.0
	comp=Z,12nm,0.5s						
VOSK	Vostochnaya	14.40	357	⇑Pn	Pn	00 08 43.1	-1.0
	comp=Z,6.7nm,0.8s						
VOSK				⇑Sn	Sn	00 11 20.3	-3.0
	comp=Z,18nm,1.0s						
VOSK				⇑Lg	Lg	00 12 49.7	
	comp=Z,51nm,1.2s						
GKN	Gorkha	14.72	131	eP	Pn	00 08 46.1	-2.6
	comp=Z,20nm,0.5s						
GKN	Gorkha	14.72	131	eP	Pn	00 08 46.1	-2.6
	comp=Z,20nm,0.5s						
BVA0	Borovoye Array	14.73	356	⇑Pn	Pn	00 08 47.6	-1.0
	comp=Z,2.5nm,0.8s,baz=164,slow=6.8,SNR=81						
BVA0				Sn	Sn	00 11 28.1	-3.2
	comp=Z,1.9nm,0.8s,baz=168,slow=23,SNR=7.4						
BVA0				⇑Lg	Lg	00 12 59.2	
	comp=Z,6.2nm,1.1s						
BVA0	Borovoye Array	14.73	356	i P	Pn	00 08 45.7	-2.9
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	Borovoye Array	14.73	356	Pn	Pn	00 08 44.7	-3.9
	comp=Z,1.0nm,0.3s,baz=161,slow=11,SNR=40						
BVAR				Sn	Sn	00 11 25.1	-6.2
	comp=Z,0.8nm,0.3s,baz=164,slow=21,SNR=8.2						
BVAR				Lg	Lg	00 12 56.7	
	comp=Z,0.2nm,0.3s,baz=173,slow=30,SNR=3.0						
BVAR				LR	LR	00 14 40.3	
	comp=Z,199nm,20.1s,baz=179,slow=38						
BVAR	Borovoye Array	14.73	356	P	Pn	00 08 44.7	-3.9
BVAR						00 11 25.1	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,199nm,20.1s						
BVAR	Borovoye Array	14.73	356	Pn	Pn	00 08 44.7	-3.9
BVAR				Sn	Sn	00 11 25.1	-6.2
BVAR				Lg	Lg	00 12 56.7	
ZRNK	Zerenda	14.76	353	⇓Pn	Pn	00 08 47.3	-1.8
	comp=Z,15nm,0.6s						
ZRNK				⇓Sn	Sn	00 11 29.7	-2.3
	comp=Z,11nm,0.8s						
ZRNK				⇓Lg	Lg	00 12 59.9	
	comp=Z,52nm,1.4s						
BRVK	Borovoye	14.77	356	⇑Pn	Pn	00 08 48.5	-0.6
	comp=Z,16nm,0.6s						
BRVK				⇑Sn	Sn	00 11 29.3	-2.8
	comp=Z,11nm,0.7s						
BRVK				⇑Lg	Lg	00 13 01.1	
	comp=Z,60nm,1.2s						
BRVK	Borovoye	14.77	356	eP	Pn	00 08 45.4	-3.7
BRVK				e		00 11 26.8	
BRVK				pmax	pmax		
	comp=Z,11nm,0.6s						
BRVK	Borovoye	14.77	356	ePn	Pn	00 08 45.4	-3.7
	comp=Z,12nm,0.6s						
BRVK				eSn	Sn	00 11 26.8	-5.4
KKN	Kakani	15.26	130	eP	Pn	00 08 54.0	-2.0
	comp=Z,23nm,0.6s						
KKN	Kakani	15.26	130	eP	Pn	00 08 54.0	-2.0
KKN				pmax	pmax		
	comp=Z,23nm,0.6s						
KKN	Kakani	15.26	130	eP	Pn	00 08 54.0	-2.0
	comp=Z,23nm,0.6s						
DMN	Daman	15.29	131	eP	Pn	00 08 54.2	-2.2
DMN	Daman	15.29	131	eP	Pn	00 08 54.2	-2.2
PKI	Pulchoki	15.50	130	eP	Pn	00 08 57.6	-1.7
PKI	Pulchoki	15.50	130	eP	Pn	00 08 57.6	-1.7
PKI	Pulchoki	15.50	130	eP	Pn	00 08 57.6	-1.7
GUN	Gumba	15.54	128	eP	Pn	00 08 57.9	-1.9
GUN	Gumba	15.54	128	eP	Pn	00 08 57.9	-1.9
AKTO	Aktyubinsk	15.68	325	Pn	Pn	00 08 58.1	-3.1
	comp=Z,0.9nm,0.3s,baz=129,slow=14,SNR=29						
AKTO				Sn	Sn	00 11 46.8	-7.7
	comp=Z,0.6nm,0.3s,baz=8.1,slow=14,SNR=3.0						
AKTO	Aktyubinsk	15.68	325	⇑Pn	Pn	00 08 59.8	-1.4
	comp=Z,12nm,0.8s						
AKTO				⇑Sn	Sn	00 11 51.1	-3.4
	comp=Z,3.7nm,1.0s						
AKTO	Aktyubinsk	15.68	325	i P	Pn	00 08 59.3	-1.9
AKTO				pmax	pmax		
	comp=Z,12nm,0.8s						
AKTO	Aktyubinsk	15.68	325	Pn	Pn	00 08 58.1	-3.1
AKTO				Sn	Sn	00 11 46.8	-7.7
JIRN	Jiri	15.91	128	eP	Pn	00 09 03.4	-1.2
JIRN	Jiri	15.91	128	eP	Pn	00 09 03.4	-1.2
RAMN	Ramite	16.67	129	eP	Pn	00 09 11.9	-2.4
	comp=Z,32nm,0.6s						
RAMN	Ramite	16.67	129	eP	Pn	00 09 11.9	-2.4
	comp=Z,32nm,0.6s						
TAPN	Taplejung	17.09	125	eP	Pn	00 09 17.8	-1.7
	comp=Z,26nm,0.7s						
TAPN	Taplejung	17.09	125	eP	Pn	00 09 17.8	-1.7
	comp=Z,26nm,0.7s						
ODAN	Odare	17.23	127	eP	Pn	00 09 19.3	-1.9
	comp=Z,28nm,0.7s						
ODAN	Odare	17.23	127	eP	Pn	00 09 19.3	-1.9
	comp=Z,28nm,0.7s						
ZAA0	Zalesovo Array	17.89	25	ePn	Pn	00 09 25.8	-3.1
ZALV	Zalesovo Beam	17.89	25	P	Pn	00 09 26.4	-2.5
	comp=Z,2.5nm,0.3s,baz=219,slow=9.7,SNR=53						
ZALV				S	S	00 12 56.2	+2.0
	comp=Z,0.0nm,0.3s,baz=227,slow=23,SNR=2.6						
ZALV				LR	LR	00 15 35.4	
	comp=Z,32nm,19.8s,baz=156,slow=35						
ZALV	Zalesovo Beam	17.89	25	P	Pn	00 09 26.4	-2.5
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZALV	Zalesovo Beam	17.89	25	P	Pn	00 09 26.4	-2.5
ZALV				S	S	00 12 56.2	+2.0
LSA	Lhasa	17.99	113	P	P	00 09 36.0	+4.7
LSA	Lhasa	17.99	113	eP	P	00 09 34.0	+2.6
LSA				pmax	pmax		
	comp=Z,11nm,0.7s						
LSA	Lhasa	17.99	113	eP	P	00 09 34.0	+2.6
	comp=Z,11nm,0.7s						
NVS	Novosibirsk	18.16	21	i P	Pn	00 09 29.4	-2.9
NVS				e		00 12 51.7	
WSAR	Wadi Sarin	18.94	221	P	P	00 09 40.2	-1.2
	comp=Z,0.2nm,0.3s,baz=13,slow=7.8,SNR=3.7						
WSAR	Wadi Sarin	18.94	221	P	P	00 09 40.2	-1.2
SVE	Sverdlovsk	19.98	341	⇓iP	P	00 09 52.2	-0.3
SVE				pmax	pmax		
	comp=Z,31nm,0.6s						
SVE				MLR	MLR		
	comp=Z,372nm,11.0s						
ARU	Arti	20.21	338	d iP	P	00 09 55.2	+0.3
ARU				S	S	00 13 37.2	-3.7
ARU				pmax	pmax		
	comp=Z,26nm,1.0s						
ARU	Arti	20.21	338	eP	P	00 09 54.1	-0.8
	comp=Z,16nm,0.6s						
DGRG	David-gareji	20.69	287	P	Pn	00 10 14.3	+11
TBLG	Delisi	21.17	288	eP	P	00 10 10.5	+5.0
TBLG	Delisi	21.17	288	P	P	00 10 10.6	+5.0
GNI	Garni	21.22	283	P	P	00 10 10.1	+3.9
	comp=Z,3.7nm,0.5s,baz=356,slow=1.8,SNR=8.4						
GNI	Garni	21.22	283	ePn	P	00 10 09.9	+3.7
	comp=Z,48nm,1.2s						
GTA	Gaotai	21.59	78	eP	P	00 10 12.4	+2.2
GTA				pP	pP	00 10 19.5	+4.3
GTA				sP	sP	00 10 23.1	+5.6
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,80nm,6.2s						
GTA				LR	LR		
	comp=N,160nm,14.2s						
GTA				LR	LR		
	comp=E,160nm,10.5s						
GTA				LR	LR		
	comp=Z,200nm,9.5s						
HYB	Hyderabad	21.61	163	i P	P	00 10 15.0	+4.6
GOR	Gori	21.64	289	P	P	00 10 20.8	+10
ZEI	Tsey	21.81	291	eP	P	00 10 19.5	+6.9
ZEI				pmax	pmax		
	comp=Z,11nm,0.6s						
AKH	Akhalkalaki	22.10	287	P	P	00 10 19.7	+4.0
ONI	Oni	22.13	290	P	P	00 10 18.7	+2.8
MIB	Mutribah	22.14	255	eP	P	00 10 20.9	+4.9
MIB				AMb	AMB	00 10 26.1	
	comp=Z,43nm,0.8s						
RDF	Al-Radifah	22.42	253	eP	P	00 10 22.2	+3.2
RDF				AMb	AMB	00 10 32.9	
	comp=Z,59nm,1.0s						
NAY	Al-Naaiem	22.49	254	eP	P	00 10 22.3	+2.5
NAY				AMb	AMB	00 10 28.3	
	comp=Z,16nm,1.2s						
KBZ	Khabaz	22.59	293	P	P	00 10 21.3	+0.6
	comp=Z,2.8nm,0.6s,baz=120,slow=11,SNR=7.4						
KBZ	Khabaz	22.59	293	P	P	00 10 21.3	+0.6
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	Khabaz	22.59	293	P	P	00 10 21.3	+0.6
KIV	Kislovodsk	22.76	294	⇑Pn	P	00 10 25.6	+3.0
	comp=Z,16nm,0.6s						
KIV				⇑Sn	Sn	00 14 42.2	-3.3
	comp=Z,10nm,0.7s						
KIV	Kislovodsk	22.76	294	eP	P	00 10 24.6	+2.0
KIV				eS	S	00 14 28.1	-2.6
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,48nm,14.0s						
KIV	Kislovodsk	22.76	294	eP	P	00 10 21.5	-1.1
	comp=Z,21nm,0.7s						
MOY	Mondy	24.21	47	eP	P	00 10 42.4	+5.5
VRHR	Novokhopersk	24.91	311	eP	P	00 10 43.6	+0.5
VRHR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAK	Zakamensk	25.15	51	eP	P	00 10 46.1	+0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LZH	Lanzhou	25.34	85	eP	P	00 10 56.4	+9.1
LZH				pP	pP	00 11 01.3	+8.7
LZH				sP	sP	00 11 04.2	+9.4
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				pmax	pmax		
	comp=Z,83nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,7.9s						
LZH				LR	LR		
	comp=E,1μm,7.4s						
LZH				LR	LR		
	comp=Z,2μm,10.0s						
TLY	Talaya	25.77	49	eP	P	00 10 55.6	+4.7
TLY				eS	S	00 15 18.4	-0.7
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VORD	Divnogorie	26.28	309	eP	P	00 10 55.8	+0.4
VSR	Storozhevoye	26.42	310	eP	P	00 10 54.8	-2.0
VSR				pmax	pmax		
	comp=N,3.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	Songino Array	26.61	58	P	P	00 10 59.5	+0.8
	comp=Z,3.3nm,0.9s,baz=274,slow=7.7,SNR=9.6						
SONM	Songino Array	26.61	58	P	P	00 10 59.5	+0.8
ULN	Ulaanbaatar	27.05	58	eP	P	00 11 00.3	-2.3
	comp=Z,2.1nm,0.7s						
OBN	Obninsk	29.14	317	⇑iP	P	00 11 21.8	+0.8
OBN				e		00 12 15.3	
OBN				pmax	pmax		
	comp=Z,15nm,1.2s						
BR131	Keskin Array S	29.74	285	eP	P	00 11 28.8	+2.1
	comp=Z,1.9nm,0.8s						
BRTR	Keskin Array B	29.74	285	P	P	00 11 28.1	+1.5
	comp=Z,1.0nm,0.7s,baz=105,slow=8.0,SNR=6.8						
BRTR	Keskin Array B	29.74	285	P	P	00 11 28.1	+1.5
XAN	Xi'an	29.92	87	P	P	00 11 36.3	+8.1
XAN				pP	pP	00 11 41.2	+7.7
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,25nm,5.5s						
XAN				LR	LR		
	comp=N,340nm,9.8s						
XAN				LR	LR		
	comp=E,150nm,9.4s						
KLMR	Klimovskoe	30.32	329	eP	P	00 11 30.1	-1.3
KLMR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	Chiang Mai Arr	30.66	123	P	P	00 11 42.5	+7.6
	comp=Z,0.9nm,0.4s,baz=277,slow=7.0,SNR=5.0						
CMAR	Chiang Mai Arr	30.66	123	P	P	00 11 42.5	+7.6
AKASG	Malin Array Be	32.50	306	P	P	00 11 50.3	-0.4
	comp=Z,2.0nm,0.6s,baz=82,slow=7.1,SNR=5.9						
AKASG	Malin Array Be	32.50	306	P	P	00 11 50.3	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	32.50	306	P	P	00 11 50.3	-0.4
KIEV	Kiev	32.51	306	eP	P	00 11 50.8	0.0
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIEV	Kiev	32.51	306	eP	P	00 11 50.8	0.0
	comp=Z,3.4nm,0.6s						
BOD	Bodaibo	33.39	41	eP	P	00 11 57.2	-1.2
JOF	Joensuu	34.72	328	eP	P	00 12 09.3	-0.6
JOF				pmax	pmax		
	comp=Z,13nm,0.5s						
JOF	Joensuu	34.72	328	ep	P	00 12 09.3	-0.6
	comp=Z,13nm,0.5s						
FINES	FINESS Array B	36.46	324	P	P	00 12 25.5	+0.7
	comp=Z,9.9nm,0.5s,baz=108,slow=8.9,SNR=130						
FINES				LR	LR	00 28 06.9	
	comp=Z,100nm,18.4s,baz=143,slow=38						
FINES	FINESS Array B	36.46	324	P	P	00 12 25.5	+0.7
KAF	Kangasniemi	36.56	326	eP	P	00 12 25.3	-0.4
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KAF	Kangasniemi	36.56	326	ep	P	00 12 25.3	-0.4
	comp=Z,4.6nm,0.5s						
KWP	Kalwaria Pacla	36.65	304	eP	P	00 12 29.3	+2.7
KWP	Kalwaria Pacla	36.65	304	eP	P	00 12 27.5	+0.9
KWP				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KWP	Kalwaria Pacla	36.65	304	eP	P	00 12 27.5	+0.9
	comp=Z,4.0nm,0.5s						
KWP	Kalwaria Pacla	36.65	304	eP	P	00 12 29.3	+2.7
NIE	Niedzica	38.21	304	eP	P	00 12 42.3	+2.4
NIE	Niedzica	38.21	304	eP	P	00 12 42.3	+2.4
NJ2	Nanjing	38.41	85	eP	P	00 12 44.1	+2.3
NJ2				S	S	00 18 34.0	-2.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				LR	LR		
	comp=N,480nm,16.6s						
NJ2				LR	LR		
	comp=E,1μm,17.4s						
NJ2				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1µm,15.4s						
KEV	**Kevo**	**39.42**	**337**	*e*P	**P**	**00 12 49.0**	**-0.7**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**39.42**	**337**	*e*p	**P**	**00 12 49.0**	**-0.7**
	comp=Z,1.1nm,0.3s						
ARCES	**ARCESS Array B**	**39.78**	**336**	P	**P**	**00 12 53.1**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=108,slow=8.1,SNR=89						
ARCES				LR	LR	00 30 24.5	
	comp=Z,96nm,18.4s,baz=150,slow=38						
ARCES	**ARCESS Array B**	**39.78**	**336**	P	**P**	**00 12 53.1**	**+0.3**
ARE0	**ARCESS Array S**	**39.78**	**336**	*e*P	**P**	**00 12 53.1**	**+0.3**
GKP	**Gorka Klasztor**	**40.01**	**310**	*e*P	**P**	**00 12 57.3**	**+2.4**
GKP	**Gorka Klasztor**	**40.01**	**310**	*e*P	**P**	**00 12 57.2**	**+2.4**
VRAC	**Vranov**	**40.65**	**304**	P	**P**	**00 13 01.9**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=79,slow=9.0,SNR=4.5						
VRAC	**Vranov**	**40.65**	**304**	P	**P**	**00 13 01.9**	**+1.7**
KSP	**Ksiaz**	**40.70**	**306**	*e*P	**P**	**00 13 02.5**	**+1.9**
KSP	**Ksiaz**	**40.70**	**306**	*e*P	**P**	**00 13 02.5**	**+1.9**
DPC	**Dobruska-Polom**	**40.72**	**306**	*e*P	**P**	**00 13 02.8**	**+2.0**
DPC	**Dobruska-Polom**	**40.72**	**306**	*e*P	**P**	**00 13 02.8**	**+2.0**
UPC	**Upice**	**40.91**	**306**	*e*P	**P**	**00 13 04.7**	**+2.4**
UPC	**Upice**	**40.91**	**306**	*e*P	**P**	**00 13 04.7**	**+2.4**
HFS	**Hagfors**	**42.16**	**321**	P	**P**	**00 13 13.5**	**+1.0**
	comp=Z,14nm,0.6s,baz=97,slow=11,SNR=83						
HFS	**Hagfors**	**42.16**	**321**	P	**P**	**00 13 13.5**	**+1.0**
BRG	**Berggiesshubel**	**42.18**	**307**	*e*P	**P**	**00 13 14.1**	**+1.4**
	comp=Z,8.4nm,1.5s						
BRG	**Berggiesshubel**	**42.18**	**307**	*e*P	**P**	**00 13 14.1**	**+1.4**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GERES	**GERESS Array B**	**42.59**	**304**	P	**P**	**00 13 17.4**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=74,slow=9.9,SNR=6.2						
GERES				PP	**PP**	**00 14 56.3**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=83,slow=11,SNR=4.3						
GERES				LR	LR	00 34 01.2	
	comp=Z,62nm,19.0s,baz=102,slow=40						
GERES	**GERESS Array B**	**42.59**	**304**	P	**P**	**00 13 17.4**	**+1.2**
GERES				PP	**PP**	**00 14 56.3**	**+1.4**
KHC	**Kasperske Hory**	**42.63**	**304**	*e*P	**P**	**00 13 17.5**	**+1.0**
KHC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KHC	**Kasperske Hory**	**42.63**	**304**	*e*P	**P**	**00 13 18.2**	**+1.7**
KHC				*e*		00 13 27.0	
KHC	**Kasperske Hory**	**42.63**	**304**	*e*P	**P**	**00 13 17.5**	**+1.0**
	comp=Z,2.2nm,0.6s						
KHC	**Kasperske Hory**	**42.63**	**304**	*e*P	**P**	**00 13 18.2**	**+1.7**
KHC				*e*x	x	00 13 27.0	
CLL	**Collm**	**42.72**	**307**	*i* P	**P**	**00 13 18.3**	**+1.2**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**42.72**	**307**	*i* P	**P**	**00 13 18.3**	**+1.2**
	comp=Z,3.0nm,0.8s						
CLL				*e*PcP	**PcP**	**00 15 09.0**	**+0.5**
NB2	**NORSAR Subarra**	**43.44**	**322**	P	**P**	**00 13 23.3**	**+0.4**
	comp=Z,12nm,0.9s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.44**	**322**	P	**P**	**00 13 23.1**	**+0.3**
	comp=Z,6.2nm,0.8s,baz=92,slow=7.9,SNR=18						
NOA				PP	**PcP**	**00 15 07.7**	**-3.2**
	comp=Z,1.3nm,0.8s,baz=83,slow=11,SNR=4.3						
NOA				LR	LR	00 32 38.9	
	comp=Z,49nm,20.6s,baz=180,slow=38						
NOA	**NORSAR Array B**	**43.44**	**322**	P	**P**	**00 13 23.1**	**+0.3**
NOA				PP	**PcP**	**00 15 07.7**	**-3.2**
KSAR	**Wonju Array Be**	**43.47**	**73**	P	P	00 13 27.1	+3.7
KSRS	**Korea Array**	**43.50**	**73**	P	P	00 13 27.1	+3.5
	comp=Z,1.5nm,0.6s,baz=283,slow=8.5,SNR=4.9						
GRF	**Grafenberg Arr**	**44.07**	**305**	*e*P	**P**	**00 13 30.2**	**+2.2**
GRF				pmax	pmax		
	comp=Z,16nm,2.4s						
GRF	**Grafenberg Arr**	**44.07**	**305**	*e*P	**P**	**00 13 30.2**	**+2.2**
	comp=Z,16nm,2.4s						
DAVOX	**Davos/Dischmat**	**45.50**	**302**	P	**P**	**00 13 40.5**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=101,slow=8.9,SNR=7.3						
DAVOX	**Davos/Dischmat**	**45.50**	**302**	P	**P**	**00 13 40.5**	**+0.8**
HINF	**Hinteralfeld**	**47.27**	**304**	*e*P	**P**	**00 13 55.6**	**+2.2**
HINF	**Hinteralfeld**	**47.27**	**304**	*e*P	**P**	**00 13 55.6**	**+2.2**
HINF	**Hinteralfeld**	**47.27**	**304**	*e*P	**P**	**00 13 55.6**	**+2.2**
JNU	**Nakatsue**	**47.33**	**78**	P	**P**	**00 13 55.5**	**+1.4**
	comp=Z,8.3nm,0.8s,baz=350,slow=4.4,SNR=3.9						
JNU	**Nakatsue**	**47.33**	**78**	P	**P**	**00 13 55.5**	**+1.4**
LPG	**La Plagne**	**47.92**	**301**	*e*P	**P**	**00 14 00.3**	**+1.5**
	comp=Z,8.6nm,0.9s						
LPG	**La Plagne**	**47.92**	**301**	*e*P	**P**	**00 14 00.3**	**+1.5**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPG	**La Plagne**	**47.92**	**301**	*e*P	**P**	**00 14 00.3**	**+1.5**
	comp=Z,8.6nm,0.9s						
LPL	**La Plagne**	**47.93**	**301**	*e*P	**P**	**00 14 00.5**	**+1.7**
	comp=Z,3.7nm,0.5s						
LPL	**La Plagne**	**47.93**	**301**	*e*P	**P**	**00 14 00.5**	**+1.7**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPL	**La Plagne**	**47.93**	**301**	*e*P	**P**	**00 14 00.5**	**+1.7**
	comp=Z,3.7nm,0.5s						
MEZF	**Maizieres J'vi**	**48.28**	**305**	*e*P	**P**	**00 14 02.3**	**+1.2**
MEZF	**Maizieres J'vi**	**48.28**	**305**	*e*P	**P**	**00 14 02.3**	**+1.2**
BAIF	**Baives**	**48.45**	**307**	*e*P	**P**	**00 14 03.8**	**+1.4**
BAIF	**Baives**	**48.45**	**307**	*e*P	**P**	**00 14 03.8**	**+1.4**
BAIF	**Baives**	**48.45**	**307**	*e*P	**P**	**00 14 03.8**	**+1.4**
ORIF	**Oris-en-Rattie**	**48.68**	**300**	*e*P	**P**	**00 14 04.7**	**+0.3**
ORIF	**Oris-en-Rattie**	**48.68**	**300**	*e*P	**P**	**00 14 04.7**	**+0.3**
ORIF	**Oris-en-Rattie**	**48.68**	**300**	*e*P	**P**	**00 14 04.7**	**+0.3**
SSF	**Saint Saulge**	**49.66**	**303**	*e*P	**P**	**00 14 12.8**	**+1.0**
SSF	**Saint Saulge**	**49.66**	**303**	*e*P	**P**	**00 14 12.8**	**+1.0**
SSF	**Saint Saulge**	**49.66**	**303**	*e*P	**P**	**00 14 12.8**	**+1.0**
AVF	**Avril sur Loir**	**49.84**	**303**	*e*P	**P**	**00 14 14.3**	**+1.2**
	comp=Z,7.2nm,0.8s						
AVF	**Avril sur Loir**	**49.84**	**303**	*e*P	**P**	**00 14 14.3**	**+1.2**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AVF	**Avril sur Loir**	**49.84**	**303**	*e*P	**P**	**00 14 14.3**	**+1.2**
	comp=Z,7.2nm,0.8s						
BGF	**Bois d'Agland**	**50.24**	**303**	*e*P	**P**	**00 14 17.4**	**+1.2**
BGF	**Bois d'Agland**	**50.24**	**303**	*e*P	**P**	**00 14 17.4**	**+1.2**
BGF	**Bois d'Agland**	**50.24**	**303**	*e*P	**P**	**00 14 17.4**	**+1.2**
TCF	**Toulx Ste Croi**	**50.74**	**303**	*e*P	**P**	**00 14 21.6**	**+1.6**
	comp=Z,7.7nm,0.9s						
TCF	**Toulx Ste Croi**	**50.74**	**303**	*e*P	**P**	**00 14 21.6**	**+1.6**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TCF	**Toulx Ste Croi**	**50.74**	**303**	*e*P	**P**	**00 14 21.6**	**+1.6**
	comp=Z,7.7nm,0.9s						
MJAR	**Matsushiro Arr**	**51.50**	**70**	P	**P**	**00 14 26.5**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=286,slow=10,SNR=7.2						
MJAR	**Matsushiro Arr**	**51.50**	**70**	P	**P**	**00 14 26.5**	**+0.6**
LDF	**La Druitiere**	**51.56**	**306**	*e*P	**P**	**00 14 27.2**	**+1.1**
LDF	**La Druitiere**	**51.56**	**306**	*e*P	**P**	**00 14 27.2**	**+1.1**
LDF	**La Druitiere**	**51.56**	**306**	*e*P	**P**	**00 14 27.2**	**+1.1**
FLN	**La Foliniere**	**51.74**	**306**	*e*P	**P**	**00 14 28.9**	**+1.5**
FLN	**La Foliniere**	**51.74**	**306**	*e*P	**P**	**00 14 28.9**	**+1.5**
FLN	**La Foliniere**	**51.74**	**306**	*e*P	**P**	**00 14 28.9**	**+1.5**
GRR	**Gorron**	**52.09**	**306**	*e*P	**P**	**00 14 30.7**	**+0.6**
GRR	**Gorron**	**52.09**	**306**	*e*P	**P**	**00 14 30.7**	**+0.6**
GRR	**Gorron**	**52.09**	**306**	*e*P	**P**	**00 14 30.7**	**+0.6**
SGMF	**Saint Gilles**	**53.21**	**306**	*e*P	**P**	**00 14 39.7**	**+1.4**
SGMF	**Saint Gilles**	**53.21**	**306**	*e*P	**P**	**00 14 39.7**	**+1.4**
SGMF	**Saint Gilles**	**53.21**	**306**	*e*P	**P**	**00 14 39.7**	**+1.4**
ROSF	**Rostrenen**	**53.64**	**307**	*e*P	**P**	**00 14 42.4**	**+0.9**
ROSF	**Rostrenen**	**53.64**	**307**	*e*P	**P**	**00 14 42.4**	**+0.9**
ROSF	**Rostrenen**	**53.64**	**307**	*e*P	**P**	**00 14 42.4**	**+0.9**
ESDC	**Sonseca Array**	**57.36**	**297**	P	**P**	**00 15 09.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=59,slow=7.7,SNR=9.2						
ESDC	**Sonseca Array**	**57.36**	**297**	P	**P**	**00 15 09.2**	**+0.7**
SUMG	**Summit**	**59.60**	**341**	*e*P	**P**	**00 15 23.0**	**-1.0**
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SUMG	**Summit**	**59.60**	**341**	*e*P	**P**	**00 15 23.0**	**-1.0**
	comp=Z,9.4nm,0.9s						
SUMG	**Summit**	**59.60**	**341**	*i* P	**P**	**00 15 24.9**	**+0.9**
	comp=Z,9.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**66.62**	**268**	*e*P	**P**	**00 16 11.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**66.62**	**268**	P	**P**	**00 16 11.7**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=50,slow=5.7,SNR=64						
TORD	**Torodi Ar. Bea**	**66.62**	**268**	P	**P**	**00 16 11.7**	**+0.7**
COLD	**Coldfoot**	**69.97**	**16**	*e*P	**P**	**00 16 31.0**	**-0.1**
	comp=Z,9.4nm,0.9s						
INK	**Inuvik**	**71.95**	**10**	*e*P	**P**	**00 16 43.5**	**+0.4**
	comp=Z,16nm,1.0s						
COLA	**College**	**72.47**	**17**	*e*P	**P**	**00 16 46.2**	**-0.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
COLA	**College**	**72.47**	**17**	*e*P	**P**	**00 16 46.2**	**-0.1**
	comp=Z,7.3nm,0.9s						
ILAR	**Eielson Array**	**72.77**	**16**	P	**P**	**00 16 47.9**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=317,slow=5.0,SNR=34						
ILAR	**Eielson Array**	**72.77**	**16**	P	**P**	**00 16 47.9**	**-0.2**
SML	**Sawmill**	**74.97**	**19**	*e*P	**P**	**00 17 00.6**	**-0.5**
SML	**Sawmill**	**74.97**	**19**	*e*P	**P**	**00 17 00.6**	**-0.5**
YKA	**Yellowknife Ar**	**79.36**	**3**	P	**P**	**00 17 25.9**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=349,slow=5.7,SNR=76						
YKA	**Yellowknife Ar**	**79.36**	**3**	P	**P**	**00 17 25.9**	**+0.3**
SCHQ	**Schefferville**	**80.73**	**337**	P	**P**	**00 17 33.3**	**0.0**
	comp=Z,2.3nm,0.7s,baz=40,slow=6.5,SNR=5.6						
SCHQ	**Schefferville**	**80.73**	**337**	P	**P**	**00 17 33.3**	**0.0**
DLBC	**Dease Lake**	**81.82**	**12**	P	**P**	**00 17 40.0**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=342,slow=9.2,SNR=7.0						
DLBC	**Dease Lake**	**81.82**	**12**	P	**P**	**00 17 40.0**	**+1.0**
WRA	**Warramunga Arr**	**82.25**	**123**	P	**P**	**00 17 42.2**	**+0.5**
	comp=Z,3.4nm,1.1s,baz=322,slow=4.8,SNR=27						
WRA	**Warramunga Arr**	**82.25**	**123**	P	**P**	**00 17 42.2**	**+0.5**
ASAR	**Alice Springs**	**84.62**	**126**	P	**P**	**00 17 55.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=319,slow=5.3,SNR=6.4						
ASAR	**Alice Springs**	**84.62**	**126**	P	**P**	**00 17 55.0**	**+1.1**
FFC	**Flin Flon**	**87.16**	**357**	*e*P	**P**	**00 18 05.9**	**-0.1**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FFC	**Flin Flon**	**87.16**	**357**	*ce*P	**P**	**00 18 07.2**	**+1.2**
FFC	**Flin Flon**	**87.16**	**357**	*e*P	**P**	**00 18 05.9**	**-0.1**
	comp=Z,1.9nm,0.8s						

*ISK **01** 00:08:17.7, 37°.75N×29°.34E, h12^{km}, MD3.1*
*ISCJB **01** 00:08:18.0±0.6, 37°.74N±0°.04×29°.31E±0°.04, h10^{km}±5^{km}, Error ellipse: s-maj=6.3km s-min=5.5km az=141.5*
*CSEM **01** 00:08:18.0±0.1, 37°.73N×29°.33E, h8^{km}, ML3.0, Error ellipse: s-maj=3.5km s-min=3.0km az=116.0*
*DDA **01** 00:08:20.3, 37°.83N×29°.09E, h2^{km}, ML3.0*
ISC 01 00:08:18.5±0.9**, 37°.77N**±0°.02×**29°.29E**±0°.03**, h13**^{km}±7^{km}**, n49, σ1^{s}00**/60**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**265**	*e*PG	**Pg**	**00 08 23.0**	**0.0**
DENT	**Denizli**	**0.20**	**265**	*e*Pg	**Pg**	**00 08 23.0**	**0.0**
DNZL	**Cakiroluk**	**0.21**	**247**	*i* P	**Pg**	**00 08 23.6**	**+0.4**
DNZL				*i* S	**Sg**	**00 08 26.2**	**-0.2**
DNZL	**Cakiroluk**	**0.21**	**247**	*i* P	**Pg**	**00 08 23.6**	**+0.4**
DNZL				*i* S	**Sg**	**00 08 26.2**	**-0.2**
GOLH	**Golhisar**	**0.57**	**158**	*i* P	**Pn**	**00 08 34.0**	**+1.6**
GOLH				*i* S	**Sn**	**00 08 45.3**	**+3.5**
KHL	**Karahalli**	**0.58**	**18**	*e*PG	**Pg**	**00 08 30.1**	**+0.2**
KHL	**Karahalli**	**0.58**	**18**	*e*Pg	**Pg**	**00 08 30.1**	**+0.2**
KHAL	**Karahalli**	**0.62**	**15**	*i* P	**Pg**	**00 08 31.0**	**+0.4**
KHAL	**Karahalli**	**0.62**	**15**	*i* P	**Pg**	**00 08 31.0**	**+0.4**
KULA	**Kula-Manisa**	**0.89**	**326**	*e*PG	**Pg**	**00 08 36.0**	**+0.3**
KULA	**Kula-Manisa**	**0.89**	**326**	*e*Pg	**Pg**	**00 08 36.1**	**+0.3**
MANT	**Manisa**	**0.92**	**321**	*i* P	**Pb**	**00 08 35.9**	**-0.6**
MANT				*i* S	**Sg**	**00 08 48.0**	**-0.4**
MANT	**Manisa**	**0.92**	**321**	*i* P	**Pb**	**00 08 35.9**	**-0.6**
MANT				*i* S	**Sg**	**00 08 48.0**	**-0.4**
YER	**Yerkesik**	**1.02**	**232**	*e*PG	**Pb**	**00 08 38.1**	**0.0**
YER	**Yerkesik**	**1.02**	**232**	*e*Pg	**Pb**	**00 08 38.1**	**0.0**
BCK	**Bucak**	**1.08**	**106**	*e*PG	**Pb**	**00 08 37.6**	**-1.4**
BCK	**Bucak**	**1.08**	**106**	*e*Pg	**Pb**	**00 08 37.6**	**-1.4**
AYDN	**Tasoluk**	**1.12**	**265**	*i* P	**Pb**	**00 08 39.7**	**-0.1**
AYDN				*i* S	**Sb**	**00 08 52.2**	**-2.2**
AYDN	**Tasoluk**	**1.12**	**265**	*i* P	**Pb**	**00 08 39.7**	**-0.1**
ELL	**Elmali**	**1.13**	**154**	*e*PN	**Pb**	**00 08 39.3**	**-0.7**
ELL	**Elmali**	**1.13**	**154**	*e*Pn	**Pb**	**00 08 39.3**	**-0.7**
FETY	**Fethiye**	**1.15**	**188**	*e*PN	**Pn**	**00 08 40.1**	**-0.1**
FETY	**Fethiye**	**1.15**	**188**	*e*Pn	**Pn**	**00 08 40.1**	**-0.1**
SHUT	**Suhut-Afyon**	**1.27**	**51**	*e*PN	**Pn**	**00 08 41.5**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**51**	*e*Pn	**Pn**	**00 08 41.5**	**-0.5**
MLSB	**Milas**	**1.29**	**249**	*e*PN	**Pb**	**00 08 42.8**	**+0.2**
MLSB	**Milas**	**1.29**	**249**	*e*Pn	**Pb**	**00 08 42.8**	**+0.2**
GDZ	**Gediz**	**1.32**	**6**	*i* P	**Pg**	**00 08 45.0**	**+1.0**
GDZ				*i* S	**Sg**	**00 09 02.7**	**+1.4**
GDZ	**Gediz**	**1.32**	**6**	*i* P	**Pg**	**00 08 45.0**	**+1.0**
GDZ				*i* S	**Sg**	**00 09 02.7**	**+1.4**
DEMI	**Demirci**	**1.35**	**341**	*i* P	**Pb**	**00 08 44.1**	**+0.5**
DEMI				*i* S	**Sn**	**00 09 00.4**	**-0.5**
DEMI	**Demirci**	**1.35**	**341**	*i* P	**Pb**	**00 08 44.1**	**+0.5**
DEMI				*i* S	**Sn**	**00 09 00.4**	**-0.5**
ALT	**Altintas**	**1.44**	**26**	*e*PN	**Pn**	**00 08 44.5**	**+0.2**
ALT	**Altintas**	**1.44**	**26**	*e*Pn	**Pn**	**00 08 44.5**	**+0.2**
AKHS	**Akhisar**	**1.60**	**314**	*e*P	**Pb**	**00 08 48.0**	**0.0**
AKHS				*e*S	**Sn**	**00 09 03.3**	**-3.8**
AKHS	**Akhisar**	**1.60**	**314**	*e*P	**Pb**	**00 08 48.0**	**0.0**
AKS	**Akhisar**	**1.60**	**314**	*e*PN	**Pn**	**00 08 47.5**	**+1.0**
AKS	**Akhisar**	**1.60**	**314**	*e*Pn	**Pn**	**00 08 47.5**	**+1.0**
TVSB	**Tavsanli**	**1.68**	**5**	*e*PN	**Pn**	**00 08 48.0**	**+0.3**
TVSB	**Tavsanli**	**1.68**	**5**	*e*Pn	**Pn**	**00 08 48.0**	**+0.3**
IZM	**Izmir**	**1.72**	**292**	*e*PN	**Pn**	**00 08 49.1**	**+1.0**
IZM	**Izmir**	**1.72**	**292**	*e*Pn	**Pn**	**00 08 49.1**	**+1.0**
BALB	**Balikesir**	**2.17**	**330**	*e*PN	**Pn**	**00 08 54.9**	**+0.6**
BALB	**Balikesir**	**2.17**	**330**	*e*Pn	**Pn**	**00 08 54.9**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.61**	**353**	*e*PN	**Pn**	**00 09 01.2**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.61**	**353**	*e*Pn	**Pn**	**00 09 01.2**	**+0.8**
ARMT	**Armutlu**	**2.81**	**353**	*e*PN	**Pn**	**00 09 03.9**	**+0.8**
ARMT	**Armutlu**	**2.81**	**353**	*e*Pn	**Pn**	**00 09 03.9**	**+0.8**
GULT	**Gulveren**	**2.82**	**19**	*e*PN	**Pn**	**00 09 03.9**	**+0.5**
GULT	**Gulveren**	**2.82**	**19**	*e*Pn	**Pn**	**00 09 03.9**	**+0.5**

*ISCJB **01** 00:09:35.5±0.4, 26°.92N±0°.04×104°.13E±0°.04, h10^{km}, mb3.8/10, MS3.1/7, Error ellipse: s-maj=6.0km s-min=4.7km az=29.6*
*IDC **01** 00:09:35.7±1.0, 26°.88N×104°.22E, h0^{km}, mb3.8/11, mb1 3.9/11, mb1mx3.8/27, mbtmp3.8/11, MS3.2/7, Ms1 3.2/7, ms1mx2.9/40, Error ellipse: s-maj=36.3km s-min=18.0km az=56.0*
*BJI **01** 00:09:36.4, 26°.90N×104°.20E, h11^{km}, mb4.5/1, ML4.0/16, Ms4.2/4, Ms7 3.7/2*
ISC 01 00:09:38.0±0.6**, 26°.85N**±0°.04×**104°.18E**±0°.05**, h10**^{km}**, n20, σ1^{s}54**/24**, mb3.8**/11**, MS3.1**/7**, 1C, Southeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.15**	**217**	Pn	**Pn**	**00 10 14.4**	**+0.2**
KMI				Pg	**Pb**	**00 10 16.9**	**-0.3**
KMI				Sg	**Sb**	**00 10 47.6**	**+3.6**
KMI				smax	smax		
	comp=N,320nm,1.1s						
KMI				smax	smax		
	comp=E,290nm,1.8s						
GYA	**Guiyang**	**2.26**	**99**	⇑*i*Pn	**Pn**	**00 10 16.8**	**+1.2**
GYA				Pg	**Pb**	**00 10 20.9**	**+1.9**
GYA				Sn	**Sn**	**00 10 44.5**	**+0.9**
GYA				Sg	**Sb**	**00 10 47.5**	**+0.4**
GYA				smax	smax		
	comp=N,4µm,1.0s						
GYA				smax	smax		
	comp=E,2µm,1.0s						
CD2	**Chengdu**	**4.06**	**355**	Pn	**Pn**	**00 10 41.2**	**+0.9**
CD2				Pg	**Pb**	**00 10 52.5**	**+2.8**
CD2				Sg	**Sg**	**00 11 48.2**	**-0.3**
CD2				smax	smax		
	comp=N,500nm,0.8s						
CD2				smax	smax		
	comp=E,860nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.65**	**211**	Pn	**Pn**	**00 11 59.4**	**+2.4**
	comp=E,0.5nm,0.3s,baz=23,slow=12,SNR=5.4						
WHN	**Wuhan**	**9.66**	**65**	P	**Pn**	**00 11 55.9**	**-1.2**
WHN				S	**Sn**	**00 13 47.4**	**+1.7**
WHN				LR	LR		
	comp=N,2µm,4.6s						
WHN				LR	LR		
	comp=E,950nm,4.4s						
SONM	**Songino Array**	**21.02**	**4**	P	**P**	**00 14 21.1**	**-0.8**
	comp=E,3.7nm,0.5s,baz=186,slow=11,SNR=32						
KSRS	**Korea Array**	**22.66**	**56**	P	**P**	**00 14 37.5**	**-1.8**
	comp=E,1.5nm,0.6s,baz=240,slow=11,SNR=5.1						
KSRS				LR	LR	00 24 19.5	
	comp=E,74nm,18.6s,baz=347,slow=39						
MKAR	**Makanchi Array**	**26.36**	**325**	P	**P**	**00 15 13.0**	**-1.4**
	comp=E,0.7nm,0.6s,baz=124,slow=9.9,SNR=4.6						
MKAR				LR	LR	00 26 36.3	
	comp=E,58nm,18.6s,baz=237,slow=39						
USRK	**Ussuriysk Arra**	**28.31**	**45**	LR	LR	00 27 44.1	
	comp=E,21nm,20.4s,baz=267,slow=38						
AAK	**Ala-Archa**	**28.84**	**311**	LR	LR	00 28 07.5	
	comp=E,33nm,19.4s,baz=195,slow=38						
MJAR	**Matsushiro Arr**	**30.39**	**63**	LR	LR	00 29 22.0	
	comp=E,51nm,18.2s,baz=250,slow=39						
ZALV	**Zalesovo Beam**	**30.62**	**337**	P	**P**	**00 15 50.9**	**-1.2**
	comp=E,2.2nm,0.7s,baz=132,slow=9.5,SNR=4.9						
ZALV				LR	LR	00 28 51.6	
	comp=E,48nm,20.1s,baz=55,slow=38						
KURBB	**Kurchatov Arra**	**30.76**	**327**	P	**P**	**00 15 52.5**	**-0.9**
	comp=E,3.6nm,0.6s,baz=132,slow=9.9,SNR=10						
BVAR	**Borovoye Array**	**36.24**	**325**	P	**P**	**00 16 40.4**	**-0.8**
	comp=E,0.5nm,0.6s,baz=121,slow=9.8,SNR=4.2						
WRA	**Warramunga Arr**	**54.95**	**145**	P	**P**	**00 19 08.4**	**-0.9**
	comp=E,0.7nm,0.5s,baz=335,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**57.86**	**148**	P	**P**	**00 19 29.6**	**-0.6**
	comp=E,0.3nm,0.3s,baz=326,slow=6.6,SNR=4.0						
FINES	**FINESS Array B**	**61.15**	**328**	P	**P**	**00 19 51.4**	**-1.0**
	comp=E,2.0nm,0.9s,baz=90,slow=7.6,SNR=4.2						
CTA	**Charters Tower**	**61.97**	**134**	LR	LR	00 50 05.1	
	comp=E,40nm,18.3s,baz=230,slow=39						
GERES	**GERESS Array B**	**70.59**	**316**	P	**P**	**00 20 53.5**	**-0.1**
	comp=E,0.1nm,0.3s,baz=83,slow=8.0,SNR=2.6						
YKA	**Yellowknife Ar**	**85.73**	**17**	P	**P**	**00 22 15.9**	**-1.1**
	comp=E,0.1nm,0.6s,baz=324,slow=4.9,SNR=3.7						

*IDC **01** 00:34:16.3±1.1, 9°.50N×93°.56E, h0^{km}, mb3.6/7, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/37, Error ellipse: s-maj=41.6km s-min=18.0km az=57.0*
*ISCJB **01** 00:34:19.1±0.7, 9°.6N±0°.1×93°.8E±0°.1, h29^{km}, mb3.6/7, MS3.2/2, Error ellipse: s-maj=23.6km s-min=8.9km az=148.2*
ISC 01 00:34:21.1±0.9**, 9°.6N**±0°.1×**93°.7E**±0°.2**, h29**^{km}**, n20, σ0^{s}75**/19**, mb3.7**/7**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.51**	**142**	Pn	**Pn**	**00 36 23.0**	**+0.4**
	1.3nm,0.3s,baz=323,slow=13,SNR=4.7						
PSI				LR	LR	00 40 16.2	
	comp=Z,142nm,18.6s,baz=220,slow=42						
CMAR	**Chiang Mai Arr**	**10.19**	**29**	Pn	**Pn**	**00 36 44.8**	**-0.8**
	0.1nm,0.3s,baz=218,slow=15,SNR=17						
RAMN	**Ramite**	**18.54**	**340**	*e*P	**Pn**	**00 38 37.1**	**+1.0**
	14nm,0.7s						
TAPN	**Taplejung**	**18.56**	**343**	*e*P	**Pn**	**00 38 36.5**	**+0.1**
JIRN	**Jiri**	**19.33**	**340**	*e*P	**Pn**	**00 38 45.5**	**-0.3**
	1.9nm,0.5s						
PKI	**Pulchoki**	**19.53**	**338**	*e*P	**P**	**00 38 47.1**	**+0.3**
GUN	**Gumba**	**19.67**	**339**	*e*P	**P**	**00 38 48.7**	**+0.4**
GKN	**Gorkha**	**20.22**	**336**	*e*P	**P**	**00 38 54.4**	**+0.3**
	24nm,0.7s						
KOLN	**Koldanda**	**20.44**	**334**	*e*P	**P**	**00 38 57.0**	**+0.4**
	8.6nm,0.5s						
DANN	**Dangsing**	**20.88**	**335**	*e*P	**P**	**00 39 02.0**	**+0.6**
	18nm,0.5s						
PYUN	**Piuthan**	**21.00**	**333**	*e*P	**P**	**00 39 03.3**	**+0.7**
MKAR	**Makanchi Array**	**38.34**	**347**	P	**P**	**00 41 39.3**	**-0.2**
	0.6nm,0.8s,baz=168,slow=8.4,SNR=7.4						
SONM	**Songino Array**	**39.61**	**13**	P	**P**	**00 41 51.9**	**+1.7**
	0.4nm,0.6s,baz=199,slow=10,SNR=4.4						
SONM				PcP	**PcP**	**00 43 56.3**	**-0.7**
	0.2nm,0.7s,baz=197,slow=2.2,SNR=2.7						
KSRS	**Korea Array**	**41.50**	**43**	LR	LR	01 01 19.9	
	comp=Z,15nm,21.9s,baz=215,slow=39						
ZALV	**Zalesovo Beam**	**44.82**	**353**	P	**P**	**00 42 31.4**	**-1.0**
	0.6nm,0.5s,baz=176,slow=8.3,SNR=5.0						
WRA	**Warramunga Arr**	**49.62**	**126**	P	**P**	**00 43 09.9**	**-0.4**
	0.5nm,0.7s,baz=306,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**51.35**	**131**	P	**P**	**00 43 23.4**	**-0.1**
	0.8nm,0.6s,baz=305,slow=7.2,SNR=9.5						
BRTR	**Keskin Array B**	**60.99**	**310**	P	**P**	**00 44 31.2**	**-1.1**
	0.4nm,0.7s,baz=137,slow=5.3,SNR=4.9						
PETK	**Petropavlovsk-**	**66.89**	**36**	LR	LR	01 17 56.9	
	comp=Z,39nm,18.1s,baz=208,slow=39						
GERES	**GERESS Array B**	**76.27**	**318**	P	**P**	**00 46 07.7**	**+0.3**
	0.4nm,0.8s,baz=70,slow=8.8,SNR=3.6						

*CSEM **01** 00:41:08.3±0.1, 64°.52N×17°.94W, h2^{km}, mb4.5/37, Ms3.7, Error ellipse: s-maj=2.9km s-min=2.7km az=8.0*
*REY **01** 00:41:08.3, 64°.50N×17°.67W, h1^{km}, ML3.9, ML4.4*
*IDC **01** 00:41:09.5±0.5, 64°.38N×17°.93W, h0^{km}, mb4.0/22, mb1 4.2/27, mb1mx4.1/37, mbtmp4.0/27, ML3.3/5, MS4.0/27, Ms1 4.0/27, ms1mx3.9/39, Error ellipse: s-maj=15.7km s-min=8.3km az=20.0*
*ISCJB **01** 00:41:09.4±0.1, 64°.48N±0°.01×17°.75W±0°.03, h10^{km}, mb4.5/100, MS4.1/28, Error ellipse: s-maj=2.2km s-min=1.8km az=42.4*
*NEIC **01** 00:41:11.0±0.2, 64°.33N×17°.72W, h5^{km}, mb4.7/74, Error ellipse: s-maj=5.4km s-min=3.2km az=212.0*
*SZGRF **01** 00:41:12.9, 65°.44N×16°.16W, h10^{km}, mb4.4, MS3.6, Iceland*
ISC 01 00:41:09.8±0.3**, 64°.51N**±0°.02×**17°.78W**±0°.02**, h10**^{km}**, n471, σ1^{s}55**/374**, mb4.5**/103**, MS4.1**/28**, 31C-31D, Iceland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall**	**0.25**	**114**	P	**Pg**	**00 41 12.4**	**-2.4**
IGRF	**Grimsfjall**	**0.25**	**114**	P	**Pg**	**00 41 12.7**	**-2.1**
IGRF				S	**Sg**	**00 41 18.8**	**+0.5**
ISKR	**Skrokkalda**	**0.27**	**281**	P	**Pg**	**00 41 14.3**	**-0.9**
ISKR	**Skrokkalda**	**0.27**	**281**	P	**Pg**	**00 41 14.3**	**-0.9**
IKAL	**Kalfafell**	**0.56**	**176**	P	**Pg**	**00 41 18.5**	**-2.2**
IKAL				S	**Sg**	**00 41 26.2**	**-1.9**
IVAT	**Vatnsfell**	**0.59**	**237**	P	**Pg**	**00 41 19.4**	**-1.8**
IVAT	**Vatnsfell**	**0.59**	**237**	P	**Pg**	**00 41 19.4**	**-1.8**
IKRE	**Kreppuhraun**	**0.66**	**65**	P	Pg	00 41 18.7	-3.9
IKRE	**Kreppuhraun**	**0.66**	**65**	P	Pg	00 41 18.7	-3.9
IKRE				S	**Sg**	**00 41 30.3**	**-1.0**
IASK	**Askja**	**0.73**	**41**	P	**Pg**	**00 41 21.1**	**-2.8**
IMKO	**Mokollar**	**0.78**	**52**	P	**Pg**	**00 41 22.2**	**-2.5**
IFAG	**Fagurholsmyri**	**0.81**	**142**	P	**Pg**	**00 41 22.3**	**-2.9**
IFAG				S	**Sg**	**00 41 33.1**	**-2.6**
IHVE	**Hveravellir**	**0.85**	**296**	P	**Pg**	**00 41 23.7**	**-2.4**
IHVE	**Hveravellir**	**0.85**	**296**	P	**Pg**	**00 41 23.7**	**-2.4**
ISNB	**Snabyli**	**0.86**	**206**	P	**Pg**	**00 41 23.7**	**-2.6**
ISNB				S	**Sg**	**00 41 36.1**	**-1.4**
ISNB	**Snabyli**	**0.86**	**206**	P	**Pg**	**00 41 23.8**	**-2.6**
ISNB				S	**Sg**	**00 41 36.0**	**-1.4**
ISVA	**Svartarkot**	**0.86**	**15**	P	Pg	00 41 22.8	-3.5
ISVA	**Svartarkot**	**0.86**	**15**	P	**Pg**	**00 41 23.7**	**-2.6**
ISVA				S	**Sg**	**00 41 35.3**	**-2.2**
IGYG	**Gygjarholskot**	**1.08**	**259**	P	**Pg**	**00 41 27.7**	**-2.8**
IGYG	**Gygjarholskot**	**1.08**	**259**	P	**Pg**	**00 41 27.7**	**-2.8**
IHVO	**Lagu-Hvolar**	**1.09**	**206**	P	**Pb**	**00 41 27.8**	**-2.9**
IHVO	**Lagu-Hvolar**	**1.09**	**206**	P	**Pb**	**00 41 28.2**	**-2.5**
IHAU	**Haukadalur**	**1.10**	**241**	P	**Pb**	**00 41 28.3**	**-2.5**
IREN	**Reynihlio**	**1.20**	**18**	S	**Sb**	**00 41 46.8**	**-1.4**
IESK	**Eystri-Skogar**	**1.23**	**217**	P	**Pn**	**00 41 30.0**	**-3.0**
IESK	**Eystri-Skogar**	**1.23**	**217**	P	**Pn**	**00 41 30.5**	**-2.5**
IMID	**Miomork**	**1.26**	**228**	P	**Pn**	**00 41 31.1**	**-2.2**
ISAU	**Saurbar**	**1.26**	**247**	P	**Pn**	**00 41 30.7**	**-2.7**
ISAU				S	**Sb**	**00 41 48.3**	**-1.5**
ISKI	**Skildingahˆ‡ls**	**1.40**	**13**	S	**Sn**	**00 41 51.6**	**-2.3**
IASM	**Asmuli**	**1.41**	**243**	P	**Pn**	**00 41 33.7**	**-1.8**
IGRA	**Granastaoir**	**1.42**	**3**	S	**Sn**	**00 41 51.6**	**-2.6**
IGHS	**Grjothals**	**1.44**	**19**	S	**Sn**	**00 41 52.9**	**-1.9**
IHLA	**Hella**	**1.46**	**350**	P	**Pn**	**00 41 33.4**	**-2.8**
IHLA				S	**Sb**	**00 41 55.1**	**-0.5**
ISOL	**Solvholt**	**1.50**	**249**	P	**Pn**	**00 41 34.5**	**-2.2**
IKRO	**Krokur**	**1.51**	**256**	P	**Pn**	**00 41 34.7**	**-2.1**
IKRO				S	**Sb**	**00 41 55.6**	**-1.4**
IHEI	**Heioarbar**	**1.53**	**260**	P	**Pn**	**00 41 35.4**	**-1.7**
IVES	**Vestmannaeyjar**	**1.54**	**227**	P	**Pn**	**00 41 35.5**	**-1.7**
IASB	**`sbjarnarst**	**1.54**	**281**	P	**Pn**	**00 41 35.5**	**-1.8**
IASB				S	**Sn**	**00 41 56.3**	**-1.0**
BORG	**Borgarnes**	**1.55**	**281**	Pg	**Pn**	**00 41 35.2**	**-2.1**
	323nm,0.3s,baz=99,slow=8.8,SNR=616						
BORG				Lg	Lg	00 41 57.1	
	84nm,0.3s,baz=200,slow=21,SNR=13						
BORG	**Borgarnes**	**1.55**	**281**	*e*Pn	**Pn**	**00 41 35.3**	**-2.0**
BORG				Lg	Lg	00 41 57.1	
BORG	**Borgarnes**	**1.55**	**281**	*e*Pn	**Pn**	**00 41 35.3**	**-2.0**
BORG				Lg	Lg	00 41 57.2	
IHED	**Heoinshofoi**	**1.59**	**7**	S	**Sn**	**00 41 57.0**	**-1.5**
IBRE	**Brettingsstaoi**	**1.62**	**358**	P	**Pn**	**00 41 36.0**	**-2.3**
IBRE				S	**Sn**	**00 41 58.4**	**-0.8**
IBJA	**Bjarnastaoir**	**1.64**	**251**	P	**Pn**	**00 41 36.8**	**-1.8**
IFLA	**Flatey**	**1.66**	**359**	P	**Pn**	**00 41 36.8**	**-2.0**
IFLA				S	**Sb**	**00 42 00.0**	**-1.3**
ISIG	**Siglufjorour**	**1.70**	**344**	P	**Pn**	**00 41 37.4**	**-2.0**
ISIG				S	**Sn**	**00 42 00.7**	**-0.4**
IKUD	**Kuludalsa**	**1.79**	**266**	P	**Pn**	**00 41 39.1**	**-1.5**

IKUD S **Sb** **00 42 02.9 -2.0**
IVOS Vogsosar 1.84 251 P **Pn** **00 41 39.3 -2.0**
IVOS Vogsosar 1.84 251 P **Pn** **00 41 39.3 -2.0**
IKAS Kald??rsel 1.84 256 P **Pn** **00 41 39.1 -2.3**
IKAS Kald??rsel 1.84 256 P **Pn** **00 41 39.1 -2.3**
IHRN Hraun 1.88 330 P **Pn** **00 41 40.4 -1.5**
IGRI Grimsey 2.04 357 S **Sn** **00 42 09.9 +0.2**
IVOG Vogar 2.09 257 P **Pn** **00 41 42.8 -1.9**
IVOG Vogar 2.09 257 P **Pn** **00 41 42.8 -1.9**
SCO Scoresbysund 6.21 347 *i* P **Pn** **00 42 41.9 +0.6**
102nm,0.8s
SCO *i* S **Sn** **00 43 51.5 -0.7**
JMIC Jan Mayen 7.39 24 LR LR 00 45 09.7
comp=Z,1µm,18.0s,baz=224,slow=32
SUMG Summit 11.00 326 *e*Pn Pn 00 43 52.2 +4.9
SUMG Summit 11.00 326 *i* P Pn 00 43 52.9 +5.6
ESK Eskdalemuir 11.73 135 *e*Pn **Pn** **00 43 56.7 -0.2**
ESK Eskdalemuir 11.73 135 *e*Pn **Pn** **00 43 56.7 -0.2**
SFJD Kangerlussuaq 13.62 295 LR LR 00 49 10.1
comp=Z,2µm,19.7s,baz=90,slow=35
SFJD Kangerlussuaq 13.62 295 *i* P P 00 44 35.1 +3.5
6.5nm,0.9s
SFJD
comp=Z,2µm,13.0s
NOA NORSAR Array B 13.65 91 Pn **Pn** **00 44 23.1 -0.1**
comp=Z,0.1nm,0.3s,baz=291,slow=14,SNR=3.0
NOA LR LR 00 49 41.8
comp=Z,412nm,18.4s,baz=300,slow=37
NOA NORSAR Array B 13.65 91 Pn **Pn** **00 44 23.1 -0.1**
NOA NORSAR Array B 13.65 91 Pn **Pn** **00 44 23.1 -0.1**
HFS Hagfors 15.16 92 Pn **Pn** **00 44 44.6 +1.0**
comp=Z,0.1nm,0.3s,baz=303,slow=13,SNR=2.8
HFS Hagfors 15.16 92 Pn **Pn** **00 44 44.6 +1.0**
HFS Hagfors 15.16 92 Pn **Pn** **00 44 44.6 +1.0**
SPITS Spitsbergen Ar 17.06 23 Pn P **00 45 08.9 -0.8**
baz=230,slow=12,SNR=4.9
SPITS LR LR 00 49 55.6
comp=Z,524nm,20.5s,baz=225,slow=31
SPITS Spitsbergen Ar 17.06 23 Pn **P** **00 45 08.9 -0.8**
SPITS Spitsbergen Ar 17.06 23 Pn **P** **00 45 08.9 -0.8**
ARCES ARCESS Array B 17.31 54 P **P** **00 45 14.2 +1.7**
comp=Z,0.1nm,0.3s,baz=270,slow=8.1,SNR=4.2
ARCES LR LR 00 50 35.2
comp=Z,526nm,20.4s,baz=83,slow=32
ARCES ARCESS Array B 17.31 54 P **P** **00 45 14.2 +1.7**
ARCES ARCESS Array B 17.31 54 P **P** **00 45 14.2 +1.7**
KEV Kevo 17.82 53 *ep* **P** **00 45 20.2 +2.1**
comp=Z,6.2nm,0.7s
KEV Kevo 17.82 53 *e*P **P** **00 45 20.2 +2.1**
comp=Z,6.2nm,0.7s
ROSF Rostrenen 18.01 147 *e*P **P** **00 45 19.3 -1.0**
comp=Z,77nm,1.4s
ROSF Rostrenen 18.01 147 *e*P **P** **00 45 19.3 -1.0**
comp=Z,77nm,1.4s
ROSF Rostrenen 18.01 147 *e*P **P** **00 45 19.3 -1.0**
comp=Z,38nm,1.4s
SNF Seneffe 18.21 130 P **P** **00 45 24.9 +2.3**
comp=Z,13nm,2.7s
SNF Seneffe 18.21 130 P **P** **00 45 24.8 +2.3**
comp=Z,13nm,2.7s
SGMF Saint Gilles 18.25 146 *e*P **P** **00 45 22.4 -0.6**
comp=Z,70nm,1.3s
SGMF Saint Gilles 18.25 146 *e*P **P** **00 45 22.4 -0.6**
comp=Z,70nm,1.3s
SGMF Saint Gilles 18.25 146 *e*P **P** **00 45 22.4 -0.6**
comp=Z,35nm,1.3s
FLN La Foliniere 18.32 141 *e*P **P** **00 45 24.0 +0.3**
comp=Z,129nm,1.5s
FLN *e*R
comp=Z,291nm,17.5s
FLN La Foliniere 18.32 141 *e*P **P** **00 45 24.0 +0.3**
comp=Z,129nm,1.5s
FLN La Foliniere 18.32 141 *e*P **P** **00 45 24.0 +0.3**
comp=Z,64nm,1.5s
QUIF Quistinic 18.43 148 *e*P **Pn** **00 45 24.6 -0.4**
comp=Z,40nm,1.1s
QUIF Quistinic 18.43 148 *e*P **Pn** **00 45 24.6 -0.4**
comp=Z,40nm,1.1s
QUIF Quistinic 18.43 148 *e*P **Pn** **00 45 24.6 -0.4**
comp=Z,20nm,1.1s
GRR Gorron 18.56 142 *e*P **Pn** **00 45 27.4 +0.8**
comp=Z,101nm,1.2s
GRR Gorron 18.56 142 *e*P **Pn** **00 45 27.4 +0.8**
comp=Z,101nm,1.2s
GRR Gorron 18.56 142 *e*P **Pn** **00 45 27.4 +0.8**
comp=Z,50nm,1.2s
LDF La Druitiere 18.57 141 *e*P **Pn** **00 45 25.9 -0.8**
comp=Z,66nm,1.4s
LDF La Druitiere 18.57 141 *e*P **Pn** **00 45 25.9 -0.8**
comp=Z,66nm,1.4s
LDF La Druitiere 18.57 141 *e*P **Pn** **00 45 25.9 -0.8**
comp=Z,33nm,1.4s
BAIF Baives 18.58 131 *e*P **Pn** **00 45 28.3 +1.5**
comp=Z,83nm,1.5s
BAIF Baives 18.58 131 *e*P **Pn** **00 45 28.3 +1.5**
comp=Z,83nm,1.5s
BAIF Baives 18.58 131 *e*P **Pn** **00 45 28.3 +1.5**
comp=Z,41nm,1.5s
BCLA Clavier 18.63 128 P **Pn** **00 45 29.7 +2.2**
comp=Z,10nm,1.7s
BCLA Clavier 18.63 128 P **Pn** **00 45 29.6 +2.2**
comp=Z,10nm,1.7s
DOU Dourbes 18.67 130 P **Pn** **00 45 30.4 +2.4**
DOU Dourbes 18.67 130 P **Pn** **00 45 30.3 +2.4**
GIVF Givet 18.74 130 *e*P **Pn** **00 45 28.8 0.0**
GIVF Givet 18.74 130 *e*P **Pn** **00 45 28.8 0.0**
GIVF Givet 18.74 130 *e*P **Pn** **00 45 28.8 0.0**
CLZ Clausthal 19.31 118 *e*P **Pn** **00 45 35.9 +0.2**
comp=Z,20nm,1.2s
KAF Kangasniemi 19.64 77 *ep* **Pn** **00 45 39.2 -0.4**
comp=Z,4.7nm,0.7s
KAF Kangasniemi 19.64 77 *e*P **Pn** **00 45 39.2 -0.4**
comp=Z,4.7nm,0.7s
FINES FINESS Array B 19.86 79 P **Pn** **00 45 41.8 -0.3**
comp=Z,0.2nm,0.3s,baz=307,slow=11,SNR=11
FINES FINESS Array B 19.86 79 P **Pn** **00 45 41.8 -0.3**
FINES FINESS Array B 19.86 79 P **Pn** **00 45 41.8 -0.3**
MEZF Maizieres J'vi 20.20 132 *e*P Pn 00 45 44.8 -1.5
comp=Z,71nm,1.4s
MEZF Maizieres J'vi 20.20 132 *e*P Pn 00 45 44.8 -1.5
comp=Z,71nm,1.4s
MEZF Maizieres J'vi 20.20 132 *e*P Pn 00 45 44.8 -1.5
comp=Z,36nm,1.4s
PAGF Fort de Pagny 20.38 130 *e*P Pn 00 45 46.8 -1.5
comp=Z,4.3nm,0.9s
PAGF Fort de Pagny 20.38 130 *e*P Pn 00 45 46.8 -1.5
comp=Z,4.3nm,0.9s
PAGF Fort de Pagny 20.38 130 *e*P Pn 00 45 46.8 -1.5
comp=Z,2.2nm,0.9s
MFF Saint Martin d 20.40 143 *e*P Pn 00 45 47.3 -1.3
comp=Z,53nm,1.3s
MFF Saint Martin d 20.40 143 *e*P Pn 00 45 47.3 -1.3
comp=Z,53nm,1.3s
MFF Saint Martin d 20.40 143 *e*P Pn 00 45 47.3 -1.3
comp=Z,27nm,1.3s
SFTF Sexfontaines 20.46 132 *e*P **P** **00 45 47.2 0.0**
comp=Z,72nm,1.3s
SFTF Sexfontaines 20.46 132 *e*P **P** **00 45 47.2 0.0**
comp=Z,72nm,1.3s
SFTF Sexfontaines 20.46 132 *e*P **P** **00 45 47.2 0.0**
comp=Z,36nm,1.3s
MOX Moxa 20.73 118 *e*P Pn 00 45 51.4 -1.1
comp=Z,7.0nm,0.8s
CLL Collm 20.75 115 *e*P **P** **00 45 49.3 -0.9**
comp=Z,19nm,1.5s
CLL Collm 20.75 115 *e*P Pn 00 45 51.0 -1.6
comp=Z,19nm,1.5s
CLL *i* 00 46 01.9
comp=Z,16nm,1.1s
CLL LmH 00 53 00.0
comp=N,500nm,21.7s
CLL LmH 00 53 00.0
comp=E,300nm,19.7s
CLL L L 00 54 00.0
comp=Z,500nm,19.2s
THEF They Montfort 20.75 130 *e*P Pn 00 45 53.7 +1.0
LOR Lormes 20.92 135 *e*P **P** **00 45 52.3 +0.1**
comp=Z,55nm,1.2s
LOR *e*R
comp=Z,934nm,19.8s
LOR Lormes 20.92 135 *e*P **P** **00 45 52.3 +0.1**
comp=Z,55nm,1.2s
LOR Lormes 20.92 135 *e*P **P** **00 45 52.3 +0.1**
comp=Z,28nm,1.2s
GKP Gorka Klasztor 20.99 106 *e*P P 00 45 58.7 +5.9
GKP Gorka Klasztor 20.99 106 *e*P P 00 45 58.7 +5.9
SSF Saint Saulge 21.00 136 *e*P **P** **00 45 53.0 0.0**
comp=Z,57nm,1.2s
SSF Saint Saulge 21.00 136 *e*P **P** **00 45 53.0 0.0**
comp=Z,57nm,1.2s
SSF Saint Saulge 21.00 136 *e*P **P** **00 45 53.0 0.0**
comp=Z,29nm,1.2s
CDF Champ du Feu 21.02 128 *e*P **P** **00 45 54.5 +1.2**
comp=Z,50nm,1.5s
CDF Champ du Feu 21.02 128 *e*P **P** **00 45 54.5 +1.2**
comp=Z,50nm,1.5s
CDF Champ du Feu 21.02 128 *e*P **P** **00 45 54.5 +1.2**
comp=Z,25nm,1.5s
HAU Haudompre 21.06 130 *e*P **P** **00 45 54.9 +1.2**
comp=Z,40nm,1.3s
HAU *e*R
comp=Z,516nm,21.5s
HAU Haudompre 21.06 130 *e*P **P** **00 45 54.9 +1.2**
comp=Z,40nm,1.3s
HAU Haudompre 21.06 130 *e*P **P** **00 45 54.9 +1.2**
comp=Z,20nm,1.3s
ECH Echery 21.15 129 *e*P **P** **00 45 56.1 +1.5**
comp=Z,14nm,1.2s
ECH Echery 21.15 129 *e*P **P** **00 45 56.2 +1.5**
ECH Echery 21.15 129 *e*P **P** **00 45 56.1 +1.5**
comp=Z,14nm,1.2s
AVF Avril sur Loir 21.20 137 *e*P **P** **00 45 55.4 +0.3**
comp=Z,53nm,1.1s
AVF Avril sur Loir 21.20 137 *e*P **P** **00 45 55.4 +0.3**
comp=Z,53nm,1.1s
AVF Avril sur Loir 21.20 137 *e*P **P** **00 45 55.4 +0.3**
comp=Z,26nm,1.1s
TANN Tannenbergstha 21.24 117 *e*P **P** **00 45 56.3 +0.6**
comp=Z,23nm,1.3s
BGF Bois d'Agland 21.26 138 *e*P **P** **00 45 56.4 +0.6**
comp=Z,56nm,1.1s
BGF Bois d'Agland 21.26 138 *e*P **P** **00 45 56.4 +0.6**
comp=Z,56nm,1.1s
BGF Bois d'Agland 21.26 138 *e*P **P** **00 45 56.4 +0.6**
comp=Z,28nm,1.1s
TCF Toulx Ste Croi 21.32 139 *e*P **P** **00 45 56.6 +0.1**
comp=Z,94nm,1.2s
TCF Toulx Ste Croi 21.32 139 *e*P **P** **00 45 56.6 +0.1**
comp=Z,94nm,1.2s
TCF Toulx Ste Croi 21.32 139 *e*P **P** **00 45 56.6 +0.1**
comp=Z,47nm,1.2s
GRF Grafenberg Arr 21.36 120 *e*P **P** **00 45 57.8 +0.9**
comp=Z,39nm,1.4s
GRF *e*L L 00 54 31.0
comp=Z,260nm,22.0s
GRFO Grafenberg 21.36 120 *e*P **P** **00 45 58.1 +1.3**
comp=Z,67nm,1.7s
GRFO Grafenberg 21.36 120 *e*P **P** **00 45 58.1 +1.3**
comp=Z,67nm,1.7s
JOF Joensuu 21.37 72 *ep* **P** **00 45 56.5 -0.4**
comp=Z,4.4nm,0.7s
JOF Joensuu 21.37 72 *e*P **P** **00 45 56.5 -0.4**
comp=Z,4.4nm,0.7s
STU Stuttgart 21.38 125 *e*P **P** **00 45 58.5 +1.4**
comp=Z,21nm,1.0s
STU Stuttgart 21.38 125 *e*P **P** **00 45 58.1 +1.0**
comp=Z,20nm,1.1s
STU Stuttgart 21.38 125 *e*P **P** **00 45 58.1 +1.0**
comp=Z,20nm,1.1s
NKC Novy Kostel 21.38 118 *e*P **P** **00 45 58.7 +1.6**
NKC *ex* x 00 46 07.5
NKC AMS AMS 00 55 50.0
comp=Z,800nm,12.3s
NKC Novy Kostel 21.38 118 P **P** **00 45 58.7 +1.6**
HINF Hinteralfeld 21.39 130 *e*P **P** **00 45 58.3 +1.0**
comp=Z,17nm,1.0s
HINF Hinteralfeld 21.39 130 *e*P **P** **00 45 58.3 +1.0**
comp=Z,17nm,1.0s
HINF Hinteralfeld 21.39 130 *e*P **P** **00 45 58.3 +1.0**
comp=Z,8.6nm,1.0s
BFO Black Forest 21.45 127 *e*P **P** **00 45 59.4 +1.5**
comp=Z,15nm,1.2s
BFO Black Forest 21.45 127 *e*P **P** **00 45 59.7 +1.8**
comp=Z,16nm,1.1s
BFO Black Forest 21.45 127 *e*P **P** **00 45 59.7 +1.8**
comp=Z,16nm,1.1s
MOF Molkenrain 21.46 129 *e*P P 00 46 02.2 +4.2
MOF Molkenrain 21.46 129 *e*P P 00 46 02.2 +4.2
BRG Berggiesshubel 21.46 114 *e*P **P** **00 45 58.7 +0.8**
comp=Z,10nm,1.3s
BRG *e* 00 46 05.9
comp=Z,34nm,1.8s
BRG Berggiesshubel 21.46 114 *e*P **P** **00 45 57.4 -0.5**
comp=Z,30nm,1.5s
ROTZ Rotzenmuhle 21.67 119 *e*P **P** **00 46 00.2 0.0**
comp=Z,29nm,1.6s
FRB Frobisher Bay 21.69 291 P **P** **00 46 01.9 +1.7**
comp=Z,6.9nm,1.0s,baz=64,slow=13,SNR=6.6
FRB LR LR 00 53 29.0
comp=Z,431nm,21.1s,baz=67,slow=34
FRB Frobisher Bay 21.69 291 P **P** **00 46 01.9 +1.7**
FRB Frobisher Bay 21.69 291 P **P** **00 46 01.9 +1.7**
FELD Feldberg im Sc 21.73 128 *e*P **P** **00 46 02.0 +1.0**
FELD Feldberg im Sc 21.73 128 *e*P **P** **00 46 02.0 +1.0**
LOMF Lomont 21.79 130 *e*P P 00 46 06.1 +4.5
LOMF Lomont 21.79 130 *e*P **P** **00 46 04.4 +2.8**
LOMF Lomont 21.79 130 *e*P **P** **00 46 04.4 +2.8**
AGO Saint Agoulin 21.80 138 *e*P **P** **00 46 03.2 +1.5**
AGO Saint Agoulin 21.80 138 *e*P **P** **00 46 03.2 +1.5**
AGO Saint Agoulin 21.80 138 *e*P **P** **00 46 03.2 +1.5**
SPAK Spaichingen-Ko 21.81 126 *e*P P 00 46 06.8 +5.0
BBS Basel-Blauen 21.92 129 *e*P **P** **00 46 04.8 +1.9**
BBS Basel-Blauen 21.92 129 *e*P **P** **00 46 04.8 +1.9**
PLDF La Plantade 22.02 137 *e*P **P** **00 46 05.7 +1.6**
PLDF La Plantade 22.02 137 *e*P **P** **00 46 05.7 +1.6**
PLDF La Plantade 22.02 137 *e*P **P** **00 46 05.7 +1.6**
RJF Les Rejaudoux 22.04 142 *e*P **P** **00 46 04.8 +0.6**
comp=Z,77nm,1.3s
RJF *e*R
comp=Z,339nm,22.5s
RJF Les Rejaudoux 22.04 142 *e*P **P** **00 46 04.8 +0.6**
comp=Z,77nm,1.3s
RJF Les Rejaudoux 22.04 142 *e*P **P** **00 46 04.8 +0.6**
comp=Z,39nm,1.3s
PYM Petit Puy Mans 22.04 139 *e*P **P** **00 46 05.0 +0.7**
PYM Petit Puy Mans 22.04 139 *e*P **P** **00 46 05.0 +0.7**
PYM Petit Puy Mans 22.04 139 *e*P **P** **00 46 05.0 +0.7**
LFF La Frestale 22.17 143 *e*P **P** **00 46 06.9 +1.3**
comp=Z,138nm,1.1s
LFF La Frestale 22.17 143 *e*P **P** **00 46 06.9 +1.3**
comp=Z,138nm,1.1s
LFF La Frestale 22.17 143 *e*P **P** **00 46 06.9 +1.3**
comp=Z,69nm,1.1s
CABF La Chapelle 22.20 132 *e*P **P** **00 46 05.6 -0.4**
comp=Z,47nm,1.4s
CABF La Chapelle 22.20 132 *e*P **P** **00 46 05.6 -0.4**
comp=Z,47nm,1.4s
CABF La Chapelle 22.20 132 *e*P **P** **00 46 05.6 -0.4**
comp=Z,23nm,1.4s
PRU Pruhonice 22.39 115 *e*P **P** **00 46 11.5 +3.6**
PRU *ex* x 00 46 17.6
PRU AMS AMS 00 56 20.0
comp=Z,900nm,18.4s
KSP Ksiaz 22.42 111 *e*P **P** **00 46 10.9 +2.7**
KSP Ksiaz 22.42 111‖ *e*P **P** **00 46 09.7 +1.5**
KSP Ksiaz 22.42 111 *e*P **P** **00 46 10.9 +2.7**
WET Wettzell 22.43 119 *e*P **P** **00 46 10.9 +2.5**
comp=Z,51nm,2.2s
CAF Calviac 22.54 141 *e*P **P** **00 46 10.1 +0.6**
comp=Z,48nm,1.2s
CAF Calviac 22.54 141 *e*P **P** **00 46 10.1 +0.6**
comp=Z,48nm,1.2s
CAF Calviac 22.54 141 *e*P **P** **00 46 10.1 +0.6**
comp=Z,24nm,1.2s
UPC Upice 22.57 112 *e*P **P** **00 46 11.4 +1.6**
UPC *ex* x 00 46 22.0
UPC Upice 22.57 112 P **P** **00 46 11.4 +1.6**
LBL Lubilhac 22.58 139 *e*P **P** **00 46 13.4 +3.3**
LBL Lubilhac 22.58 139 *e*P **P** **00 46 11.4 +1.3**
LBL Lubilhac 22.58 139 *e*P **P** **00 46 11.4 +1.3**
FUR Furstenfeldbru 22.64 122 *e*P **P** **00 46 14.2 +3.5**
comp=Z,62nm,1.7s
KHC Kasperske Hory 22.71 118 *e*P **P** **00 46 12.6 +1.2**
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 22.71 118 *e*P **P** **00 46 12.7 +1.3**
KHC *ex* x 00 46 18.3
KHC AMS AMS 00 55 10.0
comp=Z,700nm,13.1s
KHC Kasperske Hory 22.71 118 *e*P **P** **00 46 12.6 +1.2**
comp=Z,7.0nm,0.9s
SENIN Lac Senin/Sane 22.81 131 *e*P P 00 46 17.0 +4.3
comp=Z,19nm,1.4s
DPC Dobruska-Polom 22.81 112 *e*P **P** **00 46 14.5 +2.0**
comp=Z,18nm,1.2s
DPC Dobruska-Polom 22.81 112 *e*P **P** **00 46 14.2 +1.7**
DPC AMS AMS 00 56 10.0
comp=Z,800nm,15.5s
DPC Dobruska-Polom 22.81 112 *e*P **P** **00 46 14.5 +2.0**
comp=Z,18nm,1.2s
SUW Suwalki 22.98 98 *e*P **P** **00 46 12.6 -1.5**
SUW Suwalki 22.98 98 *e*P P 00 46 19.6 +5.5
comp=Z,71nm,1.5s
SUW Suwalki 22.98 98 *e*P **P** **00 46 12.6 -1.5**
GEC2 GERESS Array S 22.99 118 *e*P **P** **00 46 16.3 +2.0**
comp=Z,28nm,1.5s
GERES GERESS Array B 22.99 118 P **P** **00 46 16.4 +2.1**
comp=Z,2.0nm,0.8s,baz=328,slow=7.2,SNR=12
GERES LR LR 00 55 50.6
comp=Z,600nm,19.9s,baz=332,slow=38
GERES GERESS Array B 22.99 118 P **P** **00 46 16.4 +2.1**
GERES GERESS Array B 22.99 118 P **P** **00 46 16.4 +2.1**
PGAV Gavieira, Arco 23.24 162 *e*P **P** **00 46 18.3 +1.4**
comp=Z,39nm,1.2s
PGAV *e*LQ LQ 00 51 41.9
PGAV *e*LR LR 00 52 32.1
comp=Z,150nm,18.0s
TREC Trest 23.32 115 *e*P **P** **00 46 19.4 +1.8**
TREC AMS AMS 00 57 10.0
comp=Z,900nm,16.0s
TREC Trest 23.32 115 P **P** **00 46 19.4 +1.8**
DAVOX Davos/Dischmat 23.32 126 P **P** **00 46 17.7 -0.2**
comp=Z,3.2nm,0.9s,baz=353,slow=18,SNR=2.1
DAVOX Davos/Dischmat 23.32 126 P **P** **00 46 17.7 -0.2**
DAVOX Davos/Dischmat 23.32 126 P **P** **00 46 17.7 -0.2**
VIVF Saint-Julien-l 23.34 137 *e*P **P** **00 46 16.7 -1.2**
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 23.34 137 *e*P **P** **00 46 16.7 -1.2**
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 23.34 137 *e*P **P** **00 46 16.7 -1.2**
comp=Z,12nm,1.1s
LPG La Plagne 23.40 133 *e*P **P** **00 46 17.8 -1.0**
comp=Z,30nm,1.1s
LPG La Plagne 23.40 133 *e*P **P** **00 46 17.8 -1.0**
comp=Z,30nm,1.1s
LPG La Plagne 23.40 133 *e*P **P** **00 46 17.8 -1.0**
comp=Z,15nm,1.1s
TUE Stuetta 23.40 127 *e*P P 00 46 22.8 +4.1
comp=Z,33nm,1.8s
SJPF Ste Jean 23.41 148 *e*P **P** **00 46 18.2 -0.4**
SJPF Ste Jean 23.41 148 *e*P **P** **00 46 18.2 -0.4**
SJPF Ste Jean 23.41 148 *e*P **P** **00 46 18.2 -0.4**
PCAB Cabril 23.52 161 *e*P **P** **00 46 22.0 +2.3**
FUORN Ofenpass-Fuorn 23.59 126 *e*P **P** **00 46 24.5 +3.9**
comp=Z,18nm,1.4s
PBRG Braganca 23.62 159 *e*P **P** **00 46 22.0 +1.3**
comp=Z,31nm,1.6s
ORIF Oris-en-Rattie 23.65 135 *e*P **P** **00 46 20.1 -0.9**
comp=Z,35nm,1.0s
ORIF *e*R
comp=Z,787nm,20.5s
ORIF Oris-en-Rattie 23.65 135 *e*P **P** **00 46 20.1 -0.9**
comp=Z,35nm,1.0s
ORIF Oris-en-Rattie 23.65 135 *e*P **P** **00 46 20.1 -0.9**
comp=Z,17nm,1.0s
VRAC Vranov 23.74 113 P **P** **00 46 22.2 +0.4**
comp=Z,2.2nm,0.9s,baz=322,slow=11,SNR=4.8
VRAC LR LR 00 56 45.9
comp=Z,609nm,18.3s,baz=328,slow=39
VRAC Vranov 23.74 113 P **P** **00 46 22.2 +0.4**
VRAC Vranov 23.74 113 P **P** **00 46 22.2 +0.4**
MORC Moravsky Berou 23.75 111 *e*P **P** **00 46 23.4 +1.5**
comp=Z,78nm,2.6s
MORC Moravsky Berou 23.75 111‖ *i*P **P** **00 46 23.8 +1.9**
MORC Moravsky Berou 23.75 111 *e*P **P** **00 46 23.4 +1.5**
comp=Z,78nm,2.6s
ETSF Etsaut 23.77 147 *e*P **P** **00 46 22.3 +0.1**
comp=Z,35nm,1.2s
ETSF Etsaut 23.77 147 *e*P **P** **00 46 22.3 +0.1**
comp=Z,35nm,1.2s
ETSF Etsaut 23.77 147 *e*P **P** **00 46 22.3 +0.1**
comp=Z,18nm,1.2s
BNI Bardonecchia 23.78 133 *e*P **P** **00 46 24.1 +1.8**
comp=Z,30nm,1.5s
BNI Bardonecchia 23.78 133 *e*P **P** **00 46 24.1 +1.8**
comp=Z,30nm,1.5s
LASF Ste Croix 23.82 139 *e*P **P** **00 46 22.2 -0.4**
LASF Ste Croix 23.82 139 *e*P **P** **00 46 22.2 -0.4**
LASF Ste Croix 23.82 139 *e*P **P** **00 46 22.2 -0.4**
EPF Esparros 23.86 146 *e*P **P** **00 46 21.8 -1.2**
comp=Z,34nm,1.3s
EPF Esparros 23.86 146 *e*P **P** **00 46 21.8 -1.2**
comp=Z,34nm,1.3s
EPF Esparros 23.86 146 *e*P **P** **00 46 21.8 -1.2**
comp=Z,17nm,1.3s
POLO Lamas de Olo 23.89 161 *e*P **P** **00 46 24.7 +1.4**
comp=Z,10nm,1.5s
OKC Ostrava-Krasne 23.95 111 *e*P **P** **00 46 27.4 +3.7**
OKC *ex* x 00 46 34.9
OKC AMS AMS 00 57 00.0
comp=Z,400nm,17.4s
PVRL Vila Real 23.99 161 *e*P **P** **00 46 25.6 +1.3**
comp=Z,24nm,1.7s
MBDF Montbardon 24.10 133 *e*P **P** **00 46 25.0 -0.4**
comp=Z,26nm,1.0s
MBDF Montbardon 24.10 133 *e*P **P** **00 46 25.0 -0.4**
comp=Z,26nm,1.0s
MBDF Montbardon 24.10 133 *e*P **P** **00 46 25.0 -0.4**
comp=Z,13nm,1.0s
MVO Moncorvo 24.20 160 *e*P **P** **00 46 27.3 +1.1**
comp=Z,22nm,1.5s
MVO *e*LQ LQ 00 51 32.7
MVO *e*LR LR 00 53 00.7
comp=Z,111nm,20.0s
PVIS Viseu 24.52 162 *e*P **P** **00 46 31.6 +2.5**
comp=Z,29nm,1.2s
FRF La Foret Royal 25.11 135 *e*P **P** **00 46 34.6 +0.2**
comp=Z,66nm,1.5s
FRF La Foret Royal 25.11 135 *e*P **P** **00 46 34.6 +0.2**
comp=Z,66nm,1.5s
FRF La Foret Royal 25.11 135 *e*P **P** **00 46 34.6 +0.2**
comp=Z,33nm,1.5s
VYHS Vyhne 25.29 112 *e*P **P** **00 46 37.5 +1.5**
PCBR Castelo Branco 25.43 161 *e*P **P** **00 46 39.2 +1.9**
comp=Z,20nm,1.3s
PTOM Tomar 25.53 163 *e*P **P** **00 46 39.3 +1.1**
comp=Z,42nm,1.4s
PMRV Marv??o 25.85 161 *e*P **P** **00 46 42.0 +0.9**
comp=Z,30nm,1.1s
PMRV *e*LQ LQ 00 52 09.0
PMRV *e*LR LR 00 54 53.2
comp=Z,154nm,18.0s
SCHQ Schefferville 25.92 271 P **P** **00 46 41.2 -0.4**
comp=Z,5.1nm,0.8s,baz=23,slow=7.2,SNR=14
SCHQ LR LR 00 55 39.3
comp=Z,218nm,18.4s,baz=48,slow=34
SCHQ Schefferville 25.92 271 *e*P **P** **00 46 41.8 +0.1**
comp=Z,13nm,1.1s
SCHQ Schefferville 25.92 271 *e*P **P** **00 46 41.8 +0.1**
comp=Z,13nm,1.1s
KWP Kalwaria Pacla 25.98 105 *e*P **P** **00 46 44.0 +1.7**
KWP Kalwaria Pacla 25.98 105 *e*P **P** **00 46 43.7 +1.4**
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 25.98 105‖ *i*P **P** **00 46 44.9 +2.6**
KWP Kalwaria Pacla 25.98 105 *e*P **P** **00 46 43.7 +1.4**
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 25.98 105 *e*P **P** **00 46 44.0 +1.7**
CRVS Cervenica-Dubn 26.03 108 *e*P P 00 46 50.3 +7.6
PMAFR Mafra 26.08 165 *e*P **P** **00 46 45.6 +2.4**
comp=Z,73nm,1.5s
ESDC Sonseca Array 26.16 155 P **P** **00 46 44.8 +0.8**
comp=Z,13nm,1.0s,baz=350,slow=9.2,SNR=42
ESDC LR LR 00 56 23.0
comp=Z,161nm,18.4s,baz=355,slow=35
ESDC Sonseca Array 26.16 155 P **P** **00 46 44.8 +0.8**
ESDC Sonseca Array 26.16 155 P **P** **00 46 44.8 +0.8**
ESLA Sonseca Array 26.16 155 *e*P **P** **00 46 44.4 +0.4**
comp=Z,4.5nm,1.1s
ESLA Sonseca Array 26.16 155 *e*P **P** **00 46 44.4 +0.4**
comp=Z,4.5nm,1.1s
PSZ Piszkesteto 26.17 111 *e*P **P** **00 46 45.1 +1.0**
comp=Z,19nm,1.5s
PSZ Piszkesteto 26.17 111‖ *i*P **P** **00 46 45.5 +1.4**
PSZ Piszkesteto 26.17 111 *e*P **P** **00 46 45.1 +1.0**
comp=Z,19nm,1.5s
PAB San Pablo 26.22 156 *e*P **P** **00 46 46.2 +1.7**
comp=Z,19nm,1.1s
PAB San Pablo 26.22 156 *e*P **P** **00 46 46.2 +1.7**
comp=Z,19nm,1.1s
KOLS Kolonicke sedl 26.34 107 *e*P **P** **00 46 48.5 +3.0**
KOLS Kolonicke sedl 26.34 107 *e*P **P** **00 46 48.6 +3.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.7nm,1.5s						
PESTR	Estremoz	26.38	162	eP	P	00 46 46.5	+0.6
	comp=Z,16nm,1.5s						
RES	Resolute Bay	26.52	325	P	P	00 46 51.3	+4.4
	comp=Z,1.5nm,0.9s,baz=36,slow=3.5,SNR=6.9						
RES				LR	LR	00 57 21.5	
	comp=Z,414nm,18.6s,baz=61,slow=37						
RES	Resolute Bay	26.52	325	eP	P	00 46 51.2	+4.3
	comp=Z,39nm,2.3s						
PBEJ	Beja	27.17	163	eP	P	00 46 54.7	+1.7
PVAQ	Vaqueiros	27.80	163	eLQ	LQ	00 52 55.9	
PVAQ				eLR	LR	00 55 26.0	
	comp=Z,127nm,18.0s						
AKASG	Malin Array Be	27.94	97	P	P	00 47 01.0	+1.1
	comp=Z,1.0nm,0.6s,baz=327,slow=10,SNR=3.7						
AKASG	Malin Array Be	27.94	97	P	P	00 47 01.0	+1.1
AKASG	Malin Array Be	27.94	97	P	P	00 47 01.0	+1.1
HUMR	Humele	30.99	109	⇓iP	P	00 47 27.4	+0.5
HUMR	Humele	30.99	109	⇓iP	P	00 47 27.4	+0.5
MDT	Midelt	32.75	159	P	P	00 47 44.2	+1.6
	comp=Z,12nm,1.0s,baz=349,slow=9.9,SNR=18						
MDT				LR	LR	00 59 45.5	
	comp=Z,88nm,18.7s,baz=226,slow=34						
MDT	Midelt	32.75	159	P	P	00 47 44.2	+1.6
MDT	Midelt	32.75	159	P	P	00 47 44.2	+1.6
KEST	Kesra	33.12	137	P	P	00 47 46.6	+0.8
	comp=Z,1.6nm,0.9s,baz=6.3,slow=18,SNR=3.0						
KEST	Kesra	33.12	137	P	P	00 47 46.6	+0.8
KEST	Kesra	33.12	137	P	P	00 47 46.6	+0.8
KBZ	Khabaz	39.23	92	P	P	00 48 41.4	+3.6
	comp=Z,2.1nm,0.9s,baz=318,slow=12,SNR=3.2						
KBZ				LR	LR	01 05 17.9	
	comp=Z,274nm,19.4s,baz=322,slow=37						
KBZ	Khabaz	39.23	92	P	P	00 48 41.4	+3.6
YKA	Yellowknife Ar	39.23	313	P	P	00 48 38.6	+1.0
	comp=Z,2.1nm,0.9s,baz=42,slow=8.5,SNR=25						
YKA				PcP	PcP	00 50 48.8	+2.5
	comp=Z,0.6nm,0.9s,baz=45,slow=3.1,SNR=5.7						
YKA	Yellowknife Ar	39.23	313	P	P	00 48 38.6	+1.0
YKA				PcP	PcP	00 50 48.8	+2.5
YKA	Yellowknife Ar	39.23	313	P	P	00 48 38.6	+1.0
AKTO	Aktyubinsk	40.45	73	P	P	00 48 48.9	+0.9
	comp=Z,2.8nm,0.7s,baz=332,slow=13,SNR=15						
AKTO	Aktyubinsk	40.45	73	P	P	00 48 48.9	+0.9
AKTO	Aktyubinsk	40.45	73	P	P	00 48 48.8	+0.9
FFC	Flin Flon	40.56	297	eP	P	00 48 52.7	+3.9
	comp=Z,6.5nm,1.0s						
ULM	Lac du Bonnet	41.54	289	P	P	00 48 56.9	+0.1
	comp=Z,2.1nm,0.9s,baz=90,slow=5.1,SNR=2.8						
ULM				LR	LR	01 04 59.9	
	comp=Z,87nm,21.7s,baz=358,slow=34						
ULM	Lac du Bonnet	41.54	289	P	P	00 48 56.9	+0.1
ULM	Lac du Bonnet	41.54	289	P	P	00 48 56.9	+0.1
ABKAR	Akbulak array	42.16	73	eP	P	00 49 03.2	+1.3
ABKAR	Akbulak array	42.16	73	eP	P	00 49 03.2	+1.3
TAM	Tamanrasset	44.44	149	eP	P	00 49 22.7	+1.9
	comp=Z,6.0nm,1.3s						
TAM	Tamanrasset	44.44	149	eP	P	00 49 22.7	+1.9
	comp=Z,6.0nm,1.3s						
ILAR	Eielson Array	45.77	332	P	P	00 49 33.9	+3.1
	comp=Z,2.1nm,1.0s,baz=24,slow=6.3,SNR=13						
ILAR				PcP	PcP	00 51 10.5	+2.4
	comp=Z,1.1nm,0.9s,baz=349,slow=3.6,SNR=7.4						
ILAR				LR	LR	01 10 17.2	
	comp=Z,138nm,19.2s,baz=48,slow=38						
ILAR	Eielson Array	45.77	332	P	P	00 49 33.9	+3.1
ILAR				PcP	PcP	00 51 10.5	+2.4
ILAR	Eielson Array	45.77	332	PcP	PcP	00 51 10.5	+2.4
A21A	Bergtoll Ranch	46.95	296	⇑P	P	00 49 42.7	+2.4
	baz=47						
A20A	Cobblestone Ra	47.43	296	⇑P	P	00 49 46.5	+2.5
	baz=47,SNR=5.7						
A19A	Klindworth Far	47.71	297	⇓P	P	00 49 48.7	+2.5
	baz=48						
B20A	Solberg Farm,	47.83	296	⇓P	P	00 49 49.6	+2.5
	baz=48						
ZALV	Zalesovo Beam	47.83	51	P	P	00 49 49.5	+2.5
	comp=Z,0.3nm,0.6s,baz=340,slow=7.8,SNR=3.0						
ZALV				PcP	PcP	00 51 17.9	+2.4
	comp=Z,0.2nm,0.3s,baz=325,slow=2.3,SNR=3.1						
ZALV				LR	LR	01 12 50.3	
	comp=Z,90nm,18.2s,baz=257,slow=40						
ZALV	Zalesovo Beam	47.83	51	P	P	00 49 49.5	+2.5
ZALV				PcP	PcP	00 51 17.9	+2.4
ZALV	Zalesovo Beam	47.83	51	P	P	00 49 49.5	+2.5
ZALV	Zalesovo Beam	47.83	51	PcP	PcP	00 51 17.9	+2.4
B19A	Brinkman Farms	48.17	297	⇑P	P	00 49 52.7	+3.0
	baz=48,SNR=7.5						
KURK	Kurchatov	48.30	58	eP	P	00 49 53.0	+2.4
	comp=Z,3.4nm,1.0s						
KURK	Kurchatov	48.30	58	eP	P	00 49 53.0	+2.4
	comp=Z,3.4nm,1.0s						
B18A	Beardsley Farm	48.54	297	⇓P	P	00 49 54.6	+1.9
	baz=48						
C19A	Slack Wire Ran	48.80	296	⇑P	P	00 49 57.1	+2.4
	baz=49,SNR=10						
EGMT	Eagleton	48.84	297	eP	P	00 49 58.5	+3.6
EGMT	Eagleton	48.84	297	⇓P	P	00 49 57.7	+2.8
	baz=49,SNR=10						
B17A	L&G Farms, Che	49.02	298	⇓P	P	00 49 59.0	+2.7
	baz=49,SNR=14						
A15A	Johnson Ranch,	49.19	300	⇑P	P	00 49 59.6	+2.0
	baz=49,SNR=8.2						
D19A	Cripps Ranch,	49.20	296	⇓P	P	00 49 59.9	+2.2
	baz=49,SNR=10						
B16A	M & M Farms, S	49.27	299	⇓P	P	00 50 00.5	+2.3
	baz=49,SNR=9.1						
A14A	Double T Ranch	49.45	300	⇓P	P	00 50 01.6	+1.9
	baz=49,SNR=11						
H24A	Dirks Ranch, A	49.47	291	⇑P	P	00 50 01.8	+2.0
	baz=49						
C17A	Wharram Farm,	49.55	297	⇓P	P	00 50 02.7	+2.4
	baz=49,SNR=12						
C16A	Fuhringer Ranc	49.78	298	⇑P	P	00 50 04.6	+2.4
	baz=50,SNR=10						
D17A	Six Diamond Ra	49.91	297	⇑P	P	00 50 05.6	+2.4
	baz=50,SNR=9.9						
E18A	Harlowton	50.10	296	⇓P	P	00 50 07.9	+3.3
	baz=50,SNR=8.6						
D16A	Dana Ranch, Ca	50.35	298	⇓P	P	00 50 09.8	+3.3
	baz=50,SNR=15						
F18A	Big Timber	50.57	295	⇑P	P	00 50 10.6	+2.4
	baz=50,SNR=7.6						
YBMT	Yellow Bay	50.59	300	eP	P	00 50 11.6	+3.3
	comp=Z,4.4nm,1.1s						
HRY	Holter Researc	50.72	298	eP	P	00 50 13.3	+4.0
E16A	East Helena	50.81	297	⇓P	P	00 50 12.6	+2.7
	baz=51,SNR=15						
BSMT	Bassoo Peak	50.89	301	eP	P	00 50 14.3	+3.7
SLMT	Seeley Lake	50.91	299	eP	P	00 50 14.2	+3.4
	comp=Z,11nm,1.1s						
C13A	Hot Springs	50.95	300	⇑P	P	00 50 13.7	+2.7
	baz=51,SNR=6.5						
RLMT	Red Lodge	51.04	294	eP	P	00 50 16.5	+4.6
	comp=Z,20nm,1.5s						
RLMT	Red Lodge	51.04	294	⇓P	P	00 50 13.8	+2.0
	baz=51						
D14A	Greenough	51.05	299	⇓P	P	00 50 14.2	+2.4
	baz=51						
I21A	Big Trails, Te	51.35	292	⇑P	P	00 50 16.0	+1.9
	baz=51,SNR=9.4						
D13A	Huson	51.40	300	⇓P	P	00 50 17.0	+2.7
	baz=51						
MSO	Missoula	51.42	299	eP	P	00 50 17.4	+2.8
	comp=Z,67nm,3.0s						
BOZ	Bozeman (W)	51.53	297	eP	P	00 50 19.4	+4.0
	comp=Z,10nm,1.0s						
BOZ	Bozeman (W)	51.53	297	⇓P	P	00 50 17.4	+2.0
	baz=51,SNR=16						
LRM	Limekiln Ridge	51.70	297	eP	P	00 50 21.1	+4.3
	comp=Z,76nm,1.1s						
F15A	Butte	51.70	297	⇑P	P	00 50 20.4	+3.7
	baz=52,SNR=5.0						
I19A	Meeteetse	51.84	293	⇓P	P	00 50 20.2	+2.4
	baz=52,SNR=5.9						
E13A	Victor	51.84	299	⇑P	P	00 50 20.0	+2.3
	baz=52						
J20A	Shoshoni	52.05	292	⇑P	P	00 50 21.5	+2.2
	baz=52,SNR=9.9						
H17A	Grant Village	52.16	295	⇑P	P	00 50 24.3	+4.0
	baz=52,SNR=7.0						
K21A	Alcova	52.31	291	⇓P	P	00 50 24.4	+3.0
	baz=52						
F13A	Darby	52.44	299	⇓P	P	00 50 24.9	+2.7
	baz=52,SNR=6.5						
FLWY	Flagg Ranch	52.47	295	eP	P	00 50 27.2	+4.6
	comp=Z,65nm,2.6s						
MCMT	McKenzie Canyo	52.68	297	eP	P	00 50 28.3	+4.1
	comp=Z,2.7nm,1.1s						
IMW	Indian Meadow	52.72	295	eP	P	00 50 29.5	+5.0
	comp=Z,36nm,2.4s						
K20A	Yellowstone Ra	52.73	292	⇓P	P	00 50 25.9	+1.5
	baz=53						
K19A	Absolon Red Bu	52.79	293	⇓P	P	00 50 27.3	+2.3
	baz=53,SNR=6.0						
LOHW	Long Hollow	52.83	294	eP	P	00 50 29.6	+4.4
	comp=Z,4.5nm,1.1s						
MKAR	Makanchi Array	52.91	58	P	P	00 50 26.1	+0.5
	comp=Z,0.8nm,0.8s,baz=333,slow=5.4,SNR=12						
MKAR	Makanchi Array	52.91	58	eP	P	00 50 26.4	+0.8
MKAR	Makanchi Array	52.91	58	eP	P	00 50 26.4	+0.8
J18A	Kendall Valley	52.94	294	⇑P	P	00 50 29.1	+3.1
	baz=53,SNR=7.3						
G13A	Cobalt	52.99	298	⇓P	P	00 50 28.9	+2.6
	baz=53,SNR=9.5						
TOA0	Torodi Ar. Sit	53.05	156	eP	P	00 50 26.8	0.0
TOA0	Torodi Ar. Sit	53.05	156	eP	P	00 50 26.8	0.0
TORD	Torodi Ar. Bea	53.05	156	P	P	00 50 26.6	-0.1
	comp=Z,5.3nm,0.9s,baz=342,slow=8.1,SNR=32						
TORD	Torodi Ar. Bea	53.05	156	P	P	00 50 26.6	-0.1
TORD	Torodi Ar. Bea	53.05	156	P	P	00 50 26.6	-0.1
TPAW	Teton Pass	53.07	295	eP	P	00 50 31.9	+4.9
	comp=Z,8.1nm,1.3s						
BW06	Boulder Array	53.13	293	eP	P	00 50 30.1	+2.6
	comp=Z,9.4nm,1.0s						
BW06	Boulder Array	53.13	293	⇓P	P	00 50 29.2	+1.8
	baz=53,SNR=9.8						
PDAR	Pinedale Array	53.13	293	P	P	00 50 28.7	+1.3
	comp=Z,6.7nm,1.0s,baz=58,slow=5.9,SNR=25						
PDAR				LR	LR	01 12 54.4	
	comp=Z,209nm,18.2s,baz=42,slow=36						
PDAR	Pinedale Array	53.13	293	P	P	00 50 28.7	+1.3
PDAR	Pinedale Array	53.13	293	P	P	00 50 28.7	+1.3
REDW	Red Top Meadow	53.14	294	eP	P	00 50 31.9	+4.4
	comp=Z,76nm,2.8s						
RRI2	Red Ridge	53.33	295	eP	P	00 50 33.5	+4.5
	comp=Z,33nm,2.0s						
H13A	Challis	53.45	298	⇓P	P	00 50 31.8	+2.1
	baz=53						
TKM2	Tokmak 2	53.63	66	eP	P	00 50 33.4	+2.3
	comp=Z,2.5nm,0.9s						
TKM2	Tokmak 2	53.63	66	eP	P	00 50 33.4	+2.3
	comp=Z,2.5nm,0.9s						
I14A	Mackay	53.67	297	⇓P	P	00 50 33.1	+1.7
	baz=54						
H12A	Diamond D Ranc	53.69	298	⇑P	P	00 50 33.6	+2.2
	baz=54						
I13A	Wildhorse Cree	53.94	297	⇑P	P	00 50 36.2	+2.8
	baz=54						
O22A	Kremmling	54.10	289	⇑P	P	00 50 36.7	+2.0
	baz=54						
N20A	Spence Gulch,	54.23	291	⇑P	P	00 50 37.6	+2.0
	baz=54						
BMO	Blue Mountains	54.35	300	eP	P	00 50 39.4	+3.2
	comp=Z,6.4nm,1.2s						
K14A	Jones Ranch, D	54.74	296	⇑P	P	00 50 41.3	+2.2
	baz=55						
HWUT	Hardware Ranch	54.90	294	eP	P	00 50 44.2	+3.9
	comp=Z,7.9nm,1.0s						
M16A	Huntsville	55.18	294	⇑P	P	00 50 44.6	+2.2
	baz=55						
N16A	Rees Ranch, Co	55.46	293	⇑P	P	00 50 47.4	+3.0
	baz=55						
NATX	Nacogdoches	56.23	274	eP	P	00 50 49.6	-0.1
	comp=Z,61nm,0.6s						
DUG	Dugway	56.60	294	eP	P	00 50 57.0	+4.6
	comp=Z,48nm,2.5s						
DUG	Dugway	56.60	294	⇑P	P	00 50 54.2	+1.7
	baz=56						
SRU	San Rafael	56.61	291	eP	P	00 50 56.1	+3.4
	comp=Z,69nm,2.9s						
SRU	San Rafael	56.61	291	⇓P	P	00 50 54.7	+2.0
	baz=56						
PV01	Paradox Valley	56.65	289	eP	P	00 50 57.6	+4.5
	comp=Z,408nm,1.1s						
P15A	Leamington	56.92	293	⇓P	P	00 50 57.4	+2.6
	baz=57,SNR=8.0						
R18A	Canyonlands Na	56.98	291	⇑P	P	00 50 57.2	+1.9
	baz=57						
ELK	Elko	57.08	296	eP	P	00 50 59.6	+3.6
	comp=Z,3.2nm,1.0s						
MSU	Marysvale	57.79	292	eP	P	00 51 04.7	+3.6
S17A	Black Ridge (B	57.99	291	⇓P	P	00 51 04.4	+2.1
	baz=58,SNR=6.0						
DBIC	Dimbokro	58.47	165	P	P	00 51 05.7	0.0
	comp=Z,4.7nm,1.0s,baz=337,slow=6.2,SNR=6.5						
DBIC	Dimbokro	58.47	165	P	P	00 51 05.7	0.0
DBIC	Dimbokro	58.47	165	P	P	00 51 05.7	0.0
LIC	Lamto	58.89	165	eP	P	00 51 08.6	0.0
	comp=Z,17nm,1.0s						
LIC				eR			
	comp=Z,150nm,21.2s						
LIC	Lamto	58.89	165	eP	P	00 51 08.6	0.0
	comp=Z,17nm,1.0s						
LIC	Lamto	58.89	165	eP	P	00 51 08.6	0.0
	comp=Z,8.4nm,1.0s						
CCUT	Cedar City	59.09	293	eP	P	00 51 14.1	+3.9
	comp=Z,72nm,2.9s						
R11A	Troy Canyon, C	59.28	295	⇑P	P	00 51 13.5	+2.1
	baz=59,SNR=8.6						
KRMB	Red Mountain	59.66	303	eP	P	00 51 13.7	-0.1
KRMB	Red Mountain	59.66	303	eP	P	00 51 13.7	-0.1
SONM	Songino Array	59.84	40	P	P	00 51 17.6	+2.6
	comp=Z,0.2nm,0.3s,baz=317,slow=9.9,SNR=2.8						
SONM				LR	LR	01 19 34.4	
	comp=Z,108nm,19.1s,baz=356,slow=38						
SONM	Songino Array	59.84	40	P	P	00 51 17.6	+2.6
SONM	Songino Array	59.84	40	P	P	00 51 17.6	+2.6
Z22A	Elephant Butte	60.18	285	⇑P	P	00 51 20.0	+2.4
	baz=60						
NVAR	Mina Array Bea	60.27	297	P	P	00 51 21.4	+3.2
	comp=Z,1.4nm,0.9s,baz=54,slow=4.3,SNR=6.2						
NVAR				LR	LR	01 17 28.2	
	comp=Z,681nm,19.3s,baz=332,slow=36						
NVAR	Mina Array Bea	60.27	297	P	P	00 51 21.4	+3.2
X16A	Lo Mia Camp, P	61.03	289	⇑P	P	00 51 25.8	+2.4
	baz=61,SNR=5.1						
TXAR	Lajitas Array	62.19	280	LR	LR	01 18 09.1	
	comp=Z,208nm,19.5s,baz=355,slow=36						
ISA	Isabella	62.75	296	eP	P	00 51 38.3	+3.4
	comp=Z,55nm,3.0s						
USRK	Ussuriysk Arra	69.06	23	LR	LR	01 23 40.9	
	comp=Z,67nm,18.4s,baz=247,slow=37						
KSRS	Korea Array	74.85	28	LR	LR	01 29 40.8	
	comp=Z,60nm,19.0s,baz=190,slow=39						
BDFB	Brasilia	83.19	209	LR	LR	01 27 40.7	
	comp=Z,120nm,18.0s,baz=14,slow=34						
ATAH	Atahualpa	84.29	240	LR	LR	01 25 53.1	
	comp=Z,103nm,20.3s,baz=217,slow=32						
CMAR	Chiang Mai Arr	84.32	58	P	P	00 53 44.2	+2.5
	comp=Z,0.7nm,0.4s,baz=331,slow=5.4,SNR=3.7						
CMAR	Chiang Mai Arr	84.32	58	P	P	00 53 44.2	+2.5
CMAR	Chiang Mai Arr	84.32	58	P	P	00 53 44.2	+2.5
LPAZ	La Paz	89.20	228	LR	LR	01 33 52.6	
	comp=Z,63nm,18.1s,baz=247,slow=36						
CPUP	Villa Florida	95.64	215	LR	LR	01 36 34.7	
	comp=Z,88nm,18.3s,baz=244,slow=35						
BOSA	Boshof	98.71	143	LR	LR	01 39 43.8	
	comp=Z,87nm,19.6s,baz=337,slow=36						

ISK ***01*** *00:46:01.9, 38.̊85N×25.̊91E, h2km, ML3.9*
DDA ***01*** *00:46:02.5, 38.̊86N×26.̊00E, h27km, MD3.7*
IDC ***01*** *00:46:03.5±1.2, 38.̊91N×26.̊15E, h0km, mb3.6/7, mb1 3.6/13, mb1mx3.5/32, mbtmp3.5/13, ML3.5/6, MS3.4/1, Ms1 3.4/1, ms1mx2.4/36, Error ellipse: s-maj=20.1km s-min=16.5km az=32.0*
ISCJB ***01*** *00:46:03.3±0.5, 38.̊88N±0.̊01×26.̊01E±0.̊02, h5km±4km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=2.2km s-min=2.0km az=170.1*
ATH ***01*** *00:46:03.4, 38.̊85N×26.̊14E, h29km, ML3.8*
CSEM ***01*** *00:46:04.1±0.1, 38.̊86N×26.̊01E, h5km, ML3.8*
THE ***01*** *00:46:04.4, 38.̊86N×26.̊09E, h8km±1km, ML4.0/5, Error ellipse: s-maj=2.2km s-min=0.6km az=104.0*
SOF ***01*** *00:46:06.4, 39.̊20N×26.̊05E, h5km, MD3.5*
ISC 01 00:46:04.0±1.0**, 38.̊87N**±0.̊02×**26.̊04E**±0.̊02**, h7**km±8km**,**
n376, σ1§10/422, mb3.5/7, 25C-13D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.42	26	P	Pg	00 46 12.7	+0.6
PRK				S	Sg	00 46 18.2	+0.6
PRK	Paraskevi	0.42	26	ePB	Pg	00 46 12.7	+0.6
PRK				eSB	Sb	00 46 19.3	-1.0
PRK	Paraskevi	0.42	26	P	Pg	00 46 12.7	+0.6
PRK				S	Sg	00 46 18.2	+0.6
PRK				eSb	Sb	00 46 19.3	-1.0
CHOS	Chios island	0.48	178	P	Pg	00 46 13.9	+0.6
CHOS				S	Sb	00 46 21.5	-0.8
CHOS	Chios island	0.48	178	ePB	Pb	00 46 14.1	-0.8
CHOS				eSB	Sb	00 46 21.4	-0.8
CHOS	Chios island	0.48	178	P	Pg	00 46 13.9	+0.6
CHOS				eSb	Sb	00 46 21.4	-0.8
AYVA	Ayvalik	0.67	49	iP	Pg	00 46 17.0	+0.1
AYVA				iS	Sg	00 46 26.2	+0.6
AYVA	Ayvalik	0.67	49	iP	Pg	00 46 17.0	+0.1
AYVA				iS	Sg	00 46 26.2	+0.6
URLA	Izmir	0.67	139	iP	Pg	00 46 16.6	-0.3
URLA				iS	Sg	00 46 25.6	0.0
URLA	Izmir	0.67	139	iP	Pg	00 46 16.6	-0.3
URLA				iS	Sg	00 46 25.6	0.0
BOZC	Bozcaada	0.97	1	iP	Pg	00 46 22.7	+0.1
BOZC				iS	Sg	00 46 35.7	+0.5
EZN	Ezine	0.98	13	ePG	Pg	00 46 22.7	-0.1
EZN	Ezine	0.98	13	ePg	Pg	00 46 22.7	-0.1
IZM	Izmir	1.07	116	ePN	Pb	00 46 24.7	-0.2
IZM	Izmir	1.07	116	ePn	Pb	00 46 24.7	-0.2
LIA	Limnos Island	1.22	327	P	Pg	00 46 27.0	-0.4
LIA				S	Sb	00 46 44.5	+1.1
LIA	Limnos Island	1.22	327	ePN	Pg	00 46 27.3	-0.1
LIA				eSN	Sn	00 46 44.9	+0.6
LIA	Limnos Island	1.22	327	P	Pg	00 46 27.0	-0.4
LIA	Limnos Island	1.22	327	ePn	Pg	00 46 27.3	-0.1
LIA				S	Sb	00 46 44.5	+1.1
LIA				eSn	Sn	00 46 44.9	+0.6
AKHS	Akhisar	1.39	89	iP	Pn	00 46 28.5	-1.3
AKHS				iS	Sn	00 46 49.2	+0.8
AKHS	Akhisar	1.39	89	iP	Pn	00 46 28.5	-1.3
AKHS				iS	Sn	00 46 49.2	+0.8
AKS	Akhisar	1.39	89	ePN	Pg	00 46 30.3	-0.2
AKS	Akhisar	1.39	89	ePn	Pg	00 46 30.3	-0.2
GCAM	G?zelcaml?	1.50	141	iP	Pb	00 46 32.2	0.0
GCAM				iS	Sb	00 46 50.5	-0.9
GCAM	G?zelcaml?	1.50	141	iP	Pb	00 46 32.2	0.0
GCAM				iS	Sb	00 46 50.5	-0.9
BALY	Balya	1.50	54	iP	Pn	00 46 30.4	-1.1
BALY				iS	Sn	00 46 51.2	-0.2
BALY	Balya	1.50	54	iP	Pn	00 46 30.4	-1.1
BALY				iS	Sn	00 46 51.2	-0.2
MRMA	Marmari	1.53	239	P	Pn	00 46 31.1	-0.7
MRMA	Marmari	1.53	239	P	Pn	00 46 31.1	-0.7
GELI	Tayfur-Gelibol	1.56	12	ePN	Pn	00 46 32.1	-0.1
GELI	Tayfur-Gelibol	1.56	12	ePn	Pn	00 46 32.1	-0.1
LPK	Lapseki	1.60	20	ePN	Pn	00 46 32.4	-0.4
LPK	Lapseki	1.60	20	ePn	Pn	00 46 32.4	-0.4
BALB	Balikesir	1.62	61	ePN	Pb	00 46 34.2	-0.1
BALB	Balikesir	1.62	61	ePn	Pb	00 46 34.2	-0.1
AOS	Alonnisos	1.71	281	P	Pn	00 46 34.4	+0.2
AOS				S	Sb	00 46 57.9	+0.5
AOS	Alonnisos	1.71	281	P	Pn	00 46 34.4	+0.2
AOS				S	Sb	00 46 57.9	+0.5
GONE	Gonen-Balikesi	1.73	47	ePN	Pn	00 46 35.1	+0.5
GONE	Gonen-Balikesi	1.73	47	ePn	Pn	00 46 35.1	+0.5
ERET	Eretria	1.80	257	P	Pn	00 46 35.0	-0.5
ERET				S	Sn	00 47 00.0	+1.4
ERET	Eretria	1.80	257	P	Pn	00 46 35.0	-0.5
KRBG	Karabiga-Canak	1.81	32	ePN	Pn	00 46 36.0	+0.5
KRBG	Karabiga-Canak	1.81	32	ePn	Pn	00 46 36.0	+0.5
ERIK	Erikli-Kesan	1.83	11	ePN	Pn	00 46 35.7	-0.3
ERIK	Erikli-Kesan	1.83	11	ePn	Pn	00 46 35.7	-0.3
APE	Apeiranthos	1.84	193	P	Pn	00 46 34.6	-1.5
APE	Apeiranthos	1.84	193	ePB	Pn	00 46 34.7	-1.4
APE	Apeiranthos	1.84	193	⇓iP	Pn	00 46 34.7	-1.4
APE	Apeiranthos	1.84	193	P	Pn	00 46 34.6	-1.5
ENEZ	Enez	1.87	3	ePN	Pn	00 46 36.0	-0.4
ENEZ	Enez	1.87	3	ePn	Pn	00 46 36.0	-0.4
AYDN	Tasoluk	1.89	129	iP	Pn	00 46 35.6	-1.1
AYDN				iS	Sn	00 47 00.4	-0.4
AYDN	Tasoluk	1.89	129	iP	Pn	00 46 35.6	-1.1
AYDN				iS	Sn	00 47 00.4	-0.4
PTL	Penteli	1.89	245	P	Pn	00 46 36.3	-0.5
PTL				S	Sn	00 47 02.1	+1.2
PTL	Penteli	1.89	245	ePN	Pn	00 46 36.3	-0.5
PTL	Penteli	1.89	245	P	Pn	00 46 36.3	-0.5
PTL				S	Sn	00 47 02.1	+1.2
MRKA	Markates	1.92	266	P	Pn	00 46 36.9	-0.3
MRKA				S	Sn	00 47 02.8	+1.2
MRKA	Markates	1.92	266	P	Pn	00 46 36.9	-0.3
MRKA				S	Sn	00 47 02.8	+1.2
MANT	Manisa	2.01	100	eP	Pn	00 46 37.8	-0.8
MANT	Manisa	2.01	100	eP	Pn	00 46 37.8	-0.8
RKY	Sarkoy-Tekirda	2.02	25	ePN	Pn	00 46 39.8	+1.3
RKY	Sarkoy-Tekirda	2.02	25	ePn	Pn	00 46 39.8	+1.3
SART	Tekirdag	2.02	26	iP	Pn	00 46 37.9	-0.6
SART				iS	Sb	00 47 06.4	-0.1
SART	Tekirdag	2.02	26	iP	Pn	00 46 37.9	-0.6
ALN	Alexandroupoli	2.02	0	P	Pn	00 46 37.9	-0.6
ALN				S	Sn	00 47 04.4	+0.3
ALN	Alexandroupoli	2.02	0	ePN	Pn	00 46 38.0	-0.6
ALN	Alexandroupoli	2.02	0	ePn	Pn	00 46 38.0	-0.6
ALN				S	Sn	00 47 04.4	+0.3
SKIA	Skiathos	2.02	279	P	Pn	00 46 38.5	-0.1
SKIA				S	Sn	00 47 05.4	+1.2
SKIA	Skiathos	2.02	279	P	Pn	00 46 38.5	-0.1
SKIA				S	Sn	00 47 05.4	+1.2
DURS	Dursunbey	2.03	68	iP	Pn	00 46 37.4	-1.3
DURS	Dursunbey	2.03	68	iP	Pn	00 46 37.4	-1.3
ATH	Athens Observa	2.03	245	P	Pn	00 46 38.3	-0.3
ATH	Athens Observa	2.03	245	ePN	Pn	00 46 38.5	-0.1
ATH	Athens Observa	2.03	245	ePn	Pn	00 46 38.5	-0.1
EDC	Edincik	2.04	43	ePN	Pn	00 46 39.6	+0.8
EDC	Edincik	2.04	43	ePn	Pn	00 46 39.6	+0.8
BODT	Bodrum	2.07	150	ePN	Pn	00 46 39.6	+0.5
BODT	Bodrum	2.07	150	ePn	Pn	00 46 39.6	+0.5
BNT	Bandirma	2.08	44	ePN	Pn	00 46 39.7	+0.4
BNT	Bandirma	2.08	44	ePn	Pn	00 46 39.7	+0.4
KULA	Kula-Manisa	2.08	99	ePN	Pn	00 46 40.5	+1.0
KULA	Kula-Manisa	2.08	99	ePn	Pn	00 46 40.5	+1.0
MLSB	Milas	2.09	138	ePN	Pn	00 46 40.0	+0.6
MLSB	Milas	2.09	138	ePn	Pn	00 46 40.1	+0.6
DEMI	Demirci	2.10	84	iP	Pn	00 46 38.6	-1.0
DEMI	Demirci	2.10	84	iP	Pn	00 46 38.6	-1.0
PAIG	Paliouri	2.11	301	P	Pn	00 46 39.3	-0.4
PAIG	Paliouri	2.11	301	P	Pn	00 46 39.3	-0.4
BDRM	Kayabasi	2.12	148	iP	Pn	00 46 38.6	-1.3
BDRM	Kayabasi	2.12	148	iP	Pn	00 46 38.6	-1.3
DST	Dursunbey	2.13	69	ePN	Pn	00 46 41.3	+1.2
DST	Dursunbey	2.13	69	ePn	Pn	00 46 41.3	+1.2
MFT	Murefte	2.14	26	ePN	Pn	00 46 41.5	+1.2
MFT	Murefte	2.14	26	ePn	Pn	00 46 41.5	+1.2
OUR	Ouranopolis	2.16	313	P	Pn	00 46 40.2	-0.2
OUR	Ouranopolis	2.16	313	P	Pn	00 46 40.2	-0.2
NEO	Neokhori	2.23	282	ePN	Pn	00 46 41.3	-0.2
NEO	Neokhori	2.23	282	ePn	Pn	00 46 41.3	-0.2
XOR	Xorichti	2.27	283	P	Pn	00 46 41.8	-0.1
XOR	Xorichti	2.27	283	P	Pn	00 46 41.8	-0.1
KCTX	Karacabey (Bur	2.27	51	ePN	Pn	00 46 42.6	+0.6
KCTX	Karacabey (Bur	2.27	51	ePn	Pn	00 46 42.6	+0.6
NAIG	Nisos Aigina	2.29	242	ePN	Pn	00 46 41.8	-0.4
NAIG	Nisos Aigina	2.29	242	ePn	Pn	00 46 41.8	-0.4
ATAL	Atalanti	2.36	267	P	Pn	00 46 43.1	-0.1
ATAL	Atalanti	2.36	267	P	Pn	00 46 43.1	-0.1
LKR	Lokris	2.38	266	P	Pn	00 46 43.2	-0.3
LKR	Lokris	2.38	266	ePN	Pn	00 46 43.4	-0.1
LKR	Lokris	2.38	266	ePn	Pn	00 46 43.4	-0.1
TKR	Tekirdag	2.41	28	ePN	Pn	00 46 45.2	+1.3
TKR	Tekirdag	2.41	28	ePn	Pn	00 46 45.2	+1.3
KAVA	Kavala	2.42	332	P	Pn	00 46 43.7	-0.4
KAVA	Kavala	2.42	332	P	Pn	00 46 43.7	-0.4
THR2	Thira island,	2.47	191	P	Pn	00 46 43.3	-1.3
THR2	Thira island,	2.47	191	P	Pn	00 46 43.3	-1.3
YER	Yerkesik	2.48	134	ePN	Pn	00 46 45.6	+0.7
YER	Yerkesik	2.48	134	ePn	Pn	00 46 45.6	+0.7
PLG	Polygyros	2.50	308	P	Pn	00 46 45.1	-0.1
PLG	Polygyros	2.50	308	ePN	Pn	00 46 45.2	0.0
PLG	Polygyros	2.50	308	ePn	Pn	00 46 45.2	0.0
ORLT	Orhaneli	2.50	61	ePN	Pn	00 46 47.2	+2.0
ORLT	Orhaneli	2.50	61	ePn	Pn	00 46 47.2	+2.0
LTK	Loutraki	2.55	252	P	Pn	00 46 45.7	-0.1
LTK	Loutraki	2.55	252	ePN	Pn	00 46 45.8	-0.1
LTK	Loutraki	2.55	252	P	Pn	00 46 45.7	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DID	Didima	2.59	239	P	Pn	00 46 45.8	-0.6
DID	Didima	2.59	239	ePN	Pn	00 46 45.8	-0.6
DID	Didima	2.59	239	P	Pn	00 46 45.8	-0.6
CRLT	Corlu	2.61	30	ePN	Pn	00 46 47.3	+0.7
CRLT	Corlu	2.61	30	ePn	Pn	00 46 47.3	+0.7
DENT	Denizli	2.61	114	ePN	Pn	00 46 47.8	+1.2
DENT	Denizli	2.61	114	ePn	Pn	00 46 47.8	+1.2
AXAR	Agios Charalam	2.64	269	P	Pn	00 46 47.3	+0.2
AXAR	Agios Charalam	2.64	269	P	Pn	00 46 47.3	+0.2
MDNY	Mudanya-Bursa	2.66	55	ePN	Pn	00 46 48.2	+0.9
MDNY	Mudanya-Bursa	2.66	55	ePn	Pn	00 46 48.2	+0.9
GDZ	Gediz	2.69	84	eP	Pn	00 46 47.7	-0.2
GDZ	Gediz	2.69	84	eP	Pn	00 46 47.7	-0.2
ULDT	Uludag	2.71	61	iP	Pn	00 46 48.5	+0.3
ULDT	Uludag	2.71	61	iP	Pn	00 46 48.5	+0.3
TVSB	Tavsanli	2.73	77	ePN	Pn	00 46 49.5	+1.2
TVSB	Tavsanli	2.73	77	ePn	Pn	00 46 49.5	+1.2
KHAL	Karahalli	2.75	99	eP	Pn	00 46 48.2	-0.5
KHAL	Karahalli	2.75	99	eP	Pn	00 46 48.2	-0.5
ARMT	Armutlu	2.76	51	ePN	Pn	00 46 50.3	+1.6
ARMT	Armutlu	2.76	51	ePn	Pn	00 46 50.3	+1.6
DESF	Desfina	2.78	262	P	Pn	00 46 48.3	-0.7
DESF	Desfina	2.78	262	P	Pn	00 46 48.3	-0.7
KHL	Karahalli	2.79	100	ePN	Pn	00 46 50.3	+1.2
KHL	Karahalli	2.79	100	ePn	Pn	00 46 50.3	+1.2
KDZ	Kurdzhali	2.82	350	iP	Pn	00 46 49.0	-0.5
KDZ				S	Sn	00 47 20.8	-2.9
KDZ	Kurdzhali	2.82	350	iP	Pn	00 46 49.0	-0.5
KDZ				S	Sn	00 47 20.8	-2.9
SOH	Sokhos	2.84	314	P	Pn	00 46 50.2	+0.4
SOH	Sokhos	2.84	314	ePN	Pn	00 46 50.2	+0.4
SOH	Sokhos	2.84	314	P	Pn	00 46 50.2	+0.4
HORT	Hortiatis	2.85	308	P	Pn	00 46 50.4	+0.4
HORT	Hortiatis	2.85	308	P	Pn	00 46 50.4	+0.4
SLVT	Silivri	2.89	35	ePN	Pn	00 46 51.6	+1.2
SLVT	Silivri	2.89	35	ePn	Pn	00 46 51.6	+1.2
GEMT	Gemlik	2.89	56	ePN	Pn	00 46 52.0	+1.5
GEMT	Gemlik	2.89	56	ePn	Pn	00 46 52.0	+1.5
ELBA	Catalca	2.92	38	eP	Pn	00 46 50.9	0.0
ELBA	Catalca	2.92	38	eP	Pn	00 46 50.9	0.0
SRS	Serrai	2.93	321	P	Pn	00 46 51.0	0.0
SRS	Serrai	2.93	321	P	Pn	00 46 51.0	0.0
NVR	Nevrokopi	2.99	327	P	Pn	00 46 51.8	0.0
NVR	Nevrokopi	2.99	327	ePN	Pn	00 46 51.8	0.0
NVR	Nevrokopi	2.99	327	P	Pn	00 46 51.8	0.0
RZN	Rozhen	2.99	341	iP	Pn	00 46 52.3	+0.3
RZN				S	Sn	00 47 26.5	-1.7
RZN	Rozhen	2.99	341	iP	Pn	00 46 52.3	+0.3
RZN				S	Sn	00 47 26.5	-1.7
EDRB	Edirne	3.02	10	ePN	Pn	00 46 52.9	+0.6
EDRB	Edirne	3.02	10	ePn	Pn	00 46 52.9	+0.6
CTKS	Kestanelik-??a	3.03	38	ePN	Pn	00 46 53.7	+1.4
CTKS	Kestanelik-??a	3.03	38	ePn	Pn	00 46 53.7	+1.4
GUR	Goura	3.05	253	P	Pn	00 46 53.0	+0.3
GUR	Goura	3.05	253	ePN	Pn	00 46 53.1	+0.3
GUR	Goura	3.05	253	P	Pn	00 46 53.0	+0.3
YLV	Yalova	3.08	56	ePN	Pn	00 46 54.8	+1.7
YLV	Yalova	3.08	56	ePn	Pn	00 46 54.8	+1.7
BUY	Buyukada	3.09	49	eP	Pb	00 46 57.3	-2.0
BUY	Buyukada	3.09	49	eP	Pb	00 46 57.3	-2.0
KALE	Kalithea	3.09	262	P	Pn	00 46 53.6	+0.3
KALE	Kalithea	3.09	262	P	Pn	00 46 53.6	+0.3
BGKT	Bogazkoy	3.12	41	ePN	Pn	00 46 55.0	+1.4
BGKT	Bogazkoy	3.12	41	ePn	Pn	00 46 55.0	+1.4
CTYL	Yal??k??y-??at	3.12	33	ePN	Pn	00 46 55.0	+1.4
CTYL	Yal??k??y-??at	3.12	33	ePn	Pn	00 46 55.0	+1.4
ARG	Arkhangelos	3.13	147	P	Pn	00 46 53.6	-0.1
ARG	Arkhangelos	3.13	147	P	Pn	00 46 53.6	-0.1
TRIZ	Trizonia	3.15	262	P	Pn	00 46 54.6	+0.6
TRIZ	Trizonia	3.15	262	P	Pn	00 46 54.6	+0.6
ALT	Altintas	3.18	85	ePN	Pn	00 46 55.5	+0.9
ALT	Altintas	3.18	85	iP	Pn	00 46 51.6	-2.9
ALT				iS	Sn	00 47 32.1	-0.7
ALT	Altintas	3.18	85	ePn	Pn	00 46 55.5	+0.9
ISK	Istanbul-Kandi	3.19	46	ePN	Pn	00 46 55.9	+1.3
ISK	Istanbul-Kandi	3.19	46	ePn	Pn	00 46 55.9	+1.3
DIM	Dimitrovgrad	3.20	353	P	Pn	00 46 54.7	0.0
DIM	Dimitrovgrad	3.20	353	P	Pn	00 46 54.7	0.0
THL	Klokotos Trika	3.20	284	P	Pn	00 46 55.2	+0.5
THL	Klokotos Trika	3.20	284	ePN	Pn	00 46 55.3	+0.5
THL	Klokotos Trika	3.20	284	P	Pn	00 46 55.2	+0.5
CAVI	Cavuskoy	3.23	64	ePN	Pn	00 46 56.7	+1.6
CAVI	Cavuskoy	3.23	64	ePn	Pn	00 46 56.7	+1.6
MMB	Musomiste	3.24	328	iP	Pn	00 46 55.0	-0.3
MMB				Sg	Sg	00 47 56.2	+8.2
MMB	Musomiste	3.24	328	iP	Pn	00 46 55.0	-0.3
LAKA	Lakka	3.24	260	P	Pn	00 46 56.0	+0.6
LAKA	Lakka	3.24	260	P	Pn	00 46 56.0	+0.6
VLX	Vlachokerasia	3.25	244	P	Pn	00 46 55.5	0.0
VLX	Vlachokerasia	3.25	244	ePN	Pn	00 46 56.0	+0.5
VLX	Vlachokerasia	3.25	244	P	Pn	00 46 55.5	0.0
VLX	Vlachokerasia	3.25	244	ePn	Pn	00 46 56.0	+0.5
ADVT	Abdulvahap	3.26	60	ePN	Pn	00 46 56.7	+1.2
ADVT	Abdulvahap	3.26	60	ePn	Pn	00 46 56.7	+1.2
VLI	Veliai	3.26	230	P	Pn	00 46 54.9	-0.7
VLI	Veliai	3.26	230	ePN	Pn	00 46 54.9	-0.7
VLI	Veliai	3.26	230	P	Pn	00 46 54.9	-0.7
EFP	Efpalio	3.27	263	ePN	Pn	00 46 56.5	+0.9
EFP	Efpalio	3.27	263	ePn	Pn	00 46 56.5	+0.9
FETY	Fethiye	3.29	132	ePN	Pn	00 46 56.7	+0.8
FETY	Fethiye	3.29	132	ePn	Pn	00 46 56.7	+0.8
EVR	Evrytania	3.30	272	ePN	Pn	00 46 57.2	+1.0
EVR	Evrytania	3.30	272	ePn	Pn	00 46 57.2	+1.0
KNT	Kendrikon	3.32	315	P	Pn	00 46 57.2	+0.8
KNT	Kendrikon	3.32	315	P	Pn	00 46 57.2	+0.8
PLD	Plovdiv	3.39	343	P	Pn	00 46 58.0	+0.6
PLD	Plovdiv	3.39	343	iP	Pn	00 46 57.9	+0.6
PLD				S	Sg	00 47 51.4	-1.3
PLD	Plovdiv	3.39	343	iP	Pn	00 46 57.9	+0.6
HRT	Hereke	3.41	54	ePN	Pn	00 46 59.7	+2.1
HRT	Hereke	3.41	54	ePn	Pn	00 46 59.7	+2.1
KARP	Karpathos	3.44	165	ePN	Pn	00 46 57.0	-1.0
KARP	Karpathos	3.44	165	ePn	Pn	00 46 57.0	-1.0
GRG	Griva	3.49	308	P	Pn	00 46 59.7	+1.0
GRG	Griva	3.49	308	P	Pn	00 46 59.7	+1.0
KYTH	Kithira	3.52	224	P	Pn	00 46 58.6	-0.5
KYTH	Kithira	3.52	224	ePN	Pn	00 46 58.7	-0.4
KYTH	Kithira	3.52	224	ePn	Pn	00 46 58.7	-0.4
SHUT	Suhut-Afyon	3.55	94	ePN	Pn	00 47 01.0	+1.4
SHUT	Suhut-Afyon	3.55	94	ePn	Pn	00 47 01.0	+1.4
SILT	Sile	3.59	49	ePN	Pn	00 47 01.9	+1.9
SILT	Sile	3.59	49	ePn	Pn	00 47 01.9	+1.9
GPA	Golpazari	3.59	65	ePN	Pn	00 47 01.9	+1.7
GPA	Golpazari	3.59	65	ePn	Pn	00 47 01.9	+1.7
DYR	Agios Nikonas	3.61	235	P	Pn	00 47 00.7	+0.3
DYR	Agios Nikonas	3.61	235	P	Pn	00 47 00.7	+0.3
VAY	Valandovo	3.61	314	ePn	Pn	00 47 00.7	+0.3
VAY	Valandovo	3.61	314	ePn	Pn	00 47 01.2	+0.8
JMB	Yambol	3.62	6	P	Pn	00 47 00.3	-0.1
JMB	Yambol	3.62	6	P	Pn	00 47 01.0	+0.6
JMB				S	Sb	00 47 56.1	+3.8
JMB	Yambol	3.62	6	P	Pn	00 47 01.0	+0.6
NPS	Neapolis	3.62	186	ePN	Pn	00 46 59.6	-0.9
NPS	Neapolis	3.62	186	ePn	Pn	00 46 59.6	-0.9
ITM	Ithomi	3.66	244	P	Pn	00 47 01.9	+0.9
ITM	Ithomi	3.66	244	ePN	Pn	00 47 01.9	+0.9
ITM	Ithomi	3.66	244	P	Pn	00 47 01.9	+0.9
ELL	Elmali	3.73	123	ePN	Pn	00 47 03.6	+1.5
ELL	Elmali	3.73	123	ePn	Pn	00 47 03.6	+1.5
KKB	Krupnik	3.75	324	P	Pn	00 47 03.0	+0.7
KKB				S	Sg	00 48 01.5	-2.8
KKB	Krupnik	3.75	324	P	Pn	00 47 03.0	+0.7
SPNC	Sapanca-Adapaz	3.76	60	ePN	Pn	00 47 04.4	+2.0
SPNC	Sapanca-Adapaz	3.76	60	ePn	Pn	00 47 04.4	+2.0
GULT	Gulveren	3.79	64	ePN	Pn	00 47 05.1	+2.1
GULT	Gulveren	3.79	64	ePn	Pn	00 47 05.1	+2.1
ESKT	Eskisehir	3.80	79	ePN	Pn	00 47 04.8	+1.8
ESKT	Eskisehir	3.80	79	ePn	Pn	00 47 04.8	+1.8
SEYT	Eskypehyr	3.80	79	iP	Pn	00 47 04.1	+1.1
SEYT	Eskypehyr	3.80	79	iP	Pn	00 47 04.1	+1.1
BCK	Bucak	3.85	110	ePN	Pn	00 47 05.3	+1.5
BCK	Bucak	3.85	110	ePn	Pn	00 47 05.3	+1.5
PYL	PYLOS	3.93	241	ePN	Pn	00 47 05.6	+0.9
PYL	PYLOS	3.93	241	ePn	Pn	00 47 05.6	+0.9
PGB	Panagyurishte	3.94	339	P	Pn	00 47 04.9	-0.1
PGB	Panagyurishte	3.94	339	P	Pn	00 47 04.9	-0.1
FNA	Florina	4.07	300	P	Pn	00 47 07.2	+0.5
FNA	Florina	4.07	300	P	Pn	00 47 07.2	+0.5
JAN	Janina	4.10	283	ePN	Pn	00 47 07.9	+0.8
JAN	Janina	4.10	283	ePn	Pn	00 47 07.9	+0.8
BIA	Bitola	4.21	302	ePn	Pn	00 47 09.7	+1.0
BIA	Bitola	4.21	302	ePn	Pn	00 47 09.7	+1.0
MDUB	Mudurnu	4.29	67	ePN	Pn	00 47 12.1	+2.3
MDUB	Mudurnu	4.29	67	ePn	Pn	00 47 12.1	+2.3
VTS	Vitosha	4.29	331	P	Pn	00 47 10.9	+1.0
VTS	Vitosha	4.29	331	⇓iP	Pn	00 47 10.9	+1.0
VTS	Vitosha	4.29	331	iP	Pn	00 47 10.9	+1.0
VTS				S	Sg	00 48 20.0	-1.8
VTS	Vitosha	4.29	331	iP	Pn	00 47 10.9	+1.0
SVRH	Sivrihisar-ESK	4.30	81	ePN	Pn	00 47 12.1	+2.1
SVRH	Sivrihisar-ESK	4.30	81	ePn	Pn	00 47 12.1	+2.1
PVL	Pavlikeni	4.38	353	P	Pn	00 47 10.3	-0.5
PVL	Pavlikeni	4.38	353	P	Pn	00 47 10.3	-0.5
SZH	Strazhica	4.39	359	P	Pn	00 47 09.8	-1.3
SZH				Sg	Sg	00 48 21.7	-3.3
SZH	Strazhica	4.39	359	P	Pn	00 47 09.8	-1.3
SZH				Sg	Sg	00 48 21.7	-3.3
PRD	Provadia	4.45	13	P	Pn	00 47 11.2	-0.6
PRD	Provadia	4.45	13	P	Pn	00 47 11.2	-0.6
NEF	NEVSHA	4.49	12	P	Pn	00 47 12.5	+0.1
NEF	NEVSHA	4.49	12	P	Pn	00 47 12.5	+0.1
SKO	Skopje	4.68	313	ePn	Pn	00 47 16.8	+1.7
SKO	Skopje	4.68	313	ePn	Pn	00 47 17.3	+2.2
MPEP	Malo Peshtene	4.80	340	iP	Pn	00 47 17.4	+0.6
MPEP				Sg	Sg	00 48 37.4	-0.8
LADK	Ladik-KONYA	5.01	96	ePN	Pn	00 47 22.0	+2.3
LADK	Ladik-KONYA	5.01	96	ePn	Pn	00 47 22.0	+2.3
KONT	Konya--Tatoy	5.05	99	ePN	Pn	00 47 22.8	+2.6
KONT	Konya--Tatoy	5.05	99	ePn	Pn	00 47 22.8	+2.6
PSN	Preselentsi	5.07	18	P	Pn	00 47 19.5	-0.9
PSN	Preselentsi	5.07	18	P	Pn	00 47 19.5	-0.9
BARS	Barje	5.08	322	eP	Pn	00 47 21.6	+1.1
PHP	Peshkopia	5.12	305	iPN	Pn	00 47 23.4	+2.2
PHP	Peshkopia	5.12	305	iPn	Pn	00 47 23.4	+2.2
MANR	Mangalia	5.30	20	⇓iP	Pn	00 47 23.4	-0.2
MANR	Mangalia	5.30	20	⇓iP	Pn	00 47 23.4	-0.2
TIR	Tirane	5.34	300	iPN	Pn	00 47 22.0	-2.1
TIR	Tirane	5.34	300	iPn	Pn	00 47 22.0	-2.1
PUK	Puka	5.66	306	iPN	Pn	00 47 26.5	-2.0
BCI	Bajram Curri	5.73	309	iPN	Pn	00 47 31.7	+2.2
BCI	Bajram Curri	5.73	309	iPn	Pn	00 47 31.7	+2.2
BOLS	Boljevac	5.83	330	eP	Pn	00 47 30.4	-0.4
TIRR	Tirgusor	5.86	17	⇑iP	Pn	00 47 30.9	-0.3
TIRR	Tirgusor	5.86	17	⇑iP	Pn	00 47 30.9	-0.3
BRTR	Keskin Array B	5.96	79	Pn	Pn	00 47 32.6	-0.1
	0.2nm,0.3s,baz=258,slow=13,SNR=8.2						
BRTR				Pg	Pg	00 47 53.4	-4.7
	0.4nm,0.3s,baz=261,slow=12,SNR=5.9						
BRTR				Lg	Lg	00 49 19.4	
	baz=266,slow=23,SNR=2.5						
ISR	Istrita	6.25	3	⇑iP	Pn	00 47 39.1	+2.4
ISR	Istrita	6.25	3	⇑iP	Pn	00 47 39.1	+2.4
GRUS	Gruza	6.41	323	eP	Pn	00 47 39.4	+0.5
IVAS	Ivanjica	6.46	319	⇑iP	Pn	00 47 40.6	+1.0
CFR	Carcaliu	6.49	13	⇓iP	Pn	00 47 39.3	-0.6
CFR	Carcaliu	6.49	13	⇓iP	Pn	00 47 39.3	-0.6
VOIR		6.60	354	⇑iP	Pn	00 47 41.5	0.0
VOIR		6.60	354	⇑iP	Pn	00 47 41.5	0.0
MLR	Muntele Rosu	6.62	359	Pn	Pn	00 47 42.7	+0.9
	0.6nm,0.3s,baz=256,slow=4.5,SNR=19						
MLR				Lg	Lg	00 49 35.5	
	0.1nm,0.3s,baz=261,slow=19,SNR=3.0						
MLR	Muntele Rosu	6.62	359	⇑iP	Pn	00 47 43.0	+1.2
MLR	Muntele Rosu	6.62	359	⇑iP	Pn	00 47 43.0	+1.2
TLCR		6.64	17	⇑iP	Pn	00 47 41.6	-0.4
TLCR		6.64	17	⇑iP	Pn	00 47 41.6	-0.4
TRUS	Trudelj	6.81	324	⇑iP	Pn	00 47 43.5	-0.9
DIVS	Divibare	6.92	321	⇑iP	Pn	00 47 46.5	+0.6
GZR	Gura Zlata	6.95	341	⇓iP	Pn	00 47 45.8	-0.5
GZR	Gura Zlata	6.95	341	⇓iP	Pn	00 47 45.8	-0.5
PLOR	Plostina	6.99	4	⇑iP	Pn	00 47 48.3	+1.5
PLOR	Plostina	6.99	4	⇑iP	Pn	00 47 48.3	+1.5
VRI	Vrincioaia	7.01	4	⇑iP	Pn	00 47 48.3	+1.2
VRI	Vrincioaia	7.01	4	⇑iP	Pn	00 47 48.3	+1.2
DOPR	Dopca	7.11	356	⇓iP	Pn	00 47 48.9	+0.5
DOPR	Dopca	7.11	356	⇓iP	Pn	00 47 48.9	+0.5
MDB	Medias	7.37	351	⇓iP	Pn	00 47 54.1	+2.1
MDB	Medias	7.37	351	⇓iP	Pn	00 47 54.1	+2.1
BZS	Buzias	7.50	336	⇓iP	Pn	00 47 53.4	-0.3
BZS	Buzias	7.50	336	eP	Pn	00 47 53.0	-0.7
TESR		7.65	3	⇑iP	Pn	00 47 56.1	+0.3
TESR		7.65	3	⇑iP	Pn	00 47 56.1	+0.3
DRGR		8.28	344	⇑iP	Pn	00 48 05.5	+0.9
DRGR		8.28	344	⇑iP	Pn	00 48 05.5	+0.9
BURAR	Bucovina Array	8.76	356	⇑iP	Pn	00 48 12.6	+1.4
BURAR	Bucovina Array	8.76	356	⇑iP	Pn	00 48 12.6	+1.4
PKSM	Moragy	9.14	326	⇑iP	Pn	00 48 16.9	+0.6
PKSM	Moragy	9.14	326	⇑iP	Pn	00 48 16.9	+0.6
MMAI	Mount Meron Ar	9.58	125	Pn	Pn	00 48 22.7	+0.3
	0.7nm,0.3s,baz=320,slow=13,SNR=7.7						
VRAC	Vranov	12.44	330	Pn	Pn	00 49 00.6	-0.8
	0.1nm,0.3s,baz=134,slow=16,SNR=3.1						
GERES	GERESS Array B	13.35	322	Pn	Pn	00 49 17.3	+3.4
	0.1nm,0.3s,baz=134,slow=14,SNR=2.6						
DAVOX	Davos/Dischmat	14.23	309	Pn	Pn	00 49 27.4	+1.3
	0.1nm,0.3s,baz=149,slow=16,SNR=2.8						
LPG	La Plagne	15.74	301	eP	Pn	00 49 45.5	-0.8
	15nm,1.0s						
SMRF	Simiane la Rot	16.16	295	eP	P	00 49 54.9	0.0
SMRF	Simiane la Rot	16.16	295	eP	P	00 49 54.9	0.0
SFTF	Sexfontaines	17.81	308	eP	Pn	00 50 13.1	+0.9
	25nm,1.1s						
SFTF	Sexfontaines	17.81	308	eP	Pn	00 50 13.1	+0.9
	24nm,1.1s						
SSF	Saint Saulge	18.36	304	eP	P	00 50 21.0	+1.8
SSF	Saint Saulge	18.36	304	eP	P	00 50 21.0	+1.8
AVF	Avril sur Loir	18.38	303	eP	P	00 50 21.9	+2.6
	7.5nm,0.9s						
AVF	Avril sur Loir	18.38	303	eP	P	00 50 21.9	+2.6
	7.0nm,0.9s						
MFF	Saint Martin d	20.66	300	eP	P	00 50 41.9	-2.3
LDF	La Druitiere	21.16	306	eP	P	00 50 50.3	+0.7
LDF	La Druitiere	21.16	306	eP	P	00 50 50.3	+0.7
FINES	FINESS Array B	22.60	0	P	P	00 51 05.0	+0.1
	5.6nm,1.1s,baz=185,slow=10,SNR=4.1						
HFS	Hagfors	22.67	344	P	P	00 51 04.4	-1.3
	3.6nm,1.1s,baz=172,slow=12,SNR=3.4						
ESDC	Sonseca Array	23.19	282	P	P	00 51 14.3	+2.9
	0.2nm,0.5s,baz=76,slow=10.0,SNR=3.7						
NOA	NORSAR Array B	24.04	342	P	P	00 51 18.5	-1.0
	1.2nm,0.9s,baz=151,slow=9.2,SNR=3.5						
TORD	Torodi Ar. Bea	33.48	227	P	P	00 52 44.1	+0.1
	0.7nm,0.8s,baz=36,slow=7.9,SNR=4.5						
AAK	Ala-Archa	36.50	68	LR	LR	01 09 47.7	
	comp=Z,64nm,21.2s,baz=329,slow=39						
KURBB	Kurchatov Arra	38.32	55	P	P	00 53 25.3	+0.2
	1.1nm,1.0s,baz=285,slow=8.8,SNR=5.3						
MKAR	Makanchi Array	41.23	60	P	P	00 53 49.0	-0.5
	0.7nm,0.9s,baz=298,slow=5.1,SNR=4.4						

IDC 01 00:46:41.6±1.5, 2°.75S×128°.93E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=54.1km s-min=23.5km az=69.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	9.43	256	Pn	Pn	00 48 59.0	+0.1
	0.6nm,0.3s,baz=67,slow=15,SNR=2.7						
FITZ	Fitzroy Crossi	15.60	192	Pn	P	00 50 26.4	-1.1
	0.1nm,0.3s,baz=19,slow=11,SNR=2.9						
WRA	Warramunga Arr	17.89	163	P	Pn	00 50 51.9	-0.3
	0.3nm,0.3s,baz=346,slow=13,SNR=18						
WRA				S	Sn	00 54 08.8	-3.5
	0.1nm,0.3s,baz=341,slow=21,SNR=4.1						
ASAR	Alice Springs	21.34	167	P	P	00 51 30.9	+0.3
	2.3nm,0.6s,baz=349,slow=11,SNR=27						
CBIJ	Chichi jima	32.31	22	LR	LR	01 03 32.4	
	comp=Z,104nm,18.9s,baz=146,slow=31						
MKAR	Makanchi Array	64.11	326	P	P	00 57 17.4	-0.4
	0.1nm,0.5s,baz=120,slow=5.2,SNR=3.0						
KURBB	Kurchatov Arra	68.36	328	P	P	00 57 45.2	+0.3
	0.3nm,0.6s,baz=125,slow=6.0,SNR=3.0						

IDC 01 00:57:44.8±0.6, 32°.85S×73°.11W, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML4.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=23.2km s-min=19.6km az=85.0
ISCJB 01 00:57:46.4±1.3, 32°.73S±0°.04×73°.03W±0°.04, h18km±10km, mb4.1/9, MS3.7/3, Error ellipse: s-maj=6.6km s-min=5.7km az=139.7
GUC 01 00:57:47.5±0.8, 32°.77S×72°.94W, h25km±3km, MD4.0, ML4.2
ISC 01 00:57:44.9±2.4, 32°.70S±0°.05×73°.01W±0°.07, h0km±14km, n41, σ1s.24/55, mb4.4/9, MS3.6/3, 3C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.20	106	⇑iP	Pg	00 58 08.2	+0.2
LCCH	Las Cruces	1.44	123	eP	Pn	00 58 10.9	-1.3
CHNG	Los Chungos	1.52	58	⇑iP	Pn	00 58 13.1	-0.2
CHNG				iS	Sn	00 58 32.6	-1.1
CHNG				AML	AML	00 58 35.5	
	comp=E,3μm,0.3s						
ROCH	El Roble	1.71	100	eP	Pn	00 58 15.9	-0.3
ROCH				eS	Sn	00 58 37.0	-1.8
ROCH				AML	AML	00 58 40.5	
	comp=N,3μm,0.8s						
LNV	Longovilo	1.84	134	⇓iP	Pn	00 58 16.6	-1.2
TACH	Talagante	1.99	119	⇓iP	Pn	00 58 19.6	-0.2
PEL	Peldehue	2.01	103	⇓iP	Pn	00 58 20.7	+0.6
PEL				iS	Sn	00 58 44.9	-1.1
PEL				AML	AML	00 58 47.5	
	comp=N,11μm,0.6s						
JACH	Jahuel	2.04	90	⇓iP	Pn	00 58 20.7	+0.1
JACH				iS	Sn	00 58 46.4	-0.4
SAN	Santiago	2.12	112	eP	Pn	00 58 21.6	+0.1
SAN				iS	Sn	00 58 47.4	-1.2
SAN				AML	AML	00 58 50.0	
	comp=N,2μm,0.3s						
ANTU	Antumapu	2.18	114	eP	Pn	00 58 23.2	+0.8
ANTU				iS	Sn	00 58 49.5	-0.7
ANTU				AML	AML	00 58 50.9	
	comp=N,5μm,0.5s						
FSR	Penalolen	2.23	111	eP	Pn	00 58 24.0	+0.8
FSR				iS	Sn	00 58 50.6	-0.9
FSR				AML	AML	00 58 52.4	
	comp=N,917nm,0.7s						
CMCH	Combarbala	2.29	49	⇓iP	Pn	00 58 23.7	-0.3
CMCH				eS	Sn	00 58 51.6	-1.2
CHCH	Chadas Angostu	2.33	123	⇓iP	Pn	00 58 24.4	-0.2
CHCH				eS	Sn	00 58 52.1	-1.8
SJCH	San Jose de Ma	2.42	114	eP	Pn	00 58 25.6	-0.2
SJCH				iS	Sn	00 58 54.4	-1.9
SJCH				AML	AML	00 58 56.5	
	comp=N,2μm,0.9s						
CACH	El Canelo	2.47	126	eP	Pn	00 58 27.0	+0.5
OVCH	Ovalle	2.59	37	⇑iP	Pn	00 58 28.2	+0.1
OVCH				iS	Sn	00 58 59.6	-0.7
CFAA	Coronel Fontan	4.20	76	Pn	Pn	00 58 52.8	+2.6
	comp=N,1.1nm,0.3s,baz=248,slow=11,SNR=99						
CFAA				Sn	Sn	00 59 42.2	+2.2
	comp=N,6.1nm,0.3s,baz=62,slow=17,SNR=14						
PLCA	Paso Flores	8.26	167	Pn	Pn	00 59 45.3	-0.8
	comp=N,2.2nm,0.3s,baz=340,slow=12,SNR=49						
PLCA				Sn	Sn	01 01 24.8	+4.7
	comp=N,0.1nm,0.3s,baz=68,slow=19,SNR=1.4						
PLCA				LR	LR	01 02 51.4	
	comp=N,352nm,19.8s,baz=106,slow=38						
CPUP	Villa Florida	15.05	69	Pn	Pn	01 01 16.1	-2.7
	comp=N,0.1nm,0.3s,baz=218,slow=17,SNR=3.7						
CPUP				LR	LR	01 07 46.2	
	comp=N,164nm,19.2s,baz=44,slow=40						
LPAZ	La Paz	16.93	16	P	P	01 01 46.4	+0.4
	comp=N,0.3nm,0.3s,baz=182,slow=6.3,SNR=12						
SIV	San Ignacio	19.84	36	P	Pn	01 02 19.9	+0.9
	comp=N,6.7nm,0.6s,baz=229,slow=12,SNR=29						
SIV				LR	LR	01 11 05.3	
	comp=N,129nm,19.1s,slow=40						
USHA	Ushuaia	22.36	173	LR	LR	01 12 51.3	
	comp=N,203nm,18.4s,baz=220,slow=41						
ATAH	Atahualpa	25.92	348	LR	LR	01 11 57.8	
	comp=N,119nm,19.0s,baz=5.1,slow=33						
BDFB	Brasilia	28.32	59	P	P	01 03 40.9	+0.3
	comp=N,2.9nm,0.8s,baz=238,slow=10,SNR=4.3						
VNA3	Neumayer Olymp	50.87	158	eP	P	01 06 47.4	+0.3
VNA2	Neumayer--Watz	51.53	158	eP	P	01 06 52.4	+0.4
	baz=282,slow=8.8						
QSPA	South Pole Qui	57.54	180	P	P	01 07 35.3	-0.7
	comp=N,3.9nm,1.0s,baz=176,slow=6.8,SNR=7.1						
TXAR	Lajitas Array	68.20	331	P	P	01 08 47.9	+0.6
	comp=N,0.4nm,0.5s,baz=156,slow=8.9,SNR=2.9						
TXAR				LR	LR	01 35 55.1	
	comp=N,78nm,18.5s,baz=185,slow=34						
DBIC	Dimbokro	75.55	72	P	P	01 09 32.5	+0.8
	comp=N,7.8nm,0.8s,baz=214,slow=6.2,SNR=13						
BOSA	Boshof	81.40	118	P	P	01 10 03.8	-0.3
	comp=N,3.3nm,0.8s,baz=282,slow=7.4,SNR=5.4						
PDAR	Pinedale Array	82.23	334	P	P	01 10 07.9	-0.2
	comp=N,0.2nm,0.5s,baz=125,slow=7.9,SNR=2.1						
NVAR	Mina Array Bea	82.35	326	P	P	01 10 09.0	+0.2
	comp=N,0.2nm,0.4s,baz=163,slow=6.6,SNR=4.2						
TORD	Torodi Ar. Bea	84.54	71	P	P	01 10 20.3	0.0
	comp=N,5.2nm,0.7s,baz=274,slow=5.2,SNR=43						
SCHQ	Schefferville	87.33	4	P	P	01 10 35.4	+2.2
	comp=N,2.4nm,1.0s,baz=223,slow=7.7,SNR=6.8						
YKA	Yellowknife Ar	100.56	342	P	Pdif	01 11 33.1	-0.7
	comp=N,0.1nm,0.4s,baz=146,slow=4.3,SNR=4.4						
WRA	Warramunga Arr	121.48	210	PKP	PKPdf	01 16 39.6	-1.4
	comp=N,0.4nm,0.7s,baz=161,slow=1.5,SNR=3.8						
AKASG	Malin Array Be	121.91	47	PKP	PKPdf	01 16 39.4	-1.2
	comp=N,0.4nm,0.5s,baz=287,slow=2.4,SNR=3.8						
ZALV	Zalesovo Beam	153.53	30	PKP	PKPdf	01 17 36.9	-0.3
	comp=N,1.9nm,0.9s,baz=287,slow=2.5,SNR=8.3						
ZALV				PKPbc	PKPbc	01 17 44.9	0.0
	comp=N,5.7nm,0.6s,baz=297,slow=3.2,SNR=30						
ZALV				PKPab	PKPab	01 17 58.1	+0.8
	comp=N,1.9nm,0.7s,baz=310,slow=5.6,SNR=5.3						
MKAR	Makanchi Array	156.49	46	PKP	PKPdf	01 17 41.1	-0.4
	comp=N,1.0nm,0.8s,baz=318,slow=1.6,SNR=9.7						
MKAR				PKPbc	PKPab	01 17 51.5	-19
	comp=N,0.6nm,0.8s,baz=340,slow=2.3,SNR=4.7						
MKAR				PKPab	PKPab	01 18 09.9	-0.3
	comp=N,1.1nm,0.7s,baz=303,slow=4.1,SNR=9.3						
CMAR	Chiang Mai Arr	164.08	151	PKP	PKPdf	01 17 50.4	-0.4
	comp=N,0.5nm,0.3s,baz=242,slow=1.9,SNR=5.3						
SONM	Songino Array	164.87	2	PKP	PKPdf	01 17 49.9	-0.8
	comp=N,0.2nm,0.8s,baz=252,slow=1.0,SNR=3.8						
SONM				PKPab	PKPab	01 18 47.6	+0.9
	comp=N,1.1nm,0.8s,baz=339,slow=3.7,SNR=9.0						

CSEM 01 00:58:11.1±0.5, 39°.81N×25°.34E, h2km, MD3.0, Error ellipse: s-maj=20.6km s-min=5.4km az=55.0
SOF 01 00:58:10.8, 39°.92N×25°.36E, h2km, MD3.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDZ	Kurdzhali	1.73	1	P	Pb	00 58 42.9	-0.4
KDZ	Kurdzhali	1.73	1	P	Pb	00 58 42.9	-0.4
RZN	Rozhen	1.83	345	P	Pb	00 58 45.1	-0.2
RZN	Rozhen	1.83	345	P	Pb	00 58 45.1	-0.2
MMB	Musomiste	2.08	324	P	Pn	00 58 48.0	+1.2
MMB				S	Sb	00 59 15.1	-0.5
MMB	Musomiste	2.08	324	P	Pn	00 58 48.0	+1.2
MMB				S	Sb	00 59 15.1	-0.5
DIM	Dimitrovgrad	2.13	3	P	Pb	00 58 49.6	-0.6
DIM				S	Sb	00 59 17.8	+0.7
DIM	Dimitrovgrad	2.13	3	P	Pb	00 58 49.6	-0.6
DIM				S	Sb	00 59 17.8	+0.7
PLD	Plovdiv	2.24	347	P	Pb	00 58 51.2	-0.8
PLD				S	Sg	00 59 22.7	-0.1
PLD	Plovdiv	2.24	347	P	Pb	00 58 51.2	-0.8
PGB	Panagyurishte	2.78	341	P	Pn	00 58 57.8	+1.4
PGB				S	Sb	00 59 37.6	+1.8
PGB	Panagyurishte	2.78	341	P	Pn	00 58 57.8	+1.4
SZH	Strazhica	3.37	7	P	Pn	00 59 06.7	+2.2
SZH	Strazhica	3.37	7	P	Pn	00 59 06.7	+2.2

DDA 01 00:59:03.1, 37°.84N×29°.11E, h5km, MD2.6
ISK 01 00:59:04.1, 37°.80N×28°.96E, h2km, MD3.1
CSEM 01 00:59:04.9±0.2, 37°.78N×28°.97E, h2km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.8km az=57.0
ISC 01 00:59:04.0±0.9, 37°.82N±0°.02×29°.02E±0°.02, h9km±6km, n76, σ1s.32/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.07	174	ePG	Pg	00 59 06.0	-0.1
DENT	Denizli	0.07	174	ePg	Pg	00 59 06.0	-0.1
DNZL	Cakiroluk	0.13	172	iP	Pg	00 59 06.9	-0.2
DNZL				iS	Sg	00 59 09.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DNZL	**Cakiroluk**	**0.13**	**172**	*i* P	**Pg**	**00 59 06.9**	**-0.2**
KHL	**Karahalli**	**0.64**	**38**	*e*PG	**Pb**	**00 59 18.3**	**+0.9**
KHL	**Karahalli**	**0.64**	**38**	*e*Pg	**Pb**	**00 59 18.3**	**+0.9**
KHAL	**Karahalli**	**0.66**	**34**	*i* P	**Pg**	**00 59 15.5**	**-1.3**
KHAL				*i* S	**Sg**	**00 59 25.3**	**-0.2**
KHAL	**Karahalli**	**0.66**	**34**	*i* P	**Pg**	**00 59 15.5**	**-1.3**
KHAL				*i* S	**Sg**	**00 59 25.3**	**-0.2**
GOLH	**Golhisar**	**0.72**	**144**	*i* P	**Pg**	**00 59 17.4**	**-0.5**
GOLH				*i* S	**Sg**	**00 59 28.2**	**+0.9**
GOLH	**Golhisar**	**0.72**	**144**	*i* P	**Pg**	**00 59 17.4**	**-0.5**
KULA	**Kula-Manisa**	**0.75**	**338**	*e*PG	**Pb**	**00 59 18.9**	**-0.4**
KULA				*e*SG	**Sb**	**00 59 30.1**	**+0.4**
KULA	**Kula-Manisa**	**0.75**	**338**	*e*Pg	**Pb**	**00 59 18.9**	**-0.4**
KULA				*e*Sg	**Sb**	**00 59 30.1**	**+0.4**
MANT	**Manisa**	**0.76**	**331**	*i* P	**Pg**	**00 59 18.6**	**-0.2**
MANT				*i* S	**Sb**	**00 59 31.2**	**+1.0**
MANT	**Manisa**	**0.76**	**331**	*i* S	**Sb**	**00 59 31.2**	**+1.0**
MANT	**Manisa**	**0.76**	**331**	*i* P	**Pg**	**00 59 18.6**	**-0.2**
YER	**Yerkesik**	**0.90**	**221**	*e*PG	**Pg**	**00 59 21.1**	**-0.2**
YER	**Yerkesik**	**0.90**	**221**	*e*Pg	**Pg**	**00 59 21.1**	**-0.2**
AYDN	**Tasoluk**	**0.92**	**260**	*i* P	**Pn**	**00 59 22.7**	**-0.5**
AYDN				*i* S	**Sn**	**00 59 35.3**	**-1.2**
AYDN	**Tasoluk**	**0.92**	**260**	*i* S	**Sn**	**00 59 35.3**	**-1.2**
AYDN	**Tasoluk**	**0.92**	**260**	*i* P	**Pn**	**00 59 22.7**	**-0.5**
TURN	**Turunc**	**1.00**	**200**	*i* P	Pn	00 59 27.4	+3.2
TURN				*i* S	Sn	00 59 46.3	+7.9
TURN	**Turunc**	**1.00**	**200**	*i* P	Pn	00 59 27.4	+3.2
MLSB	**Milas**	**1.12**	**243**	*e*PG	**Pg**	**00 59 25.5**	**0.0**
MLSB	**Milas**	**1.12**	**243**	*e*Pg	**Pg**	**00 59 25.5**	**0.0**
DEMI	**Demirci**	**1.25**	**349**	*i* P	**Pn**	**00 59 27.2**	**-0.5**
DEMI				*i* S	**Sn**	**00 59 44.7**	**+0.1**
DEMI	**Demirci**	**1.25**	**349**	*i* P	**Pn**	**00 59 27.2**	**-0.5**
DEMI				*i* S	**Sn**	**00 59 44.7**	**+0.1**
ELL	**Elmali**	**1.28**	**146**	*e*PN	**Pg**	**00 59 29.4**	**+0.8**
ELL	**Elmali**	**1.28**	**146**	*e*Pn	**Pg**	**00 59 29.4**	**+0.8**
BCK	**Bucak**	**1.29**	**106**	*e*PN	**Pg**	**00 59 29.9**	**+1.1**
BCK	**Bucak**	**1.29**	**106**	*e*Pn	**Pg**	**00 59 29.9**	**+1.1**
GDZ	**Gediz**	**1.32**	**16**	*i* P	**Pn**	**00 59 28.1**	**-0.6**
GDZ				*i* S	**Sg**	**00 59 48.3**	**+1.9**
GDZ	**Gediz**	**1.32**	**16**	*i* P	**Pn**	**00 59 28.1**	**-0.6**
GDZ				*i* S	**Sg**	**00 59 48.3**	**+1.9**
KORT	**Korkueli**	**1.33**	**127**	*i* P	**Pb**	**00 59 29.8**	**+0.5**
KORT				*i* S	**Sb**	**00 59 46.9**	**+0.4**
KORT	**Korkueli**	**1.33**	**127**	*i* P	**Pb**	**00 59 29.8**	**+0.5**
KORT				*i* S	**Sb**	**00 59 46.9**	**+0.4**
SHUT	**Suhut-Afyon**	**1.41**	**58**	*e*PN	**Pg**	**00 59 32.7**	**+1.6**
SHUT	**Suhut-Afyon**	**1.41**	**58**	*e*Pn	**Pg**	**00 59 32.7**	**+1.6**
AKHS	**Akhisar**	**1.42**	**318**	*i* P	**Pb**	**00 59 30.7**	**0.0**
AKHS				*i* S	**Sg**	**00 59 53.9**	**+4.2**
AKHS	**Akhisar**	**1.42**	**318**	*i* P	**Pb**	**00 59 30.7**	**0.0**
AKHS				*i* S	**Sg**	**00 59 53.9**	**+4.2**
AKS	**Akhisar**	**1.42**	**318**	*e*PN	**Pg**	**00 59 31.8**	**+0.5**
AKS	**Akhisar**	**1.42**	**318**	*e*Pn	**Pg**	**00 59 31.8**	**+0.5**
ALT	**Altintas**	**1.50**	**34**	*e*PN	**Pg**	**00 59 33.5**	**+0.7**
ALT	**Altintas**	**1.50**	**34**	*e*Pn	**Pg**	**00 59 33.5**	**+0.7**
IZM	**Izmir**	**1.50**	**293**	*e*PN	**Pg**	**00 59 32.7**	**-0.2**
IZM	**Izmir**	**1.50**	**293**	*e*Pn	**Pg**	**00 59 32.7**	**-0.2**
TVSB	**Tavsanli**	**1.66**	**12**	*e*PN	**Pg**	**00 59 35.7**	**-0.2**
TVSB	**Tavsanli**	**1.66**	**12**	*e*Pn	**Pg**	**00 59 35.7**	**-0.2**
BOLV	**Bolvadin**	**1.76**	**59**	*e*P	**Pb**	**00 59 35.9**	**-0.6**
BOLV	**Bolvadin**	**1.76**	**59**	*e*P	**Pb**	**00 59 35.9**	**-0.6**
DURS	**Dursunbey**	**1.83**	**347**	*e*P	**Pn**	**00 59 35.1**	**-0.6**
DURS	**Dursunbey**	**1.83**	**347**	*e*P	**Pn**	**00 59 35.1**	**-0.6**
BALB	**Balikesir**	**2.03**	**334**	*e*PN	**Pb**	**00 59 40.6**	**-0.3**
BALB	**Balikesir**	**2.03**	**334**	*e*Pn	**Pb**	**00 59 40.6**	**-0.3**
BORA	**Eskisehir**	**2.34**	**28**	*i* P	**Pb**	**00 59 47.0**	**+0.6**
BORA	**Eskisehir**	**2.34**	**28**	*i* P	**Pb**	**00 59 47.0**	**+0.6**
GONE	**Gonen-Balikesi**	**2.46**	**335**	*e*PN	**Pb**	**00 59 46.1**	**-2.2**
GONE	**Gonen-Balikesi**	**2.46**	**335**	*e*Pn	**Pb**	**00 59 46.1**	**-2.2**
KCTX	**Karacabey (Bur**	**2.50**	**348**	*e*PN	**Pb**	**00 59 47.0**	**-2.0**
KCTX	**Karacabey (Bur**	**2.50**	**348**	*e*Pn	**Pb**	**00 59 47.0**	**-2.0**
SVRH	**Sivrihisar-ESK**	**2.54**	**50**	*e*PN	**Pb**	**00 59 48.3**	**-1.5**
SVRH	**Sivrihisar-ESK**	**2.54**	**50**	*e*Pn	**Pb**	**00 59 48.3**	**-1.5**
GEMT	**Gemlik**	**2.62**	**3**	*e*PN	**Pb**	**00 59 49.2**	**-1.8**
GEMT	**Gemlik**	**2.62**	**3**	*e*Pn	**Pb**	**00 59 49.2**	**-1.8**
LADK	**Ladik-KONYA**	**2.67**	**81**	*e*PN	**Pb**	**00 59 50.0**	**-2.0**
LADK	**Ladik-KONYA**	**2.67**	**81**	*e*Pn	**Pb**	**00 59 50.0**	**-2.0**
ADVT	**Abdulvahap**	**2.67**	**12**	*e*PN	**Pb**	**00 59 50.3**	**-1.6**
ADVT	**Abdulvahap**	**2.67**	**12**	*e*Pn	**Pb**	**00 59 50.3**	**-1.6**
ARMT	**Armutlu**	**2.75**	**357**	*e*PN	**Pb**	**00 59 51.4**	**-1.9**
ARMT	**Armutlu**	**2.75**	**357**	*e*Pn	**Pb**	**00 59 51.4**	**-1.9**
YLV	**Yalova**	**2.76**	**6**	*e*PN	**Pb**	**00 59 51.7**	**-1.8**
YLV	**Yalova**	**2.76**	**6**	*e*Pn	**Pb**	**00 59 51.7**	**-1.8**
GULT	**Gulveren**	**2.85**	**24**	*e*PN	**Pb**	**00 59 53.6**	**-1.6**
GULT	**Gulveren**	**2.85**	**24**	*e*Pn	**Pb**	**00 59 53.6**	**-1.6**
MDUB	**Mudurnu**	**3.14**	**32**	*e*PN	**Pb**	**00 59 57.1**	**-2.9**
MDUB	**Mudurnu**	**3.14**	**32**	*e*Pn	**Pb**	**00 59 57.1**	**-2.9**
CTKS	**Kestanelik-??a**	**3.44**	**353**	*e*PN	Pn	01 00 00.7	+3.0
CTKS	**Kestanelik-??a**	**3.44**	**353**	*e*Pn	Pn	01 00 00.7	+3.0

*JMA **01** 01:03:44.5±0.2, 43°.71N×148°.02E, h8km, M3.8*
*ISCJB **01** 01:03:45.1±1.5, 43°.7N±0°.2×148°.1E±0°.2, h102km±13km, mb3.4/3, Error ellipse: s-maj=27.6km s-min=15.2km az=153.3*
*IDC **01** 01:03:53.7±6.4, 44°.38N×148°.28E, h137km±43km, mb3.1/3, mb1 3.1/4, mb1mx2.8/25, mbtmp3.0/4, Error ellipse: s-maj=213.7km s-min=28.1km az=170.0*
ISC 01 01:03:44.2±2.9**, 43°.8N**±0°.2×**148°.3E**±0°.2**, h78**km±25km**, n14, σ1.s04**/21**, mb3.2**/3**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.90**	**259**	P	**Pn**	**01 04 14.9**	**+0.2**
NEM2				*e*S	**Sn**	**01 04 36.9**	**-1.1**
JRA	**Rausu**	**2.31**	**276**	P	**Pn**	**01 04 20.8**	**+0.6**
JRA				*e*S	**Sn**	**01 04 47.6**	**-0.2**
JNK	**Nakash**	**2.61**	**268**	P	**Pn**	**01 04 24.7**	**+0.5**
JNK				*e*S	**Sn**	**01 04 54.0**	**-0.9**
JAK	**Akkeshi**	**2.74**	**255**	P	**Pn**	**01 04 26.5**	**+0.5**
JAK				*e*S	**Sn**	**01 04 57.2**	**-0.8**
JTKR	**Abashiri--Toko**	**3.19**	**275**	P	**Pn**	**01 04 33.0**	**+0.9**
JAR	**Ashorobuto**	**3.33**	**264**	P	**Pn**	**01 04 35.4**	**+1.4**
JAR				*e*S	**Sn**	**01 05 12.0**	**-0.5**
JOB	**Onbets**	**3.37**	**257**	P	**Pn**	**01 04 35.7**	**+1.2**
JOB				*e*S	**Sn**	**01 05 13.4**	**0.0**
JCH	**Churui**	**3.79**	**254**	P	**Pn**	**01 04 41.4**	**+1.2**
JCH				*e*S	**Sn**	**01 05 22.9**	**-0.7**
ASAJ	**Asahikawa**	**4.14**	**277**	P	Pn	01 04 55.0	+10
	0.4nm,0.3s,baz=128,slow=12,SNR=2.9						
ASAJ				S	Sn	01 05 42.7	+11
	0.6nm,0.3s,baz=217,slow=20,SNR=3.2						
JNBK	**Urakawa-nobuka**	**4.33**	**252**	P	**Pn**	**01 04 48.5**	**+0.9**
JKB	**Kayabe**	**5.67**	**253**	P	**Pn**	**01 05 07.1**	**+1.3**
JKB				*e*S	**Sn**	**01 06 07.3**	**-2.1**
ILAR	**Eielson Array**	**40.99**	**36**	P	**P**	**01 11 18.4**	**-0.6**
	0.2nm,0.5s,baz=268,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**45.33**	**298**	P	**P**	**01 11 55.1**	**+0.8**
	0.2nm,0.5s,baz=74,slow=7.8,SNR=5.6						
FINES	**FINESS Array B**	**65.25**	**333**	P	**P**	**01 14 16.6**	**-0.5**
	0.9nm,0.5s,baz=39,slow=7.3,SNR=12						

*CSEM **01** 01:05:50.5, 40°.63N×29°.16W, h5km, ML3.1, After PDA*
PDA 01 01:05:50.5±1.2**, 40°.63N×29°.16W, h5**km**, MD3.6, ML3.1, Error ellipse: s-maj=37.2km s-min=8.9km az=80.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSA	**Rosais**	**2.04**	**159**	*e*P	Pn	01 06 20.2	-5.3
ROSA				*e*S	Sn	01 06 43.5	-7.9
ROSA				A	A	01 06 45.1	
	20nm,0.1s						
ROSA	**Rosais**	**2.04**	**159**	*e*P	Pn	01 06 20.2	-5.3
ROSA				*e*S	Sn	01 06 43.5	-7.9
CALA	**Caldeira**	**2.08**	**170**	*e*S	Sn	01 06 44.4	-8.1
CALA	**Caldeira**	**2.08**	**170**	*e*S	Sn	01 06 44.4	-8.1
PMAN	**Manadas**	**2.16**	**157**	*e*P	Pn	01 06 22.5	-4.7
PMAN				*e*S	Sn	01 06 46.5	-7.9
PMAN				A	A	01 06 48.4	
	62nm,0.2s						
PMAN	**Manadas**	**2.16**	**157**	*e*P	Pn	01 06 22.5	-4.7
PMAN				*e*S	Sn	01 06 46.5	-7.9
PICO	**Pico**	**2.20**	**165**	*e*P	Pn	01 06 23.4	-4.5
PICO				*e*S	Sn	01 06 46.8	-8.8
PICO	**Pico**	**2.20**	**165**	*e*P	Pn	01 06 23.4	-4.5
PICO				*e*S	Sn	01 06 46.8	-8.8
PCAN	**Candelaria**	**2.23**	**166**	*e*P	Pn	01 06 23.4	-4.7
PCAN				*e*S	Sn	01 06 48.5	-7.6
PCAN				A	A	01 06 50.4	
	30nm,0.2s						
PCAN	**Candelaria**	**2.23**	**166**	*e*P	Pn	01 06 23.4	-4.7
PCAN				*e*S	Sn	01 06 48.5	-7.6

*SOF **01** 01:22:21.5, 40°.69N×27°.59E, h2km, MD2.9*
*ATH **01** 01:22:22.1, 41°.06N×27°.80E, h26km±15km, MD3.5/6*
*ISK **01** 01:22:25.3, 40°.84N×27°.57E, h4km, MD3.4*
*ISCJB **01** 01:22:25.5±0.3, 40°.86N±0°.02×27°.56E±0°.02, h4km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=171.6*
*DDA **01** 01:22:25.5, 40°.82N×27°.57E, h15km, ML3.3*
*CSEM **01** 01:22:25.9±0.1, 40°.85N×27°.55E, h5km, MD3.4*
ISC 01 01:22:26.2±0.8**, 40°.85N**±0°.01×**27°.56E**±0°.01**, h15**km±6km**, n141, σ0.s98**/181**, 1C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.14**	**352**	*e*PG	**Pg**	**01 22 29.5**	**-0.6**
TKR	**Tekirdag**	**0.14**	**352**	*e*Pg	**Pg**	**01 22 29.5**	**-0.6**
MFT	**Murefte**	**0.22**	**254**	*e*PG	**Pg**	**01 22 30.5**	**-0.7**
MFT	**Murefte**	**0.22**	**254**	*e*Pg	**Pg**	**01 22 30.5**	**-0.7**
CRLT	**Corlu**	**0.31**	**25**	*e*PG	**Pg**	**01 22 32.6**	**-0.1**
CRLT				*e*SG	**Sg**	**01 22 37.3**	**+0.1**
CRLT	**Corlu**	**0.31**	**25**	*e*Pg	**Pg**	**01 22 32.6**	**-0.1**
CRLT				*e*Sg	**Sg**	**01 22 37.3**	**+0.1**
SART	**Tekirdag**	**0.33**	**241**	*i* P	**Pg**	**01 22 32.5**	**-0.6**
SART				*i* S	**Sg**	**01 22 37.9**	**+0.1**
SART	**Tekirdag**	**0.33**	**241**	*i* P	**Pg**	**01 22 32.5**	**-0.6**
SART				*i* S	**Sg**	**01 22 37.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.33**	**241**	*e*PG	**Pg**	**01 22 32.6**	**-0.5**
RKY				*e*SG	**Sg**	**01 22 38.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.33**	**241**	*e*Pg	**Pg**	**01 22 32.6**	**-0.5**
RKY				*e*Sg	**Sg**	**01 22 38.0**	**+0.2**
KRBG	**Karabiga-Canak**	**0.50**	**204**	*e*PG	**Pg**	**01 22 35.4**	**-0.6**
KRBG	**Karabiga-Canak**	**0.50**	**204**	*e*Pg	**Pg**	**01 22 35.4**	**-0.6**
EDC	**Edincik**	**0.55**	**155**	*e*PG	**Pb**	**01 22 37.5**	**0.0**
EDC	**Edincik**	**0.55**	**155**	*e*Pg	**Pb**	**01 22 37.5**	**0.0**
BNT	**Bandirma**	**0.56**	**151**	*e*PG	**Pg**	**01 22 36.4**	**-0.9**
BNT	**Bandirma**	**0.56**	**151**	*e*Pg	**Pg**	**01 22 36.4**	**-0.9**
SLVT	**Silivri**	**0.62**	**52**	*e*PG	**Pg**	**01 22 38.2**	**-0.2**
SLVT	**Silivri**	**0.62**	**52**	*e*Pg	**Pg**	**01 22 38.2**	**-0.2**
ELBA	**Catalca**	**0.72**	**65**	*i* P	**Pg**	**01 22 39.8**	**-0.5**
ELBA				*i* S	**Sn**	**01 22 51.9**	**-0.8**
ELBA	**Catalca**	**0.72**	**65**	*i* P	**Pg**	**01 22 39.8**	**-0.5**
ELBA				*i* S	**Sn**	**01 22 51.9**	**-0.8**
LPK	**Lapseki**	**0.77**	**232**	*e*PG	**Pg**	**01 22 40.7**	**-0.5**
LPK	**Lapseki**	**0.77**	**232**	*e*Pg	**Pg**	**01 22 40.7**	**-0.5**
GONE	**Gonen-Balikesi**	**0.81**	**173**	*e*PG	**Pg**	**01 22 41.0**	**-0.9**
GONE	**Gonen-Balikesi**	**0.81**	**173**	*e*Pg	**Pg**	**01 22 41.0**	**-0.9**
CTKS	**Kestanelik-??a**	**0.81**	**61**	*e*PG	**Pg**	**01 22 41.6**	**-0.4**
CTKS	**Kestanelik-??a**	**0.81**	**61**	*e*Pg	**Pg**	**01 22 41.6**	**-0.4**
ERIK	**Erikli-Kesan**	**0.81**	**258**	*e*PG	**Pg**	**01 22 41.6**	**-0.4**
ERIK	**Erikli-Kesan**	**0.81**	**258**	*e*Pg	**Pg**	**01 22 41.6**	**-0.4**
CTYL	**Yal??k??y-??at**	**0.83**	**41**	*e*PG	**Pg**	**01 22 42.1**	**-0.3**
CTYL	**Yal??k??y-??at**	**0.83**	**41**	*e*Pg	**Pg**	**01 22 42.1**	**-0.3**
KCTX	**Karacabey (Bur**	**0.84**	**134**	*e*PG	**Pg**	**01 22 41.6**	**-0.9**
KCTX	**Karacabey (Bur**	**0.84**	**134**	*e*Pg	**Pg**	**01 22 41.6**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.94**	**242**	*e*PG	**Pb**	**01 22 44.0**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.94**	**242**	*e*Pg	**Pb**	**01 22 44.0**	**-0.2**
BGKT	**Bogazkoy**	**0.98**	**70**	*e*PG	**Pb**	**01 22 44.5**	**-0.3**
BGKT	**Bogazkoy**	**0.98**	**70**	*e*Pg	**Pb**	**01 22 44.5**	**-0.3**
ARMT	**Armutlu**	**1.03**	**105**	*e*PG	**Pb**	**01 22 45.8**	**+0.1**
ARMT	**Armutlu**	**1.03**	**105**	*e*Pg	**Pb**	**01 22 45.8**	**+0.1**
ENEZ	**Enez**	**1.07**	**265**	*e*PG	**Pb**	**01 22 46.3**	**-0.1**
ENEZ	**Enez**	**1.07**	**265**	*e*Pg	**Pb**	**01 22 46.3**	**-0.1**
BALY	**Balya**	**1.11**	**178**	*i* P	**Pb**	**01 22 46.5**	**-0.5**
BALY				*i* S	**Sg**	**01 23 02.1**	**+0.1**
BALY	**Balya**	**1.11**	**178**	*i* P	**Pb**	**01 22 46.5**	**-0.5**
BALY				*i* S	**Sg**	**01 23 02.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.11**	**115**	*e*PN	**Pb**	**01 22 47.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.11**	**115**	*e*Pn	**Pb**	**01 22 47.2**	**0.0**
ALN	**Alexandroupoli**	**1.15**	**273**	*e*PN	**Pn**	**01 22 47.4**	**-0.3**
ALN				*e*SN	**Sg**	**01 23 05.3**	**+1.9**
ALN	**Alexandroupoli**	**1.15**	**273**	*e*Pn	**Pn**	**01 22 47.4**	**-0.3**
ALN				*e*Sn	**Sg**	**01 23 05.3**	**+1.9**
ISK	**Istanbul-Kandi**	**1.16**	**79**	*e*PN	**Pn**	**01 22 47.4**	**-0.4**
ISK	**Istanbul-Kandi**	**1.16**	**79**	*e*Pn	**Pn**	**01 22 47.4**	**-0.4**
EDRB	**Edirne**	**1.17**	**329**	*e*PN	**Pn**	**01 22 48.2**	**+0.2**
EDRB	**Edirne**	**1.17**	**329**	*e*Pn	**Pn**	**01 22 48.2**	**+0.2**
BUY	**Buyukada**	**1.18**	**89**	*i* P	**Pn**	**01 22 47.2**	**-0.9**
BUY				*i* S	**Sb**	**01 23 03.4**	**+0.1**
BUY	**Buyukada**	**1.18**	**89**	*i* P	**Pn**	**01 22 47.2**	**-0.9**
BUY				*i* S	**Sb**	**01 23 03.4**	**+0.1**
BALB	**Balikesir**	**1.23**	**168**	*e*PN	**Pg**	**01 22 49.5**	**-0.4**
BALB	**Balikesir**	**1.23**	**168**	*e*Pn	**Pg**	**01 22 49.5**	**-0.4**
ORLT	**Orhaneli**	**1.30**	**128**	*e*PN	**Pg**	**01 22 50.8**	**-0.4**
ORLT	**Orhaneli**	**1.30**	**128**	*e*Pn	**Pg**	**01 22 50.8**	**-0.4**
GEMT	**Gemlik**	**1.31**	**108**	*e*PN	**Pn**	**01 22 50.0**	**+0.1**
GEMT	**Gemlik**	**1.31**	**108**	*e*Pn	**Pn**	**01 22 50.0**	**+0.1**
EZN	**Ezine**	**1.39**	**223**	*e*PN	**Pb**	**01 22 51.6**	**-0.2**
EZN	**Ezine**	**1.39**	**223**	*e*Pn	**Pb**	**01 22 51.6**	**-0.2**
ULDT	**Uludag**	**1.39**	**120**	*e*P	**Pb**	**01 22 52.1**	**+0.1**
ULDT				*i* S	**Sn**	**01 23 08.7**	**-0.7**
ULDT	**Uludag**	**1.39**	**120**	*e*P	**Pb**	**01 22 52.1**	**+0.1**
ULDT				*i* S	**Sn**	**01 23 08.7**	**-0.7**
YLV	**Yalova**	**1.41**	**101**	*e*PN	**Pb**	**01 22 52.0**	**-0.1**
YLV	**Yalova**	**1.41**	**101**	*e*Pn	**Pb**	**01 22 52.0**	**-0.1**
DURS	**Dursunbey**	**1.43**	**150**	*i* P	**Pn**	**01 22 51.3**	**-0.3**
DURS				*i* S	**Sb**	**01 23 11.2**	**+0.7**
DURS	**Dursunbey**	**1.43**	**150**	*i* P	**Pn**	**01 22 51.3**	**-0.3**
DURS				*i* S	**Sb**	**01 23 11.2**	**+0.7**
DST	**Dursunbey**	**1.48**	**147**	*e*PN	**Pb**	**01 22 53.5**	**0.0**
DST	**Dursunbey**	**1.48**	**147**	*e*Pn	**Pb**	**01 22 53.5**	**0.0**
BOZC	**Bozcaada**	**1.53**	**229**	*i* P	**Pn**	**01 22 53.5**	**+0.6**
BOZC				*i* S	**Sb**	**01 23 13.5**	**+0.1**
HRT	**Hereke**	**1.60**	**90**	*e*PN	**Pn**	**01 22 54.4**	**+0.5**
HRT	**Hereke**	**1.60**	**90**	*e*Pn	**Pn**	**01 22 54.4**	**+0.5**
SILT	**Sile**	**1.60**	**78**	*e*PN	**Pb**	**01 22 55.2**	**-0.3**
SILT	**Sile**	**1.60**	**78**	*e*Pn	**Pb**	**01 22 55.2**	**-0.3**
AYVA	**Ayvalik**	**1.68**	**204**	*i* P	**Pb**	**01 22 56.0**	**-0.7**
AYVA				*i* S	**Sg**	**01 23 19.2**	**-1.0**
AYVA	**Ayvalik**	**1.68**	**204**	*i* P	**Pb**	**01 22 56.0**	**-0.7**
AYVA				*i* S	**Sg**	**01 23 19.2**	**-1.0**
ADVT	**Abdulvahap**	**1.71**	**103**	*e*PN	**Pb**	**01 22 57.0**	**-0.2**
ADVT	**Abdulvahap**	**1.71**	**103**	*e*Pn	**Pb**	**01 22 57.1**	**-0.2**
JMB	**Yambol**	**1.78**	**336**	P	**Pb**	**01 22 58.0**	**-0.4**
JMB				S	**Sg**	**01 23 23.6**	**+0.2**
JMB	**Yambol**	**1.78**	**336**	P	**Pb**	**01 22 58.0**	**-0.4**
JMB				S	**Sg**	**01 23 23.6**	**+0.2**
KDZ	**Kurdzhali**	**1.81**	**297**	P	**Pn**	**01 22 56.9**	**+0.2**
KDZ				S	**Sg**	**01 23 23.5**	**-0.8**
KDZ	**Kurdzhali**	**1.81**	**297**	P	**Pn**	**01 22 56.9**	**+0.2**
KDZ				S	**Sg**	**01 23 23.5**	**-0.8**
PRK	**Paraskevi**	**1.88**	**212**	*e*PN	**Pn**	**01 22 58.7**	**+1.0**
PRK				*e*SN	**Sg**	**01 23 25.5**	**-1.2**
PRK	**Paraskevi**	**1.88**	**212**	*e*Pn	**Pn**	**01 22 58.7**	**+1.0**
PRK				*e*Sn	**Sg**	**01 23 25.5**	**-1.2**
DIM	**Dimitrovgrad**	**1.94**	**309**	P	**Pn**	**01 22 58.3**	**-0.3**
DIM				S	**Sb**	**01 23 26.2**	**+1.0**
DIM	**Dimitrovgrad**	**1.94**	**309**	P	**Pn**	**01 22 58.3**	**-0.3**
DIM				S	**Sb**	**01 23 26.2**	**+1.0**
AKHS	**Akhisar**	**1.98**	**174**	*e*P	**Pb**	**01 23 01.5**	**-0.3**
AKHS				*e*S	**Sb**	**01 23 27.8**	**+1.6**
AKHS	**Akhisar**	**1.98**	**174**	*e*P	**Pb**	**01 23 01.5**	**-0.3**
AKHS				*e*S	**Sb**	**01 23 27.8**	**+1.6**
AKS	**Akhisar**	**1.98**	**174**	*e*PN	**Pb**	**01 23 00.8**	**-1.0**
AKS	**Akhisar**	**1.98**	**174**	*e*Pn	**Pb**	**01 23 00.8**	**-1.0**
DEMI	**Demirci**	**2.01**	**153**	*i* P	**Pn**	**01 22 59.6**	**0.0**
DEMI				*i* S	**Sg**	**01 23 30.3**	**-0.5**
DEMI	**Demirci**	**2.01**	**153**	*i* P	**Pn**	**01 22 59.6**	**0.0**
DEMI				*i* S	**Sg**	**01 23 30.3**	**-0.5**
TVSB	**Tavsanli**	**2.02**	**133**	*e*PN	**Pb**	**01 23 01.5**	**-1.1**
TVSB	**Tavsanli**	**2.02**	**133**	*e*Pn	**Pb**	**01 23 01.5**	**-1.1**
LIA	**Limnos Island**	**2.05**	**243**	*e*PN	**Pn**	**01 23 00.2**	**+0.1**
LIA				*e*SN	**Sb**	**01 23 29.0**	**+0.7**
LIA	**Limnos Island**	**2.05**	**243**	*e*Pn	**Pn**	**01 23 00.2**	**+0.1**
LIA				*e*Sn	**Sb**	**01 23 29.0**	**+0.7**
AVR	**AVREN**	**2.27**	**2**	*e*S	**Sn**	**01 23 29.4**	**-1.5**
AVR	**AVREN**	**2.27**	**2**	*e*S	**Sn**	**01 23 29.4**	**-1.5**
GULT	**Gulveren**	**2.29**	**99**	*e*PN	**Pn**	**01 23 05.1**	**+1.7**
GULT	**Gulveren**	**2.29**	**99**	*e*Pn	**Pn**	**01 23 05.1**	**+1.7**
GDZ	**Gediz**	**2.29**	**139**	*e*P	**Pn**	**01 23 03.5**	**-0.1**
GDZ	**Gediz**	**2.29**	**139**	*e*P	**Pn**	**01 23 03.5**	**-0.1**
RZN	**Rozhen**	**2.30**	**292**	P	**Pn**	**01 23 03.6**	**-0.2**
RZN				S	**Sb**	**01 23 37.4**	**+1.5**
RZN	**Rozhen**	**2.30**	**292**	P	**Pn**	**01 23 03.6**	**-0.2**
RZN				S	**Sb**	**01 23 37.4**	**+1.5**
PRD	**Provadia**	**2.35**	**357**	P	**Pn**	**01 23 04.5**	**+0.2**
PRD				S	**Sg**	**01 23 39.9**	**-2.0**
PRD	**Provadia**	**2.35**	**357**	P	**Pn**	**01 23 04.5**	**+0.2**
PRD				S	**Sg**	**01 23 39.9**	**-2.0**
IZM	**Izmir**	**2.46**	**185**	*e*PN	**Pn**	**01 23 07.6**	**+1.9**
IZM	**Izmir**	**2.46**	**185**	*e*Pn	**Pn**	**01 23 07.6**	**+1.9**
KULA	**Kula-Manisa**	**2.48**	**160**	*e*PN	**Pn**	**01 23 08.3**	**+2.2**
KULA	**Kula-Manisa**	**2.48**	**160**	*e*Pn	**Pn**	**01 23 08.3**	**+2.2**
ALT	**Altintas**	**2.65**	**132**	*e*PN	**Pn**	**01 23 10.7**	**+2.2**
ALT	**Altintas**	**2.65**	**132**	*e*Pn	**Pn**	**01 23 10.7**	**+2.2**
SZH	**Strazhica**	**2.71**	**334**	P	**Pn**	**01 23 09.6**	**+0.5**
SZH	**Strazhica**	**2.71**	**334**	P	**Pn**	**01 23 09.6**	**+0.5**
CHOS	**Chios island**	**2.72**	**206**	*e*PN	**Pn**	**01 23 10.0**	**+0.6**
CHOS	**Chios island**	**2.72**	**206**	*e*Pn	**Pn**	**01 23 10.0**	**+0.6**
MDUB	**Mudurnu**	**2.79**	**97**	*e*PN	**Pn**	**01 23 12.5**	**+2.1**
MDUB	**Mudurnu**	**2.79**	**97**	*e*Pn	**Pn**	**01 23 12.5**	**+2.1**
NVR	**Nevrokopi**	**2.84**	**281**	*e*PN	**Pn**	**01 23 10.4**	**-0.6**
NVR	**Nevrokopi**	**2.84**	**281**	*e*Pn	**Pn**	**01 23 10.4**	**-0.6**
KHL	**Karahalli**	**2.94**	**148**	*e*PN	**Pn**	**01 23 14.3**	**+1.9**
KHL	**Karahalli**	**2.94**	**148**	*e*Pn	**Pn**	**01 23 14.3**	**+1.9**
MMB	**Musomiste**	**2.98**	**286**	P	**Pb**	**01 23 20.9**	**+1.8**
MMB				S	**Sg**	**01 23 59.8**	**-2.3**
PLG	**Polygyros**	**3.17**	**263**	*e*PN	**Pn**	**01 23 15.8**	**+0.3**
PLG	**Polygyros**	**3.17**	**263**	*e*Pn	**Pn**	**01 23 15.8**	**+0.3**
SOH	**Sokhos**	**3.19**	**271**	*e*PN	**Pn**	**01 23 15.8**	**0.0**
SOH	**Sokhos**	**3.19**	**271**	*e*Pn	**Pn**	**01 23 15.8**	**0.0**
SHUT	**Suhut-Afyon**	**3.25**	**134**	*e*PN	**Pn**	**01 23 19.0**	**+2.3**
SHUT	**Suhut-Afyon**	**3.25**	**134**	*e*Pn	**Pn**	**01 23 19.0**	**+2.3**
SVRH	**Sivrihisar-ESK**	**3.34**	**113**	*e*PN	**Pn**	**01 23 20.4**	**+2.4**
SVRH	**Sivrihisar-ESK**	**3.34**	**113**	*e*Pn	**Pn**	**01 23 20.4**	**+2.4**
KKB	**Krupnik**	**3.52**	**288**	S	**Sg**	**01 24 17.8**	**-1.5**
VTS	**Vitosha**	**3.69**	**300**	⇑*i*P	**Pn**	**01 23 23.9**	**+1.0**
VTS	**Vitosha**	**3.69**	**300**	P	**Pn**	**01 23 23.6**	**+0.7**
VTS	**Vitosha**	**3.69**	**300**	P	**Pn**	**01 23 23.6**	**+0.7**
MPEP	**Malo Peshtene**	**3.79**	**313**	P	**Pn**	**01 23 24.5**	**+0.5**
MLR	**Muntele Rosu**	**4.79**	**346**	⇓*i*P	**Pn**	**01 23 40.2**	**+2.3**
MLR	**Muntele Rosu**	**4.79**	**346**	⇓*i*P	**Pn**	**01 23 40.2**	**+2.3**
VOIR		**4.94**	**339**	⇓*i*P	**Pn**	**01 23 40.6**	**+0.7**
VOIR		**4.94**	**339**	⇓*i*P	**Pn**	**01 23 40.6**	**+0.7**
DOPR	**Dopca**	**5.36**	**344**	⇓*i*P	**Pn**	**01 23 47.3**	**+1.7**
DOPR	**Dopca**	**5.36**	**344**	⇓*i*P	**Pn**	**01 23 47.3**	**+1.7**

TAP 01 01:23:41.4, 24°.47N×121°.81E, h13km±1km**, ML1.8, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.07**	**236**	P	Pg	01 23 44.5	+0.4
	baz=231						
ENA				S	Sg	01 23 46.7	+0.8
	baz=231						
TWC	**Suao**	**0.15**	**16**	P	Pb	01 23 45.7	-0.3
	baz=19						
TWC				S	Sb	01 23 48.7	-0.3
	baz=19						
ENTT	**Nioudou**	**0.28**	**308**	P	Pb	01 23 48.0	-0.3
	baz=308						
ENTT				S	Sb	01 23 52.7	-0.2
	baz=308						
TWE	**Neicheng**	**0.28**	**333**	*e*P	Pb	01 23 48.1	-0.2
	baz=335						
NSK	**Sanguang**	**0.46**	**297**	*e*S	Sg	01 23 57.5	+0.7
	baz=297						
WHF	**Hehuan Shan**	**0.59**	**237**	*e*P	Pg	01 23 53.2	-0.3
	baz=236						
WHF				*e*S	Sg	01 24 00.9	-0.7
	baz=236						

*IDC **01** 01:23:42.7±0.9, 3°.79N×127°.28E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/24, mbtmp4.1/11, Error ellipse: s-maj=62.2km s-min=13.8km az=68.0*
*ISCJB **01** 01:23:48.0±0.4, 3°.71N±0°.07×127°.0E±0°.1, h48km, mb4.3/27, Error ellipse: s-maj=17.7km s-min=6.9km az=154.6*
*NEIC **01** 01:23:48.4±0.3, 3°.73N×127°.10E, h35km, mb4.4/18, Error ellipse: s-maj=17.2km s-min=6.6km az=64.0*
ISC 01 01:23:49.7±0.6**, 3°.8N**±0°.1×**127°.2E**±0°.2**, h48**km**, n45, σ0.s95**/43**, mb4.3**/27**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.48**	**320**	⇑*e*P	Pn	01 24 59.0	+4.0
SSLB	**Suanglung**	**20.76**	**344**	*e*P	**P**	**01 28 26.1**	**-0.7**
	24nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.81**	**184**	P	**P**	**01 28 38.0**	**+0.1**
	1.5nm,0.5s,baz=47,slow=15,SNR=8.0						
FITZ	**Fitzroy Crossi**	**21.81**	**184**	*e*P	**P**	**01 28 38.0**	**+0.1**
	2.8nm,0.7s						
COEN	**Coen**	**23.73**	**138**	*e*P	**P**	**01 28 58.9**	**+1.2**
	59nm,1.1s						
WRAB	**Tennant Creek**	**24.61**	**164**	*e*P	**P**	**01 29 04.0**	**-1.7**
	7.3nm,0.8s						
WRA	**Warramunga Arr**	**24.62**	**164**	P	**P**	**01 29 03.9**	**-1.9**
	4.7nm,0.8s,baz=343,slow=10,SNR=21						
WRA	**Warramunga Arr**	**24.62**	**164**	P	**P**	**01 29 03.9**	**-1.9**
IPM	**Ipoh**	**26.08**	**272**	*e*P	**P**	**01 29 18.1**	**-1.0**
	8.5nm,0.9s						
AS31	**Alice Springs**	**28.07**	**167**	*e*P	**P**	**01 29 37.9**	**+0.9**
ASAR	**Alice Springs**	**28.07**	**167**	P	**P**	**01 29 35.2**	**-1.7**
	0.5nm,0.5s,baz=349,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**28.07**	**167**	P	**P**	**01 29 35.2**	**-1.7**
CTAO	**Charters Tower**	**30.25**	**142**	*e*P	**P**	**01 29 56.4**	**+0.2**
	60nm,1.9s						
ENH	**Enshi**	**31.19**	**330**	*e*P	**P**	**01 30 04.2**	**-0.3**
	7.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.22**	**300**	P	**P**	**01 30 05.1**	**+0.3**
	0.8nm,0.3s,baz=95,slow=6.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**31.22**	**300**	P	**P**	**01 30 05.1**	**+0.3**
CHTO	**Chiang Mai**	**31.36**	**301**	*e*P	**P**	**01 30 06.6**	**+0.5**
	1.8nm,0.5s						
KSAR	**Wonju Array Be**	**33.49**	**1**	P	P	01 30 27.4	+2.9
KSRS	**Korea Array**	**33.51**	**1**	P	P	01 30 27.4	+2.8
	0.9nm,0.7s,baz=181,slow=10,SNR=4.7						
EIDS	**Eidsvold**	**37.13**	**143**	*e*P	**P**	**01 30 56.4**	**+0.4**
	4.9nm,1.1s						
STKA	**Stephens Creek**	**38.04**	**160**	P	**P**	**01 31 02.9**	**-0.6**
	4.3nm,0.6s,baz=342,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**38.04**	**160**	*e*P	**P**	**01 31 03.2**	**-0.3**
	1.1nm,0.8s						
LSA	**Lhasa**	**42.73**	**311**	*e*P	**P**	**01 31 41.3**	**-1.6**
	4.6nm,0.6s						
ULN	**Ulaanbaatar**	**47.20**	**342**	*e*P	**P**	**01 32 19.0**	**+1.2**
	2.3nm,0.7s						
SONM	**Songino Array**	**47.38**	**341**	P	**P**	**01 32 20.0**	**+0.8**
	1.9nm,0.7s,baz=156,slow=8.5,SNR=7.6						
SONM				PcP	**PcP**	**01 33 50.5**	**+1.2**
	0.8nm,0.8s,baz=145,slow=3.5,SNR=3.7						
SONM	**Songino Array**	**47.38**	**341**	P	**P**	**01 32 20.0**	**+0.8**
SONM				PcP	**PcP**	**01 33 50.5**	**+1.2**
MK31	**Makanchi Array**	**57.75**	**325**	*e*P	**P**	**01 33 36.2**	**+0.3**
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**01 33 36.4**	**+0.5**
	1.7nm,0.6s,baz=116,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**01 33 36.4**	**+0.5**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**01 33 56.4**	**+0.2**
	0.9nm,0.5s,baz=126,slow=7.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**01 33 56.4**	**+0.2**
KBL	**Kabul**	**61.83**	**307**	*e*P	P	01 34 08.0	+3.6
	4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**61.92**	**327**	P	**P**	**01 34 03.4**	**-1.0**
	3.1nm,0.7s,baz=121,slow=6.8,SNR=9.8						
KURK	**Kurchatov**	**61.92**	**327**	*e*P	**P**	**01 34 05.2**	**+0.8**
	3.3nm,0.7s						
KKAR	**Karatay Array**	**63.48**	**317**	*e*P	**P**	**01 34 14.9**	**-0.1**
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**67.50**	**327**	P	**P**	**01 34 40.6**	**-0.2**
	2.5nm,0.9s,baz=116,slow=6.7,SNR=5.8						
BVAR	**Borovoye Array**	**67.50**	**327**	P	**P**	**01 34 40.6**	**-0.2**
BRVK	**Borovoye**	**67.58**	**327**	*e*P	**P**	**01 34 40.9**	**-0.3**
	2.8nm,0.7s						
TRF	**Thorofare Moun**	**83.29**	**27**	*e*P	**P**	**01 36 10.2**	**-1.1**
	16nm,1.4s						
INK	**Inuvik**	**89.94**	**22**	*e*P	**P**	**01 36 42.7**	**-0.8**
	5.1nm,1.1s						
BRTR	**Keskin Array B**	**90.32**	**310**	P	**P**	**01 36 46.8**	**+0.7**
	0.8nm,0.8s,baz=160,slow=4.6,SNR=4.6						
BRTR	**Keskin Array B**	**90.32**	**310**	P	**P**	**01 36 46.8**	**+0.7**
BUR08	**Bucovina Ar. S**	**95.25**	**318**	*e*P	**P**	**01 37 09.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	**PKPdf**	**01 42 42.1**	**-0.3**
	0.4nm,0.7s,baz=72,slow=2.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	**PKPdf**	**01 42 42.1**	**-0.3**

*NIED **01** 01:25:00, 23°.80N×125°.30E, h5km, Mw4.3 Best double*

couple: M0 2.73000×10^{15} NP1:ϕ_s32.00000°,δ83.00000°, λ147.00000°. NP2:ϕ_s127.00000°,δ57.00000°,λ8.00000°.
*BJI **01** 01:25:09.3,23°.40N×125°.50E,h7^{km},mB4.5/19,mb4.3/28, Ms4.1/19,Ms7 3.9/19*
*IDC **01** 01:25:12.9±0.6,23°.81N×125°.17E,h0^{km},mb4.0/22, mb1 4.1/26,mb1mx4.1/33,mbtmp4.1/26,ML4.0/4,MS3.3/6, Ms1 3.3/6,ms1mx2.9/37,Error ellipse: s-maj=18.7km s-min=12.8km az=74.0*
*ISCJB **01** 01:25:14.2±1.1,23°.75N±0°.04×125°.44E±0°.03,h27^{km}±7^{km}, mb4.1/34,MS3.6/10,Error ellipse: s-maj=6.6km s-min=3.7km az=158.5*
*NEIC **01** 01:25:15.7±2.9,23°.81N×125°.29E,h19^{km}±18^{km},mb4.4/9, Error ellipse: s-maj=10.0km s-min=7.1km az=149.0*
*JMA **01** 01:25:16.6±0.2,23°.80N×125°.35E,h61^{km},M4.3*
ISC 01 01:25:14.9±0.6**,23°.70N**±0°.05×**125°.45E**±0°.03**,h17**^{km}±2^{km}**, n102,**σ**2^{s}22**/143**,mb4.1**/34**,MS3.7**/10**,1C,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.06**	**358**	P	**Pb**	**01 25 34.3**	**-0.4**
JOGS				S	**Sb**	**01 25 47.7**	**-0.6**
JMJ	**Miyako jima 2**	**1.12**	**353**	P	**Pb**	**01 25 34.9**	**-0.9**
JMJ				S	**Sb**	**01 25 48.8**	**-1.3**
JTJ	**Tarama**	**1.16**	**324**	P	**Pn**	**01 25 35.3**	**-1.0**
JTJ				S	**Sb**	**01 25 48.7**	**-2.5**
JIJ	**Ishigaki jima**	**1.37**	**299**	P	**Pn**	**01 25 38.0**	**-1.1**
JIJ				S	**Sn**	**01 25 53.4**	**-3.4**
JKRS	**Kuro-shima**	**1.42**	**292**	P	**Pn**	**01 25 39.3**	**-0.6**
JKRS				S	**Sn**	**01 25 55.8**	**-2.4**
HATJ	**Hateruma jima**	**1.55**	**284**	P	**Pn**	**01 25 40.6**	**-1.0**
HATJ				S	**Sn**	**01 25 58.0**	**-3.3**
IRIF	**Iriomote-Funau**	**1.69**	**292**	P	**Pn**	**01 25 42.8**	**-0.8**
IRIF				S	**Sn**	**01 26 02.2**	**-2.7**
YOJ	**Yonaguni jima**	**2.35**	**289**	P	**Pn**	**01 25 51.8**	**-0.9**
YOJ				S	**Sn**	**01 26 16.8**	**-4.4**
JKE	**Kume jima 2**	**2.88**	**25**	P	**Pn**	**01 25 58.8**	**-1.2**
JKE				S	**Sn**	**01 26 30.6**	**-3.7**
JJT2	**Tamagusuku 2**	**3.20**	**40**	P	**Pn**	**01 26 04.5**	**+0.1**
JJT2				S	**Sn**	**01 26 39.2**	**-3.0**
NAH1	**Naha**	**3.22**	**39**	P	**Pn**	**01 26 04.5**	**-0.1**
NAH1				S	**Sn**	**01 26 39.5**	**-3.0**
NACB	**Ninganchiao**	**3.56**	**278**	*e*Pn	**Pn**	**01 26 07.4**	**-1.9**
NACB				*e*Sn	Sn	01 26 44.3	-6.7
YULB	**Yu-li**	**3.82**	**266**	*e*Pn	**Pn**	**01 26 10.7**	**-2.2**
YULB				*e*Sn	Sn	01 26 49.7	-7.8
TATO	**Taipei**	**3.83**	**290**	*e*Pn	**Pn**	**01 26 13.1**	**+0.1**
YHNB	**Yeheng**	**3.84**	**285**	*e*Pn	**Pn**	**01 26 13.1**	**-0.2**
YHNB				*e*Sn	Sn	01 26 50.7	-7.4
JIH	**Iheya**	**4.03**	**34**	P	**Pn**	**01 26 15.0**	**-0.7**
JIH				S	**Sn**	**01 26 57.9**	**-4.6**
JOW	**Kunigami**	**4.04**	**39**	Pn	**Pn**	**01 26 15.3**	**-0.6**
	62nm,0.3s,baz=185,slow=13,SNR=143						
JOW				Sn	**Sn**	**01 26 57.2**	**-5.5**
	41nm,0.3s,baz=108,slow=27,SNR=18						
JOW				LR	LR	01 27 58.5	
	comp=Z,187nm,20.7s,baz=152,slow=40						
JOW	**Kunigami**	**4.04**	**39**	*e*Pn	**Pn**	**01 26 14.4**	**-1.4**
JOW				*e*Sn	**Sn**	**01 26 59.6**	**-3.1**
JOW	**Kunigami**	**4.04**	**39**	P	**Pn**	**01 26 15.3**	**-0.6**
JOW				S	**Sn**	**01 26 58.6**	**-4.1**
TWG	**Pinlang**	**4.12**	**259**	*e*Pn	**Pn**	**01 26 14.4**	**-2.6**
TWG				*e*Sn	Sn	01 26 58.4	-6.4
SSLB	**Suanglung**	**4.12**	**272**	*e*Pn	**Pn**	**01 26 15.6**	**-1.5**
SSLB				*e*Sn	Sn	01 26 57.4	-7.5
TPUB	**Ta-pu**	**4.44**	**266**	*e*Pn	**Pn**	**01 26 21.2**	**-0.3**
TPUB				*e*Sn	**Sn**	**01 27 09.3**	**-3.5**
JTK	**Tokunoshima**	**5.15**	**37**	P	**Pn**	**01 26 29.8**	**-1.4**
JTK				S	Sn	01 27 23.5	-6.7
JMZ	**Minamidaito 2**	**5.66**	**67**	P	**Pn**	**01 26 35.8**	**-2.3**
JMZ				S	Sn	01 27 33.8	-8.9
JAM	**Amami Oshima**	**6.00**	**38**	P	**Pn**	**01 26 41.1**	**-1.7**
JAM				S	Sn	01 27 44.1	-7.0
NJ2	**Nanjing**	**10.16**	**326**	*e*P	**Pn**	**01 27 42.3**	**+2.4**
NJ2				S	Sn	01 29 41.0	+7.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=N,880nm,14.9s						
NJ2				LR	LR		
	comp=E,360nm,19.4s						
NJ2				LR	LR		
	comp=Z,840nm,13.4s						
JNU	**Nakatsue**	**10.53**	**26**	Pn	**Pn**	**01 27 44.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=161,slow=10,SNR=3.5						
JNU	**Nakatsue**	**10.53**	**26**	Pn	**Pn**	**01 27 44.1**	**-1.0**
KSAR	**Wonju Array Be**	**13.86**	**8**	Pn	**Pn**	**01 28 30.5**	**0.0**
KSRS	**Korea Array**	**13.88**	**8**	Pn	**Pn**	**01 28 30.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=189,slow=13,SNR=15						
QIZ	**Qiongzhong**	**15.26**	**255**	P	**Pn**	**01 28 47.7**	**-1.9**
QIZ				S	**Sn**	**01 31 38.7**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,19nm,1.8s						
QIZ				LR	LR		
	comp=Z,260nm,10.8s						
MAT	**Matsushiro**	**16.88**	**38**	P	**Pn**	**01 29 09.9**	**-0.4**
MAT				S	**Sn**	**01 32 20.0**	**+2.5**
MJAR	**Matsushiro Arr**	**16.88**	**38**	Pn	**P**	**01 29 12.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=230,slow=10,SNR=10						
MJAR				LR	LR	01 35 35.2	
	comp=Z,81nm,19.7s,baz=245,slow=37						
MJAR	**Matsushiro Arr**	**16.88**	**38**	Pn	**P**	**01 29 12.9**	**+0.5**
GYA	**Guiyang**	**17.24**	**283**	*e*P	**Pn**	**01 29 13.9**	**-1.1**
GYA				S	**Sn**	**01 32 27.0**	**+0.5**
GYA				SS	**SnSn**	**01 32 49.3**	**+9.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=N,320nm,11.2s						
GYA				LR	LR		
	comp=E,280nm,12.6s						
GYA				LR	LR		
	comp=Z,360nm,10.3s						
XAN	**Xi'an**	**17.75**	**309**	P	**P**	**01 29 21.6**	**-0.3**
XAN				pP	**pP**	**01 29 28.6**	**+1.7**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,17nm,4.0s						
XAN				LR	LR		
	comp=E,70nm,14.5s						
XAN				LR	LR		
	comp=Z,47nm,11.7s						
CN2	**Changchun**	**20.05**	**360**	⇑P	**P**	**01 29 46.5**	**-0.6**
CN2				*e*sP	**sP**	**01 29 53.0**	**-1.3**
CN2				*e*S	**S**	**01 33 29.5**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CD2	**Chengdu**	**20.55**	**295**	P	Pn	01 29 54.3	-0.7
CD2				pP	pP	01 29 58.3	+0.6
CD2				sP	sP	01 30 01.3	+1.4
CD2				PP	**PnPn**	**01 30 16.3**	**+6.0**
CD2				S	**S**	**01 33 41.7**	**-0.3**
CD2				sS	Sn	01 33 47.5	+1.1
CD2				SS	SnSn	01 34 12.8	+12
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,180nm,4.6s						
CD2				LR	LR		
	comp=N,290nm,5.9s						
CD2				LR	LR		
	comp=Z,2μm,14.3s						
HHC	**Hu-ho-hao-te**	**20.70**	**329**	*e*P	Pn	01 29 56.7	0.0
HHC				sP	sP	01 30 03.7	+2.2
HHC				PP	PnPn	01 30 20.2	+7.8
HHC				S	Sn	01 33 47.8	-2.2
HHC				sS	sS	01 33 53.9	+1.1
HHC				SS	SnSn	01 34 20.4	+16
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
HHC				LR	LR		
	comp=N,180nm,10.3s						
HHC				LR	LR		
	comp=E,210nm,10.4s						
HHC				LR	LR		
	comp=Z,250nm,12.3s						
KMI	**Kunming**	**20.73**	**279**	P	**P**	**01 29 54.2**	**-0.7**
KMI				pP	Pn	01 29 57.0	-0.3
KMI				sP	**sP**	**01 29 58.3**	**-3.8**
KMI				PP	**PnPn**	**01 30 17.2**	**+4.2**
KMI				S	**S**	**01 33 43.3**	**-2.6**
KMI				SS	**SnSn**	**01 34 15.4**	**+10**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,78nm,4.6s						
KMI				LR	LR		
	comp=N,260nm,15.4s						
KMI				LR	LR		
	comp=E,120nm,22.7s						
KMI				LR	LR		
	comp=Z,190nm,15.3s						
USRK	**Ussuriysk Arra**	**21.15**	**13**	P	**P**	**01 29 58.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=187,slow=9.7,SNR=5.0						
LZH	**Lanzhou**	**22.38**	**308**	*e*P	**P**	**01 30 14.5**	**+2.1**
LZH				pP	**pP**	**01 30 18.5**	**+1.1**
LZH				sP	**sP**	**01 30 21.1**	**+1.4**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
ASAJ	**Asahikawa**	**24.75**	**30**	P	**P**	**01 30 35.5**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=213,slow=17,SNR=6.2						
ASAJ	**Asahikawa**	**24.75**	**30**	P	**P**	**01 30 35.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**25.26**	**263**	P	**P**	**01 30 41.5**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=81,slow=6.5,SNR=3.7						
CMAR				LR	LR	01 39 49.8	
	comp=Z,42nm,20.6s,baz=90,slow=35						
CMAR	**Chiang Mai Arr**	**25.26**	**263**	P	**P**	**01 30 41.5**	**+1.2**
GTA	**Gaotai**	**26.75**	**312**	*e*P	**P**	**01 30 53.6**	**-0.2**
GTA				pP	**pP**	**01 30 57.6**	**-1.5**
GTA				sP	**sP**	**01 30 59.8**	**-1.5**
GTA				S	**S**	**01 35 28.7**	**-0.3**
GTA				sS	**sS**	**01 35 36.8**	**-1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,91nm,7.1s						
GTA				LR	LR		
	comp=N,100nm,16.6s						
GTA				LR	LR		
	comp=E,88nm,13.3s						
GTA				LR	LR		
	comp=Z,130nm,14.2s						
ULN	**Ulaanbaatar**	**28.22**	**333**	*e*P	**P**	**01 31 07.7**	**+0.8**
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**28.47**	**333**	P	**P**	**01 31 06.7**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=154,slow=11,SNR=21						
SONM				LR	LR	01 43 56.6	
	comp=Z,82nm,21.0s,baz=131,slow=40						
SONM	**Songino Array**	**28.47**	**333**	P	**P**	**01 31 06.7**	**-2.4**
WMQ	**Urumqi**	**36.84**	**312**	*e*P	**P**	**01 32 23.3**	**+1.1**
WMQ				LR	LR		
	comp=N,90nm,22.0s						
WMQ				LR	LR		
	comp=E,65nm,28.0s						
WMQ				LR	LR		
	comp=Z,29nm,20.0s						
PETK	**Petropavlovsk-**	**38.16**	**31**	P	**P**	**01 32 34.3**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=213,slow=15,SNR=4.1						
PETK	**Petropavlovsk-**	**38.16**	**31**	P	**P**	**01 32 34.3**	**+1.1**
PMG	**Port Moresby**	**39.15**	**145**	P	P	01 32 46.3	+4.4
	comp=Z,2.3nm,0.4s,baz=310,slow=7.9,SNR=1.6						
PMG	**Port Moresby**	**39.15**	**145**	P	P	01 32 46.3	+4.4
MK31	**Makanchi Array**	**41.43**	**315**	*e*P	**P**	**01 32 59.6**	**-0.8**
MKAR	**Makanchi Array**	**41.43**	**315**	P	**P**	**01 32 59.0**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=99,slow=9.3,SNR=55						
MKAR	**Makanchi Array**	**41.43**	**315**	*e*P	**P**	**01 33 00.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.55**	**180**	P	**P**	**01 33 01.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=357,slow=6.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**41.55**	**180**	P	**P**	**01 33 01.6**	**0.0**
ZAA0	**Zalesovo Array**	**42.81**	**326**	*e*P	**P**	**01 33 10.1**	**-1.5**
ZALV	**Zalesovo Beam**	**42.81**	**326**	P	**P**	**01 33 09.9**	**-1.7**
	comp=Z,3.0nm,0.5s,baz=113,slow=8.5,SNR=23						
ZALV				LR	LR	01 52 39.7	
	comp=Z,41nm,19.6s,baz=64,slow=39						
ZALV	**Zalesovo Beam**	**42.81**	**326**	P	**P**	**01 33 09.9**	**-1.7**
WRA	**Warramunga Arr**	**44.23**	**168**	P	**P**	**01 33 24.3**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=348,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**44.23**	**168**	P	**P**	**01 33 24.3**	**+0.9**
KSH	**Kashi**	**44.44**	**303**	*e*P	**P**	**01 33 27.0**	**+1.9**
KSH				pP	**pP**	**01 33 31.0**	**+0.4**
KSH				sP	**sP**	**01 33 34.1**	**+1.4**
KSH				PcP	**PP**	**01 35 07.6**	**-1.2**
KSH				PP	**PcP**	**01 35 13.1**	**+4.5**
KSH				ScP	**ScP**	**01 38 59.2**	**-0.8**
KSH				PcS	**PcS**	**01 39 01.5**	**-0.5**
KSH				S	**S**	**01 40 04.1**	**+4.7**
KSH				sS	**sS**	**01 40 12.8**	**+4.4**
KSH				SS	**SS**	**01 43 16.4**	**-2.2**
KSH				ScS	**ScS**	**01 43 21.3**	**-1.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,31nm,3.6s						
KSH				LR	LR		
	comp=N,100nm,4.4s						
KSH				LR	LR		
	comp=E,68nm,5.9s						
KSH				LR	LR		
	comp=Z,86nm,9.8s						
KURK	**Kurchatov**	**44.99**	**319**	*e*P	**P**	**01 33 27.7**	**-1.4**
	comp=Z,6.0nm,0.6s						
KURBB	**Kurchatov Arra**	**45.02**	**319**	P	**P**	**01 33 28.2**	**-1.1**
	comp=Z,5.4nm,0.5s,baz=122,slow=3.4,SNR=58						
TKM2	**Tokmak 2**	**45.14**	**308**	*e*P	**P**	**01 33 31.2**	**+0.4**
	comp=Z,10nm,0.8s						
AAK	**Ala-Archa**	**45.91**	**307**	P	**P**	**01 33 36.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=107,slow=6.3,SNR=10						
AAK	**Ala-Archa**	**45.91**	**307**	*e*P	**P**	**01 33 37.1**	**+0.3**
	comp=Z,8.6nm,0.8s						
EKS2	**Erkin-Say**	**46.44**	**307**	*e*P	**P**	**01 33 39.4**	**-1.5**
	comp=Z,3.1nm,1.0s						
ASAR	**Alice Springs**	**47.79**	**170**	P	**P**	**01 33 53.2**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=352,slow=13,SNR=7.3						
ASAR	**Alice Springs**	**47.79**	**170**	P	**P**	**01 33 53.2**	**+1.8**
BVAR	**Borovoye Array**	**50.53**	**320**	P	**P**	**01 34 10.8**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=101,slow=7.9,SNR=16						
BVAR	**Borovoye Array**	**50.53**	**320**	P	**P**	**01 34 10.8**	**-1.3**
BRVK	**Borovoye**	**50.60**	**320**	*e*P	**P**	**01 34 11.2**	**-1.5**
	comp=Z,3.4nm,0.9s						
ABKAR	**Akbulak array**	**56.57**	**314**	*e*P	**P**	**01 34 56.5**	**0.0**
ARU	**Arti**	**57.84**	**323**	*e*P	**P**	**01 35 04.8**	**-0.6**
	comp=Z,5.3nm,0.6s						
ILAR	**Eielson Array**	**67.85**	**28**	P	**P**	**01 36 14.2**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=300,slow=3.6,SNR=5.5						
ILAR	**Eielson Array**	**67.85**	**28**	P	**P**	**01 36 14.2**	**+2.3**
JOF	**Joensuu**	**71.03**	**331**	*e*p	**P**	**01 36 31.0**	**-0.5**
	comp=Z,2.5nm,0.5s						
ARCES	**ARCESS Array B**	**71.43**	**339**	P	**P**	**01 36 33.2**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=67,slow=6.9,SNR=3.9						
ARCES				LR	LR	02 12 50.6	
	comp=Z,43nm,19.8s,baz=10.0,slow=40						
ARCES	**ARCESS Array B**	**71.43**	**339**	P	**P**	**01 36 33.2**	**-0.7**
KAF	**Kangasniemi**	**73.49**	**331**	*e*p	**P**	**01 36 44.9**	**-1.3**
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**73.81**	**330**	P	**P**	**01 36 47.8**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=59,slow=5.9,SNR=44						
FINES	**FINESS Array B**	**73.81**	**330**	P	**P**	**01 36 47.8**	**-0.3**
AKASG	**Malin Array Be**	**75.81**	**319**	P	**P**	**01 36 59.0**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=64,slow=6.3,SNR=4.1						
AKASG	**Malin Array Be**	**75.81**	**319**	P	**P**	**01 36 59.0**	**-0.8**
KIEV	**Kiev**	**75.82**	**319**	*e*P	**P**	**01 36 58.4**	**-1.5**
BR131	**Keskin Array S**	**76.58**	**308**	*e*P	**P**	**01 37 01.9**	**-2.9**
	comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**76.58**	**308**	P	**P**	**01 37 04.5**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=89,slow=3.5,SNR=4.2						
BRTR	**Keskin Array B**	**76.58**	**308**	P	**P**	**01 37 04.5**	**-0.2**
RES	**Resolute Bay**	**78.48**	**10**	P	**P**	**01 37 14.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=328,slow=6.3,SNR=3.6						
RES	**Resolute Bay**	**78.48**	**10**	*e*P	**P**	**01 37 13.8**	**-0.6**
	comp=Z,1.5nm,0.9s						
NB2	**NORSAR Subarra**	**80.44**	**333**	P	**P**	**01 37 25.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**80.44**	**333**	P	**P**	**01 37 25.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=54,slow=5.5,SNR=4.3						
NOA	**NORSAR Array B**	**80.44**	**333**	P	**P**	**01 37 25.4**	**-0.1**
YKA	**Yellowknife Ar**	**81.86**	**24**	P	**P**	**01 37 34.3**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=304,slow=5.0,SNR=7.3						
YKA	**Yellowknife Ar**	**81.86**	**24**	P	**P**	**01 37 34.4**	**+1.4**
GERES	**GERESS Array B**	**85.66**	**322**	P	**P**	**01 37 52.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=32,slow=5.8,SNR=2.9						
GERES	**GERESS Array B**	**85.66**	**322**	P	**P**	**01 37 52.5**	**-0.3**

MEX 01 02:19:47.0±1.0**,16°.94N**×**95°.50W,h102**^{km}±11^{km}**,MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**76**	*i* P	Pn	02 20 02.7	-1.2
CMIG				*i* S	Sn	02 20 14.3	-2.2
VHO	**Vista Hermosa**	**1.19**	**276**	*i* P	Pn	02 20 09.1	-0.9
VHO				*i* S	Sn	02 20 25.9	-1.5
HUIG	**Huatulco**	**1.31**	**207**	*e*P	Pn	02 20 09.7	-1.4
HUIG				*i* S	Sn	02 20 28.2	-1.1
UTMO	**Huajuapan**	**2.37**	**292**	*e*P	Pn	02 20 23.6	-1.2
UTMO				*i* S	Sn	02 20 50.3	-3.4
PCIG		**2.51**	**119**	*e*P	Pn	02 20 25.8	-0.5
PCIG				*i* S	Sn	02 20 55.3	-1.2
PNIG	**Pinotepa**	**2.58**	**258**	*e*P	Pn	02 20 24.7	-2.6
PNIG				*i* S	Sn	02 20 56.7	-1.5

---

*TIR **01** 02:21:01.9±5.0,41°.03N×19°.83E,h2^{km}±349^{km},ML3.2*
*CSEM **01** 02:21:05.4±0.6,41°.05N×19°.72E,h5^{km},ML3.2,Error ellipse: s-maj=14.2km s-min=8.5km az=66.0*
*SKO **01** 02:21:06.5,41°.01N×19°.80E,h10^{km}*
ISC 01 02:21:04.7±1.9**,41°.05N**±0°.05×**19°.81E**±0°.06**,h9**^{km}±13^{km}**, n16,**σ**0^{s}91**/26**,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**8**	*i* PG	**Pb**	**02 21 12.0**	**-0.2**
TIR				*i* SG	**Sb**	**02 21 17.3**	**0.0**
TIR	**Tirane**	**0.30**	**8**	*i* Pg	**Pb**	**02 21 12.0**	**-0.2**
	SNR=93						
TIR				*i* Sg	**Sb**	**02 21 17.3**	**0.0**
	SNR=93						
PHP	**Peshkopia**	**0.79**	**37**	*i* PG	**Pg**	**02 21 19.4**	**-0.6**
PHP				*i* SG	**Sb**	**02 21 31.9**	**+0.4**
PHP	**Peshkopia**	**0.79**	**37**	*i* Pg	**Pg**	**02 21 19.4**	**-0.6**
	SNR=92						
PHP				*i* Sg	**Sb**	**02 21 31.9**	**+0.4**
	SNR=92						
PUK	**Puka**	**0.99**	**4**	*i* PG	**Pn**	**02 21 25.5**	**+0.7**
PUK				*i* SG	Sn	02 21 49.7	+11
PUK	**Puka**	**0.99**	**4**	*i* Pg	**Pn**	**02 21 25.5**	**+0.7**
	SNR=91						
LSK	**Leskovik**	**1.08**	**146**	*i* PG	**Pn**	**02 21 27.5**	**+1.5**
LSK				*i* SG	**Sn**	**02 21 40.7**	**-0.5**
LSK	**Leskovik**	**1.08**	**146**	*i* Pg	**Pn**	**02 21 27.5**	**+1.5**
	SNR=92						
LSK				*i* Sg	**Sn**	**02 21 40.7**	**-0.5**
	SNR=92						
BIA	**Bitola**	**1.15**	**91**	*e*Pg	**Pb**	**02 21 25.5**	**-1.2**
BIA				*e*Sg	**Sn**	**02 21 43.1**	**+0.3**
BIA	**Bitola**	**1.15**	**91**	*e*Pg	**Pb**	**02 21 25.5**	**-1.2**
BIA				*e*Sg	**Sn**	**02 21 43.0**	**+0.3**
BCI	**Bajram Curri**	**1.33**	**8**	*i* PG	**Pg**	**02 21 31.5**	**+1.3**
BCI	**Bajram Curri**	**1.33**	**8**	*i* Pg	**Pg**	**02 21 31.5**	**+1.3**
	SNR=91						
VAY	**Valandovo**	**2.10**	**82**	*e*Pn	**Pb**	**02 21 43.3**	**+0.4**
VAY	**Valandovo**	**2.10**	**82**	*e*Pn	**Pg**	**02 21 43.8**	**-1.2**
STON	**Ston**	**2.41**	**320**	*e*Pn	**Pn**	**02 21 44.2**	**+0.1**
STON				Sn	**Sn**	**02 22 12.4**	**-1.3**
STON	**Ston**	**2.41**	**320**	*e*Pn	**Pn**	**02 21 44.2**	**+0.1**
STON				Sn	**Sn**	**02 22 12.3**	**-1.3**

---

*NIED **01** 02:21:00,34°.00N×139°.80E,h98^{km},Mw4.2 Best double couple: M0 1.99000×10^{15} NP1:ϕ_s48.00000°,δ81.00000°, λ-122.00000°. NP2:ϕ_s303.00000°,δ33.00000°, λ-17.00000°.*
*MOS **01** 02:21:35.7±0.9,33°.92N×139°.89E,h121^{km},mb4.3/44, Error ellipse: s-maj=14.0km s-min=5.9km az=118.3*
*ISCJB **01** 02:21:36.5±0.3,33°.97N±0°.03×139°.86E±0°.05, h125^{km}±1^{km},mb4.4/58,Error ellipse: s-maj=6.4km s-min=4.7km az=161.1*
*NEIC **01** 02:21:37.1±0.5,33°.95N×139°.88E,h116^{km}±4^{km},mb4.5/24, MW4.1(NIED),Error ellipse: s-maj=7.2km s-min=4.2km az=72.0*
*IDC **01** 02:21:37.9±0.8,33°.91N×139°.77E,h122^{km}±7^{km},mb4.0/22, mb1 4.1/26,mb1mx3.9/36,mbtmp4.0/26,Error ellipse: s-maj=17.4km s-min=10.6km az=68.0*
*JMA **01** 02:21:38.1±0.1,34°.03N×139°.83E,h112^{km}±1^{km},M3.9*
ISC 01 02:21:37.4±0.5**,33°.95N**±0°.04×**139°.82E**±0°.05**,h118**^{km}±3^{km}**, h118**^{km}**:pP-P,n149,**σ**1^{s}05**/188**,mb4.4**/58**,9C-3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.28**	**295**	⇑P	**Pn**	**02 21 54.0**	**-0.1**
JMY				S	**Sn**	**02 22 06.4**	**-0.3**
JKO	**Kozu shima**	**0.62**	**293**	⇑P	**Pn**	**02 21 55.8**	**-0.1**
JHJ	**Hachijo jima 2**	**0.83**	**182**	P	**Pn**	**02 21 58.7**	**+1.1**
	933nm,0.3s,baz=73,slow=22,SNR=131						
JHJ				S	**Sn**	**02 22 14.3**	**+1.4**
	1μm,0.3s,baz=69,slow=23,SNR=33						
JIM2	**Oshima 3**	**0.83**	**337**	⇑P	**Pn**	**02 21 57.3**	**-0.4**
JIM2				S	**Sn**	**02 22 12.3**	**-0.8**
JHJ2	**Mitsune**	**0.84**	**180**	⇓P	**Pn**	**02 21 58.9**	**+1.2**
JHJ2				*e*S	**Sn**	**02 22 14.6**	**+1.6**
BSO3	**Boso 3**	**1.02**	**34**	⇑P	**Pn**	**02 21 59.7**	**+0.6**
BSO3				*e*S	**Sn**	**02 22 17.4**	**+1.7**
JIZS	**Izushimoda**	**1.09**	**315**	⇑P	**Pn**	**02 22 00.1**	**-0.1**
JIZS				*e*S	**Sn**	**02 22 16.5**	**-1.0**
BSO1	**Boso 1**	**1.19**	**53**	⇓P	**Pn**	**02 22 01.2**	**+0.7**
BSO1				*e*S	**Sn**	**02 22 18.5**	**+0.3**
JOD2	**Odawara 2**	**1.44**	**335**	⇑P	**Pn**	**02 22 03.8**	**-0.2**
JOD2				S	**Sn**	**02 22 23.3**	**-1.0**
TK04	**Tokai 4**	**1.67**	**286**	P	**Pn**	**02 22 07.3**	**+0.7**
TK04				S	**Sn**	**02 22 30.1**	**+1.2**
TK02	**Tokai 2**	**1.72**	**270**	P	**Pn**	**02 22 07.9**	**+0.9**
TK02				S	**Sn**	**02 22 31.9**	**+2.3**
SHZ3	**Shizuoka 3**	**1.74**	**310**	⇑P	**Pn**	**02 22 08.1**	**+0.6**
SHZ3				S	**Sn**	**02 22 31.2**	**+0.7**
JYN	**Shimob**	**1.87**	**326**	⇑P	**Pn**	**02 22 09.5**	**+0.3**
JRY	**Ryogami san**	**2.20**	**340**	⇑P	**Pn**	**02 22 13.6**	**+0.4**
JRY				S	**Sn**	**02 22 40.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.90**	**333**	P	**Pn**	**02 22 22.5**	**+0.2**
	10nm,0.3s,baz=162,slow=12,SNR=110						
MJAR				S	**Sn**	**02 22 53.5**	**-3.5**
	7.2nm,0.3s,baz=159,slow=21,SNR=4.9						
MJAR	**Matsushiro Arr**	**2.90**	**333**	P	**Pn**	**02 22 22.5**	**+0.2**
MJAR				S	**Sn**	**02 22 53.5**	**-3.5**
MAJO	**Matsushiro**	**2.91**	**333**	*e*P	**Pn**	**02 22 22.8**	**+0.4**
MAJO	**Matsushiro**	**2.91**	**333**	*e*Pn	**Pn**	**02 22 22.8**	**+0.4**
MAT	**Matsushiro**	**2.91**	**333**	P	**Pn**	**02 22 22.7**	**+0.4**
MAT				S	**Sn**	**02 22 56.6**	**-0.4**
CBIJ	**Chichi jima**	**7.13**	**163**	P	**Pn**	**02 23 17.8**	**-1.3**
	56nm,0.3s,baz=297,slow=19,SNR=28						
CBIJ				S	**Sn**	**02 24 32.8**	**-5.8**
	44nm,0.3s,baz=285,slow=20,SNR=4.4						
CBIJ	**Chichi jima**	**7.13**	**163**	P	**Pn**	**02 23 17.8**	**-1.3**
CBIJ				S	**Sn**	**02 24 32.8**	**-5.8**
JNU	**Nakatsue**	**7.51**	**266**	P	**Pn**	**02 23 25.5**	**+1.2**
	0.7nm,0.3s,baz=138,slow=9.8,SNR=6.0						
JNU	**Nakatsue**	**7.51**	**266**	P	**Pn**	**02 23 25.5**	**+1.2**
KSRS	**Korea Array**	**10.29**	**293**	P	**Pn**	**02 24 04.0**	**+2.4**
	0.4nm,0.3s,baz=104,slow=14,SNR=9.8						
KSAR	**Wonju Array Be**	**10.31**	**293**	P	**Pn**	**02 24 04.0**	**+2.0**
ASAJ	**Asahikawa**	**10.38**	**11**	P	**Pn**	**02 24 00.3**	**-2.5**
	1.1nm,0.3s,baz=261,slow=32,SNR=5.8						
ASAJ				S	Sn	02 25 45.9	-11
	0.8nm,0.3s,baz=348,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**10.38**	**11**	P	**Pn**	**02 24 00.3**	**-2.5**
ASAJ				S	Sn	02 25 45.9	-11
USRK	**Ussuriysk Arra**	**11.90**	**332**	P	**Pn**	**02 24 23.4**	**+0.3**
	0.1nm,0.3s,baz=144,slow=9.6,SNR=2.7						
HIA	**Hailar**	**21.34**	**322**	*e*P	**P**	**02 26 15.6**	**+0.8**
	4.4nm,0.6s						
CLNS	**Chul'man**	**25.06**	**340**	*e*P	**P**	**02 26 51.1**	**+0.6**
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**28.16**	**309**	*e*P	**P**	**02 27 18.9**	**+0.3**

comp=E,3.8nm,0.9s
SONM Songino Array 28.57 309 P **P 02 27 22.6 +0.4**
comp=E,1.8nm,0.8s,baz=114,slow=9.1,SNR=14
SONM ScP **ScP 02 34 00.9 +0.2**
comp=E,0.8nm,0.8s,baz=112,slow=3.4,SNR=6.9
SONM Songino Array 28.57 309 P **P 02 27 22.6 +0.4**
SONM ScP **ScP 02 34 00.9 +0.2**
BOD Bodaibo 29.54 332 *eP* **P 02 27 30.5 +0.1**
ZAK Zakamensk 31.29 313 *eP* **P 02 27 45.0 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAA0 Zalesovo Array 43.10 315 *eP* **P 02 29 25.1 -0.4**
ZALV Zalesovo Beam 43.10 315 P **P 02 29 25.3 -0.2**
comp=Z,2.9nm,0.4s,baz=103,slow=6.6,SNR=27
ZALV PcP **PcP 02 31 13.3 +0.2**
comp=Z,0.5nm,0.3s,baz=108,slow=4.7,SNR=4.3
ZALV Zalesovo Beam 43.10 315 P **P 02 29 25.3 -0.2**
ZALV 02 31 13.3
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 43.10 315 P **P 02 29 25.3 -0.2**
ZALV PcP **PcP 02 31 13.3 +0.2**
PMG Port Moresby 43.68 169 *eP* **P 02 29 30.1 -0.4**
comp=Z,9.7nm,0.8s
NVS Novosibirsk 44.09 316⇓ *iP* **P 02 29 32.9 -0.5**
NVS pmax pmax
comp=Z,10.0nm,0.6s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
MK31 Makanchi Array 44.72 305 P **P 02 29 38.5 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 44.72 305 *eP* **P 02 29 38.2 -0.5**
MK31 *ep*P **pP 02 30 04.6 -1.2**
MKAR Makanchi Array 44.72 305 P **P 02 29 38.6 -0.1**
comp=Z,2.1nm,0.5s,baz=84,slow=10,SNR=43
MKAR PcP **PcP 02 31 19.8 +0.9**
comp=Z,0.7nm,0.9s,baz=81,slow=3.6,SNR=3.1
MKAR ScP **ScP 02 34 59.8 -0.5**
comp=Z,1.3nm,0.9s,baz=76,slow=5.7,SNR=9.5
MKAR Makanchi Array 44.72 305 P **P 02 29 38.6 -0.1**
MKAR 02 31 19.8
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.72 305 P **P 02 29 38.6 -0.1**
MKAR PcP **PcP 02 31 19.8 +0.9**
MKAR ScP **ScP 02 34 59.8 -0.5**
KURK Kurchatov 46.87 310 P **P 02 29 55.6 +0.2**
KURK pmax pmax
comp=Z,6.0nm,0.5s
KURK Kurchatov 46.87 310 *eP* **P 02 29 55.0 -0.4**
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 46.93 310 P **P 02 29 55.6 -0.2**
comp=Z,6.4nm,0.5s,baz=90,slow=8.4,SNR=35
COEN Coen 47.75 176 *eP* **P 02 30 03.4 +1.0**
comp=Z,58nm,0.5s
TKM2 Tokmak 2 50.01 300 *eP* **P 02 30 20.1 +0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 50.01 300 *eP* **P 02 30 20.1 +0.3**
comp=Z,2.7nm,0.6s
AAK Ala-Archa 50.86 300 P **P 02 30 26.1 -0.1**
comp=Z,1.6nm,0.6s,baz=117,slow=3.6,SNR=10.0
AAK Ala-Archa 50.86 300 P **P 02 30 26.1 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 50.86 300 *eP* **P 02 30 26.1 -0.1**
comp=Z,9.4nm,0.8s
EKS2 Erkin-Say 51.37 300 *eP* **P 02 30 29.7 -0.2**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 51.37 300 *eP* **P 02 30 29.7 -0.2**
comp=Z,2.4nm,0.8s
BVA0 Borovoye Array 51.73 314 *i* P **P 02 30 32.1 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 51.73 314 P **P 02 30 32.4 +0.1**
comp=Z,5.4nm,0.7s,baz=102,slow=8.7,SNR=41
BVAR PcP **PcP 02 31 42.6 -1.4**
comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=2.6
BVAR Borovoye Array 51.73 314 P **P 02 30 32.4 +0.1**
BVAR 02 31 42.6
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 51.73 314 P **P 02 30 32.4 +0.1**
BVAR PcP **PcP 02 31 42.6 -1.4**
BRVK Borovoye 51.79 314 *eP* **P 02 30 32.7 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 51.79 314 *eP* **P 02 30 32.6 0.0**
comp=Z,4.3nm,0.7s
MCK McKinley 51.92 32 *eP* **P 02 30 33.3 -0.3**
MCK pmax pmax
comp=Z,9.0nm,1.3s
MCK McKinley 51.92 32 *eP* **P 02 30 33.3 -0.3**
comp=Z,8.9nm,1.3s
ILAR Eielson Array 52.80 31 P **P 02 30 40.4 +0.4**
comp=Z,0.5nm,0.7s,baz=255,slow=5.8,SNR=5.6
ILAR pP **pP 02 31 10.7 +2.8**
comp=Z,0.7nm,0.9s,baz=263,slow=6.1,SNR=3.6
ILAR Eielson Array 52.80 31 P **P 02 30 40.4 +0.4**
ILAR pP **pP 02 31 10.7 +2.8**
KK31 Karatay Array 53.59 302 *i* P **P 02 30 45.6 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 53.59 302 *eP* **P 02 30 46.0 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 53.59 302 *eP* **P 02 30 46.0 -0.2**
comp=Z,4.6nm,0.6s
WRAB Tennant Creek 53.84 186 *eP* **P 02 30 47.3 -0.8**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 53.84 186 *eP* **P 02 30 47.3 -0.8**
comp=Z,8.1nm,0.8s
WRA Warramunga Arr 53.84 186 P **P 02 30 47.5 -0.6**
comp=Z,3.9nm,0.4s,baz=2.5,slow=7.6,SNR=92
WRA ScP **ScP 02 35 38.9 -0.3**
comp=Z,0.8nm,0.8s,baz=3.2,slow=4.5,SNR=5.4
WRA Warramunga Arr 53.84 186 P **P 02 30 47.5 -0.6**
WRA ScP **ScP 02 35 38.9 -0.3**
CTAO Charters Tower 54.08 173 *eP* **P 02 30 50.7 +0.8**
CTAO pmax pmax
comp=Z,3.0nm,0.5s
CTAO Charters Tower 54.08 173 *eP* **P 02 30 50.7 +0.8**
comp=Z,3.1nm,0.5s
AS31 Alice Springs 57.57 186 *eP* **P 02 31 14.6 -0.2**
ASAR Alice Springs 57.57 186 P **P 02 31 14.6 -0.2**
comp=Z,4.1nm,0.6s,baz=15,slow=14,SNR=5.9
ASAR Alice Springs 57.57 186 P **P 02 31 14.6 -0.2**
INK Inuvik 57.72 26 P **P 02 31 16.7 +1.5**
comp=Z,0.9nm,0.8s,baz=265,slow=9.4,SNR=5.4
INK Inuvik 57.72 26 P **P 02 31 16.7 +1.5**
ARU Arti 57.83 320 *eP* **P 02 31 15.8 -0.4**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 57.83 320 *eP* **P 02 31 15.8 -0.4**
comp=Z,3.7nm,0.7s
AB31 Akbulak array 58.96 311 *i* P **P 02 31 23.9 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 58.96 311 *eP* **P 02 31 23.9 -0.2**
comp=Z,6.9nm,0.6s
AKTO Aktyubinsk 59.79 313 P **P 02 31 29.9 0.0**
comp=Z,3.4nm,0.6s,baz=71,slow=12,SNR=22
AKTO Aktyubinsk 59.79 313 P **P 02 31 29.9 0.0**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 59.79 313 P **P 02 31 29.9 0.0**
FORT Forrest 65.33 191 *eP* **P 02 32 06.7 0.0**
comp=Z,19nm,0.6s
STKA Stephens Creek 65.50 178 P **P 02 32 08.5 +0.8**
comp=Z,1.1nm,0.6s,baz=347,slow=8.3,SNR=3.9
STKA Stephens Creek 65.50 178 P **P 02 32 08.5 +0.8**
RES Resolute Bay 65.90 14 *eP* **P 02 32 10.7 +0.8**
comp=Z,3.2nm,0.8s
ARCES ARCESS Array B 66.42 340 P **P 02 32 13.7 +0.4**
comp=Z,3.9nm,0.9s,baz=49,slow=7.5,SNR=4.5
ARCES ARCESS Array B 66.42 340 P **P 02 32 13.7 +0.4**
YKA Yellowknife Ar 67.12 29 P **P 02 32 18.8 +1.0**
comp=Z,0.1nm,0.4s,baz=303,slow=6.1,SNR=3.3
YKA pP **pP 02 32 46.4 -0.6**
comp=Z,0.2nm,0.7s,baz=294,slow=6.5,SNR=2.7
YKA Yellowknife Ar 67.12 29 P **P 02 32 18.8 +1.0**
YKA pP **pP 02 32 46.5 -0.6**
JOF Joensuu 68.07 332 *eP* **P 02 32 23.6 -0.2**
JOF pmax pmax
comp=Z,5.0nm,0.4s
JOF Joensuu 68.07 332 *ep* **P 02 32 23.6 -0.2**
comp=Z,4.5nm,0.4s
KAF Kangasniemi 70.45 333 *eP* **P 02 32 37.8 -0.7**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 70.45 333 *ep* **P 02 32 37.8 -0.7**
comp=Z,3.5nm,0.5s
FINES FINESS Array B 70.93 332 P **P 02 32 41.6 +0.3**
comp=Z,4.6nm,0.6s,baz=62,slow=5.8,SNR=37
FINES FINESS Array B 70.93 332 P **P 02 32 41.6 +0.3**
KBZ Khabaz 71.93 311 P **P 02 32 48.0 +0.4**
comp=Z,5.1nm,0.8s,baz=81,slow=4.3,SNR=8.6
KBZ Khabaz 71.93 311 P **P 02 32 48.0 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 71.93 311 P **P 02 32 48.0 +0.4**
KIV Kislovodsk 71.95 311 *eP* **P 02 32 48.7 +0.7**
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 71.95 311 *eP* **P 02 32 48.7 +0.7**
comp=Z,7.3nm,0.7s
MIB Mutribah 75.90 296 *eP* **P 02 33 10.6 -0.5**
MIB AMb AMB 02 33 11.5
comp=Z,16nm,0.6s
AKASG Malin Array Be 75.93 322 P **P 02 33 10.8 -0.1**
comp=Z,2.7nm,0.4s,baz=49,slow=5.8,SNR=15
AKASG pP **pP 02 33 40.1 -0.6**
comp=Z,1.0nm,0.6s,baz=48,slow=6.0,SNR=1.8
AKASG Malin Array Be 75.93 322 P **P 02 33 10.8 -0.1**
AKASG *PP **pP 02 33 40.1 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 75.93 322 P **P 02 33 10.8 -0.1**
AKASG pP **pP 02 33 40.1 -0.6**
AKBB Malin Array Si 75.93 322 *eP* **P 02 33 10.7 -0.2**
AKBB Malin Array Si 75.93 322 *eP* **P 02 33 10.7 -0.2**
KIEV Kiev 75.95 322 *eP* **P 02 33 10.6 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 75.95 322 *eP* **P 02 33 10.6 -0.4**
comp=Z,6.4nm,0.7s
RDF Al-Radifah 76.20 296 *eP* **P 02 33 13.0 +0.2**
RDF AMb AMB 02 33 14.5
comp=Z,33nm,0.7s
NAY Al-Naaiem 76.26 296 *eP* **P 02 33 12.5 -0.7**
NAY AMb AMB 02 33 13.5
comp=Z,18nm,1.7s
HFS Hagfors 76.35 335 P **P 02 33 13.0 -0.1**
comp=Z,1.8nm,0.6s,baz=106,slow=3.2,SNR=8.9
HFS Hagfors 76.35 335 P **P 02 33 13.0 -0.1**
NB2 NORSAR Subarra 76.52 337 P **P 02 33 14.2 +0.1**
comp=Z,1.5nm,0.7s,baz=41,slow=5.6
NOA NORSAR Array B 76.52 337 P **P 02 33 14.1 0.0**
comp=Z,2.2nm,0.8s,baz=42,slow=5.9,SNR=8.4
NOA NORSAR Array B 76.52 337 P **P 02 33 14.1 0.0**
NAO01 NORSAR Array S 76.77 337 *eP* **P 02 33 15.7 +0.2**
comp=Z,3.1nm,0.7s
BUR08 Bucovina Ar. S 79.90 321 *eP* **P 02 33 33.6 +0.5**
BR131 Keskin Array S 79.91 311 *eP* **P 02 33 33.8 +0.4**
comp=Z,1.5nm,0.6s
BRTR Keskin Array B 79.91 311 P **P 02 33 33.4 +0.1**
comp=Z,2.9nm,0.8s,baz=103,slow=4.3,SNR=14
BRTR Keskin Array B 79.91 311 P **P 02 33 33.4 +0.1**
MORC Moravsky Berou 82.22 326 *eP* **P 02 33 45.7 +0.5**
MORC pmax pmax
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 82.22 326 *eP* **P 02 33 45.7 +0.5**
comp=Z,1.7nm,0.6s
DPC Dobruska-Polom 82.36 327 *eP* **P 02 33 46.8 +0.8**
DPC Dobruska-Polom 82.36 327 *eP* **P 02 33 46.8 +0.8**
PSZ Piszkesteto 82.39 324 *eP* **P 02 33 47.1 +0.9**
PSZ pmax pmax
comp=Z,2.0nm,0.7s
PSZ Piszkesteto 82.39 324 *eP* **P 02 33 47.1 +0.9**
comp=Z,2.1nm,0.7s
VRAC Vranov 82.98 327 P **P 02 33 50.2 +1.0**
comp=Z,1.3nm,0.4s,baz=66,slow=1.0,SNR=3.8
VRAC Vranov 82.98 327 P **P 02 33 50.2 +1.0**
CLL Collm 83.11 330 *eP* **P 02 33 50.0 +0.3**
CLL Collm 83.11 330 *eP* **P 02 33 50.0 +0.3**
PRU Pruhonice 83.42 328 *eP* **P 02 33 52.3 +1.0**
PRU Pruhonice 83.42 328 *eP* **P 02 33 52.3 +1.0**
KHC Kasperske Hory 84.47 328 *eP* **P 02 33 57.5 +0.7**
KHC Kasperske Hory 84.47 328 *eP* **P 02 33 57.3 +0.5**
comp=Z,2.9nm,1.1s
KHC Kasperske Hory 84.47 328 *eP* **P 02 33 57.5 +0.7**
GERES GERESS Array B 84.63 328 P **P 02 33 58.0 +0.3**
comp=Z,1.4nm,0.6s,baz=34,slow=5.5,SNR=21
GERES GERESS Array B 84.63 328 P **P 02 33 58.0 +0.3**
DAVOX Davos/Dischmat 87.88 328 P **P 02 34 13.5 -0.2**
comp=Z,2.0nm,0.8s,baz=17,slow=19
DAVOX Davos/Dischmat 87.88 328 P **P 02 34 13.5 -0.2**
AQU L'Aquila 89.58 323 *eP* **P 02 34 22.3 +0.6**
comp=Z,7.0nm,1.0s
TORD Torodi Ar. Bea 118.51 312 PKP **PKPdf 02 40 12.0 +0.3**
comp=Z,0.2nm,0.7s,baz=48,slow=2.4,SNR=2.7
TORD pPKP **pPKPdf 02 40 43.0 -0.7**
comp=Z,0.1nm,0.5s,baz=42,slow=3.0,SNR=1.5
TORD Torodi Ar. Bea 118.51 312 PKP **PKPdf 02 40 12.0 +0.3**
TORD pPKP **pPKPdf 02 40 43.0 -0.7**

TAP 01 02:35:07.3,24.69N×121.87E,h70km,ML3.5,1C-2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
TWC	**Suao**	**0.08**	**192**	*i* P		02 35 17.9	+0.4
TWC	baz=185			*i* S		02 35 25.5	+0.5
ILA	**Ilan**	**0.13**	**304**	*eP*		02 35 18.6	+0.9
ILA	baz=304			*eS*		02 35 26.7	+1.4
TWE	**Neicheng**	**0.19**	**279**⇓	*iP*		02 35 18.5	+0.6
TWE	baz=278			S		02 35 26.4	+0.8
ENTT	**Nioudou**	**0.28**	**259**	*i* P		02 35 18.9	+0.5
ENTT	baz=258			S		02 35 27.0	+0.5
ENA	**Nanau**	**0.29**	**204**⇓	*iP*		02 35 18.6	+0.2
ENA	baz=202			*i* S		02 35 27.0	+0.5
TWB1	**Santiao Chiao**	**0.33**	**19**⇑	*iP*		02 35 19.0	+0.2
TWB1	baz=20			S		02 35 27.2	+0.1
NWF	**Wu-fen Shan**	**0.39**	**348**	P		02 35 19.7	+0.4
NWF	baz=348			S		02 35 28.1	+0.1
NSK	**Sanguang**	**0.47**	**268**	*i* P		02 35 20.0	+0.1
NSK	baz=267			S		02 35 29.0	-0.1
NNS	**Nan Shan**	**0.52**	**241**	P		02 35 20.8	+0.3
NNS	baz=240			S		02 35 30.2	+0.1
TWS1	**Kuangyinshan**	**0.58**	**315**	*eP*		02 35 21.6	+0.7
TWS1	baz=315			*eS*		02 35 32.3	+1.4
TWY	**Chenhua**	**0.63**	**337**	*eS*		02 35 32.1	+0.2
TWD	**Chiawan**	**0.66**	**202**	P		02 35 21.1	-0.6
TWD	baz=201			*eS*		02 35 33.8	+1.4
NCU	**National Centr**	**0.68**	**294**	*eS*		02 35 33.5	+0.7
HWA	**Hwalien**	**0.75**	**199**	*eP*		02 35 22.6	-0.2
HWA	baz=198			*eS*		02 35 35.2	+1.0
TWT	**Tachien**	**0.77**	**235**	P		02 35 23.9	+0.7
TWT	baz=235			S		02 35 35.7	+0.7
WHF	**Hehuan Shan**	**0.77**	**225**	*i* P		02 35 23.5	-0.1
WHF	baz=224			S		02 35 35.3	-0.4
NSTT	**Nanjuang**	**0.79**	**266**	*eP*		02 35 23.5	+0.3
NSTT	baz=265			*eS*		02 35 35.5	+0.4
ESL	**Shilin**	**0.96**	**205**	*eP*		02 35 26.0	+0.7
NSY	**Sanyi**	**1.05**	**255**	*eP*		02 35 27.1	+0.7
NSY	baz=254			*eS*		02 35 41.6	+1.0
TWQ1	**Liyutan**	**1.05**	**251**	*eP*		02 35 27.0	+0.5
TWQ1	baz=250			*eS*		02 35 41.0	+0.2
SMLT	**Sun Moon Lake**	**1.20**	**228**	*eP*		02 35 28.9	+0.4
SMLT	baz=227			*eS*		02 35 44.9	+0.7
TYC	**Yuchr**	**1.21**	**230**	*eP*		02 35 29.3	+0.9
TYC	baz=229			*eS*		02 35 45.6	+1.2
EHY	**Hungye**	**1.28**	**203**	*eP*		02 35 28.7	-0.8
EHY	baz=202			*eS*		02 35 45.9	-0.1
WNT	**Mingjian**	**1.35**	**233**	*eS*		02 35 48.9	+1.3
TWF1	**Yuli**	**1.43**	**202**	*eP*		02 35 29.8	-1.7
TWF1	baz=201			*eS*		02 35 50.5	+1.0
YUS	**Yu-Shan**	**1.46**	**215**	*eP*		02 35 32.6	+0.2
YUS	baz=214			S		02 35 51.4	+0.2
ALS	**Alishan**	**1.53**	**220**	*eP*		02 35 34.3	+1.3
ALS	baz=219			*eS*		02 35 53.7	+1.3
CHN5	**Tsauling**	**1.54**	**225**	*eP*		02 35 33.5	+0.6
CHN5	baz=224			*eS*		02 35 52.9	+0.6
WGK	**Gukeng**	**1.56**	**230**	*eS*		02 35 53.8	+1.3
ELDTW	**Lidau**	**1.69**	**208**	*eP*		02 35 34.7	-0.2
ELDTW	baz=207			*eS*		02 35 56.7	+0.9
CHN4	**Tsaushan**	**1.77**	**221**	*eP*		02 35 36.8	+0.8
CHN4	baz=221			*eS*		02 35 58.6	+1.0
WTP	**Ta-pu**	**1.84**	**219**	*eP*		02 35 38.0	+1.1
WTP	baz=218			*eS*		02 36 00.3	+0.9
TWK	**Hsinying**	**1.90**	**222**	*eP*		02 35 38.5	+0.9
TWK	baz=221			*eS*		02 36 01.3	+0.5
CHN1	**Nanshi**	**1.94**	**220**	*eP*		02 35 39.0	+0.9
CHN1	baz=219			*eS*		02 36 02.0	+0.3
TWG	**Pinlang**	**2.00**	**202**	*eP*		02 35 38.9	-0.1
TWG	baz=201			*eS*		02 36 03.5	+0.4

ISK ***01*** *02:42:28.8, 37.23N×36.94E, h2km, MD2.5*
CSEM ***01*** *02:42:29.8±0.4, 37.16N×36.96E, h2km, MD2.8, Error ellipse: s-maj=9.5km s-min=8.2km az=34.0*
ISCJB ***01*** *02:42:30.2±0.6, 37.16N±0.04×36.93E±0.04, h8km±12km, Error ellipse: s-maj=6.0km s-min=5.1km az=173.9*
DDA ***01*** *02:42:30.3, 37.13N×36.95E, h7km, MD2.8*
ISC 01 02:42:30.2±1.2, 37.17N±0.03×36.92E±0.03, h2km±14km, n15, σ0.97/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
GAZ	**Gaziantep**	**0.23**	**90**	*ePG*		**Pg 02 42 33.4**	**-1.3**
GAZ				*eSG*		**Sg 02 42 38.8**	**+1.0**
GAZ	**Gaziantep**	**0.23**	**90**	*ePg*		**Pg 02 42 33.4**	**-1.3**
GAZ				*eSg*		**Sg 02 42 38.8**	**+1.0**
KMRS	**Kahramanmaras**	**0.33**	**358**	*ePG*		**Pg 02 42 35.1**	**-1.5**
KMRS	**Kahramanmaras**	**0.33**	**358**	*ePg*		**Pg 02 42 35.1**	**-1.5**
KUZU	**Kuzuini**	**0.42**	**162**	*i* P		**Pg 02 42 36.8**	**-1.3**
KUZU				*i* S		**Sg 02 42 44.5**	**+0.9**
KUZU	**Kuzuini**	**0.42**	**162**	*i* P		**Pg 02 42 36.8**	**-1.3**
KUZU				*i* S		**Sg 02 42 44.5**	**+0.9**
GZT	**Gaziantep**	**0.55**	**70**	*i* P		**Pg 02 42 41.6**	**+0.9**
GZT				*i* S		**Sg 02 42 48.8**	**+1.0**
ANDN	**Andirin**	**0.61**	**312**	*i* P		**Pb 02 42 44.1**	**+0.5**
ANDN				*i* S		**Sb 02 42 52.7**	**0.0**
ANDN	**Andirin**	**0.61**	**312**	*i* P		**Pb 02 42 44.1**	**+0.5**
ANDN				*i* S		**Sb 02 42 52.7**	**0.0**
COBT	**Iskenderun**	**0.84**	**219**	*i* P		**Pg 02 42 46.1**	**-0.2**
COBT				*i* S		**Sb 02 42 58.8**	**-0.5**
COBT	**Iskenderun**	**0.84**	**219**	*i* P		**Pg 02 42 46.1**	**-0.2**
COBT				*i* S		**Sb 02 42 58.8**	**-0.5**
KOZT	**Kozan**	**0.92**	**290**	*ePG*		**Pg 02 42 47.4**	**-0.4**
KOZT	**Kozan**	**0.92**	**290**	*ePg*		**Pg 02 42 47.4**	**-0.4**
URFA	**Urfa**	**1.54**	**79**	*ePN*		**Pn 02 42 58.5**	**-0.2**
URFA	**Urfa**	**1.54**	**79**	*ePn*		**Pn 02 42 58.5**	**-0.2**

ISK ***01*** *03:05:52.8, 37.84N×29.13E, h6km, MD2.8*
CSEM ***01*** *03:05:52.9±0.1, 37.82N×29.17E, h2km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.2km az=106.0*
ISCJB ***01*** *03:05:53.4±0.5, 37.83N±0.03×29.07E±0.07, h10km±7km, Error ellipse: s-maj=8.8km s-min=5.8km az=6.9*
DDA ***01*** *03:05:53.7, 37.82N×29.06E, h7km, MD2.8*
ISC 01 03:05:53.3±0.9, 37.81N±0.03×29.15E±0.05, h10km±8km, n20, σ0.52/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
DENT	**Denizli**	**0.10**	**240**	PG		**Pg 03 05 55.8**	**-0.3**
DENT	**Denizli**	**0.10**	**240**	*i* Pg		**Pg 03 05 55.8**	**-0.3**
DNZL	**Cakiroluk**	**0.14**	**215**	*i* P		**Pg 03 05 56.4**	**-0.3**
DNZL				*i* S		**Sg 03 05 59.2**	**+0.1**
DNZL	**Cakiroluk**	**0.14**	**215**	*i* P		**Pg 03 05 56.4**	**-0.3**
DNZL				*i* S		**Sg 03 05 59.2**	**+0.1**
KHL	**Karahalli**	**0.59**	**30**	*ePG*		**Pg 03 06 04.3**	**-0.6**
KHL	**Karahalli**	**0.59**	**30**	*ePg*		**Pg 03 06 04.3**	**-0.6**
KHAL	**Karahalli**	**0.62**	**26**	*i* P		**Pg 03 06 05.2**	**-0.3**
KHAL				*i* S		**Sb 03 06 16.2**	**+0.9**
KHAL	**Karahalli**	**0.62**	**26**	*i* P		**Pg 03 06 05.2**	**-0.3**
KHAL				*i* S		**Sb 03 06 16.2**	**+0.9**
GOLH	**Golhisar**	**0.66**	**150**	*i* P		**Pg 03 06 05.3**	**-0.7**
GOLH				*i* S		**Sn 03 06 19.0**	**-0.2**
GOLH	**Golhisar**	**0.66**	**150**	*i* P		**Pg 03 06 05.3**	**-0.7**
GOLH				*i* S		**Sn 03 06 19.0**	**-0.2**
KULA	**Kula-Manisa**	**0.80**	**332**	*ePG*		**Pg 03 06 08.0**	**-0.9**
KULA	**Kula-Manisa**	**0.80**	**332**	*ePg*		**Pg 03 06 08.0**	**-0.9**
MANT	**Manisa**	**0.83**	**326**	*i* P		**Pg 03 06 09.0**	**-0.3**
MANT				*i* S		**Sg 03 06 19.7**	**-0.4**
MANT	**Manisa**	**0.83**	**326**	*i* P		**Pg 03 06 09.0**	**-0.3**
MANT				*i* S		**Sg 03 06 19.7**	**-0.4**
YER	**Yerkesik**	**0.96**	**226**	*ePG*		**Pb 03 06 12.1**	**0.0**
YER	**Yerkesik**	**0.96**	**226**	*ePg*		**Pb 03 06 12.1**	**0.0**
ALT	**Altintas**	**1.46**	**31**	*ePN*		**Pn 03 06 20.2**	**+0.5**
ALT	**Altintas**	**1.46**	**31**	*ePn*		**Pn 03 06 20.3**	**+0.5**
TVSB	**Tavsanli**	**1.66**	**8**	*ePN*		**Pn 03 06 22.7**	**+0.1**
TVSB	**Tavsanli**	**1.66**	**8**	*ePn*		**Pn 03 06 22.7**	**+0.1**

ISK ***01*** *03:11:10.8, 39.32N×29.18E, h5km, MD3.1*
DDA ***01*** *03:11:11.0, 39.34N×29.16E, h8km, MD3.1*
ISCJB ***01*** *03:11:11.3±0.3, 39.32N±0.02×29.16E±0.02, h0km, Error ellipse: s-maj=2.7km s-min=2.6km az=5.9*
CSEM ***01*** *03:11:11.6±0.1, 39.32N×29.17E, h2km, MD3.1, Error ellipse: s-maj=2.4km s-min=2.3km az=175.0*

ISC 01 03:11:11.2±0.7, 39°.33N±0°.02×29°.17E±0°.02, h0^{km}, n86, σ0^{s}62/108, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.26	63	*i* Pg	Pg	03 11 16.7	+0.5
TVSB	Tavsanli	0.26	63	PG	Pg	03 11 16.7	+0.5
GDZ	Gediz	0.34	135	*i* P	Pg	03 11 18.2	+0.4
GDZ				*i* S	Sg	03 11 23.2	+0.9
GDZ	Gediz	0.34	135	*i* P	Pg	03 11 18.2	+0.4
GDZ				*i* S	Sg	03 11 23.2	+0.9
DEMI	Demirci	0.45	231	*i* P	Pg	03 11 20.2	+0.3
DEMI				*i* S	Sg	03 11 26.8	+1.0
DEMI	Demirci	0.45	231	*i* P	Pg	03 11 20.2	+0.3
DEMI				*i* S	Sg	03 11 26.8	+1.0
DURS	Dursunbey	0.60	297	*i* P	Pg	03 11 22.2	-0.5
DURS				*i* S	Sg	03 11 31.1	+0.6
DURS	Dursunbey	0.60	297	*i* P	Pg	03 11 22.2	-0.5
DURS				*i* S	Sg	03 11 31.1	+0.6
ALT	Altintas	0.78	110	PG	Pg	03 11 26.7	+0.5
ALT	Altintas	0.78	110	*i* Pg	Pg	03 11 26.7	+0.5
ULDT	Uludag	0.81	358	*i* P	Pg	03 11 26.0	-0.8
ULDT				*i* S	Sg	03 11 37.1	-0.2
ULDT	Uludag	0.81	358	*i* P	Pg	03 11 26.0	-0.8
ULDT				*i* S	Sg	03 11 37.1	-0.2
KULA	Kula-Manisa	0.91	206	*e*PG	Pg	03 11 28.8	+0.2
KULA	Kula-Manisa	0.91	206	*e*Pg	Pg	03 11 28.8	+0.2
MANT	Manisa	0.96	210	*i* P	Pg	03 11 29.5	-0.2
MANT				*i* S	Sg	03 11 42.7	+0.5
MANT	Manisa	0.96	210	*i* P	Pg	03 11 29.5	-0.2
MANT				*i* S	Sg	03 11 42.7	+0.5
KHAL	Karahalli	0.99	165	*i* P	Pb	03 11 30.6	-0.8
KHAL				*i* S	Sb	03 11 43.7	-1.4
KHAL	Karahalli	0.99	165	*i* P	Pb	03 11 30.6	-0.8
KHAL				*i* S	Sb	03 11 43.7	-1.4
CAVI	Cavuskoy	1.01	31	*e*PG	Pb	03 11 31.6	-0.1
CAVI	Cavuskoy	1.01	31	*e*Pg	Pb	03 11 31.6	-0.1
BALB	Balikesir	1.04	288	*e*PG	Pb	03 11 32.4	+0.3
BALB				*e*SG	Sn	03 11 47.8	-0.5
BALB	Balikesir	1.04	288	*e*Pg	Pb	03 11 32.4	+0.3
BALB				*e*Sg	Sn	03 11 47.8	-0.5
KHL	Karahalli	1.04	164	*e*PG	Pb	03 11 31.9	-0.3
KHL	Karahalli	1.04	164	*e*Pg	Pb	03 11 31.9	-0.3
MDNY	Mudanya-Bursa	1.06	348	*e*PG	Pb	03 11 32.7	+0.3
MDNY	Mudanya-Bursa	1.06	348	*e*Pg	Pb	03 11 32.7	+0.3
GEMT	Gemlik	1.10	1	*e*PN	Pb	03 11 33.2	+0.1
GEMT	Gemlik	1.10	1	*e*Pn	Pb	03 11 33.3	+0.1
KCTX	Karacabey (Bur	1.12	326	*e*PN	Pn	03 11 34.4	+0.1
KCTX	Karacabey (Bur	1.12	326	*e*Pn	Pn	03 11 34.4	+0.1
BORA	Eskisehir	1.14	61	*i* P	Pg	03 11 32.8	-0.2
BORA				*i* S	Sg	03 11 48.1	+0.4
BORA	Eskisehir	1.14	61	*i* P	Pg	03 11 32.8	-0.2
BORA				*i* S	Sg	03 11 48.1	+0.4
AKHS	Akhisar	1.15	247	*i* P	Pg	03 11 32.9	-0.3
AKHS				*i* S	Sb	03 11 48.7	-0.7
AKHS	Akhisar	1.15	247	*i* P	Pg	03 11 32.9	-0.3
AKHS				*i* S	Sb	03 11 48.7	-0.7
AKS	Akhisar	1.15	247	*e*PN	Pb	03 11 33.5	-0.4
AKS	Akhisar	1.15	247	*e*Pn	Pb	03 11 33.5	-0.4
ADVT	Abdulvahap	1.19	22	*e*PN	Pb	03 11 34.8	+0.2
ADVT	Abdulvahap	1.19	22	*e*Pn	Pb	03 11 34.8	+0.2
YLV	Yalova	1.24	7	*e*PN	Pb	03 11 35.7	0.0
YLV	Yalova	1.24	7	*e*Pn	Pb	03 11 35.7	0.0
ARMT	Armutlu	1.25	349	*e*PN	Pb	03 11 35.9	+0.1
ARMT	Armutlu	1.25	349	*e*Pn	Pb	03 11 35.9	+0.1
BALY	Balya	1.26	289	*i* P	Pg	03 11 35.4	0.0
BALY				*i* S	Sg	03 11 51.9	0.0
BALY	Balya	1.26	289	*i* P	Pg	03 11 35.4	0.0
BALY				*i* S	Sg	03 11 51.9	0.0
ESKT	Eskisehir	1.32	81	*e*PN	Pn	03 11 37.1	+0.1
ESKT	Eskisehir	1.32	81	*e*Pn	Pn	03 11 37.1	+0.1
SEYT	Eskypehyr	1.32	81	*i* P	Pb	03 11 36.7	-0.2
SEYT				*i* S	Sn	03 11 55.6	+0.2
SEYT	Eskypehyr	1.32	81	*i* P	Pb	03 11 36.7	-0.2
SEYT				*i* S	Sn	03 11 55.6	+0.2
SHUT	Suhut-Afyon	1.33	125	*e*PN	Pn	03 11 37.1	-0.1
SHUT	Suhut-Afyon	1.33	125	*e*Pn	Pn	03 11 37.1	-0.1
GONE	Gonen-Balikesi	1.35	302	*e*PN	Pb	03 11 37.4	0.0
GONE	Gonen-Balikesi	1.35	302	*e*Pn	Pb	03 11 37.4	0.0
BNT	Bandirma	1.40	317	*e*PN	Pb	03 11 38.8	+0.5
BNT	Bandirma	1.40	317	*e*Pn	Pb	03 11 38.8	+0.5
EDC	Edincik	1.43	316	*e*PN	Pb	03 11 39.3	+0.6
EDC	Edincik	1.43	316	*e*Pn	Pb	03 11 39.3	+0.6
GULT	Gulveren	1.51	43	*e*PN	Pg	03 11 40.4	+0.2
GULT	Gulveren	1.51	43	*e*Pn	Pg	03 11 40.4	+0.2
HRT	Hereke	1.54	14	*e*PN	Pb	03 11 40.7	+0.1
HRT	Hereke	1.54	14	*e*Pn	Pb	03 11 40.7	+0.1
SPNC	Sapanca-Adapaz	1.61	33	*e*PN	Pb	03 11 41.5	-0.4
SPNC	Sapanca-Adapaz	1.61	33	*e*Pn	Pb	03 11 41.5	-0.4
ISK	Istanbul-Kandi	1.73	357	*e*PN	Pb	03 11 43.4	-0.5
ISK	Istanbul-Kandi	1.73	357	*e*Pn	Pb	03 11 43.4	-0.5
KRBG	Karabiga-Canak	1.79	307	*e*PN	Pn	03 11 43.4	+0.1
KRBG	Karabiga-Canak	1.79	307	*e*Pn	Pn	03 11 43.4	+0.1
SVRH	Sivrihisar-ESK	1.83	86	*e*PN	Pb	03 11 44.8	-0.8
SVRH	Sivrihisar-ESK	1.83	86	*e*Pn	Pb	03 11 44.8	-0.8
BGKT	Bogazkoy	1.87	351	*e*PN	Pn	03 11 45.4	+0.9
BGKT	Bogazkoy	1.87	351	*e*Pn	Pn	03 11 45.4	+0.9
MDUB	Mudurnu	1.93	53	*e*PN	Pn	03 11 46.2	+0.7
MDUB	Mudurnu	1.93	53	*e*Pn	Pn	03 11 46.2	+0.7
CTKS	Kestanelik-??a	1.97	345	*e*PN	Pb	03 11 47.0	-0.9
CTKS	Kestanelik-??a	1.97	345	*e*Pn	Pb	03 11 47.0	-0.9
SLVT	Silivri	2.03	339	*e*PN	Pb	03 11 48.1	-0.9
SLVT	Silivri	2.03	339	*e*Pn	Pb	03 11 48.1	-0.9
RKY	Sarkoy-Tekirda	2.04	312	*e*PN	Pn	03 11 47.5	+0.7
RKY	Sarkoy-Tekirda	2.04	312	*e*Pn	Pn	03 11 47.6	+0.7
MFT	Murefte	2.05	316	*e*PN	Pn	03 11 48.1	+1.1
MFT	Murefte	2.05	316	*e*Pn	Pn	03 11 48.1	+1.1
CTYL	Yal??k??y-??at	2.24	343	*e*PN	Pn	03 11 50.9	+1.3
CTYL	Yal??k??y-??at	2.24	343	*e*Pn	Pn	03 11 50.9	+1.3
GELI	Tayfur-Gelibol	2.33	298	*e*PN	Pn	03 11 52.0	+1.2
GELI	Tayfur-Gelibol	2.33	298	*e*Pn	Pn	03 11 52.0	+1.2
ERIK	Erikli-Kesan	2.44	304	*e*PN	Pn	03 11 53.9	+1.6
ERIK	Erikli-Kesan	2.44	304	*e*Pn	Pn	03 11 53.9	+1.6

*IDC **01** 03:22:22.2±5.2, 35°.80N×69°.93E, h92^{km}±44^{km}, mb3.4/8, mb1 3.5/12, mb1mx3.2/31, mbtmp3.3/12, MS2.7/1, Ms1 2.7/1, ms1mx2.1/31, Error ellipse: s-maj=36.1km s-min=23.5km az=26.0*

*NNC **01** 03:22:27.8±2.1, 36°.86N×69°.52E, h0^{km}, mb3.6, mpv3.6, Error ellipse: s-maj=19.3km s-min=14.0km az=58.0*

ISC 01 03:22:23.1±1.8, 36°.3N±0°.1×69°.52E±0°.10, h48^{km}, n27, σ1^{s}93/29, mb3.6/7, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.70	28	P	Pn	03 24 01.0	+1.8
	SNR=34						
KK31	Karatay Array	6.87	6	Pn	Pn	03 24 04.6	+3.3
	0.9nm,0.3s,baz=192,slow=14,SNR=20						
KK31				Sn	Sn	03 25 20.6	+2.5
	2.1nm,0.3s,baz=192,slow=20,SNR=4.6						
EKS2	Erkin-Say	7.19	26	P	Pn	03 24 08.0	+2.3
	SNR=24						
KZA	Kyzart	7.32	36	P	Pn	03 24 08.5	+0.8
	SNR=10						
AAK	Ala-Archa	7.43	30	P	Pn	03 24 10.9	+1.8
	2.9nm,0.3s,baz=177,slow=5.9,SNR=38						
AAK				S	Sn	03 25 31.1	-1.0
	1.9nm,0.3s,baz=313,slow=21,SNR=14						
AAK	Ala-Archa	7.43	30	P	Pn	03 24 10.9	+1.8
	SNR=15						
KBK	Karagaybulak	7.64	32	P	Pn	03 24 13.7	+1.8
	SNR=7.8						
CHMS	Chumysh	7.84	29	P	Pn	03 24 16.3	+1.7
	SNR=12						
ULHL	Ulahol	7.93	39	P	Pn	03 24 17.5	+1.6
	SNR=9.5						
USP	Ospenovka	7.97	27	P	Pn	03 24 18.6	+2.2
	SNR=9.5						
TKM2	Tokmak 2	8.13	33	⇑Pn	Pn	03 24 19.9	+1.2
	2.2nm,0.4s						
TKM2				⇓Sn	Sn	03 25 48.8	-0.7
	1.8nm,0.4s						
TKM2	Tokmak 2	8.13	33	P	Pn	03 24 19.6	+0.8
	SNR=9.0						
MK31	Makanchi Array	14.20	38	⇓Pn	P	03 25 46.2	-1.4
	0.5nm,0.5s,baz=213,slow=10,SNR=11						
MKAR	Makanchi Array	14.20	38	P	Pn	03 25 39.4	-2.0
	0.1nm,0.3s,baz=224,slow=16,SNR=3.7						
AB31	Akbulak array	14.75	335	Pn	Pn	03 25 50.2	+1.7
	0.3nm,0.3s,baz=162,slow=12,SNR=30						
AB31				⇓Sn	Sn	03 28 29.1	-1.5
	0.7nm,0.5s,baz=154,slow=23,SNR=6.2						
KURBB	Kurchatov Arra	15.76	22	P	P	03 26 05.1	+0.3
	0.1nm,0.3s,baz=209,slow=10,SNR=10.0						
KURBB				LR	LR	03 33 00.4	
	comp=Z,26nm,19.3s,baz=315,slow=40						
AKTO	Aktyubinsk	16.42	333	P	P	03 26 12.7	+0.5
	0.2nm,0.3s,baz=134,slow=10,SNR=5.0						
AKTO				S	Sn	03 29 04.8	-6.3
	0.1nm,0.3s,baz=18,slow=19,SNR=2.5						
AKTO	Aktyubinsk	16.42	333	⇓Pn	P	03 26 12.2	0.0
	0.5nm,0.8s						
AKTO				⇑Sn	Sn	03 29 09.9	-1.2
	0.4nm,1.2s						
BVAR	Borovoye Array	16.77	2	P	P	03 26 17.8	+1.8
	0.4nm,0.3s,baz=172,slow=9.3,SNR=5.8						
ZALV	Zalesovo Beam	20.64	26	P	P	03 26 57.8	-0.7
	2.1nm,0.4s,baz=217,slow=9.8,SNR=14						
FINES	FINESS Array B	37.02	327	P	P	03 29 27.7	-0.1
	0.6nm,0.5s,baz=116,slow=8.9,SNR=5.9						
ARCES	ARCESS Array B	40.91	338	P	P	03 30 00.6	+0.3
	3.3nm,0.9s,baz=116,slow=8.1,SNR=4.6						
HFS	Hagfors	42.52	322	P	P	03 30 13.0	-0.5
	1.4nm,0.6s,baz=104,slow=11,SNR=6.5						
NOA	NORSAR Array B	43.85	323	P	P	03 30 23.2	-1.1
	0.9nm,0.8s,baz=128,slow=6.3,SNR=3.5						
TORD	Torodi Ar. Bea	64.51	268	P	P	03 32 51.3	-4.0
	0.1nm,0.4s,baz=45,slow=5.9,SNR=5.9						
YKA	Yellowknife Ar	81.53	2	P	P	03 34 29.7	-5.3
	0.2nm,0.5s,baz=352,slow=4.9,SNR=3.7						
WRA	Warramunga Arr	82.89	121	P	P	03 34 34.8	-8.0
	0.1nm,0.4s,baz=326,slow=4.9,SNR=2.7						

*DDA **01** 03:26:12.4, 37°.00N×28°.17E, h27^{km}, MD3.1*

*ISCJB **01** 03:26:13.4±0.7, 37°.05N±0°.04×28°.17E±0°.03, h7^{km}±4^{km}, Error ellipse: s-maj=7.2km s-min=3.9km az=179.2*

*ISK **01** 03:26:13.9, 37°.16N×28°.17E, h8^{km}, MD3.4*

*CSEM **01** 03:26:13.9±0.3, 37°.09N×28°.18E, h5^{km}, MD3.4, Error ellipse: s-maj=6.4km s-min=3.0km az=1.0*

ISC 01 03:26:13.6±1.0, 37°.05N±0°.04×28°.17E±0°.02, h7^{km}±7^{km}, n67, σ0^{s}67/88, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.12	48	*e*PG	Pg	03 26 15.7	-0.6
YER				*e*SG	Sg	03 26 18.7	+0.5
YER	Yerkesik	0.12	48	*e*Pg	Pg	03 26 15.7	-0.6
YER				*e*Sg	Sg	03 26 18.7	+0.5
TURN	Turunc	0.39	117	*i* P	Pg	03 26 15.9	-5.2
TURN				*i* S	Sg	03 26 19.2	-7.2
MLSB	Milas	0.40	308	*e*PG	Pg	03 26 21.6	+0.3
MLSB	Milas	0.40	308	*e*Pg	Pg	03 26 21.6	+0.3
BDRM	Kayabasi	0.58	272	*i* P	Pg	03 26 23.8	-1.0
BDRM				*i* S	Sb	03 26 34.4	-0.1
BDRM	Kayabasi	0.58	272	*i* P	Pg	03 26 23.8	-1.0
BDRM				*i* S	Sb	03 26 34.4	-0.1
AYDN	Tasoluk	0.65	339	*i* P	Pg	03 26 26.2	+0.1
AYDN				*i* S	Sb	03 26 36.4	-0.2
AYDN	Tasoluk	0.65	339	*i* P	Pg	03 26 26.2	+0.1
AYDN				*i* S	Sb	03 26 36.4	-0.2
BODT	Bodrum	0.69	271	*e*PG	Pb	03 26 27.6	-0.3
BODT				*e*SG	Sb	03 26 38.2	+0.7
BODT	Bodrum	0.69	271	*e*Pg	Pb	03 26 27.6	-0.3
BODT				*e*Sg	Sb	03 26 38.2	+0.7
DNZL	Cakiroluk	0.95	47	*i* P	Pg	03 26 30.4	-1.4
DNZL				*i* S	Sn	03 26 46.9	-0.4
DNZL	Cakiroluk	0.95	47	*i* P	Pg	03 26 30.4	-1.4
DNZL				*i* S	Sn	03 26 46.9	-0.4
DENT	Denizli	0.98	44	*e*PG	Pg	03 26 31.9	-0.6
DENT	Denizli	0.98	44	*e*Pg	Pg	03 26 31.9	-0.6
GCAM	G?zelcaml?	0.99	311	*e*P	Pb	03 26 33.0	+0.1
GCAM				*i* S	Sn	03 26 47.2	-0.8
GCAM	G?zelcaml?	0.99	311	*e*P	Pb	03 26 33.0	+0.1
GCAM				*i* S	Sn	03 26 47.2	-0.8
GOLH	Golhisar	1.13	80	*i* P	Pg	03 26 33.7	-1.5
GOLH				*i* S	Sb	03 26 50.4	+0.1
GOLH	Golhisar	1.13	80	*i* P	Pg	03 26 33.7	-1.5
GOLH				*i* S	Sb	03 26 50.4	+0.1
MANT	Manisa	1.47	12	*i* P	Pn	03 26 40.7	0.0
MANT				*i* S	Sb	03 27 00.2	-0.1
MANT	Manisa	1.47	12	*i* P	Pn	03 26 40.7	0.0
MANT				*i* S	Sb	03 27 00.2	-0.1
KULA	Kula-Manisa	1.51	15	*e*PN	Pn	03 26 40.7	-0.4
KULA	Kula-Manisa	1.51	15	*e*Pn	Pn	03 26 40.7	-0.4
IZM	Izmir	1.52	332	*e*PN	Pn	03 26 40.4	-0.8
IZM	Izmir	1.52	332	*e*Pn	Pn	03 26 40.4	-0.8
KHL	Karahalli	1.66	40	*e*PN	Pn	03 26 43.1	0.0
KHL	Karahalli	1.66	40	*e*Pn	Pn	03 26 43.2	0.0
KHAL	Karahalli	1.68	38	*i* P	Pn	03 26 44.0	+0.5
KHAL				*i* S	Sb	03 27 06.6	+0.2
KHAL	Karahalli	1.68	38	*i* P	Pn	03 26 44.0	+0.5
KHAL				*i* S	Sb	03 27 06.6	+0.2
KORT	Korkueli	1.75	91	*i* P	Pb	03 26 45.6	-0.4
KORT				*i* S	Sg	03 27 10.7	+1.0
KORT	Korkueli	1.75	91	*i* P	Pb	03 26 45.6	-0.4
KORT				*i* S	Sg	03 27 10.7	+1.0
AKHS	Akhisar	1.85	351	*i* P	Pn	03 26 45.1	-0.5
AKHS				*i* S	Sn	03 27 09.8	+0.6
AKHS	Akhisar	1.85	351	*i* P	Pn	03 26 45.1	-0.5
AKHS				*i* S	Sn	03 27 09.8	+0.6
AKS	Akhisar	1.85	351	*e*PN	Pn	03 26 45.1	-0.6
AKS	Akhisar	1.85	351	*e*Pn	Pn	03 26 45.1	-0.6
BCK	Bucak	1.98	77	*e*PN	Pn	03 26 48.1	+0.6
BCK	Bucak	1.98	77	*e*Pn	Pn	03 26 48.1	+0.6
SHUT	Suhut-Afyon	2.41	51	*e*PN	Pn	03 26 54.1	+0.7
SHUT	Suhut-Afyon	2.41	51	*e*Pn	Pn	03 26 54.2	+0.7
ALT	Altintas	2.52	37	*e*PN	Pn	03 26 55.2	+0.3
ALT	Altintas	2.52	37	*e*Pn	Pn	03 26 55.3	+0.3
BALB	Balikesir	2.59	355	*e*PN	Pn	03 26 55.8	-0.1
BALB	Balikesir	2.59	355	*e*Pn	Pn	03 26 55.8	-0.1
TVSB	Tavsanli	2.60	23	*e*PN	Pn	03 26 56.1	0.0
TVSB	Tavsanli	2.60	23	*e*Pn	Pn	03 26 56.1	0.0
GONE	Gonen-Balikesi	3.02	353	*e*PN	Pn	03 27 01.9	+0.2
GONE	Gonen-Balikesi	3.02	353	*e*Pn	Pn	03 27 01.9	+0.2
EZN	Ezine	3.12	333	*e*PN	Pn	03 27 03.5	+0.3
EZN	Ezine	3.12	333	*e*Pn	Pn	03 27 03.5	+0.3
KCTX	Karacabey (Bur	3.21	3	*e*PN	Pn	03 27 04.9	+0.5
KCTX	Karacabey (Bur	3.21	3	*e*Pn	Pn	03 27 04.9	+0.5
KRBG	Karabiga-Canak	3.41	349	*e*PN	Pn	03 27 06.9	-0.1
KRBG	Karabiga-Canak	3.41	349	*e*Pn	Pn	03 27 06.9	-0.1
KONT	Konya--Tatoy	3.45	74	*e*PN	Pn	03 27 09.6	+1.8
KONT	Konya--Tatoy	3.45	74	*e*Pn	Pn	03 27 09.6	+1.8
LPK	Lapseki	3.50	342	*e*PN	Pn	03 27 08.2	-0.1
LPK	Lapseki	3.50	342	*e*Pn	Pn	03 27 08.2	-0.1
LADK	Ladik-KONYA	3.52	70	*e*PN	Pn	03 27 10.1	+1.3
LADK	Ladik-KONYA	3.52	70	*e*Pn	Pn	03 27 10.1	+1.3
ARMT	Armutlu	3.55	9	*e*PN	Pn	03 27 09.8	+0.7
ARMT	Armutlu	3.55	9	*e*Pn	Pn	03 27 09.8	+0.7
GELI	Tayfur-Gelibol	3.59	339	*e*PN	Pn	03 27 09.8	+0.2
GELI	Tayfur-Gelibol	3.59	339	*e*Pn	Pn	03 27 09.8	+0.2
RKY	Sarkoy-Tekirda	3.71	348	*e*PN	Pn	03 27 11.8	+0.4
RKY	Sarkoy-Tekirda	3.71	348	*e*Pn	Pn	03 27 11.8	+0.4
GULT	Gulveren	3.84	28	*e*PN	Pn	03 27 14.2	+1.1
GULT	Gulveren	3.84	28	*e*Pn	Pn	03 27 14.2	+1.1

FUNV 01 03:53:58.4, 11°.92N×72°.87W, h35^{km}, MW3.5, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIRV	Villa del Rosa	1.48	162	*e*P	Pn	03 54 22.1	-0.5
VIRV				*e*S	Sn	03 54 38.9	-1.8
IMOV	Isla Los Monje	1.97	77	*e*P	Pn	03 54 28.9	-0.4
DABV	Dabajuro	2.40	114	*e*P	Pn	03 54 34.8	-0.4
DABV				*e*S	Sn	03 55 00.4	-3.0
MONV	Montecano	2.83	89	*e*P	Pn	03 54 40.1	-1.1
MONV				*e*S	Sn	03 55 11.4	-2.7
SIQV	Siquisique	3.25	113	*e*P	Pn	03 54 45.4	-1.6
VIGV	El Vigia	3.40	154	*e*P	Pn	03 54 48.2	-0.8
VIGV				*e*S	Sn	03 55 24.7	-3.5
CURV	Curarigua	3.42	123	*e*P	Pn	03 54 48.1	-1.3
CURV				*e*S	Sn	03 55 24.9	-4.0
CAPV	Capacho	4.07	172	*e*P	Pn	03 54 56.8	-1.7
CAPV				*e*S	Sn	03 55 40.5	-4.5
TEPV	Terepaima	4.10	118	*e*P	Pn	03 54 57.2	-1.4
TEPV				*e*S	Sn	03 55 41.4	-4.0
SOCV	Socops	4.12	151	*e*P	Pn	03 54 58.0	-0.9
SOCV				*e*S	Sn	03 55 41.2	-4.7
TURV	Turiamo	5.14	106	*e*P	Pn	03 55 10.4	-2.5
BAUV	El Baul	5.59	121	*e*P	Pn	03 55 17.9	-1.2
BAUV				*e*S	Sn	03 56 16.1	-6.1

MAN 01 04:18:12, 17°.40N×121°.40E, h33^{km}, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	0.50	53	⇑*i*P	Pn	04 18 23.2	+0.3
CVP				*i* S	Sn	04 18 31.3	+0.9
CAUP	Cauayan	0.61	138	*e*P	Pb	04 18 26.8	+2.4
CAUP				*e*S	Sn	04 18 35.9	+2.9
ABRA	Dolores	0.70	291	*e*P	Pb	04 18 27.4	+1.5
ABRA				*e*S	Sb	04 18 37.4	+2.0
PALP	Palanan	1.04	109	*e*P	Pb	04 18 31.8	+0.3
PALP				*e*S	Sb	04 18 48.9	+4.1
BALP	Baler	1.66	174	*e*P	Pn	04 18 40.0	+1.1

GUC 01 04:32:51.4±0.6, 30°.70S×71°.23W, h39^{km}±1^{km}, ML3.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.09	13	⇑*i*P	Pn	04 32 57.9	0.0
OVCH				*i* S	Sn	04 33 02.8	+0.4
OVCH				AML	AML	04 33 03.2	
	comp=N,10μm,0.3s						
CMCH	Combarbala	0.51	158	⇑*i*P	Pn	04 33 02.4	-0.1
CMCH				*i* S	Sn	04 33 10.7	+0.5
CMCH				AML	AML	04 33 11.1	
	comp=N,13μm,0.1s						
CHNG	Los Chungos	1.21	191	⇓*i*P	Pn	04 33 12.8	+1.0
CHNG				*i* S	Sn	04 33 28.7	+1.8
CHNG				AML	AML	04 33 30.0	
	comp=E,630nm,0.3s						
JACH	Jahuel	2.05	165	*e*P	Pn	04 33 25.0	+1.5
ROCH	El Roble	2.28	175	*e*P	Pn	04 33 27.7	+0.9
ROCH				AML	AML	04 34 07.4	
	comp=N,605nm,0.4s						
IHA	Instituto Hidr	2.35	189	⇓*i*P	Pn	04 33 28.4	+1.0
PEL	Peldehue	2.48	169	*e*P	Pn	04 33 30.4	+1.0
PEL				*e*S	Sn	04 34 00.7	+2.1
PEL				AML	AML	04 34 14.1	
	comp=E,909nm,0.4s						
ANTU	Antumapu	2.91	170	*e*S	Sn	04 34 10.7	+1.7
ANTU				AML	AML	04 34 28.6	
	comp=N,258nm,0.2s						
TACH	Talagante	2.96	175	*e*P	Pn	04 33 37.1	+1.2
LNV	Longovilo	3.25	183	*e*P	Pn	04 33 40.7	+0.8
CACH	El Canelo	3.45	171	*e*P	Pn	04 33 44.9	+2.0

*SZGRF **01** 04:32:50.1, 19°.65S×176°.14W, h33^{km}, Fiji Islands region*

*IDC **01** 04:33:09.5±0.9, 20°.54S×176°.70W, h216^{km}±8^{km}, mb3.8/14, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, Error ellipse: s-maj=17.0km s-min=11.4km az=142.0*

*BJI **01** 04:33:11.4, 20°.88S×175°.99W, h276^{km}, mB4.6/3, mb4.4/6*

*ISCJB **01** 04:33:15.6±1.8, 20°.7S±0°.1×176°.82W±0°.09, h281^{km}±17^{km}, mb4.2/33, Error ellipse: s-maj=18.3km s-min=10.4km az=145.0*

*NEIC **01** 04:33:16.8±1.1, 20°.60S×176°.84W, h284^{km}±10^{km}, mb4.3/20, Error ellipse: s-maj=11.5km s-min=5.9km az=145.0*

ISC 01 04:33:16.3±0.7, 20°.65S±0°.09×176°.72W±0°.09, h280^{km}±4^{km}, n111, σ1^{s}23/128, mb4.1/33, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.73	300	*e*Pn	Pn	04 34 40.4	-1.6
	9.9nm,0.4s						
AFI	Afiamalu	8.20	36	P	Pn	04 35 04.3	-8.1
	2.8nm,0.3s,baz=207,slow=4.5,SNR=3.7						
AFI				S	S	04 36 25.4	-21
	5.0nm,0.3s,baz=231,slow=14,SNR=3.0						
AFI	Afiamalu	8.20	36	P	Pn	04 35 04.3	-8.1
AFI				S	S	04 36 25.4	-21
DZM	Mont Dzumac	15.75	262	P	Pn	04 36 45.8	+1.3
	2.1nm,0.3s,baz=72,slow=18,SNR=35						
DZM	Mont Dzumac	15.75	262	*e*P	Pn	04 36 45.4	+0.9
DZM	Mont Dzumac	15.75	262	P	Pn	04 36 45.8	+1.3
CTAO	Charters Tower	34.67	264	*e*P	P	04 39 40.2	+0.1
	10nm,0.5s						
PMG	Port Moresby	36.55	282	P	P	04 39 55.8	-0.2
	16nm,0.8s,baz=84,slow=2.1,SNR=5.5						
PMG	Port Moresby	36.55	282	*e*P	P	04 39 56.2	+0.3
	17nm,0.8s						
COEN	Coen	38.79	273	*e*P	P	04 40 14.2	-0.5
	59nm,1.0s						
STKA	Stephens Creek	38.81	245	P	P	04 40 14.2	-0.4
	2.7nm,0.3s,baz=98,slow=8.5,SNR=15						
STKA	Stephens Creek	38.81	245	*e*P	P	04 40 14.2	-0.4
	18nm,2.5s						
AS31	Alice Springs	45.65	257	*e*P	P	04 41 09.2	-0.6
ASAR	Alice Springs	45.65	257	P	P	04 41 09.3	-0.4
	5.7nm,0.6s,baz=93,slow=8.3,SNR=92						
ASAR				pP	pP	04 41 56.0	-12
	0.6nm,0.4s,baz=93,slow=7.5,SNR=1.9						
ASAR				PcP	PcP	04 42 42.5	-0.4
	0.9nm,0.8s,baz=101,slow=4.8,SNR=4.1						
ASAR				ScP	ScP	04 46 14.0	+5.3
	0.7nm,0.8s,baz=105,slow=4.4,SNR=4.6						
ASAR	Alice Springs	45.65	257	P	P	04 41 09.3	-0.4
ASAR				pP	pP	04 41 56.0	-12
ASAR				PcP	PcP	04 42 42.5	-0.4
ASAR				ScP	ScP	04 46 14.0	+5.3
WRAB	Tennant Creek	45.76	262	*e*P	P	04 41 09.6	-1.1
	3.3nm,0.3s						
WRA	Warramunga Arr	45.77	262	P	P	04 41 09.7	-1.0
	4.4nm,0.4s,baz=96,slow=5.1,SNR=30						
WRA				pP	pP	04 41 56.9	-12
	1.4nm,0.6s,baz=99,slow=8.2,SNR=3.0						
WRA	Warramunga Arr	45.77	262	P	P	04 41 09.7	-1.0
WRA				pP	pP	04 41 56.9	-12
FORT	Forrest	50.34	247	*e*P	P	04 41 45.2	-0.1
	14nm,0.8s						
FITZ	Fitzroy Crossi	54.20	262	*e*P	P	04 42 13.6	-0.2
VNDA	Vanda	57.87	185	P	P	04 42 39.8	+1.1
	2.7nm,0.8s,baz=6.9,slow=7.2,SNR=7.2						
VNDA	Vanda	57.87	185	*e*P	P	04 42 39.7	+1.1
	3.1nm,0.8s						
QSPA	South Pole Qui	69.42	180	P	P	04 43 54.6	+0.5
	9.2nm,0.7s,baz=17,slow=0.8,SNR=64						
QSPA	South Pole Qui	69.42	180	P	P	04 43 54.6	+0.5
MJAR	Matsushiro Arr	71.05	323	P	P	04 44 03.7	-0.5
	1.2nm,0.5s,baz=158,slow=6.3,SNR=6.5						
MJAR	Matsushiro Arr	71.05	323	P	P	04 44 03.7	-0.5
ISA	Isabella	78.59	45	*e*P	P	04 44 48.6	+1.3
	6.1nm,0.9s						
CMB	Columbia Colle	78.76	42	*e*P	P	04 44 49.1	+0.9
GSC	Goldstone	79.49	46	*e*P	P	04 44 53.0	+0.7
	9.3nm,1.3s						
NVAR	Mina Array Bea	80.31	43	P	P	04 44 57.2	+0.5
	1.7nm,0.7s,baz=223,slow=9.3,SNR=13						
NVAR	Mina Array Bea	80.31	43	P	P	04 44 57.2	+0.5
NJ2	Nanjing	80.90	309	*e*P	P	04 45 00.7	+1.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUC	Tucson	82.13	51	*e*P	P	04 45 07.1	+0.9
	comp=Z,1.5nm,0.9s						
CCUT	Cedar City	83.05	46	*e*P	P	04 45 12.6	+1.6
CN2	Changchun	83.16	322	*e*P	P	04 45 11.9	+0.8
ELK	Elko	83.58	42	*e*P	P	04 45 14.3	+0.7
HLID	Hailey	85.66	40	*e*P	P	04 45 24.3	+0.4
	comp=Z,2.7nm,1.1s						
SRU	San Rafael	85.77	46	*e*P	P	04 45 25.4	+0.9
MNTX	Cornudas Mount	85.86	54	*e*P	P	04 45 25.4	+0.6
	comp=Z,4.2nm,1.1s						
TXAR	Lajitas Array	86.13	57	P	P	04 45 27.0	+0.7
	comp=Z,2.4nm,0.9s,baz=216,slow=6.2,SNR=13						
TXAR	Lajitas Array	86.13	57	P	P	04 45 27.0	+0.7
TRF	Thorofare Moun	86.35	12	*e*P	P	04 45 25.8	-0.9
	comp=Z,6.6nm,0.8s						
HWUT	Hardware Ranch	86.38	43	*e*P	P	04 45 26.9	-0.4
ANMO	Albuquerque	86.56	51	P	P	04 45 28.8	+0.4
	comp=Z,0.2nm,0.3s,baz=216,slow=8.1,SNR=3.3						
ANMO	Albuquerque	86.56	51	P	P	04 45 28.8	+0.4
GDL2	Guadalupe Moun	86.86	54	*e*P	P	04 45 30.6	+0.7
	comp=Z,5.6nm,1.0s						
MCK	McKinley	86.86	12	*e*P	P	04 45 29.1	+0.1
	comp=Z,4.5nm,0.8s						
GYA	Guiyang	87.77	299	*e*P	P	04 45 35.4	+1.1

GYA pP pP 04 46 41.6 +0.3
GYA sP sP 04 47 10.0 -0.5
GYA PP PP 04 49 06.5 +1.8
GYA SKS SKSac 04 55 33.2 -2.4
GYA S S 04 55 51.9 -0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
VNA3 Neumayer Olymp 87.91 176 *e*P P 04 45 34.2 +0.2
LOHW Long Hollow 88.03 42 *e*P P 04 45 35.5 +0.3
comp=Z,2.5nm,1.1s
COLA College 88.10 12 *e*P P 04 45 35.5 +0.7
comp=Z,2.6nm,0.5s
ILAR Eielson Array 88.20 12 P P 04 45 35.4 +0.1
comp=Z,0.5nm,0.3s,baz=225,slow=5.0,SNR=13
ILAR PKKPbc PKKPbc 05 03 18.1 -3.4
comp=Z,0.3nm,1.0s,baz=2.9,slow=3.4,SNR=4.7
ILAR Eielson Array 88.20 12 P P 04 45 35.4 +0.1
ILAR PKKPbc PKKPbc 05 03 18.1 -3.4
PDAR Pinedale Array 88.25 43 P P 04 45 36.5 +0.1
comp=Z,0.5nm,0.5s,baz=200,slow=4.5,SNR=6.2
PDAR pP pP 04 46 27.2 -16
comp=Z,0.5nm,0.6s,baz=220,slow=2.4,SNR=4.1
PDAR Pinedale Array 88.25 43 P P 04 45 36.5 +0.1
PDAR pP pP 04 46 27.2 -16
VNA2 Neumayer--Watz 88.36 177 *e*P P 04 45 36.4 +0.2
baz=199,slow=3.8
BOZ Bozeman (W) 88.46 40 *e*P P 04 45 37.6 +0.5
comp=Z,1.8nm,0.7s
HHC Hu-ho-hao-te 90.32 314 *e*P P 04 45 45.9 0.0
HHC pP pP 04 46 54.1 +1.0
HHC sP sP 04 47 24.8 +2.5
HHC PP PP 04 49 27.0 +2.4
HHC SKS SKSac 04 55 47.5 -2.4
HHC S S 04 56 12.9 -2.9
HHC sS sS 04 58 14.3 -0.2
HHC SS SS 05 02 26.0 +2.5
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,87nm,5.5s
CD2 Chengdu 91.88 302 P P 04 45 54.3 +1.0
RSSD Black Hills 92.43 43 *e*P P 04 45 55.2 -0.5
comp=Z,4.5nm,0.9s
INK Inuvik 94.11 15 P P 04 46 02.4 -0.1
comp=Z,0.7nm,0.7s,baz=218,slow=3.9,SNR=4.0
INK Inuvik 94.11 15 P P 04 46 02.4 -0.1
YKA Yellowknife Ar 96.15 24 P P 04 46 11.8 -0.1
comp=Z,0.2nm,0.8s,baz=242,slow=4.5,SNR=4.1
YKA PKKPbc PKKPbc 05 02 57.1 -3.4
comp=Z,0.1nm,0.5s,baz=31,slow=2.5,SNR=3.9
YKA Yellowknife Ar 96.15 24 P P 04 46 11.8 -0.1
YKA PKKPbc PKKPbc 05 02 57.1 -3.4
MKAR Makanchi Array 112.17 313 PKiKP PKiKP 04 51 17.7 -0.9
comp=Z,0.2nm,0.4s,baz=86,slow=0.5,SNR=9.0
MKAR Makanchi Array 112.17 313 PKiKP PKiKP 04 51 17.7 -0.9
ARCES ARCESS Array B 129.28 350 PKP PKPdf 04 51 51.0 +0.4
comp=Z,4.7nm,1.0s,baz=36,slow=1.7,SNR=9.4
ARCES ARCESS Array B 129.28 350 PKP PKPdf 04 51 51.0 +0.4
FINES FINESS Array B 136.25 344 PKhKP PKPpre 04 51 58.3
comp=Z,0.6nm,0.6s,baz=56,slow=4.8,SNR=4.8
FINES SKPbc SKPab 04 55 14.5 -0.6
comp=Z,1.7nm,1.0s,baz=64,slow=4.4,SNR=3.8
FINES FINESS Array B 136.25 344 PKPpre PKPpre 04 51 58.3
FINES SKPbc SKPab 04 55 14.5 -0.6
HFS Hagfors 139.87 352 PKhKP PKPpre 04 52 02.6
comp=Z,1.3nm,0.6s,baz=56,slow=2.8,SNR=11
HFS Hagfors 139.87 352 PKPpre PKPpre 04 52 02.6
AKASG Malin Array Be 143.72 332 PKP PKPbc 04 52 15.5 -0.7
comp=Z,0.6nm,0.3s,baz=42,slow=3.8,SNR=6.5
AKASG Malin Array Be 143.72 332 PKP PKPbc 04 52 15.5 -0.7
BSEG Bad Segeberg 146.34 352 *e*PKPbc PKPab 04 52 24.3 -1.0
BUR08 Bucovina Ar. S 147.76 332 *e*PKPbc PKPbc 04 52 28.6 +0.4
BUR08 *e*PKPab PKPab 04 52 30.9 -0.4
BR131 Keskin Array S 147.82 313 *e*PKPbc PKPbc 04 52 28.3 -0.3
BRTR Keskin Array B 147.83 313 PKPbc PKPbc 04 52 27.9 -0.8
comp=Z,0.5nm,0.4s,baz=104,slow=4.6,SNR=6.7
BRTR Keskin Array B 147.83 313 PKPbc PKPbc 04 52 27.9 -0.8
IBBN Ibbenburen 148.21 355 *e*PKPbc PKPbc 04 52 29.3 +0.3
CLL Collm 148.47 348 *e*PKPbc PKPbc 04 52 30.2 +0.5
CLL Collm 148.47 348 ⇑*i*PKPbc PKPbc 04 52 30.1 +0.4
comp=Z,8.0nm,0.8s
DPC Dobruska-Polom 148.62 344 ⇑*e*PKP PKPbc 04 52 31.0 +0.8
BRG Berggiesshubel 148.69 347 *i* PKP PKPbc 04 52 30.9 +0.6
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 148.69 347 *e*PKPbc PKPbc 04 52 30.7 +0.4
MOX Moxa 149.35 350 *e*PKPbc PKPbc 04 52 32.5 +0.5
PRU Pruhonice 149.39 346 ⇑*e*PKP PKPbc 04 52 32.7 +0.7
TANN Tannenbergstha 149.42 348 *e*PKPbc PKPbc 04 52 32.6 +0.4
VYHS Vyhne 149.53 339 *e*PKP PKPbc 04 52 32.9 +0.4
NKC Novy Kostel 149.60 348 ⇑*e*PKP PKPbc 04 52 33.4 +0.8
PSZ Piszkesteto 149.67 338 *e*PKPbc PKPbc 04 52 33.1 +0.2
TREC Trest 149.80 344 ⇑*e*PKP PKPbc 04 52 33.6 +0.5
SMOL Smolenice 149.96 341 *e*PKP PKPbc 04 52 34.7 +1.2
MEM Membach 150.03 357 PKPbc PKPbc 04 52 34.0 +0.5
ROTZ Rotzenmuhle 150.09 348 *e*PKPbc PKPbc 04 52 34.2 +0.4
SNF Seneffe 150.19 359 PKPbc PKPbc 04 52 34.1 +0.2
SNF PKPab PKPab 04 52 40.7 -0.3
TNS Taunus Mts 150.21 353 *e*PKPbc PKPbc 04 52 34.6 +0.5
GRF Grafenberg Arr 150.34 350 *e*PKPbc PKPbc 04 52 35.5 +1.1
KHC Kasperske Hory 150.41 346 *e*PKPbc PKPbc 04 52 35.0 +0.5
KHC Kasperske Hory 150.41 346 ⇑*e*PKP PKPbc 04 52 35.2 +0.6
DOU Dourbes 150.60 358 PKPbc PKPbc 04 52 35.4 +0.5
GEC2 GERESS Array S 150.65 346 *e*PKPbc PKPbc 04 52 35.4 +0.2
GERES GERESS Array B 150.65 346 PKPbc PKPbc 04 52 35.2 -0.1
comp=Z,1.8nm,0.6s,baz=29,slow=2.2,SNR=3.5
GERES GERESS Array B 150.65 346 PKPbc PKPbc 04 52 35.2 -0.1
WLF Walferdange 150.96 356 PKPbc PKPbc 04 52 36.4 +0.6
WLF Walferdange 150.96 356 *e*PKPbc PKPbc 04 52 36.8 +1.0
DBIC Dimbokro 164.02 149 PKP PKPdf 04 52 46.5 -0.4
comp=Z,1.5nm,0.8s,baz=213,slow=5.6,SNR=3.8
DBIC Dimbokro 164.02 149 PKP PKPdf 04 52 46.5 -0.4
TOA0 Torodi Ar. Sit 172.38 168 *e*PKPab PKPab 04 54 18.7 +0.3
TORD Torodi Ar. Bea 172.38 168 PKP PKPdf 04 52 51.8 -0.7
comp=Z,0.6nm,0.8s,baz=314,slow=0.9,SNR=7.2
TORD PKPab PKPab 04 54 19.0 +0.6
comp=Z,2.0nm,0.8s,baz=184,slow=4.5,SNR=14
TORD Torodi Ar. Bea 172.38 168 PKP PKPdf 04 52 51.8 -0.7
TORD PKPab PKPab 04 54 19.0 +0.6

---

*NIED **01** 04:34:00, 38.°50N×142.°10E, h47km, Mw3.7 Best double couple: Mo4.13000×10^14 NP1:φs223.00000°, δ84.00000°, λ-51.00000°. NP2:φs320.00000°, δ39.00000°, λ-170.00000°.*

*ISCJB **01** 04:34:45.2±0.7, 38.°53N±0.°04×142.°18E±0.°08, h83km±5km, mb3.5/12, Error ellipse: s-maj=11.3km s-min=5.2km az=20.4*

*JMA **01** 04:34:46.9±0.1, 38.°53N×142.°07E, h79km±1km, M3.7*

JMA Felt I J1.

*IDC **01** 04:34:46.4±0.9, 38.°56N×142.°25E, h80km±7km, mb3.3/12, mb1 3.5/15, mb1mx3.4/28, mbtmp3.4/15, MS3.7/1, Ms1 3.7/1, ms1mx2.4/19, Error ellipse: s-maj=21.1km s-min=13.1km az=95.0*

ISC 01 04:34:46.3±0.8, **38.°53N**±0.°05×**142.°19E**±0.°08, **h79**km±6km, **n31**, σ**0.°82**/47, **mb3.6**/12, **2C-6D, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JIO Ouri 0.66 264 ⇓P Pn 04 35 01.4 0.0
JIO S Sn 04 35 11.8 -0.8
OFUJ Ofunato 0.68 324 ⇓P Pn 04 35 02.0 +0.4
OFUJ S Sn 04 35 13.1 +0.1
JMK Ichinoseki 0.86 300 ⇓P Pn 04 35 03.8 +0.2
JMK S Sn 04 35 16.1 -0.5
JOM Ohasama 1.17 324 P Pn 04 35 07.5 +0.2
JOM S Sn 04 35 23.0 -0.1
JOU Okura 1.21 263 ⇓P Pn 04 35 07.5 -0.3
JOU S Sn 04 35 22.7 -1.2
JMM Marumori 1.28 239 ⇓P Pn 04 35 08.1 -0.6
JMM S Sn 04 35 24.0 -1.6
JYK Kaneyama 1.48 286 ⇑P Pn 04 35 11.0 -0.3
JYK *e*S Sn 04 35 29.1 -1.0
JRG Rokugo 1.49 306 P Pn 04 35 11.2 -0.2
JRG *e*S Sn 04 35 29.9 -0.4
JFK Kawauchi 1.56 222 P Pn 04 35 11.9 -0.4
JFK S Sn 04 35 30.9 -1.1
JYS Shirataka 1.69 260 P Pn 04 35 14.0 -0.1
JYS *e*S Sn 04 35 34.3 -0.9
JFT Otama 1.77 236 ⇓P Pn 04 35 15.1 0.0
JFT *e*S Sn 04 35 35.9 -1.2
JANG Nango 1.91 344 P Pn 04 35 16.6 -0.4
JANG S Sn 04 35 39.8 -0.5
JYA Atsumi 1.94 273 ⇑P Pn 04 35 17.1 -0.2
JYA *e*S Sn 04 35 39.6 -1.3
MJAR Matsushiro Arr 3.73 239 P Pn 04 35 42.5 +0.9
1.0nm,0.3s,baz=35,slow=16,SNR=12
MAT Matsushiro 3.73 239 P Pn 04 35 42.8 +1.3
MAT S Sn 04 36 26.3 +2.0
ASAJ Asahikawa 5.59 3 P Pn 04 36 06.7 -0.1
4.2nm,0.3s,baz=214,slow=11,SNR=27
ASAJ S Sn 04 37 07.8 -1.9
1.7nm,0.3s,baz=222,slow=17,SNR=5.8
USRK Ussuriysk Arra 9.52 310 P Pn 04 37 01.2 +0.7
0.5nm,0.3s,baz=118,slow=13,SNR=5.8
KSRS Korea Array 11.31 269 P Pn 04 37 28.7 +3.8
0.3nm,0.3s,baz=77,slow=14,SNR=4.3
JOW Kunigami 16.50 229 LR LR 04 43 53.9
comp=Z,271nm,20.4s,baz=222,slow=33
SONM Songino Array 27.49 301 P P 04 40 25.6 +0.4
0.6nm,0.5s,baz=96,slow=11,SNR=6.7
ZALV Zalesovo Beam 41.38 311 P P 04 42 24.7 +0.3
1.0nm,0.4s,baz=78,slow=7.7,SNR=9.0
MKAR Makanchi Array 43.86 301 P P 04 42 45.4 +0.8
0.8nm,0.8s,baz=81,slow=8.9,SNR=9.0
ILAR Eielson Array 47.91 33 P P 04 43 15.7 -0.5
0.4nm,0.7s,baz=264,slow=6.3,SNR=4.8
WRA Warramunga Arr 58.62 189 P P 04 44 34.4 -0.8
0.5nm,0.5s,baz=6.7,slow=7.0,SNR=4.0
WRA pP pP 04 44 55.7 +0.5
0.6nm,0.7s,baz=7.2,slow=7.5,SNR=2.5
YKA Yellowknife Ar 62.21 31 P P 04 44 59.9 +0.7
0.2nm,0.6s,baz=302,slow=6.2,SNR=3.6
ASAR Alice Springs 62.35 189 P P 04 45 00.2 -0.3
0.3nm,0.7s,baz=17,slow=5.9,SNR=4.9
FINES FINESS Array B 67.78 332 P P 04 45 34.9 -0.3
0.6nm,0.6s,baz=29,slow=8.8,SNR=5.2
FINES pP pP 04 45 55.3 -0.4
0.6nm,0.4s,baz=57,slow=8.2,SNR=1.5
HFS Hagfors 72.98 336 P P 04 46 07.0 0.0
1.6nm,0.8s,baz=298,slow=6.4,SNR=4.6
HFS pP pP 04 46 29.1 +1.5
5.2nm,1.2s,baz=79,slow=7.5,SNR=1.1
NOA NORSAR Array B 73.05 337 P P 04 46 07.1 -0.3
0.2nm,0.6s,baz=36,slow=4.4,SNR=3.0
AKASG Malin Array Be 73.49 322 P P 04 46 09.4 -0.7
0.3nm,0.4s,baz=47,slow=6.6,SNR=3.5
TXAR Lajitas Array 88.73 53 P P 04 47 31.9 +0.4
0.3nm,0.6s,baz=274,slow=4.1,SNR=3.3

IDC 01 04:45:53.5±14.0, **8.°34S**×**123.°17E**, **h170**km±148km, **mb3.1**/3, **mb1 3.2**/5, **mb1mx3.0**/19, **mbtmp3.1**/5, **ML3.7**/2, **Error ellipse: s-maj=258.6km s-min=41.1km az=62.0, Flores region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 15.81 138 P Pn 04 49 27.1 +0.1
0.3nm,0.3s,baz=315,slow=12,SNR=4.6
WRA S S 04 52 09.1 -14
0.1nm,0.3s,baz=311,slow=23,SNR=3.1
ASAR Alice Springs 18.39 147 P P 04 49 55.6 -0.1
0.2nm,0.3s,baz=329,slow=14,SNR=16
STKA Stephens Creek 29.02 146 P P 04 51 37.5 0.0
0.6nm,0.4s,baz=342,slow=9.6,SNR=3.9
MKAR Makanchi Array 65.83 330 P P 04 56 20.4 -0.3
0.2nm,0.5s,baz=138,slow=5.8,SNR=5.7
ZALV Zalesovo Beam 69.97 337 P P 04 56 46.6 +0.4
0.2nm,0.3s,baz=167,slow=6.8,SNR=2.5

IDC 01 05:12:50.8±2.1, **14.°64S**×**177.°68W**, **h380**km±29km, **mb3.5**/4, **mb1 3.6**/6, **mb1mx3.1**/22, **mbtmp3.4**/6, **Error ellipse: s-maj=49.7km s-min=23.0km az=2.0, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 5.77 84 P Pn 05 14 20.2 -0.1
5.4nm,0.3s,baz=49,slow=17,SNR=8.6
DZM Mont Dzumac 16.78 242 P P 05 16 24.0 +0.6
0.4nm,0.3s,baz=91,slow=18,SNR=6.1
STKA Stephens Creek 40.88 238 P P 05 19 59.2 +1.6
1.4nm,0.5s,baz=74,slow=6.2,SNR=4.3
WRA Warramunga Arr 46.00 256 P P 05 20 37.3 -0.9
0.9nm,0.7s,baz=90,slow=8.1,SNR=11
ASAR Alice Springs 46.43 251 P P 05 20 41.0 -0.5
7.8nm,0.5s,baz=86,slow=8.3,SNR=108
QSPA South Pole Qui 75.40 180 P P 05 23 53.3 -0.3
1.1nm,0.8s,baz=246,slow=8.8,SNR=10
GERES GERESS Array B 144.62 347 PKP PKPdf 05 31 43.9 +1.0
0.2nm,0.6s,baz=35,slow=3.6,SNR=2.5

---

*BJI **01** 05:19:56.7, 51.°92N×178.°06E, h67km, mB5.0/7, mb4.8/10, Ms4.5/5, Ms7 4.3/5*

*ISCJB **01** 05:19:57.2±0.5, 51.°55N±0.°07×178.°25E±0.°04, h72km±3km, mb4.2/45, Error ellipse: s-maj=11.3km s-min=3.9km az=4.1*

*NEIC **01** 05:19:58.0, 51.°51N×178.°28E, h47km, mb4.2/24, ML4.1(AEIC), After AEIC.*

*IDC **01** 05:19:57.7±0.8, 51.°63N×178.°32E, h57km±5km, mb3.8/18, mb1 4.0/20, mb1mx3.8/34, mbtmp3.8/20, MS3.1/5, Ms1 3.2/5, ms1mx2.8/49, Error ellipse: s-maj=22.2km s-min=7.9km az=5.0*

ISC 01 05:19:58.2±0.5, **51.°54N**±0.°09×**178.°29E**±0.°03, **h65**km±3km, **h64**km**:pP-P, n115,** σ**1.°42**/146, **mb4.2**/45, **Rat Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LSSE Little Sitkin 0.43 24 P Pn 05 20 09.2 -0.7
LSSA Little Sitkin 0.43 19 P Pn 05 20 09.0 -1.0
LSNW Little Sitkin 0.46 18 P Pn 05 20 09.2 -1.0
AMKA Amchitka 0.66 104 P Pn 05 20 11.2 -1.0
AMKA S Sn 05 20 21.1 -1.4
CESW Semis' Southwe 0.87 65 P Pn 05 20 14.2 -0.6
CEAP Semis' Anvil P 0.93 59 P Pn 05 20 15.1 -0.4
CERAA Semis' Rag'd T 0.94 67 P Pn 05 20 15.3 -0.5
GALAA Gareloi Lava P 1.85 82 P Pn 05 20 28.4 +0.7
GANE Gareloi Northe 1.85 80 P Pn 05 20 27.9 +0.2
GAEA Gareloi East 1.86 81 P Pn 05 20 28.5 +0.6
TANO Tanaga North 2.27 79 P Pn 05 20 34.0 +0.7
TASE Tanaga Southea 2.31 81 P Pn 05 20 34.5 +0.5
TAFP Tanaga Falls P 2.35 80 P Pn 05 20 34.6 +0.1
TAFP S Sn 05 21 03.3 +1.1
TAFL Tanaga Flats 2.39 83 P Pn 05 20 35.8 +0.8
SMY Shemya 2.84 296 P Pn 05 20 41.2 0.0
SMY S Sn 05 21 15.0 +0.8
KIKV Kanaga Island 2.85 81 P Pn 05 20 41.7 +0.5
KIRH Kanaga Island 2.90 81 P Pn 05 20 42.5 +0.6
ETKA Kagalaska Isla 3.32 82 P Pn 05 20 48.8 +1.2
FX1 Attu Island--F 3.43 295 P Pn 05 20 48.4 -0.7
46nm,0.3s,baz=127,slow=13,SNR=121
FX1 S Sn 05 21 28.6 +0.1
74nm,0.3s,baz=266,slow=22,SNR=9.8
FX1 Attu Island--F 3.43 295 P Pn 05 20 48.4 -0.7
FX1 S Sn 05 21 28.6 +0.1
GSCK Great Sitkin C 3.48 80 P Pn 05 20 50.8 +0.9
GSMY Great Sitkin M 3.55 80 P Pn 05 20 51.6 +0.8
GSTR Great Sitkin T 3.55 79 *e*Pn Pn 05 20 52.5 +1.6
KOFP Korovin Flat P 4.77 78 P Pn 05 21 09.5 +1.9
NIKO Nikolski 8.02 75 *e*Pn Pn 05 21 54.7 +2.8
SPIA Saint Paul Isl 8.75 45 P Pn 05 22 03.1 +1.2
MSOM Makushin Julie 9.26 70 P Pn 05 22 11.0 +2.3
MSW Makushin Switc 9.37 69 P Pn 05 22 12.5 +2.1
UNV Unalaska Valle 9.52 70 P Pn 05 22 15.7 +3.3
ZRO Akutan Zero 9.86 69 P Pn 05 22 19.4 +2.3
AKUT Akutan 9.99 69 *e*Pn Pn 05 22 21.5 +2.7
PETK Petropavlovsk- 12.69 285 LR LR 05 27 27.8
comp=Z,58nm,21.2s,baz=112,slow=36
TNA Tin City 15.73 21 *e*P P 05 23 38.2 -0.1
5.0nm,1.0s
KDAK Kodiak Island 17.88 58 P P 05 24 00.7 -1.3
1.0nm,0.3s,baz=309,slow=13,SNR=17
KDAK Kodiak Island 17.88 58 P P 05 24 00.7 -1.3
RSO Redoubt South 18.35 50 *e*P P 05 24 07.7 +0.2
SPU Mount Spurr 18.89 48 *e*Pn P 05 24 14.0 +0.8
SLKM Skilak Lake 19.58 50 *e*P P 05 24 21.1 +0.4
SEW Seward 19.87 52 *e*P P 05 24 23.3 -0.4
TRF Thorofare Moun 20.42 42 *e*P P 05 24 30.5 +0.6
9.4nm,0.7s
MCK McKinley 21.08 42 *e*P P 05 24 38.1 +1.2
112nm,2.4s
COLA College 21.93 40 *e*P P 05 24 47.4 +1.6
2.0nm,0.7s
COLD Coldfoot 22.08 33 *e*P P 05 24 47.4 -0.1
3.8nm,1.1s
ILAR Eielson Array 22.28 40 P P 05 24 48.3 -1.3
1.9nm,0.7s,baz=238,slow=8.8,SNR=24
ILAR LR LR 05 33 56.6
comp=Z,53nm,18.2s,baz=357,slow=38
ILAR Eielson Array 22.28 40 P P 05 24 48.3 -1.3
PAX Paxson 22.36 45 *e*P P 05 24 50.6 0.0
9.9nm,1.0s
PAX *e*pP pP 05 25 06.2 +1.8
PAX *e*sP sP 05 25 13.6 +1.1
MENT Mentasta 23.13 46 *e*P P 05 24 58.2 -0.3
DOT Dot Lake 23.14 44 *e*P P 05 24 58.1 -0.5
9.5nm,0.8s
EGAK Eagle 24.63 42 *e*P P 05 25 11.4 -0.8
12nm,0.8s
ASAJ Asahikawa 24.89 267 P P 05 25 15.2 +0.4
10nm,0.9s,baz=43,slow=19,SNR=4.1
ASAJ Asahikawa 24.89 267 P P 05 25 15.2 +0.4
DAWY Dawson 25.25 44 *e*P P 05 25 17.6 -0.3
DAWY *e*pP pP 05 25 34.7 +1.4
INK Inuvik 28.38 36 P P 05 25 45.5 -0.4
1.1nm,0.5s,baz=256,slow=8.3,SNR=13
INK Inuvik 28.38 36 P P 05 25 45.5 -0.4
DLBC Dease Lake 29.79 56 LR LR 05 37 17.1
comp=Z,61nm,18.5s,baz=335,slow=35
USRK Ussuriysk Arra 31.46 275 P P 05 26 13.1 -0.2
2.1nm,0.8s,baz=76,slow=8.2,SNR=3.7
MJAR Matsushiro Arr 32.02 258 LR LR 05 37 06.4
comp=Z,44nm,20.8s,baz=130,slow=32
YKA Yellowknife Ar 36.44 46 P P 05 26 55.9 -0.3
1.9nm,0.6s,baz=282,slow=7.9,SNR=36
YKA pP pP 05 27 11.0 -1.1
0.7nm,0.7s,baz=281,slow=8.1,SNR=5.1
YKA ScP ScP 05 32 57.8 -1.7
0.3nm,0.9s,baz=292,slow=3.3,SNR=4.4
YKA Yellowknife Ar 36.44 46 P P 05 26 55.9 -0.3
YKA pP pP 05 27 11.1 -1.1
YKA ScP ScP 05 32 57.8 -1.7
KSRS Korea Array 37.82 268 P P 05 27 09.0 +0.8
2.1nm,0.9s,baz=56,slow=8.8,SNR=4.9
KSAR Wonju Array Be 37.85 268 P P 05 27 09.0 +0.5
JNU Nakatsue 38.79 260 LR LR 05 40 28.1
comp=Z,22nm,21.4s,baz=47,slow=32
YBH Yreka Blue Hor 40.65 80 P P 05 27 33.4 +1.5
4.6nm,0.8s,baz=285,slow=2.9,SNR=9.5
YBH Yreka Blue Hor 40.65 80 P P 05 27 33.4 +1.5
BSMT Bassoo Peak 42.09 68 *e*P P 05 27 42.7 -1.1
BMO Blue Mountains 42.20 73 *e*P P 05 27 44.1 -0.4
2.9nm,0.8s
BLMT Blacktail Moun 42.25 67 P P 05 27 44.4 -0.6
3.1nm,0.2s
MSO Missoula 43.11 68 *e*P P 05 27 51.0 -0.9
14nm,2.0s
HRY Holter Researc 44.40 67 *e*P P 05 28 01.3 -1.0
ULN Ulaanbaatar 44.55 295 *e*P P 05 28 03.7 +0.2
1.4nm,0.7s
ULN *e*pP pP 05 28 21.4 +1.6
HLID Hailey 44.64 73 *e*P P 05 28 04.1 -0.2
2.4nm,0.9s
MCMT McKenzie Canyo 44.85 70 *e*P P 05 28 04.9 -1.2
1.3nm,0.6s
SONM Songino Array 44.94 295 P P 05 28 06.9 +0.4
2.3nm,0.6s,baz=59,slow=8.5,SNR=23
SONM pP pP 05 28 22.1 -0.7
0.5nm,0.7s,baz=60,slow=8.6,SNR=2.7
SONM ScP ScP 05 33 36.6 +3.3
0.3nm,0.7s,baz=62,slow=3.9,SNR=3.3
SONM Songino Array 44.94 295 P P 05 28 06.9 +0.4
SONM pP pP 05 28 22.1 -0.7
SONM ScP ScP 05 33 36.6 +3.3
BOZ Bozeman (W) 45.10 69 *e*P P 05 28 05.8 -2.2
6.2nm,0.6s
NVAR Mina Array Bea 45.33 81 P P 05 28 10.8 +0.8
4.2nm,0.8s,baz=291,slow=7.8,SNR=22
NVAR pP pP 05 28 25.1 -1.2
2.3nm,0.8s,baz=297,slow=8.6,SNR=6.0
NVAR Mina Array Bea 45.33 81 P P 05 28 10.8 +0.8
NVAR pP pP 05 28 25.1 -1.2
MTUM Tungsten Hills 45.84 82 *e*P P 05 28 14.6 +0.7
HHC Hu-ho-hao-te 45.89 284 *e*P P 05 28 10.2 -3.9
HHC pP pP 05 28 28.9 -1.6
HHC sP sP 05 28 37.7 -0.2
HHC PP PP 05 29 58.1 -4.3
HHC S S 05 34 47.2 -6.4
HHC sS sS 05 35 19.6 -1.7
HHC SS ScS 05 38 04.9 +1.3
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.7s
HHC LR LR
comp=N,180nm,14.5s
HHC LR LR
comp=E,250nm,16.3s
HHC LR LR
comp=Z,130nm,16.8s
NJ2 Nanjing 46.99 269 *e*P P 05 28 24.7 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
DUG Dugway 47.60 75 *e*P P 05 28 28.0 +0.4
comp=Z,69nm,2.8s
BW06 Boulder Array 47.98 71 *e*P P 05 28 29.1 -1.5
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 47.99 71 P P 05 28 30.0 -0.7
comp=Z,2.3nm,0.7s,baz=302,slow=3.8,SNR=21
PDAR pP pP 05 28 44.4 -2.7
comp=Z,0.9nm,0.6s,baz=310,slow=3.4,SNR=4.1
PDAR Pinedale Array 47.99 71 P P 05 28 30.0 -0.7
PDAR pP pP 05 28 44.4 -2.7
MWC Mount Wilson 48.17 85 *e*P P 05 28 32.2 0.0
comp=Z,18nm,1.4s
GSC Goldstone 48.24 83 *e*P P 05 28 32.7 +0.2
comp=Z,54nm,2.3s
MSU Marysvale 49.03 77 *e*P P 05 28 38.7 0.0
BAR Barrett 50.06 86 *e*P P 05 28 47.1 +0.8
comp=Z,56nm,2.3s
ZALV Zalesovo Beam 52.58 312 P P 05 29 03.9 -0.9
comp=Z,0.5nm,0.5s,baz=62,slow=6.9,SNR=3.9
ZALV Zalesovo Beam 52.58 312 P P 05 29 03.9 -0.9
GTA Gaotai 53.80 290 *e*P P 05 29 15.0 +0.8
GTA pP pP 05 29 31.9 +0.9
GTA sP sP 05 29 39.0 +0.7
GTA pmax pmax
comp=Z,4.0nm,0.5s
TUC Tucson 53.97 82 *e*P P 05 29 16.0 +0.5
comp=Z,3.5nm,1.0s
CD2 Chengdu 57.15 280 P P 05 29 37.1 -1.2
CD2 pP pP 05 29 55.9 +0.8
CD2 sP sP 05 30 04.5 +2.1
CD2 PP PP 05 31 46.0 +0.5
CD2 S S 05 37 23.7 -5.0
CD2 sS sS 05 37 56.1 -1.1
CD2 SS SS 05 41 14.2 -3.8
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.9s
CD2 LR LR
comp=N,220nm,7.3s
CD2 LR LR
comp=Z,190nm,7.7s
KURK Kurchatov 57.58 312 P P 05 29 41.4 +0.5
comp=Z,0.6nm,1.4s
KURBB Kurchatov Arra 57.68 312 P P 05 29 41.4 -0.2
baz=43,slow=6.7
WMQ Urumqi 57.71 301 *e*P P 05 29 42.6 +0.6
MK31 Makanchi Array 58.49 307 *e*P P 05 29 46.1 -1.3
MKAR Makanchi Array 58.49 307 P P 05 29 46.5 -0.9
comp=Z,1.2nm,0.6s,baz=52,slow=6.3,SNR=42
MKAR Makanchi Array 58.49 307 P P 05 29 46.5 -0.9
GYA Guiyang 58.49 274 *e*P P 05 29 47.5 -0.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 60.42 79 P P 05 30 00.8 -0.2
comp=Z,1.4nm,0.8s,baz=295,slow=4.8,SNR=14
TXAR pP pP 05 30 15.4 -2.6
comp=Z,1.6nm,0.8s,baz=305,slow=4.4,SNR=7.9
TXAR Lajitas Array 60.42 79 P P 05 30 00.8 -0.2
TXAR pP pP 05 30 15.4 -2.6
SCHQ Schefferville 60.99 37 P P 05 30 03.4 -1.0
comp=Z,1.2nm,0.5s,baz=330,slow=8.1,SNR=3.8
SCHQ Schefferville 60.99 37 P P 05 30 03.4 -1.0
FINES FINESS Array B 65.20 346 P P 05 30 31.9 -0.2
comp=Z,2.7nm,1.0s,baz=16,slow=7.2,SNR=5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES	FINESS Array B	65.20	346	P	P	05 30 31.9	-0.2
AAK	Ala-Archa	65.34	308	P	P	05 30 33.8	+0.2
	comp=Z,1.2nm,0.5s,baz=166,slow=6.2,SNR=4.5						
AAK	Ala-Archa	65.34	308	P	P	05 30 33.8	+0.2
ABKAR	Akbulak array	66.69	321	eP	P	05 30 41.9	0.0
	comp=Z,0.3nm,0.4s						
KKAR	Karatay Array	66.91	311	eP	P	05 30 43.4	-0.1
	comp=Z,0.4nm,0.4s						
KSH	Kashi	66.92	305	eP	P	05 30 45.6	+1.9
KSH				pP	pP	05 31 04.6	+3.6
KSH				sP	sP	05 31 14.5	+6.3
KSH				PcS		05 35 16.4	
KSH				S	S	05 39 33.0	+1.2
KSH				ScS	SKSac	05 40 34.2	-0.8
KSH				SS	SS	05 43 55.2	+4.9
KSH				pmax	pmax		
	comp=Z,64nm,4.7s						
KSH				LR	LR		
	comp=N,100nm,9.7s						
KSH				LR	LR		
	comp=E,96nm,5.5s						
KSH				LR	LR		
	comp=Z,100nm,7.5s						
AKASG	Malin Array Be	74.81	340	P	P	05 31 30.3	-0.8
	comp=Z,0.8nm,0.4s,baz=18,slow=5.7,SNR=3.2						
AKASG	Malin Array Be	74.81	340	P	P	05 31 30.3	-0.8
WRA	Warramunga Arr	80.90	221	P	P	05 32 05.3	+0.1
	comp=Z,0.2nm,0.4s,baz=30,slow=6.1,SNR=3.3						
WRA	Warramunga Arr	80.90	221	P	P	05 32 05.3	+0.1

*BJI **01** 05:32:52.5, 39.65N×74.22E, h5km, mB4.7/17, mb4.6/24, ML4.1/6, Ms4.2/18, Ms7 4.0/17*
*NEIC **01** 05:32:54.1±0.2, 39.43N×74.35E, mb4.7/28, Error ellipse: s-maj=5.4km s-min=3.3km az=46.0*
*IDC **01** 05:32:54.3±0.6, 39.52N×74.41E, h12km±3km, mb4.3/21, mb1 4.4/25, mb1mx4.3/32, mbtmp4.2/25, ML3.7/5, MS3.5/17, Ms1 3.5/17, ms1mx3.3/49, Error ellipse: s-maj=13.0km s-min=10.4km az=129.0*
*ISCJB **01** 05:32:55.3±1.0, 39.44N±0.02×74.35E±0.03, h32km±7km, mb4.4/71, MS3.6/18, Error ellipse: s-maj=4.8km s-min=3.4km az=139.6*
*MOS **01** 05:32:55.7±1.3, 39.48N×74.33E, h33km, mb4.7/40, Error ellipse: s-maj=7.8km s-min=4.4km az=122.8*
*NNC **01** 05:32:57.9±0.7, 40.00N×74.34E, h0km, mb4.5, mpv4.5, Error ellipse: s-maj=6.7km s-min=3.0km az=3.0*
ISC 01 05:32:55.1±0.5**, 39.50N**±0.04×**74.22E**±0.04**, h14**km±3km**, h13km:pP-P, n345, σ1.74**/352**, mb4.5**/71**, MS3.7**/18**, 16C-21D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.35	89	Pg	Pn	05 33 14.3	-5.4
KSH				Sg	Sb	05 33 28.1	-9.5
KSH				smax	smax		
	comp=N,4μm,0.6s						
KSH				smax	smax		
	comp=E,4μm,0.6s						
AML	Almayashu	2.66	352	P	Pn	05 33 39.0	+1.1
	SNR=2169						
KZA	Kyzart	2.69	17	P	Pn	05 33 39.5	+1.2
	SNR=89						
UCH	Uchtor	2.73	5	P	Pn	05 33 40.5	+1.5
	SNR=141						
AAK	Ala-Archa	3.14	4	Pn	Pn	05 33 46.0	+1.8
	comp=E,52nm,0.3s,baz=162,slow=6.7,SNR=496						
AAK				Sn	Sb	05 34 27.9	-1.0
	comp=E,167nm,0.3s,baz=99,slow=22,SNR=16						
AAK	Ala-Archa	3.14	4	d iPN	Pn	05 33 45.8	+1.5
AAK	Ala-Archa	3.14	4	Pn	Pn	05 33 46.0	+1.8
AAK				eSn	Sb	05 34 25.4	-3.5
AAK				Sn	Sb	05 34 27.9	-1.0
AAK	Ala-Archa	3.14	4	P	Pn	05 33 46.0	+1.8
	SNR=437						
ULHL	Ulahol	3.14	29	P	Pn	05 33 45.3	+0.9
	SNR=50						
EKS2	Erkin-Say	3.18	354	ePN	Pn	05 33 45.8	+1.0
EKS2				e		05 34 25.7	
EKS2	Erkin-Say	3.18	354	ePn	Pn	05 33 45.8	+1.0
EKS2				eSn	Sn	05 34 25.7	+3.1
EKS2	Erkin-Say	3.18	354	P	Pn	05 33 46.5	+1.8
	SNR=89						
KBK	Karagaybulak	3.20	10	P	Pn	05 33 46.8	+1.6
	SNR=144						
FRU	Bishkek	3.34	5	ePN	Pn	05 33 48.0	+1.0
FRU				i S	Sb	05 34 35.0	+0.2
FRU				pmax	pmax		
	comp=Z,1μm,1.8s						
FRU				smax	smax		
	comp=E,2450μm,1.8s						
CHMS	Chumysh	3.52	6	P	Pn	05 33 50.6	+1.2
	SNR=100						
TKM2	Tokmak 2	3.57	16	⇓Pg	Pn	05 33 53.0	+2.7
	comp=E,168nm,0.5s						
TKM2				⇑Lg	Lg	05 34 35.6	
	comp=E,949nm,0.8s						
TKM2	Tokmak 2	3.57	16	i PN	Pn	05 33 51.7	+1.4
TKM2	Tokmak 2	3.57	16	ePn	Pn	05 33 51.6	+1.4
TKM2	Tokmak 2	3.57	16	P	Pn	05 33 51.7	+1.4
	SNR=323						
USP	Ospenovka	3.77	3	P	Pn	05 33 54.0	+1.1
	SNR=14						
KNDC	Almaty	4.25	28	⇑Pn	Pn	05 33 58.3	-1.1
	comp=E,62nm,0.5s						
KNDC				⇑Pg	Pb	05 34 07.1	-2.5
	comp=E,454nm,0.5s						
KNDC				⇑Lg	Lg	05 34 58.6	
	comp=E,2μm,0.9s						
AAA	Alma-Ata	4.29	28	i PN	Pb	05 34 09.2	-1.1
AAA				i S	Sb	05 35 02.7	+0.7
AAA				pmax	pmax		
	comp=Z,751nm,0.3s						
AAA				smax	smax		
	comp=N,759nm,0.4s						
KK31	Karatay Array	4.56	323	⇓Pn	Pn	05 34 06.4	+2.7
	comp=N,29nm,0.6s,baz=124,slow=13,SNR=707						
KK31				⇓Sn	Sn	05 35 00.7	+4.3
	comp=N,34nm,0.3s,baz=157,slow=27,SNR=4.6						
KK31				⇓Lg	Lg	05 35 11.0	
	comp=N,118nm,0.5s,baz=129,slow=29,SNR=2.5						
KK31	Karatay Array	4.56	323	i PN	Pn	05 34 06.3	+2.7
KK31				pmax	pmax		
	comp=Z,29nm,0.5s						
KKAR	Karatay Array	4.56	323	ePN	Pn	05 34 04.9	+1.3
KKAR				e		05 34 58.4	
KKAR	Karatay Array	4.56	323	ePn	Pn	05 34 04.9	+1.3
KKAR				eSn	Sn	05 34 58.4	+2.0
CHCP	Chirah Chowk	5.88	188	P	Pn	05 34 29.7	+7.9
CEP	Cherat	5.96	199	P	Pn	05 34 30.3	+7.2
CEP				S	Sb	05 35 42.0	-8.2
KBL	Kabul	6.45	222	ePN	Pn	05 34 37.2	+7.3
KBL	Kabul	6.45	222	ePn	Pn	05 34 37.2	+7.3
THW	Thamme Wali	6.98	197	P	Pn	05 34 43.7	+6.7
DLH	Dalhousie	7.08	168	eP	Pn	05 34 42.0	+3.4
DLH				ex	x	05 36 03.0	
THN	Thein Dam	7.15	170	eP	Pn	05 34 43.7	+4.4
THN				ex	x	05 36 04.4	
SARP	Sargodha	7.67	190	P	Pn	05 34 52.3	+6.0
SDNR	Sundarnagar	8.29	163	ex	x	05 35 01.0	
SDNR				ex	x	05 36 34.0	
SMLA	Simla	8.69	163	eP	Pn	05 35 03.2	+2.9
SMLA				eS	Sn	05 36 31.9	-6.3
SMLA				⇓AML	AML	05 36 45.0	
	comp=N,1μm,0.3s						
SMLA				⇓AML	AML	05 36 45.5	
	comp=E,1μm,0.3s						
MK31	Makanchi Array	9.37	36	⇑Pn	Pn	05 35 10.5	+0.7
	comp=E,2.0nm,0.6s,baz=208,slow=12,SNR=46						
MK31				Pg		05 35 40.6	
	comp=E,3.4nm,0.5s,baz=216,slow=14,SNR=20						
MK31				⇓Lg	Lg	05 37 38.0	
	comp=E,11nm,0.6s						
MK31	Makanchi Array	9.37	36	i P	Pn	05 35 10.4	+0.7
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	Makanchi Array	9.37	36	ePn	Pn	05 35 10.8	+1.1
MKAR	Makanchi Array	9.37	36	Pn	Pn	05 35 09.9	+0.2
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=16						
MKAR				Lg	Lg	05 37 43.7	
	comp=Z,0.8nm,0.3s,baz=229,slow=26,SNR=3.6						
MKAR				LR	LR	05 39 07.4	
	comp=Z,224nm,20.5s,baz=220,slow=40						
MKAR	Makanchi Array	9.37	36	P	Pn	05 35 09.9	+0.2
MKAR				MLR	MLR		
	comp=Z,224nm,20.5s						
MKAR	Makanchi Array	9.37	36	Pn	Pn	05 35 09.9	+0.2
MKAR				Lg	Lg	05 37 43.7	
DDI	Dehra Dun	9.68	160	eP	Pn	05 35 17.7	+3.7
DDI				ex	x	05 37 04.5	
WMQ	Urumqi	10.96	62	P	Pn	05 35 33.9	+2.3
WMQ				PP	PnPn	05 35 44.0	+4.9
WMQ				S	Sn	05 37 33.7	-0.3
WMQ				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ				LR	LR		
	comp=N,510nm,20.0s						
WMQ				LR	LR		
	comp=E,180nm,17.0s						
WMQ				LR	LR		
	comp=Z,210nm,14.0s						
SONA	Sohna	11.47	167	eP	Pn	05 35 39.5	+1.0
SONA				eS	Sn	05 37 38.1	-8.2
SONA				AML	AML	05 37 47.6	
	comp=E,36nm,0.4s						
SONA				AML	AML	05 37 52.3	
	comp=N,22nm,0.4s						
KHET	Khetri	11.47	173	eP	Pn	05 35 39.3	+0.8
KHET				eS	Sn	05 37 37.0	-9.4
KURBB	Kurchatov Arra	11.53	14	Pn	Pn	05 35 37.0	-2.1
	comp=N,0.1nm,0.3s,baz=203,slow=12,SNR=8.8						
KURBB				Lg	Lg	05 38 52.4	
	comp=N,0.3nm,0.3s,baz=204,slow=31,SNR=6.4						
KURBB	Kurchatov Arra	11.53	14	⇑Pn	Pn	05 35 36.5	-2.7
	comp=N,0.8nm,0.8s						
KURBB				⇑Lg	Lg	05 38 47.4	
	comp=N,20nm,1.4s						
KURK	Kurchatov	11.64	14	⇓Pn	Pn	05 35 37.7	-2.9
	comp=N,7.3nm,1.3s						
KURK				⇓Lg	Lg	05 38 50.8	
	comp=N,78nm,1.0s						
KURK	Kurchatov	11.64	14	i P	Pn	05 35 35.4	-5.2
KURK				pmax	pmax		
	comp=Z,11nm,1.8s						
KURK	Kurchatov	11.64	14	ePn	Pn	05 35 40.1	-0.5
KURK				Lg	Lg	05 38 52.5	
AGRA	Agra	12.62	165	eP	Pn	05 35 54.9	+0.7
AGRA				eS	Sn	05 38 02.8	-12
AGRA				AML	AML	05 38 08.4	
	comp=E,49nm,0.3s						
AGRA				AML	AML	05 38 09.5	
	comp=N,72nm,0.1s						
VOSK	Vostochnaya	13.41	351	⇓Pn	Pn	05 36 02.8	-2.1
	comp=N,8.0nm,0.9s						
VOSK				⇓Lg	Lg	05 39 48.6	
	comp=N,40nm,1.0s						
VOSK	Vostochnaya	13.41	351	P	Pn	05 36 02.0	-2.9
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PYUN	Piuthan	13.50	145	eP	Pn	05 36 04.9	-1.4
	comp=Z,58nm,0.6s						
PYUN	Piuthan	13.50	145	eP	Pn	05 36 04.9	-1.4
	comp=Z,58nm,0.6s						
DANN	Dangsing	13.64	142	eP	Pn	05 36 06.0	-2.4
	comp=Z,33nm,0.6s						
DANN	Dangsing	13.64	142	eP	Pn	05 36 06.0	-2.4
	comp=Z,33nm,0.6s						
BVA0	Borovoye Array	13.78	350	⇓Pn	Pn	05 36 07.3	-2.6
	comp=Z,0.9nm,0.8s,baz=164,slow=12,SNR=33						
BVA0				⇓Lg	Lg	05 40 00.7	
	comp=Z,7.1nm,1.1s						
BVA0	Borovoye Array	13.78	350	i P	P	05 36 20.2	+1.8
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVA0				pmax	pmax		
	comp=N,15nm,1.8s						
BVAR	Borovoye Array	13.78	350	Pn	Pn	05 36 07.7	-2.2
	comp=N,0.5nm,0.3s,baz=161,slow=13,SNR=36						
BVAR				Sn	Sn	05 38 35.6	-7.2
	comp=N,0.2nm,0.3s,baz=168,slow=14,SNR=2.2						
BVAR				Lg	Lg	05 40 01.0	
	comp=N,0.7nm,0.3s,baz=159,slow=25,SNR=4.2						
BVAR				LR	LR	05 42 27.7	
	comp=N,31nm,21.2s,baz=281,slow=42						
BVAR	Borovoye Array	13.78	350	P	Pn	05 36 07.7	-2.2
BVAR						05 38 35.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,31nm,21.2s						
BVAR	Borovoye Array	13.78	350	Pn	Pn	05 36 07.7	-2.2
BVAR				Sn	Sn	05 38 35.6	-7.2
BVAR				Lg	Lg	05 40 01.0	
BRVK	Borovoye	13.83	350	⇑Pn	Pn	05 36 08.5	-2.1
	comp=Z,9.1nm,0.8s						
BRVK				⇑Lg	Lg	05 40 01.7	
	comp=Z,56nm,0.9s						
BRVK	Borovoye	13.83	350	i P	Pn	05 36 08.4	-2.1
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	Borovoye	13.83	350	ePn	Pn	05 36 08.8	-1.8
BRVK				eSn	Sn	05 38 34.5	-9.4
ZRNK	Zerenda	13.93	347	⇓Pn	Pn	05 36 09.8	-2.1
	comp=Z,8.9nm,0.8s						
ZRNK				⇑Lg	Lg	05 40 05.2	
	comp=Z,51nm,1.2s						
ZRNK	Zerenda	13.93	347	i P	Pn	05 36 08.9	-3.0
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOLN	Koldanda	14.05	144	eP	Pn	05 36 11.6	-2.4
KOLN	Koldanda	14.05	144	eP	Pn	05 36 11.6	-2.4
AB31	Akbulak array	14.10	318	Pn	Pn	05 36 13.8	-0.4
	comp=Z,9.7nm,0.6s,baz=129,slow=12,SNR=175						
AB31				⇑Sn	Sn	05 38 48.3	-2.1
	comp=Z,2.3nm,0.5s,baz=124,slow=23,SNR=4.9						
AB31	Akbulak array	14.10	318	i P	Pn	05 36 13.2	-1.1
AB31				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ABKAR	Akbulak array	14.10	318	ePn	Pn	05 36 13.8	-0.5
ABKAR				eSn	Sn	05 38 42.8	-7.6
GKN	Gorkha	14.36	140	eP	Pn	05 36 14.7	-3.4
	comp=Z,32nm,0.5s						
GKN	Gorkha	14.36	140	eP	Pn	05 36 14.7	-3.4
	comp=Z,32nm,0.5s						
KKN	Kakani	14.86	138	eP	Pn	05 36 21.9	-3.1
KKN	Kakani	14.86	138	eP	Pn	05 36 21.9	-3.1
KKN	Kakani	14.86	138	eP	Pn	05 36 21.9	-3.1
DMN	Daman	14.92	139	eP	Pn	05 36 22.3	-3.5
DMN	Daman	14.92	139	eP	Pn	05 36 22.3	-3.5
GUN	Gumba	15.07	137	eP	Pn	05 36 24.8	-3.2
	comp=Z,9.7nm,0.3s						
GUN	Gumba	15.07	137	eP	Pn	05 36 24.8	-3.2
	comp=Z,9.7nm,0.3s						
PKI	Pulchoki	15.10	139	eP	Pn	05 36 25.8	-2.5
PKI	Pulchoki	15.10	139	eP	Pn	05 36 25.8	-2.5
PKI	Pulchoki	15.10	139	eP	Pn	05 36 25.8	-2.5
JIRN	Jiri	15.44	136	eP	Pn	05 36 29.7	-3.1
	comp=Z,5.8nm,0.4s						
JIRN	Jiri	15.44	136	eP	Pn	05 36 29.7	-3.1
	comp=Z,5.8nm,0.4s						
AKTO	Aktyubinsk	15.81	319	Pn	Pn	05 36 37.6	+0.4
	comp=Z,0.8nm,0.3s,baz=128,slow=14,SNR=20						
AKTO				Sn	Sn	05 39 26.1	-6.0
	comp=Z,0.2nm,0.3s,baz=62,slow=17,SNR=3.9						
AKTO				LR	LR	05 43 08.0	
	comp=Z,128nm,21.1s,baz=132,slow=39						
AKTO	Aktyubinsk	15.81	319	⇑Pn	Pn	05 36 37.6	+0.4
	comp=Z,2.6nm,0.9s						
AKTO				⇑Sn	Sn	05 39 29.2	-2.9
	comp=Z,0.8nm,0.6s						
AKTO	Aktyubinsk	15.81	319	i P	Pn	05 36 37.5	+0.4
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO	Aktyubinsk	15.81	319	Pn	Pn	05 36 37.6	+0.4
AKTO				Sn	Sn	05 39 26.1	-6.0
ZAA0	Zalesovo Array	16.15	23	ePn	Pn	05 36 39.6	-1.9
ZALV	Zalesovo Beam	16.15	23	Pn	Pn	05 36 40.1	-1.4
	comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=12						
ZALV				Lg	Lg	05 41 17.5	
	comp=Z,0.1nm,0.3s,baz=217,slow=24,SNR=2.2						
ZALV				LR	LR	05 43 35.2	
	comp=Z,51nm,19.4s,baz=243,slow=40						
ZALV	Zalesovo Beam	16.15	23	P	Pn	05 36 40.1	-1.4
ZALV				MLR	MLR		
	comp=Z,51nm,19.4s						
ZALV	Zalesovo Beam	16.15	23	Pn	Pn	05 36 40.1	-1.4
ZALV				Lg	Lg	05 41 17.5	
RAMN	Ramite	16.22	137	eP	Pn	05 36 38.9	-3.9
RAMN	Ramite	16.22	137	eP	Pn	05 36 38.9	-3.9
NVS	Novosibirsk	16.50	19	eP	Pn	05 36 45.1	-0.9
NVS				e		05 39 55.4	
TAPN	Taplejung	16.52	133	eP	Pn	05 36 43.7	-2.9
TAPN	Taplejung	16.52	133	eP	Pn	05 36 43.7	-2.9
ODAN	Odare	16.72	135	eP	Pn	05 36 45.4	-3.8
ODAN	Odare	16.72	135	eP	Pn	05 36 45.4	-3.8
LSA	Lhasa	17.00	120	eP	P	05 36 54.0	-0.7
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	Lhasa	17.00	120	ePn	P	05 36 54.0	-0.7
	comp=Z,2.4nm,0.5s						
SVE	Sverdlovsk	19.50	337	⇓eP	Pn	05 37 27.1	+4.3
SVE				pmax	pmax		
	comp=Z,20nm,1.3s						
GTA	Gaotai	19.75	82	eP	Pn	05 37 25.4	-0.7
GTA				S	S	05 41 03.5	-3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA				LR	LR		
	comp=N,240nm,17.6s						
GTA				LR	LR		
	comp=E,190nm,18.1s						
GTA				LR	LR		
	comp=Z,220nm,9.5s						
ARU	Arti	19.84	334	d iP	Pn	05 37 27.5	+0.6
ARU				S	Sn	05 41 12.4	+2.9
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	Arti	19.84	334	ePn	Pn	05 37 26.6	-0.3
	comp=Z,8.6nm,0.9s						
SHL	Shillong	20.31	128	eP	Pn	05 37 44.0	+11
WSAR	Wadi Sarin	20.92	224	P	Pn	05 37 40.1	+0.2
	comp=Z,6.4nm,0.7s,baz=59,slow=10,SNR=4.5						
WSAR	Wadi Sarin	20.92	224	P	Pn	05 37 40.1	+0.2
DGRG	David-gareji	21.99	284	P	P	05 37 51.9	+3.1
MOY	Mondy	22.20	48	eP	P	05 37 54.0	+3.0
MOY				pmax	pmax		
	comp=Z,34nm,2.8s						
HYB	Hyderabad	22.32	169	i P	P	05 37 53.0	+0.6
TBLG	Delisi	22.45	285	eP	P	05 37 55.6	+2.1
TBLG	Delisi	22.45	285	P	P	05 37 55.7	+2.1
GNI	Garni	22.61	281	P	P	05 37 58.6	+3.1
	comp=Z,14nm,0.8s,baz=100,slow=6.7,SNR=5.3						
GNI				LR	LR	05 48 09.3	
	comp=Z,63nm,18.1s,baz=288,slow=40						
GNI	Garni	22.61	281	P	P	05 37 58.6	+3.1
GOR	Gori	22.90	286	P	P	05 38 01.1	+2.7
ZEI	Tsey	23.01	288	eP	P	05 38 08.4	+8.6
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ONI	Oni	23.35	288	P	P	05 38 06.6	+3.6
AKH	Akhalkalaki	23.40	285	P	P	05 38 07.0	+3.3
LZH	Lanzhou	23.61	89	eP	P	05 38 04.4	-1.3
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
KBZ	Khabaz	23.72	290	P	P	05 38 07.8	+1.3
	comp=Z,3.3nm,0.9s,baz=101,slow=9.5,SNR=4.6						
KBZ				LR	LR	05 49 10.2	
	comp=Z,111nm,20.4s,baz=255,slow=41						
KBZ	Khabaz	23.72	290	P	P	05 38 07.9	+1.3
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,111nm,20.4s						
KBZ	Khabaz	23.72	290	P	P	05 38 07.8	+1.3
TLY	Talaya	23.75	49	eP	P	05 38 06.6	-0.2
TLY				eS	S	05 42 14.6	-6.9
TLY				pmax	pmax		
	comp=Z,4.0nm,1.9s						
TLY				MLR	MLR		
	comp=Z,100nm,15.0s						
TLY	Talaya	23.75	49	P	P	05 38 06.2	-0.6
	comp=Z,1.0nm,0.4s						
KIV	Kislovodsk	23.87	291	⇓Pn	P	05 38 16.4	+8.3
	comp=Z,12nm,0.7s						
KIV	Kislovodsk	23.87	291	eP	P	05 38 09.0	+0.9
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,61nm,15.0s						
KIV	Kislovodsk	23.87	291	eP	P	05 38 10.0	+1.8
	comp=Z,16nm,0.8s						
SONM	Songino Array	24.58	60	P	P	05 38 13.3	-1.4
	comp=Z,0.5nm,0.6s,baz=264,slow=9.3,SNR=5.6						
SONM				LR	LR	05 48 46.7	
	comp=Z,345nm,18.3s,baz=255,slow=39						
SONM	Songino Array	24.58	60	P	P	05 38 13.2	-1.4
ULN	Ulaanbaatar	25.02	60	eP	P	05 38 18.0	-0.7
	comp=Z,2.6nm,0.7s						
VRHR	Novokhopersk	25.48	308	eP	P	05 38 23.1	+0.5
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.4s						
CD2	Chengdu	25.52	100	P	P	05 38 23.8	+0.5
CD2				PP	PnPn	05 39 04.4	+5.6
CD2				SS	SnSn	05 43 49.1	+5.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.5s						
CD2				LR	LR		
	comp=N,290nm,7.1s						
CD2				LR	LR		
	comp=Z,280nm,10.8s						
VSR	Storozhevoye	27.02	307	eP	P	05 38 37.5	+1.0
VSR				pmax	pmax		
	comp=N,2.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ANN	Anapa	27.62	293	eP	P	05 38 32.0	-10
ANN				pmax	pmax		
	comp=Z,47nm,0.9s						
HHC	Hu-ho-hao-te	28.43	75	eP	P	05 38 47.9	-1.5
HHC				PP	PnPn	05 39 41.0	+2.6
HHC				S	S	05 43 28.8	-7.4
HHC				SS	SnSn	05 44 57.3	+3.0
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,95nm,6.5s						
HHC				LR	LR		
	comp=N,240nm,14.2s						
HHC				LR	LR		
	comp=E,250nm,16.2s						
HHC				LR	LR		
	comp=Z,160nm,15.9s						
SIM	Simferopol'	29.97	294	eP	P	05 39 05.4	+2.5
SIM				pmax	pmax		
	comp=Z,19nm,0.9s						
GYA	Guiyang	29.99	106	eP	P	05 39 05.3	+1.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BR131	Keskin Array S	31.08	284	eP	P	05 39 14.8	+1.9
	comp=Z,4.7nm,0.8s						
BRTR	Keskin Array B	31.08	284	P	P	05 39 14.8	+1.9
	comp=Z,5.1nm,0.7s,baz=94,slow=8.0,SNR=29						
BRTR	Keskin Array B	31.08	284	P	P	05 39 14.8	+1.9
BOD	Bodaibo	31.42	41	eP	P	05 39 17.3	+1.8
AKASG	Malin Array Be	33.19	305	P	P	05 39 31.3	+0.2
	comp=Z,0.9nm,0.4s,baz=81,slow=7.8,SNR=5.6						
AKASG	Malin Array Be	33.19	305	P	P	05 39 31.3	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	33.19	305	P	P	05 39 31.3	+0.2
KIEV	Kiev	33.20	305	eP	P	05 39 31.7	+0.5
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	Kiev	33.20	305	eP	P	05 39 31.7	+0.5
	comp=Z,4.7nm,0.9s						
JOF	Joensuu	34.65	327	eP	P	05 39 42.9	-0.8
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	Joensuu	34.65	327	ep	P	05 39 42.9	-0.8
	comp=Z,3.0nm,0.6s						
TESR		35.05	297	⇓iP	P	05 39 49.0	+1.7
PLOR	Plostina	35.12	296	⇑P	P	05 39 50.4	+2.4
PLOR	Plostina	35.12	296	⇑iP	P	05 39 50.4	+2.4
MLR	Muntele Rosu	35.66	296	⇑iP	P	05 39 56.3	+3.5
BUR08	Bucovina Ar. S	35.92	300	P	P	05 39 56.2	+1.3
VOIR		36.29	296	⇓P	P	05 40 00.7	+2.6
VOIR		36.29	296	⇓iP	P	05 40 00.7	+2.6

FINES FINESS Array B 36.52 323 P P 05 39 59.6 -0.1
comp=Z,4.1nm,0.4s,baz=107,slow=9.8,SNR=56
FINES FINESS Array B 36.52 323 P P 05 39 59.6 -0.1
KAF Kangasniemi 36.59 324 eP P 05 40 00.0 -0.3
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 36.59 324 ep P 05 40 00.0 -0.3
comp=Z,1.2nm,0.6s
NJ2 Nanjing 36.67 88 eP P 05 40 00.8 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 36.84 113 P P 05 40 03.9 +1.0
QIZ S S 05 45 45.1 -1.9
QIZ pmax pmax
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 37.40 303 eP P 05 40 08.3 +0.8
KWP Kalwaria Pacla 37.40 303 eP P 05 40 08.2 +0.8
comp=Z,44nm,0.6s
KOLS Kolonicke sedl 37.74 302 eP P 05 40 15.1 +4.8
KOLS Kolonicke sedl 37.74 302 eP P 05 40 15.1 +4.8
NIE Niedzica 38.98 303 eP P 05 40 22.9 +2.2
NIE Niedzica 38.98 303 eP P 05 40 22.9 +2.2
KEV Kevo 39.03 336 eP P 05 40 20.0 -0.8
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 39.03 336 ep P 05 40 20.0 -0.8
comp=Z,5.6nm,0.8s
OJC Ojcow 39.22 304 eP P 05 40 23.7 +0.9
OJC pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 39.22 304 eP P 05 40 23.6 +0.9
comp=Z,4.5nm,0.7s
ARCES ARCESS Array B 39.41 335 P P 05 40 23.8 -0.3
comp=Z,3.5nm,0.5s,baz=110,slow=9.0,SNR=24
ARCES LR LR 05 57 40.2
comp=Z,46nm,18.9s,baz=152,slow=38
ARCES ARCESS Array B 39.41 335 P P 05 40 23.8 -0.3
VYHS Vyhne 40.06 302 eP P 05 40 31.4 +1.7
VYHS pmax pmax
comp=Z,1.0nm,1.2s
VYHS Vyhne 40.06 302 eP P 05 40 31.4 +1.7
VRAC Vranov 41.40 303 LR LR 06 00 33.0
comp=Z,97nm,20.0s,baz=262,slow=40
DPC Dobruska-Polom 41.42 305 eP P 05 40 42.3 +1.3
DPC Dobruska-Polom 41.42 305 eP P 05 40 42.4 +1.3
comp=Z,13nm,1.5s
DPC Dobruska-Polom 41.42 305 eP P 05 40 42.3 +1.3
DPC epP pP 05 40 46.0 +0.7
KSRS Korea Array 41.57 75 LR LR 05 59 38.6
comp=Z,84nm,18.4s,baz=152,slow=39
UPC Upice 41.60 305 eP P 05 40 43.8 +1.4
UPC Upice 41.60 305 eP P 05 40 43.8 +1.4
UPC epP pP 05 40 48.2 +1.5
PRU Pruhonice 42.61 305 eP P 05 40 52.0 +1.4
PRU Pruhonice 42.61 305 eP P 05 40 52.0 +1.4
PRU epP pP 05 40 56.3 +1.3
BRG Berggiesshubel 42.85 306 eP P 05 40 53.4 +0.9
comp=Z,3.2nm,0.6s
BRG e 05 40 58.1
comp=Z,6.6nm,0.9s
BRG Berggiesshubel 42.85 306 eP P 05 40 53.4 +0.9
BRG pmax pmax
comp=Z,3.0nm,0.6s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 42.85 306 eP P 05 40 53.5 +0.9
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 43.35 303 eP P 05 40 58.5 +1.7
GEC2 pmax pmax
comp=Z,14nm,1.6s
GEC2 GERESS Array S 43.35 303 eP P 05 40 58.5 +1.7
comp=Z,14nm,1.6s
GERES GERESS Array B 43.35 303 P P 05 40 57.8 +1.0
comp=Z,2.0nm,0.6s,baz=64,slow=7.6,SNR=29
GERES LR LR 06 03 25.0
comp=Z,95nm,18.4s,baz=259,slow=42
GERES GERESS Array B 43.35 303 P P 05 40 57.8 +1.0
CLL Collm 43.37 307 i P P 05 40 57.4 +0.7
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 43.37 307 eP P 05 40 57.4 +0.7
comp=Z,4.0nm,0.8s
CLL Collm 43.37 307 i P P 05 40 57.4 +0.7
comp=Z,4.0nm,0.8s
CLL i pP pP 05 41 01.2 +0.2
CLL L L 06 02 00.0
comp=Z,100nm,18.1s
KHC Kasperske Hory 43.38 304 eP P 05 40 57.9 +1.0
KHC Kasperske Hory 43.38 304 eP P 05 40 58.1 +1.2
comp=Z,3.9nm,0.9s
KHC Kasperske Hory 43.38 304 eP P 05 40 57.9 +1.0
KHC epP pP 05 41 02.5 +1.2
NB2 NORSAR Subarra 43.59 321 P P 05 40 57.7 -0.7
comp=Z,3.5nm,0.6s,baz=90,slow=8.6
NOA NORSAR Array B 43.59 321 P P 05 40 57.9 -0.5
comp=Z,4.3nm,0.6s,baz=91,slow=7.9,SNR=19
NOA LR LR 05 59 15.2
comp=Z,48nm,18.2s,baz=115,slow=36
NOA NORSAR Array B 43.59 321 P P 05 40 57.9 -0.5
HABR Khabarovsk 43.63 57 P P 05 41 13.7 +15
HABR S S 05 47 27.5 -0.3
HABR e*SS sS 05 47 44.4 +9.4
HABR e 05 50 56.6
HABR eSSS SSS 05 51 23.7
HABR pmax pmax
comp=E,19nm,1.5s
HABR pmax pmax
comp=Z,74nm,2.8s
HABR pmax pmax
comp=N,42nm,3.0s
HABR MLR MLR
comp=Z,179nm,23.0s
NAO01 NORSAR Array S 43.75 321 eP P 05 40 59.2 -0.5
comp=Z,4.3nm,0.7s
WET Wettzell 43.83 304 eP P 05 41 02.0 +1.5
WET pmax pmax
comp=Z,4.0nm,1.0s
WET Wettzell 43.83 304 eP P 05 41 02.0 +1.5
comp=Z,4.0nm,1.0s
MOX Moxa 44.34 306 eP P 05 41 06.0 +1.4
MOX pmax pmax
comp=Z,3.0nm,1.0s
MOX Moxa 44.34 306 eP P 05 41 06.0 +1.4
comp=Z,3.0nm,1.0s
GRF Grafenberg Arr 44.78 305 eP P 05 41 10.1 +2.0
GRF pmax pmax
comp=Z,9.0nm,1.0s
GRF Grafenberg Arr 44.78 305 eP P 05 41 10.1 +2.0
comp=Z,9.0nm,1.0s
SPITS Spitsbergen Ar 45.19 346 LR LR 06 01 54.3
comp=Z,43nm,19.6s,baz=155,slow=38
DAVOX Davos/Dischmat 46.33 301 LR LR 06 01 37.1
comp=Z,83nm,18.4s,baz=311,slow=37
CDF Champ du Feu 47.60 304 eP P 05 41 29.8 -0.6
comp=Z,8.3nm,0.9s
CDF Champ du Feu 47.60 304 eP P 05 41 29.8 -0.6
CDF pmax pmax
comp=Z,8.0nm,0.9s
CDF Champ du Feu 47.60 304 eP P 05 41 29.8 -0.6
comp=Z,8.3nm,0.9s
PGF Pioggiola 48.21 296 eP P 05 41 34.7 -0.5
PGF Pioggiola 48.21 296 eP P 05 41 34.7 -0.5
PGF Pioggiola 48.21 296 eP P 05 41 34.7 -0.5
HAU Haudompre 48.31 304 eP P 05 41 35.0 -0.8
comp=Z,4.4nm,0.6s
HAU eR
comp=Z,95nm,17.2s
HAU Haudompre 48.31 304 eP P 05 41 35.0 -0.8
HAU pmax pmax
comp=Z,4.0nm,0.6s
HAU Haudompre 48.31 304 eP P 05 41 35.0 -0.8
comp=Z,4.4nm,0.6s
LPG La Plagne 48.79 300 eP P 05 41 39.2 -0.7
comp=Z,15nm,1.0s
LPG La Plagne 48.79 300 eP P 05 41 39.2 -0.7
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 48.79 300 eP P 05 41 39.2 -0.7
comp=Z,15nm,1.0s
LPL La Plagne 48.79 300 eP P 05 41 39.7 -0.2
comp=Z,11nm,0.8s
LPL La Plagne 48.79 300 eP P 05 41 39.7 -0.2
LPL pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 48.79 300 eP P 05 41 39.7 -0.2
comp=Z,11nm,0.8s
SBF Sospel 48.85 298 eP P 05 41 39.9 -0.2
SBF Sospel 48.85 298 eP P 05 41 39.9 -0.2
SBF Sospel 48.85 298 eP P 05 41 39.9 -0.2
CABF La Chapelle 48.88 302 eP P 05 41 40.4 0.0
comp=Z,6.2nm,0.7s
CABF La Chapelle 48.88 302 eP P 05 41 40.4 0.0
CABF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 48.88 302 eP P 05 41 40.4 0.0
comp=Z,6.2nm,0.7s
MEZF Maizieres J'vi 49.00 305 eP P 05 41 40.9 -0.2
MEZF Maizieres J'vi 49.00 305 eP P 05 41 40.9 -0.2
MBDF Montbardon 49.02 299 eP P 05 41 40.4 -1.1
comp=Z,14nm,0.8s
MBDF Montbardon 49.02 299 eP P 05 41 40.4 -1.1
MBDF pmax pmax
comp=Z,14nm,0.8s
MBDF Montbardon 49.02 299 eP P 05 41 40.4 -1.1
comp=Z,14nm,0.8s
BAIF Baives 49.09 307 eP P 05 41 41.6 -0.2
BAIF Baives 49.09 307 eP P 05 41 41.6 -0.2
BAIF Baives 49.09 307 eP P 05 41 41.6 -0.2
FRF La Foret Royal 49.49 298 eP P 05 41 43.2 -1.7
FRF La Foret Royal 49.49 298 eP P 05 41 43.2 -1.7
FRF La Foret Royal 49.49 298 eP P 05 41 43.2 -1.7
MJAR Matsushiro Arr 49.55 72 P P 05 41 44.1 -1.4
comp=Z,0.8nm,0.7s,baz=294,slow=9.1,SNR=4.1
MJAR Matsushiro Arr 49.55 72 P P 05 41 44.0 -1.4
ORIF Oris-en-Rattie 49.56 300 eP P 05 41 45.9 +0.4
comp=Z,12nm,0.9s
ORIF eR
comp=Z,82nm,22.8s
ORIF Oris-en-Rattie 49.56 300 eP P 05 41 45.9 +0.4
ORIF pmax pmax
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 49.56 300 eP P 05 41 45.9 +0.4
comp=Z,12nm,0.9s
SMRF Simiane la Rot 50.08 299 eP P 05 41 49.1 -0.4
comp=Z,13nm,0.8s
SMRF Simiane la Rot 50.08 299 eP P 05 41 49.1 -0.4
comp=Z,13nm,0.8s
LOR Lormes 50.13 303 eP P 05 41 48.4 -1.4
LOR eR
comp=Z,60nm,18.5s
LOR Lormes 50.13 303 eP P 05 41 48.4 -1.4
VIVF Saint-Julien-l 50.39 300 eP P 05 41 51.2 -0.6
comp=Z,7.9nm,0.7s
VIVF Saint-Julien-l 50.39 300 eP P 05 41 51.2 -0.6
VIVF pmax pmax
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 50.39 300 eP P 05 41 51.2 -0.6
comp=Z,7.9nm,0.7s
SSF Saint Saulge 50.43 303 eP P 05 41 50.8 -1.2
SSF Saint Saulge 50.43 303 eP P 05 41 50.8 -1.2
SSF Saint Saulge 50.43 303 eP P 05 41 50.8 -1.2
AVF Avril sur Loir 50.62 303 eP P 05 41 52.5 -0.9
comp=Z,19nm,1.0s
AVF Avril sur Loir 50.62 303 eP P 05 41 52.5 -0.9
AVF pmax pmax
comp=Z,19nm,1.0s
AVF Avril sur Loir 50.62 303 eP P 05 41 52.5 -0.9
comp=Z,19nm,1.0s
BGF Bois d'Agland 51.02 303 eP P 05 41 54.9 -1.6
BGF Bois d'Agland 51.02 303 eP P 05 41 54.9 -1.6
BGF Bois d'Agland 51.02 303 eP P 05 41 54.9 -1.6
LASF Ste Croix 51.20 299 eP P 05 41 57.7 -0.2
comp=Z,25nm,1.1s
LASF Ste Croix 51.20 299 eP P 05 41 57.7 -0.2
comp=Z,25nm,1.1s
TCF Toulx Ste Croi 51.53 303 eP P 05 41 59.0 -1.3
TCF Toulx Ste Croi 51.53 303 eP P 05 41 59.0 -1.3
TCF Toulx Ste Croi 51.53 303 eP P 05 41 59.0 -1.3
CAF Calviac 52.10 301 eP P 05 42 03.8 -0.8
CAF Calviac 52.10 301 eP P 05 42 03.8 -0.8
CAF Calviac 52.10 301 eP P 05 42 03.8 -0.8
LDF La Druitiere 52.24 306 eP P 05 42 04.3 -1.3
comp=Z,9.5nm,0.7s
LDF La Druitiere 52.24 306 eP P 05 42 04.3 -1.3
LDF pmax pmax
comp=Z,10.0nm,0.7s
LDF La Druitiere 52.24 306 eP P 05 42 04.3 -1.3
comp=Z,9.5nm,0.7s
RJF Les Rejaudoux 52.33 302 eP P 05 42 06.0 -0.3
RJF eR
comp=Z,92nm,20.5s
RJF Les Rejaudoux 52.33 302 eP P 05 42 06.0 -0.3
RJF Les Rejaudoux 52.33 302 eP P 05 42 06.0 -0.3
FLN La Foliniere 52.41 306 eP P 05 42 05.3 -1.5
FLN eR
comp=Z,113nm,20.8s
FLN La Foliniere 52.41 306 eP P 05 42 05.3 -1.5
FLN La Foliniere 52.41 306 eP P 05 42 05.3 -1.5
GRR Gorron 52.77 306 eP P 05 42 08.1 -1.4
comp=Z,17nm,0.8s
GRR Gorron 52.77 306 eP P 05 42 08.1 -1.4
GRR pmax pmax
comp=Z,17nm,0.8s
GRR Gorron 52.77 306 eP P 05 42 08.1 -1.4
comp=Z,17nm,0.8s
LFF La Frestale 52.97 301 eP P 05 42 10.7 -0.3
comp=Z,8.4nm,0.6s
LFF La Frestale 52.97 301 eP P 05 42 10.7 -0.3
LFF pmax pmax
comp=Z,8.0nm,0.6s
LFF La Frestale 52.97 301 eP P 05 42 10.7 -0.3
comp=Z,8.4nm,0.6s
SGMF Saint Gilles 53.88 306 eP P 05 42 16.5 -1.1
SGMF Saint Gilles 53.88 306 eP P 05 42 16.5 -1.1
SGMF Saint Gilles 53.88 306 eP P 05 42 16.5 -1.1
EPF Esparros 53.97 299 eP P 05 42 16.9 -1.6
EPF Esparros 53.97 299 eP P 05 42 16.9 -1.6
EPF Esparros 53.97 299 eP P 05 42 16.9 -1.6
ROSF Rostrenen 54.29 307 eP P 05 42 19.3 -1.4
ROSF Rostrenen 54.29 307 eP P 05 42 19.3 -1.4
ROSF Rostrenen 54.29 307 eP P 05 42 19.3 -1.4
ETSF Etsaut 54.62 300 eP P 05 42 22.8 -0.5
ETSF Etsaut 54.62 300 eP P 05 42 22.8 -0.5
ETSF Etsaut 54.62 300 eP P 05 42 22.8 -0.5
PETK Petropavlovsk- 56.05 46 LR LR 06 07 29.5
comp=Z,30nm,21.8s,baz=92,slow=37
ESDC Sonseca Array 58.32 297 P P 05 42 49.8 +0.1
comp=Z,2.1nm,0.6s,baz=57,slow=7.2,SNR=22
ESDC pP pP 05 42 54.1 0.0
comp=Z,2.1nm,0.6s,baz=56,slow=7.1,SNR=17
ESDC Sonseca Array 58.32 297 P P 05 42 49.8 +0.1
ESDC pP pP 05 42 54.1 0.0
TAM Tamanrasset 59.77 276 eP P 05 43 01.4 +1.3
TAM pmax pmax
comp=Z,1.0nm,0.6s
TAM Tamanrasset 59.77 276 eP P 05 43 01.4 +1.3
comp=Z,1.0nm,0.6s
TOA0 Torodi Ar. Sit 68.32 269 eP P 05 43 55.7 -0.4
TORD Torodi Ar. Bea 68.32 269 P P 05 43 55.9 -0.2
comp=Z,7.1nm,0.6s,baz=48,slow=5.4,SNR=142
TORD pP pP 05 44 00.3 -0.3
comp=Z,6.7nm,0.5s,baz=47,slow=5.4,SNR=27
TORD Torodi Ar. Bea 68.32 269 P P 05 43 55.9 -0.2
TORD pP pP 05 44 00.3 -0.3
INK Inuvik 70.52 11 P P 05 44 07.8 -1.1
comp=Z,1.4nm,0.5s,baz=355,slow=6.6,SNR=16
INK Inuvik 70.52 11 P P 05 44 07.8 -1.1
comp=Z,3.2nm,1.6s
ILAR Eielson Array 71.18 17 P P 05 44 11.1 -1.9
comp=Z,0.9nm,0.7s,baz=324,slow=5.4,SNR=12
ILAR pP pP 05 44 15.3 -2.3
comp=Z,1.0nm,0.7s,baz=313,slow=3.4,SNR=9.5
ILAR LR LR 06 19 23.6
comp=Z,51nm,18.1s,baz=328,slow=39
ILAR Eielson Array 71.18 17 P P 05 44 11.1 -1.9
ILAR pP pP 05 44 15.3 -2.3
BMRM Bremner River 74.99 18 eP P 05 44 35.5 -0.1
KDAK Kodiak Island 75.45 24 P P 05 44 37.6 -0.6
comp=Z,12nm,0.9s,baz=327,slow=9.8,SNR=2.6
KDAK Kodiak Island 75.45 24 P P 05 44 37.6 -0.6
DBIC Dimbokro 77.37 268 P P 05 44 49.9 +0.1
comp=Z,2.3nm,0.7s,baz=28,slow=8.4,SNR=4.6
DBIC pP pP 05 44 54.5 +0.1
comp=Z,2.3nm,0.7s,baz=18,slow=6.4,SNR=3.4
DBIC LR LR 06 23 57.2
comp=Z,44nm,18.3s,baz=187,slow=40
DBIC Dimbokro 77.37 268 P P 05 44 49.9 +0.1
DBIC pP pP 05 44 54.5 +0.1
LIC Lamto 77.78 268 eP P 05 44 53.3 +1.2
LIC Lamto 77.78 268 eP P 05 44 53.3 +1.2
YKA Yellowknife Ar 78.11 4 P P 05 44 51.9 -1.2
comp=Z,1.1nm,0.6s,baz=348,slow=5.6,SNR=6.8
YKA pP pP 05 44 56.5 -1.2
comp=Z,1.8nm,0.6s,baz=348,slow=5.6,SNR=15
YKA Yellowknife Ar 78.11 4 P P 05 44 51.9 -1.2
YKA pP pP 05 44 56.5 -1.2
SCHQ Schefferville 80.30 338 P P 05 45 04.5 -0.9
comp=Z,2.0nm,0.8s,baz=11,slow=10,SNR=3.7
SCHQ Schefferville 80.30 338 P P 05 45 04.5 -0.9
DLBC Dease Lake 80.34 13 P P 05 45 05.0 -0.6
comp=Z,0.8nm,0.7s,baz=302,slow=9.5,SNR=3.0
DLBC Dease Lake 80.34 13 P P 05 45 05.0 -0.6
WRA Warramunga Arr 81.50 124 P P 05 45 11.5 -0.6
comp=Z,4.9nm,0.6s,baz=325,slow=5.2,SNR=40
WRA Warramunga Arr 81.50 124 P P 05 45 11.5 -0.6
WRAB Tennant Creek 81.50 124 eP P 05 45 11.4 -0.7
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WRAB Tennant Creek 81.50 124 eP P 05 45 11.4 -0.7
comp=Z,5.7nm,0.6s
BOSA Boshof 81.67 222 P P 05 45 13.8 +0.8
comp=Z,2.5nm,0.8s,baz=36,slow=6.3,SNR=5.1
BOSA Boshof 81.67 222 P P 05 45 13.8 +0.8
AS31 Alice Springs 83.96 127 eP P 05 45 24.0 -0.9
ASAR Alice Springs 83.96 127 P P 05 45 24.1 -0.8
comp=Z,2.6nm,0.6s,baz=314,slow=4.9,SNR=47
ASAR Alice Springs 83.96 127 P P 05 45 24.1 -0.8
FFC Flin Flon 86.09 358 i P P 05 45 39.6 +4.4
SLMT Seeley Lake 93.37 5 eP P 05 46 08.3 -1.6
comp=Z,3.0nm,0.6s
PDAR Pinedale Array 98.04 3 P P 05 46 30.1 -1.2
comp=Z,0.5nm,0.9s,baz=186,slow=5.4,SNR=3.1
PDAR Pinedale Array 98.04 3 P P 05 46 30.1 -1.2
CPUP Villa Florida 137.74 273 PKP PKPdf 05 52 18.7 -0.3
comp=Z,0.2nm,0.3s,baz=8.1,slow=7.1,SNR=3.0
CPUP Villa Florida 137.74 273 PKP PKPdf 05 52 18.7 -0.3
TRQA Tornquist 146.07 258 ePKPbc PKPab 05 52 35.0 -0.1
CFAA Coronel Fontan 148.63 273 PKPbc PKPbc 05 52 41.5 -0.3
comp=Z,0.3nm,0.8s,baz=67,slow=2.3,SNR=5.7
CFAA Coronel Fontan 148.63 273 PKPbc PKPbc 05 52 41.5 -0.3

IDC 01 05:34:10.5±2.8**, 3°.99S**×**100°.77E, h0**km**, mb3.8**/6**, mb1 4.0**/7**, mb1mx3.7**/27**, mbtmp3.8**/7**, ML3.7**/1**, Error ellipse: s-maj=114.7km s-min=19.0km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.00	345	Pn	Pn	05 35 52.8	-1.7
	1.6nm,0.3s,baz=185,slow=18,SNR=7.3						
CMAR	Chiang Mai Arr	22.38	355	P	P	05 39 10.7	+0.1
	1.1nm,0.4s,baz=185,slow=8.0,SNR=4.6						
WRA	Warramunga Arr	36.35	119	P	P	05 41 15.4	-1.3
	0.7nm,0.3s,baz=304,slow=8.7,SNR=5.2						
ASAR	Alice Springs	37.48	125	P	P	05 41 26.7	+0.4
	0.8nm,0.3s,baz=299,slow=7.4,SNR=15						
SONM	Songino Array	51.85	5	P	P	05 43 20.6	-0.1
	0.6nm,0.6s,baz=184,slow=9.5,SNR=4.6						
MKAR	Makanchi Array	53.14	344	P	P	05 43 30.1	-0.1
	0.3nm,0.3s,baz=150,slow=8.6,SNR=5.8						
BVAR	Borovoye Array	62.31	340	P	P	05 44 33.9	-0.6
	0.8nm,0.5s,baz=146,slow=7.9,SNR=5.6						
TXAR	Lajitas Array	145.77	40	PKPbc	PKPab	05 53 52.9	0.0
	0.1nm,0.6s,baz=98,slow=1.8,SNR=3.0						

*ISCJB **01** 05:36:21.7±1.2, 39°.18N±0°.08×29°.06E±0°.05, h6km±9km, Error ellipse: s-maj=14.2km s-min=5.8km az=13.3*
*ISK **01** 05:36:21.9, 39°.23N×29°.08E, h7km, MD2.5*
*DDA **01** 05:36:21.1, 39°.16N×29°.09E, h7km, MD2.8*
*CSEM **01** 05:36:22.2±0.5, 39°.20N×29°.08E, h10km, MD2.5, Error ellipse: s-maj=12.2km s-min=4.6km az=10.0*
ISC 01 05:36:22.0±1.6**, 39°.20N**±0°.08×**29°.09E**±0°.04**, h14**km±10km**, n14, σ0s.48**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.38	49	ePG	Pg	05 36 29.1	-0.6
TVSB				eSG	Sg	05 36 35.2	+0.3
TVSB	Tavsanli	0.38	49	ePg	Pg	05 36 29.1	-0.6
TVSB				eSg	Sg	05 36 35.3	+0.3
DURS	Dursunbey	0.62	310	i P	Pg	05 36 34.1	-0.2
DURS				i S	Sb	05 36 43.3	0.0
DURS	Dursunbey	0.62	310	i P	Pg	05 36 34.1	-0.2
DURS				i S	Sb	05 36 43.3	0.0
ALT	Altintas	0.81	100	ePG	Pg	05 36 37.6	-0.1
ALT				eSG	Sn	05 36 50.5	-0.4
ALT	Altintas	0.81	100	ePg	Pg	05 36 37.6	-0.1
ALT				eSg	Sn	05 36 50.5	-0.4
BALB	Balikesir	1.03	295	ePG	Pn	05 36 42.2	+0.1
BALB	Balikesir	1.03	295	ePg	Pn	05 36 42.2	+0.1
CAVI	Cavuskoy	1.15	30	ePN	Pn	05 36 44.1	+0.3
CAVI	Cavuskoy	1.15	30	ePn	Pn	05 36 44.1	+0.3
BORA	Eskisehir	1.25	57	i P	Pn	05 36 45.4	+0.2
BORA				i S	Sg	05 37 03.6	+1.1
BORA	Eskisehir	1.25	57	i P	Pn	05 36 45.4	+0.2
BORA				i S	Sg	05 37 03.6	+1.1
GULT	Gulveren	1.65	41	ePN	Pb	05 36 51.9	-0.3
GULT	Gulveren	1.65	41	ePn	Pb	05 36 51.9	-0.3

*ISCJB **01** 05:37:21.0±1.0, 34°.30N±0°.03×32°.08E±0°.05, h15km±8km, Error ellipse: s-maj=7.8km s-min=3.8km az=21.7*
*NIC **01** 05:37:21.9±0.3, 34°.39N×31°.94E, h26km, ML3.5, MW3.4*
*CSEM **01** 05:37:21.1±0.2, 34°.32N×32°.16E, h2km, Mw3.4, Error ellipse: s-maj=6.1km s-min=2.7km az=108.0*
*HLW **01** 05:37:24.7, 34°.27N×32°.12E, h24km±16km, Md3.3, Ml3.2*
ISC 01 05:37:22.4±1.4**, 34°.43N**±0°.03×**32°.02E**±0°.05**, h35**km±5km**, n52, σ0s.72**/74**, 4C-4D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.53	30	⇑P	Pb	05 37 32.5	-1.0
	44nm,0.2s						
PPCY				S	Sn	05 37 41.7	+0.6
PPCY	Paphos	0.53	30	⇑P	Pb	05 37 32.5	-1.0
	44nm,0.2s						
PPCY				S	Sn	05 37 41.7	+0.6
SZAC	Souni-Zanaja	0.78	65	⇓P	Pn	05 37 36.2	-0.8
SZAC				S	Sb	05 37 47.9	-0.1
SZAC	Souni-Zanaja	0.78	65	⇓P	Pn	05 37 36.2	-0.8
SZAC				S	Sb	05 37 47.9	-0.1
ALFC	Alevga	0.87	33	⇑P	Pn	05 37 37.6	-0.5
	66nm,0.1s						
ALFC				S	Sn	05 37 49.9	+0.3
ALFC	Alevga	0.87	33	⇑P	Pn	05 37 37.6	-0.5
	66nm,0.1s						
ALFC				S	Sn	05 37 49.9	+0.3
CSS	Prodhromos	1.20	63	P	Pn	05 37 42.3	-0.4
CSS				S	Sn	05 37 58.5	+0.7
CSS	Prodhromos	1.20	63	Pg	Pn	05 37 42.0	-0.7
CSS	Prodhromos	1.20	63	P	Pn	05 37 42.3	-0.4
CSS				Sg	Sn	05 37 57.5	-0.3
CSS				S		05 37 58.5	
MAMC	Mammari	1.23	53	⇓P	Pn	05 37 43.5	+0.4
MAMC	Mammari	1.23	53	⇓P	Pn	05 37 43.5	+0.4
PHNC	Paralimni	1.75	70	P	Pb	05 37 53.5	-0.4
PHNC				S	Sb	05 38 17.7	+2.1
PHNC	Paralimni	1.75	70	P	Pb	05 37 53.5	-0.4
PHNC				S	Sb	05 38 17.7	+2.1
BHL	Bhannes	3.06	99	eP	Pn	05 38 08.2	-0.1
BHL	Bhannes	3.06	99	eP	Pn	05 38 08.2	-0.1
MMC7	Mount Meron ar	3.14	116	Pn	Pn	05 38 09.5	0.0
MMA0	Mount Meron ar	3.15	116	Pn	Pn	05 38 09.9	+0.3
MMA0				Sn	Sn	05 38 45.6	-0.5
KSDI	Kefar Szold	3.27	111	Pn	Pn	05 38 11.2	0.0
KSDI				Sn	Sn	05 38 48.6	-0.3
RCY	Rachaya	3.30	105	eP	Pn	05 38 11.9	+0.1
RCY	Rachaya	3.30	105	eP	Pn	05 38 11.9	+0.1
SLTI	Sal'it	3.34	130	Pn	Pn	05 38 12.2	+0.1
SLTI				Sn	Sn	05 38 49.4	-1.2
MMLI	Mount Malkishu	3.47	124	Pn	Pn	05 38 14.0	+0.1
MMLI				Sn	Sn	05 38 53.4	-0.4
HMDT	Nahal Hemdat	3.65	126	Pn	Pn	05 38 16.7	+0.3
HMDT				Sn	Sn	05 38 58.1	-0.1
RSH		3.75	157	P	Pn	05 38 18.2	+0.5
AMAG	Maghara	3.91	165	P	Pn	05 38 20.1	+0.1
	baz=165						
AMAG	Maghara	3.91	165	P	Pn	05 38 20.1	+0.1
DSI	Dead Sea	4.01	134	Pn	Pn	05 38 21.6	+0.2
DSI				Sn	Sn	05 39 07.5	+0.3
YTIR	Yattir	4.02	139	Pn	Pn	05 38 22.0	+0.5

KZIT	Kziot	4.04	150	Pn	Pn	05 38 22.4	+0.5
KZIT				Sn	Sn	05 39 07.5	-0.5
MZDA	Masada	4.19	137	Pn	Pn	05 38 24.1	+0.3
MZDA				Sn	Sn	05 39 11.4	-0.2
HBRG	Burj al ‘Arab	4.26	206	S	Sn	05 39 12.8	-0.6
	baz=209						
HBRG	Burj al ‘Arab	4.26	206	S	Sn	05 39 12.8	-0.6
KOT	Kottamia	4.49	182	P	Pn	05 38 28.7	+0.6
	baz=184						
KOT				AMP		05 39 00.0	
	comp=E,40µm,0.2s,logA/T=5.3,baz=184						
KOT				S	Sn	05 39 17.4	-1.7
	baz=184						
KOT	Kottamia	4.49	182	P	Pn	05 38 28.7	+0.6
KOT				S	Sn	05 39 17.4	-1.7
SUZ		4.63	171	P	Pn	05 38 30.5	+0.6
	baz=172						
SUZ		4.63	171	P	Pn	05 38 30.5	+0.6
PRNI	Paran	4.79	147	Pn	Pn	05 38 32.5	+0.4
PRNI				Sn	Sn	05 39 26.8	+0.5
HSAF	As Saff	4.81	185	P	Pn	05 38 32.9	+0.4
	baz=187						
HSAF	As Saff	4.81	185	P	Pn	05 38 32.9	+0.4
GLL	Jalalah	4.85	183	P	Pn	05 38 33.4	+0.5
	baz=185						
GLL	Jalalah	4.85	183	P	Pn	05 38 33.4	+0.5
KRMI	Paran Flat	4.87	151	Pn	Pn	05 38 33.7	+0.5
HNAT	Natroun	4.93	194	P	Pn	05 38 35.6	+1.6
	baz=196						
HNAT	Natroun	4.93	194	P	Pn	05 38 35.6	+1.6
HRFI	Mount Harif	5.07	149	Pn	Pn	05 38 36.3	+0.3
EIL	Elat	5.36	152	Pn	Pn	05 38 39.6	-0.3
EIL				Sn	Sn	05 39 39.7	-0.7
HBST	Basata	5.69	155	P	Pn	05 38 45.4	+1.0
	baz=155						
HBST	Basata	5.69	155	P	Pn	05 38 45.4	+1.0
HDHB	Dhahab	6.11	158	P	Pn	05 38 50.3	+0.1
	baz=158						
HDHB	Dhahab	6.11	158	P	Pn	05 38 50.3	+0.1
HKAT	Jabal Katrina	6.13	164	P	Pn	05 38 50.8	+0.2
	baz=163						
HKAT	Jabal Katrina	6.13	164	P	Pn	05 38 50.8	+0.2

*IDC **01** 05:50:26.1±1.5, 39°.47N×75°.26E, h0^{km}, mb3.6/7, mb1 3.6/12, mb1mx3.5/32, mbtmp3.5/12, ML3.2/5, MS2.6/1, Ms1 2.6/1, ms1mx2.0/42, Error ellipse: s-maj=28.4km s-min=17.6km az=136.0*
*NNC **01** 05:50:32.0±0.7, 40°.05N×75°.25E, h14^{km}±3^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=5.5km s-min=3.1km az=7.0*
ISC 01 05:50:30.2±0.8, **39°.76N**±0°.07×**75°.35E**±0°.06, **h19**^{km}, **n33**, σ**1^s.48**/31, **mb3.7**/7, **9C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.54	117	Pg	Pn	05 50 43.8	+0.8
KSH				Sg	Sn	05 50 52.2	+0.5
KSH				smax	smax		
	comp=N,1µm,0.4s						
KSH				smax	smax		
	comp=E,1µm,0.3s						
KZA	Kyzart	2.31	358	P	Pb	05 51 11.6	0.0
	SNR=66						
UCH	Uchtor	2.54	346	P	Pb	05 51 15.2	-0.3
	SNR=14						
ULHL	Ulahol	2.57	15	P	Pb	05 51 17.0	+1.2
	SNR=24						
AML	Almayashu	2.68	333	P	Pb	05 51 16.6	-1.1
	SNR=22						
KBK	Karagaybulak	2.91	354	P	Pb	05 51 20.5	-1.1
	SNR=30						
AAK	Ala-Archa	2.94	348	Pn	Pb	05 51 20.8	-1.2
	comp=E,12nm,0.3s,baz=157,slow=14,SNR=318						
AAK				Sn	Sb	05 51 57.3	-0.4
	comp=E,9.7nm,0.3s,baz=342,slow=19,SNR=8.1						
AAK	Ala-Archa	2.94	348	P	Pb	05 51 20.9	-1.2
	SNR=128						
EKS2	Erkin-Say	3.13	338	P	Pb	05 51 23.2	-2.1
	SNR=38						
TKM2	Tokmak 2	3.16	3	⇑Pg	Pb	05 51 24.3	-1.6
	comp=E,57nm,0.5s						
TKM2				⇓Lg	Lg	05 52 03.8	
	comp=E,134nm,0.8s						
TKM2	Tokmak 2	3.16	3	P	Pb	05 51 24.0	-1.9
	SNR=132						
CHMS	Chumysh	3.26	352	P	Pb	05 51 25.2	-2.3
	SNR=54						
USP	Ospenovka	3.56	350	P	Pb	05 51 28.8	-3.8
	SNR=20						
KNDC	Almaty	3.66	19	⇓Pg	Pb	05 51 34.7	+0.4
	comp=E,22nm,0.4s						
KNDC				⇑Lg	Lg	05 52 21.0	
	comp=E,333nm,0.7s						
KK31	Karatay Array	4.93	314	Pn	Pn	05 51 45.1	+1.8
	comp=E,0.8nm,0.5s,baz=125,slow=13,SNR=35						
KK31				⇑Pg	Pb	05 51 57.8	+1.8
	comp=E,2.6nm,0.4s,baz=137,slow=15,SNR=12						
KK31				⇓Sn	Sn	05 52 42.7	+2.9
	comp=E,3.8nm,0.3s						
KK31				⇓Lg	Lg	05 53 01.0	
	comp=E,10nm,0.6s,baz=134,slow=27,SNR=5.0						
MK31	Makanchi Array	8.66	33	⇑Pn	Pn	05 52 36.9	+2.5
	comp=E,0.9nm,0.8s,baz=208,slow=14,SNR=6.5						
MK31				⇑Lg	Lg	05 55 01.5	
	comp=E,4.1nm,1.1s,baz=222,slow=29,SNR=3.9						
MKAR	Makanchi Array	8.66	33	Pn	Pn	05 52 38.0	+3.6
	comp=E,0.1nm,0.3s,baz=211,slow=15,SNR=8.2						
MKAR				Lg	Lg	05 55 00.4	
	comp=E,0.1nm,0.3s,baz=221,slow=29,SNR=6.8						
KURBB	Kurchatov Arra	11.09	11	Pn	Pn	05 53 08.9	+1.3
	comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=3.4						
KURBB				Lg	Lg	05 56 17.3	
	baz=194,slow=29,SNR=5.3						
KURBB	Kurchatov Arra	11.09	11	⇑Lg	Lg	05 56 16.1	
	comp=E,2.6nm,0.8s						
KURK	Kurchatov	11.19	11	⇓Lg	Lg	05 56 19.0	
	comp=E,8.0nm,0.9s						
VOSK	Vostochnaya	13.31	348	⇓Pn	Pn	05 53 36.1	-1.9
	comp=E,1.6nm,1.2s						
VOSK				⇓Lg	Lg	05 57 26.0	
	comp=E,7.3nm,1.1s						
BVA0	Borovoye Array	13.70	347	⇓Lg	Lg	05 57 37.5	
	comp=E,1.1nm,1.3s,baz=172,slow=24,SNR=4.7						
BVAR	Borovoye Array	13.70	347	Pn	Pn	05 53 43.4	+0.2
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=4.3						
BVAR				Lg	Lg	05 57 35.3	
	comp=E,0.1nm,0.3s,baz=158,slow=22,SNR=5.6						
BRVK	Borovoye	13.74	347	⇑Lg	Lg	05 57 38.9	
	comp=E,15nm,1.5s						
ZRNK	Zerenda	13.89	344	⇑Pn	Pn	05 53 43.6	-2.3
	comp=E,1.4nm,1.0s						
ZRNK				⇑Lg	Lg	05 57 44.4	
	comp=E,5.3nm,0.9s						
ZALV	Zalesovo Beam	15.58	21	Pn	Pn	05 54 09.2	+0.6
	comp=E,0.1nm,0.3s,baz=206,slow=14,SNR=5.2						
ZALV				LR	LR	05 59 59.3	
	comp=E,21nm,20.1s,baz=265,slow=36						
SONM	Songino Array	23.70	60	P	P	05 55 42.1	+1.3
	comp=E,0.4nm,0.7s,baz=268,slow=10,SNR=5.8						
BRTR	Keskin Array B	31.86	284	P	P	05 56 54.5	+0.4
	comp=E,0.7nm,0.7s,baz=90,slow=8.6,SNR=4.7						
FINES	FINESS Array B	36.83	323	P	P	05 57 36.7	0.0
	comp=E,1.3nm,0.7s,baz=114,slow=8.5,SNR=5.2						
HFS	Hagfors	42.72	320	P	P	05 58 25.7	0.0
	comp=E,1.4nm,0.8s,baz=96,slow=11,SNR=4.0						
ESDC	Sonseca Array	58.97	298	P	P	06 00 26.9	-1.5
	comp=E,0.1nm,0.4s,baz=50,slow=6.9,SNR=4.1						
TORD	Torodi Ar. Bea	69.19	270	P	P	06 01 34.7	-1.1
	comp=E,0.4nm,0.4s,baz=49,slow=5.2,SNR=10.0						
YKA	Yellowknife Ar	77.78	5	P	P	06 02 25.2	-0.4
	comp=E,0.2nm,0.7s,baz=347,slow=5.9,SNR=7.6						

*ISCJB **01** 05:53:05.0±0.3, 46°.33N±0°.02×12°.54E±0°.02, h14^{km}±3^{km}, Error ellipse: s-maj=2.6km s-min=1.9km az=178.2*
*ROM **01** 05:53:05.1±0.2, 46°.35N×12°.55E, h5^{km}, Md2.3/7, Ml1.8/5, Error ellipse: s-maj=4.4km s-min=1.6km az=153.0*
*VIE **01** 05:53:05.3±0.2, 46°.33N×12°.58E, h10^{km}±2^{km}, mb1.4/9, ML2.0/13, Error ellipse: s-maj=1.8km s-min=1.1km az=174.0 18 km ESE of Perarolo*
*CSEM **01** 05:53:05.4±0.1, 46°.32N×12°.55E, h10^{km}, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.4km az=179.0*
ISC 01 05:53:05.5±0.8, **46°.32N**±0°.02×**12°.56E**±0°.01, **h7**^{km}±5^{km}, **n85**, σ**0^s.61**/148, **40C-20D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CIMO	Cimolais	0.08	265	⇓iPg	Pg	05 53 07.6	-0.1
CIMO				iSg	Sg	05 53 09.1	-0.1
CIMO	Cimolais	0.08	265	⇓iPg	Pg	05 53 07.6	-0.1
CIMO				iSg	Sg	05 53 09.1	-0.1
CSO	Casso	0.17	255	⇑ePg	Pg	05 53 08.9	-0.2
CSO				eSg	Sg	05 53 11.5	0.0
CSO	Casso	0.17	255	⇑ePg	Pg	05 53 08.9	-0.2
CSO				eSg	Sg	05 53 11.5	0.0
MLNI	Malnisio	0.17	168	⇓ePg	Pg	05 53 09.1	0.0
MLNI				eSg	Sg	05 53 12.1	+0.7
MLNI	Malnisio	0.17	168	⇓ePg	Pg	05 53 09.1	0.0
MLNI				eSg	Sg	05 53 12.1	+0.7
CSMI	Casera Mimoias	0.20	18	⇑ePg	Pg	05 53 09.8	+0.1
CSMI				eSg	Sg	05 53 13.2	+0.6
CSMI	Casera Mimoias	0.20	18	⇑ePg	Pg	05 53 09.8	+0.1
CSMI				eSg	Sg	05 53 13.2	+0.6
POLC	Polcenigo	0.29	188	⇑ePg	Pg	05 53 11.7	+0.4
POLC				eSg	Sg	05 53 16.9	+1.7
MPRI	Monte Prat	0.31	104	⇓ePg	Pg	05 53 11.5	-0.1
MPRI				eSg	Sg	05 53 16.7	+1.0
MPRI	Monte Prat	0.31	104	⇓ePg	Pg	05 53 11.5	-0.1
MPRI				eSg	Sg	05 53 16.7	+1.0
FVI	Forni Avoltri	0.32	28	Pg	Pg	05 53 11.8	0.0
FVI				Sg	Sg	05 53 16.9	+0.8
	117nm,0.1s						
FVI	Forni Avoltri	0.32	28	ePg	Pg	05 53 11.8	0.0
FVI				Sg	Sg	05 53 16.9	+0.8
	117nm,0.1s						
FUSE	Fusea	0.32	72	⇑ePg	Pg	05 53 11.7	-0.1
FUSE				eSg	Sg	05 53 17.1	+1.0
FUSE	Fusea	0.32	72	⇑ePg	Pg	05 53 11.7	-0.1
FUSE				eSg	Sg	05 53 17.1	+1.0
CAE	Caneva	0.32	196	⇑ePg	Pg	05 53 11.6	-0.3
CAE				eSg	Sg	05 53 16.9	+0.8
CAE	Caneva	0.32	196	⇑ePg	Pg	05 53 11.6	-0.3
CAE				eSg	Sg	05 53 16.9	+0.8
AGOR	Agordo	0.36	265	ePg	Pg	05 53 12.3	-0.2
AGOR				eSg	Sg	05 53 17.9	+0.6
AGOR	Agordo	0.36	265	Pg	Pg	05 53 12.3	-0.2
AGOR				Sg	Sg	05 53 18.3	+1.0
	82nm,0.5s						
AGOR	Agordo	0.36	265	ePg	Pg	05 53 12.3	-0.2
AGOR				eSg	Sg	05 53 17.9	+0.6
ZOU	Zoufplan	0.37	50	⇑ePg	Pg	05 53 12.8	-0.1
ZOU				eSg	Sg	05 53 18.9	+1.1
BOO	Bordano	0.37	89	⇓ePg	Pg	05 53 12.5	-0.3
BOO	Bordano	0.37	89	⇓ePg	Pg	05 53 12.5	-0.3
BOO				eSg	Sg	05 53 18.9	+1.1
BUA	Buia	0.40	104	Pg	Pg	05 53 13.6	+0.2
BUA	Buia	0.40	104	Pg	Pg	05 53 13.6	+0.2
FAU	Forcella Aurin	0.41	258	⇑ePg	Pg	05 53 13.2	-0.4
FAU	Forcella Aurin	0.41	258	⇑ePg	Pg	05 53 13.2	-0.4
ABTA	Abfaltersbach	0.43	356	ePg	Pg	05 53 14.2	+0.2
	SNR=12						
ABTA				⇑iSg	Sg	05 53 20.2	+0.6
	40nm,0.2s						
ABTA	Abfaltersbach	0.43	356	ePg	Pg	05 53 14.2	+0.2
ABTA				Sg	Sg	05 53 20.2	+0.6
	40nm,0.2s						
VARN	Col Varnada, M	0.45	225	ePg	Pg	05 53 13.4	-0.9
VARN				eSg	Sg	05 53 20.7	+0.4
VARN	Col Varnada, M	0.45	225	ePg	Pg	05 53 13.4	-0.9
VARN				eSg	Sg	05 53 20.7	+0.4
BAD	Bernadia	0.48	99	⇓ePg	Pg	05 53 14.6	-0.2
BAD				eSg	Sg	05 53 22.2	+1.1
BAD	Bernadia	0.48	99	⇓ePg	Pg	05 53 14.6	-0.2
BAD				eSg	Sg	05 53 22.2	+1.1
VINO	Villanova	0.50	97	⇓ePg	Pg	05 53 14.9	-0.4
VINO				eSg	Sg	05 53 22.8	+0.9
VINO	Villanova	0.50	97	⇓ePg	Pg	05 53 14.9	-0.4
VINO				eSg	Sg	05 53 22.8	+0.9
PTCC	Patocco-Chiusa	0.56	81	Pg	Pg	05 53 15.8	-0.5
PTCC				Sg	Sb	05 53 25.8	0.0
	1.0nm,0.2s						
PTCC	Patocco-Chiusa	0.56	81	ePg	Pg	05 53 15.8	-0.5
PTCC				eSg	Sb	05 53 25.8	0.0
COLI	Coloredo	0.60	108	⇓ePg	Pg	05 53 16.9	-0.2
COLI				eSg	Sb	05 53 26.6	-0.3
COLI	Coloredo	0.60	108	⇓ePg	Pg	05 53 16.9	-0.2
COLI				eSg	Sb	05 53 26.6	-0.3
ROBS	Robic	0.66	96	iPg	Pg	05 53 17.7	-0.6
ROBS				iSg	Sg	05 53 27.8	+0.9
ROBS							
	comp=Z,2.0nm,0.1s						
ROBS	Robic	0.66	96	iPg	Pg	05 53 17.7	-0.6
ROBS				eSg	Sg	05 53 27.8	+0.9
CGRP	Cima Grappa	0.69	231	⇑ePg	Pg	05 53 19.1	+0.3
CGRP				eSg	Sb	05 53 29.3	-0.3
CGRP	Cima Grappa	0.69	231	Pg	Pg	05 53 19.3	+0.5
CGRP				Sg	Sb	05 53 30.3	+0.7
CGRP	Cima Grappa	0.69	231	⇑ePg	Pg	05 53 19.1	+0.3
CGRP				eSg	Sb	05 53 29.3	-0.3
CTI	Castel Tesino	0.69	247	Pg	Pg	05 53 19.0	+0.2
CTI				Sg	Sb	05 53 29.7	+0.1
	comp=Z,43nm,0.3s						
CTI	Castel Tesino	0.69	247	ePg	Pg	05 53 19.0	+0.2
CTI				eSg	Sb	05 53 29.7	+0.1
ACOM	Acomizza, Ital	0.70	70	⇓ePg	Pg	05 53 19.1	0.0
ACOM				eSg	Sb	05 53 29.7	-0.3
ACOM	Acomizza, Ital	0.70	70	Pg	Pg	05 53 19.0	0.0
ACOM				Sg	Sb	05 53 30.4	+0.4
	comp=Z,39nm,0.6s						
ACOM	Acomizza, Ital	0.70	70	⇓ePg	Pg	05 53 19.0	0.0
ACOM				eSg	Sb	05 53 29.7	-0.3
RISI	Rein	0.71	332	⇓ePg	Pg	05 53 19.5	+0.2
MYKA	Terra Mystica	0.81	67	⇑iPg	Pg	05 53 20.3	-0.8
MYKA	Terra Mystica	0.81	67	⇑iPg	Pg	05 53 20.3	-0.8
CADS	Cadrg	0.82	96	iPg	Pg	05 53 20.7	-0.6
CADS				iSg	Sb	05 53 33.3	-0.1
CADS							
	comp=Z,2.0nm,0.1s						
CADS	Cadrg	0.82	96	iPg	Pg	05 53 20.7	-0.6
CADS				iSg	Sb	05 53 33.3	-0.1
KOSI	Kohlern	0.83	281	⇑ePg	Pg	05 53 21.7	+0.2
PANI	Panarotta	0.91	253	⇑ePg	Pg	05 53 22.9	-0.1
PANI	Panarotta	0.91	253	⇑ePg	Pg	05 53 22.9	-0.1
KBA	Koelnbreinsper	0.93	35	⇑iPg	Pg	05 53 22.9	-0.6
KBA				⇑iSg	Sg	05 53 35.7	+0.1
	comp=Z,4.6nm,0.1s						
KBA	Koelnbreinsper	0.93	35	⇑iPg	Pg	05 53 22.9	-0.6
KBA				iSg	Sg	05 53 35.7	+0.1
APPI	Appiano	0.94	280	Pg	Pg	05 53 23.7	+0.2
	comp=Z,15nm,0.4s						
APPI	Appiano	0.94	280	Pg	Pg	05 53 23.7	+0.2
	comp=Z,15nm,0.4s						
ABSI	Aberstueckl	0.95	296	⇑ePg	Pg	05 53 23.7	-0.1
VOJS	Vojsko	0.96	107	iSg	Sn	05 53 39.2	-0.3
VOY	Vojsko	0.97	107	ePg	Pn	05 53 26.2	+0.6
VOY	Vojsko	0.97	107	ePg	Pn	05 53 26.2	+0.6
VOY				eSg	Sn	05 53 39.2	-0.4
GORS	Gorjuse	0.99	89	iPg	Pg	05 53 24.0	-0.6
GORS	Gorjuse	0.99	89	iPg	Pg	05 53 24.0	-0.6
ROSI	Rosskopf	1.00	308	⇑ePg	Pg	05 53 25.1	+0.3
DDS	Dosso del Somm	1.05	246	⇓ePg	Pg	05 53 25.6	-0.1
DDS	Dosso del Somm	1.05	246	⇓ePg	Pg	05 53 25.6	-0.1
JAVS	Javornik	1.13	112	iPg	Pn	05 53 27.9	+0.1
JAVS				iSg	Sn	05 53 44.4	+0.8
JAVS							
	comp=Z,3.0nm,0.1s						
JAVS	Javornik	1.13	112	iPg	Pn	05 53 27.9	+0.1
JAVS				iSg	Sn	05 53 44.4	+0.8
	comp=Z,3.0nm,0.1s						
WTTA	Wattenberg	1.14	326	⇑ePg	Pg	05 53 27.7	+0.2
	SNR=9.4						
WTTA				⇓iSg	Sb	05 53 42.9	+0.2
	comp=Z,7.1nm,0.3s						
WTTA	Wattenberg	1.14	326	⇑ePg	Pg	05 53 27.6	+0.2
WTTA				iSg	Sb	05 53 42.9	+0.2
WATA	Walderalm	1.22	327	⇑ePg	Pb	05 53 28.9	-0.1
	SNR=7.1						
WATA				⇑iSg	Sn	05 53 45.4	-0.6
	comp=Z,3.0nm,0.2s						
WATA	Walderalm	1.22	327	⇑ePg	Pb	05 53 28.9	-0.1
WATA				iSg	Sn	05 53 45.4	-0.6
MOSI	Grossmontoni	1.42	283	⇑ePg	Pg	05 53 32.7	-0.1
FETA	Feichten	1.44	300	⇑iPg	Pb	05 53 33.0	+0.2
FETA	Feichten	1.44	300	⇑iPg	Pb	05 53 33.0	+0.2
RETA	Reutte	1.70	314	⇑iPg	Pg	05 53 38.5	+0.4
RETA				⇑iSg	Sg	05 54 01.4	+1.2
	comp=Z,2.1nm,0.3s						
RETA	Reutte	1.70	314	⇑iPg	Pg	05 53 38.5	+0.4
RETA				iSg	Sg	05 54 01.4	+1.2
MOA	Molln	1.93	37	⇑iPg	Pg	05 53 42.0	-0.4
MOA				⇑iSn	Sn	05 54 02.1	-1.1
MOA				⇑iSg	Sg	05 54 08.4	+1.0
	comp=Z,1.3nm,0.2s						
MOA	Molln	1.93	37	⇑iPg	Pg	05 53 42.0	-0.4
MOA				iSn	Sn	05 54 02.1	-1.1
MOA				Sg	Sg	05 54 08.4	+1.0
	comp=Z,1.3nm,0.2s						
NVLJ	Novalja	2.39	136	iPn	Pn	05 53 43.0	-2.1
NVLJ				Sn	Sn	05 54 15.3	+0.8
NVLJ	Novalja	2.39	136	iPn	Pn	05 53 42.9	-2.1
NVLJ				Sn	Sn	05 54 15.3	+0.8

*NAO **01** 05:56:24.9±2.5, 67°.56N×32°.92E, ML2.4*
*HEL **01** 05:56:24.0±0.9, 67°.90N×32°.97E, h0^{km}, ML1.9, Explosion*
*IDC **01** 05:56:24.3±2.7, 67°.67N×33°.19E, h0^{km}, mb1 3.1/3, mb1mx2.8/27, mbtmp3.1/3, ML2.7/4, Error ellipse: s-maj=30.3km s-min=9.4km az=74.0*
*CSEM **01** 05:56:26.4±1.0, 67°.70N×32°.51E, h1^{km}, ML1.9, Error ellipse: s-maj=22.8km s-min=9.3km az=97.0, Mining explosion.*
ISC 01 05:56:20.1±1.8, **67°.60N**±0°.04×**33°.6E**±0°.1, **h0**^{km}, **n32**, σ**1^s.46**/51, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRF	Varrio	1.52	278	PG	Pb	05 56 49.4	+0.4
	baz=87						
VRF				RG	Rg	05 57 10.7	
KU6	Riekki	2.14	224	PN	Pb	05 57 00.1	+0.3
KU6				SG	Sg	05 57 31.4	+2.6
KU6				MSG		05 57 31.4	
	comp=Z,6.7nm,0.4s						
KU6	Riekki	2.14	224	Pn	Pb	05 57 00.0	+0.3
KU6				Sg	Sg	05 57 31.4	+2.6
MSF	Maaselka	2.46	229	PN	Pb	05 57 05.4	+0.2
MSF				SG	Sg	05 57 40.2	+1.1
MSF				MSG		05 57 40.2	
	comp=Z,3.2nm,0.4s						
MSF	Maaselka	2.46	229	Pn	Pb	05 57 05.4	+0.2
MSF				Sg	Sg	05 57 40.2	+1.1
SGF	Sodankyl	2.71	270	PN	Pb	05 57 08.0	-1.3
SGF	Sodankyl	2.71	270	Pn	Pb	05 57 08.0	-1.3
RNF	Rovaniemi	3.11	255	PN	Pn	05 57 12.3	+2.0
RNF				SG	Sb	05 57 52.7	-1.9
RNF				MSG		05 57 52.7	
	comp=Z,1.3nm,0.1s						
RNF	Rovaniemi	3.11	255	Pn	Pn	05 57 12.3	+2.0
RNF				Sg	Sb	05 57 52.7	-1.9
KEV	Kevo	3.23	315	PN	Pn	05 57 13.3	+1.3
KEV				SG	Sn	05 57 53.1	+2.1
KEV				MSG		05 57 53.1	
	comp=Z,3.6nm,0.2s						
KEV	Kevo	3.23	315	Pn	Pn	05 57 13.2	+1.3
KEV				Sg	Sn	05 57 53.1	+2.1
ARA0	ARCESS Array S	3.54	307	Pn	Pn	05 57 17.1	+0.8
	baz=123,slow=16						
ARA0				Pg	Pg	05 57 25.9	-1.9
	baz=120,slow=16						
ARA0				Sn	Sn	05 57 58.9	+0.2
	baz=121,slow=28						
ARA0				Lg	Lg	05 58 10.0	
	baz=127,slow=28						
ARA0	ARCESS Array S	3.54	307	Pn	Pn	05 57 17.1	+0.8
	baz=123,slow=16						
ARA0				Pg	Pg	05 57 25.9	-1.9
	baz=120,slow=16						
ARA0				Sn	Sn	05 57 58.9	+0.2
	baz=121,slow=28						
ARA0				Lg	Lg	05 58 10.0	
	baz=127,slow=28						
ARA0	ARCESS Array S	3.54	307	PN	Pn	05 57 16.5	+0.3
	baz=124						
ARA0				SG	Sn	05 57 58.9	+0.2
ARA0				MSG		05 57 58.9	
	comp=Z,3.8nm,0.3s						
ARA0	ARCESS Array S	3.54	307	Pn	Pn	05 57 17.0	+0.8
	baz=123,slow=15,SNR=141						
ARA0				Sg	Sn	05 57 58.9	+0.2
ARA0				Lg	Lg	05 58 10.0	
	baz=127,slow=28						
ARCES	ARCESS Array B	3.54	307	Pn	Pn	05 57 17.1	+0.9
	comp=Z,2.0nm,0.3s,baz=122,slow=15,SNR=113						
ARCES				Pg	Pb	05 57 24.2	+0.7
	comp=Z,1.4nm,0.3s,baz=120,slow=15,SNR=11						
ARCES				Sn	Sn	05 57 58.4	-0.3
	comp=Z,1.4nm,0.3s,baz=122,slow=24,SNR=8.2						
ARCES				Lg	Lg	05 58 09.7	
	comp=Z,4.2nm,0.3s,baz=125,slow=29,SNR=12						
HEF	Hetta	3.81	287	SG	Sn	05 58 08.1	+2.7
HEF				MSG		05 58 08.1	
	comp=Z,2.2nm,0.4s						
HEF	Hetta	3.81	287	Sg	Sn	05 58 08.1	+2.7
OUL	Oulu	3.98	234	SG	Sg	05 58 29.3	+1.4
OUL				MSG		05 58 29.3	
	comp=Z,2.1nm,0.4s						
KTK1	Kautokeino	4.09	295	eP	Pn	05 57 25.4	+1.7
KTK1				AML	AML	05 58 32.2	
	comp=Z,23nm,0.7s						
KTK1	Kautokeino	4.09	295	eP	Pn	05 57 25.4	+1.7
	SNR=49						
LANU	Lannavaara	4.41	281	PN	Pn	05 57 27.7	-0.5
	baz=91						
LANU	Lannavaara	4.41	281	Pn	Pn	05 57 27.6	-0.5
FIA0	FINESS Array S	6.96	211	Pn	Pn	05 58 04.6	+1.4
	baz=22,slow=16						
FIA0				Sn	Sn	05 59 20.6	-2.3
	baz=24,slow=28						
FIA0				Lg	Lg	05 59 56.2	
	baz=32,slow=28						
FIA0	FINESS Array S	6.96	211	Pn	Pn	05 58 04.6	+1.4
	baz=22,slow=16						
FIA0				Sn	Sn	05 59 20.6	-2.3
	baz=24,slow=28						
FIA0				Lg	Lg	05 59 56.2	
	baz=32,slow=28						
FIA0	FINESS Array S	6.96	211	Pn	Pn	05 58 04.6	+1.4
	baz=22,slow=14,SNR=6.1						
FIA0				Lg	Lg	05 59 56.2	
	baz=32,slow=26						
FINES	FINESS Array B	6.96	211	Pn	Pn	05 58 04.5	+1.4
	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=5.2						
FINES				Sn	Sn	05 59 22.4	-0.6
	comp=Z,0.2nm,0.3s,baz=22,slow=23,SNR=3.7						
FINES				Lg	Lg	05 59 54.6	
	comp=Z,0.7nm,0.3s,baz=29,slow=26,SNR=7.6						
HFS	Hagfors	11.46	239	Pn	Pn	05 59 03.3	-1.5
	comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=4.8						
NB2	NORSAR Subarra	11.65	246	Pn	Pn	05 59 08.0	+0.6
NB2	NORSAR Subarra	11.65	246	Pn	Pn	05 59 08.0	+0.6
NB2	NORSAR Subarra	11.65	246	Pn	Pn	05 59 07.9	+0.6
NOA	NORSAR Array B	11.65	246	Pn	Pn	05 59 07.6	+0.2
	comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=3.0						

*CSEM **01** 06:18:05.8±0.2, 37°.84N×29°.06E, h2^{km}, MD2.9, Error ellipse: s-maj=4.6km s-min=3.7km az=99.0*
*DDA **01** 06:18:05.6, 37°.85N×29°.11E, h5^{km}, ML2.9*
*ISK **01** 06:18:05.0, 37°.85N×28°.95E, h4^{km}, MD2.9*
ISC 01 06:18:05.8±1.2, **37°.84N**±0°.02×**29°.04E**±0°.03, **h0**^{km}±11^{km}, **n30**, σ**0^s.67**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.09	182	ePG	Pg	06 18 08.2	+0.7
DENT	Denizli	0.09	182	ePg	Pg	06 18 08.2	+0.7
DNZL	Cakiroluk	0.15	177	iP	Pg	06 18 09.1	+0.4
DNZL				iS	Sg	06 18 11.2	+0.5
DNZL	Cakiroluk	0.15	177	iP	Pg	06 18 09.1	+0.4
DNZL				iS	Sg	06 18 11.2	+0.5
KHL	Karahalli	0.61	38	ePG	Pg	06 18 18.0	+0.4
KHL	Karahalli	0.61	38	ePg	Pg	06 18 18.0	+0.4
KHAL	Karahalli	0.64	34	iP	Pg	06 18 17.6	-0.5
KHAL	Karahalli	0.64	34	iP	Pg	06 18 17.6	-0.5
GOLH	Golhisar	0.73	145	iP	Pg	06 18 19.0	-0.9
GOLH				iS	Sb	06 18 30.9	-1.3
GOLH	Golhisar	0.73	145	iP	Pg	06 18 19.0	-0.9
GOLH				iS	Sb	06 18 30.9	-1.3
KULA	Kula-Manisa	0.73	336	ePG	Pg	06 18 19.1	-0.8
KULA	Kula-Manisa	0.73	336	ePg	Pg	06 18 19.1	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	Manisa	0.75	330	iP	Pg	06 18 21.0	+0.8
MANT				iS	Sb	06 18 32.3	-0.5
MANT	Manisa	0.75	330	iP	Pg	06 18 21.0	+0.8
MANT				iS	Sb	06 18 32.3	-0.5
YER	Yerkesik	0.93	221	ePG	Pg	06 18 22.7	-0.9
YER				eSG	Sg	06 18 35.5	-0.1
YER	Yerkesik	0.93	221	ePg	Pg	06 18 22.7	-0.9
YER				eSg	Sg	06 18 35.5	-0.1
AYDN	Tasoluk	0.94	259	iP	Pb	06 18 25.2	+0.2
AYDN				iS	Sb	06 18 37.6	-0.4
AYDN	Tasoluk	0.94	259	iP	Pb	06 18 25.2	+0.2
AYDN				iS	Sb	06 18 37.6	-0.4
FETY	Fethiye	1.21	178	ePN	Pg	06 18 28.7	-0.2
FETY	Fethiye	1.21	178	ePn	Pg	06 18 28.7	-0.2
BCK	Bucak	1.29	107	ePN	Pn	06 18 31.1	-0.1
BCK	Bucak	1.29	107	ePn	Pn	06 18 31.1	-0.1
ELL	Elmali	1.29	147	ePN	Pn	06 18 31.1	-0.2
ELL				eSN	Sn	06 18 50.2	+0.8
ELL	Elmali	1.29	147	ePn	Pn	06 18 31.1	-0.2
ELL				eSn	Sn	06 18 50.2	+0.8
SHUT	Suhut-Afyon	1.39	59	ePN	Pg	06 18 32.2	-0.2
SHUT				eSN	Sn	06 18 53.0	+1.3
SHUT	Suhut-Afyon	1.39	59	ePn	Pg	06 18 32.2	-0.2
SHUT				eSn	Sn	06 18 53.0	+1.3
ALT	Altintas	1.48	34	ePN	Pn	06 18 33.6	-0.2
ALT	Altintas	1.48	34	ePn	Pn	06 18 33.6	-0.2
TVSB	Tavsanli	1.64	12	ePN	Pn	06 18 35.5	-0.6
TVSB	Tavsanli	1.64	12	ePn	Pn	06 18 35.5	-0.6

*ISK **01** 06:23:13.2, 35°.27N×26°.65E, h81km, MD3.6*
*ATH **01** 06:23:19.0, 35°.57N×27°.37E, h80km±2km*
*CSEM **01** 06:23:19.5±0.4, 35°.66N×27°.17E, h2km, MD3.6, Error ellipse: s-maj=11.7km s-min=5.2km az=154.0*
*ISCJB **01** 06:23:20.4±1.0, 35°.58N±0°.06×27°.22E±0°.05, h17km±12km, Error ellipse: s-maj=11.4km s-min=5.3km az=157.1*
*DDA **01** 06:23:23.7, 35°.76N×27°.18E, h30km, MD2.9*
ISC 01 06:23:19.7±1.4**, 35°.63N**±0°.05×**27°.18E**±0°.04**, h4**km±11km**, n30, σ1^{s}00**/46**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.97	52	eP	Pg	06 23 37.7	-0.5
ARG				eS	Sb	06 23 51.3	-0.8
ARG	Arkhangelos	0.97	52	eP	Pg	06 23 37.7	-0.5
ARG				eS	Sb	06 23 51.3	-0.8
NPS	Neapolis	1.33	255	eP	Pg	06 23 44.6	-0.5
NPS				eS	Sn	06 24 03.6	+0.5
NPS	Neapolis	1.33	255	eP	Pg	06 23 44.6	-0.5
NPS				eS	Sn	06 24 03.6	+0.5
XRY	Khrisi	1.43	239	eP	Pn	06 23 45.3	-1.0
XRY	Khrisi	1.43	239	eP	Pn	06 23 45.3	-1.0
BODT	Bodrum	1.44	4	ePN	Pn	06 23 44.4	-2.1
BODT				eSN	Sn	06 24 07.6	+1.9
BODT	Bodrum	1.44	4	ePn	Pn	06 23 44.4	-2.1
BODT				eSn	Sn	06 24 07.6	+1.9
TURN	Turunc	1.69	42	iP	Pn	06 23 46.0	-4.0
TURN				iS	Sn	06 24 04.6	-7.5
TURN	Turunc	1.69	42	iP	Pn	06 23 46.0	-4.0
TURN				iS	Sn	06 24 04.6	-7.5
MLSB	Milas	1.73	16	ePN	Pn	06 23 49.8	-0.8
MLSB				eSN	Sg	06 24 16.4	+1.1
MLSB	Milas	1.73	16	ePn	Pn	06 23 49.8	-0.8
MLSB				eSn	Sg	06 24 16.4	+1.1
YER	Yerkesik	1.75	30	ePN	Pn	06 23 50.2	-0.6
YER				eSN	Sg	06 24 16.9	+1.0
YER	Yerkesik	1.75	30	ePn	Pn	06 23 50.2	-0.6
YER				eSn	Sg	06 24 16.9	+1.0
FETY	Fethiye	1.84	56	ePN	Pn	06 23 51.6	-0.4
FETY	Fethiye	1.84	56	ePn	Pn	06 23 51.7	-0.4
APE	Apeiranthos	1.96	318	eP	Pn	06 23 53.8	+0.1
APE				eS	Sn	06 24 19.3	+0.6
APE	Apeiranthos	1.96	318	eP	Pn	06 23 53.8	+0.1
APE				eS	Sn	06 24 19.3	+0.6
AYDN	Tasoluk	2.11	15	iP	Pn	06 23 55.9	+0.2
AYDN				iS	Sn	06 24 21.7	-0.7
AYDN	Tasoluk	2.11	15	iP	Pn	06 23 55.9	+0.2
AYDN				iS	Sn	06 24 21.7	-0.7
ELL	Elmali	2.48	62	ePN	Pn	06 24 01.5	+0.7
ELL	Elmali	2.48	62	ePn	Pn	06 24 01.5	+0.7
GOLH	Golhisar	2.50	49	iP	Pn	06 24 00.7	-0.5
GOLH				iS	Sb	06 24 35.9	-0.6
GOLH	Golhisar	2.50	49	iP	Pn	06 24 00.7	-0.5
GOLH				iS	Sb	06 24 35.9	-0.6
KORT	Korkueli	2.91	61	iP	Pn	06 24 08.6	+1.8
KORT				iS	Sn	06 24 42.2	0.0
KORT	Korkueli	2.91	61	iP	Pn	06 24 08.6	+1.8
KORT				iS	Sn	06 24 42.2	0.0
KULA	Kula-Manisa	3.12	22	ePN	Pn	06 24 08.3	-1.3
KULA	Kula-Manisa	3.12	22	ePn	Pn	06 24 08.3	-1.3
VLI	Veliai	3.60	289	eP	Pn	06 24 17.0	+0.8
VLI	Veliai	3.60	289	eP	Pn	06 24 17.0	+0.8

*DDA **01** 06:31:38.6, 39°.17N×29°.34E, h7km, MD2.5*
*ISK **01** 06:31:38.8, 39°.22N×29°.41E, h11km, MD2.6*
*CSEM **01** 06:31:38.8±0.2, 39°.21N×29°.36E, h1km, MD2.5, Error ellipse: s-maj=3.7km s-min=3.3km az=131.0*
ISC 01 06:31:38.8±1.0**, 39°.20N**±0°.02×**29°.36E**±0°.02**, h4**km±10km**, n30, σ0^{s}44**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.15	139	iP	Pg	06 31 41.6	-0.2
GDZ				iS	Sg	06 31 44.1	+0.3
GDZ	Gediz	0.15	139	iP	Pg	06 31 41.6	-0.2
GDZ				iS	Sg	06 31 44.1	+0.3
TVSB	Tavsanli	0.26	18	ePG	Pg	06 31 43.9	0.0
TVSB				eSG	Sg	06 31 47.9	+0.6
TVSB	Tavsanli	0.26	18	ePg	Pg	06 31 43.9	0.0
TVSB				eSg	Sg	06 31 47.9	+0.6
ALT	Altintas	0.60	104	ePG	Pg	06 31 50.2	-0.2
ALT				eSG	Sg	06 31 58.7	+0.4
ALT	Altintas	0.60	104	ePg	Pg	06 31 50.2	-0.2
ALT				eSg	Sg	06 31 58.7	+0.4
DURS	Dursunbey	0.79	301	iP	Pb	06 31 54.8	-0.3
DURS				iS	Sn	06 32 10.0	+1.0
DURS	Dursunbey	0.79	301	iP	Pb	06 31 54.8	-0.3
KULA	Kula-Manisa	0.88	219	ePG	Pb	06 31 56.9	+0.3
KULA	Kula-Manisa	0.88	219	ePg	Pb	06 31 56.9	+0.3
KHL	Karahalli	0.89	171	ePG	Pb	06 31 56.6	-0.2
KHL	Karahalli	0.89	171	ePg	Pb	06 31 56.6	-0.2
MANT	Manisa	0.94	221	iP	Pg	06 31 56.6	-0.3
MANT				iS	Sg	06 32 09.2	0.0
MANT	Manisa	0.94	221	iP	Pg	06 31 56.6	-0.3
MANT				iS	Sg	06 32 09.2	0.0
ULDT	Uludag	0.95	350	iP	Pb	06 31 57.7	-0.3
ULDT				iS	Sn	06 32 13.9	+0.6
ULDT	Uludag	0.95	350	iP	Pb	06 31 57.7	-0.3
CAVI	Cavuskoy	1.07	20	ePG	Pb	06 31 59.8	0.0
CAVI	Cavuskoy	1.07	20	ePg	Pb	06 31 59.8	0.0
BORA	Eskisehir	1.09	51	iP	Pg	06 31 59.2	-0.4
BORA				iS	Sb	06 32 14.6	-0.1
BORA	Eskisehir	1.09	51	iP	Pg	06 31 59.2	-0.4
BORA				iS	Sb	06 32 14.6	-0.1
SEYT	Eskypehyr	1.20	74	iP	Pn	06 32 02.8	+0.4
SEYT				iS	Sg	06 32 17.3	-0.1
SEYT	Eskypehyr	1.20	74	iP	Pn	06 32 02.8	+0.4
SEYT				iS	Sg	06 32 17.3	-0.1
KCTX	Karacabey (Bur	1.31	324	ePN	Pn	06 32 03.9	0.0
KCTX	Karacabey (Bur	1.31	324	ePn	Pn	06 32 03.9	0.0
YLV	Yalova	1.36	1	ePN	Pn	06 32 04.0	-0.6
YLV	Yalova	1.36	1	ePn	Pn	06 32 04.0	-0.6
BALY	Balya	1.45	292	iP	Pn	06 32 05.0	-0.8
BALY				iS	Sg	06 32 26.0	+0.7
BALY	Balya	1.45	292	iP	Pn	06 32 05.0	-0.8
BALY				iS	Sg	06 32 26.0	+0.7
GULT	Gulveren	1.52	36	ePN	Pn	06 32 06.1	-0.7
GULT	Gulveren	1.52	36	ePn	Pn	06 32 06.1	-0.7

*ISK **01** 06:36:06.5, 39°.91N×39°.06E, h12km, MD2.5*
*DDA **01** 06:36:06.8, 39°.86N×39°.11E, h7km, MD2.8*
*CSEM **01** 06:36:06.9±0.2, 39°.88N×39°.11E, h20km, MD2.5, Error ellipse: s-maj=5.0km s-min=3.5km az=131.0*
*ISCJB **01** 06:36:07.6±1.0, 39°.89N±0°.04×39°.10E±0°.05, h19km±18km, Error ellipse: s-maj=6.9km s-min=6.6km az=161.1*
ISC 01 06:36:07.1±1.0**, 39°.88N**±0°.03×**39°.09E**±0°.03**, h14**km±11km**, n17, σ0^{s}60**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	Erzincan	0.24	123	ePG	Pb	06 36 12.8	-0.5
EZC	Erzincan	0.24	123	ePg	Pb	06 36 12.8	-0.5
EZC				eSg	Sb	06 36 27.4	+10
KELT	Kelkit	0.29	25	iP	Pb	06 36 13.7	-0.6
KELT				iS	Sg	06 36 18.0	+0.3
KELT	Kelkit	0.29	25	iP	Pb	06 36 13.7	-0.6
KELT				iS	Sg	06 36 18.0	+0.3
ERZN	Erzincan	0.57	121	ePG	Pb	06 36 19.0	+0.1
ERZN				eSG	Sb	06 36 27.4	+0.5
ILIC	ilic-Erzincan	0.59	223	ePG	Pg	06 36 18.4	-0.3
ILIC	ilic-Erzincan	0.59	223	ePg	Pg	06 36 18.5	-0.3
GUMT	Gumushane	0.65	27	ePG	Pb	06 36 20.0	-0.3
GUMT	Gumushane	0.65	27	ePg	Pb	06 36 20.0	-0.3
SUSE	Susehri	0.76	296	iP	Pb	06 36 22.0	-0.2
SUSE				iS	Sb	06 36 33.1	+0.7
SUSE	Susehri	0.76	296	iP	Pb	06 36 22.0	-0.2
SUSE				iS	Sb	06 36 33.1	+0.7
KEMA	Kemaliye	0.77	217	iP	Pb	06 36 21.4	-0.9
KEMA				iS	Sg	06 36 32.8	+0.6
KEMA	Kemaliye	0.77	217	iP	Pb	06 36 21.4	-0.9
KEMA				iS	Sg	06 36 32.8	+0.6
BAYT	Ayd˜–ntepe-Bay	0.95	57	ePG	Pb	06 36 25.0	-0.5
BAYT	Ayd˜–ntepe-Bay	0.95	57	ePg	Pb	06 36 25.0	-0.5
ESPY	Espiye-Giresun	1.07	345	ePG	Pb	06 36 26.6	-0.8
ESPY	Espiye-Giresun	1.07	345	ePg	Pb	06 36 26.6	-0.8

IDC 01 06:51:36.0±1.7**, 3°.89N**×**126°.41E, h0**km**, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.6**/23**, mbtmp3.7**/5**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.4**/29**, Error ellipse: s-maj=105.8km s-min=22.3km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.87	182	P	P	06 56 30.3	-0.3
	1.6nm,0.5s,baz=12,slow=9.3,SNR=3.6						
WRA	Warramunga Arr	24.93	162	P	P	06 57 00.6	-0.6
	1.1nm,0.4s,baz=341,slow=11,SNR=6.2						
ASAR	Alice Springs	28.35	165	P	P	06 57 32.4	+0.4
	0.3nm,0.5s,baz=343,slow=7.8,SNR=5.4						
ASAR				LR	LR	07 08 44.1	
	comp=Z,31nm,21.6s,baz=116,slow=36						
STKA	Stephens Creek	38.39	159	P	P	06 58 59.4	+0.1
	1.9nm,0.8s,baz=340,slow=11,SNR=4.7						
MKAR	Makanchi Array	57.24	325	P	P	07 01 25.3	0.0
	0.3nm,0.4s,baz=124,slow=5.7,SNR=12						

IDC 01 06:54:30.4±0.7**, 46°.95N**×**155°.33E, h0**km**, mb3.7**/14**, mb1 3.9**/17**, mb1mx3.8**/29**, mbtmp3.7**/17**, ML3.4**/3**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx1.9**/41**, Error ellipse: s-maj=20.6km s-min=15.6km az=114.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.36	13	Pn	Pn	06 56 05.5	+0.2
	0.8nm,0.3s,baz=181,slow=14,SNR=19						
PETK				Sn	Sn	06 57 19.3	+0.7
	baz=116,slow=20,SNR=2.0						
ASAJ	Asahikawa	9.37	257	Pn	Pn	06 56 47.6	+0.9
	0.5nm,0.3s,baz=85,slow=12,SNR=3.7						
ASAJ				LR	LR	07 00 05.2	
	comp=Z,32nm,21.6s,baz=354,slow=36						
MJAR	Matsushiro Arr	16.43	237	Pn	Pn	06 58 22.4	+0.1
	0.2nm,0.3s,baz=34,slow=8.9,SNR=3.3						
SONM	Songino Array	32.70	290	P	P	07 01 04.0	-0.5
	0.3nm,0.7s,baz=71,slow=9.5,SNR=3.4						
ILAR	Eielson Array	35.45	39	P	P	07 01 27.6	-0.3
	0.4nm,0.6s,baz=249,slow=7.9,SNR=8.8						
ZALV	Zalesovo Beam	43.72	306	P	P	07 02 36.4	-0.6
	0.6nm,0.5s,baz=71,slow=6.2,SNR=5.0						
MKAR	Makanchi Array	48.19	298	P	P	07 03 12.3	-0.1
	0.6nm,0.7s,baz=67,slow=8.3,SNR=6.9						
MKAR				PcP	PcP	07 04 39.4	-0.3
	0.2nm,0.7s,baz=72,slow=4.7,SNR=2.4						
YKA	Yellowknife Ar	49.85	37	P	P	07 03 24.6	-0.2
	0.3nm,0.8s,baz=294,slow=7.5,SNR=4.1						
AKTO	Aktyubinsk	59.72	313	P	P	07 04 36.8	+0.3
	0.9nm,0.5s,baz=41,slow=11,SNR=4.2						
FINES	FINESS Array B	64.50	336	P	P	07 05 08.4	0.0
	0.8nm,0.4s,baz=26,slow=6.7,SNR=11						
NOA	NORSAR Array B	68.52	342	P	P	07 05 34.2	0.0
	0.7nm,0.8s,baz=28,slow=6.5,SNR=2.6						
WRA	Warramunga Arr	69.22	201	P	P	07 05 38.1	-0.8
	0.8nm,0.9s,baz=20,slow=6.3,SNR=4.2						
AKASG	Malin Array Be	72.22	327	P	P	07 05 57.0	+0.1
	0.8nm,0.5s,baz=38,slow=6.2,SNR=3.3						
ASAR	Alice Springs	72.90	201	P	P	07 06 01.6	+0.5
	0.6nm,0.6s,baz=16,slow=5.1,SNR=7.7						
TXAR	Lajitas Array	76.07	62	P	P	07 06 20.2	+0.3
	0.6nm,0.7s,baz=318,slow=4.9,SNR=8.1						
GERES	GERESS Array B	78.93	335	P	P	07 06 35.9	+0.3
	0.2nm,0.3s,baz=20,slow=3.1,SNR=3.3						
STKA	Stephens Creek	79.43	192	P	P	07 06 38.4	+0.2
	0.7nm,0.7s,baz=27,slow=4.5,SNR=2.8						

*CSEM **01** 06:58:02.0±0.2, 37°.86N×28°.97E, h5km, MD2.9, Error ellipse: s-maj=7.8km s-min=5.2km az=89.0*
ISK 01 06:58:01.1, 37°.85N×**28°.99E, h5**km**, MD2.9, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.11	160	ePG	Pg	06 58 03.6	+0.2
DENT	Denizli	0.11	160	ePg	Pg	06 58 03.6	+0.2
KHL	Karahalli	0.63	42	ePG	Pb	06 58 14.8	0.0
KHL	Karahalli	0.63	42	ePg	Pb	06 58 14.8	0.0
KULA	Kula-Manisa	0.71	339	ePG	Pb	06 58 15.8	-0.3
KULA	Kula-Manisa	0.71	339	ePg	Pb	06 58 15.8	-0.3
YER	Yerkesik	0.91	218	ePG	Pn	06 58 20.2	-0.5
YER	Yerkesik	0.91	218	ePg	Pn	06 58 20.2	-0.5
ELL	Elmali	1.33	146	ePN	Pg	06 58 27.5	+0.8
ELL	Elmali	1.33	146	ePn	Pg	06 58 27.5	+0.8
BCK	Bucak	1.33	107	ePN	Pg	06 58 27.5	+0.8
BCK	Bucak	1.33	107	ePn	Pg	06 58 27.5	+0.8
SHUT	Suhut-Afyon	1.42	60	ePN	Pg	06 58 29.2	+0.8
SHUT	Suhut-Afyon	1.42	60	ePn	Pg	06 58 29.2	+0.8
ALT	Altintas	1.49	36	ePN	Pg	06 58 30.1	+0.3
ALT	Altintas	1.49	36	ePn	Pg	06 58 30.1	+0.3

*DDA **01** 06:58:27.8, 40°.85N×27°.57E, h9km, MD2.8*
*CSEM **01** 06:58:28.0±0.1, 40°.83N×27°.56E, h10km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.7km az=153.0*
ISK 01 06:58:27.6, 40°.83N×**27°.57E, h6**km**, MD2.8, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	Tekirdag	0.17	351	PG	Pg	06 58 31.7	+0.7
TKR				SG	Sg	06 58 34.5	+1.2
TKR	Tekirdag	0.17	351	iPg	Pg	06 58 31.7	+0.7
TKR				iSg	Sg	06 58 34.5	+1.2
MFT	Murefte	0.22	260	PG	Pg	06 58 32.6	+0.5
MFT				SG	Sg	06 58 36.4	+1.1
MFT	Murefte	0.22	260	iPg	Pg	06 58 32.6	+0.4
MFT				iSg	Sg	06 58 36.4	+1.2
SART	Tekirdag	0.33	246	iP	Pg	06 58 34.1	0.0
SART				iS	Sb	06 58 40.3	-1.3
SART	Tekirdag	0.33	246	iP	Pg	06 58 34.1	0.0
SART				iS	Sb	06 58 40.3	-1.3
RKY	Sarkoy-Tekirda	0.33	245	ePG	Pg	06 58 34.7	+0.6
RKY	Sarkoy-Tekirda	0.33	245	ePg	Pg	06 58 34.7	+0.6
KRBG	Karabiga-Canak	0.48	206	ePG	Pg	06 58 37.5	+0.7
KRBG				eSG	Sb	06 58 44.5	-1.2
KRBG	Karabiga-Canak	0.48	206	ePg	Pg	06 58 37.5	+0.7
KRBG				eSg	Sb	06 58 44.5	-1.2
EDC	Edincik	0.53	155	ePG	Pb	06 58 38.6	-0.7
EDC	Edincik	0.53	155	ePg	Pb	06 58 38.6	-0.7
BNT	Bandirma	0.54	150	ePG	Pg	06 58 37.9	-0.1
BNT	Bandirma	0.54	150	ePg	Pg	06 58 37.9	-0.1
SLVT	Silivri	0.63	50	ePG	Pb	06 58 40.6	-0.4
SLVT	Silivri	0.63	50	ePg	Pb	06 58 40.6	-0.4
ELBA	Catalca	0.72	63	iP	Pb	06 58 42.5	-0.2
ELBA				iS	Sb	06 58 52.5	-0.4
ELBA	Catalca	0.72	63	iP	Pb	06 58 42.5	-0.2
ELBA				iS	Sb	06 58 52.5	-0.4
LPK	Lapseki	0.77	234	ePG	Pg	06 58 42.7	+0.4
LPK	Lapseki	0.77	234	ePg	Pg	06 58 42.7	+0.4
GONE	Gonen-Balikesi	0.78	174	ePG	Pb	06 58 43.2	-0.4
GONE	Gonen-Balikesi	0.78	174	ePg	Pb	06 58 43.2	-0.4
CTKS	Kestanelik-??a	0.82	60	ePG	Pg	06 58 43.7	+0.4
CTKS	Kestanelik-??a	0.82	60	ePg	Pg	06 58 43.7	+0.4
KCTX	Karacabey (Bur	0.82	133	ePG	Pg	06 58 43.8	+0.4
KCTX	Karacabey (Bur	0.82	133	ePg	Pg	06 58 43.8	+0.4
ERIK	Erikli-Kesan	0.82	260	ePG	Pg	06 58 43.7	+0.4
ERIK	Erikli-Kesan	0.82	260	ePg	Pg	06 58 43.7	+0.4
CTYL	Yal??k??y-??at	0.85	40	ePG	Pb	06 58 44.3	-0.4
CTYL	Yal??k??y-??at	0.85	40	ePg	Pb	06 58 44.3	-0.4
GELI	Tayfur-Gelibol	0.94	243	ePG	Pg	06 58 45.9	+0.3
GELI	Tayfur-Gelibol	0.94	243	ePg	Pg	06 58 45.9	+0.3
BGKT	Bogazkoy	0.98	68	ePG	Pg	06 58 46.5	+0.1
BGKT	Bogazkoy	0.98	68	ePg	Pg	06 58 46.5	+0.2
ARMT	Armutlu	1.01	104	ePG	Pb	06 58 47.6	0.0
ARMT	Armutlu	1.01	104	ePg	Pb	06 58 47.6	0.0
ENEZ	Enez	1.08	266	ePN	Pb	06 58 48.5	-0.2
ENEZ	Enez	1.08	266	ePn	Pg	06 58 48.5	+0.1
BALY	Balya	1.08	178	iP	Pb	06 58 49.0	+0.2
BALY				iS	Sn	06 59 04.4	-0.3
BALY	Balya	1.08	178	iS	Sn	06 59 04.4	-0.4
BALY	Balya	1.08	178	iP	Pb	06 58 49.0	+0.2
MDNY	Mudanya-Bursa	1.10	114	ePN	Pb	06 58 48.9	-0.1
MDNY	Mudanya-Bursa	1.10	114	ePn	Pb	06 58 48.9	-0.1
ISK	Istanbul-Kandi	1.15	77	ePN	Pg	06 58 49.2	-0.5
ISK	Istanbul-Kandi	1.15	77	ePn	Pg	06 58 49.2	-0.5
BUY	Buyukada	1.17	88	iP	Pg	06 58 49.3	-0.8
BUY				iS	Sg	06 59 05.4	+0.1
BUY	Buyukada	1.17	88	iP	Pg	06 58 49.3	-0.8
EDRB	Edirne	1.20	329	ePN	Pg	06 58 50.4	-0.2
EDRB	Edirne	1.20	329	ePn	Pg	06 58 50.4	-0.2
BALB	Balikesir	1.21	169	ePN	Pn	06 58 51.4	+0.4
BALB	Balikesir	1.21	169	ePn	Pn	06 58 51.4	+0.4
ORLT	Orhaneli	1.27	127	ePN	Pg	06 58 52.5	+0.3
ORLT	Orhaneli	1.27	127	ePn	Pg	06 58 52.5	+0.3
EZN	Ezine	1.38	224	ePN	Pb	06 58 53.9	+0.1
EZN	Ezine	1.38	224	ePn	Pb	06 58 53.9	+0.1
YLV	Yalova	1.39	100	ePN	Pg	06 58 54.3	-0.1
YLV	Yalova	1.39	100	ePn	Pg	06 58 54.3	-0.1
DURS	Dursunbey	1.40	150	iP	Pb	06 58 54.5	+0.1
DURS				iS	Sg	06 59 13.7	+0.7
DURS	Dursunbey	1.40	150	iP	Pb	06 58 54.5	+0.1
DST	Dursunbey	1.46	146	ePN	Pb	06 58 55.4	+0.2
DST	Dursunbey	1.46	146	ePn	Pb	06 58 55.4	+0.1
SILT	Sile	1.60	78	ePN	Pb	06 58 57.3	-0.3
SILT	Sile	1.60	78	ePn	Pb	06 58 57.3	-0.3

MEX 01 07:05:12.8±0.5**, 15°.66N**×**93°.20W, h110**km±4km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.05	333	eP	Pn	07 05 26.6	-1.4
PCIG				iS	Sn	07 05 37.6	-1.7
TGIG		1.11	4	eP	Pn	07 05 34.4	-1.0
TGIG				eS	Sn	07 05 50.5	-1.8
CCIG	Comitan	1.19	59	eP	Pn	07 05 35.3	-1.0
CCIG				iS	Sn	07 05 52.1	-2.0
CMIG	Matias Romero	2.16	312	eP	Pn	07 05 46.4	-1.4
CMIG				iS	Sn	07 06 13.4	-1.2
HUIG	Huatulco	2.81	273	iP	Pn	07 05 54.9	-1.4
HUIG				iS	Sn	07 06 27.9	-1.8

MEX 01 07:24:57.1±0.5**, 15°.24N**×**95°.64W, h13**km±10km**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.69	319	iP	Pg	07 25 08.8	-1.9
HUIG				iS	Sg	07 25 17.5	-2.3
CMIG	Matias Romero	1.98	21	eP	Pn	07 25 26.8	-3.6
CMIG				iS	Sn	07 25 50.4	-4.7
VHO	Vista Hermosa	2.10	330	eP	Pn	07 25 29.0	-3.3
VHO				iS	Sn	07 25 54.3	-4.2
PCIG		2.38	78	iP	Pn	07 25 33.1	-2.8
PCIG				iS	Sn	07 26 01.4	-3.5
PNIG	Pinotepa	2.66	296	iP	Pn	07 25 37.5	-2.2
PNIG				iS	Sn	07 26 07.3	-4.5

IDC 01 07:40:34.1±2.9**, 3°.15S**×**146°.35E, h0**km**, mb4.0**/4**, mb1 4.2**/5**, mb1mx3.8**/18**, mbtmp4.0**/5**, ML2.9**/1**, MS3.2**/7**, Ms1 3.2**/7**, ms1mx2.9**/32**, Error ellipse: s-maj=67.6km s-min=27.9km az=85.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.27	173	Pn	Pn	07 42 08.1	+0.1
	1.6nm,0.3s,baz=351,slow=13,SNR=4.3						
PMG				Sn	Sn	07 43 21.7	+1.3
	baz=180,slow=20,SNR=1.8						
CTA	Charters Tower	16.84	180	LR	LR	07 50 29.7	
	comp=Z,49nm,21.0s,baz=12,slow=35						
WRA	Warramunga Arr	20.40	214	P	P	07 45 13.1	+0.3
	9.4nm,0.8s,baz=37,slow=12,SNR=47						
ASAR	Alice Springs	23.69	209	P	P	07 45 47.5	-0.2
	3.5nm,0.6s,baz=40,slow=9.0,SNR=49						
ASAR				LR	LR	07 54 50.2	
	comp=Z,108nm,20.6s,baz=206,slow=36						
FITZ	Fitzroy Crossi	25.16	232	P	P	07 46 01.5	+0.2
	6.4nm,0.7s,baz=55,slow=9.6,SNR=11						
FITZ				LR	LR	07 55 36.3	
	comp=Z,38nm,21.9s,baz=54,slow=36						
DZM	Mont Dzumac	27.10	136	LR	LR	07 55 55.0	
	comp=Z,100nm,18.9s,baz=220,slow=34						
STKA	Stephens Creek	28.93	188	P	P	07 46 39.2	+4.1
	1.2nm,0.7s,baz=0.0,slow=12,SNR=3.2						
JOW	Kunigami	34.54	331	LR	LR	07 58 13.0	
	comp=Z,58nm,20.5s,baz=58,slow=31						
JNU	Nakatsue	38.93	339	LR	LR	08 00 09.1	
	comp=Z,25nm,20.9s,baz=79,slow=30						
KSRS	Korea Array	43.87	339	LR	LR	08 03 33.3	
	comp=Z,29nm,21.1s,baz=160,slow=31						
MKAR	Makanchi Array	74.90	320	P	P	07 52 16.7	-0.3
	0.3nm,0.7s,baz=121,slow=6.1,SNR=2.8						

IDC 01 07:46:57.6±41.0**, 29°.61S**×**179°.23W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/17**, mbtmp3.8**/3**, Error ellipse: s-maj=749.0km s-min=172.8km az=96.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	33.62	256	P	P	07 53 39.9	-0.1
	0.5nm,0.3s,baz=95,slow=11,SNR=4.8						
ASAR	Alice Springs	42.09	267	P	P	07 54 50.7	-0.9
	0.3nm,0.3s,baz=100,slow=7.8,SNR=4.7						
WRA	Warramunga Arr	43.00	272	P	P	07 54 59.5	+0.5
	1.2nm,0.3s,baz=110,slow=8.2,SNR=11						

*DDA **01** 07:55:17.7, 36°.98N×28°.23E, h7km, MD2.8*
*CSEM **01** 07:55:17.2±0.5, 36°.94N×28°.24E, h0km±3km, MD2.6, Error ellipse: s-maj=9.6km s-min=5.9km az=11.0*
*ISK **01** 07:55:19.0, 37°.14N×28°.17E, h12km, MD2.6*
ISC 01 07:55:16.7±1.2**, 36°.91N**±0°.04×**28°.20E**±0°.03**, h3**km±11km**, n26, σ0^{s}90**/40**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.23	16	ePG	Pg	07 55 21.7	+0.5
YER				eSG	Sg	07 55 24.5	+0.2
YER	Yerkesik	0.23	16	ePg	Pg	07 55 21.7	+0.5
YER				eSg	Sg	07 55 24.5	+0.2
TURN	Turunc	0.32	96	iP	Pg	07 55 21.9	-0.9
TURN				iS	Sg	07 55 25.5	-1.5
TURN	Turunc	0.32	96	iP	Pg	07 55 21.9	-0.9
TURN				iS	Sg	07 55 25.5	-1.5
MLSB	Milas	0.52	319	ePG	Pg	07 55 26.3	-0.2
MLSB	Milas	0.52	319	ePg	Pg	07 55 26.3	-0.2
BDRM	Kayabasi	0.63	285	iP	Pg	07 55 28.8	+0.1
BDRM				iS	Sb	07 55 40.2	+0.7
BDRM	Kayabasi	0.63	285	iP	Pg	07 55 28.8	+0.1
BDRM				iS	Sb	07 55 40.2	+0.7
BODT	Bodrum	0.73	282	ePG	Pb	07 55 33.0	+0.9
BODT	Bodrum	0.73	282	ePg	Pb	07 55 33.0	+0.9
AYDN	Tasoluk	0.79	341	iP	Pg	07 55 32.4	+0.5
AYDN				iS	Sg	07 55 42.2	0.0
AYDN	Tasoluk	0.79	341	iP	Pg	07 55 32.4	+0.5
AYDN				iS	Sg	07 55 42.2	0.0
DNZL	Cakiroluk	1.03	41	iP	Pg	07 55 36.5	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DNZL				*i* S	Sg	07 55 49.3	-0.4
DNZL	**Cakiroluk**	**1.03**	**41**	*i* P	**Pg**	**07 55 36.5**	**+0.1**
DNZL				*i* S	Sg	07 55 49.3	-0.4
GCAM	**G?zelcaml?**	**1.11**	**316**	*i* P	**Pg**	**07 55 38.2**	**+0.3**
GCAM				*i* S	Sn	07 55 54.0	-0.8
GCAM	**G?zelcaml?**	**1.11**	**316**	*i* P	**Pg**	**07 55 38.2**	**+0.3**
GCAM				*i* S	Sn	07 55 54.0	-0.8
ELL	**Elmali**	**1.38**	**96**	*e*PN	**Pg**	**07 55 45.5**	**+2.5**
ELL	**Elmali**	**1.38**	**96**	*e*Pn	**Pg**	**07 55 45.6**	**+2.5**
MANT	**Manisa**	**1.60**	**10**	*i* P	**Pg**	**07 55 47.3**	**-0.1**
MANT				*i* S	Sg	07 56 08.2	0.0
MANT	**Manisa**	**1.60**	**10**	*i* P	**Pg**	**07 55 47.3**	**-0.1**
MANT				*i* S	Sg	07 56 08.2	0.0
KULA	**Kula-Manisa**	**1.64**	**13**	*e*PN	**Pn**	**07 55 45.5**	**-1.0**
KULA	**Kula-Manisa**	**1.64**	**13**	*e*Pn	**Pn**	**07 55 45.6**	**-1.0**
IZM	**Izmir**	**1.66**	**334**	*e*PN	**Pn**	**07 55 45.7**	**-1.1**
IZM	**Izmir**	**1.66**	**334**	*e*Pn	**Pn**	**07 55 45.7**	**-1.1**
KHL	**Karahalli**	**1.76**	**36**	*e*PN	**Pn**	**07 55 47.9**	**-0.2**
KHL	**Karahalli**	**1.76**	**36**	*e*Pn	**Pn**	**07 55 47.9**	**-0.2**

IDC 01 07:55:33.8±0.8**, 46.°94N×155.°31E, h0**km**, mb3.8**/13**, mb1 4.0**/16**, mb1mx3.8**/29**, mbtmp3.8**/16**, ML3.2**/3**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx2.4**/43**, Error ellipse: s-maj=23.2km s-min=15.8km az=134.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.36**	**13**	Pn	Pn	07 57 08.0	-0.7
	0.9nm,0.3s,baz=190,slow=16,SNR=9.8						
ASAJ	**Asahikawa**	**9.36**	**257**	Pn	Pn	07 57 50.8	+0.9
	0.3nm,0.3s,baz=102,slow=14,SNR=2.3						
MJAR	**Matsushiro Arr**	**16.43**	**237**	Pn	Pn	07 59 26.4	+0.8
	0.1nm,0.3s,baz=33,slow=7.8,SNR=3.4						
CBIJ	**Chichi jima**	**22.36**	**212**	LR	LR	08 07 56.1	
	comp=Z,124nm,20.8s,baz=148,slow=33						
SONM	**Songino Array**	**32.69**	**290**	P	P	08 02 07.2	-0.6
	0.3nm,0.7s,baz=62,slow=8.4,SNR=3.0						
ILAR	**Eielson Array**	**35.45**	**39**	P	P	08 02 30.8	-0.6
	0.3nm,0.5s,baz=263,slow=7.0,SNR=4.6						
INK	**Inuvik**	**40.67**	**33**	P	P	08 03 16.0	+0.7
	1.3nm,0.9s,baz=298,slow=6.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.72**	**306**	P	P	08 03 39.1	-1.2
	1.1nm,0.6s,baz=60,slow=7.3,SNR=7.6						
ZALV				LR	LR	08 23 43.4	
	comp=Z,41nm,19.1s,baz=66,slow=39						
MKAR	**Makanchi Array**	**48.19**	**298**	P	P	08 04 15.8	+0.1
	0.8nm,0.7s,baz=72,slow=8.0,SNR=10.0						
YKA	**Yellowknife Ar**	**49.86**	**37**	P	P	08 04 28.3	+0.1
	0.2nm,0.6s,baz=295,slow=7.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**53.89**	**258**	P	P	08 05 00.1	+1.3
	1.3nm,0.3s,baz=26,slow=7.1,SNR=4.1						
JOF	**Joensuu**	**61.82**	**335**	*e*p	P	08 05 53.6	-0.3
	1.3nm,0.7s						
FINES	**FINESS Array B**	**64.50**	**336**	P	P	08 06 11.2	-0.5
	1.1nm,0.5s,baz=31,slow=8.4,SNR=8.7						
NOA	**NORSAR Array B**	**68.52**	**342**	P	P	08 06 38.6	+1.1
	1.0nm,0.8s,baz=26,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**69.21**	**201**	P	P	08 06 42.3	+0.1
	1.0nm,0.7s,baz=19,slow=6.5,SNR=6.2						
ASAR	**Alice Springs**	**72.89**	**200**	P	P	08 07 03.7	-0.8
	0.9nm,0.6s,baz=18,slow=5.1,SNR=19						
TXAR	**Lajitas Array**	**76.07**	**62**	P	P	08 07 23.8	+0.5
	0.9nm,0.8s,baz=313,slow=4.2,SNR=7.2						
ESDC	**Sonseca Array**	**91.80**	**344**	P	P	08 08 42.6	-0.8
	0.2nm,0.6s,baz=336,slow=2.8,SNR=4.3						

IDC 01 08:05:27.8±2.4**, 3.°78S×128.°53E, h0**km**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.4**/21**, mbtmp3.4**/3**, ML3.5**/1**, Error ellipse: s-maj=190.2km s-min=29.0km az=68.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.03**	**161**	P	P	08 09 29.5	-0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**20.44**	**166**	P	P	08 10 06.1	-0.9
	0.9nm,0.3s,baz=344,slow=11,SNR=52						
MKAR	**Makanchi Array**	**64.75**	**327**	P	P	08 16 08.2	+0.1
	0.1nm,0.4s,baz=133,slow=6.1,SNR=4.4						

*ISCJB **01** 08:07:18.5±0.6, 42.°23N±0.°05×142.°71E±0.°05, h75km±5km, mb3.4/2, Error ellipse: s-maj=8.6km s-min=5.3km az=149.1*
*JMA **01** 08:07:19.6±0.2, 42.°25N×142.°74E, h65km±2km, M3.0*
*IDC **01** 08:07:21.2±2.6, 42.°36N×142.°61E, h85km±19km, mb3.3/2, mb1 3.3/3, mb1mx2.9/25, mbtmp3.1/3, Error ellipse: s-maj=50.7km s-min=19.3km az=104.0*
ISC 01 08:07:19.4±1.0**, 42.°24N**±0.°05×**142.°70E**±0.°04**, h67**km±7km**, n16, σ0.s83**/26**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.06**	**50**	P	**Pn**	**08 07 29.2**	**+0.1**
JNBK				*e*S	**Sn**	**08 07 36.7**	**+0.5**
JEM	**Erimo**	**0.41**	**123**	P	**Pn**	**08 07 31.0**	**-0.1**
JEM				*e*S	**Sn**	**08 07 40.0**	**+0.4**
JBT2	**Biratori 2**	**0.59**	**335**	P	**Pn**	**08 07 32.8**	**0.0**
JCH	**Churui**	**0.62**	**53**	P	**Pn**	**08 07 33.2**	**+0.1**
JCH				*e*S	**Sn**	**08 07 43.2**	**0.0**
JFR	**Furan**	**0.92**	**355**	P	**Pn**	**08 07 36.8**	**+0.1**
JOB	**Onbets**	**1.07**	**52**	P	**Pn**	**08 07 39.2**	**+0.6**
JOB				*e*S	**Sn**	**08 07 54.4**	**+1.6**
JEW	**Eniwo**	**1.10**	**303**	P	**Pn**	**08 07 39.7**	**+0.8**
JEW				*e*S	**Sn**	**08 07 54.7**	**+1.2**
JNB	**Noboribetsu**	**1.25**	**281**	P	**Pn**	**08 07 40.6**	**-0.3**
JNB				*e*S	**Sn**	**08 07 56.8**	**-0.2**
JKB	**Kayabe**	**1.29**	**255**	P	**Pn**	**08 07 41.4**	**0.0**
JKB				*e*S	**Sn**	**08 07 58.2**	**+0.3**
JAB	**Ashibetsu**	**1.31**	**345**	P	**Pn**	**08 07 42.5**	**+0.8**
JAR	**Ashorobuto**	**1.32**	**37**	P	**Pn**	**08 07 41.9**	**+0.1**
JAR				*e*S	**Sn**	**08 07 58.5**	**-0.1**
JOT	**Ohata**	**1.50**	**236**	P	**Pn**	**08 07 44.2**	**0.0**
JOT				*e*S	**Sn**	**08 08 02.9**	**-0.1**
ASAJ	**Asahikawa**	**1.87**	**358**	P	**Pn**	**08 07 50.8**	**+1.6**
	10nm,0.3s,baz=205,slow=14,SNR=154						
ASAJ				S	**Sn**	**08 08 11.9**	**+0.1**
	9.4nm,0.3s,baz=202,slow=19,SNR=13						
MJAR	**Matsushiro Arr**	**6.67**	**213**	P	**Pn**	**08 08 57.0**	**+2.2**
	0.3nm,0.3s,baz=28,slow=12,SNR=4.0						
ILAR	**Eielson Array**	**44.62**	**35**	P	**P**	**08 15 23.9**	**-0.7**
	0.1nm,0.4s,baz=265,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**64.69**	**332**	P	**P**	**08 17 48.9**	**-1.0**
	2.4nm,1.1s,baz=35,slow=7.6,SNR=8.3						

*ISK **01** 08:08:00.9, 37.°84N×29.°09E, h22km, MD2.4*
*CSEM **01** 08:08:00.6±0.3, 37.°75N×29.°14E, h20km, MD2.6, Error ellipse: s-maj=8.6km s-min=6.2km az=122.0*
*DDA **01** 08:08:02.0, 37.°83N×29.°07E, h7km, MD2.6*
ISC 01 08:07:59.3±4.7**, 37.°7N**±0.°2×**29.°12E**±0.°06**, h31**km±22km**, n12, σ0.s64**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.06**	**265**	*i* P	**Pb**	**08 08 04.9**	**+0.1**
DNZL				*i* S	**Sb**	**08 08 08.2**	**-0.4**
DNZL	**Cakiroluk**	**0.06**	**265**	*i* P	**Pb**	**08 08 04.9**	**+0.1**
DNZL				*i* S	**Sb**	**08 08 08.2**	**-0.4**
DENT	**Denizli**	**0.09**	**310**	*e*PG	**Pb**	**08 08 05.4**	**+0.6**
DENT	**Denizli**	**0.09**	**310**	*e*Pg	**Pb**	**08 08 05.4**	**+0.6**
KHL	**Karahalli**	**0.70**	**27**	*e*PG	**Pb**	**08 08 12.9**	**-0.3**
KHL				*e*SG	**Sb**	**08 08 22.4**	**-0.2**
KHL	**Karahalli**	**0.70**	**27**	*e*Pg	**Pb**	**08 08 12.9**	**-0.3**
KHL				*e*Sg	**Sb**	**08 08 22.4**	**-0.2**
KHAL	**Karahalli**	**0.73**	**23**	*i* P	**Pb**	**08 08 13.8**	**+0.1**
KHAL				*i* S	**Sb**	**08 08 24.3**	**+0.7**
KHAL	**Karahalli**	**0.73**	**23**	*i* P	**Pb**	**08 08 13.8**	**+0.1**
KHAL				*i* S	**Sb**	**08 08 24.3**	**+0.7**
KULA	**Kula-Manisa**	**0.90**	**336**	*e*PG	**Pb**	**08 08 16.9**	**+0.5**
KULA				*e*SG	**Sb**	**08 08 26.7**	**-1.4**
KULA	**Kula-Manisa**	**0.90**	**336**	*e*Pg	**Pb**	**08 08 16.9**	**+0.5**
KULA				*e*Sg	**Sb**	**08 08 26.7**	**-1.4**
MANT	**Manisa**	**0.91**	**331**	*i* P	**Pb**	**08 08 17.3**	**+0.6**
MANT				*i* S	**Sb**	**08 08 28.5**	**-0.2**
MANT	**Manisa**	**0.91**	**331**	*i* P	**Pb**	**08 08 17.3**	**+0.6**
MANT				*i* S	**Sb**	**08 08 28.5**	**-0.2**

*ISK **01** 08:14:48.0, 37.°58N×29.°14E, h6km, MD2.5*
*CSEM **01** 08:14:51.9±0.7, 37.°76N×29.°10E, h5km, MD2.6, Error ellipse: s-maj=14.6km s-min=6.1km az=143.0*
*ISCJB **01** 08:14:52.4±1.2, 37.°80N±0.°09×29.°1E±0.°1, h8km±9km, Error ellipse: s-maj=19.9km s-min=5.3km az=135.7*
*DDA **01** 08:14:53.7, 37.°87N×29.°05E, h7km, MD2.6*
ISC 01 08:14:52.0±1.0**, 37.°78N**±0.°06×**29.°03E**±0.°05**, h7**km±8km**, n14, σ0.s93**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.03**	**181**	PG	**Pg**	**08 14 52.2**	**-1.2**
DENT				SG	**Sg**	**08 14 56.0**	**+1.7**
DENT	**Denizli**	**0.03**	**181**	*i* Pg	**Pg**	**08 14 52.2**	**-1.2**
DENT				*i* Sg	**Sg**	**08 14 56.0**	**+1.7**
KHL	**Karahalli**	**0.66**	**36**	*e*PG	**Pg**	**08 15 04.5**	**-0.3**
KHL				*e*SG	**Sb**	**08 15 15.3**	**-0.2**
KHL	**Karahalli**	**0.66**	**36**	*e*Pg	**Pg**	**08 15 04.5**	**-0.3**
KHL				*e*Sg	**Sb**	**08 15 15.3**	**-0.2**
KHAL	**Karahalli**	**0.69**	**32**	*i* P	**Pg**	**08 15 05.1**	**-0.2**
KHAL				*i* S	**Sg**	**08 15 14.8**	**+0.5**
KHAL	**Karahalli**	**0.69**	**32**	*i* P	**Pg**	**08 15 05.1**	**-0.2**
KHAL				*i* S	**Sg**	**08 15 14.8**	**+0.5**
KULA	**Kula-Manisa**	**0.79**	**338**	*e*PG	**Pb**	**08 15 08.3**	**+0.2**
KULA	**Kula-Manisa**	**0.79**	**338**	*e*Pg	**Pb**	**08 15 08.3**	**+0.2**
MANT	**Manisa**	**0.80**	**332**	*i* P	**Pb**	**08 15 08.8**	**+0.4**
MANT				*i* S	**Sg**	**08 15 18.1**	**+0.3**
MANT	**Manisa**	**0.80**	**332**	*i* P	**Pb**	**08 15 08.8**	**+0.4**
MANT				*i* S	**Sg**	**08 15 18.1**	**+0.3**
AYDN	**Tasoluk**	**0.92**	**263**	*i* P	**Pn**	**08 15 11.7**	**+0.2**
AYDN				*i* S	**Sg**	**08 15 22.6**	**+0.9**
AYDN	**Tasoluk**	**0.92**	**263**	*i* P	**Pn**	**08 15 11.7**	**+0.2**
AYDN				*i* S	**Sg**	**08 15 22.6**	**+0.9**
GDZ	**Gediz**	**1.35**	**15**	*i* P	**Pg**	**08 15 18.2**	**+0.3**
GDZ				*i* S	**Sb**	**08 15 33.4**	**-1.9**
GDZ	**Gediz**	**1.35**	**15**	*i* P	**Pg**	**08 15 18.2**	**+0.3**
GDZ				*i* S	**Sb**	**08 15 33.4**	**-1.9**

*IDC **01** 08:17:30.3±0.4, 27.°27S×176.°27W, h0km, mb5.0/26, mb1 5.1/26, mb1mx5.1/27, mbtmp5.0/26, MS4.6/20, Ms1 4.6/20, ms1mx4.5/25, Error ellipse: s-maj=15.5km s-min=13.4km az=165.0*
*SZGRF **01** 08:17:32.7, 28.°09S×177.°23W, h31km, Kermadec Islands region*
*MOS **01** 08:17:34.8±0.9, 27.°24S×176.°39W, h33km, mb5.5/46, MS4.6/7, Error ellipse: s-maj=10.1km s-min=9.4km az=71.9*
*BJI **01** 08:17:35.0, 26.°99S×175.°26W, h51km, mB5.4/24, mb5.2/38, Ms4.9/25, Ms7 4.7/28*
*ISCJB **01** 08:17:36.8±1.3, 27.°37S±0.°05×176.°36W±0.°05, h53km±11km, mb5.3/84, MS4.6/33, Error ellipse: s-maj=9.2km s-min=6.6km az=151.2*
*GCMT **01** 08:17:38.1±0.2, 27.°33S×175.°85W, h42km±1km, MW5.3, Moment Tensor Solution. s74,c115; s93,c160; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s243.00000°, δ41.00000°, λ157.00000°. NP2:ϕ_s350.00000°, δ75.00000°, λ51.00000°. Principal axes: T 1.1000, Plg45.0000°, Azm221.0000°; N -0.0200, Plg37.0000°, Azm2.0000°; P -1.0900, Plg20.0000°, Azm109.0000°; Data Used: II IU IC G CN.*
*NEIC **01** 08:17:39.3±0.8, 27.°36S×176.°35W, h67km±7km, mb5.4/43 Error ellipse: s-maj=6.7km s-min=5.1km az=144.0*
*BGS **01** 08:17:44.7±2.7, 27.°36S×176.°35W, h67km, mb5.4(NEIC)*
*DJA **01** 08:17:59.8±5.9, 27°S±21°×17°7W±2°3, h236km±60km, M5.1/9, mB5.5/3, mb5.1/9, Mw(mB)5.0/3*
ISC 01 08:17:37.1±0.3**, 27.°39S**±0.°05×**176.°17W**±0.°05**, h48**km±2km**, h48**km**:pP-P, n494, σ1.s48**/576**, mb5.3**/84**, MS4.6**/34**, 22C-19D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.42**	**219**	*e*Pn	**Pn**	**08 18 15.3**	**+1.2**
RAO				*e*Sn	**Sn**	**08 18 45.5**	**+3.1**
MSVF	**Nonsavu**	**10.99**	**330**	*e*P	**Pn**	**08 20 12.1**	**+0.2**
MSVF	**Nonsavu**	**10.99**	**330**	*e*Pn	**Pn**	**08 20 12.1**	**+0.2**
MSVF	**Nonsavu**	**10.99**	**330**	Pn	**Pn**	**08 20 12.0**	**+0.2**
	863nm,1.3s,SNR=28						
OUZ	**Omahuta**	**11.72**	**226**	*e*Pn	**Pn**	**08 20 23.1**	**+1.4**
AFI	**Afiamalu**	**14.02**	**18**	Pn	Pn	08 20 43.5	-10
	24nm,0.3s,baz=256,slow=2.5,SNR=34						
AFI				Sn	Sn	08 23 07.5	-20
	46nm,0.3s,baz=143,slow=20,SNR=8.0						
RAR	**Rarotonga**	**16.15**	**71**	Pn	Pn	08 21 12.6	-8.3
	9.5nm,0.3s,baz=240,slow=6.9,SNR=19						
RAR				Sn	Sn	08 23 54.3	-25
	16nm,0.3s,baz=305,slow=14,SNR=9.2						
RAR				LR	LR	08 25 47.6	
	comp=Z,3μm,21.5s,baz=238,slow=31						
DZM	**Mont Dzumac**	**16.66**	**285**	*e*P	**P**	**08 21 32.2**	**+3.1**
	448nm,1.4s						
DZM				*e*LQ	LQ	08 24 44.9	
	3μm,26.1s						
DZM				*e*LR	LR	08 25 30.2	
	9μm,25.4s						
DZM	**Mont Dzumac**	**16.66**	**285**	Pn	**P**	**08 21 30.7**	**+1.6**
	1.1nm,0.3s,baz=103,slow=15,SNR=32						
DZM				LR	LR	08 25 15.3	
	comp=Z,1μm,19.0s,baz=114,slow=28						
DZM	**Mont Dzumac**	**16.66**	**285**	*e*P	**P**	**08 21 30.9**	**+1.7**
DZM	**Mont Dzumac**	**16.66**	**285**	*e*P	**P**	**08 21 31.3**	**+2.2**
	416nm,1.4s						
NOUC	**Port Laguerre**	**16.77**	**284**	*e*P	**P**	**08 21 32.0**	**+1.8**
RPZ	**Rata Peaks**	**19.29**	**209**	*e*P	P	08 21 49.3	-8.5
	624nm,2.2s						
ODZ	**Otahua Downs**	**20.54**	**207**	*e*P	**P**	**08 22 09.5**	**-1.9**
	178nm,1.2s						
TBI	**Tubuai**	**24.44**	**86**	*e*P	**P**	**08 22 50.2**	**-1.2**
	124nm,0.9s						
TBI				*e*LQ	LQ	08 27 29.9	
	4μm,29.8s						
TBI				*e*LR	LR	08 28 35.5	
	5μm,28.8s,baz=257						
PAE	**Paea**	**26.35**	**74**	*e*P	**P**	**08 23 06.2**	**-2.5**
	29nm,1.3s						
PPT2	**Papeete2**	**26.38**	**74**	*e*P	**P**	**08 23 07.1**	**-2.0**
	117nm,1.4s						
PPT2				*e*LQ	LQ	08 28 14.7	
	4μm,26.0s						
PPT2				*e*LR	LR	08 29 23.6	
	6μm,27.5s,baz=243						
PPT	**Papeete**	**26.39**	**74**	P	**P**	**08 23 09.8**	**+0.7**
	61nm,1.0s,baz=172,slow=2.7,SNR=8.7						
PPT				LR	LR	08 30 30.4	
	comp=Z,2μm,18.5s,baz=247,slow=30						
PPT	**Papeete**	**26.39**	**74**	P	**P**	**08 23 09.8**	**+0.7**
TIAR	**Tiarei**	**26.59**	**74**	*e*P	**P**	**08 23 09.2**	**-1.8**
	102nm,1.0s						
MEH	**Mehetia**	**27.55**	**76**	*e*P	**P**	**08 23 17.0**	**-2.6**
	116nm,1.4s						
ARMA	**Armidale**	**28.30**	**256**	*e*P	**P**	**08 23 25.7**	**-0.7**
	59nm,0.8s						
EIDS	**Eidsvold**	**29.37**	**266**	*e*P	**P**	**08 23 35.3**	**-0.4**
	22nm,0.8s						
CAN	**Canberra**	**30.66**	**246**	*e*P	**P**	**08 23 47.3**	**+0.2**
CAN				pmax	pmax		
	comp=Z,16nm,0.6s						
CAN	**Canberra**	**30.66**	**246**	*e*P	**P**	**08 23 47.3**	**+0.2**
	comp=Z,16nm,0.6s						
TAU	**Tasmania Unive**	**33.34**	**233**	P	**P**	**08 24 10.6**	**+0.2**
	comp=Z,625nm,0.8s,SNR=7.7						
CTA	**Charters Tower**	**35.06**	**274**	P	**P**	**08 24 25.2**	**-0.4**
	comp=Z,117nm,0.8s,baz=103,slow=11,SNR=82						
CTA	**Charters Tower**	**35.06**	**274**	P	**P**	**08 24 25.2**	**-0.4**
CTAO	**Charters Tower**	**35.06**	**274**	*e*P	**P**	**08 24 25.3**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,115nm,0.8s						
CTAO	**Charters Tower**	**35.06**	**274**	*e*P	**P**	**08 24 25.3**	**-0.4**
	comp=Z,115nm,0.8s						
STKA	**Stephens Creek**	**36.82**	**253**	P	**P**	**08 24 39.5**	**-1.0**
	comp=Z,25nm,0.5s,baz=94,slow=9.0,SNR=135						
STKA				PcP	**PcP**	**08 27 02.7**	**+0.9**
	comp=Z,9.2nm,0.8s,baz=77,slow=2.7,SNR=4.3						
STKA				LR	LR	08 38 59.7	
	comp=Z,1μm,18.3s,baz=79,slow=35						
STKA	**Stephens Creek**	**36.82**	**253**	*e*P	**P**	**08 24 39.5**	**-1.0**
	comp=Z,6.2nm,0.6s						
STKA				*e*PcP	**PcP**	**08 27 02.7**	**+0.9**
RKT	**Rikitea**	**37.38**	**93**	*e*LQ	LQ	08 33 13.1	
	comp=Z,832nm,27.5s						
RKT				*e*LR	LR	08 34 33.1	
	comp=Z,3μm,29.2s,baz=252						
PMG	**Port Moresby**	**38.92**	**290**	P	**P**	**08 24 57.3**	**-1.2**
	comp=Z,20nm,0.8s,baz=118,slow=4.1,SNR=6.7						
PMG	**Port Moresby**	**38.92**	**290**	P	**P**	**08 24 57.3**	**-1.2**
PMG	**Port Moresby**	**38.92**	**290**	P	**P**	**08 24 57.7**	**-0.8**
	comp=Z,42nm,1.3s,comp=Z,525nm						
COEN	**Coen**	**40.13**	**281**	*e*P	**P**	**08 25 07.7**	**-0.9**
	comp=Z,332nm,1.0s						
BBOO	**Buckleboo**	**41.41**	**251**	*e*P	**P**	**08 25 17.1**	**-1.8**
	comp=Z,591nm,0.9s						
AS31	**Alice Springs**	**44.97**	**263**	*e*P	**P**	**08 25 46.2**	**-1.6**
ASAR	**Alice Springs**	**44.97**	**263**	P	**P**	**08 25 46.1**	**-1.7**
	comp=Z,10nm,0.4s,baz=99,slow=7.2,SNR=286						
ASAR				S	**S**	**08 32 17.6**	**-5.4**
	comp=Z,1.2nm,1.0s,baz=101,slow=15,SNR=3.2						
ASAR				LR	LR	08 42 52.1	
	comp=Z,1μm,22.0s,baz=110,slow=34						
ASAR	**Alice Springs**	**44.97**	**263**	P	**P**	**08 25 46.1**	**-1.7**
ASAR				S	**S**	**08 32 17.6**	**-5.4**
WRAB	**Tennant Creek**	**45.69**	**268**	*e*P	**P**	**08 25 51.3**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**45.69**	**268**	*e*P	**P**	**08 25 51.3**	**-2.2**
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**45.69**	**268**	P	**P**	**08 25 51.5**	**-2.0**
	comp=Z,185nm,0.6s,SNR=41						
WRA	**Warramunga Arr**	**45.70**	**268**	P	**P**	**08 25 51.6**	**-2.0**
	comp=Z,19nm,0.6s,baz=107,slow=7.4,SNR=72						
WRA				PcP	**PcP**	**08 27 31.3**	**+0.3**
	comp=Z,9.8nm,1.1s,baz=106,slow=4.0,SNR=6.3						
WRA				S	S	08 32 25.5	-8.0
	comp=Z,0.8nm,0.8s,baz=101,slow=15,SNR=3.9						
WRA				LR	LR	08 43 06.9	
	comp=Z,1μm,21.8s,baz=110,slow=34						
WRA	**Warramunga Arr**	**45.70**	**268**	P	**P**	**08 25 51.6**	**-2.0**
WRA				PcP	**PcP**	**08 27 31.3**	**+0.3**
WRA				S	S	08 32 25.5	-8.0
DRV	**Dumont d'Urvil**	**47.52**	**202**	S	**S**	**08 32 58.0**	**-0.3**
DRV				L	L	08 39 00.0	
DRV				R		08 41 00.0	
FORT	**Forrest**	**48.44**	**252**	*e*P	**P**	**08 26 12.2**	**-2.6**
	comp=Z,140nm,0.6s						
SBA	**Scott Base**	**51.15**	**185**	*e*P	P	08 26 38.2	+3.5
SBA				pmax	pmax		
	comp=Z,90nm,1.1s						
SBA	**Scott Base**	**51.15**	**185**	*e*P	P	08 26 38.2	+3.5
	comp=Z,90nm,1.1s						
VNDA	**Vanda**	**51.24**	**186**	P	**P**	**08 26 37.8**	**+2.4**
	comp=Z,24nm,1.0s,baz=4.2,slow=8.3,SNR=31						
VNDA				LR	LR	08 44 16.9	
	comp=Z,261nm,19.7s,baz=13,slow=31						
VNDA	**Vanda**	**51.24**	**186**	P	**P**	**08 26 37.8**	**+2.4**
FITZ	**Fitzroy Crossi**	**54.05**	**267**	P	**P**	**08 26 55.5**	**-1.5**
	comp=Z,20nm,0.7s,baz=82,slow=6.5,SNR=28						
FITZ				LR	LR	08 48 05.4	
	comp=Z,333nm,20.9s,baz=107,slow=34						
FITZ	**Fitzroy Crossi**	**54.05**	**267**	P	**P**	**08 26 55.5**	**-1.5**
NWAO	**Narrogin (SRO)**	**57.01**	**247**	P	**P**	**08 27 16.6**	**-1.5**
	comp=Z,10nm,0.8s,baz=129,slow=6.9,SNR=6.7						
NWAO				LR	LR	08 50 55.4	
	comp=Z,790nm,18.4s,baz=106,slow=35						
NWAO	**Narrogin (SRO)**	**57.01**	**247**	P	**P**	**08 27 16.6**	**-1.5**
CASY	**Casey**	**58.54**	**207**	*e*P	**P**	**08 27 29.2**	**+0.9**
	comp=Z,254nm,1.0s						
QSPA	**South Pole Qui**	**62.71**	**180**	P	**P**	**08 27 58.4**	**+1.5**
	comp=Z,84nm,0.9s,baz=39,slow=2.2,SNR=209						
QSPA	**South Pole Qui**	**62.71**	**180**	*e*P	**P**	**08 27 58.3**	**+1.4**
	comp=Z,88nm,0.9s						
KAPI	**Kappang**	**64.73**	**278**	P	**P**	**08 28 09.6**	**-1.2**
	comp=Z,6.7nm,0.4s,baz=125,slow=9.6,SNR=4.7						
KAPI	**Kappang**	**64.73**	**278**	P	**P**	**08 28 09.6**	**-1.2**
	comp=Z,1.1nm,0.5s						
TSM	**Tawau**	**70.90**	**285**	P	**P**	**08 28 50.2**	**+0.5**
SDKM	**Sandakan**	**72.17**	**286**	P	**P**	**08 28 58.0**	**+0.7**
KDM	**Kudat**	**73.13**	**287**	P	**P**	**08 29 03.9**	**+1.0**
KKM	**Kota Kinabalu**	**73.21**	**286**	*e*P	**P**	**08 29 02.8**	**-0.8**
	comp=Z,29nm,0.9s						
KKM	**Kota Kinabalu**	**73.21**	**286**	P	**P**	**08 29 03.5**	**0.0**
BTM	**Bintulu**	**74.50**	**282**	P	**P**	**08 29 11.1**	**+0.1**
SBUM	**Sibu**	**74.89**	**281**	P	**P**	**08 29 13.2**	**0.0**
SBUM	**Sibu**	**74.89**	**281**	P	**P**	**08 29 12.9**	**-0.3**
MAW	**Mawson**	**75.68**	**200**	P	**P**	**08 29 18.6**	**+1.8**
	comp=Z,52nm,0.9s,baz=126,slow=2.1,SNR=4.2						
MAW				LR	LR	08 59 47.7	
	comp=Z,413nm,19.1s,baz=335,slow=34						
MAW	**Mawson**	**75.68**	**200**	P	**P**	**08 29 18.6**	**+1.8**
JOW	**Kunigami**	**75.89**	**311**	P	**P**	**08 29 19.4**	**+0.8**
	comp=Z,103nm,0.8s,baz=154,slow=5.4,SNR=22						
JOW	**Kunigami**	**75.89**	**311**	P	**P**	**08 29 19.4**	**+0.8**
KSM	**Kuching**	**76.09**	**279**	*e*P	**P**	**08 29 19.3**	**-0.8**
	comp=Z,74nm,0.8s						
KSM				*e*PP	PP	08 32 06.1	-5.4
KSM	**Kuching**	**76.09**	**279**	P	**P**	**08 29 20.1**	**-0.1**
KSM	**Kuching**	**76.09**	**279**	P	**P**	**08 29 19.4**	**-0.8**
MJAR	**Matsushiro Arr**	**76.73**	**324**	P	**P**	**08 29 23.0**	**-0.2**
	comp=Z,17nm,0.8s,baz=167,slow=6.1,SNR=42						
MJAR				LR	LR	08 57 42.8	
	comp=Z,235nm,21.6s,baz=135,slow=32						
MJAR	**Matsushiro Arr**	**76.73**	**324**	P	**P**	**08 29 23.0**	**-0.2**
MAJO	**Matsushiro**	**76.73**	**324**	*e*P	**P**	**08 29 23.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**76.73**	**324**	*e*P	**P**	**08 29 23.3**	**0.0**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**76.73**	**324**	P	**P**	**08 29 22.7**	**-0.6**
MAT				S	**S**	**08 39 07.0**	**+0.3**
JNU	**Nakatsue**	**78.42**	**317**	P	**P**	**08 29 32.8**	**0.0**
	comp=Z,14nm,0.8s,baz=84,slow=4.4,SNR=7.7						
JNU	**Nakatsue**	**78.42**	**317**	P	**P**	**08 29 32.8**	**0.0**
YUK	**Yuzh-Kuril'sk**	**79.13**	**333***c*	*i*P	P	08 29 31.2	-5.1
YUK				*i*		08 32 37.2	
YUK				*e*PPP	PPP	08 34 24.7	
YUK				pmax	pmax		
	comp=Z,67nm,8.1s						
YUK				MLR	MLR		
	comp=N,120nm,20.0s						
YUK				MLR	MLR		
	comp=Z,308nm,19.0s						
TATO	**Taipei**	**79.49**	**305**	*e*P	**P**	**08 29 38.2**	**-0.6**
	comp=Z,94nm,0.9s						
SYO	**Syowa Base**	**80.39**	**192**	⇓*i*P	**P**	**08 29 42.0**	**-1.0**
SYO	**Syowa Base**	**80.39**	**192**	⇓*i*PcP	**PcP**	**08 29 49.3**	**-0.6**
ASAJ	**Asahikawa**	**80.55**	**331**	P	**P**	**08 29 44.6**	**+0.6**
	comp=Z,18nm,0.9s,baz=228,slow=8.3,SNR=9.2						
ASAJ	**Asahikawa**	**80.55**	**331**	P	**P**	**08 29 44.6**	**+0.6**
VNA3	**Neumayer Olymp**	**81.18**	**176**	*e*P	**P**	**08 29 47.1**	**-0.1**
VNA2	**Neumayer--Watz**	**81.64**	**176**	*e*P	**P**	**08 29 49.8**	**+0.2**
VNA2	**Neumayer--Watz**	**81.64**	**176**	*e*pP	pP	08 30 03.8	+0.1
MYKOM	**Kota Tinggi**	**81.93**	**276**	P	**P**	**08 29 52.2**	**0.0**
MYKOM	**Kota Tinggi**	**81.93**	**276**	P	**P**	**08 29 52.3**	**+0.2**
NVL	**N'lazarevskaya**	**81.95**	**183**	*e*P	**P**	**08 29 51.2**	**0.0**
NVL				pmax	pmax		
	comp=Z,19nm,0.9s						
KGM	**Kluang**	**82.50**	**276**	P	**P**	**08 29 55.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**82.78**	**333**	*e*P	**P**	**08 29 56.2**	**+0.5**
YSS				pmax	pmax		
	comp=Z,56nm,0.8s						
YSS	**Yuzh-Sakhalins**	**82.78**	**333**	*e*P	**P**	**08 29 56.2**	**+0.5**
	comp=Z,56nm,0.8s						
ISA	**Isabella**	**83.03**	**44**	*e*P	**P**	**08 29 58.9**	**+1.5**
ISA				pmax	pmax		
	comp=Z,73nm,1.6s						
ISA	**Isabella**	**83.03**	**44**	*e*P	**P**	**08 29 58.9**	**+1.5**
	comp=Z,73nm,1.6s						
ISA	**Isabella**	**83.03**	**44**	⇓P	**P**	**08 29 58.7**	**+1.3**
	baz=83,SNR=6.9						
KSRS	**Korea Array**	**83.14**	**318**	P	**P**	**08 29 58.2**	**+0.4**
	comp=Z,12nm,0.9s,baz=141,slow=6.0,SNR=29						
KSRS				LR	LR	09 05 52.8	
	comp=Z,217nm,18.4s,baz=140,slow=35						
KSAR	**Wonju Array Be**	**83.15**	**318**	P	**P**	**08 29 58.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**83.33**	**344**	*e*P	**P**	**08 29 58.2**	**-0.3**
PETK	**Petropavlovsk-**	**83.33**	**344**	P	**P**	**08 29 58.2**	**-0.2**
	comp=Z,11nm,0.8s,baz=137,slow=8.4,SNR=13						
PETK				LR	LR	09 00 41.3	
	comp=Z,181nm,21.8s,baz=156,slow=31						
PETK	**Petropavlovsk-**	**83.33**	**344**	P	**P**	**08 29 58.2**	**-0.2**
PETK				pmax	pmax		
	comp=Z,11nm,0.8s						
PETK	**Petropavlovsk-**	**83.33**	**344**	P	**P**	**08 29 58.2**	**-0.2**
PLCA	**Paso Flores**	**83.36**	**133**	P	**P**	**08 29 59.9**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=240,slow=4.0,SNR=5.5						
PLCA				LR	LR	08 58 34.6	
	comp=Z,260nm,20.5s,baz=61,slow=30						
PLCA	**Paso Flores**	**83.36**	**133**	P	**P**	**08 29 59.9**	**+0.6**

SSE Sheshan 83.38 310 *e*P **P** **08 29 59.9 +0.7**
SSE pP **pP** **08 30 15.5 +2.2**
SSE S **S** **08 40 16.8 +0.1**
SSE sS **sS** **08 40 42.1 +1.6**
SSE pmax pmax
comp=Z,23nm,0.8s
SSE pmax pmax
comp=Z,110nm,3.5s
SSE LR LR
comp=N,89nm,21.8s
SSE LR LR
comp=E,54nm,21.8s
SSE LR LR
comp=Z,130nm,22.5s
LRMC Laurel Mountai 83.39 44 ⇓P **P** **08 30 00.7 +1.3**
baz=84,SNR=6.5
BC3 Big Chuckawall 83.66 47 ⇑P **P** **08 30 03.0 +2.2**
baz=84,SNR=5.6
GSC Goldstone 83.83 45 *e*P **P** **08 30 03.2 +1.6**
GSC pmax pmax
comp=Z,64nm,1.6s
GSC Goldstone 83.83 45 *e*P **P** **08 30 03.2 +1.6**
comp=Z,64nm,1.6s
IRM Iron Mountain 84.17 47 ⇓P **P** **08 30 05.1 +1.8**
baz=84,SNR=6.1
KTGM Kuala Trenggan 84.21 279 P **P** **08 30 04.4 +0.5**
113A Mohawk Valley, 84.23 49 ⇓P **P** **08 30 06.6 +3.1**
baz=84,SNR=6.4
YBH Yreka Blue Hor 84.67 37 P **P** **08 30 06.0 +0.3**
comp=Z,2.5nm,0.8s,baz=164,slow=18,SNR=2.8
YBH Yreka Blue Hor 84.67 37 P **P** **08 30 06.0 +0.3**
PDMCI Parker Dam,Lak 84.92 47 ⇑P **P** **08 30 08.2 +1.2**
baz=85,SNR=5.6
NVAR Mina Array Bea 84.94 42 P **P** **08 30 07.5 +0.2**
comp=Z,2.0nm,0.8s,baz=221,slow=9.0,SNR=9.8
NVAR PKKPbc **PKKPbc** **08 48 16.6 +0.4**
comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=3.6
NVAR LR LR 08 59 38.0
comp=Z,716nm,21.4s,baz=144,slow=30
NVAR Mina Array Bea 84.94 42 P **P** **08 30 07.5 +0.2**
NVAR PKKPbc **PKKPbc** **08 48 16.6 +0.4**
QIZ Qiongzhong 85.20 294 P **P** **08 30 09.4 +0.7**
QIZ S **S** **08 40 36.4 +1.0**
QIZ pmax pmax
comp=Z,20nm,1.0s
Y14A Wickenburg 85.44 48 ⇑P **P** **08 30 10.6 +0.9**
baz=86,SNR=5.8
NJ2 Nanjing 85.55 309 *e*P **P** **08 30 11.7 +1.6**
NJ2 pmax pmax
comp=Z,220nm,1.0s
USRK Ussuriysk Arra 85.57 325 P **P** **08 30 10.1 +0.2**
comp=Z,9.4nm,1.0s,baz=132,slow=4.8,SNR=13
USRK LR LR 09 02 31.0
comp=Z,262nm,21.6s,baz=142,slow=32
IPM Ipoh 85.67 277 *e*P **P** **08 30 10.5 -0.7**
comp=Z,23nm,1.0s
IPM Ipoh 85.67 277 P **P** **08 30 11.7 +0.4**
IPM Ipoh 85.67 277 P P 08 30 15.0 +3.7
TUC Tucson 85.97 51 *e*P **P** **08 30 13.4 +1.0**
TUC pmax pmax
comp=Z,69nm,1.4s
TUC Tucson 85.97 51 *e*P **P** **08 30 13.4 +1.0**
comp=Z,69nm,1.4s
KULM Kulim 86.38 278 P **P** **08 30 15.3 +0.6**
KULM Kulim 86.38 278 P P 08 30 18.0 +3.3
PSI Prapat 86.76 275 P **P** **08 30 14.0 -2.7**
comp=Z,17nm,0.9s,baz=188,slow=5.5,SNR=14
PSI Prapat 86.76 275 P **P** **08 30 14.0 -2.7**
X16A Lo Mia Camp, P 86.77 48 ⇑P **P** **08 30 18.2 +1.8**
baz=87,SNR=5.3
MDJ Mudanjiang 87.09 325 P **P** **08 30 18.7 +1.3**
MDJ pP **pP** **08 30 30.9 -0.8**
MDJ sP **sP** **08 30 35.7 -1.3**
MDJ PP **PP** **08 33 40.9 -1.0**
MDJ S **ScS** **08 40 57.1 -3.0**
MDJ sS **sS** **08 41 16.3 -0.4**
MDJ SS **SS** **08 46 40.2 +2.5**
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ pmax pmax
comp=Z,120nm,4.9s
MDJ LR LR
comp=N,150nm,21.9s
MDJ LR LR
comp=E,140nm,21.9s
MDJ LR LR
comp=Z,210nm,20.8s
MDJ Mudanjiang 87.09 325 *e*P **P** **08 30 17.2 -0.3**
comp=Z,22nm,1.0s
WHN Wuhan 87.85 306 P **P** **08 30 22.9 +1.5**
WHN *e*S **S** **08 41 00.5 -0.2**
WHN LR LR
comp=Z,1μm,18.4s
Y20A Horse Springs, 88.54 50 ⇓P **P** **08 30 25.6 +0.6**
baz=89,SNR=5.2
MSU Marysvale 88.73 45 P **P** **08 30 25.0 -0.7**
MSU pmax pmax
comp=Z,14nm,1.3s
MSU Marysvale 88.73 45 P **P** **08 30 25.0 -0.7**
comp=Z,14nm,1.3s
CN2 Changchun 88.75 322 *e*P **P** **08 30 25.6 +0.2**
CN2 *es*P **sP** **08 30 45.5 +0.5**
CN2 *e*S **S** **08 41 08.3 -0.3**
CN2 SS **SS** **08 47 05.5 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,300nm,22.0s
324A Moseley Ranch, 89.21 54 ⇑P **P** **08 30 29.4 +1.4**
baz=90,SNR=5.8
425A Indio Mountain 89.21 55 ⇑P **P** **08 30 28.7 +0.6**
baz=90,SNR=5.6
X21A Alamocita Cree 89.25 50 ⇓P **P** **08 30 28.4 +0.2**
baz=90,SNR=5.1
KLR Kul'dur 89.28 329 *e*P **P** **08 30 24.7 -3.0**
KLR pmax pmax
comp=Z,50nm,1.6s
TXAR Lajitas Array 89.40 56 P **P** **08 30 29.7 +0.8**
comp=Z,1.2nm,0.8s,baz=203,slow=8.5,SNR=13
TXAR LR LR 09 01 31.9
comp=Z,328nm,20.7s,baz=345,slow=30
TXAR Lajitas Array 89.40 56 P **P** **08 30 29.7 +0.8**
MNTX Cornudas Mount 89.42 54 ⇓P **P** **08 30 29.5 +0.7**
baz=90,SNR=5.1
HAWA Hanford 89.53 35 *e*P **P** **08 30 29.7 +0.7**
comp=Z,7.9nm,1.3s
325A Bean Ranch, Si 89.53 54 ⇓P **P** **08 30 30.6 +1.0**
baz=90,SNR=5.5
LAZ Ladron 89.67 51 *e*P **P** **08 30 31.4 +1.2**
comp=Z,22nm,1.6s
627A Terlingua Ranc 89.67 56 ⇑P **P** **08 30 30.8 +0.6**
baz=90,SNR=7.2
SLKM Skilak Lake 90.12 13 *e*P **P** **08 30 30.9 -0.5**
SLKM Skilak Lake 90.12 13 *e*P **P** **08 30 30.9 -0.5**
528A Cox Ranch, San 90.48 56 ⇑P **P** **08 30 35.4 +1.4**
baz=91,SNR=6.2
Z25A Roswell 90.74 53 ⇑P **P** **08 30 36.4 +1.3**
baz=91,SNR=6.5
PV01 Paradox Valley 90.81 47 *e*P **P** **08 30 35.6 +0.1**
comp=Z,571nm,0.9s
ENH Enshi 91.26 304 *e*P **P** **08 30 38.4 +1.0**
comp=Z,125nm,1.2s
PMR Palmer 91.33 13 *e*P **P** **08 30 37.1 +0.2**
PMR pmax pmax
comp=Z,36nm,1.6s
PMR Palmer 91.33 13 *e*P **P** **08 30 37.1 +0.2**
comp=Z,36nm,1.6s
GYA Guiyang 91.48 299 ⇑P **P** **08 30 39.2 +0.5**
GYA pP **pP** **08 30 55.4 +2.4**
GYA sP **sP** **08 30 58.7 +0.3**
GYA PP **PP** **08 34 20.0 +2.6**
GYA SKS **SKSac** **08 41 05.3 -2.2**
GYA S **S** **08 41 33.0 -1.9**
GYA SS **SS** **08 47 43.1 +0.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.7s
GYA LR LR
comp=N,630nm,20.8s
GYA LR LR
comp=E,570nm,22.1s
GYA LR LR
comp=Z,820nm,21.0s
BMRM Bremner River 91.71 15 *e*P **P** **08 30 39.1 +0.3**
comp=Z,22nm,1.0s
BJI Beijing 91.94 315 P **P** **08 30 40.5 +0.2**
BJI pP **pP** **08 30 54.2 -0.4**
BJI sP **sP** **08 30 59.2 -0.7**
BJI PP **PP** **08 34 18.9 -1.7**
BJI S **ScS** **08 41 41.0 +0.5**
BJI sS **sS** **08 42 03.5 +1.3**
BJI SS **SS** **08 47 52.3 +4.1**
BJI pmax pmax
comp=Z,12nm,1.6s
BJI LR LR
comp=N,190nm,23.1s
BJI LR LR
comp=E,190nm,15.6s
BJI LR LR
comp=Z,140nm,28.0s
MCMT McKenzie Canyo 92.14 40 *e*P **P** **08 30 42.0 +0.5**
comp=Z,12nm,1.7s
531A Rocksprings 92.15 57 ⇑P **P** **08 30 42.3 +0.7**
baz=92,SNR=5.7
REDW Red Top Meadow 92.42 42 *e*P **P** **08 30 43.4 +0.6**
comp=Z,36nm,1.7s
SNOW Snow King Moun 92.54 42 P **P** **08 30 43.8 +0.4**
comp=Z,12nm,1.0s
TRF Thorofare Moun 92.83 11 *e*P **P** **08 30 43.2 -0.9**
PDAR Pinedale Array 92.84 43 P **P** **08 30 44.8 0.0**
comp=Z,0.8nm,0.8s,baz=182,slow=3.0,SNR=6.7
PDAR LR LR 09 04 32.6
comp=Z,495nm,21.7s,baz=240,slow=30
PDAR Pinedale Array 92.84 43 P **P** **08 30 44.8 0.0**
TNA Tin City 92.87 3 *e*P **P** **08 30 45.3 +1.4**
comp=Z,20nm,1.1s
FLWY Flagg Ranch 92.93 41 *e*P **P** **08 30 46.1 +1.0**
comp=Z,29nm,1.4s
QLMT Earthquake Lak 92.95 40 *e*P **P** **08 30 46.2 +1.1**
comp=Z,0.7nm,0.7s
BOZ Bozeman (W) 93.32 39 *e*P **P** **08 30 47.3 +0.5**
BOZ pmax pmax
comp=Z,31nm,1.6s
BOZ Bozeman (W) 93.32 39 *e*P **P** **08 30 47.3 +0.5**
comp=Z,31nm,1.6s
LKWY Lake 93.39 41 P **P** **08 30 48.7 +1.4**
LKWY pmax pmax
comp=Z,50nm,1.8s
LKWY Lake 93.39 41 P **P** **08 30 48.7 +1.4**
comp=Z,50nm,1.8s
SEY Seymchan 93.44 346 *e*P **P** **08 30 46.2 -0.5**
XAN Xi'an 93.60 307 P **P** **08 30 50.0 +1.8**
XAN pP **pP** **08 31 07.3 +4.8**
XAN S **S** **08 41 52.2 -1.1**
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN pmax pmax
comp=Z,21nm,4.2s
XAN LR LR
comp=N,190nm,22.3s
XAN LR LR
comp=E,97nm,23.6s
XAN LR LR
comp=Z,120nm,23.6s
HRY Holter Researc 93.84 38 *e*P **P** **08 30 49.5 +0.4**
comp=Z,16nm,1.5s
KMI Kunming 93.92 296 P **P** **08 30 50.8 +0.6**
KMI S **S** **08 41 54.7 -2.2**
KMI pmax pmax
comp=Z,21nm,1.4s
KMI LR LR
comp=Z,75nm,24.6s
CMAR Chiang Mai Arr 93.95 289 P **P** **08 30 51.3 +1.2**
comp=Z,19nm,0.9s,baz=140,slow=3.4,SNR=70
CMAR PP **PP** **08 34 35.2 -1.6**
comp=Z,0.7nm,0.3s,baz=127,slow=7.1,SNR=4.1
CMAR Chiang Mai Arr 93.95 289 P **P** **08 30 51.3 +1.2**
CMAR PP **PP** **08 34 35.2 -1.6**
CHTO Chiang Mai 94.11 289 *e*P **P** **08 30 52.4 +1.5**
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO Chiang Mai 94.11 289 *e*P **P** **08 30 52.4 +1.5**
comp=Z,31nm,0.9s
COLA College 94.56 12 *e*P **P** **08 30 51.5 -0.3**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 94.56 12 *e*P **P** **08 30 51.5 -0.3**
comp=Z,5.8nm,0.8s
ILAR Eielson Array 94.65 12 P **P** **08 30 51.6 -0.6**
comp=Z,2.3nm,0.8s,baz=217,slow=5.5,SNR=25
ILAR PP PP 08 34 55.3 +14
comp=Z,0.8nm,1.0s,baz=225,slow=6.8,SNR=3.2
ILAR LR LR 09 05 22.5
comp=Z,136nm,19.9s,baz=206,slow=30
ILAR Eielson Array 94.65 12 P **P** **08 30 51.6 -0.6**
ILAR PP PP 08 34 55.3 +14
HHC Hu-ho-hao-te 95.32 313 *e*P **P** **08 30 56.3 +0.3**
HHC pP **pP** **08 31 10.1 -0.2**
HHC sP **sP** **08 31 15.2 -0.5**
HHC PP **PP** **08 34 49.8 +2.6**
HHC SKS **SKSac** **08 41 27.2 -0.7**
HHC S **S** **08 42 07.2 -1.0**
HHC sS **sS** **08 42 29.4 -3.0**
HHC SS **SS** **08 48 39.5 +2.6**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.4s
HHC LR LR
comp=N,140nm,18.8s
HHC LR LR
comp=E,150nm,18.2s
HHC LR LR
comp=Z,140nm,18.4s
CD2 Chengdu 95.87 302 P **P** **08 30 59.9 +1.2**
CD2 pP **pP** **08 31 14.1 +1.1**
CD2 sP **sP** **08 31 19.6 +1.2**
CD2 PP **PP** **08 34 54.9 +3.3**
CD2 SKS **SKSac** **08 41 30.9 -0.3**
CD2 S **S** **08 42 11.2 -2.0**
CD2 sS **sS** **08 42 35.4 -2.0**
CD2 SS **SS** **08 48 46.5 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.1s
CD2 LR LR
comp=N,250nm,10.1s
CD2 LR LR
comp=Z,170nm,7.7s
RSSD Black Hills 96.95 44 *e*P **P** **08 31 01.3 -2.2**
RSSD pmax pmax
comp=Z,2.0nm,0.8s
RSSD Black Hills 96.95 44 *e*P **P** **08 31 01.3 -2.2**
comp=Z,2.2nm,0.8s
LPAZ La Paz 97.86 113 LR LR 09 06 45.9
comp=Z,176nm,18.4s,baz=196,slow=30
LZH Lanzhou 98.23 306 *e*P P 08 31 04.5 -4.9
LZH pP Pdif 08 31 16.5 +7.1
LZH sP sP 08 31 21.2 -7.9
LZH pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 101.62 318 Pdif **Pdif** **08 31 30.3 +6.1**
comp=Z,3.3nm,0.8s
SONM Songino Array 102.00 318 Pdiff **Pdif** **08 31 30.7 +4.8**
comp=Z,0.3nm,0.7s,baz=116,slow=5.0,SNR=3.4
SONM Songino Array 102.00 318 Pdif **Pdif** **08 31 30.7 +4.8**
YKA Yellowknife Ar 102.05 25 Pdiff **Pdif** **08 31 31.5 +6.0**
comp=Z,0.1nm,0.7s,baz=232,slow=4.4,SNR=2.6
YKA PKiKP **PKiKP** **08 35 46.1 -1.6**
comp=Z,0.3nm,0.9s,baz=266,slow=1.6,SNR=4.8
YKA PKKPbc **PKKPbc** **08 47 28.6 -2.9**
comp=Z,0.5nm,0.7s,baz=44,slow=2.8,SNR=10
YKA Yellowknife Ar 102.05 25 Pdif **Pdif** **08 31 31.5 +6.0**
YKA PKiKP **PKiKP** **08 35 46.1 -1.6**
YKA PKKPbc **PKKPbc** **08 47 28.6 -2.9**
GTA Gaotai 102.57 308 *e*P **Pdif** **08 31 34.4 +5.8**
GTA pP 08 31 47.7
GTA sP 08 31 52.7
GTA S **Sdif** **08 43 13.5 +3.9**
GTA SS SS 08 50 26.7 +8.2
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=N,150nm,20.9s
GTA LR LR
comp=E,180nm,24.7s
GTA LR LR
comp=Z,270nm,25.2s
ZAK Zakamensk 104.96 319 *e*P Pdif 08 31 50.1 +11
ZAK pmax pmax
comp=Z,2.0nm,1.4s
WMQ Urumqi 112.62 309 *e*PKP **PKiKP** **08 36 09.4 +1.3**
WMQ LR LR
comp=Z,230nm,27.0s
ZAA0 Zalesovo Array 116.84 319 *e*PKPdf **PKPdf** **08 36 14.7 -1.1**
ZALV Zalesovo Beam 116.84 319 PKP **PKPdf** **08 36 14.6 -1.2**
comp=Z,6.8nm,0.7s,baz=164,slow=1.0,SNR=45
ZALV Zalesovo Beam 116.84 319 PKIKP **PKPdf** **08 36 14.6 -1.2**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 116.84 319 PKP **PKPdf** **08 36 14.6 -1.2**
MK31 Makanchi Array 117.05 311 *i* PKIKP **PKPdf** **08 36 15.0 -1.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 117.05 311 *e*PKPdf **PKPdf** **08 36 15.5 -1.0**
MKAR Makanchi Array 117.05 311 Pdiff **Pdif** **08 32 37.7 +5.0**
comp=Z,0.3nm,0.9s,baz=111,slow=8.2,SNR=2.8
MKAR PKP **PKPdf** **08 36 15.5 -1.0**
comp=Z,7.0nm,0.8s,baz=93,slow=2.9,SNR=65
MKAR Makanchi Array 117.05 311 P **Pdif** **08 32 37.7 +5.0**
MKAR 08 36 15.5
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 117.05 311 Pdif **Pdif** **08 32 37.7 +5.0**
MKAR PKP **PKPdf** **08 36 15.5 -1.0**
NVS Novosibirsk 117.90 320 *e*PKIKP **PKPdf** **08 36 16.0 -1.8**
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.2s
KSH Kashi 120.06 302 PKP **PKPdf** **08 36 22.9 +0.3**
KSH sPKP 08 36 39.2
KSH PP **PP** **08 37 49.5 +1.2**
KSH PKS **PKSdf** **08 39 57.8 -1.6**
KSH SKKS 08 44 45.2
KSH SS **SKKSdf** **08 54 18.4 +5.8**
KSH AMB AMB
comp=Z,110nm,4.6s
KSH LR LR
comp=N,100nm,5.6s
KSH LR LR
comp=E,78nm,5.9s
KSH LR LR
comp=Z,160nm,7.5s
KURK Kurchatov 120.10 315*c* *i*PKIKP **PKPdf** **08 36 20.9 -1.2**
KURK Kurchatov 120.10 315 *e*PKPdf **PKPdf** **08 36 20.9 -1.2**
KURK PKP **PKiKP** **08 36 21.4 -0.9**
KURBB Kurchatov Arra 120.15 315 PKP **PKPdf** **08 36 21.4 -0.9**
comp=Z,9.1nm,0.8s,baz=104,slow=1.9,SNR=89
BOSA Boshof 120.65 202 PKP **PKPdf** **08 36 24.4 +0.1**
comp=Z,9.6nm,1.0s,baz=156,slow=3.4,SNR=7.0
BOSA Boshof 120.65 202 PKP **PKPdf** **08 36 24.4 +0.1**
TKM2 Tokmak 2 120.99 306 *e*PKIKP **PKPdf** **08 36 23.3 -1.1**
TKM2 Tokmak 2 120.99 306 *e*PKPdf **PKPdf** **08 36 23.3 -1.1**
AAK Ala-Archa 121.74 305 PKP **PKPdf** **08 36 25.3 -0.6**
comp=Z,3.6nm,0.8s,baz=140,slow=2.7,SNR=12
AAK Ala-Archa 121.74 305 *i* PKIKP **PKPdf** **08 36 24.0 -1.8**
AAK Ala-Archa 121.74 305 *e*PKPdf **PKPdf** **08 36 25.1 -0.7**
AAK PKP **PKPdf** **08 36 25.3 -0.6**
EKS2 Erkin-Say 122.27 305 *e*PKIKP **PKPdf** **08 36 26.5 -0.3**
EKS2 Erkin-Say 122.27 305 *e*PKPdf **PKPdf** **08 36 26.5 -0.3**
KK31 Karatay Array 124.71 305 *i* PKIKP **PKPdf** **08 36 30.5 -0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 124.71 305 *e*PKIKP **PKPdf** **08 36 30.7 -0.6**
KKAR Karatay Array 124.71 305 *e*PKPdf **PKPdf** **08 36 30.7 -0.6**
KKAR *ep*PKPdf **pPKPdf** **08 36 50.5 +4.4**
VOSK Vostochnaya 124.98 317 PKIKP **PKPdf** **08 36 30.3 -1.2**
VOSK pmax pmax
comp=Z,62nm,2.3s
BVA0 Borovoye Array 125.34 317 *i* PKIKP **PKPdf** **08 36 31.1 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 125.40 317 PKIKP **PKPdf** **08 36 31.2 -1.1**
BRVK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 125.40 317 *e*PKPdf **PKPdf** **08 36 31.4 -0.8**
BRVK *ep*PKPdf **pPKPdf** **08 36 51.2 +4.2**
ZRNK Zerenda 126.17 317 PKIKP **PKPdf** **08 36 32.6 -1.2**
ZRNK pmax pmax
comp=Z,24nm,1.0s
SVE Sverdlovsk 130.53 323 *e*PKIKP **PKPdf** **08 36 42.2 +0.3**
SVE pmax pmax
comp=Z,13nm,0.9s
LSZ Lusaka 131.45 212 *e*PKPdf **PKPdf** **08 36 46.6 +1.5**
ARU Arti 131.74 323 *i* PKIKP **PKPdf** **08 36 43.5 -0.8**
ARU 08 39 00.7
ARU MLR MLR
comp=Z,213nm,23.0s
ARU Arti 131.74 323 *e*PKPdf **PKPdf** **08 36 43.4 -0.8**
ABKAR Akbulak array 132.11 313 *e*PKPdf **PKPdf** **08 36 45.0 -0.1**
AKTO Aktyubinsk 133.20 315 PKIKP **PKPdf** **08 36 46.6 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.9s
KEV Kevo 135.52 349 *e*PKIKP **PKPdf** **08 36 47.7 -3.2**
KEV Kevo 135.52 349 *e*pkp **PKPdf** **08 36 47.7 -3.2**
ARCES ARCESS Array B 135.97 349 PKP **PKPdf** **08 36 51.8 -0.1**
comp=Z,9.9nm,0.7s,baz=21,slow=1.0,SNR=20
ARCES ARCESS Array B 135.97 349 PKP **PKPdf** **08 36 51.8 -0.1**
JOF Joensuu 140.17 341 *e*PKHKP PKPpre 08 36 52.8
JOF Joensuu 140.17 341 *e*pkp PKPpre 08 36 52.8
KAF Kangasniemi 142.20 343 *e*PKHKP PKPpre 08 36 57.9
KAF Kangasniemi 142.20 343 *e*pkp PKPpre 08 36 57.9
FINES FINESS Array B 142.82 342 PKhKP PKPpre 08 37 00.4
comp=Z,8.1nm,0.7s,baz=52,slow=3.0,SNR=29
FINES FINESS Array B 142.82 342 PKPpre PKPpre 08 37 00.4
VRHR Novokhopersk 142.96 320 *e*PKIKP **PKPdf** **08 37 04.4 -0.6**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
DGRG David-gareji 143.33 303 P **PKPdf** **08 37 06.3 +0.2**
OBN Obninsk 143.54 328⇓ *e*PKIKP PKPab 08 37 02.7 +0.3
OBN *e* 08 40 24.6
OBN pmax pmax
comp=Z,28nm,1.2s
OBN MLR MLR
comp=Z,100nm,22.0s
TBLG Delisi 143.75 304 *e*PKIKP **PKPdf** **08 37 06.1 -0.7**
TBLG Delisi 143.75 304 P **PKPdf** **08 37 06.1 -0.7**
ZEI Tsey 144.16 306 *e*PKIKP PKPbc 08 37 05.8 -0.2
ZEI pmax pmax
comp=Z,18nm,1.4s
VSR Storozhevoye 144.29 321 *e*PKIKP **PKPab** **08 37 04.9 -0.5**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 144.34 321 *e*PKIKP **PKPab** **08 37 05.1 -0.5**
ONI Oni 144.52 306 P PKPbc 08 37 07.5 +0.6
KBZ Khabaz 144.66 308 PKP **PKPab** **08 37 07.1 +0.1**
comp=Z,8.5nm,1.1s,baz=158,slow=1.6,SNR=6.7
KBZ Khabaz 144.66 308 PKIKP PKPbc 08 37 07.1 -0.1
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 144.66 308 PKP **PKPab** **08 37 07.1 +0.1**
BHD Baghdad 144.68 290 *i* PKP **PKPab** **08 37 07.0 -0.4**
BHD *e*PP 08 40 15.0 -11
BHD *e*SKS **SKSdf** **08 44 15.0 +0.9**
AKH Akhalkalaki 144.73 304 P **PKPab** **08 37 06.9 -0.7**
KIV Kislovodsk 144.75 308 *i* PKIKP **PKPab** **08 37 07.0 -0.5**
KIV *e* 08 40 20.8
KIV *e*SS SS 08 59 05.7 -5.6
KIV pmax pmax
comp=Z,12nm,1.1s
HKR Hakkari 145.06 297 *e*P **PKPbc** **08 37 07.4 -1.6**
CUKT Cukurca 145.20 297 *e*P **PKPbc** **08 37 08.4 -0.9**
AGRB Hanur-Agry 145.41 301 *e*P **PKPdf** **08 37 09.8 -0.2**
NB2 NORSAR Subarra 145.99 354 PKP **PKPdf** **08 37 10.1 0.0**
baz=11,slow=3.0
NB2 NORSAR Subarra 145.99 354 PKP **PKPdf** **08 37 10.1 0.0**
comp=Z,36nm,0.8s,baz=11,slow=3.0
NOA NORSAR Array B 145.99 354 PKPbc **PKPdf** **08 37 10.1 0.0**

comp=Z,21nm,0.8s,baz=17,slow=4.6,SNR=61
NOA NORSAR Array B 145.99 354 PKPbc **PKPdf 08 37 10.1 0.0**
NAO01 NORSAR Array S 146.21 354 *e*PKPbc **PKPbc 08 37 11.4 -0.1**
VRTB Varto-Mus 146.65 300 *e*P **PKPbc 08 37 14.0 +0.3**
SOC Sochi 146.92 309 *e*PKHKP PKPpre 08 37 05.3
SOC *e* 08 44 22.0
SOC *e*SSS SSS 09 05 10.6
BNGB Bingˆ¶l 147.28 300 *e*P **PKPdf 08 37 10.8 -2.2**
BAYT Ayd˜–ntepe-Bay 147.42 303 *e*P **PKPbc 08 37 15.6 -0.3**
KONO Kongsberg 147.51 355 *e*PKP2 **PKPbc 08 37 14.9 -0.3**
KONO Kongsberg 147.51 355 *e*PKPbc **PKPbc 08 37 14.9 -0.3**
MICGM Minsk 147.71 334 *e* **PKPdf 08 37 14.0 +0.9**
MNK Minsk 147.72 334 *e*PKIKP **PKPdf 08 37 14.0 +0.9**
NACGM Naroch 147.83 335 *e* **PKPdf 08 37 14.0 +0.7**
ERZN Erzincan 147.90 302 *e*P **PKPdf 08 37 13.5 -0.6**
GUMT Gumushane 147.90 303 *e*P **PKPbc 08 37 16.1 -1.0**
ANN Anapa 148.06 312 *i* PKP2 **PKPbc 08 37 16.2 -1.0**
ANN pmax pmax
comp=Z,57nm,1.0s
EZC Erzincan 148.15 302 *e*P **PKPbc 08 37 17.2 -0.7**
ILIC ilic-Erzincan 148.80 302 *e*P **PKPdf 08 37 15.3 -0.3**
MYA Malataya 149.13 300 *e*P **PKPbc 08 37 18.8 -1.6**
KAC Achnashellach 149.22 10 *e*P **PKPbc 08 37 19.5 -0.3**
KAC Achnashellach 149.22 10 P **PKPbc 08 37 19.5 -0.3**
KPL Plockton 149.32 10 *e*P **PKPbc 08 37 19.8 -0.2**
KPL Plockton 149.32 10 P **PKPbc 08 37 19.8 -0.2**
MDO Dochfour 149.41 9 *e*P **PKPbc 08 37 19.9 -0.4**
MDO Dochfour 149.41 9 P **PKPbc 08 37 19.9 -0.4**
AKASG Malin Array Be 149.77 327 PKP **PKPdf 08 37 16.0 -0.6**
comp=Z,38nm,0.9s,baz=43,slow=2.8,SNR=11
AKASG PKPbc **PKPbc 08 37 20.1 -1.2**
comp=Z,28nm,0.8s,baz=41,slow=3.4,SNR=24
AKASG Malin Array Be 149.77 327 PKIKP **PKPdf 08 37 16.0 -0.6**
AKASG pmax pmax
comp=Z,38nm,0.9s
AKASG pmax pmax
comp=Z,28nm,0.8s
AKASG Malin Array Be 149.77 327 PKP **PKPdf 08 37 16.0 -0.6**
AKASG PKPbc **PKPbc 08 37 20.1 -1.2**
AKBB Malin Array Si 149.77 327 *e*PKIKP **PKPdf 08 37 16.0 -0.6**
AKBB *e* 08 37 20.8
AKBB Malin Array Si 149.77 327 *e*PKPdf **PKPdf 08 37 16.0 -0.6**
AKBB *e*PKPbc **PKPbc 08 37 20.8 -0.5**
KIEV Kiev 149.78 327 *e*PKIKP **PKPdf 08 37 15.6 -1.0**
KIEV *e* 08 37 20.7
KIEV Kiev 149.78 327 *e*PKPdf **PKPdf 08 37 15.6 -1.0**
KIEV *e*PKPbc **PKPbc 08 37 20.7 -0.6**
SUW Suwalki 149.83 337 *e*PKP **PKPbc 08 37 21.1 -0.2**
SUW Suwalki 149.83 337 *e*PKP2 **PKPbc 08 37 21.1 -0.2**
SUW Suwalki 149.83 337 *e*PKPbc **PKPbc 08 37 21.1 -0.2**
SUW Suwalki 149.83 337 *e*PKP **PKPbc 08 37 21.1 -0.2**
SIM Simferopol' 150.16 314*c* *i*PKP2 **PKPbc 08 37 22.7 +0.2**
SIM pmax pmax
comp=Z,40nm,1.0s
GAZ Gaziantep 150.27 298 *e*P **PKPbc 08 37 21.4 -1.7**
KMRS Kahramanmaras 150.46 298 *e*P **PKPdf 08 37 19.3 +1.1**
EAB Aberfoyle 150.63 9 *e*P **PKPbc 08 37 22.7 -0.5**
EAB Aberfoyle 150.63 9 P **PKPbc 08 37 22.7 -0.5**
MUD Monsted U'grnd 150.70 354 *i* P **PKPbc 08 37 23.3 0.0**
comp=Z,25nm,0.9s
PGBU Glenifferbraes 150.97 10 *e*P **PKPbc 08 37 23.4 -0.6**
PGBU Glenifferbraes 150.97 10 P **PKPbc 08 37 23.4 -0.6**
BNN Bunyan 151.00 301 *e*P **PKPbc 08 37 22.7 -2.1**
EDI Edinburgh 151.04 8 *e*P **PKPbc 08 37 23.3 -0.9**
EDI Edinburgh 151.04 8 P **PKPbc 08 37 23.3 -0.9**
EAU Auchinoon 151.08 9 *e*P **PKPbc 08 37 24.1 -0.3**
EAU Auchinoon 151.08 9 P **PKPbc 08 37 24.1 -0.3**
ESY Stoneypath 151.12 8 *e*P **PKPbc 08 37 24.0 -0.4**
ESY Stoneypath 151.12 8 P **PKPbc 08 37 24.0 -0.4**
BSD Bornholm Skovb 151.15 347 *i* P **PKPbc 08 37 23.9 -0.5**
comp=Z,61nm,0.9s
EBL Broad Law 151.21 8 *e*P **PKPbc 08 37 24.0 -0.6**
EBL Broad Law 151.21 8 P **PKPbc 08 37 24.0 -0.6**
HTY Hatay 151.29 296 *e*P **PKPdf 08 37 20.3 +0.9**
KOZT Kozan 151.31 299 *e*P **PKPbc 08 37 22.4 -3.0**
LLD Lille Linde 151.42 350 *i* P **PKPbc 08 37 25.6 +0.5**
comp=Z,105nm,0.8s
CEYT Ceyhan 151.45 298 *e*P **PKPbc 08 37 24.0 -1.7**
CORM Corum 151.55 305 *e*P **PKPbc 08 37 24.3 -1.8**
GAL1 Galloway 151.85 10 *e*P **PKPbc 08 37 23.7 -2.3**
GAL1 Galloway 151.85 10 P **PKPbc 08 37 23.7 -2.3**
GKP Gorka Klasztor 152.30 343 *e*PKP **PKPbc 08 37 27.4 +0.2**
GKP Gorka Klasztor 152.30 343 *e*PKP **PKPbc 08 37 27.3 +0.2**
KESW Keswick, Cumbr 152.35 9 *e*P **PKPbc 08 37 26.6 -0.6**
KESW Keswick, Cumbr 152.35 9 P **PKPbc 08 37 26.6 -0.6**
BR131 Keskin Array S 152.41 304 *e*PKPbc **PKPbc 08 37 27.6 -0.5**
BRTR Keskin Array B 152.42 304 PKP **PKPdf 08 37 19.6 -1.6**
comp=Z,1.1nm,0.8s,baz=352,slow=4.4,SNR=4.9
BRTR PKPbc **PKPbc 08 37 27.8 -0.3**
comp=Z,6.4nm,0.9s,baz=104,slow=2.1,SNR=19
BRTR PP **PP 08 41 09.1 -2.1**
comp=Z,0.9nm,0.8s,baz=103,slow=5.6,SNR=3.9
BRTR Keskin Array B 152.42 304 PKP **PKPdf 08 37 19.6 -1.6**
BRTR PKPbc **PKPbc 08 37 27.8 -0.3**
BRTR PP **PP 08 41 09.1 -2.1**
BEL Belsk 152.45 337 *e*PKP **PKPbc 08 37 28.1 +0.6**
BEL Belsk 152.45 337 *e*PKP **PKPbc 08 37 28.1 +0.6**
MERS Mersin 152.45 298 *e*P **PKPdf 08 37 24.3 +3.1**
LVV L'vov 152.77 331 *e*PKIKP **PKPbc 08 37 28.1 -0.2**
BSEG Bad Segeberg 153.05 352 *e*pPKPdf **PKPbc 08 37 28.8 0.0**
KWP Kalwaria Pacla 153.47 332 *e*PKPdf **PKPdf 08 37 21.3 -1.0**
KWP *e*PKPbc **PKiKP 08 37 30.3 +0.3**
KWP *e*PKPab **PKPab 08 37 42.9 +0.6**
KWP Kalwaria Pacla 153.47 332 ⥣PKIKP **PKPbc 08 37 30.6 +0.7**
KWP Kalwaria Pacla 153.47 332⥣*i*P **PKPbc 08 37 30.6 +0.7**
KWP Kalwaria Pacla 153.47 332 *e*PKPdf **PKPdf 08 37 21.2 -1.0**
KWP *e*PKPbc **PKiKP 08 37 30.3 +0.3**
KWP *e*PKPab **PKPab 08 37 42.9 +0.6**
TESR 153.76 323⥥*i*P **PKPbc 08 37 30.6 0.0**
BUR08 Bucovina Ar. S 153.77 326 *e*PKPdf **PKPdf 08 37 22.9 +0.1**
BUR08 *e*PKPbc **PKiKP 08 37 31.2 +0.4**
BURAR Bucovina Array 153.78 326⥥*i*P **PKPbc 08 37 32.1 +1.3**
FOEL Foel Wylfa 153.99 10 *e*P **PKPbc 08 37 29.6 -1.3**
FOEL Foel Wylfa 153.99 10 P **PKPbc 08 37 29.6 -1.3**
OJC Ojcow 154.14 336 *e*PKPdf **PKPdf 08 37 22.8 -0.4**
OJC *e*PKPbc **PKPbc 08 37 30.4 -0.9**
PLOR Plostina 154.17 322 ⥣PKP2 **PKPab 08 37 44.3 -1.2**
PLOR Plostina 154.17 322⥣*i*P **PKPab 08 37 44.3 -1.2**
KOLS Kolonicke sedl 154.19 331 *e*PKIKP **PKPdf 08 37 22.7 -0.6**
KOLS Kolonicke sedl 154.19 331 *e*PKP **PKPdf 08 37 22.7 -0.6**
UZH Uzhgorod 154.41 331⥥*i*PKIKP **PKPbc 08 37 32.4 +0.5**
UZH *e* 08 37 37.8
UZH *i* 08 37 44.8
NRDL Niedersach Rie 154.49 351 *e*pPKPdf **PKPbc 08 37 31.9 +0.1**
CRVS Cervenica-Dubn 154.56 332 *e*PKIKP **PKPdf 08 37 23.5 -0.3**
CRVS Cervenica-Dubn 154.56 332 *e*PKP **PKPdf 08 37 23.5 -0.3**
NIE Niedzica 154.60 334 *e*PKIKP **PKPdf 08 37 24.5 +0.6**
NIE Niedzica 154.60 334 *e*PKPdf **PKPdf 08 37 24.5 +0.6**
NIE *e*PKPbc **PKPbc 08 37 32.2 -0.2**
TRPA Tarpa 154.68 330⥥*i*P **PKPbc 08 37 32.8 +0.3**
KSP Ksiaz 154.73 341 *e*PKPdf **PKPdf 08 37 23.8 -0.1**
KSP *e*PKPbc **PKiKP 08 37 33.0 +0.4**
KSP *e*PKPab **PKPab 08 37 47.7 +0.1**
KSP Ksiaz 154.73 341 *e*PKIKP **PKPdf 08 37 23.6 -0.4**
KSP Ksiaz 154.73 341 *e*PKPdf **PKPdf 08 37 23.8 -0.1**
KSP *e*PKPbc **PKiKP 08 37 32.9 +0.4**
KSP *e*PKPab **PKPab 08 37 47.6 +0.1**
RAC Raciborz 154.81 338 *e*PKIKP **PKPbc 08 37 30.4 -2.3**
OKC Ostrava-Krasne 155.04 338 *e*PKIKP PKPbc 08 37 33.4
OKC Ostrava-Krasne 155.04 338⥣*e*PKP PKPbc 08 37 33.4
CLZ Clausthal 155.09 350 *e*pPKPdf pPKPdf 08 37 33.5 -5.8
UPC Upice 155.11 341 *e*PKIKP **PKPdf 08 37 24.4 -0.1**
UPC *e* 08 37 34.0
UPC *e* 08 37 49.1
UPC Upice 155.11 341 *e*PKPDF **PKPdf 08 37 24.4 -0.1**
UPC ⥣*e*PKP PKPab 08 37 34.0 -15
UPC *e*PKPAB PKPab 08 37 49.1 -0.1
CLL Collm 155.12 346 *i* PKIKP **PKPdf 08 37 23.5 -1.0**
CLL *i* 08 37 33.4
CLL *i* 08 37 48.2
CLL pmax pmax
comp=Z,12nm,1.4s
CLL Collm 155.12 346 *e*PKPdf **PKPdf 08 37 23.4 -1.0**
CLL *e*pPKPdf **pPKPdf 08 37 33.3 -6.0**
CLL *e*PKPab **PKPab 08 37 48.4 -0.8**
CLL Collm 155.12 346 *i* PKPdf **PKPdf 08 37 23.5 -1.0**
comp=Z,12nm,1.4s
CLL *i* PKPdif PKPab 08 37 33.4 -16
comp=Z,18nm,1.0s
CLL *i* PKPab PKPab 08 37 48.2 -1.0
comp=Z,16nm,1.1s
CLL *e* 08 37 55.0
CLL *i* pPKPab **pPKPab 08 38 03.9 +0.3**
CLL *e*PP **PP 08 41 26.0 +1.1**
CLL *e*SS SS 09 01 24.0 +20
CLL *e*SSS SSS 09 07 06.0
CLL L L 09 54 00.0
comp=Z,200nm,20.7s
DPC Dobruska-Polom 155.16 341 *e*PKIKP **PKPdf 08 37 23.9 -0.7**
DPC *e* 08 37 34.1
DPC Dobruska-Polom 155.16 341 *e*PKPDF **PKPdf 08 37 23.9 -0.7**
DPC ⥣*e*PKP PKPab 08 37 34.1 -15
DPC *e*PKPAB PKPab 08 37 50.0 +0.5
DPC *e*x x 08 37 56.7
MORC Moravsky Berou 155.29 338 *e*PKIKP **PKPdf 08 37 24.3 -0.5**
MORC *e* 08 37 34.2
MORC Moravsky Berou 155.29 338 *e*PKPdf **PKPdf 08 37 24.3 -0.5**
MORC *e*PKPbc PKPab 08 37 34.2 -16
MORC Moravsky Berou 155.29 338⥥*i*P **PKPdf 08 37 24.9 +0.1**
VOIR 155.31 322⥣*i*P **PKPdf 08 37 28.0 +3.0**
BRG Berggiesshubel 155.32 345 *e*PKP **PKPdf 08 37 24.6 -0.1**
comp=Z,14nm,1.4s
BRG *i* 08 37 34.3
comp=Z,22nm,1.2s
BRG *i* 08 37 49.6
comp=Z,13nm,1.0s
BRG Berggiesshubel 155.32 345 *e*PKIKP **PKPdf 08 37 24.6 -0.1**
BRG *i* 08 37 34.3
BRG *i* 08 37 49.6
BRG pmax pmax
comp=Z,14nm,1.5s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG Berggiesshubel 155.32 345 *e*PKPdf **PKPdf 08 37 24.2 -0.5**
BRG *e*pPKPdf **pPKPdf 08 37 34.2 -5.4**
BRG *e*PKPab **PKPab 08 37 49.8 -0.3**
BUG Bochum--Univer 155.84 355 *e*PKPab **PKPab 08 37 52.4 +0.2**
VYHS Vyhne 155.92 335 *e*PKIKP **PKPdf 08 37 25.1 -0.6**
VYHS Vyhne 155.92 335 *e*PKP **PKPdf 08 37 25.1 -0.6**
PSZ Piszkesteto 155.97 333 *e*PKIKP **PKPdf 08 37 24.9 -0.9**
PSZ *e* 08 37 53.0
PSZ Piszkesteto 155.97 333 *e*PKPdf **PKPdf 08 37 24.9 -0.9**
PSZ *e*PKPab **PKPab 08 37 53.0 -0.1**
PRU Pruhonice 155.99 343 *e*PKIKP **PKPdf 08 37 25.3 -0.4**
PRU *e* 08 37 52.9
PRU MLR MLR
comp=Z,300nm,16.6s
PRU Pruhonice 155.99 343 *e*PKPDF **PKPdf 08 37 25.3 -0.4**
PRU *e*PKPAB **PKPab 08 37 52.9 0.0**
PRU *e*x x 08 38 04.1
PRU AMS AMS 09 48 50.0
comp=Z,300nm,16.6s
NKC Novy Kostel 156.25 346 *e*PKIKP **PKPdf 08 37 22.1 -4.0**
NKC *e* 08 37 37.0
NKC *e* 08 37 54.1
NKC Novy Kostel 156.25 346 *e*PKPDF **PKPdf 08 37 22.4 -3.7**
NKC *e*x x 08 37 37.0
NKC *e*PKPAB **PKPab 08 37 54.1 0.0**
ROTZ Rotzenmuhle 156.75 346 *e*pPKPdf **pPKPdf 08 37 36.8 -4.7**
ROTZ *e*PKPab **PKPab 08 37 56.0 -0.2**
TNS Taunus Mts 156.93 352 *e*pPKPab pPKPab 08 38 06.4 -5.0
GRF Grafenberg Arr 157.02 348 *e*PKP2 **PKPab 08 37 57.3 -0.1**
GRF Grafenberg Arr 157.02 348 *e*PKPab **PKPab 08 37 57.3 -0.1**
KHC Kasperske Hory 157.02 343 *e*PKIKP **PKPdf 08 37 26.6 -0.5**
KHC *e* 08 37 37.7
KHC Kasperske Hory 157.02 343 *e*PKPDF **PKPdf 08 37 26.6 -0.5**
KHC *e*x x 08 37 37.7
KHC *e*PKPAB **PKPab 08 37 57.7 +0.2**
KHC *e*x x 08 38 03.7
WET Wettzell 157.18 345 *e*PKP2 **PKPab 08 37 58.2 0.0**
WET Wettzell 157.18 345 *e*PKPdf **PKPdf 08 37 26.5 -0.8**
WET *e*PKPab **PKPab 08 37 58.2 0.0**
GEC2 GERESS Array S 157.25 343 *e*PKP2 **PKPab 08 37 58.6 0.0**
GEC2 GERESS Array S 157.25 343 *e*pPKPdf **pPKPdf 08 37 37.8 -4.5**
GEC2 *e*PKPab **PKPab 08 37 58.6 0.0**
GERES GERESS Array B 157.25 343 PKP **PKPdf 08 37 26.4 -1.1**
comp=Z,1.0nm,0.8s,baz=29,slow=2.2,SNR=7.1
GERES PKPbc PKPab 08 37 38.1 -21
comp=Z,1.7nm,0.8s,baz=0.0,slow=1.3,SNR=10
GERES GERESS Array B 157.25 343 PKP **PKPdf 08 37 26.4 -1.1**
GERES PKPbc PKPab 08 37 38.1 -20
LIC Lamto 157.33 157 *e*PKIKP **PKPdf 08 37 27.9 -0.6**
comp=Z,28nm,1.0s
LIC *e*R
comp=Z,189nm,23.0s
LIC Lamto 157.33 157 *e*PKPdf **PKPdf 08 37 27.9 -0.6**
BAIF Baives 157.36 359 *e*PKIKP **PKPdf 08 37 27.3 -0.1**
comp=Z,29nm,1.4s
BAIF Baives 157.36 359 *e*PKIKP **PKPdf 08 37 27.3 -0.1**
BAIF Baives 157.36 359 *e*PKPdf **PKPdf 08 37 27.3 -0.1**
WLF Walferdange 157.69 356 *e*PKPab **PKPab 08 38 01.9 +1.6**
WLF *e*pPKPab **pPKPab 08 38 11.0 -3.6**
DBIC Dimbokro 157.80 157 PKP **PKPdf 08 37 28.5 -0.6**
comp=Z,4.8nm,0.8s,baz=279,slow=1.1,SNR=8.3
DBIC Dimbokro 157.80 157 PKP **PKPdf 08 37 28.5 -0.6**
PKSM Moragy 157.85 332⥥*e*PKPdf PKPdf 08 37 35.4 +7.2
VTS Vitosha 158.12 319 ⥥PKP2 **PKPab 08 38 04.2 +1.5**
VTS Vitosha 158.12 319⥥*i*P **PKPab 08 38 04.2 +1.5**
STU Stuttgart 158.25 350 *e*PKPdf **PKPdf 08 37 28.9 +0.3**
FUR Furstenfeldbru 158.46 346 *e*PKP2 **PKPab 08 38 04.0 +0.3**
FUR Furstenfeldbru 158.46 346 *e*PKPab **PKPab 08 38 04.0 +0.3**
PAGF Fort de Pagny 158.82 357 *e*PKIKP **PKPdf 08 37 29.2 -0.1**
PAGF Fort de Pagny 158.82 357 *e*PKPdf **PKPdf 08 37 29.2 -0.1**
CDF Champ du Feu 158.84 354 *e*PKIKP **PKPdf 08 37 28.9 -0.5**
CDF Champ du Feu 158.84 354 *e*PKIKP **PKPdf 08 37 28.9 -0.5**
CDF Champ du Feu 158.84 354 *e*PKPdf **PKPdf 08 37 28.9 -0.5**
MEZF Maizieres J'vi 158.90 358 *e*PKIKP **PKPdf 08 37 29.4 0.0**
comp=Z,27nm,1.2s
MEZF Maizieres J'vi 158.90 358 *e*PKPdf **PKPdf 08 37 29.4 0.0**
SFTF Sexfontaines 159.20 358 *e*PKIKP **PKPdf 08 37 29.6 -0.1**
comp=Z,44nm,1.1s
SFTF Sexfontaines 159.20 358 *e*PKPdf **PKPdf 08 37 29.6 -0.1**
HAU Haudompre 159.32 355 *e*PKIKP **PKPdf 08 37 29.7 -0.2**
HAU *e*R
comp=Z,143nm,18.5s
HAU Haudompre 159.32 355 *e*PKIKP **PKPdf 08 37 29.7 -0.2**
HAU Haudompre 159.32 355 *e*PKPdf **PKPdf 08 37 29.7 -0.2**
HINF Hinteralfeld 159.47 354 *e*PKIKP **PKPdf 08 37 29.5 -0.6**
HINF Hinteralfeld 159.47 354 *e*PKIKP **PKPdf 08 37 29.5 -0.6**
HINF Hinteralfeld 159.47 354 *e*PKPdf **PKPdf 08 37 29.5 -0.6**
LOR Lormes 160.16 360 *e*PKIKP **PKPdf 08 37 30.8 -0.1**
comp=Z,31nm,1.4s
LOR *e*R
comp=Z,288nm,22.0s
LOR Lormes 160.16 360 *e*PKPdf **PKPdf 08 37 30.8 -0.1**
SSF Saint Saulge 160.36 1 *e*PKIKP **PKPdf 08 37 30.9 -0.2**
comp=Z,17nm,1.2s
SSF Saint Saulge 160.36 1 *e*PKIKP **PKPdf 08 37 30.9 -0.2**
SSF Saint Saulge 160.36 1 *e*PKPdf **PKPdf 08 37 30.9 -0.2**
MFF Saint Martin d 160.57 8 *e*PKIKP **PKPdf 08 37 31.2 -0.1**
comp=Z,35nm,1.2s
MFF Saint Martin d 160.57 8 *e*PKIKP **PKPdf 08 37 31.2 -0.1**
MFF Saint Martin d 160.57 8 *e*PKPdf **PKPdf 08 37 31.2 -0.1**
AVF Avril sur Loir 160.63 1 *e*PKIKP **PKPdf 08 37 30.8 -0.6**
comp=Z,33nm,1.5s
AVF Avril sur Loir 160.63 1 *e*PKIKP **PKPdf 08 37 30.8 -0.6**
AVF Avril sur Loir 160.63 1 *e*PKPdf **PKPdf 08 37 30.8 -0.6**
CABF La Chapelle 160.73 355 *e*PKIKP **PKPdf 08 37 31.8 +0.2**
comp=Z,24nm,1.1s
CABF La Chapelle 160.73 355 *e*PKIKP **PKPdf 08 37 31.8 +0.2**
CABF La Chapelle 160.73 355 *e*PKPdf **PKPdf 08 37 31.8 +0.2**
BGF Bois d'Agland 160.85 2 *e*PKIKP **PKPdf 08 37 31.5 -0.1**
BGF Bois d'Agland 160.85 2 *e*PKIKP **PKPdf 08 37 31.5 -0.1**
BGF Bois d'Agland 160.85 2 *e*PKPdf **PKPdf 08 37 31.5 -0.1**
TCF Toulx Ste Croi 161.09 3 *e*PKIKP **PKPdf 08 37 31.7 -0.3**
comp=Z,27nm,1.2s
TCF Toulx Ste Croi 161.09 3 *e*PKIKP **PKPdf 08 37 31.7 -0.3**
TCF Toulx Ste Croi 161.09 3 *e*PKPdf **PKPdf 08 37 31.7 -0.3**
LPL La Plagne 161.76 353 *e*PKIKP **PKPdf 08 37 32.9 0.0**
LPL La Plagne 161.76 353 *e*PKIKP **PKPdf 08 37 32.9 0.0**
LPL La Plagne 161.76 353 *e*PKPdf **PKPdf 08 37 32.9 0.0**
RJF Les Rejaudoux 162.03 5 *e*PKIKP **PKPdf 08 37 32.9 0.0**
RJF *e*R
comp=Z,219nm,20.2s
RJF Les Rejaudoux 162.03 5 *e*PKIKP **PKPdf 08 37 32.9 0.0**
RJF Les Rejaudoux 162.03 5 *e*PKPdf **PKPdf 08 37 32.9 0.0**
LFF La Frestale 162.31 7 *e*PKIKP **PKPdf 08 37 33.4 +0.2**
LFF La Frestale 162.31 7 *e*PKIKP **PKPdf 08 37 33.4 +0.2**
LFF La Frestale 162.31 7 *e*PKPdf **PKPdf 08 37 33.4 +0.2**
ORIF Oris-en-Rattie 162.43 355 *e*PKIKP **PKPdf 08 37 33.3 -0.2**
ORIF *e*R
comp=Z,182nm,18.0s
ORIF Oris-en-Rattie 162.43 355 *e*PKIKP **PKPdf 08 37 33.3 -0.2**
ORIF Oris-en-Rattie 162.43 355 *e*PKPdf **PKPdf 08 37 33.3 -0.2**
CAF Calviac 162.44 4 *e*PKIKP **PKPdf 08 37 33.4 0.0**
CAF Calviac 162.44 4 *e*PKIKP **PKPdf 08 37 33.4 0.0**
CAF Calviac 162.44 4 *e*PKPdf **PKPdf 08 37 33.4 0.0**
VIVF Saint-Julien-l 162.56 358 *e*PKIKP **PKPdf 08 37 33.5 0.0**
comp=Z,16nm,1.1s
VIVF Saint-Julien-l 162.56 358 *e*PKIKP **PKPdf 08 37 33.5 0.0**
VIVF Saint-Julien-l 162.56 358 *e*PKPdf **PKPdf 08 37 33.5 0.0**
LASF Ste Croix 163.35 360 *e*PKIKP **PKPdf 08 37 34.4 +0.1**
LASF Ste Croix 163.35 360 *e*PKPdf **PKPdf 08 37 34.4 +0.1**
LMR La Mourre 163.94 353 *e*PKIKP **PKPdf 08 37 34.2 -0.6**
comp=Z,51nm,1.4s
LMR La Mourre 163.94 353 *e*PKIKP **PKPdf 08 37 34.2 -0.6**
LMR La Mourre 163.94 353 *e*PKPdf **PKPdf 08 37 34.2 -0.6**
EPF Esparros 164.14 9 *e*PKIKP **PKPdf 08 37 35.6 +0.5**
comp=Z,11nm,0.9s
EPF Esparros 164.14 9 *e*PKIKP **PKPdf 08 37 35.6 +0.5**
EPF Esparros 164.14 9 *e*PKPdf **PKPdf 08 37 35.6 +0.5**
EVOP Sao Brissos 165.04 39 *e*PKIKP **PKPdf 08 37 36.1 +0.2**
EVOP Sao Brissos 165.04 39 *e*PKPdf **PKPdf 08 37 36.1 +0.2**
EVO Evora 165.10 39 *e*PKIKP **PKPdf 08 37 36.1 +0.1**
comp=Z,19nm,1.2s
EVO *e*R
comp=Z,255nm,21.5s
TOA0 Torodi Ar. Sit 165.69 172 *e*PKPdf **PKPdf 08 37 36.5 -0.7**
TOA0 *e*PKPab **PKPab 08 38 36.3 +0.3**
TORD Torodi Ar. Bea 165.69 172 PKP **PKPdf 08 37 36.7 -0.5**
comp=Z,7.8nm,0.9s,baz=282,slow=6.8,SNR=41
TORD PKPab **PKPab 08 38 36.3 +0.3**
comp=Z,21nm,0.9s,baz=187,slow=4.3,SNR=38
TORD PP **PP 08 42 20.8 -1.0**
comp=Z,0.9nm,0.8s,baz=180,slow=3.9,SNR=3.0
TORD Torodi Ar. Bea 165.69 172 PKP **PKPdf 08 37 36.7 -0.5**
TORD PKPab **PKPab 08 38 36.3 +0.3**
TORD PP **PP 08 42 20.8 -1.0**
PAB San Pablo 166.09 27 *e*PKIKP **PKPdf 08 37 37.1 +0.2**
PAB San Pablo 166.09 27 *e*PKPdf **PKPdf 08 37 37.1 +0.2**
ESDC Sonseca Array 166.14 26 PKP **PKPdf 08 37 36.6 -0.3**
comp=Z,2.1nm,0.9s,baz=342,slow=2.7,SNR=12
ESDC PKPab **PKPab 08 38 37.0 -0.6**
comp=Z,0.5nm,0.7s,baz=313,slow=4.5,SNR=4.0
ESDC Sonseca Array 166.14 26 PKP **PKPdf 08 37 36.6 -0.3**
ESDC PKPab **PKPab 08 38 37.0 -0.6**
TAM Tamanrasset 175.17 199 *e*PKIKP **PKPdf 08 37 43.1 +0.7**
TAM *e* 08 39 19.2
TAM Tamanrasset 175.17 199 *e*PKPdf **PKPdf 08 37 43.1 +0.7**
TAM *e*PKPab **PKPab 08 39 19.2 +1.1**

---

*ISK **01** 08:32:31.0, 39°.10N×27°.09E, h5km, MD2.7*
*CSEM **01** 08:32:36.1±0.3, 39°.14N×27°.53E, h2km, MD2.7, Error ellipse: s-maj=6.5km s-min=5.3km az=98.0*
ISC 01 08:32:34.8±1.4**, 39°.17N**±0°.03×**27°.44E**±0°.04**, h0**km±12km**,**
n22, σ0s.67/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.41**	**135**	*i* P	**Pg**	**08 32 41.6**	**-0.9**
AKHS				*i* S	**Sg**	**08 32 47.6**	**-0.2**
AKHS	**Akhisar**	**0.41**	**135**	*i* P	**Pg**	**08 32 41.6**	**-0.9**
AKHS				*i* S	**Sg**	**08 32 47.6**	**-0.2**
BALY	**Balya**	**0.59**	**13**	*i* P	**Pb**	**08 32 48.4**	**+0.4**
BALY				*i* S	**Sn**	**08 32 59.7**	**-1.2**
BALY	**Balya**	**0.59**	**13**	*i* P	**Pb**	**08 32 48.4**	**+0.4**
BALY				*i* S	**Sn**	**08 32 59.7**	**-1.2**
IZM	**Izmir**	**0.78**	**191**	*e*PG	Pg	08 32 46.0	-3.7
GONE	**Gonen-Balikesi**	**0.90**	**12**	*e*PG	**Pg**	**08 32 52.4**	**+0.3**
GONE	**Gonen-Balikesi**	**0.90**	**12**	*e*Pg	**Pg**	**08 32 52.4**	**+0.3**
DURS	**Dursunbey**	**0.91**	**61**	*i* P	**Pg**	**08 32 52.9**	**+0.7**
DURS				*i* S	**Sb**	**08 33 05.9**	**-0.3**
DURS	**Dursunbey**	**0.91**	**61**	*i* P	**Pg**	**08 32 52.9**	**+0.7**
DURS				*i* S	**Sb**	**08 33 05.9**	**-0.3**
DEMI	**Demirci**	**1.00**	**97**	*i* P	**Pg**	**08 32 54.3**	**+0.4**
DEMI				*i* S	**Sg**	**08 33 06.3**	**-0.5**
DEMI	**Demirci**	**1.00**	**97**	*i* P	**Pg**	**08 32 54.3**	**+0.4**
DEMI				*i* S	**Sg**	**08 33 06.3**	**-0.5**
URLA	**Izmir**	**1.04**	**220**	*i* P	**Pn**	**08 32 56.9**	**+0.2**
URLA				*i* S	**Sn**	**08 33 12.6**	**+0.7**
URLA	**Izmir**	**1.04**	**220**	*i* P	**Pn**	**08 32 56.9**	**+0.2**
URLA				*i* S	**Sn**	**08 33 12.6**	**+0.7**
MANT	**Manisa**	**1.10**	**127**	*i* P	**Pg**	**08 32 55.3**	**-0.6**
MANT				*i* S	**Sg**	**08 33 10.8**	**+0.7**
MANT	**Manisa**	**1.10**	**127**	*i* P	**Pg**	**08 32 55.3**	**-0.6**
MANT				*i* S	**Sg**	**08 33 10.8**	**+0.7**
KULA	**Kula-Manisa**	**1.15**	**124**	*e*PN	**Pn**	**08 32 58.2**	**0.0**
KULA	**Kula-Manisa**	**1.15**	**124**	*e*Pn	**Pn**	**08 32 58.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.23**	**355**	*e*PN	**Pg**	**08 32 56.9**	**-1.5**
KCTX	**Karacabey (Bur**	**1.31**	**32**	*e*PN	**Pb**	**08 33 00.9**	**+0.7**
KCTX	**Karacabey (Bur**	**1.31**	**32**	*e*Pn	**Pb**	**08 33 00.9**	**+0.7**
TVSB	**Tavsanli**	**1.59**	**79**	*e*PN	**Pb**	**08 33 05.4**	**+0.3**
TVSB	**Tavsanli**	**1.59**	**79**	*e*Pn	**Pb**	**08 33 05.4**	**+0.3**

---

*ISCJB **01** 08:34:58.2±0.4, 21°.68S±0°.04×68°.33W±0°.07, h127km±6km, mb4.2/9, Error ellipse: s-maj=11.5km s-min=6.2km az=164.8*
*NEIC **01** 08:34:59.4±0.8, 21°.83S×68°.20W, h118km±8km, mb4.4/4, Error ellipse: s-maj=12.5km s-min=8.9km az=99.0*
*GUC **01** 08:34:59.6±0.9, 21°.74S×68°.55W, h130km±7km, ML4.1*
*IDC **01** 08:35:01.3±0.8, 21°.66S×68°.21W, h136km±7km, mb4.0/8, mb1 3.9/12, mb1mx3.7/21, mbtmp3.8/12, MS4.4/3, Ms1 4.4/3, ms1mx3.2/30, Error ellipse: s-maj=17.9km s-min=15.8km az=112.0*
ISC 01 08:34:59.7±0.5**, 21°.71S**±0°.05×**68°.37W**±0°.07**, h128**km±5km**,**
h130km:pP-P, n61, σ1s.37/70**, mb4.3**/9**, 4C-1D,**
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.81**	**263**	⥣*i*P	**Pn**	**08 35 20.7**	**-0.3**
PB09				*e*S	**Sn**	**08 35 36.1**	**-0.9**
PB09				AML	AML	08 35 39.0	
	comp=E,8μm,0.7s						
LVC	**Limon Verde**	**1.03**	**209**	*e*Pn	**Pn**	**08 35 22.7**	**-0.3**
LVC				*e*Sn	**Sn**	**08 35 40.0**	**-0.7**
LVC	**Limon Verde**	**1.03**	**209**	*e*P	**Pn**	**08 35 22.5**	**-0.5**
LVC				*i* S	**Sn**	**08 35 40.3**	**-0.4**
PB04	**Plate Boundary**	**1.17**	**241**	⥣*i*P	Pn	08 35 29.8	+5.7
PB04				*i* S	Sn	08 35 52.5	+10
PB04				AML	AML	08 35 55.0	
	comp=E,2μm,0.8s						
SPCH	**San Pedro de A**	**1.21**	**172**	*e*P	**Pn**	**08 35 25.8**	**+1.0**
SPCH				AML	AML	08 35 58.9	
	comp=N,2μm,0.8s						
PB01	**Plate Boundary**	**1.23**	**302**	⥣*i*P	**Pn**	**08 35 24.1**	**-0.7**
PB01				*i* S	**Sn**	**08 35 42.9**	**-1.0**
PB01				AML	AML	08 35 44.4	
	comp=E,4μm,0.2s						
PB07	**Plate Boundary**	**1.41**	**269**	⥣*i*P	**Pn**	**08 35 25.8**	**-1.0**
PB07				*i* S	**Sn**	**08 35 45.7**	**-1.7**
PB07				AML	AML	08 35 46.8	
	comp=E,5μm,0.2s						
HMBC	**Humberstone**	**2.00**	**315**	*e*P	**Pn**	**08 35 32.5**	**-1.2**
HMBC				*e*S	**Sn**	**08 35 58.0**	**-1.8**
HMBC				AML	AML	08 36 02.3	
	comp=N,3μm,0.7s						
PSGC	**Pisagua**	**2.66**	**322**	⥥*i*P	**Pn**	**08 35 40.3**	**-1.7**
PSGC				*i* S	**Sn**	**08 36 12.2**	**-2.3**
PSGC				AML	AML	08 36 19.8	
	comp=E,413nm,0.5s						
MNMC	**Minimini**	**2.81**	**336**	*e*P	**Pn**	**08 35 43.6**	**-0.4**
MNMC				*i* S	**Sn**	**08 36 17.8**	**-0.3**
MNMC				AML	AML	08 36 21.6	
	comp=E,1μm,0.7s						
LPAZ	**La Paz**	**5.39**	**2**	P	**Pn**	**08 36 20.1**	**+1.5**
	comp=E,2.3nm,0.3s,baz=182,slow=4.9,SNR=33						
LPAZ	**La Paz**	**5.39**	**2**	P	**Pn**	**08 36 20.1**	**+1.5**
LCO	**Las Campanas**	**7.57**	**196**	*e*Pn	Pn	08 36 42.9	-4.7
	comp=E,6.6nm,0.4s						
LCO				*e*Sn	Sn	08 38 04.3	-7.8
SIV	**San Ignacio**	**8.95**	**52**	P	**Pn**	**08 37 03.7**	**-2.3**
	comp=E,5.2nm,0.3s,baz=242,slow=11,SNR=96						
SIV				S	Sn	08 38 37.7	-7.4
	comp=E,2.2nm,0.3s,baz=310,slow=19,SNR=7.7						
SIV	**San Ignacio**	**8.95**	**52**	P	**Pn**	**08 37 03.7**	**-2.3**
SIV				S	Sn	08 38 37.7	-7.4
CFAA	**Coronel Fontan**	**9.86**	**179**	P	**Pn**	**08 37 15.2**	**-3.0**
	comp=E,0.1nm,0.3s,baz=17,slow=11,SNR=7.6						
CFAA				S	Sn	08 38 55.5	-12
	comp=E,0.1nm,0.3s,baz=4.1,slow=9.4,SNR=2.2						
CFAA	**Coronel Fontan**	**9.86**	**179**	P	**Pn**	**08 37 15.2**	**-3.0**

CFAA				S	Sn	08 38 55.5	-12
CPUP	**Villa Florida**	**11.09**	**117**	P	**Pn**	**08 37 32.6**	**-2.0**
	comp=E,0.7nm,0.3s,baz=290,slow=9.2,SNR=7.1						
CPUP	**Villa Florida**	**11.09**	**117**	P	**Pn**	**08 37 32.6**	**-2.0**
NNA	**Nana**	**12.61**	**319**	P	**P**	**08 38 00.1**	**-0.8**
	comp=E,0.4nm,0.3s,baz=171,slow=15,SNR=2.4						
NNA	**Nana**	**12.61**	**319**	P	**P**	**08 38 00.1**	**-0.8**
SAML	**Samuel**	**13.63**	**22**	*e*Pn	**Pn**	**08 38 08.6**	**+0.7**
TRQA	**Tornquist**	**17.20**	**163**	*e*P	**P**	**08 38 51.3**	**-0.4**
	comp=E,7.4nm,0.7s						
PLCA	**Paso Flores**	**19.06**	**185**	P	**Pn**	**08 39 13.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=41,slow=18,SNR=3.2						
PLCA	**Paso Flores**	**19.06**	**185**	P	**Pn**	**08 39 13.4**	**-0.8**
SPB	**Sao Paulo**	**19.42**	**100**	*e*P	**P**	**08 39 15.5**	**-0.5**
	comp=E,9.2nm,0.5s						
BDFB	**Brasilia**	**20.20**	**76**	P	**P**	**08 39 22.9**	**-1.7**
	comp=E,2.0nm,0.4s,baz=242,slow=12,SNR=10						
BDFB	**Brasilia**	**20.20**	**76**	P	**P**	**08 39 22.9**	**-1.7**
RCBR	**Riachuelo**	**35.15**	**68**	P	**P**	**08 41 41.6**	**+0.2**
	comp=E,7.8nm,0.8s,baz=246,slow=7.7,SNR=6.4						
RCBR	**Riachuelo**	**35.15**	**68**	P	**P**	**08 41 41.6**	**+0.2**
TXAR	**Lajitas Array**	**61.08**	**325**	P	**P**	**08 45 01.2**	**+0.8**
	comp=E,0.2nm,0.7s,baz=119,slow=7.4,SNR=2.3						
TXAR	**Lajitas Array**	**61.08**	**325**	P	**P**	**08 45 01.2**	**+0.8**
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**08 45 47.8**	**+0.3**
	comp=E,16nm,0.7s,baz=216,slow=7.3,SNR=32						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**08 45 47.8**	**+0.3**
QSPA	**South Pole Qui**	**68.49**	**180**	P	**P**	**08 45 49.2**	**+1.3**
	comp=E,3.5nm,0.8s,baz=198,slow=2.9,SNR=22						
QSPA	**South Pole Qui**	**68.49**	**180**	P	**P**	**08 45 49.2**	**+1.3**
SCHQ	**Schefferville**	**76.23**	**1**	LR	LR	09 23 16.1	
	comp=E,262nm,19.0s,baz=262,slow=38						
TOA0	**Torodi Ar. Sit**	**76.95**	**70**	*e*P	**P**	**08 46 38.6**	**0.0**
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**08 46 38.6**	**0.0**
	comp=E,8.1nm,0.7s,baz=254,slow=5.2,SNR=60						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**08 46 38.6**	**0.0**
TSUM	**Tsumeb**	**79.50**	**107**	*e*P	**P**	**08 46 54.0**	**+1.1**
	comp=E,10.0nm,0.9s						
BOSA	**Boshof**	**82.91**	**118**	P	**P**	**08 47 11.0**	**+0.3**
	comp=E,2.0nm,0.7s,baz=211,slow=10,SNR=5.6						
BOSA				LR	LR	09 19 55.4	
	comp=E,162nm,19.2s,baz=166,slow=32						
BOSA	**Boshof**	**82.91**	**118**	P	**P**	**08 47 11.0**	**+0.3**
ESDC	**Sonseca Array**	**85.63**	**44**	P	**P**	**08 47 25.0**	**+1.0**
	comp=E,0.7nm,0.7s,baz=228,slow=3.8,SNR=6.5						
ESDC	**Sonseca Array**	**85.63**	**44**	P	**P**	**08 47 25.0**	**+1.0**
SFJD	**Kangerlussuaq**	**89.43**	**7**	LR	LR	09 24 36.0	
	comp=E,264nm,20.1s,baz=249,slow=33						
YKA	**Yellowknife Ar**	**91.55**	**340**	P	**P**	**08 47 51.0**	**-0.4**
	comp=E,0.3nm,0.5s,baz=135,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**91.55**	**340**	P	**P**	**08 47 51.0**	**-0.4**
ASAR	**Alice Springs**	**129.96**	**207**	PKP	**PKPdf**	**08 53 55.1**	**+0.1**
	comp=E,0.4nm,0.9s,baz=146,slow=2.0,SNR=3.7						
ASAR				pPKP	**pPKPdf**	**08 54 31.9**	**+2.5**
	comp=E,0.4nm,0.8s,baz=134,slow=3.6,SNR=3.6						
ASAR	**Alice Springs**	**129.96**	**207**	PKP	**PKPdf**	**08 53 55.1**	**+0.1**
ASAR				pPKP	**pPKPdf**	**08 54 31.9**	**+2.5**
WRA	**Warramunga Arr**	**133.03**	**210**	PKP	**PKPdf**	**08 54 02.1**	**+1.2**
	comp=E,0.3nm,0.7s,baz=154,slow=1.9,SNR=4.9						
WRA				pPKP	**pPKPdf**	**08 54 37.5**	**+2.3**
	comp=E,0.5nm,1.1s,baz=155,slow=1.8,SNR=2.1						
WRA	**Warramunga Arr**	**133.03**	**210**	PKP	**PKPdf**	**08 54 02.1**	**+1.2**
WRA				pPKP	**pPKPdf**	**08 54 37.5**	**+2.3**
KURK	**Kurchatov**	**141.22**	**34**	PKPpre	PKPpre	08 54 09.8	
KURK				PKP	**PKPdf**	**08 54 14.5**	**-0.4**
KURBB	**Kurchatov Arra**	**141.23**	**34**	PKhKP	PKPpre	08 54 09.8	
	comp=E,0.2nm,0.3s,baz=298,slow=2.2,SNR=3.2						
KURBB				PKP	**PKPdf**	**08 54 14.5**	**-0.4**
	comp=E,0.2nm,0.2s,baz=313,slow=2.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**141.92**	**26**	PKhKP	PKPpre	08 54 12.2	
	comp=E,0.2nm,0.3s,baz=321,slow=3.7,SNR=2.7						
ZALV				PKP	**PKPdf**	**08 54 16.2**	**+0.2**
	comp=E,1.0nm,0.5s,baz=337,slow=1.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**141.92**	**26**	PKPpre	PKPpre	08 54 12.2	
ZALV				PKP	**PKPdf**	**08 54 16.2**	**+0.2**
MK31	**Makanchi Array**	**145.50**	**36**	*e*PKPbc	**PKPab**	**08 54 24.1**	**+0.8**
MK31				*e*pPKPdf	**pPKPdf**	**08 55 00.9**	**+3.8**
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	**PKPab**	**08 54 23.8**	**+0.5**
	comp=E,1.5nm,0.8s,baz=320,slow=4.1,SNR=16						
MKAR				pPKPbc	pPKPbc	08 54 58.8	+1.9
	comp=E,1.0nm,0.8s,baz=324,slow=5.2,SNR=3.4						
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	**PKPab**	**08 54 23.8**	**+0.5**
MKAR				pPKPbc	pPKPbc	08 54 58.8	+1.9
SONM	**Songino Array**	**153.59**	**8**	PKPbc	**PKPbc**	**08 54 42.7**	**-0.6**
	comp=E,0.3nm,0.7s,baz=354,slow=1.4,SNR=2.2						
SONM	**Songino Array**	**153.59**	**8**	PKPbc	**PKPbc**	**08 54 42.7**	**-0.6**

---

*CSEM **01** 08:36:31.7±0.1, 44°.19N×17°.96E, h2km, ML2.4, Error ellipse: s-maj=4.7km s-min=2.5km az=45.0*
*BEO **01** 08:36:32.1±0.4, 44°.23N×17°.93E, h4km±2km, ML2.4/9*
*PDG **01** 08:36:33.6±0.3, 44°.12N×18°.12E, h9km, ML2.6/9, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*VIE **01** 08:36:35.0±0.6, 44°.46N×17°.89E, h10km, mb2.5/3, ML2.1/3, Error ellipse: s-maj=6.8km s-min=3.6km az=29.0 79 km S of Slavonski Brod*
ISC 01 08:36:31.4±1.1**, 44°.17N**±0°.02×**17°.91E**±0°.02**, h5**km±10km**, n78,** σ1s.15/129**, 15C-24D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.78**	**318**	⇓*i*Pg	**Pg**	**08 36 46.5**	**+0.1**
BLY				*e*Sg	**Sg**	**08 36 56.3**	**-0.2**
BLY	**Banja Luka**	**0.78**	**318**	⇓*i*Pg	**Pg**	**08 36 46.5**	**+0.1**
BLY				*e*Sg	**Sg**	**08 36 56.3**	**-0.2**
UPM	**Unac-Piva**	**1.20**	**143**	*e*Pg	**Pg**	**08 36 53.5**	**-0.9**
UPM				*e*Sg	**Sg**	**08 37 09.9**	**-0.1**
UPM	**Unac-Piva**	**1.20**	**143**	*e*Pg	**Pg**	**08 36 53.5**	**-0.9**
UPM				*e*Sg	**Sg**	**08 37 09.9**	**-0.1**
STON	**Ston**	**1.30**	**187**	*e*Pg	**Pn**	**08 36 54.9**	**-1.3**
STON				Sg	**Sb**	**08 37 12.2**	**-1.1**
STON	**Ston**	**1.30**	**187**	*e*Pg	**Pn**	**08 36 54.8**	**-1.3**
STON				Sg	**Sb**	**08 37 12.2**	**-1.1**
BRY	**Bratogost**	**1.34**	**160**	⇑*i*Pg	**Pn**	**08 36 56.0**	**-0.9**
BRY				*e*Sg	**Sn**	**08 37 16.0**	**+0.9**
BRY	**Bratogost**	**1.34**	**160**	⇑*i*Pg	**Pn**	**08 36 56.0**	**-0.9**
BRY				*e*Sg	**Sn**	**08 37 16.0**	**+0.9**
PLE	**Pljevlja**	**1.36**	**127**	⇑*i*Pg	**Pn**	**08 36 56.4**	**-0.6**
PLE				*e*Sg	**Sb**	**08 37 15.3**	**+0.3**
PLE	**Pljevlja**	**1.36**	**127**	⇑*i*Pg	**Pn**	**08 36 56.4**	**-0.6**
PLE				*e*Sg	**Sb**	**08 37 15.3**	**+0.3**
DIVS	**Divibare**	**1.50**	**92**	*e*Pg	**Pn**	**08 36 58.9**	**-0.1**
DIVS				*e*Sg	**Sg**	**08 37 20.0**	**+0.5**
DIVS	**Divibare**	**1.50**	**92**	*e*Pg	**Pn**	**08 36 58.9**	**-0.1**
DIVS				*e*Sg	**Sg**	**08 37 20.0**	**+0.5**
NKY	**Niksic**	**1.57**	**149**	⇓*i*Pg	**Pn**	**08 36 59.7**	**-0.2**
NKY				*e*Sg	**Sg**	**08 37 22.7**	**+1.0**
NKY	**Niksic**	**1.57**	**149**	⇓*i*Pg	**Pn**	**08 36 59.7**	**-0.2**
NKY				*e*Sg	**Sg**	**08 37 22.7**	**+1.0**
FGSL	**Fruska Gora**	**1.68**	**53**	*e*Sn	**Sn**	**08 37 23.5**	**+0.3**
FRGS	**Fruska Gora**	**1.68**	**53**	*e*Sn	**Sn**	**08 37 23.5**	**+0.3**
IVAS	**Ivanjica**	**1.73**	**109**	*e*Pg	**Pb**	**08 37 03.2**	**-0.3**
IVAS				*e*Sg	**Sb**	**08 37 26.5**	**+1.0**
IVAS	**Ivanjica**	**1.73**	**109**	*e*Pg	**Pb**	**08 37 03.2**	**-0.3**
IVAS				*e*Sg	**Sb**	**08 37 26.5**	**+1.0**
RHK3	**Tenkes**	**1.74**	**8**	*e*Sn	**Sg**	**08 37 28.9**	**+1.7**
RHK3	**Tenkes**	**1.74**	**8**	⇑*e*Pn	**Pn**	**08 37 02.6**	**+0.4**
RHK3				*e*Sn	**Sg**	**08 37 28.9**	**+1.7**
HCY	**Herceg Novi**	**1.77**	**166**	⇓*i*Pn	**Pb**	**08 37 04.0**	**-0.3**
HCY				*e*Sn	**Sg**	**08 37 28.3**	**+0.1**
HCY	**Herceg Novi**	**1.77**	**166**	⇓*i*Pn	**Pb**	**08 37 04.0**	**-0.3**
HCY				*e*Sn	**Sg**	**08 37 28.3**	**+0.1**
BEY	**Berane**	**1.94**	**131**	⇓*i*Pn	**Pn**	**08 37 06.2**	**+1.2**
BEY				*e*Sn	**Sb**	**08 37 31.4**	**-0.2**
IVA	**Berane**	**1.94**	**131**	⇓*i*Pn	**Pn**	**08 37 06.2**	**+1.2**
IVA				*e*Sn	**Sb**	**08 37 31.4**	**-0.3**
PDG	**Podgorica**	**1.99**	**150**	*e*Pn	**Pn**	**08 37 07.0**	**+1.4**
PDG				*e*Sn	**Sb**	**08 37 33.8**	**+0.7**
PDG	**Podgorica**	**1.99**	**150**	*e*Pn	**Pn**	**08 37 07.0**	**+1.4**
PDG				*e*Sn	**Sb**	**08 37 33.6**	**+0.5**
TTG	**Podgorica**	**2.00**	**150**	⇑*i*Pn	**Pb**	**08 37 07.5**	**-0.6**
TTG				*e*Sn	**Sb**	**08 37 33.6**	**+0.4**
BUM	**Brajici-Budva**	**2.00**	**159**	*e*Pn	**Pn**	**08 37 07.1**	**+1.3**
BUM				*e*Sn	**Sb**	**08 37 34.2**	**+0.8**
BUM	**Brajici-Budva**	**2.00**	**159**	*e*Pn	**Pn**	**08 37 07.1**	**+1.3**
BUM				*e*Sn	**Sb**	**08 37 34.2**	**+0.8**
GRUS	**Gruza**	**2.04**	**97**	*e*Pg	**Pb**	**08 37 08.9**	**0.0**
GRUS				*e*Sg	**Sg**	**08 37 37.1**	**+0.2**
GRUS	**Gruza**	**2.04**	**97**	*e*Pg	**Pb**	**08 37 08.9**	**0.0**
GRUS				*e*Sg	**Sg**	**08 37 37.1**	**+0.2**
PKSM	**Moragy**	**2.11**	**14**	⇑*i*P	**Pb**	**08 37 09.0**	**-1.0**
PKSM	**Moragy**	**2.11**	**14**	*e*Pn	**Pn**	**08 37 07.9**	**+0.7**
PKSM	**Moragy**	**2.11**	**14**	*e*Pn	**Pn**	**08 37 07.9**	**+0.7**
PKSM	**Moragy**	**2.11**	**14**	⇑*i*P	**Pb**	**08 37 09.0**	**-1.0**
PKSM	**Moragy**	**2.11**	**14**	*e*	**Pn**	**08 37 07.1**	**-0.1**
PVY	**Plav**	**2.17**	**136**	⇓*i*Pn	**Pn**	**08 37 09.9**	**+1.7**
PVY				*e*Sn	**Sn**	**08 37 37.1**	**+1.7**
PVY	**Plav**	**2.17**	**136**	⇓*i*Pn	**Pn**	**08 37 09.9**	**+1.7**
PVY				*e*Sn	**Sn**	**08 37 37.1**	**+1.7**
NVLJ	**Novalja**	**2.22**	**281**	*e*Pn	**Pn**	**08 37 09.3**	**+0.6**
NVLJ				Sn	**Sn**	**08 37 37.5**	**+1.1**
NVLJ	**Novalja**	**2.22**	**281**	*e*Pn	**Pn**	**08 37 09.3**	**+0.6**
NVLJ				Sn	**Sn**	**08 37 37.5**	**+1.1**
BOJS	**Bojanci**	**2.32**	**306**	*e*Pn	**Pn**	**08 37 11.1**	**+1.0**
BOJS				*e*Sn	**Sn**	**08 37 38.6**	**-0.3**
BOJS	**Bojanci**	**2.32**	**306**	Pn	**Pn**	**08 37 11.1**	**+1.0**
BOJS				*e*Sn	**Sn**	**08 37 38.7**	**-0.3**
ULC	**Ulcinj**	**2.41**	**156**	⇑*i*Pn	**Pn**	**08 37 13.1**	**+1.7**
ULC				*e*Sn	**Sb**	**08 37 43.6**	**-1.5**
ULC	**Ulcinj**	**2.41**	**156**	⇑*i*Pn	**Pn**	**08 37 13.1**	**+1.7**
ULC				*e*Sn	**Sb**	**08 37 43.6**	**-1.5**
PKS9	**Tamasi**	**2.43**	**6**	⇓*e*Pn	**Pn**	**08 37 12.3**	**+0.6**
PKS9	**Tamasi**	**2.43**	**6**	⇓*e*Pn	**Pn**	**08 37 12.3**	**+0.6**
PKS9				*e*Sn	**Sg**	**08 37 52.4**	**+2.9**
SELS	**Selova**	**2.51**	**111**	*e*Pg	**Pb**	**08 37 17.1**	**+0.2**
GBRS	**Gornja Briga**	**2.59**	**303**	*e*Pn	**Pn**	**08 37 15.4**	**+1.5**
GBRS				*e*Sn	**Sb**	**08 37 52.1**	**+1.6**
VISS	**Visnje**	**2.73**	**308**	*e*Pn	**Pn**	**08 37 16.8**	**+1.1**
VISS				*e*Sn	**Sb**	**08 37 54.4**	**+0.1**
VISS	**Visnje**	**2.73**	**308**	*e*Pn	**Pn**	**08 37 16.8**	**+1.1**
VISS				*e*Sn	**Sb**	**08 37 54.4**	**+0.1**
BZS	**Buzias**	**3.01**	**60**	*e*Pn	**Pn**	**08 37 19.6**	**0.0**
BZS				*e*Sn	**Sn**	**08 37 54.8**	**-1.1**
BZS	**Buzias**	**3.01**	**60**	*e*Pn	**Pn**	**08 37 19.6**	**0.0**
BZS				*e*Sn	**Sn**	**08 37 54.8**	**-1.1**
PKST	**T^'s**	**3.09**	**2**	⇓*e*Pn	**Pn**	**08 37 21.6**	**+0.8**
PKST	**T^'s**	**3.09**	**2**	⇓*e*	**Pn**	**08 37 21.6**	**+0.8**
PKST				*e*Sn	**Sg**	**08 38 11.9**	**+1.2**
BARS	**Barje**	**3.15**	**114**	*e*Pn	**Pn**	**08 37 22.0**	**+0.5**
BARS				*e*Sn	**Sn**	**08 38 00.2**	**+0.8**
BARS	**Barje**	**3.15**	**114**	*e*Pn	**Pn**	**08 37 22.0**	**+0.5**
BARS				*e*Sn	**Sn**	**08 38 00.2**	**+0.8**
SOKA	**Soboth**	**3.23**	**322**	⇓*i*Pn	**Pn**	**08 37 22.5**	**-0.2**
SOKA				⇑*i*Sn	**Sn**	**08 37 59.0**	**-2.5**
SOKA	**Soboth**	**3.23**	**322**	Pn	**Pn**	**08 37 22.5**	**-0.2**
SOKA				Sn	**Sn**	**08 37 59.0**	**-2.5**
PKSG		**3.24**	**6**	⇓*e*Pn	**Sg**	**08 38 14.3**	**-1.2**
VOY	**Vojsko**	**3.40**	**305**	*e*Pn	**Pn**	**08 37 26.2**	**+1.1**
VOY				*e*Sn	**Sb**	**08 38 16.5**	**+2.7**
VOY	**Vojsko**	**3.40**	**305**	*e*Pn	**Pn**	**08 37 26.2**	**+1.1**
ARSA	**Arzberg**	**3.51**	**332**	⇓*i*Pn	**Pn**	**08 37 26.2**	**-0.3**
ARSA				⇑*i*Sn	**Sn**	**08 38 05.7**	**-2.7**
ARSA	**Arzberg**	**3.51**	**332**	Pn	**Pn**	**08 37 26.2**	**-0.3**
ARSA				Sn	**Sn**	**08 38 05.7**	**-2.7**
ZAPS	**Zavoj**	**3.54**	**103**	*e*Pn	**Pn**	**08 37 28.1**	**+1.2**
ZAPS				*e*Sn	**Sn**	**08 38 09.3**	**+0.2**
GZR	**Gura Zlata**	**3.67**	**69**	⇓*i*P	**Pb**	**08 37 34.1**	**-2.7**
GZR	**Gura Zlata**	**3.67**	**69**	*e*Pn	**Pn**	**08 37 28.8**	**0.0**
GZR	**Gura Zlata**	**3.67**	**69**	*e*Pn	**Pn**	**08 37 28.8**	**0.0**
GZR	**Gura Zlata**	**3.67**	**69**	⇓*i*P	**Pb**	**08 37 34.1**	**-2.7**
PSZ	**Piszkesteto**	**4.00**	**20**	⇓*i*P	**Pn**	**08 37 35.5**	**+2.2**
PSZ	**Piszkesteto**	**4.00**	**20**	⇓*i*P	**Pn**	**08 37 35.5**	**+2.2**
VTS	**Vitosha**	**4.17**	**110**	*e*Pn	**Pn**	**08 37 35.8**	**+0.1**
VTS	**Vitosha**	**4.17**	**110**	*e*Pn	**Pn**	**08 37 35.8**	**+0.1**
DRGR		**4.28**	**50**	⇑*i*P	Pn	08 37 33.7	-3.4
DRGR		**4.28**	**50**	⇑*i*P	Pn	08 37 33.7	-3.4
MOA	**Molln**	**4.47**	**327**	⇓*i*Pn	**Pn**	**08 37 39.4**	**-0.4**
MOA				⇑*i*Sn	**Sn**	**08 38 30.4**	**-1.8**
MOA	**Molln**	**4.47**	**327**	Pn	**Pn**	**08 37 39.4**	**-0.4**
MOA				Sn	**Sn**	**08 38 30.4**	**-1.8**
VRAC	**Vranov**	**5.22**	**350**	⇓*i*P	**Pn**	**08 37 51.9**	**+1.9**
VRAC	**Vranov**	**5.22**	**350**	⇓*i*P	**Pn**	**08 37 51.9**	**+1.9**

IDC 01 09:04:52.6±1.5**, 34°.53S**×**178°.93W, h0**km**, mb4.2**/4**, mb1 4.3**/4**, mb1mx4.0**/18**, mbtmp4.2**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.7**/31**, Error ellipse: s-maj=47.8km s-min=30.3km az=38.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.99**	**263**	P	P	09 11 30.0	+0.6
	1.1nm,0.7s,baz=79,slow=10,SNR=2.7						
CTA	**Charters Tower**	**33.93**	**286**	LR	LR	09 23 53.5	
	comp=Z,46nm,20.0s,baz=236,slow=34						
ASAR	**Alice Springs**	**42.28**	**272**	P	P	09 12 47.9	-0.2
	3.5nm,0.6s,baz=115,slow=7.6,SNR=89						
ASAR				PcP	PcP	09 14 41.5	-0.6
	0.6nm,0.7s,baz=124,slow=4.6,SNR=4.1						
WRA	**Warramunga Arr**	**43.64**	**277**	P	P	09 12 58.8	-0.4
	4.0nm,0.6s,baz=118,slow=7.6,SNR=78						
QSPA	**South Pole Qui**	**55.59**	**180**	P	P	09 14 30.1	+0.2
	1.4nm,0.8s,baz=52,slow=6.4,SNR=8.5						
KURBB	**Kurchatov Arra**	**123.31**	**312**	PKP	PKPdf	09 23 50.6	-0.5
	0.2nm,0.3s,baz=106,slow=1.9,SNR=3.2						
FINES	**FINESS Array B**	**148.69**	**337**	PKPbc	PKPbc	09 24 40.9	-0.1
	1.8nm,0.7s,baz=45,slow=3.0,SNR=10.0						
TORD	**Torodi Ar. Bea**	**158.70**	**182**	PKPab	PKPab	09 25 26.8	-1.3
	0.4nm,0.7s,baz=165,slow=2.6,SNR=2.8						

IDC 01 09:12:59.3±3.7**, 18°.91S**×**169°.09E, h140**km±30km**, mb3.7**/6**, mb1 3.9**/7**, mb1mx3.6**/20**, mbtmp3.7**/7**, Error ellipse: s-maj=30.8km s-min=26.9km az=1.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.00**	**218**	P	Pn	09 14 00.6	+1.2
	5.0nm,0.3s,baz=39,slow=18,SNR=106						
DZM				S	Sn	09 14 45.6	-0.6
	4.9nm,0.3s,baz=68,slow=18,SNR=5.4						
DZM	**Mont Dzumac**	**4.00**	**218**	*e*P	Pn	09 14 01.0	+1.5
DZM				*e*S	Sn	09 14 45.8	-0.4
NOUC	**Port Laguerre**	**4.11**	**219**	*e*P	Pn	09 14 02.5	+1.8
NOUC				*e*S	Sn	09 14 48.3	-0.2
CTA	**Charters Tower**	**21.56**	**263**	P	P	09 17 39.5	+1.7
	4.8nm,0.4s,baz=87,slow=12,SNR=12						
STKA	**Stephens Creek**	**27.90**	**237**	P	P	09 18 36.1	-0.1
	2.3nm,0.7s,baz=69,slow=10.0,SNR=10						
WRA	**Warramunga Arr**	**32.76**	**262**	P	P	09 19 18.4	-0.8
	0.8nm,0.6s,baz=86,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**33.07**	**256**	P	P	09 19 21.8	-0.1
	9.0nm,0.4s,baz=84,slow=8.7,SNR=247						
QSPA	**South Pole Qui**	**71.14**	**180**	P	P	09 24 02.4	0.0
	1.3nm,0.9s,baz=304,slow=4.8,SNR=7.2						
ILAR	**Eielson Array**	**89.96**	**17**	P	P	09 25 41.8	-0.5
	0.2nm,0.6s,baz=239,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**100.44**	**27**	P	Pdif	09 26 30.4	+0.4
	0.1nm,0.6s,baz=262,slow=4.8,SNR=4.9						

IDC 01 09:14:05.1±7.0**, 33°.94S**×**179°.34W, h0**km**, mb3.4**/2**, mb1 3.7**/2**, mb1mx3.5**/17**, mbtmp3.4**/2**, Error ellipse: s-maj=320.7km s-min=65.2km az=163.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.93**	**271**	P	P	09 21 57.2	-0.5
	0.3nm,0.5s,baz=115,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**43.24**	**277**	P	P	09 22 08.5	+0.1
	0.2nm,0.4s,baz=118,slow=7.5,SNR=5.9						
FINES	**FINESS Array B**	**148.02**	**337**	PKPbc	PKPbc	09 33 51.0	-0.6
	0.5nm,0.7s,baz=15,slow=5.8,SNR=2.9						

---

*IDC **01** 09:17:34.7±1.8, 34°.65S×178°.94W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/19, mbtmp4.2/4, Error ellipse: s-maj=58.5km s-min=29.6km az=42.0*
*ISCJB **01** 09:17:39.9±1.8, 34°.9S±0°.2×179°.1W±0°.3, h42km, mb4.3/6, Error ellipse: s-maj=31.3km s-min=21.4km az=154.3*
*NEIC **01** 09:17:39.9±1.1, 34°.78S×178°.96W, h35km, mb4.6/3, Error ellipse: s-maj=22.4km s-min=18.4km az=220.0*
ISC 01 09:17:41.3±1.4**, 34°.9S**±0°.2×**179°.0W**±0°.2**, h42**km**, n17,** σ1s.09/17**, mb4.3**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.58**	**222**	*e*Pn	**Pn**	**09 18 47.0**	**-0.9**
OUZ	**Omahuta**	**6.07**	**265**	*e*Pn	**Pn**	**09 19 09.5**	**+1.1**
CTA	**Charters Tower**	**33.96**	**287**	P	**P**	**09 24 21.2**	**+0.4**
	2.7nm,0.6s,baz=117,slow=12,SNR=4.6						
CTA	**Charters Tower**	**33.96**	**287**	P	**P**	**09 24 21.2**	**+0.4**
AS31	**Alice Springs**	**42.22**	**272**	*e*P	**P**	**09 25 29.7**	**-0.7**
ASAR	**Alice Springs**	**42.22**	**272**	P	**P**	**09 25 29.8**	**-0.7**
	2.5nm,0.5s,baz=116,slow=7.8,SNR=75						
ASAR	**Alice Springs**	**42.22**	**272**	P	**P**	**09 25 29.8**	**-0.7**
WRAB	**Tennant Creek**	**43.61**	**277**	*e*P	**P**	**09 25 40.6**	**-1.1**
	3.0nm,0.6s						
WRA	**Warramunga Arr**	**43.61**	**277**	P	**P**	**09 25 40.4**	**-1.3**
	3.0nm,0.6s,baz=118,slow=7.6,SNR=72						
WRA	**Warramunga Arr**	**43.61**	**277**	P	**P**	**09 25 40.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.65**	**274**	*e*P	**P**	**09 26 43.6**	**-0.4**
	10nm,1.4s						
QSPA	**South Pole Qui**	**55.22**	**180**	P	**P**	**09 27 11.3**	**+1.5**
	1.1nm,0.8s,baz=349,slow=4.4,SNR=5.8						
QSPA	**South Pole Qui**	**55.22**	**180**	*e*P	**P**	**09 27 11.6**	**+1.8**
	30nm,1.8s						
FINES	**FINESS Array B**	**149.00**	**337**	PKPbc	**PKPbc**	**09 37 22.7**	**-1.1**
	1.8nm,0.8s,baz=41,slow=4.4,SNR=9.2						
FINES	**FINESS Array B**	**149.00**	**337**	PKPbc	**PKPbc**	**09 37 22.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**158.33**	**182**	PKPab	**PKPab**	**09 38 08.7**	**+0.1**
	0.4nm,0.7s,baz=187,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**158.33**	**182**	PKPab	**PKPab**	**09 38 08.7**	**+0.1**

IDC 01 09:19:06.5±2.9**, 15°.06S**×**172°.38W, h0**km**, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/21**, mbtmp3.7**/5**, Error ellipse: s-maj=130.0km s-min=16.7km az=132.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.29**	**27**	Pn	Pb	09 19 31.6	-0.1
	53nm,0.3s,baz=210,slow=8.1,SNR=67						
AFI				Sn	Sn	09 19 50.2	+0.3
	179nm,0.3s,baz=163,slow=19,SNR=16						
STKA	**Stephens Creek**	**45.05**	**240**	P	P	09 27 23.0	-1.4
	2.1nm,0.8s,baz=78,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**50.88**	**256**	P	P	09 28 09.0	-0.7
	0.6nm,1.0s,baz=91,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**51.15**	**252**	P	P	09 28 12.3	+0.6
	1.1nm,0.5s,baz=85,slow=8.5,SNR=12						
ILAR	**Eielson Array**	**81.93**	**11**	P	P	09 31 26.8	-0.8
	0.3nm,0.7s,baz=215,slow=5.3,SNR=7.2						
YKA	**Yellowknife Ar**	**89.40**	**23**	P	P	09 32 04.0	-0.8
	0.2nm,0.8s,baz=244,slow=3.8,SNR=3.6						
GERES	**GERESS Array B**	**145.94**	**353**	PKPbc	PKPab	09 38 49.3	+0.6
	0.2nm,0.5s,baz=57,slow=3.6,SNR=3.3						
BRTR	**Keskin Array B**	**146.51**	**322**	PKPbc	PKPab	09 38 50.9	-0.4
	0.8nm,0.7s,baz=54,slow=2.5,SNR=4.2						

IDC 01 09:20:44.0±2.2**, 34°.45S**×**178°.91W, h0**km**, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.9**/18**, mbtmp4.1**/3**, Error ellipse: s-maj=64.0km s-min=34.4km az=45.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.29**	**272**	P	P	09 28 39.5	-0.1
	1.9nm,0.6s,baz=112,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**43.64**	**277**	P	P	09 28 50.3	-0.2
	2.0nm,0.6s,baz=118,slow=7.6,SNR=22						
QSPA	**South Pole Qui**	**55.67**	**180**	P	P	09 30 21.5	-0.2
	1.7nm,1.1s,baz=59,slow=5.9,SNR=3.0						
FINES	**FINESS Array B**	**148.62**	**337**	PKPbc	PKPbc	09 40 31.7	-0.4
	2.0nm,0.9s,baz=67,slow=3.6,SNR=4.5						

---

*ISCJB **01** 09:34:26.6±0.7, 37°.82N±0°.04×29°.08E±0°.07, h10km±5km, Error ellipse: s-maj=9.4km s-min=6.1km az=30.3*
*ISK **01** 09:34:26.6, 37°.83N×28°.97E, h5km, MD2.5*
*DDA **01** 09:34:26.1, 37°.83N×29°.07E, h7km, MD2.3*
*CSEM **01** 09:34:27.1±0.3, 37°.82N×29°.05E, h2km, MD2.5, Error ellipse: s-maj=8.3km s-min=5.5km az=113.0*
ISC 01 09:34:27.0±1.1**, 37°.81N**±0°.03×**29°.08E**±0°.04**, h8**km±8km**, n16,** σ0s.63/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.06**	**211**	PG	**Pg**	**09 34 28.4**	**-0.5**
DENT				SG	**Sg**	**09 34 30.7**	**+0.3**
DENT	**Denizli**	**0.06**	**211**	*i* Pg	**Pg**	**09 34 28.4**	**-0.5**
DENT				*i* Sg	**Sg**	**09 34 30.7**	**+0.3**
DNZL	**Cakiroluk**	**0.12**	**191**	*i* P	**Pg**	**09 34 29.1**	**-0.7**
DNZL				*i* S	**Sg**	**09 34 32.2**	**+0.4**
DNZL	**Cakiroluk**	**0.12**	**191**	*i* P	**Pg**	**09 34 29.1**	**-0.7**
DNZL				*i* S	**Sg**	**09 34 32.2**	**+0.4**
KHL	**Karahalli**	**0.62**	**34**	*e*PG	**Pb**	**09 34 41.0**	**+0.9**
KHL	**Karahalli**	**0.62**	**34**	*e*Pg	**Pb**	**09 34 41.1**	**+0.9**
KHAL	**Karahalli**	**0.65**	**30**	*i* P	**Pg**	**09 34 38.5**	**-1.1**
KHAL				*i* S	**Sg**	**09 34 48.3**	**+0.2**
KHAL	**Karahalli**	**0.65**	**30**	*i* P	**Pg**	**09 34 38.5**	**-1.1**
KHAL				*i* S	**Sg**	**09 34 48.3**	**+0.2**
KULA	**Kula-Manisa**	**0.78**	**335**	*e*PG	**Pg**	**09 34 42.1**	**+0.1**
KULA				*e*SG	**Sg**	**09 34 52.3**	**+0.2**
KULA	**Kula-Manisa**	**0.78**	**335**	*e*Pg	**Pg**	**09 34 42.1**	**+0.1**
KULA				*e*Sg	**Sg**	**09 34 52.3**	**+0.2**
MANT	**Manisa**	**0.79**	**329**	*i* P	**Pg**	**09 34 41.1**	**-1.2**
MANT				*i* S	**Sg**	**09 34 52.6**	**-0.1**
MANT	**Manisa**	**0.79**	**329**	*i* P	**Pg**	**09 34 41.1**	**-1.2**
MANT				*i* S	**Sg**	**09 34 52.6**	**-0.1**
YER	**Yerkesik**	**0.92**	**223**	*e*PG	**Pb**	**09 34 45.3**	**+0.1**
YER	**Yerkesik**	**0.92**	**223**	*e*Pg	**Pb**	**09 34 45.3**	**+0.1**
AYDN	**Tasoluk**	**0.96**	**262**	*i* P	**Pg**	**09 34 45.2**	**-0.2**
AYDN				*i* S	**Sg**	**09 34 57.9**	**0.0**
AYDN	**Tasoluk**	**0.96**	**262**	*i* P	**Pg**	**09 34 45.2**	**-0.2**
AYDN				*i* S	**Sg**	**09 34 57.9**	**0.0**

---

*ISK **01** 09:40:45.8, 39°.05N×27°.56E, h16km, MD2.7*
*ISCJB **01** 09:40:46.4±0.7, 39°.09N±0°.03×27°.52E±0°.06, h11km, Error ellipse: s-maj=7.3km s-min=5.0km az=177.0*
*CSEM **01** 09:40:46.6±0.2, 39°.07N×27°.56E, h15km, MD2.7, Error ellipse: s-maj=6.7km s-min=4.2km az=109.0*
ISC 01 09:40:46.4±0.9**, 39°.09N**±0°.02×**27°.61E**±0°.04**, h11**km**, n26,** σ0s.72/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.27**	**143**	*i* P	**Pb**	**09 40 52.9**	**-0.3**
AKHS				*i* S	**Sb**	**09 40 58.2**	**+0.5**
AKHS	**Akhisar**	**0.27**	**143**	*i* P	**Pb**	**09 40 52.9**	**-0.3**
AKHS				*i* S	**Sb**	**09 40 58.2**	**+0.5**
BALB	**Balikesir**	**0.59**	**21**	*e*PG	**Pb**	**09 40 58.8**	**+0.1**
BALB	**Balikesir**	**0.59**	**21**	*e*Pg	**Pb**	**09 40 58.8**	**+0.1**
BALY	**Balya**	**0.65**	**1**	*i* P	**Pb**	**09 40 59.3**	**-0.5**
BALY				*i* S	**Sb**	**09 41 09.6**	**+0.7**
BALY	**Balya**	**0.65**	**1**	*i* P	**Pb**	**09 40 59.3**	**-0.5**
BALY				*i* S	**Sb**	**09 41 09.6**	**+0.7**
IZM	**Izmir**	**0.74**	**202**	*e*PG	**Pg**	**09 40 59.6**	**-1.2**
IZM	**Izmir**	**0.74**	**202**	*e*Pg	**Pg**	**09 40 59.6**	**-1.2**
DURS	**Dursunbey**	**0.84**	**53**	*i* P	**Pn**	**09 41 04.1**	**-0.2**
DURS				*i* S	**Sn**	**09 41 16.7**	**0.0**
DURS	**Dursunbey**	**0.84**	**53**	*i* P	**Pn**	**09 41 04.1**	**-0.2**
DURS				*i* S	**Sn**	**09 41 16.7**	**0.0**
DST	**Dursunbey**	**0.94**	**57**	*e*PG	**Pn**	**09 41 05.5**	**0.0**
DST	**Dursunbey**	**0.94**	**57**	*e*Pg	**Pn**	**09 41 05.5**	**0.0**
GONE	**Gonen-Balikesi**	**0.95**	**3**	*e*PG	**Pn**	**09 41 05.5**	**-0.2**
GONE	**Gonen-Balikesi**	**0.95**	**3**	*e*Pg	**Pn**	**09 41 05.5**	**-0.2**
URLA	**Izmir**	**1.08**	**228**	*i* P	**Pn**	**09 41 07.6**	**+0.1**
URLA				*i* S	**Sn**	**09 41 25.2**	**+2.8**
URLA	**Izmir**	**1.08**	**228**	*i* P	**Pn**	**09 41 07.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**26**	*e*PN	**Pg**	**09 41 11.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.31**	**26**	*e*Pn	**Pg**	**09 41 11.1**	**-0.4**
KRBG	**Karabiga-Canak**	**1.32**	**350**	*e*PN	**Pg**	**09 41 11.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.32**	**350**	*e*Pn	**Pg**	**09 41 11.3**	**-0.5**
TVSB	**Tavsanli**	**1.48**	**75**	*e*PN	**Pn**	**09 41 13.1**	**0.0**
TVSB	**Tavsanli**	**1.48**	**75**	*e*Pn	**Pn**	**09 41 13.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.63**	**348**	*e*PN	**Pn**	**09 41 14.2**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.63**	**348**	*e*Pn	**Pn**	**09 41 14.2**	**-0.9**
CAVI	**Cavuskoy**	**2.05**	**57**	*e*PN	**Pn**	**09 41 21.3**	**+0.5**
CAVI	**Cavuskoy**	**2.05**	**57**	*e*Pn	**Pn**	**09 41 21.3**	**+0.5**

---

*CSEM **01** 10:02:25.5±0.3, 37°.74N×29°.09E, h20km, MD2.5, Error ellipse: s-maj=8.8km s-min=6.9km az=115.0*
*ISCJB **01** 10:02:26.8±1.1, 37°.85N±0°.08×29°.1E±0°.1, h8km±16km, Error ellipse: s-maj=20.0km s-min=6.1km az=38.3*
*ISK **01** 10:02:26.8, 37°.82N×29°.04E, h11km, MD2.4*
*DDA **01** 10:02:26.6, 37°.86N×29°.11E, h7km, MD2.5*
ISC 01 10:02:26.2±1.1**, 37°.83N**±0°.06×**29°.12E**±0°.05**, h14**km±10km**, n12,** σ0s.45/21**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.10	221	*e*PG	Pg	10 02 29.5	+0.2
DENT				*e*SG	Sg	10 02 31.0	-0.5
DENT	Denizli	0.10	221	*e*Pg	Pg	10 02 29.5	+0.2
DENT				*e*Sg	Sg	10 02 31.0	-0.5
DNZL	Cakiroluk	0.15	202	*i* P	Pg	10 02 30.0	-0.1
DNZL				*i* S	Sg	10 02 32.8	0.0
DNZL	Cakiroluk	0.15	202	*i* P	Pg	10 02 30.0	-0.1
DNZL				*i* S	Sg	10 02 32.8	0.0
KHL	Karahalli	0.59	33	*e*PG	Pb	10 02 39.1	+0.8
KHL				*e*SG	Sn	10 02 49.0	-0.7
KHL	Karahalli	0.59	33	*e*Pg	Pb	10 02 39.1	+0.8
KHL				*e*Sg	Sn	10 02 49.0	-0.7
KHAL	Karahalli	0.61	29	*i* P	Pg	10 02 38.3	0.0
KHAL				*i* S	Sg	10 02 46.0	-0.5
KHAL	Karahalli	0.61	29	*i* P	Pg	10 02 38.3	0.0
KULA	Kula-Manisa	0.77	332	*e*PG	Pb	10 02 41.9	+0.4
KULA	Kula-Manisa	0.77	332	*e*Pg	Pb	10 02 41.9	+0.4
MANT	Manisa	0.79	326	*i* P	Pg	10 02 41.8	+0.1
MANT				*i* S	Sb	10 02 52.6	-0.1
MANT	Manisa	0.79	326	*i* P	Pg	10 02 41.8	+0.1
MANT				*i* S	Sb	10 02 52.6	-0.1

*BJI **01** 10:12:59.8, 66°.99N×135°.19W, h15^{km}, mB5.0/3, mb4.6/7, Ms4.2/2, Ms7 4.1/2*
*ISCJB **01** 10:13:01.5±0.4, 66°.62N±0°.04×135°.64W±0°.07, h26^{km}, mb4.0/15, Error ellipse: s-maj=5.8km s-min=3.9km az=157.5*
*IDC **01** 10:13:02.0±0.8, 66°.63N×135°.82W, h0^{km}, mb3.9/10, mb1 4.1/13, mb1mx3.8/32, mbtmp3.9/13, ML4.0/3, Error ellipse: s-maj=15.1km s-min=8.9km az=102.0*
*PGC **01** 10:13:03.7±0.0, 66°.63N×135°.74W, h15^{km}, ML4.2/2, Mw4.0, 106km Wsw of Fort McPherson, Nt Northern Yukon Territory, Canada*
*NEIC **01** 10:13:03.7, 66°.63N×135°.74W, h15^{km}, mb4.3/7, ML4.0(AEIC), MW4.0(PGC), After PGC.*
ISC 01 10:13:04.3±0.5, **66°.68N**±0°.04×**135°.43W**±0°.04, **h26**^{km}, **n89**, σ**2^{s}21**/100, **mb4.0**/16, **6D, Northern Yukon Territory**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	Inuvik	1.79	23	Pn	Pb	10 13 35.6	-0.8
	77nm,0.3s,baz=205,slow=12,SNR=2278						
INK				Pg	Pn	10 13 39.1	+5.6
	71nm,0.3s,baz=205,slow=16,SNR=3582						
INK				Sn	Sb	10 13 59.2	+0.8
	baz=128,slow=19						
INK				Lg	Lg	10 14 03.2	
	120nm,0.3s,baz=119,slow=32,SNR=14						
INK	Inuvik	1.79	23	Pn	Pb	10 13 35.6	-0.8
INK				Pg	Pn	10 13 39.1	+5.6
INK				Sn	Sb	10 13 59.2	+0.8
INK				Lg	Lg	10 14 03.2	
INK	Inuvik	1.79	23	⇑Pn	Pb	10 13 35.6	-0.8
INK				⇓Sn	Sb	10 13 59.0	+0.6
EGAK	Eagle	3.04	234	P	Pn	10 13 48.2	-2.5
EGAK				S	Sn	10 14 22.3	-3.9
DAWY	Dawson	3.10	214	P	Pn	10 13 49.4	-2.3
DAWY				S	Sn	10 14 25.2	-2.7
DAWY	Dawson	3.10	214	⇓Pn	Pn	10 13 49.5	-2.2
DAWY				⇑Sn	Sn	10 14 26.4	-1.5
BM3	Burnt Mountain	3.67	286	P	Pn	10 13 57.9	-1.5
PRP	Porcupine Dome	4.27	259	P	Pn	10 14 04.4	-3.3
BCA3	Beaver Creek A	4.53	220	P	Pn	10 14 09.2	-2.0
DOT	Dot Lake	4.74	234	P	Pn	10 14 11.0	-3.1
IL1	Eielson Array	5.10	253	P	Pn	10 14 15.9	-3.1
ILAR	Eielson Array	5.10	253	Pn	Pn	10 14 15.8	-3.2
	1.2nm,0.3s,baz=69,slow=12,SNR=46						
ILAR				Lg	Lg	10 15 31.4	
	11nm,0.3s,baz=54,slow=25,SNR=6.7						
ILAR	Eielson Array	5.10	253	Pn	Pn	10 14 15.8	-3.2
ILAR				Lg	Lg	10 15 31.4	
MENT	Mentasta	5.16	227	*e*Pn	Pn	10 14 17.1	-2.7
MENT				*e*Pg	Pb	10 14 34.9	+1.1
DDM	Donnelly Dome	5.26	241	P	Pn	10 14 19.9	-1.3
COLA	College	5.43	256	P	Pn	10 14 20.8	-2.6
CCB	Clear Creek Bu	5.51	254	P	Pn	10 14 21.5	-3.1
MDM	Murphy Dome	5.54	258	P	Pn	10 14 23.7	-1.3
PAX	Paxson	5.67	234	P	Pn	10 14 25.4	-1.6
COLD	Coldfoot	5.83	282	P	Pn	10 14 27.8	-1.1
HYT	Haines Junctio	5.95	190	P	Pn	10 14 29.8	-1.0
HYT	Haines Junctio	5.95	190	⇓Pn	Pn	10 14 29.8	-1.0
HARP	HAARP	5.99	229	P	Pn	10 14 29.3	-1.9
WHY	Whitehorse	6.05	177	P	Pn	10 14 31.6	-0.5
WHY	Whitehorse	6.05	177	⇑Pn	Pn	10 14 31.4	-0.7
DHY	Denali Highway	6.24	240	P	Pn	10 14 33.0	-1.7
BARN	Barnard Glacie	6.28	209	P	Pn	10 14 34.0	-1.2
MCK	McKinley	6.40	249	P	Pn	10 14 34.8	-2.0
BALM	Baldy	6.43	212	P	Pn	10 14 35.9	-1.5
KIAG	Kiagna River	6.54	211	P	Pn	10 14 36.9	-2.0
RND	Reindeer	6.56	246	P	Pn	10 14 37.2	-1.8
TABL	Table Mountain	6.76	205	P	Pn	10 14 41.1	-0.9
ISLE	Juniper Island	6.83	210	P	Pn	10 14 42.0	-0.8
BAGL	Bagley Icefiel	6.88	209	P	Pn	10 14 43.0	-0.4
BMRM	Bremner River	7.02	220	*e*Pn	Pn	10 14 39.1	-6.2
BMRM				*e*Sn	Sn	10 16 01.2	-3.0
TRF	Thorofare Moun	7.06	250	P	Pn	10 14 43.5	-2.5
SCM	Sheep Creek Mo	7.10	232	P	Pn	10 14 43.3	-3.1
SKAG	Skagway	7.25	180	P	Pn	10 14 48.5	+0.1
PNL	Peninsula	7.26	196	*e*Pn	Pn	10 14 49.0	+0.4
IM3	Indian Mountai	7.40	273	P	Pn	10 14 48.8	-1.7
SML	Sawmill	7.44	235	*e*Pn	Pn	10 14 49.8	-1.3
PMR	Palmer	7.86	236	*e*Pn	Pn	10 14 56.1	-0.6
PMR				*e*Sg	Sb	10 17 07.1	+15
GALN	Gameti Lake	7.97	100	Pn	Pn	10 14 57.6	-0.8
GALN				Sn	Sn	10 16 24.3	-3.3
GALN	Gameti Lake	7.97	100	⇑Pn	Pn	10 14 57.6	-0.8
GALN				⇑Sn	Sn	10 16 24.3	-3.3
CTLN	Castor Lake	8.35	97	Pn	Pn	10 15 02.3	-1.2
CTLN				Sn	Sn	10 16 33.2	-3.6
CTLN	Castor Lake	8.35	97	⇑Pn	Pn	10 15 02.3	-1.2
CTLN				⇓Sn	Sn	10 16 33.2	-3.6
DLBC	Dease Lake	8.64	161	Pn	Pn	10 15 07.2	-0.3
	1.6nm,0.3s,baz=2.6,slow=15,SNR=57						
DLBC				Lg	Lg	10 17 29.9	
	0.7nm,0.3s,baz=217,slow=22,SNR=3.6						
DLBC	Dease Lake	8.64	161	Pn	Pn	10 15 07.2	-0.3
DLBC				Lg	Lg	10 17 29.9	
DLBC	Dease Lake	8.64	161	⇓Pn	Pn	10 15 07.5	-0.1
SPU	Mount Spurr	9.14	241	*e*Pn	Pn	10 15 11.9	-2.5
SPU				*e*Sg	Sn	10 17 51.5	+55
JERN	Jeri Cho Mine,	9.63	83	⇑Pn	Pn	10 15 20.4	-0.6
JERN				⇑Sn	Sn	10 17 02.5	-5.7
FNBB	Fort Nelson	9.64	138	Pn	Pn	10 15 21.8	+0.5
FNBB	Fort Nelson	9.64	138	⇓Pn	Pn	10 15 21.8	+0.5
YKW3	Yellowknife Ar	9.82	105	Pn	Pn	10 15 21.8	-1.8
YKW3				Sn	Sn	10 17 05.8	-6.9
YKW3	Yellowknife Ar	9.82	105	⇑Pn	Pn	10 15 21.8	-1.8
YKW3				⇑Sn	Sn	10 17 05.8	-6.9
YKA	Yellowknife Ar	9.86	105	Pn	Pn	10 15 22.0	-2.1
	1.8nm,0.3s,baz=304,slow=13,SNR=138						
YKA				Sn	Sn	10 17 08.1	-5.7
	2.6nm,0.3s,baz=304,slow=24,SNR=5.5						
YKA				Lg	Lg	10 18 07.1	
	baz=29,slow=18,SNR=1.4						
YKA	Yellowknife Ar	9.86	105	Pn	Pn	10 15 22.0	-2.1
YKA				Sn	Sn	10 17 08.1	-5.7
YKA				Lg	Lg	10 18 07.0	
SVW2	Sparrevohn	10.46	247	*e*Pn	Pn	10 15 30.8	-1.6
RES	Resolute Bay	15.26	41	Pn	Pn	10 16 36.5	-1.0
	0.5nm,0.3s,baz=265,slow=10.0,SNR=23						
RES	Resolute Bay	15.26	41	*e*Pn	Pn	10 16 36.2	-1.3
	5.3nm,0.6s						
FFC	Flin Flon	19.96	111	*e*P	Pn	10 17 34.8	-1.2
	101nm,2.7s						
NEW	Newport	20.77	144	*e*Pn	Pn	10 17 46.2	+0.7
	108nm,2.8s						
LON	Longmire	21.23	153	*e*P	P	10 17 51.4	+3.3
	13nm,1.4s						
SLMT	Seeley Lake	22.62	139	*e*P	P	10 18 04.9	+1.9
BMO	Blue Mountains	23.95	147	*e*P	P	10 18 18.8	+2.6
	3.2nm,0.9s						
ULM	Lac du Bonnet	25.79	110	P	P	10 18 33.8	+1.1
	1.5nm,0.4s,baz=314,slow=11,SNR=4.3						
ULM	Lac du Bonnet	25.79	110	P	P	10 18 33.8	+1.1
LOHW	Long Hollow	26.75	137	*e*P	P	10 18 44.6	+2.8
	75nm,3.0s						
FRB	Frobisher Bay	26.98	64	P	P	10 18 46.3	+3.0
	1.8nm,0.9s,baz=337,slow=13,SNR=2.7						
FRB	Frobisher Bay	26.98	64	P	P	10 18 46.3	+3.0
PDAR	Pinedale Array	27.82	136	P	P	10 18 53.8	+2.4
	1.8nm,0.7s,baz=48,slow=2.8,SNR=18						
PDAR	Pinedale Array	27.82	136	P	P	10 18 53.8	+2.4
NVAR	Mina Array Bea	29.93	152	P	P	10 19 12.7	+2.6
	1.8nm,0.7s,baz=343,slow=5.7,SNR=8.1						
NVAR	Mina Array Bea	29.93	152	P	P	10 19 12.7	+2.6
SCHQ	Schefferville	33.67	76	P	P	10 19 44.7	+2.1
	3.6nm,1.0s,baz=349,slow=9.0,SNR=4.0						
SCHQ	Schefferville	33.67	76	P	P	10 19 44.7	+2.1
ANMO	Albuquerque	35.98	137	P	P	10 20 06.2	+3.3
	2.2nm,0.6s,baz=335,slow=9.2,SNR=12						
ANMO	Albuquerque	35.98	137	*e*P	P	10 20 06.0	+3.1
	2.0nm,0.6s						
TXAR	Lajitas Array	42.04	137	P	P	10 20 55.8	+2.3
	0.6nm,0.6s,baz=359,slow=8.8,SNR=7.2						
TXAR	Lajitas Array	42.04	137	P	P	10 20 55.8	+2.3
FINES	FINESS Array B	51.46	11	P	P	10 22 07.4	+0.8
	0.8nm,0.7s,baz=1.8,slow=8.7,SNR=5.9						
FINES	FINESS Array B	51.46	11	P	P	10 22 07.5	+0.8
SONM	Songino Array	56.55	315	P	P	10 22 45.9	+1.8
	0.1nm,0.3s,baz=65,slow=30,SNR=2.4						
SONM	Songino Array	56.55	315	P	P	10 22 45.9	+1.8
GTA	Gaotai	66.16	316	*e*P	P	10 23 48.9	-0.3
GTA				pP	pP	10 23 55.6	-1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NJ2	Nanjing	66.86	297	*e*P	P	10 23 52.4	-1.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
ESDC	Sonseca Array	67.67	39	P	P	10 24 00.9	+2.2
	comp=Z,0.6nm,0.6s,baz=336,slow=6.1,SNR=4.9						
ESDC	Sonseca Array	67.67	39	P	P	10 24 00.9	+2.2
GYA	Guiyang	76.14	305	*e*P	P	10 24 50.2	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						

MEX 01 10:16:40.0±0.5, **18°.07N**×**103°.29W**, **h6**^{km}±3^{km}, **MD3.9, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.23	346	*e*P	Pg	10 16 44.1	-0.5
MMIG				*i* S	Sg	10 16 48.0	+0.3
R15V		1.28	329	*e*P	Pn	10 17 00.8	-3.7
R15V				*e*S	Sg	10 17 17.0	-4.4
EZ5V		1.44	348	*e*P	Pn	10 17 03.9	-3.1
EZ5V				*e*S	Sb	10 17 20.3	-6.1
ZIIG	Zihuatanejo	1.79	104	*e*P	Pn	10 17 08.2	-3.3
ZIIG				*e*S	Sn	10 17 30.3	-4.3
CJM	Chamela	2.19	311	*i* P	Pn	10 17 14.2	-2.7
CJM				*e*S	Sn	10 17 40.5	-3.9
ARIG	Puente Sto Nin	2.80	85	*e*P	Pn	10 17 21.6	-3.8
ARIG				*e*S	Sn	10 17 55.9	-3.8
CAIG	El Cayaco	3.05	109	*e*P	Pn	10 17 26.2	-2.6
CAIG				*e*S	Sn	10 18 02.2	-3.5
ANIG	Ahuacatlan	3.19	339	*e*P	Pn	10 17 28.1	-2.8
ANIG				*e*S	Sn	10 18 06.1	-3.3
MEIG	Mezcala	3.49	92	*e*P	Pn	10 17 32.2	-2.8
MEIG				*e*S	Sn	10 18 13.4	-3.4
PLIG	Platanillo	3.61	84	*e*P	Pn	10 17 33.9	-2.8
PLIG				*e*S	Sn	10 18 16.6	-3.2
YAIG	Yautepec	4.08	78	*e*P	Pn	10 17 40.4	-2.8
YAIG				*e*S	Sn	10 18 28.5	-2.9

*IDC **01** 10:32:10.7±1.0, 17°.70N×120°.48E, h0^{km}, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=77.9km s-min=21.1km az=65.0*
*ISCJB **01** 10:32:14.9±1.3, 17°.95N±0°.05×120°.06E±0°.07, h18^{km}±10^{km}, mb3.4/5, MS2.7/1, Error ellipse: s-maj=10.9km s-min=7.8km az=10.7*
*MAN **01** 10:32:16, 17°.78N×120°.15E, h5^{km}, mb4.6, ML3.5, MS3.5*
ISC 01 10:32:15.9±1.2, **17°.88N**±0°.05×**120°.15E**±0°.07, **h29**^{km}±9^{km}, **n16**, σ**1^{s}42**/20, **mb3.3**/5, **1C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.30	81	⇓*i*P	Pb	10 32 23.2	-0.1
SIPP				*i* S	Sb	10 32 28.6	+0.4
ABRA	Dolores	0.58	113	*e*P	Pb	10 32 27.5	-0.1
PIP	Pasuquin	0.63	45	⇓*i*P	Pb	10 32 27.4	-1.0
PIP				*e*S	Sb	10 32 35.2	-1.9
BOLP	Bolinao	1.50	189	*e*P	Pb	10 32 42.2	-0.9
BOLP				*e*S	Sb	10 33 02.7	+0.9
BCPH	Baguio City Da	1.54	164	⇑*i*P	Pb	10 32 43.2	-0.7
BCPH				*i* S	Sn	10 33 01.6	+0.8
CVP	Callao Caves	1.60	96	⇓*i*P	Pn	10 32 43.6	+1.3
CVP				*i* S	Sb	10 33 05.8	+1.1
CAUP	Cauayan	1.85	120	*e*P	Pb	10 32 49.0	0.0
SCZP	Santa Cruz	2.10	186	*e*P	Pn	10 32 49.8	+0.7
PALP	Palanan	2.32	110	*e*P	Pb	10 32 55.5	-1.5
BALP	Baler	2.52	147	*e*P	Pb	10 32 58.3	-2.2
MJAR	Matsushiro Arr	24.49	37	LR	LR	10 47 02.9	
	comp=Z,22nm,18.6s,baz=275,slow=36						
WRA	Warramunga Arr	40.08	159	P	P	10 39 45.0	-3.9
	0.2nm,0.3s,baz=341,slow=9.0,SNR=6.1						
MKAR	Makanchi Array	42.42	321	P	P	10 40 10.2	+2.2
	0.3nm,0.6s,baz=121,slow=8.5,SNR=6.3						
MKAR				PcP	PcP	10 41 59.7	-1.1
	0.2nm,0.7s,baz=104,slow=5.1,SNR=3.5						
ASAR	Alice Springs	43.42	162	P	P	10 40 13.9	-2.3
	0.2nm,0.4s,baz=341,slow=6.9,SNR=12						
KURBB	Kurchatov Arra	46.48	324	P	P	10 40 41.8	+1.6
	0.4nm,0.4s,baz=121,slow=8.0,SNR=4.0						
YKA	Yellowknife Ar	89.14	22	P	P	10 45 08.3	0.0
	0.1nm,0.5s,baz=308,slow=4.8,SNR=5.8						

*HEL **01** 10:35:44.5±0.4, 67°.66N×34°.04E, h0^{km}, ML2.3, Explosion*
*IDC **01** 10:35:48.1±1.8, 67°.72N×33°.56E, h0^{km}, mb1 3.5/5, mb1mx3.1/29, mbtmp3.5/5, ML2.9/5, Error ellipse: s-maj=19.2km s-min=9.2km az=82.0*
ISC 01 10:35:47.7±2.1, **67°.59N**±0°.05×**33°.3E**±0°.1, **h0**^{km}, **n13**, σ**1^{s}23**/23, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRF	Varrio	1.42	278	PG	Pg	10 36 14.5	-0.3
	baz=85						
VRF				SG	Sn	10 36 34.9	+0.9
VRF				MSG		10 36 34.9	
	comp=Z,26nm,0.2s						
KU6	Riekki	2.07	222	PN	Pn	10 36 25.2	+1.5
	baz=42						
KU6				SG	Sg	10 36 55.7	+1.5
KU6				MSG		10 36 55.7	
	comp=Z,9.0nm,0.2s						
MSF	Maaselka	2.39	227	PN	Pb	10 36 30.7	-0.8
MSF				SG	Sg	10 37 05.0	+0.7
MSF				MSG		10 37 05.0	
	comp=Z,4.0nm,0.2s						
SGF	Sodankyl	2.61	270	PN	Pn	10 36 31.6	+0.6
SGF				SG	Sg	10 37 10.7	-0.6
SGF				MSG		10 37 10.7	
	comp=Z,9.0nm,0.4s						
RNF	Rovaniemi	3.01	254	PN	Pn	10 36 37.7	+1.1
KEV	Kevo	3.16	316	PN	Pn	10 36 38.5	-0.1
KEV				SG	Sb	10 37 24.5	+0.9
KEV				MSG		10 37 24.5	
	comp=Z,20nm,0.4s						
ARA0	ARCESS Array S	3.46	308	PN	Pn	10 36 41.8	-1.0
	baz=122						
ARA0				SG	Sb	10 37 34.6	+2.3
ARA0				MSG		10 37 34.6	
	comp=Z,12nm,0.3s						
ARCES	ARCESS Array B	3.46	308	Pn	Pn	10 36 42.1	-0.6
	comp=Z,3.2nm,0.3s,baz=122,slow=15,SNR=429						
ARCES				Pg	Pb	10 36 51.2	+1.4
	comp=Z,3.5nm,0.3s,baz=118,slow=15,SNR=20						
ARCES				Sn	Sn	10 37 24.3	-0.1
	comp=Z,3.5nm,0.3s,baz=120,slow=24,SNR=17						
ARCES				Lg	Lg	10 37 35.2	
	comp=Z,7.8nm,0.3s,baz=112,slow=33,SNR=12						
HEF	Hetta	3.72	287	PN	Pn	10 36 46.7	+0.4
HEF				SG	Sg	10 37 45.2	-1.7
HEF				MSG		10 37 45.2	
	comp=Z,6.6nm,0.4s						
FINES	FINESS Array B	6.91	210	Pn	Pn	10 37 29.5	-0.6
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=4.7						
FINES				Sn	Sn	10 38 49.0	-0.2
	comp=Z,0.2nm,0.3s,baz=33,slow=23,SNR=4.1						
FINES				Lg	Lg	10 39 21.7	
	comp=Z,1.4nm,0.3s,baz=34,slow=28,SNR=12						
HFS	Hagfors	11.38	238	Pn	Pn	10 38 29.8	-1.4
	comp=Z,0.1nm,0.3s,baz=46,slow=10,SNR=5.0						
HFS				Sn	Sn	10 40 36.3	-2.6
	comp=Z,0.2nm,0.3s,baz=42,slow=23,SNR=4.6						
HFS				Lg	Lg	10 41 43.3	
	comp=Z,0.2nm,0.3s,baz=56,slow=28,SNR=3.6						
NOA	NORSAR Array B	11.56	246	Pn	Pn	10 38 33.1	-0.6
	comp=Z,0.1nm,0.3s,baz=49,slow=11,SNR=3.5						
NOA				Lg	Lg	10 41 52.4	
	comp=Z,0.2nm,0.3s,baz=10,slow=19,SNR=3.6						
SPITS	Spitsbergen Ar	11.66	343	Pn	Pn	10 38 30.2	-4.8
	baz=145,slow=16,SNR=9.4						

IDC 01 10:42:01.8±3.0, **7°.26N**×**94°.66E**, **h224**^{km}±29^{km}, **mb3.2**/12, **mb1 3.3**/14, **mb1mx3.2**/30, **mbtmp3.2**/14, **Error ellipse: s-maj=35.6km s-min=12.2km az=60.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.14	136	P	Pn	10 43 32.5	+1.0
	1.3nm,0.3s,baz=321,slow=16,SNR=4.7						
CMAR	Chiang Mai Arr	11.88	20	P	Pn	10 44 43.9	-0.8
	0.6nm,0.3s,baz=216,slow=13,SNR=8.9						
AAK	Ala-Archa	39.47	336	P	P	10 49 11.9	+1.2
	1.6nm,0.8s,baz=137,slow=6.9,SNR=6.9						
MKAR	Makanchi Array	40.80	347	P	P	10 49 20.9	-0.5
	1.0nm,0.4s,baz=160,slow=9.8,SNR=31						
SONM	Songino Array	41.65	12	P	P	10 49 28.5	0.0
	1.3nm,0.7s,baz=198,slow=8.6,SNR=14						
KURBB	Kurchatov Arra	45.26	346	P	P	10 49 57.1	+0.1
	0.9nm,0.4s,baz=167,slow=6.8,SNR=12						
ZALV	Zalesovo Beam	47.23	352	P	P	10 50 12.2	0.0
	1.8nm,0.4s,baz=177,slow=7.3,SNR=20						
WRA	Warramunga Arr	47.49	125	P	P	10 50 15.1	+0.2
	0.2nm,0.6s,baz=306,slow=8.5,SNR=2.9						
ASAR	Alice Springs	49.13	130	P	P	10 50 26.9	-0.4
	0.1nm,0.4s,baz=296,slow=7.1,SNR=3.0						
ASAR				pP	pP	10 51 17.4	+1.5
	0.3nm,0.6s,baz=301,slow=8.2,SNR=2.9						
BVAR	Borovoye Array	49.73	341	P	P	10 50 30.6	-0.8
	0.3nm,0.6s,baz=134,slow=8.6,SNR=3.7						
BRTR	Keskin Array B	63.22	311	P	P	10 52 06.4	-0.4
	0.3nm,0.5s,baz=147,slow=9.7,SNR=3.6						
FINES	FINESS Array B	73.49	332	P	P	10 53 09.2	-0.6
	1.0nm,0.7s,baz=64,slow=4.4,SNR=7.8						
ARCES	ARCESS Array B	76.01	340	P	P	10 53 24.1	0.0
	1.8nm,0.8s,baz=103,slow=3.9,SNR=4.2						
GERES	GERESS Array B	78.62	318	P	P	10 53 39.4	+0.2
	0.6nm,0.7s,baz=119,slow=4.7,SNR=6.3						

*CSEM **01** 10:44:46.0, 37°.82N×29°.14E, h9^{km}, MD2.5, After ISK*
ISK 01 10:44:46.0, 37°.82N×29°.14E, h9^{km}**, MD2.5, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.11	231	*e*PG	Pg	10 44 48.8	+0.1
DENT	Denizli	0.11	231	*e*Pg	Pg	10 44 48.8	+0.1
KHL	Karahalli	0.59	31	*e*PG	Pg	10 44 58.0	+0.4
KHL	Karahalli	0.59	31	*e*Pg	Pg	10 44 58.0	+0.5
KULA	Kula-Manisa	0.79	332	*e*PG	Pg	10 45 01.6	+0.3
KULA	Kula-Manisa	0.79	332	*e*Pg	Pg	10 45 01.6	+0.3
YER	Yerkesik	0.97	225	*e*PG	Pb	10 45 05.2	+0.2
YER	Yerkesik	0.97	225	*e*Pg	Pb	10 45 05.2	+0.2
FETY	Fethiye	1.18	182	*e*PN	Pg	10 45 09.1	+0.3
FETY	Fethiye	1.18	182	*e*Pn	Pg	10 45 09.1	+0.3
ELL	Elmali	1.23	150	*e*PN	Pg	10 45 10.0	+0.1
ELL	Elmali	1.23	150	*e*Pn	Pg	10 45 10.0	+0.1
TVSB	Tavsanli	1.65	9	*e*PN	Pn	10 45 14.9	-0.4
TVSB	Tavsanli	1.65	9	*e*Pn	Pn	10 45 14.9	-0.4

IDC 01 10:48:37.5±2.7, **22°.96S**×**170°.29E**, **h0**^{km}, **mb3.4**/2, **mb1 3.7**/3, **mb1mx3.5**/18, **mbtmp3.4**/3, **ML3.3**/1, **Error ellipse: s-maj=91.5km s-min=42.8km az=0.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.66	283	Pn	Pn	10 49 37.3	+1.8
	2.6nm,0.3s,baz=103,slow=14,SNR=57						
DZM				Sn	Sn	10 50 20.4	+0.9
	1.5nm,0.3s,baz=135,slow=20,SNR=9.0						
DZM	Mont Dzumac	3.66	283	*e*P	Pn	10 49 37.2	+1.6
DZM				*e*S	Sn	10 50 20.0	+0.5
ASAR	Alice Springs	33.36	261	P	P	10 55 17.7	0.0
	0.7nm,0.7s,baz=89,slow=9.6,SNR=9.3						
WRA	Warramunga Arr	33.54	268	P	P	10 55 17.9	-1.3
	0.3nm,0.8s,baz=97,slow=8.4,SNR=6.6						
GERES	GERESS Array B	148.20	330	PKPbc	PKPbc	11 08 25.3	-0.1
	0.1nm,0.3s,baz=28,slow=4.4,SNR=3.5						

*ISCJB **01** 11:13:57.7±0.5, 37°.81N±0°.03×29°.09E±0°.05, h11^{km}±4^{km}, Error ellipse: s-maj=6.4km s-min=5.0km az=4.2*
*ISK **01** 11:13:57.4, 37°.80N×29°.08E, h13^{km}, MD2.8*
*DDA **01** 11:13:57.3, 37°.85N×29°.08E, h6^{km}, MD2.8*
*CSEM **01** 11:13:57.5±0.1, 37°.81N×29°.09E, h9^{km}±1^{km}, MD2.8, Error ellipse: s-maj=3.2km s-min=2.3km az=100.0*
ISC 01 11:13:57.8±0.8, **37°.81N**±0°.02×**29°.06E**±0°.03, **h11**^{km}±6^{km}, **n32**, σ**0^{s}72**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.06	205	PG	Pg	11 14 00.1	0.0
DENT	Denizli	0.06	205	*i* Pg	Pg	11 14 00.1	0.0
DNZL	Cakiroluk	0.12	187	*i* P	Pg	11 14 00.7	-0.2
DNZL				*i* S	Sg	11 14 03.4	+0.2
DNZL	Cakiroluk	0.12	187	*i* P	Pg	11 14 00.7	-0.2
DNZL				*i* S	Sg	11 14 03.4	+0.2
KHL	Karahalli	0.63	35	*e*PG	Pg	11 14 10.3	+0.2
KHL	Karahalli	0.63	35	*e*Pg	Pg	11 14 10.3	+0.2
KHAL	Karahalli	0.66	31	*i* P	Pg	11 14 09.5	-1.1
KHAL				*i* S	Sg	11 14 18.6	-0.7
KHAL	Karahalli	0.66	31	*i* P	Pg	11 14 09.5	-1.1
KHAL				*i* S	Sg	11 14 18.6	-0.7
KULA	Kula-Manisa	0.78	336	*e*PG	Pg	11 14 12.7	-0.1
KULA				*e*SG	Sb	11 14 24.5	+0.5
KULA	Kula-Manisa	0.78	336	*e*Pg	Pg	11 14 12.7	-0.1
KULA				*e*Sg	Sb	11 14 24.5	+0.5
MANT	Manisa	0.79	330	*i* P	Pg	11 14 12.9	-0.3
MANT				*i* S	Sg	11 14 22.8	-0.7
MANT	Manisa	0.79	330	*i* P	Pg	11 14 12.9	-0.3
MANT				*i* S	Sg	11 14 22.8	-0.7
YER	Yerkesik	0.91	223	*e*PG	Pg	11 14 15.7	+0.3
YER	Yerkesik	0.91	223	*e*Pg	Pg	11 14 15.7	+0.3
AYDN	Tasoluk	0.95	262	*i* P	Pb	11 14 16.0	-0.3
AYDN				*i* S	Sg	11 14 29.2	+0.7
AYDN	Tasoluk	0.95	262	*i* P	Pb	11 14 16.0	-0.3
AYDN				*i* S	Sg	11 14 29.2	+0.7
FETY	Fethiye	1.17	179	*e*PN	Pb	11 14 19.8	-0.2
FETY	Fethiye	1.17	179	*e*Pn	Pb	11 14 19.8	-0.2
ELL	Elmali	1.25	147	*e*PN	Pn	11 14 21.2	-0.2
ELL	Elmali	1.25	147	*e*Pn	Pn	11 14 21.2	-0.2
BCK	Bucak	1.26	105	*e*PN	Pn	11 14 21.3	-0.1
BCK	Bucak	1.26	105	*e*Pn	Pn	11 14 21.3	-0.1
DEMI	Demirci	1.26	348	*i* P	Pn	11 14 21.1	-0.4
DEMI				*i* S	Sb	11 14 37.6	-0.4
DEMI	Demirci	1.26	348	*i* P	Pn	11 14 21.1	-0.4
DEMI				*i* S	Sb	11 14 37.6	-0.4
GDZ	Gediz	1.32	14	*i* P	Pb	11 14 23.1	+0.4
GDZ				*i* S	Sg	11 14 43.0	+2.6
GDZ	Gediz	1.32	14	*i* P	Pb	11 14 23.1	+0.4
GDZ				*i* S	Sg	11 14 43.0	+2.6
SHUT	Suhut-Afyon	1.39	57	*e*PN	Pn	11 14 23.0	-0.3
SHUT	Suhut-Afyon	1.39	57	*e*Pn	Pn	11 14 23.0	-0.3
ALT	Altintas	1.49	33	*e*PN	Pn	11 14 24.6	-0.1
ALT	Altintas	1.49	33	*e*Pn	Pn	11 14 24.6	-0.1
TVSB	Tavsanli	1.67	11	*e*PN	Pn	11 14 27.0	-0.1
TVSB	Tavsanli	1.67	11	*e*Pn	Pn	11 14 27.0	-0.1

*ISCJB **01** 11:16:32.6±0.6, 39°.11N±0°.03×27°.55E±0°.05, h13^{km}±6^{km}, Error ellipse: s-maj=6.1km s-min=5.3km az=165.4*
*ISK **01** 11:16:32.6, 39°.13N×27°.47E, h18^{km}, MD2.7*
*CSEM **01** 11:16:32.5±0.2, 39°.11N×27°.53E, h12^{km}, MD2.7, Error ellipse: s-maj=4.8km s-min=4.1km az=90.0*

ISC 01 11:16:32.2±1.2**,39°.12N**±0°.03×**27°.56E**±0°.04**,h7**^{km}±11^{km}**,**
n38,σ**0^{s}59**/48**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.31**	**141**	*i* P	**Pg**	**11 16 37.9**	**-0.4**
AKHS				*i* S	**Sg**	**11 16 43.6**	**+1.3**
AKHS	**Akhisar**	**0.31**	**141**	*i* P	**Pg**	**11 16 37.9**	**-0.3**
AKHS				*i* S	**Sg**	**11 16 43.6**	**+1.3**
BALB	**Balikesir**	**0.58**	**25**	*e*PG	**Pb**	**11 16 45.1**	**+0.4**
BALB	**Balikesir**	**0.58**	**25**	*e*Pg	**Pb**	**11 16 45.1**	**+0.4**
BALY	**Balya**	**0.62**	**4**	*i* P	**Pg**	**11 16 44.1**	**-0.1**
BALY				*i* S	**Sb**	**11 16 55.3**	**+0.8**
BALY	**Balya**	**0.62**	**4**	*i* P	**Pg**	**11 16 44.1**	**-0.1**
BALY				*i* S	**Sb**	**11 16 55.3**	**+0.8**
IZM	**Izmir**	**0.76**	**198**	*e*PG	**Pb**	**11 16 47.6**	**-0.2**
IZM	**Izmir**	**0.76**	**198**	*e*Pg	**Pb**	**11 16 47.6**	**-0.2**
DURS	**Dursunbey**	**0.85**	**55**	*i* P	**Pb**	**11 16 49.2**	**-0.3**
DURS				*i* S	**Sb**	**11 17 01.6**	**+0.4**
DURS	**Dursunbey**	**0.85**	**55**	*i* P	**Pb**	**11 16 49.2**	**-0.3**
DURS				*i* S	**Sb**	**11 17 01.6**	**+0.4**
DEMI	**Demirci**	**0.90**	**94**	*i* P	**Pb**	**11 16 50.2**	**0.0**
DEMI				*i* S	**Sg**	**11 17 00.2**	**-1.0**
DEMI	**Demirci**	**0.90**	**94**	*i* P	**Pb**	**11 16 50.2**	**0.0**
DEMI				*i* S	**Sg**	**11 17 00.2**	**-1.0**
GONE	**Gonen-Balikesi**	**0.93**	**6**	*e*PG	**Pb**	**11 16 51.2**	**+0.4**
GONE	**Gonen-Balikesi**	**0.93**	**6**	*e*Pg	**Pb**	**11 16 51.2**	**+0.4**
DST	**Dursunbey**	**0.95**	**59**	*e*PG	**Pn**	**11 16 52.1**	**0.0**
DST	**Dursunbey**	**0.95**	**59**	*e*Pg	**Pn**	**11 16 52.1**	**0.0**
URLA	**Izmir**	**1.07**	**225**	*i* P	**Pn**	**11 16 53.6**	**-0.1**
URLA				*i* S	**Sn**	**11 17 09.1**	**+0.2**
URLA	**Izmir**	**1.07**	**225**	*i* P	**Pn**	**11 16 53.6**	**-0.1**
URLA				*i* S	**Sn**	**11 17 09.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.29**	**351**	*e*PN	**Pn**	**11 16 56.0**	**-0.7**
KRBG	**Karabiga-Canak**	**1.29**	**351**	*e*Pn	**Pn**	**11 16 56.0**	**-0.7**
KCTX	**Karacabey (Bur**	**1.30**	**28**	*e*PN	**Pn**	**11 16 56.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**28**	*e*Pn	**Pn**	**11 16 56.7**	**-0.1**
ORLT	**Orhaneli**	**1.39**	**48**	*e*PN	**Pg**	**11 16 58.6**	**-0.2**
ORLT	**Orhaneli**	**1.39**	**48**	*e*Pn	**Pg**	**11 16 58.6**	**-0.2**
LPK	**Lapseki**	**1.40**	**334**	*e*PN	**Pn**	**11 16 57.5**	**-0.7**
LPK	**Lapseki**	**1.40**	**334**	*e*Pn	**Pn**	**11 16 57.5**	**-0.7**
TVSB	**Tavsanli**	**1.51**	**77**	*e*PN	**Pb**	**11 17 00.4**	**-0.2**
TVSB	**Tavsanli**	**1.51**	**77**	*e*Pn	**Pb**	**11 17 00.4**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.53**	**327**	*e*PN	**Pn**	**11 16 58.9**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.53**	**327**	*e*Pn	**Pn**	**11 16 58.9**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.60**	**349**	*e*PN	**Pn**	**11 17 00.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.60**	**349**	*e*Pn	**Pn**	**11 17 00.5**	**-0.4**
MFT	**Murefte**	**1.68**	**353**	*e*PN	**Pn**	**11 17 02.1**	**0.0**
MFT	**Murefte**	**1.68**	**353**	*e*Pn	**Pn**	**11 17 02.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.75**	**333**	*e*PN	**Pn**	**11 17 02.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.75**	**333**	*e*Pn	**Pn**	**11 17 02.3**	**-0.7**
ENEZ	**Enez**	**1.95**	**327**	*e*PN	**Pn**	**11 17 04.9**	**-0.8**
ENEZ	**Enez**	**1.95**	**327**	*e*Pn	**Pn**	**11 17 04.9**	**-0.8**

IDC 01 11:29:30.5±2.5**,7°.34N**×**102°.92W,h0**^{km}**,mb3.6**/5**,**
mb1 4.0/5**,mb1mx3.7**/20**,mbtmp3.6**/5**,MS3.5**/1**,Ms1 3.4**/1**,**
ms1mx2.4/26**,Error ellipse: s-maj=132.2km**
s-min=30.0km az=61.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.89**	**358**	P	P	11 34 25.2	-0.2
	0.3nm,0.8s,baz=181,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**35.77**	**352**	P	P	11 36 31.6	+0.1
	0.6nm,0.9s,baz=152,slow=8.0,SNR=4.5						
ULM	**Lac du Bonnet**	**43.17**	**7**	LR	LR	11 55 11.9	
	comp=Z,53nm,19.2s,baz=149,slow=36						
CPUP	**Villa Florida**	**55.46**	**129**	P	P	11 39 07.2	-0.1
	1.7nm,0.8s,baz=34,slow=9.1,SNR=2.9						
INK	**Inuvik**	**64.20**	**348**	P	P	11 40 06.9	+0.2
	1.0nm,0.9s,baz=129,slow=6.5,SNR=4.2						
ILAR	**Eielson Array**	**65.13**	**341**	P	P	11 40 12.8	-0.2
	1.2nm,0.8s,baz=151,slow=5.4,SNR=14						

---

*MOS **01** 11:34:03.4±1.5, 50°.35N×157°.16E, h33^{km}, mb4.1/1, Error ellipse: s-maj=28.9km s-min=15.9km az=59.4*
*ISCJB **01** 11:34:06.8±1.0, 50°.55N±0°.07×157°.1E±0°.1, h73^{km}±10^{km}, mb3.4/7, Error ellipse: s-maj=14.8km s-min=7.8km az=43.6*
*KRSC **01** 11:34:07.4±0.6, 50°.74N×157°.50E, h5^{km}±5^{km}, ML4.0*
*IDC **01** 11:34:09.2±2.3, 50°.65N×156°.84E, h77^{km}±22^{km}, mb3.2/7, mb1 3.5/11, mb1mx3.3/29, mbtmp3.3/11, MS3.2/1, Ms1 3.2/1, ms1mx2.1/19, Error ellipse: s-maj=32.2km s-min=14.2km az=145.0*
ISC 01 11:34:05.4±1.6**,50°.4N**±0°.1×**156°.98E**±0°.08**,h45**^{km}±15^{km}**,**
n29,σ**1^{s}48**/39**,mb3.4**/7**,1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.60**	**294**	⇓*i*PN	**Pn**	**11 34 17.1**	**-0.5**
SKR				*i* S	**Sn**	**11 34 26.4**	**0.0**
SKR				pmax	pmax		
	comp=E,200nm,0.4s						
SKR				pmax	pmax		
	comp=Z,410nm,0.4s						
SKR				pmax	pmax		
	comp=N,240nm,0.2s						
SKR				smax	smax		
	comp=N,8µm,0.3s						
SKR				smax	smax		
	comp=E,8µm,0.3s						
MIPR	**Malaya Ipel'ka**	**1.84**	**356**	*e*P	**Pn**	**11 34 35.9**	**+1.3**
MIPR				*i* S	**Sn**	**11 34 57.0**	**+0.3**
ASAK	**Asacha**	**2.03**	**16**	*e*P	**Pn**	**11 34 38.3**	**+1.1**
ASAK				*i* S	**Sn**	**11 35 00.7**	**-0.7**
MTVR	**Mutnovka**	**2.18**	**20**	*e*P	**Pn**	**11 34 40.7**	**+1.4**
MTVR				*i* S	**Sn**	**11 35 05.3**	**+0.1**
RUS	**Russkaya**	**2.22**	**25**	*e*P	**Pn**	**11 34 40.1**	**+0.4**
RUS				*i* S	**Sn**	**11 35 03.4**	**-2.4**
APC	**Apacha**	**2.49**	**3**	*e*P	**Pn**	**11 34 45.2**	**+1.8**
APC				*i* S	**Sn**	**11 35 12.6**	**0.0**
PETK	**Petropavlovsk-**	**2.71**	**9**	P	**Pn**	**11 34 48.6**	**+2.1**
	comp=E,2.0nm,0.3s,baz=190,slow=12,SNR=58						
PETK	**Petropavlovsk-**	**2.71**	**9**	PN	**Pn**	**11 34 48.6**	**+2.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**2.79**	**21**	*e*P	**Pn**	**11 34 49.3**	**+1.8**
PET				*i* S	**Sn**	**11 35 19.8**	**-0.1**
UGLR	**Uglovaya**	**3.00**	**22**	*e*P	**Pn**	**11 34 52.2**	**+1.7**
UGLR				*i* S	**Sn**	**11 35 24.6**	**-0.7**
KRER	**Koryakskii**	**3.07**	**20**	*e*P	**Pn**	**11 34 53.2**	**+1.6**
KRER				*e*S	**Sn**	**11 35 27.3**	**+0.1**
SDLR	**Sedlovina**	**3.08**	**22**	*e*P	**Pn**	**11 34 53.1**	**+1.5**
SDLR				*i* S	**Sn**	**11 35 26.5**	**-0.7**
NLC	**Nalytchevo**	**3.11**	**27**	P	**Pn**	**11 34 51.5**	**-0.3**
NLC				*i* S	**Sn**	**11 35 24.6**	**-3.1**
SPN	**Mys Shipunski**	**3.27**	**34**	*e*P	**Pn**	**11 34 55.3**	**+1.2**
SPN				*i* S	**Sn**	**11 35 30.2**	**-1.4**
MKZ	**Mys Kozlova**	**5.04**	**33**	*e*P	**Pn**	**11 35 19.0**	**+0.6**
MKZ				*i* S	**Sn**	**11 36 11.9**	**-3.4**
KMNR	**Kamenistaya**	**5.68**	**19**	*e*P	Pn	11 35 30.8	+3.6
KBTR	**Krutoberegovo**	**6.75**	**29**	*e*P	**Pn**	**11 35 42.8**	**+0.9**
FX1	**Attu Island--F**	**10.35**	**70**	P	**Pn**	**11 36 33.1**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=62,slow=24,SNR=9.8						
FX1				S	Sn	11 38 18.4	-7.3
	comp=Z,1.1nm,0.3s,baz=290,slow=22,SNR=4.2						
ASAJ	**Asahikawa**	**11.63**	**243**	P	Pn	11 36 52.9	+4.3
	comp=Z,0.3nm,0.3s,baz=12,slow=25,SNR=5.2						
MJAR	**Matsushiro Arr**	**19.37**	**231**	P	**Pn**	**11 38 29.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=3.7						
ILAR	**Eielson Array**	**32.08**	**42**	P	**P**	**11 40 26.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=247,slow=7.4,SNR=4.3						
DLBC	**Dease Lake**	**41.22**	**50**	LR	LR	11 56 47.4	
	comp=Z,34nm,21.0s,baz=192,slow=33						
YKA	**Yellowknife Ar**	**46.44**	**40**	P	**P**	**11 42 27.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=299,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**47.57**	**296**	P	**P**	**11 42 34.2**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=55,slow=6.7,SNR=6.0						
MKAR	**Makanchi Array**	**47.57**	**296**	P	**P**	**11 42 34.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**55.72**	**257**	P	**P**	**11 43 37.9**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=31,slow=6.5,SNR=6.3						
PDAR	**Pinedale Array**	**60.55**	**58**	P	**P**	**11 44 12.0**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=331,slow=1.9,SNR=6.1						
WRA	**Warramunga Arr**	**72.87**	**202**	P	**P**	**11 45 30.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=18,slow=6.2,SNR=8.6						
TXAR	**Lajitas Array**	**73.50**	**64**	P	**P**	**11 45 33.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=305,slow=4.8,SNR=7.3						

IDC 01 11:36:39.5±8.6**,15°.18S**×**172°.43W,h0**^{km}**,mb4.7**/4**,**
mb1 4.9/4**,mb1mx4.0**/22**,mbtmp4.7**/4**,Error ellipse:**
s-maj=177.4km s-min=140.0km az=123.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.15**	**248**	P	P	11 41 26.4	0.0
	7.5nm,0.7s,baz=84,slow=15,SNR=10						
STKA	**Stephens Creek**	**44.96**	**240**	P	P	11 44 56.5	-0.1
	4.6nm,0.5s,baz=93,slow=9.9,SNR=29						
WRA	**Warramunga Arr**	**50.81**	**257**	P	P	11 45 41.9	-0.3
	3.8nm,0.5s,baz=92,slow=7.0,SNR=173						
ASAR	**Alice Springs**	**51.07**	**252**	P	P	11 45 44.0	-0.1
	32nm,0.6s,baz=89,slow=7.7,SNR=978						

WEL 01 11:38:39.0±0.5**,36°.06S**×**178°.25E,h185**^{km}±7^{km}**,ML3.6**/9**,**
Error ellipse: s-maj=8.9km s-min=6.2km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.50**	**178**	*e*PN	Pn	11 39 11.3	-0.1
MXZ				*e*SN	Sn	11 39 35.3	-1.3
PUZ	**Puketiti**	**2.01**	**180**	PN	Pn	11 39 16.4	-0.1
PUZ				*e*SN	Sn	11 39 44.4	-1.5
MWZ	**Matawai**	**2.34**	**194**	PN	Pn	11 39 20.4	+0.1
MWZ				*e*SN	Sn	11 39 52.5	0.0
URZ	**Urewera**	**2.38**	**202**	PN	Pn	11 39 20.8	+0.2
URZ				*e*SN	Sn	11 39 53.6	+0.5
CNGZ	**Carnagh Statio**	**2.42**	**181**	PN	Pn	11 39 21.7	+0.7
KNZ	**Kokohu**	**2.99**	**189**	PN	Pn	11 39 27.7	-0.1
MHGZ	**Mahia Peninsul**	**3.10**	**185**	*e*PN	Pn	11 39 29.2	+0.1
BKZ	**Black Stump Fm**	**3.40**	**204**	PN	Pn	11 39 33.1	+0.3
MCHZ	**McNeill Hill**	**3.60**	**200**	*e*PN	Pn	11 39 35.5	+0.3
BHHZ	**Black Hill Sta**	**3.84**	**206**	PN	Pn	11 39 38.3	0.0
KAHZ	**Kahuranaki**	**3.89**	**196**	*e*PN	Pn	11 39 38.7	-0.2
PXZ	**Pawanui**	**4.12**	**195**	PN	Pn	11 39 40.7	-1.0
PXZ				SN	Sn	11 40 30.1	-0.8
TSZ	**Takapari Road**	**4.38**	**204**	PN	Pn	11 39 44.2	-1.0
PRHZ	**Porangahau**	**4.39**	**196**	PN	Pn	11 39 44.2	-1.0
MRZ	**Mangatainoka R**	**5.05**	**204**	*e*PN	Pn	11 39 52.2	-1.5
MRZ				*e*SN	Sn	11 40 50.0	-2.6
OGWZ	**Otaki Gorge**	**5.33**	**206**	*e*PN	Pn	11 39 56.0	-1.3
KIW	**Kapiti Island**	**5.47**	**208**	*e*PN	Pn	11 39 57.5	-1.6
THZ	**Tophouse**	**7.06**	**215**	*e*PN	Pn	11 40 19.0	-0.9

IDC 01 11:40:44.6±4.5**,29°.54S**×**177°.75W,h0**^{km}**,mb3.8**/3**,**
mb1 4.0/3**,mb1mx3.8**/17**,mbtmp3.8**/3**,Error ellipse:**
s-maj=193.6km s-min=69.2km az=160.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.90**	**256**	P	P	11 47 37.9	0.0
	2.4nm,0.8s,baz=88,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**43.38**	**266**	P	P	11 48 49.2	+0.1
	0.2nm,0.6s,baz=105,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**44.29**	**271**	P	P	11 48 56.0	-0.4
	0.9nm,0.3s,baz=110,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**144.41**	**341**	PKP	PKPdf	12 00 21.5	-0.6
	1.0nm,0.5s,baz=42,slow=4.5,SNR=16						

---

*ISCJB **01** 11:51:59.7±0.7, 6°.93N±0°.07×73°.04W±0°.08, h169^{km}±7^{km}, mb3.5/2, Error ellipse: s-maj=15.5km s-min=7.5km az=36.4*
*FUNV **01** 11:52:00.2, 6°.80N×73°.14W, h167^{km}, MW3.5*
*IDC **01** 11:52:02.2±3.6, 6°.80N×73°.24W, h177^{km}±22^{km}, mb3.3/2, mb1 3.5/3, mb1mx2.9/23, mbtmp3.4/3, Error ellipse: s-maj=117.2km s-min=26.5km az=102.0*
ISC 01 11:52:00.6±1.0**,6°.91N**±0°.07×**73°.03W**±0°.09**,h165**^{km}±8^{km}**,**
n18,σ**0^{s}93**/23**,3C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**37**	⇑*i*P	**Pn**	**11 52 29.0**	**+0.4**
CAPV				*e*S	**Sn**	**11 52 50.3**	**+0.1**
ROSC	**El Rosal**	**2.42**	**212**	P	**Pn**	**11 52 40.9**	**-1.0**
	48nm,0.3s,baz=95,slow=23,SNR=132						
ROSC				S	**Sn**	**11 53 13.4**	**-0.4**
	64nm,0.3s,baz=274,slow=19,SNR=16						
VIGV	**El Vigia**	**2.53**	**41**	⇑*i*P	**Pn**	**11 52 43.6**	**+0.7**
VIGV				*e*S	**Sn**	**11 53 15.4**	**-0.2**
SOCV	**Socops**	**2.55**	**58**	⇑*e*P	**Pn**	**11 52 43.7**	**+0.6**
SOCV				*e*S	**Sn**	**11 53 15.7**	**-0.4**
ELOV	**Elorza**	**3.52**	**88**	*e*P	**Pn**	**11 52 55.3**	**+0.1**
VIRV	**Villa del Rosa**	**3.62**	**10**	*e*P	**Pn**	**11 52 55.9**	**-0.6**
VIRV				*e*S	**Sn**	**11 53 38.0**	**-2.0**
QARV	**Quebrada Arrib**	**4.11**	**37**	*e*P	**Pn**	**11 53 03.8**	**+1.0**
CURV	**Curarigua**	**4.33**	**44**	*e*P	**Pn**	**11 53 05.8**	**+0.2**
TEPV	**Terepaima**	**4.86**	**51**	*e*P	**Pn**	**11 53 12.8**	**+0.2**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**11 53 17.6**	**-1.2**
MAPV	**Macapo**	**5.38**	**57**	*e*P	**Pn**	**11 53 19.2**	**-0.1**
MONV	**Montecano**	**5.85**	**31**	*e*P	**Pn**	**11 53 25.2**	**-0.4**
TURV	**Turiamo**	**6.22**	**55**	*e*P	**Pn**	**11 53 30.1**	**-0.3**
CUPV	**Cœpira**	**7.82**	**66**	*e*P	**Pn**	**11 53 50.3**	**-1.4**
SCHQ	**Schefferville**	**48.05**	**5**	P	**P**	**12 00 24.9**	**+1.7**
	2.2nm,0.9s,baz=197,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**12 02 11.4**	**+0.3**
	0.2nm,0.5s,baz=132,slow=6.6,SNR=9.0						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	**PKPbc**	**12 11 29.6**	**-1.1**
	0.4nm,1.0s,baz=120,slow=3.4,SNR=3.1						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	**PKPbc**	**12 11 33.0**	**-0.8**
	0.1nm,0.5s,baz=106,slow=2.9,SNR=6.8						

---

*IDC **01** 12:14:42.8±0.8, 22°.08N×108°.73W, h0^{km}, mb4.3/17, mb1 4.4/21, mb1mx4.3/31, mbtmp4.3/21, ML4.4/3, MS4.2/31, Ms1 4.2/31, ms1mx4.1/42, Error ellipse: s-maj=23.3km s-min=13.4km az=62.0*
*BJI **01** 12:14:42.2, 21°.80N×108°.50W, h10^{km}, mB5.3/3, mb5.0/2, Ms5.0/4, Ms7 4.7/4*
*ISCJB **01** 12:14:43.8±1.5, 21°.90N±0°.04×108°.40W±0°.03, h13^{km}±8^{km}, mb4.5/70, MS4.2/29, Error ellipse: s-maj=6.7km s-min=3.1km az=29.3*
*MEX **01** 12:14:43.8±0.8, 22°.14N×108°.42W, h3^{km}±13^{km}, MD4.7*
*NEIC **01** 12:14:44.8±0.4, 21°.88N×108°.48W, h10^{km}, mb4.6/83, MD4.7(MEX), Error ellipse: s-maj=7.2km s-min=3.9km az=47.0*
NEIC Felt [II] at Puerto Vallarta, Mexico.
*GCMT **01** 12:14:45.1±0.3, 22°.08N×108°.53W, h15^{km}±1^{km}, MW4.9, Moment Tensor Solution. s28,c32; s77,c115; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95±.12; $M_{\theta\theta}$-1.37±.08; $M_{\phi\phi}$2.32±.12; $M_{r\theta}$1.06±.24; $M_{\theta\phi}$2.05±.09; $M_{\phi r}$-0.68±.20; Best double couple: $M_0$3.10000×10^{16} NP1:ϕ_s245.00000°, δ67.00000°, λ-21.00000°. NP2:ϕ_s343.00000°, δ71.00000°, λ-155.00000°. Principal axes: T 3.2400, Plg3.0000°, Azm113.0000°; N -0.2100, Plg59.0000°, Azm19.0000°; P -3.0300, Plg31.0000°, Azm205.0000°; Data Used: II IU CN G IC.*
ISC 01 12:14:48.2±1.9**,22°.06N**±0°.05×**108°.45W**±0°.06**,**
h31^{km}±12^{km}**,n577,**σ**1^{s}44**/549**,mb4.6**/70**,MS4.3**/29**,**
172C-196D,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**2.18**	**59**	*e*P	Pn	12 15 17.6	-4.8
MAIG				*i* S	Sn	12 15 42.0	-6.4
MAIG	**Mazatlaan**	**2.18**	**59**	*e*P	Pn	12 15 17.6	-4.8
MAIG				*i* S	Sn	12 15 42.0	-6.4
LPIG	**La Paz**	**2.66**	**320**	Pn	Pn	12 15 23.4	-5.5
	0.8nm,0.3s,baz=278,slow=0.1,SNR=51						
LPIG				Sn	**Sn**	**12 15 55.8**	**-4.3**
	4.7nm,0.3s,baz=321,slow=21,SNR=11						
LPIG	**La Paz**	**2.66**	**320**	*e*P	Pn	12 15 23.2	-5.7
LPIG				*i* S	**Sn**	**12 15 56.0**	**-4.1**
LPIG	**La Paz**	**2.66**	**320**	*e*P	Pn	12 15 23.2	-5.7
LPIG				*i* S	**Sn**	**12 15 56.0**	**-4.1**
ANIG	**Ahuacatlan**	**3.79**	**105**	*e*P	**Pn**	**12 15 41.7**	**-3.0**
ANIG				*i* S	**Sn**	**12 16 25.2**	**-3.1**
ANIG	**Ahuacatlan**	**3.79**	**105**	*e*P	**Pn**	**12 15 41.7**	**-3.0**
ANIG				*i* S	**Sn**	**12 16 25.2**	**-3.1**
CJM	**Chamela**	**4.08**	**128**	*i* P	Pn	12 15 44.7	-3.8
CJM				*i* S	**Sn**	**12 16 32.7**	**-2.6**
CJM	**Chamela**	**4.08**	**128**	*i* P	Pn	12 15 44.7	-3.8
CJM				*i* S	**Sn**	**12 16 32.7**	**-2.6**
R15V		**5.08**	**124**	*e*P	**Pn**	**12 15 59.4**	**-2.9**
R15V				*i* S	**Sn**	**12 16 57.2**	**-2.8**
EZ5V		**5.21**	**119**	*i* P	Pn	12 16 00.5	-3.8
EZ5V				*i* S	**Sn**	**12 17 01.3**	**-2.3**
HPIG		**5.48**	**27**	*e*P	Pn	12 16 02.5	-5.4
HPIG				*i* S	**Sn**	**12 17 05.2**	**-4.8**
HPIG		**5.48**	**27**	*e*P	Pn	12 16 02.5	-5.4
HPIG				*i* S	**Sn**	**12 17 05.2**	**-4.8**
626A	**Big Bend Ranch**	**8.41**	**27**	⇓P	**Pn**	**12 16 47.4**	**-0.7**
	baz=8.6,SNR=31						
TXAR	**Lajitas Array**	**8.43**	**30**	Pn	**Pn**	**12 16 48.0**	**-0.4**
	1.7nm,0.3s,baz=207,slow=13,SNR=79						
TXAR	**Lajitas Array**	**8.43**	**30**	Pn	**Pn**	**12 16 48.0**	**-0.4**
627A	**Terlingua Ranc**	**8.66**	**31**	⇓P	**Pn**	**12 16 51.1**	**-0.4**
	baz=8.9,SNR=101						
526A	**Mary Lane Ranc**	**8.88**	**25**	⇓P	**Pn**	**12 16 54.0**	**-0.6**
	baz=9.1,SNR=27						
628A	**Black Gap, Mar**	**8.93**	**33**	⇑P	**Pn**	**12 16 55.2**	**0.0**
	baz=9.1,SNR=68						
527A	**Woodward Ranch**	**9.15**	**27**	⇓P	**Pn**	**12 16 57.6**	**-0.7**
	baz=9.3,SNR=59						
425A	**Indio Mountain**	**9.23**	**19**	⇑P	**Pn**	**12 16 59.1**	**-0.2**
	baz=9.4,SNR=89						
320A	**Kipp Ranch, An**	**9.24**	**360**	⇓P	**Pn**	**12 16 59.9**	**+0.4**
	baz=9.5,SNR=16						
319A	**Douglas**	**9.31**	**356**	⇑P	**Pn**	**12 17 01.3**	**+0.9**
	baz=9.5,SNR=15						
426A	**McDonald Obser**	**9.44**	**24**	⇑P	**Pn**	**12 17 01.6**	**-0.8**
	baz=9.7,SNR=109						
528A	**Cox Ranch, San**	**9.54**	**31**	⇑P	**Pn**	**12 17 04.9**	**+1.3**
	baz=9.7,SNR=29						
324A	**Moseley Ranch,**	**9.71**	**15**	⇑P	**Pn**	**12 17 05.6**	**-0.4**
	baz=9.9,SNR=36						
325A	**Bean Ranch, Si**	**9.78**	**18**	⇓P	**Pn**	**12 17 07.2**	**+0.2**
	baz=10.0,SNR=26						
529A	**Stev Forest Ra**	**9.79**	**34**	⇓P	**Pn**	**12 17 08.0**	**+1.1**
	baz=10.0,SNR=26						
220A	**Playas Peak, P**	**9.81**	**360**	⇑P	**Pn**	**12 17 08.2**	**+1.0**
	baz=10.0,SNR=58						
427A	**Hayter Ranch,**	**9.85**	**26**	⇑P	**Pn**	**12 17 07.6**	**-0.2**
	baz=10,SNR=27						
221A	**Mesquite Ranch**	**9.93**	**3**	⇑P	**Pn**	**12 17 09.8**	**+0.9**
	baz=10,SNR=5.2						
MNTX	**Cornudas Mount**	**9.98**	**15**	*e*Pn	**Pn**	**12 17 08.9**	**-0.7**
	75nm,1.5s						
MNTX	**Cornudas Mount**	**9.98**	**15**	⇓P	**Pn**	**12 17 08.9**	**-0.7**
	baz=10,SNR=36						
326A	**Caldwell Ranch**	**10.05**	**22**	⇑P	**Pn**	**12 17 10.0**	**-0.5**
	baz=10,SNR=47						
428A	**Kincaid Ranch,**	**10.06**	**30**	⇑P	**Pn**	**12 17 13.0**	**+2.3**
	baz=10,SNR=37						
222A	**Williams Famil**	**10.08**	**7**	⇓P	**Pn**	**12 17 11.6**	**+0.6**
	baz=10,SNR=16						
732A	**Laxson Ranch,**	**10.14**	**47**	⇓P	**Pn**	**12 17 10.5**	**-1.2**
	baz=10						
631A	**Perdido Creek**	**10.19**	**42**	⇓P	**Pn**	**12 17 12.2**	**-0.3**
	baz=10,SNR=11						
530A	**J-C Ranch, Com**	**10.28**	**37**	⇑P	**Pn**	**12 17 14.6**	**+0.9**
	baz=10						
224A	**Cornudas Mount**	**10.31**	**14**	⇑P	**Pn**	**12 17 13.8**	**-0.4**
	baz=10,SNR=35						
429A	**Davenport Ranc**	**10.36**	**33**	⇓P	**Pn**	**12 17 16.0**	**+1.3**
	baz=10,SNR=12						
TUC	**Tucson**	**10.42**	**349**	*e*Pn	**Pn**	**12 17 17.5**	**+1.9**
120A	**U Bar Ranch, L**	**10.45**	**359**	⇓P	**Pn**	**12 17 17.5**	**+1.4**
	baz=11,SNR=35						
121A	**Cookes Peak, D**	**10.45**	**3**	⇓P	**Pn**	**12 17 16.9**	**+0.8**
	baz=11,SNR=14						
225A	**Deer Hill, Car**	**10.52**	**17**	⇑P	**Pn**	**12 17 18.1**	**+1.0**
	baz=11,SNR=16						
328A	**Wristen Ranch,**	**10.56**	**27**	⇑P	**Pn**	**12 17 17.7**	**+0.1**
	baz=11,SNR=25						
214A	**Organ Pipe Nat**	**10.59**	**339**	⇓P	**Pn**	**12 17 18.8**	**+0.9**
	baz=11,SNR=19						
122A	**Conniff Cattle**	**10.68**	**7**	⇓P	**Pn**	**12 17 20.5**	**+1.3**
	baz=11,SNR=30						
123A	**Bell Site, Whi**	**10.71**	**10**	⇓P	**Pn**	**12 17 21.6**	**+2.0**
	baz=11,SNR=8.3						
GDL2	**Guadalupe Moun**	**10.73**	**19**	*e*Pn	**Pn**	**12 17 21.2**	**+1.2**
632A	**Uvalde**	**10.76**	**45**	⇑P	**Pn**	**12 17 20.1**	**-0.2**
	baz=11,SNR=13						
430A	**Baggett Ranch,**	**10.83**	**35**	⇑P	**Pn**	**12 17 22.7**	**+1.5**
	baz=11,SNR=20						
124A	**Stringfield Ra**	**10.93**	**13**	⇑P	**Pn**	**12 17 24.1**	**+1.4**
	baz=11,SNR=77						
CLNB	**Carlsbad**	**10.95**	**21**	*e*Pn	**Pn**	**12 17 25.0**	**+2.2**
Z20A	**Nine Sixteen R**	**11.01**	**359**	⇑P	**Pn**	**12 17 25.5**	**+1.7**
	baz=11,SNR=81						
329A	**Wagon Wheel Ra**	**11.02**	**30**	⇑P	**Pn**	**12 17 25.1**	**+1.3**
	baz=11,SNR=21						
125A	**Gardner Draw,**	**11.08**	**17**	⇓P	**Pn**	**12 17 26.9**	**+2.2**
	baz=11,SNR=37						
431A	**Sonora**	**11.09**	**38**	⇑P	**Pn**	**12 17 25.9**	**+1.0**
	baz=11,SNR=33						
532A	**Rocksprings**	**11.11**	**42**	⇓P	**Pn**	**12 17 25.7**	**+0.7**
	baz=11,SNR=12						
Z21A	**St. Cloud Mine**	**11.23**	**3**	⇑P	**Pn**	**12 17 27.8**	**+1.0**
	baz=12,SNR=100						
Z22A	**Elephant Butte**	**11.23**	**6**	⇓P	**Pn**	**12 17 27.7**	**+0.9**
	baz=12,SNR=133						
126A	**Clayton Basin,**	**11.25**	**20**	⇑P	**Pn**	**12 17 28.9**	**+1.9**
	baz=12,SNR=16						
228A	**UT Block 9, Go**	**11.29**	**26**	⇑P	**Pn**	**12 17 29.6**	**+2.1**
	baz=12,SNR=14						
Z23A	**Rita Site, Whi**	**11.33**	**10**	⇑P	**Pn**	**12 17 29.4**	**+1.3**
	baz=12						
JCT	**Junction City**	**11.42**	**41**	*e*Pn	**Pn**	**12 17 30.5**	**+1.3**
JCT	**Junction City**	**11.42**	**41**	⇑P	**Pn**	**12 17 30.4**	**+1.2**
	baz=12,SNR=16						
127A	**Arkansas Junct**	**11.50**	**22**	⇑P	**Pn**	**12 17 31.9**	**+1.4**
	baz=12,SNR=42						
229A	**Bryant Ranch,**	**11.50**	**30**	⇓P	**Pn**	**12 17 32.5**	**+2.0**
	baz=12,SNR=22						
Z24A	**Sheeppen Canyo**	**11.55**	**13**	⇑P	**Pn**	**12 17 32.5**	**+1.3**
	baz=12,SNR=32						
Z25A	**Roswell**	**11.65**	**16**	⇓P	**Pn**	**12 17 34.3**	**+1.7**
	baz=12,SNR=26						
CPRX	**Cap Rock**	**11.66**	**19**	*e*Pn	**Pn**	**12 17 34.8**	**+2.2**
	49nm,1.1s						
432A	**Menard**	**11.71**	**40**	⇓P	**Pn**	**12 17 34.8**	**+1.5**
	baz=12,SNR=35						
128A	**Castleberry Fa**	**11.78**	**25**	⇓P	**Pn**	**12 17 36.0**	**+1.8**
	baz=12,SNR=87						
Y20A	**Horse Springs,**	**11.80**	**0**	⇓P	**Pn**	**12 17 36.3**	**+1.6**
	baz=12,SNR=27						
Z26A	**Caprock**	**11.85**	**19**	⇓P	**Pn**	**12 17 36.8**	**+1.6**
	baz=12,SNR=40						
Y22A	**Socorro**	**11.90**	**6**	⇑P	**Pn**	**12 17 37.4**	**+1.4**
	baz=12,SNR=92						
Y21A	**Point of Rocks**	**11.92**	**3**	⇓P	**Pn**	**12 17 39.0**	**+2.6**
	baz=12,SNR=74						
Z14A	**Wintersburg**	**11.94**	**342**	⇓P	**Pn**	**12 17 38.1**	**+1.8**
	baz=12						
Y23A	**Lovelace Mesa,**	**12.01**	**10**	⇑P	**Pn**	**12 17 38.7**	**+1.2**
	baz=12,SNR=58						
129A	**Stewart Farms,**	**12.04**	**28**	⇓P	**Pn**	**12 17 39.7**	**+1.9**
	baz=12,SNR=44						
Y22D	**IRIS PASSCAL I**	**12.04**	**6**	⇓P	Pn	12 17 41.7	+3.8
	baz=12,SNR=19						
Y24A	**Capitan**	**12.12**	**12**	⇓P	**Pn**	**12 17 41.2**	**+2.2**
	baz=12,SNR=43						
LENM	**Lemitar**	**12.13**	**6**	*e*Pn	**Pn**	**12 17 42.0**	**+2.9**
Z27A	**Tatum**	**12.13**	**21**	⇓P	**Pn**	**12 17 40.1**	**+1.1**
	baz=12,SNR=277						
BNM	**Barren Site**	**12.15**	**7**	*e*Pn	**Pn**	**12 17 41.3**	**+1.8**
	116nm,1.3s						
Y25A	**Mesa, Roswell**	**12.27**	**15**	⇓P	**Pn**	**12 17 42.7**	**+1.7**
	baz=12,SNR=103						
LPM	**Los Pinos Moun**	**12.31**	**7**	*e*Pn	**Pn**	**12 17 44.5**	**+2.9**
LAZ	**Ladron**	**12.35**	**5**	*e*Pn	Pn	12 17 46.3	+4.2
	82nm,1.3s						
X21A	**Alamocita Cree**	**12.35**	**3**	⇑P	**Pn**	**12 17 44.7**	**+2.5**
	baz=13,SNR=30						
Z28A	**Tucker Farm, M**	**12.40**	**24**	⇓P	**Pn**	**12 17 43.7**	**+0.9**
	baz=13,SNR=145						
X20A	**Quemado**	**12.44**	**360**	⇓P	**Pn**	**12 17 46.3**	**+2.9**
	baz=13,SNR=34						
X22A	**Bernardo**	**12.46**	**6**	⇓P	Pn	12 17 47.7	+4.0
	baz=13,SNR=26						
X18A	**Snowflake**	**12.49**	**354**	⇓P	**Pn**	**12 17 46.9**	**+2.8**
	baz=13,SNR=32						
Y14A	**Wickenburg**	**12.50**	**342**	⇑P	**Pn**	**12 17 45.5**	**+1.6**
	baz=13,SNR=12						
Y26A	**Elida**	**12.50**	**18**	⇓P	**Pn**	**12 17 46.3**	**+2.1**
	baz=13,SNR=28						
X16A	**Lo Mia Camp, P**	**12.59**	**349**	⇑P	**Pn**	**12 17 47.8**	**+2.4**
	baz=13,SNR=22						
X23A	**Hourglass Bar**	**12.63**	**9**	⇓P	Pn	12 17 49.3	+3.3
	baz=13,SNR=7.5						
SWSC	**Sam W. Stewart**	**12.64**	**331**	⇑P	**Pn**	**12 17 46.3**	**+0.4**

	baz=13,SNR=5.8					
Z29A	**Hungry Hill Ra**	**12.65**	**27**	⇑P	**Pn**	**12 17 46.6 +0.5**
	baz=13,SNR=91					
Y27A	**Causey**	**12.67**	**20**	⇓P	**Pn**	**12 17 47.7 +1.3**
	baz=13,SNR=46					
X24A	**Lazy VL Ranch,**	**12.74**	**11**	⇓P	**Pn**	**12 17 50.4 +3.0**
	baz=13,SNR=12					
Y12C	**Blythe**	**12.82**	**337**	⇓P	**Pn**	**12 17 51.0 +2.7**
	baz=13,SNR=6.7					
BAR	**Barrett**	**12.85**	**327**	*e*Pn	**Pn**	**12 17 51.4 +2.6**
	4.9nm,1.0s					
X25A	**Clemmons Ranch**	**12.86**	**14**	⇑P	**Pn**	**12 17 51.6 +2.6**
	baz=13,SNR=8.6					
MSTX	**Muleshoe**	**12.88**	**22**	⇓P	**Pn**	**12 17 50.9 +1.7**
	baz=13,SNR=49					
ANMO	**Albuquerque**	**12.96**	**7**	Pn	**Pn**	**12 17 52.1 +1.7**
	0.1nm,0.3s,baz=198,slow=13,SNR=45					
ANMO	**Albuquerque**	**12.96**	**7**	*e*Pn	**Pn**	**12 17 52.6 +2.2**
Y28A	**McKinney Farm,**	**13.01**	**24**	⇑P	**Pn**	**12 17 51.6 +0.6**
	baz=13,SNR=63					
W20A	**Ramah**	**13.02**	**360**	⇓P	**Pn**	**12 17 53.8 +2.5**
	baz=13,SNR=29					
W22A	**Albuquerque**	**13.04**	**6**	⇑P	Pn	12 17 55.9 +4.4
	baz=13,SNR=8.8					
W18A	**Petrified Fore**	**13.06**	**355**	⇓P	**Pn**	**12 17 54.6 +2.8**
	baz=13,SNR=5.9					
X26A	**CR and CF Fran**	**13.10**	**17**	⇑P	**Pn**	**12 17 54.5 +2.2**
	baz=13,SNR=36					
BC3	**Big Chuckawall**	**13.10**	**333**	⇓P	**Pn**	**12 17 53.6 +1.3**
	baz=13,SNR=10					
ABTX	**Abilene, Hawle**	**13.11**	**35**	⇓P	**Pn**	**12 17 53.3 +1.0**
	baz=13,SNR=11					
Y29A	**Porterfield Fa**	**13.19**	**26**	⇑P	**Pn**	**12 17 53.8 +0.3**
	baz=13,SNR=34					
W23A	**Werner Place,**	**13.21**	**8**	⇑P	**Pn**	**12 17 56.2 +2.4**
	baz=13,SNR=94					
W24A	**Lazy 6 Ranch,**	**13.37**	**11**	⇓P	**Pn**	**12 17 58.8 +2.7**
	baz=14,SNR=27					
X27A	**F and S Farms,**	**13.39**	**19**	⇑P	**Pn**	**12 17 57.8 +1.5**
	baz=14,SNR=8.3					
IRM	**Iron Mountain**	**13.42**	**335**	⇑P	**Pn**	**12 17 57.8 +1.2**
	baz=14,SNR=6.2					
PFO	**Pinyon Flat Ob**	**13.50**	**330**	*e*Pn	**Pn**	**12 17 58.8 +1.0**
PFO	**Pinyon Flat Ob**	**13.50**	**330**	⇓P	**Pn**	**12 17 59.0 +1.2**
	baz=14,SNR=14					
W25A	**X Bar L Ranch,**	**13.57**	**14**	⇓P	**Pn**	**12 18 01.0 +2.3**
	baz=14,SNR=60					
X28A	**Dimmitt**	**13.57**	**23**	⇓P	**Pn**	**12 18 00.2 +1.4**
	baz=14,SNR=24					
W26A	**Owens Ranch, T**	**13.62**	**17**	⇓P	**Pn**	**12 18 00.9 +1.5**
	baz=14,SNR=33					
BELC	**Belle Mtn. Jos**	**13.63**	**332**	⇑P	**Pn**	**12 18 01.3 +1.8**
	baz=14,SNR=12					
WUAZ	**Wupatki**	**13.65**	**350**	*e*Pn	**Pn**	**12 18 02.5 +2.7**
	15nm,1.0s					
V20A	**Brimhall**	**13.69**	**360**	⇓P	**Pn**	**12 18 02.8 +2.4**
	baz=14,SNR=14					
X29A	**Tulia**	**13.69**	**24**	⇓P	**Pn**	**12 18 01.2 +0.9**
	baz=14,SNR=51					
CMIG	**Matias Romero**	**13.71**	**109**	Pn	**Pn**	**12 18 01.0 +0.5**
	3.0nm,0.3s,baz=282,slow=11,SNR=39					
CMIG				LR	LR	12 23 16.8
	comp=Z,3µm,19.1s,baz=240,slow=37					
CMIG	**Matias Romero**	**13.71**	**109**	Pn	**Pn**	**12 18 01.0 +0.5**
V21A	**Milan**	**13.71**	**3**	⇓P	Pn	12 18 03.9 +3.1
	baz=14,SNR=12					
V23A	**Ortiz Mt. (NFS**	**13.78**	**8**	⇓P	**Pn**	**12 18 04.4 +2.7**
	baz=14,SNR=18					
W27A	**Bowe Ranch, En**	**13.79**	**19**	⇑P	**Pn**	**12 18 02.9 +1.2**
	baz=14,SNR=24					
W13A	**Hualapai Mount**	**13.84**	**341**	⇓P	**Pn**	**12 18 03.9 +1.5**
	baz=14,SNR=12					
V22A	**San Miguel Ran**	**13.87**	**5**	⇓P	**Pn**	**12 18 05.4 +2.5**
	baz=14,SNR=18					
V24A	**Rampart Ranch,**	**13.90**	**11**	⇓P	Pn	12 18 06.5 +3.2
	baz=14,SNR=22					
SCI	**San Clemente I**	**14.08**	**323**	⇓P	**Pn**	**12 18 04.7 -0.9**
	baz=14					
AMTX	**Amarillo**	**14.09**	**23**	*e*Pn	**Pn**	**12 18 06.5 +0.7**
AMTX	**Amarillo**	**14.09**	**23**	⇓P	**Pn**	**12 18 06.7 +0.9**
	baz=14,SNR=38					
V25A	**Rancho No Teng**	**14.13**	**13**	⇓P	**Pn**	**12 18 09.3 +2.9**
	baz=14,SNR=104					
U19A	**Dine' College,**	**14.20**	**358**	⇑P	**Pn**	**12 18 09.4 +2.0**
	baz=14,SNR=20					
LDFC	**Landfair**	**14.22**	**337**	*e*Pn	**Pn**	**12 18 08.4 +0.8**
W28A	**Vega**	**14.24**	**21**	⇑P	**Pn**	**12 18 09.0 +1.1**
	baz=14,SNR=13					
BBRC	**Big Bear Solar**	**14.26**	**330**	⇓P	**Pn**	**12 18 09.8 +1.6**
	baz=14					
U20A	**Newcomb**	**14.27**	**360**	⇓P	**Pn**	**12 18 10.9 +2.7**
	baz=14,SNR=7.2					
V26A	**Tequesquite Ra**	**14.28**	**16**	⇓P	**Pn**	**12 18 09.8 +1.4**
	baz=14,SNR=89					
W29A	**Amraillo**	**14.31**	**23**	⇓P	**Pn**	**12 18 09.3 +0.5**
	baz=14,SNR=27					
U21A	**Nageezi**	**14.33**	**3**	⇑P	**Pn**	**12 18 12.1 +2.8**
	baz=15,SNR=33					
U22A	**Llaves**	**14.34**	**5**	⇑P	**Pn**	**12 18 11.9 +2.7**
	baz=15,SNR=26					
U23A	**El Rito**	**14.35**	**7**	⇑P	**Pn**	**12 18 12.5 +2.9**
	baz=15,SNR=54					
HEC	**Hector,Ludlow**	**14.48**	**333**	⇓P	**Pn**	**12 18 11.9 +0.8**
	baz=15,SNR=6.1					
U24A	**Moreno Valley**	**14.56**	**10**	⇓P	Pn	12 18 15.5 +3.1
	baz=15,SNR=28					
V28A	**Channing**	**14.68**	**20**	⇑P	**Pn**	**12 18 15.2 +1.3**
	baz=15,SNR=13					
U15A	**North Rim**	**14.70**	**348**	⇓P	**Pn**	**12 18 16.6 +2.3**
	baz=15,SNR=14					
U25A	**Circle Dot Ran**	**14.72**	**13**	⇑P	**Pn**	**12 18 17.0 +2.6**
	baz=15,SNR=126					
T19A	**Beclabito**	**14.73**	**358**	⇓P	**Pn**	**12 18 17.1 +2.5**
	baz=15,SNR=17					
MWC	**Mount Wilson**	**14.78**	**327**	*e*Pn	**Pn**	**12 18 15.8 +0.6**
PASC	**Pasadena Art C**	**14.80**	**327**	*e*P	**Pn**	**12 18 15.3 0.0**
	17nm,1.2s					
RRX	**Edison Barstow**	**14.81**	**331**	⇓P	**Pn**	**12 18 17.4 +1.9**
	baz=15					
TUQ	**Turquoise Moun**	**14.84**	**336**	⇑P	**Pn**	**12 18 17.3 +1.3**
	baz=15,SNR=12					
U26A	**Atchley Ranch,**	**14.86**	**15**	⇓P	**Pn**	**12 18 18.1 +1.8**
	baz=15,SNR=87					
T21A	**Navajo Lake**	**14.90**	**3**	⇓P	**Pn**	**12 18 19.5 +2.5**
	baz=15,SNR=17					
T22A	**Edith**	**14.96**	**5**	⇑P	**Pn**	**12 18 20.2 +2.4**
	baz=15,SNR=23					
T17A	**Navajo Res., N**	**15.03**	**353**	⇑P	**Pn**	**12 18 20.3 +1.8**
	baz=15,SNR=25					
V29A	**Stinnett**	**15.03**	**22**	⇓P	**Pn**	**12 18 19.3 +0.8**
	baz=15,SNR=6.4					
T23A	**Casias Ranch,**	**15.07**	**7**	⇑P	**P**	**12 18 22.7 -1.5**
	baz=15,SNR=24					
T18A	**Mexican Hat**	**15.07**	**356**	⇓P	**Pn**	**12 18 20.8 +1.6**
	baz=15,SNR=24					
RFTA	**Plano**	**15.08**	**41**	*e*P	**Pn**	**12 18 19.4 +0.3**
GSC	**Goldstone**	**15.08**	**333**	*e*P	**Pn**	**12 18 19.9 +0.7**
	61nm,1.6s					
GSC	**Goldstone**	**15.08**	**333**	⇑P	**Pn**	**12 18 19.8 +0.6**
	baz=15,SNR=19					
MVCO	**Mesa Verde**	**15.10**	**360**	*e*P	**Pn**	**12 18 20.8 +1.3**
	58nm,1.2s					
MVCO	**Mesa Verde**	**15.10**	**360**	⇑P	**Pn**	**12 18 21.0 +1.5**
	baz=15,SNR=25					
WMOK	**Wichita Mounta**	**15.22**	**32**	*e*P	**Pn**	**12 18 19.7 -1.2**
	78nm,1.3s					
T24A	**Torres, Weston**	**15.25**	**10**	⇓P	**Pn**	**12 18 24.1 +2.5**
	baz=16,SNR=29					
EDW2	**Edwards Air Fo**	**15.27**	**329**	⇑P	**Pn**	**12 18 21.4 -0.2**
	baz=15,SNR=9.3					
SHOC	**Shoshone**	**15.39**	**335**	⇓P	**Pn**	**12 18 24.2 +1.0**
	baz=16,SNR=9.9					
OSI	**Osito Adit**	**15.42**	**326**	*e*P	**Pn**	**12 18 23.7 +0.1**
	24nm,1.1s					
OSI	**Osito Adit**	**15.42**	**326**	⇑P	**Pn**	**12 18 23.9 +0.3**
	baz=16,SNR=8.7					
T25A	**Trinidad**	**15.43**	**12**	⇑P	**Pn**	**12 18 26.1 +2.3**
	baz=16,SNR=24					
S21A	**Coal Bank Pass**	**15.56**	**2**	⇑P	**Pn**	**12 18 27.5 +1.9**
	baz=16,SNR=59					
LRMC	**Laurel Mountai**	**15.62**	**331**	⇑P	**Pn**	**12 18 26.5 +0.3**
	baz=16,SNR=33					
S18A	**Hurst Farm, Bl**	**15.63**	**355**	⇓P	**Pn**	**12 18 28.2 +1.6**
	baz=16,SNR=31					
T26A	**Comanche Natio**	**15.64**	**15**	⇑P	**Pn**	**12 18 28.8 +2.3**
	baz=16,SNR=90					
S19A	**Harvey Farm, M**	**15.64**	**358**	⇓P	**Pn**	**12 18 28.2 +1.5**
	baz=16,SNR=50					

S17A	**Black Ridge (B**	**15.65**	**353**	⇑P	**P**	**12 18 29.1 -1.4**
	baz=16,SNR=29					
S22A	**4UR Ranch, Cre**	**15.70**	**5**	⇑P	**P**	**12 18 29.9 -1.3**
	baz=16,SNR=20					
S20A	**Disappointment**	**15.72**	**0**	⇓P	**Pn**	**12 18 29.2 +1.5**
	baz=16,SNR=24					
S23A	**Nye Farm, Mont**	**15.74**	**7**	⇓P	**P**	**12 18 31.8 +0.2**
	baz=16,SNR=19					
T27A	**Campo**	**15.75**	**17**	⇑P	**Pn**	**12 18 29.3 +1.4**
	baz=16,SNR=17					
S24A	**Houchin Ranch,**	**15.78**	**9**	⇓P	**P**	**12 18 31.2 -0.9**
	baz=16,SNR=24					
SBC	**Santa Barbara**	**15.81**	**324**	⇓P	**Pn**	**12 18 28.8 +0.2**
	baz=16					
S16A	**Weppner Ranch,**	**15.84**	**351**	⇓P	**Pn**	**12 18 31.1 +1.9**
	baz=16,SNR=9.6					
ARVC	**Arvin**	**15.88**	**327**	⇑P	**Pn**	**12 18 29.7 +0.2**
	baz=16,SNR=8.2					
S25A	**Robets Cordova**	**15.93**	**12**	⇓P	**P**	**12 18 32.5 -1.1**
	baz=16,SNR=51					
T28A	**Walsh**	**15.98**	**19**	⇑P	**P**	**12 18 32.9 -1.2**
	baz=16,SNR=24					
CCUT	**Cedar City**	**16.01**	**346**	*e*P	**P**	**12 18 34.3 -0.3**
	48nm,1.6s					
MPMC	**Manual Prospec**	**16.02**	**333**	⇓P	**Pn**	**12 18 32.1 +0.6**
	baz=16,SNR=21					
PV01	**Paradox Valley**	**16.02**	**360**	*e*P	**Pn**	**12 18 33.4 +1.8**
	3µm,1.4s					
R20A	**Redvale**	**16.08**	**0**	⇓P	**Pn**	**12 18 34.0 +1.8**
	baz=16,SNR=14					
S26A	**Kim**	**16.09**	**14**	⇓P	**Pn**	**12 18 34.2 +1.8**
	baz=16,SNR=35					
FURC	**Furnace Creek,**	**16.11**	**335**	⇑P	**Pn**	**12 18 32.5 +0.1**
	baz=16,SNR=18					
ISA	**Isabella**	**16.13**	**329**	*e*P	**Pn**	**12 18 32.5 -0.3**
	17nm,1.1s					
ISA	**Isabella**	**16.13**	**329**	⇑P	**Pn**	**12 18 32.6 -0.2**
	baz=16,SNR=7.6					
R22A	**Saguache, Gunn**	**16.18**	**5**	⇓P	**P**	**12 18 36.3 -0.3**
	baz=16,SNR=22					
R19A	**Curley Farm, L**	**16.19**	**358**	⇓P	**Pn**	**12 18 35.1 +1.4**
	baz=16,SNR=16					
R23A	**Moffat**	**16.23**	**7**	⇑P	**P**	**12 18 37.6 +0.4**
	baz=16,SNR=35					
ARUT	**Antelope Range**	**16.25**	**346**	*e*P	**Pn**	**12 18 35.6 +1.1**
	35nm,1.3s					
PV10	**Paradox Valley**	**16.27**	**358**	*e*P	**Pn**	**12 18 35.0 +0.3**
	840nm,1.2s					
R21A	**Cimarron**	**16.27**	**3**	⇑P	**P**	**12 18 36.7 -0.8**
	baz=16,SNR=34					
PV04	**Paradox Valley**	**16.28**	**359**	*e*P	**Pn**	**12 18 36.2 +1.4**
R18A	**Canyonlands Na**	**16.32**	**356**	⇑P	**Pn**	**12 18 36.9 +1.6**
	baz=17,SNR=28					
R24A	**Sanders Place,**	**16.37**	**9**	⇑P	**P**	**12 18 38.2 -0.4**
	baz=17,SNR=29					
R16A	**Teasdale**	**16.38**	**352**	⇓P	**Pn**	**12 18 37.2 +1.1**
	baz=17,SNR=20					
R17A	**Hanksville Air**	**16.42**	**354**	⇓P	**P**	**12 18 38.5 -0.5**
	baz=17,SNR=28					
R15A	**Junction**	**16.43**	**349**	⇑P	**P**	**12 18 39.4 +0.2**
	baz=17					
R25A	**Fountain Ranch**	**16.43**	**12**	⇓P	**P**	**12 18 39.3 +0.1**
	baz=17,SNR=21					
VES	**Vestal, Richgr**	**16.57**	**328**	⇓P	**P**	**12 18 42.9 +2.4**
	baz=17,SNR=7.4					
SMMC	**Simmler**	**16.62**	**325**	⇑P	**Pn**	**12 18 39.3 +0.3**
	baz=17					
MSU	**Marysvale**	**16.71**	**350**	*e*P	**P**	**12 18 42.2 -0.1**
Q21A	**Lamborn Mesa,**	**16.74**	**2**	⇓P	**P**	**12 18 43.6 +1.0**
	baz=17,SNR=18					
R26A	**Arlington**	**16.75**	**14**	⇑P	**P**	**12 18 42.8 +0.1**
	baz=17,SNR=32					
R13A	**O'Grain Ranch,**	**16.75**	**345**	⇓P	**P**	**12 18 43.4 +0.6**
	baz=17,SNR=15					
GRAC	**Grapevine Rang**	**16.77**	**335**	⇓P	**Pn**	**12 18 41.9 +1.0**
	baz=17,SNR=14					
Q22A	**Crested Butte,**	**16.80**	**4**	⇓P	**P**	**12 18 43.0 -0.4**
	baz=17,SNR=11					
Q20A	**Ridgley Place,**	**16.84**	**0**	⇑P	**P**	**12 18 43.7 -0.1**
	baz=17,SNR=8.1					
Q19A	**Hogan Spring (**	**16.86**	**358**	⇓P	**P**	**12 18 43.5 -0.4**
	baz=17,SNR=33					
R27A	**Eads**	**16.89**	**15**	⇑P	**P**	**12 18 43.9 -0.3**
	baz=17,SNR=51					
Q16A	**Castle Valley**	**16.96**	**353**	⇑P	**P**	**12 18 45.7 +0.6**
	baz=17,SNR=13					
RCTC	**Rector, Farmer**	**17.02**	**329**	⇑P	**Pn**	**12 18 44.7 +0.8**
	baz=17,SNR=8.6					
Q18A	**Rafter H Ranch**	**17.05**	**356**	⇓P	**Pn**	**12 18 45.6 +1.1**
	baz=17,SNR=16					
SRU	**San Rafael**	**17.09**	**355**	*e*P	**P**	**12 18 46.2 -0.3**
	35nm,1.2s					
SRU	**San Rafael**	**17.09**	**355**	⇓P	**P**	**12 18 46.5 0.0**
	baz=17,SNR=19					
SMCO	**Snowmass**	**17.11**	**4**	*e*P	**P**	**12 18 48.1 +1.2**
	37nm,1.1s					
Q25A	**Bedland, Calha**	**17.18**	**11**	⇓P	**P**	**12 18 48.1 +0.6**
	baz=17,SNR=16					
Q26A	**Hugo**	**17.33**	**13**	⇑P	**P**	**12 18 50.4 +1.2**
	baz=18,SNR=12					
TMUT	**Trail Mountain**	**17.34**	**353**	*e*P	**P**	**12 18 50.7 +1.3**
	97nm,2.1s					
R11A	**Troy Canyon, C**	**17.36**	**341**	⇑P	**P**	**12 18 49.6 +0.2**
	baz=18,SNR=7.9					
P20A	**De Beque**	**17.39**	**0**	⇑P	**P**	**12 18 50.4 +0.6**
	baz=18,SNR=13					
P23A	**Jefferson**	**17.40**	**7**	⇑P	**P**	**12 18 51.7 +1.6**
	baz=18,SNR=10					
P21A	**Newcastle**	**17.43**	**3**	⇓P	**P**	**12 18 52.1 +1.8**
	baz=18,SNR=26					
P17A	**Butcher Ranch,**	**17.47**	**354**	⇓P	**P**	**12 18 51.3 +0.6**
	baz=18,SNR=12					
P19A	**Cripple Cowboy**	**17.52**	**359**	⇑P	**P**	**12 18 51.9 +0.6**
	baz=18					
P22A	**Eagle**	**17.54**	**4**	⇑P	**P**	**12 18 53.0 +1.5**
	baz=18,SNR=14					
MTUM	**Tungsten Hills**	**17.57**	**332**	*e*Pn	**P**	**12 18 52.6 +0.8**
P18A	**Preston Nutter**	**17.58**	**355**	⇑P	**P**	**12 18 52.9 +0.9**
	baz=18					
KSCO	**Kaye Shedlock'**	**17.62**	**15**	⇑P	**P**	**12 18 53.5 +1.2**
	baz=18,SNR=28					
TUL1	**Tulsa**	**17.67**	**36**	⇓P	**Pn**	**12 18 51.7 -0.3**
	baz=18,SNR=10.0					
P16A	**Fountain Green**	**17.71**	**352**	⇓P	**P**	**12 18 55.3 +2.0**
	baz=18,SNR=9.3					
P15A	**Leamington**	**17.76**	**350**	⇓P	**P**	**12 18 55.8 +1.9**
	baz=18,SNR=6.4					
P25A	**Willow Gulch B**	**17.78**	**11**	⇓P	**P**	**12 18 54.8 +0.7**
	baz=18,SNR=12					
ISCO	**Idaho Springs**	**17.85**	**7**	*e*P	**P**	**12 18 57.0 +2.0**
	33nm,1.3s					
ISCO	**Idaho Springs**	**17.85**	**7**	⇓P	**P**	**12 18 56.9 +1.9**
	baz=18,SNR=14					
MLAC	**Mammoth Lakes**	**17.92**	**332**	⇑P	**P**	**12 18 56.8 +1.1**
	baz=18,SNR=5.6					
P26A	**Davis Ranch, A**	**17.98**	**13**	⇑P	**P**	**12 18 57.5 +1.2**
	baz=18,SNR=8.5					
MIAR	**Mount Ida**	**18.04**	**43**	*e*P	**Pn**	**12 18 55.5 -1.0**
	35nm,1.3s					
MPU	**Maple Canyon**	**18.10**	**352**	*e*P	**P**	**12 18 59.3 +1.6**
	15nm,1.1s					
O22A	**Kremmling**	**18.12**	**5**	⇓P	**P**	**12 18 59.6 +1.6**
	baz=18,SNR=7.7					
P27A	**Ficken Ranch,**	**18.15**	**15**	⇓P	**P**	**12 19 00.3 +2.2**
	baz=18,SNR=9.1					
O17A	**Robinson Place**	**18.18**	**354**	⇓P	**P**	**12 19 00.2 +1.6**
	baz=18,SNR=12					
O19A	**Miners Draw (B**	**18.19**	**358**	⇑P	**P**	**12 19 00.6 +1.9**
	baz=18,SNR=9.9					
O18A	**Roosevelt**	**18.20**	**356**	⇓P	**Pn**	**12 19 00.5 +1.9**
	baz=18,SNR=14					
O23A	**Lake Granby, G**	**18.22**	**6**	⇓P	**Pn**	**12 19 00.4 +1.3**
	baz=18,SNR=11					
O24A	**Longmont**	**18.23**	**8**	⇓P	**Pn**	**12 19 01.6 +2.5**
	baz=18,SNR=5.7					
O25A	**Wiggins**	**18.37**	**11**	⇑P	**Pn**	**12 19 02.3 +1.6**
	baz=19,SNR=9.8					
NVAR	**Mina Array Bea**	**18.38**	**335**	P	**Pn**	**12 19 01.9 +0.9**
	0.2nm,0.3s,baz=155,slow=11,SNR=46					
NVAR				LR	LR	12 26 45.8
	comp=Z,2µm,18.2s,baz=210,slow=40					
NVAR	**Mina Array Bea**	**18.38**	**335**	P	**Pn**	**12 19 01.9 +0.9**
DAU	**Daniels Canyon**	**18.45**	**353**	*e*P	**Pn**	**12 19 03.9 +2.0**
DUG	**Dugway**	**18.45**	**349**	*e*P	**Pn**	**12 19 03.2 +1.4**
	32nm,1.2s					
DUG	**Dugway**	**18.45**	**349**	⇑P	**Pn**	**12 19 03.3 +1.5**
	baz=19,SNR=25					
O15A	**The Old Anders**	**18.48**	**350**	⇓P	**Pn**	**12 19 03.9 +1.8**

	baz=19					
SAO	**San Andreas Ge**	**18.49**	**325**	*e*P	**P**	**12 19 01.8 +0.1**
	6.1nm,1.1s					
O26A	**Horse Wrangler**	**18.64**	**12**	⇑P	**Pn**	**12 19 05.6 +1.6**
	baz=19					
JLU	**Jordanelle**	**18.66**	**353**	*e*P	**Pn**	**12 19 07.3 +3.0**
	60nm,1.8s					
N21A	**Black Mountain**	**18.66**	**2**	⇑P	**Pn**	**12 19 05.6 +1.3**
	baz=19,SNR=9.8					
N20A	**Spence Gulch,**	**18.72**	**0**	⇓P	**Pn**	**12 19 06.1 +1.1**
	baz=19,SNR=19					
N22A	**Wattenberg Ran**	**18.76**	**5**	⇓P	**Pn**	**12 19 06.8 +1.2**
	baz=19,SNR=8.2					
O27A	**Beecher Island**	**18.77**	**14**	⇑P	**Pn**	**12 19 06.8 +1.2**
	baz=19					
N19A	**John Jarvie Ra**	**18.79**	**358**	⇓P	**Pn**	**12 19 07.5 +1.7**
	baz=19					
N18A	**Larsen Ranch,**	**18.89**	**357**	⇑P	**Pn**	**12 19 07.8 +0.8**
	baz=19,SNR=13					
N23A	**Red Feather La**	**18.90**	**6**	⇑P	**Pn**	**12 19 08.9 +1.6**
	baz=19,SNR=6.6					
TEIG	**Tepich**	**18.91**	**92**	P	**Pn**	**12 19 07.3 +0.1**
	0.4nm,0.3s,baz=278,slow=16,SNR=5.4					
TEIG				LR	LR	12 28 01.4
	comp=Z,618nm,18.6s,baz=206,slow=42					
TEIG	**Tepich**	**18.91**	**92**	*e*P	**P**	**12 19 06.3 -0.2**
	64nm,1.3s					
N17A	**Moffit Pass**	**18.93**	**354**	⇓P	**Pn**	**12 19 09.4 +1.8**
	baz=19,SNR=10.0					
N16A	**Rees Ranch, Co**	**18.94**	**353**	⇑P	**Pn**	**12 19 09.2 +1.5**
	baz=19,SNR=7.7					
CMB	**Columbia Colle**	**18.95**	**330**	*e*P	**Pn**	**12 19 07.9 +0.2**
	8.5nm,1.1s					
N24A	**Carr**	**18.95**	**8**	⇑P	**Pn**	**12 19 10.9 +3.1**
	baz=19					
UALR	**University of**	**18.97**	**45**	*e*P	**Pn**	**12 19 08.6 +0.7**
	53nm,1.2s					
N15A	**Stansbury Isla**	**19.09**	**351**	⇑P	**Pn**	**12 19 11.6 +2.2**
	baz=19,SNR=8.0					
M22A	**Cedar Creek Ra**	**19.35**	**4**	⇑P	**Pn**	**12 19 13.0 +0.3**
	baz=20,SNR=8.7					
N27A	**Anderson Farm,**	**19.35**	**14**	⇓P	**Pn**	**12 19 12.7 +0.2**
	baz=20					
PHWY	**Pilot Hill**	**19.35**	**7**	*e*P	**Pn**	**12 19 13.1 +0.3**
	36nm,1.4s					
M18A	**Lyman**	**19.36**	**356**	⇓P	**Pn**	**12 19 12.7 -0.1**
	baz=20					
M20A	**Sweetwater, Wa**	**19.38**	**1**	⇑P	**Pn**	**12 19 13.3 +0.4**
	baz=20					
M16A	**Huntsville**	**19.38**	**353**	⇓P	**Pn**	**12 19 13.3 +0.3**
	baz=20					
M17A	**Scullys Gap (B**	**19.45**	**355**	⇑P	**Pn**	**12 19 13.9 +0.1**
	baz=20					
ELK	**Elko**	**19.50**	**344**	*e*P	**P**	**12 19 13.5 +0.5**
M21A	**Separation Pea**	**19.51**	**2**	⇓P	**Pn**	**12 19 14.5 -0.1**
	baz=20,SNR=6.9					
M24A	**Cheyenne**	**19.59**	**8**	⇓P	**Pn**	**12 19 17.4 +2.0**
	baz=20,SNR=9.3					
OGNE	**Ogallala**	**19.59**	**15**	*e*P	**Pn**	**12 19 16.9 +1.4**
	94nm,1.4s					
OGNE	**Ogallala**	**19.59**	**15**	⇑P	**Pn**	**12 19 16.5 +1.1**
	baz=20,SNR=6.9					
RWWY	**Rawlins**	**19.60**	**3**	*e*P	**Pn**	**12 19 16.4 +0.7**
	47nm,1.4s					
M15A	**Larsen Ranch,**	**19.64**	**351**	⇑P	**P**	**12 19 15.3 +0.9**
	baz=20					
HWUT	**Hardware Ranch**	**19.66**	**353**	*e*P	**Pn**	**12 19 16.7 +0.4**
	47nm,1.1s					
BMN	**Battle Mountai**	**19.77**	**340**	*e*P	**Pn**	**12 19 17.8 +0.2**
	26nm,1.2s					
KSU1	**Kansas State U**	**19.78**	**28**	*e*P	**Pn**	**12 19 17.6 +0.1**
	115nm,1.2s					
L18A	**Fontenelle, Gr**	**19.85**	**357**	⇑P	**P**	**12 19 17.4 +0.5**
	baz=20,SNR=14					
L21A	**Rawlins**	**19.87**	**2**	⇑P	**P**	**12 19 17.6 +0.6**
	baz=20,SNR=6.4					
L20A	**Wamsutter**	**19.89**	**0**	⇑P	**Pn**	**12 19 19.5 +0.5**
	baz=20,SNR=8.1					
L22A	**Ellis Ranch, M**	**19.98**	**4**	⇑P	**P**	**12 19 19.6 +1.2**
	baz=20,SNR=7.3					
HVU	**Hansel Valley**	**20.00**	**351**	*e*P	Pn	12 19 20.5 +0.2
	105nm,1.8s					
L19A	**Farson**	**20.00**	**358**	⇑P	Pn	12 19 19.8 -0.6
	baz=20					
L16A	**Fish Haven**	**20.05**	**354**	⇑P	**P**	**12 19 20.2 +1.1**
	baz=20,SNR=27					
L17A	**Cokeville**	**20.09**	**355**	⇓P	**P**	**12 19 19.9 +0.5**
	baz=20,SNR=5.8					
L15A	**Malad City**	**20.16**	**351**	⇓P	Pn	12 19 21.9 -0.3
	baz=20					
OHCM	**Honcut**	**20.50**	**330**	*e*Pn	Pn	12 19 26.4 +0.4
K20A	**Yellowstone Ra**	**20.54**	**0**	⇑P	**P**	**12 19 24.8 +0.5**
	baz=21,SNR=26					
K21A	**Alcova**	**20.54**	**3**	⇓P	**P**	**12 19 24.5 +0.2**
	baz=21,SNR=12					
HBAR	**Harrisburg**	**20.54**	**45**	*e*P	Pn	12 19 26.3 -0.3
K18A	**Toltan Ranch,**	**20.56**	**357**	⇑P	**P**	**12 19 24.9 +0.3**
	baz=21,SNR=29					
K22A	**Casper**	**20.60**	**4**	⇓P	**P**	**12 19 25.7 +0.8**
	baz=21,SNR=13					
BW06	**Boulder Array**	**20.67**	**358**	*e*P	**P**	**12 19 24.9 -0.9**
	24nm,1.3s					
BW06	**Boulder Array**	**20.67**	**358**	⇓P	**P**	**12 19 25.1 -0.7**
	baz=21,SNR=12					
K19A	**Absolon Red Bu**	**20.71**	**359**	⇓P	**P**	**12 19 26.5 +0.4**
	baz=21					
K17A	**Gardner Place,**	**20.73**	**355**	⇓P	**P**	**12 19 26.9 +0.4**
	baz=21,SNR=7.0					
AHID	**Auburn Hatcher**	**20.77**	**354**	*e*P	**P**	**12 19 27.4 +0.7**
	17nm,1.0s					
K14A	**Jones Ranch, D**	**20.81**	**350**	⇑P	**P**	**12 19 28.4 +1.3**
	baz=21,SNR=12					
OXF	**Oxford**	**20.82**	**49**	*e*P	**P**	**12 19 28.3 +1.2**
	38nm,1.0s					
K15A	**Arbon**	**20.85**	**352**	⇓P	**P**	**12 19 28.9 +1.3**
	baz=21,SNR=14					
K16A	**Soda Springs**	**20.88**	**354**	⇑P	**P**	**12 19 29.0 +1.0**
	baz=21					
J18A	**Kendall Valley**	**21.13**	**357**	⇓P	**P**	**12 19 30.9 +0.1**
	baz=21,SNR=13					
J19A	**Crowheart**	**21.15**	**359**	⇓P	**P**	**12 19 30.8 -0.2**
	baz=21,SNR=14					
BGNE	**Belgrade**	**21.16**	**22**	⇓P	**P**	**12 19 31.4 +0.6**
	baz=21,SNR=11					
K27A	**Flueckinger Fa**	**21.23**	**13**	⇑P	**P**	**12 19 32.7 +1.0**
	baz=22,SNR=28					
J20A	**Shoshoni**	**21.24**	**1**	⇓P	**P**	**12 19 32.3 +0.5**
	baz=22,SNR=14					
J21A	**Lysite**	**21.24**	**2**	⇓P	**P**	**12 19 32.3 +0.3**
	baz=22,SNR=8.5					
J16A	**Bone**	**21.32**	**354**	⇓P	**P**	**12 19 34.1 +1.3**
	baz=22,SNR=20					
J17A	**Brown Place, J**	**21.33**	**355**	⇑P	**P**	**12 19 33.4 +0.6**
	baz=22					
REDW	**Red Top Meadow**	**21.34**	**355**	*e*P	**P**	**12 19 34.6 +1.7**
	35nm,1.3s					
J22A	**Midwest**	**21.36**	**4**	⇓P	**P**	**12 19 33.1 +0.1**
	baz=22,SNR=8.0					
RRI2	**Red Ridge**	**21.36**	**354**	*e*P	**P**	**12 19 34.6 +1.4**
	41nm,1.3s					
SNOW	**Snow King Moun**	**21.43**	**355**	*e*P	**P**	**12 19 35.2 +1.3**
	97nm,1.8s					
TPAW	**Teton Pass**	**21.47**	**355**	*e*P	**P**	**12 19 35.8 +1.3**
	75nm,1.6s					
J15A	**Blackfoot**	**21.54**	**352**	⇑P	**P**	**12 19 36.4 +1.4**
	baz=22,SNR=15					
LOHW	**Long Hollow**	**21.57**	**356**	*e*P	**P**	**12 19 36.1 +0.7**
	22nm,1.0s					
DCID1	**Drake Creek**	**21.60**	**355**	*e*P	**P**	**12 19 37.4 +1.7**
	70nm,1.3s					
I18A	**Diamond G Ranc**	**21.61**	**357**	⇓P	**P**	**12 19 36.6 +0.6**
	baz=22,SNR=29					
J14A	**Carey**	**21.62**	**350**	⇑P	**P**	**12 19 37.0 +1.1**
	baz=22					
MOOW	**Moose Ponds**	**21.71**	**356**	*e*P	**P**	**12 19 38.1 +1.1**
	83nm,1.8s					
I21A	**Big Trails, Te**	**21.71**	**2**	⇓P	**P**	**12 19 37.1 +0.2**
	baz=22,SNR=13					
J13A	**Cove Ranch, Pi**	**21.80**	**349**	⇓P	**P**	**12 19 38.9 +1.0**
	baz=22,SNR=9.2					
I20A	**Worland**	**21.83**	**1**	⇓P	**P**	**12 19 39.7 +1.6**
	baz=22,SNR=21					
I22A	**9 Mile Ranch,**	**21.84**	**4**	⇑P	**P**	**12 19 39.5 +1.3**
	baz=22					
I17A	**Pilgrim Ck.**	**21.87**	**356**	⇓P	**P**	**12 19 40.0 +1.3**
	baz=22,SNR=16					
IMW	**Indian Meadow**	**21.88**	**355**	*e*P	**P**	**12 19 39.9 +1.1**
	43nm,1.4s					

LRAL **Lakeview Retre** 21.90 55 *e*P P 12 19 39.7 +0.9
105nm,2.3s
I16A **Newdale** 21.90 354 ⇓P P 12 19 40.2 +1.3
baz=22,SNR=16
I19A **Meeteetse** 21.92 359 ⇑P P 12 19 40.2 +1.1
baz=22,SNR=9.4
HLID **Hailey** 22.01 348 *e*P P 12 19 41.8 +1.7
19nm,1.1s
HLID **Hailey** 22.01 348 ⇓P P 12 19 41.6 +1.5
baz=22,SNR=22
WVOR **Wild Horse Val** 22.03 340 *e*P P 12 19 41.2 +0.9
46nm,1.1s
FLWY **Flagg Ranch** 22.04 356 *e*P P 12 19 42.4 +1.8
28nm,1.1s
I15A **Monteview** 22.14 352 ⇑P P 12 19 43.0 +1.6
baz=22,SNR=20
MOD **Modoc** 22.15 336 *e*P P 12 19 43.3 +1.7
28nm,1.2s
MFID **Camas Ranch** 22.16 346 *e*P P 12 19 41.9 +0.2
13nm,1.1s
I14A **Mackay** 22.20 350 ⇓P P 12 19 45.0 +2.8
baz=22,SNR=21
I13A **Wildhorse Cree** 22.30 349 ⇑P P 12 19 45.9 +2.6
baz=22,SNR=61
RSSD **Black Hills** 22.30 8 *e*P P 12 19 43.8 +0.5
12nm,1.2s
H17A **Grant Village** 22.34 356 ⇑P P 12 19 45.9 +2.1
baz=23,SNR=15
H20A **Greybull** 22.37 1 ⇑P P 12 19 44.3 +0.4
baz=23,SNR=21
I12A **Atlanta** 22.37 347 ⇑P P 12 19 45.5 +1.5
baz=23,SNR=29
YFT **Old Faithful** 22.42 356 *e*P P 12 19 47.4 +2.8
37nm,1.3s
LKWY **Lake** 22.50 356 *e*P P 12 19 48.3 +2.8
40nm,1.3s
H21A **Big Horn, Sher** 22.54 3 ⇑P P 12 19 46.5 +0.8
baz=23,SNR=6.4
H22A **Clearmont** 22.54 4 ⇓P P 12 19 45.8 0.0
baz=23,SNR=5.1
H19A **Powell** 22.56 359 ⇑P P 12 19 47.9 +1.9
baz=23,SNR=26
H18A **Shoshone NF, C** 22.58 358 ⇓P P 12 19 47.6 +1.4
baz=23,SNR=14
YMR **Madison River** 22.64 355 *e*P P 12 19 48.9 +1.9
38nm,1.3s
YNR **Norris Junctio** 22.67 356 *e*P P 12 19 49.4 +2.2
25nm,1.1s
H16A **Russell Place,** 22.70 355 ⇓P P 12 19 48.9 +1.4
baz=23,SNR=18
SLM **Saint Louis** 22.73 39 *e*P P 12 19 49.4 +1.7
65nm,1.1s
H15A **Lima** 22.76 352 ⇓P P 12 19 50.7 +2.5
baz=23,SNR=16
WVT **Waverly** 22.77 47 *e*P P 12 19 47.8 -0.2
25nm,1.3s
SIUC **Southern Illin** 22.77 42 *e*P P 12 19 47.5 -0.6
32nm,1.0s
QLMT **Earthquake Lak** 22.84 355 *e*P P 12 19 51.1 +2.0
H24A **Dirks Ranch, A** 22.86 7 ⇑P P 12 19 49.7 +0.7
baz=23,SNR=14
H14A **Leadore** 22.86 351 ⇑P P 12 19 50.9 +1.7
baz=23,SNR=8.7
H13A **Challis** 22.95 349 ⇑P P 12 19 51.2 +1.1
baz=23,SNR=12
YBH **Yreka Blue Hor** 22.99 332 LR LR 12 28 53.2
comp=Z,456nm,19.0s,baz=148,slow=37
MCMT **McKenzie Canyo** 23.00 352 *e*P P 12 19 52.4 +1.7
11nm,1.4s
RLMT **Red Lodge** 23.01 359 *e*P P 12 19 52.5 +1.7
26nm,1.3s
H12A **Diamond D Ranc** 23.04 348 ⇑P P 12 19 51.9 +0.8
baz=23,SNR=9.6
G20A **Bridger** 23.10 0 ⇓P P 12 19 51.9 +0.3
baz=23,SNR=12
G21A **Lodge Grass** 23.13 2 ⇓P P 12 19 52.6 +0.8
baz=23
G22A **Birney** 23.17 4 ⇓P P 12 19 52.6 +0.4
baz=23,SNR=5.6
G18A **Lazy EL Ranch,** 23.22 358 ⇑P P 12 19 53.8 +1.0
baz=24,SNR=9.2
G23A **Biddle** 23.22 5 ⇓P P 12 19 53.0 +0.3
baz=24,SNR=6.0
G16A **Moss Hill, Enn** 23.27 354 ⇓P P 12 19 54.9 +1.5
baz=24,SNR=10
G15A **Dillon** 23.28 353 ⇑P P 12 19 54.8 +1.4
baz=24,SNR=9.0
G24A **Alzada** 23.44 7 ⇓P P 12 19 55.5 +0.6
baz=24,SNR=9.9
G13A **Cobalt** 23.46 350 ⇑P P 12 19 56.1 +0.9
baz=24,SNR=17
G14A **Jackson** 23.49 351 ⇑P P 12 19 56.2 +0.7
baz=24
DLMT **Dillon** 23.49 353 *e*P P 12 19 56.8 +1.4
18nm,1.2s
SWET **Sewanee** 23.65 51 *e*P P 12 19 58.1 +1.1
47nm,1.4s
BOZ **Bozeman (W)** 23.67 354 *e*P P 12 19 58.1 +0.9
32nm,1.6s
BOZ **Bozeman (W)** 23.67 354 ⇑P P 12 19 57.7 +0.5
baz=24,SNR=14
F20A **Billings** 23.68 1 ⇓P P 12 19 57.5 +0.3
baz=24
G12A **Big Creek, Yel** 23.69 348 ⇓P P 12 19 58.6 +1.2
baz=24,SNR=12
GCMT **Greycliff** 23.69 358 *e*P P 12 19 57.8 +0.4
6.3nm,0.7s
F22A **Rosebud** 23.73 4 ⇑P P 12 19 58.0 +0.4
baz=24
F23A **Volborg** 23.73 5 ⇑P P 12 19 57.5 -0.2
baz=24,SNR=10
F19A **Roth Farm, Mol** 23.74 359 ⇑P P 12 19 57.7 -0.1
baz=24,SNR=7.9
ECSD **EROS Data Cent** 23.74 22 *e*P P 12 19 58.7 +1.0
45nm,1.6s
F16A **Kennard Place,** 23.81 354 ⇑P P 12 20 00.5 +2.1
baz=24,SNR=19
F18A **Big Timber** 23.81 358 ⇓P P 12 19 59.0 +0.5
baz=24,SNR=19
F17A **Fitzpatrick Pl** 23.86 356 ⇑P P 12 20 00.2 +1.3
baz=24,SNR=7.2
BMO **Blue Mountains** 23.87 344 *e*P P 12 19 59.6 +0.5
12nm,1.0s
USIN **University of** 23.90 44 *e*P P 12 20 01.1 +1.8
223nm,1.8s
LRM **Limekiln Ridge** 23.93 353 *e*P P 12 20 01.9 +2.2
F15A **Butte** 23.95 353 ⇑P P 12 20 01.5 +1.6
baz=24,SNR=7.8
F24A **Ekalaka** 23.95 7 ⇓P P 12 19 58.8 -1.0
baz=24,SNR=8.2
OLIL **Olney** 24.09 42 *e*P P 12 20 02.5 +1.5
28nm,1.1s
F13A **Darby** 24.15 350 ⇓P P 12 20 02.1 +0.4
baz=24,SNR=36
F12A **Elk City** 24.28 348 ⇑P P 12 20 03.1 +0.2
baz=24,SNR=31
E19A **Rath Farm, Rou** 24.34 359 ⇓P P 12 20 03.7 +0.3
baz=25,SNR=24
E20A **Meyer Farm, Mu** 24.39 1 ⇑P P 12 20 04.0 +0.2
baz=25,SNR=18
E22A **Miles City** 24.41 4 ⇓P P 12 20 03.5 -0.4
baz=25,SNR=7.1
E17A **Martinsdale** 24.42 356 ⇑P P 12 20 05.0 +0.7
baz=25,SNR=38
E21A **Keefer Ranch,** 24.45 2 ⇓P P 12 20 04.4 +0.1
baz=25,SNR=12
E18A **Harlowton** 24.48 358 ⇑P P 12 20 05.1 +0.5
baz=25
E23A **Ismay** 24.51 5 ⇑P P 12 20 05.2 +0.3
baz=25
E15A **Deer Lodge** 24.54 353 ⇓P P 12 20 05.4 +0.1
baz=25,SNR=16
E16A **East Helena** 24.55 355 ⇑P P 12 20 05.7 +0.3
baz=25,SNR=25
E14A **Clinton** 24.64 352 ⇑P P 12 20 07.0 +0.8
baz=25,SNR=17
HRY **Holter Researc** 24.75 354 *e*P P 12 20 07.6 +0.6
E13A **Victor** 24.77 351 ⇑P P 12 20 07.7 +0.4
baz=25,SNR=16
CPCT **Cooper Cave** 24.78 52 *e*P P 12 20 07.3 -0.1
WCI **Wyandotte Cave** 24.94 45 *e*P P 12 20 10.6 +1.8
145nm,2.1s
D20A **Manuel Ranch,** 24.97 1 ⇓P P 12 20 09.4 +0.3
baz=25,SNR=17
D21A **La Casta Ranch** 24.98 2 ⇓P P 12 20 09.5 +0.4
baz=25
E12A **Beaver Dam Sad** 24.98 348 ⇓P P 12 20 09.1 -0.1
baz=25

D16A **Dana Ranch, Ca** 25.04 355 ⇓P P 12 20 09.1 -0.6
baz=25
D19A **Cripps Ranch,** 25.05 359 ⇓P P 12 20 10.1 +0.4
baz=25,SNR=40
CHMT **Chamberlain Mo** 25.10 352 *e*P P 12 20 11.2 +0.9
D17A **Six Diamond Ra** 25.10 356 ⇓P P 12 20 10.7 +0.4
baz=25,SNR=28
D22A **Cohagen** 25.10 4 ⇑P P 12 20 10.6 +0.5
baz=25,SNR=12
D18A **Linhart Farms,** 25.10 358 ⇓P P 12 20 11.1 +0.8
baz=25,SNR=18
MSO **Missoula** 25.11 351 *e*P P 12 20 11.1 +0.8
23nm,1.4s
MSO **Missoula** 25.11 351 ⇓P P 12 20 10.9 +0.5
baz=25,SNR=21
D15A **Lincoln** 25.14 353 ⇑P P 12 20 11.1 +0.5
baz=25,SNR=13
D23A **Lindsay** 25.19 5 ⇑P P 12 20 11.1 0.0
baz=25,SNR=12
D24A **Glendive** 25.22 7 ⇑P P 12 20 11.0 -0.2
baz=26,SNR=6.6
D14A **Greenough** 25.30 352 ⇑P P 12 20 12.4 +0.4
baz=26,SNR=39
TKL **Tuckaleechee C** 25.42 52 P P 12 20 13.3 +0.1
5.2nm,1.0s,baz=213,slow=11,SNR=3.5
TKL **Tuckaleechee C** 25.42 52 P P 12 20 13.3 +0.1
D13A **Huson** 25.44 350 ⇓P P 12 20 13.4 0.0
baz=26,SNR=9.7
SLMT **Seeley Lake** 25.45 352 *e*P P 12 20 13.7 +0.2
D12A **Red Ives Fores** 25.55 349 ⇓P P 12 20 14.1 -0.2
baz=26
C17A **Wharram Farm,** 25.58 356 ⇑P P 12 20 14.8 +0.2
baz=26,SNR=24
C20A **Veseth Ranch,** 25.60 1 ⇓P P 12 20 15.3 +0.6
baz=26,SNR=21
C24A **Savage** 25.62 6 ⇓P P 12 20 15.2 +0.3
baz=26,SNR=11
C19A **Slack Wire Ran** 25.62 359 ⇑P P 12 20 15.3 +0.3
baz=26,SNR=8.1
C22A **Vida** 25.71 4 ⇑P P 12 20 16.3 +0.6
baz=26,SNR=17
SFIN **Scholer Farm** 25.71 40 ⇑P P 12 20 15.7 -0.1
baz=26
C21A **Desert Coulee** 25.73 2 ⇓P P 12 20 16.3 +0.4
baz=26,SNR=17
SWMT **Swartz Lake** 25.78 351 *e*P P 12 20 16.8 +0.4
C23A **Lambert** 25.82 5 ⇑P P 12 20 17.0 +0.3
baz=26,SNR=18
C16A **Fuhringer Ranc** 25.82 355 ⇓P P 12 20 17.0 +0.3
baz=26,SNR=14
C15A **Salmond Ranch,** 25.87 354 ⇓P P 12 20 17.4 +0.1
baz=26
HAWA **Hanford** 25.89 342 *e*P P 12 20 19.4 +2.1
12nm,1.1s
EGMT **Eagleton** 25.93 358 *e*P P 12 20 18.5 +0.8
36nm,1.3s
EGMT **Eagleton** 25.93 358 ⇑P P 12 20 17.8 +0.1
baz=26,SNR=8.2
TZTN **Tazewell** 25.98 51 *e*P P 12 20 18.9 +0.7
9.6nm,0.7s
C14A **Swan Lake** 26.00 352 ⇓P P 12 20 18.9 +0.5
baz=26
C13A **Hot Springs** 26.03 351 ⇓P P 12 20 18.1 -0.5
baz=26
JTMT **Jette** 26.05 351 *e*P P 12 20 19.9 +1.0
YBMT **Yellow Bay** 26.13 351 *e*P P 12 20 20.3 +0.6
12nm,1.3s
B17A **L&G Farms, Che** 26.24 356 ⇓P P 12 20 20.6 +0.1
baz=26,SNR=9.7
B22A **Reddig Ranch S** 26.26 4 ⇓P P 12 20 21.3 +0.6
baz=26,SNR=6.2
B18A **Beardsley Farm** 26.30 358 ⇓P P 12 20 21.4 +0.3
baz=26,SNR=8.3
B20A **Solberg Farm,** 26.32 1 ⇑P P 12 20 21.7 +0.5
baz=27,SNR=8.4
B19A **Brinkman Farms** 26.34 359 ⇑P P 12 20 22.1 +0.7
baz=27
B15A **Bradely Ranch,** 26.40 354 ⇑P P 12 20 22.7 +0.7
baz=27,SNR=14
C11A **Tepee Creek (N** 26.48 348 ⇑P P 12 20 22.5 -0.1
baz=27
B23A **Brockton** 26.49 5 ⇓P P 12 20 23.4 +0.6
baz=27,SNR=11
DGMT **Dagmar** 26.57 6 *e*P P 12 20 24.8 +1.3
41nm,1.3s
B13A **Whitefish** 26.69 351 ⇑P P 12 20 25.4 +0.8
baz=27,SNR=13
MDND **Maddock** 26.70 13 ⇓P P 12 20 24.9 +0.3
baz=27,SNR=5.8
A20A **Cobblestone Ra** 26.77 1 ⇓P P 12 20 25.9 +0.6
baz=27,SNR=8.7
A19A **Klindworth Far** 26.81 360 ⇓P P 12 20 26.0 +0.3
baz=27
A18A **Metzger Ranch,** 26.83 358 ⇓P P 12 20 26.0 +0.2
baz=27,SNR=7.8
A17A **Triple J Farms** 26.89 357 ⇓P P 12 20 27.2 +0.8
baz=27,SNR=6.0
A21A **Bergtoll Ranch** 26.90 2 ⇑P P 12 20 26.8 +0.4
baz=27,SNR=8.1
LON **Longmire** 26.91 339 *e*P P 12 20 28.4 +1.9
8.3nm,1.0s
A22A **Carney Farms,** 26.95 4 ⇓P P 12 20 27.9 +1.0
baz=27,SNR=9.2
NEW **Newport** 27.05 347 *e*P P 12 20 28.5 +0.7
4.8nm,0.9s
NEW **Newport** 27.05 347 ⇓P P 12 20 28.5 +0.7
baz=27
A15A **Johnson Ranch,** 27.08 354 ⇑P P 12 20 28.4 +0.3
baz=27,SNR=9.3
A14A **Double T Ranch** 27.15 353 ⇓P P 12 20 29.4 +0.7
baz=27
WALA **Waterton Lakes** 27.29 352 *e*P P 12 20 30.9 +0.9
0.2nm,1.0s
AGMN **Agassiz Nation** 28.05 18 *e*P P 12 20 36.2 -0.5
10nm,1.0s
EYMN **Ely** 29.19 24 *e*P P 12 20 45.9 -1.0
31nm,1.3s
ULM **Lac du Bonnet** 29.82 16 P P 12 20 51.2 -1.2
13nm,1.0s,baz=206,slow=8.9,SNR=16
ULM LR LR 12 33 39.8
comp=Z,288nm,19.4s,baz=191,slow=38
ULM **Lac du Bonnet** 29.82 16 P P 12 20 51.2 -1.2
ALLY **Alegheny Colle** 30.76 44 *e*P P 12 21 01.9 +1.0
19nm,0.8s
FFC **Flin Flon** 32.98 7 *e*P P 12 21 19.5 -0.7
18nm,1.0s
BINY **Binghamton** 33.75 46 *e*P P 12 21 27.1 0.0
446nm,2.5s
OTAV **Otavalo** 36.40 123 *e*P P 12 21 51.1 +0.4
19nm,1.1s
ROSC **El Rosal** 37.19 112 P P 12 21 58.9 +1.6
4.0nm,0.4s,baz=107,slow=18,SNR=7.8
ROSC LR LR 12 38 48.1
comp=Z,186nm,18.7s,baz=304,slow=39
ROSC **El Rosal** 37.19 112 P P 12 21 58.9 +1.6
SDV **Santo Domingo** 38.61 104 *e*P P 12 22 09.0 -0.1
25nm,0.9s
DLBC **Dease Lake** 39.53 342 *e*P P 12 22 17.8 +1.6
SJG **San Juan** 39.83 88 P P 12 22 20.5 +1.4
9.7nm,0.9s,baz=271,slow=5.2,SNR=4.3
SJG **San Juan** 39.83 88 *e*P P 12 22 19.4 +0.3
23nm,1.1s
MTP **Monte Pirata** 40.39 88 *e*P P 12 22 24.0 +0.3
80nm,1.6s
YKA **Yellowknife Ar** 40.63 356 P P 12 22 24.3 -0.8
1.3nm,0.8s,baz=173,slow=7.8,SNR=21
YKA **Yellowknife Ar** 40.63 356 P P 12 22 24.3 -0.8
ATAH **Atahualpa** 41.35 131 LR LR 12 36 39.8
comp=Z,77nm,20.5s,baz=309,slow=32
SCHQ **Schefferville** 45.10 33 P P 12 23 01.1 -0.4
14nm,1.0s,baz=242,slow=3.9,SNR=11
SCHQ LR LR 12 42 28.1
comp=Z,372nm,18.7s,baz=319,slow=37
SCHQ **Schefferville** 45.10 33 P P 12 23 01.1 -0.4
KDAK **Kodiak Island** 47.78 330 LR LR 12 39 52.7
comp=Z,305nm,19.8s,baz=99,slow=32
INK **Inuvik** 48.77 348 P P 12 23 29.5 -0.4
6.1nm,1.1s,baz=151,slow=7.7,SNR=11
INK **Inuvik** 48.77 348 *e*P P 12 23 29.8 0.0
12nm,1.1s
FRB **Frobisher Bay** 49.39 22 P P 12 23 34.2 -0.5
5.7nm,1.0s,baz=237,slow=12,SNR=4.6
FRB **Frobisher Bay** 49.39 22 P P 12 23 34.2 -0.5
ILAR **Eielson Array** 49.55 340 P P 12 23 35.7 -0.2
1.6nm,0.8s,baz=143,slow=7.5,SNR=12
ILAR **Eielson Array** 49.55 340 P P 12 23 35.7 -0.2
RES **Resolute Bay** 53.16 4 P P 12 24 01.6 -1.2
2.7nm,1.1s,baz=201,slow=10,SNR=6.1

RES **Resolute Bay** 53.16 4 *e*P P 12 24 01.6 -1.2
4.6nm,1.2s
SAML **Samuel** 54.03 120 *e*P P 12 24 07.1 -3.0
7.4nm,1.2s
LPAZ **La Paz** 54.89 131 LR LR 12 45 08.0
comp=Z,88nm,20.5s,baz=267,slow=33
LPAZ **La Paz** 54.89 131 *e*P P 12 24 16.3 -0.7
20nm,0.8s
PPT **Papeete** 56.32 229 LR LR 12 43 59.6
comp=Z,101nm,20.1s,baz=39,slow=31
PPT2 **Papeete2** 56.33 229 *e*S S 12 32 12.3 -3.0
50nm,25.2s
PPT2 *e*LR LR 12 40 50.0
166nm,24.8s
SFJD **Kangerlussuaq** 57.49 23 LR LR 12 49 25.1
comp=Z,223nm,18.1s,baz=242,slow=36
SIV **San Ignacio** 59.87 125 P P 12 24 52.3 +0.9
2.3nm,0.8s,baz=324,slow=5.8,SNR=9.5
SIV **San Ignacio** 59.87 125 P P 12 24 52.3 +0.9
TBI **Tubuai** 60.25 224 *e*LR LR 12 42 29.8
140nm,30.0s
SUMG **Summit** 63.15 18 *e*P P 12 25 12.9 -0.3
74nm,1.9s
SUMG **Summit** 63.15 18 *i* P P 12 25 12.6 -0.6
6.1nm,1.0s
CFAA **Coronel Fontan** 65.81 143 P P 12 25 31.9 +1.2
0.5nm,0.8s,baz=304,slow=4.6,SNR=8.0
CFAA **Coronel Fontan** 65.81 143 P P 12 25 31.9 +1.2
CPUP **Villa Florida** 69.03 132 LR LR 12 53 39.4
comp=Z,75nm,19.8s,baz=64,slow=34
BORG **Borgarnes** 69.07 27 LR LR 12 55 34.2
comp=Z,290nm,20.6s,baz=122,slow=35
BDFB **Brasilia** 70.07 117 P P 12 25 58.9 +1.0
0.9nm,0.5s,baz=324,slow=8.9,SNR=3.3
BDFB LR LR 12 59 40.3
comp=Z,189nm,19.2s,baz=343,slow=38
BDFB **Brasilia** 70.07 117 P P 12 25 58.9 +1.0
AFI **Afiamalu** 71.63 246 LR LR 12 51 24.1
comp=Z,107nm,20.5s,baz=107,slow=31
PLCA **Paso Flores** 71.73 151 P P 12 26 08.1 +0.7
5.2nm,1.1s,baz=321,slow=4.5,SNR=3.7
PLCA LR LR 12 50 19.5
comp=Z,263nm,20.6s,baz=114,slow=30
PLCA **Paso Flores** 71.73 151 P P 12 26 08.1 +0.7
JMIC **Jan Mayen** 72.53 20 LR LR 12 57 01.3
comp=Z,117nm,19.9s,baz=248,slow=35
PETK **Petropavlovsk-** 74.91 321 LR LR 12 52 40.9
comp=Z,39nm,20.0s,baz=265,slow=30
ARCES **ARCESS Array B** 82.93 15 P P 12 27 09.8 0.0
2.5nm,0.8s,baz=325,slow=1.9,SNR=4.6
ARCES LR LR 13 10 24.1
comp=Z,127nm,18.6s,baz=186,slow=40
ARCES **ARCESS Array B** 82.93 15 P P 12 27 09.8 0.0
NB2 **NORSAR Subarra** 84.10 25 P P 12 27 16.1 +0.1
comp=Z,5.5nm,1.0s,baz=304,slow=5.1
NOA **NORSAR Array B** 84.10 25 P P 12 27 16.4 +0.5
comp=Z,2.2nm,0.9s,baz=308,slow=5.1,SNR=5.1
NOA LR LR 13 03 12.8
comp=Z,140nm,21.6s,baz=275,slow=35
NOA **NORSAR Array B** 84.10 25 P P 12 27 16.4 +0.5
HFS **Hagfors** 85.63 25 LR LR 13 05 05.5
comp=Z,168nm,18.4s,baz=292,slow=35
ESDC **Sonseca Array** 86.66 48 P P 12 27 30.3 +1.1
comp=Z,1.1nm,0.9s,baz=310,slow=6.4,SNR=3.7
ESDC LR LR 13 03 42.1
comp=Z,70nm,21.4s,baz=305,slow=34
ESDC **Sonseca Array** 86.66 48 P P 12 27 30.3 +1.1
ASAJ **Asahikawa** 87.59 317 LR LR 13 01 27.7
comp=Z,64nm,19.5s,baz=174,slow=32
FINES **FINESS Array B** 89.15 20 LR LR 13 05 32.1
comp=Z,160nm,19.3s,baz=136,slow=34
MDT **Midelt** 89.16 55 LR LR 13 04 42.8
comp=Z,73nm,19.0s,baz=9.0,slow=34
DAVOX **Davos/Dischmat** 91.79 37 LR LR 13 08 52.5
comp=Z,181nm,18.7s,baz=79,slow=35
GERES **GERESS Array B** 92.62 34 LR LR 13 07 52.5
comp=Z,106nm,19.2s,baz=80,slow=34
DZM **Mont Dzumac** 93.79 248 *e*LR LR 12 58 11.5
comp=Z,192nm,30.6s
DZM **Mont Dzumac** 93.79 248 LR LR 12 59 25.3
comp=Z,120nm,19.7s,baz=90,slow=29
MJAR **Matsushiro Arr** 94.28 312 LR LR 13 05 46.3
comp=Z,103nm,18.3s,baz=65,slow=33
CN2 **Changchun** 97.94 324 *e*P P 12 28 19.8 -1.5
AKASG **Malin Array Be** 98.51 26 LR LR 13 12 33.9
comp=Z,150nm,18.4s,baz=325,slow=35
HHC **Hu-ho-hao-te** 107.20 329 *e*Pdif **Pdif** 12 29 02.4 -0.4
HHC PP **PP** 12 33 33.0 +4.1
HHC S **Sdif** 12 41 02.5 -1.2
HHC SS **SS** 12 48 38.9 +4.6
HHC AMB AMB
comp=Z,77nm,9.6s
HHC LR LR
comp=N,110nm,19.3s
HHC LR LR
comp=E,150nm,19.1s
HHC LR LR
comp=Z,150nm,19.6s
WMQ **Urumqi** 112.79 347 *e*PKP **PKiKP** 12 33 22.9 +0.7
KSH **Kashi** 118.61 356 *e*PKP **PKPdf** 12 33 35.4 +1.8
KSH PP PP 12 34 59.1 +9.4
KSH PKS **PKSdf** 12 37 11.2 +0.8
KSH SKS **SKSdf** 12 40 45.9 +2.1
KSH SKKS **SKKSac** 12 41 50.1 +0.6
KSH SS SS 12 51 13.9 +9.3
KSH AMB AMB
comp=Z,50nm,3.9s
KSH LR LR
comp=N,79nm,6.3s
KSH LR LR
comp=E,81nm,4.6s
KSH LR LR
comp=Z,170nm,6.1s
CD2 **Chengdu** 118.93 328 PKP **PKPdf** 12 33 33.8 -0.5
WRA **Warramunga Arr** 121.71 260 PKP **PKPdf** 12 33 36.9 -2.9
comp=Z,0.7nm,0.9s,baz=68,slow=1.7,SNR=6.9
WRA **Warramunga Arr** 121.71 260 PKP **PKPdf** 12 33 36.9 -2.9
ASAR **Alice Springs** 122.94 255 PKP **PKPdf** 12 33 39.5 -2.6
comp=Z,0.5nm,0.9s,baz=119,slow=1.2,SNR=4.5
ASAR **Alice Springs** 122.94 255 PKP **PKPdf** 12 33 39.5 -2.6
KMI **Kunming** 124.17 325 PKP **PKPdf** 12 33 43.4 -1.4

IDC 01 12:22:53.2±4.2,13°.20S×167°.13E,h224km±36km,mb3.6/6, mb1 3.7/7,mb1mx3.3/21,mbtmp3.6/7,Error ellipse: s-maj=28.4km s-min=22.5km az=3.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.85**	**184**	P		P	Pn	12 24 58.7	+1.2
	1.2nm,0.3s,baz=88,slow=15,SNR=20								
DZM				S		S	S	12 26 33.5	-3.8
	baz=156,slow=20,SNR=1.8								
CTA	**Charters Tower**	**21.13**	**248**	P		P	P	12 27 22.3	+1.3
	1.5nm,0.4s,baz=73,slow=14,SNR=3.6								
STKA	**Stephens Creek**	**29.90**	**227**	P		P	P	12 28 40.5	+0.3
	2.4nm,0.5s,baz=55,slow=7.9,SNR=13								
STKA				PcP		PcP	PcP	12 31 37.5	+0.2
	0.8nm,0.6s,baz=338,slow=18,SNR=3.9								
WRA	**Warramunga Arr**	**32.09**	**254**	P		P	P	12 28 59.0	-0.6
	0.7nm,0.5s,baz=85,slow=9.1,SNR=12								
ASAR	**Alice Springs**	**33.12**	**247**	P		P	P	12 29 07.7	-0.9
	0.7nm,0.4s,baz=76,slow=10.0,SNR=47								
ASAR				PcP		PcP	PcP	12 31 46.1	-0.1
	0.3nm,0.7s,baz=75,slow=3.2,SNR=4.7								
QSPA	**South Pole Qui**	**76.82**	**180**	P		P	P	12 34 20.6	+0.5
	3.4nm,0.6s,baz=25,slow=2.8								
ILAR	**Eielson Array**	**85.12**	**18**	P		P	P	12 35 03.4	-0.2
	1.4nm,0.6s,baz=240,slow=5.2,SNR=26								
ILAR				pP		pP	pP	12 35 53.3	-4.6
	0.8nm,0.7s,baz=241,slow=5.0,SNR=4.9								
ARCES	**ARCESS Array B**	**118.75**	**346**	PKP		PKPdf	PKPdf	12 41 12.8	-1.3
	2.8nm,1.0s,baz=67,slow=2.4,SNR=25								
FINES	**FINESS Array B**	**124.26**	**339**	PKP		PKPdf	PKPdf	12 41 25.1	+0.3
	6.5nm,1.2s,baz=0.0,slow=1.9,SNR=5.1								
GERES	**GERESS Array B**	**138.22**	**334**	SKPbc		SKiKP	SKiKP	12 45 09.3	+0.7
	0.6nm,0.7s,baz=29,slow=3.0,SNR=6.3								

*SZGRF **01** 12:30:20.3,21.°66S×177.°55W,h33km,Fiji Islands region*
*PRU **01** 12:30:33.8,16.°70S×175.°75W,h30km*
*ISCJB **01** 12:31:19.8±0.6,20.°4S±0.°1×177.°9W±0.°1,h534km, mb4.0/16,Error ellipse: s-maj=19.2km s-min=11.2km az=146.9*
*IDC **01** 12:31:25.2±2.1,20.°53S×178.°02W,h586km±23km, mb3.6/16,mb1 3.8/16,mb1mx3.7/20,mbtmp3.6/16,Error*

ellipse: s-maj=20.2km s-min=10.3km az=150.0

ISC 01 12:31:20.2±0.6, 20°.5S±0°.2×177°.9W±0°.1, h534km, n56, σ0^{s}87/63, mb4.1/16, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.78	43	P	P	12 33 23.8	-1.8
	9.1nm,0.3s,baz=21,slow=1.4,SNR=17						
AFI				S	S	12 35 00.9	-7.4
	2.2nm,0.3s,baz=45,slow=23,SNR=7.0						
DZM	Mont Dzumac	14.67	261	P	P	12 34 27.4	+0.7
	0.8nm,0.3s,baz=71,slow=19,SNR=12						
CTA	Charters Tower	33.57	264	P	P	12 37 17.2	+1.0
	17nm,0.5s,baz=90,slow=9.9,SNR=26						
STKA	Stephens Creek	37.87	244	P	P	12 37 52.4	+0.7
	3.2nm,0.5s,baz=98,slow=8.8,SNR=22						
STKA				PcP	PcP	12 39 54.4	+0.3
	1.0nm,0.6s,baz=64,slow=7.2,SNR=2.9						
ASAR	Alice Springs	44.60	257	P	P	12 38 45.6	+0.3
	6.9nm,0.7s,baz=89,slow=7.7,SNR=111						
ASAR				PcP	PcP	12 40 16.6	-0.1
	1.4nm,0.6s,baz=110,slow=3.6,SNR=10						
ASAR				S	S	12 44 40.4	-2.1
	3.6nm,0.9s,baz=93,slow=15,SNR=26						
WRA	Warramunga Arr	44.68	262	P	P	12 38 45.9	0.0
	2.5nm,0.3s,baz=96,slow=7.6,SNR=156						
WRA				PcP	PcP	12 40 15.8	-1.2
	0.7nm,0.7s,baz=98,slow=6.2,SNR=4.4						
WRA				S	S	12 44 40.2	-3.5
	0.7nm,0.7s,baz=99,slow=12,SNR=8.3						
MJAR	Matsushiro Arr	70.24	324	P	P	12 41 39.8	+0.1
	5.6nm,0.6s,baz=160,slow=6.4,SNR=30						
MAT	Matsushiro	70.24	324	P	P	12 41 39.6	-0.1
JNU	Nakatsue	72.31	317	P	P	12 41 52.0	+0.1
	11nm,0.9s,baz=307,slow=4.2,SNR=5.3						
ASAJ	Asahikawa	73.74	332	P	P	12 42 01.1	+1.3
	10nm,0.8s,baz=258,slow=10,SNR=10						
PETK	Petropavlovsk-	76.27	345	P	P	12 42 14.0	+0.3
	3.2nm,0.6s,baz=131,slow=8.5,SNR=9.3						
KSRS	Korea Array	76.92	319	P	P	12 42 18.9	+1.2
	2.4nm,0.7s,baz=132,slow=5.9,SNR=8.6						
USRK	Ussuriysk Arra	78.98	326	P	P	12 42 29.7	+1.1
	5.2nm,0.8s,baz=80,slow=4.5,SNR=5.6						
NVAR	Mina Array Bea	80.95	43	P	P	12 42 40.6	+1.3
	2.5nm,0.8s,baz=231,slow=9.7,SNR=12						
TXAR	Lajitas Array	86.98	57	P	P	12 43 10.8	+1.6
	1.2nm,0.6s,baz=216,slow=6.8,SNR=18						
VNA3	Neumayer Olymp	88.16	176	*e*P	P	12 43 13.9	0.0
ILAR	Eielson Array	88.27	13	P	P	12 43 13.6	-0.7
	2.0nm,0.7s,baz=217,slow=5.3,SNR=30						
VNA2	Neumayer--Watz	88.60	177	*e*P	P	12 43 16.2	+0.3
	baz=197,slow=2.9						
CMAR	Chiang Mai Arr	90.18	290	P	P	12 43 25.7	+1.5
	1.8nm,0.6s,baz=118,slow=3.2,SNR=17						
SONM	Songino Array	95.79	319	P	P	12 43 49.7	+0.4
	0.2nm,0.5s,baz=110,slow=6.3,SNR=3.9						
YKA	Yellowknife Ar	96.46	25	P	P	12 43 51.6	-0.1
	0.2nm,0.9s,baz=240,slow=4.1,SNR=2.9						
MKAR	Makanchi Array	111.24	313	PKiKP	PKiKP	12 48 52.1	-1.2
	0.6nm,0.5s,baz=64,slow=0.5,SNR=11						
KURBB	Kurchatov Arra	114.08	317	PKiKP	PKPdf	12 48 57.5	-1.1
	0.6nm,0.7s,baz=94,slow=1.7,SNR=9.1						
BVAR	Borovoye Array	119.11	320	PKP	PKPdf	12 49 07.4	-0.8
	2.3nm,0.5s,baz=138,slow=1.6,SNR=12						
AKTO	Aktyubinsk	127.10	318	PKP	PKPdf	12 49 23.4	-0.3
	1.4nm,0.7s,baz=150,slow=2.1,SNR=6.9						
ARCES	ARCESS Array B	128.91	350	PKP	PKPdf	12 49 25.8	-0.8
	2.8nm,0.8s,baz=125,slow=0.2,SNR=9.0						
FINES	FINESS Array B	135.77	344	PKhKP	PKPpre	12 49 26.3	
	1.2nm,1.0s,baz=48,slow=5.7,SNR=3.6						
FINES				PKP	PKPdf	12 49 37.8	-1.8
	0.8nm,0.5s,baz=79,slow=2.1,SNR=8.3						
HFS	Hagfors	139.53	351	PKhKP	PKPpre	12 49 38.0	
	1.0nm,0.4s,baz=46,slow=4.3,SNR=8.6						
AKASG	Malin Array Be	143.03	331	PKP	PKPab	12 49 50.0	-0.6
	11nm,0.6s,baz=42,slow=4.3,SNR=38						
BSEG	Bad Segeberg	146.01	351	*e*PKPbc	PKPbc	12 50 00.2	+0.2
BRTR	Keskin Array B	146.88	312	PKPbc	PKPbc	12 50 02.8	-0.3
	2.9nm,0.7s,baz=137,slow=5.1,SNR=13						
KOLS	Kolonicke sedl	147.32	335	*e*	PKPbc	12 50 04.3	+0.5
CRVS	Cervenica-Dubn	147.66	336	*e*	PKPbc	12 50 05.2	+0.5
IBBN	Ibbenburen	147.92	353	*e*PKPab	PKPab	12 50 09.2	-0.5
CLZ	Clausthal	148.03	350	*e*PKPbc	PKPbc	12 50 05.6	+0.1
OKC	Ostrava-Krasne	148.04	340	*e*PKP	PKPbc	12 50 05.5	-0.1
OKC				*e*x	x	12 50 11.7	
CLL	Collm	148.06	347	*e*PKPbc	PKPbc	12 50 05.5	-0.1
CLL				*e*PKPab	PKPab	12 50 10.1	-0.2
CLL	Collm	148.06	347	⇓*i*P	PKPbc	12 50 05.5	-0.1
	comp=Z,16nm,0.9s						
CLL				*i*		12 50 10.1	
UPC	Upice	148.07	343	*e*PKP	PKPbc	12 50 05.9	+0.3
DPC	Dobruska-Polom	148.13	343	*e*PKP	PKPbc	12 50 06.2	+0.4
DPC				*e*x	x	12 50 11.3	
MLR	Muntele Rosu	148.25	327	⇓*i*P	PKPbc	12 50 06.5	+0.1
BRG	Berggiesshubel	148.26	346	*i* P	PKPbc	12 50 06.3	+0.2
	comp=Z,9.8nm,1.0s						
BRG				*e*		12 50 11.2	
	comp=Z,5.9nm,0.8s						
BRG	Berggiesshubel	148.26	346	*e*PKPbc	PKPbc	12 50 06.2	+0.1
BRG				*e*PKPab	PKPab	12 50 11.1	0.0
PRU	Pruhonice	148.93	344	*e*PKP	PKPbc	12 50 07.9	+0.1
PRU				*e*x	x	12 50 13.8	
MOX	Moxa	148.97	348	*e*PKPbc	PKPbc	12 50 07.5	-0.4
VYHS	Vyhne	148.97	338	*e*	PKPbc	12 50 07.1	-0.8
TANN	Tannenbergstha	149.01	347	*e*PKPbc	PKPbc	12 50 08.3	+0.3
NKC	Novy Kostel	149.19	347	*e*PKP	PKPbc	12 50 08.7	+0.3
NKC				*e*x	x	12 50 15.2	
TREC	Trest	149.31	343	*e*PKP	PKPbc	12 50 08.7	-0.1
ROTZ	Rotzenmuhle	149.68	347	*e*PKPbc	PKPbc	12 50 09.9	+0.3
TNS	Taunus Mts	149.89	352	*e*PKPbc	PKPbc	12 50 10.0	-0.1
TNS				*e*PKPab	PKPab	12 50 17.8	-0.2
KHC	Kasperske Hory	149.96	345	*e*PKP	PKPbc	12 50 10.3	0.0
KHC				*e*x	x	12 50 18.4	
GEC2	GERESS Array S	150.20	344	*e*PKPbc	PKPbc	12 50 10.8	-0.2
GERES	GERESS Array B	150.20	344	PKPbc	PKPbc	12 50 10.9	0.0
	comp=Z,1.7nm,0.6s,baz=320,slow=4.0,SNR=16						
GERES				PKPab	PKPab	12 50 18.9	-0.5
	comp=Z,0.5nm,0.4s,baz=33,slow=5.4,SNR=6.0						
DAVOX	Davos/Dischmat	153.00	348	PKPbc	PKPbc	12 50 17.1	-0.4
	baz=315,slow=10.0						
TORD	Torodi Ar. Bea	172.70	177	PKP	PKPdf	12 50 27.7	-1.1
	comp=Z,1.5nm,1.0s,baz=342,slow=0.4,SNR=6.2						
TORD				PKPab	PKPab	12 51 57.8	-0.4
	comp=Z,0.3nm,0.7s,baz=181,slow=2.6,SNR=2.6						

---

*ISK **01** 12:37:22.9, 37°.83N×29°.29E, h6km, MD2.6*
*DDA **01** 12:37:22.6, 37°.89N×29°.16E, h7km, MD2.5*
*ISCJB **01** 12:37:23.3±0.8, 37°.86N±0°.06×29°.21E±0°.08, h13km±7km, Error ellipse: s-maj=13.4km s-min=5.4km az=39.2*
*CSEM **01** 12:37:23.2±0.4, 37°.87N×29°.24E, h2km, MD2.5, Error ellipse: s-maj=10.5km s-min=5.1km az=126.0*

ISC 01 12:37:22.8±1.2, 37°.85N±0°.06×29°.24E±0°.05, h17km±13km, n16, σ0^{s}75/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.19	239	*e*PG	Pg	12 37 27.9	+0.4
DENT				*e*SG	Sg	12 37 31.5	+0.8
DENT	Denizli	0.19	239	*e*Pg	Pg	12 37 27.9	+0.4
DENT				*e*Sg	Sg	12 37 31.5	+0.8
DNZL	Cakiroluk	0.22	224	*i* P	Pg	12 37 26.8	-1.3
DNZL				*i* S	Sg	12 37 31.2	-0.5
DNZL	Cakiroluk	0.22	224	*i* P	Pg	12 37 26.8	-1.3
DNZL				*i* S	Sg	12 37 31.2	-0.5
KHL	Karahalli	0.52	25	*e*PG	Pb	12 37 33.1	-0.5
KHL				*e*SG	Sb	12 37 41.6	+0.7
KHL	Karahalli	0.52	25	*e*Pg	Pb	12 37 33.1	-0.5
KHL				*e*Sg	Sb	12 37 41.6	+0.7
KHAL	Karahalli	0.55	21	*i* P	Pg	12 37 33.4	-0.4
KHAL				*i* S	Sb	12 37 42.5	+0.6
KHAL	Karahalli	0.55	21	*i* P	Pg	12 37 33.4	-0.4
KHAL				*i* S	Sb	12 37 42.5	+0.6
KULA	Kula-Manisa	0.80	326	*e*PG	Pb	12 37 38.9	+0.5
KULA	Kula-Manisa	0.80	326	*e*Pg	Pb	12 37 38.9	+0.5
MANT	Manisa	0.83	320	*i* P	Pg	12 37 38.5	-0.6
MANT				*i* S	Sg	12 37 49.0	-1.1
MANT	Manisa	0.83	320	*i* P	Pg	12 37 38.5	-0.6
MANT				*i* S	Sg	12 37 49.0	-1.1
ALT	Altintas	1.38	29	*e*PN	Pg	12 37 49.4	0.0
ALT	Altintas	1.38	29	*e*Pn	Pg	12 37 49.4	0.0
TVSB	Tavsanli	1.60	6	*e*PN	Pb	12 37 52.5	+0.4
TVSB	Tavsanli	1.60	6	*e*Pn	Pb	12 37 52.5	+0.4

---

*ISK **01** 12:39:01.1, 37°.77N×29°.18E, h4km, MD2.7*
*DDA **01** 12:39:01.5, 37°.84N×29°.07E, h7km, MD2.6*
*ISCJB **01** 12:39:02.1±0.6, 37°.83N±0°.03×29°.04E±0°.08, h2km±10km, Error ellipse: s-maj=10.3km s-min=5.6km az=5.0*
*CSEM **01** 12:39:02.0±0.2, 37°.83N×29°.04E, h2km, MD2.6, Error ellipse: s-maj=7.9km s-min=3.9km az=110.0*

ISC 01 12:39:01.9±1.0, 37°.83N±0°.04×29°.04E±0°.05, h9km±11km, n18, σ0^{s}40/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.08	186	PG	Pg	12 39 04.0	0.0
DENT	Denizli	0.08	186	*i* Pg	Pg	12 39 04.1	0.0
DNZL	Cakiroluk	0.14	179	*i* P	Pg	12 39 04.6	-0.5
DNZL				*i* S	Sg	12 39 07.6	+0.3
DNZL	Cakiroluk	0.14	179	*i* P	Pg	12 39 04.6	-0.5
DNZL				*i* S	Sg	12 39 07.6	+0.3
KHL	Karahalli	0.62	37	*e*PG	Pg	12 39 13.7	-0.3
KHL	Karahalli	0.62	37	*e*Pg	Pg	12 39 13.7	-0.3
KHAL	Karahalli	0.65	33	*i* P	Pg	12 39 14.6	+0.2
KHAL				*i* S	Sb	12 39 24.2	-0.5
KHAL	Karahalli	0.65	33	*i* P	Pg	12 39 14.6	+0.2
KHAL				*i* S	Sb	12 39 24.2	-0.5
MANT	Manisa	0.76	330	*i* P	Pg	12 39 16.0	-0.6
MANT				*i* S	Sb	12 39 28.3	+0.1
MANT	Manisa	0.76	330	*i* P	Pg	12 39 16.0	-0.6
MANT				*i* S	Sb	12 39 28.3	+0.1
YER	Yerkesik	0.92	221	*e*PG	Pg	12 39 19.9	+0.3
YER	Yerkesik	0.92	221	*e*Pg	Pg	12 39 19.9	+0.3
GDZ	Gediz	1.30	15	*i* P	Pg	12 39 27.6	+0.6
GDZ				*i* S	Sb	12 39 43.9	+0.3
GDZ	Gediz	1.30	15	*i* P	Pg	12 39 27.6	+0.6
GDZ				*i* S	Sb	12 39 43.9	+0.3
ALT	Altintas	1.48	34	*e*PN	Pb	12 39 29.5	-0.2
ALT	Altintas	1.48	34	*e*Pn	Pb	12 39 29.5	-0.2
TVSB	Tavsanli	1.65	11	*e*PN	Pb	12 39 32.5	-0.1
TVSB	Tavsanli	1.65	11	*e*Pn	Pb	12 39 32.5	-0.1

KRSC 01 12:51:08.3±1.3, 50°.57N×157°.42E, h91km±98km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	1.76	347	*e*P	Pn	12 51 38.5	+1.1
ASAK	Asacha	1.84	9	*e*P	Pn	12 51 41.7	+3.2
MTVR	Mutnovka	1.97	14	*e*P	Pn	12 51 43.5	+3.1
MTVR				*i* S	Sn	12 52 09.3	+4.5
RUS	Russkaya	1.99	20	*e*P	Pn	12 51 43.2	+2.9
RUS				*i* S	Sn	12 52 08.7	+4.0
APC	Apacha	2.36	356	*e*P	Pn	12 51 46.4	+1.1
PET	Petropavlovsk	2.57	17	P	Pn	12 51 50.4	+2.3
UGLR	Uglovaya	2.78	18	*e*P	Pn	12 51 54.8	+3.8
AVH	Avacha	2.82	16	*e*P	Pn	12 51 55.3	+3.8
SMAR	Somma	2.83	17	*e*P	Pn	12 51 55.0	+3.2
SDLR	Sedlovina	2.86	18	*e*P	Pn	12 51 55.3	+3.2
NLC	Nalytchevo	2.87	24	P	Pn	12 51 54.3	+2.4
SPN	Mys Shipunski	3.00	32	*e*P	Pn	12 51 57.6	+3.8
SPN				*i* S	Sn	12 52 33.0	+4.1
MKZ	Mys Kozlova	4.78	32	*e*P	Pn	12 52 20.1	+2.3
KBTR	Krutoberegovo	6.50	28	P	Pn	12 52 43.0	+1.7

IDC 01 12:52:38.8±1.1, 3°.56N×127°.04E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, MS3.0/1, Ms1 3.0/1, ms1mx2.2/30, 1D, Error ellipse: s-maj=66.5km s-min=14.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.78	337	LR	LR	12 55 37.0	
	comp=Z,172nm,18.1s,baz=174,slow=47						
DMPH	Davao City--Mi	3.82	336	⇓*i*P	Pg	12 53 56.8	+4.8
FITZ	Fitzroy Crossi	21.57	184	P	P	12 57 30.6	+0.5
	1.7nm,0.5s,baz=20,slow=2.3,SNR=7.3						
WRA	Warramunga Arr	24.43	163	P	P	12 57 59.2	-0.2
	6.1nm,0.8s,baz=340,slow=11,SNR=48						
ASAR	Alice Springs	27.88	166	P	P	12 58 30.7	+0.2
	0.5nm,0.5s,baz=344,slow=7.2,SNR=19						
CMAR	Chiang Mai Arr	31.23	300	P	P	12 59 00.3	0.0
	0.4nm,0.6s,baz=134,slow=9.1,SNR=3.1						
STKA	Stephens Creek	37.86	160	P	P	12 59 57.2	-0.3
	2.2nm,0.4s,baz=337,slow=6.3,SNR=10						
SONM	Songino Array	47.55	341	P	P	13 01 17.1	+0.9
	0.6nm,0.6s,baz=158,slow=7.5,SNR=8.7						
MKAR	Makanchi Array	57.87	325	P	P	13 02 32.2	-0.3
	1.1nm,0.4s,baz=123,slow=7.7,SNR=28						
ZALV	Zalesovo Beam	60.88	333	P	P	13 02 52.4	-0.7
	0.2nm,0.3s,baz=164,slow=7.2,SNR=3.0						

IDC 01 13:05:54.4±8.3, 6°.96S×125°.57E, h487km±122km, mb2.4/1, mb1 2.7/4, mb1mx2.5/21, mbtmp2.5/4, Error ellipse: s-maj=137.2km s-min=43.5km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.08	180	P	P	13 08 23.1	0.0
	0.2nm,0.3s,baz=7.0,slow=9.9,SNR=8.8						
WRA	Warramunga Arr	15.46	147	P	P	13 09 09.7	0.0
	0.3nm,0.3s,baz=323,slow=11,SNR=5.6						
ASAR	Alice Springs	18.44	155	P	P	13 09 39.5	-0.1
	0.2nm,0.3s,baz=330,slow=7.9,SNR=24						
MKAR	Makanchi Array	65.85	329	P	P	13 15 51.0	0.0
	0.1nm,0.8s,baz=123,slow=7.2,SNR=3.3						

---

*ISCJB **01** 13:08:17.4±0.6, 39°.10N±0°.03×27°.53E±0°.04, h5km±5km, Error ellipse: s-maj=5.3km s-min=4.1km az=155.8*
*ISK **01** 13:08:17.2, 39°.07N×27°.54E, h12km, MD3.0*
*CSEM **01** 13:08:17.6±0.1, 39°.07N×27°.55E, h10km, MD3.0, Error ellipse: s-maj=3.7km s-min=2.8km az=58.0*

ISC 01 13:08:17.6±1.1, 39°.08N±0°.02×27°.53E±0°.03, h11km±9km, n50, σ0^{s}59/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKS	Akhisar	0.29	132	*e*PG	Pg	13 08 23.6	+0.1
AKS	Akhisar	0.29	132	*e*Pg	Pg	13 08 23.6	+0.1
AKHS	Akhisar	0.29	132	*i* P	Pg	13 08 23.2	-0.3
AKHS				*i* S	Sb	13 08 29.2	-0.6
AKHS	Akhisar	0.29	132	*i* P	Pg	13 08 23.2	-0.3
AKHS				*i* S	Sb	13 08 29.2	-0.6
BALB	Balikesir	0.62	25	*e*PG	Pb	13 08 30.1	-0.4
BALB				*e*SG	Sb	13 08 39.1	-0.1
BALB	Balikesir	0.62	25	*e*Pg	Pb	13 08 30.1	-0.4
BALB				*e*Sg	Sb	13 08 39.1	-0.1
BALY	Balya	0.67	6	*i* P	Pg	13 08 29.4	-1.1
BALY				*i* S	Sb	13 08 40.4	-0.1
BALY	Balya	0.67	6	*i* P	Pg	13 08 29.4	-1.1
BALY				*i* S	Sb	13 08 40.4	-0.1
IZM	Izmir	0.71	198	*e*PG	Pb	13 08 31.5	-0.5
IZM	Izmir	0.71	198	*e*Pg	Pb	13 08 31.5	-0.5
DEMI	Demirci	0.92	92	*i* P	Pb	13 08 35.4	-0.2
DEMI				*i* S	Sg	13 08 47.5	+0.2
DEMI	Demirci	0.92	92	*i* P	Pb	13 08 35.4	-0.2
DEMI				*i* S	Sg	13 08 47.5	+0.2
MANT	Manisa	0.99	126	*i* P	Pg	13 08 35.5	-1.2
MANT				*i* S	Sn	13 08 51.5	-0.2
MANT	Manisa	0.99	126	*i* P	Pg	13 08 35.5	-1.2
MANT				*i* S	Sn	13 08 51.5	-0.2
DST	Dursunbey	0.99	58	*e*PG	Pg	13 08 36.6	-0.1
DST	Dursunbey	0.99	58	*e*Pg	Pg	13 08 36.6	-0.1
URLA	Izmir	1.02	226	*i* P	Pn	13 08 38.2	+0.3
URLA				*i* S	Sn	13 08 53.3	+1.0
URLA	Izmir	1.02	226	*i* P	Pn	13 08 38.2	+0.3
URLA				*i* S	Sn	13 08 53.3	+1.0
KULA	Kula-Manisa	1.04	122	*e*PG	Pg	13 08 36.8	-0.9
KULA	Kula-Manisa	1.04	122	*e*Pg	Pg	13 08 36.8	-0.9
EZN	Ezine	1.20	309	*e*PN	Pb	13 08 40.0	-0.3
EZN	Ezine	1.20	309	*e*Pn	Pb	13 08 40.0	-0.3
EDC	Edincik	1.29	11	*e*PN	Pb	13 08 41.9	0.0
EDC	Edincik	1.29	11	*e*Pn	Pb	13 08 41.9	0.0
KRBG	Karabiga-Canak	1.33	352	*e*PN	Pn	13 08 41.9	-0.1
KRBG	Karabiga-Canak	1.33	352	*e*Pn	Pn	13 08 41.9	-0.1
KCTX	Karacabey (Bur	1.35	28	*e*PN	Pn	13 08 41.7	-0.6
KCTX	Karacabey (Bur	1.35	28	*e*Pn	Pn	13 08 41.7	-0.6
LPK	Lapseki	1.43	335	*e*PN	Pn	13 08 43.5	+0.1
LPK	Lapseki	1.43	335	*e*Pn	Pn	13 08 43.5	+0.1
ORLT	Orhaneli	1.43	47	*e*PN	Pn	13 08 43.8	+0.3
ORLT	Orhaneli	1.43	47	*e*Pn	Pn	13 08 43.8	+0.3
GDZ	Gediz	1.52	89	*i* P	Pn	13 08 44.5	-0.3
GDZ				*i* S	Sg	13 09 07.8	+1.5
GDZ	Gediz	1.52	89	*i* P	Pn	13 08 44.5	-0.3
GDZ				*i* S	Sg	13 09 07.8	+1.5
TVSB	Tavsanli	1.54	75	*e*PN	Pn	13 08 45.3	+0.2
TVSB	Tavsanli	1.54	75	*e*Pn	Pn	13 08 45.3	+0.2
GELI	Tayfur-Gelibol	1.55	329	*e*PN	Pn	13 08 45.3	+0.2
GELI	Tayfur-Gelibol	1.55	329	*e*Pn	Pn	13 08 45.3	+0.2
RKY	Sarkoy-Tekirda	1.63	350	*e*PN	Pn	13 08 46.4	+0.1
RKY	Sarkoy-Tekirda	1.63	350	*e*Pn	Pn	13 08 46.4	+0.1
ERIK	Erikli-Kesan	1.78	334	*e*PN	Pn	13 08 48.5	+0.3
ERIK	Erikli-Kesan	1.78	334	*e*Pn	Pn	13 08 48.5	+0.3
ARMT	Armutlu	1.81	34	*e*PN	Pn	13 08 49.6	+1.0
ARMT	Armutlu	1.81	34	*e*Pn	Pn	13 08 49.6	+1.0
ENEZ	Enez	1.97	328	*e*PN	Pn	13 08 51.4	+0.6
ENEZ	Enez	1.97	328	*e*Pn	Pn	13 08 51.4	+0.6
ALT	Altintas	2.00	90	*e*PN	Pn	13 08 51.7	+0.2
ALT	Altintas	2.00	90	*e*Pn	Pn	13 08 51.7	+0.2
CAVI	Cavuskoy	2.11	57	*e*PN	Pn	13 08 53.5	+0.8
CAVI	Cavuskoy	2.11	57	*e*Pn	Pn	13 08 53.6	+0.8

---

*DDA **01** 13:13:11.7, 37°.84N×29°.09E, h2km, MD3.0*
*ISCJB **01** 13:13:12.4±0.4, 37°.82N±0°.02×29°.07E±0°.04, h7km±5km, Error ellipse: s-maj=5.6km s-min=3.9km az=178.3*
*ISK **01** 13:13:12.1, 37°.82N×29°.08E, h7km, MD2.9*
*CSEM **01** 13:13:12.4±0.1, 37°.81N×29°.07E, h8km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.1km az=92.0*

ISC 01 13:13:12.5±0.9, 37°.83N±0°.02×29°.08E±0°.03, h7km±7km, n31, σ0^{s}61/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.08	208	*e*PG	Pg	13 13 14.7	+0.2
DENT	Denizli	0.08	208	*e*Pg	Pg	13 13 14.7	+0.2
DNZL	Cakiroluk	0.14	191	*i* P	Pg	13 13 15.4	-0.1
DNZL				*i* S	Sg	13 13 17.8	+0.2
DNZL	Cakiroluk	0.14	191	*i* P	Pg	13 13 15.4	-0.1
DNZL				*i* S	Sg	13 13 17.8	+0.2
KHL	Karahalli	0.61	35	*e*PG	Pg	13 13 24.2	0.0
KHL	Karahalli	0.61	35	*e*Pg	Pg	13 13 24.2	0.0
KHAL	Karahalli	0.63	31	*i* P	Pg	13 13 23.6	-1.1
KHAL				*i* S	Sb	13 13 34.1	-1.0
GOLH	Golhisar	0.70	147	*i* P	Pg	13 13 25.2	-0.8
GOLH				*i* S	Sb	13 13 36.7	-0.3
GOLH	Golhisar	0.70	147	*i* P	Pg	13 13 25.2	-0.8
GOLH				*i* S	Sb	13 13 36.7	-0.3
KULA	Kula-Manisa	0.76	334	*e*PG	Pg	13 13 27.3	+0.1
KULA				*e*SG	Sb	13 13 38.9	+0.1
KULA	Kula-Manisa	0.76	334	*e*Pg	Pg	13 13 27.3	+0.1
KULA				*e*Sg	Sb	13 13 38.9	+0.1
MANT	Manisa	0.78	328	*i* P	Pg	13 13 26.8	-0.7
MANT				*i* S	Sb	13 13 39.3	-0.2
MANT	Manisa	0.78	328	*i* P	Pg	13 13 26.8	-0.7
MANT				*i* S	Sb	13 13 39.3	-0.2
YER	Yerkesik	0.94	223	*e*PG	Pg	13 13 30.1	-0.4
YER	Yerkesik	0.94	223	*e*Pg	Pg	13 13 30.1	-0.4
AYDN	Tasoluk	0.97	261	*i* P	Pg	13 13 30.9	-0.2
AYDN				*i* S	Sg	13 13 43.5	-0.1
AYDN	Tasoluk	0.97	261	*i* P	Pg	13 13 30.9	-0.2
AYDN				*i* S	Sg	13 13 43.5	-0.1
FETY	Fethiye	1.19	180	*e*PN	Pb	13 13 35.1	-0.3
FETY	Fethiye	1.19	180	*e*Pn	Pb	13 13 35.1	-0.3
BCK	Bucak	1.25	107	*e*PN	Pg	13 13 36.7	+0.2
BCK	Bucak	1.25	107	*e*Pn	Pg	13 13 36.7	+0.2
ELL	Elmali	1.26	148	*e*PN	Pg	13 13 36.7	-0.1
ELL	Elmali	1.26	148	*e*Pn	Pg	13 13 36.7	-0.1
GDZ	Gediz	1.30	14	*i* P	Pn	13 13 36.2	-1.0
GDZ				*i* S	Sn	13 13 56.8	+1.9
GDZ	Gediz	1.30	14	*i* P	Pn	13 13 36.2	-1.0
GDZ				*i* S	Sn	13 13 56.8	+1.9
SHUT	Suhut-Afyon	1.37	58	*e*PN	Pb	13 13 38.4	-0.1
SHUT	Suhut-Afyon	1.37	58	*e*Pn	Pb	13 13 38.4	-0.1
ALT	Altintas	1.47	33	*e*PN	Pn	13 13 39.7	+0.2
ALT	Altintas	1.47	33	*e*Pn	Pn	13 13 39.7	+0.2
BODT	Bodrum	1.60	242	*e*PN	Pn	13 13 41.2	-0.1
BODT	Bodrum	1.60	242	*e*Pn	Pn	13 13 41.2	-0.1

IDC 01 13:48:29.6±1.7, 1°.44N×127°.04E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=100.5km s-min=22.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.46	184	P	P	13 52 58.6	+0.5
	0.1nm,0.3s,baz=333,slow=11,SNR=2.8						
WRA	Warramunga Arr	22.42	162	P	P	13 53 30.8	+0.7
	1.7nm,0.4s,baz=340,slow=11,SNR=50						
ASAR	Alice Springs	25.83	165	P	P	13 54 02.8	-0.1
	0.5nm,0.5s,baz=345,slow=8.0,SNR=23						
STKA	Stephens Creek	35.89	159	P	P	13 55 30.5	-1.1
	1.4nm,0.5s,baz=342,slow=6.4,SNR=4.5						
MKAR	Makanchi Array	59.61	326	P	P	13 58 35.5	+0.1
	0.2nm,0.3s,baz=116,slow=8.3,SNR=3.1						

---

*NIED **01** 13:56:00, 38°.60N×143°.30E, h17km, Mw4.2 Best double couple: M₀2.37000×10^{15} NP1:φ$_s$12.00000°, δ68.00000°, λ82.00000°. NP2:φ$_s$212.00000°, δ23.00000°, λ108.00000°.*
*IDC **01** 13:56:22.7±0.6, 38°.64N×143°.22E, h0km, mb3.9/19, mb1 4.1/20, mb1mx4.1/26, mbtmp3.9/20, ML3.8/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/40, Error ellipse: s-maj=18.9km s-min=15.1km az=95.0*
*JMA **01** 13:56:25.4±0.2, 38°.63N×143°.26E, h32km, M4.2*
*ISCJB **01** 13:56:25.9±1.3, 38°.65N±0°.04×143°.26E±0°.04, h33km±8km, mb4.3/44, MS3.6/10, Error ellipse: s-maj=7.0km s-min=4.6km az=137.1*
*MOS **01** 13:56:25.8±1.0, 38°.66N×143°.30E, h33km, mb4.4/27, Error ellipse: s-maj=9.3km s-min=6.5km az=97.3*
*NEIC **01** 13:56:28.4±0.7, 38°.68N×143°.27E, h39km±5km, mb4.5/13, MW4.2(NIED), Error ellipse: s-maj=7.7km s-min=4.9km az=125.0*

ISC 01 13:56:27.7±1.2, 38°.74N±0°.05×143°.24E±0°.05, h31km±8km, n144, σ1^{s}16/155, mb4.3/44, MS3.7/10, 5C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.27	286	P	Pn	13 56 48.2	-1.1
OFUJ				*e*S	Sn	13 57 04.7	-0.6
MIYJ	Miyakonagasawa	1.38	308	P	Pn	13 56 50.2	-0.7
MIYJ				*e*S	Sb	13 57 08.4	-1.8
JIO	Ouri	1.51	260	P	Pn	13 56 51.1	-1.4
JIO				*e*S	Sn	13 57 09.5	-1.6
JMK	Ichinoseki	1.59	278	P	Pn	13 56 53.0	-0.7
JOM	Ohasama	1.68	296	P	Pn	13 56 54.8	-0.2
JOU	Okura	2.05	260	P	Pn	13 56 59.2	-0.9
JANG	Nango	2.11	321	P	Pn	13 57 00.2	-0.6
JANG				S	Sn	13 57 26.3	+0.3
JMM	Marumori	2.11	246	P	Pn	13 56 58.9	-2.0
JMM				*e*S	Sn	13 57 23.3	-2.8
JRG	Rokugo	2.13	289	P	Pn	13 57 01.1	0.0
JYK	Kaneyama	2.26	275	P	Pn	13 57 02.6	-0.3
JFK	Kawauchi	2.31	234	P	Pn	13 57 01.3	-2.4
JFK				*e*S	Sn	13 57 27.0	-4.1
JYS	Shirataka	2.54	259	P	Pn	13 57 06.1	-0.7
JYS				*e*S	Sn	13 57 37.1	+0.4
JFT	Otama	2.59	243	P	Pn	13 57 06.5	-1.0
JFT				*e*S	Sn	13 57 37.4	-0.6
ERM	Erimo	3.27	359	*e*P	Pn	13 57 16.5	-0.3
ERM	Erimo	3.27	359	*e*Pn	Pn	13 57 16.5	-0.3
MJAR	Matsushiro Arr	4.55	243	Pn	Pn	13 57 34.6	+0.2
	8.3nm,0.3s,baz=34,slow=12,SNR=125						
MJAR	Matsushiro Arr	4.55	243	Pn	Pn	13 57 34.6	+0.2
MAJO	Matsushiro	4.55	243	*e*P	Pn	13 57 34.6	+0.1
MAJO	Matsushiro	4.55	243	*e*Pn	Pn	13 57 34.6	+0.1
MAT	Matsushiro	4.55	243	P	Pn	13 57 34.6	+0.1
MAT				S	Sn	13 58 24.7	-1.7
ASAJ	Asahikawa	5.39	355	Pn	Pn	13 57 46.4	+0.4
	2.7nm,0.3s,baz=213,slow=9.7,SNR=40						
ASAJ				Sn	Sn	13 58 43.9	-3.1
	1.3nm,0.3s,baz=143,slow=15,SNR=2.3						
ASAJ				LR	LR	14 00 46.4	
	comp=Z,411nm,19.4s,baz=186,slow=48						
ASAJ	Asahikawa	5.39	355	*e*Pn	Pn	13 57 46.1	+0.1
	12nm,0.7s						
ASAJ				Sn	Sn	13 58 43.9	-3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YUK	Yuzh-Kuril'sk	5.65	20c	iP	Pn	13 57 47.6	-1.8
YUK				iS	Sn	13 58 48.8	-4.4
YUK				pmax	pmax		
	comp=N,56nm,0.3s						
YUK				pmax	pmax		
	comp=E,36nm,0.3s						
YUK				pmax	pmax		
	comp=Z,121nm,0.3s						
YUK				smax	smax		
	comp=N,129nm,0.4s						
YUK				smax	smax		
	comp=E,355nm,0.7s						
YUK				MLR	MLR		
	comp=N,184nm,17.0s						
YUK				MLR	MLR		
	comp=Z,311nm,17.0s						
KUR	Kuril'sk	7.35	26	P	Pn	13 58 17.0	+4.3
KUR				S	Sn	13 59 30.5	-4.5
KUR				smax	smax		
	comp=N,100nm,0.8s						
KUR				smax	smax		
	comp=E,210nm,0.9s						
YSS	Yuzh-Sakhalins	8.22	358	P	Pn	13 58 26.6	+1.9
YSS	Yuzh-Sakhalins	8.22	358	Pn	Pn	13 58 26.6	+1.9
USRK	Ussuriysk Arra	10.04	306	Pn	Pn	13 58 53.3	+3.7
	comp=E,0.7nm,0.3s,baz=101,slow=14,SNR=8.7						
USRK				LR	LR	14 02 33.3	
	comp=E,356nm,19.4s,baz=288,slow=37						
HABR	Khabarovsk	11.39	331	eP	Pn	13 59 07.4	-0.7
HABR				e		14 01 13.4	
HABR				pmax	pmax		
	comp=N,32nm,2.5s						
HABR				pmax	pmax		
	comp=E,36nm,2.5s						
HABR				pmax	pmax		
	comp=Z,35nm,2.5s						
HABR				MLR	MLR		
	comp=Z,184nm,18.0s						
JNU	Nakatsue	11.48	245	LR	LR	14 04 06.7	
	comp=Z,250nm,18.3s,baz=56,slow=41						
MDJ	Mudanjiang	11.77	304	Pn	Pn	13 59 15.4	+2.1
KSRS	Korea Array	12.14	269	Pn	Pn	13 59 21.3	+2.9
	comp=Z,0.2nm,0.3s,baz=79,slow=13,SNR=5.5						
KSRS				LR	LR	14 03 49.7	
	comp=Z,297nm,18.1s,baz=75,slow=37						
KSAR	Wonju Array Be	12.17	269	Pn	Pn	13 59 21.3	+2.5
KLR	Kul'dur	13.34	326	eP	Pn	13 59 30.2	-4.6
KLR				MLR	MLR		
	comp=E,500nm,12.5s						
KLR				MLR	MLR		
	comp=Z,1µm,12.5s						
HIA	Hailar	19.83	310	eP	P	14 00 53.0	-2.8
	comp=Z,6.7nm,0.7s						
CLNS	Chul'man	21.78	332	eP	P	14 01 20.5	+3.8
CLNS				pmax	pmax		
	comp=Z,13nm,1.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,11nm,1.3s						
YAK	Yakutsk	24.76	345	eP	P	14 01 46.2	-0.1
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK	Yakutsk	24.76	345	eP	P	14 01 47.1	+0.9
	comp=Z,14nm,0.6s						
SEY	Seymchan	24.85	10⇑	iP	P	14 01 48.3	+1.2
FX1	Attu Island--F	24.98	46	LR	LR	14 10 33.0	
	comp=Z,37nm,20.2s,baz=155,slow=34						
SONM	Songino Array	28.09	301	P	P	14 02 17.5	+0.9
	comp=Z,2.6nm,0.9s,baz=97,slow=8.8,SNR=20						
SONM				LR	LR	14 13 52.4	
	comp=Z,135nm,19.8s,baz=345,slow=37						
SONM	Songino Array	28.09	301	P	P	14 02 17.5	+0.9
ENH	Enshi	28.94	263	eP	P	14 02 22.7	-1.5
	comp=Z,22nm,1.0s						
TLY	Talaya	30.36	308	eP	P	14 02 37.2	+0.7
TLY				e		14 02 51.9	
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,158nm,16.0s						
TLY	Talaya	30.36	308	eP	P	14 02 36.9	+0.4
	comp=Z,3.5nm,0.9s						
ZAA0	Zalesovo Array	41.86	311	eP	P	14 04 14.5	-0.1
ZALV	Zalesovo Beam	41.86	311	P	P	14 04 15.3	+0.7
	comp=Z,2.1nm,0.5s,baz=91,slow=7.9,SNR=13						
ZALV				PcP	PcP	14 06 10.4	+0.5
	comp=Z,1.3nm,0.5s,baz=90,slow=3.7,SNR=4.8						
ZALV				LR	LR	14 22 23.5	
	comp=Z,101nm,20.7s,baz=72,slow=37						
ZALV	Zalesovo Beam	41.86	311	P	P	14 04 15.3	+0.7
ZALV						14 06 10.5	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,101nm,20.7s						
ZALV	Zalesovo Beam	41.86	311	P	P	14 04 15.3	+0.7
ZALV				PcP	PcP	14 06 10.4	+0.5
CMAR	Chiang Mai Arr	43.33	255	P	P	14 04 26.1	-0.9
	comp=Z,0.6nm,0.6s,baz=46,slow=6.3,SNR=6.6						
CMAR				LR	LR	14 21 47.2	
	comp=Z,26nm,19.6s,baz=105,slow=35						
CMAR	Chiang Mai Arr	43.33	255	P	P	14 04 26.1	-0.9
LSA	Lhasa	43.51	274	P	P	14 04 29.2	+0.3
LSA	Lhasa	43.51	274	P	P	14 04 29.2	+0.3
MK31	Makanchi Array	44.46	301	eP	P	14 04 34.8	-1.0
MK31	Makanchi Array	44.46	301	eP	P	14 04 34.8	-1.0
MKAR	Makanchi Array	44.46	301	P	P	14 04 36.0	+0.2
	comp=Z,3.3nm,0.7s,baz=83,slow=10,SNR=18						
MKAR				LR	LR	14 23 59.6	
	comp=Z,83nm,18.6s,baz=360,slow=37						
MKAR	Makanchi Array	44.46	301	P	P	14 04 36.0	+0.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,83nm,18.6s						
MKAR	Makanchi Array	44.46	301	P	P	14 04 36.0	+0.2
KURK	Kurchatov	46.04	307c	iP	P	14 04 48.5	+0.3
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	Kurchatov	46.04	307	eP	P	14 04 48.0	-0.2
	comp=Z,8.5nm,0.8s						
TAPN	Taplejung	47.27	273	eP	P	14 04 58.9	+0.3
	comp=Z,19nm,1.2s						
TAPN	Taplejung	47.27	273	eP	P	14 04 58.9	+0.3
	comp=Z,19nm,1.2s						
ILAR	Eielson Array	47.28	33	P	P	14 04 57.4	-0.4
	comp=Z,0.5nm,0.8s,baz=261,slow=5.2,SNR=4.0						
ILAR	Eielson Array	47.28	33	P	P	14 04 57.4	-0.4
ODAN	Odare	47.76	273	eP	P	14 05 02.2	-0.1
ODAN	Odare	47.76	273	eP	P	14 05 02.2	-0.1
KSM	Kuching	47.77	227	P	P	14 05 01.6	-0.5
JIRN	Jiri	48.31	275	eP	P	14 05 07.1	+0.4
JIRN	Jiri	48.31	275	eP	P	14 05 07.1	+0.4
RAMN	Ramite	48.33	274	eP	P	14 05 06.4	-0.3
	comp=Z,11nm,0.6s						
RAMN	Ramite	48.33	274	eP	P	14 05 06.4	-0.3
	comp=Z,11nm,0.6s						
GUN	Gumba	48.43	275	eP	P	14 05 07.7	+0.1
	comp=Z,29nm,0.9s						
GUN	Gumba	48.43	275	eP	P	14 05 07.7	+0.1
	comp=Z,29nm,0.9s						
KKN	Kakani	48.96	275	eP	P	14 05 11.6	+0.1
	comp=Z,13nm,0.6s						
KKN	Kakani	48.96	275	eP	P	14 05 11.6	+0.1
KKN	Kakani	48.96	275	eP	P	14 05 11.6	+0.1
	comp=Z,13nm,0.6s						
DMN	Daman	49.18	275	eP	P	14 05 13.7	+0.5
DMN	Daman	49.18	275	eP	P	14 05 13.7	+0.5
GKN	Gorkha	49.36	276	eP	P	14 05 14.3	-0.2
GKN	Gorkha	49.36	276	eP	P	14 05 14.3	-0.2
DANN	Dangsing	49.87	277	eP	P	14 05 19.0	+0.4
	comp=Z,46nm,0.7s						
DANN	Dangsing	49.87	277	eP	P	14 05 19.0	+0.4
	comp=Z,46nm,0.7s						
TKM2	Tokmak 2	50.10	298	eP	P	14 05 20.4	+0.4
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TKM2	Tokmak 2	50.10	298	eP	P	14 05 20.4	+0.4
	comp=Z,5.1nm,0.8s						
KOLN	Koldanda	50.27	276	eP	P	14 05 22.3	+0.8
KOLN	Koldanda	50.27	276	eP	P	14 05 22.3	+0.8
BRVK	Borovoye	50.56	312	eP	P	14 05 23.4	+0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	Borovoye	50.56	312	eP	P	14 05 23.4	+0.3
	comp=Z,2.7nm,0.7s						
PYUN	Piuthan	50.59	277	eP	P	14 05 24.3	+0.4
	comp=Z,33nm,0.8s						
PYUN	Piuthan	50.59	277	eP	P	14 05 24.3	+0.4
	comp=Z,33nm,0.8s						
AAK	Ala-Archa	50.96	298	eP	P	14 05 26.4	-0.1
AAK				pmax	pmax		
	comp=Z,12nm,0.8s						
AAK	Ala-Archa	50.96	298	eP	P	14 05 26.4	-0.1
	comp=Z,12nm,0.8s						
EKS2	Erkin-Say	51.45	298	eP	P	14 05 30.5	+0.4
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKS2	Erkin-Say	51.45	298	eP	P	14 05 30.5	+0.4
	comp=Z,1.3nm,0.8s						
INK	Inuvik	52.21	28	P	P	14 05 36.6	+1.5
	comp=Z,0.5nm,0.6s,baz=270,slow=7.2,SNR=4.2						
INK	Inuvik	52.21	28	eP	P	14 05 36.8	+1.7
KKAR	Karatay Array	53.53	300	eP	P	14 05 44.6	-0.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	53.53	300	eP	P	14 05 44.6	-0.8
	comp=Z,1.3nm,0.6s						
SVE	Sverdlovsk	54.83	318	eP	P	14 05 54.7	+0.1
ARU	Arti	56.05	318d	iP	P	14 06 03.8	+0.5
ARU				S	S	14 13 49.9	+0.3
ARU				SS	SS	14 17 35.0	-0.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,159nm,16.0s						
ARU	Arti	56.05	318	eP	P	14 06 03.4	+0.1
ABKAR	Akbulak array	57.95	310	eP	P	14 06 17.1	+0.2
	comp=Z,2.1nm,0.6s						
KBL	Kabul	58.16	291	eP	P	14 06 18.5	-0.4
KBL	Kabul	58.16	291	eP	P	14 06 18.5	-0.4
WRAB	Tennant Creek	58.95	190	eP	P	14 06 23.0	-1.1
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRAB	Tennant Creek	58.95	190	eP	P	14 06 23.0	-1.1
	comp=Z,6.8nm,1.0s						
WRA	Warramunga Arr	58.97	190	P	P	14 06 22.7	-1.5
	comp=Z,1.4nm,0.5s,baz=8.7,slow=7.0,SNR=44						
WRA	Warramunga Arr	58.97	190	P	P	14 06 22.7	-1.5
RES	Resolute Bay	60.59	15	P	P	14 06 35.3	+0.6
	comp=Z,1.8nm,0.9s						
YKA	Yellowknife Ar	61.61	31	P	P	14 06 42.0	+0.2
	comp=Z,0.1nm,0.7s,baz=302,slow=6.2,SNR=3.0						
YKA	Yellowknife Ar	61.61	31	P	P	14 06 42.0	+0.2
ASAR	Alice Springs	62.69	190	P	P	14 06 48.6	-0.9
	comp=Z,0.7nm,0.6s,baz=6.0,slow=7.7,SNR=18						
ASAR	Alice Springs	62.69	190	P	P	14 06 48.6	-0.9
ARCES	ARCESS Array B	62.91	340	P	P	14 06 50.3	-0.2
	comp=Z,3.0nm,0.8s,baz=52,slow=7.9,SNR=7.4						
ARCES	ARCESS Array B	62.91	340	P	P	14 06 50.3	-0.2
JOF	Joensuu	65.14	332	eP	P	14 07 04.6	-0.5
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	Joensuu	65.14	332	ep	P	14 07 04.6	-0.5
	comp=Z,1.3nm,0.6s						
KAF	Kangasniemi	67.45	333	eP	P	14 07 18.7	-1.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	Kangasniemi	67.45	333	ep	P	14 07 18.7	-1.3
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	67.97	333	P	P	14 07 22.4	-0.8
	comp=Z,1.9nm,0.6s,baz=68,slow=6.5,SNR=17						
FINES				LR	LR	14 39 29.9	
	comp=Z,85nm,18.0s,baz=318,slow=38						
FINES	FINESS Array B	67.97	333	P	P	14 07 22.4	-0.8
STKA	Stephens Creek	70.27	181	P	P	14 07 37.6	-0.1
	comp=Z,1.5nm,0.8s,baz=226,slow=4.4,SNR=3.3						
STKA	Stephens Creek	70.27	181	P	P	14 07 37.6	-0.1
KIV	Kislovodsk	70.87	311	eP	P	14 07 42.3	+0.6
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV				MLR	MLR		
	comp=Z,58nm,19.0s						
KBZ	Khabaz	70.88	311	P	P	14 07 42.9	+1.4
	comp=Z,2.7nm,0.8s,baz=55,slow=6.3,SNR=3.9						
KBZ	Khabaz	70.88	311	P	P	14 07 42.9	+1.4
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	70.88	311	P	P	14 07 42.9	+1.4
NB2	NORSAR Subarra	73.16	338	P	P	14 07 55.5	+0.5
	comp=Z,1.5nm,0.7s,baz=39,slow=6.2						
NOA	NORSAR Array B	73.16	338	P	P	14 07 55.1	+0.1
	comp=Z,2.3nm,0.7s,baz=39,slow=5.8,SNR=7.9						
NOA				LR	LR	14 41 43.5	
	comp=Z,45nm,19.5s,baz=270,slow=37						
NOA	NORSAR Array B	73.16	338	P	P	14 07 55.1	+0.1
AKASG	Malin Array Be	73.82	323	P	P	14 07 58.5	-0.5
	comp=Z,1.5nm,0.4s,baz=44,slow=6.0,SNR=7.0						
AKASG	Malin Array Be	73.82	323	P	P	14 07 58.5	-0.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	73.82	323	P	P	14 07 58.5	-0.5
PDAR	Pinedale Array	75.44	47	P	P	14 08 10.2	+1.3
	comp=Z,0.3nm,0.8s,baz=270,slow=3.5,SNR=3.5						
PDAR	Pinedale Array	75.44	47	P	P	14 08 10.2	+1.3
BRTR	Keskin Array B	78.79	312	P	P	14 08 27.9	+0.3
	comp=Z,0.4nm,0.7s,baz=64,slow=5.6,SNR=3.8						
BRTR	Keskin Array B	78.79	312	P	P	14 08 27.9	+0.3
BRG	Berggiesshubel	80.31	330	eP	P	14 08 37.2	+1.7
	comp=Z,1.1nm,0.7s						
BRG	Berggiesshubel	80.31	330	eP	P	14 08 37.2	+1.7
BRG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	Collm	80.32	331⇑	iP	P	14 08 36.2	+0.7
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	Collm	80.32	331⇑	iP	P	14 08 36.2	+0.7
	comp=Z,4.0nm,0.9s						
CLL				epP	pP	14 08 46.0	+0.7
GERES	GERESS Array B	82.01	329	P	P	14 08 44.5	-0.2
	comp=Z,0.6nm,0.8s,baz=46,slow=3.9,SNR=4.7						
GERES	GERESS Array B	82.01	329	P	P	14 08 44.5	-0.2
TXAR	Lajitas Array	87.94	53	P	P	14 09 15.3	+0.4
	comp=Z,0.3nm,0.8s,baz=246,slow=5.8,SNR=2.8						
TXAR	Lajitas Array	87.94	53	P	P	14 09 15.3	+0.4

IDC 01 13:58:08.6±2.0, 4°.53N×124°.99E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=117.0km s-min=22.3km az=58.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.00	160	P	P	14 03 43.9	+0.5
	0.3nm,1.0s,baz=337,slow=9.7,SNR=4.9						
CMAR	Chiang Mai Arr	28.97	301	P	P	14 04 10.4	+0.2
	0.3nm,0.6s,baz=93,slow=7.5,SNR=3.0						
ASAR	Alice Springs	29.34	163	P	P	14 04 12.8	-0.6
	0.1nm,0.6s,baz=333,slow=7.9,SNR=4.7						
MKAR	Makanchi Array	55.92	326	P	P	14 07 48.2	-0.2
	0.1nm,0.5s,baz=115,slow=8.9,SNR=2.7						

MEX 01 14:02:44.2±1.0, 16°.81N×94°.91W, h113km±9km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.28	5	eP	Pn	14 02 58.8	-1.4
CMIG				iS	Sn	14 03 10.2	-2.1
HUIG	Huatulco	1.55	228	iP	Pn	14 03 09.6	-2.1
HUIG				iS	Sn	14 03 31.7	-0.9
TGIG		1.71	91	iP	Pn	14 03 12.8	-1.0
TGIG				iS	Sn	14 03 35.1	-1.3
VHO	Vista Hermosa	1.76	279	eP	Pn	14 03 13.7	-1.0
VHO				iS	Sn	14 03 36.4	-1.4
PCIG		1.96	124	eP	Pn	14 03 16.6	-0.2
PCIG				iS	Sn	14 03 40.7	-1.1

WEL 01 14:11:35.9±1.2, 35°.25S×178°.99E, h233km±11km, ML3.8/11, Error ellipse: s-maj=34.9km s-min=12.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.37	193	PN	Pn	14 12 20.1	-0.5
PUZ	Puketiti	2.88	192	PN	Pn	14 12 26.0	+0.1
PUZ				SN	S	14 13 05.6	+0.2
CNGZ	Carnagh Statio	3.29	191	PN	Pn	14 12 31.4	+0.9
MWZ	Matawai	3.30	200	PN	Pn	14 12 31.5	+0.9
URZ	Urewera	3.36	206	PN	Pn	14 12 31.9	+0.5
KNZ	Kokohu	3.91	195	PN	Pn	14 12 37.7	0.0
RAHZ	Arahi	3.96	202	PN	Pn	14 12 39.3	+0.8
MHGZ	Mahia Peninsul	3.99	192	PN	Pn	14 12 39.2	+0.5
BKZ	Black Stump Fm	4.39	206	PN	Pn	14 12 44.2	+0.5
MCHZ	McNeill Hill	4.57	203	PN	Pn	14 12 46.0	+0.3
KAHZ	Kahuranaki	4.84	200	PN	Pn	14 12 49.4	+0.3
PXZ	Pawanui	5.06	199	PN	Pn	14 12 51.2	-0.6
PXZ				SN	S	14 13 52.6	+0.5
PNHZ	Pukenui	5.16	205	ePN	Pn	14 12 52.1	-0.9
TSZ	Takapari Road	5.37	206	PN	Pn	14 12 55.2	-0.5
MRZ	Mangatainoka R	6.04	205	PN	Pn	14 13 03.4	-0.6
MRZ				SN	S	14 14 14.0	-0.4
HOWZ	Holdsworth Sta	6.27	205	PN	Pn	14 13 06.2	-0.8
OGWZ	Otaki Gorge	6.32	207	PN	Pn	14 13 07.3	-0.3
KIW	Kapiti Island	6.46	209	PN	Pn	14 13 08.9	-0.5
MTW	Mount Morrison	6.51	204	PN	Pn	14 13 08.9	-1.0
TCW	Tory Channel	7.01	211	ePN	Pn	14 13 15.3	-1.1
TUWZ	Tuamarina	7.33	211	ePN	Pn	14 13 19.3	-1.2
NNZ	Nelson	7.41	215	PN	Pn	14 13 20.7	-0.8
THZ	Tophouse	8.06	214	ePN	Pn	14 13 28.7	-1.2
KHZ	Kahutara	8.32	209	ePN	Pn	14 13 32.8	-0.3
MQZ	McQueen's Vall	9.76	208	SN	S	14 15 37.2	-3.9

IDC 01 14:16:04.8±6.5, 17°.88S×178°.29W, h626km±74km, mb3.1/8, mb1 3.3/8, mb1mx3.1/20, mbtmp3.1/8, Error ellipse: s-maj=45.5km s-min=27.1km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	34.57	279	P	P	14 22 03.5	-0.3
	9.4nm,0.8s,baz=166,slow=4.8,SNR=4.2						
STKA	Stephens Creek	38.75	241	P	P	14 22 37.9	+0.1
	1.2nm,0.5s,baz=85,slow=11,SNR=5.9						
WRA	Warramunga Arr	44.75	259	P	P	14 23 24.8	-0.1
	1.0nm,0.4s,baz=95,slow=6.9,SNR=57						
ASAR	Alice Springs	44.91	254	P	P	14 23 26.2	+0.1
	2.9nm,0.6s,baz=89,slow=8.4,SNR=68						
ASAR				PcP	PcP	14 24 53.1	-0.6
	0.2nm,0.5s,baz=103,slow=4.1,SNR=5.4						
MJAR	Matsushiro Arr	67.95	323	P	P	14 26 03.5	+0.4
	1.4nm,0.4s,baz=151,slow=5.8,SNR=9.2						
PETK	Petropavlovsk-	73.68	345	P	P	14 26 36.5	+0.3
	3.5nm,0.9s,baz=128,slow=8.1,SNR=4.7						
ILAR	Eielson Array	85.83	13	P	P	14 27 38.2	-0.9
	0.3nm,0.4s,baz=218,slow=4.8,SNR=7.4						
TXAR	Lajitas Array	85.88	58	P	P	14 27 40.8	+0.5
	0.3nm,0.9s,baz=257,slow=9.9,SNR=5.3						
BRTR	Keskin Array B	144.84	315	PKP	PKPbc	14 34 32.9	-0.2
	1.0nm,0.7s,baz=71,slow=1.7,SNR=4.3						
GERES	GERESS Array B	147.61	345	PKPbc	PKPbc	14 34 39.4	-0.9
	0.4nm,0.5s,baz=359,slow=3.9,SNR=5.2						

IDC 01 14:24:18.0±2.5, 13°.61S×167°.92E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.6/19, mbtmp3.5/5, Error ellipse: s-maj=83.6km s-min=34.9km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.20	229	P	P	14 30 32.1	+1.8
	1.6nm,1.0s,baz=42,slow=12,SNR=5.3						
WRA	Warramunga Arr	32.72	254	P	P	14 30 51.9	-0.8
	0.2nm,0.8s,baz=85,slow=9.3,SNR=6.1						
WRA				PcP	PcP	14 33 37.4	-1.1
	0.7nm,1.2s,baz=85,slow=3.8,SNR=4.1						
ASAR	Alice Springs	33.67	248	P	P	14 31 00.5	-0.5
	0.2nm,0.4s,baz=75,slow=9.5,SNR=23						
ASAR				PcP	PcP	14 33 40.0	-1.2
	0.2nm,0.6s,baz=74,slow=1.5,SNR=5.2						
SONM	Songino Array	81.98	323	P	P	14 36 41.1	+1.1
	0.3nm,0.8s,baz=115,slow=5.1,SNR=3.2						
MKAR	Makanchi Array	96.83	316	P	P	14 37 50.5	-0.6
	0.2nm,0.5s,baz=88,slow=6.5,SNR=4.5						

ISK 01 14:53:27.9, 37°.83N×29°.09E, h6km, MD2.6
DDA 01 14:53:27.8, 37°.82N×29°.10E, h7km, MD2.5
CSEM 01 14:53:27.9±0.2, 37°.81N×29°.10E, h5km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.3km az=106.0
ISCJB 01 14:53:28.1±0.5, 37°.83N±0°.03×29°.07E±0°.05, h8km±6km, Error ellipse: s-maj=6.8km s-min=4.8km az=4.0
ISC 01 14:53:27.5±0.9, 37°.80N±0°.03×29°.12E±0°.03, h14km±6km, n20, σ0s.35/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.08	236	ePG	Pg	14 53 30.4	-0.1
DENT	Denizli	0.08	236	ePg	Pg	14 53 30.4	-0.1
DNZL	Cakiroluk	0.12	207	iP	Pg	14 53 30.9	-0.2
DNZL				iS	Sg	14 53 33.5	0.0
DNZL	Cakiroluk	0.12	207	iP	Pg	14 53 30.9	-0.2
DNZL				iS	Sg	14 53 33.5	0.0
KHL	Karahalli	0.61	31	ePG	Pb	14 53 40.1	+0.1
KHL	Karahalli	0.61	31	ePg	Pb	14 53 40.1	+0.1
KHAL	Karahalli	0.64	27	iP	Pg	14 53 39.3	-0.8
KHAL				iS	Sb	14 53 49.7	+0.3
KHAL	Karahalli	0.64	27	iP	Pg	14 53 39.3	-0.8
KHAL				iS	Sb	14 53 49.7	+0.3
GOLH	Golhisar	0.66	148	iP	Pb	14 53 41.2	+0.3
GOLH				iS	Sn	14 53 53.0	+0.2
GOLH	Golhisar	0.66	148	iP	Pb	14 53 41.2	+0.3
GOLH				iS	Sn	14 53 53.0	+0.2
KULA	Kula-Manisa	0.80	333	ePG	Pg	14 53 42.7	-0.3
KULA				eSG	Sb	14 53 54.4	+0.4
KULA	Kula-Manisa	0.80	333	ePg	Pg	14 53 42.7	-0.3
KULA				eSg	Sb	14 53 54.4	+0.4
MANT	Manisa	0.82	328	iP	Pg	14 53 43.5	+0.1
MANT				iS	Sg	14 53 54.5	+0.3
MANT	Manisa	0.82	328	iP	Pg	14 53 43.5	+0.1
MANT				iS	Sg	14 53 54.5	+0.3
AYDN	Tasoluk	0.99	262	iP	Pb	14 53 46.5	0.0
AYDN				iS	Sb	14 53 58.8	-0.7
AYDN	Tasoluk	0.99	262	iP	Pb	14 53 46.5	0.0
AYDN				iS	Sb	14 53 58.8	-0.7
ALT	Altintas	1.48	32	ePN	Pg	14 53 55.5	-0.3
ALT	Altintas	1.48	32	ePn	Pg	14 53 55.5	-0.3
TVSB	Tavsanli	1.67	9	ePN	Pb	14 53 58.2	+0.1
TVSB	Tavsanli	1.67	9	ePn	Pb	14 53 58.2	+0.1

DJA 01 15:03:44.9±0.8, 8°S±10°×11°8E±°, h30km, M4.0/5, MLv4.0/5
ISCJB 01 15:03:45.4±0.6, 6°.99S±0°.08×117°.04E±0°.07, h10km, mb3.7/7, Error ellipse: s-maj=13.6km s-min=6.5km az=142.3
IDC 01 15:03:45.8±1.1, 7°.01S×117°.08E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=35.1km s-min=17.4km az=54.0
ISC 01 15:03:47.0±0.8, 7°.07S±0°.09×117°.05E±0°.06, h10km, n13, σ1s.21/16, mb3.8/7, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	Kahang-Kahang	1.92	228	P	Pn	15 04 19.0	-0.8
KHKI				S	Sb	15 04 46.7	+0.5
NBBI	Negara	2.73	242	P	Pn	15 04 29.3	-1.7
KMMI	Kalianget	3.06	270	P	Pb	15 04 39.7	-1.9
KMMI				S	Sg	15 05 28.3	+2.9
JAGI	Jajag, Banyuwa	3.19	244	P	Pn	15 04 36.8	-0.5
KAPI	Kappang	3.38	53	Pn	Pn	15 04 39.3	-0.5
	18nm,0.3s,baz=228,slow=9.1,SNR=102						
KAPI				Sn	Sn	15 05 19.7	-0.3
	11nm,0.3s,baz=6.0,slow=19,SNR=3.1						
KAPI	Kappang	3.38	53	P	Pn	15 04 39.4	-0.5
WRA	Warramunga Arr	21.10	129	P	P	15 08 31.6	-0.3
	1.9nm,0.8s,baz=303,slow=12,SNR=18						
ASAR	Alice Springs	23.12	137	P	P	15 08 53.7	+0.2
	1.1nm,0.6s,baz=313,slow=9.1,SNR=33						
STKA	Stephens Creek	33.66	140	P	P	15 10 29.4	+1.2
	1.0nm,0.8s,baz=298,slow=10,SNR=3.6						
SONM	Songino Array	55.47	351	P	P	15 13 22.5	+0.4
	0.7nm,0.8s,baz=166,slow=8.0,SNR=7.5						
MKAR	Makanchi Array	61.88	334	P	P	15 14 07.0	+0.3
	0.6nm,0.6s,baz=143,slow=7.5,SNR=11						
KURBB	Kurchatov Arra	66.40	334	P	P	15 14 36.4	+0.2
	0.8nm,0.9s,baz=143,slow=5.2,SNR=7.5						
ZALV	Zalesovo Beam	66.57	340	P	P	15 14 36.5	-0.7
	0.4nm,0.4s,baz=145,slow=5.3,SNR=4.9						

CSEM 01 15:04:21.9±0.2, 40°.40N×30°.10E, h2km, MD2.0, Error ellipse: s-maj=8.6km s-min=4.6km az=179.0

ISK 01 15:04:21.4, 40°.45N×30°.08E, h5km, MD2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADVT	Abdulvahap	0.26	266	ePG	Pg	15 04 27.2	+0.7
ADVT				eSG	Sg	15 04 30.8	+0.9
ADVT	Abdulvahap	0.26	266	ePg	Pg	15 04 27.2	+0.7
ADVT				eSg	Sg	15 04 30.8	+0.9
CAVI	Cavuskoy	0.31	216	ePG	Pg	15 04 27.3	-0.1
CAVI	Cavuskoy	0.31	216	ePg	Pg	15 04 27.3	-0.1
GULT	Gulveren	0.34	93	ePG	Pg	15 04 28.3	+0.2
GULT	Gulveren	0.34	93	ePg	Pg	15 04 28.3	+0.3
YLV	Yalova	0.55	282	ePG	Pb	15 04 33.0	-0.7
YLV	Yalova	0.55	282	ePg	Pb	15 04 33.0	-0.6
TVSB	Tavsanli	1.11	206	ePN	Pn	15 04 43.9	+0.2
TVSB	Tavsanli	1.11	206	ePn	Pn	15 04 43.9	+0.2

CSEM 01 15:04:49.1±0.1, 40°.86N×27°.55E, h10km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.3km az=143.0
DDA 01 15:04:49.1, 40°.81N×27°.57E, h7km, MD2.8

ISK 01 15:04:48.5, 40°.85N×27°.58E, h4km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	Tekirdag	0.15	348	ePG	Pg	15 04 52.6	+1.2
TKR				eSG	Sg	15 04 55.4	+2.0
TKR	Tekirdag	0.15	348	ePg	Pg	15 04 52.6	+1.2
TKR				eSg	Sg	15 04 55.4	+2.0
MFT	Murefte	0.23	255	ePG	Pg	15 04 54.0	+0.8
MFT	Murefte	0.23	255	ePg	Pg	15 04 54.0	+0.8
RKY	Sarkoy-Tekirda	0.34	242	ePG	Pg	15 04 55.6	+0.4
RKY	Sarkoy-Tekirda	0.34	242	ePg	Pg	15 04 55.6	+0.4
KRBG	Karabiga-Canak	0.50	205	ePG	Pg	15 04 58.7	+0.6
KRBG	Karabiga-Canak	0.50	205	ePg	Pg	15 04 58.7	+0.6
EDC	Edincik	0.55	156	ePG	Pb	15 04 60.0	-0.7
EDC	Edincik	0.55	156	ePg	Pb	15 05 00.0	-0.6
SLVT	Silivri	0.61	51	ePG	Pg	15 05 00.5	+0.2
SLVT	Silivri	0.61	51	ePg	Pg	15 05 00.5	+0.2
ELBA	Catalca	0.71	65	i P	Pb	15 05 04.1	+0.6
ELBA				i S	Sb	15 05 13.4	-0.3
ELBA	Catalca	0.71	65	i P	Pb	15 05 04.1	+0.6
ELBA				i S	Sb	15 05 13.4	-0.3
CTKS	Kestanelik-??a	0.80	61	ePG	Pb	15 05 04.8	-0.2
CTKS	Kestanelik-??a	0.80	61	ePg	Pb	15 05 04.8	-0.2
GONE	Gonen-Balikesi	0.80	174	ePG	Pg	15 05 04.2	+0.3
GONE	Gonen-Balikesi	0.80	174	ePg	Pg	15 05 04.2	+0.3
CTYL	Yal??k??y-??at	0.83	40	ePG	Pg	15 05 04.2	-0.1
CTYL	Yal??k??y-??at	0.83	40	ePg	Pg	15 05 04.2	-0.2
ERIK	Erikli-Kesan	0.83	258	ePG	Pg	15 05 04.9	+0.5
ERIK	Erikli-Kesan	0.83	258	ePg	Pb	15 05 04.9	-0.5
KCTX	Karacabey (Bur	0.83	134	ePG	Pb	15 05 05.2	-0.3
KCTX	Karacabey (Bur	0.83	134	ePg	Pb	15 05 05.2	-0.3
GELI	Tayfur-Gelibol	0.95	242	ePG	Pb	15 05 07.2	-0.4
GELI	Tayfur-Gelibol	0.95	242	ePg	Pb	15 05 07.2	-0.4
BGKT	Bogazkoy	0.96	69	ePG	Pg	15 05 07.2	+0.2
BGKT	Bogazkoy	0.96	69	ePg	Pg	15 05 07.2	+0.2
ENEZ	Enez	1.09	265	ePN	Pb	15 05 09.7	-0.1
ENEZ	Enez	1.09	265	ePn	Pb	15 05 09.7	-0.2
BALY	Balya	1.11	178	i P	Pb	15 05 10.1	-0.2
BALY				i S	Sg	15 05 24.5	+0.3
BALY	Balya	1.11	178	i S	Sg	15 05 24.5	+0.3
BALY	Balya	1.11	178	i P	Pg	15 05 10.0	+0.2
ISK	Istanbul-Kandi	1.14	79	ePN	Pn	15 05 11.2	-0.1
ISK	Istanbul-Kandi	1.14	79	ePn	Pn	15 05 11.2	-0.1
EDRB	Edirne	1.18	328	ePN	Pg	15 05 11.1	-0.1
EDRB	Edirne	1.18	328	ePn	Pg	15 05 11.1	-0.1
BALB	Balikesir	1.23	169	ePN	Pn	15 05 13.2	+0.7
BALB	Balikesir	1.23	169	ePn	Pn	15 05 13.2	+0.8
YLV	Yalova	1.39	101	ePN	Pg	15 05 15.6	+0.2
YLV	Yalova	1.39	101	ePn	Pg	15 05 15.6	+0.3
DURS	Dursunbey	1.42	151	i P	Pn	15 05 15.2	-0.1
DURS				i S	Sn	15 05 34.6	+0.1
DURS	Dursunbey	1.42	151	i P	Pn	15 05 15.2	0.0
DURS				i S	Sn	15 05 34.6	+0.1
SILT	Sile	1.59	78	ePN	Pb	15 05 18.3	-0.2
SILT	Sile	1.59	78	ePn	Pb	15 05 18.3	-0.2
TVSB	Tavsanli	2.01	133	ePN	Pn	15 05 24.1	+0.8
TVSB	Tavsanli	2.01	133	ePn	Pn	15 05 24.1	+0.8

IDC 01 15:08:23.8±0.8, 8°.82S×127°.18E, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=34.9km s-min=16.8km az=55.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.35	189	Pn	Pn	15 10 38.6	-1.3
	2.6nm,0.3s,baz=24,slow=13,SNR=54						
FITZ				Sn	Sn	15 12 19.6	-6.2
	6.8nm,0.3s,baz=288,slow=20,SNR=6.4						
FITZ				LR	LR	15 14 38.8	
	comp=Z,171nm,20.4s,baz=15,slow=40						
WRA	Warramunga Arr	13.05	149	Pn	Pn	15 11 25.2	-5.4
	1.5nm,0.3s,baz=328,slow=13,SNR=54						
WRA				Sn	Sn	15 13 43.4	-13
	2.1nm,0.3s,baz=331,slow=22,SNR=9.6						
ASAR	Alice Springs	16.11	157	Pn	Pn	15 12 07.4	-4.4
	0.5nm,0.3s,baz=321,slow=11,SNR=41						
ASAR				Sn	Sn	15 14 58.0	-13
	0.4nm,0.3s,baz=317,slow=16,SNR=8.1						
PMG	Port Moresby	19.74	93	P	Pn	15 12 56.3	-0.4
	0.3nm,0.3s,baz=210,slow=14,SNR=2.5						
CTA	Charters Tower	21.57	123	P	P	15 13 16.4	+1.2
	3.5nm,0.8s,baz=318,slow=9.8,SNR=3.9						
STKA	Stephens Creek	26.57	152	P	P	15 14 03.2	-0.4
	1.8nm,0.7s,baz=334,slow=10,SNR=7.7						
CMAR	Chiang Mai Arr	38.87	314	P	P	15 15 52.8	+1.5
	5.4nm,0.8s,baz=142,slow=6.8,SNR=34						
SONM	Songino Array	59.34	344	P	P	15 18 27.6	-0.1
	0.4nm,0.8s,baz=141,slow=6.2,SNR=3.4						
PETK	Petropavlovsk-	66.93	19	P	P	15 19 16.8	-1.2
	2.4nm,0.9s,baz=214,slow=9.6,SNR=4.2						
MKAR	Makanchi Array	68.26	329	P	P	15 19 26.7	+0.2
	2.0nm,0.8s,baz=134,slow=7.9,SNR=17						
ZALV	Zalesovo Beam	72.01	335	P	P	15 19 48.5	-0.9
	4.4nm,0.9s,baz=153,slow=5.4,SNR=20						
CPUP	Villa Florida	144.79	173	PKP	PKPab	15 28 01.4	-0.9
	0.7nm,0.5s,baz=326,slow=3.6,SNR=3.2						
LPAZ	La Paz	150.81	149	PKPbc	PKPbc	15 28 20.5	+0.4
	1.9nm,0.8s,baz=115,slow=4.1,SNR=6.5						

DJA 01 15:08:29.5±1.0, 3°S±5°×12°2E±°, h129km±14km, M4.1/4, mb4.4/1, MLv4.0/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	Kendari	1.23	146	P	Pn	15 08 54.8	+0.2
LUWI	Luwuk	2.05	24	P	Pn	15 09 02.8	-1.3
LUWI				S	Sn	15 09 32.8	+2.3
KAPI	Kappang	3.01	226	P	Pn	15 09 16.8	+0.6
LBMI	Labuha	6.01	68	P	Pn	15 09 56.1	0.0

IDC 01 15:12:22.1±0.9, 21°.99N×108°.62W, h0km, mb3.9/9, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML4.2/3, MS4.0/9, Ms1 4.0/9, ms1mx3.7/35, Error ellipse: s-maj=20.7km s-min=15.7km az=83.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	2.62	324	Pn	Pn	15 13 04.3	-1.4
	0.8nm,0.3s,baz=256,slow=1.5,SNR=38						
LPIG				Sn	Sn	15 13 36.0	-2.2
	3.1nm,0.3s,baz=336,slow=18,SNR=6.6						
TXAR	Lajitas Array	8.57	30	Pn	Pn	15 14 27.6	-0.1
	0.6nm,0.3s,baz=206,slow=14,SNR=33						
ANMO	Albuquerque	13.05	8	Pn	Pn	15 15 32.1	+3.0
	0.0nm,0.3s,baz=188,slow=16,SNR=9.4						
ANMO				LR	LR	15 21 15.5	
	comp=Z,126nm,19.3s,baz=195,slow=41						
CMIG	Matias Romero	13.83	108	Pn	Pn	15 15 40.9	+1.2
	1.5nm,0.3s,baz=291,slow=13,SNR=20						
CMIG				LR	LR	15 20 57.2	
	comp=Z,2μm,18.6s,baz=96,slow=37						
NVAR	Mina Array Bea	18.38	335	P	P	15 16 41.5	+2.6
	0.1nm,0.3s,baz=152,slow=11,SNR=19						
NVAR				LR	LR	15 24 25.3	
	comp=Z,1μm,18.2s,baz=207,slow=40						
TEIG	Tepich	19.06	92	P	Pn	15 16 46.6	-0.3
	0.7nm,0.3s,baz=256,slow=8.3,SNR=3.0						
TEIG				LR	LR	15 25 42.0	
	comp=Z,391nm,19.0s,baz=349,slow=42						
PDAR	Pinedale Array	20.73	358	P	P	15 17 05.0	+0.4
	0.5nm,0.7s,baz=179,slow=3.6,SNR=5.0						
ULM	Lac du Bonnet	29.94	16	P	P	15 18 31.8	0.0
	3.3nm,1.0s,baz=208,slow=7.7,SNR=4.3						
ULM				LR	LR	15 31 20.2	
	comp=Z,191nm,19.6s,baz=144,slow=38						
ROSC	El Rosal	37.31	112	P	P	15 19 38.4	+1.6
	3.2nm,0.4s,baz=96,slow=24,SNR=4.9						
YKA	Yellowknife Ar	40.69	356	P	P	15 20 04.5	+0.4
	1.1nm,0.9s,baz=175,slow=8.3,SNR=6.3						
SCHQ	Schefferville	45.25	33	P	P	15 20 40.8	-0.4
	4.9nm,1.1s,baz=237,slow=8.4,SNR=3.7						
SCHQ				LR	LR	15 40 09.5	
	comp=Z,205nm,20.6s,baz=239,slow=37						
ILAR	Eielson Array	49.56	340	P	P	15 21 15.4	+0.8
	3.6nm,1.1s,baz=149,slow=7.2,SNR=8.4						
LPAZ	La Paz	54.96	130	P	P	15 21 55.4	-0.8
	1.3nm,1.0s,baz=310,slow=3.7,SNR=3.8						
LPAZ				LR	LR	15 43 46.9	
	comp=Z,48nm,20.2s,baz=88,slow=34						
CPUP	Villa Florida	69.11	131	P	P	15 23 33.2	+2.9
	2.6nm,0.7s,baz=311,slow=7.4,SNR=6.0						
BDFB	Brasilia	70.18	117	P	P	15 23 35.6	-1.8
	0.8nm,0.4s,baz=270,slow=11,SNR=3.0						
PLCA	Paso Flores	71.74	150	P	P	15 23 52.8	+6.5
	3.3nm,1.1s,baz=307,slow=5.1,SNR=3.2						
NB2	NORSAR Subarra	84.23	25	P	P	15 24 55.7	+0.2
	comp=Z,5.4nm,1.1s,baz=305,slow=4.8						
NOA	NORSAR Array B	84.23	25	P	P	15 24 55.4	-0.1
	comp=Z,1.8nm,0.9s,baz=306,slow=4.9,SNR=3.7						
NOA				LR	LR	16 00 42.5	
	comp=Z,89nm,21.6s,baz=10.0,slow=34						
AKASG	Malin Array Be	98.64	26	LR	LR	16 16 16.2	
	comp=Z,102nm,19.1s,baz=335,slow=39						
CMAR	Chiang Mai Arr	131.59	324	PKP	PKPdf	15 31 41.5	+3.7
	comp=Z,0.6nm,0.7s,baz=29,slow=2.1,SNR=4.8						

IDC 01 15:15:22.6±1.3, 8°.78S×127°.60E, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.0/3, Error ellipse: s-maj=73.6km s-min=19.7km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.46	191	Pn	Pn	15 17 39.1	-1.2
	2.4nm,0.3s,baz=16,slow=16,SNR=11						
FITZ				Sn	Sn	15 19 19.1	-8.4
	4.4nm,0.3s,baz=225,slow=20,SNR=6.2						
WRA	Warramunga Arr	12.88	150	Pn	Pn	15 18 25.9	-1.2
	0.9nm,0.3s,baz=323,slow=13,SNR=9.2						
WRA				Sn	Sn	15 20 42.2	-9.1
	2.2nm,0.3s,baz=334,slow=21,SNR=8.2						
ASAR	Alice Springs	15.99	159	Pn	Pn	15 19 07.4	-1.8
	0.3nm,0.3s,baz=320,slow=11,SNR=6.5						
ASAR				Sn	Sn	15 21 57.5	-10
	0.4nm,0.3s,baz=344,slow=26,SNR=5.7						
STKA	Stephens Creek	26.41	152	P	P	15 21 02.8	+1.7
	1.8nm,0.7s,baz=337,slow=7.7,SNR=3.6						
CMAR	Chiang Mai Arr	39.14	314	P	P	15 22 53.0	+0.8
	1.9nm,0.7s,baz=140,slow=6.8,SNR=17						
MKAR	Makanchi Array	68.44	328	P	P	15 26 26.2	-0.2
	0.5nm,0.6s,baz=133,slow=6.1,SNR=5.1						
ZALV	Zalesovo Beam	72.15	335	P	P	15 26 48.2	-0.8
	0.9nm,0.6s,baz=142,slow=5.1,SNR=6.7						

ISCJB 01 15:26:10.9±0.3, 7°.53S±0°.03×128°.29E±0°.05, h151km, mb4.4/38, Error ellipse: s-maj=7.3km s-min=4.5km az=162.1
IDC 01 15:26:10.8±2.8, 7°.37S×128°.44E, h133km±25km, mb4.0/19, mb1 4.1/21, mb1mx4.1/26, mbtmp4.1/21, Error ellipse: s-maj=18.9km s-min=10.3km az=72.0
NEIC 01 15:26:14.0±1.1, 7°.44S×128°.38E, h163km±11km, mb4.6/14, Error ellipse: s-maj=8.7km s-min=5.2km az=49.0
BJI 01 15:26:14.2, 7°.30S×128°.95E, h195km, mB4.5/6, mb4.3/15
DJA 01 15:26:16.2±0.5, 8°S±5°×12°9E±°, h155km±32km, M4.8/6, mb4.9/6, mB5.5/3, MLv4.7/6, Mw(mB)5.0/3

ISC 01 15:26:12.5±0.3, 7°.51S±0°.05×128°.39E±0°.07, h151km, n120, σ1§20/119, mb4.4/38, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.33	27	P	Pn	15 27 06.9	+2.9
AAI	Ambon	3.80	357	P	Pn	15 27 13.5	+3.3
MSAI	Masohi	4.17	7	P	Pn	15 27 19.2	+4.2
TLE	Tual	4.70	67	P	Pn	15 27 24.6	+2.6
FAKI	Fak Fak	5.96	40	P	Pn	15 27 38.5	-0.2
	74nm,0.5s,2μm						
KDI	Kendari	6.74	301	P	Pn	15 27 53.8	+4.7
	28nm,1.0s						
LBMI	Labuha	6.88	353	P	Pn	15 27 54.9	+3.9
	88nm,0.7s,0.3nm						
SWI	Sorong	7.19	24	P	Pn	15 27 55.6	+0.4
	134nm,0.4s,4μm						
MNI	Manado	9.57	338	P	Pn	15 28 31.7	+4.8
FITZ	Fitzroy Crossi	10.87	194	P	Pn	15 28 43.6	-0.3
	19nm,0.3s,baz=30,slow=13,SNR=359						
FITZ				S	Sn	15 30 39.0	-5.2
	12nm,0.3s,baz=142,slow=19,SNR=12						
FITZ	Fitzroy Crossi	10.87	194	P	Pn	15 28 43.6	-0.3
FITZ				S	Sn	15 30 39.0	-5.2
WRAB	Tennant Creek	13.64	156	eP	Pn	15 29 18.1	-1.7
	52nm,0.6s						
WRAB				eS	Sn	15 31 41.0	-10
WRA	Warramunga Arr	13.64	156	P	Pn	15 29 18.5	-1.4
	9.4nm,0.3s,baz=335,slow=14,SNR=213						
WRA				S	Sn	15 31 43.1	-8.0
	16nm,0.3s,baz=332,slow=22,SNR=15						
WRA	Warramunga Arr	13.64	156	P	Pn	15 29 18.5	-1.4
WRA				S	Sn	15 31 43.1	-8.0
CTBH	Cotabato--PC H	15.20	344	⇑iP	P	15 29 43.3	+2.3
COEN	Coen	15.87	115	eP	P	15 29 49.5	+1.1
	92nm,0.5s						
MBWA	Marble Bar	15.95	211	eP	P	15 29 50.0	+0.8
AS31	Alice Springs	16.91	162	eP	Pn	15 30 01.3	+0.9
ASAR	Alice Springs	16.92	162	P	Pn	15 30 02.3	+1.9
	8.0nm,0.3s,baz=335,slow=11,SNR=374						
ASAR				S	S	15 32 59.5	-9.0
	0.9nm,0.3s,baz=340,slow=18,SNR=5.4						
ASAR	Alice Springs	16.92	162	P	Pn	15 30 02.3	+1.9
ASAR				S	S	15 32 59.5	-9.0
KKM	Kota Kinabalu	18.13	318	eP	Pn	15 30 16.2	+1.1
PMG	Port Moresby	18.66	97	P	Pn	15 30 21.2	+0.1
	0.7nm,0.3s,baz=269,slow=9.0,SNR=6.7						
PMG	Port Moresby	18.66	97	P	Pn	15 30 21.2	+0.1
KSM	Kuching	20.13	296	eP	P	15 30 34.8	-0.1
	40nm,0.8s						
CTA	Charters Tower	21.35	128	P	P	15 30 49.3	+1.3
	4.5nm,1.0s,baz=302,slow=13,SNR=6.1						
CTA	Charters Tower	21.35	128	P	P	15 30 49.3	+1.3
STKA	Stephens Creek	27.19	155	P	P	15 31 43.0	+0.9
	3.9nm,0.5s,baz=327,slow=8.9,SNR=2.8						
STKA	Stephens Creek	27.19	155	eP	P	15 31 43.2	+1.2
NWAO	Narrogin (SRO)	27.33	201	P	P	15 31 44.7	+1.4
	3.5nm,0.3s,baz=20,slow=9.3,SNR=5.5						
NWAO	Narrogin (SRO)	27.33	201	P	P	15 31 44.7	+1.4
KULM	Kulim	30.46	294	eP	P	15 32 12.2	+1.0
PSI	Prapat	31.14	288	P	P	15 32 16.1	-1.2
	7.1nm,0.8s,baz=41,slow=3.6,SNR=6.2						
PSI	Prapat	31.14	288	P	P	15 32 16.1	-1.2
CM31	Chiang Mai Arr	38.86	312	P	P	15 33 22.8	-0.5
	1.3nm,0.5s						
CMAR	Chiang Mai Arr	38.86	312	P	P	15 33 23.7	+0.4
	2.3nm,0.6s,baz=137,slow=7.0,SNR=17						
CMAR				PcP	PcP	15 35 32.4	+1.0
	0.8nm,0.6s,baz=166,slow=3.3,SNR=6.3						
CMAR	Chiang Mai Arr	38.86	312	P	P	15 33 23.7	+0.4
CMAR				PcP	PcP	15 35 32.4	+1.0
CHTO	Chiang Mai	39.08	312	eP	P	15 33 25.7	+0.6
	11nm,1.1s						
WHN	Wuhan	40.16	341	⇓P	P	15 33 35.0	+1.1
KSAR	Wonju Array Be	44.72	359	P	P	15 34 10.4	-0.2
KSRS	Korea Array	44.73	359	P	P	15 34 10.4	-0.2
	2.1nm,0.5s,baz=179,slow=9.5,SNR=13						
MJAR	Matsushiro Arr	44.77	11	P	P	15 34 08.5	-2.6
	2.7nm,0.8s,baz=193,slow=9.5,SNR=6.9						
MJAR	Matsushiro Arr	44.77	11	P	P	15 34 08.5	-2.6
XAN	Xi'an	45.25	337	P	P	15 34 13.8	-1.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	Lanzhou	49.12	334	eP	P	15 34 45.1	+0.1
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
USRK	Ussuriysk Arra	51.57	3	P	P	15 35 01.2	-1.8
	comp=Z,1.4nm,0.7s,baz=187,slow=7.6,SNR=3.9						
TAPN	Taplejung	52.45	313	eP	P	15 35 09.9	-0.3
	comp=Z,9.7nm,0.4s						
TAPN	Taplejung	52.45	313	eP	P	15 35 09.9	-0.3
	comp=Z,9.7nm,0.4s						
RAMN	Ramite	53.03	312	eP	P	15 35 14.7	+0.2
	comp=Z,30nm,0.6s						
RAMN	Ramite	53.03	312	eP	P	15 35 14.7	+0.2
	comp=Z,30nm,0.6s						
GTA	Gaotai	53.67	333	P	P	15 35 19.2	+0.5
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
JIRN	Jiri	53.73	312	eP	P	15 35 19.4	-0.3
	comp=Z,1.6nm,0.3s						
JIRN	Jiri	53.73	312	eP	P	15 35 19.4	-0.3
	comp=Z,1.6nm,0.3s						
GUN	Gumba	54.10	312	eP	P	15 35 22.1	-0.3
	comp=Z,27nm,0.6s						
GUN	Gumba	54.10	312	eP	P	15 35 22.1	-0.3
	comp=Z,27nm,0.6s						
PKI	Pulchoki	54.26	312	eP	P	15 35 22.8	-0.7
PKI	Pulchoki	54.26	312	eP	P	15 35 22.8	-0.7
KKN	Kakani	54.47	312	eP	P	15 35 24.5	-0.4
	comp=Z,13nm,0.7s						
KKN	Kakani	54.47	312	eP	P	15 35 24.5	-0.4
	comp=Z,13nm,0.7s						
GKN	Gorkha	55.06	312	eP	P	15 35 28.8	-0.3
	comp=Z,23nm,0.3s						
GKN	Gorkha	55.06	312	eP	P	15 35 28.8	-0.3
	comp=Z,23nm,0.3s						
KOLN	Koldanda	55.71	311	eP	P	15 35 33.7	-0.1
KOLN	Koldanda	55.71	311	eP	P	15 35 33.7	-0.1
DANN	Dangsing	55.90	312	eP	P	15 35 34.7	-0.6
DANN	Dangsing	55.90	312	eP	P	15 35 34.7	-0.6
PYUN	Piuthan	56.34	311	eP	P	15 35 38.1	-0.2
	comp=Z,45nm,0.7s						
PYUN	Piuthan	56.34	311	eP	P	15 35 38.1	-0.2
	comp=Z,45nm,0.7s						
ULN	Ulaanbaatar	58.27	343	eP	P	15 35 51.4	0.0
	comp=Z,9.1nm,1.0s						
SONM	Songino Array	58.43	343	P	P	15 35 52.9	+0.4
	comp=Z,3.6nm,0.8s,baz=157,slow=7.4,SNR=28						
SONM	Songino Array	58.43	343	P	P	15 35 52.9	+0.4
PEA0B	Petropavlovsk-	65.31	19	eP	P	15 36 38.0	-0.1
PETK	Petropavlovsk-	65.31	19	P	P	15 36 38.0	-0.2
	comp=Z,11nm,0.6s,baz=184,slow=6.3,SNR=50						
PETK	Petropavlovsk-	65.31	19	P	P	15 36 38.0	-0.2
MK31	Makanchi Array	67.79	328	eP	P	15 36 54.1	+0.1
MKAR	Makanchi Array	67.79	328	P	P	15 36 54.0	0.0
	comp=Z,3.4nm,0.5s,baz=120,slow=7.8,SNR=93						
MKAR	Makanchi Array	67.79	328	P	P	15 36 54.0	0.0
YAK	Yakutsk	69.34	1	eP	P	15 37 02.4	-0.8
	comp=Z,29nm,0.8s						
TKM2	Tokmak 2	69.37	321	eP	P	15 37 04.4	+0.2
	comp=Z,1.5nm,0.5s						
AAK	Ala-Archa	69.91	321	P	P	15 37 07.5	+0.1
	comp=Z,3.6nm,0.7s,baz=134,slow=6.7,SNR=13						
AAK	Ala-Archa	69.91	321	P	P	15 37 07.5	+0.1
EKS2	Erkin-Say	70.37	320	eP	P	15 37 10.7	+0.5
	comp=Z,5.5nm,0.8s						
ZAA0	Zalesovo Array	71.34	335	eP	P	15 37 14.6	-1.1
ZALV	Zalesovo Beam	71.34	335	P	P	15 37 14.5	-1.1
	comp=Z,7.2nm,0.6s,baz=138,slow=5.4,SNR=42						
ZALV	Zalesovo Beam	71.34	335	P	P	15 37 14.5	-1.1
KURBB	Kurchatov Arra	72.12	329	P	P	15 37 20.2	-0.1
	comp=Z,15nm,0.8s,baz=131,slow=5.0,SNR=133						
KURK	Kurchatov	72.13	329	eP	P	15 37 20.1	-0.2
VNDA	Vanda	72.14	173	P	P	15 37 21.3	+1.2
	comp=Z,0.6nm,0.7s,baz=326,slow=9.2,SNR=3.5						
VNDA	Vanda	72.14	173	P	P	15 37 21.3	+1.2
BVAR	Borovoye Array	77.65	328	P	P	15 37 51.7	-0.4
	comp=Z,2.0nm,0.5s,baz=114,slow=6.4,SNR=20						
BVAR	Borovoye Array	77.65	328	P	P	15 37 51.6	-0.4
BRVK	Borovoye	77.72	328	eP	P	15 37 52.3	-0.1
	comp=Z,6.0nm,0.8s						
ABKAR	Akbulak array	81.92	322	eP	P	15 38 14.4	-0.8
	comp=Z,2.7nm,0.5s						
QSPA	South Pole Qui	82.47	180	P	P	15 38 18.6	+0.7
	comp=Z,0.7nm,0.5s,baz=346,slow=1.2,SNR=22						
QSPA	South Pole Qui	82.47	180	P	P	15 38 18.6	+0.7
AKTO	Aktyubinsk	83.50	323	P	P	15 38 23.1	-0.3
	comp=Z,5.5nm,0.8s,baz=107,slow=6.4,SNR=16						
AKTO	Aktyubinsk	83.50	323	P	P	15 38 23.1	-0.3
ARU	Arti	85.30	328	eP	P	15 38 31.5	-0.7
	comp=Z,8.2nm,1.0s						
ILAR	Eielson Array	94.48	25	P	P	15 39 13.1	-2.2
	comp=Z,0.6nm,0.9s,baz=248,slow=5.0,SNR=6.3						
ILAR	Eielson Array	94.48	25	P	P	15 39 13.1	-2.2
FINES	FINESS Array B	102.44	331	PKiKP	PKiKP	15 44 10.4	-1.2
	comp=Z,1.8nm,1.0s,baz=116,slow=6.3,SNR=3.9						
FINES	FINESS Array B	102.44	331	PKiKP	PKiKP	15 44 10.4	-1.2
YKA	Yellowknife Ar	108.90	26	PKiKP	PKiKP	15 44 22.8	-0.7
	comp=Z,0.4nm,0.6s,baz=293,slow=1.5,SNR=11						
YKA	Yellowknife Ar	108.90	26	PKiKP	PKiKP	15 44 22.8	-0.7
GERES	GERESS Array B	111.78	320	PKiKP	PKiKP	15 44 28.9	-0.7
	comp=Z,0.5nm,0.5s,baz=46,slow=2.8,SNR=6.8						
GERES	GERESS Array B	111.78	320	PKiKP	PKiKP	15 44 28.9	-0.7
PDAR	Pinedale Array	118.38	45	PKP	PKPdf	15 44 42.5	-0.2
	comp=Z,0.7nm,0.7s,baz=264,slow=0.8,SNR=7.1						
PDAR	Pinedale Array	118.38	45	PKP	PKPdf	15 44 42.5	-0.2
ULM	Lac du Bonnet	123.73	33	PKP	PKPdf	15 44 51.0	-1.4
	comp=Z,1.9nm,0.5s,baz=273,slow=2.8,SNR=4.2						
ULM	Lac du Bonnet	123.73	33	PKP	PKPdf	15 44 51.0	-1.4
TXAR	Lajitas Array	126.55	59	PKP	PKPdf	15 44 58.8	+0.3
	comp=Z,0.3nm,0.4s,baz=131,slow=3.7,SNR=5.5						
TXAR	Lajitas Array	126.55	59	PKP	PKPdf	15 44 58.8	+0.3
TORD	Torodi Ar. Bea	127.34	281	PKP	PKPdf	15 44 60.0	-0.3
	comp=Z,1.5nm,0.7s,baz=84,slow=1.8,SNR=11						
TORD	Torodi Ar. Bea	127.34	281	PKP	PKPdf	15 44 60.0	-0.3
SCHQ	Schefferville	131.25	12	PKP	PKPdf	15 45 07.2	+0.6
	comp=Z,0.8nm,0.4s,baz=333,slow=2.3,SNR=5.1						
SCHQ	Schefferville	131.25	12	PKP	PKPdf	15 45 07.2	+0.6
DBIC	Dimbokro	133.62	272	PKP	PKPdf	15 45 12.9	+0.7
	comp=Z,1.2nm,0.4s,baz=228,slow=1.3,SNR=5.1						
DBIC	Dimbokro	133.62	272	PKP	PKPdf	15 45 12.9	+0.7
CPUP	Villa Florida	145.91	171	PKPbc	PKPab	15 45 36.1	+0.5
	comp=Z,0.9nm,0.4s,baz=208,slow=1.9,SNR=4.2						
CPUP	Villa Florida	145.91	171	PKPbc	PKPab	15 45 36.1	+0.5
LPAZ	La Paz	151.25	145	PKPbc	PKPbc	15 45 50.9	+1.0
	comp=Z,2.1nm,0.4s,baz=117,slow=2.3,SNR=11						
LPAZ	La Paz	151.25	145	ePKPbc	PKPbc	15 45 50.9	+1.0

ISCJB 01 15:42:08.4±1.6, 21°.74S±0°.05×176°.61W±0°.03, h132km±14km, mb5.2/184, Error ellipse: s-maj=7.7km s-min=4.0km az=167.3
DJA 01 15:42:09.7±1.7, 22°S±11°×17°6W±1°2, h126km±23km, M6.2/14, mB6.1/10, mb5.9/14, MLv7.0/1, Mw(mB)5.7/10
MOS 01 15:42:11.1±0.9, 21°.59S×176°.59W, h153km, mb5.3/54, Error ellipse: s-maj=8.9km s-min=7.8km az=140.3
BJI 01 15:42:12.6, 21°.17S×176°.04W, h171km, mB5.2/30, mb5.2/39
IDC 01 15:42:13.8±0.7, 21°.66S×176°.55W, h170km±5km, mb5.0/32, mb1 5.1/33, mb1mx5.1/33, mbtmp5.0/33, MS4.0/8, Ms1 4.0/8, ms1mx3.8/27, Error ellipse: s-maj=9.5km s-min=8.0km az=11.0
NEIC 01 15:42:13.7±0.1, 21°.76S×176°.58W, mb5.2/134, Error ellipse: s-maj=5.1km s-min=3.3km az=154.0
GCMT 01 15:42:15.9±0.1, 21°.83S×176°.16W, h180km, MW5.5, Moment Tensor Solution. s91,c170; s99,c217; Moment tensor: Scale 10^{17}Nm; M_{rr}0.70±.02; $M_{\theta\theta}$-0.70±.03; $M_{\phi\phi}$0.00±.03; $M_{r\theta}$-1.31±.02; $M_{\theta\phi}$-0.22±.03; $M_{\phi r}$-1.59±.02; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s93.00000°, δ13.00000°, λ140.00000°. NP2:ϕ_s222.00000°, δ82.00000°, λ80.00000°. Principal axes: T 2.2700, Plg52.0000°, Azm121.0000°; N -0.1700, Plg10.0000°, Azm224.0000°; P -2.1000, Plg36.0000°, Azm321.0000°; Data Used: II IU IC G CN. Surface waves from 112 sta.
SZGRF 01 15:42:15.7, 21°.30S×177°.11W, h164km, Fiji Islands region

ISC 01 15:42:13.8±0.2, 21°.75S±0°.04×176°.50W±0°.04, h173km±1km, h173km:pP-P, n1278, σ1§26/1541, mb5.2/183, 288C-213D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.51	307	⇓iP	Pn	15 43 49.6	+2.0
MSVF				e		15 45 04.7	

MSVF pmax pmax
comp=Z,283nm,0.8s
MSVF Nonsavu 6.51 307 ⇓*i*Pn **Pn 15 43 49.6 +2.0**
comp=Z,283nm,0.8s
MSVF *e*Sn **Sn 15 45 04.7 +3.3**
MSVF Nonsavu 6.51 307 Pn **Pn 15 43 49.0 +1.4**
comp=Z,2µm,0.8s,SNR=81
AFI Afiamalu 9.00 31 P Pn 15 44 11.4 -9.1
comp=Z,9.2nm,0.3s,baz=29,slow=3.4,SNR=40
AFI S Sn 15 45 46.8 -14
comp=Z,153nm,0.3s,baz=43,slow=19,SNR=5.9
AFI Afiamalu 9.00 31 *e*Pn Pn 15 44 11.7 -8.9
comp=Z,309nm,0.5s
AFI S Sn 15 45 46.8 -14
RAR Rarotonga 15.58 91 P **Pn 15 45 44.5 +0.1**
comp=Z,8.2nm,0.3s,baz=266,slow=7.5,SNR=92
RAR S Sn 15 48 23.6 -15
comp=Z,5.6nm,0.3s,baz=128,slow=18,SNR=6.7
RAR T 16 00 38.7
comp=Z,23nm,0.3s,baz=192,slow=14,SNR=3.8
RAR Rarotonga 15.58 91 ⇑*i*Pn **Pn 15 45 44.4 +0.1**
comp=Z,950nm,1.1s
RAR *e*Sn Sn 15 48 23.6 -15
RAR TT 16 00 38.7
DZM Mont Dzumac 15.84 266 *e*Pn **P 15 45 51.6 +3.7**
comp=Z,233nm,0.9s
DZM Mont Dzumac 15.84 266 P **P 15 45 52.1 +4.2**
comp=Z,3.5nm,0.3s,baz=83,slow=18,SNR=63
DZM ScP **ScP 15 53 55.7 +2.4**
comp=Z,0.2nm,0.3s,baz=66,slow=13,SNR=9.3
DZM Mont Dzumac 15.84 266 *e*P **P 15 45 49.4 +1.5**
DZM Mont Dzumac 15.84 266 *e*P **P 15 45 51.4 +3.5**
comp=Z,128nm,0.9s
DZM ScP **ScP 15 53 55.7 +2.4**
DZM *e*ScP ScP 15 53 56.5 +3.2
NOUC Port Laguerre 15.96 266 *e*P **P 15 45 52.4 +3.2**
OUZ Omahuta 15.98 211 ⇑*i*Pn **P 15 45 51.2 +2.0**
comp=Z,74nm,1.0s
URZ Urewera 17.35 197 *e*P **P 15 46 01.1 -3.2**
comp=Z,167nm,0.9s
URZ *e*S S 15 49 02.4 -14
KHZ Kahutara 22.23 200 *e*P **P 15 46 52.5 -3.9**
comp=Z,142nm,0.8s
RPZ Rata Peaks 24.22 202 *e*P **P 15 47 13.2 -1.3**
comp=Z,160nm,0.8s
TBI Tubuai 25.01 99 *e*P **P 15 47 21.8 -0.1**
comp=Z,224nm,1.0s
TBI *e*LR LR 15 53 49.7
comp=Z,863nm,26.0s
TARA Tarawa 25.19 334 *e*P **P 15 47 21.7 -1.8**
comp=Z,1µm,1.0s
ODZ Otahua Downs 25.53 201 *e*P **P 15 47 25.5 -0.8**
comp=Z,284nm,0.9s
PAE Paea 25.65 86 *e*P **P 15 47 27.1 -0.6**
comp=Z,28nm,1.2s
PPT2 Papeete2 25.67 85 *e*P **P 15 47 27.6 -0.4**
comp=Z,218nm,1.3s
PPT2 *e*LR LR 15 54 01.2
comp=Z,1µm,29.0s
PPT Papeete 25.68 85 P **P 15 47 27.5 -0.5**
comp=Z,92nm,0.7s,baz=266,slow=1.4,SNR=15
PPT Papeete 25.68 85 P **P 15 47 27.5 -0.5**
HNR Honiara 25.74 295 *e*P **P 15 47 29.5 +0.9**
comp=Z,563nm,0.8s
TIAR Tiarei 25.89 86 *e*P **P 15 47 29.7 -0.2**
comp=Z,286nm,1.0s
MEH Mehetia 27.01 87 *e*P **P 15 47 39.2 -0.7**
comp=Z,214nm,1.3s
PMOR Pomariorio Ree 27.93 81 *e*P **P 15 47 47.5 -0.6**
comp=Z,294nm,1.4s
ARMA Armidale 29.82 247 ⇑*i*P **P 15 48 04.9 +0.1**
comp=Z,34nm,1.0s
EIDS Eidsvold 29.89 257 ⇓*i*P **P 15 48 06.1 +0.7**
comp=Z,103nm,1.4s
EIDS *e*pP **pP 15 48 41.1 -0.3**
CTA Charters Tower 34.78 266 P **P 15 48 48.8 +0.7**
comp=Z,120nm,0.7s,baz=95,slow=10,SNR=177
CTA pP **pP 15 49 27.1 +2.5**
comp=Z,23nm,0.9s,baz=78,slow=8.9,SNR=1.3
CTA S **S 15 54 05.0 -0.9**
comp=Z,6.7nm,1.1s,baz=250,slow=14,SNR=5.0
CTA ScP **ScP 15 54 48.8 +2.0**
comp=Z,19nm,1.1s,baz=120,slow=3.1,SNR=6.1
CTA Charters Tower 34.78 266 P **P 15 48 48.8 +0.7**
CTA pP **pP 15 49 27.1 +2.5**
CTA S **S 15 54 05.0 -0.9**
CTA ScP **ScP 15 54 48.8 +2.0**
CTAO Charters Tower 34.78 266 ⇓*i*P **P 15 48 48.8 +0.7**
CTAO *e**PP **pP 15 49 25.1 +0.5**
CTAO *e* 15 50 12.2
CTAO *e*S **S 15 54 04.3 -1.6**
CTAO pmax pmax
comp=Z,112nm,0.7s
CTAO Charters Tower 34.78 266 ⇓*i*P **P 15 48 48.8 +0.7**
comp=Z,112nm,0.7s
CTAO *e*pP **pP 15 49 25.1 +0.5**
CTAO *e*PP **PnPn 15 50 12.2 +1.4**
CTAO *e*S **S 15 54 04.3 -1.6**
CTAO *e*ScP **ScP 15 54 49.2 +2.3**
PMG Port Moresby 36.99 284 P **P 15 49 07.1 +0.1**
comp=Z,227nm,0.8s,baz=100,slow=5.4,SNR=86
PMG pP **pP 15 49 46.1 +2.4**
comp=Z,91nm,1.0s,baz=95,slow=8.0,SNR=2.8
PMG ScP **ScP 15 54 56.0 +1.0**
comp=Z,27nm,1.0s,baz=220,slow=2.5,SNR=5.8
PMG Port Moresby 36.99 284 ⇓*i*P **P 15 49 07.1 +0.1**
comp=Z,247nm,0.8s
PMG pP **pP 15 49 46.1 +2.4**
PMG *e*pP **pP 15 49 47.4 +3.6**
PMG ScP **ScP 15 54 56.0 +1.0**
PMG *e*ScP **ScP 15 54 57.1 +2.1**
PMG Port Moresby 36.99 284 P **P 15 49 07.3 +0.4**
comp=Z,329nm,0.9s,comp=Z,2µm
TAOE Nuku Hiva Isla 37.22 76 *e*P **P 15 49 08.2 -0.7**
comp=Z,96nm,0.6s
RKT Rikitea 38.31 100 *e*P **P 15 49 18.8 +0.9**
comp=Z,106nm,1.1s
RKT *e*LR LR 15 59 59.6
comp=Z,2µm,40.2s
STKA Stephens Creek 38.53 246 P **P 15 49 19.1 -0.6**
comp=Z,26nm,0.7s,baz=82,slow=9.3,SNR=77
STKA PcP **PcP 15 51 29.8 +0.9**
comp=Z,18nm,0.6s,baz=74,slow=3.9,SNR=5.5
STKA ScP **S 15 55 02.5 0.0**
comp=Z,14nm,0.7s,baz=70,slow=5.1,SNR=11
STKA Stephens Creek 38.53 246 *e*P **P 15 49 18.5 -1.2**
comp=Z,5.6nm,0.7s
STKA *e*PcP **PcP 15 51 29.5 +0.7**
STKA PcP **PcP 15 51 29.8 +0.9**
STKA *e*ScP **S 15 55 02.4 -0.1**
STKA ScP **S 15 55 02.5 0.0**
COEN Coen 39.07 275 ⇓*i*P **P 15 49 24.6 +0.3**
comp=Z,950nm,1.2s
BBOO Buckleboo 43.27 245 ⇑*i*P **P 15 49 57.0 -1.3**
comp=Z,732nm,0.9s
BBOO *e*PcP **PcP 15 51 44.4 +0.1**
AS31 Alice Springs 45.61 258 ⇓*e*P **P 15 50 16.7 -0.4**
AS31 *e*ScP **ScP 15 55 29.5 +0.3**
ASAR Alice Springs 45.61 258 P **P 15 50 17.4 +0.2**
comp=Z,166nm,0.8s,baz=95,slow=8.1,SNR=862
ASAR PcP **PcP 15 51 53.0 +0.5**
comp=Z,20nm,0.9s,baz=108,slow=4.6,SNR=6.6
ASAR ScP **ScP 15 55 30.7 +1.5**
comp=Z,7.8nm,0.9s,baz=96,slow=4.5,SNR=9.8
ASAR S **S 15 56 42.8 -3.9**
comp=Z,11nm,1.0s,baz=92,slow=16,SNR=16
ASAR PKiKP **PKiKP 15 58 48.1 -1.2**
comp=Z,0.8nm,0.7s,baz=99,slow=1.6,SNR=6.5
ASAR ScS **ScS 15 59 52.6 -2.8**
comp=Z,7.2nm,1.0s,baz=59,slow=3.8,SNR=5.8
ASAR P3KPbc 16 18 56.8
comp=Z,0.2nm,0.6s,baz=287,slow=3.8,SNR=5.6
ASAR Alice Springs 45.61 258 P **P 15 50 17.4 +0.2**
ASAR PcP **PcP 15 51 53.0 +0.5**
ASAR ScP **ScP 15 55 30.7 +1.5**
ASAR S **S 15 56 42.8 -3.9**
ASAR PKiKP **PKiKP 15 58 48.1 -1.2**
ASAR ScS **ScS 15 59 52.6 -2.8**
ASAR *e* 16 18 56.8
JAY Jayapura 45.77 289 P **P 15 50 18.6 +0.2**
comp=Z,222nm,0.7s,comp=Z,3µm
WRAB Tennant Creek 45.82 263 ⇓*i*P **P 15 50 18.0 -0.8**
WRAB *e**PP **pP 15 50 56.5 -0.4**
WRAB *e*S **S 15 56 45.3 -4.4**
WRAB pmax pmax
comp=Z,127nm,1.0s
WRAB Tennant Creek 45.82 263 ⇓*i*P **P 15 50 18.0 -0.8**
comp=Z,127nm,1.0s
WRAB *e*pP **pP 15 50 56.5 -0.4**
WRAB *e*ScP **ScP 15 55 32.4 +2.4**
WRAB *e*S **S 15 56 45.3 -4.4**
WRAB Tennant Creek 45.82 263 P **P 15 50 18.0 -0.8**
comp=Z,682nm,0.9s,SNR=52
WRA Warramunga Arr 45.83 263 P **P 15 50 18.0 -0.8**
comp=Z,84nm,0.8s,baz=99,slow=7.8,SNR=333
WRA pP **pP 15 50 56.5 -0.5**
comp=Z,20nm,0.9s,baz=100,slow=8.2,SNR=2.3
WRA ScP **ScP 15 55 31.7 +1.7**
comp=Z,7.6nm,0.9s,baz=92,slow=4.4,SNR=14
WRA S **S 15 56 44.2 -5.6**
comp=Z,4.1nm,1.0s,baz=100,slow=15,SNR=12
WRA PKiKP **PKiKP 15 58 47.9 -1.7**
comp=Z,0.8nm,0.6s,baz=88,slow=0.6,SNR=6.4
WRA ScS **ScS 15 59 56.4 -0.5**
comp=Z,1.4nm,1.1s,baz=111,slow=4.9,SNR=4.9
WRA Warramunga Arr 45.83 263 P **P 15 50 18.0 -0.8**
WRA pP **pP 15 50 56.5 -0.5**
WRA ScP **ScP 15 55 31.7 +1.7**
WRA S **S 15 56 44.2 -5.6**
WRA PKiKP **PKiKP 15 58 47.9 -1.7**
WRA ScS **ScS 15 59 56.4 -0.5**
FORT Forrest 50.10 248 *e*P **P 15 50 49.0 -2.4**
comp=Z,93nm,0.6s
FORT *e*ScP **ScP 15 55 50.3 +2.4**
BAKI Biak 50.45 287 P **P 15 50 55.2 +0.9**
comp=Z,321nm,0.9s
TLE Tual 51.60 280 P **P 15 51 02.9 0.0**
comp=Z,218nm,1.0s
GUMO Guam 51.68 309 P **P 15 51 04.1 +0.8**
comp=Z,966nm,0.7s,baz=192,slow=14,SNR=38
GUMO Guam 51.68 309 ⇓*e*P **P 15 51 03.1 -0.2**
comp=Z,1µm,0.8s
FITZ Fitzroy Crossi 54.26 263 P **P 15 51 22.2 -0.1**
comp=Z,58nm,0.9s
FITZ Fitzroy Crossi 54.26 263 P **P 15 51 22.2 -0.1**
SBA Scott Base 56.72 184 ⇑*i*P P 15 51 42.1 +3.2
SBA *e**PP pP 15 52 17.3 -1.3
SBA *e* 15 52 34.6
SBA pmax pmax
comp=Z,129nm,0.9s
SBA Scott Base 56.72 184 ⇑*i*P P 15 51 42.1 +3.2
comp=Z,129nm,0.9s
SBA *e*pP pP 15 52 17.3 -1.3
SBA *e*PcP **PcP 15 52 34.6 +1.7**
VNDA Vanda 56.80 186 P **P 15 51 41.4 +1.9**
comp=Z,48nm,0.8s,baz=2.7,slow=7.8,SNR=90
VNDA PcP **PcP 15 52 34.6 +1.5**
comp=Z,26nm,1.0s,baz=322,slow=4.1,SNR=4.4
VNDA Vanda 56.80 186 ⇑*i*P **P 15 51 41.5 +2.1**
comp=Z,70nm,1.0s
VNDA *e*PcP **PcP 15 52 33.5 +0.4**
VNDA PcP **PcP 15 52 34.6 +1.5**
MBWA Marble Bar 58.95 258 ⇑*e*P **P 15 51 53.8 -1.6**
comp=Z,44nm,0.7s
MBWA *e*pP pP 15 52 29.8 -5.6
NWAO Narrogin (SRO) 59.07 244 P **P 15 51 55.4 -0.7**
comp=Z,24nm,0.8s,baz=112,slow=8.4,SNR=13
NWAO ScP **ScP 15 56 24.8 -2.4**
comp=Z,15nm,1.0s,baz=163,slow=6.4,SNR=3.2
NWAO LR LR 16 16 34.6
comp=Z,203nm,18.0s,baz=280,slow=35
NWAO Narrogin (SRO) 59.07 244 P **P 15 51 55.4 -0.7**
NWAO ScP **ScP 15 56 24.8 -2.4**
CBIJ Chichi jima 62.90 319 P **P 15 52 21.6 -0.2**
comp=Z,111nm,0.7s,baz=30,slow=15,SNR=5.0
CBIJ Chichi jima 62.90 319 P **P 15 52 21.6 -0.2**
CASY Casey 63.44 206 ⇑*i*P **P 15 52 25.7 +0.9**
comp=Z,479nm,1.7s
DAV Davao City (W) 63.58 290 P **P 15 52 25.9 -0.6**
comp=Z,137nm,0.3s,baz=18,slow=3.2,SNR=6.2
DAV Davao City (W) 63.58 290 P **P 15 52 25.9 -0.6**
KAPI Kappang 63.79 275 P **P 15 52 26.3 -1.6**
comp=Z,11nm,0.8s,baz=95,slow=11,SNR=5.1
KAPI Kappang 63.79 275 P **P 15 52 26.3 -1.6**
JAGI Jajag, Banyuwa 67.78 270 P **P 15 52 52.3 -1.2**
comp=Z,38nm,1.4s
QSPA South Pole Qui 68.32 180 P **P 15 52 57.1 +1.0**
comp=Z,197nm,0.9s,baz=58,slow=2.6,SNR=765
QSPA LR LR 16 15 57.8
comp=Z,229nm,20.0s,baz=140,slow=30
QSPA South Pole Qui 68.32 180 ⇑*i*P **P 15 52 57.2 +1.1**
comp=Z,196nm,0.9s
KMMI Kalianget 68.44 271 P **P 15 52 59.1 +1.6**
MYLDM Lahad Datu 69.01 285 P **P 15 53 01.0 -0.1**
TSM Tawau 69.20 284 P **P 15 53 03.1 +0.8**
TSM Tawau 69.20 284 P **P 15 53 03.5 +1.3**
SDKM Sandakan 70.38 285 P **P 15 53 10.3 +0.7**
KKM Kota Kinabalu 71.43 285 P **P 15 53 16.5 +0.6**
JOW Kunigami 72.04 310 P **P 15 53 18.9 -0.2**
comp=Z,60nm,0.8s,baz=131,slow=7.6,SNR=8.7
JOW Kunigami 72.04 310 P **P 15 53 18.9 -0.2**
MJAR Matsushiro Arr 72.05 323 P **P 15 53 17.9 -1.1**
comp=Z,33nm,0.6s,baz=163,slow=6.3,SNR=168
MJAR pP **pP 15 54 00.2 -0.4**
comp=Z,12nm,1.0s,baz=134,slow=7.0,SNR=1.8
MJAR LR LR 16 21 04.1
comp=Z,52nm,19.1s,baz=105,slow=32
MJAR Matsushiro Arr 72.05 323 P **P 15 53 17.9 -1.1**
MJAR pP **pP 15 54 00.2 -0.4**
MAJO Matsushiro 72.05 323 ⇓*i*P **P 15 53 18.0 -1.0**
MAJO pmax pmax
comp=Z,38nm,0.6s
MAJO Matsushiro 72.05 323 ⇓*i*P **P 15 53 18.0 -1.0**
comp=Z,38nm,0.6s
MAT Matsushiro 72.05 323 P **P 15 53 18.1 -0.9**
MAT S **S 16 02 23.0 -3.7**
BTM Bintulu 73.10 281 P **P 15 53 26.6 +0.9**
SBUM Sibu 73.60 279 P **P 15 53 29.4 +0.7**
ERM Erimo 73.60 330 P **P 15 53 28.6 +0.6**
ERM pmax pmax
comp=Z,27nm,1.0s
ERM Erimo 73.60 330 P **P 15 53 28.6 +0.6**
comp=Z,27nm,1.0s
YUK Yuzh-Kuril'sk 74.00 333 *c*P **P 15 53 27.3 -2.9**
YUK *j**PP pP 15 54 04.1 -7.9
YUK *j* PPP PPP 15 58 01.5
YUK *j* S **SKiKP 16 02 44.4 +3.6**
JNU Nakatsue 74.15 316 P **P 15 53 30.6 -0.8**
comp=Z,59nm,1.0s,baz=135,slow=4.3,SNR=17
JNU Nakatsue 74.15 316 *e*P **P 15 53 30.8 -0.6**
comp=Z,43nm,1.1s
JNU *e*pP **pP 15 54 13.5 +0.3**
FX1 Attu Island--F 74.86 354 LR LR 16 23 54.3
comp=Z,62nm,19.2s,baz=193,slow=33
KSM Kuching 74.97 278 ⇓*e*P **P 15 53 36.0 -0.6**
comp=Z,36nm,0.9s
KSM *e*pP **pP 15 54 19.0 +0.5**
KSM Kuching 74.97 278 P **P 15 53 37.0 +0.4**
KSM Kuching 74.97 278 P **P 15 53 37.2 +0.6**
ASAJ Asahikawa 75.50 331 ⇓*i*P **P 15 53 39.6 +0.8**
comp=Z,42nm,0.9s
UNV Unalaska Valle 75.78 6 *e*P **P 15 53 39.4 -0.8**
comp=Z,183nm,1.4s
SSLB Suanglung 75.83 303 *e*P **P 15 53 39.3 -2.0**
comp=Z,14nm,0.6s
TPUB Ta-pu 75.83 302 *e*P **P 15 53 40.4 -0.8**
comp=Z,36nm,0.6s
TPUB *e*pP **pP 15 54 21.7 -1.6**
YHNB Yeheng 75.97 304 *e*P **P 15 53 40.7 -1.4**
BSC Santa Cruz Isl 77.46 45 ⇓P **P 15 53 51.6 +1.4**
baz=78
SCI San Clemente I 77.58 47 ⇓P **P 15 53 52.0 +1.2**
baz=78
YSS Yuzh-Sakhalins 77.64 333 *e*P **P 15 53 52.0 +1.2**
YSS pmax pmax
comp=Z,140nm,1.0s
YSS pmax pmax
comp=E,100nm,1.4s
YSS Yuzh-Sakhalins 77.64 333 *e*P **P 15 53 50.9 +0.1**
comp=E,137nm,1.0s
SBC Santa Barbara 77.67 45 ⇓P **P 15 53 53.1 +1.8**
baz=78
PETK Petropavlovsk- 77.84 344 P **P 15 53 51.1 -0.6**
comp=E,57nm,0.8s,baz=138,slow=7.8,SNR=45
PETK LR LR 16 22 25.6
comp=E,77nm,20.0s,baz=159,slow=31
PETK Petropavlovsk- 77.84 344 P **P 15 53 51.2 -0.6**
PETK pmax pmax
comp=Z,57nm,0.8s
PETK Petropavlovsk- 77.84 344 P **P 15 53 51.1 -0.6**
PKM Peak Mountain 77.88 45 ⇑P **P 15 53 54.3 +1.6**
baz=78,SNR=7.3
BLG Laguna Peak 77.91 46 ⇓P **P 15 53 53.7 +1.0**
baz=78
CIS Catalina Islan 77.93 47 ⇑P **P 15 53 53.6 +0.8**
baz=78,SNR=9.2
SAO San Andreas Ge 77.99 42 *e*P **P 15 53 54.4 +1.4**
SAO pmax pmax
comp=Z,42nm,1.0s
SAO San Andreas Ge 77.99 42 *e*P **P 15 53 54.4 +1.4**
comp=Z,42nm,1.0s
SDPT Sand Point 78.00 9 *e*P **P 15 53 51.7 -0.8**
comp=Z,92nm,0.9s
SMMC Simmler 78.02 44 ⇓P **P 15 53 55.2 +1.9**
baz=78
OSI Osito Adit 78.43 45 *e*P **P 15 53 56.2 +0.7**
comp=Z,14nm,0.3s
109C Camp Elliot, M 78.52 48 ⇓P **P 15 53 56.8 +0.8**
baz=79
PASC Pasadena Art C 78.53 46 *e*P **P 15 53 56.7 +0.7**
comp=Z,13nm,0.6s
MWC Mount Wilson 78.64 46 *e*P **P 15 53 57.3 +0.4**
MWC pmax pmax
comp=Z,29nm,0.9s
MWC Mount Wilson 78.64 46 *e*P **P 15 53 57.3 +0.4**
comp=Z,29nm,0.9s
ARVC Arvin 78.67 45 ⇑P **P 15 53 57.9 +1.2**
baz=79,SNR=5.4
KSRS Korea Array 78.75 318 P **P 15 53 57.3 +0.1**
comp=Z,20nm,1.0s,baz=140,slow=5.9,SNR=24
KSRS LR LR 16 21 23.2
comp=Z,89nm,21.3s,baz=2.1,slow=30
KSAR Wonju Array Be 78.77 318 P **P 15 53 57.3 0.0**
MURC Murrieta 78.86 47 ⇑P **P 15 53 58.8 +0.8**
baz=79,SNR=11
BFSC Mount Baldy Ra 78.92 46 ⇑P **P 15 53 58.9 +0.6**
baz=79,SNR=13
VES Vestal, Richgr 78.93 44 ⇓P **P 15 53 58.9 +0.7**
baz=79,SNR=20
MONP Monument Peak 78.99 48 ⇑P **P 15 53 59.8 +1.0**
baz=79,SNR=23
EDW2 Edwards Air Fo 79.08 46 ⇑P **P 15 54 00.1 +1.0**
baz=79,SNR=74
DVTC Desert V Tower 79.08 48 ⇑P **P 15 54 00.3 +1.2**
baz=79,SNR=19
ISA Isabella 79.22 45 ⇑*e*P **P 15 54 00.8 +0.9**
ISA *e**PP **pP 15 54 43.2 +1.0**
ISA pmax pmax
comp=Z,50nm,1.0s
ISA Isabella 79.22 45 ⇑*e*P **P 15 54 00.8 +0.9**
comp=Z,50nm,1.0s
ISA *e*pP **pP 15 54 43.2 +1.0**
ISA Isabella 79.22 45 ⇓P **P 15 54 01.0 +1.1**
baz=80,SNR=58
PFO Pinyon Flat Ob 79.37 47 *e*P **P 15 54 01.4 +0.5**
comp=Z,28nm,1.1s
PFO *e*pP **pP 15 54 43.6 +0.4**
PFO Pinyon Flat Ob 79.37 47 P **P 15 54 02.0 +1.2**
comp=Z,85nm,0.9s,SNR=10
PFO Pinyon Flat Ob 79.37 47 ⇑P **P 15 54 01.7 +0.9**
baz=80,SNR=19
CMB Columbia Colle 79.44 42 *e*P **P 15 54 01.5 +0.5**
CMB *e**PP **pP 15 54 42.4 -1.0**
CMB pmax pmax
comp=Z,28nm,1.0s
CMB Columbia Colle 79.44 42 *e*P **P 15 54 01.5 +0.5**
comp=Z,28nm,1.0s
CMB *e*pP **pP 15 54 42.4 -1.0**
SWSC Sam W. Stewart 79.45 48 ⇑P **P 15 54 01.6 +0.6**
baz=80,SNR=7.4
SSE Sheshan 79.56 309 *e*P **P 15 54 03.9 +2.2**
SSE PcP **PcP 15 54 11.2 +2.2**
SSE sP **sP 15 55 02.2 -0.2**
SSE S **S 16 03 50.4 +1.2**
SSE sS **sS 16 05 04.7 +2.0**
SSE pmax pmax
comp=Z,21nm,0.7s
SSE pmax pmax
comp=Z,170nm,4.2s
SSE LR LR
comp=N,46nm,25.3s
SSE LR LR
comp=E,43nm,25.3s
SSE LR LR
comp=Z,67nm,23.9s
INCN Inchon 79.58 317 *e*P **P 15 54 02.0 +0.3**
comp=Z,54nm,1.0s
PMSA Palmer Station 79.58 156 P **P 15 54 02.2 +0.9**
comp=Z,74nm,0.9s,baz=183,slow=9.8
PMSA Palmer Station 79.58 156 *e*P **P 15 54 01.4 +0.1**
comp=Z,128nm,1.2s
LRMC Laurel Mountai 79.63 45 ⇑P **P 15 54 03.1 +0.9**
baz=80,SNR=36
WDC Whiskeytown Da 79.75 39 *e*P **P 15 54 03.6 +1.0**
WDC *e**PP **pP 15 54 45.6 +0.7**
WDC pmax pmax
comp=Z,47nm,1.2s
WDC Whiskeytown Da 79.75 39 *e*P **P 15 54 03.6 +1.0**
comp=Z,47nm,1.2s
WDC *e*pP **pP 15 54 45.6 +0.7**
BELC Belle Mtn. Jos 79.91 47 ⇑P **P 15 54 04.7 +0.9**
baz=80,SNR=27
CWC Cottonwood Cre 79.94 44 ⇑P **P 15 54 04.8 +1.0**
baz=80,SNR=12
BC3 Big Chuckawall 80.09 48 ⇑P **P 15 54 05.8 +1.2**
baz=80,SNR=14
MPMC Manual Prospec 80.10 45 ⇓P **P 15 54 05.9 +1.1**
baz=80,SNR=33
GSC Goldstone 80.11 46 *e*P **P 15 54 04.7 0.0**
GSC pmax pmax
comp=Z,32nm,1.0s
GSC Goldstone 80.11 46 *e*P **P 15 54 04.7 0.0**
comp=Z,32nm,1.0s
GSC Goldstone 80.11 46 ⇓P **P 15 54 05.8 +1.1**
baz=80,SNR=6.2
HEC Hector,Ludlow 80.16 46 ⇑P **P 15 54 05.7 +0.7**
baz=80,SNR=15
GLA Glamis 80.18 49 *e*P **P 15 54 06.1 +1.0**
GLA pmax pmax
comp=Z,26nm,0.9s
GLA Glamis 80.18 49 *e*P **P 15 54 06.1 +1.0**
comp=Z,26nm,0.9s
GLA Glamis 80.18 49 ⇓P **P 15 54 06.5 +1.4**
baz=80,SNR=8.7
TIN Tinemaha 80.21 44 ⇑P **P 15 54 06.6 +1.4**
baz=80,SNR=8.1
YBH Yreka Blue Hor 80.40 38 *e*P **P 15 54 07.4 +1.3**
comp=Z,32nm,1.0s
IRM Iron Mountain 80.58 48 ⇑P **P 15 54 08.4 +1.2**
baz=81,SNR=27
GMRC Granite Mounta 80.58 47 ⇑P **P 15 54 08.2 +0.9**
baz=81,SNR=19
GRAC Grapevine Rang 80.73 44 ⇑P **P 15 54 09.4 +1.5**
baz=81,SNR=19
FURC Furnace Creek, 80.75 45 ⇑P **P 15 54 09.1 +1.2**
baz=81,SNR=8.4
113A Mohawk Valley, 80.77 49 ⇑P **P 15 54 09.2 +1.0**
baz=81,SNR=8.5
TUQ Turquoise Moun 80.78 46 ⇑P **P 15 54 09.3 +1.0**
baz=81,SNR=30
USRK Ussuriysk Arra 80.78 325 P **P 15 54 08.3 +0.4**
comp=Z,52nm,0.9s,baz=128,slow=3.4,SNR=60
Y12C Blythe 80.78 48 ⇑P **P 15 54 09.4 +1.2**
baz=81,SNR=9.4
SHOC Shoshone 80.81 46 ⇑P **P 15 54 09.4 +1.1**
baz=81,SNR=5.5
MAW Mawson 80.86 200 P **P 15 54 09.4 +1.4**
comp=Z,119nm,0.9s,baz=126,slow=9.5,SNR=10
MAW Mawson 80.86 200 *e*P **P 15 54 09.0 +1.0**
NVAR Mina Array Bea 80.98 43 P **P 15 54 10.3 +0.9**
comp=Z,7.6nm,0.7s,baz=224,slow=7.6,SNR=29
NVAR Mina Array Bea 80.98 43 P **P 15 54 10.3 +0.9**
214A Organ Pipe Nat 81.01 50 ⇑P **P 15 54 10.6 +1.1**
baz=81,SNR=6.8
MYKOM Kota Tinggi 81.06 276 P **P 15 54 10.3 +0.2**
LDFC Landfair 81.12 47 *e*P **P 15 54 11.4 +1.3**
comp=Z,46nm,0.8s
PDMCI Parker Dam,Lak 81.35 48 ⇑P **P 15 54 12.7 +1.5**
baz=82,SNR=14
KGM Kluang 81.63 276 P **P 15 54 14.3 +1.1**
KGM Kluang 81.63 276 P **P 15 54 13.9 +0.7**
Z14A Wintersburg 81.67 49 ⇑P **P 15 54 14.4 +1.5**
baz=82,SNR=14
KDAK Kodiak Island 81.71 13 *e*P **P 15 54 13.0 +0.5**
comp=Z,80nm,1.2s
KDAK *e*pP **pP 15 54 57.0 +2.0**
NJ2 Nanjing 81.75 309 *e*P **P 15 54 14.2 +0.9**
NJ2 pP **pP 15 54 57.2 +1.3**

NJ2 pmax pmax
comp=Z,70nm,1.0s
MOD Modoc 81.90 39 *e*P **P** 15 54 14.5 +0.4
comp=Z,23nm,0.9s
MOD *e*pP **pP** 15 54 58.5 +1.9
Y14A Wickenburg 81.94 49 ⇑P **P** 15 54 15.5 +1.1
baz=82,SNR=27
W13A Hualapai Mount 81.97 47 ⇓P **P** 15 54 16.0 +1.3
baz=82,SNR=17
HABR Khabarovsk 82.22 330 *c*eP **P** 15 54 14.7 -0.7
HABR *e* 15 57 24.5
HABR PPP PPP 15 59 16.5
HABR S **S** 16 04 12.3 -3.7
HABR *e* 16 05 12.4
HABR *e*SS **SS** 16 09 37.6 -3.0
HABR *e*SSS SSS 16 13 05.9
HABR pmax pmax
comp=N,31nm,2.0s
HABR pmax pmax
comp=Z,119nm,1.3s
HABR pmax pmax
comp=E,20nm,1.9s
HABR MLR MLR
comp=Z,56nm,21.0s
USHA Ushuaia 82.31 146 P **P** 15 54 16.8 +0.9
comp=Z,62nm,0.9s,baz=236,slow=7.3,SNR=18
USHA Ushuaia 82.31 146 P **P** 15 54 16.8 +0.9
MDJ Mudanjiang 82.35 324 P **P** 15 54 16.2 +0.1
MDJ pP **pP** 15 54 55.7 -3.1
MDJ sP **sP** 15 55 13.1 -3.9
MDJ PP **PP** 15 57 25.9 -1.9
MDJ S **S** 16 04 17.4 0.0
MDJ sS **sS** 16 05 31.6 +0.1
MDJ pmax pmax
comp=Z,75nm,1.0s
MDJ pmax pmax
comp=Z,200nm,4.7s
MDJ LR LR
comp=N,120nm,18.1s
MDJ LR LR
comp=E,130nm,15.8s
MDJ LR LR
comp=Z,170nm,20.3s
MDJ Mudanjiang 82.35 324 *e*P **P** 15 54 16.5 +0.3
comp=Z,82nm,1.0s
TUC Tucson 82.66 51 *e*P **P** 15 54 19.2 +1.1
TUC pmax pmax
comp=Z,47nm,0.9s
TUC Tucson 82.66 51 *e*P **P** 15 54 19.2 +1.1
comp=Z,47nm,0.9s
R11A Troy Canyon, C 82.67 44 ⇓P **P** 15 54 18.8 +0.6
baz=83,SNR=13
BMN Battle Mountai 82.85 41 *e*P **P** 15 54 19.5 +0.4
BMN pmax pmax
comp=Z,38nm,1.1s
BMN Battle Mountai 82.85 41 *e*P **P** 15 54 19.5 +0.4
comp=Z,38nm,1.1s
WVOR Wild Horse Val 83.20 39 *e*P **P** 15 54 21.4 +0.6
WVOR pmax pmax
comp=Z,33nm,1.0s
WVOR Wild Horse Val 83.20 39 *e*P **P** 15 54 21.4 +0.6
comp=Z,33nm,1.0s
319A Douglas 83.28 53 ⇓P **P** 15 54 22.9 +1.5
baz=84,SNR=41
X16A Lo Mia Camp, P 83.29 49 ⇑P **P** 15 54 23.0 +1.5
baz=84,SNR=58
R13A O'Grain Ranch, 83.62 45 ⇑P **P** 15 54 24.4 +1.2
baz=84,SNR=12
FRIM Kepong 83.66 276 P **P** 15 54 24.2 +0.6
CCUT Cedar City 83.67 46 *e*P **P** 15 54 24.5 +1.0
comp=Z,34nm,1.0s
ARUT Antelope Range 83.75 45 *e*P **P** 15 54 24.8 +1.0
ARUT pmax pmax
comp=Z,26nm,1.1s
ARUT Antelope Range 83.75 45 *e*P **P** 15 54 24.8 +1.0
comp=Z,26nm,1.1s
U15A North Rim 83.78 47 ⇓P **P** 15 54 25.5 +1.4
baz=84,SNR=80
320A Kipp Ranch, An 83.82 53 ⇓P **P** 15 54 26.0 +1.8
baz=84,SNR=58
WUAZ Wupatki 83.92 48 *e*P **P** 15 54 25.6 +0.9
comp=Z,39nm,1.0s
WUAZ Wupatki 83.92 48 ⇓P **P** 15 54 26.0 +1.3
baz=84,SNR=21
220A Playas Peak, P 84.10 52 ⇑P **P** 15 54 27.2 +1.6
baz=84,SNR=78
CN2 Changchun 84.14 322 *e*P **P** 15 54 25.4 0.0
CN2 *e*pP **pP** 15 55 07.5 -0.7
CN2 *e*sP **sP** 15 55 25.0 -1.3
CN2 *e*S **S** 16 04 34.5 -1.1
CN2 pmax pmax
comp=Z,60nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
LON Longmire 84.15 34 *e*P **P** 15 54 26.0 +0.6
LON pmax pmax
comp=Z,8.0nm,0.7s
LON Longmire 84.15 34 *e*P **P** 15 54 26.0 +0.6
comp=Z,8.3nm,0.7s
RSO Redoubt South 84.17 12 *e*P **P** 15 54 24.3 -1.0
comp=Z,91nm,0.9s
ELK Elko 84.26 42 *e*P **P** 15 54 26.8 +0.5
WHN Wuhan 84.31 306 ⇓P **P** 15 54 28.0 +1.5
WHN pP **pP** 15 55 11.7 +2.4
KLR Kul'dur 84.32 329 *e*P P 15 54 22.1 -4.0
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s
120A U Bar Ranch, L 84.34 52 ⇑P **P** 15 54 28.5 +1.7
baz=85,SNR=38
X18A Snowflake 84.40 50 ⇑P **P** 15 54 28.5 +1.4
baz=85,SNR=32
Z20A Nine Sixteen R 84.66 51 ⇓P **P** 15 54 30.1 +1.7
baz=85,SNR=73
IPM Ipoh 84.68 277 P **P** 15 54 29.7 +0.9
IPM Ipoh 84.68 277 P **P** 15 54 29.5 +0.7
221A Mesquite Ranch 84.71 53 ⇓P **P** 15 54 30.4 +1.8
baz=85,SNR=12
SLKM Skilak Lake 84.71 13 *e*P **P** 15 54 27.6 -0.2
SLKM *e**PP **pP** 15 55 10.1 -0.6
SLKM Skilak Lake 84.71 13 *e*P **P** 15 54 27.6 -0.2
SLKM *e*pP **pP** 15 55 10.1 -0.6
R15A Junction 84.75 45 ⇓P **P** 15 54 30.4 +1.6
baz=85,SNR=5.2
W18A Petrified Fore 84.86 49 ⇓P **P** 15 54 30.6 +1.2
baz=85,SNR=6.0
S16A Weppner Ranch, 84.94 46 ⇑P **P** 15 54 30.6 +0.9
baz=85,SNR=18
121A Cookes Peak, D 84.96 52 ⇓P **P** 15 54 31.4 +1.5
baz=85,SNR=59
MSU Marysvale 84.98 45 *e*P **P** 15 54 31.3 +1.3
MSU pmax pmax
comp=Z,28nm,1.0s
MSU Marysvale 84.98 45 *e*P **P** 15 54 31.3 +1.3
comp=Z,28nm,1.0s
T17A Navajo Res., N 85.09 47 ⇑P **P** 15 54 31.9 +1.4
baz=85,SNR=23
HAWA Hanford 85.13 36 *e*P **P** 15 54 31.1 +0.9
comp=Z,50nm,1.2s
Y20A Horse Springs, 85.21 51 ⇑P **P** 15 54 32.9 +1.6
baz=85,SNR=51
222A Williams Famil 85.25 53 ⇑P **P** 15 54 32.7 +1.3
baz=86,SNR=15
R16A Teasdale 85.32 46 ⇑P **P** 15 54 33.2 +1.6
baz=86,SNR=22
GAMB Gambell 85.33 2 *e*P **P** 15 54 31.1 +0.4
comp=Z,292nm,1.3s
GAMB *e*pP **pP** 15 55 13.4 -0.3
GAMB *e*PP **PP** 15 57 48.5 -3.1
KULM Kulim 85.33 278 P **P** 15 54 32.7 +0.7
RC01 Rabbit Creek A 85.34 13 *e*P **P** 15 54 30.6 -0.3
comp=Z,80nm,1.2s
Z21A St. Cloud Mine 85.42 52 ⇑P **P** 15 54 34.0 +1.7
baz=86,SNR=62
S17A Black Ridge (B 85.43 47 ⇓P **P** 15 54 32.6 +0.4
baz=86,SNR=15
X20A Quemado 85.44 50 ⇓P **P** 15 54 33.8 +1.5
baz=86,SNR=28
MFID Camas Ranch 85.44 40 *e*P **P** 15 54 32.0 0.0
comp=Z,20nm,1.1s
MFID Camas Ranch 85.44 40 ⇑P **P** 15 54 33.0 +0.9
baz=86
DUG Dugway 85.48 44 ⇑P **P** 15 54 32.8 +0.5
baz=86,SNR=6.7
122A Conniff Cattle 85.62 52 ⇓P **P** 15 54 35.0 +1.9
baz=86,SNR=22
W20A Ramah 85.73 50 ⇑P **P** 15 54 35.2 +1.4
baz=86,SNR=53
Y21A Point of Rocks 85.77 51 ⇓P **P** 15 54 35.7 +1.7
baz=86,SNR=78
T18A Mexican Hat 85.80 47 ⇑P **P** 15 54 35.0 +1.1
baz=86,SNR=62
SYO Syowa Base 85.81 192 ⇓/P **P** 15 54 32.0 -1.3
SYO Syowa Base 85.81 192 ⇓/X 15 55 11.8
U19A Dine' College, 85.83 48 ⇓P **P** 15 54 35.2 +1.0
baz=86,SNR=26
Q16A Castle Valley 85.86 45 ⇑P **P** 15 54 35.4 +1.1
baz=86,SNR=14
R17A Hanksville Air 85.90 46 ⇑P **P** 15 54 35.1 +0.6
baz=86,SNR=23
X21A Alamocita Cree 85.90 51 ⇓P **P** 15 54 36.0 +1.3
baz=86,SNR=25
Z22A Elephant Butte 85.91 52 ⇓P **P** 15 54 36.0 +1.3
baz=86,SNR=93
PMR Palmer 85.92 13 *e*P **P** 15 54 33.0 -0.7
PMR pmax pmax
comp=Z,20nm,0.6s
PMR Palmer 85.92 13 *e*P **P** 15 54 33.0 -0.7
comp=Z,20nm,0.6s
PSI Prapat 86.00 275 P **P** 15 54 34.8 -0.7
comp=Z,25nm,0.9s,baz=176,slow=4.0,SNR=12
PSI Prapat 86.00 275 P **P** 15 54 34.8 -0.7
TMUT Trail Mountain 86.04 45 *e*P **P** 15 54 36.6 +1.3
comp=Z,48nm,0.9s
I12A Atlanta 86.07 40 ⇓P **P** 15 54 36.1 +0.9
baz=86,SNR=18
V20A Brimhall 86.09 49 ⇓P **P** 15 54 36.3 +0.7
baz=86,SNR=15
123A Bell Site, Whi 86.13 53 ⇑P **P** 15 54 37.0 +1.3
baz=86,SNR=8.9
MPU Maple Canyon 86.14 44 *e*P **P** 15 54 35.4 -0.3
comp=Z,8.2nm,0.9s
MPU *e*pP **pP** 15 55 20.1 +1.5
MPU *e*sP **sP** 15 55 34.2 -2.6
324A Moseley Ranch, 86.14 54 ⇓P **P** 15 54 36.5 +0.7
baz=86,SNR=68
425A Indio Mountain 86.21 55 ⇑P **P** 15 54 37.2 +1.0
baz=86,SNR=66
T19A Beclabito 86.22 48 ⇑P **P** 15 54 37.1 +0.9
baz=86,SNR=13
DIV Divide 86.23 14 *e*P **P** 15 54 35.5 +0.1
comp=Z,109nm,1.2s
DIV *e*pP **pP** 15 55 17.2 -1.2
Y22A Socorro 86.24 51 ⇑P **P** 15 54 37.4 +1.1
baz=86,SNR=51
SML Sawmill 86.28 13 *e*P **P** 15 54 34.7 -0.9
SML pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 86.28 13 *e*P **P** 15 54 34.7 -0.9
comp=Z,5.7nm,1.0s
626A Big Bend Ranch 86.30 56 ⇓P **P** 15 54 37.6 +1.0
baz=86,SNR=48
WRAK Wrangell Islan 86.31 23 *e*P **P** 15 54 36.1 +0.3
comp=Z,25nm,1.0s
W21A San Fidel 86.33 50 ⇑P **P** 15 54 38.0 +1.2
baz=87,SNR=11
MNTX Cornudas Mount 86.34 54 *e*P **P** 15 54 37.5 +0.8
comp=Z,60nm,1.0s
MNTX *e*pP **pP** 15 55 21.2 +1.6
MNTX *e*sP **sP** 15 55 35.7 -2.0
MNTX Cornudas Mount 86.34 54 ⇓P **P** 15 54 37.6 +1.0
baz=87,SNR=90
LAZ Lazon 86.34 51 *e*P **P** 15 54 37.7 +0.9
comp=Z,12nm,0.9s
U20A Newcomb 86.34 49 ⇑P **P** 15 54 37.6 +0.9
baz=87,SNR=7.4
LENM Lemitar 86.35 51 *e*P **P** 15 54 37.5 +0.7
comp=Z,30nm,1.0s
BMRM Bremner River 86.37 15 *e*P **P** 15 54 36.0 0.0
comp=Z,98nm,1.1s
HLID Hailey 86.37 40 *e*P **P** 15 54 37.3 +0.6
comp=Z,9.2nm,1.0s
HLID Hailey 86.37 40 ⇑P **P** 15 54 37.5 +0.9
baz=87,SNR=16
HVU Hansel Valley 86.37 42 *e*P **P** 15 54 35.9 -0.8
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 86.37 42 *e*P **P** 15 54 35.9 -0.8
comp=Z,7.4nm,0.9s
SRU San Rafael 86.39 45 *e*P **P** 15 54 37.3 +0.4
SRU pmax pmax
comp=Z,40nm,0.9s
SRU San Rafael 86.39 45 *e*P **P** 15 54 37.3 +0.4
comp=Z,40nm,0.9s
SRU San Rafael 86.39 45 ⇓P **P** 15 54 37.5 +0.6
baz=87,SNR=41
M15A Larsen Ranch, 86.41 43 ⇑P **P** 15 54 37.2 +0.4
baz=87
224A Cornudas Mount 86.42 54 ⇓P **P** 15 54 38.3 +1.1
baz=87,SNR=48
J13A Cove Ranch, Pi 86.42 40 ⇑P **P** 15 54 37.8 +0.9
baz=87,SNR=14
R18A Canyonlands Na 86.43 46 ⇑P **P** 15 54 37.5 +0.4
baz=87,SNR=31
P17A Butcher Ranch, 86.44 45 ⇑P **P** 15 54 37.9 +0.9
baz=87
Z23A Rita Site, Whi 86.45 52 ⇓P **P** 15 54 38.4 +1.2
baz=87,SNR=25
X22A Bernardo 86.49 51 ⇓P **P** 15 54 38.9 +1.4
baz=87,SNR=9.1
325A Bean Ranch, Si 86.50 54 ⇑P **P** 15 54 38.2 +0.6
baz=87,SNR=69
TXAR Lajitas Array 86.56 57 P **P** 15 54 38.8 +1.0
comp=Z,42nm,0.9s,baz=210,slow=8.2,SNR=143
TXAR PKKPbc **PKKPbc** 16 12 33.8 +0.3
comp=Z,0.7nm,0.8s,baz=104,slow=1.9,SNR=5.2
TXAR Lajitas Array 86.56 57 P **P** 15 54 38.8 +1.0
TXAR PKKPbc **PKKPbc** 16 12 33.8 +0.3
526A Mary Lane Ranc 86.56 56 ⇓P **P** 15 54 38.7 +0.9
baz=87,SNR=54
JLU Jordanelle 86.58 44 *e*P **P** 15 54 38.0 +0.2
comp=Z,3.5nm,0.6s
BNM Barren Site 86.59 51 *e*P **P** 15 54 38.5 +0.5
comp=Z,21nm,1.1s
S19A Harvey Farm, M 86.61 47 ⇑P **P** 15 54 38.7 +0.6
baz=87,SNR=14
PNL Peninsula 86.63 18 *e*P **P** 15 54 37.7 +0.4
comp=Z,114nm,1.4s
Q18A Rafter H Ranch 86.64 46 ⇓P **P** 15 54 38.5 +0.5
baz=87,SNR=21
LPM Los Pinos Moun 86.67 51 *e*P **P** 15 54 39.0 +0.6
comp=Z,26nm,1.0s
H12A Diamond D Ranc 86.67 39 ⇑P **P** 15 54 38.6 +0.5
baz=87,SNR=15
V21A Milan 86.68 49 ⇑P **P** 15 54 39.2 +0.8
baz=87
G12A Big Creek, Yel 86.73 38 ⇓P **P** 15 54 39.1 +0.7
baz=87
N16A Rees Ranch, Co 86.74 44 ⇑P **P** 15 54 39.5 +1.0
baz=87
L15A Malad City 86.74 42 ⇑P **P** 15 54 39.0 +0.5
baz=87
124A Stringfield Ra 86.76 53 ⇓P **P** 15 54 39.9 +1.0
baz=87,SNR=28
J14A Carey 86.77 41 ⇓P **P** 15 54 39.8 +1.2
baz=87
MVCO Mesa Verde 86.78 48 *e*P **P** 15 54 37.5 -1.4
comp=Z,11nm,1.0s
MVCO Mesa Verde 86.78 48 ⇓P **P** 15 54 40.3 +1.4
baz=87,SNR=6.9
VNA3 Neumayer Olymp 86.80 176 *e*P **P** 15 54 38.2 0.0
VNA3 Neumayer Olymp 86.80 176 *e*pP pP 15 55 22.6 +1.4
R19A Curley Farm, L 86.81 47 ⇓P **P** 15 54 39.3 +0.3
baz=87,SNR=18
O17A Robinson Place 86.82 44 ⇑P **P** 15 54 40.0 +1.0
baz=87,SNR=42
627A Terlingua Ranc 86.83 57 ⇑P **P** 15 54 40.0 +0.8
baz=87,SNR=56
M16A Huntsville 86.84 43 ⇑P **P** 15 54 39.8 +0.8
baz=87
P18A Preston Nutter 86.84 45 ⇓P **P** 15 54 39.8 +0.6
baz=87
426A McDonald Obser 86.89 55 ⇑P **P** 15 54 40.4 +0.8
baz=87,SNR=64
Y23A Lovelace Mesa, 86.90 52 ⇓P **P** 15 54 40.3 +0.8
baz=87,SNR=20
225A Deer Hill, Car 86.95 54 ⇑P **P** 15 54 40.9 +1.1
baz=87,SNR=42
527A Woodward Ranch 86.97 56 ⇑P **P** 15 54 40.5 +0.6
baz=87
U21A Nageezi 86.97 49 ⇑P **P** 15 54 40.8 +0.9
baz=87,SNR=59
H13A Challis 87.03 39 ⇓P **P** 15 54 40.9 +1.1
baz=87
HWUT Hardware Ranch 87.04 43 *e*P **P** 15 54 39.2 -0.8
comp=Z,3.9nm,0.7s
ANMO Albuquerque 87.10 51 *e*P **P** 15 54 40.9 +0.5
comp=Z,25nm,0.9s
ANMO *e*pP **pP** 15 55 25.1 +1.6
PV04 Paradox Valley 87.10 47 *e*P **P** 15 54 40.6 +0.2
Z24A Sheeppen Canyo 87.12 52 ⇑P **P** 15 54 41.4 +0.8
baz=87,SNR=20
F12A Elk City 87.13 38 ⇑P **P** 15 54 40.6 +0.4
baz=87,SNR=29
Q19A Hogan Spring (87.15 46 ⇓P **P** 15 54 40.8 +0.4
baz=87,SNR=22
I14A Mackay 87.15 40 ⇓P **P** 15 54 41.6 +1.1
baz=87,SNR=7.8
N17A Moffit Pass 87.15 44 ⇑P **P** 15 54 41.3 +0.6
baz=87,SNR=9.6
S20A Disappointment 87.19 47 ⇑P **P** 15 54 41.4 +0.6
baz=87,SNR=14
PV01 Paradox Valley 87.20 47 *e*P **P** 15 54 40.9 0.0
comp=Z,1µm,0.9s
326A Caldwell Ranch 87.22 55 ⇓P **P** 15 54 41.5 +0.5
baz=87,SNR=10
628A Black Gap, Mar 87.23 57 ⇓P **P** 15 54 42.0 +1.0
baz=87,SNR=35
V22A San Miguel Ran 87.25 50 ⇓P **P** 15 54 41.9 +0.7
baz=88,SNR=8.3
VNA2 Neumayer--Watz 87.26 176 *e*P **P** 15 54 40.9 +0.5
baz=206,slow=3.3
VNA2 Neumayer--Watz 87.26 176 *e*pP pP 15 55 26.2 +2.8
baz=206,slow=3.3
TNA Tin City 87.28 4 *e*P **P** 15 54 41.3 +1.0
comp=Z,56nm,1.1s
TNA *e*pP **pP** 15 55 22.6 -0.7
TNA *e*PP **PP** 15 58 04.3 -3.0
O18A Roosevelt 87.33 45 ⇑P **P** 15 54 42.2 +0.8
baz=88,SNR=8.8
125A Gardner Draw, 87.33 53 ⇑P **P** 15 54 42.6 +1.1
baz=88,SNR=27
E12A Beaver Dam Sad 87.34 37 ⇓P **P** 15 54 40.7 -0.5
baz=88
T21A Navajo Lake 87.34 48 ⇓P **P** 15 54 42.5 +1.0
baz=88,SNR=8.1
GDL2 Guadalupe Moun 87.34 54 *e*P **P** 15 54 42.4 +0.8
comp=Z,106nm,1.0s
G13A Cobalt 87.34 39 ⇓P **P** 15 54 41.7 +0.4
baz=88,SNR=8.7
L16A Fish Haven 87.34 43 ⇓P **P** 15 54 41.5 +0.1
baz=88,SNR=12
Y24A Capitan 87.35 52 ⇑P **P** 15 54 42.6 +1.0
baz=88,SNR=63
TRF Thorofare Moun 87.39 11 *e*P **P** 15 54 39.4 -1.6
comp=Z,56nm,0.8s
PLCA Paso Flores 87.40 133 P **P** 15 54 43.0 +1.2
comp=Z,35nm,0.7s,baz=241,slow=6.0,SNR=94
PLCA PKKPbc **PKKPbc** 16 12 32.9 +1.8
comp=Z,1.8nm,0.9s,baz=134,slow=5.0,SNR=2.8
PLCA LR LR 16 25 42.6
comp=Z,150nm,21.9s,baz=344,slow=30
PLCA Paso Flores 87.40 133 *e*P **P** 15 54 42.7 +1.0
comp=Z,84nm,1.1s
PLCA PKKPbc **PKKPbc** 16 12 32.9 +1.8
W23A Werner Place, 87.42 51 ⇑P **P** 15 54 42.6 +0.6
baz=88,SNR=5.8
427A Hayter Ranch, 87.45 55 ⇑P **P** 15 54 43.2 +1.2
baz=88,SNR=45
J15A Blackfoot 87.47 41 ⇓P **P** 15 54 43.2 +1.3
baz=88
S21A Coal Bank Pass 87.49 48 ⇑P **P** 15 54 43.1 +0.7
baz=88,SNR=25
U22A Llaves 87.51 49 ⇑P **P** 15 54 43.1 +0.7
baz=88
M17A Scullys Gap (B 87.54 43 ⇓P **P** 15 54 42.5 +0.1
baz=88,SNR=7.5
MAIT Maitri 87.54 183 *e*P **P** 15 54 42.9 +1.2
MAIT *e* 15 54 54.7
NVL N'lazarevskaya 87.55 183 *e*P **P** 15 54 40.9 -0.8
NVL pmax pmax
comp=Z,31nm,0.9s
NEW Newport 87.58 35 ⇑P **P** 15 54 42.2 +0.1
baz=88,SNR=10
Z25A Roswell 87.58 53 ⇓P **P** 15 54 43.6 +1.0
baz=88,SNR=24
H14A Leadore 87.58 40 ⇑P **P** 15 54 42.9 +0.4
baz=88,SNR=15
528A Cox Ranch, San 87.61 56 ⇑P **P** 15 54 43.6 +0.7
baz=88,SNR=15
X24A Lazy VL Ranch, 87.66 51 ⇓P **P** 15 54 43.6 +0.5
baz=88,SNR=12
SKAG Skagway 87.67 20 *e*P **P** 15 54 43.9 +1.6
comp=Z,58nm,1.2s
F13A Darby 87.68 38 ⇑P **P** 15 54 43.3 +0.4
baz=88,SNR=25
P19A Cripple Cowboy 87.68 46 ⇓P **P** 15 54 43.4 +0.3
baz=88,SNR=12
V23A Ortiz Mt. (NFS 87.68 50 ⇑P **P** 15 54 44.4 +1.2
baz=88,SNR=17
K16A Soda Springs 87.69 42 ⇓P **P** 15 54 44.0 +1.0
baz=88,SNR=7.2
CLNB Carlsbad 87.73 54 *e*P **P** 15 54 43.7 +0.3
comp=Z,12nm,1.3s
BJI Beijing 87.77 315 P **P** 15 54 43.7 +0.5
BJI pP **pP** 15 55 25.6 -0.7
BJI sP **sP** 15 55 42.6 -1.8
BJI PP **PP** 15 58 13.7 +2.0
BJI sS **sS** 16 06 25.0 -0.8
BJI pmax pmax
comp=Z,39nm,0.8s
BJI pmax pmax
comp=Z,110nm,5.0s
T22A Edith 87.79 49 ⇓P **P** 15 54 43.7 0.0
baz=88,SNR=7.2
C11A Tepee Creek (N 87.79 36 ⇑P **P** 15 54 44.1 +0.8
baz=88,SNR=40
Q20A Ridgley Place, 87.80 46 ⇓P **P** 15 54 43.9 +0.3
baz=88,SNR=13
126A Clayton Basin, 87.80 54 ⇑P **P** 15 54 44.3 +0.6
baz=88,SNR=10
D12A Red Ives Fores 87.83 37 ⇑P **P** 15 54 44.0 +0.6
baz=88
G14A Jackson 87.88 39 ⇑P **P** 15 54 44.5 +0.6
baz=88,SNR=8.2
MCK McKinley 87.89 12 *e*P **P** 15 54 42.7 -0.6
MCK pmax pmax
comp=Z,48nm,0.9s
MCK McKinley 87.89 12 *e*P **P** 15 54 42.6 -0.6
comp=Z,48nm,0.9s
Y25A Mesa, Roswell 87.90 52 ⇓P **P** 15 54 44.9 +0.8
baz=88,SNR=28
ENH Enshi 87.90 304 *e*P **P** 15 54 44.3 +0.2
comp=Z,51nm,1.2s
ENH *e*pP **pP** 15 55 28.6 +1.3
M18A Lyman 87.90 44 ⇑P **P** 15 54 44.5 +0.4
baz=88,SNR=8.4
J16A Bone 87.91 41 ⇑P **P** 15 54 44.8 +0.8
baz=88,SNR=10
SEY Seymchan 87.91 346 *d*/P **P** 15 54 43.1 -0.2
N18A Larsen Ranch, 87.92 44 ⇑P **P** 15 54 44.5 +0.3
baz=88,SNR=14
PAX Paxson 87.93 14 *e*P **P** 15 54 42.8 -0.8
PAX pmax pmax
comp=Z,36nm,1.3s
PAX Paxson 87.93 14 *e*P **P** 15 54 42.8 -0.8
comp=Z,36nm,1.3s
O19A Miners Draw (B 87.93 45 ⇑P **P** 15 54 44.4 +0.2
baz=88,SNR=11
428A Kincaid Ranch, 87.95 56 ⇑P **P** 15 54 45.3 +0.9
baz=88,SNR=8.2
U23A El Rito 87.96 50 ⇑P **P** 15 54 45.2 +0.7
baz=88,SNR=11
W24A Lazy 6 Ranch, 87.98 51 ⇑P **P** 15 54 45.2 +0.6
baz=88,SNR=15
P20A De Beque 88.01 46 ⇑P **P** 15 54 45.0 +0.4
baz=88,SNR=24
MCMT McKenzie Canyo 88.01 40 *e*P **P** 15 54 45.1 +0.5
comp=Z,7.0nm,0.7s
R21A Cimarron 88.01 47 ⇓P **P** 15 54 45.4 +0.7
baz=88,SNR=32
H15A Lima 88.01 40 ⇓P **P** 15 54 45.3 +0.8
baz=88,SNR=10
529A Stev Forest Ra 88.04 57 ⇑P **P** 15 54 45.2 +0.3
baz=88,SNR=15
CPRX Cap Rock 88.10 53 *e*P **P** 15 54 45.7 +0.6
comp=Z,58nm,0.9s
Z26A Caprock 88.12 53 ⇑P **P** 15 54 45.7 +0.5
baz=88,SNR=36
RRI2 Red Ridge 88.13 41 *e*P **P** 15 54 46.4 +1.2
comp=Z,13nm,0.8s

E13A **Victor** 88.13 38 ⇑P P 15 54 44.8 -0.2
baz=88,SNR=9.0
C12B **Naegeli Ranch,** 88.14 36 ⇓P P 15 54 45.4 +0.6
baz=88,SNR=20
328A **Wristen Ranch,** 88.14 55 ⇓P P 15 54 45.6 +0.3
baz=88,SNR=11
L18A **Fontenelle, Gr** 88.18 43 ⇑P P 15 54 45.9 +0.5
baz=88
N19A **John Jarvie Ra** 88.20 44 ⇑P P 15 54 45.3 -0.2
baz=88,SNR=9.1
S22A **4UR Ranch, Cre** 88.20 48 ⇓P P 15 54 46.6 +0.9
baz=88,SNR=28
X25A **Clemmons Ranch** 88.20 52 ⇓P P 15 54 45.9 +0.3
baz=88,SNR=5.5
Q21A **Lamborn Mesa,** 88.22 47 ⇓P P 15 54 46.3 +0.6
baz=88,SNR=11
F14A **Wisdom** 88.25 39 ⇑P P 15 54 46.0 +0.3
baz=88,SNR=16
MENT **Mentasta** 88.29 14 *e*P P 15 54 45.3 +0.1
I16A **Newdale** 88.31 41 ⇑P P 15 54 47.1 +1.2
baz=89,SNR=12
127A **Arkansas Junct** 88.31 54 ⇑P P 15 54 46.7 +0.5
baz=88,SNR=12
V24A **Rampart Ranch,** 88.32 50 ⇓P P 15 54 46.9 +0.6
baz=89,SNR=24
D13A **Huson** 88.35 37 ⇓P P 15 54 45.4 -0.5
baz=89,SNR=5.3
T23A **Casias Ranch,** 88.41 49 ⇓P P 15 54 47.3 +0.6
baz=89
G15A **Dillon** 88.41 40 ⇓P P 15 54 47.2 +0.9
baz=89,SNR=19
REDW **Red Top Meadow** 88.42 42 *e*P P 15 54 46.4 -0.2
comp=Z,15nm,1.3s
O20A **White River Ci** 88.43 45 ⇓P P 15 54 46.9 +0.3
baz=89,SNR=7.1
TPAW **Teton Pass** 88.43 42 *e*P P 15 54 46.9 +0.3
comp=Z,8.2nm,0.8s
DLMT **Dillon** 88.45 39 *e*P P 15 54 46.5 0.0
comp=Z,32nm,1.2s
GYA **Guiyang** 88.48 299 P P 15 54 48.2 +1.1
GYA pP **pP** 15 55 31.8 +1.5
GYA sP **sP** 15 55 48.7 +0.3
GYA PP **PP** 15 58 21.0 +3.1
GYA SKS **SKSac** 16 04 58.8 -1.3
GYA S **S** 16 05 17.5 -1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
R22A **Saguache, Gunn** 88.48 48 ⇓P P 15 54 47.8 +0.7
baz=89,SNR=8.1
MSO **Missoula** 88.49 38 *e*P P 15 54 46.5 -0.1
comp=Z,6.7nm,1.0s
MSO **Missoula** 88.49 38 ⇑P P 15 54 46.5 -0.1
baz=89,SNR=5.2
429A **Davenport Ranc** 88.51 56 ⇓P P 15 54 47.3 +0.3
baz=89,SNR=20
J17A **Brown Place, J** 88.51 42 ⇑P P 15 54 47.4 +0.5
baz=89
E14A **Clinton** 88.52 38 ⇑P P 15 54 47.1 +0.3
baz=89,SNR=13
B12A **Libby** 88.52 36 ⇑P P 15 54 47.6 +0.9
baz=89,SNR=8.4
M19A **Rock Springs** 88.53 44 ⇑P P 15 54 47.1 +0.1
baz=89,SNR=8.2
Y26A **Elida** 88.54 53 ⇑P P 15 54 47.5 +0.4
baz=89,SNR=10.0
K18A **Toltan Ranch,** 88.55 43 ⇑P P 15 54 48.1 +0.9
baz=89,SNR=14
BSMT **Bassoo Peak** 88.60 36 *e*P P 15 54 46.3 -0.9
comp=Z,10nm,1.0s
C13A **Hot Springs** 88.62 37 ⇑P P 15 54 47.4 +0.2
baz=89,SNR=6.5
228A **UT Block 9, Go** 88.64 55 ⇓P P 15 54 47.8 +0.1
baz=89,SNR=8.0
P21A **Newcastle** 88.65 46 ⇑P P 15 54 48.0 +0.3
baz=89
IMW **Indian Meadow** 88.66 41 *e*P P 15 54 48.0 +0.3
comp=Z,18nm,1.0s
W25A **X Bar L Ranch,** 88.67 51 ⇑P P 15 54 48.1 +0.4
baz=89,SNR=32
Q22A **Crested Butte,** 88.69 47 ⇑P P 15 54 48.6 +0.6
baz=89,SNR=25
L19A **Farson** 88.70 43 ⇓P P 15 54 48.4 +0.6
baz=89,SNR=9.9
LOHW **Long Hollow** 88.71 42 *e*P P 15 54 47.8 0.0
comp=Z,6.9nm,0.7s
Z27A **Tatum** 88.71 53 ⇑P P 15 54 48.2 +0.2
baz=89,SNR=16
530A **J-C Ranch, Com** 88.73 57 ⇑P P 15 54 48.4 +0.3
baz=89
A12A **Yaak River Ran** 88.76 35 ⇓P P 15 54 48.6 +0.8
baz=89,SNR=15
N20A **Spence Gulch,** 88.77 45 ⇑P P 15 54 48.6 +0.4
baz=89,SNR=14
F15A **Butte** 88.78 39 ⇓P P 15 54 48.6 +0.5
baz=89,SNR=9.1
LRM **Limekiln Ridge** 88.79 39 *e*P P 15 54 48.5 +0.2
comp=Z,64nm,0.9s
SMCO **Snowmass** 88.80 47 *e*P P 15 54 48.7 +0.1
comp=Z,16nm,0.9s
329A **Wagon Wheel Ra** 88.83 55 ⇑P P 15 54 48.9 +0.3
baz=89,SNR=12
DOT **Dot Lake** 88.83 14 *e*P P 15 54 48.0 +0.3
comp=Z,15nm,1.0s
DOT *ep*P **pP** 15 55 28.8 -2.1
X26A **CR and CF Fran** 88.83 52 ⇑P P 15 54 48.9 +0.3
baz=89,SNR=10.0
V25A **Rancho No Teng** 88.85 51 ⇑P P 15 54 49.1 +0.4
baz=89,SNR=18
G16A **Moss Hill, Enn** 88.85 40 ⇓P P 15 54 49.2 +0.7
baz=89,SNR=12
QLMT **Earthquake Lak** 88.86 40 *e*P P 15 54 49.5 +1.0
comp=Z,1.9nm,0.7s
J18A **Kendall Valley** 88.86 42 ⇓P P 15 54 48.9 +0.3
baz=89,SNR=18
D14A **Greenough** 88.88 38 ⇑P P 15 54 48.4 0.0
baz=89,SNR=14
I17A **Pilgrim Ck.** 88.89 41 ⇓P P 15 54 50.1 +1.4
baz=89,SNR=10
H16A **Russell Place,** 88.90 40 ⇓P P 15 54 50.2 +1.5
baz=89,SNR=26
FLWY **Flagg Ranch** 88.90 41 *e*P P 15 54 49.8 +1.0
comp=Z,21nm,0.8s
BW06 **Boulder Array** 88.92 43 ⇑P P 15 54 49.1 +0.2
baz=89,SNR=13
PDAR **Pinedale Array** 88.92 43 P P 15 54 48.8 -0.1
comp=Z,9.0nm,0.9s,baz=218,slow=4.2,SNR=45
PDAR PKKP **PKKPdf** 16 12 22.6 -1.3
comp=Z,0.5nm,0.9s,baz=68,slow=3.4,SNR=3.2
PDAR **Pinedale Array** 88.92 43 P P 15 54 48.8 -0.1
PDAR PKKP **PKKPdf** 16 12 22.6 -1.3
CHMT **Chamberlain Mo** 88.93 38 *e*P P 15 54 48.9 +0.1
comp=Z,10nm,1.0s
128A **Castleberry Fa** 88.95 54 ⇓P P 15 54 49.7 +0.6
baz=89,SNR=20
O21A **Pagoda** 88.98 46 ⇓P P 15 54 49.3 0.0
baz=89
SLMT **Seeley Lake** 88.98 37 *e*P P 15 54 47.9 -1.1
comp=Z,16nm,1.3s
Y27A **Causey** 89.01 53 ⇓P P 15 54 49.7 +0.3
baz=89,SNR=40
631A **Perdido Creek** 89.01 58 ⇑P P 15 54 49.7 +0.3
baz=89,SNR=12
E15A **Deer Lodge** 89.01 38 ⇑P P 15 54 49.5 +0.4
baz=89,SNR=9.2
YFT **Old Faithful** 89.01 41 *e*P P 15 54 50.9 +1.6
comp=Z,19nm,1.0s
YBMT **Yellow Bay** 89.04 37 *e*P P 15 54 49.0 -0.2
comp=Z,8.2nm,1.2s
YMR **Madison River** 89.05 41 *e*P P 15 54 50.5 +1.1
comp=Z,18nm,0.8s
B13A **Whitefish** 89.08 36 ⇑P P 15 54 48.9 -0.3
baz=89
R23A **Moffat** 89.11 48 ⇓P P 15 54 50.6 +0.6
baz=89,SNR=9.1
W26A **Owens Ranch, T** 89.11 52 ⇑P P 15 54 50.3 +0.4
baz=89
T24A **Torres, Weston** 89.12 49 ⇓P P 15 54 51.3 +1.3
baz=89,SNR=6.5
C14A **Swan Lake** 89.13 37 ⇑P P 15 54 50.0 +0.4
baz=89
COLA **College** 89.13 12 *e*P P 15 54 47.7 -1.3
COLA pmax pmax
comp=Z,28nm,0.8s
COLA **College** 89.13 12 *e*P P 15 54 47.7 -1.3
comp=Z,28nm,0.8s
COLA *ep*P **pP** 15 55 33.6 +1.3

H17A **Grant Village** 89.14 41 ⇑P P 15 54 51.9 +2.0
baz=89,SNR=12
M20A **Sweetwater, Wa** 89.14 44 ⇓P P 15 54 50.6 +0.7
baz=89,SNR=6.6
P22A **Eagle** 89.15 46 ⇑P P 15 54 50.4 +0.3
baz=89,SNR=9.8
229A **Bryant Ranch,** 89.17 55 ⇑P P 15 54 49.9 -0.2
baz=89
BOZ **Bozeman (W)** 89.18 39 *e*P P 15 54 50.5 +0.6
BOZ pmax pmax
comp=Z,19nm,0.9s
BOZ **Bozeman (W)** 89.18 39 *e*P P 15 54 50.5 +0.6
comp=Z,19nm,0.9s
BOZ **Bozeman (W)** 89.18 39 ⇑P P 15 54 50.8 +0.9
baz=89,SNR=34
732A **Laxson Ranch,** 89.20 59 ⇑P P 15 54 50.6 +0.4
baz=89
N21A **Black Mountain** 89.22 45 ⇑P P 15 54 51.1 +0.7
baz=90,SNR=9.0
ILAR **Eielson Array** 89.23 12 P P 15 54 48.9 -0.6
comp=Z,8.5nm,0.6s,baz=223,slow=5.9,SNR=116
ILAR pP **pP** 15 55 31.9 -0.8
comp=Z,1.4nm,0.9s,baz=207,slow=7.8,SNR=2.6
ILAR PP PP 15 58 19.0 -3.9
comp=Z,5.1nm,1.0s,baz=221,slow=7.3,SNR=5.8
ILAR PKKP **PKKPdf** 16 12 23.1 -0.9
comp=Z,0.8nm,0.6s,baz=320,slow=3.0,SNR=12
ILAR PKPPKP **P'P'df** 16 20 33.1 +1.0
comp=Z,0.6nm,0.9s,baz=336,slow=2.0,SNR=4.6
ILAR LR LR 16 32 42.5
comp=Z,54nm,18.7s,baz=190,slow=34
ILAR Eielson Array 89.23 12 P P 15 54 48.9 -0.6
ILAR pP **pP** 15 55 31.9 -0.8
ILAR PP **PP** 15 58 19.0 -3.9
ILAR PKKP **PKKPdf** 16 12 23.1 -0.9
ILAR P'P' 16 20 33.1
I18A **Diamond G Ranc** 89.24 42 ⇑P P 15 54 51.5 +1.1
baz=90,SNR=9.1
U25A **Circle Dot Ran** 89.26 50 ⇓P P 15 54 51.0 +0.5
baz=90,SNR=14
S24A **Houchin Ranch,** 89.27 49 ⇓P P 15 54 51.7 +0.9
baz=90,SNR=8.7
EFI **East Falkland** 89.27 147 *e*P P 15 54 50.4 +0.2
EFI **East Falkland** 89.27 147 P P 15 54 51.3 +1.1
comp=Z,832nm,1.0s,SNR=5.1
L20A **Wamsutter** 89.31 44 ⇓P P 15 54 51.6 +0.9
baz=90,SNR=9.7
Z28A **Tucker Farm, M** 89.32 54 ⇑P P 15 54 51.0 +0.2
baz=90,SNR=23
MSTX **Muleshoe** 89.34 53 ⇓P P 15 54 51.5 +0.6
baz=90,SNR=33
LKWY **Lake** 89.34 41 *e*P P 15 54 52.5 +1.7
LKWY pmax pmax
comp=Z,28nm,1.3s
LKWY **Lake** 89.34 41 *e*P P 15 54 52.5 +1.7
comp=Z,28nm,1.3s
531A **Rocksprings** 89.36 57 ⇓P P 15 54 51.2 +0.2
baz=90
K19A **Absolon Red Bu** 89.40 43 ⇓P P 15 54 51.0 0.0
baz=90,SNR=7.8
X27A **F and S Farms,** 89.40 52 ⇓P P 15 54 51.8 +0.6
baz=90,SNR=11
129A **Stewart Farms,** 89.42 54 ⇓P P 15 54 51.7 +0.5
baz=90,SNR=10
D15A **Lincoln** 89.42 38 ⇓P P 15 54 51.7 +0.6
baz=90,SNR=15
V26A **Tequesquite Ra** 89.42 51 ⇑P P 15 54 51.3 0.0
baz=90,SNR=13
A13A **Flathead Natio** 89.43 36 ⇑P P 15 54 51.7 +0.8
baz=90,SNR=12
J19A **Crowheart** 89.49 42 ⇑P P 15 54 51.9 +0.5
baz=90,SNR=27
G17A **Pierce Place,** 89.53 40 ⇑P P 15 54 53.0 +1.4
baz=90,SNR=6.0
O22A **Kremmling** 89.57 46 ⇓P P 15 54 52.3 +0.3
baz=90,SNR=19
T25A **Trinidad** 89.60 50 ⇑P P 15 54 52.5 +0.3
baz=90,SNR=8.4
W27A **Bowe Ranch, En** 89.62 52 ⇑P P 15 54 52.5 +0.3
baz=90,SNR=12
R24A **Sanders Place,** 89.62 48 ⇑P P 15 54 53.1 +0.9
baz=90,SNR=12
E16A **East Helena** 89.63 39 ⇑P P 15 54 52.6 +0.6
baz=90,SNR=17
K20A **Yellowstone Ra** 89.63 43 ⇑P P 15 54 52.3 +0.1
baz=90,SNR=8.4
HRY **Holter Researc** 89.64 38 *e*P P 15 54 52.3 +0.3
comp=Z,19nm,0.9s
P23A **Jefferson** 89.67 47 ⇑P P 15 54 53.6 +1.0
baz=90,SNR=5.2
632A **Uvalde** 89.67 58 ⇑P P 15 54 53.1 +0.6
baz=90,SNR=17
Y28A **McKinney Farm,** 89.70 53 ⇓P P 15 54 52.7 +0.1
baz=90,SNR=20
B14A **Maquette Ranc** 89.73 37 ⇑P P 15 54 52.7 +0.3
baz=90,SNR=32
U26A **Atchley Ranch,** 89.73 50 ⇑P P 15 54 53.0 +0.3
baz=90,SNR=26
M21A **Separation Pea** 89.74 44 ⇓P P 15 54 53.1 +0.3
baz=90,SNR=10
C15A **Salmond Ranch,** 89.78 37 ⇓P P 15 54 52.8 +0.2
baz=90,SNR=9.0
Z29A **Hungry Hill Ra** 89.82 54 ⇓P P 15 54 53.0 -0.1
baz=90,SNR=30
S25A **Robets Cordova** 89.83 49 ⇑P P 15 54 53.6 +0.4
baz=90,SNR=9.3
532A **Rocksprings** 89.84 57 ⇑P P 15 54 53.8 +0.5
baz=90,SNR=19
H18A **Shoshone NF, C** 89.84 41 ⇓P P 15 54 54.1 +1.0
baz=90
F17A **Fitzpatrick Pl** 89.89 40 ⇑P P 15 54 54.5 +1.2
baz=90,SNR=20
L21A **Rawlins** 89.91 44 ⇓P P 15 54 53.7 +0.2
baz=90,SNR=6.1
I19A **Meeteetse** 89.92 42 ⇑P P 15 54 54.3 +0.8
baz=90,SNR=14
N22A **Wattenberg Ran** 89.94 46 ⇑P P 15 54 54.4 +0.6
baz=90,SNR=7.1
Q24A **Divide** 89.94 48 ⇑P P 15 54 54.4 +0.6
baz=90,SNR=10
D16A **Dana Ranch, Ca** 89.97 38 ⇑P P 15 54 54.4 +0.8
baz=90,SNR=14
A14A **Double T Ranch** 89.99 36 ⇑P P 15 54 54.3 +0.8
baz=90,SNR=16
XAN **Xi'an** 90.00 307 P P 15 54 54.4 +0.5
XAN pP **pP** 15 55 40.0 +2.8
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,27nm,6.5s
XAN LR LR
comp=N,160nm,10.7s
XAN LR LR
comp=E,120nm,13.8s
XAN LR LR
comp=Z,67nm,15.1s
X28A **Dimmitt** 90.01 53 ⇓P P 15 54 54.3 +0.3
baz=90,SNR=6.7
O23A **Lake Granby, G** 90.01 46 ⇓P P 15 54 54.9 +0.8
baz=90,SNR=15
ISCO **Idaho Springs** 90.02 47 *e*P P 15 54 54.3 +0.1
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO **Idaho Springs** 90.02 47 *e*P P 15 54 54.3 +0.1
comp=Z,6.7nm,0.8s
ISCO **Idaho Springs** 90.02 47 ⇓P P 15 54 54.7 +0.5
baz=90,SNR=11
E17A **Martinsdale** 90.07 39 ⇓P P 15 54 54.9 +0.8
baz=90,SNR=6.9
JCT **Junction City** 90.07 57 *e*P P 15 54 54.0 -0.3
JCT pmax pmax
comp=Z,23nm,1.0s
JCT **Junction City** 90.07 57 *e*P P 15 54 54.0 -0.3
comp=Z,23nm,1.0s
B15A **Bradely Ranch,** 90.10 37 ⇑P P 15 54 53.8 -0.2
baz=90,SNR=6.9
Y29A **Porterfield Fa** 90.11 53 ⇓P P 15 54 54.8 +0.3
baz=90,SNR=32
M22A **Cedar Creek Ra** 90.14 45 ⇑P P 15 54 55.0 +0.3
baz=90,SNR=6.0
J20A **Shoshoni** 90.15 43 ⇓P P 15 54 55.3 +0.8
baz=90,SNR=21
R25A **Fountain Ranch** 90.16 49 ⇑P P 15 54 54.9 +0.2
baz=90
T26A **Comanche Natio** 90.19 50 ⇑P P 15 54 55.1 +0.1
baz=90,SNR=9.0
G18A **Lazy EL Ranch,** 90.24 40 ⇓P P 15 54 55.8 +0.9
baz=90,SNR=16

432A **Menard** 90.25 57 ⇑P P 15 54 55.1 -0.1
baz=90,SNR=19
H19A **Powell** 90.25 41 ⇑P P 15 54 56.1 +1.1
baz=90,SNR=15
C16A **Fuhringer Ranc** 90.28 38 ⇑P P 15 54 55.2 +0.3
baz=90,SNR=13
DAWY **Dawson** 90.28 15 *e*P P 15 54 54.7 +0.2
DAWY *ep*P **pP** 15 55 36.3 -1.5
RLMT **Red Lodge** 90.31 41 *e*P P 15 54 56.2 +0.8
comp=Z,22nm,1.1s
RLMT **Red Lodge** 90.31 41 ⇓P P 15 54 56.5 +1.2
baz=91,SNR=18
K21A **Alcova** 90.32 44 ⇑P P 15 54 55.6 +0.2
baz=91,SNR=14
N23A **Red Feather La** 90.33 46 ⇓P P 15 54 56.1 +0.5
baz=91
X29A **Tulia** 90.34 53 ⇓P P 15 54 55.8 +0.2
baz=91,SNR=14
A15A **Johnson Ranch,** 90.37 36 ⇑P P 15 54 55.5 +0.2
baz=91,SNR=18
I20A **Worland** 90.42 42 ⇓P P 15 54 56.2 +0.5
baz=91,SNR=18
GCMT **Greycliff** 90.42 40 *e*P P 15 54 55.9 +0.2
comp=Z,14nm,1.1s
F18A **Big Timber** 90.45 40 ⇓P P 15 54 56.9 +1.1
baz=91,SNR=21
EGAK **Eagle** 90.46 14 *e*P P 15 54 55.2 0.0
comp=Z,41nm,1.0s
S26A **Kim** 90.49 49 ⇓P P 15 54 56.0 -0.2
baz=91,SNR=16
D17A **Six Diamond Ra** 90.53 39 ⇓P P 15 54 57.3 +1.1
baz=91,SNR=17
V28A **Channing** 90.54 52 ⇓P P 15 54 56.3 -0.1
baz=91,SNR=5.3
O24A **Longmont** 90.54 47 ⇓P P 15 54 57.4 +1.0
baz=91,SNR=6.9
J21A **Lysite** 90.55 43 ⇓P P 15 54 56.9 +0.4
baz=91,SNR=29
AMTX **Amarillo** 90.55 53 *e*P P 15 54 56.6 +0.1
comp=Z,41nm,0.9s
AMTX **Amarillo** 90.55 53 ⇓P P 15 54 56.7 +0.1
baz=91,SNR=15
L22A **Ellis Ranch, M** 90.55 44 ⇓P P 15 54 57.5 +1.0
baz=91,SNR=7.2
B16A **M & M Farms, S** 90.63 37 ⇑P P 15 54 56.8 +0.3
baz=91
E18A **Harlowton** 90.68 39 ⇑P P 15 54 58.1 +1.2
baz=91
W29A **Amraillo** 90.68 52 ⇑P P 15 54 57.5 +0.3
baz=91,SNR=8.3
C17A **Wharram Farm,** 90.75 38 ⇑P P 15 54 57.6 +0.6
baz=91,SNR=31
T27A **Campo** 90.77 50 ⇓P P 15 54 57.5 0.0
baz=91,SNR=7.9
R26A **Arlington** 90.81 49 ⇓P P 15 54 57.8 +0.1
baz=91,SNR=13
COLD **Coldfoot** 90.86 10 *e*P P 15 54 57.0 0.0
comp=Z,23nm,1.0s
COLD *ep*P **pP** 15 55 39.3 -1.1
COLD *e*PP **PP** 15 58 30.6 -5.1
I21A **Big Trails, Te** 90.88 43 ⇓P P 15 54 57.9 0.0
baz=91,SNR=29
F19A **Roth Farm, Mol** 90.89 40 ⇓P P 15 54 58.5 +0.7
baz=91,SNR=16
S27A **Las Animas** 90.92 50 ⇑P P 15 54 58.5 +0.2
baz=91
A16A **West Butte Ran** 90.98 37 ⇓P P 15 54 58.6 +0.4
baz=91,SNR=24
N24A **Carr** 91.00 46 ⇓P P 15 54 59.2 +0.6
baz=91
G20A **Bridger** 91.01 41 ⇑P P 15 54 58.8 +0.4
baz=91
Q26A **Hugo** 91.05 48 ⇑P P 15 54 59.1 +0.3
baz=91
B17A **L&G Farms, Che** 91.08 38 ⇓P P 15 54 59.0 +0.4
baz=91,SNR=10
ABTX **Abilene, Hawle** 91.11 55 ⇓P P 15 54 59.3 +0.3
baz=91,SNR=23
KMI **Kunming** 91.16 297 P P 15 55 01.1 +1.4
KMI pP **pP** 15 55 42.1 -0.9
KMI sP **sP** 15 56 02.1 +1.0
KMI PP **PP** 15 58 40.3 +1.0
KMI S **S** 16 05 42.7 -0.8
KMI SS **SS** 16 11 54.0 +1.4
KMI pmax pmax
comp=Z,15nm,0.9s
KMI pmax pmax
comp=Z,130nm,4.9s
KMI LR LR
comp=N,220nm,19.6s
KMI LR LR
comp=E,170nm,19.0s
KMI LR LR
comp=Z,230nm,19.4s
J22A **Midwest** 91.19 43 ⇑P P 15 54 59.5 +0.2
baz=91,SNR=11
T28A **Walsh** 91.23 50 ⇓P P 15 54 59.5 -0.1
baz=92,SNR=8.1
HHC **Hu-ho-hao-te** 91.23 314 *e*P P 15 54 59.5 0.0
HHC pP **pP** 15 55 39.9 -2.9
HHC sP **sP** 15 55 57.2 -3.7
HHC PP **PP** 15 58 41.6 +2.2
HHC SKS **SKSac** 16 05 15.4 0.0
HHC S **S** 16 05 42.4 -0.8
HHC sS sS 16 06 52.8 -5.9
HHC SS **SS** 16 11 55.2 +2.5
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,96nm,6.5s
R27A **Eads** 91.26 49 ⇓P P 15 54 59.7 -0.1
baz=92,SNR=9.9
E19A **Rath Farm, Rou** 91.29 40 ⇑P P 15 55 00.6 +0.9
baz=92,SNR=14
I22A **9 Mile Ranch,** 91.42 43 ⇓P P 15 55 01.1 +0.7
baz=92,SNR=23
K23A **Bowen Ranch, D** 91.42 44 ⇑P P 15 55 00.9 +0.4
baz=92,SNR=9.9
H21A **Big Horn, Sher** 91.43 42 ⇑P P 15 55 01.1 +0.6
baz=92,SNR=9.9
P26A **Davis Ranch, A** 91.46 48 ⇓P P 15 55 01.6 +0.9
baz=92,SNR=5.1
A17A **Triple J Farms** 91.48 37 ⇓P P 15 55 01.0 +0.5
baz=92,SNR=13
EGMT **Eagleton** 91.53 38 ⇓P P 15 55 01.4 +0.7
baz=92,SNR=6.1
D19A **Cripps Ranch,** 91.59 39 ⇑P P 15 55 01.9 +0.8
baz=92,SNR=18
G21A **Lodge Grass** 91.63 41 ⇓P P 15 55 01.9 +0.7
baz=92
E20A **Meyer Farm, Mu** 91.70 40 ⇑P P 15 55 02.7 +1.2
baz=92,SNR=10
KSCO **Kaye Shedlock'** 91.71 48 ⇑P P 15 55 02.2 +0.4
baz=92,SNR=5.6
B18A **Beardsley Farm** 91.71 38 ⇑P P 15 55 02.1 +0.6
baz=92,SNR=12
C19A **Slack Wire Ran** 91.79 39 ⇓P P 15 55 03.1 +1.2
baz=92,SNR=25
O26A **Horse Wrangler** 91.79 47 ⇑P P 15 55 03.4 +1.2
baz=92,SNR=5.2
H22A **Clearmont** 91.85 42 ⇑P P 15 55 03.0 +0.7
baz=92,SNR=9.5
CM31 **Chiang Mai Arr** 91.85 289 *e*P P 15 55 03.8 +1.1
comp=Z,14nm,0.9s
CMAR **Chiang Mai Arr** 91.85 289 P P 15 55 03.8 +1.1
comp=Z,19nm,1.1s,baz=118,slow=3.1,SNR=55
CMAR pP **pP** 15 55 47.1 +1.0
comp=Z,9.3nm,1.0s,baz=120,slow=3.1,SNR=3.8
CMAR PP **PP** 15 58 47.2 +2.6
comp=Z,1.7nm,0.9s,baz=129,slow=5.2,SNR=4.1
CMAR PKKPbc **PKKPbc** 16 12 20.0 +0.3
comp=Z,3.0nm,0.8s,baz=288,slow=4.5,SNR=23
CMAR PKPPKP **P'P'df** 16 20 28.9 -2.1
comp=Z,0.4nm,0.8s,baz=298,slow=4.0,SNR=4.1
CMAR Chiang Mai Arr 91.85 289 P P 15 55 03.8 +1.1
CMAR pP **pP** 15 55 47.1 +1.0
CMAR PP **PP** 15 58 47.2 +2.6
CMAR PKKPbc **PKKPbc** 16 12 20.0 +0.3
CMAR P'P' 16 20 28.9
A18A **Metzger Ranch,** 91.94 37 ⇓P P 15 55 03.1 +0.6
baz=92,SNR=13
F21A **Absaloka Mine,** 91.97 41 ⇑P P 15 55 04.0 +1.2
baz=92,SNR=7.9
CHTO **Chiang Mai** 91.98 289 *e*P P 15 55 03.5 +0.1
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 91.98 289 *e*P P 15 55 03.5 +0.1

	comp=Z,15nm,0.8s						
D20A	Manuel Ranch,	92.00	39	⇑P	P	15 55 03.9	+1.0
	baz=92,SNR=19						
G22A	Birney	92.19	42	⇓P	P	15 55 04.3	+0.4
	baz=92,SNR=7.2						
B19A	Brinkman Farms	92.22	38	⇑P	P	15 55 04.9	+1.0
	baz=92,SNR=7.7						
J24A	Dixon Ranch, L	92.32	44	⇑P	P	15 55 05.2	+0.7
	baz=93,SNR=6.3						
O27A	Beecher Island	92.34	47	⇓P	P	15 55 05.7	+1.0
	baz=93,SNR=9.2						
E21A	Keefer Ranch,	92.35	40	⇓P	P	15 55 05.9	+1.4
	baz=93,SNR=8.5						
C20A	Veseth Ranch,	92.38	39	⇑P	P	15 55 05.8	+1.2
	baz=93,SNR=13						
F22A	Rosebud	92.48	41	⇑P	P	15 55 05.8	+0.7
	baz=93						
K25A	Mack Ranch, Ha	92.50	45	⇑P	P	15 55 06.4	+1.0
	baz=93						
LCO	Las Campanas	92.52	122	*e*P	P	15 55 06.6	+0.5
	comp=Z,106nm,1.1s						
WHTX	Lake Whitney	92.53	57	⇓P	P	15 55 05.9	+0.3
	baz=93						
A19A	Klindworth Far	92.57	38	⇓P	P	15 55 06.2	+0.7
	baz=93,SNR=9.2						
N27A	Anderson Farm,	92.57	47	⇓P	P	15 55 06.6	+0.8
	baz=93,SNR=8.5						
I24A	Kuemmerle Ranc	92.59	43	⇑P	P	15 55 05.8	0.0
	baz=93						
CD2	Chengdu	92.64	302	P	P	15 55 06.8	+0.6
CD2				pP	pP	15 55 49.6	0.0
CD2				sP	sP	15 56 07.5	-0.1
CD2				PP	PP	15 58 53.5	+2.9
CD2				SKS	SKSac	16 05 22.6	-1.1
CD2				S	S	16 05 53.8	-2.3
CD2				sS	sS	16 07 08.9	-3.0
CD2				SS	SS	16 12 14.6	+1.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,4.8s						
WMOK	Wichita Mounta	92.64	54	*e*P	P	15 55 04.5	-1.6
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMOK	Wichita Mounta	92.64	54	*e*P	P	15 55 04.5	-1.6
	comp=Z,8.9nm,0.9s						
B20A	Solberg Farm,	92.74	38	⇓P	P	15 55 07.2	+1.0
	baz=93,SNR=5.0						
G23A	Biddle	92.74	42	⇑P	P	15 55 06.8	+0.4
	baz=93,SNR=13						
C21A	Desert Coulee	92.97	39	⇑P	P	15 55 07.9	+0.5
	baz=93,SNR=5.1						
F23A	Volborg	92.97	42	⇓P	P	15 55 08.0	+0.6
	baz=93,SNR=10						
OGNE	Ogallala	92.98	47	*e*P	P	15 55 07.9	+0.4
	comp=Z,18nm,0.8s						
OGNE	Ogallala	92.98	47	⇓P	P	15 55 08.3	+0.7
	baz=93,SNR=6.1						
A20A	Cobblestone Ra	93.01	38	⇑P	P	15 55 08.2	+0.7
	baz=93,SNR=15						
H24A	Dirks Ranch, A	93.05	43	⇓P	P	15 55 08.0	+0.1
	baz=93,SNR=46						
RSSD	Black Hills	93.09	43	*e*P	P	15 55 08.2	0.0
RSSD				pmax	pmax		
	comp=Z,45nm,0.9s						
RSSD	Black Hills	93.09	43	*e*P	P	15 55 08.2	0.0
	comp=Z,45nm,0.9s						
D22A	Cohagen	93.19	40	⇓P	P	15 55 09.6	+1.3
	baz=93,SNR=8.5						
CFAA	Coronel Fontan	93.23	126	P	P	15 55 09.4	+0.3
	comp=Z,3.5nm,0.9s,baz=243,slow=5.8,SNR=55						
CFAA				PP	PP	15 58 54.3	-0.4
	comp=Z,0.2nm,0.4s,baz=269,slow=6.0,SNR=6.5						
CFAA	Coronel Fontan	93.23	126	P	P	15 55 09.4	+0.3
CFAA				PP	PP	15 58 54.3	-0.4
F24A	Ekalaka	93.63	42	⇓P	P	15 55 11.1	+0.6
	baz=94						
A21A	Bergtoll Ranch	93.64	38	⇑P	P	15 55 11.1	+0.7
	baz=94,SNR=7.3						
C22A	Vida	93.65	40	⇓P	P	15 55 11.2	+0.7
	baz=94						
YAK	Yakutsk	93.80	338	⇓*e*P	P	15 55 09.2	-1.5
YAK				*e*		15 58 54.7	
YAK				*e*S	SKSac	16 05 23.7	-4.7
YAK				*e*SS	SS	16 12 28.5	+0.2
YAK				pmax	pmax		
	comp=Z,32nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.6s						
YAK				pmax	pmax		
	comp=N,35nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK	Yakutsk	93.80	338	*e*P	P	15 55 09.6	-1.0
	comp=E,32nm,0.8s						
B22A	Reddig Ranch S	93.85	39	⇑P	P	15 55 12.2	+0.8
	baz=94,SNR=7.1						
C23A	Lambert	94.09	40	⇑P	P	15 55 13.5	+1.1
	baz=94,SNR=10						
A22A	Carney Farms,	94.23	39	⇑P	P	15 55 14.1	+1.0
	baz=94						
D24A	Glendive	94.29	41	⇓P	P	15 55 14.7	+1.3
	baz=94						
C24A	Savage	94.42	40	⇓P	P	15 55 15.3	+1.4
	baz=95,SNR=6.7						
B23A	Brockton	94.52	39	⇑P	P	15 55 15.7	+1.3
	baz=95						
LZH	Lanzhou	94.64	307	*e*P	P	15 55 16.4	+1.0
LZH				pP	pP	15 56 02.3	+3.5
LZH				sP	sP	15 56 20.3	+3.4
LZH				PP	PP	15 59 07.5	+1.2
LZH				SKS	SKSac	16 05 32.6	-2.0
LZH				*e*S	S	16 06 08.0	-5.6
LZH				sS	sS	16 07 26.0	-3.6
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.2s						
DGMT	Dagmar	94.99	40	P	P	15 55 17.3	+0.7
	comp=Z,16nm,0.8s						
INK	Inuvik	95.12	15	*e*P	P	15 55 16.6	0.0
	comp=Z,20nm,1.1s						
INK				*e*pP	pP	15 56 01.1	+1.1
A24A	Westby	95.31	39	⇑P	P	15 55 19.1	+1.0
	baz=96						
TUL1	Tulsa	95.35	54	⇓P	P	15 55 18.8	+0.3
	baz=96						
BGNE	Belgrade	95.83	48	⇑P	P	15 55 21.3	+0.8
	baz=96						
KSU1	Kansas State U	96.00	50	*e*P	P	15 55 21.4	+0.1
	comp=Z,16nm,0.8s						
YKA	Yellowknife Ar	97.06	24	P	P	15 55 25.3	-0.3
	comp=Z,2.8nm,0.9s,baz=242,slow=4.4,SNR=30						
YKA				PP	PP	15 59 26.8	+2.8
	comp=Z,0.4nm,0.7s,baz=240,slow=8.1,SNR=4.1						
YKA				PKKP	PKKPbc	16 12 04.3	-3.4
	comp=Z,1.4nm,0.6s,baz=39,slow=2.4,SNR=19						
YKA				PKPPKP	P'P'df	16 20 19.4	+1.6
	comp=Z,0.1nm,0.6s,baz=53,slow=2.7,SNR=5.1						
YKA	Yellowknife Ar	97.06	24	P	P	15 55 25.3	-0.3
YKA				PP	PP	15 59 26.8	+2.8
YKA				PKKP	PKKPbc	16 12 04.3	-3.4
YKA				P'P'		16 20 19.4	
ULN	Ulaanbaatar	97.22	319	*e*P	P	15 55 25.3	-1.6
	comp=Z,5.0nm,0.9s						
ULN				*e*pP	PP	15 59 21.3	-4.6
SONM	Songino Array	97.62	319	P	P	15 55 27.8	-0.8
	comp=Z,1.5nm,1.0s,baz=110,slow=4.2,SNR=11						
SONM				PP	PP	15 59 23.5	-5.4
	comp=Z,6.0nm,1.2s,baz=130,slow=6.0,SNR=11						
SONM				PKKP	PKKPbc	16 12 03.7	-2.2
	comp=Z,1.4nm,0.8s,baz=272,slow=2.8,SNR=10						
SONM	Songino Array	97.62	319	P	P	15 55 27.8	-0.8
SONM				PP	PP	15 59 23.5	-5.4
SONM				PKKP	PKKPbc	16 12 03.7	-2.2
ECSD	EROS Data Cent	97.78	46	*e*P	Pdif	15 55 29.8	+0.4
	comp=Z,28nm,1.0s						
GTA	Gaotai	98.85	309	*e*P	Pdif	15 55 36.4	+2.1
GTA				pP	pP	15 56 21.6	+3.8
GTA				sP	sP	15 56 38.6	+2.7
GTA				PP	PP	15 59 35.8	-2.7
GTA				SKS	SKSac	16 05 54.6	-1.5
GTA				S	S	16 06 47.8	-1.6
GTA				sS	sS	16 08 04.7	-1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,32nm,7.6s						
GTA				LR	LR		
	comp=N,140nm,19.9s						
GTA				LR	LR		
	comp=E,100nm,24.7s						
GTA				LR	LR		
	comp=Z,95nm,23.7s						
LPAZ	La Paz	100.29	112	P	Pdif	15 55 44.0	+2.1
	comp=Z,8.2nm,0.7s,baz=297,slow=2.9,SNR=26						
LPAZ				PP	PP	15 59 48.9	-1.1
	comp=Z,9.3nm,1.2s,baz=257,slow=6.7,SNR=13						
LPAZ	La Paz	100.29	112	*e*Pdif	Pdif	15 55 43.0	+1.0
	comp=Z,7.7nm,0.7s						
LPAZ				PP	PP	15 59 48.9	-1.1
SHL	Shillong	100.48	293	*e*P	PP	15 59 50.0	-1.2
ZAK	Zakamensk	100.48	320	*e*P	Pdif	15 55 39.6	-1.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
ULM	Lac du Bonnet	100.68	40	P	Pdif	15 55 41.0	-1.0
	comp=Z,1.7nm,0.6s,baz=196,slow=5.3,SNR=4.4						
ULM	Lac du Bonnet	100.68	40	P	Pdif	15 55 41.0	-1.0
TLY	Talaya	100.74	321	*e*P	Pdif	15 55 46.7	+4.4
TLY				*e*		16 07 04.2	
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TAPN	Taplejung	104.59	294	*e*P	PKiKP	16 00 15.3	-0.2
ODAN	Odare	104.72	293	*e*P	PKiKP	16 00 16.1	+0.5
RAMN	Ramite	105.42	293	*e*P	PKiKP	16 00 16.7	-0.2
	comp=Z,20nm,0.7s						
RAMN	Ramite	105.42	293	*e*P	PKiKP	16 00 16.7	-0.2
JIRN	Jiri	105.97	294	*e*P	PKiKP	16 00 17.7	-0.4
	comp=Z,3.1nm,0.6s						
JIRN	Jiri	105.97	294	*e*P	PKiKP	16 00 17.7	-0.4
GUN	Gumba	106.30	294	*e*P	PKiKP	16 00 17.7	-1.0
	comp=Z,13nm,0.7s						
GUN	Gumba	106.30	294	*e*P	PKiKP	16 00 17.7	-1.0
SIV	San Ignacio	106.44	115	PP	PP	16 00 32.8	-2.2
	comp=Z,5.1nm,1.1s,baz=242,slow=12,SNR=10						
SIV	San Ignacio	106.44	115	PP	PP	16 00 32.8	-2.2
PKI	Pulchoki	106.61	293	*e*P	PKiKP	16 00 18.5	-0.7
	comp=Z,17nm,0.7s						
PKI	Pulchoki	106.61	293	*e*P	PKiKP	16 00 18.5	-0.7
KKN	Kakani	106.78	294	*e*P	PKiKP	16 00 18.5	-0.9
	comp=Z,14nm,0.7s						
KKN	Kakani	106.78	294	*e*P	PKiKP	16 00 18.5	-0.9
DMN	Daman	106.88	293	*e*P	PKiKP	16 00 19.1	-0.5
	comp=Z,13nm,0.7s						
DMN	Daman	106.88	293	*e*P	PKiKP	16 00 19.1	-0.5
GKN	Gorkha	107.38	294	*e*P	PKiKP	16 00 19.4	-1.0
GKN	Gorkha	107.38	294	*e*P	PKiKP	16 00 19.4	-1.0
KOLN	Koldanda	108.21	293	*e*P	PKiKP	16 00 21.2	-0.8
	comp=Z,13nm,0.5s						
KOLN	Koldanda	108.21	293	*e*P	PKiKP	16 00 21.2	-0.8
DANN	Dangsing	108.22	294	*e*P	PKiKP	16 00 21.3	-0.9
	comp=Z,26nm,0.6s						
DANN	Dangsing	108.22	294	*e*P	PKiKP	16 00 21.3	-0.9
WMQ	Urumqi	108.80	310	*e*Pdif	Pdif	15 56 19.0	+0.6
WMQ				PP	PP	16 00 55.0	+2.8
WMQ				S	Sdif	16 08 09.5	-2.7
WMQ				LR	LR		
	comp=N,230nm,32.0s						
WMQ				LR	LR		
	comp=Z,140nm,38.0s						
PYUN	Piuthan	108.81	293	*e*P	PKiKP	16 00 22.1	-1.1
	comp=Z,17nm,0.7s						
PYUN	Piuthan	108.81	293	*e*P	PKiKP	16 00 22.1	-1.1
ZAA0	Zalesovo Array	112.34	321	*e*PKPdf	PKiKP	16 00 27.6	-1.1
ZALV	Zalesovo Beam	112.34	321	PKiKP	PKiKP	16 00 27.9	-0.8
	comp=Z,6.3nm,0.6s,baz=106,slow=0.8,SNR=36						
ZALV				PP	PP	16 01 14.9	-2.3
	comp=Z,4.7nm,1.0s,baz=119,slow=3.3,SNR=3.6						
ZALV				PKKPbc	PKKPbc	16 11 17.8	-3.2
	comp=Z,1.5nm,0.8s,baz=260,slow=4.2,SNR=5.0						
ZALV	Zalesovo Beam	112.34	321	*i* PKIKP	PKiKP	16 00 28.0	-0.8
ZALV						16 01 14.9	
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	Zalesovo Beam	112.34	321	PKiKP	PKiKP	16 00 27.9	-0.8
ZALV				PP	PP	16 01 14.9	-2.3
ZALV				PKKPbc	PKKPbc	16 11 17.8	-3.2
MK31	Makanchi Array	113.07	313	*e*PKIKP	PKiKP	16 00 29.5	-0.9
MK31	Makanchi Array	113.07	313	*e*PKPdf	PKiKP	16 00 29.5	-0.9
MKAR	Makanchi Array	113.07	313	Pdiff	Pdif	15 56 40.6	+3.3
	comp=Z,0.5nm,0.7s,baz=91,slow=5.5,SNR=7.5						
MKAR				PKiKP	PKiKP	16 00 29.7	-0.7
	comp=Z,4.4nm,0.6s,baz=94,slow=0.4,SNR=46						
MKAR				PP	PP	16 01 15.2	-7.5
	comp=Z,2.3nm,0.8s,baz=89,slow=6.3,SNR=4.8						
MKAR				PKKPbc	PKKPbc	16 11 14.1	-4.3
	comp=Z,3.2nm,0.7s,baz=296,slow=3.6,SNR=3.7						
MKAR	Makanchi Array	113.07	313	P	Pdif	15 56 40.6	+3.3
MKAR				*i*		16 00 29.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	113.07	313	Pdif	Pdif	15 56 40.6	+3.3
MKAR				PKiKP	PKiKP	16 00 29.7	-0.7
MKAR				PP	PP	16 01 15.2	-7.5
MKAR				PKKPbc	PKKPbc	16 11 14.1	-4.3
NVS	Novosibirsk	113.36	322	*i* PKIKP	PKiKP	16 00 29.2	-1.4
NVS				*i*		16 06 59.6	
NVS				pmax	pmax		
	comp=Z,13nm,1.3s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.4s						
KURK	Kurchatov	115.86	317	⇓*i*PKIKP	PKPdf	16 00 34.8	-0.8
KURK	Kurchatov	115.86	317	*e*PKPdf	PKPdf	16 00 34.6	-1.0
KURK				PKP	PKPdf	16 00 34.8	-0.8
KURK				PP	PP	16 01 34.2	-7.9
KURK				PKKPbc	PKKPbc	16 11 03.6	-5.2
KURBB	Kurchatov Arra	115.91	317	PKP	PKPdf	16 00 34.8	-0.9
	comp=E,8.7nm,0.7s,baz=93,slow=1.8,SNR=68						
KURBB				PP	PP	16 01 34.2	-8.3
	comp=E,8.5nm,0.9s,baz=100,slow=5.6,SNR=7.2						
KURBB				PKKPbc	PKKPbc	16 11 03.6	-5.0
	comp=E,1.2nm,0.9s,baz=272,slow=4.5,SNR=5.5						
KSH	Kashi	116.75	304	PKP	PKPdf	16 00 38.8	+0.9
KSH				sPKP		16 01 37.7	
KSH				PP	PP	16 01 55.5	+6.6
KSH				PKS	PKSdf	16 04 13.1	-1.5
KSH				SKS	SKSdf	16 07 32.7	-1.1
KSH				SKKS	SKKSac	16 08 29.9	-2.2
KSH				SS	SS	16 17 48.5	+6.2
KSH				AMB	AMB		
	comp=Z,86nm,5.5s						
KSH				LR	LR		
	comp=N,120nm,6.8s						
KSH				LR	LR		
	comp=E,57nm,6.8s						
KSH				LR	LR		
	comp=Z,110nm,5.5s						
ULHL	Ulahol	116.85	307	P	PKPdf	16 00 38.3	+0.3
	SNR=7.9						
FRB	Frobisher Bay	117.22	28	PKKPbc	PKKPbc	16 11 05.6	+1.2
	comp=Z,2.7nm,0.7s,baz=99,slow=2.3,SNR=6.4						
FRB	Frobisher Bay	117.22	28	PKKPbc	PKKPbc	16 11 05.6	+1.2
BDFB	Brasilia	117.30	122	PKP	PKPdf	16 00 38.8	-0.8
	comp=Z,3.8nm,0.7s,baz=315,slow=1.4,SNR=9.9						
BDFB	Brasilia	117.30	122	PKP	PKPdf	16 00 38.8	-0.8
TKM2	Tokmak 2	117.39	308	*e*PKIKP	PKPdf	16 00 37.8	-1.3
TKM2	Tokmak 2	117.39	308	*e*PKPdf	PKPdf	16 00 37.8	-1.3
TKM2	Tokmak 2	117.39	308	P	PKPdf	16 00 38.4	-0.7
	SNR=17						
KZA	Kyzart	117.57	307	P	PKPdf	16 00 40.1	+0.4
	SNR=5.5						
KBK	Karagaybulak	117.84	308	P	PKPdf	16 00 39.8	-0.2
	SNR=7.6						
CHMS	Chumysh	118.01	308	P	PKPdf	16 00 39.9	-0.2
	SNR=6.3						
AAK	Ala-Archa	118.17	308	PKKPbc	PKKPbc	16 11 00.3	-0.4
	comp=Z,6.2nm,0.9s,baz=236,slow=4.0,SNR=20						
AAK	Ala-Archa	118.17	308	*e*PKIKP	PKPdf	16 00 39.8	-0.8
AAK	Ala-Archa	118.17	308	*e*PKPdf	PKPdf	16 00 39.8	-0.8
AAK				PKKPbc	PKKPbc	16 11 00.3	-0.4
AAK	Ala-Archa	118.17	308	P	PKPdf	16 00 40.4	-0.1
	SNR=7.5						
USP	Ospenovka	118.21	308	P	PKPdf	16 00 40.3	-0.2
	SNR=5.9						
EKS2	Erkin-Say	118.70	308	*e*PKIKP	PKPdf	16 00 40.9	-0.6
EKS2	Erkin-Say	118.70	308	*e*PKPdf	PKPdf	16 00 40.9	-0.6
EKS2	Erkin-Say	118.70	308	P	PKPdf	16 00 41.7	+0.2
	SNR=12						
AML	Almayashu	118.72	307	P	PKPdf	16 00 42.1	+0.2
	SNR=16						
SCHQ	Schefferville	118.78	38	PKP	PKPdf	16 00 40.0	-1.1
	comp=Z,6.6nm,0.9s,baz=274,slow=3.6,SNR=6.9						
SCHQ	Schefferville	118.78	38	PKP	PKPdf	16 00 40.0	-1.1
VOSK	Vostochnaya	120.60	319	PKIKP	PKPdf	16 00 44.0	-0.7
VOSK				pmax	pmax		
	comp=Z,25nm,0.8s						
BVA0	Borovoye Array	120.94	320	*i* PKIKP	PKPdf	16 00 44.8	-0.5
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	Borovoye Array	120.94	320	PKP	PKPdf	16 00 44.8	-0.5
	comp=Z,15nm,0.6s,baz=106,slow=1.5,SNR=80						
BVAR				PKKPbc	PKKPab	16 10 49.3	0.0
	comp=Z,1.5nm,0.7s,baz=275,slow=3.5,SNR=10						
BVAR	Borovoye Array	120.94	320	PKIKP	PKPdf	16 00 44.8	-0.5
BVAR				pmax	pmax		
	comp=Z,15nm,0.6s						
BVAR	Borovoye Array	120.94	320	PKP	PKPdf	16 00 44.8	-0.5
BVAR				PKKPbc	PKKPab	16 10 49.3	0.0
BRVK	Borovoye	121.00	320	PKIKP	PKPdf	16 00 44.8	-0.6
BRVK				pmax	pmax		
	comp=Z,45nm,0.9s						
BRVK	Borovoye	121.00	320	*e*PKPdf	PKPdf	16 00 44.3	-1.1
KK31	Karatay Array	121.12	308	*i* PKIKP	PKPdf	16 00 45.4	-0.6
KK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KKAR	Karatay Array	121.12	308	*e*PKIKP	PKPdf	16 00 45.0	-1.0
KKAR	Karatay Array	121.12	308	*e*PKPdf	PKPdf	16 00 45.0	-1.0
KBL	Kabul	121.72	298	*e*PKIKP	PKPdf	16 00 47.4	-0.3
KBL	Kabul	121.72	298	*e*PKPdf	PKPdf	16 00 47.4	-0.3
ZRNK	Zerenda	121.78	320	PKIKP	PKPdf	16 00 46.3	-0.6
ZRNK				pmax	pmax		
	comp=Z,23nm,0.7s						
SPITS	Spitsbergen Ar	123.19	357	PP	PP	16 02 29.3	-2.1
	comp=Z,8.9nm,1.0s,baz=357,slow=11,SNR=5.2						
SPITS				PKKPbc	PKKPab	16 10 39.4	+0.6
	comp=Z,5.2nm,0.7s,baz=117,slow=0.4,SNR=7.9						
SPITS	Spitsbergen Ar	123.19	357	PP	PP	16 02 29.3	-2.1
SPITS				PKKPbc	PKKPab	16 10 39.4	+0.6
SFJD	Kangerlussuaq	123.57	22	⇑*i*P	PKPdf	16 00 49.6	-0.3
	comp=Z,5.7nm,0.8s						
SUR	Sutherland	123.68	198	*e*PKPdf	PKPdf	16 00 52.1	+0.5
SUMG	Summit	124.03	14	*e*PKIKP	PKPdf	16 00 51.8	+0.5
SUMG	Summit	124.03	14	*e*PKPdf	PKPdf	16 00 51.8	+0.5
SUMG	Summit	124.03	14	*i* P	PKPdf	16 00 52.3	+1.1
	comp=Z,6.7nm,0.9s						
BOSA	Boshof	125.70	204	PKP	PKPdf	16 00 56.3	+0.8
	comp=Z,17nm,0.9s,baz=160,slow=2.8,SNR=16						
BOSA	Boshof	125.70	204	PKP	PKPdf	16 00 56.3	+0.8
SVE	Sverdlovsk	125.81	325	⇓*i*PKIKP	PKPdf	16 00 55.0	+0.5
SVE				pmax	pmax		
	comp=Z,41nm,1.3s						
ARU	Arti	127.02	325	*i* PKIKP	PKPdf	16 00 57.3	+0.4
ARU						16 02 58.8	
ARU						16 07 43.4	
ARU				PS	PS	16 12 48.6	-16
ARU				SS	SS	16 19 51.2	-0.1
ARU	Arti	127.02	325	*e*PKPdf	PKPdf	16 00 56.8	-0.1
ARU				*e*PP	PP	16 02 51.3	-6.3
ABKAR	Akbulak array	127.96	316	*e*PKPdf	PKPdf	16 00 58.9	+0.1
NRS	Narsarsuaq	128.20	28	*i* P	PKPdf	16 01 00.5	+1.6
	comp=Z,6.4nm,1.1s						
KEV	Kevo	129.95	350	*e*PKIKP	PKPdf	16 00 53.8	-8.3
KEV	Kevo	129.95	350	*e*pkp	PKPdf	16 00 53.8	-8.3
ARCES	ARCESS Array B	130.40	350	PKP	PKPdf	16 01 02.7	-0.3
	comp=Z,7.2nm,0.7s,baz=45,slow=1.4,SNR=20						
ARCES				SKPbc	SKPab	16 04 11.8	+1.5
	comp=Z,9.9nm,0.8s,baz=12,slow=5.0,SNR=11						
ARCES	ARCESS Array B	130.40	350	PKP	PKPdf	16 01 02.7	-0.3
ARCES				SKPbc	SKPab	16 04 11.8	+1.5
APA	Apatity	130.51	345	⇓*i*PKIKP	PKPdf	16 01 00.0	-3.2
APA				*i* *PP	PKiKP	16 01 39.4	+35
APA				MLR	MLR		
	comp=Z,400nm,24.0s						
BSY	Bisya	130.52	282	P	SKPbc	16 04 14.4	+2.2
	SNR=6.4						
HOQ	Hoqain	130.56	283	P	SKPbc	16 04 14.7	+2.4
	SNR=7.0						
ARQ	Araqi	131.24	282	P	SKPbc	16 04 16.8	+2.0
	SNR=13						
ASHO	Ashiyiah	131.85	284	P	SKPbc	16 04 18.9	+2.0
	SNR=5.4						
RBK	Rabkut	132.22	274	P	SKPbc	16 04 21.3	+2.9
	SNR=9.5						
NAZ	Nazwa, Dubai	132.25	285	P	SKPbc	16 04 20.5	+2.2
	SNR=5.2						
ABTO	Aybut	133.03	274	P	SKPbc	16 04 23.7	+2.5
	SNR=15						
KLMR	Klimovskoe	133.58	337	*e*PKIKP	PKPdf	16 01 09.4	+0.2
KLMR				pmax	pmax		
	comp=Z,42nm,1.2s						
JOF	Joensuu	134.75	343	*e*PKHKP	PKPpre	16 00 58.2	
JOF	Joensuu	134.75	343	*e*pkp	PKPpre	16 00 58.2	
LSZ	Lusaka	135.95	215	*e*PKPdf	PKPdf	16 01 15.4	+0.2
LSZ				*e*PP	PP	16 03 51.3	-3.6
LSZ				*e*SKP		16 04 30.9	
KAF	Kangasniemi	136.73	345	*e*PKHKP	PKPpre	16 01 01.5	
KAF	Kangasniemi	136.73	345	*e*pkp	PKPpre	16 01 01.5	
TSUM	Tsumeb	137.03	200	*e*PKPpre	PKPpre	16 01 08.8	
TSUM				*e*PKPdf	PKPdf	16 01 16.6	-0.5
FINES	FINESS Array B	137.36	344	PKhKP	PKPpre	16 01 05.0	
	comp=Z,2.4nm,0.6s,baz=32,slow=3.2,SNR=17						
FINES				SKPbc	SKPbc	16 04 35.0	+1.7
	comp=Z,14nm,0.8s,baz=46,slow=4.0,SNR=13						
FINES	FINESS Array B	137.36	344	PKPpre	PKPpre	16 01 05.0	
FINES				SKPbc	SKPbc	16 04 35.0	+1.7
ALIB	Äli-Bayra	137.44	306	PKiKP	PKiKP	16 01 19.6	+0.7
	SNR=3.0						
ALIB	Äli-Bayra	137.44	306	P	PKiKP	16 01 19.6	+0.7
	SNR=3.0						
PQL	Pirkuli	137.57	307	P	PKPdf	16 01 19.9	+2.4
	SNR=6.0						
MOS	Moscow	137.66	332	*e*PKIKP	PKPdf	16 01 15.8	-1.1
MOS				pmax	pmax		
	comp=Z,36nm,1.1s						
IML	Ismayilli	137.87	307	P	PKPdf	16 01 19.8	+1.9
	SNR=4.2						
GLBA	Clilabad	138.04	305	P	PKPdf	16 01 18.7	+0.6
	SNR=5.0						
VRHR	Novokhopersk	138.34	324	*e*PKIKP	PKPdf	16 01 18.0	-0.3
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s						
SEKA	Sheki	138.50	308	P	PKPdf	16 01 21.9	+2.9
	SNR=4.6						
OBN	Obninsk	138.52	332	⇓*i*PKIKP	PKPdf	16 01 18.6	+0.1
OBN				*i*		16 02 03.7	
OBN				*e*		16 04 13.2	
OBN				*e*PPS	PPS	16 16 33.3	
OBN				pmax	pmax		
	comp=Z,89nm,1.8s						
GANJ	Ganja	139.28	308	P	PKPdf	16 01 20.7	+0.3
	SNR=3.8						
UMR	Umm Al-Rimmam	139.59	290	*e*P	PKPdf	16 01 15.5	-5.7
UMR				AMb	AMB	16 01 25.8	
	comp=Z,60nm,1.2s						
VSR	Storozhevoye	139.60	326	*e*PKIKP	PKPdf	16 01 20.5	-0.1
VSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
VSR				pmax	pmax		
	comp=Z,30nm,1.4s						
VSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VSU	Vasula	139.68	341	*i* PKIKP	PKPdf	16 01 23.5	+3.0
DGRG	David-gareji	139.76	309	P	SKPbc	16 04 43.7	+2.9
MIB	Mutribah	139.91	291	*e*P	PKPdf	16 01 16.0	-5.8
MIB				AMb	AMB	16 01 25.7	
	comp=Z,62nm,1.0s						
KMBO	Kilima Mbogo	139.96	240	*e*PKPpre	PKPpre	16 01 15.2	
NAY	Al-Naaiem	140.00	290	*e*P	PKPdf	16 01 15.7	-6.3
NAY				AMb	AMB	16 01 26.3	
	comp=Z,23nm,1.1s						
TBLG	Delisi	140.14	310	P	SKPbc	16 04 44.2	+2.4
NB2	NORSAR Subarra	140.38	354	PKP	PKPpre	16 01 13.9	
	comp=Z,6.7nm,1.1s,baz=16,slow=3.2						
NOA	NORSAR Array B	140.38	354	PKhKP	PKPpre	16 01 13.8	
	comp=Z,6.4nm,0.8s,baz=19,slow=2.2,SNR=18						
NOA				SKPbc	SKiKP	16 04 44.7	+0.5

	comp=Z,12nm,0.9s,baz=6.3,slow=4.0,SNR=15						
NOA	**NORSAR Array B**	**140.38**	**354**	PKPpre	PKPpre	16 01 13.8	
NOA				SKPbc	**SKiKP**	**16 04 44.7**	**+0.5**
ZEI	**Tsey**	**140.41**	**312**	i PKIKP	**PKPdf**	**16 01 25.2**	**+2.5**
ZEI				pmax	pmax		
	comp=Z,11nm,1.0s						
GNI	**Garni**	**140.58**	**307**	ePKPdf	**PKPdf**	**16 01 21.8**	**-1.2**
NAO01	**NORSAR Array S**	**140.60**	**354**	ePKPpre	PKPpre	16 01 13.2	
KBZ	**Khabaz**	**140.77**	**313**	PKP	**PKPdf**	**16 01 21.1**	**-1.8**
	comp=Z,3.7nm,1.0s,baz=180,slow=2.0,SNR=2.6						
KBZ	**Khabaz**	**140.77**	**313**	PKIKP	**PKPdf**	**16 01 21.2**	**-1.8**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**140.77**	**313**	PKP	**PKPdf**	**16 01 21.1**	**-1.8**
ONI	**Oni**	**140.78**	**311**	P	**SKPbc**	**16 04 45.8**	**+2.3**
KIV	**Kislovodsk**	**140.83**	**314**	i PKIKP	**PKPdf**	**16 01 23.9**	**+0.7**
KIV				e		16 04 23.6	
KIV				eSS	SS	16 22 33.6	-4.6
KIV				eSSS	SSS	16 27 52.2	
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV	**Kislovodsk**	**140.83**	**314**	ePKPdf	**PKPdf**	**16 01 22.9**	**-0.3**
AKH	**Akhalkalaki**	**141.13**	**310**	P	**SKPbc**	**16 04 47.2**	**+2.6**
HAKT	**HAKKARI**	**141.99**	**304**	i P	**PKPdf**	**16 01 21.1**	**-4.6**
NACGM	**Naroch**	**142.56**	**338**	e	PKPdf	16 01 20.0	-5.8
NACGM	**Naroch**	**142.56**	**338**	e	**SKPbc**	**16 04 48.0**	**+0.5**
SOC	**Sochi**	**142.96**	**315**	ePKHKP	PKPpre	16 01 21.3	
SOC				e		16 04 33.7	
EZM	**Erzurum**	**143.13**	**308**	eP	PKPbc	16 01 26.0	+0.9
KOPT	**Kop Dagi**	**143.73**	**309**	i P	PKPbc	16 01 27.4	+0.6
BNGB	**Bingˆ¶l**	**143.91**	**307**	eP	PKPbc	16 01 27.0	-0.1
MARD	**Mardin**	**144.31**	**304**	i P	**PKPab**	**16 01 26.7**	**-1.4**
SUW	**Suwalki**	**144.50**	**340**	ePKP	PKPbc	16 01 28.2	0.0
SUW	**Suwalki**	**144.50**	**340**	ePKIKP	PKPbc	16 01 28.3	+0.1
SUW	**Suwalki**	**144.50**	**340**	ePKPdf	PKPbc	16 01 28.3	0.0
SUW	**Suwalki**	**144.50**	**340**	ePKP	**PKPab**	**16 01 28.1**	**+0.1**
KELT	**Kelkit**	**144.58**	**309**	i P	PKPbc	16 01 29.6	+0.3
EZC	**Erzincan**	**144.65**	**309**	eP	**PKPdf**	**16 01 30.4**	**+0.3**
AKASG	**Malin Array Be**	**144.78**	**331**	PKP	**PKPab**	**16 01 28.3**	**-1.0**
	comp=Z,39nm,0.5s,baz=41,slow=4.1,SNR=258						
AKASG				SKPbc	**SKiKP**	**16 04 54.4**	**+0.9**
	comp=Z,12nm,1.0s,baz=47,slow=2.4,SNR=7.2						
AKASG	**Malin Array Be**	**144.78**	**331**	PKIKP	**PKPab**	**16 01 28.3**	**-1.0**
AKASG						16 04 54.4	
AKASG				pmax	pmax		
	comp=Z,39nm,0.5s						
AKASG				pmax	pmax		
	comp=N,12nm,1.0s						
AKASG	**Malin Array Be**	**144.78**	**331**	PKP	**PKPab**	**16 01 28.2**	**-1.0**
AKASG				SKPbc	**SKiKP**	**16 04 54.4**	**+0.9**
AKBB	**Malin Array Si**	**144.78**	**331**	ePKIKP	**PKPab**	**16 01 28.0**	**-1.2**
AKBB	**Malin Array Si**	**144.78**	**331**	ePKPdf	**PKPab**	**16 01 28.0**	**-1.2**
KIEV	**Kiev**	**144.79**	**331**	i PKIKP	PKPbc	16 01 28.0	-1.3
KIEV				e		16 04 49.4	
KIEV	**Kiev**	**144.79**	**331**	i PKPbc	PKPbc	16 01 28.0	-1.2
KIEV				epPKPdf	pPKPdf	16 02 14.7	-0.6
KIEV				eSKP		16 04 49.4	
MUD	**Monsted U'grnd**	**145.09**	**354**	⇓iP	**PKPbc**	**16 01 30.0**	**0.0**
	comp=N,130nm,1.0s						
SVRC	**Sivrice-ELAZID**	**145.12**	**306**	eP	**PKPab**	**16 01 32.0**	**+0.8**
SUSE	**Susehri**	**145.31**	**310**	i P	**PKPab**	**16 01 32.1**	**+0.3**
ILIC	**ilic-Erzincan**	**145.32**	**309**	eP	**PKPab**	**16 01 32.4**	**+0.6**
ELZG	**Elazig**	**145.33**	**307**	i P	**PKPab**	**16 01 33.0**	**+1.0**
KEMA	**Kemaliye**	**145.44**	**308**	i P	**PKPab**	**16 01 32.3**	**0.0**
COP	**Copenhagen**	**145.47**	**351**	⇓iP	**PKPbc**	**16 01 31.1**	**-0.1**
	comp=N,98nm,0.8s						
BSD	**Bornholm Skovb**	**145.60**	**348**	⇓iP	**PKPbc**	**16 01 31.5**	**-0.1**
	comp=N,210nm,0.8s						
URFA	**Urfa**	**145.77**	**305**	eP	**PKPab**	**16 01 33.5**	**-0.1**
LLD	**Lille Linde**	**145.84**	**351**	i P	**PKPab**	**16 01 32.7**	**-0.3**
	comp=N,101nm,0.8s						
SIM	**Simferopol'**	**145.85**	**320**	d iPKP2	**PKPab**	**16 01 33.2**	**-0.3**
SIM				pmax	pmax		
	comp=Z,111nm,1.1s						
RSDY	**Resadiye-TOKAT**	**145.86**	**311**	eP	**PKPab**	**16 01 34.0**	**+0.2**
DARE	**Darende-Malaty**	**146.05**	**308**	eP	**PKPab**	**16 01 35.9**	**+1.3**
ESK	**Eskdalemuir**	**146.11**	**7**	ePKP2	**PKPab**	**16 01 33.7**	**-0.4**
ESK	**Eskdalemuir**	**146.11**	**7**	ePKPdf	**PKPab**	**16 01 33.7**	**-0.4**
ERBA	**Erbaa**	**146.15**	**312**	i P	**PKPab**	**16 01 34.6**	**-0.2**
AKCD	**Akcadag**	**146.18**	**307**	i P	**PKPab**	**16 01 34.9**	**-0.3**
GZT	**Gaziantep**	**146.75**	**306**	i P	**PKPdf**	**16 01 34.8**	**+1.0**
GKP	**Gorka Klasztor**	**146.82**	**345**	ePKP	**PKPbc**	**16 01 35.8**	**+0.5**
GKP	**Gorka Klasztor**	**146.82**	**345**	ePKP	**PKPbc**	**16 01 35.7**	**+0.5**
GAZ	**Gaziantep**	**147.08**	**305**	eP	**PKPbc**	**16 01 37.2**	**+0.5**
BEL	**Belsk**	**147.11**	**340**	ePKP	**PKPbc**	**16 01 37.0**	**+0.9**
BEL	**Belsk**	**147.11**	**340**	ePKP	**PKPbc**	**16 01 37.0**	**+0.9**
BYBT	**Boyabat**	**147.17**	**314**	eP	**PKPab**	**16 01 37.8**	**-0.9**
KMRS	**Kahramanmaras**	**147.21**	**306**	eP	**PKPbc**	**16 01 37.5**	**+0.5**
BZK	**Bozkurt**	**147.44**	**315**	eP	**PKPab**	**16 01 39.2**	**-0.6**
BSEG	**Bad Segeberg**	**147.45**	**353**	ePKP2	**PKPab**	**16 01 38.4**	**-1.0**
BSEG	**Bad Segeberg**	**147.45**	**353**	ePKPbc	**PKPab**	**16 01 38.4**	**-1.0**
BSEG				epPKPbc	**pPKPbc**	**16 02 21.0**	**-0.9**
BNN	**Bunyan**	**147.51**	**309**	eP	**PKPbc**	**16 01 37.8**	**-0.1**
KIS	**Kishinev**	**147.55**	**327**	ePKIKP	**PKPdf**	**16 01 36.0**	**+1.4**
KIS				e		16 02 27.0	
KIS				pmax	pmax		
	comp=Z,400nm,1.0s						
KIS	**Kishinev**	**147.55**	**327**	⇓iPKP	**PKPdf**	**16 01 36.0**	**+1.4**
KIS				M		16 01 37.0	
	comp=Z,400nm,1.0s						
YOZ	**Yozgat**	**147.58**	**311**	eP	**PKPbc**	**16 01 38.5**	**+0.4**
ANDN	**Andirin**	**147.60**	**306**	i P	**PKPbc**	**16 01 39.1**	**+1.0**
LVV	**L'vov**	**147.63**	**335**	ePKP2	**PKPbc**	**16 01 37.5**	**-0.2**
PCED	**Cedros**	**147.69**	**51**	ePKP	**PKPab**	**16 01 40.5**	**-0.4**
CALA	**Caldeira**	**147.71**	**51**	ePKP	**PKPbc**	**16 01 39.2**	**+0.9**
HOR	**Horta**	**147.78**	**51**	ePKP	**PKPbc**	**16 01 38.8**	**+0.4**
CORM	**Corum**	**147.83**	**312**	eP	**PKPbc**	**16 01 39.7**	**+1.0**
TOS	**Tosya**	**147.87**	**314**	eP	**PKPbc**	**16 01 39.5**	**+0.8**
PCAN	**Candelaria**	**147.91**	**52**	ePKP	**PKPbc**	**16 01 39.2**	**+0.4**
PICO	**Pico**	**147.94**	**51**	ePKP	**PKPbc**	**16 01 39.6**	**+0.7**
ROSA	**Rosais**	**147.99**	**51**	ePKP	**PKPbc**	**16 01 39.9**	**+0.9**
KOZT	**Kozan**	**148.02**	**307**	eP	**PKPbc**	**16 01 39.9**	**+0.8**
IAS	**Iasi**	**148.04**	**328**	⇑PKP2	**PKPab**	**16 01 40.4**	**-1.6**
IAS	**Iasi**	**148.04**	**328**	⇑iP	**PKPbc**	**16 01 40.3**	**+1.5**
BALT	**Daday**	**148.05**	**315**	i P	**PKPbc**	**16 01 40.5**	**+1.2**
PMAN	**Manadas**	**148.14**	**51**	ePKP	**PKPbc**	**16 01 39.8**	**+0.5**
LEOM	**Leova**	**148.19**	**327**	⇑PKP2	**PKPbc**	**16 01 40.0**	**+0.8**
LEOM	**Leova**	**148.19**	**327**	⇑iP	**PKPbc**	**16 01 40.0**	**+0.8**
HTY	**Hatay**	**148.22**	**304**	eP	**PKPbc**	**16 01 40.3**	**+0.6**
CDAG	**Cicekdag**	**148.25**	**311**	i P	**PKPbc**	**16 01 39.9**	**+0.2**
YAYL	**Yayladag**	**148.27**	**304**	i P	**PKPbc**	**16 01 39.3**	**-0.6**
KWP	**Kalwaria Pacla**	**148.30**	**336**	ePKP	**PKPbc**	**16 01 39.9**	**+0.4**
KWP	**Kalwaria Pacla**	**148.30**	**336**	⇑PKP2	**PKPbc**	**16 01 40.3**	**+0.9**
KWP	**Kalwaria Pacla**	**148.30**	**336**	ePKPbc	**PKPbc**	**16 01 39.5**	**0.0**
KWP	**Kalwaria Pacla**	**148.30**	**336**	⇑iP	**PKPbc**	**16 01 40.3**	**+0.9**
KWP	**Kalwaria Pacla**	**148.30**	**336**	ePKP	**PKPbc**	**16 01 39.8**	**+0.4**
RUE	**Ruedersdorf**	**148.32**	**348**	ePKPbc	**PKPbc**	**16 01 40.2**	**+0.9**
CANT	**Cankiri**	**148.33**	**313**	eP	**PKPbc**	**16 01 40.6**	**+0.7**
SAFT	**Safranbolu**	**148.66**	**315**	eP	**PKPbc**	**16 01 41.3**	**+0.7**
BR131	**Keskin Array S**	**148.72**	**312**	ePKPdf	**PKPdf**	**16 01 37.0**	**0.0**
BRTR	**Keskin Array B**	**148.72**	**312**	PKP	**PKPdf**	**16 01 36.8**	**-0.2**
	comp=Z,15nm,0.7s,baz=90,slow=1.4,SNR=38						
BRTR				PKPbc	**PKPbc**	**16 01 40.5**	**-0.5**
	comp=Z,15nm,0.7s,baz=126,slow=2.5,SNR=57						
BRTR				SKPab	SKiKP	16 05 32.2	+30
	comp=Z,3.7nm,0.9s,baz=73,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**148.72**	**312**	PKP	**PKPdf**	**16 01 36.8**	**-0.2**
BRTR				PKPbc	**PKPbc**	**16 01 40.5**	**-0.5**
BRTR				SKPab	SKiKP	16 05 32.2	+30
TLCR		**148.74**	**324**	⇓PKP2	**PKPbc**	**16 01 41.6**	**+0.9**
TLCR		**148.74**	**324**	⇓iP	**PKPbc**	**16 01 41.5**	**+0.9**
ADH	**Angra Heroismo**	**148.74**	**50**	ePKP	**PKPbc**	**16 01 41.7**	**+0.8**
KAMT	**Kaman**	**148.82**	**311**	eP	**PKPbc**	**16 01 41.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**148.82**	**331**	ePKPbc	**PKPbc**	**16 01 41.7**	**+0.8**
OJC	**Ojcow**	**148.82**	**340**	ePKP	**PKPbc**	**16 01 41.2**	**+0.5**
BURAR	**Bucovina Array**	**148.83**	**331**	PKP2	**PKPbc**	**16 01 41.8**	**+0.8**
BURAR	**Bucovina Array**	**148.83**	**331**	⇓iP	**PKPbc**	**16 01 42.5**	**+1.5**
GULE	**Gulek**	**148.87**	**307**	i P	**PKPdf**	**16 01 38.4**	**+1.0**
NRDL	**Niedersach Rie**	**148.89**	**352**	ePKPbc	**PKPbc**	**16 01 42.1**	**+1.4**
NRDL				epPKPbc	**pPKPbc**	**16 02 24.9**	**-0.8**
TESR		**148.96**	**328**	⇓iP	**PKPbc**	**16 01 41.7**	**+0.5**
KOLS	**Kolonicke sedl**	**149.03**	**336**	ePKP2	**PKPbc**	**16 01 42.0**	**+0.7**
KOLS	**Kolonicke sedl**	**149.03**	**336**	ePKP	**PKPbc**	**16 01 42.0**	**+0.7**
CFR	**Carcaliu**	**149.11**	**325**	⇑PKP2	**PKPbc**	**16 01 42.2**	**+0.6**
CFR	**Carcaliu**	**149.11**	**325**	⇑iP	**PKPbc**	**16 01 42.2**	**+0.6**
BBAL	**Bala**	**149.15**	**312**	i P	**PKPbc**	**16 01 42.1**	**0.0**
MERS	**Mersin**	**149.21**	**306**	eP	**PKPbc**	**16 01 42.0**	**-0.2**
PETR		**149.22**	**327**	⇑iP	**PKPbc**	**16 01 43.2**	**+1.4**
AFSR	**Af¯ar-Bala (A**	**149.23**	**312**	eP	**PKPbc**	**16 01 42.8**	**+0.6**
LOD	**Lodumlu**	**149.25**	**313**	eP	**PKPbc**	**16 01 42.9**	**+0.7**
UZH	**Uzhgorod**	**149.27**	**335**	⇑iPKP2	**PKPbc**	**16 01 42.6**	**+0.7**

KSP	**Ksiaz**	**149.28**	**344**	ePKP	**PKPbc**	**16 01 42.9**	**+1.1**
KSP	**Ksiaz**	**149.28**	**344**	ePKP2	**PKPab**	**16 01 47.5**	**+0.6**
KSP	**Ksiaz**	**149.28**	**344**	ePKP	**PKPbc**	**16 01 42.9**	**+1.1**
IBBN	**Ibbenburen**	**149.32**	**355**	ePKPbc	**PKPbc**	**16 01 43.3**	**+1.4**
IBBN				ePKPab	**PKPab**	**16 01 47.4**	**+0.4**
IBBN				epPKPbc	**pPKPbc**	**16 02 26.3**	**-0.6**
NIE	**Niedzica**	**149.34**	**338**	ePKP2	**PKPbc**	**16 01 43.2**	**+1.1**
NIE	**Niedzica**	**149.34**	**338**	ePKP	**PKPbc**	**16 01 43.2**	**+1.1**
CRVS	**Cervenica-Dubn**	**149.36**	**336**	ePKP2	**PKPbc**	**16 01 42.9**	**+0.8**
CRVS	**Cervenica-Dubn**	**149.36**	**336**	ePKP	**PKPbc**	**16 01 42.9**	**+0.8**
VRI	**Vrincioaia**	**149.38**	**327**	⇑PKP2	**PKPbc**	**16 01 42.7**	**+0.4**
VRI	**Vrincioaia**	**149.38**	**327**	⇑iP	**PKPbc**	**16 01 42.7**	**+0.4**
PLOR	**Plostina**	**149.43**	**327**	⇑PKP2	**PKPbc**	**16 01 42.8**	**+0.4**
PLOR	**Plostina**	**149.43**	**327**	⇑iP	**PKPbc**	**16 01 42.8**	**+0.4**
TIRR	**Tirgusor**	**149.43**	**324**	⇑PKP2	**PKPbc**	**16 01 43.0**	**+0.6**
TIRR	**Tirgusor**	**149.43**	**324**	ePKPbc	**PKPbc**	**16 01 42.2**	**-0.1**
TIRR	**Tirgusor**	**149.43**	**324**	⇑iP	**PKPbc**	**16 01 43.0**	**+0.6**
RAC	**Raciborz**	**149.44**	**341**	ePKHKP	**PKPbc**	**16 01 41.2**	**-1.0**
SULT	**Sultanhani-AKS**	**149.44**	**309**	eP	**PKPbc**	**16 01 42.0**	**-0.8**
CLZ	**Clausthal**	**149.50**	**352**	ePKP2	**PKPbc**	**16 01 44.0**	**+1.6**
CLZ	**Clausthal**	**149.50**	**352**	ePKPbc	**PKPbc**	**16 01 44.0**	**+1.6**
CLZ				epPKPbc	**pPKPbc**	**16 02 26.7**	**-0.8**
BMR	**Baia Mare**	**149.54**	**333**	⇓PKP2	**PKPbc**	**16 01 43.8**	**+1.2**
BMR	**Baia Mare**	**149.54**	**333**	⇓iP	**PKPbc**	**16 01 43.8**	**+1.2**
TRPA	**Tarpa**	**149.57**	**334**	⇑iP	**PKPbc**	**16 01 43.3**	**+0.7**
TRPA	**Tarpa**	**149.57**	**334**	⇓ePKPdf	**PKPbc**	**16 01 43.0**	**+0.4**
CLL	**Collm**	**149.58**	**348**	⇑ePKHKP	**PKPdf**	**16 01 38.0**	**+0.2**
CLL				i		16 01 47.6	
CLL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**149.58**	**348**	ePKPbc	**PKPbc**	**16 01 43.7**	**+1.2**
CLL	**Collm**	**149.58**	**348**	ePKPdf	**PKPdf**	**16 01 38.0**	**+0.2**
	comp=Z,3.0nm,0.6s						
CLL				⇑iPKPbc	**PKPbc**	**16 01 43.8**	**+1.2**
	comp=Z,156nm,0.9s						
CLL				i PKiKP	**PKPab**	**16 01 45.4**	**-2.7**
CLL				i PKPab	**PKPbc**	**16 01 47.6**	**+5.1**
	comp=Z,89nm,0.9s						
CLL				i pPKPbc	**pPKPbc**	**16 02 26.8**	**-0.8**
	comp=Z,127nm,1.4s						
GRER		**149.59**	**326**	⇑iP	**PKPbc**	**16 01 44.4**	**+1.6**
UPC	**Upice**	**149.66**	**344**	ePKHKP	**PKPdf**	**16 01 39.1**	**+1.1**
UPC	**Upice**	**149.66**	**344**	ePKPDF	**PKPdf**	**16 01 39.1**	**+1.1**
UPC				⇑iPKP	**PKiKP**	**16 01 43.8**	**+0.1**
UPC				ePKPAB	**PKPab**	**16 01 49.2**	**+0.7**
UPC				epPKP	**pPKPdf**	**16 02 29.8**	**+6.3**
OKC	**Ostrava-Krasne**	**149.68**	**341**	i PKP2	**PKPbc**	**16 01 43.6**	**+0.8**
OKC	**Ostrava-Krasne**	**149.68**	**341**	⇑iPKP	**PKPbc**	**16 01 43.6**	**+0.8**
OKC				ePKPAB	**PKPab**	**16 01 49.0**	**+0.4**
DPC	**Dobruska-Polom**	**149.73**	**344**	ePKHKP	**PKPdf**	**16 01 39.2**	**+1.1**
DPC	**Dobruska-Polom**	**149.73**	**344**	ePKPDF	**PKPdf**	**16 01 39.2**	**+1.1**
DPC				⇑iPKP	**PKiKP**	**16 01 44.1**	**+0.2**
DPC				ePKPAB	**PKPab**	**16 01 49.6**	**+0.8**
DPC				epPKP	**pPKPdf**	**16 02 27.6**	**+4.0**
MANR	**Mangalia**	**149.73**	**322**	⇑iP	**PKPbc**	**16 01 44.3**	**+1.2**
WTSB	**Winterswijk**	**149.73**	**356**	ePKP	**PKPbc**	**16 01 43.7**	**+0.8**
WTSB				epPKP	**pPKPdf**	**16 02 25.2**	**+1.7**
BRG	**Berggiesshubel**	**149.81**	**347**	ePKP	**PKPdf**	**16 01 38.3**	**+0.1**
	comp=Z,5.0nm,1.0s						
BRG				i		16 01 44.5	
	comp=Z,125nm,1.1s						
BRG				i		16 01 49.1	
	comp=Z,70nm,0.9s						
BRG				i pPKP	**pPKPdf**	**16 02 27.3**	**+3.7**
	comp=Z,109nm,1.5s						
BRG				ePKS	**PKSdf**	**16 05 13.7**	**+0.9**
	comp=Z,3.7nm,0.9s						
BRG	**Berggiesshubel**	**149.81**	**347**	ePKHKP	**PKPdf**	**16 01 38.3**	**+0.1**
BRG				i		16 01 49.1	
BRG				e		16 05 13.7	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,70nm,0.9s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG	**Berggiesshubel**	**149.81**	**347**	ePKPbc	**PKPbc**	**16 01 44.4**	**+1.3**
BRG				ePKPab	**PKPab**	**16 01 49.2**	**+0.1**
KRLC	**Kraliky**	**149.85**	**343**	⇑iPKP	**PKPbc**	**16 01 44.0**	**+0.7**
KRLC				epPKP	**pPKPdf**	**16 02 27.7**	**+3.9**
MORC	**Moravsky Berou**	**149.91**	**342**	ePKHKP	**PKPdf**	**16 01 38.5**	**0.0**
MORC	**Moravsky Berou**	**149.91**	**342**	ePKPdf	**PKPdf**	**16 01 38.5**	**0.0**
MORC				ePKPbc	**PKiKP**	**16 01 44.2**	**-0.2**
MORC	**Moravsky Berou**	**149.91**	**342**	⇓iP	**PKPbc**	**16 01 44.6**	**+1.1**
AMRR	**Amara**	**149.91**	**325**	⇑PKP2	**PKPbc**	**16 01 45.4**	**+1.9**
AMRR	**Amara**	**149.91**	**325**	⇑iP	**PKPbc**	**16 01 45.4**	**+1.9**
ISR	**Istrita**	**149.99**	**326**	⇑PKP2	**PKPbc**	**16 01 44.8**	**+1.0**
ISR	**Istrita**	**149.99**	**326**	⇑iP	**PKPbc**	**16 01 44.8**	**+1.0**
PVCC	**Panska Ves**	**149.99**	**346**	i PKP2	**PKPbc**	**16 01 45.1**	**+1.5**
PVCC	**Panska Ves**	**149.99**	**346**	⇑iPKP	**PKPbc**	**16 01 45.1**	**+1.5**
MDUB	**Mudurnu**	**150.02**	**315**	eP	**PKPbc**	**16 01 44.5**	**+0.3**
MLR	**Muntele Rosu**	**150.03**	**327**	⇑iP	**PKPbc**	**16 01 44.5**	**+0.5**
HENT	**Hendek**	**150.03**	**316**	i P	**PKPbc**	**16 01 44.5**	**+0.5**
PSN	**Preselentsi**	**150.05**	**323**	i P	**PKPbc**	**16 01 44.7**	**+0.8**
BUG	**Bochum--Univer**	**150.22**	**355**	ePKPab	**PKPab**	**16 01 50.5**	**-0.2**
LADK	**Ladik-KONYA**	**150.27**	**310**	eP	**PKPbc**	**16 01 44.6**	**-0.2**
SECR		**150.29**	**327**	⇑iP	**PKPbc**	**16 01 45.3**	**+0.8**
SVRH	**Sivrihisar-ESK**	**150.30**	**313**	eP	**PKPbc**	**16 01 44.3**	**-0.5**
KIZT	**Kizilcal**	**150.31**	**311**	eP	**PKPbc**	**16 01 45.3**	**+0.4**
KONT	**Konya--Tatoy**	**150.38**	**309**	eP	**PKPbc**	**16 01 44.8**	**-0.1**
MOX	**Moxa**	**150.47**	**349**	ePKIKP	**PKPbc**	**16 01 46.1**	**+1.4**
MOX				e		16 02 28.9	
MOX	**Moxa**	**150.47**	**349**	ePKPbc	**PKPbc**	**16 01 46.1**	**+1.4**
MOX				epPKPbc	**pPKPbc**	**16 02 28.9**	**-1.0**
GULT	**Gulveren**	**150.49**	**315**	eP	**PKPbc**	**16 01 45.6**	**+0.4**
SPNC	**Sapanca-Adapaz**	**150.49**	**316**	eP	**PKPbc**	**16 01 46.0**	**+0.9**
ERMK	**Ermenek**	**150.49**	**307**	i P	**PKPbc**	**16 01 46.0**	**+0.5**
PRU	**Pruhonice**	**150.50**	**345**	i PKIKP	**PKPbc**	**16 01 45.6**	**+0.8**
PRU				e		16 01 51.9	
PRU				e		16 02 29.5	
PRU	**Pruhonice**	**150.50**	**345**	⇑iPKP	**PKPbc**	**16 01 45.6**	**+0.8**
PRU				ePKPAB	**PKPab**	**16 01 51.9**	**-0.1**
PRU				epPKP	**pPKPdf**	**16 02 29.5**	**+4.7**
VOIR		**150.51**	**328**	PKIKP	**PKPbc**	**16 01 45.5**	**+0.4**
VOIR		**150.51**	**328**	⇑iP	**PKPbc**	**16 01 45.7**	**+0.6**
TANN	**Tannenbergstha**	**150.54**	**348**	ePKPbc	**PKPbc**	**16 01 46.5**	**+1.5**
TANN				ePKPab	**PKPab**	**16 01 52.4**	**+0.2**
TANN				epPKPbc	**pPKPbc**	**16 02 29.4**	**-0.7**
UBBA	**Unterbreizbach**	**150.55**	**352**	epPKPbc	pPKPbc	16 02 29.2	-0.7
DRGR		**150.56**	**333**	⇑PKIKP	**PKPbc**	**16 01 45.9**	**+0.7**
DRGR		**150.56**	**333**	⇑iP	**PKPbc**	**16 01 45.9**	**+0.7**
VRAC	**Vranov**	**150.60**	**342**	⇑iP	**PKPbc**	**16 01 46.3**	**+1.2**
VYHS	**Vyhne**	**150.63**	**339**	ePKIKP	**PKPbc**	**16 01 45.8**	**+0.6**
VYHS	**Vyhne**	**150.63**	**339**	ePKP	**PKPbc**	**16 01 45.8**	**+0.6**
SILT	**Sile**	**150.66**	**317**	eP	**PKPbc**	**16 01 46.0**	**+0.6**
NKC	**Novy Kostel**	**150.72**	**348**	i PKIKP	**PKPbc**	**16 01 46.4**	**+1.1**
NKC				e		16 01 53.1	
NKC	**Novy Kostel**	**150.72**	**348**	⇑iPKP	**PKPbc**	**16 01 46.4**	**+1.1**
NKC				ePKPAB	**PKPab**	**16 01 53.1**	**+0.2**
NKC				epPKP	pPKPdf	16 02 32.8	+7.6
SEYT	**Eskypehyr**	**150.72**	**313**	i P	**PKPbc**	**16 01 45.1**	**-0.8**
PSZ	**Piszkesteto**	**150.76**	**337**	ePKIKP	**PKPbc**	**16 01 45.6**	**0.0**
PSZ	**Piszkesteto**	**150.76**	**337**	ePKPbc	**PKPbc**	**16 01 45.6**	**0.0**
PSZ	**Piszkesteto**	**150.76**	**337**	⇑iP	**PKPbc**	**16 01 46.3**	**+0.7**
PSZ	**Piszkesteto**	**150.76**	**337**	⇓e	**PKPbc**	**16 01 46.1**	**+0.5**
CSS	**Prodhromos**	**150.76**	**303**	ePKPbc	**PKPbc**	**16 01 45.2**	**-0.8**
PRD	**Provadia**	**150.79**	**323**	i P	**PKPbc**	**16 01 46.9**	**+1.2**
BORA	**Eskisehir**	**150.81**	**314**	i P	**PKPbc**	**16 01 45.7**	**-0.3**
HRT	**Hereke**	**150.83**	**317**	eP	**PKPbc**	**16 01 46.3**	**+0.3**
TREC	**Trest**	**150.91**	**344**	i PKIKP	**PKPbc**	**16 01 46.5**	**+0.7**
TREC				e		16 01 53.9	
TREC	**Trest**	**150.91**	**344**	⇑iPKP	**PKPbc**	**16 01 46.5**	**+0.7**
TREC				ePKPAB	**PKPab**	**16 01 53.9**	**+0.2**
BEBN	**Eben Emael**	**150.96**	**357**	PKPbc	**PKPbc**	**16 01 46.6**	**+0.8**
BEBN				PKPab	**PKPab**	**16 01 54.0**	**+0.1**
BEBN				APKPbc		16 02 30.7	
HGN	**Heimansgroeve**	**150.98**	**357**	ePKP	**PKPbc**	**16 01 47.3**	**+1.4**
	comp=Z,86nm,1.1s						
HGN				epPKP	**pPKPdf**	**16 02 29.0**	**+3.5**
ADVT	**Abdulvahap**	**150.99**	**316**	eP	**PKPbc**	**16 01 46.7**	**+0.4**
BOLV	**Bolvadin**	**151.03**	**312**	i P	**PKPbc**	**16 01 47.0**	**+0.4**
CAVI	**Cavuskoy**	**151.04**	**315**	eP	**PKPbc**	**16 01 46.9**	**+0.5**
SMOL	**Smolenice**	**151.07**	**341**	ePKIKP	**PKPbc**	**16 01 47.5**	**+1.3**
SMOL	**Smolenice**	**151.07**	**341**	ePKP	**PKPbc**	**16 01 47.5**	**+1.3**
ISK	**Istanbul-Kandi**	**151.08**	**318**	eP	**PKPbc**	**16 01 46.2**	**-0.3**
MEM	**Membach**	**151.13**	**357**	PKPbc	**PKPbc**	**16 01 46.8**	**+0.6**
YLV	**Yalova**	**151.16**	**316**	eP	**PKPbc**	**16 01 46.7**	**0.0**
DEV	**Deva**	**151.18**	**331**	⇑PKIKP	**PKPbc**	**16 01 47.3**	**+0.8**
DEV	**Deva**	**151.18**	**331**	⇑iP	**PKPbc**	**16 01 47.3**	**+0.8**
BGKT	**Bogazkoy**	**151.19**	**318**	eP	**PKPbc**	**16 01 46.6**	**0.0**
HUMR	**Humele**	**151.19**	**327**	⇓iP	**PKPbc**	**16 01 46.8**	**+0.2**

ROTZ	**Rotzenmuhle**	**151.21**	**348**	ePKPbc	**PKPbc**	**16 01 47.8**	**+1.3**
ROTZ				ePKPab	**PKPab**	**16 01 54.4**	**-0.5**
ROTZ				epPKPbc	**pPKPbc**	**16 02 31.1**	**-0.5**
SNF	**Seneffe**	**151.29**	**359**	PKPbc	**PKPbc**	**16 01 47.2**	**+0.6**
SNF				PKPab	**PKPab**	**16 01 54.6**	**-0.6**
TNS	**Taunus Mts**	**151.32**	**353**	ePKIKP	**PKPbc**	**16 01 48.3**	**+1.5**
TNS	**Taunus Mts**	**151.32**	**353**	ePKPbc	**PKPbc**	**16 01 48.3**	**+1.5**
TNS				ePKPab	**PKPab**	**16 01 55.6**	**+0.2**
CTKS	**Kestanelik-??a**	**151.33**	**318**	eP	**PKPbc**	**16 01 47.4**	**+0.4**
GEMT	**Gemlik**	**151.34**	**316**	eP	**PKPbc**	**16 01 47.3**	**+0.3**
BCLA	**Clavier**	**151.36**	**358**	PKPbc	**PKPbc**	**16 01 47.1**	**+0.3**
BCLA				PKPab	**PKPab**	**16 01 55.3**	**-0.2**
SHUT	**Suhut-Afyon**	**151.39**	**312**	eP	**PKPbc**	**16 01 48.2**	**+0.8**
BUD	**Budapest**	**151.44**	**338**	⇓ePKPdf	**PKPbc**	**16 01 47.2**	**+0.1**
ALT	**Altintas**	**151.45**	**313**	eP	**PKPbc**	**16 01 46.6**	**-0.9**
GRF	**Grafenberg Arr**	**151.46**	**349**	ePKIKP	**PKPbc**	**16 01 48.5**	**+1.4**
GRF	**Grafenberg Arr**	**151.46**	**349**	ePKPbc	**PKPbc**	**16 01 48.5**	**+1.4**
GRF				ePKPab	**PKPab**	**16 01 56.3**	**+0.3**
GRF				epPKPbc	**pPKPbc**	**16 02 31.5**	**-0.7**
GRFO	**Grafenberg**	**151.46**	**349**	ePKIKP	**PKPbc**	**16 01 48.4**	**+1.4**
GRFO				e		16 01 56.4	
GRFO	**Grafenberg**	**151.46**	**349**	ePKPbc	**PKPbc**	**16 01 48.4**	**+1.4**
GRFO				ePKPab	**PKPab**	**16 01 56.4**	**+0.4**
ARMT	**Armutlu**	**151.48**	**317**	eP	**PKPbc**	**16 01 47.6**	**+0.2**
SLVT	**Silivri**	**151.51**	**319**	eP	**PKPbc**	**16 01 48.0**	**+0.6**
KHC	**Kasperske Hory**	**151.53**	**346**	ePKIKP	**PKPdf**	**16 01 40.6**	**-0.4**
KHC				e		16 01 56.1	
KHC	**Kasperske Hory**	**151.53**	**346**	ePKPdf	**PKPdf**	**16 01 40.6**	**-0.4**
KHC				ePKPbc	**PKiKP**	**16 01 48.0**	**+0.4**
KHC				ePKPab	**PKPab**	**16 01 56.1**	**-0.2**
KHC				epPKPdf	**pPKPdf**	**16 02 30.4**	**+3.9**
KHC	**Kasperske Hory**	**151.53**	**346**	ePKPDF	**PKPdf**	**16 01 41.3**	**+0.3**
KHC				⇑iPKP	**PKiKP**	**16 01 48.1**	**+0.4**
KHC				ePKPAB	**PKPab**	**16 01 56.0**	**-0.3**
KHC				epPKP	**pPKPdf**	**16 02 31.8**	**+5.3**
SZH	**Strazhica**	**151.56**	**324**	i P	**PKPbc**	**16 01 48.3**	**+0.8**
MDNY	**Mudanya-Bursa**	**151.57**	**317**	eP	**PKPbc**	**16 01 47.9**	**+0.3**
ZIMR		**151.60**	**325**	⇓PKIKP	**PKPbc**	**16 01 48.3**	**+0.8**
ZIMR		**151.60**	**325**	⇓iP	**PKPbc**	**16 01 48.3**	**+0.8**
GZR	**Gura Zlata**	**151.62**	**331**	PKIKP	**PKPbc**	**16 01 47.9**	**+0.3**
GZR	**Gura Zlata**	**151.62**	**331**	⇓iP	**PKPbc**	**16 01 48.1**	**+0.5**
WET	**Wettzell**	**151.67**	**347**	ePKIKP	**PKPbc**	**16 01 48.9**	**+1.3**
WET	**Wettzell**	**151.67**	**347**	ePKPbc	**PKPbc**	**16 01 48.9**	**+1.3**
WET				ePKPab	**PKPab**	**16 01 57.3**	**+0.4**
TVSB	**Tavsanli**	**151.69**	**314**	eP	**PKPbc**	**16 01 48.6**	**+0.6**
GIVF	**Givet**	**151.69**	**358**	ePKIKP	**PKPdf**	**16 01 40.8**	**-0.3**
GIVF	**Givet**	**151.69**	**358**	ePKIKP	**PKPdf**	**16 01 40.8**	**-0.3**
GIVF	**Givet**	**151.69**	**358**	ePKPdf	**PKPdf**	**16 01 40.8**	**-0.3**
DOU	**Dourbes**	**151.70**	**359**	PKPbc	**PKPbc**	**16 01 48.1**	**+0.5**
DOU				APKPbc		16 02 30.9	
JMB	**Yambol**	**151.72**	**322**	i P	**PKPbc**	**16 01 49.1**	**+1.2**
PKSG		**151.74**	**338**	⇑e	**PKPbc**	**16 01 48.3**	**+0.6**
ISP	**Isparta**	**151.74**	**311**	ePKIKP	**PKPbc**	**16 01 47.5**	**-0.7**
ISP	**Isparta**	**151.74**	**311**	ePKPbc	**PKPbc**	**16 01 47.5**	**-0.7**
ISP	**Isparta**	**151.74**	**311**	⇓iP	**PKPbc**	**16 01 48.1**	**-0.1**
ABH	**Alteburg**	**151.75**	**354**	PKP	**PKPbc**	**16 01 49.3**	**+1.6**
GEC2	**GERESS Array S**	**151.77**	**346**	ePKIKP	**PKPbc**	**16 01 49.1**	**+1.2**
GEC2	**GERESS Array S**	**151.77**	**346**	ePKPbc	**PKPbc**	**16 01 49.1**	**+1.2**
GEC2				ePKPab	**PKPab**	**16 01 57.6**	**+0.2**
GEC2				epPKPbc	**pPKPbc**	**16 02 31.8**	**-1.3**
GERES	**GERESS Array B**	**151.77**	**346**	PKP	**PKPdf**	**16 01 40.1**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=72,slow=1.2,SNR=13						
GERES				PKPbc	**PKiKP**	**16 01 48.4**	**+0.1**
	comp=Z,7.5nm,0.7s,baz=20,slow=3.1,SNR=50						
GERES				PKPab	**PKPab**	**16 01 57.1**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=45,slow=4.3,SNR=13						
GERES				pPKP	**pPKPdf**	**16 02 30.2**	**+3.3**
	comp=Z,4.9nm,0.8s,baz=84,slow=3.1,SNR=2.0						
GERES	**GERESS Array B**	**151.77**	**346**	PKP	**PKPdf**	**16 01 40.1**	**-1.3**
GERES				PKPbc	**PKiKP**	**16 01 48.4**	**+0.1**
GERES				PKPab	**PKPab**	**16 01 57.1**	**-0.3**
GERES				pPKP	**pPKPdf**	**16 02 30.2**	**+3.3**
GDZ	**Gediz**	**151.86**	**314**	i P	**PKPbc**	**16 01 48.4**	**-0.1**
CRLT	**Corlu**	**151.86**	**319**	eP	**PKPbc**	**16 01 48.7**	**+0.5**
TOD	**Tromm**	**151.89**	**353**	PKIKP	**PKPbc**	**16 01 49.1**	**+1.0**
TOD	**Tromm**	**151.89**	**353**	PKP	**PKPbc**	**16 01 49.1**	**+1.0**
BZS	**Buzias**	**151.96**	**332**	PKIKP	**PKPbc**	**16 01 48.8**	**+0.5**
BZS	**Buzias**	**151.96**	**332**	⇓iP	**PKPbc**	**16 01 48.8**	**+0.5**
RUP	**Ruppelstein**	**151.97**	**355**	PKIKP	**PKPbc**	**16 01 49.5**	**+1.2**
RUP	**Ruppelstein**	**151.97**	**355**	PKP	**PKPbc**	**16 01 49.5**	**+1.2**
KCTX	**Karacabey (Bur**	**151.97**	**317**	eP	**PKPbc**	**16 01 48.7**	**+0.1**
PKST	**Tˆ's**	**151.97**	**339**	⇑ePKPdf	**PKPbc**	**16 01 48.8**	**+0.5**
PKS6	**Bocsa**	**151.99**	**336**	⇑ePKPdf	**PKPbc**	**16 01 49.4**	**+1.1**
EDRB	**Edirne**	**152.02**	**321**	eP	**PKPbc**	**16 01 48.9**	**+0.3**
CONA	**Conrad Observa**	**152.06**	**342**	⇑iPKPdf	**PKPdf**	**16 01 42.5**	**+0.6**
	comp=Z,10.0nm,2.0s,SNR=20						
CONA				⇓iPKiKP	**PKiKP**	**16 01 49.5**	**+0.6**
	comp=Z,78nm,1.5s						
CONA				⇑iPKPab	**PKPab**	**16 01 59.6**	**+0.9**
	comp=Z,90nm,1.5s						
WLF	**Walferdange**	**152.07**	**356**	PKPbc	**PKPbc**	**16 01 48.8**	**+0.4**
WLF				PKPab	**PKPab**	**16 01 58.8**	**+0.3**
WLF	**Walferdange**	**152.07**	**356**	ePKIKP	**PKPbc**	**16 01 48.1**	**-0.3**
WLF	**Walferdange**	**152.07**	**356**	ePKPab	**PKPab**	**16 01 59.1**	**+0.6**
WLF	**Walferdange**	**152.07**	**356**	ePKPbc	**PKPbc**	**16 01 48.1**	**-0.3**
SOP	**Sopron**	**152.07**	**341**	⇓ePKPdf	**PKPbc**	**16 01 49.1**	**+0.6**
BNT	**Bandirma**	**152.19**	**317**	eP	**PKPbc**	**16 01 49.5**	**+0.4**
KHAL	**Karahalli**	**152.20**	**312**	i P	**PKPbc**	**16 01 49.0**	**-0.3**
KHL	**Karahalli**	**152.21**	**312**	eP	**PKPbc**	**16 01 49.7**	**+0.5**
PKS2	**Kecel**	**152.21**	**336**	⇑ePKPdf	**PKPbc**	**16 01 50.0**	**+1.2**
KORT	**Korkueli**	**152.23**	**309**	i P	**PKPbc**	**16 01 49.2**	**-0.2**
EDC	**Edincik**	**152.24**	**317**	eP	**PKPbc**	**16 01 51.3**	**+2.2**
DURS	**Dursunbey**	**152.26**	**316**	i P	**PKPbc**	**16 01 49.3**	**0.0**
MFT	**Murefte**	**152.34**	**319**	eP	**PKPbc**	**16 01 49.5**	**0.0**
PKS9	**Tamasi**	**152.47**	**338**	⇑e	**PKPbc**	**16 01 49.9**	**+0.5**
GONE	**Gonen-Balikesi**	**152.52**	**317**	eP	**PKPbc**	**16 01 49.3**	**-0.4**
MOA	**Molln**	**152.56**	**344**	⇑iPKPdf	**PKPdf**	**16 01 44.4**	**+1.9**
	comp=Z,5.3nm,1.6s						
MOA				i PKiKP	**PKiKP**	**16 01 50.5**	**+0.7**
	comp=Z,26nm,1.7s,SNR=6.3						
MOA				⇑iPKPab	**PKPab**	**16 02 01.1**	**+0.4**
	comp=Z,68nm,1.3s						
KRBG	**Karabiga-Canak**	**152.56**	**318**	eP	**PKPbc**	**16 01 49.7**	**-0.1**
LANF	**Langenberg**	**152.62**	**354**	PKIKP	**PKPbc**	**16 01 51.0**	**+1.3**
LANF	**Langenberg**	**152.62**	**354**	PKP	**PKPbc**	**16 01 51.0**	**+1.3**
LANF	**Langenberg**	**152.62**	**354**	PKP	**PKPbc**	**16 01 51.0**	**+1.3**
BALB	**Balikesir**	**152.62**	**316**	eP	**PKPbc**	**16 01 50.4**	**+0.4**
MPEP	**Malo Peshtene**	**152.66**	**327**	i P	**PKPbc**	**16 01 50.9**	**+0.9**
PKSM	**Moragy**	**152.66**	**337**	PKIKP	**PKPbc**	**16 01 50.2**	**+0.4**
PKSM	**Moragy**	**152.66**	**337**	⇑iP	**PKPbc**	**16 01 50.5**	**+0.7**
PKSM	**Moragy**	**152.66**	**337**	⇓ePKPdf	**PKPbc**	**16 01 50.1**	**+0.3**
STU	**Stuttgart**	**152.66**	**352**	ePKIKP	**PKPbc**	**16 01 49.8**	**0.0**
STU				e		16 02 00.5	
STU	**Stuttgart**	**152.66**	**352**	ePKPbc	**PKPbc**	**16 01 51.1**	**+1.3**
STU				ePKPab	**PKPab**	**16 02 00.9**	**-0.1**
STU	**Stuttgart**	**152.66**	**352**	ePKPbc	**PKPbc**	**16 01 49.8**	**0.0**
STU				ePKPab	**PKPab**	**16 02 00.5**	**-0.5**
GOLH	**Golhisar**	**152.69**	**310**	i P	**PKPbc**	**16 01 48.4**	**-2.0**
KULA	**Kula-Manisa**	**152.70**	**313**	eP	**PKPbc**	**16 01 50.7**	**+0.3**
BALY	**Balya**	**152.73**	**317**	i P	**PKPbc**	**16 01 49.9**	**-0.4**
ARSA	**Arzberg**	**152.77**	**342**	⇑iPKPdf	**PKPdf**	**16 01 43.4**	**+0.6**
	comp=Z,4.1nm,1.1s						
ARSA				⇑iPKiKP	**PKiKP**	**16 01 50.8**	**+0.5**
	comp=Z,17nm,1.4s,SNR=5.6						
MANT	**Manisa**	**152.78**	**313**	i P	**PKPbc**	**16 01 50.9**	**+0.2**
DENT	**Denizli**	**152.82**	**312**	eP	**PKPbc**	**16 01 51.8**	**+1.2**
FLN	**La Foliniere**	**152.86**	**6**	ePKIKP	**PKPdf**	**16 01 42.5**	**-0.4**
FLN	**La Foliniere**	**152.86**	**6**	ePKIKP	**PKPdf**	**16 01 42.5**	**-0.4**
FLN	**La Foliniere**	**152.86**	**6**	ePKPdf	**PKPdf**	**16 01 42.5**	**-0.4**
ERIK	**Erikli-Kesan**	**152.88**	**319**	eP	**PKPbc**	**16 01 51.0**	**+0.5**
LPK	**Lapseki**	**152.91**	**319**	eP	**PKPbc**	**16 01 50.9**	**+0.3**
KDZ	**Kurdzhali**	**152.91**	**322**	i P	**PKPbc**	**16 01 51.3**	**+0.7**
FUR	**Furstenfeldbru**	**152.92**	**349**	ePKPbc	**PKPbc**	**16 01 51.7**	**+1.3**
FUR				ePKPab	**PKPab**	**16 02 02.4**	**+0.2**
ENEZ	**Enez**	**153.06**	**320**	eP	**PKPbc**	**16 01 51.0**	**+0.1**
LDF	**La Druitiere**	**153.06**	**5**	ePKIKP	**PKPdf**	**16 01 42.8**	**-0.4**
LDF	**La Druitiere**	**153.06**	**5**	ePKIKP	**PKPdf**	**16 01 42.8**	**-0.4**
LDF	**La Druitiere**	**153.06**	**5**	ePKPdf	**PKPdf**	**16 01 42.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**153.07**	**319**	eP	**PKPbc**	**16 01 50.9**	**0.0**
AKS	**Akhisar**	**153.08**	**315**	eP	**PKPbc**	**16 01 51.1**	**0.0**
RHK3	**Tenkes**	**153.08**	**337**	⇑ePKPdf	**PKPbc**	**16 01 51.4**	**+0.6**
GRR	**Gorron**	**153.19**	**6**	ePKIKP	**PKPdf**	**16 01 42.7**	**-0.7**
	comp=Z,17nm,1.1s						
GRR	**Gorron**	**153.19**	**6**	ePKIKP	**PKPdf**	**16 01 42.7**	**-0.7**
GRR	**Gorron**	**153.19**	**6**	ePKPdf	**PKPdf**	**16 01 42.7**	**-0.7**
PAGF	**Fort de Pagny**	**153.20**	**357**	ePKIKP	**PKPdf**	**16 01 43.4**	**0.0**
PAGF	**Fort de Pagny**	**153.20**	**357**	ePKPdf	**PKPdf**	**16 01 43.4**	**0.0**
BFO	**Black Forest**	**153.20**	**353**	ePKIKP	**PKPbc**	**16 01 51.0**	**0.0**
BFO				e		16 02 02.9	
BFO	**Black Forest**	**153.20**	**353**	ePKPbc	**PKPbc**	**16 01 52.1**	**+1.1**
BFO				ePKPab	**PKPab**	**16 02 03.2**	**-0.2**

BFO	Black Forest	153.20	353	ePKPbc	PKPbc	16 01 51.0	0.0
BFO				ePKPab	PKPab	16 02 02.9	-0.5
CDF	Champ du Feu	153.23	354	ePKIKP	PKPdf	16 01 43.5	-0.1
CDF	Champ du Feu	153.23	354	ePKIKP	PKPdf	16 01 43.5	-0.1
CDF	Champ du Feu	153.23	354	ePKPdf	PKPdf	16 01 43.5	-0.1
KOGS	Kog	153.27	340	ePKPbc	PKPbc	16 01 51.7	+0.6
KOGS				i PKPab	PKPab	16 02 03.6	0.0
MEZF	Maizieres J'vi	153.28	358	ePKIKP	PKPdf	16 01 43.7	+0.2
MEZF	Maizieres J'vi	153.28	358	ePKPdf	PKPdf	16 01 43.7	+0.2
SOKA	Soboth	153.43	342	⇑iPKPdf	PKPdf	16 01 43.9	0.0
	comp=Z,3.1nm,1.4s						
SOKA				⇑iPKiKP	PKiKP	16 01 51.8	+0.1
	comp=Z,25nm,1.1s						
ECH	Echery	153.43	355	PKIKP	PKPbc	16 01 52.3	+0.8
ECH				e		16 02 04.0	
ECH	Echery	153.43	355	PKP	PKPbc	16 01 52.3	+0.8
ECH				ePKPab	PKPab	16 02 04.0	-0.4
ECH	Echery	153.43	355	PKP	PKPbc	16 01 52.3	+0.8
PERS	Pernice	153.44	342	i PKPbc	PKPbc	16 01 51.9	+0.3
PERS				i PKPab	PKPab	16 02 04.5	0.0
VTS	Vitosha	153.48	326	⇓PKIKP	PKPbc	16 01 52.6	+0.6
VTS	Vitosha	153.48	326	⇓iP	PKPbc	16 01 52.6	+0.6
VTS	Vitosha	153.48	326	i P	PKPbc	16 01 52.2	+0.2
KBA	Koelnbreinsper	153.51	345	⇑iPKPdf	PKPdf	16 01 42.7	-1.5
	comp=Z,5.8nm,1.3s						
KBA				⇑iPKiKP	PKPbc	16 01 51.8	-0.2
	comp=Z,18nm,1.1s,SNR=6.4						
KBA				⇑iPKPab	PKPab	16 02 03.5	-1.4
	comp=Z,40nm,0.7s						
THEF	They Montfort	153.51	356	PKP	PKPbc	16 01 53.4	+1.7
THEF	They Montfort	153.51	356	PKP	PKPbc	16 01 53.4	+1.7
TURN	Turunc	153.54	310	i P	PKPbc	16 01 49.9	-2.2
SFTF	Sexfontaines	153.58	358	ePKIKP	PKPdf	16 01 43.9	-0.1
SFTF	Sexfontaines	153.58	358	ePKPdf	PKPdf	16 01 43.9	-0.1
AYDN	Tasoluk	153.66	312	i P	PKPbc	16 01 53.2	+0.8
FELD	Feldberg im Sc	153.69	353	PKP	PKPbc	16 01 53.2	+1.0
IZM	Izmir	153.70	314	eP	PKPbc	16 01 52.7	+0.3
WTTA	Wattenberg	153.71	347	⇓iPKPdf	PKPdf	16 01 44.7	+0.3
	comp=Z,12nm,1.0s						
WTTA				⇑iPKiKP	PKiKP	16 01 53.0	+0.6
	comp=Z,13nm,0.7s						
WTTA				⇑iPKPab	PKPab	16 02 06.1	+0.4
	comp=Z,44nm,0.7s						
MOTA	Moosalm	153.74	348	⇓iPKPdf	PKPdf	16 01 44.0	-0.4
	comp=Z,10nm,1.1s						
MOTA				⇑iPKiKP	PKiKP	16 01 52.8	+0.3
	comp=Z,19nm,1.2s						
MOTA				⇑iPKPab	PKPab	16 02 05.7	-0.1
	comp=Z,39nm,0.9s						
MOF	Molkenrain	153.80	354	PKP	PKPbc	16 01 53.4	+1.0
MOF	Molkenrain	153.80	354	PKP	PKPbc	16 01 53.4	+1.0
MMB	Musomiste	153.90	324	i P	PKPbc	16 01 53.0	+0.2
MLSB	Milas	153.91	312	eP	PKPbc	16 01 53.2	+0.3
ABTA	Abfaltersbach	154.01	346	⇑iPKPdf	PKPdf	16 01 43.9	-0.8
	comp=Z,7.9nm,0.9s						
ABTA				i PKiKP	PKiKP	16 01 53.4	+0.4
	comp=Z,46nm,1.4s,SNR=5.8						
ABTA				⇑iPKPab	PKPab	16 02 06.4	-0.6
	comp=Z,48nm,1.3s						
KKB	Krupnik	154.06	325	i P	PKPbc	16 01 53.1	0.0
FETA	Feichten	154.12	349	⇑iPKPdf	PKPdf	16 01 44.0	-0.9
	comp=Z,14nm,0.9s,SNR=13						
BBS	Basel-Blauen	154.15	354	PKP	PKPbc	16 01 54.3	+1.2
LJU	Ljubljana	154.15	342	ePKPbc	PKPbc	16 01 53.9	+0.8
LJU				i PKPab	PKPab	16 02 07.1	-0.3
LJU				i pPKPbc	pPKPbc	16 02 40.3	+1.9
LOMF	Lomont	154.32	355	PKP	PKPbc	16 01 55.1	+1.6
LOMF	Lomont	154.32	355	PKP	PKPbc	16 01 55.1	+1.6
VOY	Vojsko	154.34	343	ePKPdf	PKPdf	16 01 44.3	-0.9
VOY				ePKPbc	PKiKP	16 01 53.7	0.0
VOY				ePKPab	PKPab	16 02 07.2	-1.2
BOJS	Bojanci	154.43	341	i PKPbc	PKPbc	16 01 54.8	+1.1
LOR	Lormes	154.54	359	ePKIKP	PKPdf	16 01 45.3	-0.1
	comp=Z,15nm,1.0s						
LOR	Lormes	154.54	359	ePKPdf	PKPdf	16 01 45.3	-0.1
TRI	Trieste	154.67	343	ePKIKP	PKPbc	16 01 54.3	+0.1
TRI				e		16 02 08.8	
TRI	Trieste	154.67	343	ePKPbc	PKPbc	16 01 54.3	+0.1
TRI				ePKPab	PKPab	16 02 08.8	-0.8
VAY	Valandovo	154.71	325	ePKP	PKPbc	16 01 53.7	-0.7
SSF	Saint Saulge	154.75	360	ePKIKP	PKPdf	16 01 45.5	-0.1
	comp=Z,15nm,0.9s						
SSF	Saint Saulge	154.75	360	ePKIKP	PKPdf	16 01 45.5	-0.1
SSF	Saint Saulge	154.75	360	ePKPdf	PKPdf	16 01 45.5	-0.1
SKO	Skopje	154.83	327	ePKP	PKPbc	16 01 55.0	+0.3
TUE	Stuetta	154.89	350	ePKPdf	PKPdf	16 01 46.3	+0.1
TUE				ePKPab	PKPab	16 02 10.3	-0.5
AVF	Avril sur Loir	155.02	0	ePKIKP	PKPdf	16 01 45.6	-0.4
AVF	Avril sur Loir	155.02	0	ePKIKP	PKPdf	16 01 45.6	-0.4
AVF	Avril sur Loir	155.02	0	ePKPdf	PKPdf	16 01 45.6	-0.4
MFF	Saint Martin d	155.03	6	ePKIKP	PKPdf	16 01 45.8	-0.2
MFF	Saint Martin d	155.03	6	ePKIKP	PKPdf	16 01 45.8	-0.2
MFF	Saint Martin d	155.03	6	ePKPdf	PKPdf	16 01 45.8	-0.2
CABF	La Chapelle	155.11	356	ePKIKP	PKPdf	16 01 46.6	+0.3
CABF	La Chapelle	155.11	356	ePKIKP	PKPdf	16 01 46.6	+0.3
CABF	La Chapelle	155.11	356	ePKPdf	PKPdf	16 01 46.6	+0.3
TCF	Toulx Ste Croi	155.50	2	ePKIKP	PKPdf	16 01 46.5	-0.2
	comp=Z,16nm,1.1s						
TCF	Toulx Ste Croi	155.50	2	ePKIKP	PKPdf	16 01 46.5	-0.2
TCF	Toulx Ste Croi	155.50	2	ePKPdf	PKPdf	16 01 46.5	-0.2
OG35	Corcelles	155.71	356	PKP	PKPdf	16 01 59.1	+12
RSL	Roselend	155.99	355	PKP	PKPdf	16 02 01.2	+14
RSL	Roselend	155.99	355	PKP	PKPdf	16 02 01.2	+14
LPL	La Plagne	156.15	354	ePKIKP	PKPdf	16 01 47.9	0.0
LPL	La Plagne	156.15	354	ePKIKP	PKPdf	16 01 47.9	0.0
LPL	La Plagne	156.15	354	ePKPdf	PKPdf	16 01 47.9	0.0
LPG	La Plagne	156.17	354	ePKIKP	PKPdf	16 01 48.0	0.0
LPG	La Plagne	156.17	354	ePKIKP	PKPdf	16 01 48.0	0.0
LPG	La Plagne	156.17	354	ePKPdf	PKPdf	16 01 48.0	0.0
BNI	Bardonecchia	156.62	354	ePKIKP	PKPdf	16 01 48.4	0.0
BNI	Bardonecchia	156.62	354	ePKPdf	PKPdf	16 01 48.4	0.0
BNI				ePKPab	PKPab	16 02 18.8	+0.6
ORIF	Oris-en-Rattie	156.81	356	ePKIKP	PKPdf	16 01 48.5	-0.1
ORIF	Oris-en-Rattie	156.81	356	ePKIKP	PKPdf	16 01 48.5	-0.1
ORIF	Oris-en-Rattie	156.81	356	ePKPdf	PKPdf	16 01 48.5	-0.1
MBDF	Montbardon	156.93	354	ePKIKP	PKPdf	16 01 48.7	-0.1
	comp=Z,9.7nm,0.8s						
MBDF	Montbardon	156.93	354	ePKIKP	PKPdf	16 01 48.7	-0.1
MBDF	Montbardon	156.93	354	ePKPdf	PKPdf	16 01 48.7	-0.1
VIVF	Saint-Julien-l	156.94	358	ePKIKP	PKPdf	16 01 49.0	+0.4
	comp=Z,34nm,1.4s						
VIVF	Saint-Julien-l	156.94	358	ePKIKP	PKPdf	16 01 49.0	+0.4
VIVF	Saint-Julien-l	156.94	358	ePKPdf	PKPdf	16 01 49.0	+0.4
TOUF	Mont Tournerai	157.58	353	PKP	PKPdf	16 02 03.7	+14
TOUF	Mont Tournerai	157.58	353	PKP	PKPdf	16 02 03.7	+14
MVIF	Mont Vial	157.71	353	PKP	PKPdf	16 02 05.2	+15
MVIF	Mont Vial	157.71	353	PKP	PKPdf	16 02 05.2	+15
SMRF	Simiane la Rot	157.77	356	ePKIKP	PKPdf	16 01 49.9	+0.2
SMRF	Simiane la Rot	157.77	356	ePKPdf	PKPdf	16 01 49.9	+0.2
PCAB	Cabril	157.86	23	ePKPdf	PKPdf	16 01 52.8	+2.9
FRF	La Foret Royal	158.10	354	ePKIKP	PKPdf	16 01 49.7	-0.4
FRF	La Foret Royal	158.10	354	ePKIKP	PKPdf	16 01 49.7	-0.4
FRF	La Foret Royal	158.10	354	ePKPdf	PKPdf	16 01 49.7	-0.4
PBRG	Braganca	158.23	21	ePKPdf	PKPdf	16 01 46.9	-3.5
PBRG	Braganca	158.23	21	ePKPab	PKPab	16 02 25.0	-0.1
POLO	Lamas de Olo	158.24	23	ePKPdf	PKPdf	16 01 51.3	+0.8
POLO	Lamas de Olo	158.24	23	ePKPab	PKPab	16 02 26.1	+0.8
LMR	La Mourre	158.33	354	ePKIKP	PKPdf	16 01 50.0	-0.4
	comp=Z,45nm,1.3s						
LMR	La Mourre	158.33	354	ePKIKP	PKPdf	16 01 50.0	-0.4
LMR	La Mourre	158.33	354	ePKPdf	PKPdf	16 01 50.0	-0.4
PVRL	Vila Real	158.35	23	ePKPab	PKPab	16 02 26.2	+0.5
EPF	Esparros	158.62	6	ePKIKP	PKPdf	16 01 50.8	0.0
	comp=Z,6.2nm,0.8s						
EPF	Esparros	158.62	6	ePKIKP	PKPdf	16 01 50.8	0.0
EPF	Esparros	158.62	6	ePKPdf	PKPdf	16 01 50.8	0.0
MVO	Moncorvo	158.70	22	ePKPdf	PKPdf	16 01 52.1	+1.1
PGF	Pioggiola	158.76	349	ePKIKP	PKPdf	16 01 50.6	-0.4
PGF	Pioggiola	158.76	349	ePKIKP	PKPdf	16 01 50.6	-0.4
PGF	Pioggiola	158.76	349	ePKPdf	PKPdf	16 01 50.6	-0.4
PTOM	Tomar	159.49	27	ePKPdf	PKPdf	16 01 53.6	+1.8
PTOM	Tomar	159.49	27	ePKPab	PKPab	16 02 31.2	+0.6
PCBR	Castelo Branco	159.68	25	ePKPdf	PKPdf	16 01 53.1	+1.1
PCBR	Castelo Branco	159.68	25	ePKPab	PKPab	16 02 35.6	+4.1
PMRV	Marv??o	160.07	25	ePKPdf	PKPdf	16 01 53.4	+0.9
PMRV	Marv??o	160.07	25	ePKPab	PKPab	16 02 33.7	+0.5
PESTR	Estremoz	160.47	27	ePKPdf	PKPdf	16 01 54.1	+1.1
PESTR	Estremoz	160.47	27	ePKPab	PKPab	16 02 35.0	+0.1
EVOP	Sao Brissos	160.52	28	ePKIKP	PKPdf	16 01 53.5	+0.5
EVOP	Sao Brissos	160.52	28	ePKPdf	PKPdf	16 01 53.5	+0.5
EVO	Evora	160.57	28	ePKIKP	PKPdf	16 01 53.5	+0.4
	comp=Z,44nm,1.1s						
EVO	Evora	160.57	28	ePKPdf	PKPdf	16 01 54.3	+1.2
EVO	Evora	160.57	28	ePKPab	PKPab	16 02 35.4	0.0
PNCL	Nicolau / Gran	160.68	30	ePKPdf	PKPdf	16 01 54.5	+1.3
PNCL	Nicolau / Gran	160.68	30	ePKPab	PKPab	16 02 29.1	-6.8
ESDC	Sonseca Array	161.03	18	PKP	PKPdf	16 01 54.5	+0.9
	comp=Z,2.7nm,0.8s,baz=348,slow=3.3,SNR=15						
ESDC				PKPab	PKPab	16 02 38.0	+0.6
	comp=Z,3.3nm,0.7s,baz=326,slow=3.8,SNR=12						
ESDC				PP	PP	16 06 23.4	+3.4
	comp=Z,1.1nm,0.9s,baz=345,slow=4.8,SNR=4.0						
ESDC				SKKPbc		16 12 00.2	
	comp=Z,2.9nm,0.9s,baz=168,slow=3.8,SNR=8.5						
ESDC	Sonseca Array	161.03	18	PKP	PKPdf	16 01 54.5	+0.9
ESDC				PKPab	PKPab	16 02 38.0	+0.6
ESDC				PP	PP	16 06 23.4	+3.4
ESDC				SKKPbc		16 12 00.2	
MESJ	Messejana	161.04	30	eP	PKPdf	16 01 54.9	+1.3
MESJ	Messejana	161.04	30	eP	PKPdf	16 01 54.9	+1.3
PBEJ	Beja	161.05	29	ePKPdf	PKPdf	16 01 55.0	+1.4
MORF	Marmelete	161.27	32	ePKPdf	PKPdf	16 01 55.2	+1.3
PBAR	Barrancos	161.28	27	ePKPdf	PKPdf	16 01 54.8	+0.9
PCVE	Castro Verde	161.29	30	ePKPdf	PKPdf	16 01 55.2	+1.3
PVAQ	Vaqueiros	161.63	29	ePKPab	PKPab	16 02 41.1	+1.1
PBDV	Barranco-do-Ve	161.66	30	ePKPdf	PKPdf	16 01 56.1	+1.8
LIC	Lamto	162.50	151	⇑iPKIKP	PKPdf	16 01 55.4	-0.4
	comp=Z,89nm,1.1s						
LIC	Lamto	162.50	151	⇑iPKPdf	PKPdf	16 01 55.4	-0.4
DBIC	Dimbokro	162.97	150	PKP	PKPdf	16 01 56.0	-0.3
	comp=Z,22nm,0.9s,baz=163,slow=2.3,SNR=34						
DBIC				PKPab	PKPab	16 02 46.4	0.0
	comp=Z,33nm,0.9s,baz=166,slow=3.8,SNR=18						
DBIC				PP	PP	16 06 27.4	-3.1
	comp=Z,4.3nm,1.0s,baz=214,slow=5.9,SNR=3.2						
DBIC	Dimbokro	162.97	150	ePKPdf	PKPdf	16 01 55.6	-0.7
DBIC				PKP	PKPdf	16 01 56.0	-0.3
DBIC				PKPab	PKPab	16 02 46.4	0.0
DBIC				ePKPab	PKPab	16 02 46.6	+0.2
DBIC				PP	PP	16 06 27.4	-3.1
KEST	Kesra	165.16	341	PKPab	PKPab	16 02 55.4	-0.3
	comp=Z,5.2nm,0.8s,baz=353,slow=1.6,SNR=10						
KEST	Kesra	165.16	341	PKPab	PKPab	16 02 55.4	-0.3
TOA0	Torodi Ar. Sit	171.27	168	ePKPdf	PKPdf	16 02 01.1	-1.2
TOA0				ePKPab	PKPab	16 03 23.4	+0.5
TOA0				ePP	PP	16 07 10.1	-2.3
TORD	Torodi Ar. Bea	171.27	168	PKP	PKPdf	16 02 00.9	-1.4
	comp=Z,17nm,0.9s,baz=314,slow=1.1,SNR=86						
TORD				PKPab	PKPab	16 03 22.9	0.0
	comp=Z,46nm,0.9s,baz=182,slow=3.8,SNR=52						
TORD				pPKPab	pPKPab	16 04 05.7	-0.7
	comp=Z,9.7nm,0.9s,baz=177,slow=4.0,SNR=2.5						
TORD				PP	PP	16 07 12.4	0.0
	comp=Z,4.4nm,0.8s,baz=188,slow=2.4,SNR=7.2						
TORD				SKKPbc		16 11 22.2	
	comp=Z,6.0nm,1.1s,baz=6.5,slow=2.3,SNR=8.7						
TORD	Torodi Ar. Bea	171.27	168	PKP	PKPdf	16 02 00.9	-1.4
TORD				PKPab	PKPab	16 03 22.9	0.0
TORD				pPKPab	pPKPab	16 04 05.7	-0.7
TORD				PP	PP	16 07 12.4	0.0
TORD				SKKPbc		16 11 22.2	
TAM	Tamanrasset	177.86	299	ePKIKP	PKPdf	16 02 04.6	+0.2
TAM	Tamanrasset	177.86	299	ePKPdf	PKPdf	16 02 04.6	+0.2

MAN 01 15:52:20, 7°.72N×124°.62E, h44km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUKP	Musuan	0.47	70	eP	Pn	15 52 32.6	+2.0
BUKP				eS	Sn	15 52 50.7	+13
CTBH	Cotabato--PC H	0.62	217	⇓eP	Pn	15 52 34.3	+1.8
PAGZ	Pagadian	1.23	276	eP	Pn	15 52 42.0	+1.2
PAGZ				eS	Sn	15 52 57.6	+1.3

*ISCJB **01** 16:03:14.0±0.2, 59°.82N±0°.03×152°.76W±0°.05, h104km±2km, mb4.0/22, Error ellipse: s-maj=4.8km s-min=3.5km az=147.1*

*IDC **01** 16:03:14.1±1.6, 59°.96N×152°.98W, h79km±16km, mb3.7/20, mb1 3.8/26, mb1mx3.7/39, mbtmp3.7/26, Error ellipse: s-maj=13.0km s-min=11.6km az=163.0*

*NEIC **01** 16:03:16.6, 59°.81N×152°.77W, h85km, mb4.3/2, After AEIC.*

NEIC Felt at Homer.

ISC 01 16:03:14.9±0.6**, 59°.83N**±0°.04×**152°.74W**±0°.04**, h94**km±5km**, n143,** σ1s.08/156**, mb4.1**/22**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.21	308	P	Pn	16 03 28.6	+0.1
IVE	Iliamna Volcan	0.23	324	P	Pn	16 03 28.6	0.0
IVE				S	Sn	16 03 38.7	-0.1
INE	Iliamna NE	0.28	326	P	Pn	16 03 29.0	+0.2
OPT	Oil Point	0.30	235	P	Pn	16 03 28.9	+0.1
ILW	Iliamna West	0.30	320	P	Pn	16 03 29.0	0.0
AUL	Augustine Lava	0.57	218	P	Pn	16 03 30.8	+0.3
AUL				S	Sn	16 03 42.7	+0.5
AUNW	Augustine NWes	0.59	220	P	Pn	16 03 30.8	+0.2
AUW	Augustine West	0.59	219	P	Pn	16 03 30.8	+0.1
RSO	Redoubt South	0.64	360	ePn	Pn	16 03 31.6	+0.2
RDN	Redoubt North	0.69	359	P	Pn	16 03 32.3	+0.6
NCT	North Crescent	0.74	353	P	Pn	16 03 32.7	+0.4
NNL	Ninilchik	0.76	73	P	Pn	16 03 34.0	+1.8
DFR	Drift River	0.77	2	P	Pn	16 03 33.1	+0.6
BRLK	Bradley Lake	0.94	93	P	Pn	16 03 34.6	+0.4
BRLK				S	Sn	16 03 49.4	+0.7
MCNL	McNeil River	1.04	232	P	Pn	16 03 35.0	-0.2
CKL	Chakachamna La	1.39	8	P	Pn	16 03 40.3	+0.8
SPU	Mount Spurr	1.40	14	P	Pn	16 03 40.4	+0.8
SLKM	Skilak Lake	1.43	61	eP	Pn	16 03 40.6	+0.6
SPBG	Spurr Blockage	1.45	7	P	Pn	16 03 41.2	+1.0
BGL	Barrier Glacie	1.45	7	P	Pn	16 03 41.2	+1.0
KARR	Katmai Rainbow	1.67	218	P	Pn	16 03 43.3	+0.3
SEW	Seward	1.68	79	eP	Pn	16 03 43.3	+0.3
STLK	Strandline Lak	1.73	15	P	Pn	16 03 44.8	+1.0
FIB	Fire Island	1.85	42	P	Pn	16 03 47.2	+2.1
SUA	Susitna One	1.91	30	P	Pn	16 03 47.6	+1.4
SUA				S	Sn	16 04 11.1	+1.1
RC01	Rabbit Creek A	1.95	48	P	Pn	16 03 47.4	+0.8
KVTA	Katmai Vly 10	1.96	223	P	Pn	16 03 46.9	+0.2
KCE	Katmai Mt Cerb	2.03	219	P	Pn	16 03 48.9	+1.3
KDAK	Kodiak Island	2.05	178	P	Pn	16 03 47.0	-0.8
	30nm,0.3s,baz=17,slow=9.6,SNR=234						
KDAK				S	Sn	16 04 10.9	-2.1
	146nm,0.3s,baz=184,slow=23,SNR=56						
KDAK	Kodiak Island	2.05	178	P	Pn	16 03 47.0	-0.8
KDAK				S	Sn	16 04 10.9	-2.1
KABR	Katmai Barrier	2.06	215	P	Pn	16 03 48.6	+0.7
KELA	Mount Kelaz	2.08	229	P	Pn	16 03 48.3	0.0
SKT	Skwentna	2.24	15	P	Pn	16 03 51.1	+0.8
PMR	Palmer	2.51	44	P	Pn	16 03 54.0	+0.2
PMR				S	Sn	16 04 22.4	-1.2
TRAP	Trapper Creek	2.79	25	P	Pn	16 03 59.0	+1.4
SML	Sawmill	2.93	46	P	Pn	16 03 59.8	+0.3
PPLA	Purkeypile	3.09	5	P	Pn	16 04 03.5	+1.8
SCM	Sheep Creek Mo	3.33	50	P	Pn	16 04 05.0	+0.1
VLZ	Valdez	3.43	65	P	Pn	16 04 06.1	-0.1
TT01	Tatalina	3.47	334	P	Pn	16 04 07.0	+0.3
EYAK	Cordova Ski Ar	3.57	75	P	Pn	16 04 07.5	-0.6
DIV	Divide	3.69	66	eP	Pn	16 04 09.4	-0.3
TRF	Thorofare Moun	3.82	17	P	Pn	16 04 12.8	+1.2
RND	Reindeer	4.04	26	P	Pn	16 04 15.7	+1.2
GOAT	Goat Mountain	4.07	76	P	Pn	16 04 15.9	+1.0
DHY	Denali Highway	4.15	36	P	Pn	16 04 16.9	+0.8
BMRM	Bremner River	4.20	71	eP	Pn	16 04 16.0	-0.6
MCK	McKinley	4.31	23	P	Pn	16 04 19.6	+1.4
NICHA	Nichawak Mount	4.42	81	P	Pn	16 04 20.5	+0.9
HARP	HAARP	4.50	52	P	Pn	16 04 21.1	+0.4
BERG	Berg Lake	4.56	79	P	Pn	16 04 22.3	+0.9
PAX	Paxson	4.71	45	P	Pn	16 04 24.2	+0.7
GRIN	Grindle Hills	4.75	80	P	Pn	16 04 24.9	+0.9
KHIT	Khitrov Hills	4.79	79	P	Pn	16 04 25.0	+0.4
VRDI	Verde Repeater	4.80	69	P	Pn	16 04 25.4	+0.6
KULT	Kultieth River	5.04	81	P	Pn	16 04 29.0	+0.9
NEA	Nenana	5.07	18	P	Pn	16 04 28.9	+0.7
DDM	Donnelly Dome	5.14	36	P	Pn	16 04 31.0	+1.7
BARK	Barkley Ridge	5.16	79	P	Pn	16 04 30.7	+1.0
ISLE	Juniper Island	5.25	77	P	Pn	16 04 31.7	+0.8
KIAG	Kiagna River	5.27	74	P	Pn	16 04 32.3	+1.0
BALM	Baldy	5.29	72	P	Pn	16 04 32.5	+1.1
HDA	Harding Lake	5.33	28	P	Pn	16 04 32.6	+0.6
MENT	Mentasta	5.34	50	ePn	Pn	16 04 32.6	+0.5
CCB	Clear Creek Bu	5.36	23	P	Pn	16 04 32.6	+0.4
BAGL	Bagley Icefiel	5.36	78	P	Pn	16 04 33.4	+1.1
MESA	MESA	5.43	82	P	Pn	16 04 34.3	+0.9
COLA	College	5.55	22	P	Pn	16 04 35.3	+0.5
MDM	Murphy Dome	5.56	20	P	Pn	16 04 35.5	+0.5
BARN	Barnard Glacie	5.62	73	P	Pn	16 04 37.4	+1.3
DOT	Dot Lake	5.63	43	eP	Pn	16 04 37.0	+1.0
	6.1nm,0.6s						
IL1	Eielson Array	5.66	26	P	Pn	16 04 36.7	+0.3
ILAR	Eielson Array	5.66	26	P	Pn	16 04 36.1	-0.3
	2.5nm,0.3s,baz=217,slow=14,SNR=96						
ILAR				S	Sn	16 05 37.2	-2.7
	4.1nm,0.3s,baz=159,slow=13,SNR=8.4						
ILAR	Eielson Array	5.66	26	P	Pn	16 04 36.1	-0.3
ILAR				S	Sn	16 05 37.2	-2.7
GLM	Gilmore Dome	5.74	23	P	Pn	16 04 38.7	+1.2
TABL	Table Mountain	5.83	79	P	Pn	16 04 39.9	+1.0
CHX	Chaix Hills	5.85	83	P	Pn	16 04 40.4	+1.3
SAMH	Samovar Hills	6.01	82	P	Pn	16 04 42.5	+1.3
BCA3	Beaver Creek A	6.17	54	P	Pn	16 04 43.6	+0.2
IM3	Indian Mountai	6.20	356	P	Pn	16 04 44.2	+0.6
PNL	Peninsula	6.75	86	P	Pn	16 04 51.5	+0.3
EGAK	Eagle	7.33	42	eP	Pn	16 04 58.6	-0.4
	5.9nm,0.6s						
COLD	Coldfoot	7.51	8	P	Pn	16 05 02.4	+0.9
DAWY	Dawson	7.59	50	eP	Pn	16 05 01.9	-0.7
HYT	Haines Junctio	7.63	76	P	Pn	16 05 03.8	+0.5
BM3	Burnt Mountain	8.43	22	P	Pn	16 05 14.0	0.0
SKAG	Skagway	8.83	85	P	Pn	16 05 20.0	+0.6
WHY	Whitehorse	8.92	77	P	Pn	16 05 22.0	+1.2
TNA	Tin City	9.02	316	eP	Pn	16 05 25.1	+3.0
	8.0nm,0.4s						
BESE	Bessie Mountai	9.26	90	P	Pn	16 05 27.1	+1.7
DLBC	Dease Lake	11.74	87	P	Pn	16 06 01.1	+2.1
	3.1nm,0.3s,baz=301,slow=15,SNR=32						
DLBC				S	Sn	16 08 05.0	-2.9
	0.8nm,0.3s,baz=209,slow=19,SNR=4.7						
DLBC	Dease Lake	11.74	87	eP	Pn	16 06 01.1	+2.2
DLBC				S	Sn	16 08 05.0	-2.9
INK	Inuvik	11.90	36	P	Pn	16 06 01.2	+0.3
	0.1nm,0.3s,baz=236,slow=11,SNR=7.4						
INK	Inuvik	11.90	36	P	Pn	16 06 01.2	+0.3
YKA	Yellowknife Ar	18.41	65	P	Pn	16 07 23.4	0.0
	0.2nm,0.3s,baz=279,slow=9.7,SNR=16						
YKA	Yellowknife Ar	18.41	65	P	Pn	16 07 23.4	0.0
FX1	Attu Island--F	19.95	265	P	P	16 07 38.8	-0.3
	3.3nm,0.3s,baz=270,slow=7.1,SNR=9.2						
FX1	Attu Island--F	19.95	265	P	P	16 07 38.8	-0.3
RES	Resolute Bay	25.38	32	P	P	16 08 31.7	-1.1
	0.9nm,1.0s,baz=245,slow=14,SNR=2.9						
RES	Resolute Bay	25.38	32	P	P	16 08 31.7	-1.1
PETK	Petropavlovsk-	27.61	278	P	P	16 08 52.6	-0.4
	1.5nm,0.5s,baz=73,slow=13,SNR=17						
PETK	Petropavlovsk-	27.61	278	P	P	16 08 52.6	-0.4
NVAR	Mina Array Bea	30.53	119	P	P	16 09 22.1	+2.8
	1.3nm,0.5s,baz=314,slow=9.1,SNR=7.0						
NVAR	Mina Array Bea	30.53	119	P	P	16 09 22.1	+2.8
PDAR	Pinedale Array	31.23	104	P	P	16 09 27.2	+1.8
	0.3nm,0.5s,baz=318,slow=4.2,SNR=5.1						
PDAR				pP	pP	16 09 45.9	-0.8
	0.3nm,0.5s,baz=346,slow=4.3,SNR=4.4						
PDAR	Pinedale Array	31.23	104	P	P	16 09 27.2	+1.8
PDAR				pP	pP	16 09 45.9	-0.8
FRB	Frobisher Bay	37.28	47	P	P	16 10 17.5	+0.5
	1.1nm,0.3s,baz=304,slow=12,SNR=5.5						
FRB	Frobisher Bay	37.28	47	P	P	16 10 17.5	+0.5
SPITS	Spitsbergen Ar	42.08	3	P	P	16 10 57.4	+0.7
	2.2nm,0.4s,baz=19,slow=5.5,SNR=23						
SPITS	Spitsbergen Ar	42.08	3	P	P	16 10 57.4	+0.7
TXAR	Lajitas Array	44.80	111	P	P	16 11 21.3	+2.1
	1.1nm,1.1s,baz=321,slow=8.1,SNR=3.1						
TXAR	Lajitas Array	44.80	111	P	P	16 11 21.3	+2.1
USRK	Ussuriysk Arra	46.21	286	P	P	16 11 28.8	-1.2
	0.9nm,0.6s,baz=77,slow=13,SNR=3.3						
ARCES	ARCESS Array B	50.92	1	P	P	16 12 04.5	-1.3
	2.0nm,0.8s,baz=1.8,slow=8.4,SNR=3.2						
ARCES	ARCESS Array B	50.92	1	P	P	16 12 04.5	-1.3
KSRS	Korea Array	53.34	283	P	P	16 12 24.6	+0.5
	2.5nm,0.5s,baz=38,slow=7.1,SNR=10.0						
KSAR	Wonju Array Be	53.37	283	P	P	16 12 24.6	+0.3
ULN	Ulaanbaatar	54.70	306	eP	P	16 12 34.2	+0.1
	3.7nm,1.0s						
SONM	Songino Array	55.00	306	P	P	16 12 35.1	-1.1
	2.0nm,0.6s,baz=47,slow=5.9,SNR=25						
SONM	Songino Array	55.00	306	P	P	16 12 35.1	-1.1
ZALV	Zalesovo Beam	57.59	324	P	P	16 12 54.4	+0.1
	5.7nm,0.5s,baz=32,slow=7.2,SNR=32						
ZALV	Zalesovo Beam	57.59	324	P	P	16 12 54.4	+0.1
FINES	FINESS Array B	59.05	1	P	P	16 13 03.8	-0.6
	0.9nm,0.8s,baz=7.8,slow=11,SNR=3.3						
FINES	FINESS Array B	59.05	1	P	P	16 13 03.8	-0.6
HFS	Hagfors	59.91	8	P	P	16 13 09.5	-0.8
	0.8nm,0.5s,baz=57,slow=5.5,SNR=6.7						
HFS	Hagfors	59.91	8	P	P	16 13 09.5	-0.8
KURK	Kurchatov	62.24	326	eP	P	16 13 25.4	-0.8
	1.8nm,0.6s						
BVAR	Borovoye Array	62.28	332	P	P	16 13 26.1	-0.3
	3.4nm,0.6s,baz=29,slow=6.6,SNR=21						
BVAR	Borovoye Array	62.28	332	P	P	16 13 26.1	-0.3
KURBB	Kurchatov Arra	62.35	326	P	P	16 13 26.7	-0.2
	2.5nm,0.6s,baz=29,slow=6.6,SNR=16						
MK31	Makanchi Array	64.65	321	eP	P	16 13 41.3	-0.9
MKAR	Makanchi Array	64.65	321	P	P	16 13 41.4	-0.7
	1.9nm,0.6s,baz=40,slow=6.7,SNR=32						
MKAR	Makanchi Array	64.65	321	P	P	16 13 41.4	-0.7
AKTO	Aktyubinsk	67.30	339	P	P	16 13 59.9	+0.9
	1.1nm,0.8s,baz=31,slow=8.6,SNR=5.8						
AKTO	Aktyubinsk	67.30	339	P	P	16 13 59.9	+0.9
AAK	Ala-Archa	70.77	325	P	P	16 14 21.2	+0.4
	1.1nm,0.9s,baz=41,slow=7.3,SNR=4.1						
AAK	Ala-Archa	70.77	325	P	P	16 14 21.2	+0.4
CMAR	Chiang Mai Arr	83.05	295	P	P	16 15 29.8	-0.1
	0.4nm,0.6s,baz=7.4,slow=5.1,SNR=5.2						
CMAR	Chiang Mai Arr	83.05	295	P	P	16 15 29.8	-0.1
LBTB	Lobatse	145.19	3	PKPbc	PKPbc	16 22 40.8	-0.1
	2.6nm,0.6s,baz=38,slow=3.1,SNR=7.8						
LBTB	Lobatse	145.19	3	PKPbc	PKPbc	16 22 40.8	-0.1
BOSA	Boshof	148.76	3	PKPbc	PKPbc	16 22 50.1	-0.8
	2.0nm,0.5s,baz=14,slow=8.0,SNR=8.2						
BOSA	Boshof	148.76	3	PKPbc	PKPbc	16 22 50.1	-0.8

*ISK **01** 16:08:53.7, 36°.82N×34°.28E, h8km, MD3.0*

*DDA **01** 16:08:53.5, 36°.81N×34°.31E, h7km, MD3.3*

*ISCJB **01** 16:08:54.4±0.9, 36°.85N±0°.05×34°.29E±0°.04, h6km±5km, Error ellipse: s-maj=8.5km s-min=4.7km az=8.5*

*CSEM **01** 16:08:54.3±0.2, 36°.83N×34°.28E, h5km, MD3.0, Error ellipse: s-maj=4.7km s-min=2.6km az=8.0*

ISC 01 16:08:54.2±1.1**, 36°.82N**±0°.04×**34°.27E**±0°.03**, h8**km±9km**, n34,** σ0s.55/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MERS	Mersin	0.21	76	ePG	Pg	16 08 58.4	0.0
MERS				eSG	Sg	16 09 01.8	+0.5
MERS	Mersin	0.21	76	ePg	Pg	16 08 58.4	0.0
MERS				eSg	Sg	16 09 01.8	+0.5
GULE	Gulek	0.61	41	i P	Pg	16 09 05.2	-0.9
GULE				i S	Sg	16 09 14.2	0.0
GULE	Gulek	0.61	41	i P	Pg	16 09 05.2	-0.9
GULE				i S	Sg	16 09 14.2	0.0
KRTS	Karatas	0.92	105	ePG	Pg	16 09 11.8	0.0
KRTS	Karatas	0.92	105	ePg	Pg	16 09 11.8	0.0
ERMK	Ermenek	1.11	261	i P	Pg	16 09 15.1	-0.4
ERMK				i S	Sn	16 09 31.4	-0.3
ERMK	Ermenek	1.11	261	i P	Pg	16 09 15.1	-0.4
ERMK				i S	Sn	16 09 31.4	-0.3
CEYT	Ceyhan	1.20	80	ePN	Pb	16 09 16.8	-0.3
CEYT				eSN	Sn	16 09 34.0	+0.4
CEYT	Ceyhan	1.20	80	ePn	Pb	16 09 16.8	-0.3
CEYT				eSn	Sn	16 09 34.0	+0.4
NIG	Nigde	1.32	12	ePN	Pn	16 09 19.1	0.0
NIG	Nigde	1.32	12	ePn	Pn	16 09 19.1	0.0
KOZT	Kozan	1.41	61	ePN	Pn	16 09 20.3	+0.2
KOZT	Kozan	1.41	61	ePn	Pn	16 09 20.3	+0.2
SULT	Sultanhani-AKS	1.50	337	ePN	Pn	16 09 21.8	+0.3
SULT	Sultanhani-AKS	1.50	337	ePn	Pn	16 09 21.8	+0.3
YAYL	Yayladag	1.67	117	i P	Pb	16 09 24.7	-0.5
YAYL				i S	Sg	16 09 47.6	-0.3
YAYL	Yayladag	1.67	117	i P	Pb	16 09 24.7	-0.5
YAYL				i S	Sg	16 09 47.6	-0.3
KONT	Konya--Tatoy	1.89	307	ePN	Pn	16 09 27.3	+0.5

KONT	**Konya--Tatoy**	**1.89**	**307**	*e*Pn	**Pn**	**16 09 27.3**	**+0.5**
LADK	**Ladik-KONYA**	**2.05**	**313**	*e*PN	**Pn**	**16 09 29.4**	**+0.4**
LADK	**Ladik-KONYA**	**2.05**	**313**	*e*Pn	**Pn**	**16 09 29.5**	**+0.4**
KMRS	**Kahramanmaras**	**2.21**	**71**	*e*PN	**Pn**	**16 09 31.6**	**+0.6**
KMRS	**Kahramanmaras**	**2.21**	**71**	*e*Pn	**Pn**	**16 09 31.7**	**+0.6**
KUZU	**Kuzuini**	**2.25**	**90**	*i* P	**Pn**	**16 09 32.0**	**+0.3**
KUZU				*i* S	**Sn**	**16 09 59.6**	**0.0**
KUZU	**Kuzuini**	**2.25**	**90**	*i* P	**Pn**	**16 09 32.0**	**+0.3**
KUZU				*i* S	**Sn**	**16 09 59.6**	**0.0**
BNN	**Bunyan**	**2.38**	**31**	*e*PN	**Pn**	**16 09 34.2**	**+0.6**
BNN	**Bunyan**	**2.38**	**31**	*e*Pn	**Pn**	**16 09 34.2**	**+0.6**
KAMT	**Kaman**	**2.58**	**350**	*e*PN	**Pn**	**16 09 36.9**	**+0.5**
KAMT	**Kaman**	**2.58**	**350**	*e*Pn	**Pn**	**16 09 36.9**	**+0.5**
YOZ	**Yozgat**	**2.94**	**16**	*e*PN	**Pn**	**16 09 41.9**	**+0.7**
YOZ	**Yozgat**	**2.94**	**16**	*e*Pn	**Pn**	**16 09 41.9**	**+0.7**
SVRH	**Sivrihisar-ESK**	**3.41**	**321**	*e*PN	**Pn**	**16 09 49.2**	**+1.6**
SVRH	**Sivrihisar-ESK**	**3.41**	**321**	*e*Pn	**Pn**	**16 09 49.2**	**+1.6**

---

*ISK **01** 16:21:09.9, 37°.84N×29°.06E, h8km, MD2.6*
*DDA **01** 16:21:09.5, 37°.83N×29°.11E, h7km, MD2.9*
*CSEM **01** 16:21:09.8±0.2, 37°.81N×29°.10E, h5km, MD2.6, Error ellipse: s-maj=4.7km s-min=3.4km az=113.0*
*ISCJB **01** 16:21:10.0±0.5, 37°.82N±0°.03×29°.07E±0°.05, h7km±5km, Error ellipse: s-maj=6.3km s-min=4.2km az=22.6*
ISC 01 16:21:09.8±0.9**, 37°.82N**±0°.03×**29°.11E**±0°.03**, h9**km±7km**, n28,** σ**0s.54**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.09**	**221**	*e*PG	**Pg**	**16 21 12.4**	**+0.2**
DENT	**Denizli**	**0.09**	**221**	*e*Pg	**Pg**	**16 21 12.4**	**+0.2**
DNZL	**Cakiroluk**	**0.14**	**200**	*i* P	**Pg**	**16 21 12.8**	**-0.3**
DNZL				*i* S	**Sg**	**16 21 15.4**	**+0.1**
DNZL	**Cakiroluk**	**0.14**	**200**	*i* P	**Pg**	**16 21 12.8**	**-0.3**
DNZL				*i* S	**Sg**	**16 21 15.4**	**+0.1**
KHL	**Karahalli**	**0.60**	**33**	*e*PG	**Pb**	**16 21 22.1**	**-0.4**
KHL				*e*SG	**Sb**	**16 21 31.1**	**+0.1**
KHL	**Karahalli**	**0.60**	**33**	*e*Pg	**Pb**	**16 21 22.1**	**-0.4**
KHL				*e*Sg	**Sb**	**16 21 31.2**	**+0.1**
KHAL	**Karahalli**	**0.62**	**29**	*i* P	**Pg**	**16 21 21.3**	**-0.6**
KHAL				*i* S	**Sb**	**16 21 31.5**	**-0.4**
KHAL	**Karahalli**	**0.62**	**29**	*i* P	**Pg**	**16 21 21.3**	**-0.6**
KHAL				*i* S	**Sb**	**16 21 31.5**	**-0.4**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pg**	**16 21 21.8**	**-1.3**
GOLH				*i* S	**Sb**	**16 21 34.7**	**+1.1**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pg**	**16 21 21.8**	**-1.3**
GOLH				*i* S	**Sb**	**16 21 34.7**	**+1.1**
KULA	**Kula-Manisa**	**0.78**	**333**	*e*PG	**Pg**	**16 21 24.8**	**0.0**
KULA	**Kula-Manisa**	**0.78**	**333**	*e*Pg	**Pg**	**16 21 24.8**	**0.0**
MANT	**Manisa**	**0.80**	**327**	*i* P	**Pb**	**16 21 25.5**	**-0.5**
MANT				*i* S	**Sb**	**16 21 36.9**	**-0.1**
MANT	**Manisa**	**0.80**	**327**	*i* P	**Pb**	**16 21 25.5**	**-0.5**
MANT				*i* S	**Sb**	**16 21 36.9**	**-0.1**
YER	**Yerkesik**	**0.95**	**224**	*e*PG	**Pb**	**16 21 28.3**	**-0.2**
YER	**Yerkesik**	**0.95**	**224**	*e*Pg	**Pb**	**16 21 28.3**	**-0.2**
AYDN	**Tasoluk**	**0.99**	**261**	*i* P	**Pg**	**16 21 28.7**	**-0.1**
AYDN				*i* S	**Sg**	**16 21 41.0**	**-0.7**
AYDN	**Tasoluk**	**0.99**	**261**	*i* P	**Pg**	**16 21 28.7**	**-0.1**
AYDN				*i* S	**Sg**	**16 21 41.0**	**-0.7**
GDZ	**Gediz**	**1.30**	**13**	*i* P	**Pn**	**16 21 33.9**	**-0.3**
GDZ				*i* S	**Sn**	**16 21 52.4**	**+0.6**
GDZ	**Gediz**	**1.30**	**13**	*i* P	**Pn**	**16 21 33.9**	**-0.3**
GDZ				*i* S	**Sn**	**16 21 52.4**	**+0.6**
SHUT	**Suhut-Afyon**	**1.35**	**57**	*e*PN	**Pg**	**16 21 36.3**	**+0.6**
SHUT	**Suhut-Afyon**	**1.35**	**57**	*e*Pn	**Pg**	**16 21 36.3**	**+0.6**
ALT	**Altintas**	**1.46**	**32**	*e*PN	**Pb**	**16 21 37.3**	**+0.1**
ALT	**Altintas**	**1.46**	**32**	*e*Pn	**Pb**	**16 21 37.3**	**+0.1**
TVSB	**Tavsanli**	**1.65**	**10**	*e*PN	**Pn**	**16 21 39.5**	**+0.5**
TVSB	**Tavsanli**	**1.65**	**10**	*e*Pn	**Pn**	**16 21 39.5**	**+0.5**
DST	**Dursunbey**	**1.82**	**348**	*e*PN	**Pn**	**16 21 41.8**	**+0.5**
DST	**Dursunbey**	**1.82**	**348**	*e*Pn	**Pn**	**16 21 41.8**	**+0.5**

---

*ISCJB **01** 16:36:56.0±0.5, 39°.55N±0°.05×112°.75E±0°.05, h10km, mb3.1/6, Error ellipse: s-maj=8.1km s-min=4.9km az=26.8*
*BJI **01** 16:36:57.7, 39°.48N×112°.63E, h11km, mb3.7/4, ML3.7/15, Ms3.5/2, Ms7 3.4/2*
*IDC **01** 16:36:57.4±1.1, 39°.65N×112°.84E, h0km, mb3.2/6, mb1 3.4/8, mb1mx3.3/27, mbtmp3.3/8, ML3.1/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/21, Error ellipse: s-maj=38.4km s-min=16.3km az=53.0*
ISC 01 16:36:59.7±0.7**, 39°.55N**±0°.06×**112°.83E**±0°.04**, h10**km**, n16,** σ**1s.59**/23**, mb3.2**/6**, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**1.62**	**324**	Pg	**Pn**	**16 37 28.1**	**-0.3**
HHC				Sg	**Sn**	**16 37 48.8**	**-0.6**
HHC				smax	smax		
	comp=N,720nm,0.5s						
HHC				smax	smax		
	comp=E,730nm,0.8s						
BTO	**Baotou**	**2.40**	**297**	*e*Pg	**Pn**	**16 37 40.3**	**+1.2**
BTO				Sg	**Sn**	**16 38 11.0**	**+2.4**
BTO				smax	smax		
	comp=N,76nm,0.3s						
BTO				smax	smax		
	comp=E,51nm,0.3s						
BJI	**Beijing**	**2.62**	**78**	Pn	**Pn**	**16 37 41.2**	**-0.9**
BJI				Pg	**Pb**	**16 37 45.5**	**-1.3**
BJI				Sg	**Sb**	**16 38 22.0**	**+2.9**
BJI				smax	smax		
	comp=N,210nm,1.0s						
BJI				smax	smax		
	comp=E,230nm,0.7s						
TIA	**Tai'an**	**4.76**	**133**	Pn	**Pn**	**16 38 08.9**	**-2.6**
TIA				Pg	**Pb**	**16 38 22.5**	**-0.8**
TIA				smax	smax		
	comp=N,830nm,0.1s						
TIA				smax	smax		
	comp=E,470nm,0.1s						
XAN	**Xi'an**	**6.33**	**211**	Pn	**Pn**	**16 38 32.1**	**-1.1**
XAN				smax	smax		
	comp=N,22nm,0.7s						
XAN				smax	smax		
	comp=E,8.0nm,0.8s						
LZH	**Lanzhou**	**7.91**	**247**	*e*Pn	Pn	16 38 50.7	-4.2
LZH				Pg	**Pb**	**16 39 16.8**	**-0.1**
LZH				Sn	Sn	16 40 17.7	-6.8
LZH				Sg	**Sb**	**16 40 54.0**	**+2.8**
LZH				smax	smax		
	comp=N,71nm,0.8s						
LZH				smax	smax		
	comp=E,42nm,0.9s						
LZH				LR	LR		
	comp=N,210nm,6.0s						
LZH				LR	LR		
	comp=E,150nm,4.0s						
LZH				LR	LR		
	comp=Z,270nm,7.3s						
SONM	**Songino Array**	**9.49**	**333**	Pn	**Pn**	**16 39 16.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=149,slow=14,SNR=13						
SONM				Lg	Lg	16 41 54.3	
	comp=Z,0.7nm,0.3s,baz=156,slow=26,SNR=6.3						
GTA	**Gaotai**	**10.06**	**273**	*e*P	**Pn**	**16 39 22.4**	**-2.0**
GTA				pP		16 39 26.7	
GTA				S	**Sn**	**16 41 17.1**	**-0.3**
GTA				SS	**SnSn**	**16 41 27.9**	**-1.0**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA				LR	LR		
	comp=N,110nm,10.9s						
GTA				LR	LR		
	comp=E,150nm,12.4s						
GTA				LR	LR		
	comp=Z,150nm,13.3s						
KSRS	**Korea Array**	**12.01**	**95**	Pn	**Pn**	**16 39 51.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=283,slow=15,SNR=3.6						
KSRS				LR	LR	16 45 25.7	
	comp=Z,54nm,18.8s,baz=240,slow=42						
JOW	**Kunigami**	**18.08**	**130**	LR	LR	16 48 59.2	
	comp=Z,51nm,19.4s,baz=121,slow=40						
MKAR	**Makanchi Array**	**23.31**	**298**	P	**P**	**16 42 06.4**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=84,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**23.79**	**317**	P	**P**	**16 42 11.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=112,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**24.22**	**214**	P	**P**	**16 42 18.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=18,slow=9.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**26.39**	**306**	P	**P**	**16 42 34.2**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=102,slow=9.4,SNR=5.6						
WRA	**Warramunga Arr**	**62.51**	**157**	P	**P**	**16 47 22.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=344,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	**65.90**	**159**	P	**P**	**16 47 45.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=345,slow=6.2,SNR=7.8						

---

*NIED **01** 16:56:00, 26°.50N×141°.90E, h38km, Mw4.3 Best double couple: M0 3.52000×10^15 NP1: φs188.00000°, δ53.00000°, λ68.00000°. NP2: φs42.00000°, δ42.00000°, λ117.00000°.*
*ISCJB **01** 16:56:25.7±0.6, 26°.39N±0°.08×141°.7E±0°.2, h40km, mb4.1/12, Error ellipse: s-maj=22.8km s-min=8.8km az=21.0*
*IDC **01** 16:56:27.4±3.2, 26°.43N×141°.80E, h37km±28km, mb3.7/9, mb1 3.9/9, mb1mx3.6/24, mbtmp3.7/9, MS2.7/1, Ms1 2.7/1, ms1mx2.0/43, Error ellipse: s-maj=35.9km s-min=13.5km az=93.0*
ISC 01 16:56:27.5±0.7**, 26°.5N**±0°.1×**141°.8E**±0°.2**, h40**km**, n15,** σ**0s.56**/15**, mb4.2**/12**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.74**	**30**	Pn	**Pn**	**16 56 41.6**	**+0.1**
	170nm,0.3s,baz=183,slow=3.5,SNR=101						
CBIJ				Sn	**Sn**	**16 56 51.3**	**-0.4**
	435nm,0.3s,baz=307,slow=20,SNR=32						
KSRS	**Korea Array**	**16.06**	**316**	LR	LR	17 06 14.5	
	comp=Z,29nm,20.4s,baz=130,slow=36						
CTA	**Charters Tower**	**46.46**	**174**	P	**P**	**17 04 51.2**	**+0.6**
	2.7nm,0.7s,baz=323,slow=5.1,SNR=3.8						
WRA	**Warramunga Arr**	**46.67**	**190**	P	**P**	**17 04 52.4**	**+0.1**
	8.2nm,0.5s,baz=12,slow=8.8,SNR=198						
ASAR	**Alice Springs**	**50.40**	**189**	P	**P**	**17 05 20.8**	**-0.2**
	0.6nm,0.4s,baz=19,slow=10,SNR=42						
KURBB	**Kurchatov Arra**	**53.23**	**315**	P	**P**	**17 05 41.3**	**-0.5**
	0.6nm,0.5s,baz=92,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**58.00**	**180**	P	**P**	**17 06 15.3**	**-0.8**
	1.4nm,0.4s,baz=353,slow=13,SNR=12						
ILAR	**Eielson Array**	**58.46**	**28**	P	**P**	**17 06 18.9**	**-0.1**
	0.3nm,0.9s,baz=237,slow=8.2,SNR=2.5						
YKA	**Yellowknife Ar**	**72.89**	**28**	P	**P**	**17 07 52.1**	**+0.1**
	0.2nm,0.4s,baz=296,slow=6.7,SNR=3.1						
ARCES	**ARCESS Array B**	**74.03**	**341**	P	**P**	**17 07 59.7**	**+1.0**
	2.1nm,0.9s,baz=15,slow=5.0,SNR=5.0						
JOF	**Joensuu**	**75.50**	**334**	*e*p	**P**	**17 08 07.0**	**-0.2**
	2.0nm,0.5s						
KAF	**Kangasniemi**	**77.89**	**334**	*e*p	**P**	**17 08 20.6**	**-0.2**
	1.3nm,0.4s						
FINES	**FINESS Array B**	**78.36**	**334**	P	**P**	**17 08 24.5**	**+1.1**
	2.1nm,0.4s,baz=66,slow=5.4,SNR=38						
NB2	**NORSAR Subarra**	**84.07**	**338**	P	**P**	**17 08 53.8**	**0.0**
	comp=Z,0.7nm,0.5s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**84.07**	**338**	P	**P**	**17 08 54.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=46,slow=4.8,SNR=3.8						

IDC 01 16:58:53.7±5.8**, 21°.94S**×**176°.37W, h0**km**, mb3.6**/2**, mb1 4.0**/3**, mb1mx3.7**/18**, mbtmp3.9**/3**, ML2.5**/1**, Error ellipse: s-maj=201.1km s-min=31.8km az=141.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.11**	**29**	Pn	Pn	17 01 07.1	+0.6
	2.9nm,0.3s,baz=76,slow=19,SNR=4.3						
AFI				Sn	Sn	17 02 45.9	-4.0
	0.9nm,0.3s,baz=56,slow=18,SNR=2.4						
CTA	**Charters Tower**	**34.88**	**266**	P	P	17 05 48.9	+1.7
	baz=85,slow=12						
ASAR	**Alice Springs**	**45.68**	**258**	P	P	17 07 15.8	-0.9
	0.2nm,0.4s,baz=93,slow=8.3,SNR=8.2						
WRA	**Warramunga Arr**	**45.92**	**263**	P	P	17 07 17.8	-0.8
	0.6nm,0.3s,baz=92,slow=8.5,SNR=19						
CMAR	**Chiang Mai Arr**	**92.02**	**289**	P	P	17 12 08.1	+2.9
	0.7nm,0.8s,baz=138,slow=4.1,SNR=5.5						
AKASG	**Malin Array Be**	**145.00**	**331**	PKPbc	PKPbc	17 18 30.6	-1.5
	0.8nm,0.6s,baz=39,slow=4.0,SNR=3.0						

---

*SZGRF **01** 17:19:05.0, 46°.54N×152°.60E, h33km, mb4.7, Kuril Islands, Russia*
*ISCJB **01** 17:19:17.0±0.4, 47°.69N±0°.06×152°.66E±0°.08, h117km, mb4.3/60, Error ellipse: s-maj=10.7km s-min=4.6km az=144.7*
*MOS **01** 17:19:19.3±1.0, 47°.71N×152°.54E, h136km, mb4.2/33, Error ellipse: s-maj=10.6km s-min=6.0km az=102.9*
*IDC **01** 17:19:20.4±2.1, 47°.71N×152°.62E, h138km±19km, mb3.7/21, mb1 3.8/25, mb1mx3.7/33, mbtmp3.6/25, Error ellipse: s-maj=16.7km s-min=10.3km az=144.0*
*NEIC **01** 17:19:25.7±1.1, 48°.22N×152°.02E, h150km, mb4.5/21, Error ellipse: s-maj=30.0km s-min=7.1km az=141.0*
*BJI **01** 17:19:32.3, 48°.71N×151°.91E, h202km, mB4.8/4, mb4.5/5*
ISC 01 17:19:18.6±0.6**, 47°.78N**±0°.08×**152°.59E**±0°.07**, h117**km**, n223,** σ**0s.87**/227**, mb4.3**/60**, 11C-15D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**37**	*e*PN	**Pn**	**17 20 12.8**	**-1.3**
SKR				*e*S	**Sn**	**17 20 56.0**	**-1.2**
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax	smax		
	comp=N,90nm,0.5s						
SKR				smax	smax		
	comp=E,100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**6.00**	**234***c*	*i*PN	**Pn**	**17 20 45.6**	**+0.6**
YUK				*i* S	**Sn**	**17 21 51.2**	**-1.2**
YUK				pmax	pmax		
	comp=E,28nm,0.4s						
YUK				pmax	pmax		
	comp=Z,73nm,0.8s						
YUK				pmax	pmax		
	comp=N,39nm,0.4s						
YUK				smax	smax		
	comp=N,99nm,0.7s						
YUK				smax	smax		
	comp=E,65nm,0.7s						
PETK	**Petropavlovsk-**	**6.25**	**30**	P	**Pn**	**17 20 50.4**	**+2.1**
	comp=E,0.7nm,0.3s,baz=176,slow=12,SNR=26						
PETK	**Petropavlovsk-**	**6.25**	**30**	PN	**Pn**	**17 20 50.4**	**+2.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.87**	**246**	P	**Pn**	**17 21 13.3**	**+3.1**
	comp=Z,1.0nm,0.3s,baz=67,slow=9.9,SNR=14						
HABR	**Khabarovsk**	**11.75**	**280**	PN	**Pn**	**17 22 03.9**	**+1.5**
HABR				*e*S	**Sn**	**17 24 14.2**	**+2.7**
HABR				pmax	pmax		
	comp=Z,22nm,16.1s						
KLR	**Kul'dur**	**13.89**	**284**	*e*P	**P**	**17 22 33.9**	**-0.7**
FX1	**Attu Island--F**	**14.08**	**61**	P	**Pn**	**17 22 33.5**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=101,slow=23,SNR=7.5						
USRK	**Ussuriysk Arra**	**14.75**	**264**	P	**Pn**	**17 22 41.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=75,slow=13,SNR=4.9						
SEY	**Seymchan**	**15.19**	**360**	*e*P	**P**	**17 22 49.5**	**+0.6**
YAK	**Yakutsk**	**19.27**	**326**	*e*P	**P**	**17 23 35.3**	**+1.6**
YAK				pmax	pmax		
	comp=Z,65nm,1.0s						
KSRS	**Korea Array**	**20.80**	**249**	P	**P**	**17 23 50.1**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=56,slow=10.0,SNR=8.4						
BOD	**Bodaibo**	**25.07**	**308**	*e*P	**P**	**17 24 30.9**	**-0.9**
SONM	**Songino Array**	**30.67**	**288**	P	**P**	**17 25 22.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=70,slow=7.5,SNR=6.1						
ZAK	**Zakamensk**	**31.93**	**293**	*e*P	**P**	**17 25 31.9**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
ILAR	**Eielson Array**	**35.97**	**39**	P	**P**	**17 26 07.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=263,slow=6.0,SNR=11						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**17 26 50.2**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=285,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**41.73**	**305**	P	**P**	**17 26 55.5**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=62,slow=7.0,SNR=29						
ZALV				PcP	**PcP**	**17 28 48.9**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=94,slow=4.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.73**	**305**	P	**P**	**17 26 55.5**	**-0.2**
ZALV						17 28 48.9	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS	**Novosibirsk**	**42.29**	**306**	*e*P	P	17 26 56.0	-4.2
MK31	**Makanchi Array**	**46.16**	**296**	*e*P	**P**	**17 27 30.2**	**-1.0**
MK31	**Makanchi Array**	**46.16**	**296**	*e*P	**P**	**17 27 30.2**	**-1.0**
MKAR	**Makanchi Array**	**46.16**	**296**	P	**P**	**17 27 30.6**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=68,slow=7.9,SNR=17						
MKAR				PcP	**PcP**	**17 29 04.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.3,SNR=3.5						
MKAR	**Makanchi Array**	**46.16**	**296**	P	**P**	**17 27 30.7**	**-0.5**
MKAR						17 29 04.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**46.51**	**303***c*	*i*P	**P**	**17 27 33.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	**Kurchatov**	**46.51**	**303**	*e*P	**P**	**17 27 33.4**	**-0.4**
	comp=Z,9.6nm,0.8s						
RES	**Resolute Bay**	**49.98**	**19**	P	**P**	**17 28 00.4**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=321,slow=4.9,SNR=19						
RES	**Resolute Bay**	**49.98**	**19**	*e*P	**P**	**17 28 00.2**	**+0.1**
	comp=Z,1.2nm,0.5s						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**17 28 03.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=297,slow=7.1,SNR=14						
CHTO	**Chiang Mai**	**52.02**	**255**	*e*P	**P**	**17 28 16.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**52.02**	**255**	*e*P	**P**	**17 28 16.6**	**+0.5**
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.28**	**255**	P	**P**	**17 28 18.8**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=34,slow=7.8,SNR=18						
CMAR				PcP	**PcP**	**17 29 27.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=22,slow=3.5,SNR=4.2						
AAK	**Ala-Archa**	**53.07**	**295**	P	**P**	**17 28 23.6**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=107,slow=4.8,SNR=9.5						
AAK	**Ala-Archa**	**53.07**	**295**	P	**P**	**17 28 23.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TAPN	**Taplejung**	**53.70**	**272**	*e*P	**P**	**17 28 29.6**	**+0.9**
	comp=Z,12nm,0.7s						
TAPN	**Taplejung**	**53.70**	**272**	*e*P	**P**	**17 28 29.6**	**+0.9**
	comp=Z,12nm,0.7s						
ARU	**Arti**	**54.02**	**317***c*	*i*P	**P**	**17 28 29.9**	**-0.3**
ARU				S	**S**	**17 35 54.4**	**-2.5**
ARU				SS	**SS**	**17 39 35.8**	**-3.3**
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ARU	**Arti**	**54.02**	**317**	*e*P	**P**	**17 28 29.7**	**-0.6**
	comp=Z,7.4nm,0.4s						
JIRN	**Jiri**	**54.52**	**273**	*e*P	**P**	**17 28 35.6**	**+0.8**
	comp=Z,4.3nm,0.7s						
JIRN	**Jiri**	**54.52**	**273**	*e*P	**P**	**17 28 35.6**	**+0.8**
	comp=Z,4.3nm,0.7s						
GUN	**Gumba**	**54.57**	**274**	*e*P	**P**	**17 28 35.5**	**+0.4**
	comp=Z,7.7nm,0.6s						
GUN	**Gumba**	**54.57**	**274**	*e*P	**P**	**17 28 35.5**	**+0.4**
	comp=Z,7.7nm,0.6s						
RAMN	**Ramite**	**54.71**	**273**	*e*P	**P**	**17 28 36.6**	**+0.6**
RAMN	**Ramite**	**54.71**	**273**	*e*P	**P**	**17 28 36.6**	**+0.6**
KKN	**Kakani**	**55.05**	**274**	*e*P	**P**	**17 28 39.8**	**+1.4**
KKN	**Kakani**	**55.05**	**274**	*e*P	**P**	**17 28 39.8**	**+1.4**
KKN	**Kakani**	**55.05**	**274**	*e*P	**P**	**17 28 39.8**	**+1.4**
PKI	**Pulchoki**	**55.10**	**274**	*e*P	**P**	**17 28 39.5**	**+0.6**
PKI	**Pulchoki**	**55.10**	**274**	*e*P	**P**	**17 28 39.5**	**+0.6**
PKI	**Pulchoki**	**55.10**	**274**	*e*P	**P**	**17 28 39.5**	**+0.6**
KKAR	**Karatay Array**	**55.20**	**298**	*e*P	**P**	**17 28 38.2**	**-0.8**
KKAR	**Karatay Array**	**55.20**	**298**	*e*P	**P**	**17 28 38.2**	**-0.8**
	comp=Z,0.4nm,0.4s						
DMN	**Daman**	**55.28**	**274**	*e*P	**P**	**17 28 41.0**	**+0.9**
DMN	**Daman**	**55.28**	**274**	*e*P	**P**	**17 28 41.0**	**+0.9**
GKN	**Gorkha**	**55.34**	**275**	*e*P	**P**	**17 28 41.1**	**+0.7**
GKN	**Gorkha**	**55.34**	**275**	*e*P	**P**	**17 28 41.1**	**+0.7**
DANN	**Dangsing**	**55.71**	**276**	*e*P	**P**	**17 28 44.1**	**+0.9**
DANN	**Dangsing**	**55.71**	**276**	*e*P	**P**	**17 28 44.1**	**+0.9**
KOLN	**Koldanda**	**56.19**	**275**	*e*P	**P**	**17 28 47.2**	**+0.7**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**56.19**	**275**	*e*P	**P**	**17 28 47.2**	**+0.7**
	comp=Z,16nm,0.8s						
KEV	**Kevo**	**56.26**	**340**	*e*P	P	17 28 50.2	+4.1
KEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KEV	**Kevo**	**56.26**	**340**	*e*p	P	17 28 50.2	+4.1
	comp=Z,3.8nm,0.8s						
PYUN	**Piuthan**	**56.39**	**276**	*e*P	**P**	**17 28 48.6**	**+0.7**
PYUN	**Piuthan**	**56.39**	**276**	*e*P	**P**	**17 28 48.6**	**+0.7**
ARCES	**ARCESS Array B**	**56.77**	**340**	P	**P**	**17 28 49.6**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=49,slow=7.3,SNR=7.6						
ABKAR	**Akbulak array**	**57.50**	**309**	*e*P	**P**	**17 28 53.8**	**-1.4**
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**57.78**	**311**	P	**P**	**17 28 57.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=93,slow=12,SNR=5.1						
AKTO	**Aktyubinsk**	**57.78**	**311**	P	**P**	**17 28 57.3**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SUMG	**Summit**	**59.70**	**4**	*e*P	**P**	**17 29 11.1**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,13nm,1.0s						
SUMG	**Summit**	**59.70**	**4**	*e*P	**P**	**17 29 11.1**	**+0.5**
	comp=Z,13nm,1.0s						
SUMG	**Summit**	**59.70**	**4**	*i* P	**P**	**17 29 11.1**	**+0.5**
	comp=Z,12nm,0.9s						
JOF	**Joensuu**	**60.26**	**333**	*e*P	**P**	**17 29 11.9**	**-2.1**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**60.26**	**333**	*e*p	**P**	**17 29 11.9**	**-2.1**
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**62.36**	**335**	*e*P	**P**	**17 29 26.9**	**-1.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**62.36**	**335**	*e*p	**P**	**17 29 26.9**	**-1.3**
	comp=Z,2.2nm,0.7s						
FINES	**FINESS Array B**	**62.96**	**334**	P	**P**	**17 29 31.9**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=36,slow=7.1,SNR=114						
NB2	**NORSAR Subarra**	**67.14**	**341**	P	**P**	**17 29 59.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.14**	**341**	P	**P**	**17 29 59.6**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=26,slow=6.2,SNR=16						
WRA	**Warramunga Arr**	**69.37**	**198**	P	**P**	**17 30 12.0**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=18,slow=6.4,SNR=4.6						
KBZ	**Khabaz**	**69.90**	**313**	P	**P**	**17 30 16.4**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=73,slow=7.3,SNR=12						
KBZ	**Khabaz**	**69.90**	**313**	P	**P**	**17 30 16.4**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**70.50**	**326**	P	**P**	**17 30 19.7**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=33,slow=6.2,SNR=8.7						
AKASG	**Malin Array Be**	**70.50**	**326**	P	**P**	**17 30 19.7**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**70.51**	**326**	*e*P	**P**	**17 30 19.1**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIEV	**Kiev**	**70.51**	**326**	*e*P	**P**	**17 30 19.1**	**-1.1**
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**73.07**	**198**	P	**P**	**17 30 34.9**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=9.4,slow=5.9,SNR=9.2						
KWP	**Kalwaria Pacla**	**73.76**	**329**	*e*P	**P**	**17 30 40.7**	**+1.0**
KWP	**Kalwaria Pacla**	**73.76**	**329**	*e*P	**P**	**17 30 40.6**	**+1.0**
OJC	**Ojcow**	**74.25**	**331**	*e*P	**P**	**17 30 42.9**	**+0.4**
KOLS	**Kolonicke sedl**	**74.50**	**329**	*e*P	**P**	**17 30 44.0**	**0.0**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**74.50**	**329**	*e*P	**P**	**17 30 44.0**	**0.0**
BUR08	**Bucovina Ar. S**	**74.52**	**326**	*e*P	**P**	**17 30 44.1**	**-0.1**
BURAR	**Bucovina Array**	**74.54**	**326**	⇑*i*P	**P**	**17 30 45.1**	**+0.8**
CRVS	**Cervenica-Dubn**	**74.81**	**329**	*e*P	**P**	**17 30 46.1**	**+0.3**
CRVS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CRVS	**Cervenica-Dubn**	**74.81**	**329**	*e*P	**P**	**17 30 46.0**	**+0.3**
KSP	**Ksiaz**	**74.83**	**333**	*e*P	**P**	**17 30 46.2**	**+0.4**
KSP	**Ksiaz**	**74.83**	**333**	*e*P	**P**	**17 30 46.1**	**+0.3**
KSP	**Ksiaz**	**74.83**	**333**	*e*P	**P**	**17 30 46.2**	**+0.4**
RAC	**Raciborz**	**74.89**	**332**	*e*P	P	17 30 42.9	-3.2
TESR		**74.90**	**325**	⇑*i*P	**P**	**17 30 46.4**	**+0.1**
TRPA	**Tarpa**	**75.09**	**328**	⇓*i*P	**P**	**17 30 48.3**	**+1.0**
OKC	**Ostrava-Krasne**	**75.12**	**331**	*e*P	**P**	**17 30 48.1**	**+0.6**
OKC	**Ostrava-Krasne**	**75.12**	**331**	*e*P	**P**	**17 30 48.1**	**+0.6**
DPC	**Dobruska-Polom**	**75.25**	**333**	*e*P	**P**	**17 30 48.8**	**+0.5**
DPC	**Dobruska-Polom**	**75.25**	**333**	*e*P	**P**	**17 30 48.8**	**+0.5**
DPC				*e*x	x	17 30 52.5	
KRLC	**Kraliky**	**75.35**	**332**	*e*P	**P**	**17 30 49.5**	**+0.7**
MORC	**Moravsky Berou**	**75.37**	**332**	⇑P	**P**	**17 30 49.3**	**+0.3**
MORC	**Moravsky Berou**	**75.37**	**332**	⇑*i*P	**P**	**17 30 49.3**	**+0.3**
CLL	**Collm**	**75.39**	**335**	*i* P	**P**	**17 30 48.9**	**0.0**
CLL				pmax	pmax		
	comp=Z,13nm,0.8s						
CLL	**Collm**	**75.39**	**335**	*e*P	**P**	**17 30 48.9**	**0.0**
	comp=Z,13nm,0.8s						
CLL	**Collm**	**75.39**	**335**	*i* P	**P**	**17 30 48.9**	**0.0**
	comp=Z,13nm,0.8s						
VRI	**Vrincioaia**	**75.40**	**324**	⇓P	**P**	**17 30 49.8**	**+0.6**
VRI	**Vrincioaia**	**75.40**	**324**	⇓*i*P	**P**	**17 30 49.8**	**+0.6**
CFR	**Carcaliu**	**75.41**	**323**	⇑P	**P**	**17 30 48.8**	**-0.4**
CFR	**Carcaliu**	**75.41**	**323**	⇑*i*P	**P**	**17 30 48.8**	**-0.4**

BRG	**Berggiesshubel**	**75.50**	**334**	*e*P	**P**	**17 30 49.8**	**+0.1**
	comp=Z,2.3nm,0.7s						
BRG	**Berggiesshubel**	**75.50**	**334**	*e*P	**P**	**17 30 49.8**	**+0.1**
CLZ	**Clausthal**	**75.62**	**337**	*e*P	**P**	**17 30 50.8**	**+0.4**
CLZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CLZ	**Clausthal**	**75.62**	**337**	*e*P	**P**	**17 30 50.8**	**+0.4**
	comp=Z,8.0nm,0.8s						
FBE	**Freiberg**	**75.63**	**335**	*e*P	**P**	**17 30 50.6**	**+0.3**
	comp=Z,8.0nm,0.9s						
MLR	**Muntele Rosu**	**76.02**	**324**	⇓*i*P	**P**	**17 30 54.2**	**+1.3**
VYHS	**Vyhne**	**76.06**	**330**	*e*P	**P**	**17 30 53.4**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VYHS	**Vyhne**	**76.06**	**330**	*e*P	**P**	**17 30 53.4**	**+0.5**
VRAC	**Vranov**	**76.08**	**332**	⇓*i*P	**P**	**17 30 53.7**	**+0.7**
ISR	**Istrita**	**76.09**	**324**	⇓P	**P**	**17 30 54.3**	**+1.1**
ISR	**Istrita**	**76.09**	**324**	⇓*i*P	**P**	**17 30 54.3**	**+1.1**
PRU	**Pruhonice**	**76.11**	**334**	*e*P	**P**	**17 30 53.6**	**+0.5**
PRU	**Pruhonice**	**76.11**	**334**	*e*P	**P**	**17 30 53.6**	**+0.5**
DRGR		**76.16**	**327**	⇓P	**P**	**17 30 54.1**	**+0.6**
DRGR		**76.16**	**327**	⇓*i*P	**P**	**17 30 54.1**	**+0.6**
WERD	**Werda**	**76.35**	**335**	*e*P	**P**	**17 30 54.7**	**+0.2**
	comp=Z,2.0nm,0.7s						
VOIR		**76.42**	**325**	⇓P	**P**	**17 30 56.1**	**+1.1**
VOIR		**76.42**	**325**	⇓*i*P	**P**	**17 30 56.1**	**+1.1**
WERN	**Wernitzgruen**	**76.48**	**335**	*e*P	**P**	**17 30 55.6**	**+0.4**
	comp=Z,5.0nm,0.7s						
NKC	**Novy Kostel**	**76.50**	**335**	*e*P	**P**	**17 30 55.9**	**+0.5**
NKC	**Novy Kostel**	**76.50**	**335**	*e*P	**P**	**17 30 55.9**	**+0.5**
SMOL	**Smolenice**	**76.50**	**331**	*e*P	**P**	**17 30 56.4**	**+1.0**
SMOL	**Smolenice**	**76.50**	**331**	*e*P	**P**	**17 30 56.4**	**+1.0**
ROHR	**Rohrbach**	**76.54**	**335**	*e*P	**P**	**17 30 56.3**	**+0.7**
	comp=Z,2.0nm,1.1s						
KHC	**Kasperske Hory**	**77.16**	**334**	*e*P	**P**	**17 30 59.7**	**+0.6**
KHC				*e*		17 31 03.2	
KHC	**Kasperske Hory**	**77.16**	**334**	*e*P	**P**	**17 30 59.7**	**+0.6**
KHC				*e*x	x	17 31 03.2	
TXAR	**Lajitas Array**	**77.29**	**60**	P	**P**	**17 30 59.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=280,slow=4.4,SNR=5.8						
GZR	**Gura Zlata**	**77.32**	**326**	⇓P	**P**	**17 31 00.4**	**+0.3**
GZR	**Gura Zlata**	**77.32**	**326**	⇓*i*P	**P**	**17 31 00.4**	**+0.3**
GRF	**Grafenberg Arr**	**77.34**	**335**	*e*P	**P**	**17 31 01.2**	**+1.2**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GRF	**Grafenberg Arr**	**77.34**	**335**	*e*P	**P**	**17 31 01.2**	**+1.2**
	comp=Z,7.0nm,0.7s						
WET	**Wettzell**	**77.36**	**334**	*e*P	**P**	**17 31 00.8**	**+0.6**
WET				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WET	**Wettzell**	**77.36**	**334**	*e*P	**P**	**17 31 00.8**	**+0.6**
	comp=Z,8.0nm,1.2s						
GERES	**GERESS Array B**	**77.38**	**334**	P	**P**	**17 31 00.3**	**0.0**
	comp=Z,1.6nm,0.7s,baz=32,slow=5.2,SNR=17						
BRTR	**Keskin Array B**	**77.40**	**316**	P	**P**	**17 31 01.4**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=76,slow=4.1,SNR=12						
BZS	**Buzias**	**77.56**	**327**	⇑P	**P**	**17 31 01.8**	**+0.5**
BZS	**Buzias**	**77.56**	**327**	⇑*i*P	**P**	**17 31 01.8**	**+0.5**
MIB	**Mutribah**	**77.83**	**301**	*e*P	**P**	**17 31 03.3**	**+0.2**
MIB				AMb	AMB	17 31 04.3	
	comp=Z,34nm,0.8s						
NAY	**Al-Naaiem**	**78.30**	**301**	*e*P	**P**	**17 31 05.7**	**0.0**
NAY				AMb	AMB	17 31 06.8	
	comp=Z,11nm,1.1s						
RDF	**Al-Radifah**	**78.36**	**300**	*e*P	**P**	**17 31 06.8**	**+0.7**
RDF				AMb	AMB	17 31 08.6	
	comp=Z,28nm,0.8s						
BAIF	**Baives**	**78.80**	**340**	*e*P	**P**	**17 31 08.3**	**+0.2**
BAIF	**Baives**	**78.80**	**340**	*e*P	**P**	**17 31 08.3**	**+0.2**
BAIF	**Baives**	**78.80**	**340**	*e*P	**P**	**17 31 08.3**	**+0.2**
VTS	**Vitosha**	**79.53**	**325**	⇓P	**P**	**17 31 12.4**	**0.0**
VTS	**Vitosha**	**79.53**	**325**	⇓*i*P	**P**	**17 31 12.4**	**0.0**
CDF	**Champ du Feu**	**79.57**	**337**	*e*P	**P**	**17 31 12.7**	**+0.3**
	comp=Z,3.9nm,0.6s						
CDF	**Champ du Feu**	**79.57**	**337**	*e*P	**P**	**17 31 12.7**	**+0.3**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CDF	**Champ du Feu**	**79.57**	**337**	*e*P	**P**	**17 31 12.7**	**+0.3**
	comp=Z,3.9nm,0.6s						
PAGF	**Fort de Pagny**	**79.83**	**338**	*e*P	**P**	**17 31 14.5**	**+0.8**
	comp=Z,2.9nm,0.6s						
PAGF	**Fort de Pagny**	**79.83**	**338**	*e*P	**P**	**17 31 14.5**	**+0.8**
	comp=Z,2.9nm,0.6s						
HAU	**Haudompre**	**80.19**	**338**	*e*P	**P**	**17 31 16.9**	**+1.2**
HAU	**Haudompre**	**80.19**	**338**	*e*P	**P**	**17 31 16.9**	**+1.2**
HAU	**Haudompre**	**80.19**	**338**	*e*P	**P**	**17 31 16.9**	**+1.2**
SFTF	**Sexfontaines**	**80.33**	**339**	*e*P	**P**	**17 31 16.9**	**+0.5**
	comp=Z,9.3nm,0.5s						
SFTF	**Sexfontaines**	**80.33**	**339**	*e*P	**P**	**17 31 16.9**	**+0.5**
	comp=Z,9.3nm,0.5s						
FLN	**La Foliniere**	**81.05**	**342**	*e*P	**P**	**17 31 21.4**	**+1.2**
FLN	**La Foliniere**	**81.05**	**342**	*e*P	**P**	**17 31 21.4**	**+1.2**
FLN	**La Foliniere**	**81.05**	**342**	*e*P	**P**	**17 31 21.4**	**+1.2**
LDF	**La Druitiere**	**81.14**	**342**	*e*P	**P**	**17 31 21.1**	**+0.4**
LDF	**La Druitiere**	**81.14**	**342**	*e*P	**P**	**17 31 21.1**	**+0.4**
LDF	**La Druitiere**	**81.14**	**342**	*e*P	**P**	**17 31 21.1**	**+0.4**
GRR	**Gorron**	**81.48**	**342**	*e*P	**P**	**17 31 23.0**	**+0.5**
GRR	**Gorron**	**81.48**	**342**	*e*P	**P**	**17 31 23.0**	**+0.5**
GRR	**Gorron**	**81.48**	**342**	*e*P	**P**	**17 31 23.0**	**+0.5**
LOR	**Lormes**	**81.49**	**339**	*e*P	**P**	**17 31 22.9**	**+0.3**
	comp=Z,6.8nm,0.7s						
LOR	**Lormes**	**81.49**	**339**	*e*P	**P**	**17 31 22.9**	**+0.3**
	comp=Z,6.8nm,0.7s						
CABF	**La Chapelle**	**81.55**	**337**	*e*P	**P**	**17 31 23.2**	**+0.2**
CABF	**La Chapelle**	**81.55**	**337**	*e*P	**P**	**17 31 23.2**	**+0.2**
CABF	**La Chapelle**	**81.55**	**337**	*e*P	**P**	**17 31 23.2**	**+0.2**
SSF	**Saint Saulge**	**81.77**	**339**	*e*P	**P**	**17 31 23.4**	**-0.7**
	comp=Z,4.8nm,0.8s						
SSF	**Saint Saulge**	**81.77**	**339**	*e*P	**P**	**17 31 23.4**	**-0.7**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SSF	**Saint Saulge**	**81.77**	**339**	*e*P	**P**	**17 31 23.4**	**-0.7**
	comp=Z,4.8nm,0.8s						
SGMF	**Saint Gilles**	**81.94**	**344**	*e*P	**P**	**17 31 25.9**	**+1.0**
	comp=Z,8.3nm,0.6s						
SGMF	**Saint Gilles**	**81.94**	**344**	*e*P	**P**	**17 31 25.9**	**+1.0**
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SGMF	**Saint Gilles**	**81.94**	**344**	*e*P	**P**	**17 31 25.9**	**+1.0**
	comp=Z,8.3nm,0.6s						
ROSF	**Rostrenen**	**82.00**	**344**	*e*P	**P**	**17 31 26.3**	**+1.1**
ROSF	**Rostrenen**	**82.00**	**344**	*e*P	**P**	**17 31 26.3**	**+1.1**
ROSF	**Rostrenen**	**82.00**	**344**	*e*P	**P**	**17 31 26.3**	**+1.1**
AVF	**Avril sur Loir**	**82.06**	**339**	*e*P	**P**	**17 31 26.2**	**+0.6**
	comp=Z,5.5nm,0.7s						
AVF	**Avril sur Loir**	**82.06**	**339**	*e*P	**P**	**17 31 26.2**	**+0.6**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AVF	**Avril sur Loir**	**82.06**	**339**	*e*P	**P**	**17 31 26.2**	**+0.6**
	comp=Z,5.5nm,0.7s						
LPL	**La Plagne**	**82.39**	**337**	*e*P	**P**	**17 31 28.6**	**+1.0**
LPL	**La Plagne**	**82.39**	**337**	*e*P	**P**	**17 31 28.6**	**+1.0**
LPL	**La Plagne**	**82.39**	**337**	*e*P	**P**	**17 31 28.6**	**+1.0**
BGF	**Bois d'Agland**	**82.40**	**339**	*e*P	**P**	**17 31 27.8**	**+0.4**
BGF	**Bois d'Agland**	**82.40**	**339**	*e*P	**P**	**17 31 27.8**	**+0.4**
BGF	**Bois d'Agland**	**82.40**	**339**	*e*P	**P**	**17 31 27.8**	**+0.4**
LPG	**La Plagne**	**82.40**	**337**	*e*P	**P**	**17 31 28.8**	**+1.1**
LPG	**La Plagne**	**82.40**	**337**	*e*P	**P**	**17 31 28.8**	**+1.1**
LPG	**La Plagne**	**82.40**	**337**	*e*P	**P**	**17 31 28.8**	**+1.1**
TCF	**Toulx Ste Croi**	**82.80**	**340**	*e*P	**P**	**17 31 29.6**	**+0.1**
TCF	**Toulx Ste Croi**	**82.80**	**340**	*e*P	**P**	**17 31 29.6**	**+0.1**
TCF	**Toulx Ste Croi**	**82.80**	**340**	*e*P	**P**	**17 31 29.6**	**+0.1**
MFF	**Saint Martin d**	**83.03**	**341**	*e*P	**P**	**17 31 31.7**	**+1.1**
	comp=Z,9.3nm,0.7s						
MFF	**Saint Martin d**	**83.03**	**341**	*e*P	**P**	**17 31 31.7**	**+1.1**
MFF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MFF	**Saint Martin d**	**83.03**	**341**	*e*P	**P**	**17 31 31.7**	**+1.1**
	comp=Z,9.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**83.17**	**337**	*e*P	**P**	**17 31 31.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**83.17**	**337**	*e*P	**P**	**17 31 31.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**83.17**	**337**	*e*P	**P**	**17 31 31.9**	**+0.4**
RJF	**Les Rejaudoux**	**83.89**	**340**	*e*P	**P**	**17 31 35.0**	**-0.1**
RJF	**Les Rejaudoux**	**83.89**	**340**	*e*P	**P**	**17 31 35.0**	**-0.1**
RJF	**Les Rejaudoux**	**83.89**	**340**	*e*P	**P**	**17 31 35.0**	**-0.1**
CAF	**Calviac**	**84.12**	**339**	*e*P	**P**	**17 31 36.8**	**+0.5**
	comp=Z,5.1nm,0.7s						
CAF	**Calviac**	**84.12**	**339**	*e*P	**P**	**17 31 36.8**	**+0.5**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CAF	**Calviac**	**84.12**	**339**	*e*P	**P**	**17 31 36.8**	**+0.5**
	comp=Z,5.1nm,0.7s						
LFF	**La Frestale**	**84.42**	**340**	*e*P	**P**	**17 31 39.1**	**+1.4**
	comp=Z,9.3nm,0.6s						
LFF	**La Frestale**	**84.42**	**340**	*e*P	**P**	**17 31 39.1**	**+1.4**
LFF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LFF	**La Frestale**	**84.42**	**340**	*e*P	**P**	**17 31 39.1**	**+1.4**
	comp=Z,9.3nm,0.6s						

*ISCJB **01** 17:25:52.1±0.5, 24°62N±0°03×122°08E±0°02, h71km±4km, Error ellipse: s-maj=4.9km s-min=2.9km az=162.3*
*TAP **01** 17:25:52.3, 24°62N×122°06E, h69km, ML4.1, D*
*JMA **01** 17:25:52.7±0.2, 24°72N×122°13E, h70km, M3.0*
ISC 01 17:25:52.6±1.3**, 24°61N**±0°04×**122°07E**±0°03**, h70**km±7km**,**
n51, σ0s68/93**, 8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.20**	**270**	*i* P	**Pn**	**17 26 03.0**	**-0.1**
	baz=267						
TWC				S	**Sn**	**17 26 10.8**	**-0.1**
	baz=267						
ILA	**Ilan**	**0.33**	**298**	*e*P	**Pn**	**17 26 04.4**	**+0.5**
	baz=298						
ILA				*e*S	**Sn**	**17 26 12.8**	**+0.6**
	baz=298						
ENA	**Nanau**	**0.35**	**239**	⇓*i*P	**Pn**	**17 26 03.9**	**-0.2**
	baz=236						
ENA				S	**Sn**	**17 26 12.7**	**+0.2**
	baz=236						
TWE	**Neicheng**	**0.38**	**287**	*i* P	**Pn**	**17 26 04.7**	**+0.4**
	baz=286						
TWE				*e*S	**Sn**	**17 26 13.4**	**+0.4**
	baz=286						
TWB1	**Santiao Chiao**	**0.40**	**350**	⇓*i*P	**Pn**	**17 26 04.4**	**-0.1**
	baz=351						
TWB1				S	**Sn**	**17 26 12.8**	**-0.5**
	baz=351						
ENTT	**Nioudou**	**0.46**	**274**	⇓*i*P	**Pn**	**17 26 05.3**	**+0.3**
	baz=272						
ENTT				*e*S	**Sn**	**17 26 14.6**	**+0.5**
	baz=272						
NWF	**Wu-fen Shan**	**0.53**	**331**	⇓*i*P	**Pn**	**17 26 05.8**	**0.0**
	baz=330						
NWF				S	**Sn**	**17 26 15.2**	**-0.3**
	baz=330						
NSK	**Sanguang**	**0.65**	**276**	⇓*i*P	**Pn**	**17 26 06.9**	**0.0**
	baz=275						
NSK				S	**Sn**	**17 26 17.4**	**-0.2**
	baz=275						
NNS	**Nan Shan**	**0.65**	**255**	⇓*i*P	**Pn**	**17 26 06.9**	**-0.2**
	baz=254						
NNS				S	**Sn**	**17 26 17.8**	**0.0**
	baz=254						
TAP1	**Taipei**	**0.65**	**311**	*e*P	**Pn**	**17 26 07.0**	**0.0**
	baz=310						
TAP1				*e*S	**Sn**	**17 26 17.4**	**-0.1**
	baz=310						
TAP	**Taipei**	**0.67**	**310**	*e*P	**Pn**	**17 26 07.0**	**-0.1**
	baz=310						
TAP				*e*S	**Sn**	**17 26 17.6**	**-0.2**
	baz=310						
TWD	**Chiawan**	**0.68**	**219**	P	**Pn**	**17 26 06.6**	**-0.7**
	baz=217						
TWD				*e*S	**Sn**	**17 26 17.4**	**-0.7**
	baz=217						
HWA	**Hwalien**	**0.76**	**214**	*e*P	**Pn**	**17 26 07.7**	**-0.5**
	baz=212						
HWA				*e*S	**Sn**	**17 26 21.1**	**+1.5**
	baz=212						
TWS1	**Kuangyinshan**	**0.77**	**310**	P	**Pn**	**17 26 08.5**	**+0.3**
	baz=309						
TWS1				*e*S	**Sn**	**17 26 20.4**	**+0.6**
	baz=309						
TWY	**Chenhua**	**0.79**	**328**	*e*P	**Pn**	**17 26 08.3**	**-0.2**
	baz=327						
TWY				*e*S	**Sn**	**17 26 20.2**	**0.0**
	baz=327						
WHF	**Hehuan Shan**	**0.86**	**238**	⇓*i*P	**Pn**	**17 26 09.3**	**-0.5**
	baz=236						
WHF				S	**Sn**	**17 26 22.0**	**-0.6**
	baz=236						
YOJ	**Yonaguni jima**	**0.87**	**99**	P	**Pn**	**17 26 09.4**	**-0.1**
YOJ				S	**Sn**	**17 26 21.6**	**-0.4**
NCU	**National Centr**	**0.88**	**294**	*e*P	**Pn**	**17 26 09.8**	**+0.3**
	baz=294						
NCU				*e*S	**Sn**	**17 26 22.8**	**+0.7**
	baz=294						
TWT	**Tachien**	**0.89**	**247**	P	**Pn**	**17 26 10.1**	**+0.2**
	baz=245						
TWT				S	**Sn**	**17 26 22.5**	**-0.2**
	baz=245						
NSTT	**Nanjuang**	**0.97**	**271**	*e*P	**Pn**	**17 26 10.5**	**-0.2**
	baz=270						
NSTT				*e*S	**Sn**	**17 26 23.9**	**-0.2**
	baz=270						
ESL	**Shilin**	**0.98**	**216**	*e*P	**Pn**	**17 26 09.4**	**-1.4**
	baz=215						
HSN	**Hsinchu**	**1.02**	**281**	*e*P	**Pn**	**17 26 10.9**	**-0.3**
	baz=282						
HSN				*e*S	**Sn**	**17 26 24.9**	**-0.3**
	baz=282						
NSY	**Sanyi**	**1.20**	**261**	*e*P	**Pn**	**17 26 13.8**	**+0.1**
	baz=260						
NSY				*e*S	**Sn**	**17 26 29.8**	**+0.3**
	baz=260						
TWQ1	**Liyutan**	**1.21**	**258**	*e*P	**Pn**	**17 26 13.8**	**+0.1**
	baz=257						
TWQ1				*e*S	**Sn**	**17 26 29.4**	**-0.1**
	baz=257						
SMLT	**Sun Moon Lake**	**1.29**	**236**	*e*P	**Pn**	**17 26 15.3**	**+0.4**
	baz=235						
SMLT				S	**Sn**	**17 26 31.4**	**-0.1**
	baz=235						
EHY	**Hungye**	**1.29**	**212**	*e*P	**Pn**	**17 26 13.6**	**-1.2**
	baz=211						
TYC	**Yuchr**	**1.31**	**238**	*e*P	**Pn**	**17 26 15.4**	**+0.4**
	baz=236						
TYC				*e*S	**Sn**	**17 26 32.3**	**+0.5**
	baz=236						
TWF1	**Yuli**	**1.44**	**210**	*e*P	**Pn**	**17 26 15.5**	**-1.2**
	baz=208						
WNT	**Mingjian**	**1.46**	**240**	*e*P	**Pn**	**17 26 17.3**	**+0.4**
	baz=239						
WNT				*e*S	**Sn**	**17 26 36.1**	**+0.8**
	baz=239						
YUS	**Yu-Shan**	**1.51**	**223**	*e*P	**Pn**	**17 26 18.2**	**+0.1**
	baz=221						
YUS				*e*S	**Sn**	**17 26 36.6**	**-0.7**
	baz=221						
IRIF	**Iriomote-Funau**	**1.54**	**100**	P	**Pn**	**17 26 17.8**	**-0.2**
IRIF				S	**Sn**	**17 26 36.8**	**-0.5**
ALS	**Alishan**	**1.59**	**227**	*e*P	**Pn**	**17 26 19.7**	**+0.7**
	baz=225						
ALS				*e*S	**Sn**	**17 26 39.5**	**+0.5**
	baz=225						
CHKT	**Chengkung**	**1.63**	**203**	*e*P	**Pn**	**17 26 18.9**	**-0.4**
	baz=202						
WGK	**Gukeng**	**1.65**	**237**	*e*P	**Pn**	**17 26 20.0**	**+0.5**
	baz=235						
WGK				*e*S	**Sn**	**17 26 40.6**	**+0.6**
	baz=235						
HATJ	**Hateruma jima**	**1.68**	**109**	P	**Pn**	**17 26 20.3**	**+0.4**
HATJ				S	**Sn**	**17 26 41.4**	**+0.8**
ELDTW	**Lidau**	**1.71**	**214**	*e*P	**Pn**	**17 26 19.7**	**-0.8**
	baz=213						
CHN2	**Minshiung**	**1.81**	**234**	*e*S	**Sn**	**17 26 44.4**	**+0.8**
	baz=233						
JKRS	**Kuro-shima**	**1.81**	**101**	P	**Pn**	**17 26 21.9**	**+0.3**
JKRS				S	**Sn**	**17 26 43.8**	**+0.1**
CHN4	**Tsaushan**	**1.84**	**227**	*e*P	**Pn**	**17 26 23.1**	**+1.0**
	baz=226						
CHN4				*e*S	**Sn**	**17 26 44.9**	**+0.4**
	baz=226						
CHY	**Chiayi**	**1.86**	**234**	*e*P	**Pn**	**17 26 22.9**	**+0.6**
	baz=233						
CHY				*e*S	**Sn**	**17 26 45.2**	**+0.2**
	baz=233						
WTP	**Ta-pu**	**1.90**	**225**	*e*P	**Pn**	**17 26 23.6**	**+0.7**
	baz=223						
WTP				*e*S	**Sn**	**17 26 47.2**	**+1.2**
	baz=223						
JIJ	**Ishigaki jima**	**1.91**	**97**	P	**Pn**	**17 26 22.7**	**-0.3**
JIJ				S	**Sn**	**17 26 45.2**	**-0.9**
WSF	**Szhu**	**1.94**	**241**	*e*S	**Sn**	**17 26 46.7**	**-0.2**
	baz=239						
TWK	**Hsinying**	**1.97**	**228**	*e*P	**Pn**	**17 26 24.6**	**+0.7**
	baz=226						
TWK				*e*S	**Sn**	**17 26 48.3**	**+0.6**
	baz=226						
CHN1	**Nanshi**	**2.00**	**225**	*e*P	**Pn**	**17 26 24.8**	**+0.6**
	baz=224						
CHN1				*e*S	**Sn**	**17 26 49.3**	**+1.0**
	baz=224						
TWG	**Pinlang**	**2.00**	**207**	*e*P	**Pn**	**17 26 23.9**	**-0.3**
	baz=206						
TWG				*e*S	**Sn**	**17 26 48.6**	**+0.3**
	baz=206						
SGST	**Jiashian**	**2.04**	**222**	*e*P	**Pn**	**17 26 25.2**	**+0.4**
	baz=221						
SGST				*e*S	**Sn**	**17 26 50.0**	**+0.8**
	baz=221						
CHN8	**Yiju**	**2.11**	**234**	*e*S	**Sn**	**17 26 51.3**	**+0.3**
	baz=233						
ECL	**Taimali**	**2.25**	**207**	*e*P	**Pn**	**17 26 25.9**	**-1.7**
	baz=206						
JTJ	**Tarama**	**2.40**	**89**	P	**Pn**	**17 26 30.4**	**+0.8**
JTJ				*e*S	**Sn**	**17 26 58.5**	**+0.5**
QZH	**Quanzhou**	**3.17**	**277**	⇓*i*Pn	**Pn**	**17 26 40.0**	**-0.1**
QZH				Sn	**Sn**	**17 27 13.5**	**-3.4**
QZH				smax	smax		
	comp=N,80nm,0.4s						
QZH				smax	smax		
	comp=E,60nm,0.6s						

IDC 01 17:37:19.2±0.9**, 86°40N**×**35°62E, h0**km**, mb3.5**/7**, mb1 3.8**/10**, mb1mx3.5**/30**, mbtmp3.6**/10**, ML3.8**/3**, MS3.3**/11**, Ms1 3.3**/11**, ms1mx3.0**/34**, Error ellipse: s-maj=30.9km s-min=15.5km az=72.0, North of Franz Josef Land**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**8.56**	**207**	Pn	Pn	17 39 21.4	-2.7
	baz=24,slow=12,SNR=44						
SPITS				Sn	Sn	17 40 52.0	-9.2
	baz=44,slow=23,SNR=3.3						
ARCES	**ARCESS Array B**	**17.04**	**192**	Pn	Pn	17 41 17.4	-1.0
	0.3nm,0.3s,baz=353,slow=9.6,SNR=7.7						
ARCES				Sn	Sn	17 44 12.5	-16
	0.1nm,0.3s,baz=20,slow=19,SNR=2.9						
ARCES				LR	LR	17 48 00.7	
	comp=Z,55nm,19.1s,baz=4.9,slow=38						
RES	**Resolute Bay**	**17.97**	**319**	P	P	17 41 30.2	-0.3
	0.4nm,0.3s,baz=24,slow=15,SNR=10						
RES				LR	LR	17 47 36.5	
	comp=Z,72nm,20.4s,baz=58,slow=34						
INK	**Inuvik**	**25.39**	**351**	P	P	17 42 48.9	+1.4
	1.2nm,0.9s,baz=17,slow=15,SNR=3.5						
FRB	**Frobisher Bay**	**27.50**	**291**	LR	LR	17 52 59.4	
	comp=Z,48nm,19.1s,baz=339,slow=34						
ILAR	**Eielson Array**	**29.00**	**2**	P	P	17 43 18.6	-1.4
	0.8nm,1.0s,baz=350,slow=8.5,SNR=8.1						
ILAR				LR	LR	17 54 15.6	
	comp=Z,25nm,19.7s,baz=298,slow=35						
YKA	**Yellowknife Ar**	**30.86**	**333**	P	P	17 43 36.0	-0.3
	0.1nm,0.5s,baz=1.7,slow=8.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**33.96**	**127**	P	P	17 44 04.1	+0.4
	0.6nm,0.7s,baz=335,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**40.98**	**130**	P	P	17 45 02.4	-0.8
	0.8nm,0.8s,baz=0.0,slow=6.1,SNR=9.0						
MKAR				LR	LR	18 03 17.3	
	comp=Z,36nm,20.4s,baz=122,slow=38						
SONM	**Songino Array**	**41.28**	**105**	LR	LR	18 04 55.3	
	comp=Z,42nm,18.6s,baz=311,slow=40						
ULM	**Lac du Bonnet**	**42.41**	**315**	LR	LR	18 02 27.2	
	comp=Z,64nm,18.2s,baz=49,slow=36						
KBZ	**Khabaz**	**42.87**	**172**	LR	LR	18 04 55.8	
	comp=Z,52nm,18.4s,baz=172,slow=39						
BRTR	**Keskin Array B**	**46.84**	**182**	P	P	17 45 51.7	+1.2
	0.8nm,0.9s,baz=38,slow=6.3,SNR=4.4						
PDAR	**Pinedale Array**	**50.43**	**327**	LR	LR	18 08 05.5	
	comp=Z,71nm,19.5s,baz=193,slow=37						
KEST	**Kesra**	**51.22**	**208**	LR	LR	18 08 25.2	
	comp=Z,17nm,18.7s,baz=247,slow=36						
TXAR	**Lajitas Array**	**63.60**	**321**	P	P	17 47 51.6	+0.2
	0.3nm,0.7s,baz=36,slow=4.7,SNR=3.7						
TXAR				LR	LR	18 17 59.1	
	comp=Z,37nm,18.6s,baz=0.0,slow=38						

*ISCJB **01** 17:48:18.5±0.5, 37°83N±0°03×29°09E±0°05, h8km±5km, Error ellipse: s-maj=6.1km s-min=4.2km az=12.8*
*ISK **01** 17:48:18.5, 37°85N×29°10E, h6km, MD2.7*
*DDA **01** 17:48:18.1, 37°84N×29°10E, h7km, MD2.9*
*CSEM **01** 17:48:18.7±0.1, 37°84N×29°10E, h5km, MD2.7, Error ellipse: s-maj=3.9km s-min=2.8km az=107.0*
ISC 01 17:48:18.3±0.9**, 37°83N**±0°03×**29°10E**±0°03**, h10**km±8km**,**
n22, σ0s39/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.10**	**215**	*e*PG	**Pg**	**17 48 21.0**	**+0.1**
DENT	**Denizli**	**0.10**	**215**	*e*Pg	**Pg**	**17 48 21.0**	**+0.1**
DNZL	**Cakiroluk**	**0.15**	**197**	*i* P	**Pg**	**17 48 21.9**	**+0.1**
DNZL				*i* S	**Sg**	**17 48 24.0**	**-0.2**
DNZL	**Cakiroluk**	**0.15**	**197**	*i* P	**Pg**	**17 48 21.9**	**+0.1**
DNZL				*i* S	**Sg**	**17 48 24.0**	**-0.2**
KHL	**Karahalli**	**0.59**	**34**	*e*PG	**Pb**	**17 48 30.8**	**-0.1**
KHL				*e*SG	**Sb**	**17 48 38.6**	**-0.8**
KHL	**Karahalli**	**0.59**	**34**	*e*Pg	**Pb**	**17 48 30.8**	**-0.1**
KHL				*e*Sg	**Sb**	**17 48 38.6**	**-0.8**
KHAL	**Karahalli**	**0.62**	**30**	*i* P	**Pg**	**17 48 30.4**	**+0.1**
KHAL				*i* S	**Sb**	**17 48 39.4**	**-0.7**
KHAL	**Karahalli**	**0.62**	**30**	*i* P	**Pg**	**17 48 30.4**	**+0.1**
KHAL				*i* S	**Sb**	**17 48 39.4**	**-0.7**
GOLH	**Golhisar**	**0.70**	**148**	*i* P	**Pg**	**17 48 31.8**	**0.0**
GOLH				*i* S	**Sb**	**17 48 42.3**	**-0.1**
GOLH	**Golhisar**	**0.70**	**148**	*i* P	**Pg**	**17 48 31.8**	**0.0**
GOLH				*i* S	**Sb**	**17 48 42.3**	**-0.1**
KULA	**Kula-Manisa**	**0.76**	**333**	*e*PG	**Pg**	**17 48 33.2**	**+0.1**
KULA				*e*SG	**Sb**	**17 48 44.2**	**-0.1**
KULA	**Kula-Manisa**	**0.76**	**333**	*e*Pg	**Pg**	**17 48 33.2**	**+0.1**
KULA				*e*Sg	**Sb**	**17 48 44.2**	**-0.1**
MANT	**Manisa**	**0.79**	**327**	*i* P	**Pg**	**17 48 33.6**	**+0.1**
MANT				*i* S	**Sb**	**17 48 45.1**	**+0.1**
MANT	**Manisa**	**0.79**	**327**	*i* P	**Pg**	**17 48 33.6**	**+0.1**
MANT				*i* S	**Sb**	**17 48 45.1**	**+0.1**
YER	**Yerkesik**	**0.95**	**223**	*e*PG	**Pn**	**17 48 38.3**	**+0.4**
YER	**Yerkesik**	**0.95**	**223**	*e*Pg	**Pn**	**17 48 38.3**	**+0.4**
AYDN	**Tasoluk**	**0.99**	**260**	*i* P	**Pg**	**17 48 37.2**	**-0.1**
AYDN				*i* S	**Sg**	**17 48 49.4**	**-0.7**
AYDN	**Tasoluk**	**0.99**	**260**	*i* P	**Pg**	**17 48 37.2**	**-0.1**
AYDN				*i* S	**Sg**	**17 48 49.4**	**-0.7**
ALT	**Altintas**	**1.45**	**33**	*e*PN	**Pb**	**17 48 45.9**	**+0.3**
ALT	**Altintas**	**1.45**	**33**	*e*Pn	**Pb**	**17 48 45.9**	**+0.3**
TVSB	**Tavsanli**	**1.64**	**10**	*e*PN	**Pn**	**17 48 48.0**	**+0.6**
TVSB	**Tavsanli**	**1.64**	**10**	*e*Pn	**Pn**	**17 48 48.0**	**+0.6**

MEX 01 18:04:57.6±0.5**, 15°44N**×**94°77W, h19**km±45km**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.33**	**284**	*e*P	Pn	18 05 18.4	-2.8
HUIG				*e*S	Sn	18 05 33.4	-5.1
PCIG		**1.52**	**80**	*e*P	Pn	18 05 20.6	-3.2
PCIG				*i* S	Sn	18 05 37.9	-5.1
CMIG	**Matias Romero**	**1.65**	**356**	*e*P	Pn	18 05 22.5	-3.0
CMIG				*e*S	Sn	18 05 41.4	-4.8
TGIG		**2.07**	**50**	*e*P	Pn	18 05 29.6	-1.9
TGIG				*e*S	Sn	18 05 53.1	-3.7
VHO	**Vista Hermosa**	**2.49**	**311**	*e*P	Pn	18 05 35.3	-2.2
VHO				*e*S	Sn	18 06 04.0	-3.5
CCIG	**Comitan**	**2.67**	**71**	*i* P	Pn	18 05 37.4	-2.4
CCIG				*e*S	Sn	18 06 08.7	-3.2
PNIG	**Pinotepa**	**3.37**	**287**	*i* P	Pn	18 05 47.8	-1.5
PNIG				*i* S	Sn	18 06 24.6	-4.3

IDC 01 18:10:30.3±2.4**, 2°04S**×**133°35E, h0**km**, mb3.2**/2**, mb1 3.6**/4**, mb1mx3.4**/20**, mbtmp3.4**/4**, ML3.5**/2**, Error ellipse: s-maj=93.0km s-min=25.7km az=79.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.67**	**205**	P	Pn	18 14 38.3	+0.4
	0.2nm,0.3s,baz=37,slow=12,SNR=6.1						
WRA	**Warramunga Arr**	**17.82**	**177**	P	Pn	18 14 39.9	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=9.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**21.51**	**179**	P	P	18 15 20.9	-0.1
	0.6nm,0.7s,baz=5.3,slow=11,SNR=12						
MKAR	**Makanchi Array**	**66.05**	**324**	P	P	18 21 19.1	0.0
	0.3nm,0.6s,baz=123,slow=5.3,SNR=7.9						

IDC 01 18:21:04.1±1.9**,3°.72N**×**126°.57E,h0**km**,mb3.4**/4**, mb1 3.5**/4**,mb1mx3.3**/22**,mbtmp3.4**/4**,MS3.6**/1**,Ms1 3.6**/1**, ms1mx2.3**/16**,Error ellipse: s-maj=149.4km s-min=26.0km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**162**	P	P	18 26 27.0	-0.3
	2.0nm,1.0s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.14**	**166**	P	P	18 26 58.2	+0.1
	0.2nm,0.7s,baz=347,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**38.17**	**159**	P	P	18 28 25.7	+0.2
	0.8nm,0.8s,baz=324,slow=8.7,SNR=3.1						
DZM	**Mont Dzumac**	**46.66**	**125**	LR	LR	18 47 19.7	
	comp=Z,56nm,18.2s,baz=92,slow=34						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	18 30 54.9	-0.1
	0.1nm,0.5s,baz=125,slow=8.1,SNR=4.6						

MEX 01 18:34:36.3±0.6**,16°.22N**×**98°.90W,h13**km±9km**,MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.76**	**77**	*e*P	Pg	18 34 48.7	-2.4
PNIG				*i* S	Sg	18 34 59.0	-2.2
CAIG	**El Cayaco**	**1.55**	**302**	*i* P	Pn	18 35 00.8	-2.9
CAIG				*i* S	Sn	18 35 18.9	-4.7
MEIG	**Mezcala**	**1.83**	**338**	*e*P	Pn	18 35 03.5	-4.1
MEIG				*i* S	Sn	18 35 25.5	-5.3
UTMO	**Huajuapan**	**1.92**	**33**	*e*P	Pn	18 35 06.0	-2.9
UTMO				*i* S	Sn	18 35 28.7	-4.4
PLIG	**Platanillo**	**2.24**	**345**	*i* P	Pn	18 35 09.9	-3.3
PLIG				*i* S	Sn	18 35 36.9	-4.0
VHO	**Vista Hermosa**	**2.24**	**67**	*i* P	Pn	18 35 10.9	-2.6
VHO				*i* S	Sn	18 35 36.5	-4.7
ARIG	**Puente Sto Nin**	**2.47**	**326**	*i* P	Pn	18 35 14.2	-2.2
ARIG				*i* S	Sn	18 35 41.8	-4.7
YAIG	**Yautepec**	**2.63**	**357**	*i* P	Pn	18 35 16.4	-2.3
YAIG				*i* S	Sn	18 35 46.4	-4.4
PPM	**Popocatepetl**	**2.84**	**5**	*i* P	Pn	18 35 19.2	-2.9
PPM				*i* S	Sn	18 35 53.0	-3.7

CSEM ***01*** *18:43:22.4,39°.09N×29°.02E,h7km,MD2.8,After DDA*
DDA 01 18:43:22.4,39°.09N×**29°.02E,h7**km**,MD2.8,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**259**	*i* P	Pg	18 43 28.0	+0.7
DEMI				*i* S	Sg	18 43 31.2	+0.6
DEMI	**Demirci**	**0.24**	**259**	*i* P	Pg	18 43 28.0	+0.7
DEMI				*i* S	Sg	18 43 31.2	+0.6
GDZ	**Gediz**	**0.36**	**90**	*i* P	Pg	18 43 30.0	+0.3
GDZ				*i* S	Sg	18 43 35.1	+0.4
GDZ	**Gediz**	**0.36**	**90**	*i* P	Pg	18 43 30.0	+0.3
GDZ				*i* S	Sg	18 43 35.1	+0.4
DURS	**Dursunbey**	**0.66**	**321**	*i* P	Pg	18 43 35.6	+0.3
DURS				*i* S	Sg	18 43 44.6	+0.5
DURS	**Dursunbey**	**0.66**	**321**	*i* P	Pg	18 43 35.6	+0.2
DURS				*i* S	Sg	18 43 44.6	+0.5
MANT	**Manisa**	**0.70**	**211**	*i* P	Pg	18 43 36.5	+0.3
MANT				*i* S	Sg	18 43 45.5	0.0
MANT	**Manisa**	**0.70**	**211**	*i* P	Pg	18 43 36.5	+0.3
MANT				*i* S	Sg	18 43 45.5	0.0
KHAL	**Karahalli**	**0.81**	**152**	*i* P	Pb	18 43 39.3	+0.3
KHAL				*i* S	Sg	18 43 49.5	+0.7
KHAL	**Karahalli**	**0.81**	**152**	*i* P	Pb	18 43 39.3	+0.3
KHAL				*i* S	Sg	18 43 49.5	+0.7
BORA	**Eskisehir**	**1.36**	**54**	*i* P	Pn	18 43 48.1	+0.1
BORA				*i* S	Sb	18 44 06.2	0.0
BORA	**Eskisehir**	**1.36**	**54**	*i* P	Pn	18 43 48.1	+0.1
BORA				*i* S	Sb	18 44 06.2	0.0

ISCJB ***01*** *18:59:08.0±0.5,11°.01S±0°.06×161°.31E±0°.07,h28km, mb4.1/17,MS4.0/4,Error ellipse: s-maj=10.1km s-min=7.8km az=146.2*
NEIC ***01*** *18:59:10.8±1.2,10°.90S×161°.30E,h37km±12km,mb4.6/6, Error ellipse: s-maj=10.7km s-min=9.8km az=174.0*
IDC ***01*** *18:59:12.5±5.5,11°.04S×161°.35E,h51km±54km,mb3.8/13, mb1 4.0/15,mb1mx3.9/22,mbtmp3.8/15,ML3.9/2,MS3.9/6, Ms1 3.9/6,ms1mx3.5/32,Error ellipse: s-maj=31.6km s-min=20.0km az=155.0*
ISC 01 18:59:09.5±0.5**,10°.99S**±0°.07×**161°.36E**±0°.09**,h28**km**,n38,** σ**1s.25**/40**,mb4.1**/17**,MS4.0**/4**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**318**	*e*Pn	**Pn**	**18 59 41.5**	**-0.9**
HNR				*e*Sn	**Sn**	**19 00 07.6**	**+0.1**
DZM	**Mont Dzumac**	**12.05**	**157**	P	**Pn**	**19 02 01.8**	**+2.3**
	0.2nm,0.3s,baz=4.5,slow=12,SNR=6.3						
DZM				S	**Sn**	**19 04 10.5**	**-2.6**
	0.1nm,0.3s,baz=127,slow=20,SNR=2.4						
DZM				LR	LR	19 05 06.8	
	comp=Z,141nm,21.1s,baz=3.5,slow=30						
DZM	**Mont Dzumac**	**12.05**	**157**	P	**Pn**	**19 02 01.8**	**+2.3**
DZM				S	**Sn**	**19 04 10.5**	**-2.6**
CTA	**Charters Tower**	**17.12**	**236**	P	**P**	**19 03 08.9**	**+0.5**
	0.6nm,0.3s,baz=70,slow=14,SNR=8.9						
CTA				LR	LR	19 09 02.7	
	comp=Z,326nm,19.1s,baz=56,slow=34						
CTA	**Charters Tower**	**17.12**	**236**	P	**P**	**19 03 08.9**	**+0.5**
MSVF	**Nonsavu**	**17.50**	**114**	*e*Pn	**P**	**19 03 12.7**	**0.0**
	94nm,1.8s						
COEN	**Coen**	**18.00**	**259**	*e*P	**Pn**	**19 03 17.1**	**-0.7**
	36nm,0.7s						
AFI	**Afiamalu**	**26.39**	**99**	LR	LR	19 13 39.9	
	comp=Z,338nm,18.4s,baz=166,slow=33						
WRAB	**Tennant Creek**	**27.47**	**248**	*e*P	**P**	**19 04 51.6**	**-1.9**
	16nm,1.3s						
WRA	**Warramunga Arr**	**27.48**	**248**	P	**P**	**19 04 53.8**	**+0.2**
	2.6nm,0.6s,baz=75,slow=9.8,SNR=24						
WRA				LR	LR	19 15 02.0	
	comp=Z,411nm,21.7s,baz=70,slow=35						
WRA	**Warramunga Arr**	**27.48**	**248**	P	**P**	**19 04 53.8**	**+0.2**
STKA	**Stephens Creek**	**27.66**	**218**	P	**P**	**19 04 55.9**	**+0.8**
	1.4nm,0.7s,baz=49,slow=12,SNR=3.4						
STKA				LR	LR	19 15 00.8	
	comp=Z,544nm,19.9s,baz=28,slow=34						
STKA	**Stephens Creek**	**27.66**	**218**	P	**P**	**19 04 55.9**	**+0.8**
STKA				*e*P	pP	19 04 56.7	-6.6
AS31	**Alice Springs**	**29.01**	**241**	*e*P	**P**	**19 05 07.1**	**-0.2**
ASAR	**Alice Springs**	**29.02**	**241**	P	**P**	**19 05 06.7**	**-0.6**
	0.6nm,0.5s,baz=66,slow=9.4,SNR=15						
ASAR				LR	LR	19 16 33.5	
	comp=Z,380nm,18.9s,baz=60,slow=36						
ASAR	**Alice Springs**	**29.02**	**241**	P	**P**	**19 05 06.7**	**-0.6**
BBOO	**Buckleboo**	**31.82**	**223**	*e*P	**P**	**19 05 31.6**	**-0.4**
	34nm,0.6s						
FITZ	**Fitzroy Crossi**	**35.24**	**254**	P	**P**	**19 06 01.8**	**-0.1**
	1.7nm,0.6s,baz=105,slow=5.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**35.24**	**254**	P	**P**	**19 06 01.8**	**-0.1**
MJAR	**Matsushiro Arr**	**52.06**	**336**	P	**P**	**19 08 16.2**	**-0.7**
	1.6nm,0.7s,baz=166,slow=9.1,SNR=6.4						
MJAR	**Matsushiro Arr**	**52.06**	**336**	P	**P**	**19 08 16.2**	**-0.7**
USRK	**Ussuriysk Arra**	**61.05**	**336**	P	**P**	**19 09 22.8**	**+2.1**
	2.4nm,0.7s,baz=136,slow=5.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**68.16**	**295**	P	**P**	**19 10 09.4**	**+1.7**
	0.8nm,0.7s,baz=127,slow=5.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**68.16**	**295**	P	**P**	**19 10 09.4**	**+1.7**
ULN	**Ulaanbaatar**	**75.77**	**326**	*e*P	**P**	**19 10 51.7**	**-1.3**
	2.2nm,0.7s						
SONM	**Songino Array**	**76.12**	**325**	P	**P**	**19 10 55.5**	**+0.6**
	2.1nm,0.6s,baz=141,slow=5.5,SNR=25						
SONM	**Songino Array**	**76.12**	**325**	P	**P**	**19 10 55.5**	**+0.6**
YAK	**Yakutsk**	**76.88**	**345**	*e*P	**P**	**19 10 56.4**	**-2.2**
	6.1nm,0.6s						
ILAR	**Eielson Array**	**84.87**	**20**	P	**P**	**19 11 41.1**	**-0.2**
	0.6nm,0.7s,baz=232,slow=5.9,SNR=15						
ILAR	**Eielson Array**	**84.87**	**20**	P	**P**	**19 11 41.1**	**-0.2**
NVAR	**Mina Array Bea**	**89.30**	**51**	P	**P**	**19 12 05.4**	**+1.7**
	0.3nm,0.3s,baz=240,slow=10.0,SNR=3.4						
NVAR	**Mina Array Bea**	**89.30**	**51**	P	**P**	**19 12 05.4**	**+1.7**
MKAR	**Makanchi Array**	**90.55**	**318**	P	**P**	**19 12 08.8**	**-0.3**
	0.4nm,0.6s,baz=91,slow=6.1,SNR=9.8						
MKAR	**Makanchi Array**	**90.55**	**318**	P	**P**	**19 12 08.8**	**-0.3**
PDAR	**Pinedale Array**	**96.69**	**48**	P	**P**	**19 12 36.9**	**-0.8**
	0.5nm,0.9s,baz=112,slow=1.0,SNR=2.6						
PDAR	**Pinedale Array**	**96.69**	**48**	P	**P**	**19 12 36.9**	**-0.8**
YKA	**Yellowknife Ar**	**96.91**	**28**	P	**P**	**19 12 37.4**	**-0.4**
	0.4nm,0.7s,baz=261,slow=4.6,SNR=7.9						
YKA	**Yellowknife Ar**	**96.91**	**28**	P	**P**	**19 12 37.5**	**-0.4**

ISCJB ***01*** *19:03:33.9±0.7,37°.84N±0°.03×29°.08E±0°.07,h0km±8km, Error ellipse: s-maj=8.9km s-min=4.9km az=0.0*
ISK ***01*** *19:03:33.4,37°.86N×29°.06E,h2km,MD2.8*
DDA ***01*** *19:03:33.5,37°.83N×29°.08E,h8km,MD2.7*
CSEM ***01*** *19:03:33.9±0.1,37°.83N×29°.08E,h2km,MD2.8,Error ellipse: s-maj=4.0km s-min=2.9km az=89.0*
ISC 01 19:03:33.9±1.2**,37°.85N**±0°.03×**29°.06E**±0°.04**,h3**km±13km**, n24,**σ**0s.44**/34**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.10**	**192**	*e*PG	**Pg**	**19 03 36.0**	**+0.2**
DENT	**Denizli**	**0.10**	**192**	*e*Pg	**Pg**	**19 03 36.0**	**+0.2**
DNZL	**Cakiroluk**	**0.16**	**184**	*i* P	**Pg**	**19 03 36.8**	**-0.3**
DNZL				*i* S	**Sg**	**19 03 39.3**	**+0.1**
DNZL	**Cakiroluk**	**0.16**	**184**	*i* P	**Pg**	**19 03 36.8**	**-0.3**
DNZL				*i* S	**Sg**	**19 03 39.3**	**+0.1**
KHL	**Karahalli**	**0.60**	**38**	*e*PG	**Pg**	**19 03 45.8**	**+0.5**
KHL	**Karahalli**	**0.60**	**38**	*e*Pg	**Pg**	**19 03 45.8**	**+0.5**
KHAL	**Karahalli**	**0.62**	**33**	*e*P	**Pg**	**19 03 45.6**	**-0.2**
KHAL				*e*S	**Sb**	**19 03 55.7**	**-1.0**
KHAL	**Karahalli**	**0.62**	**33**	*e*P	**Pg**	**19 03 45.6**	**-0.2**
KHAL				*e*S	**Sb**	**19 03 55.7**	**-1.0**
KULA	**Kula-Manisa**	**0.73**	**335**	*e*PG	**Pg**	**19 03 48.4**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**335**	*e*Pg	**Pg**	**19 03 48.4**	**+0.4**
MANT	**Manisa**	**0.75**	**328**	*i* P	**Pb**	**19 03 49.2**	**-0.6**
MANT				*i* S	**Sb**	**19 04 00.2**	**-0.3**
MANT	**Manisa**	**0.75**	**328**	*i* P	**Pb**	**19 03 49.2**	**-0.6**
MANT				*i* S	**Sb**	**19 04 00.2**	**-0.3**
DEMI	**Demirci**	**1.22**	**347**	*e*P	**Pg**	**19 03 57.0**	**-0.3**
DEMI				*e*S	**Sb**	**19 04 14.6**	**+0.7**
DEMI	**Demirci**	**1.22**	**347**	*e*P	**Pg**	**19 03 57.0**	**-0.3**
DEMI				*e*S	**Sb**	**19 04 14.6**	**+0.7**
BCK	**Bucak**	**1.27**	**107**	*e*PN	**Pb**	**19 03 58.7**	**+0.1**
BCK	**Bucak**	**1.27**	**107**	*e*Pn	**Pb**	**19 03 58.7**	**+0.1**
GDZ	**Gediz**	**1.28**	**15**	*e*P	**Pg**	**19 03 58.3**	**-0.1**
GDZ				*e*S	**Sn**	**19 04 16.7**	**+0.1**
GDZ	**Gediz**	**1.28**	**15**	*e*P	**Pg**	**19 03 58.3**	**-0.1**
GDZ				*e*S	**Sn**	**19 04 16.7**	**+0.1**
SHUT	**Suhut-Afyon**	**1.37**	**59**	*e*PN	**Pn**	**19 04 00.2**	**+0.2**
SHUT	**Suhut-Afyon**	**1.37**	**59**	*e*Pn	**Pn**	**19 04 00.2**	**+0.2**
ALT	**Altintas**	**1.46**	**34**	*e*PN	**Pn**	**19 04 01.5**	**+0.3**
ALT	**Altintas**	**1.46**	**34**	*e*Pn	**Pn**	**19 04 01.5**	**+0.3**
TVSB	**Tavsanli**	**1.63**	**11**	*e*PN	**Pn**	**19 04 04.0**	**+0.4**
TVSB	**Tavsanli**	**1.63**	**11**	*e*Pn	**Pn**	**19 04 04.0**	**+0.4**

BJI ***01*** *19:11:46.8,35°.18S×178°.30W,h13km,mB5.7/10, mb5.5/13,Ms5.2/9,Ms7 4.8/10*
ISCJB ***01*** *19:11:52.0±2.1,35°.07S±0°.06×179°.04W±0°.09, h22km±14km,mb5.0/28,MS4.4/24,Error ellipse: s-maj=13.4km s-min=8.6km az=32.9*
NEIC ***01*** *19:11:54.8±0.5,35°.04S×178°.93W,mb5.0/8,Error ellipse: s-maj=14.8km s-min=8.6km az=121.0*
IDC ***01*** *19:11:57.6±0.5,34°.72S×179°.32W,h36km±2km,mb4.5/13, mb1 4.6/13,mb1mx4.4/20,mbtmp4.5/13,MS4.4/21, Ms1 4.4/21,ms1mx4.2/33,Error ellipse: s-maj=17.3km s-min=13.1km az=4.0*
GCMT ***01*** *19:11:59.0±0.3,34°.76S×178°.68W,h25km±1km,MW5.2, Moment Tensor Solution. s49,c68; s78,c127; Moment tensor: Scale 10^16Nm; Mrr4.13±.19; Mθθ-0.52±.13; Mφφ-3.61±.13; Mrθ1.30±.27; Mθφ-1.15±.10; Mφr5.33±.36; Best double couple: M0 6.80000×10^16 NP1:φs202.00000°, δ18.00000°,λ97.00000°. NP2:φs15.00000°,δ72.00000°, λ88.00000°. Principal axes: T 6.9000, Plg63.0000°, Azm281.0000°; N -0.1600, Plg2.0000°, Azm15.0000°; P -6.7500, Plg27.0000°, Azm106.0000°; Data Used: II IU IC G CN.*
ISC 01 19:11:56.4±0.4**,34°.93S**±0°.07×**179°.12W**±0°.07**,h35**km±4km**, h35**km**:pP-P,n156,**σ**1s.51**/205**,mb5.1**/28**,MS4.4**/24**,2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.50**	**221**	*e*Pn	**Pn**	**19 13 01.7**	**-0.3**
URZ				*e*Sn	**Sn**	**19 13 56.2**	**+3.2**
OUZ	**Omahuta**	**5.98**	**265**	*e*Pn	**Pn**	**19 13 24.1**	**+1.7**
OUZ				*e*Sn	**Sn**	**19 14 31.5**	**+1.8**
SNZO	**South Karori**	**8.01**	**216**	*e*Pn	**Pn**	**19 13 48.5**	**-1.7**
SNZO				*e*Sn	**Sn**	**19 15 17.5**	**-2.0**
KHZ	**Kahutara**	**9.42**	**215**	*e*Pn	**Pn**	**19 14 07.1**	**-2.4**
RPZ	**Rata Peaks**	**11.60**	**218**	*e*Pn	**Pn**	**19 14 37.5**	**-1.9**
ODZ	**Otahua Downs**	**12.78**	**215**	*e*Pn	**Pn**	**19 14 53.3**	**-2.1**
WHZ	**Wether Hill Ro**	**14.71**	**218**	*e*Pn	**Pn**	**19 15 18.7**	**-3.1**
MSVF	**Nonsavu**	**17.32**	**351**	*e*Pn	**Pn**	**19 15 53.6**	**-1.9**
	14nm,0.8s						
DZM	**Mont Dzumac**	**18.01**	**312**	*e*P	**P**	**19 16 05.4**	**+1.2**
	58nm,0.9s						
DZM				*e*LR	LR	19 20 27.1	
	4μm,25.1s						
DZM	**Mont Dzumac**	**18.01**	**312**	*e*LR	LR	19 16 01.1	
	429nm,28.2s						
DZM	**Mont Dzumac**	**18.01**	**312**	Pn	**P**	**19 16 06.6**	**+2.3**
	0.6nm,0.3s,baz=124,slow=12,SNR=20						
DZM				LR	LR	19 21 42.5	
	comp=Z,3μm,19.3s,baz=139,slow=33						
DZM	**Mont Dzumac**	**18.01**	**312**	*e*P	**Pn**	**19 16 04.1**	**0.0**
RAR	**Rarotonga**	**21.81**	**56**	LR	LR	19 23 42.4	
	comp=Z,463nm,19.6s,baz=188,slow=32						
AFI	**Afiamalu**	**21.96**	**19**	P	**P**	**19 16 45.4**	**-1.8**
	35nm,0.9s,baz=64,slow=24,SNR=4.2						
AFI	**Afiamalu**	**21.96**	**19**	P	**P**	**19 16 45.4**	**-1.8**
	2.7nm,1.1s						
ARMA	**Armidale**	**24.99**	**272**	*e*P	**P**	**19 17 18.5**	**+1.6**
	122nm,2.2s						
EIDS	**Eidsvold**	**27.39**	**282**	*e*P	**P**	**19 17 38.6**	**0.0**
	12nm,0.7s						
TBI	**Tubuai**	**28.25**	**74**	*e*LR	LR	19 24 39.3	
	790nm,29.2s,baz=234						
PPT2	**Papeete2**	**31.46**	**64**	*e*LR	LR	19 26 16.7	
	748nm,24.2s,baz=230						
PPT	**Papeete**	**31.47**	**64**	LR	LR	19 28 22.5	
	comp=Z,515nm,18.8s,baz=227,slow=31						
STKA	**Stephens Creek**	**32.80**	**264**	P	**P**	**19 18 27.8**	**+1.4**
	6.4nm,0.6s,baz=106,slow=10,SNR=26						
STKA				PcP	**PcP**	**19 21 11.5**	**+0.6**
	6.3nm,0.9s,baz=110,slow=1.5,SNR=4.2						
STKA				pPcP		19 21 22.1	
	5.2nm,0.9s,baz=285,slow=0.2,SNR=4.1						
STKA				LR	LR	19 31 04.4	
	comp=Z,1μm,19.1s,baz=49,slow=35						
STKA	**Stephens Creek**	**32.80**	**264**	*e*P	**P**	**19 18 25.4**	**-0.9**
	2.3nm,1.0s						
STKA				*e*pP	**pP**	**19 18 35.7**	**-0.8**
STKA				PcP	**PcP**	**19 21 11.5**	**+0.6**
STKA				pPcP		19 21 22.1	
CTA	**Charters Tower**	**33.89**	**287**	P	**P**	**19 18 37.6**	**+1.6**
	16nm,0.8s,baz=114,slow=9.2,SNR=10.0						
CTA				LR	LR	19 31 20.3	
	comp=Z,410nm,18.3s,baz=103,slow=34						
CTA	**Charters Tower**	**33.89**	**287**	P	**P**	**19 18 37.6**	**+1.6**
CTAO	**Charters Tower**	**33.89**	**287**	*e*P	**P**	**19 18 35.1**	**-0.9**
	33nm,0.9s						
CTAO				*e*pP	**pP**	**19 18 45.4**	**-0.8**
BBOO	**Buckleboo**	**37.05**	**260**	*e*P	**P**	**19 19 03.5**	**+0.5**
	424nm,1.1s						
COEN	**Coen**	**39.85**	**292**	*e*P	**P**	**19 19 25.8**	**-0.9**
	114nm,0.8s						
COEN				*e*pP	**pP**	**19 19 35.8**	**-1.2**
PMG	**Port Moresby**	**39.93**	**301**	P	**P**	**19 19 27.4**	**+0.1**
	12nm,0.8s,baz=132,slow=3.5,SNR=6.5						
PMG	**Port Moresby**	**39.93**	**301**	*e*P	**P**	**19 19 27.1**	**-0.3**
	55nm,1.4s						
PMG				*e*pP	**pP**	**19 19 37.5**	**-0.1**
RKT	**Rikitea**	**40.06**	**85**	*e*LR	LR	19 30 10.6	
	825nm,32.5s						
ASAR	**Alice Springs**	**42.14**	**272**	P	**P**	**19 19 45.8**	**+0.2**
	28nm,0.7s,baz=114,slow=7.4,SNR=242						
ASAR				pP	**pP**	**19 19 56.5**	**+0.5**
	20nm,0.8s,baz=114,slow=7.5,SNR=14						
ASAR				PcP	**PcP**	**19 21 39.8**	**+0.2**
	2.8nm,0.7s,baz=120,slow=3.8,SNR=4.3						
ASAR				ScP	**ScP**	**19 25 27.1**	**-0.4**
	1.8nm,0.9s,baz=120,slow=4.0,SNR=7.3						
ASAR				S	**S**	**19 26 01.1**	**-2.1**
	2.7nm,0.8s,baz=119,slow=16,SNR=14						
ASAR				LR	LR	19 38 13.4	
	comp=Z,1μm,18.6s,baz=117,slow=38						
ASAR	**Alice Springs**	**42.14**	**272**	P	**P**	**19 19 45.8**	**+0.2**
ASAR				pP	**pP**	**19 19 56.5**	**+0.5**
ASAR				PcP	**PcP**	**19 21 39.8**	**+0.2**
ASAR				ScP	**ScP**	**19 25 27.1**	**-0.4**
ASAR				S	**S**	**19 26 01.1**	**-2.1**
VNDA	**Vanda**	**43.50**	**186**	P	**P**	**19 19 57.4**	**+1.6**
	2.9nm,1.1s,baz=60,slow=8.1,SNR=2.3						
VNDA	**Vanda**	**43.50**	**186**	P	**P**	**19 19 57.4**	**+1.6**
WRAB	**Tennant Creek**	**43.53**	**278**	P	**P**	**19 19 56.5**	**-0.3**
	284nm,0.7s,SNR=19						
WRA	**Warramunga Arr**	**43.54**	**278**	P	**P**	**19 19 56.6**	**-0.2**
	29nm,0.7s,baz=120,slow=7.5,SNR=107						
WRA				pP	**pP**	**19 20 07.0**	**-0.2**
	17nm,0.6s,baz=120,slow=7.5,SNR=13						
WRA				S	**S**	**19 26 21.6**	**-2.0**
	2.2nm,1.0s,baz=119,slow=12,SNR=6.9						
WRA				LR	LR	19 38 44.9	
	comp=Z,976nm,18.5s,baz=120,slow=37						
WRA	**Warramunga Arr**	**43.54**	**278**	P	**P**	**19 19 56.6**	**-0.2**
WRA				pP	**pP**	**19 20 07.0**	**-0.2**
WRA				S	**S**	**19 26 21.6**	**-2.0**
NWAO	**Narrogin (SRO)**	**52.04**	**253**	P	**P**	**19 21 01.2**	**-1.4**
	6.7nm,0.8s,baz=195,slow=21,SNR=6.9						
NWAO				LR	LR	19 40 04.8	
	comp=Z,251nm,19.9s,baz=22,slow=32						
NWAO	**Narrogin (SRO)**	**52.04**	**253**	P	**P**	**19 21 01.2**	**-1.4**
QSPA	**South Pole Qui**	**55.19**	**180**	P	P	19 21 28.7	+3.3
	9.8nm,1.0s,baz=57,slow=2.6,SNR=14						
KAPI	**Kappang**	**63.60**	**283**	P	**P**	**19 22 23.6**	**-0.3**
	2.5nm,0.3s,baz=114,slow=14,SNR=2.5						
KAPI				pP	**pP**	**19 22 33.8**	**-1.0**
	4.8nm,0.4s,baz=158,slow=11,SNR=3.5						
KAPI				LR	LR	19 51 36.9	
	comp=Z,260nm,18.8s,baz=300,slow=38						
KAPI	**Kappang**	**63.60**	**283**	P	**P**	**19 22 23.6**	**-0.3**
KAPI				pP	**pP**	**19 22 33.8**	**-1.0**
CBIJ	**Chichi jima**	**71.74**	**324**	LR	LR	19 48 39.8	
	comp=Z,125nm,19.8s,baz=342,slow=31						
SYO	**Syowa Base**	**72.50**	**194**⇓	*e*P	P	19 23 14.4	-4.6
SYO	**Syowa Base**	**72.50**	**194**⇓	*e*pP	**P**	**19 23 17.6**	**-1.4**
VNA3	**Neumayer Olymp**	**73.85**	**176**	*e*P	**P**	**19 23 29.7**	**+2.7**
VNA3	**Neumayer Olymp**	**73.85**	**176**	*e*WP	pwP	19 23 42.1	+4.1
VNA2	**Neumayer--Watz**	**74.27**	**177**	*e*P	**P**	**19 23 32.5**	**+3.1**
	baz=226,slow=1.9						
VNA2	**Neumayer--Watz**	**74.27**	**177**	*e*WP	pwP	19 23 43.6	+3.2
	baz=226,slow=1.9						
JOW	**Kunigami**	**79.05**	**314**	LR	LR	19 55 26.0	
	comp=Z,162nm,18.6s,baz=134,slow=33						
PLCA	**Paso Flores**	**80.11**	**133**	LR	LR	19 55 12.8	
	comp=Z,259nm,18.2s,baz=351,slow=32						
MJAR	**Matsushiro Arr**	**81.46**	**326**	LR	LR	19 55 17.5	
	comp=Z,113nm,18.6s,baz=195,slow=32						
PSI	**Prapat**	**85.00**	**277**	LR	LR	20 05 39.9	
	comp=Z,392nm,18.9s,baz=196,slow=38						
ASAJ	**Asahikawa**	**86.04**	**333**	LR	LR	19 59 23.9	
	comp=Z,202nm,18.4s,baz=132,slow=33						
QIZ	**Qiongzhong**	**86.11**	**296**	P	**P**	**19 24 34.7**	**+0.8**
QIZ				S	S	19 35 14.8	+8.7
QIZ				pmax	pmax		
	comp=Z,33nm,1.7s						
KSRS	**Korea Array**	**87.21**	**321**	P	**P**	**19 24 39.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=112,slow=6.3,SNR=3.2						
KSRS				pP	**pP**	**19 24 50.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=144,slow=5.9,SNR=3.9						
KSRS				LR	LR	19 59 49.2	
	comp=Z,49nm,18.5s,baz=285,slow=33						
KSAR	**Wonju Array Be**	**87.22**	**320**	P	**P**	**19 24 39.0**	**+0.2**
KSAR				pP	**pP**	**19 24 50.0**	**0.0**
NJ2	**Nanjing**	**88.50**	**311**	*e*P	**P**	**19 24 45.7**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**89.97**	**346**	*e*P	**P**	**19 24 49.6**	**-1.9**
PEA0B				*e*pP	**pP**	**19 25 00.7**	**-2.0**
PETK	**Petropavlovsk-**	**89.97**	**346**	P	**P**	**19 24 52.1**	**+0.6**
	comp=Z,18nm,0.7s,baz=131,slow=6.8,SNR=26						
PETK				pP	**pP**	**19 25 03.8**	**+1.0**
	comp=Z,19nm,0.8s,baz=146,slow=7.1,SNR=8.2						
PETK				LR	LR	19 56 47.7	
	comp=Z,98nm,21.2s,baz=338,slow=30						
PETK	**Petropavlovsk-**	**89.97**	**346**	P	**P**	**19 24 52.1**	**+0.6**
PETK				pP	**pP**	**19 25 03.8**	**+1.0**
USRK	**Ussuriysk Arra**	**90.43**	**327**	P	**P**	**19 24 53.8**	**0.0**
	comp=Z,2.5nm,0.9s,baz=128,slow=3.2,SNR=2.7						
USRK				LR	LR	20 01 26.3	
	comp=Z,105nm,18.2s,baz=50,slow=33						
MDJ	**Mudanjiang**	**91.84**	**326**	P	**P**	**19 25 00.5**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,27nm,4.8s						
GYA	**Guiyang**	**93.00**	**300**	P	**P**	**19 25 06.0**	**-0.4**
GYA				PP	**PP**	**19 28 54.3**	**+4.4**
GYA				SKS	**SKSac**	**19 35 40.2**	**+2.3**
GYA				S	**ScS**	**19 36 14.8**	**+2.7**
GYA				SS	SS	19 42 35.8	+10
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,530nm,19.8s						
GYA				LR	LR		
	comp=E,470nm,20.1s						
GYA				LR	LR		
	comp=Z,520nm,18.0s						
CN2	**Changchun**	**93.19**	**323**	*e*P	**P**	**19 25 07.0**	**+0.3**
ENH	**Enshi**	**93.39**	**305**	*e*P	**P**	**19 25 06.5**	**-1.5**
	comp=Z,4.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**94.02**	**290**	P	**P**	**19 25 11.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=143,slow=3.3,SNR=8.8						
CMAR				pP	**pP**	**19 25 22.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=154,slow=3.6,SNR=7.6						
CMAR				PP	**PP**	**19 28 55.9**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=137,slow=6.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**94.02**	**290**	P	**P**	**19 25 11.6**	**+0.5**
CMAR				pP	**pP**	**19 25 22.4**	**+0.1**
CMAR				PP	**PP**	**19 28 55.9**	**-1.9**
KMI	**Kunming**	**95.03**	**297**	P	**P**	**19 25 14.7**	**-1.2**
KMI				S	**S**	**19 36 30.1**	**+1.8**
KMI				pmax	pmax		
	comp=Z,35nm,0.8s						
KMI				pmax	pmax		
	comp=Z,130nm,3.7s						
KMI				LR	LR		
	comp=N,160nm,14.1s						
KMI				LR	LR		
	comp=E,240nm,21.0s						
KMI				LR	LR		
	comp=Z,86nm,15.4s						
BJI	**Beijing**	**95.50**	**316**	P	**P**	**19 25 17.7**	**+0.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BJI				LR	LR		
	comp=Z,71nm,21.4s						
TXAR	**Lajitas Array**	**95.60**	**58**	pP	**pP**	**19 25 31.9**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=224,slow=10,SNR=3.9						
TXAR				LR	LR	20 01 19.9	
	comp=Z,161nm,19.0s,baz=355,slow=31						
LPAZ	**La Paz**	**97.11**	**115**	LR	LR	19 59 06.0	
	comp=Z,89nm,20.3s,baz=28,slow=29						
CD2	**Chengdu**	**97.70**	**302**	P	**P**	**19 25 27.1**	**-0.6**
CD2				pP	Pdif	19 25 31.9	+4.2
CD2				sP	sP	19 25 34.1	-8.8
CD2				PP	**PP**	**19 29 30.4**	**+4.1**
CD2				SKS	**SKSac**	**19 36 04.5**	**+2.0**
CD2				S	**ScS**	**19 36 53.2**	**+2.3**
CD2				sS	sS	19 37 00.3	-9.1
CD2				SS	SS	19 43 42.3	+10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,5.4s						
CD2				LR	LR		
	comp=N,260nm,6.5s						
CD2				LR	LR		
	comp=Z,200nm,5.3s						
CPUP	**Villa Florida**	**97.87**	**130**	LR	LR	20 06 55.2	
	comp=Z,153nm,18.0s,baz=187,slow=34						
HHC	**Hu-ho-hao-te**	**98.70**	**314**	*e*P	P	19 25 28.4	-3.6
HHC				pP	Pdif	19 25 33.2	+1.2

HHC				sP	sP	19 25 35.5	-12
HHC				PP	**PP**	**19 29 36.2**	**+2.4**
HHC				SKS	**SKSac**	**19 36 04.4**	**-2.8**
HHC				S	**S**	**19 36 57.6**	**-1.3**
HHC				SS	SS	19 43 55.3	+9.2
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				LR	LR		
	comp=N,160nm,18.2s						
HHC				LR	LR		
	comp=E,160nm,16.1s						
HHC				LR	LR		
	comp=Z,150nm,17.8s						
LZH	**Lanzhou**	**100.66**	**307**	*e*P	**Pdif**	**19 25 35.5**	**-5.4**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ILAR	**Eielson Array**	**102.54**	**14**	PP	PP	19 29 57.5	-4.8
	comp=Z,0.9nm,1.0s,baz=202,slow=6.8,SNR=3.2						
YKA	**Yellowknife Ar**	**109.92**	**26**	PKiKP	**PKiKP**	**19 30 23.6**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=253,slow=1.4,SNR=3.2						
YKA				PKKPbc	**PKKPbc**	**19 41 27.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=45,slow=3.4,SNR=7.0						
YKA	**Yellowknife Ar**	**109.92**	**26**	PKiKP	**PKiKP**	**19 30 23.6**	**+0.7**
YKA				PKKPbc	**PKKPbc**	**19 41 27.1**	**-0.2**
WMQ	**Urumqi**	**115.24**	**307**	*e*PKP	**PKPdf**	**19 30 31.4**	**-2.4**
MK31	**Makanchi Array**	**119.90**	**308**	*e*PKPdf	**PKPdf**	**19 30 39.5**	**-3.2**
MKAR	**Makanchi Array**	**119.90**	**308**	PKP	**PKPdf**	**19 30 42.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=61,slow=1.7,SNR=18						
MKAR				pPKP	**pPKPdf**	**19 30 53.8**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=182,slow=1.5,SNR=6.0						
MKAR	**Makanchi Array**	**119.90**	**308**	PKP	**PKPdf**	**19 30 42.6**	**-0.1**
MKAR				pPKP	**pPKPdf**	**19 30 53.8**	**-0.4**
ZALV	**Zalesovo Beam**	**120.74**	**317**	PKP	**PKPdf**	**19 30 43.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=137,slow=0.9,SNR=8.9						
ZALV				pPKP	**pPKPdf**	**19 30 55.5**	**0.0**
	comp=Z,1.7nm,0.5s,baz=154,slow=1.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**120.74**	**317**	PKP	**PKPdf**	**19 30 43.6**	**-0.4**
ZALV				pPKP	**pPKPdf**	**19 30 55.5**	**0.0**
KSH	**Kashi**	**121.65**	**299**	PKP	**PKPdf**	**19 30 47.4**	**+1.0**
KSH				PP	PP	19 32 27.4	+7.6
KSH				PKS	**PKSdf**	**19 34 18.1**	**-5.0**
KSH				SKS	**SKSdf**	**19 37 55.9**	**+0.2**
KSH				AMB	AMB		
	comp=Z,42nm,4.8s						
KSH				LR	LR		
	comp=N,54nm,4.6s						
KSH				LR	LR		
	comp=E,44nm,5.1s						
KSH				LR	LR		
	comp=Z,140nm,5.9s						
TKM2	**Tokmak 2**	**123.09**	**302**	*e*PKPdf	**PKPdf**	**19 30 47.7**	**-1.5**
KURK	**Kurchatov**	**123.43**	**312**	*e*PKPdf	**PKPdf**	**19 30 47.5**	**-1.7**
KURK				PKP	**PKiKP**	**19 30 49.1**	**-0.4**
KURK				pPKP	**pPKPdf**	**19 31 00.3**	**-0.4**
KURBB	**Kurchatov Arra**	**123.46**	**312**	PKP	**PKPdf**	**19 30 49.1**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=112,slow=2.1,SNR=34						
KURBB				pPKP	**pPKPdf**	**19 31 00.3**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=116,slow=1.8,SNR=12						
AAK	**Ala-Archa**	**123.76**	**302**	PKP	**PKPdf**	**19 30 50.8**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=154,slow=4.2,SNR=12						
AAK				pPKP	**pPKPdf**	**19 31 03.2**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=126,slow=4.7,SNR=5.5						
AAK	**Ala-Archa**	**123.76**	**302**	*e*PKPdf	**PKPdf**	**19 30 46.7**	**-3.7**
AAK				PKP	**PKPdf**	**19 30 50.8**	**+0.4**
AAK				pPKP	**pPKPdf**	**19 31 03.2**	**+1.3**
EKS2	**Erkin-Say**	**124.27**	**301**	*e*PKPdf	**PKPdf**	**19 30 49.0**	**-2.4**
KBL	**Kabul**	**125.03**	**291**	*e*PKPdf	**PKPdf**	**19 30 49.9**	**-3.2**
BVAR	**Borovoye Array**	**128.91**	**313**	PKP	**PKPdf**	**19 30 59.7**	**0.0**
	comp=Z,2.4nm,0.8s,baz=99,slow=1.9,SNR=12						
BVAR				pPKP	**pPKPdf**	**19 31 12.1**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=90,slow=3.0,SNR=9.8						
BVAR	**Borovoye Array**	**128.91**	**313**	PKP	**PKPdf**	**19 30 59.7**	**0.0**
BVAR				pPKP	**pPKPdf**	**19 31 12.1**	**+0.9**
BRVK	**Borovoye**	**128.97**	**313**	*e*PKPdf	PKPdf	19 30 54.0	-5.7
ABKAR	**Akbulak array**	**135.03**	**307**	*e*PKPdf	**PKPdf**	**19 31 07.7**	**-3.6**
ARU	**Arti**	**135.89**	**318**	*e*PKPdf	**PKPdf**	**19 31 11.0**	**-1.8**
SPITS	**Spitsbergen Ar**	**136.14**	**355**	PKP	**PKPdf**	**19 31 13.1**	**+0.4**
	comp=Z,4.9nm,1.0s,baz=116,slow=4.5,SNR=3.6						
SPITS	**Spitsbergen Ar**	**136.14**	**355**	PKP	**PKPdf**	**19 31 13.1**	**+0.4**
AKTO	**Aktyubinsk**	**136.33**	**309**	PKP	**PKPdf**	**19 31 14.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=329,slow=1.8,SNR=6.4						
AKTO				pPKP	**pPKPdf**	**19 31 25.8**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=200,slow=6.6,SNR=6.7						
AKTO	**Aktyubinsk**	**136.33**	**309**	PKP	**PKPdf**	**19 31 14.0**	**+0.3**
AKTO				pPKP	**pPKPdf**	**19 31 25.8**	**+0.5**
KEV	**Kevo**	**142.29**	**345**	*e*pkp	**PKPdf**	**19 31 25.7**	**+1.7**
ARCES	**ARCESS Array B**	**142.78**	**346**	PKhKP	PKPpre	19 31 21.8	
	comp=Z,2.3nm,0.7s,baz=87,slow=6.2,SNR=8.5						
ARCES	**ARCESS Array B**	**142.78**	**346**	PKPpre	PKPpre	19 31 21.8	
DGRG	**David-gareji**	**144.74**	**294**	P	**PKPdf**	**19 31 29.0**	**-0.3**
GNI	**Garni**	**145.10**	**292**	*e*PKPdf	**PKPbc**	**19 31 26.4**	**-3.2**
TBLG	**Delisi**	**145.23**	**295**	P	**PKPbc**	**19 31 29.8**	**-0.1**
CUKT	**Cukurca**	**145.61**	**287**	*e*P	**PKPbc**	**19 31 31.3**	**0.0**
CLDR	**Caldiran**	**145.63**	**290**	*e*P	**PKPab**	**19 31 31.7**	**-0.1**
GOR	**Gori**	**145.72**	**295**	P	**PKPab**	**19 31 32.4**	**+0.6**
VANB	**Van**	**145.97**	**289**	*e*P	**PKPbc**	**19 31 32.4**	**0.0**
AKH	**Akhalkalaki**	**146.15**	**294**	P	**PKPab**	**19 31 33.5**	**-0.1**
JOF	**Joensuu**	**146.21**	**335**	*e*pkp	**PKPdf**	**19 31 30.4**	**-0.6**
	comp=Z,37nm,0.6s						
ONI	**Oni**	**146.22**	**296**	P	**PKPab**	**19 31 33.4**	**-0.3**
AGRB	**Hanur-Agry**	**146.39**	**291**	*e*P	**PKPab**	**19 31 34.4**	**-0.2**
KBZ	**Khabaz**	**146.63**	**298**	PKPbc	**PKPbc**	**19 31 34.0**	**+0.1**
	comp=Z,14nm,1.0s,baz=135,slow=2.5,SNR=13						
KBZ				pPKPbc	pPKPbc	19 31 45.1	-0.3
	comp=Z,17nm,0.9s,baz=90,slow=3.9,SNR=9.3						
KBZ	**Khabaz**	**146.63**	**298**	PKPbc	**PKPbc**	**19 31 34.0**	**+0.1**
KBZ				pPKPbc	pPKPbc	19 31 45.1	-0.3
VRTB	**Varto-Mus**	**147.53**	**290**	*e*P	**PKPab**	**19 31 38.0**	**-1.0**
BCA	**Borcka**	**147.55**	**294**	*e*P	**PKPbc**	**19 31 37.1**	**+0.4**
EZM	**Erzurum**	**147.67**	**291**	*e*P	**PKPbc**	**19 31 38.6**	**+1.2**
BNGB	**Bingˆ¶l**	**148.12**	**289**	*e*P	**PKPbc**	**19 31 39.4**	**+0.9**
OBN	**Obninsk**	**148.21**	**320**	*e*PKPab	**PKPbc**	**19 31 38.3**	**+0.4**
KAF	**Kangasniemi**	**148.43**	**337**	*e*pkp	**PKPbc**	**19 31 37.4**	**-0.9**
	comp=Z,10nm,0.6s						
BAYT	**Ayd˜–ntepe-Bay**	**148.63**	**292**	*e*P	**PKPbc**	**19 31 41.2**	**+1.5**
FINES	**FINESS Array B**	**149.00**	**337**	PKPbc	**PKPbc**	**19 31 40.3**	**+0.5**
	comp=Z,16nm,0.8s,baz=82,slow=4.0,SNR=58						
FINES				pPKPbc	**pPKPbc**	**19 31 51.1**	**-0.1**
	comp=Z,19nm,0.7s,baz=66,slow=4.6,SNR=12						
FINES	**FINESS Array B**	**149.00**	**337**	PKPbc	**PKPbc**	**19 31 40.3**	**+0.5**
FINES				pPKPbc	**pPKPbc**	**19 31 51.1**	**-0.1**
GUMT	**Gumushane**	**149.14**	**292**	*e*P	**PKPbc**	**19 31 42.5**	**+1.5**
EZC	**Erzincan**	**149.20**	**290**	*e*P	**PKPbc**	**19 31 42.7**	**+1.5**
ESPY	**Espiye-Giresun**	**149.72**	**293**	*e*P	**PKPab**	**19 31 51.4**	**+3.7**
ILIC	**ilic-Erzincan**	**149.79**	**290**	*e*P	**PKPbc**	**19 31 42.4**	**-0.3**
GAZ	**Gaziantep**	**150.65**	**285**	*e*P	**PKPbc**	**19 31 45.9**	**+1.2**
KMRS	**Kahramanmaras**	**150.94**	**286**	*e*P	**PKPbc**	**19 31 45.9**	**+0.5**
DBIC	**Dimbokro**	**151.38**	**168**	PKPbc	**PKPbc**	**19 31 48.6**	**+1.6**
	comp=Z,4.1nm,0.7s,baz=172,slow=3.1,SNR=11						
DBIC	**Dimbokro**	**151.38**	**168**	*e*PKPbc	**PKPbc**	**19 31 44.9**	**-2.1**
KOZT	**Kozan**	**151.78**	**285**	*e*P	**PKPbc**	**19 31 48.4**	**+1.1**
BNN	**Bunyan**	**151.87**	**288**	*e*P	**PKPbc**	**19 31 46.1**	**-1.4**
CORM	**Corum**	**152.84**	**291**	*e*P	**PKPbc**	**19 31 50.8**	**+1.1**
NB2	**NORSAR Subarra**	**153.04**	**349**	PKP	**PKPbc**	**19 31 49.8**	**+0.5**
	comp=Z,7.0nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.04**	**349**	PKPbc	**PKPbc**	**19 31 49.4**	**0.0**
	comp=Z,3.1nm,0.8s,baz=12,slow=4.1,SNR=7.5						
NOA	**NORSAR Array B**	**153.04**	**349**	PKPbc	**PKPbc**	**19 31 49.4**	**0.0**
NACGM	**Naroch**	**153.16**	**326**	*e*	**PKPbc**	**19 31 48.0**	**-1.7**
KAMT	**Kaman**	**153.55**	**289**	*e*P	**PKPbc**	**19 31 51.8**	**+0.5**
BR131	**Keskin Array S**	**153.60**	**290**	*e*PKPdf	**PKPdf**	**19 31 41.7**	**-1.9**
BR131				*e*PKPbc	**PKPbc**	**19 31 49.6**	**-1.8**
BRTR	**Keskin Array B**	**153.60**	**290**	PKPbc	**PKPbc**	**19 31 51.6**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=141,slow=3.6,SNR=25						
BRTR				pPKPbc	**pPKPbc**	**19 32 02.9**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=149,slow=4.7,SNR=6.9						
BRTR	**Keskin Array B**	**153.60**	**290**	PKPbc	**PKPbc**	**19 31 51.6**	**+0.2**
BRTR				pPKPbc	**pPKPbc**	**19 32 02.9**	**-0.1**
AKASG	**Malin Array Be**	**154.13**	**316**	PKPbc	**PKPbc**	**19 31 52.6**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=66,slow=2.3,SNR=14						
AKASG				pPKPbc	**pPKPbc**	**19 32 04.2**	**+0.8**
	comp=Z,6.7nm,0.6s,baz=59,slow=2.8,SNR=11						
AKASG	**Malin Array Be**	**154.13**	**316**	PKPbc	**PKPbc**	**19 31 52.6**	**+0.6**
AKASG				pPKPbc	**pPKPbc**	**19 32 04.2**	**+0.8**
KIZT	**Kizilcal**	**154.97**	**288**	*e*P	**PKPbc**	**19 31 54.7**	**+0.4**
MLR	**Muntele Rosu**	**158.23**	**307**	PKPab	**PKPab**	**19 32 23.1**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=127,slow=14,SNR=3.7						
MLR	**Muntele Rosu**	**158.23**	**307**	PKPab	**PKPab**	**19 32 23.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**158.30**	**182**	PKP	**PKPdf**	**19 31 51.5**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=189,slow=0.8,SNR=3.5						
TORD				PKPab	**PKPab**	**19 32 26.0**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=178,slow=4.0,SNR=12						
TORD	**Torodi Ar. Bea**	**158.30**	**182**	PKP	**PKPdf**	**19 31 51.5**	**+1.1**
TORD				PKPab	**PKPab**	**19 32 26.0**	**+1.6**
CLL	**Collm**	**161.44**	**336**	*e*PKPab	**PKPab**	**19 32 36.0**	**-1.2**
CLL				*e*pPKPab	**pPKPab**	**19 32 48.0**	**-0.5**
GERES	**GERESS Array B**	**163.17**	**330**	PKP	**PKPdf**	**19 31 56.7**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=191,slow=1.5,SNR=2.6						
GERES				PKPab	**PKPab**	**19 32 43.0**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=27,slow=6.6,SNR=3.2						
GERES	**GERESS Array B**	**163.17**	**330**	PKP	**PKPdf**	**19 31 56.7**	**+1.9**
GERES				PKPab	**PKPab**	**19 32 43.0**	**-2.1**

*IDC **01** 19:12:25.5±0.8, 3°.78N×126°.53E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, MS3.1/1, Ms1 3.1/1, ms1mx2.7/34, Error ellipse: s-maj=56.2km s-min=14.8km az=61.0*
*ISCJB **01** 19:12:30.7±0.5, 3°.75N±0°.07×126°.6E±0°.2, h53km, mb4.1/13, Error ellipse: s-maj=23.4km s-min=7.0km az=162.8*
*NEIC **01** 19:12:30.7±0.5, 3°.67N×126°.46E, h35km, mb4.6/3, Error ellipse: s-maj=31.1km s-min=9.5km az=66.0*
ISC 01 19:12:32.7±0.7**, 3°.80N**±0°.09×**126°.6E**±0°.2**, h53km, n30, σ1s.12**/29**, mb4.1**/13**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.15**	**353**	*e*P	**Pn**	**19 13 20.5**	**+0.6**
MATI				*e*S	**Sn**	**19 13 54.8**	**-1.5**
DAV	**Davao City (W)**	**3.41**	**342**	Pn	**Pn**	**19 13 24.4**	**+0.9**
	7.3nm,0.3s,baz=236,slow=7.3,SNR=2.3						
DAV				Sn	Sn	19 14 10.3	+7.5
	20nm,0.3s,baz=33,slow=19,SNR=3.8						
DAV				LR	LR	19 14 58.1	
	comp=Z,294nm,19.5s,baz=356,slow=45						
DAV	**Davao City (W)**	**3.41**	**342**	Pn	**Pn**	**19 13 24.4**	**+0.9**
DAV				Sn	Sn	19 14 10.3	+7.5
CTBH	**Cotabato--PC H**	**4.14**	**325**⇓	*e*P	**Pn**	**19 13 34.7**	**+1.2**
BUKP	**Musuan**	**4.34**	**339**	*e*P	**Pn**	**19 13 37.0**	**+0.7**
BUKP				*e*S	Sn	19 14 13.0	-13
WRAB	**Tennant Creek**	**24.77**	**162**	*e*P	**P**	**19 17 48.1**	**-1.6**
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**19 17 49.2**	**-0.6**
	3.8nm,0.6s,baz=343,slow=10,SNR=30						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**19 17 49.2**	**-0.6**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**19 18 18.2**	**-2.5**
	0.2nm,0.3s,baz=342,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**19 18 18.2**	**-2.5**
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**19 18 44.0**	**+0.8**
	0.4nm,0.7s,baz=110,slow=7.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**19 18 44.0**	**+0.8**
STKA	**Stephens Creek**	**38.23**	**159**	P	**P**	**19 19 48.7**	**+1.0**
	2.6nm,0.5s,baz=348,slow=9.7,SNR=9.6						
STKA	**Stephens Creek**	**38.23**	**159**	P	**P**	**19 19 48.7**	**+1.0**
DZM	**Mont Dzumac**	**46.66**	**125**	P	**P**	**19 20 57.5**	**+1.0**
	2.8nm,0.7s,baz=349,slow=10,SNR=5.2						
DZM	**Mont Dzumac**	**46.66**	**125**	P	**P**	**19 20 57.5**	**+1.0**
SONM	**Songino Array**	**47.20**	**341**	P	**P**	**19 20 59.9**	**-0.4**
	0.9nm,0.6s,baz=155,slow=8.5,SNR=7.5						
SONM	**Songino Array**	**47.20**	**341**	P	**P**	**19 20 59.9**	**-0.4**
MK31	**Makanchi Array**	**57.44**	**325**	*e*P	**P**	**19 22 15.9**	**-0.2**
MKAR	**Makanchi Array**	**57.44**	**325**	P	**P**	**19 22 15.6**	**-0.6**
	0.8nm,0.4s,baz=119,slow=7.4,SNR=31						
MKAR	**Makanchi Array**	**57.44**	**325**	P	**P**	**19 22 15.6**	**-0.6**
YAK	**Yakutsk**	**58.15**	**2**	*e*P	**P**	**19 22 21.1**	**+0.4**
	14nm,0.4s						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**19 22 36.0**	**-1.0**
	0.5nm,0.4s,baz=132,slow=6.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**19 22 36.0**	**-1.0**
KURK	**Kurchatov**	**61.63**	**328**	*e*P	**P**	**19 22 43.9**	**-1.0**
	2.4nm,0.6s						
AKTO	**Aktyubinsk**	**73.54**	**322**	P	**P**	**19 23 59.6**	**-0.5**
	1.1nm,0.8s,baz=103,slow=6.6,SNR=5.8						
AKTO	**Aktyubinsk**	**73.54**	**322**	P	**P**	**19 23 59.6**	**-0.5**
COLD	**Coldfoot**	**83.87**	**23**	*e*P	**P**	**19 24 57.4**	**+0.9**
ARCES	**ARCESS Array B**	**90.35**	**340**	P	P	19 25 32.7	+4.9
	2.9nm,0.9s,baz=80,slow=6.9,SNR=2.7						
ARCES	**ARCESS Array B**	**90.35**	**340**	P	P	19 25 32.7	+4.9

*ISCJB **01** 19:14:38.9±2.3, 37°.81N±0°.07×29°.12E±0°.10, h10km±21km, Error ellipse: s-maj=12.9km s-min=11.9km az=30.7*
*ISK **01** 19:14:38.8, 37°.82N×29°.13E, h5km, MD2.5*
*DDA **01** 19:14:38.4, 37°.85N×29°.08E, h7km, MD2.7*
*CSEM **01** 19:14:38.7±0.1, 37°.78N×29°.13E, h10km, MD2.5, Error ellipse: s-maj=4.0km s-min=2.3km az=117.0*
ISC 01 19:14:38.7±1.4**, 37°.80N**±0°.08×**29°.12E**±0°.07**, h12**km±12km**, n8, σ0s.13**/16**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.08**	**236**	*e*PG	**Pg**	**19 14 41.3**	**0.0**
DENT				*e*SG	**Sg**	**19 14 43.3**	**0.0**
DENT	**Denizli**	**0.08**	**236**	*e*Pg	**Pg**	**19 14 41.3**	**0.0**
DENT				*e*Sg	**Sg**	**19 14 43.3**	**0.0**
DNZL	**Cakiroluk**	**0.12**	**207**	*i* P	**Pg**	**19 14 42.2**	**+0.2**
DNZL				*i* S	**Sg**	**19 14 44.3**	**-0.1**
DNZL	**Cakiroluk**	**0.12**	**207**	*i* P	**Pg**	**19 14 42.2**	**+0.2**
DNZL				*i* S	**Sg**	**19 14 44.3**	**-0.1**
KHL	**Karahalli**	**0.61**	**31**	*e*PG	**Pb**	**19 14 51.3**	**-0.2**
KHL				*e*SG	**Sg**	**19 14 59.0**	**+0.1**
KHL	**Karahalli**	**0.61**	**31**	*e*Pg	**Pb**	**19 14 51.3**	**-0.2**
KHL				*e*Sg	**Sg**	**19 14 59.0**	**+0.1**
KULA	**Kula-Manisa**	**0.80**	**333**	*e*PG	**Pb**	**19 14 54.6**	**0.0**
KULA				*e*SG	**Sb**	**19 15 05.4**	**-0.1**
KULA	**Kula-Manisa**	**0.80**	**333**	*e*Pg	**Pb**	**19 14 54.6**	**0.0**
KULA				*e*Sg	**Sb**	**19 15 05.4**	**-0.1**

*IDC **01** 19:31:39.3±2.3, 2°.36S×102°.21E, h253km±23km, mb3.6/14, mb1 3.7/16, mb1mx3.5/27, mbtmp3.6/16, Error ellipse: s-maj=23.1km s-min=9.0km az=56.0*
*DJA **01** 19:31:42.2±1.3, 2°S±12°×10°2E±1°6, h244km±17km, M4.3/6, mb4.6/1, mB4.7/1, MLv4.2/6, Mw(mB)4.0/1*
ISC 01 19:31:40.2±0.6**, 2°.11S**±0°.08×**102°.3E**±0°.1**, h250km, n30, σ1s.26**/34**, mb3.8**/15**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.55**	**171**	P	**Pn**	**19 32 21.2**	**+2.2**
MNAI	**Manna**	**2.32**	**165**	P	**Pn**	**19 32 27.1**	**+1.4**
MNAI				S	**S**	**19 33 01.7**	**0.0**
BKNI	**Bangkinang**	**2.75**	**332**	P	**Pn**	**19 32 31.4**	**+1.4**
LWLI	**Liwa**	**3.36**	**149**	P	**Pn**	**19 32 37.1**	**+0.3**
LWLI				S	**S**	**19 33 24.8**	**+3.2**
GSI	**Gunungsitoli**	**5.85**	**305**	P	**Pn**	**19 33 07.2**	**+0.7**
PSI	**Prapat**	**5.96**	**325**	P	**Pn**	**19 33 08.0**	**+0.1**
	3.9nm,0.3s,baz=159,slow=8.1,SNR=10						
KAPI	**Kappang**	**17.61**	**100**	P	**P**	**19 35 28.2**	**-0.6**
	0.7nm,0.3s,baz=248,slow=5.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**20.71**	**351**	P	**P**	**19 36 03.3**	**+1.4**
	8.2nm,0.7s,baz=182,slow=8.9,SNR=72						
TAPN	**Taplejung**	**32.51**	**335**	*e*P	**P**	**19 37 46.9**	**-1.3**
JIRN	**Jiri**	**33.43**	**333**	*e*P	**P**	**19 37 56.1**	**-0.2**
GUN	**Gumba**	**33.79**	**333**	*e*P	**P**	**19 37 59.6**	**+0.3**
KKN	**Kakani**	**33.96**	**332**	*e*P	**P**	**19 38 01.0**	**+0.4**
GKN	**Gorkha**	**34.44**	**332**	*e*P	**P**	**19 38 05.2**	**+0.5**
	8.8nm,0.2s						
DANN	**Dangsing**	**35.15**	**331**	*e*P	**P**	**19 38 11.2**	**+0.3**
	15nm,0.3s						
PYUN	**Piuthan**	**35.33**	**330**	*e*P	**P**	**19 38 13.3**	**+1.0**
	5.9nm,0.3s						
WRA	**Warramunga Arr**	**35.93**	**122**	P	**P**	**19 38 15.1**	**-2.3**
	0.5nm,0.3s,baz=305,slow=8.4,SNR=30						
ASAR	**Alice Springs**	**37.31**	**128**	P	**P**	**19 38 27.7**	**-1.3**
	1.3nm,0.4s,baz=302,slow=8.0,SNR=35						
STKA	**Stephens Creek**	**47.35**	**133**	P	**P**	**19 39 48.5**	**-0.9**
	0.9nm,0.3s,baz=297,slow=8.3,SNR=7.3						
SONM	**Songino Array**	**49.87**	**4**	P	**P**	**19 40 09.7**	**+1.3**
	2.8nm,0.5s,baz=186,slow=9.6,SNR=35						
SONM				PcP	**PcP**	**19 41 25.1**	**+0.2**
	0.3nm,0.4s,baz=185,slow=4.0,SNR=5.2						
AAK	**Ala-Archa**	**51.14**	**334**	P	**P**	**19 40 17.6**	**-0.5**
	0.3nm,0.4s,baz=135,slow=4.3,SNR=4.2						
MKAR	**Makanchi Array**	**51.80**	**343**	P	**P**	**19 40 23.1**	**+0.4**
	2.4nm,0.5s,baz=158,slow=8.5,SNR=51						
USRK	**Ussuriysk Arra**	**53.19**	**26**	P	**P**	**19 40 33.4**	**+0.6**
	1.8nm,0.6s,baz=208,slow=3.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**56.35**	**342**	P	**P**	**19 40 55.5**	**+0.2**
	2.2nm,0.6s,baz=160,slow=6.8,SNR=29						
KURBB				PcP	**PcP**	**19 41 48.2**	**-1.1**
	0.1nm,0.5s,baz=157,slow=3.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.74**	**348**	P	**P**	**19 41 05.0**	**+0.1**
	3.4nm,0.4s,baz=163,slow=6.3,SNR=26						
BVAR	**Borovoye Array**	**61.12**	**339**	P	**P**	**19 41 27.7**	**-0.3**
	1.8nm,0.5s,baz=141,slow=9.5,SNR=16						
AKTO	**Aktyubinsk**	**64.59**	**330**	P	**P**	**19 41 50.0**	**-1.0**
	0.6nm,0.4s,baz=185,slow=0.9,SNR=4.2						
MAW	**Mawson**	**70.77**	**195**	P	**P**	**19 42 26.4**	**-2.7**
	25nm,0.6s,baz=22,slow=16,SNR=6.2						
BRTR	**Keskin Array B**	**75.13**	**312**	P	**P**	**19 42 54.5**	**-0.9**
	0.9nm,0.8s,baz=138,slow=7.4,SNR=4.7						
ARCES	**ARCESS Array B**	**87.38**	**340**	P	**P**	**19 43 59.0**	**+0.3**
	3.2nm,0.8s,baz=90,slow=6.4,SNR=5.2						
QSPA	**South Pole Qui**	**87.85**	**180**	P	**P**	**19 44 03.2**	**+2.0**
	1.0nm,1.0s,baz=239,slow=4.3,SNR=3.4						

IDC 01 19:38:45.5±1.0**, 2°.04S**×**121°.23E, h0km, mb3.5**/6**, mb1 3.7**/7**, mb1mx3.6**/23**, mbtmp3.6**/7**, ML3.4**/1**, Error ellipse: s-maj=40.8km s-min=17.3km az=73.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.31**	**207**	Pn	Pn	19 39 39.0	+0.5
	3.8nm,0.3s,baz=38,slow=8.2,SNR=16						
KAPI				Sn	Sn	19 40 18.2	-0.4
	6.1nm,0.3s,baz=85,slow=22,SNR=12						
WRA	**Warramunga Arr**	**21.93**	**145**	P	P	19 43 40.3	-0.5
	0.7nm,0.8s,baz=312,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**24.76**	**151**	P	P	19 44 09.5	+0.4
	1.6nm,1.0s,baz=338,slow=7.5,SNR=10						
SONM	**Songino Array**	**51.33**	**347**	P	P	19 47 52.6	+0.8
	0.3nm,0.8s,baz=161,slow=9.2,SNR=4.8						
MKAR	**Makanchi Array**	**59.44**	**330**	P	P	19 48 49.4	-0.8
	0.6nm,0.7s,baz=121,slow=8.4,SNR=9.6						
AAK	**Ala-Archa**	**61.21**	**322**	P	P	19 49 03.1	+0.5
	0.3nm,0.4s,baz=146,slow=11,SNR=4.3						
ZALV	**Zalesovo Beam**	**63.45**	**337**	P	P	19 49 16.8	-0.4
	0.3nm,0.4s,baz=119,slow=5.1,SNR=3.0						

*ISK **01** 19:39:22.8, 37°.89N×29°.10E, h24km, MD2.7*
*CSEM **01** 19:39:23.8±0.2, 37°.88N×29°.08E, h10km, MD2.7, Error ellipse: s-maj=5.3km s-min=3.2km az=115.0*
*ISCJB **01** 19:39:24.3±0.6, 37°.91N±0°.03×29°.06E±0°.05, h4km±7km, Error ellipse: s-maj=6.8km s-min=4.2km az=20.7*
*DDA **01** 19:39:24.1, 37°.92N×29°.07E, h8km, MD2.8*
ISC 01 19:39:23.6±1.0**, 37°.88N**±0°.03×**29°.09E**±0°.04**, h15**km±9km**, n20, σ0s.39**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.14**	**198**	*e*PG	**Pb**	**19 39 28.1**	**+0.2**
DENT	**Denizli**	**0.14**	**198**	*e*Pg	**Pb**	**19 39 28.1**	**+0.2**
DNZL	**Cakiroluk**	**0.20**	**189**	*i* P	**Pb**	**19 39 29.0**	**0.0**
DNZL				*i* S	**Sb**	**19 39 32.6**	**0.0**
DNZL	**Cakiroluk**	**0.20**	**189**	*i* P	**Pb**	**19 39 29.0**	**0.0**
DNZL				*i* S	**Sb**	**19 39 32.6**	**0.0**
KHL	**Karahalli**	**0.56**	**38**	*e*PG	**Pg**	**19 39 34.5**	**-0.2**
KHL				*e*SG	**Sb**	**19 39 42.9**	**-0.1**
KHL	**Karahalli**	**0.56**	**38**	*e*Pg	**Pg**	**19 39 34.5**	**-0.2**
KHL				*e*Sg	**Sb**	**19 39 42.9**	**-0.1**
KHAL	**Karahalli**	**0.58**	**33**	*i* P	**Pg**	**19 39 35.2**	**+0.1**
KHAL				*e*S	**Sg**	**19 39 43.0**	**+0.1**
KHAL	**Karahalli**	**0.58**	**33**	*i* P	**Pg**	**19 39 35.2**	**+0.1**
KHAL				*e*S	**Sg**	**19 39 43.0**	**+0.1**
KULA	**Kula-Manisa**	**0.71**	**332**	*e*PG	**Pg**	**19 39 37.5**	**0.0**
KULA				*e*SG	**Sb**	**19 39 47.8**	**+0.3**
KULA	**Kula-Manisa**	**0.71**	**332**	*e*Pg	**Pg**	**19 39 37.6**	**0.0**
KULA				*e*Sg	**Sb**	**19 39 47.8**	**+0.3**
MANT	**Manisa**	**0.74**	**326**	*i* P	**Pb**	**19 39 38.2**	**-0.1**
MANT				*i* S	**Sg**	**19 39 47.4**	**-0.4**
MANT	**Manisa**	**0.74**	**326**	*i* P	**Pb**	**19 39 38.2**	**-0.1**
MANT				*i* S	**Sg**	**19 39 47.4**	**-0.4**
AYDN	**Tasoluk**	**0.98**	**257**	*i* P	**Pn**	**19 39 43.2**	**+0.3**
AYDN				*i* S	**Sg**	**19 39 56.1**	**+0.6**
AYDN	**Tasoluk**	**0.98**	**257**	*i* P	**Pn**	**19 39 43.2**	**+0.3**
AYDN				*i* S	**Sg**	**19 39 56.1**	**+0.6**
YER	**Yerkesik**	**0.98**	**221**	*e*PG	**Pb**	**19 39 41.2**	**-1.2**
YER	**Yerkesik**	**0.98**	**221**	*e*Pg	**Pb**	**19 39 41.2**	**-1.2**
DEMI	**Demirci**	**1.19**	**346**	*i* P	**Pg**	**19 39 46.5**	**-0.1**
DEMI				*i* S	**Sn**	**19 40 01.8**	**-0.1**
DEMI	**Demirci**	**1.19**	**346**	*i* P	**Pg**	**19 39 46.5**	**-0.1**
DEMI				*i* S	**Sn**	**19 40 01.8**	**-0.1**
GDZ	**Gediz**	**1.24**	**14**	*i* P	**Pg**	**19 39 48.0**	**+0.4**
GDZ				*i* S	**Sg**	**19 40 03.8**	**0.0**
GDZ	**Gediz**	**1.24**	**14**	*i* P	**Pg**	**19 39 48.0**	**+0.4**
GDZ				*i* S	**Sg**	**19 40 03.8**	**0.0**

IDC 01 19:44:37.4±8.3**, 34°.64S**×**179°.54W, h128**km±68km**, mb4.1**/8**, mb1 4.3**/9**, mb1mx4.0**/19**, mbtmp4.1**/9**, MS4.1**/14**, Ms1 4.1**/14**, ms1mx4.0**/22**, Error ellipse: s-maj=34.4km s-min=23.1km az=68.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.55**	**312**	*e*LR	LR	19 52 57.6	
	2μm,25.1s						
DZM	**Mont Dzumac**	**17.55**	**312**	P	Pn	19 48 34.0	-0.3
	0.3nm,0.3s,baz=117,slow=17,SNR=8.8						
DZM				LR	LR	19 54 20.6	
	comp=Z,1μm,18.7s,baz=137,slow=33						
TBI	**Tubuai**	**28.50**	**75**	*e*LR	LR	19 57 22.5	
	322nm,28.8s						
PPT2	**Papeete2**	**31.64**	**65**	*e*LR	LR	19 58 48.4	
	329nm,24.5s						
PPT	**Papeete**	**31.66**	**65**	LR	LR	20 01 16.1	
	comp=Z,292nm,18.5s,baz=354,slow=32						
STKA	**Stephens Creek**	**32.49**	**264**	P	P	19 50 56.4	+0.6
	2.5nm,0.6s,baz=102,slow=8.6,SNR=12						
STKA				LR	LR	20 03 43.0	
	comp=Z,475nm,18.9s,baz=30,slow=35						
CTA	**Charters Tower**	**33.48**	**287**	P	P	19 51 02.9	-1.6
	5.8nm,0.7s,baz=113,slow=10,SNR=5.8						
CTA				LR	LR	20 02 06.3	
	comp=Z,143nm,18.4s,baz=68,slow=31						
ASAR	**Alice Springs**	**41.78**	**272**	P	P	19 52 14.2	-0.1
	11nm,0.8s,baz=112,slow=7.6,SNR=23						
ASAR				LR	LR	20 10 33.3	
	comp=Z,531nm,19.0s,baz=125,slow=37						
WRA	**Warramunga Arr**	**43.16**	**278**	P	P	19 52 25.2	-0.3
	9.8nm,0.6s,baz=122,slow=7.7,SNR=9.7						
WRA				LR	LR	20 11 23.2	
	comp=Z,631nm,18.2s,baz=130,slow=37						
VNDA	**Vanda**	**43.76**	**186**	LR	LR	20 08 02.7	
	comp=Z,109nm,19.9s,baz=112,slow=32						
QSPA	**South Pole Qui**	**55.48**	**180**	P	P	19 53 59.6	+1.0
	3.4nm,0.8s,baz=44,slow=3.0,SNR=6.4						
PLCA	**Paso Flores**	**80.56**	**133**	LR	LR	20 26 55.7	
	comp=Z,146nm,18.4s,baz=274,slow=32						
MJAR	**Matsushiro Arr**	**81.02**	**327**	LR	LR	20 27 33.5	
	comp=Z,58nm,19.1s,baz=45,slow=32						
KSRS	**Korea Array**	**86.76**	**321**	LR	LR	20 27 53.2	
	comp=Z,47nm,20.9s,baz=161,slow=30						
PETK	**Petropavlovsk-**	**89.60**	**347**	P	P	19 57 20.5	+0.6
	8.9nm,0.7s,baz=117,slow=6.0,SNR=11						
PETK				LR	LR	20 37 33.1	
	comp=Z,44nm,18.1s,baz=244,slow=35						
NVAR	**Mina Array Bea**	**92.21**	**44**	P	P	19 57 32.3	-0.4
	0.4nm,0.5s,baz=220,slow=8.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**93.59**	**290**	P	P	19 57 40.0	+0.7
	0.4nm,0.7s,baz=156,slow=4.7,SNR=4.0						
TXAR	**Lajitas Array**	**95.74**	**58**	LR	LR	20 34 08.8	
	comp=Z,104nm,18.9s,baz=185,slow=31						
LPAZ	**La Paz**	**97.54**	**116**	LR	LR	20 34 52.4	
	comp=Z,55nm,20.6s,baz=132,slow=31						
CPUP	**Villa Florida**	**98.32**	**130**	LR	LR	20 40 09.5	
	comp=Z,100nm,18.0s,baz=47,slow=34						
MKAR	**Makanchi Array**	**119.45**	**309**	PKP	PKPdf	20 03 10.8	-0.5
	0.6nm,0.9s,baz=92,slow=2.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**120.29**	**317**	PKP	PKPdf	20 03 12.1	-0.6
	0.4nm,0.5s,baz=120,slow=4.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**123.01**	**312**	PKP	PKPdf	20 03 17.6	-0.4
	1.3nm,0.7s,baz=113,slow=2.0,SNR=12						
AAK	**Ala-Archa**	**123.31**	**302**	PKP	PKPdf	20 03 18.4	-0.7
	0.6nm,0.7s,baz=177,slow=9.5,SNR=3.7						
ARCES	**ARCESS Array B**	**142.41**	**346**	PKhKP	PKPpre	20 03 50.6	
	4.2nm,1.0s,baz=1.1,slow=6.2,SNR=3.6						
KBZ	**Khabaz**	**146.19**	**298**	PKPbc	PKPbc	20 04 02.2	-0.2
	3.1nm,0.8s,baz=193,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**148.59**	**337**	PKPbc	PKPbc	20 04 08.5	+0.1
	7.6nm,0.8s,baz=64,slow=4.4,SNR=25						
DBIC	**Dimbokro**	**151.74**	**169**	PKPbc	PKPbc	20 04 16.2	-1.2
	2.5nm,0.8s,baz=81,slow=2.1,SNR=4.7						
NOA	**NORSAR Array B**	**152.69**	**349**	PKPbc	PKPbc	20 04 18.1	0.0
	1.8nm,0.9s,baz=13,slow=4.0,SNR=3.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRTR	Keskin Array B	153.18	291	PKPbc	PKPbc	20 04 19.9	-0.2
	1.6nm,0.6s,baz=145,slow=3.8,SNR=11						
AKASG	Malin Array Be	153.68	316	PKPbc	PKPbc	20 04 20.8	+0.2
	2.6nm,0.6s,baz=59,slow=2.7,SNR=7.0						
TORD	Torodi Ar. Bea	158.58	183	PKPab	PKPab	20 04 53.9	-1.8
	1.6nm,1.0s,baz=158,slow=3.4,SNR=4.8						

*NEIC **01** 19:46:59.0±0.4, 7°.15S×128°.29E, h35km, mb5.1/18, Error ellipse: s-maj=18.3km s-min=6.8km az=65.0*
*IDC **01** 19:47:07.5±3.8, 7°.46S×128°.16E, h118km±35km, mb3.9/13, mb1 4.1/15, mb1mx4.0/22, mbtmp4.0/15, Error ellipse: s-maj=26.2km s-min=13.2km az=65.0*
*ISCJB **01** 19:47:08.2±0.3, 7°.61S±0°.03×128°.03E±0°.05, h142km, mb4.4/35, Error ellipse: s-maj=7.0km s-min=4.8km az=173.9*
*BJI **01** 19:47:10.0, 7°.60S×128°.70E, h187km, mB4.6/3, mb4.4/9*
*DJA **01** 19:47:11.8±0.3, 8°S±4°×12°8E±°, h151km±10km, M4.6/11, mB5.2/6, mb4.6/11, MLv4.5/5, Mw(mB)4.6/6*
ISC 01 19:47:09.7±0.4**, 7°.70S**±0°.05×**128°.07E**±0°.07**, h142km, n104, σ1.47s**/106**, mb4.5**/35**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.65	30	P	Pn	19 48 06.0	+0.8
AAI	Ambon	3.99	2	P	Pn	19 48 09.7	0.0
MSAI	Masohi	4.41	11	P	Pn	19 48 15.8	+0.6
TLE	Tual	5.07	66	P	Pn	19 48 24.7	+0.7
MMRI	Maumere	5.84	260	P	Pn	19 48 37.1	+2.8
	111nm,0.5s,2µm						
FAKI	Fak Fak	6.32	41	P	Pn	19 48 38.7	-2.0
	71nm,0.7s,1µm						
KDI	Kendari	6.57	304	P	Pn	19 48 48.8	+4.8
	22nm,0.9s,570nm0.1nm						
LBMI	Labuha	7.04	355	P	Pn	19 48 52.1	+1.8
	34nm,1.4s						
SWI	Sorong	7.50	25	P	Pn	19 48 56.2	-0.3
	88nm,0.9s,1µm						
WSI	Waingapu	7.92	255	P	Pn	19 49 02.5	+0.3
	938nm,0.5s,19µm						
KAPI	Kappang	8.68	287	P	Pn	19 49 14.4	+2.1
	1.6nm,0.3s,baz=140,slow=7.9,SNR=5.8						
WRAB	Tennant Creek	13.60	154	ePn	Pn	19 50 16.1	-0.9
	23nm,0.8s						
WRAB				eSn	Sn	19 52 38.7	-8.8
WRA	Warramunga Arr	13.61	154	P	Pn	19 50 16.4	-0.7
	6.5nm,0.3s,baz=320,slow=13,SNR=187						
WRA				S	Sn	19 52 39.8	-7.8
	14nm,0.3s,baz=331,slow=23,SNR=10						
WRA	Warramunga Arr	13.61	154	P	Pn	19 50 16.4	-0.7
WRA				S	Sn	19 52 39.8	-7.8
MBWA	Marble Bar	15.62	210	ePn	P	19 50 44.4	+1.0
MBWA				eS	Sn	19 53 32.0	-3.9
MYLDM	Lahad Datu	15.96	323	P	P	19 50 50.6	+3.4
AS31	Alice Springs	16.83	161	eP	Pn	19 50 59.3	+2.2
AS31				eS	S	19 54 00.5	-4.5
ASAR	Alice Springs	16.84	161	P	Pn	19 50 59.0	+1.8
	4.8nm,0.3s,baz=340,slow=9.9,SNR=288						
ASAR				S	S	19 53 53.1	-12
	1.5nm,0.3s,baz=330,slow=16,SNR=4.6						
ASAR	Alice Springs	16.84	161	P	Pn	19 50 59.0	+1.8
ASAR				S	S	19 53 53.1	-12
SDKM	Sandakan	17.12	320	P	Pn	19 51 04.0	+3.3
KKM	Kota Kinabalu	18.06	319	P	Pn	19 51 13.4	+1.5
KDM	Kudat	18.34	322	P	Pn	19 51 16.5	+1.4
BTM	Bintulu	18.46	305	P	Pn	19 51 17.8	+1.3
SBUM	Sibu	18.75	302	P	Pn	19 51 21.5	+1.5
SBUM	Sibu	18.75	302	P	Pn	19 51 21.0	+1.0
	29nm,0.9s						
PMG	Port Moresby	18.96	97	P	Pn	19 51 25.2	+2.8
	1.2nm,0.3s,baz=302,slow=6.8,SNR=9.7						
PMG	Port Moresby	18.96	97	P	Pn	19 51 25.2	+2.8
KSM	Kuching	19.92	297	P	Pn	19 51 34.7	+1.0
CISI	Cisompet, Garu	20.07	269	P	P	19 51 30.1	-2.2
TGY	Tagaytay City	22.79	342	P	P	19 52 00.1	-0.3
	40nm,0.3s,baz=273,slow=17,SNR=4.2						
TGY	Tagaytay City	22.79	342	P	P	19 52 00.1	-0.3
FORT	Forrest	22.96	180	eP	P	19 52 05.0	+3.2
	42nm,0.6s						
MYKOM	Kota Tinggi	25.93	290	P	P	19 52 33.3	+4.2
STKA	Stephens Creek	27.16	154	P	P	19 52 42.2	+2.4
	2.0nm,0.5s,baz=319,slow=7.7,SNR=7.3						
STKA	Stephens Creek	27.16	154	P	P	19 52 42.2	+2.4
PSI	Prapat	30.89	289	P	P	19 53 12.4	-0.9
	9.2nm,0.5s,baz=77,slow=14,SNR=8.7						
PSI	Prapat	30.89	289	P	P	19 53 12.4	-0.9
CMAR	Chiang Mai Arr	38.75	312	P	P	19 54 20.4	0.0
	1.8nm,0.6s,baz=143,slow=6.6,SNR=12						
CMAR	Chiang Mai Arr	38.75	312	P	P	19 54 20.4	0.0
CHTO	Chiang Mai	38.97	313	eP	P	19 54 20.9	-1.4
	5.9nm,1.3s						
KSAR	Wonju Array Be	44.91	360	P	P	19 55 09.5	-0.7
KSRS	Korea Array	44.92	360	P	P	19 55 09.5	-0.8
	1.9nm,0.5s,baz=179,slow=9.0,SNR=7.1						
MJAR	Matsushiro Arr	45.03	12	P	P	19 55 08.1	-3.1
	1.9nm,0.8s,baz=195,slow=10,SNR=3.7						
MJAR	Matsushiro Arr	45.03	12	P	P	19 55 08.1	-3.1
XAN	Xi'an	45.31	337	P	P	19 55 11.6	-1.9
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LZH	Lanzhou	49.15	334	eP	P	19 55 43.1	-0.3
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LSA	Lhasa	51.40	318	P	P	19 56 01.0	+0.1
LSA	Lhasa	51.40	318	eP	P	19 55 59.8	-1.1
	comp=Z,3.2nm,0.5s						
USRK	Ussuriysk Arra	51.78	4	P	P	19 56 00.3	-2.4
	comp=Z,1.3nm,0.5s,baz=166,slow=6.5,SNR=6.6						
ODAN	Odare	52.29	313	eP	P	19 56 06.6	-0.6
	comp=Z,20nm,0.5s						
ODAN	Odare	52.29	313	eP	P	19 56 06.6	-0.6
	comp=Z,20nm,0.5s						
TAPN	Taplejung	52.34	313	eP	P	19 56 06.8	-0.8
	comp=Z,23nm,0.7s						
TAPN	Taplejung	52.34	313	eP	P	19 56 06.8	-0.8
	comp=Z,23nm,0.7s						
RAMN	Ramite	52.92	312	eP	P	19 56 11.7	-0.1
	comp=Z,59nm,0.7s						
RAMN	Ramite	52.92	312	eP	P	19 56 11.7	-0.1
	comp=Z,59nm,0.7s						
JIRN	Jiri	53.62	313	eP	P	19 56 16.2	-0.9
JIRN	Jiri	53.62	313	eP	P	19 56 16.2	-0.9
GTA	Gaotai	53.69	333	eP	P	19 56 17.2	+0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GUN	Gumba	53.99	313	eP	P	19 56 18.9	-0.9
	comp=Z,28nm,0.8s						
GUN	Gumba	53.99	313	eP	P	19 56 18.9	-0.9
	comp=Z,28nm,0.8s						
PKI	Pulchoki	54.14	312	eP	P	19 56 19.8	-1.1
	comp=Z,13nm,0.6s						
PKI	Pulchoki	54.14	312	eP	P	19 56 19.8	-1.1
	comp=Z,13nm,0.6s						
KKN	Kakani	54.36	312	eP	P	19 56 21.5	-0.8
	comp=Z,13nm,0.6s						
KKN	Kakani	54.36	312	eP	P	19 56 21.5	-0.8
	comp=Z,13nm,0.6s						
DMN	Daman	54.39	312	eP	P	19 56 21.7	-0.8
	comp=Z,27nm,0.9s						
DMN	Daman	54.39	312	eP	P	19 56 21.7	-0.8
	comp=Z,27nm,0.9s						
GKN	Gorkha	54.95	312	eP	P	19 56 25.6	-0.9
GKN	Gorkha	54.95	312	eP	P	19 56 25.6	-0.9
KOLN	Koldanda	55.59	311	eP	P	19 56 30.3	-0.8
	comp=Z,25nm,0.9s						
KOLN	Koldanda	55.59	311	eP	P	19 56 30.3	-0.8
	comp=Z,25nm,0.9s						
DANN	Dangsing	55.79	312	eP	P	19 56 31.6	-1.0
	comp=Z,15nm,0.6s						
DANN	Dangsing	55.79	312	eP	P	19 56 31.6	-1.0
	comp=Z,15nm,0.6s						
PYUN	Piuthan	56.22	311	eP	P	19 56 34.7	-0.9
	comp=Z,47nm,1.0s						
PYUN	Piuthan	56.22	311	eP	P	19 56 34.7	-0.9
	comp=Z,47nm,1.0s						
ULN	Ulaanbaatar	58.36	344	eP	P	19 56 49.3	-0.9
	comp=Z,5.8nm,0.8s						
SONM	Songino Array	58.52	343	P	P	19 56 51.1	-0.2
	comp=Z,4.3nm,0.8s,baz=170,slow=7.3,SNR=42						
SONM				PcP	PcP	19 57 39.4	-0.7
	comp=Z,0.6nm,0.7s,baz=155,slow=4.9,SNR=2.6						
SONM	Songino Array	58.52	343	P	P	19 56 51.1	-0.2
SONM				PcP	PcP	19 57 39.4	-0.7
MK31	Makanchi Array	67.78	328	eP	P	19 57 51.1	-1.1
MKAR	Makanchi Array	67.78	328	P	P	19 57 51.5	-0.7
	comp=Z,2.5nm,0.4s,baz=117,slow=8.2,SNR=103						
MKAR	Makanchi Array	67.78	328	P	P	19 57 51.5	-0.7
KBL	Kabul	69.76	311	eP	P	19 58 03.7	-1.3
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	69.85	321	P	P	19 58 05.8	+0.5
	comp=Z,0.8nm,0.4s,baz=136,slow=5.7,SNR=8.6						
AAK	Ala-Archa	69.85	321	eP	P	19 58 05.4	+0.1
AAK				P	P	19 58 05.8	+0.5
EKS2	Erkin-Say	70.31	320	eP	P	19 58 08.6	+0.5
	comp=Z,6.8nm,1.5s						
ZAA0	Zalesovo Array	71.38	335	eP	P	19 58 12.6	-1.5
ZALV	Zalesovo Beam	71.38	335	P	P	19 58 12.3	-1.7
	comp=Z,2.9nm,0.4s,baz=139,slow=5.5,SNR=29						
ZALV	Zalesovo Beam	71.38	335	P	P	19 58 12.3	-1.7
KURBB	Kurchatov Arra	72.12	329	P	P	19 58 17.8	-0.7
	comp=Z,3.8nm,0.7s,baz=132,slow=5.0,SNR=44						
KURK	Kurchatov	72.13	330	eP	P	19 58 16.8	-1.8
	comp=Z,9.0nm,1.0s						
ABKAR	Akbulak array	81.87	322	eP	P	19 59 11.8	-1.4
	comp=Z,0.6nm,0.4s						
AKTO	Aktyubinsk	83.46	323	P	P	19 59 20.2	-1.2
	comp=Z,0.9nm,0.5s,baz=109,slow=9.1,SNR=5.3						
AKTO	Aktyubinsk	83.46	323	P	P	19 59 20.2	-1.2
ILAR	Eielson Array	94.80	25	P	P	20 00 14.3	-0.7
	comp=Z,0.2nm,0.6s,baz=244,slow=4.6,SNR=4.6						
ILAR	Eielson Array	94.80	25	P	P	20 00 14.3	-0.7
PDAR	Pinedale Array	118.74	45	PKP	PKPdf	20 05 41.6	0.0
	comp=Z,0.4nm,0.4s,baz=169,slow=1.4,SNR=3.5						
PDAR	Pinedale Array	118.74	45	PKP	PKPdf	20 05 41.6	0.0
TXAR	Lajitas Array	126.93	59	PKP	PKPdf	20 05 57.9	+0.3
	comp=Z,0.2nm,0.3s,baz=222,slow=3.1,SNR=3.8						
TXAR	Lajitas Array	126.93	59	PKP	PKPdf	20 05 57.9	+0.3
TORD	Torodi Ar. Bea	127.06	281	PKP	PKPdf	20 05 58.0	-0.1
	comp=Z,0.5nm,0.5s,baz=49,slow=2.3,SNR=4.1						
TORD	Torodi Ar. Bea	127.06	281	PKP	PKPdf	20 05 58.0	-0.1
CPUP	Villa Florida	145.77	171	PKPbc	PKPbc	20 06 33.7	+0.8
	comp=Z,1.0nm,0.3s,baz=137,slow=1.7,SNR=6.8						
CPUP	Villa Florida	145.77	171	PKPbc	PKPbc	20 06 33.7	+0.8
LPAZ	La Paz	151.28	146	PKPbc	PKPbc	20 06 49.1	+0.8
	comp=Z,1.7nm,0.4s,baz=219,slow=7.9,SNR=11						
LPAZ	La Paz	151.28	146	ePKPbc	PKPbc	20 06 48.6	+0.4

*ISK **01** 20:04:07.9, 37°.82N×29°.15E, h4km, MD2.6*
*ISCJB **01** 20:04:08.5±0.5, 37°.82N±0°.03×29°.10E±0°.05, h9km±5km, Error ellipse: s-maj=6.5km s-min=4.1km az=18.4*
*DDA **01** 20:04:08.0, 37°.85N×29°.09E, h8km, MD2.7*
*CSEM **01** 20:04:08.7±0.2, 37°.83N×29°.10E, h2km, MD2.6, Error ellipse: s-maj=4.1km s-min=2.8km az=106.0*
ISC 01 20:04:08.3±0.9**, 37°.82N**±0°.02×**29°.08E**±0°.03**, h10**km±7km**, n20, σ0.45s**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.07	207	ePG	Pg	20 04 10.8	+0.1
DENT	Denizli	0.07	207	ePg	Pg	20 04 10.8	+0.1
DNZL	Cakiroluk	0.13	190	i P	Pg	20 04 11.5	-0.1
DNZL				i S	Sg	20 04 13.9	0.0
DNZL	Cakiroluk	0.13	190	i P	Pg	20 04 11.5	-0.1
DNZL				i S	Sg	20 04 13.9	0.0
KHL	Karahalli	0.61	35	ePG	Pg	20 04 19.8	-0.4
KHL				eSG	Sg	20 04 28.7	+0.3
KHL	Karahalli	0.61	35	ePg	Pg	20 04 19.8	-0.4
KHL				eSg	Sg	20 04 28.7	+0.3
KHAL	Karahalli	0.64	31	i P	Pg	20 04 20.3	-0.5
KHAL				i S	Sg	20 04 28.8	-0.4
KHAL	Karahalli	0.64	31	i P	Pg	20 04 20.3	-0.5
KHAL				i S	Sg	20 04 28.8	-0.4
GOLH	Golhisar	0.70	146	i P	Pg	20 04 21.9	0.0
GOLH				i S	Sb	20 04 32.8	+0.4
GOLH	Golhisar	0.70	146	i P	Pg	20 04 21.9	0.0
GOLH				i S	Sb	20 04 32.8	+0.4
KULA	Kula-Manisa	0.77	335	ePG	Pb	20 04 23.9	+0.2
KULA				eSG	Sb	20 04 35.4	+1.1
KULA	Kula-Manisa	0.77	335	ePg	Pb	20 04 24.0	+0.2
KULA				eSg	Sb	20 04 35.4	+1.1
MANT	Manisa	0.78	329	i P	Pg	20 04 23.5	0.0
MANT				i S	Sb	20 04 34.9	0.0
MANT	Manisa	0.78	329	i P	Pg	20 04 23.5	0.0
MANT				i S	Sb	20 04 34.9	0.0
YER	Yerkesik	0.93	223	ePG	Pn	20 04 27.2	-0.3
YER	Yerkesik	0.93	223	ePg	Pn	20 04 27.2	-0.3
AYDN	Tasoluk	0.96	261	i P	Pn	20 04 27.7	-0.2
AYDN				i S	Sg	20 04 38.8	-0.6
AYDN	Tasoluk	0.96	261	i P	Pn	20 04 27.7	-0.2
AYDN				i S	Sg	20 04 38.8	-0.6
GDZ	Gediz	1.30	14	i P	Pg	20 04 34.0	+0.6
GDZ				eS	Sb	20 04 49.4	-0.5
GDZ	Gediz	1.30	14	i P	Pg	20 04 34.0	+0.6
GDZ				eS	Sb	20 04 49.4	-0.5

CSEM 01 20:20:12.4±0.2**, 27°.06N×55°.37E, h2km, ML3.5**/2**, Error ellipse: s-maj=5.0km s-min=4.2km az=74.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.79	65	ePg	Pg	20 20 27.2	-0.6
BNDS				eSg	Sg	20 20 38.8	+0.6
BANOM	Banah	1.41	144	P	Pn	20 20 38.3	-0.9
BANOM				S	Sb	20 20 58.1	+0.1
NAZ	Nazwa, Dubai	2.08	173	P	Pn	20 20 48.7	+0.3
FAQ	Al Faqa, Dubai	2.32	175	P	Pn	20 20 51.8	+0.2
HATD	Hatta, Dubai	2.33	163	P	Pn	20 20 51.9	+0.1
GHIR	Ghir-Karzin	2.44	300	ePn	Pn	20 20 53.8	+0.4
GHIR				eSg	Sg	20 21 29.8	-1.3
ASHO	Ashiyiah	2.45	165	P	Pn	20 20 53.1	-0.4
KRBR	Kerman	3.15	23	ePn	Pn	20 21 03.9	+0.4

*ISCJB **01** 20:49:01.8±0.4, 76°.79N±0°.04×9°.7E±0°.2, h10km, mb3.7/17, MS3.4/8, Error ellipse: s-maj=5.5km s-min=5.2km az=29.7*
*NAO **01** 20:49:02.8±3.5, 77°.06N×9°.77E, h19km±27km, ML3.5*
*CSEM **01** 20:49:02.1±0.3, 76°.93N×9°.29E, h15km, ML3.5, Error ellipse: s-maj=9.1km s-min=4.7km az=98.0*
*BER **01** 20:49:03.5±2.6, 76°.91N×9°.18E, h10km, MD2.8, ML3.4, ML3.5(NAO)*
*IDC **01** 20:49:03.0±0.5, 76°.87N×8°.90E, h0km, mb3.8/17, mb1 4.0/22, mb1mx3.9/32, mbtmp3.8/22, ML3.4/3, MS3.4/10, Ms1 3.3/10, ms1mx3.0/56, Error ellipse: s-maj=12.7km s-min=10.1km az=64.0*
ISC 01 20:49:03.9±0.5**, 76°.91N**±0°.05×**9°.62E**±0°.06**, h10km, n63, σ1.79s**/64**, mb3.8**/17**, MS3.4**/8**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	1.35	83	eP	Pn	20 49 27.6	-1.1
HSP				eS	Sb	20 49 44.7	-1.8
SPA0	Spitsbergen Ar	1.94	46	Pg	Pn	20 49 37.0	+0.2
	baz=218,slow=16						
SPA0				Lg	Lg	20 50 00.8	
	baz=222,slow=28						
SPA0	Spitsbergen Ar	1.94	46	eP	Pn	20 49 37.0	+0.2
SPA0				eS	Sn	20 50 00.3	-0.9
SPA0	Spitsbergen Ar	1.94	46	Pg	Pn	20 49 37.0	+0.2
	baz=218,slow=15,SNR=185						
SPA0				eS	Sn	20 50 00.3	-0.9
	SNR=50						
SPA0				Lg	Lg	20 50 00.8	
	baz=222,slow=23,SNR=9.8						
SPITS	Spitsbergen Ar	1.94	46	Pn	Pn	20 49 37.1	+0.2
	baz=217,slow=15,SNR=5092						
SPITS				Sn	Sn	20 50 00.5	-0.7
	baz=228,slow=29,SNR=22						
KBS	Kingsbay	2.08	12	Pn	Pn	20 49 36.8	-2.0
KBS				Lg	Lg	20 49 59.8	
KBS	Kingsbay	2.08	12	eP	Pn	20 49 36.8	-2.0
KBS				eS	Sn	20 49 60.0	-4.8
KBS				AML	AML	20 50 04.7	
	comp=Z,956nm,0.2s						
KBS	Kingsbay	2.08	12	Pn	Pn	20 49 36.8	-2.0
KBS				Lg	Lg	20 49 59.8	
KBS				eS	Sn	20 50 00.0	-4.8
	comp=Z,956nm,0.2s,SNR=50						
BJO	Bjornoya	3.38	131	eP	Pn	20 49 55.3	-1.4
BJO				eS	Sn	20 50 30.9	-5.9
BJO	Bjornoya	3.38	131	eP	Pn	20 49 55.3	-1.4
	SNR=50						
HOPEN	Hopen	3.57	89	eP	Pn	20 49 58.9	-0.3
HOPEN				eS	Sn	20 50 39.5	-1.9
HOPEN				AML	AML	20 50 53.5	
	comp=Z,109nm,0.7s						
HOPEN	Hopen	3.57	89	eP	Pn	20 49 58.9	-0.3
	SNR=50						
HOPEN				eS	Sn	20 50 39.5	-1.9
	comp=Z,109nm,0.7s,SNR=50						
JMIC	Jan Mayen	7.74	229	LR	LR	20 53 03.8	
	comp=Z,149nm,20.9s,baz=32,slow=32						
ARA0	ARCESS Array S	8.67	140	Pn	Pn	20 51 07.5	-1.6
	baz=324,slow=11						
ARA0				Sn	Sn	20 52 37.8	-9.1
	baz=332,slow=22						
ARA0	ARCESS Array S	8.67	140	Pn	Pn	20 51 07.5	-1.6
	baz=324,slow=11						
ARA0				S	Sn	20 52 37.8	-9.1
	baz=332,slow=22						
ARA0	ARCESS Array S	8.67	140	Pn	Pn	20 51 07.6	-1.6
	baz=324,slow=11,SNR=6.0						
ARCES	ARCESS Array B	8.67	140	Pn	Pn	20 51 07.9	-1.2
	comp=Z,0.3nm,0.3s,baz=321,slow=10,SNR=14						
ARCES				Sn	Sn	20 52 37.5	-9.4
	comp=Z,1.3nm,0.3s,baz=333,slow=21,SNR=7.8						
ARCES				LR	LR	20 56 06.8	
	comp=Z,59nm,18.1s,baz=16,slow=48						
KEV	Kevo	8.70	137	ep	Pn	20 51 08.6	-0.9
	comp=Z,0.7nm,0.3s						
KTK1	Kautokeino	8.85	147	ePn	Pn	20 51 11.2	-0.4
STOK	Stokkvaagen	10.69	173	ePn	Pn	20 51 35.5	-1.2
FLOS	Flostrand	10.69	172	ePn	Pn	20 51 35.4	-1.4
MOR8	Moi Rana	10.90	170	ePn	Pn	20 51 38.8	-0.8
APA0	Apatity Array	11.61	131	Pn	Pn	20 51 48.6	-0.7
	baz=333,slow=18						
APA0	Apatity Array	11.61	131	Pn	Pn	20 51 48.6	-0.7
	baz=333,slow=18						
APA0	Apatity Array	11.61	131	Pn	Pn	20 51 48.6	-0.7
	baz=333,slow=17						
JOF	Joensuu	15.71	141	ep	Pn	20 52 39.2	-5.7
	comp=Z,1.0nm,0.7s						
KAF	Kangasniemi	15.85	150	ep	Pn	20 52 39.5	-7.2
	comp=Z,1.9nm,0.8s						
NB2	NORSAR Subarra	15.96	177	P	Pn	20 52 47.4	-0.7
	baz=358,slow=14						
NB2	NORSAR Subarra	15.96	177	Pn	Pn	20 52 47.4	-0.7
	baz=358,slow=14						
NB2	NORSAR Subarra	15.96	177	Pn	Pn	20 52 47.4	-0.7
	baz=358,slow=14,SNR=50						
NOA	NORSAR Array B	15.96	177	Pn	Pn	20 52 47.5	-0.7
	comp=Z,0.3nm,0.3s,baz=354,slow=13,SNR=7.4						
FIA0	FINESS Array S	16.48	151	P	Pn	20 52 52.4	-2.3
	baz=333,slow=14						
FIA0	FINESS Array S	16.48	151	Pn	Pn	20 52 52.4	-2.3
	baz=333,slow=14						
FIA0	FINESS Array S	16.48	151	Pn	Pn	20 52 52.4	-2.3
	baz=333,slow=12,SNR=50						
FINES	FINESS Array B	16.48	151	Pn	Pn	20 52 52.2	-2.5
	comp=Z,0.0nm,0.3s,baz=353,slow=10,SNR=2.7						
HFS	Hagfors	16.92	173	P	Pn	20 52 58.1	-2.2
	slow=14						
HFS	Hagfors	16.92	173	Pn	Pn	20 53 00.6	+0.3
	comp=Z,0.2nm,0.3s,baz=2.5,slow=10,SNR=7.5						
HFS	Hagfors	16.92	173	Pn	Pn	20 52 58.1	-2.2
	slow=14						
HFS	Hagfors	16.92	173	Pn	Pn	20 52 58.1	-2.2
	slow=14,SNR=50						
RES	Resolute Bay	22.56	318	P	P	20 54 03.7	+0.2
	comp=Z,1.5nm,0.8s,baz=37,slow=7.0,SNR=5.5						
FRB	Frobisher Bay	26.76	285	LR	LR	21 04 50.8	
	comp=Z,56nm,18.3s,baz=8.1,slow=36						
AKASG	Malin Array Be	27.38	152	P	P	20 54 51.4	+2.5
	comp=Z,1.3nm,0.6s,baz=342,slow=9.9,SNR=4.3						
VRAC	Vranov	27.84	170	P	P	20 54 54.5	+1.4
	comp=Z,1.0nm,0.6s,baz=353,slow=7.3,SNR=4.4						
GERES	GERESS Array B	28.22	174	P	P	20 54 57.9	+1.4
	comp=Z,1.0nm,0.9s,baz=12,slow=7.1,SNR=8.1						
SCHQ	Schefferville	34.41	275	P	P	20 55 49.5	-1.3
	comp=Z,3.0nm,1.1s,baz=326,slow=11,SNR=2.5						
SCHQ				LR	LR	21 09 47.0	
	comp=Z,96nm,20.3s,baz=13,slow=36						
ZALV	Zalesovo Beam	34.94	86	P	P	20 55 59.1	+3.8
	comp=Z,0.5nm,0.5s,baz=331,slow=8.8,SNR=3.8						
ZALV				PcP	PcP	20 58 28.6	+1.2
	comp=Z,1.1nm,0.6s,baz=313,slow=3.3,SNR=9.2						
ZALV				LR	LR	21 11 52.6	
	comp=Z,28nm,18.7s,baz=215,slow=39						
YKA	Yellowknife Ar	36.60	320	P	P	20 56 09.4	0.0
	comp=Z,0.6nm,0.7s,baz=11,slow=8.6,SNR=15						
YKA				PcP	PcP	20 58 32.0	-0.1
	comp=Z,0.1nm,0.5s,baz=13,slow=2.5,SNR=5.1						
KURBB	Kurchatov Arra	36.60	95	LR	LR	21 15 05.1	
	comp=Z,46nm,21.4s,baz=305,slow=42						
ILAR	Eielson Array	37.80	344	P	P	20 56 20.9	+1.3
	comp=Z,0.6nm,0.9s,baz=0.9,slow=6.7,SNR=4.3						
ESDC	Sonseca Array	37.80	197	P	P	20 56 19.1	-0.8
	comp=Z,0.8nm,0.8s,baz=3.4,slow=8.9,SNR=5.5						
MKAR	Makanchi Array	41.05	93	P	P	20 56 49.6	+2.7
	comp=Z,1.0nm,0.5s,baz=354,slow=6.8,SNR=24						
SONM	Songino Array	45.46	70	P	P	20 57 24.7	+2.0
	comp=Z,0.5nm,0.8s,baz=337,slow=5.8,SNR=5.3						
SADO	Sadowa	46.61	282	LR	LR	21 17 00.5	
	comp=Z,81nm,18.3s,baz=74,slow=36						
USRK	Ussuriysk Arra	53.94	49	P	P	20 58 28.3	+1.3
	comp=Z,1.0nm,0.6s,baz=320,slow=4.9,SNR=4.2						
PDAR	Pinedale Array	54.77	308	P	P	20 58 33.8	+0.4
	comp=Z,0.5nm,0.8s,baz=28,slow=2.1,SNR=3.7						
TKL	Tuckaleechee C	56.35	282	LR	LR	21 22 55.6	
	comp=Z,63nm,18.6s,baz=56,slow=36						
KSRS	Korea Array	59.76	54	LR	LR	21 25 33.2	
	comp=Z,17nm,19.8s,baz=350,slow=37						
NVAR	Mina Array Bea	60.48	315	P	P	20 59 14.2	+0.5
	comp=Z,0.6nm,0.6s,baz=28,slow=6.7,SNR=4.8						
TORD	Torodi Ar. Bea	63.90	189	P	P	20 59 35.8	-0.7
	comp=Z,1.9nm,1.1s,baz=359,slow=5.2,SNR=6.5						
TXAR	Lajitas Array	66.68	299	P	P	20 59 54.5	-0.1
	comp=Z,1.5nm,0.7s,baz=41,slow=4.7,SNR=17						
SJG	San Juan	69.26	260	LR	LR	21 28 46.8	
	comp=Z,54nm,18.0s,baz=89,slow=34						
CMAR	Chiang Mai Arr	72.00	86	P	P	21 00 28.7	+1.2
	comp=Z,1.2nm,0.8s,baz=339,slow=7.6,SNR=8.9						
ASAR	Alice Springs	120.42	61	PKP	PKPdf	21 07 54.4	-0.4
	comp=Z,0.7nm,0.9s,baz=340,slow=3.3,SNR=4.5						

*CSEM **01** 20:53:26.0±0.4, 36°.31N×42°.46E, h10km, MD3.9, Error ellipse: s-maj=12.0km s-min=5.8km az=133.0*
*DDA **01** 20:53:26.1, 36°.49N×42°.11E, h37km, MD3.9*
*ISK **01** 20:53:27.6, 36°.57N×42°.31E, h8km, ML4.0*
*ISCJB **01** 20:53:28.1±0.5, 36°.39N±0°.03×42°.23E±0°.04, h33km, Error ellipse: s-maj=5.8km s-min=3.7km az=44.5*
*NSSC **01** 20:53:35.9±1.6, 36°.33N×41°.55E, h78km±84km, ML3.4, Fault plane solution: NP1:φs268.85000°, δ30.00000°, λ-90.00000°.*
ISC 01 20:53:29.0±1.3**, 36°.38N**±0°.05×**42°.27E**±0°.04**, h35km, n86, σ1.76s**/94**, 10C-9D, Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUKT	Cukurca	1.38	51	ePN	Pn	20 53 51.1	-0.7
CUKT				eSN	Sn	20 54 10.2	+1.2
CUKT	Cukurca	1.38	51	ePn	Pn	20 53 51.2	-0.7
CUKT				eSn	Sn	20 54 10.2	+1.2
MARD	Mardin	1.52	308	i P	Pn	20 53 50.9	-2.9
MARD				i S	Sn	20 54 09.1	-3.2
HAKT	HAKKARI	1.65	44	i P	Pn	20 53 55.3	-0.4
HAKT				i S	Sn	20 54 14.2	-1.5
HAKT	HAKKARI	1.65	44	i P	Pn	20 53 55.3	-0.4
HAKT				i S	Sn	20 54 14.2	-1.5
BEST	Besiri	1.71	332	i P	Pn	20 53 54.1	-2.2
BEST				i S	Sn	20 54 14.3	-2.7
BTMT	Batman	1.91	341	ePN	Pn	20 53 58.1	-1.1
BTMT				eSN	Sn	20 54 21.7	-0.4
BTMT	Batman	1.91	341	ePn	Pn	20 53 58.1	-1.1
BTMT				eSn	Sn	20 54 21.7	-0.4
VANT	Van	2.19	21	ePN	Pn	20 54 02.9	-0.2
VANT	Van	2.19	21	ePn	Pn	20 54 02.9	-0.2
DIY	Diyarbakir	2.23	313	ePN	Pn	20 54 05.0	+1.5
DIY	Diyarbakir	2.23	313	ePn	Pn	20 54 05.0	+1.5
DIYA	Diyarbakir	2.31	313	i P	Pn	20 54 03.0	-1.6
DIYA				eS	Sn	20 54 28.6	-3.2
DIYA	Diyarbakir	2.31	313	i P	Pn	20 54 03.0	-1.6
DIYA				eS	Sn	20 54 28.6	-3.2
VANB	Van	2.38	22	ePN	Pn	20 54 05.0	-0.7
VANB	Van	2.38	22	ePn	Pn	20 54 05.0	-0.7
MNKR	ALMNKUR	2.46	261⇑	eP	Pn	20 54 06.4	-0.3
MNKR				eS	Sn	20 54 28.4	-7.2
MNKR				AML	AML	20 54 46.4	

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=Z,3µm,0.7s						
MNKR	ALMNKUR	2.46	261	⇑eP	Pn	20 54 06.5	-0.3
MNKR				eS	Sn	20 54 28.4	-7.2
MNKR				AML	AML	20 54 46.4	
	comp=Z,3µm,0.7s						
MNKR	ALMNKUR	2.46	261	⇑eP	Pn	20 54 06.5	-0.3
	SNR=107						
MNKR				eS	Sn	20 54 28.4	-7.2
	comp=Z,3µm,0.7s,SNR=107						
BNGL	BINGOL	2.72	341	eP	Pn	20 54 08.9	-1.5
BNGL				eS	Sn	20 54 42.8	+0.7
VRTB	Varto-Mus	2.85	347	ePN	Pn	20 54 11.4	-0.7
VRTB	Varto-Mus	2.85	347	ePn	Pn	20 54 11.4	-0.7
BINT	Bingol	2.86	331	ePn	Pn	20 54 13.2	+0.9
BNGB	Bingˆ¶l	2.90	335	ePN	Pn	20 54 13.2	+0.4
URFA	Urfa	2.96	292	ePN	Pn	20 54 15.4	+1.8
URFA	Urfa	2.96	292	ePn	Pn	20 54 15.4	+1.8
CLDR	Caldiran	3.05	25	ePN	Pn	20 54 14.7	-0.3
CLDR	Caldiran	3.05	25	ePn	Pn	20 54 14.7	-0.3
SVRC	Sivrice-ELAZID	3.09	311	ePN	Pn	20 54 16.8	+1.4
SVRC	Sivrice-ELAZID	3.09	311	ePn	Pn	20 54 16.8	+1.4
JHLN	Al Jahlan	3.18	258	⇑eP	Pn	20 54 14.9	-1.6
JHLN				AML	AML	20 55 18.3	
	comp=Z,410nm,0.6s						
JHLN	Al Jahlan	3.18	258	⇓eP	Pn	20 54 16.2	-0.4
JHLN				AML	AML	20 55 18.3	
	comp=Z,410nm,0.6s						
JHLN	Al Jahlan	3.18	258	⇓eP	Pn	20 54 16.2	-0.4
	SNR=101						
AGRB	Hanur-Agry	3.24	10	ePN	Pn	20 54 17.4	-0.2
AGRB	Hanur-Agry	3.24	10	ePn	Pn	20 54 17.4	-0.2
ELZG	Elazig	3.36	310	eP	Pn	20 54 17.6	-1.6
ELZG	Elazig	3.36	310	eP	Pn	20 54 17.6	-1.6
SLMH	Al Salmeh	3.51	269	⇑eP	Pn	20 54 20.4	-0.7
SLMH				AML	AML	20 55 29.8	
	comp=N,536nm,0.6s						
SLMH				AML	AML	20 55 35.2	
	comp=E,830nm,0.6s						
SLMH				AML	AML	20 55 35.8	
	comp=Z,937nm,0.6s						
BHD	Baghdad	3.56	150	ePn	Pn	20 54 28.0	+6.3
BHD				eSn	Sn	20 55 16.0	+14
BHD				i Sb		20 55 25.0	
BHD				i Sg		20 55 35.0	
EZM	Erzurum	3.59	349	ePN	Pn	20 54 23.1	+0.7
MYA	Malataya	3.63	304	ePN	Pn	20 54 24.2	+1.5
MYA	Malataya	3.63	304	ePn	Pn	20 54 24.2	+1.5
ERZN	Erzincan	3.78	329	ePN	Pn	20 54 26.2	+1.3
AKCD	Akcadag	3.96	300	i P	Pn	20 54 25.3	-2.0
AKCD				eS	Sn	20 55 17.1	+4.6
AKCD	Akcadag	3.96	300	i P	Pn	20 54 25.3	-2.0
AKCD				eS	Sn	20 55 17.1	+4.6
EZC	Erzincan	4.08	327	ePN	Pn	20 54 31.0	+2.0
EZC	Erzincan	4.08	327	ePn	Pn	20 54 31.0	+2.0
GAZ	Gaziantep	4.14	283	ePN	Pn	20 54 33.6	+3.9
GAZ	Gaziantep	4.14	283	ePn	Pn	20 54 33.6	+3.9
ILIC	ilic-Erzincan	4.24	317	ePN	Pn	20 54 33.6	+2.4
ILIC	ilic-Erzincan	4.24	317	ePn	Pn	20 54 33.6	+2.4
KARS	Kars	4.29	8	ePN	Pn	20 54 31.6	-0.3
KARS	Kars	4.29	8	ePn	Pn	20 54 31.6	-0.3
BAYT	Ayd˜–ntepe-Bay	4.34	338	ePN	Pn	20 54 34.6	+1.9
BAYT	Ayd˜–ntepe-Bay	4.34	338	ePn	Pn	20 54 34.6	+1.9
DARE	Darende-Malaty	4.37	307	ePN	Pn	20 54 35.6	+2.6
DARE	Darende-Malaty	4.37	307	ePn	Pn	20 54 35.6	+2.6
KFRA	Kufra	4.59	257	i P	Pn	20 54 34.4	-1.6
KFRA				⇓eP	Pn	20 54 34.4	-1.6
KFRA				eS	Sn	20 55 23.5	-4.7
KFRA				AML	AML	20 56 02.2	
	comp=E,379nm,0.5s						
KFRA				AML	AML	20 56 03.0	
	comp=Z,785nm,0.4s						
KFRA				AML	AML	20 56 07.4	
	comp=N,645nm,0.6s						
KFRA	Kufra	4.59	257	eP	Pn	20 54 36.1	+0.1
KFRA				AML	AML	20 56 02.2	
	comp=E,379nm,0.5s						
KFRA				AML	AML	20 56 03.0	
	comp=Z,785nm,0.4s						
KFRA				AML	AML	20 56 07.4	
	comp=N,645nm,0.6s						
GUMT	Gumushane	4.62	333	ePN	Pn	20 54 38.2	+1.7
GUMT	Gumushane	4.62	333	ePn	Pn	20 54 38.2	+1.7
ROOS	tl_alroos	4.63	243	eP	Pn	20 54 38.9	+2.3
ROOS				AML	AML	20 56 08.8	
	comp=Z,1.3nm,1.1s						
ROOS	tl_alroos	4.63	243	eP	Pn	20 54 38.9	+2.3
	SNR=97						
BIDA	Albida	5.03	256	⇑eP	Pn	20 54 41.6	-0.4
BIDA	Albida	5.03	256	⇑eP	Pn	20 54 41.9	-0.1
BIDA	Albida	5.03	256	eP	Pn	20 54 41.7	-0.3
	SNR=96						
HAWK	Haweek	5.13	251	⇑eP	Pn	20 54 42.6	-0.9
HAWK				AML	AML	20 56 22.7	
	comp=Z,60nm,0.5s						
HAWK	Haweek	5.13	251	⇓eP	Pn	20 54 43.2	-0.3
HAWK				AML	AML	20 56 22.7	
	comp=Z,60nm,0.5s						
HAWK	Haweek	5.13	251	⇓eP	Pn	20 54 43.2	-0.3
	SNR=96						
KOZT	Kozan	5.28	284	ePN	Pn	20 54 49.4	+4.0
KOZT	Kozan	5.28	284	ePn	Pn	20 54 49.4	+4.0
ESPY	Espiye-Giresun	5.31	330	ePN	Pn	20 54 48.5	+2.7
ESPY	Espiye-Giresun	5.31	330	ePn	Pn	20 54 48.5	+2.7
ZALF	Zalf	5.33	231	⇓eP	Pn	20 54 47.9	+1.7
ZALF				eS	Sn	20 55 39.2	-7.2
ZALF				AML	AML	20 56 23.8	
	comp=E,165nm,0.6s						
ZALF				AML	AML	20 56 26.0	
	comp=N,57nm,0.5s						
ZALF				AML	AML	20 56 26.3	
	comp=Z,138nm,0.6s						
ZALF	Zalf	5.33	231	⇓eP	Pn	20 54 47.8	+1.7
	SNR=96						
ZALF				eS	Sn	20 55 39.2	-7.2
	comp=Z,138nm,0.6s,SNR=96						
RSDY	Resadiye-TOKAT	5.58	317	ePN	Pn	20 54 52.3	+2.8
RSDY	Resadiye-TOKAT	5.58	317	ePn	Pn	20 54 52.3	+2.8
BNN	Bunyan	5.66	298	ePN	Pn	20 54 54.3	+3.5
BNN	Bunyan	5.66	298	ePn	Pn	20 54 54.3	+3.5
TOTH	TOTAH	5.67	240	⇑eP	Pn	20 54 52.5	+1.8
TOTH				AML	AML	20 56 49.1	
	comp=Z,80nm,0.6s						
TOTH	TOTAH	5.67	240	⇑eP	Pn	20 54 52.5	+1.8
	SNR=95						
SALA	Sala	5.85	233	⇓eP	Pn	20 54 53.8	+0.4
SALA				AML	AML	20 56 52.5	
	comp=Z,82nm,0.5s						
SALA	Sala	5.85	233	⇓eP	Pn	20 54 53.8	+0.4
	SNR=95						
BRBR	Barbar	5.98	242	eP	Pn	20 54 54.9	-0.2
BRBR				AML	AML	20 56 49.5	
	comp=Z,47nm,0.6s						
TCHB	Talchebab	6.38	236	eP	Pn	20 55 01.6	+1.0
TCHB				AML	AML	20 57 11.6	
	comp=Z,69nm,0.9s						
TCHB	Talchebab	6.38	236	eP	Pn	20 55 01.5	+1.0
	SNR=95						

IDC 01 20:59:48.0±0.8, 0°.18S×121°.97E, h281 km±8 km, mb3.4/7, mb1 3.6/8, mb1mx3.3/23, mbtmp3.4/8, Error ellipse: s-maj=44.1km s-min=11.4km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KAPI	Kappang	5.29	205	P	Pn	21 01 08.2	-0.1
	2.0nm,0.3s,baz=39,slow=7.6,SNR=16						
WRA	Warramunga Arr	23.08	149	P	P	21 04 28.8	-0.7
	14nm,0.5s,baz=326,slow=11,SNR=199						
WRA				ScP	ScP	21 11 19.8	-0.9
	0.3nm,0.5s,baz=323,slow=2.6,SNR=8.1						
ASAR	Alice Springs	26.07	154	P	P	21 04 56.5	+0.1
	5.8nm,0.5s,baz=343,slow=14,SNR=142						
ASAR				PcP	PcP	21 08 16.0	-0.3
	0.8nm,0.3s,baz=342,slow=2.3,SNR=11						
ASAR				ScP	ScP	21 11 28.2	-0.8
	0.5nm,0.8s,baz=350,slow=3.2,SNR=4.7						
STKA	Stephens Creek	36.59	151	P	P	21 06 28.1	+0.3
	9.2nm,0.6s,baz=317,slow=9.2,SNR=30						
SONM	Songino Array	49.70	346	P	P	21 08 12.1	0.0
	0.2nm,0.6s,baz=158,slow=7.3,SNR=3.3						
SONM				pP	pP	21 09 11.8	+0.2
	0.1nm,0.4s,baz=194,slow=3.0,SNR=2.7						
MKAR	Makanchi Array	58.23	329	P	P	21 09 13.4	+0.1
	0.2nm,0.3s,baz=127,slow=9.1,SNR=8.2						
MKAR				pP	pP	21 10 14.8	-0.1
	0.2nm,0.6s,baz=120,slow=8.5,SNR=1.9						
KURBB	Kurchatov Arra	62.60	330	P	P	21 09 42.2	-0.4
	0.2nm,0.7s,baz=132,slow=5.6,SNR=4.5						
KURBB				pP	pP	21 10 44.9	-0.3
	0.4nm,0.8s,baz=127,slow=6.1,SNR=4.0						
VNDA	Vanda	80.22	172	P	P	21 11 27.2	+0.3
	0.8nm,0.5s,baz=322,slow=7.2,SNR=6.1						

IDC ***01*** *21:01:37.3±2.2, 43°.45N×105°.24W, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/30, mbtmp3.5/8, ML3.6/2, MS2.8/1, Ms1 2.7/1, ms1mx2.2/47, Error ellipse: s-maj=57.2km s-min=7.6km az=153.0*

ISCJB ***01*** *21:01:38.3±0.2, 43°.72N±0°.02×105°.26W±0°.02, h0km, mb3.7/5, Error ellipse: s-maj=2.6km s-min=2.3km az=12.1*

NEIC ***01*** *21:01:39.7±0.3, 43°.74N×105°.21W, h0km, ML3.3, Error ellipse: s-maj=6.3km s-min=4.4km az=157.0, Suspected Mining explosion.*

NEIC 70 km [40 miles] SSE of Gillette.

ISC 01 21:01:38.9±0.6, 43°.63N±0°.02×105°.17W±0°.02, h0km, n80, σ1ˢ.71/126, mb3.6/5, 8C-16D, Wyoming

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.35	231	P	Pg	21 01 46.4	+0.7
	baz=0.4,SNR=154						
I23A	Meade Ranch, G	0.39	328	⇑P	Pg	21 01 45.6	-0.8
	baz=0.3,SNR=102						
I23A				⇓S	Sg	21 01 49.1	-2.4
	baz=0.3						
I24A	Kuemmerle Ranc	0.46	59	⇑P	Pb	21 01 49.6	-0.3
	baz=0.4,SNR=570						
J24A	Dixon Ranch, L	0.48	128	⇑P	Pb	21 01 50.8	+0.6
	baz=0.6,SNR=73						
K23A	Bowen Ranch, D	0.93	201	⇓P	Pb	21 01 57.8	-0.2
	baz=1.0						
K24A	Anderson Ranch	0.94	164	P	Pn	21 01 58.8	-0.7
	baz=1.1,SNR=255						
H23A	Clabaugh Cattl	0.95	350	P	Pg	21 01 55.6	-1.4
	baz=0.8,SNR=50						
RSSD	Black Hills	0.96	59	eP	Pb	21 01 58.5	0.0
RSSD				eS	Sg	21 02 10.4	+0.7
J22A	Midwest	0.97	258	⇓P	Pg	21 01 55.9	-1.6
	baz=1.0,SNR=40						
I22A	9 Mile Ranch,	0.98	286	P	Pg	21 01 55.9	-1.8
	baz=0.9,SNR=201						
H24A	Dirks Ranch, A	1.21	22	P	Pg	21 02 01.1	-0.9
	baz=1.1,SNR=295						
H22A	Clearmont	1.29	319	⇓P	Pg	21 02 01.3	-2.3
	baz=1.2,SNR=71						
K22A	Casper	1.39	226	⇑Pb	Pg	21 02 04.5	-1.0
	baz=1.4,SNR=172						
K25A	Mack Ranch, Ha	1.39	136	⇑Pb	Pb	21 02 07.6	+1.7
	baz=1.5,SNR=142						
I21A	Big Trails, Te	1.55	278	⇓Pn	Pn	21 02 04.9	-2.9
	baz=1.5						
G23A	Biddle	1.58	354	⇓Pb	Pn	21 02 06.9	-1.3
	baz=1.5,SNR=68						
L24A	Wheatland	1.59	174	⇑Pb	Pg	21 02 09.7	+0.3
	baz=1.7						
H21A	Big Horn, Sher	1.68	307	⇓Pb	Pn	21 02 08.1	-1.5
	baz=1.6,SNR=111						
J21A	Lysite	1.68	261	Pb	Pn	21 02 07.9	-1.8
	baz=1.7,SNR=67						
L25A	Engebretsen Ra	1.72	148	⇓Pb	Pg	21 02 13.1	+1.3
	baz=1.8,SNR=31						
K26A	Motz Farm, Whi	1.73	122	⇓Pb	Pg	21 02 12.9	+0.9
	baz=1.8,SNR=13						
G22A	Birney	1.78	334	⇑Pb	Pn	21 02 10.2	-0.8
	baz=1.7,SNR=134						
G24A	Alzada	1.79	17	⇓Pb	Pn	21 02 11.3	+0.2
	baz=1.7,SNR=48						
K21A	Alcova	1.82	238	⇓Pb	Pn	21 02 11.5	0.0
	baz=1.9,SNR=80						
K21A				⇓Sb	Sn	21 02 35.0	-0.4
	baz=1.9						
L22A	Ellis Ranch, M	1.84	211	⇑Pb	Pb	21 02 12.9	-0.7
	baz=1.9,SNR=22						
F23A	Volborg	2.10	356	Pb	Pn	21 02 14.9	-0.5
	baz=2.0,SNR=142						
J20A	Shoshoni	2.14	264	⇓Pb	Pb	21 02 16.9	-1.6
	baz=2.1						
G21A	Lodge Grass	2.16	318	⇓Pb	Pn	21 02 15.3	-0.9
	baz=2.1,SNR=56						
G21A				⇓Sb	Sn	21 02 43.2	-0.6
	baz=2.1						
I20A	Worland	2.16	280	Pb	Pn	21 02 15.8	-0.5
	baz=2.1,SNR=470						
M24A	Cheyenne	2.17	173	Pb	Pg	21 02 19.3	-1.2
	baz=2.3,SNR=82						
F22A	Rosebud	2.29	341	Pb	Pn	21 02 16.9	-1.0
	baz=2.2,SNR=55						
PHWY	Pilot Hill	2.33	185	ePn	Pb	21 02 21.0	-0.9
PHWY				eSn	Sg	21 02 51.7	-2.1
M25A	Palm-Egli Farm	2.34	159	⇓Pb	Pb	21 02 21.9	-0.1
	baz=2.5,SNR=28						
RWWY	Rawlins	2.45	218	ePn	Pb	21 02 22.0	-2.0
RWWY				eSn	Sb	21 02 53.3	-1.5
RLMT	Red Lodge	3.29	298	ePn	Pn	21 02 30.7	-1.2
RLMT				eSn	Sn	21 03 12.8	+1.0
BW06	Boulder Array	3.32	256	ePn	Pn	21 02 32.2	-0.1
BW06				eSn	Sn	21 03 13.8	+1.3
PDAR	Pinedale Array	3.32	256	Pn	Pn	21 02 32.1	-0.2
	3.7nm,0.3s,baz=76,slow=16,SNR=54						
PDAR				Pg	Pb	21 02 39.5	+0.7
	9.6nm,0.3s,baz=54,slow=16,SNR=49						
PDAR				Lg	Lg	21 03 18.1	
	15nm,0.3s,baz=65,slow=33,SNR=8.7						
PDAR	Pinedale Array	3.32	256	Pn	Pn	21 02 32.1	-0.2
PDAR				Pg	Pb	21 02 39.5	+0.7
PDAR				Lg	Lg	21 03 18.1	
PD02	Pinedale Array	3.32	257	ePn	Pn	21 02 32.0	-0.2
PD02				eSn	Sn	21 03 15.4	+2.8
PD01	Pinedale Array	3.33	257	ePn	Pn	21 02 32.5	0.0
PD01				eSn	Sn	21 03 14.1	+1.2
OGNE	Ogallala	3.55	138	ePn	Pb	21 02 38.5	-4.1
OGNE				ePg	Pg	21 02 51.2	+4.3
OGNE				eSn	Sg	21 03 29.5	-3.4
ISCO	Idaho Springs	3.84	185	ePn	Pn	21 02 42.4	+3.0
ISCO				eSn	Sb	21 03 32.9	-1.8
GCMT	Greycliff	3.87	306	ePn	Pn	21 02 38.6	-1.1
GCMT				ePg	Pb	21 02 48.6	+0.6
GCMT				eS	Sn	21 03 29.4	+3.6
LKWY	Lake	3.88	286	ePn	Pn	21 02 42.0	+2.0
LKWY				ePg	Pg	21 02 51.2	-2.0
LKWY				eSn	Sn	21 03 30.2	+3.8
LOHW	Long Hollow	3.94	272	ePn	Pn	21 02 42.2	+1.4
LOHW				eSn	Sn	21 03 29.0	+1.1
FLWY	Flagg Ranch	4.02	278	ePn	Pn	21 02 42.7	+0.8
FLWY				ePg	Pg	21 02 53.3	-2.7
FLWY				eSg	Sg	21 03 48.6	+0.6
MOOW	Moose Ponds	4.04	274	ePn	Pn	21 02 42.8	+0.6
MOOW				ePg	Pg	21 02 59.7	+3.4
MOOW				eSn	Sn	21 03 32.3	+1.9
SNOW	Snow King Moun	4.06	270	ePn	Pn	21 02 45.9	+3.4
SNOW				eSn	Sn	21 03 31.2	+0.4
YNR	Norris Junctio	4.11	287	ePn	Pn	21 02 46.0	+2.9
YNR				eSg	Sg	21 03 50.5	-0.3
REDW	Red Top Meadow	4.14	268	ePn	Pn	21 02 45.5	+1.9
REDW				ePg	Pg	21 02 58.0	-0.2
REDW				eS	Sg	21 03 54.4	+2.5
YFT	Old Faithful	4.17	283	ePn	Pb	21 02 48.8	-4.4
YFT				ePg	Pg	21 03 00.4	+1.7
YFT				eSg	Sb	21 03 45.5	+1.5
IMW	Indian Meadow	4.18	276	ePn	Pn	21 02 45.5	+1.3
IMW				Pg	Pg	21 02 56.2	-2.9
IMW				eSg	Sg	21 03 53.3	+0.1
TPAW	Teton Pass	4.20	270	ePn	Pb	21 02 49.7	-4.1
TPAW				eSn	Sn	21 03 35.9	+1.5
YMR	Madison River	4.30	286	ePn	Pb	21 02 51.9	-3.5
YMR				eSg	Sg	21 03 55.3	-1.6
DCID1	Drake Creek	4.37	272	ePn	Pn	21 02 46.7	+0.1
DCID1				ePg	Pg	21 02 59.6	-2.8
DCID1				eSn	Sn	21 03 35.5	-2.7
AHID	Auburn Hatcher	4.42	261	ePn	Pn	21 02 48.6	+1.3
AHID				ePg	Pg	21 03 01.3	-2.2
AHID				eSg	Sg	21 04 00.3	-0.5
RRI2	Red Ridge	4.48	269	ePn	Pn	21 02 47.0	-1.2
RRI2				ePg	Pb	21 03 00.8	+2.3
RRI2				eSg	Sg	21 04 02.3	-0.5
SMCO	Snowmass	4.65	198	ePn	Pb	21 02 55.8	-5.7
SMCO				ePg	Pg	21 03 05.0	-2.9
SMCO				eSg	Sg	21 04 10.1	+1.9
DGMT	Dagmar	4.89	8	ePn	Pn	21 02 53.9	+0.3
DGMT				Pg	Pb	21 03 05.6	+0.2
DGMT				eS	Sb	21 04 06.1	+1.4
BOZ	Bozeman (W)	5.03	296	ePn	Pn	21 02 53.1	-2.6
BOZ				ePg	Pb	21 03 09.5	+1.7
BOZ				eSg	Sg	21 04 25.7	+5.3
HWUT	Hardware Ranch	5.13	249	ePn	Pn	21 02 57.4	+0.2
	12nm,0.5s						
HWUT				ePg	Pg	21 03 20.7	+3.5
HWUT				eS	Sb	21 04 15.1	+3.3
EGMT	Eagleton	5.44	326	ePn	Pn	21 02 59.5	-1.8
	22nm,0.5s						
EGMT				ePg	Pb	21 03 15.1	+0.4
EGMT				eSn	Sn	21 04 07.7	+3.1
JLU	Jordanelle	5.56	239	ePn	Pn	21 03 02.6	-0.4
	8.6nm,0.7s						
JLU				ePg	Pg	21 03 26.0	+0.6
JLU				eSg	Sb	21 04 29.6	+5.3
ECSD	EROS Data Cent	6.21	86	ePn	Pn	21 03 12.4	+0.6
	5.6nm,0.5s						
ECSD				Pg	Pg	21 03 40.3	+2.5
ECSD				eSg	Sg	21 04 53.8	-4.5
TMUT	Trail Mountain	6.26	228	ePn	Pn	21 03 13.6	+0.8
	7.6nm,0.5s						
TMUT				eSg	Sg	21 04 58.0	-2.0
DUG	Dugway	6.65	242	ePn	Pn	21 03 18.0	+0.1
	3.6nm,0.4s						
DUG				eSg	Sg	21 05 11.2	-1.2
ULM	Lac du Bonnet	9.18	41	Pn	Pn	21 03 51.3	-1.2
	2.3nm,0.3s,baz=230,slow=11,SNR=13						
ULM				Lg	Lg	21 06 23.4	
	0.4nm,0.3s,baz=142,slow=19,SNR=2.5						
ULM				LR	LR	21 07 00.8	
	comp=Z,64nm,20.4s,baz=303,slow=35						
ULM	Lac du Bonnet	9.18	41	Pn	Pn	21 03 51.3	-1.2
ULM				Lg	Lg	21 06 23.4	
YKA	Yellowknife Ar	19.69	347	P	P	21 06 09.3	-0.1
	0.1nm,0.3s,baz=162,slow=11,SNR=4.9						
YKA	Yellowknife Ar	19.69	347	P	P	21 06 09.3	-0.1
ARCES	ARCESS Array B	61.50	18	P	P	21 11 56.5	-0.5
	3.3nm,0.9s,baz=334,slow=6.0,SNR=5.9						
ARCES	ARCESS Array B	61.50	18	P	P	21 11 56.5	-0.5
ZALV	Zalesovo Beam	82.42	354	P	P	21 14 01.5	-1.1
	0.3nm,0.4s,baz=352,slow=6.8,SNR=2.9						
ZALV	Zalesovo Beam	82.42	354	P	P	21 14 01.5	-1.1
SONM	Songino Array	84.77	339	P	P	21 14 14.3	-0.6
	0.2nm,0.5s,baz=39,slow=2.2,SNR=3.2						
SONM	Songino Array	84.77	339	P	P	21 14 14.3	-0.6
KURK	Kurchatov	85.98	358	P	P	21 14 20.3	-0.4
KURBB	Kurchatov Arra	86.08	358	P	P	21 14 20.3	-0.9
	0.1nm,0.4s,baz=2.3,slow=3.9,SNR=3.0						
MKAR	Makanchi Array	89.72	355	P	P	21 14 38.2	-0.6
	0.1nm,0.6s,baz=14,slow=5.0,SNR=3.0						
MKAR	Makanchi Array	89.72	355	P	P	21 14 38.2	-0.6

IDC 01 21:02:34.0±1.1, 3°.62N×126°.85E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=85.5km s-min=18.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.54	163	P	P	21 07 55.3	-0.3
	2.3nm,0.7s,baz=344,slow=10,SNR=12						
CMAR	Chiang Mai Arr	31.03	300	P	P	21 08 54.0	+0.2
	0.4nm,0.8s,baz=115,slow=8.6,SNR=4.1						
STKA	Stephens Creek	37.98	159	P	P	21 09 54.0	+0.3
	0.9nm,0.5s,baz=335,slow=15,SNR=3.8						
SONM	Songino Array	47.44	341	P	P	21 11 11.2	+0.6
	0.7nm,0.7s,baz=158,slow=8.3,SNR=6.1						
MKAR	Makanchi Array	57.72	325	P	P	21 12 26.7	0.0
	0.8nm,0.6s,baz=126,slow=8.2,SNR=12						
ZALV	Zalesovo Beam	60.74	333	P	P	21 12 46.4	-1.0
	0.5nm,0.7s,baz=133,slow=8.1,SNR=3.5						
KURBB	Kurchatov Arra	61.90	327	P	P	21 12 55.4	+0.1
	1.2nm,0.6s,baz=131,slow=6.4,SNR=27						

CSEM ***01*** *21:07:00.5±0.1, 46°.61N×7°.43E, h10km, ML2.4/18, Error ellipse: s-maj=2.7km s-min=1.8km az=87.0*

ZUR ***01*** *21:07:00.0, 46°.62N×7°.47E, h-2km±3km, ML1.7/11*

GEN ***01*** *21:07:00.2, 46°.66N×7°.42E, h2km, ML1.8*

LDG ***01*** *21:07:00.8±0.1, 46°.61N×7°.45E, h2km, Md2.6/3, Ml2.5/17, Error ellipse: s-maj=2.7km s-min=1.7km az=101.0*

ROM ***01*** *21:07:02.6±0.7, 46°.55N×7°.49E, h11km, Md2.2/8, Ml1.9/2, Error ellipse: s-maj=10.7km s-min=3.8km az=45.0*

STR ***01*** *21:07:02.6±0.3, 46°.65N×7°.49E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 01 21:07:01.0±1.1, 46°.62N±0°.01×7°.49E±0°.02, h0km±10km, n95, σ0ˢ.88/137, 3C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.10	64	⇓iPg	Pg	21 07 03.0	0.0
	1µm,0.7s						
WIMIS				eSg	Sg	21 07 05.2	+0.8
	1µm,0.7s						
WIMIS	Wimmis	0.10	64	⇓iPg	Pg	21 07 03.0	0.0
	1µm,0.7s						
LKBD	Leukerbad	0.25	157	⇓iPg	Pg	21 07 05.7	-0.1
	94nm,0.4s						
LKBD				eSg	Sg	21 07 09.9	+0.9
	94nm,0.4s						
LKBD	Leukerbad	0.25	157	⇓iPg	Pg	21 07 05.7	-0.1
	94nm,0.4s						
LKBD				eSg	Sg	21 07 09.9	+0.9
	94nm,0.4s						
LKBD2	Leukerbad 2	0.27	156	⇓iPg	Pg	21 07 06.1	0.0
LKBD2	Leukerbad 2	0.27	156	⇓iPg	Pg	21 07 06.1	0.0
SENIN	Lac Senin/Sane	0.29	207	⇑iPg	Pg	21 07 06.2	-0.3
	205nm,0.2s						
SENIN	Lac Senin/Sane	0.29	207	⇑iPg	Pg	21 07 06.2	-0.3
	205nm,0.2s						
GRYON	Gryon	0.45	215	ePg	Pg	21 07 09.2	-0.4
	31nm,0.7s						
GRYON	Gryon	0.45	215	ePg	Pg	21 07 09.2	-0.4
	31nm,0.7s						
GRYON				eSg	Sg	21 07 16.7	+1.3
	31nm,0.7s						
AIGLE	Aigle	0.46	233	ePg	Pg	21 07 09.5	-0.3
	245nm,0.5s						
AIGLE	Aigle	0.46	233	eP	Pg	21 07 09.5	-0.3
	245nm,0.5s						
HASLI	Hasliberg/Brie	0.48	73	ePg	Pg	21 07 10.4	+0.2
	85nm,0.7s						
HASLI	Hasliberg/Brie	0.48	73	ePg	Pg	21 07 10.4	+0.2
	85nm,0.7s						
DIX	Grande Dixence	0.54	186	Pg	Pg	21 07 11.3	-0.1
DIX				Sg	Sg	21 07 19.3	+0.9
DIX	Grande Dixence	0.54	186	ePg	Pg	21 07 11.3	-0.1
	62nm,0.5s						
DIX	Grande Dixence	0.54	186	ePg	Pg	21 07 11.3	-0.1
	62nm,0.5s						
DIX				Sg	Sg	21 07 19.3	+0.9
SALAN	Lac Salanfe	0.59	217	ePg	Pg	21 07 12.1	-0.3
	13nm,0.4s						
SALAN	Lac Salanfe	0.59	217	ePg	Pg	21 07 12.1	-0.3
	13nm,0.4s						
OG01	Vacheresse	0.63	243	Pg	Pg	21 07 13.8	+0.8
OG01	Vacheresse	0.63	243	Pg	Pg	21 07 13.8	+0.8
MMK	Mattmark	0.66	150	Pg	Pg	21 07 14.1	+0.5
MMK	Mattmark	0.66	150	ePg	Pg	21 07 13.5	-0.1
	45nm,0.4s						
MMK	Mattmark	0.66	150	ePg	Pg	21 07 13.5	-0.1
	45nm,0.4s						
BNALP	Bannalp	0.69	68	ePg	Pg	21 07 14.7	+0.4
	54nm,0.8s						
BNALP	Bannalp	0.69	68	⇑eP	Pg	21 07 14.6	+0.3
	54nm,0.8s						
BALST	Balsthal	0.73	11	ePg	Pg	21 07 15.4	+0.4
	268nm,0.5s						
BALST	Balsthal	0.73	11	ePg	Pg	21 07 15.4	+0.4
	268nm,0.5s						
BOURR	Bourrignon	0.80	347	ePg	Pg	21 07 16.6	+0.4
	205nm,0.7s						
BBS	Basel-Blauen	0.85	1	Pg	Pg	21 07 18.4	+1.2
BBS				Sg	Sb	21 07 30.3	-0.3
LOMF	Lomont	0.86	329	Pg	Pg	21 07 18.1	+0.6
LOMF				Sg	Sb	21 07 30.8	-0.2
LOMF	Lomont	0.86	329	Pg	Pg	21 07 18.1	+0.6
LOMF				Sg	Sb	21 07 30.8	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRGE	Morge	0.90	199	Pg	Pg	21 07 18.4	+0.2
	24nm,0.6s						
MRGE	Morge	0.90	199	Pg	Pg	21 07 18.4	+0.2
	24nm,0.6s						
CABF	La Chapelle	0.96	270	ePn	Pg	21 07 19.5	0.0
CABF	La Chapelle	0.96	270	eP	Pg	21 07 20.5	+1.0
CABF				eSg	Sg	21 07 31.2	-0.8
	25nm,0.6s						
CABF	La Chapelle	0.96	270	ePn	Pg	21 07 19.5	0.0
CABF	La Chapelle	0.96	270	eP	Pg	21 07 20.5	+1.0
CABF				eSg	Sg	21 07 31.2	-0.8
	13nm,0.6s						
ORO	Oropa	1.05	161	Pg	Pg	21 07 20.8	-0.3
	18nm,0.2s						
ORO	Oropa	1.05	161	Pg	Pg	21 07 20.8	-0.3
	18nm,0.2s						
RSL	Roselend	1.11	213	Pg	Pb	21 07 23.9	+0.8
RSL				Sg	Sn	21 07 40.6	+0.7
RSL	Roselend	1.11	213	Pg	Pb	21 07 23.9	+0.8
TRAV	Traversella	1.12	171	Pg	Pg	21 07 22.7	+0.2
TRAV	Traversella	1.12	171	P	Pg	21 07 21.5	-1.0
TRAV	Traversella	1.12	171	Pg	Pg	21 07 22.7	+0.2
TRAV				S	Sg	21 07 36.4	-0.6
LSD	Lago del Serru	1.19	192	Pg	Pg	21 07 23.0	-0.7
LSD	Lago del Serru	1.19	192	P	Pg	21 07 22.8	-0.9
LSD	Lago del Serru	1.19	192	Pg	Pg	21 07 23.0	-0.7
LSD				S	Sg	21 07 38.8	-0.2
LPL	La Plagne	1.22	206	eP	Pg	21 07 24.5	+0.1
LPL				eSg	Sg	21 07 39.7	-0.5
	28nm,0.7s						
LPL	La Plagne	1.22	206	eP	Pg	21 07 24.5	+0.1
LPL				eSg	Sg	21 07 39.7	-0.5
	14nm,0.7s						
LPG	La Plagne	1.23	205	eP	Pg	21 07 25.1	+0.5
LPG				eSg	Sg	21 07 39.8	-0.8
	20nm,0.5s						
LPG	La Plagne	1.23	205	eP	Pg	21 07 25.1	+0.5
LPG				eSg	Sg	21 07 39.8	-0.8
	9.8nm,0.5s						
MOF	Molkenrain	1.26	349	Pg	Pg	21 07 25.4	+0.3
MOF				Sg	Sb	21 07 42.5	+0.1
MOF	Molkenrain	1.26	349	Pg	Pg	21 07 25.4	+0.3
MOF				Sg	Sb	21 07 42.5	+0.1
HINF	Hinteralfeld	1.27	340	ePg	Pg	21 07 24.0	-1.4
HINF	Hinteralfeld	1.27	340	eP	Pg	21 07 25.1	-0.3
HINF				eSg	Sg	21 07 40.3	-1.6
	9.0nm,0.3s						
HINF	Hinteralfeld	1.27	340	ePg	Pg	21 07 24.0	-1.4
HINF	Hinteralfeld	1.27	340	eP	Pg	21 07 25.1	-0.3
HINF				eSg	Sg	21 07 40.3	-1.6
	4.5nm,0.3s						
TUE	Stuetta	1.29	96	Pg	Pg	21 07 25.5	-0.3
	24nm,0.5s						
TUE	Stuetta	1.29	96	Pg	Pg	21 07 25.5	-0.3
	24nm,0.5s						
FELD	Feldberg im Sc	1.31	15	Pg	Pg	21 07 26.5	+0.5
FELD				Sg	Sb	21 07 44.4	+0.5
RSP	Reno Superiore	1.48	186	P	Pn	21 07 27.1	-1.9
RSP				S	Sb	21 07 45.5	-3.3
HAU	Haudompre	1.59	331	ePg	Pn	21 07 29.8	-0.6
HAU				eSg	Sn	21 07 50.5	-1.2
	22nm,0.3s						
HAU	Haudompre	1.59	331	ePg	Pn	21 07 29.8	-0.6
HAU				eSg	Sn	21 07 50.5	-1.2
	11nm,0.3s						
ECH	Echery	1.61	352	Pg	Pg	21 07 32.6	+0.7
ECH	Echery	1.61	352	Pg	Pg	21 07 32.6	+0.7
DAVOX	Davos/Dischmat	1.66	84	Pg	Pb	21 07 32.9	+0.4
DAVOX	Davos/Dischmat	1.66	84	Pg	Pb	21 07 32.9	+0.4
CDF	Champ du Feu	1.80	356	eP	Pn	21 07 32.3	-1.1
CDF	Champ du Feu	1.80	356	ePg	Pn	21 07 34.1	+0.7
CDF				eSg	Sn	21 07 56.8	-0.2
	8.5nm,0.4s						
CDF	Champ du Feu	1.80	356	eP	Pn	21 07 32.3	-1.1
CDF	Champ du Feu	1.80	356	ePg	Pn	21 07 34.1	+0.7
CDF				eSg	Sn	21 07 56.8	-0.2
	4.2nm,0.4s						
THEF	They Montfort	1.90	328	Pg	Pb	21 07 37.5	+0.9
THEF	They Montfort	1.90	328	Pg	Pb	21 07 37.5	+0.9
MBDF	Montbardon	1.96	195	ePg	Pn	21 07 36.9	+1.3
MBDF				eSg	Sn	21 08 02.3	+1.4
	28nm,0.7s						
MBDF	Montbardon	1.96	195	ePg	Pn	21 07 36.9	+1.3
MBDF				eSg	Sn	21 08 02.3	+1.4
	14nm,0.7s						
ORIF	Oris-en-Rattie	2.04	214	ePg	Pb	21 07 38.6	-0.4
ORIF				eSg	Sb	21 08 04.7	-0.2
	5.7nm,0.4s						
ORIF	Oris-en-Rattie	2.04	214	ePg	Pb	21 07 38.6	-0.4
ORIF				eSg	Sb	21 08 04.7	-0.2
	2.8nm,0.4s						
PZZ	Stroppo	2.13	187	P	Pn	21 07 36.8	-1.1
PAGF	Fort de Pagny	2.27	329	eSg	Sb	21 08 11.7	+0.1
	1.9nm,0.4s						
PAGF	Fort de Pagny	2.27	329	eSg	Sb	21 08 11.7	+0.1
	0.9nm,0.4s						
SFTF	Sexfontaines	2.30	315	ePg	Pb	21 07 42.6	-0.7
SFTF				eSg	Sb	21 08 12.8	+0.5
	3.7nm,0.2s						
SFTF	Sexfontaines	2.30	315	ePg	Pb	21 07 42.6	-0.7
SFTF				eSg	Sb	21 08 12.8	+0.5
	1.9nm,0.2s						
MEZF	Maizieres J'vi	2.50	320	eSg	Sb	21 08 19.2	+1.0
	7.6nm,0.4s						
MEZF	Maizieres J'vi	2.50	320	eSg	Sb	21 08 19.2	+1.0
	3.8nm,0.4s						
SMF	Signal de Mont	2.51	272	ePg	Pb	21 07 46.8	-0.2
SMF				eSg	Sb	21 08 19.3	+0.9
	5.5nm,0.4s						
SMF	Signal de Mont	2.51	272	ePg	Pb	21 07 46.8	-0.2
SMF				eSg	Sb	21 08 19.3	+0.9
	2.8nm,0.4s						
LOR	Lormes	2.57	286	ePg	Pb	21 07 47.8	-0.2
LOR				eSg	Sb	21 08 20.8	+0.7
	3.3nm,0.3s						
LOR	Lormes	2.57	286	ePg	Pb	21 07 47.8	-0.2
LOR				eSg	Sb	21 08 20.8	+0.7
	1.6nm,0.3s						
VIVF	Saint-Julien-l	2.64	229	ePn	Pn	21 07 43.0	-1.9
VIVF				eSg	Sb	21 08 23.5	+1.3
	2.6nm,0.3s						
VIVF	Saint-Julien-l	2.64	229	ePn	Pn	21 07 43.0	-1.9
VIVF				eSg	Sb	21 08 23.5	+1.3
	1.3nm,0.3s						
SSF	Saint Saulge	2.77	281	ePg	Pb	21 07 51.5	+0.2
SSF				eSg	Sb	21 08 27.4	+1.6
	1.4nm,0.3s						
SSF	Saint Saulge	2.77	281	ePg	Pb	21 07 51.5	+0.2
SSF				eSg	Sb	21 08 27.4	+1.6
	0.7nm,0.3s						
BGF	Bois d'Agland	3.20	271	eSg	Sb	21 08 41.0	+2.8
	3.9nm,0.4s						
BGF	Bois d'Agland	3.20	271	eSg	Sb	21 08 41.0	+2.8
	2.0nm,0.4s						

*NEIC **01** 21:07:56.4, 19.°54N×66.°35W, h58km, MD3.5(RSPR), After RSPR.*

RSPR 01 21:07:56.4, 19.°54N×66.°35W, h59km±8km, MD3.5/9, 19C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.25	198⇑	eP	Pn	21 08 16.4	-1.4
AOPR	Arecibo Observ	1.25	198	eS	Sn	21 08 32.6	-1.0
AOPR	Arecibo Observ	1.25	198⇑	eP	Pn	21 08 16.4	-1.4
AOPR				eS	Sn	21 08 32.6	-1.0
LRS	Lares	1.33	201⇑	eP	Pn	21 08 17.9	-1.0
LRS				eS	Sn	21 08 34.8	-0.8
LRS	Lares	1.33	201⇑	eP	Pn	21 08 17.9	-1.0
LRS				eS	Sn	21 08 34.8	-0.8
SJG	San Juan	1.43	172⇑	eP	Pn	21 08 19.3	-0.9
SJG	San Juan	1.43	172⇑	eP	Pn	21 08 19.3	-0.9
SJG				eS	Sn	21 08 37.3	-0.7
SJG	San Juan	1.43	172⇑	eP	Pn	21 08 19.3	-0.9
SJG				eS	Sn	21 08 37.0	-1.0
SJG				eS		21 08 37.3	
HUMP	Col San Antoni	1.47	161⇑	eP	Pn	21 08 19.5	-1.2
HUMP				eS	Sn	21 08 38.2	-0.7
HUMP	Col San Antoni	1.47	161⇑	eP	Pn	21 08 19.5	-1.2
HUMP				eS	Sn	21 08 38.2	-0.7
CELP	Cerrillos	1.47	188⇑	eP	Pn	21 08 19.6	-1.2
CELP				eS	Sn	21 08 38.6	-0.4
CELP	Cerrillos	1.47	188⇑	eP	Pn	21 08 19.6	-1.2
CELP				eS	Sn	21 08 38.6	-0.4
OBIP	Obispado Ponce	1.51	189⇑	eP	Pn	21 08 20.3	-0.9
OBIP	Obispado Ponce	1.51	189	eS	Sn	21 08 39.1	-0.7
OBIP	Obispado Ponce	1.51	189⇑	eP	Pn	21 08 20.3	-0.9
OBIP				eS	Sn	21 08 39.1	-0.7
LSP	Las Mesas	1.52	207⇓	eP	Pn	21 08 20.6	-0.9
LSP	Las Mesas	1.52	207⇓	eP	Pn	21 08 20.6	-0.9
MTP	Monte Pirata	1.62	152⇑	eP	Pn	21 08 22.1	-0.7
MTP	Monte Pirata	1.62	152	eS	Sn	21 08 41.9	-0.7
MTP	Monte Pirata	1.62	152⇑	eP	Pn	21 08 22.1	-0.7
MTP				eS	Sn	21 08 41.9	-0.7
GBPR	Guanica, Bosqu	1.63	198⇓	eP	Pn	21 08 22.5	-0.4
GBPR	Guanica, Bosqu	1.63	198⇓	eP	Pn	21 08 22.5	-0.4
CRPR	Cabo Rojo, PR	1.69	205⇑	eP	Pn	21 08 22.8	-0.8
CRPR	Cabo Rojo, PR	1.69	205	eS	Sn	21 08 43.4	-0.7
CRPR	Cabo Rojo, PR	1.69	205⇑	eP	Pn	21 08 22.8	-0.8
CRPR				eS	Sn	21 08 43.4	-0.7
STVI	Saint Thomas	1.77	132	eS	Sn	21 08 45.9	-0.3
SMN1	Samana, DR	2.78	263⇓	eP	Pn	21 08 38.2	-0.4
SMN1				eS	Sn	21 09 10.4	-0.6
DR12	Loma Pena Alta	2.96	256⇑	eP	Pn	21 08 41.6	+0.5
DR12				eS	Sn	21 09 15.2	-0.3
DR12	Loma Pena Alta	2.96	256⇑	eP	Pn	21 08 41.6	+0.5
DR12				eS	Sn	21 09 15.2	-0.3

*ISCJB **01** 21:18:40.4±0.6, 6.°87N±0.°06×73.°00W±0.°08, h174km±6km, mb3.6/2, Error ellipse: s-maj=14.4km s-min=7.4km az=37.5*

*FUNV **01** 21:18:41.3, 6.°80N×73.°07W, h179km, MW3.5*

*IDC **01** 21:18:43.0±3.1, 6.°76N×73.°27W, h178km±19km, mb3.3/2, mb1 3.5/3, mb1mx3.0/23, mbtmp3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=105.5km s-min=24.3km az=103.0*

ISC 01 21:18:41.4±1.0, 6.°87N±0.°07×73.°01W±0.°09, h169km±8km, n23, σ0.s97/27, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	35⇑	iP	Pn	21 19 10.3	+0.3
CAPV				eS	Sn	21 19 33.2	+1.1
ROSC	El Rosal	2.39	214	P	Pn	21 19 22.2	-0.4
	50nm,0.3s,baz=323,slow=2.9,SNR=85						
ROSC				S	Sn	21 19 53.0	-1.5
	73nm,0.3s,baz=75,slow=21,SNR=18						
VIGV	El Vigia	2.55	40⇑	iP	Pn	21 19 24.7	+0.6
VIGV				eS	Sn	21 19 56.4	-0.9
SOCV	Socops	2.56	56⇑	iP	Pn	21 19 24.9	+0.7
SOCV				eS	Sn	21 19 56.4	-1.0
ELOV	Elorza	3.50	88⇑	eP	Pn	21 19 36.2	+0.4
VIRV	Villa del Rosa	3.66	9⇑	iP	Pn	21 19 37.0	-0.9
VIRV				eS	Sn	21 20 20.0	-2.1
QARV	Quebrada Arrib	4.13	36	eP	Pn	21 19 44.3	+0.4
CURV	Curarigua	4.34	44⇑	eP	Pn	21 19 46.8	+0.2
DABV	Dabajuro	4.66	30⇑	eP	Pn	21 19 51.0	+0.2
TEPV	Terepaima	4.87	51⇑	eP	Pn	21 19 53.6	+0.1
SIQV	Siquisique	4.91	40⇑	eP	Pn	21 19 53.8	-0.2
BAUV	El Baul	5.33	67	eP	Pn	21 19 58.3	-1.2
MAPV	Macapo	5.38	56⇑	eP	Pn	21 19 59.9	-0.2
MONV	Montecano	5.88	30	eP	Pn	21 20 05.9	-0.8
TURV	Turiamo	6.23	55	eP	Pn	21 20 10.8	-0.5
MERV	Las Mercedes	7.05	70	eP	Pn	21 20 20.9	-1.3
BIRV	Birongo	7.56	61	eP	Pn	21 20 28.0	-1.0
CUPV	Cœpira	7.81	66	eP	Pn	21 20 31.3	-1.1
ATAH	Atahualpa	14.91	201	LR	LR	21 26 55.1	
	comp=Z,31nm,21.0s,baz=272,slow=33						
SCHQ	Schefferville	48.09	5	P	P	21 27 05.2	+1.4
	1.4nm,0.8s,baz=201,slow=11,SNR=2.6						
YKA	Yellowknife Ar	63.26	340	P	P	21 28 52.5	+0.9
	0.5nm,0.5s,baz=132,slow=6.8,SNR=14						
ASAR	Alice Springs	149.23	234	PKPbc	PKPbc	21 38 10.4	-0.4
	0.4nm,0.5s,baz=100,slow=4.8,SNR=3.1						
WRA	Warramunga Arr	150.46	241	PKPbc	PKPbc	21 38 13.1	-0.8
	0.4nm,0.4s,baz=109,slow=2.4,SNR=4.0						

*ISK **01** 21:26:16.5, 37.°63N×28.°69E, h13km, MD2.8*

*CSEM **01** 21:26:17.1±0.2, 37.°62N×28.°69E, h12km, MD2.6, Error ellipse: s-maj=5.5km s-min=3.3km az=78.0*

*DDA **01** 21:26:20.2, 37.°84N×29.°08E, h7km, MD2.6*

ISC 01 21:26:17.2±1.0, 37.°63N±0.°03×28.°74E±0.°05, h15km±7km, n32, σ0.s87/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.25	77	i P	Pg	21 26 23.9	+1.1
DNZL				i S	Sg	21 26 26.1	-0.5
DNZL	Cakiroluk	0.25	77	i P	Pg	21 26 23.9	+1.1
DNZL				i S	Sg	21 26 26.1	-0.5
DENT	Denizli	0.26	63	ePG	Pg	21 26 22.9	0.0
DENT	Denizli	0.26	63	ePg	Pg	21 26 22.9	0.0
YER	Yerkesik	0.61	216	ePG	Pg	21 26 28.4	-0.8
YER	Yerkesik	0.61	216	ePg	Pg	21 26 28.4	-0.8
AYDN	Tasoluk	0.68	273	i P	Pn	21 26 39.4	+7.0
AYDN				i S	Sn	21 26 51.2	+8.4
GOLH	Golhisar	0.77	121	i P	Pn	21 26 33.8	+0.2
GOLH				i S	Sn	21 26 44.7	-0.3
GOLH	Golhisar	0.77	121	i P	Pn	21 26 33.8	+0.2
GOLH				i S	Sn	21 26 44.7	-0.3
MANT	Manisa	0.87	351	i P	Pb	21 26 34.7	+0.5
MANT				i S	Sb	21 26 47.1	+1.4
MANT	Manisa	0.87	351	i P	Pb	21 26 34.7	+0.5
MANT				i S	Sb	21 26 47.1	+1.4
KULA	Kula-Manisa	0.88	356	ePG	Pg	21 26 33.8	-0.5
KULA				eSG	Sb	21 26 46.6	+0.6
KULA	Kula-Manisa	0.88	356	ePg	Pg	21 26 33.8	-0.5
KULA				eSg	Sb	21 26 46.6	+0.6
KHL	Karahalli	0.93	42	ePG	Pn	21 26 35.6	-0.3
KHL	Karahalli	0.93	42	ePg	Pn	21 26 35.6	-0.3
KHAL	Karahalli	0.95	39	i P	Pg	21 26 32.6	-2.9
KHAL				i S	Sg	21 26 41.0	-6.9
FETY	Fethiye	1.03	164	ePG	Pg	21 26 37.0	-0.1
FETY	Fethiye	1.03	164	ePg	Pg	21 26 37.0	-0.1
ELL	Elmali	1.29	133	ePN	Pn	21 26 41.0	+0.2
ELL	Elmali	1.29	133	ePn	Pn	21 26 41.0	+0.2
DEMI	Demirci	1.41	359	eP	Pb	21 26 43.5	+0.2
DEMI				eS	Sn	21 27 01.8	+1.0
DEMI	Demirci	1.41	359	eP	Pb	21 26 43.5	+0.2
DEMI				eS	Sn	21 27 01.8	+1.0
BCK	Bucak	1.48	96	ePN	Pn	21 26 43.9	+0.5
BCK	Bucak	1.48	96	ePn	Pn	21 26 43.9	+0.5
GDZ	Gediz	1.57	22	i P	Pn	21 26 44.9	+0.2
GDZ				i S	Sn	21 27 02.7	-2.2
GDZ	Gediz	1.57	22	i P	Pn	21 26 44.9	+0.2
SHUT	Suhut-Afyon	1.70	57	ePN	Pn	21 26 46.9	+0.4
SHUT	Suhut-Afyon	1.70	57	ePn	Pn	21 26 46.9	+0.4
ALT	Altintas	1.78	37	ePN	Pn	21 26 48.6	+1.0
ALT	Altintas	1.78	37	ePn	Pn	21 26 48.6	+1.0
TVSB	Tavsanli	1.90	17	ePN	Pn	21 26 49.7	+0.4
TVSB	Tavsanli	1.90	17	ePn	Pn	21 26 49.7	+0.4

*BJI **01** 21:30:01.9, 3.°21N×127.°38E, h10km, mB4.8/23, mb4.4/29, Ms4.4/19, Ms7 4.2/21*

*IDC **01** 21:30:05.8±0.7, 3.°54N×126.°80E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/22, mbtmp4.1/12, MS3.8/6, Ms1 3.8/6, ms1mx3.1/41, Error ellipse: s-maj=43.5km s-min=11.5km az=72.0*

*ISCJB **01** 21:30:10.5±0.3, 3.°63N±0.°04×127.°06E±0.°07, h48km, mb4.4/40, MS3.9/15, Error ellipse: s-maj=9.9km s-min=4.7km az=165.4*

*NEIC **01** 21:30:10.0±0.3, 3.°80N×127.°27E, h35km, mb4.6/18, Error ellipse: s-maj=11.8km s-min=5.7km az=68.0*

*DJA **01** 21:30:13.1±3.1, 4.°N±31.°×12.°7E±.°, h102km±22km, M4.5/3, mB5.0/1, mb4.6/3, MLv4.4/2, Mw(mB)4.3/1*

ISC 01 21:30:12.7±0.4, 3.°60N±0.°05×127.°02E±0.°08, h48km, n77, σ1.s89/96, mb4.4/40, MS3.9/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.83	173	P	Pn	21 30 56.4	+1.0
MNI	Manado	3.05	226	P	Pn	21 30 58.2	-0.3
DAV	Davao City (W)	3.73	337	ePn	Pn	21 31 02.3	-5.5
DAV				eSn	Sn	21 31 43.4	-7.1
LBMI	Labuha	4.24	173	P	Pn	21 31 16.8	+2.1
CTBH	Cotabato--PC H	4.53	323⇑	iP	Pn	21 31 21.3	+2.5
BUKP	Musuan	4.67	335	eP	Pn	21 31 22.0	+1.2
BUKP				eS	Px	21 31 46.8	
PAGZ	Pagadian	5.56	320	eP	Pn	21 31 33.4	+0.6
PAGZ				eS	Px	21 31 43.0	
SWI	Sorong	6.13	136	P	Pn	21 31 41.9	+1.1
	45nm,0.8s						
LUWI	Luwuk	6.27	223	P	Pn	21 31 43.2	+0.6
	147nm,1.1s,2μm						
KDI	Kendari	8.70	210	P	Pn	21 32 13.9	-2.1
KSM	Kuching	16.83	263	ePn	P	21 34 06.5	-0.1
	9.1nm,0.6s						
GUMO	Guam	20.23	60	eP	P	21 34 37.8	-6.2
	154nm,1.0s						
YULB	Yu-li	20.44	345	eP	P	21 34 43.1	-3.1
	243nm,2.5s						
SSLB	Suanglung	20.91	344	eP	P	21 34 47.8	-3.5
	110nm,1.6s						
FITZ	Fitzroy Crossi	21.61	184	P	P	21 34 57.8	-0.9
	baz=15,slow=12						
FITZ	Fitzroy Crossi	21.61	184	P	P	21 34 57.8	-0.9
QIZ	Qiongzhong	22.74	314	P	P	21 35 10.0	-0.9
QIZ				S	S	21 39 19.0	+2.7
QIZ				pmax	pmax		
	comp=Z,18nm,1.5s						
WRAB	Tennant Creek	24.47	163	eP	P	21 35 26.8	-0.6
	comp=Z,13nm,0.8s						
WRA	Warramunga Arr	24.48	163	P	P	21 35 26.6	-0.8
	comp=Z,5.3nm,0.7s,baz=337,slow=11,SNR=34						
WRA				S	S	21 39 50.1	+5.5
	comp=Z,1.2nm,1.0s,baz=330,slow=20,SNR=4.7						
WRA	Warramunga Arr	24.48	163	P	P	21 35 26.6	-0.8
WRA				S	S	21 39 50.1	+5.5
AS31	Alice Springs	27.92	166	eP	P	21 35 59.2	+0.7
ASAR	Alice Springs	27.92	166	P	P	21 35 57.6	-0.9
	comp=Z,0.6nm,0.5s,baz=343,slow=6.5,SNR=13						
ASAR	Alice Springs	27.92	166	P	P	21 35 57.6	-0.9
PSI	Prapat	28.06	269	LR	LR	21 49 14.4	
	comp=Z,166nm,18.4s,baz=198,slow=41						
NJ2	Nanjing	29.32	346	eP	P	21 36 10.2	-0.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	29.95	321	P	P	21 36 17.9	+1.3
GYA				PP	PnPn	21 37 15.6	+0.9
GYA				S	S	21 41 14.5	+3.3
GYA				ScP	ScP	21 43 01.9	+5.0
GYA				ScS	ScS	21 46 54.6	+2.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
CMAR	Chiang Mai Arr	31.19	300	P	P	21 36 27.0	-0.5
	comp=Z,1.3nm,0.7s,baz=120,slow=7.5,SNR=8.6						
CMAR	Chiang Mai Arr	31.19	300	P	P	21 36 27.0	-0.5
CHTO	Chiang Mai	31.34	301	eP	P	21 36 27.6	-1.3
	comp=Z,2.7nm,0.6s						
KMI	Kunming	31.68	315	P	P	21 36 34.7	+2.7
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KSAR	Wonju Array Be	33.69	1	P	P	21 36 50.4	+1.2
KSRS	Korea Array	33.70	1	P	P	21 36 50.4	+1.1
	comp=Z,0.9nm,0.5s,baz=179,slow=10,SNR=3.5						
KSRS				LR	LR	21 52 15.4	
	comp=Z,83nm,18.6s,baz=2.6,slow=39						
XAN	Xi'an	34.66	333	P	P	21 36 58.2	+0.5
XAN				pP	pP	21 37 02.7	-7.7
XAN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
XAN				LR	LR		
	comp=N,120nm,9.0s						
XAN				LR	LR		
	comp=E,48nm,9.5s						
XAN				LR	LR		
	comp=Z,57nm,10.4s						
CD2	Chengdu	34.92	324	P	P	21 37 01.4	+1.4
CD2				pP	pP	21 37 05.8	-6.9
CD2				sP	sP	21 37 08.4	-10
CD2				PP	PP	21 38 19.6	-0.3
CD2				S	S	21 42 32.3	+4.0
CD2				SS	SnSn	21 44 46.8	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,4.8s						
CD2				LR	LR		
	comp=N,350nm,8.3s						
CD2				LR	LR		
	comp=Z,210nm,13.1s						
BBOO	Buckleboo	37.21	167	eP	P	21 37 20.3	+0.8
	comp=Z,1μm,2.1s						
NWAO	Narrogin (SRO)	37.49	194	eP	P	21 37 22.7	+0.8
BJT	Baijiatuau	37.56	346	eP	P	21 37 20.6	-1.8
	comp=Z,14nm,0.6s						
BJI	Beijing	37.58	346	P	P	21 37 22.1	-0.4
BJI				pmax	pmax		
	comp=Z,24nm,1.1s						
BJI				pmax	pmax		
	comp=Z,100nm,5.2s						
BJI				LR	LR		
	comp=Z,47nm,20.8s						
STKA	Stephens Creek	37.91	160	P	P	21 37 24.9	-0.5
	comp=Z,2.0nm,0.4s,baz=7.4,slow=8.1,SNR=11						
STKA	Stephens Creek	37.91	160	eP	P	21 37 25.6	+0.2
LZH	Lanzhou	38.76	329	eP	P	21 37 32.8	0.0
LZH				pP	pP	21 37 39.8	-5.8
LZH				sP	sP	21 37 43.7	-7.5
LZH				PP	PnPn	21 39 06.0	+1.2
LZH				eS	ScP	21 43 28.5	+0.4
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,97nm,4.2s						
LZH				LR	LR		
	comp=N,100nm,13.2s						
LZH				LR	LR		
	comp=E,280nm,14.7s						
LZH				LR	LR		
	comp=Z,280nm,15.5s						
HHC	Hu-ho-hao-te	39.61	342	eP	P	21 37 37.7	-2.0
HHC				sP	sP	21 37 44.7	-13
HHC				PP	PnPn	21 39 13.3	-1.5
HHC				S	S	21 43 40.5	+1.0
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,6.4s						
HHC				LR	LR		
	comp=N,140nm,16.2s						
HHC				LR	LR		
	comp=E,160nm,15.5s						
HHC				LR	LR		
	comp=Z,120nm,12.3s						
CN2	Changchun	40.06	358	eP	P	21 37 42.9	-0.3
CN2				esP	sP	21 37 48.0	-14
CN2				eS	S	21 43 47.1	+1.3
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
USRK	Ussuriysk Arra	40.67	5	P	P	21 37 49.5	+1.3
	comp=Z,1.4nm,0.7s,baz=190,slow=7.2,SNR=4.9						
MDJ	Mudanjiang	40.91	3	P	P	21 37 48.2	-2.1
MDJ				S	S	21 43 59.3	+0.8
MDJ				SS	SS	21 47 00.3	-1.4
MDJ				ScS	ScS	21 47 53.7	+2.7
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,49nm,5.9s						
MDJ				LR	LR		
	comp=N,29nm,19.3s						
MDJ				LR	LR		
	comp=E,48nm,23.6s						
MDJ				LR	LR		
	comp=Z,40nm,20.1s						
LSA	Lhasa	42.74	311	eP	P	21 38 04.8	-1.3
	comp=Z,2.9nm,0.6s						
LSA				ePP	PP	21 39 44.3	-1.6
GTA	Gaotai	43.36	329	eP	P	21 38 13.2	+2.7
GTA				pP	pP	21 38 17.2	-6.2
GTA				sP	sP	21 38 19.8	-9.2
GTA				PP	PcP	21 39 54.8	-3.7
GTA				S	S	21 44 41.7	+6.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA				sS	sS	21 44 49.8	-7.0
GTA				SS	SS	21 47 50.3	+0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=N,120nm,24.7s						
GTA				LR	LR		
	comp=E,170nm,20.0s						
GTA				LR	LR		
	comp=Z,280nm,18.1s						
DZM	Mont Dzumac	46.23	125	eP	P	21 38 31.3	-2.2
	comp=Z,2.8nm,0.8s						
ULN	Ulaanbaatar	47.33	342	eP	P	21 38 39.6	-2.2
	comp=Z,3.7nm,0.9s						
SONM	Songino Array	47.51	341	P	P	21 38 43.1	-0.1
	comp=Z,1.4nm,0.7s,baz=155,slow=8.2,SNR=14						
SONM	Songino Array	47.51	341	P	P	21 38 43.1	-0.1
TLY	Talaya	51.74	342	eP	P	21 39 12.2	-3.0
	comp=Z,2.0nm,0.6s						
WMQ	Urumqi	52.99	325	eP	P	21 39 25.9	+1.2
WMQ				LR	LR		
	comp=N,180nm,26.0s						
WMQ				LR	LR		
	comp=E,85nm,22.0s						
WMQ				LR	LR		
	comp=Z,120nm,18.0s						
MK31	Makanchi Array	57.83	325	eP	P	21 39 58.2	-1.2
MKAR	Makanchi Array	57.83	325	P	P	21 39 58.0	-1.3
	comp=Z,1.6nm,0.5s,baz=121,slow=7.7,SNR=33						
MKAR				LR	LR	22 09 04.0	
	comp=Z,62nm,18.5s,baz=89,slow=40						
MKAR	Makanchi Array	57.83	325	eP	P	21 39 58.5	-0.9
KSH	Kashi	58.34	315	P	P	21 40 03.4	+0.2
KSH				pP	pP	21 40 10.7	-6.0
KSH				sP	sP	21 40 13.0	-9.2
KSH				PcP	PcP	21 40 56.2	+2.4
KSH				PP	PP	21 42 17.9	+5.1
KSH				PcS	PcS	21 44 54.9	-0.6
KSH				S	S	21 48 08.2	+5.6
KSH				sS	sS	21 48 15.5	-10
KSH				ScS	ScS	21 49 49.7	+0.5
KSH				SS	SS	21 52 02.8	+7.5
KSH				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KSH				pmax	pmax		
	comp=Z,66nm,5.1s						
KSH				LR	LR		
	comp=N,42nm,4.0s						
KSH				LR	LR		
	comp=E,110nm,6.5s						
KSH				LR	LR		
	comp=Z,140nm,5.0s						
TKM2	Tokmak 2	60.03	318	eP	P	21 40 14.5	-0.5
	comp=Z,3.2nm,1.0s						
AAK	Ala-Archa	60.65	318	eP	P	21 40 17.7	-1.4
	comp=Z,6.1nm,0.9s						
ZALV	Zalesovo Beam	60.83	333	P	P	21 40 19.2	-0.8
	comp=Z,0.6nm,0.5s,baz=125,slow=5.9,SNR=4.6						
ZALV				LR	LR	22 08 35.9	
	comp=Z,49nm,18.9s,baz=74,slow=38						
ZALV	Zalesovo Beam	60.83	333	P	P	21 40 19.2	-0.8
EKS2	Erkin-Say	61.14	318	eP	P	21 40 21.9	-0.5
	comp=Z,20nm,2.1s						
KBL	Kabul	61.83	307	eP	P	21 40 25.6	-1.8
	comp=Z,5.6nm,0.3s						
KURK	Kurchatov	62.00	327	eP	P	21 40 26.1	-1.8
	comp=Z,5.7nm,0.7s						
AFI	Afiamalu	63.13	107	LR	LR	22 05 23.0	
	comp=Z,91nm,18.5s,baz=49,slow=33						
BRVK	Borovoye	67.66	327	eP	P	21 41 06.0	+1.3
	comp=Z,4.0nm,0.9s						
ABKAR	Akbulak array	72.43	321	eP	P	21 41 33.5	-0.5
ARU	Arti	75.20	328	eP	P	21 41 48.5	-1.5
	comp=Z,78nm,2.8s						
BRTR	Keskin Array B	90.33	310	P	P	21 43 07.8	-1.2
	comp=Z,1.0nm,0.9s,baz=66,slow=7.0,SNR=3.6						
BRTR	Keskin Array B	90.33	310	P	P	21 43 07.8	-1.2
ARCES	ARCESS Array B	90.67	340	P	P	21 43 08.2	-1.7
	comp=Z,5.5nm,1.0s,baz=71,slow=7.8,SNR=4.7						
ARCES	ARCESS Array B	90.67	340	P	P	21 43 08.2	-1.7
FINES	FINESS Array B	92.08	332	P	P	21 43 14.5	-2.0
	comp=Z,0.9nm,0.7s,baz=82,slow=10.0,SNR=2.9						
FINES	FINESS Array B	92.08	332	P	P	21 43 14.5	-2.0
NOA	NORSAR Array B	99.03	334	LR	LR	22 33 23.6	
	comp=Z,60nm,18.3s,baz=230,slow=38						
TORD	Torodi Ar. Bea	123.23	288	PKP	PKPdf	21 49 05.8	+0.5
	comp=Z,0.4nm,1.0s,baz=104,slow=3.5,SNR=2.8						
TORD	Torodi Ar. Bea	123.23	288	PKP	PKPdf	21 49 05.8	+0.5

JMA 01 21:48:13.5±0.2, 32.16N×140.73E, h41km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.22	321	P	Pn	21 48 34.5	+0.4
JHJ2				S	Sn	21 48 49.9	+0.5
JKO	Kozu shima	2.42	327	eS	Sn	21 49 21.4	+2.4
BSO1	Boso 1	2.50	5	P	Pn	21 48 52.3	+1.4
BSO1				eS	Sn	21 49 22.6	+3.0
BSO2	Boso 2	2.58	0	eS	Sn	21 49 24.7	+2.3
BSO3	Boso 3	2.64	356	P	Pn	21 48 54.9	+1.6
BSO3				S	Sn	21 49 26.2	+2.4
TK02	Tokai 2	3.07	306	P	Pn	21 49 00.9	+1.7
JOD2	Odawara 2	3.38	337	eS	Sn	21 49 43.6	+0.8
JRY	Ryogami san	4.13	339	P	Pn	21 49 18.1	+3.9

ISK 01 21:48:37.2, 37.79N×29.03E, h25km, MD2.8
CSEM 01 21:48:38.9±0.3, 37.82N×29.09E, h12km, MD2.8, Error ellipse: s-maj=7.1km s-min=4.7km az=123.0
ISCJB 01 21:48:39.5±0.8, 37.84N±0.04×29.07E±0.07, h9km±8km, Error ellipse: s-maj=11.2km s-min=4.6km az=30.3
DDA 01 21:48:39.1, 37.84N×29.10E, h7km, MD2.6
ISC 01 21:48:39.0±0.9, 37.84N±0.05×29.07E±0.04, h12km±8km, n14, σ0.52/26, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.09	199	ePG	Pg	21 48 41.8	0.0
DENT	Denizli	0.09	199	ePg	Pg	21 48 41.8	0.0
DENT				eSg	Sg	21 48 45.1	+1.2
DNZL	Cakiroluk	0.15	187	i P	Pg	21 48 42.5	-0.3
DNZL				i S	Sg	21 48 44.7	-0.7
DNZL	Cakiroluk	0.15	187	i P	Pg	21 48 42.5	-0.3
DNZL				i S	Sg	21 48 44.7	-0.7
KHL	Karahalli	0.60	36	ePG	Pg	21 48 50.9	+0.2
KHL	Karahalli	0.60	36	ePg	Pg	21 48 50.9	+0.2
KHL				eSg	Sb	21 49 00.9	+1.0
KHAL	Karahalli	0.62	32	i P	Pb	21 48 51.5	-0.3
KHAL				i S	Sb	21 49 00.5	-0.1
KHAL	Karahalli	0.62	32	i P	Pb	21 48 51.5	-0.3
KHAL				i S	Sb	21 49 00.5	-0.1
KULA	Kula-Manisa	0.75	334	ePG	Pg	21 48 52.8	-0.7
KULA				eSG	Sb	21 49 04.5	+0.4
KULA	Kula-Manisa	0.75	334	ePg	Pg	21 48 52.8	-0.7
KULA				eSg	Sb	21 49 04.5	+0.4
MANT	Manisa	0.77	328	i P	Pb	21 48 54.5	+0.2
MANT				i S	Sb	21 49 05.2	+0.4
MANT	Manisa	0.77	328	i P	Pb	21 48 54.5	+0.2
MANT				i S	Sb	21 49 05.2	+0.4
AYDN	Tasoluk	0.96	260	i P	Pn	21 48 58.3	0.0
AYDN				i S	Sb	21 49 10.7	+0.5
AYDN	Tasoluk	0.96	260	i P	Pn	21 48 58.3	0.0
AYDN				i S	Sb	21 49 10.7	+0.5

WEL 01 21:52:53.4±0.5, 37.63S×178.33E, h54km±3km, ML3.5/4, Error ellipse: s-maj=3.9km s-min=2.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.07	346	PN	Pn	21 53 01.5	-0.1
MXZ				SN	Sn	21 53 07.5	+0.1
PUZ	Puketiti	0.44	187	PN	Pn	21 53 03.9	-0.4
PUZ				SN	Sn	21 53 11.7	-0.5
CNGZ	Carnagh Statio	0.86	186	PN	Pn	21 53 09.5	+0.2
MWZ	Matawai	0.94	222	PN	Pn	21 53 10.4	-0.1
MWZ				SN	Sn	21 53 22.9	-0.3
URZ	Urewera	1.15	237	PN	Pn	21 53 13.2	0.0
PRGZ	Paritu Road	1.34	195	PN	Pn	21 53 15.2	-0.6
OPRZ	Ohinepanea	1.42	261	PN	Pn	21 53 16.3	-0.6
OPRZ				SN	Sn	21 53 33.3	-1.2
KNZ	Kokohu	1.48	200	PN	Pn	21 53 16.4	-1.2
TARZ	Mount Tarawera	1.56	247	PN	Pn	21 53 19.1	+0.2
KUZ	Kuaotunu	2.26	292	PN	Pn	21 53 28.0	-0.3
MKAZ	Moumakai	2.57	281	PN	Pn	21 53 32.7	+0.2
TSZ	Takapari Road	3.05	217	PN	Pn	21 53 37.1	-2.1
MRZ	Mangatainoka R	3.70	214	PN	Pn	21 53 45.5	-2.6

ISCJB 01 22:04:50.8±0.4, 37.82N±0.02×29.08E±0.04, h8km±4km, Error ellipse: s-maj=5.5km s-min=4.0km az=6.2
DDA 01 22:04:50.6, 37.85N×29.10E, h8km, MD2.7
ISK 01 22:04:50.2, 37.81N×29.08E, h7km, MD2.6
CSEM 01 22:04:50.7±0.1, 37.81N×29.08E, h8km, MD2.6, Error ellipse: s-maj=2.5km s-min=2.0km az=95.0
ISC 01 22:04:50.7±0.9, 37.82N±0.02×29.08E±0.03, h11km±6km, n30, σ0.30/44, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.07	208	ePG	Pg	22 04 53.1	-0.1
DENT	Denizli	0.07	208	ePg	Pg	22 04 53.1	-0.1
DNZL	Cakiroluk	0.13	191	i P	Pg	22 04 54.1	+0.1
DNZL				i S	Sg	22 04 56.4	0.0
DNZL	Cakiroluk	0.13	191	i P	Pg	22 04 54.1	+0.1
DNZL				i S	Sg	22 04 56.4	0.0
KHL	Karahalli	0.61	35	ePG	Pg	22 05 02.9	+0.2
KHL				eSG	Sb	22 05 11.8	-0.4
KHL	Karahalli	0.61	35	ePg	Pg	22 05 02.9	+0.2
KHL				eSg	Sb	22 05 11.8	-0.4
KHAL	Karahalli	0.64	31	i P	Pg	22 05 02.8	-0.4
KHAL				i S	Sg	22 05 11.3	-0.3
KHAL	Karahalli	0.64	31	i P	Pg	22 05 02.8	-0.4
KHAL				i S	Sg	22 05 11.3	-0.3
GOLH	Golhisar	0.70	146	i P	Pg	22 05 04.3	0.0
GOLH				i S	Sb	22 05 14.9	+0.3
GOLH	Golhisar	0.70	146	i P	Pg	22 05 04.3	0.0
GOLH				i S	Sb	22 05 14.9	+0.3
KULA	Kula-Manisa	0.77	335	ePG	Pg	22 05 05.6	0.0
KULA				eSG	Sb	22 05 16.9	+0.2
KULA	Kula-Manisa	0.77	335	ePg	Pg	22 05 05.6	0.0
KULA				eSg	Sb	22 05 16.9	+0.2
MANT	Manisa	0.79	329	i P	Pg	22 05 06.1	+0.1
MANT				i S	Sb	22 05 17.2	-0.1
MANT	Manisa	0.79	329	i P	Pg	22 05 06.1	+0.1
MANT				i S	Sb	22 05 17.2	-0.1
YER	Yerkesik	0.93	223	ePG	Pg	22 05 08.1	-0.6
YER	Yerkesik	0.93	223	ePg	Pg	22 05 08.1	-0.6
AYDN	Tasoluk	0.96	261	i P	Pb	22 05 09.6	+0.1
AYDN				i S	Sb	22 05 22.1	-0.2
AYDN	Tasoluk	0.96	261	i P	Pb	22 05 09.6	+0.1
AYDN				i S	Sb	22 05 22.1	-0.2
FETY	Fethiye	1.18	180	ePN	Pb	22 05 12.8	-0.4
FETY	Fethiye	1.18	180	ePn	Pb	22 05 12.8	-0.4
BCK	Bucak	1.25	106	ePN	Pg	22 05 14.7	-0.1
BCK	Bucak	1.25	106	ePn	Pg	22 05 14.7	-0.1
ELL	Elmali	1.26	148	ePN	Pb	22 05 14.5	-0.1
ELL	Elmali	1.26	148	ePn	Pb	22 05 14.5	-0.1
SHUT	Suhut-Afyon	1.37	57	ePN	Pb	22 05 16.4	-0.1
SHUT	Suhut-Afyon	1.37	57	ePn	Pb	22 05 16.4	-0.1
ALT	Altintas	1.48	33	ePN	Pb	22 05 18.0	-0.3
ALT	Altintas	1.48	33	ePn	Pb	22 05 18.0	-0.3
TVSB	Tavsanli	1.66	10	ePN	Pn	22 05 20.5	+0.6
TVSB	Tavsanli	1.66	10	ePn	Pn	22 05 20.5	+0.6

IDC 01 22:08:56.2±2.1, 4.81N×126.26E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=199.3km s-min=23.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.85	162	P	P	22 14 29.3	-0.3
	0.5nm,0.3s,baz=342,slow=10.0,SNR=12						
ASAR	Alice Springs	29.27	166	P	P	22 15 00.5	+0.2
	0.5nm,0.5s,baz=344,slow=7.3,SNR=14						
STKA	Stephens Creek	39.30	159	P	P	22 16 27.0	0.0
	3.1nm,1.1s,baz=0.0,slow=8.1,SNR=3.4						
MKAR	Makanchi Array	56.41	325	P	P	22 18 39.5	-0.1
	0.1nm,0.5s,baz=119,slow=6.8,SNR=3.5						

ISK 01 22:09:00.2, 37.81N×29.09E, h22km, MD2.4
ISCJB 01 22:09:01.6±0.5, 37.84N±0.03×29.09E±0.05, h11km±4km, Error ellipse: s-maj=6.3km s-min=4.6km az=7.4
DDA 01 22:09:01.0, 37.85N×29.09E, h5km, MD2.5
CSEM 01 22:09:01.4±0.2, 37.83N×29.09E, h10km, MD2.4, Error ellipse: s-maj=4.8km s-min=3.7km az=92.0
ISC 01 22:09:01.4±0.9, 37.83N±0.03×29.08E±0.03, h13km±6km, n16, σ0.63/32, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.09	204	ePG	Pg	22 09 03.8	-0.5
DENT				eSG	Sg	22 09 08.0	+1.7
DENT	Denizli	0.09	204	ePg	Pg	22 09 03.8	-0.5
DENT				eSg	Sg	22 09 08.0	+1.7
DNZL	Cakiroluk	0.14	190	i P	Pg	22 09 04.6	-0.6
DNZL				i S	Sg	22 09 06.8	-1.0
DNZL	Cakiroluk	0.14	190	i P	Pg	22 09 04.6	-0.6
DNZL				i S	Sg	22 09 06.8	-1.0
KHL	Karahalli	0.60	36	ePG	Pg	22 09 13.3	0.0
KHL				eSG	Sb	22 09 22.3	-0.1
KHL	Karahalli	0.60	36	ePg	Pg	22 09 13.3	0.0
KHL				eSg	Sb	22 09 22.3	-0.1
KHAL	Karahalli	0.63	31	i P	Pg	22 09 13.5	-0.2
KHAL				i S	Sg	22 09 21.6	-0.5
KHAL	Karahalli	0.63	31	i P	Pg	22 09 13.5	-0.2
KHAL				i S	Sg	22 09 21.6	-0.5
GOLH	Golhisar	0.71	147	eP	Pg	22 09 15.0	-0.2
GOLH				i S	Sb	22 09 26.1	+0.7
GOLH	Golhisar	0.71	147	eP	Pg	22 09 15.0	-0.2
GOLH				i S	Sb	22 09 26.1	+0.7
KULA	Kula-Manisa	0.76	334	ePG	Pb	22 09 16.6	0.0
KULA				eSG	Sb	22 09 27.2	+0.4
KULA	Kula-Manisa	0.76	334	ePg	Pb	22 09 16.6	0.0
KULA				eSg	Sb	22 09 27.2	+0.4
MANT	Manisa	0.77	328	i P	Pg	22 09 16.4	-0.1
MANT				i S	Sb	22 09 27.8	+0.3
MANT	Manisa	0.77	328	i P	Pg	22 09 16.4	-0.1
MANT				i S	Sb	22 09 27.8	+0.3
AYDN	Tasoluk	0.97	260	eP	Pb	22 09 20.1	0.0
AYDN				i S	Sg	22 09 32.4	-0.3
AYDN	Tasoluk	0.97	260	eP	Pb	22 09 20.1	0.0
AYDN				i S	Sg	22 09 32.4	-0.3

NNC 01 22:11:58.1±1.1, 40.06N×75.78E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.3km s-min=6.8km az=22.0
ISCJB 01 22:12:04.0±0.7, 40.16N±0.06×75.7E±0.2, h10km, Error ellipse: s-maj=27.0km s-min=5.6km az=164.7
ISC 01 22:12:04.0±1.3, 40.08N±0.09×75.8E±0.3, h10km, n16, σ0.48/7, 3C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.57	168	Pg	Pg	22 12 15.2	0.0
KSH				Sg	Sn	22 12 27.8	-0.1
KSH				smax	smax		
	comp=N,380nm,0.7s						
KSH				smax	smax		
	comp=E,260nm,0.9s						
KZA	Kyzart	2.04	348	P	Pn	22 12 37.3	-1.5
	SNR=79						
ULHL	Ulahol	2.19	8	P	Pn	22 12 41.0	+0.3
	SNR=33						
UCH	Uchtor	2.36	336	P	Pn	22 12 43.8	+0.6
	SNR=11						
AML	Almayashu	2.60	323	P	Pn	22 12 45.1	-1.4
	SNR=19						
KBK	Karagaybulak	2.66	346	P	Pn	22 12 46.3	-0.7
	SNR=44						
AAK	Ala-Archa	2.74	339	P	Pn	22 12 47.3	-0.8
	SNR=37						
TKM2	Tokmak 2	2.84	357	⇑Pg	Pn	22 12 49.7	+0.1
	comp=E,12nm,0.7s						
TKM2				⇓Lg	Lg	22 13 29.9	
	comp=E,27nm,0.6s						
TKM2	Tokmak 2	2.84	357	P	Pn	22 12 49.3	-0.4
	SNR=13						
EKS2	Erkin-Say	3.00	330	P	Pn	22 12 50.9	-0.9
	SNR=10						
CHMS	Chumysh	3.02	345	P	Pn	22 12 51.3	-0.7
	SNR=8.2						
USP	Ospenovka	3.33	343	P	Pn	22 12 55.6	-0.6
	SNR=20						
KK31	Karatay Array	5.00	309	⇓Pg	Pb	22 13 29.4	-2.1
	comp=E,2.7nm,0.8s,baz=128,slow=16,SNR=13						
KK31				⇓Lg	Lg	22 14 34.9	
	comp=E,1.3nm,0.4s,baz=126,slow=29,SNR=4.0						
MK31	Makanchi Array	8.20	33	Pn	Pn	22 14 01.5	-1.5
	comp=E,0.4nm,0.6s,baz=215,slow=10,SNR=9.8						
MK31				⇑Lg	Lg	22 16 16.5	
	comp=E,2.4nm,1.4s						
KURBB	Kurchatov Arra	10.71	9	⇓Lg	Lg	22 17 38.5	
	comp=E,0.5nm,0.6s						
KURK	Kurchatov	10.82	10	⇑Lg	Lg	22 17 43.5	
	comp=E,2.9nm,1.2s						

CSEM 01 22:12:38.7±0.3, 37.24N×27.86E, h8km, MD2.0, Error ellipse: s-maj=14.8km s-min=6.4km az=161.0
ISK 01 22:12:30.8, 37.28N×28.38E, h6km, MD2.0, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.17	209	ePG	Pg	22 12 34.9	+0.7
YER				eSG	Sg	22 12 37.4	+0.8
MLSB	Milas	0.48	272	ePG	Pg	22 12 40.5	+0.3
MLSB				eSG	Sb	22 12 48.0	-1.2
MLSB	Milas	0.48	272	ePg	Pg	22 12 40.5	+0.3
BODT	Bodrum	0.88	256	ePG	Pb	22 12 48.2	-0.4
BODT	Bodrum	0.88	256	ePg	Pg	22 12 48.2	+0.4

ISK 01 22:12:55.0, 37.83N×29.19E, h6km, MD2.2
ISCJB 01 22:12:56.2±0.6, 37.84N±0.03×29.13E±0.05, h8km±7km, Error ellipse: s-maj=7.0km s-min=4.6km az=7.4
DDA 01 22:12:56.1, 37.84N×29.09E, h8km, MD2.7
CSEM 01 22:12:56.1±0.3, 37.84N×29.16E, h2km, MD2.2, Error ellipse: s-maj=6.4km s-min=4.3km az=102.0
ISC 01 22:12:56.0±1.0, 37.84N±0.03×29.16E±0.04, h5km±13km, n16, σ0.36/26, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.13	227	PG	Pg	22 12 58.7	-0.1
DENT				eSG	Sg	22 13 00.7	+0.1
DENT	Denizli	0.13	227	i Pg	Pg	22 12 58.7	-0.1
DENT				eSg	Sg	22 13 00.7	+0.1
DNZL	Cakiroluk	0.18	209	i P	Pg	22 12 59.5	-0.1
DNZL				i S	Sg	22 13 01.8	-0.2
DNZL	Cakiroluk	0.18	209	i P	Pg	22 12 59.5	-0.1
DNZL	Cakiroluk	0.18	209	i S	Sg	22 13 01.8	-0.2
KHL	Karahalli	0.56	31	ePG	Pg	22 13 06.3	-0.5
KHL				eSG	Sg	22 13 14.8	+0.6
KHL	Karahalli	0.56	31	ePg	Pg	22 13 06.3	-0.5
KHL				eSg	Sg	22 13 14.8	+0.6
KHAL	Karahalli	0.59	27	i P	Pb	22 13 08.8	-0.1
KHAL				i S	Sb	22 13 17.4	-0.2
KHAL	Karahalli	0.59	27	i P	Pb	22 13 08.8	-0.1
KHAL	Karahalli	0.59	27	i S	Sb	22 13 17.4	-0.2
GOLH	Golhisar	0.69	152	eP	Pg	22 13 09.5	+0.3
GOLH				i S	Sb	22 13 20.5	+0.1
GOLH	Golhisar	0.69	152	eP	Pg	22 13 09.5	+0.3
KULA	Kula-Manisa	0.78	330	ePG	Pg	22 13 10.9	0.0
KULA				eSG	Sb	22 13 22.6	-0.4
KULA	Kula-Manisa	0.78	330	ePg	Pg	22 13 10.9	0.0
KULA				eSg	Sb	22 13 22.6	-0.4
MANT	Manisa	0.80	324	i P	Pg	22 13 11.7	+0.3
MANT				i S	Sg	22 13 22.7	+0.9
MANT	Manisa	0.80	324	i P	Pg	22 13 11.7	+0.3

ISCJB 01 22:19:03.7±0.9, 17.45N±0.03×119.78E±0.05, h20km±7km, mb3.4/9, MS2.7/2, Error ellipse: s-maj=8.5km s-min=5.4km az=15.7
MAN 01 22:19:05, 17.41N×119.95E, h22km
IDC 01 22:19:09.6±6.0, 17.12N×120.31E, h84km±57km, mb3.2/10, mb1 3.4/10, mb1mx3.3/24, mbtmp3.2/10, MS2.8/2, Ms1 2.8/2, ms1mx2.5/12, Error ellipse: s-maj=33.7km s-min=17.6km az=68.0
ISC 01 22:19:05.9±1.9, 17.49N±0.05×119.87E±0.08, h24km±14km, n22, σ1.46/23, mb3.4/9, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.71	52	⇓i P	Pb	22 19 19.1	-0.5
SIPP				i S	Sb	22 19 29.1	+0.1
ABRA	Dolores	0.82	78	eP	Pn	22 19 20.3	-1.6
PIP	Pasuquin	1.10	40	⇓i P	Pn	22 19 25.6	-0.1
PIP				i S	Sn	22 19 40.4	+0.3
BOLP	Bolinao	1.10	178	eP	Pn	22 19 22.3	-3.4
BOLP				eS	Sn	22 19 37.9	-2.3
BCPH	Baguio City Da	1.29	148	⇑i P	Pn	22 19 25.0	-3.6
BCPH				i S	Sn	22 19 32.5	-13
SCZP	Santa Cruz	1.70	179	eP	Pn	22 19 30.4	-3.6
CVP	Callao Caves	1.87	83	⇑i P	Pn	22 19 36.0	-0.3
CVP				i S	Sn	22 20 01.4	+2.1
CAUP	Cauayan	1.94	106	eP	Pn	22 19 38.2	+0.9
BALP	Baler	2.38	136	eP	Pn	22 19 42.2	-1.2
PALP	Palanan	2.48	99	⇓eP	Pn	22 19 43.9	-0.8
PALP				i S	Sn	22 20 15.8	+1.6
TGY	Tagaytay City	3.52	163	P	Pn	22 19 59.1	0.0
	37nm,0.3s,baz=284,slow=5.0,SNR=6.1						
TGY				S	Sn	22 20 41.6	+1.7
	53nm,0.3s,baz=145,slow=17,SNR=3.4						
LUBP	Lubang	3.75	174	eP	Pn	22 20 03.9	+1.7
CMAR	Chiang Mai Arr	19.93	276	P	Pn	22 23 40.4	+2.5
	1.8nm,0.8s,baz=85,slow=7.9,SNR=11						
KSRS	Korea Array	21.12	18	P	P	22 23 49.9	+1.1
	2.5nm,0.8s,baz=215,slow=10,SNR=3.6						
SONM	Songino Array	32.22	343	P	P	22 25 33.9	+1.7
	0.3nm,0.6s,baz=163,slow=11,SNR=4.6						
SONM				LR	LR	22 39 32.5	
	comp=Z,15nm,21.2s,baz=76,slow=37						
WRA	Warramunga Arr	39.82	158	P	P	22 26 30.4	-7.0
	0.2nm,0.4s,baz=345,slow=8.8,SNR=6.7						
MKAR	Makanchi Array	42.55	322	P	P	22 27 01.5	+1.8
	0.1nm,0.4s,baz=131,slow=9.7,SNR=5.2						
MKAR				PcP	PcP	22 28 50.9	-1.0
	0.4nm,0.7s,baz=116,slow=5.0,SNR=5.0						
MKAR				LR	LR	22 46 01.2	
	comp=Z,12nm,21.6s,baz=326,slow=37						
ASAR	Alice Springs	43.14	161	P	P	22 26 58.0	-6.6
	0.3nm,0.4s,baz=341,slow=7.0,SNR=3.0						
ZALV	Zalesovo Beam	45.36	332	P	P	22 27 22.6	+0.6
	0.5nm,0.6s,baz=160,slow=6.0,SNR=3.5						
FINES	FINESS Array B	76.61	330	P	P	22 30 53.3	-0.9
	0.6nm,0.5s,baz=41,slow=6.1,SNR=8.3						
NOA	NORSAR Array B	83.55	332	P	P	22 31 30.2	-1.5
	0.9nm,0.7s,baz=51,slow=2.5,SNR=3.2						
YKA	Yellowknife Ar	89.60	22	P	P	22 31 59.1	-2.1
	0.1nm,0.6s,baz=299,slow=3.7,SNR=4.1						

ISK 01 22:29:56.4, 37.88N×29.03E, h5km, MD2.8
ISCJB 01 22:29:57.0±0.5, 37.83N±0.03×29.04E±0.04, h0km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=7.3
DDA 01 22:29:57.0, 37.84N×29.07E, h7km, MD2.8
CSEM 01 22:29:57.3±0.1, 37.84N×29.05E, h5km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.6km az=101.0
ISC 01 22:29:57.6±1.0, 37.85N±0.02×29.03E±0.03, h7km±8km, n32, σ0.58/46, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.09	181	ePG	Pg	22 29 59.4	-0.4
DENT	Denizli	0.09	181	ePg	Pg	22 29 59.4	-0.4
KHL	Karahalli	0.61	39	ePG	Pg	22 30 09.2	-0.2
KHL				eSG	Sg	22 30 18.2	+0.7
KHL	Karahalli	0.61	39	ePg	Pg	22 30 09.2	-0.2
KHL				eSg	Sg	22 30 18.2	+0.7
KHAL	Karahalli	0.64	34	i P	Pg	22 30 08.7	-1.2
KHAL				i S	Sg	22 30 19.1	+0.9
KHAL	Karahalli	0.64	34	i P	Pg	22 30 08.7	-1.2
KHAL				i S	Sg	22 30 19.1	+0.9
KULA	Kula-Manisa	0.73	336	ePG	Pg	22 30 11.1	-0.6
KULA	Kula-Manisa	0.73	336	ePg	Pg	22 30 11.1	-0.6
GOLH	Golhisar	0.74	145	i P	Pg	22 30 10.4	-1.4
GOLH				i S	Sg	22 30 21.9	+0.5
GOLH	Golhisar	0.74	145	i P	Pg	22 30 10.4	-1.4
GOLH				i S	Sg	22 30 21.9	+0.5
MANT	Manisa	0.75	330	i P	Pg	22 30 12.1	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT				*i* S	**Sb**	**22 30 23.3**	**-0.2**
MANT	**Manisa**	**0.75**	**330**	*i* P	**Pg**	**22 30 12.1**	**+0.1**
MANT				*i* S	**Sb**	**22 30 23.3**	**-0.2**
YER	**Yerkesik**	**0.93**	**220**	*e*PG	**Pb**	**22 30 15.8**	**-0.2**
YER	**Yerkesik**	**0.93**	**220**	*e*Pg	**Pb**	**22 30 15.8**	**-0.2**
AYDN	**Tasoluk**	**0.93**	**259**	*i* P	**Pg**	**22 30 15.4**	**-0.1**
AYDN				*i* S	**Sg**	**22 30 27.9**	**+0.2**
AYDN	**Tasoluk**	**0.93**	**259**	*i* P	**Pg**	**22 30 15.4**	**-0.1**
AYDN				*i* S	**Sg**	**22 30 27.9**	**+0.2**
MLSB	**Milas**	**1.14**	**242**	*e*PN	**Pb**	**22 30 19.6**	**0.0**
MLSB	**Milas**	**1.14**	**242**	*e*Pn	**Pb**	**22 30 19.6**	**0.0**
DEMI	**Demirci**	**1.22**	**348**	*i* P	**Pg**	**22 30 20.4**	**-0.6**
DEMI				*i* S	**Sn**	**22 30 38.2**	**+0.2**
DEMI	**Demirci**	**1.22**	**348**	*i* P	**Pg**	**22 30 20.4**	**-0.6**
DEMI				*i* S	**Sn**	**22 30 38.2**	**+0.2**
GDZ	**Gediz**	**1.29**	**16**	*i* P	**Pn**	**22 30 21.4**	**-0.8**
GDZ				*i* S	**Sb**	**22 30 39.5**	**+0.4**
GDZ	**Gediz**	**1.29**	**16**	*i* P	**Pn**	**22 30 21.4**	**-0.8**
GDZ				*i* S	**Sb**	**22 30 39.5**	**+0.4**
BCK	**Bucak**	**1.29**	**107**	*e*PN	**Pn**	**22 30 22.2**	**+0.1**
BCK	**Bucak**	**1.29**	**107**	*e*Pn	**Pn**	**22 30 22.2**	**+0.1**
ELL	**Elmali**	**1.30**	**147**	*e*PN	**Pg**	**22 30 22.9**	**+0.4**
ELL	**Elmali**	**1.30**	**147**	*e*Pn	**Pg**	**22 30 22.9**	**+0.4**
SHUT	**Suhut-Afyon**	**1.39**	**59**	*e*PN	**Pn**	**22 30 23.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.39**	**59**	*e*Pn	**Pn**	**22 30 23.8**	**+0.3**
ALT	**Altintas**	**1.47**	**35**	*e*PN	**Pn**	**22 30 24.7**	**0.0**
ALT	**Altintas**	**1.47**	**35**	*e*Pn	**Pn**	**22 30 24.7**	**0.0**
TVSB	**Tavsanli**	**1.64**	**12**	*e*PN	**Pn**	**22 30 26.7**	**-0.2**
TVSB	**Tavsanli**	**1.64**	**12**	*e*Pn	**Pn**	**22 30 26.7**	**-0.2**

*ATH **01** 22:33:06.0, 37°.39N×27°.08E, h118km±3km*
*ISCJB **01** 22:33:07.9±0.7, 37°.40N±0°.02×27°.11E±0°.04, h4km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=170.1*
*ISK **01** 22:33:07.3, 37°.37N×27°.12E, h5km, MD3.1*
*DDA **01** 22:33:08.7, 37°.52N×27°.17E, h7km, MD3.3*
*CSEM **01** 22:33:08.5±0.2, 37°.35N×27°.11E, h2km, MD3.3, Error ellipse: s-maj=4.8km s-min=3.5km az=62.0*
ISC 01 22:33:07.7±1.0**, 37°.38N**±0°.02×**27°.09E**±0°.03**, h12**km±8km**, n58,** σ1^{s}**57**/69**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.34**	**19**	*i* P	**Pg**	**22 33 14.4**	**-0.1**
GCAM				*i* S	**Sg**	**22 33 19.6**	**+0.5**
GCAM	**G?zelcaml?**	**0.34**	**19**	*i* P	**Pg**	**22 33 14.4**	**-0.1**
GCAM				*i* S	**Sg**	**22 33 19.6**	**+0.5**
BODT	**Bodrum**	**0.36**	**151**	*e*PG	**Pg**	**22 33 15.1**	**+0.2**
BODT				*e*SG	**Sb**	**22 33 21.1**	**-0.6**
BODT	**Bodrum**	**0.36**	**151**	*e*Pg	**Pg**	**22 33 15.1**	**+0.2**
BODT				*e*Sg	**Sb**	**22 33 21.1**	**-0.6**
MLSB	**Milas**	**0.55**	**99**	*e*PG	**Pg**	**22 33 18.1**	**-0.3**
MLSB	**Milas**	**0.55**	**99**	*e*Pg	**Pg**	**22 33 18.1**	**-0.3**
AYDN	**Tasoluk**	**0.68**	**66**	*i* P	**Pg**	**22 33 20.6**	**-0.4**
AYDN				*i* S	**Sg**	**22 33 29.7**	**-0.3**
AYDN	**Tasoluk**	**0.68**	**66**	*i* P	**Pg**	**22 33 20.6**	**-0.4**
AYDN				*i* S	**Sg**	**22 33 29.7**	**-0.3**
YER	**Yerkesik**	**0.98**	**104**	*e*PG	**Pg**	**22 33 26.6**	**0.0**
YER	**Yerkesik**	**0.98**	**104**	*e*Pg	**Pg**	**22 33 26.6**	**0.0**
IZM	**Izmir**	**1.02**	**7**	*e*PG	**Pg**	**22 33 27.6**	**+0.2**
IZM	**Izmir**	**1.02**	**7**	*e*Pg	**Pg**	**22 33 27.6**	**+0.2**
URLA	**Izmir**	**1.05**	**338**	*i* P	**Pg**	**22 33 26.6**	**-1.4**
URLA				*i* S	**Sg**	**22 33 41.0**	**-0.7**
APE	**Apeiranthos**	**1.29**	**257**	*e*P	**Pb**	**22 33 32.0**	**+0.2**
APE				*e*S	**Sn**	**22 33 50.2**	**+1.5**
APE	**Apeiranthos**	**1.29**	**257**	*e*P	**Pb**	**22 33 32.0**	**+0.2**
APE				*e*S	**Sn**	**22 33 50.2**	**+1.5**
TURN	**Turunc**	**1.31**	**112**	*i* P	Pn	22 33 28.3	-3.5
TURN				*i* S	**Sb**	**22 33 46.0**	**-2.9**
ARG	**Arkhangelos**	**1.43**	**144**	*e*P	**Pn**	**22 33 33.5**	**+0.1**
ARG				*e*S	**Sg**	**22 33 53.8**	**+0.2**
ARG	**Arkhangelos**	**1.43**	**144**	*e*P	**Pn**	**22 33 33.5**	**+0.1**
ARG				*e*S	**Sg**	**22 33 53.8**	**+0.2**
DENT	**Denizli**	**1.58**	**76**	*e*PN	**Pb**	**22 33 37.0**	**+0.1**
DENT	**Denizli**	**1.58**	**76**	*e*Pn	**Pb**	**22 33 37.0**	**+0.1**
AKHS	**Akhisar**	**1.60**	**21**	*e*P	**Pn**	**22 33 34.5**	**-1.3**
AKHS				*e*S	**Sn**	**22 33 55.0**	**-1.4**
AKS	**Akhisar**	**1.60**	**21**	*e*PN	**Pb**	**22 33 37.9**	**+0.7**
AKS	**Akhisar**	**1.60**	**21**	*e*Pn	**Pb**	**22 33 37.9**	**+0.7**
MANT	**Manisa**	**1.60**	**46**	*e*P	**Pn**	**22 33 35.8**	**-0.2**
MANT				*e*S	**Sn**	**22 33 55.5**	**-1.2**
KULA	**Kula-Manisa**	**1.68**	**47**	*e*PN	**Pb**	**22 33 39.2**	**+0.6**
KULA	**Kula-Manisa**	**1.68**	**47**	*e*Pn	**Pb**	**22 33 39.2**	**+0.6**
FETY	**Fethiye**	**1.76**	**114**	*e*PN	**Pb**	**22 33 39.6**	**-0.2**
FETY	**Fethiye**	**1.76**	**114**	*e*Pn	**Pb**	**22 33 39.6**	**-0.2**
KARP	**Karpathos**	**1.83**	**178**	*e*P	**Pn**	**22 33 38.3**	**-0.7**
KARP	**Karpathos**	**1.83**	**178**	*e*P	**Pn**	**22 33 38.3**	**-0.7**
PRK	**Paraskevi**	**1.97**	**341**	*e*P	**Pn**	**22 33 39.9**	**-1.0**
PRK	**Paraskevi**	**1.97**	**341**	*e*P	**Pn**	**22 33 39.9**	**-1.0**
KHL	**Karahalli**	**2.14**	**63**	*e*PN	**Pb**	**22 33 45.8**	**-0.6**
KHL	**Karahalli**	**2.14**	**63**	*e*Pn	**Pb**	**22 33 45.8**	**-0.6**
ELL	**Elmali**	**2.34**	**105**	*e*PN	**Pn**	**22 33 48.2**	**+2.1**
ELL	**Elmali**	**2.34**	**105**	*e*Pn	**Pn**	**22 33 48.2**	**+2.1**
BALB	**Balikesir**	**2.34**	**15**	*e*PN	**Pb**	**22 33 48.6**	**-1.2**
BALB	**Balikesir**	**2.34**	**15**	*e*Pn	**Pb**	**22 33 48.6**	**-1.2**
EZN	**Ezine**	**2.52**	**346**	*e*PN	**Pn**	**22 33 50.9**	**+2.6**
EZN	**Ezine**	**2.52**	**346**	*e*Pn	**Pn**	**22 33 50.9**	**+2.6**
DST	**Dursunbey**	**2.52**	**28**	*e*PN	**Pb**	**22 33 51.3**	**-1.6**
DST	**Dursunbey**	**2.52**	**28**	*e*Pn	**Pb**	**22 33 51.3**	**-1.6**
GONE	**Gonen-Balikesi**	**2.70**	**10**	*e*PN	**Pb**	**22 33 54.0**	**-2.0**
GONE	**Gonen-Balikesi**	**2.70**	**10**	*e*Pn	**Pb**	**22 33 54.0**	**-2.0**
TVSB	**Tavsanli**	**2.78**	**41**	*e*PN	**Pn**	**22 33 55.0**	**+2.9**
TVSB	**Tavsanli**	**2.78**	**41**	*e*Pn	**Pn**	**22 33 55.0**	**+2.9**
SHUT	**Suhut-Afyon**	**2.97**	**66**	*e*PN	**Pn**	**22 33 57.4**	**+2.6**
SHUT	**Suhut-Afyon**	**2.97**	**66**	*e*Pn	**Pn**	**22 33 57.4**	**+2.6**
LPK	**Lapseki**	**3.00**	**355**	*e*PN	**Pn**	**22 33 57.8**	**+2.7**
LPK	**Lapseki**	**3.00**	**355**	*e*Pn	**Pn**	**22 33 57.8**	**+2.7**
KRBG	**Karabiga-Canak**	**3.01**	**3**	*e*PN	**Pn**	**22 33 58.1**	**+2.9**
KRBG	**Karabiga-Canak**	**3.01**	**3**	*e*Pn	**Pn**	**22 33 58.1**	**+2.9**
KCTX	**Karacabey (Bur**	**3.04**	**18**	*e*PN	**Pn**	**22 33 58.5**	**+2.8**
KCTX	**Karacabey (Bur**	**3.04**	**18**	*e*Pn	**Pn**	**22 33 58.5**	**+2.8**
GELI	**Tayfur-Gelibol**	**3.05**	**351**	*e*PN	**Pn**	**22 33 58.5**	**+2.7**
GELI	**Tayfur-Gelibol**	**3.05**	**351**	*e*Pn	**Pn**	**22 33 58.5**	**+2.7**
GULT	**Gulveren**	**4.05**	**40**	*e*PN	Pn	22 34 13.2	+3.6
GULT	**Gulveren**	**4.05**	**40**	*e*Pn	Pn	22 34 13.2	+3.6

*DDA **01** 22:46:45.5, 37°.84N×29°.09E, h7km, MD2.6*
*ISCJB **01** 22:46:46.2±0.5, 37°.83N±0°.03×29°.05E±0°.04, h5km±6km, Error ellipse: s-maj=5.9km s-min=4.2km az=11.2*
*CSEM **01** 22:46:46.4±0.2, 37°.83N×29°.07E, h2km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.3km az=109.0*
*ISK **01** 22:46:46.4, 37°.83N×29°.06E, h8km, MD2.7*
ISC 01 22:46:46.0±0.9**, 37°.83N**±0°.02×**29°.06E**±0°.03**, h9**km±7km**, n24,** σ0^{s}**40**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.07**	**195**	*e*PG	**Pg**	**22 46 48.3**	**+0.1**
DENT	**Denizli**	**0.07**	**195**	*e*Pg	**Pg**	**22 46 48.3**	**+0.1**
DNZL	**Cakiroluk**	**0.14**	**184**	*i* P	**Pg**	**22 46 49.1**	**-0.1**
DNZL				*i* S	**Sg**	**22 46 51.4**	**0.0**
DNZL	**Cakiroluk**	**0.14**	**184**	*i* P	**Pg**	**22 46 49.1**	**-0.1**
DNZL				*i* S	**Sg**	**22 46 51.4**	**0.0**
KHL	**Karahalli**	**0.62**	**36**	*e*PG	**Pb**	**22 46 59.2**	**+0.1**
KHL				*e*SG	**Sb**	**22 47 07.6**	**-0.3**
KHL	**Karahalli**	**0.62**	**36**	*e*Pg	**Pb**	**22 46 59.2**	**+0.1**
KHL				*e*Sg	**Sb**	**22 47 07.6**	**-0.3**
KHAL	**Karahalli**	**0.64**	**32**	*i* P	**Pg**	**22 46 58.1**	**-0.4**
KHAL				*i* S	**Sg**	**22 47 06.6**	**-0.3**
KHAL	**Karahalli**	**0.64**	**32**	*i* P	**Pg**	**22 46 58.1**	**-0.4**
KHAL				*i* S	**Sg**	**22 47 06.6**	**-0.3**
GOLH	**Golhisar**	**0.71**	**146**	*i* P	**Pg**	**22 46 59.3**	**-0.5**
GOLH				*i* S	**Sb**	**22 47 10.3**	**-0.3**
GOLH	**Golhisar**	**0.71**	**146**	*i* P	**Pg**	**22 46 59.3**	**-0.5**
GOLH				*i* S	**Sb**	**22 47 10.3**	**-0.3**
KULA	**Kula-Manisa**	**0.76**	**336**	*e*PG	**Pb**	**22 47 01.7**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**336**	*e*Pg	**Pb**	**22 47 01.7**	**+0.3**
MANT	**Manisa**	**0.77**	**329**	*i* P	**Pg**	**22 47 01.2**	**+0.2**
MANT				*i* S	**Sb**	**22 47 12.1**	**-0.4**
MANT	**Manisa**	**0.77**	**329**	*i* P	**Pg**	**22 47 01.2**	**+0.2**
MANT				*i* S	**Sb**	**22 47 12.1**	**-0.4**
YER	**Yerkesik**	**0.93**	**222**	*e*PG	**Pn**	**22 47 05.0**	**-0.2**
YER	**Yerkesik**	**0.93**	**222**	*e*Pg	**Pn**	**22 47 05.0**	**-0.2**
AYDN	**Tasoluk**	**0.95**	**260**	*e*P	**Pb**	**22 47 04.8**	**+0.1**
AYDN				*i* S	**Sg**	**22 47 16.9**	**+0.3**
AYDN	**Tasoluk**	**0.95**	**260**	*e*P	**Pb**	**22 47 04.8**	**+0.1**
AYDN				*i* S	**Sg**	**22 47 16.9**	**+0.3**
BCK	**Bucak**	**1.27**	**106**	*e*PN	**Pg**	**22 47 11.6**	**+1.2**
BCK	**Bucak**	**1.27**	**106**	*e*Pn	**Pg**	**22 47 11.6**	**+1.2**
SHUT	**Suhut-Afyon**	**1.38**	**58**	*e*PN	**Pg**	**22 47 12.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.38**	**58**	*e*Pn	**Pg**	**22 47 12.5**	**-0.1**
TVSB	**Tavsanli**	**1.65**	**11**	*e*PN	**Pn**	**22 47 15.5**	**+0.2**
TVSB	**Tavsanli**	**1.65**	**11**	*e*Pn	**Pn**	**22 47 15.5**	**+0.2**

IDC 01 23:01:28.4±7.9**, 0°.15N**×**123°.83E, h181**km±79km**, mb3.2**/6**, mb1 3.3**/7**, mb1mx3.2**/22**, mbtmp3.2**/7**, Error ellipse: s-maj=96.6km s-min=18.6km az=66.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.23**	**174**	P	P	23 05 27.1	-0.9
	0.4nm,0.3s,baz=354,slow=7.1,SNR=7.3						
WRA	**Warramunga Arr**	**22.47**	**153**	P	P	23 06 12.3	-0.3
	1.3nm,0.4s,baz=334,slow=10,SNR=42						
ASAR	**Alice Springs**	**25.62**	**158**	P	P	23 06 41.8	+0.6
	0.5nm,0.4s,baz=350,slow=13,SNR=11						
STKA	**Stephens Creek**	**36.02**	**154**	P	P	23 08 12.3	0.0
	2.8nm,0.8s,baz=341,slow=23,SNR=5.9						
SONM	**Songino Array**	**49.85**	**345**	P	P	23 10 02.6	-0.6
	0.3nm,0.9s,baz=154,slow=7.9,SNR=2.6						
MKAR	**Makanchi Array**	**58.92**	**328**	P	P	23 11 09.1	+0.6
	0.9nm,0.6s,baz=121,slow=8.8,SNR=14						
MKAR				PcP	PcP	23 11 55.4	-0.4
	0.4nm,0.4s,baz=147,slow=3.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**62.52**	**335**	P	P	23 11 32.2	-0.4
	0.2nm,0.4s,baz=147,slow=8.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**121.17**	**285**	PKP	PKPdf	23 19 59.8	-0.9
	0.5nm,0.8s,baz=102,slow=1.4,SNR=3.0						

GUC 01 23:03:53.4±0.8**, 33°.16S**×**70°.27W, h2**km±6km**, MD3.6, ML2.6, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.17**	**185** ⇑	*i*P	Pg	23 03 57.4	+0.1
FCH				*i* S	Sg	23 04 00.3	+0.5
FCH				AML	AML	23 04 00.7	
	comp=E,4µm,0.2s						
CLCH	**Cerro Calan**	**0.33**	**223** ⇑	*i*P	Pb	23 04 01.3	-0.8
CLCH				*i* S	Sg	23 04 05.8	+1.7
CLCH				AML	AML	23 04 08.0	
	comp=N,2µm,0.4s						
PEL	**Peldehue**	**0.35**	**272** ⇓	*i*P	Pg	23 04 00.4	+0.2
PEL				*i* S	Sg	23 04 05.4	+0.6
PEL				AML	AML	23 04 11.2	
	comp=N,775nm,0.5s						
PCH	**Pirque**	**0.51**	**204** ⇑	*i*P	Pg	23 04 04.0	+0.7
PCH				*e*S	Sg	23 04 10.4	+0.4
JACH	**Jahuel**	**0.55**	**330**	*e*P	Pg	23 04 03.8	-0.3
ROCH	**El Roble**	**0.65**	**286** ⇑	*i*P	Pg	23 04 05.9	-0.3
ROCH				*i* S	Sg	23 04 14.8	+0.1
ROCH				AML	AML	23 04 16.2	
	comp=N,442nm,0.5s						
TACH	**Talagante**	**0.74**	**228** ⇑	*i*P	Pg	23 04 07.8	+0.1
CHCH	**Chadas Angostu**	**0.84**	**202** ⇑	*i*P	Pg	23 04 09.6	0.0
CHCH				*i* S	Sg	23 04 21.3	+0.8
CACH	**El Canelo**	**1.00**	**196** ⇑	*i*P	Pg	23 04 12.8	+0.1
CACH				*i* S	Sb	23 04 27.1	-0.2
LNV	**Longovilo**	**1.24**	**230** ⇓	*i*P	Pg	23 04 16.1	-1.1

*ISK **01** 23:14:51.4, 37°.82N×29°.09E, h16km, MD2.8*
*CSEM **01** 23:14:51.9±0.1, 37°.82N×29°.10E, h12km, MD2.8, Error ellipse: s-maj=3.7km s-min=2.8km az=95.0*
*ISCJB **01** 23:14:52.0±0.5, 37°.82N±0°.03×29°.12E±0°.04, h10km±4km, Error ellipse: s-maj=5.5km s-min=4.1km az=15.8*
*DDA **01** 23:14:52.2, 37°.85N×29°.12E, h7km, MD2.8*
ISC 01 23:14:52.0±0.8**, 37°.82N**±0°.02×**29°.10E**±0°.03**, h14**km±6km**, n34,** σ0^{s}**53**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.08**	**219**	*e*PG	**Pg**	**23 14 54.7**	**-0.4**
DENT				*e*SG	**Sg**	**23 14 57.8**	**+0.7**
DENT	**Denizli**	**0.08**	**219**	*e*Pg	**Pg**	**23 14 54.7**	**-0.4**
DENT				*e*Sg	**Sg**	**23 14 57.8**	**+0.7**
KHL	**Karahalli**	**0.60**	**33**	*e*PG	**Pg**	**23 15 03.5**	**-0.5**
KHL				*e*SG	**Sb**	**23 15 13.0**	**+0.1**
KHL	**Karahalli**	**0.60**	**33**	*e*Pg	**Pg**	**23 15 03.5**	**-0.5**
KHL				*e*Sg	**Sb**	**23 15 13.0**	**+0.1**
KHAL	**Karahalli**	**0.63**	**29**	*i* P	**Pg**	**23 15 04.1**	**-0.3**
KHAL				*i* S	**Sg**	**23 15 11.8**	**-1.1**
KHAL	**Karahalli**	**0.63**	**29**	*i* P	**Pg**	**23 15 04.1**	**-0.3**
KHAL				*i* S	**Sg**	**23 15 11.8**	**-1.1**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pb**	**23 15 05.7**	**-0.2**
GOLH				*i* S	**Sb**	**23 15 16.4**	**+1.2**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pb**	**23 15 05.7**	**-0.2**
GOLH				*i* S	**Sb**	**23 15 16.4**	**+1.2**
KULA	**Kula-Manisa**	**0.78**	**334**	*e*PG	**Pg**	**23 15 07.2**	**+0.1**
KULA	**Kula-Manisa**	**0.78**	**334**	*e*Pg	**Pg**	**23 15 07.2**	**+0.1**
MANT	**Manisa**	**0.80**	**328**	*i* P	**Pg**	**23 15 07.3**	**-0.2**
MANT				*i* S	**Sb**	**23 15 18.8**	**+0.3**
MANT	**Manisa**	**0.80**	**328**	*i* P	**Pg**	**23 15 07.3**	**-0.2**
MANT				*i* S	**Sb**	**23 15 18.8**	**+0.3**
YER	**Yerkesik**	**0.94**	**224**	*e*PG	**Pb**	**23 15 09.2**	**-1.0**
YER	**Yerkesik**	**0.94**	**224**	*e*Pg	**Pb**	**23 15 09.2**	**-1.0**
AYDN	**Tasoluk**	**0.98**	**261**	*e*P	**Pg**	**23 15 11.2**	**+0.2**
AYDN				*e*S	**Sg**	**23 15 24.0**	**+0.1**
AYDN	**Tasoluk**	**0.98**	**261**	*e*P	**Pg**	**23 15 11.2**	**+0.2**
AYDN				*e*S	**Sg**	**23 15 24.0**	**+0.1**
FETY	**Fethiye**	**1.18**	**181**	*e*PN	**Pn**	**23 15 13.8**	**-0.4**
FETY	**Fethiye**	**1.18**	**181**	*e*Pn	**Pn**	**23 15 13.8**	**-0.4**
BCK	**Bucak**	**1.23**	**106**	*e*PN	**Pb**	**23 15 15.4**	**+0.2**
BCK	**Bucak**	**1.23**	**106**	*e*Pn	**Pb**	**23 15 15.4**	**+0.2**
ELL	**Elmali**	**1.25**	**149**	*e*PN	**Pn**	**23 15 15.0**	**-0.2**
ELL	**Elmali**	**1.25**	**149**	*e*Pn	**Pn**	**23 15 15.0**	**-0.2**
DEMI	**Demirci**	**1.26**	**346**	*i* P	**Pb**	**23 15 16.0**	**+0.4**
DEMI				*i* S	**Sg**	**23 15 33.6**	**+0.9**
DEMI	**Demirci**	**1.26**	**346**	*i* P	**Pb**	**23 15 16.0**	**+0.4**
DEMI				*i* S	**Sg**	**23 15 33.6**	**+0.9**
GDZ	**Gediz**	**1.30**	**13**	*i* P	**Pb**	**23 15 16.8**	**+0.4**
GDZ				*i* S	**Sg**	**23 15 34.1**	**0.0**
GDZ	**Gediz**	**1.30**	**13**	*i* P	**Pb**	**23 15 16.8**	**+0.4**
GDZ				*i* S	**Sg**	**23 15 34.1**	**0.0**
SHUT	**Suhut-Afyon**	**1.36**	**57**	*e*PN	**Pn**	**23 15 16.8**	**+0.1**
SHUT	**Suhut-Afyon**	**1.36**	**57**	*e*Pn	**Pn**	**23 15 16.8**	**+0.1**
ALT	**Altintas**	**1.47**	**32**	*e*PN	**Pn**	**23 15 17.9**	**-0.3**
ALT	**Altintas**	**1.47**	**32**	*e*Pn	**Pn**	**23 15 17.9**	**-0.3**
TVSB	**Tavsanli**	**1.65**	**10**	*e*PN	**Pn**	**23 15 20.3**	**-0.4**
TVSB	**Tavsanli**	**1.65**	**10**	*e*Pn	**Pn**	**23 15 20.3**	**-0.4**
DST	**Dursunbey**	**1.82**	**348**	*e*PN	**Pn**	**23 15 22.5**	**-0.5**
DST	**Dursunbey**	**1.82**	**348**	*e*Pn	**Pn**	**23 15 22.5**	**-0.5**

*DDA **01** 23:25:16.7, 37°.85N×29°.09E, h3km, MD2.8*
*ISK **01** 23:25:17.1, 37°.86N×29°.00E, h5km, MD2.6*
*CSEM **01** 23:25:17.7±0.2, 37°.84N×29°.04E, h2km, MD2.6, Error ellipse: s-maj=4.6km s-min=3.3km az=87.0*
ISC 01 23:25:17.7±1.1**, 37°.85N**±0°.02×**29°.05E**±0°.03**, h1**km±11km**, n30,** σ0^{s}**68**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.09**	**186**	*e*PG	**Pg**	**23 25 19.4**	**-0.1**
DENT	**Denizli**	**0.09**	**186**	*e*Pg	**Pg**	**23 25 19.4**	**-0.1**
DNZL	**Cakiroluk**	**0.16**	**180**	*i* P	**Pg**	**23 25 20.3**	**-0.4**
DNZL				*i* S	**Sg**	**23 25 22.5**	**-0.3**
DNZL	**Cakiroluk**	**0.16**	**180**	*i* P	**Pg**	**23 25 20.3**	**-0.4**
DNZL				*i* S	**Sg**	**23 25 22.5**	**-0.3**
KHL	**Karahalli**	**0.61**	**38**	*e*PG	**Pg**	**23 25 30.1**	**+0.8**
KHL	**Karahalli**	**0.61**	**38**	*e*Pg	**Pg**	**23 25 30.1**	**+0.8**
KHAL	**Karahalli**	**0.63**	**34**	*i* P	**Pg**	**23 25 28.8**	**-1.0**
KHAL				*e*S	**Sg**	**23 25 38.0**	**0.0**
KHAL	**Karahalli**	**0.63**	**34**	*i* P	**Pg**	**23 25 28.8**	**-1.0**
KHAL				*e*S	**Sg**	**23 25 38.0**	**0.0**
GOLH	**Golhisar**	**0.73**	**146**	*i* P	**Pg**	**23 25 30.3**	**-1.4**
GOLH				*i* S	**Sg**	**23 25 42.0**	**+0.8**
GOLH	**Golhisar**	**0.73**	**146**	*i* P	**Pg**	**23 25 30.3**	**-1.4**
GOLH				*i* S	**Sg**	**23 25 42.0**	**+0.8**
KULA	**Kula-Manisa**	**0.73**	**336**	*e*PG	**Pg**	**23 25 32.0**	**+0.3**
KULA				*e*SG	**Sb**	**23 25 42.7**	**-1.2**
KULA	**Kula-Manisa**	**0.73**	**336**	*e*Pg	**Pg**	**23 25 32.0**	**+0.3**
KULA				*e*Sg	**Sb**	**23 25 42.7**	**-1.2**
MANT	**Manisa**	**0.75**	**329**	*i* P	**Pg**	**23 25 32.1**	**0.0**
MANT				*i* S	**Sb**	**23 25 43.5**	**-1.0**
MANT	**Manisa**	**0.75**	**329**	*i* P	**Pg**	**23 25 32.1**	**0.0**
MANT				*i* S	**Sb**	**23 25 43.5**	**-1.0**
YER	**Yerkesik**	**0.93**	**221**	*e*PG	**Pg**	**23 25 35.8**	**+0.2**
YER	**Yerkesik**	**0.93**	**221**	*e*Pg	**Pg**	**23 25 35.8**	**+0.2**
AYDN	**Tasoluk**	**0.94**	**259**	*i* P	**Pg**	**23 25 35.6**	**-0.1**
AYDN				*i* S	**Sg**	**23 25 48.0**	**0.0**
AYDN	**Tasoluk**	**0.94**	**259**	*i* P	**Pg**	**23 25 35.6**	**-0.1**
AYDN				*i* S	**Sg**	**23 25 48.0**	**0.0**
DEMI	**Demirci**	**1.22**	**348**	*i* P	**Pg**	**23 25 40.9**	**-0.2**
DEMI				*i* S	**Sn**	**23 25 58.8**	**-0.4**
DEMI	**Demirci**	**1.22**	**348**	*i* P	**Pg**	**23 25 40.9**	**-0.2**
DEMI				*i* S	**Sn**	**23 25 58.8**	**-0.4**
BCK	**Bucak**	**1.28**	**107**	*e*PN	**Pn**	**23 25 44.0**	**+1.2**
BCK	**Bucak**	**1.28**	**107**	*e*Pn	**Pn**	**23 25 44.0**	**+1.2**
GDZ	**Gediz**	**1.29**	**15**	*i* P	**Pg**	**23 25 42.1**	**-0.3**
GDZ				*i* S	**Sg**	**23 25 58.9**	**-0.1**
GDZ	**Gediz**	**1.29**	**15**	*i* P	**Pg**	**23 25 42.1**	**-0.3**
GDZ				*i* S	**Sg**	**23 25 58.9**	**-0.1**
ELL	**Elmali**	**1.29**	**148**	*e*PN	**Pn**	**23 25 43.7**	**+0.8**
ELL	**Elmali**	**1.29**	**148**	*e*Pn	**Pn**	**23 25 43.7**	**+0.8**
SHUT	**Suhut-Afyon**	**1.38**	**59**	*e*PN	**Pb**	**23 25 45.0**	**+0.7**
SHUT	**Suhut-Afyon**	**1.38**	**59**	*e*Pn	**Pb**	**23 25 45.0**	**+0.7**
TVSB	**Tavsanli**	**1.63**	**11**	*e*PN	**Pb**	**23 25 48.4**	**-0.3**
TVSB	**Tavsanli**	**1.63**	**11**	*e*Pn	**Pb**	**23 25 48.4**	**-0.3**

IDC 01 23:35:56.8±5.5**, 22°.62S**×**179°.58W, h618**km±62km**, mb3.3**/5**, mb1 3.5**/6**, mb1mx3.2**/19**, mbtmp3.3**/6**, Error ellipse: s-maj=89.9km s-min=36.8km az=154.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.95**	**270**	P	P	23 38 45.6	+0.6
	0.4nm,0.3s,baz=89,slow=17,SNR=5.7						
STKA	**Stephens Creek**	**35.58**	**246**	P	P	23 42 04.7	+0.3
	3.2nm,0.4s,baz=92,slow=9.5,SNR=22						
ASAR	**Alice Springs**	**42.64**	**259**	P	P	23 43 01.1	-0.1
	3.8nm,0.4s,baz=98,slow=7.4,SNR=62						
WRA	**Warramunga Arr**	**42.90**	**265**	P	P	23 43 02.3	-0.8
	2.5nm,0.3s,baz=96,slow=8.4,SNR=204						
NVAR	**Mina Array Bea**	**83.56**	**44**	P	P	23 47 21.8	+0.1
	0.5nm,0.3s,baz=248,slow=9.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	P	23 47 51.4	+1.6
	0.7nm,0.3s,baz=138,slow=3.9,SNR=4.5						
AKASG	**Malin Array Be**	**144.10**	**329**	PKP	PKPbc	23 54 21.4	-1.5
	0.5nm,0.3s,baz=47,slow=3.9,SNR=4.9						
BRTR	**Keskin Array B**	**147.10**	**309**	PKPbc	PKPbc	23 54 31.3	-0.7
	0.5nm,0.6s,baz=53,slow=5.6,SNR=3.1						

*IDC **01** 23:57:19.9±0.7, 13°.08N×88°.05W, h53km±5km, mb4.3/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, MS3.8/19, Ms1 3.8/19, ms1mx3.7/40, Error ellipse: s-maj=19.0km s-min=10.3km az=48.0*
*BJI **01** 23:57:20.3, 12°.90N×88°.50W, h70km, mB5.1/1, Ms5.1/2, Ms7 4.7/3*
*ISCJB **01** 23:57:20.3±0.3, 12°.82N±0°.03×88°.55W±0°.03, h69km±2km, mb4.8/91, Error ellipse: s-maj=6.8km s-min=2.6km az=38.3*
*NEIC **01** 23:57:20.3±0.3, 12°.79N×88°.47W, mb5.0/74, MD4.9(SNET), Error ellipse: s-maj=9.1km s-min=4.8km az=224.0*
NEIC Felt [III] at San Salvador.
*CASC **01** 23:57:21.2±1.9, 12°.83N×88°.60W, h36km±384km, MD4.5, ML5.0, mb5.0(NEIC)*
*GCMT **01** 23:57:23.2±0.4, 12°.79N×88°.63W, h60km±2km, MW4.9, Moment Tensor Solution. s32,c38; s48,c64; Moment tensor: Scale 10^{16}Nm; M_{rr}2.22±.14; $M_{\theta\theta}$-2.41±.11; $M_{\phi\phi}$0.20±.13; $M_{r\theta}$0.48±.08; $M_{\theta\phi}$1.13±.11; $M_{\phi r}$-0.58±.08; Best double couple: $M_0$2.70000×10^{16} NP1:ϕ_s278.00000°, δ39.00000°, λ71.00000°. NP2:ϕ_s122.00000°, δ53.00000°, λ105.00000°. Principal axes: T 2.3800, Plg76.0000°, Azm80.0000°; N 0.5400, Plg12.0000°, Azm293.0000°; P -2.9100, Plg7.0000°, Azm201.0000°; Data Used: II G CN IU IC.*
ISC 01 23:57:19.8±0.5**, 12°.84N**±0°.05×**88°.57W**±0°.04**, h54**km±3km**, h54**km**:pP-P, n630,** σ1^{s}**35**/676**, mb4.9**/91**, MS3.9**/21**, 195C-205D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.65**	**26** ⇓	*i*P	**Pn**	**23 57 34.7**	**+1.2**
BLLM	**Bellamira**	**0.68**	**28** ⇓	*i*P	**Pn**	**23 57 34.8**	**+1.1**
AIES	**Las Flores**	**0.77**	**322**	*e*P	**Pn**	**23 57 35.0**	**+0.3**
AIES				*e*S	**Sn**	**23 57 46.1**	**+0.6**
AIES				AML	AML	23 57 54.2	
	comp=Z,43µm,0.4s						
SNVI	**San Vicente**	**0.81**	**341**	*e*P	**Pn**	**23 57 36.2**	**+0.8**
LFRS	**El Faro**	**0.92**	**328**	*e*P	**Pn**	**23 57 36.9**	**+0.2**
CAHU	**Cacacuatique**	**0.99**	**20** ⇓	*i*P	**Pn**	**23 57 39.2**	**+1.4**
LBRS	**Las Brisas**	**1.01**	**333**	*e*P	**Pn**	**23 57 38.6**	**+0.7**
SNET	**Serv Nac Est T**	**1.06**	**323**	*e*P	**Pn**	**23 57 39.0**	**+0.4**
SNET				*e*S	**Sn**	**23 57 52.9**	**+0.4**
SNET				AML	AML	23 57 55.1	
	comp=Z,36µm,0.2s						
BOQS	**Boqueron**	**1.13**	**322**	*e*P	**Pn**	**23 57 40.0**	**+0.3**
SBLS	**San Blas**	**1.43**	**314**	*e*P	**Pn**	**23 57 44.4**	**+0.7**
SNJE	**San Jose**	**1.44**	**315**	*e*P	**Pn**	**23 57 44.4**	**+0.6**
RTR	**El Retiro**	**1.48**	**315**	*e*P	**Pn**	**23 57 45.5**	**+1.1**
RBDL	**Robledal**	**1.67**	**319**	*e*P	**Pn**	**23 57 47.7**	**+0.8**
MTO2	**Montecristo 2**	**1.73**	**334**	*e*P	**Pn**	**23 57 49.0**	**+1.2**
NBG	**Las Nubes**	**2.45**	**315**	*e*P	**Pn**	**23 58 00.3**	**+2.6**
MRL	**Marmol**	**2.47**	**334**	*e*P	**Pn**	**23 58 00.7**	**+2.9**
MRL				*e*S	Sn	23 58 37.2	+10
PCG	**Pacaya**	**2.51**	**308**	*e*P	Pn	23 58 03.2	+4.6
FUG	**Fuego 3**	**2.73**	**306**	*e*P	**Pn**	**23 58 04.4**	**+3.0**
TP2	**Tecpan 2**	**3.07**	**309**	*e*P	**Pn**	**23 58 09.0**	**+2.8**
JAT	**Jato**	**3.33**	**297**	*e*P	**Pn**	**23 58 11.9**	**+2.5**
NY14	**Universidad de**	**3.68**	**126**	*i* P	**Pn**	**23 58 16.4**	**+2.1**
NY14				*i* S	**Sn**	**23 58 56.2**	**-0.3**
GB1A	**Borinquen Arri**	**3.70**	**123**	*i* P	**Pn**	**23 58 16.4**	**+1.8**
GB1A				*i* S	**Sn**	**23 58 58.9**	**+1.9**
GPS3	**Bodega del ICE**	**3.76**	**123**	*i* P	**Pn**	**23 58 17.8**	**+2.3**
LIM1	**Limonal**	**3.88**	**123**	*i* P	**Pn**	**23 58 18.4**	**+1.3**
MESS	**Mesas**	**3.91**	**122**	*i* P	**Pn**	**23 58 18.1**	**+0.7**
AMAS	**Alto Masis**	**4.14**	**122**	*i* P	**Pn**	**23 58 23.8**	**+3.1**
JTS	**JuntasAbangare**	**4.36**	**125**	P	**Pn**	**23 58 25.5**	**+2.0**
	comp=Z,16nm,0.3s,baz=307,slow=16,SNR=28						
JTS				S	**Sn**	**23 59 09.2**	**-3.9**
	comp=Z,24nm,0.3s,baz=287,slow=16,SNR=3.8						
JTS	**JuntasAbangare**	**4.36**	**125**	*e*Pn	**Pn**	**23 58 25.3**	**+1.7**
JTS				*e*Sn	**Sn**	**23 59 14.2**	**+1.1**
CGA2	**Cerro Gallo 2**	**4.90**	**124** ⇑	*e*P	Pn	23 58 35.2	+4.0
LAJ	**Bijagual**	**5.27**	**124**	*e*P	**Pn**	**23 58 35.4**	**-0.9**
SJS	**Escuela Geolog**	**5.28**	**123**	*e*P	Pn	23 58 40.0	+3.6
QCR	**Quepos**	**5.49**	**128** ⇓	*e*P	**Pn**	**23 58 42.0**	**+2.8**
BUS	**Buena Vista**	**5.74**	**124** ⇓	*e*P	Pn	23 58 46.3	+3.4
ACR	**Cerro Adams**	**6.74**	**128**	*e*P	**Pn**	**23 58 59.2**	**+2.9**
BRU2	**Volcan**	**7.03**	**124**	*e*P	**Pn**	**23 59 02.4**	**+1.9**
BRU2				*e*S	**Sn**	**00 00 18.5**	**-0.7**
TBS2		**7.06**	**124**	*e*P	**Pn**	**23 59 03.6**	**+2.7**
TBS2				*e*S	**Sn**	**00 00 20.1**	**+0.2**
TEIG	**Tepich**	**7.35**	**2**	P	**Pn**	**23 59 07.4**	**+2.8**
	comp=Z,18nm,0.3s,baz=175,slow=8.5,SNR=77						
TEIG				LR	LR	00 02 21.7	
	comp=Z,1µm,21.3s,baz=213,slow=42						
TEIG	**Tepich**	**7.35**	**2**	*e*Pn	**Pn**	**23 59 07.3**	**+2.7**
TEIG				*e*Sn	**Sn**	**00 00 27.4**	**+0.8**
CMIG	**Matias Romero**	**7.42**	**305**	P	**Pn**	**23 59 07.6**	**+2.0**
	comp=Z,8.4nm,0.3s,baz=98,slow=9.0,SNR=36						
CMIG				S	Sn	00 00 36.9	+8.4
	comp=Z,7.6nm,0.3s,baz=121,slow=6.9,SNR=4.8						
CMIG	**Matias Romero**	**7.42**	**305**	P	**Pn**	**23 59 07.6**	**+2.0**
CMIG				S	Sn	00 00 36.9	+8.4
BCIP	**Isla Barro Col**	**9.31**	**112**	*e*Pn	**Pn**	**23 59 32.8**	**+1.3**
BCIP	**Isla Barro Col**	**9.31**	**112**	*e*P	**Pn**	**23 59 33.9**	**+2.4**
SOR	**Soroa**	**11.22**	**27**	*e*	Pn	00 00 01.8	+4.2
MTDJ	**Mount Denham**	**11.90**	**62**	*e*P	Pn	00 00 10.3	+3.3
BBJ	**Bamboo Saint A**	**12.20**	**62**	*i* P	Pn	00 00 15.0	+4.0
BNJ	**Bonny Gate**	**12.44**	**63**	*i* P	Pn	00 00 18.2	+3.9
STH	**Stony Hill**	**12.47**	**64**	*i* P	Pn	00 00 18.0	+3.3
HOJ	**Hope**	**12.49**	**64**	*i* P	**Pn**	**00 00 17.8**	**+2.8**
GWJ	**Greenwich**	**12.54**	**64**	*i* P	Pn	00 00 19.4	+3.7
CMJ	**Castle Mountai**	**12.88**	**64**	*i* P	Pn	00 00 23.9	+3.7
LMGC	**Las Mercedes**	**13.21**	**56**	*e*	P	00 00 29.4	-3.6
OTAV	**Otavalo**	**16.04**	**141**	*e*P	**Pn**	**00 01 03.4**	**+0.9**
	comp=Z,3.5nm,1.1s						
ROSC	**El Rosal**	**16.14**	**118**	P	**Pn**	**00 01 01.4**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=244,slow=15,SNR=2.1						

ROSC LR LR 00 07 51.6
comp=Z,108nm,18.5s,baz=278,slow=40
ROSC El Rosal 16.14 118 *e*Pn **Pn 00 01 04.5 +0.8**
SDV Santo Domingo 18.04 101 *e*P **P 00 01 27.0 0.0**
comp=Z,45nm,0.8s
HKT Hockley 18.31 340 *e*Pn **Pn 00 01 32.5 +2.6**
comp=Z,51nm,1.4s
732A Laxson Ranch, 19.05 328 ⇓P **Pn 00 01 39.0 +0.1**
baz=19,SNR=41
VBMS Vicksburg 19.37 355 *e*Pn **Pn 00 01 45.1 +2.4**
comp=Z,164nm,0.8s
632A Uvalde 19.58 330 ⇓P **P 00 01 44.7 +1.1**
baz=20,SNR=12
NATX Nacogdoches 19.65 344 *e*Pn **Pn 00 01 48.1 +2.1**
comp=Z,142nm,1.0s
631A Perdido Creek 19.91 328 ⇑P **P 00 01 48.2 +1.1**
baz=20,SNR=27
LRAL Lakeview Retre 20.15 4 *e*Pn Pn 00 01 52.2 +0.3
comp=Z,39nm,0.8s
532A Rocksprings 20.15 330 ⇓P **P 00 01 51.0 +1.3**
baz=20,SNR=30
JCT Junction City 20.40 331 *e*P **P 00 01 53.5 +1.1**
comp=Z,38nm,0.6s
JCT Junction City 20.40 331 ⇓P **P 00 01 53.7 +1.3**
baz=20,SNR=12
531A Rocksprings 20.50 329 ⇓P **P 00 01 54.8 +1.3**
baz=21,SNR=10
432A Menard 20.73 332 ⇑P **P 00 01 57.1 +1.2**
baz=21,SNR=14
WHTX Lake Whitney 20.74 338 ⇓P **P 00 01 57.5 +1.5**
baz=21,SNR=7.7
530A J-C Ranch, Com 20.89 328 ⇓P **P 00 01 59.2 +1.5**
baz=21
431A Sonora 20.95 330 ⇑P **P 00 02 00.1 +1.7**
baz=21,SNR=40
628A Black Gap, Mar 21.24 323 ⇑P **P 00 02 03.3 +1.8**
baz=21,SNR=29
529A Stev Forest Ra 21.35 326 ⇓P **P 00 02 04.1 +1.4**
baz=22,SNR=27
430A Baggett Ranch, 21.35 329 ⇓P **P 00 02 04.0 +1.3**
baz=22,SNR=22
LSP Las Mesas 21.36 73 *e*P **P 00 02 02.4 -0.4**
627A Terlingua Ranc 21.51 323 ⇓P **P 00 02 05.9 +1.5**
baz=22,SNR=63
429A Davenport Ranc 21.56 327 ⇓P **P 00 02 06.0 +1.1**
baz=22,SNR=47
TXAR Lajitas Array 21.59 322 P **P 00 02 07.2 +2.0**
comp=Z,23nm,0.7s,baz=143,slow=10.0,SNR=128
TXAR PcP **PcP 00 06 06.9 +1.1**
comp=Z,2.8nm,0.8s,baz=160,slow=4.0,SNR=8.7
TXAR pPcP 00 06 23.3
comp=Z,2.2nm,0.9s,baz=147,slow=3.0,SNR=5.2
TXAR ScP **ScP 00 09 39.8 +1.3**
comp=Z,0.7nm,0.9s,baz=121,slow=2.4,SNR=3.9
TXAR LR LR 00 12 03.1
comp=Z,78nm,21.8s,baz=0.0,slow=41
TXAR Lajitas Array 21.59 322 P **P 00 02 07.2 +2.0**
TXAR PcP **PcP 00 06 06.9 +1.1**
TXAR pPcP 00 06 23.3
TXAR ScP **ScP 00 09 39.8 +1.3**
COW Cow Castle Cre 21.67 18 *e*P **P 00 02 07.4 +1.4**
528A Cox Ranch, San 21.69 325 ⇑P **P 00 02 07.2 +0.8**
baz=22,SNR=12
626A Big Bend Ranch 22.03 321 ⇓P **P 00 02 11.4 +1.4**
baz=22,SNR=24
428A Kincaid Ranch, 22.07 326 ⇑P **P 00 02 11.8 +1.4**
baz=22,SNR=21
MIAR Mount Ida 22.08 349 *e*P **P 00 02 12.1 +1.7**
comp=Z,45nm,0.9s
UALR University of 22.11 352 *e*P **P 00 02 12.8 +2.1**
comp=Z,54nm,0.9s
527A Woodward Ranch 22.15 323 ⇑P **P 00 02 12.3 +0.9**
baz=22
ABTX Abilene, Hawle 22.15 335 ⇓P **P 00 02 11.7 +0.5**
baz=22,SNR=19
SJG San Juan 22.22 74 P **P 00 02 08.7 -3.3**
comp=Z,16nm,0.6s,baz=271,slow=4.2,SNR=7.8
SJG San Juan 22.22 74 *e*P **P 00 02 10.8 -1.2**
ATAH Atahualpa 22.27 152 P **P 00 02 16.8 +3.7**
comp=Z,10nm,0.8s,baz=327,slow=6.5,SNR=6.1
ATAH LR LR 00 10 06.7
comp=Z,233nm,21.1s,baz=325,slow=34
ATAH Atahualpa 22.27 152 P **P 00 02 16.8 +3.7**
329A Wagon Wheel Ra 22.29 328 ⇓P **P 00 02 13.4 +0.6**
baz=22,SNR=48
526A Mary Lane Ranc 22.37 322 ⇓P **P 00 02 14.8 +1.1**
baz=22,SNR=26
SWET Sewanee 22.41 6 *e*P **P 00 02 14.9 +1.0**
comp=Z,55nm,1.2s
427A Hayter Ranch, 22.55 325 ⇑P **P 00 02 16.5 +0.9**
baz=23,SNR=8.9
229A Bryant Ranch, 22.59 330 ⇓P **P 00 02 16.0 0.0**
baz=23,SNR=19
328A Wristen Ranch, 22.64 327 ⇑P **P 00 02 16.8 +0.3**
baz=23,SNR=92
426A McDonald Obser 22.78 324 ⇑P **P 00 02 18.6 +0.5**
baz=23,SNR=26
GNAR Gosnell 23.06 357 *e*P **P 00 02 21.0 +0.3**
comp=Z,431nm,0.8s
228A UT Block 9, Go 23.11 328 ⇑P **P 00 02 20.8 -0.5**
baz=23,SNR=18
TKL Tuckaleechee C 23.13 10 P **P 00 02 21.8 +0.4**
comp=Z,34nm,0.8s,baz=185,slow=11,SNR=30
TKL sP **sP 00 02 37.0 -3.7**
comp=Z,48nm,0.9s,baz=182,slow=11,SNR=11
TKL LR LR 00 11 57.1
comp=Z,84nm,18.6s,baz=194,slow=38
TKL Tuckaleechee C 23.13 10 *e*P **P 00 02 22.3 +0.9**
TKL sP **sP 00 02 37.0 -3.7**
129A Stewart Farms, 23.16 330 ⇓P **P 00 02 21.1 -0.7**
baz=23,SNR=39
326A Caldwell Ranch 23.23 325 ⇑P **P 00 02 22.0 -0.5**
baz=23,SNR=44
STVI Saint Thomas 23.38 73 *e*P **P 00 02 22.9 -1.1**
comp=Z,151nm,0.6s
227A Bennet, Jal 23.39 327 ⇑P **P 00 02 23.7 -0.3**
baz=24
425A Indio Mountain 23.43 322 ⇑P **P 00 02 24.5 +0.1**
baz=24,SNR=10.0
LPIG La Paz 23.43 302 LR LR 00 12 26.6
comp=Z,12nm,21.0s,baz=18,slow=38
128A Castleberry Fa 23.46 329 ⇑P **P 00 02 24.2 -0.5**
baz=24,SNR=42
Z29A Hungry Hill Ra 23.60 332 ⇑P **P 00 02 25.6 -0.4**
baz=24,SNR=46
PARMO Parma 23.75 358 *e*P **P 00 02 27.6 +0.4**
325A Bean Ranch, Si 23.84 323 ⇓P **P 00 02 28.2 -0.2**
baz=24,SNR=26
TUL1 Tulsa 23.88 345 ⇓P **P 00 02 28.1 -0.3**
baz=24,SNR=8.1
127A Arkansas Junct 23.94 328 ⇓P **P 00 02 29.0 -0.2**
baz=24,SNR=22
Z28A Tucker Farm, M 23.95 330 ⇓P **P 00 02 29.3 0.0**
baz=24,SNR=32
Y29A Porterfield Fa 24.09 332 ⇑P **P 00 02 30.9 +0.4**
baz=24,SNR=14
GDL2 Guadalupe Moun 24.11 326 *e*P **P 00 02 31.9 +1.2**
324A Moseley Ranch, 24.19 323 ⇑P **P 00 02 31.7 +0.2**
baz=24,SNR=23
126A Clayton Basin, 24.27 327 ⇓P **P 00 02 32.5 +0.4**
baz=24,SNR=9.0
225A Deer Hill, Car 24.30 325 ⇓P **P 00 02 33.0 +0.5**
baz=24,SNR=21
Z27A Tatum 24.38 329 ⇓P **P 00 02 33.3 +0.2**
baz=24,SNR=43
Y28A McKinney Farm, 24.39 332 ⇑P **P 00 02 33.8 +0.5**
baz=24,SNR=29
X29A Tulia 24.59 333 ⇓P **P 00 02 35.8 +0.7**
baz=25,SNR=26
125A Gardner Draw, 24.62 326 ⇓P **P 00 02 36.1 +0.7**
baz=25,SNR=42
224A Cornudas Mount 24.67 324 ⇓P **P 00 02 36.4 +0.5**
baz=25,SNR=24
MSTX Muleshoe 24.69 331 ⇑P **P 00 02 36.2 +0.2**
baz=25,SNR=53
Z26A Caprock 24.73 328 ⇓P **P 00 02 37.0 +0.7**
baz=25,SNR=21
SIUC Southern Illin 24.78 359 *e*P **P 00 02 36.9 +0.4**
comp=Z,43nm,1.0s
Y27A Causey 24.81 330 ⇑P **P 00 02 37.1 0.0**
baz=25,SNR=53
X28A Dimmitt 24.88 332 ⇓P **P 00 02 38.3 +0.6**
baz=25,SNR=9.7
AMTX Amarillo 24.96 334 *e*P **P 00 02 39.5 +1.2**
comp=Z,49nm,0.6s
AMTX Amarillo 24.96 334 ⇑P **P 00 02 39.2 +0.9**
baz=25,SNR=26
124A Stringfield Ra 25.09 325 ⇑P **P 00 02 41.0 +1.2**
baz=25,SNR=22
Z25A Roswell 25.13 327 ⇑P **P 00 02 41.1 +1.1**
baz=25,SNR=23
W29A Amarillo 25.14 334 ⇑P **P 00 02 40.7 +0.7**
baz=25
Y26A Elida 25.17 329 ⇑P **P 00 02 41.0 +0.6**
baz=25,SNR=11
BLA Blacksburg 25.34 15 *e*P **P 00 02 42.6 +0.8**
comp=Z,76nm,1.2s
WCI Wyandotte Cave 25.37 4 *e*P **P 00 02 41.5 -0.4**
comp=Z,29nm,0.9s
X27A F and S Farms, 25.40 331 ⇑P **P 00 02 42.9 +0.5**
baz=26,SNR=7.6
VWCC Virginia Weste 25.49 16 *e*P **P 00 02 43.8 +0.7**
W28A Vega 25.50 333 ⇑P **P 00 02 44.1 +0.7**
baz=26,SNR=6.2
123A Bell Site, Whi 25.51 323 ⇑P **P 00 02 44.3 +0.8**
baz=26
Z24A Sheeppen Canyo 25.52 326 ⇓P **P 00 02 44.6 +1.0**
baz=26,SNR=37
Y25A Mesa, Roswell 25.61 328 ⇑P **P 00 02 45.4 +1.0**
baz=26,SNR=50
222A Williams Famil 25.63 321 ⇓P **P 00 02 45.5 +0.9**
baz=26
X26A CR and CF Fran 25.66 330 ⇑P **P 00 02 45.4 +0.6**
baz=26,SNR=12
W27A Bowe Ranch, En 25.73 332 ⇓P **P 00 02 46.1 +0.7**
baz=26,SNR=42
V29A Stinnett 25.74 335 ⇑P **P 00 02 46.0 +0.6**
baz=26
OLIL Olney 25.79 1 *e*P **P 00 02 46.0 +0.2**
comp=Z,49nm,1.3s
V28A Channing 25.93 334 ⇑P **P 00 02 47.8 +0.7**
baz=26,SNR=12
Z23A Rita Site, Whi 25.95 324 ⇑P **P 00 02 48.7 +1.2**
baz=26,SNR=11
221A Mesquite Ranch 25.98 320 ⇓P **P 00 02 49.4 +1.7**
baz=26,SNR=5.6
122A Conniff Cattle 25.99 323 ⇓P **P 00 02 49.2 +1.4**
baz=26
Y24A Capitan 26.01 327 ⇓P **P 00 02 49.1 +1.1**
baz=26,SNR=24
320A Kipp Ranch, An 26.01 318 ⇑P **P 00 02 49.6 +1.6**
baz=26
X25A Clemmons Ranch 26.07 329 ⇓P **P 00 02 49.4 +0.8**
baz=26
W26A Owens Ranch, T 26.07 331 ⇓P **P 00 02 49.5 +0.9**
baz=26,SNR=8.8
121A Cookes Peak, D 26.34 321 ⇓P **P 00 02 52.6 +1.5**
baz=26,SNR=13
Y23A Lovelace Mesa, 26.35 326 ⇑P **P 00 02 52.5 +1.4**
baz=26,SNR=21
Z22A Elephant Butte 26.36 323 ⇑P **P 00 02 52.5 +1.2**
baz=26
220A Playas Peak, P 26.38 319 ⇓P **P 00 02 52.3 +0.8**
baz=27,SNR=8.7
X24A Lazy VL Ranch, 26.50 328 ⇓P **P 00 02 53.7 +1.2**
baz=27
W25A X Bar L Ranch, 26.52 330 ⇑P **P 00 02 53.7 +1.1**
baz=27,SNR=17
319A Douglas 26.53 317 ⇓P **P 00 02 53.8 +1.1**
baz=27
V26A Tequesquite Ra 26.66 332 ⇓P **P 00 02 55.1 +1.2**
baz=27,SNR=40
Z21A St. Cloud Mine 26.82 323 ⇑P **P 00 02 56.6 +1.2**
baz=27
Y22A Socorro 26.86 324 ⇑P **P 00 02 57.2 +1.5**
baz=27,SNR=28
120A U Bar Ranch, L 26.88 320 ⇓P **P 00 02 57.3 +1.4**
baz=27
Y22D IRIS PASSCAL I 26.93 325 ⇓P **P 00 02 57.6 +1.2**
baz=27
LPM Los Pinos Moun 26.95 326 *e*P **P 00 02 58.4 +1.8**
W24A Lazy 6 Ranch, 26.98 328 ⇓P **P 00 02 57.9 +1.1**
baz=27,SNR=18
LENM Lemitar 27.03 325 *e*P **P 00 03 00.2 +2.9**
T28A Walsh 27.05 336 ⇓P **P 00 02 57.9 +0.6**
baz=27,SNR=9.1
V25A Rancho No Teng 27.09 330 ⇑P **P 00 02 59.1 +1.4**
baz=27,SNR=35
KSU1 Kansas State U 27.11 346 *e*P **P 00 02 57.9 +0.2**
comp=Z,22nm,0.9s
U26A Atoka Ranch, 27.14 332 ⇓P **P 00 02 59.2 +1.0**
baz=27,SNR=27
CBN Corbin 27.16 20 *e*P **P 00 02 59.2 +1.2**
comp=Z,30nm,0.6s
Z20A Nine Sixteen R 27.24 321 ⇓P **P 00 03 00.7 +1.6**
baz=27,SNR=6.8
T27A Campo 27.25 335 ⇓P **P 00 02 59.6 +0.5**
baz=27,SNR=11
NNA Nana 27.27 154 LR LR 00 11 38.1
comp=Z,200nm,18.8s,baz=60,slow=32
X22A Bernardo 27.30 325 ⇓P **P 00 03 01.1 +1.4**
baz=28
Y21A Point of Rocks 27.32 324 ⇑P **P 00 03 01.4 +1.6**
baz=28,SNR=21
V24A Rampart Ranch, 27.32 329 ⇓P **P 00 03 01.3 +1.4**
baz=28,SNR=15
ANMO Albuquerque 27.33 327 P **P 00 03 01.6 +1.7**
comp=Z,5.4nm,0.7s,baz=143,slow=9.4,SNR=17
ANMO PcP **PcP 00 06 18.9 +0.6**
comp=Z,3.1nm,0.6s,baz=152,slow=4.2,SNR=6.5
ANMO pPcP 00 06 35.5
comp=Z,3.1nm,0.8s,baz=191,slow=8.3,SNR=4.4
ANMO LR LR 00 14 20.8
comp=Z,131nm,21.5s,baz=286,slow=37
ANMO Albuquerque 27.33 327 *e*P **P 00 03 02.1 +2.1**
ANMO PcP **PcP 00 06 18.9 +0.6**
ANMO pPcP 00 06 35.5
W23A Werner Place, 27.33 327 ⇓P **P 00 03 01.4 +1.4**
baz=28,SNR=7.7
U25A Circle Dot Ran 27.44 331 ⇓P **P 00 03 02.2 +1.3**
baz=28,SNR=18
W22A Albuquerque 27.64 326 ⇑P **P 00 03 04.0 +1.3**
baz=28
Y20A Horse Springs, 27.66 323 ⇓P **P 00 03 04.3 +1.3**
baz=28,SNR=14
X21A Alamocita Cree 27.69 324 ⇓P **P 00 03 04.7 +1.4**
baz=28,SNR=9.9
T26A Comanche Natio 27.72 334 ⇑P **P 00 03 04.2 +0.8**
baz=28,SNR=6.3
ACSO Alum Creek Sta 27.73 9 *e*P **P 00 03 03.4 +0.2**
comp=Z,31nm,0.7s
V23A Ortiz Mt. (NFS 27.80 328 ⇓P **P 00 03 05.2 +1.1**
baz=28
S27A Las Animas 27.86 335 ⇑P **P 00 03 05.3 +0.8**
baz=28
U24A Moreno Valley 27.86 330 ⇑P **P 00 03 05.6 +0.8**
baz=28
S26A Kim 28.04 334 ⇓P **P 00 03 07.2 +1.0**
baz=28,SNR=11
T25A Trinidad 28.05 332 ⇑P **P 00 03 07.9 +1.5**
baz=28,SNR=22
TUC Tucson 28.11 317 *e*P **P 00 03 08.0 +1.2**
TUC *e*PcP **PcP 00 06 21.2 +1.1**
U23A El Rito 28.25 329 ⇑P **P 00 03 10.0 +1.8**
baz=28,SNR=37
T24A Torres, Weston 28.29 331 ⇑P **P 00 03 09.8 +1.2**
baz=28,SNR=14
V22A San Miguel Ran 28.30 327 ⇓P **P 00 03 09.8 +1.1**
baz=28,SNR=16
R27A Eads 28.33 336 ⇓P **P 00 03 09.5 +0.7**
baz=28,SNR=11
SDMD Soldier's Deli 28.43 19 *e*P **P 00 03 10.3 +0.9**
comp=Z,24nm,0.7s
SDMD *e*pP **pP 00 03 26.2 +3.1**
S25A Robets Cordova 28.49 333 ⇑P **P 00 03 11.5 +1.2**
baz=29,SNR=14
W20A Ramah 28.59 324 ⇑P **P 00 03 12.8 +1.5**
baz=29
R26A Arlington 28.61 335 ⇓P **P 00 03 12.1 +0.9**
baz=29,SNR=8.2
V21A Milan 28.61 326 ⇑P **P 00 03 13.2 +1.9**
baz=29
U22A Llaves 28.63 328 ⇑P **P 00 03 13.2 +1.7**
baz=29,SNR=7.7
T23A Casias Ranch, 28.73 330 ⇓P **P 00 03 13.9 +1.3**
baz=29
S24A Houchin Ranch, 28.83 332 ⇓P **P 00 03 14.8 +1.4**
baz=29,SNR=11
R25A Fountain Ranch 28.83 334 ⇓P **P 00 03 14.5 +1.3**
baz=29,SNR=22
KSCO Kaye Shedlock' 28.89 337 ⇑P **P 00 03 14.9 +1.1**
baz=29,SNR=9.7
X18A Snowflake 29.03 322 ⇑P **P 00 03 16.9 +1.8**
baz=29
V20A Brimhall 29.06 325 ⇓P **P 00 03 16.6 +1.3**
baz=29
U21A Nageezi 29.09 327 ⇓P **P 00 03 17.2 +1.6**
baz=29,SNR=15
T22A Edith 29.14 329 ⇓P **P 00 03 17.5 +1.4**
baz=29
Q26A Hugo 29.17 336 ⇑P **P 00 03 17.5 +1.3**
baz=29
SCIA State Center 29.24 353 *e*P **P 00 03 16.8 +0.1**
comp=Z,20nm,0.8s
S23A Nye Farm, Mont 29.25 331 ⇑P **P 00 03 18.3 +1.3**
baz=29
R24A Sanders Place, 29.26 333 ⇑P **P 00 03 18.7 +1.5**
baz=29,SNR=20
214A Organ Pipe Nat 29.28 314 ⇓P **P 00 03 18.4 +1.2**
baz=30
W18A Petrified Fore 29.30 323 ⇓P **P 00 03 18.9 +1.4**
baz=30
P27A Ficken Ranch, 29.35 338 ⇓P **P 00 03 18.7 +0.9**
baz=30
T21A Navajo Lake 29.45 328 ⇓P **P 00 03 20.3 +1.4**
baz=30
Q25A Bedland, Calha 29.46 335 ⇓P **P 00 03 20.1 +1.2**
baz=30,SNR=14
U20A Newcomb 29.51 326 ⇓P **P 00 03 21.0 +1.7**
baz=30
R23A Moffat 29.56 332 ⇑P **P 00 03 21.3 +1.5**
baz=30,SNR=20
P26A Davis Ranch, A 29.65 337 ⇓P **P 00 03 21.4 +0.9**
baz=30
BGNE Belgrade 29.67 345 ⇓P **P 00 03 21.1 +0.6**
baz=30
S22A 4UR Ranch, Cre 29.68 330 ⇓P **P 00 03 22.4 +1.5**
baz=30,SNR=34
U19A Dine' College, 29.83 325 ⇓P **P 00 03 23.2 +1.0**
baz=30,SNR=6.7
O27A Beecher Island 29.87 338 ⇓P **P 00 03 23.1 +0.7**
baz=30
X16A Lo Mia Camp, P 29.87 320 ⇑P **P 00 03 23.7 +1.2**
baz=30,SNR=8.4
Q24A Divide 29.89 333 ⇑P **P 00 03 23.3 +0.6**
baz=30
P25A Willow Gulch B 29.93 335 ⇓P **P 00 03 24.0 +1.0**
baz=30
R22A Saguache, Gunn 30.02 331 ⇓P **P 00 03 25.1 +1.1**
baz=30,SNR=10
S21A Coal Bank Pass 30.09 329 ⇓P **P 00 03 25.9 +1.3**
baz=30,SNR=13
ERPA Erie 30.11 13 *e*P **P 00 03 24.4 +0.1**
comp=Z,22nm,0.6s
MVCO Mesa Verde 30.12 327 *e*P **P 00 03 26.3 +1.5**
comp=Z,12nm,0.8s
MVCO *e*PcP **PcP 00 06 26.6 +1.2**
MVCO Mesa Verde 30.12 327 ⇑P **P 00 03 26.1 +1.3**
baz=30,SNR=12
T19A Beclabito 30.12 326 ⇓P **P 00 03 25.8 +1.1**
baz=30
Q23A Hartsel 30.14 333 ⇑P **P 00 03 26.1 +1.0**
baz=30
P24A Kohler Place, 30.24 334 ⇑P **P 00 03 26.8 +1.1**
baz=30
OGNE Ogallala 30.38 340 ⇑P **P 00 03 28.2 +1.3**
baz=30
113A Mohawk Valley, 30.41 315 ⇓P **P 00 03 28.3 +1.2**
baz=31
O25A Wiggins 30.42 336 ⇓P **P 00 03 28.6 +1.3**
baz=31
N27A Anderson Farm, 30.43 339 ⇑P **P 00 03 28.5 +1.2**
baz=31
S20A Disappointment 30.51 328 ⇑P **P 00 03 29.7 +1.5**
baz=31
R21A Cimarron 30.52 330 ⇑P **P 00 03 29.5 +1.2**
baz=31
P23A Jefferson 30.52 333 ⇓P **P 00 03 29.9 +1.4**
baz=31,SNR=23
WUAZ Wupatki 30.55 322 ⇓P **P 00 03 29.9 +1.3**
baz=31,SNR=7.8
Y14A Wickenburg 30.58 317 ⇓P **P 00 03 30.1 +1.4**
baz=31
Q22A Crested Butte, 30.60 331 ⇓P **P 00 03 30.2 +1.1**
baz=31,SNR=20
N26A Koester Ranch, 30.70 338 ⇑P **P 00 03 30.9 +1.2**
baz=31
ISCO Idaho Springs 30.78 334 *e*P **P 00 03 31.3 +0.7**
comp=Z,16nm,0.8s
ISCO *e*PcP **PcP 00 06 28.2 +1.1**
ISCO Idaho Springs 30.78 334 ⇑P **P 00 03 31.6 +1.0**
baz=31,SNR=17
R20A Redvale 30.80 329 ⇑P **P 00 03 31.8 +1.1**
baz=31
T18A Mexican Hat 30.81 325 ⇓P **P 00 03 32.1 +1.4**
baz=31
O24A Longmont 30.82 335 ⇓P **P 00 03 32.2 +1.4**
baz=31,SNR=5.6
PV01 Paradox Valley 30.85 328 *e*P **P 00 03 32.6 +1.4**
comp=Z,520nm,0.8s
PV01 *e*PcP **PcP 00 06 27.9 +0.7**
S19A Harvey Farm, M 30.86 327 ⇓P **P 00 03 32.7 +1.5**
baz=31,SNR=10
SMCO Snowmass 30.88 331 *e*P **P 00 03 33.3 +1.7**
comp=Z,19nm,0.9s
SMCO *e*PcP **PcP 00 06 28.4 +1.0**
N25A Grover 31.01 337 ⇑P **P 00 03 33.6 +1.0**
baz=31,SNR=8.9
P22A Eagle 31.12 332 ⇓P **P 00 03 34.8 +1.2**
baz=31,SNR=15
PV04 Paradox Valley 31.22 328 *e*P **P 00 03 36.1 +1.7**
PV04 *e*PcP **PcP 00 06 29.6 +1.5**
T17A Navajo Res., N 31.23 324 ⇑P **P 00 03 36.0 +1.5**
baz=31,SNR=9.0
O23A Lake Granby, G 31.25 334 ⇑P **P 00 03 35.9 +1.1**
baz=31,SNR=13
S18A Hurst Farm, Bl 31.27 326 ⇓P **P 00 03 36.0 +1.0**
baz=31
GLA Glamis 31.30 314 ⇑P **P 00 03 36.4 +1.4**
baz=32
R19A Curley Farm, L 31.33 328 ⇓P **P 00 03 36.6 +1.2**
baz=32,SNR=6.9
N24A Carr 31.34 336 ⇓P **P 00 03 36.2 +0.8**
baz=32
P21A Newcastle 31.38 331 ⇑P **P 00 03 37.2 +1.4**
baz=32,SNR=7.9
O22A Kremmling 31.48 333 ⇑P **P 00 03 37.7 +0.8**
baz=32,SNR=20
Y12C Blythe 31.49 316 ⇑P **P 00 03 37.7 +1.1**
baz=32
M25A Palm-Egli Farm 31.54 337 ⇓P **P 00 03 38.1 +1.0**
baz=32
PDMCI Parker Dam,Lak 31.55 317 ⇓P **P 00 03 38.3 +1.2**
baz=32,SNR=5.8
ECSD EROS Data Cent 31.55 349 *e*P **P 00 03 36.2 -0.9**
comp=Z,61nm,1.9s
S17A Black Ridge (B 31.68 325 ⇑P **P 00 03 39.2 +0.8**
baz=32
L26A Underwood Farm 31.71 339 ⇓P **P 00 03 39.7 +1.1**
baz=32
U15A North Rim 31.71 322 ⇓P **P 00 03 40.0 +1.1**
baz=32
R18A Canyonlands Na 31.73 327 ⇓P **P 00 03 39.8 +0.9**
baz=32,SNR=10
P20A De Beque 31.81 330 ⇓P **P 00 03 40.8 +1.2**
baz=32
Q19A Hogan Spring (31.83 328 ⇓P **P 00 03 40.7 +1.0**
baz=32,SNR=9.1
N23A Red Feather La 31.83 335 ⇓P **P 00 03 40.8 +1.0**
baz=32,SNR=5.6
M24A Cheyenne 31.86 337 ⇑P **P 00 03 41.1 +1.1**
baz=32,SNR=9.7
W13A Hualapai Mount 31.86 318 ⇓P **P 00 03 41.1 +0.9**
baz=32,SNR=5.2
O21A Pagoda 31.94 332 ⇓P **P 00 03 41.9 +1.0**
baz=32
N22A Wattenberg Ran 31.97 334 ⇓P **P 00 03 42.2 +1.2**
baz=32,SNR=16
PHWY Pilot Hill 31.97 336 *e*P **P 00 03 42.5 +1.4**
comp=Z,12nm,0.8s
PHWY *e*PcP **PcP 00 06 30.6 +0.3**
DVTC Desert V Tower 31.99 313 ⇑P **P 00 03 42.2 +1.1**
baz=32
BC3 Big Chuckawall 32.07 315 ⇑P **P 00 03 43.1 +1.2**
baz=32,SNR=7.0
L25A Engebretsen Ra 32.13 338 ⇑P **P 00 03 43.7 +1.4**
baz=32
IRM Iron Mountain 32.15 316 ⇑P **P 00 03 43.7 +1.3**
baz=32
S16A Weppner Ranch, 32.19 324 ⇑P **P 00 03 44.1 +1.1**
baz=32
R17A Hanksville Air 32.19 326 ⇓P **P 00 03 44.1 +1.2**
baz=32,SNR=11
P19A Cripple Cowboy 32.20 330 ⇓P **P 00 03 43.9 +0.8**

baz=32
M23A **Laramie** 32.22 335 ⇑P P 00 03 44.1 +0.9
baz=32,SNR=8.8
O20A **White River Ci** 32.24 331 ⇑P P 00 03 44.7 +1.3
baz=32,SNR=42
K26A **Motz Farm, Whi** 32.34 340 ⇑P P 00 03 45.1 +1.1
baz=32
MONP **Monument Peak** 32.34 313 ⇓P P 00 03 45.5 +1.1
baz=32
Q18A **Rafter H Ranch** 32.38 328 ⇓P P 00 03 46.1 +1.6
baz=32,SNR=6.2
N21A **Black Mountain** 32.40 333 ⇓P P 00 03 46.2 +1.4
baz=33,SNR=20
K25A **Mack Ranch, Ha** 32.50 339 ⇓P P 00 03 46.5 +1.0
baz=33
R16A **Teasdale** 32.52 325 ⇑P P 00 03 47.0 +1.1
baz=33,SNR=6.4
M22A **Cedar Creek Ra** 32.52 334 ⇑P P 00 03 46.8 +0.9
baz=33,SNR=6.9
SRU **San Rafael** 32.60 327 *e*P P 00 03 48.3 +1.8
comp=Z,9.0nm,0.8s
SRU **San Rafael** 32.60 327 ⇑P P 00 03 47.6 +1.1
baz=33,SNR=9.3
BELC **Belle Mtn. Jos** 32.64 315 ⇑P P 00 03 47.8 +0.9
baz=33
PFO **Pinyon Flat Ob** 32.75 314 ⇓P P 00 03 48.7 +0.9
baz=33
O19A **Miners Draw (B** 32.78 330 ⇓P P 00 03 49.0 +0.9
baz=33,SNR=6.9
N20A **Spence Gulch,** 32.80 332 ⇑P P 00 03 49.4 +1.1
baz=33,SNR=16
Q16A **Castle Valley** 32.80 326 ⇑P P 00 03 49.3 +1.0
baz=33
SADO **Sadowa** 32.83 12 P P 00 03 46.7 -1.4
comp=Z,14nm,0.7s,baz=220,slow=8.4,SNR=22
SADO **Sadowa** 32.83 12 P P 00 03 46.7 -1.4
P18A **Preston Nutter** 32.84 328 ⇓P P 00 03 49.7 +1.0
baz=33,SNR=12
GMRC **Granite Mounta** 32.85 316 ⇓P P 00 03 49.6 +0.9
baz=33
R15A **Junction** 32.91 324 ⇓P P 00 03 50.5 +1.2
baz=33
P17A **Butcher Ranch,** 32.98 328 ⇑P P 00 03 50.8 +1.0
baz=33,SNR=11
L22A **Ellis Ranch, M** 32.98 335 ⇑P P 00 03 51.0 +1.2
baz=33,SNR=5.9
M21A **Separation Pea** 33.02 334 ⇓P P 00 03 51.0 +0.8
baz=33,SNR=9.9
RWWY **Rawlins** 33.02 334 *e*P P 00 03 52.0 +1.7
comp=Z,31nm,0.8s
TMUT **Trail Mountain** 33.09 327 *e*P P 00 03 52.8 +1.8
comp=Z,126nm,2.9s
TMUT *e*PcP PcP 00 06 34.8 +1.4
CCUT **Cedar City** 33.10 322 *e*P P 00 03 53.3 +2.3
comp=Z,4.8nm,0.9s
CCUT *e*PcP PcP 00 06 35.4 +2.0
O18A **Roosevelt** 33.19 329 ⇑P P 00 03 52.9 +1.3
baz=33,SNR=13
SAML **Samuel** 33.23 129 *e*P P 00 03 51.1 -1.0
comp=Z,32nm,0.8s
SAML *e*PcP PcP 00 06 33.5 -0.3
K23A **Bowen Ranch, D** 33.27 337 ⇑P P 00 03 53.1 +0.8
baz=33,SNR=7.0
MURC **Murrieta** 33.27 313 ⇑P P 00 03 53.3 +1.0
baz=33
N19A **John Jarvie Ra** 33.27 331 ⇑P P 00 03 53.4 +1.0
baz=33,SNR=15
M20A **Sweetwater, Wa** 33.29 333 ⇓P P 00 03 53.3 +0.8
baz=33,SNR=6.7
ARUT **Antelope Range** 33.30 323 *e*P P 00 03 53.6 +0.9
comp=Z,5.4nm,0.6s
L21A **Rawlins** 33.31 334 ⇓P P 00 03 53.7 +0.9
baz=34,SNR=27
HEC **Hector,Ludlow** 33.33 316 ⇑P P 00 03 53.9 +1.1
baz=34
J24A **Dixon Ranch, L** 33.41 338 ⇓P P 00 03 54.3 +0.9
baz=34
O17A **Robinson Place** 33.51 328 ⇑P P 00 03 55.5 +1.0
baz=34,SNR=15
K22A **Casper** 33.53 336 ⇓P P 00 03 55.6 +1.0
baz=34,SNR=14
P16A **Fountain Green** 33.56 327 ⇑P P 00 03 56.3 +1.4
baz=34
N18A **Larsen Ranch,** 33.57 330 ⇑P P 00 03 56.0 +1.0
baz=34
M19A **Rock Springs** 33.74 332 ⇑P P 00 03 57.4 +1.0
baz=34
L20A **Wamsutter** 33.77 333 ⇑P P 00 03 57.6 +0.9
baz=34
J23A **Dilts Ranch, B** 33.80 337 ⇓P P 00 03 57.8 +1.0
baz=34
K21A **Alcova** 33.81 335 ⇓P P 00 03 58.0 +0.9
baz=34,SNR=9.5
MPU **Maple Canyon** 33.84 327 *e*P P 00 03 58.8 +1.4
comp=Z,16nm,0.8s
I24A **Kuemmerle Ranc** 33.86 339 ⇓P P 00 03 58.3 +1.0
baz=34
P15A **Leamington** 33.87 326 ⇓P P 00 03 58.9 +1.4
baz=34
R13A **O'Grain Ranch,** 33.88 323 ⇑P P 00 03 58.6 +1.0
baz=34,SNR=10
RSSD **Black Hills** 33.88 340 *e*P P 00 03 59.1 +1.4
comp=Z,9.2nm,0.9s
GSC **Goldstone** 33.92 316 ⇓P P 00 03 58.8 +0.9
baz=34
BFSC **Mount Baldy Ra** 33.93 314 ⇑P P 00 03 59.0 +0.9
baz=34
DAU **Daniels Canyon** 33.94 328 *e*P P 00 04 00.4 +2.1
N17A **Moffit Pass** 34.12 329 ⇑P P 00 04 00.4 +0.6
baz=34
J22A **Midwest** 34.16 336 ⇑P P 00 04 00.8 +0.9
baz=34,SNR=12
JLU **Jordanelle** 34.18 328 *e*P P 00 04 02.1 +1.8
comp=Z,4.6nm,0.8s
K20A **Yellowstone Ra** 34.30 334 ⇑P P 00 04 01.9 +0.7
baz=34,SNR=9.5
L19A **Farson** 34.30 332 ⇓P P 00 04 02.0 +0.6
baz=34
N16A **Rees Ranch, Co** 34.38 329 ⇑P P 00 04 02.9 +0.9
baz=34
M17A **Scullys Gap (B** 34.44 330 ⇑P P 00 04 03.3 +0.7
baz=35,SNR=19
L18A **Fontenelle, Gr** 34.48 331 ⇓P P 00 04 03.7 +0.8
baz=35,SNR=13
J21A **Lysite** 34.49 335 ⇓P P 00 04 04.0 +1.2
baz=35,SNR=38
EDW2 **Edwards Air Fo** 34.50 315 ⇑P P 00 04 03.9 +1.0
baz=35
I22A **9 Mile Ranch,** 34.56 337 ⇓P P 00 04 04.5 +1.0
baz=35,SNR=35
DUG **Dugway** 34.60 326 *e*P P 00 04 06.5 +2.7
comp=Z,4.8nm,1.0s
DUG **Dugway** 34.60 326 ⇑P P 00 04 05.0 +1.2
baz=35
H24A **Dirks Ranch, A** 34.61 340 ⇑P P 00 04 04.5 +0.7
baz=35,SNR=18
LRMC **Laurel Mountai** 34.62 316 ⇑P P 00 04 04.7 +0.7
baz=35
FURC **Furnace Creek,** 34.62 318 ⇑P P 00 04 05.0 +1.2
baz=35
K19A **Absolon Red Bu** 34.65 333 ⇑P P 00 04 05.0 +0.7
baz=35,SNR=14
H23A **Clabaugh Cattl** 34.74 339 ⇓P P 00 04 05.8 +0.8
baz=35
J20A **Shoshoni** 34.75 335 ⇓P P 00 04 06.3 +1.2
baz=35,SNR=19
M16A **Huntsville** 34.79 329 ⇓P P 00 04 06.7 +1.1
baz=35
MPMC **Manual Prospec** 34.80 317 ⇑P P 00 04 06.5 +0.8
baz=35,SNR=5.1
I21A **Big Trails, Te** 34.81 336 ⇓P P 00 04 06.4 +0.7
baz=35,SNR=12
BW06 **Boulder Array** 34.92 333 *e*P P 00 04 07.3 +0.6
comp=Z,6.7nm,0.7s
BW06 **Boulder Array** 34.92 333 ⇓P P 00 04 07.3 +0.6
baz=35,SNR=12
PDAR **Pinedale Array** 34.92 333 P P 00 04 07.2 +0.5
comp=Z,9.1nm,0.7s,baz=129,slow=10,SNR=54
PDAR PcP PcP 00 06 38.0 -0.5
comp=Z,3.2nm,0.7s,baz=142,slow=4.7,SNR=9.6
PDAR ScP ScP 00 10 21.8 +2.3
comp=Z,0.9nm,0.8s,baz=140,slow=4.4,SNR=3.9
PDAR LR LR 00 22 27.4
comp=Z,88nm,18.4s,baz=154,slow=43
PDAR **Pinedale Array** 34.92 333 P P 00 04 07.2 +0.5
PDAR PcP PcP 00 06 38.0 -0.5
PDAR ScP ScP 00 10 21.8 +2.3
N15A **Stansbury Isla** 34.94 327 ⇓P P 00 04 07.9 +1.1
baz=35,SNR=9.1
R11A **Troy Canyon, C** 34.95 321 ⇑P P 00 04 07.7 +0.7
baz=35
HWUT **Hardware Ranch** 34.98 329 *e*P P 00 04 08.4 +1.3
comp=Z,10nm,0.6s
HWUT *e*PcP PcP 00 06 39.0 +0.4
L17A **Cokeville** 35.01 331 ⇓P P 00 04 08.2 +0.7
baz=35,SNR=6.6
K18A **Toltan Ranch,** 35.04 332 ⇓P P 00 04 08.9 +1.2
baz=35,SNR=15
G24A **Alzada** 35.08 340 ⇑P P 00 04 08.6 +0.8
baz=35
EYMN **Ely** 35.08 357 *e*P P 00 04 06.6 -1.2
comp=Z,13nm,0.6s
J19A **Crowheart** 35.09 334 ⇑P P 00 04 08.9 +0.7
baz=35,SNR=39
H22A **Clearmont** 35.11 338 ⇑P P 00 04 08.7 +0.6
baz=35,SNR=9.5
ARVC **Arvin** 35.22 314 ⇓P P 00 04 10.0 +0.9
baz=35
L16A **Fish Haven** 35.22 330 ⇓P P 00 04 10.0 +0.8
baz=35,SNR=18
ISA **Isabella** 35.25 315 ⇓P P 00 04 10.2 +0.8
baz=35
GRAC **Grapevine Rang** 35.26 318 ⇑P P 00 04 10.1 +0.6
baz=35
I20A **Worland** 35.26 335 ⇑P P 00 04 10.8 +1.3
baz=35,SNR=44
G23A **Biddle** 35.29 339 ⇓P P 00 04 10.6 +0.9
baz=35,SNR=12
LPAZ **La Paz** 35.30 145 P P 00 04 10.7 +0.1
comp=Z,5.7nm,0.7s,baz=329,slow=6.9,SNR=24
LPAZ LR LR 00 19 00.3
comp=Z,151nm,18.1s,baz=157,slow=37
LPAZ **La Paz** 35.30 145 *e*P P 00 04 11.6 +1.0
M15A **Larsen Ranch,** 35.32 328 ⇑P P 00 04 11.1 +1.0
baz=36,SNR=10
H21A **Big Horn, Sher** 35.40 337 ⇓P P 00 04 11.4 +0.7
baz=36,SNR=30
J18A **Kendall Valley** 35.48 333 ⇑P P 00 04 12.2 +0.7
baz=36,SNR=48
K17A **Gardner Place,** 35.53 331 ⇓P P 00 04 12.8 +0.9
baz=36,SNR=5.5
F24A **Ekalaka** 35.55 341 ⇑P P 00 04 12.6 +0.8
baz=36,SNR=7.8
G22A **Birney** 35.63 338 ⇓P P 00 04 13.0 +0.4
baz=36,SNR=13
AHID **Auburn Hatcher** 35.63 331 *e*P P 00 04 13.7 +0.9
comp=Z,16nm,0.7s
AHID *e*PcP PcP 00 06 40.8 +0.3
H20A **Greybull** 35.66 336 ⇓P P 00 04 13.7 +0.9
baz=36
L15A **Malad City** 35.69 329 ⇓P P 00 04 14.1 +0.9
baz=36,SNR=23
I19A **Meeteetse** 35.69 334 ⇑P P 00 04 14.3 +1.0
baz=36,SNR=18
HVU **Hansel Valley** 35.72 328 *e*P P 00 04 14.9 +1.4
comp=Z,156nm,2.8s
F23A **Volborg** 35.75 340 ⇓P P 00 04 14.4 +0.8
baz=36,SNR=11
VES **Vestal, Richgr** 35.77 315 ⇑P P 00 04 14.6 +0.9
baz=36
I18A **Diamond G Ranc** 35.78 333 ⇓P P 00 04 15.1 +1.0
baz=36,SNR=38
PKM **Peak Mountain** 35.79 313 ⇓P P 00 04 14.9 +0.7
baz=36
J17A **Brown Place, J** 35.91 332 ⇑P P 00 04 16.2 +1.0
baz=36,SNR=37
K16A **Soda Springs** 35.91 331 ⇑P P 00 04 15.9 +0.8
baz=36
G21A **Lodge Grass** 35.97 337 ⇑P P 00 04 16.0 +0.5
baz=36,SNR=13
REDW **Red Top Meadow** 35.98 332 *e*P P 00 04 16.6 +0.9
comp=Z,45nm,0.6s
LOHW **Long Hollow** 36.06 332 *e*P P 00 04 17.6 +1.2
comp=Z,15nm,0.6s
F22A **Rosebud** 36.10 339 ⇓P P 00 04 17.0 +0.4
baz=36,SNR=10
MDND **Maddock** 36.10 347 ⇑P P 00 04 16.7 +0.2
baz=36,SNR=5.8
TPAW **Teton Pass** 36.12 332 *e*P P 00 04 18.3 +1.3
comp=Z,23nm,0.6s
E24A **Baker** 36.14 341 ⇑P P 00 04 17.6 +0.7
baz=36,SNR=11
RRI2 **Red Ridge** 36.18 331 *e*P P 00 04 18.4 +0.9
comp=Z,21nm,0.6s
RRI2 *e*PcP PcP 00 06 42.6 +0.4
H19A **Powell** 36.21 335 ⇑P P 00 04 18.3 +0.7
baz=36,SNR=23
MOOW **Moose Ponds** 36.23 332 *e*P P 00 04 18.9 +1.0
comp=Z,13nm,0.6s
J16A **Bone** 36.26 331 ⇓P P 00 04 19.1 +0.9
baz=36,SNR=23
K15A **Arbon** 36.26 330 ⇑P P 00 04 19.0 +0.9
baz=36,SNR=19
I17A **Pilgrim Ck.** 36.29 333 ⇑P P 00 04 19.5 +1.1
baz=36,SNR=10.0
DCID1 **Drake Creek** 36.31 332 *e*P P 00 04 22.8 +4.3
comp=Z,26nm,1.1s
ELK **Elko** 36.32 325 *e*P P 00 04 20.3 +1.6
comp=Z,51nm,0.8s
ELK *e*PcP PcP 00 06 43.9 +1.3
G20A **Bridger** 36.35 336 ⇓P P 00 04 19.2 +0.4
baz=36,SNR=19
E23A **Ismay** 36.40 340 ⇓P P 00 04 20.1 +1.0
baz=36
IMW **Indian Meadow** 36.43 332 *e*P P 00 04 20.2 +0.5
comp=Z,12nm,0.6s
IMW *e*PcP PcP 00 06 43.8 +0.8
F21A **Absaloka Mine,** 36.45 338 ⇑P P 00 04 20.4 +0.8
baz=37
FLWY **Flagg Ranch** 36.47 333 *e*P P 00 04 21.4 +1.5
comp=Z,26nm,0.6s
K14A **Jones Ranch, D** 36.48 329 ⇓P P 00 04 20.8 +0.8
baz=37,SNR=32
H18A **Shoshone NF, C** 36.49 334 ⇓P P 00 04 20.8 +0.7
baz=37,SNR=100
E22A **Miles City** 36.56 340 ⇑P P 00 04 21.2 +0.7
baz=37
D24A **Glendive** 36.64 342 ⇓P P 00 04 22.2 +1.0
baz=37
H17A **Grant Village** 36.66 333 ⇓P P 00 04 22.6 +1.0
baz=37,SNR=14
I16A **Newdale** 36.66 332 ⇓P P 00 04 22.4 +0.9
baz=37,SNR=8.4
RLMT **Red Lodge** 36.69 335 *e*P P 00 04 22.4 +0.6
comp=Z,32nm,0.7s
RLMT **Red Lodge** 36.69 335 ⇓P P 00 04 22.8 +1.0
baz=37,SNR=37
NVAR **Mina Array Bea** 36.70 319 P P 00 04 24.1 +2.1
comp=Z,6.3nm,0.7s,baz=132,slow=6.9,SNR=40
NVAR PcP PcP 00 06 45.4 +1.6
comp=Z,8.6nm,0.6s,baz=134,slow=4.0,SNR=29
NVAR pPcP 00 07 01.4
comp=Z,1.7nm,0.5s,baz=212,slow=30,SNR=7.9
NVAR ScP ScP 00 10 26.4 +0.3
comp=Z,1.3nm,0.8s,baz=138,slow=4.8,SNR=4.7
NVAR LR LR 00 20 19.9
comp=Z,190nm,18.7s,baz=237,slow=38
NVAR **Mina Array Bea** 36.70 319 P P 00 04 24.1 +2.1
NVAR PcP PcP 00 06 45.4 +1.6
NVAR pPcP 00 07 01.4
NVAR ScP ScP 00 10 26.4 +0.3
LKWY **Lake** 36.72 334 *e*P P 00 04 24.3 +2.2
comp=Z,13nm,0.7s
J15A **Blackfoot** 36.75 330 ⇑P P 00 04 23.3 +1.1
baz=37
F20A **Billings** 36.81 337 ⇓P P 00 04 23.4 +0.7
baz=37,SNR=13
YFT **Old Faithful** 36.82 333 *e*P P 00 04 24.1 +1.2
comp=Z,22nm,0.8s
YNR **Norris Junctio** 36.96 333 *e*P P 00 04 24.6 +0.5
comp=Z,22nm,0.9s
D23A **Lindsay** 36.97 341 ⇑P P 00 04 24.7 +0.8
baz=37,SNR=6.7
G18A **Lazy EL Ranch,** 36.97 335 ⇓P P 00 04 25.0 +0.9
baz=37,SNR=51
E21A **Keefer Ranch,** 37.04 339 ⇓P P 00 04 25.3 +0.7
baz=37,SNR=14
C24A **Savage** 37.04 342 ⇑P P 00 04 25.4 +0.9
baz=37
F19A **Roth Farm, Mol** 37.16 336 ⇑P P 00 04 26.3 +0.7
baz=37,SNR=47
H16A **Russell Place,** 37.20 333 ⇑P P 00 04 27.4 +1.2
baz=37,SNR=23
J14A **Carey** 37.22 329 ⇓P P 00 04 27.4 +1.1
baz=37,SNR=23
BMN **Battle Mountai** 37.25 323 *e*P P 00 04 28.1 +1.5
comp=Z,7.4nm,0.7s
D22A **Cohagen** 37.26 340 ⇑P P 00 04 27.4 +1.0
baz=37,SNR=25
QLMT **Earthquake Lak** 37.38 333 *e*P P 00 04 29.5 +1.8
E20A **Meyer Farm, Mu** 37.40 338 ⇓P P 00 04 28.8 +1.2
baz=38,SNR=50
D21A **La Casta Ranch** 37.47 339 ⇓P P 00 04 29.0 +0.9
baz=38
G17A **Pierce Place,** 37.47 334 ⇑P P 00 04 29.8 +1.5
baz=38,SNR=37
F18A **Big Timber** 37.51 336 ⇓P P 00 04 29.5 +0.9
baz=38,SNR=52
C23A **Lambert** 37.52 342 ⇑P P 00 04 29.4 +0.8
baz=38,SNR=11
J13A **Cove Ranch, Pi** 37.60 329 ⇑P P 00 04 30.5 +1.0
baz=38,SNR=10
E19A **Rath Farm, Rou** 37.61 337 ⇓P P 00 04 30.1 +0.8
baz=38,SNR=17
I14A **Mackay** 37.63 330 ⇑P P 00 04 31.0 +1.2
baz=38
C22A **Vida** 37.69 341 ⇓P P 00 04 31.1 +1.1
baz=38,SNR=12
H15A **Lima** 37.77 332 ⇓P P 00 04 32.8 +1.8
baz=38,SNR=19
ULM **Lac du Bonnet** 37.78 352 P P 00 04 29.4 -1.3
comp=Z,23nm,0.6s,baz=169,slow=8.8,SNR=49
ULM LR LR 00 21 11.7
comp=Z,288nm,21.3s,baz=143,slow=38
ULM **Lac du Bonnet** 37.78 352 P P 00 04 29.4 -1.3
DGMT **Dagmar** 37.82 343 *e*P P 00 04 31.8 +0.7
comp=Z,80nm,0.6s
DGMT **Dagmar** 37.82 343 ⇓P P 00 04 32.0 +0.8
baz=38,SNR=27
HLID **Hailey** 37.84 329 *e*P P 00 04 32.6 +1.0
comp=Z,4.9nm,0.8s
HLID *e*PcP PcP 00 06 48.3 +1.1
HLID **Hailey** 37.84 329 ⇑P P 00 04 32.5 +1.0
baz=38,SNR=11
G16A **Moss Hill, Enn** 37.86 333 ⇑P P 00 04 33.2 +1.5
baz=38,SNR=16
D20A **Manuel Ranch,** 37.89 338 ⇑P P 00 04 33.0 +1.3
baz=38,SNR=20
F17A **Fitzpatrick Pl** 37.90 335 ⇓P P 00 04 33.3 +1.4
baz=38,SNR=50
I13A **Wildhorse Cree** 37.95 330 ⇑P P 00 04 33.7 +1.2
baz=38,SNR=11
B23A **Brockton** 38.05 342 ⇑P P 00 04 34.2 +1.1
baz=38,SNR=16
H14A **Leadore** 38.10 331 ⇓P P 00 04 35.3 +1.5
baz=38,SNR=14
BOZ **Bozeman (W)** 38.11 334 *e*P P 00 04 34.5 +0.8
BOZ **Bozeman (W)** 38.11 334 ⇓P P 00 04 34.7 +1.0
baz=38,SNR=36
G15A **Dillon** 38.12 332 ⇑P P 00 04 35.2 +1.4
baz=38,SNR=33
E18A **Harlowton** 38.13 336 ⇑P P 00 04 34.8 +1.0
baz=38
C21A **Desert Coulee** 38.16 340 ⇓P P 00 04 35.0 +1.0
baz=38,SNR=5.5
A24A **Westby** 38.18 344 ⇓P P 00 04 35.1 +0.9
baz=38,SNR=13
B22A **Reddig Ranch S** 38.21 341 ⇑P P 00 04 35.2 +0.8
baz=38
F16A **Kennard Place,** 38.21 334 ⇓P P 00 04 35.7 +1.2
baz=38,SNR=34
D19A **Cripps Ranch,** 38.23 337 ⇑P P 00 04 35.6 +0.9
baz=38,SNR=64
I12A **Atlanta** 38.37 329 ⇓P P 00 04 37.1 +1.1
baz=38,SNR=15
C20A **Veseth Ranch,** 38.38 339 ⇓P P 00 04 36.8 +1.0
baz=38,SNR=19
E17A **Martinsdale** 38.43 335 ⇑P P 00 04 37.2 +0.8
baz=39,SNR=22
A23A **Redstone** 38.46 343 ⇓P P 00 04 37.4 +0.9
baz=39,SNR=6.9
MFID **Camas Ranch** 38.46 328 *e*P P 00 04 37.8 +1.1
comp=Z,6.3nm,1.0s
MFID *e*PcP PcP 00 06 50.3 +1.4
MFID **Camas Ranch** 38.46 328 ⇑P P 00 04 37.7 +1.0
baz=39
H13A **Challis** 38.49 330 ⇓P P 00 04 38.1 +1.2
baz=39,SNR=20
LRM **Limekiln Ridge** 38.60 333 *e*P P 00 04 39.0 +1.0
D18A **Linhart Farms,** 38.61 337 ⇑P P 00 04 38.8 +1.0
baz=39,SNR=5.1
G14A **Jackson** 38.62 332 ⇑P P 00 04 39.1 +1.0
baz=39,SNR=14
F15A **Butte** 38.64 333 ⇓P P 00 04 39.1 +0.8
baz=39,SNR=18
C19A **Slack Wire Ran** 38.77 338 ⇓P P 00 04 40.2 +1.1
baz=39,SNR=64
H12A **Diamond D Ranc** 38.77 330 ⇓P P 00 04 40.3 +1.0
baz=39,SNR=9
A22A **Carney Farms,** 38.80 342 ⇓P P 00 04 40.2 +0.9
baz=39,SNR=8.8
E16A **East Helena** 38.83 334 ⇑P P 00 04 40.7 +1.0
baz=39,SNR=55
G13A **Cobalt** 38.87 331 ⇑P P 00 04 40.7 +0.5
baz=39,SNR=11
D17A **Six Diamond Ra** 38.92 336 ⇓P P 00 04 41.4 +1.0
baz=39,SNR=63
B20A **Solberg Farm,** 39.00 339 ⇑P P 00 04 42.1 +1.0
baz=39,SNR=10
F14A **Wisdom** 39.01 332 ⇑P P 00 04 42.1 +0.8
baz=39,SNR=11
HRY **Holter Researc** 39.03 334 *e*P P 00 04 42.3 +0.9
A21A **Bergtoll Ranch** 39.12 341 ⇑P P 00 04 42.9 +0.9
baz=39,SNR=11
E15A **Deer Lodge** 39.16 333 ⇑P P 00 04 43.1 +0.7
baz=39,SNR=27
D16A **Dana Ranch, Ca** 39.17 335 ⇑P P 00 04 43.3 +0.7
baz=39,SNR=32
EGMT **Eagleton** 39.27 337 *e*P P 00 04 44.3 +0.9
comp=Z,63nm,0.7s
EGMT **Eagleton** 39.27 337 ⇑P P 00 04 44.3 +0.9
baz=39,SNR=66
B19A **Brinkman Farms** 39.34 339 ⇑P P 00 04 44.8 +1.0
baz=40,SNR=18
C17A **Wharram Farm,** 39.34 336 ⇓P P 00 04 44.9 +1.0
baz=40,SNR=51
A20A **Cobblestone Ra** 39.35 340 ⇑P P 00 04 45.0 +1.1
baz=40,SNR=39
WVOR **Wild Horse Val** 39.35 324 *e*P P 00 04 44.0 -0.2
comp=Z,6.8nm,0.8s
G12A **Big Creek, Yel** 39.42 330 ⇓P P 00 04 45.4 +0.6
baz=40,SNR=6.0
F13A **Darby** 39.44 331 ⇑P P 00 04 45.5 +0.7
baz=40,SNR=18
SIV **San Ignacio** 39.50 136 LR LR 00 21 25.6
comp=Z,157nm,19.3s,slow=37
E14A **Clinton** 39.52 333 ⇓P P 00 04 46.5 +0.9
baz=40,SNR=18
D15A **Lincoln** 39.58 334 ⇑P P 00 04 47.2 +1.1
baz=40,SNR=49
B18A **Beardsley Farm** 39.59 338 ⇓P P 00 04 47.1 +1.1
baz=40,SNR=27
A19A **Klindworth Far** 39.67 339 ⇑P P 00 04 47.5 +0.9
baz=40,SNR=11
CHMT **Chamberlain Mo** 39.80 333 *e*P P 00 04 48.3 +0.3
F12A **Elk City** 39.85 331 ⇑P P 00 04 48.9 +0.7
baz=40,SNR=41
E13A **Victor** 39.86 332 ⇓P P 00 04 48.9 +0.6
baz=40,SNR=29
C16A **Fuhringer Ranc** 39.87 336 ⇑P P 00 04 49.3 +0.9
baz=40,SNR=27
B17A **L&G Farms, Che** 39.89 337 ⇑P P 00 04 49.0 +0.6
baz=40,SNR=30
MSO **Missoula** 40.04 333 ⇓P P 00 04 50.4 +0.6
baz=40,SNR=11
D14A **Greenough** 40.04 333 ⇑P P 00 04 50.2 +0.4
baz=40,SNR=18
A18A **Metzger Ranch,** 40.05 338 ⇓P P 00 04 50.6 +0.8
baz=40,SNR=20
SLMT **Seeley Lake** 40.16 334 *e*P P 00 04 51.1 +0.3
C15A **Salmond Ranch,** 40.20 335 ⇓P P 00 04 52.3 +1.1
baz=40,SNR=39
BMO **Blue Mountains** 40.23 328 *e*P P 00 04 51.1 -0.3
comp=Z,3.4nm,0.8s
B16A **M & M Farms, S** 40.34 336 ⇑P P 00 04 52.7 +0.5
baz=40,SNR=8.0
A17A **Triple J Farms** 40.39 337 ⇑P P 00 04 53.4 +0.9
baz=40,SNR=54
D13A **Huson** 40.47 333 ⇓P P 00 04 53.9 +0.6
baz=41,SNR=16
E12A **Beaver Dam Sad** 40.48 331 ⇓P P 00 04 53.6 +0.1
baz=41
SWMT **Swartz Lake** 40.58 333 *e*P P 00 04 54.7 +0.4
B15A **Bradely Ranch,** 40.60 335 ⇑P P 00 04 54.9 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=41,SNR=25						
C14A	Swan Lake	40.67	334	⇑P	P	00 04 55.6	+0.6
	baz=41						
A16A	West Butte Ran	40.73	337	⇑P	P	00 04 56.3	+0.8
	baz=41						
D12A	Red Ives Fores	40.85	332	⇓P	P	00 04 56.6	+0.2
	baz=41						
JTMT	Jette	40.89	333	eP	P	00 04 57.4	+0.6
JTMT				ePcP	PcP	00 06 57.2	+0.6
B14A	Marquette Ranc	40.93	335	⇑P	P	00 04 58.2	+1.0
	baz=41,SNR=15						
C13A	Hot Springs	40.97	333	⇑P	P	00 04 58.0	+0.6
	baz=41,SNR=7.7						
BSMT	Bassoo Peak	41.19	333	eP	P	00 04 60.0	+0.6
A15A	Johnson Ranch,	41.20	336	⇑P	P	00 05 00.1	+0.7
	baz=41,SNR=84						
C12B	Naegeli Ranch,	41.39	332	⇑P	P	00 05 01.3	+0.5
	baz=42,SNR=7.2						
B13A	Whitefish	41.45	334	⇓P	P	00 05 02.1	+0.8
	baz=42,SNR=13						
A14A	Double T Ranch	41.48	335	⇑P	P	00 05 02.5	+0.9
	baz=42,SNR=69						
C11A	Tepee Creek (N	41.84	332	⇓P	P	00 05 05.1	+0.6
	baz=42						
A13A	Flathead Natio	41.85	334	⇑P	P	00 05 05.7	+1.0
	baz=42						
B12A	Libby	42.01	333	⇑P	P	00 05 06.9	+1.0
	baz=42,SNR=7.7						
A12A	Yaak River Ran	42.39	334	⇓P	P	00 05 09.7	+0.8
	baz=42,SNR=7.0						
HAWA	Hanford	42.42	328	eP	P	00 05 09.3	+0.1
	comp=Z,99nm,2.6s						
NEW	Newport	42.55	332	eP	P	00 05 10.2	-0.1
	comp=Z,117nm,2.9s						
NEW	Newport	42.55	332	⇑P	P	00 05 10.2	-0.1
	baz=43,SNR=5.2						
FFC	Flin Flon	43.10	349	eP	P	00 05 14.5	0.0
	comp=Z,18nm,0.5s						
SCHQ	Schefferville	45.23	18	P	P	00 05 29.9	-1.7
	comp=Z,20nm,0.6s,baz=216,slow=6.5,SNR=64						
SCHQ				PcP	PcP	00 07 08.9	-2.0
	comp=Z,2.8nm,0.6s,baz=208,slow=5.7,SNR=4.3						
SCHQ				LR	LR	00 25 04.1	
	comp=Z,228nm,19.8s,baz=215,slow=37						
SCHQ	Schefferville	45.23	18	P	P	00 05 29.9	-1.7
SCHQ				PcP	PcP	00 07 08.9	-2.0
CFAA	Coronel Fontan	48.30	157	LR	LR	00 23 51.7	
	comp=Z,37nm,18.6s,baz=242,slow=33						
BDFB	Brasilia	49.10	124	P	P	00 06 00.8	-1.5
	comp=Z,12nm,0.6s,baz=288,slow=9.1,SNR=26						
BDFB				PcP	PcP	00 07 26.0	+0.6
	comp=Z,4.4nm,0.6s,baz=5.3,slow=1.0,SNR=4.0						
BDFB				LR	LR	00 29 08.3	
	comp=Z,110nm,21.1s,baz=136,slow=39						
BDFB	Brasilia	49.10	124	P	P	00 06 00.8	-1.5
BDFB				PcP	PcP	00 07 26.0	+0.6
CPUP	Villa Florida	49.39	142	P	P	00 06 03.6	-0.7
	comp=Z,4.1nm,0.7s,baz=313,slow=8.1,SNR=12						
CPUP				LR	LR	00 27 37.1	
	comp=Z,163nm,18.1s,baz=312,slow=37						
CPUP	Villa Florida	49.39	142	P	P	00 06 03.6	-0.7
YKA	Yellowknife Ar	52.95	345	P	P	00 06 29.7	-0.8
	comp=Z,21nm,0.7s,baz=140,slow=7.7,SNR=363						
YKA				pP	pP	00 06 44.6	-0.5
	comp=Z,11nm,0.8s,baz=132,slow=8.4,SNR=8.9						
YKA				PcP	PcP	00 07 37.6	-1.1
	comp=Z,3.0nm,0.6s,baz=144,slow=3.9,SNR=6.8						
YKA	Yellowknife Ar	52.95	345	P	P	00 06 29.8	-0.8
YKA				pP	pP	00 06 44.6	-0.5
YKA				PcP	PcP	00 07 37.6	-1.1
DLBC	Dease Lake	55.09	335	eP	P	00 06 46.8	+0.5
RCBR	Riachuelo	55.51	106	LR	LR	00 31 33.2	
	comp=Z,104nm,20.2s,baz=86,slow=37						
PLCA	Paso Flores	55.85	164	LR	LR	00 28 19.8	
	comp=Z,110nm,18.9s,baz=193,slow=33						
RES	Resolute Bay	61.93	358	eP	P	00 07 31.9	-1.6
	comp=Z,7.9nm,0.8s						
DAWY	Dawson	62.02	337	eP	P	00 07 33.3	-1.1
INK	Inuvik	62.51	343	eP	P	00 07 36.8	-0.7
	comp=Z,25nm,0.8s						
MENT	Mentasta	63.17	335	eP	P	00 07 41.5	-0.6
PAX	Paxson	63.91	335	eP	P	00 07 45.8	-1.2
	comp=Z,3.5nm,0.7s						
ILAR	Eielson Array	65.23	336	P	P	00 07 54.5	-1.0
	comp=Z,8.7nm,0.7s,baz=170,slow=5.0,SNR=124						
ILAR				pP	pP	00 08 09.4	-1.0
	comp=Z,5.6nm,0.9s,baz=155,slow=4.7,SNR=8.9						
ILAR	Eielson Array	65.23	336	P	P	00 07 54.5	-1.0
ILAR				pP	pP	00 08 09.4	-1.0
COLA	College	65.65	336	eP	P	00 07 56.0	-2.1
	comp=Z,8.6nm,0.8s						
COLA				epP	pP	00 08 12.3	-0.8
MCK	McKinley	65.65	335	eP	P	00 07 57.5	-0.8
	comp=Z,12nm,0.9s						
TRF	Thorofare Moun	66.11	334	eP	P	00 08 00.1	-1.3
	comp=Z,17nm,0.7s						
SPU	Mount Spurr	66.16	332	eP	P	00 08 01.6	0.0
COLD	Coldfoot	67.43	338	eP	P	00 08 09.7	+0.2
	comp=Z,14nm,0.9s						
USHA	Ushuaia	69.53	168	LR	LR	00 32 35.1	
	comp=Z,169nm,19.1s,baz=74,slow=30						
TNA	Tin City	73.99	335	eP	P	00 08 49.7	+0.3
	comp=Z,6.4nm,0.8s						
ESDC	Sonseca Array	77.81	52	P	P	00 09 08.7	-3.0
	comp=Z,1.4nm,0.7s,baz=283,slow=5.6,SNR=10						
ESDC				pP	PcP	00 09 24.6	+3.1
	comp=Z,2.1nm,0.8s,baz=287,slow=5.7,SNR=6.2						
ESDC	Sonseca Array	77.81	52	P	P	00 09 08.7	-3.0
ESDC				pP	PcP	00 09 24.6	+3.1
SPITS	Spitsbergen Ar	80.55	12	P	P	00 09 24.7	-1.2
	comp=Z,1.0nm,0.4s,baz=253,slow=2.0						
SPITS	Spitsbergen Ar	80.55	12	P	P	00 09 24.7	-1.2
DBIC	Dimbokro	82.44	85	P	P	00 09 33.6	-3.5
	comp=Z,1.4nm,0.6s,baz=340,slow=11,SNR=4.3						
DBIC	Dimbokro	82.44	85	eP	P	00 09 33.5	-3.5
	comp=Z,1.6nm,0.8s						
NOA	NORSAR Array B	83.55	29	P	P	00 09 37.9	-4.1
	comp=Z,0.7nm,0.6s,baz=285,slow=5.0,SNR=3.5						
NOA	NORSAR Array B	83.55	29	P	P	00 09 37.9	-4.1
ARCES	ARCESS Array B	86.17	19	P	P	00 09 52.4	-2.5
	comp=Z,3.4nm,0.9s,baz=284,slow=4.9,SNR=7.1						
ARCES	ARCESS Array B	86.17	19	P	P	00 09 52.4	-2.5
TORD	Torodi Ar. Bea	87.39	77	P	P	00 09 57.5	-4.5
	comp=Z,0.3nm,0.5s,baz=296,slow=5.1,SNR=9.7						
TORD	Torodi Ar. Bea	87.39	77	P	P	00 09 57.5	-4.5
GERES	GERESS Array B	88.34	40	P	P	00 10 03.0	-3.0
	comp=Z,0.6nm,0.9s,baz=291,slow=4.1,SNR=4.3						
GERES	GERESS Array B	88.34	40	P	P	00 10 03.0	-3.0
FINES	FINESS Array B	90.10	26	P	P	00 10 11.1	-2.7
	comp=Z,1.0nm,0.8s,baz=228,slow=3.5,SNR=2.7						
FINES	FINESS Array B	90.10	26	P	P	00 10 11.1	-2.7
CN2	Changchun	115.66	333	eP	Pdif	00 12 13.1	+4.1
BOSA	Boshof	116.84	116	PKP	PKPdf	00 15 58.8	-0.4
	comp=Z,3.6nm,0.8s,baz=176,slow=3.8,SNR=7.9						
BOSA	Boshof	116.84	116	PKP	PKPdf	00 15 58.8	-0.4
SONM	Songino Array	118.14	349	PKP	PKPdf	00 16 00.4	-0.8
	comp=Z,1.8nm,0.6s,baz=302,slow=1.0,SNR=7.4						
SONM				PKKPbc	PKKPbc	00 26 19.9	-1.9
	comp=Z,0.3nm,0.6s,baz=200,slow=3.8,SNR=5.1						
SONM	Songino Array	118.14	349	PKP	PKPdf	00 16 00.4	-0.8
SONM				PKKPbc	PKKPbc	00 26 19.9	-1.9
KSRS	Korea Array	119.36	327	PKP	PKPdf	00 16 03.2	-0.4
	comp=Z,3.4nm,0.6s,baz=0.9,slow=2.0,SNR=6.8						
KSRS				pPKP	pPKPdf	00 16 19.7	-0.1
	comp=Z,3.5nm,0.7s,baz=13,slow=1.0,SNR=4.2						
KSAR	Wonju Array Be	119.39	327	PKP	PKPdf	00 16 03.2	-0.5
KSAR				pPKP	pPKPdf	00 16 19.7	-0.2
MKAR	Makanchi Array	120.08	7	PKP	PKPdf	00 16 02.7	-2.1
	comp=Z,1.5nm,0.7s,baz=339,slow=1.8,SNR=4.3						
MKAR	Makanchi Array	120.08	7	PKP	PKPdf	00 16 02.7	-2.1
HHC	Hu-ho-hao-te	123.42	342	ePKP	PKPdf	00 16 05.4	-6.1
HHC				sPKP		00 16 42.6	
HHC				PP	PP	00 17 52.2	+0.4
HHC				PKS	PKSdf	00 19 41.1	-7.2
HHC				LR	LR		
	comp=N,200nm,18.6s						
HHC				LR	LR		
	comp=E,160nm,18.1s						
HHC				LR	LR		
	comp=Z,170nm,20.7s						
WMQ	Urumqi	123.51	3	ePKP	PKPdf	00 16 12.3	+0.8
KSH	Kashi	125.96	15	ePKPbc	PKPdf	00 16 22.1	+5.7
KSH				PP	PP	00 18 19.3	+11
KSH				PKS	PKSdf	00 19 55.7	+2.5
KSH				SKS	SKSdf	00 23 27.7	+3.6
KSH				SKKS	SKKSac	00 25 06.6	+3.0
KSH				SS	SS	00 35 12.0	+6.5
KSH				AMB	AMB		
	comp=Z,91nm,6.8s						
KSH				LR	LR		
	comp=N,72nm,4.4s						
KSH				LR	LR		
	comp=E,66nm,5.1s						
KSH				LR	LR		
	comp=Z,140nm,15.1s						
STKA	Stephens Creek	130.36	239	PKP	PKPdf	00 16 25.2	+0.4
	comp=Z,5.2nm,0.8s,baz=264,slow=22,SNR=5.0						
STKA	Stephens Creek	130.36	239	PKP	PKPdf	00 16 25.2	+0.4
CD2	Chengdu	134.92	345	PKP	PKPdf	00 16 33.4	-0.2
CD2				sPKP		00 16 58.9	
CD2				PP	PP	00 19 11.2	+4.5
CD2				PKS	PKSdf	00 20 08.3	-1.8
CD2				SKS	SKSdf	00 23 36.0	-4.5
CD2				SKKS	SKKSac	00 25 54.7	-4.4
CD2				SS	SS	00 36 54.6	-0.7
CD2				LR	LR		
	comp=Z,180nm,8.9s						
GYA	Guiyang	138.22	339	ePdif	Pdif	00 13 48.0	-1.9
GYA				PKP	PKPdf	00 16 39.2	-0.7
GYA				sPKP		00 17 04.3	
GYA				PP	PP	00 19 31.9	+4.2
GYA				PKS	PKSdf	00 20 13.6	-2.7
GYA				SKKS		00 26 14.0	
GYA				SS	SS	00 37 33.4	-1.7
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
GYA				LR	LR		
	comp=N,130nm,19.6s						
GYA				LR	LR		
	comp=E,110nm,20.0s						
GYA				LR	LR		
	comp=Z,120nm,18.2s						
WRA	Warramunga Arr	138.33	254	PKP	PKPdf	00 16 41.1	+1.0
	comp=Z,6.1nm,0.9s,baz=89,slow=1.6,SNR=7.7						
WRA	Warramunga Arr	138.33	254	PKP	PKPdf	00 16 41.1	+1.0
ASAR	Alice Springs	138.40	249	PKP	PKPdf	00 16 39.6	-0.5
	comp=Z,3.1nm,0.8s,baz=106,slow=1.3,SNR=5.3						
ASAR	Alice Springs	138.40	249	PKP	PKPdf	00 16 39.6	-0.5
KMI	Kunming	140.69	344	PKP	PKPdf	00 16 45.0	+0.4
FITZ	Fitzroy Crossi	146.66	257	PKPbc	PKPab	00 16 57.6	-0.1
	comp=Z,22nm,0.9s,baz=138,slow=3.2,SNR=24						
FITZ	Fitzroy Crossi	146.66	257	PKPbc	PKPab	00 16 57.6	-0.1
FITZ	Fitzroy Crossi	146.66	257	P	PKPab	00 16 57.5	-0.1
	baz=14,SNR=9.1						
CMAR	Chiang Mai Arr	148.03	346	PKPbc	PKPdf	00 16 57.5	+0.3
	comp=Z,7.7nm,0.7s,baz=320,slow=2.9,SNR=15						
CMAR	Chiang Mai Arr	148.03	346	PKPbc	PKPdf	00 16 57.5	+0.3
NWAO	Narrogin (SRO)	149.09	225	PKPbc	PKPbc	00 17 02.8	+0.2
	comp=Z,22nm,0.8s,baz=104,slow=6.6,SNR=5.5						
NWAO	Narrogin (SRO)	149.09	225	PKPbc	PKPbc	00 17 02.8	+0.2
KAPI	Kappang	150.99	283	PKPbc	PKPbc	00 17 08.6	+0.8
	comp=Z,13nm,0.7s,baz=240,slow=8.1,SNR=5.7						
KAPI	Kappang	150.99	283	PKPbc	PKPbc	00 17 08.6	+0.8
PSI	Prapat	162.77	334	PKP	PKPdf	00 17 15.9	-1.2
	comp=Z,11nm,0.9s,baz=230,slow=3.1,SNR=5.8						
PSI	Prapat	162.77	334	PKP	PKPdf	00 17 15.9	-1.2

BJI ***02*** *00:03:30.6, 2°.02S×120°.28E, h10km, mB5.7/51, mb5.5/69, Ms5.2/69, Ms7 5.0/67*

IDC ***02*** *00:03:38.1±0.3, 1°.08S×119°.88E, h0km, mb5.4/35, mb1 5.4/38, mb1mx5.4/39, mbtmp5.4/38, ML5.0/3, MS4.9/30, Ms1 4.9/30, ms1mx4.8/43, Error ellipse: s-maj=13.4km s-min=7.7km az=67.0*

NEIC ***02*** *00:03:39.7±0.2, 1°.11S×119°.87E, h11km, mb5.9/75, ME5.6, MS5.1/148, MW5.5, MW5.5, Error ellipse: s-maj=6.2km s-min=3.9km az=59.0, Moment Tensor Solution. s67 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.25; $M_{\theta\theta}$0.95; $M_{\phi\phi}$1.30; $M_{r\theta}$0.62; $M_{\theta\phi}$-0.93; $M_{\phi r}$0.12; Best double couple: $M_0$2.30000×10^{17} NP1:ϕ_s152.00000°, δ42.00000°, λ-72.00000°. NP2:ϕ_s308.00000°, δ50.00000°, λ-106.00000°. Principal axes: T 2.1000, Plg4.0000°, Azm49.0000°; N 0.3000, Plg12.0000°, Azm318.0000°; P -2.3900, Plg77.0000°, Azm157.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Palu and [II] at Poso.

AUST ***02*** *00:03:40.7±0.2, 1°.16S×119°.89E, h10km Error ellipse: s-maj=0.6km s-min=0.5km az=232.0*

MOS ***02*** *00:03:41.5±1.1, 1°.03S×119°.91E, h33km, mb5.8/73, MS4.9/56, Error ellipse: s-maj=8.5km s-min=4.5km az=118.2*

ISCJB ***02*** *00:03:41.3±0.6, 1°.10S±0°.02×119°.90E±0°.02, h32km±4km, mb5.7/173, MS5.0/207, Error ellipse: s-maj=3.4km s-min=2.9km az=42.9*

GCMT ***02*** *00:03:42.2±0.1, 1°.05S×119°.99E, h13km, MW5.6, Moment Tensor Solution. s91,c164; s61,c66; Moment tensor: Scale 10^{17}Nm; M_{rr}-2.47±.04; $M_{\theta\theta}$1.70±.03; $M_{\phi\phi}$0.77±.03; $M_{r\theta}$0.31±.07; $M_{\theta\phi}$-1.56±.02; $M_{\phi r}$-0.32±.08; Best double couple: $M_0$2.70000×10^{17} NP1:ϕ_s125.00000°, δ40.00000°, λ-93.00000°. NP2:ϕ_s309.00000°, δ50.00000°, λ-87.00000°. Principal axes: T 2.9000, Plg5.0000°, Azm37.0000°; N -0.3900, Plg2.0000°, Azm127.0000°; P -2.5100, Plg85.0000°, Azm241.0000°; Data Used: II IU CN IC G. Surface waves: sta=117, comp=242, per= 50.*

DJA ***02*** *00:03:44.6±0.6, 1°S±2°×12°0E±°, h23km±5km, M5.7/71, mb5.6/71, mB6.0/58, MLv5.9/14, Mw(mB)5.6/58, Mwp5.8/12*

NEIC ***02*** *00:03:52.0±0.0, 1°.38S×120°.28E, h10km, Moment Tensor Solution. s166 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.79; $M_{\theta\theta}$1.48; $M_{\phi\phi}$0.30; $M_{r\theta}$-1.61; $M_{\theta\phi}$-1.02; $M_{\phi r}$-0.36; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s95.00000°, δ66.00000°, λ-113.00000°. NP2:ϕ_s322.00000°, δ33.00000°, λ-47.00000°. Principal axes: T 2.4600, Plg17.0000°, Azm202.0000°; N 0.1700, Plg21.0000°, Azm105.0000°; P -2.6300, Plg61.0000°, Azm328.0000°;*

ISC 02 00:03:41.5±0.2**, 1°.09S**±0°.03×**119°.88E**±0°.03**, h20**km±2km**, h20**km**:pP-P, n935,** σ1.50/949**, mb5.8**/172**, MS5.1**/208**, 125C-105D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	Palu	0.18	347	P	Pb	00 03 44.8	-2.1
	baz=0.3,SNR=12						
PCI	Palu	0.18	347	P	Pb	00 03 45.7	-1.2
SMKI	Samarinda	2.74	283	P	Pn	00 04 25.3	+0.9
SMKI				S	Sb	00 05 01.4	-1.7
LUWI	Luwuk	2.89	89	P	Pn	00 04 27.6	+1.2
LUWI				S	Sb	00 05 14.0	+6.6
KAPI	Kappang	3.91	182	Pn	Pn	00 04 41.5	+1.2
	133nm,0.3s,baz=347,slow=9.4,SNR=212						
KAPI				Sn	Sn	00 05 28.1	+2.5
	50nm,0.3s,baz=0.8,slow=17,SNR=3.7						
KAPI	Kappang	3.91	182	ePn	Pn	00 04 41.7	+1.3
KAPI				eSn	Sb	00 05 32.8	-3.8
KAPI	Kappang	3.91	182	P	Pn	00 04 41.3	+1.0
	SNR=322						
KAPI	Kappang	3.91	182	P	Pn	00 04 41.0	+0.7
KAPI				S	Sb	00 05 36.7	+0.2
KDI	Kendari	3.95	136	P	Pn	00 04 41.7	+0.7
BBKI	Banjar Baru	5.56	245	P	Pn	00 05 03.5	+0.4
	1µm,1.0s,43µm13nm						
MNI	Manado	5.56	63	P	Pn	00 05 08.3	+5.2
	2µm,1.0s,24µm9.6nm						
TSM	Tawau	5.71	339	P	Pn	00 05 06.2	+1.1
MYLDM	Lahad Datu	6.37	348	P	Pn	00 05 17.2	+2.9
MYLDM	Lahad Datu	6.37	348	P	Pn	00 05 16.2	+1.9
	2µm,1.2s,19µm60µm6.3nm						
SDKM	Sandakan	7.20	338	P	Pn	00 05 28.2	+2.5
LBMI	Labuha	7.63	87	P	Pn	00 05 30.2	-1.4
	2µm,1.1s,17µm15nm						
LBMI				S	Sn	00 06 58.1	+0.5
	2µm,1.1s,17µm15nm						
TNTI	Ternate	7.71	76	P	Pn	00 05 37.1	+4.4
	482nm,1.2s,5µm45µm1.7nm						
MMRI	Maumere	7.86	163	P	Pn	00 05 40.5	+5.8
KKM	Kota Kinabalu	7.97	333	ePn	Pn	00 05 36.6	+0.3
KKM				eSn	Sn	00 07 07.9	+1.8
KKM	Kota Kinabalu	7.97	333	P	Pn	00 05 42.7	+6.4
	baz=8.1,SNR=6.5						
KKM	Kota Kinabalu	7.97	333	P	Pn	00 05 41.5	+5.1
KKM	Kota Kinabalu	7.97	333	P	Pn	00 05 44.9	+8.6
BTM	Bintulu	8.02	302	P	Pn	00 05 38.8	+1.9
KMMI	Kalianget	8.36	225	P	Pn	00 05 42.2	+0.7
	490nm,1.1s,10µm						
PBKI	Pangkalan Bun	8.36	259	P	Pn	00 05 41.3	-0.3
	544nm,1.0s,9µm						
KHKI	Kahang-Kahang	8.39	210	P	Pn	00 05 41.5	-0.5
	238nm,0.6s,4µm49µm0.8nm						
SBUM	Sibu	8.42	295	P	Pn	00 05 45.0	+2.6
SBUM	Sibu	8.42	295	P	Pn	00 05 45.2	+2.7
	112nm,0.9s,1µm0.3nm						
STKI	Sintang	8.48	278	P	Pn	00 05 43.0	-0.2
	456nm,1.3s,15µm19µm1.8nm						
KDM	Kudat	8.51	339	P	Pn	00 05 49.8	+6.2
WSI	Waingapu	8.54	177	P	Pn	00 05 52.2	+8.2
BWJI	Bawean	8.62	237	P	Pn	00 05 59.6	+14
AAI	Ambon	8.70	107	P	Pn	00 05 56.3	+10
	baz=8.7,SNR=3.6						
AAI	Ambon	8.70	107	P	Pn	00 05 51.7	+5.4
	652nm,1.3s,9µm2.6nm						
DNP	Denpasar	8.86	211	P	Pn	00 05 51.2	+2.8
	824nm,1.4s,3.7nm						
NBBI	Negara	8.93	216	P	Pn	00 05 49.2	-0.2
	390nm,1.4s,5µm122µm						
MSAI	Masohi	9.32	104	P	Pn	00 05 59.5	+4.8
	184nm,1.0s,2µm						
DAV	Davao City (W)	9.90	35	Pn	Pn	00 06 07.5	+4.8
	38nm,0.3s,baz=221,slow=19,SNR=8.2						
DAV				LR	LR	00 09 34.7	
	comp=Z,8µm,20.4s,baz=206,slow=36						
DAV	Davao City (W)	9.90	35	ePn	Pn	00 06 03.0	+0.3
DAV				eSn	Sn	00 07 56.8	+3.4
DAV	Davao City (W)	9.90	35	P	Pn	00 06 06.3	+3.6
	SNR=9.2						
KSM	Kuching	9.90	285	ePn	Pn	00 06 02.6	-0.1
KSM	Kuching	9.90	285	P	Pn	00 06 03.1	+0.3
	baz=9.9,SNR=10						
KSM	Kuching	9.90	285	P	Pn	00 06 03.3	+0.6
KSM	Kuching	9.90	285	P	Pn	00 06 04.4	+1.7
	122nm,1.3s,1µm						
KRKI	Karangkates	10.20	226	P	Pn	00 06 12.5	+5.6
	580nm,1.2s,31µm63µm						
SJI	Sawahan	10.44	231	P	Pn	00 06 13.5	+3.3
	251nm,2.0s,5µm						
BNDI	Bandanaira	10.58	109	P	Pn	00 06 21.7	+10
SMRI	Semarang	11.12	238	P	Pn	00 06 24.3	+4.8
	129nm,1.1s,7µm						
SWI	Sorong	11.38	89	P	Pn	00 06 25.0	+1.9
	baz=11,SNR=9.1						
SWI				S	Sn	00 08 30.8	+1.1
	baz=11,SNR=6.7						
SWI	Sorong	11.38	89	P	Pn	00 06 24.8	+1.8
	284nm,1.1s,4µm						
UGM	Wanagama	11.53	234	ePn	Pn	00 06 27.9	+2.9
UGM	Wanagama	11.53	234	P	Pn	00 06 27.4	+2.4
	baz=12,SNR=7.0						
UGM	Wanagama	11.53	234	P	Pn	00 06 28.4	+3.3
	420nm,1.3s,8µm						
YOGI	Yogyakarta	11.66	235	P	Pn	00 06 31.2	+4.4
	820nm,1.2s,10µm						
BJII	Banjamegara	11.88	238	P	Pn	00 06 33.6	+3.6
	502nm,1.2s,6µm47µm						
TGJI	Tegal	12.17	242	P	Pn	00 06 37.3	+3.5
	163nm,1.6s,4µm						
FAKI	Fak Fak	12.50	99	P	Pn	00 06 39.1	+0.8
	255nm,1.2s,3µm						
CLJI	Cilicap	12.67	238	P	Pn	00 06 42.0	+1.3
	271nm,1.6s,4µm						
PLP	Palo	13.19	22	⇓eP	Pn	00 06 50.1	+2.4
LEM	Lembang	13.49	245	P	P	00 07 05.3	+4.1
	baz=14,SNR=5.0						
LEM	Lembang	13.49	245	P	Pn	00 06 55.8	+3.8
	338nm,1.4s,5µm						
TLE	Tual	13.61	110	P	P	00 07 00.3	-2.0
	baz=14,SNR=5.9						
TLE	Tual	13.61	110	P	Pn	00 06 55.2	+1.7
	421nm,1.6s,6µm						
CISI	Cisompet, Garu	13.63	242	P	Pn	00 06 57.3	+3.4
	330nm,1.3s,10µm23µm						
PPBI	Pangkal Pinang	13.78	265	P	Pn	00 06 57.0	+1.2
	123nm,1.1s						
CBJI	Citeko	14.03	247	P	P	00 07 06.5	-0.5
	2µm,1.2s,26µm						
DBJI	Dramaga	14.18	247	P	P	00 07 09.7	+1.1
SBJI	Serang	14.60	250	P	P	00 07 20.4	+7.1
TGY	Tagaytay City	15.13	4	Pn	Pn	00 07 15.0	+0.8
	7.4nm,0.3s,baz=175,slow=11,SNR=1.7						
TGY				LR	LR	00 14 36.7	
	comp=Z,14nm,18.2s,baz=150,slow=44						
TGY	Tagaytay City	15.13	4	Pn	Pn	00 07 15.0	+0.8
PMBI	Palembang	15.21	263	P	P	00 07 24.7	+4.6
BLSI	Bandar Lampung	15.21	253	P	P	00 07 29.0	+8.8
MTN	Manton Dam	16.15	137	P	Pn	00 07 27.6	+0.1
	baz=16,SNR=20						
BAKI	Biak	16.23	91	P	P	00 07 37.5	+6.1
LWLI	Liwa	16.27	256	P	P	00 07 36.7	+4.7
MYKOM	Kota Tinggi	16.28	280	P	Pn	00 07 26.9	-2.2
MYKOM	Kota Tinggi	16.28	280	P	P	00 07 31.5	-0.5
	119nm,1.4s,2µm						
PALU	Palau	16.80	60	P	P	00 07 38.0	+0.3
	baz=17,SNR=29						
KGM	Kluang	16.84	281	P	P	00 07 39.1	+0.8
KDU	Kakadu	16.99	133	P	Pn	00 07 35.9	-2.2
	baz=17,SNR=54						
MNAI	Manna	17.21	259	P	P	00 07 46.5	+4.1
	776nm,1.4s,17µm						
KSI	Kapahiang	17.46	261	P	P	00 07 49.0	+3.9
	592nm,1.7s,11µm						
FITZ	Fitzroy Crossi	17.83	162	P	Pn	00 07 47.7	-0.8
	2.5nm,0.3s,baz=355,slow=9.0,SNR=65						
FITZ				LR	LR	00 15 51.5	
	comp=Z,5µm,19.9s,baz=343,slow=41						
FITZ	Fitzroy Crossi	17.83	162	ePn	P	00 07 49.5	+0.4
FITZ	Fitzroy Crossi	17.83	162	P	P	00 07 49.2	0.0
	baz=18,SNR=80						
KRJI	Kerinci	18.44	267	P	Pn	00 08 07.6	+11
FRIM	Kepong	18.74	283	P	Pn	00 08 01.1	+1.3
BKNI	Bangkinang	18.89	274	P	Pn	00 08 03.5	+2.0
	327nm,1.2s,6µm14µm						
PDSI	Padang	19.41	270	P	Pn	00 08 18.8	+11
PPI	Padang Panjang	19.49	272	P	Pn	00 08 12.4	+3.7
	baz=20,SNR=6.8						
PPI	Padang Panjang	19.49	272	P	Pn	00 08 10.7	+2.0
	228nm,0.8s,3µm						
IPM	Ipoh	19.63	286	eP	Pn	00 08 10.0	-0.5
	656nm,1.6s						
IPM	Ipoh	19.63	286	P	Pn	00 08 10.7	+0.3
IPM	Ipoh	19.63	286	P	Pn	00 08 11.2	+0.7
	307nm,1.0s,5µm						
MBWA	Marble Bar	19.95	180	eP	P	00 08 12.7	+0.3
	103nm,1.2s						
KULM	Kulim	20.22	288	eP	Pn	00 08 16.7	-0.7
	963nm,1.9s						
KULM				LR	LR		
	comp=Z,8µm,20.0s						
KULM	Kulim	20.22	288	P	Pn	00 08 17.2	-0.3
KULM	Kulim	20.22	288	P	Pn	00 08 17.1	-0.3
	comp=Z,225nm,1.7s,comp=Z,5µm						
JAY	Jayapura	20.86	94	P	Pn	00 08 25.2	+0.1
	baz=21,SNR=6.0						
JAY				S	Sn	00 12 23.2	+2.8
	baz=21,SNR=3.1						
JAY	Jayapura	20.86	94	P	Pn	00 08 29.2	+4.2
	comp=Z,195nm,1.6s,comp=Z,7µm						
PSI	Prapat	21.30	280	P	P	00 08 27.9	+0.6
	comp=Z,105nm,1.1s,baz=136,slow=4.8,SNR=14						
PSI	Prapat	21.30	280	P	P	00 08 27.9	+0.6
PSI	Prapat	21.30	280	P	P	00 08 28.0	+0.8
	baz=21,SNR=13						
PSI	Prapat	21.30	280	P	P	00 08 28.5	+1.2
	comp=Z,434nm,1.3s,comp=Z,5µmcomp=Z,7µm						
MMPI	Merauke	21.70	110	P	P	00 08 36.6	+5.2
	comp=Z,1µm,1.2s,comp=Z,52µm						
TSI	Tuntungan	21.79	282	P	P	00 08 36.1	+3.8
	comp=Z,431nm,1.4s,comp=Z,8µm						
GIRL	Giralia	22.12	194	P	P	00 08 37.0	+1.1
	baz=22,SNR=6.7						
QIZ	Qiongzhong	22.29	334	P	P	00 08 37.6	-0.1
QIZ				S	S	00 12 38.9	-3.2
QIZ				pmax	pmax		
	comp=Z,57nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,790nm,6.8s						
QIZ				LR	LR		
	comp=N,2µm,21.8s						
QIZ				LR	LR		
	comp=E,860nm,19.9s						
QIZ				LR	LR		
	comp=Z,5µm,22.0s						
QIZ	Qiongzhong	22.29	334	eP	P	00 08 38.5	+0.9
	comp=Z,149nm,1.1s						

QIZ LR LR
comp=Z,5μm,22.0s
TPTI **23.09 281** P **P** **00 08 47.7 +1.4**
comp=Z,159nm,1.7s
WRAB **Tennant Creek** **23.48 144** *e*P **P** **00 08 48.7 -1.4**
WRAB *e*S **S** **00 13 02.7 -0.2**
WRAB MLR MLR
comp=Z,4μm,21.0s
WRAB **Tennant Creek** **23.48 144** *e*P **P** **00 08 48.7 -1.4**
WRAB *e*S **S** **00 13 02.7 -0.2**
WRAB LR LR
comp=Z,4μm,21.0s
WRA **Warramunga Arr** **23.48 144** P **P** **00 08 48.2 -1.8**
comp=Z,563nm,1.2s,baz=319,slow=8.8,SNR=443
WRA S **S** **00 13 05.7 +2.8**
comp=Z,72nm,1.3s,baz=316,slow=20,SNR=14
WRA LR LR 00 19 22.2
comp=Z,3μm,20.8s,baz=325,slow=40
WRA P3KPbc 00 42 11.4
comp=Z,1.1nm,1.0s,baz=142,slow=4.2,SNR=5.0
WRA **Warramunga Arr** **23.48 144** P **P** **00 08 48.2 -1.8**
WRA S **S** **00 13 05.7 +2.8**
WRA *e* 00 42 11.4
LHMI **Lhok Sumawe** **23.75 286** P **P** **00 08 54.1 +1.4**
comp=Z,1μm,1.1s,comp=Z,11μm
TWG **Pinlang** **23.79 3** *e*P **P** **00 08 54.0 +1.0**
comp=Z,871nm,1.2s
TPUB **Ta-pu** **24.25 2** *e*P **P** **00 08 59.6 +2.3**
comp=Z,373nm,1.2s
YULB **Yu-li** **24.37 3** *e*P **P** **00 08 57.9 -0.5**
comp=Z,145nm,1.0s
SSLB **Suanglung** **24.75 2** *e*P **P** **00 09 02.5 +0.7**
comp=Z,477nm,1.5s
NACB **Ninganchiao** **25.16 4** *e*P **P** **00 09 05.6 +0.1**
COCO **West Island** **25.38 243** *i* P **P** **00 09 09.6 +2.0**
COCO **West Island** **25.38 243** *e*P **P** **00 09 07.4 -0.2**
comp=Z,264nm,0.9s
COCO LR LR
comp=Z,4μm,19.0s
COCO **West Island** **25.38 243** P **P** **00 09 12.3 +4.7**
comp=Z,324nm,1.6s,comp=Z,5μm
BSI **Banda Aceh** **25.41 285** P **P** **00 09 07.8 -0.1**
comp=Z,55nm,1.2s,comp=Z,2μm
MEEK **Meekatharra** **25.43 183** P **P** **00 09 06.5 -1.5**
baz=26,SNR=37
YHNB **Yeheng** **25.64 3** *e*P **P** **00 09 10.7 +0.7**
QZH **Quanzhou** **25.90 357** ⇑*i*P **P** **00 09 14.0 +1.7**
QZH S **S** **00 13 41.7 +0.3**
QZH pmax pmax
comp=Z,200nm,0.9s
QZH pmax pmax
comp=Z,3μm,4.4s
QZH LR LR
comp=N,3μm,12.1s
QZH LR LR
comp=E,3μm,13.8s
QZH LR LR
comp=Z,4μm,15.9s
TATO **Taipei** **25.95 3** *e*P **P** **00 09 13.3 +0.6**
comp=Z,441nm,1.1s
AS31 **Alice Springs** **26.25 150** *e*P **P** **00 09 14.2 -1.3**
ASAR **Alice Springs** **26.25 150** P **P** **00 09 14.6 -0.9**
comp=Z,51nm,1.0s,baz=326,slow=7.7,SNR=96
ASAR PcP **PcP** **00 12 40.9 -1.1**
comp=Z,4.2nm,0.5s,baz=328,slow=1.6,SNR=5.1
ASAR S S 00 13 58.4 +11
comp=Z,3.3nm,0.4s,baz=122,slow=25,SNR=8.7
ASAR LR LR 00 20 48.6
comp=Z,4μm,19.8s,baz=320,slow=39
ASAR **Alice Springs** **26.25 150** P **P** **00 09 14.6 -0.9**
ASAR PcP **PcP** **00 12 40.9 -1.1**
ASAR S S 00 13 58.4 +11
COEN **Coen** **26.36 120** *e*P **P** **00 09 17.0 +0.5**
comp=Z,858nm,1.2s
COEN **Coen** **26.36 120** P **P** **00 09 17.1 +0.5**
baz=26,SNR=14
QIS **Mount Isa** **27.31 136** P **P** **00 09 24.4 -0.7**
baz=27,SNR=18
MORW **Morawa** **28.07 187** P **P** **00 09 32.2 +0.5**
baz=28,SNR=5.9
CM31 **Chiang Mai Arr** **28.30 314** *e*P **P** **00 09 33.6 -0.3**
comp=Z,8.6nm,0.3s
CM31 *e*PcP **PcP** **00 12 46.7 -0.2**
CM31 LR LR
comp=Z,3μm,20.0s
CMAR **Chiang Mai Arr** **28.30 314** P **P** **00 09 35.0 +1.1**
comp=Z,21nm,0.8s,baz=140,slow=7.1,SNR=71
CMAR PcP **PcP** **00 12 47.5 +0.5**
comp=Z,5.7nm,0.7s,baz=169,slow=2.2,SNR=5.6
CMAR LR LR 00 22 31.8
comp=Z,3μm,20.4s,baz=150,slow=40
CMAR **Chiang Mai Arr** **28.30 314** P **P** **00 09 35.0 +1.1**
CMAR PcP **PcP** **00 12 47.5 +0.5**
PMG **Port Moresby** **28.37 108** P **P** **00 09 35.1 +0.5**
comp=Z,82nm,0.9s,baz=283,slow=6.6,SNR=12
PMG **Port Moresby** **28.37 108** *e*P **P** **00 09 34.8 +0.1**
comp=Z,264nm,1.4s
PMG LR LR
comp=Z,2μm,21.0s
PMG **Port Moresby** **28.37 108** P **P** **00 09 35.9 +1.3**
comp=Z,129nm,1.4s,comp=Z,2μm
CHTO **Chiang Mai** **28.54 315** *e*P **P** **00 09 37.1 +1.0**
CHTO pmax pmax
comp=Z,105nm,1.5s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO **Chiang Mai** **28.54 315** *e*P **P** **00 09 37.1 +1.0**
comp=Z,105nm,1.5s
CHTO LR LR
comp=Z,3μm,20.0s
CHTO **Chiang Mai** **28.54 315** P **P** **00 09 37.4 +1.4**
SNR=26
CHTO **Chiang Mai** **28.54 315** P **P** **00 09 37.0 +1.0**
comp=Z,53nm,1.3s,comp=Z,849nm
GUMO **Guam** **28.74 59** PFAKE 00 09 50.0 +12
GUMO LR LR
comp=Z,2μm,19.0s
JOW **Kunigami** **28.91 16** P **P** **00 09 39.7 +0.4**
comp=Z,27nm,0.6s,baz=156,slow=7.1,SNR=7.1
JOW LR LR 00 19 47.7
comp=Z,5μm,20.7s,baz=145,slow=34
JOW **Kunigami** **28.91 16** *e*P **P** **00 09 39.5 +0.3**
comp=Z,79nm,1.5s
BLDU **Ballidu** **29.52 186** P P 00 09 48.2 +3.6
baz=30,SNR=4.4
GYA **Guiyang** **30.21 336** ⇑*i*P **P** **00 09 51.9 +1.0**
GYA PP **PnPn** **00 10 53.0 +4.2**
GYA PcP **PcP** **00 12 52.3 +0.5**
GYA S **S** **00 14 53.1 +3.6**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,470nm,11.1s
GYA LR LR
comp=N,2μm,17.0s
GYA LR LR
comp=E,3μm,18.3s
GYA LR LR
comp=Z,4μm,18.9s
KLBR **Kellerberrin** **30.41 184** P **P** **00 09 55.1 +2.7**
baz=30,SNR=4.1
FORT **Forrest** **30.53 166** *e*P **P** **00 09 52.8 -0.8**
FORT **Forrest** **30.53 166** P **P** **00 09 52.5 -1.1**
baz=31,SNR=8.4
KMI **Kunming** **30.89 329** ⇑P **P** **00 09 59.6 +2.5**
KMI pP **pP** **00 10 01.9 -1.4**
KMI sP **sP** **00 10 03.0 -2.8**
KMI PP **PnPn** **00 11 02.1 +4.2**
KMI S **S** **00 15 01.6 +1.1**
KMI ScS **ScS** **00 20 33.1 +0.4**
KMI pmax pmax
comp=Z,32nm,1.7s
KMI pmax pmax
comp=Z,690nm,6.2s
KMI LR LR
comp=N,2μm,15.3s
KMI LR LR
comp=E,2μm,17.7s
KMI LR LR
comp=Z,2μm,22.6s
NWAO **Narrogin (SRO)** **31.77 184** P **P** **00 10 04.0 -0.4**
comp=Z,20nm,0.6s,baz=16,slow=6.6,SNR=19
NWAO LR LR 00 23 57.2
comp=Z,2μm,18.3s,baz=358,slow=38
NWAO **Narrogin (SRO)** **31.77 184** *e*P **P** **00 10 03.6 -0.8**
comp=Z,123nm,1.3s
WHN **Wuhan** **31.89 351** P **P** **00 10 08.1 +2.6**
WHN S **S** **00 15 19.1 +3.6**
WHN pmax pmax
comp=Z,190nm,1.1s
WHN pmax pmax
comp=Z,2μm,9.6s
WHN LR LR
comp=Z,5μm,20.8s
CTA **Charters Tower** **31.97 128** P **P** **00 10 05.8 -0.7**
comp=Z,33nm,1.0s,baz=304,slow=11,SNR=18
CTA **Charters Tower** **31.97 128** P **P** **00 10 05.8 -0.7**
CTAO **Charters Tower** **31.97 128** *e*P **P** **00 10 05.7 -0.7**
CTAO **Charters Tower** **31.97 128** *e*P **P** **00 10 05.7 -0.7**
CTAO LR LR
comp=Z,2μm,19.0s
SSE **Sheshan** **32.03 2** P **P** **00 10 08.8 +2.1**
SSE S **S** **00 15 18.1 +0.5**
SSE sS sS 00 15 39.3 +11
SSE pmax pmax
comp=Z,110nm,1.2s
SSE pmax pmax
comp=Z,690nm,9.2s
SSE LR LR
comp=N,2μm,26.9s
SSE LR LR
comp=E,950nm,26.9s
SSE LR LR
comp=Z,2μm,20.0s
ENH **Enshi** **32.72 343** *e*P **P** **00 10 13.6 +0.7**
comp=Z,137nm,1.1s
ENH *e*PcP **PcP** **00 12 58.8 +0.4**
ENH *e*S **S** **00 15 29.6 +1.1**
ENH LR LR
comp=Z,3μm,22.0s
NJ2 **Nanjing** **32.97 358** *e*P **P** **00 10 17.9 +2.9**
NJ2 pP **pP** **00 10 22.5 +1.3**
NJ2 S **S** **00 15 33.5 +1.2**
NJ2 sS sS 00 15 48.5 +6.0
NJ2 pmax pmax
comp=Z,310nm,1.5s
NJ2 pmax pmax
comp=Z,970nm,4.6s
NJ2 LR LR
comp=N,3μm,22.8s
NJ2 LR LR
comp=E,2μm,22.0s
NJ2 LR LR
comp=Z,2μm,14.2s
RKGY **Rocky Gully** **33.46 184** P P 00 10 25.3 +6.0
baz=34,SNR=4.6
QLP **Quilpie** **34.51 139** P **P** **00 10 28.4 -0.1**
baz=34,SNR=38
BBOO **Buckleboo** **35.04 156** *e*P **P** **00 10 32.0 -1.0**
comp=Z,2μm,0.9s
BBOO **Buckleboo** **35.04 156** P **P** **00 10 31.7 -1.3**
baz=35,SNR=41
CBIJ **Chichi jima** **35.30 36** P **P** **00 10 34.9 -0.4**
comp=Z,386nm,0.7s,baz=208,slow=3.5,SNR=13
CBIJ LR LR 00 22 42.5
comp=Z,2μm,21.9s,baz=215,slow=32
CBIJ **Chichi jima** **35.30 36** P **P** **00 10 34.9 -0.4**
CD2 **Chengdu** **35.32 336** P **P** **00 10 36.0 +0.5**
CD2 PP **PP** **00 11 57.0 +1.1**
CD2 S **S** **00 16 07.0 -1.8**
CD2 sS sS 00 16 30.0 +11
CD2 pmax pmax
comp=Z,220nm,1.0s
CD2 pmax pmax
comp=Z,940nm,5.0s
CD2 LR LR
comp=N,2μm,14.3s
CD2 LR LR
comp=Z,3μm,22.6s
JNU **Nakatsue** **35.57 16** P **P** **00 10 36.9 -0.7**
comp=Z,31nm,0.8s,baz=189,slow=7.1,SNR=10
JNU LR LR 00 25 32.0
comp=Z,2μm,18.2s,baz=191,slow=37
JNU **Nakatsue** **35.57 16** *e*P **P** **00 10 36.9 -0.7**
comp=Z,24nm,1.0s
IMP **Imphal** **35.97 317** *e*P **P** **00 10 39.0 -2.1**
IMP *ex* x 00 13 05.0
XAN **Xi'an** **36.43 345** P **P** **00 10 45.8 +0.9**
XAN pP **pP** **00 10 51.7 +0.5**
XAN pmax pmax
comp=Z,12nm,1.5s
XAN pmax pmax
comp=Z,170nm,7.0s
XAN LR LR
comp=N,2μm,20.1s
XAN LR LR
comp=Z,770nm,18.2s
STKA **Stephens Creek** **36.86 148** P **P** **00 10 47.6 -0.9**
comp=Z,198nm,0.9s,baz=318,slow=8.3,SNR=100
STKA LR LR 00 28 03.5
comp=Z,4μm,19.1s,baz=312,slow=40
STKA **Stephens Creek** **36.86 148** *e*P **P** **00 10 47.9 -0.7**
STKA **Stephens Creek** **36.86 148** P **P** **00 10 47.9 -0.7**
baz=37,SNR=75
STKA S **S** **00 16 34.7 +2.5**
baz=37,SNR=5.9
TIA **Tai'an** **37.20 356** P **P** **00 10 52.6 +1.2**
TIA S **S** **00 16 35.6 -1.6**
TIA pmax pmax
comp=Z,940nm,7.1s
TIA LR LR
comp=N,2μm,19.6s
TIA LR LR
comp=E,2μm,17.8s
TIA LR LR
comp=Z,2μm,19.6s
RMQ **Roma** **37.53 135** P **P** **00 10 54.2 -0.3**
baz=38,SNR=18
SHL **Shillong** **37.88 316** ⇑*i*P P 00 11 01.0 +3.4
SHL *e*S S 00 16 56.0 +7.7
EIDS **Eidsvold** **38.59 131** *e*P **P** **00 11 03.2 -0.1**
comp=Z,26nm,1.3s
CAL **Calcutta** **38.69 309** *e*P **P** **00 11 04.2 0.0**
CAL *ex* x 00 17 12.5
JHJ **Hachijo jima 2** **38.86 27** LR LR 00 24 49.8
comp=Z,2μm,18.6s,baz=243,slow=33
INCN **Inchon** **38.88 9** *e*P **P** **00 11 05.3 -0.3**
comp=Z,137nm,1.3s
INCN LR LR
comp=Z,1μm,22.0s
CMSA **Cobar Meteorol** **38.89 144** P **P** **00 11 05.8 0.0**
baz=39,SNR=75
CMSA S **S** **00 17 05.9 +2.8**
baz=39,SNR=8.0
KSAR **Wonju Array Be** **39.05 10** P **P** **00 11 07.0 +0.1**
KSAR PcP **PcP** **00 13 17.4 +0.6**
KSRS **Korea Array** **39.06 10** P **P** **00 11 07.0 0.0**
comp=Z,60nm,0.9s,baz=183,slow=11,SNR=74
KSRS PcP **PcP** **00 13 17.4 +0.5**
comp=Z,5.4nm,1.0s,baz=178,slow=3.7,SNR=3.3
KSRS LR LR 00 27 23.7
comp=Z,2μm,19.8s,baz=184,slow=36
TIY **Taiyuan** **39.22 351** *e*P **P** **00 11 08.2 -0.3**
TIY S **S** **00 17 09.0 +1.1**
TIY pmax pmax
comp=Z,750nm,9.7s
TIY LR LR
comp=N,950nm,11.3s
TIY LR LR
comp=E,750nm,14.8s
TIY LR LR
comp=Z,1μm,15.4s
BWNR **Bhubaneshwar** **39.56 304** *ex* P 00 11 06.0 -5.5
DL2 **Dalian** **39.83 2** ⇑*i*P **P** **00 11 16.0 +2.6**
DL2 PP **PnPn** **00 12 49.6 +1.1**
DL2 S **S** **00 17 15.8 -1.1**
DL2 pmax pmax
comp=Z,50nm,1.0s
DL2 pmax pmax
comp=Z,340nm,7.4s
DL2 LR LR
comp=N,520nm,19.1s
DL2 LR LR
comp=E,570nm,14.3s
DL2 LR LR
comp=Z,750nm,20.4s
LZH **Lanzhou** **39.89 340** *e*P **P** **00 11 15.7 +1.5**
LZH pP **pP** **00 11 20.0 -0.5**
LZH sP **sP** **00 11 22.5 -0.5**
LZH PP **PnPn** **00 12 56.5 +7.1**
LZH PcP **PcP** **00 13 17.4 -2.4**
LZH *e*S **S** **00 17 19.1 +0.9**
LZH pmax pmax
comp=Z,53nm,1.2s
LZH pmax pmax
comp=Z,330nm,4.6s
LZH LR LR
comp=N,2μm,16.9s
LZH LR LR
comp=E,770nm,13.4s
LZH LR LR
comp=Z,3μm,17.7s
HNR **Honiara** **40.71 103** *e*P **P** **00 11 21.9 +0.7**
comp=Z,318nm,0.9s
HNR LR LR
comp=Z,2μm,19.0s
ARPS **Mount Arapiles** **40.91 153** P **P** **00 11 22.1 -0.3**
baz=41,SNR=30
BJT **Baijiatuau** **41.05 356** *e*P **P** **00 11 24.2 +0.7**
comp=Z,267nm,0.9s
BJT LR LR
comp=Z,1μm,21.0s
BJI **Beijing** **41.07 356** P **P** **00 11 24.8 +1.1**
BJI PP **PP** **00 13 00.4 +1.7**
BJI SS SS 00 20 43.6 +5.4
BJI pmax pmax
comp=Z,190nm,1.1s
BJI pmax pmax
comp=Z,1μm,6.5s
BJI LR LR
comp=N,1μm,16.3s
BJI LR LR
comp=E,2μm,17.0s
BJI LR LR
comp=Z,670nm,19.0s
LSA **Lhasa** **41.10 320** P **P** **00 11 26.7 +2.0**
LSA pP **pP** **00 11 28.5 -2.5**
LSA sP **sP** **00 11 33.8 +0.3**
LSA PP **PP** **00 13 00.1 +0.4**
LSA S **S** **00 17 42.1 +5.0**
LSA sS sS 00 17 59.7 +12
LSA pmax pmax
comp=Z,40nm,1.2s
LSA LR LR
comp=N,580nm,22.3s
LSA LR LR
comp=E,1μm,23.7s
LSA LR LR
comp=Z,2μm,22.3s
LSA **Lhasa** **41.10 320** *e*P **P** **00 11 26.5 +1.8**
LSA pmax pmax
comp=Z,76nm,0.8s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA **Lhasa** **41.10 320** *e*P **P** **00 11 26.5 +1.8**
comp=Z,76nm,0.8s
LSA LR LR
comp=Z,2μm,22.0s
MAJO **Matsushiro** **41.13 23** *e*P **P** **00 11 22.2 -2.2**
MAJO pmax pmax
comp=Z,166nm,1.1s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO **Matsushiro** **41.13 23** *e*P **P** **00 11 22.2 -2.2**
comp=Z,166nm,1.1s
MAJO LR LR
comp=Z,2μm,20.0s
MAT **Matsushiro** **41.13 23** P **P** **00 11 21.8 -2.5**
MAT S **S** **00 17 37.0 +0.5**
MJAR **Matsushiro Arr** **41.13 23** P **P** **00 11 22.8 -1.6**
comp=Z,99nm,1.0s,baz=201,slow=9.3,SNR=75
MJAR PcP **PcP** **00 13 23.4 -0.2**
comp=Z,10nm,0.9s,baz=209,slow=3.7,SNR=5.1
MJAR LR LR 00 27 57.1
comp=Z,1μm,20.5s,baz=220,slow=36
MJAR **Matsushiro Arr** **41.13 23** P **P** **00 11 22.8 -1.6**
MJAR PcP **PcP** **00 13 23.4 -0.2**
MDRS **Chennai** **41.74 291** *e*P **P** **00 11 29.2 -0.5**
MDRS AMb AMB 00 11 29.9
comp=Z,54nm,0.2s
ODAN **Odare** **41.85 314** *e*P **P** **00 11 31.3 +0.7**
comp=Z,867nm,1.3s
ODAN **Odare** **41.85 314** *e*P **P** **00 11 31.3 +0.7**
comp=Z,867nm,1.3s
TAPN **Taplejung** **41.91 315** *e*P **P** **00 11 31.8 +0.6**
comp=Z,515nm,0.9s
TAPN **Taplejung** **41.91 315** *e*P **P** **00 11 31.8 +0.6**
comp=Z,515nm,0.9s
ARMA **Armidale** **41.94 137** *e*P **P** **00 11 33.3 +2.1**
comp=Z,286nm,1.4s
ARMA **Armidale** **41.94 137** P **P** **00 11 33.2 +2.1**
baz=42,SNR=13
HHC **Hu-ho-hao-te** **42.42 351** ⇑P **P** **00 11 36.1 +1.2**
HHC sP **sP** **00 11 42.3 -1.4**
HHC PP **PP** **00 13 18.2 +4.8**
HHC PcP **PcP** **00 13 28.8 +0.9**
HHC ScP **ScP** **00 17 17.4 -0.3**
HHC PcS **PcS** **00 17 19.8 -0.1**
HHC S **S** **00 17 59.0 +3.4**
HHC ScS **ScS** **00 21 35.1 -0.8**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,1μm,6.1s
HHC LR LR
comp=N,1μm,15.3s
HHC LR LR
comp=E,970nm,15.2s
HHC LR LR
comp=Z,2μm,15.9s
YNG **Young** **42.45 144** P **P** **00 11 35.8 +0.6**
baz=42,SNR=80
BTO **Baotou** **42.46 349** *e*P **P** **00 11 35.8 +0.6**
BTO pmax pmax
comp=Z,21nm,1.1s
RAMN **Ramite** **42.47 313** *e*P **P** **00 11 36.5 +0.8**
comp=Z,1μm,1.2s
RAMN **Ramite** **42.47 313** *e*P **P** **00 11 36.5 +0.8**
comp=Z,1μm,1.2s
SNY **Shenyang** **42.85 4** ⇓P **P** **00 11 36.7 -1.5**
SNY PP **PP** **00 13 17.7 -0.2**
SNY pmax pmax
comp=Z,110nm,1.4s
SNY pmax pmax
comp=Z,880nm,4.7s
SNY LR LR
comp=N,1μm,16.3s
SNY LR LR
comp=E,870nm,17.1s
SNY LR LR
comp=Z,2μm,17.8s
JIRN **Jiri** **43.18 314** *e*P **P** **00 11 42.4 +0.8**
comp=Z,107nm,1.1s
JIRN **Jiri** **43.18 314** *e*P **P** **00 11 42.4 +0.8**
comp=Z,107nm,1.1s
TOO **Toolangi** **43.30 150** P **P** **00 11 42.5 +0.5**
baz=43,SNR=12
MGCD **Mangrove Creek** **43.37 141** P **P** **00 11 44.4 +1.8**
baz=43,SNR=11
CAN **Canberra** **43.52 145** *e*P **P** **00 11 44.2 +0.3**
CAN *e* 00 13 31.6
CAN pmax pmax
comp=Z,467nm,1.2s
CAN MLR MLR
comp=Z,2μm,22.0s
CAN **Canberra** **43.52 145** *e*P **P** **00 11 44.1 +0.3**
comp=Z,467nm,1.2s
CAN *e*PcP **PcP** **00 13 31.6 -0.1**
CAN LR LR
comp=Z,2μm,22.0s
GUN **Gumba** **43.55 314** *e*P **P** **00 11 45.3 +0.7**
comp=Z,580nm,1.0s
GUN **Gumba** **43.55 314** *e*P **P** **00 11 45.3 +0.7**
comp=Z,580nm,1.0s
PKI **Pulchoki** **43.69 313** *e*P **P** **00 11 46.0 +0.3**
comp=Z,502nm,1.3s
PKI **Pulchoki** **43.69 313** *e*P **P** **00 11 46.0 +0.3**
PKI pmax pmax
comp=Z,502nm,1.3s
PKI **Pulchoki** **43.69 313** *e*P **P** **00 11 46.0 +0.3**
comp=Z,502nm,1.3s
CNB **Canberra Magne** **43.73 144** P **P** **00 11 46.4 +0.8**
baz=44,SNR=9.9
KKN **Kakani** **43.91 314** *e*P **P** **00 11 47.7 +0.4**
comp=Z,519nm,1.4s
KKN **Kakani** **43.91 314** *e*P **P** **00 11 47.7 +0.4**
KKN pmax pmax
comp=Z,519nm,1.4s
KKN **Kakani** **43.91 314** *e*P **P** **00 11 47.7 +0.4**
comp=Z,519nm,1.4s

DMN	Daman	43.93	313	eP	P	00 11 48.3	+0.7
	comp=Z,492nm,1.0s						
DMN	Daman	43.93	313	eP	P	00 11 48.3	+0.7
	comp=Z,492nm,1.0s						
GTA	Gaotai	44.30	338	⇑P	P	00 11 52.1	+1.9
GTA				pP	pP	00 11 56.2	-0.3
GTA				sP	sP	00 11 58.5	-0.5
GTA				PcP	PP	00 13 34.0	+0.3
GTA				S	S	00 18 26.9	+3.6
GTA				pmax	pmax		
	comp=Z,130nm,1.4s						
GTA				pmax	pmax		
	comp=Z,920nm,6.7s						
GTA				LR	LR		
	comp=N,820nm,18.5s						
GTA				LR	LR		
	comp=E,1µm,19.0s						
GTA				LR	LR		
	comp=Z,1µm,20.4s						
GKN	Gorkha	44.50	313	eP	P	00 11 52.4	+0.4
	comp=Z,371nm,0.9s						
GKN	Gorkha	44.50	313	eP	P	00 11 52.4	+0.4
	comp=Z,371nm,0.9s						
HYB	Hyderabad	44.66	296	i P	P	00 11 52.0	-1.3
	comp=Z,190nm,1.0s						
HYB				eS	S	00 18 30.0	+1.0
MILA	Mila	44.85	146	P	P	00 11 56.6	+2.1
	baz=45,SNR=5.7						
CN2	Changchun	44.97	6	eP	P	00 11 55.1	-0.1
CN2				esP	sP	00 12 01.5	-2.6
CN2				PP	PP	00 13 41.8	+1.3
CN2				eS	S	00 18 33.5	+1.0
CN2				SS	SS	00 21 56.4	+1.7
CN2				pmax	pmax		
	comp=Z,30nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,1µm,19.0s						
CN2				LR	LR		
	comp=E,600nm,19.0s						
CN2				LR	LR		
	comp=Z,1µm,19.0s						
KOLN	Koldanda	45.13	312	eP	P	00 11 57.7	+0.6
	comp=Z,286nm,1.1s						
KOLN	Koldanda	45.13	312	eP	P	00 11 57.7	+0.6
	comp=Z,286nm,1.1s						
DANN	Dangsing	45.33	313	eP	P	00 11 59.2	+0.4
	comp=Z,370nm,0.7s						
DANN	Dangsing	45.33	313	eP	P	00 11 59.2	+0.4
	comp=Z,370nm,0.7s						
NGP	Nagpur	45.62	301	eP	P	00 11 59.5	-1.3
NGP				⇓eS	S	00 18 45.0	+2.3
PYUN	Piuthan	45.76	312	eP	P	00 12 02.4	+0.3
	comp=Z,791nm,0.9s						
PYUN	Piuthan	45.76	312	eP	P	00 12 02.4	+0.3
	comp=Z,791nm,0.9s						
MDJ	Mudanjiang	46.32	10	P	P	00 12 06.1	+0.2
MDJ				pP	pP	00 12 09.0	-3.3
MDJ				sP	sP	00 12 10.2	-4.6
MDJ				PP	PP	00 13 50.4	-4.5
MDJ				SS	SS	00 22 13.7	-4.2
MDJ				pmax	pmax		
	comp=Z,380nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,440nm,8.2s						
MDJ				LR	LR		
	comp=N,730nm,21.0s						
MDJ				LR	LR		
	comp=E,1µm,24.2s						
MDJ				LR	LR		
	comp=Z,2µm,27.4s						
MDJ	Mudanjiang	46.32	10	eP	P	00 12 05.8	-0.1
	comp=Z,553nm,1.2s						
MDJ				ePcP	PcP	00 13 40.3	-0.7
MDJ				LR	LR		
	comp=Z,2µm,21.0s						
USRK	Ussuriysk Arra	46.37	12	P	P	00 12 06.2	0.0
	comp=Z,85nm,0.8s,baz=194,slow=5.2,SNR=85						
USRK				LR	LR	00 29 36.3	
	comp=Z,1µm,21.6s,baz=184,slow=34						
LATR	Latur	46.79	297	eP	P	00 12 10.4	+0.4
DGAR	Diego Garcia	47.68	261	eP	P	00 12 16.2	-0.9
DGAR	Diego Garcia	47.68	261	PFAKE		00 12 30.0	+13
DGAR				LR	LR		
	comp=Z,2µm,20.0s						
ERM	Erimo	47.79	23	eP	P	00 12 17.4	0.0
ERM				MLR	MLR		
	comp=Z,1µm,20.0s						
ERM	Erimo	47.79	23	eP	P	00 12 17.4	0.0
ERM				LR	LR		
	comp=Z,1µm,20.0s						
MOO	Moorlands	47.91	153	P	P	00 12 20.1	+1.7
	baz=48,SNR=6.2						
TAU	Tasmania Unive	48.34	153	eP	P	00 12 22.9	+1.2
TAU				e		00 14 14.8	
TAU				pmax	pmax		
	comp=Z,192nm,1.1s						
TAU				MLR	MLR		
	comp=Z,3µm,20.0s						
TAU	Tasmania Unive	48.34	153	eP	P	00 12 22.9	+1.2
	comp=Z,192nm,1.1s						
TAU				ePP	PP	00 14 14.8	+0.4
TAU				LR	LR		
	comp=Z,3µm,20.0s						
KAD	Karad	48.58	294	i P	P	00 12 23.8	-0.2
POO	Poona	49.26	296	eP	P	00 12 28.6	-0.6
POO				AMb	AMB	00 12 37.1	
	comp=Z,164nm,0.5s						
ASAJ	Asahikawa	49.37	22	P	P	00 12 28.5	-1.0
	comp=Z,87nm,0.8s,baz=216,slow=7.4,SNR=37						
ASAJ				LR	LR	00 33 40.3	
	comp=Z,1µm,19.2s,baz=45,slow=36						
ASAJ	Asahikawa	49.37	22	eP	P	00 12 28.7	-0.9
NOUC	Port Laguerre	49.75	118	eP	P	00 12 32.7	-0.2
DZM	Mont Dzumac	49.86	118	eP	P	00 12 35.5	+1.7
	comp=Z,509nm,1.4s						
DZM				eLR	LR	00 27 05.7	
	comp=Z,1µm,25.6s						
DZM	Mont Dzumac	49.86	118	eP	P	00 12 34.5	+0.7
	comp=Z,341nm,1.4s						
ULN	Ulaanbaatar	50.02	349	PFAKE		00 12 40.0	+5.3
ULN				LR	LR		
	comp=Z,1µm,21.0s						
SONM	Songino Array	50.12	348	P	P	00 12 35.4	0.0
	comp=Z,36nm,0.8s,baz=166,slow=8.0,SNR=132						
SONM				LR	LR	00 35 31.6	
	comp=Z,884nm,20.6s,baz=161,slow=38						
SONM	Songino Array	50.12	348	P	P	00 12 35.4	0.0
HIA	Hailar	50.16	360	eP	P	00 12 35.5	0.0
	comp=Z,115nm,1.4s						
HIA				LR	LR		
	comp=Z,2µm,19.0s						
NDI	New Delhi	50.43	309	eP	P	00 12 36.5	-1.4
YUK	Yuzh-Kuril'sk	50.56	24	d iP	P	00 12 33.0	-5.6
YUK				i		00 13 58.0	
YUK				i PPP	PPP	00 15 26.1	
YUK				eS	S	00 19 46.8	-5.2
YUK				i SS	SS	00 23 25.9	-0.5
YUK				pmax	pmax		
	comp=Z,544nm,1.3s						
DDI	Dehra Dun	50.59	312	eP	P	00 12 38.0	-1.2
DDI				ex	x	00 14 38.0	
HABR	Khabarovsk	51.09	13	ceP	P	00 12 41.8	-0.7
HABR				e*PP	pP	00 12 53.3	+4.4
HABR				e*SP	sP	00 12 59.5	+8.1
HABR				e		00 13 54.2	
HABR				eS	S	00 19 56.9	-2.2
HABR				e*SS	sS	00 20 18.5	+8.8
HABR				e		00 22 25.6	
HABR				eSS	SS	00 23 30.9	-3.7
HABR				pmax	pmax		
	comp=N,39nm,1.2s						
HABR				pmax	pmax		
	comp=Z,269nm,1.5s						
HABR				pmax	pmax		
	comp=Z,213nm,1.5s						
HABR				pmax	pmax		
	comp=E,99nm,1.5s						
HABR				MLR	MLR		
	comp=Z,842nm,17.0s						
KLR	Kul'dur	51.16	10	eP	P	00 12 38.7	-4.3
KLR				eS	S	00 19 56.5	-3.5
KLR				pmax	pmax		
	comp=N,70nm,1.8s						
KLR				pmax	pmax		
	comp=E,46nm,1.8s						
KLR				pmax	pmax		
	comp=Z,360nm,1.8s						
KLR				MLR	MLR		
	comp=Z,2µm,13.0s						
AJM	Ajmer	51.49	306	eP	P	00 12 45.9	0.0
AJM				AMb	AMB	00 12 50.0	
	comp=Z,203nm,0.9s						
SMLA	Simla	51.66	312	i P	P	00 12 47.8	+0.7
YSS	Yuzh-Sakhalins	51.88	20	⇑eP	P	00 12 48.0	-0.4
YSS				eS	S	00 20 10.0	0.0
YSS				eSS	SS	00 23 36.0	-11
YSS				eSSS	SSS	00 25 30.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.2s						
YSS				pmax	pmax		
	comp=Z,500nm,6.0s						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s						
YSS	Yuzh-Sakhalins	51.88	20	eP	P	00 12 46.9	-1.5
	comp=Z,106nm,1.1s						
YSS				ePP	PP	00 14 46.7	+0.2
YSS				LR	LR		
	comp=Z,446nm,22.0s						
SDNR	Sundarnagar	51.99	312	ex	P	00 12 55.5	+5.8
TARA	Tarawa	53.10	88	eP	P	00 12 59.8	+1.7
	comp=Z,404nm,1.4s						
WMQ	Urumqi	53.16	331	P	P	00 12 59.7	+1.5
WMQ				ScP	ScP	00 17 56.8	-6.1
WMQ				PcS	PcS	00 18 03.7	-1.2
WMQ				S	S	00 20 27.6	-0.3
WMQ				pmax	pmax		
	comp=Z,67nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,880nm,5.3s						
WMQ				LR	LR		
	comp=N,2µm,22.0s						
WMQ				LR	LR		
	comp=E,850nm,27.0s						
WMQ				LR	LR		
	comp=Z,1µm,21.0s						
CIT	Chita	53.18	355	eP	P	00 12 59.1	+1.0
CIT				e		00 13 07.8	
CIT				e		00 14 13.1	
CIT				pmax	pmax		
	comp=Z,153nm,1.9s						
ZAK	Zakamensk	53.20	347	⇓iP	P	00 12 58.6	+0.2
ZAK				e		00 20 32.5	
DLH	Dalhousie	53.25	313	ex	P	00 13 03.0	+3.8
THN	Thein Dam	53.38	313	eP	P	00 13 00.0	+0.2
TLY	Talaya	54.34	348	eP	P	00 13 05.9	-0.7
TLY				eS	S	00 20 32.1	-11
TLY				e		00 22 45.6	
TLY				eSSS	SSS	00 26 24.0	
TLY				pmax	pmax		
	comp=Z,90nm,1.2s						
TLY				MLR	MLR		
	comp=Z,615nm,20.0s						
TLY	Talaya	54.34	348	eP	P	00 13 07.0	+0.4
	comp=Z,137nm,1.3s						
TLY				LR	LR		
	comp=Z,779nm,22.0s						
TLY	Talaya	54.34	348	P	P	00 13 08.2	+1.6
	SNR=36						
TLY	Talaya	54.34	348	P	P	00 13 07.6	+1.0
	comp=Z,415nm,1.2s,SNR=12						
IRK	Irkutsk	54.74	348	eP	P	00 13 10.2	+0.7
IRK				pmax	pmax		
	comp=Z,90nm,2.3s						
MOY	Mondy	54.94	346	eP	P	00 13 11.8	+0.8
MOY				pmax	pmax		
	comp=Z,125nm,2.0s						
NIL	Nilore	55.78	313	PFAKE		00 13 30.0	+13
NIL				LR	LR		
	comp=Z,29nm,20.0s						
KSH	Kashi	56.95	320	⇓iP	P	00 13 26.1	+0.4
KSH				PcP	PcP	00 14 21.8	+0.9
KSH				PP	PP	00 15 37.5	+5.0
KSH				ScP	ScP	00 18 16.5	-3.2
KSH				PcS	PcS	00 18 22.8	+0.9
KSH				S	S	00 21 14.6	-4.5
KSH				ScS	ScS	00 23 08.3	-6.1
KSH				pmax	pmax		
	comp=Z,76nm,1.1s						
KSH				pmax	pmax		
	comp=Z,520nm,5.6s						
KSH				LR	LR		
	comp=N,1µm,17.4s						
KSH				LR	LR		
	comp=E,480nm,12.7s						
KSH				LR	LR		
	comp=Z,2µm,26.8s						
CLNS	Chul'man	57.88	3	eP	P	00 13 32.0	+0.2
CLNS				e*PP	pP	00 13 39.6	+1.3
CLNS				e		00 14 23.2	
CLNS				e		00 15 38.1	
CLNS				ePPP	PPP	00 17 00.3	
CLNS				eS	S	00 21 33.4	+3.0
CLNS				pmax	pmax		
	comp=Z,99nm,1.3s						
CLNS				pmax	pmax		
	comp=E,24nm,1.1s						
CLNS				pmax	pmax		
	comp=N,71nm,1.3s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				smax	smax		
	comp=E,17nm,1.4s						
CLNS				smax	smax		
	comp=N,20nm,1.4s						
CLNS				MLR	MLR		
	comp=E,529nm,20.0s						
CLNS				MLR	MLR		
	comp=N,414nm,18.0s						
CLNS				MLR	MLR		
	comp=Z,537nm,17.0s						
MK31	Makanchi Array	57.95	330	ceP	P	00 13 32.4	-0.1
MK31				pmax	pmax		
	comp=Z,117nm,0.9s						
MK31	Makanchi Array	57.95	330	eP	P	00 13 32.9	+0.5
MKAR	Makanchi Array	57.95	330	P	P	00 13 32.5	+0.1
	comp=Z,36nm,0.9s,baz=131,slow=6.7,SNR=152						
MKAR				LR	LR	00 40 06.7	
	comp=Z,1µm,21.5s,baz=120,slow=38						
MKAR				PKP2bc		00 43 26.6	
	comp=Z,0.9nm,0.9s,baz=280,slow=3.6,SNR=5.7						
MKAR	Makanchi Array	57.95	330	P	P	00 13 32.5	+0.1
MKAR				pmax	pmax		
	comp=Z,36nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,1µm,21.5s						
MKAR	Makanchi Array	57.95	330	P	P	00 13 32.5	+0.1
MKAR				⇑e		00 43 26.6	
ULHL	Ulahol	58.35	323	P	P	00 13 36.4	+0.8
	SNR=7.5						
KZA	Kyzart	58.86	322	P	P	00 13 40.8	+1.4
	SNR=49						
BOD	Bodaibo	58.91	356	eP	P	00 13 39.2	+0.3
BOD				pmax	pmax		
	comp=Z,119nm,1.3s						
TKM2	Tokmak 2	59.13	323	i P	P	00 13 41.8	+0.8
TKM2	Tokmak 2	59.13	323	eP	P	00 13 41.8	+0.8
	comp=Z,76nm,1.0s						
TKM2				LR	LR		
	comp=Z,847nm,22.0s						
TKM2	Tokmak 2	59.13	323	P	P	00 13 41.8	+0.8
	SNR=62						
KBL	Kabul	59.29	312	eP	P	00 13 42.2	-0.1
KBL	Kabul	59.29	312	eP	P	00 13 42.2	-0.1
KBL	Kabul	59.29	312	P	P	00 13 42.4	+0.1
	baz=59,SNR=49						
KBK	Karagaybulak	59.37	323	P	P	00 13 43.9	+1.3
	SNR=51						
UCH	Uchtor	59.39	322	P	P	00 13 44.6	+1.4
	SNR=5.0						
MSVF	Nonsavu	59.45	110	eP	P	00 13 45.3	+1.8
MSVF				pmax	pmax		
	comp=Z,179nm,1.0s						
MSVF				MLR	MLR		
	comp=Z,778nm,19.0s						
MSVF	Nonsavu	59.45	110	eP	P	00 13 45.3	+1.8
	comp=Z,179nm,1.0s						
MSVF				LR	LR		
	comp=Z,778nm,19.0s						
AAK	Ala-Archa	59.63	322	i P	P	00 13 45.5	+1.1
AAK	Ala-Archa	59.63	322	eP	P	00 13 45.5	+1.1
	comp=Z,68nm,0.8s						
AAK				LR	LR		
	comp=Z,1µm,21.0s						
AAK	Ala-Archa	59.63	322	P	P	00 13 45.6	+1.1
	SNR=44						
FRU	Bishkek	59.67	323	i P	P	00 13 46.0	+1.4
FRU				e		00 22 08.0	
FRU				pmax	pmax		
	comp=Z,180nm,2.2s						
CHMS	Chumysh	59.69	323	P	P	00 13 45.1	+0.5
	SNR=16						
AML	Almayashu	59.84	322	P	P	00 13 47.3	+1.1
	SNR=67						
USP	Ospenovka	59.99	323	P	P	00 13 47.1	+0.4
	SNR=48						
EKS2	Erkin-Say	60.09	322	eP	P	00 13 48.7	+1.2
EKS2				MLR	MLR		
	comp=Z,1µm,21.0s						
EKS2	Erkin-Say	60.09	322	eP	P	00 13 48.7	+1.2
EKS2				LR	LR		
	comp=Z,1µm,21.0s						
EKS2	Erkin-Say	60.09	322	P	P	00 13 48.8	+1.2
	SNR=47						
OUZ	Omahuta	60.32	131	eP	P	00 13 51.3	+2.3
	comp=Z,67nm,1.3s						
ZAA0	Zalesovo Array	62.06	337	eP	P	00 14 00.0	-0.4
ZALV	Zalesovo Beam	62.06	337	P	P	00 14 00.1	-0.4
	comp=Z,80nm,0.8s,baz=131,slow=4.5,SNR=151						
ZALV				LR	LR	00 43 11.0	
	comp=Z,597nm,20.9s,baz=142,slow=38						
ZALV				PKP2bc		00 43 16.4	
	comp=Z,1.0nm,0.8s,baz=302,slow=1.4,SNR=6.6						
ZALV	Zalesovo Beam	62.06	337	P	P	00 14 00.1	-0.4
ZALV				pmax	pmax		
	comp=Z,80nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,597nm,20.9s						
ZALV	Zalesovo Beam	62.06	337	P	P	00 14 00.1	-0.4
ZALV				⇑e		00 43 16.4	
RPZ	Rata Peaks	62.13	140	eP	P	00 14 01.4	+0.1
	comp=Z,550nm,1.1s						
KK31	Karatay Array	62.35	321	ceP	P	00 14 02.4	-0.3
KK31				pmax	pmax		
	comp=Z,41nm,0.8s						
KKAR	Karatay Array	62.35	321	eP	P	00 14 02.4	-0.3
KKAR	Karatay Array	62.35	321	eP	P	00 14 02.4	-0.3
KURBB	Kurchatov Arra	62.38	332	P	P	00 14 02.8	+0.1
	comp=Z,39nm,0.8s,baz=138,slow=6.3,SNR=121						
KURK	Kurchatov	62.40	332	d iP	P	00 14 02.6	-0.2
KURK				pmax	pmax		
	comp=Z,188nm,1.2s						
KURK	Kurchatov	62.40	332	P	P	00 14 02.8	0.0
	comp=Z,160nm,0.9s						
KURK				LR	LR		
	comp=Z,742nm,21.0s						
KURK	Kurchatov	62.40	332	P	P	00 14 03.6	+0.8
	SNR=100						
PEA0B	Petropavlovsk-	62.54	25	eP	P	00 14 04.7	+1.0
PETK	Petropavlovsk-	62.54	25	P	P	00 14 03.2	-0.6
	comp=Z,26nm,1.0s,baz=198,slow=4.7,SNR=11						
PETK				LR	LR	00 41 45.9	
	comp=Z,515nm,20.1s,baz=216,slow=37						
PETK	Petropavlovsk-	62.54	25	P	P	00 14 03.2	-0.6
PETK				pmax	pmax		
	comp=Z,26nm,1.0s						
PETK				MLR	MLR		
	comp=Z,515nm,20.1s						
PETK	Petropavlovsk-	62.54	25	P	P	00 14 03.2	-0.6
PET	Petropavlovsk	62.88	25	eP	P	00 14 06.0	0.0
PET				eS	S	00 22 33.2	-1.3
PET				pmax	pmax		
	comp=Z,61nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,8.5s						
PET				pmax	pmax		
	comp=Z,600nm,4.0s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
PET	Petropavlovsk	62.88	25	eP	P	00 14 06.3	+0.3
	comp=Z,76nm,1.2s						
PET				LR	LR		
	comp=Z,702nm,19.0s						
KHZ	Kahutara	63.17	138	eP	P	00 14 08.2	+0.1
	comp=Z,162nm,1.1s						
NVS	Novosibirsk	63.34	337	⇓iP	P	00 14 08.7	-0.3
NVS				i		00 14 48.0	
NVS				i S	S	00 22 39.7	-0.5
NVS				e		00 23 54.3	
NVS				pmax	pmax		
	comp=N,70nm,1.5s						
NVS				pmax	pmax		
	comp=E,88nm,1.5s						
NVS				pmax	pmax		
	comp=Z,159nm,1.5s						
NVS				smax	smax		
	comp=N,9.0nm,1.6s						
NVS				smax	smax		
	comp=E,16nm,1.4s						
YAK	Yakutsk	63.39	5	c iP	P	00 14 08.5	-0.7
YAK				e*PP	pP	00 14 17.7	+1.9
YAK				e		00 14 45.4	
YAK				e		00 16 27.7	
YAK				ePPP	PPP	00 17 56.2	
YAK				eS	S	00 22 38.8	-1.8
YAK				e*SS	sS	00 22 53.7	+2.3
YAK				e		00 24 02.0	
YAK				pmax	pmax		
	comp=Z,225nm,1.2s						
YAK				pmax	pmax		
	comp=N,94nm,1.0s						
YAK				pmax	pmax		
	comp=E,38nm,1.3s						
YAK				pmax	pmax		
	comp=Z,35nm,1.4s						
YAK				pmax	pmax		
	comp=E,13nm,1.4s						
YAK				pmax	pmax		
	comp=N,24nm,1.5s						
YAK				smax	smax		
	comp=E,160nm,2.5s						
YAK				smax	smax		
	comp=N,136nm,2.5s						
YAK				MLR	MLR		
	comp=N,846nm,20.0s						
YAK				MLR	MLR		
	comp=Z,1µm,22.0s						
YAK				MLR	MLR		
	comp=E,579nm,24.0s						
YAK	Yakutsk	63.39	5	eP	P	00 14 08.7	-0.5
	comp=E,288nm,1.2s						
YAK				LR	LR		
	comp=Z,957nm,20.0s						
SNZO	South Karori	63.50	137	eP	P	00 14 10.1	-0.2
	comp=Z,300nm,1.1s						
SNZO				LR	LR		
	comp=Z,2µm,21.0s						
WBK	Wadi Bani Khal	63.77	296	P	P	00 14 13.0	+0.4
	SNR=6.5						
URZ	Urewera	64.05	133	eP	P	00 14 13.5	-0.6
	comp=Z,97nm,1.0s						
PAF	Port-aux-Franc	64.06	214	PFAKE		00 14 20.0	+6.1
PAF				LR	LR		
	comp=Z,2µm,20.0s						
WSAR	Wadi Sarin	64.21	296	P	P	00 14 15.4	-0.1
	comp=Z,44nm,1.1s,baz=118,slow=6.9,SNR=12						
WSAR	Wadi Sarin	64.21	296	P	P	00 14 15.4	-0.1
MSEY	Mahe Island	64.40	265	PFAKE		00 14 30.0	+13
MSEY				LR	LR		
	comp=Z,1µm,21.0s						
JMDO	Jabal Madar	64.50	295	P	P	00 14 17.0	-0.3
	SNR=18						
RAO	Raoul Island	65.38	122	PFAKE		00 14 30.0	+7.1
RAO				LR	LR		
	comp=Z,1µm,21.0s						
BSY	Bisya	65.39	296	P	P	00 14 23.0	-0.2
	SNR=15						
CASY	Casey	65.40	184	PFAKE		00 14 30.0	+7.7
CASY				LR	LR		
	comp=Z,1µm,19.0s						

HOQ Hoqain 65.47 296 P **P** **00 14 24.0 +0.4**
SNR=14

ARQ Araqi 66.13 296 P **P** **00 14 27.7 -0.2**
SNR=12

HATD Hatta, Dubai 66.80 298 P **P** **00 14 32.8 +0.7**
SNR=6.5

ASHO Ashiyiah 66.83 297 P **P** **00 14 33.1 +0.7**
SNR=11

RBK Rabkut 67.21 289 P P 00 14 38.5 +3.6
SNR=7.6

ASUD Al Ashush, Dub 67.47 297 P **P** **00 14 36.5 +0.1**
SNR=12

BVA0 Borovoye Array 67.83 330 *i* P **P** **00 14 37.5 -0.6**
BVA0 pmax pmax
comp=Z,47nm,1.8s

BVAR Borovoye Array 67.83 330 P **P** **00 14 37.9 -0.3**
comp=Z,24nm,0.8s,baz=124,slow=7.9,SNR=54

BVAR Borovoye Array 67.83 330 P **P** **00 14 37.9 -0.3**
BVAR pmax pmax
comp=Z,24nm,0.9s

BVAR Borovoye Array 67.83 330 P **P** **00 14 37.9 -0.3**

BRVK Borovoye 67.90 330 *eP* **P** **00 14 37.7 -0.9**
BRVK pmax pmax
comp=Z,202nm,1.4s

BRVK MLR MLR
comp=Z,1μm,21.0s

BRVK Borovoye 67.90 330 *eP* **P** **00 14 37.7 -0.9**
comp=Z,202nm,1.4s

BRVK LR LR
comp=Z,1μm,21.0s

BRVK Borovoye 67.90 330 P **P** **00 14 38.4 -0.1**
SNR=71

ABTO Aybut 68.04 289 P **P** **00 14 39.3 -0.9**
SNR=20

SEY Seymchan 68.35 15 *eP* **P** **00 14 41.0 -0.1**

AFI Afiamalu 68.73 104 *eP* **P** **00 14 46.5 +2.0**
comp=Z,391nm,1.0s

ABKT Ailbek 68.74 312 P **P** **00 14 44.8 +0.6**
comp=Z,606nm,1.0s,SNR=33

FX1 Attu Island--F 69.68 31 P **P** **00 14 48.8 -0.8**
comp=Z,84nm,1.1s,baz=315,slow=2.9,SNR=5.9

FX1 Attu Island--F 69.68 31 *eP* **P** **00 14 50.4 +0.8**

NIUE Niue 70.94 110 P P 00 15 01.7 +3.6
baz=71,SNR=6.5

AB31 Akbulak array 71.70 323 *ceP* **P** **00 15 01.6 -0.4**
AB31 pmax pmax
comp=Z,99nm,1.1s

ABKAR Akbulak array 71.70 323 *eP* **P** **00 15 01.5 -0.5**
comp=Z,92nm,1.1s

JOHN Johnston Islan 71.76 72 PFAKE 00 15 10.0 +7.0
JOHN LR LR
comp=Z,27nm,20.0s

ABPO Ambohimpanom 73.25 251 *eP* **P** **00 15 12.0 -0.1**
ABPO MLR MLR
comp=Z,732nm,19.0s

ABPO Ambohimpanom 73.25 251 *eP* **P** **00 15 12.0 -0.1**
ABPO LR LR
comp=Z,732nm,19.0s

AKTO Aktyubinsk 73.32 324 P **P** **00 15 11.5 -0.1**
comp=Z,41nm,1.0s,baz=104,slow=7.6,SNR=47

AKTO Aktyubinsk 73.32 324 P **P** **00 15 11.5 -0.1**
AKTO pmax pmax
comp=Z,41nm,1.0s

AKTO Aktyubinsk 73.32 324 P **P** **00 15 11.5 -0.1**

SVE Sverdlovsk 74.61 331 *i* P **P** **00 15 18.8 -0.2**
SVE *e* 00 18 05.3
SVE *eS* **S** **00 24 52.5 -1.1**
SVE pmax pmax
comp=Z,151nm,1.5s

RDF Al-Radifah 75.11 300 *eP* **P** **00 15 22.0 -0.5**
RDF AMb AMB 00 15 26.7
comp=Z,199nm,1.1s

NAY Al-Naaiem 75.43 300 *eP* **P** **00 15 23.2 -1.2**
NAY AMb AMB 00 15 27.9
comp=Z,57nm,0.9s

MIB Mutribah 75.44 301 *eP* **P** **00 15 23.1 -1.3**
MIB AMb AMB 00 15 28.6
comp=Z,185nm,0.9s

ARU Arti 75.47 330 *d i* P **P** **00 15 23.7 -0.3**
ARU 00 18 13.3
ARU S **S** **00 25 01.5 -1.6**
ARU SS **SS** **00 29 56.6 +2.6**
ARU pmax pmax
comp=Z,53nm,1.2s

ARU Arti 75.47 330 *eP* **P** **00 15 23.0 -1.0**
ARU LR LR
comp=Z,800nm,21.0s

ARU Arti 75.47 330 P **P** **00 15 23.9 -0.1**
comp=Z,430nm,1.2s,SNR=17

RAYN Ar Rayn 76.13 294 P **P** **00 15 27.9 -0.7**
comp=Z,230nm,1.0s,SNR=6.8

MAW Mawson 76.94 199 LR LR 00 48 21.4
comp=Z,398nm,18.1s,baz=61,slow=35

MAK Makhachkala 77.91 314 *eP* **P** **00 15 38.2 +0.1**
MAK *i* 00 15 47.4
MAK *i* 00 18 37.2
MAK *eS* **S** **00 25 31.4 +1.0**
MAK pmax pmax
comp=Z,73nm,1.0s

BHD Baghdad 78.49 304 *i* P **P** **00 15 39.0 -2.5**
BHD *i* PcP **PcP** **00 15 54.0 +3.4**
BHD *i* S **S** **00 25 34.0 -3.1**
BHD *i* PS PnS 00 26 01.0 -19

DGRG David-gareji 79.14 312 P **P** **00 15 46.8 +1.7**

GNI Garni 79.37 311 P **P** **00 15 47.3 +0.9**
comp=Z,11nm,0.9s,baz=152,slow=10.0,SNR=7.6

GNI Garni 79.37 311 *eP* **P** **00 15 46.0 -0.4**
comp=Z,48nm,1.2s

GNI LR LR
comp=Z,358nm,22.0s

GNI Garni 79.37 311 P **P** **00 15 47.8 +1.4**
SNR=7.8

VNDA Vanda 79.63 171 P **P** **00 15 46.1 -0.8**
comp=Z,6.7nm,0.8s,baz=314,slow=7.0,SNR=14

VNDA LR LR 00 52 36.7
comp=Z,702nm,18.5s,baz=325,slow=37

VNDA Vanda 79.63 171 *eP* **P** **00 15 46.5 -0.4**

TBLG Delisi 79.66 313 *eP* **P** **00 15 48.5 +0.7**

TBLG Delisi 79.66 313 P **P** **00 15 48.5 +0.7**

HAKT HAKKARI 79.72 308 *i* P P 00 15 45.0 -3.5

DYDN Diyadin 80.06 310 *i* P **P** **00 15 51.0 +0.8**

GOR Gori 80.17 313 P **P** **00 15 52.0 +1.4**

ZEI Tsey 80.47 314 *eP* **P** **00 15 52.6 +0.2**
ZEI pmax pmax
comp=Z,137nm,1.4s

AKH Akhalkalaki 80.52 312 P **P** **00 15 54.2 +1.5**

SBA Scott Base 80.61 171 PFAKE 00 16 00.0 +7.8
SBA LR LR
comp=Z,1μm,22.0s

ONI Oni 80.76 313 P **P** **00 15 55.0 +1.2**

UNV Unalaska Valle 81.26 35 *eP* **P** **00 15 55.7 -0.3**
comp=Z,49nm,1.1s

KBZ Khabaz 81.35 314 P **P** **00 15 57.5 +0.7**
comp=Z,26nm,1.1s,baz=81,slow=8.0,SNR=12

KBZ PP **PP** **00 19 05.7 +2.9**
comp=Z,13nm,1.1s,baz=94,slow=7.8,SNR=4.2

KBZ LR LR 00 56 47.7
comp=Z,550nm,20.8s,baz=268,slow=39

KBZ Khabaz 81.35 314 P **P** **00 15 57.5 +0.7**
KBZ 00 19 05.7
KBZ pmax pmax
comp=Z,26nm,1.1s

KBZ pmax pmax
comp=Z,13nm,1.1s

KBZ MLR MLR
comp=Z,550nm,20.8s

KBZ Khabaz 81.35 314 P **P** **00 15 57.5 +0.7**
KBZ PP **PP** **00 19 05.7 +2.9**

FURI Furi 81.47 279 *eP* **P** **00 15 58.4 -0.1**

HOMI Horasan 81.50 311 *i* P **P** **00 15 57.4 -0.5**

KIV Kislovodsk 81.54 315 *eP* **P** **00 15 57.6 -0.4**
KIV *e* 00 19 03.0
KIV *eS* **S** **00 26 08.2 -0.8**
KIV *eSS* **SS** **00 31 27.4 +1.3**
KIV *eSSS* SSS 00 34 54.7
KIV pmax pmax
comp=Z,24nm,1.0s

KIV MLR MLR
comp=Z,344nm,19.0s

KIV Kislovodsk 81.54 315 *eP* **P** **00 15 58.4 +0.5**
comp=Z,40nm,1.1s

KIV LR LR
comp=Z,408nm,21.0s

GAMB Gambell 81.58 25 *eP* **P** **00 15 57.5 -0.1**
comp=Z,80nm,1.4s

ARTV Artvin 81.65 312 *i* P **P** **00 15 58.7 0.0**

DDEM Demirkent 81.74 311 *i* P **P** **00 15 56.8 -2.2**

DBAD Bademkaya 81.80 312 *i* P **P** **00 15 58.0 -1.4**

DBOC Borcka 81.87 312 *i* P **P** **00 15 59.7 0.0**

BNGL BINGOL 81.92 309 *i* P **P** **00 16 00.2 0.0**

KOPT Kop Dagi 82.56 310 *i* P **P** **00 16 02.0 -1.6**

KMBO Kilima Mbogo 82.61 269 *eP* **P** **00 16 03.4 -0.9**
comp=Z,33nm,1.0s

KMBO *e*PP **PP** **00 19 10.5 -3.6**
KMBO LR LR
comp=Z,678nm,20.0s

KMBO Kilima Mbogo 82.61 269 P **P** **00 16 04.3 -0.1**
SNR=17

VRHR Novokhopersk 83.47 322 *eP* **P** **00 16 06.6 -1.1**
VRHR pmax pmax
comp=N,30nm,1.1s

VRHR pmax pmax
comp=E,60nm,1.1s

VRHR pmax pmax
comp=Z,70nm,1.1s

KELT Kelkit 83.52 310 *i* P **P** **00 16 05.6 -3.0**

SOC Sochi 83.61 314 *eP* **P** **00 16 07.0 -1.6**
SOC *eS* **S** **00 26 24.7 -5.3**
SOC *eSSS* SSS 00 35 22.1
SOC pmax pmax
comp=Z,93nm,1.0s

SOC MLR MLR
comp=Z,782nm,21.0s

TNA Tin City 83.68 23 *eP* **P** **00 16 08.6 +0.1**
comp=Z,35nm,1.2s

KEMA Kemaliye 84.01 309 *i* P **P** **00 16 10.0 -0.9**

SUSE Susehri 84.33 310 *i* P **P** **00 16 12.5 -0.1**

AKCD Akcadag 84.35 308 *i* P **P** **00 16 11.9 -0.8**

GZT Gaziantep 84.54 308 *i* P **P** **00 16 13.3 -0.3**

VORD Divnogorie 84.90 321 *eP* **P** **00 16 13.6 -1.4**

VSR Storozhevoye 85.02 321 *eP* **P** **00 16 14.0 -1.6**
VSR pmax pmax
comp=N,7.0nm,1.1s

VSR pmax pmax
comp=E,80nm,1.1s

VSR pmax pmax
comp=Z,120nm,1.1s

FKH Fakeheh 85.20 304 *eP* **P** **00 16 18.1 +1.1**

ANN Anapa 85.39 315 *eP* P 00 16 13.5 -4.1
ANN *e*PP pP 00 16 30.4 +6.1
ANN *eS* SKSac 00 26 32.1 -10
ANN pmax pmax
comp=Z,138nm,1.3s

ERBA Erbaa 85.48 311 *i* P **P** **00 16 16.1 -2.1**

SYO Syowa Base 85.51 201 ⇑ *eP* **P** **00 16 15.4 -2.2**

ANDN Andirin 85.52 308 *i* P **P** **00 16 21.5 +2.9**

RCY Rachaya 85.62 304 *eP* **P** **00 16 20.1 +0.9**

TOKA Tokat 85.66 310 *i* P **P** **00 16 17.0 -2.1**

BHL Bhannes 85.80 304 *eP* **P** **00 16 20.3 +0.3**

EIL Elat 86.12 300 P **P** **00 16 22.0 +0.4**
baz=86,SNR=40

KLMR Klimovskoe 86.24 331 *d i* P **P** **00 16 21.1 -0.3**
KLMR S SKSac 00 26 36.3 -10
KLMR pmax pmax
comp=Z,99nm,5.7s

KLMR pmax pmax
comp=Z,211nm,1.3s

MOS Moscow 86.52 326 *eP* **P** **00 16 19.9 -3.0**
MOS *e* 00 19 41.1
MOS *e* 00 21 50.0
MOS pmax pmax
comp=Z,86nm,1.3s

GULE Gulek 86.75 307 *i* P **P** **00 16 25.3 +0.6**

OBN Obninsk 87.05 325 *c i* P **P** **00 16 24.1 -1.4**
OBN *e* 00 19 50.7
OBN *eS* **SKSac** **00 26 47.1 -4.5**
OBN *eSS* **SS** **00 32 48.1 +1.6**
OBN pmax pmax
comp=Z,113nm,1.2s

OBN MLR MLR
comp=Z,700nm,23.0s

OBN Obninsk 87.05 325 *eP* **P** **00 16 23.7 -1.8**
comp=Z,124nm,1.3s

OBN LR LR
comp=Z,562nm,20.0s

OBN Obninsk 87.05 325 P **P** **00 16 24.6 -0.9**
comp=Z,368nm,1.3s,SNR=6.9

CDAG Cicekdag 87.22 310 *i* P **P** **00 16 25.7 -1.2**

SIM Simferopol' 87.75 315 *de* P **P** **00 16 28.6 -0.6**
SIM *e* 00 19 56.0
SIM *eS* **SKSac** **00 26 58.5 +2.1**
SIM *ePS* **PnS** **00 28 11.0 -2.4**
SIM *eSS* **SS** **00 32 56.0 -1.4**
SIM pmax pmax
comp=Z,31nm,0.7s

CSS Prodhromos 87.78 305 *eP* **P** **00 16 31.0 +1.4**
comp=Z,125nm,1.2s

CSS LR LR
comp=Z,531nm,19.0s

BR131 Keskin Array S 87.79 310 *eP* **P** **00 16 28.0 -1.7**
comp=Z,32nm,0.8s

BR131 LR LR
comp=Z,300nm,19.0s

BRTR Keskin Array B 87.79 310 P **P** **00 16 28.4 -1.3**
comp=Z,74nm,1.2s,baz=130,slow=4.0,SNR=60

BRTR PP **PP** **00 19 57.4 +1.8**
comp=Z,7.5nm,1.0s,baz=102,slow=5.3,SNR=6.4

BRTR LR LR 01 02 58.3
comp=Z,302nm,20.7s,baz=294,slow=41

BRTR Keskin Array B 87.79 310 P **P** **00 16 28.4 -1.3**
BRTR PP **PP** **00 19 57.4 +1.8**

BALT Daday 88.08 311 *i* P **P** **00 16 29.4 -1.7**

BBAL Bala 88.18 309 *i* P **P** **00 16 29.5 -2.0**

MBAR Mbarara 89.13 269 PFAKE 00 16 50.0 +13
MBAR LR LR
comp=Z,401nm,19.0s

LVZ Lovozero 89.19 338 *eP* **P** **00 16 34.1 -1.4**
LVZ pmax pmax
comp=Z,78nm,1.2s

LVZ Lovozero 89.19 338 *eP* **P** **00 16 34.9 -0.6**
comp=Z,101nm,1.1s

LVZ LR LR
comp=Z,1μm,20.0s

KDAK Kodiak Island 89.59 32 PFAKE 00 16 50.0 +12
KDAK LR LR
comp=Z,1μm,20.0s

APA Apatity 89.64 337 ⇓ *i* P **P** **00 16 36.2 -1.4**
APA *i* S **S** **00 27 26.0 -1.5**
APA *i* PS **PS** **00 28 36.0 +0.6**
APA pmax pmax
comp=Z,31nm,1.0s

APA MLR MLR
comp=Z,800nm,12.0s

BOLV Bolvadin 89.83 309 *i* P **P** **00 16 36.8 -2.5**

ISP Isparta 90.15 308 *eP* **P** **00 16 38.3 -2.4**
ISP pmax pmax
comp=Z,82nm,1.5s

ISP MLR MLR
comp=Z,359nm,20.0s

ISP Isparta 90.15 308 *eP* **P** **00 16 38.3 -2.4**
comp=Z,82nm,1.5s

ISP LR LR
comp=Z,359nm,20.0s

ISP Isparta 90.15 308 ⇓ *iP* **P** **00 16 39.0 -1.8**

TBI Tubuai 90.18 113 *eS* **S** **00 27 33.3 -1.0**
comp=Z,198nm,26.2s

TBI *e*LR LR 00 45 47.1
comp=Z,369nm,31.5s

PAE Paea 90.19 108 *eP* **P** **00 16 41.2 0.0**
comp=Z,27nm,1.3s

PPT Papeete 90.20 107 P **P** **00 16 41.6 +0.3**
comp=Z,61nm,1.1s,baz=264,slow=12,SNR=2.4

PPT Papeete 90.20 107 *eP* **P** **00 16 41.6 +0.3**

PPT2 Papeete2 90.20 107 *eP* **P** **00 16 41.6 +0.3**
comp=Z,143nm,1.3s

PPT2 Papeete2 90.20 107 *e*PP PP 00 20 03.5 -12
comp=Z,96nm,23.5s

PPT2 *eS* **S** **00 27 36.5 +1.7**
comp=Z,441nm,24.5s

PPT2 *eSS* SS 00 33 27.1 -7.2
comp=Z,367nm,27.5s

PPT2 *eLR* LR 00 45 49.7
comp=Z,438nm,24.8s

BORA Eskisehir 90.25 310 *i* P **P** **00 16 38.4 -2.7**

KORT Korkueli 90.27 307 *i* P P 00 16 35.2 -6.2

JOF Joensuu 90.30 333 *eP* **P** **00 16 38.2 -2.5**
JOF pmax pmax
comp=Z,4.0nm,0.7s

JOF Joensuu 90.30 333 *ep* **P** **00 16 38.2 -2.5**
comp=Z,4.1nm,0.7s

TIAR Tiarei 90.42 107 *eP* **P** **00 16 42.5 +0.2**
comp=Z,103nm,1.0s

KHAL Karahalli 90.97 308 *i* P **P** **00 16 42.0 -2.6**

AKASG Malin Array Be 91.25 321 P **P** **00 16 43.8 -1.6**
comp=Z,12nm,1.0s,baz=83,slow=4.0,SNR=24

AKASG PP **PP** **00 20 25.7 +3.1**
comp=Z,1.9nm,0.7s,baz=84,slow=5.9,SNR=4.5

AKASG PKKPbc **PKKPdf** **00 34 07.7 +1.4**
comp=Z,0.3nm,0.3s,baz=266,slow=3.6,SNR=4.4

AKASG LR LR 01 01 12.2
comp=Z,678nm,22.0s,baz=70,slow=38

AKASG Malin Array Be 91.25 321 P **P** **00 16 43.8 -1.6**
AKASG 00 20 25.7
AKASG pmax pmax
comp=Z,12nm,1.0s

AKASG pmax pmax
comp=Z,2.0nm,0.7s

AKASG MLR MLR
comp=Z,678nm,22.0s

AKASG Malin Array Be 91.25 321 P **P** **00 16 43.8 -1.6**
AKASG PP **PP** **00 20 25.7 +3.1**
AKASG PKKPbc **PKKPdf** **00 34 07.7 +1.4**

AKBB Malin Array Si 91.25 321 *eP* P 00 16 42.0 -3.4

AKBB Malin Array Si 91.25 321 *eP* P 00 16 42.0 -3.4

KIEV Kiev 91.26 320 *eP* **P** **00 16 42.7 -2.7**
KIEV pmax pmax
comp=Z,20nm,1.1s

KIEV MLR MLR
comp=Z,542nm,20.0s

KIEV Kiev 91.26 320 *eP* **P** **00 16 42.7 -2.7**
comp=Z,20nm,1.1s

KIEV LR LR
comp=Z,542nm,20.0s

LSZ Lusaka 91.35 255 *eP* **P** **00 16 44.8 -2.0**
comp=Z,12nm,1.0s

LSZ LR LR
comp=Z,1μm,21.0s

MCK McKinley 91.49 26 *eP* **P** **00 16 44.1 -2.2**
MCK pmax pmax
comp=Z,54nm,1.5s

MCK McKinley 91.49 26 *eP* **P** **00 16 44.1 -2.2**
comp=Z,50nm,1.5s

KIS Kishinev 91.51 317 *eP* **P** **00 16 46.0 -0.7**
KIS *e* 00 20 30.0
KIS *eS* **S** **00 27 42.0 -3.5**

KIS Kishinev 91.51 317 *eP* **P** **00 16 46.0 -0.7**
KIS *eS* **S** **00 27 42.0 -3.5**
KIS LRM MLR 01 02 00.0
comp=Z,500nm,20.0s

TLCR 91.51 315 ⇑ P **P** **00 16 45.7 -1.1**

TLCR 91.51 315 ⇑ *iP* **P** **00 16 45.7 -1.1**

MEH Mehetia 91.63 108 *eP* **P** **00 16 47.5 -0.4**
comp=Z,134nm,1.2s

TIRR Tirgusor 91.80 314 ⇑ P **P** **00 16 46.4 -1.7**

TIRR Tirgusor 91.80 314 ⇑ *iP* **P** **00 16 46.4 -1.7**

PMOR Pomariorio Ree 91.88 105 *eP* **P** **00 16 49.0 0.0**
comp=Z,138nm,1.2s

COLA College 91.94 25 PFAKE 00 17 00.0 +12
COLA LR LR
comp=Z,290nm,21.0s

CFR Carcaliu 91.99 315 ⇑ P **P** **00 16 48.0 -1.0**

CFR Carcaliu 91.99 315 ⇑ *iP* **P** **00 16 48.0 -1.0**

KEV Kevo 92.01 340 *eP* P 00 16 43.9 -4.6
KEV pmax pmax
comp=Z,4.0nm,0.9s

KEV Kevo 92.01 340 PFAKE 00 17 00.0 +11
KEV LR LR
comp=Z,1μm,20.0s

KEV Kevo 92.01 340 *ep* P 00 16 43.9 -4.6
comp=Z,3.6nm,0.9s

AYDN Tasoluk 92.24 307 *i* P **P** **00 16 48.6 -1.8**

AKHS Akhisar 92.28 309 *i* P **P** **00 16 48.1 -2.4**

ILAR Eielson Array 92.36 25 P **P** **00 16 47.4 -2.8**
comp=Z,4.1nm,1.2s,baz=291,slow=4.4,SNR=15

ILAR PP **PP** **00 20 31.4 +0.4**
comp=Z,2.9nm,1.1s,baz=278,slow=7.2,SNR=6.9

ILAR PKKPbc **PKKPbc** **00 34 08.9 +1.6**
comp=Z,0.9nm,0.9s,baz=96,slow=1.8,SNR=4.2

ILAR LR LR 00 59 41.0
comp=Z,259nm,21.4s,baz=97,slow=36

ILAR Eielson Array 92.36 25 P **P** **00 16 47.4 -2.8**
ILAR PP **PP** **00 20 31.4 +0.4**
ILAR PKKPbc **PKKPbc** **00 34 08.9 +1.6**

ARCES ARCESS Array B 92.55 339 P **P** **00 16 50.9 -0.2**
comp=Z,8.9nm,0.9s,baz=90,slow=5.0,SNR=9.2

ARCES ARCESS Array B 92.55 339 P **P** **00 16 50.9 -0.2**

VSU Vasula 92.57 328 ⇑ *iP* **P** **00 16 50.8 -0.5**

KAF Kangasniemi 92.63 332 *eP* **P** **00 16 48.8 -2.8**
KAF pmax pmax
comp=Z,3.0nm,0.6s

KAF Kangasniemi 92.63 332 *ep* **P** **00 16 48.8 -2.8**
comp=Z,2.8nm,0.6s

FINES FINESS Array B 92.77 331 P **P** **00 16 51.2 -1.0**
comp=Z,5.4nm,0.8s,baz=44,slow=5.8,SNR=8.2

FINES FINESS Array B 92.77 331 P **P** **00 16 51.2 -1.0**

VRI Vrincioaia 92.97 316 P **P** **00 16 53.1 -0.5**

VRI Vrincioaia 92.97 316 ⇓ *iP* **P** **00 16 53.1 -0.5**

TESR 93.01 316 ⇓ *iP* **P** **00 16 52.5 -1.2**

PLOR Plostina 93.03 316 ⇓ P **P** **00 16 53.0 -0.8**

PLOR Plostina 93.03 316 ⇓ *iP* **P** **00 16 53.0 -0.8**

LBTB Lobatse 93.43 245 PFAKE 00 17 10.0 +14
LBTB LR LR
comp=Z,732nm,20.0s

MLR Muntele Rosu 93.53 315 LR LR 01 07 36.5
comp=Z,145nm,21.0s,baz=264,slow=41

MLR Muntele Rosu 93.53 315 ⇓ *iP* **P** **00 16 55.3 -1.0**

BOSA Boshof 93.55 241 P **P** **00 16 55.2 -1.5**
comp=Z,14nm,1.2s,baz=66,slow=4.4,SNR=5.9

BOSA LR LR 00 52 56.9
comp=Z,730nm,20.4s,baz=115,slow=32

BOSA Boshof 93.55 241 P **P** **00 16 55.2 -1.5**

SPITS Spitsbergen Ar 93.82 348 P **P** **00 16 56.0 -0.8**
comp=Z,26nm,1.0s,baz=120,slow=5.1,SNR=5.1

SPITS LR LR 01 06 04.6
comp=Z,676nm,18.6s,baz=60,slow=40

SPITS Spitsbergen Ar 93.82 348 P **P** **00 16 56.0 -0.8**

BURAR Bucovina Array 93.95 317 ⇑ *iP* **P** **00 16 57.6 -0.5**

BUR08 Bucovina Ar. S 93.96 318 *eP* **P** **00 16 56.9 -1.2**
BUR08 *e*PP **PP** **00 20 43.7 -0.5**

VOIR 94.16 315 ⇑ P **P** **00 16 56.4 -2.7**

VOIR 94.16 315 ⇑ *iP* **P** **00 16 56.4 -2.7**

KBS Kingsbay 94.47 349 *eP* **P** **00 17 01.2 +1.4**

KBS Kingsbay 94.47 349 PFAKE 00 17 10.0 +10
KBS LR LR
comp=Z,704nm,20.0s

RZN Rozhen 94.58 312 *i* P **P** **00 16 59.6 -1.7**

EGAK Eagle 94.80 25 PFAKE 00 17 10.0 +8.5
EGAK LR LR
comp=Z,335nm,21.0s

SUW Suwalki 94.82 324 *eP* **P** **00 17 00.8 -1.1**

SUW Suwalki 94.82 324 *eP* **P** **00 17 00.6 -1.2**
SUW pmax pmax
comp=Z,73nm,1.3s

SUW Suwalki 94.82 324 *eP* **P** **00 17 00.6 -1.2**
comp=Z,73nm,1.3s

SUW Suwalki 94.82 324 *eP* **P** **00 17 00.7 -1.1**

BMR Baia Mare 95.11 318 P **P** **00 17 03.3 0.0**

BMR Baia Mare 95.11 318 ⇓ *iP* **P** **00 17 03.3 0.0**

MPEP Malo Peshtene 95.21 313 *i* P **P** **00 17 02.6 -1.3**

MMB Musomiste 95.32 311 *i* P **P** **00 17 03.5 -1.0**

KWP Kalwaria Pacla 95.48 320 *eP* **P** **00 17 04.6 -0.4**

KWP Kalwaria Pacla 95.48 320 ⇑ P **P** **00 17 03.7 -1.3**

KWP Kalwaria Pacla 95.48 320 *eP* **P** **00 17 05.4 +0.5**
comp=Z,22nm,1.1s

KWP LR LR
comp=Z,652nm,21.0s

KWP Kalwaria Pacla 95.48 320 ⇑ *iP* **P** **00 17 03.7 -1.3**

KWP Kalwaria Pacla 95.48 320 *eP* **P** **00 17 04.6 -0.4**

VTS Vitosha 95.65 313 ⇑ P **P** **00 17 04.9 -1.2**

VTS Vitosha 95.65 313 ⇑ *iP* **P** **00 17 04.9 -1.2**

DAWY Dawson 95.67 26 *eP* **P** **00 17 04.9 -0.7**

GZR Gura Zlata 95.77 315 P **P** **00 17 06.0 -0.4**

GZR Gura Zlata 95.77 315 ⇓ *iP* **P** **00 17 06.0 -0.4**

KOLS Kolonicke sedl 95.82 319 *eP* **P** **00 17 07.5 +1.0**
KOLS pmax pmax
comp=Z,7.0nm,1.2s

KOLS Kolonicke sedl 95.82 319 *eP* **P** **00 17 07.5 +1.0**

UZH Uzhgorod 95.83 319 ⇑ *iP* **P** **00 17 05.0 -1.6**
UZH *e* 00 17 11.7
UZH *e* 00 21 05.0

VAY Valandovo 96.21 311 *i* P **P** **00 17 06.4 -2.1**

CRVS Cervenica-Dubn 96.36 319 *eP* **P** **00 17 08.4 -0.6**
CRVS pmax pmax
comp=Z,15nm,1.5s

CRVS	Cervenica-Dubn	96.36	319	*e*P	P	00 17 08.4	-0.6
BZS	Buzias	96.56	316	P	P	00 17 09.2	-0.8
BZS	Buzias	96.56	316	⇓*i*P	P	00 17 09.5	-0.5
SKO	Skopje	97.00	312	*i* P	Pdif	00 17 14.3	+2.1
INK	Inuvik	97.10	21	*e*P	P	00 17 09.8	-2.1
	comp=Z,22nm,1.1s						
PSZ	Piszkesteto	97.50	318	PFAKE		00 17 20.0	+5.7
PSZ				LR	LR		
	comp=Z,558nm,22.0s						
TIR	Tirane	98.24	311	PFAKE		00 17 30.0	+12
TIR				LR	LR		
	comp=Z,462nm,21.0s						
OKC	Ostrava-Krasne	98.39	320	AMS	AMS	01 04 30.0	
	comp=Z,700nm,22.5s						
MORC	Moravsky Berou	98.79	320	⇑P	Pdif	00 17 20.1	+0.1
MORC	Moravsky Berou	98.79	320	⇑*i*P	Pdif	00 17 20.1	+0.1
HFS	Hagfors	98.96	331	P	P	00 17 18.3	-2.1
	comp=Z,8.1nm,1.0s,baz=75,slow=6.1,SNR=7.4						
HFS				LR	LR	01 07 55.7	
	comp=Z,520nm,19.5s,baz=156,slow=39						
HFS	Hagfors	98.96	331	P	P	00 17 18.3	-2.1
KSP	Ksiaz	99.41	321	*e*P	Pdif	00 17 20.7	-1.9
KSP	Ksiaz	99.41	321	*e*P	Pdif	00 17 20.5	-2.1
KSP				*e*		00 21 22.0	
KSP				*e*SP	SP	00 30 20.0	-0.2
KSP				MLR	MLR		
	comp=Z,2µm,23.9s						
KSP	Ksiaz	99.41	321	*e*P	Pdif	00 17 20.7	-1.9
DPC	Dobruska-Polom	99.47	321	*e*P	Pdif	00 17 22.1	-0.9
DPC				*e*		00 21 26.5	
DPC				MLR	MLR		
	comp=Z,700nm,19.0s						
DPC	Dobruska-Polom	99.47	321	*e*PDIFF	Pdif	00 17 22.1	-0.9
DPC				*e*PP	PP	00 21 26.5	0.0
DPC				AMS	AMS	01 05 30.0	
	comp=Z,700nm,19.0s						
VRAC	Vranov	99.47	320	LR	LR	01 06 48.5	
	comp=Z,652nm,20.4s,baz=68,slow=38						
NB2	NORSAR Subarra	99.91	332	P	Pdif	00 17 22.3	-2.4
	baz=74,slow=4.8						
NB2	NORSAR Subarra	99.91	332	P	Pdif	00 17 22.3	-2.4
	comp=Z,12nm,1.1s,baz=74,slow=4.8						
NOA	NORSAR Array B	99.91	332	P	Pdif	00 17 23.1	-1.7
	comp=Z,5.1nm,1.0s,baz=74,slow=4.6,SNR=5.9						
NOA				PP	PP	00 21 26.1	-3.3
	comp=Z,2.2nm,0.9s,baz=67,slow=8.0,SNR=3.7						
NOA	NORSAR Array B	99.91	332	P	Pdif	00 17 23.1	-1.7
NOA				PP	PP	00 21 26.1	-3.3
TREC	Trest	100.19	320	AMS	AMS	01 06 30.0	
	comp=Z,600nm,23.6s						
PRU	Pruhonice	100.66	321	*e*P	Pdif	00 17 28.8	+0.5
PRU				*e*		00 21 36.7	
PRU				MLR	MLR		
	comp=Z,800nm,20.6s						
PRU	Pruhonice	100.66	321	*e*PDIFF	Pdif	00 17 28.8	+0.5
PRU				*e*PP	PP	00 21 36.7	+1.3
PRU				AMS	AMS	01 06 00.0	
	comp=Z,800nm,20.6s						
PRA	Prague	100.72	321	AMS	AMS	01 05 00.0	
BRG	Berggiesshubel	100.86	322	*e*P	Pdif	00 17 29.0	-0.1
	comp=Z,12nm,1.5s						
BRG				PP	PP	00 21 34.0	-2.9
BRG				SS	SS	00 34 19.0	-105
BRG							
	comp=N,534nm,18.0s						
BRG							
	comp=E,355nm,17.2s						
BRG							
	comp=Z,415nm,16.9s						
SOKA	Soboth	100.95	317	⇑*i*PP	PP	00 21 42.1	+4.2
	comp=Z,18nm,1.3s						
KONO	Kongsberg	101.08	331	PFAKE		00 17 40.0	+10
KONO				LR	LR		
	comp=Z,1µm,20.0s						
TSUM	Tsumeb	101.25	250	PFAKE		00 17 40.0	+8.3
TSUM				LR	LR		
	comp=Z,794nm,20.0s						
CLL	Collm	101.35	322	*e*P	Pdif	00 17 32.0	+0.7
CLL				*e*		00 21 42.0	
CLL				*e*		00 28 06.0	
CLL				pmax	pmax		
	comp=Z,15nm,1.6s						
CLL				MLR	MLR		
	comp=Z,400nm,21.4s						
CLL	Collm	101.35	322	*e*Pdif	Pdif	00 17 32.0	+0.7
	comp=Z,15nm,1.6s						
CLL				*e*PP	PP	00 21 42.0	+1.4
CLL				*e*		00 21 50.0	
CLL				*e*SKSac	SKSac	00 28 06.0	-3.6
CLL				*e*SP	SP	00 30 35.0	-6.0
CLL				*e*PPS	PPS	00 31 33.0	
CLL				*e*SS	SS	00 36 12.0	+1.4
CLL				LmV		01 17 00.0	
	comp=Z,400nm,21.4s						
GEC2	GERESS Array S	101.43	320	*e*P	Pdif	00 17 34.6	+2.8
GEC2	GERESS Array S	101.43	320	*e*Pdiff	Pdif	00 17 34.6	+2.8
GERES	GERESS Array B	101.43	320	P	Pdif	00 17 31.7	-0.2
	comp=Z,2.6nm,1.1s,baz=57,slow=4.9,SNR=9.4						
GERES				PP	PP	00 21 44.7	+3.3
	comp=Z,1.2nm,0.9s,baz=77,slow=5.8,SNR=3.9						
GERES				PKKPbc	PKKPbc	00 33 43.1	+1.0
	comp=Z,0.2nm,0.5s,baz=242,slow=2.6,SNR=3.4						
GERES	GERESS Array B	101.43	320	P	Pdif	00 17 31.7	-0.2
GERES				PP	PP	00 21 44.7	+3.3
GERES				PKKPbc	PKKPbc	00 33 43.1	+1.0
KHC	Kasperske Hory	101.45	320	*e*P	Pdif	00 17 32.7	+0.9
KHC				*e*		00 21 36.5	
KHC				MLR	MLR		
	comp=Z,700nm,18.9s						
KHC	Kasperske Hory	101.45	320	*e*PDIFF	Pdif	00 17 32.7	+0.9
KHC				*e*PP	PP	00 21 36.5	-5.0
KHC				*e*x	x	00 22 03.0	
KHC				AMS	AMS	01 06 50.0	
	comp=Z,700nm,18.9s						
CUC	Castrocucco	101.46	311	PFAKE		00 17 40.0	+7.9
CUC				LR	LR		
	comp=Z,414nm,20.0s						
MOX	Moxa	102.36	322	*e*L	L	01 11 11.2	
	comp=Z,415nm,20.7s						
GRF	Grafenberg Arr	102.83	321	*e*P	Pdif	00 17 37.6	-0.3
GRF				*e*		00 21 54.8	
GRF	Grafenberg Arr	102.83	321	*e*Pdiff	Pdif	00 17 37.6	-0.3
GRF				*e*PP	PP	00 21 54.8	+3.1
GRF				*e*L	L	01 14 19.3	
	comp=Z,589nm,18.9s						
AQU	L'Aquila	102.88	313	PFAKE		00 17 50.0	+12
AQU				LR	LR		
	comp=Z,564nm,22.0s						
VLC	Villacollemand	104.67	315	PFAKE		00 18 00.0	+14
VLC				LR	LR		
	comp=Z,428nm,22.0s						
TUE	Stuetta	104.83	318	PFAKE		00 18 00.0	+13
TUE				LR	LR		
	comp=Z,793nm,20.0s						
BFO	Black Forest	105.02	320	PFAKE		00 22 10.0	
BFO				LR	LR		
	comp=Z,615nm,20.0s						
ECH	Echery	105.80	320	PFAKE		00 22 10.0	
ECH				LR	LR		
	comp=Z,606nm,21.0s						
WLF	Walferdange	106.00	322	PFAKE		00 22 10.0	
WLF				LR	LR		
	comp=Z,499nm,20.0s						
VSL	Villasalto	106.43	311	PFAKE		00 22 20.0	
VSL				LR	LR		
	comp=Z,301nm,19.0s						
YKA	Yellowknife Ar	106.64	23	Pdiff	Pdif	00 17 53.4	-1.1
	comp=Z,1.1nm,1.1s,baz=301,slow=4.5,SNR=9.4						
YKA				PKiKP	PKiKP	00 22 04.2	-0.7
	comp=Z,1.2nm,0.8s,baz=312,slow=1.9,SNR=10						
YKA				PP	PP	00 22 19.7	+0.2
	comp=Z,2.2nm,1.0s,baz=301,slow=8.0,SNR=7.6						
YKA				PKKPbc	PKKPbc	00 33 22.5	-4.2
	comp=Z,0.3nm,0.7s,baz=112,slow=3.1,SNR=7.8						
YKA	Yellowknife Ar	106.64	23	Pdif	Pdif	00 17 53.4	-1.1
YKA				PKiKP	PKiKP	00 22 04.2	-0.7
YKA				PP	PP	00 22 19.6	+0.2
YKA				PKKPbc	PKKPbc	00 33 22.5	-4.2
LPG	La Plagne	106.83	317	*e*PKIKP	PKiKP	00 22 03.8	-2.4
	comp=Z,96nm,1.7s						
LPG	La Plagne	106.83	317	*e*PKPdf	PKiKP	00 22 03.8	-2.4
LPL	La Plagne	106.84	318	*e*PKIKP	PKiKP	00 22 03.0	-3.2
	comp=Z,58nm,1.5s						
LPL	La Plagne	106.84	318	*e*PKPdf	PKiKP	00 22 03.0	-3.2
BNI	Bardonecchia	107.00	317	PFAKE		00 22 20.0	
BNI				LR	LR		
	comp=Z,746nm,21.0s						
MBDF	Montbardon	107.03	317	*e*PKIKP	PKiKP	00 22 04.0	-2.4
	comp=Z,87nm,1.8s						
MBDF	Montbardon	107.03	317	*e*PKPdf	PKiKP	00 22 04.0	-2.4
BAIF	Baives	107.07	323	*e*PKIKP	PKiKP	00 22 03.5	-2.6
	comp=Z,39nm,1.5s						
BAIF	Baives	107.07	323	*e*PKPdf	PKiKP	00 22 03.5	-2.6
SMRF	Simiane la Rot	108.06	316	*e*PKIKP	PKiKP	00 22 05.8	-2.4
	comp=Z,90nm,1.6s						
SMRF	Simiane la Rot	108.06	316	*e*PKPdf	PKiKP	00 22 05.8	-2.4
LOR	Lormes	108.21	320	*e*PKIKP	PKiKP	00 22 05.9	-2.5
	comp=Z,44nm,1.7s						
LOR	Lormes	108.21	320	*e*PKPdf	PKiKP	00 22 05.9	-2.5
SSF	Saint Saulge	108.50	320	*e*PKIKP	PKiKP	00 22 07.1	-1.8
	comp=Z,51nm,1.5s						
SSF	Saint Saulge	108.50	320	*e*PKPdf	PKiKP	00 22 07.1	-1.8
ESK	Eskdalemuir	109.11	330	PFAKE		00 22 20.0	
ESK				LR	LR		
	comp=Z,574nm,19.0s						
TCF	Toulx Ste Croi	109.60	319	*e*PKIKP	PKiKP	00 22 08.4	-2.6
	comp=Z,28nm,1.4s						
TCF	Toulx Ste Croi	109.60	319	*e*PKPdf	PKiKP	00 22 08.4	-2.6
HAWA	Hanford	111.45	40	PFAKE		00 22 20.0	
HAWA				LR	LR		
	comp=Z,885nm,20.0s						
NEW	Newport	112.20	37	PFAKE		00 22 30.0	
NEW				LR	LR		
	comp=Z,850nm,20.0s						
TAM	Tamanrasset	112.81	294	PFAKE		00 22 30.0	
TAM				LR	LR		
	comp=Z,356nm,19.0s						
C11A	Tepee Creek (N	112.91	37	⇓P	PKiKP	00 22 17.3	0.0
	baz=113						
BMO	Blue Mountains	113.49	41	PFAKE		00 22 30.0	
BMO				LR	LR		
	comp=Z,887nm,22.0s						
A13A	Flathead Natio	113.51	36	⇑P	PKiKP	00 22 18.5	+0.1
	baz=114						
WVOR	Wild Horse Val	113.53	44	PFAKE		00 22 30.0	
WVOR				LR	LR		
	comp=Z,450nm,20.0s						
B13A	Whitefish	113.74	36	⇓P	PKiKP	00 22 19.0	+0.1
	baz=114						
C13A	Hot Springs	114.00	37	⇓P	PKiKP	00 22 18.7	-0.7
	baz=114						
PMSA	Palmer Station	114.23	178	PFAKE		00 22 30.0	+11
PMSA				LR	LR		
	comp=Z,770nm,21.0s						
C14A	Swan Lake	114.45	37	⇑P	PKPdf	00 22 19.9	-0.4
	baz=114						
MSO	Missoula	114.77	38	PFAKE		00 22 30.0	+9.0
MSO				LR	LR		
	comp=Z,373nm,21.0s						
MSO	Missoula	114.77	38	⇑P	PKPdf	00 22 20.3	-0.7
	baz=115						
E13A	Victor	114.79	38	⇓P	PKPdf	00 22 20.5	-0.6
	baz=115						
B15A	Bradely Ranch,	114.89	36	⇑P	PKPdf	00 22 20.2	-0.9
	baz=115						
D14A	Greenough	114.92	37	⇑P	PKPdf	00 22 20.7	-0.6
	baz=115						
C15A	Salmond Ranch,	115.12	36	⇓P	PKPdf	00 22 21.1	-0.6
	baz=115						
NVAR	Mina Array Bea	115.19	48	PKP	PKPdf	00 22 23.2	+1.0
	comp=Z,0.7nm,0.7s,baz=240,slow=3.2,SNR=3.8						
NVAR				PKKPab	PKKPab	00 33 03.1	0.0
	comp=Z,1.6nm,0.8s,baz=120,slow=4.9,SNR=6.0						
NVAR	Mina Array Bea	115.19	48	PKP	PKPdf	00 22 23.2	+1.0
NVAR				PKKPab	PKKPab	00 33 03.1	0.0
BMN	Battle Mountai	115.26	45	PFAKE		00 22 30.0	+7.8
BMN				LR	LR		
	comp=Z,460nm,19.0s						
B16A	M & M Farms, S	115.34	35	⇑P	PKPdf	00 22 21.5	-0.5
	baz=115						
I12A	Atlanta	115.35	41	⇑P	PKPdf	00 22 22.1	-0.2
	baz=115						
D15A	Lincoln	115.53	37	⇓P	PKPdf	00 22 22.1	-0.4
	baz=116						
C16A	Fuhringer Ranc	115.62	36	⇓P	PKPdf	00 22 22.4	-0.2
	baz=116						
A17A	Triple J Farms	115.64	34	⇓P	PKPdf	00 22 22.3	-0.2
	baz=116						
B17A	L&G Farms, Che	115.92	35	⇑P	PKPdf	00 22 22.9	-0.2
	baz=116						
HLID	Hailey	115.92	41	PFAKE		00 22 30.0	+6.6
HLID				LR	LR		
	comp=Z,258nm,20.0s						
HLID	Hailey	115.92	41	⇑P	PKPdf	00 22 23.4	0.0
	baz=116						
I13A	Wildhorse Cree	115.96	41	⇓P	PKPdf	00 22 22.8	-0.7
	baz=116						
D16A	Dana Ranch, Ca	116.11	37	⇑P	PKPdf	00 22 23.2	-0.3
	baz=116						
TPH	Tonopah	116.11	48	PFAKE		00 22 30.0	+6.0
TPH				LR	LR		
	comp=Z,695nm,21.0s						
F15A	Butte	116.12	38	⇓P	PKPdf	00 22 23.5	-0.2
	baz=116						
J13A	Cove Ranch, Pi	116.15	41	⇑P	PKPdf	00 22 23.8	0.0
	baz=116						
ESDC	Sonseca Array	116.21	314	PKP	PKPdf	00 22 25.9	+2.0
	comp=Z,1.2nm,1.0s,baz=103,slow=3.2,SNR=4.9						
ESDC				PKKPab	PKKPab	00 32 59.4	+1.0
	comp=Z,1.5nm,0.9s,baz=265,slow=3.6,SNR=7.9						
ESDC	Sonseca Array	116.21	314	PKP	PKPdf	00 22 25.9	+2.0
ESDC				PKKPab	PKKPab	00 32 59.4	+1.0
ESLA	Sonseca Array	116.21	314	PFAKE		00 22 30.0	+6.1
ESLA				LR	LR		
	comp=Z,2µm,20.0s						
C17A	Wharram Farm,	116.28	36	⇓P	PKPdf	00 22 22.6	-1.2
	baz=116						
DAC	Darwin (Calif)	116.46	50	PFAKE		00 22 30.0	+5.3
DAC				LR	LR		
	comp=Z,801nm,22.0s						
PAB	San Pablo	116.54	314	PFAKE		00 22 30.0	+5.4
PAB				LR	LR		
	comp=Z,502nm,21.0s						
D17A	Six Diamond Ra	116.56	36	⇓P	PKPdf	00 22 23.4	-1.0
	baz=116						
FFC	Flin Flon	116.57	26	PFAKE		00 22 30.0	+6.0
FFC				LR	LR		
	comp=Z,476nm,22.0s						
MPMC	Manual Prospec	116.61	50	⇓P	PKPdf	00 22 24.8	-0.2
	baz=117						
EDW2	Edwards Air Fo	116.61	51	⇓P	PKPdf	00 22 24.7	-0.1
	baz=117						
J14A	Carey	116.61	41	⇓P	PKPdf	00 22 24.4	-0.3
	baz=117						
EGMT	Eagleton	116.66	35	PFAKE		00 22 30.0	+5.5
EGMT				LR	LR		
	comp=Z,400nm,20.0s						
EGMT	Eagleton	116.66	35	⇑P	PKPdf	00 22 24.1	-0.4
	baz=117						
BOZ	Bozeman (W)	116.74	38	PFAKE		00 22 30.0	+5.1
BOZ				LR	LR		
	comp=Z,573nm,22.0s						
A19A	Klindworth Far	116.75	34	⇓P	PKPdf	00 22 24.2	-0.5
	baz=117						
G16A	Moss Hill, Enn	116.83	38	⇓P	PKPdf	00 22 24.7	-0.4
	baz=117						
F17A	Fitzpatrick Pl	117.21	37	⇓P	PKPdf	00 22 25.7	-0.1
	baz=117						
C19A	Slack Wire Ran	117.21	35	⇓P	PKPdf	00 22 25.1	-0.5
	baz=117						
J15A	Blackfoot	117.28	40	⇓P	PKPdf	00 22 26.2	+0.2
	baz=117						
GSC	Goldstone	117.39	50	⇓P	PKPdf	00 22 26.3	0.0
	baz=117						
D19A	Cripps Ranch,	117.61	35	⇑P	PKPdf	00 22 26.0	-0.4
	baz=118						
MURC	Murrieta	117.64	52	⇑P	PKPdf	00 22 26.6	-0.2
	baz=118						
TOA0	Torodi Ar. Sit	117.66	284	*e*PKPdf	PKPdf	00 22 25.3	-2.0
TOA0				*e*PP	PP	00 23 36.3	-3.7
TORD	Torodi Ar. Bea	117.66	284	PKP	PKPdf	00 22 25.2	-2.0
	comp=Z,4.0nm,0.9s,baz=72,slow=1.0,SNR=16						
TORD				PKKPab	PKKPab	00 32 51.7	-0.5
	comp=Z,1.4nm,0.9s,baz=293,slow=3.1,SNR=6.4						
TORD	Torodi Ar. Bea	117.66	284	PKP	PKPdf	00 22 25.2	-2.0
TORD				PKKPab	PKKPab	00 32 51.7	-0.5
F18A	Big Timber	117.78	37	⇓P	PKPdf	00 22 26.7	-0.1
	baz=118						
C20A	Veseth Ranch,	117.82	34	⇑P	PKPdf	00 22 26.8	0.0
	baz=118						
J16A	Bone	117.88	40	⇑P	PKPdf	00 22 27.0	-0.2
	baz=118						
L15A	Malad City	117.94	42	⇑P	PKPdf	00 22 27.4	0.0
	baz=118						
LKWY	Lake	118.03	39	PFAKE		00 22 40.0	+12
LKWY				LR	LR		
	comp=Z,696nm,21.0s						
K16A	Soda Springs	118.09	41	⇑P	PKPdf	00 22 26.8	-0.8
	baz=118						
M15A	Larsen Ranch,	118.14	42	⇓P	PKPdf	00 22 27.2	-0.4
	baz=118						
PFO	Pinyon Flat Ob	118.22	52	PFAKE		00 22 40.0	+12
PFO				LR	LR		
	comp=Z,441nm,20.0s						
PFO	Pinyon Flat Ob	118.22	52	⇓P	PKPdf	00 22 27.3	-0.8
	baz=118						
A22A	Carney Farms,	118.25	32	⇓P	PKPdf	00 22 27.5	0.0
	baz=118						
C21A	Desert Coulee	118.27	34	⇓P	PKPdf	00 22 27.3	-0.3
	baz=118						
REDW	Red Top Meadow	118.32	40	*e*PKPdf	PKPdf	00 22 28.0	-0.1
LOHW	Long Hollow	118.36	40	*e*PKPdf	PKPdf	00 22 28.0	-0.2
E20A	Meyer Farm, Mu	118.40	36	⇑P	PKPdf	00 22 27.5	-0.5
	baz=118						
J17A	Brown Place, J	118.41	40	⇑P	PKPdf	00 22 28.0	-0.2
	baz=118						
MTE	Manteigas	118.43	316	PFAKE		00 22 40.0	+12
MTE				LR	LR		
	comp=Z,396nm,19.0s						
DUG	Dugway	118.44	44	PFAKE		00 22 40.0	+12
DUG				LR	LR		
	comp=Z,457nm,21.0s						
DUG	Dugway	118.44	44	⇑P	PKPdf	00 22 28.1	-0.2
	baz=118						
AHID	Auburn Hatcher	118.44	41	PFAKE		00 22 40.0	+12
AHID				LR	LR		
	comp=Z,534nm,22.0s						
RLMT	Red Lodge	118.45	38	PFAKE		00 22 40.0	+12
RLMT				LR	LR		
	comp=Z,296nm,21.0s						
GMRC	Granite Mounta	118.45	51	⇑P	PKPdf	00 22 28.1	-0.4
	baz=118						
MONP	Monument Peak	118.49	53	⇑P	PKPdf	00 22 28.5	-0.2
	baz=118						
L16A	Fish Haven	118.57	41	⇑P	PKPdf	00 22 28.2	-0.4
	baz=118						
O15A	The Old Anders	118.64	44	⇑P	PKPdf	00 22 28.2	-0.5
	baz=119						
HWUT	Hardware Ranch	118.67	42	PFAKE		00 22 40.0	+11
HWUT				LR	LR		
	comp=Z,486nm,22.0s						
J18A	Kendall Valley	118.93	40	⇓P	PKPdf	00 22 28.8	-0.5
	baz=119						
C22A	Vida	118.99	34	⇑P	PKPdf	00 22 29.0	0.0
	baz=119						
E21A	Keefer Ranch,	118.99	35	⇓P	PKPdf	00 22 29.1	+0.1
	baz=119						
G20A	Bridger	119.03	37	⇑P	PKPdf	00 22 28.9	-0.4
	baz=119						
B23A	Brockton	119.06	32	⇓P	PKPdf	00 22 29.0	0.0
	baz=119						
IRM	Iron Mountain	119.06	51	⇑P	PKPdf	00 22 29.1	-0.4
	baz=119						
D22A	Cohagen	119.16	34	⇓P	PKPdf	00 22 29.1	-0.2
	baz=119						
K18A	Toltan Ranch,	119.19	40	⇓P	PKPdf	00 22 29.3	-0.4
	baz=119						
M17A	Scullys Gap (B	119.33	42	⇓P	PKPdf	00 22 29.5	-0.6
	baz=119						
C23A	Lambert	119.34	33	⇑P	PKPdf	00 22 28.9	-0.7
	baz=119						
BW06	Boulder Array	119.44	40	PFAKE		00 22 40.0	+10
BW06				LR	LR		
	comp=Z,664nm,20.0s						
BW06	Boulder Array	119.44	40	⇑P	PKPdf	00 22 29.5	-0.7
	baz=119						
PDAR	Pinedale Array	119.44	40	PKP	PKPdf	00 22 28.9	-1.4
	comp=Z,1.5nm,1.0s,baz=180,slow=2.8,SNR=6.7						
PDAR	Pinedale Array	119.44	40	PKP	PKPdf	00 22 28.9	-1.4
DGMT	Dagmar	119.48	32	PFAKE		00 22 40.0	+10
DGMT				LR	LR		
	comp=Z,506nm,20.0s						
J19A	Crowheart	119.52	39	⇓P	PKPdf	00 22 29.9	-0.4
	baz=119						
L18A	Fontenelle, Gr	119.54	41	⇓P	PKPdf	00 22 29.9	-0.6
	baz=120						
H20A	Greybull	119.55	38	⇓P	PKPdf	00 22 29.6	-0.6
	baz=120						
D23A	Lindsay	119.69	34	⇓P	PKPdf	00 22 30.5	+0.1
	baz=120						
I20A	Worland	119.75	38	⇓P	PKPdf	00 22 30.1	-0.5
	baz=120						
K19A	Absolon Red Bu	119.87	40	⇑P	PKPdf	00 22 30.2	-0.9
	baz=120						
F22A	Rosebud	119.89	36	⇓P	PKPdf	00 22 30.5	-0.3
	baz=120						
L19A	Farson	119.89	41	⇑P	PKPdf	00 22 30.7	-0.4
	baz=120						
C24A	Savage	119.92	33	⇓P	PKPdf	00 22 30.6	-0.2
	baz=120						
J20A	Shoshoni	120.08	39	⇑P	PKPdf	00 22 31.2	-0.1
	baz=120						
Q16A	Castle Valley	120.14	45	⇓P	PKPdf	00 22 30.9	-0.8
	baz=120						
G22A	Birney	120.18	36	⇑P	PKPdf	00 22 30.9	-0.5
	baz=120						
O18A	Roosevelt	120.33	43	⇓P	PKPdf	00 22 31.9	-0.1
	baz=120						
S16A	Weppner Ranch,	120.35	46	⇑P	PKPdf	00 22 31.8	-0.3
	baz=120						
U15A	North Rim	120.38	48	⇓P	PKPdf	00 22 31.6	-0.7
	baz=120						
F23A	Volborg	120.41	35	⇑P	PKPdf	00 22 31.4	-0.4
	baz=120						
J21A	Lysite	120.48	38	⇑P	PKPdf	00 22 31.7	-0.5
	baz=120						
RTC	Rabat Centre	120.49	309	PFAKE		00 22 40.0	+7.8
RTC				LR	LR		
	comp=Z,312nm,19.0s						
SRU	San Rafael	120.51	44	⇑P	PKPdf	00 22 31.8	-0.6
	baz=120						
E24A	Baker	120.55	34	⇑P	PKPdf	00 22 32.0	0.0
	baz=120						
L20A	Wamsutter	120.60	40	⇑P	PKPdf	00 22 32.1	-0.4
	baz=120						
R17A	Hanksville Air	120.68	45	⇑P	PKPdf	00 22 32.4	-0.2
	baz=121						
G23A	Biddle	120.72	36	⇑P	PKPdf	00 22 32.2	-0.3
	baz=121						
Q18A	Rafter H Ranch	120.78	44	⇑P	PKPdf	00 22 32.5	-0.3
	baz=121						
F24A	Ekalaka	120.89	35	⇓P	PKPdf	00 22 32.4	-0.3
	baz=121						
O19A	Miners Draw (B	120.92	42	⇑P	PKPdf	00 22 32.4	-0.6
	baz=121						
K21A	Alcova	120.98	39	⇓P	PKPdf	00 22 32.5	-0.6
	baz=121						
J22A	Midwest	121.05	38	⇓P	PKPdf	00 22 32.2	-1.0
	baz=121						
T17A	Navajo Res., N	121.23	46	⇓P	PKPdf	00 22 33.6	-0.2
	baz=121						
N20A	Spence Gulch,	121.23	41	⇓P	PKPdf	00 22 32.8	-0.9
	baz=121						
L21A	Rawlins	121.25	40	⇓P	PKPdf	00 22 33.6	-0.2
	baz=121						
R18A	Canyonlands Na	121.27	45	⇓P	PKPdf	00 22 33.7	-0.2
	baz=121						
K22A	Casper	121.42	39	⇓P	PKPdf	00 22 33.4	-0.6
	baz=121						
WUAZ	Wupatki	121.43	48	PFAKE		00 22 40.0	+5.8
WUAZ				LR	LR		
	comp=Z,765nm,21.0s						
WUAZ	Wupatki	121.43	48	⇓P	PKPdf	00 22 34.2	0.0
	baz=121						
M21A	Separation Pea	121.43	40	⇑P	PKPdf	00 22 33.7	-0.4
	baz=121						
Q19A	Hogan Spring (	121.45	44	⇓P	PKPdf	00 22 33.9	-0.2
	baz=121						
H24A	Dirks Ranch, A	121.46	36	⇓P	PKPdf	00 22 33.1	-0.9
	baz=121						
O20A	White River Ci	121.59	42	⇓P	PKPdf	00 22 34.0	-0.4
	baz=122						
N21A	Black Mountain	121.76	41	⇓P	PKPdf	00 22 34.4	-0.4
	baz=122						
P20A	De Beque	121.79	43	⇑P	PKPdf	00 22 34.7	-0.1
	baz=122						
X16A	Lo Mia Camp, P	121.81	49	⇓P	PKPdf	00 22 34.8	-0.2
	baz=122						
T18A	Mexican Hat	121.84	46	⇑P	PKPdf	00 22 34.3	-0.6
	baz=122						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
S19A	Harvey Farm, M	122.09	45	⇓P	PKPdf	00 22 35.2	-0.3
	baz=122						
Q20A	Ridgley Place,	122.12	43	⇓P	PKPdf	00 22 34.9	-0.6
	baz=122						
RSSD	Black Hills	122.13	36	*e*PKIKP	PKPdf	00 22 34.4	-1.0
RSSD	Black Hills	122.13	36	*e*PKPdf	PKPdf	00 22 34.4	-1.0
MDND	Maddock	122.26	30	⇑P	PKPdf	00 22 35.1	-0.1
	baz=122						
PV01	Paradox Valley	122.31	44	*e*PKPdf	PKPdf	00 22 37.6	+1.7
ULM	Lac du Bonnet	122.37	26	PKP	PKPdf	00 22 34.3	-1.0
	comp=Z,3.5nm,0.8s,baz=11,slow=4.6,SNR=6.4						
ULM	Lac du Bonnet	122.37	26	PKP	PKPdf	00 22 34.3	-1.0
R20A	Redvale	122.42	44	⇑P	PKPdf	00 22 36.2	+0.1
	baz=122						
N22A	Wattenberg Ran	122.43	41	⇓P	PKPdf	00 22 36.2	+0.1
	baz=122						
S20A	Disappointment	122.60	45	⇑P	PKPdf	00 22 36.2	-0.3
	baz=122						
MVCO	Mesa Verde	122.79	45	PFAKE		00 22 50.0	+13
MVCO				LR	LR		
	comp=Z,627nm,21.0s						
MVCO	Mesa Verde	122.79	45	⇓P	PKPdf	00 22 36.5	-0.3
	baz=123						
P22A	Eagle	122.85	42	⇑P	PKPdf	00 22 36.7	-0.2
	baz=123						
R21A	Cimarron	122.91	44	⇑P	PKPdf	00 22 37.3	+0.2
	baz=123						
S21A	Coal Bank Pass	123.08	44	⇑P	PKPdf	00 22 37.3	-0.2
	baz=123						
O23A	Lake Granby, G	123.09	41	⇑P	PKPdf	00 22 37.0	-0.4
	baz=123						
Q22A	Crested Butte,	123.11	43	⇑P	PKPdf	00 22 37.5	-0.1
	baz=123						
TUC	Tucson	123.14	51	PFAKE		00 22 50.0	+13
TUC				LR	LR		
	comp=Z,435nm,22.0s						
ISCO	Idaho Springs	123.50	41	PFAKE		00 22 50.0	+12
ISCO				LR	LR		
	comp=Z,579nm,21.0s						
ISCO	Idaho Springs	123.50	41	⇑P	PKPdf	00 22 38.3	0.0
	baz=123						
T21A	Navajo Lake	123.57	45	⇑P	PKPdf	00 22 38.6	+0.2
	baz=124						
S22A	4UR Ranch, Cre	123.71	44	⇑P	PKPdf	00 22 39.0	+0.3
	baz=124						
W20A	Ramah	123.72	47	⇑P	PKPdf	00 22 39.0	+0.3
	baz=124						
U21A	Nageezi	123.75	46	⇑P	PKPdf	00 22 39.0	+0.3
	baz=124						
AGMN	Agassiz Nation	123.77	28	PFAKE		00 22 50.0	+12
AGMN				LR	LR		
	comp=Z,455nm,20.0s						
T22A	Edith	124.01	45	⇑P	PKPdf	00 22 40.0	+0.8
	baz=124						
Y20A	Horse Springs,	124.34	49	⇓P	PKPdf	00 22 39.6	-0.4
	baz=124						
U22A	Llaves	124.34	45	⇓P	PKPdf	00 22 40.4	+0.6
	baz=124						
Z20A	Nine Sixteen R	124.51	50	⇑P	PKPdf	00 22 40.6	+0.4
	baz=124						
V22A	San Miguel Ran	124.52	46	⇑P	PKPdf	00 22 40.6	+0.3
	baz=124						
X21A	Alamocita Cree	124.55	48	⇑P	PKPdf	00 22 40.6	+0.3
	baz=124						
P25A	Willow Gulch B	124.60	41	⇑P	PKPdf	00 22 40.4	+0.2
	baz=124						
DBIC	Dimbokro	124.61	277	PKP	PKPdf	00 22 39.8	-0.8
	comp=Z,7.0nm,0.7s,baz=47,slow=2.7,SNR=10						
DBIC				PP	PP	00 24 26.6	-1.1
	comp=Z,5.3nm,1.1s,baz=79,slow=4.5,SNR=3.7						
DBIC	Dimbokro	124.61	277	*e*PKPdf	PKPdf	00 22 39.4	-1.2
DBIC				PKP	PKPdf	00 22 39.8	-0.8
DBIC				PP	PP	00 24 26.6	-1.1
DBIC				LR	LR		
	comp=Z,609nm,21.0s						
120A	U Bar Ranch, L	124.72	50	⇑P	PKPdf	00 22 40.8	+0.2
	baz=125						
LIC	Lamto	124.81	277	*e*PKIKP	PKPdf	00 22 39.0	-2.0
	comp=Z,37nm,0.9s						
LIC	Lamto	124.81	277	*e*PKPdf	PKPdf	00 22 39.0	-2.0
Y21A	Point of Rocks	124.82	48	⇓P	PKPdf	00 22 41.4	+0.5
	baz=125						
Q25A	Bedland, Calha	124.87	41	⇑P	PKPdf	00 22 40.6	-0.2
	baz=125						
LAZ	Ladron	125.05	48	*e*PKPdf	PKPdf	00 22 42.5	+1.2
220A	Playas Peak, P	125.06	51	⇑P	PKPdf	00 22 41.4	+0.1
	baz=125						
P26A	Davis Ranch, A	125.11	40	⇑P	PKPdf	00 22 41.0	-0.1
	baz=125						
V23A	Ortiz Mt. (NFS	125.12	46	⇑P	PKPdf	00 22 41.9	+0.6
	baz=125						
Z21A	St. Cloud Mine	125.13	49	⇑P	PKPdf	00 22 41.5	0.0
	baz=125						
OGNE	Ogallala	125.16	38	PFAKE		00 22 50.0	+8.9
OGNE				LR	LR		
	comp=Z,551nm,20.0s						
R25A	Fountain Ranch	125.25	42	⇓P	PKPdf	00 22 41.3	-0.1
	baz=125						
320A	Kipp Ranch, An	125.29	52	⇑P	PKPdf	00 22 42.0	+0.3
	baz=125						
ANMO	Albuquerque	125.30	47	PKP	PKPdf	00 22 41.4	-0.3
	comp=Z,5.8nm,1.1s,baz=304,slow=3.6,SNR=10						
ANMO	Albuquerque	125.30	47	*e*PKPdf	PKPdf	00 22 41.4	-0.3
ANMO				LR	LR		
	comp=Z,410nm,20.0s						
Y22A	Socorro	125.38	48	⇑P	PKPdf	00 22 42.0	+0.2
	baz=125						
S25A	Robets Cordova	125.39	43	⇑P	PKPdf	00 22 41.6	-0.2
	baz=125						
BNM	Barren Site	125.54	48	*e*P	PKPdf	00 22 42.0	-0.2
T25A	Trinidad	125.68	43	⇑P	PKPdf	00 22 42.4	0.0
	baz=126						
Z22A	Elephant Butte	125.68	49	⇑P	PKPdf	00 22 42.3	-0.1
	baz=126						
R26A	Arlington	125.72	42	⇓P	PKPdf	00 22 42.0	-0.3
	baz=126						
V24A	Rampart Ranch,	125.78	45	⇑P	PKPdf	00 22 42.8	+0.2
	baz=126						
W24A	Lazy 6 Ranch,	125.93	46	⇑P	PKPdf	00 22 42.7	-0.3
	baz=126						
EYMN	Ely	126.00	26	PFAKE		00 22 50.0	+7.6
EYMN				LR	LR		
	comp=Z,536nm,20.0s						
S26A	Kim	126.07	42	⇑P	PKPdf	00 22 42.6	-0.4
	baz=126						
SCHQ	Schefferville	126.15	5	PKP	PKPdf	00 22 42.2	-0.2
	comp=Z,9.5nm,1.0s,baz=25,slow=4.3,SNR=8.8						
SCHQ				PP	PP	00 24 36.4	+0.8
	comp=Z,12nm,1.2s,baz=7.8,slow=5.6,SNR=5.8						
SCHQ	Schefferville	126.15	5	PKP	PKPdf	00 22 42.2	-0.2
SCHQ				PP	PP	00 24 36.4	+0.8
R27A	Eads	126.16	41	⇑P	PKPdf	00 22 43.2	+0.1
	baz=126						
V25A	Rancho No Teng	126.19	45	⇓P	PKPdf	00 22 43.3	-0.1
	baz=126						
T26A	Comanche Natio	126.22	43	⇑P	PKPdf	00 22 43.1	-0.3
	baz=126						
Y24A	Capitan	126.52	47	⇓P	PKPdf	00 22 44.0	-0.1
	baz=126						
U26A	Atchley Ranch,	126.52	44	⇑P	PKPdf	00 22 43.8	-0.2
	baz=126						
ECSD	EROS Data Cent	126.56	32	*e*PKPdf	PKPdf	00 22 41.8	-1.8
ECSD				LR	LR		
	comp=Z,500nm,21.0s						
Y25A	Mesa, Roswell	127.06	47	⇑P	PKPdf	00 22 44.8	-0.2
	baz=127						
BGNE	Belgrade	127.22	36	⇑P	PKPdf	00 22 44.3	-0.6
	baz=127						
Z25A	Roswell	127.35	48	⇑P	PKPdf	00 22 45.5	-0.1
	baz=127						
X26A	CR and CF Fran	127.40	46	⇓P	PKPdf	00 22 46.0	+0.3
	baz=127						
EFI	East Falkland	127.41	182	PFAKE		00 22 50.0	+5.1
EFI				LR	LR		
	comp=Z,944nm,21.0s						
324A	Moseley Ranch,	127.61	50	⇓P	PKPdf	00 22 46.1	-0.1
	baz=128						
425A	Indio Mountain	128.28	51	⇑P	PKPdf	00 22 47.1	-0.4
	baz=128						
Z27A	Tatum	128.44	47	⇓P	PKPdf	00 22 47.1	-0.5
	baz=128						
COWI	Conover	128.45	26	PFAKE		00 23 00.0	+13
COWI				LR	LR		
	comp=Z,600nm,21.0s						
AMTX	Amarillo	128.74	44	PFAKE		00 23 00.0	+12
AMTX				LR	LR		
	comp=Z,487nm,21.0s						
Y29A	Porterfield Fa	129.28	45	⇓P	PKPdf	00 22 49.5	+0.3
	baz=129						
526A	Mary Lane Ranc	129.29	51	⇓P	PKPdf	00 22 49.2	-0.2
	baz=129						
427A	Hayter Ranch,	129.47	50	⇓P	PKPdf	00 22 49.6	-0.1
	baz=129						
626A	Big Bend Ranch	129.48	52	⇓P	PKPdf	00 22 49.7	0.0
	baz=129						
KSU1	Kansas State U	129.59	37	PFAKE		00 23 00.0	+10
KSU1				LR	LR		
	comp=Z,327nm,21.0s						
527A	Woodward Ranch	129.62	51	⇓P	PKPdf	00 22 49.8	-0.2
	baz=130						
SCIA	State Center	129.63	32	PFAKE		00 23 00.0	+11
SCIA				LR	LR		
	comp=Z,437nm,19.0s						
328A	Wristen Ranch,	129.67	49	⇓P	PKPdf	00 22 50.1	+0.1
	baz=130						
129A	Stewart Farms,	129.76	47	⇓P	PKPdf	00 22 49.6	-0.5
	baz=130						
TXAR	Lajitas Array	129.94	52	PKP	PKPdf	00 22 51.1	+0.5
	comp=Z,1.1nm,0.9s,baz=256,slow=1.4,SNR=5.5						
TXAR	Lajitas Array	129.94	52	PKP	PKPdf	00 22 51.1	+0.5
428A	Kincaid Ranch,	130.07	50	⇑P	PKPdf	00 22 51.3	+0.5
	baz=130						
529A	Stev Forest Ra	130.70	50	⇓P	PKPdf	00 22 52.0	+0.1
	baz=131						
429A	Davenport Ranc	130.72	49	⇑P	PKPdf	00 22 52.0	+0.1
	baz=131						
WMOK	Wichita Mounta	130.82	43	PFAKE		00 23 00.0	+8.0
WMOK				LR	LR		
	comp=Z,602nm,20.0s						
430A	Baggett Ranch,	131.13	49	⇓P	PKPdf	00 22 52.6	-0.1
	baz=131						
GLMI	Grayling	131.35	23	PFAKE		00 23 00.0	+7.3
GLMI				LR	LR		
	comp=Z,436nm,20.0s						
530A	J-C Ranch, Com	131.37	50	⇓P	PKPdf	00 22 53.4	+0.2
	baz=131						
431A	Sonora	131.66	48	⇑P	PKPdf	00 22 53.9	+0.1
	baz=132						
631A	Perdido Creek	132.30	50	⇓P	PKPdf	00 22 55.2	+0.3
	baz=132						
JCT	Junction City	132.36	48	*e*PKIKP	PKPdf	00 22 54.8	-0.2
JCT				MLR	MLR		
	comp=Z,349nm,20.0s						
JCT	Junction City	132.36	48	*e*PKPdf	PKPdf	00 22 54.8	-0.2
JCT				LR	LR		
	comp=Z,349nm,20.0s						
JCT	Junction City	132.36	48	⇓P	PKPdf	00 22 55.5	+0.4
	baz=132						
532A	Rocksprings	132.46	49	⇑P	PKPdf	00 22 55.8	+0.6
	baz=132						
HDIL	Hopedale	132.64	30	PFAKE		00 23 10.0	+15
HDIL				LR	LR		
	comp=Z,389nm,21.0s						
632A	Uvalde	132.85	49	⇓P	PKPdf	00 22 56.4	+0.5
	baz=133						
AAM	Ann Arbor	133.84	24	PFAKE		00 23 10.0	+13
AAM				LR	LR		
	comp=Z,577nm,20.0s						
MIAR	Mount Ida	134.36	40	*e*PKIKP	PKPdf	00 22 58.2	-0.4
MIAR				MLR	MLR		
	comp=Z,379nm,20.0s						
MIAR	Mount Ida	134.36	40	*e*PKPdf	PKPdf	00 22 58.2	-0.4
MIAR				LR	LR		
	comp=Z,379nm,20.0s						
LONY	Lake Ozonia	134.79	15	PFAKE		00 23 10.0	+11
LONY				LR	LR		
	comp=Z,543nm,19.0s						
NATX	Nacogdoches	135.35	43	PFAKE		00 23 10.0	+9.4
NATX				LR	LR		
	comp=Z,675nm,20.0s						
ERPA	Erie	135.41	21	PFAKE		00 23 10.0	+10
ERPA				LR	LR		
	comp=Z,444nm,19.0s						
LBNH	Lisbon	135.77	12	PFAKE		00 23 10.0	+9.0
LBNH				LR	LR		
	comp=Z,910nm,22.0s						
ACSO	Alum Creek Sta	135.84	25	PFAKE		00 23 10.0	+8.8
ACSO				LR	LR		
	comp=Z,558nm,19.0s						
BINY	Binghamton	136.65	17	PFAKE		00 23 10.0	+7.3
BINY				LR	LR		
	comp=Z,725nm,21.0s						
WVT	Waverly	136.69	33	*e*PKIKP	PKPdf	00 23 03.1	+0.1
WVT	Waverly	136.69	33	*e*PKPdf	PKPdf	00 23 03.0	+0.1
OXF	Oxford	136.95	36	*e*PKIKP	PKPdf	00 23 03.3	-0.1
OXF				MLR	MLR		
	comp=Z,407nm,19.0s						
OXF	Oxford	136.95	36	*e*PKPdf	PKPdf	00 23 03.3	-0.1
OXF				LR	LR		
	comp=Z,407nm,19.0s						
PLCA	Paso Flores	137.31	168	PKP	PKPdf	00 23 04.6	+0.6
	comp=Z,7.8nm,1.1s,baz=190,slow=1.9,SNR=3.8						
PLCA	Paso Flores	137.31	168	*e*PKPdf	PKPdf	00 23 04.3	+0.2
PLCA				PKP	PKPdf	00 23 04.6	+0.6
PLCA				LR	LR		
	comp=Z,458nm,20.0s						
PLAL	Pickwick Lake	137.39	35	PFAKE		00 23 10.0	+5.7
PLAL				LR	LR		
	comp=Z,528nm,20.0s						
VBMS	Vicksburg	137.81	40	PFAKE		00 23 20.0	+15
VBMS				LR	LR		
	comp=Z,676nm,20.0s						
TKL	Tuckaleechee C	139.18	30	PKP	PKPdf	00 23 08.5	+0.9
	baz=323,slow=5.1						
TKL	Tuckaleechee C	139.18	30	PKP	PKPdf	00 23 08.5	+0.9
LRAL	Lakeview Retre	139.41	36	PFAKE		00 23 20.0	+12
LRAL				LR	LR		
	comp=Z,467nm,19.0s						
CBN	Corbin	139.80	21	PFAKE		00 23 20.0	+11
CBN				LR	LR		
	comp=Z,610nm,21.0s						
BRAL	Brewton	140.80	38	PFAKE		00 23 20.0	+9.4
BRAL				LR	LR		
	comp=Z,468nm,22.0s						
TRQA	Tornquist	141.01	178	PFAKE		00 23 20.0	+9.2
TRQA				LR	LR		
	comp=Z,327nm,21.0s						
GOGA	Godfrey	141.09	32	PFAKE		00 23 20.0	+8.9
GOGA				LR	LR		
	comp=Z,402nm,22.0s						
SACV	Santiago Islan	141.40	293	PFAKE		00 23 20.0	+7.9
SACV				LR	LR		
	comp=Z,390nm,19.0s						
FCH	Farellones	144.45	165	*e*P	PKPab	00 23 09.3	-6.3
TEIG	Tepich	146.54	53	PFAKE		00 23 30.0	+6.7
TEIG				LR	LR		
	comp=Z,448nm,21.0s						
CFAA	Coronel Fontan	146.59	167	PKPbc	PKPdf	00 23 21.2	+0.4
	comp=Z,2.3nm,0.9s,baz=205,slow=3.5,SNR=20						
CFAA	Coronel Fontan	146.59	167	PKPbc	PKPdf	00 23 21.2	+0.4
LCO	Las Campanas	148.41	162	*e*PKPdf	PKPdf	00 23 24.1	-0.1
BBSR	BB Station	148.58	7	PFAKE		00 23 30.0	-1.0
BBSR				LR	LR		
	comp=Z,312nm,19.0s						
SPB	Sao Paulo	152.54	206	PFAKE		00 23 40.0	+2.7
SPB				LR	LR		
	comp=Z,451nm,20.0s						
CPUP	Villa Florida	152.61	185	PKP	PKPdf	00 23 30.6	+0.2
	comp=Z,0.8nm,0.4s,baz=22,slow=1.7,SNR=3.8						
CPUP				PKPbc	PKPbc	00 23 36.9	-0.5
	comp=Z,14nm,0.9s,baz=141,slow=2.1,SNR=13						
CPUP	Villa Florida	152.61	185	PKP	PKPdf	00 23 30.6	+0.2
CPUP				PKPbc	PKPbc	00 23 36.9	-0.5
JTS	JuntasAbangare	153.68	69	PFAKE		00 23 40.0	-0.1
JTS				LR	LR		
	comp=Z,547nm,22.0s						
RCBR	Riachuelo	154.86	254	PKPab	PKPab	00 23 57.8	-0.1
	comp=Z,27nm,1.1s,baz=104,slow=3.0,SNR=3.3						
RCBR	Riachuelo	154.86	254	PKPab	PKPab	00 23 57.8	-0.1
RCBR				LR	LR		
	comp=Z,581nm,21.0s						
LVC	Limon Verde	154.94	161	PFAKE		00 23 40.0	-2.9
LVC				LR	LR		
	comp=Z,36nm,19.0s						
MTDJ	Mount Denham	155.87	44	PFAKE		00 23 50.0	-12
MTDJ				LR	LR		
	comp=Z,380nm,19.0s						
GTBY	Guantanamo Bay	156.21	37	PFAKE		00 23 50.0	-13
GTBY				LR	LR		
	comp=Z,392nm,19.0s						
GRTK	Grand Turk	157.03	27	PFAKE		00 23 50.0	+13
GRTK				LR	LR		
	comp=Z,376nm,20.0s						
BCIP	Isla Barro Col	158.80	67	PFAKE		00 23 50.0	+11
BCIP				LR	LR		
	comp=Z,363nm,22.0s						
NNA	Nana	158.92	129	PKPab	PKPab	00 24 16.6	+1.4
	comp=Z,13nm,0.9s,baz=245,slow=10,SNR=2.2						
NNA	Nana	158.92	129	PKPab	PKPab	00 24 16.6	+1.4
NNA				LR	LR		
	comp=Z,290nm,20.0s						
SDDR	Presa de Saban	159.12	31	PFAKE		00 23 50.0	+11
SDDR				LR	LR		
	comp=Z,503nm,21.0s						
BDFB	Brasilia	159.52	215	PKP	PKPdf	00 23 39.0	-0.9
	comp=Z,2.7nm,0.8s,baz=147,slow=4.3,SNR=5.2						
BDFB				PKPab	PKPab	00 24 17.7	-0.1
	comp=Z,44nm,0.9s,baz=134,slow=2.8,SNR=26						
BDFB	Brasilia	159.52	215	PKP	PKPdf	00 23 39.0	-0.9
BDFB				PKPab	PKPab	00 24 17.7	-0.1
BDFB				LR	LR		
	comp=Z,816nm,21.0s						
ATAH	Atahualpa	160.02	114	PKP	PKPdf	00 23 42.0	+1.1
	comp=Z,5.1nm,0.7s,baz=19,slow=4.9,SNR=6.4						
ATAH				PKPab	PKPab	00 24 22.1	+1.5
	comp=Z,38nm,1.2s,baz=282,slow=6.3,SNR=16						
ATAH	Atahualpa	160.02	114	PKP	PKPdf	00 23 42.0	+1.1
ATAH				PKPab	PKPab	00 24 22.1	+1.5
LPAZ	La Paz	161.01	156	PKP	PKPdf	00 23 42.6	+0.4
	comp=Z,6.6nm,1.0s,baz=48,slow=5.9,SNR=11						
LPAZ				PKPab	PKPab	00 24 25.4	+0.6
	comp=Z,20nm,1.1s,baz=154,slow=4.5,SNR=11						
LPAZ				PP	PP	00 28 11.8	+5.5
	comp=Z,5.9nm,1.1s,baz=188,slow=7.1,SNR=5.2						
LPAZ	La Paz	161.01	156	*e*PKPdf	PKPdf	00 23 41.9	-0.3
LPAZ				PKP	PKPdf	00 23 42.6	+0.4
LPAZ				*e*PKPab	PKPab	00 24 25.2	+0.4
LPAZ				PKPab	PKPab	00 24 25.4	+0.6
LPAZ				PP	PP	00 28 11.8	+5.5
LPAZ				LR	LR		
	comp=Z,461nm,22.0s						
OTAV	Otavalo	161.65	93	*e*PKPdf	PKPdf	00 23 42.0	-0.9
OTAV				*e*PKPab	PKPab	00 24 27.1	-0.7
OTAV				LR	LR		
	comp=Z,325nm,20.0s						
SJG	San Juan	162.07	19	PFAKE		00 23 50.0	+7.5
SJG				LR	LR		
	comp=Z,269nm,20.0s						
SIV	San Ignacio	163.01	177	PKP	PKPdf	00 23 43.8	+0.3
	comp=Z,5.9nm,1.0s,baz=146,slow=2.2,SNR=9.2						
SIV				PKPab	PKPab	00 24 32.7	0.0
	comp=Z,11nm,1.1s,baz=194,slow=5.4,SNR=3.3						
SIV				PP	PP	00 28 17.3	+1.5
	comp=Z,4.2nm,0.9s,baz=188,slow=8.0,SNR=4.7						
SIV	San Ignacio	163.01	177	PKP	PKPdf	00 23 43.8	+0.3
SIV				PKPab	PKPab	00 24 32.7	0.0
SIV				PP	PP	00 28 17.3	+1.5
ANWB	Willy Bob	163.44	6	PFAKE		00 23 50.0	+6.2
ANWB				LR	LR		
	comp=Z,470nm,19.0s						
ROSC	El Rosal	165.33	75	PKPab	PKPab	00 24 45.4	+1.5
	comp=Z,3.6nm,0.5s,baz=177,slow=7.1,SNR=5.1						
ROSC	El Rosal	165.33	75	PKPab	PKPab	00 24 45.4	+1.5
FDF	Fort de France	166.40	4	PFAKE		00 24 00.0	+14
FDF				LR	LR		
	comp=Z,384nm,20.0s						
SDV	Santo Domingo	166.98	53	PFAKE		00 24 00.0	+13
SDV				LR	LR		
	comp=Z,214nm,22.0s						
GRGR	Grenville	168.92	8	PFAKE		00 24 00.0	+12
GRGR				LR	LR		
	comp=Z,461nm,19.0s						
SAML	Samuel	169.58	163	*e*PKPdf	PKPdf	00 23 47.0	-1.6
SAML				*e*PKPab	PKPab	00 25 01.9	+0.1
SAML				LR	LR		
	comp=Z,406nm,21.0s						

---

*ISK **02** 00:04:07.6, 37°.08N×29°.10E, h26km, MD2.4*
*CSEM **02** 00:04:11.0±0.3, 37°.00N×29°.19E, h8km, MD2.7, Error ellipse: s-maj=9.2km s-min=6.6km az=50.0*
*DDA **02** 00:04:12.2, 37°.05N×29°.17E, h7km, MD2.7*
ISC 02 00:04:11.2±1.2**, 37°.01N**±0°.04×**29°.16E**±0°.04**, h6**km±13km**, n11,** σ**0ˢ.98**/19**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.38	189	*e*PG	Pg	00 04 17.7	-0.9
FETY				*e*SG	Sg	00 04 24.7	+1.1
FETY	Fethiye	0.38	189	*e*Pg	Pg	00 04 17.7	-0.9
FETY				*e*Sg	Sg	00 04 24.7	+1.1
ELL	Elmali	0.66	113	*e*PG	Pg	00 04 22.5	-1.3
ELL				*e*SG	Sg	00 04 33.6	+1.2
ELL	Elmali	0.66	113	*e*Pg	Pg	00 04 22.5	-1.3
ELL				*e*Sg	Sg	00 04 33.6	+1.2
DNZL	Cakiroluk	0.69	352	*i* P	Pg	00 04 23.9	-0.6
DNZL				*i* S	Sb	00 04 34.5	-1.0
DNZL	Cakiroluk	0.69	352	*i* P	Pg	00 04 23.9	-0.6
DNZL				*i* S	Sb	00 04 34.5	-1.0
KORT	Korkueli	0.95	90	*i* P	Pg	00 04 29.6	0.0
KORT				*i* S	Sn	00 04 45.2	-0.1
KORT	Korkueli	0.95	90	*i* P	Pg	00 04 29.6	0.0
AYDN	Tasoluk	1.21	303	*i* P	Pb	00 04 34.7	+0.2
AYDN				*i* S	Sn	00 04 52.2	+0.7
AYDN	Tasoluk	1.21	303	*i* P	Pb	00 04 34.7	+0.2
AYDN				*i* S	Sn	00 04 52.2	+0.7
BCK	Bucak	1.23	68	*e*PN	Pg	00 04 29.4	-5.3

AUST 02 00:13:56.4±0.0**, 4°.89S**×**129°.02E, h332**km**, Error ellipse: s-maj=2.1km s-min=1.3km az=299.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	Tual	3.78	102	P	Pn	00 15 02.7	+0.6
	baz=3.8,SNR=3.5						
MTN	Manton Dam	8.17	165	P	Pn	00 15 53.0	+0.6
	baz=8.2,SNR=4.0						
MTN				S	S	00 17 05.3	-22
	baz=8.2,SNR=4.2						
KDU	Kakadu	8.46	156	P	Pn	00 15 55.3	-0.6
	baz=8.5,SNR=31						
KDU				S	S	00 17 07.0	-26
	baz=8.5,SNR=6.4						
WSI	Waingapu	9.87	241	P	Pn	00 16 12.8	-0.1
	baz=9.9,SNR=3.6						
PCI	Palu	9.99	293	P	Pn	00 15 57.0	-17
	baz=10.0,SNR=6.9						
PCI				S	S	00 18 21.6	+14
	baz=10.0,SNR=20						
PALU	Palau	13.32	24	P	Pn	00 16 53.9	-0.2
	baz=13,SNR=5.1						

---

*ISCJB **02** 00:16:17.0±1.6, 39°.4N±0°.1×75°.02E±0°.07, h10km, Error ellipse: s-maj=15.5km s-min=6.3km az=17.6*
*NNC **02** 00:16:20.4±4.5, 39°.62N×74°.96E, h8km±27km, mb3.7, mpv3.3, Error ellipse: s-maj=39.3km s-min=19.1km az=167.0*
ISC 02 00:16:16.5±2.3**, 39°.4N**±0°.2×**74°.94E**±0°.06**, h10**km**, n15,** σ**1ˢ.41**/20**, 4C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.81	81	Pg	Pg	00 16 32.1	0.0
KSH				Sg	Sg	00 16 41.1	-1.6
KSH				smax	smax		
	comp=N,270nm,0.3s						
KSH				smax	smax		
	comp=E,290nm,0.3s						
KSH	Kashi	0.81	81	Pg	Pg	00 16 32.1	0.0
KSH				Sg	Sg	00 16 41.1	-1.6
KSH				smax	smax		
	comp=N,270nm,0.3s						
KSH				smax	smax		
	comp=E,290nm,0.3s						
KZA	Kyzart	2.69	5	P	Pn	00 17 00.1	-0.2
	SNR=24						
UCH	Uchtor	2.85	354	P	Pn	00 17 03.6	+1.1
	SNR=5.1						
AML	Almayashu	2.90	341	P	Pn	00 17 04.8	+1.8
	SNR=40						
ULHL	Ulahol	3.02	19	P	Pn	00 17 03.7	-0.8
	SNR=13						
AAK	Ala-Archa	3.25	354	P	Pn	00 17 09.3	+1.6
	SNR=14						
KBK	Karagaybulak	3.26	0	P	Pn	00 17 09.2	+1.4
	SNR=24						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**3.38**	**345**	P	Pb	00 17 12.4	-4.2
	SNR=17						
TKM2	**Tokmak 2**	**3.56**	**8**	⇑Pn	**Pn**	**00 17 12.4**	**+0.4**
	comp=E,23nm,0.4s						
TKM2				⇓Sn	**Sn**	**00 17 52.9**	**-1.3**
	comp=E,19nm,0.5s						
TKM2	**Tokmak 2**	**3.56**	**8**	P	**Pn**	**00 17 12.5**	**+0.5**
	SNR=44						
CHMS	**Chumysh**	**3.61**	**358**	P	**Pn**	**00 17 13.6**	**+1.2**
	SNR=11						
USP	**Ospenovka**	**3.88**	**355**	P	**Pn**	**00 17 17.4**	**+1.1**
	SNR=7.1						
KNDC	**Almaty**	**4.11**	**21**	⇓Pn	**Pn**	**00 17 21.3**	**+1.8**
	comp=E,5.0nm,0.3s						
KNDC				⇓Sn	**Sn**	**00 18 09.6**	**+2.0**
	comp=E,89nm,0.8s						
KK31	**Karatay Array**	**4.99**	**319**	⇓Pn	**Pn**	**00 17 31.3**	**-0.2**
	comp=E,0.7nm,0.5s,baz=137,slow=16,SNR=13						
KK31				⇑Pg	**Pg**	**00 17 50.2**	**-1.8**
	comp=E,0.6nm,0.3s,baz=140,slow=14						
KK31				⇑Sn	**Sn**	**00 18 31.3**	**+2.2**
	comp=E,0.9nm,0.3s,baz=133,slow=25						
KK31				⇑Lg	Lg	00 18 53.7	
	comp=E,3.7nm,0.6s,baz=133,slow=29,SNR=4.7						

---

*ATH **02** 00:23:50.8, 39°.31N×23°.53E, h17km±2km, MD3.2/10*
*ISCJB **02** 00:23:51.4±0.5, 39°.33N±0°.02×23°.53E±0°.03, h12km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=3.9*
*THE **02** 00:23:51.7, 39°.33N×23°.51E, h13km, ML2.1/7, Error ellipse: s-maj=1.0km s-min=0.6km az=111.0*
*CSEM **02** 00:23:51.3±0.1, 39°.33N×23°.53E, h15km, ML2.1/7, Error ellipse: s-maj=4.0km s-min=2.5km az=99.0*
ISC 02 00:23:51.2±0.9**, 39°.33N**±0°.02×**23°.53E**±0°.02**, h13**km±6km**, n55, σ0s.40**/93**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.17**	**197**	P	**Pg**	**00 23 55.5**	**+0.2**
SKIA				S	**Sg**	**00 23 58.2**	**+0.1**
SKIA	**Skiathos**	**0.17**	**197**	P	**Pg**	**00 23 55.5**	**+0.2**
NEO	**Neokhori**	**0.24**	**264**	*e*PB	**Pg**	**00 23 56.4**	**0.0**
NEO				*e*SB	**Sg**	**00 23 59.6**	**-0.3**
NEO	**Neokhori**	**0.24**	**264**	*e*Pb	**Pg**	**00 23 56.4**	**0.0**
NEO				*e*Sb	**Sg**	**00 23 59.6**	**-0.3**
XOR	**Xorichti**	**0.27**	**277**	P	**Pg**	**00 23 56.7**	**-0.1**
XOR				S	**Sg**	**00 24 00.8**	**+0.2**
XOR	**Xorichti**	**0.27**	**277**	P	**Pg**	**00 23 56.7**	**-0.1**
AOS	**Alonnisos**	**0.32**	**121**	P	**Pg**	**00 23 58.1**	**+0.4**
AOS				S	**Sb**	**00 24 03.1**	**-0.6**
AOS	**Alonnisos**	**0.32**	**121**	P	**Pg**	**00 23 58.1**	**+0.4**
AOS				S	**Sb**	**00 24 03.1**	**-0.6**
PAIG	**Paliouri**	**0.60**	**11**	P	**Pb**	**00 24 04.0**	**+0.3**
PAIG				S	**Sb**	**00 24 13.5**	**+1.4**
PAIG	**Paliouri**	**0.60**	**11**	P	**Pb**	**00 24 04.0**	**+0.3**
PAIG				S	**Sb**	**00 24 13.5**	**+1.4**
MRKA	**Markates**	**0.63**	**176**	P	**Pb**	**00 24 04.0**	**0.0**
MRKA				S	**Sb**	**00 24 12.4**	**-0.3**
MRKA	**Markates**	**0.63**	**176**	P	**Pb**	**00 24 04.0**	**0.0**
MRKA				S	**Sb**	**00 24 12.4**	**-0.3**
ATAL	**Atalanti**	**0.75**	**212**	P	**Pg**	**00 24 05.8**	**0.0**
ATAL				S	**Sb**	**00 24 16.0**	**-0.3**
ATAL	**Atalanti**	**0.75**	**212**	P	**Pg**	**00 24 05.8**	**0.0**
ATAL				S	**Sb**	**00 24 16.0**	**-0.3**
LKR	**Lokris**	**0.80**	**211**	P	**Pg**	**00 24 06.5**	**-0.2**
LKR				S	**Sg**	**00 24 17.2**	**+0.1**
LKR	**Lokris**	**0.80**	**211**	*e*PN	**Pg**	**00 24 06.6**	**-0.2**
LKR				*e*SN	**Sg**	**00 24 17.2**	**+0.1**
LKR	**Lokris**	**0.80**	**211**	P	**Pg**	**00 24 06.5**	**-0.2**
LKR				S	**Sg**	**00 24 17.2**	**+0.1**
AXAR	**Agios Charalam**	**0.88**	**230**	P	**Pg**	**00 24 08.3**	**0.0**
AXAR				S	**Sb**	**00 24 20.8**	**+0.7**
AXAR	**Agios Charalam**	**0.88**	**230**	P	**Pg**	**00 24 08.3**	**0.0**
AXAR				S	**Sb**	**00 24 20.8**	**+0.7**
ERET	**Eretria**	**0.92**	**166**	P	**Pg**	**00 24 09.3**	**+0.4**
ERET				S	**Sb**	**00 24 21.6**	**+0.6**
ERET	**Eretria**	**0.92**	**166**	P	**Pg**	**00 24 09.3**	**+0.4**
ERET				S	**Sb**	**00 24 21.6**	**+0.6**
PLG	**Polygyros**	**1.04**	**356**	P	**Pb**	**00 24 10.7**	**-0.4**
PLG				S	**Sb**	**00 24 24.2**	**-0.5**
PLG	**Polygyros**	**1.04**	**356**	*e*PN	**Pb**	**00 24 10.7**	**-0.4**
PLG				*e*SN	**Sb**	**00 24 24.5**	**-0.2**
PLG	**Polygyros**	**1.04**	**356**	P	**Pb**	**00 24 10.7**	**-0.4**
PLG				S	**Sb**	**00 24 24.2**	**-0.5**
PLG				*e*Sn	**Sb**	**00 24 24.5**	**-0.2**
OUR	**Ouranopolis**	**1.06**	**19**	P	**Pb**	**00 24 11.2**	**-0.2**
OUR				S	**Sn**	**00 24 26.5**	**+0.2**
OUR	**Ouranopolis**	**1.06**	**19**	P	**Pb**	**00 24 11.2**	**-0.2**
OUR				S	**Sn**	**00 24 26.5**	**+0.2**
LIT	**Litokhoron**	**1.11**	**314**	P	**Pb**	**00 24 12.4**	**+0.2**
LIT				S	**Sn**	**00 24 28.3**	**+0.6**
LIT	**Litokhoron**	**1.11**	**314**	*e*PN	**Pb**	**00 24 12.5**	**+0.2**
LIT				*e*SN	**Sn**	**00 24 28.2**	**+0.6**
LIT	**Litokhoron**	**1.11**	**314**	*e*Pn	**Pb**	**00 24 12.5**	**+0.2**
LIT				S	**Sn**	**00 24 28.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.13**	**254**	P	**Pn**	**00 24 12.9**	**+0.1**
MAKR				S	**Sg**	**00 24 27.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.13**	**254**	P	**Pn**	**00 24 12.9**	**+0.1**
MAKR				S	**Sg**	**00 24 27.9**	**+0.1**
THL	**Klokotos Trika**	**1.20**	**282**	P	**Pn**	**00 24 13.3**	**-0.3**
THL	**Klokotos Trika**	**1.20**	**282**	*e*PN	**Pn**	**00 24 13.4**	**-0.2**
THL				*e*SN	**Sb**	**00 24 29.1**	**0.0**
THL	**Klokotos Trika**	**1.20**	**282**	*e*Pn	**Pn**	**00 24 13.4**	**-0.2**
THL				*e*Sn	**Sb**	**00 24 29.1**	**0.0**
DESF	**Desfina**	**1.21**	**221**	P	**Pn**	**00 24 13.4**	**-0.4**
DESF				S	**Sn**	**00 24 29.7**	**-0.3**
DESF	**Desfina**	**1.21**	**221**	P	**Pn**	**00 24 13.4**	**-0.4**
DESF				S	**Sn**	**00 24 29.7**	**-0.3**
DSF	**Desfina**	**1.21**	**221**	P	**Pn**	**00 24 13.2**	**-0.6**
DSF				S	**Sg**	**00 24 30.3**	**+0.1**
DSF	**Desfina**	**1.21**	**221**	P	**Pn**	**00 24 13.2**	**-0.6**
DSF				S	**Sg**	**00 24 30.3**	**+0.1**
HORT	**Hortiatis**	**1.31**	**345**	P	**Pn**	**00 24 14.9**	**-0.3**
HORT	**Hortiatis**	**1.31**	**345**	P	**Pn**	**00 24 14.9**	**-0.3**
PTL	**Penteli**	**1.31**	**168**	P	**Pn**	**00 24 15.1**	**-0.1**
PTL	**Penteli**	**1.31**	**168**	*e*PN	**Pn**	**00 24 15.1**	**-0.1**
PTL				*e*SN	**Sb**	**00 24 31.9**	**-0.4**
PTL	**Penteli**	**1.31**	**168**	P	**Pn**	**00 24 15.1**	**-0.1**
PTL				*e*Sn	**Sb**	**00 24 31.9**	**-0.4**
LTK	**Loutraki**	**1.38**	**199**	*e*PN	**Pn**	**00 24 16.2**	**0.0**
LTK	**Loutraki**	**1.38**	**199**	*e*Pn	**Pn**	**00 24 16.2**	**0.0**
EFP	**Efpalio**	**1.56**	**235**	*e*PN	**Pb**	**00 24 19.9**	**0.0**
EFP	**Efpalio**	**1.56**	**235**	*e*Pn	**Pb**	**00 24 19.9**	**0.0**
NAIG	**Nisos Aigina**	**1.57**	**181**	*e*PN	**Pb**	**00 24 20.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.57**	**181**	*e*Pn	**Pb**	**00 24 20.2**	**+0.1**
GUR	**Goura**	**1.68**	**214**	*e*PN	**Pn**	**00 24 20.5**	**+0.2**
GUR	**Goura**	**1.68**	**214**	*e*Pn	**Pn**	**00 24 20.5**	**+0.2**
KAVA	**Kavala**	**1.82**	**24**	P	**Pn**	**00 24 21.4**	**-0.9**
KAVA	**Kavala**	**1.82**	**24**	P	**Pn**	**00 24 21.4**	**-0.9**
DID	**Didima**	**1.84**	**187**	*e*PB	**Pn**	**00 24 22.5**	**0.0**
DID	**Didima**	**1.84**	**187**	*e*Pb	**Pn**	**00 24 22.5**	**0.0**

---

*ISCJB **02** 00:39:17.9±0.2, 4°.05S±0°.03×80°.93W±0°.04, h39km, mb4.6/60, MS4.1/6, Error ellipse: s-maj=7.0km s-min=3.5km az=144.0*
*IDC **02** 00:39:18.6±0.5, 4°.05S×80°.96W, h33km±2km, mb4.2/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.3/22, ML4.8/2, MS4.0/6, Ms1 4.0/6, ms1mx3.7/41, Error ellipse: s-maj=21.4km s-min=8.7km az=57.0*
*NEIC **02** 00:39:19.4±0.6, 4°.08S×80°.91W, h40km±5km, mb4.8/43, MD5.1(IGQ), Error ellipse: s-maj=8.6km s-min=4.3km az=56.0*
NEIC Felt [III] at Cabo Blanco, Lobitos and Talara; [II] at Paita, Peru.
ISC 02 00:39:18.9±0.3**, 4°.07S**±0°.05×**80°.97W**±0°.07**, h39**km**, h39**km**:pP-P, n496, σ1s.21**/561**, mb4.7**/60**, MS4.0**/6**, 155C-174D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.98**	**140**	Pn	Pn	00 40 21.4	+3.6
	21nm,0.3s,baz=351,slow=6.7,SNR=59						
ATAH				Sn	**Sn**	**00 41 05.0**	**+1.6**
	76nm,0.3s,baz=332,slow=20,SNR=7.0						
ATAH				Lg	Lg	00 41 22.6	
	114nm,0.3s,baz=172,slow=19,SNR=7.5						
ATAH				LR	LR	00 42 04.2	
	comp=Z,5μm,19.2s,baz=325,slow=42						
ATAH	**Atahualpa**	**3.98**	**140**	Pn	Pn	00 40 21.4	+3.6
ATAH				Sn	**Sn**	**00 41 05.0**	**+1.6**
ATAH				Lg	Lg	00 41 22.6	
OTAV	**Otavalo**	**4.96**	**31**	*e*Pn	**Pn**	**00 40 30.7**	**-0.6**
OTAV				*e*Sn	**Sn**	**00 41 29.3**	**+1.6**
NNA	**Nana**	**8.86**	**153**	Pn	**Pn**	**00 41 26.3**	**+1.7**
	5.9nm,0.3s,baz=327,slow=10.0,SNR=11						
NNA				Sn	**Sn**	**00 43 02.9**	**-0.4**
	18nm,0.3s,baz=228,slow=19,SNR=6.6						
NNA				Lg	Lg	00 43 46.0	
	6.2nm,0.3s,baz=236,slow=23,SNR=4.4						
NNA				LR	LR	00 45 01.3	
	comp=Z,875nm,19.1s,baz=328,slow=39						
NNA	**Nana**	**8.86**	**153**	*e*Pn	**Pn**	**00 41 25.9**	**+1.4**
NNA				*e*Sn	**Sn**	**00 43 04.5**	**+1.3**
NNA				Lg	Lg	00 43 46.0	
PAYG	**Puerto Ayora**	**9.90**	**290**	*e*Pn	**Pn**	**00 41 39.8**	**+1.1**
	24nm,0.6s						
PAYG				*e*Sn	Sn	00 43 20.4	-8.3
BCIP	**Isla Barro Col**	**13.20**	**5**	*e*Pn	**Pn**	**00 42 25.5**	**+1.6**
JTS	**JuntasAbangare**	**14.81**	**344**	*e*Pn	**Pn**	**00 42 48.0**	**+2.2**
SDV	**Santo Domingo**	**16.49**	**39**	*e*Pn	**Pn**	**00 43 05.7**	**-1.9**
	67nm,0.9s						
LPAZ	**La Paz**	**17.51**	**135**	P	**P**	**00 43 22.6**	**+1.0**
	2.3nm,0.3s,baz=336,slow=13,SNR=29						
LPAZ				sP	**sP**	**00 43 34.6**	**-1.8**
	2.1nm,0.3s,baz=319,slow=11,SNR=16						
LPAZ	**La Paz**	**17.51**	**135**	*e*P	**P**	**00 43 22.1**	**+0.5**
	31nm,0.7s						
LPAZ				sP	**sP**	**00 43 34.6**	**-1.8**
SAML	**Samuel**	**18.32**	**106**	*e*Pn	**Pn**	**00 43 30.4**	**+0.2**
	37nm,0.9s						
SAML				*e*Sn	**Sn**	**00 46 54.9**	**+1.0**
LVC	**Limon Verde**	**21.82**	**149**	*e*P	**P**	**00 44 10.7**	**+2.5**
	2.9nm,0.8s						
SIV	**San Ignacio**	**22.86**	**123**	P	**P**	**00 44 19.6**	**+0.4**
	22nm,0.9s,baz=306,slow=11,SNR=61						
SIV				LR	LR	00 53 52.6	
	comp=Z,418nm,18.8s,slow=38						
SIV	**San Ignacio**	**22.86**	**123**	P	**P**	**00 44 19.6**	**+0.4**
GTBY	**Guantanamo Bay**	**24.53**	**13**	*e*P	**P**	**00 44 36.7**	**+1.7**
	25nm,0.8s						
SDDR	**Presa de Saban**	**24.81**	**22**	*e*P	**P**	**00 44 38.6**	**+1.0**
	20nm,1.1s						
CMIG	**Matias Romero**	**25.12**	**327**	P	**P**	**00 44 41.2**	**+0.9**
	13nm,0.9s,baz=147,slow=5.1,SNR=6.9						
CMIG				LR	LR	00 52 25.5	
	comp=Z,315nm,21.8s,baz=181,slow=31						
CMIG	**Matias Romero**	**25.12**	**327**	P	**P**	**00 44 41.2**	**+0.9**
TEIG	**Tepich**	**25.19**	**344**	P	**P**	**00 44 41.4**	**+0.5**
	23nm,0.6s,baz=164,slow=9.8,SNR=15						
TEIG	**Tepich**	**25.19**	**344**	P	**P**	**00 44 41.4**	**+0.5**
LRS	**Lares**	**26.22**	**32**	P	**P**	**00 44 50.8**	**+0.5**
SJG	**San Juan**	**26.44**	**33**	P	**P**	**00 44 53.4**	**+1.1**
	21nm,0.7s,baz=268,slow=3.1,SNR=6.0						
SJG	**San Juan**	**26.44**	**33**	*e*P	**P**	**00 44 54.7**	**+2.4**
	21nm,0.7s						
LCO	**Las Campanas**	**26.65**	**160**	*e*P	**P**	**00 44 56.1**	**+1.6**
	15nm,0.9s						
CFAA	**Coronel Fontan**	**29.89**	**158**	P	**P**	**00 45 23.3**	**+0.2**
	1.5nm,0.8s,baz=338,slow=8.2,SNR=31						
CFAA				LR	LR	00 55 22.6	
	comp=Z,68nm,21.0s,baz=276,slow=32						
CFAA	**Coronel Fontan**	**29.89**	**158**	P	**P**	**00 45 23.3**	**+0.2**
CPUP	**Villa Florida**	**31.66**	**137**	P	**P**	**00 45 39.2**	**+0.6**
	4.1nm,0.7s,baz=293,slow=9.1,SNR=18						
CPUP				pP	**pP**	**00 45 48.4**	**-1.2**
	2.4nm,0.6s,baz=68,slow=1.2,SNR=4.0						
CPUP				PcP	**PcP**	**00 48 30.4**	**+0.2**
	3.2nm,0.7s,baz=306,slow=3.5,SNR=5.7						
CPUP				LR	LR	01 01 19.8	
	comp=Z,474nm,18.5s,baz=123,slow=42						
CPUP	**Villa Florida**	**31.66**	**137**	*e*P	**P**	**00 45 39.0**	**+0.3**
	19nm,0.6s						
CPUP				pP	**pP**	**00 45 48.4**	**-1.2**
CPUP				PcP	**PcP**	**00 48 30.4**	**+0.2**
BDFB	**Brasilia**	**34.38**	**112**	P	**P**	**00 46 03.3**	**+0.6**
	8.9nm,0.7s,baz=266,slow=10,SNR=19						
BDFB				PcP	**PcP**	**00 48 38.2**	**+0.1**
	2.9nm,0.6s,baz=213,slow=4.1,SNR=4.1						
BDFB	**Brasilia**	**34.38**	**112**	P	**P**	**00 46 03.3**	**+0.6**
BDFB				PcP	**PcP**	**00 48 38.2**	**+0.1**
HKT	**Hockley**	**36.70**	**338**	*e*P	**P**	**00 46 23.2**	**+1.0**
	14nm,1.1s						
LRAL	**Lakeview Retre**	**37.34**	**352**	*e*P	**P**	**00 46 27.4**	**-0.2**
	224nm,2.7s						
732A	**Laxson Ranch,**	**37.38**	**332**	⇑P	**P**	**00 46 29.4**	**+1.3**
	baz=38						
PLCA	**Paso Flores**	**37.69**	**167**	P	**P**	**00 46 30.9**	**+0.3**
	5.3nm,0.8s,baz=347,slow=8.7,SNR=13						
PLCA				PcP	**PcP**	**00 48 48.1**	**+0.7**
	5.1nm,0.8s,baz=37,slow=5.1,SNR=4.7						
PLCA	**Paso Flores**	**37.69**	**167**	*e*P	**P**	**00 46 32.3**	**+1.6**
PLCA				PcP	**PcP**	**00 48 48.1**	**+0.7**
SPB	**Sao Paulo**	**37.74**	**124**	*e*P	**P**	**00 46 30.7**	**-0.5**
	21nm,0.8s						
632A	**Uvalde**	**37.95**	**333**	⇓P	**P**	**00 46 34.0**	**+1.0**
	baz=38,SNR=10						
TRQA	**Tornquist**	**38.01**	**155**	*e*P	**P**	**00 46 34.2**	**+0.8**
	379nm,2.7s						
631A	**Perdido Creek**	**38.24**	**332**	⇑P	**P**	**00 46 36.2**	**+0.8**
	baz=38,SNR=7.5						
532A	**Rocksprings**	**38.53**	**333**	⇑P	**P**	**00 46 39.1**	**+1.2**
	baz=39,SNR=18						
JCT	**Junction City**	**38.79**	**334**	*e*P	**P**	**00 46 41.0**	**+1.0**
	9.9nm,0.8s						
JCT	**Junction City**	**38.79**	**334**	⇑P	**P**	**00 46 41.3**	**+1.3**
	baz=39						
531A	**Rocksprings**	**38.86**	**332**	⇓P	**P**	**00 46 42.0**	**+1.4**
	baz=39,SNR=12						
432A	**Menard**	**39.12**	**334**	⇑P	**P**	**00 46 44.2**	**+1.4**
	baz=39						
WHTX	**Lake Whitney**	**39.14**	**338**	⇓P	**P**	**00 46 43.7**	**+0.9**
	baz=39						
530A	**J-C Ranch, Com**	**39.22**	**332**	⇓P	**P**	**00 46 44.6**	**+1.0**
	baz=39						
431A	**Sonora**	**39.32**	**333**	⇓P	**P**	**00 46 45.5**	**+1.0**
	baz=40						
628A	**Black Gap, Mar**	**39.44**	**329**	⇑P	**P**	**00 46 46.9**	**+1.5**
	baz=40						
529A	**Stev Forest Ra**	**39.62**	**330**	⇑P	**P**	**00 46 48.3**	**+1.3**
	baz=40						
627A	**Terlingua Ranc**	**39.67**	**329**	⇓P	**P**	**00 46 48.4**	**+0.9**
	baz=40						
430A	**Baggett Ranch,**	**39.70**	**332**	⇑P	**P**	**00 46 48.3**	**+0.7**
	baz=40						
TXAR	**Lajitas Array**	**39.72**	**328**	P	**P**	**00 46 48.2**	**+0.3**
	1.1nm,0.7s,baz=147,slow=9.4,SNR=14						
TXAR				sP	**sP**	**00 47 01.9**	**-1.7**
	1.2nm,0.8s,baz=140,slow=11,SNR=6.5						
TXAR				PcP	**PcP**	**00 48 54.4**	**+0.4**
	1.4nm,0.7s,baz=158,slow=6.7,SNR=7.8						
TXAR	**Lajitas Array**	**39.72**	**328**	P	**P**	**00 46 48.2**	**+0.3**
TXAR				sP	**sP**	**00 47 01.9**	**-1.7**
TXAR				PcP	**PcP**	**00 48 54.4**	**+0.4**
429A	**Davenport Ranc**	**39.88**	**331**	⇑P	**P**	**00 46 50.0**	**+0.8**
	baz=40,SNR=5.2						
528A	**Cox Ranch, San**	**39.93**	**330**	⇑P	**P**	**00 46 50.5**	**+0.8**
	baz=40						
626A	**Big Bend Ranch**	**40.14**	**328**	⇓P	**P**	**00 46 52.5**	**+1.1**
	baz=40,SNR=6.6						
MIAR	**Mount Ida**	**40.20**	**344**	*e*P	**P**	**00 46 52.4**	**+0.7**
	20nm,1.2s						
527A	**Woodward Ranch**	**40.34**	**329**	⇓P	**P**	**00 46 54.0**	**+1.0**
	baz=40						
428A	**Kincaid Ranch,**	**40.34**	**331**	⇓P	**P**	**00 46 54.3**	**+1.2**
	baz=40,SNR=5.6						
526A	**Mary Lane Ranc**	**40.52**	**328**	⇑P	**P**	**00 46 55.7**	**+1.1**
	baz=41,SNR=6.6						
ABTX	**Abilene, Hawle**	**40.57**	**335**	⇓P	**P**	**00 46 55.4**	**+0.7**
	baz=41,SNR=6.4						
329A	**Wagon Wheel Ra**	**40.63**	**332**	⇑P	**P**	**00 46 56.1**	**+0.7**
	baz=41,SNR=15						
427A	**Hayter Ranch,**	**40.80**	**330**	⇑P	**P**	**00 46 57.5**	**+0.7**
	baz=41						
328A	**Wristen Ranch,**	**40.94**	**331**	⇑P	**P**	**00 46 58.7**	**+0.8**
	baz=41,SNR=7.9						
229A	**Bryant Ranch,**	**40.96**	**333**	⇑P	**P**	**00 46 58.8**	**+0.7**
	baz=41						
426A	**McDonald Obser**	**40.97**	**329**	⇑P	**P**	**00 46 59.0**	**+0.7**
	baz=41,SNR=9.7						
326A	**Caldwell Ranch**	**41.47**	**330**	⇑P	**P**	**00 47 03.0**	**+0.8**
	baz=42						
129A	**Stewart Farms,**	**41.54**	**333**	⇑P	**P**	**00 47 03.3**	**+0.4**
	baz=42						
425A	**Indio Mountain**	**41.56**	**328**	⇓P	**P**	**00 47 03.8**	**+0.7**
	baz=42,SNR=11						
227A	**Bennet, Jal**	**41.69**	**331**	⇑P	**P**	**00 47 05.0**	**+0.9**
	baz=42						
128A	**Castleberry Fa**	**41.81**	**332**	⇑P	**P**	**00 47 05.8**	**+0.7**
	baz=42						
Z29A	**Hungry Hill Ra**	**42.00**	**334**	⇓P	**P**	**00 47 07.2**	**+0.6**
	baz=42						
325A	**Bean Ranch, Si**	**42.02**	**329**	⇓P	**P**	**00 47 07.6**	**+0.7**
	baz=42						
TUL1	**Tulsa**	**42.13**	**342**	⇓P	**P**	**00 47 07.9**	**+0.5**
	baz=42,SNR=9.8						
127A	**Arkansas Junct**	**42.27**	**331**	⇑P	**P**	**00 47 09.7**	**+0.9**
	baz=42						
Z28A	**Tucker Farm, M**	**42.33**	**333**	⇓P	**P**	**00 47 10.2**	**+1.0**
	baz=42						
324A	**Moseley Ranch,**	**42.34**	**328**	⇑P	**P**	**00 47 09.8**	**+0.3**
	baz=42,SNR=7.8						
Y29A	**Porterfield Fa**	**42.49**	**334**	⇓P	**P**	**00 47 11.6**	**+1.0**
	baz=43						
225A	**Deer Hill, Car**	**42.53**	**329**	⇓P	**P**	**00 47 12.1**	**+1.0**
	baz=43						
126A	**Clayton Basin,**	**42.56**	**331**	⇑P	**P**	**00 47 12.4**	**+1.2**
	baz=43						
Z27A	**Tatum**	**42.73**	**332**	⇓P	**P**	**00 47 13.2**	**+0.7**
	baz=43						
Y28A	**McKinney Farm,**	**42.79**	**334**	⇓P	**P**	**00 47 13.4**	**+0.4**
	baz=43,SNR=5.8						
224A	**Cornudas Mount**	**42.86**	**329**	⇓P	**P**	**00 47 14.2**	**+0.5**
	baz=43,SNR=6.5						
125A	**Gardner Draw,**	**42.89**	**330**	⇑P	**P**	**00 47 14.7**	**+0.9**
	baz=43,SNR=6.3						
X29A	**Tulia**	**43.00**	**335**	⇓P	**P**	**00 47 15.4**	**+0.7**
	baz=43						
Z26A	**Caprock**	**43.05**	**331**	⇓P	**P**	**00 47 16.2**	**+1.0**
	baz=43,SNR=19						
MSTX	**Muleshoe**	**43.07**	**333**	⇑P	**P**	**00 47 16.0**	**+0.7**
	baz=43,SNR=7.6						
Y27A	**Causey**	**43.18**	**333**	⇓P	**P**	**00 47 17.0**	**+0.8**
	baz=43						
X28A	**Dimmitt**	**43.28**	**334**	⇑P	**P**	**00 47 17.6**	**+0.6**
	baz=44						
124A	**Stringfield Ra**	**43.32**	**329**	⇑P	**P**	**00 47 18.6**	**+1.1**
	baz=44,SNR=10						
AMTX	**Amarillo**	**43.37**	**335**	*e*P	**P**	**00 47 18.6**	**+0.9**
	12nm,0.9s						
AMTX	**Amarillo**	**43.37**	**335**	⇓P	**P**	**00 47 18.3**	**+0.7**
	baz=44						
Z25A	**Roswell**	**43.42**	**331**	⇓P	**P**	**00 47 19.2**	**+1.0**
	baz=44,SNR=10						
Y26A	**Elida**	**43.52**	**332**	⇑P	**P**	**00 47 19.9**	**+0.9**
	baz=44						
Z24A	**Sheeppen Canyo**	**43.78**	**330**	⇑P	**P**	**00 47 22.4**	**+1.3**
	baz=44,SNR=16						
X27A	**F and S Farms,**	**43.79**	**333**	⇓P	**P**	**00 47 22.0**	**+1.0**
	baz=44						
320A	**Kipp Ranch, An**	**43.93**	**325**	⇑P	**P**	**00 47 23.7**	**+1.4**
	baz=44,SNR=5.3						
Y25A	**Mesa, Roswell**	**43.93**	**331**	⇑P	**P**	**00 47 23.2**	**+0.9**
	baz=44						
X26A	**CR and CF Fran**	**44.03**	**333**	⇑P	**P**	**00 47 24.7**	**+1.7**
	baz=44						
W27A	**Bowe Ranch, En**	**44.12**	**334**	⇓P	**P**	**00 47 24.6**	**+0.8**
	baz=44,SNR=6.0						
Z23A	**Rita Site, Whi**	**44.16**	**329**	⇑P	**P**	**00 47 25.1**	**+0.9**
	baz=44						
Y24A	**Capitan**	**44.29**	**330**	⇓P	**P**	**00 47 26.4**	**+1.2**
	baz=44						
V28A	**Channing**	**44.34**	**335**	⇓P	**P**	**00 47 26.7**	**+1.2**
	baz=45						
220A	**Playas Peak, P**	**44.35**	**326**	⇓P	**P**	**00 47 27.0**	**+1.3**
	baz=44,SNR=7.2						
319A	**Douglas**	**44.39**	**325**	⇑P	**P**	**00 47 27.6**	**+1.6**
	baz=45,SNR=5.1						
X25A	**Clemmons Ranch**	**44.41**	**332**	⇓P	**P**	**00 47 27.2**	**+1.1**
	baz=45						
121A	**Cookes Peak, D**	**44.42**	**327**	⇓P	**P**	**00 47 27.7**	**+1.5**
	baz=45						
W26A	**Owens Ranch, T**	**44.46**	**333**	⇓P	**P**	**00 47 27.8**	**+1.3**
	baz=45						
Z22A	**Elephant Butte**	**44.54**	**328**	⇑P	**P**	**00 47 28.6**	**+1.4**
	baz=45,SNR=11						
Y23A	**Lovelace Mesa,**	**44.60**	**330**	⇓P	**P**	**00 47 29.1**	**+1.3**
	baz=45,SNR=11						
W25A	**X Bar L Ranch,**	**44.88**	**332**	⇑P	**P**	**00 47 31.0**	**+1.1**
	baz=45						
120A	**U Bar Ranch, L**	**44.89**	**326**	⇑P	**P**	**00 47 31.6**	**+1.5**
	baz=45						
Z21A	**St. Cloud Mine**	**44.95**	**328**	⇑P	**P**	**00 47 31.6**	**+1.0**
	baz=45						
V26A	**Tequesquite Ra**	**45.05**	**334**	⇑P	**P**	**00 47 32.3**	**+1.1**
	baz=45,SNR=11						
Y22A	**Socorro**	**45.07**	**329**	⇓P	**P**	**00 47 32.9**	**+1.5**
	baz=45						
Z20A	**Nine Sixteen R**	**45.30**	**327**	⇓P	**P**	**00 47 34.7**	**+1.5**
	baz=46,SNR=7.3						
W24A	**Lazy 6 Ranch,**	**45.32**	**332**	⇑P	**P**	**00 47 34.3**	**+0.9**
	baz=46,SNR=5.7						
KSU1	**Kansas State U**	**45.32**	**343**	*e*P	**P**	**00 47 33.8**	**+0.7**
	24nm,0.8s						
V25A	**Rancho No Teng**	**45.46**	**333**	⇑P	**P**	**00 47 35.5**	**+0.9**
	baz=46,SNR=8.3						
T28A	**Walsh**	**45.47**	**336**	⇓P	**P**	**00 47 35.1**	**+0.7**
	baz=46						
Y21A	**Point of Rocks**	**45.49**	**328**	⇓P	**P**	**00 47 36.5**	**+1.6**
	baz=46,SNR=5.6						
LAZ	**Ladron**	**45.52**	**329**	*e*P	**P**	**00 47 35.5**	**+0.4**
	0.9nm,0.8s						
U26A	**Atchley Ranch,**	**45.54**	**334**	⇓P	**P**	**00 47 36.2**	**+1.1**
	baz=46						
ANMO	**Albuquerque**	**45.61**	**330**	P	**P**	**00 47 36.8**	**+1.1**
	9.2nm,0.8s,baz=147,slow=9.7,SNR=35						
ANMO	**Albuquerque**	**45.61**	**330**	*e*P	**P**	**00 47 36.8**	**+1.1**
	10nm,0.9s						
W23A	**Werner Place,**	**45.63**	**331**	⇑P	**P**	**00 47 37.2**	**+1.3**
	baz=46,SNR=11						
T27A	**Campo**	**45.67**	**336**	⇑P	**P**	**00 47 36.6**	**+0.5**
	baz=46						
V24A	**Rampart Ranch,**	**45.67**	**332**	⇑P	**P**	**00 47 37.4**	**+1.1**
	baz=46						
Y20A	**Horse Springs,**	**45.79**	**328**	⇑P	**P**	**00 47 38.8**	**+1.6**
	baz=46,SNR=6.9						
U25A	**Circle Dot Ran**	**45.84**	**333**	⇑P	**P**	**00 47 38.4**	**+0.9**
	baz=46,SNR=5.1						
X21A	**Alamocita Cree**	**45.89**	**329**	⇓P	**P**	**00 47 39.7**	**+1.7**
	baz=46,SNR=9.0						
W22A	**Albuquerque**	**45.92**	**330**	⇑P	**P**	**00 47 39.5**	**+1.3**
	baz=46						
TUC	**Tucson**	**45.94**	**324**	*e*P	**P**	**00 47 38.8**	**+0.5**
V23A	**Ortiz Mt. (NFS**	**46.12**	**331**	⇓P	**P**	**00 47 40.8**	**+1.1**
	baz=46						
U24A	**Moreno Valley**	**46.24**	**333**	⇑P	**P**	**00 47 41.9**	**+1.1**
	baz=46						
W21A	**San Fidel**	**46.34**	**329**	⇑P	**P**	**00 47 43.2**	**+1.7**
	baz=46						
T25A	**Trinidad**	**46.45**	**334**	⇓P	**P**	**00 47 43.6**	**+1.3**
	baz=47						
S26A	**Kim**	**46.46**	**335**	⇓P	**P**	**00 47 43.6**	**+1.3**
	baz=47						
U23A	**El Rito**	**46.60**	**332**	⇓P	**P**	**00 47 44.7**	**+1.2**
	baz=47,SNR=6.8						
V22A	**San Miguel Ran**	**46.61**	**331**	⇓P	**P**	**00 47 45.3**	**+1.7**
	baz=47						
T24A	**Torres, Weston**	**46.68**	**333**	⇓P	**P**	**00 47 45.3**	**+1.1**
	baz=47						
R27A	**Eads**	**46.75**	**336**	⇓P	**P**	**00 47 45.2**	**+0.7**
	baz=47,SNR=9.4						
W20A	**Ramah**	**46.79**	**329**	⇓P	**P**	**00 47 46.3**	**+1.3**
	baz=47,SNR=5.0						
S25A	**Robets Cordova**	**46.90**	**334**	⇓P	**P**	**00 47 46.7**	**+0.9**
	baz=47,SNR=6.7						
214A	**Organ Pipe Nat**	**46.91**	**322**	⇑P	**P**	**00 47 46.6**	**+0.8**
	baz=47						
U22A	**Llaves**	**46.95**	**331**	⇑P	**P**	**00 47 47.7**	**+1.4**
	baz=47						
R26A	**Arlington**	**47.02**	**336**	⇓P	**P**	**00 47 47.7**	**+1.0**
	baz=47,SNR=7.0						
T23A	**Casias Ranch,**	**47.10**	**332**	⇑P	**P**	**00 47 48.4**	**+0.9**
	baz=47						
X18A	**Snowflake**	**47.10**	**327**	⇓P	**P**	**00 47 48.6**	**+1.2**
	baz=47						
S24A	**Houchin Ranch,**	**47.22**	**334**	⇑P	**P**	**00 47 49.9**	**+1.4**
	baz=47						
R25A	**Fountain Ranch**	**47.24**	**335**	⇓P	**P**	**00 47 49.3**	**+0.9**
	baz=48						
V20A	**Brimhall**	**47.29**	**329**	⇓P	**P**	**00 47 50.0**	**+1.0**
	baz=48						
U21A	**Nageezi**	**47.38**	**331**	⇑P	**P**	**00 47 51.0**	**+1.3**
	baz=48						
W18A	**Petrified Fore**	**47.43**	**328**	⇓P	**P**	**00 47 51.5**	**+1.5**
	baz=48						

T22A Edith 47.48 332 ⇓P P 00 47 51.2 +0.7
baz=48
R24A Sanders Place, 47.67 334 ⇑P P 00 47 53.2 +1.4
baz=48
P27A Ficken Ranch, 47.76 337 ⇓P P 00 47 54.0 +1.6
baz=48
T21A Navajo Lake 47.77 331 ⇓P P 00 47 53.8 +1.2
baz=48
U20A Newcomb 47.77 330 ⇑P P 00 47 53.8 +1.2
baz=48
X16A Lo Mia Camp, P 47.85 326 ⇓P P 00 47 54.6 +1.3
baz=48,SNR=7.4
Q25A Bedland, Calha 47.88 335 ⇓P P 00 47 54.1 +0.7
baz=48
R23A Moffat 47.95 334 ⇓P P 00 47 55.3 +1.2
baz=48
S22A 4UR Ranch, Cre 48.04 332 ⇓P P 00 47 55.8 +1.0
baz=48
113A Mohawk Valley, 48.05 322 ⇑P P 00 47 55.9 +1.3
baz=48
U19A Dine' College, 48.05 329 ⇑P P 00 47 55.4 +0.5
baz=48
P26A Davis Ranch, A 48.06 337 ⇓P P 00 47 55.8 +1.0
baz=48
Q24A Divide 48.30 335 ⇑P P 00 47 57.4 +0.6
baz=48
P25A Willow Gulch B 48.35 336 ⇓P P 00 47 57.5 +0.4
baz=49
T19A Beclabito 48.38 330 ⇑P P 00 47 57.9 +0.7
baz=49
R22A Saguache, Gunn 48.40 333 ⇑P P 00 47 58.7 +1.1
baz=49
Y14A Wickenburg 48.41 324 ⇓P P 00 47 58.6 +1.2
baz=49
MVCO Mesa Verde 48.41 330 eP P 00 47 58.8 +1.2
91nm,2.7s
MVCO Mesa Verde 48.41 330 ⇑P P 00 47 58.3 +0.7
baz=49
S21A Coal Bank Pass 48.43 331 ⇑P P 00 47 58.7 +0.9
baz=49
WUAZ Wupatki 48.62 327 eP P 00 48 00.5 +1.4
6.0nm,0.9s
WUAZ epP pP 00 48 11.5 +1.1
WUAZ Wupatki 48.62 327 ⇑P P 00 48 00.6 +1.4
baz=49,SNR=6.6
P24A Kohler Place, 48.66 335 ⇑P P 00 48 00.1 +0.7
baz=49
OGNE Ogallala 48.77 339 ⇓P P 00 48 00.8 +0.7
baz=49
N27A Anderson Farm, 48.83 338 ⇓P P 00 48 01.5 +0.9
baz=49
S20A Disappointment 48.83 331 ⇑P P 00 48 01.9 +1.0
baz=49
R21A Cimarron 48.88 332 ⇓P P 00 48 02.3 +1.1
baz=49
GLA Glamis 48.90 322 ⇑P P 00 48 02.7 +1.6
baz=49
P23A Jefferson 48.93 334 ⇑P P 00 48 03.3 +1.6
baz=49,SNR=10
Q22A Crested Butte, 48.98 333 ⇑P P 00 48 03.0 +0.9
baz=49,SNR=7.0
T18A Mexican Hat 49.04 329 ⇑P P 00 48 03.2 +0.9
baz=49,SNR=6.2
N26A Koester Ranch, 49.11 338 ⇓P P 00 48 03.5 +0.8
baz=49
R20A Redvale 49.13 331 ⇓P P 00 48 04.2 +1.2
baz=49,SNR=5.2
S19A Harvey Farm, M 49.15 330 ⇓P P 00 48 03.9 +0.7
baz=49,SNR=7.1
Y12C Blythe 49.18 323 ⇑P P 00 48 04.9 +1.6
baz=49
ISCO Idaho Springs 49.19 335 eP P 00 48 04.8 +1.1
4.9nm,0.8s
ISCO Idaho Springs 49.19 335 ⇓P P 00 48 04.7 +1.1
baz=49
O24A Longmont 49.24 336 ⇓P P 00 48 05.1 +1.3
baz=50
SMCO Snowmass 49.27 333 eP P 00 48 05.7 +1.4
PDMCI Parker Dam,Lak 49.33 323 ⇑P P 00 48 06.2 +1.8
baz=50
T17A Navajo Res., N 49.42 328 ⇑P P 00 48 06.7 +1.4
baz=50,SNR=7.8
N25A Grover 49.43 337 ⇓P P 00 48 06.0 +0.8
baz=50
DVTC Desert V Tower 49.44 320 ⇓P P 00 48 06.8 +1.4
baz=50
P22A Eagle 49.52 334 ⇓P P 00 48 07.1 +1.1
baz=50
S18A Hurst Farm, Bl 49.53 330 ⇓P P 00 48 07.5 +1.3
baz=50
ECSD EROS Data Cent 49.63 345 eP P 00 48 06.1 -0.4
17nm,1.4s
M26A McRoberts Ranc 49.63 338 ⇓P P 00 48 07.6 +0.9
baz=50
R19A Curley Farm, L 49.63 331 ⇓P P 00 48 07.8 +0.9
baz=50
O23A Lake Granby, G 49.66 335 ⇓P P 00 48 08.0 +0.8
baz=50
BC3 Big Chuckawall 49.69 322 ⇓P P 00 48 08.1 +0.8
baz=50
W13A Hualapai Mount 49.74 324 ⇑P P 00 48 09.2 +1.4
baz=50,SNR=5.8
P21A Newcastle 49.77 333 ⇓P P 00 48 09.3 +1.4
baz=50,SNR=6.3
MONP Monument Peak 49.79 320 ⇓P P 00 48 09.7 +1.5
baz=50
U15A North Rim 49.79 327 ⇑P P 00 48 09.4 +1.2
baz=50
IRM Iron Mountain 49.84 322 ⇓P P 00 48 10.0 +1.6
baz=50
L27A T5 Ranch, Ells 49.87 339 ⇑P P 00 48 10.3 +1.8
baz=50
O22A Kremmling 49.89 334 ⇓P P 00 48 09.6 +0.6
baz=50,SNR=8.4
S17A Black Ridge (B 49.90 329 ⇓P P 00 48 10.0 +1.1
baz=50
R18A Canyonlands Na 50.02 330 ⇑P P 00 48 11.0 +1.2
baz=50
Q19A Hogan Spring (50.16 331 ⇓P P 00 48 11.6 +0.9
baz=50
P20A De Beque 50.18 332 ⇑P P 00 48 11.9 +0.9
baz=50
N23A Red Feather La 50.24 335 ⇓P P 00 48 12.2 +0.6
baz=50
BELC Belle Mtn. Jos 50.26 322 ⇑P P 00 48 13.1 +1.4
baz=50
M24A Cheyenne 50.27 337 ⇓P P 00 48 12.7 +1.0
baz=50
PFO Pinyon Flat Ob 50.28 321 ⇓P P 00 48 13.6 +1.7
baz=50
O21A Pagoda 50.34 334 ⇑P P 00 48 13.5 +1.2
baz=51
S16A Weppner Ranch, 50.38 328 ⇑P P 00 48 13.6 +1.0
baz=51,SNR=6.7
N22A Wattenberg Ran 50.38 335 ⇓P P 00 48 13.3 +0.7
baz=51
K27A Fluecklinger Fa 50.39 340 ⇑P P 00 48 13.3 +0.9
baz=51
R17A Hanksville Air 50.45 330 ⇓P P 00 48 14.1 +1.1
baz=51
P19A Cripple Cowboy 50.56 332 ⇑P P 00 48 14.9 +0.9
baz=51
GMRC Granite Mounta 50.57 323 ⇑P P 00 48 15.5 +1.5
baz=51
O20A White River Ci 50.62 333 ⇓P P 00 48 15.3 +0.9
baz=51
M23A Laramie 50.63 336 ⇓P P 00 48 14.9 +0.5
baz=51
Q18A Rafter H Ranch 50.69 331 ⇑P P 00 48 16.0 +1.1
baz=51
R16A Teasdale 50.74 329 ⇓P P 00 48 16.6 +1.2
baz=51
N21A Black Mountain 50.80 334 ⇓P P 00 48 16.7 +0.9
baz=51,SNR=6.2
SRU San Rafael 50.89 330 eP P 00 48 17.5 +1.1
7.7nm,1.0s
SRU epP pP 00 48 28.7 +1.0
SRU San Rafael 50.89 330 ⇑P P 00 48 17.3 +0.9
baz=51
M22A Cedar Creek Ra 50.94 335 ⇑P P 00 48 17.7 +0.9
baz=51
HEC Hector,Ludlow 51.01 322 ⇓P P 00 48 18.6 +1.3
baz=51,SNR=6.5
Q16A Castle Valley 51.07 330 ⇑P P 00 48 18.8 +1.1
baz=51
R15A Junction 51.10 328 ⇓P P 00 48 19.0 +1.0
baz=51
O19A Miners Draw (B 51.15 332 ⇓P P 00 48 19.2 +0.9
baz=51
P18A Preston Nutter 51.16 331 ⇓P P 00 48 19.3 +0.8
baz=51
N20A Spence Gulch, 51.19 333 ⇓P P 00 48 19.8 +1.1
baz=51
CCUT Cedar City 51.20 327 eP P 00 48 20.9 +2.1
6.5nm,0.9s
MSU Marysvale 51.27 329 eP P 00 48 21.2 +1.9
P17A Butcher Ranch, 51.28 330 ⇓P P 00 48 20.0 +0.7
baz=52
L22A Ellis Ranch, M 51.40 336 ⇑P P 00 48 21.1 +1.0
baz=52
M21A Separation Pea 51.43 335 ⇑P P 00 48 21.5 +1.0
baz=52
RWWY Rawlins 51.43 335 eP P 00 48 21.9 +1.3
43nm,1.8s
BFSC Mount Baldy Ra 51.45 321 ⇑P P 00 48 22.0 +1.4
baz=52
GSC Goldstone 51.62 322 eP P 00 48 23.9 +2.1
54nm,2.5s
GSC Goldstone 51.62 322 ⇑P P 00 48 23.5 +1.7
baz=52
N19A John Jarvie Ra 51.65 333 ⇑P P 00 48 22.9 +0.8
baz=52
K23A Bowen Ranch, D 51.68 337 ⇓P P 00 48 22.7 +0.5
baz=52
M20A Sweetwater, Wa 51.69 334 ⇓P P 00 48 23.2 +0.8
baz=52
L21A Rawlins 51.73 335 ⇓P P 00 48 23.8 +1.1
baz=52
O17A Robinson Place 51.84 331 ⇑P P 00 48 24.3 +0.9
baz=52
N18A Larsen Ranch, 51.95 332 ⇓P P 00 48 25.7 +1.4
baz=52
R13A O'Grain Ranch, 51.98 327 ⇑P P 00 48 26.2 +1.6
baz=52
EDW2 Edwards Air Fo 52.07 321 ⇑P P 00 48 26.4 +1.3
baz=52
P15A Leamington 52.12 329 ⇑P P 00 48 26.9 +1.4
baz=52
L20A Wamsutter 52.18 334 ⇓P P 00 48 26.8 +0.8
baz=52
K21A Alcova 52.23 336 ⇓P P 00 48 27.1 +0.8
baz=52
RSSD Black Hills 52.26 339 eP P 00 48 27.7 +1.2
5.5nm,0.6s
FURC Furnace Creek, 52.43 323 ⇑P P 00 48 29.3 +1.6
baz=53
N17A Moffit Pass 52.46 332 ⇑P P 00 48 29.1 +0.9
baz=53
M18A Lyman 52.48 333 ⇑P P 00 48 28.8 +0.5
baz=53
JLU Jordanelle 52.49 331 eP P 00 48 29.8 +1.3
8.4nm,1.1s
MPMC Manual Prospec 52.54 323 ⇑P P 00 48 30.0 +1.2
baz=53
J22A Midwest 52.57 337 ⇓P P 00 48 29.4 +0.5
baz=53,SNR=5.3
EYMN Ely 52.62 351 eP P 00 48 30.3 +1.4
114nm,2.7s
L19A Farson 52.70 334 ⇑P P 00 48 30.2 +0.3
baz=53
N16A Rees Ranch, Co 52.71 331 ⇓P P 00 48 30.3 +0.3
baz=53
K20A Yellowstone Ra 52.71 335 ⇓P P 00 48 30.3 +0.5
baz=53
O15A The Old Anders 52.75 330 ⇓P P 00 48 31.1 +0.8
baz=53
M17A Scullys Gap (B 52.80 332 ⇓P P 00 48 31.3 +0.7
baz=53
DUG Dugway 52.86 330 eP P 00 48 32.6 +1.6
12nm,1.4s
DUG Dugway 52.86 330 ⇓P P 00 48 32.1 +1.1
baz=53
L18A Fontenelle, Gr 52.86 333 ⇑P P 00 48 31.5 +0.4
baz=53
J21A Lysite 52.90 336 ⇓P P 00 48 32.3 +1.0
baz=53
I22A 9 Mile Ranch, 52.98 337 ⇓P P 00 48 32.8 +1.0
baz=53
H24A Dirks Ranch, A 52.99 339 ⇓P P 00 48 32.1 +0.3
baz=53
R11A Troy Canyon, C 52.99 326 ⇑P P 00 48 33.3 +1.2
baz=53
K19A Absolon Red Bu 53.06 335 ⇓P P 00 48 32.9 +0.4
baz=53,SNR=9.0
GRAC Grapevine Rang 53.09 324 ⇓P P 00 48 34.1 +1.4
baz=53
M16A Huntsville 53.13 331 ⇓P P 00 48 33.6 +0.6
baz=53
J20A Shoshoni 53.17 335 ⇓P P 00 48 34.2 +1.0
baz=53,SNR=7.9
I21A Big Trails, Te 53.23 336 ⇓P P 00 48 34.0 +0.4
baz=53
N15A Stansbury Isla 53.24 330 ⇓P P 00 48 34.5 +0.7
baz=53
PDAR Pinedale Array 53.32 334 P P 00 48 34.2 -0.3
4.2nm,0.8s,baz=129,slow=8.4,SNR=36
PDAR Pinedale Array 53.32 334 P P 00 48 34.2 -0.3
BW06 Boulder Array 53.32 334 ⇑P P 00 48 34.9 +0.4
baz=54,SNR=5.8
HWUT Hardware Ranch 53.32 332 eP P 00 48 35.1 +0.6
13nm,0.8s
L17A Cokeville 53.38 332 ⇓P P 00 48 35.3 +0.4
baz=54,SNR=5.1
K18A Toltan Ranch, 53.43 333 ⇓P P 00 48 36.5 +1.2
baz=54,SNR=12
J19A Crowheart 53.51 335 ⇓P P 00 48 36.4 +0.6
baz=54
L16A Fish Haven 53.58 332 ⇓P P 00 48 36.8 +0.4
baz=54,SNR=9.6
M15A Larsen Ranch, 53.64 331 ⇓P P 00 48 37.5 +0.8
baz=54,SNR=6.7
G23A Biddle 53.68 339 ⇓P P 00 48 37.1 +0.2
baz=54
I20A Worland 53.68 336 ⇓P P 00 48 37.6 +0.7
baz=54
AGMN Agassiz Nation 53.76 348 eP P 00 48 37.3 0.0
75nm,2.0s
H21A Big Horn, Sher 53.81 337 ⇑P P 00 48 38.4 +0.5
baz=54
J18A Kendall Valley 53.88 334 ⇓P P 00 48 38.8 +0.2
baz=54,SNR=7.1
K17A Gardner Place, 53.92 333 ⇓P P 00 48 39.3 +0.5
baz=54
L15A Malad City 54.02 331 ⇑P P 00 48 40.0 +0.5
baz=54,SNR=7.4
G22A Birch 54.03 338 ⇑P P 00 48 39.6 +0.2
baz=54
H20A Greybull 54.07 336 ⇑P P 00 48 40.1 +0.3
baz=54
I19A Meeteetse 54.11 335 ⇑P P 00 48 40.9 +0.7
baz=54
F23A Volborg 54.13 339 ⇑P P 00 48 40.5 +0.3
baz=54
I18A Diamond G Ranc 54.19 334 ⇑P P 00 48 41.1 +0.3
baz=54,SNR=7.9
K16A Soda Springs 54.29 333 ⇑P P 00 48 41.9 +0.4
baz=54
J17A Brown Place, J 54.31 334 ⇑P P 00 48 42.3 +0.7
baz=54,SNR=5.7
REDW Red Top Meadow 54.37 333 eP P 00 48 42.9 +0.8
7.5nm,1.0s
G21A Lodge Grass 54.38 337 ⇑P P 00 48 42.6 +0.6
baz=55
ELK Elko 54.52 328 eP P 00 48 44.5 +1.3
5.4nm,0.9s
ELK epP pP 00 48 55.7 +1.1
TPAW Teton Pass 54.52 333 eP P 00 48 45.1 +1.8
44nm,2.0s
NVAR Mina Array Bea 54.60 324 P P 00 48 44.4 +0.6
3.8nm,0.8s,baz=133,slow=6.7,SNR=12
NVAR pP pP 00 48 55.2 -0.1
2.0nm,0.6s,baz=140,slow=5.6,SNR=5.0
NVAR Mina Array Bea 54.60 324 P P 00 48 44.4 +0.6
NVAR pP pP 00 48 55.2 -0.1
K15A Arbon 54.61 332 ⇓P P 00 48 44.5 +0.7
baz=55
J16A Bone 54.64 333 ⇓P P 00 48 44.8 +0.7
baz=55,SNR=6.4
I17A Pilgrim Ck. 54.69 334 ⇑P P 00 48 45.1 +0.6
baz=55
G20A Bridger 54.77 337 ⇓P P 00 48 45.3 +0.5
baz=55
K14A Jones Ranch, D 54.81 331 ⇑P P 00 48 46.0 +0.8
baz=55
FLWY Flagg Ranch 54.87 334 eP P 00 48 47.4 +1.7
10nm,1.1s
H18A Shoshone NF, C 54.91 335 ⇓P P 00 48 46.6 +0.6
baz=55
I16A Newdale 55.06 333 ⇑P P 00 48 47.9 +0.9
baz=55
RLMT Red Lodge 55.11 336 ⇑P P 00 48 47.3 -0.1
baz=55
J15A Blackfoot 55.12 332 ⇑P P 00 48 48.3 +0.9
baz=55
LKWY Lake 55.13 335 eP P 00 48 50.0 +2.4
7.0nm,1.0s
D23A Lindsay 55.32 340 ⇑P P 00 48 48.9 +0.2
baz=56
G18A Lazy EL Ranch, 55.39 336 ⇓P P 00 48 49.9 +0.5
baz=56
J14A Carey 55.57 332 ⇑P P 00 48 51.8 +1.1
baz=56,SNR=9.9
F19A Roth Farm, Mol 55.58 337 ⇓P P 00 48 50.9 +0.3
baz=56
I15A Monteview 55.60 333 ⇓P P 00 48 52.1 +1.2
baz=56
H16A Russell Place, 55.61 334 ⇑P P 00 48 52.0 +1.0
baz=56
ULM Lac du Bonnet 55.61 348 P P 00 48 50.2 -0.4
2.4nm,0.6s,baz=153,slow=7.5,SNR=8.0
ULM pP pP 00 49 00.7 -1.4
3.8nm,0.5s,baz=157,slow=7.7,SNR=5.2
ULM Lac du Bonnet 55.61 348 P P 00 48 50.2 -0.4
ULM pP pP 00 49 00.7 -1.4
D22A Cohagen 55.63 339 ⇓P P 00 48 51.5 +0.5
baz=56
E20A Meyer Farm, Mu 55.80 338 ⇑P P 00 48 52.9 +0.7
baz=56,SNR=6.2
D21A La Casta Ranch 55.85 339 ⇓P P 00 48 53.1 +0.6
baz=56
C23A Lambert 55.86 340 ⇑P P 00 48 53.1 +0.6
baz=56
G17A Pierce Place, 55.88 335 ⇑P P 00 48 53.8 +0.9
baz=56
F18A Big Timber 55.93 336 ⇓P P 00 48 54.0 +0.8
baz=56,SNR=8.4
J13A Cove Ranch, Pi 55.94 331 ⇑P P 00 48 54.2 +0.9
baz=56
I14A Mackay 56.00 332 ⇑P P 00 48 54.6 +0.8
baz=56
E19A Rath Farm, Rou 56.02 337 ⇑P P 00 48 54.3 +0.5
baz=56
C22A Vida 56.04 340 ⇓P P 00 48 54.8 +0.9
baz=56
H15A Lima 56.16 333 ⇑P P 00 48 56.2 +1.3
baz=56,SNR=7.7
HLID Hailey 56.18 331 eP P 00 48 56.2 +1.2
8.2nm,0.9s
HLID Hailey 56.18 331 ⇑P P 00 48 56.3 +1.2
baz=56,SNR=13
G16A Moss Hill, Enn 56.26 334 ⇓P P 00 48 56.4 +0.8
baz=56
D20A Manuel Ranch, 56.29 338 ⇓P P 00 48 56.6 +0.8
baz=56
I13A Wildhorse Cree 56.30 332 ⇓P P 00 48 57.0 +1.1
baz=56,SNR=9.0
F17A Fitzpatrick Pl 56.32 335 ⇓P P 00 48 56.7 +0.8
baz=56
B23A Brockton 56.37 341 ⇑P P 00 48 57.6 +1.4
baz=57
H14A Leadore 56.48 333 ⇑P P 00 48 58.3 +1.0
baz=57,SNR=5.3
G15A Dillon 56.51 334 ⇑P P 00 48 58.1 +0.7
baz=57
BOZ Bozeman (W) 56.52 335 eP P 00 48 53.8 -3.6
5.1nm,0.7s
BOZ Bozeman (W) 56.52 335 ⇓P P 00 48 58.2 +0.8
baz=57
C21A Desert Coulee 56.54 339 ⇑P P 00 48 58.3 +0.9
baz=57
E18A Harlowton 56.55 336 ⇑P P 00 48 58.7 +1.1
baz=57
D19A Cripps Ranch, 56.64 338 ⇑P P 00 48 58.9 +0.7
baz=57
I12A Atlanta 56.70 331 ⇓P P 00 48 59.6 +0.8
baz=57
MFID Camas Ranch 56.76 330 eP P 00 49 00.6 +1.4
13nm,1.0s
MFID Camas Ranch 56.76 330 ⇓P P 00 49 00.4 +1.3
baz=57,SNR=10
C20A Veseth Ranch, 56.77 338 ⇑P P 00 48 59.9 +0.8
baz=57
E17A Martinsdale 56.85 336 ⇑P P 00 48 60.0 +0.2
baz=57
H13A Challis 56.85 332 ⇓P P 00 49 00.5 +0.7
baz=57
F15A Butte 57.04 334 ⇑P P 00 49 01.8 +0.6
baz=57
H12A Diamond D Ranc 57.13 332 ⇓P P 00 49 02.5 +0.6
baz=57
C19A Slack Wire Ran 57.17 338 ⇓P P 00 49 02.3 +0.3
baz=57
E16A East Helena 57.24 335 ⇓P P 00 49 02.8 +0.3
baz=58
G13A Cobalt 57.24 332 ⇓P P 00 49 03.5 +0.9
baz=58,SNR=5.2
D17A Six Diamond Ra 57.33 336 ⇓P P 00 49 03.8 +0.6
baz=58
B20A Solberg Farm, 57.38 339 ⇑P P 00 49 04.3 +0.9
baz=58
F14A Wisdom 57.41 334 ⇑P P 00 49 04.4 +0.7
baz=58
A21A Bergtoll Ranch 57.47 340 ⇓P P 00 49 04.3 +0.4
baz=58
WVOR Wild Horse Val 57.51 328 eP P 00 49 05.3 +0.9
16nm,1.3s
D16A Dana Ranch, Ca 57.59 336 ⇑P P 00 49 06.1 +1.1
baz=58
EGMT Eagleton 57.68 338 ⇓P P 00 49 06.1 +0.6
baz=58
B19A Brinkman Farms 57.73 338 ⇑P P 00 49 06.3 +0.5
baz=58
C17A Wharram Farm, 57.75 337 ⇑P P 00 49 06.4 +0.4
baz=58
G12A Big Creek, Yel 57.78 332 ⇑P P 00 49 06.9 +0.5
baz=58
F13A Darby 57.82 333 ⇓P P 00 49 07.7 +1.1
baz=58
E14A Clinton 57.93 334 ⇑P P 00 49 08.2 +0.8
baz=58
B18A Beardsley Farm 57.99 338 ⇓P P 00 49 08.2 +0.5
baz=58
A19A Klindworth Far 58.06 339 ⇓P P 00 49 08.6 +0.5
baz=58
F12A Elk City 58.22 332 ⇓P P 00 49 09.9 +0.5
baz=58
E13A Victor 58.25 334 ⇓P P 00 49 10.2 +0.6
baz=58
C16A Fuhringer Ranc 58.28 336 ⇑P P 00 49 10.1 +0.4
baz=58
MSO Missoula 58.44 334 eP P 00 49 12.5 +1.5
18nm,1.8s
MSO Missoula 58.44 334 ⇓P P 00 49 11.4 +0.5
baz=59
C15A Salmond Ranch, 58.61 336 ⇓P P 00 49 12.2 +0.1
baz=59
A17A Triple J Farms 58.80 338 ⇑P P 00 49 13.9 +0.6
baz=59
E12A Beaver Dam Sad 58.86 333 ⇓P P 00 49 14.7 +0.9
baz=59
D13A Huson 58.87 334 ⇑P P 00 49 14.6 +0.7
baz=59
B15A Bradely Ranch, 59.02 336 ⇓P P 00 49 15.7 +0.7
baz=59
C14A Swan Lake 59.09 335 ⇓P P 00 49 16.2 +0.8
baz=59
A16A West Butte Ran 59.15 337 ⇓P P 00 49 15.9 +0.2
baz=59
D12A Red Ives Fores 59.24 333 ⇓P P 00 49 16.8 +0.4
baz=59
YBMT Yellow Bay 59.27 335 eP P 00 49 17.6 +0.9
6.2nm,0.9s
YBMT epP pP 00 49 30.4 +2.2
B14A Marquette Ranc 59.35 336 ⇑P P 00 49 17.8 +0.6
baz=60
C13A Hot Springs 59.37 334 ⇓P P 00 49 17.9 +0.6
baz=60
BSMT Bassoo Peak 59.60 334 eP P 00 49 20.0 +1.0
1.7nm,0.8s
A15A Johnson Ranch, 59.62 336 ⇑P P 00 49 19.9 +0.8
baz=60
C12B Naegeli Ranch, 59.79 334 ⇑P P 00 49 20.8 +0.7
baz=60
SCHQ Schefferville 59.86 9 P P 00 49 20.6 +0.2

	1.2nm,0.6s,baz=220,slow=7.9,SNR=3.5						
SCHQ	**Schefferville**	**59.86**	**9**	P	**P**	**00 49 20.6**	**+0.2**
B13A	**Whitefish**	**59.86**	**335**	⇓P	**P**	**00 49 21.6**	**+1.0**
	baz=60						
A14A	**Double T Ranch**	**59.89**	**336**	⇑P	**P**	**00 49 21.8**	**+0.8**
	baz=60						
C11A	**Tepee Creek (N**	**60.23**	**333**	⇓P	**P**	**00 49 24.2**	**+1.0**
	baz=60						
A13A	**Flathead Natio**	**60.27**	**335**	⇓P	**P**	**00 49 24.4**	**+0.9**
	baz=60						
B12A	**Libby**	**60.42**	**334**	⇑P	**P**	**00 49 25.6**	**+1.1**
	baz=61						
NEW	**Newport**	**60.94**	**333**	⇓P	**P**	**00 49 29.0**	**+1.0**
	baz=61						
YKA	**Yellowknife Ar**	**71.14**	**344**	P	**P**	**00 50 32.6**	**-0.6**
	0.5nm,0.7s,baz=140,slow=6.0,SNR=9.8						
YKA				pP	**pP**	**00 50 43.9**	**-1.1**
	1.0nm,0.8s,baz=139,slow=5.9,SNR=9.5						
YKA	**Yellowknife Ar**	**71.14**	**344**	P	**P**	**00 50 32.6**	**-0.6**
YKA				pP	**pP**	**00 50 43.9**	**-1.1**
DLBC	**Dease Lake**	**73.51**	**336**	P	**P**	**00 50 47.9**	**+0.4**
	1.0nm,0.5s,baz=159,slow=8.6,SNR=3.9						
DLBC	**Dease Lake**	**73.51**	**336**	P	**P**	**00 50 47.9**	**+0.4**
DBIC	**Dimbokro**	**76.72**	**82**	P	**P**	**00 51 07.1**	**+0.3**
	19nm,0.7s,baz=247,slow=4.1,SNR=49						
DBIC	**Dimbokro**	**76.72**	**82**	*e*P	**P**	**00 51 07.8**	**+1.0**
VNA3	**Neumayer Olymp**	**80.20**	**162**	*e*P	**P**	**00 51 26.0**	**+1.0**
INK	**Inuvik**	**80.79**	**343**	P	**P**	**00 51 28.3**	**+0.3**
	0.9nm,0.9s,baz=168,slow=5.7,SNR=4.9						
INK				pP	**pP**	**00 51 39.1**	**-0.9**
	5.0nm,1.1s,baz=157,slow=3.9,SNR=6.3						
INK	**Inuvik**	**80.79**	**343**	P	**P**	**00 51 28.3**	**+0.3**
INK				pP	**pP**	**00 51 39.1**	**-0.9**
VNA2	**Neumayer--Watz**	**80.83**	**161**	*e*P	**P**	**00 51 29.3**	**+1.0**
	baz=296,slow=5.8						
ESDC	**Sonseca Array**	**82.63**	**49**	P	**P**	**00 51 39.4**	**+0.9**
	1.3nm,0.8s,baz=268,slow=4.6,SNR=8.7						
ESDC	**Sonseca Array**	**82.63**	**49**	P	**P**	**00 51 39.4**	**+0.9**
ILAR	**Eielson Array**	**83.64**	**337**	pP	pP	00 51 53.2	-1.9
	0.5nm,0.7s,baz=120,slow=3.2,SNR=3.3						
ILAR	**Eielson Array**	**83.64**	**337**	pP	pP	00 51 53.2	-1.9
TOA0	**Torodi Ar. Sit**	**83.79**	**76**	*e*P	**P**	**00 51 45.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**83.79**	**76**	P	**P**	**00 51 45.0**	**+0.2**
	2.9nm,0.6s,baz=288,slow=6.8,SNR=62						
TORD				pP	**pP**	**00 51 55.3**	**-1.6**
	2.0nm,0.7s,baz=271,slow=5.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.79**	**76**	P	**P**	**00 51 45.0**	**+0.2**
TORD				pP	**pP**	**00 51 55.3**	**-1.6**
TAM	**Tamanrasset**	**88.33**	**67**	*e*P	**P**	**00 52 08.2**	**+0.9**
	3.2nm,1.0s						
AKTO	**Aktyubinsk**	**122.38**	**30**	PKP	**PKPdf**	**00 58 10.2**	**+0.2**
	1.4nm,1.0s,baz=260,slow=3.0,SNR=5.3						
AKTO	**Aktyubinsk**	**122.38**	**30**	PKP	**PKPdf**	**00 58 10.2**	**+0.2**
ABKAR	**Akbulak array**	**124.09**	**30**	*e*PKPdf	**PKPdf**	**00 58 14.0**	**+0.7**
BVAR	**Borovoye Array**	**125.80**	**21**	PKP	**PKPdf**	**00 58 16.8**	**+0.3**
	1.6nm,0.6s,baz=258,slow=1.7,SNR=17						
BVAR				pPKP	**pPKPdf**	**00 58 27.5**	**-1.4**
	1.0nm,0.7s,baz=272,slow=3.1,SNR=5.5						
BVAR	**Borovoye Array**	**125.80**	**21**	PKP	**PKPdf**	**00 58 16.8**	**+0.3**
BVAR				pPKP	**pPKPdf**	**00 58 27.5**	**-1.4**
STKA	**Stephens Creek**	**126.02**	**225**	PKP	**PKPdf**	**00 58 17.6**	**+0.1**
	7.1nm,0.7s,baz=151,slow=2.2,SNR=18						
STKA				pPKP	**pPKPdf**	**00 58 29.1**	**-0.9**
	2.6nm,0.7s,baz=58,slow=4.7,SNR=3.2						
STKA	**Stephens Creek**	**126.02**	**225**	PKP	**PKPdf**	**00 58 17.6**	**+0.1**
STKA				pPKP	**pPKPdf**	**00 58 29.1**	**-0.9**
ZAA0	**Zalesovo Array**	**128.93**	**11**	*e*PKPdf	**PKPdf**	**00 58 22.1**	**-0.3**
ZALV	**Zalesovo Beam**	**128.93**	**11**	PKP	**PKPdf**	**00 58 22.2**	**-0.2**
	4.7nm,0.6s,baz=280,slow=2.2,SNR=29						
ZALV				pPKP	**pPKPdf**	**00 58 33.7**	**-1.2**
	2.5nm,0.7s,baz=293,slow=2.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**128.93**	**11**	PKP	**PKPdf**	**00 58 22.2**	**-0.2**
ZALV				pPKP	**pPKPdf**	**00 58 33.7**	**-1.2**
KURK	**Kurchatov**	**130.44**	**17**	*e*PKPdf	**PKPdf**	**00 58 25.7**	**+0.3**
KURK				pPKP	**pPKPdf**	**00 58 37.1**	**-0.7**
KURBB	**Kurchatov Arra**	**130.50**	**17**	PKP	**PKPdf**	**00 58 25.7**	**+0.2**
	5.2nm,0.8s,baz=329,slow=3.0,SNR=33						
KURBB				pPKP	**pPKPdf**	**00 58 37.1**	**-0.9**
	2.0nm,0.7s,baz=330,slow=2.6,SNR=5.8						
MK31	**Makanchi Array**	**135.03**	**16**	*e*PKPdf	**PKPdf**	**00 58 33.4**	**-0.8**
MKAR	**Makanchi Array**	**135.03**	**16**	PKP	**PKPdf**	**00 58 33.2**	**-1.0**
	1.5nm,0.7s,baz=360,slow=2.3,SNR=26						
MKAR				pPKP	**pPKPdf**	**00 58 44.9**	**-1.8**
	1.3nm,0.7s,baz=337,slow=2.0,SNR=8.1						
MKAR	**Makanchi Array**	**135.03**	**16**	PKP	**PKPdf**	**00 58 33.2**	**-1.0**
MKAR				pPKP	**pPKPdf**	**00 58 44.9**	**-1.8**
EKS2	**Erkin-Say**	**135.48**	**27**	*e*PKPdf	**PKPdf**	**00 58 35.6**	**+0.3**
ULN	**Ulaanbaatar**	**135.82**	**352**	*e*PKPdf	**PKPdf**	**00 58 35.5**	**-0.3**
SONM	**Songino Array**	**135.94**	**353**	PKhKP	PKPpre	00 58 24.1	
	0.2nm,0.7s,baz=96,slow=2.9,SNR=2.2						
SONM				PKP	**PKPdf**	**00 58 35.7**	**-0.3**
	1.2nm,0.7s,baz=343,slow=1.7,SNR=12						
SONM				pPKP	pPKPdf	00 58 46.0	-2.5
	0.5nm,0.6s,baz=356,slow=0.8,SNR=2.8						
SONM	**Songino Array**	**135.94**	**353**	PKPpre	PKPpre	00 58 24.1	
SONM				PKP	**PKPdf**	**00 58 35.7**	**-0.3**
SONM				pPKP	pPKPdf	00 58 46.0	-2.5
AS31	**Alice Springs**	**136.24**	**229**	*e*PKPdf	**PKPdf**	**00 58 35.8**	**-1.4**
ASAR	**Alice Springs**	**136.24**	**229**	PKhKP	PKPpre	00 58 26.4	
	0.4nm,0.6s,baz=102,slow=3.3,SNR=5.8						
ASAR				PKP	**PKPdf**	**00 58 37.0**	**-0.1**
	6.6nm,0.9s,baz=125,slow=2.2,SNR=31						
ASAR				pPKP	pPKPdf	00 58 48.4	-1.3
	1.7nm,0.7s,baz=128,slow=2.2,SNR=4.7						
ASAR	**Alice Springs**	**136.24**	**229**	PKPpre	PKPpre	00 58 26.4	
ASAR				PKP	**PKPdf**	**00 58 37.0**	**-0.1**
ASAR				pPKP	pPKPdf	00 58 48.4	-1.3
KSRS	**Korea Array**	**137.54**	**325**	PKP	**PKPdf**	**00 58 39.2**	**+0.2**
	2.3nm,0.6s,baz=1.7,slow=1.2,SNR=5.1						
KSAR	**Wonju Array Be**	**137.57**	**325**	PKP	**PKPdf**	**00 58 39.2**	**+0.1**
WRAB	**Tennant Creek**	**137.89**	**234**	*e*PKPdf	**PKPdf**	**00 58 39.7**	**-0.5**
WRA	**Warramunga Arr**	**137.90**	**234**	PKhKP	PKPpre	00 58 30.0	
	0.6nm,0.8s,baz=115,slow=2.4,SNR=11						
WRA				PKP	**PKPdf**	**00 58 40.0**	**-0.3**
	5.2nm,0.8s,baz=113,slow=2.1,SNR=41						
WRA				pPKP	pPKPdf	00 58 51.1	-1.6
	2.6nm,0.6s,baz=118,slow=1.9,SNR=6.6						
WRA	**Warramunga Arr**	**137.90**	**234**	PKPpre	PKPpre	00 58 30.1	
WRA				PKP	**PKPdf**	**00 58 40.0**	**-0.3**
WRA				pPKP	pPKPdf	00 58 51.1	-1.6
KSH	**Kashi**	**138.99**	**28**	PKP	**PKPdf**	**00 58 43.3**	**+1.4**
KSH				sPKP		00 58 57.0	
KSH				PP	PP	01 01 40.4	+6.9
KSH				PKS	**PKSdf**	**01 02 17.8**	**-0.3**
KSH				SKS	**SKSdf**	**01 05 44.8**	**-4.9**
KSH				SKKS	**SKKSac**	**01 08 24.4**	**-1.3**
KSH				AMB	AMB		
	comp=Z,110nm,5.2s						
KSH				LR	LR		
	comp=N,55nm,9.1s						
KSH				LR	LR		
	comp=E,60nm,3.8s						
KSH				LR	LR		
	comp=Z,190nm,4.8s						
WMQ	**Urumqi**	**139.16**	**13**	*e*PKP	**PKPdf**	**00 58 42.5**	**+0.5**
BJI	**Beijing**	**140.98**	**339**	PKP	**PKPdf**	**00 58 44.1**	**-1.2**
HHC	**Hu-ho-hao-te**	**141.68**	**345**	*e*PKP	**PKPdf**	**00 58 45.0**	**-1.7**
HHC				PP	**PP**	**01 01 52.0**	**+2.4**
HHC				PKS	**PKSdf**	**01 02 19.4**	**-3.3**
HHC				SKS	**SKSdf**	**01 05 49.1**	**-4.9**
HHC				SKKS	**SKKSac**	**01 08 37.8**	**-3.4**
HHC				SS	**SS**	**01 20 17.5**	**-0.1**
HHC				AMB	AMB		
	comp=Z,92nm,9.4s						
HHC				LR	LR		
	comp=N,100nm,20.5s						
HHC				LR	LR		
	comp=E,150nm,20.1s						
HHC				LR	LR		
	comp=Z,94nm,20.1s						
GTA	**Gaotai**	**144.81**	**359**	*e*PKP	**PKPab**	**00 58 51.1**	**-0.1**
GTA				pPKP	**pPKPdf**	**00 59 02.1**	**-2.7**
GTA				sPKP		00 59 06.2	
GTA				PP	**PP**	**01 02 08.4**	**+0.1**
GTA				SKS	**SKSdf**	**01 05 55.0**	**-3.9**
GTA				SKKS	**SKKSac**	**01 08 53.7**	**-5.5**
LZH	**Lanzhou**	**147.83**	**353**	*e*PKPbc	**PKPbc**	**00 59 01.3**	**+0.9**
LZH				PKS	**PKSdf**	**01 02 34.2**	**+1.3**
LZH				AMB	AMB		
	comp=Z,62nm,4.0s						
XAN	**Xi'an**	**148.79**	**344**	PKPbc	**PKPbc**	**00 59 02.5**	**-0.4**
XAN				pPKP	**pPKPdf**	**00 59 13.3**	**+1.8**
WHN	**Wuhan**	**149.96**	**333**	*e*PKPbc	**PKPbc**	**00 59 04.9**	**-0.9**
PYUN	**Piuthan**	**151.64**	**31**	*e*P	**PKPdf**	**00 59 04.0**	**+0.1**
	comp=Z,26nm,0.6s						
PYUN	**Piuthan**	**151.64**	**31**	*e*P	**PKPdf**	**00 59 04.0**	**+0.1**
DANN	**Dangsing**	**151.82**	**29**	*e*P	**PKPdf**	**00 59 04.7**	**+0.5**
	comp=Z,75nm,0.7s						
DANN	**Dangsing**	**151.82**	**29**	*e*P	**PKPdf**	**00 59 04.7**	**+0.5**
ENH	**Enshi**	**152.13**	**340**	*e*PKPdf	**PKPdf**	**00 59 04.4**	**+0.1**
KOLN	**Koldanda**	**152.22**	**30**	*e*P	**PKPdf**	**00 59 04.9**	**+0.2**
	comp=Z,16nm,0.7s						
KOLN	**Koldanda**	**152.22**	**30**	*e*P	**PKPdf**	**00 59 04.9**	**+0.2**
GKN	**Gorkha**	**152.53**	**28**	*e*P	**PKPdf**	**00 59 05.2**	**+0.1**
	comp=Z,46nm,0.6s						
GKN	**Gorkha**	**152.53**	**28**	*e*P	**PKPdf**	**00 59 05.2**	**+0.1**
CD2	**Chengdu**	**152.93**	**351**	PKPbc	**PKPdf**	**00 59 04.9**	**-0.6**
CD2				pPKP	**pPKPdf**	**00 59 18.0**	**0.0**
CD2				sPKP		00 59 22.6	
CD2				PKPab	**PKPab**	**00 59 25.3**	**+1.5**
CD2				PKS	**PKSdf**	**01 02 37.9**	**-2.2**
CD2				PP	**PP**	**01 02 59.4**	**+4.0**
CD2				SKS	**SKSdf**	**01 06 05.9**	**-4.1**
CD2				SKKS	**SKKSac**	**01 09 42.5**	**-1.9**
CD2				SS	**SS**	**01 22 24.6**	**+0.4**
CD2				AMB	AMB		
	comp=Z,180nm,8.9s						
CD2				LR	LR		
	comp=N,280nm,5.4s						
CD2				LR	LR		
	comp=Z,150nm,6.5s						
KKN	**Kakani**	**153.01**	**28**	*e*P	**PKPdf**	**00 59 04.7**	**-1.2**
	comp=Z,18nm,0.7s						
KKN	**Kakani**	**153.01**	**28**	*e*P	**PKPdf**	**00 59 04.7**	**-1.2**
DMN	**Daman**	**153.08**	**28**	*e*P	**PKPdf**	**00 59 05.4**	**-0.7**
DMN	**Daman**	**153.08**	**28**	*e*P	**PKPdf**	**00 59 05.4**	**-0.7**
GUN	**Gumba**	**153.18**	**27**	*e*P	**PKPdf**	**00 59 04.5**	**-1.8**
	comp=Z,11nm,0.5s						
GUN	**Gumba**	**153.18**	**27**	*e*P	**PKPdf**	**00 59 04.5**	**-1.8**
PKI	**Pulchoki**	**153.26**	**28**	*e*P	**PKPdf**	**00 59 04.1**	**-2.3**
	comp=Z,9.9nm,0.5s						
PKI	**Pulchoki**	**153.26**	**28**	*e*P	**PKPdf**	**00 59 04.1**	**-2.3**
LSA	**Lhasa**	**153.44**	**15**	*e*PKPbc	**PKPbc**	**00 59 14.7**	**+0.3**
JIRN	**Jiri**	**153.53**	**26**	*e*P	**PKPdf**	**00 59 04.3**	**-2.6**
	comp=Z,1.9nm,0.6s						
JIRN	**Jiri**	**153.53**	**26**	*e*P	**PKPdf**	**00 59 04.3**	**-2.6**
RAMN	**Ramite**	**154.33**	**26**	*e*P	**PKPdf**	**00 59 04.9**	**-3.0**
RAMN	**Ramite**	**154.33**	**26**	*e*P	**PKPdf**	**00 59 04.9**	**-3.0**
TAPN	**Taplejung**	**154.45**	**24**	*e*P	**PKPdf**	**00 59 05.1**	**-3.0**
TAPN	**Taplejung**	**154.45**	**24**	*e*P	**PKPdf**	**00 59 05.1**	**-3.0**
ODAN	**Odare**	**154.75**	**25**	*e*P	**PKPdf**	**00 59 04.8**	**-3.6**
ODAN	**Odare**	**154.75**	**25**	*e*P	**PKPdf**	**00 59 04.8**	**-3.6**
GYA	**Guiyang**	**156.57**	**343**	*e*PKP	**PKPdf**	**00 59 09.0**	**-1.7**
GYA				pPKP	**pPKPdf**	**00 59 23.6**	**+0.4**
GYA				PKPab	**PKPab**	**00 59 41.2**	**+1.7**
GYA				PKS	**PKSdf**	**01 02 42.0**	**-2.9**
GYA				PP	**PP**	**01 03 19.5**	**+3.4**
GYA				SKKS		01 10 02.1	
GYA				SS	**SS**	**01 23 04.3**	**+0.2**
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,120nm,24.3s						
GYA				LR	LR		
	comp=E,110nm,25.0s						
GYA				LR	LR		
	comp=Z,140nm,23.8s						
KMI	**Kunming**	**158.76**	**351**	PKP	**PKPdf**	**00 59 12.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**165.70**	**0**	PKP	**PKPdf**	**00 59 19.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=336,slow=2.0,SNR=9.5						
CMAR	**Chiang Mai Arr**	**165.70**	**0**	PKP	**PKPdf**	**00 59 19.9**	**-0.6**

*ISCJB **02** 00:53:28.4±0.6, 51°.54N±0°.03×16°.12E±0°.04, h0km, Error ellipse: s-maj=4.4km s-min=3.4km az=28.3*
*CSEM **02** 00:53:30.0±0.4, 51°.53N×16°.12E, h2km, ML3.1/5, Error ellipse: s-maj=8.1km s-min=6.2km az=75.0*
*PRU **02** 00:53:31.8, 51°.49N×16°.12E, h0km*
*WAR **02** 00:53:31.0, 51°.54N×16°.03E*
ISC 02 00:53:30.2±0.9**, 51°.56N**±0°.03×**16°.14E**±0°.03**, h0km, n23, σ0s.69**/43**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**00 53 44.4**	**+0.3**
KSP				*e*Sg	**Sg**	**00 53 53.5**	**0.0**
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**00 53 44.3**	**+0.3**
KSP				*e*Sg	**Sg**	**00 53 53.4**	**0.0**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**00 53 50.5**	**+0.1**
UPC	**Upice**	**1.06**	**184**	Pg	**Pg**	**00 53 50.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**00 53 53.1**	**-0.4**
DPC				*e*SG	**Sg**	**00 54 08.7**	**-0.5**
	comp=Z,6.9nm,0.2s						
DPC	**Dobruska-Polom**	**1.22**	**174**	Pg	**Pg**	**00 53 53.1**	**-0.4**
DPC				Sg	**Sg**	**00 54 08.7**	**-0.5**
	6.9nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pb**	**00 53 58.3**	**+0.6**
PVCC				*e*SG	**Sg**	**00 54 16.1**	**0.0**
	comp=Z,51nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**224**	Pg	**Pb**	**00 53 58.3**	**+0.6**
PVCC				Sg	**Sg**	**00 54 16.1**	**0.0**
	51nm,0.2s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**00 53 58.7**	**-0.2**
KRLC				*e*SG	**Sn**	**00 54 18.7**	**-1.0**
KRLC	**Kraliky**	**1.54**	**164**	Pg	**Pn**	**00 53 58.7**	**-0.2**
KRLC				Sg	**Sn**	**00 54 18.7**	**-1.0**
BRG	**Berggiesshubel**	**1.54**	**244**	PG	**Pb**	**00 53 59.6**	**0.0**
BRG				SG	**Sn**	**00 54 19.8**	**+0.2**
	20nm,0.4s						
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pb**	**00 54 04.5**	**-0.7**
PRU				*e*SG	**Sb**	**00 54 29.3**	**+0.1**
	comp=Z,12nm,0.3s						
PRU	**Pruhonice**	**1.87**	**213**	Pg	**Pb**	**00 54 04.5**	**-0.7**
PRU				Sg	**Sb**	**00 54 29.3**	**+0.1**
	12nm,0.3s						
CLL	**Collm**	**1.98**	**264**	*e*Pg	**Pg**	**00 54 08.0**	**-0.1**
CLL				*e*		00 54 12.0	
CLL				*e*Sg	**Sg**	**00 54 34.0**	**+0.3**
	comp=Z,11nm,0.8s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Sg	**Sb**	**00 54 32.4**	**-0.4**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**00 54 09.5**	**+0.5**
VRAC				*e*Sg	**Sb**	**00 54 41.1**	**+0.4**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**00 54 21.9**	**+0.4**
OJC				*e*Sg	**Sg**	**00 54 57.2**	**+1.1**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PG	**Pb**	**00 54 20.6**	**+1.4**
NKC				*e*SG	**Sg**	**00 54 55.8**	**-0.7**
	comp=Z,13nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**242**	Pg	**Pb**	**00 54 20.6**	**+1.4**
NKC				Sg	**Sg**	**00 54 55.8**	**-0.7**
	comp=Z,13nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**00 54 18.9**	**+0.8**
KHC				*e*PG	**Pb**	**00 54 24.2**	**+0.9**
KHC				*e*SG	**Sg**	**00 55 02.9**	**-1.5**
	comp=Z,3.5nm,0.4s						
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**00 54 18.9**	**+0.8**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**00 54 27.6**	**0.0**
BSD				*i* S	**Sn**	**00 55 10.0**	**-1.2**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**00 54 27.6**	**0.0**
	SNR=49						
BSD				*i* S	**Sn**	**00 55 10.0**	**-1.2**

*CSEM **02** 00:55:15.8±0.2, 37°.84N×28°.79E, h10km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.4km az=78.0*
*ISK **02** 00:55:15.2, 37°.86N×28°.77E, h10km, MD2.8*
*ISCJB **02** 00:55:16.9±0.5, 37°.92N±0°.02×29°.03E±0°.05, h4km±6km, Error ellipse: s-maj=6.1km s-min=4.0km az=173.4*
*DDA **02** 00:55:16.5, 37°.93N×29°.06E, h2km, MD2.8*
ISC 02 00:55:15.0±1.2**, 37°.90N**±0°.02×**28°.80E**±0°.03**, h5**km±10km**, n33, σ1s.12**/43**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**129**	PG	**Pg**	**00 55 20.7**	**+1.1**
DENT	**Denizli**	**0.23**	**129**	*i* Pg	**Pg**	**00 55 20.7**	**+1.1**
DNZL	**Cakiroluk**	**0.29**	**138**	*i* P	**Pg**	**00 55 21.5**	**+0.9**
DNZL				*i* S	**Sg**	**00 55 25.1**	**+0.6**
DNZL	**Cakiroluk**	**0.29**	**138**	*i* P	**Pg**	**00 55 21.5**	**+0.9**
DNZL				*i* S	**Sg**	**00 55 25.1**	**+0.6**
MANT	**Manisa**	**0.62**	**342**	*i* P	**Pn**	**00 55 30.5**	**-0.1**
MANT				*i* S	**Sn**	**00 55 40.1**	**-1.0**
MANT	**Manisa**	**0.62**	**342**	*i* P	**Pn**	**00 55 30.5**	**-0.1**
MANT				*i* S	**Sn**	**00 55 40.1**	**-1.0**
KULA	**Kula-Manisa**	**0.62**	**350**	*e*PG	**Pb**	**00 55 28.9**	**+0.5**
KULA	**Kula-Manisa**	**0.62**	**350**	*e*Pg	**Pb**	**00 55 28.9**	**+0.5**
KHL	**Karahalli**	**0.71**	**53**	*e*PG	**Pg**	**00 55 29.8**	**+1.2**
KHL	**Karahalli**	**0.71**	**53**	*e*Pg	**Pg**	**00 55 29.8**	**+1.2**
KHAL	**Karahalli**	**0.72**	**49**	*i* P	**Pg**	**00 55 27.8**	**-1.0**
KHAL				*e*S	**Sg**	**00 55 35.8**	**-2.3**
KHAL	**Karahalli**	**0.72**	**49**	*i* P	**Pg**	**00 55 27.8**	**-1.0**
KHAL				*e*S	**Sg**	**00 55 35.8**	**-2.3**
AYDN	**Tasoluk**	**0.77**	**252**	*i* P	Pn	00 55 35.9	+3.3
AYDN				*i* S	**Sn**	**00 55 48.7**	**+4.1**
YER	**Yerkesik**	**0.87**	**209**	*e*PG	**Pg**	**00 55 31.1**	**-0.6**
YER	**Yerkesik**	**0.87**	**209**	*e*Pg	**Pg**	**00 55 31.1**	**-0.6**
GOLH	**Golhisar**	**0.90**	**138**	*e*P	**Pg**	**00 55 32.1**	**-0.1**
GOLH				*i* S	**Sb**	**00 55 44.5**	**-0.9**
GOLH	**Golhisar**	**0.90**	**138**	*e*P	**Pg**	**00 55 32.1**	**-0.1**
GOLH				*i* S	**Sb**	**00 55 44.5**	**-0.9**
MLSB	**Milas**	**1.01**	**234**	*e*PG	**Pb**	**00 55 34.3**	**-0.7**
MLSB	**Milas**	**1.01**	**234**	*e*Pg	**Pb**	**00 55 34.3**	**-0.7**
DEMI	**Demirci**	**1.14**	**357**	*i* P	**Pg**	**00 55 38.0**	**+1.1**
DEMI				*i* S	**Sn**	**00 55 54.5**	**+0.7**
DEMI	**Demirci**	**1.14**	**357**	*i* P	**Pg**	**00 55 38.0**	**+1.1**
DEMI				*i* S	**Sn**	**00 55 54.5**	**+0.7**
FETY	**Fethiye**	**1.28**	**170**	*e*PN	**Pg**	**00 55 39.2**	**-0.4**
FETY	**Fethiye**	**1.28**	**170**	*e*Pn	**Pg**	**00 55 39.2**	**-0.4**
ELL	**Elmali**	**1.45**	**142**	*e*PN	**Pg**	**00 55 42.4**	**-0.4**
ELL	**Elmali**	**1.45**	**142**	*e*Pn	**Pg**	**00 55 42.4**	**-0.4**
BCK	**Bucak**	**1.48**	**107**	*e*PN	**Pb**	**00 55 43.0**	**-0.1**
BCK	**Bucak**	**1.48**	**107**	*e*Pn	**Pb**	**00 55 43.0**	**-0.1**
SHUT	**Suhut-Afyon**	**1.52**	**64**	*e*PN	**Pn**	**00 55 43.5**	**+0.5**
SHUT	**Suhut-Afyon**	**1.52**	**64**	*e*Pn	**Pn**	**00 55 43.5**	**+0.5**
ALT	**Altintas**	**1.54**	**41**	*e*PN	**Pn**	**00 55 43.8**	**+0.6**
ALT	**Altintas**	**1.54**	**41**	*e*Pn	**Pn**	**00 55 43.8**	**+0.6**
TVSB	**Tavsanli**	**1.63**	**18**	*e*PN	**Pn**	**00 55 44.9**	**+0.5**
TVSB	**Tavsanli**	**1.63**	**18**	*e*Pn	**Pn**	**00 55 44.9**	**+0.5**

*BEO **02** 00:58:13.1±0.7, 40°.08N×25°.56E, h0km, ML3.5/6*
*SOF **02** 00:58:13.1, 40°.08N×25°.32E, h2km, MD3.4*
*DDA **02** 00:58:14.8, 40°.14N×25°.09E, h20km, MD3.1*
*ISK **02** 00:58:14.3, 40°.00N×25°.18E, h5km, ML3.7*
*ISCJB **02** 00:58:15.1±0.4, 40°.11N±0°.01×25°.17E±0°.01, h4km±3km, mb3.3/3, Error ellipse: s-maj=2.3km s-min=1.7km az=25.6*
*IDC **02** 00:58:15.7±1.3, 40°.13N×25°.18E, h0km, mb3.4/3, mb1 3.4/6, mb1mx3.3/27, mbtmp3.4/6, ML2.9/3, Error ellipse: s-maj=20.1km s-min=18.7km az=87.0*
*ATH **02** 00:58:15.8, 40°.09N×25°.17E, h24km±1km, MD3.5/13*
*CSEM **02** 00:58:16.7±0.1, 40°.08N×25°.16E, h10km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.7km az=18.0*
*THE **02** 00:58:17.5, 40°.09N×25°.22E, h17km±1km, ML3.4/11, Error ellipse: s-maj=1.3km s-min=0.7km az=112.0*
ISC 02 00:58:17.0±0.8**, 40°.10N**±0°.02×**25°.22E**±0°.02**, h13**km±6km**, n283, σ0s.98**/358**, mb3.4**/3**, 9C-9D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.20**	**188**	P	**Pg**	**00 58 21.3**	**-0.2**
LIA				S	**Sg**	**00 58 24.9**	**+0.4**
LIA	**Limnos Island**	**0.20**	**188**	*e*PB	**Pg**	**00 58 21.5**	**0.0**
LIA				*e*SB	**Sg**	**00 58 24.5**	**0.0**
LIA	**Limnos Island**	**0.20**	**188**	P	**Pg**	**00 58 21.3**	**-0.2**
LIA				*e*Sb	**Sg**	**00 58 24.5**	**0.0**
LIA				S	**Sg**	**00 58 24.9**	**+0.4**
BOZC	**Bozcaada**	**0.69**	**111**	*i* P	**Pg**	**00 58 29.6**	**-0.9**
BOZC				*i* S	**Sg**	**00 58 38.3**	**-1.2**
EZN	**Ezine**	**0.89**	**107**	PG	**Pg**	**00 58 33.0**	**-1.3**
EZN	**Ezine**	**0.89**	**107**	*i* Pg	**Pg**	**00 58 33.0**	**-1.3**
ENEZ	**Enez**	**0.96**	**48**	PG	**Pb**	**00 58 34.7**	**-0.8**
ENEZ	**Enez**	**0.96**	**48**	*i* Pg	**Pb**	**00 58 34.7**	**-0.8**
OUR	**Ouranopolis**	**0.98**	**284**	P	**Pb**	**00 58 35.5**	**-0.3**
OUR				S	**Sg**	**00 58 49.1**	**+0.4**
OUR	**Ouranopolis**	**0.98**	**284**	P	**Pb**	**00 58 35.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.01**	**72**	PG	**Pb**	**00 58 35.2**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.01**	**72**	*i* Pg	**Pb**	**00 58 35.2**	**-1.1**
ALN	**Alexandroupoli**	**1.02**	**38**	P	**Pb**	**00 58 35.1**	**-1.4**
ALN				S	**Sb**	**00 58 49.7**	**-0.1**
ALN	**Alexandroupoli**	**1.02**	**38**	P	**Pb**	**00 58 35.1**	**-1.4**
ALN				S	**Sb**	**00 58 49.7**	**-0.1**
KAVA	**Kavala**	**1.05**	**329**	P	**Pb**	**00 58 36.2**	**-0.8**
KAVA				S	**Sg**	**00 58 51.2**	**+0.3**
KAVA	**Kavala**	**1.05**	**329**	P	**Pb**	**00 58 36.2**	**-0.8**
KAVA				S	**Sg**	**00 58 51.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.14**	**59**	*e*PN	**Pb**	**00 58 37.9**	**-0.7**
ERIK	**Erikli-Kesan**	**1.14**	**59**	*e*Pn	**Pb**	**00 58 37.9**	**-0.7**
PRK	**Paraskevi**	**1.18**	**136**	P	**Pn**	**00 58 38.7**	**-0.4**
PRK				S	**Sb**	**00 58 53.9**	**-0.4**
PRK	**Paraskevi**	**1.18**	**136**	*e*PN	**Pn**	**00 58 38.8**	**-0.4**
PRK				*e*SN	**Sn**	**00 58 55.3**	**+0.3**
PRK	**Paraskevi**	**1.18**	**136**	*e*Pn	**Pn**	**00 58 38.8**	**-0.4**
PRK				S	**Sb**	**00 58 53.9**	**-0.4**
PRK				*e*Sn	**Sn**	**00 58 55.3**	**+0.3**
PAIG	**Paliouri**	**1.20**	**262**	P	**Pn**	**00 58 38.7**	**-0.7**
PAIG	**Paliouri**	**1.20**	**262**	P	**Pn**	**00 58 38.7**	**-0.7**
LPK	**Lapseki**	**1.21**	**76**	*e*PN	**Pn**	**00 58 38.8**	**-0.9**
LPK	**Lapseki**	**1.21**	**76**	*e*Pn	**Pn**	**00 58 38.8**	**-0.9**
AYVA	**Ayvalik**	**1.38**	**124**	*i* P	**Pn**	**00 58 41.9**	**-0.1**
AYVA				*i* S	**Sn**	**00 59 00.1**	**0.0**
AYVA	**Ayvalik**	**1.38**	**124**	*i* P	**Pn**	**00 58 41.9**	**-0.1**
AYVA				*i* S	**Sn**	**00 59 00.1**	**0.0**
PLG	**Polygyros**	**1.39**	**282**	P	**Pn**	**00 58 41.5**	**-0.6**
PLG				S	**Sn**	**00 58 59.1**	**-1.2**
PLG	**Polygyros**	**1.39**	**282**	*e*PN	**Pn**	**00 58 41.6**	**-0.6**
PLG				*e*SN	**Sn**	**00 58 59.2**	**-1.1**
PLG	**Polygyros**	**1.39**	**282**	*e*Pn	**Pn**	**00 58 41.6**	**-0.6**
PLG				S	**Sn**	**00 58 59.1**	**-1.2**
AOS	**Alonnisos**	**1.39**	**229**	P	**Pn**	**00 58 41.4**	**-0.7**
AOS				S	**Sn**	**00 59 00.0**	**-0.3**
AOS	**Alonnisos**	**1.39**	**229**	P	**Pn**	**00 58 41.4**	**-0.7**
AOS				S	**Sn**	**00 59 00.0**	**-0.3**
KDZ	**Kurdzhali**	**1.56**	**5**	*i* P	**Pn**	**00 58 43.1**	**-1.4**
KDZ				Sg	**Sn**	**00 59 03.2**	**-1.4**
KDZ	**Kurdzhali**	**1.56**	**5**	*i* P	**Pn**	**00 58 43.1**	**-1.4**
KDZ				Sg	**Sn**	**00 59 03.2**	**-1.4**
SOH	**Sokhos**	**1.60**	**298**	P	**Pn**	**00 58 44.4**	**-0.6**
SOH	**Sokhos**	**1.60**	**298**	P	**Pn**	**00 58 44.4**	**-0.6**
SRS	**Serrai**	**1.60**	**310**	P	**Pn**	**00 58 44.2**	**-0.9**
SRS	**Serrai**	**1.60**	**310**	P	**Pn**	**00 58 44.2**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.61**	**68**	*e*PN	**Pn**	**00 58 45.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.61**	**68**	*e*Pn	**Pn**	**00 58 45.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.62**	**79**	*e*PN	**Pn**	**00 58 44.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.62**	**79**	*e*Pn	**Pn**	**00 58 44.9**	**-0.3**
NVR	**Nevrokopi**	**1.62**	**321**	P	**Pn**	**00 58 44.7**	**-0.7**
NVR				S	**Sn**	**00 59 06.2**	**0.0**
NVR	**Nevrokopi**	**1.62**	**321**	*e*PN	**Pn**	**00 58 44.7**	**-0.7**
NVR	**Nevrokopi**	**1.62**	**321**	P	**Pn**	**00 58 44.7**	**-0.7**
NVR				S	**Sn**	**00 59 06.2**	**0.0**
RZN	**Rozhen**	**1.64**	**347**	*i* P	**Pn**	**00 58 45.1**	**-0.6**
RZN				Sg	**Sg**	**00 59 09.4**	**-0.3**
RZN	**Rozhen**	**1.64**	**347**	*i* P	**Pn**	**00 58 45.1**	**-0.6**
RZN				Sg	**Sg**	**00 59 09.4**	**-0.3**
SKIA	**Skiathos**	**1.64**	**236**	P	**Pn**	**00 58 44.6**	**-1.0**
SKIA				S	**Sn**	**00 59 06.5**	**-0.1**
SKIA	**Skiathos**	**1.64**	**236**	P	**Pn**	**00 58 44.6**	**-1.0**
SKIA				S	**Sn**	**00 59 06.5**	**-0.1**
HORT	**Hortiatis**	**1.70**	**288**	P	**Pn**	**00 58 45.8**	**-0.6**
HORT				S	**Sn**	**00 59 07.0**	**-1.0**
HORT	**Hortiatis**	**1.70**	**288**	P	**Pn**	**00 58 45.8**	**-0.6**
HORT				S	**Sn**	**00 59 07.0**	**-1.0**
MFT	**Murefte**	**1.72**	**66**	*e*PN	**Pn**	**00 58 47.4**	**+0.7**
MFT	**Murefte**	**1.72**	**66**	*e*Pn	**Pn**	**00 58 47.4**	**+0.7**
XOR	**Xorichti**	**1.73**	**246**	P	**Pn**	**00 58 45.8**	**-1.0**
XOR				S	**Sn**	**00 59 07.5**	**-1.2**
XOR	**Xorichti**	**1.73**	**246**	P	**Pn**	**00 58 45.8**	**-1.0**
XOR				S	**Sn**	**00 59 07.5**	**-1.2**
NEO	**Neokhori**	**1.73**	**244**	*e*PN	**Pn**	**00 58 45.9**	**-0.9**
NEO	**Neokhori**	**1.73**	**244**	*e*Pn	**Pn**	**00 58 45.9**	**-0.9**
THE	**Thessaloniki**	**1.80**	**288**	P	**Pn**	**00 58 47.4**	**-0.4**
THE	**Thessaloniki**	**1.80**	**288**	P	**Pn**	**00 58 47.4**	**-0.4**
CHOS	**Chios island**	**1.83**	**159**	P	**Pn**	**00 58 47.6**	**-0.6**
CHOS	**Chios island**	**1.83**	**159**	P	**Pn**	**00 58 47.6**	**-0.6**
MMB	**Musomiste**	**1.87**	**323**	*i* P	**Pn**	**00 58 47.9**	**-0.9**
MMB	**Musomiste**	**1.87**	**323**	*i* P	**Pn**	**00 58 47.9**	**-0.9**
MRKA	**Markates**	**1.88**	**223**	P	**Pn**	**00 58 48.1**	**-0.8**
MRKA				S	**Sn**	**00 59 12.0**	**-0.4**
MRKA	**Markates**	**1.88**	**223**	P	**Pn**	**00 58 48.1**	**-0.8**
MRKA				S	**Sn**	**00 59 12.0**	**-0.4**
BALY	**Balya**	**1.88**	**100**	*i* P	**Pn**	**00 58 49.1**	**+0.2**
BALY				*i* S	**Sn**	**00 59 12.1**	**-0.4**
BALY	**Balya**	**1.88**	**100**	*i* P	**Pn**	**00 58 49.1**	**+0.2**
BALY				*i* S	**Sn**	**00 59 12.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.89**	**91**	*e*PN	**Pn**	**00 58 49.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.89**	**91**	*e*Pn	**Pn**	**00 58 49.2**	**+0.2**
DIM	**Dimitrovgrad**	**1.97**	**7**	*i* P	**Pn**	**00 58 49.4**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DIM				Sg	Sb	00 59 18.0	+0.9
DIM	Dimitrovgrad	1.97	7	i P	Pn	00 58 49.4	-0.6
DIM				Sg	Sb	00 59 18.0	+0.9
TKR	Tekirdag	1.98	62	ePN	Pb	00 58 51.7	-1.2
TKR	Tekirdag	1.98	62	ePn	Pb	00 58 51.7	-1.2
ERET	Eretria	1.98	214	P	Pn	00 58 49.6	-0.8
ERET	Eretria	1.98	214	P	Pn	00 58 49.6	-0.8
URLA	Izmir	2.04	148	i P	Pn	00 58 51.0	-0.1
URLA				eS	Sn	00 59 15.6	-0.7
URLA	Izmir	2.04	148	i P	Pn	00 58 51.0	-0.1
URLA				eS	Sn	00 59 15.6	-0.7
EDC	Edincik	2.04	82	ePN	Pb	00 58 52.6	-1.3
EDC	Edincik	2.04	82	ePn	Pb	00 58 52.6	-1.3
PLD	Plovdiv	2.04	349	P	Pn	00 58 51.2	+0.1
PLD	Plovdiv	2.04	349	i P	Pn	00 58 51.2	+0.1
PLD				Sg	Sg	00 59 22.8	0.0
PLD	Plovdiv	2.04	349	P	Pn	00 58 51.2	+0.1
PLD				Sg	Sg	00 59 22.8	0.0
KNT	Kendrikon	2.06	302	P	Pn	00 58 51.3	-0.1
KNT	Kendrikon	2.06	302	P	Pn	00 58 51.3	-0.1
BNT	Bandirma	2.08	82	ePN	Pn	00 58 52.7	+1.0
BNT	Bandirma	2.08	82	ePn	Pn	00 58 52.7	+1.0
LIT	Litokhoron	2.09	271	P	Pn	00 58 51.1	-0.7
LIT				S	Sn	00 59 16.4	-1.4
LIT	Litokhoron	2.09	271	ePN	Pn	00 58 51.2	-0.6
LIT	Litokhoron	2.09	271	ePn	Pn	00 58 51.2	-0.6
LIT				S	Sn	00 59 16.4	-1.4
EDRB	Edirne	2.10	33	ePN	Pb	00 58 54.0	-0.8
EDRB	Edirne	2.10	33	ePn	Pb	00 58 54.1	-0.8
BALB	Balikesir	2.10	102	ePN	Pn	00 58 52.0	+0.1
BALB	Balikesir	2.10	102	ePn	Pn	00 58 52.0	+0.1
MRMA	Marmari	2.14	198	P	Pn	00 58 51.4	-1.0
MRMA				S	Sn	00 59 17.4	-1.4
MRMA	Marmari	2.14	198	P	Pn	00 58 51.4	-1.0
MRMA				S	Sn	00 59 17.4	-1.4
CRLT	Corlu	2.17	61	ePN	Pb	00 58 54.6	-1.6
CRLT	Corlu	2.17	61	ePn	Pb	00 58 54.7	-1.6
ATAL	Atalanti	2.21	231	P	Pn	00 58 52.9	-0.5
ATAL	Atalanti	2.21	231	P	Pn	00 58 52.9	-0.5
LKR	Lokris	2.25	231	P	Pn	00 58 53.3	-0.6
LKR	Lokris	2.25	231	ePN	Pn	00 58 53.4	-0.5
LKR	Lokris	2.25	231	P	Pn	00 58 53.3	-0.6
PTL	Penteli	2.30	208	P	Pn	00 58 53.8	-0.9
PTL	Penteli	2.30	208	ePN	Pn	00 58 53.8	-0.9
PTL	Penteli	2.30	208	P	Pn	00 58 53.8	-0.9
GRG	Griva	2.31	293	P	Pn	00 58 54.6	-0.3
GRG	Griva	2.31	293	P	Pn	00 58 54.6	-0.3
IZM	Izmir	2.32	136	ePN	Pn	00 58 54.1	-0.9
IZM	Izmir	2.32	136	ePn	Pn	00 58 54.1	-0.9
AKS	Akhisar	2.35	120	ePN	Pn	00 58 55.1	-0.2
AKS	Akhisar	2.35	120	ePn	Pn	00 58 55.1	-0.2
AKHS	Akhisar	2.35	120	i P	Pn	00 58 55.3	0.0
AKHS				i S	Sn	00 59 25.1	+1.1
AKHS	Akhisar	2.35	120	i P	Pn	00 58 55.3	0.0
AKHS				i S	Sn	00 59 25.1	+1.1
VAY	Valandovo	2.36	302	P	Pn	00 58 55.2	-0.2
VAY	Valandovo	2.36	302	i Pn	Pn	00 58 55.0	-0.4
VAY				eSg	Sg	00 59 33.5	+0.7
VAY	Valandovo	2.36	302	P	Pn	00 58 55.2	-0.2
VAY	Valandovo	2.36	302	i Pn	Pn	00 58 55.5	+0.1
VAY				eSg	Sg	00 59 33.9	+1.1
AXAR	Agios Charalam	2.39	237	P	Pn	00 58 55.9	0.0
AXAR	Agios Charalam	2.39	237	P	Pn	00 58 55.9	0.0
KKB	Krupnik	2.40	318	i P	Pn	00 58 55.6	-0.4
KKB	Krupnik	2.40	318	i P	Pn	00 58 55.6	-0.4
KCTX	Karacabey (Bur	2.41	85	ePN	Pn	00 58 57.0	+0.8
KCTX	Karacabey (Bur	2.41	85	ePn	Pn	00 58 57.0	+0.8
THL	Klokotos Trika	2.52	259	P	Pn	00 58 57.6	-0.1
THL				S	Sn	00 59 27.2	-1.1
THL	Klokotos Trika	2.52	259	ePN	Pn	00 58 57.6	-0.1
THL	Klokotos Trika	2.52	259	P	Pn	00 58 57.6	-0.1
THL				S	Sn	00 59 27.2	-1.1
SLVT	Silivri	2.54	63	ePN	Pn	00 58 59.6	+1.7
SLVT	Silivri	2.54	63	ePn	Pn	00 58 59.6	+1.7
DURS	Dursunbey	2.55	100	i P	Pn	00 58 58.1	-0.1
DURS				i S	Sb	00 59 32.4	-1.7
DURS	Dursunbey	2.55	100	i P	Pn	00 58 58.1	-0.1
DURS				i S	Sb	00 59 32.4	-1.7
PGB	Panagyurishte	2.58	342	i P	Pn	00 58 57.9	-0.6
PGB	Panagyurishte	2.58	342	i P	Pn	00 58 57.9	-0.6
JMB	Yambol	2.58	23	P	Pn	00 58 58.3	-0.2
JMB	Yambol	2.58	23	P	Pn	00 58 58.3	-0.2
MAKR	Makrakomi, Fth	2.62	247	P	Pn	00 58 59.4	+0.3
MAKR	Makrakomi, Fth	2.62	247	P	Pn	00 58 59.4	+0.3
DST	Dursunbey	2.66	100	ePN	Pn	00 59 00.5	+0.8
DST	Dursunbey	2.66	100	ePn	Pn	00 59 00.5	+0.8
DSF	Desfina	2.68	232	P	Pn	00 58 59.3	-0.7
DSF	Desfina	2.68	232	P	Pn	00 58 59.3	-0.7
NAIG	Nisos Aigina	2.70	211	ePN	Pn	00 58 59.4	-0.7
NAIG	Nisos Aigina	2.70	211	ePn	Pn	00 58 59.4	-0.7
CTYL	Yal??k??y-??at	2.71	58	ePN	Pn	00 59 02.1	+1.9
CTYL	Yal??k??y-??at	2.71	58	ePn	Pn	00 59 02.1	+1.9
LTK	Loutraki	2.71	221	P	Pn	00 59 00.0	-0.3
LTK	Loutraki	2.71	221	ePN	Pn	00 59 00.0	-0.3
LTK	Loutraki	2.71	221	P	Pn	00 59 00.0	-0.3
CTKS	Kestanelik-??a	2.75	64	ePN	Pn	00 59 03.0	+2.2
CTKS	Kestanelik-??a	2.75	64	ePn	Pn	00 59 03.0	+2.2
MDNY	Mudanya-Bursa	2.82	83	ePN	Pn	00 59 03.8	+2.0
MDNY	Mudanya-Bursa	2.82	83	ePn	Pn	00 59 03.8	+2.0
ORLT	Orhaneli	2.82	90	ePN	Pn	00 59 03.0	+1.1
ORLT	Orhaneli	2.82	90	ePn	Pn	00 59 03.0	+1.1
ARMT	Armutlu	2.82	79	ePN	Pn	00 59 03.0	+1.1
ARMT	Armutlu	2.82	79	ePn	Pn	00 59 03.0	+1.1
EVR	Evrytania	2.89	247	P	Pn	00 59 03.1	+0.2
EVR	Evrytania	2.89	247	ePN	Pn	00 59 03.2	+0.3
EVR	Evrytania	2.89	247	P	Pn	00 59 03.1	+0.2
BGKT	Bogazkoy	2.91	67	ePN	Pn	00 59 05.5	+2.4
BGKT	Bogazkoy	2.91	67	ePn	Pn	00 59 05.5	+2.4
VTS	Vitosha	2.92	329	P	Pn	00 59 03.6	+0.3
VTS	Vitosha	2.92	329	⇓i P	Pn	00 59 03.9	+0.6
VTS	Vitosha	2.92	329	S	Sg	00 59 51.3	+0.5
VTS	Vitosha	2.92	329	i P	Pn	00 59 03.6	+0.3
VTS				Sg	Sg	00 59 51.7	+0.9
VTS	Vitosha	2.92	329	ePn	Pn	00 59 03.7	+0.4
VTS				eSg	Sg	00 59 49.8	-1.0
VTS	Vitosha	2.92	329	P	Pn	00 59 03.6	+0.3
VTS				Sg	Sg	00 59 51.7	+0.9
FNA	Florina	3.01	284	P	Pn	00 59 04.8	+0.3
FNA	Florina	3.01	284	P	Pn	00 59 04.8	+0.3
DID	Didima	3.02	212	P	Pn	00 59 03.6	-0.9
DID	Didima	3.02	212	ePN	Pn	00 59 03.7	-0.8
DID	Didima	3.02	212	ePn	Pn	00 59 03.7	-0.8
APE	Apeiranthos	3.03	175	P	Pn	00 59 04.1	-0.7
APE	Apeiranthos	3.03	175	P	Pn	00 59 04.1	-0.7
GEMT	Gemlik	3.06	82	ePN	Pn	00 59 07.1	+2.1
GEMT	Gemlik	3.06	82	ePn	Pn	00 59 07.1	+2.1
ISK	Istanbul-Kandi	3.08	70	ePN	Pn	00 59 07.1	+1.8
ISK	Istanbul-Kandi	3.08	70	ePn	Pn	00 59 07.1	+1.8
KULA	Kula-Manisa	3.10	120	ePN	Pn	00 59 05.9	+0.1
KULA	Kula-Manisa	3.10	120	ePn	Pn	00 59 05.9	+0.1
BIA	Bitola	3.11	289	ePn	Pn	00 59 05.8	-0.1
BIA	Bitola	3.11	289	ePn	Pn	00 59 05.7	-0.1
GUR	Goura	3.11	227	P	Pn	00 59 05.6	-0.3
GUR	Goura	3.11	227	ePN	Pn	00 59 05.6	-0.3
GUR	Goura	3.11	227	P	Pn	00 59 05.6	-0.3
PVL	Pavlikeni	3.12	2	i P	Pn	00 59 04.8	-1.1
PVL	Pavlikeni	3.12	2	i P	Pn	00 59 04.8	-1.1
YLV	Yalova	3.21	80	ePN	Pn	00 59 09.4	+2.2
YLV	Yalova	3.21	80	ePn	Pn	00 59 09.4	+2.2
SZH	Strazhica	3.21	9	i P	Pn	00 59 06.9	-0.3
SZH				S	Sn	00 59 44.0	-1.3
SZH	Strazhica	3.21	9	i P	Pn	00 59 06.9	-0.3
SZH				S	Sn	00 59 44.0	-1.3
TVSB	Tavsanli	3.33	100	ePN	Pn	00 59 10.0	+1.1
TVSB	Tavsanli	3.33	100	ePn	Pn	00 59 10.0	+1.1
MLSB	Milas	3.44	144	ePN	Pn	00 59 10.0	-0.3
MLSB	Milas	3.44	144	ePn	Pn	00 59 10.0	-0.3
MPEP	Malo Peshtene	3.44	342	i P	Pn	00 59 10.4	+0.1
MPEP				S	Sg	01 00 07.0	-0.5
MPEP	Malo Peshtene	3.44	342	i P	Pn	00 59 10.4	+0.1
BODT	Bodrum	3.44	151	ePN	Pn	00 59 09.2	-1.2
BODT	Bodrum	3.44	151	ePn	Pn	00 59 09.2	-1.2
HRT	Hereke	3.47	77	ePN	Pn	00 59 12.1	+1.3
HRT	Hereke	3.47	77	ePn	Pn	00 59 12.1	+1.3
ADVT	Abdulvahap	3.47	83	ePN	Pn	00 59 12.1	+1.3
ADVT	Abdulvahap	3.47	83	ePn	Pn	00 59 12.1	+1.3
NEF	NEVSHA	3.52	25	i P	Pn	00 59 10.7	-0.7
NEF	NEVSHA	3.52	25	i P	Pn	00 59 10.7	-0.7
SILT	Sile	3.53	71	ePN	Pn	00 59 13.3	+1.8
SILT	Sile	3.53	71	ePn	Pn	00 59 13.3	+1.8
CAVI	Cavuskoy	3.54	87	ePN	Pn	00 59 13.5	+1.7
CAVI	Cavuskoy	3.54	87	ePn	Pn	00 59 13.5	+1.7
ZIMR		3.56	2	⇑i P	Pn	00 59 14.1	+2.2
ZIMR		3.56	2	S	Sg	01 00 11.4	+0.1
ZAPS	Zavoj	3.72	329	ePn	Pn	00 59 14.1	-0.1
ZAPS				eSg	Sg	01 00 16.2	-0.2
BARS	Barje	3.73	318	ePn	Pn	00 59 14.2	-0.1
BARS				eSg	Sg	01 00 17.1	+0.2
BARS	Barje	3.73	318	ePn	Pn	00 59 14.2	-0.1
BARS				eSg	Sg	01 00 17.1	+0.2
AMT	Artemida-Makis	3.75	228	P	Pn	00 59 15.0	+0.4
AMT	Artemida-Makis	3.75	228	P	Pn	00 59 15.0	+0.4
DENT	Denizli	3.78	127	ePN	Pn	00 59 15.8	+0.7
DENT	Denizli	3.78	127	ePn	Pn	00 59 15.8	+0.7
KHL	Karahalli	3.78	117	ePN	Pn	00 59 16.2	+1.2
KHL	Karahalli	3.78	117	ePn	Pn	00 59 16.3	+1.2
YER	Yerkesik	3.81	140	ePN	Pn	00 59 15.0	-0.4
YER	Yerkesik	3.81	140	ePn	Pn	00 59 15.0	-0.4
VLI	Veliai	3.82	209	ePN	Pn	00 59 15.1	-0.4
VLI	Veliai	3.82	209	ePn	Pn	00 59 15.1	-0.4
ITM	Ithomi	3.89	223	P	Pn	00 59 17.3	+0.8
ITM	Ithomi	3.89	223	P	Pn	00 59 17.3	+0.8
GPA	Golpazari	3.90	86	ePN	Pn	00 59 18.7	+2.0
ALT	Altintas	3.92	104	ePN	Pn	00 59 18.3	+1.3
ALT	Altintas	3.92	104	ePn	Pn	00 59 18.3	+1.3
BORA	Eskisehir	4.03	91	i P	Pn	00 59 18.4	0.0
BORA	Eskisehir	4.03	91	i P	Pn	00 59 18.4	0.0
GULT	Gulveren	4.07	84	ePN	Pn	00 59 20.4	+1.4
GULT	Gulveren	4.07	84	ePn	Pn	00 59 20.4	+1.4
PYL	PYLOS	4.20	222	P	Pn	00 59 21.4	+0.6
PYL	PYLOS	4.20	222	P	Pn	00 59 21.4	+0.6
SELS	Selova	4.38	317	eSg	Sg	01 00 39.1	+1.5
BOLS	Boljevac	4.45	328	ePn	Pn	00 59 22.9	-1.3
BOLS				eSg	Sg	01 00 40.9	+0.9
BOLS	Boljevac	4.45	328	ePn	Pn	00 59 22.9	-1.3
BOLS				eSg	Sg	01 00 40.9	+0.9
MDUB	Mudurnu	4.59	83	ePN	Pn	00 59 28.2	+2.0
MDUB	Mudurnu	4.59	83	ePn	Pn	00 59 28.2	+2.0
SVRH	Sivrihisar-ESK	4.90	96	ePN	Pn	00 59 32.2	+1.7
SVRH	Sivrihisar-ESK	4.90	96	ePn	Pn	00 59 32.2	+1.7
BCK	Bucak	4.95	120	ePN	Pn	00 59 32.2	+1.0
BCK	Bucak	4.95	120	ePn	Pn	00 59 32.2	+1.0
ELL	Elmali	4.97	131	ePN	Pn	00 59 32.2	+0.7
ELL	Elmali	4.97	131	ePn	Pn	00 59 32.2	+0.7
GRUS	Gruza	5.06	320	ePn	Pn	00 59 32.2	-0.4
GRUS				eSg	Sg	01 00 59.7	+0.2
GRUS	Gruza	5.06	320	ePn	Pn	00 59 32.2	-0.4
GRUS				eSg	Sg	01 00 59.7	+0.2
SVIS	Svilajnac	5.12	326	eSg	Sg	01 01 00.6	-0.7
IVAS	Ivanjica	5.14	314	ePn	Pn	00 59 33.1	-0.6
IVAS				eSg	Sg	01 01 02.9	+0.9
IVAS	Ivanjica	5.14	314	ePn	Pn	00 59 33.1	-0.6
IVAS				eSg	Sg	01 01 02.9	+0.9
KIZT	Kizilcal	5.29	101	ePN	Pn	00 59 37.2	+1.3
KIZT	Kizilcal	5.29	101	ePn	Pn	00 59 37.2	+1.3
VOIR		5.34	359	⇑i P	Pn	00 59 36.1	-0.4
VOIR		5.34	359	⇑i P	Pn	00 59 36.1	-0.4
MLR	Muntele Rosu	5.42	5	Pn	Pn	00 59 37.7	+0.1
	0.2nm,0.3s,baz=180,slow=11,SNR=23						
MLR				Lg	Lg	01 01 10.5	
	0.2nm,0.3s,baz=180,slow=20,SNR=2.7						
MLR	Muntele Rosu	5.42	5	⇑i P	Pn	00 59 38.3	+0.7
MLR	Muntele Rosu	5.42	5	⇑i P	Pn	00 59 38.3	+0.7
DIVS	Divibare	5.58	318	ePn	Pn	00 59 39.0	-0.8
DIVS				eSg	Sg	01 01 16.5	+0.5
DIVS	Divibare	5.58	318	ePn	Pn	00 59 39.0	-0.8
DIVS				eSg	Sg	01 01 16.5	+0.5
GZR	Gura Zlata	5.59	342	⇑i P	Pn	00 59 39.1	-0.8
GZR	Gura Zlata	5.59	342	⇑i P	Pn	00 59 39.1	-0.8
AFSR	Af¯ar-Bala (A	6.08	94	ePN	Pn	00 59 48.9	+2.2
AFSR	Af¯ar-Bala (A	6.08	94	ePn	Pn	00 59 48.9	+2.2
BZS	Buzias	6.12	336	⇓i P	Pn	00 59 46.2	-0.9
BZS	Buzias	6.12	336	S	Sg	01 01 30.2	-3.2
BZS	Buzias	6.12	336	ePn	Pn	00 59 46.0	-1.1
BZS				eSg	Sg	01 01 31.3	-2.1
BZS	Buzias	6.12	336	⇓i P	Pn	00 59 46.2	-0.9
BZS				eSg	Sg	01 01 31.3	-2.1
BRTR	Keskin Array B	6.48	91	Pn	Pn	00 59 52.6	+0.3
	0.6nm,0.3s,baz=263,slow=12,SNR=40						
BRTR				Sn	Sn	01 01 03.6	-2.6
	0.2nm,0.3s,baz=284,slow=25,SNR=4.0						
BRTR				Lg	Lg	01 01 45.0	
	0.1nm,0.3s,baz=284,slow=30,SNR=4.4						
TESR		6.50	9	⇑i P	Pn	00 59 52.7	+0.4
TESR		6.50	9	⇑i P	Pn	00 59 52.7	+0.4
KAMT	Kaman	6.59	94	ePN	Pn	00 59 55.8	+2.1
KAMT	Kaman	6.59	94	ePn	Pn	00 59 55.8	+2.1
PRAR	RASCA	7.30	5	⇓i P	Pn	01 00 04.4	+1.1
PRAR	RASCA	7.30	5	⇓i P	Pn	01 00 04.4	+1.1
BURAR	Bucovina Array	7.52	360	⇓i P	Pn	01 00 07.0	+0.6
BURAR	Bucovina Array	7.52	360	⇓i P	Pn	01 00 07.0	+0.6
PKSM	Moragy	7.78	324	⇓i P	Pn	01 00 09.1	-0.7
PKSM	Moragy	7.78	324	⇓i P	Pn	01 00 09.1	-0.7
DAVOX	Davos/Dischmat	12.99	306	Pn	Pn	01 01 22.6	+1.3
	0.1nm,0.3s,baz=132,slow=15,SNR=3.6						
TORD	Torodi Ar. Bea	33.89	224	P	P	01 05 00.6	+1.0
	0.2nm,0.5s,baz=35,slow=8.7,SNR=4.4						
JMIC	Jan Mayen	35.39	342	P	P	01 05 12.4	+0.3
	107nm,0.6s,baz=147,slow=6.0,SNR=2.7						
MKAR	Makanchi Array	41.18	61	P	P	01 06 01.6	+0.5
	0.4nm,0.5s,baz=272,slow=7.1,SNR=10						
ZALV	Zalesovo Beam	41.67	50	P	P	01 06 05.7	+0.7
	0.3nm,0.3s,baz=278,slow=10.0,SNR=3.4						

ISK 02 01:01:43.2, 36°.02N×28°.27E, h11km, MD3.0
CSEM 02 01:01:43.0±1.2, 35°.97N×28°.25E, h10km, MD2.9, Error ellipse: s-maj=28.2km s-min=9.8km az=8.0
DDA 02 01:01:55.2, 36°.97N×28°.53E, h7km, MD2.9
ISC 02 01:01:44.9±2.9, **36°.2N**±0°.1×**28°.26E**±0°.05, **h2km**±20km, **n30, σ1§11**/26, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.74	22	i P	Pg	01 02 00.6	+1.4
TURN				i S	Sg	01 02 06.7	-2.2
TURN	Turunc	0.74	22	i P	Pg	01 02 00.6	+1.4
TURN				i S	Sg	01 02 06.7	-2.2
FETY	Fethiye	0.80	56	ePG	Pg	01 02 01.5	+1.2
FETY	Fethiye	0.80	56	ePg	Pg	01 02 01.5	+1.2
YER	Yerkesik	0.95	1	ePN	Pg	01 02 04.4	+1.2
YER	Yerkesik	0.95	1	ePn	Pg	01 02 04.4	+1.2
BODT	Bodrum	1.16	319	ePN	Pg	01 02 08.1	+0.8
BODT	Bodrum	1.16	319	ePn	Pg	01 02 08.1	+0.8
MLSB	Milas	1.18	341	ePN	Pg	01 02 08.2	+0.7
MLSB	Milas	1.18	341	ePn	Pg	01 02 08.2	+0.7
ELL	Elmali	1.44	66	ePN	Pn	01 02 10.3	-1.9
ELL	Elmali	1.44	66	ePn	Pn	01 02 10.3	-1.9
GOLH	Golhisar	1.48	44	i P	Pn	01 02 12.1	-0.6
GOLH				i S	Sg	01 02 27.0	-5.6
GOLH	Golhisar	1.48	44	i P	Pn	01 02 12.1	-0.6
GOLH				i S	Sg	01 02 27.0	-5.6
AYDN	Tasoluk	1.51	348	i P	Pn	01 02 11.6	-1.4
AYDN				i S	Sg	01 02 26.8	-6.6
AYDN	Tasoluk	1.51	348	i P	Pn	01 02 11.6	-1.4
AYDN				i S	Sg	01 02 26.8	-6.6
DENT	Denizli	1.69	21	ePN	Pn	01 02 16.3	+0.8
DENT	Denizli	1.69	21	ePn	Pn	01 02 16.3	+0.8
GCAM	G?zelcaml?	1.72	332	i P	Pn	01 02 15.3	-0.6
GCAM				i S	Sn	01 02 32.9	-5.5
GCAM	G?zelcaml?	1.72	332	i P	Pn	01 02 15.3	-0.6
GCAM				i S	Sn	01 02 32.9	-5.5
BCK	Bucak	2.26	55	ePN	Pn	01 02 22.6	-0.8
BCK	Bucak	2.26	55	ePn	Pn	01 02 22.6	-0.8
KULA	Kula-Manisa	2.35	8	ePN	Pn	01 02 25.1	+0.5
KULA	Kula-Manisa	2.35	8	ePn	Pn	01 02 25.1	+0.5
KHL	Karahalli	2.36	25	ePN	Pn	01 02 25.0	+0.2
KHL	Karahalli	2.36	25	ePn	Pn	01 02 25.0	+0.2
TVSB	Tavsanli	3.40	16	ePN	Pn	01 02 39.8	+0.7
TVSB	Tavsanli	3.40	16	ePn	Pn	01 02 39.8	+0.7
BALB	Balikesir	3.46	355	ePN	Pn	01 02 41.3	+1.5
BALB	Balikesir	3.46	355	ePn	Pn	01 02 41.3	+1.5

ISCJB 02 01:04:38.9±0.3, 30°.60N±0°.02×57°.40E±0°.04, h15km, mb3.6/13, Error ellipse: s-maj=4.8km s-min=3.5km az=3.4
CSEM 02 01:04:39.6±0.1, 30°.62N×57°.38E, h2km, Ms4.0, Error ellipse: s-maj=3.5km s-min=2.4km az=94.0
TEH 02 01:04:41.1, 30°.62N×57°.34E, h4km, ML4.4
IDC 02 01:04:42.5±3.9, 30°.48N×57°.38E, h39km±38km, mb3.4/12, mb1 3.6/15, mb1mx3.4/32, mbtmp3.5/15, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=21.9km s-min=16.3km az=162.0
ISC 02 01:04:40.3±0.6, **30°.63N**±0°.04×**57°.39E**±0°.04, **h15km, n79, σ1§32**/90, **mb3.6**/13, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	1.83	302	ePn	Pn	01 05 12.2	+0.8
IBAF				eSg	Sb	01 05 37.8	+1.4
IBAF				e		01 05 40.0	
	comp=Z,74μm,0.3s						
IBAF	Bafgh	1.83	302	ePn	Pn	01 05 12.2	+0.8
IBAF				eSg	Sb	01 05 37.8	+1.4
IKOO	Kooshah	2.26	37	eSg	Sg	01 05 53.4	+0.5
IKOO	Kooshah	2.26	37	eSg	Sg	01 05 53.4	+0.5
IMEH	Mehriz	2.50	288	ePn	Pn	01 05 21.7	+1.0
IMEH				eSg	Sb	01 05 56.1	+0.4
IMEH				e		01 05 57.5	
	comp=Z,39μm,0.3s						
IMEH	Mehriz	2.50	288	ePn	Pn	01 05 21.7	+1.0
IMEH				eSg	Sb	01 05 56.1	+0.4
ITEG	Tejag	2.54	27	ePn	Pn	01 05 20.7	-0.4
ITEG				e		01 06 09.4	
	comp=Z,21μm,0.2s						
ITEG	Tejag	2.54	27	ePn	Pn	01 05 20.7	-0.4
ICHK	Chekchek	3.01	303	ePn	Pn	01 05 28.9	+1.2
ICHK				eSg	Sb	01 06 13.0	+2.5
ICHK				e		01 06 20.0	
	comp=Z,17μm,0.2s						
ICHK	Chekchek	3.01	303	ePn	Pn	01 05 28.9	+1.2
ICHK				eSg	Sb	01 06 13.0	+2.5
IMON	Monand	3.20	37	ePn	Pn	01 05 31.5	+1.1
IMON				e		01 06 31.3	
	comp=E,52μm,0.3s						
IMON	Monand	3.20	37	ePn	Pn	01 05 31.5	+1.1
IBND	Bandar-abas	3.26	193	ePn	Pn	01 05 32.1	+1.2
IBND				e		01 06 35.5	
	comp=Z,9μm,0.2s						
IBND	Bandar-abas	3.26	193	ePn	Pn	01 05 32.1	+1.2
SHI	Shiraz	4.34	258	eSg	Sg	01 06 56.4	-3.2
BANOM	Banah	4.79	192	P	Pn	01 05 52.9	+0.9
	SNR=36						
BANOM				S	Sn	01 06 45.2	-2.1
IZEF	Zefreh	4.86	299	ePn	Pn	01 05 54.1	+0.9
IZEF				e		01 07 20.7	
	comp=Z,1μm,0.2s						
IZEF	Zefreh	4.86	299	ePn	Pn	01 05 54.1	+0.9
IGAR	Gharneh	4.89	293	ePn	Pn	01 05 54.9	+1.3
IGAR				e		01 07 35.4	
	comp=Z,1μm,0.3s						
IKLH	Kolahrood	5.62	300	ePn	Pn	01 06 05.0	+1.5
IKLH				e		01 07 59.6	
	comp=Z,2μm,0.3s						
IKLH	Kolahrood	5.62	300	ePn	Pn	01 06 05.0	+1.5
IANJ	Anjilo	5.63	330	ePn	Pn	01 06 04.1	+0.3
IANJ				e		01 08 09.2	
	comp=Z,2μm,0.3s						
IANJ	Anjilo	5.63	330	ePn	Pn	01 06 04.1	+0.3
IMOG	Moghan	5.70	16	ePn	Pn	01 06 06.3	+1.6
IMOG				e		01 07 56.2	
	comp=Z,831nm,0.3s						
IMOG	Moghan	5.70	16	ePn	Pn	01 06 06.3	+1.6
ISFB	Sefidab	5.71	312	ePn	Pn	01 06 06.2	+1.5
ISFB				e		01 07 59.4	
	comp=Z,2μm,0.6s						
ISFB	Sefidab	5.71	312	ePn	Pn	01 06 06.2	+1.5
NAZ	Nazwa, Dubai	5.83	196	P	Pn	01 06 06.9	+0.7
HATD	Hatta, Dubai	5.89	191	P	Pn	01 06 07.6	+0.5
IPIR	Pirpir	5.90	292	ePn	Pn	01 06 08.9	+1.4
IPIR				e		01 08 04.4	
	comp=Z,754nm,0.4s						
IPIR	Pirpir	5.90	292	ePn	Pn	01 06 08.9	+1.4
ISRO	Mashad	5.92	17	ePn	Pn	01 06 09.5	+1.9
ISRO				eSg	Sg	01 07 46.1	-4.3
ISRO	Mashad	5.92	17	ePn	Pn	01 06 09.5	+1.9
ISRO				eSg	Sg	01 07 46.1	-4.3
IPAY	Payeh	5.95	13	ePn	Pn	01 06 09.2	+1.0
IPAY				e		01 08 09.1	
	comp=Z,755nm,0.4s						
IPAY	Payeh	5.95	13	ePn	Pn	01 06 09.2	+1.0
ASHO	Ashiyiah	6.04	192	P	Pn	01 06 09.7	+0.5
	SNR=9.4						
FAQ	Al Faqa, Dubai	6.08	196	P	Pn	01 06 09.9	+0.2
IMYA	Miami	6.13	21	ePn	Pn	01 06 11.1	+0.6
IMYA				e		01 08 15.3	
	comp=Z,670nm,0.4s						
IMYA	Miami	6.13	21	ePn	Pn	01 06 11.1	+0.6
ISHM	Shahmirzad	6.20	327	ePn	Pn	01 06 12.3	+0.8
ISHM				ePn	Pn	01 06 12.8	+1.3
ISHM				e		01 08 10.9	
	comp=E,4μm,0.4s						
ISHM				e		01 08 11.6	
	comp=Z,2μm,0.3s						
ISHM	Shahmirzad	6.20	327	ePn	Pn	01 06 12.3	+0.8
IKRD	Kardeh	6.20	8	ePn	Pn	01 06 15.0	+3.5
IKRD				e		01 08 17.8	
	comp=Z,1μm,0.5s						
IKRD	Kardeh	6.20	8	ePn	Pn	01 06 15.0	+3.5
ASUD	Al Ashush, Dub	6.26	197	P	Pn	01 06 12.8	+0.7
	SNR=21						
IFIR	Firoozkooh	6.33	323	ePn	Pn	01 06 14.1	+0.8
IFIR				e		01 08 23.4	
	comp=Z,550nm,0.3s						
IFIR	Firoozkooh	6.33	323	ePn	Pn	01 06 14.1	+0.8
ISFR	Sfrayin	6.42	4	ePn	Pn	01 06 15.7	+1.1
ISFR				e		01 08 33.0	
	comp=Z,3μm,0.7s						
ISFR	Sfrayin	6.42	4	ePn	Pn	01 06 15.7	+1.1
IVRN	Varamin	6.45	314	ePn	Pn	01 06 15.5	+0.7
IVRN				ePn	Pn	01 06 16.3	+1.5
IVRN				e		01 06 46.2	
	comp=Z,710nm,0.2s						
IVRN	Varamin	6.45	314	ePn	Pn	01 06 16.3	+1.5
IGLO	Ghaloghah	6.56	334	ePn	Pn	01 06 17.7	+1.2
IGLO				e		01 08 22.0	
	comp=Z,3μm,0.4s						
IALA	Alasht	6.65	326	ePn	Pn	01 06 18.6	+0.9
IALA	Alasht	6.65	326	ePn	Pn	01 06 18.6	+0.9
IPRN	Peran	7.01	324	ePn	Pn	01 06 24.3	+1.8
IPRN				e		01 08 42.1	
	comp=Z,1μm,0.4s						
IR3	Iran Long-Peri	7.20	314	ePn	Pn	01 06 25.7	+0.6
IR3	Iran Long-Peri	7.20	314	ePn	Pn	01 06 25.7	+0.6
WSAR	Wadi Sarin	7.45	171	Pn	Pn	01 06 27.1	-1.4
	comp=Z,3.6nm,0.3s,baz=359,slow=11,SNR=35						
WSAR				Sn	Sn	01 07 54.2	+1.5
	comp=Z,1.4nm,0.3s,baz=211,slow=20,SNR=4.9						
IMHD	Mahdasht	7.56	314	ePn	Pn	01 06 30.9	+0.9
IMHD	Mahdasht	7.56	314	ePn	Pn	01 06 30.9	+0.9
IRAZ	Razeghan	7.86	309	ePn	Pn	01 06 35.3	+0.9
IRAZ				e		01 07 12.6	
	comp=Z,353nm,0.3s						
IRAZ	Razeghan	7.86	309	ePn	Pn	01 06 35.3	+0.9
IGZV	Ghazvin	8.29	316	ePn	Pn	01 06 41.0	+0.8
IGZV				e		01 07 21.1	
	comp=Z,367nm,0.3s						
IGZV	Ghazvin	8.29	316	ePn	Pn	01 06 41.0	+0.8
GNI	Garni	14.01	316	LR	LR	01 13 21.1	
	comp=Z,144nm,19.5s,baz=265,slow=37						
AAK	Ala-Archa	18.18	44	P	P	01 08 53.2	+0.6
	comp=Z,0.1nm,0.3s,baz=226,slow=9.5,SNR=5.8						
AAK				LR	LR	01 17 33.5	
	comp=Z,106nm,18.1s,baz=346,slow=42						
AKTO	Aktyubinsk	19.79	1	P	P	01 09 10.7	+0.8
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=6.8						
BRTR	Keskin Array B	21.38	302	P	P	01 09 27.6	+0.1
	comp=Z,2.0nm,0.8s,baz=119,slow=14,SNR=8.5						
BVAR	Borovoye Array	24.30	19	P	P	01 09 57.5	+0.4
	comp=Z,3.4nm,0.7s,baz=198,slow=8.2,SNR=17						
MKAR	Makanchi Array	25.10	43	P	P	01 10 04.5	0.0
	comp=Z,0.8nm,0.6s,baz=232,slow=7.2,SNR=6.9						
KURBB	Kurchatov Arra	25.45	32	P	P	01 10 08.0	+0.5
	comp=Z,1.1nm,0.7s,baz=228,slow=9.5,SNR=8.5						
ZALV	Zalesovo Beam	30.55	32	P	P	01 10 52.9	-0.1
	comp=Z,0.6nm,0.6s,baz=236,slow=10,SNR=3.9						
GTA	Gaotai	35.56	64	eP	P	01 11 38.1	+1.0
GTA				pP	pP	01 11 41.9	+0.1
GTA				sP	sP	01 11 44.9	+1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	37.01	335	P	P	01 11 49.3	+0.3
	comp=Z,1.0nm,0.7s,baz=157,slow=7.5,SNR=3.2						

GERES GERESS Array B 37.59 312 P P 01 11 53.5 -0.8
comp=Z,0.7nm,0.8s,baz=99,slow=8.2,SNR=5.9
DAVOX Davos/Dischmat 39.79 308 P P 01 12 13.2 +0.4
comp=Z,0.5nm,0.4s,baz=83,slow=9.8
SONM Songino Array 40.92 51 P P 01 12 21.5 -0.7
comp=Z,0.2nm,0.9s,baz=256,slow=5.8,SNR=2.9
TORD Torodi Ar. Bea 54.00 264 P P 01 14 02.2 -1.9
comp=Z,1.0nm,0.6s,baz=62,slow=7.2,SNR=15
YKA Yellowknife Ar 86.98 356 P P 01 17 24.5 -0.1
comp=Z,0.1nm,0.5s,baz=358,slow=5.2,SNR=2.7
WRA Warramunga Arr 89.36 114 P P 01 17 35.2 -1.4
comp=Z,0.4nm,0.8s,baz=318,slow=3.8,SNR=3.8

IDC 02 01:15:16.8±8.8**, 21.°32S×68.°04W, h168**km±60km**, mb3.6**/3**, mb1 3.4**/6**, mb1mx3.3**/18**, mbtmp3.3**/6**, Error ellipse: s-maj=100.4km s-min=28.8km az=13.0, Chile-Bolivia border region**

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

LPAZ La Paz 5.01 359 P Pn 01 16 31.9 +0.3
1.1nm,0.3s,baz=180,slow=11,SNR=19
SIV San Ignacio 8.47 52 P Pn 01 17 15.8 -0.7
1.0nm,0.3s,baz=247,slow=13,SNR=12
SIV S Sn 01 18 51.7 +0.6
0.0nm,0.3s,baz=319,slow=20,SNR=4.5
BDFB Brasilia 19.81 77 P P 01 19 34.6 -0.1
0.2nm,0.3s,baz=236,slow=11,SNR=4.8
DBIC Dimbokro 67.91 73 P P 01 25 56.7 -1.1
1.7nm,0.6s,baz=216,slow=7.9,SNR=5.4
TORD Torodi Ar. Bea 76.53 70 P P 01 26 49.9 +0.9
0.8nm,0.4s,baz=253,slow=5.7,SNR=22
YKA Yellowknife Ar 91.29 340 P P 01 28 02.1 -0.6
0.4nm,0.6s,baz=133,slow=4.6,SNR=4.7

---

*ISCJB **02** 01:16:19.4±0.3, 12.°49N±0.°04×87.°27W±0.°03, h90km±2km, mb4.6/92, Error ellipse: s-maj=7.7km s-min=3.2km az=39.4*
*NEIC **02** 01:16:19.6±0.3, 12.°39N×87.°28W, mb4.8/78, Error ellipse: s-maj=6.9km s-min=4.0km az=42.0*
*IDC **02** 01:16:19.8±0.5, 12.°62N×87.°06W, h84km±3km, mb4.1/20, mb1 4.3/21, mb1mx4.1/30, mbtmp4.1/21, Error ellipse: s-maj=19.9km s-min=8.8km az=60.0*
*CASC **02** 01:16:20.1±2.0, 12.°47N×87.°36W, h73km±26km, MD4.3, ML4.3, mb4.8(NEIC)*
ISC 02 01:16:19.3±0.4**, 12.°44N**±0.°05×**87.°36W**±0.°05**, h87**km±3km**, h86**km**:pP-P, n567, σ1.°61**/627**, mb4.8**/92**, 184C-200D, Near coast of Nicaragua**

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

CNGN Cerro Negro 0.65 85 ⇓iP Pn 01 16 34.7 -0.4
CNGN eS Sn 01 16 47.2 +0.4
CNCH Conchagua 0.95 331 ⇓iP Pn 01 16 38.1 -0.3
CNCH eS Sn 01 16 51.6 -1.0
BLLM Bellamira 1.31 319 ⇓eP Pn 01 16 42.7 +0.1
VSM San Miguel 1.33 318 eP Pn 01 16 43.1 +0.2
CAHU Cacacuatique 1.56 328 ⇓eP Pn 01 16 46.4 +0.5
CAHU eS Sn 01 17 06.9 +1.0
SNVI San Vicente 1.85 309 eP Pn 01 16 49.8 +0.2
LFRS El Faro 2.03 306 eP Pn 01 16 51.9 0.0
LBRS Las Brisas 2.09 308 eP Pn 01 16 53.8 +1.1
SNET Serv Nac Est T 2.21 304 eP Pn 01 16 54.9 +0.7
SNET AML AML 01 17 24.4
comp=Z,3μm,0.3s
BOQS Boqueron 2.27 305 eP Pn 01 16 56.7 +1.5
GBS3 Finca Las Imˆ¡ 2.49 131 i P Pn 01 16 59.5 +1.5
NY14 Universidad de 2.52 135 i P Pn 01 17 00.0 +1.6
NY14 i S Sn 01 17 28.5 +0.2
SBLS San Blas 2.61 303 eP Pn 01 17 00.8 +1.1
RTR El Retiro 2.66 303 eP Pn 01 17 01.3 +1.0
MESS Mesas 2.71 128 i P Pn 01 17 01.1 +0.1
COLC Colonia 2.75 130 i P Pn 01 17 01.9 +0.4
PTEN Parque Tenorio 2.89 126 i P Pn 01 17 03.3 -0.1
JTS JuntasAbangare 3.18 132 ePn Pn 01 17 07.2 -0.1
JTS eSn Sn 01 17 40.6 -3.7
CGA2 Cerro Gallo 2 3.72 130 eP Pn 01 17 17.7 +3.0
LAJ Bijagual 4.08 129 eP Pn 01 17 19.8 +0.2
QCR Quepos 4.34 133 eP Pn 01 17 26.0 +3.1
BUS Buena Vista 4.55 129 eP Pn 01 17 28.7 +2.5
ACR Cerro Adams 5.58 132 eP Pn 01 17 42.2 +2.4
TEIG Tepich 7.79 354 P Pn 01 18 13.0 +3.1
comp=Z,4.7nm,0.3s,baz=152,slow=12,SNR=26
TEIG Tepich 7.79 354 ePn Pn 01 18 13.2 +3.3
BCIP Isla Barro Col 8.07 113 ePn Pn 01 18 14.3 +0.5
CMIG Matias Romero 8.62 303 P Pn 01 18 23.5 +2.2
comp=Z,1.0nm,0.3s,baz=118,slow=8.8,SNR=12
CMIG S Sn 01 19 52.0 -5.0
comp=Z,0.7nm,0.3s,baz=357,slow=20,SNR=2.2
CMIG Matias Romero 8.62 303 P Pn 01 18 23.5 +2.2
CMIG S Sn 01 19 52.0 -5.0
MTDJ Mount Denham 11.09 58 ePn Pn 01 18 56.2 +1.2
PAYG Puerto Ayora 13.35 193 ePn Pn 01 19 23.8 -1.5
GTBY Guantanamo Bay 13.92 56 ePn Pn 01 19 34.8 +2.1
comp=Z,49nm,0.9s
OTAV Otavalo 15.00 143 ePn Pn 01 19 46.7 -0.5
comp=Z,4.2nm,1.0s
SDDR Presa de Saban 16.78 65 ePn P 01 20 09.9 0.0
comp=Z,10nm,0.8s
SDV Santo Domingo 16.81 100 ePn P 01 20 10.2 -0.2
comp=Z,12nm,0.9s
SDV epP pP 01 20 27.1 0.0
HKT Hockley 19.12 337 ePn Pn 01 20 37.3 +0.2
comp=Z,24nm,1.2s
VBMS Vicksburg 19.90 352 ePn Pn 01 20 47.4 +1.2
comp=Z,19nm,0.5s
VBMS epP pP 01 21 10.6 +10
732A Laxson Ranch, 20.02 326 ⇑P Pn 01 20 46.8 -0.9
baz=20,SNR=23
NATX Nacogdoches 20.37 342 ePn Pn 01 20 51.4 -0.4
comp=Z,31nm,0.7s
LRAL Lakeview Retre 20.50 1 ePn Pn 01 20 53.7 +0.4
comp=Z,308nm,2.8s
632A Uvalde 20.54 328 ⇑P P 01 20 52.1 +1.2
baz=21,SNR=11
LRS Lares 20.61 71 eP P 01 20 49.7 -2.1
631A Perdido Creek 20.89 326 ⇑P P 01 20 56.5 +1.9
baz=21,SNR=28
532A Rocksprings 21.10 328 ⇓P P 01 20 58.2 +1.3
baz=21,SNR=21
GOGA Godfrey 21.18 9 eP P 01 21 00.1 +2.5
comp=Z,23nm,0.4s
GOGA epP pP 01 21 22.4 +7.5
SJG San Juan 21.21 72 P P 01 21 00.5 +2.4
comp=Z,16nm,0.6s,baz=271,slow=3.5,SNR=6.6
SJG San Juan 21.21 72 ePn P 01 20 58.1 -0.1
comp=Z,12nm,0.6s
JCT Junction City 21.33 329 eP P 01 21 01.0 +1.6
comp=Z,18nm,0.6s
JCT epP pP 01 21 22.1 +5.5
JCT Junction City 21.33 329 ⇓P P 01 21 00.9 +1.6
baz=22,SNR=10
531A Rocksprings 21.46 327 ⇓P P 01 21 02.4 +1.7
baz=22,SNR=15
WHTX Lake Whitney 21.56 336 ⇓P P 01 21 03.1 +1.4
baz=22,SNR=10
432A Menard 21.65 330 ⇑P P 01 21 04.2 +1.4
baz=22
530A J-C Ranch, Com 21.87 326 ⇑P P 01 21 07.2 +2.1
baz=22
431A Sonora 21.90 328 ⇓P P 01 21 07.4 +1.9
baz=22,SNR=32
OXF Oxford 22.05 355 eP P 01 21 08.2 +1.2
comp=Z,24nm,0.6s
628A Black Gap, Mar 22.27 322 ⇓P P 01 21 11.0 +1.6
baz=22,SNR=30
430A Baggett Ranch, 22.31 327 ⇓P P 01 21 11.5 +1.6
baz=22,SNR=25
529A Stev Forest Ra 22.35 324 ⇓P P 01 21 11.3 +1.0
baz=22,SNR=9.3
STVI Saint Thomas 22.38 72 eP P 01 21 09.5 -1.1
comp=Z,27nm,0.9s
429A Davenport Ranc 22.54 326 ⇑P P 01 21 13.6 +1.3
baz=23,SNR=22
627A Terlingua Ranc 22.55 321 ⇓P P 01 21 13.8 +1.4
baz=23,SNR=44
TXAR Lajitas Array 22.64 320 P P 01 21 14.4 +1.0
comp=Z,28nm,0.6s,baz=135,slow=7.3,SNR=33
TXAR pP pP 01 21 33.0 +2.3
comp=Z,6.8nm,0.7s,baz=140,slow=12,SNR=4.8
TXAR PcP PcP 01 25 04.8 +1.5
comp=Z,0.7nm,0.6s,baz=125,slow=4.7,SNR=3.7

TXAR Lajitas Array 22.64 320 P P 01 21 14.4 +1.0
TXAR pP pP 01 21 33.0 +2.3
TXAR PcP PcP 01 25 04.8 +1.5
UALR University of 22.69 349 eP P 01 21 14.8 +1.1
comp=Z,12nm,0.7s
528A Cox Ranch, San 22.70 323 ⇓P P 01 21 15.2 +1.2
baz=23,SNR=21
SWET Sewanee 22.71 3 eP P 01 21 14.8 +0.8
comp=Z,160nm,2.1s
MIAR Mount Ida 22.72 347 eP P 01 21 15.0 +1.0
comp=Z,17nm,0.8s
ABTX Abilene, Hawle 23.03 333 ⇓P P 01 21 18.2 +1.0
baz=23,SNR=10
CPCT Cooper Cave 23.05 6 eP P 01 21 18.8 +1.5
428A Kincaid Ranch, 23.06 324 ⇑P P 01 21 19.3 +1.7
baz=23,SNR=26
626A Big Bend Ranch 23.08 320 ⇓P P 01 21 18.7 +0.9
baz=23,SNR=39
527A Woodward Ranch 23.18 322 ⇓P P 01 21 19.7 +1.0
baz=23
329A Wagon Wheel Ra 23.26 327 ⇑P P 01 21 20.5 +1.1
baz=23,SNR=42
TKL Tuckaleechee C 23.34 7 P P 01 21 22.1 +2.0
comp=Z,40nm,1.0s,baz=185,slow=10,SNR=30
TKL Tuckaleechee C 23.34 7 eP P 01 21 22.0 +2.0
526A Mary Lane Ranc 23.41 321 ⇑P P 01 21 22.1 +1.2
baz=24,SNR=20
229A Bryant Ranch, 23.55 328 ⇓P P 01 21 23.2 +1.2
baz=24,SNR=20
427A Hayter Ranch, 23.57 324 ⇓P P 01 21 23.4 +1.2
baz=24,SNR=9.7
328A Wristen Ranch, 23.63 325 ⇓P P 01 21 24.2 +1.5
baz=24
426A McDonald Obser 23.80 322 ⇓P P 01 21 26.0 +1.4
baz=24,SNR=22
327A Balmorhea Ranc 24.00 324 ⇑P P 01 21 27.6 +1.5
baz=24
228A UT Block 9, Go 24.07 327 ⇓P P 01 21 27.6 +0.8
baz=24,SNR=9.0
129A Stewart Farms, 24.10 329 ⇓P P 01 21 28.0 +1.0
baz=24,SNR=16
326A Caldwell Ranch 24.24 323 ⇓P P 01 21 29.6 +1.3
baz=24,SNR=25
TZTN Tazewell 24.25 7 eP P 01 21 28.2 0.0
comp=Z,382nm,2.5s
227A Bennet, Jal 24.37 326 ⇑P P 01 21 30.7 +1.2
baz=24
128A Castleberry Fa 24.41 328 ⇓P P 01 21 31.0 +1.2
baz=25,SNR=34
425A Indio Mountain 24.47 321 ⇓P P 01 21 31.5 +1.1
baz=25,SNR=11
WMOK Wichita Mounta 24.50 337 eP P 01 21 30.8 +0.3
comp=Z,14nm,0.8s
Z29A Hungry Hill Ra 24.53 330 ⇓P P 01 21 31.7 +0.9
baz=25,SNR=31
TUL1 Tulsa 24.58 343 ⇓P P 01 21 31.6 +0.4
baz=25,SNR=29
325A Bean Ranch, Si 24.87 322 ⇓P P 01 21 34.9 +0.8
baz=25,SNR=22
Z28A Tucker Farm, M 24.89 329 ⇓P P 01 21 34.8 +0.7
baz=25,SNR=18
CLNB Carlsbad 24.89 325 eP P 01 21 35.7 +1.5
comp=Z,6.1nm,0.6s
127A Arkansas Junct 24.91 327 ⇑P P 01 21 35.0 +0.6
baz=25,SNR=30
Y29A Porterfield Fa 25.00 331 ⇑P P 01 21 36.4 +1.3
baz=25,SNR=16
GDL2 Guadalupe Moun 25.11 324 eP P 01 21 37.8 +1.5
SIUC Southern Illin 25.23 357 eP P 01 21 37.6 +0.6
comp=Z,17nm,0.7s
324A Moseley Ranch, 25.23 321 ⇑P P 01 21 38.4 +1.1
baz=25,SNR=38
126A Clayton Basin, 25.25 325 ⇓P P 01 21 38.8 +1.3
baz=25,SNR=27
225A Deer Hill, Car 25.31 323 ⇑P P 01 21 39.9 +1.8
baz=26,SNR=38
Y28A McKinney Farm, 25.32 330 ⇑P P 01 21 38.9 +0.8
baz=26,SNR=8.4
Z27A Tatum 25.33 328 ⇓P P 01 21 38.8 +0.5
baz=26,SNR=22
X29A Tulia 25.49 332 ⇑P P 01 21 40.9 +1.2
baz=26,SNR=7.9
FDF Fort de France 25.57 82 eP P 01 21 39.4 -1.1
comp=Z,30nm,0.8s
125A Gardner Draw, 25.62 325 ⇑P P 01 21 42.5 +1.6
baz=26,SNR=43
MSTX Muleshoe 25.62 329 ⇓P P 01 21 41.8 +0.9
baz=26,SNR=15
224A Cornudas Mount 25.70 322 ⇑P P 01 21 42.8 +1.1
baz=26,SNR=29
WCI Wyandotte Cave 25.70 2 eP P 01 21 42.0 +0.6
comp=Z,264nm,2.8s
Z26A Caprock 25.71 326 ⇑P P 01 21 42.9 +1.3
baz=26,SNR=22
Y27A Causey 25.75 329 ⇑P P 01 21 42.8 +0.8
baz=26,SNR=18
X28A Dimmitt 25.79 331 ⇓P P 01 21 43.0 +0.7
baz=26
AMTX Amarillo 25.85 332 eP P 01 21 43.6 +0.8
comp=Z,15nm,0.6s
AMTX Amarillo 25.85 332 ⇓P P 01 21 43.9 +1.1
baz=26,SNR=7.0
W29A Amraillo 26.03 333 ⇓P P 01 21 45.5 +1.0
baz=26
124A Stringfield Ra 26.11 323 ⇓P P 01 21 47.2 +1.8
baz=26,SNR=17
Z25A Roswell 26.11 325 ⇑P P 01 21 46.8 +1.5
baz=26,SNR=26
Y26A Elida 26.12 328 ⇑P P 01 21 46.7 +1.2
baz=26,SNR=5.5
223A Chaparral, Ant 26.20 321 ⇑P P 01 21 47.4 +1.3
baz=26
X27A F and S Farms, 26.33 330 ⇑P P 01 21 48.4 +1.2
baz=26
W28A Vega 26.40 332 ⇓P P 01 21 49.0 +1.2
baz=27
Z24A Sheeppen Canyo 26.52 325 ⇓P P 01 21 50.6 +1.6
baz=27,SNR=45
Y25A Mesa, Roswell 26.59 326 ⇑P P 01 21 51.3 +1.8
baz=27,SNR=17
X26A CR and CF Fran 26.61 329 ⇓P P 01 21 51.4 +1.6
baz=27
W27A Bowe Ranch, En 26.64 330 ⇑P P 01 21 51.5 +1.5
baz=27,SNR=9.8
222A Williams Famil 26.68 320 ⇑P P 01 21 52.1 +1.6
baz=27
V28A Channing 26.81 332 ⇑P P 01 21 53.0 +1.4
baz=27,SNR=5.7
Z23A Rita Site, Whi 26.96 323 ⇑P P 01 21 54.8 +1.8
baz=27,SNR=6.4
Y24A Capitan 27.00 325 ⇓P P 01 21 55.1 +1.7
baz=27,SNR=23
X25A Clemmons Ranch 27.03 327 ⇓P P 01 21 55.2 +1.6
baz=27
221A Mesquite Ranch 27.05 319 ⇓P P 01 21 55.6 +1.9
baz=27
320A Kipp Ranch, An 27.10 317 ⇓P P 01 21 56.1 +1.9
baz=27
Y23A Lovelace Mesa, 27.35 325 ⇓P P 01 21 58.4 +1.9
baz=28,SNR=12
Z22A Elephant Butte 27.39 322 ⇓P P 01 21 58.3 +1.5
baz=28
121A Cookes Peak, D 27.40 320 ⇑P P 01 21 58.7 +1.8
baz=28,SNR=7.3
220A Playas Peak, P 27.46 318 ⇓P P 01 21 59.5 +2.1
baz=28
W25A X Bar L Ranch, 27.46 329 ⇑P P 01 21 59.0 +1.6
baz=28,SNR=10
V26A Tequesquite Ra 27.58 330 ⇑P P 01 22 00.1 +1.6
baz=28,SNR=12
319A Douglas 27.63 316 ⇑P P 01 22 00.3 +1.4
baz=28,SNR=5.9
KSU1 Kansas State U 27.79 344 eP P 01 22 00.6 +0.5
comp=Z,37nm,1.1s
SFIN Scholer Farm 27.83 0 ⇑P P 01 22 00.7 +0.3
baz=28
BNM Barren Site 27.83 324 eP P 01 22 02.7 +1.9
comp=Z,2.5nm,0.5s
Z21A St. Cloud Mine 27.86 322 ⇓P P 01 22 03.0 +2.0
baz=28,SNR=6.1
Y22A Socorro 27.87 323 ⇑P P 01 22 03.2 +2.1
baz=28,SNR=12
X23A Hourglass Bar 27.90 325 ⇑P P 01 22 03.2 +1.9
baz=28
T28A Walsh 27.91 334 ⇑P P 01 22 02.7 +1.3
baz=28
120A U Bar Ranch, L 27.95 319 ⇓P P 01 22 03.5 +1.7
baz=28,SNR=5.7

W24A Lazy 6 Ranch, 27.95 327 ⇑P P 01 22 03.5 +1.7
baz=28,SNR=9.5
ACSO Alum Creek Sta 27.95 7 eP P 01 22 02.3 +0.7
comp=Z,16nm,0.6s
V25A Rancho No Teng 28.02 329 ⇓P P 01 22 04.3 +1.8
baz=28,SNR=13
LENM Lemitar 28.04 324 eP P 01 22 05.2 +2.5
U26A Atchley Ranch, 28.04 331 ⇑P P 01 22 04.2 +1.6
baz=28
V24A Rampart Ranch, 28.27 328 ⇓P P 01 22 06.5 +1.7
baz=28,SNR=6.8
Z20A Nine Sixteen R 28.29 320 ⇓P P 01 22 07.1 +2.3
baz=28
LAZ Ladron 28.31 324 eP P 01 22 05.9 +0.9
comp=Z,4.3nm,1.1s
W23A Werner Place, 28.31 326 ⇓P P 01 22 07.3 +2.2
baz=28,SNR=13
X22A Bernardo 28.31 324 ⇓P P 01 22 07.2 +2.2
baz=28
ANMO Albuquerque 28.32 325 P P 01 22 06.8 +1.7
comp=Z,4.1nm,0.7s,baz=156,slow=9.1,SNR=20
ANMO Albuquerque 28.32 325 eP P 01 22 07.0 +2.0
comp=Z,4.7nm,0.9s
Y21A Point of Rocks 28.34 323 ⇓P P 01 22 07.9 +2.5
baz=28,SNR=8.3
U25A Circle Dot Ran 28.37 330 ⇓P P 01 22 07.3 +1.8
baz=28
Y20A Horse Springs, 28.69 322 ⇑P P 01 22 11.0 +2.5
baz=29,SNR=8.5
X21A Alamocita Cree 28.71 323 ⇑P P 01 22 10.9 +2.2
baz=29,SNR=6.0
V23A Ortiz Mt. (NFS 28.76 327 ⇓P P 01 22 11.1 +2.0
baz=29
U24A Moreno Valley 28.80 329 ⇑P P 01 22 11.2 +1.7
baz=29
S26A Kim 28.92 333 ⇓P P 01 22 12.1 +1.7
baz=29
T25A Trinidad 28.96 331 ⇑P P 01 22 13.0 +2.1
baz=29,SNR=5.6
R27A Eads 29.19 335 ⇓P P 01 22 13.8 +1.1
baz=29
X20A Quemado 29.20 322 ⇑P P 01 22 15.2 +2.2
baz=29
TUC Tucson 29.21 316 eP P 01 22 13.6 +0.7
comp=Z,4.5nm,0.9s
U23A El Rito 29.21 328 ⇑P P 01 22 15.5 +2.5
baz=29,SNR=28
T24A Torres, Weston 29.21 330 ⇑P P 01 22 15.1 +1.9
baz=29
V22A San Miguel Ran 29.28 326 ⇓P P 01 22 15.4 +1.7
baz=29
S25A Robets Cordova 29.39 332 ⇑P P 01 22 16.6 +2.0
baz=30,SNR=5.3
R26A Arlington 29.48 334 ⇑P P 01 22 17.2 +2.0
baz=30
U22A Llaves 29.60 327 ⇑P P 01 22 18.7 +2.2
baz=30
V21A Milan 29.60 325 ⇑P P 01 22 18.7 +2.2
baz=30
W20A Ramah 29.61 323 ⇑P P 01 22 18.9 +2.3
baz=30,SNR=5.7
T23A Casias Ranch, 29.67 329 ⇓P P 01 22 19.3 +2.1
baz=30
R25A Fountain Ranch 29.72 332 ⇓P P 01 22 19.3 +1.8
baz=30
KSCO Kaye Shedlock' 29.73 336 ⇑P P 01 22 19.0 +1.5
baz=30
S24A Houchin Ranch, 29.74 331 ⇓P P 01 22 19.6 +1.8
baz=30
Q26A Hugo 30.03 334 ⇓P P 01 22 21.9 +1.7
baz=30
V20A Brimhall 30.06 324 ⇓P P 01 22 22.6 +2.0
baz=30,SNR=6.1
U21A Nageezi 30.07 326 ⇑P P 01 22 22.9 +2.2
baz=30,SNR=5.3
X18A Snowflake 30.07 321 ⇓P P 01 22 22.9 +2.3
baz=30
T22A Edith 30.10 328 ⇑P P 01 22 22.8 +1.9
baz=30
R24A Sanders Place, 30.17 331 ⇑P P 01 22 23.3 +1.8
baz=30
S23A Nye Farm, Mont 30.18 330 ⇑P P 01 22 23.3 +1.7
baz=30
Q25A Bedland, Calha 30.33 333 ⇓P P 01 22 24.6 +1.7
baz=30
W18A Petrified Fore 30.34 322 ⇑P P 01 22 24.6 +1.6
baz=30,SNR=6.3
BGNE Belgrade 30.36 344 ⇑P P 01 22 23.9 +0.9
baz=30,SNR=8.2
214A Organ Pipe Nat 30.40 314 ⇓P P 01 22 25.6 +2.1
baz=30
T21A Navajo Lake 30.42 327 ⇑P P 01 22 25.8 +2.1
baz=31
R23A Moffat 30.47 331 ⇑P P 01 22 26.1 +1.8
baz=31,SNR=7.6
P26A Davis Ranch, A 30.49 335 ⇓P P 01 22 26.0 +1.8
baz=31
U20A Newcomb 30.51 325 ⇓P P 01 22 26.6 +2.1
baz=31
S22A 4UR Ranch, Cre 30.62 329 ⇓P P 01 22 27.6 +2.0
baz=31,SNR=12
O27A Beecher Island 30.69 337 ⇑P P 01 22 27.5 +1.5
baz=31
Q24A Divide 30.78 332 ⇓P P 01 22 28.5 +1.5
baz=31
P25A Willow Gulch B 30.80 334 ⇑P P 01 22 28.4 +1.5
baz=31
U19A Dine' College, 30.84 324 ⇑P P 01 22 29.2 +1.7
baz=31,SNR=5.2
X16A Lo Mia Camp, P 30.94 319 ⇓P P 01 22 30.7 +2.3
baz=31,SNR=17
R22A Saguache, Gunn 30.96 329 ⇑P P 01 22 30.5 +2.0
baz=31,SNR=5.5
S21A Coal Bank Pass 31.05 328 ⇓P P 01 22 31.2 +1.8
baz=31,SNR=8.3
O26A Horse Wrangler 31.06 336 ⇓P P 01 22 30.5 +1.3
baz=31
MVCO Mesa Verde 31.10 326 eP P 01 22 31.6 +1.9
comp=Z,9.5nm,0.6s
MVCO Mesa Verde 31.10 326 ⇓P P 01 22 31.6 +1.9
baz=31,SNR=11
T19A Beclabito 31.11 325 ⇑P P 01 22 31.8 +2.0
baz=31,SNR=6.9
OGNE Ogallala 31.18 338 ⇓P P 01 22 31.9 +1.7
baz=31
Z14A Wintersburg 31.30 316 ⇓P P 01 22 33.6 +2.3
baz=31
P23A Jefferson 31.42 332 ⇓P P 01 22 34.8 +2.1
baz=32
R21A Cimarron 31.46 329 ⇑P P 01 22 34.7 +1.7
baz=32
S20A Disappointment 31.48 327 ⇑P P 01 22 34.9 +1.8
baz=32
Q22A Crested Butte, 31.53 330 ⇓P P 01 22 35.4 +1.8
baz=32,SNR=11
WUAZ Wupatki 31.60 321 eP P 01 22 36.1 +2.0
comp=Z,9.7nm,0.8s
WUAZ Wupatki 31.60 321 ⇓P P 01 22 36.5 +2.4
baz=32,SNR=9.0
ISCO Idaho Springs 31.66 333 eP P 01 22 36.2 +1.4
comp=Z,53nm,2.5s
ISCO Idaho Springs 31.66 333 ⇑P P 01 22 36.3 +1.6
baz=32
Y14A Wickenburg 31.67 317 ⇓P P 01 22 36.6 +1.9
baz=32
O24A Longmont 31.69 334 ⇓P P 01 22 36.6 +1.8
baz=32
R20A Redvale 31.76 328 ⇓P P 01 22 37.5 +2.0
baz=32,SNR=6.2
SMCO Snowmass 31.80 330 eP P 01 22 37.4 +1.3
comp=Z,7.1nm,0.8s
T18A Mexican Hat 31.81 325 ⇓P P 01 22 37.9 +2.0
baz=32,SNR=10.0
Q21A Lamborn Mesa, 31.83 329 ⇓P P 01 22 37.7 +1.6
baz=32
S19A Harvey Farm, M 31.84 326 ⇓P P 01 22 37.9 +1.7
baz=32,SNR=16
N25A Grover 31.85 336 ⇓P P 01 22 37.7 +1.4
baz=32
P22A Eagle 32.03 331 ⇓P P 01 22 39.4 +1.5
baz=32
O23A Lake Granby, G 32.13 333 ⇓P P 01 22 40.2 +1.4
baz=32
PV04 Paradox Valley 32.19 327 eP P 01 22 41.5 +2.3
ECSD EROS Data Cent 32.19 347 eP P 01 22 38.4 -0.5
comp=Z,17nm,0.6s
N24A Carr 32.19 335 ⇓P P 01 22 40.7 +1.5
baz=32

T17A Navajo Res., N 32.25 323 ⇑P P 01 22 42.0 +2.2
baz=32,SNR=13
S18A Hurst Farm, Bl 32.27 325 ⇓P P 01 22 42.0 +2.0
baz=32,SNR=19
L27A T5 Ranch, Ells 32.28 339 ⇓P P 01 22 41.2 +1.3
baz=32
Q20A Ridgley Place, 32.29 329 ⇓P P 01 22 41.8 +1.8
baz=32
R19A Curley Farm, L 32.30 327 ⇓P P 01 22 41.8 +1.6
baz=32,SNR=8.0
P21A Newcastle 32.30 330 ⇓P P 01 22 41.9 +1.6
baz=32
O22A Kremmling 32.38 332 ⇓P P 01 22 42.4 +1.4
baz=32,SNR=5.7
GLA Glamis 32.42 314 ⇓P P 01 22 43.5 +2.3
baz=33
L26A Underwood Farm 32.51 338 ⇑P P 01 22 43.2 +1.2
baz=33
Y12C Blythe 32.60 315 ⇓P P 01 22 44.9 +2.2
baz=33
PDMCI Parker Dam,Lak 32.65 316 ⇑P P 01 22 45.1 +2.0
baz=33,SNR=8.8
S17A Black Ridge (B 32.69 324 ⇑P P 01 22 45.5 +2.0
baz=33,SNR=5.8
N23A Red Feather La 32.70 333 ⇑P P 01 22 45.1 +1.4
baz=33
M24A Cheyenne 32.70 335 ⇓P P 01 22 45.2 +1.5
baz=33
R18A Canyonlands Na 32.71 326 ⇑P P 01 22 45.2 +1.4
baz=33,SNR=9.3
P20A De Beque 32.75 329 ⇓P P 01 22 45.9 +1.8
baz=33,SNR=6.7
U15A North Rim 32.76 321 ⇓P P 01 22 46.8 +2.4
baz=33,SNR=7.9
Q19A Hogan Spring (32.79 328 ⇑P P 01 22 45.7 +1.3
baz=33,SNR=6.8
K27A Flueckinger Fa 32.80 340 ⇓P P 01 22 45.8 +1.4
baz=33
PHWY Pilot Hill 32.83 334 eP P 01 22 45.9 +1.0
comp=Z,4.7nm,0.6s
N22A Wattenberg Ran 32.85 333 ⇓P P 01 22 46.2 +1.1
baz=33
W13A Hualapai Mount 32.95 318 ⇓P P 01 22 48.0 +2.0
baz=33
SADO Sadowa 32.98 11 P P 01 22 46.3 +0.5
comp=Z,9.9nm,0.7s,baz=214,slow=10,SNR=9.4
SADO Sadowa 32.98 11 P P 01 22 46.3 +0.5
P19A Cripple Cowboy 33.15 329 ⇓P P 01 22 49.3 +1.6
baz=33
O20A White River Ci 33.16 330 ⇑P P 01 22 49.9 +2.2
baz=33,SNR=13
R17A Hanksville Air 33.18 325 ⇓P P 01 22 49.8 +2.0
baz=33,SNR=26
BC3 Big Chuckawall 33.19 314 ⇑P P 01 22 50.4 +2.4
baz=33,SNR=6.9
S16A Weppner Ranch, 33.20 324 ⇓P P 01 22 50.1 +2.0
baz=33,SNR=5.7
IRM Iron Mountain 33.26 315 ⇑P P 01 22 50.5 +2.1
baz=33
K25A Mack Ranch, Ha 33.30 338 ⇓P P 01 22 50.0 +1.2
baz=34
Q18A Rafter H Ranch 33.36 327 ⇑P P 01 22 51.3 +2.0
baz=34,SNR=12
M22A Cedar Creek Ra 33.40 333 ⇓P P 01 22 51.5 +1.6
baz=34
BRSD Miller 33.41 345 ⇓P P 01 22 50.2 +0.6
baz=34
MONP Monument Peak 33.48 312 ⇑P P 01 22 52.9 +2.3
baz=34
R16A Teasdale 33.52 324 ⇓P P 01 22 53.2 +2.2
baz=34,SNR=17
SRU San Rafael 33.57 326 eP P 01 22 53.3 +2.0
comp=Z,20nm,0.6s
SRU San Rafael 33.57 326 ⇑P P 01 22 53.2 +1.9
baz=34,SNR=20
COWI Conover 33.58 358 eP P 01 22 49.8 -1.2
comp=Z,12nm,0.7s
N20A Spence Gulch, 33.71 331 ⇑P P 01 22 54.4 +1.8
baz=34,SNR=18
O19A Miners Draw (B 33.72 329 ⇑P P 01 22 54.4 +1.8
baz=34,SNR=5.9
LDFC Landfair 33.75 317 eP P 01 22 55.6 +2.8
comp=Z,9.2nm,0.7s
BELC Belle Mtn. Jos 33.76 314 ⇑P P 01 22 55.2 +2.2
baz=34
Q16A Castle Valley 33.79 326 ⇓P P 01 22 55.4 +2.2
baz=34,SNR=9.1
P18A Preston Nutter 33.80 327 ⇓P P 01 22 55.4 +1.9
baz=34,SNR=12
L22A Ellis Ranch, M 33.84 334 ⇑P P 01 22 56.0 +2.4
baz=34,SNR=7.1
M21A Separation Pea 33.91 333 ⇓P P 01 22 56.2 +2.0
baz=34,SNR=5.3
R15A Junction 33.93 324 ⇑P P 01 22 56.4 +2.0
baz=34
P17A Butcher Ranch, 33.95 327 ⇑P P 01 22 56.6 +2.0
baz=34,SNR=32
GMRC Granite Mounta 33.95 316 ⇓P P 01 22 56.7 +2.1
baz=34
109C Camp Elliot, M 33.98 312 ⇓P P 01 22 57.1 +2.4
baz=34
MSU Marysvale 34.08 324 eP P 01 22 57.9 +2.2
TMUT Trail Mountain 34.08 326 eP P 01 22 58.0 +2.1
comp=Z,9.0nm,0.7s
TMUT eP cP P cP 01 25 32.3 +0.7
K23A Bowen Ranch, D 34.11 336 ⇓P P 01 22 57.3 +1.4
baz=34
CCUT Cedar City 34.14 322 eP P 01 22 59.1 +2.8
comp=Z,6.5nm,0.8s
O18A Roosevelt 34.15 328 ⇑P P 01 22 58.4 +2.2
baz=34,SNR=9.4
M20A Sweetwater, Wa 34.19 332 ⇑P P 01 22 58.1 +1.4
baz=34
L21A Rawlins 34.20 333 ⇓P P 01 22 58.3 +1.6
baz=34,SNR=9.3
N19A John Jarvie Ra 34.20 330 ⇓P P 01 22 58.3 +1.6
baz=34,SNR=14
J24A Dixon Ranch, L 34.22 337 ⇑P P 01 22 58.3 +1.5
baz=34
LPAZ La Paz 34.30 146 P P 01 22 60.0 +1.7
comp=Z,0.9nm,0.4s,baz=359,slow=4.9,SNR=4.8
LPAZ cP P cP 01 25 34.1 +1.2
comp=Z,1.2nm,0.7s,baz=348,slow=4.3,SNR=4.1
LPAZ La Paz 34.30 146 P P 01 22 60.0 +1.7
LPAZ cP P cP 01 25 34.1 +1.2
ARUT Antelope Range 34.34 322 eP P 01 22 58.2 +0.2
comp=Z,14nm,0.7s
K22A Casper 34.39 335 ⇑P P 01 22 59.9 +1.6
baz=35
MURC Murrieta 34.40 313 ⇓P P 01 23 00.9 +2.5
baz=34
HEC Hector,Ludlow 34.44 315 ⇓P P 01 23 01.2 +2.4
baz=35
O17A Robinson Place 34.47 328 ⇑P P 01 23 00.9 +1.8
baz=35
N18A Larsen Ranch, 34.51 330 ⇑P P 01 23 01.0 +1.6
baz=35,SNR=6.2
J23A Dilts Ranch, B 34.62 336 ⇑P P 01 23 02.0 +1.7
baz=35
M19A Rock Springs 34.66 331 ⇓P P 01 23 01.7 +1.0
baz=35
I24A Kuemmerle Ranc 34.66 338 ⇓P P 01 23 02.2 +1.6
baz=35
L20A Wamsutter 34.67 332 ⇑P P 01 23 02.0 +1.2
baz=35,SNR=5.8
RSSD Black Hills 34.67 339 eP P 01 23 02.0 +1.2
comp=Z,7.1nm,0.8s
K21A Alcova 34.68 334 ⇓P P 01 23 02.1 +1.2
baz=35
MPU Maple Canyon 34.82 326 eP P 01 23 03.2 +1.1
comp=Z,19nm,0.8s
P15A Leamington 34.86 325 ⇑P P 01 23 04.5 +2.1
baz=35,SNR=7.2
R13A O'Grain Ranch, 34.91 322 ⇑P P 01 23 05.8 +2.9
baz=35,SNR=10
J22A Midwest 35.00 335 ⇑P P 01 23 05.1 +1.5
baz=35,SNR=8.8
GSC Goldstone 35.02 316 ⇑P P 01 23 05.9 +2.1
baz=35
M18A Lyman 35.04 330 ⇑P P 01 23 05.3 +1.2
baz=35
N17A Moffit Pass 35.07 328 ⇓P P 01 23 06.3 +2.0
baz=35,SNR=12
JLU Jordanelle 35.14 327 eP P 01 23 06.2 +1.3
comp=Z,11nm,0.6s
K20A Yellowstone Ra 35.18 333 ⇑P P 01 23 06.5 +1.4
baz=35
L19A Farson 35.22 331 ⇓P P 01 23 06.7 +1.2
baz=35,SNR=6.4
FMP Fort Macarthur 35.25 312 ⇑P P 01 23 08.1 +2.5
baz=35
N16A Rees Ranch, Co 35.34 328 ⇓P P 01 23 08.7 +2.1
baz=36,SNR=7.1
J21A Lysite 35.35 334 ⇓P P 01 23 08.5 +2.0
baz=36,SNR=17
M17A Scullys Gap (B 35.38 329 ⇑P P 01 23 08.4 +1.5
baz=36,SNR=17
H24A Dirks Ranch, A 35.40 339 ⇑P P 01 23 08.4 +1.6
baz=36,SNR=17
I22A 9 Mile Ranch, 35.40 336 ⇑P P 01 23 08.7 +1.7
baz=36,SNR=11
L18A Fontenelle, Gr 35.40 330 ⇑P P 01 23 08.7 +1.6
baz=36,SNR=21
O15A The Old Anders 35.46 326 ⇑P P 01 23 09.4 +1.9
baz=36
K19A Absolon Red Bu 35.54 332 ⇑P P 01 23 09.5 +1.2
baz=36,SNR=16
EYMN Ely 35.56 355 eP P 01 23 06.8 -1.4
comp=Z,36nm,1.8s
DUG Dugway 35.59 326 eP P 01 23 10.5 +1.9
comp=Z,8.2nm,0.8s
DUG Dugway 35.59 326 ⇓P P 01 23 10.6 +2.0
baz=36,SNR=12
EDW2 Edwards Air Fo 35.62 314 ⇓P P 01 23 10.9 +2.0
baz=36,SNR=5.3
J20A Shoshoni 35.63 334 ⇑P P 01 23 10.9 +2.0
baz=36,SNR=12
I21A Big Trails, Te 35.66 335 ⇓P P 01 23 10.4 +1.2
baz=36,SNR=7.3
FURC Furnace Creek, 35.71 317 ⇑P P 01 23 12.0 +2.5
baz=36
M16A Huntsville 35.75 328 ⇑P P 01 23 11.5 +1.5
baz=36
BW06 Boulder Array 35.82 332 eP P 01 23 11.7 +0.9
comp=Z,6.7nm,0.6s
BW06 Boulder Array 35.82 332 ⇓P P 01 23 11.9 +1.2
baz=36,SNR=10
PDAR Pinedale Array 35.82 332 P P 01 23 11.7 +1.0
comp=Z,8.2nm,0.7s,baz=128,slow=10.0,SNR=74
PDAR pP pP 01 23 32.2 +1.3
comp=Z,2.5nm,0.9s,baz=133,slow=10,SNR=3.1
PDAR PcP PcP 01 25 36.6 +0.1
comp=Z,0.5nm,0.6s,baz=149,slow=4.2,SNR=4.3
PDAR pPcP 01 25 58.3
comp=Z,0.6nm,0.8s,baz=131,slow=4.9,SNR=3.1
PDAR Pinedale Array 35.82 332 P P 01 23 11.7 +1.0
PDAR pP pP 01 23 32.2 +1.3
PDAR PcP PcP 01 25 36.6 +0.1
PDAR pPcP 01 25 58.3
G24A Alzada 35.86 339 ⇓P P 01 23 12.0 +1.2
baz=36
MPMC Manual Prospec 35.91 316 ⇓P P 01 23 13.3 +1.9
baz=36,SNR=6.1
N15A Stansbury Isla 35.92 327 ⇓P P 01 23 13.4 +2.0
baz=36,SNR=9.7
HWUT Hardware Ranch 35.93 328 eP P 01 23 13.1 +1.5
comp=Z,30nm,0.8s
H22A Clearmont 35.94 337 ⇑P P 01 23 12.6 +1.1
baz=36
L17A Cokeville 35.95 330 ⇑P P 01 23 13.0 +1.3
baz=36,SNR=15
K18A Toltan Ranch, 35.95 331 ⇑P P 01 23 13.9 +2.1
baz=36,SNR=26
J19A Crowheart 35.98 333 ⇑P P 01 23 13.4 +1.4
baz=36,SNR=15
R11A Troy Canyon, C 36.00 321 ⇑P P 01 23 14.3 +2.0
baz=36
G23A Biddle 36.09 338 ⇑P P 01 23 14.0 +1.2
baz=36
I20A Worland 36.13 334 ⇓P P 01 23 14.7 +1.6
baz=36,SNR=9.9
L16A Fish Haven 36.16 329 ⇑P P 01 23 14.9 +1.4
baz=36,SNR=21
H21A Big Horn, Sher 36.24 336 ⇓P P 01 23 15.1 +1.1
baz=36,SNR=11
M15A Larsen Ranch, 36.28 327 ⇓P P 01 23 16.4 +1.9
baz=36,SNR=22
F24A Ekalaka 36.32 340 ⇓P P 01 23 16.1 +1.4
baz=36,SNR=12
ARVC Arvin 36.34 314 ⇑P P 01 23 17.1 +2.2
baz=36
GRAC Grapevine Rang 36.35 318 ⇓P P 01 23 17.3 +2.2
baz=36
ISA Isabella 36.37 315 ⇓P P 01 23 17.6 +2.4
baz=36
J18A Kendall Valley 36.38 332 ⇓P P 01 23 17.1 +1.6
baz=36,SNR=38
G22A Birney 36.44 337 ⇑P P 01 23 16.6 +0.8
baz=37
AGMN Agassiz Nation 36.45 350 eP P 01 23 15.3 -0.3
comp=Z,18nm,1.1s
K17A Gardner Place, 36.46 330 ⇓P P 01 23 17.6 +1.6
baz=37,SNR=6.4
H20A Greybull 36.51 335 ⇓P P 01 23 17.7 +1.3
baz=37
F23A Volborg 36.55 339 ⇓P P 01 23 17.8 +1.2
baz=37,SNR=7.9
AHID Auburn Hatcher 36.56 330 eP P 01 23 18.4 +1.5
comp=Z,20nm,0.6s
I19A Meeetse 36.57 333 ⇓P P 01 23 18.7 +1.7
baz=37,SNR=5.7
L15A Malad City 36.64 328 ⇑P P 01 23 19.1 +1.5
baz=37,SNR=18
I18A Diamond G Ranc 36.67 332 ⇑P P 01 23 19.6 +1.7
baz=37,SNR=16
HVU Hansel Valley 36.68 327 eP P 01 23 18.7 +0.8
comp=Z,8.5nm,0.7s
MDND Maddock 36.76 346 ⇓P P 01 23 19.2 +0.9
baz=37,SNR=11
G21A Lodge Grass 36.80 336 ⇑P P 01 23 19.8 +1.0
baz=37
J17A Brown Place, J 36.82 331 ⇑P P 01 23 21.1 +2.0
baz=37,SNR=31
K16A Soda Springs 36.84 330 ⇓P P 01 23 20.9 +1.5
baz=37,SNR=5.4
VES Vestal, Richgr 36.88 315 ⇓P P 01 23 22.0 +2.4
baz=37
REDW Red Top Meadow 36.89 331 eP P 01 23 21.1 +1.4
comp=Z,42nm,0.7s
E24A Baker 36.90 340 ⇓P P 01 23 21.1 +1.5
baz=37,SNR=10
F22A Rosebud 36.90 338 ⇓P P 01 23 20.7 +1.1
baz=37,SNR=6.7
SNOW Snow King Moun 36.92 331 eP P 01 23 21.7 +1.7
comp=Z,43nm,0.6s
PKM Peak Mountain 36.93 313 ⇓P P 01 23 22.3 +2.1
baz=37
LOHW Long Hollow 36.96 332 eP P 01 23 21.6 +1.2
comp=Z,14nm,1.1s
TPAW Teton Pass 37.03 331 eP P 01 23 22.4 +1.3
comp=Z,20nm,0.8s
H19A Powell 37.07 334 ⇓P P 01 23 22.4 +1.2
baz=37
RRI2 Red Ridge 37.10 331 eP P 01 23 22.9 +1.2
comp=Z,11nm,0.6s
MOOW Moose Ponds 37.13 332 eP P 01 23 23.1 +1.3
comp=Z,13nm,0.8s
J16A Bone 37.19 330 ⇑P P 01 23 24.0 +1.7
baz=37,SNR=18
I17A Pilgrim Ck. 37.19 332 ⇓P P 01 23 24.5 +2.2
baz=37,SNR=17
G20A Bridger 37.20 335 ⇓P P 01 23 23.0 +0.8
baz=37,SNR=9.1
K15A Arbon 37.21 329 ⇑P P 01 23 23.9 +1.5
baz=37,SNR=14
RCTC Rector, Farmer 37.23 315 ⇓P P 01 23 24.9 +2.4
baz=37
ELK Elko 37.33 324 eP P 01 23 25.5 +2.0
IMW Indian Meadow 37.34 332 eP P 01 23 24.9 +1.3
comp=Z,8.2nm,0.8s
E22A Miles City 37.35 339 ⇑P P 01 23 24.8 +1.4
baz=38
FLWY Flagg Ranch 37.37 332 eP P 01 23 25.4 +1.6
comp=Z,13nm,0.8s
H18A Shoshone NF, C 37.37 334 ⇑P P 01 23 24.9 +1.0
baz=38,SNR=15
D24A Glendive 37.40 341 ⇑P P 01 23 25.1 +1.3
baz=38
K14A Jones Ranch, D 37.44 328 ⇑P P 01 23 25.8 +1.5
baz=38,SNR=35
H17A Grant Village 37.55 332 ⇓P P 01 23 27.1 +1.7
baz=38
RLMT Red Lodge 37.55 334 eP P 01 23 26.1 +0.8
comp=Z,8.9nm,0.7s
RLMT Red Lodge 37.55 334 ⇑P P 01 23 26.6 +1.3
baz=38,SNR=9.1
I16A Newdale 37.58 331 ⇑P P 01 23 27.2 +1.7
baz=38
LKWY Lake 37.61 333 eP P 01 23 28.5 +2.6
comp=Z,59nm,2.5s
F20A Billings 37.65 336 ⇓P P 01 23 27.1 +1.1
baz=38
J15A Blackfoot 37.68 330 ⇑P P 01 23 27.9 +1.6
baz=38
YFT Old Faithful 37.72 332 eP P 01 23 28.4 +1.7
comp=Z,12nm,0.9s
D23A Lindsay 37.73 340 ⇑P P 01 23 28.1 +1.4
baz=38,SNR=8.6
NVAR Mina Array Bea 37.77 319 P P 01 23 28.9 +1.7
comp=Z,7.5nm,0.8s,baz=131,slow=7.5,SNR=32
NVAR pP pP 01 23 49.0 +1.4
comp=Z,1.4nm,0.7s,baz=126,slow=6.6,SNR=2.7
NVAR PcP PcP 01 25 44.2 +1.6
comp=Z,1.5nm,0.6s,baz=138,slow=3.8,SNR=7.7
NVAR pPcP 01 26 05.5
comp=Z,0.9nm,0.6s,baz=138,slow=4.4,SNR=4.0
NVAR Mina Array Bea 37.77 319 P P 01 23 28.9 +1.7
NVAR pP pP 01 23 49.0 +1.4
NVAR PcP PcP 01 25 44.2 +1.6
NVAR pPcP 01 26 05.5
C24A Savage 37.80 341 ⇑P P 01 23 28.6 +1.5
baz=38
G18A Lazy EL Ranch, 37.84 334 ⇓P P 01 23 28.8 +1.1
baz=38,SNR=11
E21A Keefer Ranch, 37.85 338 ⇑P P 01 23 28.8 +1.1
baz=38,SNR=13
YMR Madison River 37.94 332 eP P 01 23 30.4 +1.8
comp=Z,19nm,1.0s
F19A Roth Farm, Mol 38.01 335 ⇑P P 01 23 29.9 +0.9
baz=38,SNR=9.8
D22A Cohagen 38.05 339 ⇓P P 01 23 30.9 +1.6
baz=38,SNR=17
H16A Russell Place, 38.10 332 ⇑P P 01 23 31.8 +1.9
baz=38,SNR=8.3
I15A Monteview 38.15 330 ⇓P P 01 23 32.2 +1.9
baz=38
J14A Carey 38.17 329 ⇑P P 01 23 32.2 +1.8
baz=38,SNR=15
E20A Meyer Farm, Mu 38.22 337 ⇑P P 01 23 32.4 +1.6
baz=38,SNR=18
GCMT Greycliff 38.26 335 eP P 01 23 31.9 +0.7
comp=Z,5.5nm,0.7s
D21A La Casta Ranch 38.27 338 ⇑P P 01 23 32.7 +1.6
baz=38,SNR=6.1
C23A Lambert 38.28 341 ⇑P P 01 23 32.7 +1.5
baz=38,SNR=14
QLMT Earthquake Lak 38.28 332 eP P 01 23 33.5 +2.0
BMN Battle Mountai 38.29 322 eP P 01 23 33.8 +2.3
comp=Z,12nm,0.8s
ULM Lac du Bonnet 38.34 351 P P 01 23 30.8 -0.8
comp=Z,13nm,0.7s,baz=166,slow=8.6,SNR=27
ULM pP pP 01 23 51.3 -0.7
comp=Z,6.6nm,1.0s,baz=204,slow=9.4,SNR=2.9
ULM Lac du Bonnet 38.34 351 P P 01 23 30.8 -0.8
ULM pP pP 01 23 51.3 -0.7
G17A Pierce Place, 38.35 333 ⇑P P 01 23 34.8 +2.9
baz=38,SNR=7.2
F18A Big Timber 38.37 335 ⇑P P 01 23 33.4 +1.3
baz=38,SNR=12
SIV San Ignacio 38.40 137 P P 01 23 32.6 +0.1
comp=Z,2.6nm,0.5s,baz=325,slow=9.4,SNR=9.9
SIV pP pP 01 23 52.9 -0.1
comp=Z,4.5nm,0.7s,baz=315,slow=9.5,SNR=7.7
SIV PcP PcP 01 25 45.6 +1.1
comp=Z,2.6nm,0.5s,baz=293,slow=3.1,SNR=8.9
SIV San Ignacio 38.40 137 P P 01 23 32.6 +0.1
SIV pP pP 01 23 52.9 -0.1
SIV PcP PcP 01 25 45.6 +1.1
E19A Rath Farm, Rou 38.44 336 ⇑P P 01 23 34.1 +1.5
baz=39,SNR=6.0
C22A Vida 38.46 340 ⇓P P 01 23 34.3 +1.6
baz=39,SNR=27
J13A Cove Ranch, Pi 38.56 328 ⇑P P 01 23 35.2 +1.5
baz=39,SNR=8.7
DGMT Dagmar 38.56 342 eP P 01 23 34.9 +1.4
comp=Z,47nm,0.9s
DGMT Dagmar 38.56 342 ⇑P P 01 23 34.7 +1.2
baz=39,SNR=7.2
I14A Mackay 38.57 329 ⇓P P 01 23 35.8 +1.9
baz=39,SNR=13
H15A Lima 38.68 331 ⇓P P 01 23 37.3 +2.5
baz=39,SNR=23
D20A Manuel Ranch, 38.71 337 ⇑P P 01 23 36.5 +1.6
baz=39,SNR=10
G16A Moss Hill, Enn 38.75 332 ⇓P P 01 23 37.2 +1.9
baz=39
F17A Fitzpatrick Pl 38.77 334 ⇑P P 01 23 37.0 +1.5
baz=39,SNR=5.8
HLID Hailey 38.80 328 eP P 01 23 37.1 +1.3
comp=Z,4.7nm,0.8s
HLID Hailey 38.80 328 ⇑P P 01 23 37.3 +1.6
baz=39,SNR=11
B23A Brockton 38.80 341 ⇑P P 01 23 37.3 +1.7
baz=39,SNR=9.3
I13A Wildhorse Cree 38.90 329 ⇓P P 01 23 38.5 +1.8
baz=39,SNR=14
A24A Westby 38.91 342 ⇓P P 01 23 37.8 +1.4
baz=39,SNR=8.0
CMB Columbia Colle 38.92 317 eP P 01 23 38.9 +2.2
comp=Z,73nm,2.5s
MCMT McKenzie Canyo 38.94 331 eP P 01 23 39.2 +2.2
comp=Z,24nm,1.2s
C21A Desert Coulee 38.95 339 ⇓P P 01 23 38.2 +1.4
baz=39,SNR=9.5
B22A Reddig Ranch S 38.98 340 ⇑P P 01 23 38.6 +1.6
baz=39
E18A Harlowton 38.98 335 ⇑P P 01 23 38.7 +1.4
baz=39
BOZ Bozeman (W) 38.99 333 eP P 01 23 37.6 +0.3
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 38.99 333 ⇓P P 01 23 38.6 +1.3
baz=39,SNR=5.0
G15A Dillon 39.02 332 ⇓P P 01 23 39.5 +1.8
baz=39,SNR=8.8
H14A Leadore 39.03 330 ⇓P P 01 23 39.8 +2.0
baz=39,SNR=20
D19A Cripps Ranch, 39.06 337 ⇓P P 01 23 39.1 +1.4
baz=39,SNR=9.2
F16A Kennard Place, 39.10 333 ⇑P P 01 23 39.7 +1.5
baz=39
C20A Veseth Ranch, 39.18 338 ⇓P P 01 23 40.3 +1.5
baz=39
A23A Redstone 39.20 342 ⇓P P 01 23 40.2 +1.3
baz=39
DLMT Dillon 39.22 332 eP P 01 23 40.0 +0.8
comp=Z,10nm,0.9s
E17A Martinsdale 39.29 334 ⇓P P 01 23 41.2 +1.4
baz=39
I12A Atlanta 39.33 328 ⇑P P 01 23 41.8 +1.6
baz=40,SNR=8.4
H13A Challis 39.43 329 ⇑P P 01 23 42.8 +1.8
baz=40,SNR=20
MFID Camas Ranch 39.44 327 eP P 01 23 41.9 +0.9
comp=Z,4.2nm,0.8s
MFID Camas Ranch 39.44 327 ⇓P P 01 23 42.5 +1.5
baz=40
D18A Linhart Farms, 39.45 336 ⇓P P 01 23 42.6 +1.5
baz=40
LRM Limekiln Ridge 39.50 332 eP P 01 23 43.4 +1.7
F15A Butte 39.53 332 ⇑P P 01 23 43.5 +1.6
baz=40,SNR=11
G14A Jackson 39.54 331 ⇑P P 01 23 43.5 +1.5
baz=40
A22A Carney Farms, 39.56 341 ⇓P P 01 23 43.5 +1.7
baz=40,SNR=8.0
C19A Slack Wire Ran 39.59 337 ⇓P P 01 23 43.8 +1.6
baz=40,SNR=11
E16A East Helena 39.70 334 ⇓P P 01 23 44.5 +1.3
baz=40,SNR=9.2
H12A Diamond D Ranc 39.72 329 ⇑P P 01 23 45.0 +1.6
baz=40,SNR=10
D17A Six Diamond Ra 39.77 335 ⇑P P 01 23 45.0 +1.2
baz=40,SNR=9.8
B20A Solberg Farm, 39.80 338 ⇑P P 01 23 45.4 +1.5
baz=40
G13A Cobalt 39.80 330 ⇓P P 01 23 45.4 +1.3
baz=40,SNR=7.6
A21A Bergtoll Ranch 39.89 340 ⇓P P 01 23 46.2 +1.6
baz=40,SNR=9.4
HRY Holter Researc 39.91 334 eP P 01 23 45.8 +0.9
F14A Wisdom 39.92 331 ⇑P P 01 23 46.5 +1.4
baz=40
D16A Dana Ranch, Ca 40.03 334 ⇓P P 01 23 47.4 +1.5
baz=40,SNR=7.4

E15A	**Deer Lodge** baz=40,SNR=7.8	40.04	333	⇓P		P	01 23 47.4 +1.3
EGMT	**Eagleton** comp=Z,94nm,2.4s	40.10	337	*e*P		P	01 23 47.2 +0.8
EGMT	**Eagleton** baz=40,SNR=5.5	40.10	337	⇑P		P	01 23 47.7 +1.3
A20A	**Cobblestone Ra** baz=40,SNR=17	40.14	339	⇑P		P	01 23 48.2 +1.5
B19A	**Brinkman Farms** baz=40,SNR=5.5	40.15	338	⇑P		P	01 23 48.1 +1.3
C17A	**Wharram Farm,** baz=40,SNR=7.9	40.18	335	⇑P		P	01 23 48.5 +1.4
F13A	**Darby** baz=40,SNR=17	40.35	331	⇑P		P	01 23 49.6 +1.0
G12A	**Big Creek, Yel** baz=40	40.37	329	⇑P		P	01 23 49.9 +1.1
B18A	**Beardsley Farm** baz=41	40.41	337	⇓P		P	01 23 50.2 +1.2
E14A	**Clinton** baz=41,SNR=7.9	40.42	332	⇑P		P	01 23 50.4 +1.2
D15A	**Lincoln** baz=41,SNR=6.9	40.46	333	⇑P		P	01 23 50.7 +1.2
A19A	**Klindworth Far** baz=41	40.47	338	⇓P		P	01 23 50.4 +1.0
C16A	**Fuhringer Ranc** baz=41	40.72	335	⇑P		P	01 23 52.6 +1.0
B17A	**L&G Farms, Che** baz=41	40.73	336	⇓P		P	01 23 52.4 +0.8
E13A	**Victor** baz=41,SNR=14	40.77	331	⇓P		P	01 23 53.1 +1.1
F12A	**Elk City** baz=41,SNR=52	40.78	330	⇓P		P	01 23 53.3 +1.2
A18A	**Metzger Ranch,** baz=41,SNR=5.5	40.87	337	⇓P		P	01 23 53.7 +1.0
D14A	**Greenough** baz=41	40.93	333	⇓P		P	01 23 54.2 +0.8
MSO	**Missoula** comp=Z,6.8nm,1.1s	40.94	332	*e*P		P	01 23 54.5 +1.1
MSO	**Missoula** baz=41,SNR=6.4	40.94	332	⇑P		P	01 23 54.4 +1.0
C15A	**Salmond Ranch,** baz=41	41.06	334	⇓P		P	01 23 55.6 +1.1
BMO	**Blue Mountains** comp=Z,6.3nm,0.8s	41.19	327	*e*P		P	01 23 55.6 +0.2
A17A	**Triple J Farms** baz=41,SNR=5.7	41.22	337	⇑P		P	01 23 56.4 +0.8
D13A	**Huson** baz=42,SNR=6.0	41.37	332	⇑P		P	01 23 57.9 +1.0
E12A	**Beaver Dam Sad** baz=42	41.40	330	⇑P		P	01 23 57.9 +0.7
B15A	**Bradely Ranch,** baz=42,SNR=5.5	41.46	335	⇑P		P	01 23 58.4 +0.8
C14A	**Swan Lake** baz=42	41.56	333	⇓P		P	01 23 59.4 +1.0
A16A	**West Butte Ran** baz=42	41.57	336	⇑P		P	01 23 59.2 +0.7
D12A	**Red Ives Fores** baz=42	41.76	331	⇑P		P	01 24 00.8 +0.7
JTMT	**Jette**	41.78	333	*e*P		P	01 24 00.5 +0.2
B14A	**Marquette Ranc** baz=42	41.80	334	⇓P		P	01 24 01.5 +1.1
C13A	**Hot Springs** baz=42	41.86	332	⇓P		P	01 24 01.7 +0.8
A15A	**Johnson Ranch,** baz=42,SNR=10	42.05	335	⇓P		P	01 24 03.5 +1.1
BSMT	**Bassoo Peak** comp=Z,1.4nm,0.7s	42.08	332	*e*P		P	01 24 03.1 +0.3
C12B	**Naegeli Ranch,** baz=42	42.29	332	⇓P		P	01 24 05.8 +1.4
B13A	**Whitefish** baz=42,SNR=7.4	42.33	333	⇓P		P	01 24 05.8 +1.2
A14A	**Double T Ranch** baz=42,SNR=12	42.34	335	⇓P		P	01 24 06.1 +1.3
A13A	**Flathead Natio** baz=43	42.73	334	⇑P		P	01 24 09.2 +1.3
C11A	**Tepee Creek (N** baz=43	42.75	331	⇑P		P	01 24 09.2 +1.1
B12A	**Libby** baz=43	42.90	332	⇑P		P	01 24 10.6 +1.4
A12A	**Yaak River Ran** baz=43	43.27	333	⇑P		P	01 24 13.5 +1.2
HAWA	**Hanford** comp=Z,9.2nm,0.8s	43.38	328	*e*P		P	01 24 13.7 +0.6
NEW	**Newport** comp=Z,78nm,2.7s	43.46	331	*e*P		P	01 24 14.2 +0.5
NEW	**Newport** baz=44	43.46	331	⇑P		P	01 24 14.2 +0.5
FFC	**Flin Flon** comp=Z,16nm,0.7s	43.73	348	*e*P		P	01 24 16.2 +0.5
SCHQ	**Schefferville** comp=Z,22nm,0.5s,baz=218,slow=6.4,SNR=96	45.26	17	P		P	01 24 27.8 -0.2
SCHQ				pP		pP	01 24 47.9 -1.0
SCHQ	comp=Z,11nm,0.7s,baz=199,slow=6.2,SNR=5.6	45.26	17	P		P	01 24 27.8 -0.2
SCHQ	**Schefferville**			P		pP	01 24 47.9 -1.0
CFAA	**Coronel Fontan** comp=Z,0.1nm,0.4s,baz=346,slow=4.2,SNR=4.0	47.48	158	P		P	01 24 47.1 +1.5
CFAA				pP		pP	01 25 07.7 +1.0
CFAA	comp=Z,0.2nm,0.6s,baz=306,slow=5.3,SNR=3.1			PcP		PcP	01 26 15.8 +1.1
CFAA	comp=Z,0.3nm,1.0s,baz=360,slow=2.2,SNR=3.3			pPcP			01 26 37.5
CFAA	comp=Z,0.2nm,0.7s,baz=351,slow=5.6,SNR=4.8	47.48	158	P		P	01 24 47.1 +1.5
CFAA	**Coronel Fontan**			pP		pP	01 25 07.7 +1.0
CFAA				PcP		PcP	01 26 15.8 +1.1
CFAA				pPcP			01 26 37.5
CPUP	**Villa Florida** comp=Z,0.7nm,0.4s,baz=323,slow=13,SNR=3.5	48.35	143	P		P	01 24 52.6 +0.2
CPUP	**Villa Florida**	48.35	143	P		P	01 24 52.6 +0.2
YKA	**Yellowknife Ar** comp=Z,4.0nm,0.7s,baz=138,slow=7.6,SNR=64	53.65	345	P		P	01 25 31.1 -0.4
YKA				pP		pP	01 25 53.0 0.0
YKA	comp=Z,0.6nm,0.5s,baz=147,slow=6.7,SNR=2.4			PcP		PcP	01 26 36.4 -0.5
YKA	comp=Z,0.3nm,0.5s,baz=146,slow=4.0,SNR=5.6			pPcP			01 26 58.1
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.6s,baz=143,slow=3.8,SNR=4.6	53.65	345	P		P	01 25 31.1 -0.4
YKA				pP		pP	01 25 53.0 0.0
YKA				PcP		PcP	01 26 36.4 -0.5
YKA				pPcP			01 26 58.1
DLBC	**Dease Lake** comp=Z,6.3nm,0.8s,baz=132,slow=4.1,SNR=15	55.96	335	P		P	01 25 48.9 +0.4
DLBC				pP		pP	01 26 09.7 -0.4
DLBC	comp=Z,4.2nm,0.9s,baz=91,slow=8.4,SNR=4.0	55.96	335	P		P	01 25 48.9 +0.4
DLBC	**Dease Lake**			pP		pP	01 26 09.7 -0.4
RES	**Resolute Bay** comp=Z,3.0nm,0.5s,baz=177,slow=9.5,SNR=33	62.38	358	P		P	01 26 31.6 -0.7
RES				pP		pP	01 26 53.1 -1.2
RES	comp=Z,2.6nm,0.6s,baz=186,slow=9.4,SNR=6.0	62.38	358	*e*P		P	01 26 31.2 -1.1
RES	comp=Z,3.4nm,0.7s			pP		pP	01 26 53.1 -1.2
INK	**Inuvik** comp=Z,4.1nm,0.9s,baz=124,slow=9.2,SNR=12	63.24	343	P		P	01 26 38.0 -0.2
INK				pP		pP	01 27 00.0 -0.2
INK	comp=Z,2.6nm,1.0s,baz=134,slow=9.6,SNR=3.7	63.24	343	P		P	01 26 38.0 -0.2
INK	**Inuvik**			pP		pP	01 27 00.0 -0.2
ILAR	**Eielson Array** comp=Z,2.5nm,0.6s,baz=160,slow=4.6,SNR=32	66.06	336	P		P	01 26 56.5 -0.2
ILAR				pP		pP	01 27 18.1 -0.8
ILAR	comp=Z,1.1nm,0.7s,baz=118,slow=4.5,SNR=3.9			PP		PP	01 29 23.6 +0.6
ILAR	comp=Z,0.7nm,0.8s,baz=105,slow=6.8,SNR=4.6	66.06	336	P		P	01 26 56.5 -0.2
ILAR	**Eielson Array**			pP		pP	01 27 18.1 -0.8
ILAR				PP		PP	01 29 23.6 +0.6
ESDC	**Sonseca Array** comp=Z,0.1nm,0.4s,baz=288,slow=5.5,SNR=5.0	77.13	52	P		P	01 28 02.1 -1.5
ESDC				pP		pP	01 28 24.2 -2.2
ESDC	comp=Z,0.6nm,0.6s,baz=283,slow=5.3,SNR=3.3	77.13	52	P		P	01 28 02.1 -1.5
ESDC	**Sonseca Array**			pP		pP	01 28 24.2 -2.2
SPITS	**Spitsbergen Ar** comp=Z,2.1nm,0.7s,baz=276,slow=5.5,SNR=4.8	80.70	12	P		P	01 28 21.7 -0.7
SPITS	**Spitsbergen Ar**	80.70	12	P		P	01 28 21.7 -0.7
ARCES	**ARCESS Array B** comp=Z,5.6nm,1.1s,baz=296,slow=3.6,SNR=5.0	86.17	19	P		P	01 28 49.8 -0.8
ARCES	**ARCESS Array B**	86.17	19	P		P	01 28 49.8 -0.8
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=329,slow=4.7,SNR=4.0	87.89	40	P		P	01 28 59.8 +0.4
GERES				pP		pP	01 29 19.7 -3.0
GERES	comp=Z,0.4nm,0.7s,baz=243,slow=6.5,SNR=2.6	87.89	40	P		P	01 28 59.8 +0.4
KEST	**Kesra** comp=Z,0.5nm,0.8s,baz=292,slow=5.4,SNR=3.5	88.19	54	P		P	01 28 59.6 -1.5
KEST	**Kesra**	88.19	54	P		P	01 28 59.6 -1.5
BOSA	**Boshof** comp=Z,1.7nm,1.0s,baz=236,slow=3.6,SNR=3.7	115.61	116	PKP		PKPdf	01 34 52.0 -0.2
BOSA	**Boshof**	115.61	116	PKP		PKPdf	01 34 52.0 -0.2
SONM	**Songino Array** comp=Z,0.2nm,0.5s,baz=326,slow=1.1,SNR=3.7	118.76	349	PKP		PKPdf	01 34 57.1 -0.7
SONM	**Songino Array**	118.76	349	PKP		PKPdf	01 34 57.1 -0.7
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=353,slow=2.1,SNR=4.0	120.31	8	PKP		PKPdf	01 34 59.4 -1.3
MKAR	**Makanchi Array**	120.31	8	PKP		PKPdf	01 34 59.4 -1.3
KSRS	**Korea Array** comp=Z,1.6nm,0.6s,baz=31,slow=1.9,SNR=4.0	120.33	328	PKP		PKPdf	01 35 01.1 +0.2
KSAR	**Wonju Array Be**	120.36	328	PKP		PKPdf	01 35 01.1 +0.1
WMQ	**Urumqi**	123.83	4	*e*PKP		PKPdf	01 35 07.2 -0.4
HHC	**Hu-ho-hao-te**	124.16	343	*e*PKP		PKPdf	01 35 07.2 -1.1
HHC				sPKP			01 35 45.0
HHC				PP		PP	01 36 55.4 +2.8
HHC				PKS		PKSdf	01 38 43.0 -2.1
HHC				SKS		SKSdf	01 42 07.2 -5.6
HHC				SKKS		SKKSac	01 43 38.1 -6.4
HHC				AMB		AMB	
HHC	comp=Z,100nm,9.2s			LR		LR	
HHC	comp=N,140nm,20.3s			LR		LR	
HHC	comp=E,110nm,20.5s			LR		LR	
HHC	comp=Z,93nm,20.1s			LR		LR	
KSH	**Kashi**	126.03	16	*e*PKP		PKPdf	01 35 14.2 +2.2
KSH				sPKP			01 35 49.8
KSH				PP		PP	01 37 11.5 +6.4
KSH				PKS		PKSdf	01 38 47.8 -0.9
KSH				SKS		SKSdf	01 42 15.1 -1.3
KSH				SKKS		SKKSac	01 43 52.3 -4.2
KSH				SS		SS	01 54 00.6 +0.9
KSH				AMB		AMB	
KSH	comp=Z,120nm,7.1s			LR		LR	
KSH	comp=N,69nm,4.5s			LR		LR	
KSH	comp=E,67nm,6.2s			LR		LR	
KSH	comp=Z,140nm,5.5s			LR		LR	
LZH	**Lanzhou**	130.59	348	*e*PKP		PKPdf	01 35 20.5 -0.3
LZH				sPKP			01 35 57.0
STKA	**Stephens Creek** comp=Z,2.3nm,0.8s,baz=167,slow=8.5,SNR=5.9	131.16	238	PKP		PKPdf	01 35 23.2 +1.5
STKA	**Stephens Creek**	131.16	238	PKP		PKPdf	01 35 23.2 +1.5
CD2	**Chengdu**	135.59	346	PKP		PKPdf	01 35 28.8 -1.4
GYA	**Guiyang**	139.00	341	*e*Pdif		Pdif	01 32 45.0 -4.0
GYA				PKP		PKPdf	01 35 35.8 -0.9
GYA				sPKP			01 36 15.4
GYA				PP		PP	01 38 31.9 +3.6
GYA	comp=Z,90nm,7.8s			AMB		AMB	
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=96,slow=3.9,SNR=4.5	139.35	248	PKhKP		PKPpre	01 35 29.2
ASAR				PKP		PKPdf	01 35 37.6 +0.4
ASAR	comp=Z,2.1nm,0.8s,baz=109,slow=2.0,SNR=18			pPKP		pPKPdf	01 36 00.8 -0.7
ASAR	comp=Z,1.6nm,0.8s,baz=119,slow=2.0,SNR=5.1	139.35	248	PKPpre		PKPpre	01 35 29.2
ASAR	**Alice Springs**			PKP		PKPdf	01 35 37.6 +0.4
ASAR				pPKP		pPKPdf	01 36 00.8 -0.7
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=91,slow=3.1,SNR=15	139.35	254	PKhKP		PKPpre	01 35 29.4
WRA				PKP		PKPdf	01 35 38.2 +0.8
WRA	comp=Z,3.6nm,0.7s,baz=89,slow=2.2,SNR=36			pPKP		pPKPdf	01 36 00.9 -0.7
WRA	comp=Z,2.1nm,0.8s,baz=91,slow=1.5,SNR=5.5	139.35	254	PKPpre		PKPpre	01 35 29.4
WRA	**Warramunga Arr**			PKP		PKPdf	01 35 38.2 +0.8
WRA				pPKP		pPKPdf	01 36 00.9 -0.7
KMI	**Kunming**	141.39	345	PKP		PKPdf	01 35 38.0 -3.2
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.3s,baz=342,slow=3.5,SNR=11	148.68	348	PKPbc		PKPbc	01 35 57.3 -0.1
CMAR				pPKPbc		pPKPbc	01 36 20.0 -1.5
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=338,slow=3.2,SNR=2.0	148.68	348	PKPbc		PKPbc	01 35 57.3 -0.1
CMAR				pPKPbc		pPKPbc	01 36 20.0 -1.5

IDC 02 01:34:26.3±1.2, 25°.39N×142°.71E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/24, mbtmpb3.6/6, Error ellipse: s-maj=45.4km s-min=20.7km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima** 29nm,0.3s,baz=285,slow=21,SNR=7.4	1.76	345	Pn	Pb	01 34 59.5	0.0
CBIJ				Sn	Sg	01 35 23.4	+0.4
SONM	**Songino Array** 0.2nm,0.4s,baz=124,slow=8.9,SNR=4.7	36.27	318	P	P	01 41 30.6	-0.9
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=9.8,slow=8.7,SNR=24	45.79	191	P	P	01 42 50.3	+0.4
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=88,slow=8.7,SNR=6.1	51.93	311	P	P	01 43 36.5	-0.4
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=290,slow=5.7,SNR=4.1	73.41	28	P	P	01 45 59.8	-0.2
FINES	**FINESS Array B** 1.8nm,0.9s,baz=60,slow=4.4,SNR=7.5	79.68	334	P	P	01 46 35.9	+0.4
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=40,slow=5.5,SNR=2.6	85.36	339	P	P	01 47 04.8	-0.5

MEX 02 02:04:47.2±0.5, 16°.66N×100°.45W, h18km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	0.42	24	*i* P	Pg	02 04 54.2	-1.7
CAIG				*i* S	Sg	02 04 59.8	-2.0
ZIIG	**Zihuatanejo**	1.36	314	*e*P	Pn	02 05 08.1	-3.2
ZIIG				*i* S	Sn	02 05 23.7	-5.1
MEIG	**Mezcala**	1.49	32	*e*P	Pn	02 05 10.2	-3.1
MEIG				*e*S	Sn	02 05 28.1	-4.2
ARIG	**Puente Sto Nin**	1.62	3	*e*P	Pn	02 05 12.2	-2.8
ARIG				*e*S	Sn	02 05 30.9	-4.5
PLIG	**Platanillo**	1.95	27	*e*P	Pn	02 05 16.9	-2.7
PLIG				*e*S	Sn	02 05 39.4	-4.3
PNIG	**Pinotepa**	2.24	96	*i* P	Pn	02 05 20.6	-2.9
PNIG				*i* S	Sn	02 05 46.4	-4.4
YAIG	**Yautepec**	2.56	31	*e*P	Pn	02 05 24.6	-3.5
YAIG				*e*S	Sn	02 05 55.3	-3.6
UTMO	**Huajuapan**	2.78	65	*i* P	Pn	02 05 28.8	-2.4
UTMO				*e*S	Sn	02 06 01.1	-3.5
PPM	**Popocatepetl**	2.96	36	*e*P	Pn	02 05 30.8	-3.2
PPM				*e*S	Sn	02 06 06.0	-3.5

*DDA **02** 02:10:30.0, 37°.93N×29°.07E, h7km, MD2.8*
*ISCJB **02** 02:10:30.3±0.6, 37°.93N±0°.03×29°.05E±0°.06, h4km±12km, Error ellipse: s-maj=8.7km s-min=4.3km az=16.7*
*ISK **02** 02:10:30.0, 37°.91N×29°.09E, h9km, MD2.5*
*CSEM **02** 02:10:30.4±0.2, 37°.92N×29°.06E, h2km, MD2.8, Error ellipse: s-maj=3.9km s-min=2.7km az=114.0*

ISC 02 02:10:30.2±1.0, 37°.91N±0°.03×29°.08E±0°.04, h12km±10km, n14, σ0s32/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	0.16	193	*e*PG	Pg	02 10 33.9	0.0
DENT				*e*SG	Sg	02 10 36.6	+0.1
DENT	**Denizli**	0.16	193	*e*Pg	Pg	02 10 33.9	0.0
DENT				*e*Sg	Sg	02 10 36.7	+0.1
DNZL	**Cakiroluk**	0.22	186	*i* P	Pg	02 10 34.8	-0.2
DNZL				*i* S	Sg	02 10 38.4	0.0
DNZL	**Cakiroluk**	0.22	186	*i* P	Pg	02 10 34.8	-0.2
DNZL				*i* S	Sg	02 10 38.4	0.0
KHL	**Karahalli**	0.54	40	*e*PG	Pg	02 10 40.8	0.0
KHL				*e*SG	Sg	02 10 49.1	-0.3
KHL	**Karahalli**	0.54	40	*e*Pg	Pg	02 10 40.8	0.0
KHL				*e*Sg	Sg	02 10 49.2	-0.3
KHAL	**Karahalli**	0.56	35	*i* P	Pg	02 10 41.0	-0.2
KHAL				*e*S	Sg	02 10 49.2	+0.5
KHAL	**Karahalli**	0.56	35	*i* P	Pg	02 10 41.0	-0.2
KHAL				*e*S	Sg	02 10 49.2	+0.5
KULA	**Kula-Manisa**	0.69	332	*e*Pg	Pg	02 10 43.9	+0.4
KULA	**Kula-Manisa**	0.69	332	*e*Pg	Pg	02 10 43.9	+0.4
MANT	**Manisa**	0.71	325	*i* P	Pg	02 10 43.3	-0.7
MANT				*i* S	Sg	02 10 53.4	0.0
MANT	**Manisa**	0.71	325	*i* P	Pg	02 10 43.3	-0.7
MANT				*i* S	Sg	02 10 53.4	0.0
AYDN	**Tasoluk**	0.98	256	*e*P	Pb	02 10 49.1	0.0
AYDN				*e*S	Sb	02 11 02.4	+0.4
AYDN	**Tasoluk**	0.98	256	*e*P	Pb	02 10 49.1	0.0
AYDN				*e*S	Sb	02 11 02.4	+0.4

IDC 02 02:18:44.0±1.4, 0°.39S×121°.56E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/21, mbtmpb3.4/4, Error ellipse: s-maj=149.9km s-min=21.6km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=326,slow=11,SNR=25	23.12	148	P	P	02 23 52.3	+0.5
ASAR	**Alice Springs** 0.4nm,0.6s,baz=344,slow=12,SNR=4.3	26.06	154	P	P	02 24 18.8	-0.6
SONM	**Songino Array** 0.2nm,0.5s,baz=166,slow=8.9,SNR=2.5	49.81	347	P	P	02 27 39.5	+0.7
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=130,slow=8.6,SNR=4.0	58.19	329	P	P	02 28 39.1	-0.9

*NNC **02** 02:19:21.4±1.5, 41°.53N×79°.18E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=12.3km s-min=6.3km az=168.0*
*ISCJB **02** 02:19:25.5±1.5, 41°.71N±0°.09×79°.23E±0°.10, h13km, Error ellipse: s-maj=13.6km s-min=9.2km az=148.7*

ISC 02 02:19:25.0±1.6, 41°.63N±0°.08×78°.98E±0°.09, h13km, n6, σ1s03/8, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty** 14nm,0.5s	2.18	317	⇑Pn	Pn	02 20 01.0	0.0
KNDC				⇓Sn	Sb	02 20 31.8	+0.5
TKM2	**Tokmak 2** 3.3nm,0.3s	2.83	298	⇑Pn	Pn	02 20 09.9	-0.2
TKM2				⇑Sn	Sb	02 20 49.2	-0.8
KSH	**Kashi**	3.12	228	Pn	Pb	02 20 19.4	-1.0
KSH				Sn	Sg	02 21 06.8	+1.7
KSH	comp=N,17nm,0.5s			smax	smax		
KSH	comp=E,24nm,0.5s			smax	smax		
MK31	**Makanchi Array** comp=E,0.4nm,0.3s,baz=208,slow=14,SNR=22	5.68	24	⇑Pn	Pn	02 20 48.9	-0.2
MK31				⇓Sn	Sn	02 21 55.0	+0.7
MK31	comp=E,1.2nm,0.6s			⇑Lg	Lg	02 22 24.2	
KK31	**Karatay Array** comp=E,0.3nm,0.5s,baz=105,slow=15,SNR=5.7	6.45	286	⇑Pg	Pb	02 21 21.5	+4.5
KK31				⇑Lg	Lg	02 22 51.6	
KURK	**Kurchatov** comp=E,6.1nm,1.4s	9.09	359	⇑Lg	Lg	02 24 12.7	

IDC 02 02:30:26.9±66.0, 20°.49S×179°.06W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/18, mbtmpb3.9/3, Error ellipse: s-maj=1190.0km s-min=158.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 0.9nm,0.5s,baz=79,slow=10,SNR=4.6	36.90	244	P	P	02 37 37.3	-0.2
ASAR	**Alice Springs** 1.0nm,0.6s,baz=96,slow=8.4,SNR=12	43.55	257	P	P	02 38 32.5	-0.3
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=96,slow=8.4,SNR=40	43.61	262	P	P	02 38 33.5	+0.1

IDC 02 02:37:56.3±5.0, 29°.08S×177°.45W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/17, mbtmpb3.6/3, Error ellipse: s-maj=199.4km s-min=76.6km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.1nm,0.7s,baz=108,slow=15,SNR=3.2	35.26	255	P	P	02 44 53.1	+0.3
ASAR	**Alice Springs** 0.2nm,0.3s,baz=108,slow=7.3,SNR=4.1	43.67	265	P	P	02 46 02.7	-0.5
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=109,slow=8.1,SNR=19	44.54	271	P	P	02 46 10.0	-0.2
FINES	**FINESS Array B** 0.3nm,0.4s,baz=46,slow=4.0,SNR=9.1	144.07	341	PKP	PKPdf	02 57 32.7	-0.5

*ISCJB **02** 02:41:56.5±0.3, 23°.97N±0°.02×121°.92E±0°.02, h40km±9km, Error ellipse: s-maj=3.8km s-min=2.6km az=143.0*
*TAP **02** 02:41:56.3, 24°.01N×121°.85E, h48km, ML3.5, C*
*JMA **02** 02:41:56.7±0.3, 24°.21N×121°.93E, h78km, M2.6*

ISC 02 02:41:57.0±1.7, 23°.97N±0°.03×121°.91E±0°.02, h36km±1km, n45, σ0s98/82, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien** baz=262	0.28	271	P	Pn	02 42 04.9	-0.1
HWA				S	Sn	02 42 11.6	-0.1
TWD	**Chiawan** baz=283	0.30	291	*i* P	Pn	02 42 04.8	-0.3
TWD				S	Sn	02 42 10.9	-0.7
ESL	**Shilin** baz=239	0.46	250	P	Pn	02 42 06.6	-0.4
ENA	**Nanau** baz=344	0.48	342	*i* P	Pn	02 42 06.8	-0.5
ENA				S	Sn	02 42 14.5	0.0
WHF	**Hehuan Shan** baz=278	0.61	286	⇑*i* P	Pn	02 42 08.5	-1.1
WHF				S	Sn	02 42 17.4	-1.0
TWC	**Suao** baz=8.0	0.64	355	*i* P	Pn	02 42 09.2	-0.4
TWC				*i* S	Sn	02 42 18.6	+0.1
NNS	**Nan Shan** baz=315	0.67	314	*i* P	Pn	02 42 09.2	-1.0
NNS				S	Sn	02 42 18.7	-0.8
EHY	**Hungye** baz=233	0.71	229	P	Pn	02 42 09.4	-1.2
TWT	**Tachien** baz=291	0.72	293	P	Pn	02 42 10.5	-0.4
TWT				S	Sn	02 42 20.2	-0.6
ENTT	**Nioudou** baz=332	0.73	335	*i* P	Pn	02 42 10.2	-0.6
ENTT				S	Sn	02 42 20.2	-0.6
TWE	**Neicheng** baz=342	0.78	344	P	Pn	02 42 11.0	-0.4
TWE				S	Sn	02 42 21.8	-0.1
TWF1	**Yuli** baz=227	0.83	222	P	Pn	02 42 11.1	-1.1
NSK	**Sanguang** baz=327	0.86	325	*i* P	Pn	02 42 11.9	-0.8
NSK				S	Sn	02 42 22.6	-1.5
SMLT	**Sun Moon Lake** baz=262	0.93	265	P	Pn	02 42 13.2	-0.4
SMLT				*e*S	Sn	02 42 25.8	0.0
TYC	**Yuchr** baz=264	0.96	266	P	Pn	02 42 13.7	-0.2
TYC				*e*S	Sn	02 42 26.4	0.0
YUS	**Yu-Shan** baz=232	1.00	241	P	Pn	02 42 14.6	-0.3
YUS				S	Sn	02 42 27.0	-1.1
CHKT	**Chengkung** baz=196	1.00	210	*e*P	Pn	02 42 13.1	-1.4

CHKT				eS	Sn	02 42 25.6	-1.7
	baz=196						
TWB1	**Santiao Chiao**	**1.03**	**4**	eP	**Pn**	**02 42 14.8**	**-0.1**
	baz=22						
TWB1				eS	**Sn**	**02 42 27.8**	**-0.4**
	baz=22						
NSTT	**Nanjuang**	**1.05**	**309**	P	**Pn**	**02 42 15.3**	**0.0**
	baz=309						
NSTT				S	**Sn**	**02 42 28.9**	**+0.2**
	baz=309						
NWF	**Wu-fen Shan**	**1.10**	**354**	P	**Pn**	**02 42 16.4**	**+0.4**
	baz=357						
NWF				S	**Sn**	**02 42 30.8**	**+0.8**
	baz=357						
TWQ1	**Liyutan**	**1.10**	**290**	P	**Pn**	**02 42 16.0**	**+0.1**
	baz=289						
TWQ1				S	**Sn**	**02 42 30.1**	**+0.2**
	baz=289						
ALS	**Alishan**	**1.11**	**246**	P	**Pn**	**02 42 16.2**	**0.0**
	baz=236						
ALS				S	**Sn**	**02 42 30.5**	**0.0**
	baz=236						
YOJ	**Yonaguni jima**	**1.12**	**64**	P	**Pn**	**02 42 16.1**	**0.0**
YOJ				eS	**Sn**	**02 42 30.4**	**+0.1**
WNT	**Mingjian**	**1.12**	**265**	eP	**Pn**	**02 42 16.8**	**+0.7**
	baz=263						
WNT				eS	**Sn**	**02 42 31.5**	**+1.1**
	baz=263						
ELDTW	**Lidau**	**1.13**	**226**	eP	**Pn**	**02 42 15.3**	**-1.1**
	baz=219						
ELDTW				eS	**Sn**	**02 42 28.7**	**-2.0**
	baz=219						
NSY	**Sanyi**	**1.14**	**293**	eP	**Pn**	**02 42 16.1**	**-0.3**
	baz=293						
NSY				eS	**Sn**	**02 42 30.2**	**-0.6**
	baz=293						
TCU	**Taichung**	**1.14**	**279**	eP	**Pn**	**02 42 16.6**	**+0.2**
	baz=278						
TCU				eS	**Sn**	**02 42 31.9**	**+1.2**
	baz=278						
TWS1	**Kuangyinshan**	**1.21**	**338**	eP	**Pn**	**02 42 18.1**	**+0.8**
	baz=341						
TWS1				eS	**Sn**	**02 42 32.3**	**-0.2**
	baz=341						
WGK	**Gukeng**	**1.27**	**257**	eP	**Pn**	**02 42 18.1**	**0.0**
	baz=244						
WGK				eS	**Sn**	**02 42 35.4**	**+1.5**
	baz=244						
CHN4	**Tsaushan**	**1.35**	**243**	P	**Pn**	**02 42 20.1**	**+0.8**
	baz=240						
CHN4				S	**Sn**	**02 42 37.4**	**+1.3**
	baz=240						
TWG	**Pinlang**	**1.38**	**214**	eP	**Pn**	**02 42 18.2**	**-1.5**
	baz=211						
TWG				eS	**Sn**	**02 42 34.2**	**-2.5**
	baz=211						
WTP	**Ta-pu**	**1.39**	**239**	P	**Pn**	**02 42 20.3**	**+0.4**
	baz=236						
WTP				eS	**Sn**	**02 42 38.5**	**+1.5**
	baz=236						
TWK	**Hsinying**	**1.48**	**242**	P	**Pn**	**02 42 21.4**	**+0.3**
	baz=239						
TWK				S	**Sn**	**02 42 40.6**	**+1.4**
	baz=239						
CHN1	**Nanshi**	**1.49**	**238**	P	**Pn**	**02 42 21.8**	**+0.5**
	baz=236						
CHN1				eS	**Sn**	**02 42 41.0**	**+1.5**
	baz=236						
WTCT	**Ta-ch'eng**	**1.49**	**266**	eP	**Pn**	**02 42 20.2**	**-1.0**
	baz=277						
WTCT				eS	**Sn**	**02 42 40.7**	**+1.2**
	baz=277						
SGST	**Jiashian**	**1.50**	**234**	eP	**Pn**	**02 42 22.4**	**+0.9**
	baz=231						
SGST				eS	**Sn**	**02 42 41.7**	**+1.9**
	baz=231						
ECL	**Taimali**	**1.63**	**213**	eP	**Pn**	**02 42 21.3**	**-1.8**
	baz=211						
IRIF	**Iriomote-Funau**	**1.70**	**77**	P	**Pn**	**02 42 24.0**	**-0.2**
IRIF				S	**Sn**	**02 42 44.8**	**+0.1**
HATJ	**Hateruma jima**	**1.74**	**87**	eS	**Sn**	**02 42 46.0**	**+0.5**
EAST	**Anshuo**	**1.86**	**212**	eP	**Pn**	**02 42 28.3**	**+2.0**
	baz=211						
JKRS	**Kuro-shima**	**1.94**	**82**	P	**Pn**	**02 42 28.2**	**+0.8**
JKRS				S	**Sn**	**02 42 51.9**	**+1.4**
LAY	**Lan-yu**	**1.95**	**190**	eP	**Pn**	**02 42 26.9**	**-0.7**
	baz=179						
SCZT	**Fangliau**	**1.98**	**217**	eP	**Pn**	**02 42 29.7**	**+1.7**
	baz=215						
SCZT				eS	**Sn**	**02 42 53.6**	**+2.0**
	baz=215						
JIJ	**Ishigaki jima**	**2.08**	**79**	P	**Pn**	**02 42 29.2**	**-0.1**
JIJ				S	**Sn**	**02 42 53.1**	**-0.9**
JTJ	**Tarama**	**2.63**	**75**	eS	**Sn**	**02 43 06.8**	**-0.9**

IDC 02 02:44:24.6±1.6**, 22°.93S×66°.90W, h182**km±14km**, mb3.4**/6**, mb1 3.7**/10**, mb1mx3.5**/19**, mbtmp3.6**/10**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.2**/11**, Error ellipse: s-maj=18.6km s-min=14.1km az=74.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.71**	**350**	P	Pn	02 46 02.6	+0.7
	1.9nm,0.3s,baz=165,slow=6.1,SNR=36						
LPAZ				S	Sn	02 47 17.8	-0.8
	0.3nm,0.3s,baz=329,slow=19,SNR=6.7						
CFAA	**Coronel Fontan**	**8.72**	**188**	P	Pn	02 46 29.3	+1.9
	0.1nm,0.3s,baz=21,slow=14,SNR=15						
CFAA				S	Sn	02 48 01.7	-3.2
	0.4nm,0.3s,baz=138,slow=20,SNR=13						
SIV	**San Ignacio**	**8.82**	**40**	P	Pn	02 46 27.8	-1.1
	8.7nm,0.3s,baz=225,slow=12,SNR=178						
SIV				LR	LR	02 50 38.7	
	comp=Z,48nm,20.4s,slow=42						
CPUP	**Villa Florida**	**9.34**	**113**	P	Pn	02 46 43.8	+8.3
	0.4nm,0.3s,baz=270,slow=12,SNR=3.6						
NNA	**Nana**	**14.43**	**317**	P	P	02 47 42.4	-0.2
	2.0nm,0.3s,baz=176,slow=16,SNR=7.4						
BDFB	**Brasilia**	**19.23**	**71**	P	P	02 48 35.7	+0.3
	0.9nm,0.3s,baz=250,slow=11,SNR=16						
TXAR	**Lajitas Array**	**62.87**	**324**	P	P	02 54 31.5	0.0
	0.1nm,0.5s,baz=137,slow=6.9,SNR=5.0						
DBIC	**Dimbokro**	**67.38**	**72**	P	P	02 55 01.6	+0.9
	1.2nm,0.5s,baz=216,slow=7.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**76.10**	**69**	P	P	02 55 52.1	-0.6
	1.0nm,0.4s,baz=262,slow=6.1,SNR=31						
PDAR	**Pinedale Array**	**76.28**	**329**	P	P	02 55 53.8	+0.2
	0.4nm,0.7s,baz=139,slow=7.9,SNR=4.1						
ULM	**Lac du Bonnet**	**77.25**	**341**	P	P	02 55 57.5	-0.9
	1.0nm,0.4s,baz=167,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**93.16**	**340**	P	P	02 57 17.4	-0.2
	0.1nm,0.5s,baz=132,slow=4.5,SNR=7.5						
MKAR	**Makanchi Array**	**145.64**	**39**	PKPbc	PKPbc	03 03 42.1	+0.2
	0.8nm,0.6s,baz=318,slow=3.1,SNR=10						

*IDC **02** 02:50:03.8±0.6, 3°.87N×126°.22E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/25, mbtmp4.0/14, ML5.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/35, Error ellipse: s-maj=34.7km s-min=10.7km az=76.0*

*ISCJB **02** 02:50:07.7±0.5, 3°.88N±0°.04×126°.6E±0°.1, h45km, mb4.0/14, MS3.0/3, Error ellipse: s-maj=17.3km s-min=6.0km az=174.2*

*AUST **02** 02:50:47.0, 2°.00N×127°.00E, h300km*

ISC 02 02:50:09.8±0.6**, 3°.87N**±0°.06**×126°.6E**±0°.2**, h45**km**, n32, σ1s12**/27**, mb4.1**/14**, MS3.1**/3**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.33**	**343**	Sn	**Sn**	**02 51 36.2**	**-1.6**
	21nm,0.3s,baz=60,slow=20,SNR=2.7						
CTBH	**Cotabato--PC H**	**4.06**	**325**	⇑iP	Pn	02 51 15.1	+5.6
TGY	**Tagaytay City**	**11.59**	**332**	Pn	Pn	02 52 47.9	-4.9
	62nm,0.3s,baz=170,slow=12,SNR=2.4						
WSI	**Waingapu**	**14.83**	**205**	S	**Sn**	**02 56 21.4**	**+1.5**
	baz=13,SNR=3.8						
MTN	**Manton Dam**	**17.21**	**165**	P	**Pn**	**02 54 04.8**	**-2.1**
	baz=15,SNR=11						
KDU	**Kakadu**	**17.46**	**160**	P	**Pn**	**02 54 09.1**	**-1.0**
	baz=16,SNR=5.7						
GUMO	**Guam**	**20.48**	**61**	LR	LR	03 02 23.9	
	comp=Z,70nm,18.3s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**21.85**	**182**	P	**P**	**02 54 58.4**	**-0.3**
	3.0nm,0.5s,baz=11,slow=7.5,SNR=14						
FITZ	**Fitzroy Crossi**	**21.85**	**182**	P	**P**	**02 54 59.2**	**+0.6**
	baz=20,SNR=5.2						
WRA	**Warramunga Arr**	**24.86**	**162**	P	**P**	**02 55 27.3**	**-1.0**
	3.2nm,0.5s,baz=334,slow=11,SNR=53						
WRA				S	S	02 59 58.6	+10
	0.4nm,0.6s,baz=343,slow=13,SNR=6.1						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**02 55 58.5**	**-0.7**
	0.8nm,0.5s,baz=344,slow=6.8,SNR=10						
MEEK	**Meekatharra**	**31.29**	**194**	P	**P**	**02 56 26.0**	**+0.3**
	baz=30,SNR=6.6						
KSRS	**Korea Array**	**33.45**	**2**	LR	LR	03 08 55.1	
	comp=Z,22nm,20.3s,baz=160,slow=34						
MJAR	**Matsushiro Arr**	**34.24**	**17**	LR	LR	03 08 14.9	
	comp=Z,44nm,19.9s,baz=40,slow=32						
QLP	**Quilpie**	**34.76**	**152**	S	S	03 01 37.6	-46
	baz=33,SNR=5.3						
KLBR	**Kellerberrin**	**36.25**	**193**	P	**P**	**02 57 09.3**	**+0.6**
	baz=35,SNR=5.5						
BBOO	**Buckleboo**	**37.57**	**167**	P	**P**	**02 57 19.9**	**0.0**
	baz=36,SNR=7.6						
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**02 57 20.4**	**-0.2**
	6.1nm,0.6s,baz=27,slow=6.8,SNR=3.1						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**02 57 26.1**	**-0.1**
	1.8nm,0.4s,baz=325,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**02 57 26.4**	**+0.2**
	baz=37,SNR=6.6						
USRK	**Ussuriysk Arra**	**40.45**	**6**	P	**P**	**02 57 44.4**	**+0.6**
	1.1nm,0.6s,baz=189,slow=7.6,SNR=3.1						
SONM	**Songino Array**	**47.12**	**342**	P	**P**	**02 58 38.1**	**+0.6**
	0.9nm,0.5s,baz=159,slow=8.2,SNR=10						
SONM				PcP	**PcP**	**03 00 10.0**	**+1.2**
	0.3nm,0.5s,baz=167,slow=4.5,SNR=2.4						
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**02 59 40.6**	**+1.5**
	1.4nm,0.5s,baz=193,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**02 59 53.3**	**-0.2**
	0.7nm,0.4s,baz=118,slow=7.6,SNR=26						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	**P**	**03 00 13.3**	**-1.1**
	0.3nm,0.3s,baz=128,slow=8.5,SNR=3.5						
AKTO	**Aktyubinsk**	**73.46**	**322**	P	**P**	**03 01 37.5**	**0.0**
	1.4nm,0.7s,baz=96,slow=10,SNR=7.8						
AKTO				PcP	**pP**	**03 01 51.7**	**+1.0**
	0.8nm,0.5s,baz=118,slow=3.7,SNR=4.0						
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**03 02 41.2**	**+0.8**
	0.2nm,0.5s,baz=243,slow=5.1,SNR=5.0						
KMBO	**Kilima Mbogo**	**89.40**	**269**	P	P	03 03 11.6	+8.7
	baz=90,SNR=4.5						
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**	**03 03 11.9**	**0.0**
	0.5nm,0.5s,baz=49,slow=6.4,SNR=5.4						
AKASG	**Malin Array Be**	**91.69**	**321**	P	**P**	**03 03 10.8**	**-1.6**
	0.4nm,0.5s,baz=70,slow=4.9,SNR=4.4						
BOSA	**Boshof**	**101.78**	**242**	P	**Pdif**	**03 03 56.0**	**-2.7**
	2.1nm,1.0s,baz=108,slow=3.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	**PKPdf**	**03 09 01.9**	**+0.1**
	0.3nm,0.6s,baz=50,slow=1.4,SNR=3.6						

NNC 02 03:27:41.0±2.2**, 42°.18N×80°.86E, h0**km**, mb3.8, mpv3.4, 6C-4D, Error ellipse: s-maj=21.0km s-min=7.1km az=151.0, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.05**	**291**	⇓Pn	Pn	03 28 30.2	-0.4
	21nm,0.4s						
KNDC				⇑Sn	Sn	03 29 08.2	+0.4
	143nm,0.7s						
TKM2	**Tokmak 2**	**3.96**	**282**	⇑Pn	Pn	03 28 42.0	-1.2
	5.8nm,0.6s						
TKM2				⇓Sn	Sn	03 29 32.7	+2.1
	36nm,0.5s						
MK31	**Makanchi Array**	**4.72**	**12**	⇑Pn	Pn	03 28 53.7	+0.2
	3.3nm,0.7s,baz=197,slow=12,SNR=112						
MK31				⇓Pg	Pb	03 29 05.8	+1.1
	2.6nm,0.6s,baz=196,slow=17,SNR=4.5						
MK31				⇓Sn	Sn	03 29 50.9	+1.9
	10.0nm,0.8s,baz=176,slow=13,SNR=19						
MK31				⇑Lg	Lg	03 30 09.0	
	12nm,0.7s,baz=191,slow=26,SNR=4.2						
KK31	**Karatay Array**	**7.68**	**280**	⇑Pn	Pn	03 29 36.1	+2.0
	1.2nm,0.7s,baz=94,slow=13,SNR=7.3						
KK31				⇑Lg	Lg	03 31 43.1	
	1.4nm,0.5s,baz=103,slow=23,SNR=5.3						

*IDC **02** 03:31:45.9±1.1, 39°.00N×71°.64E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.4/30, mbtmp3.5/8, ML3.4/4, Error ellipse: s-maj=24.8km s-min=13.4km az=138.0*

*ISCJB **02** 03:31:49.3±0.9, 39°.04N±0°.08×71°.27E±0°.09, h34km, mb3.4/4, Error ellipse: s-maj=11.8km s-min=9.2km az=142.7*

*NNC **02** 03:31:52.8±5.8, 39°.42N×71°.62E, h9km±26km, mb3.7, mpv3.5, Error ellipse: s-maj=37.5km s-min=21.4km az=165.0*

ISC 02 03:31:51.3±1.1**, 39°.1N**±0°.1**×71°.48E**±0°.10**, h34**km**, n20, σ1s36**/22**, mb3.5**/4**, 5C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.48**	**28**	P	**Pn**	**03 32 44.9**	**+1.5**
	SNR=47						
EKS2	**Erkin-Say**	**3.98**	**25**	P	**Pn**	**03 32 51.9**	**+2.0**
	SNR=10						
KK31	**Karatay Array**	**4.08**	**350**	Pn	**Pn**	**03 32 52.5**	**+1.3**
	3.9nm,0.3s,baz=11,slow=7.9,SNR=73						
KK31				⇑Sn	**Sn**	**03 33 38.0**	**+0.2**
	3.4nm,0.3s,baz=168,slow=23,SNR=4.2						
KK31				⇓Lg	Lg	03 33 53.3	
	5.0nm,0.3s,baz=169,slow=32,SNR=6.0						
KZA	**Kyzart**	**4.15**	**43**	P	**Pn**	**03 32 53.6**	**+1.1**
	SNR=32						
AAK	**Ala-Archa**	**4.22**	**32**	Pn	**Pn**	**03 32 55.0**	**+1.7**
	4.1nm,0.3s,baz=236,slow=11,SNR=23						
AAK				Sn	Sn	03 33 47.1	+5.6
	1.6nm,0.3s,baz=340,slow=23,SNR=3.5						
AAK	**Ala-Archa**	**4.22**	**32**	P	**Pn**	**03 32 54.9**	**+1.6**
	SNR=13						
KBK	**Karagaybulak**	**4.43**	**35**	P	**Pn**	**03 32 58.4**	**+2.1**
	SNR=8.2						
CHMS	**Chumysh**	**4.63**	**31**	P	**Pn**	**03 33 00.6**	**+1.8**
	SNR=6.5						
USP	**Ospenovka**	**4.76**	**28**	P	**Pn**	**03 33 01.8**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**4.94**	**38**	⇓Pn	**Pn**	**03 33 03.6**	**+0.4**
	4.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 33 57.1**	**-2.2**
	6.4nm,0.8s						
TKM2				⇑Lg	Lg	03 34 17.7	
	5.6nm,0.7s						
TKM2	**Tokmak 2**	**4.94**	**38**	P	**Pn**	**03 33 04.5**	**+1.3**
	SNR=13						
MKAR	**Makanchi Array**	**11.05**	**42**	Pn	**Pn**	**03 34 27.8**	**+1.0**
	0.0nm,0.3s,baz=239,slow=14,SNR=3.2						
AB31	**Akbulak array**	**13.09**	**325**	⇑P	**Pn**	**03 34 53.1**	**-1.6**
	0.4nm,0.3s,baz=134,slow=14,SNR=38						
AKTO	**Aktyubinsk**	**14.81**	**324**	Pn	**Pn**	**03 35 17.7**	**-0.4**
	0.3nm,0.3s,baz=113,slow=13,SNR=3.1						
AKTO	**Aktyubinsk**	**14.81**	**324**	⇑P	**Pn**	**03 35 17.2**	**-0.9**
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**17.43**	**27**	P	**Pn**	**03 35 51.4**	**-0.1**
	0.3nm,0.3s,baz=210,slow=10,SNR=7.3						
ESDC	**Sonseca Array**	**56.61**	**297**	P	**P**	**03 41 30.4**	**-0.4**
	0.2nm,0.5s,baz=52,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**66.17**	**268**	P	**P**	**03 42 36.3**	**+0.6**
	0.2nm,0.5s,baz=55,slow=5.7,SNR=15						
YKA	**Yellowknife Ar**	**78.65**	**3**	P	**P**	**03 43 49.3**	**0.0**
	0.2nm,0.4s,baz=351,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**83.05**	**122**	P	**P**	**03 44 13.1**	**-0.3**
	0.3nm,0.8s,baz=327,slow=4.9,SNR=3.9						

*MOS **02** 04:06:20.4±1.3, 54°.70N×161°.85E, h8km, mb4.2/3, Error ellipse: s-maj=18.2km s-min=8.2km az=81.7*

*KRSC **02** 04:06:20.2±0.3, 54°.76N×161°.74E, h5km±5km, ML4.0*

*ISCJB **02** 04:06:21.6±0.6, 54°.68N±0°.02×161°.83E±0°.05, h13km±3km, mb3.7/7, Error ellipse: s-maj=5.0km s-min=2.5km az=15.4*

*IDC **02** 04:06:21.4±0.9, 54°.79N×161°.83E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.6/30, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=23.9km s-min=15.4km az=170.0*

ISC 02 04:06:22.0±0.9**, 54°.76N**±0°.02**×161°.74E**±0°.03**, h9**km±6km**, n52, σ1s11**/94**, mb3.8**/7**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.20**	**182**	PN	**Pg**	**04 06 26.0**	**-0.2**
MKZ				S	**Sg**	**04 06 29.8**	**+0.8**
MKZ	**Mys Kozlova**	**0.20**	**182**	P	**Pg**	**04 06 26.0**	**-0.2**
MKZ				iS	**Sg**	**04 06 29.8**	**+0.8**
TUMR	**Tumrok**	**1.06**	**300**	eP	**Pg**	**04 06 40.8**	**-1.6**
TUMR				iS	**Sg**	**04 06 56.2**	**+0.1**
KMNR	**Kamenistaya**	**1.32**	**320**	P	**Pn**	**04 06 46.1**	**-0.6**
KMNR				iS	**Sg**	**04 07 04.9**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.33**	**334**	eP	**Pn**	**04 06 46.1**	**-0.7**
BZGR				iS	**Sg**	**04 07 05.5**	**+0.8**
ZLN	**Zelenaya**	**1.37**	**337**	eP	**Pb**	**04 06 47.2**	**-0.6**
ZLN				iS	**Sg**	**04 07 06.8**	**+0.7**
BZMR	**Bezymyannaya**	**1.38**	**329**	eP	**Pn**	**04 06 47.0**	**-0.5**
BZMR				iS	**Sg**	**04 07 07.0**	**+0.6**
BZWR	**Bezymyannyi-We**	**1.40**	**330**	eP	**Pn**	**04 06 47.4**	**-0.5**
BZWR				iS	**Sg**	**04 07 07.6**	**+0.5**
KIRR	**Kirishev**	**1.44**	**327**	eP	**Pn**	**04 06 48.1**	**-0.2**
KIRR				iS	**Sg**	**04 07 08.9**	**+0.6**
LGNR	**Loginova**	**1.46**	**336**	P	**Pb**	**04 06 49.0**	**-0.4**
LGNR				iS	**Sg**	**04 07 09.6**	**+0.7**
CIRR	**Tsirk**	**1.47**	**338**	eP	**Pb**	**04 06 49.1**	**-0.5**
CIRR				iS	**Sg**	**04 07 10.4**	**+1.0**
KPT	**Kopyto**	**1.49**	**325**	eP	**Pb**	**04 06 49.2**	**-0.7**
KPT				iS	**Sg**	**04 07 11.1**	**+1.2**
KII	**Karymskiy**	**1.52**	**243**	eP	**Pn**	**04 06 47.8**	**-1.6**
KII				iS	**Sn**	**04 07 07.6**	**-1.8**
KBTR	**Krutoberegovo**	**1.58**	**22**	PN	**Pb**	**04 06 50.8**	**-0.5**
KBTR				S	**Sg**	**04 07 13.5**	**+0.8**
KBTR	**Krutoberegovo**	**1.58**	**22**	P	**Pb**	**04 06 50.8**	**-0.5**
KBTR				iS	**Sg**	**04 07 13.5**	**+0.8**
KBG	**Krutoberegovo**	**1.60**	**20**	PN	**Pb**	**04 06 51.2**	**-0.4**
KBG				S	**Sg**	**04 07 14.4**	**+1.1**
KBG	**Krutoberegovo**	**1.60**	**20**	eP	**Pb**	**04 06 51.2**	**-0.4**
KBG				iS	**Sg**	**04 07 14.4**	**+1.1**
KRSR	**Krestovskiy**	**1.61**	**336**	eP	**Pn**	**04 06 50.3**	**-0.3**
KRSR				iS	**Sb**	**04 07 12.2**	**-0.1**
KLY	**Klyuchi**	**1.68**	**339**	PN	**Pn**	**04 06 51.0**	**-0.4**
KLY				S	**Sb**	**04 07 13.9**	**-0.2**
KLY	**Klyuchi**	**1.68**	**339**	eP	**Pn**	**04 06 51.0**	**-0.4**
KLY				iS	**Sb**	**04 07 13.9**	**-0.2**
KOZR	**Kozyr**	**1.68**	**322**	PN	**Pb**	**04 06 52.2**	**-0.9**
KOZR				S	**Sg**	**04 07 15.7**	**-0.3**
KOZ	**Kozyrevsk**	**1.68**	**321**	eP	**Pb**	**04 06 52.2**	**-0.9**
KOZ				iS	**Sg**	**04 07 15.7**	**-0.4**
SMKR	**Semkarok**	**1.83**	**355**	eP	**Pn**	**04 06 54.0**	**+0.3**
SMKR				iS	**Sb**	**04 07 18.8**	**0.0**
BDR	**Baidarnaya**	**1.84**	**351**	eP	**Pb**	**04 06 54.5**	**-1.3**
BDR				iS	**Sg**	**04 07 20.0**	**-1.1**
SRKR	**Sorokina**	**1.93**	**351**	eP	**Pb**	**04 06 55.6**	**-1.7**
SRKR				iS	**Sb**	**04 07 21.1**	**-0.3**
SRDR	**Sredinnyy**	**1.94**	**324**	eP	**Pn**	**04 06 55.8**	**+0.7**
SRDR				iS	**Sb**	**04 07 21.7**	**-0.1**
ESO	**Esso**	**2.09**	**305**	PN	**Pn**	**04 06 56.6**	**-0.6**
ESO				S	**Sn**	**04 07 23.5**	**+0.1**
ESO	**Esso**	**2.09**	**305**	eP	**Pn**	**04 06 56.6**	**-0.6**
ESO				iS	**Sn**	**04 07 23.5**	**+0.1**
SDLR	**Sedlovina**	**2.25**	**230**	P	**Pn**	**04 06 58.8**	**-0.6**
SDLR				iS	**Sn**	**04 07 26.5**	**-0.8**
KRER	**Koryakskii**	**2.29**	**232**	eP	**Pn**	**04 06 59.7**	**-0.4**
KRER				iS	**Sn**	**04 07 28.1**	**-0.3**
SMAR	**Somma**	**2.29**	**230**	eP	**Pn**	**04 06 59.5**	**-0.6**
SMAR				iS	**Sn**	**04 07 27.9**	**-0.6**
AVH	**Avacha**	**2.32**	**231**	P	**Pn**	**04 07 00.6**	**+0.2**
AVH				iS	**Sn**	**04 07 29.9**	**+0.9**
UGLR	**Uglovaya**	**2.32**	**229**	eP	**Pn**	**04 07 00.0**	**-0.4**
UGLR				iS	**Sn**	**04 07 28.4**	**-0.7**
KOK	**Koryaka**	**2.35**	**233**	eP	**Pn**	**04 07 00.1**	**-0.7**
KOK				iS	**Sn**	**04 07 28.9**	**-0.9**
PET	**Petropavlovsk**	**2.52**	**228**	ePN	**Pn**	**04 07 03.1**	**0.0**
PET				eS	**Sn**	**04 07 31.8**	**-2.1**
PET				pmax	pmax		
	comp=Z,59nm,0.4s						
PET				smax	smax		
	comp=E,360nm,0.5s						
PET	**Petropavlovsk**	**2.52**	**228**	eP	**Pn**	**04 07 02.3**	**-0.8**
PET				iS	**Sn**	**04 07 32.6**	**-1.3**
PETK	**Petropavlovsk-**	**2.91**	**237**	Pn	**Pn**	**04 07 10.2**	**+1.9**
	comp=E,6.1nm,0.3s,baz=93,slow=18,SNR=31						
PETK				Sn	**Sn**	**04 07 45.7**	**+2.3**
	comp=E,5.4nm,0.3s,baz=274,slow=33,SNR=6.3						
PETK	**Petropavlovsk-**	**2.91**	**237**	PN	**Pn**	**04 07 10.3**	**+1.9**
PETK						04 07 45.7	
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
RUS	**Russkaya**	**3.02**	**221**	PN	**Pn**	**04 07 09.0**	**-0.9**
RUS	**Russkaya**	**3.02**	**221**	P	**Pn**	**04 07 09.0**	**-0.9**
RUS				iS	**Sn**	**04 07 44.3**	**-1.9**
MTVR	**Mutnovka**	**3.11**	**224**	eP	**Pn**	**04 07 10.9**	**-0.4**
MTVR				iS	**Sn**	**04 07 48.1**	**-0.6**
APC	**Apacha**	**3.28**	**238**	eP	**Pn**	**04 07 14.8**	**+1.3**
APC				iS	**Sn**	**04 07 54.5**	**+2.0**
ASAK	**Asacha**	**3.30**	**225**	eP	**Pn**	**04 07 14.5**	**+0.6**
ASAK				iS	**Sn**	**04 07 54.0**	**+0.7**
FX1	**Attu Island--F**	**7.02**	**101**	Pn	**Pn**	**04 08 04.3**	**-0.5**
	comp=N,2.3nm,0.3s,baz=28,slow=12,SNR=9.7						
FX1				Sn	**Sn**	**04 09 19.3**	**-5.4**
	comp=N,2.4nm,0.3s,baz=141,slow=21,SNR=6.1						
MJAR	**Matsushiro Arr**	**24.35**	**231**	P	**P**	**04 11 41.1**	**+1.1**
	comp=N,0.9nm,0.3s,baz=24,slow=7.6,SNR=2.7						
ILAR	**Eielson Array**	**26.96**	**48**	P	**P**	**04 12 02.3**	**-1.1**
	comp=N,0.3nm,0.5s,baz=258,slow=6.9,SNR=4.3						
YKA	**Yellowknife Ar**	**41.28**	**44**	P	**P**	**04 14 06.7**	**-0.3**
	comp=N,0.0nm,0.4s,baz=299,slow=8.2,SNR=3.7						
SPITS	**Spitsbergen Ar**	**45.65**	**351**	P	**P**	**04 14 44.1**	**+2.0**
	comp=N,2.4nm,0.8s,baz=326,slow=10,SNR=5.4						
NVAR	**Mina Array Bea**	**54.28**	**72**	P	**P**	**04 15 50.7**	**+2.3**
	comp=N,0.7nm,0.7s,baz=298,slow=7.2,SNR=3.7						
PDAR	**Pinedale Array**	**55.87**	**63**	P	**P**	**04 16 00.6**	**+0.7**
	comp=N,0.5nm,0.9s,baz=287,slow=3.7,SNR=2.6						
FINES	**FINESS Array B**	**58.97**	**337**	P	**P**	**04 16 20.3**	**-0.8**
	comp=N,2.7nm,1.0s,baz=44,slow=5.8,SNR=3.5						
TXAR	**Lajitas Array**	**69.10**	**69**	P	**P**	**04 17 29.0**	**+0.6**
	comp=N,0.2nm,0.5s,baz=301,slow=4.9,SNR=10.0						

IDC 02 04:06:41.7±6.1**, 14°.89S×176°.90W, h293**km±123km**, mb3.2**/3**, mb1 3.5**/4**, mb1mx3.1**/20**, mbtmp3.3**/4**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.9**/5**, Error ellipse: s-maj=281.5km s-min=24.0km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.06**	**80**	P	Pn	04 07 59.7	0.0
	5.1nm,0.3s,baz=338,slow=17,SNR=8.6						
RAR	**Rarotonga**	**17.45**	**114**	LR	LR	04 15 27.0	
	comp=Z,72nm,21.4s,baz=267,slow=30						
WRA	**Warramunga Arr**	**46.67**	**257**	P	P	04 14 41.9	-0.1
	0.8nm,0.5s,baz=90,slow=7.6,SNR=36						
ASAR	**Alice Springs**	**47.06**	**251**	P	P	04 14 44.7	-0.2
	2.2nm,0.5s,baz=87,slow=8.0,SNR=41						
ILAR	**Eielson Array**	**82.64**	**12**	P	P	04 18 32.0	0.0
	0.2nm,0.4s,baz=211,slow=5.2,SNR=5.6						

*BEO **02** 04:15:04.1±0.8, 45°.66N×27°.64E, h0km, ML3.4/5*

*ISCJB **02** 04:15:07.9±0.3, 45°.58N±0°.02×27°.51E±0°.03, h32km±3km, mb3.5/9, Error ellipse: s-maj=3.7km s-min=3.1km az=164.0*

*BUC **02** 04:15:07.8±0.6, 45°.59N×27°.57E, h22km±12km, MD4.2/2, Error ellipse: s-maj=6.4km s-min=5.6km az=46.0*

*CSEM **02** 04:15:07.9±0.1, 45°.58N×27°.53E, h19km, MD4.2/2, Error ellipse: s-maj=3.1km s-min=2.4km az=67.0*

*IDC **02** 04:15:07.7±0.8, 45°.63N×27°.55E, h20km±4km, mb3.5/9, mb1 3.6/14, mb1mx3.5/29, mbtmp3.5/14, ML3.7/5, Error ellipse: s-maj=13.0km s-min=7.9km az=158.0*

ISC 02 04:15:07.5±0.6**, 45°.60N**±0°.02**×27°.57E**±0°.02**, h23**km±4km**, n176, σ1s04**/213**, mb3.5**/9**, 42C-36D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETR		**0.27**	**299**	⇑iP	**Pb**	**04 15 14.0**	**+0.1**
PETR				iS	**Sb**	**04 15 19.5**	**+1.2**
PETR		**0.27**	**299**	⇑iP	**Pb**	**04 15 14.0**	**+0.1**
PETR		**0.27**	**299**	S	**Sb**	**04 15 19.5**	**+1.2**
PETR		**0.27**	**299**	⇑iP	**Pb**	**04 15 14.0**	**+0.1**
PETR				iS	**Sb**	**04 15 19.5**	**+1.2**
ODBI	**Odobesti**	**0.40**	**295**	⇓iP	**Pb**	**04 15 16.4**	**+0.5**
ODBI				iS	**Sb**	**04 15 22.3**	**+0.6**
ODBI	**Odobesti**	**0.40**	**295**	⇓iP	**Pb**	**04 15 16.4**	**+0.5**
ODBI	**Odobesti**	**0.40**	**295**	S	**Sb**	**04 15 22.3**	**+0.6**
ODBI	**Odobesti**	**0.40**	**295**	⇓iP	**Pb**	**04 15 16.4**	**+0.5**
ODBI				iS	**Sb**	**04 15 22.3**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRER		0.47	243	⇑iP	Pn	04 15 18.4	-0.4
GRER				iS	Sn	04 15 25.2	-1.2
GRER		0.47	243	⇑iP	Pn	04 15 18.4	-0.4
GRER		0.47	243	S	Sn	04 15 25.2	-1.2
GRER		0.47	243	⇑iP	Pn	04 15 18.4	-0.4
CFR	Carcaliu	0.58	136	⇑iP	Pb	04 15 18.9	-0.1
CFR				iS	Sn	04 15 27.3	-1.7
CFR	Carcaliu	0.58	136	⇑iP	Pb	04 15 18.9	-0.1
CFR	Carcaliu	0.58	136	S	Sn	04 15 27.3	-1.7
CFR	Carcaliu	0.58	136	⇑iP	Pb	04 15 18.9	-0.1
CFR				iS	Sn	04 15 27.3	-1.7
VRI	Vrincioaia	0.65	295	⇑iP	Pb	04 15 20.0	-0.2
VRI				iS	Sb	04 15 29.0	+0.1
VRI	Vrincioaia	0.65	295	⇑iP	Pb	04 15 20.0	-0.2
VRI	Vrincioaia	0.65	295	S	Sb	04 15 29.0	+0.1
VRI	Vrincioaia	0.65	295	⇑iP	Pb	04 15 20.0	-0.2
VRI				iS	Sb	04 15 29.0	+0.1
PLOR	Plostina	0.69	292	⇑iP	Pb	04 15 20.9	-0.1
PLOR				iS	Sn	04 15 31.7	-0.3
PLOR	Plostina	0.69	292	⇑iP	Pb	04 15 20.9	-0.1
PLOR	Plostina	0.69	292	S	Sn	04 15 31.7	-0.3
PLOR	Plostina	0.69	292	⇑iP	Pb	04 15 20.9	-0.1
PLOR				iS	Sn	04 15 31.7	-0.3
PGOR	Pogoanele	0.80	211	⇓iP	Pn	04 15 23.4	+0.1
PGOR	Pogoanele	0.80	211	⇓iP	Pn	04 15 23.4	+0.1
PGOR	Pogoanele	0.80	211	⇓iP	Pn	04 15 23.4	+0.1
ISR	Istrita	0.87	237	iS	Sn	04 15 35.6	-0.6
ISR	Istrita	0.87	237	S	Sn	04 15 35.6	-0.6
ISR	Istrita	0.87	237	iS	Sn	04 15 35.6	-0.6
TLCR		0.97	115	⇓iP	Pn	04 15 26.4	+0.8
TLCR				iS	Sn	04 15 40.7	+2.0
TLCR		0.97	115	⇓iP	Pn	04 15 26.4	+0.8
TLCR		0.97	115	S	Sn	04 15 40.7	+2.0
TLCR		0.97	115	⇓iP	Pn	04 15 26.4	+0.8
TLCR				iS	Sn	04 15 40.7	+2.0
AMRR	Amara	1.00	190	⇑iP	Pn	04 15 26.4	+0.4
AMRR				iS	Sn	04 15 40.5	+1.1
AMRR	Amara	1.00	190	⇑iP	Pn	04 15 26.4	+0.4
AMRR	Amara	1.00	190	S	Sn	04 15 40.5	+1.1
AMRR	Amara	1.00	190	⇑iP	Pn	04 15 26.4	+0.4
AMRR				iS	Sn	04 15 40.5	+1.1
LEOM	Leova	1.00	28	⇑iP	Pn	04 15 26.5	+0.4
LEOM				iS	Sn	04 15 39.8	+0.4
LEOM	Leova	1.00	28	⇑iP	Pn	04 15 26.5	+0.4
LEOM	Leova	1.00	28	S	Sn	04 15 39.8	+0.4
LEOM	Leova	1.00	28	⇑iP	Pn	04 15 26.5	+0.4
LEOM				iS	Sn	04 15 39.8	+0.4
TESR		1.12	325	⇓iP	Pn	04 15 27.6	-0.2
TESR				iS	Sn	04 15 43.0	+0.6
TESR		1.12	325	⇓iP	Pn	04 15 27.6	-0.2
TESR		1.12	325	S	Sn	04 15 43.0	+0.6
TESR		1.12	325	⇓iP	Pn	04 15 27.6	-0.2
TESR				iS	Sn	04 15 43.0	+0.6
MLR	Muntele Rosu	1.15	265	Pg	Pb	04 15 29.2	+0.5
	9.5nm,0.3s,baz=132,slow=16,SNR=1253						
MLR				Lg	Lg	04 15 47.1	
	20nm,0.3s,baz=178,slow=7.6,SNR=11						
MLR	Muntele Rosu	1.15	265	⇑iP	Pb	04 15 29.3	+0.6
MLR	Muntele Rosu	1.15	265	⇑iP	Pb	04 15 29.3	+0.6
MLR	Muntele Rosu	1.15	265	⇑iP	Pb	04 15 29.3	+0.6
SECR		1.20	243	⇑iP	Pb	04 15 30.3	+0.8
SECR		1.20	243	⇑iP	Pb	04 15 30.3	+0.8
SECR		1.20	243	⇑iP	Pb	04 15 30.3	+0.8
TIRR	Tirgusor	1.28	152	⇓iP	Pb	04 15 30.1	-0.9
TIRR				iS	Sb	04 15 47.5	+0.5
TIRR	Tirgusor	1.28	152	⇓iP	Pb	04 15 30.1	-0.9
TIRR	Tirgusor	1.28	152	S	Sb	04 15 47.5	+0.5
TIRR	Tirgusor	1.28	152	⇓iP	Pb	04 15 30.1	-0.9
TIRR				iS	Sb	04 15 47.5	+0.5
SULR		1.30	226	iS	Sb	04 15 49.4	+1.8
SULR		1.30	226	S	Sb	04 15 49.4	+1.8
SULR		1.30	226	iS	Sb	04 15 49.4	+1.8
CVD	Cernavoda	1.32	165	⇓iP	Pb	04 15 31.1	-0.5
CVD				iS	Sb	04 15 48.5	+0.4
CVD	Cernavoda	1.32	165	⇓iP	Pb	04 15 31.1	-0.5
CVD	Cernavoda	1.32	165	S	Sb	04 15 48.5	+0.4
CVD	Cernavoda	1.32	165	⇓iP	Pb	04 15 31.1	-0.5
CVD				iS	Sb	04 15 48.5	+0.4
IAS	Iasi	1.60	360	⇑iP	Pb	04 15 35.7	-0.6
IAS				iS	Sb	04 15 56.7	+0.6
IAS	Iasi	1.60	360	⇑iP	Pb	04 15 35.7	-0.6
IAS	Iasi	1.60	360	S	Sb	04 15 56.7	+0.6
IAS	Iasi	1.60	360	⇑iP	Pb	04 15 35.7	-0.6
IAS				iS	Sb	04 15 56.7	+0.6
KIS	Kishinev	1.65	31	iP	Pb	04 15 37.0	-0.2
	600nm,0.6s						
KIS				iS	Sb	04 15 57.0	-0.6
	5μm,1.0s						
KIS	Kishinev	1.65	31	⇓iP	Pb	04 15 36.7	-0.5
KIS				iS	Sb	04 15 58.1	+0.6
KIS	Kishinev	1.65	31	⇓iP	Pb	04 15 36.7	-0.5
KIS	Kishinev	1.65	31	S	Sb	04 15 58.1	+0.6
KIS	Kishinev	1.65	31	⇓iP	Pb	04 15 36.7	-0.5
KIS				iS	Sb	04 15 58.1	+0.6
CIOR	Ciorogarla	1.66	227	⇓iP	Pb	04 15 35.9	-1.4
CIOR				iS	Sb	04 15 59.1	+1.3
CIOR	Ciorogarla	1.66	227	⇓iP	Pb	04 15 35.9	-1.4
CIOR	Ciorogarla	1.66	227	S	Sb	04 15 59.1	+1.3
CIOR	Ciorogarla	1.66	227	⇓iP	Pb	04 15 35.9	-1.4
BUC1	Bucharest	1.66	222	⇑iP	Pn	04 15 35.0	-0.1
BUC1	Bucharest	1.66	222	⇑iP	Pn	04 15 35.0	-0.1
BUC1	Bucharest	1.66	222	⇑iP	Pn	04 15 35.0	-0.1
EFOR	EFORIE	1.69	153	iS	Sb	04 15 58.9	+0.1
EFOR	EFORIE	1.69	153	S	Sb	04 15 58.9	+0.1
EFOR	EFORIE	1.69	153	iS	Sb	04 15 58.9	+0.1
VOIR		1.78	266	⇑iP	Pn	04 15 37.8	+0.9
VOIR				iS	Sb	04 16 02.4	+1.1
VOIR		1.78	266	⇑iP	Pn	04 15 37.8	+0.9
VOIR		1.78	266	S	Sb	04 16 02.4	+1.1
VOIR		1.78	266	⇑iP	Pn	04 15 37.8	+0.9
MANR	Mangalia	1.92	157	⇑iP	Pn	04 15 39.6	+0.9
MANR	Mangalia	1.92	157	⇑iP	Pn	04 15 39.6	+0.9
MANR	Mangalia	1.92	157	⇑iP	Pn	04 15 39.6	+0.9
PRAR	RASCA	2.00	333	⇓iP	Pb	04 15 41.2	-1.9
PRAR	RASCA	2.00	333	⇓iP	Pb	04 15 41.2	-1.9
PRAR	RASCA	2.00	333	⇓iP	Pb	04 15 41.2	-1.9
MDB	Medias	2.29	285	⇑iP	Pn	04 15 44.9	+1.0
MDB	Medias	2.29	285	⇑iP	Pn	04 15 44.9	+1.0
MDB	Medias	2.29	285	⇑iP	Pn	04 15 44.9	+1.0
BURAR	Bucovina Array	2.59	322	⇓iP	Pn	04 15 49.9	+1.8
BURAR	Bucovina Array	2.59	322	⇓iP	Pn	04 15 49.9	+1.8
BURAR	Bucovina Array	2.59	322	⇓iP	Pn	04 15 49.9	+1.8
DRGR		3.58	291	⇓iP	Pn	04 16 02.0	+0.4
DRGR				iS	Sn	04 16 44.8	+1.6
DRGR		3.58	291	⇓iP	Pn	04 16 02.0	+0.4
DRGR		3.58	291	S	Sn	04 16 44.8	+1.6
DRGR		3.58	291	⇓iP	Pn	04 16 02.0	+0.4
DRGR				iS	Sn	04 16 44.8	+1.6
PLD	Plovdiv	4.06	212	P	Pn	04 16 08.4	+0.3
PLD	Plovdiv	4.06	212	P	Pn	04 16 08.4	+0.3
BZS	Buzias	4.18	272	⇓iP	Pn	04 16 10.9	+1.1
BZS	Buzias	4.18	272	⇓iP	Pn	04 16 10.9	+1.1
BZS	Buzias	4.18	272	ePn	Pn	04 16 09.9	+0.1
BZS	Buzias	4.18	272	ePn	Pn	04 16 09.9	+0.1
BZS	Buzias	4.18	272	⇓iP	Pn	04 16 10.9	+1.1
ZAPS	Zavoj	4.23	238	ePn	Pn	04 16 10.0	-0.5
ZAPS				eSn	Sn	04 17 01.0	+1.8
ZAPS	Zavoj	4.23	238	ePn	Pn	04 16 10.0	-0.5
ZAPS				eSn	Sn	04 17 01.0	+1.8
VTS	Vitosha	4.34	228	P	Pn	04 16 12.1	-0.2
VTS	Vitosha	4.34	228	ePn	Pn	04 16 12.0	-0.2
VTS				eSg	Sb	04 17 23.9	+8.7
VTS	Vitosha	4.34	228	P	Pn	04 16 12.1	-0.2
VTS				eSg	Sb	04 17 23.9	+8.7
BOLS	Boljevac	4.38	248	ePn	Pn	04 16 12.4	-0.1
BOLS				eSg	Sb	04 17 25.0	+9.1
BOLS	Boljevac	4.38	248	ePn	Pn	04 16 12.4	-0.1
BOLS				eSg	Sb	04 17 25.0	+9.1
ALN	Alexandroupoli	4.83	194	P	Pn	04 16 18.9	+0.2
ALN	Alexandroupoli	4.83	194	P	Pn	04 16 18.9	+0.2
KOLS	Kolonicke sedl	4.91	315	ePN	Pn	04 16 21.1	+1.2
KOLS	Kolonicke sedl	4.91	315	ePn	Pn	04 16 21.1	+1.2
BARS	Barje	4.98	238	ePn	Pn	04 16 21.6	+0.8
BARS				eSg	Sb	04 17 45.5	+12
BARS	Barje	4.98	238	ePn	Pn	04 16 21.6	+0.8
BARS				eSg	Sb	04 17 45.5	+12
NVR	Nevrokopi	5.03	214	P	Pn	04 16 21.9	+0.4
NVR	Nevrokopi	5.03	214	P	Pn	04 16 21.9	+0.4
KAVA	Kavala	5.11	207	P	Pn	04 16 23.1	+0.5
KAVA	Kavala	5.11	207	P	Pn	04 16 23.1	+0.5
GRUS	Gruza	5.17	253	ePn	Pn	04 16 23.1	-0.3
GRUS	Gruza	5.17	253	ePn	Pn	04 16 23.1	-0.3
KWP	Kalwaria Pacla	5.21	323	eP	Pn	04 16 25.7	+1.8
KWP	Kalwaria Pacla	5.21	323	eP	Pn	04 16 25.7	+1.8
KWP	Kalwaria Pacla	5.21	323	eP	Pn	04 16 25.7	+1.8
AKASG	Malin Array Be	5.23	12	Pn	Pn	04 16 24.1	-0.1
	5.3nm,0.3s,baz=194,slow=13,SNR=19						
AKASG				Pg	Pb	04 16 40.5	+2.3
	7.7nm,0.3s,baz=186,slow=16,SNR=9.3						
AKASG				Sn	Sn	04 17 21.4	-2.3
	9.2nm,0.3s,baz=48,slow=15,SNR=5.2						
AKASG				Lg	Lg	04 17 46.0	
	43nm,0.3s,baz=190,slow=31,SNR=20						
TRUS	Trudelj	5.27	257	ePn	Pn	04 16 23.8	-1.0
TRUS	Trudelj	5.27	257	ePn	Pn	04 16 23.8	-1.0
CRVS	Cervenica-Dubn	5.31	311	ePN	Pn	04 16 25.8	+0.4
CRVS	Cervenica-Dubn	5.31	311	ePn	Pn	04 16 25.8	+0.4
SRS	Serrai	5.33	214	P	Pn	04 16 26.2	+0.5
SRS	Serrai	5.33	214	P	Pn	04 16 26.2	+0.5
KNT	Kendrikon	5.59	219	P	Pn	04 16 29.6	+0.4
KNT	Kendrikon	5.59	219	P	Pn	04 16 29.6	+0.4
DIVS	Divibare	5.59	257	ePn	Pn	04 16 27.9	-1.4
DIVS	Divibare	5.59	257	ePn	Pn	04 16 27.9	-1.4
IVAS	Ivanjica	5.67	252	ePn	Pn	04 16 29.9	-0.4
IVAS	Ivanjica	5.67	252	ePn	Pn	04 16 29.9	-0.4
SOH	Sokhos	5.68	214	P	Pn	04 16 31.2	+0.8
SOH	Sokhos	5.68	214	P	Pn	04 16 31.2	+0.8
GRG	Griva	5.97	221	P	Pn	04 16 34.8	+0.3
GRG	Griva	5.97	221	P	Pn	04 16 34.8	+0.3
PAIG	Paliouri	6.34	208	P	Pn	04 16 39.3	-0.3
PAIG	Paliouri	6.34	208	P	Pn	04 16 39.3	-0.3
FNA	Florina	6.60	225	P	Pn	04 16 43.7	+0.6
FNA	Florina	6.60	225	P	Pn	04 16 43.7	+0.6
VYHS	Vyhne	6.63	299	ePN	Pn	04 16 43.8	+0.3
VYHS	Vyhne	6.63	299	ePn	Pn	04 16 43.8	+0.3
XOR	Xorichti	7.01	209	P	Pn	04 16 48.5	-0.3
XOR	Xorichti	7.01	209	P	Pn	04 16 48.5	-0.3
BRTR	Keskin Array B	7.38	141	Pn	Pn	04 16 55.6	+1.8
	0.3nm,0.3s,baz=326,slow=13,SNR=14						
SUW	Suwalki	8.89	343	eP	Pn	04 17 13.1	-1.3
SUW	Suwalki	8.89	343	eP	Pn	04 17 13.0	-1.3
FINES	FINESS Array B	15.90	357	Pn	Pn	04 18 43.0	-6.5
	0.7nm,0.3s,baz=166,slow=12,SNR=17						
KAF	Kangasniemi	16.57	358	ep	Pn	04 18 50.9	-7.1
	1.8nm,0.6s						
HFS	Hagfors	16.74	335	Pn	Pn	04 18 56.3	-4.0
	0.5nm,0.3s,baz=146,slow=14,SNR=12						
JOF	Joensuu	17.49	6	ep	Pn	04 19 04.0	-5.6
	2.9nm,0.6s						
NB2	NORSAR Subarra	18.21	334	P	Pn	04 19 15.2	-3.3
	comp=Z,1.5nm,0.7s,baz=141,slow=12						
NOA	NORSAR Array B	18.21	334	Pn	Pn	04 19 14.1	-4.4
	comp=Z,0.3nm,0.3s,baz=150,slow=9.8,SNR=4.5						
AKTO	Aktyubinsk	20.85	66	P	P	04 19 48.0	+0.5
	comp=Z,0.8nm,0.4s,baz=260,slow=12,SNR=6.3						
ARCES	ARCESS Array B	24.03	358	P	P	04 20 19.8	-0.5
	comp=Z,0.7nm,0.4s,baz=181,slow=9.7,SNR=11						
ARCES				pP	pP	04 20 26.1	-1.1
	comp=Z,3.2nm,1.0s,baz=182,slow=11,SNR=2.0						
KEV	Kevo	24.23	360	ep	P	04 20 21.9	-0.2
	comp=Z,0.3nm,0.3s						
BVAR	Borovoye Array	28.53	59	P	P	04 21 03.0	+1.9
	comp=Z,0.1nm,0.3s,baz=270,slow=8.6,SNR=2.2						
ZALV	Zalesovo Beam	36.98	56	P	P	04 22 16.2	+1.4
	comp=Z,0.5nm,0.4s,baz=282,slow=6.8,SNR=3.3						
ZALV				pP	pP	04 22 21.7	-0.1
	comp=Z,0.6nm,0.4s,baz=280,slow=8.6,SNR=2.9						
MKAR	Makanchi Array	37.25	68	P	P	04 22 18.6	+1.5
	comp=Z,0.2nm,0.4s,baz=275,slow=8.1,SNR=5.9						
TORD	Torodi Ar. Bea	39.07	222	P	P	04 22 32.8	+0.1
	comp=Z,1.2nm,0.4s,baz=28,slow=8.8,SNR=30						
SONM	Songino Array	51.84	57	P	P	04 24 15.0	+1.3
	comp=Z,0.4nm,0.7s,baz=297,slow=13,SNR=4.4						
SONM				pP	pP	04 24 21.5	+0.5
	comp=Z,0.3nm,0.4s,baz=277,slow=9.1,SNR=3.6						
CMAR	Chiang Mai Arr	64.09	90	P	P	04 25 39.2	-0.6
	comp=Z,0.5nm,0.3s,baz=337,slow=11,SNR=3.5						
YKA	Yellowknife Ar	68.09	342	P	P	04 26 05.5	+0.7
	comp=Z,0.2nm,0.6s,baz=28,slow=6.2,SNR=5.9						
YKA				pP	pP	04 26 11.2	-1.1
	comp=Z,0.2nm,0.6s,baz=28,slow=6.1,SNR=4.8						

SKO 02 04:16:23.8, 41°.27N×22°.76E, h32km, M0.1, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAY	Valandovo	0.15	290	ePg	Pb	04 16 29.6	-0.2
VAY				eSg	Sb	04 16 36.4	+2.5
VAY				eLg	Lg	04 16 36.4	
	comp=E,15nm,0.3s						
VAY				eLg	Lg	04 16 36.5	
	comp=N,12nm,0.3s						

*SOF **02** 04:17:23.8, 40°.14N×25°.29E, h8km, MD3.0*
*ATH **02** 04:17:25.3, 40°.06N×25°.16E, h24km±2km, MD3.4/5*
*CSEM **02** 04:17:25.4±0.1, 40°.09N×25°.21E, h10km, MD3.4, Error ellipse: s-maj=2.3km s-min=1.6km az=7.0*
*ISCJB **02** 04:17:26.2±0.3, 40°.09N±0°.02×25°.23E±0°.02, h21km±4km, Error ellipse: s-maj=3.9km s-min=2.6km az=6.0*
*THE **02** 04:17:26.2, 40°.10N×25°.22E, h12km±1km, ML2.9/7, Error ellipse: s-maj=1.5km s-min=0.8km az=153.0*
*ISK **02** 04:17:27.8, 40°.08N×25°.32E, h32km, MD3.4*
*DDA **02** 04:17:29.4, 40°.11N×25°.55E, h20km, MD3.4*
ISC 02 04:17:25.9±0.8**, 40°.10N**±0°.02×**25°.24E**±0°.02**, h15**km±6km**, n109, σ0.63**/143**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.21	192	P	Pg	04 17 30.4	-0.3
LIA				S	Sg	04 17 33.9	+0.1
LIA	Limnos Island	0.21	192	ePB	Pg	04 17 30.6	-0.1
LIA				eSB	Sg	04 17 34.0	+0.1
LIA	Limnos Island	0.21	192	P	Pg	04 17 30.4	-0.3
LIA				S	Sg	04 17 33.9	+0.1
BOZC	Bozcaada	0.68	112	iP	Pg	04 17 38.6	-0.6
BOZC				iS	Sg	04 17 46.1	-2.0
EZN	Ezine	0.88	108	ePG	Pb	04 17 42.6	-0.2
EZN				eSG	Sb	04 17 54.4	0.0
EZN	Ezine	0.88	108	ePg	Pb	04 17 42.6	-0.2
EZN				eSg	Sb	04 17 54.4	0.0
ENEZ	Enez	0.94	47	ePG	Pn	04 17 44.7	+0.1
ENEZ				eSG	Sb	04 17 56.4	+0.2
ENEZ	Enez	0.94	47	ePg	Pn	04 17 44.7	+0.1
ENEZ				eSg	Sb	04 17 56.4	+0.2
OUR	Ouranopolis	0.99	284	P	Pb	04 17 44.7	0.0
OUR				S	Sg	04 17 58.2	+0.2
OUR	Ouranopolis	0.99	284	P	Pb	04 17 44.7	0.0
OUR				S	Sg	04 17 58.2	+0.2
GELI	Tayfur-Gelibol	0.99	72	ePG	Pb	04 17 44.7	-0.1
GELI				eSG	Sb	04 17 57.8	+0.2
GELI	Tayfur-Gelibol	0.99	72	eSg	Sb	04 17 57.8	+0.2
GELI	Tayfur-Gelibol	0.99	72	ePg	Pb	04 17 44.7	-0.1
ALN	Alexandroupoli	1.01	37	P	Pb	04 17 44.3	-0.7
ALN				S	Sg	04 17 58.7	+0.1
ALN	Alexandroupoli	1.01	37	P	Pb	04 17 44.3	-0.7
ALN				S	Sg	04 17 58.7	+0.1
KAVA	Kavala	1.05	329	P	Pb	04 17 45.4	-0.4
KAVA				S	Sn	04 18 00.5	+0.1
KAVA	Kavala	1.05	329	P	Pb	04 17 45.4	-0.4
KAVA				S	Sn	04 18 00.5	+0.1
ERIK	Erikli-Kesan	1.13	59	ePN	Pn	04 17 46.2	-0.9
ERIK	Erikli-Kesan	1.13	59	ePn	Pn	04 17 46.2	-0.9
PRK	Paraskevi	1.17	137	P	Pb	04 17 48.0	+0.2
PRK				S	Sg	04 18 04.0	+0.3
PRK	Paraskevi	1.17	137	P	Pb	04 17 48.0	+0.2
PRK				S	Sg	04 18 04.0	+0.3
LPK	Lapseki	1.20	76	ePN	Pn	04 17 47.7	-0.4
LPK	Lapseki	1.20	76	ePn	Pn	04 17 47.7	-0.4
PAIG	Paliouri	1.21	262	P	Pn	04 17 47.7	-0.5
PAIG				S	Sn	04 18 04.1	-0.2
PAIG	Paliouri	1.21	262	P	Pn	04 17 47.7	-0.5
PAIG				S	Sn	04 18 04.1	-0.2
AYVA	Ayvalik	1.37	125	iP	Pb	04 17 51.0	-0.2
AYVA				iS	Sb	04 18 08.7	+0.2
AYVA	Ayvalik	1.37	125	iP	Pb	04 17 51.0	-0.2
AYVA				iS	Sb	04 18 08.7	+0.2
PLG	Polygyros	1.40	282	P	Pn	04 17 50.7	-0.1
PLG				S	Sn	04 18 08.4	-0.7
PLG	Polygyros	1.40	282	ePN	Pn	04 17 50.8	-0.1
PLG				eSN	Sn	04 18 08.4	-0.7
PLG	Polygyros	1.40	282	P	Pn	04 17 50.7	-0.1
PLG				S	Sn	04 18 08.4	-0.7
AOS	Alonnisos	1.40	229	P	Pn	04 17 50.2	-0.7
AOS				S	Sb	04 18 09.9	+0.5
AOS	Alonnisos	1.40	229	S	Sb	04 18 09.9	+0.5
AOS	Alonnisos	1.40	229	P	Pn	04 17 50.2	-0.7
KDZ	Kurdzhali	1.55	5	iP	Pn	04 17 52.4	-0.6
KDZ				iSg	Sn	04 18 11.1	-1.8
KDZ	Kurdzhali	1.55	5	iP	Pn	04 17 52.4	-0.6
KDZ				iSg	Sn	04 18 11.1	-1.8
RKY	Sarkoy-Tekirda	1.59	68	ePN	Pn	04 17 53.9	+0.3
RKY	Sarkoy-Tekirda	1.59	68	ePn	Pn	04 17 53.9	+0.3
KRBG	Karabiga-Canak	1.60	79	ePN	Pn	04 17 54.0	+0.4
KRBG	Karabiga-Canak	1.60	79	ePn	Pn	04 17 54.0	+0.4
SOH	Sokhos	1.61	297	P	Pn	04 17 53.7	-0.1
SOH	Sokhos	1.61	297	ePN	Pn	04 17 53.6	-0.2
SOH				eSN	Sn	04 18 13.9	-0.3
SOH	Sokhos	1.61	297	ePn	Pn	04 17 53.6	-0.2
SOH				eSn	Sn	04 18 13.9	-0.3
SRS	Serrai	1.61	310	P	Pn	04 17 53.4	-0.4
SRS	Serrai	1.61	310	P	Pn	04 17 53.4	-0.4
NVR	Nevrokopi	1.63	320	P	Pn	04 17 53.8	-0.2
NVR	Nevrokopi	1.63	320	P	Pn	04 17 53.8	-0.2
RZN	Rozhen	1.63	346	iP	Pn	04 17 54.1	-0.2
RZN				iSg	Sn	04 18 14.3	-0.8
RZN	Rozhen	1.63	346	iP	Pn	04 17 54.1	-0.2
RZN				iSg	Sn	04 18 14.3	-0.8
MFT	Murefte	1.70	66	ePN	Pn	04 17 55.9	+0.8
MFT	Murefte	1.70	66	ePn	Pn	04 17 55.9	+0.8
HORT	Hortiatis	1.71	288	P	Pn	04 17 55.1	-0.1
HORT	Hortiatis	1.71	288	P	Pn	04 17 55.1	-0.1
NEO	Neokhori	1.74	244	ePN	Pn	04 17 55.1	-0.5
NEO	Neokhori	1.74	244	ePn	Pn	04 17 55.1	-0.5
CHOS	Chios island	1.82	159	P	Pn	04 17 56.9	+0.1
CHOS	Chios island	1.82	159	P	Pn	04 17 56.9	+0.1
BALY	Balya	1.87	100	eP	Pn	04 17 57.3	0.0
BALY				iS	Sn	04 18 21.3	+0.7
BALY	Balya	1.87	100	eP	Pn	04 17 57.3	0.0
BALY				iS	Sn	04 18 21.3	+0.7
MMB	Musomiste	1.88	323	iSg	Sb	04 18 24.7	+1.5
MMB	Musomiste	1.88	323	iSg	Sb	04 18 24.7	+1.5
GONE	Gonen-Balikesi	1.88	91	ePN	Pn	04 17 57.1	-0.3
GONE	Gonen-Balikesi	1.88	91	ePn	Pn	04 17 57.1	-0.3
MRKA	Markates	1.89	223	P	Pn	04 17 57.3	-0.3
MRKA	Markates	1.89	223	P	Pn	04 17 57.3	-0.3
DIM	Dimitrovgrad	1.96	6	iSg	Sg	04 18 28.3	-0.7
DIM	Dimitrovgrad	1.96	6	iSg	Sg	04 18 28.3	-0.7
TKR	Tekirdag	1.96	62	ePN	Pn	04 17 59.0	+0.4
TKR	Tekirdag	1.96	62	ePn	Pn	04 17 59.0	+0.4
EDC	Edincik	2.02	82	ePN	Pn	04 17 59.7	+0.3
EDC	Edincik	2.02	82	ePn	Pn	04 17 59.7	+0.3
PLD	Plovdiv	2.04	349	iSg	Sg	04 18 31.8	+0.2
PLD	Plovdiv	2.04	349	iSg	Sg	04 18 31.8	+0.2
BNT	Bandirma	2.07	82	ePN	Pn	04 17 59.9	-0.2
BNT	Bandirma	2.07	82	ePn	Pn	04 17 59.9	-0.2
KNT	Kendrikon	2.07	302	P	Pn	04 18 00.5	+0.4
KNT	Kendrikon	2.07	302	P	Pn	04 18 00.5	+0.4
LIT	Litokhoron	2.11	271	ePN	Pn	04 18 00.9	+0.3
LIT	Litokhoron	2.11	271	ePn	Pn	04 18 00.9	+0.3
LKR	Lokris	2.26	231	ePN	Pn	04 18 02.3	-0.4
LKR	Lokris	2.26	231	ePn	Pn	04 18 02.3	-0.4
GRG	Griva	2.33	292	P	Pn	04 18 04.7	+1.1
GRG	Griva	2.33	292	P	Pn	04 18 04.7	+1.1
AKS	Akhisar	2.34	121	ePN	Pn	04 18 04.7	+0.9
AKS	Akhisar	2.34	121	ePn	Pn	04 18 04.7	+0.9
KCTX	Karacabey (Bur	2.40	85	ePN	Pn	04 18 04.7	+0.1
KCTX	Karacabey (Bur	2.40	85	ePn	Pn	04 18 04.7	+0.1
SLVT	Silivri	2.53	63	ePN	Pn	04 18 07.6	+1.3
SLVT	Silivri	2.53	63	ePn	Pn	04 18 07.6	+1.3
JMB	Yambol	2.57	23	iP	Pb	04 18 13.7	+2.0
JMB				iSg	Sg	04 18 48.2	-0.4
DST	Dursunbey	2.65	100	ePN	Pn	04 18 07.9	-0.2
DST	Dursunbey	2.65	100	ePn	Pn	04 18 07.9	-0.2
DSF	Desfina	2.70	232	P	Pn	04 18 08.2	-0.5
DSF	Desfina	2.70	232	P	Pn	04 18 08.2	-0.5
CTKS	Kestanelik-??a	2.73	64	ePN	Pn	04 18 10.0	+0.9
CTKS	Kestanelik-??a	2.73	64	ePn	Pn	04 18 10.0	+0.9
MDNY	Mudanya-Bursa	2.80	83	ePN	Pn	04 18 10.8	+0.7
MDNY	Mudanya-Bursa	2.80	83	ePn	Pn	04 18 10.9	+0.7
ORLT	Orhaneli	2.81	90	ePN	Pn	04 18 10.8	+0.6
ORLT	Orhaneli	2.81	90	ePn	Pn	04 18 10.9	+0.6
ARMT	Armutlu	2.81	79	ePN	Pn	04 18 10.9	+0.7
ARMT	Armutlu	2.81	79	ePn	Pn	04 18 10.9	+0.7
BGKT	Bogazkoy	2.90	67	ePN	Pn	04 18 12.6	+1.1
BGKT	Bogazkoy	2.90	67	ePn	Pn	04 18 12.6	+1.1
VTS	Vitosha	2.92	329	iSg	Sg	04 18 59.7	0.0
VTS	Vitosha	2.92	329	iSg	Sg	04 18 59.7	0.0
GEMT	Gemlik	3.04	82	ePN	Pn	04 18 14.7	+1.3
GEMT	Gemlik	3.04	82	ePn	Pn	04 18 14.7	+1.3
ALT	Altintas	3.91	104	ePN	Pn	04 18 26.2	+0.8
ALT	Altintas	3.91	104	ePn	Pn	04 18 26.3	+0.8

*ISK **02** 04:17:57.9, 37°.16N×28°.59E, h8km, ML3.5*
*DDA **02** 04:17:57.6, 37°.17N×28°.56E, h25km, MD3.8*
*CSEM **02** 04:17:58.7±0.1, 37°.19N×28°.56E, h2km, ML3.5, Error ellipse: s-maj=3.4km s-min=2.6km az=154.0*
*IDC **02** 04:17:58.4±1.3, 36°.97N×28°.71E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.3/26, Error ellipse: s-maj=23.3km s-min=21.1km az=7.0*
*ISCJB **02** 04:17:58.1±0.5, 37°.18N±0°.02×28°.57E±0°.02, h2km±4km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=4.0km s-min=2.8km az=150.0*
*THE **02** 04:18:00.3, 36°.96N×28°.71E, h0km±1km, ML4.2/1, Error ellipse: s-maj=3.3km s-min=1.3km az=322.0*
ISC 02 04:17:58.5±1.1**, 37°.18N**±0°.02×**28°.58E**±0°.02**, h3**km±8km**, n96, σ1.12**/128**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.24	260	PG	Pg	04 18 03.0	-0.2
YER				SG	Sg	04 18 07.4	+1.1
YER	Yerkesik	0.24	260	iPg	Pg	04 18 03.0	-0.2
YER				iSg	Sg	04 18 07.4	+1.1
TURN	Turunc	0.30	176	iP	Pb	04 18 06.8	+0.2
TURN				iS	Sb	04 18 14.5	+2.6
TURN	Turunc	0.30	176	iP	Pb	04 18 06.8	+0.2
DNZL	Cakiroluk	0.63	36	iP	Pg	04 18 11.2	+0.5
DNZL				iS	Sg	04 18 19.9	+1.0
DNZL	Cakiroluk	0.63	36	iP	Pg	04 18 11.2	+0.5
DNZL				iS	Sg	04 18 19.9	+1.0
MLSB	Milas	0.65	281	ePG	Pg	04 18 11.0	0.0
MLSB	Milas	0.65	281	ePg	Pg	04 18 11.0	0.0
FETY	Fethiye	0.68	143	PG	Pg	04 18 10.5	-1.0
FETY	Fethiye	0.68	143	iPg	Pg	04 18 10.5	-1.0
DENT	Denizli	0.68	32	ePG	Pg	04 18 11.5	-0.1
DENT	Denizli	0.68	32	ePg	Pg	04 18 11.5	-0.1
AYDN	Tasoluk	0.74	311	iP	Pg	04 18 12.7	0.0
AYDN				iS	Sg	04 18 21.4	-0.8
AYDN	Tasoluk	0.74	311	iP	Pg	04 18 12.7	0.0
AYDN				iS	Sg	04 18 21.4	-0.8
GOLH	Golhisar	0.79	85	iP	Pg	04 18 13.0	-0.7
GOLH				iS	Sb	04 18 25.2	-0.8
GOLH	Golhisar	0.79	85	iP	Pg	04 18 13.0	-0.7
GOLH				iS	Sb	04 18 25.2	-0.8
BODT	Bodrum	1.02	264	ePG	Pb	04 18 18.6	-0.2
BODT	Bodrum	1.02	264	ePg	Pb	04 18 18.6	-0.2
ARG	Arkhangelos	1.02	201	P	Pg	04 18 17.3	-0.9
ARG				S	Sb	04 18 32.2	-0.5
ARG	Arkhangelos	1.02	201	P	Pg	04 18 17.3	-0.9
ARG				S	Sb	04 18 32.2	-0.5
ELL	Elmali	1.15	111	ePN	Pg	04 18 20.8	+0.2
ELL	Elmali	1.15	111	ePn	Pg	04 18 20.8	+0.2
GCAM	G?zelcaml?	1.19	296	iP	Pg	04 18 21.0	-0.4
GCAM				iS	Sb	04 18 37.4	-0.1
GCAM	G?zelcaml?	1.19	296	iP	Pg	04 18 21.0	-0.4
GCAM				iS	Sb	04 18 37.4	-0.1
NIS1	Nisyros Isl.	1.26	243	P	Pg	04 18 22.6	-0.1
NIS1				S	Sn	04 18 42.6	+2.1
NIS1	Nisyros Isl.	1.26	243	P	Pg	04 18 22.6	-0.1
MANT	Manisa	1.31	359	iP	Pg	04 18 22.9	-0.7
MANT				iS	Sg	04 18 41.3	+0.5
MANT	Manisa	1.31	359	iP	Pg	04 18 23.0	-0.7
MANT				iS	Sg	04 18 41.3	+0.5
KULA	Kula-Manisa	1.34	3	ePN	Pn	04 18 23.6	-0.6
KULA	Kula-Manisa	1.34	3	ePn	Pn	04 18 23.6	-0.6

KHL	**Karahalli**	**1.37**	**33**	*e*PN	**Pn**	**04 18 23.3**	**-1.3**
KHL	**Karahalli**	**1.37**	**33**	*e*Pn	**Pn**	**04 18 23.3**	**-1.3**
KHAL	**Karahalli**	**1.39**	**31**	*i* P	**Pn**	**04 18 24.1**	**-0.9**
KHAL				*i* S	**Sg**	**04 18 42.0**	**-1.4**
KHAL	**Karahalli**	**1.39**	**31**	*i* P	**Pn**	**04 18 24.1**	**-0.9**
KHAL	**Karahalli**	**1.39**	**31**	*i* S	**Sg**	**04 18 42.0**	**-1.4**
KORT	**Korkueli**	**1.43**	**97**	*i* P	**Pg**	**04 18 26.6**	**+0.7**
KORT				*i* S	**Sn**	**04 18 48.1**	**+3.3**
KORT	**Korkueli**	**1.43**	**97**	*i* P	**Pg**	**04 18 26.6**	**+0.7**
KORT				*i* S	**Sn**	**04 18 48.1**	**+3.3**
IZM	**Izmir**	**1.60**	**320**	*e*PN	**Pn**	**04 18 27.6**	**-0.2**
IZM	**Izmir**	**1.60**	**320**	*e*Pn	**Pn**	**04 18 27.6**	**-0.2**
BCK	**Bucak**	**1.63**	**79**	*e*PN	**Pn**	**04 18 27.9**	**-0.2**
BCK	**Bucak**	**1.63**	**79**	*e*Pn	**Pn**	**04 18 27.9**	**-0.2**
ISP	**Isparta**	**1.68**	**67**	P	**Pn**	**04 18 29.2**	**+0.4**
ISP				S	**Sg**	**04 18 52.9**	**+0.5**
ISP	**Isparta**	**1.68**	**67**	P	**Pn**	**04 18 29.2**	**+0.4**
ISP				S	**Sg**	**04 18 52.9**	**+0.5**
AKS	**Akhisar**	**1.80**	**341**	*e*PN	**Pn**	**04 18 30.0**	**-0.5**
AKS	**Akhisar**	**1.80**	**341**	*e*Pn	**Pn**	**04 18 30.0**	**-0.5**
DEMI	**Demirci**	**1.87**	**3**	*i* P	**Pn**	**04 18 31.6**	**+0.2**
DEMI				*i* S	**Sn**	**04 18 56.0**	**+0.5**
DEMI	**Demirci**	**1.87**	**3**	*i* P	**Pn**	**04 18 31.6**	**+0.2**
DEMI				*i* S	**Sn**	**04 18 56.0**	**+0.5**
SHUT	**Suhut-Afyon**	**2.08**	**48**	*e*PN	**Pn**	**04 18 34.7**	**+0.3**
SHUT	**Suhut-Afyon**	**2.08**	**48**	*e*Pn	**Pn**	**04 18 34.7**	**+0.3**
ALT	**Altintas**	**2.23**	**32**	*e*PN	**Pn**	**04 18 35.9**	**-0.6**
ALT	**Altintas**	**2.23**	**32**	*e*Pn	**Pn**	**04 18 35.9**	**-0.6**
CHOS	**Chios island**	**2.34**	**302**	P	**Pb**	**04 18 42.0**	**+0.7**
CHOS	**Chios island**	**2.34**	**302**	P	**Pb**	**04 18 42.0**	**+0.7**
TVSB	**Tavsanli**	**2.37**	**17**	*e*PN	**Pn**	**04 18 38.9**	**+0.5**
TVSB	**Tavsanli**	**2.37**	**17**	*e*Pn	**Pn**	**04 18 38.9**	**+0.5**
BOLV	**Bolvadin**	**2.43**	**50**	*e*P	**Pn**	**04 18 38.9**	**-0.3**
BOLV				*e*S	**Sb**	**04 19 11.9**	**-1.3**
BOLV	**Bolvadin**	**2.43**	**50**	*e*P	**Pn**	**04 18 38.9**	**-0.3**
BOLV				*e*S	**Sb**	**04 19 11.9**	**-1.3**
ZKR	**Zakros**	**2.81**	**224**	P	**Pn**	**04 18 44.6**	**+0.3**
ZKR	**Zakros**	**2.81**	**224**	P	**Pn**	**04 18 44.6**	**+0.3**
NPS	**Neapolis**	**3.07**	**232**	P	**Pn**	**04 18 48.0**	**+0.1**
NPS				S	**Sn**	**04 19 26.2**	**+1.2**
NPS	**Neapolis**	**3.07**	**232**	P	**Pn**	**04 18 48.0**	**+0.1**
NPS				S	**Sn**	**04 19 26.2**	**+1.2**
KONT	**Konya--Tatoy**	**3.10**	**75**	*e*PN	**Pn**	**04 18 48.5**	**+0.1**
KONT	**Konya--Tatoy**	**3.10**	**75**	*e*Pn	**Pn**	**04 18 48.5**	**+0.1**
KIZT	**Kizilcal**	**3.11**	**56**	*e*PN	**Pn**	**04 18 49.0**	**+0.4**
KIZT	**Kizilcal**	**3.11**	**56**	*e*Pn	**Pn**	**04 18 49.0**	**+0.4**
LADK	**Ladik-KONYA**	**3.17**	**70**	*e*PN	**Pn**	**04 18 50.2**	**+0.8**
LADK	**Ladik-KONYA**	**3.17**	**70**	*e*Pn	**Pn**	**04 18 50.2**	**+0.8**
CAVI	**Cavuskoy**	**3.18**	**18**	*e*PN	**Pn**	**04 18 50.2**	**+0.8**
CAVI	**Cavuskoy**	**3.18**	**18**	*e*Pn	**Pn**	**04 18 50.2**	**+0.8**
LAST	**Lasithi**	**3.21**	**232**	P	**Pn**	**04 18 49.9**	**-0.1**
LAST				S	**Sn**	**04 19 29.9**	**+1.1**
LAST	**Lasithi**	**3.21**	**232**	P	**Pn**	**04 18 49.9**	**-0.1**
LAST				S	**Sn**	**04 19 29.9**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.24**	**45**	*e*PN	**Pn**	**04 18 50.6**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.24**	**45**	*e*Pn	**Pn**	**04 18 50.6**	**+0.3**
ERMK	**Ermenek**	**3.52**	**97**	*i* P	**Pn**	**04 18 57.0**	**+2.8**
ERMK				*i* S	**Sb**	**04 19 42.5**	**-2.2**
ERMK	**Ermenek**	**3.52**	**97**	*i* P	**Pn**	**04 18 57.0**	**+2.8**
GULT	**Gulveren**	**3.59**	**24**	*e*PN	**Pn**	**04 18 56.1**	**+1.0**
GULT	**Gulveren**	**3.59**	**24**	*e*Pn	**Pn**	**04 18 56.1**	**+1.0**
MDUB	**Mudurnu**	**3.87**	**31**	*e*PN	**Pn**	**04 18 59.9**	**+0.8**
MDUB	**Mudurnu**	**3.87**	**31**	*e*Pn	**Pn**	**04 18 59.9**	**+0.8**
SULT	**Sultanhani-AKS**	**4.05**	**74**	*e*PN	**Pn**	**04 19 02.4**	**+1.0**
SULT	**Sultanhani-AKS**	**4.05**	**74**	*e*Pn	**Pn**	**04 19 02.4**	**+1.0**
SILT	**Sile**	**4.06**	**11**	*e*PN	**Pn**	**04 19 02.2**	**+0.8**
SILT	**Sile**	**4.06**	**11**	*e*Pn	**Pn**	**04 19 02.2**	**+0.8**
AFSR	**Af¯ar-Bala (A**	**4.20**	**56**	*e*PN	**Pn**	**04 19 04.1**	**+0.6**
AFSR	**Af¯ar-Bala (A**	**4.20**	**56**	*e*Pn	**Pn**	**04 19 04.1**	**+0.6**
KAMT	**Kaman**	**4.59**	**60**	*e*PN	**Pn**	**04 19 09.9**	**+1.0**
KAMT	**Kaman**	**4.59**	**60**	*e*Pn	**Pn**	**04 19 10.0**	**+1.0**
BRTR	**Keskin Array B**	**4.72**	**56**	Pn	**Pn**	**04 19 12.1**	**+1.4**
	1.3nm,0.3s,baz=239,slow=16,SNR=20						
BRTR				Sn	**Sn**	**04 20 09.0**	**+3.0**
	0.6nm,0.3s,baz=238,slow=29,SNR=6.1						
MERS	**Mersin**	**4.77**	**92**	*e*PN	**Pn**	**04 19 12.1**	**+0.8**
MERS	**Mersin**	**4.77**	**92**	*e*Pn	**Pn**	**04 19 12.1**	**+0.8**
MMAI	**Mount Meron Ar**	**6.96**	**125**	Pn	**Pn**	**04 19 39.5**	**-2.0**
	3.4nm,0.3s,baz=300,slow=12,SNR=8.6						
MMAI				Sn	**Sn**	**04 20 58.5**	**-2.8**
	4.5nm,0.3s,baz=234,slow=8.1,SNR=6.5						
EIL	**Elat**	**9.19**	**143**	Pn	**Pn**	**04 20 10.4**	**-1.5**
	1.0nm,0.3s,baz=75,slow=7.1,SNR=7.5						
EIL				Sn	**Sn**	**04 21 51.5**	**-4.2**
	2.3nm,0.3s,baz=316,slow=17,SNR=7.6						
GERES	**GERESS Array B**	**15.91**	**322**	Pn	**P**	**04 21 49.8**	**+2.6**
	0.1nm,0.3s,baz=134,slow=12,SNR=3.4						
GERES				LR	LR	04 28 27.4	
	comp=Z,26nm,19.7s,baz=344,slow=39						
TORD	**Torodi Ar. Bea**	**33.91**	**232**	P	**P**	**04 24 42.4**	**-0.4**
	0.3nm,0.4s,baz=32,slow=8.7,SNR=10.0						
JMIC	**Jan Mayen**	**38.99**	**342**	LR	LR	04 40 04.9	
	comp=Z,57nm,20.4s,baz=81,slow=34						
MKAR	**Makanchi Array**	**40.36**	**59**	P	**P**	**04 25 36.8**	**-0.6**
	0.2nm,0.5s,baz=277,slow=7.4,SNR=3.5						

IDC ***02*** *04:24:25.4±1.2, 30.°45N×66.°52E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.6/32, mbtmp3.7/11, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.5/46, Error ellipse: s-maj=26.7km s-min=23.0km az=86.0*

ISC 02 04:24:30.5±1.1**, 30.°4N**±0.°1×**66.°91E**±0.°09**, h35**km**, n23, σ1.s92**/26**, mb3.6**/9**, MS3.1**/3**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.62**	**24**	Pn	**Pn**	**04 27 40.5**	**-0.8**
	0.7nm,0.3s,baz=141,slow=5.1,SNR=11						
PYUN	**Piuthan**	**14.23**	**95**	*e*P	**Pn**	**04 27 51.1**	**+1.4**
	14nm,0.3s						
PYUN				*e*S	**Sn**	**04 30 26.0**	**-0.5**
KOLN	**Koldanda**	**14.83**	**96**	*e*P	**Pn**	**04 27 59.7**	**+1.8**
	17nm,0.4s						
KOLN				*e*S	**Sn**	**04 30 42.2**	**+1.1**
DANN	**Dangsing**	**14.84**	**94**	*e*P	**Pn**	**04 27 59.6**	**+1.6**
	29nm,0.6s						
DANN				*e*S	**Sn**	**04 30 39.8**	**-1.6**
GKN	**Gorkha**	**15.67**	**94**	*e*P	**Pn**	**04 28 09.0**	**+0.2**
	8.0nm,0.3s						
GKN				*e*S	**Sn**	**04 30 58.3**	**-3.1**
DMN	**Daman**	**16.17**	**95**	*e*P	**Pn**	**04 28 14.9**	**-0.4**
	7.2nm,0.4s						
KKN	**Kakani**	**16.27**	**95**	*e*P	**Pn**	**04 28 16.9**	**+0.3**
	15nm,0.5s						
PKI	**Pulchoki**	**16.44**	**95**	*e*P	**P**	**04 28 19.9**	**-1.4**
	8.9nm,0.5s						
GUN	**Gumba**	**16.76**	**94**	*e*P	**Pn**	**04 28 23.5**	**+0.6**
	23nm,0.4s						
GUN				*e*S	**Sn**	**04 31 25.6**	**-2.6**
JIRN	**Jiri**	**17.09**	**94**	*e*P	**P**	**04 28 28.5**	**0.0**
TAPN	**Taplejung**	**18.47**	**94**	*e*P	**Pn**	**04 28 46.3**	**+2.3**
	3.8nm,0.3s						
TAPN				*e*S	**Sn**	**04 32 04.2**	**-5.4**
MKAR	**Makanchi Array**	**20.23**	**32**	P	**P**	**04 29 02.9**	**+0.4**
	0.6nm,0.4s,baz=211,slow=11,SNR=29						
AKTO	**Aktyubinsk**	**21.07**	**344**	P	**P**	**04 29 10.6**	**-1.0**
	1.0nm,0.6s,baz=169,slow=6.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**21.98**	**20**	P	**P**	**04 29 21.3**	**+0.1**
	2.6nm,0.6s,baz=211,slow=12,SNR=17						
KURBB				LR	LR	04 38 16.6	
	comp=Z,19nm,20.2s,baz=230,slow=38						
BVAR	**Borovoye Array**	**22.73**	**5**	P	**P**	**04 29 28.8**	**-0.4**
	1.2nm,0.5s,baz=169,slow=10,SNR=8.7						
ZALV	**Zalesovo Beam**	**26.84**	**24**	P	**P**	**04 30 09.9**	**+2.4**
	0.5nm,0.3s,baz=214,slow=10,SNR=2.4						
CMAR	**Chiang Mai Arr**	**31.39**	**105**	P	P	04 30 51.9	+3.5
	1.0nm,0.3s,baz=297,slow=4.5,SNR=5.7						
SONM	**Songino Array**	**34.77**	**49**	P	**P**	**04 31 19.2**	**+1.6**
	0.1nm,0.4s,baz=264,slow=7.1,SNR=3.0						
KSRS	**Korea Array**	**50.34**	**65**	LR	LR	04 57 49.3	
	comp=Z,16nm,18.8s,baz=130,slow=40						
TORD	**Torodi Ar. Bea**	**62.18**	**269**	P	**P**	**04 34 46.3**	**-2.5**
	0.6nm,0.9s,baz=47,slow=5.3,SNR=3.9						
NWAO	**Narrogin (SRO)**	**78.98**	**139**	LR	LR	05 06 24.7	
	comp=Z,56nm,19.5s,baz=282,slow=32						
WRA	**Warramunga Arr**	**81.89**	**119**	P	**P**	**04 36 48.3**	**+1.7**
	0.2nm,0.8s,baz=321,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**04 37 14.4**	**+0.7**
	0.2nm,0.5s,baz=350,slow=5.0,SNR=5.6						

ISK ***02*** *04:26:14.6, 40.°24N×40.°86E, h29km, MD2.5*
DDA ***02*** *04:26:15.6, 40.°30N×40.°89E, h7km, MD2.8*
CSEM ***02*** *04:26:15.6±0.2, 40.°16N×40.°85E, h40km, MD2.8, Error ellipse: s-maj=6.8km s-min=5.7km az=163.0*

ISC 02 04:26:15.5±1.0**, 40.°21N**±0.°03×**40.°88E**±0.°02**, h30**km±10km**, n25, σ0.s68**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.35**	**236**	*i* P	**Pb**	**04 26 23.7**	**-0.2**
KOPT				*i* S	**Sn**	**04 26 32.0**	**+1.1**
KOPT	**Kop Dagi**	**0.35**	**236**	*i* P	**Pb**	**04 26 23.7**	**-0.2**
KOPT				*i* S	**Sn**	**04 26 32.0**	**+1.1**
EZM	**Erzurum**	**0.48**	**129**	*e*PG	**Pb**	**04 26 25.8**	**-0.1**
ERZM	**Erzurum**	**0.49**	**129**	*i* P	**Pb**	**04 26 25.9**	**0.0**
ERZM				*e*S	**Sn**	**04 26 34.6**	**+0.3**
ERZM	**Erzurum**	**0.49**	**129**	*i* P	**Pb**	**04 26 25.9**	**0.0**
ERZM				*e*S	**Sn**	**04 26 34.6**	**+0.3**
BAYT	**Ayd˜–ntepe-Bay**	**0.59**	**288**	*e*PG	**Pb**	**04 26 26.9**	**-0.6**
BAYT				*e*SG	**Sb**	**04 26 35.9**	**+0.1**
BAYT	**Ayd˜–ntepe-Bay**	**0.59**	**288**	*e*Pg	**Pb**	**04 26 27.0**	**-0.6**
BAYT				*e*Sg	**Sb**	**04 26 35.9**	**+0.1**
DDEM	**Demirkent**	**0.95**	**44**	*e*P	**Pn**	**04 26 33.0**	**+0.1**
DDEM				*i* S	**Sn**	**04 26 45.5**	**0.0**
DDEM	**Demirkent**	**0.95**	**44**	*e*P	**Pn**	**04 26 33.0**	**+0.1**
DDEM				*i* S	**Sn**	**04 26 45.5**	**0.0**
DBAD	**Bademkaya**	**1.02**	**38**	*i* P	**Pn**	**04 26 34.0**	**+0.2**
DBAD				*e*S	**Sn**	**04 26 47.2**	**0.0**
DBAD	**Bademkaya**	**1.02**	**38**	*i* P	**Pn**	**04 26 34.0**	**+0.2**
DBAD				*e*S	**Sn**	**04 26 47.2**	**0.0**
GUMT	**Gumushane**	**1.09**	**283**	*e*PN	**Pn**	**04 26 35.0**	**+0.1**
GUMT				*e*SN	**Sn**	**04 26 47.8**	**-1.3**
GUMT	**Gumushane**	**1.09**	**283**	*e*Pn	**Pn**	**04 26 35.0**	**+0.1**
GUMT				*e*Sn	**Sn**	**04 26 47.8**	**-1.3**
MACK	**Trabzon**	**1.11**	**311**	*e*P	**Pb**	**04 26 36.6**	**+0.4**
MACK				*e*S	**Sb**	**04 26 51.4**	**+1.0**
MACK	**Trabzon**	**1.11**	**311**	*e*P	**Pb**	**04 26 36.6**	**+0.4**
DAGI	**Agillar**	**1.17**	**42**	*i* P	**Pb**	**04 26 36.9**	**-0.3**
DAGI				*i* S	**Sb**	**04 26 52.3**	**+0.2**
BNGB	**Bingˆ¶l**	**1.23**	**187**	*e*PN	**Pn**	**04 26 36.3**	**-0.4**
KELT	**Kelkit**	**1.24**	**268**	*i* P	**Pb**	**04 26 39.1**	**+0.6**
KELT				*i* S	**Sb**	**04 26 55.3**	**+1.1**
ARTV	**Artvin**	**1.26**	**39**	*i* P	**Pb**	**04 26 38.3**	**-0.5**
ARTV				*i* S	**Sb**	**04 26 55.0**	**+0.3**
ARTV	**Artvin**	**1.26**	**39**	*i* P	**Pb**	**04 26 38.3**	**-0.5**
ARTV				*i* S	**Sb**	**04 26 55.0**	**+0.3**
BINT	**Bingol**	**1.37**	**193**	*e*Pn	**Pn**	**04 26 36.3**	**-2.4**
ESPY	**Espiye-Giresun**	**1.78**	**294**	*e*PN	**Pn**	**04 26 43.4**	**-0.8**
ESPY	**Espiye-Giresun**	**1.78**	**294**	*e*Pn	**Pn**	**04 26 43.4**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.20**	**214**	*e*PN	**Pn**	**04 26 50.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.20**	**214**	*e*Pn	**Pn**	**04 26 50.5**	**+0.3**

KRSC 02 04:42:38.3±0.5**, 53.°34N**×**160.°56E, h18**km±18km**, ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.96**	**317**	*e*P	Pb	04 42 56.0	-0.5
KII				*e*S	Sb	04 43 08.1	-0.9
SDLR	**Sedlovina**	**1.01**	**267**	P	Pn	04 42 57.6	-0.1
SDLR				*e*S	Sn	04 43 12.0	+0.5
UGLR	**Uglovaya**	**1.05**	**264**	P	Pn	04 42 58.5	+0.2
UGLR				*e*S	Sg	04 43 13.4	+0.6
SMAR	**Somma**	**1.06**	**267**	P	Pb	04 42 58.3	-0.1
SMAR				*e*S	Sg	04 43 13.3	+0.1
KRER	**Koryakskii**	**1.09**	**269**	P	Pn	04 42 59.1	+0.2
KRER				*e*S	Sn	04 43 13.5	-0.2
AVH	**Avacha**	**1.10**	**267**	P	Pn	04 42 59.1	+0.2
AVH				*e*S	Sg	04 43 14.9	+0.8
KOK	**Koryaka**	**1.16**	**268**	P	Pn	04 42 59.7	0.0
KOK				*e*S	Sg	04 43 15.7	-0.3
PET	**Petropavlovsk**	**1.19**	**255**	P	Pb	04 43 00.2	-0.1
PET				*e*S	Sn	04 43 15.6	-0.1
MKZ	**Mys Kozlova**	**1.40**	**29**	P	Pn	04 43 01.5	-1.4
MKZ				*e*S	Sn	04 43 17.7	-3.2
RUS	**Russkaya**	**1.54**	**235**	P	Pn	04 43 04.7	-0.1
RUS				*e*S	Sn	04 43 24.0	-0.3
MTVR	**Mutnovka**	**1.68**	**240**	*e*P	Pn	04 43 07.3	+0.4
MTVR				*e*S	Sn	04 43 27.9	-0.2
ASAK	**Asacha**	**1.88**	**240**	P	Pn	04 43 10.6	+1.0
ASAK				*e*S	Sb	04 43 34.5	-0.8
TUMR	**Tumrok**	**1.96**	**353**	*e*P	Pn	04 43 11.2	+0.4
TUMR				*e*S	Sn	04 43 34.7	-0.4
APC	**Apacha**	**2.09**	**260**	*e*P	Pn	04 43 13.6	+1.2
APC				*e*S	Sn	04 43 39.4	+1.5
KMNR	**Kamenistaya**	**2.43**	**356**	P	Pn	04 43 18.7	+1.5
KMNR				*e*S	Sn	04 43 47.6	+1.1
MIPR	**Malaya Ipel'ka**	**2.54**	**247**	*e*P	Pn	04 43 20.3	+1.7
BZMR	**Bezymyannaya**	**2.60**	**359**	*e*P	Pn	04 43 21.9	+2.3
BZMR				*e*S	Sb	04 43 53.7	-2.6
BZGR	**Bezymyannyi-Gr**	**2.61**	**2**	*e*P	Pn	04 43 21.2	+1.5
BZGR				*e*S	Sn	04 43 51.6	+0.6
KIRR	**Kirishev**	**2.62**	**357**	*e*S	Sb	04 43 54.7	-2.2
BZWR	**Bezymyannyi-We**	**2.63**	**359**	*e*P	Pn	04 43 22.5	+2.4
BZWR				*e*S	Sn	04 43 54.3	+2.6
KPT	**Kopyto**	**2.64**	**356**	*e*P	Pn	04 43 21.3	+1.2
KPT				*e*S	Sn	04 43 52.4	+0.7
ZLN	**Zelenaya**	**2.69**	**3**	*e*P	Pn	04 43 22.1	+1.3
ZLN				*e*S	Sn	04 43 54.4	+1.5
KOZ	**Kozyrevsk**	**2.75**	**352**	*e*S	Sn	04 43 52.9	-1.4
CIRR	**Tsirk**	**2.78**	**2**	*e*S	Sn	04 43 57.0	+1.6
ESO	**Esso**	**2.81**	**338**	*e*P	Pn	04 43 22.2	-0.1
KRSR	**Krestovskiy**	**2.88**	**0**	*e*P	Pn	04 43 25.9	+2.4
KRSR				*e*S	Sb	04 44 01.2	-3.1
KLY	**Klyuchi**	**2.98**	**1**	*e*S	Sn	04 44 01.8	+2.0
KBTR	**Krutoberegovo**	**3.16**	**24**	*e*P	Pn	04 43 27.5	+0.4
KBTR				*e*S	Sn	04 44 04.4	+0.1
BDR	**Baidarnaya**	**3.26**	**6**	*e*S	Sn	04 44 10.7	+3.8
SMKR	**Semkarok**	**3.29**	**9**	*e*P	Pn	04 43 30.5	+1.5
SMKR				*e*S	Sn	04 44 09.1	+1.4
SRKR	**Sorokina**	**3.34**	**6**	*e*P	Pn	04 43 31.7	+2.0
SRKR				*e*S	Sn	04 44 11.7	+2.8

ISK ***02*** *04:45:16.3, 37.°72N×29.°17E, h10km, MD2.8*
DDA ***02*** *04:45:16.9, 37.°84N×29.°08E, h8km, MD2.8*
ISCJB ***02*** *04:45:17.2±0.5, 37.°80N±0.°03×28.°99E±0.°06, h13km±4km, Error ellipse: s-maj=8.4km s-min=5.2km az=173.9*
CSEM ***02*** *04:45:17.0±0.2, 37.°80N×29.°04E, h10km, MD2.8, Error ellipse: s-maj=7.1km s-min=4.3km az=96.0*

ISC 02 04:45:17.0±0.8**, 37.°81N**±0.°02×**29.°02E**±0.°04**, h15**km±5km**, n26, σ0.s66**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.06**	**168**	*e*PG	**Pg**	**04 45 19.6**	**-0.2**
DENT				*e*SG	**Sg**	**04 45 22.1**	**+0.4**
DENT	**Denizli**	**0.06**	**168**	*e*Pg	**Pg**	**04 45 19.6**	**-0.2**
DENT				*e*Sg	**Sg**	**04 45 22.1**	**+0.4**
DNZL	**Cakiroluk**	**0.12**	**169**	*i* P	**Pg**	**04 45 20.5**	**-0.1**
DNZL				*i* S	**Sg**	**04 45 22.8**	**-0.2**
DNZL	**Cakiroluk**	**0.12**	**169**	*i* P	**Pg**	**04 45 20.5**	**-0.1**
DNZL				*i* S	**Sg**	**04 45 22.8**	**-0.2**
KHL	**Karahalli**	**0.65**	**38**	*e*PG	**Pg**	**04 45 29.8**	**+0.1**
KHL	**Karahalli**	**0.65**	**38**	*e*Pg	**Pg**	**04 45 29.8**	**+0.1**
KHAL	**Karahalli**	**0.67**	**33**	*i* P	**Pg**	**04 45 28.9**	**-1.3**
KHAL				*i* S	**Sg**	**04 45 39.1**	**0.0**
KHAL	**Karahalli**	**0.67**	**33**	*i* P	**Pg**	**04 45 28.9**	**-1.3**
KHAL				*i* S	**Sg**	**04 45 39.1**	**0.0**
GOLH	**Golhisar**	**0.71**	**143**	*i* P	**Pg**	**04 45 30.6**	**-0.3**
GOLH				*i* S	**Sb**	**04 45 41.9**	**+1.0**
GOLH	**Golhisar**	**0.71**	**143**	*i* P	**Pg**	**04 45 30.6**	**-0.3**
GOLH				*i* S	**Sb**	**04 45 41.9**	**+1.0**
KULA	**Kula-Manisa**	**0.76**	**338**	*e*PG	**Pn**	**04 45 33.1**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**338**	*e*Pg	**Pn**	**04 45 33.1**	**-0.2**
MANT	**Manisa**	**0.77**	**332**	*i* P	**Pg**	**04 45 32.1**	**+0.1**
MANT				*i* S	**Sg**	**04 45 41.3**	**-1.0**
MANT	**Manisa**	**0.77**	**332**	*i* P	**Pg**	**04 45 32.1**	**+0.1**
MANT				*i* S	**Sg**	**04 45 41.3**	**-1.0**
YER	**Yerkesik**	**0.89**	**221**	*e*PG	**Pg**	**04 45 34.1**	**-0.2**
YER	**Yerkesik**	**0.89**	**221**	*e*Pg	**Pg**	**04 45 34.1**	**-0.2**
FETY	**Fethiye**	**1.17**	**177**	*e*PN	**Pb**	**04 45 37.6**	**-1.4**
FETY	**Fethiye**	**1.17**	**177**	*e*Pn	**Pb**	**04 45 37.6**	**-1.4**
GDZ	**Gediz**	**1.33**	**16**	*e*P	**Pn**	**04 45 41.7**	**+0.5**
GDZ				*e*S	**Sg**	**04 46 00.6**	**+0.7**
GDZ	**Gediz**	**1.33**	**16**	*e*P	**Pn**	**04 45 41.7**	**+0.5**
GDZ				*e*S	**Sg**	**04 46 00.6**	**+0.7**
ALT	**Altintas**	**1.51**	**34**	*e*PN	**Pn**	**04 45 44.5**	**+0.8**
ALT	**Altintas**	**1.51**	**34**	*e*Pn	**Pn**	**04 45 44.5**	**+0.8**
BODT	**Bodrum**	**1.55**	**242**	*e*PN	**Pb**	**04 45 45.6**	**+0.2**
BODT	**Bodrum**	**1.55**	**242**	*e*Pn	**Pb**	**04 45 45.6**	**+0.2**
TVSB	**Tavsanli**	**1.68**	**12**	*e*PN	**Pb**	**04 45 47.2**	**-0.4**
TVSB	**Tavsanli**	**1.68**	**12**	*e*Pn	**Pb**	**04 45 47.2**	**-0.4**

IDC 02 05:01:04.3±1.9**, 18.°50S**×**178.°01W, h387**km±20km**, mb3.3**/9**, mb1 3.5**/10**, mb1mx3.4**/22**, mbtmp3.3**/10**, Error ellipse: s-maj=28.4km s-min=12.1km az=148.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**54**	P	P	05 02 54.9	+0.4
	2.3nm,0.3s,baz=256,slow=4.2,SNR=3.2						
AFI				S	S	05 04 22.0	-1.2
	3.2nm,0.3s,baz=31,slow=21,SNR=8.2						
STKA	**Stephens Creek**	**38.69**	**242**	P	P	05 07 53.2	+0.5
	1.3nm,0.5s,baz=302,slow=13,SNR=7.9						
WRA	**Warramunga Arr**	**44.91**	**260**	P	P	05 08 41.8	-0.8
	0.6nm,0.5s,baz=98,slow=6.2,SNR=17						
ASAR	**Alice Springs**	**45.01**	**255**	P	P	05 08 43.1	-0.3
	3.1nm,0.5s,baz=90,slow=8.4,SNR=65						
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P	P	05 09 45.8	+0.3
	0.7nm,0.4s,baz=132,slow=15,SNR=3.6						
QSPA	**South Pole Qui**	**71.56**	**180**	P	P	05 11 43.8	-0.5
	4.2nm,1.0s,baz=33,slow=1.2,SNR=9.2						
NVAR	**Mina Array Bea**	**79.58**	**44**	P	P	05 12 30.1	+0.2
	0.5nm,0.6s,baz=227,slow=9.6,SNR=4.5						
TXAR	**Lajitas Array**	**85.98**	**57**	P	P	05 13 03.7	+1.2
	0.7nm,0.7s,baz=219,slow=6.4,SNR=9.8						
ILAR	**Eielson Array**	**86.37**	**13**	P	P	05 13 02.0	-1.3
	0.6nm,0.4s,baz=218,slow=5.1,SNR=23						
YKA	**Yellowknife Ar**	**94.70**	**25**	P	P	05 13 41.4	-0.6
	0.4nm,0.7s,baz=247,slow=4.4,SNR=8.2						
BRTR	**Keskin Array B**	**145.47**	**314**	PKPbc	PKPbc	05 19 58.0	-0.1
	0.6nm,0.7s,baz=89,slow=2.5,SNR=4.8						
GERES	**GERESS Array B**	**148.28**	**345**	PKPbc	PKPbc	05 20 05.1	-0.4
	1.0nm,0.5s,baz=24,slow=3.1,SNR=13						

ISCJB ***02*** *05:20:26.2±0.6, 37.°07N±0.°04×124.°61E±0.°05, h10km, Error ellipse: s-maj=7.2km s-min=4.3km az=135.2*
KMA ***02*** *05:20:26.3, 37.°08N×124.°65E, ML3.4*
IDC ***02*** *05:20:27.9±4.2, 37.°05N×124.°74E, h0km, mb1 3.7/4, mb1mx3.3/28, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=33.8km s-min=23.7km az=80.0*

ISC 02 05:20:26.7±1.0**, 37.°03N**±0.°05×**124.°70E**±0.°04**, h10**km**, n33, σ1.s25**/37**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSGBI	**Gyogryolbido**	**0.80**	**120**	P	**Pb**	**05 20 43.1**	**+0.4**
KSBAR	**Backryungdo**	**0.95**	**1**	P	**Pg**	**05 20 44.8**	**-0.1**
KSBAR				S	**Sg**	**05 20 56.2**	**-1.1**
KSDEI	**Deokjeokdo**	**1.15**	**78**	P	**Pn**	**05 20 48.9**	**+0.1**
KSANM	**Anmyeondo**	**1.39**	**112**	P	**Pg**	**05 20 53.3**	**0.0**
KSSES	**Seosan**	**1.43**	**99**	P	**Pg**	**05 20 53.6**	**-0.4**
KSSES				S	**Sg**	**05 21 12.0**	**-0.6**
KSGAH	**Ganghwa**	**1.55**	**64**	P	**Pn**	**05 20 54.8**	**+0.4**
KSSWO	**Suwon**	**1.83**	**82**	P	**Pb**	**05 20 59.2**	**-1.0**
KSSEO	**Seoul**	**1.83**	**75**	P	**Pb**	**05 20 59.1**	**-1.1**
KSMUS	**Musan**	**1.85**	**62**	P	**Pn**	**05 20 59.2**	**+0.7**
KSGUS	**GUNSAN**	**1.95**	**120**	P	**Pb**	**05 21 01.6**	**-0.7**
KSCEA	**Cheonan**	**2.06**	**95**	S	**Sg**	**05 21 32.8**	**-0.1**
KSICN	**Icheon**	**2.19**	**82**	P	**Pn**	**05 21 04.2**	**+1.1**
KSHUK	**Heuksando**	**2.42**	**165**	P	**Pn**	**05 21 07.1**	**+0.8**
KSCWO	**Cheorwon**	**2.47**	**64**	P	**Pn**	**05 21 08.1**	**+1.0**
KSCHC	**Chuncheon**	**2.59**	**72**	P	**Pn**	**05 21 09.8**	**+1.1**
KSRS	**Korea Array**	**2.61**	**80**	Pn	**Pn**	**05 21 09.4**	**+0.5**
	10nm,0.3s,baz=261,slow=14,SNR=98						
KSRS				Pg	**Pg**	**05 21 15.2**	**-1.5**
	32nm,0.3s,baz=263,slow=18,SNR=55						
KSRS				Lg	Lg	05 21 48.3	
	64nm,0.3s,baz=264,slow=30,SNR=33						
KSCHJ	**Chungju**	**2.63**	**92**	P	**Pn**	**05 21 10.4**	**+1.2**
KSKWJ	**Gwangju**	**2.63**	**134**	P	**Pn**	**05 21 10.6**	**+1.4**
KSWJU	**Wonju**	**2.70**	**81**	P	**Pn**	**05 21 11.5**	**+1.3**
KSMGY	**Mungyeong**	**2.72**	**97**	P	**Pn**	**05 21 11.8**	**+1.3**
KSMOK	**Mokpo**	**2.80**	**143**	P	**Pb**	**05 21 14.5**	**-2.3**
KSIJA	**INJE**	**2.88**	**70**	P	**Pn**	**05 21 13.5**	**+0.9**
DL2	**Dalian**	**3.07**	**309**	*e*Pn	**Pg**	**05 21 24.2**	**-1.3**
DL2				Pg	Pb	05 21 25.8	+4.4
DL2				Sn	**Sb**	**05 22 01.2**	**+2.4**
DL2				Sg	**Sg**	**05 22 04.9**	**-0.3**
DL2				smax	smax		
	comp=N,210nm,0.5s						
DL2				smax	smax		
	comp=E,160nm,0.4s						
SEHB	**SEOHWA**	**3.08**	**65**	P	**Pn**	**05 21 16.4**	**+0.9**
KSWAN	**Wando**	**3.10**	**148**	P	**Pn**	**05 21 17.8**	**+2.1**
KSDGY	**Daegwallycong**	**3.23**	**77**	P	**Pn**	**05 21 18.8**	**+1.2**
KSSKC	**Sokcho**	**3.28**	**66**	P	**Pn**	**05 21 19.2**	**+1.0**
KSJMJ	**Jumunjin**	**3.34**	**74**	P	**Pn**	**05 21 20.0**	**+1.1**
KSTBA	**Taebaek**	**3.40**	**87**	P	**Pn**	**05 21 21.6**	**+1.7**
KSULJ	**Uljin**	**3.79**	**94**	P	**Pn**	**05 21 26.5**	**+1.3**
JNU	**Nakatsue**	**6.39**	**126**	Pn	**Pn**	**05 22 02.6**	**+1.7**
	comp=E,0.6nm,0.3s,baz=339,slow=8.6,SNR=4.0						
JNU				Lg	Lg	05 23 50.7	
	comp=E,2.8nm,0.3s,baz=248,slow=23,SNR=7.5						
USRK	**Ussuriysk Arra**	**9.06**	**35**	Pn	**Pn**	**05 22 39.7**	**+2.2**
	comp=E,0.1nm,0.3s,baz=220,slow=16,SNR=4.0						
USRK				Lg	Lg	05 25 14.7	
	comp=E,0.5nm,0.3s,baz=217,slow=25,SNR=8.2						
MJAR	**Matsushiro Arr**	**10.85**	**89**	Pn	Pn	05 23 05.5	+3.4
	comp=E,0.5nm,0.3s,baz=297,slow=11,SNR=4.0						

MEX 02 05:21:01.1±0.7**, 18.°06N**×**101.°58W, h25**km±26km**, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**167**	*i* P	Pb	05 21 08.5	-2.2
ZIIG				*i* S	Sb	05 21 15.8	-1.5
ARIG	**Puente Sto Nin**	**1.19**	**79**	*e*P	Pn	05 21 19.1	-3.2
ARIG				*i* S	Sn	05 21 34.1	-3.6
CAIG	**El Cayaco**	**1.61**	**129**	*e*P	Pn	05 21 25.0	-2.9
CAIG				*e*S	Sn	05 21 45.1	-2.8
MMIG	**Aquila**	**1.70**	**278**	*e*P	Pn	05 21 26.7	-2.4
MMIG				*i* S	Sn	05 21 47.1	-3.0
MEIG	**Mezcala**	**1.87**	**94**	*e*P	Pn	05 21 29.6	-2.0
MEIG				*e*S	Sn	05 21 51.1	-3.5
PLIG	**Platanillo**	**2.00**	**80**	*e*P	Pn	05 21 31.8	-1.7
PLIG				*i* S	Sn	05 21 55.0	-2.9
ACX	**Acapulco**	**2.02**	**126**	*e*P	Pn	05 21 30.9	-2.8
ACX				*e*S	Sn	05 21 54.6	-3.7
EZ5V		**2.38**	**307**	*e*P	Pn	05 21 37.6	-1.3
EZ5V				*i* S	Sn	05 22 04.3	-3.3
R15V		**2.53**	**296**	*i* P	Pn	05 21 38.0	-2.8
R15V				*i* S	Sn	05 22 07.8	-3.1

ISK ***02*** *05:23:31.9, 37.°93N×27.°40E, h5km, MD2.7*
DDA ***02*** *05:23:31.5, 37.°93N×27.°46E, h7km, MD2.9*
CSEM ***02*** *05:23:32.4±0.1, 37.°94N×27.°46E, h2km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.2km az=76.0*

ISC 02 05:23:31.8±1.2**, 37.°92N**±0.°02×**27.°46E**±0.°02**, h0**km±12km**, n42, σ0.s54**/60**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.28**	**219**	*i* P	**Pg**	**05 23 37.3**	**+0.1**
GCAM				*i* S	**Sg**	**05 23 41.1**	**+0.2**
GCAM	**G?zelcaml?**	**0.28**	**219**	*i* P	**Pg**	**05 23 37.3**	**+0.1**
GCAM				*i* S	**Sg**	**05 23 41.1**	**+0.2**
AYDN	**Tasoluk**	**0.42**	**128**	*i* P	**Pg**	**05 23 40.7**	**+0.8**
AYDN				*i* S	**Sg**	**05 23 46.0**	**+0.7**
AYDN	**Tasoluk**	**0.42**	**128**	*i* P	**Pg**	**05 23 40.7**	**+0.8**
AYDN				*i* S	**Sg**	**05 23 46.0**	**+0.7**
IZM	**Izmir**	**0.50**	**342**	*e*PG	**Pg**	**05 23 41.9**	**+0.5**
IZM	**Izmir**	**0.50**	**342**	*e*Pg	**Pg**	**05 23 41.9**	**+0.5**
MLSB	**Milas**	**0.67**	**158**	*e*PG	**Pb**	**05 23 46.4**	**-0.1**
MLSB				*e*SG	**Sb**	**05 23 56.0**	**-0.3**
MLSB	**Milas**	**0.67**	**158**	*e*Pg	**Pb**	**05 23 46.4**	**-0.1**
MLSB				*e*Sg	**Sb**	**05 23 56.0**	**-0.3**
URLA	**Izmir**	**0.81**	**303**	*i* P	**Pg**	**05 23 47.5**	**+0.2**
URLA				*i* S	**Sg**	**05 23 58.1**	**+0.2**
URLA	**Izmir**	**0.81**	**303**	*i* P	**Pg**	**05 23 47.5**	**+0.2**
URLA				*i* S	**Sg**	**05 23 58.1**	**+0.2**
BODT	**Bodrum**	**0.87**	**188**	*e*PG	**Pb**	**05 23 49.0**	**-0.6**
BODT				*e*SG	**Sb**	**05 24 01.2**	**-0.6**
BODT	**Bodrum**	**0.87**	**188**	*e*Pg	**Pb**	**05 23 49.1**	**-0.6**
BODT				*e*Sg	**Sb**	**05 24 01.2**	**-0.6**
AKHS	**Akhisar**	**1.00**	**16**	*i* P	**Pg**	**05 23 51.1**	**+0.2**

AKHS				eS	Sg	05 24 02.8	-1.0
AKHS	Akhisar	1.00	16	i P	Pg	05 23 51.1	+0.2
AKHS				eS	Sg	05 24 02.8	-1.0
AKS	Akhisar	1.00	16	ePG	Pg	05 23 51.0	+0.1
AKS	Akhisar	1.00	16	ePg	Pg	05 23 51.0	+0.1
YER	Yerkesik	1.02	140	ePG	Pb	05 23 52.1	-0.2
YER	Yerkesik	1.02	140	ePg	Pb	05 23 52.2	-0.2
MANT	Manisa	1.03	56	i P	Pg	05 23 52.2	+0.5
MANT				i S	Sg	05 24 03.9	-1.2
MANT	Manisa	1.03	56	i P	Pg	05 23 52.2	+0.5
MANT				i S	Sg	05 24 03.9	-1.2
KULA	Kula-Manisa	1.12	58	ePN	Pb	05 23 54.4	+0.4
KULA	Kula-Manisa	1.12	58	ePn	Pb	05 23 54.4	+0.4
DNZL	Cakiroluk	1.28	100	eP	Pg	05 23 55.9	-0.4
DNZL				i S	Sn	05 24 15.0	0.0
DNZL	Cakiroluk	1.28	100	eP	Pg	05 23 55.9	-0.4
DNZL				i S	Sn	05 24 15.0	0.0
KHAL	Karahalli	1.66	74	i P	Pb	05 24 02.9	-0.5
KHAL				i S	Sb	05 24 24.9	0.0
KHAL	Karahalli	1.66	74	i P	Pb	05 24 02.9	-0.5
KHAL				i S	Sb	05 24 24.9	0.0
KHL	Karahalli	1.68	76	ePN	Pb	05 24 03.5	-0.1
KHL	Karahalli	1.68	76	ePn	Pb	05 24 03.5	-0.1
FETY	Fethiye	1.82	134	ePN	Pb	05 24 05.3	-0.8
FETY	Fethiye	1.82	134	ePn	Pb	05 24 05.3	-0.8
GONE	Gonen-Balikesi	2.13	5	ePN	Pn	05 24 08.9	+0.3
GONE	Gonen-Balikesi	2.13	5	ePn	Pn	05 24 08.9	+0.3
TVSB	Tavsanli	2.19	45	ePN	Pn	05 24 10.3	+0.8
TVSB	Tavsanli	2.19	45	ePn	Pn	05 24 10.3	+0.8
EDC	Edincik	2.44	7	ePN	Pn	05 24 13.3	+0.3
EDC	Edincik	2.44	7	ePn	Pn	05 24 13.3	+0.3
KCTX	Karacabey (Bur	2.44	16	ePN	Pn	05 24 13.3	+0.3
KCTX	Karacabey (Bur	2.44	16	ePn	Pn	05 24 13.3	+0.3
KRBG	Karabiga-Canak	2.47	357	ePN	Pn	05 24 14.2	+0.9
KRBG	Karabiga-Canak	2.47	357	ePn	Pn	05 24 14.2	+0.9
GELI	Tayfur-Gelibol	2.59	343	ePN	Pn	05 24 15.3	+0.4
GELI	Tayfur-Gelibol	2.59	343	ePn	Pn	05 24 15.3	+0.4

*ISCJB **02** 05:23:38.3±0.7, 54°.71S±0°.08×1°.2W±0°.3, h10km, mb4.4/9, MS3.8/12, Error ellipse: s-maj=26.3km s-min=11.9km az=174.3*

*IDC **02** 05:23:38.4±0.8, 54°.76S×1°.14W, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.1/17, mbtmp4.3/8, MS3.8/12, Ms1 3.7/12, ms1mx3.6/22, Error ellipse: s-maj=32.9km s-min=20.0km az=78.0*

*NEIC **02** 05:23:39.9±0.5, 54°.77S×1°.22W, h10km, mb4.5/4, Error ellipse: s-maj=20.1km s-min=12.9km az=76.0*

ISC 02 05:23:39.9±0.7**, 54°.8S**±0°.1×**1°.3W**±0°.2**, h10km, n30, σ0s.64**/27**, mb4.5**/9**, MS3.8**/12**, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	16.41	187	eP	P	05 27 31.4	-1.3
	baz=0.3,slow=14						
VNA3	Neumayer Olymp	16.91	189	eP	P	05 27 37.4	-0.8
SUR	Sutherland	27.31	44	LR	LR	05 37 08.6	
	comp=Z,128nm,18.4s,baz=154,slow=30						
MAW	Mawson	31.80	139	LR	LR	05 40 33.3	
	comp=Z,280nm,18.9s,baz=72,slow=32						
QSPA	South Pole Qui	35.44	180	P	P	05 30 35.9	0.0
	3.8nm,0.7s,baz=215,slow=2.4,SNR=14						
QSPA				PcP	PcP	05 33 05.5	+0.4
	2.0nm,0.9s,baz=245,slow=1.4,SNR=3.1						
QSPA	South Pole Qui	35.44	180	P	P	05 30 35.9	0.0
QSPA				PcP	PcP	05 33 05.5	+0.4
VNDA	Vanda	47.52	175	P	P	05 32 15.5	+1.0
	4.9nm,0.9s,baz=213,slow=5.8,SNR=7.9						
VNDA				LR	LR	05 50 46.7	
	comp=Z,94nm,19.0s,baz=190,slow=34						
VNDA	Vanda	47.52	175	P	P	05 32 15.5	+1.0
CPUP	Villa Florida	49.48	282	P	P	05 32 30.2	+0.1
	3.4nm,0.9s,baz=136,slow=5.3,SNR=4.8						
CPUP				PcP	PcP	05 33 51.5	-0.6
	0.3nm,0.3s,baz=313,slow=4.2,SNR=3.1						
CPUP				LR	LR	05 49 57.0	
	comp=Z,52nm,21.9s,baz=297,slow=32						
CPUP	Villa Florida	49.48	282	eP	P	05 32 29.6	-0.6
	1.5nm,0.4s						
CPUP				PcP	PcP	05 33 51.5	-0.6
BDFB	Brasilia	53.09	299	LR	LR	05 51 03.9	
	comp=Z,48nm,19.6s,baz=138,slow=31						
DBIC	Dimbokro	61.32	356	P	P	05 33 55.8	+0.3
	4.3nm,1.0s,baz=197,slow=6.3,SNR=4.5						
DBIC				LR	LR	05 55 33.1	
	comp=Z,34nm,18.0s,baz=344,slow=31						
DBIC	Dimbokro	61.32	356	eP	P	05 33 55.7	+0.3
	1.7nm,0.6s						
LPAZ	La Paz	63.53	279	P	P	05 34 12.1	+0.9
	4.6nm,0.7s,baz=135,slow=3.3,SNR=18						
LPAZ				LR	LR	05 59 14.5	
	comp=Z,22nm,21.7s,baz=257,slow=34						
LPAZ	La Paz	63.53	279	eP	P	05 34 12.1	+0.9
	5.1nm,0.8s						
SAML	Samuel	66.72	288	eP	P	05 34 31.4	+0.3
	4.6nm,1.2s						
TORD	Torodi Ar. Bea	67.73	3	P	P	05 34 36.5	-0.9
	0.7nm,0.6s,baz=186,slow=6.6,SNR=6.0						
TORD				LR	LR	05 58 09.7	
	comp=Z,46nm,19.0s,baz=270,slow=31						
TORD	Torodi Ar. Bea	67.73	3	P	P	05 34 36.5	-0.9
NWAO	Narrogin (SRO)	77.95	131	LR	LR	06 03 34.3	
	comp=Z,81nm,21.5s,baz=43,slow=31						
STKA	Stephens Creek	87.94	149	P	P	05 36 29.6	-0.1
	3.2nm,0.9s,baz=213,slow=7.4,SNR=4.4						
STKA	Stephens Creek	87.94	149	P	P	05 36 29.6	-0.1
KEST	Kesra	90.63	9	P	P	05 36 42.5	+0.5
	1.2nm,0.8s,baz=17,slow=3.6,SNR=4.1						
KEST	Kesra	90.63	9	P	P	05 36 42.5	+0.5
ASAR	Alice Springs	92.92	140	LR	LR	06 13 34.4	
	comp=Z,55nm,20.1s,baz=349,slow=32						
FITZ	Fitzroy Crossi	94.52	130	LR	LR	06 11 29.5	
	comp=Z,54nm,18.9s,baz=188,slow=30						
PSI	Prapat	98.15	97	LR	LR	06 09 15.3	
	comp=Z,245nm,20.5s,baz=211,slow=28						
MKAR	Makanchi Array	123.21	55	PKP	PKPdf	05 42 35.8	-0.1
	0.6nm,1.0s,baz=259,slow=2.5,SNR=3.7						
MKAR	Makanchi Array	123.21	55	PKP	PKPdf	05 42 35.8	-0.1
YKA	Yellowknife Ar	145.96	310	PKPbc	PKPbc	05 43 17.9	-0.3
	1.5nm,0.7s,baz=105,slow=2.7,SNR=28						
YKA	Yellowknife Ar	145.96	310	PKPbc	PKPbc	05 43 17.9	-0.3

*DDA **02** 05:24:06.7, 40°.59N×36°.86E, h14km, MD2.8*

*ISCJB **02** 05:24:07.8±0.5, 40°.56N±0°.03×36°.83E±0°.03, h8km±4km, Error ellipse: s-maj=5.8km s-min=3.8km az=174.5*

*CSEM **02** 05:24:07.7±0.2, 40°.57N×36°.85E, h5km, MD2.8, Error ellipse: s-maj=5.9km s-min=3.4km az=2.0*

*ISK **02** 05:24:08.5, 40°.46N×36°.87E, h18km, MD2.8*

ISC 02 05:24:07.3±0.8**, 40°.58N**±0°.03×**36°.86E**±0°.02**, h12km**±6km**, n35, σ0s.57**/55**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERBA	Erbaa	0.13	324	i P	Pg	05 24 10.6	0.0
ERBA				i S	Sg	05 24 12.8	-0.1
ERBA	Erbaa	0.13	324	i P	Pg	05 24 10.6	0.0
ERBA				i S	Sg	05 24 12.8	-0.1
TOKA	Tokat	0.38	229	i P	Pg	05 24 14.8	-0.1
TOKA				i S	Sg	05 24 20.0	0.0
TOKA	Tokat	0.38	229	i P	Pg	05 24 14.8	-0.1
TOKA				i S	Sg	05 24 20.0	0.0
RSDY	Resadiye-TOKAT	0.40	116	ePG	Pb	05 24 16.4	0.0
RSDY				eSG	Sb	05 24 22.0	-0.5
RSDY	Resadiye-TOKAT	0.40	116	ePg	Pb	05 24 16.4	0.0
RSDY				eSg	Sb	05 24 22.0	-0.5
SCER	sogukcermik	0.74	164	eP	Pb	05 24 22.8	+0.5
SCER				i S	Sg	05 24 32.2	+0.8
SCER	sogukcermik	0.74	164	eP	Pb	05 24 22.8	+0.5
SCER				i S	Sg	05 24 32.2	+0.8
SUSE	Susehri	1.09	109	i P	Pb	05 24 28.2	0.0
SUSE				i S	Sb	05 24 42.5	0.0
SUSE	Susehri	1.09	109	i P	Pb	05 24 28.2	0.0
SUSE				i S	Sb	05 24 42.5	0.0
GRSN	GIRESUNGRSN	1.13	72	eP	Pb	05 24 24.4	-4.3
GRSN				eS	Sb	05 24 43.2	-0.2
ESPY	Espiye-Giresun	1.46	76	ePN	Pb	05 24 34.7	+0.3
ESPY				eSN	Sg	05 24 54.3	0.0
ESPY	Espiye-Giresun	1.46	76	ePn	Pb	05 24 34.7	+0.3
ESPY				eSn	Sg	05 24 54.3	0.0
YOZ	Yozgat	1.50	232	ePN	Pn	05 24 34.9	+0.7
YOZ				eSN	Sn	05 24 52.9	-0.9
YOZ	Yozgat	1.50	232	ePn	Pn	05 24 34.9	+0.7
YOZ				eSn	Sn	05 24 52.9	-0.9
DIKM	Dikmen	1.61	312	ePN	Pg	05 24 38.0	-0.3
DIKM	Dikmen	1.61	312	ePn	Pg	05 24 38.0	-0.3
ILIC	ilic-Erzincan	1.73	130	ePN	Pn	05 24 37.1	-0.2
ILIC	ilic-Erzincan	1.73	130	ePn	Pn	05 24 37.1	-0.2
CORM	Corum	1.75	258	ePN	Pb	05 24 39.2	-0.1
CORM	Corum	1.75	258	ePn	Pb	05 24 39.3	-0.1
KEMA	Kemaliye	1.81	135	i P	Pb	05 24 40.7	+0.2
KEMA				i S	Sg	05 25 05.1	-0.5
KEMA	Kemaliye	1.81	135	i P	Pb	05 24 40.7	+0.2
KEMA				i S	Sg	05 25 05.1	-0.5
KELT	Kelkit	1.88	102	i P	Pb	05 24 41.2	-0.5
KELT				i S	Sb	05 25 05.9	+0.6
KELT	Kelkit	1.88	102	i P	Pb	05 24 41.2	-0.5
KELT				i S	Sb	05 25 05.9	+0.6
BNN	Bunyan	1.89	205	ePN	Pn	05 24 39.4	-0.1
BNN	Bunyan	1.89	205	ePn	Pn	05 24 39.4	-0.1
GUMT	Gumushane	2.00	92	ePN	Pb	05 24 42.8	-1.0
GUMT	Gumushane	2.00	92	ePn	Pb	05 24 42.8	-1.0
EZC	Erzincan	2.08	112	ePN	Pn	05 24 42.8	+0.6
EZC	Erzincan	2.08	112	ePn	Pn	05 24 42.8	+0.6
CDAG	Cicekdag	2.13	244	eP	Pb	05 24 44.7	-1.1
CDAG				eS	Sn	05 25 09.7	+0.5
CDAG	Cicekdag	2.13	244	eP	Pb	05 24 44.7	-1.1
CDAG				eS	Sn	05 25 09.7	+0.5
TOS	Tosya	2.20	283	ePN	Pn	05 24 45.0	+1.3
TOS	Tosya	2.20	283	ePn	Pn	05 24 45.0	+1.3

*DDA **02** 05:24:38.4, 36°.80N×34°.29E, h7km, MD3.0*

*ISCJB **02** 05:24:39.5±1.2, 36°.8N±0°.1×34°.30E±0°.08, h12km, Error ellipse: s-maj=21.8km s-min=5.9km az=159.7*

ISC 02 05:24:38.6±1.4**, 36°.8N**±0°.1×**34°.29E**±0°.06**, h12km, n3, σ0s.72**/6**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MERS	Mersin	0.19	77	ePG	Pb	05 24 43.6	-0.6
MERS				eSG	Sg	05 24 46.8	+0.9
GULE	Gulek	0.60	40	i P	Pb	05 24 50.8	-0.4
GULE				i S	Sb	05 24 59.8	0.0
ERMK	Ermenek	1.12	261	i P	Pg	05 25 00.3	0.0
ERMK				i S	Sg	05 25 15.2	+0.4

*ISCJB **02** 06:02:01.5±0.5, 55°.18N±0°.03×114°.67E±0°.04, h10km, Error ellipse: s-maj=4.4km s-min=2.9km az=166.0*

*MOS **02** 06:02:07.2±1.2, 55°.30N×114°.70E, h10km, mb4.2/1, Error ellipse: s-maj=40.9km s-min=26.1km az=96.8*

*BYKL **02** 06:02:07.4±0.3, 55°.26N×114°.62E*

ISC 02 06:02:06.7±0.8**, 55°.32N**±0°.03×**114°.60E**±0°.02**, h10km, n22, σ1s.63**/42**, 3C-2D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UKT	Uakit	0.58	288	⇑iPg	Pb	06 02 18.7	-0.3
	166nm,0.5s						
UKT				⇓iPg	Pb	06 02 18.7	-0.3
	234nm,0.5s						
UKT				⇑iPg	Pb	06 02 18.7	-0.3
	582nm,0.5s						
UKT				e		06 02 23.0	
UKT				i Sg	Sg	06 02 26.7	+1.1
UKT				Pmax			
	291nm,0.2s						
UKT				Smax			
	357nm,0.2s						
NLYR	Nelyaty	1.33	27	ePG	Pg	06 02 32.1	-0.1
NLYR				e		06 02 49.3	
NLYR				pmax	pmax		
	comp=Z,108nm,0.6s						
NLYR				smax	smax		
	comp=N,373nm,1.0s						
NLYR	Nelyaty	1.33	27	⇑iPg	Pg	06 02 32.2	0.0
NLYR				e		06 02 39.9	
NLYR				i Sg	Sg	06 02 50.6	+1.1
NLYR				e		06 02 57.7	
NLYR				max			
	comp=N,108nm,0.8s						
NLYR				Smax			
	comp=N,375nm,0.9s						
YOA	Uoyan	1.82	298	ePN	Pb	06 02 40.2	+0.1
YOA				i		06 03 06.6	
YOA				pmax	pmax		
	comp=Z,314nm,0.2s						
YOA				smax	smax		
	comp=N,539nm,0.4s						
YOA	Uoyan	1.82	298	ePg	Pg	06 02 41.1	-0.4
YOA				eSg	Sg	06 03 05.1	0.0
YOA				Pmax			
	comp=N,314nm,0.3s						
YOA				Smax			
	comp=N,538nm,0.5s						
KMO	Kumora	2.01	288	ePN	Pb	06 02 43.7	+0.4
KMO				e		06 03 09.2	
KMO				pmax	pmax		
	comp=Z,27nm,0.3s						
KMO				smax	smax		
	comp=N,167nm,1.0s						
KMO	Kumora	2.01	288	ePn	Pb	06 02 42.6	-0.7
KMO				⇓iPg	Pb	06 02 43.8	+0.4
KMO				eSn	Sb	06 03 08.4	0.0
KMO				eSg	Sg	06 03 10.5	-0.7
KMO				Pmax			
	comp=N,27nm,0.3s						
KMO				Smax			
	comp=N,168nm,1.0s						
YLYR	Ulyunkhan	2.02	259	ePN	Pb	06 02 42.0	-1.5
YLYR				e		06 02 43.9	
YLYR				e		06 03 10.7	
YLYR				pmax	pmax		
	comp=Z,19nm,0.1s						
YLYR				smax	smax		
	comp=N,169nm,0.7s						
YLYR	Ulyunkhan	2.02	259	ePn	Pb	06 02 42.2	-1.3
YLYR				ePg	Pg	06 02 43.8	-1.6
YLYR				e		06 02 49.7	
YLYR				eSn	Sb	06 03 08.4	-0.4
YLYR				eSg	Sg	06 03 11.0	-0.7
YLYR				Pmax			
	comp=N,19nm,0.1s						
YLYR				Smax			
	comp=N,167nm,0.7s						
BOD	Bodaibo	2.53	353	ePN	Pb	06 02 52.2	+0.1
BOD				e		06 02 55.6	
BOD				e		06 03 27.3	
BOD				pmax	pmax		
	comp=Z,27nm,0.2s						
BOD				smax	smax		
	comp=E,241nm,0.4s						
BOD	Bodaibo	2.53	353	ePn	Pb	06 02 50.4	-1.7
BOD				ePg	Pg	06 02 52.9	-2.2
BOD				ePgPg	PnPn	06 02 54.2	-0.8
BOD				e		06 02 57.0	
BOD				eSg	Sg	06 03 26.5	-1.4
BOD				max			
	comp=E,29nm,0.3s						
BOD				Smax			
	comp=E,243nm,0.5s						
CRS	Chara	2.60	51	ePg	Pg	06 02 54.6	-1.8
CRS				ePgPg	PbPb	06 02 59.5	+3.1
CRS				eSg	Sg	06 03 29.2	-0.8
CRS				max			
	comp=E,42nm,1.0s						
CRS				Smax			
	comp=E,40nm,0.7s						
NIZ	Nizh Angarsk	2.91	281	ePn	Pn	06 02 54.9	+1.9
NIZ				ePg	Pb	06 02 59.2	+0.6
NIZ				eSg	Sg	06 03 38.7	-1.4
NIZ				Pmax			
	comp=E,9.0nm,0.3s						
NIZ				Smax			
	comp=E,44nm,0.4s						
SYVR	Suvo	3.16	240	ePg	Pb	06 03 03.2	+0.4
SYVR				e		06 03 07.6	
SYVR				eSg	Sb	06 03 44.6	+3.3
SYVR				max			
	comp=E,6.0nm,0.4s						
SYVR				Smax			
	comp=E,59nm,1.2s						
TUP	Tupik	3.22	104	ePn	Pn	06 02 57.5	+0.2
TUP				ePg	Pb	06 03 04.0	+0.1
TUP				e		06 03 08.1	
TUP				eSg	Sg	06 03 46.9	-3.1
TUP				Pmax			
	comp=E,12nm,0.2s						
TUP				Smax			
	comp=E,69nm,0.8s						
CIT	Chita	3.36	191	eSg	Sb	06 03 49.8	+2.6
CIT				Smax			
	comp=E,134nm,0.2s						
KHNR	Khani	3.41	60	e	Pg	06 03 13.2	+1.2
KHNR				eSg	Sg	06 03 54.1	-2.1
OGRR	Ongureny	4.42	251	ePn	Pn	06 03 14.7	+1.0
OGRR				ePg	Pb	06 03 25.3	+1.0
OGRR				eSg	Sg	06 04 23.1	-5.2
OGRR				Pmax			
	comp=E,2.0nm,0.7s						
OGRR				Smax			
	comp=E,11nm,0.8s						
KPC	Khapcheranga	5.78	194	ePn	Pn	06 03 35.2	+2.7
KPC				ePg	Pb	06 03 50.3	+2.7
KPC				eSg	Sg	06 05 04.4	-7.8
KPC				Pmax			
	comp=E,2.0nm,0.6s						
KPC				Smax			
	comp=E,16nm,0.7s						
ARS	Arshan	8.00	250	eSg	Sg	06 06 13.9	-9.2
ARS				Smax			
	comp=E,22nm,1.3s						
MOY	Mondy	8.89	251	eSg	Sg	06 06 43.4	-8.5
MOY				Smax			
	comp=E,3.0nm,0.9s						
ORL	Orlik	9.16	258	eSg	Sn	06 06 50.6	+49
ORL				Smax			
	comp=E,3.0nm,1.2s						

IDC 02 06:10:21.1±10.0**, 3°.64N**×**127°.59E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/22**, mbtmp3.8**/3**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.2**/42**, Error ellipse: s-maj=177.7km s-min=137.9km az=158.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.36	164	P	P	06 15 40.9	-0.1
	2.5nm,0.4s,baz=344,slow=10,SNR=40						
WRA				LR	LR	06 25 06.1	
	comp=Z,30nm,20.3s,baz=230,slow=36						
ASAR	Alice Springs	27.83	168	P	P	06 16 12.4	0.0
	0.2nm,0.3s,baz=351,slow=9.4,SNR=3.6						
STKA	Stephens Creek	37.75	160	P	P	06 17 38.9	0.0
	0.9nm,0.4s,baz=331,slow=11,SNR=5.3						

*IDC **02** 06:16:52.4±1.3, 43°.93N×83°.51E, h0km, mb3.4/3, mb1 3.5/9, mb1mx3.4/32, mbtmp3.4/9, ML3.3/6, Error ellipse: s-maj=18.0km s-min=13.3km az=89.0*

*ISCJB **02** 06:16:56.7±0.7, 44°.37N±0°.06×83°.44E±0°.08, h20km, mb3.3/3, Error ellipse: s-maj=9.3km s-min=7.5km az=19.3*

*NNC **02** 06:17:02.0±2.3, 44°.28N×83°.08E, h21km±10km, mb3.6, mpv3.2, Error ellipse: s-maj=18.0km s-min=10.9km az=119.0*

ISC 02 06:16:58.0±1.0**, 44°.16N**±0°.08×**83°.41E**±0°.06**, h20km, n19, σ1s.83**/25**, mb3.4**/3**, 13C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.75	344	⇑Pn	Pn	06 17 43.4	+2.3
	1.0nm,0.2s,baz=157,slow=14,SNR=574						
MK31				⇑Pg	Pb	06 17 48.7	+2.2
	8.3nm,0.3s,baz=168,slow=16,SNR=8.1						
MK31				⇑Lg	Lg	06 18 26.0	
	10nm,0.2s,baz=161,slow=25,SNR=9.6						
MKAR	Makanchi Array	2.75	344	Pn	Pn	06 17 43.5	+2.4
	2.7nm,0.3s,baz=155,slow=15,SNR=61						
MKAR				Pg	Pb	06 17 48.9	+2.3
	15nm,0.3s,baz=152,slow=17,SNR=126						
MKAR				Lg	Lg	06 18 26.5	
	31nm,0.3s,baz=163,slow=30,SNR=12						
WMQ	Urumqi	3.11	95	Pn	Pn	06 17 47.0	+1.0
WMQ				Sg	Sb	06 18 32.3	+2.1
WMQ				smax	smax		
	comp=N,170nm,0.5s						
WMQ				smax	smax		
	comp=E,110nm,0.5s						
TKM2	Tokmak 2	5.81	260	⇓Pn	Pn	06 18 25.8	+2.5
	comp=E,4.9nm,0.6s						
TKM2				⇑Lg	Lg	06 19 57.9	
	comp=E,16nm,0.6s						
AAK	Ala-Archa	6.67	260	Pn	Pn	06 18 36.0	+1.0
	comp=E,0.2nm,0.3s,baz=122,slow=9.5,SNR=3.3						
AAK				Pg	Pb	06 19 00.5	+7.2
	comp=E,0.5nm,0.3s,baz=131,slow=14,SNR=8.4						
AAK				Lg	Lg	06 20 24.8	
	comp=E,0.8nm,0.3s,baz=322,slow=18,SNR=5.4						
KURBB	Kurchatov Arra	7.26	335	Pn	Pn	06 18 43.6	+0.7
	comp=E,0.2nm,0.3s,baz=147,slow=13,SNR=10						
KURBB				Sn	Sn	06 20 07.9	+3.1
	comp=E,0.3nm,0.3s,baz=142,slow=26,SNR=8.9						
KURBB				Lg	Lg	06 20 50.0	
	comp=E,0.5nm,0.3s,baz=160,slow=33,SNR=6.5						
KURBB	Kurchatov Arra	7.26	335	⇓Pn	Pn	06 18 42.5	-0.5
	comp=E,0.4nm,0.7s						
KURBB				⇑Lg	Lg	06 20 46.6	
	comp=E,4.7nm,0.6s						
KURK	Kurchatov	7.32	335	⇑Pn	Pn	06 18 42.9	-0.8
	comp=E,1.5nm,0.9s						
KURK				⇓Pg	Pb	06 19 11.4	+7.1
	comp=E,2.9nm,0.6s						
KURK				⇑Lg	Lg	06 20 49.4	
KK31	Karatay Array	9.41	268	⇑Lg	Lg	06 21 51.8	
	comp=E,4.4nm,0.8s,baz=73,slow=28,SNR=4.6						
ZALV	Zalesovo Beam	9.84	5	Pn	Pn	06 19 17.6	-0.7
	comp=E,0.9nm,0.3s,baz=185,slow=13,SNR=14						
ZALV				Sn	Sn	06 21 05.6	-2.5
	comp=E,1.0nm,0.3s,baz=169,slow=26,SNR=8.0						
ZALV				Lg	Lg	06 22 12.9	
	baz=176,slow=26,SNR=2.8						
VOSK	Vostochnaya	11.88	321	⇑Pn	Pn	06 19 46.5	+0.2
	comp=E,2.9nm,0.9s						
VOSK				⇑Sn	Sn	06 21 55.1	-3.0
	comp=E,2.4nm,0.8s						
VOSK				⇑Lg	Lg	06 23 11.0	
	comp=E,3.8nm,0.8s						
BVA0	Borovoye Array	12.35	320	⇓Pn	Pn	06 19 52.8	+0.1
	comp=E,0.1nm,0.5s,baz=257,slow=42,SNR=4.7						
BVA0				⇑Lg	Lg	06 23 27.2	
	comp=E,1.0nm,1.1s,baz=134,slow=28,SNR=3.5						
BVAR	Borovoye Array	12.35	320	Pn	Pn	06 19 53.0	+0.4
	comp=E,0.4nm,0.3s,baz=140,slow=12,SNR=4.9						
BVAR				Lg	Lg	06 23 38.4	
	comp=E,0.2nm,0.3s,baz=134,slow=28,SNR=3.9						
ZRNK	Zerenda	12.96	318	⇑Pn	Pn	06 20 00.4	-0.5
	comp=E,1.6nm,0.4s						
ZRNK				⇓Sn	Sn	06 22 24.6	+0.2
	comp=E,1.7nm,0.8s						
ZRNK				⇓Lg	Lg	06 23 46.5	
	comp=E,8.1nm,1.4s						
SONM	Songino Array	16.38	69	Pn	Pn	06 20 44.7	-2.0
	comp=E,0.0nm,0.3s,baz=236,slow=10,SNR=2.1						
AB31	Akbulak array	16.86	296	P	Pn	06 20 52.6	0.0
	comp=E,0.5nm,1.0s,baz=103,slow=7.9,SNR=4.2						
ILAR	Eielson Array	64.52	21	P	P	06 27 31.2	-1.8
	comp=E,0.2nm,0.7s,baz=324,slow=5.7,SNR=2.8						
YKA	Yellowknife Ar	72.72	9	P	P	06 28 23.7	-0.3
	comp=E,0.2nm,0.6s,baz=339,slow=5.9,SNR=7.3						
TORD	Torodi Ar. Bea	75.05	274	P	P	06 28 36.4	-2.2
	comp=E,0.3nm,0.5s,baz=45,slow=4.7,SNR=3.4						

*IDC **02** 06:57:53.4±5.3, 35°.97N×71°.31E, h61km±45km, mb3.5/8, mb1 3.6/13, mb1mx3.4/32, mbtmp3.6/13, ML3.7/5, MS2.5/1, Ms1 2.5/1, ms1mx1.8/35, Error ellipse: s-maj=37.0km s-min=24.0km az=26.0*

*ISCJB **02** 06:57:58.8±0.5, 36°.31N±0°.04×71°.47E±0°.09, h114km, mb3.5/7, Error ellipse: s-maj=10.7km s-min=4.1km az=154.4*

*NNC **02** 06:58:06.2±3.2, 36°.81N×71°.23E, h109km±33km, mb3.4, mpv4.4, Error ellipse: s-maj=34.2km s-min=18.0km az=48.0*

ISC 02 06:58:00.6±0.7**, 36°.40N**±0°.06×**71°.54E**±0°.10**, h114km, n48, σ1s.64**/45**, mb3.6**/7**, 4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.59	173	⇓P	Pn	06 58 43.0	+1.5
CEP				S	Sn	06 59 14.0	+1.1
CHCP	Chirah Chowk	3.08	152	P	Pn	06 58 50.5	+2.6
THN	Thein Dam	5.25	138	eP	Pn	06 59 17.8	+0.9
THN				ex	Sn	07 00 13.9	-2.4
DLH	Dalhousie	5.31	135	eP	Pn	06 59 26.0	+8.1
DLH				eS	Sn	07 00 18.0	0.0
AML	Almayashu	5.96	16	P	Pn	06 59 27.8	+1.1
	SNR=105						
KZA	Kyzart	6.36	26	P	Pn	06 59 35.6	+3.5
	SNR=9.7						
EKS2	Erkin-Say	6.48	15	P	Pn	06 59 34.9	+1.3
	SNR=12						
AAK	Ala-Archa	6.63	19	P	Pn	06 59 36.3	+0.8
	4.8nm,0.3s,baz=175,slow=5.4,SNR=42						
AAK				S	Sn	07 00 50.0	+0.3
	1.3nm,0.3s,baz=122,slow=23,SNR=6.6						
AAK	Ala-Archa	6.63	19	P	Pn	06 59 37.3	+1.8
	SNR=16						
KK31	Karatay Array	6.74	354	⇓P	Pn	06 59 36.6	-0.3
	22nm,0.2s,baz=180,slow=13,SNR=1462						
KK31				S	Sn	07 00 48.0	-4.1
	12nm,0.3s,baz=188,slow=27,SNR=12						
CHMS	Chumysh	7.04	20	P	Pn	06 59 44.6	+3.7
	SNR=9.2						
TKM2	Tokmak 2	7.22	24	⇓P	Pn	06 59 46.3	+2.6
	5.1nm,0.5s						
TKM2	Tokmak 2	7.22	24	P	Pn	06 59 47.3	+3.6
	SNR=19						
USP	Ospenovka	7.22	17	P	Pn	06 59 44.8	+1.3
	SNR=11						
KHET	Khetri	9.05	155	eP	Pn	07 00 03.4	-5.0
KHET				eS	Sn	07 01 32.2	-16
KHET				AML	AML	07 01 45.7	
	comp=N,12nm,0.4s						
KHET				AML	AML	07 01 45.7	
	comp=E,12nm,0.2s						
AYAN	Aya Nagar	9.20	148	eS	Sn	07 01 36.0	-16
SONA	Sohna	9.38	148	eP	Pn	07 00 10.2	-2.6
SONA				eS	Sn	07 01 39.7	-17
SONA				AML	AML	07 02 12.9	
	comp=E,21nm,0.1s						
SONA				AML	AML	07 02 15.7	
	comp=N,12nm,0.1s						
DANN	Dangsing	13.07	124	eP	Pn	07 01 00.6	-1.7
	comp=N,14nm,0.4s						
MK31	Makanchi Array	13.12	34	P	Pn	07 01 05.0	+2.5
	comp=N,0.6nm,0.7s,baz=221,slow=12,SNR=7.7						
MKAR	Makanchi Array	13.12	34	P	Pn	07 01 03.2	+0.7
	comp=N,0.0nm,0.3s,baz=213,slow=13,SNR=7.7						
KOLN	Koldanda	13.36	127	eP	Pn	07 01 03.5	-2.4
	comp=N,5.1nm,0.3s						
GKN	Gorkha	13.89	123	eP	Pn	07 01 10.0	-2.7
	comp=N,19nm,0.5s						
DMN	Daman	14.46	124	eP	Pn	07 01 18.5	-1.6
KKN	Kakani	14.46	123	eP	Pn	07 01 18.0	-2.1
	comp=N,14nm,0.4s						
PKI	Pulchoki	14.69	123	eP	Pn	07 01 22.2	-0.9
	comp=N,22nm,0.6s						
GUN	Gumba	14.79	121	eP	Pn	07 01 22.1	-2.3
	comp=N,14nm,0.6s						
KURBB	Kurchatov Arra	15.08	17	P	Pn	07 01 26.8	-0.7
	comp=N,0.0nm,0.3s,baz=208,slow=11,SNR=2.6						
JIRN	Jiri	15.16	121	eP	Pn	07 01 27.0	-2.1
	comp=N,3.1nm,0.3s						
AB31	Akbulak array	15.38	330	⇑P	Pn	07 01 28.9	-2.4
	comp=N,3.0nm,0.5s,baz=139,slow=12,SNR=130						
RAMN	Ramite	15.89	122	eP	Pn	07 01 37.2	-0.9
	comp=N,14nm,0.5s						
VOSK	Vostochnaya	16.32	359	⇑P	Pn	07 01 42.6	-0.4
	comp=N,2.0nm,0.9s						
TAPN	Taplejung	16.42	119	eP	Pn	07 01 44.3	-0.3
	comp=N,27nm,0.6s						
ODAN	Odare	16.50	121	eP	Pn	07 01 45.4	-0.1
	comp=N,8.9nm,0.4s						
BVA0	Borovoye Array	16.64	358	⇑P	P	07 01 48.5	+1.2
	comp=N,0.6nm,1.5s,baz=0.0,slow=0.1,SNR=6.3						
BVAR	Borovoye Array	16.64	358	P	Pn	07 01 46.7	-0.1
	comp=N,0.3nm,0.3s,baz=154,slow=10,SNR=7.2						
BVAR				S	Sn	07 04 40.8	-11
	comp=N,0.1nm,0.3s,baz=159,slow=21,SNR=4.5						
ZRNK	Zerenda	16.64	355	⇑P	P	07 01 49.2	+1.9
AKTO	Aktyubinsk	17.08	329	P	P	07 01 51.3	-0.9
	comp=N,1.6nm,0.3s,baz=140,slow=12,SNR=29						
AKTO	Aktyubinsk	17.08	329	⇓P	P	07 01 52.0	-0.2
	comp=N,1.2nm,0.7s						
ZALV	Zalesovo Beam	19.82	24	P	P	07 02 22.2	+0.1
	comp=N,1.9nm,0.3s,baz=205,slow=9.9,SNR=16						
FINES	FINESS Array B	37.81	326	P	P	07 05 06.2	+0.7
	comp=N,0.5nm,0.3s,baz=122,slow=9.8,SNR=6.8						
ARCES	ARCESS Array B	41.40	337	P	P	07 05 36.8	+1.6
	comp=N,1.3nm,0.7s,baz=108,slow=8.0,SNR=6.0						
HFS	Hagfors	43.41	322	P	P	07 05 52.1	+0.5
	comp=N,1.3nm,0.6s,baz=87,slow=10,SNR=8.1						
NB2	NORSAR Subarra	44.72	323	P	P	07 06 02.6	+0.5
	comp=Z,0.5nm,0.5s,baz=96,slow=8.6						
NOA	NORSAR Array B	44.72	323	P	P	07 06 02.5	+0.4
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=3.5						
TGY	Tagaytay City	49.27	104	LR	LR	07 29 32.3	
	comp=Z,5.5nm,20.1s,baz=97,slow=38						
TORD	Torodi Ar. Bea	66.15	269	P	P	07 08 32.5	-3.7
	comp=Z,0.2nm,0.4s,baz=52,slow=6.2,SNR=8.7						
YKA	Yellowknife Ar	81.32	3	P	P	07 10 04.6	+0.7
	comp=Z,0.2nm,0.4s,baz=348,slow=5.3,SNR=7.6						
WRA	Warramunga Arr	81.57	122	P	P	07 10 05.1	-0.8
	comp=Z,0.1nm,0.5s,baz=327,slow=5.0,SNR=3.3						

---

*ISK **02** 07:17:46.4, 37°80N×28°87E, h5km, MD2.4*
*DDA **02** 07:17:46.8, 37°83N×29°10E, h7km, MD2.7*
*ISCJB **02** 07:17:48.0±0.6, 37°84N±0°03×29°01E±0°06, h3km±7km, Error ellipse: s-maj=7.7km s-min=4.7km az=7.8*
*CSEM **02** 07:17:47.9±0.3, 37°82N×29°01E, h2km, MD2.4, Error ellipse: s-maj=8.0km s-min=6.5km az=106.0*
ISC 02 07:17:47.3±0.9**, 37°81N**±0°04×**29°04E**±0°05**, h12**km±8km**, n18, σ0^{s}63**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.06	187	ePG	Pg	07 17 49.2	-0.6
DENT				eSG	Sg	07 17 52.8	+1.2
DENT	Denizli	0.06	187	ePg	Pg	07 17 49.2	-0.6
DENT				eSg	Sg	07 17 52.8	+1.2
DNZL	Cakiroluk	0.12	178	i P	Pg	07 17 50.1	-0.5
DNZL				i S	Sg	07 17 52.8	-0.2
DNZL	Cakiroluk	0.12	178	i P	Pg	07 17 50.1	-0.5
DNZL				i S	Sg	07 17 52.8	-0.2
KHL	Karahalli	0.64	37	ePG	Pn	07 18 01.7	-0.5
KHL	Karahalli	0.64	37	ePg	Pn	07 18 01.7	-0.5
KHAL	Karahalli	0.66	32	i P	Pg	07 17 59.3	-0.9
KHAL				i S	Sg	07 18 08.6	-0.3
KHAL	Karahalli	0.66	32	i P	Pg	07 17 59.3	-0.9
KHAL				i S	Sg	07 18 08.6	-0.3
KULA	Kula-Manisa	0.76	337	ePG	Pg	07 18 01.7	-0.4
KULA				eSG	Sb	07 18 12.9	0.0
KULA	Kula-Manisa	0.76	337	ePg	Pg	07 18 01.7	-0.4
KULA				eSg	Sb	07 18 12.9	0.0
MANT	Manisa	0.78	331	i P	Pg	07 18 01.9	-0.5
MANT				i S	Sb	07 18 14.0	+0.6
MANT	Manisa	0.78	331	i P	Pg	07 18 01.9	-0.5
MANT				i S	Sb	07 18 14.0	+0.6
AYDN	Tasoluk	0.93	261	i P	Pb	07 18 05.7	+0.3
AYDN				i S	Sb	07 18 18.0	+0.3
AYDN	Tasoluk	0.93	261	i P	Pb	07 18 05.7	+0.3
AYDN				i S	Sb	07 18 18.0	+0.3
ALT	Altintas	1.50	34	ePN	Pg	07 18 17.1	+1.1
ALT	Altintas	1.50	34	ePn	Pg	07 18 17.1	+1.1
TVSB	Tavsanli	1.67	11	ePN	Pg	07 18 19.1	-0.2
TVSB	Tavsanli	1.67	11	ePn	Pg	07 18 19.1	-0.2

---

*ISCJB **02** 07:22:20.8±0.7, 6°94N±0°07×73°07W±0°09, h168km±8km, mb2.8/2, Error ellipse: s-maj=16.3km s-min=7.6km az=36.0*
*FUNV **02** 07:22:21.9, 6°81N×73°12W, h165km, MW2.8*
*IDC **02** 07:22:22.6±7.3, 6°87N×73°23W, h164km±143km, mb2.7/2, mb1 3.1/3, mb1mx2.9/23, mbtmp2.8/3, Error ellipse: s-maj=181.6km s-min=86.6km az=169.0*
ISC 02 07:22:21.6±1.1**, 6°90N**±0°07×**73°05W**±0°08**, h164**km±10km**, n12, σ0^{s}80**/17**, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	37	⇓iP	Pn	07 22 50.5	+0.7
CAPV				eS	Sn	07 23 11.5	+0.1
ROSC	El Rosal	2.40	212	P	Pn	07 23 02.6	0.0
	10.0nm,0.3s,baz=30,slow=1.7,SNR=138						
ROSC				S	Sn	07 23 33.5	-0.8
	12nm,0.3s,baz=280,slow=23,SNR=13						
VIGV	El Vigia	2.55	41	eP	Pn	07 23 04.7	+0.6
VIGV				eS	Sn	07 23 36.4	-0.7
SOCV	Socops	2.58	58	eP	Pn	07 23 05.2	+0.8
SOCV				eS	Sn	07 23 36.8	-0.7
ELOV	Elorza	3.54	88	eP	Pn	07 23 16.7	+0.3
VIRV	Villa del Rosa	3.64	10	eP	Pn	07 23 17.4	-0.2
VIRV				eS	Sn	07 23 59.4	-1.9
CURV	Curarigua	4.35	44	eP	Pn	07 23 27.1	+0.2
BAUV	El Baul	5.36	67	eP	Pn	07 23 39.2	-0.9
MAPV	Macapo	5.40	57	eP	Pn	07 23 40.3	-0.2
MONV	Montecano	5.87	31	eP	Pn	07 23 47.4	+0.6
TXAR	Lajitas Array	36.46	312	P	P	07 29 11.1	0.0
	0.2nm,0.8s,baz=123,slow=9.8,SNR=3.5						
YKA	Yellowknife Ar	63.21	340	P	P	07 32 32.8	+0.7
	0.1nm,0.5s,baz=131,slow=7.0,SNR=5.9						

IDC 02 07:26:43.9±1.1**, 3°39N**×**126°78E, h0**km**, mb3.9**/9**, mb1 4.0**/9**, mb1mx3.9**/25**, mbtmp3.9**/9**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.4**/40**, Error ellipse: s-maj=106.2km s-min=14.3km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	20.54	59	LR	LR	07 38 34.9	
	comp=Z,35nm,20.7s,baz=52,slow=35						
FITZ	Fitzroy Crossi	21.38	183	P	P	07 31 33.9	+0.7
	0.6nm,0.4s,baz=1.1,slow=12,SNR=4.3						
WRA	Warramunga Arr	24.34	163	P	P	07 32 03.0	-0.7
	4.5nm,0.5s,baz=335,slow=11,SNR=60						
ASAR	Alice Springs	27.77	166	P	P	07 32 34.4	-0.4
	0.7nm,0.6s,baz=346,slow=6.8,SNR=14						
STKA	Stephens Creek	37.79	159	P	P	07 34 02.5	+0.4
	9.9nm,0.8s,baz=331,slow=8.6,SNR=34						
SONM	Songino Array	47.64	341	P	P	07 35 21.4	-0.6
	0.4nm,0.6s,baz=165,slow=6.0,SNR=3.4						
MKAR	Makanchi Array	57.87	325	P	P	07 36 36.4	-1.3
	0.5nm,0.5s,baz=118,slow=7.6,SNR=8.4						
MKAR				LR	LR	08 03 17.1	
	comp=Z,36nm,18.2s,baz=359,slow=38						
ZALV	Zalesovo Beam	60.92	333	P	P	07 37 00.3	+1.8
	0.2nm,0.4s,baz=134,slow=10,SNR=2.4						
KURBB	Kurchatov Arra	62.05	327	P	P	07 37 06.8	+0.5
	0.7nm,0.3s,baz=127,slow=6.1,SNR=6.6						
BVAR	Borovoye Array	67.63	327	P	P	07 37 42.0	-0.7
	0.8nm,0.6s,baz=144,slow=8.9,SNR=7.3						

IDC 02 07:31:48.4±3.2**, 5°10N**×**96°17E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.5**/24**, mbtmp3.6**/5**, Error ellipse: s-maj=135.6km s-min=20.7km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.23	346	P	P	07 39 51.1	-0.4
	0.3nm,0.3s,baz=158,slow=8.9,SNR=13						
SONM	Songino Array	43.47	10	P	P	07 39 53.5	-0.1
	0.1nm,0.5s,baz=178,slow=7.9,SNR=3.6						
WRA	Warramunga Arr	45.03	125	P	P	07 40 05.8	-0.4
	0.6nm,0.4s,baz=303,slow=9.4,SNR=9.9						
ASAR	Alice Springs	46.61	129	P	P	07 40 18.9	+0.2
	0.6nm,0.4s,baz=301,slow=7.8,SNR=15						
ZALV	Zalesovo Beam	49.57	351	P	P	07 40 41.1	0.0
	0.3nm,0.3s,baz=153,slow=4.8,SNR=2.3						

---

*ISCJB **02** 07:43:10.3±0.3, 40°33S±0°03×71°50W±0°08, h179km±3km, mb4.5/16, Error ellipse: s-maj=10.3km s-min=4.9km az=176.3*
*GUC **02** 07:43:11.1±0.9, 40°34S×71°52W, h174km±5km, ML4.7*
*NEIC **02** 07:43:12.1±0.7, 40°23S×71°34W, h177km±5km, mb4.7/10, Error ellipse: s-maj=11.9km s-min=6.7km az=92.0*
*IDC **02** 07:43:12.2±0.7, 40°26S×71°20W, h174km±4km, mb4.2/10, mb1 4.3/13, mb1mx4.1/20, mbtmp4.1/13, Error ellipse: s-maj=19.8km s-min=11.6km az=98.0*
ISC 02 07:43:11.4±0.5**, 40°33S**±0°04×**71°50W**±0°05**, h178**km±4km**, n83, σ1^{s}32**/119**, mb4.6**/16**, 2C-1D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	0.83	120	P	Pn	07 43 37.9	+0.2
	1μm,0.3s,baz=300,slow=8.2						
PLCA				S	Sn	07 43 57.5	-0.6
	baz=197,slow=19						
PLCA	Paso Flores	0.83	120	P	Pn	07 43 37.9	+0.2
PLCA				ePn	Pn	07 43 38.3	+0.6
PLCA				S	Sn	07 43 57.5	-0.6
PLCA				eSn	Sn	07 43 58.8	+0.7
PLCA	Paso Flores	0.83	120	eP	Pn	07 43 37.8	+0.1
PLCA				eS	Sn	07 43 57.4	-0.8
PUYE	Entre Lagos	0.92	247	eP	Pn	07 43 37.9	-0.3
PUYE				AML	AML	07 44 06.2	
	comp=N,13μm,0.7s						
VLCH	Valdivia	1.44	291	eP	Pn	07 43 42.5	0.0
VLCH				eS	Sn	07 44 05.7	-0.8
VLCH				AML	AML	07 44 08.7	
	comp=N,28μm,0.3s						
PUEL	Puelo Alto	1.47	204	eP	Pn	07 43 42.5	-0.2
PMCH	Puerto Montt	1.57	222	eP	Pn	07 43 43.0	-0.8
PMCH				eS	Sn	07 44 07.9	-1.1
PMCH				AML	AML	07 44 15.9	
	comp=N,7μm,0.4s						
HOCH	HornopirØn	1.72	203	eP	Pn	07 43 45.0	-0.3
HOCH				eS	Sn	07 44 10.1	-1.6
TMU	Temuco	1.80	331	eP	Pn	07 43 46.9	+0.7
TMU				eS	Sn	07 44 13.1	0.0
HUNY	Huinay	2.17	198	⇑eP	Pn	07 43 49.7	-0.3
HUNY				eS	Sn	07 44 19.0	-1.2
HUNY				AML	AML	07 44 27.8	
	comp=E,1μm,0.4s						
AGCH	Angol	2.68	339	eP	Pn	07 43 56.1	+0.1
AGCH				eS	Sn	07 44 30.1	-0.7
CCHI	Chillan	3.74	353	eP	Pn	07 44 09.8	+0.6
COCH	Cobquecura	4.31	346	eP	Pn	07 44 16.2	-0.1
COYC	Coyhaique	5.26	184	eP	Pn	07 44 29.1	+0.5
COYC				i S	Sn	07 45 27.3	-2.1
TRQA	Tornquist	7.73	76	ePn	Pn	07 45 01.4	+0.3
TRQA				eSn	Sn	07 46 35.2	+7.3
CFAA	Coronel Fontan	9.09	18	P	Pn	07 45 16.3	-2.9
	comp=E,0.9nm,0.3s,baz=192,slow=11,SNR=68						
CFAA				S	Sn	07 46 54.7	-5.9
	comp=E,1.4nm,0.3s,baz=277,slow=22,SNR=27						
CFAA	Coronel Fontan	9.09	18	P	Pn	07 45 16.3	-2.9
CFAA				S	Sn	07 46 54.7	-5.9
USHA	Ushuaia	14.66	173	P	P	07 46 31.9	+0.3
	comp=E,0.7nm,0.3s,baz=325,slow=5.8,SNR=8.5						
USHA	Ushuaia	14.66	173	P	P	07 46 31.9	+0.3
EFI	East Falkland	14.67	145	ePn	P	07 46 31.4	-0.4
LVC	Limon Verde	17.79	8	eP	P	07 47 06.4	-0.3
	comp=E,1.3nm,0.7s						
CPUP	Villa Florida	18.27	44	P	P	07 47 09.5	-2.1
	comp=E,3.5nm,0.3s,baz=202,slow=9.1,SNR=27						
CPUP	Villa Florida	18.27	44	P	P	07 47 09.5	-2.1
LPAZ	La Paz	24.13	8	P	P	07 48 12.8	+1.2
	comp=E,5.6nm,0.5s,baz=167,slow=7.6,SNR=22						
LPAZ	La Paz	24.13	8	eP	P	07 48 12.8	+1.2
	comp=E,24nm,1.4s						
SIV	San Ignacio	25.89	23	P	P	07 48 26.7	-0.2
	comp=E,18nm,0.8s,baz=204,slow=9.0,SNR=71						
SIV				ScP	ScP	07 55 13.6	-0.1
	comp=E,1.2nm,0.8s,baz=236,slow=7.3,SNR=4.1						
SIV	San Ignacio	25.89	23	P	P	07 48 26.7	-0.2
SIV				ScP	ScP	07 55 13.6	-0.1
SPB	Sao Paulo	26.24	58	eP	P	07 48 29.5	-0.5
	comp=E,7.9nm,0.8s						
BDFB	Brasilia	31.98	46	P	P	07 49 19.8	-1.1
	comp=E,23nm,0.5s,baz=211,slow=7.3,SNR=72						
BDFB	Brasilia	31.98	46	P	P	07 49 19.8	-1.1
SAML	Samuel	32.11	16	eP	P	07 49 22.1	+0.2
	comp=E,22nm,1.1s						
VNA3	Neumayer Olymp	43.39	155	eP	P	07 50 55.7	0.0
VNA2	Neumayer--Watz	44.07	155	eP	P	07 51 01.4	+0.3
	baz=270,slow=9.3						
RCBR	Riachuelo	46.88	52	P	P	07 51 25.1	+1.2
	comp=E,6.7nm,0.6s,baz=199,slow=8.8,SNR=13						
RCBR	Riachuelo	46.88	52	eP	P	07 51 25.1	+1.2
	comp=E,71nm,1.6s						
SDV	Santo Domingo	48.97	1	eP	P	07 51 39.9	-0.1
	comp=E,7.7nm,1.0s						
QSPA	South Pole Qui	49.92	180	P	P	07 51 48.2	+1.5
	comp=E,8.4nm,0.7s,baz=153,slow=2.9,SNR=42						
QSPA	South Pole Qui	49.92	180	P	P	07 51 48.2	+1.5
SYO	Syowa Base	59.86	157	⇓eP	P	07 52 56.0	-1.6
SYO	Syowa Base	59.86	157	⇑epP	pP	07 53 35.4	-3.3
TXAR	Lajitas Array	75.47	331	P	P	07 54 37.5	+1.7
	comp=E,0.9nm,0.7s,baz=150,slow=7.4,SNR=14						
TXAR	Lajitas Array	75.47	331	P	P	07 54 37.5	+1.7
BOSA	Boshof	76.82	116	P	P	07 54 43.5	-0.2
	comp=E,13nm,0.8s,baz=231,slow=4.9,SNR=22						
BOSA	Boshof	76.82	116	eP	P	07 54 43.7	-0.1
	comp=E,21nm,1.0s						
DBIC	Dimbokro	76.89	69	P	P	07 54 44.5	+0.4
	comp=E,20nm,0.7s,baz=200,slow=6.1,SNR=49						
DBIC	Dimbokro	76.89	69	eP	P	07 54 44.5	+0.4
	comp=E,19nm,0.8s						
TSUM	Tsumeb	77.15	104	eP	P	07 54 46.0	+0.3
	comp=E,39nm,1.9s						
LBTB	Lobatse	79.32	114	eP	P	07 54 57.4	-0.1
	comp=E,26nm,0.9s						
TOA0	Torodi Ar. Sit	86.00	69	eP	P	07 55 31.8	-0.1
TORD	Torodi Ar. Bea	86.00	69	P	P	07 55 31.5	-0.4
	comp=E,3.7nm,0.9s,baz=231,slow=4.3,SNR=15						
TORD	Torodi Ar. Bea	86.00	69	P	P	07 55 31.5	-0.4
JLU	Jordanelle	88.38	331	eP	P	07 55 34.1	-8.9
	comp=E,7.9nm,1.2s						
PDAR	Pinedale Array	89.59	333	P	P	07 55 50.2	+1.6
	comp=E,0.7nm,0.9s,baz=98,slow=6.1,SNR=3.8						
PDAR				pP	pP	07 56 33.5	+0.6
	comp=E,0.6nm,0.8s,baz=145,slow=5.4,SNR=3.8						
PDAR	Pinedale Array	89.59	333	P	P	07 55 50.2	+1.6
PDAR				pP	pP	07 56 33.5	+0.6
KEBM	Edson Butte	95.59	324	eP	P	07 56 11.4	-4.7
GERES	GERESS Array B	116.21	47	PKP	PKPdf	08 01 32.7	-0.2
	comp=E,0.5nm,0.6s,baz=172,slow=2.7,SNR=4.9						
GERES	GERESS Array B	116.21	47	PKP	PKPdf	08 01 32.7	-0.2
CLL	Collm	117.12	45	ePP	PP	08 02 44.0	-3.8
NOA	NORSAR Array B	121.06	34	PKP	PKPdf	08 01 42.2	+0.4
	comp=E,1.1nm,0.6s,baz=242,slow=2.3,SNR=3.3						
NOA	NORSAR Array B	121.06	34	PKP	PKPdf	08 01 42.2	+0.4
BRTR	Keskin Array B	124.35	64	PKP	PKPdf	08 01 49.4	+0.4
	comp=E,1.1nm,0.7s,baz=189,slow=4.6,SNR=5.7						
BRTR	Keskin Array B	124.35	64	PKP	PKPdf	08 01 49.4	+0.4
ARU	Arti	144.03	46	ePKPdf	PKPbc	08 02 24.0	+0.7
ABKAR	Akbulak array	144.93	59	ePKPbc	PKPdf	08 02 26.6	+0.1
HYB	Hyderabad	145.51	123	i PKP	PKPdf	08 02 27.0	-1.6
KKAR	Karatay Array	151.66	72	ePKPdf	PKPdf	08 02 38.0	+0.2
KKAR				ePKPbc	PKPbc	08 02 44.4	+0.1
KKAR				ePKPab	PKPab	08 02 53.5	-0.3
EKS2	Erkin-Say	153.99	73	ePKPdf	PKPdf	08 02 42.2	+0.8
EKS2				ePKPbc	PKiKP	08 02 50.1	+0.5
EKS2				ePKPab	PKPab	08 03 04.0	+0.3
AAK	Ala-Archa	154.51	74	ePKPdf	PKPdf	08 02 42.8	+0.7
AAK				ePKPbc	PKiKP	08 02 51.3	+0.6
AAK				ePKPab	PKPab	08 03 06.3	+0.2
KSH	Kashi	155.11	81	ePKPbc	PKPdf	08 02 47.0	+4.0
KSH				pPKP	pPKPdf	08 03 29.8	+0.2
KSH				sPKP		08 03 42.8	
KSH				PKS	PKSdf	08 06 18.5	+1.4
KSH				PP	PP	08 06 46.5	+0.4
KSH				SKS	SKSdf	08 09 34.5	+1.8
KSH				SKKS	SKKSac	08 13 20.4	+2.6
KSH				SS	SS	08 26 14.7	-1.0
KSH				AMB	AMB		
	comp=Z,88nm,4.0s						
KSH				LR	LR		
	comp=N,52nm,5.0s						
KSH				LR	LR		
	comp=E,57nm,3.9s						
KSH				LR	LR		
	comp=Z,140nm,5.3s						
MJAR	Matsushiro Arr	156.48	270	PKPab	PKPab	08 03 15.6	+1.2
	comp=Z,0.7nm,0.6s,baz=154,slow=3.4,SNR=4.7						
MJAR	Matsushiro Arr	156.48	270	PKPab	PKPab	08 03 15.6	+1.2
ZALV	Zalesovo Beam	159.03	42	PKP	PKPdf	08 02 47.1	-0.2
	comp=Z,1.0nm,0.8s,baz=259,slow=1.5,SNR=4.2						
ZALV				PKPab	PKPab	08 03 24.5	-0.4
	comp=Z,1.3nm,0.6s,baz=302,slow=3.3,SNR=5.3						
ZALV	Zalesovo Beam	159.03	42	PKP	PKPdf	08 02 47.1	-0.2
ZALV				PKPab	PKPab	08 03 24.5	-0.4
MKAR	Makanchi Array	159.99	62	PKP	PKPdf	08 02 48.8	+0.1
	comp=Z,0.3nm,0.7s,baz=300,slow=2.4,SNR=3.7						
MKAR				PKPab	PKPab	08 03 28.4	-0.9
	comp=Z,1.1nm,0.6s,baz=275,slow=3.9,SNR=9.6						
MKAR				PP	PP	08 07 11.3	-1.1
	comp=Z,0.8nm,0.8s,baz=274,slow=3.5,SNR=6.9						
MKAR	Makanchi Array	159.99	62	PKP	PKPdf	08 02 48.8	+0.1
MKAR				PKPab	PKPab	08 03 28.4	-0.9
MKAR				PP	PP	08 07 11.3	-1.1
KMI	Kunming	164.09	161	PKP	PKPdf	08 02 52.0	-1.7
WMQ	Urumqi	164.16	70	ePKP	PKPdf	08 02 53.2	+0.2
GYA	Guiyang	166.09	173	ePKP	PKPdf	08 02 54.3	-1.0
GYA				pPKP	pPKPdf	08 03 42.8	+0.8
GYA				PKPab	PKPab	08 03 58.6	+2.0
GYA				PKS	PKSdf	08 06 25.6	-2.6
GYA				PP	PP	08 07 47.2	+3.8
GYA				AMB	AMB		
	comp=Z,90nm,7.9s						
CN2	Changchun	166.94	291	ePKP	PKPdf	08 02 58.0	+2.8
CD2	Chengdu	169.84	156	PKP	PKPdf	08 02 56.4	-1.2
SONM	Songino Array	172.34	11	PKPab	PKPab	08 04 25.2	+1.4
	comp=Z,0.6nm,0.8s,baz=331,slow=5.9,SNR=5.9						
SONM	Songino Array	172.34	11	PKPab	PKPab	08 04 25.2	+1.4
HHC	Hu-ho-hao-te	177.61	284	ePKP	PKPdf	08 02 58.0	-2.2
HHC				PKS	PKSdf	08 06 27.6	-4.7
HHC				PP	PP	08 08 41.5	-0.2
HHC				SKS	SKSdf	08 09 43.8	-2.5
HHC				SKKS	SKKSac	08 15 08.6	-1.4
HHC				SS	SS	08 29 59.2	-3.7
HHC				AMB	AMB		
	comp=Z,60nm,9.0s						

IDC 02 07:52:38.0±48.0**, 17°35S**×**177°90W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/19**, mbtmp3.8**/3**, Error ellipse: s-maj=888.9km s-min=165.1km az=79.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.32	241	P	P	08 00 09.1	+0.1
	2.5nm,1.0s,baz=102,slow=13,SNR=3.8						
WRA	Warramunga Arr	45.21	259	P	P	08 00 57.0	-0.3
	0.2nm,0.5s,baz=94,slow=7.8,SNR=7.4						
ASAR	Alice Springs	45.41	254	P	P	08 00 58.7	-0.2
	2.3nm,0.5s,baz=89,slow=8.2,SNR=35						

---

*BJI **02** 07:56:09.6, 5°15S×153°84E, h90km, mB5.1/21, mb4.8/35*
*ISCJB **02** 07:56:11.0±1.1, 4°85S±0°04×153°49E±0°05, h75km±10km, mb4.8/54, Error ellipse: s-maj=8.2km s-min=6.7km az=37.2*
*IDC **02** 07:56:12.7±0.5, 4°87S×153°55E, h79km±3km, mb4.3/19, mb1 4.4/21, mb1mx4.4/24, mbtmp4.3/21, MS3.8/26, Ms1 3.9/26, ms1mx3.8/31, Error ellipse: s-maj=16.0km s-min=9.9km az=100.0*
*GCMT **02** 07:56:13.9±0.2, 4°99S×153°46E, h57km±2km, MW5.0, Moment Tensor Solution. s42,c47; s78,c111; Moment tensor: Scale 10^{16}Nm; M_{rr}1.60±.16; $M_{\theta\theta}$-0.57±.12; $M_{\phi\phi}$-1.03±.13; $M_{r\theta}$0.61±.08; $M_{\theta\phi}$2.80±.10; $M_{\phi r}$-2.63±.09; Best double couple: $M_0$4.00000×10^{16} NP1:ϕ_s278.00000°, δ39.00000°, λ24.00000°. NP2:ϕ_s169.00000°, δ75.00000°, λ126.00000°. Principal axes: T 3.5400, Plg47.0000°, Azm117.0000°; N 1.0100, Plg35.0000°, Azm338.0000°; P -4.5500, Plg22.0000°, Azm232.0000°; Data Used: IU II IC G CN.*
*NEIC **02** 07:56:14.3±1.0, 4°87S×153°47E, h94km±9km, mb5.0/25 Error ellipse: s-maj=7.1km s-min=5.9km az=136.0*
*DJA **02** 07:56:15.8±1.2, 5°S±9°×15°3E±°, h100km±13km, M5.6/10, mB5.4/5, mb5.2/10, MLv6.2/1, Mw(mB)4.8/5*
*AUST **02** 07:56:15.8±1.9, 5°09S×153°58E, h97km, Error ellipse: s-maj=2.7km s-min=1.1km az=40.0*
ISC 02 07:56:13.7±0.3**, 4°91S**±0°05×**153°56E**±0°05**, h87**km±2km**, h87**km**:pP-P, n171, σ1^{s}51**/228**, mb4.9**/54**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.76	126	ePn	Pn	07 58 05.8	+1.8
PMG	Port Moresby	7.76	235	P	Pn	07 58 03.7	-0.3
	21nm,0.3s,baz=38,slow=6.6,SNR=58						
PMG				S	Sn	07 59 30.3	-0.1
	40nm,0.3s,baz=164,slow=23,SNR=23						
PMG				LR	LR	08 00 59.4	
	comp=Z,1µm,20.4s,baz=132,slow=37						
PMG	Port Moresby	7.76	235	ePn	Pn	07 58 03.7	-0.3
PMG				S	Sn	07 59 30.3	-0.1
PMG	Port Moresby	7.76	235	P	Pn	07 58 02.7	-1.3
	209nm,0.6s,5µm5.3nm						
PATS	Pohnpei	12.60	22	S	Sn	08 01 16.0	-12
	baz=13,SNR=4.5						
JAY	Jayapura	13.05	280	P	P	07 59 21.8	-1.0
	baz=13,SNR=3.3						
COEN	Coen	13.62	228	ePn	Pn	07 59 23.7	+0.4
COEN	Coen	13.62	228	P	Pn	07 59 24.2	+0.9
	baz=14,SNR=13						
CTA	Charters Tower	16.68	205	P	P	08 00 02.7	-0.3
	0.3nm,0.3s,baz=29,slow=13,SNR=15						
CTA				LR	LR	08 05 40.1	
	comp=Z,429nm,20.7s,baz=25,slow=34						
CTA	Charters Tower	16.68	205	P	P	08 00 02.7	-0.3
CTAO	Charters Tower	16.68	205	ePn	Pn	08 00 02.1	0.0
	26nm,0.9s						
GUMO	Guam	20.31	335	LR	LR	08 07 03.6	
	comp=Z,99nm,19.3s,baz=164,slow=32						
TARA	Tarawa	20.32	73	eP	P	08 00 43.9	+1.0
	305nm,1.4s						
EIDS	Eidsvold	20.48	186	eP	P	08 00 45.9	+1.3
	28nm,0.9s						
EIDS	Eidsvold	20.48	186	P	Pn	08 00 48.7	+1.3
	baz=20,SNR=3.4						
QIS	Mount Isa	20.64	220	P	P	08 00 46.8	+0.4
	baz=21,SNR=18						
DZM	Mont Dzumac	21.13	145	eP	P	08 00 53.3	+1.6
	48nm,1.0s						
DZM				eLR	LR	08 06 03.7	
	635nm,25.9s						
DZM	Mont Dzumac	21.13	145	P	P	08 00 51.8	0.0
	32nm,1.1s,baz=320,slow=10,SNR=12						
DZM				LR	LR	08 07 33.9	
	comp=Z,352nm,20.7s,baz=182,slow=32						
DZM	Mont Dzumac	21.13	145	eP	P	08 00 52.0	+0.3
	51nm,1.1s						
FAKI	Fak Fak	21.36	275	P	P	08 00 52.9	-1.2
	143nm,1.2s,2µm						
RMQ	Roma	21.94	192	P	P	08 01 01.4	+1.2
	baz=22,SNR=20						
KDU	Kakadu	22.21	248	P	P	08 01 01.6	-1.6
	baz=22,SNR=86						
KDU				S	S	08 05 01.1	-1.4
	baz=22,SNR=6.5						
SWI	Sorong	22.63	280	P	P	08 01 13.7	+6.0
	baz=23,SNR=4.9						
SWI	Sorong	22.63	280	P	P	08 01 06.4	-1.3
	107nm,0.6s,1µm						
QLP	Quilpie	23.32	202	P	P	08 01 14.5	+0.2
	baz=23,SNR=22						
MTN	Manton Dam	23.50	249	P	P	08 01 15.1	-1.0
	baz=24,SNR=64						
MTN				S	S	08 05 24.3	+0.9
	baz=24,SNR=4.4						
WRAB	Tennant Creek	23.93	230	eP	P	08 01 19.6	-0.3
	47nm,0.8s						
WRA	Warramunga Arr	23.95	230	P	P	08 01 19.4	-0.6
	26nm,0.7s,baz=53,slow=9.4,SNR=264						
WRA				S	S	08 05 39.5	+8.9
	1.3nm,0.7s,baz=37,slow=18,SNR=5.1						
WRA				ScP	ScP	08 08 33.3	+2.0
	2.4nm,0.8s,baz=52,slow=2.6,SNR=6.1						
WRA				LR	LR	08 10 36.3	
	comp=Z,286nm,21.5s,baz=70,slow=36						
WRA	Warramunga Arr	23.95	230	P	P	08 01 19.4	-0.6
WRA				S	S	08 05 39.5	+8.9
WRA				ScP	ScP	08 08 33.3	+2.0
ARMA	Armidale	25.44	184	eP	P	08 01 35.1	+1.5
	36nm,0.8s						
ARMA	Armidale	25.44	184	P	P	08 01 35.0	+1.5
	baz=25,SNR=20						
AS31	Alice Springs	26.58	224	eP	P	08 01 43.3	-0.6
ASAR	Alice Springs	26.59	224	P	P	08 01 43.4	-0.6
	12nm,0.7s,baz=60,slow=8.6,SNR=75						
ASAR				PcP	PcP	08 05 06.4	0.0
	2.0nm,0.6s,baz=32,slow=2.9,SNR=4.8						
ASAR				ScP	ScP	08 08 41.2	+2.5
	1.1nm,0.6s,baz=55,slow=3.2,SNR=7.2						
ASAR				LR	LR	08 12 38.2	
	comp=Z,272nm,18.3s,baz=31,slow=37						
ASAR	Alice Springs	26.59	224	P	P	08 01 43.4	-0.6
ASAR				PcP	PcP	08 05 06.4	0.0
ASAR				ScP	ScP	08 08 41.2	+2.5
CMSA	Cobar Meteorol	27.50	195	P	P	08 01 52.4	+0.4
	baz=28,SNR=15						
STKA	Stephens Creek	29.08	201	P	P	08 02 05.8	-0.1
	11nm,0.7s,baz=11,slow=8.7,SNR=28						
STKA				LR	LR	08 13 08.1	
	comp=Z,290nm,21.5s,baz=20,slow=35						
STKA	Stephens Creek	29.08	201	eP	P	08 02 05.7	-0.4
	2.1nm,0.8s						
STKA	Stephens Creek	29.08	201	P	P	08 02 05.6	-0.4
	baz=29,SNR=19						
YNG	Young	29.63	189	P	P	08 02 12.1	+1.2
	baz=30,SNR=4.6						
FITZ	Fitzroy Crossi	30.28	242	eP	P	08 02 15.5	-1.3
	31nm,0.7s						
FITZ	Fitzroy Crossi	30.28	242	P	P	08 02 15.5	-1.3
	baz=30,SNR=41						
CNB	Canberra Magne	30.50	187	P	P	08 02 20.5	+1.8
	baz=30,SNR=7.0						
BBOO	Buckleboo	32.21	208	eP	P	08 02 33.6	0.0
	332nm,1.0s						
BBOO	Buckleboo	32.21	208	P	P	08 02 32.9	-0.7
	baz=32,SNR=5.8						
ARPS	Mount Arapiles	33.48	197	P	P	08 02 45.8	+1.1
	baz=34,SNR=4.9						
CBIJ	Chichi jima	33.67	342	LR	LR	08 16 19.7	
	comp=Z,134nm,18.3s,baz=116,slow=36						
KAPI	Kappang	33.68	268	P	P	08 02 46.6	-0.1
PCI	Palu	33.91	276	S	S	08 07 56.2	-11
	baz=34,SNR=4.0						
FORT	Forrest	35.19	220	eP	P	08 02 58.0	-1.4
FORT	Forrest	35.19	220	P	P	08 02 59.1	-0.4
	baz=35,SNR=39						
AFI	Afiamalu	35.30	107	LR	LR	08 15 00.8	
	comp=Z,221nm,18.4s,baz=266,slow=32						
MBWA	Marble Bar	36.58	241	eP	P	08 03 10.6	-0.9
	31nm,0.9s						
MOO	Moorlands	37.80	188	P	P	08 03 23.6	+2.1
	baz=38,SNR=3.3						
KMBL	Kambalda	39.70	225	P	P	08 03 37.4	-0.3
	baz=40,SNR=12						
MEEK	Meekatharra	39.74	233	P	P	08 03 37.7	-0.3
	baz=40,SNR=30						
KLBR	Kellerberrin	42.78	227	P	P	08 04 01.6	-1.3
	baz=43,SNR=10.0						
MORW	Morawa	42.87	232	P	P	08 04 03.1	-0.6
	baz=43,SNR=4.9						
BLDU	Ballidu	43.08	229	P	P	08 04 04.5	-0.8
	baz=43,SNR=6.5						
MJAR	Matsushiro Arr	43.67	342	P	P	08 04 08.7	-1.2
	2.2nm,0.7s,baz=170,slow=9.6,SNR=5.5						
MJAR				LR	LR	08 20 49.2	
	comp=Z,37nm,21.4s,baz=180,slow=34						
MJAR	Matsushiro Arr	43.67	342	P	P	08 04 08.7	-1.2
RKGY	Rocky Gully	44.93	224	P	P	08 04 20.3	+0.3
	baz=45,SNR=9.3						
RAR	Rarotonga	48.04	114	LR	LR	08 21 15.1	
	comp=Z,246nm,19.2s,baz=160,slow=31						
KSRS	Korea Array	48.45	333	P	P	08 04 46.4	-0.9
	3.0nm,0.8s,baz=148,slow=8.3,SNR=9.9						
KSRS				LR	LR	08 21 57.8	
	comp=Z,31nm,20.5s,baz=348,slow=32						
KSAR	Wonju Array Be	48.45	333	P	P	08 04 46.4	-1.0
QIZ	Qiongzhong	49.18	300	P	P	08 04 53.7	+0.4
QIZ				pP	pP	08 05 12.8	-1.8
QIZ				sP	sP	08 05 21.8	-2.6
QIZ				S	S	08 11 52.2	-0.5
QIZ				ScS	ScS	08 14 37.5	0.0
QIZ				pmax	pmax		
	comp=Z,29nm,1.6s						
NJ2	Nanjing	49.41	320	eP	P	08 04 56.0	+1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAJ	Asahikawa	49.80	350	P	P	08 04 58.2	+0.7
	comp=Z,6.5nm,0.7s,baz=190,slow=14,SNR=4.8						
ASAJ	Asahikawa	49.80	350	P	P	08 04 58.2	+0.7
USRK	Ussuriysk Arra	52.60	341	P	P	08 05 18.2	-0.3
	comp=Z,5.8nm,0.9s,baz=170,slow=9.1,SNR=9.0						
USRK				pP	pP	08 05 37.8	-2.1
	comp=Z,3.8nm,0.8s,baz=164,slow=9.5,SNR=4.5						
USRK				sP	sP	08 05 45.6	-4.1
	comp=Z,7.8nm,0.8s,baz=179,slow=8.9,SNR=8.1						
CN2	Changchun	54.72	335	eP	P	08 05 36.1	+2.1
CN2				epP	pP	08 05 59.8	+4.2
CN2				eS	S	08 13 07.6	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ENH	Enshi	54.79	313	eP	P	08 05 34.5	-0.4
	comp=Z,43nm,1.4s						
GYA	Guiyang	55.07	307	eP	P	08 05 38.0	+1.0
GYA				pP	pP	08 06 01.3	+2.7
GYA				sP	sP	08 06 12.8	+4.4
GYA				ScP	ScP	08 10 27.4	-1.2
GYA				S	S	08 13 12.9	-0.5
GYA				sS	sS	08 13 51.2	+0.9
GYA				SS	SS	08 16 57.6	-1.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,470nm,18.3s						
GYA				LR	LR		
	comp=E,310nm,19.0s						
GYA				LR	LR		
	comp=Z,440nm,18.8s						
BJI	Beijing	56.41	326	P	P	08 05 48.3	+2.1
BJI				S	S	08 13 30.8	+0.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				LR	LR		
	comp=Z,77nm,26.2s						
PPT	Papeete	56.97	108	LR	LR	08 27 05.0	
	comp=Z,47nm,18.2s,baz=162,slow=32						
PPT2	Papeete2	56.97	108	eLR	LR	08 22 46.3	
	comp=Z,258nm,32.8s						
XAN	Xi'an	57.23	316	P	P	08 05 51.9	-0.3
XAN				pP	pP	08 06 12.5	-1.4
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,24nm,5.2s						
KMI	Kunming	57.68	304	P	P	08 05 56.9	+1.1
KMI				pP	pP	08 06 19.8	+2.3
KMI				S	S	08 13 46.6	-1.6
KMI				pmax	pmax		
	comp=Z,18nm,1.3s						
KMI				LR	LR		
	comp=N,260nm,19.1s						
KMI				LR	LR		
	comp=E,220nm,23.5s						
KMI				LR	LR		
	comp=Z,180nm,21.5s						
TBI	Tubuai	57.82	114	eLR	LR	08 23 13.8	
	comp=Z,292nm,35.0s						
PETK	Petropavlovsk-	57.91	3	P	P	08 05 57.1	+0.6
	comp=Z,3.9nm,0.6s,baz=173,slow=7.5,SNR=7.6						
PETK				pP	pP	08 06 17.9	-0.4
	comp=Z,11nm,0.7s,baz=180,slow=8.6,SNR=7.0						
PETK				LR	LR	08 26 26.2	
	comp=Z,43nm,20.4s,baz=184,slow=31						
PETK	Petropavlovsk-	57.91	3	P	P	08 05 57.1	+0.6
PETK				pP	pP	08 06 17.9	-0.4
CMAR	Chiang Mai Arr	58.61	295	P	P	08 06 02.9	+0.8
	comp=Z,3.4nm,0.7s,baz=115,slow=5.1,SNR=23						
CMAR				LR	LR	08 28 50.1	
	comp=Z,38nm,18.6s,baz=263,slow=33						
CMAR	Chiang Mai Arr	58.61	295	P	P	08 06 02.9	+0.8
CD2	Chengdu	59.39	310	P	P	08 06 07.5	+0.2
CD2				pP	pP	08 06 30.2	+1.0
CD2				sP	sP	08 06 40.6	+1.7
CD2				PP	PP	08 08 21.4	+1.9
CD2				S	S	08 14 07.4	-2.4
CD2				sS	sS	08 14 46.7	-0.5
CD2				SS	SS	08 18 05.2	-1.1
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CD2				pmax	pmax		
	comp=Z,170nm,5.3s						
CD2				LR	LR		
	comp=N,260nm,5.9s						
CD2				LR	LR		
	comp=Z,170nm,6.5s						
LZH	Lanzhou	61.84	316	eP	P	08 06 25.1	+1.0
LZH				pP	pP	08 06 46.9	+0.8
LZH				sP	sP	08 06 57.9	+2.2
LZH				PP	PP	08 08 48.3	+7.1
LZH				eS	S	08 14 41.7	+0.5
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,100nm,4.8s						
LZH				LR	LR		
	comp=N,670nm,15.5s						
LZH				LR	LR		
	comp=E,450nm,14.1s						
LZH				LR	LR		
	comp=Z,890nm,16.0s						
GTA	Gaotai	66.26	317	eP	P	08 06 53.4	+0.5
GTA				pP	pP	08 07 14.6	-0.5
GTA				sP	sP	08 07 25.8	+1.1
GTA				S	S	08 15 34.5	-1.1
GTA				sS	sS	08 16 17.3	+3.7
GTA				SS	SS	08 19 55.8	+2.3
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
GTA				pmax	pmax		
	comp=Z,59nm,5.2s						
GTA				LR	LR		
	comp=N,310nm,15.2s						
GTA				LR	LR		
	comp=E,420nm,18.5s						
GTA				LR	LR		
	comp=Z,100nm,17.1s						
SONM	Songino Array	66.83	327	P	P	08 06 56.0	-0.3
	comp=Z,1.3nm,0.5s,baz=140,slow=5.8,SNR=16						
SONM				LR	LR	08 36 18.0	
	comp=Z,76nm,21.1s,baz=130,slow=36						
SONM	Songino Array	66.83	327	P	P	08 06 56.0	-0.3
RKT	Rikitea	71.05	113	eLR	LR	08 29 22.1	
	comp=Z,261nm,29.2s						
TAPN	Taplejung	71.11	301	eP	P	08 07 23.5	-0.1
	comp=Z,49nm,1.1s						
TAPN	Taplejung	71.11	301	eP	P	08 07 23.5	-0.1
	comp=Z,49nm,1.1s						
RAMN	Ramite	71.96	300	eP	P	08 07 28.1	-0.5
RAMN	Ramite	71.96	300	eP	P	08 07 28.1	-0.5
VNDA	Vanda	72.69	178	P	P	08 07 32.5	+0.9
	comp=Z,8.6nm,0.9s,baz=333,slow=7.0,SNR=15						
VNDA				LR	LR	08 33 46.1	
	comp=Z,98nm,20.2s,baz=346,slow=31						
VNDA	Vanda	72.69	178	P	P	08 07 32.5	+0.9
GUN	Gumba	72.83	301	eP	P	08 07 33.7	-0.2
	comp=Z,28nm,0.7s						
GUN	Gumba	72.83	301	eP	P	08 07 33.7	-0.2
	comp=Z,28nm,0.7s						
PKI	Pulchoki	73.14	301	eP	P	08 07 35.1	-0.6
PKI	Pulchoki	73.14	301	eP	P	08 07 35.1	-0.6
KKN	Kakani	73.31	301	eP	P	08 07 36.2	-0.3
	comp=Z,8.3nm,0.5s						
KKN	Kakani	73.31	301	eP	P	08 07 36.2	-0.3
	comp=Z,8.3nm,0.5s						
DMN	Daman	73.41	301	eP	P	08 07 36.8	-0.4
DMN	Daman	73.41	301	eP	P	08 07 36.8	-0.4
GKN	Gorkha	73.92	301	eP	P	08 07 39.2	-0.8
GKN	Gorkha	73.92	301	eP	P	08 07 39.2	-0.8
KOLN	Koldanda	74.75	300	eP	P	08 07 43.4	-1.5
KOLN	Koldanda	74.75	300	eP	P	08 07 43.4	-1.5
DANN	Dangsing	74.75	301	eP	P	08 07 43.8	-1.2
	comp=Z,15nm,0.6s						
DANN	Dangsing	74.75	301	eP	P	08 07 43.8	-1.2
	comp=Z,15nm,0.6s						
PYUN	Piuthan	75.35	301	eP	P	08 07 47.5	-0.9
	comp=Z,68nm,0.9s						
PYUN	Piuthan	75.35	301	eP	P	08 07 47.5	-0.9
	comp=Z,68nm,0.9s						
WMQ	Urumqi	76.34	317	eP	P	08 07 53.9	+0.4
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SLKM	Skilak Lake	78.45	25	eP	P	08 08 06.0	+1.1
SML	Sawmill	79.91	24	eP	P	08 08 14.2	+1.4
	comp=Z,16nm,1.1s						
MCK	McKinley	80.68	22	eP	P	08 08 15.7	-1.2
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	80.91	319	P	P	08 08 17.6	-0.9
	comp=Z,1.8nm,0.5s,baz=91,slow=8.2,SNR=45						
MKAR				pP	pP	08 08 39.1	-2.4
	comp=Z,4.4nm,0.7s,baz=92,slow=7.8,SNR=9.2						
MKAR	Makanchi Array	80.91	319	P	P	08 08 17.6	-0.9
MKAR				pP	pP	08 08 39.1	-2.4
ZAA0	Zalesovo Array	81.67	326	eP	P	08 08 20.6	-1.7
ZALV	Zalesovo Beam	81.67	326	P	P	08 08 20.6	-1.6
	comp=Z,2.0nm,0.5s,baz=110,slow=6.5,SNR=14						
ZALV				pP	pP	08 08 43.1	-2.2
	comp=Z,1.8nm,0.5s,baz=90,slow=6.5,SNR=3.1						
ZALV				LR	LR	08 41 50.9	
	comp=Z,45nm,20.2s,baz=78,slow=34						
ZALV	Zalesovo Beam	81.67	326	P	P	08 08 20.6	-1.6
ZALV				pP	pP	08 08 43.1	-2.2
COLA	College	81.67	22	eP	P	08 08 22.4	+0.3
	comp=Z,15nm,0.9s						
COLA				epP	pP	08 08 44.6	-0.4
COLA				esP	sP	08 08 50.2	-4.2
ILAR	Eielson Array	81.98	22	P	P	08 08 21.8	-1.9
	comp=Z,3.5nm,0.7s,baz=255,slow=3.2,SNR=60						
ILAR				pP	pP	08 08 44.5	-2.3
	comp=Z,6.1nm,0.8s,baz=259,slow=5.5,SNR=8.8						
ILAR				LR	LR	08 37 56.0	
	comp=Z,124nm,21.1s,baz=209,slow=30						
ILAR	Eielson Array	81.98	22	P	P	08 08 21.8	-1.9
ILAR				pP	pP	08 08 44.5	-2.3
DOT	Dot Lake	82.53	24	eP	P	08 08 24.6	-2.1
	comp=Z,5.8nm,1.1s						
KSH	Kashi	83.58	311	P	P	08 08 34.5	+1.8
KSH				pP	pP	08 08 59.0	+3.2
KSH				sP	sP	08 09 10.4	+5.2
KSH				PP	PP	08 11 50.5	+4.0
KSH				SKS	SKSac	08 18 43.8	-4.1
KSH				S	S	08 18 48.0	-0.1
KSH				sS	sS	08 19 32.0	+4.4
KSH				SS	SS	08 24 20.9	+4.5
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,43nm,3.1s						
KSH				LR	LR		
	comp=N,80nm,4.9s						
KSH				LR	LR		
	comp=E,95nm,4.5s						
KSH				LR	LR		
	comp=Z,160nm,5.9s						
KURK	Kurchatov	84.33	322	eP	P	08 08 35.1	-0.9
	comp=Z,19nm,1.2s						
KURK				epP	pP	08 08 57.1	-2.0
KURBB	Kurchatov Arra	84.36	322	LR	LR	08 43 26.8	
	comp=Z,22nm,21.9s,baz=90,slow=34						
TKM2	Tokmak 2	84.56	314	eP	P	08 08 37.6	-0.1
	comp=Z,29nm,1.1s						
TKM2				epP	pP	08 08 59.5	-1.4
TKM2	Tokmak 2	84.56	314	P	P	08 08 37.5	-0.2
	SNR=8.0						
DAWY	Dawson	84.58	24	eP	P	08 08 38.4	+1.3
DAWY				epP	pP	08 09 00.9	+0.6
KZA	Kyzart	84.64	313	P	P	08 08 38.9	+0.5
	SNR=12						
QSPA	South Pole Qui	85.05	180	P	P	08 08 39.9	+0.3
	comp=Z,8.7nm,0.4s,baz=322,slow=0.5,SNR=210						
QSPA				pP	pP	08 09 01.6	-1.1
	comp=Z,9.5nm,0.7s,baz=174,slow=1.9,SNR=4.7						
QSPA	South Pole Qui	85.05	180	P	P	08 08 39.9	+0.3
QSPA				pP	pP	08 09 01.6	-1.1
CHMS	Chumysh	85.18	314	P	pP	08 09 02.0	-1.8
	SNR=5.5						
AAK	Ala-Archa	85.30	313	LR	LR	08 47 22.7	
	comp=Z,33nm,19.4s,baz=202,slow=36						
AAK	Ala-Archa	85.30	313	eP	P	08 08 40.9	-0.5
	comp=Z,144nm,1.0s						
AAK				epP	pP	08 09 03.6	-1.0
AAK	Ala-Archa	85.30	313	P	P	08 08 41.1	-0.2
	SNR=7.3						
USP	Ospenovka	85.41	314	P	P	08 08 41.2	-0.5
	SNR=8.5						
MAW	Mawson	85.76	203	LR	LR	08 44 43.5	
	comp=Z,300nm,19.3s,baz=348,slow=34						
AML	Almayashu	85.78	313	P	P	08 08 44.3	+0.2
	SNR=13						
EKS2	Erkin-Say	85.82	313	eP	P	08 08 44.0	0.0
	comp=Z,35nm,1.1s						
EKS2				epP	pP	08 09 06.5	-0.6
EKS2				esP	sP	08 09 16.2	-0.2
EKS2	Erkin-Say	85.82	313	P	P	08 08 44.2	+0.3
	SNR=7.2						
DLBC	Dease Lake	87.09	31	eP	P	08 08 49.0	-0.7
KKAR	Karatay Array	88.26	313	eP	P	08 08 55.7	+0.1
	comp=Z,1.8nm,0.8s						
KKAR				epP	pP	08 09 17.3	-1.6
KKAR				esP	sP	08 09 29.4	+1.2
INK	Inuvik	88.29	21	P	P	08 08 55.6	+0.5
	comp=Z,1.6nm,0.5s,baz=236,slow=6.9,SNR=7.8						
INK				pP	pP	08 09 16.1	-2.2
	comp=Z,3.7nm,0.9s,baz=248,slow=11,SNR=4.9						
INK	Inuvik	88.29	21	P	P	08 08 55.6	+0.5
INK				pP	pP	08 09 16.1	-2.2
BRVK	Borovoye	89.85	323	eP	P	08 09 00.7	-2.1
	comp=Z,20nm,1.3s						
BRVK				esP	sP	08 09 23.2	-12
NVAR	Mina Array Bea	91.56	52	P	P	08 09 11.2	-0.1
	comp=Z,1.1nm,0.7s,baz=260,slow=7.2,SNR=5.0						
NVAR				LR	LR	08 41 59.8	
	comp=Z,209nm,21.9s,baz=94,slow=30						
NVAR	Mina Array Bea	91.56	52	P	P	08 09 11.2	-0.1
RPN	Rapa Nui	94.08	118	LR	LR	08 44 03.8	
	comp=Z,132nm,18.4s,baz=276,slow=30						
YKA	Yellowknife Ar	95.17	28	P	P	08 09 26.4	-0.6
	comp=Z,1.6nm,0.8s,baz=269,slow=4.7,SNR=24						
YKA				pP	pP	08 09 49.1	-1.3
	comp=Z,1.2nm,0.8s,baz=271,slow=4.8,SNR=6.5						
YKA				PKKPbc	PKKPdf	08 26 19.9	-3.3
	comp=Z,0.1nm,0.5s,baz=85,slow=2.7,SNR=7.8						
YKA	Yellowknife Ar	95.17	28	P	P	08 09 26.4	-0.6
YKA				pP	pP	08 09 49.1	-1.3
YKA				PKKPbc	PKKPdf	08 26 19.9	-3.3
LPIG	La Paz	97.57	66	LR	LR	08 43 17.6	
	comp=Z,14nm,19.9s,baz=308,slow=29						
PDAR	Pinedale Array	98.36	48	LR	LR	08 49 15.7	
	comp=Z,141nm,19.1s,baz=270,slow=32						
CPRX	Cap Rock	103.20	57	ePdif	Pdif	08 10 04.6	+0.6
	comp=Z,16nm,0.6s						
TXAR	Lajitas Array	103.52	61	PP	PP	08 14 29.6	+7.0
	comp=Z,0.8nm,0.9s,baz=269,slow=7.5,SNR=6.7						
TXAR	Lajitas Array	103.52	61	PP	PP	08 14 29.6	+7.0
BORG	Borgarnes	120.17	357	ePKPdf	PKPdf	08 14 56.1	+2.0
KHC	Kasperske Hory	124.43	329	ePKPdf	PKPdf	08 15 04.0	+1.1
KHC				epPKP	pPKPdf	08 15 26.0	-1.2
GERES	GERESS Array B	124.55	329	PKP	PKPdf	08 15 02.4	-0.8
	comp=Z,0.9nm,0.6s,baz=70,slow=1.6,SNR=8.2						
GERES	GERESS Array B	124.55	329	PKP	PKPdf	08 15 02.4	-0.8
LPAZ	La Paz	133.69	118	PKP	PKPdf	08 15 22.9	+0.7
	comp=Z,0.9nm,0.5s,baz=338,slow=4.8,SNR=5.5						
LPAZ	La Paz	133.69	118	PKP	PKPdf	08 15 22.9	+0.7
SDV	Santo Domingo	135.97	82	ePKPdf	PKPdf	08 15 27.2	+1.3
TAM	Tamanrasset	144.38	303	ePKPdf	PKPdf	08 15 41.2	+0.3
MDT	Midelt	145.56	326	PKPbc	PKPbc	08 15 42.8	-0.1
	comp=Z,4.4nm,0.5s,baz=42,slow=2.7,SNR=14						
MDT	Midelt	145.56	326	PKPbc	PKPbc	08 15 42.8	-0.1
BDFB	Brasilia	150.44	134	PKPbc	PKPbc	08 15 55.1	-1.3
	comp=Z,3.7nm,0.4s,baz=258,slow=1.3,SNR=14						
BDFB	Brasilia	150.44	134	PKPbc	PKPbc	08 15 55.1	-1.3
TOA0	Torodi Ar. Sit	151.06	288	ePKPbc	PKPbc	08 15 56.6	-1.1
TORD	Torodi Ar. Bea	151.06	288	PKPbc	PKPbc	08 15 56.7	-1.0
	comp=Z,5.8nm,0.4s,baz=72,slow=2.2,SNR=79						
TORD				pPKPbc	pPKPbc	08 16 19.9	-2.1
	comp=Z,7.1nm,0.6s,baz=56,slow=2.5,SNR=5.9						
TORD	Torodi Ar. Bea	151.06	288	PKPbc	PKPbc	08 15 56.7	-1.0
TORD				pPKPbc	pPKPbc	08 16 19.9	-2.1

ISK ***02*** *08:33:40.7, 37°.85N×29°.09E, h3km, MD2.5*

ISC 02 08:33:41.0±1.6**, 37°.86N**±0°.06×**29°.12E**±0°.10**, h3km**±29km**,**
n5, σ**0s.34**/9**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.13	213	PG	Pg	08 33 43.4	-0.1

DNZL	**Cakiroluk**	**0.18**	**199**	*i* P	**Pg**	**08 33 44.6**	**0.0**
DNZL				*i* S	**Sg**	**08 33 47.2**	**+0.1**
KHL	**Karahalli**	**0.56**	**34**	*e*PG	**Pb**	**08 33 53.4**	**0.0**
KHL				*e*SG	**Sb**	**08 34 01.3**	**-0.6**
KHAL	**Karahalli**	**0.58**	**30**	*i* P	**Pb**	**08 33 54.2**	**+0.3**
KHAL				*i* S	**Sb**	**08 34 03.1**	**+0.4**
KULA	**Kula-Manisa**	**0.74**	**331**	*e*PG	**Pg**	**08 33 55.2**	**-0.1**
KULA				*e*SG	**Sb**	**08 34 07.2**	**-0.1**

IDC 02 08:38:06.8±2.1, 24°.23S×67°.00W, h159km±22km, mb3.1/2, mb1 3.2/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=41.4km s-min=18.1km az=111.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.42**	**188**	P	Pn	08 39 52.9	+0.2
	0.0nm,0.3s,baz=6.0,slow=9.2,SNR=11						
CFAA				S	Sn	08 41 10.5	-5.3
	0.0nm,0.3s,baz=229,slow=19,SNR=3.5						
LPAZ	**La Paz**	**7.97**	**352**	P	Pn	08 40 00.7	-0.1
	0.4nm,0.3s,baz=153,slow=7.0,SNR=8.3						
SIV	**San Ignacio**	**9.91**	**35**	P	Pn	08 40 24.6	-1.1
	0.5nm,0.3s,baz=230,slow=15,SNR=6.0						
BDFB	**Brasilia**	**19.78**	**68**	P	P	08 42 25.9	+0.9
	0.4nm,0.3s,baz=240,slow=10,SNR=8.5						
QSPA	**South Pole Qui**	**65.97**	**180**	P	P	08 48 35.7	-0.2
	0.4nm,0.7s,baz=90,slow=8.1,SNR=7.9						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	P	08 49 40.0	-0.5
	0.3nm,0.9s,baz=235,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**146.71**	**40**	PKPbc	PKPbc	08 57 29.8	-0.1
	0.5nm,1.0s,baz=285,slow=2.1,SNR=3.1						

GUC 02 08:38:07.6±0.7, 38°.82S×72°.61W, h60km±4km, ML4.0, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.08**	**5**	⇑*i*P	Pn	08 38 17.1	+0.4
TMU				*i* S	Sn	08 38 23.4	+0.3
AGCH	**Angol**	**1.01**	**356**	*e*P	Pn	08 38 26.1	+0.4
AGCH				*e*S	Sn	08 38 39.9	+0.8
AGCH				AML	AML	08 38 44.3	
	comp=E,5μm,0.4s						
VLCH	**Valdivia**	**1.11**	**206**	*e*P	Pn	08 38 27.1	0.0
VLCH				*i* S	Sn	08 38 42.4	+0.9
VLCH				AML	AML	08 38 49.8	
	comp=N,8μm,0.2s						
PUYE	**Entre Lagos**	**1.87**	**180**	*e*P	Pn	08 38 38.2	+1.0
PUYE				*e*S	Sn	08 39 00.3	+0.6
PUYE				AML	AML	08 39 09.3	
	comp=E,2μm,0.1s						
CCHI	**Chillan**	**2.25**	**11**	*e*P	Pn	08 38 42.8	+0.3

*KRSC **02** 08:42:06.7±2.5, 50°.11N×153°.77E, h519km±20km, ML4.6*
*ISCJB **02** 08:42:11.3±0.6, 51°.25N±0°.10×151°.8E±0°.1, h400km, mb2.9/7, Error ellipse: s-maj=15.5km s-min=6.3km az=146.3*
*MOS **02** 08:42:11.2±1.1, 51°.38N×152°.00E, h419km, mb4.5/1, Error ellipse: s-maj=31.3km s-min=14.6km az=50.0*
*IDC **02** 08:42:13.1±1.6, 51°.33N×151°.87E, h419km±19km, mb2.6/7, mb1 2.9/10, mb1mx2.8/28, mbtmp2.7/10, Error ellipse: s-maj=21.2km s-min=14.6km az=144.0*
ISC 02 08:42:11.7±0.7, 51°.2N±0°.1×152°.04E±0°.08, h400km, n35, σ1s.96/42, mb2.9/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAK	**Asacha**	**3.82**	**70**	*e*P	**Pn**	**08 43 23.8**	**+1.7**
PETK	**Petropavlovsk-**	**3.96**	**59**	P	**Pn**	**08 43 26.0**	**+2.7**
	0.6nm,0.3s,baz=170,slow=3.1,SNR=11						
PETK	**Petropavlovsk-**	**3.96**	**59**	PN	**Pn**	**08 43 26.0**	**+2.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RUS	**Russkaya**	**4.20**	**71**	PN	**Pn**	**08 43 26.3**	**+0.8**
RUS				S	**S**	**08 44 23.8**	**-1.7**
RUS	**Russkaya**	**4.20**	**71**	*e*P	**Pn**	**08 43 26.3**	**+0.8**
RUS				S	**S**	**08 44 23.8**	**-1.7**
AVH	**Avacha**	**4.59**	**61**	P	**Pn**	**08 43 32.7**	**+3.2**
UGLR	**Uglovaya**	**4.62**	**62**	P	**Pn**	**08 43 32.6**	**+2.8**
SDLR	**Sedlovina**	**4.68**	**61**	P	**Pn**	**08 43 33.3**	**+2.9**
SDLR				*e*S	**S**	**08 44 36.2**	**+1.7**
NLC	**Nalytchevo**	**4.90**	**64**	S	**S**	**08 44 39.6**	**+1.4**
SPN	**Mys Shipunski**	**5.26**	**66**	PN	**Pn**	**08 43 36.5**	**+0.2**
SPN				S	**S**	**08 44 41.6**	**-3.5**
SPN	**Mys Shipunski**	**5.26**	**66**	P	**Pn**	**08 43 36.5**	**+0.2**
SPN				*e*S	**S**	**08 44 41.6**	**-3.5**
TUMR	**Tumrok**	**6.34**	**47**	*e*P	**Pn**	**08 43 51.1**	**+3.2**
KMNR	**Kamenistaya**	**6.67**	**44**	*e*P	**P**	**08 43 54.7**	**+2.5**
MKZ	**Mys Kozlova**	**6.75**	**57**	PN	**Pn**	**08 43 52.1**	**-0.2**
MKZ				S	S	08 45 09.2	-5.3
MKZ	**Mys Kozlova**	**6.75**	**57**	*e*P	**Pn**	**08 43 52.1**	**-0.2**
MKZ				*e*S	S	08 45 09.2	-5.3
KPT	**Kopyto**	**6.80**	**43**	*e*P	**P**	**08 43 55.0**	**+1.4**
SRDR	**Sredinnyy**	**6.83**	**39**	*e*P	**P**	**08 43 57.1**	**+3.2**
KIRR	**Kirishev**	**6.84**	**43**	*e*P	**P**	**08 43 55.3**	**+1.1**
BZMR	**Bezymyannaya**	**6.89**	**44**	*e*P	**P**	**08 43 57.0**	**+2.3**
ZLN	**Zelenaya**	**7.08**	**44**	*e*P	**P**	**08 43 58.6**	**+1.8**
BDR	**Baidarnaya**	**7.61**	**42**	*e*P	**P**	**08 44 04.6**	**+2.0**
SRKR	**Sorokina**	**7.65**	**41**	*e*P	**P**	**08 44 05.2**	**+2.2**
SRKR				S	**S**	**08 45 31.7**	**-1.6**
SMKR	**Semkarok**	**7.73**	**42**	*e*P	**P**	**08 44 06.1**	**+2.2**
SMKR				S	**S**	**08 45 33.8**	**-1.2**
KBTR	**Krutoberegovo**	**8.11**	**48**	PN	**Pn**	**08 44 06.7**	**-1.0**
KBTR				S	S	08 45 36.0	-6.8
KBTR	**Krutoberegovo**	**8.11**	**48**	*e*P	**Pn**	**08 44 06.7**	**-1.0**
KBTR				S	S	08 45 36.0	-6.8
ASAJ	**Asahikawa**	**9.54**	**225**	P	**Pn**	**08 44 26.1**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=52,slow=9.4,SNR=14						
FX1	**Attu Island--F**	**13.10**	**74**	P	**P**	**08 45 03.2**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=16,slow=21,SNR=5.7						
SONM	**Songino Array**	**29.45**	**282**	P	**P**	**08 47 39.3**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=57,slow=7.6,SNR=1.9						
ILAR	**Eielson Array**	**33.60**	**43**	P	**P**	**08 48 16.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=275,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**44.39**	**293**	P	**P**	**08 49 43.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=42,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**44.39**	**293**	P	**P**	**08 49 43.2**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**47.81**	**39**	P	**P**	**08 50 10.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=303,slow=7.0,SNR=5.9						
WRA	**Warramunga Arr**	**72.55**	**197**	P	**P**	**08 52 55.9**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=15,slow=6.0,SNR=4.7						
GERES	**GERESS Array B**	**74.13**	**333**	P	**P**	**08 53 03.4**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=21,slow=6.3,SNR=3.8						
ASAR	**Alice Springs**	**76.26**	**197**	P	**P**	**08 53 17.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=17,slow=6.8,SNR=3.6						

IDC 02 08:53:43.8±3.8, 13°.94N×146°.40E, h53km±33km, mb3.4/11, mb1 3.6/11, mb1mx3.5/25, mbtmp3.4/11, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=29.6km s-min=18.5km az=87.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**257**	P	Pn	08 54 08.8	+0.1
	60nm,0.3s,baz=137,slow=8.8,SNR=22						
KSRS	**Korea Array**	**28.62**	**328**	P	P	08 59 34.1	-1.2
	0.7nm,0.5s,baz=140,slow=8.4,SNR=3.8						
KSRS				LR	LR	09 10 09.3	
	comp=Z,22nm,18.8s,baz=125,slow=34						
WRA	**Warramunga Arr**	**35.70**	**200**	P	P	09 00 37.1	-0.3
	0.9nm,0.7s,baz=22,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**39.32**	**198**	P	P	09 01 07.3	-0.7
	0.4nm,0.8s,baz=24,slow=7.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	**45.70**	**282**	P	P	09 02 00.6	+0.6
	1.1nm,0.4s,baz=76,slow=6.0,SNR=4.5						
SONM	**Songino Array**	**47.32**	**324**	P	P	09 02 12.9	+0.5
	0.4nm,0.5s,baz=140,slow=6.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**62.21**	**324**	P	P	09 04 00.3	+0.5
	0.6nm,0.5s,baz=106,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**62.28**	**316**	P	P	09 04 00.7	+0.1
	0.4nm,0.4s,baz=89,slow=8.7,SNR=17						
ILAR	**Eielson Array**	**67.62**	**25**	P	P	09 04 33.9	-1.0
	0.2nm,0.6s,baz=230,slow=7.0,SNR=3.7						
YKA	**Yellowknife Ar**	**81.86**	**28**	P	P	09 05 57.2	-0.1
	0.2nm,0.6s,baz=288,slow=5.2,SNR=3.4						
NVAR	**Mina Array Bea**	**85.54**	**52**	P	P	09 06 18.8	+1.9
	0.3nm,0.6s,baz=270,slow=2.7,SNR=2.2						
FINES	**FINESS Array B**	**91.47**	**335**	P	P	09 06 42.5	-1.8
	1.4nm,0.7s,baz=333,slow=2.1,SNR=4.3						
DBIC	**Dimbokro**	**144.89**	**304**	PKP	PKPdf	09 13 16.0	-0.1
	3.9nm,0.7s,baz=1.1,slow=4.2,SNR=5.9						

IDC 02 09:01:53.8±1.0, 12°.79N×143°.08E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.6/6, Error ellipse: s-maj=45.7km s-min=19.7km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.65**	**195**	P	P	09 08 36.2	-0.2
	1.0nm,0.5s,baz=16,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**37.33**	**194**	P	P	09 09 08.2	+0.1
	0.4nm,0.4s,baz=24,slow=11,SNR=16						
SONM	**Songino Array**	**46.40**	**326**	P	P	09 10 22.7	+0.5
	0.3nm,0.5s,baz=141,slow=5.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**61.27**	**325**	P	P	09 12 10.1	-0.6
	0.5nm,0.3s,baz=118,slow=8.3,SNR=2.6						
ILAR	**Eielson Array**	**70.03**	**25**	P	P	09 13 07.2	0.0
	0.5nm,0.5s,baz=248,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**84.36**	**27**	P	P	09 14 27.8	0.0
	0.1nm,0.5s,baz=280,slow=4.5,SNR=3.8						

IDC 02 09:08:51.4±3.3, 1°.34N×132°.42E, h0km, mb3.1/4, mb1 3.2/4, mb1mx3.1/22, mbtmp3.1/4, Error ellipse: s-maj=213.6km s-min=23.4km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.23**	**175**	P	P	09 13 39.3	+0.2
	0.3nm,1.1s,baz=355,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**24.89**	**177**	P	P	09 14 16.0	-0.2
	0.2nm,0.8s,baz=5.2,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**62.80**	**324**	P	P	09 19 17.3	-1.6
	0.3nm,0.8s,baz=117,slow=8.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**66.85**	**326**	P	P	09 19 46.4	+1.2
	0.8nm,0.8s,baz=122,slow=7.3,SNR=6.1						

MAN 02 09:11:16, 17°.68N×120°.65E, h15km, mb4.3, ML3.1, MS2.9, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.06**	**121**	*e*P	Pg	09 11 19.6	+0.7
ABRA				*e*S	Sg	09 11 21.5	+0.6
SIPP	**Brgy, Tapao**	**0.30**	**322**	⇓*e*P	Pb	09 11 24.1	+1.0
SIPP				*i* S	Sn	09 11 32.3	+0.1
PIP	**Pasuquin**	**0.64**	**357**	⇑*i*P	Pb	09 11 29.2	+0.3
PIP				*e*S	Sn	09 11 40.5	0.0
BCPH	**Baguio City Da**	**1.30**	**183**	⇑*i*P	Pn	09 11 37.2	-2.6
BCPH				*i* S	Sb	09 11 53.5	-3.5
CAUP	**Cauayan**	**1.34**	**123**	*e*P	Pg	09 11 41.3	-0.5
CAUP				*e*S	Sb	09 11 58.2	+0.5
BOLP	**Bolinao**	**1.48**	**209**	*e*P	Pb	09 11 42.9	-0.3
BOLP				*e*S	Sb	09 12 01.9	+0.2
PALP	**Palanan**	**1.80**	**110**	*e*P	Pb	09 11 49.3	+0.7
BALP	**Baler**	**2.12**	**155**	*e*P	Pn	09 11 51.7	+0.8

*IDC **02** 09:27:50.5±0.9, 27°.97N×93°.94E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/28, mbtmp3.7/7, Error ellipse: s-maj=43.6km s-min=18.3km az=59.0*
ISC 02 09:27:54.9±2.2, 28°.3N±0°.2×93°.9E±0°.4, h10km, n8, σ1s.91/7, mb3.9/6, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.23**	**215**	*e*PN	**Pb**	**09 28 52.0**	**-0.5**
SHL				*e*PG	**Pg**	**09 28 59.5**	**+2.6**
SHL				*e*SN	**Sn**	**09 29 22.0**	**-2.6**
SHL				*e*SG	**Sb**	**09 29 31.5**	**-0.6**
MKAR	**Makanchi Array**	**20.64**	**337**	P	**P**	**09 32 34.9**	**+0.4**
	0.7nm,0.6s,baz=141,slow=13,SNR=6.6						
SONM	**Songino Array**	**21.83**	**23**	P	**P**	**09 32 46.9**	**-0.5**
	0.4nm,0.6s,baz=211,slow=8.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**25.21**	**337**	P	**P**	**09 33 20.3**	**-0.3**
	0.9nm,0.6s,baz=146,slow=10.0,SNR=7.6						
BVAR	**Borovoye Array**	**30.25**	**331**	P	P	09 34 04.9	-0.9
	0.3nm,0.4s,baz=153,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**61.82**	**136**	P	P	09 38 10.3	-4.0
	1.3nm,0.6s,baz=322,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**64.42**	**139**	P	P	09 38 27.2	-4.3
	0.6nm,0.5s,baz=325,slow=6.5,SNR=10						
TORD	**Torodi Ar. Bea**	**85.81**	**283**	P	P	09 40 32.9	-2.3
	2.0nm,0.8s,baz=60,slow=4.4,SNR=14						

KRSC 02 09:48:31.1±0.9, 56°.09N×164°.82E, h18km±17km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**1.10**	**143**	*e*P	Pb	09 48 50.5	-1.1
BKI				*e*S	Sb	09 49 05.0	-0.6
KBTR	**Krutoberegovo**	**1.13**	**277**	*i* P	Pn	09 48 50.6	-1.3
KBTR				S	Sb	09 49 04.6	-1.7
SMKR	**Semkarok**	**1.93**	**286**	*e*P	Pn	09 49 03.4	+0.3
BDR	**Baidarnaya**	**2.07**	**285**	*e*P	Pn	09 49 06.0	+1.0
BDR				S	Sn	09 49 31.6	+1.2
SRKR	**Sorokina**	**2.11**	**287**	*e*P	Pn	09 49 05.9	+0.3
SRKR				S	Sn	09 49 31.2	-0.2
ZLN	**Zelenaya**	**2.25**	**270**	*e*P	Pn	09 49 09.0	+1.4
ZLN				S	Sn	09 49 36.5	+1.5
CIRR	**Tsirk**	**2.28**	**272**	*e*P	Pb	09 49 10.1	-1.8
CIRR				S	Sb	09 49 38.1	-1.8
BZGR	**Bezymyannyi-Gr**	**2.32**	**268**	*e*P	Pn	09 49 10.0	+1.5
BZGR				S	Sn	09 49 38.4	+1.7
KLY	**Klyuchi**	**2.34**	**277**	*e*P	Pn	09 49 08.1	-0.5
KLY				S	Sn	09 49 34.9	-1.9
KRSR	**Krestovskiy**	**2.38**	**275**	*e*P	Pn	09 49 10.3	+0.9
KRSR				S	Sn	09 49 39.3	+1.1
BZWR	**Bezymyannyi-We**	**2.43**	**269**	*e*P	Pn	09 49 11.2	+1.1
BZWR				S	Sn	09 49 40.6	+1.1
BZMR	**Bezymyannaya**	**2.44**	**268**	*e*P	Pn	09 49 11.4	+1.2
BZMR				S	Sn	09 49 40.6	+1.0
KIRR	**Kirishev**	**2.52**	**269**	*e*P	Pn	09 49 13.0	+1.7
KIRR				S	Sn	09 49 43.3	+1.7
KPT	**Kopyto**	**2.58**	**269**	*e*P	Pn	09 49 14.0	+1.9
KPT				S	Sn	09 49 44.6	+1.5
KMNR	**Kamenistaya**	**2.60**	**265**	*e*P	Pn	09 49 14.7	+2.3
KMNR				S	Sn	09 49 46.1	+2.5
TUMR	**Tumrok**	**2.77**	**255**	*e*P	Pn	09 49 16.5	+1.8
KOZ	**Kozyrevsk**	**2.77**	**271**	P	Pn	09 49 17.2	+2.6
KOZ				S	Sn	09 49 50.2	+2.6
SRDR	**Sredinnyy**	**2.86**	**277**	*e*P	Pn	09 49 18.2	+2.3
SRDR				S	Sn	09 49 52.1	+2.2
SPN	**Mys Shipunski**	**4.09**	**225**	S	Sn	09 50 17.9	-2.2
SDLR	**Sedlovina**	**4.45**	**233**	P	Pn	09 49 39.3	+1.5
SDLR				S	Sn	09 50 29.2	0.0
SMAR	**Somma**	**4.50**	**233**	P	Pn	09 49 39.9	+1.3
UGLR	**Uglovaya**	**4.52**	**233**	*e*P	Pn	09 49 40.5	+1.7
AVH	**Avacha**	**4.52**	**234**	*e*P	Pn	09 49 41.6	+2.9
RUS	**Russkaya**	**5.20**	**228**	P	Pn	09 49 48.9	+1.0
ASAK	**Asacha**	**5.50**	**230**	P	Pn	09 49 55.1	+2.9

*IDC **02** 10:00:45.9±1.1, 18°.73N×121°.42E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/26, Error ellipse: s-maj=72.5km s-min=23.3km az=69.0*
*MAN **02** 10:00:49, 19°.04N×121°.04E, h1km, mb4.5, ML3.4, MS3.3*
*ISCJB **02** 10:00:51.4±1.3, 19°.14N±0°.09×120°.9E±0°.2, h39km, mb3.3/4, MS3.0/1, Error ellipse: s-maj=21.6km s-min=11.6km az=17.7*
ISC 02 10:00:51.9±1.7, 19°.2N±0°.1×120°.8E±0°.1, h39km, n13, σ2s.13/10, mb3.3/4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.87**	**194**	⇓*e*P	**Pn**	**10 01 05.1**	**-2.6**
PIP				*e*S	**Sn**	**10 01 16.2**	**-3.0**
SIPP	**Brgy, Tapao**	**1.30**	**196**	⇓*i*P	**Sn**	**10 01 32.5**	**+2.8**
ABRA	**Dolores**	**1.52**	**185**	*e*P	**Pn**	**10 01 15.5**	**-1.2**
ABRA				*e*S	**Sn**	**10 01 36.3**	**+1.1**
CAUP	**Cauayan**	**2.41**	**157**	*e*P	**Pn**	**10 01 29.4**	**+0.6**
PALP	**Palanan**	**2.58**	**144**	*e*P	**Pn**	**10 01 30.8**	**-0.5**
BOLP	**Bolinao**	**2.92**	**198**	*e*P	**Pn**	**10 01 38.0**	**+2.2**
BALP	**Baler**	**3.49**	**168**	*e*P	**Pn**	**10 01 43.3**	**-0.4**
DAV	**Davao City (W)**	**12.88**	**158**	LR	LR	10 09 28.2	
	comp=Z,146nm,20.7s,baz=49,slow=42						
SONM	**Songino Array**	**30.91**	**341**	LR	LR	10 22 13.4	
	comp=Z,28nm,18.4s,baz=209,slow=41						
WRA	**Warramunga Arr**	**41.07**	**160**	P	P	10 08 26.1	-5.8
	0.2nm,0.3s,baz=334,slow=10,SNR=10						
MKAR	**Makanchi Array**	**41.83**	**320**	P	P	10 08 43.7	+5.7
	0.2nm,0.6s,baz=108,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**44.45**	**163**	P	P	10 08 54.8	-4.6
	0.3nm,0.6s,baz=344,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**87.69**	**23**	P	**P**	**10 13 36.4**	**+0.2**
	0.5nm,0.8s,baz=313,slow=4.7,SNR=12						

*CSEM **02** 10:01:15.1, 37°.83N×29°.11E, h5km, MD2.5, After DDA*
DDA 02 10:01:15.1, 37°.83N×29°.11E, h5km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	Pg	10 01 19.0	+0.7
DNZL				*i* S	Sg	10 01 21.3	+0.9
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	Pg	10 01 19.0	+0.7
DNZL				*i* S	Sg	10 01 21.3	+0.9
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	Pg	10 01 19.0	+0.7
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	Pg	10 01 19.0	+0.7
DNZL				*i* S	Sg	10 01 21.3	+0.9
DNZL				*i* S	Sg	10 01 21.3	+0.9
KHAL	**Karahalli**	**0.62**	**29**	*i* P	Pb	10 01 29.0	+0.4
KHAL				*i* S	Sg	10 01 36.1	+0.7
KHAL	**Karahalli**	**0.62**	**29**	*i* P	Pb	10 01 29.0	+0.4
KHAL				*i* S	Sg	10 01 36.1	+0.7
KHAL	**Karahalli**	**0.62**	**29**	*i* P	Pb	10 01 29.0	+0.4
KHAL	**Karahalli**	**0.62**	**29**	*i* P	Pb	10 01 29.0	+0.4
KHAL				*i* S	Sg	10 01 36.1	+0.7
KHAL				*i* S	Sg	10 01 36.1	+0.7
GOLH	**Golhisar**	**0.69**	**149**	*i* P	Pg	10 01 29.0	+0.6
GOLH				*i* S	Sg	10 01 37.4	0.0
GOLH	**Golhisar**	**0.69**	**149**	*i* P	Pg	10 01 29.0	+0.6
GOLH				*i* S	Sg	10 01 37.4	0.0
GOLH	**Golhisar**	**0.69**	**149**	*i* P	Pg	10 01 29.0	+0.6
GOLH	**Golhisar**	**0.69**	**149**	*i* P	Pg	10 01 29.0	+0.6
GOLH				*i* S	Sg	10 01 37.4	0.0
GOLH				*i* S	Sg	10 01 37.4	0.0
MANT	**Manisa**	**0.80**	**327**	*i* P	Pg	10 01 30.4	-0.3
MANT				*i* S	Sg	10 01 42.1	+0.8
MANT	**Manisa**	**0.80**	**327**	*i* P	Pg	10 01 30.4	-0.3
MANT				*i* S	Sg	10 01 42.1	+0.8
MANT	**Manisa**	**0.80**	**327**	*i* P	Pg	10 01 30.4	-0.3
MANT	**Manisa**	**0.80**	**327**	*i* P	Pg	10 01 30.4	-0.3
MANT				*i* S	Sg	10 01 42.1	+0.8
MANT				*i* S	Sg	10 01 42.1	+0.8

IDC 02 10:03:11.1±0.9, 22°.51S×12°.68W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/21, mbtmp4.1/5, MS3.5/7, Ms1 3.5/7, ms1mx3.2/25, Error ellipse: s-maj=34.5km s-min=25.0km az=119.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**34.03**	**275**	LR	LR	10 21 13.7	
	comp=Z,61nm,20.1s,baz=238,slow=32						
BOSA	**Boshof**	**34.66**	**108**	P	P	10 10 03.2	+0.6
	1.3nm,0.6s,baz=302,slow=6.9,SNR=3.1						
BOSA				LR	LR	10 22 03.8	
	comp=Z,60nm,19.0s,baz=346,slow=33						
TORD	**Torodi Ar. Bea**	**38.14**	**23**	P	P	10 10 32.1	-0.1
	4.7nm,0.8s,baz=197,slow=8.7,SNR=19						
TORD				LR	LR	10 23 20.2	
	comp=Z,54nm,19.8s,baz=170,slow=32						
CPUP	**Villa Florida**	**40.68**	**255**	P	P	10 10 54.2	+0.7
	0.3nm,0.3s,baz=105,slow=12,SNR=2.9						
CPUP				LR	LR	10 24 52.7	
	comp=Z,83nm,21.6s,baz=257,slow=32						
PLCA	**Paso Flores**	**51.60**	**235**	LR	LR	10 30 36.4	
	comp=Z,56nm,20.5s,baz=144,slow=32						
LPAZ	**La Paz**	**52.43**	**266**	LR	LR	10 32 55.5	
	comp=Z,51nm,20.9s,baz=71,slow=34						
ATAH	**Atahualpa**	**64.89**	**273**	LR	LR	10 40 51.6	
	comp=Z,101nm,20.8s,baz=296,slow=35						
QSPA	**South Pole Qui**	**67.69**	**180**	P	P	10 14 10.7	+0.6
	4.5nm,1.0s,baz=215,slow=3.9,SNR=7.9						
BRTR	**Keskin Array B**	**75.51**	**35**	P	P	10 14 58.2	+0.7
	2.1nm,1.0s,baz=198,slow=3.6,SNR=5.4						
ASAR	**Alice Springs**	**123.76**	**143**	PKP	PKPdf	10 22 09.4	-2.4
	0.2nm,0.5s,baz=194,slow=2.3,SNR=4.6						
WRA	**Warramunga Arr**	**126.92**	**140**	PKP	PKPdf	10 22 16.6	-1.3
	0.2nm,0.6s,baz=242,slow=1.7,SNR=4.1						

IDC 02 10:05:56.7±2.0, 3°.82N×127°.03E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=150.0km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**163**	P	P	10 11 18.6	-1.0
	1.6nm,0.7s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.13**	**167**	P	P	10 11 51.7	+1.0
	0.3nm,0.9s,baz=349,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	10 15 48.8	-0.1
	0.2nm,0.6s,baz=142,slow=6.3,SNR=3.0						

*ISK **02** 10:10:30.5, 39°.15N×29°.07E, h26km, MD2.5*
*ISCJB **02** 10:10:31.3±0.5, 39°.15N±0°.04×29°.08E±0°.05, h29km±5km, Error ellipse: s-maj=6.9km s-min=5.4km az=137.4*
*CSEM **02** 10:10:31.2±0.1, 39°.15N×29°.09E, h26km±2km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=140.0*
*DDA **02** 10:10:32.1, 39°.08N×29°.08E, h7km, MD2.7*
ISC 02 10:10:31.3±1.0, 39°.15N±0°.03×29°.08E±0°.03, h27km±9km, n26, σ0s.40/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**249**	*i* P	**Pb**	**10 10 38.9**	**+0.3**
DEMI				*i* S	**Sb**	**10 10 42.9**	**-0.7**
DEMI	**Demirci**	**0.30**	**249**	*i* P	**Pb**	**10 10 38.9**	**+0.3**
DEMI				*i* S	**Sb**	**10 10 42.9**	**-0.7**
GDZ	**Gediz**	**0.32**	**101**	*i* P	**Pb**	**10 10 39.2**	**+0.3**
GDZ				*i* S	**Sb**	**10 10 43.7**	**-0.4**
GDZ	**Gediz**	**0.32**	**101**	*i* P	**Pb**	**10 10 39.2**	**+0.3**
GDZ				*i* S	**Sb**	**10 10 43.7**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**45**	*e*PG	**Pb**	**10 10 40.0**	**-0.4**
TVSB				*e*SG	**Sb**	**10 10 47.3**	**+0.7**
TVSB	**Tavsanli**	**0.42**	**45**	*e*Pg	**Pb**	**10 10 40.0**	**-0.4**
TVSB				*e*Sg	**Sb**	**10 10 47.3**	**+0.7**
DURS	**Dursunbey**	**0.65**	**314**	*i* P	**Pn**	**10 10 45.3**	**+0.6**
DURS	**Dursunbey**	**0.65**	**314**	*i* P	**Pn**	**10 10 45.3**	**+0.6**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*PG	**Pb**	**10 10 45.2**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*Pg	**Pb**	**10 10 45.2**	**0.0**
MANT	**Manisa**	**0.78**	**212**	*i* P	**Pn**	**10 10 46.8**	**+0.2**
MANT				*i* S	**Sb**	**10 10 56.5**	**-0.1**
MANT	**Manisa**	**0.78**	**212**	*i* P	**Pn**	**10 10 46.8**	**+0.2**
MANT				*i* S	**Sb**	**10 10 56.5**	**-0.1**
ALT	**Altintas**	**0.81**	**97**	*e*PG	**Pb**	**10 10 46.6**	**-0.2**
ALT	**Altintas**	**0.81**	**97**	*e*Pg	**Pb**	**10 10 46.6**	**-0.2**
KHAL	**Karahalli**	**0.84**	**157**	*i* P	**Pb**	**10 10 47.8**	**+0.4**
KHAL				*i* S	**Sb**	**10 10 58.0**	**-0.5**
KHAL	**Karahalli**	**0.84**	**157**	*i* P	**Pb**	**10 10 47.8**	**+0.4**
KHAL				*i* S	**Sb**	**10 10 58.0**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*PN	**Pn**	**10 10 52.7**	**+0.4**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*Pn	**Pn**	**10 10 52.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*PN	**Pn**	**10 10 52.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*Pn	**Pn**	**10 10 52.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*PN	**Pn**	**10 10 54.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*Pn	**Pn**	**10 10 54.9**	**0.0**
ARMT	**Armutlu**	**1.42**	**353**	*e*PN	**Pn**	**10 10 54.9**	**-0.4**
ARMT	**Armutlu**	**1.42**	**353**	*e*Pn	**Pn**	**10 10 54.9**	**-0.4**
MDUB	**Mudurnu**	**2.10**	**50**	*e*PN	**Pn**	**10 11 04.6**	**-0.1**
MDUB	**Mudurnu**	**2.10**	**50**	*e*Pn	**Pn**	**10 11 04.6**	**-0.1**

*IDC **02** 10:12:11.9±0.8, 17°.34N×120°.98E, h0km, mb3.5/11, mb1 3.7/11, mb1mx3.7/26, mbtmp3.6/11, MS3.0/4, Ms1 3.0/4, ms1mx2.6/35, Error ellipse: s-maj=30.9km s-min=17.3km az=67.0*
*ISCJB **02** 10:12:16.2±0.5, 17°.61N±0°.03×120°.70E±0°.06, h21km±4km, mb3.5/9, MS2.9/3, Error ellipse: s-maj=9.6km s-min=5.5km az=176.4*
*MAN **02** 10:12:16, 17°.59N×120°.62E, h3km, mb4.4, ML3.3, MS3.1*

ISC 02 10:12:16.2±0.8**, 17°.58N**±0°.04×**120°.68E**±0°.04**, h17**km±5km**, n21, σ1s03**/25**, mb3.5**/9**, MS3.0**/3**, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.07**	**23**	*e*P	**Pg**	**10 12 19.3**	**-0.1**
ABRA				*e*S	**Sg**	**10 12 22.1**	**+0.4**
SIPP	**Brgy, Tapao**	**0.40**	**328**⇓	*i*P	**Pg**	**10 12 23.9**	**-0.6**
SIPP				*i* S	**Sg**	**10 12 31.1**	**+1.1**
PIP	**Pasuquin**	**0.74**	**355**⇑	*i*P	**Pg**	**10 12 29.1**	**-1.6**
PIP				*e*S	**Sg**	**10 12 40.7**	**+0.1**
BCPH	**Baguio City Da**	**1.20**	**185**⇑	*i*P	**Pb**	**10 12 37.4**	**-1.1**
BCPH				*i* S	**Sb**	**10 12 53.0**	**-0.7**
CAUP	**Cauayan**	**1.26**	**120**	*e*P	**Pg**	**10 12 40.4**	**-0.1**
CAUP				*e*S	Sn	10 13 01.0	+5.4
BOLP	**Bolinao**	**1.40**	**212**	*e*P	**Pb**	**10 12 41.4**	**-0.5**
BOLP				*e*S	**Sg**	**10 13 02.1**	**+0.6**
SGCP	**Mt. Cagua**	**1.46**	**63**	*e*P	**Pn**	**10 12 41.2**	**-0.5**
PALP	**Palanan**	**1.74**	**107**⇓	*e*P	**Pb**	**10 12 47.3**	**-0.4**
PALP				*i* S	**Sg**	**10 13 13.2**	**+0.9**
SCZP	**Santa Cruz**	**1.94**	**202**	*e*P	**Pb**	**10 12 49.8**	**-1.2**
SCZP				*e*S	Sg	10 13 24.6	+5.9
JNU	**Nakatsue**	**17.99**	**29**	LR	LR	10 23 13.7	
	comp=Z,36nm,20.6s,baz=238,slow=37						
CMAR	**Chiang Mai Arr**	**20.69**	**276**	P	**P**	**10 16 56.8**	**+1.1**
	1.0nm,0.5s,baz=80,slow=7.7,SNR=5.0						
KSRS	**Korea Array**	**20.80**	**16**	P	**P**	**10 16 57.0**	**+0.4**
	1.6nm,0.8s,baz=198,slow=11,SNR=4.7						
KSRS				LR	LR	10 25 36.0	
	comp=Z,28nm,19.8s,baz=195,slow=38						
SONM	**Songino Array**	**32.37**	**342**	P	**P**	**10 18 46.2**	**+1.4**
	0.5nm,0.8s,baz=161,slow=8.2,SNR=4.4						
SONM				LR	LR	10 32 03.7	
	comp=Z,33nm,19.2s,baz=342,slow=36						
WRA	**Warramunga Arr**	**39.63**	**160**	P	P	10 19 42.7	-4.4
	0.4nm,0.7s,baz=348,slow=8.8,SNR=8.1						
MKAR	**Makanchi Array**	**42.96**	**321**	P	**P**	**10 20 15.8**	**+1.5**
	0.8nm,0.7s,baz=126,slow=7.6,SNR=10						
MKAR				PcP	**PcP**	**10 22 04.3**	**-0.4**
	0.3nm,0.7s,baz=99,slow=4.9,SNR=3.6						
ASAR	**Alice Springs**	**42.98**	**162**	P	P	10 20 10.8	-3.9
	0.3nm,0.5s,baz=340,slow=7.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**45.65**	**331**	P	**P**	**10 20 37.0**	**+1.4**
	0.2nm,0.3s,baz=108,slow=14,SNR=2.8						
ZALV				LR	LR	10 43 39.1	
	comp=Z,22nm,18.1s,baz=64,slow=41						
KURBB	**Kurchatov Arra**	**47.01**	**324**	P	**P**	**10 20 47.5**	**+1.1**
	2.0nm,0.8s,baz=122,slow=7.9,SNR=17						
BVAR	**Borovoye Array**	**52.60**	**324**	P	**P**	**10 21 30.0**	**+1.1**
	0.5nm,0.6s,baz=110,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**75.29**	**26**	P	**P**	**10 23 56.4**	**-1.7**
	0.9nm,1.0s,baz=271,slow=4.7,SNR=9.3						
YKA	**Yellowknife Ar**	**89.22**	**22**	P	**P**	**10 25 10.5**	**-0.4**
	0.2nm,0.6s,baz=314,slow=4.3,SNR=6.1						

---

*ISCJB **02** 10:17:43.5±0.6, 24°.13S±0°.06×67°.17W±0°.08, h181km, mb3.3/5, Error ellipse: s-maj=11.2km s-min=6.3km az=151.1*

*IDC **02** 10:17:43.8±1.9, 24°.15S×67°.01W, h165km±17km, mb3.3/5, mb1 3.5/9, mb1mx3.4/19, mbtmp3.3/9, MS3.8/1, Ms1 3.8/1, ms1mx2.5/8, Error ellipse: s-maj=22.9km s-min=15.9km az=81.0*

*GUC **02** 10:17:47.6±0.7, 24°.18S×67°.75W, h179km±28km, ML4.4*

ISC 02 10:17:44.8±0.7**, 24°.07S**±0°.08×**67°.18W**±0°.10**, h181**km**, n22, σ1s50**/25**, mb3.1**/5**, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.48**	**321**	*e*P	**Pn**	**10 18 19.2**	**+2.1**
LVC	**Limon Verde**	**2.15**	**312**	*e*P	**Pn**	**10 18 24.8**	**+0.8**
PB04	**Plate Boundary**	**2.78**	**310**	*e*P	Pn	10 18 36.5	+5.7
PB04				AML	AML	10 19 20.2	
	comp=N,510nm,0.5s						
PB09	**Plate Boundary**	**2.95**	**320**⇑	*e*P	**Pn**	**10 18 34.5**	**+1.3**
PB09				*e*S	**Sn**	**10 19 10.9**	**+0.2**
PB09				AML	AML	10 19 12.4	
	comp=E,1μm,0.3s						
PB07	**Plate Boundary**	**3.41**	**313**⇑	*i*P	**Pn**	**10 18 39.2**	**+0.4**
PB07				*e*S	**Sn**	**10 19 18.9**	**-2.0**
PB07				AML	AML	10 19 22.4	
	comp=N,382nm,0.3s						
PB01	**Plate Boundary**	**3.69**	**324**⇓	*e*P	**Pn**	**10 18 42.2**	**0.0**
PB01				*i* S	**Sn**	**10 19 24.6**	**-2.3**
PB01				AML	AML	10 19 26.3	
	comp=E,423nm,0.3s						
HMBC	**Humberstone**	**4.53**	**326**	*e*P	**Pn**	**10 18 51.8**	**-1.1**
HMBC				*i* S	**Sn**	**10 19 43.1**	**-3.1**
MNMC	**Minimini**	**5.40**	**335**	*e*P	**Pn**	**10 19 04.0**	**-0.3**
CFAA	**Coronel Fontan**	**7.56**	**187**	P	**Pn**	**10 19 30.8**	**-1.7**
	comp=E,0.1nm,0.3s,baz=346,slow=4.2,SNR=8.8						
CFAA				S	Sn	10 20 49.4	-8.2
	comp=E,0.2nm,0.3s,baz=284,slow=23,SNR=7.8						
LPAZ	**La Paz**	**7.79**	**353**	P	**Pn**	**10 19 37.3**	**+1.3**
	comp=E,2.1nm,0.3s,baz=172,slow=7.6,SNR=33						
LPAZ				S	**Sn**	**10 21 03.3**	**-0.6**
	comp=E,0.3nm,0.3s,baz=340,slow=20,SNR=5.4						
SIV	**San Ignacio**	**9.88**	**37**	P	**Pn**	**10 20 01.0**	**-1.9**
	comp=E,0.4nm,0.3s,baz=220,slow=14,SNR=6.5						
PLCA	**Paso Flores**	**16.86**	**189**	P	**P**	**10 21 28.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=4.8,slow=12,SNR=3.5						
BDFB	**Brasilia**	**19.87**	**69**	P	**P**	**10 22 03.0**	**+0.6**
	comp=E,0.8nm,0.3s,baz=254,slow=11,SNR=8.4						
PMSA	**Palmer Station**	**40.75**	**178**	LR	LR	10 41 07.7	
	comp=E,124nm,18.0s,baz=145,slow=34						
TXAR	**Lajitas Array**	**63.64**	**325**	P	**P**	**10 27 58.4**	**+1.5**
	comp=E,0.1nm,0.5s,baz=165,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P	**P**	**10 29 15.5**	**-1.2**
	comp=E,0.2nm,0.5s,baz=258,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**77.12**	**329**	P	**P**	**10 29 20.4**	**+1.9**
	comp=E,0.2nm,0.5s,baz=133,slow=7.9,SNR=3.9						
BOSA	**Boshof**	**80.85**	**117**	P	**P**	**10 29 38.4**	**-0.7**
	comp=E,2.0nm,0.8s,baz=191,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**94.13**	**340**	P	**P**	**10 30 43.7**	**+1.5**
	comp=E,0.3nm,0.5s,baz=130,slow=4.7,SNR=7.9						
WRA	**Warramunga Arr**	**131.49**	**207**	PKP	**PKPdf**	**10 36 37.4**	**+0.8**
	comp=E,0.2nm,0.5s,baz=153,slow=1.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**143.53**	**28**	PKP	**PKPdf**	**10 36 56.9**	**-0.7**
	comp=E,0.8nm,0.5s,baz=278,slow=4.3,SNR=5.0						
MKAR	**Makanchi Array**	**146.68**	**39**	PKPbc	**PKPab**	**10 37 06.1**	**-0.7**
	comp=E,0.7nm,0.5s,baz=300,slow=3.5,SNR=9.7						

IDC 02 10:38:53.2±54.0**, 23°.51S**×**177°.09W, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.5**/18**, mbtmp3.4**/3**, Error ellipse: s-maj=990.5km s-min=173.3km az=87.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.34**	**248**	P	P	10 46 08.1	+0.6
	0.5nm,0.4s,baz=85,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**44.73**	**260**	P	P	10 47 08.1	-0.5
	0.4nm,1.0s,baz=96,slow=7.9,SNR=5.1						
WRA	**Warramunga Arr**	**45.09**	**265**	P	P	10 47 11.1	-0.3
	0.3nm,0.4s,baz=105,slow=8.3,SNR=9.2						

---

*NEIC **02** 10:46:18.8, 19°.49N×66°.41W, h50km, MD3.5(RSPR), After RSPR.*

RSPR 02 10:46:18.8, 19°.49N×**66°.41W, h50**km±13km**, 2C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.18**	**196**⇓	*e*P	Pn	10 46 37.9	-1.2
AOPR	**Arecibo Observ**	**1.18**	**196**	*e*S	Sn	10 46 53.1	-1.0
AOPR	**Arecibo Observ**	**1.18**	**196**⇓	*e*P	Pn	10 46 37.9	-1.2
AOPR				*e*S	Sn	10 46 53.1	-1.0
CBYP	**Canovanas**	**1.32**	**156**	*e*Pn	Pn	10 46 40.8	-0.2
CBYP				*e*Sn	Sn	10 46 57.6	+0.1
CPD	**Cerro la Pandu**	**1.52**	**162**⇓	*e*P	Pn	10 46 42.9	-0.8
CPD	**Cerro la Pandu**	**1.52**	**162**	*e*S	Sn	10 47 01.4	-0.9
CPD	**Cerro la Pandu**	**1.52**	**162**⇓	*e*P	Pn	10 46 42.9	-0.8
CPD				*e*S	Sn	10 47 01.4	-0.9
MTP	**Monte Pirata**	**1.60**	**149**⇑	*e*P	Pn	10 46 43.9	-0.9
MTP	**Monte Pirata**	**1.60**	**149**	*e*S	Sn	10 47 03.2	-1.1
MTP	**Monte Pirata**	**1.60**	**149**⇑	*e*P	Pn	10 46 43.9	-0.9
MTP				*e*S	Sn	10 47 03.2	-1.1

IDC 02 10:52:12.0±2.0**, 1°.67N**×**127°.23E, h0**km**, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.2**/20**, mbtmp3.1**/3**, Error ellipse: s-maj=155.5km s-min=25.0km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.59**	**162**	P	P	10 57 15.1	+0.8
	0.2nm,0.3s,baz=342,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.01**	**166**	P	P	10 57 46.0	-1.0
	0.2nm,0.5s,baz=335,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**59.52**	**326**	P	P	11 02 17.5	+0.2
	0.2nm,0.5s,baz=127,slow=9.6,SNR=3.9						

MAN 02 10:52:13, 17°.64N×**120°.48E, h20**km**, mb4.5, ML3.3, MS3.2, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.22**	**87**	*e*P	Pb	10 52 17.5	-1.0
SIPP	**Brgy, Tapao**	**0.28**	**356**⇓	*e*P	Pn	10 52 22.1	0.0
SIPP				*i* S	Sn	10 52 28.9	+1.2
PIP	**Pasuquin**	**0.69**	**11**⇑	*e*P	Pb	10 52 27.0	+0.5
PIP				*e*S	Sn	10 52 39.8	+1.8
BCPH	**Baguio City Da**	**1.25**	**176**⇑	*e*P	Pn	10 52 35.3	-0.4
BCPH				*i* S	Sn	10 52 51.3	-0.9
CAUP	**Cauayan**	**1.46**	**118**	*e*P	Pn	10 52 38.8	+0.6
CAUP				*e*S	Sn	10 52 56.0	-0.7
PALP	**Palanan**	**1.94**	**107**	*e*P	Pn	10 52 45.3	+0.4
PALP				*e*S	Sb	10 53 10.9	-0.7
BALP	**Baler**	**2.16**	**151**	*e*P	Pn	10 52 49.5	+1.6

---

*IDC **02** 11:01:49.5±0.7, 27°.04N×65°.51E, h0km, mb3.9/21, mb1 4.0/22, mb1mx3.9/32, mbtmp3.9/22, ML3.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/46, Error ellipse: s-maj=18.3km s-min=14.0km az=22.0*

*ISCJB **02** 11:01:51.6±0.6, 26°.92N±0°.09×65°.60E±0°.06, h33km, mb3.8/22, MS3.1/2, Error ellipse: s-maj=13.4km s-min=7.1km az=7.2*

ISC 02 11:01:54.3±0.6**, 27°.1N**±0°.1×**65°.57E**±0°.07**, h35**km**, n33, σ1s55**/31**, mb3.8**/22**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.35**	**240**	Pn	**Pn**	**11 03 37.0**	**-2.2**
	1.3nm,0.3s,baz=91,slow=6.5,SNR=9.8						
WSAR				Sn	Sn	11 04 54.0	-7.5
	1.5nm,0.3s,baz=343,slow=10.0,SNR=6.5						
PYUN	**Piuthan**	**15.48**	**82**	*e*P	**Pn**	**11 05 27.2**	**-3.2**
	23nm,0.7s						
KOLN	**Koldanda**	**16.03**	**83**	*e*P	**Pn**	**11 05 34.5**	**-2.9**
	7.6nm,0.6s						
DANN	**Dangsing**	**16.16**	**81**	*e*P	**Pn**	**11 05 36.0**	**-3.2**
	28nm,0.9s						
GKN	**Gorkha**	**16.94**	**82**	*e*P	**Pn**	**11 05 46.4**	**-2.5**
	3.2nm,0.2s						
AAK	**Ala-Archa**	**17.15**	**23**	Pn	**Pn**	**11 05 48.3**	**-3.1**
	0.2nm,0.3s,baz=190,slow=11,SNR=2.7						
GUN	**Gumba**	**18.04**	**83**	*e*P	**Pn**	**11 06 01.1**	**-1.6**
	58nm,1.0s						
JIRN	**Jiri**	**18.33**	**83**	*e*P	**P**	**11 06 05.5**	**-0.6**
	3.9nm,0.6s						
RAMN	**Ramite**	**18.74**	**86**	*e*P	**Pn**	**11 06 11.1**	**0.0**
	9.9nm,0.6s						
MKAR	**Makanchi Array**	**23.70**	**29**	P	**P**	**11 07 03.4**	**+0.5**
	1.2nm,0.7s,baz=212,slow=9.6,SNR=15						
AKTO	**Aktyubinsk**	**24.04**	**348**	P	**P**	**11 07 06.5**	**+0.5**
	1.0nm,0.6s,baz=151,slow=10,SNR=6.5						
KBZ	**Khabaz**	**24.73**	**318**	P	**P**	**11 07 13.6**	**+1.2**
	4.6nm,0.9s,baz=136,slow=11,SNR=6.0						
ASF	**Jabal al Asfar**	**25.40**	**288**	LR	LR	11 19 28.3	
	comp=Z,16nm,21.7s,baz=13,slow=42						
KURBB	**Kurchatov Arra**	**25.52**	**19**	P	**P**	**11 07 19.9**	**+0.5**
	1.1nm,0.6s,baz=210,slow=8.8,SNR=11						
BVAR	**Borovoye Array**	**26.17**	**7**	P	**P**	**11 07 25.9**	**+0.6**
	2.1nm,0.8s,baz=142,slow=7.5,SNR=9.9						
EIL	**Elat**	**27.03**	**283**	P	**P**	**11 07 32.0**	**-1.3**
	4.2nm,0.8s,baz=12,slow=8.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**30.38**	**23**	P	**P**	**11 08 03.0**	**+0.2**
	0.8nm,0.4s,baz=227,slow=8.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**31.87**	**99**	P	**P**	**11 08 17.1**	**+0.7**
	0.8nm,0.5s,baz=306,slow=8.7,SNR=5.9						
AKASG	**Malin Array Be**	**36.29**	**320**	P	**P**	**11 08 54.1**	**-0.1**
	1.3nm,0.5s,baz=116,slow=8.2,SNR=4.7						
SONM	**Songino Array**	**37.90**	**46**	P	**P**	**11 09 10.1**	**+1.9**
	0.6nm,0.9s,baz=252,slow=8.2,SNR=5.1						
PSI	**Prapat**	**40.01**	**121**	P	**P**	**11 09 28.2**	**+1.9**
	2.0nm,0.5s,baz=258,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**43.31**	**334**	P	**P**	**11 09 52.8**	**+0.2**
	1.0nm,0.5s,baz=134,slow=5.5,SNR=6.2						
GERES	**GERESS Array B**	**45.29**	**313**	P	**P**	**11 10 09.0**	**+0.3**
	0.8nm,0.8s,baz=90,slow=8.0,SNR=5.8						
ARCES	**ARCESS Array B**	**48.41**	**342**	P	**P**	**11 10 32.9**	**+0.2**
	5.0nm,0.9s,baz=134,slow=8.7,SNR=10						
NOA	**NORSAR Array B**	**49.58**	**329**	P	**P**	**11 10 41.7**	**-0.1**
	1.4nm,0.8s,baz=108,slow=7.5,SNR=3.1						
KSRS	**Korea Array**	**52.89**	**62**	P	**P**	**11 11 06.5**	**-0.4**
	1.0nm,0.7s,baz=282,slow=7.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**61.00**	**270**	P	**P**	**11 12 05.3**	**+0.6**
	1.8nm,0.7s,baz=60,slow=6.2,SNR=13						
TORD				LR	LR	11 38 17.3	
	comp=Z,52nm,18.4s,baz=185,slow=36						
WRA	**Warramunga Arr**	**81.36**	**118**	P	**P**	**11 14 07.6**	**-0.1**
	0.9nm,1.1s,baz=328,slow=5.1,SNR=3.2						
ASAR	**Alice Springs**	**83.04**	**121**	P	**P**	**11 14 17.9**	**+1.4**
	0.2nm,0.4s,baz=299,slow=5.0,SNR=5.9						
ILAR	**Eielson Array**	**85.04**	**13**	P	**P**	**11 14 26.3**	**+0.3**
	0.2nm,0.5s,baz=317,slow=4.9,SNR=3.6						
YKA	**Yellowknife Ar**	**90.75**	**0**	P	**P**	**11 14 53.8**	**+0.4**
	0.3nm,0.8s,baz=350,slow=5.0,SNR=6.5						
STKA	**Stephens Creek**	**93.14**	**124**	P	P	11 15 09.8	+4.8
	2.5nm,0.9s,baz=284,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**122.97**	**349**	PKP	**PKPdf**	**11 20 48.3**	**+0.7**
	0.5nm,1.0s,baz=90,slow=2.7,SNR=3.7						

IDC 02 11:06:39.8±0.8**, 0°.44N**×**123°.86E, h0**km**, mb3.5**/8**, mb1 3.7**/9**, mb1mx3.6**/23**, mbtmp3.5**/9**, ML3.7**/1**, Error ellipse: s-maj=80.4km s-min=15.9km az=68.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.51**	**175**	P	P	11 10 57.6	-0.1
	0.2nm,0.3s,baz=13,slow=9.6,SNR=5.5						
WRA	**Warramunga Arr**	**22.71**	**154**	P	P	11 11 43.6	+0.2
	0.4nm,0.4s,baz=333,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.87**	**159**	P	P	11 12 14.4	+1.0
	0.4nm,1.0s,baz=346,slow=13,SNR=2.8						
STKA	**Stephens Creek**	**36.26**	**154**	P	P	11 13 43.6	-1.4
	1.8nm,0.9s,baz=341,slow=13,SNR=3.8						
SONM	**Songino Array**	**49.59**	**345**	P	P	11 15 34.5	+1.7
	0.2nm,0.5s,baz=158,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**58.70**	**328**	P	P	11 16 39.7	+0.5
	0.3nm,0.3s,baz=128,slow=8.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**62.27**	**335**	P	P	11 17 02.8	-0.7
	0.5nm,0.4s,baz=122,slow=5.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**63.02**	**329**	P	P	11 17 07.5	-1.0
	0.3nm,0.4s,baz=141,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**89.28**	**25**	P	P	11 19 37.2	-0.5
	0.2nm,0.6s,baz=258,slow=4.5,SNR=4.2						

---

*ISCJB **02** 11:21:53.9±0.5, 37°.82N±0°.03×29°.09E±0°.05, h7km±5km, Error ellipse: s-maj=6.5km s-min=4.7km az=13.7*

*ISK **02** 11:21:53.5, 37°.82N×29°.11E, h8km, MD2.7*

*DDA **02** 11:21:53.9, 37°.84N×29°.08E, h7km, MD3.1*

*CSEM **02** 11:21:53.8±0.1, 37°.83N×29°.10E, h8km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.8km az=102.0*

ISC 02 11:21:54.0±0.9**, 37°.83N**±0°.02×**29°.10E**±0°.03**, h10**km±7km**, n31, σ0s38**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.09**	**215**	PG	**Pg**	**11 21 56.5**	**0.0**
DENT	**Denizli**	**0.09**	**215**	*i* Pg	**Pg**	**11 21 56.5**	**0.0**
DNZL	**Cakiroluk**	**0.14**	**196**	*i* P	**Pg**	**11 21 57.3**	**-0.1**
DNZL				*i* S	**Sg**	**11 21 59.8**	**0.0**
DNZL	**Cakiroluk**	**0.14**	**196**	*i* P	**Pg**	**11 21 57.3**	**-0.1**
DNZL				*i* S	**Sg**	**11 21 59.8**	**0.0**
KHAL	**Karahalli**	**0.62**	**30**	*i* P	**Pg**	**11 22 05.7**	**-0.5**
KHAL	**Karahalli**	**0.62**	**30**	*i* P	**Pg**	**11 22 05.7**	**-0.5**
GOLH	**Golhisar**	**0.70**	**148**	*i* P	**Pg**	**11 22 07.1**	**-0.4**
GOLH	**Golhisar**	**0.70**	**148**	*i* P	**Pg**	**11 22 07.1**	**-0.4**
KULA	**Kula-Manisa**	**0.77**	**333**	*e*PG	**Pg**	**11 22 08.3**	**-0.5**
KULA				*e*SG	**Sb**	**11 22 20.4**	**+0.4**
KULA	**Kula-Manisa**	**0.77**	**333**	*e*Pg	**Pg**	**11 22 08.3**	**-0.5**
KULA				*e*Sg	**Sb**	**11 22 20.4**	**+0.4**
MANT	**Manisa**	**0.79**	**327**	*i* P	**Pg**	**11 22 09.3**	**0.0**
MANT	**Manisa**	**0.79**	**327**	*i* P	**Pg**	**11 22 09.3**	**0.0**
YER	**Yerkesik**	**0.95**	**223**	*e*PG	**Pg**	**11 22 12.0**	**-0.3**
YER				*e*SG	**Sb**	**11 22 25.6**	**+0.4**
YER	**Yerkesik**	**0.95**	**223**	*e*Pg	**Pg**	**11 22 12.0**	**-0.3**
YER				*e*Sg	**Sb**	**11 22 25.6**	**+0.4**
AYDN	**Tasoluk**	**0.98**	**261**	*i* P	**Pb**	**11 22 13.0**	**-0.1**
AYDN				*i* S	**Sg**	**11 22 25.5**	**-0.1**
AYDN	**Tasoluk**	**0.98**	**261**	*i* P	**Pb**	**11 22 13.0**	**-0.1**
AYDN				*i* S	**Sg**	**11 22 25.5**	**-0.1**
FETY	**Fethiye**	**1.19**	**181**	*e*PN	**Pn**	**11 22 16.0**	**-0.7**
FETY	**Fethiye**	**1.19**	**181**	*e*Pn	**Pn**	**11 22 16.0**	**-0.7**
DEMI	**Demirci**	**1.25**	**346**	*i* P	Pn	11 22 12.0	-5.6
ELL	**Elmali**	**1.26**	**149**	*e*PN	**Pg**	**11 22 18.1**	**0.0**
ELL	**Elmali**	**1.26**	**149**	*e*Pn	**Pg**	**11 22 18.1**	**0.0**
GDZ	**Gediz**	**1.29**	**13**	*i* P	**Pn**	**11 22 18.0**	**-0.3**
GDZ				*i* S	**Sg**	**11 22 36.4**	**+0.7**
GDZ	**Gediz**	**1.29**	**13**	*i* P	**Pn**	**11 22 18.0**	**-0.3**
GDZ				*i* S	**Sg**	**11 22 36.4**	**+0.7**
KORT	**Korkueli**	**1.29**	**129**	*e*P	**Pg**	**11 22 19.4**	**+0.5**
KORT	**Korkueli**	**1.29**	**129**	*e*P	**Pg**	**11 22 19.4**	**+0.5**
SHUT	**Suhut-Afyon**	**1.35**	**57**	*e*PN	**Pb**	**11 22 19.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.35**	**57**	*e*Pn	**Pb**	**11 22 19.5**	**-0.1**
ALT	**Altintas**	**1.46**	**33**	*e*PN	**Pn**	**11 22 20.3**	**-0.3**
ALT	**Altintas**	**1.46**	**33**	*e*Pn	**Pn**	**11 22 20.3**	**-0.3**
BODT	**Bodrum**	**1.61**	**242**	*e*PN	**Pn**	**11 22 23.0**	**+0.4**
BODT	**Bodrum**	**1.61**	**242**	*e*Pn	**Pn**	**11 22 23.0**	**+0.4**

---

*HEL **02** 11:32:08.8±0.5, 59°.29N×27°.28E, h0km, ML2.1, Explosion*

*NAO **02** 11:32:08.4±1.1, 59°.29N×27°.16E, ML2.3*

*ISCJB **02** 11:32:11.5±0.5, 59°.53N±0°.02×26°.91E±0°.07, h0km, Error ellipse: s-maj=5.5km s-min=3.1km az=3.0*

*IDC **02** 11:32:11.3±1.1, 59°.47N×27°.04E, h0km, mb1 3.6/5, mb1mx3.2/28, mbtmp3.5/5, ML2.8/5, Error ellipse: s-maj=13.3km s-min=9.8km az=89.0*

*CSEM **02** 11:32:12.6±0.3, 59°.54N×26°.97E, h2km, ML2.8/6, Error ellipse: s-maj=7.0km s-min=4.6km az=103.0, Mining explosion.*

ISC 02 11:32:10.5±0.8**, 59°.47N**±0°.03×**26°.88E**±0°.04**, h0**km**, n53, σ1s89**/82**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSU	**Vasula**	**1.02**	**184**	Pg	Pg	11 32 25.1	-4.8
VSU				Lg	Lg	11 32 36.4	
VJF	**Virojoki**	**1.12**	**17**	PG	**Pg**	**11 32 31.8**	**-0.2**
VJF				SG	**Sb**	**11 32 48.2**	**+0.4**
VJF				MSG		11 32 48.2	
	comp=Z,16nm,0.4s						
VJF				RG	Rg	11 32 53.6	
VJF	**Virojoki**	**1.12**	**17**	PG	**Pg**	**11 32 31.8**	**-0.2**
VJF				SG	**Sb**	**11 32 48.2**	**+0.4**
VJF				MSG		11 32 48.2	
	comp=Z,16nm,0.4s						
VJF				RG	Rg	11 32 53.6	
VJF	**Virojoki**	**1.12**	**17**	Pg	**Pg**	**11 32 31.8**	**-0.2**
	SNR=90						
VJF				Sg	**Sb**	**11 32 48.2**	**+0.4**
	comp=Z,16nm,0.4s,SNR=90						
PVF	**Pernaja**	**1.19**	**335**	PG	**Pn**	**11 32 34.5**	**+0.2**
PVF				SG	**Sn**	**11 32 52.4**	**+1.2**
PVF				MSG		11 32 52.4	
	comp=Z,7.6nm,0.4s						
PVF	**Pernaja**	**1.19**	**335**	PG	**Pn**	**11 32 34.5**	**+0.2**
PVF				SG	**Sn**	**11 32 52.4**	**+1.2**
PVF				MSG		11 32 52.4	
	comp=Z,7.6nm,0.4s						
PVF	**Pernaja**	**1.19**	**335**	Pg	**Pn**	**11 32 34.5**	**+0.2**
	SNR=90						
PVF				Sg	**Sn**	**11 32 52.4**	**+1.2**
	comp=Z,7.6nm,0.4s,SNR=90						
MEF	**Metsahovi**	**1.46**	**302**	PG	**Pb**	**11 32 39.2**	**+0.7**
MEF				SG	**Sn**	**11 33 01.1**	**+3.2**
MEF				MSG		11 33 01.1	
	comp=Z,14nm,0.2s						
MEF	**Metsahovi**	**1.46**	**302**	PG	**Pb**	**11 32 39.2**	**+0.7**
MEF				SG	**Sn**	**11 33 01.1**	**+3.2**
MEF				MSG		11 33 01.1	
	comp=Z,14nm,0.2s						
MEF	**Metsahovi**	**1.46**	**302**	Pg	**Pb**	**11 32 39.2**	**+0.7**
	SNR=90						
MEF	**Metsahovi**	**1.46**	**302**	*e*P	**Pb**	**11 32 39.5**	**+1.0**
	SNR=50						
MEF				*e*S	**Sn**	**11 33 00.0**	**+2.1**
	comp=Z,40nm,0.2s,SNR=50						
MEF				Sg	**Sn**	**11 33 01.0**	**+3.2**
MTSE	**Matsula**	**1.76**	**246**	PN	**Pn**	**11 32 41.8**	**-0.4**
MTSE				SG	**Sb**	**11 33 05.6**	**-0.5**
MTSE	**Matsula**	**1.76**	**246**	PN	**Pn**	**11 32 41.8**	**-0.4**
MTSE				SG	**Sb**	**11 33 05.6**	**-0.5**
MTSE	**Matsula**	**1.76**	**246**	Pn	**Pn**	**11 32 41.7**	**-0.4**
FIA0	**FINESS Array S**	**2.02**	**349**	Pn	**Pn**	**11 32 46.8**	**+1.1**
	baz=162,slow=16						
FIA0				Pg	**Pb**	**11 32 48.0**	**0.0**
FIA0				Lg	Lg	11 33 18.1	
	baz=165,slow=28						
FIA0				Rg	Rg	11 33 30.3	
	baz=159,slow=37						
FIA0	**FINESS Array S**	**2.02**	**349**	PN	**Pn**	**11 32 46.8**	**+1.1**
	baz=165						
FIA0				SG	**Sg**	**11 33 16.6**	**+1.4**
FIA0				MSG		11 33 16.6	
	comp=Z,9.3nm,0.3s						
FIA0				RG	Rg	11 33 30.0	
FIA0	**FINESS Array S**	**2.02**	**349**	PN	**Pn**	**11 32 46.8**	**+1.1**
	baz=165						
FIA0				SG	**Sg**	**11 33 16.6**	**+1.4**
FIA0				MSG		11 33 16.6	
	comp=Z,9.3nm,0.3s						
FIA0				RG	Rg	11 33 30.0	
FIA0	**FINESS Array S**	**2.02**	**349**	Pn	**Pn**	**11 32 46.8**	**+1.1**
	baz=162,slow=16,SNR=4.2						
FIA0	**FINESS Array S**	**2.02**	**349**	Pg	**Pb**	**11 32 48.0**	**0.0**
FIA0				Sg	**Sg**	**11 33 16.6**	**+1.4**
	comp=Z,9.3nm,0.3s,SNR=90						
FIA0				Lg	Lg	11 33 18.1	
	baz=165,slow=28,SNR=0.9						
FINES	**FINESS Array B**	**2.02**	**349**	Pn	**Pn**	**11 32 46.1**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=163,slow=15,SNR=48						
FINES				Sn	**Sg**	**11 33 14.8**	**-0.4**
	comp=Z,6.6nm,0.3s,baz=169,slow=28,SNR=29						
KAF	**Kangasniemi**	**2.67**	**354**	PN	**Pn**	**11 32 56.3**	**+1.7**
KAF				SG	**Sg**	**11 33 37.4**	**+1.4**
KAF				MSG		11 33 37.4	
	comp=Z,8.6nm,0.4s						
KAF	**Kangasniemi**	**2.67**	**354**	PN	**Pn**	**11 32 56.3**	**+1.7**
KAF				SG	**Sg**	**11 33 37.4**	**+1.4**
KAF				MSG		11 33 37.4	
	comp=Z,8.6nm,0.4s						
KAF	**Kangasniemi**	**2.67**	**354**	Pn	**Pn**	**11 32 56.3**	**+1.7**
	SNR=48						
KAF				Sg	**Sg**	**11 33 37.4**	**+1.4**
	comp=Z,8.6nm,0.4s,SNR=90						
KEF	**Keuruu**	**2.88**	**341**	PN	**Pb**	**11 33 00.1**	**-2.5**
KEF				SG	**Sg**	**11 33 43.2**	**+0.4**
KEF				MSG		11 33 43.2	
	comp=Z,5.2nm,0.4s						
KEF	**Keuruu**	**2.88**	**341**	PN	**Pb**	**11 33 00.1**	**-2.5**
KEF				SG	**Sg**	**11 33 43.2**	**+0.4**
KEF				MSG		11 33 43.2	
	comp=Z,5.2nm,0.4s						
KEF	**Keuruu**	**2.88**	**341**	Pn	**Pb**	**11 33 00.1**	**-2.5**
	SNR=48						
KEF				Sg	**Sg**	**11 33 43.2**	**+0.4**
	comp=Z,5.2nm,0.4s,SNR=90						
RAF	**Rauma**	**2.99**	**304**	PN	**Pb**	**11 33 01.6**	**-2.9**
	baz=123						
RAF	**Rauma**	**2.99**	**304**	PN	**Pb**	**11 33 01.6**	**-2.9**
	baz=123						
RAF	**Rauma**	**2.99**	**304**	Pn	**Pb**	**11 33 01.6**	**-2.9**
	baz=123,SNR=48						
RAF				*e*S	**Sb**	**11 33 42.3**	**+0.8**
	SNR=50						
SLIT	**Slitere, Latvi**	**3.04**	**234**	*e*P	**Pn**	**11 33 01.8**	**+2.1**
	SNR=50						
SLIT				*e*S	**Sb**	**11 33 42.1**	**-0.7**
	SNR=50						
SUF	**Sumiainen**	**3.28**	**354**	PN	**Pn**	**11 33 04.9**	**+1.9**
SUF				SG	**Sg**	**11 33 54.4**	**-1.3**
SUF				MSG		11 33 54.4	
	comp=Z,8.7nm,0.4s						
SUF	**Sumiainen**	**3.28**	**354**	PN	**Pn**	**11 33 04.9**	**+1.9**

SUF				SG	Sg	11 33 54.4	-1.3
SUF				MSG		11 33 54.4	
	comp=Z,8.7nm,0.4s						
SUF	Sumiainen	3.28	354	Pn	Pn	11 33 04.9	+1.9
	SNR=48						
SUF				Sg	Sg	11 33 54.4	-1.3
	comp=Z,8.7nm,0.4s,SNR=90						
AAL	Aland	3.55	284	SG	Sg	11 34 07.3	+2.9
AAL	Aland	3.55	284	SG	Sg	11 34 07.3	+2.9
AAL	Aland	3.55	284	Sg	Sg	11 34 07.3	+2.9
	SNR=90						
IZAR	Zarasai	3.75	186	eS	Sb	11 33 59.8	-3.6
IZAR	Zarasai	3.75	186	eS	Sb	11 33 59.8	-3.6
	SNR=48						
ISAL	Salakas	3.93	186	eS	Sn	11 34 02.5	+3.7
ISAL	Salakas	3.93	186	eS	Sn	11 34 02.5	+3.7
	SNR=45						
JOF	Joensuu	4.07	30	PN	Pn	11 33 14.6	+0.8
JOF				SG	Sb	11 34 14.5	+2.0
JOF				MSG		11 34 14.5	
	comp=Z,3.9nm,0.4s						
JOF	Joensuu	4.07	30	PN	Pn	11 33 14.6	+0.8
JOF				SG	Sb	11 34 14.5	+2.0
JOF				MSG		11 34 14.5	
	comp=Z,3.9nm,0.4s						
JOF	Joensuu	4.07	30	Pn	Pn	11 33 14.6	+0.8
	SNR=48						
IIGN	Ignalina	4.15	185	eP	Pb	11 33 19.9	-4.4
IIGN				eS	Sn	11 34 08.3	+4.1
IDID	Didziasalis	4.17	181	eS	Sb	11 34 14.0	-1.5
HFS	Hagfors	6.69	281	Sn	Sn	11 35 04.8	-1.9
	baz=101,slow=37						
HFS				Lg	Lg	11 35 39.4	
	baz=94,slow=28						
HFS	Hagfors	6.69	281	Pn	Pn	11 33 49.6	-0.2
	comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=4.0						
HFS				Sn	Sn	11 35 05.2	-1.5
	comp=Z,0.3nm,0.3s,baz=99,slow=28,SNR=5.9						
HFS				Lg	Lg	11 35 39.9	
	comp=Z,1.0nm,0.3s,baz=100,slow=34,SNR=7.4						
HFS	Hagfors	6.69	281	Lg	Lg	11 35 39.4	
	baz=94,slow=27,SNR=6.7						
NB2	NORSAR Subarra	7.95	288	Pn	Pn	11 34 05.9	-1.3
	baz=78,slow=14						
NOA	NORSAR Array B	7.95	288	Pn	Pn	11 34 05.3	-1.9
	comp=Z,0.2nm,0.3s,baz=31,slow=7.8,SNR=4.3						
NOA				Lg	Lg	11 36 20.6	
	comp=Z,0.6nm,0.3s,baz=173,slow=18,SNR=4.2						
AKASG	Malin Array Be	8.89	170	Pn	Pn	11 34 15.6	-4.4
	comp=Z,0.8nm,0.3s,baz=354,slow=13,SNR=3.1						
ARA0	ARCESS Array S	10.12	357	Pn	Pn	11 34 35.5	-1.3
	baz=173,slow=14						
ARA0				Sn	Sn	11 36 25.6	-5.3
	baz=174,slow=28						
ARCES	ARCESS Array B	10.12	357	Pn	Pn	11 34 35.6	-1.2
	comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=10						
ARCES				Sn	Sn	11 36 24.2	-6.7
	comp=Z,0.2nm,0.3s,baz=168,slow=18,SNR=4.7						

IDC 02 11:33:16.3±2.1**, 1°.03N×126°.98E, h0^{km}, mb3.0**/3**, mb1 3.2**/3**, mb1mx3.1**/20**, mbtmp3.0**/3**, Error ellipse: s-maj=175.3km s-min=25.1km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.05	161	P	P	11 38 12.8	-0.1
	0.4nm,0.6s,baz=340,slow=11,SNR=7.5						
ASAR	Alice Springs	25.45	165	P	P	11 38 46.2	+0.1
	0.2nm,0.5s,baz=344,slow=12,SNR=6.1						
MKAR	Makanchi Array	59.91	326	P	P	11 43 24.2	-0.1
	0.1nm,0.4s,baz=121,slow=9.4,SNR=2.7						

*ISCJB **02** 11:39:24.7±0.5, 37°.80N±0°.03×29°.09E±0°.07, h10^{km}±5^{km}, Error ellipse: s-maj=8.9km s-min=5.0km az=7.6*
*ISK **02** 11:39:24.2, 37°.81N×29°.11E, h7^{km}, MD2.6*
*DDA **02** 11:39:24.6, 37°.83N×29°.10E, h7^{km}, ML3.0*
*CSEM **02** 11:39:24.6±0.1, 37°.79N×29°.10E, h8^{km}, MD2.6, Error ellipse: s-maj=3.9km s-min=2.6km az=95.0*
ISC 02 11:39:25.0±0.9**, 37°.79N**±0°.02×**29°.09E**±0°.04**, h10**^{km}±6^{km}**, n26, σ0^{s}.82**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.06	230	ePG	Pg	11 39 26.8	-0.4
DENT	Denizli	0.06	230	ePg	Pg	11 39 26.8	-0.4
DNZL	Cakiroluk	0.11	200	iP	Pg	11 39 28.1	+0.2
DNZL				iS	Sg	11 39 30.3	+0.3
DNZL	Cakiroluk	0.11	200	iP	Pg	11 39 28.1	+0.2
DNZL				iS	Sg	11 39 30.3	+0.3
KHL	Karahalli	0.63	33	ePG	Pg	11 39 36.6	-0.6
KHL				eSG	Sg	11 39 45.6	+0.1
KHL	Karahalli	0.63	33	ePg	Pg	11 39 36.6	-0.6
KHL				eSg	Sg	11 39 45.6	+0.1
GOLH	Golhisar	0.67	146	eP	Pg	11 39 37.8	-0.2
GOLH	Golhisar	0.67	146	eP	Pg	11 39 37.8	-0.2
KULA	Kula-Manisa	0.80	335	ePG	Pg	11 39 39.7	-0.7
KULA				eSG	Sg	11 39 51.1	+0.3
KULA	Kula-Manisa	0.80	335	ePg	Pg	11 39 39.7	-0.7
KULA				eSg	Sg	11 39 51.1	+0.3
MANT	Manisa	0.81	329	eP	Pg	11 39 39.8	-1.0
MANT	Manisa	0.81	329	eP	Pg	11 39 39.8	-1.0
YER	Yerkesik	0.92	225	ePG	Pg	11 39 42.8	+0.1
YER	Yerkesik	0.92	225	ePg	Pg	11 39 42.8	+0.1
AYDN	Tasoluk	0.97	263	iP	Pg	11 39 43.8	+0.1
AYDN	Tasoluk	0.97	263	iP	Pg	11 39 43.8	+0.1
FETY	Fethiye	1.16	180	ePN	Pb	11 39 46.8	-0.3
FETY	Fethiye	1.16	180	ePn	Pb	11 39 46.8	-0.3
ELL	Elmali	1.23	148	ePN	Pn	11 39 47.9	-0.5
ELL	Elmali	1.23	148	ePn	Pn	11 39 47.9	-0.5
GDZ	Gediz	1.33	13	iP	Pg	11 39 50.5	-0.1
GDZ				iS	Sg	11 40 10.5	+2.7
GDZ	Gediz	1.33	13	iP	Pg	11 39 50.5	-0.1
GDZ				iS	Sg	11 40 10.5	+2.7
ALT	Altintas	1.49	32	ePN	Pn	11 39 51.6	-0.4
ALT	Altintas	1.49	32	ePn	Pn	11 39 51.6	-0.4
TVSB	Tavsanli	1.68	10	ePN	Pn	11 39 54.7	+0.2
TVSB	Tavsanli	1.68	10	ePn	Pn	11 39 54.7	+0.2

*ISCJB **02** 11:43:15.6±0.5, 37°.81N±0°.03×29°.11E±0°.05, h10^{km}±4^{km}, Error ellipse: s-maj=6.5km s-min=4.3km az=26.6*
*ISK **02** 11:43:15.1, 37°.81N×29°.13E, h5^{km}, MD2.7*
*DDA **02** 11:43:15.5, 37°.83N×29°.09E, h7^{km}, ML2.9*
*CSEM **02** 11:43:15.4±0.2, 37°.81N×29°.11E, h8^{km}, MD2.7, Error ellipse: s-maj=4.4km s-min=3.4km az=114.0*
ISC 02 11:43:15.5±0.9**, 37°.81N**±0°.03×**29°.08E**±0°.03**, h12**^{km}±6^{km}**, n34, σ0^{s}.40**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.07	214	ePG	Pg	11 43 18.0	-0.1
DENT	Denizli	0.07	214	ePg	Pg	11 43 18.0	-0.1
DNZL	Cakiroluk	0.13	193	iP	Pg	11 43 18.8	-0.1
DNZL				iS	Sg	11 43 21.4	+0.1
DNZL	Cakiroluk	0.13	193	iP	Pg	11 43 18.8	-0.1
DNZL				iS	Sg	11 43 21.4	+0.1
KHL	Karahalli	0.62	34	ePG	Pg	11 43 27.2	-0.3
KHL				eSG	Sg	11 43 36.1	+0.3
KHL	Karahalli	0.62	34	ePg	Pg	11 43 27.3	-0.3
KHL				eSg	Sg	11 43 36.1	+0.3
KHAL	Karahalli	0.64	30	iP	Pg	11 43 27.8	-0.3
KHAL				iS	Sg	11 43 37.1	+0.5
KHAL	Karahalli	0.64	30	iP	Pg	11 43 27.8	-0.3
KHAL				iS	Sg	11 43 37.1	+0.5
GOLH	Golhisar	0.69	146	iP	Pg	11 43 28.6	-0.3
GOLH	Golhisar	0.69	146	iP	Pg	11 43 28.6	-0.3
KULA	Kula-Manisa	0.78	335	ePG	Pg	11 43 30.6	0.0
KULA				eSG	Sb	11 43 42.0	+0.4
KULA	Kula-Manisa	0.78	335	ePg	Pg	11 43 30.6	0.0
KULA				eSg	Sb	11 43 42.0	+0.4
MANT	Manisa	0.79	329	iP	Pg	11 43 30.5	-0.4
MANT	Manisa	0.79	329	iP	Pg	11 43 30.5	-0.4
YER	Yerkesik	0.93	223	ePG	Pb	11 43 34.0	+0.4
YER	Yerkesik	0.93	223	ePg	Pb	11 43 34.0	+0.4
AYDN	Tasoluk	0.97	261	iP	Pg	11 43 34.3	+0.1
AYDN				iS	Sg	11 43 47.0	+0.2
AYDN	Tasoluk	0.97	261	iP	Pg	11 43 34.3	+0.1
AYDN				iS	Sg	11 43 47.0	+0.2
BCK	Bucak	1.25	106	ePN	Pn	11 43 38.4	-0.5
BCK	Bucak	1.25	106	ePn	Pn	11 43 38.4	-0.5
ELL	Elmali	1.25	148	ePN	Pn	11 43 38.6	-0.3
ELL	Elmali	1.25	148	ePn	Pn	11 43 38.6	-0.3
DEMI	Demirci	1.26	347	iP	Pn	11 43 38.0	-1.1
DEMI	Demirci	1.26	347	iP	Pn	11 43 38.0	-1.1
GDZ	Gediz	1.31	14	iP	Pg	11 43 41.4	+0.6
GDZ	Gediz	1.31	14	iP	Pg	11 43 41.4	+0.6
SHUT	Suhut-Afyon	1.37	57	ePN	Pn	11 43 40.7	+0.1
SHUT	Suhut-Afyon	1.37	57	ePn	Pn	11 43 40.7	+0.1
ALT	Altintas	1.48	33	ePN	Pb	11 43 43.0	0.0
ALT	Altintas	1.48	33	ePn	Pb	11 43 43.1	0.0
BODT	Bodrum	1.60	243	ePN	Pb	11 43 45.1	+0.1
BODT	Bodrum	1.60	243	ePn	Pb	11 43 45.1	+0.1
TVSB	Tavsanli	1.66	10	ePN	Pb	11 43 45.9	-0.2
TVSB	Tavsanli	1.66	10	ePn	Pb	11 43 45.9	-0.2

IDC 02 11:47:51.4±1.1**, 0°.65S×125°.06E, h0^{km}, mb3.2**/4**, mb1 3.4**/4**, mb1mx3.3**/21**, mbtmp3.2**/4**, Error ellipse: s-maj=141.1km s-min=22.0km az=67.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.22	155	P	P	11 52 38.5	-0.6
	2.5nm,1.1s,baz=333,slow=11,SNR=6.8						
ASAR	Alice Springs	24.44	160	P	P	11 53 12.4	+0.3
	0.2nm,0.5s,baz=338,slow=7.8,SNR=7.8						
ASAR				PcP	PcP	11 56 51.2	-0.1
	0.4nm,0.6s,baz=347,slow=2.4,SNR=8.3						
SONM	Songino Array	50.95	344	P	P	11 56 54.9	0.0
	0.2nm,0.6s,baz=142,slow=5.4,SNR=3.0						
MKAR	Makanchi Array	60.25	327	P	P	11 58 01.3	-0.4
	0.1nm,0.4s,baz=123,slow=7.6,SNR=4.6						

*CRAAG **02** 12:00:47.0, 36°.22N×3°.51E, Ml4.1*
*CSEM **02** 12:00:49.0±0.3, 36°.16N×3°.52E, h2^{km}, mb4.3/13, Error ellipse: s-maj=10.3km s-min=5.3km az=20.0*
*MDD **02** 12:00:49.5±0.5, 36°.14N×3°.48E, h0^{km}, mb4.3/13, Error ellipse: s-maj=9.5km s-min=4.1km az=18.0, PRXIMO*
ISC 02 12:00:49.4±1.0**, 36°.20N**±0°.05×**3°.55E**±0°.03**, h11**^{km}±9^{km}**, n67, σ1^{s}.72**/71**, 2C-2D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.10	242	P	Pg	12 00 49.7	-2.5
ADJB	Djebel Djouab	0.10	242	P	Pg	12 00 49.7	-2.5
ADJB	Djebel Djouab	0.10	242	P	Pg	12 00 49.7	-2.5
AKET	Djebel Ketaf	0.32	120	P	Pg	12 00 55.1	-0.7
AKET	Djebel Ketaf	0.32	120	P	Pg	12 00 55.1	-0.7
AKET	Djebel Ketaf	0.32	120	P	Pg	12 00 55.1	-0.7
EMHD	Djebel Mahouad	0.48	270	P	Pg	12 00 58.1	-0.7
EMHD	Djebel Mahouad	0.48	270	P	Pg	12 00 58.1	-0.7
EMHD	Djebel Mahouad	0.48	270	P	Pg	12 00 58.1	-0.7
ABA	Alger-Bouzarea	0.72	326	P	Pg	12 01 03.2	-0.2
ABA	Alger-Bouzarea	0.72	326	P	Pg	12 01 03.2	-0.2
ABA	Alger-Bouzarea	0.72	326	P	Pg	12 01 03.2	-0.2
SET	Setif	1.50	90	P	Pb	12 01 18.0	+0.6
SET	Setif	1.50	90	P	Pb	12 01 18.0	+0.6
SET	Setif	1.50	90	P	Pb	12 01 18.0	+0.6
CKHR	Kef el Ahmar	1.60	96	P	Pb	12 01 20.2	+1.1
CKHR	Kef el Ahmar	1.60	96	P	Pb	12 01 20.2	+1.1
CKHR	Kef el Ahmar	1.60	96	P	Pb	12 01 20.2	+1.1
ECHA	Ech Chlef	1.76	269	P	Pg	12 01 25.5	+2.3
ECHA	Ech Chlef	1.76	269	P	Pg	12 01 25.5	+2.3
ECHF	Ech Chlef	1.78	269	P	Pg	12 01 25.5	+1.9
CTEI	Djebel Teioual	2.32	93	P	Pg	12 01 34.4	+0.5
CTEI	Djebel Teioual	2.32	93	P	Pg	12 01 34.4	+0.5
CTEI	Djebel Teioual	2.32	93	P	Pg	12 01 34.4	+0.5
CASM	Ain Smara	2.38	88	P	Pg	12 01 35.2	+0.1
CASM	Ain Smara	2.38	88	P	Pg	12 01 35.2	+0.1
CASM	Ain Smara	2.38	88	P	Pg	12 01 35.2	+0.1
CMAH	Djebel Manchou	3.15	81	P	Pn	12 01 38.9	-0.2
CMAH	Djebel Manchou	3.15	81	P	Pn	12 01 38.9	-0.2
CMAH	Djebel Manchou	3.15	81	P	Pn	12 01 38.9	-0.2
EIBI	Ibiza	3.32	329	⇓P	Pn	12 01 41.9	+0.6
	13nm,0.2s,SNR=18						
EIBI				S	Sn	12 02 18.6	-2.1
	13nm,0.3s						
EIBI	Ibiza	3.32	329	P	Pn	12 01 41.9	+0.6
	13nm,0.2s,SNR=18						
ETOS	Mallorca	3.60	351	⇓P	Pn	12 01 45.5	+0.2
	8.5nm,0.2s,SNR=18						
ETOS				S	Sn	12 02 24.6	-3.2
	6.5nm,0.4s						
ETOS	Mallorca	3.60	351	P	Pn	12 01 45.5	+0.2
	8.5nm,0.2s,SNR=18						
EBEN	Beniarda	3.90	311	P	Pn	12 01 49.4	0.0
	1.3nm,0.3s,SNR=7.9						
EBEN				S	Sn	12 02 31.6	-3.6
	0.6nm,0.2s,SNR=7.9						
EBEN	Beniarda	3.90	311	P	Pn	12 01 49.4	0.0
	1.3nm,0.3s,SNR=7.9						
EMUR	La Murta	4.16	295	P	Pn	12 01 52.9	-0.1
	8.9nm,0.4s,SNR=7.9						
EMUR	La Murta	4.16	295	P	Pn	12 01 52.9	-0.1
	8.9nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.73	303	P	Pn	12 02 01.5	+0.7
	10.0nm,0.2s,SNR=34						
ETOB				S	Sn	12 02 52.8	-2.9
	6.7nm,0.4s						
ETOB	Tobarra	4.73	303	P	Pn	12 02 01.5	+0.7
	10.0nm,0.2s,SNR=34						
ECHE	Chera	4.92	315	⇑P	Pn	12 02 04.7	+1.4
	4.7nm,0.2s,SNR=18						
ECHE	Chera	4.92	315	P	Pn	12 02 04.7	+1.4
	4.7nm,0.2s,SNR=18						
EHUE	Huescar	5.17	290	P	Pn	12 02 09.4	+2.6
	2.5nm,0.3s,SNR=7.9						
EHUE	Huescar	5.17	290	P	Pn	12 02 09.4	+2.6
	2.5nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	5.22	324	⇑P	Pn	12 02 08.3	+0.7
	3.5nm,0.2s,SNR=18						
EMOS				S	Sn	12 03 03.9	-4.0
	22nm,0.8s						
EMOS	Mosqueruela	5.22	324	P	Pn	12 02 08.3	+0.7
	3.5nm,0.2s,SNR=18						
EBER	Berja	5.23	280	P	Pn	12 02 07.3	-0.4
	0.7nm,0.3s,SNR=7.9						
EBER	Berja	5.23	280	P	Pn	12 02 07.3	-0.4
	0.7nm,0.3s,SNR=7.9						
EPOB	Poblet	5.49	340	P	Pn	12 02 12.1	+0.9
	0.6nm,0.3s,SNR=7.9						
EPOB				S	Sn	12 03 08.2	-6.2
	1.1nm,0.3s,SNR=7.9						
EPOB	Poblet	5.49	340	P	Pn	12 02 12.1	+0.9
	0.6nm,0.3s,SNR=7.9						
EQES	Quesada	5.53	289	P	Pn	12 02 14.5	+2.7
	1.4nm,0.3s,SNR=7.9						
EQES				S	Sn	12 03 11.5	-4.0
	1.7nm,0.5s,SNR=7.9						
CFON	Fontmartina	5.62	351	P	Pn	12 02 13.2	+0.2
	2.2nm,0.1s,SNR=7.7						
CFON				S	Sn	12 03 12.7	-4.8
	1.9nm,0.2s						
CFON	Fontmartina	5.62	351	P	Pn	12 02 13.2	+0.2
	2.2nm,0.1s,SNR=7.7						
EMIR	Miracle	5.92	345	P	Pn	12 02 19.0	+2.0
	3.7nm,0.4s,SNR=13						
EMIR				S	Sn	12 03 21.7	-3.2
	0.6nm,0.5s,SNR=4.0						
EMIR	Miracle	5.92	345	P	Pn	12 02 19.0	+2.0
	3.7nm,0.4s,SNR=13						
EJON	La Jonquera	6.26	356	P	Pn	12 02 23.1	+1.4
	5.7nm,0.3s,SNR=7.9						
EJON	La Jonquera	6.26	356	P	Pn	12 02 23.1	+1.4
	5.7nm,0.3s,SNR=7.9						
ETOR	Torete	6.37	318	P	Pn	12 02 26.0	+2.8
	5.5nm,0.3s,SNR=7.9						
ETOR	Torete	6.37	318	P	Pn	12 02 26.0	+2.8
	5.5nm,0.3s,SNR=7.9						
CSOR	Sort	6.44	344	P	Pn	12 02 25.7	+1.4
	3.8nm,0.5s,SNR=7.8						
CSOR				S	Sn	12 03 34.2	-3.7
	10nm,0.6s						
CSOR	Sort	6.44	344	P	Pn	12 02 25.7	+1.4
	3.8nm,0.5s,SNR=7.8						
ESDC	Sonseca Array	6.87	303	P	Pn	12 02 30.5	+0.4
	1.5nm,0.2s,baz=116,slow=13,SNR=4.3						
ESDC	Sonseca Array	6.87	303	P	Pn	12 02 30.5	+0.4
	1.5nm,0.2s,baz=116,slow=13,SNR=4.3						
IELO	Elcoad	7.59	332	P	Pn	12 02 42.0	+2.0
	0.5nm,0.2s,SNR=7.9						
IELO	Elcoad	7.59	332	P	Pn	12 02 42.0	+2.0
	0.5nm,0.2s,SNR=7.9						
EARI	Arriondas	9.78	319	P	Pn	12 03 11.2	+1.2
	9.1nm,1.0s,SNR=6.1						
EARI	Arriondas	9.78	319	P	Pn	12 03 11.2	+1.2
	9.1nm,1.0s,SNR=6.1						

*NIED **02** 12:24:00, 42°.70N×147°.00E, h20^{km}, Mw3.6 Best double couple: $M_0$2.51000×10^{14} NP1:ϕ_s3.00000°, δ56.00000°, λ45.00000°. NP2:ϕ_s243.00000°, δ54.00000°, λ136.00000°.*
JMA 02 12:24:17.9±0.2**, 42°.66N×147°.01E, h52^{km}, M3.6, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.17	308	P	Pn	12 24 38.4	+0.5
NEM2				eS	Sn	12 24 53.7	+1.0
JAK	Akkeshi	1.73	282	P	Pn	12 24 46.1	+0.5
JAK				eS	Sn	12 25 06.3	-0.3
JRA	Rausu	1.88	313	P	Pn	12 24 48.4	+0.8
JNK	Nakash	1.92	300	P	Pn	12 24 48.5	+0.4
JNK				eS	Sn	12 25 11.0	0.0
JOB	Onbets	2.35	277	P	Pn	12 24 55.0	+1.0
JAR	Ashorobuto	2.46	286	P	Pn	12 24 56.5	+0.9
JTKR	Abashiri--Toko	2.62	301	P	Pn	12 24 59.2	+1.6
JCH	Churui	2.69	270	P	Pn	12 25 00.2	+1.5
JEM	Erimo	2.93	259	P	Pn	12 25 04.5	+2.6
JMP	Maruseppu	2.98	298	P	Pn	12 25 04.6	+1.8
JNBK	Urakawa-nobuka	3.17	265	P	Pn	12 25 06.3	+1.0
JFR	Furan	3.28	280	P	Pn	12 25 08.2	+1.4
JKK2	Kamakawa 2	3.34	293	P	Pn	12 25 11.0	+3.4
JBT2	Biratori 2	3.43	274	P	Pn	12 25 09.6	+0.8
JEW	Eniwo	4.10	274	P	Pn	12 25 20.9	+2.9

*DJA **02** 12:36:25.5±3.8, 16°N±16°×9°4E±4°2, h16^{km}±20^{km}, M5.1/8, mB5.8/3, mb4.6/8, MLv5.3/1, Mw(mB)5.3/3*
*ISCJB **02** 12:36:34.8±1.0, 15°.66N±0°.03×95°.98E±0°.03, h15^{km}±6^{km}, mb4.6/73, MS4.2/47, Error ellipse: s-maj=5.5km s-min=4.5km az=19.7*
*NEIC **02** 12:36:35.0±0.3, 15°.64N×95°.94E, h10^{km}, mb4.6/15, Error ellipse: s-maj=7.8km s-min=5.0km az=51.0*
*BJI **02** 12:36:35.6, 15°.37N×95°.99E, h38^{km}, mB5.0/33, mb4.7/46, Ms4.7/43, Ms7 4.6/38*
*MOS **02** 12:36:36.4±1.0, 15°.60N×96°.06E, h33^{km}, mb5.0/18, Error ellipse: s-maj=10.0km s-min=5.4km az=109.9*
*IDC **02** 12:36:38.2±4.7, 15°.54N×96°.06E, h33^{km}±35^{km}, mb4.2/27, mb1 4.3/29, mb1mx4.3/32, mbtmp4.2/29, ML4.7/2, MS4.1/30, Ms1 4.1/30, ms1mx4.0/43, Error ellipse: s-maj=16.7km s-min=12.1km az=49.0*
ISC 02 12:36:38.6±0.4**, 15°.58N**±0°.04×**96°.02E**±0°.04**, h33**^{km}±1^{km}**, h33^{km}:pP-P, n210, σ1^{s}.70**/264**, mb4.5**/73**, MS4.2**/47**, 8C-1D, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.00	44	Pn	Pn	12 37 36.1	-1.5
	40nm,0.3s,baz=234,slow=15,SNR=927						
CMAR				Sn	Sn	12 38 20.5	-2.9
	12nm,0.3s,baz=248,slow=28,SNR=7.7						
CMAR				Lg	Lg	12 38 43.8	
	16nm,0.3s,baz=232,slow=32,SNR=7.2						
CMAR				LR	LR	12 39 35.7	
	comp=Z,2μm,19.8s,baz=5.5,slow=44						
CMAR	Chiang Mai Arr	4.00	44	Pn	Pn	12 37 36.1	-1.5
CMAR				Sn	Sn	12 38 20.5	-2.9
CMAR				Lg	Lg	12 38 43.8	
CHTO	Chiang Mai	4.26	41	eP	Pn	12 37 39.7	-1.5
CHTO	Chiang Mai	4.26	41	ePn	Pn	12 37 39.7	-1.5
CHTO	Chiang Mai	4.26	41	P	Pn	12 37 40.2	-1.0
	321nm,1.1s,6μm2.6nm						
IMP	Imphal	9.36	348	eP	Pn	12 38 50.0	-1.3
IMP				ex	x	12 40 49.0	
AGT	Agartala	9.40	332	ix	x	12 39 25.0	
AGT				ix	Sn	12 40 39.0	+2.7
CAL	Calcutta	10.03	315	eP	Pn	12 38 59.9	-0.6
CAL				ex	x	12 40 18.4	
SHL	Shillong	10.66	339	eP	Pn	12 39 07.0	-2.2
SHL				ix	x	12 41 02.0	
KMI	Kunming	11.39	32	P	Pn	12 39 24.7	+5.4
KMI				pP		12 39 32.0	
KMI				sP		12 39 35.2	
KMI				S	Sn	12 41 27.6	+2.0
KMI				SS	SnSn	12 41 41.5	+3.5
KMI				pmax	pmax		
	comp=Z,21nm,1.3s						
KMI				pmax	pmax		
	comp=Z,170nm,4.4s						
KMI				LR	LR		
	comp=N,3μm,8.1s						
KMI				LR	LR		
	comp=E,3μm,11.9s						
KMI				LR	LR		
	comp=Z,2μm,6.4s						
IPM	Ipoh	12.08	155	ePn	Pn	12 39 29.3	+0.8
PSI	Prapat	13.02	167	Pn	Pn	12 39 43.1	+1.6
	comp=Z,0.9nm,0.3s,baz=87,slow=6.3,SNR=4.6						
PSI				LR	LR	12 45 53.0	
	comp=Z,943nm,18.6s,baz=329,slow=42						
PSI	Prapat	13.02	167	Pn	Pn	12 39 43.1	+1.6
PSI	Prapat	13.02	167	P	Pn	12 39 42.4	+0.9
	comp=Z,22nm,1.9s						
QIZ	Qiongzhong	13.64	73	P	Pn	12 39 50.4	+0.6
QIZ				S	Sn	12 42 21.7	+1.4
QIZ				pmax	pmax		
	comp=Z,27nm,2.2s						
QIZ				LR	LR		
	comp=N,1μm,11.5s						
QIZ				LR	LR		
	comp=E,980nm,12.7s						
QIZ				LR	LR		
	comp=Z,2μm,10.7s						
ODAN	Odare	13.80	326	eP	Pn	12 39 48.3	-3.9
	comp=Z,51nm,0.8s						
ODAN	Odare	13.80	326	eP	Pn	12 39 48.3	-3.9
	comp=Z,51nm,0.8s						
TAPN	Taplejung	14.03	328	eP	Pn	12 39 51.7	-3.6
	comp=Z,90nm,1.0s						
TAPN	Taplejung	14.03	328	eP	Pn	12 39 51.7	-3.6
	comp=Z,90nm,1.0s						
RAMN	Ramite	14.31	324	eP	Pn	12 39 55.1	-4.1
	comp=Z,77nm,1.0s						
RAMN	Ramite	14.31	324	eP	Pn	12 39 55.1	-4.1
	comp=Z,77nm,1.0s						
GYA	Guiyang	14.68	41	⇑iP	Pn	12 40 05.8	+1.7
GYA				pP	P	12 40 13.0	+3.0
GYA				PP	PnPn	12 40 18.2	+5.9
GYA				S	Sn	12 42 46.0	+0.1
GYA				SS	S	12 43 03.8	-0.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.3s						
GYA				LR	LR		
	comp=N,1μm,9.6s						
GYA				LR	LR		
	comp=E,840nm,12.1s						
GYA				LR	LR		
	comp=Z,1μm,9.3s						
LSA	Lhasa	14.75	343	eP	Pn	12 40 03.3	-2.0
LSA				pmax	pmax		
	comp=Z,52nm,1.3s						
LSA	Lhasa	14.75	343	ePn	Pn	12 40 03.3	-2.0
	comp=Z,52nm,1.3s						
JIRN	Jiri	15.09	324	eP	Pn	12 40 06.2	-3.6
	comp=Z,16nm,0.8s						
JIRN	Jiri	15.09	324	eP	Pn	12 40 06.2	-3.6
	comp=Z,16nm,0.8s						
GUN	Gumba	15.45	324	eP	Pn	12 40 11.7	-2.9
	comp=Z,82nm,0.8s						
GUN	Gumba	15.45	324	eP	Pn	12 40 11.7	-2.9
	comp=Z,82nm,0.8s						
PKI	Pulchoki	15.47	322	eP	Pn	12 40 11.7	-3.0
	comp=Z,55nm,0.9s						
PKI	Pulchoki	15.47	322	eP	Pn	12 40 11.7	-3.0
PKI				pmax	pmax		
	comp=Z,55nm,0.9s						
PKI	Pulchoki	15.47	322	eP	Pn	12 40 11.7	-3.0
	comp=Z,55nm,0.9s						
DMN	Daman	15.68	322	eP	Pn	12 40 14.9	-2.5
	comp=Z,151nm,1.0s						
DMN	Daman	15.68	322	eP	Pn	12 40 14.9	-2.5
	comp=Z,151nm,1.0s						

KKN **Kakani** 15.71 322 *e*P **Pn** 12 40 15.4 -2.3
KKN **Kakani** 15.71 322 *e*P **Pn** 12 40 15.4 -2.3
KKN **Kakani** 15.71 322 *e*P **Pn** 12 40 15.4 -2.3
MYKOM **Kota Tinggi** 15.73 150 P **P** 12 40 22.1 +0.6
comp=Z,31nm,1.3s
KOLN **Koldanda** 16.72 319 *e*P **Pn** 12 40 28.6 -2.1
comp=Z,74nm,0.8s
KOLN **Koldanda** 16.72 319 *e*P **Pn** 12 40 28.6 -2.1
comp=Z,74nm,0.8s
CD2 **Chengdu** 16.82 24 P **Pn** 12 40 31.5 -0.2
CD2 pP **pP** 12 40 39.4 -2.8
CD2 sP **sP** 12 40 44.4 -2.0
CD2 PP PP 12 40 45.8
CD2 S **Sn** 12 43 34.5 -3.2
CD2 SS **SnSn** 12 43 55.0 +3.6
CD2 pmax pmax
comp=Z,90nm,1.2s
CD2 pmax pmax
comp=Z,140nm,3.6s
CD2 LR LR
comp=N,2µm,9.5s
CD2 LR LR
comp=Z,2µm,8.9s
HYB **Hyderabad** 16.85 279 P **P** 12 40 36.0 +2.0
HYB **Hyderabad** 16.85 279 P **P** 12 40 36.0 +2.0
HYB S **S** 12 43 50.5 +2.3
HYB **Hyderabad** 16.85 279 *i* P **Pn** 12 40 32.0 -0.1
HYB *e*S **S** 12 43 48.0 -0.2
NGP **Nagpur** 17.03 292 *e*P **Pn** 12 40 33.0 -1.3
NGP *ex* x 12 40 47.2
comp=Z,24nm,1.3s
NGP *ex* x 12 42 54.8
DANN **Dangsing** 17.03 320 *e*P **Pn** 12 40 33.1 -1.5
comp=Z,75nm,0.8s
DANN **Dangsing** 17.03 320 *e*P **Pn** 12 40 33.1 -1.5
comp=Z,75nm,0.8s
PYUN **Piuthan** 17.34 318 *e*P **Pn** 12 40 36.0 -2.4
comp=Z,130nm,1.1s
PYUN **Piuthan** 17.34 318 *e*P **Pn** 12 40 36.0 -2.4
comp=Z,130nm,1.1s
ENH **Enshi** 19.15 38 *e*P **P** 12 40 59.2 0.0
comp=Z,25nm,1.0s
KSM **Kuching** 19.88 133 *e*P **Pn** 12 41 09.6 +0.6
comp=Z,11nm,1.0s
PPBI **Pangkal Pinang** 20.27 150 P **P** 12 41 12.5 +0.9
comp=Z,20nm,1.6s,comp=Z,1µm
SBUM **Sibu** 20.62 128 P Pn 12 41 19.7 +1.9
comp=Z,17nm,1.3s
POO **Poona** 21.39 281 *e*P **P** 12 41 25.0 +1.3
comp=Z,40nm,1.0s
POO *ex* x 12 41 55.5
POO *i x* x 12 45 31.0
LZH **Lanzhou** 21.58 17 *e*P **P** 12 41 26.8 +1.1
LZH pP **pP** 12 41 35.3 +0.8
LZH sP **sP** 12 41 39.7 +1.0
LZH *e*S **S** 12 45 18.2 -5.1
LZH sS **sS** 12 45 37.2 0.0
LZH pmax pmax
comp=Z,94nm,1.2s
LZH pmax pmax
comp=Z,360nm,4.6s
LZH LR LR
comp=N,2µm,11.8s
LZH LR LR
comp=E,550nm,11.3s
LZH LR LR
comp=Z,3µm,13.6s
SONA **Sohna** 21.58 309 *e*P **P** 12 41 27.0 +1.4
SONA AMb AMB 12 41 42.8
comp=Z,22nm,0.9s
AYAN **Aya Nagar** 21.67 309 *e*P **P** 12 41 25.0 -1.6
AYAN AMb AMB 12 41 29.8
comp=Z,20nm,1.2s
STKI **Sintang** 21.70 134 P **P** 12 41 29.5 +2.6
comp=Z,27nm,0.8s,comp=Z,12µm
XAN **Xi'an** 21.75 30 P **P** 12 41 26.2 -1.2
XAN pP **pP** 12 41 33.8 -2.4
XAN S **S** 12 45 29.9 +3.4
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN pmax pmax
comp=Z,26nm,4.0s
XAN LR LR
comp=N,850nm,16.6s
XAN LR LR
comp=E,430nm,16.6s
XAN LR LR
comp=Z,380nm,11.2s
DDI **Dehra Dun** 22.06 315 *e*P **P** 12 41 31.5 +0.7
DDI *e*S **S** 12 45 34.0 +1.5
WHN **Wuhan** 22.45 45 ⇑P **P** 12 41 35.0 +0.1
WHN S **S** 12 45 40.1 +0.6
WHN pmax pmax
comp=Z,76nm,1.3s
WHN LR LR
comp=N,3µm,6.0s
WHN LR LR
comp=E,2µm,7.6s
WHN LR LR
comp=Z,4µm,10.4s
KHET **Khetri** 22.46 307 *e*P **P** 12 41 34.3 -0.9
KHET AMb AMB 12 41 52.5
comp=Z,53nm,1.2s
QZH **Quanzhou** 23.11 63 P **P** 12 41 43.2 +1.4
GTA **Gaotai** 23.97 7 ⇓P **P** 12 41 50.5 +0.3
GTA pP **pP** 12 42 00.0 +0.4
GTA sP **sP** 12 42 04.2 +0.6
GTA PP **PnPn** 12 42 25.8 +6.3
GTA PcP **PcP** 12 45 33.0 +1.1
GTA S **S** 12 46 06.4 +1.4
GTA sS **sS** 12 46 20.0 -0.5
GTA pmax pmax
comp=Z,20nm,1.4s
GTA pmax pmax
comp=Z,190nm,5.7s
GTA LR LR
comp=N,710nm,16.6s
GTA LR LR
comp=E,960nm,12.8s
GTA LR LR
comp=Z,740nm,16.6s
MYLDM **Lahad Datu** 24.38 113 P **P** 12 41 55.9 +1.9
comp=Z,38nm,1.4s
TWG **Pinlang** 24.71 69 *e*P **P** 12 41 56.8 -0.2
comp=Z,288nm,1.4s
SSLB **Suanglung** 24.83 67 *e*P **P** 12 41 58.8 +0.7
comp=Z,79nm,1.3s
NJ2 **Nanjing** 26.47 48 *e*P **P** 12 42 12.7 -0.1
NJ2 pP **pP** 12 42 18.3 -3.9
NJ2 S **S** 12 46 47.5 +2.9
NJ2 sS **sS** 12 47 04.5 +4.2
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,340nm,4.1s
NJ2 LR LR
comp=N,1µm,19.8s
NJ2 LR LR
comp=E,960nm,15.2s
NJ2 LR LR
comp=Z,2µm,13.0s
BBKI **Banjar Baru** 26.55 134 P **P** 12 42 17.7 +4.0
SSE **Sheshan** 27.70 52 P **P** 12 42 25.3 +1.4
SSE S **S** 12 47 05.0 +0.9
SSE sS **sS** 12 47 23.9 +4.2
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,250nm,4.1s
SSE LR LR
comp=N,380nm,15.3s
SSE LR LR
comp=E,960nm,15.3s
SSE LR LR
comp=Z,980nm,12.2s
TIA **Tai'an** 27.86 39 *e*P **P** 12 42 24.9 -0.4
HHC **Hu-ho-hao-te** 28.57 25 *e*P **P** 12 42 31.5 -0.2
HHC sP **sP** 12 42 44.9 -0.2
HHC PP **PnPn** 12 43 22.7 +0.5
HHC PcP **PcP** 12 45 43.8 +1.3
HHC S **S** 12 47 14.7 -3.1
HHC sS **sS** 12 47 31.2 -2.3
HHC SS **SnSn** 12 48 40.7 +1.9
HHC ScP **ScP** 12 49 20.7 -0.8
HHC PcS **PcS** 12 49 24.6 -0.4
HHC ScS **ScS** 12 53 12.6 -2.2
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=Z,290nm,12.9s
WMQ **Urumqi** 29.03 348 P **P** 12 42 37.1 +1.5
WMQ pP **pP** 12 42 46.5 +1.4
WMQ PP **PnPn** 12 43 29.7 +1.3
WMQ S **S** 12 47 23.2 -1.7
WMQ sS **sS** 12 47 39.0 -1.5
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ LR LR
comp=N,400nm,13.0s
WMQ LR LR
comp=E,260nm,16.0s
WMQ LR LR
comp=Z,250nm,19.0s
KSH **Kashi** 29.60 328 P **P** 12 42 40.9 0.0
KSH pP **pP** 12 42 51.9 +1.5
KSH sP **sP** 12 42 56.9 +2.5
KSH PcP **PcP** 12 45 47.6 +2.4
KSH S **S** 12 47 31.7 -2.4
KSH SS **SnSn** 12 49 06.5 +2.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,69nm,4.6s
KSH LR LR
comp=N,66nm,3.9s
KSH LR LR
comp=E,170nm,5.3s
KSH LR LR
comp=Z,520nm,25.8s
DAV **Davao City (W)** 30.16 103 LR LR 12 57 05.3
comp=Z,207nm,18.2s,baz=291,slow=41
KZA **Kyzart** 31.89 330 P **P** 12 43 02.8 +1.5
SNR=10
JOW **Kutgami** 32.00 64 LR LR 12 58 25.9
comp=Z,352nm,18.6s,baz=88,slow=41
TKM2 **Tokmak 2** 32.38 331 *i* P **P** 12 43 06.8 +1.4
TKM2 **Tokmak 2** 32.38 331 *e*P **P** 12 43 05.9 +0.5
comp=Z,6.5nm,0.9s
TKM2 **Tokmak 2** 32.38 331 P **P** 12 43 06.8 +1.4
SNR=8.9
KBK **Karagaybulak** 32.48 330 P **P** 12 43 07.9 +1.7
SNR=14
AAK **Ala-Archa** 32.68 330 *i* P **P** 12 43 09.5 +1.6
AAK **Ala-Archa** 32.68 330 *e*P **P** 12 43 09.1 +1.1
comp=Z,86nm,1.1s
AAK **Ala-Archa** 32.68 330 P **P** 12 43 09.6 +1.6
SNR=15
AML **Almayashu** 32.70 328 P **P** 12 43 09.9 +1.5
SNR=12
FRU **Bishkek** 32.77 330 *e*P **P** 12 43 10.0 +1.4
CHMS **Chumysh** 32.83 331 P **P** 12 43 10.5 +1.3
SNR=7.3
EKS2 **Erkin-Say** 33.05 329 *e*P **P** 12 43 11.8 +0.6
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 **Erkin-Say** 33.05 329 *e*P **P** 12 43 11.8 +0.6
comp=Z,8.6nm,0.8s
EKS2 **Erkin-Say** 33.05 329 P **P** 12 43 13.1 +1.9
SNR=5.8
USP **Ospenovka** 33.15 331 P **P** 12 43 13.3 +1.3
SNR=18
MK31 **Makanchi Array** 33.16 343 *c e*P **P** 12 43 12.3 +0.3
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR **Makanchi Array** 33.16 343 P **P** 12 43 12.2 +0.3
comp=Z,7.9nm,0.7s,baz=151,slow=10,SNR=127
MKAR PcP **PcP** 12 45 54.4 0.0
comp=Z,1.5nm,0.8s,baz=116,slow=2.8,SNR=4.7
MKAR LR LR 13 00 31.7
comp=Z,261nm,18.3s,baz=157,slow=43
MKAR **Makanchi Array** 33.16 343 P **P** 12 43 12.2 +0.3
MKAR 12 45 54.4
MKAR **Makanchi Array** 33.16 343 P **P** 12 43 12.2 +0.3
MKAR PcP **PcP** 12 45 54.4 0.0
SONM **Songino Array** 33.29 13 P **P** 12 43 13.2 0.0
comp=Z,1.9nm,0.9s,baz=192,slow=10,SNR=17
SONM **Songino Array** 33.29 13 P **P** 12 43 13.2 0.0
ULN **Ulaanbaatar** 33.46 14 *e*P **P** 12 43 13.7 -1.1
comp=Z,7.6nm,1.3s
KK31 **Karatay Array** 35.04 327 *c i*P **P** 12 43 28.7 +0.4
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR **Karatay Array** 35.04 327 *e*P **P** 12 43 27.7 -0.6
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR **Karatay Array** 35.04 327 *e*P **P** 12 43 27.7 -0.6
comp=Z,1.3nm,0.4s
ZAK **Zakamensk** 35.20 8 *e*P **P** 12 43 29.9 +0.1
ZAK *e* 12 43 48.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KSAR **Wonju Array Be** 35.61 46 P **P** 12 43 32.2 -1.1
KSRS **Korea Array** 35.64 46 P **P** 12 43 32.2 -1.3
comp=Z,3.8nm,0.9s,baz=236,slow=8.9,SNR=9.9
KSRS LR LR 12 59 21.6
comp=Z,334nm,18.3s,baz=238,slow=38
JNU **Nakatsue** 36.02 55 P **P** 12 43 37.9 +1.0
comp=Z,10nm,0.9s,baz=313,slow=3.6,SNR=3.5
JNU LR LR 13 00 53.3
comp=Z,340nm,18.1s,baz=340,slow=40
JNU **Nakatsue** 36.02 55 P **P** 12 43 37.9 +1.0
CN2 **Changchun** 37.64 36 *e*P **P** 12 43 50.1 -0.4
CN2 *ep*P **pP** 12 43 59.8 -0.3
CN2 *e*S **S** 12 49 35.6 -2.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,300nm,15.0s
KURBB **Kurchatov Arra** 37.70 342 LR LR 13 03 17.9
comp=Z,269nm,19.3s,baz=175,slow=42
KURK **Kurchatov** 37.75 342 *e*P **P** 12 43 51.4 +0.1
KURK pmax pmax
comp=Z,26nm,0.8s
KURK **Kurchatov** 37.75 342 *e*P **P** 12 43 51.4 +0.1
comp=Z,26nm,0.8s
ZALV **Zalesovo Beam** 39.27 350 P **P** 12 44 04.6 +0.5
comp=Z,29nm,0.7s,baz=173,slow=8.8,SNR=200
ZALV LR LR 13 02 07.7
comp=Z,126nm,21.4s,baz=205,slow=39
ZALV **Zalesovo Beam** 39.27 350 P **P** 12 44 04.6 +0.5
ZALV **Zalesovo Beam** 39.27 350 P **P** 12 44 04.6 +0.5
NVS **Novosibirsk** 40.41 349 *i* P **P** 12 44 12.7 -0.8
NVS *e*S **S** 12 50 22.1 +2.5
NVS pmax pmax
comp=Z,16nm,0.9s
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax smax
comp=N,9.0nm,1.4s
NVS smax smax
comp=E,25nm,2.6s
MDJ **Mudanjiang** 40.51 37 P **P** 12 44 15.4 +0.9
MDJ pP **pP** 12 44 23.7 -0.5
MDJ sP **sP** 12 44 28.9 +0.8
MDJ PP **PP** 12 45 47.7 -0.4
MDJ PcP **PcP** 12 46 19.3 +2.7
MDJ ScP **ScP** 12 50 04.0 +0.2
MDJ PcS **PcS** 12 50 10.5 +3.4
MDJ S **S** 12 50 18.6 -2.7
MDJ SS **SS** 12 53 21.5 -0.1
MDJ ScS **ScS** 12 54 19.1 +1.2
MDJ pmax pmax
comp=Z,3.0nm,1.3s
MDJ pmax pmax
comp=Z,67nm,4.6s
MDJ LR LR
comp=N,250nm,9.9s
MDJ LR LR
comp=E,320nm,13.8s
MDJ LR LR
comp=Z,380nm,12.6s
USRK **Ussuriysk Arra** 41.72 39 P **P** 12 44 23.9 -0.6
comp=Z,9.2nm,0.9s,baz=236,slow=7.5,SNR=10
USRK LR LR 13 02 30.3
comp=Z,272nm,18.0s,baz=9.7,slow=37
VOSK **Vostochnaya** 42.02 337 P **P** 12 44 26.2 -0.6
VOSK pmax pmax
comp=Z,16nm,0.8s
BVAR **Borovoye Array** 42.47 337 LR LR 13 04 14.5
comp=Z,295nm,20.8s,baz=142,slow=39
BRVK **Borovoye** 42.54 337 *e*P **P** 12 44 29.5 -1.5
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK **Borovoye** 42.54 337 *e*P **P** 12 44 29.5 -1.5
comp=Z,11nm,1.2s
MJAR **Matsushiro Arr** 42.84 53 P **P** 12 44 34.3 +0.5
comp=Z,3.8nm,0.8s,baz=269,slow=11,SNR=9.9
MJAR LR LR 13 04 45.3
comp=Z,163nm,18.8s,baz=245,slow=39
MJAR **Matsushiro Arr** 42.84 53 P **P** 12 44 34.3 +0.5
JHJ **Hachijo jima 2** 43.18 58 LR LR 13 04 48.9
comp=Z,14nm,21.1s,baz=54,slow=39
BOD **Bodaibo** 44.27 14 *e*P **P** 12 44 44.8 -0.1
FITZ **Fitzroy Crossi** 44.41 138 LR LR 13 05 37.8
comp=Z,217nm,18.7s,baz=310,slow=39
AB31 **Akbulak array** 44.60 327 *ce*P **P** 12 44 48.2 +0.5
AB31 pmax pmax
comp=Z,1.0nm,0.2s
ABKAR **Akbulak array** 44.60 327 *e*P **P** 12 44 47.5 -0.2
comp=Z,4.5nm,0.7s
HABR **Khabarovsk** 45.78 36 P **P** 12 44 54.5 -2.5
HABR *e**PP **pP** 12 45 04.0 -2.8
HABR *e* 12 45 08.2
HABR 12 46 31.1
HABR *e* 12 46 42.2
HABR *e*PPP PPP 12 47 23.1
HABR *e*S **S** 12 51 36.3 -2.1
HABR *e**SS **sS** 12 51 53.2 -1.4
HABR *e* 12 54 47.5
HABR *e*SSS SSS 12 55 54.1
HABR pmax pmax
comp=Z,43nm,2.1s
HABR pmax pmax
comp=E,62nm,3.5s
HABR pmax pmax
comp=N,52nm,3.5s
HABR MLR MLR
comp=Z,355nm,20.0s
CLNS **Chul'man** 46.62 21 *e*P **P** 12 45 03.4 -0.2
CLNS *e**PP **pP** 12 45 13.1 -0.3
CLNS *e* 12 46 32.3
CLNS *e* 12 46 54.3
CLNS *e*S **S** 12 51 53.2 +2.8
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS smax smax
comp=E,69nm,12.2s
CLNS smax smax
comp=N,48nm,14.7s
CLNS MLR MLR
comp=N,149nm,11.0s
CLNS MLR MLR
comp=Z,229nm,13.0s
CLNS MLR MLR
comp=E,362nm,13.0s
SVE **Sverdlovsk** 49.09 335 ⇑*i*P **P** 12 45 23.1 +0.5
SVE *e* 12 46 49.9
SVE *e*S S 12 52 40.0 +15
SVE pmax pmax
comp=Z,29nm,1.3s
SVE MLR MLR
comp=Z,548nm,21.0s
MAK **Makhachkala** 49.46 314 *e*P P 12 45 42.6 +17
MAK MLR MLR
comp=Z,285nm,19.0s
ARU **Arti** 49.69 334 *c i*P **P** 12 45 26.8 -0.4
ARU 12 47 18.0
ARU S **S** 12 52 33.2 -0.5
ARU SS **SS** 12 56 01.3 -4.9
ARU pmax pmax
comp=Z,11nm,1.2s
ARU **Arti** 49.69 334 *e*P **P** 12 45 25.5 -1.7
comp=Z,13nm,1.3s
YSS **Yuzh-Sakhalins** 49.69 41 ⇑*e*P **P** 12 45 28.8 +1.4
YSS MLR MLR
comp=Z,400nm,15.0s
GNI **Garni** 50.69 309 LR LR 13 10 58.3
comp=Z,80nm,20.0s,baz=252,slow=41
WRA **Warramunga Arr** 51.63 132 P **P** 12 45 41.4 -1.0
comp=Z,3.7nm,0.8s,baz=317,slow=7.7,SNR=21
WRA LR LR 13 10 32.6
comp=Z,156nm,19.6s,baz=305,slow=40
WRA **Warramunga Arr** 51.63 132 P **P** 12 45 41.4 -1.0
WRAB **Tennant Creek** 51.63 132 *e*P **P** 12 45 41.4 -1.0
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB **Tennant Creek** 51.63 132 *e*P **P** 12 45 41.4 -1.0
comp=Z,6.0nm,0.9s
ZEI **Tsey** 51.95 312 *e*P **P** 12 45 45.5 +0.7
ZEI pmax pmax
comp=Z,35nm,1.3s
KBZ **Khabaz** 52.90 313 P **P** 12 45 52.6 +1.1
comp=Z,6.6nm,0.8s,baz=119,slow=7.5,SNR=8.7
KBZ LR LR 13 13 58.4
comp=Z,102nm,18.4s,baz=346,slow=42
KBZ **Khabaz** 52.90 313 P **P** 12 45 52.6 +1.1
KBZ **Khabaz** 52.90 313 P **P** 12 45 52.6 +1.1
KIV **Kislovodsk** 53.11 314 *e*P **P** 12 45 51.8 -1.4
KIV pmax pmax
comp=Z,54nm,1.0s
KIV **Kislovodsk** 53.11 314 *e*P **P** 12 45 52.4 -0.8
comp=Z,49nm,0.9s
ASAR **Alice Springs** 53.78 136 P **P** 12 45 57.6 -0.6
comp=Z,1.5nm,0.8s,baz=316,slow=7.2,SNR=10
ASAR LR LR 13 12 40.1
comp=Z,199nm,18.6s,baz=295,slow=40
ASAR **Alice Springs** 53.78 136 P **P** 12 45 57.6 -0.6
ASF **Jabal al Asfar** 55.88 298 P **P** 12 46 13.3 -0.2
comp=Z,3.0nm,0.8s
ASF **Jabal al Asfar** 55.88 298 P **P** 12 46 13.3 -0.2
BRTR **Keskin Array B** 59.03 307 P **P** 12 46 35.3 -0.4
comp=Z,4.2nm,1.0s,baz=124,slow=7.9,SNR=13
BRTR LR LR 13 18 33.1
comp=Z,76nm,19.6s,baz=338,slow=43
BRTR **Keskin Array B** 59.03 307 P **P** 12 46 35.3 -0.4
OBN **Obninsk** 60.00 325 *e*P **P** 12 46 41.5 -0.4
OBN *e**PP pP 12 46 57.3 +5.4
OBN *e*SS SS 12 58 52.6 +3.7
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,17.0s
KLMR **Klimovskoe** 60.45 332 *e*P **P** 12 46 43.5 -1.3
KLMR pmax pmax
comp=Z,28nm,1.5s
KLMR MLR MLR
comp=Z,408nm,21.0s
PETK **Petropavlovsk-** 60.75 37 LR LR 13 16 07.1
comp=Z,192nm,19.4s,baz=72,slow=39
CTA **Charters Tower** 60.78 124 LR LR 13 15 53.8
comp=Z,145nm,20.1s,baz=247,slow=39
AKASG **Malin Array Be** 63.42 319 P **P** 12 47 04.2 -0.7
comp=Z,1.8nm,0.7s,baz=86,slow=6.1,SNR=6.0
AKASG LR LR 13 20 16.7
comp=Z,156nm,20.5s,baz=80,slow=41
AKASG **Malin Array Be** 63.42 319 P **P** 12 47 04.3 -0.7
AKASG **Malin Array Be** 63.42 319 P **P** 12 47 04.2 -0.7
STKA **Stephens Creek** 64.31 138 P **P** 12 47 10.0 -1.1
comp=Z,7.2nm,1.0s,baz=333,slow=6.3,SNR=6.8
STKA LR LR 13 18 30.1
comp=Z,267nm,18.9s,baz=111,slow=39
STKA **Stephens Creek** 64.31 138 P **P** 12 47 10.0 -1.1
JOF **Joensuu** 64.80 333 *e*P **P** 12 47 13.3 -0.5
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF **Joensuu** 64.80 333 *ep* **P** 12 47 13.3 -0.5
comp=Z,4.7nm,0.7s
MLR **Muntele Rosu** 65.12 313 P **P** 12 47 16.4 0.0
comp=Z,1.3nm,0.9s,baz=89,slow=3.7,SNR=5.6

MLR	Muntele Rosu	65.12	313	P	P	12 47 16.4	0.0
FINES	FINESS Array B	66.86	331	P	P	12 47 27.2	+0.1
	comp=Z,3.1nm,0.7s,baz=91,slow=10,SNR=9.7						
FINES				LR	LR	13 20 31.3	
	comp=Z,174nm,19.0s,baz=339,slow=39						
FINES	FINESS Array B	66.86	331	P	P	12 47 27.2	+0.1
KAF	Kangasniemi	66.88	331	eP	P	12 47 26.1	-1.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	Kangasniemi	66.88	331	ep	P	12 47 26.1	-1.1
	comp=Z,3.0nm,0.8s						
HNR	Honiara	68.01	107	LR	LR	13 15 18.6	
	comp=Z,71nm,19.1s,baz=71,slow=34						
ARCES	ARCESS Array B	68.72	339	P	P	12 47 38.7	0.0
	comp=Z,2.7nm,0.7s,baz=98,slow=8.7,SNR=8.6						
ARCES				LR	LR	13 21 24.6	
	comp=Z,185nm,20.5s,baz=218,slow=39						
ARCES	ARCESS Array B	68.72	339	P	P	12 47 38.7	0.0
HFS	Hagfors	72.81	329	P	P	12 48 03.3	-0.4
	comp=Z,5.5nm,1.0s,baz=113,slow=7.2,SNR=3.3						
HFS	Hagfors	72.81	329	P	P	12 48 03.3	-0.4
BRG	Berggiesshubel	73.10	319	eP	P	12 48 06.3	+0.6
	comp=Z,3.5nm,0.7s						
BRG				e		12 48 09.5	
	comp=Z,8.2nm,1.1s						
GERES	GERESS Array B	73.41	317	P	P	12 48 07.8	+0.1
	comp=Z,1.6nm,0.8s,baz=77,slow=6.0,SNR=12						
GERES				LR	LR	13 24 54.2	
	comp=Z,103nm,18.2s,baz=275,slow=39						
GERES	GERESS Array B	73.41	317	P	P	12 48 07.8	+0.1
CLL	Collm	73.66	320	eP	P	12 48 09.0	+0.1
LSZ	Lusaka	73.67	249	eP	P	12 48 09.5	-0.2
	comp=Z,7.2nm,0.7s						
NB2	NORSAR Subarra	74.00	330	P	P	12 48 10.0	-0.8
	comp=Z,1.9nm,0.7s,baz=86,slow=6.2						
NOA	NORSAR Array B	74.00	330	P	P	12 48 10.4	-0.4
	comp=Z,3.8nm,0.8s,baz=87,slow=5.9,SNR=8.1						
NOA				LR	LR	13 27 09.1	
	comp=Z,95nm,18.3s,baz=90,slow=41						
NOA	NORSAR Array B	74.00	330	P	P	12 48 10.4	-0.4
DAVOX	Davos/Dischmat	76.20	315	P	P	12 48 24.0	0.0
	comp=Z,3.0nm,0.8s,baz=300,slow=13,SNR=3.5						
DAVOX	Davos/Dischmat	76.20	315	P	P	12 48 24.0	0.0
KEST	Kesra	78.42	304	P	P	12 48 36.4	-0.1
	comp=Z,3.5nm,1.2s,baz=330,slow=5.9,SNR=4.8						
KEST	Kesra	78.42	304	P	P	12 48 36.4	-0.1
BOSA	Boshof	81.26	237	P	P	12 48 51.4	-0.6
	comp=Z,8.4nm,0.8s,baz=64,slow=7.2,SNR=3.7						
BOSA				LR	LR	13 19 13.5	
	comp=Z,88nm,19.7s,baz=346,slow=31						
BOSA	Boshof	81.26	237	P	P	12 48 51.4	-0.6
ILAR	Eielson Array	86.96	22	P	P	12 49 18.6	-1.6
	comp=Z,2.0nm,0.7s,baz=298,slow=4.4,SNR=29						
ILAR				LR	LR	13 32 41.0	
	comp=Z,156nm,18.4s,baz=300,slow=39						
ILAR	Eielson Array	86.96	22	P	P	12 49 18.6	-1.6
ESDC	Sonseca Array	87.66	310	P	P	12 49 24.2	0.0
	comp=Z,0.3nm,0.3s,baz=92,slow=3.9,SNR=4.8						
ESDC	Sonseca Array	87.66	310	P	P	12 49 24.2	0.0
TORD	Torodi Ar. Bea	90.60	284	P	P	12 49 38.2	-0.1
	comp=Z,1.3nm,1.1s,baz=77,slow=3.4,SNR=4.3						
TORD				LR	LR	13 33 14.3	
	comp=Z,78nm,18.1s,baz=125,slow=38						
TORD	Torodi Ar. Bea	90.60	284	P	P	12 49 38.2	-0.1
RAO	Raoul Island	94.13	119	eP	P	12 49 53.0	-1.3
YKA	Yellowknife Ar	98.55	14	P	P	12 50 12.7	-1.1
	comp=Z,0.4nm,0.9s,baz=323,slow=4.4,SNR=5.0						
YKA	Yellowknife Ar	98.55	14	P	P	12 50 12.7	-1.1
PDAR	Pinedale Array	117.36	21	PKP	PKPdf	12 55 20.6	-0.8
	comp=Z,0.4nm,0.7s,baz=321,slow=1.3,SNR=3.3						
PDAR	Pinedale Array	117.36	21	PKP	PKPdf	12 55 20.6	-0.8
TXAR	Lajitas Array	131.47	23	PKP	PKPdf	12 55 48.5	-0.1
	comp=Z,0.2nm,0.7s,baz=169,slow=1.9,SNR=3.4						
TXAR	Lajitas Array	131.47	23	PKP	PKPdf	12 55 48.5	-0.1
BDFB	Brasilia	145.38	265	PKPbc	PKPdf	12 56 14.3	+0.1
	comp=Z,17nm,0.8s,baz=86,slow=5.0,SNR=14						
BDFB	Brasilia	145.38	265	PKPbc	PKPdf	12 56 14.3	+0.1
SDV	Santo Domingo	152.32	331	ePKPbc	PKPbc	12 56 29.4	-3.0
PLCA	Paso Flores	152.35	202	PKPbc	PKPbc	12 56 29.4	-2.2
	comp=Z,2.6nm,0.9s,baz=27,slow=8.0,SNR=2.6						
PLCA	Paso Flores	152.35	202	PKPbc	PKPbc	12 56 29.4	-2.2
CPUP	Villa Florida	152.97	242	PKPbc	PKPbc	12 56 32.7	-0.5
	comp=Z,2.3nm,0.7s,baz=129,slow=6.1,SNR=3.8						
CPUP	Villa Florida	152.97	242	PKPbc	PKPbc	12 56 32.7	-0.5
CFAA	Coronel Fontan	158.54	219	PKPab	PKPab	12 57 07.5	-0.7
	comp=Z,0.4nm,0.7s,baz=148,slow=3.9,SNR=3.5						
CFAA	Coronel Fontan	158.54	219	PKPab	PKPab	12 57 07.5	-0.7
LPAZ	La Paz	164.74	265	PKPab	PKPab	12 57 35.7	-0.9
	comp=Z,1.6nm,1.0s,baz=40,slow=16,SNR=2.0						
LPAZ	La Paz	164.74	265	PKPab	PKPab	12 57 35.8	-0.9

DJA 02 12:50:53.3±0.6,**7°S**±14°×**10°6E**±°,**h123**^{km}±7^{km},**M4.0**/10, **MLv4.0**/10,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	Dramaga	0.65	72	P	Pn	12 51 13.2	+0.6
DBJI				S	Sn	12 51 29.7	+2.6
CBJI	Citeko	0.79	65	P	Pn	12 51 14.8	+1.2
LEM	Lembang	1.48	93	P	Pn	12 51 21.7	+0.8
LEM				S	Sn	12 51 42.9	+1.0
CISI	Cisompet, Garu	1.85	116	P	Pn	12 51 25.6	+0.4
CISI				S	Sn	12 51 50.2	+0.6
LWLI	Liwa	2.69	310	P	Pn	12 51 36.3	+0.5
LWLI				S	Sn	12 52 09.1	+0.7
TGJI	Tegal	2.97	92	P	Pn	12 51 40.0	+0.7
BJII	Banjamegara	3.60	99	P	Pn	12 51 45.3	-2.4
MNAI	Manna	3.95	307	P	Pn	12 51 52.1	-0.2
UGM	Wanagama	4.51	105	P	Pn	12 52 00.5	+0.7
KSI	Kapahiang	4.68	311	P	Pn	12 52 01.6	-0.5

IDC 02 12:51:11.2±3.6,**13°82N**×**146°27E**,**h53**^{km}±31^{km},**mb3.4**/11, **mb1 3.6**/11,**mb1mx3.5**/26,**mbtmp3.4**/11,**MS4.1**/1, **Ms1 4.1**/1,**ms1mx2.7**/32,**Error ellipse: s-maj=27.0km s-min=19.7km az=79.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.38	261	P	Pn	12 51 33.7	-0.4
	50nm,0.3s,baz=98,slow=4.4,SNR=30						
GUMO				S	Sn	12 51 51.6	+0.2
	32nm,0.3s,baz=29,slow=17,SNR=4.4						
KSRS	Korea Array	28.66	329	P	P	12 57 02.0	-0.9
	1.0nm,0.5s,baz=146,slow=9.9,SNR=4.4						
WRA	Warramunga Arr	35.54	200	P	P	12 58 01.9	-1.5
	0.9nm,0.9s,baz=24,slow=9.6,SNR=5.3						
ASAR	Alice Springs	39.17	198	P	P	12 58 34.8	+0.7
	0.2nm,0.8s,baz=22,slow=7.4,SNR=4.5						
SONM	Songino Array	47.34	324	P	P	12 59 40.2	+0.3
	1.2nm,0.9s,baz=136,slow=7.4,SNR=7.8						
AFI	Afiamalu	49.84	122	LR	LR	13 16 20.7	
	comp=Z,192nm,21.5s,baz=211,slow=30						
ZALV	Zalesovo Beam	62.24	324	P	P	13 01 28.0	+0.6
	0.4nm,0.3s,baz=90,slow=5.0,SNR=3.3						
MKAR	Makanchi Array	62.28	316	P	P	13 01 28.1	+0.3
	0.5nm,0.5s,baz=92,slow=9.3,SNR=10						
KURBB	Kurchatov Arra	65.33	320	P	P	13 01 47.2	-0.6
	2.1nm,0.8s,baz=99,slow=6.7,SNR=18						
ILAR	Eielson Array	67.78	25	P	P	13 02 01.9	-1.3
	0.2nm,0.4s,baz=254,slow=5.9,SNR=8.1						
BVAR	Borovoye Array	70.59	322	P	P	13 02 20.5	-0.3
	1.4nm,0.7s,baz=87,slow=6.2,SNR=8.2						
YKA	Yellowknife Ar	82.03	28	P	P	13 03 26.9	+1.5
	0.1nm,0.5s,baz=285,slow=5.3,SNR=3.5						
NVAR	Mina Array Bea	85.71	52	P	P	13 03 45.8	+0.7
	0.3nm,0.5s,baz=282,slow=5.4,SNR=2.8						
DBIC	Dimbokro	144.85	304	PKP	PKPbc	13 10 42.9	+0.4
	4.3nm,0.8s,baz=53,slow=6.0,SNR=6.5						

*IDC **02** 12:55:35.9±0.7, 15°61N×96°17E, h0^{km}, mb4.1/14, mb1 4.2/16, mb1mx4.0/29, mbtmp4.1/16, ML4.4/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/42, Error ellipse: s-maj=19.0km s-min=14.7km az=71.0*
*NEIC **02** 12:55:37.9±0.6, 15°74N×96°01E, h10^{km}, mb4.3/6, Error ellipse: s-maj=13.2km s-min=8.4km az=218.0*
*ISCJB **02** 12:55:38.4±0.5, 15°72N±0°05×95°99E±0°05, h28^{km}, mb4.1/22, MS3.8/14, Error ellipse: s-maj=8.0km s-min=6.8km az=14.9*
*DMN **02** 12:57:45.7±13.0, 23°45N×89°83E, h10^{km}, Mb5.3/8, Error ellipse: s-maj=311.7km s-min=25.7km az=141.0*
ISC 02 12:55:40.2±0.6,**15°69N**±0°06×**96°00E**±0°07,**h28**^{km},**n96**, σ1§**46**/87,**mb4.2**/22,**MS3.8**/14,**Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	3.94	45	Pn	Pn	12 56 38.0	-0.9
	28nm,0.3s,baz=234,slow=15,SNR=412						
CMAR				Sn	Sn	12 57 24.9	+0.7
	12nm,0.3s,baz=230,slow=31,SNR=5.7						
CMAR				Lg	Lg	12 57 37.9	
	12nm,0.3s,baz=222,slow=29,SNR=4.7						
CMAR				LR	LR	12 58 26.6	
	comp=Z,896nm,21.1s,baz=231,slow=44						
CMAR	Chiang Mai Arr	3.94	45	Pn	Pn	12 56 38.0	-0.9
CMAR				Sn	Sn	12 57 24.9	+0.7
CMAR				Lg	Lg	12 57 37.9	
CHTO	Chiang Mai	4.19	42	ePn	Pn	12 56 41.1	-1.2
IMP	Imphal	9.25	348	eP	Pn	12 57 50.0	-1.8
IMP				ex	x	12 59 45.0	
SHL	Shillong	10.55	339	eP	Pn	12 58 08.0	-1.8
SHL				ex	Sn	13 00 04.0	-3.1
PSI	Prapat	13.13	167	Pn	Pn	12 58 42.8	-2.3
	0.3nm,0.3s,baz=332,slow=14,SNR=4.0						
PSI				LR	LR	13 03 47.1	
	comp=Z,402nm,21.2s,baz=308,slow=38						
PSI	Prapat	13.13	167	Pn	Pn	12 58 42.8	-2.3
TAPN	Taplejung	13.92	328	eP	Pn	12 58 53.9	-2.1
	78nm,1.0s						
TAPN	Taplejung	13.92	328	eP	Pn	12 58 53.9	-2.1
TAPN	Taplejung	13.92	328	eP	Pn	12 58 53.9	-2.1
RAMN	Ramite	14.21	324	eP	Pn	12 58 57.3	-2.6
	40nm,0.7s						
RAMN	Ramite	14.21	324	eP	Pn	12 58 57.2	-2.6
	40nm,0.7s						
RAMN	Ramite	14.21	324	eP	Pn	12 58 57.2	-2.6
	40nm,0.7s						
LSA	Lhasa	14.64	343	ePn	Pn	12 59 03.6	-2.3
	10nm,0.6s						
LSA				eSn	Sn	13 01 47.5	0.0
JIRN	Jiri	14.98	324	eP	Pn	12 59 08.7	-1.8
	25nm,1.0s						
JIRN	Jiri	14.98	324	eP	Pn	12 59 08.0	-2.5
	25nm,1.0s						
JIRN	Jiri	14.98	324	eP	Pn	12 59 08.0	-2.5
	25nm,1.0s						
GUN	Gumba	15.35	324	eP	Pn	12 59 13.1	-2.2
	53nm,0.7s						
GUN	Gumba	15.35	324	eP	Pn	12 59 13.3	-2.0
	53nm,0.7s						
GUN	Gumba	15.35	324	eP	Pn	12 59 13.3	-2.0
	53nm,0.7s						
PKI	Pulchoki	15.37	322	eP	Pn	12 59 13.5	-2.0
	62nm,0.9s						
PKI	Pulchoki	15.37	322	eP	Pn	12 59 13.9	-1.6
	62nm,0.9s						
PKI	Pulchoki	15.37	322	eP	Pn	12 59 13.9	-1.6
	62nm,0.9s						
DMN	Daman	15.58	321	eP	Pn	12 59 17.5	-0.7
	98nm,0.9s						
DMN	Daman	15.58	321	eP	Pn	12 59 17.1	-1.1
	98nm,0.9s						
DMN	Daman	15.58	321	eP	Pn	12 59 17.1	-1.1
	98nm,0.9s						
KKN	Kakani	15.61	322	eP	Pn	12 59 17.7	-0.8
KKN	Kakani	15.61	322	eP	Pn	12 59 17.2	-1.3
KKN	Kakani	15.61	322	eP	Pn	12 59 17.2	-1.3
GKN	Gorkha	16.15	321	eP	Pn	12 59 24.0	-1.5
	32nm,0.5s						
GKN	Gorkha	16.15	321	eP	Pn	12 59 23.9	-1.5
	32nm,0.5s						
GKN	Gorkha	16.15	321	eP	Pn	12 59 23.9	-1.5
	32nm,0.5s						
KOLN	Koldanda	16.63	318	eP	Pn	12 59 32.6	+1.0
	96nm,0.7s						
KOLN	Koldanda	16.63	318	eP	P	12 59 32.8	-1.0
	96nm,0.7s						
KOLN	Koldanda	16.63	318	eP	P	12 59 32.8	-1.0
	96nm,0.7s						
DANN	Dangsing	16.93	320	eP	Pn	12 59 35.3	-0.3
	67nm,0.9s						
DANN	Dangsing	16.93	320	eP	Pn	12 59 35.2	-0.3
	67nm,0.9s						
DANN	Dangsing	16.93	320	eP	Pn	12 59 35.2	-0.3
	67nm,0.9s						
PYUN	Piuthan	17.25	318	eP	P	12 59 41.1	+0.4
	98nm,0.9s						
PYUN	Piuthan	17.25	318	eP	P	12 59 41.5	+0.8
	98nm,0.9s						
PYUN	Piuthan	17.25	318	eP	P	12 59 41.5	+0.8
	98nm,0.9s						
ENH	Enshi	19.07	38	eP	P	13 00 01.0	+0.4
	8.4nm,0.8s						
POO	Poona	21.35	281	eP	P	13 00 25.0	-0.4
SONA	Sohna	21.50	309	eP	P	13 00 27.4	+0.5
AYAN	Aya Nagar	21.59	309	eP	P	13 00 28.0	+0.2
AYAN				AMb	AMB	13 00 32.0	
	comp=Z,19nm,0.8s						
KHET	Khetri	22.38	307	eP	P	13 00 36.8	+0.4
KHET				AMb	AMB	13 00 42.9	
	comp=Z,14nm,1.6s						
KKR	Kurukshetra	22.62	312	eP	P	13 00 37.5	-1.4
THN	Thein Dam	24.84	316	ex	P	13 01 08.2	+8.0
KAPI	Kappang	31.25	129	LR	LR	13 15 30.2	
	comp=Z,157nm,18.6s,baz=148,slow=38						
JOW	Kunigami	31.97	64	LR	LR	13 17 25.3	
	comp=Z,183nm,18.8s,baz=91,slow=41						
TKM2	Tokmak 2	32.27	331	eP	P	13 02 06.9	+0.2
	comp=Z,2.6nm,1.0s						
AAK	Ala-Archa	32.57	330	P	P	13 02 11.6	+2.4
	comp=Z,4.1nm,0.9s,baz=141,slow=6.9,SNR=13						
AAK	Ala-Archa	32.57	330	eP	P	13 02 11.0	+1.7
	comp=Z,32nm,1.1s						
EKS2	Erkin-Say	32.94	329	eP	P	13 02 14.3	+1.8
	comp=Z,3.2nm,0.8s						
MKAR	Makanchi Array	33.05	343	P	P	13 02 14.5	+1.3
	comp=Z,3.4nm,0.9s,baz=148,slow=9.5,SNR=18						
MKAR	Makanchi Array	33.05	343	P	P	13 02 14.5	+1.3
SONM	Songino Array	33.19	13	P	P	13 02 15.4	+0.9
	comp=Z,0.3nm,0.7s,baz=202,slow=6.4,SNR=2.5						
SONM	Songino Array	33.19	13	P	P	13 02 15.4	+0.9
KSRS	Korea Array	35.58	46	LR	LR	13 17 01.4	
	comp=Z,183nm,18.2s,baz=48,slow=36						
JNU	Nakatsue	35.98	55	LR	LR	13 20 21.4	
	comp=Z,121nm,18.0s,baz=74,slow=41						
KURBB	Kurchatov Arra	37.59	342	P	P	13 02 53.0	+0.8
	comp=Z,6.7nm,0.8s,baz=151,slow=8.4,SNR=36						
KURBB				LR	LR	13 22 17.5	
	comp=Z,142nm,20.0s,baz=150,slow=42						
KURK	Kurchatov	37.64	342	P	P	13 02 53.0	+0.4
ZALV	Zalesovo Beam	39.16	350	P	P	13 03 06.7	+1.3
	comp=Z,10nm,0.8s,baz=173,slow=9.0,SNR=42						
ZALV				LR	LR	13 20 35.9	
	comp=Z,120nm,18.4s,baz=71,slow=38						
ZALV	Zalesovo Beam	39.16	350	P	P	13 03 06.7	+1.3
USRK	Ussuriysk Arra	41.66	40	LR	LR	13 22 47.8	
	comp=Z,143nm,18.4s,baz=33,slow=39						
BVAR	Borovoye Array	42.36	337	P	P	13 03 32.4	+0.5
	comp=Z,0.5nm,0.4s,baz=138,slow=7.8,SNR=3.7						
BVAR				LR	LR	13 23 06.7	
	comp=Z,123nm,20.1s,baz=281,slow=39						
BVAR	Borovoye Array	42.36	337	P	P	13 03 32.4	+0.5
MJAR	Matsushiro Arr	42.79	53	LR	LR	13 21 27.0	
	comp=Z,98nm,18.6s,baz=220,slow=36						
ABKAR	Akbulak array	44.50	327	eP	P	13 03 49.7	+0.7
	comp=Z,1.2nm,0.6s						
FITZ	Fitzroy Crossi	44.50	138	LR	LR	13 24 49.8	
	comp=Z,118nm,19.7s,baz=317,slow=40						
AKTO	Aktyubinsk	46.20	327	P	P	13 04 02.8	+0.2
	comp=Z,1.9nm,0.8s,baz=142,slow=7.4,SNR=9.3						
AKTO	Aktyubinsk	46.20	327	P	P	13 04 02.8	+0.2
ASAJ	Asahikawa	48.46	44	LR	LR	13 25 57.2	
	comp=Z,113nm,18.2s,baz=338,slow=38						
WRA	Warramunga Arr	51.72	132	P	P	13 04 43.6	-1.7
	comp=Z,2.6nm,0.8s,baz=312,slow=7.6,SNR=15						
WRA	Warramunga Arr	51.72	132	P	P	13 04 43.6	-1.7
KBZ	Khabaz	52.81	313	P	P	13 04 54.2	+1.1
	comp=Z,3.1nm,0.8s,baz=154,slow=11,SNR=5.0						
KBZ	Khabaz	52.81	313	P	P	13 04 54.2	+1.1
KIV	Kislovodsk	53.02	314	eP	P	13 04 55.1	+0.3
	comp=Z,24nm,0.8s						
ASAR	Alice Springs	53.88	136	P	P	13 05 00.0	-1.2
	comp=Z,0.8nm,0.7s,baz=314,slow=6.9,SNR=14						
ASAR				LR	LR	13 32 12.1	
	comp=Z,106nm,19.0s,baz=102,slow=41						
ASAR	Alice Springs	53.88	136	P	P	13 05 00.1	-1.2
BRTR	Keskin Array B	58.95	307	P	P	13 05 37.7	+0.3
	comp=Z,1.1nm,0.9s,baz=197,slow=2.6,SNR=4.3						
BRTR	Keskin Array B	58.95	307	P	P	13 05 37.7	+0.3
PETK	Petropavlovsk-	60.68	38	LR	LR	13 35 09.2	
	comp=Z,81nm,21.7s,baz=246,slow=39						
STKA	Stephens Creek	64.40	138	P	P	13 06 15.7	+1.7
	comp=Z,2.3nm,0.7s,baz=325,slow=5.4,SNR=5.2						
STKA				LR	LR	13 37 00.3	
	comp=Z,133nm,19.4s,baz=348,slow=39						
STKA	Stephens Creek	64.40	138	P	P	13 06 15.7	+1.7
FINES	FINESS Array B	66.76	331	P	P	13 06 29.3	+0.6
	comp=Z,0.5nm,0.4s,baz=101,slow=7.4,SNR=2.7						
FINES	FINESS Array B	66.76	331	P	P	13 06 29.3	+0.6
GERES	GERESS Array B	73.31	317	P	P	13 07 13.9	+4.5
	comp=Z,0.6nm,0.7s,baz=66,slow=7.9,SNR=4.7						
GERES	GERESS Array B	73.31	317	P	P	13 07 13.9	+4.5
DZM	Mont Dzumac	78.55	117	eLR	LR	13 11 23.8	
	comp=Z,92nm,24.6s						
BOSA	Boshof	81.30	237	P	P	13 07 56.6	+2.1
	comp=Z,2.8nm,0.8s,baz=34,slow=3.6,SNR=3.5						
BOSA	Boshof	81.30	237	P	P	13 07 56.6	+2.1
ILAR	Eielson Array	86.87	22	P	P	13 08 21.1	-0.9
	comp=Z,0.4nm,0.9s,baz=286,slow=4.8,SNR=4.9						
ILAR	Eielson Array	86.87	22	P	P	13 08 21.1	-0.9
BDFB	Brasilia	145.37	265	PKPbc	PKPbc	13 15 16.3	-0.1
	comp=Z,1.9nm,0.5s,baz=69,slow=1.6,SNR=3.5						
BDFB	Brasilia	145.37	265	PKPbc	PKPbc	13 15 16.3	-0.1

*CSEM **02** 12:56:18.5, 37°84N×29°07E, h7^{km}, MD2.6, After DDA*
DDA 02 12:56:18.5,37°84N×29°07E,h7^{km},MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.15	188	i P	Pg	12 56 21.3	-0.7
DNZL				i S	Sg	12 56 23.8	-0.5
KHAL	Karahalli	0.62	32	i P	Pg	12 56 29.8	-0.9
KHAL				eS	Sg	12 56 39.9	+0.8
KHAL	Karahalli	0.62	32	i P	Pg	12 56 29.8	-0.9
KHAL				eS	Sg	12 56 39.9	+0.9
GOLH	Golhisar	0.72	147	eP	Pg	12 56 32.2	-0.3
GOLH				eS	Sb	12 56 42.9	-0.7
GOLH	Golhisar	0.72	147	eP	Pb	12 56 33.7	+0.2
GOLH	Golhisar	0.72	147	eP	Pg	12 56 32.2	-0.3
GOLH				eS	Sb	12 56 42.9	-0.8
GOLH	Golhisar	0.72	147	eS	Sb	12 56 43.3	-0.3
DEMI	Demirci	1.23	347	i P	Pg	12 56 42.5	+0.1
DEMI				eS	Sg	12 56 56.4	-2.0
DEMI	Demirci	1.23	347	i P	Pg	12 56 42.5	+0.2
DEMI				eS	Sg	12 56 56.4	-2.0
GDZ	Gediz	1.29	14	i P	Pg	12 56 43.4	-0.1
GDZ				i S	Sn	12 57 01.7	+0.9
GDZ	Gediz	1.29	14	i P	Pg	12 56 43.4	-0.1
GDZ				i S	Sn	12 57 01.7	+0.9

*NEIC **02** 12:59:55.9±1.4, 24°29N×120°89E, h10^{km}, ML4.4(TAP), Error ellipse: s-maj=20.1km s-min=6.6km az=114.0*
NEIC Recorded [2 TAP] in Chang-hua, I-lan, Miao-li and T'ai-chung; [1 TAP] in Hua-lien, Nan-t'ou and Yun-lin.
*ISCJB **02** 12:59:57.0±0.2, 24°27N±0°01×120°98E±0°02, h12^{km}, Error ellipse: s-maj=2.6km s-min=1.4km az=29.7*
*TAP **02** 12:59:57.2, 24°26N×121°02E, h40^{km}, ML4.2, B*
ISC 02 12:59:56.3±0.7,**24°27N**±0°01×**120°99E**±0°02,**h12**^{km},**n67**, σ1§**23**/117,**12C-18D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWT	Tachien	0.17	96	⇑iP	Pb	13 00 04.5	+3.0
	baz=93						
TWT				S	Sg	13 00 09.4	+6.3
	baz=93						
TWQ1	Liyutan	0.21	292	⇑iP	Pb	13 00 05.2	+3.1
	baz=293						
TWQ1				i S	Sg	13 00 10.8	+6.9
	baz=293						
NSY	Sanyi	0.25	305	⇑iP	Pb	13 00 05.8	+3.0
	baz=305						
NSY				S	Sg	13 00 12.1	+6.9
	baz=305						
WHF	Hehuan Shan	0.28	116	⇑iP	Pn	13 00 06.1	-0.5
	baz=115						
WHF				i S	Sb	13 00 11.5	+3.1
	baz=115						
TCU	Taichung	0.31	247	⇑iP	Pn	13 00 06.3	-0.3
	baz=250						
TCU				S	Sb	13 00 12.7	+3.9
	baz=250						
NSTT	Nanjuang	0.36	2	⇓iP	Pb	13 00 06.4	+1.8
	baz=359						
NSTT				i S	Sb	13 00 12.6	+2.3
	baz=359						
TYC	Yuchr	0.38	198	⇓iP	Pn	13 00 06.9	-0.7
	baz=200						
TYC				S	Sb	13 00 13.9	+3.0
	baz=200						
NNS	Nan Shan	0.39	64	⇑iP	Pb	13 00 06.9	+1.7
	baz=58						
NNS				S	Sb	13 00 12.7	+1.5
	baz=58						
SMLT	Sun Moon Lake	0.39	192	⇓iP	Pn	13 00 07.1	-0.8
	baz=194						
SMLT				i S	Sb	13 00 14.3	+3.0
	baz=194						
WNT	Mingjian	0.48	216	⇓iP	Pn	13 00 08.4	-0.6
	baz=226						
WNT				S	Sb	13 00 16.5	+2.8
	baz=226						
SSLB	Suanglung	0.48	184	ePg	Pb	13 00 06.8	+0.1
SSLB				eSg	Sb	13 00 15.5	+1.8
NSK	Sanguang	0.53	40	⇓iP	Pb	13 00 08.7	+1.3
	baz=35						
NSK				S	Sb	13 00 16.0	+0.9
	baz=35						
HSN	Hsinchu	0.53	358	⇓iP	Pn	13 00 09.2	-0.4
	baz=360						
HSN				eS	Sn	13 00 17.7	-0.9
	baz=360						
YHNB	Yeheng	0.53	41	ePg	Pb	13 00 08.3	+0.7
YHNB				eSg	Sg	13 00 14.1	+0.3
NACB	Ninganchiao	0.56	100	ePg	Pg	13 00 08.2	+1.0
NACB				eSg	Sb	13 00 17.0	+1.0
TWD	Chiawan	0.59	109	⇑iP	Pb	13 00 08.9	+0.5
	baz=101						
TWD				S	Sb	13 00 17.7	+1.0
	baz=101						
ESL	Shilin	0.61	138	⇑iP	Pb	13 00 09.5	+0.6
	baz=139						
ESL				eS	Sb	13 00 17.6	+0.2
	baz=139						
ESF	Shoufeng Towns	0.62	130	eP	Pg	13 00 08.9	+0.6
	baz=130						
ESF				eS	Sb	13 00 18.0	+0.4
	baz=130						
HWA	Hwalien	0.63	117	⇑iP	Pb	13 00 10.0	+0.7
	baz=117						
HWA				i S	Sb	13 00 19.1	+1.0
	baz=117						
ENTT	Nioudou	0.64	55	⇑iP	Pb	13 00 10.2	+0.7
	baz=51						
ENTT				eS	Sb	13 00 18.9	+0.5
	baz=51						
WGK	Gukeng	0.70	214	P	Pb	13 00 11.3	+0.9
	baz=215						
WGK				S	Sn	13 00 22.0	-0.7
	baz=215						
ENA	Nanau	0.70	77	⇑iP	Pg	13 00 10.7	+0.7
	baz=76						
ENA				eS	Sg	13 00 20.3	+1.1
	baz=76						
NCU	National Centr	0.72	14	⇓iP	Pb	13 00 11.4	+0.6
	baz=1.0						
NCU				S	Sb	13 00 21.6	+1.0
	baz=1.0						
TEGC	Jichi Village	0.75	138	eP	Pg	13 00 11.6	+0.8
	baz=146						
TEGC				eS	Sb	13 00 22.9	+1.4
	baz=146						
WTCT	Ta-ch'eng	0.76	238	P	Pb	13 00 11.7	+0.2
	baz=248						
WTCT				eS	Sb	13 00 22.9	+1.1
	baz=248						
TWE	Neicheng	0.76	54	⇓iP	Pb	13 00 12.4	+0.9
	baz=53						
TWE				S	Sb	13 00 22.8	+1.0
	baz=53						
ALS	Alishan	0.78	193	⇓iP	Pb	13 00 12.5	+0.7
	baz=202						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALS				S	Sb	13 00 23.7	+1.2
	baz=202						
YUS	Yu-Shan	0.78	182	⇓iP	Pb	13 00 12.9	+0.9
	baz=176						
YUS				S	Sb	13 00 23.8	+1.0
	baz=176						
EHY	Hungye	0.82	158	⇓iP	Pb	13 00 13.0	+0.5
	baz=152						
EHY				S	Sb	13 00 23.9	+0.5
	baz=152						
TATO	Taipei	0.84	33	ePg	Pg	13 00 12.2	-0.3
TATO				eSg	Sg	13 00 24.1	+0.7
ILA	Ilan	0.85	54	eP	Pg	13 00 12.9	+0.2
	baz=44						
ILA				eS	Sb	13 00 25.9	+1.6
	baz=44						
CHN2	Minshiung	0.87	213	eP	Pg	13 00 13.6	+0.5
	baz=214						
CHN2				eS	Sb	13 00 26.2	+1.3
	baz=214						
TAP	Taipei	0.90	31	eP	Pg	13 00 13.3	-0.4
	baz=30						
TAP				eS	Sg	13 00 25.4	0.0
	baz=30						
TAP1	Taipei	0.91	32	eP	Pg	13 00 13.2	-0.6
	baz=30						
TAP1				eS	Sg	13 00 24.9	-0.7
	baz=30						
TWS1	Kuangyinshan	0.91	25	⇓iP	Pg	13 00 14.0	+0.1
	baz=24						
TWS1				eS	Sb	13 00 26.8	+0.6
	baz=24						
YULB	Yu-li	0.92	162	ePg	Pg	13 00 14.1	+0.1
YULB				eSg	Sg	13 00 26.2	+0.2
CHY	Chiayi	0.93	214	eP	Pg	13 00 14.0	-0.1
	baz=226						
CHY				eS	Sb	13 00 26.9	+0.4
	baz=226						
WSF	Szhu	0.94	228	eP	Pg	13 00 14.4	-0.1
	baz=229						
WSF				eS	Sb	13 00 27.4	+0.4
	baz=229						
TWF1	Yuli	0.96	163	⇓iP	Pg	13 00 15.1	+0.4
	baz=152						
TWF1				eS	Sg	13 00 27.6	+0.4
	baz=152						
CHN4	Tsaushan	0.98	202	⇓iP	Pg	13 00 15.6	+0.3
	baz=203						
CHN4				eS	Sg	13 00 28.4	+0.4
	baz=203						
TPUB	Ta-pu	1.02	199	ePg	Pb	13 00 15.2	-0.7
TPUB				eSg	Sg	13 00 27.8	-1.4
NWF	Wu-fen Shan	1.07	42	P	Pb	13 00 16.2	-0.6
	baz=49						
NWF				S	Sb	13 00 29.8	-1.1
	baz=49						
WTP	Ta-pu	1.08	199	P	Pb	13 00 16.0	-0.8
	baz=209						
WTP				eS	Sb	13 00 31.0	+0.1
	baz=209						
ELDTW	Lidau	1.08	179	⇓iP	Pb	13 00 16.9	0.0
	baz=171						
ELDTW				eS	Sb	13 00 31.0	0.0
	baz=171						
TWK	Hsinying	1.10	205	⇓iP	Pb	13 00 16.9	-0.4
	baz=205						
TWK				S	Sg	13 00 32.3	+0.5
	baz=205						
TWY	Chenhua	1.15	29	eP	Pb	13 00 16.9	-1.1
	baz=18						
CHN1	Nanshi	1.16	201	⇓iP	Pb	13 00 17.6	-0.7
	baz=213						
CHN1				eS	Sb	13 00 33.1	-0.2
	baz=213						
CHN8	Yiju	1.16	218	eP	Pb	13 00 17.4	-0.9
	baz=218						
CHN8				eS	Sb	13 00 33.5	+0.2
	baz=218						
TWB1	Santiao Chiao	1.17	51	iP	Pb	13 00 17.7	-0.7
	baz=36						
TWB1				eS	Sb	13 00 31.8	-1.8
	baz=36						
CHKT	Chengkung	1.22	163	eP	Pn	13 00 18.9	-0.2
	baz=151						
CHKT				eS	Sb	13 00 35.4	+0.5
	baz=151						
SGST	Jiashian	1.24	198	eP	Pn	13 00 18.6	-0.9
	baz=197						
SGST				eS	Sb	13 00 34.9	-0.7
	baz=197						
CHN3	Shinhua	1.32	206	eP	Pn	13 00 20.1	-0.4
	baz=216						
TAI1	Yung-k'ang	1.41	210	eP	Pn	13 00 21.1	-0.6
	baz=208						
TWG	Pinlang	1.45	177	eP	Pn	13 00 21.6	-0.7
	baz=168						
TWG				eS	Sn	13 00 40.8	-0.3
	baz=168						
TWG	Pinlang	1.45	177	ePn	Pn	13 00 21.8	-0.5
TWG				eSn	Sn	13 00 41.3	+0.2
PNG	Penghu	1.49	242	eP	Pn	13 00 20.9	-2.0
	baz=242						
TTN	Taitung	1.52	174	eP	Pb	13 00 24.6	+0.3
	baz=173						
TWM1	Shoushan	1.53	200	eP	Pn	13 00 23.0	-0.4
	baz=198						
SGLT	Jiouru	1.60	197	eP	Pn	13 00 25.1	+0.7
	baz=195						
ECL	Taimali	1.67	181	eP	Pn	13 00 24.9	-0.4
	baz=168						
YOJ	Yonaguni jima	1.85	84	⇓P	Pn	13 00 26.9	-1.0
	baz=84						
EAST	Anshuo	1.88	184	eP	Pn	13 00 28.0	-0.3
	baz=195						
SCZT	Fangliau	1.92	190	eP	Pn	13 00 27.3	-1.5
	baz=188						
LAY	Lan-yu	2.28	167	eP	Pn	13 00 31.6	-2.1
	baz=155						
QZH	Quanzhou	2.28	288	⇑Pn	Pn	13 00 32.6	-1.2
QZH				Sn	Sn	13 00 58.1	-3.7
QZH				smax	smax		
	comp=N,230nm,0.2s						
QZH				smax	smax		
	comp=E,170nm,0.4s						
TWK1	Hengchun	2.32	184	eP	Pn	13 00 33.6	-0.7
	baz=193						
KNM	Kinmen	2.34	274	eP	Pn	13 00 34.4	-0.1
	baz=275						

---

*ISCJB **02** 13:00:55.3±0.5, 37°.83N±0°.03×29°.11E±0°.05, h7km±6km, Error ellipse: s-maj=6.7km s-min=4.5km az=169.5*
*CSEM **02** 13:00:55.2±0.1, 37°.83N×29°.13E, h2km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.2km az=93.0*
*DDA **02** 13:00:55.2, 37°.84N×29°.09E, h7km, MD2.5*
*ISK **02** 13:00:55.4, 37°.82N×29°.08E, h8km, MD2.6*
ISC 02 13:00:55.1±0.9**, 37°.84N**±0°.03×**29°.11E**±0°.04**, h9**km±8km**, n26, σ0s.40**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.10	216	PG	Pg	13 00 57.8	+0.1
DENT	Denizli	0.10	216	iPg	Pg	13 00 57.8	+0.1
DNZL	Cakiroluk	0.15	199	iP	Pg	13 00 58.5	-0.1
DNZL				iS	Sg	13 01 01.1	+0.1
DNZL	Cakiroluk	0.15	199	iP	Pg	13 00 58.5	-0.1
DNZL				iS	Sg	13 01 01.1	+0.1
KHAL	Karahalli	0.61	29	iP	Pg	13 01 06.9	-0.1
KHAL	Karahalli	0.61	29	iP	Pg	13 01 06.9	-0.1
GOLH	Golhisar	0.70	149	iP	Pg	13 01 08.3	-0.3
GOLH				iS	Sb	13 01 18.9	-0.3
GOLH	Golhisar	0.70	149	iP	Pg	13 01 08.3	-0.3
GOLH				iS	Sb	13 01 18.9	-0.3
KULA	Kula-Manisa	0.76	333	ePG	Pb	13 01 10.4	-0.2
KULA				eSG	Sb	13 01 21.8	+0.6
KULA	Kula-Manisa	0.76	333	ePg	Pb	13 01 10.4	-0.2
KULA				eSg	Sb	13 01 21.8	+0.6
MANT	Manisa	0.79	327	iP	Pb	13 01 11.0	-0.1
MANT				iS	Sb	13 01 21.8	-0.1
MANT	Manisa	0.79	327	iP	Pb	13 01 11.0	-0.1
MANT				iS	Sb	13 01 21.8	-0.1
YER	Yerkesik	0.96	223	ePG	Pb	13 01 13.5	-0.4
YER	Yerkesik	0.96	223	ePg	Pb	13 01 13.5	-0.4
AYDN	Tasoluk	0.99	260	iP	Pb	13 01 14.5	0.0
AYDN				iS	Sg	13 01 26.6	-0.4
AYDN	Tasoluk	0.99	260	iP	Pb	13 01 14.5	0.0
AYDN				iS	Sg	13 01 26.6	-0.4
TURN	Turunc	1.04	203	iP	Pn	13 01 19.0	+3.2
TURN				iS	Sn	13 01 37.5	+7.0
TURN	Turunc	1.04	203	iP	Pn	13 01 19.0	+3.2
ELL	Elmali	1.26	149	ePN	Pg	13 01 19.9	+0.7
ELL	Elmali	1.26	149	ePn	Pg	13 01 20.0	+0.7
GDZ	Gediz	1.28	13	iP	Pn	13 01 19.4	+0.1
GDZ				iS	Sb	13 01 35.5	-0.7
GDZ	Gediz	1.28	13	iP	Pn	13 01 19.4	+0.1
GDZ				iS	Sb	13 01 35.5	-0.7
ALT	Altintas	1.45	33	ePN	Pn	13 01 22.3	+0.7
ALT	Altintas	1.45	33	ePn	Pn	13 01 22.3	+0.7
TVSB	Tavsanli	1.64	10	ePN	Pb	13 01 25.4	-0.1
TVSB	Tavsanli	1.64	10	ePn	Pb	13 01 25.4	-0.1

---

*NEIC **02** 13:10:40.4, 19°.30N×66°.37W, h62km, MD3.5(RSPR), After RSPR.*
RSPR 02 13:10:40.4, 19°.30N×66°.37W, h62km±14km**, MD3.5**/4**, 20C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.02	201	⇑eP	Pn	13 10 57.3	-1.5
AOPR	Arecibo Observ	1.02	201	eS	Sn	13 11 11.4	-1.0
AOPR	Arecibo Observ	1.02	201	⇑eP	Pn	13 10 57.3	-1.5
AOPR				eS	Sn	13 11 11.4	-1.0
LRS	Lares	1.10	204	⇑eP	Pn	13 10 58.9	-1.0
LRS				eS	Sn	13 11 13.7	-0.7
LRS	Lares	1.10	204	⇑eP	Pn	13 10 58.9	-1.0
LRS				eS	Sn	13 11 13.7	-0.7
SJG	San Juan	1.20	170	⇑eP	Pn	13 11 00.4	-0.8
SJG				eS	Sn	13 11 16.0	-0.7
SJG	San Juan	1.20	170	⇑eP	Pn	13 11 00.4	-0.8
SJG				eS	Sn	13 11 16.0	-0.7
CELP	Cerrillos	1.24	189	⇑eP	Pn	13 11 00.8	-0.8
CELP	Cerrillos	1.24	189	⇑eP	Pn	13 11 00.8	-0.8
HUMP	Col San Antoni	1.25	157	⇑eP	Pn	13 11 00.6	-1.3
HUMP	Col San Antoni	1.25	157	eS	Sn	13 11 17.8	-0.1
HUMP	Col San Antoni	1.25	157	⇑eP	Pn	13 11 00.6	-1.3
HUMP				eS	Sn	13 11 17.8	-0.1
OBIP	Obispado Ponce	1.27	190	⇑eP	Pn	13 11 01.6	-0.4
OBIP	Obispado Ponce	1.27	190	eS	Sn	13 11 16.8	-1.5
OBIP	Obispado Ponce	1.27	190	⇑eP	Pn	13 11 01.6	-0.4
OBIP				eS	Sn	13 11 16.8	-1.5
LSP	Las Mesas	1.31	211	⇑eP	Pn	13 11 01.9	-0.7
LSP				eS	Sn	13 11 19.3	+0.1
LSP	Las Mesas	1.31	211	⇑eP	Pn	13 11 01.9	-0.7
LSP				eS	Sn	13 11 19.3	+0.1
MTP	Monte Pirata	1.43	147	⇑eP	Pn	13 11 02.6	-1.5
MTP	Monte Pirata	1.43	147	eS	Sn	13 11 21.3	-0.7
MTP	Monte Pirata	1.43	147	⇑eP	Pn	13 11 02.6	-1.5
MTP				eS	Sn	13 11 21.3	-0.7
CRPR	Cabo Rojo, PR	1.47	209	eS	Sn	13 11 21.9	-1.1
CRPR	Cabo Rojo, PR	1.47	209	⇑eP	Pn	13 11 04.8	+0.1
CRPR	Cabo Rojo, PR	1.47	209	⇑eP	Pn	13 11 04.8	+0.1
CRPR				eS	Sn	13 11 21.9	-1.1
STVI	Saint Thomas	1.64	125	eS	Sn	13 11 26.9	-0.3
STVI	Saint Thomas	1.64	125	⇑eP	Pn	13 11 06.3	-0.7
STVI	Saint Thomas	1.64	125	⇑eP	Pn	13 11 06.3	-0.7
STVI				eS	Sn	13 11 26.9	-0.3

---

*IDC **02** 13:24:04.0±1.5, 23°.81S×179°.96W, h498km±14km, mb3.7/13, mb1 4.0/13, mb1mx3.7/20, mbtmp3.7/13, Error ellipse: s-maj=14.9km s-min=13.4km az=169.0*
*ISCJB **02** 13:24:05.2±0.3, 24°.01S±0°.06×179°.98E±0°.06, h518km, mb4.4/27, Error ellipse: s-maj=9.2km s-min=6.6km az=139.7*
*NEIC **02** 13:24:05.7±1.1, 23°.95S×179°.98E, h513km±13km, mb4.8/10, Error ellipse: s-maj=16.7km s-min=9.9km az=140.0*
*AUST **02** 13:24:06.3±0.0, 23°.83S×179°.65W, h554km, Error ellipse: s-maj=1.6km s-min=1.2km az=288.0*
ISC 02 13:24:05.7±0.4**, 23°.96S**±0°.07×**179°.93W**±0°.06**, h518**km**, n85, σ1s.60**/113**, mb4.5**/27**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.47	343	eP	P	13 25 47.0	-0.6
MSVF				eS	S	13 27 11.9	+1.1
NIUE	Niue	10.50	64	P	P	13 26 26.5	-2.1
	baz=10,SNR=6.1						
NIUE				S	S	13 28 30.3	+4.3
	baz=10,SNR=6.3						
AFI	Afiamalu	12.62	39	P	P	13 26 45.1	-5.8
	2.4nm,0.3s,baz=27,slow=9.7,SNR=4.7						
AFI				S	S	13 28 59.2	-7.8
	3.4nm,0.3s,baz=47,slow=23,SNR=6.3						
DZM	Mont Dzumac	12.69	276	P	P	13 26 53.4	+1.8
	0.5nm,0.3s,baz=82,slow=16,SNR=9.9						
RPZ	Rata Peaks	21.06	198	eP	P	13 28 12.4	-0.4
RPZ				eS	S	13 31 32.7	-0.2
ARMA	Armidale	26.06	249	P	P	13 28 58.8	+1.1
	baz=26,SNR=19						
EIDS	Eidsvold	26.36	261	eP	P	13 29 00.4	+0.2
	15nm,0.6s						
EIDS	Eidsvold	26.36	261	P	P	13 29 00.5	+0.2
	baz=27,SNR=12						
MGCD	Mangrove Creek	26.98	243	P	P	13 29 06.8	+1.3
	baz=27,SNR=26						
RMQ	Roma	28.40	258	P	P	13 29 19.6	+1.4
	baz=29,SNR=6.7						
CNB	Canberra Magne	28.88	240	P	P	13 29 23.2	+1.0
	baz=29,SNR=12						
YNG	Young	29.41	242	P	P	13 29 27.6	+0.7
	baz=30,SNR=19						
CMSA	Cobar Meteorol	31.25	248	P	P	13 29 42.9	+0.1
	baz=32,SNR=42						
CTAO	Charters Tower	31.54	270	eP	P	13 29 45.6	+0.3
	44nm,0.5s						
QLP	Quilpie	32.45	258	P	P	13 29 53.1	+0.1
	baz=33,SNR=11						
TOO	Toolangi	32.47	237	P	P	13 29 53.6	+0.5
	baz=33,SNR=18						
PMG	Port Moresby	34.57	289	P	P	13 30 10.9	-0.2
	26nm,0.7s,baz=115,slow=4.6,SNR=16						
PMG	Port Moresby	34.57	289	eP	P	13 30 10.8	-0.2
	27nm,0.7s						
STKA	Stephens Creek	34.76	248	P	P	13 30 12.3	-0.1
	4.3nm,0.4s,baz=78,slow=8.7,SNR=31						
STKA				ScP	ScP	13 35 30.2	+2.5
	1.9nm,0.8s,baz=135,slow=14,SNR=3.3						
STKA	Stephens Creek	34.76	248	P	P	13 30 12.4	-0.1
	baz=35,SNR=23						
ARPS	Mount Arapiles	35.14	240	P	P	13 30 15.6	0.0
	baz=35,SNR=11						
COEN	Coen	36.18	279	P	P	13 30 24.8	+0.3
	baz=36,SNR=8.0						
BBOO	Buckleboo	39.48	247	P	P	13 30 50.3	-0.9
	baz=40,SNR=27						
ASAR	Alice Springs	42.09	261	P	P	13 31 11.7	-0.5
	9.4nm,0.5s,baz=98,slow=7.2,SNR=348						
ASAR				ScP	ScP	13 35 58.8	+2.6
	4.0nm,0.8s,baz=108,slow=4.0,SNR=20						
WRAB	Tennant Creek	42.45	266	eP	P	13 31 14.1	-1.0
	23nm,0.6s						
WRA	Warramunga Arr	42.46	266	P	P	13 31 14.1	-1.1
	26nm,0.6s,baz=101,slow=8.4,SNR=204						
WRA				ScP	ScP	13 36 00.7	+3.0
	3.5nm,0.9s,baz=96,slow=4.2,SNR=13						
FORT	Forrest	46.35	250	P	P	13 31 43.9	-1.1
	baz=47,SNR=26						
KDU	Kakadu	46.35	275	P	P	13 31 44.1	-1.1
	baz=47,SNR=13						
MTN	Manton Dam	47.52	274	P	P	13 31 52.8	-1.3
	baz=48,SNR=17						
FITZ	Fitzroy Crossi	50.88	266	P	P	13 32 18.6	-0.3
	7.6nm,0.4s,baz=95,slow=4.9,SNR=28						
FITZ	Fitzroy Crossi	50.88	266	eP	P	13 32 18.8	-0.1
	13nm,0.7s						
FITZ	Fitzroy Crossi	50.88	266	P	P	13 32 18.5	-0.3
	baz=51,SNR=16						
VNDA	Vanda	54.33	185	P	P	13 32 44.2	+1.6
	1.5nm,0.8s,baz=40,slow=2.1,SNR=2.5						
MEEK	Meekatharra	55.15	253	P	P	13 32 48.2	-1.2
	baz=55,SNR=8.1						
BLDU	Ballidu	56.06	248	P	P	13 32 54.7	-0.9
	baz=56,SNR=17						
MORW	Morawa	56.91	250	P	P	13 33 00.5	-0.9
	baz=57,SNR=11						
KAPI	Kappang	60.89	278	P	P	13 33 30.7	+2.3
	3.0nm,0.4s,baz=127,slow=12,SNR=4.3						
QSPA	South Pole Qui	66.13	180	P	P	13 34 01.8	+0.6
	4.1nm,0.6s,baz=27,slow=2.9,SNR=32						
QSPA	South Pole Qui	66.13	180	eP	P	13 34 01.9	+0.7
	82nm,2.5s						
UGM	Wanagama	68.16	271	P	P	13 34 13.2	-1.3
	baz=68,SNR=3.1						
PETK	Petropavlovsk-	79.17	346	P	P	13 35 16.2	0.0
	5.2nm,1.0s,baz=104,slow=7.0,SNR=5.4						
QIZ	Qiongzhong	80.68	296	P	P	13 35 25.7	+0.8
QIZ				pP	pP	13 37 16.4	-0.4
QIZ				sP	sP	13 38 09.3	-0.6
QIZ				S	S	13 44 51.6	+1.6
QIZ				sS	sS	13 48 09.4	+0.1
QIZ				pmax	pmax		
	comp=Z,24nm,1.7s						
CN2	Changchun	83.97	324	eP	P	13 35 44.2	+3.2
NVAR	Mina Array Bea	84.75	44	P	P	13 35 45.5	+0.2
	comp=Z,1.4nm,0.7s,baz=220,slow=7.9,SNR=7.8						
VNA3	Neumayer Olymp	84.82	177	eP	P	13 35 44.3	-0.6
VNA3	Neumayer Olymp	84.82	177	ePKiKP	PKiKP	13 40 53.0	+0.1
LDFC	Landfair	84.94	48	eP	P	13 35 47.5	+1.3
VNA2	Neumayer--Watz	85.23	178	eP	P	13 35 46.6	-0.3
VNA2	Neumayer--Watz	85.23	178	ePKiKP	PKiKP	13 40 58.7	+5.1
TUC	Tucson	86.50	52	eP	P	13 35 55.0	+1.3
GYA	Guiyang	86.83	301	P	P	13 35 56.0	+0.6
GYA				pP	pP	13 37 51.2	+1.8
GYA				sP	sP	13 38 41.7	-0.3
GYA				PP	PP	13 39 30.4	+2.5
GYA				SKS	SKSac	13 45 33.0	-0.1
GYA				S	S	13 45 51.2	+1.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.2s						
RSO	Redoubt South	86.99	13	eP	P	13 35 54.4	-1.1
BJI	Beijing	87.11	316	P	P	13 35 59.5	+3.3
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PLCA	Paso Flores	88.18	134	P	P	13 36 03.4	+1.9
	comp=Z,1.3nm,0.7s,baz=281,slow=11,SNR=2.9						
MFID	Camas Ranch	89.16	41	eP	P	13 36 06.5	+0.6
KMI	Kunming	89.34	298	P	P	13 36 08.8	+1.5
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TMUT	Trail Mountain	89.83	46	eP	P	13 36 10.6	+1.2
	comp=Z,8.9nm,0.8s						
HLID	Hailey	90.10	41	eP	P	13 36 11.1	+0.8
	comp=Z,36nm,2.6s						
HVU	Hansel Valley	90.14	44	eP	P	13 36 11.1	+0.6
	comp=Z,4.5nm,0.7s						
SRU	San Rafael	90.19	47	eP	P	13 36 11.6	+0.7
	comp=Z,5.7nm,0.8s						
TXAR	Lajitas Array	90.41	58	P	P	13 36 12.8	+0.8
	comp=Z,2.5nm,0.7s,baz=214,slow=6.3,SNR=18						
HHC	Hu-ho-hao-te	90.50	315	eP	P	13 36 11.9	-0.3
HHC				pP	pP	13 38 06.7	-0.3
HHC				sP	sP	13 38 56.1	-3.2
HHC				PP	PP	13 39 59.0	+2.5
HHC				S	S	13 46 22.4	-0.8
HHC				sS	sS	13 49 43.2	-5.3
HHC				SS	SS	13 52 41.8	+1.5
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,6.8s						
CD2	Chengdu	91.16	303	P	P	13 36 16.0	+0.6
CD2				sP	sP	13 39 01.6	-1.0
CD2				PP	PP	13 40 04.6	+2.8
CD2				SKS	SKSac	13 45 58.5	+0.6
CD2				S	S	13 46 28.6	-0.8
CD2				sS	sS	13 49 52.1	-3.0
CD2				SS	SS	13 52 52.7	+2.7
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.7s						
ILAR	Eielson Array	92.07	14	P	P	13 36 17.4	-1.3
	comp=Z,0.5nm,0.6s,baz=227,slow=5.6,SNR=7.6						
PDAR	Pinedale Array	92.69	44	P	P	13 36 21.9	-0.4
	comp=Z,1.2nm,0.8s,baz=218,slow=3.7,SNR=9.1						
ZALV	Zalesovo Beam	112.03	321	PKiKP	PKiKP	13 41 39.8	-1.7
	comp=Z,0.4nm,0.5s,baz=128,slow=4.5,SNR=3.6						
MKAR	Makanchi Array	112.23	313	PKiKP	PKiKP	13 41 40.9	-1.3
	comp=Z,0.5nm,0.7s,baz=220,slow=1.4,SNR=8.6						
KURBB	Kurchatov Arra	115.33	316	PKP	PKPdf	13 41 46.4	-1.6
	comp=Z,0.9nm,0.6s,baz=94,slow=1.7,SNR=13						
KSH	Kashi	115.35	304	ePKP	PKPdf	13 41 44.9	-3.7
KSH				PP	PP	13 43 02.1	+2.5
KSH				pPKP		13 44 43.7	
KSH				PKS	PKSdf	13 45 22.5	-2.8
KSH				SKS	SKSdf	13 48 07.4	-4.1
KSH				SKKS	SKKSac	13 49 00.0	-6.4
KSH				AMB	AMB		
	comp=Z,110nm,5.8s						
BVAR	Borovoye Array	120.52	319	PKP	PKPdf	13 41 57.0	-1.0
	comp=Z,1.1nm,0.4s,baz=121,slow=0.9,SNR=8.1						
ARCES	ARCESS Array B	131.95	348	PKP	PKPdf	13 42 18.2	-1.1
	comp=Z,1.8nm,0.6s,baz=85,slow=1.5,SNR=11						
ARCES				SKPbc	SKPab	13 44 57.8	-0.6
	comp=Z,2.7nm,0.8s,baz=51,slow=3.9,SNR=4.1						
FINES	FINESS Array B	138.52	341	PKP	PKPdf	13 42 32.4	+0.8
	comp=Z,1.1nm,0.5s,baz=236,slow=0.5,SNR=2.3						
FINES				SKPbc	SKPbc	13 45 17.5	+0.1
	comp=Z,3.4nm,0.7s,baz=61,slow=5.2,SNR=8.7						
NB2	NORSAR Subarra	142.15	351	PKP	PKPpre	13 42 33.7	
	comp=Z,0.1nm,0.5s,baz=16,slow=3.0						
NOA	NORSAR Array B	142.15	351	PKhKP	PKPpre	13 42 34.0	
	comp=Z,1.9nm,0.9s,baz=16,slow=4.6,SNR=3.9						
AKASG	Malin Array Be	145.05	327	PKP	PKPdf	13 42 43.2	-0.4
	comp=Z,4.5nm,0.7s,baz=44,slow=3.7,SNR=9.1						
BRTR	Keskin Array B	147.66	307	PKPbc	PKPbc	13 42 51.5	-0.6
	comp=Z,1.2nm,0.6s,baz=154,slow=6.0,SNR=6.6						
KOLS	Kolonicke sedl	149.55	331	ePKP	PKPbc	13 42 56.7	+0.4
CRVS	Cervenica-Dubn	149.94	331	ePKP	PKPbc	13 42 57.1	-0.1
KSP	Ksiaz	150.36	339	ePKP	PKPbc	13 42 58.4	+0.2
KSP	Ksiaz	150.36	339	ePKP	PKPbc	13 42 58.3	+0.2
CLL	Collm	150.93	343	iPKPbc	PKPbc	13 42 59.1	-0.3
	comp=Z,10.0nm,0.7s						
BRG	Berggiesshubel	151.06	342	eP	PKPbc	13 42 59.5	-0.2
	comp=Z,6.6nm,0.5s						
GERES	GERESS Array B	152.93	340	PKPbc	PKPbc	13 43 03.5	-0.6
	comp=Z,0.7nm,0.6s,baz=27,slow=3.3,SNR=5.2						
ESDC	Sonseca Array	163.96	11	PKPab	PKPab	13 44 05.3	-0.6
	comp=Z,0.2nm,0.3s,baz=351,slow=2.0,SNR=3.2						
TORD	Torodi Ar. Bea	169.14	188	PKP	PKPdf	13 43 12.4	-1.6
	comp=Z,0.9nm,0.9s,baz=330,slow=1.4,SNR=4.7						
TORD				PKPab	PKPab	13 44 28.9	-0.3
	comp=Z,0.8nm,0.8s,baz=188,slow=4.0,SNR=6.9						

---

*LDG **02** 13:24:54.7±0.2, 51°.60N×6°.53E, h1km, Md2.8/1, Ml2.7/6, Error ellipse: s-maj=3.0km s-min=2.2km az=25.0, Suspected Mining induced.*
*ISCJB **02** 13:24:54.4±0.5, 51°.46N±0°.02×6°.46E±0°.05, h0km, Error ellipse: s-maj=4.9km s-min=2.6km az=36.1*
*BNS **02** 13:24:55.5±1.0, 51°.53N×6°.54E, h1km, ML2.1*
*BUG **02** 13:24:55.2, 51°.44N×6°.62E, h1km, ML1.9*
*CSEM **02** 13:24:55.0±0.3, 51°.51N×6°.48E, h1km, ML2.8/7, Error ellipse: s-maj=7.4km s-min=4.8km az=130.0*
*BGR **02** 13:24:57.0±0.4, 51°.48N×6°.62E, h1km, ML2.3/6, Error ellipse: s-maj=7.8km s-min=3.3km az=124.0*
ISC 02 13:24:54.4±0.8**, 51°.52N**±0°.03×**6°.49E**±0°.03**, h0**km**, n53, σ0s.89**/80**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRHE	Rheinberg	0.05	95	Pg	Pg	13 24 56.0	+0.6
BRHE				Sg	Sg	13 24 56.8	+0.8
BRHE	Rheinberg	0.05	95	Pg	Pg	13 24 56.0	+0.6
BRHE				Sg	Sg	13 24 56.8	+0.8
LAUG	Laupendahl	0.33	121	ePg	Pg	13 25 01.2	+0.5
LAUG	Laupendahl	0.33	121	Pg	Pg	13 25 01.2	+0.5
WTSB	Winterswijk	0.49	23	ePg	Pb	13 25 06.4	+0.6
WTSB				eSg	Sb	13 25 12.4	-1.2
WTSB	Winterswijk	0.49	23	ePg	Pb	13 25 06.4	+0.6
WTSB				Sg	Sb	13 25 12.3	-1.2
BUG	Bochum--Univer	0.49	99	ePg	Pg	13 25 04.5	+0.6
BUG				eSg	Sg	13 25 11.2	+0.9
HOBG	Hohbusch	0.76	135	ePg	Pb	13 25 09.8	-0.6
HOBG	Hohbusch	0.76	135	Pg	Pb	13 25 09.8	-0.6
HGN	Heimansgroeve	0.83	205	ePn	Pb	13 25 12.1	+0.4
HGN				ePg	Pn	13 25 13.3	-0.1
	29nm,0.2s						

HGN				eSn	Sg	13 25 23.0	+1.8
HGN				eSg	Sb	13 25 24.6	+1.1
HGN	**Heimansgroeve**	**0.83**	**205**	ePn	**Pb**	**13 25 12.1**	**+0.4**
HGN	**Heimansgroeve**	**0.83**	**205**	Pg	**Pn**	**13 25 13.3**	**-0.1**
HGN				eSn	**Sg**	**13 25 23.0**	**+1.8**
HGN				eSg	**Sb**	**13 25 24.6**	**+1.1**
DREG	**Dreilaegerbach**	**0.87**	**191**	ePg	**Pb**	**13 25 12.3**	**-0.1**
DREG				eSg	**Sb**	**13 25 25.1**	**+0.5**
DREG	**Dreilaegerbach**	**0.87**	**191**	Pg	**Pb**	**13 25 12.3**	**-0.1**
DREG				Sg	**Sb**	**13 25 25.1**	**+0.5**
KLL	**Kalltalsperre**	**0.88**	**187**	ePg	**Pb**	**13 25 12.8**	**+0.2**
KLL	**Kalltalsperre**	**0.88**	**187**	Pg	**Pb**	**13 25 12.8**	**+0.2**
STB	**Steinbach**	**0.95**	**166**	ePg	**Pb**	**13 25 14.1**	**+0.3**
STB				eSg	**Sb**	**13 25 26.9**	**0.0**
	57nm,0.3s						
STB	**Steinbach**	**0.95**	**166**	Pg	**Pb**	**13 25 14.1**	**+0.3**
STB				Sg	**Sb**	**13 25 26.9**	**0.0**
	57nm,0.3s						
MEM	**Membach**	**0.96**	**199**	P	**Pb**	**13 25 13.9**	**0.0**
MEM	**Membach**	**0.96**	**199**	ePg	**Pb**	**13 25 13.9**	**0.0**
MEM				eSg	**Sb**	**13 25 28.8**	**+1.7**
MEM	**Membach**	**0.96**	**199**	Pg	**Pb**	**13 25 13.9**	**0.0**
IBBN	**Ibbenburen**	**1.11**	**44**	eSg	**Sn**	**13 25 33.0**	**-0.2**
IBBN	**Ibbenburen**	**1.11**	**44**	Sg	**Sn**	**13 25 33.0**	**-0.2**
HILG	**Hillesheim**	**1.24**	**174**	ePg	**Pg**	**13 25 18.6**	**+0.6**
HILG	**Hillesheim**	**1.24**	**174**	Pg	**Pg**	**13 25 18.6**	**+0.6**
BGG	**Burgeitz**	**1.42**	**157**	ePg	**Pn**	**13 25 21.2**	**-0.2**
BGG	**Burgeitz**	**1.42**	**157**	Pg	**Pn**	**13 25 21.2**	**-0.2**
GIVF	**Givet**	**1.77**	**217**	eP	**Pn**	**13 25 27.6**	**+1.4**
GIVF	**Givet**	**1.77**	**217**	ePg	**Pg**	**13 25 29.0**	**+0.7**
GIVF				eSg	**Sg**	**13 25 52.6**	**+1.4**
	28nm,0.3s						
GIVF	**Givet**	**1.77**	**217**	eP	**Pn**	**13 25 27.6**	**+1.4**
GIVF	**Givet**	**1.77**	**217**	ePg	**Pg**	**13 25 29.0**	**+0.7**
GIVF				eSg	**Sg**	**13 25 52.6**	**+1.4**
	14nm,0.3s						
TNS	**Taunus Mts**	**1.80**	**136**	ePg	**Pb**	**13 25 27.7**	**-0.5**
TNS				eSg	**Sg**	**13 25 52.4**	**+0.3**
TNS	**Taunus Mts**	**1.80**	**136**	Pg	**Pb**	**13 25 27.7**	**-0.5**
TNS				Sg	**Sg**	**13 25 52.4**	**+0.3**
WLF	**Walferdange**	**1.87**	**187**	ePn	**Pb**	**13 25 29.2**	**-0.2**
WLF				eSg	**Sb**	**13 25 53.6**	**+0.3**
WLF	**Walferdange**	**1.87**	**187**	Pn	**Pb**	**13 25 29.2**	**-0.2**
WLF				Sg	**Sb**	**13 25 53.6**	**+0.3**
BAIF	**Baives**	**2.06**	**226**	ePg	**Pg**	**13 25 34.2**	**+0.4**
BAIF				eSn	**Sn**	**13 25 55.3**	**-1.2**
	7.6nm,0.3s						
BAIF	**Baives**	**2.06**	**226**	ePg	**Pg**	**13 25 34.2**	**+0.4**
BAIF				eSn	**Sn**	**13 25 55.3**	**-1.2**
	3.8nm,0.3s						
CLZ	**Clausthal**	**2.44**	**81**	ePg	**Pb**	**13 25 40.0**	**+0.9**
CLZ	**Clausthal**	**2.44**	**81**	Pg	**Pb**	**13 25 40.0**	**+0.9**
PAGF	**Fort de Pagny**	**3.01**	**190**	eSg	**Sg**	**13 26 32.1**	**+1.1**
	3.7nm,0.5s						
PAGF	**Fort de Pagny**	**3.01**	**190**	eSg	**Sg**	**13 26 32.1**	**+1.1**
	1.9nm,0.5s						
SFTF	**Sexfontaines**	**3.45**	**196**	eSg	**Sg**	**13 26 45.6**	**+0.5**
	5.2nm,0.3s						
SFTF	**Sexfontaines**	**3.45**	**196**	eSg	**Sg**	**13 26 45.6**	**+0.5**
	2.6nm,0.3s						
HAU	**Haudompre**	**3.52**	**182**	eSg	**Sg**	**13 26 47.3**	**-0.1**
	4.3nm,0.3s						
HAU	**Haudompre**	**3.52**	**182**	eSg	**Sg**	**13 26 47.3**	**-0.1**
	2.2nm,0.3s						
LOR	**Lormes**	**4.59**	**203**	ePn	**Pn**	**13 26 04.4**	**-0.6**
LOR	**Lormes**	**4.59**	**203**	ePn	**Pn**	**13 26 04.4**	**-0.6**
SSF	**Saint Saulge**	**4.87**	**205**	ePn	**Pn**	**13 26 08.5**	**-0.4**
SSF				eSn	**Sn**	**13 27 03.5**	**-2.4**
SSF				eSg	**Sg**	**13 27 29.7**	**-1.1**
	4.0nm,0.5s						
SSF	**Saint Saulge**	**4.87**	**205**	ePn	**Pn**	**13 26 08.5**	**-0.4**
SSF				eSn	**Sn**	**13 27 03.5**	**-2.4**
SSF				eSg	**Sg**	**13 27 29.7**	**-1.1**
	2.0nm,0.5s						
FLN	**La Foliniere**	**5.26**	**241**	ePn	**Pn**	**13 26 13.1**	**-1.1**
FLN	**La Foliniere**	**5.26**	**241**	ePn	**Pn**	**13 26 13.1**	**-1.1**
QUIF	**Quistinic**	**7.22**	**244**	ePn	**Pn**	**13 26 39.6**	**-1.5**
QUIF	**Quistinic**	**7.22**	**244**	ePn	**Pn**	**13 26 39.6**	**-1.5**

*ISCJB **02** 13:27:11.9±0.9, 37°.84N±0°.04×28°.97E±0°.10, h0km±19km, Error ellipse: s-maj=13.1km s-min=5.9km az=168.8*
*ISK **02** 13:27:11.9, 37°.86N×28°.98E, h5km, MD2.6*
*DDA **02** 13:27:11.3, 37°.83N×29°.07E, h7km, MD2.4*
*CSEM **02** 13:27:12.1±0.3, 37°.84N×28°.95E, h0km±3km, MD2.4, Error ellipse: s-maj=9.1km s-min=4.9km az=69.0*
ISC 02 13:27:10.9±1.8**, 37°.78N**±0°.08×**28°.95E**±0°.07**, h17**km±13km**, n9,** σ**0s.48**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.07**	**114**	ePG	**Pg**	**13 27 14.6**	**+0.4**
DENT	**Denizli**	**0.07**	**114**	ePg	**Pg**	**13 27 14.6**	**+0.4**
DNZL	**Cakiroluk**	**0.12**	**141**	eP	**Pg**	**13 27 14.5**	**-0.4**
DNZL				eS	**Sg**	**13 27 17.2**	**-0.3**
KHL	**Karahalli**	**0.70**	**40**	ePG	**Pb**	**13 27 25.2**	**+0.4**
KHL				eSG	**Sg**	**13 27 33.3**	**-0.8**
KHL	**Karahalli**	**0.70**	**40**	ePg	**Pb**	**13 27 25.2**	**+0.4**
KHL				eSg	**Sg**	**13 27 33.3**	**-0.8**
KULA	**Kula-Manisa**	**0.77**	**343**	ePG	**Pb**	**13 27 25.7**	**-0.1**
KULA				eSG	**Sg**	**13 27 36.0**	**0.0**
KULA	**Kula-Manisa**	**0.77**	**343**	ePg	**Pb**	**13 27 25.7**	**-0.1**
KULA				eSg	**Sg**	**13 27 36.0**	**0.0**
TVSB	**Tavsanli**	**1.71**	**13**	ePN	**Pb**	**13 27 42.3**	**+0.3**
TVSB	**Tavsanli**	**1.71**	**13**	ePn	**Pb**	**13 27 42.3**	**+0.3**

*THE **02** 13:33:19.8, 38°.02N×21°.59E, h0km±1km, ML2.5/7, Error ellipse: s-maj=1.5km s-min=0.4km az=246.0*
*CSEM **02** 13:33:19.5±0.2, 38°.04N×21°.54E, h10km, ML2.4, Error ellipse: s-maj=3.6km s-min=3.1km az=116.0*
ATH 02 13:33:19.1, 38°.05N×21°.54E, h18km, ML2.4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.06**	**278**	P	Pg	13 33 22.4	0.0
RLS				S	Sg	13 33 23.7	-1.0
RLS	**Riolos of Patr**	**0.06**	**278**	ePB	Pg	13 33 22.4	0.0
RLS				eSB	Sg	13 33 25.1	+0.4
RLS	**Riolos of Patr**	**0.06**	**278**	P	Pg	13 33 22.4	0.0
RLS				S	Sg	13 33 23.7	-1.0
RLS				eSb		13 33 25.1	
UPR	**University Cam**	**0.30**	**40**	P	Pb	13 33 26.3	+0.3
UPR				S	Sg	13 33 30.2	0.0
UPR	**University Cam**	**0.30**	**40**	ePB	Pb	13 33 26.5	+0.5
UPR	**University Cam**	**0.30**	**40**	P	Pb	13 33 26.3	+0.3
UPR				S	Sg	13 33 30.2	0.0
LAKA	**Lakka**	**0.39**	**61**	P	Pg	13 33 27.4	0.0
LAKA				S	Sg	13 33 32.8	-0.1
LAKA	**Lakka**	**0.39**	**61**	P	Pg	13 33 27.4	0.0
LAKA				S	Sg	13 33 32.8	-0.1
EFP	**Efpalio**	**0.47**	**37**	P	Pb	13 33 29.1	+0.2
EFP				S	Sb	13 33 36.5	+0.9
EFP	**Efpalio**	**0.47**	**37**	ePB	Pb	13 33 28.9	0.0
EFP				eSB	Sb	13 33 35.5	-0.1
EFP	**Efpalio**	**0.47**	**37**	P	Pb	13 33 29.1	+0.2
EFP				eSb	Sb	13 33 35.5	-0.1
EFP				S	Sg	13 33 36.5	+1.3
TRIZ	**Trizonia**	**0.53**	**53**	P	Pg	13 33 29.7	+0.1
TRIZ				S	Sb	13 33 37.4	+0.4
TRIZ	**Trizonia**	**0.53**	**53**	P	Pg	13 33 29.7	+0.1
TRIZ				S	Sb	13 33 37.4	+0.4
AMT	**Artemida-Makis**	**0.53**	**165**	P	Pg	13 33 29.5	-0.4
AMT				S	Sg	13 33 37.2	+0.1
AMT	**Artemida-Makis**	**0.53**	**165**	P	Pg	13 33 29.5	-0.4
AMT				S	Sg	13 33 37.2	+0.1
KALE	**Kalithea**	**0.58**	**54**	P	Pg	13 33 30.7	-0.1
KALE				S	Sb	13 33 38.9	+0.1
KALE	**Kalithea**	**0.58**	**54**	P	Pg	13 33 30.7	-0.1
KALE				S	Sb	13 33 38.9	+0.1
KFL	**Anninata**	**0.60**	**276**	P	Pn	13 33 31.9	-0.8
KFL				S	Sn	13 33 41.2	-0.8
KFL	**Anninata**	**0.60**	**276**	P	Pn	13 33 31.9	-0.8
KFL				S	Sn	13 33 41.2	-0.8
GUR	**Goura**	**0.64**	**100**	P	Pb	13 33 31.2	-0.8
GUR				S	Sb	13 33 39.9	-0.8
GUR	**Goura**	**0.64**	**100**	ePB	Pb	13 33 31.4	-0.6
GUR				eSN	Sb	13 33 40.7	0.0
GUR	**Goura**	**0.64**	**100**	P	Pb	13 33 31.2	-0.8
GUR				S	Sb	13 33 39.9	-0.8
GUR				eSn	Sg	13 33 40.7	0.0
VLS	**Valsamata**	**0.76**	**280**	ePB	Pb	13 33 33.3	-0.5
VLS				eSN	Sn	13 33 45.8	-0.2
VLS	**Valsamata**	**0.76**	**280**	ePb	Pb	13 33 33.3	-0.5
VLS				eSn	Sn	13 33 45.8	-0.2
EVR	**Evrytania**	**0.89**	**14**	ePB	Pb	13 33 35.7	-0.5
EVR				eSN	Sb	13 33 48.0	+0.1
EVR	**Evrytania**	**0.89**	**14**	ePb	Pb	13 33 35.7	-0.5
ITM	**Ithomi**	**0.92**	**160**	P	Pb	13 33 36.1	-0.5
ITM	**Ithomi**	**0.92**	**160**	ePB	Pb	13 33 36.2	-0.4
ITM				eSN	Sn	13 33 49.8	-0.2
ITM	**Ithomi**	**0.92**	**160**	P	Pb	13 33 36.1	-0.5
ITM				eSn	Sn	13 33 49.8	-0.2
VLX	**Vlachokerasia**	**0.95**	**135**	ePN	Pn	13 33 37.6	-0.1
VLX				eSN	Sn	13 33 51.0	+0.1
VLX	**Vlachokerasia**	**0.95**	**135**	ePn	Pn	13 33 37.6	-0.1
VLX				eSn	Sn	13 33 51.0	+0.1
LKD2	**Lefkada island**	**1.01**	**317**	ePN	Pb	13 33 38.3	+0.1
LTK	**Loutraki**	**1.13**	**91**	P	Pg	13 33 40.6	-0.4
LTK				S	Sg	13 33 56.1	+0.3
LTK	**Loutraki**	**1.13**	**91**	ePN	Pb	13 33 40.4	+0.3
LTK				eSN	Sg	13 33 55.8	0.0
LTK	**Loutraki**	**1.13**	**91**	P	Pg	13 33 40.6	-0.4
LTK				eSn	Sg	13 33 55.8	0.0
LTK				S	Sn	13 33 56.1	+1.0
AXAR	**Agios Charalam**	**1.13**	**51**	P	Pb	13 33 40.5	+0.3
AXAR				S	Sg	13 33 57.9	+1.9
AXAR	**Agios Charalam**	**1.13**	**51**	P	Pb	13 33 40.5	+0.3
AXAR				S	Sg	13 33 57.9	+1.9
PYL	**PYLOS**	**1.16**	**172**	P	Pb	13 33 40.7	0.0
PYL	**PYLOS**	**1.16**	**172**	ePN	Pb	13 33 40.9	+0.2
PYL				eSN	Sg	13 33 56.5	-0.4
PYL	**PYLOS**	**1.16**	**172**	P	Pb	13 33 40.7	0.0
PYL				eSn	Sg	13 33 56.5	-0.4
LKR	**Lokris**	**1.29**	**62**	P	Pb	13 33 43.0	+0.1
LKR	**Lokris**	**1.29**	**62**	ePN	Pb	13 33 43.0	+0.1
LKR				eSN	Sg	13 34 01.5	+0.4
LKR	**Lokris**	**1.29**	**62**	P	Pb	13 33 43.0	+0.1
LKR				eSn	Sg	13 34 01.5	+0.4
ATAL	**Atalanti**	**1.33**	**61**	P	Pb	13 33 43.9	+0.4
ATAL	**Atalanti**	**1.33**	**61**	P	Pb	13 33 43.9	+0.4
DYR	**Agios Nikonas**	**1.43**	**154**	P	Pb	13 33 45.8	+0.5
DYR	**Agios Nikonas**	**1.43**	**154**	P	Pb	13 33 45.8	+0.5
DID	**Didima**	**1.45**	**111**	P	Pg	13 33 46.4	-0.7
DID				S	Sg	13 34 05.9	-0.2
DID	**Didima**	**1.45**	**111**	ePN	Pg	13 33 47.2	+0.1
DID				eSN	Sg	13 34 06.5	+0.4
DID	**Didima**	**1.45**	**111**	P	Pg	13 33 46.4	-0.7
DID	**Didima**	**1.45**	**111**	ePn	Pg	13 33 47.2	+0.1
DID				S	Sg	13 34 05.9	-0.2
DID				eSn	Sb	13 34 06.5	+2.7
THL	**Klokotos Trika**	**1.56**	**14**	ePN	Pg	13 33 48.3	-0.8
THL				eSN	Sg	13 34 09.6	+0.2
THL	**Klokotos Trika**	**1.56**	**14**	ePn	Pg	13 33 48.3	-0.8
THL				eSn	Sg	13 34 09.6	+0.2
NAIG	**Nisos Aigina**	**1.57**	**100**	ePN	Pg	13 33 48.6	-0.7
NAIG	**Nisos Aigina**	**1.57**	**100**	ePn	Pg	13 33 48.6	-0.7
ATH	**Athens Observa**	**1.72**	**92**	ePN	Pb	13 33 50.3	+0.1
ATH	**Athens Observa**	**1.72**	**92**	ePn	Pb	13 33 50.3	+0.1
VLI	**Veliai**	**1.73**	**140**	ePN	Pb	13 33 51.2	+0.8
VLI				eSN	Sb	13 34 12.9	+1.0
VLI	**Veliai**	**1.73**	**140**	ePn	Pb	13 33 51.2	+0.8
VLI				eSn	Sb	13 34 12.9	+1.0
MRKA	**Markates**	**1.74**	**67**	P	Pb	13 33 50.5	0.0
MRKA	**Markates**	**1.74**	**67**	P	Pb	13 33 50.5	0.0
NEO	**Neokhori**	**1.82**	**46**	ePN	Pb	13 33 51.7	-0.2
NEO	**Neokhori**	**1.82**	**46**	ePn	Pb	13 33 51.7	-0.2
PTL	**Penteli**	**1.83**	**89**	ePB	Pn	13 33 50.9	+1.1
PTL				eSN	Sb	13 34 15.7	+0.8
KYTH	**Kithira**	**2.13**	**145**	ePN	Pb	13 33 56.3	-1.0
KYTH	**Kithira**	**2.13**	**145**	ePn	Pb	13 33 56.3	-1.0

*DDA **02** 13:36:42.0, 39°.86N×42°.76E, h14km, MD3.0*
*CSEM **02** 13:36:43.1±0.3, 39°.76N×42°.56E, h20km, MD2.9, Error ellipse: s-maj=8.1km s-min=6.8km az=37.0*
ISK 02 13:36:42.8, 39°.81N×42°.63E, h18km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.37**	**130**	ePG	Pb	13 36 51.3	+0.1
AGRB				eSG	Sb	13 36 56.8	-0.1
AGRB	**Hanur-Agry**	**0.37**	**130**	ePg	Pb	13 36 51.3	+0.1
AGRB				eSg	Sb	13 36 56.8	0.0
HOMI	**Horasan**	**0.60**	**293**	eP	Pb	13 36 54.5	-0.6
HOMI				eS	Sb	13 37 03.9	+0.4
KARS	**Kars**	**0.88**	**23**	ePG	Pg	13 37 00.4	+0.1
KARS				eSG	Sg	13 37 12.3	+0.1
KARS	**Kars**	**0.88**	**23**	ePg	Pg	13 37 00.4	+0.1
KARS				eSg	Sg	13 37 12.3	+0.2
ERZM	**Erzurum**	**0.97**	**276**	eP	Pg	13 37 02.7	+0.5
ERZM				eS	Sn	13 37 19.3	+3.7
ERZM	**Erzurum**	**0.97**	**276**	eP	Pg	13 37 02.7	+0.6
EZM	**Erzurum**	**0.98**	**276**	ePG	Pg	13 37 02.7	+0.5
VRTB	**Varto-Mus**	**1.12**	**235**	ePN	Pn	13 37 03.3	-0.4
VRTB	**Varto-Mus**	**1.12**	**235**	ePn	Pn	13 37 03.3	-0.5
CLDR	**Caldiran**	**1.20**	**123**	ePN	Pg	13 37 06.0	-0.4
CLDR	**Caldiran**	**1.20**	**123**	ePn	Pg	13 37 06.0	-0.4
DDEM	**Demirkent**	**1.27**	**328**	eP	Pg	13 37 07.0	-0.5
DDEM				eS	Sg	13 37 24.5	+0.3
DDEM	**Demirkent**	**1.27**	**328**	eP	Pg	13 37 07.0	-0.5
VANB	**Van**	**1.35**	**154**	ePN	Pn	13 37 07.0	0.0
VANB	**Van**	**1.35**	**154**	ePn	Pn	13 37 07.0	0.0
DAGI	**Agillar**	**1.37**	**337**	eP	Pb	13 37 08.5	+0.3
DAGI				eS	Sg	13 37 26.6	-1.0
BNGL	**BINGOL**	**1.43**	**234**	eP	Pg	13 37 11.5	+0.7
BNGL				eS	Sg	13 37 31.6	+1.9
BNGB	**Bingˆ¶l**	**1.72**	**242**	ePN	Pn	13 37 12.3	+0.3
BCA	**Borcka**	**1.80**	**335**	ePN	Pb	13 37 14.4	-0.9
BCA	**Borcka**	**1.80**	**335**	ePn	Pb	13 37 14.4	-0.9
BINT	**Bingol**	**1.90**	**241**	ePn	Pn	13 37 12.3	-2.3
BEST	**Besiri**	**2.19**	**209**	eP	Pb	13 37 23.0	+0.9
BEST				eS	Sg	13 37 51.9	-1.7

*AZER **02** 13:40:08.0, 41°.27N×48°.45E, h11km*
*CSEM **02** 13:40:09.6±0.3, 41°.29N×48°.55E, h10km, mb3.3, Error ellipse: s-maj=6.7km s-min=5.7km az=21.0*
*MOS **02** 13:40:13.0±2.1, 41°.28N×48°.33E, h16km, mb4.0/1, Error ellipse: s-maj=26.5km s-min=9.0km az=117.0*
ISC 02 13:40:09.3±0.8**, 41°.26N**±0°.02×**48°.51E**±0°.03**, h15**km±5km**, n44,** σ**1s.67**/65**, 14C-8D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUBA	**Quba, Azerbaij**	**0.09**	**353**	⇑P	**Pg**	**13 40 12.3**	**-0.3**
	SNR=3002						
QUBA				⇑S	**Sg**	**13 40 14.7**	**0.0**
QUBA	**Quba, Azerbaij**	**0.09**	**353**	P	**Pg**	**13 40 12.3**	**-0.3**
	SNR=1000						
QUBA				S	**Sg**	**13 40 14.7**	**0.0**
SIZA	**Siyzn**	**0.35**	**122**	⇑P	**Pg**	**13 40 16.3**	**-0.2**
	SNR=109						
SIZA	**Siyzn**	**0.35**	**122**	P	**Pg**	**13 40 16.3**	**-0.2**
	SNR=109						
KSMR	**Kasumkent**	**0.44**	**320**	i PG	**Pg**	**13 40 19.0**	**+0.8**
KSMR				eS	**Sb**	**13 40 26.0**	**+0.6**
KSMR				pmax	pmax		
	comp=Z,1μm,0.1s						
PQL	**Pirkuli**	**0.48**	**172**	P	**Pb**	**13 40 19.9**	**+0.4**
	SNR=21						
PQL				⇑S	**Sg**	**13 40 27.1**	**+1.7**
PQL	**Pirkuli**	**0.48**	**172**	P	**Pb**	**13 40 19.9**	**+0.4**
	SNR=21						
PQL				S	**Sg**	**13 40 27.1**	**+1.7**
AKT	**Akhty**	**0.62**	**290**	⇓iPG	**Pb**	**13 40 22.0**	**0.0**
AKT				eS	**Sg**	**13 40 31.5**	**+1.6**
DRN	**Derbent**	**0.78**	**350**	ePG	**Pn**	**13 40 26.8**	**+1.1**
DRN				i S	**Sn**	**13 40 37.5**	**+0.4**
SEKA	**Sheki**	**0.99**	**267**	⇓P	**Pb**	**13 40 28.5**	**+0.3**
	SNR=46						
SEKA				⇑S	**Sn**	**13 40 42.4**	**-0.1**
SEKA	**Sheki**	**0.99**	**267**	P	**Pb**	**13 40 28.5**	**+0.3**
	SNR=46						
SEKA				S	**Sn**	**13 40 42.4**	**-0.1**
GOBA	**Gobu**	**1.27**	**132**	⇑P	**Pn**	**13 40 32.6**	**+0.2**
	SNR=7.9						
GOBA	**Gobu**	**1.27**	**132**	P	**Pn**	**13 40 32.6**	**+0.2**
	SNR=7.9						
NDR	**Nardaran**	**1.31**	**121**	⇑P	**Pn**	**13 40 33.7**	**+0.6**
	SNR=8.9						
NDR				⇑S	**Sg**	**13 40 53.0**	**+1.4**
NDR	**Nardaran**	**1.31**	**121**	P	**Pn**	**13 40 33.7**	**+0.6**
	SNR=8.9						
NDR				S	**Sg**	**13 40 53.0**	**+1.4**
SGKR	**Sergokala**	**1.35**	**332**	ePG	**Pg**	**13 40 36.5**	**+1.1**
SGKR				eS	**Sg**	**13 40 54.0**	**+1.0**
ALIB	**Äli-Bayra**	**1.36**	**164**	⇑P	**Pb**	**13 40 35.7**	**+1.3**
	SNR=7.0						
ALIB	**Äli-Bayra**	**1.36**	**164**	P	**Pb**	**13 40 35.7**	**+1.3**
	SNR=7.0						
KMKR	**Kumukh**	**1.36**	**310**	⇓iPG	**Pg**	**13 40 36.0**	**+0.4**
KMKR				eS	**Sg**	**13 40 53.5**	**+0.1**
KMKR				pmax	pmax		
	comp=Z,129nm,0.3s						
BRDA	**Brd**	**1.42**	**226**	⇑P	**Pn**	**13 40 35.3**	**+0.7**
	SNR=4.6						
BRDA	**Brd**	**1.42**	**226**	P	**Pn**	**13 40 35.3**	**+0.7**
	SNR=4.6						
MNSR	**Manas**	**1.55**	**338**	ePG	**Pg**	**13 40 42.2**	**+3.0**
MNSR				i S	**Sg**	**13 41 04.8**	**+5.4**
MNSR				pmax	pmax		
	comp=Z,206nm,0.3s						
ARKR	**Arakani**	**1.75**	**320**	ePN	**Pb**	**13 40 42.0**	**+0.8**
ARKR				eS	**Sg**	**13 41 07.5**	**+1.8**
ARKR				pmax	pmax		
	comp=Z,76nm,0.2s						
GANJ	**Ganja**	**1.77**	**250**	⇓P	**Pb**	**13 40 41.1**	**-0.3**
	SNR=18						
GANJ	**Ganja**	**1.77**	**250**	P	**Pb**	**13 40 41.1**	**-0.3**
	SNR=18						
UNCR	**Uncukul**	**1.93**	**319**	ePN	**Pb**	**13 40 45.5**	**+1.3**
UNCR				eS	**Sg**	**13 41 13.5**	**+2.0**
UNCR				pmax	pmax		
	comp=Z,100nm,0.8s						
GLBA	**Clilabad**	**2.02**	**183**	⇑P	**Pn**	**13 40 44.7**	**+1.9**
	SNR=3.3						
GLBA				⇑S	**Sb**	**13 41 10.6**	**-0.1**
GLBA	**Clilabad**	**2.02**	**183**	P	**Pn**	**13 40 44.7**	**+1.9**
	SNR=3.3						
GLBA				S	**Sb**	**13 41 10.6**	**-0.1**
BTLR	**Botlikh**	**2.21**	**310**	ePN	**Pg**	**13 40 51.5**	**-0.1**
BTLR				eS	**Sg**	**13 41 21.5**	**+1.3**
BTLR				pmax	pmax		
	comp=Z,113nm,0.3s						
LKRN	**Lenkeran, Azer**	**2.56**	**175**	⇓P	**Pn**	**13 40 50.6**	**+0.4**
LKRN	**Lenkeran, Azer**	**2.56**	**175**	P	**Pn**	**13 40 50.6**	**+0.4**
TBLG	**Delisi**	**2.87**	**281**	ePN	**Pb**	**13 40 58.1**	**-2.1**
TBLG	**Delisi**	**2.87**	**281**	P	**Pb**	**13 40 58.2**	**-2.1**
TBLG	**Delisi**	**2.87**	**281**	P	**Pb**	**13 40 58.2**	**-2.1**
NAX	**Nakhchivan**	**3.11**	**229**	⇓P	**Pn**	**13 40 58.1**	**+0.2**
	SNR=4.2						
NAX	**Nakhchivan**	**3.11**	**229**	P	**Pn**	**13 40 58.1**	**+0.2**
	SNR=4.2						
GOR	**Gori**	**3.38**	**284**	P	**Pb**	**13 41 06.7**	**-2.2**
GOR	**Gori**	**3.38**	**284**	P	**Pb**	**13 41 06.7**	**-2.2**
AKH	**Akhalkalaki**	**3.78**	**274**	P	**Pb**	**13 41 13.4**	**-2.5**
ONI	**Oni**	**4.00**	**291**	P	**Pb**	**13 41 17.6**	**-1.9**
AKTO	**Aktyubinsk**	**11.31**	**33**	⇓Pn	**Pn**	**13 42 51.1**	**+0.9**
	comp=Z,0.5nm,0.8s						
AKTO				⇓Sn	**Sn**	**13 44 50.9**	**-5.3**
	comp=Z,0.7nm,0.7s						
AKTO	**Aktyubinsk**	**11.31**	**33**	Pn	**Pn**	**13 42 51.1**	**+0.9**
	comp=Z,0.5nm,0.8s						
AB31	**Akbulak array**	**11.34**	**41**	⇑Pn	**Pn**	**13 42 50.6**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=217,slow=12,SNR=28						
AB31				⇑Sn	**Sn**	**13 44 51.7**	**-5.3**
	comp=Z,3.3nm,0.7s,baz=227,slow=23,SNR=8.4						
AB31	**Akbulak array**	**11.34**	**41**	Pn	**Pn**	**13 42 50.6**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=217,SNR=28						

*NIED **02** 13:49:00, 35°.50N×139°.30E, h140km, Mw3.6 Best double couple: $M_0$2.80000×10[14] NP1:ϕ_s237.00000°, δ62.00000°, λ89.00000°. NP2:ϕ_s59.00000°, δ28.00000°, λ92.00000°.*
*ISCJB **02** 13:49:34.1±0.6, 35°.48N±0°.05×139°.3E±0°.1, h148km±4km, mb3.5/3, Error ellipse: s-maj=14.4km s-min=7.2km az=158.8*
*JMA **02** 13:49:35.4±0.1, 35°.49N×139°.33E, h140km±1km, M3.5*
*IDC **02** 13:49:35.6±3.4, 35°.40N×139°.09E, h143km±9km, mb3.2/3, mb1 3.4/4, mb1mx3.1/25, mbtmp3.3/4, Error ellipse: s-maj=156.6km s-min=8.8km az=67.0*
ISC 02 13:49:35.0±1.0**, 35°.48N**±0°.05×**139°.29E**±0°.08**, h146**km±7km**, n15,** σ**0s.77**/25**, mb3.5**/3**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.27**	**217**	P	**Pn**	**13 49 54.7**	**-0.4**
JOD2				S	**Sn**	**13 50 09.7**	**-0.6**
TOK	**Tokyo**	**0.43**	**62**	P	**Pn**	**13 49 56.0**	**+0.5**
TOK				S	**Sn**	**13 50 11.8**	**+0.6**
JYN	**Shimob**	**0.61**	**272**	P	**Pn**	**13 49 56.6**	**0.0**
JYN				S	**Sn**	**13 50 15.3**	**+2.3**
JRY	**Ryogami san**	**0.62**	**330**	P	**Pn**	**13 49 56.9**	**+0.3**
JRY				S	**Sn**	**13 50 13.3**	**+0.2**
JIM2	**Oshima 3**	**0.77**	**171**	P	**Pn**	**13 49 57.1**	**-0.6**
JIM2				S	**Sn**	**13 50 14.0**	**-0.9**
JAG	**Ashikaga**	**0.95**	**8**	P	**Pn**	**13 49 58.9**	**-0.1**
JAG				S	**Sn**	**13 50 16.4**	**-1.0**
MJAR	**Matsushiro Arr**	**1.37**	**321**	P	**Pn**	**13 50 02.6**	**-0.4**
	12nm,0.3s,baz=180,slow=26,SNR=138						
MJAR				S	**Sn**	**13 50 23.5**	**-0.9**
	10nm,0.3s,baz=11,slow=32,SNR=5.3						
MAT	**Matsushiro**	**1.37**	**321**	P	**Pn**	**13 50 02.8**	**-0.2**
MAT				S	**Sn**	**13 50 23.6**	**-0.8**
MAT	**Matsushiro**	**1.37**	**321**	P	**Pn**	**13 50 02.9**	**-0.1**
MAT				S	**Sn**	**13 50 23.7**	**-0.7**
BSO1	**Boso 1**	**1.61**	**120**	P	**Pn**	**13 50 04.9**	**0.0**
JFT	**Otama**	**2.20**	**22**	P	**Pn**	**13 50 12.3**	**0.0**
JHJ	**Hachijo jima 2**	**2.39**	**170**	P	**Pn**	**13 50 14.6**	**0.0**
	80nm,0.3s,baz=81,slow=13,SNR=20						
JHJ				S	**Sn**	**13 50 45.5**	**+0.3**
	18nm,0.3s,baz=240,slow=23,SNR=1.6						
ZALV	**Zalesovo Beam**	**41.71**	**314**	P	**P**	**13 57 09.8**	**+0.7**
	0.4nm,0.3s,baz=79,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**43.51**	**303**	P	**P**	**13 57 24.6**	**+0.8**
	0.4nm,0.7s,baz=91,slow=6.4,SNR=5.3						
WRA	**Warramunga Arr**	**55.32**	**186**	P	**P**	**13 58 52.7**	**-0.8**
	0.7nm,0.4s,baz=1.4,slow=7.5,SNR=6.8						

IDC 02 13:52:32.3±5.6**, 7°.95S**×**151°.25E, h58**km±47km**, mb3.5**/8**, mb1 3.7**/9**, mb1mx3.5**/19**, mbtmp3.6**/9**, ML2.4**/1**, MS3.1**/3**, Ms1 3.1**/3**, ms1mx2.7**/21**, Error ellipse: s-maj=40.2km s-min=23.1km az=107.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.30**	**250**	P	Pn	13 53 35.1	-0.1
	1.4nm,0.3s,baz=53,slow=7.1,SNR=5.9						
PMG				S	Sn	13 54 25.1	+1.0
	3.4nm,0.3s,baz=136,slow=21,SNR=12						
CTA	**Charters Tower**	**13.01**	**201**	LR	LR	13 59 10.3	
	comp=Z,53nm,20.9s,baz=54,slow=31						
WRA	**Warramunga Arr**	**20.26**	**232**	P	P	13 57 02.5	-0.8
	1.0nm,0.6s,baz=52,slow=11,SNR=8.9						
DZM	**Mont Dzumac**	**20.28**	**135**	LR	LR	14 03 28.2	
	comp=Z,83nm,19.2s,baz=356,slow=32						
ASAR	**Alice Springs**	**22.82**	**225**	P	P	13 57 30.4	-0.3
	0.2nm,0.4s,baz=57,slow=9.3,SNR=12						
ASAR				LR	LR	14 04 52.7	
	comp=Z,40nm,19.0s,baz=181,slow=32						
STKA	**Stephens Creek**	**25.45**	**199**	P	P	13 57 55.6	+0.7
	4.6nm,1.1s,baz=47,slow=22,SNR=3.2						
FITZ	**Fitzroy Crossi**	**26.88**	**245**	P	P	13 58 07.9	-0.1
	4.0nm,0.5s,baz=88,slow=7.6,SNR=16						
PETK	**Petropavlovsk-**	**61.06**	**4**	P	P	14 02 40.5	+0.5
	8.0nm,1.1s,baz=187,slow=11,SNR=2.9						
SONM	**Songino Array**	**68.19**	**329**	P	P	14 03 27.0	+0.3
	1.8nm,1.0s,baz=153,slow=3.4,SNR=12						
MKAR	**Makanchi Array**	**81.69**	**320**	P	P	14 04 44.0	-0.6
	0.2nm,0.5s,baz=109,slow=5.3,SNR=3.2						
ILAR	**Eielson Array**	**85.63**	**22**	P	P	14 05 03.8	-0.6
	0.8nm,0.8s,baz=249,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**149.64**	**282**	PKPbc	PKPbc	14 12 16.7	+0.2
	0.4nm,0.5s,baz=82,slow=2.3,SNR=4.3						

IDC 02 14:03:55.1±2.2**, 4°.01N**×**126°.67E, h0**km**, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.2**/22**, mbtmp3.1**/3**, Error ellipse: s-maj=177.1km s-min=27.4km az=66.0, Talaud Islands**

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

WRA	Warramunga Arr	24.97	163	P	P	14 09 18.8	-1.8
	0.4nm,0.6s,baz=342,slow=10,SNR=4.7						
ASAR	Alice Springs	28.40	166	P	P	14 09 53.3	+1.8
	0.2nm,0.9s,baz=341,slow=7.8,SNR=2.9						
MKAR	Makanchi Array	57.29	325	P	P	14 13 44.7	0.0
	0.2nm,0.6s,baz=125,slow=6.3,SNR=4.4						

*ISCJB **02** 14:18:28.1±0.5, 37°.87S±0°.03×177°.59E±0°.05, h65^{km}±5^{km}, mb3.7/2, Error ellipse: s-maj=7.3km s-min=4.8km az=144.5*
*WEL **02** 14:18:29.3±0.1, 37°.82S×177°.58E, h50^{km}±1^{km}, ML3.9/16, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
*IDC **02** 14:18:35.2±5.1, 34°.69S×176°.26E, h0^{km}, mb3.7/2, mb1 4.0/2, mb1mx3.7/14, mbtmp3.7/2, Error ellipse: s-maj=206.3km s-min=59.1km az=166.0*
ISC 02 14:18:28.6±1.1, 37°.86S±0°.04×177°.59E±0°.04, h58^{km}±8^{km}, n77, σ1^{s}14/81, 4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.46	316	P*	Pn	14 18 39.3	-0.7
WIZ				S*	Sn	14 18 47.4	-0.7
MWZ	Matawai	0.48	186	P*	Pn	14 18 40.2	-0.1
MWZ				S*	Sn	14 18 48.6	-0.2
URZ	Urewera	0.55	223	⇓P*	Pn	14 18 41.1	0.0
URZ				S*	Sn	14 18 50.1	+0.1
PUZ	Puketiti	0.57	113	⇓PN	Pn	14 18 42.0	+0.8
MXZ	Matakaoa Point	0.64	63	P*	Pn	14 18 42.3	+0.3
EDRZ	Edgecumbe	0.72	249	P*	Pn	14 18 43.4	+0.3
EDRZ				S*	Sn	14 18 54.2	+0.7
MARZ	Manawahe	0.73	259	⇓P*	Pn	14 18 43.1	-0.1
CNGZ	Carnagh Statio	0.80	142	PN	Pn	14 18 45.2	+1.2
OPRZ	Ohinepanea	0.82	270	⇓P*	Pn	14 18 44.1	-0.1
OPRZ				S*	Sn	14 18 55.3	-0.3
TARZ	Mount Tarawera	0.94	246	P*	Pn	14 18 46.4	+0.5
LIRZ	Lichensteins R	0.96	261	P*	Pn	14 18 46.6	+0.5
RRRZ	Republican Roa	0.98	240	P*	Pn	14 18 46.7	+0.4
OMRZ	Omania	0.99	255	P*	Pn	14 18 46.9	+0.4
TGRZ	Tauranga	1.06	276	P*	Pn	14 18 47.3	-0.1
KARZ	Kaharoa	1.08	261	P*	Pn	14 18 47.9	+0.3
PRGZ	Paritu Road	1.09	168	PN	Pn	14 18 48.4	+0.6
RAHZ	Arahi	1.13	200	PN	Pn	14 18 49.5	+1.2
PRRZ	Plateau Road	1.14	235	P*	Pn	14 18 48.9	+0.5
HRRZ	Handcock Road	1.16	242	P*	Pn	14 18 49.3	+0.6
KNZ	Kokohu	1.17	177	PN	Pn	14 18 49.2	+0.5
ALRZ	Allen Road	1.21	234	P*	Pn	14 18 49.8	+0.5
MYRZ	Mayor Island	1.21	298	P*	Pn	14 18 49.2	-0.2
MHGZ	Mahia Peninsul	1.32	169	PN	Pn	14 18 51.4	+0.5
NMHZ	Naumai	1.39	206	PN	Pn	14 18 53.2	+1.4
BKZ	Black Stump Fm	1.57	213	P*	Pn	14 18 54.7	+0.5
HATZ	Hinemaiaia	1.57	228	P*	Pn	14 18 54.7	+0.6
TOZ	Tahuroa Road	1.66	274	P*	Pn	14 18 55.5	+0.2
TOZ				S*	Sn	14 19 14.9	-0.7
MCHZ	McNeill Hill	1.73	203	PN	Pn	14 18 57.9	+1.5
RITZ	Rihia Road	1.76	230	P*	Pn	14 18 58.0	+1.2
CKHZ	Cape Kidnapper	1.85	192	PN	Pn	14 18 58.4	+0.4
KUZ	Kuaotunu	1.85	306	PN	Pn	14 18 57.7	-0.4
KRVZ	Karewarewa	1.97	230	P*	Pn	14 19 00.7	+1.0
OTVZ	Oturere	2.00	228	P*	Pn	14 19 01.2	+1.0
KAHZ	Kahuranaki	2.02	196	PN	Pn	14 19 00.8	+0.5
BHHZ	Black Hill Sta	2.02	216	P*	Pn	14 19 02.0	+1.6
NGZ	Ngauruhoe	2.04	229	P*	Pn	14 19 01.7	+1.0
MKAZ	Moumakai	2.06	290	PN	Pn	14 19 01.2	+0.3
TUVZ	Tukino	2.07	226	P*	Pn	14 19 02.0	+0.9
MOVZ	Moawhango	2.12	222	P*	Pn	14 19 02.2	+0.5
FWVZ	Far West T-bar	2.12	228	P*	Pn	14 19 03.9	+2.0
TRVZ	Turoa	2.15	227	P*	Pn	14 19 04.2	+1.8
PXZ	Pawanui	2.25	194	PN	Pn	14 19 02.6	-0.7
HIZ	Hauiti	2.25	252	PN	Pn	14 19 04.8	+1.4
MTVZ	Mangateitei	2.26	227	P*	Pn	14 19 05.7	+2.1
PKVZ	Pokaka	2.27	230	P*	Pn	14 19 05.9	+2.1
PNHZ	Pukenui	2.33	207	PN	Pn	14 19 04.6	+0.1
PRHZ	Porangahau	2.52	197	PN	Pn	14 19 06.4	-0.8
TSZ	Takapari Road	2.54	209	PN	Pn	14 19 07.1	-0.4
VRZ	Vera Road	2.56	239	P*	Pn	14 19 09.4	+1.8
WTAZ	Waiatarua	2.57	290	PN	Pn	14 19 08.9	+1.1
RVAZ	Riverhead Bore	2.63	293	PN	Pn	14 19 09.6	+1.0
DVHZ	Dannevirke	2.68	204	PN	Pn	14 19 08.9	-0.5
WAZ	Wanganui	2.78	226	PN	Pn	14 19 12.9	+2.2
POWZ	Post Office Ro	2.90	209	PN	Pn	14 19 12.7	+0.3
BFZ	Birch Farm	3.01	200	PN	Pn	14 19 12.9	-0.9
TIWZ	Tintock	3.20	204	PN	Pn	14 19 15.8	-0.7
MRZ	Mangatainoka R	3.21	208	PN	Pn	14 19 15.0	-1.5
WCZ	Waipu Caves	3.23	305	PN	Pn	14 19 17.5	+0.7
HOWZ	Holdsworth Sta	3.44	207	PN	Pn	14 19 18.2	-1.5
OGWZ	Otaki Gorge	3.50	212	PN	Pn	14 19 19.4	-1.2
KIW	Kapiti Island	3.65	214	PN	Pn	14 19 21.6	-1.0
MTW	Mount Morrison	3.67	205	PN	Pn	14 19 21.1	-1.8
CAW	Cannon Point	3.79	210	PN	Pn	14 19 22.4	-2.1
PAWZ	Paruwai Farm	3.90	205	PN	Pn	14 19 24.2	-1.8
SNZO	South Karori	4.11	212	PN	Pn	14 19 26.5	-2.3
PLWZ	Palliser	4.12	205	PN	Pn	14 19 26.7	-2.4
OUZ	Omahuta	4.15	308	PN	Pn	14 19 30.7	+1.2
TUWZ	Tuamarina	4.55	217	PN	Pn	14 19 33.0	-1.9
QRZ	Quartz Range	4.92	231	PN	Pn	14 19 39.3	-0.6
THZ	Tophouse	5.31	221	PN	Pn	14 19 43.4	-2.1
KHZ	Kahutara	5.51	213	PN	Pn	14 19 45.7	-2.3
LTZ	Lake Taylor	6.38	218	PN	Pn	14 19 56.5	-3.5
CRLZ	Canterbury Las	6.85	212	PN	Pn	14 20 02.9	-3.4
CTZ	Chatham Island	7.33	145	PN	Pn	14 20 13.8	+0.8
ASAR	Alice Springs	39.76	278	P	P	14 25 56.8	+0.9
	0.3nm,0.3s,baz=119,slow=6.2,SNR=26						
WRA	Warramunga Arr	41.44	283	P	P	14 26 10.7	+0.9
	1.5nm,0.8s,baz=119,slow=8.5,SNR=13						
FINES	FINESS Array B	150.48	332	PKPbc	PKPab	14 38 18.8	-0.8
	1.5nm,0.9s,baz=35,slow=4.7,SNR=5.4						

*IDC **02** 14:21:56.0±2.0, 40°.72N×79°.31E, h0^{km}, mb3.6/3, mb1 3.7/8, mb1mx3.5/32, mbtmp3.6/8, ML3.3/5, MS3.0/3, Ms1 3.0/3, ms1mx2.4/42, Error ellipse: s-maj=26.9km s-min=18.6km az=169.0*
*BJI **02** 14:21:56.0, 40°.82N×79°.41E, h17^{km}, mb3.9/4, ML3.5/9*
*NNC **02** 14:21:57.9±1.5, 41°.01N×79°.22E, h0^{km}, mb4.1, mpv3.9, Error ellipse: s-maj=12.4km s-min=7.6km az=162.0*
ISC 02 14:21:56.3±0.9, 40°.77N±0°.07×79°.35E±0°.07, h10^{km}, n33, σ1^{s}70/28, 10C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	2.76	303	P	Pb	14 22 43.8	-2.1
	SNR=66						
KSH	Kashi	2.88	245	Pn	Pg	14 22 50.7	-0.7
KSH				Sn	Sg	14 23 32.7	+4.0
KSH				smax	smax		
	comp=N,220nm,1.2s						
KSH				smax	smax		
	comp=E,190nm,1.0s						
KNDC	Almaty	3.02	325	⇑Pg	Pb	14 22 47.5	-2.7
	comp=E,55nm,0.6s						
KNDC				⇑Lg	Lg	14 23 26.7	
	comp=E,500nm,0.6s						
KZA	Kyzart	3.35	294	P	Pb	14 22 55.8	-0.2
	SNR=5.8						
TKM2	Tokmak 2	3.53	309	⇑Pn	Pn	14 22 51.4	0.0
	comp=E,22nm,0.5s						
TKM2				⇓Lg	Lg	14 23 44.6	
	comp=E,104nm,0.6s						
TKM2	Tokmak 2	3.53	309	P	Pb	14 22 55.4	-3.6
	SNR=9.0						
KBK	Karagaybulak	3.80	301	P	Pb	14 22 59.5	-3.9
	SNR=9.1						
UCH	Uchtor	3.91	293	P	Pb	14 23 05.9	+0.2
	SNR=8.3						
AAK	Ala-Archa	4.08	299	Pn	Pb	14 23 03.6	-4.8
	comp=E,0.8nm,0.3s,baz=104,slow=9.6,SNR=14						
AAK				Lg	Lg	14 24 01.7	
	comp=E,4.2nm,0.3s,baz=268,slow=22,SNR=15						
AAK	Ala-Archa	4.08	299	P	Pb	14 23 08.6	+0.2
	SNR=12						
CHMS	Chumysh	4.09	304	P	Pb	14 23 07.1	-1.3
	SNR=7.9						
USP	Ospenovka	4.39	306	P	Pb	14 23 09.7	-3.8
	SNR=12						
AML	Almayashu	4.46	290	P	Pb	14 23 15.8	+0.8
	SNR=27						
EKS2	Erkin-Say	4.58	296	P	Pb	14 23 18.0	+1.3
	SNR=30						
MK31	Makanchi Array	6.38	18	Pn	Pn	14 23 32.4	+2.0
	comp=E,4.1nm,0.7s,baz=201,slow=12,SNR=63						
MK31				⇓Sn	Sn	14 24 42.6	-0.8
	comp=E,4.3nm,0.6s,baz=162,slow=37,SNR=4.7						
MK31				⇑Lg	Lg	14 25 14.3	
	comp=E,11nm,0.7s						
MKAR	Makanchi Array	6.38	18	Pn	Pn	14 23 32.9	+2.5
	comp=E,1.0nm,0.3s,baz=200,slow=14,SNR=34						
MKAR				Sn	Sn	14 24 46.4	+3.1
	comp=E,0.9nm,0.3s,baz=182,slow=23,SNR=5.3						
WMQ	Urumqi	6.90	61	Pn	Pn	14 23 36.8	-0.7
WMQ				Sn	Sn	14 25 03.1	+7.1
WMQ				smax	smax		
	comp=N,23nm,0.8s						
WMQ				smax	smax		
	comp=E,27nm,0.8s						
KK31	Karatay Array	6.99	292	⇓Pg	Pb	14 24 01.5	+3.8
	comp=E,4.4nm,0.8s,baz=96,slow=15,SNR=9.4						
KK31				Lg	Lg	14 25 33.6	
	comp=E,39nm,1.4s,baz=112,slow=26,SNR=7.6						
KURBB	Kurchatov Arra	9.87	357	Pn	Pn	14 24 20.2	+2.0
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=7.9						
KURBB				Lg	Lg	14 27 05.5	
	comp=E,0.2nm,0.3s,baz=174,slow=27,SNR=9.0						
KURBB	Kurchatov Arra	9.87	357	⇑Lg	Lg	14 27 04.9	
	comp=E,6.4nm,0.8s						
KURK	Kurchatov	9.96	357	⇑Lg	Lg	14 27 08.8	
	comp=E,29nm,1.3s						
VOSK	Vostochnaya	13.25	337	⇑Pn	Pn	14 25 04.5	+0.2
	comp=E,7.8nm,1.6s						
VOSK				⇓Lg	Lg	14 28 49.6	
	comp=E,21nm,1.9s						
ZALV	Zalesovo Beam	13.69	14	Pn	Pn	14 25 11.7	+1.4
	comp=E,0.1nm,0.3s,baz=198,slow=13,SNR=6.5						
ZALV				Lg	Lg	14 29 09.6	
	comp=E,0.1nm,0.3s,baz=218,slow=26,SNR=2.8						
ZALV				LR	LR	14 30 43.0	
	comp=E,38nm,19.3s,baz=88,slow=38						
BVA0	Borovoye Array	13.69	337	⇓Pn	Pn	14 25 09.1	-1.3
	comp=E,0.7nm,1.0s,baz=164,slow=11,SNR=4.5						
BVA0				⇑Lg	Lg	14 29 04.6	
	comp=E,2.8nm,1.4s,baz=145,slow=28,SNR=4.1						
BVAR	Borovoye Array	13.69	337	Pn	Pn	14 25 10.1	-0.3
	comp=E,0.2nm,0.3s,baz=151,slow=14,SNR=4.9						
BVAR				Lg	Lg	14 29 03.2	
	comp=E,0.2nm,0.3s,baz=213,slow=42,SNR=2.2						
BVAR				LR	LR	14 30 36.2	
	comp=E,65nm,18.6s,baz=117,slow=38						
BRVK	Borovoye	13.75	336	⇓Pn	Pn	14 25 08.0	-3.1
	comp=E,5.4nm,0.9s						
BRVK				⇑Lg	Lg	14 29 08.6	
	comp=E,41nm,1.8s						
ZRNK	Zerenda	14.07	333	⇓Pn	Pn	14 25 13.7	-1.8
	comp=E,6.6nm,1.6s						
ZRNK				⇓Lg	Lg	14 29 20.1	
	comp=E,11nm,1.3s						
GTA	Gaotai	15.72	88	*e*P	P	14 25 39.4	-2.5
GTA				pP	pP	14 25 44.7	-0.1
GTA				sP	sP	14 25 48.4	+2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AB31	Akbulak array	16.10	308	⇑P	Pn	14 25 43.0	+0.4
	comp=Z,1.4nm,1.0s,baz=114,slow=11,SNR=12						
SONM	Songino Array	20.54	61	P	Pn	14 26 37.5	+0.4
	comp=Z,1.7nm,0.6s,baz=257,slow=11,SNR=28						
BRTR	Keskin Array B	34.60	284	P	P	14 28 47.1	+1.6
	comp=Z,0.6nm,0.7s,baz=91,slow=8.4,SNR=3.9						
NOA	NORSAR Array B	45.09	320	LR	LR	14 49 46.3	
	comp=Z,25nm,19.5s,baz=220,slow=37						
YKA	Yellowknife Ar	76.47	7	P	P	14 33 45.6	-0.2
	comp=Z,0.3nm,0.6s,baz=344,slow=5.6,SNR=7.3						

IDC 02 14:26:08.0±4.0, 2°.33S×101°.89E, h0^{km}, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=165.5km s-min=24.5km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.20	121	P	P	14 33 12.7	-0.2
	0.1nm,0.3s,baz=299,slow=9.9,SNR=6.4						
ASAR	Alice Springs	37.54	127	P	P	14 33 24.1	-0.1
	0.2nm,0.4s,baz=301,slow=7.6,SNR=9.8						
SONM	Songino Array	50.11	4	P	P	14 35 05.6	+0.6
	0.5nm,0.8s,baz=186,slow=8.3,SNR=4.4						
MKAR	Makanchi Array	51.87	343	P	P	14 35 17.4	-0.8
	0.1nm,0.4s,baz=155,slow=9.3,SNR=4.0						

*IDC **02** 14:26:07.9±1.4, 19°.14S×177°.56W, h576^{km}±16^{km}, mb3.5/11, mb1 3.7/13, mb1mx3.5/25, mbtmp3.6/13, Error ellipse: s-maj=18.3km s-min=12.1km az=150.0*
*ISCJB **02** 14:26:08.1±0.5, 19°.1S±0°.1×177°.56W±0°.09, h600^{km}, mb4.0/11, Error ellipse: s-maj=17.5km s-min=7.5km az=151.1*
*AUST **02** 14:26:09.1, 19°.45S×177°.29W, h600^{km}*
ISC 02 14:26:09.3±0.6, 19°.1S±0°.1×177°.50W±0°.10, h600^{km}, n35, σ0^{s}97/37, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	7.17	91	P	P	14 28 00.4	-0.4
	baz=7.0,SNR=4.1						
AFI	Afiamalu	7.51	48	P	P	14 28 02.9	-1.3
	26nm,0.3s,baz=95,slow=1.0,SNR=65						
AFI				S	S	14 29 35.9	-2.4
	2.3nm,0.3s,baz=57,slow=23,SNR=4.6						
DZM	Mont Dzumac	15.33	256	P	P	14 29 21.1	+0.5
	0.5nm,0.3s,baz=84,slow=16,SNR=7.7						
ARMA	Armidale	30.13	242	P	P	14 31 31.8	-0.4
	baz=30,SNR=6.7						
RMQ	Roma	31.90	250	P	P	14 31 47.2	-0.1
	baz=32,SNR=4.2						
CNB	Canberra Magne	33.43	234	P	P	14 31 59.6	-0.5
	baz=33,SNR=6.9						
CTA	Charters Tower	34.12	262	P	P	14 32 05.7	-0.4
	11nm,0.8s,baz=95,slow=11,SNR=12						
MILA	Mila	34.22	231	S	S	14 37 08.1	+16
	baz=34,SNR=5.3						
CMSA	Cobar Meteorol	35.35	242	P	P	14 32 15.2	-0.9
	baz=35,SNR=16						
PMG	Port Moresby	35.51	281	P	P	14 32 18.1	+0.6
	9.9nm,0.9s,baz=116,slow=6.2,SNR=4.4						
QLP	Quilpie	35.95	251	P	P	14 32 20.2	-0.9
	baz=36,SNR=20						
TOO	Toolangi	37.13	232	P	P	14 32 30.1	-0.5
	baz=37,SNR=13						
STKA	Stephens Creek	38.84	243	P	P	14 32 43.6	-0.9
	21nm,0.8s,baz=91,slow=9.1,SNR=44						
STKA	Stephens Creek	38.84	243	P	P	14 32 44.0	-0.6
	baz=39,SNR=39						
ARPS	Mount Arapiles	39.68	235	P	P	14 32 50.5	-0.6
	baz=40,SNR=5.6						
QIS	Mount Isa	40.30	260	P	P	14 32 55.5	-0.8
	baz=40,SNR=5.1						
BBOO	Buckleboo	43.61	242	P	P	14 33 21.2	-0.9
	baz=44,SNR=39						
WRA	Warramunga Arr	45.28	261	P	P	14 33 33.7	-1.4
	7.2nm,0.6s,baz=97,slow=7.9,SNR=196						
WRA				PcP	PcP	14 35 01.8	-0.1
	1.4nm,0.8s,baz=92,slow=4.0,SNR=5.2						
ASAR	Alice Springs	45.32	255	P	P	14 33 34.5	-0.9
	22nm,0.8s,baz=88,slow=8.0,SNR=319						
ASAR				PcP	PcP	14 35 02.1	+0.1
	2.2nm,0.8s,baz=104,slow=4.3,SNR=7.2						
KDU	Kakadu	48.40	270	P	P	14 33 57.9	-0.6
	baz=49,SNR=7.2						
KDU				S	S	14 40 24.6	+8.4
	baz=49,SNR=4.0						
MTN	Manton Dam	49.63	269	P	P	14 34 06.4	-1.2
	baz=50,SNR=14						
SWI	Sorong	53.35	284	P	P	14 34 34.7	+0.5
	baz=54,SNR=4.2						
FITZ	Fitzroy Crossi	53.69	261	P	P	14 34 36.4	-0.3
	5.9nm,0.6s,baz=145,slow=4.4,SNR=23						
FITZ	Fitzroy Crossi	53.69	261	P	P	14 34 36.4	-0.3
	baz=54,SNR=10						
MEEK	Meekatharra	58.84	250	P	P	14 35 10.2	-1.6
	baz=59,SNR=5.5						
VNDA	Vanda	59.37	185	P	P	14 35 15.0	+0.5
	2.0nm,1.0s,baz=0.2,slow=3.1,SNR=3.9						
QSPA	South Pole Qui	71.00	180	P	P	14 36 27.5	+0.1
	7.0nm,0.8s,baz=43,slow=2.9,SNR=26						
ILAR	Eielson Array	86.82	13	P	P	14 37 51.4	+0.9
	0.2nm,0.4s,baz=232,slow=4.9,SNR=9.1						
PDAR	Pinedale Array	87.60	43	P	P	14 37 57.3	+2.2
	0.3nm,0.6s,baz=285,slow=3.5,SNR=3.6						
CMAR	Chiang Mai Arr	90.08	289	P	P	14 38 08.8	+2.0
	1.4nm,0.8s,baz=135,slow=2.9,SNR=8.7						
ZALV	Zalesovo Beam	109.67	322	PKiKP	PKiKP	14 43 32.3	-0.2
	0.3nm,0.4s,baz=41,slow=4.6,SNR=2.8						
MKAR	Makanchi Array	110.55	314	PKiKP	PKiKP	14 43 34.3	-0.2
	0.4nm,0.5s,baz=169,slow=0.3,SNR=11						
ARCES	ARCESS Array B	127.60	350	PKP	PKPdf	14 44 06.2	-0.3
	3.4nm,0.9s,baz=260,slow=3.5,SNR=5.5						
BRTR	Keskin Array B	146.20	314	PKPbc	PKPbc	14 44 44.1	+0.3
	1.5nm,0.6s,baz=141,slow=4.8,SNR=7.7						
GERES	GERESS Array B	148.94	346	PKPbc	PKPbc	14 44 51.6	+1.1
	1.7nm,0.7s,baz=29,slow=3.0,SNR=12						

*IDC **02** 14:31:17.6±3.8, 4°.73S×102°.77E, h0^{km}, mb3.4/5, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=165.3km s-min=21.3km az=54.0*
*ISCJB **02** 14:31:22.9±1.1, 4°.93S±0°.08×102°.73E±0°.10, h59^{km}, mb3.5/5, MS3.2/2, Error ellipse: s-maj=15.4km s-min=8.1km az=146.0*
*DJA **02** 14:31:26.5±1.5, 5°S±11°×10°3E±1°0, h36^{km}±7^{km}, M3.5/3, MLv3.5/3*
ISC 02 14:31:25.3±1.6, 4°.8S±0°.2×102°.8E±0°.2, h59^{km}, n10, σ0^{s}69/11, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	Manna	0.47	15	P	Pn	14 31 36.6	-0.3
MNAI				S	Sn	14 31 45.5	+0.3
KSI	Kapahiang	1.18	348	P	Pn	14 31 46.1	+0.3
KSI				S	Sn	14 32 01.8	+0.8
LWLI	Liwa	1.23	99	P	Pn	14 31 47.2	+0.7
LWLI				S	Sn	14 32 01.5	-0.8
FITZ	Fitzroy Crossi	25.91	122	LR	LR	14 46 26.2	
	comp=Z,43nm,20.3s,baz=155,slow=35						
WRA	Warramunga Arr	34.15	119	P	P	14 38 05.8	+0.8
	0.3nm,0.7s,baz=310,slow=8.8,SNR=3.4						
ASAR	Alice Springs	35.32	125	P	P	14 38 15.4	+0.2
	0.2nm,0.7s,baz=299,slow=7.7,SNR=3.5						
STKA	Stephens Creek	45.18	131	LR	LR	15 00 27.0	
	comp=Z,54nm,19.2s,baz=205,slow=39						
SONM	Songino Array	52.52	3	P	P	14 40 32.5	-0.1
	0.3nm,0.7s,baz=185,slow=10,SNR=2.8						
MKAR	Makanchi Array	54.51	343	P	P	14 40 46.3	-0.8
	0.4nm,0.5s,baz=150,slow=8.7,SNR=11						
ZALV	Zalesovo Beam	60.47	348	P	P	14 41 28.2	-0.7
	0.4nm,0.4s,baz=169,slow=8.2,SNR=4.7						

MAN 02 14:32:00, 9°.42N×125°.78E, h31^{km}, mb4.4, ML3.2, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.48	199	*e*P	Pn	14 32 11.5	+0.8
BUTP				*e*S	Sn	14 32 19.8	+1.8
MSLP	Maasin	1.15	308	*e*P	Pn	14 32 20.4	+0.4
MSLP				*e*S	Sn	14 32 32.5	-2.2
CGP	Cagayan de Oro	1.44	228	*e*P	Pn	14 32 25.1	+1.1
CGP				*e*S	Sb	14 32 43.1	-1.2
BUKP	Musuan	1.69	205	*e*P	Pb	14 32 31.0	+0.4
TBP	Tagbilaran	1.91	278	*e*P	Pn	14 32 32.0	+1.6
TBP				*e*S	Sn	14 32 50.1	-3.3

IDC 02 14:40:08.6±2.4, 4°.76N×127°.49E, h0^{km}, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=169.7km s-min=28.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.45	165	P	P	14 45 39.0	+0.5
	0.4nm,0.7s,baz=345,slow=10,SNR=5.0						
ASAR	Alice Springs	28.94	168	P	P	14 46 09.4	-0.5
	0.1nm,0.5s,baz=356,slow=7.8,SNR=3.8						
MKAR	Makanchi Array	57.16	325	P	P	14 49 57.3	-0.1
	0.2nm,0.5s,baz=116,slow=8.4,SNR=4.2						

NDI 02 14:48:51.1±2.5, 30°.88N×79°.96E, h10^{km}, ML2.9, 2D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDI	Dehra Dun	1.73	252	*e*P	Pn	14 49 21.0	-0.4
DDI				*e*x	Sn	14 49 37.0	-6.7
SMLA	Simla	2.41	277	*e*x	Pn	14 49 34.8	+4.2
SMLA				*i* S	Sn	14 50 00.4	+0.2
SMLA				*i* S	Sn	14 50 00.7	+0.5
SMLA				⇓AML	AML	14 50 04.3	
	comp=N,1μm,0.4s						
SMLA				⇓AML	AML	14 50 04.3	
	comp=E,1μm,0.3s						
AYAN	Aya Nagar	3.43	227	*e*S	Sn	14 50 22.7	-2.7
SONA	Sohna	3.63	224	*e*P	Pn	14 49 48.2	+0.9
SONA				*e*S	Sn	14 50 29.7	-0.5
SONA				AML	AML	14 50 37.7	
	comp=E,16nm,0.2s						
SONA				AML	AML	14 50 39.0	
	comp=N,8.5nm,0.3s						
KHET	Khetri	4.58	233	*e*S	Sn	14 50 51.2	-2.5
KHET				AML	AML	14 51 11.0	
	comp=E,6.4nm,0.1s						
KHET				AML	AML	14 51 12.0	
	comp=N,11nm,0.1s						

*ISCJB **02** 14:53:21.9±0.4, 43°.78N±0°.06×145°.22E±0°.06, h129^{km}±3^{km}, mb3.3/8, Error ellipse: s-maj=10.0km s-min=6.8km az=166.0*
*JMA **02** 14:53:22.9±0.1, 43°.77N×145°.23E, h124^{km}±1^{km}, M3.2*
JMA Felt I J1.
*IDC **02** 14:53:24.1±1.9, 43°.84N×145°.12E, h133^{km}±14^{km}, mb3.2/9, mb1 3.4/12, mb1mx3.2/30, mbtmp3.2/12, MS2.4/1, Ms1 2.4/1, ms1mx1.9/21, Error ellipse: s-maj=30.8km s-min=13.8km az=153.0*
ISC 02 14:53:22.8±0.7, 43°.76N±0°.07×145°.23E±0°.05, h123^{km}±6^{km}, n26, σ0^{s}64/38, mb3.3/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JRA	Rausu	0.19	337	P	Pn	14 53 40.0	+0.2
JRA				*e*S	Sn	14 53 52.8	+0.2
JNK	Nakash	0.41	244	P	Pn	14 53 40.9	+0.3
JNK				*e*S	Sn	14 53 54.5	+0.4
NEM2	Nemuro 2	0.55	136	P	Pn	14 53 41.5	+0.1
NEM2				*e*S	Sn	14 53 55.1	-0.3
JAK	Akkeshi	0.86	207	P	Pn	14 53 44.2	+0.4
JAK				S	Sn	14 53 59.9	+0.3
JTKR	Abashiri--Toko	0.97	283	P	Pn	14 53 45.0	+0.2
JTKR				*e*S	Sn	14 54 00.9	-0.6
JAR	Ashorobuto	1.16	247	P	Pn	14 53 47.2	+0.5
JAR				*e*S	Sn	14 54 05.7	+0.9
JOB	Onbets	1.33	230	P	Pn	14 53 49.2	+0.7
JOB				*e*S	Sn	14 54 08.5	+0.5
JMP	Maruseppu	1.37	281	P	Pn	14 53 49.1	+0.1
JMP				*e*S	Sn	14 54 08.5	-0.4
JCH	Churui	1.78	230	P	Pn	14 53 54.0	+0.2
JCH				*e*S	Sn	14 54 16.3	-1.1
JKK2	Kamakawa 2	1.80	274	P	Pn	14 53 54.3	+0.4
JKK2				*e*S	Sn	14 54 17.7	0.0
ASAJ	Asahikawa	1.93	281	P	Pn	14 53 56.4	+0.9
	62nm,0.3s,baz=95,slow=11,SNR=1072						
ASAJ				S	Sn	14 54 21.3	+0.7
	4.3nm,0.3s,baz=351,slow=28,SNR=7.5						
ASAJ	Asahikawa	1.93	281	P	Pn	14 53 56.3	+0.8
ASAJ				*e*S	Sn	14 54 21.2	+0.7
JFR	Furan	2.01	254	P	Pn	14 53 57.1	+0.6
JFR				*e*S	Sn	14 54 22.5	+0.2
MJAR	Matsushiro Arr	8.99	219	P	Pn	14 55 30.1	+0.4
	0.2nm,0.3s,baz=17,slow=13,SNR=4.9						
USRK	Ussuriysk Arra	9.55	277	LR	LR	14 58 44.3	
	comp=Z,27nm,21.4s,baz=214,slow=34						
PETK	Petropavlovsk-	12.47	37	P	Pn	14 56 15.4	-0.4
	0.5nm,0.3s,baz=212,slow=10,SNR=10						
KSRS	Korea Array	14.56	250	P	Pn	14 56 41.7	-1.2
	0.1nm,0.3s,baz=65,slow=11,SNR=3.2						
FX1	Attu Island--F	20.58	54	P	P	14 57 53.6	+1.9
	21nm,0.9s,baz=317,slow=13,SNR=2.7						
SONM	Songino Array	27.18	292	P	P	14 58 54.0	-0.7
	0.2nm,0.4s,baz=84,slow=8.0,SNR=5.1						

ILAR	**Eielson Array**	**42.30**	**36**	P	**P**	**15 01 03.9**	**+0.1**
	1.0nm,0.5s,baz=254,slow=5.7,SNR=19						
MKAR	**Makanchi Array**	**43.34**	**297**	P	**P**	**15 01 11.9**	**-0.6**
	0.2nm,0.5s,baz=82,slow=8.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**46.20**	**252**	P	**P**	**15 01 35.7**	**+0.3**
	0.2nm,0.4s,baz=51,slow=7.1,SNR=3.2						
INK	**Inuvik**	**47.09**	**30**	P	**P**	**15 01 41.0**	**-0.6**
	0.8nm,0.5s,baz=284,slow=7.5,SNR=10						
RES	**Resolute Bay**	**55.35**	**16**	P	**P**	**15 02 42.7**	**-0.4**
	0.4nm,0.4s,baz=315,slow=9.2,SNR=4.4						
YKA	**Yellowknife Ar**	**56.56**	**33**	P	**P**	**15 02 52.3**	**+0.3**
	0.1nm,0.3s,baz=301,slow=6.6,SNR=5.1						
PDAR	**Pinedale Array**	**70.96**	**49**	P	**P**	**15 04 27.5**	**+0.6**
	0.3nm,0.6s,baz=316,slow=7.6,SNR=2.9						

---

*BJI **02** 15:05:01.3, 30°.65N×67°.48E, h16km, mB5.0/25, mb4.7/40, Ms4.5/22, Ms7 4.3/26*

*IDC **02** 15:05:01.1±0.6, 30°.43N×67°.62E, h0km, mb4.4/35, mb1 4.5/38, mb1mx4.4/43, mbtmp4.4/38, ML4.2/3, MS3.8/19, Ms1 3.8/19, ms1mx3.4/55, Error ellipse: s-maj=15.1km s-min=10.4km az=7.0*

*SZGRF **02** 15:05:01.9, 30°.28N×67°.91E, h33km, mb4.8, Pakistan*

*NEIC **02** 15:05:02.7±0.2, 30°.52N×67°.78E, h10km, mb5.0/34, Error ellipse: s-maj=6.4km s-min=3.7km az=199.0*

*ISCJB **02** 15:05:02.3±0.2, 30°.52N±0°.03×67°.72E±0°.02, h15km, mb4.6/111, MS3.9/32, Error ellipse: s-maj=4.7km s-min=2.8km az=6.6*

*MOS **02** 15:05:04.9±1.1, 30°.58N×67°.76E, h33km, mb5.0/50, Error ellipse: s-maj=5.8km s-min=3.7km az=107.1*

ISC 02 15:05:04.4±0.4, **30°.47N**±0°.04×**67°.67E**±0°.03, **h17**km±2km, **n366**, σ**1s.48**/398, **mb4.7**/111, **MS3.8**/33, **21C-18D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**4.18**	**55**	P	**Pn**	**15 06 08.2**	**+0.8**
SARP	**Sargodha**	**4.53**	**70**	P	**Pb**	**15 06 24.1**	**+0.7**
CEP	**Cherat**	**4.91**	**46**	P	**Pn**	**15 06 19.4**	**+1.8**
CEP				S	**Sn**	**15 07 17.0**	**+2.8**
CHCP	**Chirah Chowk**	**5.71**	**55**	P	**Pn**	**15 06 29.5**	**+0.9**
THN	**Thein Dam**	**7.15**	**72**	*e*P	**Pn**	**15 06 48.8**	**+0.6**
THN				*e*x	**Sn**	**15 08 08.2**	**-0.9**
AJM	**Ajmer**	**7.31**	**121**	*e*x	**Pn**	**15 06 50.0**	**-0.5**
AJM				*i* S	**Sn**	**15 08 10.0**	**-3.2**
DLH	**Dalhousie**	**7.38**	**72**	*e*P	**Pn**	**15 06 53.0**	**+1.4**
DLH				*e*x	**Sn**	**15 08 18.0**	**+2.9**
BHK	**Bhakra**	**7.57**	**81**	*e*P	**Pn**	**15 06 54.0**	**-0.1**
SDNR	**Sundarnagar**	**8.05**	**80**	*e*P	**Pn**	**15 07 00.5**	**-0.2**
SDNR				*e*x	**Sn**	**15 08 31.5**	**+0.1**
SMLA	**Simla**	**8.20**	**83**	*e*P	**Pn**	**15 07 03.4**	**+0.8**
SMLA				*e*S	**Sn**	**15 08 29.4**	**-5.4**
SMLA				⇓AML	AML	15 08 40.1	
	comp=E,1μm,0.3s						
SMLA				⇓AML	AML	15 08 40.3	
	comp=N,1μm,0.4s						
NDI	**New Delhi**	**8.50**	**100**	*e*P	**Pn**	**15 07 08.0**	**+1.2**
NDI				*e*S	Sn	15 08 35.0	-7.4
WSAR	**Wadi Sarin**	**10.81**	**230**	Pn	Pn	15 07 35.0	-3.6
	comp=N,0.8nm,0.3s,baz=180,slow=20,SNR=15						
WSAR				Sn	Sn	15 09 28.7	-10
	comp=N,2.0nm,0.3s,baz=281,slow=9.4,SNR=6.3						
WSAR	**Wadi Sarin**	**10.81**	**230**	Pn	Pn	15 07 35.0	-3.6
WSAR				Sn	Sn	15 09 28.7	-10
KSH	**Kashi**	**11.30**	**35**	P	Pn	15 07 40.6	-4.7
KSH				pP		15 07 44.1	
KSH				sP		15 07 47.3	
KSH				S	Sn	15 09 33.7	-18
KSH				S		15 09 41.4	
KSH				sS		15 09 47.6	
KSH				PcP	**PcP**	**15 13 39.8**	**+0.3**
KSH				ScP	**ScP**	**15 17 11.5**	**0.0**
KSH				PcS	**PcS**	**15 17 13.4**	**-0.1**
KSH				ScS	**ScS**	**15 20 42.3**	**-4.7**
KSH				pmax	pmax		
	comp=Z,98nm,1.4s						
KSH				LR	LR		
	comp=N,2μm,9.7s						
KSH				LR	LR		
	comp=E,900nm,8.2s						
KSH				LR	LR		
	comp=Z,1μm,13.2s						
AML	**Almayashu**	**12.61**	**21**	*i* P	**Pn**	**15 08 02.4**	**-0.9**
AML	**Almayashu**	**12.61**	**21**	P	**Pn**	**15 08 02.4**	**-0.9**
	SNR=56						
KK31	**Karatay Array**	**12.81**	**9**	*ce*P	**Pn**	**15 08 06.4**	**+0.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR	**Karatay Array**	**12.81**	**9**	*e*P	**Pn**	**15 08 05.7**	**-0.1**
KKAR	**Karatay Array**	**12.81**	**9**	*e*Pn	**Pn**	**15 08 05.7**	**-0.1**
KZA	**Kyzart**	**13.09**	**26**	*i* P	**Pn**	**15 08 08.3**	**-1.7**
KZA	**Kyzart**	**13.09**	**26**	P	**Pn**	**15 08 08.3**	**-1.7**
	SNR=14						
EKS2	**Erkin-Say**	**13.12**	**20**	*e*P	**Pn**	**15 08 09.0**	**-1.1**
EKS2	**Erkin-Say**	**13.12**	**20**	*e*Pn	**Pn**	**15 08 09.0**	**-1.1**
EKS2	**Erkin-Say**	**13.12**	**20**	P	**Pn**	**15 08 09.8**	**-0.3**
	SNR=30						
POO	**Poona**	**13.15**	**153**	*e*x	Pn	15 08 15.0	+4.5
POO				*i* x	**Sn**	**15 10 40.0**	**+3.6**
AAK	**Ala-Archa**	**13.31**	**22**	Pn	**Pn**	**15 08 12.4**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=201,slow=3.4,SNR=38						
AAK				Sn	**Sn**	**15 10 39.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=327,slow=22,SNR=3.6						
AAK				LR	LR	15 13 49.0	
	comp=Z,186nm,19.0s,baz=212,slow=40						
AAK	**Ala-Archa**	**13.31**	**22**	*i* P	**Pn**	**15 08 11.7**	**-1.1**
AAK	**Ala-Archa**	**13.31**	**22**	Pn	**Pn**	**15 08 12.4**	**-0.4**
AAK				Sn	**Sn**	**15 10 39.0**	**-1.5**
AAK	**Ala-Archa**	**13.31**	**22**	P	**Pn**	**15 08 11.8**	**-1.1**
	SNR=19						
KBK	**Karagaybulak**	**13.49**	**24**	*i* P	**Pn**	**15 08 15.2**	**0.0**
KBK	**Karagaybulak**	**13.49**	**24**	P	**Pn**	**15 08 15.2**	**0.0**
	SNR=9.5						
FRU	**Bishkek**	**13.53**	**22**	*e*P	**Pn**	**15 08 15.0**	**-0.7**
FRU				pmax	pmax		
	comp=Z,67nm,2.0s						
PYUN	**Piuthan**	**13.58**	**96**	*e*P	Pn	15 08 13.2	-3.3
	comp=Z,52nm,0.5s						
PYUN	**Piuthan**	**13.58**	**96**	*e*P	Pn	15 08 13.2	-3.3
	comp=Z,52nm,0.5s						
CHMS	**Chumysh**	**13.73**	**22**	*i* P	**Pn**	**15 08 17.4**	**-0.9**
CHMS	**Chumysh**	**13.73**	**22**	P	**Pn**	**15 08 17.4**	**-0.9**
	SNR=13						
NGP	**Nagpur**	**13.82**	**130**	*e*P	Pn	15 08 13.5	-6.1
NGP				*e*S	Sn	15 10 43.6	-9.1
USP	**Ospenovka**	**13.89**	**21**	*i* P	**Pn**	**15 08 17.4**	**-3.1**
USP	**Ospenovka**	**13.89**	**21**	P	**Pn**	**15 08 18.8**	**-1.7**
	SNR=14						
TKM2	**Tokmak 2**	**13.95**	**25**	*i* P	**Pn**	**15 08 19.7**	**-1.8**
TKM2	**Tokmak 2**	**13.95**	**25**	P	**Pn**	**15 08 19.8**	**-1.8**
	SNR=28						
KOLN	**Koldanda**	**14.18**	**97**	*e*P	**Pn**	**15 08 21.8**	**-3.0**
	comp=Z,46nm,0.7s						
KOLN	**Koldanda**	**14.18**	**97**	*e*P	**Pn**	**15 08 21.8**	**-3.0**
	comp=Z,46nm,0.7s						
DANN	**Dangsing**	**14.19**	**95**	*e*P	Pn	15 08 21.6	-3.3
	comp=Z,98nm,0.7s						
DANN	**Dangsing**	**14.19**	**95**	*e*P	Pn	15 08 21.6	-3.3
	comp=Z,98nm,0.7s						
GKN	**Gorkha**	**15.02**	**95**	*e*P	Pn	15 08 31.6	-4.5
	comp=Z,40nm,0.6s						
GKN	**Gorkha**	**15.02**	**95**	*e*P	Pn	15 08 31.6	-4.5
	comp=Z,40nm,0.6s						
DMN	**Daman**	**15.52**	**96**	*e*P	**Pn**	**15 08 39.9**	**-2.9**
DMN	**Daman**	**15.52**	**96**	*e*P	**Pn**	**15 08 39.9**	**-2.9**
KKN	**Kakani**	**15.62**	**95**	*e*P	**Pn**	**15 08 41.0**	**-3.1**
KKN	**Kakani**	**15.62**	**95**	*e*P	**Pn**	**15 08 41.0**	**-3.1**
KKN	**Kakani**	**15.62**	**95**	*e*P	**Pn**	**15 08 41.0**	**-3.1**
PKI	**Pulchoki**	**15.79**	**96**	*e*P	**Pn**	**15 08 43.5**	**-2.8**
	comp=Z,55nm,0.8s						
PKI	**Pulchoki**	**15.79**	**96**	*e*P	**Pn**	**15 08 43.5**	**-2.8**
PKI				pmax	pmax		
	comp=Z,55nm,0.8s						
PKI	**Pulchoki**	**15.79**	**96**	*e*P	**Pn**	**15 08 43.5**	**-2.8**
	comp=Z,55nm,0.8s						
GUN	**Gumba**	**16.11**	**95**	*e*P	**Pn**	**15 08 45.9**	**-4.6**
	comp=Z,286nm,0.9s						
GUN	**Gumba**	**16.11**	**95**	*e*P	**Pn**	**15 08 45.9**	**-4.6**
	comp=Z,286nm,0.9s						
HYB	**Hyderabad**	**16.35**	**140**	P	**Pn**	**15 08 54.0**	**+0.7**
HYB	**Hyderabad**	**16.35**	**140**	P	**Pn**	**15 08 54.0**	**+0.7**
HYB				*e*		15 08 57.0	
HYB				S	S	15 12 20.0	+13
HYB	**Hyderabad**	**16.35**	**140**	*i* P	**Pn**	**15 08 54.0**	**+0.7**
HYB				*e*sP	sP	15 08 57.0	-6.0
HYB				*e*S	**S**	**15 12 08.0**	**+1.2**
JIRN	**Jiri**	**16.43**	**95**	*e*P	**Pn**	**15 08 51.8**	**-2.9**
JIRN	**Jiri**	**16.43**	**95**	*e*P	**Pn**	**15 08 51.8**	**-2.9**
RAMN	**Ramite**	**16.97**	**97**	*e*P	**Pn**	**15 08 58.8**	**-2.6**
	comp=Z,106nm,0.7s						
RAMN	**Ramite**	**16.97**	**97**	*e*P	**Pn**	**15 08 58.8**	**-2.6**
	comp=Z,106nm,0.7s						
ODAN	**Odare**	**17.68**	**97**	*e*P	**Pn**	**15 09 07.9**	**-2.2**
	comp=Z,144nm,1.0s						
ODAN	**Odare**	**17.68**	**97**	*e*P	**Pn**	**15 09 07.9**	**-2.2**
	comp=Z,144nm,1.0s						
TAPN	**Taplejung**	**17.82**	**95**	*e*P	**Pn**	**15 09 08.6**	**-3.4**
	comp=Z,129nm,1.2s						
TAPN	**Taplejung**	**17.82**	**95**	*e*P	**Pn**	**15 09 08.6**	**-3.4**
	comp=Z,129nm,1.2s						
AB31	**Akbulak array**	**19.66**	**345**	*ce*P	**P**	**15 09 32.7**	**+0.3**
AB31				pmax	pmax		
	comp=Z,18nm,0.6s						
ABKAR	**Akbulak array**	**19.66**	**345**	*e*Pn	**P**	**15 09 32.8**	**+0.4**
MK31	**Makanchi Array**	**19.85**	**31**	*ce*P	**P**	**15 09 33.2**	**-1.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	**19.85**	**31**	P	**P**	**15 09 33.2**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=211,slow=10,SNR=72						
MKAR				LR	LR	15 18 45.6	
	comp=Z,301nm,18.2s,baz=214,slow=41						
MKAR	**Makanchi Array**	**19.85**	**31**	*ce*P	**P**	**15 09 33.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**19.85**	**31**	*e*P	**P**	**15 09 33.2**	**-1.3**
LSA	**Lhasa**	**20.33**	**86**	P	**P**	**15 09 41.3**	**+0.9**
WMQ	**Urumqi**	**20.73**	**44**	P	Pn	15 09 45.4	-1.1
WMQ				sP	sP	15 09 50.8	-0.2
WMQ				PP	**PnPn**	**15 10 07.6**	**+5.4**
WMQ				S	**S**	**15 13 32.0**	**-3.0**
WMQ				sS	Sn	15 13 38.8	-1.3
WMQ				SS	**SnSn**	**15 14 03.6**	**+8.8**
WMQ				pmax	pmax		
	comp=Z,35nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.0s						
WMQ				LR	LR		
	comp=N,390nm,25.0s						
WMQ				LR	LR		
	comp=E,190nm,20.0s						
WMQ				LR	LR		
	comp=Z,270nm,19.6s						
RAYN	**Ar Rayn**	**20.91**	**256**	P	**P**	**15 09 44.0**	**-2.2**
	comp=Z,108nm,0.7s,SNR=7.3						
GNI	**Garni**	**21.01**	**304**	P	**P**	**15 09 44.9**	**-2.3**
	comp=Z,4.0nm,0.4s,baz=258,slow=15,SNR=2.3						
GNI				LR	LR	15 19 11.9	
	comp=Z,82nm,18.2s,baz=243,slow=40						
GNI	**Garni**	**21.01**	**304**	*e*P	**P**	**15 09 45.3**	**-2.0**
	comp=Z,65nm,1.5s						
AKTO	**Aktyubinsk**	**21.22**	**343**	P	**P**	**15 09 49.2**	**-0.1**
	comp=Z,16nm,0.8s,baz=163,slow=10,SNR=56						
AKTO				LR	LR	15 19 20.7	
	comp=Z,166nm,18.1s,baz=156,slow=40						
AKTO	**Aktyubinsk**	**21.22**	**343**	P	**P**	**15 09 49.2**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,16nm,0.8s						
AKTO				MLR	MLR		
	comp=Z,166nm,18.1s						
AKTO	**Aktyubinsk**	**21.22**	**343**	P	**P**	**15 09 49.2**	**-0.1**
KURBB	**Kurchatov Arra**	**21.71**	**19**	P	**P**	**15 09 53.4**	**-1.2**
	comp=Z,28nm,0.9s,baz=211,slow=10,SNR=53						
KURBB				LR	LR	15 19 22.3	
	comp=Z,199nm,19.5s,baz=200,slow=40						
KURK	**Kurchatov**	**21.82**	**19**	P	**P**	**15 09 53.4**	**-2.3**
KURK				pmax	pmax		
	comp=Z,28nm,1.0s						
KURK				MLR	MLR		
	comp=Z,199nm,19.5s						
KURK	**Kurchatov**	**21.82**	**19**	P	**P**	**15 09 53.4**	**-2.3**
SHL	**Shillong**	**21.91**	**97**	*e*P	**P**	**15 10 00.0**	**+2.9**
SHL				*e*x	x	15 14 04.0	
VOSK	**Vostochnaya**	**22.37**	**5**	P	**P**	**15 10 00.4**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,21nm,1.0s						
ZEI	**Tsey**	**22.60**	**309**	*e*P	**P**	**15 10 05.7**	**+1.2**
ZEI				pmax	pmax		
	comp=Z,18nm,1.4s						
BVA0	**Borovoye Array**	**22.63**	**4**	*i* P	**P**	**15 10 03.7**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	**Borovoye Array**	**22.63**	**4**	P	**P**	**15 10 04.0**	**-0.4**
	comp=Z,28nm,1.1s,baz=165,slow=12,SNR=47						
BVAR	**Borovoye Array**	**22.63**	**4**	P	**P**	**15 10 04.0**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,28nm,1.1s						
BVAR	**Borovoye Array**	**22.63**	**4**	P	**P**	**15 10 04.0**	**-0.4**
BRVK	**Borovoye**	**22.65**	**4**	*e*P	**P**	**15 10 02.5**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,47nm,1.3s						
BRVK	**Borovoye**	**22.65**	**4**	*e*P	**P**	**15 10 02.5**	**-2.1**
	comp=Z,47nm,1.3s						
KBZ	**Khabaz**	**23.67**	**311**	P	**P**	**15 10 16.1**	**+1.0**
	comp=Z,7.8nm,1.0s,baz=106,slow=7.7,SNR=7.2						
KBZ	**Khabaz**	**23.67**	**311**	P	**P**	**15 10 16.1**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**23.67**	**311**	P	**P**	**15 10 16.1**	**+1.0**
KIV	**Kislovodsk**	**23.91**	**311**	*e*P	**P**	**15 10 17.7**	**+0.2**
KIV				*e*S	**S**	**15 14 32.8**	**-0.4**
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV				MLR	MLR		
	comp=Z,42nm,14.0s						
ASF	**Jabal al Asfar**	**26.30**	**282**	P	**P**	**15 10 41.5**	**+2.2**
	comp=Z,8.9nm,1.1s,baz=306,slow=3.6,SNR=4.1						
ASF	**Jabal al Asfar**	**26.30**	**282**	P	**P**	**15 10 41.5**	**+2.2**
ZALV	**Zalesovo Beam**	**26.54**	**23**	P	**P**	**15 10 40.0**	**-1.1**
	comp=Z,17nm,0.7s,baz=223,slow=9.0,SNR=52						
ZALV				LR	LR	15 22 13.5	
	comp=Z,157nm,18.4s,baz=242,slow=39						
ZALV	**Zalesovo Beam**	**26.54**	**23**	P	**P**	**15 10 40.0**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,17nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,157nm,18.4s						
ZALV	**Zalesovo Beam**	**26.54**	**23**	P	**P**	**15 10 40.0**	**-1.1**
ARU	**Arti**	**26.73**	**349**	*d i*P	**P**	**15 10 43.5**	**+0.7**
ARU						15 11 21.5	
ARU				S	**S**	**15 15 19.2**	**+1.6**
ARU				SS	**SnSn**	**15 16 22.2**	**+0.7**
ARU				pmax	pmax		
	comp=Z,24nm,1.2s						
ARU	**Arti**	**26.73**	**349**	*e*P	**P**	**15 10 43.0**	**+0.1**
	comp=Z,26nm,1.3s						
ARU	**Arti**	**26.73**	**349**	P	**P**	**15 10 43.7**	**+0.9**
	comp=Z,69nm,0.9s,SNR=5.3						
NVS	**Novosibirsk**	**26.79**	**20**	⇑*i*P	**P**	**15 10 44.7**	**+1.3**
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,15nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
SVE	**Sverdlovsk**	**26.81**	**351**	⇑*i*P	**P**	**15 10 44.1**	**+0.6**
SVE				*e*		15 11 28.0	
SVE				pmax	pmax		
	comp=Z,19nm,1.4s						
SVE				MLR	MLR		
	comp=Z,527nm,11.0s						
GTA	**Gaotai**	**27.70**	**62**	*e*P	**P**	**15 10 53.1**	**+1.2**
GTA				pP	**pP**	**15 10 57.9**	**+0.9**
GTA				sP	**sP**	**15 11 00.3**	**+1.2**
GTA				S	**S**	**15 15 36.3**	**+2.7**
GTA				sS	**sS**	**15 15 42.5**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,160nm,3.8s						
GTA				LR	LR		
	comp=N,270nm,17.1s						
GTA				LR	LR		
	comp=E,120nm,13.8s						
GTA				LR	LR		
	comp=Z,160nm,18.0s						
BRTR	**Keskin Array B**	**29.19**	**298**	P	**P**	**15 11 05.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=76,slow=6.1,SNR=3.5						
BRTR	**Keskin Array B**	**29.19**	**298**	P	**P**	**15 11 05.5**	**+0.3**
VORD	**Divnogorie**	**29.40**	**322**	*e*P	**P**	**15 11 05.9**	**-0.8**
VSR	**Storozhevoye**	**29.60**	**323**	*e*P	**P**	**15 11 08.1**	**-0.4**
VSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ATD	**Arta Tunnel**	**29.75**	**236**	LR	LR	15 24 19.3	
	comp=Z,111nm,20.7s,baz=60,slow=39						
CHTO	**Chiang Mai**	**30.60**	**105**	*e*P	**P**	**15 11 17.0**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**30.60**	**105**	*e*P	**P**	**15 11 17.0**	**-0.7**
	comp=Z,14nm,0.9s						
LZH	**Lanzhou**	**30.64**	**70**	*e*P	**P**	**15 11 19.0**	**+0.9**
LZH				pP	**pP**	**15 11 22.5**	**-0.7**
LZH				sP	**sP**	**15 11 24.7**	**-0.6**
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.77**	**106**	P	**P**	**15 11 19.1**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=303,slow=7.9,SNR=24						
CMAR				PcP	**PcP**	**15 14 17.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=286,slow=4.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**30.77**	**106**	P	**P**	**15 11 19.1**	**-0.1**
CMAR				PcP	**PcP**	**15 14 17.2**	**+0.6**
CD2	**Chengdu**	**30.96**	**80**	P	**P**	**15 11 22.2**	**+1.4**
CD2				pP	**pP**	**15 11 26.6**	**+0.7**
CD2				sP	**sP**	**15 11 29.2**	**+1.2**
CD2				PP	**PnPn**	**15 12 23.8**	**+2.2**
CD2				S	**S**	**15 16 25.3**	**+0.6**
CD2				sS	**sS**	**15 16 32.1**	**-1.0**
CD2				SS	**SnSn**	**15 18 08.3**	**+3.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,130nm,5.4s						
CD2				LR	LR		
	comp=N,340nm,7.7s						
CD2				LR	LR		
	comp=Z,230nm,5.9s						
KMI	**Kunming**	**31.40**	**91**	P	**P**	**15 11 25.8**	**+0.9**
KMI				pP	**pP**	**15 11 29.3**	**-0.8**
KMI				S	**S**	**15 16 32.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
MOY	**Mondy**	**32.43**	**40**	*e*P	**P**	**15 11 35.3**	**+1.7**
MOS	**Moscow**	**32.99**	**329**	*e*P	**P**	**15 11 35.8**	**-2.5**
MOS				pmax	pmax		
	comp=Z,57nm,1.0s						
OBN	**Obninsk**	**33.10**	**327**	*e*P	**P**	**15 11 39.5**	**+0.3**
OBN				*e*		15 14 17.0	
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
ZAK	**Zakamensk**	**33.18**	**43**	*e*P	P	15 11 30.7	-9.5
ZAK				*e*		15 11 40.6	
ZAK				*e*		15 12 43.0	
TLY	**Talaya**	**33.92**	**41**	*e*P	**P**	**15 11 49.0**	**+2.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,147nm,17.0s						
SONM	**Songino Array**	**34.24**	**49**	P	**P**	**15 11 50.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=250,slow=8.3,SNR=10.0						
SONM				LR	LR	15 27 52.3	
	comp=Z,204nm,18.7s,baz=252,slow=40						
SONM	**Songino Array**	**34.24**	**49**	P	**P**	**15 11 50.2**	**+0.7**
GYA	**Guiyang**	**34.40**	**87**	P	**P**	**15 11 51.8**	**+0.7**
GYA				PP	**PnPn**	**15 13 07.2**	**+1.4**
GYA				PcP	**PcP**	**15 14 27.6**	**+1.0**
GYA				S	**S**	**15 17 19.4**	**+0.9**
GYA				ScP	**ScP**	**15 18 12.0**	**+0.9**
GYA				SS	**SnSn**	**15 19 28.5**	**-0.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,550nm,16.6s						
GYA				LR	LR		
	comp=E,540nm,17.1s						
GYA				LR	LR		
	comp=Z,630nm,16.3s						
IRK	**Irkutsk**	**34.51**	**40**	*e*P	P	15 11 47.3	-4.2
IRK				pmax	pmax		
	comp=Z,17nm,1.6s						
FURI	**Furi**	**34.54**	**238**	*e*P	**P**	**15 11 53.6**	**+1.0**
	comp=Z,25nm,0.4s						
XAN	**Xi'an**	**34.90**	**73**	P	**P**	**15 11 55.2**	**-0.1**
XAN				pP	**pP**	**15 12 01.4**	**+1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,4.6s						
XAN				LR	LR		
	comp=N,140nm,15.3s						
XAN				LR	LR		
	comp=Z,46nm,8.3s						
AKASG	**Malin Array Be**	**34.98**	**316**	P	**P**	**15 11 55.2**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=103,slow=7.3,SNR=9.0						
AKASG	**Malin Array Be**	**34.98**	**316**	P	**P**	**15 11 55.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**34.98**	**316**	P	**P**	**15 11 55.2**	**-0.4**
KIEV	**Kiev**	**34.98**	**316**	*e*P	**P**	**15 11 55.1**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,15nm,1.3s						
KIEV	**Kiev**	**34.98**	**316**	*e*P	**P**	**15 11 55.1**	**-0.5**
	comp=Z,15nm,1.3s						
VRI	**Vrincioaia**	**35.25**	**308**	⇓P	**P**	**15 11 59.0**	**+0.9**
VRI	**Vrincioaia**	**35.25**	**308**	⇓*i*P	**P**	**15 11 59.0**	**+0.9**
PLOR	**Plostina**	**35.30**	**307**	⇑P	**P**	**15 11 59.5**	**+1.0**
PLOR	**Plostina**	**35.30**	**307**	⇑*i*P	**P**	**15 11 59.5**	**+1.0**
BTO	**Baotou**	**35.62**	**62**	*e*P	**P**	**15 12 01.8**	**+0.4**
KLMR	**Klimovskoe**	**35.65**	**337**	*e*P	**P**	**15 12 00.0**	**-1.2**
KLMR				*e*		15 13 20.3	
KLMR				pmax	pmax		
	comp=Z,24nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,414nm,20.0s						
MLR	**Muntele Rosu**	**35.72**	**307**	⇓*i*P	**P**	**15 12 03.9**	**+1.7**
DOPR	**Dopca**	**36.19**	**307**	⇓*i*P	**P**	**15 12 06.7**	**+0.6**
VOIR		**36.33**	**306**	⇓P	**P**	**15 12 07.6**	**+0.2**
VOIR		**36.33**	**306**	⇓*i*P	**P**	**15 12 07.6**	**+0.2**
BURAR	**Bucovina Array**	**36.63**	**310**	⇑*i*P	**P**	**15 12 09.9**	**0.0**
HHC	**Hu-ho-hao-te**	**36.80**	**61**	*e*P	**P**	**15 12 11.2**	**-0.3**
HHC				sP	**sP**	**15 12 16.5**	**-2.3**
HHC				PP	**PP**	**15 13 35.9**	**+0.6**
HHC				PcP	**PcP**	**15 14 33.7**	**+0.2**
HHC				S	**S**	**15 17 53.3**	**-1.8**
HHC				ScP	**ScP**	**15 18 20.0**	**+0.4**
HHC				SS	**SnSn**	**15 20 20.5**	**-6.2**
HHC				ScS	**ScS**	**15 22 24.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,6.2s						
HHC				LR	LR		
	comp=N,320nm,15.1s						
HHC				LR	LR		
	comp=E,170nm,15.8s						
HHC				LR	LR		
	comp=Z,440nm,15.3s						
MSEY	**Mahe Island**	**36.84**	**201**	*e*P	**P**	**15 12 14.4**	**+2.5**
	comp=Z,81nm,1.4s						
GZR	**Gura Zlata**	**37.91**	**306**	⇓P	P	15 12 25.4	+4.6
GZR	**Gura Zlata**	**37.91**	**306**	⇓*i*P	P	15 12 25.4	+4.6
DGAR	**Diego Garcia**	**37.94**	**172**	*e*P	**P**	**15 12 23.0**	**+1.8**
DGAR	**Diego Garcia**	**37.94**	**172**	*e*P	**P**	**15 12 23.0**	**+1.8**
	comp=Z,1μm,1.9s						
TRPA	**Tarpa**	**38.50**	**310**	⇓*i*P	**P**	**15 12 26.6**	**+1.0**
TRPA	**Tarpa**	**38.50**	**310**	⇑*e*P	**P**	**15 12 28.8**	**+3.2**
BZS	**Buzias**	**38.74**	**306**	⇓P	**P**	**15 12 28.2**	**+0.4**
BZS	**Buzias**	**38.74**	**306**	⇓*i*P	**P**	**15 12 28.2**	**+0.4**
UZH	**Uzhgorod**	**38.75**	**311**	*c i*P	**P**	**15 12 28.1**	**+0.4**
UZH				*e*		15 12 36.9	
KOLS	**Kolonicke sedl**	**38.82**	**312**	*e*P	**P**	**15 12 29.6**	**+1.2**
KOLS	**Kolonicke sedl**	**38.82**	**312**	*e*P	**P**	**15 12 29.5**	**+1.2**
CRVS	**Cervenica-Dubn**	**39.34**	**311**	*e*P	**P**	**15 12 34.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**39.34**	**311**	*e*P	**P**	**15 12 34.0**	**+1.3**
JOF	**Joensuu**	**39.93**	**335**	*e*P	P	15 12 32.2	-5.2
JOF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JOF	**Joensuu**	**39.93**	**335**	*e*p	P	15 12 32.2	-5.2

comp=Z,8.9nm,0.8s
WHN Wuhan 39.99 78 P **P** **15 12 38.8 +0.5**
NIE Niedzica 40.18 312 *eP* **P** **15 12 41.0 +1.3**
NIE Niedzica 40.18 312 *eP* **P** **15 12 41.0 +1.3**
PSZ Piszkesteto 40.21 310 *eP* **P** **15 12 39.0 -1.1**
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ Piszkesteto 40.21 310 *eP* **P** **15 12 39.0 -1.1**
comp=Z,25nm,1.1s
PSZ Piszkesteto 40.21 310⇓*iP* **P** **15 12 40.1 0.0**
PSZ Piszkesteto 40.21 310⇓*eP* **P** **15 12 41.1 +1.0**
BJI Beijing 40.32 63 P **P** **15 12 38.1 -2.8**
BJI S **S** **15 18 45.1 -2.8**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,36nm,15.0s
PSI Prapat 40.39 127 LR LR 15 31 33.1
comp=Z,129nm,18.5s,baz=115,slow=39
PKSM Moragy 40.87 307⇓*eP* **P** **15 12 46.0 +0.6**
VYHS Vyhne 40.99 310 *eP* **P** **15 12 47.3 +0.9**
VYHS Vyhne 40.99 310 *eP* **P** **15 12 47.3 +0.9**
FINES FINESS Array B 41.17 331 P **P** **15 12 47.3 -0.4**
comp=Z,7.0nm,1.0s,baz=100,slow=7.9,SNR=7.9
FINES LR LR 15 33 21.2
comp=Z,229nm,18.9s,baz=308,slow=41
FINES FINESS Array B 41.17 331 P **P** **15 12 47.3 -0.4**
KAF Kangasniemi 41.41 332 *eP* **P** **15 12 47.8 -1.8**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 41.41 332 *ep* **P** **15 12 47.8 -1.8**
comp=Z,6.0nm,0.8s
BOD Bodaibo 41.82 35 *eP* **P** **15 12 52.4 -0.7**
BOD pmax pmax
comp=Z,7.0nm,1.2s
APA Apatity 42.29 341⇑*iP* **P** **15 12 56.8 +0.1**
APA MLR MLR
comp=Z,500nm,14.0s
DPC Dobruska-Polom 42.87 313 *eP* **P** **15 13 00.6 -1.2**
DPC pmax pmax
comp=Z,12nm,1.2s
DPC Dobruska-Polom 42.87 313 *eP* **P** **15 13 00.6 -1.2**
comp=Z,12nm,1.2s
DPC Dobruska-Polom 42.87 313 *eP* **P** **15 13 02.6 +0.8**
CONA Conrad Observa 42.91 309⇑*iP* **P** **15 13 01.6 -0.6**
comp=Z,8.9nm,1.6s
UPC Upice 43.09 313 *eP* **P** **15 13 04.2 +0.7**
UPC Upice 43.09 313 *eP* **P** **15 13 04.2 +0.7**
ARSA Arzberg 43.09 308⇑*iP* **P** **15 13 03.7 +0.1**
comp=Z,14nm,1.4s
BOJS Bojanci 43.20 305 *iP* **P** **15 13 05.9 +1.5**
SOKA Soboth 43.39 307⇑*iP* **P** **15 13 06.0 -0.1**
comp=Z,8.3nm,1.2s
NJ2 Nanjing 43.45 74 *eP* **P** **15 13 07.0 +0.4**
NJ2 pmax pmax
comp=Z,30nm,1.3s
VISS Visnje 43.49 306 *iP* **P** **15 13 08.3 +1.5**
MOA Molln 43.98 309⇑*iP* **P** **15 13 09.9 -0.8**
comp=Z,16nm,1.3s
PVCC Panska Ves 44.01 313 *eP* **P** **15 13 11.7 +0.8**
PVCC Panska Ves 44.01 313 *eP* **P** **15 13 11.7 +0.8**
JAVS Javornik 44.04 306 *iP* **P** **15 13 11.2 -0.1**
MYKA Terra Mystica 44.35 307⇑*iP* **P** **15 13 13.6 -0.2**
comp=Z,5.2nm,1.1s
GERES GERESS Array B 44.41 310 P **P** **15 13 13.7 -0.6**
comp=Z,1.2nm,0.8s,baz=112,slow=6.2,SNR=8.0
GERES GERESS Array B 44.41 310 P **P** **15 13 13.7 -0.6**
BRG Berggiesshubel 44.44 313 *eP* **P** **15 13 15.1 +0.8**
comp=Z,9.2nm,1.4s
BRG Berggiesshubel 44.44 313 *eP* **P** **15 13 14.9 +0.6**
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 44.52 311 *eP* **P** **15 13 14.8 -0.3**
KHC Kasperske Hory 44.52 311 *eP* **P** **15 13 14.8 -0.3**
KBA Koelnbreinsper 44.56 308⇑*iP* **P** **15 13 15.4 -0.3**
comp=Z,9.9nm,1.2s
FBE Freiberg 44.81 313 *eP* **P** **15 13 18.8 +1.5**
comp=Z,24nm,1.4s
CLL Collm 45.07 314 *eP* **P** **15 13 20.0 +0.6**
CLL Collm 45.07 314 *eP* **P** **15 13 20.0 +0.6**
TANN Tannenbergstha 45.34 312 *eP* **P** **15 13 21.5 -0.1**
comp=Z,4.0nm,1.1s
ROHR Rohrbach 45.41 312 *eP* **P** **15 13 22.6 +0.4**
comp=Z,3.0nm,1.5s
ARCES ARCESS Array B 45.78 341 P **P** **15 13 22.9 -1.9**
comp=Z,8.9nm,0.8s,baz=98,slow=7.5,SNR=10
ARCES LR LR 15 34 17.3
comp=Z,101nm,21.5s,baz=122,slow=38
ARCES ARCESS Array B 45.78 341 P **P** **15 13 22.9 -1.9**
NEUB Neuenburg 45.83 313 *eP* **P** **15 13 26.0 +0.6**
comp=Z,24nm,1.4s
MOX Moxa 45.89 313 *eP* **P** **15 13 26.4 +0.5**
MOX pmax pmax
comp=Z,8.0nm,1.1s
MOX Moxa 45.89 313 *eP* **P** **15 13 26.4 +0.5**
comp=Z,8.0nm,1.1s
GRF Grafenberg Arr 46.09 311 *eP* **P** **15 13 28.8 +1.3**
GRF pmax pmax
comp=Z,20nm,1.5s
GRF Grafenberg Arr 46.09 311 *eP* **P** **15 13 28.8 +1.3**
comp=Z,20nm,1.5s
HFS Hagfors 46.29 326 P **P** **15 13 28.7 -0.2**
comp=Z,12nm,1.0s,baz=99,slow=6.5,SNR=6.9
HFS LR LR 15 35 27.6
comp=Z,126nm,21.1s,baz=286,slow=39
HFS Hagfors 46.29 326 P **P** **15 13 28.7 -0.2**
FETA Feichten 46.35 308⇑*iP* **P** **15 13 28.2 -1.5**
comp=Z,12nm,1.2s
FUORN Ofenpass-Fuorn 46.68 307 *eP* **P** **15 13 31.2 -1.2**
comp=Z,5.1nm,0.8s
CLZ Clausthal 46.76 314 *eP* **P** **15 13 33.6 +0.9**
CLZ pmax pmax
comp=Z,18nm,1.3s
CLZ Clausthal 46.76 314 *eP* **P** **15 13 33.6 +0.9**
comp=Z,18nm,1.3s
DAVA Damuels 46.93 308⇑*iP* **P** **15 13 32.4 -1.9**
comp=Z,15nm,1.5s
BSEG Bad Segeberg 46.98 317 *eP* **P** **15 13 35.5 +1.2**
BSEG pmax pmax
comp=Z,17nm,0.9s
BSEG Bad Segeberg 46.98 317 *eP* **P** **15 13 35.5 +1.2**
comp=Z,17nm,0.9s
CN2 Changchun 47.05 57 *eP* **P** **15 13 35.5 +0.4**
CN2 *es*P **sP** **15 13 42.5 +0.1**
CN2 *eS* **S** **15 20 25.8 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,300nm,15.0s
NB2 NORSAR Subarra 47.70 327 P **P** **15 13 38.7 -1.3**
comp=Z,10nm,1.1s,baz=102,slow=7.9
NOA NORSAR Array B 47.70 327 P **P** **15 13 38.7 -1.3**
comp=Z,5.4nm,1.0s,baz=104,slow=7.8,SNR=7.1
NOA LR LR 15 36 10.3
comp=Z,108nm,18.9s,baz=110,slow=39
NOA NORSAR Array B 47.70 327 P **P** **15 13 38.7 -1.3**
KEST Kesra 48.53 292 P **P** **15 13 46.1 -0.7**
comp=Z,1.5nm,0.9s,baz=238,slow=1.0,SNR=5.0
KEST Kesra 48.53 292 P **P** **15 13 46.1 -0.7**
SENIN Lac Senin/Sane 48.73 307 *eP* **P** **15 13 47.1 -1.3**
comp=Z,8.1nm,1.0s
SBF Sospel 48.82 303 *eP* **P** **15 13 47.9 -1.0**
comp=Z,55nm,0.9s
SBF Sospel 48.82 303 *eP* **P** **15 13 47.9 -1.0**
SBF pmax pmax
comp=Z,55nm,0.9s
SBF Sospel 48.82 303 *eP* **P** **15 13 47.9 -1.0**
comp=Z,55nm,0.9s
LPG La Plagne 49.17 306 *eP* **P** **15 13 50.8 -1.0**
comp=Z,26nm,1.2s
LPG La Plagne 49.17 306 *eP* **P** **15 13 50.8 -1.0**
LPG pmax pmax
comp=Z,26nm,1.2s
LPG La Plagne 49.17 306 *eP* **P** **15 13 50.8 -1.0**
comp=Z,26nm,1.2s
LPL La Plagne 49.18 306 *eP* **P** **15 13 50.8 -1.0**
comp=Z,28nm,1.1s
LPL La Plagne 49.18 306 *eP* **P** **15 13 50.8 -1.0**
LPL pmax pmax
comp=Z,28nm,1.1s
LPL La Plagne 49.18 306 *eP* **P** **15 13 50.8 -1.0**
comp=Z,28nm,1.1s
MBDF Montbardon 49.22 305 *eP* **P** **15 13 50.5 -1.5**
comp=Z,22nm,1.1s
MBDF Montbardon 49.22 305 *eP* **P** **15 13 50.5 -1.5**
MBDF pmax pmax
comp=Z,22nm,1.1s
MBDF Montbardon 49.22 305 *eP* **P** **15 13 50.5 -1.5**
comp=Z,22nm,1.1s
BNI Bardonecchia 49.26 305 *eP* **P** **15 13 51.4 -0.9**
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 49.26 305 *eP* **P** **15 13 51.4 -0.9**
comp=Z,14nm,1.1s
HAU Haudompre 49.30 309 *eP* **P** **15 13 51.4 -1.1**
HAU Haudompre 49.30 309 *eP* **P** **15 13 51.4 -1.1**
HAU Haudompre 49.30 309 *eP* **P** **15 13 51.4 -1.1**
FRF La Foret Royal 49.42 303 *eP* **P** **15 13 52.0 -1.4**
FRF La Foret Royal 49.42 303 *eP* **P** **15 13 52.0 -1.4**
FRF La Foret Royal 49.42 303 *eP* **P** **15 13 52.0 -1.4**
CABF La Chapelle 49.55 307 *eP* **P** **15 13 53.9 -0.6**
comp=Z,44nm,1.3s
CABF La Chapelle 49.55 307 *eP* **P** **15 13 53.9 -0.6**
CABF pmax pmax
comp=Z,44nm,1.3s
CABF La Chapelle 49.55 307 *eP* **P** **15 13 53.9 -0.6**
comp=Z,44nm,1.3s
PAGF Fort de Pagny 49.69 310 *eP* **P** **15 13 54.9 -0.5**
comp=Z,5.6nm,1.0s
PAGF Fort de Pagny 49.69 310 *eP* **P** **15 13 54.9 -0.5**
comp=Z,5.6nm,1.0s
KSAR Wonju Array Be 49.70 65 P **P** **15 13 55.3 -0.3**
KSRS Korea Array 49.73 65 P **P** **15 13 55.3 -0.5**
comp=Z,2.1nm,0.6s,baz=265,slow=6.8,SNR=7.6
KSRS LR LR 15 38 41.1
comp=Z,39nm,18.1s,baz=230,slow=41
ORIF Oris-en-Rattie 49.83 305 *eP* **P** **15 13 56.3 -0.3**
ORIF *eR*
comp=Z,60nm,18.0s
ORIF Oris-en-Rattie 49.83 305 *eP* **P** **15 13 56.3 -0.3**
ORIF Oris-en-Rattie 49.83 305 *eP* **P** **15 13 56.3 -0.3**
MDJ Mudanjiang 49.96 55 P **P** **15 13 54.9 -2.6**
MDJ pmax pmax
comp=Z,57nm,3.8s
SFTF Sexfontaines 50.17 309 *eP* **P** **15 13 58.3 -0.7**
comp=Z,21nm,0.7s
SFTF Sexfontaines 50.17 309 *eP* **P** **15 13 58.3 -0.7**
comp=Z,21nm,0.7s
GIVF Givet 50.23 312 *eP* **P** **15 13 58.7 -0.7**
GIVF Givet 50.23 312 *eP* **P** **15 13 58.7 -0.7**
GIVF Givet 50.23 312 *eP* **P** **15 13 58.7 -0.7**
YAK Yakutsk 50.51 33 *eP* **P** **15 14 00.4 -0.9**
YAK pmax pmax
comp=Z,28nm,1.2s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK MLR MLR
comp=Z,130nm,13.0s
YAK MLR MLR
comp=E,86nm,11.0s
BAIF Baives 50.62 312 *eP* **P** **15 14 02.5 +0.1**
comp=E,28nm,1.1s
BAIF Baives 50.62 312 *eP* **P** **15 14 02.5 +0.1**
BAIF pmax pmax
comp=Z,28nm,1.1s
BAIF Baives 50.62 312 *eP* **P** **15 14 02.5 +0.1**
comp=Z,28nm,1.1s
VIVF Saint-Julien-l 50.69 305 *eP* **P** **15 14 02.0 -1.1**
comp=Z,25nm,1.0s
VIVF Saint-Julien-l 50.69 305 *eP* **P** **15 14 02.0 -1.1**
VIVF pmax pmax
comp=Z,25nm,1.0s
VIVF Saint-Julien-l 50.69 305 *eP* **P** **15 14 02.0 -1.1**
comp=Z,25nm,1.0s
LOR Lormes 51.03 308 *eP* **P** **15 14 05.2 -0.3**
LOR Lormes 51.03 308 *eP* **P** **15 14 05.2 -0.3**
KLR Kul'dur 51.07 49 *eP* P 15 14 01.5 -4.3
KLR MLR MLR
comp=E,900nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s
SSF Saint Saulge 51.28 308 *eP* **P** **15 14 06.4 -1.1**
comp=Z,6.3nm,0.7s
SSF Saint Saulge 51.28 308 *eP* **P** **15 14 06.4 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.7s
SSF Saint Saulge 51.28 308 *eP* **P** **15 14 06.4 -1.1**
comp=Z,6.3nm,0.7s
LASF Ste Croix 51.36 304 *eP* **P** **15 14 07.5 -0.6**
LASF Ste Croix 51.36 304 *eP* **P** **15 14 07.5 -0.6**
AVF Avril sur Loir 51.41 308 *eP* **P** **15 14 07.4 -1.0**
AVF Avril sur Loir 51.41 308 *eP* **P** **15 14 07.4 -1.0**
AVF Avril sur Loir 51.41 308 *eP* **P** **15 14 07.4 -1.0**
MRIV Mauritius Mete 51.41 192 *eP* **P** **15 14 09.7 +1.1**
USRK Ussuriysk Arra 51.72 56 P **P** **15 14 10.3 -0.4**
comp=Z,3.4nm,0.8s,baz=283,slow=6.6,SNR=9.2
USRK LR LR 15 39 10.4
comp=Z,134nm,19.1s,baz=233,slow=40
CAF Calviac 52.52 305 *eP* **P** **15 14 16.2 -0.6**
CAF Calviac 52.52 305 *eP* **P** **15 14 16.2 -0.6**
CAF Calviac 52.52 305 *eP* **P** **15 14 16.2 -0.6**
OPO Ambohidratompo 52.59 205 LR LR 15 34 37.6
comp=Z,112nm,18.9s,baz=177,slow=34
JOW Kunigami 52.76 78 P **P** **15 14 18.3 -0.4**
comp=Z,25nm,0.8s,baz=188,slow=28,SNR=2.9
JOW Kunigami 52.76 78 P **P** **15 14 18.3 -0.4**
SPITS Spitsbergen Ar 52.77 348 P **P** **15 14 16.7 -1.4**
comp=Z,9.3nm,0.9s,baz=92,slow=9.7,SNR=3.1
SPITS LR LR 15 41 34.0
comp=Z,50nm,19.2s,baz=250,slow=42
SPITS Spitsbergen Ar 52.77 348 P **P** **15 14 16.7 -1.4**
LDF La Druitiere 53.56 310 *eP* **P** **15 14 23.5 -0.8**
LDF La Druitiere 53.56 310 *eP* **P** **15 14 23.5 -0.8**
LDF La Druitiere 53.56 310 *eP* **P** **15 14 23.5 -0.8**
FLN La Foliniere 53.78 310 *eP* **P** **15 14 24.8 -1.1**
FLN La Foliniere 53.78 310 *eP* **P** **15 14 24.8 -1.1**
FLN La Foliniere 53.78 310 *eP* **P** **15 14 24.8 -1.1**
MFF Saint Martin d 53.83 308 *eP* **P** **15 14 26.0 -0.3**
comp=Z,12nm,0.8s
MFF Saint Martin d 53.83 308 *eP* **P** **15 14 26.0 -0.3**
MFF pmax pmax
comp=Z,12nm,0.8s
MFF Saint Martin d 53.83 308 *eP* **P** **15 14 26.0 -0.3**
comp=Z,12nm,0.8s
EPF Esparros 54.05 303 *eP* **P** **15 14 27.8 -0.3**
EPF Esparros 54.05 303 *eP* **P** **15 14 27.8 -0.3**
EPF Esparros 54.05 303 *eP* **P** **15 14 27.8 -0.3**
GRR Gorron 54.07 310 *eP* **P** **15 14 27.0 -1.0**
comp=Z,34nm,1.0s
GRR Gorron 54.07 310 *eP* **P** **15 14 27.0 -1.0**
GRR pmax pmax
comp=Z,34nm,1.0s
GRR Gorron 54.07 310 *eP* **P** **15 14 27.0 -1.0**
comp=Z,34nm,1.0s
ETSF Etsaut 54.72 303 *eP* **P** **15 14 32.3 -0.7**
comp=Z,34nm,1.3s
ETSF Etsaut 54.72 303 *eP* **P** **15 14 32.3 -0.7**
ETSF pmax pmax
comp=Z,34nm,1.3s
ETSF Etsaut 54.72 303 *eP* **P** **15 14 32.3 -0.7**
comp=Z,34nm,1.3s
SGMF Saint Gilles 55.21 310 *eP* **P** **15 14 35.6 -0.7**
comp=Z,67nm,1.3s
SGMF Saint Gilles 55.21 310 *eP* **P** **15 14 35.6 -0.7**
SGMF pmax pmax
comp=Z,67nm,1.3s
SGMF Saint Gilles 55.21 310 *eP* **P** **15 14 35.6 -0.7**
comp=Z,67nm,1.3s
QUIF Quistinic 55.67 310 *eP* **P** **15 14 39.6 0.0**
comp=Z,15nm,0.9s
QUIF Quistinic 55.67 310 *eP* **P** **15 14 39.6 0.0**
QUIF pmax pmax
comp=Z,15nm,0.9s
QUIF Quistinic 55.67 310 *eP* **P** **15 14 39.6 0.0**
comp=Z,15nm,0.9s
ESDC Sonseca Array 57.94 300 P **P** **15 14 55.8 -0.2**
comp=Z,0.8nm,0.4s,baz=60,slow=7.3,SNR=12
ESDC ScP **ScP** **15 19 48.9 +1.3**
comp=Z,0.4nm,0.4s,baz=17,slow=2.7,SNR=5.0
ESDC Sonseca Array 57.94 300 P **P** **15 14 55.8 -0.2**
ESDC ScP **ScP** **15 19 48.9 +1.3**
MJAR Matsushiro Arr 57.94 64 P **P** **15 14 56.6 +0.6**
comp=Z,1.7nm,0.9s,baz=292,slow=8.9,SNR=4.7
MJAR Matsushiro Arr 57.94 64 P **P** **15 14 56.6 +0.6**
YSS Yuzh-Sakhalins 58.68 51 *eP* **P** **15 15 02.0 +1.1**
ASAJ Asahikawa 59.22 54 P **P** **15 15 05.9 +1.2**
comp=Z,5.8nm,0.9s,baz=312,slow=23,SNR=2.5
ASAJ Asahikawa 59.22 54 P **P** **15 15 05.9 +1.2**
MDT Midelt 60.44 293 P **P** **15 15 13.8 +0.4**
comp=Z,2.1nm,0.7s,baz=148,slow=4.5,SNR=4.4
MDT Midelt 60.44 293 P **P** **15 15 13.8 +0.4**
PBAR Barrancos 60.66 299 *eP* **P** **15 15 14.1 -0.6**
comp=Z,39nm,1.8s
SEY Seymchan 60.98 31⇓*iP* **P** **15 15 16.2 -0.3**
TORD Torodi Ar. Bea 62.84 270 P **P** **15 15 27.9 -1.9**
comp=Z,1.1nm,0.8s,baz=58,slow=6.3,SNR=27
TORD Torodi Ar. Bea 62.84 270 P **P** **15 15 27.9 -1.9**
SUMG Summit 65.87 342 *eP* **P** **15 15 47.8 -1.4**
SUMG Summit 65.87 342 *eP* **P** **15 15 47.8 -1.4**
comp=Z,327nm,2.9s
SUMG Summit 65.87 342 *iP* **P** **15 15 49.5 +0.4**
comp=Z,10nm,0.9s
PETK Petropavlovsk- 66.28 41 P **P** **15 15 52.3 +0.7**
comp=Z,3.6nm,0.9s,baz=254,slow=9.7,SNR=2.6
PETK LR LR 15 46 40.5
comp=Z,68nm,20.0s,baz=85,slow=38
PETK Petropavlovsk- 66.28 41 P **P** **15 15 52.3 +0.7**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK MLR MLR
comp=Z,68nm,20.0s
PETK Petropavlovsk- 66.28 41 P **P** **15 15 52.3 +0.7**
TSUM Tsumeb 68.99 231 *eP* **P** **15 16 09.5 +0.2**
comp=Z,44nm,2.3s
DBIC Dimbokro 71.59 267 P **P** **15 16 24.0 -1.3**
comp=Z,3.3nm,0.8s,baz=74,slow=5.5,SNR=4.9
DBIC Dimbokro 71.59 267 P **P** **15 16 24.0 -1.3**
LIC Lamto 71.96 267 *eP* **P** **15 16 29.0 +1.5**
LIC Lamto 71.96 267 *eP* **P** **15 16 29.0 +1.5**
RES Resolute Bay 74.48 355 P **P** **15 16 41.1 -0.2**
comp=Z,2.1nm,0.9s,baz=28,slow=9.7,SNR=7.3
RES Resolute Bay 74.48 355 P **P** **15 16 41.1 -0.2**
FX1 Attu Island--F 74.84 37 P **P** **15 16 43.3 -0.6**
comp=Z,38nm,1.0s,baz=284,slow=11,SNR=2.9
FX1 Attu Island--F 74.84 37 P **P** **15 16 43.3 -0.6**
FRB Frobisher Bay 79.94 342 P **P** **15 17 11.8 -0.3**
comp=Z,3.1nm,0.9s,baz=42,slow=7.8,SNR=4.7
FRB Frobisher Bay 79.94 342 P **P** **15 17 11.8 -0.3**
INK Inuvik 80.27 8 P **P** **15 17 13.9 +0.1**
comp=Z,6.6nm,1.0s,baz=358,slow=9.0,SNR=14
INK Inuvik 80.27 8 P **P** **15 17 13.9 +0.1**
ILAR Eielson Array 81.31 14 P **P** **15 17 18.7 -0.8**
comp=Z,2.2nm,1.1s,baz=309,slow=3.7,SNR=11
ILAR LR LR 15 59 01.1
comp=Z,66nm,18.6s,baz=125,slow=40
ILAR Eielson Array 81.31 14 P **P** **15 17 18.7 -0.8**
WRA Warramunga Arr 81.34 119 P **P** **15 17 19.1 -1.2**
comp=Z,1.5nm,0.7s,baz=319,slow=4.9,SNR=15
WRA Warramunga Arr 81.34 119 P **P** **15 17 19.1 -1.2**
WRAB Tennant Creek 81.34 119⇑*eP* **P** **15 17 18.9 -1.5**
ASAR Alice Springs 83.25 122 P **P** **15 17 29.5 -0.8**
comp=Z,2.7nm,0.9s,baz=307,slow=4.7,SNR=19
ASAR Alice Springs 83.25 122 P **P** **15 17 29.5 -0.8**
KDAK Kodiak Island 85.81 20 P **P** **15 17 42.2 -0.5**
comp=Z,6.5nm,0.9s,baz=332,slow=16,SNR=3.6
KDAK Kodiak Island 85.81 20 P **P** **15 17 42.2 -0.5**
YKA Yellowknife Ar 87.35 1 P **P** **15 17 49.9 -0.3**
comp=Z,6.6nm,0.9s,baz=350,slow=4.9,SNR=66
YKA Yellowknife Ar 87.35 1 P **P** **15 17 49.9 -0.3**
FFC Flin Flon 94.69 354 *iP* **P** **15 18 25.1 +0.6**

ISCJB ***02*** *15:06:03.0±0.4, 37.84N±0.02×29.07E±0.04, h7km±5km, Error ellipse: s-maj=5.4km s-min=3.9km az=9.7*
ISK ***02*** *15:06:02.7, 37.84N×29.07E, h6km, MD2.7*
DDA ***02*** *15:06:02.5, 37.83N×29.09E, h7km, MD2.8*
CSEM ***02*** *15:06:02.8±0.1, 37.82N×29.10E, h5km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.2km az=119.0*

ISC 02 15:06:02.8±0.9, 37.85N±0.02×29.08E±0.02, h7km±8km, n41, σ0.946/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.10**	**200**	PG		**Pg**		**15 06 05.0**	**-0.1**
DENT	**Denizli**	**0.10**	**200**	PG		**Pg**		**15 06 05.0**	**-0.1**
DENT	**Denizli**	**0.10**	**200**	*i* Pg		**Pg**		**15 06 05.0**	**-0.1**
DNZL	**Cakiroluk**	**0.16**	**188**	*i* P		**Pg**		**15 06 05.9**	**-0.2**
DNZL				*i* S		**Sg**		**15 06 08.3**	**-0.2**
DNZL	**Cakiroluk**	**0.16**	**188**	*i* P		**Pg**		**15 06 05.9**	**-0.2**
DNZL				*i* S		**Sg**		**15 06 08.3**	**-0.2**
KHL	**Karahalli**	**0.59**	**37**	PG		**Pb**		**15 06 14.9**	**-0.7**
KHL				PG		**Pb**		**15 06 14.9**	**-0.7**
KHL				*e*SG		**Sb**		**15 06 23.6**	**-0.5**
KHL				*e*SG		**Sb**		**15 06 23.6**	**-0.5**
KHL	**Karahalli**	**0.59**	**37**	*i* Pg		**Pb**		**15 06 14.9**	**-0.7**
KHL				*e*Sg		**Sb**		**15 06 23.6**	**-0.5**
KHAL	**Karahalli**	**0.62**	**32**	*i* P		**Pg**		**15 06 14.2**	**-0.5**
KHAL				*e*S		**Sg**		**15 06 23.8**	**+1.0**
KHAL	**Karahalli**	**0.62**	**32**	*i* P		**Pg**		**15 06 14.2**	**-0.5**
KHAL				*e*S		**Sg**		**15 06 23.8**	**+1.0**
GOLH	**Golhisar**	**0.72**	**147**	*i* P		**Pg**		**15 06 16.1**	**-0.6**
GOLH				*i* S		**Sb**		**15 06 28.7**	**+0.8**
GOLH	**Golhisar**	**0.72**	**147**	*i* P		**Pg**		**15 06 16.1**	**-0.6**
GOLH				*i* S		**Sb**		**15 06 28.7**	**+0.8**
KULA	**Kula-Manisa**	**0.74**	**334**	*e*PG		**Pb**		**15 06 18.1**	**0.0**
KULA				*e*PG		**Pb**		**15 06 18.1**	**0.0**
KULA				*e*SG		**Sb**		**15 06 28.1**	**-0.3**
KULA				*e*SG		**Sb**		**15 06 28.1**	**-0.3**
KULA	**Kula-Manisa**	**0.74**	**334**	*e*Pg		**Pb**		**15 06 18.1**	**0.0**
KULA				*e*Sg		**Sb**		**15 06 28.1**	**-0.3**
MANT	**Manisa**	**0.76**	**328**	*i* P		**Pb**		**15 06 17.9**	**-0.6**
MANT				*i* S		**Sb**		**15 06 29.9**	**+0.7**
MANT	**Manisa**	**0.76**	**328**	*i* P		**Pb**		**15 06 17.9**	**-0.6**
MANT				*i* S		**Sb**		**15 06 29.9**	**+0.7**
YER	**Yerkesik**	**0.95**	**222**	*e*PG		**Pb**		**15 06 21.5**	**-0.1**
YER	**Yerkesik**	**0.95**	**222**	*e*PG		**Pb**		**15 06 21.5**	**-0.1**
YER	**Yerkesik**	**0.95**	**222**	*e*Pg		**Pb**		**15 06 21.5**	**-0.1**
AYDN	**Tasoluk**	**0.97**	**259**	*e*P		**Pb**		**15 06 21.5**	**-0.4**
AYDN				*e*S		**Sg**		**15 06 33.8**	**-0.1**
AYDN	**Tasoluk**	**0.97**	**259**	*e*P		**Pb**		**15 06 21.5**	**-0.4**
AYDN				*e*S		**Sg**		**15 06 33.8**	**-0.1**
ISP	**Isparta**	**1.15**	**91**	*e*PN		**Pn**		**15 06 25.5**	**+0.2**
ISP	**Isparta**	**1.15**	**91**	*e*PN		**Pn**		**15 06 25.5**	**+0.2**
ISP	**Isparta**	**1.15**	**91**	*e*Pn		**Pn**		**15 06 25.5**	**+0.2**
FETY	**Fethiye**	**1.21**	**180**	*e*PN		**Pb**		**15 06 25.6**	**-0.4**
FETY	**Fethiye**	**1.21**	**180**	*e*PN		**Pb**		**15 06 25.6**	**-0.4**
FETY	**Fethiye**	**1.21**	**180**	*e*Pn		**Pb**		**15 06 25.6**	**-0.4**
SHUT	**Suhut-Afyon**	**1.36**	**58**	*e*PN		**Pb**		**15 06 28.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.36**	**58**	*e*PN		**Pb**		**15 06 28.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.36**	**58**	*e*Pn		**Pb**		**15 06 28.6**	**0.0**
ALT	**Altintas**	**1.45**	**34**	*e*PN		**Pg**		**15 06 30.5**	**-0.2**
ALT	**Altintas**	**1.45**	**34**	*e*PN		**Pg**		**15 06 30.5**	**-0.2**
ALT	**Altintas**	**1.45**	**34**	*e*Pn		**Pg**		**15 06 30.5**	**-0.2**
IZM	**Izmir**	**1.53**	**292**	*e*PN		**Pn**		**15 06 30.8**	**+0.2**
IZM	**Izmir**	**1.53**	**292**	*e*PN		**Pn**		**15 06 30.8**	**+0.2**
IZM	**Izmir**	**1.53**	**292**	*e*Pn		**Pn**		**15 06 30.8**	**+0.2**
BODT	**Bodrum**	**1.61**	**241**	*e*PN		**Pb**		**15 06 32.6**	**-0.2**
BODT	**Bodrum**	**1.61**	**241**	*e*PN		**Pb**		**15 06 32.6**	**-0.2**
BODT	**Bodrum**	**1.61**	**241**	*e*Pn		**Pb**		**15 06 32.6**	**-0.2**
TVSB	**Tavsanli**	**1.63**	**11**	*e*PN		**Pn**		**15 06 32.6**	**+0.6**
TVSB	**Tavsanli**	**1.63**	**11**	*e*PN		**Pn**		**15 06 32.6**	**+0.6**
TVSB	**Tavsanli**	**1.63**	**11**	*e*Pn		**Pn**		**15 06 32.6**	**+0.6**

ISCJB ***02*** *15:07:14.9±0.5, 37.83N±0.03×29.09E±0.06, h6km±7km, Error ellipse: s-maj=8.0km s-min=5.3km az=174.7*
ISK ***02*** *15:07:14.6, 37.81N×29.06E, h8km, MD2.7*
DDA ***02*** *15:07:14.8, 37.83N×29.09E, h5km, MD2.9*
CSEM ***02*** *15:07:14.7±0.2, 37.80N×29.09E, h8km, MD2.7, Error ellipse: s-maj=5.5km s-min=3.7km az=95.0*

ISC 02 15:07:15.0±0.9, 37.81N±0.03×29.06E±0.04, h12km±6km, n20, σ0.954/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.06**	**202**	PG		**Pg**		**15 07 17.3**	**-0.2**
DENT	**Denizli**	**0.06**	**202**	*i* Pg		**Pg**		**15 07 17.3**	**-0.2**
DNZL	**Cakiroluk**	**0.12**	**186**	*i* P		**Pg**		**15 07 18.0**	**-0.3**
DNZL				*i* S		**Sg**		**15 07 20.6**	**-0.1**
DNZL	**Cakiroluk**	**0.12**	**186**	*i* P		**Pg**		**15 07 18.0**	**-0.3**
DNZL				*i* S		**Sg**		**15 07 20.6**	**-0.1**
KHL	**Karahalli**	**0.63**	**35**	*e*PG		**Pg**		**15 07 27.0**	**-0.2**
KHL	**Karahalli**	**0.63**	**35**	*e*Pg		**Pg**		**15 07 27.0**	**-0.2**
KHAL	**Karahalli**	**0.65**	**31**	*e*P		**Pg**		**15 07 26.6**	**-1.1**
KHAL				*e*S		**Sg**		**15 07 36.0**	**-0.4**
KHAL	**Karahalli**	**0.65**	**31**	*e*P		**Pg**		**15 07 26.6**	**-1.1**
KHAL				*e*S		**Sg**		**15 07 36.0**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.70**	**145**	*e*P	**Pg**	**15 07 28.1**	**-0.4**
GOLH				*e*S	**Sb**	**15 07 39.3**	**+0.6**
GOLH	**Golhisar**	**0.70**	**145**	*e*P	**Pg**	**15 07 28.1**	**-0.4**
GOLH				*e*S	**Sb**	**15 07 39.3**	**+0.6**
KULA	**Kula-Manisa**	**0.77**	**336**	*e*PG	**Pb**	**15 07 30.4**	**0.0**
KULA				*e*SG	**Sb**	**15 07 41.0**	**+0.2**
KULA	**Kula-Manisa**	**0.77**	**336**	*e*Pg	**Pb**	**15 07 30.4**	**0.0**
KULA				*e*Sg	**Sb**	**15 07 41.0**	**+0.2**
MANT	**Manisa**	**0.79**	**330**	*i* P	**Pg**	**15 07 30.1**	**-0.1**
MANT				*i* S	**Sb**	**15 07 42.1**	**+0.7**
MANT	**Manisa**	**0.79**	**330**	*i* P	**Pg**	**15 07 30.1**	**-0.1**
MANT				*i* S	**Sb**	**15 07 42.1**	**+0.7**
YER	**Yerkesik**	**0.92**	**223**	*e*PG	**Pg**	**15 07 31.6**	**-1.0**
YER	**Yerkesik**	**0.92**	**223**	*e*Pg	**Pg**	**15 07 31.7**	**-1.0**
ALT	**Altintas**	**1.49**	**33**	*e*PN	**Pb**	**15 07 42.8**	**+0.2**
ALT	**Altintas**	**1.49**	**33**	*e*Pn	**Pb**	**15 07 42.8**	**+0.2**
TVSB	**Tavsanli**	**1.67**	**11**	*e*PN	**Pn**	**15 07 44.3**	**+0.3**
TVSB	**Tavsanli**	**1.67**	**11**	*e*Pn	**Pn**	**15 07 44.3**	**+0.3**

*IDC **02** 15:12:41.8±1.6, 3.°93N×125.°67E, h132km±14km, mb3.8/18, mb1 3.9/19, mb1mx3.7/30, mbtmp3.8/19, Error ellipse: s-maj=20.4km s-min=9.4km az=74.0*
*AUST **02** 15:12:55.0, 3.°00N×126.°00E, h200km*
ISC 02 15:12:39.3±0.4, **3.°94N**±0.°04×**125.°89E**±0.°06, **h107**km, **n50**, σ**1.s91**/58, **mb4.2**/19, **3C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.33**	**336**	⇑*e*P	**Pn**	**15 13 18.3**	**+1.6**
GSPH				*e*S	**Sn**	**15 13 46.5**	**+1.3**
MATI	**Mati**	**3.01**	**7**	*e*P	**Pn**	**15 13 28.2**	**+2.7**
DMPH	**Davao City--Mi**	**3.15**	**353**	⇑*e*P	Pn	15 13 31.1	+3.8
DMPH				*e*S	Sn	15 14 10.0	+5.8
CTBH	**Cotabato--PC H**	**3.65**	**333**	⇑*i*P	**Pn**	**15 13 36.5**	**+2.5**
BUKP	**Musuan**	**4.00**	**348**	*e*P	Pn	15 13 42.3	+3.6
BUKP				*e*S	**Sn**	**15 14 26.7**	**+1.9**
PAGZ	**Pagadian**	**4.62**	**327**	*e*P	**Pn**	**15 13 49.3**	**+2.2**
SWI	**Sorong**	**7.18**	**132**	S	**Sn**	**15 15 46.5**	**+4.8**
	baz=6.5,SNR=5.0						
PCI	**Palu**	**7.73**	**232**	S	Sn	15 16 04.8	+10
	baz=7.3,SNR=4.1						
AAI	**Ambon**	**7.92**	**163**	P	**Pn**	**15 14 33.0**	**+1.3**
	baz=7.0,SNR=11						
AAI				S	Sn	15 15 51.4	-8.3
	baz=7.0,SNR=3.1						
PALU	**Palau**	**9.19**	**68**	S	**Sn**	**15 16 28.3**	**-2.3**
	baz=9.5,SNR=3.9						
KAPI	**Kappang**	**10.80**	**215**	P	**Pn**	**15 15 12.7**	**+1.8**
	0.4nm,0.3s,baz=29,slow=16,SNR=4.8						
KSM	**Kuching**	**15.76**	**261**	P	**P**	**15 16 19.7**	**+2.6**
	baz=16,SNR=5.3						
MTN	**Manton Dam**	**17.46**	**163**	P	**P**	**15 16 35.1**	**-0.9**
	baz=17,SNR=14						
KDU	**Kakadu**	**17.76**	**158**	P	**P**	**15 16 38.1**	**-1.1**
	baz=17,SNR=8.4						
FITZ	**Fitzroy Crossi**	**21.90**	**181**	P	**P**	**15 17 23.8**	**-0.2**
	1.1nm,0.3s,baz=20,slow=6.5,SNR=6.1						
FITZ	**Fitzroy Crossi**	**21.90**	**181**	P	**P**	**15 17 23.8**	**-0.2**
	baz=21,SNR=4.8						
COEN	**Coen**	**24.70**	**136**	P	**P**	**15 17 52.8**	**+2.1**
	baz=24,SNR=3.9						
PMG	**Port Moresby**	**25.00**	**122**	P	**P**	**15 17 55.6**	**+2.1**
	15nm,1.1s,baz=238,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**25.14**	**161**	P	**P**	**15 17 55.0**	**+0.3**
	9.2nm,0.5s,baz=343,slow=10,SNR=74						
WRA				ScP	**ScP**	**15 24 52.6**	**-3.3**
	0.5nm,0.5s,baz=339,slow=2.9,SNR=6.5						
QIS	**Mount Isa**	**27.82**	**152**	P	**P**	**15 18 19.7**	**+1.0**
	baz=27,SNR=10						
ASAR	**Alice Springs**	**28.53**	**164**	P	**P**	**15 18 25.2**	**+0.2**
	1.1nm,0.5s,baz=344,slow=7.3,SNR=40						
ASAR				PcP	**PcP**	**15 21 34.3**	**0.0**
	0.4nm,0.4s,baz=352,slow=2.1,SNR=5.0						
ASAR				ScP	**ScP**	**15 25 03.2**	**-2.7**
	0.2nm,0.4s,baz=343,slow=3.2,SNR=7.6						
JNU	**Nakatsue**	**29.41**	**9**	P	**P**	**15 18 33.3**	**+0.6**
	5.9nm,0.9s,baz=257,slow=24,SNR=3.7						
CMAR	**Chiang Mai Arr**	**30.05**	**301**	P	**P**	**15 18 38.6**	**0.0**
	0.5nm,0.6s,baz=121,slow=7.8,SNR=5.5						
CMAR				PcP	**PcP**	**15 21 37.7**	**-0.5**
	0.5nm,0.5s,baz=175,slow=1.3,SNR=6.5						
MEEK	**Meekatharra**	**31.20**	**193**	P	**P**	**15 18 47.9**	**-0.7**
	baz=30,SNR=6.0						
KSRS	**Korea Array**	**33.41**	**3**	P	**P**	**15 19 09.0**	**+1.3**
	4.2nm,0.7s,baz=183,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**38.62**	**158**	P	**P**	**15 19 53.1**	**+0.8**
	5.7nm,0.6s,baz=345,slow=8.2,SNR=22						
STKA	**Stephens Creek**	**38.62**	**158**	P	**P**	**15 19 53.0**	**+0.8**
	baz=38,SNR=12						
USRK	**Ussuriysk Arra**	**40.46**	**7**	P	**P**	**15 20 08.6**	**+1.2**
	4.8nm,0.6s,baz=188,slow=5.9,SNR=20						
ASAJ	**Asahikawa**	**42.65**	**18**	P	**P**	**15 20 25.4**	**+0.2**
	3.6nm,0.7s,baz=305,slow=25,SNR=7.6						
ARPS	**Mount Arapiles**	**43.15**	**161**	P	**P**	**15 20 30.9**	**+1.6**
	baz=42,SNR=6.8						
TAPN	**Taplejung**	**43.22**	**307**	*e*P	**P**	**15 20 29.2**	**-1.3**
ODAN	**Odare**	**43.27**	**306**	*e*P	**P**	**15 20 28.7**	**-2.2**
YNG	**Young**	**43.55**	**153**	P	**P**	**15 20 34.8**	**+2.1**
	baz=43,SNR=8.4						
RAMN	**Ramite**	**43.95**	**305**	*e*P	**P**	**15 20 34.0**	**-2.3**
	4.7nm,0.6s						
JIRN	**Jiri**	**44.58**	**306**	*e*P	**P**	**15 20 40.1**	**-1.3**
	1.0nm,0.2s						
CNB	**Canberra Magne**	**44.83**	**152**	P	**P**	**15 20 45.5**	**+2.5**
	baz=44,SNR=6.0						
GUN	**Gumba**	**44.93**	**306**	*e*P	**P**	**15 20 42.3**	**-1.9**
	5.4nm,0.4s						
KOLN	**Koldanda**	**46.72**	**305**	*e*P	**P**	**15 20 56.5**	**-1.6**
	8.9nm,0.5s						
DANN	**Dangsing**	**46.82**	**306**	*e*P	**P**	**15 20 57.0**	**-2.0**
	6.6nm,0.4s						
SONM	**Songino Array**	**46.84**	**342**	P	**P**	**15 20 57.1**	**-1.5**
	0.5nm,0.6s,baz=153,slow=7.0,SNR=6.5						
SONM				PcP	**PcP**	**15 22 29.7**	**-0.3**
	1.4nm,0.7s,baz=162,slow=3.9,SNR=12						
SONM				ScP	**ScP**	**15 26 10.8**	**-3.2**
	0.3nm,0.9s,baz=191,slow=3.7,SNR=2.3						
PYUN	**Piuthan**	**47.34**	**305**	*e*P	**P**	**15 21 01.0**	**-2.0**
	5.5nm,0.6s						
MKAR	**Makanchi Array**	**56.91**	**326**	P	**P**	**15 22 11.9**	**-1.4**
	0.7nm,0.3s,baz=118,slow=7.6,SNR=25						
MKAR				PcP	**PcP**	**15 23 06.4**	**-1.2**
	0.9nm,0.6s,baz=120,slow=4.3,SNR=8.6						
MKAR				ScP	**ScP**	**15 26 53.3**	**-4.2**
	0.4nm,0.6s,baz=106,slow=5.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**61.12**	**328**	P	**P**	**15 22 39.8**	**-2.4**
	0.9nm,0.5s,baz=131,slow=6.4,SNR=24						
KURBB				PcP	**PcP**	**15 23 22.7**	**-1.5**
	0.7nm,0.6s,baz=127,slow=5.9,SNR=5.0						
AKTO	**Aktyubinsk**	**72.98**	**322**	P	**P**	**15 23 55.8**	**-1.5**
	0.8nm,0.4s,baz=118,slow=9.8,SNR=4.9						
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**15 25 02.6**	**-1.4**
	0.4nm,0.9s,baz=263,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**89.97**	**340**	P	**P**	**15 25 25.0**	**-1.4**
	2.1nm,0.9s,baz=64,slow=5.5,SNR=4.9						
SPITS	**Spitsbergen Ar**	**90.11**	**349**	P	**P**	**15 25 26.2**	**-0.7**
	4.0nm,0.8s,baz=94,slow=9.3,SNR=4.3						
INK	**Inuvik**	**90.28**	**21**	P	**P**	**15 25 27.4**	**-0.4**
	1.0nm,1.0s,baz=241,slow=4.4,SNR=3.0						
NOA	**NORSAR Array B**	**98.23**	**333**	P	**P**	**15 26 01.9**	**-2.5**
	0.6nm,0.6s,baz=75,slow=1.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.06**	**288**	PKP	**PKPdf**	**15 31 21.1**	**-1.3**
	0.6nm,0.7s,baz=69,slow=1.6,SNR=7.8						

*ISK **02** 15:18:27.6, 39.°17N×29.°46E, h12km, MD2.6*
*CSEM **02** 15:18:27.9±0.1, 39.°16N×29.°46E, h10km, MD2.6, Error ellipse: s-maj=2.4km s-min=2.0km az=137.0*
*ISCJB **02** 15:18:28.0±0.4, 39.°17N±0.°03×29.°44E±0.°03, h9km±3km, Error ellipse: s-maj=4.8km s-min=3.9km az=43.4*
*DDA **02** 15:18:28.2, 39.°15N×29.°42E, h12km, MD2.6*
ISC 02 15:18:27.9±0.8, **39.°16N**±0.°02×**29.°45E**±0.°02, **h13**km±5km, **n40**, σ**0.s35**/56, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.07**	**162**	*i* P	**Pg**	**15 18 31.0**	**+0.2**
GDZ				*i* S	**Sg**	**15 18 32.9**	**+0.1**
GDZ	**Gediz**	**0.07**	**162**	*i* P	**Pg**	**15 18 31.0**	**+0.2**
GDZ				*i* S	**Sg**	**15 18 32.9**	**+0.1**
TVSB	**Tavsanli**	**0.29**	**1**	PG	**Pg**	**15 18 33.8**	**-0.3**
TVSB				SG	**Sg**	**15 18 37.5**	**-0.7**
TVSB	**Tavsanli**	**0.29**	**1**	*i* Pg	**Pg**	**15 18 33.8**	**-0.3**
TVSB				*i* Sg	**Sg**	**15 18 37.5**	**-0.7**
ALT	**Altintas**	**0.52**	**101**	*e*PG	**Pg**	**15 18 38.3**	**+0.1**
ALT	**Altintas**	**0.52**	**101**	*e*Pg	**Pg**	**15 18 38.3**	**+0.1**
DEMI	**Demirci**	**0.58**	**259**	*i* P	**Pg**	**15 18 39.5**	**+0.1**
DEMI				*i* S	**Sg**	**15 18 46.9**	**-0.3**
DEMI	**Demirci**	**0.58**	**259**	*i* P	**Pg**	**15 18 39.5**	**+0.1**
DEMI				*i* S	**Sg**	**15 18 46.9**	**-0.3**
KHAL	**Karahalli**	**0.79**	**178**	*i* P	**Pb**	**15 18 43.6**	**+0.1**
KHAL				*i* S	**Sb**	**15 18 54.2**	**+0.1**
KHAL	**Karahalli**	**0.79**	**178**	*i* P	**Pb**	**15 18 43.6**	**+0.1**
KHAL				*i* S	**Sb**	**15 18 54.2**	**+0.1**
DURS	**Dursunbey**	**0.88**	**301**	*i* P	**Pn**	**15 18 45.7**	**-0.4**
DURS	**Dursunbey**	**0.88**	**301**	*i* P	**Pn**	**15 18 45.7**	**-0.4**
KULA	**Kula-Manisa**	**0.89**	**224**	*e*PG	**Pg**	**15 18 45.2**	**0.0**
KULA	**Kula-Manisa**	**0.89**	**224**	*e*Pg	**Pg**	**15 18 45.2**	**0.0**
MANT	**Manisa**	**0.96**	**227**	*i* P	**Pb**	**15 18 46.5**	**-0.2**
MANT				*i* S	**Sg**	**15 18 58.7**	**-0.6**
MANT	**Manisa**	**0.96**	**227**	*i* P	**Pb**	**15 18 46.5**	**-0.2**
MANT				*i* S	**Sg**	**15 18 58.7**	**-0.6**
ORLT	**Orhaneli**	**0.99**	**334**	*e*PG	**Pn**	**15 18 47.6**	**0.0**
ORLT	**Orhaneli**	**0.99**	**334**	*e*Pg	**Pn**	**15 18 47.6**	**0.0**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**15 18 48.1**	**-0.1**
BORA				*i* S	**Sg**	**15 19 02.1**	**-0.1**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**15 18 48.1**	**-0.1**
BORA				*i* S	**Sg**	**15 19 02.1**	**-0.1**
CAVI	**Cavuskoy**	**1.09**	**16**	*e*PG	**Pn**	**15 18 48.9**	**0.0**
CAVI	**Cavuskoy**	**1.09**	**16**	*e*Pg	**Pn**	**15 18 48.9**	**0.0**
SEYT	**Eskypehyr**	**1.14**	**71**	*i* P	**Pg**	**15 18 50.7**	**+0.7**
SEYT				*i* S	**Sb**	**15 19 04.3**	**-0.1**
SEYT	**Eskypehyr**	**1.14**	**71**	*i* P	**Pg**	**15 18 50.7**	**+0.7**
SEYT				*i* S	**Sb**	**15 19 04.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**340**	*e*PN	**Pb**	**15 18 52.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**340**	*e*Pn	**Pb**	**15 18 52.1**	**+0.1**
GEMT	**Gemlik**	**1.29**	**351**	*e*PN	**Pn**	**15 18 51.8**	**+0.1**
GEMT	**Gemlik**	**1.29**	**351**	*e*Pn	**Pn**	**15 18 51.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.39**	**323**	*e*PN	**Pn**	**15 18 53.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.39**	**323**	*e*Pn	**Pn**	**15 18 53.1**	**0.0**
ARMT	**Armutlu**	**1.48**	**342**	*e*PN	**Pn**	**15 18 54.7**	**+0.4**
ARMT	**Armutlu**	**1.48**	**342**	*e*Pn	**Pn**	**15 18 54.7**	**+0.4**
GULT	**Gulveren**	**1.51**	**32**	*e*PN	**Pn**	**15 18 54.5**	**-0.4**
GULT	**Gulveren**	**1.51**	**32**	*e*Pn	**Pn**	**15 18 54.5**	**-0.4**
BALY	**Balya**	**1.53**	**293**	*i* P	**Pb**	**15 18 56.2**	**-0.1**
BALY				*i* S	**Sb**	**15 19 16.6**	**+1.0**
BALY	**Balya**	**1.53**	**293**	*i* P	**Pb**	**15 18 56.2**	**-0.1**
BALY				*i* S	**Sb**	**15 19 16.6**	**+1.0**
GONE	**Gonen-Balikesi**	**1.63**	**304**	*e*PN	**Pn**	**15 18 56.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.63**	**304**	*e*Pn	**Pn**	**15 18 56.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.63**	**79**	*e*PN	**Pn**	**15 18 56.0**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.63**	**79**	*e*Pn	**Pn**	**15 18 56.1**	**-0.4**

*ISCJB **02** 15:26:06.3±0.5, 26.°58N±0.°06×65.°99E±0.°05, h33km, mb4.0/19, MS3.1/7, Error ellipse: s-maj=8.4km s-min=6.3km az=10.8*
*IDC **02** 15:26:09.1±3.3, 26.°49N×65.°98E, h45km±34km, mb3.9/18, mb1 4.0/20, mb1mx3.8/35, mbtmp3.9/20, ML4.2/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/50, Error ellipse: s-maj=17.0km s-min=13.7km az=38.0*
ISC 02 15:26:08.6±0.6, **26.°58N**±0.°07×**66.°11E**±0.°06, **h35**km, **n54**, σ**1.s63**/53, **mb4.0**/19, **MS3.2**/7, **1C, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.56**	**245**	P	**Pn**	**15 27 54.2**	**-2.2**
	3.5nm,0.3s,baz=89,slow=8.9,SNR=91						
WSAR				S	Sn	15 29 06.6	-14
	9.0nm,0.3s,baz=131,slow=22,SNR=13						
AJM	**Ajmer**	**7.65**	**89**	*e*P	**Pn**	**15 27 59.0**	**+1.4**
AJM				*i* x	**Sn**	**15 29 20.0**	**-3.1**
THW	**Thamme Wali**	**7.90**	**37**	⇑P	**Pn**	**15 28 01.8**	**+0.8**
THW				S	**Sn**	**15 29 28.0**	**-1.1**
KHET	**Khetri**	**8.75**	**78**	*e*P	**Pn**	**15 28 12.6**	**-0.2**
KHET				*e*S	Sn	15 29 38.1	-12
KHET				AML	AML	15 29 49.1	
	comp=N,18nm,0.1s						
KHET				AML	AML	15 29 49.2	
	comp=E,22nm,0.3s						
CEP	**Cherat**	**8.79**	**33**	P	**Pn**	**15 28 14.4**	**+1.0**
CEP				S	**Sn**	**15 29 48.0**	**-3.3**
CHCP	**Chirah Chowk**	**9.39**	**40**	P	**Pn**	**15 28 22.7**	**+1.3**
SONA	**Sohna**	**9.89**	**78**	*e*P	**Pn**	**15 28 28.8**	**+0.4**
SONA				*e*x	x	15 30 09.1	
SONA				AML	AML	15 30 19.7	
	comp=E,48nm,0.3s						
SONA				AML	AML	15 30 19.7	
	comp=N,18nm,0.3s						
AYAN	**Aya Nagar**	**9.96**	**77**	*e*x	x	15 30 09.3	
THN	**Thein Dam**	**10.20**	**53**	*e*P	**Pn**	**15 28 33.3**	**+0.8**
THN				*e*x	**Sn**	**15 30 22.2**	**-3.4**
DLH	**Dalhousie**	**10.44**	**53**	*e*x	**Sn**	**15 30 28.0**	**-3.8**
AGRA	**Agra**	**10.59**	**84**	*e*S	Sn	15 30 18.9	-16
AGRA				AML	AML	15 31 09.3	
	comp=E,43nm,0.2s						
AGRA				AML	AML	15 31 10.2	
	comp=N,57nm,0.1s						
SDNR	**Sundarnagar**	**10.69**	**60**	*e*P	**Pn**	**15 28 40.5**	**+1.2**
SDNR				*e*x	**Sn**	**15 30 33.1**	**-4.7**
POO	**Poona**	**10.74**	**137**	*e*S	Sn	15 30 33.0	-6.0
PYUN	**Piuthan**	**15.08**	**80**	*e*P	**Pn**	**15 29 40.4**	**+1.0**
	comp=N,22nm,0.5s						
PYUN				*e*S	Sn	15 32 14.0	-12
KOLN	**Koldanda**	**15.62**	**82**	*e*P	**Pn**	**15 29 47.5**	**+1.2**
	comp=N,16nm,0.6s						
DANN	**Dangsing**	**15.77**	**80**	*e*P	**Pn**	**15 29 49.5**	**+1.1**
	comp=N,24nm,0.8s						
GKN	**Gorkha**	**16.54**	**81**	*e*P	**P**	**15 29 59.9**	**-0.4**
AML	**Almayashu**	**16.72**	**20**	P	**Pn**	**15 29 58.7**	**-1.8**
	SNR=49						
DMN	**Daman**	**16.95**	**82**	*e*P	**Pn**	**15 30 04.6**	**+1.2**
KKN	**Kakani**	**17.10**	**82**	*e*P	**P**	**15 30 06.8**	**+0.1**
KZA	**Kyzart**	**17.19**	**24**	P	**P**	**15 30 09.6**	**+1.9**
	SNR=41						
PKI	**Pulchoki**	**17.22**	**82**	*e*P	**Pn**	**15 30 08.0**	**+1.2**
EKS2	**Erkin-Say**	**17.23**	**19**	P	**Pn**	**15 30 06.6**	**0.0**
	SNR=15						
AAK	**Ala-Archa**	**17.42**	**21**	P	**Pn**	**15 30 08.6**	**-0.4**
	comp=N,1.1nm,0.3s,baz=193,slow=5.7,SNR=44						
AAK	**Ala-Archa**	**17.42**	**21**	P	**Pn**	**15 30 08.5**	**-0.5**
	SNR=12						
KBK	**Karagaybulak**	**17.59**	**22**	P	**P**	**15 30 14.4**	**+2.5**
	SNR=5.8						
GUN	**Gumba**	**17.63**	**81**	*e*P	**P**	**15 30 12.9**	**+0.2**
	comp=N,37nm,0.8s						
JIRN	**Jiri**	**17.91**	**82**	*e*P	**P**	**15 30 17.7**	**+1.9**
	comp=N,4.7nm,0.6s						
USP	**Ospenovka**	**18.00**	**20**	P	**Pn**	**15 30 14.7**	**-1.3**
	SNR=11						
TKM2	**Tokmak 2**	**18.05**	**23**	P	**Pn**	**15 30 16.3**	**-0.5**
	SNR=10						
RAMN	**Ramite**	**18.31**	**84**	*e*P	**P**	**15 30 20.6**	**+0.6**
	comp=N,13nm,0.5s						
ODAN	**Odare**	**19.02**	**84**	*e*P	**Pn**	**15 30 29.5**	**+0.8**
	comp=N,16nm,0.7s						
MKAR	**Makanchi Array**	**23.90**	**28**	P	**P**	**15 31 19.0**	**-0.1**
	comp=N,3.0nm,0.7s,baz=213,slow=9.9,SNR=40						
MKAR				LR	LR	15 40 21.7	
	comp=N,17nm,19.7s,baz=77,slow=36						
AKTO	**Aktyubinsk**	**24.61**	**348**	P	**P**	**15 31 25.9**	**+0.3**
	comp=N,2.3nm,0.6s,baz=157,slow=6.5,SNR=12						
AKTO				LR	LR	15 42 53.2	
	comp=N,67nm,18.3s,baz=208,slow=41						
KBZ	**Khabaz**	**25.42**	**318**	P	**P**	**15 31 33.7**	**+0.9**
	comp=N,1.9nm,0.7s,baz=69,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**25.82**	**18**	P	**P**	**15 31 36.6**	**+0.1**
	comp=N,1.0nm,0.7s,baz=210,slow=9.1,SNR=7.8						
KURBB				LR	LR	15 44 01.2	
	comp=N,25nm,19.7s,baz=330,slow=41						
ASF	**Jabal al Asfar**	**26.01**	**289**	LR	LR	15 43 35.6	
	comp=N,18nm,21.0s,baz=55,slow=40						
BVAR	**Borovoye Array**	**26.61**	**6**	P	**P**	**15 31 43.9**	**+0.4**
	comp=N,3.8nm,0.7s,baz=176,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**30.65**	**22**	P	**P**	**15 32 19.3**	**-0.2**
	comp=N,0.6nm,0.6s,baz=226,slow=8.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**31.32**	**98**	P	**P**	**15 32 28.0**	**+2.2**
	comp=N,1.0nm,0.3s,baz=293,slow=10,SNR=8.6						
AKASG	**Malin Array Be**	**36.97**	**321**	P	**P**	**15 33 13.7**	**-0.7**
	comp=N,2.7nm,0.8s,baz=119,slow=6.8,SNR=6.8						
MLR	**Muntele Rosu**	**37.09**	**311**	P	**P**	**15 33 18.4**	**+2.7**
	comp=N,0.3nm,0.6s,baz=154,slow=11,SNR=2.9						
SONM	**Songino Array**	**37.90**	**45**	P	**P**	**15 33 24.4**	**+1.9**
	comp=N,0.4nm,0.6s,baz=250,slow=7.9,SNR=5.7						
PSI	**Prapat**	**39.35**	**121**	P	**P**	**15 33 35.5**	**+0.5**
	comp=N,6.8nm,0.5s,baz=266,slow=3.2,SNR=8.0						
FINES	**FINESS Array B**	**43.96**	**334**	P	**P**	**15 34 11.2**	**-0.9**
	comp=N,1.4nm,0.8s,baz=116,slow=13,SNR=4.5						
FINES				LR	LR	15 55 58.5	
	comp=N,43nm,18.9s,baz=131,slow=41						
GERES	**GERESS Array B**	**45.97**	**313**	P	**P**	**15 34 27.8**	**-0.6**
	comp=N,0.2nm,0.4s,baz=62,slow=9.4,SNR=3.5						
ARCES	**ARCESS Array B**	**49.02**	**342**	LR	LR	15 56 37.2	
	comp=N,31nm,20.3s,baz=217,slow=37						
KSRS	**Korea Array**	**52.69**	**62**	P	**P**	**15 35 20.1**	**+0.4**
	comp=N,1.6nm,0.6s,baz=275,slow=7.2,SNR=9.6						
TORD	**Torodi Ar. Bea**	**61.49**	**271**	P	**P**	**15 36 20.9**	**-1.4**
	comp=N,1.3nm,0.6s,baz=60,slow=6.0,SNR=14						
FITZ	**Fitzroy Crossi**	**72.88**	**121**	P	**P**	**15 37 33.7**	**-0.7**
	comp=N,2.4nm,0.9s,baz=188,slow=1.1,SNR=4.7						
WRA	**Warramunga Arr**	**80.70**	**118**	P	**P**	**15 38 17.6**	**-1.0**
	comp=N,2.4nm,0.8s,baz=318,slow=4.6,SNR=25						
ASAR	**Alice Springs**	**82.38**	**121**	P	**P**	**15 38 26.3**	**-1.1**
	comp=N,2.5nm,0.8s,baz=302,slow=5.3,SNR=34						
PMG	**Port Moresby**	**86.26**	**102**	P	**P**	**15 38 46.9**	**-0.3**
	comp=N,7.6nm,0.8s,baz=214,slow=8.8,SNR=3.4						
SCHQ	**Schefferville**	**89.42**	**335**	LR	LR	16 24 20.4	
	comp=N,79nm,19.4s,baz=76,slow=39						

*MAN **02** 15:36:34, 12.°35N×124.°46E, h5km, mb4.8, ML3.7, MS3.7*
*IDC **02** 15:36:47.9±2.1, 12.°23N×124.°49E, h147km±19km, mb3.5/16, mb1 3.7/18, mb1mx3.6/28, mbtmp3.6/18, MS3.6/7, Ms1 3.6/7, ms1mx3.0/38, Error ellipse: s-maj=22.8km s-min=9.6km az=72.0*
ISC 02 15:36:33.5±1.6, **12.°35N**±0.°04×**124.°44E**±0.°06, **h10**km±10km, **n44**, σ**1.s08**/42, **mb3.9**/17, **MS3.7**/6, **1C-3D, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.80**	**271**	⇓*i*P	**Pg**	**15 36 48.9**	**0.0**
MMPH				*i* S	**Sg**	**15 37 00.0**	**+0.7**
BESP	**Borongan**	**1.23**	**127**	*e*P	**Pn**	**15 36 57.6**	**+0.8**
PLP	**Palo**	**1.29**	**156**	⇓*i*P	**Pn**	**15 36 56.7**	**-1.0**
PLP				*i* S	**Sg**	**15 37 14.5**	**-0.5**
OCLP	**Ormoc**	**1.30**	**173**	*e*P	**Pn**	**15 36 58.4**	**+0.6**
OCLP				*e*S	**Sb**	**15 37 16.1**	**+1.2**
AUQP	**San Andres**	**1.98**	**300**	*e*P	**Pn**	**15 37 08.2**	**+1.0**
LLP	**Lapu-Lapu**	**2.07**	**193**	*e*P	**Pn**	**15 37 07.4**	**-1.0**
LLP				*e*S	**Sn**	**15 37 33.2**	**-1.1**
MSLP	**Maasin**	**2.24**	**169**	*e*P	**Pn**	**15 37 11.6**	**+0.8**
GQP	**Guinayangan**	**2.48**	**309**	⇑*e*P	**Pn**	**15 37 13.6**	**-0.5**
GQP				*e*S	**Sb**	**15 37 50.8**	**+1.8**
GUIM	**Jordan**	**2.50**	**227**	*e*P	**Pn**	**15 37 14.4**	**+0.1**
TBP	**Tagbilaran**	**2.70**	**192**	*e*P	**Pn**	**15 37 17.0**	**-0.2**
TBP				*e*S	**Sn**	**15 37 48.5**	**-1.4**
BOAC	**Boac**	**2.76**	**294**	*e*P	**Pn**	**15 37 18.1**	**+0.1**
BUTP	**Butuan**	**3.55**	**161**	*e*P	Pn	15 37 33.4	+4.5
CUYO	**Cuyo Island**	**3.67**	**246**	*e*P	**Pn**	**15 37 30.5**	**0.0**
TGY	**Tagaytay City**	**3.83**	**297**	P	**Pg**	**15 37 45.6**	**-1.4**
	86nm,0.3s,baz=127,slow=6.4,SNR=7.6						
TGY				S	**Sg**	**15 38 34.9**	**-1.8**
	40nm,0.3s,baz=114,slow=17,SNR=3.2						
CGP	**Cagayan de Oro**	**3.88**	**176**	*i* P	**Pn**	**15 37 32.2**	**-1.1**
LUBP	**Lubang**	**4.31**	**289**	*e*P	Pn	15 37 42.9	+3.6
BALP	**Baler**	**4.37**	**321**	*e*P	Pn	15 37 44.6	+4.5
BUKP	**Musuan**	**4.48**	**172**	*e*P	**Pn**	**15 37 44.1**	**+2.4**
PAGZ	**Pagadian**	**4.59**	**193**	*e*P	**Pn**	**15 37 44.9**	**+1.8**
ENPP	**El Nido**	**5.04**	**257**	*e*P	**Pn**	**15 37 48.5**	**-0.8**
PALP	**Palanan**	**5.08**	**338**	*e*P	**Pn**	**15 37 50.3**	**+0.6**
CTBH	**Cotabato--PC H**	**5.10**	**182**	⇓*i*P	**Pn**	**15 37 51.7**	**+1.6**
CAUP	**Cauayan**	**5.22**	**331**	*e*P	**Pn**	**15 37 53.2**	**+1.4**
DAV	**Davao City (W)**	**5.36**	**168**	LR	LR	15 40 19.0	
	comp=Z,680nm,18.6s,baz=290,slow=40						
KAPI	**Kappang**	**17.87**	**195**	P	**P**	**15 40 44.9**	**+1.8**
	0.3nm,0.3s,baz=30,slow=21,SNR=4.4						
JNU	**Nakatsue**	**21.50**	**15**	P	P	15 41 28.1	+5.4
	4.7nm,0.7s,baz=31,slow=16,SNR=4.1						
KSRS	**Korea Array**	**25.19**	**7**	P	**P**	**15 42 00.1**	**+0.8**
	1.7nm,0.8s,baz=182,slow=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**25.30**	**287**	P	**P**	**15 42 00.4**	**-0.2**
	0.7nm,0.3s,baz=111,slow=8.9,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.28**	**178**	P	**P**	**15 42 44.5**	**-0.6**
	1.7nm,0.9s,baz=212,slow=8.2,SNR=2.5						
USRK	**Ussuriysk Arra**	**32.40**	**10**	P	**P**	**15 43 04.0**	**+0.6**
	1.2nm,0.5s,baz=184,slow=7.3,SNR=6.2						
WRA	**Warramunga Arr**	**33.53**	**163**	P	P	15 43 11.4	-2.3
	0.2nm,0.5s,baz=343,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**36.97**	**165**	P	**P**	**15 43 41.8**	**-1.5**
	0.6nm,0.4s,baz=348,slow=7.4,SNR=16						
SONM	**Songino Array**	**38.46**	**340**	P	**P**	**15 43 55.5**	**-0.3**
	1.8nm,0.8s,baz=158,slow=8.6,SNR=15						
SONM				LR	LR	16 01 15.3	
	comp=Z,76nm,19.9s,baz=47,slow=38						
STKA	**Stephens Creek**	**46.95**	**160**	P	**P**	**15 45 04.2**	**-0.5**
	1.3nm,0.9s,baz=290,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**49.30**	**323**	P	**P**	**15 45 23.3**	**+0.5**
	0.7nm,0.8s,baz=114,slow=7.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**51.95**	**331**	P	**P**	**15 45 41.9**	**-0.8**
	1.0nm,0.6s,baz=112,slow=7.8,SNR=7.8						
ZALV				LR	LR	16 08 42.7	
	comp=Z,29nm,21.4s,baz=76,slow=37						
KURBB	**Kurchatov Arra**	**53.35**	**325**	P	**P**	**15 45 52.9**	**-0.2**
	2.8nm,0.9s,baz=120,slow=7.7,SNR=21						
BVAR	**Borovoye Array**	**58.95**	**325**	P	**P**	**15 46 32.6**	**-0.4**
	0.3nm,0.5s,baz=106,slow=9.1,SNR=3.7						
AKTO	**Aktyubinsk**	**65.59**	**320**	LR	LR	16 17 36.2	
	comp=Z,48nm,19.6s,baz=281,slow=37						
KBZ	**Khabaz**	**75.49**	**312**	P	**P**	**15 48 17.4**	**-0.8**
	2.4nm,0.9s,baz=78,slow=15,SNR=3.6						
KBZ				LR	LR	16 26 26.3	
	comp=Z,37nm,20.8s,baz=122,slow=39						
ILAR	**Eielson Array**	**78.36**	**26**	P	P	15 48 40.9	+6.9
	0.7nm,0.8s,baz=254,slow=5.2,SNR=7.1						
ARCES	**ARCESS Array B**	**81.63**	**339**	P	**P**	**15 48 51.1**	**-0.5**
	13nm,1.2s,baz=84,slow=9.2,SNR=3.3						
FINES	**FINESS Array B**	**83.22**	**331**	P	**P**	**15 48 59.2**	**-0.8**
	2.5nm,0.9s,baz=48,slow=6.5,SNR=2.2						
FINES				LR	LR	16 29 58.6	
	comp=Z,59nm,18.4s,baz=324,slow=38						
NOA	**NORSAR Array B**	**90.11**	**333**	LR	LR	16 35 05.9	
	comp=Z,26nm,18.4s,baz=180,slow=39						

MAN 02 15:43:55, 6.°46N×126.°51E, h110km, mb4.6, ML3.4, MS3.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**332**	*e*P	Pn	15 44 14.3	+2.1
MATI				*e*S	Sn	15 44 27.9	+2.9
DMPH	**Davao City--Mi**	**1.18**	**302**	⇑*e*P	Pn	15 44 17.9	-0.2
DMPH				*e*S	Sn	15 44 36.8	+1.3
GSPH	**General Santos**	**1.60**	**257**	⇓*e*P	Pn	15 44 20.5	-2.7
GSPH				*e*S	Sn	15 44 40.4	-4.2
BUKP	**Musuan**	**2.02**	**314**	*e*P	Pn	15 44 29.8	+1.5
BUKP				*e*S	Sn	15 44 43.9	-10

*ISCJB **02** 15:48:20.8±0.5, 6.°88N±0.°06×73.°02W±0.°07, h166km±5km, mb3.5/6, Error ellipse: s-maj=12.3km s-min=6.9km az=35.5*
*FUNV **02** 15:48:21.1, 6.°80N×73.°13W, h173km, MW3.7*
*IDC **02** 15:48:21.7±1.0, 6.°76N×73.°06W, h164km±7km, mb3.3/6, mb1 3.6/8, mb1mx3.3/24, mbtmp3.4/8, Error ellipse: s-maj=24.4km s-min=11.7km az=97.0*
ISC 02 15:48:21.6±0.7, **6.°88N**±0.°06×**73.°04W**±0.°07, **h164**km±6km, **n27**, σ**1.s06**/36, **mb3.6**/6, **10C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**36**	⇑*i*P	**Pn**	**15 48 50.5**	**+0.6**
CAPV				*e*S	**Sn**	**15 49 11.8**	**+0.2**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**15 49 02.0**	**-0.4**
	73nm,0.3s,baz=128,slow=21,SNR=95						
ROSC				S	**Sn**	**15 49 32.5**	**-1.6**
	107nm,0.3s,baz=76,slow=22,SNR=7.8						
VIGV	**El Vigia**	**2.56**	**40**	⇑*i*P	**Pn**	**15 49 04.7**	**+0.5**
VIGV				*e*S	**Sn**	**15 49 36.9**	**-0.3**
SOCV	**Socops**	**2.58**	**57**	⇑*i*P	**Pn**	**15 49 05.0**	**+0.7**
SOCV				*e*S	**Sn**	**15 49 36.9**	**-0.6**
ELOV	**Elorza**	**3.53**	**88**	⇑*i*P	**Pn**	**15 49 16.4**	**+0.1**
VIRV	**Villa del Rosa**	**3.66**	**10**	⇑*i*P	**Pn**	**15 49 17.0**	**-0.8**
VIRV				*e*S	**Sn**	**15 49 59.3**	**-2.4**
QARV	**Quebrada Arrib**	**4.14**	**37**	*e*P	**Pn**	**15 49 24.5**	**+0.4**
CURV	**Curarigua**	**4.36**	**44**	⇑*i*P	**Pn**	**15 49 26.8**	**-0.2**
DABV	**Dabajuro**	**4.67**	**30**	⇑*e*P	**Pn**	**15 49 30.9**	**0.0**
TEPV	**Terepaima**	**4.89**	**51**	⇑*e*P	**Pn**	**15 49 33.6**	**-0.3**
SIQV	**Siquisique**	**4.92**	**40**	⇑*i*P	**Pn**	**15 49 33.9**	**-0.4**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**15 49 38.4**	**-1.6**
MAPV	**Macapo**	**5.40**	**57**	⇑*i*P	**Pn**	**15 49 39.9**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMOV	Isla Los Monje	5.84	21	eP	Pn	15 49 45.2	-1.1
MONV	Montecano	5.88	31	eP	Pn	15 49 46.1	-0.8
TURV	Turiamo	6.25	55	eP	Pn	15 49 51.3	-0.4
CUPV	Cœpira	7.84	66	eP	Pn	15 50 11.1	-1.8
TEIG	Tepich	19.86	313	P	Pn	15 52 42.2	-1.4
	1.5nm,0.3s,baz=112,slow=23,SNR=3.5						
LPAZ	La Paz	23.52	168	P	P	15 53 17.5	-0.2
	0.5nm,0.4s,baz=341,slow=9.6,SNR=4.5						
LPAZ				pP	pP	15 53 49.8	+0.8
	1.7nm,0.7s,baz=347,slow=9.3,SNR=4.0						
SIV	San Ignacio	25.62	153	pP	pP	15 54 09.3	-0.7
	0.9nm,0.7s,baz=333,slow=7.8,SNR=3.0						
TXAR	Lajitas Array	36.49	312	P	P	15 55 12.1	+0.8
	0.4nm,0.6s,baz=115,slow=8.4,SNR=4.1						
ULM	Lac du Bonnet	47.26	340	P	P	15 56 39.1	+0.9
	0.8nm,0.3s,baz=138,slow=6.8,SNR=3.2						
SCHQ	Schefferville	48.08	5	P	P	15 56 46.1	+1.7
	2.1nm,0.9s,baz=217,slow=8.6,SNR=3.4						
PDAR	Pinedale Array	48.08	324	P	P	15 56 46.0	+1.0
	0.2nm,0.4s,baz=128,slow=12,SNR=3.5						
YKA	Yellowknife Ar	63.24	340	P	P	15 58 32.4	+0.2
	0.8nm,0.6s,baz=131,slow=6.7,SNR=18						
YKA				pP	pP	15 59 11.7	+0.7
	0.2nm,0.4s,baz=128,slow=7.1,SNR=3.1						
ASAR	Alice Springs	149.21	234	PKP	PKPdf	16 07 47.0	-0.3
	0.6nm,0.8s,baz=18,slow=38,SNR=16						
ASAR				PKPbc	PKPbc	16 07 50.4	-1.3
	1.4nm,0.7s,baz=120,slow=3.6,SNR=25						
WRA	Warramunga Arr	150.44	241	PKP	PKPdf	16 07 48.6	-0.7
	0.6nm,0.4s,baz=108,slow=2.6,SNR=2.9						
WRA				PKPbc	PKPbc	16 07 53.5	-1.2
	0.9nm,0.4s,baz=109,slow=2.6,SNR=29						
WRA				pPKPbc	pPKPbc	16 08 35.7	-2.0
	0.2nm,0.5s,baz=106,slow=2.7,SNR=1.6						

*ISCJB **02** 15:48:53.4±0.5, 37°.82N±0°.02×29°.11E±0°.04, h4km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=177.8*
*ISK **02** 15:48:53.1, 37°.81N×29°.13E, h6km, MD3.1*
*DDA **02** 15:48:53.0, 37°.83N×29°.07E, h3km, MD3.0*
*CSEM **02** 15:48:53.2±0.1, 37°.82N×29°.13E, h2km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.7km az=101.0*
ISC 02 15:48:53.5±0.9, **37°.83N**±0°.02×**29°.12E**±0°.02, **h6**km±9km, **n50**, σ0.**64**/67, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.10	220	PG	Pg	15 48 55.6	-0.1
DENT	Denizli	0.10	220	i Pg	Pg	15 48 55.7	-0.1
DNZL	Cakiroluk	0.15	201	i P	Pg	15 48 56.6	-0.1
DNZL				i S	Sg	15 48 58.7	-0.2
DNZL	Cakiroluk	0.15	201	i P	Pg	15 48 56.6	-0.1
DNZL				i S	Sg	15 48 58.7	-0.2
KHL	Karahalli	0.59	33	ePG	Pg	15 49 05.1	+0.2
KHL	Karahalli	0.59	33	ePg	Pg	15 49 05.1	+0.2
KHAL	Karahalli	0.61	29	i P	Pg	15 49 04.8	-0.6
KHAL				i S	Sb	15 49 14.7	-0.9
KHAL	Karahalli	0.61	29	i P	Pg	15 49 04.8	-0.6
KHAL				i S	Sb	15 49 14.7	-0.9
GOLH	Golhisar	0.69	149	i P	Pg	15 49 06.4	-0.4
GOLH				i S	Sb	15 49 17.7	-0.1
GOLH	Golhisar	0.69	149	i P	Pg	15 49 06.4	-0.4
GOLH				i S	Sb	15 49 17.7	-0.1
KULA	Kula-Manisa	0.77	332	ePG	Pg	15 49 08.5	+0.2
KULA				eSG	Sb	15 49 20.4	+0.3
KULA	Kula-Manisa	0.77	332	ePg	Pg	15 49 08.5	+0.2
KULA				eSg	Sb	15 49 20.4	+0.3
MANT	Manisa	0.79	326	i P	Pg	15 49 08.2	-0.6
MANT				i S	Sb	15 49 20.3	-0.6
MANT	Manisa	0.79	326	i P	Pg	15 49 08.2	-0.6
MANT				i S	Sb	15 49 20.3	-0.6
YER	Yerkesik	0.96	224	ePG	Pg	15 49 11.4	-0.5
YER	Yerkesik	0.96	224	ePg	Pg	15 49 11.4	-0.5
AYDN	Tasoluk	0.99	261	i P	Pg	15 49 12.0	-0.6
AYDN				i S	Sg	15 49 24.4	-1.1
AYDN	Tasoluk	0.99	261	i P	Pg	15 49 12.0	-0.6
AYDN				i S	Sg	15 49 24.4	-1.1
ISP	Isparta	1.11	90	ePN	Pb	15 49 14.7	-0.5
ISP	Isparta	1.11	90	ePn	Pb	15 49 14.7	-0.5
MLSB	Milas	1.19	244	ePN	Pb	15 49 16.5	0.0
MLSB	Milas	1.19	244	ePn	Pb	15 49 16.5	0.0
DEMI	Demirci	1.25	346	i P	Pg	15 49 16.7	-0.8
DEMI				i S	Sb	15 49 34.7	+0.8
DEMI	Demirci	1.25	346	i P	Pg	15 49 16.7	-0.8
DEMI				i S	Sb	15 49 34.7	+0.8
ELL	Elmali	1.25	149	ePN	Pn	15 49 17.2	-0.4
ELL	Elmali	1.25	149	ePn	Pn	15 49 17.3	-0.4
SHUT	Suhut-Afyon	1.34	57	ePN	Pg	15 49 18.7	-0.5
SHUT	Suhut-Afyon	1.34	57	ePn	Pg	15 49 18.7	-0.5
ALT	Altintas	1.45	32	ePN	Pb	15 49 20.9	-0.1
ALT	Altintas	1.45	32	ePn	Pb	15 49 20.9	-0.1
AKHS	Akhisar	1.46	316	i P	Pn	15 49 20.5	0.0
AKHS				i S	Sg	15 49 41.2	+0.6
AKHS	Akhisar	1.46	316	i P	Pn	15 49 20.5	0.0
AKHS				i S	Sg	15 49 41.2	+0.6
AKS	Akhisar	1.46	316	ePN	Pn	15 49 20.7	+0.2
AKS	Akhisar	1.46	316	ePn	Pn	15 49 20.7	+0.2
IZM	Izmir	1.57	292	ePN	Pb	15 49 23.1	+0.2
IZM	Izmir	1.57	292	ePn	Pb	15 49 23.1	+0.2
BODT	Bodrum	1.63	242	ePN	Pn	15 49 22.8	+0.1
BODT	Bodrum	1.63	242	ePn	Pn	15 49 22.8	+0.1
TVSB	Tavsanli	1.64	9	ePN	Pn	15 49 23.6	+0.7
TVSB	Tavsanli	1.64	9	ePn	Pn	15 49 23.6	+0.7
AKAS	Kas	1.64	166	i P	Pg	15 49 24.9	-0.1
AKAS				i S	Sg	15 49 49.2	+2.9
AKAS	Kas	1.64	166	i P	Pg	15 49 24.9	-0.1
DAT	Datca	1.65	229	ePN	Pn	15 49 23.6	+0.6
DAT	Datca	1.65	229	ePn	Pn	15 49 23.6	+0.6
BLCB	Balcova	1.73	289	ePN	Pn	15 49 24.7	+0.7
BLCB	Balcova	1.73	289	ePn	Pn	15 49 24.7	+0.7
DST	Dursunbey	1.81	348	ePN	Pn	15 49 26.0	+0.7
DST	Dursunbey	1.81	348	ePn	Pn	15 49 26.0	+0.7
BALB	Balikesir	2.05	332	ePN	Pn	15 49 28.9	+0.4
BALB	Balikesir	2.05	332	ePn	Pn	15 49 28.9	+0.4

IDC 02 15:55:24.6±5.3, **5°.65S**×**146°.69E**, **h83**km±46km, **mb3.7**/4, **mb1 3.9**/6, **mb1mx3.5**/19, **mbtmp3.7**/6, **ML3.7**/2, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.4**/28, **Error ellipse: s-maj=40.0km s-min=29.6km az=151.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.76	173	P	Pn	15 56 21.2	+0.9
	8.5nm,0.3s,baz=348,slow=6.1,SNR=57						
PMG				S	Sn	15 57 03.6	+0.2
	5.9nm,0.3s,baz=141,slow=21,SNR=4.1						
CTA	Charters Tower	14.36	182	P	P	15 58 48.4	0.0
	baz=360,slow=16						
CTA				LR	LR	16 03 10.8	
	comp=Z,86nm,18.3s,baz=56,slow=32						
WRA	Warramunga Arr	18.60	219	P	P	15 59 35.4	-0.1
	0.6nm,0.3s,baz=48,slow=13,SNR=34						
ASAR	Alice Springs	21.73	213	P	P	16 00 09.4	+0.1
	2.1nm,0.5s,baz=51,slow=8.2,SNR=86						
FITZ	Fitzroy Crossi	23.99	237	P	P	16 00 31.7	0.0
	22nm,0.8s,baz=77,slow=8.1						
STKA	Stephens Creek	26.52	190	P	P	16 00 54.2	-0.3
	0.9nm,0.6s,baz=32,slow=12,SNR=4.7						
ILAR	Eielson Array	85.29	23	P	P	16 07 51.2	-0.8
	0.4nm,0.7s,baz=247,slow=5.2,SNR=4.7						
TORD	Torodi Ar. Bea	144.70	285	PKP	PKPab	16 14 51.4	-0.3
	0.4nm,0.7s,baz=87,slow=3.1,SNR=2.9						
SIV	San Ignacio	145.11	128	PKPbc	PKPdf	16 14 53.5	-0.1
	2.3nm,0.8s,baz=251,slow=3.9,SNR=9.5						

IDC 02 16:02:28.5±17.0, **22°.58S**×**174°.11W**, **h0**km, **mb4.0**/5, **mb1 4.1**/5, **mb1mx3.9**/22, **mbtmp4.0**/5, **Error ellipse: s-maj=319.3km s-min=147.0km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.94	266	P	P	16 09 40.6	+1.0
	3.4nm,0.5s,baz=84,slow=11,SNR=9.2						
STKA	Stephens Creek	40.24	247	P	P	16 10 05.7	-1.5
	2.6nm,1.0s,baz=90,slow=13,SNR=4.0						
ASAR	Alice Springs	47.61	258	P	P	16 11 05.8	-0.8
	0.3nm,0.5s,baz=91,slow=6.8,SNR=16						
WRA	Warramunga Arr	47.93	263	P	P	16 11 08.9	-0.2
	1.2nm,0.4s,baz=99,slow=8.3,SNR=28						
FITZ	Fitzroy Crossi	56.36	263	P	P	16 12 12.5	+0.6
	0.9nm,0.6s,baz=97,slow=8.1,SNR=3.3						

*ISK **02** 16:08:17.8, 37°.81N×29°.14E, h11km, MD2.7*
*ISCJB **02** 16:08:18.1±0.6, 37°.81N±0°.04×29°.13E±0°.06, h10km±5km, Error ellipse: s-maj=8.4km s-min=4.9km az=32.6*
*DDA **02** 16:08:18.2, 37°.83N×29°.10E, h7km, MD2.8*
*CSEM **02** 16:08:18.0±0.1, 37°.82N×29°.12E, h10km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.4km az=109.0*
ISC 02 16:08:18.1±0.9, **37°.82N**±0°.03×**29°.11E**±0°.04, **h11**km±7km, **n22**, σ0.**35**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.09	224	PG	Pg	16 08 20.9	+0.1
DENT	Denizli	0.09	224	i Pg	Pg	16 08 20.9	+0.1
DNZL	Cakiroluk	0.14	202	i P	Pg	16 08 21.7	+0.1
DNZL				i S	Sg	16 08 23.8	-0.2
DNZL	Cakiroluk	0.14	202	i P	Pg	16 08 21.7	+0.1
DNZL				i S	Sg	16 08 23.8	-0.2
KHL	Karahalli	0.60	33	ePG	Pg	16 08 30.1	+0.3
KHL				eSG	Sb	16 08 38.6	-0.6
KHL	Karahalli	0.60	33	ePg	Pg	16 08 30.1	+0.3
KHL				eSg	Sb	16 08 38.6	-0.6
KHAL	Karahalli	0.62	28	i P	Pg	16 08 29.7	-0.6
KHAL				i S	Sg	16 08 39.2	+0.6
KHAL	Karahalli	0.62	28	i P	Pg	16 08 29.7	-0.6
KHAL				i S	Sg	16 08 39.2	+0.6
GOLH	Golhisar	0.68	148	i P	Pg	16 08 31.6	+0.2
GOLH	Golhisar	0.68	148	i P	Pg	16 08 31.6	+0.2
KULA	Kula-Manisa	0.78	333	ePG	Pg	16 08 33.5	+0.4
KULA	Kula-Manisa	0.78	333	ePg	Pg	16 08 33.6	+0.4
MANT	Manisa	0.80	327	i P	Pg	16 08 33.5	-0.2
MANT				i S	Sb	16 08 45.5	+0.4
MANT	Manisa	0.80	327	i P	Pg	16 08 33.5	-0.2
MANT				i S	Sb	16 08 45.5	+0.4
YER	Yerkesik	0.95	224	ePG	Pb	16 08 36.7	0.0
YER	Yerkesik	0.95	224	ePg	Pb	16 08 36.7	0.0
AYDN	Tasoluk	0.99	261	i P	Pb	16 08 37.5	+0.1
AYDN				i S	Sg	16 08 49.9	-0.3
AYDN	Tasoluk	0.99	261	i P	Pb	16 08 37.5	+0.1
AYDN				i S	Sg	16 08 49.9	-0.3
FETY	Fethiye	1.18	181	ePN	Pn	16 08 40.7	0.0
FETY	Fethiye	1.18	181	ePn	Pn	16 08 40.7	0.0
TVSB	Tavsanli	1.65	9	ePN	Pn	16 08 47.0	-0.2
TVSB	Tavsanli	1.65	9	ePn	Pn	16 08 47.0	-0.2

IDC 02 16:09:32.5±3.8, **8°.26S**×**156°.07E**, **h0**km, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.4**/18, **mbtmp3.3**/4, **MS4.1**/1, **Ms1 4.1**/1, **ms1mx2.7**/16, **Error ellipse: s-maj=109.5km s-min=30.8km az=116.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.02	239	P	P	16 14 50.0	+0.6
	0.5nm,0.7s,baz=63,slow=9.5,SNR=6.0						
ASAR	Alice Springs	26.18	232	P	P	16 15 08.5	-0.6
	0.3nm,0.8s,baz=70,slow=9.2,SNR=3.0						
JOW	Kunigami	44.09	323	LR	LR	16 33 39.4	
	comp=Z,211nm,19.1s,baz=95,slow=33						
SONM	Songino Array	70.97	327	P	P	16 20 53.1	+1.0
	0.3nm,0.6s,baz=133,slow=5.9,SNR=4.4						
MKAR	Makanchi Array	85.05	319	P	P	16 22 08.9	-1.4
	0.1nm,0.5s,baz=100,slow=6.5,SNR=3.7						

*ISCJB **02** 16:12:07.8±0.5, 37°.83N±0°.03×29°.09E±0°.05, h10km±5km, Error ellipse: s-maj=6.5km s-min=4.2km az=23.0*
*ISK **02** 16:12:07.5, 37°.83N×29°.13E, h8km, MD2.6*
*DDA **02** 16:12:07.7, 37°.84N×29°.09E, h7km, MD2.6*
*CSEM **02** 16:12:07.8±0.1, 37°.83N×29°.10E, h8km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.7km az=105.0*
ISC 02 16:12:08.1±0.9, **37°.82N**±0°.02×**29°.09E**±0°.03, **h10**km±6km, **n22**, σ0.**42**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.08	217	PG	Pg	16 12 10.3	-0.1
DENT				SG	Sg	16 12 12.4	+0.3
DENT	Denizli	0.08	217	i Pg	Pg	16 12 10.3	-0.1
DENT				i Sg	Sg	16 12 12.4	+0.3
DNZL	Cakiroluk	0.14	196	i P	Pg	16 12 10.8	-0.5
DNZL				i S	Sg	16 12 13.3	-0.2
DNZL	Cakiroluk	0.14	196	i P	Pg	16 12 10.8	-0.5
DNZL				i S	Sg	16 12 13.3	-0.2
KHL	Karahalli	0.61	34	ePG	Pg	16 12 19.4	-0.4
KHL				eSG	Sg	16 12 28.1	+0.3
KHL	Karahalli	0.61	34	ePg	Pg	16 12 19.5	-0.4
KHL				eSg	Sg	16 12 28.2	+0.3
KHAL	Karahalli	0.63	30	i P	Pg	16 12 19.6	-0.8
KHAL				i S	Sg	16 12 28.9	+0.2
KHAL	Karahalli	0.63	30	i P	Pg	16 12 19.6	-0.8
KHAL				i S	Sg	16 12 28.9	+0.2
GOLH	Golhisar	0.69	147	i P	Pg	16 12 21.1	-0.3
GOLH				i S	Sb	16 12 32.4	+0.5
GOLH	Golhisar	0.69	147	i P	Pg	16 12 21.1	-0.3
GOLH				i S	Sb	16 12 32.4	+0.5
KULA	Kula-Manisa	0.77	334	ePG	Pg	16 12 22.9	-0.1
KULA	Kula-Manisa	0.77	334	ePg	Pg	16 12 22.9	-0.1
MANT	Manisa	0.79	328	i P	Pg	16 12 22.9	-0.5
MANT				i S	Sg	16 12 34.2	+0.4
MANT	Manisa	0.79	328	i P	Pg	16 12 22.9	-0.5
MANT				i S	Sg	16 12 34.2	+0.4
YER	Yerkesik	0.94	224	ePG	Pb	16 12 26.8	+0.3
YER	Yerkesik	0.94	224	ePg	Pb	16 12 26.8	+0.3
AYDN	Tasoluk	0.98	261	i P	Pg	16 12 26.8	-0.1
AYDN				i S	Sg	16 12 38.8	-0.7
AYDN	Tasoluk	0.98	261	i P	Pg	16 12 26.8	-0.1
AYDN				i S	Sg	16 12 38.8	-0.7
ELL	Elmali	1.25	148	ePN	Pn	16 12 31.6	-0.2
ELL	Elmali	1.25	148	ePn	Pn	16 12 31.6	-0.2
ALT	Altintas	1.47	33	ePN	Pn	16 12 34.5	-0.3
ALT	Altintas	1.47	33	ePn	Pn	16 12 34.5	-0.3

*IDC **02** 16:12:51.6±0.8, 0°.59S×133°.29E, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.1/23, mbtmp4.2/11, ML4.4/3, MS3.4/4, Ms1 3.4/4, ms1mx2.8/41, Error ellipse: s-maj=39.4km s-min=12.2km az=80.0*
*ISCJB **02** 16:12:54.8±0.5, 0°.62S±0°.04×133°.23E±0°.05, h32km, mb4.0/11, MS3.5/2, Error ellipse: s-maj=7.7km s-min=6.1km az=158.7*
*DJA **02** 16:12:59.6±0.5, 1°S±4°×13°3E±°, h59km±10km, M4.7/9, mB5.2/2, mb4.8/9, MLv4.6/8, Mw(mB)4.6/2*
*NEIC **02** 16:13:00.4±5.3, 0°.68S×133°.05E, h62km±49km, mb4.0/3, Error ellipse: s-maj=38.7km s-min=11.0km az=56.0*
*AUST **02** 16:13:04.6±1.4, 1°.13S×132°.72E, h72km, Error ellipse: s-maj=2.1km s-min=1.0km az=247.0*
ISC 02 16:12:57.7±0.6, **0°.65S**±0°.05×**133°.15E**±0°.06, **h32**km, **n56**, σ1.**82**/58, **mb4.2**/11, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.90	263	P	Pn	16 13 25.4	-2.6
	baz=1.5,SNR=165						
SWI	Sorong	1.90	263	P	Pn	16 13 26.0	-2.0
SWI				S	Sn	16 13 50.3	-0.6
FAKI	Fak Fak	2.43	202	P	Pn	16 13 35.7	+0.4
FAKI				S	Sn	16 14 05.1	+1.1
BAKI	Biak	3.00	100	P	Pn	16 13 44.5	+1.3
TLE	Tual	4.98	185	P	Pn	16 14 11.4	+1.1
	baz=4.5,SNR=25						
TLE				S	Sn	16 15 10.9	+4.1
	baz=4.5,SNR=8.1						
TLE	Tual	4.98	185	P	Pn	16 14 11.6	+1.3
TLE				S	Sn	16 15 07.5	+0.7
MSAI	Masohi	5.00	237	P	Pn	16 14 12.2	+1.6
LBMI	Labuha	5.65	270	P	Pn	16 14 20.0	+0.4
	112nm,0.8s,0.5nm						
AAI	Ambon	5.80	239	P	Pn	16 14 22.2	+0.6
	baz=5.2,SNR=14						
AAI	Ambon	5.80	239	P	Pn	16 14 21.1	-0.5
	251nm,0.7s,2µm0.8nm						
TNTI	Ternate	5.95	284	P	Pn	16 14 25.6	+1.9
	99nm,1.5s,0.3nm						
MNI	Manado	8.56	284	P	Pn	16 15 00.9	+1.3
	74nm,0.7s						
KDI	Kendari	11.02	252	P	Pn	16 15 33.6	+0.3
	7.9nm,0.9s						
KDU	Kakadu	11.98	183	P	Pn	16 15 43.8	-2.6
	baz=12,SNR=119						
KDU				S	Sn	16 17 54.0	-5.1
	baz=12,SNR=6.7						
MTN	Manton Dam	12.28	189	P	Pn	16 15 47.7	-2.9
	baz=12,SNR=135						
MTN				S	Sn	16 18 04.7	-1.7
	baz=12,SNR=4.7						
PCI	Palu	13.31	269	S	Sn	16 18 43.5	+12
	baz=13,SNR=6.2						
KAPI	Kappang	14.07	252	Pn	Pn	16 16 16.3	+1.4
	2.1nm,0.3s,baz=167,slow=23,SNR=4.3						
KAPI	Kappang	14.07	252	Pn	Pn	16 16 16.3	+1.4
KAPI	Kappang	14.07	252	P	Pn	16 16 16.4	+1.4
KKM	Kota Kinabalu	18.17	292	P	P	16 17 12.3	+4.4
GUMO	Guam	18.30	39	LR	LR	16 22 46.4	
	comp=Z,51nm,18.4s,baz=92,slow=33						
FITZ	Fitzroy Crossi	18.85	203	P	P	16 17 13.0	-2.3
	0.9nm,0.3s,baz=38,slow=12,SNR=14						
FITZ				S	Sn	16 20 29.8	-16
	0.4nm,0.3s,baz=150,slow=14,SNR=3.6						
FITZ				LR	LR	16 23 59.1	
	comp=Z,86nm,18.3s,baz=14,slow=35						
FITZ	Fitzroy Crossi	18.85	203	eP	P	16 17 13.4	-1.9
	4.4nm,0.6s						
FITZ				S	Sn	16 20 29.8	-16
FITZ	Fitzroy Crossi	18.85	203	P	P	16 17 13.6	-1.7
	baz=18,SNR=6.2						
WRAB	Tennant Creek	19.21	177	eP	P	16 17 18.5	-0.7
	6.3nm,0.6s						
WRA	Warramunga Arr	19.21	177	P	P	16 17 17.7	-1.6
	0.9nm,0.3s,baz=355,slow=13,SNR=45						
WRA				S	Sn	16 20 41.5	-14
	0.4nm,0.3s,baz=1.4,slow=23,SNR=5.9						
WRA	Warramunga Arr	19.21	177	P	P	16 17 17.7	-1.6
WRA				S	Sn	16 20 41.5	-14
ASAR	Alice Springs	22.90	178	P	P	16 17 58.4	-0.6
	6.8nm,0.5s,baz=356,slow=11,SNR=95						
ASAR				S	S	16 22 09.8	+3.0
	3.8nm,1.1s,baz=0.3,slow=19,SNR=10						
ASAR	Alice Springs	22.90	178	P	P	16 17 58.4	-0.6
ASAR				S	S	16 22 09.8	+3.0
CTA	Charters Tower	23.19	147	P	P	16 18 03.5	+1.5
	7.1nm,0.7s,baz=338,slow=11,SNR=10						
CTA	Charters Tower	23.19	147	P	P	16 18 03.5	+1.5
CTAO	Charters Tower	23.19	147	eP	P	16 18 03.6	+1.5
QLP	Quilpie	27.91	158	P	P	16 18 44.7	-0.4
	baz=28,SNR=4.7						
STKA	Stephens Creek	32.07	166	P	P	16 19 20.8	-1.1
	2.8nm,0.3s,baz=336,slow=9.1,SNR=28						
STKA	Stephens Creek	32.07	166	P	P	16 19 20.8	-1.1
STKA	Stephens Creek	32.07	166	P	P	16 19 21.0	-0.9
	baz=32,SNR=22						
JHJ	Hachijo jima 2	34.16	10	LR	LR	16 30 51.2	
	comp=Z,163nm,18.6s,baz=71,slow=32						
ARPS	Mount Arapiles	36.84	168	P	P	16 20 03.1	+0.1
	baz=37,SNR=10						
KSRS	Korea Array	38.22	353	LR	LR	16 34 44.1	
	comp=Z,33nm,18.2s,baz=167,slow=34						
CMAR	Chiang Mai Arr	38.61	301	P	P	16 20 21.2	+2.9
	0.6nm,0.8s,baz=116,slow=7.1,SNR=3.2						
CMAR	Chiang Mai Arr	38.61	301	P	P	16 20 21.2	+2.9
MKAR	Makanchi Array	64.81	324	P	P	16 23 32.1	-1.4
	0.8nm,0.7s,baz=118,slow=8.0,SNR=8.8						
MKAR	Makanchi Array	64.81	324	P	P	16 23 32.1	-1.4
ZALV	Zalesovo Beam	67.42	331	P	P	16 23 48.9	-1.2
	0.5nm,0.4s,baz=140,slow=4.7,SNR=3.5						
ZALV	Zalesovo Beam	67.42	331	P	P	16 23 48.9	-1.2
KURK	Kurchatov	68.89	326	eP	P	16 23 58.5	-0.9
KURBB	Kurchatov Arra	68.89	326	P	P	16 23 58.6	-0.7
	1.8nm,0.8s,baz=120,slow=5.8,SNR=20						
BVAR	Borovoye Array	74.48	326	P	P	16 24 32.1	-0.8
	1.3nm,0.7s,baz=128,slow=4.3,SNR=5.3						
BVAR	Borovoye Array	74.48	326	P	P	16 24 32.1	-0.8
BRVK	Borovoye	74.55	326	P	P	16 24 32.6	-0.8
	1.7nm,0.7s						
VNDA	Vanda	78.36	174	P	P	16 24 54.6	+0.1
	1.0nm,0.4s,baz=313,slow=6.9,SNR=11						
VNDA	Vanda	78.36	174	eP	P	16 24 55.5	+0.9
ILAR	Eielson Array	86.30	25	P	P	16 25 34.2	-2.0
	0.4nm,0.7s,baz=252,slow=4.4,SNR=9.4						
ILAR	Eielson Array	86.30	25	P	P	16 25 34.2	-2.0
LPAZ	La Paz	153.09	130	PKPbc	PKPbc	16 32 52.9	-1.1
	0.8nm,0.5s,baz=202,slow=5.4,SNR=3.6						
LPAZ	La Paz	153.09	130	PKPbc	PKPbc	16 32 52.9	-1.1

*ISK **02** 16:14:24.5, 37°.72N×29°.62E, h8km, MD2.6*
*ISCJB **02** 16:14:28.9±0.8, 37°.91N±0°.07×29°.2E±0°.1, h3km±16km, Error ellipse: s-maj=19.4km s-min=6.0km az=32.5*
*CSEM **02** 16:14:28.6±0.5, 37°.94N×29°.28E, h12km, MD2.6, Error ellipse: s-maj=20.9km s-min=11.4km az=115.0*
*DDA **02** 16:14:31.0, 37°.83N×29°.09E, h8km, MD2.4*
ISC 02 16:14:30.0±1.2, **37°.88N**±0°.05×**29°.18E**±0°.06, **h1**km±25km, **n14**, σ0.**83**/14, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.17	224	PG	Pg	16 14 33.8	+0.5
DENT	Denizli	0.17	224	i Pg	Pg	16 14 33.8	+0.5
DNZL	Cakiroluk	0.22	210	i P	Pg	16 14 34.5	+0.3
DNZL				i S	Sg	16 14 36.8	-0.2
DNZL	Cakiroluk	0.22	210	i P	Pg	16 14 34.5	+0.3
DNZL				i S	Sg	16 14 36.8	-0.2
KHL	Karahalli	0.52	31	ePG	Pg	16 14 36.7	-3.3
KHL				eSG	Sg	16 14 45.5	-1.2
KHL	Karahalli	0.52	31	ePg	Pg	16 14 36.7	-3.3
KHL				eSg	Sg	16 14 45.5	-1.2
GOLH	Golhisar	0.71	155	i P	Pg	16 14 44.1	+0.6
GOLH	Golhisar	0.71	155	i P	Pg	16 14 44.1	+0.6
KULA	Kula-Manisa	0.76	327	ePN	Pb	16 14 46.8	+0.8
KULA	Kula-Manisa	0.76	327	ePn	Pb	16 14 46.8	+0.8
AYDN	Tasoluk	1.05	259	i P	Pb	16 14 50.2	-0.8
AYDN	Tasoluk	1.05	259	i P	Pb	16 14 50.2	-0.8
ALT	Altintas	1.38	32	ePN	Pn	16 14 51.1	-5.4
ALT	Altintas	1.38	32	ePn	Pn	16 14 51.1	-5.4

*IDC **02** 16:26:23.3±1.5, 14°.24N×123°.67E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/23, mbtmp3.2/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=293.8km s-min=24.2km az=72.0*
*MAN **02** 16:27:11, 10°.01N×125°.95E, h54km, mb4.0, ML2.8, MS2.5*
ISC 02 16:26:59.0±22.0, **11°N**±2°×**126°.3E**±0°.3, **h66**km, **n12**, σ0.**95**/4, **2D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	1.35	281⇓	eP	Pn	16 27 37.3	+15
PLP				eS	Sn	16 27 56.5	+17
MSLP	Maasin	1.64	242	eP	Pn	16 27 30.9	+5.2
MSLP				eS	Sn	16 27 45.8	-0.1
OCLP	Ormoc	1.70	275	eP	Pn	16 27 39.1	+13
BUTP	Butuan	2.04	200	eP	Pn	16 27 30.6	-0.6
BUTP				eS	x	16 27 46.4	
LLP	Lapu-Lapu	2.40	256	eP	Pn	16 27 43.3	+7.3
LLP				eS	Sn	16 28 07.6	+3.2
TBP	Tagbilaran	2.71	244	eP	Pn	16 27 45.3	+5.0
TBP				eS	Sn	16 28 11.4	-0.6
CGP	Cagayan de Oro	2.92	214	i P	Pn	16 27 43.1	0.0
CGP				i S	Sn	16 28 08.0	-9.0
BUKP	Musuan	3.25	203	eP	Pn	16 27 48.5	+0.7
CTBH	Cotabato--PC H	4.20	210⇓	iP	Pn	16 27 56.8	-3.8
CBIJ	Chichi jima	21.96	41	LR	LR	16 38 10.8	
	comp=Z,90nm,18.9s,baz=110,slow=33						
WRA	Warramunga Arr	31.65	166	P	P	16 33 21.6	+5.4
	0.2nm,0.5s,baz=342,slow=9.0,SNR=3.4						
ASAR	Alice Springs	35.15	168	P	P	16 33 52.0	+5.4
	0.3nm,0.4s,baz=350,slow=6.8,SNR=21						

*CSEM **02** 16:50:41.6±0.6, 36°.88N×27°.87E, h15km, MD2.0, Error ellipse: s-maj=13.6km s-min=9.3km az=1.0*
*ISCJB **02** 16:50:44.0±2.0, 36°.93N±0°.06×27°.7E±0°.1, h19km±26km, Error ellipse: s-maj=15.0km s-min=8.4km az=154.0*
*DDA **02** 16:50:43.5, 36°.93N×27°.70E, h7km, MD2.6*
*ISK **02** 16:50:43.2, 36°.92N×27°.66E, h22km, MD2.0*
ISC 02 16:50:41.0±1.2, **36°.87N**±0°.04×**27°.86E**±0°.03, **h3**km±14km, **n12**, σ0.**55**/21, **Dodecanese Islands**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.26**	**238**	*e*PG	**Pb**	**16 50 48.9**	**+0.5**
DAT				*e*SG	**Sb**	**16 50 53.1**	**-0.3**
DAT	**Datca**	**0.26**	**238**	*e*Pg	**Pb**	**16 50 48.9**	**+0.5**
DAT				*e*Sg	**Sb**	**16 50 53.1**	**-0.3**
BDRM	**Kayabasi**	**0.38**	**301**	*i* P	**Pg**	**16 50 48.7**	**+0.3**
BDRM				*i* S	**Sg**	**16 50 52.6**	**-0.8**
BDRM	**Kayabasi**	**0.38**	**301**	*i* P	**Pg**	**16 50 48.7**	**+0.3**
BDRM				*i* S	**Sg**	**16 50 52.6**	**-0.8**
MLSB	**Milas**	**0.43**	**352**	*e*PG	**Pb**	**16 50 51.9**	**+0.6**
MLSB	**Milas**	**0.43**	**352**	*e*Pg	**Pb**	**16 50 51.9**	**+0.6**
YER	**Yerkesik**	**0.43**	**52**	*e*PG	**Pn**	**16 50 54.7**	**+0.5**
BODT	**Bodrum**	**0.48**	**294**	*e*PG	**Pg**	**16 50 50.6**	**+0.5**
BODT				*e*SG	**Sg**	**16 50 56.1**	**-0.3**
BODT	**Bodrum**	**0.48**	**294**	*e*Pg	**Pg**	**16 50 50.6**	**+0.5**
BODT				*e*Sg	**Sg**	**16 50 56.1**	**-0.3**
TURN	**Turunc**	**0.60**	**89**	*i* P	**Pg**	**16 50 52.5**	**0.0**
TURN				*i* S	**Sg**	**16 50 59.9**	**-0.4**
TURN	**Turunc**	**0.60**	**89**	*i* P	**Pg**	**16 50 52.5**	**0.0**
TURN				*i* S	**Sg**	**16 50 59.9**	**-0.4**
AYDN	**Tasoluk**	**0.79**	**1**	*i* P	**Pn**	**16 50 58.0**	**-1.1**
AYDN				*i* S	**Sb**	**16 51 08.3**	**-0.2**

IDC 02 16:52:26.1±2.1**, 46°84N×155°52E, h0km, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.2**/27**, mbtmp3.5**/4**, ML2.6**/1**, Error ellipse: s-maj=85.0km s-min=30.4km az=90.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.43**	**12**	Pn	Pn	16 54 01.8	-0.2
	0.1nm,0.3s,baz=172,slow=11,SNR=3.6						
PETK				Sn	Sn	16 55 10.7	-5.4
	0.2nm,0.3s,baz=197,slow=20,SNR=3.1						
BVAR	**Borovoye Array**	**52.07**	**310**	P	P	17 01 37.3	-0.1
	0.5nm,0.6s,baz=60,slow=8.8,SNR=3.8						
WRA	**Warramunga Arr**	**69.17**	**201**	P	P	17 03 33.7	-0.6
	0.3nm,0.7s,baz=21,slow=6.8,SNR=3.3						
ASAR	**Alice Springs**	**72.85**	**201**	P	P	17 03 57.0	+0.5
	0.3nm,0.7s,baz=22,slow=6.0,SNR=5.5						

MAN 02 17:38:26, 9°66N×126°61E, h9km, mb4.8, ML3.7, MS3.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.20**	**235**	*e*P	Pb	17 38 48.0	-0.8
BUTP				*e*S	Sb	17 38 59.2	-5.3
MSLP	**Maasin**	**1.79**	**285**	*e*P	Pn	17 38 56.8	-0.4
BUKP	**Musuan**	**2.34**	**221**	*e*P	Pb	17 39 06.9	-1.6
OCLP	**Ormoc**	**2.41**	**305**	*e*P	Pn	17 39 06.2	+0.6
TBP	**Tagbilaran**	**2.71**	**271**	*e*P	Pn	17 39 10.5	+0.7
TBP				*e*S	Sn	17 39 45.0	+2.2
KCP	**Kidapawan**	**3.04**	**210**⇑	*e*P	Pn	17 39 13.9	-0.4
KCP				*i* S	Sn	17 39 29.0	-22

IDC 02 17:39:59.9±1.9**, 1°58N×127°24E, h0km, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.6**/20**, mbtmp3.9**/4**, Error ellipse: s-maj=160.9km s-min=22.7km az=65.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**162**	P	P	17 45 01.9	+0.6
	2.4nm,0.3s,baz=341,slow=11,SNR=53						
ASAR	**Alice Springs**	**25.92**	**166**	P	P	17 45 33.9	-0.1
	0.6nm,0.3s,baz=346,slow=12,SNR=27						
STKA	**Stephens Creek**	**35.95**	**159**	P	P	17 47 01.9	-0.5
	2.4nm,0.4s,baz=342,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	17 50 05.8	+0.1
	0.2nm,0.4s,baz=118,slow=7.9,SNR=8.4						

*IDC **02** 17:46:21.5±2.6, 5°06S×131°67E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=121.5km s-min=28.1km az=78.0*
*AUST **02** 17:46:28.5±99.0, 5°33S×131°60E, h8km, Error ellipse: s-maj=17.7km s-min=1.3km az=236.0*
*ISCJB **02** 17:46:30.2±1.1, 5°53S±0°09×131°50E±0°10, h54km, mb3.1/1, Error ellipse: s-maj=14.8km s-min=11.5km az=153.1*
ISC 02 17:46:29.7±1.2**, 5°56S**±0°09×**131°55E**±0°08**, h54km, n8, σ2s80**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.18**	**94**	P	**Pn**	**17 46 51.1**	**+1.1**
	baz=1.2,SNR=11						
AAI	**Ambon**	**3.83**	**299**	P	**Pn**	**17 47 26.9**	**+0.7**
	baz=3.8,SNR=4.9						
KDU	**Kakadu**	**7.14**	**173**	P	Pn	17 48 16.7	+5.1
	baz=7.4,SNR=39						
MTN	**Manton Dam**	**7.25**	**183**	P	Pn	17 48 18.8	+5.7
	baz=7.5,SNR=50						
FITZ	**Fitzroy Crossi**	**13.74**	**204**	Pn	**Pn**	**17 49 44.2**	**+2.3**
	0.9nm,0.3s,baz=31,slow=11,SNR=15						
FITZ				Sn	**Sn**	**17 52 11.7**	**-1.3**
	0.1nm,0.3s,baz=275,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**14.55**	**170**	Pn	**Pn**	**17 49 53.2**	**+0.5**
	0.3nm,0.3s,baz=351,slow=13,SNR=13						
WRA				Sn	**Sn**	**17 52 29.6**	**-3.2**
	0.6nm,0.3s,baz=348,slow=25,SNR=11						
ASAR	**Alice Springs**	**18.15**	**173**	P	**Pn**	**17 50 41.8**	**+3.7**
	0.2nm,0.3s,baz=351,slow=14,SNR=15						
ASAR				S	**Sn**	**17 53 57.5**	**-2.4**
	0.1nm,0.3s,baz=0.0,slow=28,SNR=6.7						
MKAR	**Makanchi Array**	**67.89**	**326**	P	**P**	**17 57 19.8**	**-2.9**
	0.1nm,0.5s,baz=120,slow=5.7,SNR=3.9						

IDC 02 18:05:44.3±1.4**, 10°48N×145°96E, h0km, mb3.5**/8**, mb1 3.8**/9**, mb1mx3.7**/24**, mbtmp3.6**/9**, ML4.3**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.4**/30**, Error ellipse: s-maj=46.9km s-min=19.4km az=91.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.27**	**341**	Pn	Pn	18 06 35.9	-0.9
	29nm,0.3s,baz=172,slow=14,SNR=21						
GUMO				Sn	Sn	18 07 11.5	-4.9
	79nm,0.3s,baz=24,slow=23,SNR=13						
JNU	**Nakatsue**	**26.46**	**331**	LR	LR	18 20 53.4	
	comp=Z,61nm,21.3s,baz=57,slow=34						
MJAR	**Matsushiro Arr**	**26.88**	**346**	P	P	18 11 26.0	-0.9
	0.9nm,0.6s,baz=162,slow=9.8,SNR=3.7						
WRA	**Warramunga Arr**	**32.33**	**201**	P	P	18 12 15.0	-0.4
	0.5nm,0.7s,baz=26,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**35.93**	**199**	P	P	18 12 46.5	-0.2
	0.3nm,0.5s,baz=24,slow=7.6,SNR=8.2						
CMAR	**Chiang Mai Arr**	**46.10**	**285**	P	P	18 14 11.0	+0.3
	0.3nm,0.6s,baz=97,slow=4.6,SNR=3.1						
SONM	**Songino Array**	**49.88**	**326**	P	P	18 14 40.1	+0.5
	0.6nm,0.7s,baz=140,slow=6.2,SNR=6.1						
MKAR	**Makanchi Array**	**64.47**	**317**	P	P	18 16 23.0	+0.2
	0.4nm,0.7s,baz=102,slow=8.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**64.76**	**325**	P	P	18 16 24.0	-0.6
	0.3nm,0.4s,baz=80,slow=7.0,SNR=3.3						
ILAR	**Eielson Array**	**70.92**	**25**	P	P	18 17 03.5	+0.4
	0.2nm,0.6s,baz=263,slow=5.9,SNR=4.4						

*IDC **02** 18:08:12.0±1.6, 9°81N×125°44E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=174.0km s-min=21.8km az=69.0*
*ISCJB **02** 18:08:19.1±1.3, 9°99N±0°07×126°02E±0°10, h77km±12km, mb3.2/4, Error ellipse: s-maj=17.8km s-min=8.7km az=150.4*
*MAN **02** 18:08:20, 9°96N×125°90E, h19km, mb4.5, ML3.3, MS3.2*
ISC 02 18:08:19.2±2.2**, 10°04N**±0°08×**126°1E**±0°2**, h60km**±21km**, n12, σ1s14**/17**, mb3.2**/4**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.15**	**202**	*e*P	**Pn**	**18 08 39.1**	**-0.1**
BUTP				*e*S	**Sn**	**18 08 53.6**	**-0.5**
MSLP	**Maasin**	**1.19**	**275**	*e*P	**Pn**	**18 08 39.2**	**-0.6**
MSLP				*e*S	**Sn**	**18 08 55.6**	**+0.5**
OCLP	**Ormoc**	**1.75**	**305**	*e*P	**Pn**	**18 08 48.1**	**+0.8**
CGP	**Cagayan de Oro**	**2.07**	**221**	*e*P	**Pn**	**18 08 51.3**	**-0.4**
CGP				*e*S	**Sn**	**18 09 14.7**	**-1.7**
LLP	**Lapu-Lapu**	**2.08**	**278**	*e*P	**Pn**	**18 08 52.3**	**+0.5**
LLP				*e*S	**Sn**	**18 09 16.6**	**-0.1**
TBP	**Tagbilaran**	**2.19**	**261**	*e*P	**Pn**	**18 08 54.2**	**+0.9**
TBP				*e*S	**Sn**	**18 09 19.4**	**-0.1**
BUKP	**Musuan**	**2.36**	**205**	*e*P	**Pn**	**18 08 56.8**	**+1.2**
CTBH	**Cotabato--PC H**	**3.32**	**213**⇑	*i*P	**Pn**	**18 09 11.8**	**+3.0**
WRA	**Warramunga Arr**	**30.89**	**165**	P	**P**	**18 14 29.7**	**-0.6**
	0.2nm,0.7s,baz=342,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**34.36**	**167**	P	**P**	**18 15 00.5**	**-0.2**
	0.2nm,0.4s,baz=348,slow=6.8,SNR=5.3						
SONM	**Songino Array**	**41.17**	**340**	P	**P**	**18 15 58.0**	**+0.1**
	0.3nm,0.9s,baz=155,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**52.09**	**323**	P	**P**	**18 17 22.8**	**-0.5**
	0.2nm,0.3s,baz=117,slow=8.9,SNR=4.2						

KRSC 02 18:08:20.0±0.1**, 54°24N×162°53E, h25km**±25km**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.56**	**304**	P	Pn	18 08 31.9	-0.5
MKZ				*i* S	Sb	18 08 39.5	+0.6
TUMR	**Tumrok**	**1.73**	**308**	*e*P	Pn	18 08 49.2	+0.5
TUMR				*i* S	Sn	18 09 10.0	-0.1
SPN	**Mys Shipunski**	**1.88**	**234**	*e*P	Pn	18 08 50.9	+0.4
SPN				*i* S	Sn	18 09 13.1	-0.3
KBTR	**Krutoberegovo**	**1.98**	**5**	P	Pn	18 08 52.1	+0.2
KBTR				*i* S	Sn	18 09 15.0	-0.9
BZGR	**Bezymyannyi-Gr**	**2.00**	**329**	*e*P	Pn	18 08 53.4	+1.0
BZGR				*i* S	Sn	18 09 18.6	+1.9
KMNR	**Kamenistaya**	**2.01**	**320**	P	Pn	18 08 54.1	+1.6
KMNR				*i* S	Sn	18 09 18.7	+1.7
ZLN	**Zelenaya**	**2.04**	**332**	*e*P	Pn	18 08 54.6	+1.8
ZLN				*i* S	Sb	18 09 20.1	-1.4
BZMR	**Bezymyannaya**	**2.06**	**326**	*e*P	Pn	18 08 53.9	+0.6
BZMR				*i* S	Sn	18 09 19.5	+1.2
BZWR	**Bezymyannyi-We**	**2.09**	**327**	*e*P	Pn	18 08 55.2	+1.6
BZWR				*i* S	Sn	18 09 20.7	+1.8
LGNR	**Loginova**	**2.13**	**331**	P	Pb	18 08 56.3	-1.9
LGNR				*i* S	Sn	18 09 22.2	+2.0
KIRR	**Kirishev**	**2.13**	**325**	*e*P	Pn	18 08 55.8	+1.7
KIRR				*i* S	Sn	18 09 21.7	+1.8
CIRR	**Tsirk**	**2.14**	**332**	*e*P	Pn	18 08 56.2	+1.9
CIRR				*i* S	Sb	18 09 22.9	-1.6
NLC	**Nalytchevo**	**2.17**	**242**	*e*P	Pn	18 08 55.3	+0.8
NLC				*i* S	Sn	18 09 20.8	+0.2
KPT	**Kopyto**	**2.18**	**323**	*e*P	Pn	18 08 56.5	+1.7
KPT				*i* S	Sb	18 09 23.5	-2.0
BKI	**Bering**	**2.22**	**63**	*e*P	Pn	18 08 55.6	+0.5
BKI				*i* S	Sn	18 09 20.9	-0.8
KRSR	**Krestovskiy**	**2.28**	**331**	*e*P	Pn	18 08 57.4	+1.2
KRSR				*i* S	Sn	18 09 24.9	+1.4
KLY	**Klyuchi**	**2.34**	**333**	*e*P	Pn	18 08 57.1	+0.3
KLY				*i* S	Sn	18 09 24.8	+0.1
SDLR	**Sedlovina**	**2.37**	**247**	P	Pn	18 08 58.9	+1.5
SDLR				*i* S	Sn	18 09 27.0	+1.2
KOZ	**Kozyrevsk**	**2.38**	**321**	*e*P	Pn	18 08 58.9	+1.5
KOZ				*i* S	Sn	18 09 27.1	+1.4
SMAR	**Somma**	**2.42**	**248**	*e*P	Pn	18 09 00.0	+1.8
SMAR				*i* S	Sn	18 09 28.2	+0.9
SMKR	**Semkarok**	**2.42**	**346**	*e*P	Pn	18 09 00.2	+2.1
SMKR				*i* S	Sn	18 09 29.0	+2.0
KRER	**Koryakskii**	**2.43**	**249**	*e*P	Pn	18 08 59.7	+1.3
KRER				*i* S	Sn	18 09 29.1	+1.6
UGLR	**Uglovaya**	**2.43**	**246**	P	Pn	18 08 59.9	+1.6
UGLR				*i* S	Sn	18 09 28.9	+1.6
BDR	**Baidarnaya**	**2.45**	**343**	*e*P	Pn	18 08 59.8	+1.3
BDR				*i* S	Sn	18 09 28.9	+1.2
AVH	**Avacha**	**2.45**	**248**	P	Pn	18 09 00.6	+2.1
AVH				*i* S	Sn	18 09 29.4	+1.6
KOK	**Koryaka**	**2.50**	**249**	P	Pn	18 09 01.1	+1.9
KOK				*i* S	Sn	18 09 30.5	+1.6
SRKR	**Sorokina**	**2.54**	**343**	*e*P	Pn	18 09 01.6	+1.9
SRKR				*i* S	Sn	18 09 31.1	+1.2
PET	**Petropavlovsk**	**2.61**	**244**	*e*P	Pn	18 09 02.0	+1.5
PET				*i* S	Sn	18 09 32.0	+0.6
SRDR	**Sredinnyy**	**2.63**	**323**	*e*P	Pn	18 09 02.4	+1.5
SRDR				*i* S	Sn	18 09 33.7	+1.6
ESO	**Esso**	**2.77**	**309**	*e*P	Pn	18 09 04.0	+1.1
ESO				*i* S	Sn	18 09 36.1	+0.6
RUS	**Russkaya**	**3.01**	**235**	*e*P	Pn	18 09 07.5	+1.4
RUS				*i* S	Sn	18 09 41.5	+0.2
MTVR	**Mutnovka**	**3.14**	**238**	*e*P	Pn	18 09 10.1	+2.0
MTVR				*i* S	Sn	18 09 45.9	+1.0
ASAK	**Asacha**	**3.34**	**238**	*e*P	Pn	18 09 13.3	+2.6
ASAK				*i* S	Sn	18 09 51.0	+1.3
APC	**Apacha**	**3.46**	**250**	*e*P	Pn	18 09 15.4	+3.2
APC				*i* S	Sn	18 09 55.9	+3.5

GUC 02 18:10:48.1±0.6**, 33°88S×71°75W, h33km**±5km**, MD3.8, ML3.0, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.29**	**105**⇑	*i*P	Pn	18 10 55.9	-0.1
LNV				*i* S	Sb	18 11 01.1	0.0
TACH	**Talagante**	**0.71**	**72**⇓	*i*P	Pn	18 11 01.6	-0.3
TACH				*i* S	Sn	18 11 11.8	0.0
IHA	**Instituto Hidr**	**0.86**	**6**	*e*P	Pn	18 11 03.7	-0.1
RCDM	**Rinconada Maip**	**0.88**	**64**	*e*P	Pn	18 11 04.1	-0.1
RCDM				*i* S	Sn	18 11 15.8	0.0
RCDM				AML	AML	18 11 16.5	
	comp=N,1μm,0.2s						
CACH	**El Canelo**	**0.98**	**104**	*e*P	Pb	18 11 06.5	-0.4
CACH				*i* S	Sb	18 11 21.1	+1.3
SAN	**Santiago**	**1.00**	**65**	*e*P	Pn	18 11 05.9	0.0
SAN				*i* S	Sb	18 11 19.8	-0.2
CLCH	**Cerro Calan**	**1.12**	**65**	*e*P	Pb	18 11 08.9	-0.2
CLCH				*i* S	Sb	18 11 24.0	+0.5
CLCH				AML	AML	18 11 28.0	
	comp=E,576nm,0.5s						
PEL	**Peldehue**	**1.15**	**51**	*e*P	Pn	18 11 08.7	+0.7
PEL				*e*S	Sb	18 11 24.4	0.0
PEL				AML	AML	18 11 25.6	
	comp=E,405nm,0.4s						
SJCH	**San Jose de Ma**	**1.19**	**79**	*e*P	Pn	18 11 08.3	-0.2
SJCH				*e*S	Sn	18 11 24.5	+0.9
LMEL	**Las Melosas**	**1.29**	**89**	*e*P	Pn	18 11 10.9	+0.9
LMEL				*i* S	Sb	18 11 28.2	-0.3
LMEL				AML	AML	18 11 29.3	
	comp=N,676nm,0.2s						
FCH	**Farellones**	**1.34**	**66**	*e*P	Pb	18 11 17.4	+4.3
FCH				*e*S	Sb	18 11 46.6	+16

IDC 02 18:13:32.2±2.5**, 25°38N×142°72E, h0km, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.2**/24**, mbtmp3.2**/3**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.1**/22**, Error ellipse: s-maj=105.1km s-min=19.5km az=81.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.77**	**344**	Pn	Pn	18 14 03.0	-1.2
	17nm,0.3s,baz=157,slow=12,SNR=18						
CBIJ				Sn	Sn	18 14 27.4	-0.1
	35nm,0.3s,baz=290,slow=22,SNR=12						
MJAR	**Matsushiro Arr**	**11.78**	**342**	LR	LR	18 20 15.9	
	comp=Z,48nm,19.6s,baz=210,slow=34						
WRA	**Warramunga Arr**	**45.78**	**191**	P	P	18 21 54.8	-1.0
	0.3nm,0.5s,baz=10,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**49.50**	**191**	P	P	18 22 24.6	-0.1
	0.5nm,1.1s,baz=7.7,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**51.94**	**311**	P	P	18 22 44.8	+1.8
	0.1nm,0.5s,baz=102,slow=8.3,SNR=2.4						

*TAP **02** 18:13:50.8, 24°03N×122°76E, h44km±1km, ML4.2, D*
*ISCJB **02** 18:13:51.9±0.2, 23°97N±0°02×122°69E±0°02, h63km±4km, mb3.6/9, Error ellipse: s-maj=3.5km s-min=2.4km az=157.2*
*JMA **02** 18:13:51.1±0.1, 24°14N×122°55E, h44km±4km, M3.4*
*IDC **02** 18:13:57.9±6.4, 24°28N×122°69E, h94km±58km, mb3.4/9, mb1 3.5/10, mb1mx3.3/26, mbtmp3.4/10, Error ellipse: s-maj=35.1km s-min=23.2km az=63.0*
ISC 02 18:13:53.1±0.7**, 23°98N**±0°03×**122°69E**±0°02**, h56km**±8km**, n75, σ1s41**/129**, mb3.6**/9**, 2C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**31**	P	Pn	18 14 02.3	-3.3
YOJ				S	**Sn**	**18 14 10.3**	**-4.3**
ENA	**Nanau**	**0.97**	**298**⇓	*i*P	**Pn**	**18 14 08.8**	**-1.9**
	baz=293						
ENA				*e*S	**Sn**	**18 14 23.5**	**-0.2**
	baz=293						
HWA	**Hwalien**	**0.99**	**270**	P	**Pn**	**18 14 09.2**	**-1.7**
	baz=257						
TWD	**Chiawan**	**1.00**	**276**	*i* P	**Pn**	**18 14 08.9**	**-2.2**
	baz=273						
TWD				*e*S	**Sn**	**18 14 21.4**	**-2.9**
	baz=273						
IRIF	**Iriomote-Funau**	**1.02**	**69**	P	**Pn**	**18 14 10.1**	**-1.1**
IRIF				S	**Sn**	**18 14 24.4**	**-0.2**
HATJ	**Hateruma jima**	**1.02**	**85**	P	**Pn**	**18 14 11.0**	**-0.4**
HATJ				S	**Sn**	**18 14 25.8**	**+0.9**
ESL	**Shilin**	**1.16**	**262**	*e*P	**Pn**	**18 14 10.9**	**-2.3**
	baz=260						
ESL				*e*S	**Sn**	**18 14 23.6**	**-4.5**
	baz=260						
ILA	**Ilan**	**1.16**	**313**	P	**Pn**	**18 14 12.3**	**-0.9**
	baz=308						
ILA				S	**Sn**	**18 14 28.2**	**+0.1**
	baz=308						
TWE	**Neicheng**	**1.19**	**309**	*i* P	**Pn**	**18 14 12.2**	**-1.4**
	baz=305						
TWE				S	**Sn**	**18 14 28.2**	**-0.6**
	baz=305						
TWB1	**Santiao Chiao**	**1.21**	**328**	P	**Pn**	**18 14 11.8**	**-2.0**
	baz=324						
TWB1				*e*S	**Sn**	**18 14 27.7**	**-1.5**
	baz=324						
ENTT	**Nioudou**	**1.22**	**303**	P	**Pn**	**18 14 12.7**	**-1.2**
	baz=299						
ENTT				*e*S	**Sn**	**18 14 29.5**	**0.0**
	baz=299						
JKRS	**Kuro-shima**	**1.23**	**78**	P	**Pn**	**18 14 14.2**	**0.0**
JKRS				*e*S	**Sn**	**18 14 31.4**	**+1.5**
NNS	**Nan Shan**	**1.28**	**291**	*i* P	**Pn**	**18 14 13.4**	**-1.6**
	baz=288						
NNS				*e*S	**Sn**	**18 14 31.2**	**0.0**
	baz=288						
WHF	**Hehuan Shan**	**1.31**	**278**	*i* P	**Pn**	**18 14 13.8**	**-1.8**
	baz=275						
WHF				*e*S	**Sn**	**18 14 30.4**	**-2.0**
	baz=275						
EHY	**Hungye**	**1.34**	**250**⇓	*i*P	**Pn**	**18 14 14.2**	**-1.4**
	baz=248						
EHY				*e*S	**Sn**	**18 14 30.9**	**-1.4**
	baz=248						
NWF	**Wu-fen Shan**	**1.37**	**323**⇑	*i*P	**Pn**	**18 14 14.4**	**-1.7**
	baz=319						
NWF				*e*S	**Sn**	**18 14 32.4**	**-0.7**
	baz=319						
JIJ	**Ishigaki jima**	**1.38**	**74**	P	**Pn**	**18 14 15.5**	**-0.7**
JIJ				S	**Sn**	**18 14 33.5**	**+0.1**
NSK	**Sanguang**	**1.40**	**300**⇓	*i*P	**Pn**	**18 14 15.3**	**-1.1**
	baz=284						
NSK				*e*S	**Sn**	**18 14 33.4**	**-0.5**
	baz=284						
TWT	**Tachien**	**1.41**	**282**	*e*P	**Pn**	**18 14 16.0**	**-0.7**
	baz=268						
TWT				*e*S	**Sn**	**18 14 34.5**	**+0.1**
	baz=268						
TWF1	**Yuli**	**1.42**	**244**	*i* P	**Pn**	**18 14 15.4**	**-1.3**
	baz=235						
TWF1				*e*S	**Sn**	**18 14 33.4**	**-1.0**
	baz=235						
CHKT	**Chengkung**	**1.50**	**234**	*e*P	**Pn**	**18 14 14.9**	**-2.8**
	baz=224						
CHKT				*e*S	**Sn**	**18 14 33.1**	**-3.1**
	baz=224						
TAP1	**Taipei**	**1.50**	**315**	*e*P	**Pn**	**18 14 17.1**	**-0.6**
	baz=311						
TAP1				*e*S	**Sn**	**18 14 35.9**	**-0.3**
	baz=311						
TAP	**Taipei**	**1.51**	**315**	*e*P	**Pn**	**18 14 18.3**	**+0.4**
	baz=311						
TAP				*e*S	**Sn**	**18 14 35.9**	**-0.6**
	baz=311						
TWS1	**Kuangyinshan**	**1.61**	**314**	*e*P	**Pn**	**18 14 18.2**	**-1.0**
	baz=322						
TWS1				*e*S	**Sn**	**18 14 39.7**	**+0.8**
	baz=322						
TWY	**Chenhua**	**1.63**	**323**	P	**Pn**	**18 14 18.2**	**-1.3**
	baz=319						
TWY				*e*S	**Sn**	**18 14 39.3**	**-0.1**
	baz=319						
SMLT	**Sun Moon Lake**	**1.64**	**267**	P	**Pn**	**18 14 19.0**	**-0.7**
	baz=265						
SMLT				*e*S	**Sn**	**18 14 39.0**	**-0.8**
	baz=265						
YUS	**Yu-Shan**	**1.66**	**253**	*e*P	**Pn**	**18 14 20.0**	**-0.5**
	baz=252						
YUS				*e*S	**Sn**	**18 14 40.0**	**-1.0**
	baz=252						
NSTT	**Nanjuang**	**1.67**	**293**	P	**Pn**	**18 14 19.8**	**-0.3**
	baz=290						
NSTT				*e*S	**Sn**	**18 14 41.1**	**+0.6**
	baz=290						
TYC	**Yuchr**	**1.68**	**268**	P	**Pn**	**18 14 19.6**	**-0.6**
	baz=266						
TYC				*e*S	**Sn**	**18 14 40.5**	**0.0**
	baz=266						
NCU	**National Centr**	**1.69**	**306**	*e*P	**Pn**	**18 14 20.0**	**-0.3**
	baz=303						
ELDTW	**Lidau**	**1.72**	**243**	P	**Pn**	**18 14 19.3**	**-1.6**
	baz=231						
ELDTW				*e*S	**Sn**	**18 14 40.1**	**-1.8**
	baz=231						
ALS	**Alishan**	**1.79**	**255**	P	**Pn**	**18 14 21.9**	**-0.1**
	baz=254						
ALS				*e*S	**Sn**	**18 14 43.2**	**-0.5**
	baz=254						
TWQ1	**Liyutan**	**1.79**	**282**	P	**Pn**	**18 14 22.0**	**+0.3**
	baz=280						
TWQ1				*e*S	**Sn**	**18 14 43.3**	**0.0**
	baz=280						
NSY	**Sanyi**	**1.81**	**284**	*e*P	**Pn**	**18 14 20.7**	**-1.3**
	baz=282						
NSY				*e*S	**Sn**	**18 14 44.3**	**+0.4**
	baz=282						
WNT	**Mingjian**	**1.84**	**267**	*e*P	**Pn**	**18 14 22.3**	**0.0**
	baz=265						
WNT				*e*S	**Sn**	**18 14 45.1**	**+0.7**
	baz=265						
TCU	**Taichung**	**1.85**	**276**	*e*P	**Pn**	**18 14 22.9**	**+0.5**
	baz=274						
TCU				*e*S	**Sn**	**18 14 45.3**	**+0.6**
	baz=274						
TTN	**Taitung**	**1.87**	**230**	*e*P	**Pn**	**18 14 21.0**	**-1.8**
	baz=222						
TTN				*e*S	**Sn**	**18 14 43.7**	**-1.5**
	baz=222						
TWG	**Pinlang**	**1.88**	**233**	*e*P	**Pn**	**18 14 21.6**	**-1.3**
	baz=224						
TWG				*e*S	**Sn**	**18 14 44.0**	**-1.5**
	baz=224						
JTJ	**Tarama**	**1.95**	**70**	P	**Pn**	**18 14 23.8**	**-0.1**
JTJ				*e*S	**Sn**	**18 14 47.8**	**+0.5**
WGK	**Gukeng**	**1.97**	**262**	*e*P	**Pn**	**18 14 24.8**	**+0.7**
	baz=261						
WGK				*e*S	**Sn**	**18 14 47.9**	**+0.2**
	baz=261						
CHN4	**Tsaushan**	**2.02**	**252**	*e*P	**Pn**	**18 14 26.4**	**+1.5**
	baz=251						
CHN4				*e*S	**Sn**	**18 14 50.4**	**+1.4**
	baz=251						
WTP	**Ta-pu**	**2.04**	**249**	*i* P	**Pn**	**18 14 25.6**	**+0.5**
	baz=242						
WTP				*e*S	**Sn**	**18 14 49.2**	**-0.2**
	baz=242						
CHN2	**Minshiung**	**2.08**	**258**	*e*P	**Pn**	**18 14 25.4**	**-0.2**
	baz=257						
CHN2				*e*S	**Sn**	**18 14 49.4**	**-0.9**
	baz=257						
ECL	**Taimali**	**2.10**	**230**	P	**Pn**	**18 14 24.5**	**-1.5**
	baz=228						
ECL				*e*S	**Sn**	**18 14 48.9**	**-2.1**
	baz=228						
SGST	**Jiashian**	**2.13**	**246**	*e*P	Pn	18 14 28.0	+1.6
	baz=238						
SGST				*e*S	**Sn**	**18 14 53.6**	**+2.0**
	baz=238						
CHY	**Chiayi**	**2.13**	**257**	*e*P	**Pn**	**18 14 25.1**	**-1.2**
	baz=256						
CHY				*e*S	**Sn**	**18 14 51.5**	**-0.1**
	baz=256						
CHN1	**Nanshi**	**2.13**	**249**	P	**Pn**	**18 14 27.4**	**+1.0**
	baz=248						
CHN1				*e*S	**Sn**	**18 14 52.0**	**+0.2**
	baz=248						

TWK Hsinying 2.14 251 eP Pn 18 14 27.9 +1.4
baz=250
TWK eS Sn 18 14 52.8 +0.9
baz=250
LAY Lan-yu 2.20 209 eP Pn 18 14 25.0 -2.3
baz=208
LAY eS Sn 18 14 50.5 -2.8
baz=208
WTCT Ta-ch'eng 2.21 268 eP Pn 18 14 28.3 +1.0
baz=278
WTCT eS Sn 18 14 54.4 +0.9
baz=278
WSF Szhu 2.28 262 eP Pn 18 14 28.5 +0.1
baz=261
WSF eS Sn 18 14 57.4 +2.0
baz=261
CHN3 Shinhua 2.31 248 eP Pn 18 14 30.8 +1.9
baz=257
CHN3 eS Sn 18 14 58.9 +2.8
baz=257
EAST Anshuo 2.32 227 P Pn 18 14 27.9 -1.1
baz=234
EAST eS Sn 18 14 53.9 -2.5
baz=234
CHN8 Yiju 2.36 255 eP Pn 18 14 30.0 +0.6
baz=254
CHN8 eS Sn 18 14 58.6 +1.4
baz=254
SGLT Jiouru 2.37 239 eP Pn 18 14 30.9 +1.3
baz=234
TWM1 Shoushan 2.38 242 eP Pn 18 14 30.7 +1.0
baz=240
SCZT Fangliau 2.48 230 eP Pn 18 14 31.6 +0.4
baz=224
JMJ Miyako jima 2 2.52 70 eS Sn 18 15 02.7 +1.6
TSEB Hengchuen, Pin 2.65 219 eP Pn 18 14 32.8 -0.5
baz=218
TSEB eS Sn 18 15 02.8 -1.4
baz=218
HEN Hengchun 2.66 223 eP Pn 18 14 34.4 +0.8
baz=222
TWK1 Hengchun 2.67 221 eP Pn 18 14 33.0 -0.6
baz=212
TWK1 eS Sn 18 15 03.4 -1.4
baz=212
PNG Penghu 2.90 263 eP Pn 18 14 36.0 -0.9
baz=261
PNG eS Sn 18 15 10.4 -0.1
baz=261
QZH Quanzhou 3.85 285⇑iPn Pn 18 14 48.5 -1.4
QZH Sn Sn 18 15 30.6 -3.3
QZH smax smax
comp=N,70nm,0.4s
QZH smax smax
comp=E,80nm,0.5s
KNM Kinmen 3.91 277 eP Pn 18 14 51.5 +0.9
baz=277
KNM eS Sn 18 15 36.6 +1.3
baz=277
JKE Kume jima 2 4.39 57 P Pn 18 14 57.0 -0.2
KSRS Korea Array 14.16 17 P Pn 18 17 12.1 +1.3
comp=E,0.8nm,0.3s,baz=198,slow=11,SNR=29
ASAJ Asahikawa 25.87 34 P P 18 19 17.6 -1.9
comp=E,2.0nm,0.6s,baz=204,slow=12,SNR=4.4
SONM Songino Array 27.11 335 P P 18 19 29.1 -1.7
comp=E,0.4nm,0.7s,baz=158,slow=11,SNR=4.5
MKAR Makanchi Array 39.44 316 P P 18 21 17.1 -0.7
comp=E,0.3nm,0.3s,baz=101,slow=9.9,SNR=12
MKAR PcP PcP 18 23 25.1 +0.3
comp=E,0.4nm,0.7s,baz=81,slow=4.1,SNR=3.8
ZALV Zalesovo Beam 41.17 327 P P 18 21 30.3 -1.6
comp=E,0.3nm,0.4s,baz=123,slow=10,SNR=3.6
ASAR Alice Springs 48.60 166 P P 18 22 34.1 +2.9
comp=E,0.3nm,0.5s,baz=343,slow=7.1,SNR=5.2
ARCES ARCESS Array B 70.24 338 P P 18 24 59.2 -0.7
comp=E,2.2nm,1.0s,baz=73,slow=6.1,SNR=3.4
FINES FINESS Array B 72.31 330 P P 18 25 12.0 -0.5
comp=E,3.7nm,1.1s,baz=49,slow=4.4,SNR=4.5
NOA NORSAR Array B 79.04 333 P P 18 25 48.7 -2.4
comp=E,1.3nm,0.8s,baz=55,slow=6.1,SNR=3.3
YKA Yellowknife Ar 82.62 23 P P 18 26 09.8 -0.2
comp=E,0.1nm,0.4s,baz=312,slow=4.6,SNR=4.1

IDC 02 18:34:21.5±0.9**, 5°55S×153°29E, h0km, mb3.8**/10**, mb1 4.0**/11**, mb1mx3.9**/21**, mbtmp3.8**/11**, ML2.6**/1**, MS3.5**/2**, Ms1 3.6**/2**, ms1mx2.7**/26**, Error ellipse: s-maj=26.0km s-min=18.3km az=113.0, New Ireland region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PMG Port Moresby 7.18 237 Pn Pn 18 36 10.0 +2.2
0.6nm,0.3s,baz=51,slow=9.5,SNR=3.2
PMG Sn Sn 18 37 31.6 +1.4
6.6nm,0.3s,baz=194,slow=23,SNR=11
DZM Mont Dzumac 20.77 143 P Pn 18 39 06.0 -0.7
3.8nm,0.5s,baz=259,slow=16,SNR=7.5
WRA Warramunga Arr 23.33 230 P P 18 39 30.9 -0.7
2.4nm,1.1s,baz=54,slow=10.0,SNR=10.0
ASAR Alice Springs 25.94 224 P P 18 39 55.6 -0.1
1.0nm,0.8s,baz=58,slow=9.4,SNR=15
STKA Stephens Creek 28.38 201 P P 18 40 16.5 -1.1
1.4nm,0.8s,baz=39,slow=7.4,SNR=4.4
FITZ Fitzroy Crossi 29.74 243 P P 18 40 29.2 -0.6
2.9nm,0.7s,baz=66,slow=6.2,SNR=9.8
ASAJ Asahikawa 50.37 350 LR LR 19 02 17.9
comp=Z,17nm,18.4s,baz=7.6,slow=33
CMAR Chiang Mai Arr 58.64 295 P P 18 44 22.3 +1.3
0.4nm,0.7s,baz=127,slow=5.4,SNR=4.2
SONM Songino Array 67.22 328 P P 18 45 18.4 +0.6
0.2nm,0.5s,baz=150,slow=6.2,SNR=2.4
MKAR Makanchi Array 81.21 319 P P 18 46 39.3 0.0
0.7nm,0.8s,baz=104,slow=5.4,SNR=4.0
ZALV Zalesovo Beam 82.05 326 P P 18 46 42.6 -0.9
0.8nm,0.6s,baz=99,slow=4.2,SNR=4.1
ILAR Eielson Array 82.67 22 P P 18 46 45.8 -0.8
0.3nm,0.7s,baz=235,slow=4.3,SNR=3.9
PDAR Pinedale Array 98.99 48 LR LR 19 27 49.5
comp=Z,62nm,19.6s,baz=78,slow=32
BDFB Brasilia 150.19 135 PKPbc PKPbc 18 54 15.8 +0.1
1.7nm,0.3s,baz=117,slow=2.3,SNR=3.2
TORD Torodi Ar. Bea 151.00 287 PKPbc PKPbc 18 54 16.4 -1.1
2.0nm,0.8s,baz=54,slow=1.7,SNR=12
TORD PKPab PKPab 18 54 25.7 +0.8
0.9nm,0.8s,baz=87,slow=2.0,SNR=6.0

---

*AUST **02** 18:35:16.1±1.2, 5°15N×95°91E, h98km, Error ellipse: s-maj=1.7km s-min=1.4km az=235.0*
*BJI **02** 18:35:17.3, 4°72N×95°92E, h162km, mB4.8/5, mb4.6/9*
*SZGRF **02** 18:35:19.7, 4°96N×96°48E, h144km, mb5.0, Northern Sumatera, Indonesia*
*NEIC **02** 18:35:19.5±0.2, 4°95N×96°01E, mb4.6/51, Error ellipse: s-maj=7.8km s-min=4.9km az=222.0*
*ISCJB **02** 18:35:19.6±0.4, 4°97N±0°05×96°08E±0°05, h152km±3km, mb4.4/90, Error ellipse: s-maj=9.5km s-min=4.9km az=44.7*
*IDC **02** 18:35:20.6±1.9, 4°99N×96°05E, h150km±15km, mb3.9/16, mb1 4.0/18, mb1mx3.9/26, mbtmp3.9/18, Error ellipse: s-maj=22.2km s-min=10.1km az=47.0*
*DJA **02** 18:35:21.4±0.5, 5°N±3°×9°6E±°, h130km±5km, M4.3/9, mb4.2/3, MLv4.3/9*
ISC 02 18:35:20.1±0.6**, 4°91N**±0°05×**96°07E**±0°06**, h148**km±5km**, n224, σ0s80**/249**, mb4.5**/90**, 6C-12D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LHMI Lhok Sumawe 0.93 70 P Pn 18 35 44.9 +0.9
LHMI S Sn 18 36 02.9 +0.7
BSI Banda Aceh 0.97 307 P Pn 18 35 44.8 +0.4
BSI S Sn 18 36 02.7 -0.2
TPTI 1.98 146 P Pn 18 35 55.5 +0.7
TSI Tuntungan 2.85 119 P Pn 18 36 06.2 +0.7
TSI S Sn 18 36 41.6 +1.0
PSI Prapat 3.53 126 P Pn 18 36 15.4 +1.0
16nm,0.3s,baz=312,slow=12,SNR=39
PSI S Sn 18 36 56.1 -0.3
18nm,0.3s,baz=30,slow=17,SNR=9.6
PSI Prapat 3.53 126 P Pn 18 36 15.4 +1.0
PSI S Sn 18 36 56.1 -0.3
PSI Prapat 3.53 126 P Pn 18 36 15.7 +1.3
baz=3.9,SNR=26
PSI S Sn 18 36 56.9 +0.5
baz=3.9,SNR=5.7
PSI Prapat 3.53 126 P Pn 18 36 15.5 +1.1
GSI Gunungsitoli 3.88 157 P Pn 18 36 18.4 -0.4
baz=4.2,SNR=79
GSI S Sn 18 37 02.7 -1.7
baz=4.2,SNR=22
GSI Gunungsitoli 3.88 157 P Pn 18 36 18.5 -0.4
GSI S Sn 18 37 02.5 -1.9
KULM Kulim 4.58 85 ePn Pn 18 36 27.6 -0.2
KULM Kulim 4.58 85 P Pn 18 36 28.4 +0.5
IPM Ipoh 4.96 95 ePn Pn 18 36 32.9 0.0
IPM Ipoh 4.96 95 P Pn 18 36 33.2 +0.3
PPI Padang Panjang 6.86 141 P Pn 18 36 59.5 +1.2
35nm,0.9s,0.2nm
MYKOM Kota Tinggi 8.36 112 P Pn 18 37 19.6 +1.2
18nm,0.8s
CM31 Chiang Mai Arr 13.75 12 eP P 18 38 30.9 -1.8
20nm,0.9s
CMAR Chiang Mai Arr 13.75 12 P Pn 18 38 29.1 +0.1
0.1nm,0.3s,baz=218,slow=11,SNR=33
CMAR ScP ScP 18 47 02.1 +0.5
0.0nm,0.3s,baz=233,slow=1.9,SNR=6.5
CMAR Chiang Mai Arr 13.75 12 P Pn 18 38 29.1 +0.1
CMAR ScP ScP 18 47 02.1 +0.5
CHTO Chiang Mai 14.10 11 ePn Pn 18 38 34.0 +0.5
CHTO Chiang Mai 14.10 11 P P 18 38 35.1 -1.5
SHL Shillong 20.93 349 eP P 18 39 52.0 +0.6
HYB Hyderabad 21.18 307 i P P 18 39 55.0 +0.9
ODAN Odare 23.35 340 eP P 18 40 15.0 -0.6
6.0nm,0.4s
ODAN Odare 23.35 340 eP P 18 40 15.0 -0.6
6.0nm,0.4s
TAPN Taplejung 23.70 341 eP P 18 40 18.6 -0.2
18nm,0.6s
TAPN Taplejung 23.70 341 eP P 18 40 18.6 -0.2
18nm,0.6s
RAMN Ramite 23.71 339 eP P 18 40 19.1 +0.2
6.6nm,0.4s
RAMN Ramite 23.71 339 eP P 18 40 19.1 +0.2
6.6nm,0.4s
PCI Palu 24.43 103 S S 18 44 32.5 -2.3
baz=25,SNR=5.9
JIRN Jiri 24.50 338 eP P 18 40 25.6 -0.6
2.9nm,0.5s
JIRN Jiri 24.50 338 eP P 18 40 25.6 -0.6
2.9nm,0.5s
PKI Pulchoki 24.72 337 eP P 18 40 28.7 +0.5
6.7nm,0.6s
PKI Pulchoki 24.72 337 eP P 18 40 28.7 +0.5
6.7nm,0.6s
GUN Gumba 24.85 338 eP P 18 40 28.7 -0.6
11nm,0.5s
GUN Gumba 24.85 338 eP P 18 40 28.7 -0.6
11nm,0.5s
DMN Daman 24.87 336 eP P 18 40 29.4 -0.1
10nm,0.7s
DMN Daman 24.87 336 eP P 18 40 29.4 -0.1
10nm,0.7s
KKN Kakani 24.97 337 eP P 18 40 29.3 -1.0
9.5nm,0.8s
KKN Kakani 24.97 337 eP P 18 40 29.3 -1.0
9.5nm,0.8s
LSA Lhasa 25.09 350 P P 18 40 31.2 -0.5
LSA Lhasa 25.09 350 eP P 18 40 32.0 +0.4
14nm,0.5s
GKN Gorkha 25.41 336 eP P 18 40 33.7 -0.5
9.4nm,0.3s
GKN Gorkha 25.41 336 eP P 18 40 33.7 -0.5
9.4nm,0.3s
KOLN Koldanda 25.65 334 eP P 18 40 35.7 -0.7
14nm,0.5s
KOLN Koldanda 25.65 334 eP P 18 40 35.7 -0.7
14nm,0.5s
DANN Dangsing 26.08 335 eP P 18 40 39.7 -0.7
15nm,0.5s
DANN Dangsing 26.08 335 eP P 18 40 39.7 -0.7
15nm,0.5s
PYUN Piuthan 26.20 333 eP P 18 40 41.0 -0.4
8.8nm,0.3s
PYUN Piuthan 26.20 333 eP P 18 40 41.0 -0.4
8.8nm,0.3s
LZH Lanzhou 31.84 12 eP P 18 41 31.0 -0.2
LZH pmax pmax
comp=Z,16nm,1.3s
GTA Gaotai 34.51 5 eP P 18 41 54.2 -0.1
GTA pmax pmax
comp=Z,9.0nm,0.8s
FITZ Fitzroy Crossi 37.06 129 eP P 18 42 15.6 -0.6
comp=Z,1.0nm,0.5s
MTN Manton Dam 39.04 117 P P 18 42 36.2 +3.4
baz=39,SNR=4.3
MTN S S 18 48 37.2 +16
baz=39,SNR=4.0
TKM2 Tokmak 2 41.98 337 eP P 18 42 55.9 -1.0
comp=Z,2.0nm,0.3s
TKM2 ePcP PcP 18 44 49.6 +0.2
AAK Ala-Archa 42.17 336 eP P 18 42 58.1 -0.3
comp=Z,6.7nm,0.6s
EKS2 Erkin-Say 42.49 336 eP P 18 43 00.5 -0.3
comp=Z,1.7nm,0.5s
MKAR Makanchi Array 43.39 346 P P 18 43 07.1 -0.8
comp=Z,3.3nm,0.4s,baz=158,slow=8.0,SNR=129
MKAR PcP PcP 18 44 54.5 +0.7
comp=Z,1.6nm,0.7s,baz=163,slow=3.9,SNR=6.8
MKAR Makanchi Array 43.39 346 eP P 18 43 07.2 -0.8
MKAR PcP PcP 18 44 54.5 +0.7
KSAR Wonju Array Be 43.50 38 P P 18 43 09.6 +0.7
KSRS Korea Array 43.53 38 P P 18 43 09.6 +0.4
comp=Z,1.8nm,0.8s,baz=227,slow=8.8,SNR=5.1
SONM Songino Array 43.67 10 P P 18 43 09.9 -0.4
comp=Z,4.0nm,0.7s,baz=189,slow=9.4,SNR=44
SONM PcP PP 18 44 55.5 +0.5
comp=Z,1.1nm,0.4s,baz=189,slow=4.0,SNR=16
SONM Songino Array 43.67 10 P P 18 43 09.9 -0.4
SONM PcP PP 18 44 55.5 +0.5
ULN Ulaanbaatar 43.82 11 eP P 18 43 10.7 -0.9
comp=Z,4.4nm,1.0s
ULN e 18 44 55.7
WRA Warramunga Arr 45.00 125 P P 18 43 22.5 +1.4
comp=Z,1.7nm,0.5s,baz=302,slow=9.6,SNR=9.7
WRA pP pP 18 43 53.2 -1.0
comp=Z,3.1nm,0.7s,baz=302,slow=9.2,SNR=7.9
WRA PcP PcP 18 45 01.1 +1.3
comp=Z,0.4nm,0.3s,baz=307,slow=2.9,SNR=3.1
WRA Warramunga Arr 45.00 125 P P 18 43 22.5 +1.4
WRA pP pP 18 43 53.2 -1.0
WRA PcP PcP 18 45 01.1 +1.3
WRAB Tennant Creek 45.00 124 eP P 18 43 21.7 +0.5
comp=Z,6.2nm,0.8s
WRAB epP pP 18 43 53.6 -0.7
ASAR Alice Springs 46.56 129 P P 18 43 34.4 +1.0
comp=Z,1.2nm,0.6s,baz=299,slow=7.8,SNR=38
ASAR pP pP 18 44 06.2 -0.5
comp=Z,1.1nm,0.9s,baz=270,slow=7.5,SNR=3.4
ASAR S S 18 50 10.1 -1.0
comp=Z,0.9nm,0.8s,baz=298,slow=14,SNR=7.1
ASAR Alice Springs 46.56 129 P P 18 43 34.4 +1.0
ASAR pP pP 18 44 06.2 -0.5
ASAR S S 18 50 10.1 -1.0
KURK Kurchatov 47.94 345 eP P 18 43 42.5 -1.0
comp=Z,3.1nm,0.4s
KURK i PcP PcP 18 45 10.0 +0.5
ZALV Zalesovo Beam 49.74 351 P P 18 43 56.2 -1.0
comp=Z,6.4nm,0.5s,baz=178,slow=7.3,SNR=40
ZALV PcP PcP 18 45 15.4 -0.6
comp=Z,0.9nm,0.5s,baz=142,slow=4.2,SNR=3.1
ZALV Zalesovo Beam 49.74 351 P P 18 43 56.2 -1.0
ZALV PcP PcP 18 45 15.4 -0.6
USRK Ussuriysk Arra 50.25 33 P P 18 44 01.7 +0.4
comp=Z,1.5nm,0.6s,baz=214,slow=8.0,SNR=4.0
QRN Al-Qurain 51.36 303 eP P 18 44 10.2 +0.3
QRN AMb AMB 18 44 13.2
comp=Z,65nm,1.0s
RDF Al-Radifah 51.73 303 eP P 18 44 13.5 +1.0
RDF AMb AMB 18 44 14.8
comp=Z,40nm,1.3s
NAY Al-Naaiem 52.08 304 eP P 18 44 15.4 +0.2
NAY AMb AMB 18 44 16.8
comp=Z,23nm,0.6s
MIB Mutribah 52.18 304 eP P 18 44 15.9 +0.1
MIB AMb AMB 18 44 17.7
comp=Z,27nm,0.9s
BRVK Borovoye 52.46 341 eP P 18 44 16.2 -1.3
comp=Z,3.8nm,0.6s
ABKAR Akbulak array 53.74 331 eP P 18 44 25.6 -1.4
comp=Z,3.9nm,0.3s
KBZ Khabaz 60.56 318 P P 18 45 14.7 -0.3
comp=Z,4.2nm,0.8s,baz=151,slow=4.4,SNR=7.5
KBZ Khabaz 60.56 318 P P 18 45 14.7 -0.3
EIL Elat 62.57 301 P P 18 45 30.4 +1.6
baz=62,SNR=5.3
BRTR Keskin Array B 65.81 311 P P 18 45 49.0 -0.9
comp=Z,4.3nm,0.4s,baz=135,slow=6.0,SNR=34
BRTR Keskin Array B 65.81 311 P P 18 45 49.0 -0.9
CFR Carcaliu 71.05 316⇓iP P 18 46 21.7 -0.4
AKASG Malin Array Be 71.66 322 P P 18 46 24.3 -1.3
comp=Z,2.8nm,0.5s,baz=92,slow=5.4,SNR=13
AKASG Malin Array Be 71.66 322 P P 18 46 24.3 -1.3
KIEV Kiev 71.66 322 eP P 18 46 23.8 -1.9
comp=Z,2.8nm,0.5s
VRI Vrincioaia 72.16 317⇓iP P 18 46 29.4 +0.6
PLOR Plostina 72.21 317⇓iP P 18 46 28.6 -0.5
TESR 72.34 317⇑iP P 18 46 29.8 -0.1
MLR Muntele Rosu 72.62 316⇓iP P 18 46 32.0 +0.3
VOIR 73.23 316⇓iP P 18 46 34.5 -0.7
BURAR Bucovina Array 73.52 318⇑iP P 18 46 36.8 -0.1
VTS Vitosha 74.09 313⇑iP P 18 46 39.4 -1.0
JOF Joensuu 74.33 335 ep P 18 46 34.1 -7.0
comp=Z,1.5nm,0.8s
TRPA Tarpa 75.39 318⇓iP P 18 46 48.1 +0.6
KWP Kalwaria Pacla 75.52 320 eP P 18 46 48.8 +0.5
KWP Kalwaria Pacla 75.52 320 eP P 18 46 48.7 +0.5
BZS Buzias 75.64 316⇑iP P 18 46 49.1 +0.1
KOLS Kolonicke sedl 75.69 319 eP P 18 46 50.1 +0.8
SUW Suwalki 76.02 324 eP P 18 46 50.5 -0.5
SUW Suwalki 76.02 324 eP P 18 46 49.4 -1.6
comp=Z,40nm,1.2s
SUW Suwalki 76.02 324 eP P 18 46 50.5 -0.5
CRVS Cervenica-Dubn 76.21 319 eP P 18 46 53.7 +1.5
FINES FINESS Array B 76.21 332 P P 18 46 51.0 -0.9
comp=Z,0.9nm,0.3s,baz=104,slow=5.5,SNR=17
FINES FINESS Array B 76.21 332 P P 18 46 51.0 -0.9
KAF Kangasniemi 76.29 333 ep P 18 46 50.0 -2.3
comp=Z,2.0nm,0.6s
PSZ Piszkesteto 77.11 318 eP P 18 46 56.7 -0.7
comp=Z,11nm,0.9s
PSZ Piszkesteto 77.11 318⇓iP P 18 46 55.6 -1.8
OJC Ojcow 77.47 320 eP P 18 46 58.0 -1.2
comp=Z,8.9nm,0.6s
OJC Ojcow 77.47 320 eP P 18 46 59.1 -0.1
PKSM Moragy 77.78 316⇓iP P 18 47 00.6 -0.4
VYHS Vyhne 77.88 318 eP P 18 47 01.5 -0.1
OKC Ostrava-Krasne 78.48 320 eP P 18 47 05.4 +0.6
ARCES ARCESS Array B 78.69 340 P P 18 47 05.0 -0.6
comp=Z,1.7nm,0.3s,baz=96,slow=6.8,SNR=27
ARCES ARCESS Array B 78.69 340 P P 18 47 05.0 -0.6
MORC Moravsky Berou 78.86 320 eP P 18 47 07.2 +0.2
comp=Z,4.5nm,0.8s
MORC Moravsky Berou 78.86 320⇓iP P 18 47 07.8 +0.8
KRLC Kraliky 79.38 320 eP P 18 47 10.5 +0.7
DPC Dobruska-Polom 79.70 320 eP P 18 47 12.0 +0.5
comp=Z,6.7nm,0.8s
DPC Dobruska-Polom 79.70 320 eP P 18 47 12.5 +1.0
KSP Ksiaz 79.76 321 eP P 18 47 12.5 +0.7
KSP Ksiaz 79.76 321 eP P 18 47 12.4 +0.7
UPC Upice 79.91 320 eP P 18 47 13.2 +0.6
TREC Trest 80.16 319 eP P 18 47 14.3 +0.3
SOKA Soboth 80.30 316⇑iP P 18 47 15.1 +0.2
comp=Z,7.6nm,0.9s
PRU Pruhonice 80.81 320 eP P 18 47 17.6 +0.2
MOA Molln 80.88 318⇓iP P 18 47 17.9 0.0
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 81.24 321 eP P 18 47 20.2 +0.5
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 81.24 321 eP P 18 47 19.7 0.0
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 81.30 319 eP P 18 47 20.4 +0.2
comp=Z,8.0nm,1.3s
GERES GERESS Array B 81.30 319 P P 18 47 20.6 +0.5
comp=Z,2.6nm,0.5s,baz=106,slow=4.6,SNR=38
GERES GERESS Array B 81.30 319 P P 18 47 20.6 +0.5
KHC Kasperske Hory 81.40 319 eP P 18 47 20.1 -0.5
comp=Z,2.6nm,0.6s
KHC Kasperske Hory 81.40 319 eP P 18 47 20.8 +0.2
RUE Ruedersdorf 81.43 322 eP P 18 47 21.0 +0.4
comp=Z,25nm,1.0s
FBE Freiberg 81.62 321 eP P 18 47 22.2 +0.6
comp=Z,8.0nm,1.1s
WET Wettzell 81.86 319 eP P 18 47 23.0 0.0
comp=Z,5.0nm,0.7s
CLL Collm 81.86 321 eP P 18 47 23.0 +0.1
comp=Z,7.0nm,1.1s
CLL Collm 81.86 321⇓iP P 18 47 22.9 +0.1
comp=Z,7.0nm,1.1s
ROTZ Rotzenmuhle 82.31 319 eP P 18 47 26.6 +1.3
comp=Z,4.0nm,0.8s
NEUB Neuenburg 82.62 321 eP P 18 47 27.3 +0.4
comp=Z,11nm,0.7s
GRF Grafenberg Arr 82.95 319 eP P 18 47 29.6 +1.0
comp=Z,9.0nm,0.8s
MOTA Moosalm 83.01 317⇓iP P 18 47 28.7 -0.5
comp=Z,4.4nm,0.6s
NB2 NORSAR Subarra 83.24 331 P P 18 47 29.0 -0.9
comp=Z,1.5nm,0.9s,baz=93,slow=6.2
NOA NORSAR Array B 83.24 331 P P 18 47 28.2 -1.7
comp=Z,1.6nm,0.8s,baz=94,slow=5.2,SNR=4.2
NOA NORSAR Array B 83.24 331 P P 18 47 28.2 -1.7
FETA Feichten 83.26 317⇑iP P 18 47 29.8 -0.7
comp=Z,4.5nm,0.8s
CLZ Clausthal 83.51 321 eP P 18 47 31.8 +0.3
comp=Z,12nm,0.6s
KEST Kesra 84.51 305 P P 18 47 38.6 +1.7
comp=Z,2.6nm,0.8s,baz=272,slow=1.3,SNR=12
KEST Kesra 84.51 305 P P 18 47 38.6 +1.7
TNS Taunus Mts 84.74 320 eP P 18 47 38.3 +0.6
comp=Z,5.0nm,0.7s
BFO Black Forest 84.86 318 eP P 18 47 38.4 +0.1
comp=Z,6.0nm,0.8s
BFO Black Forest 84.86 318 eP P 18 47 38.5 +0.1
comp=Z,4.5nm,0.7s
IBBN Ibbenburen 85.12 322 eP P 18 47 40.1 +0.6
comp=Z,18nm,0.7s
BUG Bochum--Univer 85.45 321 eP P 18 47 41.4 +0.3
comp=Z,18nm,1.0s
CDF Champ du Feu 85.56 318 eP P 18 47 41.6 -0.3
comp=Z,6.4nm,0.7s
CDF Champ du Feu 85.56 318 eP P 18 47 41.6 -0.3
comp=Z,6.4nm,0.7s
SENIN Lac Senin/Sane 85.64 316 eP P 18 47 41.9 -0.6
comp=Z,6.8nm,0.8s
SBF Sospel 85.65 314 eP P 18 47 42.6 +0.2
comp=Z,38nm,1.0s
SBF Sospel 85.65 314 eP P 18 47 42.6 +0.2
comp=Z,38nm,1.0s
LPG La Plagne 86.06 315 eP P 18 47 45.0 +0.3
comp=Z,17nm,0.8s
LPG La Plagne 86.06 315 eP P 18 47 45.0 +0.3
comp=Z,17nm,0.8s
LPL La Plagne 86.07 315 eP P 18 47 45.0 +0.3
comp=Z,22nm,0.8s
LPL La Plagne 86.07 315 eP P 18 47 45.0 +0.3
comp=Z,22nm,0.8s
MBDF Montbardon 86.08 314 eP P 18 47 44.2 -0.5
comp=Z,9.2nm,0.9s
MBDF Montbardon 86.08 314 eP P 18 47 44.2 -0.5
comp=Z,9.2nm,0.9s
HAU Haudompre 86.20 318 eP P 18 47 44.9 -0.1
HAU Haudompre 86.20 318 eP P 18 47 44.9 -0.1
FRF La Foret Royal 86.24 313 eP P 18 47 45.7 +0.5
FRF La Foret Royal 86.24 313 eP P 18 47 45.7 +0.5
LMR La Mourre 86.35 313 eP P 18 47 47.0 +1.2
LMR La Mourre 86.35 313 eP P 18 47 47.0 +1.2
CABF La Chapelle 86.46 316 eP P 18 47 46.7 +0.3
comp=Z,9.6nm,0.7s
CABF La Chapelle 86.46 316 eP P 18 47 46.7 +0.3
comp=Z,9.6nm,0.7s
PAGF Fort de Pagny 86.59 318 eP P 18 47 47.3 +0.5
PAGF Fort de Pagny 86.59 318 eP P 18 47 47.3 +0.5
ORIF Oris-en-Rattie 86.71 315 eP P 18 47 48.1 +0.5
comp=Z,5.2nm,0.7s
ORIF Oris-en-Rattie 86.71 315 eP P 18 47 48.1 +0.5
comp=Z,5.2nm,0.7s
SMRF Simiane la Rot 86.99 314 eP P 18 47 49.8 +0.9
comp=Z,21nm,1.2s
SMRF Simiane la Rot 86.99 314 eP P 18 47 49.8 +0.9
comp=Z,21nm,1.2s
SFTF Sexfontaines 87.07 318 eP P 18 47 49.3 +0.1
comp=Z,13nm,0.7s
SFTF Sexfontaines 87.07 318 eP P 18 47 49.3 +0.1
comp=Z,13nm,0.7s
GIVF Givet 87.07 320 eP P 18 47 49.4 +0.3
GIVF Givet 87.07 320 eP P 18 47 49.4 +0.3
BAIF Baives 87.47 320 eP P 18 47 51.6 +0.6

	comp=Z,11nm,0.6s						
BAIF	**Baives**	**87.47**	**320**	*e*P	**P**	**18 47 51.6**	**+0.6**
	comp=Z,11nm,0.6s						
VIVF	**Saint-Julien-l**	**87.57**	**315**	*e*P	**P**	**18 47 52.0**	**+0.3**
	comp=Z,12nm,1.0s						
VIVF	**Saint-Julien-l**	**87.57**	**315**	*e*P	**P**	**18 47 52.0**	**+0.3**
	comp=Z,12nm,1.0s						
LOR	**Lormes**	**87.93**	**317**	*e*P	**P**	**18 47 53.6**	**+0.2**
	comp=Z,8.9nm,0.7s						
LOR	**Lormes**	**87.93**	**317**	*e*P	**P**	**18 47 53.6**	**+0.2**
	comp=Z,8.9nm,0.7s						
SSF	**Saint Saulge**	**88.19**	**317**	*e*P	**P**	**18 47 55.3**	**+0.8**
	comp=Z,3.5nm,0.6s						
SSF	**Saint Saulge**	**88.19**	**317**	*e*P	**P**	**18 47 55.3**	**+0.8**
	comp=Z,3.5nm,0.6s						
LASF	**Ste Croix**	**88.21**	**314**	*e*P	**P**	**18 47 56.3**	**+1.6**
	comp=Z,4.1nm,0.8s						
LASF	**Ste Croix**	**88.21**	**314**	*e*P	**P**	**18 47 56.3**	**+1.6**
	comp=Z,4.1nm,0.8s						
AVF	**Avril sur Loir**	**88.32**	**317**	*e*P	**P**	**18 47 55.4**	**+0.3**
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**88.32**	**317**	*e*P	**P**	**18 47 55.4**	**+0.3**
	comp=Z,12nm,1.0s						
BGF	**Bois d'Agland**	**88.69**	**316**	*e*P	**P**	**18 47 57.6**	**+0.7**
BGF	**Bois d'Agland**	**88.69**	**316**	*e*P	**P**	**18 47 57.6**	**+0.7**
TCF	**Toulx Ste Croi**	**89.16**	**316**	*e*P	**P**	**18 48 00.0**	**+0.9**
TCF	**Toulx Ste Croi**	**89.16**	**316**	*e*P	**P**	**18 48 00.0**	**+0.9**
CAF	**Calviac**	**89.41**	**315**	*e*P	**P**	**18 48 01.3**	**+1.0**
CAF	**Calviac**	**89.41**	**315**	*e*P	**P**	**18 48 01.3**	**+1.0**
RJF	**Les Rejaudoux**	**89.75**	**315**	*e*P	**P**	**18 48 02.9**	**+1.0**
	comp=Z,18nm,1.1s						
RJF	**Les Rejaudoux**	**89.75**	**315**	*e*P	**P**	**18 48 02.9**	**+1.0**
	comp=Z,18nm,1.1s						
LDF	**La Druitiere**	**90.45**	**319**	*e*P	**P**	**18 48 05.6**	**+0.5**
	comp=Z,17nm,0.9s						
LDF	**La Druitiere**	**90.45**	**319**	*e*P	**P**	**18 48 05.6**	**+0.5**
	comp=Z,17nm,0.9s						
FLN	**La Foliniere**	**90.66**	**319**	*e*P	**P**	**18 48 06.6**	**+0.6**
	comp=Z,42nm,1.0s						
FLN	**La Foliniere**	**90.66**	**319**	*e*P	**P**	**18 48 06.6**	**+0.6**
	comp=Z,42nm,1.0s						
MFF	**Saint Martin d**	**90.73**	**317**	*e*P	**P**	**18 48 07.2**	**+0.8**
	comp=Z,26nm,1.1s						
MFF	**Saint Martin d**	**90.73**	**317**	*e*P	**P**	**18 48 07.2**	**+0.8**
	comp=Z,26nm,1.1s						
EPF	**Esparros**	**90.87**	**313**	*e*P	**P**	**18 48 07.9**	**+0.7**
EPF	**Esparros**	**90.87**	**313**	*e*P	**P**	**18 48 07.9**	**+0.7**
ETSF	**Etsaut**	**91.54**	**313**	*e*P	**P**	**18 48 11.6**	**+1.2**
ETSF	**Etsaut**	**91.54**	**313**	*e*P	**P**	**18 48 11.6**	**+1.2**
SGMF	**Saint Gilles**	**92.10**	**319**	*e*P	**P**	**18 48 13.2**	**+0.5**
SGMF	**Saint Gilles**	**92.10**	**319**	*e*P	**P**	**18 48 13.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**93.15**	**283**	P	**P**	**18 48 19.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=87,slow=4.9,SNR=10						
TORD	**Torodi Ar. Bea**	**93.15**	**283**	P	**P**	**18 48 19.5**	**+1.3**
ULM	**Lac du Bonnet**	**124.10**	**9**	PKP	**PKPdf**	**18 54 01.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=22,slow=5.4,SNR=4.3						
ULM	**Lac du Bonnet**	**124.10**	**9**	PKP	**PKPdf**	**18 54 01.1**	**0.0**
PDAR	**Pinedale Array**	**127.16**	**24**	PKP	**PKPdf**	**18 54 07.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=342,slow=4.7,SNR=4.5						
PDAR	**Pinedale Array**	**127.16**	**24**	PKP	**PKPdf**	**18 54 07.8**	**+0.3**

IDC 02 18:40:12.2±1.2**, 10°.29S**×**161°.46E, h87**km±8km**, mb3.5**/6**, mb1 3.7**/8**, mb1mx3.5**/22**, mbtmp3.6**/8**, Error ellipse: s-maj=21.3km s-min=13.1km az=37.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**300**	P	Pn	18 40 39.7	-0.9
	251nm,0.3s,baz=143,slow=7.0,SNR=100						
HNR				S	Sn	18 41 02.8	+0.5
	200nm,0.3s,baz=245,slow=20,SNR=7.2						
DZM	**Mont Dzumac**	**12.65**	**158**	P	Pn	18 43 10.9	+1.9
	1.5nm,0.3s,baz=333,slow=20,SNR=55						
DZM				S	Sn	18 45 24.0	-4.2
	0.4nm,0.3s,baz=198,slow=16,SNR=5.3						
CTA	**Charters Tower**	**17.60**	**235**	P	Pn	18 44 12.9	+1.0
	0.4nm,0.3s,baz=65,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**27.85**	**247**	P	P	18 45 53.5	-0.2
	1.1nm,0.5s,baz=76,slow=9.0,SNR=6.6						
WRA				pP	pP	18 46 13.9	+0.2
	1.1nm,0.6s,baz=75,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**29.45**	**240**	P	P	18 46 07.1	-0.9
	0.4nm,0.5s,baz=61,slow=9.9,SNR=6.0						
FITZ	**Fitzroy Crossi**	**35.53**	**253**	P	P	18 47 00.6	-0.5
	2.5nm,0.6s,baz=72,slow=6.6,SNR=7.7						
CMAR	**Chiang Mai Arr**	**67.97**	**295**	pP	pP	18 51 24.6	-0.1
	0.4nm,0.6s,baz=126,slow=5.7,SNR=5.6						
SONM	**Songino Array**	**75.61**	**325**	P	P	18 51 48.3	+0.4
	0.5nm,0.7s,baz=139,slow=5.2,SNR=4.8						
SONM				pP	pP	18 52 10.5	-0.1
	0.5nm,0.6s,baz=131,slow=5.4,SNR=3.3						
ILAR	**Eielson Array**	**84.19**	**20**	P	P	18 52 33.5	-0.1
	0.2nm,0.6s,baz=245,slow=4.8,SNR=4.7						
MKAR	**Makanchi Array**	**90.11**	**318**	P	P	18 53 03.2	+0.5
	0.6nm,1.0s,baz=88,slow=6.2,SNR=3.7						
MKAR				pP	pP	18 53 25.1	-0.9
	0.3nm,0.8s,baz=94,slow=7.0,SNR=2.6						

---

*HEL **02** 19:25:23.9±0.7, 67°.72N×33°.63E, h0km, Explosion*
*NAO **02** 19:25:23.5±3.2, 67°.50N×33°.17E, ML2.5*
*CSEM **02** 19:25:24.7±0.5, 67°.76N×33°.38E, h2km, ML2.5, Error ellipse: s-maj=10.2km s-min=5.4km az=88.0, Mining explosion.*
ISC 02 19:25:25.8±2.4**, 67°.77N**±0°.05×**33°.2E**±0°.1**, h0**km**, n17,** σ**1**s**.06**/28**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.37**	**271**	*e*P	**Pn**	**19 25 50.9**	**-1.3**
VRF				*e*S	**Sn**	**19 26 11.3**	**+0.4**
VRF	**Varrio**	**1.37**	**271**	P	**Pn**	**19 25 50.8**	**-1.3**
VRF				S	**Sn**	**19 26 11.3**	**+0.4**
KU6	**Riekki**	**2.18**	**218**	*e*P	**Pn**	**19 26 02.2**	**-1.2**
KU6				*e*S	**Sn**	**19 26 31.7**	**+0.6**
KU6	**Riekki**	**2.18**	**218**	P	**Pn**	**19 26 02.1**	**-1.2**
KU6				S	**Sn**	**19 26 31.6**	**+0.6**
MSF	**Maaselka**	**2.48**	**223**	*e*P	**Pn**	**19 26 07.6**	**+0.1**
MSF				*e*SB	**Sn**	**19 26 40.3**	**+1.8**
MSF	**Maaselka**	**2.48**	**223**	P	**Pn**	**19 26 07.6**	**+0.1**
MSF				Sb	**Sn**	**19 26 40.3**	**+1.8**
SGF	**Sodankyl**	**2.58**	**266**	*e*P	**Pn**	**19 26 09.0**	**+0.3**
SGF				*e*S	**Sn**	**19 26 41.4**	**+0.7**
SGF	**Sodankyl**	**2.58**	**266**	P	**Pn**	**19 26 09.0**	**+0.3**
SGF				S	**Sn**	**19 26 41.4**	**+0.7**
KEV	**Kevo**	**3.01**	**314**	*e*P	**Pn**	**19 26 14.6**	**-0.2**
KEV				*e*S	**Sn**	**19 26 53.5**	**+2.0**
KEV	**Kevo**	**3.01**	**314**	P	**Pn**	**19 26 14.5**	**-0.2**
KEV				S	**Sn**	**19 26 53.5**	**+2.0**
RNF	**Rovaniemi**	**3.03**	**251**	*e*P	**Pn**	**19 26 14.0**	**-1.0**
RNF	**Rovaniemi**	**3.03**	**251**	P	**Pn**	**19 26 14.0**	**-1.0**
ARA0	**ARCESS Array S**	**3.33**	**306**	Pn	**Pn**	**19 26 18.1**	**-1.1**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**19 26 25.3**	**-0.4**
	baz=116,slow=16						
ARA0				Sn	**Sn**	**19 26 59.7**	**+0.4**
	baz=119,slow=28						
ARA0				Lg	Lg	19 27 12.2	
	baz=125,slow=28						
ARA0	**ARCESS Array S**	**3.33**	**306**	Pn	**Pn**	**19 26 18.0**	**-1.1**
	baz=122,slow=14,SNR=4.0						
ARA0	**ARCESS Array S**	**3.33**	**306**	Pg	**Pb**	**19 26 25.3**	**-0.4**
	baz=116,slow=15,SNR=8.3						
ARA0				Sn	**Sn**	**19 26 59.7**	**+0.4**
	baz=119,slow=26,SNR=7.5						
ARA0				Lg	Lg	19 27 12.2	
	baz=125,slow=27,SNR=0.5						
FIA0	**FINESS Array S**	**7.04**	**209**	Lg	Lg	19 28 56.8	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.04**	**209**	Lg	Lg	19 28 56.8	
	baz=24,slow=28,SNR=4.4						

IDC 02 19:27:36.7±1.8**, 10°.60S**×**119°.18E, h0**km**, mb3.4**/2**, mb1 3.5**/6**, mb1mx3.4**/20**, mbtmp3.4**/6**, ML3.4**/4**, Error ellipse: s-maj=66.0km s-min=21.0km az=62.0, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.57**	**6**	Pn	Pn	19 29 02.4	+1.5
	1.9nm,0.3s,baz=186,slow=10,SNR=11						
KAPI				Sn	Sn	19 30 07.1	+1.4
	baz=0.0,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**9.74**	**141**	Pn	Pn	19 29 58.6	+0.5
	0.2nm,0.3s,baz=322,slow=17,SNR=2.9						
FITZ				Sn	Sn	19 31 40.7	-7.6
	0.4nm,0.3s,baz=188,slow=18,SNR=6.3						
WRA	**Warramunga Arr**	**17.32**	**124**	P	Pn	19 31 38.4	-1.7
	0.1nm,0.3s,baz=304,slow=14,SNR=7.0						
WRA				S	Sn	19 34 39.2	-14
	0.1nm,0.3s,baz=302,slow=26,SNR=3.9						
ASAR	**Alice Springs**	**19.13**	**135**	P	Pn	19 32 02.6	+0.2
	0.1nm,0.3s,baz=315,slow=12,SNR=5.3						
SONM	**Songino Array**	**59.27**	**350**	P	P	19 37 39.5	-0.6
	0.4nm,0.9s,baz=176,slow=7.6,SNR=2.7						
MKAR	**Makanchi Array**	**65.95**	**333**	P	P	19 38 24.8	+0.1
	0.2nm,0.6s,baz=139,slow=5.8,SNR=4.4						

---

*ISCJB **02** 19:42:42.6±0.6, 38°.67N±0°.04×141°.26E±0°.09, h103km±3km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=5.3km az=18.8*
*IDC **02** 19:42:43.6±2.3, 38°.67N×141°.29E, h100km±19km, mb3.4/5, mb1 3.4/9, mb1mx3.2/28, mbtmp3.4/9, Error ellipse: s-maj=36.2km s-min=17.2km az=83.0*
*JMA **02** 19:42:44.3, 38°.68N×141°.17E, h93km±1km, M3.4*
JMA Felt I J1.
ISC 02 19:42:43.5±0.9**, 38°.67N**±0°.04×**141°.24E**±0°.08**, h96**km±6km**, n22,** σ**1**s**.20**/35**, mb3.7**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.23**	**158**	P	**Pn**	**19 42 58.0**	**+0.8**
JIO				S	**Sn**	**19 43 08.0**	**+0.5**
JMK	**Ichinoseki**	**0.28**	**357**	P	**Pn**	**19 42 57.8**	**+0.4**
JMK				S	**Sn**	**19 43 07.9**	**+0.1**
JOU	**Okura**	**0.55**	**236**	P	**Pn**	**19 42 59.5**	**+0.3**
JOU				S	**Sn**	**19 43 11.4**	**+0.5**
JYK	**Kaneyama**	**0.73**	**290**	P	**Pn**	**19 43 00.8**	**+0.1**
JYK				S	**Sn**	**19 43 13.4**	**-0.3**
JOM	**Ohasama**	**0.80**	**3**	P	**Pn**	**19 43 02.2**	**+0.7**
JOM				S	**Sn**	**19 43 15.1**	**+0.2**
JRG	**Rokugo**	**0.86**	**327**	P	**Pn**	**19 43 02.5**	**+0.4**
JRG				S	**Sn**	**19 43 16.7**	**+0.7**
JMM	**Marumori**	**0.88**	**204**	P	**Pn**	**19 43 02.6**	**+0.4**
JMM				S	**Sn**	**19 43 16.6**	**+0.3**
JYS	**Shirataka**	**1.02**	**244**	P	**Pn**	**19 43 04.2**	**+0.4**
JYS				*e*S	**Sn**	**19 43 19.2**	**0.0**
JFT	**Otama**	**1.35**	**212**	P	**Pn**	**19 43 08.7**	**+1.0**
JFT				S	**Sn**	**19 43 26.9**	**+0.9**
JAW	**Awa shima**	**1.57**	**263**	P	**Pn**	**19 43 10.7**	**+0.3**
JANG	**Nango**	**1.71**	**7**	P	**Pn**	**19 43 12.8**	**+0.6**
JANG				*e*S	**Sn**	**19 43 34.4**	**+0.4**
JNS	**Sasagawa**	**1.74**	**241**	P	**Pn**	**19 43 12.9**	**+0.5**
MAT	**Matsushiro**	**3.21**	**229**	P	**Pn**	**19 43 33.1**	**+1.2**
MAT				S	**Sn**	**19 44 10.6**	**+1.2**
MJAR	**Matsushiro Arr**	**3.21**	**229**	P	**Pn**	**19 43 33.2**	**+1.3**
	1.2nm,0.3s,baz=25,slow=14,SNR=16						
MJAR				S	Sn	19 44 03.3	-6.1
	1.0nm,0.3s,baz=48,slow=20,SNR=4.6						
ASAJ	**Asahikawa**	**5.54**	**10**	P	**Pn**	**19 44 03.4**	**+0.1**
	1.3nm,0.3s,baz=226,slow=15,SNR=9.2						
ASAJ				S	**Sn**	**19 45 01.8**	**-3.8**
	0.0nm,0.3s,baz=297,slow=33,SNR=1.9						
JHJ	**Hachijo jima 2**	**5.67**	**192**	P	**Pn**	**19 44 04.1**	**-1.1**
	11nm,0.3s,baz=66,slow=19,SNR=3.3						
JHJ				S	**Sn**	**19 45 04.9**	**-3.9**
	7.7nm,0.3s,baz=83,slow=23,SNR=5.6						
USRK	**Ussuriysk Arra**	**8.87**	**311**	P	**Pn**	**19 44 50.2**	**+1.6**
	0.4nm,0.3s,baz=124,slow=15,SNR=5.3						
SONM	**Songino Array**	**26.79**	**301**	P	**P**	**19 48 13.5**	**-1.0**
	0.2nm,0.4s,baz=102,slow=8.8,SNR=6.1						
ZALV	**Zalesovo Beam**	**40.72**	**311**	P	**P**	**19 50 14.5**	**0.0**
	1.7nm,0.7s,baz=86,slow=7.0,SNR=8.8						
MKAR	**Makanchi Array**	**43.15**	**301**	P	**P**	**19 50 34.3**	**-0.1**
	2.2nm,0.7s,baz=86,slow=9.8,SNR=28						
WRA	**Warramunga Arr**	**58.66**	**188**	P	**P**	**19 52 30.8**	**0.0**
	0.4nm,0.5s,baz=4.6,slow=6.8,SNR=7.9						
FINES	**FINESS Array B**	**67.30**	**332**	P	**P**	**19 53 27.4**	**-0.1**
	0.6nm,0.7s,baz=65,slow=7.8,SNR=2.9						

---

*IDC **02** 19:45:39.0±2.4, 8°.20N×91°.97E, h39km±9km, mb3.1/4, mb1 3.3/6, mb1mx3.2/26, mbtmp3.2/6, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/17, Error ellipse: s-maj=68.4km s-min=23.5km az=58.0*
ISC 02 19:45:38.8±1.6**, 8°.2N**±0°.2×**92°.1E**±0°.2**, h25**km**, n16,** σ**1**s**.68**/12**, mb3.2**/4**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.66**	**128**	Pn	**Pn**	**19 47 43.5**	**+0.7**
	1.4nm,0.3s,baz=323,slow=17,SNR=8.2						
PSI				LR	LR	19 51 30.0	
	comp=Z,67nm,19.9s,baz=232,slow=40						
CMAR	**Chiang Mai Arr**	**12.14**	**32**	Pn	**Pn**	**19 48 29.9**	**-0.3**
	0.1nm,0.3s,baz=231,slow=15,SNR=3.7						
ODAN	**Odare**	**19.06**	**347**	*e*P	**P**	**19 50 00.1**	**+0.5**
	6.5nm,0.3s						
RAMN	**Ramite**	**19.33**	**345**	*e*P	**P**	**19 50 02.7**	**0.0**
	14nm,0.3s						
TAPN	**Taplejung**	**19.46**	**348**	*e*P	**Pn**	**19 50 05.8**	**+0.4**
	5.5nm,0.3s						
JIRN	**Jiri**	**20.12**	**345**	*e*P	Pn	19 50 14.4	+1.0
	0.8nm,0.2s						
PKI	**Pulchoki**	**20.25**	**343**	*e*P	Pn	19 50 15.8	+0.9
	7.4nm,0.3s						
GUN	**Gumba**	**20.44**	**344**	*e*P	Pn	19 50 18.3	+1.2
KKN	**Kakani**	**20.50**	**342**	*e*P	Pn	19 50 19.4	+1.8
	3.1nm,0.3s						
GKN	**Gorkha**	**20.89**	**341**	*e*P	Pn	19 50 24.5	+2.3
	7.9nm,0.3s						
KOLN	**Koldanda**	**21.03**	**339**	*e*P	P	19 50 26.6	+5.5
	4.7nm,0.4s						
MKAR	**Makanchi Array**	**39.33**	**349**	P	**P**	**19 53 03.5**	**-2.5**
	0.2nm,0.4s,baz=160,slow=8.2,SNR=4.0						
MKAR				pP	**pP**	**19 53 15.1**	**+1.6**
	0.6nm,0.5s,baz=169,slow=8.7,SNR=7.6						
SONM	**Songino Array**	**41.28**	**15**	P	**P**	**19 53 21.1**	**-1.2**
	0.3nm,0.7s,baz=197,slow=6.9,SNR=3.4						
SONM				pP	**pP**	**19 53 32.1**	**+2.2**
	0.4nm,0.8s,baz=212,slow=9.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**45.96**	**354**	P	**P**	**19 53 58.7**	**-0.9**
	0.2nm,0.4s,baz=179,slow=5.8,SNR=2.3						
ZALV				pP	**pP**	**19 54 10.1**	**+2.8**
	0.2nm,0.3s,baz=183,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**50.11**	**125**	P	**P**	**19 54 31.4**	**-0.9**
	0.2nm,0.6s,baz=302,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**51.69**	**129**	pP	pP	19 54 55.5	+3.6
	0.4nm,0.8s,baz=300,slow=7.6,SNR=3.1						

---

*ISK **02** 20:00:23.6, 39°.15N×28°.94E, h5km, MD3.0*
*DDA **02** 20:00:23.5, 39°.13N×28°.91E, h7km, MD2.9*
*CSEM **02** 20:00:24.0±0.1, 39°.15N×28°.92E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=2.0km az=123.0*
ISC 02 20:00:23.9±0.9**, 39°.16N**±0°.02×**28°.92E**±0°.02**, h8**km±9km**, n72,** σ**0**s**.52**/92**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.19**	**234**	*i* P	**Pg**	**20 00 28.2**	**+0.3**
DEMI				*i* S	**Sg**	**20 00 30.8**	**+0.1**
DEMI	**Demirci**	**0.19**	**234**	*i* P	**Pg**	**20 00 28.2**	**+0.3**
DEMI				*i* S	**Sg**	**20 00 30.7**	**+0.1**
DST	**Dursunbey**	**0.50**	**333**	*e*PG	**Pg**	**20 00 33.7**	**0.0**
DST	**Dursunbey**	**0.50**	**333**	*e*Pg	**Pg**	**20 00 33.7**	**0.0**
TVSB	**Tavsanli**	**0.51**	**55**	*e*PG	**Pg**	**20 00 34.0**	**+0.1**
TVSB				*e*SG	**Sg**	**20 00 41.0**	**+0.4**
TVSB	**Tavsanli**	**0.51**	**55**	*e*Pg	**Pg**	**20 00 34.0**	**+0.1**
TVSB				*e*Sg	**Sg**	**20 00 41.0**	**+0.4**
DURS	**Dursunbey**	**0.56**	**322**	*i* P	**Pg**	**20 00 34.6**	**-0.2**
DURS				*i* S	**Sg**	**20 00 41.4**	**-0.8**
DURS	**Dursunbey**	**0.56**	**322**	*i* P	**Pg**	**20 00 34.6**	**-0.2**
DURS				*i* S	**Sg**	**20 00 41.4**	**-0.8**
KULA	**Kula-Manisa**	**0.67**	**197**	*e*PG	**Pg**	**20 00 36.9**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**197**	*e*Pg	**Pg**	**20 00 36.9**	**0.0**
MANT	**Manisa**	**0.72**	**203**	*i* P	**Pg**	**20 00 37.8**	**0.0**
MANT				*i* S	**Sg**	**20 00 46.4**	**-0.8**
MANT	**Manisa**	**0.72**	**203**	*i* P	**Pg**	**20 00 37.8**	**0.0**
MANT				*i* S	**Sg**	**20 00 46.4**	**-0.8**
ORLT	**Orhaneli**	**0.89**	**359**	*e*PG	**Pb**	**20 00 41.3**	**-0.3**
ORLT	**Orhaneli**	**0.89**	**359**	*e*Pg	**Pb**	**20 00 41.3**	**-0.3**
AKHS	**Akhisar**	**0.90**	**252**	*i* P	**Pg**	**20 00 41.2**	**-0.1**
AKHS				*i* S	**Sg**	**20 00 53.0**	**0.0**
AKHS	**Akhisar**	**0.90**	**252**	*i* P	**Pg**	**20 00 41.2**	**-0.1**
AKHS				*i* S	**Sg**	**20 00 53.0**	**0.0**
KHAL	**Karahalli**	**0.90**	**150**	*i* P	**Pb**	**20 00 41.3**	**-0.6**
KHAL				*i* S	**Sg**	**20 00 52.7**	**-0.3**
KHAL	**Karahalli**	**0.90**	**150**	*i* P	**Pb**	**20 00 41.3**	**-0.6**
KHAL				*i* S	**Sg**	**20 00 52.7**	**-0.3**
AKS	**Akhisar**	**0.91**	**252**	*e*PG	**Pb**	**20 00 41.8**	**-0.1**
AKS	**Akhisar**	**0.91**	**252**	*e*Pg	**Pb**	**20 00 41.8**	**-0.1**
ALT	**Altintas**	**0.93**	**96**	*e*PG	**Pg**	**20 00 41.5**	**-0.3**
ALT	**Altintas**	**0.93**	**96**	*e*Pg	**Pg**	**20 00 41.5**	**-0.3**
BALB	**Balikesir**	**0.94**	**301**	*e*PG	**Pb**	**20 00 42.6**	**+0.3**
BALB	**Balikesir**	**0.94**	**301**	*e*Pg	**Pb**	**20 00 42.7**	**+0.3**
KHL	**Karahalli**	**0.96**	**150**	*e*PG	**Pg**	**20 00 42.0**	**-0.3**
KHL	**Karahalli**	**0.96**	**150**	*e*Pg	**Pg**	**20 00 42.0**	**-0.3**
ULDT	**Uludag**	**1.00**	**10**	*i* P	**Pg**	**20 00 43.0**	**-0.1**
ULDT				*i* S	**Sb**	**20 00 56.7**	**-0.3**
ULDT	**Uludag**	**1.00**	**10**	*i* P	**Pg**	**20 00 43.0**	**-0.1**
ULDT				*i* S	**Sb**	**20 00 56.7**	**-0.3**
BALY	**Balya**	**1.16**	**300**	*i* P	**Pg**	**20 00 45.6**	**-0.6**
BALY				*i* S	**Sg**	**20 01 00.5**	**-0.8**
BALY	**Balya**	**1.16**	**300**	*i* P	**Pg**	**20 00 45.6**	**-0.6**
BALY				*i* S	**Sg**	**20 01 00.5**	**-0.8**
KCTX	**Karacabey (Bur**	**1.19**	**339**	*e*PN	**Pg**	**20 00 46.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.19**	**339**	*e*Pn	**Pg**	**20 00 46.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.21**	**359**	*e*PN	**Pn**	**20 00 47.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.21**	**359**	*e*Pn	**Pn**	**20 00 47.5**	**+0.4**
CAVI	**Cavuskoy**	**1.26**	**34**	*e*PN	**Pg**	**20 00 48.1**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**34**	*e*Pn	**Pg**	**20 00 48.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.30**	**313**	*e*PN	**Pb**	**20 00 48.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.30**	**313**	*e*Pn	**Pb**	**20 00 48.7**	**+0.1**
BORA	**Eskisehir**	**1.39**	**58**	*i* P	**Pn**	**20 00 49.5**	**-0.2**
BORA				*i* S	**Sn**	**20 01 08.4**	**+0.1**
BORA	**Eskisehir**	**1.39**	**58**	*i* P	**Pn**	**20 00 49.5**	**-0.2**
BORA				*i* S	**Sn**	**20 01 08.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.41**	**115**	*e*PN	**Pb**	**20 00 50.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.41**	**115**	*e*Pn	**Pb**	**20 00 50.4**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**26**	*e*PN	**Pg**	**20 00 50.9**	**-0.3**
ADVT	**Abdulvahap**	**1.42**	**26**	*e*Pn	**Pg**	**20 00 50.9**	**-0.3**
BNT	**Bandirma**	**1.42**	**328**	*e*PN	**Pg**	**20 00 51.0**	**-0.2**
BNT	**Bandirma**	**1.42**	**328**	*e*Pn	**Pg**	**20 00 51.0**	**-0.2**
EDC	**Edincik**	**1.44**	**326**	*e*PN	**Pg**	**20 00 51.8**	**+0.3**
EDC	**Edincik**	**1.44**	**326**	*e*Pn	**Pg**	**20 00 51.8**	**+0.3**
YLV	**Yalova**	**1.45**	**14**	*e*PN	**Pg**	**20 00 52.0**	**+0.2**
YLV	**Yalova**	**1.45**	**14**	*e*Pn	**Pg**	**20 00 52.0**	**+0.2**
IZM	**Izmir**	**1.50**	**240**	*e*PN	**Pg**	**20 00 52.5**	**-0.2**
IZM	**Izmir**	**1.50**	**240**	*e*Pn	**Pg**	**20 00 52.5**	**-0.2**
SEYT	**Eskypehyr**	**1.54**	**76**	*i* P	**Pg**	**20 00 53.4**	**-0.1**
SEYT				*i* S	**Sg**	**20 01 14.2**	**+0.7**
SEYT	**Eskypehyr**	**1.54**	**76**	*i* P	**Pg**	**20 00 53.4**	**-0.1**
SEYT				*i* S	**Sg**	**20 01 14.2**	**+0.7**
BLCB	**Balcova**	**1.66**	**243**	*e*PN	**Pb**	**20 00 54.2**	**-0.4**
BLCB	**Balcova**	**1.66**	**243**	*e*Pn	**Pb**	**20 00 54.2**	**-0.4**
HRT	**Hereke**	**1.76**	**19**	*e*PN	**Pn**	**20 00 55.5**	**+0.8**
HRT	**Hereke**	**1.76**	**19**	*e*Pn	**Pn**	**20 00 55.5**	**+0.8**
GULT	**Gulveren**	**1.77**	**43**	*e*PN	**Pb**	**20 00 56.3**	**-0.3**
GULT	**Gulveren**	**1.77**	**43**	*e*Pn	**Pb**	**20 00 56.3**	**-0.3**
ISK	**Istanbul-Kandi**	**1.91**	**3**	*e*PN	**Pb**	**20 00 58.4**	**-0.5**
ISK	**Istanbul-Kandi**	**1.91**	**3**	*e*Pn	**Pb**	**20 00 58.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.03**	**319**	*e*PN	**Pb**	**20 01 00.0**	**-1.1**
RKY	**Sarkoy-Tekirda**	**2.03**	**319**	*e*Pn	**Pb**	**20 01 00.0**	**-1.1**
SVRH	**Sivrihisar-ESK**	**2.04**	**81**	*e*PN	**Pn**	**20 00 59.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.04**	**81**	*e*Pn	**Pn**	**20 00 59.2**	**+0.6**
CTKS	**Kestanelik-??a**	**2.10**	**352**	*e*PN	**Pn**	**20 01 00.3**	**+1.0**
CTKS	**Kestanelik-??a**	**2.10**	**352**	*e*Pn	**Pn**	**20 01 00.3**	**+1.0**
SLVT	**Silivri**	**2.14**	**346**	*e*PN	**Pb**	**20 01 01.9**	**-1.0**
SLVT	**Silivri**	**2.14**	**346**	*e*Pn	**Pb**	**20 01 01.9**	**-1.0**
ENEZ	**Enez**	**2.65**	**307**	*e*PN	**Pn**	**20 01 08.5**	**+1.7**
ENEZ	**Enez**	**2.65**	**307**	*e*Pn	**Pn**	**20 01 08.5**	**+1.7**

---

*IDC **02** 20:09:00.9±1.0, 0°.63N×97°.14E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=31.6km s-min=20.0km az=48.0*
*ISCJB **02** 20:09:03.0±0.8, 0°.77N±0°.09×97°.22E±0°.09, h23km, mb3.9/11, Error ellipse: s-maj=13.3km s-min=12.5km az=171.4*
*DJA **02** 20:09:09.4±2.8, 1°N±5°×9°7E±°, h31km±35km, M3.8/7, mb4.1/3, MLv3.7/7*
ISC 02 20:09:04.4±0.9**, 0°.7N**±0°.1×**97°.20E**±0°.09**, h23**km**, n21,** σ**0**s**.87**/20**, mb4.0**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPTI		**2.53**	**360**	P	**Pn**	**20 09 41.7**	**-2.4**
TPTI				S	Sn	20 09 58.0	-16
PSI	**Prapat**	**2.69**	**40**	Pn	**Pn**	**20 09 45.8**	**-0.7**
	1.3nm,0.3s,baz=241,slow=10,SNR=4.0						
PSI	**Prapat**	**2.69**	**40**	P	**Pn**	**20 09 46.4**	**-0.1**
TSI	**Tuntungan**	**3.08**	**26**	P	**Pn**	**20 09 51.8**	**+0.1**
PPI	**Padang Panjang**	**3.40**	**110**	P	**Pb**	**20 10 02.9**	**-1.2**
PPI				S	Sn	20 10 13.4	-22
BSI	**Banda Aceh**	**5.11**	**338**	P	**Pn**	**20 10 18.9**	**-0.8**
IPM	**Ipoh**	**5.34**	**46**	P	**Pn**	**20 10 22.3**	**-0.6**
	25nm,1.6s,0.1nm						
KULM	**Kulim**	**5.70**	**37**	P	**Pn**	**20 10 27.6**	**-0.2**
	16nm,1.7s,0.1nm						
KSI	**Kapahiang**	**6.92**	**129**	P	Pn	20 10 52.9	+8.3
CMAR	**Chiang Mai Arr**	**17.71**	**5**	P	**Pn**	**20 13 09.2**	**-0.5**
	0.1nm,0.3s,baz=192,slow=12,SNR=9.0						
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**20 16 52.2**	**-0.3**
	0.7nm,0.7s,baz=300,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**20 17 03.5**	**+0.2**
	0.6nm,0.8s,baz=298,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**47.61**	**8**	P	**P**	**20 17 39.2**	**+0.5**
	0.3nm,0.5s,baz=189,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**47.71**	**346**	P	**P**	**20 17 40.8**	**+1.4**
	2.0nm,0.5s,baz=162,slow=8.7,SNR=45						
USRK	**Ussuriysk Arra**	**53.19**	**31**	P	**P**	**20 18 21.0**	**+0.3**
	2.0nm,0.7s,baz=143,slow=45,SNR=4.2						
ZALV	**Zalesovo Beam**	**54.03**	**351**	P	**P**	**20 18 27.7**	**+0.8**
	1.6nm,0.5s,baz=180,slow=6.0,SNR=14						
BRTR	**Keskin Array B**	**69.44**	**312**	P	**P**	**20 20 11.0**	**-0.2**
	0.6nm,0.7s,baz=120,slow=7.3,SNR=3.8						
AKASG	**Malin Array Be**	**75.64**	**323**	P	**P**	**20 20 47.8**	**+0.1**
	0.7nm,0.5s,baz=95,slow=5.6,SNR=3.8						
FINES	**FINESS Array B**	**80.42**	**333**	P	**P**	**20 21 14.9**	**+0.9**
	1.4nm,0.9s,baz=116,slow=4.4,SNR=6.0						
ARCES	**ARCESS Array B**	**82.99**	**340**	P	**P**	**20 21 27.9**	**+0.5**
	2.9nm,1.0s,baz=91,slow=8.1,SNR=3.4						
GERES	**GERESS Array B**	**85.17**	**319**	P	**P**	**20 21 38.9**	**-0.3**
	0.3nm,0.5s,baz=64,slow=3.1,SNR=6.1						

IDC 02 20:15:42.8±7.5**, 11°.06S**×**164°.56E, h64**km±57km**, mb3.3**/5**, mb1 3.6**/5**, mb1mx3.4**/19**, mbtmp3.3**/5**, ML5.0**/1**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.8**/13**, Error ellipse: s-maj=52.0km s-min=29.9km az=122.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.82**	**289**	P	Pn	20 16 53.1	+0.3
	63nm,0.3s,baz=141,slow=5.1,SNR=18						
HNR				S	Sn	20 17 47.8	+0.5
	16nm,0.3s,baz=355,slow=23,SNR=1.9						
CTA	**Charters Tower**	**19.77**	**241**	LR	LR	20 26 20.3	
	comp=Z,28nm,20.0s,baz=62,slow=32						
STKA	**Stephens Creek**	**29.64**	**222**	LR	LR	20 32 53.2	
	comp=Z,60nm,19.4s,baz=23,slow=35						
WRA	**Warramunga Arr**	**30.38**	**249**	P	P	20 21 49.1	0.0
	0.3nm,0.5s,baz=79,slow=9.3,SNR=7.9						
WRA				pP	pP	20 22 00.1	-4.5
	0.3nm,0.4s,baz=80,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**31.74**	**243**	P	P	20 22 00.7	-0.4
	0.3nm,0.5s,baz=61,slow=10,SNR=5.1						
SONM	**Songino Array**	**77.99**	**324**	P	P	20 27 34.9	+0.4
	0.2nm,0.8s,baz=132,slow=7.4,SNR=2.0						
ILAR	**Eielson Array**	**83.90**	**19**	P	P	20 28 05.1	-0.3
	1.5nm,0.7s,baz=239,slow=5.5,SNR=21						
MKAR	**Makanchi Array**	**92.74**	**317**	P	P	20 28 48.2	+0.1
	0.6nm,1.2s,baz=94,slow=5.0,SNR=4.3						
MKAR				pP	pP	20 29 02.7	-3.4
	0.3nm,0.7s,baz=110,slow=6.5,SNR=3.2						

IDC 02 20:57:19.3±1.9**, 6°.91S**×**128°.65E, h0**km**, mb3.2**/2**, mb1 3.5**/5**, mb1mx3.3**/20**, mbtmp3.3**/5**, ML3.5**/2**, Error ellipse: s-maj=105.9km s-min=25.7km az=75.0, Banda Sea**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.51	195	Pn	Pn	21 00 05.7	+0.7
	0.2nm,0.3s,baz=14,slow=9.5,SNR=9.4						
FITZ				Sn	Sn	21 02 00.9	-13
	0.2nm,0.3s,baz=74,slow=20,SNR=1.6						
WRA	Warramunga Arr	14.08	157	Pn	Pn	21 00 39.8	-0.5
	0.3nm,0.3s,baz=333,slow=13,SNR=26						
WRA				Sn	Sn	21 03 03.0	-14
	0.1nm,0.3s,baz=340,slow=22,SNR=5.3						
ASAR	Alice Springs	17.41	164	P	Pn	21 01 23.4	-0.4
	0.1nm,0.3s,baz=335,slow=9.5,SNR=7.0						
MKAR	Makanchi Array	67.42	327	P	P	21 08 15.9	-0.9
	0.1nm,0.5s,baz=118,slow=5.6,SNR=2.8						
KURBB	Kurchatov Arra	71.74	329	P	P	21 08 44.7	+1.4
	0.1nm,0.4s,baz=124,slow=5.1,SNR=3.1						

*NIED **02** 20:59:00, 44.°00N×148.°00E, h44km, Mw3.5 Best double couple: $M_0$2.35000×10^{14} NP1:ϕ_s337.00000°, δ81.00000°, λ55.00000°. NP2:ϕ_s235.00000°, δ36.00000°, λ165.00000°.*

JMA 02 20:59:53.3±0.4**, 44.°02N×148.°04E, h0km, M4.3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.79	249	P	Pn	21 00 25.6	+0.2
NEM2				eS	Sn	21 00 49.3	+0.5
JRA	Rausu	2.11	269	P	Pn	21 00 30.3	+0.5
JRA				eS	Sb	21 00 58.4	-0.7
JNK	Nakash	2.44	261	P	Pn	21 00 35.2	+0.8
JNK				eS	Sn	21 01 06.0	+1.0
JAK	Akkeshi	2.64	248	P	Pn	21 00 37.9	+0.8
JAR	Ashorobuto	3.18	258	P	Pn	21 00 46.1	+1.5
JCH	Churui	3.69	249	P	Pn	21 00 52.4	+0.8
JCH				eS	Sn	21 01 36.2	+0.4
JNBK	Urakawa-nobuka	4.24	248	P	Pn	21 01 00.7	+1.6
JKB	Kayabe	5.57	250	P	Pn	21 01 19.1	+1.8
JKB				eS	Sn	21 02 22.4	+0.4
JOT	Ohata	5.79	245	P	Pn	21 01 21.7	+1.3
JOT				eS	Sn	21 02 26.6	-0.8

*NEIC **02** 21:00:58.8, 38.°32S×175.°89E, h177km, MG4.3(WEL), After WEL.*

WEL 02 21:00:58.8±0.3**, 38.°32S×175.°88E, h178km**±2km**, ML4.3**/21**, 7C, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	Whakaora	0.35	171	PN	Pn	21 01 23.0	+0.2
WHTZ	Whakaora	0.35	171	Pn	Pn	21 01 23.0	+0.2
WATZ	Wairara	0.41	197	PN	Pn	21 01 23.1	+0.1
WATZ	Wairara	0.41	197	Pn	Pn	21 01 23.1	+0.1
ALRZ	Allen Road	0.43	124	PN	Pn	21 01 23.1	+0.1
ALRZ				SN	Sn	21 01 41.0	-0.8
ALRZ	Allen Road	0.43	124	Pn	Pn	21 01 23.1	+0.1
ALRZ				Sn	Sn	21 01 41.2	-0.5
PRRZ	Plateau Road	0.44	114	PN	Pn	21 01 22.9	-0.1
PRRZ				SN	Sn	21 01 41.2	-0.5
PRRZ	Plateau Road	0.44	114	Pn	Pn	21 01 22.9	-0.1
PRRZ				Sn	Sn	21 01 41.2	-0.5
RRRZ	Republican Roa	0.50	92	PN	Pn	21 01 23.1	-0.2
RRRZ				SN	Sn	21 01 41.5	-0.6
RRRZ	Republican Roa	0.50	92	Pn	Pn	21 01 23.1	-0.2
RRRZ				Sn	Sn	21 01 41.5	-0.6
TARZ	Mount Tarawera	0.50	80	PN	Pn	21 01 23.6	+0.2
TARZ	Mount Tarawera	0.50	80	Pn	Pn	21 01 23.6	+0.2
RATZ	Rangitukua	0.55	189	PN	Pn	21 01 23.4	-0.2
RATZ	Rangitukua	0.55	189	Pn	Pn	21 01 23.4	-0.2
HATZ	Hinemaiaia	0.59	164	PN	Pn	21 01 23.5	-0.2
HATZ	Hinemaiaia	0.59	164	Pn	Pn	21 01 23.5	-0.2
RITZ	Rihia Road	0.66	182	PN	Pn	21 01 24.4	+0.4
RITZ	Rihia Road	0.66	182	Pn	Pn	21 01 24.4	+0.3
TOZ	Tahuroa Road	0.66	333	PN	Pn	21 01 24.3	+0.2
TOZ				SN	Sn	21 01 43.5	+0.1
TOZ	Tahuroa Road	0.66	333	Pn	Pn	21 01 24.3	+0.2
KATZ	Kakaramea	0.67	193	PN	Pn	21 01 24.2	0.0
KATZ	Kakaramea	0.67	193	Pn	Pn	21 01 24.2	0.0
OPRZ	Ohinepanea	0.71	48	PN	Pn	21 01 24.1	-0.2
OPRZ				SN	Sn	21 01 43.6	-0.3
OPRZ	Ohinepanea	0.71	48	Pn	Pn	21 01 24.1	-0.2
OPRZ				Sn	Sn	21 01 43.6	-0.3
KRVZ	Karewarewa	0.80	194	PN	Pn	21 01 24.8	-0.2
KRVZ	Karewarewa	0.80	194	Pn	Pn	21 01 24.8	-0.2
TWVZ	Taurewa	0.83	205	PN	Pn	21 01 25.0	-0.1
TWVZ	Taurewa	0.83	205	Pn	Pn	21 01 25.0	-0.1
WTVZ	West Tongariro	0.83	196	⇑PN	Pn	21 01 25.0	-0.1
WTVZ	West Tongariro	0.83	196	Pn	Pn	21 01 25.0	-0.1
OTVZ	Oturere	0.86	191	PN	Pn	21 01 25.2	-0.2
OTVZ	Oturere	0.86	191	Pn	Pn	21 01 25.2	-0.2
NGZ	Ngauruhoe	0.88	194	PN	Pn	21 01 25.2	-0.3
NGZ	Ngauruhoe	0.88	194	Pn	Pn	21 01 25.4	-0.2
WPVZ	Whakapapa	0.92	197	PN	Pn	21 01 25.8	0.0
WPVZ	Whakapapa	0.92	197	Pn	Pn	21 01 25.6	-0.2
TUVZ	Tukino	0.96	191	PN	Pn	21 01 26.1	0.0
TUVZ	Tukino	0.96	191	Pn	Pn	21 01 26.1	0.0
URZ	Urewera	0.97	87	PN	Pn	21 01 25.4	-0.6
URZ	Urewera	0.97	87	Pn	Pn	21 01 25.4	-0.6
URZ				Sn	Sn	21 01 44.9	-2.0
FWVZ	Far West T-bar	0.97	195	PN	Pn	21 01 25.9	-0.4
FWVZ	Far West T-bar	0.97	195	Pn	Pn	21 01 25.9	-0.4
BKZ	Black Stump Fm	0.97	151	PN	Pn	21 01 25.9	-0.2
BKZ	Black Stump Fm	0.97	151	Pn	Pn	21 01 25.4	-0.6
DRZ	Dome Shelter	0.99	195	PN	Pn	21 01 26.2	-0.2
DRZ	Dome Shelter	0.99	195	Pn	Pn	21 01 26.3	-0.2
TRVZ	Turoa	1.01	195	PN	Pn	21 01 26.5	-0.1
TRVZ	Turoa	1.01	195	Pn	Pn	21 01 26.3	-0.3
WNVZ	Wahianoa	1.03	192	⇑PN	Pn	21 01 26.5	-0.1
WNVZ	Wahianoa	1.03	192	Pn	Pn	21 01 26.5	-0.1
PKVZ	Pokaka	1.05	203	⇑PN	Pn	21 01 26.6	-0.1
PKVZ	Pokaka	1.05	203	Pn	Pn	21 01 26.6	-0.1
NMHZ	Naumai	1.06	137	⇑PN	Pn	21 01 27.4	+0.7
NMHZ	Naumai	1.06	137	Pn	Pn	21 01 27.4	+0.7
NMHZ				Sn	Sn	21 01 48.5	0.0
MOVZ	Moawhango	1.09	185	⇑PN	Pn	21 01 26.6	-0.4
MOVZ	Moawhango	1.09	185	Pn	Pn	21 01 26.6	-0.4
MTVZ	Mangateitei	1.11	197	⇑PN	Pn	21 01 27.0	-0.1
MTVZ	Mangateitei	1.11	197	Pn	Pn	21 01 26.9	-0.2
RAHZ	Arahi	1.11	123	PN	Pn	21 01 27.5	+0.4
RAHZ				SN	Sn	21 01 48.7	-0.4
RAHZ	Arahi	1.11	123	Pn	Pn	21 01 27.5	+0.4
BHHZ	Black Hill Sta	1.18	173	⇑PN	Pn	21 01 27.2	-0.4
BHHZ	Black Hill Sta	1.18	173	Pn	Pn	21 01 27.2	-0.4
VRZ	Vera Road	1.19	227	PN	Pn	21 01 27.8	+0.1
VRZ	Vera Road	1.19	227	Pn	Pn	21 01 27.4	-0.3
MCHZ	McNeill Hill	1.29	151	PN	Pn	21 01 29.1	+0.6
MCHZ				SN	Sn	21 01 51.3	-0.5
MCHZ	McNeill Hill	1.29	151	Pn	Pn	21 01 29.1	+0.6
MWZ	Matawai	1.29	91	PN	Pn	21 01 28.3	-0.4
MWZ	Matawai	1.29	91	Pn	Pn	21 01 28.3	-0.4
RAEZ	Rainy Point	1.51	230	PN	Pn	21 01 31.0	+0.4
RAEZ	Rainy Point	1.51	230	Pn	Pn	21 01 31.0	+0.4
KNZ	Kokohu	1.57	117	Pn	Pn	21 01 31.0	0.0
WAZ	Wanganui	1.59	206	PN	Pn	21 01 31.0	-0.4
WAZ	Wanganui	1.59	206	Pn	Pn	21 01 31.1	-0.4
PNHZ	Pukenui	1.61	171	PN	Pn	21 01 31.1	-0.5
PNHZ	Pukenui	1.61	171	Pn	Pn	21 01 31.1	-0.5
CKHZ	Cape Kidnapper	1.63	146	PN	Pn	21 01 32.0	+0.3
CKHZ	Cape Kidnapper	1.63	146	Pn	Pn	21 01 32.0	+0.3
KAHZ	Kahuranaki	1.66	153	PN	Pn	21 01 32.3	+0.2
KAHZ	Kahuranaki	1.66	153	Pn	Pn	21 01 32.3	+0.2
PRGZ	Paritu Road	1.68	112	PN	Pn	21 01 32.3	0.0
PRGZ	Paritu Road	1.68	112	Pn	Pn	21 01 32.3	0.0
DFE	Dawson Falls	1.71	234	PN	Pn	21 01 33.0	+0.3
DFE	Dawson Falls	1.71	234	Pn	Pn	21 01 33.0	+0.3
PKE	Pukeiti	1.72	239	PN	Pn	21 01 32.9	+0.2
PKE	Pukeiti	1.72	239	Pn	Pn	21 01 32.9	+0.2
TSZ	Takapari Road	1.74	178	PN	Pn	21 01 32.3	-0.6
TSZ	Takapari Road	1.74	178	Pn	Pn	21 01 32.3	-0.6
MHGZ	Mahia Peninsul	1.79	118	PN	Pn	21 01 33.6	+0.2
MHGZ	Mahia Peninsul	1.79	118	Pn	Pn	21 01 33.6	+0.2
WPHZ	Waipukurau	1.79	166	PN	Pn	21 01 33.1	-0.4
WPHZ	Waipukurau	1.79	166	Pn	Pn	21 01 33.1	-0.4
WPHZ				Sn	Sn	21 01 57.6	-2.9
NRZ	Ngariki Road	1.83	236	Pn	Pn	21 01 33.2	-0.6
CNGZ	Carnagh Statio	1.83	96	PN	Pn	21 01 34.1	+0.3
CNGZ	Carnagh Statio	1.83	96	Pn	Pn	21 01 34.1	+0.3
PXZ	Pawanui	1.87	156	PN	Pn	21 01 34.0	-0.2
PXZ	Pawanui	1.87	156	Pn	Pn	21 01 32.7	-1.5
PUZ	Puketiti	1.89	83	PN	Pn	21 01 33.8	-0.7
PUZ	Puketiti	1.89	83	Pn	Pn	21 01 33.8	-0.7
DVHZ	Dannevirke	1.99	174	PN	Pn	21 01 34.6	-0.9
DVHZ	Dannevirke	1.99	174	Pn	Pn	21 01 34.6	-0.9
PRHZ	Porangahau	2.03	164	PN	Pn	21 01 35.4	-0.5
PRHZ	Porangahau	2.03	164	Pn	Pn	21 01 35.4	-0.5
MXZ	Matakaoa Point	2.06	69	PN	Pn	21 01 35.9	-0.3
MXZ	Matakaoa Point	2.06	69	Pn	Pn	21 01 36.0	-0.3
POWZ	Post Office Ro	2.07	182	PN	Pn	21 01 35.4	-1.0
POWZ	Post Office Ro	2.07	182	Pn	Pn	21 01 35.4	-1.0
MRZ	Mangatainoka R	2.35	186	PN	Pn	21 01 38.1	-1.5
MRZ	Mangatainoka R	2.35	186	Pn	Pn	21 01 38.0	-1.5
BFZ	Birch Farm	2.37	173	PN	Pn	21 01 38.5	-1.3
BFZ	Birch Farm	2.37	173	Pn	Pn	21 01 38.5	-1.3
TIWZ	Tintock	2.45	180	PN	Pn	21 01 39.3	-1.4
TIWZ	Tintock	2.45	180	Pn	Pn	21 01 39.3	-1.4
OGWZ	Otaki Gorge	2.55	192	PN	Pn	21 01 40.4	-1.5
OGWZ	Otaki Gorge	2.55	192	Pn	Pn	21 01 40.4	-1.5
HOWZ	Holdsworth Sta	2.59	186	PN	Pn	21 01 40.5	-1.8
HOWZ	Holdsworth Sta	2.59	186	Pn	Pn	21 01 40.5	-1.8
KIW	Kapiti Island	2.65	196	PN	Pn	21 01 41.1	-1.9
KIW	Kapiti Island	2.65	196	Pn	Pn	21 01 41.1	-1.9
TMWZ	Te Maipa	2.78	180	PN	Pn	21 01 42.9	-1.7
TMWZ	Te Maipa	2.78	180	Pn	Pn	21 01 43.0	-1.7
MTW	Mount Morrison	2.85	186	PN	Pn	21 01 43.2	-2.2
MTW	Mount Morrison	2.85	186	Pn	Pn	21 01 43.2	-2.2
CAW	Cannon Point	2.85	192	PN	Pn	21 01 43.5	-2.0
CAW	Cannon Point	2.85	192	Pn	Pn	21 01 43.5	-2.0
DUWZ	D'Urville Isla	2.91	211	PN	Pn	21 01 44.0	-2.2
DUWZ	D'Urville Isla	2.91	211	Pn	Pn	21 01 44.0	-2.2
PAWZ	Paruwai Farm	3.08	186	PN	Pn	21 01 45.8	-2.4
PAWZ	Paruwai Farm	3.08	186	Pn	Pn	21 01 45.8	-2.4
TRWZ	Traveller	3.08	183	PN	Pn	21 01 46.0	-2.2
TRWZ	Traveller	3.08	183	Pn	Pn	21 01 46.0	-2.2
WEL	Wellington	3.08	196	PN	Pn	21 01 46.2	-2.0
WEL	Wellington	3.08	196	Pn	Pn	21 01 46.2	-2.0
SNZO	South Karori	3.12	197	PN	Pn	21 01 46.2	-2.5
SNZO	South Karori	3.12	197	Pn	Pn	21 01 46.2	-2.5
MSWZ	Moikau Station	3.13	189	PN	Pn	21 01 46.3	-2.5
MSWZ	Moikau Station	3.13	189	Pn	Pn	21 01 46.4	-2.5
TCW	Tory Channel	3.14	203	PN	Pn	21 01 46.7	-2.3
TCW	Tory Channel	3.14	203	Pn	Pn	21 01 46.7	-2.3
BHW	Baring Head	3.18	194	PN	Pn	21 01 46.9	-2.5
BHW	Baring Head	3.18	194	Pn	Pn	21 01 46.9	-2.5
PLWZ	Palliser	3.28	188	PN	Pn	21 01 48.0	-2.7
PLWZ	Palliser	3.28	188	Pn	Pn	21 01 48.0	-2.7
TUWZ	Tuamarina	3.45	205	PN	Pn	21 01 49.9	-2.8
TUWZ	Tuamarina	3.45	205	Pn	Pn	21 01 49.9	-2.8
NNZ	Nelson	3.48	213	PN	Pn	21 01 50.4	-2.7
NNZ	Nelson	3.48	213	Pn	Pn	21 01 50.4	-2.7
QRZ	Quartz Range	3.60	225	PN	Pn	21 01 51.5	-3.2
QRZ	Quartz Range	3.60	225	Pn	Pn	21 01 51.5	-3.2
BSWZ	Blackbirch Sta	3.72	204	PN	Pn	21 01 53.6	-2.6
BSWZ	Blackbirch Sta	3.72	204	Pn	Pn	21 01 53.6	-2.6
THZ	Tophouse	4.13	213	PN	Pn	21 01 58.6	-2.8
THZ	Tophouse	4.13	213	Pn	Pn	21 01 58.6	-2.8
KHZ	Kahutara	4.47	203	PN	Pn	21 02 02.8	-2.8
KHZ	Kahutara	4.47	203	Pn	Pn	21 02 02.8	-2.8
DSZ	Denniston Nort	4.64	221	Pn	Pn	21 02 04.7	-3.3
LTZ	Lake Taylor	5.24	211	PN	Pn	21 02 11.8	-3.9
LTZ	Lake Taylor	5.24	211	Pn	Pn	21 02 11.8	-3.9
MQZ	McQueen's Vall	5.91	203	PN	Pn	21 02 19.6	-4.8
MQZ	McQueen's Vall	5.91	203	Pn	Pn	21 02 19.6	-4.8
RPZ	Rata Peaks	6.51	213	PN	Pn	21 02 28.9	-3.5
RPZ	Rata Peaks	6.51	213	Pn	Pn	21 02 28.9	-3.5
LBZ	Lake Benmore	7.42	213	Pn	Pn	21 02 40.0	-4.4
CTZ	Chatham Island	7.83	136	Pn	Pn	21 02 57.3	+7.6

*IDC **02** 21:07:38.9±1.0, 3.°69N×126.°41E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/24, mbtmp3.9/10, Error ellipse: s-maj=69.7km s-min=14.5km az=67.0*
*ISCJB **02** 21:07:43.8±0.5, 3.°71N±0.°08×126.°4E±0.°2, h53km, mb4.0/13, Error ellipse: s-maj=31.0km s-min=7.0km az=161.6*
*NEIC **02** 21:07:44.2±0.4, 3.°62N×126.°40E, h35km, mb4.2/4, Error ellipse: s-maj=25.0km s-min=7.1km az=69.0*

ISC 02 21:07:45.8±0.7**, 3.°7N**±0.°1×**126.°5E**±0.°2**, h53km, n25,** σ**1.°09**/25**, mb4.0**/13**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.45	345	ePn	Pn	21 08 36.7	-0.3
DAV				eSn	Sn	21 09 14.8	-1.8
CTBH	Cotabato--PC H	4.12	328⇑	iP	Pn	21 09 01.6	+15
FITZ	Fitzroy Crossi	21.69	182	P	P	21 12 32.7	+0.3
	1.5nm,0.4s,baz=9.2,slow=12,SNR=6.6						
FITZ	Fitzroy Crossi	21.69	182	eP	P	21 12 31.3	-1.1
	1.5nm,0.4s						
WRAB	Tennant Creek	24.75	162	eP	P	21 13 01.9	-0.7
	9.8nm,0.7s						
WRA	Warramunga Arr	24.75	162	P	P	21 13 01.9	-0.7
	8.4nm,0.6s,baz=343,slow=11,SNR=86						
WRA	Warramunga Arr	24.75	162	P	P	21 13 01.9	-0.7
ASAR	Alice Springs	28.17	165	P	P	21 13 33.1	-0.3
	0.5nm,0.3s,baz=340,slow=11,SNR=8.3						
ASAR	Alice Springs	28.17	165	P	P	21 13 33.1	-0.3
CMAR	Chiang Mai Arr	30.65	301	P	P	21 13 54.6	-0.9
	0.2nm,0.2s,baz=110,slow=7.8,SNR=4.4						
CMAR	Chiang Mai Arr	30.65	301	P	P	21 13 54.5	-0.9
STKA	Stephens Creek	38.21	159	P	P	21 15 00.2	-0.4
	6.8nm,0.6s,baz=338,slow=7.2,SNR=22						
DZM	Mont Dzumac	46.75	125	P	P	21 16 09.8	-0.5
ULN	Ulaanbaatar	47.05	342	eP	P	21 16 12.4	+0.2
	2.5nm,1.2s						
SONM	Songino Array	47.23	342	P	P	21 16 13.9	+0.2
	0.3nm,0.7s,baz=159,slow=7.7,SNR=6.9						
SONM	Songino Array	47.23	342	P	P	21 16 13.8	+0.2
MK31	Makanchi Array	57.41	325	eP	P	21 17 29.7	+0.6
MKAR	Makanchi Array	57.41	325	P	P	21 17 29.6	+0.5
	0.7nm,0.5s,baz=119,slow=7.5,SNR=13						
MKAR	Makanchi Array	57.41	325	P	P	21 17 29.6	+0.5
ZALV	Zalesovo Beam	60.48	333	P	P	21 17 51.5	+1.4
	0.6nm,0.3s,baz=111,slow=7.9,SNR=2.2						
ZALV	Zalesovo Beam	60.48	333	P	P	21 17 51.5	+1.4
KURBB	Kurchatov Arra	61.61	327	P	P	21 17 56.7	-1.1
	0.6nm,0.6s,baz=127,slow=6.3,SNR=7.6						
KURK	Kurchatov	61.61	328	eP	P	21 17 58.7	+0.8
	1.5nm,0.5s						
FINES	FINESS Array B	91.72	332	P	P	21 20 49.7	+2.3
	2.1nm,0.9s,baz=44,slow=8.6,SNR=2.6						
FINES	FINESS Array B	91.72	332	P	P	21 20 49.7	+2.3

*BJI **02** 21:15:08.1, 5.°30N×126.°53E, h16km, mB4.9/21, mb4.6/28, Ms4.6/14, Ms7 4.3/15*
*ISCJB **02** 21:15:24.1±0.3, 5.°79N±0.°02×126.°29E±0.°03, h121km±3km, mb4.6/76, Error ellipse: s-maj=5.6km s-min=3.6km az=159.7*
*AUST **02** 21:15:24.7±0.0, 5.°73N×126.°25E, h114km, Error ellipse: s-maj=1.1km s-min=0.8km az=231.0*
*MAN **02** 21:15:24, 5.°70N×125.°92E, h9km, mb5.4, ML4.4, MS4.7*
*DJA **02** 21:15:25.7±0.5, 6°N±5°×12°6E±°, h105km±4km, M4.8/29, mB5.4/6, mb4.7/29, MLv4.9/4, Mw(mB)4.8/6*
*NEIC **02** 21:15:25.6±0.8, 5.°77N×126.°15E, h118km±8km, mb4.8/31, Error ellipse: s-maj=8.0km s-min=4.5km az=61.0*
NEIC Felt [I PIVS] at Cateel.
*IDC **02** 21:15:25.5±0.8, 5.°67N×126.°04E, h116km±6km, mb4.0/30, mb1 4.1/31, mb1mx4.1/35, mbtmp4.1/31, MS3.4/4, Ms1 3.4/4, ms1mx2.7/41, Error ellipse: s-maj=15.9km s-min=6.7km az=71.0*

ISC 02 21:15:24.0±0.6**, 5.°71N**±0.°03×**126.°27E**±0.°05**, h101km**±5km**, n205,** σ**1.°57**/248**, mb4.5**/74**, 1C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.23	359	eP	Pn	21 15 48.2	+1.0
MATI				eS	Sn	21 16 05.1	+0.5
GSPH	General Santos	1.37	286⇓	eP	Pn	21 15 47.2	-1.7
GSPH				eS	Sn	21 16 05.7	-2.1
DAV	Davao City (W)	1.52	333	P	Pn	21 15 51.4	+0.8
	194nm,0.3s,baz=46,slow=0.8,SNR=20						
DAV				S	Sn	21 16 12.4	+1.7
	531nm,0.3s,baz=25,slow=23,SNR=6.0						
DAV	Davao City (W)	1.52	333	ePn	Pn	21 15 51.3	+0.8
DAV				eSn	Sn	21 16 11.4	+0.6
DAV				S		21 16 12.4	
DAV	Davao City (W)	1.52	333	P	Pn	21 15 51.5	+0.8
DMPH	Davao City--Mi	1.56	331⇓	eP	Pn	21 15 51.8	+0.7
DMPH				eS	Sn	21 16 11.3	-0.5
BUKP	Musuan	2.47	331	eP	Pn	21 16 04.2	+1.4
BUKP				eS	Sn	21 16 32.4	-0.2
CTBH	Cotabato--PC H	2.51	307⇓	iP	Pn	21 16 03.0	-0.3
CGP	Cagayan de Oro	3.15	330	eP	Pn	21 16 12.3	+0.5
CGP				eS	Sn	21 16 50.0	+1.4
BUTP	Butuan	3.30	349	eP	Pn	21 16 17.0	+3.1
PAGZ	Pagadian	3.57	307	eP	Pn	21 16 18.0	+0.5
IPIL	Ipil	4.22	300⇓	iP	Pn	21 16 26.8	+0.6
IPIL				eS	Sn	21 17 15.6	+1.2
MNI	Manado	4.47	199	P	Pn	21 16 30.9	+1.3
MSLP	Maasin	4.61	342	eP	Pn	21 16 34.0	+2.4
TBP	Tagbilaran	4.62	329	eP	Pn	21 16 34.2	+2.5
LLP	Lapu-Lapu	5.12	334	eP	Pn	21 16 39.3	+0.9
LLP				eS	Sn	21 17 37.4	+1.2
GUIM	Jordan	6.10	323	eP	Pn	21 16 53.6	+1.9
LBMI	Labuha	6.42	169	P	Pn	21 16 57.9	+1.8
	172nm,0.9s,3μm0.9nm						
CUYO	Cuyo Island	7.29	315	eP	Pn	21 17 09.3	+1.4
MYLDM	Lahad Datu	7.76	266	P	Pn	21 17 17.0	+2.8
MYLDM	Lahad Datu	7.76	266	P	Pn	21 17 16.6	+2.4
	84nm,1.1s,0.3nm						
SWI	Sorong	8.21	143	P	Pn	21 17 22.0	+1.6
	baz=8.3,SNR=5.4						
SWI	Sorong	8.21	143	P	Pn	21 17 21.6	+1.2
	39nm,0.8s						
PALU	Palau	8.31	78	P	Pn	21 17 22.3	+0.5
	baz=8.3,SNR=16						
PALU				S	Sn	21 18 51.1	-2.8
	baz=8.3,SNR=7.3						
TSM	Tawau	8.49	261	P	Pn	21 17 24.9	+0.7
ENPP	El Nido	8.70	309	eP	Pn	21 17 28.5	+1.5
SDKM	Sandakan	9.04	270	P	Pn	21 17 32.9	+1.2
AAI	Ambon	9.53	168	P	Pn	21 17 40.0	+1.6
	82nm,0.8s						
KKM	Kota Kinabalu	10.01	272	P	Pn	21 17 46.7	+1.7
KKM	Kota Kinabalu	10.01	272	P	Pn	21 17 48.1	+3.1
	29nm,1.4s						
KDI	Kendari	10.27	201	P	Pn	21 17 48.1	-0.4
	26nm,0.6s						
KAPI	Kappang	12.48	212	P	Pn	21 18 18.0	-0.2
	1.2nm,0.3s,baz=29,slow=9.4,SNR=41						
KAPI	Kappang	12.48	212	ePn	Pn	21 18 17.9	-0.2
KAPI	Kappang	12.48	212	P	Pn	21 18 17.5	-0.7
	66nm,1.0s,550nm						
BTM	Bintulu	13.38	260	P	P	21 18 34.0	-1.9
SBUM	Sibu	14.39	258	P	P	21 18 46.1	-0.9
SBUM	Sibu	14.39	258	P	P	21 18 45.7	-1.2
	159nm,0.9s,1μm						
BBKI	Banjar Baru	14.61	232	P	P	21 18 50.9	+1.5
	84nm,1.1s,915nm						
STKI	Sintang	15.80	250	P	P	21 19 02.4	-0.3
	21nm,1.2s						
KSM	Kuching	16.48	256	ePn	P	21 19 11.1	+0.9
	35nm,0.8s						
KSM	Kuching	16.48	256	P	P	21 19 12.0	+1.9
	baz=16,SNR=8.2						
KSM	Kuching	16.48	256	P	P	21 19 11.3	+1.2
KSM	Kuching	16.48	256	P	P	21 19 10.8	+0.6
	56nm,0.9s						
JAY	Jayapura	16.57	119	S	Sn	21 22 06.7	-7.7
	baz=17,SNR=3.2						
JAY	Jayapura	16.57	119	P	P	21 19 13.6	+2.4
KMMI	Kalianget	17.65	224	P	Pn	21 19 26.8	+3.3
	30nm,1.2s						
BWJI	Bawean	17.79	230	P	Pn	21 19 27.9	+2.6
	22nm,1.0s						
YULB	Yu-li	18.22	345	eP	P	21 19 27.1	-2.2
	406nm,3.0s						
MTN	Manton Dam	19.05	165	P	Pn	21 19 40.2	-0.1
	baz=19,SNR=5.5						
KDU	Kakadu	19.29	161	P	Pn	21 19 43.6	+0.6
	baz=19,SNR=6.8						
SJI	Sawahan	19.69	227	P	P	21 19 46.3	+0.8
	38nm,1.1s						
GUMO	Guam	19.92	66	LR	LR	21 26 21.3	
	comp=Z,98nm,18.8s,baz=13,slow=32						
QIZ	Qiongzhong	20.78	311	P	P	21 19 55.7	-1.4
QIZ				S	S	21 23 47.7	+4.2
QIZ				pmax	pmax		
	comp=Z,21nm,1.3s						
BJII	Banjamegara	21.00	232	P	P	21 20 00.9	+1.3
	comp=Z,45nm,1.1s						
TGJI	Tegal	21.19	234	P	P	21 20 03.1	+1.5
	comp=Z,56nm,0.8s						
LEM	Lembang	22.40	236	P	P	21 20 15.9	+1.4
	comp=Z,79nm,1.2s						
MYKOM	Kota Tinggi	22.71	261	P	P	21 20 18.1	+0.6
MYKOM	Kota Tinggi	22.71	261	P	P	21 20 17.4	-0.1
	comp=Z,28nm,1.4s						
CBJI	Citeko	22.83	238	P	P	21 20 20.9	+2.2
	comp=Z,96nm,1.3s,comp=Z,8μm						
KTGM	Kuala Trenggan	23.04	270	P	P	21 20 22.1	+1.4
KGM	Kluang	23.19	262	P	P	21 20 22.7	+0.5
FITZ	Fitzroy Crossi	23.67	182	P	P	21 20 27.1	+0.6
	comp=Z,5.1nm,0.6s,baz=2.2,slow=5.8,SNR=24						
FITZ				S	S	21 24 31.6	-2.2
	comp=Z,1.6nm,0.8s,baz=139,slow=16,SNR=1.8						
FITZ	Fitzroy Crossi	23.67	182	P	P	21 20 27.1	+0.6
	comp=Z,25nm,2.5s						
FITZ				S	S	21 24 31.6	-2.2
FITZ	Fitzroy Crossi	23.67	182	P	P	21 20 27.1	+0.6
	baz=24,SNR=15						
IPM	Ipoh	25.18	268	eP	P	21 20 39.9	-0.4
	comp=Z,14nm,0.7s						
IPM	Ipoh	25.18	268	P	P	21 20 40.5	+0.2
IPM	Ipoh	25.18	268	P	P	21 20 39.8	-0.5
	comp=Z,20nm,0.9s						
KSI	Kapahiang	25.41	249	P	P	21 20 43.0	+0.5
	comp=Z,61nm,1.0s						
KULM	Kulim	25.51	270	eP	P	21 20 43.4	+0.1
	comp=Z,16nm,1.0s						
KULM	Kulim	25.51	270	P	P	21 20 44.0	+0.7
KULM	Kulim	25.51	270	P	P	21 20 43.4	+0.1
	comp=Z,22nm,1.1s						
PMG	Port Moresby	25.66	126	P	P	21 20 44.9	+0.3
	comp=Z,24nm,0.8s,baz=315,slow=7.0,SNR=7.2						
PMG	Port Moresby	25.66	126	eP	P	21 20 45.7	+1.1
PMG	Port Moresby	25.66	126	P	P	21 20 45.7	+1.1
	comp=Z,43nm,1.5s						
COEN	Coen	25.75	139	eP	P	21 20 46.5	+1.1
	comp=Z,148nm,0.6s						
COEN	Coen	25.75	139	P	P	21 20 46.3	+0.9
	baz=26,SNR=17						
WRAB	Tennant Creek	26.69	163	eP	P	21 20 54.6	+0.8
	comp=Z,24nm,1.2s						
WRA	Warramunga Arr	26.70	163	P	P	21 20 54.7	+0.8
	comp=Z,2.1nm,0.4s,baz=344,slow=10,SNR=22						
WRA				S	S	21 25 18.6	-3.5
	comp=Z,3.8nm,1.2s,baz=334,slow=16,SNR=5.8						
WRA	Warramunga Arr	26.70	163	P	P	21 20 54.7	+0.8
WRA				S	S	21 25 18.6	-3.5
NJ2	Nanjing	27.11	346	eP	P	21 20 56.7	-0.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PSI	Prapat	27.42	265	P	P	21 20 59.5	-1.1
	comp=Z,3.9nm,0.8s,baz=81,slow=13,SNR=2.9						
PSI				ScP	ScP	21 27 47.1	-1.6
	comp=Z,5.5nm,0.8s,baz=22,slow=4.2,SNR=5.1						
PSI	Prapat	27.42	265	P	P	21 20 59.5	-1.1
PSI				ScP	ScP	21 27 47.1	-1.6
MBWA	Marble Bar	27.46	193	eP	P	21 20 59.9	-0.8
	comp=Z,198nm,2.6s						
GYA	Guiyang	27.86	320	P	P	21 21 04.0	-0.4
GYA				pP	pP	21 21 13.6	-13
GYA				PP	PnPn	21 21 54.2	-2.5
GYA				S	S	21 25 44.0	+3.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,510nm,17.6s						
GYA				LR	LR		
	comp=E,480nm,18.1s						
GYA				LR	LR		
	comp=Z,530nm,17.3s						
QIS	Mount Isa	29.20	154	P	P	21 21 17.4	+1.1
	baz=29,SNR=20						
CMAR	Chiang Mai Arr	29.52	298	P	P	21 21 19.4	+0.4
	comp=Z,1.7nm,0.7s,baz=116,slow=7.6,SNR=14						
CMAR				PcP	PcP	21 24 22.8	+0.6
	comp=Z,0.9nm,0.7s,baz=106,slow=0.9,SNR=6.2						
CMAR				ScP	ScP	21 27 54.9	-0.2
	comp=Z,1.6nm,0.9s,baz=124,slow=1.2,SNR=11						
CMAR	Chiang Mai Arr	29.52	298	P	P	21 21 19.4	+0.4
CMAR				PcP	PcP	21 24 22.8	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR				ScP	ScP	21 27 54.9	-0.2
CHTO	Chiang Mai	29.65	298	eP	P	21 21 20.0	-0.2
	comp=Z,14nm,1.9s						
KMI	Kunming	29.69	313	P	P	21 21 21.8	+1.1
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AS31	Alice Springs	30.13	166	eP	P	21 21 25.4	+1.0
ASAR	Alice Springs	30.13	166	P	P	21 21 24.9	+0.5
	comp=Z,2.3nm,0.6s,baz=343,slow=7.1,SNR=34						
ASAR				PcP	PcP	21 24 24.2	+0.6
	comp=Z,0.7nm,0.6s,baz=20,slow=3.0,SNR=3.5						
ASAR				S	S	21 26 14.2	-1.9
	comp=Z,0.3nm,0.3s,baz=353,slow=19,SNR=4.3						
ASAR				ScP	ScP	21 27 56.4	-0.6
	comp=Z,1.9nm,0.9s,baz=348,slow=3.9,SNR=7.2						
ASAR	Alice Springs	30.13	166	P	P	21 21 24.9	+0.5
ASAR				PcP	PcP	21 24 24.2	+0.6
ASAR				S	S	21 26 14.2	-1.9
ASAR				ScP	ScP	21 27 56.4	-0.6
KSAR	Wonju Array Be	31.62	2	P	P	21 21 38.4	+1.1
KSRS	Korea Array	31.63	3	P	P	21 21 38.4	+1.0
	comp=Z,1.4nm,0.7s,baz=192,slow=9.3,SNR=5.4						
CTA	Charters Tower	32.30	143	P	P	21 21 45.7	+2.2
	comp=Z,3.8nm,0.7s,baz=337,slow=12,SNR=4.3						
CTA	Charters Tower	32.30	143	P	P	21 21 45.7	+2.2
XAN	Xi'an	32.46	333	P	P	21 21 43.5	-1.3
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,14nm,5.4s						
MJAR	Matsushiro Arr	32.58	18	LR	LR	21 34 22.8	
	comp=Z,36nm,18.5s,baz=270,slow=35						
CD2	Chengdu	32.80	323	P	P	21 21 47.4	-0.4
CD2				pP	pP	21 21 57.4	-13
CD2				sP	sP	21 22 01.5	-21
CD2				PP	PnPn	21 22 57.6	-2.5
CD2				S	S	21 27 01.1	+3.5
CD2				sS	sS	21 27 17.8	-19
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,100nm,4.1s						
CD2				LR	LR		
	comp=N,240nm,5.9s						
CD2				LR	LR		
	comp=Z,180nm,5.9s						
MEEK	Meekatharra	33.00	193	P	P	21 21 48.9	-0.7
	baz=33,SNR=12						
SNY	Shenyang	36.05	357	⇑P	P	21 22 16.9	+1.3
SNY				pmax	pmax		
	comp=Z,14nm,0.8s						
QLP	Quilpie	36.52	152	P	P	21 22 20.9	+1.1
	baz=37,SNR=4.9						
LZH	Lanzhou	36.58	329	eP	P	21 22 20.5	0.0
LZH				pP	pP	21 22 29.5	-14
LZH				sP	sP	21 22 33.0	-22
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
BLDU	Ballidu	37.26	194	P	P	21 22 25.7	-0.3
	baz=38,SNR=6.8						
HHC	Hu-ho-hao-te	37.39	342	eP	P	21 22 24.7	-2.5
HHC				PP	PP	21 23 52.6	-1.9
HHC				PcP	PcP	21 24 44.3	+0.2
HHC				S	S	21 28 09.3	+1.4
HHC				ScP	ScP	21 28 27.3	+5.0
HHC				PcS	PcS	21 28 31.3	-1.4
HHC				ScS	ScS	21 32 34.1	+3.5
HHC				LR	LR		
	comp=N,210nm,14.3s						
HHC				LR	LR		
	comp=E,180nm,14.0s						
HHC				LR	LR		
	comp=Z,150nm,14.3s						
CN2	Changchun	37.95	359	eP	P	21 22 30.9	-0.8
CN2				epP	pP	21 22 40.7	-14
CN2				eS	S	21 28 19.1	+3.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLBR	Kellerberrin	37.97	192	P	P	21 22 31.9	-0.1
	baz=38,SNR=6.5						
USRK	Ussuriysk Arra	38.66	7	P	P	21 22 39.1	+1.5
	comp=Z,2.3nm,0.8s,baz=192,slow=6.5,SNR=8.5						
MDJ	Mudanjiang	38.86	4	P	P	21 22 36.4	-2.9
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,67nm,4.7s						
EIDS	Eidsvold	39.19	143	eP	P	21 22 43.3	+1.0
	comp=Z,9.8nm,0.8s						
EIDS	Eidsvold	39.19	143	P	P	21 22 42.3	0.0
	baz=39,SNR=3.2						
NWAO	Narrogin (SRO)	39.37	192	P	P	21 22 44.0	+0.3
	comp=Z,18nm,0.9s,baz=94,slow=9.1,SNR=10						
NWAO	Narrogin (SRO)	39.37	192	eP	P	21 22 43.9	+0.2
	comp=Z,61nm,1.3s						
BBOO	Buckleboo	39.42	167	eP	P	21 22 45.0	+0.9
	comp=Z,2μm,1.9s						
BBOO	Buckleboo	39.42	167	P	P	21 22 45.2	+1.1
	baz=40,SNR=18						
STKA	Stephens Creek	40.13	160	P	P	21 22 51.1	+1.1
	comp=Z,4.6nm,0.5s,baz=330,slow=9.4,SNR=9.4						
STKA	Stephens Creek	40.13	160	P	P	21 22 51.1	+1.1
STKA	Stephens Creek	40.13	160	P	P	21 22 51.1	+1.1
	baz=40,SNR=8.1						
LSA	Lhasa	40.81	310	eP	P	21 22 56.0	-0.3
	comp=Z,3.5nm,0.6s						
ASAJ	Asahikawa	40.85	18	P	P	21 22 57.4	+1.6
	comp=Z,4.6nm,0.7s,baz=57,slow=33,SNR=4.5						
ASAJ	Asahikawa	40.85	18	P	P	21 22 57.4	+1.6
GTA	Gaotai	41.18	328	eP	P	21 22 49.7	-9.1
GTA				pP	pP	21 22 58.3	-24
GTA				sP	sP	21 23 02.2	-32
GTA				PcP	PcP	21 24 56.6	+0.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TAPN	Taplejung	42.50	305	eP	P	21 23 09.3	-0.6
	comp=Z,7.8nm,0.5s						
TAPN	Taplejung	42.50	305	eP	P	21 23 09.3	-0.6
	comp=Z,7.8nm,0.5s						
ODAN	Odare	42.58	304	eP	P	21 23 09.7	-0.8
	comp=Z,16nm,0.5s						
ODAN	Odare	42.58	304	eP	P	21 23 09.7	-0.8
	comp=Z,16nm,0.5s						
RAMN	Ramite	43.26	304	eP	P	21 23 15.2	-0.8
	comp=Z,22nm,0.6s						
RAMN	Ramite	43.26	304	eP	P	21 23 15.2	-0.8
	comp=Z,22nm,0.6s						
JIRN	Jiri	43.87	304	eP	P	21 23 19.9	-1.1
	comp=Z,5.7nm,0.6s						
JIRN	Jiri	43.87	304	eP	P	21 23 19.9	-1.1
	comp=Z,5.7nm,0.6s						
GUN	Gumba	44.22	305	eP	P	21 23 22.5	-1.3
	comp=Z,40nm,0.7s						
GUN	Gumba	44.22	305	eP	P	21 23 22.5	-1.3
	comp=Z,40nm,0.7s						
PKI	Pulchoki	44.48	304	eP	P	21 23 24.5	-1.3
	comp=Z,4.3nm,0.2s						
PKI	Pulchoki	44.48	304	eP	P	21 23 24.5	-1.3
	comp=Z,4.3nm,0.2s						
KKN	Kakani	44.66	304	eP	P	21 23 25.7	-1.5
KKN	Kakani	44.66	304	eP	P	21 23 25.7	-1.5
DMN	Daman	44.74	304	eP	P	21 23 26.3	-1.5
DMN	Daman	44.74	304	eP	P	21 23 26.3	-1.5
ULN	Ulaanbaatar	45.11	342	eP	P	21 23 28.9	-1.4
	comp=Z,1.9nm,0.8s						
ULN				ePcP	PcP	21 25 09.5	+0.2
GKN	Gorkha	45.27	304	eP	P	21 23 30.2	-1.7
	comp=Z,5.4nm,0.3s						
GKN	Gorkha	45.27	304	eP	P	21 23 30.2	-1.7
	comp=Z,5.4nm,0.3s						
SONM	Songino Array	45.29	341	P	P	21 23 31.3	-0.5
	comp=Z,0.9nm,0.8s,baz=163,slow=9.0,SNR=8.6						
SONM				PcP	PcP	21 25 09.6	-0.2
	comp=Z,1.1nm,0.8s,baz=161,slow=3.8,SNR=6.5						
SONM				ScP	ScP	21 28 52.7	-0.8
	comp=Z,0.4nm,0.8s,baz=149,slow=2.1,SNR=3.4						
SONM	Songino Array	45.29	341	P	P	21 23 31.2	-0.5
SONM				PcP	PcP	21 25 09.7	-0.2
SONM				ScP	ScP	21 28 52.7	-0.8
KOLN	Koldanda	46.04	303	eP	P	21 23 37.2	-0.9
	comp=Z,27nm,0.3s						
KOLN	Koldanda	46.04	303	eP	P	21 23 37.2	-0.9
	comp=Z,27nm,0.3s						
DANN	Dangsing	46.12	304	eP	P	21 23 37.2	-1.6
	comp=Z,64nm,0.6s						
DANN	Dangsing	46.12	304	eP	P	21 23 37.2	-1.6
	comp=Z,64nm,0.6s						
PYUN	Piuthan	46.66	304	eP	P	21 23 41.8	-1.1
	comp=Z,55nm,0.8s						
PYUN	Piuthan	46.66	304	eP	P	21 23 41.8	-1.1
	comp=Z,55nm,0.8s						
DZM	Mont Dzumac	48.05	126	P	P	21 23 56.0	+2.4
	comp=Z,3.0nm,0.6s,baz=252,slow=13,SNR=4.8						
DZM				LR	LR	21 41 41.2	
	comp=Z,56nm,19.1s,baz=301,slow=33						
DZM	Mont Dzumac	48.05	126	P	P	21 23 56.0	+2.4
WMQ	Urumqi	50.86	324	eP	P	21 24 14.4	-0.2
MK31	Makanchi Array	55.68	325	eP	P	21 24 48.8	-1.0
MK31				ePcP	PcP	21 25 46.7	-1.4
MKAR	Makanchi Array	55.68	325	P	P	21 24 48.7	-1.1
	comp=Z,5.9nm,0.5s,baz=122,slow=8.0,SNR=63						
MKAR				PcP	PcP	21 25 46.7	-1.4
	comp=Z,2.7nm,0.7s,baz=120,slow=4.6,SNR=7.5						
MKAR				ScP	ScP	21 29 35.6	-2.4
	comp=Z,0.2nm,0.6s,baz=101,slow=6.4,SNR=3.7						
MKAR	Makanchi Array	55.68	325	eP	P	21 24 48.8	-1.1
MKAR				PcP	PcP	21 25 46.7	-1.4
MKAR				ScP	ScP	21 29 35.6	-2.4
MSVF	Nonsavu	56.16	116	eP	P	21 24 51.8	-2.0
	comp=Z,14nm,0.9s						
KSH	Kashi	56.34	314	eP	P	21 24 55.1	+0.3
KSH				pP	pP	21 25 06.9	-13
KSH				sP	sP	21 25 11.0	-20
KSH				PcP	PcP	21 25 53.8	+2.8
KSH				PP	PP	21 27 02.6	+1.3
KSH				PcS	PcS	21 29 53.1	+1.4
KSH				S	S	21 32 43.2	+5.6
KSH				sS	sS	21 33 02.6	-17
KSH				SS	SS	21 36 33.4	+7.4
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,70nm,5.4s						
KSH				LR	LR		
	comp=N,78nm,5.7s						
KSH				LR	LR		
	comp=E,68nm,4.8s						
KSH				LR	LR		
	comp=Z,230nm,5.7s						
TKM2	Tokmak 2	57.98	318	eP	P	21 25 05.2	-1.2
	comp=Z,4.4nm,0.7s						
AAK	Ala-Archa	58.60	317	P	P	21 25 09.7	-1.0
	comp=Z,3.0nm,0.9s,baz=136,slow=9.0,SNR=9.9						
AAK	Ala-Archa	58.60	317	eP	P	21 25 09.4	-1.3
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	58.63	333	P	P	21 25 08.3	-2.1
	comp=Z,2.0nm,0.6s,baz=115,slow=7.6,SNR=10						
ZALV	Zalesovo Beam	58.63	333	P	P	21 25 08.3	-2.1
EKS2	Erkin-Say	59.10	317	eP	P	21 25 13.5	-0.5
	comp=Z,5.3nm,0.8s						
KURBB	Kurchatov Arra	59.84	327	P	P	21 25 17.4	-1.4
	comp=Z,10.0nm,0.7s,baz=123,slow=7.3,SNR=112						
KURK	Kurchatov	59.84	327	eP	P	21 25 17.2	-1.6
	comp=Z,13nm,0.6s						
KKAR	Karatay Array	61.49	316	eP	P	21 25 29.0	-1.2
BVAR	Borovoye Array	65.43	327	P	P	21 25 54.6	-1.3
	comp=Z,3.2nm,0.6s,baz=134,slow=9.1,SNR=21						
BVAR	Borovoye Array	65.43	327	P	P	21 25 54.6	-1.3
BRVK	Borovoye	65.50	327	eP	P	21 25 54.7	-1.7
ABKAR	Akbulak array	70.34	320	eP	P	21 26 24.8	-2.0
AKTO	Aktyubinsk	71.84	321	P	P	21 26 34.3	-1.6
	comp=Z,3.8nm,0.6s,baz=98,slow=8.6,SNR=22						
AKTO				LR	LR	21 59 39.6	
	comp=Z,35nm,19.2s,baz=83,slow=37						
AKTO	Aktyubinsk	71.84	321	P	P	21 26 34.3	-1.6
ARU	Arti	73.03	327	eP	P	21 26 40.8	-2.0
	comp=Z,7.3nm,0.6s						
KDAK	Kodiak Island	80.47	32	P	P	21 27 26.1	+1.5
	comp=Z,10nm,1.1s,baz=158,slow=21,SNR=5.9						
KDAK	Kodiak Island	80.47	32	P	P	21 27 26.1	+1.5
KBZ	Khabaz	81.30	313	P	P	21 27 27.8	-1.5
	comp=Z,2.5nm,0.9s,baz=110,slow=6.6,SNR=3.5						
KBZ	Khabaz	81.30	313	P	P	21 27 27.8	-1.5
COLD	Coldfoot	82.26	23	eP	P	21 27 34.6	+0.8
	comp=Z,5.5nm,0.9s						
MCK	McKinley	82.61	27	eP	P	21 27 36.2	+0.4
	comp=Z,8.4nm,0.8s						
ILAR	Eielson Array	83.52	26	P	P	21 27 40.2	-0.2
	comp=Z,2.2nm,0.9s,baz=248,slow=4.7,SNR=21						
ILAR	Eielson Array	83.52	26	P	P	21 27 40.2	-0.2
VNDA	Vanda	85.43	173	P	P	21 27 50.0	+0.2
	comp=Z,0.7nm,0.6s,baz=95,slow=0.9,SNR=5.1						
VNDA	Vanda	85.43	173	P	P	21 27 50.0	+0.2
JOF	Joensuu	87.22	333	ep	P	21 27 53.4	-5.4
	comp=Z,2.6nm,0.5s						
BRTR	Keskin Array B	88.42	310	P	P	21 28 02.5	-2.8
	comp=Z,1.8nm,0.9s,baz=83,slow=5.1,SNR=6.8						
BRTR	Keskin Array B	88.42	310	P	P	21 28 02.5	-2.8
ARCES	ARCESS Array B	88.45	340	P	P	21 28 03.4	-1.1
	comp=Z,4.6nm,0.9s,baz=79,slow=6.4,SNR=10						
ARCES	ARCESS Array B	88.45	340	P	P	21 28 03.5	-1.1
KAF	Kangasniemi	89.64	332	ep	P	21 28 05.3	-5.0
	comp=Z,1.5nm,0.5s						
FINES	FINESS Array B	89.88	332	P	P	21 28 10.0	-1.4
	comp=Z,2.4nm,0.7s,baz=66,slow=5.5,SNR=13						
FINES	FINESS Array B	89.88	332	P	P	21 28 10.0	-1.4
AKASG	Malin Array Be	90.08	321	P	P	21 28 10.3	-2.3
	comp=Z,0.6nm,0.4s,baz=75,slow=3.6,SNR=3.9						
AKASG	Malin Array Be	90.08	321	P	P	21 28 10.3	-2.3
NOA	NORSAR Array B	96.82	334	P	P	21 28 40.8	-2.7
	comp=Z,0.9nm,0.8s,baz=65,slow=4.8,SNR=3.6						
NOA	NORSAR Array B	96.82	334	P	P	21 28 40.8	-2.7
YKA	Yellowknife Ar	97.89	24	P	Pdif	21 28 48.6	+0.5
	comp=Z,0.6nm,0.7s,baz=303,slow=4.6,SNR=11						
YKA	Yellowknife Ar	97.89	24	P	Pdif	21 28 48.6	+0.5
VNA2	Neumayer--Watz	108.61	195	ePP	PP	21 34 28.1	+21
VNA3	Neumayer Olymp	108.96	194	ePP	PP	21 34 31.7	+22
TORD	Torodi Ar. Bea	121.86	289	PKP	PKPdf	21 34 06.7	-0.7
	comp=Z,2.6nm,0.6s,baz=59,slow=1.7,SNR=45						
TORD				SKP		21 37 31.2	
	comp=Z,2.0nm,1.4s,baz=34,slow=1.0,SNR=3.6						
TORD	Torodi Ar. Bea	121.86	289	PKP	PKPdf	21 34 06.7	-0.7
TORD				SKP		21 37 31.2	
DBIC	Dimbokro	129.70	283	PKP	PKPdf	21 34 22.5	+0.1
	comp=Z,3.4nm,0.8s,baz=27,slow=6.6,SNR=5.9						
DBIC				SKPbc	SKPab	21 37 34.6	-0.6
	comp=Z,5.3nm,0.7s,baz=73,slow=5.5,SNR=8.4						
DBIC	Dimbokro	129.70	283	PKP	PKPdf	21 34 22.5	+0.1
DBIC				SKPbc	SKPab	21 37 34.6	-0.6
CFAA	Coronel Fontan	150.87	154	PKPbc	PKPbc	21 35 06.5	+1.0
	comp=Z,0.3nm,0.4s,baz=287,slow=3.1,SNR=5.4						
CFAA	Coronel Fontan	150.87	154	PKPbc	PKPbc	21 35 06.5	+1.0

*NIED **02** 21:15:00, 46°.10N×151°.90E, h8^{km}, Mw3.5 Best double couple: Mo2.24000×10^{14} NP1:ϕs146.00000°, δ89.00000°, λ-18.00000°. NP2:ϕs236.00000°, δ72.00000°, λ-179.00000°.*

*ISCJB **02** 21:15:34.9±1.8, 46°.4N±0°.2×151°.3E±0°.3, h46^{km}±20^{km}, mb3.5/7, Error ellipse: s-maj=47.5km s-min=14.1km az=141.5*

*MOS **02** 21:15:35.2±1.6, 46°.40N×151°.23E, h50^{km}, mb4.0/3, Error ellipse: s-maj=27.3km s-min=19.3km az=54.1*

*IDC **02** 21:15:36.0±2.5, 46°.25N×151°.50E, h49^{km}±8^{km}, mb3.3/6, mb1 3.4/8, mb1mx3.2/28, mbtmp3.3/8, MS2.7/1, Ms1 2.7/1, ms1mx2.0/22, Error ellipse: s-maj=60.4km s-min=21.7km az=155.0*

ISC 02 21:15:37.1±1.5**, 46°.4N**±0°.2×**151°.3E**±0°.2**, h50**^{km}±8^{km}**, h49**^{km}**:pP-P, n12, σ1§14**/17**, mb3.7**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	5.36	35	ePN	Pn	21 16 55.2	+0.8
ASAJ	Asahikawa	6.55	253	P	Pn	21 17 09.4	-1.4
	0.6nm,0.3s,baz=25,slow=24,SNR=6.6						
ASAJ				LR	LR	21 20 00.3	
	comp=Z,58nm,19.1s,baz=341,slow=40						
MJAR	Matsushiro Arr	13.88	230	P	Pn	21 18 51.4	+0.4
	baz=54,slow=9.2,SNR=4.2						
SONM	Songino Array	30.28	289	P	P	21 21 43.7	+0.3
	0.2nm,0.6s,baz=85,slow=7.7,SNR=3.6						
SONM				pP	pP	21 21 58.0	+1.6
	0.4nm,0.9s,baz=75,slow=7.6,SNR=2.6						
MKAR	Makanchi Array	46.00	297	P	P	21 23 53.7	-1.6
	0.1nm,0.3s,baz=77,slow=7.1,SNR=3.0						
MKAR	Makanchi Array	46.00	297	P	P	21 23 53.7	-1.6
KURK	Kurchatov	46.53	303	P	P	21 24 00.0	+0.7
KURK				*PP	pP	21 24 13.0	+0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	46.62	303	P	P	21 23 60.0	-0.1
	comp=Z,0.5nm,0.6s,baz=74,slow=8.5,SNR=6.2						
KURBB				pP	pP	21 24 13.0	-0.4
	comp=Z,0.2nm,0.4s,baz=73,slow=8.5,SNR=2.3						
YKA	Yellowknife Ar	51.96	36	P	P	21 24 39.6	-1.0
	comp=Z,0.1nm,0.5s,baz=303,slow=7.2,SNR=3.2						
YKA				pP	pP	21 24 52.9	-1.3
	comp=Z,0.4nm,0.7s,baz=296,slow=7.0,SNR=4.8						
AAK	Ala-Archa	52.88	296	P	P	21 24 49.1	+1.2
	comp=Z,1.3nm,0.7s,baz=91,slow=1.3,SNR=7.8						
AAK	Ala-Archa	52.88	296	P	P	21 24 49.1	+1.2
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	63.84	334	P	P	21 26 04.2	+0.5
	comp=Z,0.6nm,0.7s,baz=40,slow=7.2,SNR=9.1						
FINES				pP	pP	21 26 17.6	-0.1
	comp=Z,2.1nm,0.8s,baz=42,slow=6.4,SNR=2.4						

*ISCJB **02** 21:20:50.9±0.6, 15°.94N±0°.05×95°.29W±0°.03, h34^{km}±6^{km}, mb4.2/16, MS3.5/11, Error ellipse: s-maj=7.7km s-min=4.0km az=13.9*

*IDC **02** 21:20:53.0±0.7, 16°.04N×95°.18W, h40^{km}±5^{km}, mb3.8/11, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML4.6/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/34, Error ellipse: s-maj=15.7km s-min=7.0km az=101.0*

*NEIC **02** 21:20:53.1, 15°.98N×95°.31W, h52^{km}, mb4.5/7, MD4.2(MEX), After MEX.*

*MEX **02** 21:20:53.1±0.9, 15°.98N×95°.31W, h52^{km}±15^{km}, MD4.2*

ISC 02 21:20:52.7±0.5**, 15°.98N**±0°.04×**95°.30W**±0°.03**, h41**^{km}±4^{km}**, n71, σ1§64**/102**, mb4.3**/16**, MS3.5**/11**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.80	255	eP	Pn	21 21 06.3	-1.2
HUIG				i S	Sn	21 21 17.6	-0.7
HUIG	Huatulco	0.80	255	eP	Pn	21 21 06.3	-1.2
HUIG				i S	Sn	21 21 17.6	-0.7
CMIG	Matias Romero	1.18	20	P	Pn	21 21 10.7	-2.0
	332nm,0.3s,baz=191,slow=11,SNR=3169						
CMIG				S	Sn	21 21 25.9	-1.7
	2μm,0.3s,baz=18,slow=21,SNR=26						
CMIG	Matias Romero	1.18	20	P	Pn	21 21 10.7	-2.0
CMIG				i P		21 21 11.5	
CMIG				S	Sn	21 21 25.9	-1.7
CMIG				i S		21 21 26.1	
CMIG	Matias Romero	1.18	20	i P	Pn	21 21 11.5	-1.2
CMIG				i S	Sn	21 21 26.1	-1.5
VHO	Vista Hermosa	1.75	309	eP	Pn	21 21 20.8	0.0
VHO				eS	Sn	21 21 41.0	-1.0
VHO	Vista Hermosa	1.75	309	eP	Pn	21 21 20.8	0.0
VHO				eS	Sn	21 21 41.0	-1.0
PCIG		2.02	97	eP	Pn	21 21 23.0	-1.3
PCIG				eS	Sn	21 21 47.3	-1.0
PCIG		2.02	97	eP	Pn	21 21 23.0	-1.3
PCIG				eS	Sn	21 21 47.3	-1.0
TGIG		2.24	69	eP	Pn	21 21 27.2	-0.2
TGIG				i S	Sn	21 21 52.9	-0.9
TGIG		2.24	69	eP	Pn	21 21 27.2	-0.2
TGIG				i S	Sn	21 21 52.9	-0.9
PNIG	Pinotepa	2.75	279	eP	Pn	21 21 33.3	-0.9
PNIG				i S	Sn	21 22 03.6	-2.6
PNIG	Pinotepa	2.75	279	eP	Pn	21 21 33.3	-0.9
PNIG				i S	Sn	21 22 03.6	-2.6
UTMO	Huajuapan	3.02	308	i P	Pn	21 21 37.0	-1.3
UTMO				i S	Sn	21 22 12.1	-1.3
UTMO	Huajuapan	3.02	308	i P	Pn	21 21 37.0	-1.3
UTMO				i S	Sn	21 22 12.1	-1.3
CCIG	Comitan	3.06	84	eP	Pn	21 21 38.1	-0.6
CCIG				i S	Sn	21 22 12.6	-1.5
CCIG	Comitan	3.06	84	eP	Pn	21 21 38.1	-0.6
CCIG				i S	Sn	21 22 12.6	-1.5
THIG		3.12	110	i P	Pn	21 21 38.3	-1.0
THIG				i S	Sn	21 22 14.1	-1.2
THIG		3.12	110	i P	Pn	21 21 38.3	-1.0
THIG				i S	Sn	21 22 14.1	-1.2
TEIG	Tepich	7.91	57	P	Pn	21 22 42.9	-2.2
	16nm,0.3s,baz=319,slow=7.8,SNR=70						
TEIG				S	Sn	21 24 05.0	-8.3
	23nm,0.3s,baz=352,slow=22,SNR=8.7						
TEIG				LR	LR	21 26 30.0	
	comp=Z,127nm,20.4s,baz=149,slow=43						
TEIG	Tepich	7.91	57	ePn	Pn	21 22 42.1	-3.0
TEIG				eSn	Sn	21 24 04.7	-8.6
JTS	JuntasAbangare	11.55	118	ePn	Pn	21 23 40.0	+4.8
HKT	Hockley	13.92	358	ePn	Pn	21 24 09.9	+2.6
JCT	Junction City	15.02	345	ePn	P	21 24 24.9	-2.0
TXAR	Lajitas Array	15.37	331	P	P	21 24 28.8	-2.1
	0.4nm,0.3s,baz=153,slow=11,SNR=5.7						
TXAR	Lajitas Array	15.37	331	P	P	21 24 28.8	-2.1
LPIG	La Paz	16.24	302	LR	LR	21 30 35.4	
	comp=Z,28nm,20.8s,baz=237,slow=36						
GDL2	Guadalupe Moun	18.13	335	eP	Pn	21 25 02.1	+0.6
MIAR	Mount Ida	18.56	4	ePn	Pn	21 25 07.5	+1.0
	18nm,1.1s						
AMTX	Amarillo	19.68	344	ePn	Pn	21 25 21.3	+1.2
	121nm,2.3s						
ANMO	Albuquerque	21.38	334	P	P	21 25 38.0	+1.0
	2.3nm,0.8s,baz=154,slow=9.7,SNR=4.7						
ANMO				pP	pP	21 25 48.1	+1.0
	2.0nm,0.6s,baz=162,slow=10,SNR=3.9						
ANMO	Albuquerque	21.38	334	eP	P	21 25 38.4	+1.4
ANMO				pP	pP	21 25 48.1	+1.0
TUC	Tucson	21.50	322	eP	P	21 25 39.3	+1.2
	7.8nm,1.1s						
CPCT	Cooper Cave	21.66	24	eP	P	21 25 41.9	+2.1
TKL	Tuckaleechee C	22.14	26	LR	LR	21 37 14.8	
	comp=Z,73nm,19.0s,baz=329,slow=45						
TZTN	Tazewell	23.00	25	eP	P	21 25 53.2	-0.8
	39nm,0.6s						
ROSC	El Rosal	23.37	116	P	P	21 25 58.9	+0.6
	14nm,0.8s,baz=96,slow=21,SNR=8.6						
ROSC	El Rosal	23.37	116	P	P	21 25 58.9	+0.6
SMCO	Snowmass	25.28	338	eP	P	21 26 18.3	+2.6
	33nm,2.0s						
SJG	San Juan	27.94	81	LR	LR	21 37 48.4	
	comp=Z,33nm,21.0s,baz=270,slow=36						
ATAH	Atahualpa	28.42	143	LR	LR	21 36 00.1	
	comp=Z,87nm,18.2s,baz=115,slow=32						
PDAR	Pinedale Array	29.36	338	P	P	21 26 52.6	+0.5
	0.5nm,0.8s,baz=142,slow=4.6,SNR=2.9						
PDAR				pP	pP	21 27 05.2	+1.9
	0.6nm,0.7s,baz=158,slow=9.7,SNR=2.7						
PDAR	Pinedale Array	29.36	338	P	P	21 26 52.6	+0.5
PDAR				pP	pP	21 27 05.2	+1.9
NVAR	Mina Array Bea	30.15	322	P	P	21 27 00.9	+1.8
	1.7nm,0.6s,baz=136,slow=10.0,SNR=4.6						
NVAR				pP	pP	21 27 12.4	+2.2
	1.8nm,0.4s,baz=140,slow=11,SNR=3.1						
NVAR				LR	LR	21 40 36.7	
	comp=Z,134nm,18.5s,baz=30,slow=39						
NVAR	Mina Array Bea	30.15	322	P	P	21 27 00.9	+1.8
NVAR				pP	pP	21 27 12.4	+2.2
MFID	Camas Ranch	32.47	332	eP	P	21 27 20.7	+1.4
	9.6nm,1.2s						
DLMT	Dillon	32.71	337	eP	P	21 27 23.8	+2.3
	12nm,1.3s						
ULM	Lac du Bonnet	34.19	359	LR	LR	21 42 39.2	
	comp=Z,90nm,18.6s,baz=350,slow=38						
SCHQ	Schefferville	44.58	23	LR	LR	21 49 30.3	
	comp=Z,87nm,19.3s,baz=294,slow=39						
SIV	San Ignacio	46.37	132	P	P	21 29 17.1	+1.8
	5.3nm,1.0s,baz=315,slow=9.2,SNR=13						
SIV				LR	LR	21 46 28.2	
	comp=Z,29nm,22.0s,slow=33						
SIV	San Ignacio	46.37	132	P	P	21 29 17.1	+1.8
YKA	Yellowknife Ar	48.41	348	P	P	21 29 29.0	-1.5
	0.9nm,0.6s,baz=152,slow=7.1,SNR=11						
YKA				pP	pP	21 29 40.5	-1.7
	0.9nm,0.6s,baz=152,slow=7.2,SNR=8.0						
YKA				sP	sP	21 29 46.8	-0.1
	1.0nm,0.6s,baz=150,slow=7.3,SNR=5.8						
YKA	Yellowknife Ar	48.41	348	P	P	21 29 29.0	-1.5
YKA				pP	pP	21 29 40.5	-1.7
YKA				sP	sP	21 29 46.8	-0.1
CPUP	Villa Florida	55.96	138	LR	LR	21 52 13.3	
	comp=Z,38nm,21.2s,baz=16,slow=34						
BDFB	Brasilia	56.27	122	P	P	21 30 29.6	0.0
	3.2nm,0.5s,baz=321,slow=9.9,SNR=4.3						
BDFB	Brasilia	56.27	122	P	P	21 30 29.6	0.0
ILAR	Eielson Array	59.78	337	P	P	21 30 52.8	-0.6
	1.4nm,0.8s,baz=133,slow=4.3,SNR=15						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR				pP	pP	21 31 05.4	+0.1
	1.1nm,1.0s,baz=140,slow=6.5,SNR=4.0						
ILAR	Eielson Array	59.78	337	P	P	21 30 52.8	-0.6
ILAR				pP	pP	21 31 05.4	+0.1
PLCA	Paso Flores	60.92	159	P	P	21 31 00.2	-1.3
	3.9nm,1.0s,baz=302,slow=6.7,SNR=5.1						
PLCA				LR	LR	21 52 21.7	
	comp=Z,36nm,19.3s,baz=294,slow=31						
PLCA	Paso Flores	60.92	159	P	P	21 31 00.2	-1.3
ESDC	Sonseca Array	80.99	51	P	P	21 33 02.8	-0.7
	0.1nm,0.3s,baz=287,slow=9.3,SNR=2.9						
ESDC				pP	pP	21 33 14.5	-1.2
	0.1nm,0.3s,baz=294,slow=5.7,SNR=3.7						
ESDC	Sonseca Array	80.99	51	P	P	21 33 02.8	-0.7
ESDC				pP	pP	21 33 14.5	-1.2
NB2	NORSAR Subarra	83.92	28	P	pP	21 33 30.2	-0.5
	comp=Z,1.1nm,0.7s,baz=294,slow=5.3						
NOA	NORSAR Array B	83.92	28	P	P	21 33 17.4	-0.9
	comp=Z,0.7nm,0.8s,baz=350,slow=15,SNR=3.0						
NOA				pP	pP	21 33 30.4	-0.2
	comp=Z,3.2nm,0.9s,baz=292,slow=5.1,SNR=6.1						
NOA				LR	LR	22 07 06.7	
	comp=Z,52nm,20.8s,baz=90,slow=33						
NOA	NORSAR Array B	83.92	28	P	P	21 33 17.4	-0.9
NOA				pP	pP	21 33 30.4	-0.2
HHC	Hu-ho-hao-te	118.21	337	ePKP	PKPdf	21 39 35.9	0.0
HHC				PP	PP	21 40 53.4	+2.9
HHC				PKS	PKSdf	21 43 11.4	-1.3
HHC				SKS	SKSdf	21 46 43.2	-1.9
HHC				SKKS	SKKSac	21 47 42.7	-6.4
HHC				SS	SS	21 57 00.3	-2.2
HHC				LR	LR		
	comp=N,78nm,21.6s						
HHC				LR	LR		
	comp=E,84nm,20.6s						
HHC				LR	LR		
	comp=Z,87nm,20.6s						
WMQ	Urumqi	120.43	357	ePKP	PKPdf	21 39 42.1	+2.0
KSH	Kashi	124.20	8	ePKP	PKPdf	21 39 53.2	+5.7
KSH				PP	PP	21 41 41.0	+10
KSH				PKS	PKSdf	21 43 26.2	+1.9
KSH				SKKS		21 48 27.4	
KSH				SS	SS	21 58 23.8	+5.2
KSH				LR	LR		
	comp=N,75nm,5.6s						
KSH				LR	LR		
	comp=E,65nm,5.1s						
KSH				LR	LR		
	comp=Z,190nm,6.1s						
CD2	Chengdu	129.91	339	PKP	PKPdf	21 39 59.7	+1.1
WRA	Warramunga Arr	132.74	257	PKP	PKPdf	21 40 05.2	+1.1
	comp=Z,0.8nm,1.1s,baz=352,slow=1.0,SNR=2.5						
WRA	Warramunga Arr	132.74	257	PKP	PKPdf	21 40 05.2	+1.1

IDC 02 21:40:13.0±1.5**, 0°67N×125°19E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.4**/22**, mbtmp3.6**/4**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.4**/29**, Error ellipse: s-maj=187.4km s-min=20.3km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.36	157	P	P	21 45 11.9	-1.1
	0.5nm,0.4s,baz=334,slow=11,SNR=14						
ASAR	Alice Springs	25.63	161	P	P	21 45 45.4	+0.8
	0.4nm,0.3s,baz=347,slow=12,SNR=7.7						
DZM	Mont Dzumac	46.14	122	LR	LR	22 07 48.1	
	comp=Z,74nm,19.4s,baz=40,slow=36						
MKAR	Makanchi Array	59.22	327	P	P	21 50 16.3	+0.1
	0.3nm,0.4s,baz=119,slow=8.0,SNR=12						
KURBB	Kurchatov Arra	63.50	329	P	P	21 50 44.8	-0.2
	0.6nm,0.6s,baz=129,slow=6.0,SNR=17						

*ISK **02** 21:45:05.0, 38°76N×25°90E, h5km, MD3.3*
*THE **02** 21:45:07.2, 38°85N×26°33E, h23km±1km, ML2.5/3, Error ellipse: s-maj=3.0km s-min=0.9km az=100.0*
*DDA **02** 21:45:07.5, 38°89N×26°07E, h7km, MD3.3*
*CSEM **02** 21:45:07.0±0.2, 38°81N×25°96E, h2km, ML2.5/3, Error ellipse: s-maj=4.8km s-min=4.4km az=80.0*
ISC 02 21:45:07.4±1.1**, 38°85N**±0°02×**26°07E**±0°03**, h14**km±9km**, n86, σ1§01**/102**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.42	22	P	Pg	21 45 16.0	+0.2
PRK				S	Sg	21 45 21.6	0.0
PRK	Paraskevi	0.42	22	P	Pg	21 45 16.0	+0.2
PRK				S	Sg	21 45 21.6	0.0
CHOS	Chios island	0.47	181	P	Pb	21 45 17.5	+0.1
CHOS				S	Sb	21 45 24.6	+0.4
CHOS	Chios island	0.47	181	P	Pb	21 45 17.5	+0.1
URLA	Izmir	0.64	140	i P	Pb	21 45 20.3	-0.1
URLA				i S	Sb	21 45 30.1	+0.9
URLA	Izmir	0.64	140	i P	Pb	21 45 20.3	-0.1
URLA				i S	Sb	21 45 30.1	+0.9
AYVA	Ayvalik	0.66	47	i P	Pg	21 45 20.4	+0.1
AYVA				i S	Sg	21 45 29.3	+0.2
AYVA	Ayvalik	0.66	47	i P	Pg	21 45 20.4	+0.1
AYVA				i S	Sg	21 45 29.3	+0.2
BLCB	Balcova	0.89	121	ePG	Pb	21 45 24.9	+0.3
BLCB	Balcova	0.89	121	ePg	Pb	21 45 24.9	+0.3
BOZC	Bozcaada	0.99	359	i P	Pg	21 45 25.9	-0.5
BOZC				i S	Sg	21 45 39.2	-0.2
EZN	Ezine	0.99	11	ePN	Pn	21 45 27.0	+0.1
EZN	Ezine	0.99	11	ePn	Pn	21 45 27.0	+0.1
IZM	Izmir	1.04	116	ePN	Pn	21 45 27.6	0.0
IZM	Izmir	1.04	116	ePn	Pn	21 45 27.6	0.0
LIA	Limnos Island	1.25	327	P	Pn	21 45 30.5	+0.1
LIA				S	Sn	21 45 47.8	+0.8
LIA	Limnos Island	1.25	327	P	Pn	21 45 30.5	+0.1
LIA				S	Sn	21 45 47.8	+0.8
AKS	Akhisar	1.36	88	ePN	Pg	21 45 33.4	-0.1
AKS	Akhisar	1.36	88	ePn	Pg	21 45 33.4	-0.1
BALY	Balya	1.50	53	i P	Pn	21 45 34.2	+0.3
BALY				i S	Sg	21 45 55.8	+0.3
BALY	Balya	1.50	53	i P	Pn	21 45 34.2	+0.3
BALY				i S	Sg	21 45 55.8	+0.3
MRMA	Marmari	1.55	240	P	Pn	21 45 34.5	0.0
MRMA	Marmari	1.55	240	P	Pn	21 45 34.5	0.0
GELI	Tayfur-Gelibol	1.57	11	ePN	Pb	21 45 36.9	+0.6
GELI	Tayfur-Gelibol	1.57	11	ePn	Pb	21 45 36.9	+0.6
LPK	Lapseki	1.61	19	ePN	Pb	21 45 37.5	+0.6
LPK	Lapseki	1.61	19	ePn	Pb	21 45 37.5	+0.6
BALB	Balikesir	1.61	60	ePN	Pg	21 45 38.0	-0.3
BALB	Balikesir	1.61	60	ePn	Pg	21 45 38.0	-0.3
GONE	Gonen-Balikesi	1.73	46	ePN	Pb	21 45 39.3	+0.4
GONE	Gonen-Balikesi	1.73	46	ePn	Pb	21 45 39.3	+0.4
AOS	Alonnisos	1.73	281	P	Pn	21 45 37.7	+0.6
AOS				S	Sg	21 46 02.5	-0.7
AOS	Alonnisos	1.73	281	P	Pn	21 45 37.7	+0.6
KRBG	Karabiga-Canak	1.81	31	ePN	Pb	21 45 41.2	+1.0
KRBG	Karabiga-Canak	1.81	31	ePn	Pb	21 45 41.2	+1.0
APE	Apeiranthos	1.83	194	ePN	Pn	21 45 37.1	-1.4
APE	Apeiranthos	1.83	194	P	Pn	21 45 37.5	-1.0
APE	Apeiranthos	1.83	194	ePn	Pn	21 45 37.1	-1.4
APE	Apeiranthos	1.83	194	P	Pn	21 45 37.5	-1.0
ERIK	Erikli-Kesan	1.85	11	ePN	Pb	21 45 40.4	-0.5
ERIK	Erikli-Kesan	1.85	11	ePn	Pb	21 45 40.4	-0.5
ENEZ	Enez	1.88	2	ePN	Pb	21 45 41.5	0.0
ENEZ	Enez	1.88	2	ePn	Pb	21 45 41.5	0.0
PTL	Penteli	1.91	246	P	Pn	21 45 39.9	+0.4
PTL	Penteli	1.91	246	P	Pn	21 45 39.9	+0.4
DURS	Dursunbey	2.01	67	i P	Pn	21 45 42.0	+1.0
DURS				i S	Sg	21 46 13.4	+1.3
DURS	Dursunbey	2.01	67	i P	Pn	21 45 42.0	+1.0
DURS				i S	Sg	21 46 13.4	+1.3
RKY	Sarkoy-Tekirda	2.02	25	ePN	Pb	21 45 43.6	-0.3
RKY	Sarkoy-Tekirda	2.02	25	ePn	Pb	21 45 43.6	-0.3
EDC	Edincik	2.04	42	ePN	Pb	21 45 44.7	+0.5
EDC	Edincik	2.04	42	ePn	Pb	21 45 44.7	+0.5
BODT	Bodrum	2.04	151	ePN	Pn	21 45 42.2	+1.0
BODT	Bodrum	2.04	151	ePn	Pn	21 45 42.3	+1.0
ALN	Alexandroupoli	2.04	360	P	Pn	21 45 39.3	-2.0
ALN				S	Sn	21 46 04.0	-2.6
PAIG	Paliouri	2.14	301	P	Pn	21 45 42.8	+0.2
PAIG	Paliouri	2.14	301	P	Pn	21 45 42.8	+0.2
MFT	Murefte	2.15	25	ePN	Pb	21 45 46.2	+0.1
MFT	Murefte	2.15	25	ePn	Pb	21 45 46.2	+0.1
OUR	Ouranopolis	2.19	313	P	Pn	21 45 43.9	+0.6
OUR	Ouranopolis	2.19	313	P	Pn	21 45 43.9	+0.6
KCTX	Karacabey (Bur	2.26	51	ePN	Pb	21 45 47.1	-0.9
KCTX	Karacabey (Bur	2.26	51	ePn	Pb	21 45 47.1	-0.9
DAT	Datca	2.43	150	ePN	Pn	21 45 47.3	+0.5
DAT	Datca	2.43	150	ePn	Pn	21 45 47.3	+0.5
KAVA	Kavala	2.45	331	P	Pn	21 45 47.2	+0.2
KAVA	Kavala	2.45	331	P	Pn	21 45 47.2	+0.2
ORLT	Orhaneli	2.49	61	ePN	Pb	21 45 50.2	-1.8
ORLT	Orhaneli	2.49	61	ePn	Pb	21 45 50.2	-1.8
MDNY	Mudanya-Bursa	2.65	54	ePN	Pb	21 45 53.5	-1.1
MDNY	Mudanya-Bursa	2.65	54	ePn	Pb	21 45 53.5	-1.1
TVSB	Tavsanli	2.71	76	ePN	Pb	21 45 54.0	-1.6
TVSB	Tavsanli	2.71	76	ePn	Pb	21 45 54.0	-1.6
NVR	Nevrokopi	3.01	327	P	Pn	21 45 55.0	+0.3
NVR	Nevrokopi	3.01	327	P	Pn	21 45 55.0	+0.3
CTKS	Kestanelik-??a	3.03	37	ePN	Pb	21 45 58.5	-2.5
CTKS	Kestanelik-??a	3.03	37	ePn	Pb	21 45 58.5	-2.5
EDRB	Edirne	3.04	10	ePN	Pn	21 45 56.9	+2.0
EDRB	Edirne	3.04	10	ePn	Pn	21 45 56.9	+2.0
YLV	Yalova	3.07	55	ePN	Pb	21 45 59.5	-2.3
YLV	Yalova	3.07	55	ePn	Pb	21 45 59.5	-2.3
BGKT	Bogazkoy	3.12	41	ePN	Pb	21 46 00.1	-2.4
BGKT	Bogazkoy	3.12	41	ePn	Pb	21 46 00.1	-2.4
KNT	Kendrikon	3.35	314	P	Pn	21 45 59.2	-0.2
KNT	Kendrikon	3.35	314	P	Pn	21 45 59.2	-0.2
GRG	Griva	3.52	308	P	Pn	21 46 03.2	+1.6
GRG	Griva	3.52	308	P	Pn	21 46 03.2	+1.6

*BJI **02** 21:46:02.7, 32°29N×49°50E, h14km, mB4.7/8, mb4.4/14, Ms4.7/7, Ms7 4.2/7*
*IDC **02** 21:46:03.5±0.7, 32°26N×49°89E, h0km, mb4.0/24, mb1 4.2/28, mb1mx4.1/34, mbtmp4.0/28, ML4.2/3, MS3.5/12, Ms1 3.5/12, ms1mx3.2/48, Error ellipse: s-maj=16.4km s-min=12.0km az=176.0*
*CSEM **02** 21:46:05.9±0.1, 32°16N×49°84E, h15km, mb4.7/56, Ms3.8, Error ellipse: s-maj=4.5km s-min=3.2km az=3.0*
*NEIC **02** 21:46:05.5, 32°13N×49°87E, h2km, mb4.7/35, MN4.3(TEH), After TEH.*
*ISCJB **02** 21:46:06.3±0.3, 32°08N±0°03×49°85E±0°02, h37km±3km, mb4.5/101, MS3.7/17, Error ellipse: s-maj=4.4km s-min=3.0km az=22.5*
*TEH **02** 21:46:06.3, 32°16N×49°88E, h7km, ML4.3*
*MOS **02** 21:46:07.1±1.1, 32°30N×49°76E, h33km, mb4.7/48, Error ellipse: s-maj=7.7km s-min=3.7km az=124.9*
*THR **02** 21:46:07.4±1.2, 32°20N×49°86E, h34km±8km, ML4.4*
*SZGRF **02** 21:46:12.6, 32°47N×49°35E, h33km, mb4.7, MS4.1, Western Iran*
*OMAN **02** 21:47:02.9±99.0, 28°14N×51°52E, h78km, Error ellipse: s-maj=228.3km s-min=10.5km az=330.0*
ISC 02 21:46:07.3±1.4**, 32°13N**±0°04×**49°85E**±0°03**, h25**km±9km**, n618, σ1§08**/580**, mb4.6**/101**, MS3.7**/17**, 38C-30D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.89	269	ePg	Pn	21 46 24.2	0.0
SHGR				eSg	Sn	21 46 37.4	+1.1
SHGR				AML	AML	21 46 43.2	
	comp=N,21µm,0.4s						
SHGR				AML	AML	21 46 47.1	
	comp=E,16µm,0.7s						
SHGR	Shooshtar-Gavs	0.89	269	ePg	Pn	21 46 24.2	0.0
IPIR	Pirpir	1.04	57	Pg	Pn	21 46 21.9	-4.6
IPIR	Pirpir	1.04	57⇑	ePg	Pn	21 46 21.9	-4.6
IPIR				eSg	Sb	21 46 38.6	-1.6
IPIR				e		21 46 43.0	
	comp=Z,58µm,0.2s						
IPIR	Pirpir	1.04	57⇑	ePg	Pn	21 46 21.9	-4.6
IPIR				eSg	Sb	21 46 38.6	-1.6
IGAR	Gharneh	1.88	81	ePn	Pn	21 46 36.4	-1.5
IGAR				e		21 46 43.8	
	comp=Z,20µm,0.2s						
IGAR				eSg	Sb	21 47 04.2	+0.1
IKLH	Kolahrood	1.88	50	Pn	Pn	21 46 38.2	+0.2
IKLH				Sg	Sb	21 47 03.4	-0.8
IKLH	Kolahrood	1.88	50	ePn	Pn	21 46 38.3	+0.2
IKLH				eSg	Sb	21 47 03.5	-0.8
IKLH				e		21 47 19.8	
	comp=Z,27µm,0.3s						
IKLH	Kolahrood	1.88	50	ePn	Pn	21 46 38.3	+0.2
IKLH				eSg	Sb	21 47 03.5	-0.8
IZEF	Zefreh	2.23	69	Pn	Pn	21 46 43.3	+0.4
IZEF	Zefreh	2.23	69	ePn	Pn	21 46 43.2	+0.4
IZEF				e		21 46 50.4	
	comp=Z,11µm,0.4s						
IZEF	Zefreh	2.23	69	ePn	Pn	21 46 43.2	+0.4
NASN	Na'in	2.59	74	ePn	Pn	21 46 48.9	+1.1
NASN	Na'in	2.59	74	ePn	Pn	21 46 48.9	+1.1
GHVR	GHOM	2.64	27	ePn	Pn	21 46 49.4	+1.1
GHVR				eSg	Sb	21 47 25.6	-0.3
GHVR				AML	AML	21 47 40.0	
	comp=N,2µm,0.7s						
GHVR				AML	AML	21 47 42.7	
	comp=E,1µm,0.6s						
GHVR	GHOM	2.64	27	ePn	Pn	21 46 49.4	+1.1
IKOM	Komasi	2.83	317	Pn	Pn	21 46 51.9	+0.8
IKOM	Komasi	2.83	317	ePn	Pn	21 46 51.6	+0.5
IKOM				e		21 47 57.5	
	comp=Z,19µm,0.4s						
IKOM	Komasi	2.83	317	ePn	Pn	21 46 51.6	+0.5
ISFB	Sefidab	2.99	41	Pn	Pn	21 46 53.7	+0.6
ISFB	Sefidab	2.99	41	ePn	Pn	21 46 53.4	+0.3
ISFB				e		21 47 48.2	
	comp=Z,8µm,0.4s						
ISFB	Sefidab	2.99	41	ePn	Pn	21 46 53.4	+0.3
IR5	Iran Long-Peri	3.14	11	ePn	Pn	21 46 55.7	+0.5
UMR	Umm Al-Rimmam	3.15	216	eP	Pn	21 46 58.8	+3.5
UMR				AML	AML	21 47 48.5	
	comp=Z,670nm,0.4s						
UMR	Umm Al-Rimmam	3.15	216	eP	Pn	21 46 58.8	+3.5
MIB	Mutribah	3.17	224	eP	Pn	21 46 59.2	+3.8
MIB				AML	AML	21 47 49.2	
	comp=Z,468nm,0.5s						
MIB	Mutribah	3.17	224	eP	Pn	21 46 59.2	+3.8
IVRN	Varamin	3.26	28	Pn	Pn	21 46 57.3	+0.4
IVRN	Varamin	3.26	28	ePn	Pn	21 46 57.0	+0.2
IVRN				ePn	Pn	21 46 57.1	+0.2
IVRN				e		21 47 07.9	
	comp=Z,7µm,0.2s						
IVRN				eSg	Sb	21 47 45.8	+2.0
IVRN	Varamin	3.26	28	ePn	Pn	21 46 57.1	+0.2
IVRN				eSg	Sb	21 47 45.8	+2.0
IRAZ	Razeghan	3.27	1	Pn	Pn	21 46 58.7	+1.6
IRAZ	Razeghan	3.27	1	ePn	Pn	21 46 57.7	+0.6
IRAZ				e		21 48 01.1	
	comp=Z,18µm,0.3s						
IRAZ	Razeghan	3.27	1	ePn	Pn	21 46 57.7	+0.6
IVIS	Veis	3.47	314	Pn	Pn	21 47 00.1	+0.3
IVIS	Veis	3.47	314	ePn	Pn	21 47 00.2	+0.4
IVIS				e		21 48 21.8	
	comp=Z,9µm,0.4s						
IVIS	Veis	3.47	314	ePn	Pn	21 47 00.2	+0.4
KBD	Kabd	3.48	213	eP	Pn	21 47 03.2	+3.4
KBD	Kabd	3.48	213	eP	Pn	21 47 03.2	+3.4
IGHG	Ghaleghazi	3.52	310	Pn	Pn	21 47 00.4	-0.2
IGHG	Ghaleghazi	3.52	310	ePn	Pn	21 47 00.9	+0.3
IGHG				e		21 48 13.8	
	comp=Z,14µm,0.5s						
IGHG	Ghaleghazi	3.52	310	ePn	Pn	21 47 00.9	+0.3
IMHD	Mahdasht	3.62	11	Pn	Pn	21 47 02.0	+0.3
IMHD	Mahdasht	3.62	11	ePn	Pn	21 47 02.1	+0.3
IMHD				e		21 48 12.7	
	comp=Z,7µm,0.4s						
IMHD	Mahdasht	3.62	11	ePn	Pn	21 47 02.1	+0.3
SNGE	Sanandaj	3.62	325	ePn	Pn	21 47 02.5	+0.6
SNGE				AML	AML	21 48 10.6	
	comp=N,436nm,0.7s						
SNGE				AML	AML	21 48 12.0	
	comp=E,464nm,0.7s						
SNGE	Sanandaj	3.62	325	ePn	Pn	21 47 02.5	+0.6
NAY	Al-Naaiem	3.64	219	eP	Pn	21 47 05.7	+3.7
NAY	Al-Naaiem	3.64	219	eP	Pn	21 47 05.7	+3.7
ILIN	Lien	3.69	320	Pn	Pn	21 47 03.7	+0.9
ILIN	Lien	3.69	320	ePn	Pn	21 47 03.4	+0.6
ILIN				e		21 48 17.4	
	comp=Z,5µm,0.3s						
ILIN	Lien	3.69	320	ePn	Pn	21 47 03.4	+0.6
RDF	Al-Radifah	3.76	213	eP	Pn	21 47 07.4	+3.8
RDF				AML	AML	21 47 55.1	
	comp=Z,380nm,0.5s						
RDF	Al-Radifah	3.76	213	eP	Pn	21 47 07.4	+3.8
QRN	Al-Qurain	3.76	207	eP	Pn	21 47 06.7	+3.0
QRN				AML	AML	21 47 55.3	
	comp=Z,299nm,0.2s						
ICHK	Chekchek	3.86	87	e		21 47 24.5	
	comp=Z,4µm,0.3s						
ICHK				ePn	Pn	21 47 05.5	+0.2
IDHR	Dehrash	3.87	312	Pn	Pn	21 47 05.7	+0.4
IDHR	Dehrash	3.87	312	ePn	Pn	21 47 05.8	+0.4
IDHR				e		21 48 00.3	
	comp=Z,10µm,0.1s						
IDHR	Dehrash	3.87	312	ePn	Pn	21 47 05.8	+0.4
THKV	Tehran--Karaj	3.88	12	ePn	Pn	21 47 05.9	+0.5
THKV	Tehran--Karaj	3.88	12	ePn	Pn	21 47 05.9	+0.5
DAMV	Damavand	3.92	26	ePn	Pn	21 47 06.4	+0.4
DAMV	Damavand	3.92	26	ePn	Pn	21 47 06.4	+0.4
CHTH	Charan	3.92	15	ePn	Pn	21 47 06.0	-0.1
CHTH	Charan	3.92	15	ePn	Pn	21 47 06.0	-0.1
IMEH	Mehriz	4.12	99	Pn	Pn	21 47 08.4	-0.4
IMEH	Mehriz	4.12	99	ePn	Pn	21 47 08.8	0.0
IMEH				e		21 48 38.2	
	comp=Z,2µm,0.4s						
IMEH	Mehriz	4.12	99	ePn	Pn	21 47 08.8	0.0
ILAS	Lasjerd	4.15	38	ePn	Pn	21 47 09.3	0.0
ILAS				e		21 48 39.9	
	comp=Z,4µm,0.6s						
ILAS	Lasjerd	4.15	38	ePn	Pn	21 47 09.3	0.0
IFIR	Firoozkooh	4.26	34	Pn	Pn	21 47 10.5	-0.2
IFIR	Firoozkooh	4.26	34	ePn	Pn	21 47 10.8	+0.1
IFIR				e		21 47 17.9	
	comp=Z,2µm,0.2s						
IFIR	Firoozkooh	4.26	34	ePn	Pn	21 47 10.8	+0.1
IGZV	Ghazvin	4.26	4	Pn	Pn	21 47 10.7	0.0
IGZV	Ghazvin	4.26	4	ePn	Pn	21 47 10.8	0.0
IGZV				e		21 48 28.0	
	comp=Z,4µm,0.4s						
IGZV	Ghazvin	4.26	4	ePn	Pn	21 47 10.8	0.0
IPRN	Peran	4.59	26	Pn	Pn	21 47 15.3	+0.1
IPRN	Peran	4.59	26	ePn	Pn	21 47 15.3	+0.1
IPRN				e		21 48 42.8	
	comp=Z,7µm,0.4s						
ZNJK	Zanjan	4.63	348	ePn	Pn	21 47 16.5	+0.6
ZNJK	Zanjan	4.63	348	ePn	Pn	21 47 16.5	+0.6
IALA	Alasht	4.65	31	ePn	Pn	21 47 16.1	0.0
IALA				e		21 47 43.8	
	comp=Z,3µm,0.3s						
IALA	Alasht	4.65	31	ePn	Pn	21 47 16.1	0.0
ISHM	Shahmirzad	4.65	37	ePn	Pn	21 47 16.2	0.0
ISHM				e		21 48 56.5	
	comp=Z,4µm,0.3s						
ISHM	Shahmirzad	4.65	37	ePn	Pn	21 47 16.2	0.0
IANJ	Anjilo	4.75	44	ePn	Pn	21 47 16.8	-0.6
IANJ				e		21 48 49.4	
	comp=Z,2µm,0.5s						
IANJ	Anjilo	4.75	44	ePn	Pn	21 47 16.8	-0.6
BHD	Baghdad	4.75	285	ePn	Pn	21 47 14.0	-3.2
BHD				ePg	Pb	21 47 35.0	+5.2
BHD				eSn	Sn	21 48 08.0	-3.5
BHD	Baghdad	4.75	285	ePn	Pn	21 47 14.0	-3.2
IBAF	Bafgh	4.89	95	Pn	Pn	21 47 19.2	-0.1
IBAF	Bafgh	4.89	95	ePn	Pn	21 47 19.3	-0.1
IBAF				e		21 47 29.4	
	comp=Z,1µm,0.4s						
IBAF	Bafgh	4.89	95	ePn	Pn	21 47 19.3	-0.1
IKIA	Kiasar	5.16	37	ePn	Pn	21 47 23.2	+0.1
IKIA				e		21 49 09.3	
	comp=Z,2µm,0.5s						
IKIA	Kiasar	5.16	37	ePn	Pn	21 47 23.2	+0.1
ISRB	Sarab	5.96	343	Pn	Pn	21 47 33.3	-0.8
ISRB	Sarab	5.96	343	ePn	Pn	21 47 33.9	-0.2
ISRB				e		21 49 32.3	
	comp=Z,1µm,0.4s						
ISRB	Sarab	5.96	343	ePn	Pn	21 47 33.9	-0.2
IBST	Bostanabad	6.07	337	Pn	Pn	21 47 35.6	0.0
IBST	Bostanabad	6.07	337	ePn	Pn	21 47 35.4	-0.2
IBST				e		21 48 04.2	
	comp=Z,546nm,0.4s						
IBST	Bostanabad	6.07	337	ePn	Pn	21 47 35.4	-0.2
IHRS	Heris	6.59	340	Pn	Pn	21 47 42.3	-0.5
IHRS	Heris	6.59	340	ePn	Pn	21 47 42.4	-0.4
IHRS				e		21 48 15.4	
	comp=Z,676nm,0.4s						
IHRS	Heris	6.59	340	ePn	Pn	21 47 42.4	-0.4
ITBZ	Tabriz	6.81	335	ePn	Pn	21 47 45.8	+0.2
ITBZ				e		21 50 07.1	
	comp=Z,783nm,0.5s						
ITBZ	Tabriz	6.81	335	ePn	Pn	21 47 45.8	+0.2
CUKT	Cukurca	7.25	317	eP	Pn	21 47 49.5	-2.1
IMRD	Marand	7.39	334	ePn	Pn	21 47 53.6	-0.1
IMRD				e		21 48 44.0	
	comp=Z,949nm,0.5s						
IMRD	Marand	7.39	334	ePn	Pn	21 47 53.6	-0.1
VANB	Van	8.34	323	eP	Pn	21 48 02.4	-4.2
BANOM	Banah	8.37	136	P	Pn	21 48 06.7	-0.3
	SNR=34						
CLDR	Caldiran	8.51	327	eP	Pn	21 48 08.8	-0.2
IKRD	Kardeh	8.53	55	ePn	Pn	21 48 17.9	+8.6
IKRD				e		21 51 32.1	
	comp=Z,201nm,0.6s						
IKRD	Kardeh	8.53	55	ePn	Pn	21 48 17.9	+8.6
IPAY	Payeh	8.71	58	ePn	Pn	21 48 08.9	-2.9
IPAY	Payeh	8.71	58	ePn	Pn	21 48 08.9	-2.9
NAZ	Nazwa, Dubai	8.75	143	P	Pn	21 48 13.6	+1.4
	SNR=6.2						
NAZ	Nazwa, Dubai	8.75	143	P	Pn	21 48 13.3	+1.1
IMOG	Moghan	8.81	61	ePn	Pn	21 48 13.0	-0.3
IMOG				e		21 49 13.8	
	comp=Z,131nm,0.4s						
IMOG	Moghan	8.81	61	ePn	Pn	21 48 13.0	-0.3
ASUD	Al Ashush, Dub	8.89	146	P	Pn	21 48 15.6	+1.5
FAQ	Al Faqa, Dubai	8.92	144	P	Pn	21 48 14.9	+0.4
GNI	Garni	9.01	334	Pn	Pn	21 48 22.5	+6.6
	comp=Z,0.2nm,0.3s,baz=341,slow=6.2,SNR=3.9						
GNI				Lg	Lg	21 50 54.2	
	comp=Z,0.3nm,0.3s,baz=180,slow=24,SNR=2.1						
GNI				LR	LR	21 52 18.3	
	comp=Z,307nm,19.2s,baz=142,slow=42						
GNI	Garni	9.01	334	eP	Pn	21 48 24.4	+8.5
GNI	Garni	9.01	334	ePn	Pn	21 48 18.4	+2.6
GNI				Lg	Lg	21 50 54.2	
GNI	Garni	9.01	334	ePn	Pn	21 48 18.4	+2.6
GNI				Lg	Lg	21 50 54.2	
HATD	Hatta, Dubai	9.13	141	P	Pn	21 48 17.4	0.0
ASHO	Ashiyiah	9.21	142	P	Pn	21 48 18.3	-0.2
	SNR=8.0						
IMYA	Miami	9.47	61	ePn	Pn	21 48 21.7	-0.5
IMYA				e		21 51 29.9	
	comp=Z,217nm,0.5s						
IMYA	Miami	9.47	61	ePn	Pn	21 48 21.7	-0.5
SVRC	Sivrice-ELAZID	10.64	309	eP	Pn	21 48 35.9	-2.3
MAK	Makhachkala	10.98	351	eP	Pn	21 48 31.1	-11
MAK				MLR	MLR		
	comp=Z,606nm,15.0s						
ASF	Jabal al Asfar	10.98	274	Pn	Pn	21 48 42.1	-0.7
	comp=Z,2.5nm,0.3s,baz=323,slow=9.7,SNR=41						
ASF				Sn	Sn	21 50 42.0	-3.0
	comp=Z,1.3nm,0.3s,baz=322,slow=11,SNR=2.0						
ASF				Lg	Lg	21 52 03.1	
	comp=Z,0.4nm,0.3s,baz=118,slow=21,SNR=1.7						
ASF				LR	LR	21 53 45.3	
	comp=Z,42nm,21.8s,baz=318,slow=42						
ASF	Jabal al Asfar	10.98	274	Pn	Pn	21 48 42.1	-0.7
ASF				Sn	Sn	21 50 42.0	-3.0
ASF				Lg	Lg	21 52 03.1	
MALT	Malatya	11.19	307	eP	Pn	21 48 45.5	-0.3
BSY	Bisya	11.39	143	P	Pn	21 48 48.8	+0.3
	SNR=8.5						
BSYO	Bisya	11.42	143	P	Pn	21 48 48.8	-0.1
	SNR=8.5						
ZEI	Tsey	11.63	338	eP	Pn	21 48 59.7	+8.0
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WSAR	Wadi Sarin	11.78	137	Pn	Pn	21 48 52.6	-1.0
	comp=Z,3.2nm,0.3s,baz=317,slow=8.6,SNR=11						
WSAR				Sn	Sn	21 51 04.0	-0.4
	comp=Z,0.5nm,0.3s,baz=243,slow=10,SNR=1.9						
WSAR	Wadi Sarin	11.78	137	Pn	Pn	21 48 52.6	-1.0
WSAR				Sn	Sn	21 51 04.0	-0.4
WSAR	Wadi Sarin	11.78	137	Pn	Pn	21 48 52.7	-1.0
WSAR				Sn	Sn	21 51 04.0	-0.4
KOZT	Kozan	12.70	299	eP	Pn	21 48 59.5	-6.7
KBZ	Khabaz	12.81	337	LR	LR	21 54 36.6	
	comp=Z,393nm,20.9s,baz=149,slow=40						
KIV	Kislovodsk	13.08	337	eP	Pn	21 49 08.6	-2.9

KIV eS Sn 21 51 27.5 -8.7
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,137nm,10.0s
KIV Kislovodsk 13.08 337 *e*Pn **Pn 21 49 13.3 +1.8**
KIV Kislovodsk 13.08 337 *e*Pn **Pn 21 49 13.3 +1.8**
SOC Sochi 13.95 328 *e*P Pn 21 49 19.5 -3.7
SOC *e* 21 51 49.1
SOC pmax pmax
comp=Z,34nm,0.9s
SOC MLR MLR
comp=Z,320nm,12.0s
CSS Prodhromos 14.07 286 *e*Pn Pn 21 49 27.4 +2.5
CSS Prodhromos 14.07 286 *e*Pn Pn 21 49 27.4 +2.5
ABTO Aybut 15.03 167 P **Pn 21 49 36.0 -2.2**
SNR=22
ABTO Aybut 15.03 167 P **Pn 21 49 36.0 -2.2**
SNR=22
RBK Rabkut 15.08 164 P **Pn 21 49 36.3 -2.5**
SNR=17
RBK Rabkut 15.08 164 P **Pn 21 49 36.3 -2.5**
SNR=17
BR131 Keskin Array S 15.15 305 *e*Pn **Pn 21 49 41.4 +1.7**
comp=Z,5.7nm,0.6s
BR131 Keskin Array S 15.15 305 *e*Pn **Pn 21 49 41.4 +1.7**
comp=Z,5.7nm,0.6s
BRTR Keskin Array B 15.15 305 Pn **Pn 21 49 38.3 -1.4**
comp=Z,0.0nm,0.3s,baz=125,slow=12,SNR=8.2
BRTR Keskin Array B 15.15 305 Pn **Pn 21 49 38.3 -1.4**
BRTR Keskin Array B 15.15 305 Pn **Pn 21 49 38.3 -1.4**
ANN Anapa 15.94 326 *e*P **Pn 21 49 48.3 -1.4**
ANN eS Sn 21 52 39.5 -6.0
ANN pmax pmax
comp=Z,114nm,1.3s
ISP Isparta 16.82 295 *e*P **P 21 50 04.8 +1.7**
ISP pmax pmax
comp=Z,78nm,1.0s
ISP Isparta 16.82 295 *e*P **P 21 50 04.8 +1.7**
comp=Z,78nm,1.0s
ISP Isparta 16.82 295 *e*P **P 21 50 04.8 +1.7**
comp=Z,78nm,1.0s
SIM Simferopol' 17.72 321 *e*P P 21 50 21.2 +8.3
SIM pmax pmax
comp=Z,12nm,1.1s
ABKAR Akbulak array 18.71 21 *e*P **Pn 21 50 24.0 -0.3**
ABKAR Akbulak array 18.71 21 *e*P **Pn 21 50 24.0 -0.3**
AKTO Aktyubinsk 19.27 16 P **P 21 50 29.2 -0.6**
comp=Z,0.3nm,0.3s,baz=230,slow=10,SNR=10
AKTO Aktyubinsk 19.27 16 P **P 21 50 29.3 -0.6**
AKTO Aktyubinsk 19.27 16 P **P 21 50 29.2 -0.6**
AKTO Aktyubinsk 19.27 16 P **P 21 50 29.2 -0.6**
KKAR Karatay Array 19.64 50 *e*P **Pn 21 50 36.6 +1.1**
KKAR Karatay Array 19.64 50 *e*Pn **Pn 21 50 36.6 +1.1**
KKAR Karatay Array 19.64 50 *e*Pn **Pn 21 50 36.6 +1.1**
VRHR Novokhopersk 19.90 345 *e*P **P 21 50 36.6 -0.1**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
VORD Divnogorie 20.38 341 *e*P **P 21 50 40.3 -1.6**
PSN Preselentsi 20.56 310 *e*P **P 21 50 43.6 -0.4**
PSN Preselentsi 20.56 310 *e*P **P 21 50 43.6 -0.4**
APE Apeiranthos 20.60 291 ⇓P Pn 21 50 47.7 +0.8
APE Apeiranthos 20.60 291 ⇓*i*P Pn 21 50 47.7 +0.8
VSR Storozhevoye 20.64 341 *e*P **P 21 50 42.9 -1.8**
VSR *e**SS **S 21 54 35.1 +1.1**
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,30nm,0.6s
TIRR Tirgusor 20.78 312 P **P 21 50 46.9 +0.6**
TIRR Tirgusor 20.78 312 *e*P **P 21 50 46.7 +0.4**
TIRR Tirgusor 20.78 312 ⇑*i*P **P 21 50 46.8 +0.4**
TIRR Tirgusor 20.78 312 *e*P **P 21 50 45.7 -0.6**
TIRR Tirgusor 20.78 312 *e*P **P 21 50 46.7 +0.4**
JMB Yambol 21.13 306 *e*P **P 21 50 51.7 +1.5**
JMB Yambol 21.13 306 *e*P **P 21 50 51.7 +1.5**
CFR Carcaliu 21.31 314 ⇑P **P 21 50 51.5 -0.5**
CFR Carcaliu 21.31 314 ⇑*i*P **P 21 50 51.5 -0.5**
CFR Carcaliu 21.31 314 ⇑*i*P **P 21 50 51.5 -0.5**
GVD Gavdhos 21.64 284 *e*P **P 21 50 55.9 +0.2**
comp=Z,126nm,0.9s
GVD Gavdhos 21.64 284 *e*P **P 21 50 55.9 +0.2**
comp=Z,126nm,0.9s
EKS2 Erkin-Say 21.66 54 *e*P **P 21 50 59.2 +3.3**
EKS2 pmax pmax
comp=Z,19nm,1.6s
EKS2 Erkin-Say 21.66 54 *e*P **P 21 50 59.2 +3.3**
comp=Z,19nm,1.6s
EKS2 Erkin-Say 21.66 54 *e*P **P 21 50 59.2 +3.3**
comp=Z,19nm,1.6s
KDZ Kurdzhali 21.67 303 *e*P **P 21 50 54.1 -1.9**
KDZ Kurdzhali 21.67 303 *e*P **P 21 50 54.1 -1.9**
SZH Strazhica 21.88 307 *e*P **P 21 50 57.2 -0.9**
SZH Strazhica 21.88 307 *e*P **P 21 50 57.2 -0.9**
PGOR Pogoanele 21.89 312 ⇑P **P 21 50 58.4 +0.2**
PGOR Pogoanele 21.89 312 ⇑*i*P **P 21 50 58.4 +0.2**
KIS Kishinev 21.89 319 *e*P **P 21 50 56.0 -2.2**
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=N,800nm,10.0s
KIS Kishinev 21.89 319 *e*P **P 21 50 56.0 -2.2**
KIS LRM MLR 22 09 00.0
comp=N,800nm,10.0s
KIS Kishinev 21.89 319 ⇓*i*P **P 21 51 00.6 +2.4**
KIS Kishinev 21.89 319 ⇓*i*P **P 21 51 00.6 +2.4**
LEOM Leova 21.92 317 ⇓*i*P **P 21 51 01.2 +2.6**
AAK Ala-Archa 22.14 55 P **P 21 51 01.3 +0.1**
comp=N,0.6nm,0.6s,baz=171,slow=13,SNR=4.0
AAK LR LR 22 00 22.9
comp=N,211nm,19.0s,baz=254,slow=39
AAK Ala-Archa 22.14 55 P **P 21 51 01.3 +0.1**
AAK MLR MLR
comp=Z,211nm,19.0s
AAK Ala-Archa 22.14 55 *e*P **P 21 51 02.9 +1.6**
AAK Ala-Archa 22.14 55 *e*P **P 21 51 02.8 +1.6**
RZN Rozhen 22.18 303 *e*P **P 21 51 01.4 -0.3**
RZN Rozhen 22.18 303 *e*P **P 21 51 01.4 -0.3**
GHRR 22.20 315 ⇓*i*P **P 21 51 01.7 +0.2**
GHRR 22.20 315 ⇓*i*P **P 21 51 01.7 +0.2**
ISR Istrita 22.27 312 ⇓*i*P **P 21 51 03.6 +1.2**
ISR Istrita 22.27 312 ⇓*i*P **P 21 51 03.6 +1.2**
KSH Kashi 22.38 63 P **P 21 51 03.5 -0.2**
KSH S S 21 55 01.5 -6.8
KSH PcS **PcS 21 58 37.2 +0.2**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,74nm,4.0s
KSH LR LR
comp=N,170nm,6.5s
KSH LR LR
comp=E,140nm,6.0s
KSH LR LR
comp=Z,330nm,7.1s
VRI Vrincioaia 22.51 314 ⇑P **P 21 51 04.8 -0.1**
VRI Vrincioaia 22.51 314 ⇑*i*P **P 21 51 04.8 -0.1**
VRI Vrincioaia 22.51 314 ⇑*i*P **P 21 51 04.8 -0.1**
PLOR Plostina 22.55 314 ⇑*i*P **P 21 51 05.5 +0.1**
PLOR Plostina 22.55 314 ⇑*i*P **P 21 51 05.5 +0.1**
PLOR Plostina 22.55 314 ⇑*i*P **P 21 51 05.5 +0.1**
MLR Muntele Rosu 22.81 313 P **P 21 51 08.5 +0.3**
comp=Z,1.4nm,0.6s,baz=156,slow=14
MLR Muntele Rosu 22.81 313 P **P 21 51 08.5 +0.3**
MLR Muntele Rosu 22.81 313 ⇑*i*P **P 21 51 08.8 +0.5**
MLR Muntele Rosu 22.81 313 P **P 21 51 08.5 +0.3**
TESR 22.88 316 ⇓*i*P **P 21 51 08.2 -0.6**
TESR 22.88 316 ⇓*i*P **P 21 51 08.2 -0.6**
TKM2 Tokmak 2 23.00 55 *e*P **P 21 51 11.2 +0.8**
TKM2 pmax pmax
comp=Z,29nm,2.0s
TKM2 Tokmak 2 23.00 55 *e*P **P 21 51 11.2 +0.8**
comp=Z,29nm,2.0s
TKM2 Tokmak 2 23.00 55 *e*P **P 21 51 11.2 +0.8**
comp=Z,29nm,2.0s
VOIR 23.35 312 ⇑P **P 21 51 14.3 +0.6**
VOIR 23.35 312 ⇑*i*P **P 21 51 14.3 +0.6**
VOIR 23.35 312 ⇑*i*P **P 21 51 14.3 +0.6**

DOPR Dopca 23.38 313 ⇑*i*P **P 21 51 14.5 +0.6**
DOPR Dopca 23.38 313 ⇑*i*P **P 21 51 14.5 +0.6**
MPEP Malo Peshtene 23.40 306 *e*P **P 21 51 14.5 +0.4**
VTS Vitosha 23.52 304 *e*Pn **P 21 51 16.8 +1.3**
PRAR RASCA 23.57 317 ⇓*i*P **P 21 51 15.4 -0.3**
PRAR RASCA 23.57 317 ⇓*i*P **P 21 51 15.4 -0.3**
AK02 Malin Array Si 24.00 327 *e*P **P 21 51 18.6 -1.2**
AK02 Malin Array Si 24.00 327 *e*P **P 21 51 18.6 -1.2**
AKASG Malin Array Be 24.02 327 P **P 21 51 18.2 -1.7**
comp=Z,1.8nm,0.4s,baz=133,slow=9.5,SNR=12.2
AKASG Malin Array Be 24.02 327 P **P 21 51 18.2 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 24.02 327 P **P 21 51 18.2 -1.7**
AKASG Malin Array Be 24.02 327 P **P 21 51 18.2 -1.7**
KIEV Kiev 24.02 327 *e*P **P 21 51 19.7 -0.2**
KIEV Kiev 24.02 327 *e*P **P 21 51 19.7 -0.2**
KIEV Kiev 24.02 327 *e*P **P 21 51 19.7 -0.2**
BURAR Bucovina Array 24.29 317 ⇓*i*P **P 21 51 22.7 +0.1**
BURAR Bucovina Array 24.29 317 ⇓*i*P **P 21 51 22.7 +0.1**
BARS Barje 24.57 304 *e*Pn **P 21 51 23.5 -1.6**
BOLS Boljevac 24.78 306 *e*Pn **P 21 51 26.5 -0.5**
GZR Gura Zlata 24.79 310 ⇑*i*P **P 21 51 28.2 +1.1**
GZR Gura Zlata 24.79 310 ⇑*i*P **P 21 51 28.2 +1.1**
OBN Obninsk 24.82 342 ⇑*i*P **P 21 51 26.2 -1.0**
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 24.82 342 *e*P **P 21 51 26.6 -0.6**
comp=Z,40nm,1.3s
OBN Obninsk 24.82 342 *e*P **P 21 51 26.6 -0.6**
comp=Z,40nm,1.3s
ARU Arti 25.05 11 *c i*P **P 21 51 27.9 -1.3**
ARU 21 51 59.7
ARU S S 21 55 47.1 -4.7
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 25.05 11 *e*P **P 21 51 27.6 -1.6**
comp=Z,50nm,1.7s
ARU Arti 25.05 11 *e*P **P 21 51 27.6 -1.6**
comp=Z,50nm,1.7s
BMR Baia Mare 25.33 315 ⇓P **P 21 51 32.6 +0.7**
BMR Baia Mare 25.33 315 ⇓*i*P **P 21 51 32.6 +0.7**
BMR Baia Mare 25.33 315 ⇓*i*P **P 21 51 32.6 +0.7**
DRGR 25.40 313 P **P 21 51 33.6 +0.9**
DRGR 25.40 313 ⇑*i*P **P 21 51 33.9 +1.2**
DRGR 25.40 313 ⇑*i*P **P 21 51 33.9 +1.2**
BVAR Borovoye Array 25.62 29 P **P 21 51 33.5 -0.9**
comp=Z,2.3nm,0.6s,baz=218,slow=9.9,SNR=9.9
BVAR LR LR 22 03 56.8
comp=Z,51nm,21.2s,baz=73,slow=42
BVAR Borovoye Array 25.62 29 P **P 21 51 33.5 -0.9**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR MLR MLR
comp=Z,51nm,21.2s
BVAR Borovoye Array 25.62 29 P **P 21 51 33.5 -0.9**
BVAR Borovoye Array 25.62 29 P **P 21 51 33.5 -0.9**
BZS Buzias 25.63 310 P **P 21 51 35.2 +0.6**
BZS Buzias 25.63 310 ⇑*i*P **P 21 51 35.6 +1.0**
BZS Buzias 25.63 310 *e*Pn **P 21 51 34.9 +0.3**
BZS Buzias 25.63 310 ⇑*i*P **P 21 51 35.6 +1.0**
GRUS Gruza 25.65 306 *e*Pn **P 21 51 35.3 +0.4**
SVE Sverdlovsk 25.80 14 *e*P **P 21 51 38.0 +1.9**
SVE *e* 21 51 53.2
SVE *e*S S 21 55 51.1 -13
SVE pmax pmax
comp=Z,8.0nm,0.9s
SVE MLR MLR
comp=Z,198nm,17.0s
IVAS Ivanjica 25.95 305 *e*Pn **P 21 51 39.9 +2.2**
TRUS Trudelj 25.97 306 *e*Pn **P 21 51 39.5 +1.8**
TRPA Tarpa 26.11 316 ⇑*i*P **P 21 51 39.8 +0.8**
TRPA Tarpa 26.11 316 *e*P **P 21 51 39.7 +0.8**
TRPA Tarpa 26.11 316 *e*P **P 21 51 39.7 +0.8**
LVV L'vov 26.11 320 *e*P **P 21 51 38.5 -0.5**
LVV MLR MLR
comp=N,500nm,10.0s
LVV MLR MLR
comp=E,100nm,10.0s
LVV MLR MLR
comp=Z,500nm,10.0s
UZH Uzhgorod 26.49 317 *c i*P **P 21 51 42.5 +0.1**
UZH *e* 21 51 47.3
UZH *i* 21 51 56.3
KOLS Kolonicke sedl 26.65 317 *e*P **P 21 51 44.7 +0.9**
KOLS pmax pmax
comp=Z,42nm,1.0s
KOLS Kolonicke sedl 26.65 317 *e*P **P 21 51 44.7 +0.9**
KOLS Kolonicke sedl 26.65 317 *e*P **P 21 51 44.7 +0.9**
comp=Z,42nm,1.0s
KWP Kalwaria Pacla 26.75 319 *e*P **P 21 51 45.2 +0.4**
KWP Kalwaria Pacla 26.75 319 *e*P **P 21 51 44.0 -0.7**
KWP pmax pmax
comp=Z,32nm,1.2s
KWP Kalwaria Pacla 26.75 319 *e*P **P 21 51 44.0 -0.7**
comp=Z,32nm,1.2s
KWP Kalwaria Pacla 26.75 319 ⇑*i*P **P 21 51 45.0 +0.3**
KWP Kalwaria Pacla 26.75 319 *e*P **P 21 51 44.0 -0.7**
comp=Z,32nm,1.2s
KWP Kalwaria Pacla 26.75 319 *e*P **P 21 51 45.1 +0.4**
CRVS Cervenica-Dubn 27.10 316 *e*P **P 21 51 48.1 +0.2**
CRVS pmax pmax
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 27.10 316 *e*P **P 21 51 48.1 +0.2**
CRVS Cervenica-Dubn 27.10 316 *e*P **P 21 51 48.1 +0.2**
comp=Z,15nm,1.2s
PSZ Piszkesteto 27.61 314 *e*P **P 21 51 55.7 +3.1**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 27.61 314 *e*P **P 21 51 55.7 +3.1**
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 27.61 314 *e*P **P 21 51 55.7 +3.1**
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 27.61 314 ⇓*e*P **P 21 51 51.7 -0.9**
PKSM Moragy 27.78 309 ⇓P **P 21 51 54.7 +0.7**
PKSM Moragy 27.78 309 ⇓*i*P **P 21 51 54.7 +0.7**
PKSM Moragy 27.78 309 ⇓*i*P **P 21 51 54.6 +0.6**
PKSM Moragy 27.78 309 ⇓*i*P **P 21 51 54.6 +0.6**
KURBB Kurchatov Arra 28.10 40 P **P 21 51 56.5 -0.4**
comp=Z,0.9nm,0.8s,baz=243,slow=9.5,SNR=9.1
KURK Kurchatov 28.20 40 ⇑*e*P **P 21 51 58.4 +0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 28.20 40 *e*P **P 21 51 57.7 0.0**
KURK Kurchatov 28.20 40 *e*P **P 21 51 57.7 0.0**
VYHS Vyhne 28.50 314 *e*P **P 21 52 00.2 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 28.50 314 *e*P **P 21 52 00.2 -0.2**
VYHS Vyhne 28.50 314 *e*P **P 21 52 00.2 -0.2**
comp=Z,2.0nm,0.9s
OJC Ojcow 28.68 318 *e*P **P 21 52 01.8 -0.1**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 28.68 318 *e*P **P 21 52 01.8 -0.1**
comp=Z,8.5nm,0.8s
OJC Ojcow 28.68 318 *e*P **P 21 52 01.8 -0.1**
comp=Z,8.5nm,0.8s
OJC Ojcow 28.68 318 *e*P **P 21 52 01.9 -0.1**
MKAR Makanchi Array 28.77 50 P **P 21 52 02.6 -0.3**
comp=Z,1.7nm,0.7s,baz=244,slow=8.9,SNR=12
MKAR LR LR 22 04 38.6
comp=Z,101nm,19.8s,baz=91,slow=39
MKAR Makanchi Array 28.77 50 P **P 21 52 02.6 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,101nm,19.8s
MKAR Makanchi Array 28.77 50 P **P 21 52 02.6 -0.3**
MKAR Makanchi Array 28.77 50 P **P 21 52 02.6 -0.3**
SUW Suwalki 28.99 327 *e*P **P 21 52 04.1 -0.6**
SUW Suwalki 28.99 327 *e*P **P 21 52 04.1 -0.6**
SUW Suwalki 28.99 327 *e*P **P 21 52 04.1 -0.6**
BEHE Becsehely 29.09 309 ⇓*e*P **P 21 52 06.4 +0.7**
BEHE Becsehely 29.09 309 ⇓*e*P **P 21 52 06.4 +0.7**
SMOL Smolenice 29.37 313 *e*P **P 21 52 08.5 +0.4**
SMOL Smolenice 29.37 313 *e*P **P 21 52 08.5 +0.4**
SMOL Smolenice 29.37 313 *e*P **P 21 52 08.5 +0.4**
OKC Ostrava-Krasne 29.46 316 *e*P **P 21 52 08.6 -0.3**
OKC Ostrava-Krasne 29.46 316 *e*P **P 21 52 08.6 -0.3**
OKC Ostrava-Krasne 29.46 316 P **P 21 52 08.6 -0.3**

KLMR Klimovskoe 29.53 350 *e*P P 21 52 06.2 -3.2
KLMR pmax pmax
comp=Z,18nm,1.4s
RAC Raciborz 29.54 317 *e*P P 21 52 01.9 -7.7
SOP Sopron 29.62 311 ⇓*e*P **P 21 52 11.0 +0.7**
SOP Sopron 29.62 311 ⇓*e*P **P 21 52 11.0 +0.7**
MORC Moravsky Berou 29.79 316 *e*P **P 21 52 11.4 -0.5**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 29.79 316 *e*P **P 21 52 11.4 -0.5**
comp=Z,5.4nm,0.8s
MORC Moravsky Berou 29.79 316 *e*P **P 21 52 11.4 -0.5**
comp=Z,5.4nm,0.8s
ARSA Arzberg 30.14 310 ⇑*i*P **P 21 52 15.3 +0.2**
comp=Z,6.1nm,0.9s
ARSA Arzberg 30.14 310 P **P 21 52 15.3 +0.2**
comp=Z,6.1nm,0.9s
VRAC Vranov 30.18 314 P **P 21 52 14.3 -1.0**
comp=Z,3.8nm,0.8s,baz=107,slow=13,SNR=3.7
VRAC Vranov 30.18 314 P **P 21 52 14.3 -1.0**
VRAC Vranov 30.18 314 P **P 21 52 14.3 -1.0**
DPC Dobruska-Polom 30.74 316 *e*P **P 21 52 20.3 0.0**
DPC Dobruska-Polom 30.74 316 *e*P **P 21 52 20.3 0.0**
DPC Dobruska-Polom 30.74 316 *e*P **P 21 52 20.0 -0.3**
DPC *ex* x 21 52 27.7
DPC Dobruska-Polom 30.74 316 *e*P **P 21 52 20.3 0.0**
TREC Trest 30.84 314 *e*P **P 21 52 21.4 +0.2**
TREC Trest 30.84 314 *e*P **P 21 52 21.4 +0.2**
TREC Trest 30.84 314 P **P 21 52 21.4 +0.2**
KSP Ksiaz 30.96 317 *e*P **P 21 52 22.2 +0.1**
KSP Ksiaz 30.96 317 *e*P **P 21 52 21.6 -0.6**
KSP Ksiaz 30.96 317 *e*P **P 21 52 21.6 -0.6**
KSP Ksiaz 30.96 317 *e*P **P 21 52 22.2 +0.1**
UPC Upice 30.99 316 *e*P **P 21 52 21.6 -0.8**
UPC Upice 30.99 316 *e*P **P 21 52 21.6 -0.8**
UPC Upice 30.99 316 P **P 21 52 21.6 -0.8**
MOA Molln 31.14 311 ⇑*i*P **P 21 52 23.5 -0.3**
comp=Z,13nm,1.0s,SNR=14
MOA Molln 31.14 311 P **P 21 52 23.5 -0.3**
comp=Z,13nm,1.0s,SNR=14
KBA Koelnbreinsper 31.52 309 *i* P **P 21 52 27.5 +0.1**
comp=Z,24nm,1.1s,SNR=15
KBA Koelnbreinsper 31.52 309 P **P 21 52 27.5 +0.1**
comp=Z,24nm,1.1s,SNR=15
GKP Gorka Klasztor 31.53 322 *e*P **P 21 52 27.4 +0.3**
GKP Gorka Klasztor 31.53 322 *e*P **P 21 52 27.4 +0.3**
GKP Gorka Klasztor 31.53 322 *e*P **P 21 52 27.4 +0.3**
PRU Pruhonice 31.67 315 *e*P **P 21 52 28.4 0.0**
PRU Pruhonice 31.67 315 *e*P **P 21 52 28.4 0.0**
PRU Pruhonice 31.67 315 P **P 21 52 28.4 0.0**
WMQ Urumqi 31.77 57 *e*P P 21 52 32.5 +3.0
WMQ LR LR
comp=N,100nm,21.0s
WMQ LR LR
comp=E,55nm,21.0s
GEC2 GERESS Array S 31.80 312 *e*P **P 21 52 29.0 -0.7**
GEC2 pmax pmax
comp=Z,5.0nm,1.2s
GEC2 GERESS Array S 31.80 312 *e*P **P 21 52 29.0 -0.7**
comp=Z,5.0nm,1.2s
GERES GERESS Array B 31.80 312 P **P 21 52 28.1 -1.6**
comp=Z,1.8nm,0.8s,baz=112,slow=8.8,SNR=11
GERES GERESS Array B 31.80 312 P **P 21 52 28.1 -1.6**
GERES GERESS Array B 31.80 312 P **P 21 52 28.1 -1.6**
KHC Kasperske Hory 31.97 313 *e*P **P 21 52 30.7 -0.4**
KHC Kasperske Hory 31.97 313 *e*P **P 21 52 29.9 -1.2**
comp=Z,6.6nm,1.1s
KHC Kasperske Hory 31.97 313 *e*P **P 21 52 30.7 -0.4**
KHC Kasperske Hory 31.97 313 *e*P **P 21 52 29.9 -1.2**
comp=Z,6.6nm,1.1s
ABTA Abfaltersbach 31.99 308 ⇑*i*P **P 21 52 31.1 -0.3**
comp=Z,10nm,0.9s,SNR=14
ABTA Abfaltersbach 31.99 308 P **P 21 52 31.1 -0.3**
comp=Z,10nm,0.9s,SNR=14
BRG Berggiesshubel 32.34 316 *e*P **P 21 52 33.6 -0.7**
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 32.34 316 *e*P **P 21 52 33.4 -0.9**
comp=Z,5.0nm,0.9s
WET Wettzell 32.41 313 *e*P **P 21 52 33.7 -1.3**
WET pmax pmax
comp=Z,8.0nm,1.1s
WET Wettzell 32.41 313 *e*P **P 21 52 33.7 -1.3**
comp=Z,8.0nm,1.1s
WTTA Wattenberg 32.70 309 ⇑*i*P **P 21 52 36.9 -0.8**
comp=Z,18nm,0.7s,SNR=7.3
WTTA Wattenberg 32.70 309 P **P 21 52 36.9 -0.8**
comp=Z,18nm,0.7s,SNR=7.3
WATA Walderalm 32.75 309 ⇑*i*P **P 21 52 36.9 -1.3**
comp=Z,17nm,0.8s
WATA Walderalm 32.75 309 P **P 21 52 36.9 -1.3**
comp=Z,17nm,0.8s
JOF Joensuu 32.99 344 *e*P P 21 52 37.1 -2.8
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 32.99 344 *e*p P 21 52 37.1 -2.8
comp=Z,2.7nm,0.5s
ROTZ Rotzenmuhle 33.02 313 *e*P **P 21 52 39.5 -0.8**
comp=Z,7.0nm,0.9s
CLL Collm 33.05 316 *i* P **P 21 52 40.4 -0.1**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 33.05 316 *e*P **P 21 52 40.3 -0.2**
comp=Z,8.0nm,1.0s
CLL Collm 33.05 316 *i* P **P 21 52 40.4 -0.1**
comp=Z,6.0nm,1.0s
CLL *i* 21 52 43.0
CLL *i* 21 52 48.4
CLL *e*PcP **PcP 21 55 26.0 +2.4**
CLL *e*PcS **PcS 21 59 12.0 +3.2**
MOTA Moosalm 33.07 309 ⇓*i*P **P 21 52 39.9 -1.0**
comp=Z,19nm,0.9s,SNR=12
MOTA Moosalm 33.07 309 P **P 21 52 39.9 -1.0**
comp=Z,19nm,0.9s,SNR=12
ZALV Zalesovo Beam 33.09 38 P **P 21 52 39.4 -1.4**
comp=Z,2.8nm,0.8s,baz=246,slow=9.1,SNR=6.6
ZALV LR LR 22 06 08.2
comp=Z,29nm,19.9s,baz=254,slow=37
ZALV Zalesovo Beam 33.09 38 P **P 21 52 39.4 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV MLR MLR
comp=Z,29nm,19.9s
ZALV Zalesovo Beam 33.09 38 P **P 21 52 39.4 -1.4**
ZALV Zalesovo Beam 33.09 38 P **P 21 52 39.4 -1.4**
FINES FINESS Array B 33.15 339 P **P 21 52 40.5 -0.7**
comp=Z,2.0nm,0.5s,baz=132,slow=8.2,SNR=10
FINES FINESS Array B 33.15 339 P **P 21 52 40.5 -0.7**
FINES FINESS Array B 33.15 339 P **P 21 52 40.5 -0.7**
FUR Furstenfeldbru 33.15 310 *e*P **P 21 52 40.4 -1.1**
FUR pmax pmax
comp=Z,21nm,0.9s
FUR Furstenfeldbru 33.15 310 *e*P **P 21 52 40.4 -1.1**
comp=Z,21nm,0.9s
FETA Feichten 33.25 308 ⇓*i*P **P 21 52 41.8 -0.7**
comp=Z,22nm,1.0s,SNR=27
FETA Feichten 33.25 308 P **P 21 52 41.8 -0.7**
comp=Z,22nm,1.0s,SNR=27
RETA Reutte 33.33 309 ⇑*i*P **P 21 52 41.4 -1.7**
comp=Z,9.2nm,1.1s
RETA Reutte 33.33 309 P **P 21 52 41.4 -1.7**
comp=Z,9.2nm,1.1s
GRF Grafenberg Arr 33.60 313 *e*P **P 21 52 44.9 -0.5**
GRF pmax pmax
comp=Z,31nm,1.5s
GRF MLR MLR
comp=Z,300nm,16.3s
GRF Grafenberg Arr 33.60 313 *e*P **P 21 52 44.9 -0.5**
comp=Z,31nm,1.5s
GRF *e*L L 22 14 35.3
comp=Z,296nm,16.3s
GRFO Grafenberg 33.60 313 *e*P **P 21 52 45.7 +0.3**
GRFO pmax pmax
comp=Z,12nm,1.0s
GRFO Grafenberg 33.60 313 *e*P **P 21 52 45.7 +0.3**
comp=Z,12nm,1.0s
GRFO Grafenberg 33.60 313 *e*P **P 21 52 45.7 +0.3**
comp=Z,12nm,1.0s
KAF Kangasniemi 33.61 340 *e*P **P 21 52 45.9 +0.6**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 33.61 340 *e*p **P 21 52 45.9 +0.6**
comp=Z,1.6nm,0.5s
KAF Kangasniemi 33.61 340 *e*P **P 21 52 45.9 +0.6**
comp=Z,1.6nm,0.5s
BSD Bornholm Skovb 33.62 324 *i* P **P 21 52 47.0 +1.7**
comp=Z,25nm,0.7s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BSD	Bornholm Skovb	33.62	324	*i* P	P	21 52 47.0	+1.7
	comp=Z,25nm,0.7s						
KEST	Kesra	33.63	287	P	P	21 52 46.5	+0.6
	comp=Z,1.6nm,0.9s,baz=0.0,slow=4.0,SNR=7.1						
KEST	Kesra	33.63	287	P	P	21 52 46.5	+0.6
KEST	Kesra	33.63	287	P	P	21 52 46.5	+0.6
DAVA	Damuels	33.87	308	*i* P	P	21 52 47.3	-0.6
	comp=Z,20nm,0.9s,SNR=7.8						
DAVA	Damuels	33.87	308	P	P	21 52 47.3	-0.6
	comp=Z,20nm,0.9s,SNR=7.8						
CLZ	Clausthal	34.78	316	*e*P	P	21 52 54.8	-0.8
CLZ				pmax	pmax		
	comp=Z,11nm,0.9s						
CLZ	Clausthal	34.78	316	*e*P	P	21 52 54.8	-0.8
	comp=Z,11nm,0.9s						
NRDL	Niedersach Rie	35.15	317	*e*P	P	21 52 59.3	+0.7
	comp=Z,34nm,1.8s						
LSA	Lhasa	35.36	83	*e*P	P	21 53 01.7	+0.3
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	Lhasa	35.36	83	*e*P	P	21 53 01.7	+0.3
	comp=Z,3.9nm,0.8s						
LSA	Lhasa	35.36	83	*e*P	P	21 53 01.7	+0.3
	comp=Z,3.9nm,0.8s						
SENIN	Lac Senin/Sane	35.45	306	*e*P	P	21 53 01.4	-0.3
	comp=Z,32nm,1.8s						
SENIN	Lac Senin/Sane	35.45	306	*e*P	P	21 53 01.4	-0.3
	comp=Z,32nm,1.8s						
TNS	Taunus Mts	35.47	313	*e*P	P	21 53 01.1	-0.5
TNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TNS	Taunus Mts	35.47	313	*e*P	P	21 53 01.1	-0.5
	comp=Z,10.0nm,1.3s						
MBDF	Montbardon	35.62	303	*e*P	P	21 53 02.1	-0.9
	comp=Z,14nm,0.7s						
MBDF	Montbardon	35.62	303	*e*P	P	21 53 02.1	-0.9
MBDF				pmax	pmax		
	comp=Z,14nm,0.7s						
MBDF	Montbardon	35.62	303	*e*P	P	21 53 02.1	-0.9
	comp=Z,14nm,0.7s						
MBDF	Montbardon	35.62	303	*e*P	P	21 53 02.1	-0.9
	comp=Z,7.1nm,0.7s						
LPG	La Plagne	35.72	305	*e*P	P	21 53 03.0	-1.0
	comp=Z,28nm,1.0s						
LPG	La Plagne	35.72	305	*e*P	P	21 53 03.0	-1.0
LPG				pmax	pmax		
	comp=Z,29nm,1.0s						
LPG	La Plagne	35.72	305	*e*P	P	21 53 03.0	-1.0
	comp=Z,28nm,1.0s						
LPG	La Plagne	35.72	305	*e*P	P	21 53 03.0	-1.0
	comp=Z,14nm,1.0s						
BNI	Bardonecchia	35.72	304	*e*P	P	21 53 03.2	-0.7
BNI				pmax	pmax		
	comp=Z,16nm,1.1s						
BNI	Bardonecchia	35.72	304	*e*P	P	21 53 03.1	-0.7
	comp=Z,16nm,1.1s						
BNI	Bardonecchia	35.72	304	*e*P	P	21 53 03.2	-0.7
	comp=Z,16nm,1.1s						
LPL	La Plagne	35.73	305	*e*P	P	21 53 03.1	-1.0
	comp=Z,24nm,0.9s						
LPL	La Plagne	35.73	305	*e*P	P	21 53 03.1	-1.0
LPL				pmax	pmax		
	comp=Z,24nm,0.9s						
LPL	La Plagne	35.73	305	*e*P	P	21 53 03.1	-1.0
	comp=Z,24nm,0.9s						
LPL	La Plagne	35.73	305	*e*P	P	21 53 03.1	-1.0
	comp=Z,12nm,0.9s						
CDF	Champ du Feu	35.81	310	*e*P	P	21 53 03.2	-1.4
CDF	Champ du Feu	35.81	310	*e*P	P	21 53 03.2	-1.4
CDF	Champ du Feu	35.81	310	*e*P	P	21 53 03.2	-1.4
CDF	Champ du Feu	35.81	310	*e*P	P	21 53 03.2	-1.4
ECH	Echery	35.85	309	*e*P	P	21 53 03.5	-1.4
ECH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ECH	Echery	35.85	309	*e*P	P	21 53 03.5	-1.4
	comp=Z,7.8nm,1.3s						
ECH	Echery	35.85	309	*e*P	P	21 53 03.5	-1.4
	comp=Z,7.8nm,1.3s						
CABF	La Chapelle	36.31	306	*e*P	P	21 53 08.2	-0.7
	comp=Z,36nm,0.9s						
CABF	La Chapelle	36.31	306	*e*P	P	21 53 08.2	-0.7
CABF				pmax	pmax		
	comp=Z,37nm,0.9s						
CABF	La Chapelle	36.31	306	*e*P	P	21 53 08.2	-0.7
	comp=Z,36nm,0.9s						
CABF	La Chapelle	36.31	306	*e*P	P	21 53 08.2	-0.7
	comp=Z,18nm,0.9s						
HAU	Haudompre	36.35	309	*e*P	P	21 53 07.2	-1.9
HAU	Haudompre	36.35	309	*e*P	P	21 53 07.2	-1.9
HAU	Haudompre	36.35	309	*e*P	P	21 53 07.2	-1.9
HAU	Haudompre	36.35	309	*e*P	P	21 53 07.2	-1.9
PAGF	Fort de Pagny	36.85	310	*e*P	P	21 53 12.2	-1.2
PAGF	Fort de Pagny	36.85	310	*e*P	P	21 53 12.2	-1.2
PAGF	Fort de Pagny	36.85	310	*e*P	P	21 53 12.2	-1.2
MUD	Monsted U'grnd	37.12	323	*i* P	P	21 53 16.3	+0.9
	comp=Z,17nm,0.8s						
MUD	Monsted U'grnd	37.12	323	*i* P	P	21 53 16.3	+0.9
	comp=Z,17nm,0.8s						
VIVF	Saint-Julien-l	37.12	303	*e*P	P	21 53 14.2	-1.5
	comp=Z,5.9nm,0.8s						
VIVF	Saint-Julien-l	37.12	303	*e*P	P	21 53 14.2	-1.5
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VIVF	Saint-Julien-l	37.12	303	*e*P	P	21 53 14.2	-1.5
	comp=Z,5.9nm,0.8s						
VIVF	Saint-Julien-l	37.12	303	*e*P	P	21 53 14.2	-1.5
	comp=Z,3.0nm,0.8s						
MEZF	Maizieres J'vi	37.29	309	*e*P	P	21 53 16.0	-1.0
	comp=Z,10nm,0.8s						
MEZF	Maizieres J'vi	37.29	309	*e*P	P	21 53 16.0	-1.0
	comp=Z,10nm,0.8s						
MEZF	Maizieres J'vi	37.29	309	*e*P	P	21 53 16.0	-1.0
	comp=Z,5.1nm,0.8s						
LASF	Ste Croix	37.66	302	*e*P	P	21 53 18.9	-1.3
LASF	Ste Croix	37.66	302	*e*P	P	21 53 18.9	-1.3
LASF	Ste Croix	37.66	302	*e*P	P	21 53 18.9	-1.3
GIVF	Givet	37.72	312	*e*P	P	21 53 19.9	-0.7
GIVF	Givet	37.72	312	*e*P	P	21 53 19.9	-0.7
GIVF	Givet	37.72	312	*e*P	P	21 53 19.9	-0.7
GIVF	Givet	37.72	312	*e*P	P	21 53 19.9	-0.7
LOR	Lormes	37.91	307	*e*P	P	21 53 20.8	-1.6
LOR	Lormes	37.91	307	*e*P	P	21 53 20.8	-1.6
LOR	Lormes	37.91	307	*e*P	P	21 53 20.8	-1.6
BAIF	Baives	38.10	312	*e*P	P	21 53 22.0	-1.9
BAIF	Baives	38.10	312	*e*P	P	21 53 22.0	-1.9
BAIF	Baives	38.10	312	*e*P	P	21 53 22.0	-1.9
BAIF	Baives	38.10	312	*e*P	P	21 53 22.0	-1.9
SSF	Saint Saulge	38.13	307	*e*P	P	21 53 22.8	-1.4
	comp=Z,26nm,1.2s						
SSF	Saint Saulge	38.13	307	*e*P	P	21 53 22.8	-1.4
SSF				pmax	pmax		
	comp=Z,26nm,1.2s						
SSF	Saint Saulge	38.13	307	*e*P	P	21 53 22.8	-1.4
	comp=Z,26nm,1.2s						
SSF	Saint Saulge	38.13	307	*e*P	P	21 53 22.8	-1.4
	comp=Z,13nm,1.2s						
AVF	Avril sur Loir	38.20	306	*e*P	P	21 53 23.5	-1.3
	comp=Z,14nm,1.0s						
AVF	Avril sur Loir	38.20	306	*e*P	P	21 53 23.5	-1.3
AVF				pmax	pmax		
	comp=Z,14nm,1.0s						
AVF	Avril sur Loir	38.20	306	*e*P	P	21 53 23.5	-1.3
	comp=Z,14nm,1.0s						
AVF	Avril sur Loir	38.20	306	*e*P	P	21 53 23.5	-1.3
	comp=Z,7.0nm,1.0s						
NB2	NORSAR Subarra	38.29	331	P	P	21 53 23.8	-1.6
	comp=Z,1.8nm,0.6s,baz=123,slow=8.6						
NB2	NORSAR Subarra	38.29	331	P	P	21 53 23.8	-1.6
	comp=Z,1.8nm,0.6s,baz=123,slow=8.4,SNR=8.1						
NOA	NORSAR Array B	38.29	331	P	P	21 53 24.1	-1.3
	comp=Z,1.8nm,0.7s,baz=122,slow=8.4,SNR=7.0						
NOA	NORSAR Array B	38.29	331	P	P	21 53 24.1	-1.3
NOA	NORSAR Array B	38.29	331	P	P	21 53 24.1	-1.3
BGF	Bois d'Agland	38.53	306	*e*P	P	21 53 26.3	-1.3
BGF	Bois d'Agland	38.53	306	*e*P	P	21 53 26.3	-1.3
BGF	Bois d'Agland	38.53	306	*e*P	P	21 53 26.3	-1.3
BGF	Bois d'Agland	38.53	306	*e*P	P	21 53 26.3	-1.3
TCF	Toulx Ste Croi	38.95	305	*e*P	P	21 53 30.0	-1.1
TCF	Toulx Ste Croi	38.95	305	*e*P	P	21 53 30.0	-1.1
TCF	Toulx Ste Croi	38.95	305	*e*P	P	21 53 30.0	-1.1
TCF	Toulx Ste Croi	38.95	305	*e*P	P	21 53 30.0	-1.1
CAF	Calviac	38.97	303	*e*P	P	21 53 29.5	-1.8
CAF	Calviac	38.97	303	*e*P	P	21 53 29.5	-1.8
CAF	Calviac	38.97	303	*e*P	P	21 53 29.5	-1.8
CAF	Calviac	38.97	303	*e*P	P	21 53 29.5	-1.8
RJF	Les Rejaudoux	39.38	304	*e*P	P	21 53 33.8	-0.9
RJF	Les Rejaudoux	39.38	304	*e*P	P	21 53 33.8	-0.9
RJF	Les Rejaudoux	39.38	304	*e*P	P	21 53 33.8	-0.9
RJF	Les Rejaudoux	39.38	304	*e*P	P	21 53 33.8	-0.9
KEV	Kevo	39.80	348	*e*P	P	21 53 39.2	+1.4
KEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KEV	Kevo	39.80	348	*e*p	P	21 53 39.2	+1.4
	comp=Z,5.8nm,0.8s						
KEV	Kevo	39.80	348	*e*P	P	21 53 39.2	+1.4
	comp=Z,5.8nm,0.8s						
ARCES	ARCESS Array B	39.89	347	P	P	21 53 36.9	-1.7
	comp=Z,6.9nm,1.0s,baz=139,slow=7.7,SNR=6.9						
ARCES	ARCESS Array B	39.89	347	P	P	21 53 36.9	-1.7
ARCES	ARCESS Array B	39.89	347	P	P	21 53 36.9	-1.7
LFF	La Frestale	39.91	303	*e*P	P	21 53 38.0	-1.1
	comp=Z,14nm,1.1s						
LFF	La Frestale	39.91	303	*e*P	P	21 53 38.0	-1.1
LFF				pmax	pmax		
	comp=Z,14nm,1.0s						
LFF	La Frestale	39.91	303	*e*P	P	21 53 38.0	-1.1
	comp=Z,14nm,1.0s						
LFF	La Frestale	39.91	303	*e*P	P	21 53 38.0	-1.1
	comp=Z,7.2nm,1.1s						
MFF	Saint Martin d	40.59	306	*e*P	P	21 53 43.2	-1.5
MFF	Saint Martin d	40.59	306	*e*P	P	21 53 43.2	-1.5
MFF	Saint Martin d	40.59	306	*e*P	P	21 53 43.2	-1.5
MFF	Saint Martin d	40.59	306	*e*P	P	21 53 43.2	-1.5
LDF	La Druitiere	40.71	309	*e*P	P	21 53 43.8	-1.9
	comp=Z,8.6nm,0.7s						
LDF	La Druitiere	40.71	309	*e*P	P	21 53 43.8	-1.9
LDF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LDF	La Druitiere	40.71	309	*e*P	P	21 53 43.8	-1.9
	comp=Z,8.6nm,0.7s						
LDF	La Druitiere	40.71	309	*e*P	P	21 53 43.8	-1.9
	comp=Z,4.3nm,0.7s						
GTA	Gaotai	40.76	65	*e*P	P	21 53 46.2	-0.2
GTA				S	S	21 59 55.2	-0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,86nm,7.6s						
GTA				LR	LR		
	comp=N,150nm,17.6s						
GTA				LR	LR		
	comp=E,81nm,19.5s						
GTA				LR	LR		
	comp=Z,96nm,19.9s						
FLN	La Foliniere	40.96	309	*e*P	P	21 53 46.0	-1.7
	comp=Z,15nm,0.8s						
FLN	La Foliniere	40.96	309	*e*P	P	21 53 46.0	-1.7
FLN				pmax	pmax		
	comp=Z,15nm,0.8s						
FLN	La Foliniere	40.96	309	*e*P	P	21 53 46.0	-1.7
	comp=Z,15nm,0.8s						
FLN	La Foliniere	40.96	309	*e*P	P	21 53 46.0	-1.7
	comp=Z,7.7nm,0.8s						
GRR	Gorron	41.18	308	*e*P	P	21 53 48.0	-1.5
	comp=Z,23nm,0.9s						
GRR	Gorron	41.18	308	*e*P	P	21 53 48.0	-1.5
GRR				pmax	pmax		
	comp=Z,23nm,0.9s						
GRR	Gorron	41.18	308	*e*P	P	21 53 48.0	-1.5
	comp=Z,23nm,0.9s						
GRR	Gorron	41.18	308	*e*P	P	21 53 48.0	-1.5
	comp=Z,11nm,0.9s						
MOY	Mondy	41.79	47	*e*P	P	21 53 56.2	+1.5
SGMF	Saint Gilles	42.30	308	*e*P	P	21 53 57.2	-1.5
	comp=Z,14nm,0.7s						
SGMF	Saint Gilles	42.30	308	*e*P	P	21 53 57.2	-1.5
SGMF				pmax	pmax		
	comp=Z,14nm,0.7s						
SGMF	Saint Gilles	42.30	308	*e*P	P	21 53 57.2	-1.5
	comp=Z,14nm,0.7s						
SGMF	Saint Gilles	42.30	308	*e*P	P	21 53 57.2	-1.5
	comp=Z,6.8nm,0.7s						
QUIF	Quistinic	42.70	308	*e*P	P	21 54 00.3	-1.6
	comp=Z,9.7nm,0.5s						
QUIF	Quistinic	42.70	308	*e*P	P	21 54 00.3	-1.6
QUIF				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QUIF	Quistinic	42.70	308	*e*P	P	21 54 00.3	-1.6
	comp=Z,9.7nm,0.5s						
QUIF	Quistinic	42.70	308	*e*P	P	21 54 00.3	-1.6
	comp=Z,4.8nm,0.5s						
ROSF	Rostrenen	42.78	308	*e*P	P	21 54 01.1	-1.6
	comp=Z,21nm,0.9s						
ROSF	Rostrenen	42.78	308	*e*P	P	21 54 01.1	-1.6
ROSF				pmax	pmax		
	comp=Z,21nm,0.9s						
ROSF	Rostrenen	42.78	308	*e*P	P	21 54 01.1	-1.6
	comp=Z,21nm,0.9s						
ROSF	Rostrenen	42.78	308	*e*P	P	21 54 01.1	-1.6
	comp=Z,10nm,0.9s						
ZAK	Zakamensk	43.10	49	*e*P	P	21 54 05.2	-0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
ESDC	Sonseca Array	43.69	296	P	P	21 54 10.2	+0.1
	comp=Z,0.4nm,0.4s,baz=63,slow=6.8,SNR=7.5						
ESDC	Sonseca Array	43.69	296	P	P	21 54 10.2	+0.1
ESDC	Sonseca Array	43.69	296	P	P	21 54 10.2	+0.1
SONM	Songino Array	45.07	53	P	P	21 54 20.4	-0.7
	comp=Z,0.7nm,0.8s,baz=280,slow=6.9,SNR=9.6						
SONM				LR	LR	22 14 51.7	
	comp=Z,62nm,18.9s,baz=12,slow=38						
SONM	Songino Array	45.07	53	P	P	21 54 20.4	-0.7
SONM	Songino Array	45.07	53	P	P	21 54 20.5	-0.7
CD2	Chengdu	45.56	77	P	P	21 54 26.0	+0.8
CD2				PP	PP	21 56 14.1	+2.1
CD2				S	S	22 01 01.0	-5.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,6.6s						
CD2				LR	LR		
	comp=N,250nm,6.5s						
CD2				LR	LR		
	comp=Z,130nm,7.1s						
CHTO	Chiang Mai	45.90	94	*e*P	P	21 54 27.2	-0.7
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	Chiang Mai	45.90	94	*e*P	P	21 54 27.2	-0.7
	comp=Z,2.3nm,0.8s						
CHTO	Chiang Mai	45.90	94	*e*P	P	21 54 27.2	-0.7
	comp=Z,2.2nm,0.8s						
CMAR	Chiang Mai Arr	46.06	95	P	P	21 54 28.2	-1.0
	comp=Z,0.6nm,0.7s,baz=291,slow=8.0,SNR=6.0						
CMAR	Chiang Mai Arr	46.06	95	P	P	21 54 28.2	-1.0
CMAR	Chiang Mai Arr	46.06	95	P	P	21 54 28.2	-1.0
PBAR	Barrancos	46.29	294	*e*P	P	21 54 30.7	-0.1
	comp=Z,24nm,1.7s						
PBAR	Barrancos	46.29	294	*e*P	P	21 54 30.7	-0.1
	comp=Z,24nm,1.7s						
MTE	Manteigas	46.31	297	*e*P	P	21 54 28.5	-2.5
	comp=Z,25nm,1.9s						
MTE	Manteigas	46.31	297	*e*P	P	21 54 28.5	-2.5
	comp=Z,25nm,1.9s						
PCBR	Castelo Branco	46.34	296	*e*P	P	21 54 31.9	+0.7
	comp=Z,28nm,1.5s						
PCBR	Castelo Branco	46.34	296	*e*P	P	21 54 31.9	+0.7
	comp=Z,28nm,1.5s						
PESTR	Estremoz	46.59	295	*e*P	P	21 54 33.9	+0.7
	comp=Z,18nm,1.3s						
PESTR	Estremoz	46.59	295	*e*P	P	21 54 33.9	+0.7
	comp=Z,18nm,1.3s						
PBEJ	Beja	46.96	294	*e*P	P	21 54 37.1	+1.1
	comp=Z,34nm,1.5s						
PBEJ	Beja	46.96	294	*e*P	P	21 54 37.1	+1.1
	comp=Z,34nm,1.5s						
PTOM	Tomar	47.09	296	*e*P	P	21 54 38.1	+1.1
	comp=Z,33nm,1.6s						
PTOM	Tomar	47.09	296	*e*P	P	21 54 38.1	+1.1
	comp=Z,33nm,1.6s						
TORD	Torodi Ar. Bea	47.86	258	P	P	21 54 43.8	+0.5
	comp=Z,1.9nm,0.7s,baz=53,slow=7.6,SNR=12						
TORD	Torodi Ar. Bea	47.86	258	P	P	21 54 43.8	+0.5
TORD	Torodi Ar. Bea	47.86	258	P	P	21 54 43.8	+0.5
GYA	Guiyang	49.39	81	*e*P	P	21 54 57.8	+2.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	Hu-ho-hao-te	49.47	62	*e*P	P	21 54 55.7	+0.2
HHC				PcP	PcP	21 56 18.6	+1.2
HHC				PP	PP	21 56 50.4	+0.7
HHC				PcS	PcS	22 00 14.6	+0.5
HHC				S	S	22 02 02.0	+0.5
HHC				SS	SS	22 05 29.5	-3.8
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.1s						
HHC				LR	LR		
	comp=N,760nm,16.1s						
HHC				LR	LR		
	comp=E,100nm,16.3s						
HHC				LR	LR		
	comp=Z,180nm,16.3s						
BOD	Bodaibo	49.83	39	*e*P	P	21 54 56.8	-1.1
BOD				pmax	pmax		
	comp=Z,4.0nm,2.1s						
PSI	Prapat	54.49	112	LR	LR	22 20 29.7	
	comp=Z,64nm,19.6s,baz=340,slow=38						
DBIC	Dimbokro	56.77	256	P	P	21 55 49.8	+0.4
	comp=Z,2.2nm,0.5s,baz=19,slow=4.8,SNR=4.7						
DBIC	Dimbokro	56.77	256	P	P	21 55 49.8	+0.4
DBIC	Dimbokro	56.77	256	P	P	21 55 49.8	+0.4
LIC	Lamto	57.16	255	*e*P	P	21 55 51.6	-0.6
	comp=Z,20nm,0.7s						
LIC	Lamto	57.16	255	*e*P	P	21 55 51.6	-0.6
	comp=Z,20nm,0.7s						
LIC	Lamto	57.16	255	*e*P	P	21 55 51.6	-0.6
	comp=Z,9.9nm,0.7s						
CN2	Changchun	58.81	55	*e*P	P	21 56 05.4	+1.9
SUMG	Summit	59.19	339	*i* P	P	21 56 05.9	-0.2
	comp=Z,14nm,0.9s						
SUMG	Summit	59.19	339	*i* P	P	21 56 05.9	-0.2
	comp=Z,14nm,0.9s						
KSRS	Korea Array	62.61	61	LR	LR	22 26 24.2	
	comp=Z,37nm,18.0s,baz=332,slow=39						
USRK	Ussuriysk Arra	63.19	53	P	P	21 56 31.4	-1.8
	comp=Z,0.7nm,0.6s,baz=306,slow=6.4,SNR=3.9						
BOSA	Boshof	64.77	204	P	P	21 56 46.3	+2.5
	comp=Z,2.6nm,0.7s,baz=24,slow=5.2,SNR=5.4						
BOSA				LR	LR	22 23 10.4	
	comp=Z,79nm,18.6s,baz=161,slow=34						
BOSA	Boshof	64.77	204	P	P	21 56 46.3	+2.5
BOSA	Boshof	64.77	204	P	P	21 56 46.3	+2.5
SEY	Seymchan	67.27	29	⇓*i*P	P	21 56 59.6	+0.3
MJAR	Matsushiro Arr	70.53	59	LR	LR	22 31 33.4	
	comp=Z,66nm,18.4s,baz=20,slow=39						
ILAR	Eielson Array	82.54	7	P	P	21 58 26.6	-1.0
	comp=Z,1.9nm,0.8s,baz=321,slow=4.1,SNR=19						
ILAR	Eielson Array	82.54	7	P	P	21 58 26.6	-1.0
ILAR	Eielson Array	82.54	7	P	P	21 58 26.5	-1.0
EGAK	Eagle	83.03	5	*e*P	P	21 58 28.9	-1.2
	comp=Z,9.8nm,1.1s						
EGAK	Eagle	83.03	5	*e*P	P	21 58 28.9	-1.2
	comp=Z,9.8nm,1.1s						
YKA	Yellowknife Ar	84.89	353	P	P	21 58 38.9	-0.6
	comp=Z,3.4nm,0.8s,baz=10.0,slow=5.5,SNR=28						
YKA	Yellowknife Ar	84.89	353	P	P	21 58 38.9	-0.6
YKA	Yellowknife Ar	84.89	353	P	P	21 58 38.9	-0.6
FITZ	Fitzroy Crossi	88.01	113	P	P	21 58 54.5	-1.0
	comp=Z,1.5nm,0.9s,baz=307,slow=5.1,SNR=2.7						
FITZ	Fitzroy Crossi	88.01	113	P	P	21 58 54.5	-1.0
FITZ	Fitzroy Crossi	88.01	113	P	P	21 58 54.5	-1.0
FFC	Flin Flon	90.16	344	*i* P	P	21 59 05.5	+0.4
WRA	Warramunga Arr	95.90	110	P	P	21 59 33.0	+0.9
	comp=Z,1.0nm,1.2s,baz=316,slow=4.6,SNR=3.8						
WRA	Warramunga Arr	95.90	110	P	P	21 59 33.0	+0.9
WRA	Warramunga Arr	95.90	110	P	P	21 59 33.0	+0.9

MEX 02 21:53:15.2±0.8**, 18.°15N**×**103.°41W, h5**km**, MD4.0, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.15	23	*i* P	Pg	21 53 17.1	-1.0
MMIG				*i* S	Sg	21 53 20.0	-0.2
R15V		1.15	332	*e*P	Pg	21 53 33.5	-3.9
R15V				*i* S	Sg	21 53 49.7	-2.7
EZ5V		1.33	352	*e*P	Pn	21 53 36.7	-4.2
EZ5V				*i* S	Sb	21 53 54.8	-4.0
ZIIG	Zihuatanejo	1.93	106	*e*P	Pn	21 53 45.3	-3.4
ZIIG				*e*S	Sn	21 54 09.5	-3.8
CJM	Chamela	2.05	311	*i* P	Pn	21 53 47.6	-2.8
CJM				*i* S	Sn	21 54 12.3	-4.0
SFJM	Santa Fe	2.35	8	*i* P	Pn	21 53 49.8	-4.9
SFJM				*i* S	Sn	21 54 20.2	-3.9
MOIG	Morelia	2.59	54	*i* P	Pn	21 53 54.6	-3.5
MOIG				*i* S	Sn	21 54 26.1	-4.1
ARIG	Puente Sto Nin	2.91	87	*e*P	Pn	21 53 59.0	-3.3
ARIG				*i* S	Sn	21 54 32.9	-4.8
MEIG	Mezcala	3.61	93	*i* S	Sn	21 54 51.4	-3.6
PLIG	Platanillo	3.72	86	*e*P	Pn	21 54 11.6	-1.9
PLIG				*i* S	Sn	21 54 54.6	-3.2

*DHMR **02** 21:55:05.4±3.1, 12.°46N×40.°62E, h22km±75km, ML3.7*
ISC 02 21:55:05.9±3.0**, 12.°3N**±0.°3×**40.°6E**±0.°3**, h14**km**, n4,** σ**2.s00**/7**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	3.57	75	*i* P	Pn	21 56 01.4	+0.2
TRBA				*i* S	Sn	21 56 45.0	+1.7
TRBA				AML	AML	21 56 58.6	
	comp=N,282nm,0.6s						
UDYN	Al 'Udayn	3.69	63	*i* P	Pn	21 56 02.8	+0.1
UDYN				*i* S	Sn	21 56 47.6	+1.4
UDYN				AML	AML	21 56 59.1	
	comp=N,272nm,0.6s						
FURI	Furi	3.87	209	*e*P	Pg	21 56 19.7	-0.4
FURI				S	Sg	21 57 10.8	+0.5
LBOS		4.81	71	*i* S	Sn	21 57 10.7	-3.3

*CSEM **02** 22:00:47.3, 36.°66N×26.°62E, h2km, MD2.5, After ATH*
ATH 02 22:00:47.3, 36.°66N×26.°62E, h5km±3km**, MD2.5**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	Apeiranthos	0.96	295	*e*PB	Pg	22 01 05.6	-0.3
APE				*e*SB	Sg	22 01 19.1	+0.6
APE	Apeiranthos	0.96	295	*e*Pg	Pg	22 01 05.6	-0.3
APE				*e*Sg	Sg	22 01 19.1	+0.6
KARP	Karpathos	1.19	158	*e*PG	Pg	22 01 09.7	-0.6
KARP				*e*SB	Sb	22 01 26.5	+0.2
KARP	Karpathos	1.19	158	*e*Pg	Pg	22 01 09.7	-0.6
KARP				*e*Sb	Sb	22 01 26.5	+0.2
NPS	Neapolis	1.62	211	*e*PG	Pb	22 01 17.5	-0.2
NPS	Neapolis	1.62	211	*e*Pb	Pb	22 01 17.5	-0.2
CHOS	Chios island	1.78	346	*e*PN	Pb	22 01 20.8	+0.2
CHOS	Chios island	1.78	346	*e*Pb	Pb	22 01 20.8	+0.2

*ATH **02** 22:01:08.8, 36.°77N×26.°70E, h21km±1km, ML3.5*
*IDC **02** 22:01:08.4±1.6, 36.°45N×26.°77E, h0km, mb3.2/4, mb1 3.2/5, mb1mx3.1/26, mbtmp3.2/5, Error ellipse: s-maj=223.4km s-min=25.6km az=143.0*
*DDA **02** 22:01:09.2, 36.°65N×26.°62E, h8km, ML3.6*
*ISCJB **02** 22:01:10.7±0.4, 36.°71N±0.°03×26.°62E±0.°02, h26km±4km, mb3.2/4, Error ellipse: s-maj=4.2km s-min=3.1km az=176.7*
*CSEM **02** 22:01:10.8±0.2, 36.°70N×26.°65E, h19km±2km, ML3.4/3, Error ellipse: s-maj=3.2km s-min=2.6km az=168.0*
*THE **02** 22:01:11.0, 36.°70N×26.°65E, h16km±2km, ML3.4/3, Error ellipse: s-maj=2.2km s-min=0.7km az=82.0*
*ISK **02** 22:01:13.0, 36.°79N×26.°77E, h36km, MD3.1*
ISC 02 22:01:10.3±2.9**, 36.°69N**±0.°02×**26.°64E**±0.°02**, h12**km±21km**, n131,** σ**0.s84**/156**, mb3.2**/4**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.44	101	P	Pb	22 01 19.6	-0.4
NIS1				S	Sb	22 01 26.3	-0.3
NIS1	Nisyros Isl.	0.44	101	P	Pb	22 01 19.6	-0.4
NIS1				S	Sb	22 01 26.3	-0.3
BODT	Bodrum	0.65	55	PG	Pb	22 01 23.7	0.0
BODT				SG	Sb	22 01 32.5	-0.2
BODT	Bodrum	0.65	55	*i* Pg	Pb	22 01 23.7	0.0
BODT				*i* Sg	Sb	22 01 32.5	-0.2
BDRM	Kayabasi	0.74	60	*e*P	Pb	22 01 24.2	-1.0
BDRM				*i* S	Sb	22 01 35.4	0.0
BDRM	Kayabasi	0.74	60	*e*P	Pb	22 01 24.2	-1.0
BDRM				*i* S	Sb	22 01 35.4	0.0
DAT	Datca	0.75	87	*e*PG	Pb	22 01 26.0	+0.6

DAT				eSG	Sb	22 01 35.9	+0.2
DAT	Datca	0.75	87	ePg	Pb	22 01 26.0	+0.6
DAT				eSg	Sb	22 01 35.9	+0.2
APE	Apeiranthos	0.97	293	ePG	Pn	22 01 31.6	+1.8
APE	Apeiranthos	0.97	293	P	Pb	22 01 27.9	-1.2
APE				S	Sb	22 01 41.1	-0.7
APE	Apeiranthos	0.97	293	ePN	Pb	22 01 28.2	-0.9
APE				eSN	Sb	22 01 41.2	-0.6
APE	Apeiranthos	0.97	293	P	Pb	22 01 27.9	-1.2
APE	Apeiranthos	0.97	293	ePn	Pb	22 01 28.2	-0.9
APE	Apeiranthos	0.97	293	ePg	Pn	22 01 31.6	+1.8
APE				S	Sb	22 01 41.1	-0.7
THR2	Thira island,	1.00	256	P	Pb	22 01 28.9	-0.7
THR2	Thira island,	1.00	256	P	Pb	22 01 28.9	-0.7
THR1	Thera Island	1.00	252	P	Pb	22 01 29.2	-0.5
THR1				S	Sb	22 01 43.0	+0.1
THR1	Thera Island	1.00	252	P	Pb	22 01 29.2	-0.5
THR1				S	Sb	22 01 43.0	+0.1
MLSB	Milas	1.09	56	ePG	Pn	22 01 30.4	-1.1
MLSB	Milas	1.09	56	ePg	Pn	22 01 30.4	-1.1
GCAM	G?zelcaml?	1.11	25	eP	Pn	22 01 31.7	0.0
GCAM				eS	Sn	22 01 48.1	+1.1
GCAM	G?zelcaml?	1.11	25	eP	Pn	22 01 31.7	0.0
GCAM				eS	Sn	22 01 48.1	+1.1
KARP	Karpathos	1.22	160	ePN	Pn	22 01 32.5	-0.7
KARP				eSN	Sn	22 01 50.6	+1.0
KARP	Karpathos	1.22	160	ePn	Pn	22 01 32.5	-0.7
KARP				eSn	Sn	22 01 50.6	+1.0
ARG	Arkhangelos	1.29	111	P	Pn	22 01 33.4	-0.7
ARG				S	Sn	22 01 49.9	-1.4
ARG	Arkhangelos	1.29	111	ePN	Pn	22 01 33.6	-0.5
ARG				eSN	Sn	22 01 50.8	-0.5
ARG	Arkhangelos	1.29	111	ePn	Pn	22 01 33.6	-0.5
ARG				S	Sn	22 01 49.9	-1.4
ARG				eSn	Sn	22 01 50.8	-0.5
AYDN	Tasoluk	1.39	45	iP	Pn	22 01 35.6	+0.1
AYDN				iS	Sb	22 01 56.4	+2.5
AYDN	Tasoluk	1.39	45	iP	Pn	22 01 35.6	+0.1
AYDN				iS	Sb	22 01 56.4	+2.5
YER	Yerkesik	1.39	71	ePN	Pn	22 01 35.6	0.0
YER	Yerkesik	1.39	71	ePn	Pn	22 01 35.6	0.0
TURN	Turunc	1.58	83	eP	Pn	22 01 34.8	-3.4
TURN				eS	Sn	22 01 50.4	-8.2
TURN	Turunc	1.58	83	eP	Pn	22 01 34.8	-3.4
ZKR	Zakros	1.61	193	P	Pn	22 01 37.6	-0.9
ZKR	Zakros	1.61	193	ePN	Pb	22 01 39.7	-0.2
ZKR				eSN	Sb	22 02 01.9	+1.7
ZKR	Zakros	1.61	193	P	Pn	22 01 37.6	-0.9
ZKR	Zakros	1.61	193	ePn	Pb	22 01 39.7	-0.2
ZKR				eSn	Sb	22 02 01.9	+1.7
NPS	Neapolis	1.65	211	P	Pn	22 01 38.4	-0.7
NPS	Neapolis	1.65	211	ePB	Pn	22 01 39.3	+0.2
NPS	Neapolis	1.65	211	P	Pn	22 01 38.4	-0.7
NPS	Neapolis	1.65	211	ePb	Pn	22 01 39.3	+0.2
URLA	Izmir	1.67	359	eP	Pn	22 01 39.8	+0.4
URLA				eS	Sn	22 02 00.1	-0.7
URLA	Izmir	1.67	359	eP	Pn	22 01 39.8	+0.4
URLA				eS	Sn	22 02 00.1	-0.7
BLCB	Balcova	1.72	11	ePN	Pn	22 01 39.8	-0.3
BLCB	Balcova	1.72	11	ePn	Pn	22 01 39.8	-0.3
CHOS	Chios island	1.76	345	P	Pn	22 01 39.4	-1.3
CHOS	Chios island	1.76	345	ePN	Pn	22 01 39.1	-1.6
CHOS	Chios island	1.76	345	ePn	Pn	22 01 39.1	-1.6
CHOS	Chios island	1.76	345	P	Pn	22 01 39.4	-1.3
IZM	Izmir	1.77	16	ePN	Pn	22 01 40.7	-0.2
IZM	Izmir	1.77	16	ePn	Pn	22 01 40.7	-0.2
LAST	Lasithi	1.79	212	P	Pn	22 01 40.3	-0.9
LAST	Lasithi	1.79	212	ePN	Pn	22 01 42.3	+1.1
LAST	Lasithi	1.79	212	P	Pn	22 01 40.3	-0.9
LAST	Lasithi	1.79	212	ePn	Pn	22 01 42.3	+1.1
FETY	Fethiye	1.96	91	ePN	Pn	22 01 43.9	+0.4
FETY	Fethiye	1.96	91	ePn	Pn	22 01 43.9	+0.4
DENT	Denizli	2.19	60	ePN	Pn	22 01 45.7	-0.8
DENT	Denizli	2.19	60	ePn	Pn	22 01 45.7	-0.8
SIVA	Sivas	2.24	222	P	Pn	22 01 46.3	-0.8
SIVA	Sivas	2.24	222	P	Pn	22 01 46.3	-0.8
VAM	Vamos	2.36	238	P	Pn	22 01 48.4	-0.4
VAM	Vamos	2.36	238	ePN	Pn	22 01 49.7	+0.9
VAM	Vamos	2.36	238	P	Pn	22 01 48.4	-0.4
VAM	Vamos	2.36	238	ePn	Pn	22 01 49.7	+0.9
KULA	Kula-Manisa	2.43	41	ePN	Pn	22 01 49.0	-0.9
KULA	Kula-Manisa	2.43	41	ePn	Pn	22 01 49.0	-0.9
PRK	Paraskevi	2.57	354	ePN	Pn	22 01 50.7	-1.0
PRK	Paraskevi	2.57	354	ePn	Pn	22 01 50.7	-1.0
PTL	Penteli	2.59	302	ePN	Pn	22 01 52.0	-0.1
PTL	Penteli	2.59	302	ePn	Pn	22 01 52.0	-0.1
AYVA	Ayvalik	2.62	1	eP	Pb	22 01 59.2	+2.1
AYVA				eS	Sb	22 02 34.7	+5.6
ELL	Elmali	2.62	88	ePN	Pn	22 01 52.2	-0.5
ELL	Elmali	2.62	88	ePn	Pn	22 01 52.2	-0.5
ATH	Athens Observa	2.66	300	ePN	Pn	22 01 53.0	0.0
ATH	Athens Observa	2.66	300	ePn	Pn	22 01 53.0	0.0
DID	Didima	2.84	288	P	Pn	22 01 54.8	-0.7
DID	Didima	2.84	288	ePN	Pn	22 01 55.3	-0.2
DID	Didima	2.84	288	P	Pn	22 01 54.8	-0.7
DID	Didima	2.84	288	ePn	Pn	22 01 55.3	-0.2
KYTH	Kithira	2.93	263	P	Pn	22 01 56.6	-0.2
KYTH	Kithira	2.93	263	ePN	Pn	22 01 58.2	+1.4
KYTH	Kithira	2.93	263	P	Pn	22 01 56.6	-0.2
KYTH	Kithira	2.93	263	ePn	Pn	22 01 58.2	+1.4
VLI	Veliai	2.98	272	P	Pn	22 01 57.1	-0.3
VLI	Veliai	2.98	272	ePN	Pn	22 01 58.0	+0.6
VLI	Veliai	2.98	272	P	Pn	22 01 57.1	-0.3
VLI	Veliai	2.98	272	ePn	Pn	22 01 58.0	+0.6
LTK	Loutraki	3.22	296	P	Pn	22 02 00.1	-0.6
LTK	Loutraki	3.22	296	ePN	Pn	22 02 00.6	-0.1
LTK	Loutraki	3.22	296	P	Pn	22 02 00.1	-0.6
LTK	Loutraki	3.22	296	ePn	Pn	22 02 00.6	-0.1
AOS	Alonnisos	3.30	319	P	Pn	22 02 01.6	-0.2
AOS	Alonnisos	3.30	319	P	Pn	22 02 01.6	-0.2
LIA	Limnos Island	3.40	341	P	Pn	22 02 02.1	-1.1
LIA	Limnos Island	3.40	341	ePN	Pn	22 02 02.1	-1.1
LIA	Limnos Island	3.40	341	P	Pn	22 02 02.1	-1.1
LKR	Lokris	3.49	305	P	Pn	22 02 03.8	-0.6
LKR	Lokris	3.49	305	P	Pn	22 02 03.8	-0.6
SKIA	Skiathos	3.52	316	P	Pn	22 02 04.6	-0.3
SKIA	Skiathos	3.52	316	P	Pn	22 02 04.6	-0.3
GUR	Goura	3.65	291	P	Pn	22 02 06.6	-0.1
GUR	Goura	3.65	291	ePN	Pn	22 02 07.3	+0.6
GUR	Goura	3.65	291	P	Pn	22 02 06.6	-0.1
GUR	Goura	3.65	291	ePn	Pn	22 02 07.3	+0.6
DSF	Desfina	3.69	299	P	Pn	22 02 07.1	-0.2
DSF	Desfina	3.69	299	P	Pn	22 02 07.1	-0.2
NEO	Neokhori	3.76	315	ePN	Pn	22 02 07.9	-0.2
NEO	Neokhori	3.76	315	ePn	Pn	22 02 07.9	-0.2
ITM	Ithomi	3.81	279	ePN	Pn	22 02 10.2	+1.4
ITM	Ithomi	3.81	279	ePn	Pn	22 02 10.2	+1.4
XOR	Xorichti	3.82	315	P	Pn	22 02 08.4	-0.5
XOR	Xorichti	3.82	315	P	Pn	22 02 08.4	-0.5
PAIG	Paliouri	3.98	325	P	Pn	22 02 10.1	-1.1
PAIG	Paliouri	3.98	325	P	Pn	22 02 10.1	-1.1
LAKA	Lakka	4.02	294	P	Pn	22 02 10.9	-0.8
LAKA	Lakka	4.02	294	P	Pn	22 02 10.9	-0.8
EFP	Efpalio	4.14	296	ePN	Pn	22 02 14.6	+1.2
EFP	Efpalio	4.14	296	ePn	Pn	22 02 14.6	+1.2
ALN	Alexandroupoli	4.23	354	P	Pn	22 02 13.5	-1.1
ALN	Alexandroupoli	4.23	354	ePN	Pn	22 02 13.4	-1.1
ALN	Alexandroupoli	4.23	354	P	Pn	22 02 13.5	-1.1
MAKR	Makrakomi, Fth	4.26	304	P	Pn	22 02 15.1	+0.1
MAKR	Makrakomi, Fth	4.26	304	P	Pn	22 02 15.1	+0.1
THL	Klokotos Trika	4.64	310	P	Pn	22 02 20.0	-0.2
THL	Klokotos Trika	4.64	310	P	Pn	22 02 20.0	-0.2
BRTR	Keskin Array B	6.29	59	Pn	Pn	22 02 43.6	+0.6
	0.2nm,0.3s,baz=240,slow=15,SNR=5.2						
TORD	Torodi Ar. Bea	32.39	230	P	P	22 07 39.4	-0.6
	0.2nm,0.5s,baz=40,slow=9.1,SNR=3.7						
KURBB	Kurchatov Arra	39.23	52	P	P	22 08 38.7	+0.4
	0.4nm,0.7s,baz=278,slow=8.6,SNR=5.0						
MKAR	Makanchi Array	41.94	58	P	P	22 09 01.1	+0.2
	0.3nm,0.5s,baz=267,slow=9.1,SNR=9.5						
SONM	Songino Array	57.59	52	P	P	22 10 60.0	-0.1
	0.2nm,0.9s,baz=284,slow=7.3,SNR=2.1						

IDC 02 22:01:49.0±1.4, 36˚81N×26˚41E, h0km, mb3.4/4, mb1 3.3/5, mb1mx3.2/26, mbtmp3.3/5, ML2.7/1, Error ellipse: s-maj=171.5km s-min=22.9km az=142.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	6.39	61	Pn	Pn	22 03 25.2	+0.6
	0.2nm,0.3s,baz=241,slow=15,SNR=3.1						
TORD	Torodi Ar. Bea	32.33	230	P	P	22 08 20.0	+0.1
	0.5nm,1.1s,baz=30,slow=9.8,SNR=2.3						
KURBB	Kurchatov Arra	39.31	53	P	P	22 09 19.6	+0.1
	0.2nm,0.6s,baz=274,slow=8.9,SNR=3.0						
MKAR	Makanchi Array	42.03	58	P	P	22 09 42.1	-0.1
	0.2nm,0.4s,baz=271,slow=8.5,SNR=5.8						
ZALV	Zalesovo Beam	43.14	47	P	P	22 09 50.3	-0.7
	0.5nm,0.3s,baz=268,slow=9.8,SNR=4.1						

BJI **02** *22:02:02.5, 36˚30N×26˚30E, h10km, mb4.3/5*
ISCJB **02** *22:02:04.5±0.1, 36˚57N±0˚02×26˚61E±0˚02, h10km, mb4.4/64, MS4.1/2, Error ellipse: s-maj=2.5km s-min=1.8km az=25.0*
IDC **02** *22:02:04.4±0.6, 36˚73N×26˚60E, h0km, mb4.3/24, mb1 4.2/31, mb1mx4.2/37, mbtmp4.1/31, ML3.3/5, MS3.9/3, Ms1 3.9/3, ms1mx3.1/35, Error ellipse: s-maj=15.1km s-min=10.6km az=156.0*
ISK **02** *22:02:05.6, 36˚21N×26˚30E, h35km, ML4.0*
ATH **02** *22:02:06.8, 36˚68N×26˚66E, h8km±1km, ML4.9*
NEIC **02** *22:02:06.8, 36˚68N×26˚66E, h8km, mb4.6/49, ML4.9(ATH), After ATH.*
MOS **02** *22:02:07.1±1.4, 36˚41N×26˚54E, h33km, mb4.7/26, MS4.0/4, Error ellipse: s-maj=5.2km s-min=2.8km az=122.6*
DDA **02** *22:02:07.1, 36˚76N×26˚66E, h2km, ML4.6*
THE **02** *22:02:08.1, 36˚71N×26˚64E, h17km±1km, ML4.4/25, Error ellipse: s-maj=1.8km s-min=0.6km az=71.0*
SZGRF **02** *22:02:08.9, 37˚14N×27˚25E, h33km, mb4.0, Turkey*
CSEM **02** *22:02:09.0±0.1, 36˚64N×26˚58E, h30km, mb4.7/31, Ms3.1, Mw4.2, Error ellipse: s-maj=2.8km s-min=2.0km az=35.0*
HLW **02** *22:02:11.1, 36˚42N×26˚82E, h33km±15km, Md3.9, Ml3.8*
BEO **02** *22:02:48.6, 39˚51N×25˚09E, h0km*
ISC 02 22:02:07.4±0.6, 36˚69N±0˚02×26˚62E±0˚02, h18km±3km, n1036, σ1§20/950, mb4.6/62, 17C-12D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.46	101	P	Pg	22 02 16.5	-0.3
NIS1				S	Sb	22 02 23.4	-0.1
BODT	Bodrum	0.67	56	ePN	Pn	22 02 25.7	+3.6
BODT	Bodrum	0.67	56	Pg	Pn	22 02 25.0	+3.0
BODT	Bodrum	0.67	56	Pg	Pn	22 02 25.0	+3.0
BODT	Bodrum	0.67	56	ePn	Pn	22 02 25.7	+3.6
BDRM	Kayabasi	0.76	60	eP	Pb	22 02 17.8	-4.4
BDRM				iS	Sb	22 02 31.0	-1.2
DAT	Datca	0.77	87	ePN	Pn	22 02 25.7	+2.1
DAT	Datca	0.77	87	ePn	Pn	22 02 25.7	+2.1
APE	Apeiranthos	0.95	294	ePG	Pb	22 02 24.5	-0.8
APE				eSG	Sb	22 02 38.2	+0.6
APE	Apeiranthos	0.95	294	P	Pb	22 02 25.4	0.0
APE	Apeiranthos	0.95	294	P	Pb	22 02 24.6	-0.8
APE				S	Sb	22 02 37.8	+0.2
APE	Apeiranthos	0.95	294	Pg	Pb	22 02 25.4	0.0
APE	Apeiranthos	0.95	294	ePB	Pb	22 02 25.7	+0.3
APE	Apeiranthos	0.95	294	P	Pb	22 02 24.6	-0.8
APE	Apeiranthos	0.95	294	Pg	Pb	22 02 25.4	0.0
APE	Apeiranthos	0.95	294	ePb	Pb	22 02 25.7	+0.3
APE				S	Sb	22 02 37.8	+0.2
APE				eSg	Sb	22 02 38.2	+0.6
THR2	Thira island,	0.98	256	P	Pb	22 02 25.2	-0.7
THR2	Thira island,	0.98	256	P	Pb	22 02 25.2	-0.7
THR1	Thera Island	0.98	252	P	Pb	22 02 25.4	-0.6
THR1				S	Sg	22 02 39.8	+0.3
THR1	Thera Island	0.98	252	P	Pb	22 02 25.4	-0.6
THR1				S	Sg	22 02 39.8	+0.3
MLSB	Milas	1.11	57	ePN	Pg	22 02 32.6	+3.6
MLSB	Milas	1.11	57	Pn	Pg	22 02 32.5	+3.6
MLSB	Milas	1.11	57	Pn	Pg	22 02 32.5	+3.6
GCAM	G?zelcaml?	1.12	26	iP	Pn	22 02 27.5	-0.8
GCAM				iS	Sb	22 02 42.6	0.0
GCAM	G?zelcaml?	1.12	26	iP	Pn	22 02 27.5	-0.8
GCAM				iS	Sb	22 02 42.6	0.0
KARP	Karpathos	1.22	159	ePB	Pn	22 02 29.2	-0.4
KARP				eSB	Sn	22 02 45.8	+0.1
KARP	Karpathos	1.22	159	ePb	Pn	22 02 29.3	-0.4
KARP				eSb	Sn	22 02 45.8	+0.1
ARG	Arkhangelos	1.31	111	P	Pb	22 02 31.1	-0.3
ARG	Arkhangelos	1.31	111	P	Pn	22 02 30.1	-0.6
ARG				S	Sb	22 02 47.5	-0.3
ARG	Arkhangelos	1.31	111	P	Pb	22 02 31.1	-0.3
ARG	Arkhangelos	1.31	111	ePG	Pn	22 02 30.4	-0.3
ARG				eSB	Sg	22 02 48.5	-1.2
ARG	Arkhangelos	1.31	111	ePg	Pn	22 02 30.4	-0.3
ARG	Arkhangelos	1.31	111	P	Pb	22 02 31.1	-0.3
ARG				S	Sb	22 02 47.5	-0.3
ARG				eSb	Sg	22 02 48.5	-1.2
AYDN	Tasoluk	1.40	46	iP	Pn	22 02 32.3	+0.2
AYDN				iS	Sg	22 02 52.3	-0.4
AYDN	Tasoluk	1.40	46	iP	Pn	22 02 32.3	+0.2
AYDN				iS	Sg	22 02 52.3	-0.4
YER	Yerkesik	1.41	71	ePN	Pg	22 02 35.0	+0.4
YER	Yerkesik	1.41	71	P	Pg	22 02 35.7	+1.1
YER	Yerkesik	1.41	71	Pn	Pg	22 02 35.7	+1.1
YER	Yerkesik	1.41	71	ePn	Pg	22 02 35.0	+0.4
ZKR	Zakros	1.60	192	P	Pn	22 02 35.0	+0.1
ZKR				S	Sn	22 02 55.3	+0.2
ZKR	Zakros	1.60	192	ePB	Pb	22 02 36.7	+0.2
ZKR				eSB	Sg	22 02 58.5	-0.7
ZKR	Zakros	1.60	192	P	Pn	22 02 35.0	+0.1
ZKR	Zakros	1.60	192	ePb	Pb	22 02 36.7	+0.2
ZKR				S	Sn	22 02 55.3	+0.2
ZKR				eSb	Sg	22 02 58.5	-0.7
TURN	Turunc	1.61	83	iP	Pn	22 02 32.0	-2.9
TURN				iS	Sn	22 02 47.4	-7.7
TURN	Turunc	1.61	83	iP	Pn	22 02 32.0	-2.9
NPS	Neapolis	1.64	210	P	Pn	22 02 35.0	-0.4
NPS				S	Sn	22 02 55.7	-0.3
NPS	Neapolis	1.64	210	ePB	Pb	22 02 37.4	+0.3
NPS				eSB	Sg	22 03 00.0	-0.3
NPS	Neapolis	1.64	210	P	Pn	22 02 35.0	-0.4
NPS	Neapolis	1.64	210	ePb	Pb	22 02 37.4	+0.3
NPS				S	Sn	22 02 55.7	-0.3
NPS				eSb	Sg	22 03 00.0	-0.3
BLCB	Balcova	1.73	11	ePN	Pg	22 02 41.5	+0.8
BLCB	Balcova	1.73	11	Pn	Pg	22 02 41.8	+1.1
BLCB	Balcova	1.73	11	ePn	Pg	22 02 41.5	+0.8
CHOS	Chios island	1.75	345	P	Pn	22 02 35.6	-1.4
CHOS				S	Sn	22 02 57.6	-1.3
CHOS	Chios island	1.75	345	ePG	Pb	22 02 39.4	+0.3
CHOS	Chios island	1.75	345	ePg	Pb	22 02 39.4	+0.3
IZM	Izmir	1.78	17	P	Pb	22 02 40.6	+1.0
IZM	Izmir	1.78	17	Pn	Pb	22 02 40.6	+1.0
IZM	Izmir	1.78	17	Pn	Pb	22 02 40.6	+1.0
LAST	Lasithi	1.78	212	P	Pn	22 02 37.8	+0.4
LAST				S	Sn	22 03 00.6	+1.0
LAST	Lasithi	1.78	212	ePN	Pb	22 02 40.7	+1.1
LAST	Lasithi	1.78	212	P	Pn	22 02 37.8	+0.4
LAST	Lasithi	1.78	212	ePn	Pb	22 02 40.7	+1.1
FETY	Fethiye	1.98	91	ePN	Pb	22 02 42.5	-0.5
FETY	Fethiye	1.98	91	Pn	Pb	22 02 42.5	-0.5
FETY	Fethiye	1.98	91	ePn	Pb	22 02 42.5	-0.5
DNZL	Cakiroluk	2.18	62	P	Pb	22 02 47.3	+0.8
DNZL	Cakiroluk	2.18	62	iP	Pb	22 02 47.3	+0.8
DNZL				iS	Sg	22 03 20.1	+2.4
DNZL	Cakiroluk	2.18	62	iP	Pb	22 02 47.3	+0.8
DENT	Denizli	2.20	60	ePN	Pg	22 02 48.1	-1.6
DENT	Denizli	2.20	60	Pn	Pg	22 02 48.1	-1.6
DENT	Denizli	2.20	60	ePn	Pg	22 02 48.1	-1.6
SIVA	Sivas	2.22	222	P	Pn	22 02 44.0	+0.7
SIVA				S	Sn	22 03 10.1	-0.2
SIVA	Sivas	2.22	222	ePN	Pb	22 02 45.8	-1.2
SIVA	Sivas	2.22	222	P	Pn	22 02 44.0	+0.7
SIVA	Sivas	2.22	222	ePn	Pb	22 02 45.8	-1.2
SIVA				S	Sn	22 03 10.1	-0.2
MRMA	Marmari	2.25	308	P	Pn	22 02 42.9	-0.8
MRMA				S	Sn	22 03 11.3	+0.4
MRMA	Marmari	2.25	308	P	Pn	22 02 42.9	-0.8
MRMA				S	Sn	22 03 11.3	+0.4
VAM	Vamos	2.34	238	P	Pn	22 02 44.7	-0.3
VAM				S	Sn	22 03 14.0	+0.8
VAM	Vamos	2.34	238	ePN	Pb	22 02 48.1	-0.9
VAM	Vamos	2.34	238	P	Pn	22 02 44.7	-0.3
VAM	Vamos	2.34	238	ePn	Pb	22 02 48.1	-0.9
AKHS	Akhisar	2.38	23	P	Pb	22 02 51.3	+1.5
AKHS	Akhisar	2.38	23	iP	Pb	22 02 51.3	+1.5
AKHS				iS	Sg	22 03 24.7	+0.6
AKHS	Akhisar	2.38	23	iP	Pb	22 02 51.3	+1.5
AKS	Akhisar	2.38	23	ePN	Pb	22 02 51.1	+1.2
AKS	Akhisar	2.38	23	Pn	Pb	22 02 51.0	+1.2
AKS	Akhisar	2.38	23	Pn	Pb	22 02 51.0	+1.2
KULA	Kula-Manisa	2.44	41	ePN	Pb	22 02 51.9	+1.0
KULA	Kula-Manisa	2.44	41	Pn	Pb	22 02 51.8	+1.0
KULA	Kula-Manisa	2.44	41	Pn	Pb	22 02 51.8	+1.0
AKAS	Kas	2.45	100	P	Pb	22 02 49.9	-1.1
AKAS	Kas	2.45	100	iP	Pb	22 02 50.0	-1.1
AKAS	Kas	2.45	100	P	Pb	22 02 49.9	-1.1
KSL	Kastellorizon	2.45	102	ePN	Pb	22 02 48.8	-2.2
KSL	Kastellorizon	2.45	102	ePn	Pb	22 02 48.8	-2.2
PRK	Paraskevi	2.57	354	P	Pn	22 02 47.1	-1.0
PRK	Paraskevi	2.57	354	ePN	Pb	22 02 51.7	-1.2
PRK	Paraskevi	2.57	354	ePn	Pb	22 02 51.7	-1.2
PTL	Penteli	2.58	303	P	Pn	22 02 48.1	-0.2
PTL				S	Sn	22 03 18.9	-0.3
PTL	Penteli	2.58	303	ePN	Pb	22 02 51.2	-1.9
PTL	Penteli	2.58	303	P	Pn	22 02 48.1	-0.2
PTL	Penteli	2.58	303	ePn	Pb	22 02 51.2	-1.9
PTL				S	Sn	22 03 18.9	-0.3
ATH	Athens Observa	2.64	300	P	Pn	22 02 49.3	+0.2
ATH	Athens Observa	2.64	300	ePN	Pb	22 02 52.9	-1.3
ATH	Athens Observa	2.64	300	P	Pn	22 02 49.3	+0.2
ATH	Athens Observa	2.64	300	ePn	Pb	22 02 52.9	-1.3
ELL	Elmali	2.65	88	ePN	Pn	22 02 51.6	+2.3
ELL	Elmali	2.65	88	P	Pn	22 02 51.6	+2.3
ELL	Elmali	2.65	88	Pn	Pn	22 02 51.6	+2.3
ELL	Elmali	2.65	88	ePn	Pn	22 02 51.6	+2.3
NAIG	Nisos Aigina	2.71	294	ePN	Pb	22 02 54.0	-1.4
NAIG	Nisos Aigina	2.71	294	ePn	Pb	22 02 54.0	-1.4
GVD	Gavdhos	2.76	229	P	Pn	22 02 51.6	+0.8
GVD	Gavdhos	2.76	229	ePg	Pn	22 02 52.9	+2.1
GVD	Gavdhos	2.76	229	ePB	Pn	22 02 53.5	+2.7
GVD	Gavdhos	2.76	229	P	Pn	22 02 51.6	+0.8
GVD	Gavdhos	2.76	229	ePg	Pn	22 02 52.9	+2.1
GVD	Gavdhos	2.76	229	ePb	Pn	22 02 53.5	+2.7
DID	Didima	2.82	288	P	Pn	22 02 51.9	+0.3
DID	Didima	2.82	288	ePB	Pb	22 02 54.9	-2.4
DID	Didima	2.82	288	P	Pn	22 02 51.9	+0.3
DID	Didima	2.82	288	ePb	Pb	22 02 54.9	-2.4
KHL	Karahalli	2.83	54	ePN	Pb	22 02 56.7	-0.7
KHL	Karahalli	2.83	54	Pn	Pb	22 02 56.7	-0.7
KHL	Karahalli	2.83	54	ePn	Pb	22 02 56.7	-0.7
ERET	Eretria	2.84	309	P	Pn	22 02 51.9	0.0
ERET	Eretria	2.84	309	P	Pn	22 02 51.9	0.0
KYTH	Kithira	2.91	263	P	Pn	22 02 53.1	+0.2
KYTH	Kithira	2.91	263	ePN	Pn	22 02 54.9	+2.0
KYTH	Kithira	2.91	263	P	Pn	22 02 53.1	+0.2
KYTH	Kithira	2.91	263	ePn	Pn	22 02 54.9	+2.0
VLI	Veliai	2.96	272	P	Pn	22 02 53.6	+0.1
VLI	Veliai	2.96	272	ePN	Pb	22 02 56.8	-2.8
VLI	Veliai	2.96	272	P	Pn	22 02 53.6	+0.1
VLI	Veliai	2.96	272	ePn	Pb	22 02 56.8	-2.8
BALB	Balikesir	3.11	18	ePN	Pb	22 03 01.3	-1.0
BALB	Balikesir	3.11	18	Pn	Pb	22 03 01.2	-1.0
BALB	Balikesir	3.11	18	Pn	Pb	22 03 01.2	-1.0
MRKA	Markates	3.13	311	P	Pn	22 02 55.7	-0.2
MRKA	Markates	3.13	311	P	Pn	22 02 55.7	-0.2
EZN	Ezine	3.14	356	ePN	Pb	22 03 01.6	-1.2
EZN	Ezine	3.14	356	P	Pb	22 03 01.5	-1.2
EZN	Ezine	3.14	356	Pn	Pb	22 03 01.5	-1.2
EZN	Ezine	3.14	356	Pn	Pb	22 03 01.5	-1.2
LTK	Loutraki	3.20	296	P	Pn	22 02 56.9	+0.1
LTK	Loutraki	3.20	296	ePN	Pn	22 03 00.2	+3.4
LTK	Loutraki	3.20	296	P	Pn	22 02 56.9	+0.1
LTK	Loutraki	3.20	296	ePn	Pn	22 03 00.2	+3.4
ANTB	Antalya	3.25	85	ePN	Pn	22 03 00.5	+3.1
ANTB	Antalya	3.25	85	ePn	Pn	22 03 00.5	+3.1
BCK	Bucak	3.27	75	ePN	Pb	22 03 01.3	-3.7
BCK	Bucak	3.27	75	P	Pb	22 03 01.2	-3.7
BCK	Bucak	3.27	75	Pn	Pb	22 03 01.2	-3.7
BCK	Bucak	3.27	75	Pn	Pb	22 03 01.2	-3.7
AOS	Alonnisos	3.29	320	P	Pn	22 02 57.6	-0.4
AOS	Alonnisos	3.29	320	P	Pn	22 02 57.6	-0.4
DST	Dursunbey	3.31	28	ePN	Pb	22 03 04.5	-1.1
DST	Dursunbey	3.31	28	P	Pb	22 03 04.5	-1.1
DST	Dursunbey	3.31	28	Pn	Pb	22 03 04.5	-1.1
ISP	Isparta	3.31	69	ePN	Pb	22 03 03.2	-2.5
ISP	Isparta	3.31	69	eP	Pn	22 02 59.5	+1.0
ISP	Isparta	3.31	69	ePn	Pn	22 02 59.5	+1.0
ISP				eSn	Sg	22 03 54.8	+0.8
ISP	Isparta	3.31	69	ePn	Pn	22 02 59.5	+1.0
LIA	Limnos Island	3.40	341	P	Pn	22 02 59.1	-0.4
LIA	Limnos Island	3.40	341	ePN	Pn	22 03 03.2	+3.8
LIA	Limnos Island	3.40	341	P	Pn	22 02 59.1	-0.4
LIA	Limnos Island	3.40	341	ePn	Pn	22 03 03.3	+3.8
DYR	Agios Nikonas	3.44	272	P	Pn	22 03 00.9	+0.8
DYR	Agios Nikonas	3.44	272	P	Pn	22 03 00.9	+0.8
GONE	Gonen-Balikesi	3.46	14	ePN	Pb	22 03 06.7	-1.4
VLX	Vlachokerasia	3.46	283	P	Pn	22 03 00.9	+0.5
VLX	Vlachokerasia	3.46	283	ePN	Pn	22 03 04.4	+4.0
VLX	Vlachokerasia	3.46	283	P	Pn	22 03 00.9	+0.5
VLX	Vlachokerasia	3.46	283	ePn	Pn	22 03 04.4	+4.0
LKR	Lokris	3.47	305	P	Pn	22 03 00.9	+0.3
LKR	Lokris	3.47	305	ePN	Pn	22 03 03.9	+3.3
LKR	Lokris	3.47	305	P	Pn	22 03 00.9	+0.3
LKR	Lokris	3.47	305	ePn	Pn	22 03 03.9	+3.3
ATAL	Atalanti	3.48	306	P	Pn	22 03 01.1	+0.4
ATAL	Atalanti	3.48	306	P	Pn	22 03 01.1	+0.4
SKIA	Skiathos	3.51	316	P	Pn	22 03 01.2	+0.1
SKIA	Skiathos	3.51	316	P	Pn	22 03 01.2	+0.1
TVSB	Tavsanli	3.56	38	ePN	Pb	22 03 08.3	-1.6
GUR	Goura	3.63	291	P	Pn	22 03 03.0	+0.2
GUR	Goura	3.63	291	ePN	Pb	22 03 07.2	-3.9
GUR	Goura	3.63	291	P	Pn	22 03 03.0	+0.2
GUR	Goura	3.63	291	ePn	Pb	22 03 07.2	-3.9
ALT	Altintas	3.64	48	ePN	Pb	22 03 08.5	-2.7
ALT	Altintas	3.64	48	Pn	Pb	22 03 08.5	-2.7
ALT	Altintas	3.64	48	ePn	Pb	22 03 08.5	-2.7
SHUT	Suhut-Afyon	3.64	58	ePN	Pb	22 03 08.5	-2.7
SHUT	Suhut-Afyon	3.64	58	ePn	Pb	22 03 08.5	-2.7
GELI	Tayfur-Gelibol	3.71	358	ePN	Pb	22 03 09.3	-3.0
GELI	Tayfur-Gelibol	3.71	358	Pn	Pb	22 03 09.3	-3.0
GELI	Tayfur-Gelibol	3.71	358	ePn	Pb	22 03 09.3	-3.0
KRBG	Karabiga-Canak	3.74	8	ePN	Pb	22 03 10.4	-2.5
KRBG	Karabiga-Canak	3.74	8	Pn	Pb	22 03 10.4	-2.5
AXAR	Agios Charalam	3.76	305	P	Pn	22 03 05.0	+0.5
AXAR	Agios Charalam	3.76	305	P	Pn	22 03 05.0	+0.5
EDC	Edincik	3.78	15	ePN	Pb	22 03 10.9	-2.7
EDC	Edincik	3.78	15	P	Pb	22 03 10.9	-2.7
EDC	Edincik	3.78	15	Pn	Pb	22 03 10.9	-2.7
ITM	Ithomi	3.79	279	P	Pn	22 03 04.6	-0.3
ITM	Ithomi	3.79	279	ePN	Pn	22 03 08.3	+3.4
ITM	Ithomi	3.79	279	P	Pn	22 03 04.6	-0.3
ITM	Ithomi	3.79	279	ePn	Pn	22 03 08.3	+3.4
ORLT	Orhaneli	3.80	27	ePN	Pb	22 03 11.5	-2.5
ORLT	Orhaneli	3.80	27	Pn	Pb	22 03 11.4	-2.5
BNT	Bandirma	3.80	15	ePN	Pb	22 03 11.5	-2.6
BNT	Bandirma	3.80	15	P	Pb	22 03 11.4	-2.6
BNT	Bandirma	3.80	15	Pn	Pb	22 03 11.4	-2.6
XOR	Xorichti	3.80	316	P	Pn	22 03 04.7	-0.4
XOR	Xorichti	3.80	316	P	Pn	22 03 07.3	+2.2
XOR	Xorichti	3.80	316	P	Pn	22 03 04.7	-0.4
PYL	PYLOS	3.92	274	P	Pn	22 03 06.3	-0.4
PYL	PYLOS	3.92	274	P	Pn	22 03 06.3	-0.4
KALE	Kalithea	3.94	297	P	Pn	22 03 08.1	+1.0
KALE	Kalithea	3.94	297	P	Pn	22 03 08.1	+1.0
PAIG	Paliouri	3.97	325	P	Pn	22 03 07.0	-0.4
PAIG	Paliouri	3.97	325	P	Pn	22 03 07.0	-0.4
ERIK	Erikli-Kesan	3.98	359	ePN	Pb	22 03 13.1	-3.9
ERIK	Erikli-Kesan	3.98	359	Pn	Pb	22 03 13.0	-3.9
ERIK	Erikli-Kesan	3.98	359	Pn	Pb	22 03 13.0	-3.9
TRIZ	Trizonia	3.98	296	P	Pn	22 03 08.8	+1.3
TRIZ	Trizonia	3.98	296	P	Pn	22 03 08.8	+1.3
LAKA	Lakka	4.00	294	P	Pn	22 03 08.6	+0.7
LAKA	Lakka	4.00	294	P	Pn	22 03 08.6	+0.7
AMT	Artemida-Makis	4.01	284	P	Pn	22 03 08.7	+0.7
AMT	Artemida-Makis	4.01	284	P	Pn	22 03 08.7	+0.7
RKY	Sarkoy-Tekirda	4.02	6	ePN	Pb	22 03 14.2	-3.5
RKY	Sarkoy-Tekirda	4.02	6	Pn	Pb	22 03 14.1	-3.5
ENEZ	Enez	4.06	355	ePN	Pb	22 03 14.2	-4.1
ENEZ	Enez	4.06	355	ePn	Pb	22 03 14.2	-4.1
EFP	Efpalio	4.12	296	P	Pn	22 03 10.5	+1.0
EFP	Efpalio	4.12	296	ePN	Pn	22 03 14.3	+4.8

EFP Efpalio 4.12 296 P Pn 22 03 10.5 +1.0
EFP Efpalio 4.12 296 *e*Pn Pn 22 03 14.3 +4.8
MFT Murefte 4.12 7 *e*PN Pb 22 03 15.5 -4.0
MFT Murefte 4.12 7 Pn Pb 22 03 15.5 -4.0
OUR Ouranopolis 4.18 331 P Pn 22 03 12.3 +2.0
OUR Ouranopolis 4.18 331 P Pn 22 03 10.5 +0.2
OUR Ouranopolis 4.18 331 P Pn 22 03 12.3 +2.0
OUR Ouranopolis 4.18 331 P Pn 22 03 10.5 +0.2
ALN Alexandroupoli 4.23 354 P Pn 22 03 10.1 -0.8
GEMT Gemlik 4.25 28 *e*PN Pb 22 03 17.9 -3.7
GEMT Gemlik 4.25 28 Pn Pb 22 03 17.9 -3.7
RLS Riolos of Patr 4.32 290 P Pn 22 03 13.4 +1.2
RLS Riolos of Patr 4.32 290 *e*PN Pn 22 03 16.0 +3.8
RLS Riolos of Patr 4.32 290 P Pn 22 03 13.4 +1.2
RLS Riolos of Patr 4.32 290 *e*Pn Pn 22 03 16.0 +3.8
TKR Tekirdag 4.36 9 *e*PN Pb 22 03 19.8 -3.6
EVR Evrytania 4.41 302 P Pn 22 03 13.4 -0.1
EVR Evrytania 4.41 302 *e*PN Pn 22 03 17.6 +4.1
EVR Evrytania 4.41 302 P Pn 22 03 13.4 -0.1
EVR Evrytania 4.41 302 *e*Pn Pn 22 03 17.6 +4.1
YLV Yalova 4.43 28 *e*PN Pb 22 03 20.5 -4.3
YLV Yalova 4.43 28 P Pb 22 03 20.4 -4.3
YLV Yalova 4.43 28 Pn Pb 22 03 20.4 -4.3
PLG Polygyros 4.44 327 *e*PN Pn 22 03 17.4 +3.5
PLG Polygyros 4.44 327 *e*Pn Pn 22 03 17.4 +3.5
ADVT Abdulvahap 4.47 32 *e*PN Pb 22 03 21.4 -3.9
KAVA Kavala 4.60 340 P Pn 22 03 15.5 -0.6
THL Klokotos Trika 4.63 310 P Pn 22 03 17.1 +0.7
THL Klokotos Trika 4.63 310 *e*PN Pn 22 03 20.4 +4.0
THL Klokotos Trika 4.63 310 P Pn 22 03 17.1 +0.7
THL Klokotos Trika 4.63 310 *e*Pn Pn 22 03 20.4 +4.0
LIT Litokhoron 4.70 318 P Pn 22 03 20.2 +2.7
LIT Litokhoron 4.70 318 P Pn 22 03 17.8 +0.3
LIT Litokhoron 4.70 318 P Pn 22 03 20.2 +2.7
LIT Litokhoron 4.70 318 P Pn 22 03 17.8 +0.3
SLVT Silivri 4.70 15 *e*PN Pb 22 03 24.4 -5.0
SLVT Silivri 4.70 15 Pn Pb 22 03 24.3 -5.0
SVRH Sivrihisar-ESK 4.75 53 *e*PN Pb 22 03 24.6 -5.6
SVRH Sivrihisar-ESK 4.75 53 Pn Pb 22 03 24.6 -5.6
HRT Hereke 4.77 29 *e*PN Pb 22 03 25.2 -5.3
HRT Hereke 4.77 29 P Pb 22 03 25.1 -5.3
HRT Hereke 4.77 29 Pn Pb 22 03 25.1 -5.3
ISK Istanbul-Kandi 4.77 23 *e*PN Pb 22 03 25.7 -4.7
CTKS Kestanelik-??a 4.77 17 *e*PN Pb 22 03 25.4 -5.1
HORT Hortiatis 4.78 326 P Pn 22 03 21.2 +2.7
HORT Hortiatis 4.78 326 P Pn 22 03 21.2 +2.7
BGKT Bogazkoy 4.79 20 *e*PN Pb 22 03 25.4 -5.4
BGKT Bogazkoy 4.79 20 Pn Pb 22 03 25.4 -5.4
LADK Ladik-KONYA 4.82 70 *e*PN Pn 22 03 23.8 +4.7
LADK Ladik-KONYA 4.82 70 Pn Pn 22 03 23.8 +4.7
LADK Ladik-KONYA 4.82 70 *e*Pn Pn 22 03 23.8 +4.7
GULT Gulveren 4.83 38 *e*PN Pb 22 03 26.0 -5.6
GULT Gulveren 4.83 38 Pn Pb 22 03 25.9 -5.6
SOH Sokhos 4.85 329 P Pn 22 03 23.2 +3.7
SOH Sokhos 4.85 329 P Pn 22 03 20.5 +1.0
SOH Sokhos 4.85 329 P Pn 22 03 23.2 +3.7
SOH Sokhos 4.85 329 P Pn 22 03 20.5 +1.0
THE Thessaloniki 4.87 325 P Pn 22 03 22.8 +3.1
THE Thessaloniki 4.87 325 P Pn 22 03 22.8 +3.1
THE Thessaloniki 4.87 325 P Pn 22 03 22.8 +3.1
CTYL Yal??k??y-??at 4.95 15 *e*PN Pb 22 03 27.3 -6.3
CTYL Yal??k??y-??at 4.95 15 Pn Pb 22 03 27.3 -6.3
SRS Serrai 5.01 333 P Pn 22 03 24.9 +3.2
SRS Serrai 5.01 333 P Pn 22 03 22.4 +0.7
SRS Serrai 5.01 333 P Pn 22 03 24.9 +3.2
SRS Serrai 5.01 333 P Pn 22 03 22.4 +0.7
VLS Valsamata 5.02 289 P Pn 22 03 27.1 +1.1
VLS Valsamata 5.02 289 *e*PN Pn 22 03 27.1 +5.2
VLS Valsamata 5.02 289 P Pn 22 03 23.0 +1.1
VLS Valsamata 5.02 289 *e*Pn Pn 22 03 27.1 +5.2
KDZ Kurdzhali 5.04 350 *i* P **Pn 22 03 20.9 -1.2**
KDZ Kurdzhali 5.04 350 *i* P **Pn 22 03 20.9 -1.2**
NVR Nevrokopi 5.12 336 P Pn 22 03 23.7 +0.4
NVR Nevrokopi 5.12 336 P Pn 22 03 24.3 +1.0
NVR Nevrokopi 5.12 336 P Pn 22 03 24.3 +1.0
LTBQ Tobruq 5.13 207 *i* P **Pn 22 03 24.2 +0.8**
SNR=23
LTBQ *e*S **Sn 22 04 21.1 -1.0**
SNR=23
EDRB Edirne 5.15 1 *e*PN Pn 22 03 30.3 +6.6
EDRB Edirne 5.15 1 Pn Pn 22 03 30.2 +6.6
RZN Rozhen 5.21 344 *i* P **Pn 22 03 24.4 -0.1**
RZN Rozhen 5.21 344 *i* P **Pn 22 03 24.4 -0.1**
MDUB Mudurnu 5.21 42 *e*PN Pb 22 03 31.6 -6.4
KZN Kozani 5.24 315 P Pn 22 03 25.9 +0.9
KZN Kozani 5.24 315 *e*PN Pn 22 03 29.3 +4.3
KZN Kozani 5.24 315 P Pn 22 03 25.9 +0.9
KZN Kozani 5.24 315 *e*Pn Pn 22 03 29.3 +4.3
MEV Metsovon 5.25 308 P Pn 22 03 25.2 +0.1
MEV Metsovon 5.25 308 P Pn 22 03 25.2 +0.1
KNT Kendrikon 5.32 328 P Pn 22 03 30.2 +4.2
KNT Kendrikon 5.32 328 P Pn 22 03 25.2 -0.8
KNT Kendrikon 5.32 328 P Pn 22 03 30.2 +4.2
KNT Kendrikon 5.32 328 P Pn 22 03 25.2 -0.8
GRG Griva 5.38 324 P Pn 22 03 30.6 +3.8
GRG Griva 5.38 324 P Pn 22 03 28.0 +1.2
GRG Griva 5.38 324 P Pn 22 03 30.6 +3.8
GRG Griva 5.38 324 P Pn 22 03 28.0 +1.2
MMB Musomiste 5.38 336 *i* P **Pn 22 03 25.7 -0.3**
MMB Musomiste 5.38 336 *i* P **Pn 22 03 26.6 +0.3**
JAN Janina 5.42 305 P Pn 22 03 30.7 +3.3
JAN Janina 5.42 305 P Pn 22 03 30.7 +3.3
JAN Janina 5.42 305 *e*PN Pn 22 03 31.3 +3.9
HMAT Matruh 5.59 176 S Sn 22 04 26.5 -7.1
baz=177
RGA Parga 5.60 300 P Pn 22 03 31.1 +1.3
RGA Parga 5.60 300 P Pn 22 03 31.1 +1.3
PLD Plovdiv 5.61 345 P Pn 22 03 29.9 0.0
PLD Plovdiv 5.61 345 *i* P **Pn 22 03 29.2 -0.7**
PLD Plovdiv 5.61 345 P Pn 22 03 29.9 0.0
CSS Prodhromos 5.72 106 *e*PN **Pn 22 03 33.5 +2.0**
CSS Prodhromos 5.72 106 *e*Pn **Pn 22 03 33.5 +2.0**
CSS *e*Sn Sn 22 04 42.6 +5.9
CSS Prodhromos 5.72 106 *e*Pn **Pn 22 03 33.5 +2.0**
NEST Nestorio 5.73 312 P Pn 22 03 32.7 +1.0
NEST Nestorio 5.73 312 P Pn 22 03 32.7 +1.0
FNA Florina 5.79 317 P Pn 22 03 35.0 +2.6
FNA Florina 5.79 317 P Pn 22 03 31.9 -0.5
FNA Florina 5.79 317 P Pn 22 03 35.0 +2.6
FNA Florina 5.79 317 P Pn 22 03 31.9 -0.5
LOD Lodumlu 5.80 55 *e*PN Pn 22 03 38.9 +6.3
LOD Lodumlu 5.80 55 Pn Pn 22 03 38.8 +6.3
SRN Sarande 6.10 303 *e*PN Pn 22 03 40.6 +4.0
SRN Sarande 6.10 303 P Pn 22 03 37.6 +1.0
SRN Sarande 6.10 303 P Pn 22 03 37.6 +1.0
KEK Kerkira 6.16 301 P Pn 22 03 38.7 +1.2
KEK Kerkira 6.16 301 *e*PN Pn 22 03 41.7 +4.2
KEK Kerkira 6.16 301 P Pn 22 03 38.7 +1.2
BR131 Keskin Array S 6.31 59 *e*Pn **Pn 22 03 39.6 0.0**
3.1nm,0.3s
BR131 Keskin Array S 6.31 59 *e*Pn **Pn 22 03 39.6 0.0**
3.1nm,0.3s
BRTR Keskin Array B 6.31 59 Pn Pn **22 03 38.2 -1.4**
1.0nm,0.3s,baz=247,slow=15,SNR=18
BRTR Sn **Sn 22 04 49.7 -1.5**
baz=266,slow=16,SNR=5.1
BRTR Keskin Array B 6.31 59 Pn Pn **22 03 38.2 -1.4**
BRTR Sn **Sn 22 04 49.7 -1.5**
VTS Vitosha 6.45 337 P Pn 22 03 43.1 +1.4
VTS Vitosha 6.45 337 P Pn 22 03 41.8 +0.1
VTS Vitosha 6.45 337 P Pn 22 03 43.1 +1.4
VTS Vitosha 6.45 337 ⇓*i*P **Pn 22 03 43.5 +1.8**
VTS Vitosha 6.45 337 *i* P **Pn 22 03 42.6 +0.9**
VTS Vitosha 6.45 337 *e*Pn **Pn 22 03 42.9 +1.2**
VTS Vitosha 6.45 337 *e*Pn **Pn 22 03 42.9 +1.2**
SZH Strazhica 6.59 356 *i* P **Pn 22 03 43.6 +0.2**
SZH *i* Sg **Sg 22 05 33.9 -4.9**
SZH Strazhica 6.59 356 *i* P **Pn 22 03 43.6 +0.2**
PVL Pavlikeni 6.59 352 *i* P **Pn 22 03 42.1 -1.3**
PHP Peshkopia 6.92 318 *e*PN Pn 22 03 52.0 +4.1
PHP Peshkopia 6.92 318 P Pn 22 03 49.0 +1.1
PHP Peshkopia 6.92 318 P Pn 22 03 49.0 +1.1
MPEP Malo Peshtene 7.01 343 *i* P **Pn 22 03 49.6 +0.4**
TIR Tirane 7.02 314 *e*PN **Pn 22 03 47.0 -2.2**
TIR Tirane 7.02 314 *e*Pn Pn 22 03 57.3 +8.1
BARS Barje 7.15 330 *e*Pn **Pn 22 03 52.6 +1.5**
BARS Barje 7.15 330 *e*Pn **Pn 22 03 52.6 +1.5**
ZAPS Zavoj 7.25 336 *e*PN **Pn 22 03 53.0 +0.5**
PUK Puka 7.46 318 *e*PN **Pn 22 03 57.2 +1.8**
PUK Puka 7.46 318 *e*Pn **Pn 22 03 57.2 +1.8**

SWA2 7.49 188 P Pn 22 03 55.0 -0.7
baz=190
SWA2 S Sn 22 05 13.6 -6.6
baz=190
SWA2 7.49 188 P Pn 22 03 55.0 -0.7
BCI Bajram Curri 7.60 320 *e*PN Pn 22 04 01.2 +4.0
LJBD Adjabya 7.85 225 *i* P **Pn 22 04 01.5 +0.8**
SNR=22
TIRR Tirgusor 7.88 9 *e*P **Pn 22 04 00.4 -0.6**
TIRR Tirgusor 7.88 9 *e*Pn **Pn 22 04 00.4 -0.6**
TIRR Tirgusor 7.88 9 ⇓*i*P **Pn 22 04 01.2 +0.2**
TIRR Tirgusor 7.88 9 ⇓*i*P **Pn 22 04 01.2 +0.2**
BOLS Boljevac 7.97 335 *e*Pn **Pn 22 04 02.4 +0.1**
BOLS Boljevac 7.97 335 *e*Pn **Pn 22 04 02.4 +0.1**
KOT Kottamia 8.03 146 P Pn 22 04 01.2 -2.0
baz=145
PDG Podgorica 8.07 318 *e*Pn **Pn 22 04 05.7 +2.0**
PDG Podgorica 8.07 318 *e*Pn **Pn 22 04 05.7 +2.0**
AMAG Maghara 8.16 136 P Pn 22 04 02.9 -2.1
baz=135
HSAF As Saff 8.17 148 P Pn 22 04 03.8 -1.4
baz=148
HSAF As Saff 8.17 148 P Pn 22 04 03.8 -1.4
RSH 8.22 132 P Pn 22 04 04.0 -1.8
baz=131
GLL Jalalah 8.28 148 P Pn 22 04 05.2 -1.4
baz=147
GLL Jalalah 8.28 148 P Pn 22 04 05.2 -1.4
GRUS Gruza 8.48 330 *e*Pn **Pn 22 04 09.8 +0.4**
GRUS Gruza 8.48 330 *e*Pn **Pn 22 04 09.8 +0.4**
AWBH 8.56 166 P Pn 22 04 08.7 -1.8
baz=167
AWBH 8.56 166 P Pn 22 04 08.7 -1.8
KZIT Kziot 8.67 129 P Pn 22 04 12.4 +0.5
KZIT Kziot 8.67 129 P Pn 22 04 12.4 +0.5
LUJL Ujela 8.77 212 *i* P **Pn 22 04 12.2 -1.1**
SNR=22
BAI Bari 8.78 303 *e*Pn **Pn 22 04 15.9 +2.5**
SG1 Sgolgore (BA) 8.80 301 *e*Pn **Pn 22 04 14.5 +0.8**
MLR Muntele Rosu 8.81 357 Pn Pn **22 04 13.4 -0.6**
baz=170,slow=11
MLR Muntele Rosu 8.81 357 Pn Pn **22 04 13.4 -0.6**
MLR Muntele Rosu 8.81 357 ⇑*i*P Pn 22 04 19.0 +5.1
VOIR 8.82 353 ⇓P **Pn 22 04 15.0 +1.0**
VOIR 8.82 353 ⇓*i*P **Pn 22 04 15.0 +1.0**
VOIR 8.82 353 ⇓*i*P **Pn 22 04 15.0 +1.0**
ZAF 8.91 144 P Pn 22 04 14.1 -1.1
baz=144
ZAF 8.91 144 P Pn 22 04 14.1 -1.1
DIVS Divibare 8.96 328 *e*Pn Pn 22 04 20.2 +4.3
ZNM 8.98 142 P Pn 22 04 14.7 -1.6
baz=142
ZNM 8.98 142 P Pn 22 04 14.7 -1.6
LOT Lotru 9.01 347 ⇑*i*P **Pn 22 04 16.1 -0.6**
CUC Castrocucco 9.10 295 *e*Pn **Pn 22 04 18.1 +0.2**
CUC Castrocucco 9.10 295 *e*Pn **Pn 22 04 18.1 +0.2**
HNKL Nakhl 9.13 135 P Pn 22 04 16.9 -1.4
baz=135
HNKL AMP 22 05 00.0
comp=E,50μm,1.3s,logA/T=4.6,baz=135
HNKL Nakhl 9.13 135 P Pn 22 04 16.9 -1.4
PLOR Plostina 9.15 0 ⇑P Pn 22 04 24.4 +5.8
PLOR Plostina 9.15 0 ⇑*i*P Pn 22 04 24.4 +5.8
GZR Gura Zlata 9.16 343 ⇓P **Pn 22 04 19.5 +0.7**
GZR Gura Zlata 9.16 343 ⇓*i*P **Pn 22 04 19.5 +0.7**
GZR Gura Zlata 9.16 343 *e*Pn **Pn 22 04 21.3 +2.5**
GZR Gura Zlata 9.16 343 ⇓*i*P **Pn 22 04 19.5 +0.7**
GZR Gura Zlata 9.16 343 *e*Pn **Pn 22 04 21.3 +2.5**
VRI Vrincioaia 9.17 0 ⇑P **Pn 22 04 20.0 +1.2**
VRI Vrincioaia 9.17 0 ⇑*i*P **Pn 22 04 20.0 +1.2**
VRI Vrincioaia 9.17 0 ⇑*i*P **Pn 22 04 20.0 +1.2**
CDT Castel del Mon 9.18 302 *e*Pn **Pn 22 04 19.9 +1.0**
ASF Jabal al Asfar 9.61 115 Pn **Pn 22 04 24.8 -0.2**
comp=E,0.4nm,0.3s,baz=173,slow=5.4,SNR=4.9
ASF Jabal al Asfar 9.61 115 Pn **Pn 22 04 24.8 -0.2**
HFRF Wahat Farafira 9.62 171 P Pn 22 04 23.8 -1.2
baz=171
HFRF S Sn 22 06 04.9 -7.7
baz=171
HFRF Wahat Farafira 9.62 171 P Pn 22 04 23.8 -1.2
MS1 Monte Sant'Ang 9.68 304 *e*Pn **Pn 22 04 27.5 +1.7**
BZS Buzias 9.68 339 ⇑P **Pn 22 04 26.0 +0.3**
BZS Buzias 9.68 339 P Pn 22 04 31.1 +5.4
BZS Buzias 9.68 339 ⇑*i*P **Pn 22 04 26.0 +0.3**
BZS Buzias 9.68 339 *e*Pn **Pn 22 04 25.7 0.0**
BZS Buzias 9.68 339 *e*Pn **Pn 22 04 25.7 0.0**
BZS Buzias 9.68 339 ⇑*i*P **Pn 22 04 26.0 +0.3**
TESR 9.81 0 P Pn 22 04 31.0 +3.4
TESR 9.81 0 ⇓*i*P Pn 22 04 31.0 +3.4
TESR 9.81 0 P Pn 22 04 31.0 +3.4
HKAT Jabal Katrina 10.24 141 P Pn 22 04 32.6 -1.1
baz=140
HKAT Jabal Katrina 10.24 141 P Pn 22 04 32.6 -1.1
TR1 10.64 142 P Pn 22 04 38.5 -0.6
baz=142
TR1 10.64 142 P Pn 22 04 38.5 -0.6
BUR08 Bucovina Ar. S 11.00 355 *e*Pn **Pn 22 04 44.0 +0.1**
BUR08 Bucovina Ar. S 11.00 355 *e*Pn **Pn 22 04 44.0 +0.1**
PKSM Moragy 11.23 330 ⇑P Pn 22 04 54.9 +7.9
PKSM Moragy 11.23 330 ⇑*i*P Pn 22 04 54.9 +7.9
HDK1 Dakhla 11.36 167 P Pn 22 04 48.4 -0.5
baz=167
HDK1 Dakhla 11.36 167 P Pn 22 04 48.4 -0.5
GTR Jabal at Tayr 11.64 162 P Pn 22 04 51.9 -0.8
baz=162
GTR Jabal at Tayr 11.64 162 P Pn 22 04 51.9 -0.8
UZH Uzhgorod 12.35 346 *e*P Pn 22 05 07.7 +5.5
HDK2 Wahat Dakhilah 12.49 170 P Pn 22 05 03.5 -0.8
baz=170
HDK2 Wahat Dakhilah 12.49 170 P Pn 22 05 03.5 -0.8
KOLS Kolonicke sedl 12.64 347 *e*P Pn 22 05 11.8 +5.5
KOLS Kolonicke sedl 12.64 347 *e*PN Pn 22 05 11.8 +5.5
CRVS Cervenica-Dubn 12.78 344 *e*P P 22 05 13.8 -5.2
CRVS Cervenica-Dubn 12.78 344 *e*PN P 22 05 13.8 -5.2
VYHS Vyhne 13.11 337 *e*P **Pn 22 05 14.9 +2.3**
VYHS Vyhne 13.11 337 *e*PN **Pn 22 05 14.9 +2.3**
VYHS Vyhne 13.11 337 *e*Pn **Pn 22 05 14.9 +2.3**
KWP Kalwaria Pacla 13.24 349 *e*P **P 22 05 23.4 -0.9**
KWP Kalwaria Pacla 13.24 349 *e*Pn **P 22 05 23.4 -0.9**
KEST Kesra 13.98 271 Pn **Pn 22 05 24.5 -0.2**
comp=E,0.0nm,0.3s,baz=46,slow=4.3,SNR=6.3
KEST Kesra 13.98 271 *e*Pn **Pn 22 05 24.4 -0.3**
KEST Kesra 13.98 271 *e*Pn **Pn 22 05 24.4 -0.3**
AKASG Malin Array Be 14.13 7 Pn **Pn 22 05 26.1 -0.5**
baz=192,slow=10,SNR=2.9
AKASG Malin Array Be 14.13 7 P **Pn 22 05 26.1 -0.5**
AKASG Malin Array Be 14.13 7 Pn **Pn 22 05 26.1 -0.5**
KIV Kislovodsk 14.23 54 *e*P P 22 05 39.5 +4.2
KBZ Khabaz 14.28 55 Pn **Pn 22 05 31.6 +3.0**
comp=E,0.0nm,0.3s,baz=284,slow=7.7,SNR=3.6
KBZ Khabaz 14.28 55 P **Pn 22 05 31.6 +3.0**
KBZ Khabaz 14.28 55 Pn **Pn 22 05 31.6 +3.0**
KBZ Khabaz 14.28 55 Pn **Pn 22 05 31.6 +3.0**
KBA Koelnbreinsper 14.31 321 *i* pP **P 22 05 38.6 +2.3**
comp=E,14nm,0.8s,SNR=15
OJC Ojcow 14.39 342 *e*P **P 22 05 38.7 +1.7**
OJC Ojcow 14.39 342 *e*Pn **P 22 05 38.7 +1.7**
KRUC Moravsky 14.44 332 P P 22 05 39.7 +2.2
KRUC Moravsky 14.44 332 P P 22 05 39.7 +2.2
KRUC Moravsky 14.44 332 P P 22 05 39.7 +2.2
OKC Ostrava-Krasne 14.50 338 *e*P **P 22 05 38.3 +0.1**
OKC MLR MLR
comp=Z,1μm,12.7s
OKC Ostrava-Krasne 14.50 338 *e*P **P 22 05 38.3 +0.1**
OKC *e*pP Pn 22 05 44.0 +12
OKC AMS AMS 22 12 10.0
comp=Z,1μm,12.7s
OKC Ostrava-Krasne 14.50 338 P P 22 05 38.3 +0.1
VRAC Vranov 14.57 333 Pn **P 22 05 40.4 +1.4**
comp=Z,0.7nm,0.3s,baz=165,slow=8.6,SNR=6.7
VRAC Vranov 14.57 333 Pn **P 22 05 40.4 +1.4**
VRAC Vranov 14.57 333 ⇓*i*P **P 22 05 40.2 +1.2**
VRAC Vranov 14.57 333 ⇓*i*P **P 22 05 40.2 +1.2**
MORC Moravsky Berou 14.64 336 ⇑P **P 22 05 40.6 +0.8**
MORC Moravsky Berou 14.64 336 *e*Pn **P 22 05 41.0 +1.2**
MORC Moravsky Berou 14.64 336 ⇑*i*P **P 22 05 40.6 +0.8**
MORC Moravsky Berou 14.64 336 ⇑*i*P **P 22 05 40.6 +0.8**
PGF Pioggiola 14.78 299 *e*P **Pn 22 05 35.1 -0.4**
comp=Z,82nm,1.3s
PGF Pioggiola 14.78 299 *e*P **Pn 22 05 35.1 -0.4**
PGF pmax pmax
comp=Z,82nm,1.3s
PGF Pioggiola 14.78 299 *e*P **Pn 22 05 35.1 -0.4**
comp=Z,82nm,1.3s
TREC Trest 14.98 331 *e*P **P 22 05 45.4 +1.9**
TREC Trest 14.98 331 *e*P **P 22 05 45.4 +1.9**
TREC Trest 14.98 331 P P 22 05 45.4 +1.9
GEC2 GERESS Array S 15.38 326 *e*P **P 22 05 49.1 +1.0**
GEC2 pmax pmax
comp=Z,14nm,1.2s
GEC2 GERESS Array S 15.38 326 *e*P **P 22 05 49.1 +1.0**
comp=Z,14nm,1.2s
GERES GERESS Array B 15.38 326 Pn Pn **22 05 43.8 +0.2**
comp=Z,0.1nm,0.3s,baz=146,slow=9.4,SNR=3.8
GERES GERESS Array B 15.38 326 Pn **Pn 22 05 43.8 +0.2**
GERES GERESS Array B 15.38 326 Pn **Pn 22 05 43.8 +0.2**
WATA Walderalm 15.40 318 *i* pP **P 22 05 50.7 +2.3**
comp=Z,16nm,0.9s,SNR=6.6
ABSA Djebel Ababsia 15.40 274 P P 22 05 47.4 -1.0
ABSA Djebel Ababsia 15.40 274 P P 22 05 47.4 -1.0
CMAH Djebel Manchou 15.41 276 P P 22 05 46.4 -2.1
CMAH Djebel Manchou 15.41 276 P P 22 05 46.4 -2.1
DPC Dobruska-Polom 15.54 335 *e*P **P 22 05 51.4 +1.6**
DPC MLR MLR
comp=Z,500nm,8.1s
DPC Dobruska-Polom 15.54 335 P P 22 05 52.9 +3.1
comp=Z,17nm,1.2s
DPC Dobruska-Polom 15.54 335 *e*P **P 22 05 51.4 +1.6**
DPC *ex* x 22 05 59.1
DPC AMS AMS 22 12 50.0
comp=Z,500nm,8.1s
DPC Dobruska-Polom 15.54 335 P P 22 05 51.4 +1.6
KHC Kasperske Hory 15.65 327 *e*P **P 22 05 49.5 -1.5**
KHC MLR MLR
comp=Z,800nm,10.9s
KHC Kasperske Hory 15.65 327 *e*Pn **P 22 05 50.1 -0.9**
comp=Z,16nm,1.4s
KHC Kasperske Hory 15.65 327 *e*P **P 22 05 49.5 -1.5**
KHC *e*pP **pP 22 05 55.7 -0.4**
KHC *ex* x 22 06 14.5
KHC AMS AMS 22 12 50.0
comp=Z,800nm,10.9s
KHC Kasperske Hory 15.65 327 P P 22 05 49.5 -1.5
MOTA Moosalm 15.66 318 ⇑*i*Pn **P 22 05 50.4 -0.9**
comp=Z,12nm,1.0s,SNR=5.8
FUORN Ofenpass-Fuorn 15.71 314 *e*P **P 22 05 53.9 +1.9**
comp=Z,88nm,2.5s
FUORN Ofenpass-Fuorn 15.71 314 *e*P **P 22 05 53.8 +1.9**
comp=Z,88nm,2.5s
UPC Upice 15.78 334 *e*P **P 22 05 52.4 0.0**
UPC Upice 15.78 334 *e*P **P 22 05 52.4 0.0**
UPC Upice 15.78 334 P P 22 05 52.4 0.0
PRU Pruhonice 15.90 330 *e*P **P 22 05 55.3 +1.5**
PRU MLR MLR
comp=Z,400nm,9.2s
PRU Pruhonice 15.90 330 P P 22 05 55.9 +2.1
PRU Pruhonice 15.90 330 *e*P **P 22 05 55.3 +1.5**
PRU *ex* x 22 06 01.8
PRU AMS AMS 22 13 20.0
comp=Z,400nm,9.2s
PRU Pruhonice 15.90 330 P P 22 05 55.9 +2.1
KSP Ksiaz 15.97 336 *e*P **P 22 05 55.3 +0.8**
KSP Ksiaz 15.97 336 P P 22 05 56.9 +2.4
KSP Ksiaz 15.97 336 *e*P **P 22 05 55.3 +0.8**
WET Wettzell 15.97 325 *e*P **P 22 05 54.2 -0.4**
WET pmax pmax
comp=Z,18nm,1.2s
WET Wettzell 15.97 325 *e*P **P 22 05 54.2 -0.4**
comp=Z,18nm,1.2s
CKFL Kef-Lekhel 16.00 275 P P 22 05 56.9 +1.9
CKFL Kef-Lekhel 16.00 275 P P 22 05 56.9 +1.9
DAVOX Davos/Dischmat 16.02 314 LR LR 22 13 12.9
comp=Z,218nm,18.3s,baz=105,slow=42
FUR Furstenfeldbru 16.08 320 *e*P **P 22 05 57.1 +1.3**
FUR pmax pmax
comp=Z,64nm,1.0s
FUR Furstenfeldbru 16.08 320 *e*P **P 22 05 57.1 +1.3**
comp=Z,64nm,1.0s
TUE Stuetta 16.17 313 *e*P **P 22 05 59.5 +2.5**
comp=Z,13nm,0.9s
TUE Stuetta 16.17 313 *e*P **P 22 05 59.5 +2.5**
comp=Z,13nm,0.9s
CASM Ain Smara 16.20 275 P P 22 05 58.6 +1.4
CASM Ain Smara 16.20 275 P P 22 05 58.6 +1.4
SAOF Saorge 16.24 303 *e*P **Pn 22 05 55.9 +1.3**
SAOF Saorge 16.24 303 *e*P **Pn 22 05 55.9 +1.3**
SAOF Saorge 16.24 303 *e*P **Pn 22 05 55.9 +1.3**
SAOF Saorge 16.24 303 *e*P **Pn 22 05 55.9 +1.3**
SBF Sospel 16.28 302 *e*P **Pn 22 05 53.3 -1.8**
comp=Z,174nm,0.9s
SBF Sospel 16.28 302 *e*P **Pn 22 05 53.3 -1.8**
SBF pmax pmax
comp=Z,174nm,0.9s
SBF Sospel 16.28 302 *e*P **Pn 22 05 53.3 -1.8**
comp=Z,174nm,0.9s
REVF Revere 16.28 302 *e*P **P 22 05 57.7 -0.4**
REVF Revere 16.28 302 *e*P **P 22 05 57.7 -0.4**
REVF Revere 16.28 302 *e*P **P 22 05 57.7 -0.4**
REVF Revere 16.28 302 *e*P **P 22 05 57.7 -0.4**
CTEI Djebel Teioual 16.29 274 P P 22 05 59.8 +1.5
CTEI Djebel Teioual 16.29 274 P P 22 05 59.8 +1.5
PVCC Panska Ves 16.32 332 AMS AMS 22 13 20.0
comp=Z,600nm,7.8s
TOUF Mont Tournerai 16.46 302 *e*P **Pn 22 05 57.5 0.0**
TOUF Mont Tournerai 16.46 302 *e*P **Pn 22 05 57.5 0.0**
TOUF Mont Tournerai 16.46 302 *e*P **Pn 22 05 57.5 0.0**
MVIF Mont Vial 16.48 302 *e*P **P 22 05 59.5 -0.9**
MVIF Mont Vial 16.48 302 *e*P **P 22 05 59.5 -0.9**
MVIF Mont Vial 16.48 302 *e*P **P 22 05 59.5 -0.9**
MVIF Mont Vial 16.48 302 *e*P **P 22 05 59.5 -0.9**
CALF Calern 16.59 301 P P 22 06 03.0 +1.4
CALF Calern 16.59 301 P P 22 06 03.0 +1.4
CALN Calern 16.62 301 *e*P **Pn 22 05 59.5 0.0**
CALN Calern 16.62 301 *e*P **Pn 22 05 59.5 0.0**
CALN Calern 16.62 301 *e*P **Pn 22 05 59.5 0.0**
CALN Calern 16.62 301 *e*P **Pn 22 05 59.5 0.0**
FRF La Foret Royal 16.72 300 *e*P **Pn 22 06 00.6 -0.1**
comp=Z,48nm,1.0s
FRF La Foret Royal 16.72 300 *e*P **Pn 22 06 00.6 -0.1**
FRF pmax pmax
comp=Z,48nm,1.0s
FRF La Foret Royal 16.72 300 *e*P **Pn 22 06 00.6 -0.1**
comp=Z,48nm,1.0s
FRF La Foret Royal 16.72 300 *e*P **Pn 22 06 00.6 -0.1**
comp=Z,24nm,1.0s
LMR La Mourre 16.75 300 *e*P **Pn 22 06 01.5 +0.4**
comp=Z,68nm,1.2s
LMR La Mourre 16.75 300 *e*P **Pn 22 06 01.5 +0.4**
LMR pmax pmax
comp=Z,68nm,1.2s
LMR La Mourre 16.75 300 *e*P **Pn 22 06 01.5 +0.4**
comp=Z,68nm,1.2s
LMR La Mourre 16.75 300 *e*P **Pn 22 06 01.5 +0.4**
comp=Z,34nm,1.2s
BRG Berggiesshubel 16.84 331 *e*P **P 22 06 07.5 +3.3**
comp=Z,3.8nm,0.9s
NKC Novy Kostel 16.96 327 AMS AMS 22 13 30.0
comp=Z,700nm,9.0s
MBDF Montbardon 17.03 304 *e*P **Pn 22 06 04.4 -0.3**
comp=Z,47nm,1.0s
MBDF Montbardon 17.03 304 *e*P **Pn 22 06 04.4 -0.3**
MBDF pmax pmax
comp=Z,47nm,1.0s
MBDF Montbardon 17.03 304 *e*P **Pn 22 06 04.4 -0.3**
comp=Z,47nm,1.0s
MBDF Montbardon 17.03 304 *e*P **Pn 22 06 04.4 -0.3**
comp=Z,23nm,1.0s
SET Setif 17.08 275 P Pn 22 06 06.0 +0.7
SET Setif 17.08 275 P Pn 22 06 06.0 +0.7
TANN Tannenbergstha 17.09 328 *e*P **P 22 06 08.5 +1.5**
comp=Z,18nm,1.9s
GRF Grafenberg Arr 17.13 324 *e*P **P 22 06 08.4 +1.0**
GRF pmax pmax
comp=Z,18nm,1.1s
GRF Grafenberg Arr 17.13 324 *e*P **P 22 06 08.4 +1.0**
comp=Z,18nm,1.1s
GRFO Grafenberg 17.13 324 *e*P **P 22 06 08.8 +1.5**
GRFO pmax pmax
comp=Z,14nm,0.9s
GRFO Grafenberg 17.13 324 *e*Pn **P 22 06 08.8 +1.5**
comp=Z,14nm,0.9s
BNI Bardonecchia 17.21 305 *e*P **P 22 06 11.5 +3.1**
BNI pmax pmax
comp=Z,19nm,1.3s
BNI Bardonecchia 17.21 305 *e*P **P 22 06 11.5 +3.1**
comp=Z,19nm,1.3s
LPG La Plagne 17.33 307 *e*P **Pn 22 06 07.0 -1.6**
comp=Z,59nm,1.1s

LPG	La Plagne	17.33	307	P	P	22 06 11.0	+1.0
LPG				pmax	pmax		
	comp=Z,59nm,1.1s						
LPG	La Plagne	17.33	307	P	P	22 06 11.0	+1.0
	comp=Z,59nm,1.1s						
LPG	La Plagne	17.33	307	P	P	22 06 11.0	+1.0
	comp=Z,59nm,1.1s						
LPL	La Plagne	17.35	307	eP	Pn	22 06 06.7	-2.1
	comp=Z,24nm,0.9s						
LPL	La Plagne	17.35	307	P	P	22 06 11.1	+1.0
LPL				pmax	pmax		
	comp=Z,24nm,0.9s						
LPL	La Plagne	17.35	307	P	P	22 06 11.1	+1.0
	comp=Z,24nm,0.9s						
LPL	La Plagne	17.35	307	P	P	22 06 11.1	+1.0
	comp=Z,24nm,0.9s						
SENIN	Lac Senin/Sane	17.36	310	ePn	P	22 06 11.2	+1.1
	comp=Z,20nm,0.8s						
SENIN	Lac Senin/Sane	17.36	310	ePn	P	22 06 11.2	+1.1
	comp=Z,20nm,0.8s						
SPAK	Spaichingen-Ko	17.38	317	eP	P	22 06 10.0	-0.2
SPAK	Spaichingen-Ko	17.38	317	eP	P	22 06 10.0	-0.2
SUW	Suwalki	17.49	353	eP	P	22 06 17.2	+6.0
SUW				pmax	pmax		
	comp=Z,24nm,0.9s						
SUW	Suwalki	17.49	353	eP	P	22 06 17.2	+6.0
	comp=Z,24nm,0.9s						
RSL	Roselend	17.49	307	eP	P	22 06 13.2	+1.6
RSL	Roselend	17.49	307	eP	P	22 06 13.2	+1.6
RSL	Roselend	17.49	307	eP	P	22 06 13.2	+1.6
RSL	Roselend	17.49	307	eP	P	22 06 13.2	+1.6
STU	Stuttgart	17.55	319	eP	P	22 06 14.6	+2.6
	comp=Z,12nm,0.7s						
CLL	Collm	17.55	331	eP	Pn	22 06 08.0	-2.9
CLL	Collm	17.55	331	ePP	P	22 06 20.8	+8.9
	comp=Z,5.0nm,1.0s						
SMRF	Simiane la Rot	17.59	301	eP	P	22 06 12.3	-0.2
	comp=Z,42nm,1.2s						
SMRF	Simiane la Rot	17.59	301	eP	P	22 06 12.3	-0.2
	comp=Z,42nm,1.2s						
SMRF	Simiane la Rot	17.59	301	eP	P	22 06 12.3	-0.2
	comp=Z,21nm,1.2s						
MOX	Moxa	17.62	327	eP	P	22 06 16.6	+3.8
MOX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MOX	Moxa	17.62	327	eP	P	22 06 16.6	+3.8
	comp=Z,5.0nm,0.9s						
ORIF	Oris-en-Rattie	17.69	304	eP	Pn	22 06 12.5	-0.3
	comp=Z,42nm,1.0s						
ORIF				eR			
	comp=Z,219nm,20.2s						
ORIF	Oris-en-Rattie	17.69	304	P	P	22 06 14.8	+1.1
ORIF				pmax	pmax		
	comp=Z,42nm,1.0s						
ORIF	Oris-en-Rattie	17.69	304	P	P	22 06 14.8	+1.1
	comp=Z,42nm,1.0s						
ORIF	Oris-en-Rattie	17.69	304	eP	Pn	22 06 12.5	-0.3
	comp=Z,21nm,1.0s						
FELD	Feldberg im Sc	17.69	315	eP	P	22 06 13.7	0.0
FELD	Feldberg im Sc	17.69	315	eP	P	22 06 13.7	0.0
BFO	Black Forest	17.76	317	eP	P	22 06 15.3	+0.9
BFO				pmax	pmax		
	comp=Z,11nm,1.1s						
BFO	Black Forest	17.76	317	eP	P	22 06 19.1	+4.8
	comp=Z,9.0nm,0.9s						
BFO	Black Forest	17.76	317	ePn	P	22 06 15.2	+0.9
	comp=Z,12nm,1.1s						
BFO	Black Forest	17.76	317	ePn	P	22 06 15.2	+0.9
	comp=Z,12nm,1.1s						
BBS	Basel-Blauen	17.76	313	eP	P	22 06 16.1	+1.7
BBS	Basel-Blauen	17.76	313	eP	P	22 06 16.1	+1.7
BBS	Basel-Blauen	17.76	313	eP	P	22 06 16.1	+1.7
GKP	Gorka Klasztor	17.83	341	eP	P	22 06 19.1	+4.1
GKP	Gorka Klasztor	17.83	341	eP	P	22 06 19.1	+4.1
MOF	Molkenrain	18.18	314	eP	P	22 06 20.6	+1.6
MOF	Molkenrain	18.18	314	eP	P	22 06 20.6	+1.6
MOF	Molkenrain	18.18	314	eP	P	22 06 20.6	+1.6
MOF	Molkenrain	18.18	314	eP	P	22 06 20.6	+1.6
CABF	La Chapelle	18.22	309	eP	Pn	22 06 19.2	-0.1
	comp=Z,42nm,0.7s						
CABF	La Chapelle	18.22	309	P	Pn	22 06 19.3	-0.1
CABF	La Chapelle	18.22	309	P	Pn	22 06 19.3	-0.1
CABF	La Chapelle	18.22	309	P	Pn	22 06 19.3	-0.1
TOD	Tromm	18.26	321	eP	P	22 06 20.6	+0.8
TOD	Tromm	18.26	321	eP	P	22 06 20.6	+0.8
TOD	Tromm	18.26	321	eP	P	22 06 20.6	+0.8
OG35	Corcelles	18.31	307	eP	Pn	22 06 20.4	0.0
HINF	Hinteralfeld	18.32	314	eP	P	22 06 22.4	+1.8
	comp=Z,20nm,1.2s						
HINF	Hinteralfeld	18.32	314	eP	P	22 06 22.4	+1.8
HINF				pmax	pmax		
	comp=Z,20nm,1.2s						
HINF	Hinteralfeld	18.32	314	eP	P	22 06 22.4	+1.8
	comp=Z,20nm,1.2s						
HINF	Hinteralfeld	18.32	314	eP	P	22 06 22.4	+1.8
	comp=Z,10nm,1.2s						
ECH	Echery	18.35	315	eP	Pn	22 06 21.6	+0.7
ECH				pmax	pmax		
	comp=Z,14nm,1.3s						
ECH	Echery	18.35	315	ePn	Pn	22 06 21.6	+0.7
	comp=Z,14nm,1.3s						
ECH	Echery	18.35	315	ePn	Pn	22 06 21.6	+0.7
	comp=Z,14nm,1.3s						
CDF	Champ du Feu	18.39	316	eP	Pn	22 06 23.2	+1.8
	comp=Z,26nm,1.1s						
CDF	Champ du Feu	18.39	316	eP	Pn	22 06 23.2	+1.8
CDF				pmax	pmax		
	comp=Z,26nm,1.1s						
CDF	Champ du Feu	18.39	316	eP	Pn	22 06 23.2	+1.8
	comp=Z,26nm,1.1s						
CDF	Champ du Feu	18.39	316	eP	Pn	22 06 23.2	+1.8
	comp=Z,13nm,1.1s						
LANF	Langenberg	18.41	318	eP	Pn	22 06 23.5	+1.9
LANF	Langenberg	18.41	318	eP	Pn	22 06 23.5	+1.9
VIVF	Saint-Julien-l	18.48	303	eP	P	22 06 22.2	-0.1
	comp=Z,20nm,0.8s						
VIVF	Saint-Julien-l	18.48	303	eP	P	22 06 22.2	-0.1
VIVF				pmax	pmax		
	comp=Z,20nm,0.8s						
VIVF	Saint-Julien-l	18.48	303	eP	P	22 06 22.2	-0.1
	comp=Z,20nm,0.8s						
VIVF	Saint-Julien-l	18.48	303	eP	P	22 06 22.2	-0.1
	comp=Z,9.9nm,0.8s						
HAU	Haudompre	18.71	314	eP	P	22 06 25.1	+0.3
	comp=Z,30nm,1.0s						
HAU				eR			
	comp=Z,108nm,20.5s						
HAU	Haudompre	18.71	314	eP	P	22 06 25.1	+0.3
HAU				pmax	pmax		
	comp=Z,30nm,1.0s						
HAU	Haudompre	18.71	314	eP	P	22 06 25.1	+0.3
	comp=Z,30nm,1.0s						
HAU	Haudompre	18.71	314	eP	P	22 06 25.1	+0.3
	comp=Z,15nm,1.0s						
LASF	Ste Croix	18.81	300	eP	Pn	22 06 27.8	+1.3
	comp=Z,24nm,1.1s						
LASF	Ste Croix	18.81	300	eP	Pn	22 06 27.8	+1.3
	comp=Z,24nm,1.1s						
LASF	Ste Croix	18.81	300	eP	Pn	22 06 27.8	+1.3
	comp=Z,12nm,1.1s						
TNS	Taunus Mts	18.82	322	eP	Pn	22 06 27.2	+0.5
TNS				pmax	pmax		
	comp=Z,14nm,1.1s						
TNS	Taunus Mts	18.82	322	eP	Pn	22 06 27.2	+0.5
	comp=Z,14nm,1.1s						
THEF	They Montfort	19.03	314	eP	Pn	22 06 30.1	+1.0
THEF	They Montfort	19.03	314	eP	Pn	22 06 30.1	+1.0
CLZ	Clausthal	19.03	328	eP	Pn	22 06 29.7	+0.6
CLZ				pmax	pmax		
	comp=Z,43nm,2.1s						
CLZ	Clausthal	19.03	328	eP	Pn	22 06 29.7	+0.6
	comp=Z,43nm,2.1s						
RUP	Ruppelstein	19.23	319	eP	P	22 06 30.6	+0.1
RUP	Ruppelstein	19.23	319	eP	P	22 06 30.6	+0.1
RUP	Ruppelstein	19.23	319	eP	P	22 06 30.6	+0.1
PAGF	Fort de Pagny	19.34	314	eP	Pn	22 06 32.7	-0.2
	comp=Z,6.7nm,0.9s						
PAGF	Fort de Pagny	19.34	314	eP	Pn	22 06 32.7	-0.2
	comp=Z,6.7nm,0.9s						
PAGF	Fort de Pagny	19.34	314	eP	Pn	22 06 32.7	-0.2
	comp=Z,3.3nm,0.9s						
SFTF	Sexfontaines	19.57	313	eP	Pn	22 06 35.6	0.0
	comp=Z,72nm,1.1s						
SFTF	Sexfontaines	19.57	313	eP	Pn	22 06 35.6	0.0
	comp=Z,72nm,1.1s						
SFTF	Sexfontaines	19.57	313	eP	Pn	22 06 35.6	0.0
	comp=Z,36nm,1.1s						
SMF	Signal de Mont	19.65	308	P	P	22 06 35.9	+0.8
SMF	Signal de Mont	19.65	308	P	P	22 06 35.9	+0.8
SMF	Signal de Mont	19.65	308	P	P	22 06 35.9	+0.8
OBN	Obninsk	19.65	17	eP	Pn	22 06 36.0	-0.4
WLF	Walferdange	19.69	318	P	Pn	22 06 36.6	-0.3
WLF	Walferdange	19.69	318	eP	P	22 06 36.3	+0.8
WLF				pmax	pmax		
	comp=Z,19nm,1.0s						
WLF	Walferdange	19.69	318	eP	Pn	22 06 37.3	+0.3
	comp=Z,22nm,1.0s						
WLF	Walferdange	19.69	318	eP	P	22 06 36.3	+0.8
	comp=Z,19nm,1.0s						
WLF	Walferdange	19.69	318	eP	P	22 06 36.3	+0.8
	comp=Z,19nm,1.0s						
MEZF	Maizieres J'vi	19.71	314	eP	Pn	22 06 37.6	+0.4
	comp=Z,98nm,1.3s						
MEZF	Maizieres J'vi	19.71	314	eP	Pn	22 06 37.6	+0.4
	comp=Z,98nm,1.3s						
MEZF	Maizieres J'vi	19.71	314	eP	Pn	22 06 37.6	+0.4
	comp=Z,49nm,1.3s						
VALF	Valcebollere	19.78	294	eP	P	22 06 37.4	+0.7
VALF	Valcebollere	19.78	294	eP	P	22 06 37.4	+0.7
VALF	Valcebollere	19.78	294	eP	P	22 06 37.4	+0.7
CLLI	Llivia	19.82	295	P	Pn	22 06 38.8	0.0
CLLI	Llivia	19.82	295	P	Pn	22 06 38.8	0.0
LOR	Lormes	19.88	309	eP	P	22 06 38.5	+0.9
	comp=Z,36nm,1.2s						
LOR				eR			
	comp=Z,155nm,22.8s						
LOR	Lormes	19.88	309	eP	P	22 06 38.5	+0.9
LOR	Lormes	19.88	309	eP	P	22 06 38.5	+0.9
	comp=Z,18nm,1.2s						
AVF	Avril sur Loir	20.01	308	eP	P	22 06 39.1	+0.1
	comp=Z,74nm,1.0s						
AVF	Avril sur Loir	20.01	308	eP	P	22 06 39.1	+0.1
AVF				pmax	pmax		
	comp=Z,74nm,1.0s						
AVF	Avril sur Loir	20.01	308	eP	P	22 06 39.1	+0.1
	comp=Z,74nm,1.0s						
AVF	Avril sur Loir	20.01	308	eP	P	22 06 39.1	+0.1
	comp=Z,37nm,1.0s						
SSF	Saint Saulge	20.02	308	eP	P	22 06 39.5	+0.4
	comp=Z,92nm,1.0s						
SSF	Saint Saulge	20.02	308	P	P	22 06 39.5	+0.4
SSF	Saint Saulge	20.02	308	P	P	22 06 39.5	+0.4
SSF	Saint Saulge	20.02	308	eP	P	22 06 39.5	+0.4
	comp=Z,46nm,1.0s						
EMIR	Miracle	20.07	293	P	P	22 06 39.8	0.0
EMIR	Miracle	20.07	293	P	P	22 06 39.8	0.0
BUG	Bochum--Univer	20.18	323	eP	P	22 06 41.4	+0.7
	comp=Z,30nm,1.2s						
BGF	Bois d'Agland	20.25	307	eP	P	22 06 42.0	+0.3
	comp=Z,86nm,1.0s						
BGF	Bois d'Agland	20.25	307	P	P	22 06 42.0	+0.3
BGF	Bois d'Agland	20.25	307	P	P	22 06 42.0	+0.3
BGF	Bois d'Agland	20.25	307	eP	P	22 06 42.0	+0.3
	comp=Z,43nm,1.0s						
CAF	Calviac	20.27	302	eP	P	22 06 42.2	+0.3
	comp=Z,17nm,1.0s						
CAF	Calviac	20.27	302	P	P	22 06 42.2	+0.3
CAF	Calviac	20.27	302	P	P	22 06 42.2	+0.3
CAF	Calviac	20.27	302	eP	P	22 06 42.2	+0.3
	comp=Z,8.7nm,1.0s						
MEM	Membach	20.30	320	P	Pn	22 06 43.7	-0.5
	comp=Z,17nm,1.3s						
MEM	Membach	20.30	320	P	Pn	22 06 43.7	-0.5
	comp=Z,17nm,1.3s						
EPOB	Poblet	20.35	291	P	P	22 06 42.4	-0.5
EPOB	Poblet	20.35	291	P	P	22 06 42.4	-0.5
CSOR	Sort	20.42	294	P	P	22 06 44.5	+0.8
CSOR	Sort	20.42	294	P	P	22 06 44.5	+0.8
HGN	Heimansgroeve	20.43	320	eP	Pn	22 06 45.6	-0.1
HGN	Heimansgroeve	20.43	320	eP	Pn	22 06 45.6	-0.1
MOS	Moscow	20.47	18	eP	P	22 06 42.2	-1.7
MOS				pmax	pmax		
	comp=Z,33nm,1.1s						
BCLA	Clavier	20.57	319	P	Pn	22 06 46.9	-0.4
	comp=Z,19nm,1.7s						
BCLA	Clavier	20.57	319	P	Pn	22 06 46.8	-0.5
	comp=Z,19nm,1.7s						
TCF	Toulx Ste Croi	20.57	305	eP	P	22 06 45.2	0.0
	comp=Z,24nm,1.1s						
TCF	Toulx Ste Croi	20.57	305	P	P	22 06 45.2	0.0
TCF	Toulx Ste Croi	20.57	305	P	P	22 06 45.2	0.0
TCF	Toulx Ste Croi	20.57	305	eP	P	22 06 45.2	0.0
	comp=Z,12nm,1.1s						
HYF	Humbligny	20.64	308	eP	Pn	22 06 47.6	-0.7
HYF	Humbligny	20.64	308	eP	Pn	22 06 47.6	-0.7
HYF	Humbligny	20.64	308	eP	Pn	22 06 47.6	-0.7
GIVF	Givet	20.65	317	eP	P	22 06 47.2	+1.3
	comp=Z,50nm,1.1s						
GIVF	Givet	20.65	317	eP	P	22 06 47.2	+1.3
GIVF	Givet	20.65	317	eP	P	22 06 47.2	+1.3
GIVF	Givet	20.65	317	eP	P	22 06 47.2	+1.3
	comp=Z,25nm,1.1s						
WTSB	Winterswijk	20.74	324	eP	P	22 06 47.7	+0.9
WTSB	Winterswijk	20.74	324	eP	P	22 06 47.7	+0.9
RJF	Les Rejaudoux	20.74	302	eP	P	22 06 47.5	+0.4
	comp=Z,40nm,1.2s						
RJF				eR			
	comp=Z,144nm,18.2s						
RJF	Les Rejaudoux	20.74	302	P	P	22 06 47.4	+0.4
RJF	Les Rejaudoux	20.74	302	P	P	22 06 47.4	+0.4
RJF	Les Rejaudoux	20.74	302	P	P	22 06 47.4	+0.4
DOU	Dourbes	20.77	317	P	P	22 06 47.9	+0.6
	comp=Z,11nm,1.1s						
DOU	Dourbes	20.77	317	P	P	22 06 47.8	+0.6
	comp=Z,11nm,1.1s						
ERTA	Horta de San J	20.89	290	P	P	22 06 48.4	-0.2
ERTA	Horta de San J	20.89	290	P	P	22 06 48.4	-0.2
BAIF	Baives	20.96	317	eP	P	22 06 49.5	+0.2
	comp=Z,52nm,1.0s						
BAIF	Baives	20.96	317	P	P	22 06 49.8	+0.5
BAIF				pmax	pmax		
	comp=Z,52nm,1.0s						
BAIF	Baives	20.96	317	P	P	22 06 49.8	+0.5
	comp=Z,52nm,1.0s						
BAIF	Baives	20.96	317	eP	P	22 06 49.5	+0.2
	comp=Z,26nm,1.0s						
RESF	Ens	21.06	295	eP	P	22 06 49.6	-1.0
RESF	Ens	21.06	295	eP	P	22 06 49.6	-1.0
RESF	Ens	21.06	295	eP	P	22 06 49.6	-1.0
EPF	Esparros	21.09	296	eP	P	22 06 49.6	-1.3
	comp=Z,27nm,1.2s						
EPF	Esparros	21.09	296	eP	P	22 06 49.6	-1.3
EPF				pmax	pmax		
	comp=Z,27nm,1.2s						
EPF	Esparros	21.09	296	eP	P	22 06 49.6	-1.3
	comp=Z,27nm,1.2s						
EPF	Esparros	21.09	296	eP	P	22 06 49.6	-1.3
	comp=Z,14nm,1.2s						
SNF	Seneffe	21.16	318	P	P	22 06 52.5	+1.0
SNF	Seneffe	21.16	318	P	P	22 06 52.4	+1.0
LFF	La Frestale	21.18	301	eP	P	22 06 51.9	+0.2
	comp=Z,21nm,0.8s						
LFF	La Frestale	21.18	301	P	P	22 06 52.2	+0.5
LFF				pmax	pmax		
	comp=Z,21nm,0.8s						
LFF	La Frestale	21.18	301	P	P	22 06 52.2	+0.5
	comp=Z,21nm,0.8s						
LFF	La Frestale	21.18	301	eP	P	22 06 51.9	+0.2
	comp=Z,11nm,0.8s						
EMOS	Mosqueruela	21.48	288	P	P	22 06 56.1	+1.0
EMOS	Mosqueruela	21.48	288	P	P	22 06 56.1	+1.0
ETSF	Etsaut	21.73	295	eP	P	22 06 57.7	0.0
	comp=Z,20nm,0.9s						
ETSF	Etsaut	21.73	295	eP	P	22 06 57.7	0.0
ETSF	Etsaut	21.73	295	eP	P	22 06 57.7	0.0
ETSF	Etsaut	21.73	295	eP	P	22 06 57.7	0.0
	comp=Z,10.0nm,0.9s						
MFF	Saint Martin d	22.22	305	eP	P	22 07 02.6	-0.3
	comp=Z,69nm,1.2s						
MFF	Saint Martin d	22.22	305	P	P	22 07 02.5	-0.3
MFF	Saint Martin d	22.22	305	P	P	22 07 02.5	-0.3
MFF	Saint Martin d	22.22	305	eP	P	22 07 02.6	-0.3
	comp=Z,34nm,1.2s						
SJPF	Ste Jean	22.24	295	eP	P	22 07 02.6	-0.5
	comp=Z,44nm,1.1s						
SJPF	Ste Jean	22.24	295	eP	P	22 07 02.6	-0.5
SJPF				pmax	pmax		
	comp=Z,44nm,1.1s						
SJPF	Ste Jean	22.24	295	eP	P	22 07 02.6	-0.5
	comp=Z,44nm,1.1s						
SJPF	Ste Jean	22.24	295	eP	P	22 07 02.6	-0.5
	comp=Z,22nm,1.1s						
ELIZ	Elizondo	22.47	295	P	P	22 07 05.8	+0.2
ELIZ	Elizondo	22.47	295	P	P	22 07 05.8	+0.2
ELIZ	Elizondo	22.47	295	P	P	22 07 05.8	+0.2
LDF	La Druitiere	22.86	310	eP	P	22 07 08.5	-1.1
	comp=Z,69nm,1.3s						
LDF	La Druitiere	22.86	310	eP	P	22 07 08.5	-1.1
LDF				pmax	pmax		
	comp=Z,69nm,1.3s						
LDF	La Druitiere	22.86	310	eP	P	22 07 08.5	-1.1
	comp=Z,69nm,1.3s						
LDF	La Druitiere	22.86	310	eP	P	22 07 08.5	-1.1
	comp=Z,34nm,1.3s						
TAM	Tamanrasset	22.89	239	eP	P	22 07 12.0	+1.6
TAM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TAM	Tamanrasset	22.89	239	eP	P	22 07 12.0	+1.6
	comp=Z,4.8nm,0.8s						
ENIJ	Nijar	23.04	279	P	P	22 07 10.9	-0.7
ENIJ	Nijar	23.04	279	P	P	22 07 10.9	-0.7
ENIJ	Nijar	23.04	279	P	P	22 07 10.9	-0.7
EVIA	Vianos	23.09	284	P	P	22 07 13.2	+0.9
EVIA	Vianos	23.09	284	P	P	22 07 13.2	+0.9
EVIA	Vianos	23.09	284	P	P	22 07 13.2	+0.9
FLN	La Foliniere	23.14	310	eP	P	22 07 12.3	-0.3
FLN				eR			
	comp=Z,106nm,17.8s						
FLN	La Foliniere	23.14	310	eP	P	22 07 12.3	-0.3
FLN	La Foliniere	23.14	310	eP	P	22 07 12.3	-0.3
FLN	La Foliniere	23.14	310	eP	P	22 07 12.3	-0.3
EHUE	Huescar	23.24	282	P	P	22 07 13.6	-0.1
EHUE	Huescar	23.24	282	P	P	22 07 13.6	-0.1
EHUE	Huescar	23.24	282	P	P	22 07 13.6	-0.1
GRR	Gorron	23.25	309	eP	P	22 07 13.0	-0.6
	comp=Z,33nm,0.9s						
GRR	Gorron	23.25	309	eP	P	22 07 13.0	-0.6
GRR				pmax	pmax		
	comp=Z,33nm,0.9s						
GRR	Gorron	23.25	309	eP	P	22 07 13.0	-0.6
	comp=Z,33nm,0.9s						
GRR	Gorron	23.25	309	eP	P	22 07 13.0	-0.6
	comp=Z,16nm,0.9s						
EBER	Berja	23.59	279	P	P	22 07 17.0	-0.3
EBER	Berja	23.59	279	P	P	22 07 17.0	-0.3
EQES	Quesada	23.62	282	P	P	22 07 16.1	-1.4
EQES	Quesada	23.62	282	P	P	22 07 16.1	-1.4
ELAN	Lanestosa	23.86	295	P	P	22 07 21.1	+1.5
ELAN	Lanestosa	23.86	295	P	P	22 07 21.1	+1.5
EALB	Alboran	23.86	277	P	P	22 07 19.2	-0.5
EALB	Alboran	23.86	277	P	P	22 07 19.2	-0.5
EGUA	Guajares	24.14	279	P	P	22 07 21.7	-0.6
EGUA	Guajares	24.14	279	P	P	22 07 21.7	-0.6
EGUA	Guajares	24.14	279	P	P	22 07 21.7	-0.6
EBAN	Banos Encina	24.14	283	P	P	22 07 21.8	-0.6
EBAN	Banos Encina	24.14	283	P	P	22 07 21.8	-0.6
EBAN	Banos Encina	24.14	283	P	P	22 07 21.8	-0.6
ESBB	Sonseca Array	24.16	286	P	P	22 07 21.2	-1.4
ESBB	Sonseca Array	24.16	286	P	P	22 07 21.2	-1.4
ESDC	Sonseca Array	24.16	286	P	P	22 07 22.2	-0.4
	comp=Z,8.4nm,0.7s,baz=81,slow=9.6,SNR=58						
ESDC	Sonseca Array	24.16	286	P	P	22 07 22.2	-0.4
ESDC	Sonseca Array	24.16	286	P	P	22 07 22.2	-0.4
SGMF	Saint Gilles	24.28	308	eP	P	22 07 23.2	-0.3
SGMF	Saint Gilles	24.28	308	P	P	22 07 23.7	+0.2
SGMF	Saint Gilles	24.28	308	P	P	22 07 23.7	+0.2
SGMF	Saint Gilles	24.28	308	eP	P	22 07 23.2	-0.3
GUD	Guadarrama	24.28	289	P	P	22 07 23.4	-0.4
GUD	Guadarrama	24.28	289	P	P	22 07 23.4	-0.4
GUD	Guadarrama	24.28	289	P	P	22 07 23.4	-0.4
PAB	San Pablo	24.47	286	eP	P	22 07 25.6	+0.2
PAB				pmax	pmax		
	comp=Z,78nm,2.4s						
PAB	San Pablo	24.47	286	eP	P	22 07 25.6	+0.2
	comp=Z,78nm,2.4s						
PAB	San Pablo	24.47	286	eP	P	22 07 25.6	+0.2
	comp=Z,78nm,2.4s						
QUIF	Quistinic	24.57	307	eP	P	22 07 25.1	-1.0
	comp=Z,48nm,0.9s						
QUIF	Quistinic	24.57	307	P	P	22 07 25.5	-0.6
QUIF				pmax	pmax		
	comp=Z,48nm,0.9s						
QUIF	Quistinic	24.57	307	P	P	22 07 25.5	-0.6
	comp=Z,48nm,0.9s						
QUIF	Quistinic	24.57	307	P	P	22 07 25.5	-0.6
	comp=Z,48nm,0.9s						
ELUQ	Luque	24.59	281	P	P	22 07 25.4	-1.1
ELUQ	Luque	24.59	281	P	P	22 07 25.4	-1.1
ELUQ	Luque	24.59	281	P	P	22 07 25.4	-1.1
ROSF	Rostrenen	24.76	307	eP	P	22 07 26.3	-1.5
	comp=Z,28nm,0.7s						
ROSF	Rostrenen	24.76	307	P	P	22 07 27.1	-0.7
ROSF				pmax	pmax		
	comp=Z,28nm,0.7s						
ROSF	Rostrenen	24.76	307	P	P	22 07 27.1	-0.7
	comp=Z,28nm,0.7s						
ROSF	Rostrenen	24.76	307	P	P	22 07 27.1	-0.7
	comp=Z,28nm,0.7s						
EADA	Adamuz	24.76	283	P	P	22 07 26.8	-1.2
EADA	Adamuz	24.76	283	P	P	22 07 26.8	-1.2
FINES	FINESS Array B	24.78	359	P	P	22 07 27.5	-0.4
	comp=Z,4.6nm,0.9s,baz=158,slow=20,SNR=7.9						
FINES	FINESS Array B	24.78	359	P	P	22 07 27.5	-0.4
FINES	FINESS Array B	24.78	359	P	P	22 07 27.5	-0.4
HFS	Hagfors	24.89	345	P	P	22 07 28.3	-0.6
	comp=Z,17nm,0.9s,baz=169,slow=8.8,SNR=13						
HFS	Hagfors	24.89	345	P	P	22 07 28.3	-0.6
HFS	Hagfors	24.89	345	P	P	22 07 28.3	-0.6
EMIJ	Mijas	25.14	279	P	P	22 07 30.3	-1.1
EMIJ	Mijas	25.14	279	P	P	22 07 30.3	-1.1
KLMR	Klimovskoe	25.54	15	eP	P	22 07 33.7	-1.1
KLMR				pmax	pmax		
	comp=Z,23nm,1.3s						
EJIF	Jimena Fronter	25.71	279	P	P	22 07 35.8	-0.8
EJIF	Jimena Fronter	25.71	279	P	P	22 07 35.8	-0.8
EJIF	Jimena Fronter	25.71	279	P	P	22 07 35.8	-0.8
MDT	Midelt	25.89	271	P	P	22 07 38.9	+0.5
	comp=Z,11nm,0.8s,baz=77,slow=12,SNR=20						
MDT	Midelt	25.89	271	P	P	22 07 38.9	+0.5
MDT	Midelt	25.89	271	P	P	22 07 38.9	+0.5
ESPR	Espera	25.95	280	P	P	22 07 37.2	-1.5
ESPR	Espera	25.95	280	P	P	22 07 37.2	-1.5
ECAL	Calabor	26.23	292	P	P	22 07 41.7	+0.4
ECAL	Calabor	26.23	292	P	P	22 07 41.7	+0.4
PBRG	Braganca	26.23	292	eP	P	22 07 41.0	-0.3
	comp=Z,25nm,1.6s						
PBRG	Braganca	26.23	292	eP	P	22 07 41.0	-0.3
	comp=Z,25nm,1.6s						
NB2	NORSAR Subarra	26.25	343	P	P	22 07 40.2	-1.1
	comp=Z,22nm,1.7s,baz=152,slow=9.3						
NB2	NORSAR Subarra	26.25	343	P	P	22 07 40.2	-1.1
	comp=Z,22nm,1.7s,baz=152,slow=9.0,SNR=6.2						
NOA	NORSAR Array B	26.25	343	P	P	22 07 41.0	-0.4
	comp=Z,3.7nm,0.9s,baz=145,slow=11,SNR=6.4						
NOA	NORSAR Array B	26.25	343	P	P	22 07 41.0	-0.4
NOA	NORSAR Array B	26.25	343	P	P	22 07 41.0	-0.4
AKTO	Aktyubinsk	26.35	49	P	P	22 07 42.2	-0.1
	comp=Z,5.6nm,0.9s,baz=257,slow=9.8,SNR=17						
AKTO	Aktyubinsk	26.35	49	P	P	22 07 42.2	-0.1
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTO	Aktyubinsk	26.35	49	P	P	22 07 42.2	-0.1
AKTO	Aktyubinsk	26.35	49	P	P	22 07 42.2	-0.1
EMIN	Mina Concepcio	26.45	282	P	P	22 07 42.7	-0.6
EMIN	Mina Concepcio	26.45	282	P	P	22 07 42.7	-0.6
MVO	Moncorvo	26.45	290	eP	P	22 07 43.5	+0.1
	comp=Z,30nm,1.8s						
MVO	Moncorvo	26.45	290	eP	P	22 07 43.5	+0.1
	comp=Z,30nm,1.8s						
PMRV	Marv??o	26.83	286	eP	P	22 07 46.5	-0.2
	comp=Z,27nm,2.1s						
PMRV	Marv??o	26.83	286	eP	P	22 07 46.5	-0.2
	comp=Z,27nm,2.1s						
PCBR	Castelo Branco	26.86	287	eP	P	22 07 49.1	+2.1
	comp=Z,24nm,1.6s						
MTE	Manteigas	26.87	288	eP	P	22 07 46.9	-0.3
	comp=Z,33nm,2.2s						
MTE	Manteigas	26.87	288	eP	P	22 07 46.9	-0.3
	comp=Z,33nm,2.2s						
PESTR	Estremoz	27.03	285	eP	P	22 07 48.2	-0.4
	comp=Z,38nm,2.1s						
PESTR	Estremoz	27.03	285	eP	P	22 07 48.2	-0.4
	comp=Z,38nm,2.1s						
EGRO	El Granado	27.12	282	P	P	22 07 48.1	-1.2
EGRO	El Granado	27.12	282	P	P	22 07 48.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVAQ	Vaqueiros	27.33	282	eP	P	22 07 50.9	-0.3
	comp=Z,31nm,1.5s						
PVAQ	Vaqueiros	27.33	282	eP	P	22 07 50.9	-0.3
	comp=Z,31nm,1.5s						
PBEJ	Beja	27.35	283	eP	P	22 07 51.6	+0.2
	comp=Z,25nm,1.5s						
PBEJ	Beja	27.35	283	eP	P	22 07 51.6	+0.2
	comp=Z,25nm,1.5s						
EVO	Evora	27.40	284	eP	P	22 07 51.3	-0.5
	comp=Z,21nm,1.9s						
EVO	Evora	27.40	284	eP	P	22 07 51.3	-0.5
	comp=Z,21nm,1.9s						
PMTG	Montargil	27.50	286	eP	P	22 07 50.7	-2.1
	comp=Z,19nm,1.8s						
PMTG	Montargil	27.50	286	eP	P	22 07 50.7	-2.1
	comp=Z,19nm,1.8s						
PBDV	Barranco-do-Ve	27.52	282	eP	P	22 07 52.4	-0.6
	comp=Z,46nm,1.6s						
PBDV	Barranco-do-Ve	27.52	282	eP	P	22 07 52.4	-0.6
	comp=Z,46nm,1.6s						
ESK	Eskdalemuir	27.53	322	eP	P	22 07 56.3	+3.5
ESK	Eskdalemuir	27.53	322	eP	P	22 07 56.3	+3.5
	comp=Z,180nm,2.3s						
ARU	Arti	29.12	37	eP	P	22 08 04.2	-2.8
ARU				S	S	22 13 02.0	+4.1
ARU				SS	SnSn	22 14 28.1	+5.7
ARU	Arti	29.12	37	eP	P	22 08 07.2	+0.2
	comp=Z,12nm,1.4s						
ARU	Arti	29.12	37	eP	P	22 08 07.2	+0.2
	comp=Z,12nm,1.4s						
SVE	Sverdlovsk	30.32	38	eP	P	22 08 18.0	+0.4
SVE				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TORD	Torodi Ar. Bea	32.38	230	P	P	22 08 35.8	-0.2
	comp=Z,2.4nm,0.5s,baz=35,slow=8.6,SNR=28						
TORD	Torodi Ar. Bea	32.38	230	P	P	22 08 35.8	-0.2
TORD	Torodi Ar. Bea	32.38	230	P	P	22 08 35.8	-0.2
BVAR	Borovoye Array	34.44	48	P	P	22 08 52.7	-1.0
	comp=Z,2.5nm,1.0s,baz=250,slow=4.4,SNR=8.0						
BVAR	Borovoye Array	34.44	48	P	P	22 08 52.7	-1.0
BVAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	34.44	48	P	P	22 08 52.7	-1.0
BVAR	Borovoye Array	34.44	48	P	P	22 08 52.7	-1.0
AAK	Ala-Archa	36.94	66	P	P	22 09 16.0	+0.5
	comp=Z,1.4nm,0.7s,baz=243,slow=2.3,SNR=6.0						
AAK	Ala-Archa	36.94	66	P	P	22 09 16.0	+0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	36.94	66	eP	P	22 09 16.6	+1.1
AAK	Ala-Archa	36.94	66	eP	P	22 09 16.6	+1.1
KURBB	Kurchatov Arra	39.25	52	P	P	22 09 34.7	0.0
	comp=Z,5.7nm,0.9s,baz=278,slow=8.7,SNR=25						
KURK	Kurchatov	39.31	52	eP	P	22 09 35.5	+0.4
KURK	Kurchatov	39.31	52	eP	P	22 09 35.5	+0.4
KURK	Kurchatov	39.31	52	eP	P	22 09 35.5	+0.4
BORG	Borgarnes	39.79	330	P	P	22 09 39.0	0.0
	comp=Z,15nm,0.9s,baz=126,slow=8.7,SNR=2.1						
BORG	Borgarnes	39.79	330	P	P	22 09 39.0	0.0
BORG	Borgarnes	39.79	330	P	P	22 09 39.0	0.0
DBIC	Dimbokro	41.44	232	P	P	22 09 52.5	-0.6
	comp=Z,6.8nm,0.8s,baz=33,slow=9.7,SNR=11						
DBIC	Dimbokro	41.44	232	eP	P	22 09 52.4	-0.8
	comp=Z,4.8nm,0.6s						
DBIC	Dimbokro	41.44	232	eP	P	22 09 52.4	-0.8
	comp=Z,4.8nm,0.6s						
LIC	Lamto	41.89	231	eP	P	22 09 56.4	-0.5
	comp=Z,29nm,0.9s						
LIC	Lamto	41.89	231	eP	P	22 09 56.4	-0.5
	comp=Z,29nm,0.9s						
LIC	Lamto	41.89	231	eP	P	22 09 56.4	-0.5
	comp=Z,15nm,0.9s						
MKAR	Makanchi Array	41.95	58	P	P	22 09 57.5	+0.4
	comp=Z,4.1nm,0.9s,baz=268,slow=8.6,SNR=21						
MKAR	Makanchi Array	41.95	58	ceP	P	22 09 57.5	+0.4
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	41.95	58	P	P	22 09 57.5	+0.4
MKAR	Makanchi Array	41.95	58	P	P	22 09 57.5	+0.4
NVS	Novosibirsk	42.18	46	eP	P	22 09 59.1	+0.4
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	Zalesovo Array	43.10	47	eP	P	22 10 05.9	-0.3
ZAA0	Zalesovo Array	43.10	47	eP	P	22 10 05.9	-0.3
ZALV	Zalesovo Beam	43.10	47	P	P	22 10 05.7	-0.5
	comp=Z,3.2nm,0.8s,baz=262,slow=10.0,SNR=7.5						
ZALV	Zalesovo Beam	43.10	47	P	P	22 10 05.7	-0.5
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	43.10	47	P	P	22 10 05.7	-0.5
ZALV	Zalesovo Beam	43.10	47	P	P	22 10 05.7	-0.5
PYUN	Piuthan	47.78	83	eP	P	22 10 42.5	-1.5
	comp=Z,12nm,0.7s						
PYUN	Piuthan	47.78	83	eP	P	22 10 42.5	-1.5
	comp=Z,12nm,0.7s						
PYUN	Piuthan	47.78	83	eP	P	22 10 42.5	-1.5
	comp=Z,12nm,0.7s						
DANN	Dangsing	48.29	83	eP	P	22 10 48.3	+0.3
	comp=Z,30nm,0.8s						
DANN	Dangsing	48.29	83	eP	P	22 10 48.3	+0.3
	comp=Z,30nm,0.8s						
DANN	Dangsing	48.29	83	eP	P	22 10 48.3	+0.3
	comp=Z,30nm,0.8s						
KOLN	Koldanda	48.41	83	eP	P	22 10 48.6	-0.2
	comp=Z,5.4nm,0.7s						
KOLN	Koldanda	48.41	83	eP	P	22 10 48.6	-0.2
	comp=Z,5.4nm,0.7s						
KOLN	Koldanda	48.41	83	eP	P	22 10 48.6	-0.2
	comp=Z,5.4nm,0.7s						
GKN	Gorkha	49.14	83	eP	P	22 10 53.7	-0.7
GKN	Gorkha	49.14	83	eP	P	22 10 53.7	-0.7
GKN	Gorkha	49.14	83	eP	P	22 10 53.7	-0.7
DMN	Daman	49.68	83	eP	P	22 10 57.8	-0.8
	comp=Z,12nm,0.9s						
DMN	Daman	49.68	83	eP	P	22 10 57.8	-0.8
	comp=Z,12nm,0.9s						
DMN	Daman	49.68	83	eP	P	22 10 57.8	-0.8
	comp=Z,12nm,0.9s						
KKN	Kakani	49.74	83	eP	P	22 10 58.5	-0.5
KKN	Kakani	49.74	83	eP	P	22 10 58.5	-0.5
KKN	Kakani	49.74	83	eP	P	22 10 58.5	-0.5
KKN	Kakani	49.74	83	eP	P	22 10 58.5	-0.5
PKI	Pulchoki	49.94	83	eP	P	22 10 59.9	-0.8
PKI	Pulchoki	49.94	83	eP	P	22 10 59.9	-0.8
PKI	Pulchoki	49.94	83	eP	P	22 10 59.9	-0.8
PKI	Pulchoki	49.94	83	eP	P	22 10 59.9	-0.8
GUN	Gumba	50.17	82	eP	P	22 11 03.0	+0.6
	comp=Z,18nm,1.1s						
GUN	Gumba	50.17	82	eP	P	22 11 03.0	+0.6
	comp=Z,18nm,1.1s						
GUN	Gumba	50.17	82	eP	P	22 11 03.0	+0.6
	comp=Z,18nm,1.1s						
JIRN	Jiri	50.52	82	eP	P	22 11 05.7	+0.5
JIRN	Jiri	50.52	82	eP	P	22 11 05.7	+0.5
JIRN	Jiri	50.52	82	eP	P	22 11 05.7	+0.5
RAMN	Ramite	51.16	83	eP	P	22 11 09.1	-0.8
	comp=Z,16nm,0.9s						
RAMN	Ramite	51.16	83	eP	P	22 11 09.1	-0.8
	comp=Z,16nm,0.9s						
RAMN	Ramite	51.16	83	eP	P	22 11 09.1	-0.8
	comp=Z,16nm,0.9s						
ODAN	Odare	51.83	83	eP	P	22 11 15.0	+0.1
ODAN	Odare	51.83	83	eP	P	22 11 15.0	+0.1
ODAN	Odare	51.83	83	eP	P	22 11 15.0	+0.1
TAPN	Taplejung	51.87	82	eP	P	22 11 14.7	-0.5
	comp=Z,14nm,1.2s						
TAPN	Taplejung	51.87	82	eP	P	22 11 14.7	-0.5
	comp=Z,14nm,1.2s						
TAPN	Taplejung	51.87	82	eP	P	22 11 14.7	-0.5
	comp=Z,14nm,1.2s						
ZAK	Zakamensk	54.85	50	eP	P	22 11 37.0	+0.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA	Gaotai	56.21	63	eP	P	22 11 46.9	+0.4
GTA				pP	pP	22 11 52.6	+0.3
GTA				sP	sP	22 11 55.6	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	Songino Array	57.61	52	P	P	22 11 56.3	0.0
	comp=Z,1.2nm,1.0s,baz=287,slow=6.8,SNR=5.8						
SONM	Songino Array	57.61	52	P	P	22 11 56.3	0.0
SONM	Songino Array	57.61	52	P	P	22 11 56.3	0.0
LZH	Lanzhou	60.48	65	eP	P	22 12 23.2	+6.8
LZH				pP	pP	22 12 28.0	+5.8
LZH				sP	sP	22 12 30.5	+6.1
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
SCHQ	Schefferville	62.79	320	P	P	22 12 30.6	-0.9
	comp=Z,4.0nm,0.9s,baz=68,slow=7.3,SNR=7.9						
SCHQ	Schefferville	62.79	320	P	P	22 12 30.6	-0.9
SCHQ	Schefferville	62.79	320	P	P	22 12 30.6	-0.9
BOSA	Boshof	64.97	181	P	P	22 12 46.2	0.0
	comp=Z,1.8nm,0.7s,baz=343,slow=10,SNR=4.6						
BOSA	Boshof	64.97	181	P	P	22 12 46.2	0.0
BOSA	Boshof	64.97	181	P	P	22 12 46.2	0.0
CMAR	Chiang Mai Arr	65.24	85	P	P	22 12 47.3	-0.9
	comp=Z,1.2nm,1.0s,baz=285,slow=6.9,SNR=5.3						
CMAR	Chiang Mai Arr	65.24	85	P	P	22 12 47.3	-0.9
CMAR	Chiang Mai Arr	65.24	85	P	P	22 12 47.3	-0.9
SEY	Seymchan	71.69	23	i P	P	22 13 16.7	-11
INK	Inuvik	74.27	352	LR	LR	22 47 56.4	
	comp=Z,63nm,20.5s,baz=232,slow=37						
USRK	Ussuriysk Arra	74.93	46	P	P	22 13 46.4	-0.8
	comp=Z,2.5nm,0.9s,baz=276,slow=5.1,SNR=8.3						
YKA	Yellowknife Ar	76.35	343	P	P	22 13 53.6	-1.4
	comp=Z,0.3nm,0.7s,baz=34,slow=6.0,SNR=5.5						
YKA	Yellowknife Ar	76.35	343	P	P	22 13 53.6	-1.4
YKA	Yellowknife Ar	76.35	343	P	P	22 13 53.7	-1.4
KSAR	Wonju Array Be	76.40	53	P	P	22 13 55.2	-0.5
KSAR	Wonju Array Be	76.40	53	P	P	22 13 55.2	-0.5
KSRS	Korea Array	76.42	53	P	P	22 13 55.2	-0.6
	comp=Z,1.7nm,0.8s,baz=308,slow=4.1,SNR=4.6						
ILAR	Eielson Array	78.74	357	P	P	22 14 06.9	-1.5
	comp=Z,0.4nm,0.9s,baz=4.5,slow=4.6,SNR=4.1						
ILAR	Eielson Array	78.74	357	P	P	22 14 06.9	-1.5
ILAR	Eielson Array	78.74	357	P	P	22 14 06.9	-1.5
ULM	Lac du Bonnet	79.69	327	P	P	22 14 12.5	-1.3
	comp=Z,2.8nm,0.9s,baz=16,slow=4.0,SNR=4.4						
ULM	Lac du Bonnet	79.69	327	P	P	22 14 12.5	-1.3
ULM	Lac du Bonnet	79.69	327	P	P	22 14 12.5	-1.3
BDFB	Brasilia	87.37	248	P	P	22 14 54.5	+0.7
	comp=Z,2.6nm,0.8s,baz=48,slow=4.6,SNR=5.0						
BDFB	Brasilia	87.37	248	P	P	22 14 54.5	+0.7
BDFB	Brasilia	87.37	248	P	P	22 14 54.5	+0.7
PDAR	Pinedale Array	91.41	329	LR	LR	22 58 54.1	
	comp=Z,92nm,18.4s,baz=346,slow=37						
TXAR	Lajitas Array	99.43	318	P	Pdif	22 15 48.9	-0.4
	comp=Z,0.1nm,0.3s,baz=49,slow=7.4,SNR=2.9						
TXAR	Lajitas Array	99.43	318	P	Pdif	22 15 48.9	-0.4
TXAR	Lajitas Array	99.43	318	P	Pdif	22 15 48.9	-0.4
WRA	Warramunga Arr	115.59	97	PKP	PKPdf	22 20 48.9	+0.1
	comp=Z,0.4nm,0.8s,baz=320,slow=2.1,SNR=3.2						
WRA	Warramunga Arr	115.59	97	PKP	PKPdf	22 20 48.9	+0.1
WRA	Warramunga Arr	115.59	97	PKIKP	PKPdf	22 20 48.9	+0.1

IDC 02 22:06:01.7±1.6**,27°.24S**×**176°.34W,h0**km**,mb3.6**/2**, mb1 3.9**/2**,mb1mx3.7**/17**,mbtmp3.6**/2**,Error ellipse: s-maj=65.3km s-min=41.3km az=168.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.84	263	P	P	22 14 17.9	-0.1
	0.4nm,0.4s,baz=90,slow=7.4,SNR=7.2						
WRA	Warramunga Arr	45.55	268	P	P	22 14 23.3	-0.2
	0.7nm,0.6s,baz=106,slow=7.8,SNR=9.8						
FINES	FINESS Array B	142.63	342	PKhKP	PKPpre	22 25 30.9	
	3.1nm,1.0s,baz=80,slow=1.6,SNR=3.6						
NOA	NORSAR Array B	145.82	353	PKPbc	PKPdf	22 25 40.9	-0.9
	0.7nm,0.7s,baz=18,slow=2.8,SNR=4.0						
HFS	Hagfors	146.40	351	PKPbc	PKPbc	22 25 44.1	+0.1
	2.1nm,0.8s,baz=45,slow=4.3,SNR=4.9						
TORD	Torodi Ar. Bea	165.86	172	PKPab	PKPab	22 27 07.8	-0.8
	0.5nm,0.8s,baz=191,slow=2.9,SNR=3.0						

---

*ISK **02** 22:12:59.1,39°.97N×40°.08E,h15km,MD2.9*
*CSEM **02** 22:12:59.6±0.2,39°.91N×39°.98E,h8km,MD2.9,Error ellipse: s-maj=6.2km s-min=4.5km az=156.0*
*ISCJB **02** 22:13:00.1±0.5,39°.94N±0°.03×39°.96E±0°.03,h6km±4km, Error ellipse: s-maj=5.2km s-min=3.7km az=149.1*
*DDA **02** 22:13:00.5,40°.12N×39°.96E,h7km,MD3.0*
ISC 02 22:12:59.5±1.0**,39°.97N**±0°.03×**40°.00E**±0°.02**,h12**km±10km**, n36,**σ**0s.86**/56**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.39	83	i P	Pb	22 13 08.8	+0.4
KOPT				i S	Sb	22 13 16.2	+1.7
KOPT	Kop Dagi	0.39	83	i P	Pb	22 13 08.8	+0.4
KOPT				i S	Sb	22 13 16.2	+1.7
BAYT	Ayd˜–ntepe-Bay	0.43	15	PG	Pb	22 13 08.7	-0.5
BAYT				SG	Sg	22 13 14.4	+0.4
BAYT	Ayd˜–ntepe-Bay	0.43	15	i Pg	Pb	22 13 08.7	-0.5
BAYT				i Sg	Sg	22 13 14.4	+0.4
ERZN	Erzincan	0.44	209	ePG	Pb	22 13 09.2	0.0
ERZN				eSG	Sb	22 13 16.0	+0.2
EZC	Erzincan	0.54	246	ePG	Pb	22 13 11.2	+0.2
EZC	Erzincan	0.54	246	ePg	Pg	22 13 09.2	-0.9
EZC				eSg	Sg	22 13 16.0	-1.4
KELT	Kelkit	0.59	287	i P	Pb	22 13 11.8	-0.1
KELT				i S	Sb	22 13 20.2	-0.2
KELT	Kelkit	0.59	287	i P	Pb	22 13 11.8	-0.1
KELT				i S	Sb	22 13 20.2	-0.2
GUMT	Gumushane	0.63	321	ePG	Pb	22 13 12.2	-0.2
GUMT	Gumushane	0.63	321	ePg	Pb	22 13 12.2	-0.2
MACK	Trabzon	0.98	350	eP	Pn	22 13 19.2	+0.1
MACK				i S	Sn	22 13 32.6	-0.4
MACK	Trabzon	0.98	350	eP	Pn	22 13 19.2	+0.1
MACK				i S	Sn	22 13 32.6	-0.4
BNGB	Bingˆ¶l	1.11	151	ePN	Pg	22 13 20.2	-0.7
BINT	Bingol	1.16	161	ePn	Pb	22 13 20.2	-1.3
ILIC	ilic-Erzincan	1.22	245	ePN	Pg	22 13 23.1	+0.2
ILIC	ilic-Erzincan	1.22	245	ePn	Pg	22 13 23.1	+0.2
ESPY	Espiye-Giresun	1.35	315	ePN	Pb	22 13 24.8	+0.1
ESPY	Espiye-Giresun	1.35	315	ePn	Pb	22 13 24.8	+0.1
KEMA	Kemaliye	1.36	239	eP	Pg	22 13 25.7	+0.1
KEMA				i S	Sg	22 13 47.4	+4.2
KEMA	Kemaliye	1.36	239	eP	Pg	22 13 25.7	+0.1
VRTB	Varto-Mus	1.39	125	ePN	Pn	22 13 23.7	-1.1
VRTB	Varto-Mus	1.39	125	ePn	Pn	22 13 23.7	-1.1
SUSE	Susehri	1.40	280	i P	Pg	22 13 26.1	-0.2
SUSE				eS	Sg	22 13 44.7	+0.2
SUSE	Susehri	1.40	280	i P	Pg	22 13 26.1	-0.2
SUSE				eS	Sg	22 13 44.7	+0.2
DDEM	Demirkent	1.62	55	i P	Pb	22 13 29.6	+0.2
DDEM				eS	Sg	22 13 52.9	+1.2
DDEM	Demirkent	1.62	55	i P	Pb	22 13 29.6	+0.2
DDEM				eS	Sg	22 13 52.9	+1.2
DBAD	Bademkaya	1.66	51	i P	Pb	22 13 30.3	+0.2
DBAD				i S	Sg	22 13 52.5	-0.5
DBAD	Bademkaya	1.66	51	i P	Pb	22 13 30.3	+0.2
DBAD				i S	Sg	22 13 52.5	-0.5
SVRC	Sivrice-ELAZID	1.68	199	ePN	Pn	22 13 28.9	+0.1
SVRC	Sivrice-ELAZID	1.68	199	ePn	Pn	22 13 28.9	+0.1
DAGI	Agillar	1.83	52	eP	Pb	22 13 33.3	+0.4
DAGI				i S	Sg	22 13 58.5	+0.1
DBOC	Borcka	1.87	42	i P	Pb	22 13 34.2	+0.6
DBOC				i S	Sg	22 13 59.2	-0.4
DBOC	Borcka	1.87	42	i P	Pb	22 13 34.2	+0.6
DBOC				i S	Sg	22 13 59.2	-0.4
BCA	Borcka	1.92	40	ePN	Pn	22 13 31.3	-0.7
BCA	Borcka	1.92	40	ePn	Pn	22 13 31.3	-0.7

---

*NNC **02** 22:19:38.2±1.6,44°.45N×83°.59E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=17.7km s-min=8.1km az=102.0*
ISC 02 22:19:45.3±1.5**,44°.49N**±0°.10×**83°.29E**±0°.07**,h35**km**,n5,** σ**2s.80**/5**,4C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.41	344	⇑Pn	Pn	22 20 20.5	-1.8
	5.5nm,0.3s,baz=153,slow=15,SNR=316						
MK31				⇑Sn	Sn	22 20 52.9	+2.4
	37nm,0.6s,baz=156,slow=27,SNR=11						
WMQ	Urumqi	3.24	100	Pg	Pn	22 20 32.3	-1.4
WMQ				Sg	Sn	22 21 13.3	+2.2
WMQ				smax	smax		
	comp=N,46nm,0.5s						
WMQ				smax	smax		
	comp=E,35nm,0.4s						
TKM2	Tokmak 2	5.79	257	⇓Pn	Pn	22 21 08.3	-0.6
	comp=E,1.6nm,1.1s						
TKM2				⇑Lg	Lg	22 22 47.7	
	comp=E,7.9nm,0.8s						
KURBB	Kurchatov Arra	6.93	334	⇑Lg	Lg	22 23 21.6	
	comp=E,2.2nm,0.7s						
KURK	Kurchatov	6.98	335	⇓Lg	Lg	22 23 23.0	
	comp=E,3.1nm,0.5s						

NNC 02 22:23:13.4±3.8**,44°.27N**×**83°.22E,h0**km**,mb3.3,mpv3.0, 2C-3D,Error ellipse: s-maj=37.6km s-min=23.9km az=97.0,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.61	346	⇓Pn	Pn	22 23 57.0	+0.1
	3.4nm,0.5s,baz=158,slow=17,SNR=16						
MK31				⇑Sn	Sn	22 24 30.3	+1.1
	7.8nm,0.6s,baz=156,slow=28,SNR=9.6						
WMQ	Urumqi	3.26	96	Pg	Pg	22 24 17.1	+1.2
WMQ				Sg	Sb	22 24 49.1	-3.3
WMQ				smax	smax		
	comp=N,21nm,0.5s						
WMQ				smax	smax		
	comp=E,15nm,0.5s						
TKM2	Tokmak 2	5.70	259	⇑Lg	Lg	22 26 12.5	
	comp=E,2.9nm,0.8s						
KURBB	Kurchatov Arra	7.11	335	⇓Lg	Lg	22 26 57.2	
	comp=E,1.1nm,0.7s						
KURK	Kurchatov	7.16	336	⇓Lg	Lg	22 27 00.8	
	comp=E,3.0nm,1.1s						

---

*ISCJB **02** 22:31:52.7±0.6,38°.54N±0°.03×40°.65E±0°.06,h8km,Error ellipse: s-maj=6.5km s-min=4.8km az=169.5*
*ISK **02** 22:31:52.7,38°.59N×40°.59E,h10km,MD2.6*
*CSEM **02** 22:31:52.7,38°.59N×40°.59E,h10km,MD2.6,After ISK*
*DDA **02** 22:31:53.6,38°.54N×40°.71E,h7km,MD2.8*
ISC 02 22:31:52.8±0.9**,38°.56N**±0°.03×**40°.64E**±0°.04**,h8**km**,n14,** σ**0s.56**/17**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.33	339	i Pg	Pb	22 32 01.2	+0.1
BINT				i Sg	Sb	22 32 07.6	+0.9
BNGB	Bingˆ¶l	0.43	4	PG	Pg	22 32 01.2	0.0
BNGB				SG	Sg	22 32 07.6	+0.8
BNGL	BINGOL	0.56	45	i P	Pb	22 32 04.0	-0.9
BNGL				i S	Sb	22 32 12.0	-1.1
BTMT	Batman	0.76	119	ePG	Pg	22 32 07.6	+0.2
BTMT	Batman	0.76	119	ePg	Pg	22 32 07.6	+0.2
BEST	Besiri	0.83	143	i P	Pg	22 32 09.1	+0.2
BEST				i S	Sg	22 32 20.1	+0.4
VRTB	Varto-Mus	0.87	47	ePG	Pg	22 32 09.5	-0.1
VRTB	Varto-Mus	0.87	47	ePg	Pg	22 32 09.5	-0.1
SVRC	Sivrice-ELAZID	1.06	260	ePG	Pg	22 32 12.7	-0.5
SVRC	Sivrice-ELAZID	1.06	260	ePg	Pg	22 32 12.7	-0.5
ERZN	Erzincan	1.25	325	ePN	Pg	22 32 16.6	-0.1
EZC	Erzincan	1.55	320	ePn	Pn	22 32 16.7	-4.2
URFA	Urfa	1.82	233	ePN	Pn	22 32 24.7	+0.2
URFA	Urfa	1.82	233	ePn	Pn	22 32 24.7	+0.2

IDC 02 22:36:06.1±7.9**,21°.00S**×**176°.75W,h0**km**,mb3.9**/4**, mb1 4.1**/4**,mb1mx3.8**/19**,mbtmp3.8**/4**,Error ellipse: s-maj=419.3km s-min=39.7km az=150.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.55	257	P	P	22 44 27.7	-0.3
	0.8nm,0.7s,baz=98,slow=7.6,SNR=6.3						
WRA	Warramunga Arr	45.70	262	P	P	22 44 28.9	-0.3
	0.7nm,0.6s,baz=99,slow=8.3,SNR=4.1						
FITZ	Fitzroy Crossi	54.13	262	P	P	22 45 33.5	+0.2
	1.5nm,0.7s,baz=106,slow=7.4,SNR=2.3						
YKA	Yellowknife Ar	96.47	24	P	P	22 49 36.6	-0.2
	0.1nm,0.4s,baz=244,slow=4.3,SNR=5.2						

---

*AUST **02** 22:36:25.1,7°.00S×125°.01E,h450km*
*BJI **02** 22:36:27.4,7°.22S×125°.19E,h553km,mB4.6/7,mb4.3/11*
*ISCJB **02** 22:36:29.3±0.2,6°.98S±0°.05×125°.06E±0°.06,h543km, mb4.1/39,Error ellipse: s-maj=9.9km s-min=3.8km az=146.7*
*NEIC **02** 22:36:29.4±0.7,7°.08S×125°.07E,h534km±9km,mb4.5/21, Error ellipse: s-maj=17.7km s-min=6.4km az=51.0*
*IDC **02** 22:36:30.1±1.2,7°.00S×125°.09E,h533km±15km,mb3.5/18, mb1 3.6/22,mb1mx3.6/29,mbtmp3.5/22,Error ellipse: s-maj=18.9km s-min=7.8km az=65.0*
ISC 02 22:36:30.4±0.4**,7°.04S**±0°.06×**125°.04E**±0°.08**,h543**km**,n84,** σ**1s.11**/85**,mb4.2**/39**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	Waingapu	5.37	241	S	S	22 39 11.8	-6.8
	baz=5.4,SNR=18						
KAPI	Kappang	5.63	291	P	P	22 38 04.9	-0.4
	3.7nm,0.3s,baz=150,slow=6.0,SNR=35						
KAPI	Kappang	5.63	291	ePn	P	22 38 04.6	-0.7
	67nm,0.9s						
KAPI				S	S	22 39 14.2	-8.7
TLE	Tual	7.78	80	S	S	22 39 51.0	-9.3
	baz=7.8,SNR=3.2						
MTN	Manton Dam	8.32	134	S	S	22 40 06.4	-3.8
	baz=8.4,SNR=5.7						
SWI	Sorong	8.72	46	S	S	22 39 42.9	-35
	baz=8.7,SNR=9.6						
KDU	Kakadu	9.22	128	P	P	22 38 38.8	-1.4
	baz=9.3,SNR=31						
KDU				S	S	22 40 23.9	-3.0
	baz=9.3,SNR=8.4						
FITZ	Fitzroy Crossi	11.01	177	P	P	22 38 58.1	-0.5
	0.7nm,0.3s,baz=28,slow=8.7,SNR=15						
FITZ				S	S	22 40 58.2	-2.4
	0.9nm,0.3s,baz=357,slow=22,SNR=11						
FITZ	Fitzroy Crossi	11.01	177	eP	P	22 38 57.1	-1.5
	2.2nm,0.5s						
FITZ	Fitzroy Crossi	11.01	177	S	S	22 40 58.5	-2.0
	baz=11,SNR=7.9						
MBWA	Marble Bar	14.95	200	eP	P	22 39 38.2	-1.2
WRAB	Tennant Creek	15.68	146	eP	P	22 39 44.6	-2.4
	13nm,0.6s						
WRAB				eS	S	22 42 27.2	-1.0
WRA	Warramunga Arr	15.68	146	P	P	22 39 45.5	-1.6
	2.9nm,0.3s,baz=330,slow=11,SNR=130						
WRA				S	S	22 42 27.4	-0.7
	baz=318,slow=17,SNR=5.4						
KKM	Kota Kinabalu	15.70	326	P	P	22 39 47.1	-0.2
AS31	Alice Springs	18.59	154	eP	P	22 40 14.4	+0.4
ASAR	Alice Springs	18.59	154	P	P	22 40 14.6	+0.5
	3.3nm,0.3s,baz=329,slow=7.5,SNR=146						
ASAR				S	S	22 43 17.7	+1.6
	0.0nm,0.3s,baz=348,slow=26,SNR=3.6						
ASAR				ScP	ScP	22 47 00.3	+0.7
	0.2nm,0.3s,baz=346,slow=2.0,SNR=6.0						
COEN	Coen	19.10	113	eP	P	22 40 18.0	-0.7
	68nm,0.5s						
COEN	Coen	19.10	113	P	P	22 40 18.3	-0.5
	baz=19,SNR=30						
QIS	Mount Isa	19.48	135	P	P	22 40 22.0	-0.2
	baz=20,SNR=41						
MEEK	Meekatharra	20.43	197	P	P	22 40 30.9	+0.3
	baz=21,SNR=10						
CTA	Charters Tower	24.32	124	P	P	22 41 06.2	+0.7
	1.2nm,0.4s,baz=358,slow=6.4,SNR=3.6						
QLP	Quilpie	26.67	139	P	P	22 41 27.3	+1.1
	baz=27,SNR=8.9						
NWAO	Narrogin (SRO)	26.76	195	P	P	22 41 27.7	+0.8
	17nm,0.9s,baz=349,slow=5.2,SNR=2.7						
KULM	Kulim	27.25	296	eP	P	22 41 30.0	-1.5
BBOO	Buckleboo	27.61	160	P	P	22 41 34.7	+0.3
	baz=28,SNR=11						
STKA	Stephens Creek	29.14	150	P	P	22 41 48.2	+0.5
	16nm,0.6s,baz=327,slow=8.6,SNR=33						
STKA	Stephens Creek	29.14	150	P	P	22 41 48.3	+0.5
	baz=29,SNR=22						
EIDS	Eidsvold	30.83	129	S	S	22 46 30.6	+2.5
	baz=31,SNR=4.4						
CMSA	Cobar Meteorol	31.08	144	P	P	22 42 05.7	+1.2
	baz=31,SNR=24						
ARPS	Mount Arapiles	33.33	155	P	P	22 42 24.8	+1.3
	baz=34,SNR=22						
TOO	Toolangi	35.62	152	P	P	22 42 45.0	+2.2
	baz=36,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	36.12	315	P	P	22 42 48.3	+1.2
	0.9nm,0.5s,baz=140,slow=7.1,SNR=8.4						
XAN	Xi'an	43.62	340	P	P	22 43 46.0	-1.0
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS	Korea Array	44.34	3	P	P	22 43 52.5	+0.1
	comp=Z,2.1nm,0.7s,baz=176,slow=10,SNR=5.7						
MJAR	Matsushiro Arr	45.08	15	P	P	22 43 57.0	-1.2
	comp=Z,1.0nm,0.3s,baz=192,slow=9.3,SNR=5.2						
NFK	Norfolk Island	45.93	124	S	S	22 50 30.3	+20
	baz=46,SNR=4.3						
LZH	Lanzhou	47.30	337	eP	P	22 44 15.2	0.0
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LSA	Lhasa	48.94	320	P	P	22 44 20.8	-7.1
LSA	Lhasa	48.94	320	eP	P	22 44 27.8	-0.1
	comp=Z,7.7nm,0.6s						
ODAN	Odare	49.66	314	eP	P	22 44 33.3	+0.3
	comp=Z,13nm,0.6s						
ODAN	Odare	49.66	314	eP	P	22 44 33.3	+0.3
	comp=Z,13nm,0.6s						
TAPN	Taplejung	49.73	315	eP	P	22 44 33.9	+0.3
	comp=Z,9.3nm,0.5s						
TAPN	Taplejung	49.73	315	eP	P	22 44 33.9	+0.3
	comp=Z,9.3nm,0.5s						
RAMN	Ramite	50.28	314	eP	P	22 44 38.2	+0.6
	comp=Z,27nm,0.6s						
RAMN	Ramite	50.28	314	eP	P	22 44 38.2	+0.6
	comp=Z,27nm,0.6s						
JIRN	Jiri	50.99	314	eP	P	22 44 43.2	+0.3
	comp=Z,2.5nm,0.7s						
JIRN	Jiri	50.99	314	eP	P	22 44 43.2	+0.3
	comp=Z,2.5nm,0.7s						
GUN	Gumba	51.36	314	eP	P	22 44 45.8	+0.3
	comp=Z,18nm,0.5s						
GUN	Gumba	51.36	314	eP	P	22 44 45.8	+0.3
	comp=Z,18nm,0.5s						
USRK	Ussuriysk Arra	51.39	6	P	P	22 44 44.7	-0.2
	comp=Z,3.1nm,0.6s,baz=188,slow=7.5,SNR=13						
PKI	Pulchoki	51.50	314	eP	P	22 44 46.4	-0.1
	comp=Z,12nm,0.5s						
PKI	Pulchoki	51.50	314	eP	P	22 44 46.4	-0.1
	comp=Z,12nm,0.5s						
KKN	Kakani	51.72	314	eP	P	22 44 48.2	+0.2
	comp=Z,6.3nm,0.4s						
KKN	Kakani	51.72	314	eP	P	22 44 48.2	+0.2
	comp=Z,6.3nm,0.4s						
DMN	Daman	51.74	313	eP	P	22 44 48.4	+0.2
	comp=Z,10.0nm,0.6s						
DMN	Daman	51.74	313	eP	P	22 44 48.4	+0.2
	comp=Z,10.0nm,0.6s						
GTA	Gaotai	51.79	335	eP	P	22 44 48.7	+0.6
GTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GKN	Gorkha	52.31	314	eP	P	22 44 52.3	+0.2
	comp=Z,17nm,0.4s						
GKN	Gorkha	52.31	314	eP	P	22 44 52.3	+0.2
	comp=Z,17nm,0.4s						
KOLN	Koldanda	52.92	313	eP	P	22 44 56.9	+0.3
	comp=Z,17nm,0.7s						
KOLN	Koldanda	52.92	313	eP	P	22 44 56.9	+0.3
	comp=Z,17nm,0.7s						
DANN	Dangsing	53.14	313	eP	P	22 44 58.4	+0.2
	comp=Z,14nm,0.6s						
DANN	Dangsing	53.14	313	eP	P	22 44 58.4	+0.2
	comp=Z,14nm,0.6s						
PYUN	Piuthan	53.55	313	eP	P	22 45 01.5	+0.4
	comp=Z,23nm,0.6s						
PYUN	Piuthan	53.55	313	eP	P	22 45 01.5	+0.4
	comp=Z,23nm,0.6s						
SONM	Songino Array	57.07	345	P	P	22 45 25.2	+0.2
	comp=Z,2.6nm,0.7s,baz=161,slow=8.7,SNR=26						
AFI	Afiamalu	62.36	102	P	P	22 46 01.7	+0.9
	comp=Z,7.9nm,0.4s,baz=281,slow=10,SNR=2.2						
MKAR	Makanchi Array	65.65	329	P	P	22 46 21.5	+0.4
	comp=Z,5.1nm,0.7s,baz=129,slow=7.8,SNR=68						
PETK	Petropavlovsk-	66.01	21	P	P	22 46 23.9	+0.8
	comp=Z,2.4nm,0.5s,baz=198,slow=6.2,SNR=6.2						
TKM2	Tokmak 2	66.96	323	eP	P	22 46 26.5	-3.0
	comp=Z,1.1nm,0.7s						
AAK	Ala-Archa	67.46	322	P	P	22 46 33.6	+1.1
	comp=Z,2.7nm,0.6s,baz=131,slow=6.1,SNR=19						
AAK	Ala-Archa	67.46	322	eP	P	22 46 32.0	-0.5
	comp=Z,10nm,0.5s						
EKS2	Erkin-Say	67.92	322	eP	P	22 46 35.1	-0.1
	comp=Z,0.8nm,0.6s						
ZAA0	Zalesovo Array	69.53	336	eP	P	22 46 43.4	-1.1
ZALV	Zalesovo Beam	69.53	336	P	P	22 46 44.0	-0.6
	comp=Z,4.9nm,0.6s,baz=133,slow=4.9,SNR=25						
KURBB	Kurchatov Arra	70.05	331	P	P	22 46 47.9	+0.2
	comp=Z,3.1nm,0.7s,baz=136,slow=5.1,SNR=41						
KURK	Kurchatov	70.06	331	eP	P	22 46 48.0	+0.2
	comp=Z,8.3nm,1.1s						
VNDA	Vanda	73.04	172	P	P	22 47 05.3	+0.5
	comp=Z,1.6nm,1.0s,baz=318,slow=9.5,SNR=5.1						
BVAR	Borovoye Array	75.53	329	P	P	22 47 19.5	+0.3
	comp=Z,1.9nm,0.6s,baz=117,slow=7.9,SNR=12						
BRVK	Borovoye	75.61	329	eP	P	22 47 16.9	-2.6
	comp=Z,1.7nm,0.8s						
ABKAR	Akbulak array	79.52	323	eP	P	22 47 40.6	-0.3
	comp=Z,0.7nm,0.5s						
AKTO	Aktyubinsk	81.13	323	P	P	22 47 49.5	+0.2
	comp=Z,2.2nm,0.5s,baz=103,slow=8.3,SNR=11						
ILAR	Eielson Array	95.49	25	P	P	22 48 56.5	-0.4
	comp=Z,0.5nm,1.0s,baz=280,slow=5.2,SNR=3.1						
LPAZ	La Paz	153.41	151	PKPab	PKPab	22 55 44.6	+0.8
	comp=Z,1.0nm,0.6s,baz=210,slow=10,SNR=3.6						

---

*ATH **02** 22:46:09.5, 37°.30N×28°.83E, h13km±4km, MD3.6/6*
*ISK **02** 22:46:10.9, 37°.25N×28°.68E, h3km, MD3.2*
*ISCJB **02** 22:46:11.2±0.5, 37°.22N±0°.02×28°.71E±0°.02, h1km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=161.7*
*DDA **02** 22:46:11.5, 37°.23N×28°.70E, h7km, MD3.1*
*CSEM **02** 22:46:11.6±0.1, 37°.24N×28°.70E, h2km, MD3.2, Error ellipse: s-maj=2.9km s-min=2.3km az=169.0*
ISC 02 22:46:11.8±1.2, **37°.25N**±0°.02×**28°.70E**±0°.02, **h1**km±11km, **n84**, σ**0s.62**/104, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.35	252	PG	Pg	22 46 18.2	-0.4
YER				SG	Sg	22 46 23.7	+0.5
YER	Yerkesik	0.35	252	i Pg	Pg	22 46 18.2	-0.4
YER				i Sg	Sg	22 46 23.7	+0.5
DNZL	Cakiroluk	0.52	31	i P	Pg	22 46 21.9	+0.1
DNZL				i S	Sb	22 46 30.6	-1.4
DNZL	Cakiroluk	0.52	31	i P	Pg	22 46 21.9	+0.1
DNZL				i S	Sb	22 46 30.6	-1.4
DENT	Denizli	0.57	27	PG	Pg	22 46 23.0	+0.3
DENT	Denizli	0.57	27	i Pg	Pg	22 46 23.0	+0.3
FETY	Fethiye	0.68	153	ePG	Pg	22 46 24.7	-0.1
FETY	Fethiye	0.68	153	ePg	Pg	22 46 24.7	-0.1
GOLH	Golhisar	0.68	91	i P	Pg	22 46 24.0	-0.9
GOLH				i S	Sb	22 46 35.8	-0.8
GOLH	Golhisar	0.68	91	i P	Pg	22 46 24.0	-0.9
GOLH				i S	Sb	22 46 35.8	-0.8
MLSB	Milas	0.74	274	ePG	Pg	22 46 25.6	-0.4
MLSB				eSG	Sg	22 46 35.9	+0.3
MLSB	Milas	0.74	274	ePg	Pg	22 46 25.6	-0.4
MLSB				eSg	Sg	22 46 35.9	+0.3
AYDN	Tasoluk	0.78	302	i P	Pg	22 46 27.0	+0.3
AYDN				i S	Sb	22 46 38.6	-0.6
AYDN	Tasoluk	0.78	302	i P	Pg	22 46 27.0	+0.3
AYDN				i S	Sb	22 46 38.6	-0.6
BDRM	Kayabasi	1.02	260	i P	Pg	22 46 30.2	-1.2
BDRM				i S	Sg	22 46 46.3	+1.6
BDRM	Kayabasi	1.02	260	i P	Pg	22 46 30.2	-1.2
DAT	Datca	1.04	241	ePG	Pg	22 46 31.1	-0.6
DAT	Datca	1.04	241	ePg	Pg	22 46 31.1	-0.6
ELL	Elmali	1.08	117	ePN	Pg	22 46 32.7	+0.1
ELL	Elmali	1.08	117	ePn	Pg	22 46 32.7	+0.1
ARG	Arkhangelos	1.13	204	ePN	Pg	22 46 31.6	-1.8
ARG				eSB	Sb	22 46 49.8	+0.5
ARG	Arkhangelos	1.13	204	ePn	Pg	22 46 31.6	-1.8
ARG				eSb	Sb	22 46 49.8	+0.5
BODT	Bodrum	1.13	261	ePN	Pg	22 46 32.8	-0.6
BODT	Bodrum	1.13	261	ePn	Pg	22 46 32.8	-0.6
AKAS	Kas	1.24	144	i P	Pg	22 46 34.9	-0.7
AKAS	Kas	1.24	144	i P	Pg	22 46 34.9	-0.7
MANT	Manisa	1.25	355	i P	Pg	22 46 35.2	-0.5
MANT				i S	Sb	22 46 53.4	+0.4
MANT	Manisa	1.25	355	i P	Pg	22 46 35.2	-0.5
GCAM	G?zelcaml?	1.25	292	i P	Pg	22 46 35.3	-0.6
GCAM				i S	Sn	22 46 54.0	0.0
GCAM	G?zelcaml?	1.25	292	i P	Pg	22 46 35.3	-0.6
GCAM				i S	Sn	22 46 54.0	0.0
KHL	Karahalli	1.26	31	ePN	Pg	22 46 35.7	-0.2
KHL	Karahalli	1.26	31	ePn	Pg	22 46 35.7	-0.2
KULA	Kula-Manisa	1.27	358	ePN	Pg	22 46 35.7	-0.4
KULA	Kula-Manisa	1.27	358	ePn	Pg	22 46 35.7	-0.4
KORT	Korkueli	1.34	100	i P	Pg	22 46 37.2	-0.3
KORT	Korkueli	1.34	100	i P	Pg	22 46 37.2	-0.3
BCK	Bucak	1.52	81	ePN	Pn	22 46 39.9	-0.3
BCK	Bucak	1.52	81	ePn	Pn	22 46 39.9	-0.3
ISP	Isparta	1.56	68	ePN	Pn	22 46 40.2	-0.4
ISP	Isparta	1.56	68	ePn	Pn	22 46 40.3	-0.4
ANTB	Antalya	1.60	102	ePN	Pn	22 46 41.3	+0.1
ANTB	Antalya	1.60	102	ePn	Pn	22 46 41.3	+0.1
IZM	Izmir	1.62	316	ePN	Pn	22 46 41.2	-0.4
IZM	Izmir	1.62	316	ePn	Pn	22 46 41.2	-0.4
BLCB	Balcova	1.74	311	ePN	Pn	22 46 42.5	-0.6
BLCB	Balcova	1.74	311	ePn	Pn	22 46 42.6	-0.6
AKHS	Akhisar	1.77	337	i P	Pn	22 46 43.0	-0.7
AKHS				i S	Sb	22 47 08.4	+0.4
AKHS	Akhisar	1.77	337	i P	Pn	22 46 43.0	-0.7
AKHS				i S	Sb	22 47 08.4	+0.4
AKS	Akhisar	1.77	337	ePN	Pn	22 46 43.1	-0.5
AKS	Akhisar	1.77	337	ePn	Pn	22 46 43.1	-0.5
DEMI	Demirci	1.79	0	i P	Pn	22 46 43.3	-0.7
DEMI	Demirci	1.79	0	i P	Pn	22 46 43.3	-0.7
SHUT	Suhut-Afyon	1.96	48	ePN	Pn	22 46 46.4	+0.1
SHUT	Suhut-Afyon	1.96	48	ePn	Pn	22 46 46.4	+0.1
KARP	Karpathos	2.10	217	ePN	Pn	22 46 48.3	+0.1
KARP				eSN	Sn	22 47 15.3	+0.3
KARP	Karpathos	2.10	217	ePn	Pn	22 46 48.3	+0.1
KARP				eSn	Sn	22 47 15.3	+0.3
ALT	Altintas	2.12	31	ePN	Pn	22 46 48.8	+0.3
ALT	Altintas	2.12	31	ePn	Pn	22 46 48.8	+0.3
TVSB	Tavsanli	2.28	15	ePN	Pn	22 46 50.7	0.0
TVSB	Tavsanli	2.28	15	ePn	Pn	22 46 50.7	0.0
DST	Dursunbey	2.35	358	ePN	Pn	22 46 51.2	-0.5
DST	Dursunbey	2.35	358	ePn	Pn	22 46 51.2	-0.5
CHOS	Chios island	2.39	299	ePN	Pn	22 46 51.5	-0.6
CHOS	Chios island	2.39	299	ePn	Pn	22 46 51.5	-0.6
BALB	Balikesir	2.48	345	ePN	Pn	22 46 53.4	+0.1
BALB	Balikesir	2.48	345	ePn	Pn	22 46 53.4	+0.1
APE	Apeiranthos	2.54	267	ePN	Pn	22 46 54.4	+0.2
APE	Apeiranthos	2.54	267	ePn	Pn	22 46 54.4	+0.2
GONE	Gonen-Balikesi	2.91	344	ePN	Pn	22 46 59.4	+0.2
GONE	Gonen-Balikesi	2.91	344	ePn	Pn	22 46 59.4	+0.2
ZKR	Zakros	2.93	224	ePB	Pn	22 47 00.9	+1.4
ZKR	Zakros	2.93	224	ePb	Pn	22 47 00.9	+1.4
KONT	Konya--Tatoy	2.99	75	ePN	Pn	22 47 00.8	+0.5
KONT	Konya--Tatoy	2.99	75	ePn	Pn	22 47 00.9	+0.5
KIZT	Kizilcal	2.99	56	ePN	Pn	22 47 00.8	+0.4
KIZT	Kizilcal	2.99	56	ePn	Pn	22 47 00.9	+0.4
KCTX	Karacabey (Bur	3.03	355	ePN	Pn	22 47 01.1	+0.2
KCTX	Karacabey (Bur	3.03	355	ePn	Pn	22 47 01.1	+0.2
LADK	Ladik-KONYA	3.05	71	ePN	Pn	22 47 01.7	+0.3
LADK	Ladik-KONYA	3.05	71	ePn	Pn	22 47 01.7	+0.3
NPS	Neapolis	3.19	233	ePN	Pn	22 47 03.3	+0.2
NPS	Neapolis	3.19	233	ePn	Pn	22 47 03.3	+0.2
LAST	Lasithi	3.34	232	ePN	Pn	22 47 05.9	+0.7
LAST	Lasithi	3.34	232	ePn	Pn	22 47 05.9	+0.7

---

*ISCJB **02** 22:59:44.0±0.7, 3°.78S±0°.05×128°.81E±0°.05, h10km, mb3.7/2, Error ellipse: s-maj=7.9km s-min=6.5km az=31.6*
*IDC **02** 22:59:43.5±1.4, 3°.71S×128°.70E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/22, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=105.0km s-min=23.3km az=72.0*
*DJA **02** 22:59:46.2±1.1, 4°S±10°×12°9E±°, h10km, M4.1/5, MLv4.1/5*
ISC 02 22:59:45.2±0.8, **3°.69S**±0°.08×**128°.75E**±0°.07, **h10**km, **n9**, σ**0s.77**/11, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.39	28	P	Pg	22 59 53.1	+0.2
MSAI				S	Sb	22 59 59.3	-1.0
AAI	Ambon	0.55	271	P	Pb	22 59 57.0	0.0
AAI				S	Sb	23 00 04.6	-0.4
LBMI	Labuha	3.28	338	P	Pn	23 00 39.5	+2.8
SWI	Sorong	3.77	42	P	Pn	23 00 44.5	+1.1
FITZ	Fitzroy Crossi	14.64	192	Pn	Pn	23 03 13.3	+0.7
	0.1nm,0.3s,baz=0.0,slow=14,SNR=2.2						
WRA	Warramunga Arr	17.05	162	P	Pn	23 03 42.9	-1.1
	0.2nm,0.3s,baz=342,slow=12,SNR=13						
ASAR	Alice Springs	20.47	166	P	P	23 04 23.2	-0.2
	6.7nm,0.6s,baz=348,slow=11,SNR=83						
ASAR				PcP	PcP	23 08 34.6	-0.8
	0.3nm,0.4s,baz=357,slow=1.8,SNR=6.0						
MKAR	Makanchi Array	64.80	327	P	P	23 10 24.2	0.0
	0.3nm,0.4s,baz=109,slow=7.7,SNR=7.9						
ZALV	Zalesovo Beam	68.08	334	P	P	23 10 44.9	-0.1
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.5						

---

*ISCJB **02** 23:13:11.9±0.6, 4°.54S±0°.08×153°.26E±0°.08, h55km, mb4.2/12, MS3.8/2, Error ellipse: s-maj=13.4km s-min=9.4km az=37.2*
*IDC **02** 23:13:14.6±4.7, 4°.58S×153°.26E, h65km±40km, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML3.4/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/28, Error ellipse: s-maj=24.8km s-min=19.7km az=58.0*
*NEIC **02** 23:13:15.4±2.9, 4°.59S×153°.24E, h74km±22km, mb4.6/5, Error ellipse: s-maj=24.6km s-min=13.6km az=92.0*
ISC 02 23:13:13.9±0.6, **4°.40S**±0°.08×**153°.15E**±0°.07, **h55**km, **n38**, σ**1s.50**/41, **mb4.2**/12, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.75	230	P	Pn	23 15 05.1	+1.0
	3.0nm,0.3s,baz=47,slow=9.5,SNR=5.3						
PMG				S	Sn	23 16 32.0	+1.5
	4.5nm,0.3s,baz=169,slow=19,SNR=4.9						
PMG	Port Moresby	7.75	230	P	Pn	23 15 05.1	+1.0
PMG				S	Sn	23 16 32.0	+1.5
HNR	Honiara	8.40	127	S	Sn	23 16 49.7	+3.2
	16nm,0.3s,baz=178,slow=20,SNR=8.4						
HNR	Honiara	8.40	127	S	Sn	23 16 49.7	+3.2
NOUC	Port Laguerre	21.73	145	eP	P	23 17 59.0	-1.7
DZM	Mont Dzumac	21.79	145	P	P	23 17 59.6	-1.8
	11nm,0.6s,baz=331,slow=13,SNR=19						
DZM				LR	LR	23 23 35.8	
	comp=Z,47nm,19.8s,baz=20,slow=29						
DZM	Mont Dzumac	21.79	145	eP	P	23 17 59.6	-1.8
DZM	Mont Dzumac	21.79	145	eP	P	23 17 59.6	-1.8
	23nm,1.0s						
WRAB	Tennant Creek	23.95	228	eP	P	23 18 22.5	-0.8
	20nm,0.6s						
WRA	Warramunga Arr	23.97	228	P	P	23 18 22.5	-0.9
	13nm,0.5s,baz=50,slow=10,SNR=141						
WRA	Warramunga Arr	23.97	228	P	P	23 18 22.5	-0.9
AS31	Alice Springs	26.67	222	eP	P	23 18 47.2	-0.8
ASAR	Alice Springs	26.68	222	P	P	23 18 47.0	-1.0
	1.9nm,0.4s,baz=54,slow=8.7,SNR=9.5						
ASAR	Alice Springs	26.68	222	P	P	23 18 47.0	-1.0
STKA	Stephens Creek	29.41	200	P	P	23 19 10.4	-1.8
	3.8nm,0.7s,baz=18,slow=9.6,SNR=7.1						
STKA	Stephens Creek	29.41	200	eP	P	23 19 10.6	-1.5
	2.1nm,1.1s						
FITZ	Fitzroy Crossi	30.15	241	P	P	23 19 17.4	-1.5
	5.7nm,0.5s,baz=59,slow=6.4,SNR=23						
FITZ	Fitzroy Crossi	30.15	241	eP	P	23 19 17.2	-1.7
	6.3nm,0.6s						
CMAR	Chiang Mai Arr	58.02	295	P	P	23 23 03.3	+1.7
	0.9nm,0.4s,baz=121,slow=5.2,SNR=6.1						
CMAR	Chiang Mai Arr	58.02	295	P	P	23 23 03.3	+1.7
SONM	Songino Array	66.17	328	P	P	23 23 57.7	+1.8
	0.2nm,0.5s,baz=147,slow=5.2,SNR=5.0						
SONM	Songino Array	66.17	328	P	P	23 23 57.7	+1.8
VNDA	Vanda	73.22	178	P	P	23 24 38.3	-0.2
	2.5nm,0.7s,baz=319,slow=7.9,SNR=7.5						
VNDA	Vanda	73.22	178	P	P	23 24 38.3	-0.2
MK31	Makanchi Array	80.25	319	eP	P	23 25 19.4	+0.6
MKAR	Makanchi Array	80.25	319	P	P	23 25 20.2	+1.4
	0.4nm,0.5s,baz=94,slow=7.8,SNR=13						
MKAR	Makanchi Array	80.25	319	P	P	23 25 20.2	+1.4
ILAR	Eielson Array	81.66	22	P	P	23 25 24.4	-1.5
	0.4nm,0.6s,baz=248,slow=5.4,SNR=6.5						
ILAR	Eielson Array	81.66	22	P	P	23 25 24.4	-1.5
KURK	Kurchatov	83.67	322	P	P	23 25 36.6	0.0
AAK	Ala-Archa	84.64	313	eP	P	23 25 42.5	+0.5
	6.9nm,0.5s						
MAW	Mawson	86.07	203	LR	LR	00 02 31.4	
	comp=Z,366nm,19.4s,baz=351,slow=34						
GERES	GERESS Array B	123.89	329	PKP	PKPdf	23 32 05.7	-0.4
	0.4nm,0.5s,baz=48,slow=2.0,SNR=6.4						
GERES	GERESS Array B	123.89	329	PKP	PKPdf	23 32 05.7	-0.4
TORD	Torodi Ar. Bea	150.51	289	PKPbc	PKPbc	23 32 59.6	-1.0
	0.7nm,0.3s,baz=73,slow=2.0,SNR=30						
TORD				pPKPbc	pPKPbc	23 33 18.5	+1.6
	1.8nm,0.8s,baz=74,slow=2.2,SNR=8.0						
TORD	Torodi Ar. Bea	150.51	289	PKPbc	PKPbc	23 32 59.6	-1.0
TORD				pPKPbc	pPKPbc	23 33 18.5	+1.6
BDFB	Brasilia	151.10	134	PKPbc	PKPbc	23 33 01.1	-1.0
	2.0nm,0.5s,baz=237,slow=3.7,SNR=5.0						
BDFB	Brasilia	151.10	134	PKPbc	PKPbc	23 33 01.1	-1.0

IDC 02 23:50:23.2±1.2, **25°.60N**×**140°.79E**, **h0**km, **mb4.1**/3, **mb1 4.3**/3, **mb1mx3.6**/23, **mbtmp4.1**/3, **Error ellipse: s-maj=51.0km s-min=20.7km az=110.0**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.95	40	Pn	Pn	23 50 58.4	+0.8
	20nm,0.3s,baz=276,slow=24,SNR=2.0						
CBIJ				Sn	Sn	23 51 21.9	-0.9
	37nm,0.3s,baz=290,slow=22,SNR=4.7						
WRA	Warramunga Arr	45.70	188	P	P	23 58 45.6	-0.4
	3.9nm,0.4s,baz=10.0,slow=8.5,SNR=70						
ASAR	Alice Springs	49.42	188	P	P	23 59 15.2	+0.2
	0.5nm,0.5s,baz=12,slow=14,SNR=7.6						
FINES	FINESS Array B	78.73	334	P	P	00 02 27.2	0.0
	2.2nm,1.0s,baz=61,slow=3.8,SNR=8.5						

WEL 02 23:51:25.4±0.2, **37°.32S**×**177°.76E**, **h57**km±3km, **ML3.8**/7, **Error ellipse: s-maj=1.5km s-min=1.5km az=0.0**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.50	120	P*	Pn	23 51 35.9	-1.2
WIZ	White Island	0.50	245	P*	Pn	23 51 37.1	-0.1
WIZ				S*	Sn	23 51 46.1	+0.5
PUZ	Puketiti	0.85	153	PN	Pn	23 51 41.6	+0.2
MWZ	Matawai	1.03	190	P*	Pn	23 51 43.2	-0.6
MWZ				S*	Sn	23 51 56.8	-0.7
URZ	Urewera	1.07	208	P*	Pn	23 51 43.8	-0.5
URZ				S*	Sn	23 51 58.1	-0.2
MARZ	Manawahe	1.09	232	P*	Pn	23 51 44.4	-0.2
MARZ				S*	Sn	23 51 59.0	+0.2
OPRZ	Ohinepanea	1.09	241	P*	Pn	23 51 44.3	-0.2
OPRZ				S*	Sn	23 51 58.4	-0.3
MYRZ	Mayor Island	1.21	271	P*	Pn	23 51 46.1	-0.1
CNGZ	Carnagh Statio	1.22	163	PN	Pn	23 51 46.6	+0.4
TGRZ	Tauranga	1.26	250	P*	Pn	23 51 46.6	-0.1
KARZ	Kaharoa	1.39	239	P*	Pn	23 51 48.7	+0.1
KARZ				S*	Sn	23 52 06.1	0.0
PRRZ	Plateau Road	1.60	222	P*	Pn	23 51 51.6	+0.2
PRRZ				S*	Sn	23 52 11.0	0.0
PRGZ	Paritu Road	1.61	177	PN	Pn	23 51 51.4	-0.2
ALRZ	Allen Road	1.68	222	P*	Pn	23 51 52.6	+0.2
KNZ	Kokohu	1.70	182	PN	Pn	23 51 52.1	-0.7
KUZ	Kuaotunu	1.73	289	PN	Pn	23 51 52.6	-0.5
MHGZ	Mahia Peninsul	1.84	176	PN	Pn	23 51 54.0	-0.6
MKAZ	Moumakai	2.08	275	PN	Pn	23 51 58.1	+0.2
BKZ	Black Stump Fm	2.10	208	P*	Pn	23 51 58.8	+0.6
MCHZ	McNeill Hill	2.28	201	PN	Pn	23 52 00.7	0.0
CKHZ	Cape Kidnapper	2.40	193	PN	Pn	23 52 01.3	-0.9
KRVZ	Karewarewa	2.44	223	P*	Pn	23 52 04.5	+1.6
OTVZ	Oturere	2.48	221	P*	Pn	23 52 04.0	+0.5
TUVZ	Tukino	2.56	220	P*	Pn	23 52 05.4	+0.8
KAHZ	Kahuranaki	2.57	195	PN	Pn	23 52 04.0	-0.7
FWVZ	Far West T-bar	2.60	221	P*	Pn	23 52 06.2	+0.9
MOVZ	Moawhango	2.62	216	P*	Pn	23 52 05.2	-0.1
WNVZ	Wahianoa	2.63	220	P*	Pn	23 52 06.3	+0.6
TRVZ	Turoa	2.64	221	P*	Pn	23 52 06.3	+0.5
PXZ	Pawanui	2.80	194	PN	Pn	23 52 05.8	-1.9
WCZ	Waipu Caves	3.07	296	PN	Pn	23 52 11.9	+0.5
PRHZ	Porangahau	3.08	196	PN	Pn	23 52 09.4	-2.1
TSZ	Takapari Road	3.08	207	PN	Pn	23 52 09.8	-1.8
DVHZ	Dannevirke	3.23	202	PN	Pn	23 52 11.4	-2.2
WAZ	Wanganui	3.27	221	PN	Pn	23 52 15.1	+1.0
OGWZ	Otaki Gorge	4.04	209	PN	Pn	23 52 22.5	-2.1
KIW	Kapiti Island	4.18	211	PN	Pn	23 52 24.0	-2.6
QRZ	Quartz Range	5.37	228	PN	Pn	23 52 40.9	-2.0

---

*DDA **02** 23:58:50.6, 37°.83N×29°.11E, h7km, MD2.8*
ISC 02 23:58:49.2±3.2, **37°.7N**±0°.2×**29°.3E**±0°.2, **h12**km, **n4**, σ**0s.57**/7, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.19	264	eP	Pg	23 58 53.8	+0.3
DNZL				i S	Sg	23 58 56.3	-0.2
DENT	Denizli	0.20	282	ePG	Pg	23 58 53.1	-0.6
DENT				eSG	Sg	23 58 57.5	+0.8
KHL	Karahalli	0.64	17	ePG	Pb	23 59 02.3	-0.1
KHAL	Karahalli	0.68	14	eP	Pb	23 59 02.9	-0.2
KHAL				eS	Sg	23 59 11.9	+0.5

---

*ISCJB **03** 00:04:34.5±0.7, 37°.91N±0°.04×28°.96E±0°.09, h13km±7km, Error ellipse: s-maj=11.9km s-min=6.4km az=170.2*
*ISK **03** 00:04:34.3, 37°.92N×29°.00E, h9km, MD2.5*
*CSEM **03** 00:04:34.4±0.2, 37°.91N×28°.97E, h12km, MD2.5, Error ellipse: s-maj=7.1km s-min=4.7km az=100.0*
*DDA **03** 00:04:37.5, 37°.81N×29°.07E, h7km, MD2.8*
ISC 03 00:04:34.6±1.0, **37°.92N**±0°.04×**28°.97E**±0°.05, **h12**km±12km, **n14**, σ**0s.44**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.17	164	ePG	Pg	00 04 38.3	-0.3
DENT				eSG	Sg	00 04 41.9	+0.5
DENT	Denizli	0.17	164	ePg	Pg	00 04 38.3	-0.3
DENT				eSg	Sg	00 04 41.9	+0.5
DNZL	Cakiroluk	0.24	166	i P	Pg	00 04 39.8	0.0
DNZL				i S	Sg	00 04 43.2	-0.1
DNZL	Cakiroluk	0.24	166	i P	Pg	00 04 39.8	0.0
DNZL				i S	Sg	00 04 43.2	-0.1
KHL	Karahalli	0.59	47	ePG	Pg	00 04 45.6	-0.6
KHL	Karahalli	0.59	47	ePg	Pg	00 04 45.6	-0.6
KULA	Kula-Manisa	0.64	338	ePG	Pg	00 04 46.9	-0.2
KULA				eSG	Sb	00 04 57.5	+0.8
KULA	Kula-Manisa	0.64	338	ePg	Pg	00 04 46.9	-0.2
KULA				eSg	Sb	00 04 57.5	+0.8
YER	Yerkesik	0.96	215	ePG	Pg	00 04 52.9	-0.2
YER	Yerkesik	0.96	215	ePg	Pg	00 04 52.9	-0.2
MLSB	Milas	1.14	237	ePN	Pb	00 04 55.8	-0.4
MLSB	Milas	1.14	237	ePn	Pb	00 04 55.8	-0.4
SHUT	Suhut-Afyon	1.39	63	ePN	Pb	00 05 00.7	0.0
SHUT	Suhut-Afyon	1.39	63	ePn	Pb	00 05 00.7	0.0

---

*IDC **03** 00:13:01.3±2.3, 43°.49N×105°.32W, h0km, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=53.6km s-min=9.4km az=154.0*
*ISCJB **03** 00:13:03.2±0.2, 43°.70N±0°.01×105°.34W±0°.02, h0km, Error ellipse: s-maj=2.1km s-min=1.7km az=160.5*
*NEIC **03** 00:13:04.2±0.6, 43°.73N×105°.30W, h0km, ML2.8, Error ellipse: s-maj=9.1km s-min=6.4km az=63.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 03 00:13:03.5±0.6, **43°.66N**±0°.02×**105°.37W**±0°.02, **h0**km, **n128**, σ**1s.33**/183, **63C-49D**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.29	208	P	Pb	00 13 10.5	-1.1
	baz=0.4,SNR=141						
I23A	Meade Ranch, G	0.31	347	P	Pg	00 13 10.3	+0.9
	baz=0.3,SNR=63						
I23A				⇓S	Sg	00 13 13.5	+0.1
	baz=0.3						
I24A	Kuemmerle Ranc	0.57	69	P	Pg	00 13 14.2	-0.2
	baz=0.5,SNR=270						
I24A				⇑S	Sg	00 13 22.1	+0.3
	baz=0.5						
J24A	Dixon Ranch, L	0.61	122	P	Pg	00 13 15.1	0.0
	baz=0.6,SNR=61						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
J24A				⇑S	Sg	00 13 23.5	+0.5
	baz=0.6						
I22A	9 Mile Ranch,	0.84	286	P	Pg	00 13 20.2	+0.7
	baz=0.9,SNR=289						
I22A				⇓S	Sg	00 13 31.0	+0.5
	baz=0.9						
J22A	Midwest	0.84	253	P	Pg	00 13 20.2	+0.6
	baz=0.9,SNR=60						
J22A				⇑S	Sb	00 13 32.7	-0.3
	baz=0.9						
H23A	Clabaugh Cattl	0.90	358	⇑P	Pg	00 13 20.2	-0.5
	baz=0.8						
H23A				⇓S	Sg	00 13 31.8	-0.7
	baz=0.8						
K24A	Anderson Ranch	1.02	156	P	Pg	00 13 23.0	0.0
	baz=1.1,SNR=106						
H22A	Clearmont	1.17	323	⇑P	Pg	00 13 25.8	-0.2
	baz=1.1,SNR=81						
H22A				⇓S	Sg	00 13 42.0	+0.8
	baz=1.1						
H24A	Dirks Ranch, A	1.24	28	P	Pg	00 13 25.7	-1.4
	baz=1.1,SNR=354						
H24A				⇑S	Sg	00 13 42.8	-0.3
	baz=1.1						
K22A	Casper	1.32	220	⇓P	Pg	00 13 28.6	-0.1
	baz=1.4						
K22A				⇑S	Sn	00 13 48.6	+1.0
	baz=1.4						
I21A	Big Trails, Te	1.40	277	⇓P	Pn	00 13 29.3	-1.2
	baz=1.4						
K25A	Mack Ranch, Ha	1.52	133	⇑P	Pn	00 13 32.0	+0.1
	baz=1.5,SNR=79						
K25A				⇓S	Sn	00 13 52.7	+0.3
	baz=1.5						
G23A	Biddle	1.54	359	⇑P	Pn	00 13 31.5	-0.8
	baz=1.5,SNR=68						
J21A	Lysite	1.54	259	⇓P	Pn	00 13 32.2	-0.2
	baz=1.6						
J21A				⇓S	Sg	00 13 54.2	+1.2
	baz=1.6						
H21A	Big Horn, Sher	1.55	309	⇓P	Pn	00 13 32.6	+0.2
	baz=1.5,SNR=64						
H21A				⇑S	Sn	00 13 53.6	+0.3
	baz=1.5						
L24A	Wheatland	1.65	169	⇓P	Pn	00 13 33.9	+0.1
	baz=1.7,SNR=11						
L24A				⇓S	Sg	00 13 57.4	+1.1
	baz=1.7						
G22A	Birney	1.69	337	⇓P	Pn	00 13 34.8	+0.3
	baz=1.6,SNR=109						
K21A	Alcova	1.72	234	P	Pb	00 13 35.7	-0.3
	baz=1.8,SNR=119						
K21A				⇑S	Sg	00 13 59.2	+0.5
	baz=1.8						
G24A	Alzada	1.80	22	⇓P	Pn	00 13 35.9	0.0
	baz=1.7,SNR=24						
G24A				⇓S	Sn	00 13 59.3	-0.2
	baz=1.7						
L22A	Ellis Ranch, M	1.81	206	⇓P	Pb	00 13 36.8	-0.7
	baz=1.9,SNR=51						
L22A				⇓S	Sg	00 14 01.9	+0.4
	baz=1.9						
L25A	Engebretsen Ra	1.82	145	⇑P	Pb	00 13 37.1	-0.6
	baz=1.9,SNR=7.5						
L25A				⇑Sb	Sg	00 14 03.3	+1.4
	baz=1.9						
K26A	Motz Farm, Whi	1.86	120	⇓P	Pn	00 13 37.1	+0.3
	baz=1.9,SNR=13						
J20A	Shoshoni	2.00	262	⇑Pb	Pb	00 13 41.1	+0.3
	baz=2.1,SNR=116						
J20A				⇑Sb	Sg	00 14 08.7	+1.0
	baz=2.1						
I20A	Worland	2.02	279	⇑P	Pn	00 13 40.1	+1.2
	baz=2.1,SNR=270						
I20A				⇑Sb	Sg	00 14 08.4	0.0
	baz=2.1						
G21A	Lodge Grass	2.05	321	⇑P	Pn	00 13 39.8	+0.6
	baz=2.0,SNR=46						
G21A				⇑Sb	Sb	00 14 08.4	+0.8
	baz=2.0						
F23A	Volborg	2.06	359	P	Pn	00 13 39.5	+0.1
	baz=2.0,SNR=103						
F23A				⇑Sb	Sb	00 14 08.3	+0.3
	baz=2.0						
H20A	Greybull	2.07	294	⇓P	Pn	00 13 40.2	+0.7
	baz=2.1,SNR=14						
H20A				⇑S	Sn	00 14 07.4	+1.3
	baz=2.1						
M23A	Laramie	2.21	187	⇑P	Pn	00 13 42.6	+1.1
	baz=2.3,SNR=63						
F22A	Rosebud	2.21	344	P	Pn	00 13 41.2	-0.3
	baz=2.2,SNR=70						
F22A				⇓Sb	Sb	00 14 13.0	+0.6
	baz=2.2						
M24A	Cheyenne	2.23	169	⇑P	Pn	00 13 43.1	+1.3
	baz=2.3,SNR=68						
M24A				⇑S	Sb	00 14 11.7	-1.1
	baz=2.3						
L21A	Rawlins	2.25	222	⇑P	Pn	00 13 43.5	+1.4
	baz=2.3,SNR=17						
L21A				⇑S	Sb	00 14 13.1	-0.3
	baz=2.3						
F24A	Ekalaka	2.28	16	⇑P	Pn	00 13 42.3	-0.1
	baz=2.2,SNR=9.6						
PHWY	Pilot Hill	2.36	182	*e*Pn	Pn	00 13 44.6	+1.0
PHWY				*e*S	Sn	00 14 12.7	-0.8
RWWY	Rawlins	2.39	215	*e*P	Pn	00 13 45.7	+1.5
RWWY				*e*S	Sg	00 14 19.5	-0.8
K20A	Yellowstone Ra	2.40	246	⇑P	Pn	00 13 45.6	+1.5
	baz=2.5						
M25A	Palm-Egli Farm	2.42	156	⇓P	Pn	00 13 45.6	+1.1
	baz=2.5,SNR=7.7						
M22A	Cedar Creek Ra	2.43	202	P	Pb	00 13 46.8	-1.4
	baz=2.5,SNR=172						
K27A	Flueckinger Fa	2.48	112	⇑P	Pn	00 13 46.0	+0.8
	baz=2.5,SNR=8.7						
F21A	Absaloka Mine,	2.50	331	⇑P	Pn	00 13 45.6	+0.2
	baz=2.5						
M21A	Separation Pea	2.52	216	⇓P	Pb	00 13 48.1	-1.7
	baz=2.6,SNR=53						
G20A	Bridger	2.57	308	P	Pn	00 13 46.5	0.0
	baz=2.6,SNR=102						
I19A	Meeteetse	2.65	279	⇓P	Pn	00 13 49.1	+1.5
	baz=2.7,SNR=55						
L20A	Wamsutter	2.74	234	⇓P	Pb	00 13 51.5	-1.9
	baz=2.8,SNR=11						
M26A	McRoberts Ranc	2.74	142	⇓P	Pn	00 13 49.7	+0.9
	baz=2.8						
H19A	Powell	2.79	292	⇑P	Pn	00 13 50.5	+0.9
	baz=2.8,SNR=27						
N23A	Red Feather La	2.79	189	⇑P	Pn	00 13 51.2	+1.5
	baz=2.9,SNR=26						
E22A	Miles City	2.81	352	⇓P	Pn	00 13 49.1	-0.6
	baz=2.7,SNR=7.9						
N22A	Wattenberg Ran	2.97	196	⇓P	Pn	00 13 54.6	+2.5
	baz=3.0						
E24A	Baker	3.00	14	⇑P	Pn	00 13 52.7	+0.5
	baz=2.9,SNR=9.8						
M20A	Sweetwater, Wa	3.00	225	⇓P	Pn	00 13 54.7	+2.2
	baz=3.1						
E21A	Keefer Ranch,	3.12	338	P	Pn	00 13 53.1	-0.9
	baz=3.1,SNR=7.1						
RLMT	Red Lodge	3.15	299	*e*Pn	Pn	00 13 54.7	+0.1
RLMT				*e*S	Sb	00 14 40.3	+0.7
RLMT	Red Lodge	3.15	299	⇑P	Pn	00 13 55.3	+0.7
	baz=3.2,SNR=34						
BW06	Boulder Array	3.19	255	⇓P	Pn	00 13 56.2	+1.1
	baz=3.2,SNR=46						
PDAR	Pinedale Array	3.19	255	Pn	Pn	00 13 56.2	+1.1
	3.0nm,0.3s,baz=76,slow=16,SNR=42						
PDAR				Lg	Lg	00 14 40.8	
	9.1nm,0.3s,baz=79,slow=33,SNR=12						
PDAR	Pinedale Array	3.19	255	Pn	Pn	00 13 56.2	+1.1
PDAR				Lg	Lg	00 14 40.8	
I18A	Diamond G Ranc	3.23	272	⇑P	Pn	00 13 57.8	+2.1
	baz=3.3						
N26A	Koester Ranch,	3.25	150	⇓P	Pn	00 13 57.3	+1.5
	baz=3.3						
H18A	Shoshone NF, C	3.25	290	⇑P	Pn	00 13 56.4	+0.4
	baz=3.3,SNR=28						
N21A	Black Mountain	3.31	210	⇑P	Pn	00 13 58.7	+1.9
	baz=3.4,SNR=12						
F19A	Roth Farm, Mol	3.36	312	⇑P	Pn	00 13 57.9	+0.6
	baz=3.3,SNR=134						
J18A	Kendall Valley	3.42	264	⇑P	Pn	00 13 59.9	+1.6
	baz=3.5,SNR=16						
G18A	Lazy EL Ranch,	3.43	300	⇑P	Pn	00 13 59.1	+0.8
	baz=3.4,SNR=31						
E20A	Meyer Farm, Mu	3.45	326	⇑P	Pn	00 13 58.9	+0.3
	baz=3.4						
D24A	Glendive	3.53	12	⇓P	Pn	00 14 00.4	+0.8
	baz=3.5,SNR=9.1						
D22A	Cohagen	3.54	351	⇑P	Pn	00 13 59.5	-0.2
	baz=3.5,SNR=14						
N27A	Anderson Farm,	3.54	143	⇓P	Pn	00 14 00.7	+0.9
	baz=3.6,SNR=10.0						
N20A	Spence Gulch,	3.55	218	⇓P	Pn	00 14 01.6	+1.6
	baz=3.6,SNR=9.5						
OGNE	Ogallala	3.67	137	*e*Pn	Pn	00 14 02.7	+1.1
OGNE				*e*Pg	Pg	00 14 14.4	+0.7
OGNE				*e*S	Sb	00 14 54.1	-0.2
OGNE	Ogallala	3.67	137	⇑P	Pn	00 14 02.0	+0.4
	baz=3.7,SNR=11						
E19A	Rath Farm, Rou	3.70	320	⇑P	Pn	00 14 02.1	+0.1
	baz=3.7,SNR=11						
GCMT	Greycliff	3.73	306	*e*Pn	Pn	00 14 02.0	-0.5
GCMT				*e*Pg	Pb	00 14 12.9	+2.6
GCMT				*e*S	Sg	00 15 03.2	-0.2
LOHW	Long Hollow	3.80	271	*e*Pn	Pn	00 14 05.7	+2.2
LOHW				*e*Pg	Pg	00 14 14.7	-1.6
LOHW				*e*Sg	Sg	00 15 02.5	-3.1
F18A	Big Timber	3.82	307	⇑P	Pn	00 14 04.5	+0.8
	baz=3.8,SNR=12						
ISCO	Idaho Springs	3.86	183	*e*Pn	Pn	00 14 06.1	+1.8
ISCO				*e*S	Sb	00 15 02.9	+2.9
ISCO	Idaho Springs	3.86	183	⇓P	Pn	00 14 05.5	+1.1
	baz=3.9,SNR=7.0						
FLWY	Flagg Ranch	3.88	278	*e*Pn	Pn	00 14 06.4	+1.8
FLWY				*e*Pg	Pg	00 14 17.0	-0.8
FLWY				*e*S	Sg	00 15 07.7	-0.4
MOOW	Moose Ponds	3.90	273	*e*Pn	Pn	00 14 07.1	+2.3
MOOW				*e*Pg	Pg	00 14 16.5	-1.7
MOOW				Sn	Sn	00 14 50.3	-1.1
C24A	Savage	3.93	9	⇓P	Pn	00 14 05.7	+0.6
	baz=3.8,SNR=6.4						
D20A	Manuel Ranch,	3.95	331	⇑P	Pn	00 14 05.2	-0.1
	baz=3.9						
N19A	John Jarvie Ra	3.95	227	⇑P	Pn	00 14 06.5	+1.0
	baz=4.0						
REDW	Red Top Meadow	4.00	268	*e*Pn	Pn	00 14 09.3	+3.0
REDW				*e*S	Sg	00 15 11.8	-0.2
IMW	Indian Meadow	4.04	275	*e*Pn	Pn	00 14 05.2	-1.6
IMW				*e*Pg	Pg	00 14 19.1	-1.8
IMW				*e*Sg	Sg	00 15 16.4	+3.0
TPAW	Teton Pass	4.06	270	*e*Pn	Pn	00 14 08.6	+1.5
TPAW				*e*Pg	Pg	00 14 19.4	-1.9
TPAW				*e*Sg	Sg	00 15 13.5	-0.4
C22A	Vida	4.10	355	⇓P	Pn	00 14 08.0	+0.5
	baz=4.0,SNR=17						
C23A	Lambert	4.15	2	⇓P	Pn	00 14 08.6	+0.5
	baz=4.1,SNR=29						
P25A	Willow Gulch B	4.24	167	⇑P	Pn	00 14 10.3	+0.8
	baz=4.3						
AHID	Auburn Hatcher	4.29	260	*e*Pn	Pn	00 14 07.9	-2.2
AHID				*e*Pg	Pg	00 14 23.7	-1.9
AHID				*e*S	Sg	00 15 17.9	-3.2
P23A	Jefferson	4.30	185	⇑P	Pn	00 14 11.7	+1.3
	baz=4.4						
E18A	Harlowton	4.34	314	⇑P	Pn	00 14 11.5	+0.7
	baz=4.3,SNR=21						
C21A	Desert Coulee	4.34	344	⇓P	Pn	00 14 11.0	+0.3
	baz=4.3						
RRI2	Red Ridge	4.34	268	*e*Pn	Pn	00 14 12.6	+1.7
RRI2				*e*Pg	Pg	00 14 24.5	-2.2
RRI2				Sg	Sg	00 15 22.7	-0.3
P26A	Davis Ranch, A	4.37	159	⇓P	Pn	00 14 12.2	+1.0
	baz=4.4,SNR=12						
F17A	Fitzpatrick Pl	4.39	303	⇑P	Pn	00 14 12.3	+0.9
	baz=4.4,SNR=11						
P27A	Ficken Ranch,	4.60	152	⇑P	Pn	00 14 14.9	+0.6
	baz=4.6						
SMCO	Snowmass	4.64	196	*e*Pn	Pn	00 14 18.6	+3.5
SMCO				*e*Pg	Pg	00 14 29.4	-2.9
SMCO				S	Sb	00 15 25.8	+3.3
E17A	Martinsdale	4.79	308	⇓P	Pn	00 14 17.5	+0.5
	baz=4.8,SNR=12						
Q25A	Bedland, Calha	4.81	170	⇓P	Pn	00 14 18.1	+0.7
	baz=4.9						
DGMT	Dagmar	4.88	9	*e*Pn	Pn	00 14 18.8	+0.7
DGMT				*e*Pg	Pg	00 14 34.4	-2.6
DGMT				*e*S	Sb	00 15 31.3	+2.3
DGMT	Dagmar	4.88	9	⇓P	Pn	00 14 18.7	+0.5
	baz=4.8,SNR=9.0						
HWUT	Hardware Ranch	5.01	248	*e*Pn	Pn	00 14 18.6	-1.5
	5.8nm,0.6s						
HWUT				*e*Pg	Pb	00 14 34.8	+2.7
HWUT				*e*S	Sg	00 15 41.9	-2.5
D17A	Six Diamond Ra	5.12	315	P	Pn	00 14 21.9	+0.4
	baz=5.1,SNR=58						
B20A	Solberg Farm,	5.12	340	⇓P	Pn	00 14 21.5	0.0
	baz=5.1,SNR=5.2						
P18A	Preston Nutter	5.44	224	⇑P	Pn	00 14 27.4	+1.3
	baz=5.5,SNR=16						
A21A	Bergtoll Ranch	5.44	349	⇑P	Pn	00 14 25.4	-0.4
	baz=5.4						
C17A	Wharram Farm,	5.49	318	⇓P	Pn	00 14 26.8	+0.3
	baz=5.5,SNR=22						
HRY	Holter Researc	5.49	306	*e*Pn	Pn	00 14 25.7	-1.0
	4.7nm,0.4s						
HRY				*e*S	Sb	00 15 52.5	+5.7
D16A	Dana Ranch, Ca	5.51	310	⇓P	Pn	00 14 27.0	+0.2
	baz=5.5,SNR=7.7						
R26A	Arlington	5.55	164	⇑P	Pn	00 14 27.8	+0.4
	baz=5.6,SNR=8.0						
E15A	Deer Lodge	5.85	301	⇑P	Pn	00 14 31.6	+0.1
	baz=5.8,SNR=14						
D15A	Lincoln	6.07	306	⇓P	Pn	00 14 34.7	+0.2
	baz=6.1,SNR=6.7						
R18A	Canyonlands Na	6.28	215	⇑P	Pn	00 14 38.2	+0.6
	baz=6.4,SNR=5.7						
Q16A	Castle Valley	6.44	225	⇑P	Pn	00 14 40.9	+1.1
	baz=6.5						
B16A	M & M Farms, S	6.49	319	⇑P	Pn	00 14 39.9	-0.3
	baz=6.5,SNR=9.7						
DUG	Dugway	6.54	241	*e*Pn	Pn	00 14 40.1	-0.9
DUG	Dugway	6.54	241	⇓P	Pn	00 14 42.0	+1.0
	baz=6.6,SNR=8.0						
R17A	Hanksville Air	6.61	219	⇓P	Pn	00 14 43.0	+1.0
	baz=6.7						
D14A	Greenough	6.68	304	⇑P	Pn	00 14 43.0	+0.2
	baz=6.7,SNR=8.0						
B15A	Bradely Ranch,	6.84	315	⇑P	Pn	00 14 44.7	-0.4
	baz=6.8,SNR=8.3						
S18A	Hurst Farm, Bl	6.92	212	⇑P	Pn	00 14 47.2	+0.8
	baz=7.0,SNR=5.7						
B14A	Marquette Ranc	7.24	313	⇓P	Pn	00 14 50.3	-0.2
	baz=7.2,SNR=33						
S17A	Black Ridge (B	7.30	216	⇑P	Pn	00 14 52.4	+1.0
	baz=7.4,SNR=13						
YBMT	Yellow Bay	7.36	308	*e*Pn	Pn	00 14 53.4	+1.1
	2.0nm,0.3s						
YBMT				*e*Sn	Sn	00 16 17.1	+0.6
ULM	Lac du Bonnet	9.25	41	Pn	Pn	00 15 14.9	-3.1
	1.9nm,0.3s,baz=232,slow=13,SNR=14						
ULM	Lac du Bonnet	9.25	41	Pn	Pn	00 15 14.9	-3.1
YKA	Yellowknife Ar	19.63	347	P	P	00 17 32.4	-0.8
	0.1nm,0.3s,baz=155,slow=11,SNR=3.0						
YKA	Yellowknife Ar	19.63	347	P	P	00 17 32.4	-0.8

IDC 03 00:13:20.0±0.8**,15°.37S×69°.82W,h247**km±7km**,mb3.4**/7**, mb1 3.3**/11**,mb1mx3.2**/24**,mbtmp3.2**/11**,Error ellipse: s-maj=22.7km s-min=12.5km az=27.0,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.86	120	P	Pn	00 14 03.0	+1.3
	10nm,0.3s,baz=320,slow=7.4,SNR=153						
LPAZ				S	S	00 14 34.5	-0.1
	8.4nm,0.3s,baz=204,slow=20,SNR=29						
NNA	Nana	7.61	295	P	Pn	00 15 08.8	+0.3
	1.1nm,0.3s,baz=108,slow=9.6,SNR=2.8						
NNA				S	S	00 16 34.9	-0.8
	0.9nm,0.3s,baz=114,slow=20,SNR=2.3						
SIV	San Ignacio	8.45	95	P	Pn	00 15 19.6	+0.6
	0.1nm,0.3s,baz=272,slow=12,SNR=7.3						
CPUP	Villa Florida	15.96	135	P	P	00 16 51.0	+0.5
	0.3nm,0.3s,baz=324,slow=14,SNR=2.4						
CFAA	Coronel Fontan	16.22	175	P	P	00 16 53.4	0.0
	0.1nm,0.3s,baz=354,slow=14,SNR=8.9						
BDFB	Brasilia	21.01	94	P	P	00 17 45.9	+0.7
	1.7nm,0.6s,baz=262,slow=12,SNR=4.4						
PLCA	Paso Flores	25.28	181	P	P	00 18 23.2	-0.7
	1.3nm,0.6s,baz=330,slow=9.8,SNR=3.4						
DBIC	Dimbokro	67.97	76	P	P	00 23 52.6	-0.4
	0.8nm,0.4s,baz=233,slow=4.9,SNR=8.9						
PDAR	Pinedale Array	68.41	330	P	P	00 23 56.0	+0.5
	0.4nm,0.4s,baz=130,slow=8.4,SNR=4.5						
ULM	Lac du Bonnet	69.25	342	P	P	00 23 59.0	-1.1
	2.2nm,0.4s,baz=170,slow=5.6,SNR=5.2						
TORD	Torodi Ar. Bea	76.20	72	P	P	00 24 41.0	-0.7
	1.0nm,0.6s,baz=258,slow=5.5,SNR=24						
YKA	Yellowknife Ar	85.15	341	P	P	00 25 27.9	0.0
	0.3nm,0.4s,baz=133,slow=4.7,SNR=9.8						
ZALV	Zalesovo Beam	136.70	22	PKP	PKPdf	00 32 13.9	+1.3
	0.8nm,0.7s,baz=299,slow=1.5,SNR=4.4						
SONM	Songino Array	147.48	5	PKPbc	PKPbc	00 32 35.8	+0.8
	0.6nm,0.5s,baz=311,slow=2.3,SNR=7.5						

*NIED **03** 00:15:00,36°.20N×137°.10E,h270km,Mw3.9 Best double couple: M₀7.67000×10¹⁴ NP1:φs123.00000°, δ57.00000°,λ-51.00000°. NP2:φs247.00000°,δ49.00000°, λ-134.00000°.*

*ISCJB **03** 00:15:48.0±0.4,36°.28N±0°.08×137°.1E±0°.1,h267km±3km, mb3.3/16,Error ellipse: s-maj=14.4km s-min=12.4km az=10.7*

*JMA **03** 00:15:48.4±0.1,36°.25N×137°.05E,h268km±1km,M3.6*

*IDC **03** 00:15:48.8±0.5,36°.30N×137°.04E,h260km±4km,mb3.1/16, mb1 3.4/17,mb1mx3.3/30,mbtmp3.2/17,Error ellipse: s-maj=15.1km s-min=11.9km az=81.0*

ISC 03 00:15:48.9±0.6**,36°.28N**±0°.09×**137°.1E**±0°.1**,h263**km±5km**, n27,σ0s.69**/38**,mb3.3**/16**,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.18	107	P	Pn	00 16 22.7	0.0
JGN				*e*S	S	00 16 49.4	+0.1
JKG	Kaga	0.62	270	P	Pn	00 16 24.0	+0.4
JGM	Miyama	0.66	209	P	Pn	00 16 23.8	0.0
JGM				*e*S	S	00 16 51.3	-0.1
JNG	Nsakai	0.81	81	P	Pn	00 16 24.9	+0.4
JNG				*e*S	S	00 16 52.9	+0.4
MAT	Matsushiro	0.93	73	P	Pn	00 16 25.1	+0.2
MAT				S	S	00 16 53.4	+0.1
MAT	Matsushiro	0.93	73	P	Pn	00 16 25.0	+0.2
MAT				*e*S	S	00 16 53.7	+0.4
MJAR	Matsushiro Arr	0.93	73	P	Pn	00 16 25.4	+0.5
	13nm,0.3s,baz=255,slow=7.0,SNR=80						
MJAR				S	S	00 16 53.6	+0.3
	1.7nm,0.3s,baz=263,slow=17,SNR=14						
JAO	Obara	1.02	173	P	Pn	00 16 25.2	-0.3
JAO				*e*S	S	00 16 53.7	-0.7
JNY	Yasuok	1.10	146	P	Pn	00 16 25.4	-0.6
JNY				*e*S	S	00 16 54.5	-0.8
USRK	Ussuriysk Arra	8.82	335	P	Pn	00 17 52.8	+0.5
	0.7nm,0.3s,baz=148,slow=12,SNR=21						
ASAJ	Asahikawa	8.88	27	P	Pn	00 17 50.5	-2.6
	17nm,0.3s,baz=210,slow=8.1,SNR=50						
ASAJ				S	S	00 19 25.6	-8.2
	baz=120,slow=20,SNR=2.1						
SONM	Songino Array	25.39	307	P	P	00 20 53.2	+0.7
	0.1nm,0.4s,baz=98,slow=10,SNR=4.1						
ZALV	Zalesovo Beam	39.88	313	P	P	00 22 56.8	-0.3
	0.3nm,0.3s,baz=108,slow=6.2,SNR=3.2						
ZALV				PcP	PcP	00 24 56.5	-0.6
	0.7nm,0.5s,baz=94,slow=1.7,SNR=5.3						
MKAR	Makanchi Array	41.59	302	P	P	00 23 10.2	-1.0
	0.2nm,0.7s,baz=96,slow=9.1,SNR=3.1						
MKAR				PcP	PcP	00 25 02.3	-0.6
	0.2nm,0.8s,baz=51,slow=4.6,SNR=3.2						
KURBB	Kurchatov Arra	43.74	308	P	P	00 23 27.5	-0.8
	0.5nm,0.6s,baz=84,slow=8.2,SNR=6.5						
BVAR	Borovoye Array	48.51	312	P	P	00 24 05.5	+0.2
	0.3nm,0.3s,baz=73,slow=6.8,SNR=3.8						
ILAR	Eielson Array	51.98	32	P	P	00 24 31.2	+0.2
	0.6nm,0.5s,baz=285,slow=7.2,SNR=14						
WRA	Warramunga Arr	55.97	183	P	P	00 24 59.7	-0.6
	0.9nm,0.4s,baz=358,slow=7.6,SNR=34						
WRA				PcP	PcP	00 25 55.7	+0.3
	0.2nm,0.5s,baz=355,slow=4.5,SNR=2.8						
INK	Inuvik	56.62	26	P	P	00 25 04.5	+0.3
	1.0nm,0.4s,baz=303,slow=4.8,SNR=13						
ASAR	Alice Springs	59.70	183	P	P	00 25 27.4	+1.4
	0.5nm,0.3s,baz=17,slow=12,SNR=6.0						
YKA	Yellowknife Ar	66.17	29	P	P	00 26 07.9	0.0
	0.2nm,0.5s,baz=306,slow=6.8,SNR=5.6						
FINES	FINESS Array B	67.83	331	P	P	00 26 18.0	-0.4
	2.7nm,0.9s,baz=64,slow=4.4,SNR=5.0						
NOA	NORSAR Array B	73.50	336	P	P	00 26 52.2	-0.4
	0.5nm,0.8s,baz=50,slow=8.2,SNR=2.5						
FRB	Frobisher Bay	78.25	11	P	P	00 27 19.2	+0.1
	0.4nm,0.3s,baz=288,slow=13,SNR=4.1						
PDAR	Pinedale Array	80.63	43	P	P	00 27 33.0	+0.3
	0.8nm,0.7s,baz=318,slow=1.2,SNR=6.1						
GERES	GERESS Array B	81.47	326	P	P	00 27 36.5	-0.3
	0.1nm,0.3s,baz=39,slow=6.4,SNR=3.4						
TXAR	Lajitas Array	93.29	50	P	P	00 28 35.0	+0.8
	0.8nm,0.7s,baz=316,slow=5.0,SNR=8.9						

*ISCJB **03** 00:22:48.4±0.6,50°.27N±0°.04×19°.01E±0°.03,h0km,Error ellipse: s-maj=5.9km s-min=2.6km az=13.7*

*IPEC **03** 00:22:49.7±0.2,50°.29N×19°.06E,h0km,ML1.9/2,Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*

*PRU **03** 00:22:50.7,50°.22N×19°.03E,h0km*

*CSEM **03** 00:22:50.0±0.3,50°.24N×19°.03E,h2km,ML2.7/6,Error ellipse: s-maj=9.1km s-min=3.7km az=8.0*

ISC 03 00:22:49.9±0.8**,50°.18N**±0°.04×**19°.06E**±0°.02**,h0**km**,n30, σ1s.06**/50**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.48	85	*e*Pg	Pg	00 22 58.8	-0.3
	baz=279						
OJC				*e*Sg	Sg	00 23 05.1	-0.1
OJC	Ojcow	0.48	85	*e*Pg	Pg	00 22 58.7	-0.3
OJC				*i* Sg	Sg	00 23 05.1	-0.1
OKC	Ostrava-Krasne	0.68	240	*e*PG	Pb	00 23 04.0	-0.6
OKC				*e*SG	Sg	00 23 13.1	+1.4
	comp=Z,14nm,0.5s						
OKC	Ostrava-Krasne	0.68	240	Pg	Pb	00 23 04.0	-0.6
OKC				Sg	Sg	00 23 13.1	+1.4
	14nm,0.5s						
MORC	Moravsky Berou	1.06	248	*e*Pg	Pg	00 23 10.7	+0.5
	baz=62						
MORC				*e*Sg	Sg	00 23 24.7	+0.8
NIE	Niedzica	1.11	133	*e*Pg	Pg	00 23 11.3	+0.1
NIE				*e*Sg	Sg	00 23 26.4	+0.8
NIE	Niedzica	1.11	133	*e*Pg	Pg	00 23 11.3	+0.1
NIE				*e*Sg	Sg	00 23 26.4	+0.8
VYHS	Vyhne	1.69	185	*e*PN	Pn	00 23 20.6	-0.1
VYHS				*e*SN	Sn	00 23 42.8	-0.2
DPC	Dobruska-Polom	1.77	277	*e*PG	Pn	00 23 21.5	-0.3
DPC				*e*SG	Sn	00 23 45.1	+0.1
	comp=Z,14nm,0.6s						
DPC	Dobruska-Polom	1.77	277	Pg	Pn	00 23 21.5	-0.3
DPC				Sg	Sn	00 23 45.1	+0.1
	14nm,0.6s						
VRAC	Vranov	1.82	242	*e*Pn	Pn	00 23 23.0	+0.5
	baz=58						
VRAC				*e*Sg	Sg	00 23 48.3	-0.1
	11nm,0.4s,baz=58						
KSP	Ksiaz	1.89	292	*e*Pg	Pg	00 23 26.5	+0.4
KSP				*e*Sg	Sg	00 23 51.5	+1.0
KSP	Ksiaz	1.89	292	*e*Pg	Pg	00 23 26.5	+0.4
KSP				*e*Sg	Sg	00 23 51.5	+1.0
SMOL	Smolenice	1.98	213	*e*SN	Sn	00 23 50.2	+0.1
SMOL	Smolenice	1.98	213	*e*Sn	Sn	00 23 50.2	+0.1
UPC	Upice	1.98	281	*e*SG	Sb	00 23 52.0	0.0
UPC	Upice	1.98	281	Sg	Sb	00 23 52.0	0.0
CRVS	Cervenica-Dubn	2.02	128	*e*PN	Pg	00 23 28.1	-0.5
CRVS				*e*SN	Sg	00 23 54.2	-0.5
CRVS	Cervenica-Dubn	2.02	128	*e*Pn	Pg	00 23 28.1	-0.5
CRVS				*e*Sn	Sg	00 23 54.2	-0.5
KRUC	Moravsky	2.06	238	*e*Pn	Pn	00 23 26.4	+0.6
	baz=54						
KRUC				*e*Sn	Sb	00 23 54.8	+0.5
	5.2nm,0.4s,baz=54						
KOLS	Kolonicke sedl	2.43	120	*e*PN	Pn	00 23 32.1	+1.2
KOLS				*e*SN	Sn	00 24 00.3	-1.1
KOLS	Kolonicke sedl	2.43	120	*e*Pn	Pn	00 23 32.1	+1.2
KOLS				*e*Sn	Sn	00 24 00.3	-1.1
PVCC	Panska Ves	2.90	279	*e*SG	Sg	00 24 21.7	-1.2
	comp=Z,10nm,0.5s						
PVCC	Panska Ves	2.90	279	Sg	Sg	00 24 21.7	-1.2

	10nm,0.5s						
PRU	**Pruhonice**	**2.92**	**268**	eSG	**Sb**	**00 24 21.2**	**+2.3**
	comp=Z,3.8nm,0.5s						
PRU	**Pruhonice**	**2.92**	**268**	Sg	**Sb**	**00 24 21.2**	**+2.3**
	3.8nm,0.5s						
BRG	**Berggiesshubel**	**3.34**	**284**	SG	**Sg**	**00 24 37.4**	**+0.3**
	3.0nm,0.5s						
KHC	**Kasperske Hory**	**3.71**	**256**	ePG	**Pg**	**00 24 00.0**	**-1.0**
KHC				eSG	**Sg**	**00 24 45.9**	**-3.2**
	comp=Z,3.8nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**256**	Pg	**Pg**	**00 24 00.0**	**-1.0**
KHC				Sg	**Sg**	**00 24 45.9**	**-3.2**
	3.8nm,0.4s						
CLL	**Collm**	**4.01**	**289**	eSg	**Sg**	**00 24 58.0**	**-0.7**

IDC ***03*** *00:45:04.5±0.7, 4°.20S×152°.15E, h182km±6km, mb3.9/15, mb1 4.1/18, mb1mx4.0/24, mbtmp4.0/18, Error ellipse: s-maj=14.6km s-min=8.7km az=108.0*
NEIC ***03*** *00:45:05.0±1.5, 4°.15S×152°.19E, h186km±13km, mb4.7/18, Error ellipse: s-maj=12.2km s-min=7.4km az=78.0*
ISCJB ***03*** *00:45:05.1±0.4, 4°.21S±0°.05×152°.16E±0°.07, h200km, mb4.5/39, Error ellipse: s-maj=9.7km s-min=6.3km az=14.2*
DJA ***03*** *00:45:09.4±0.6, 4°S±5°×15°2E±°, h219km±8km, M5.2/17, mB5.5/8, mb4.9/17, MLv5.6/1, Mw(mB)5.0/8*
ISC 03 00:45:05.5±0.6**, 4°.17S**±0°.06×**152°.16E**±0°.09**, h200km, n89, σ1s68**/91**, mb4.6**/38**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.19**	**223**	P	**Pn**	**00 46 47.3**	**-1.0**
	17nm,0.3s,baz=32,slow=8.0,SNR=27						
PMG				S	**Sn**	**00 48 07.9**	**-2.0**
	4.6nm,0.3s,baz=162,slow=19,SNR=3.1						
PMG	**Port Moresby**	**7.19**	**223**	P	**Pn**	**00 46 47.3**	**-1.0**
PMG				S	**Sn**	**00 48 07.9**	**-2.0**
PMG	**Port Moresby**	**7.19**	**223**	P	**Pn**	**00 46 47.0**	**-1.3**
	229nm,0.7s,4µm1.9nm						
JAY	**Jayapura**	**11.55**	**278**	P	**Pn**	**00 47 45.1**	**+0.2**
	134nm,1.4s,10µm						
COEN	**Coen**	**13.16**	**222**	ePn	**P**	**00 48 06.0**	**-2.1**
	1µm,0.8s						
CTA	**Charters Tower**	**16.84**	**200**	P	**Pn**	**00 48 50.5**	**+0.5**
	1.7nm,0.3s,baz=12,slow=13,SNR=23						
CTA	**Charters Tower**	**16.84**	**200**	P	**Pn**	**00 48 50.5**	**+0.5**
CTAO	**Charters Tower**	**16.84**	**200**	eP	**Pn**	**00 48 50.4**	**+0.5**
	18nm,0.6s						
GUMO	**Guam**	**19.07**	**338**	P	**Pn**	**00 49 13.9**	**-2.3**
	4.4nm,0.3s,baz=108,slow=7.2,SNR=3.8						
GUMO	**Guam**	**19.07**	**338**	P	**Pn**	**00 49 13.9**	**-2.3**
TLE	**Tual**	**19.41**	**265**	P	**Pn**	**00 49 19.1**	**-1.2**
	109nm,1.2s						
SWI	**Sorong**	**21.14**	**278**	P	**P**	**00 49 37.5**	**+2.4**
	165nm,0.8s,1µm						
NOUC	**Port Laguerre**	**22.49**	**144**	eP	**P**	**00 49 49.2**	**+0.8**
DZM	**Mont Dzumac**	**22.55**	**143**	P	**P**	**00 49 50.8**	**+1.8**
	103nm,1.0s,baz=341,slow=10.0,SNR=35						
DZM	**Mont Dzumac**	**22.55**	**143**	eP	**P**	**00 49 49.4**	**+0.4**
DZM	**Mont Dzumac**	**22.55**	**143**	eP	**P**	**00 49 50.9**	**+1.8**
	146nm,1.1s						
MSAI	**Masohi**	**23.20**	**271**	P	**P**	**00 49 57.7**	**+2.8**
	10nm,0.7s,839nm						
WRAB	**Tennant Creek**	**23.39**	**226**	eP	**P**	**00 49 57.1**	**+0.6**
	166nm,0.6s						
WRA	**Warramunga Arr**	**23.40**	**226**	P	**P**	**00 49 57.4**	**+0.7**
	98nm,0.4s,baz=49,slow=10,SNR=477						
WRA				S	**S**	**00 53 53.1**	**-1.8**
	5.5nm,0.9s,baz=49,slow=16,SNR=7.2						
WRA	**Warramunga Arr**	**23.40**	**226**	P	**P**	**00 49 57.4**	**+0.7**
WRA				S	**S**	**00 53 53.1**	**-1.8**
AAI	**Ambon**	**23.92**	**270**	P	**P**	**00 50 00.2**	**-1.2**
	59nm,1.2s						
LBMI	**Labuha**	**24.88**	**277**	P	**P**	**00 50 12.9**	**+2.7**
	69nm,1.4s,2µm						
ASAR	**Alice Springs**	**26.20**	**221**	P	**P**	**00 50 22.3**	**+0.3**
	11nm,0.6s,baz=49,slow=8.5,SNR=59						
ASAR				S	**S**	**00 54 43.8**	**+4.6**
	3.5nm,0.8s,baz=42,slow=18,SNR=5.6						
ASAR	**Alice Springs**	**26.20**	**221**	P	**P**	**00 50 22.3**	**+0.3**
ASAR				S	**S**	**00 54 43.8**	**+4.6**
STKA	**Stephens Creek**	**29.30**	**199**	P	**P**	**00 50 49.0**	**-0.3**
	6.6nm,0.7s,baz=3.4,slow=13,SNR=9.1						
FITZ	**Fitzroy Crossi**	**29.41**	**240**	P	**P**	**00 50 50.5**	**0.0**
	78nm,0.6s,baz=54,slow=8.6,SNR=343						
WSI	**Waingapu**	**32.09**	**258**	P	P	00 51 08.0	-6.0
KAPI	**Kappang**	**32.31**	**267**	P	**P**	**00 51 16.0**	**-0.1**
	8.0nm,0.6s,baz=82,slow=7.1,SNR=5.8						
KAPI	**Kappang**	**32.31**	**267**	P	**P**	**00 51 16.0**	**-0.1**
FORT	**Forrest**	**34.88**	**218**	eP	**P**	**00 51 37.8**	**-0.2**
	134nm,0.8s						
FORT				ePP	**PnPn**	**00 53 01.9**	**-0.6**
MBWA	**Marble Bar**	**35.74**	**239**	eP	**P**	**00 51 45.2**	**-0.2**
	79nm,0.7s						
MJAR	**Matsushiro Arr**	**42.55**	**343**	P	**P**	**00 52 40.7**	**-0.9**
	1.3nm,0.7s,baz=162,slow=9.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**42.55**	**343**	P	**P**	**00 52 40.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**43.38**	**225**	P	**P**	**00 52 48.4**	**+0.1**
	14nm,0.9s,baz=78,slow=6.3,SNR=3.6						
KSRS	**Korea Array**	**47.15**	**334**	P	**P**	**00 53 18.9**	**+1.1**
	1.0nm,0.7s,baz=154,slow=7.8,SNR=4.6						
KSAR	**Wonju Array Be**	**47.16**	**333**	P	**P**	**00 53 18.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**57.03**	**295**	P	P	00 54 33.8	+2.7
	5.5nm,0.8s,baz=115,slow=5.4,SNR=18						
CMAR	**Chiang Mai Arr**	**57.03**	**295**	P	P	00 54 33.8	+2.7
CHTO	**Chiang Mai**	**57.14**	**295**	eP	**P**	**00 54 32.9**	**+1.1**
	2.7nm,0.7s						
SONM	**Songino Array**	**65.45**	**328**	P	P	00 55 29.3	+2.1
	0.5nm,0.5s,baz=143,slow=6.9,SNR=7.2						
SONM	**Songino Array**	**65.45**	**328**	P	P	00 55 29.3	+2.1
TAPN	**Taplejung**	**69.54**	**301**	eP	**P**	**00 55 55.1**	**+1.7**
	13nm,0.8s						
TAPN	**Taplejung**	**69.54**	**301**	eP	**P**	**00 55 55.1**	**+1.7**
	13nm,0.8s						
ODAN	**Odare**	**69.68**	**300**	eP	**P**	**00 55 55.5**	**+1.3**
	22nm,0.5s						
ODAN	**Odare**	**69.68**	**300**	eP	**P**	**00 55 55.5**	**+1.3**
	22nm,0.5s						
RAMN	**Ramite**	**70.38**	**300**	eP	**P**	**00 56 00.3**	**+1.8**
RAMN	**Ramite**	**70.38**	**300**	eP	**P**	**00 56 00.3**	**+1.8**
JIRN	**Jiri**	**70.92**	**301**	eP	**P**	**00 56 03.4**	**+1.5**
	1.5nm,0.5s						
JIRN	**Jiri**	**70.92**	**301**	eP	**P**	**00 56 03.4**	**+1.5**
	1.5nm,0.5s						
GUN	**Gumba**	**71.25**	**301**	eP	**P**	**00 56 05.5**	**+1.7**
	20nm,0.7s						
GUN	**Gumba**	**71.25**	**301**	eP	**P**	**00 56 05.5**	**+1.7**
	20nm,0.7s						
PKI	**Pulchoki**	**71.56**	**301**	eP	**P**	**00 56 07.0**	**+1.3**
	4.4nm,0.5s						
PKI	**Pulchoki**	**71.56**	**301**	eP	**P**	**00 56 07.0**	**+1.3**
	4.4nm,0.5s						
KKN	**Kakani**	**71.73**	**301**	eP	**P**	**00 56 08.1**	**+1.6**
	10.0nm,0.6s						
KKN	**Kakani**	**71.73**	**301**	eP	**P**	**00 56 08.1**	**+1.6**
	10.0nm,0.6s						
DMN	**Daman**	**71.83**	**301**	eP	**P**	**00 56 09.0**	**+1.8**
	30nm,0.9s						
DMN	**Daman**	**71.83**	**301**	eP	**P**	**00 56 09.0**	**+1.8**
	30nm,0.9s						
GKN	**Gorkha**	**72.34**	**301**	eP	**P**	**00 56 11.8**	**+1.7**
	10nm,0.6s						
GKN	**Gorkha**	**72.34**	**301**	eP	**P**	**00 56 11.8**	**+1.7**
	10nm,0.6s						
KOLN	**Koldanda**	**73.17**	**300**	eP	**P**	**00 56 16.2**	**+1.2**
	16nm,0.7s						
KOLN	**Koldanda**	**73.17**	**300**	eP	**P**	**00 56 16.2**	**+1.2**
	16nm,0.7s						
DANN	**Dangsing**	**73.17**	**301**	eP	**P**	**00 56 16.3**	**+1.2**
	8.8nm,0.6s						
DANN	**Dangsing**	**73.17**	**301**	eP	**P**	**00 56 16.3**	**+1.2**
	8.8nm,0.6s						
VNDA	**Vanda**	**73.48**	**178**	P	P	00 56 17.3	+1.7
	1.1nm,0.7s,baz=7.9,slow=3.0,SNR=3.5						
VNDA	**Vanda**	**73.48**	**178**	P	P	00 56 17.3	+1.7
PYUN	**Piuthan**	**73.77**	**301**	eP	**P**	**00 56 19.5**	**+1.0**
	26nm,0.9s						
PYUN	**Piuthan**	**73.77**	**301**	eP	**P**	**00 56 19.5**	**+1.0**
	26nm,0.9s						
MKAR	**Makanchi Array**	**79.43**	**319**	P	**P**	**00 56 51.0**	**+1.4**
	0.6nm,0.4s,baz=95,slow=7.9,SNR=14						
MKAR				pP	**pP**	**00 57 35.9**	**-2.0**
	0.8nm,0.9s,baz=118,slow=4.8,SNR=3.0						
MKAR	**Makanchi Array**	**79.43**	**319**	P	**P**	**00 56 51.0**	**+1.4**
MKAR				pP	**pP**	**00 57 35.9**	**-2.0**
ZAA0	**Zalesovo Array**	**80.28**	**326**	eP	**P**	**00 56 54.2**	**+0.3**
ZALV	**Zalesovo Beam**	**80.28**	**326**	P	**P**	**00 56 54.3**	**+0.4**
	1.9nm,0.6s,baz=113,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**80.28**	**326**	P	**P**	**00 56 54.3**	**+0.4**
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**00 57 01.7**	**-0.2**
	0.6nm,0.8s,baz=244,slow=5.5,SNR=9.7						
ILAR				pP	**pP**	**00 57 47.0**	**-3.5**
	2.5nm,0.8s,baz=252,slow=4.9,SNR=11						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**00 57 01.7**	**-0.2**
ILAR				pP	**pP**	**00 57 47.0**	**-3.5**
KURK	**Kurchatov**	**82.88**	**322**	eP	**P**	**00 57 09.2**	**+1.6**
	3.5nm,1.1s						
AAK	**Ala-Archa**	**83.77**	**314**	eP	**P**	**00 57 14.3**	**+1.7**
	6.3nm,0.7s						
EKS2	**Erkin-Say**	**84.30**	**313**	eP	**P**	**00 57 15.6**	**+0.4**
	2.0nm,0.8s						
QSPA	**South Pole Qui**	**85.79**	**180**	P	**P**	**00 57 23.2**	**+1.0**
	5.0nm,0.9s,baz=31,slow=5.2,SNR=8.7						
QSPA	**South Pole Qui**	**85.79**	**180**	P	**P**	**00 57 23.2**	**+1.0**
INK	**Inuvik**	**88.10**	**21**	pP	pP	00 58 20.4	-1.8
	3.2nm,1.0s,baz=236,slow=6.0,SNR=5.5						
YKA	**Yellowknife Ar**	**95.17**	**28**	pP	pP	00 58 52.4	-3.0
	0.5nm,0.8s,baz=269,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**98.89**	**48**	P	Pdif	00 58 23.0	-0.5
	0.5nm,0.8s,baz=272,slow=2.3,SNR=3.4						
PDAR	**Pinedale Array**	**98.89**	**48**	P	Pdif	00 58 23.0	-0.5
GERES	**GERESS Array B**	**123.19**	**328**	PKP	**PKPdf**	**01 03 39.2**	**+0.6**
	0.4nm,0.6s,baz=62,slow=2.3,SNR=5.9						
GERES	**GERESS Array B**	**123.19**	**328**	PKP	**PKPdf**	**01 03 39.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**149.50**	**289**	PKPbc	**PKPbc**	**01 04 32.8**	**+0.7**
	1.9nm,0.5s,baz=61,slow=2.8,SNR=30						
TORD	**Torodi Ar. Bea**	**149.50**	**289**	PKPbc	**PKPbc**	**01 04 32.8**	**+0.7**
BDFB	**Brasilia**	**151.96**	**135**	PKPbc	**PKPbc**	**01 04 39.3**	**+1.3**
	1.4nm,0.3s,baz=277,slow=22,SNR=3.7						
BDFB				pPKPbc	**pPKPbc**	**01 05 25.8**	**-3.8**
	2.5nm,0.5s,baz=297,slow=6.8,SNR=2.4						
BDFB	**Brasilia**	**151.96**	**135**	PKPbc	**PKPbc**	**01 04 39.3**	**+1.3**
BDFB				pPKPbc	**pPKPbc**	**01 05 25.8**	**-3.8**

ISCJB ***03*** *00:48:32.4±0.5, 21°.37S±0°.05×68°.81W±0°.07, h120km±5km, mb4.1/14, Error ellipse: s-maj=11.2km s-min=8.4km az=24.4*
NEIC ***03*** *00:48:34.5, 21°.54S×69°.05W, h133km, mb4.4/5, After GUC.*
GUC ***03*** *00:48:34.5±0.6, 21°.54S×69°.05W, h133km±5km, ML4.6*
IDC ***03*** *00:48:35.6±0.6, 21°.31S×68°.63W, h126km±5km, mb4.1/12, mb1 4.2/16, mb1mx4.1/22, mbtmp4.1/16, MS2.8/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=16.6km s-min=13.0km az=101.0*
ISC 03 00:48:34.7±0.5**, 21°.59S**±0°.05×**68°.77W**±0°.07**, h125km**±5km**, n55, σ1s89**/65**, mb4.0**/14**, 2C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.03**	**187**	ePn	**Pn**	**00 48 59.1**	**+1.3**
LVC				eSn	**Sn**	**00 49 16.5**	**+1.3**
MACH	**Maria Elena**	**1.10**	**236**	⇑iP	**Pn**	**00 48 57.7**	**-0.7**
MACH				iS	**Sn**	**00 49 15.8**	**-0.6**
SPCH	**San Pedro de A**	**1.42**	**158**	eP	**Pn**	**00 49 04.7**	**+2.8**
SPCH				iS	Sn	00 49 28.1	+5.6
SPCH				AML	AML	00 49 37.6	
	comp=E,6µm,0.7s						
MECH	**Mejillones**	**2.17**	**225**	eP	**Pn**	**00 49 10.1**	**-0.4**
MECH				iS	**Sn**	**00 49 36.6**	**-1.3**
CEN1	**Los Morros**	**2.23**	**216**	⇓iP	**Pn**	**00 49 13.9**	**+2.5**
CEN1				iS	**Sn**	**00 49 43.9**	**+4.3**
CEN1				AML	AML	00 49 49.7	
	comp=E,3µm,0.4s						
ANCH	**Antofagasta**	**2.58**	**216**	⇑iP	**Pn**	**00 49 15.5**	**-0.2**
ANCH				iS	**Sn**	**00 49 46.3**	**-0.9**
ANCH				AML	AML	00 49 52.4	
	comp=E,3µm,0.4s						
LPAZ	**La Paz**	**5.30**	**7**	P	**Pn**	**00 49 49.8**	**-2.6**
	comp=E,7.0nm,0.3s,baz=177,slow=7.2,SNR=45						
LPAZ				S	Sn	00 50 39.0	-14
	comp=E,4.4nm,0.3s,baz=176,slow=13,SNR=5.1						
LPAZ	**La Paz**	**5.30**	**7**	P	**Pn**	**00 49 49.8**	**-2.6**
LPAZ				S	Sn	00 50 39.0	-14
LCO	**Las Campanas**	**7.60**	**193**	ePn	**Pn**	**00 50 20.2**	**-2.8**
	comp=E,49nm,0.6s						
LCO				eSn	**Sn**	**00 51 45.3**	**-2.4**
SIV	**San Ignacio**	**9.17**	**54**	P	Pn	00 50 39.5	-4.6
	comp=E,37nm,0.3s,baz=254,slow=12,SNR=474						
SIV				S	Sn	00 52 16.4	-9.2
	baz=150,slow=20,SNR=4.0						
SIV	**San Ignacio**	**9.17**	**54**	P	Pn	00 50 39.5	-4.6
SIV				S	Sn	00 52 16.4	-9.2
CFAA	**Coronel Fontan**	**9.99**	**177**	P	**Pn**	**00 50 53.6**	**-1.4**
	comp=E,0.2nm,0.3s,baz=354,slow=14,SNR=13						
CFAA				S	**Sn**	**00 52 39.5**	**-5.8**
	comp=E,0.9nm,0.3s,baz=253,slow=18,SNR=7.9						
CFAA	**Coronel Fontan**	**9.99**	**177**	P	**Pn**	**00 50 53.6**	**-1.4**
CFAA				S	**Sn**	**00 52 39.5**	**-5.8**
CPUP	**Villa Florida**	**11.48**	**117**	P	**Pn**	**00 51 14.1**	**-0.8**
	comp=E,0.8nm,0.3s,baz=294,slow=16,SNR=6.2						
CPUP	**Villa Florida**	**11.48**	**117**	P	**Pn**	**00 51 14.1**	**-0.8**
SAML	**Samuel**	**13.67**	**24**	ePn	Pn	00 51 37.9	-5.6
	comp=E,9.3nm,0.8s						
SAML				Sn	**Sn**	**00 54 17.2**	**+2.8**
PLCA	**Paso Flores**	**19.15**	**184**	P	**Pn**	**00 52 50.9**	**+0.4**
	comp=E,1.1nm,0.3s,baz=5.1,slow=11,SNR=18						
PLCA	**Paso Flores**	**19.15**	**184**	eP	**P**	**00 52 47.7**	**-0.6**
	comp=E,17nm,0.7s						
BDFB	**Brasilia**	**20.53**	**77**	P	**P**	**00 53 02.1**	**-1.4**
	comp=E,27nm,0.4s,baz=252,slow=10,SNR=21						
BDFB				LR	LR	01 01 33.4	
	comp=E,26nm,20.3s,baz=14,slow=38						
RCBR	**Riachuelo**	**35.45**	**69**	P	**P**	**00 55 18.2**	**-1.2**
	comp=E,18nm,0.7s,baz=239,slow=11,SNR=19						
RCBR	**Riachuelo**	**35.45**	**69**	eP	**P**	**00 55 18.8**	**-0.6**
CELP	**Cerrillos**	**39.47**	**3**	eP	**P**	**00 55 51.2**	**-1.9**
SJG	**San Juan**	**39.54**	**4**	P	P	00 55 49.9	-3.6
	comp=E,7.3nm,0.3s,baz=270,slow=5.0,SNR=5.3						
VNA3	**Neumayer Olymp**	**59.95**	**161**	eP	**P**	**00 58 30.5**	**+3.0**
VNA2	**Neumayer--Watz**	**60.53**	**161**	eP	**P**	**00 58 34.0**	**+2.6**
	baz=300,slow=7.4						
MIAR	**Mount Ida**	**60.60**	**337**	eP	**P**	**00 58 30.5**	**-1.7**
	comp=E,7.1nm,1.2s						
TXAR	**Lajitas Array**	**60.77**	**325**	P	**P**	**00 58 33.0**	**-0.7**
	comp=E,0.2nm,0.8s,baz=148,slow=7.1,SNR=2.3						
TXAR	**Lajitas Array**	**60.77**	**325**	P	**P**	**00 58 33.0**	**-0.7**
ANMO	**Albuquerque**	**66.64**	**327**	eP	P	00 59 08.3	-3.9
	comp=E,0.6nm,0.7s						
QSPA	**South Pole Qui**	**68.61**	**180**	P	**P**	**00 59 26.9**	**+2.8**
	comp=E,8.5nm,0.5s,baz=180,slow=7.7,SNR=19						
QSPA				pP	**pP**	**00 59 57.1**	**+2.3**
	comp=E,3.7nm,0.6s,baz=160,slow=1.7,SNR=3.4						
QSPA	**South Pole Qui**	**68.61**	**180**	pP	pP	00 59 57.1	+2.3
DBIC	**Dimbokro**	**68.63**	**73**	P	**P**	**00 59 24.8**	**-0.2**
	comp=E,12nm,0.7s,baz=218,slow=6.3,SNR=34						
DBIC	**Dimbokro**	**68.63**	**73**	P	**P**	**00 59 24.8**	**-0.2**
PDAR	**Pinedale Array**	**74.25**	**330**	P	**P**	**00 59 58.6**	**+0.3**
	comp=E,0.2nm,0.4s,baz=110,slow=7.8,SNR=2.5						
PDAR	**Pinedale Array**	**74.25**	**330**	P	**P**	**00 59 58.6**	**+0.3**
SCHQ	**Schefferville**	**76.12**	**1**	P	**P**	**01 00 06.3**	**-2.2**
	comp=E,2.1nm,0.8s,baz=191,slow=5.6,SNR=3.9						
SCHQ	**Schefferville**	**76.12**	**1**	P	**P**	**01 00 06.3**	**-2.2**
VNDA	**Vanda**	**76.79**	**190**	P	**P**	**01 00 14.2**	**+2.1**
	comp=E,1.9nm,0.8s,baz=105,slow=4.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P	**P**	**01 00 15.3**	**-0.5**
	comp=E,6.4nm,0.7s,baz=254,slow=5.4,SNR=81						
TORD				pP	**pP**	**01 00 46.4**	**-0.7**
	comp=E,6.9nm,0.7s,baz=254,slow=5.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P	**P**	**01 00 15.3**	**-0.5**
TORD				pP	**pP**	**01 00 46.4**	**-0.7**
BOSA	**Boshof**	**83.29**	**118**	P	**P**	**01 00 48.7**	**+0.6**
	comp=E,2.1nm,0.8s,baz=256,slow=7.6,SNR=2.8						
ESDC	**Sonseca Array**	**85.80**	**44**	P	**P**	**01 01 00.8**	**+0.5**
	comp=E,0.1nm,0.3s,baz=249,slow=5.3,SNR=4.8						
ESDC	**Sonseca Array**	**85.80**	**44**	P	**P**	**01 01 00.8**	**+0.5**
YKA	**Yellowknife Ar**	**91.31**	**341**	P	**P**	**01 01 25.5**	**-0.2**
	comp=E,0.6nm,0.6s,baz=137,slow=4.6,SNR=15						
YKA				pP	**pP**	**01 01 57.1**	**-0.7**
	comp=E,2.5nm,0.9s,baz=132,slow=4.7,SNR=8.6						
YKA	**Yellowknife Ar**	**91.31**	**341**	P	**P**	**01 01 25.5**	**-0.2**
YKA				pP	**pP**	**01 01 57.1**	**-0.7**
WRA	**Warramunga Arr**	**132.95**	**210**	PKP	**PKPdf**	**01 07 37.3**	**+1.1**
	comp=E,1.4nm,0.6s,baz=155,slow=1.8,SNR=20						
WRA	**Warramunga Arr**	**132.95**	**210**	PKP	**PKPdf**	**01 07 37.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**138.11**	**201**	PKP	**PKPdf**	**01 07 47.5**	**+1.8**
	comp=E,0.9nm,0.6s,baz=162,slow=3.2,SNR=4.0						
FITZ	**Fitzroy Crossi**	**138.11**	**201**	PKP	**PKPdf**	**01 07 47.5**	**+1.8**
ZALV	**Zalesovo Beam**	**141.97**	**25**	PKP	**PKPdf**	**01 07 51.7**	**+0.1**
	comp=E,0.5nm,0.5s,baz=308,slow=3.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**141.97**	**25**	PKP	**PKPdf**	**01 07 51.7**	**+0.1**
MKAR	**Makanchi Array**	**145.63**	**36**	PKPbc	**PKPab**	**01 07 59.6**	**+0.4**
	comp=E,1.5nm,0.6s,baz=317,slow=3.9,SNR=20						
MKAR				pPKPbc	pPKPbc	01 08 32.1	+0.2
	comp=E,10nm,0.8s,baz=321,slow=3.4,SNR=27						
MKAR	**Makanchi Array**	**145.63**	**36**	PKPbc	**PKPab**	**01 07 59.6**	**+0.4**
MKAR				pPKPbc	pPKPbc	01 08 32.1	+0.2
SONM	**Songino Array**	**153.52**	**7**	PKP	**PKPdf**	**01 08 11.9**	**+1.0**
	comp=E,0.5nm,0.8s,baz=329,slow=2.2,SNR=4.4						
SONM				PKPbc	**PKiKP**	**01 08 18.8**	**0.0**
	comp=E,0.4nm,0.7s,baz=348,slow=1.9,SNR=4.8						
SONM	**Songino Array**	**153.52**	**7**	PKP	**PKPdf**	**01 08 11.9**	**+1.0**
SONM				PKPbc	**PKiKP**	**01 08 18.8**	**0.0**

IDC 03 00:50:24.7±7.4**, 30°.40S**×**178°.23W, h0km, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.8**/17**, mbtmp3.8**/2**, MS4.1**/1**, Ms1 4.1**/1**, ms1mx3.1**/27**, Error ellipse: s-maj=309.7km s-min=55.6km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.91**	**267**	P	P	00 58 24.9	-0.5
	0.6nm,0.4s,baz=109,slow=8.1,SNR=3.9						
WRA	**Warramunga Arr**	**43.90**	**272**	P	P	00 58 33.5	+0.1
	0.7nm,0.4s,baz=111,slow=8.1,SNR=18						
VNDA	**Vanda**	**48.08**	**186**	LR	LR	01 16 14.1	
	comp=Z,180nm,19.0s,baz=88,slow=32						
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	PKPbc	01 10 01.9	-0.8
	4.3nm,1.1s,baz=27,slow=2.1,SNR=8.1						

DDA ***03*** *00:52:20.2, 38°.61N×31°.28E, h7km, MD2.8*
ISK ***03*** *00:52:21.8, 38°.72N×31°.12E, h6km, MD2.3*
CSEM ***03*** *00:52:21.0±0.3, 38°.64N×31°.24E, h2km, MD2.8*
ISC 03 00:52:21.0±1.1**, 38°.61N**±0°.04×**31°.24E**±0°.02**, h7km**±12km**, n18, σ0s92**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.25**	**296**	iP	**Pg**	**00 52 26.1**	**+0.1**
BOLV				iS	**Sg**	**00 52 30.3**	**+0.8**
BOLV	**Bolvadin**	**0.25**	**296**	iP	**Pg**	**00 52 26.1**	**+0.1**
BOLV				iS	**Sg**	**00 52 30.3**	**+0.8**
SHUT	**Suhut-Afyon**	**0.54**	**264**	ePg	**Pg**	**00 52 31.2**	**-0.3**
SHUT				eSg	**Sg**	**00 52 38.3**	**-0.3**
SHUT	**Suhut-Afyon**	**0.54**	**264**	ePG	**Pg**	**00 52 31.2**	**-0.3**
SHUT				eSG	**Sg**	**00 52 38.3**	**-0.3**
KDHN	**Kadinhani**	**0.69**	**97**	iP	**Pg**	**00 52 33.3**	**-1.1**
KDHN				iS	**Sg**	**00 52 42.9**	**-0.5**
KDHN	**Kadinhani**	**0.69**	**97**	iP	**Pg**	**00 52 33.3**	**-1.1**
KDHN				iS	**Sg**	**00 52 42.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.87**	**15**	ePG	**Pg**	**00 52 37.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.87**	**15**	ePg	**Pg**	**00 52 37.5**	**-0.2**
SEYT	**Eskypehyr**	**0.96**	**342**	iP	**Pg**	**00 52 39.3**	**-0.2**
SEYT				eS	**Sb**	**00 52 52.8**	**-0.2**
SEYT	**Eskypehyr**	**0.96**	**342**	iP	**Pg**	**00 52 39.3**	**-0.2**
SEYT				eS	**Sb**	**00 52 52.8**	**-0.2**
ISP	**Isparta**	**0.97**	**216**	ePG	**Pn**	**00 52 42.1**	**+1.0**
ISP	**Isparta**	**0.97**	**216**	ePg	**Pn**	**00 52 42.1**	**+1.0**
LADK	**Ladik-KONYA**	**0.97**	**114**	ePN	**Pn**	**00 52 42.8**	**+1.6**
LADK	**Ladik-KONYA**	**0.97**	**114**	ePn	**Pn**	**00 52 42.8**	**+1.6**
ALT	**Altintas**	**0.99**	**297**	ePG	**Pg**	**00 52 38.9**	**-1.1**
ALT	**Altintas**	**0.99**	**297**	ePg	**Pg**	**00 52 38.9**	**-1.1**
KHAL	**Karahalli**	**1.39**	**261**	eP	**Pn**	**00 52 45.6**	**-1.4**
KHAL				iS	**Sg**	**00 53 06.8**	**+1.0**
KHAL	**Karahalli**	**1.39**	**261**	eP	**Pn**	**00 52 45.6**	**-1.4**
KHAL				iS	**Sg**	**00 53 06.8**	**+1.0**

DJA 03 01:02:50.3±1.5**, 3°S**±16°×**12°9E**±°**, h10km, M3.7**/3**, MLv3.7**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.33**	**95**	P	Pg	01 02 57.1	+0.2
MSAI				S	Sb	01 03 03.0	-0.6
AAI	**Ambon**	**0.55**	**228**	P	Pg	01 03 01.1	+0.2
AAI				S	Sb	01 03 09.3	-0.6

ISCJB ***03*** *01:10:50.7±0.5, 78°.20N±0°.08×20°.4W±0°.3, h10km, mb3.7/17, Error ellipse: s-maj=12.0km s-min=7.1km az=166.6*
IDC ***03*** *01:10:51.7±0.7, 78°.34N×19°.48W, h0km, mb3.6/15, mb1 3.8/17, mb1mx3.7/30, mbtmp3.6/17, ML3.8/1, Error ellipse: s-maj=21.4km s-min=14.0km az=21.0*
ISC 03 01:10:52.6±0.6**, 78°.27N**±0°.10×**19°.44W**±0°.06**, h10km, n26, σ1s74**/23**, mb3.8**/17**, Eastern Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**7.24**	**73**	Pn	**Pn**	**01 12 36.5**	**-1.7**
	baz=191,slow=16,SNR=14						
SPITS				Sn	**Sn**	**01 13 57.1**	**-3.3**
	baz=276,slow=17,SNR=3.7						
SUMG	**Summit**	**7.42**	**230**	iP	**Pn**	**01 12 40.7**	**-0.3**
SUMG				iS	**Sn**	**01 14 00.5**	**-4.7**
SFJD	**Kangerlussuaq**	**14.34**	**235**	Pn	Pn	01 14 10.3	-4.9
	0.6nm,0.3s,baz=10,slow=12,SNR=3.9						
SFJD				Sn	Sn	01 16 38.9	-15
	4.9nm,0.3s,baz=108,slow=18,SNR=8.9						
SFJD	**Kangerlussuaq**	**14.34**	**235**	iP	Pn	01 14 10.6	-4.6
	11nm,0.7s						
SFJD				i		01 14 19.5	
SFJD				iS	Sn	01 16 39.3	-15
ARCES	**ARCESS Array B**	**14.71**	**102**	Pn	**P**	**01 14 24.2**	**-2.2**
	0.1nm,0.3s,baz=339,slow=12,SNR=3.0						
KEV	**Kevo**	**14.83**	**100**	ep	**P**	**01 14 26.2**	**-1.6**
	1.8nm,0.5s						
RES	**Resolute Bay**	**16.80**	**297**	Pn	Pn	01 14 41.4	-6.1
	1.3nm,0.3s,baz=52,slow=14,SNR=25						
NOA	**NORSAR Array B**	**19.82**	**133**	P	**Pn**	**01 15 24.9**	**+0.4**
	0.4nm,0.3s,baz=340,slow=8.8,SNR=7.4						
FRB	**Frobisher Bay**	**20.57**	**253**	P	Pn	01 15 33.0	-0.1
	1.0nm,0.6s,baz=27,slow=11,SNR=3.3						
HFS	**Hagfors**	**21.07**	**130**	P	**P**	**01 15 38.5**	**+2.1**
	6.7nm,0.8s,baz=353,slow=8.7,SNR=14						
KAF	**Kangasniemi**	**21.41**	**113**	ep	**P**	**01 15 40.1**	**+0.1**
	5.2nm,0.7s						
JOF	**Joensuu**	**21.64**	**106**	ep	**P**	**01 15 41.9**	**-0.5**
	3.3nm,0.8s						
FINES	**FINESS Array B**	**21.98**	**114**	P	**P**	**01 15 47.1**	**+0.9**
	2.8nm,0.4s,baz=348,slow=10,SNR=37						
YKA	**Yellowknife Ar**	**30.86**	**296**	P	**P**	**01 17 07.6**	**-0.7**
	0.1nm,0.3s,baz=17,slow=8.9,SNR=3.1						
GERES	**GERESS Array B**	**32.00**	**137**	P	**P**	**01 17 19.8**	**+1.2**
	0.3nm,0.6s,baz=344,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**32.72**	**118**	P	**P**	**01 17 25.2**	**+0.5**
	1.2nm,0.4s,baz=344,slow=9.5,SNR=2.9						
ILAR	**Eielson Array**	**33.79**	**322**	P	**P**	**01 17 33.5**	**-0.5**
	0.2nm,0.5s,baz=12,slow=7.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**40.56**	**62**	P	**P**	**01 18 32.1**	**+0.7**
	0.4nm,0.4s,baz=326,slow=8.1,SNR=3.0						
KBZ	**Khabaz**	**42.00**	**106**	P	P	01 18 46.9	+3.5
	2.6nm,0.8s,baz=14,slow=8.3,SNR=4.1						
BRTR	**Keskin Array B**	**44.12**	**118**	P	**P**	**01 19 02.2**	**+1.5**
	0.7nm,0.8s,baz=339,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**46.95**	**67**	P	**P**	**01 19 23.5**	**+0.6**
	0.8nm,0.6s,baz=347,slow=6.0,SNR=14						
PDAR	**Pinedale Array**	**48.55**	**281**	P	**P**	**01 19 38.0**	**+2.3**
	0.7nm,0.9s,baz=43,slow=5.4,SNR=2.9						
SONM	**Songino Array**	**50.01**	**45**	P	**P**	**01 19 47.5**	**+0.9**
	0.1nm,0.4s,baz=328,slow=5.1,SNR=3.8						
TXAR	**Lajitas Array**	**60.33**	**271**	P	**P**	**01 21 01.2**	**0.0**
	0.6nm,0.8s,baz=35,slow=3.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.98**	**157**	P	**P**	**01 21 39.3**	**+0.6**
	1.7nm,0.8s,baz=352,slow=6.7,SNR=12						
DBIC	**Dimbokro**	**71.97**	**165**	P	**P**	**01 22 16.1**	**+0.2**
	1.1nm,0.8s,baz=333,slow=2.3,SNR=3.5						

ISCJB ***03*** *01:12:56.5±0.8, 36°.97N±0°.05×28°.30E±0°.06, h10km±8km, Error ellipse: s-maj=10.6km s-min=5.7km az=39.3*
ISK ***03*** *01:12:56.4, 37°.14N×28°.29E, h24km, MD2.0*
DDA ***03*** *01:12:57.0, 36°.97N×28°.21E, h7km, MD2.8*
CSEM ***03*** *01:12:57.3±0.4, 36°.99N×28°.30E, h2km, MD2.0, Error ellipse: s-maj=11.7km s-min=7.7km az=39.0*
ISC 03 01:12:55.9±1.2**, 36°.94N**±0°.07×**28°.24E**±0°.07**, h12km**±11km**, n14, σ1s01**/22**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.20	9	PG	Pg	01 13 00.8	+0.4
YER				SG	Sg	01 13 03.8	+0.4
YER	Yerkesik	0.20	9	*i* Pg	Pg	01 13 00.8	+0.4
YER				*i* Sg	Sg	01 13 03.8	+0.4
TURN	Turunc	0.29	103	*i* P	Pg	01 13 01.0	-1.0
TURN				*i* S	Sg	01 13 04.6	-1.4
TURN	Turunc	0.29	103	*i* P	Pg	01 13 01.0	-1.0
TURN				*i* S	Sg	01 13 04.6	-1.4
MLSB	Milas	0.52	314	*e*PG	Pg	01 13 06.0	-0.1
MLSB				*e*SG	Sb	01 13 13.1	-1.3
MLSB	Milas	0.52	314	*e*Pg	Pg	01 13 06.0	-0.1
MLSB				*e*Sg	Sb	01 13 13.1	-1.3
DAT	Datca	0.57	249	*e*PG	Pn	01 13 10.8	+0.8
DAT	Datca	0.57	249	*e*Pg	Pn	01 13 10.8	+0.8
FETY	Fethiye	0.74	114	*e*PG	Pb	01 13 12.6	+1.9
FETY	Fethiye	0.74	114	*e*Pg	Pb	01 13 12.6	+1.9
BODT	Bodrum	0.76	280	*e*PG	Pn	01 13 12.3	-0.1
BODT	Bodrum	0.76	280	*e*Pg	Pn	01 13 12.3	-0.1
AYDN	Tasoluk	0.78	338	*i* P	Pb	01 13 11.5	0.0
AYDN				*i* S	Sb	01 13 21.6	-0.4
AYDN	Tasoluk	0.78	338	*i* P	Pb	01 13 11.5	0.0
AYDN				*i* S	Sb	01 13 21.6	-0.4

*ISCJB **03** 01:19:36.7±0.2, 3°.77S±0°.03×151°.32E±0°.04, h10km, mb4.9/91, MS4.7/53, Error ellipse: s-maj=5.6km s-min=4.5km az=7.7*

*IDC **03** 01:19:36.0±0.5, 3°.86S×151°.34E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.8/29, mbtmp4.7/27, ML5.2/1, MS4.6/27, Ms1 4.6/27, ms1mx4.5/35, Error ellipse: s-maj=16.7km s-min=10.5km az=109.0*

*NEIC **03** 01:19:38.5±0.2, 3°.76S×151°.24E, h11km, mb5.2/35, MW5.3, Error ellipse: s-maj=8.1km s-min=5.3km az=101.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17} Nm; M_{rr}0.44; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-1.15; $M_{r\theta}$-0.04; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.08; Best double couple: $M_0$1.10000×10^{17} NP1: ϕ_s213.00000°, δ85.00000°, λ172.00000°. NP2: ϕ_s303.00000°, δ82.00000°, λ5.00000°. Principal axes: T 0.8100, Plg8.0000°, Azm167.0000°; N 0.4300, Plg80.0000°, Azm2.0000°; P -1.2400, Plg2.0000°, Azm258.0000°;*

*MOS **03** 01:19:39.8±1.1, 3°.74S×151°.26E, h33km, mb5.0/29, MS4.6/16 Error ellipse: s-maj=10.8km s-min=6.7km az=94.4*

*GCMT **03** 01:19:41.4±0.1, 3°.65S×151°.38E, h12km, MW5.3, Moment Tensor Solution. s79,c124; s26,c26; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$1.30±.02; $M_{\phi\phi}$-1.16±.02; $M_{r\theta}$0.11±.04; $M_{\theta\phi}$0.43±.02; $M_{\phi r}$-0.14±.05; Best double couple: $M_0$1.30000×10^{17} NP1:ϕ_s36.00000°, δ82.00000°, λ-177.00000°. NP2:ϕ_s305.00000°, δ87.00000°, λ-8.00000°. Principal axes: T 1.3800, Plg3.0000°, Azm351.0000°; N -0.1300, Plg82.0000°, Azm103.0000°; P -1.2500, Plg8.0000°, Azm260.0000°; Data Used: II IU IC G CN. Surface waves: sta=107, comp=203, per= 50.*

*DJA **03** 01:19:44.5±1.4, 4°S±5°×15°2E±1°2, h99km±8km, M5.2/31, mB5.7/16, mb5.2/31, MLv5.2/1, Mw(mB)5.3/16*

*BJI **03** 01:19:46.5, 3°.47S×151°.43E, h82km, mB5.3/37, mb4.9/44, Ms5.0/37, Ms7 4.7/35*

*AUST **03** 01:19:46.1, 3°.76S×151°.05E, h60km*

ISC 03 01:19:38.1±0.3, **3°.77S**±0°.04×**151°.28E**±0°.05, **h10km, n246, σ1.70**/235, **mb5.0**/90, **MS4.7**/53, **1C-2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.94	216	Pn	Pn	01 21 22.6	+2.6
	14nm,0.3s,baz=60,slow=12,SNR=22						
PMG				Sn	Sn	01 22 36.4	-2.7
	baz=68,slow=19,SNR=1.4						
PMG				LR	LR	01 23 33.3	
	comp=Z,4µm,18.8s,baz=30,slow=34						
PMG	Port Moresby	6.94	216	*e*Pn	Pn	01 21 21.2	+1.2
PMG				*e*S	Sn	01 22 49.3	+10
PMG	Port Moresby	6.94	216	P	Pn	01 21 22.6	+2.6
	210nm,0.8s,2µm0.7nm						
HNR	Honiara	10.29	124	Pn	Pn	01 22 08.0	+2.1
JAY	Jayapura	10.63	276	P	Pn	01 22 16.9	+6.2
	baz=10,SNR=5.2						
JAY	Jayapura	10.63	276	P	Pn	01 22 23.5	+13
	147nm,1.2s,17µm						
JAY	Jayapura	10.63	276	P	Pn	01 22 24.2	+13
	86nm,1.7s,17µm						
PATS	Pohnpei	12.66	34	P	Pn	01 22 43.9	+5.5
	baz=13,SNR=3.8						
COEN	Coen	12.90	218	*e*Pn	Pn	01 22 41.6	-0.2
CTA	Charters Tower	16.95	196	Pn	P	01 23 38.1	+0.6
	0.6nm,0.3s,baz=18,slow=13,SNR=13						
CTA				Sn	S	01 26 55.6	+1.3
	0.2nm,0.3s,baz=232,slow=19,SNR=1.6						
CTA	Charters Tower	16.95	196	Pn	P	01 23 38.1	+0.6
CTA				Sn	S	01 26 55.6	+1.3
CTAO	Charters Tower	16.95	196	*e*P	P	01 23 36.8	-0.7
CTAO				pmax	pmax		
	comp=Z,503nm,1.9s						
CTAO	Charters Tower	16.95	196	*e*Pn	P	01 23 36.8	-0.7
	comp=Z,503nm,1.9s						
GUMO	Guam	18.38	340	P	P	01 23 54.0	+0.7
	comp=Z,7.4nm,0.3s,baz=138,slow=9.2,SNR=5.5						
GUMO				LR	LR	01 30 23.3	
	comp=Z,403nm,18.4s,baz=135,slow=35						
GUMO	Guam	18.38	340	*e*P	P	01 23 54.8	+1.5
	comp=Z,829nm,1.4s						
TLE	Tual	18.57	264	P	Pn	01 23 58.5	+2.8
	comp=Z,285nm,1.3s,comp=Z,5µm						
TLE	Tual	18.57	264	P	Pn	01 23 56.5	+0.8
	comp=Z,237nm,1.6s,comp=Z,5µm						
QIS	Mount Isa	20.20	213	P	Pn	01 24 14.3	-0.8
	baz=20,SNR=15						
SWI	Sorong	20.21	278	P	Pn	01 24 16.1	+0.8
	baz=20,SNR=4.5						
SWI	Sorong	20.21	278	P	Pn	01 24 15.7	+0.4
	comp=Z,222nm,1.3s,comp=Z,3µm						
SWI	Sorong	20.21	278	P	Pn	01 24 16.1	+0.8
	comp=Z,223nm,1.3s,comp=Z,3µm						
KDU	Kakadu	20.60	243	P	Pn	01 24 18.3	-1.6
	baz=20,SNR=12						
EIDS	Eidsvold	21.48	180	*e*P	P	01 24 26.8	-0.3
	comp=Z,216nm,1.8s						
EIDS	Eidsvold	21.48	180	P	P	01 24 31.4	+4.3
	baz=22,SNR=4.9						
MTN	Manton Dam	21.86	244	P	P	01 24 31.7	+0.4
	baz=22,SNR=8.4						
RMQ	Roma	22.72	186	P	P	01 24 40.9	+0.5
	baz=23,SNR=23						
AAI	Ambon	23.04	269	P	P	01 24 44.8	+1.0
	comp=Z,243nm,1.4s						
AAI	Ambon	23.04	269	P	P	01 24 45.4	+1.6
	comp=Z,243nm,1.4s						
WRAB	Tennant Creek	23.04	224	*e*P	P	01 24 43.3	-0.5
WRAB				pmax	pmax		
	comp=Z,161nm,1.4s						
WRAB	Tennant Creek	23.04	224	*e*P	P	01 24 43.3	-0.5
	comp=Z,161nm,1.4s						
WRA	Warramunga Arr	23.05	224	P	P	01 24 43.1	-0.8
	comp=Z,14nm,0.6s,baz=51,slow=9.7,SNR=56						
WRA				S	S	01 28 56.1	+1.1
	comp=Z,12nm,1.4s,baz=39,slow=16,SNR=7.6						
WRA				LR	LR	01 34 38.6	
	comp=Z,942nm,18.6s,baz=50,slow=39						
WRA	Warramunga Arr	23.05	224	P	P	01 24 43.1	-0.8
WRA				S	S	01 28 56.1	+1.1
NOUC	Port Laguerre	23.34	143	*e*P	P	01 24 46.0	-0.7
DZM	Mont Dzumac	23.40	142	*e*P	P	01 24 46.9	-0.6
	comp=Z,206nm,1.2s						
DZM				*e*LR	LR	01 30 37.5	
	comp=Z,7µm,24.9s						
DZM	Mont Dzumac	23.40	142	P	P	01 24 46.2	-1.3
	comp=Z,47nm,0.7s,baz=328,slow=12,SNR=41						
DZM	Mont Dzumac	23.40	142	*e*P	P	01 24 44.9	-2.6
DZM	Mont Dzumac	23.40	142	*e*P	P	01 24 46.5	-1.0
QLP	Quilpie	23.67	196	P	P	01 24 50.3	+0.3
	baz=24,SNR=6.4						
LBMI	Labuha	23.96	277	P	P	01 24 54.6	+1.6
	comp=Z,370nm,1.1s,comp=Z,4µm						
LBMI	Labuha	23.96	277	P	P	01 24 55.1	+2.1
	comp=Z,236nm,1.5s,comp=Z,4µm						
AS31	Alice Springs	25.94	219	*e*P	P	01 25 10.2	-0.8
ASAR	Alice Springs	25.94	219	P	P	01 25 10.7	-0.3
	comp=Z,8.5nm,0.9s,baz=60,slow=7.6,SNR=24						
ASAR				LR	LR	01 35 37.4	
	comp=Z,1µm,19.1s,baz=43,slow=37						
ASAR	Alice Springs	25.94	219	P	P	01 25 10.7	-0.3
ARMA	Armidale	26.51	179	*e*P	P	01 25 17.1	+1.0
	comp=Z,39nm,1.4s						
KDI	Kendari	28.59	269	P	P	01 25 40.0	+5.1
	comp=Z,40nm,1.3s,comp=Z,1µm						
KDI	Kendari	28.59	269	P	P	01 25 35.2	+0.3
	comp=Z,40nm,1.3s,comp=Z,1µm						
FITZ	Fitzroy Crossi	28.86	238	P	P	01 25 37.1	-0.2
	comp=Z,26nm,1.1s,baz=74,slow=9.7,SNR=19						
FITZ				LR	LR	01 37 43.4	
	comp=Z,1µm,19.3s,baz=64,slow=38						
FITZ	Fitzroy Crossi	28.86	238	*e*P	P	01 25 35.9	-1.3
	comp=Z,46nm,1.1s						
FITZ	Fitzroy Crossi	28.86	238	P	P	01 25 37.0	-0.2
	baz=29,SNR=16						
STKA	Stephens Creek	29.41	197	P	P	01 25 40.1	-1.8
	comp=Z,5.4nm,0.7s,baz=22,slow=11,SNR=6.1						
STKA				LR	LR	01 36 43.7	
	comp=Z,2µm,21.8s,baz=14,slow=35						
STKA	Stephens Creek	29.41	197	P	P	01 25 40.1	-1.8
STKA	Stephens Creek	29.41	197	P	P	01 25 47.1	+5.2
	baz=30,SNR=3.7						
MSVF	Nonsavu	29.67	120	*e*P	P	01 25 51.9	+7.4
MSVF				pmax	pmax		
	comp=Z,11nm,1.1s						
MSVF	Nonsavu	29.67	120	*e*P	P	01 25 51.9	+7.4
	comp=Z,11nm,1.1s						
KAPI	Kappang	31.46	267	P	P	01 25 59.3	-0.9
	comp=Z,21nm,0.9s,baz=104,slow=6.8,SNR=11						
KAPI	Kappang	31.46	267	*e*P	P	01 25 59.6	-0.6
KAPI	Kappang	31.46	267	P	P	01 25 59.9	-0.3
	comp=Z,37nm,1.1s						
KAPI	Kappang	31.46	267	P	P	01 25 59.4	-0.9
	comp=Z,37nm,1.1s						
CBIJ	Chichi jima	31.91	345	LR	LR	01 37 39.8	
	comp=Z,2µm,19.4s,baz=328,slow=34						
MYLDM	Lahad Datu	33.93	285	P	P	01 26 23.8	+1.9
MYLDM	Lahad Datu	33.93	285	P	P	01 26 23.9	+2.0
	comp=Z,74nm,1.1s						
MYLDM	Lahad Datu	33.93	285	P	P	01 26 22.8	+0.9
	comp=Z,63nm,1.3s						
TSM	Tawau	34.33	283	P	P	01 26 26.2	+0.9
MBWA	Marble Bar	35.20	238	*e*P	P	01 26 33.2	+0.4
KHKI	Kahang-Kahang	35.75	261	P	P	01 26 37.0	-0.6
	comp=Z,108nm,1.1s,comp=Z,1µm						
IGBI	Denpasar	36.25	260	P	P	01 26 47.1	+5.2
	comp=Z,87nm,0.6s,comp=Z,28µm						
KKM	Kota Kinabalu	36.34	285	*e*P	P	01 26 42.3	-0.6
	comp=Z,57nm,0.9s						
KKM	Kota Kinabalu	36.34	285	P	P	01 26 43.3	+0.5
	baz=36,SNR=3.2						
KKM	Kota Kinabalu	36.34	285	P	P	01 26 43.1	+0.3
KKM	Kota Kinabalu	36.34	285	P	P	01 26 43.4	+0.5
	comp=Z,66nm,1.1s						
KKM	Kota Kinabalu	36.34	285	P	P	01 26 42.5	-0.3
	comp=Z,66nm,1.1s						
BBKI	Banjar Baru	36.37	269	P	P	01 26 46.1	+3.2
	comp=Z,97nm,1.3s						
NBBI	Negara	36.73	261	P	P	01 26 40.8	-5.2
	comp=Z,118nm,0.9s						
KMMI	Kalianget	37.28	263	P	P	01 26 51.6	+0.9
	comp=Z,61nm,1.4s,comp=Z,2µm						
OUZ	Omahuta	37.51	149	*e*P	P	01 26 53.2	+0.9
JOW	Kunigami	37.68	325	LR	LR	01 39 17.8	
	comp=Z,1µm,21.2s,baz=117,slow=31						
AFI	Afiamalu	37.81	108	LR	LR	01 40 16.9	
	comp=Z,1µm,19.8s,baz=278,slow=33						
MEEK	Meekatharra	38.65	231	P	P	01 27 01.6	-0.5
	baz=38,SNR=8.9						
BTM	Bintulu	38.79	280	P	P	01 27 05.0	+1.4
SJI	Sawahan	39.50	262	P	P	01 27 13.1	+3.6
	comp=Z,107nm,1.1s						
SBUM	Sibu	39.52	278	P	P	01 27 11.3	+1.7
SBUM	Sibu	39.52	278	P	P	01 27 10.8	+1.2
	comp=Z,37nm,1.4s,comp=Z,710nm						
SBUM	Sibu	39.52	278	P	P	01 27 10.7	+1.2
	comp=Z,37nm,1.4s,comp=Z,710nm						
STKI	Sintang	39.95	275	P	P	01 27 14.7	+1.5
	comp=Z,84nm,0.7s						
KSM	Kuching	41.28	277	*e*P	P	01 27 24.9	+0.8
	comp=Z,78nm,1.2s						
KSM	Kuching	41.28	277	P	P	01 27 25.2	+1.0
	baz=41,SNR=7.2						
KSM	Kuching	41.28	277	P	P	01 27 25.4	+1.3
KSM	Kuching	41.28	277	P	P	01 27 25.1	+1.0
	comp=Z,60nm,1.5s,comp=Z,771nm						
KSM	Kuching	41.28	277	P	P	01 27 25.0	+0.8
	comp=Z,60nm,1.5s,comp=Z,771nm						
JNU	Nakatsue	41.46	334	P	P	01 27 27.0	+1.6
	comp=Z,46nm,1.1s,baz=80,slow=1.3,SNR=12						
JNU				LR	LR	01 43 04.3	
	comp=Z,683nm,21.5s,baz=325,slow=34						
JNU	Nakatsue	41.46	334	*e*P	P	01 27 24.9	-0.5
	comp=Z,33nm,1.1s						
BJII	Banjamegara	41.51	263	P	P	01 27 26.4	+0.2
	comp=Z,82nm,2.2s,comp=Z,2µm						
MJAR	Matsushiro Arr	41.92	344	P	P	01 27 26.4	-2.6
	comp=Z,4.3nm,0.9s,baz=169,slow=9.4,SNR=8.1						
MJAR				LR	LR	01 43 35.6	
	comp=Z,721nm,19.5s,baz=170,slow=34						
MJAR	Matsushiro Arr	41.92	344	P	P	01 27 26.4	-2.6
MAJO	Matsushiro	41.92	344	*e*P	P	01 27 28.2	-0.8
MAJO				pmax	pmax		
	comp=Z,24nm,1.2s						
MAJO	Matsushiro	41.92	344	*e*P	P	01 27 28.2	-0.8
	comp=Z,24nm,1.2s						
MAT	Matsushiro	41.92	344	P	P	01 27 28.3	-0.7
MAT				S	S	01 33 39.0	-8.4
TGJI	Tegal	42.08	264	P	P	01 27 36.6	+5.9
QZH	Quanzhou	42.69	314	P	P	01 27 40.0	+4.5
QZH				S	S	01 34 01.0	+1.9
QZH				LR	LR		
	comp=Z,2µm,21.1s						
NWAO	Narrogin (SRO)	43.06	224	LR	LR	01 45 16.3	
	comp=Z,1µm,19.7s,baz=54,slow=36						
SSE	Sheshan	45.00	323	P	P	01 27 55.2	+1.2
SSE				S	S	01 34 28.7	-4.0
SSE				pmax	pmax		
	comp=Z,18nm,0.8s						
SSE				pmax	pmax		
	comp=Z,88nm,3.4s						
SSE				LR	LR		
	comp=N,480nm,25.0s						
SSE				LR	LR		
	comp=E,600nm,25.0s						
SSE				LR	LR		
	comp=Z,770nm,25.0s						
KSRS	Korea Array	46.41	334	P	P	01 28 04.8	-0.1
	comp=Z,3.5nm,0.9s,baz=156,slow=7.8,SNR=8.7						
KSRS				LR	LR	01 45 47.9	
	comp=Z,585nm,20.6s,baz=147,slow=34						
KSAR	Wonju Array Be	46.41	334	P	P	01 28 04.8	-0.2
QIZ	Qiongzhong	46.64	301	P	P	01 28 07.3	+0.1
QIZ				sP	sP	01 28 36.4	+25
QIZ				S	S	01 34 49.7	-7.0
QIZ				pmax	pmax		
	comp=Z,180nm,3.8s						
QIZ				LR	LR		
	comp=N,800nm,24.3s						
QIZ				LR	LR		
	comp=Z,560nm,25.7s						
INCN	Inchon	47.00	333	*e*P	P	01 28 10.8	+1.1
	comp=Z,53nm,0.9s						
NJ2	Nanjing	47.09	322	*e*P	P	01 28 13.4	+2.9
NJ2				pP	pP	01 28 32.0	+18
NJ2				sP	sP	01 28 42.1	+27
NJ2				PP	PP	01 30 04.1	+2.8
NJ2				S	S	01 35 04.5	+1.7
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,490nm,4.8s						
NJ2				LR	LR		
	comp=N,1µm,21.7s						
NJ2				LR	LR		
	comp=E,800nm,14.8s						
NJ2				LR	LR		
	comp=Z,1µm,20.7s						
MYKOM	Kota Tinggi	47.72	276	P	P	01 28 26.7	+11
MYKOM	Kota Tinggi	47.72	276	P	P	01 28 18.0	+2.3
	comp=Z,28nm,1.6s						
YUK	Yuzh-Kuril'sk	47.83	355	*d i*P	P	01 28 15.1	-0.9
YUK				*i* S	S	01 35 06.0	-6.9
YUK				*i* SS	SS	01 38 32.0	-10
YUK				pmax	pmax		
	comp=Z,58nm,9.2s						
YUK				MLR	MLR		
	comp=N,282nm,21.0s						
YUK				MLR	MLR		
	comp=Z,502nm,21.0s						
ASAJ	Asahikawa	48.30	352	P	P	01 28 19.9	+0.3
	comp=Z,8.1nm,0.5s,baz=214,slow=9.9,SNR=6.1						
ASAJ				LR	LR	01 44 36.4	
	comp=Z,563nm,21.9s,baz=165,slow=31						
ASAJ	Asahikawa	48.30	352	P	P	01 28 19.9	+0.3
USRK	Ussuriysk Arra	50.79	342	P	P	01 28 38.5	-0.1
	comp=Z,5.7nm,0.7s,baz=147,slow=5.9,SNR=12						
USRK				LR	LR	01 46 49.1	
	comp=Z,775nm,21.9s,baz=150,slow=32						
PPI	Padang Panjang	50.95	272	P	P	01 28 40.2	-0.2
	comp=Z,69nm,1.2s,comp=Z,725nm						
MDJ	Mudanjiang	51.94	340	P	P	01 28 50.9	+3.7
MDJ				pP	pP	01 29 10.3	+20
MDJ				sP	sP	01 29 19.6	+28
MDJ				PP	PP	01 30 48.2	+2.9
MDJ				S	S	01 36 08.6	-1.6
MDJ				sS	sS	01 36 32.4	+17
MDJ				SS	SS	01 39 36.1	-11
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,93nm,3.8s						
MDJ				LR	LR		
	comp=N,570nm,38.2s						
MDJ				LR	LR		
	comp=E,490nm,28.1s						
MDJ				LR	LR		
	comp=Z,790nm,35.0s						
MDJ	Mudanjiang	51.94	340	*e*P	P	01 28 46.6	-0.6
	comp=Z,19nm,0.9s						
GYA	Guiyang	52.56	308	⇓*i*P	P	01 28 54.0	+1.6
GYA				pP	pP	01 29 15.6	+20
GYA				sP	sP	01 29 26.0	+29
GYA				PcP	PcP	01 30 04.2	+1.5
GYA				PP	PP	01 30 55.1	+3.6
GYA				ScP	ScP	01 33 52.3	-8.0
GYA				S	S	01 36 12.8	-7.0
GYA				sS	sS	01 36 49.5	+24
GYA				SS	SS	01 39 50.5	-7.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,330nm,17.6s						
GYA				LR	LR		
	comp=E,420nm,22.9s						
GYA				LR	LR		
	comp=Z,560nm,17.9s						
PSI	Prapat	52.73	276	P	P	01 28 52.7	-1.2
	comp=Z,2.4nm,0.4s,baz=210,slow=10.0,SNR=5.4						
PSI	Prapat	52.73	276	P	P	01 28 52.7	-1.2
PSI	Prapat	52.73	276	P	P	01 28 53.6	-0.3
	baz=52,SNR=5.7						
PSI	Prapat	52.73	276	P	P	01 28 59.9	+6.1
PSI	Prapat	52.73	276	P	P	01 28 53.2	-0.6
	comp=Z,17nm,1.7s						
CN2	Changchun	52.75	337	*e*P	P	01 28 58.2	+4.9
CN2				*e*pP	pP	01 29 14.0	+18
CN2				*e*S	S	01 36 19.8	-1.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
HABR	Khabarovsk	53.92	347	*e*P	P	01 29 00.9	-0.9
HABR				*e*		01 30 05.2	
HABR				*e*S	S	01 36 29.7	-7.5
HABR				*i*		01 36 40.8	
HABR				*e*		01 38 41.3	
HABR				*e*SS	SKiKP	01 40 13.6	-2.1
HABR				pmax	pmax		
	comp=N,54nm,2.3s						
HABR				pmax	pmax		
	comp=E,51nm,2.3s						
HABR				pmax	pmax		
	comp=Z,177nm,3.0s						
HABR				MLR	MLR		
	comp=Z,438nm,16.0s						
BJI	Beijing	54.20	327	P	P	01 29 04.1	+0.1
BJI				pP	pP	01 29 26.8	+20
BJI				sP	sP	01 29 35.4	+27
BJI				S	S	01 36 38.1	-3.2
BJI				sS	sS	01 37 10.2	+24
BJI				pmax	pmax		
	comp=Z,15nm,2.0s						
BJI				pmax	pmax		
	comp=Z,210nm,3.9s						
BJI				LR	LR		
	comp=N,620nm,19.8s						
BJI				LR	LR		
	comp=E,390nm,23.1s						
BJI				LR	LR		
	comp=Z,790nm,32.2s						
COCO	West Island	54.48	258	*i* P	P	01 29 15.2	+8.7
XAN	Xi'an	54.83	317	P	P	01 29 08.6	-0.2
XAN				S	S	01 36 47.2	-2.9
XAN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,33nm,5.0s						
XAN				LR	LR		
	comp=N,130nm,19.0s						
XAN				LR	LR		
	comp=E,340nm,16.9s						
XAN				LR	LR		
	comp=Z,220nm,21.7s						
KMI	Kunming	55.15	304	P	P	01 29 15.0	+3.5
KMI				pP	pP	01 29 34.1	+19
KMI				sP	sP	01 29 42.8	+27
KMI				S	S	01 36 49.4	-5.7
KMI				sS	sS	01 37 23.4	+23
KMI				SS	SS	01 40 31.5	-7.9
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				pmax	pmax		
	comp=Z,100nm,4.0s						
KMI				LR	LR		
	comp=N,490nm,18.3s						
KMI				LR	LR		
	comp=E,350nm,16.7s						
KMI				LR	LR		
	comp=Z,500nm,28.6s						
KLR	Kul'dur	55.44	345	*e*P	P	01 29 07.8	-5.0
KLR				*e*S	S	01 36 56.5	-1.1
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
CMAR	Chiang Mai Arr	56.07	295	P	P	01 29 19.5	+1.6
	comp=Z,12nm,0.9s,baz=107,slow=5.2,SNR=55						
CMAR				LR	LR	01 53 28.2	
	comp=Z,344nm,19.2s,baz=289,slow=36						
CMAR	Chiang Mai Arr	56.07	295	P	P	01 29 19.5	+1.6
CHTO	Chiang Mai	56.17	295	*e*P	P	01 29 20.0	+1.3
	comp=Z,52nm,0.9s						
CHTO	Chiang Mai	56.17	295	P	P	01 29 19.9	+1.3
CHTO	Chiang Mai	56.17	295	P	P	01 29 20.0	+1.3
CD2	Chengdu	56.92	311	P	P	01 29 25.6	+1.8
CD2				pP	pP	01 29 47.1	+20
CD2				sP	sP	01 29 57.1	+29
CD2				PP	PP	01 31 34.4	+3.9
CD2				S	S	01 37 10.2	-7.8
CD2				sS	sS	01 37 47.5	+24
CD2				SS	SS	01 41 00.4	-6.2
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,5.4s						
CD2				LR	LR		
	comp=N,770nm,17.2s						
CD2				LR	LR		
	comp=Z,1µm,19.6s						
PET	Petropavlovsk	56.92	5	*e*P	P	01 29 25.4	+2.1
PET				*e*S	S	01 37 18.1	+1.0
PET				*e*SS	SS	01 41 04.3	-1.4

PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PETK	Petropavlovsk-	56.92	5	P	P	01 29 23.4	0.0
	comp=Z,12nm,0.8s,baz=186,slow=9.6,SNR=9.8						
PETK				LR	LR	01 49 55.9	
	comp=Z,471nm,21.1s,baz=183,slow=32						
PETK	Petropavlovsk-	56.92	5	P	P	01 29 23.4	0.0
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK	Petropavlovsk-	56.92	5	P	P	01 29 23.4	0.0
HHC	Hu-ho-hao-te	57.33	325	*e*P	P	01 29 27.4	+0.8
HHC				pP	pP	01 29 47.6	+18
HHC				sP	sP	01 29 57.9	+27
HHC				PcP	PcP	01 30 20.7	0.0
HHC				PP	PP	01 31 36.5	+2.5
HHC				ScP	ScP	01 34 11.8	-9.1
HHC				PcS	PcS	01 34 20.7	-1.1
HHC				S	S	01 37 16.0	-7.3
HHC				sS	sS	01 37 49.8	+21
HHC				ScS	ScS	01 39 05.9	-11
HHC				SS	SS	01 41 07.5	-5.4
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,6.8s						
HHC				LR	LR		
	comp=N,1μm,17.1s						
HHC				LR	LR		
	comp=E,480nm,17.6s						
LZH	Lanzhou	59.44	316	*e*P	P	01 29 44.1	+2.6
LZH				pP	pP	01 30 06.5	+22
LZH				sP	sP	01 30 16.9	+31
LZH				PP	PP	01 32 00.0	+7.1
LZH				*e*S	S	01 37 44.1	-6.9
LZH				sS	sS	01 38 24.0	+28
LZH				pmax	pmax		
	comp=Z,33nm,1.2s						
LZH				pmax	pmax		
	comp=Z,210nm,5.2s						
LZH				LR	LR		
	comp=N,300nm,16.9s						
LZH				LR	LR		
	comp=E,760nm,15.3s						
LZH				LR	LR		
	comp=Z,770nm,17.2s						
HIA	Hailar	59.48	337	*e*P	P	01 29 40.9	-0.5
	comp=Z,33nm,1.1s						
PPT	Papeete	59.48	108	LR	LR	01 49 27.2	
	comp=Z,411nm,19.2s,baz=350,slow=30						
PPT2	Papeete2	59.49	108	*e*S	S	01 37 49.6	-2.5
	comp=Z,184nm,32.8s						
PPT2				*e*SS	SS	01 41 45.5	-1.9
	comp=Z,213nm,28.5s						
PPT2				*e*LR	LR	01 47 39.8	
	comp=Z,509nm,24.2s						
TBI	Tubuai	60.36	115	*e*S	S	01 38 00.6	-2.5
	comp=Z,556nm,28.8s						
TBI				*e*LR	LR	01 47 47.7	
	comp=Z,886nm,30.8s						
DRV	Dumont d'Urvil	63.28	185	S	S	01 38 34.0	-4.5
DRV				SS	SS	01 42 44.0	-0.9
DRV				L	L	01 45 00.0	
DRV				R		01 50 00.0	
GTA	Gaotai	63.87	318	*e*P	P	01 30 12.6	+1.2
GTA				S	S	01 38 39.7	-7.4
GTA				SS	SS	01 42 47.2	-8.5
GTA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,180nm,5.7s						
GTA				LR	LR		
	comp=N,340nm,18.1s						
GTA				LR	LR		
	comp=E,510nm,18.0s						
GTA				LR	LR		
	comp=Z,620nm,20.4s						
ULN	Ulaanbaatar	64.33	329	*e*P	P	01 30 14.9	+0.7
	comp=Z,29nm,1.3s						
SONM	Songino Array	64.65	328	P	P	01 30 16.9	+0.6
	comp=Z,3.9nm,1.0s,baz=144,slow=5.5,SNR=21						
SONM				LR	LR	01 56 41.0	
	comp=Z,874nm,21.3s,baz=147,slow=34						
SONM	Songino Array	64.65	328	P	P	01 30 16.9	+0.6
YAK	Yakutsk	67.67	349	*e*P	P	01 30 34.4	-0.8
YAK				*e**PP	pP	01 30 49.0	+11
YAK				*e*		01 30 58.1	
YAK				*e*		01 33 01.3	
YAK				*e*S	S	01 39 23.0	-9.3
YAK				*e**SS	SKSac	01 40 13.7	-19
YAK				pmax	pmax		
	comp=Z,35nm,1.6s						
YAK				pmax	pmax		
	comp=N,16nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,13nm,1.6s						
YAK				pmax	pmax		
	comp=E,15nm,1.5s						
YAK				smax	smax		
	comp=N,220nm,6.8s						
YAK				smax	smax		
	comp=E,168nm,4.9s						
YAK				MLR	MLR		
	comp=Z,285nm,19.0s						
YAK				MLR	MLR		
	comp=N,247nm,22.0s						
YAK				MLR	MLR		
	comp=E,165nm,21.0s						
YAK	Yakutsk	67.67	349	*e*P	P	01 30 34.6	-0.6
ZAK	Zakamensk	67.83	329	*e*P	P	01 30 24.8	-12
ZAK				*e*		01 30 37.0	
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s						
BOD	Bodaibo	68.29	340	*e*P	P	01 30 27.2	-12
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TLY	Talaya	68.43	330	*e*P	P	01 30 39.6	-0.7
TLY				pmax	pmax		
	comp=Z,11nm,1.0s						
TLY				MLR	MLR		
	comp=Z,363nm,19.0s						
TLY	Talaya	68.43	330	*e*P	P	01 30 40.9	+0.6
	comp=Z,11nm,1.0s						
IRK	Irkutsk	68.47	331	*e*P	P	01 30 39.2	-1.3
IRK				pmax	pmax		
	comp=Z,31nm,2.2s						
MOY	Mondy	69.75	329	*e*P	P	01 30 49.8	+1.2
MOY				pmax	pmax		
	comp=Z,32nm,2.5s						
CHGN	Chignik	72.48	27	*e*P	P	01 31 09.6	+4.8
GAMB	Gambell	72.81	16	*e*P	P	01 31 06.4	-0.3
	comp=Z,13nm,1.0s						
RKT	Rikitea	73.59	113	*e*S	SKiKP	01 40 40.9	-2.2
	comp=Z,126nm,23.2s						
RKT				*e*LR	LR	01 54 04.3	
	comp=Z,1μm,25.5s						
VNDA	Vanda	73.92	178	P	P	01 31 12.0	-1.0
	comp=Z,1.1nm,0.7s,baz=338,slow=6.5,SNR=3.6						
VNDA				LR	LR	02 00 15.4	
	comp=Z,408nm,19.0s,baz=343,slow=33						
VNDA	Vanda	73.92	178	P	P	01 31 12.0	-1.0
WMQ	Urumqi	73.96	318	P	P	01 31 15.0	+1.0
WMQ				pP	PcP	01 31 37.1	+7.8
WMQ				S	SKiKP	01 40 37.0	-6.2
WMQ				SKS	SKSac	01 41 09.2	-12
WMQ				sS	SKKSac	01 41 18.6	-3.2
WMQ				SS	SS	01 45 30.0	-1.1
WMQ				pmax	pmax		
	comp=Z,23nm,1.6s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.2s						
WMQ				LR	LR		
	comp=N,440nm,28.0s						
WMQ				LR	LR		
	comp=E,210nm,25.0s						
WMQ				LR	LR		
	comp=Z,420nm,25.0s						
HYB	Hyderabad	74.72	289	*i* P	P	01 31 18.0	-0.9
KDAK	Kodiak Island	75.95	27	P	P	01 31 24.8	-0.3
	comp=Z,13nm,1.2s,baz=170,slow=6.1,SNR=2.1						
KDAK	Kodiak Island	75.95	27	P	P	01 31 24.8	-0.3
SVW2	Sparrevohn	76.48	24	*e*P	P	01 31 34.3	+6.2
	comp=Z,19nm,0.9s						
RSO	Redoubt South	77.29	25	*e*P	P	01 31 39.5	+6.6
SLKM	Skilak Lake	78.39	26	P	P	01 31 39.8	+1.0
SLKM	Skilak Lake	78.39	26	P	P	01 31 39.8	+1.0
SEW	Seward	78.52	26	*e*P	P	01 31 41.6	+2.2
	comp=Z,44nm,1.0s						
MKAR	Makanchi Array	78.56	319	P	P	01 31 40.2	+0.2
	comp=Z,4.9nm,1.1s,baz=109,slow=5.6,SNR=22						
MKAR				LR	LR	02 05 34.4	
	comp=Z,313nm,19.5s,baz=244,slow=35						
MKAR	Makanchi Array	78.56	319	*i* P	P	01 31 40.2	+0.2
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR	Makanchi Array	78.56	319	*e*P	P	01 31 40.4	+0.4
RC01	Rabbit Creek A	78.88	25	*e*P	P	01 31 41.5	0.0
	comp=Z,34nm,1.0s						
ZALV	Zalesovo Beam	79.46	327	P	P	01 31 43.8	-0.9
	comp=Z,5.1nm,0.9s,baz=109,slow=6.2,SNR=10						
ZALV				LR	LR	02 07 15.5	
	comp=Z,373nm,20.3s,baz=312,slow=36						
ZALV	Zalesovo Beam	79.46	327	P	P	01 31 43.8	-0.9
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZALV				MLR	MLR		
	comp=Z,373nm,20.3s						
ZALV	Zalesovo Beam	79.46	327	P	P	01 31 43.8	-0.9
SML	Sawmill	79.82	25	*e*P	P	01 31 47.0	+0.4
SML	Sawmill	79.82	25	*e*P	P	01 31 47.0	+0.4
TRF	Thorofare Moun	79.84	23	*e*P	P	01 31 45.5	-1.4
	comp=Z,12nm,0.7s						
MCK	McKinley	80.50	23	*e*P	P	01 31 49.4	-0.8
MCK	McKinley	80.50	23	*e*P	P	01 31 49.4	-0.8
	comp=Z,43nm,0.9s						
DIV	Divide	80.61	26	*e*P	P	01 31 51.5	+0.5
NVS	Novosibirsk	80.64	327	*i* P	P	01 31 49.8	-1.3
KSH	Kashi	81.11	311	P	P	01 31 56.6	+2.4
KSH				pP	PcP	01 32 16.5	+16
KSH				sP	sP	01 32 26.2	+27
KSH				S	S	01 42 00.1	-4.2
KSH				sS	ScS	01 42 35.0	+12
KSH				SS	SS	01 47 21.0	+1.6
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,110nm,3.8s						
KSH				LR	LR		
	comp=N,160nm,5.6s						
KSH				LR	LR		
	comp=E,100nm,4.9s						
KSH				LR	LR		
	comp=Z,220nm,10.4s						
COLA	College	81.47	22	*e*P	P	01 31 54.5	-0.8
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
COLA	College	81.47	22	*e*P	P	01 31 54.5	-0.8
	comp=Z,14nm,0.8s						
PAX	Paxson	81.54	24	*e*P	P	01 31 57.4	+1.5
PAX				pmax	pmax		
	comp=Z,17nm,1.4s						
PAX	Paxson	81.54	24	*e*P	P	01 31 57.4	+1.5
	comp=Z,17nm,1.4s						
ILAR	Eielson Array	81.78	22	P	P	01 31 55.8	-1.3
	comp=Z,4.9nm,0.7s,baz=247,slow=5.5,SNR=35						
ILAR				LR	LR	02 08 20.5	
	comp=Z,346nm,19.0s,baz=267,slow=36						
ILAR	Eielson Array	81.78	22	P	P	01 31 55.8	-1.3
COLD	Coldfoot	81.79	20	*e*P	P	01 31 57.1	+0.1
	comp=Z,17nm,1.3s						
KURK	Kurchatov	82.03	322	⇑*i*P	P	01 31 57.7	-0.9
KURK				pmax	pmax		
	comp=Z,26nm,2.0s						
KURK	Kurchatov	82.03	322	*e*P	P	01 31 58.8	+0.2
	comp=Z,15nm,1.2s						
KURBB	Kurchatov Arra	82.06	322	P	P	01 31 58.3	-0.4
	comp=Z,2.7nm,0.8s,baz=111,slow=4.7,SNR=17						
KURBB				LR	LR	02 08 24.5	
	comp=Z,369nm,19.5s,baz=105,slow=36						
TKM2	Tokmak 2	82.12	314	P	P	01 32 00.0	+0.4
TKM2	Tokmak 2	82.12	314	P	P	01 31 60.0	+0.4
DOT	Dot Lake	82.40	24	*e*P	P	01 31 59.5	-0.8
	comp=Z,24nm,1.2s						
AAK	Ala-Archa	82.86	314	P	P	01 32 04.2	+0.9
	comp=Z,8.4nm,0.8s,baz=81,slow=5.3,SNR=7.0						
AAK	Ala-Archa	82.86	314	P	P	01 32 04.2	+0.9
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	Ala-Archa	82.86	314	P	P	01 32 04.2	+0.9
	comp=Z,1.5nm,0.8s						
EKS2	Erkin-Say	83.38	314	*e*P	P	01 32 06.8	+0.8
EKS2				pmax	pmax		
	comp=Z,11nm,0.9s						
EKS2	Erkin-Say	83.38	314	*e*P	P	01 32 06.8	+0.8
	comp=Z,11nm,0.9s						
EGAK	Eagle	84.02	23	*e*P	P	01 32 09.0	+0.4
	comp=Z,12nm,0.9s						
KKAR	Karatay Array	85.82	314	*e*P	P	01 32 18.4	+0.2
KKAR	Karatay Array	85.82	314	*e*P	P	01 32 18.4	+0.2
MAW	Mawson	85.94	203	LR	LR	02 05 07.8	
	comp=Z,724nm,19.9s,baz=90,slow=32						
QSPA	South Pole Qui	86.19	180	P	P	01 32 17.8	-1.9
	comp=Z,8.0nm,0.9s,baz=63,slow=2.3,SNR=8.6						
QSPA	South Pole Qui	86.19	180	P	P	01 32 17.8	-1.9
DLBC	Dease Lake	87.28	31	*e*P	P	01 32 25.6	+0.5
BVAR	Borovoye Array	87.51	323	P	P	01 32 25.6	-0.6
	comp=Z,3.3nm,0.8s,baz=106,slow=7.7,SNR=16						
BVAR	Borovoye Array	87.51	323	P	P	01 32 25.6	-0.6
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	Borovoye Array	87.51	323	P	P	01 32 25.6	-0.6
BRVK	Borovoye	87.58	323	*e*P	P	01 32 25.3	-1.2
BRVK	Borovoye	87.58	323	*e*P	P	01 32 25.4	-1.2
	comp=Z,10nm,1.0s						
INK	Inuvik	88.04	21	P	P	01 32 27.4	-0.9
	comp=Z,6.1nm,1.0s,baz=251,slow=5.1,SNR=11						
INK	Inuvik	88.04	21	*e*P	P	01 32 27.8	-0.6
	comp=Z,11nm,1.0s						
NVAR	Mina Array Bea	92.64	52	P	P	01 32 53.3	+2.4
	comp=Z,0.8nm,0.5s,baz=272,slow=7.6,SNR=3.7						
NVAR				LR	LR	02 07 00.9	
	comp=Z,312nm,20.6s,baz=174,slow=31						
NVAR	Mina Array Bea	92.64	52	P	P	01 32 53.3	+2.4
NEW	Newport	93.85	42	*e*P	P	01 33 03.1	+7.2
	comp=Z,66nm,2.6s						
ARU	Arti	94.62	326	P	P	01 32 57.7	-1.5
ARU				MLR	MLR		
	comp=Z,692nm,21.0s						
AKTO	Aktyubinsk	94.96	320	P	P	01 33 03.8	+2.8
	comp=Z,1.7nm,1.0s,baz=104,slow=4.2,SNR=4.2						
AKTO	Aktyubinsk	94.96	320	P	P	01 33 03.8	+2.8
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKTO	Aktyubinsk	94.96	320	P	P	01 33 03.8	+2.8
YKA	Yellowknife Ar	95.22	28	P	P	01 33 02.0	+0.2
	comp=Z,1.2nm,0.7s,baz=270,slow=4.7,SNR=22						
YKA	Yellowknife Ar	95.22	28	P	P	01 33 02.0	+0.2
PDAR	Pinedale Array	99.27	47	P	Pdif	01 33 21.6	+0.6
	comp=Z,1.0nm,0.8s,baz=252,slow=2.6,SNR=6.7						
PDAR				LR	LR	02 18 07.2	
	comp=Z,340nm,18.4s,baz=269,slow=35						
PDAR	Pinedale Array	99.27	47	P	Pdif	01 33 21.6	+0.6
RES	Resolute Bay	99.79	14	*e*Pdif	Pdif	01 33 24.0	+1.8
	comp=Z,61nm,2.4s						
VBMS	Vicksburg	115.74	56	*e*PKKPbc	PKKPbc	01 48 52.3	-1.9
UZH	Uzhgorod	117.73	324	*e*PKIKP	PKPdf	01 38 33.7	+8.9
UZH				*e*		01 38 38.9	
OKC	Ostrava-Krasne	119.44	327	AMS	AMS	02 30 20.0	
	comp=Z,400nm,21.6s						
DPC	Dobruska-Polom	120.12	328	*e*PKIKP	PKPdf	01 38 33.2	+3.7
DPC				MLR	MLR		
	comp=Z,400nm,25.3s						
DPC	Dobruska-Polom	120.12	328	*e*PKP	PKPdf	01 38 33.2	+3.7
DPC				AMS	AMS	02 29 20.0	
	comp=Z,400nm,25.3s						
TREC	Trest	121.17	328	*e*PKP	PKPdf	01 38 37.6	+6.1
TREC				AMS	AMS	02 31 00.0	
	comp=Z,500nm,20.0s						
CLL	Collm	121.22	331	*e*PS	PS	01 49 54.0	-0.1
CLL				*e*PPS	PPS	01 51 21.0	
CLL				*e*SS	SS	01 56 42.0	+7.6
CLL				*e*		02 00 42.0	
CLL				*e*SSSS		02 04 42.0	
PRU	Pruhonice	121.26	329	AMS	AMS	02 32 00.0	
	comp=Z,400nm,22.5s						
KHC	Kasperske Hory	122.28	328	*e*PKIKP	PKPdf	01 38 37.6	+3.9
KHC				MLR	MLR		
	comp=Z,400nm,21.3s						
KHC	Kasperske Hory	122.28	328	*e*PKP	PKPdf	01 38 37.6	+3.9
KHC				AMS	AMS	02 28 00.0	
	comp=Z,400nm,21.3s						
TORD	Torodi Ar. Bea	148.54	289	PKPbc	PKPbc	01 39 26.0	-0.4
	comp=Z,7.0nm,1.0s,baz=71,slow=2.4,SNR=26						
TORD	Torodi Ar. Bea	148.54	289	PKPbc	PKPbc	01 39 26.0	-0.4
BDFB	Brasilia	152.86	136	PKPbc	PKPbc	01 39 37.6	+0.8
	comp=Z,6.3nm,0.7s,baz=233,slow=2.5,SNR=12						
BDFB	Brasilia	152.86	136	PKPbc	PKPbc	01 39 37.6	+0.8
DBIC	Dimbokro	156.06	278	PKPab	PKPab	01 40 00.5	-0.9
	comp=Z,8.6nm,1.1s,baz=72,slow=3.8,SNR=5.7						
DBIC	Dimbokro	156.06	278	PKPab	PKPab	01 40 00.5	-0.9

ISCJB ***03*** *01:27:39.0±0.5, 24°.79N±0°.05×95°.15E±0°.03, h104km±4km, mb4.6/102, Error ellipse: s-maj=7.7km s-min=4.4km az=14.3*

MOS ***03*** *01:27:40.3±0.9, 24°.84N×95°.27E, h116km, mb4.7/48, Error ellipse: s-maj=11.2km s-min=4.2km az=125.7*

NEIC ***03*** *01:27:41.8±0.2, 24°.82N×95°.18E, mb4.7/45, Error ellipse: s-maj=7.4km s-min=4.0km az=22.0*

BJI ***03*** *01:27:41.6, 24°.88N×95°.13E, h129km, mB4.6/5, mb4.8/15*

IDC ***03*** *01:27:42.1±0.7, 24°.88N×95°.34E, h117km±6km, mb4.1/30, mb1 4.3/31, mb1mx4.2/36, mbtmp4.1/31, MS3.0/1, Ms1 3.0/1, ms1mx2.5/43, Error ellipse: s-maj=12.7km s-min=8.2km az=43.0*

LDG ***03*** *01:27:44.1±0.4, 25°.10N×94°.60E, h119km, Mb4.4/30, Error ellipse: s-maj=28.3km s-min=11.6km az=179.0*

ISC 03 01:27:41.9±0.4**, 24°.82N**±0°.05×**95°.11E**±0°.03**, h116**km±3km**, h116**km**:pP-P, n343, σ1ˢ34**/402**, mb4.7**/102**, 24C-14D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.07	268	*e*P	Pn	01 28 01.0	-3.4
IMP				*e*x	Sn	01 28 23.0	+1.6
SHL	Shillong	3.02	285	*e*P	Pn	01 28 28.0	-0.5
SHL				*e*S	Sn	01 29 03.5	-0.8
LSA	Lhasa	6.00	325	P	Pn	01 29 09.4	+0.6
LSA				S	Sn	01 30 15.6	-0.9
LSA				smax	smax		
	comp=N,160nm,0.9s						
LSA				smax	smax		
	comp=E,250nm,1.0s						
LSA	Lhasa	6.00	325	*e*P	Pn	01 29 09.4	+0.6
LSA				*e*		01 30 15.6	
LSA				pmax	pmax		
	comp=Z,102nm,0.8s						
LSA	Lhasa	6.00	325	*e*Pn	Pn	01 29 09.4	+0.6
	comp=Z,102nm,0.8s						
LSA				*e*Sn	Sn	01 30 15.6	-0.9
GTK	Gangtok	6.35	295	*e*P	Pn	01 29 10.5	-2.7
GTK				*e*S	Sn	01 30 20.5	-4.0
CAL	Calcutta	6.61	251	*e*P	Pn	01 29 12.7	-3.9
CAL				*e*S	Sn	01 30 24.2	-6.3
TAPN	Taplejung	7.11	292	*e*Pn	Pn	01 29 23.4	-0.3
TAPN				*e*Sn	Sn	01 30 39.1	-4.0
	comp=Z,2μm,0.9s						
TAPN	Taplejung	7.11	292	*e*Pn	Pn	01 29 23.4	-0.3
TAPN				*e*Sn	Sn	01 30 39.1	-4.0
ODAN	Odare	7.25	288	*e*Pn	Pn	01 29 25.4	0.0
ODAN				*e*Sn	Sn	01 30 43.8	-2.5
	comp=Z,705nm,0.4s						
ODAN	Odare	7.25	288	*e*Pn	Pn	01 29 25.4	0.0
ODAN				*e*Sn	Sn	01 30 43.8	-2.5
CMAR	Chiang Mai Arr	7.26	150	P	Pn	01 29 25.4	-0.1
	comp=Z,6.9nm,0.3s,baz=324,slow=11,SNR=82						
CMAR	Chiang Mai Arr	7.26	150	P	Pn	01 29 25.4	-0.1
RAMN	Ramite	7.95	287	*e*Pn	Pn	01 29 34.7	-0.2
RAMN				*e*Sn	Sn	01 31 02.0	-1.4
	comp=Z,898nm,0.7s						
RAMN	Ramite	7.95	287	*e*Pn	Pn	01 29 34.7	-0.2
RAMN				*e*Sn	Sn	01 31 02.0	-1.4
JIRN	Jiri	8.49	291	*e*Pn	Pn	01 29 42.0	-0.4
JIRN				*e*Sn	Sn	01 31 12.4	-4.3
	comp=Z,87nm,0.3s						
JIRN	Jiri	8.49	291	*e*Pn	Pn	01 29 42.0	-0.4
JIRN				*e*Sn	Sn	01 31 12.4	-4.3
GUN	Gumba	8.83	292	*e*Pn	Pn	01 29 46.4	-0.5
GUN				*e*Sn	Sn	01 31 19.1	-5.8
	comp=Z,2μm,1.0s						
GUN	Gumba	8.83	292	*e*Pn	Pn	01 29 46.4	-0.5
GUN				*e*Sn	Sn	01 31 19.1	-5.8
PKI	Pulchoki	9.13	290	*e*Pn	Pn	01 29 49.8	-1.2
PKI				*e*Sn	Sn	01 31 27.0	-5.2
	comp=Z,537nm,0.8s						
PKI	Pulchoki	9.13	290	*e*P	Pn	01 29 49.8	-1.2
PKI				*e*		01 31 27.0	
PKI	Pulchoki	9.13	290	*e*Pn	Pn	01 29 49.8	-1.2
PKI				*e*Sn	Sn	01 31 27.0	-5.2
KKN	Kakani	9.30	291	*e*Pn	Pn	01 29 52.1	-1.1
KKN				*e*Sn	Sn	01 31 31.9	-4.2
	comp=Z,728nm,0.8s						
KKN	Kakani	9.30	291	*e*P	Pn	01 29 52.1	-1.1
KKN				*e*		01 31 31.9	
KKN	Kakani	9.30	291	*e*Pn	Pn	01 29 52.1	-1.1
KKN				*e*Sn	Sn	01 31 31.9	-4.2
DMN	Daman	9.40	289	*e*Pn	Pn	01 29 53.2	-1.4
DMN				*e*Sn	Sn	01 31 34.6	-4.0
	comp=Z,766nm,1.0s						
DMN	Daman	9.40	289	*e*Pn	Pn	01 29 53.2	-1.4
DMN				*e*Sn	Sn	01 31 34.6	-4.0
BWNR	Bhubaneshwar	9.70	244	*e*P	Pn	01 29 53.0	-5.4
BWNR				*e*S	Sn	01 31 34.0	-12
GKN	Gorkha	9.91	291	*e*Pn	Pn	01 30 00.4	-0.9
GKN				*e*Sn	Sn	01 31 46.3	-4.5
	comp=Z,1μm,0.9s						
GKN	Gorkha	9.91	291	*e*Pn	Pn	01 30 00.4	-0.9
GKN				*e*Sn	Sn	01 31 46.3	-4.5
KOLN	Koldanda	10.74	288	*e*Pn	Pn	01 30 10.5	-2.1
KOLN				*e*Sn	Sn	01 32 06.0	-4.9
	comp=Z,286nm,0.5s						
KOLN	Koldanda	10.74	288	*e*Pn	Pn	01 30 10.5	-2.1
KOLN				*e*Sn	Sn	01 32 06.0	-4.9
DANN	Dangsing	10.75	292	*e*Pn	Pn	01 30 09.7	-3.1
DANN				*e*Sn	Sn	01 32 05.5	-5.8
	comp=Z,400nm,0.8s						
DANN	Dangsing	10.75	292	*e*Pn	Pn	01 30 09.7	-3.1
DANN				*e*Sn	Sn	01 32 05.5	-5.8
PYUN	Piuthan	11.34	289	*e*Pn	Pn	01 30 17.8	-2.8
PYUN				*e*Sn	Sn	01 32 19.7	-5.8
	comp=Z,702nm,0.8s						
PYUN	Piuthan	11.34	289	*e*Pn	Pn	01 30 17.8	-2.8
PYUN				*e*Sn	Sn	01 32 19.7	-5.8
ENH	Enshi	13.86	64	*e*Pn	Pn	01 30 51.9	-1.5
	comp=Z,250nm,0.5s						
QIZ	Qiongzhong	14.83	110	P	Pn	01 30 57.8	-8.1
QIZ				S	Sn	01 33 40.4	-9.5
GTA	Gaotai	15.08	14	*e*P	P	01 31 11.9	+0.4
GTA				sP	sP	01 31 45.5	-1.7
GTA				pmax	pmax		
	comp=Z,27nm,0.8s						
GTA				LR	LR		
	comp=N,310nm,9.5s						
GTA				LR	LR		
	comp=E,300nm,12.3s						
GTA				LR	LR		
	comp=Z,130nm,14.3s						
XAN	Xi'an	15.13	49	P	Pn	01 31 09.2	-0.3
XAN				sP	sP	01 31 45.5	-2.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NGP	Nagpur	15.23	259	*e*P	Pn	01 31 09.8	-1.0
NGP				*e*x	x	01 31 15.7	
	comp=Z,56nm,1.0s						
NGP				*e*x	x	01 33 47.3	
DDI	Dehra Dun	16.08	294	*e*P	Pn	01 31 19.8	-1.6
DDI				*e*x	x	01 34 09.5	
NDI	New Delhi	16.44	287	*e*P	P	01 31 27.8	+1.4
NDI				*e*x	x	01 34 17.5	
WHN	Wuhan	17.96	67	P	P	01 31 43.6	+0.4
WHN				pP	Pn	01 31 51.0	+6.8
WHN				S	Sn	01 35 04.8	-0.2
WHN				LR	LR		
	comp=Z,2μm,22.1s						
WHN	Wuhan	17.96	67	P	P	01 31 43.3	+0.1
WHN				LR	LR		
	comp=Z,2μm,22.1s						
AJM	Ajmer	18.53	280	*e*P	P	01 31 47.0	-2.4

AJM *i* x x 01 35 05.0
THN Thein Dam 18.62 298 *e*P **Pn 01 31 51.2 -0.8**
POO Poona 20.71 257⇑*i*P **P 01 32 14.0 +0.8**
comp=Z,90nm,1.0s
POO *i* x x 01 35 53.0
PSI Prapat 22.20 170 P **P 01 32 31.3 +2.3**
comp=Z,4.5nm,0.6s,baz=344,slow=13,SNR=4.7
PSI Prapat 22.20 170 P **P 01 32 31.3 +2.3**
TWG Pinlang 23.83 89 *e*P **P 01 32 42.0 -2.4**
comp=Z,173nm,0.7s
SSE Sheshan 23.84 69 P pmax **P pmax 01 32 44.2 -0.2**
SSE
comp=Z,86nm,0.9s
SSE pmax pmax
comp=Z,110nm,3.8s
YULB Yu-li 23.94 88 *e*P **P 01 32 44.1 -1.3**
comp=Z,28nm,0.8s
NACB Ninganchiao 24.10 86 *e*P **P 01 32 48.0 +1.2**
comp=Z,89nm,1.0s
TKM2 Tokmak 2 24.16 323 *e*P **P 01 32 48.7 +1.3**
TKM2 pmax pmax
comp=Z,48nm,1.1s
TKM2 Tokmak 2 24.16 323 *e*P **P 01 32 48.7 +1.3**
comp=Z,48nm,1.1s
MK31 Makanchi Array 24.20 338*ce*P **P 01 32 49.1 +1.5**
MK31 pmax pmax
comp=Z,27nm,0.3s
MKAR Makanchi Array 24.20 338 P **P 01 32 49.2 +1.6**
comp=Z,41nm,0.6s,baz=147,slow=9.7,SNR=296
MKAR ScP **ScP 01 39 52.1 -0.8**
comp=Z,1.2nm,0.8s,baz=108,slow=4.0,SNR=7.1
MKAR Makanchi Array 24.20 338 P **P 01 32 49.2 +1.6**
MKAR Makanchi Array 24.20 338 P **P 01 32 49.2 +1.6**
MKAR ScP **ScP 01 39 52.1 -0.8**
AAK Ala-Archa 24.58 321 P **P 01 32 52.5 +1.3**
comp=Z,7.4nm,0.8s,baz=127,slow=5.8,SNR=6.1
AAK Ala-Archa 24.58 321 *e*P **P 01 32 52.8 +1.5**
AAK pmax pmax
comp=Z,39nm,0.9s
AAK Ala-Archa 24.58 321 *e*P **P 01 32 52.8 +1.5**
comp=Z,39nm,0.9s
SONM Songino Array 24.65 18 P **P 01 32 51.8 0.0**
comp=Z,13nm,0.8s,baz=197,slow=9.4,SNR=46
SONM ScP **ScP 01 39 52.9 -1.4**
comp=Z,1.9nm,0.7s,baz=203,slow=3.1,SNR=15
SONM Songino Array 24.65 18 P **P 01 32 51.8 0.0**
SONM ScP **ScP 01 39 52.9 -1.4**
ULN Ulaanbaatar 24.87 19 *e*P **P 01 32 52.2 -1.6**
ZAK Zakamensk 26.30 12⇑*i*P **P 01 33 07.3 +0.7**
ZAK *e* 01 33 34.1
ZAK pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 27.61 12 *e*P **P 01 33 18.4 +0.2**
TLY pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 28.77 338 P **P 01 33 29.4 +0.9**
comp=Z,13nm,0.6s,baz=147,slow=9.6,SNR=73
KURBB ScP **ScP 01 40 05.8 -0.5**
comp=Z,3.1nm,0.8s,baz=154,slow=2.8,SNR=18
KURBB LR LR 01 45 27.1
comp=Z,29nm,18.3s,baz=135,slow=37
KURK Kurchatov 28.82 338*c i*P **P 01 33 30.1 +1.2**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 28.82 338 *e*P **P 01 33 29.7 +0.8**
KURK *ep*P **pP 01 33 55.0 +0.7**
KURK ScP **ScP 01 40 05.8 -0.7**
JOW Kunigami 29.88 79 P **P 01 33 37.5 -1.1**
comp=Z,19nm,0.4s,baz=255,slow=5.0,SNR=6.8
JOW Kunigami 29.88 79 P **P 01 33 37.5 -1.1**
ZALV Zalesovo Beam 30.10 348 P **P 01 33 40.8 +0.6**
comp=Z,4.9nm,0.4s,baz=156,slow=8.0,SNR=28
ZALV Zalesovo Beam 30.10 348 P **P 01 33 40.8 +0.6**
ZALV Zalesovo Beam 30.10 348 P **P 01 33 40.8 +0.6**
KSAR Wonju Array Be 30.59 58 P **P 01 33 41.8 -3.0**
KSRS Korea Array 30.62 58 P P 01 33 41.7 -3.3
comp=Z,1.0nm,0.6s,baz=253,slow=8.7,SNR=3.7
CN2 Changchun 31.16 45 *e*P **P 01 33 49.1 -0.6**
NVS Novosibirsk 31.25 347⇑*i*P **P 01 33 50.1 -0.2**
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,3.0nm,0.4s
NVS pmax pmax
comp=Z,4.0nm,0.4s
JNU Nakatsue 32.25 67 P **P 01 33 58.4 -1.0**
comp=Z,18nm,0.7s,baz=260,slow=6.1,SNR=8.9
JNU Nakatsue 32.25 67 *e*P **P 01 33 57.2 -2.2**
comp=Z,5.9nm,0.6s
BVA0 Borovoye Array 33.77 333 P **P 01 34 13.1 +0.7**
BVAR Borovoye Array 33.77 333 P **P 01 34 13.4 +1.0**
comp=Z,5.7nm,0.4s,baz=137,slow=11,SNR=38
BVAR PcP **PcP 01 36 49.6 +0.6**
comp=Z,3.1nm,0.7s,baz=162,slow=3.0,SNR=8.4
BVAR ScP **ScP 01 40 22.6 -0.5**
comp=Z,2.2nm,0.8s,baz=151,slow=3.4,SNR=12
BVAR Borovoye Array 33.77 333 P **P 01 34 13.4 +1.0**
BVAR 01 36 49.6
BVAR Borovoye Array 33.77 333 P **P 01 34 13.4 +1.0**
BVAR PcP **PcP 01 36 49.6 +0.6**
BVAR ScP **ScP 01 40 22.6 -0.5**
BRVK Borovoye 33.84 333 *e*P **P 01 34 13.7 +0.8**
BRVK *e* 01 36 49.7
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 33.84 333 *e*P **P 01 34 13.7 +0.8**
comp=Z,5.3nm,0.6s
BRVK *e*PcP **PcP 01 36 49.7 +0.5**
USRK Ussuriysk Arra 35.64 48 P **P 01 34 26.9 -1.7**
comp=Z,3.9nm,0.7s,baz=252,slow=13,SNR=7.0
AB31 Akbulak array 36.67 321*ce*P **P 01 34 38.9 +1.6**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 36.67 321 *e*P **P 01 34 38.9 +1.6**
comp=Z,7.7nm,0.5s
ABKAR *e*PcP **PcP 01 36 58.1 +0.5**
AKTO Aktyubinsk 38.33 322 P **P 01 34 52.7 +1.4**
comp=Z,3.8nm,0.5s,baz=110,slow=9.1,SNR=20
AKTO PcP **PcP 01 37 03.1 +0.4**
comp=Z,4.0nm,0.8s,baz=111,slow=6.3,SNR=4.5
AKTO ScP **ScP 01 40 39.0 -1.0**
comp=Z,2.3nm,0.7s,baz=110,slow=6.7,SNR=7.8
AKTO Aktyubinsk 38.33 322 P **P 01 34 52.7 +1.4**
AKTO 01 37 03.1
AKTO 01 40 39.0
AKTO Aktyubinsk 38.33 322 P **P 01 34 52.7 +1.4**
AKTO PcP **PcP 01 37 03.1 +0.4**
AKTO ScP **ScP 01 40 39.0 -1.0**
MAT Matsushiro 38.57 62 P **P 01 34 52.4 -1.1**
MJAR Matsushiro Arr 38.58 62 P **P 01 34 52.1 -1.4**
comp=Z,8.7nm,0.5s,baz=267,slow=9.6,SNR=18
MJAR Matsushiro Arr 38.58 62 P **P 01 34 52.1 -1.4**
SVE Sverdlovsk 40.49 331⇓*i*P **P 01 35 10.7 +1.6**
SVE pmax pmax
comp=Z,16nm,0.7s
ARU Arti 41.18 330 *e*P **P 01 35 15.5 +0.8**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 41.18 330 *e*P **P 01 35 15.5 +0.8**
comp=Z,4.3nm,0.8s
WSI Waingapu 42.17 141 P pP 01 35 43.5 -6.3
baz=2.8,SNR=3.8
CBIJ Chichi jima 42.20 76 P **P 01 35 21.5 -1.9**
comp=Z,66nm,0.7s,baz=294,slow=12,SNR=3.8
CBIJ Chichi jima 42.20 76 P **P 01 35 21.5 -1.9**
KBD Kabd 42.25 287 *e*P **P 01 35 25.2 +1.3**
RDF Al-Radifah 42.40 286 *e*P **P 01 35 27.2 +2.1**
MIB Mutribah 42.50 288 *e*P **P 01 35 27.8 +1.9**
ZEI Tsey 45.44 306 *e*P **P 01 35 51.0 +1.5**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 46.28 308 P **P 01 35 56.7 +1.0**
comp=Z,1.0nm,0.6s,baz=114,slow=12,SNR=4.0
KBZ Khabaz 46.28 308 P **P 01 35 56.7 +1.0**
KBZ Khabaz 46.28 308 P **P 01 35 56.7 +1.0**
KIV Kislovodsk 46.45 308 P **P 01 35 57.9 +0.7**
KIV Kislovodsk 46.45 308 P **P 01 35 57.9 +0.7**
VRHR Novokhopersk 48.32 317 *e*P **P 01 36 11.4 0.0**
VRHR *e*S **S 01 43 02.5 0.0**
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,6.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VRHR smax smax
comp=N,30nm,1.6s
VRHR smax smax
comp=E,80nm,1.6s
VRHR smax smax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 49.86 317 *e*P **P 01 36 23.0 -0.2**
VSR *e*S **S 01 43 23.0 -1.1**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,2.0nm,0.6s
VSR smax smax
comp=N,40nm,1.5s
VSR smax smax
comp=Z,2.0nm,0.5s
VSR smax smax
comp=E,6.0nm,0.8s
MBWA Marble Bar 51.59 150 *e*P **P 01 36 36.1 -0.3**
comp=E,4.5nm,0.5s
FITZ Fitzroy Crossi 52.01 142 P **P 01 36 39.4 -0.2**
comp=E,3.3nm,0.5s,baz=331,slow=9.6,SNR=16
FITZ Fitzroy Crossi 52.01 142 *e*P **P 01 36 39.1 -0.5**
comp=E,2.8nm,0.5s
KLMR Klimovskoe 52.02 329 *e*P **P 01 36 38.8 -0.4**
KLMR pmax pmax
comp=Z,33nm,1.3s
OBN Obninsk 52.11 322⇓*e*P **P 01 36 41.0 +1.1**
OBN *e* 01 37 51.8
OBN pmax pmax
comp=Z,21nm,1.8s
BR131 Keskin Array S 53.10 302 *e*P **P 01 36 48.7 +1.1**
comp=Z,1.3nm,0.6s
BR131 *ep*P **pP 01 37 14.6 -0.7**
BR131 *e*PP **PP 01 38 49.3 +0.8**
BRTR Keskin Array B 53.10 302 P **P 01 36 49.1 +1.4**
comp=Z,0.9nm,0.6s,baz=74,slow=11,SNR=14
BRTR pP **pP 01 37 14.6 -0.7**
comp=Z,1.7nm,0.7s,baz=123,slow=6.8,SNR=3.5
BRTR Keskin Array B 53.10 302 P **P 01 36 49.1 +1.4**
BRTR pP **pP 01 37 14.6 -0.7**
comp=Z,2.2nm,0.3s,baz=81,slow=6.5,SNR=9.0
AKASG Malin Array Be 56.06 316 *e*P **P 01 37 08.8 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 56.06 316 P **P 01 37 08.6 -0.1**
KIEV Kiev 56.08 316*c i*P **P 01 37 08.7 -0.1**
LVZ Lovozero 56.23 337*ce*P **P 01 37 10.6 +1.0**
LVZ pmax pmax
comp=Z,38nm,1.2s
JOF Joensuu 56.30 330 *e*P **P 01 37 09.9 -0.3**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 56.30 330 *ep* **P 01 37 09.9 -0.3**
comp=Z,5.4nm,0.5s
CFR Carcaliu 56.87 309⇓*i*P **P 01 37 15.5 +0.9**
CFR Carcaliu 56.87 309⇓*i*P **P 01 37 15.4 +0.9**
VRI Vrincioaia 57.82 310⇑*i*P **P 01 37 23.1 +1.9**
VRI Vrincioaia 57.82 310⇑*i*P **P 01 37 23.1 +1.9**
PLOR Plostina 57.88 310⇓*i*P **P 01 37 23.7 +2.1**
PLOR Plostina 57.88 310⇓*i*P **P 01 37 23.7 +2.1**
MLR Muntele Rosu 58.40 309⇑*i*P **P 01 37 27.0 +1.6**
KAF Kangasniemi 58.47 329 *e*P **P 01 37 25.2 -0.2**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 58.47 329 *ep* **P 01 37 25.2 -0.2**
comp=Z,4.6nm,0.8s
FINES FINESS Array B 58.51 328 P **P 01 37 26.1 +0.4**
comp=Z,12nm,0.6s,baz=95,slow=7.4,SNR=47
FINES FINESS Array B 58.51 328 P **P 01 37 26.1 +0.4**
WRA Warramunga Arr 58.62 136 P **P 01 37 26.6 -0.5**
comp=Z,4.2nm,0.4s,baz=322,slow=7.4,SNR=148
WRA Warramunga Arr 58.62 136 P **P 01 37 26.6 -0.5**
WRAB Tennant Creek 58.62 136 *e*P **P 01 37 26.6 -0.5**
WRAB pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 58.62 136 *e*P **P 01 37 26.6 -0.5**
comp=Z,3.7nm,0.5s
BURAR Bucovina Array 58.75 312⇑*i*P **P 01 37 27.9 +0.1**
KEV Kevo 59.38 338 *e*P **P 01 37 31.2 -0.4**
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 59.38 338 *ep* **P 01 37 31.2 -0.4**
comp=Z,12nm,0.7s
SUW Suwalki 59.78 320 *e*P **P 01 37 35.2 +0.7**
SUW Suwalki 59.78 320 *e*P **P 01 37 35.2 +0.7**
ARCES ARCESS Array B 59.86 338 P **P 01 37 35.6 +0.7**
comp=Z,6.6nm,0.6s,baz=91,slow=5.5,SNR=33
ARCES PcP **PcP 01 38 20.6 +0.5**
comp=Z,7.3nm,0.8s,baz=101,slow=4.8,SNR=7.6
ARCES ARCESS Array B 59.86 338 P **P 01 37 35.6 +0.7**
ARCES PcP **PcP 01 38 20.6 +0.5**
ARES ARCESS Array S 59.86 338 *e*P **P 01 37 34.7 -0.2**
KWP Kalwaria Pacla 60.28 314⇓P **P 01 37 38.7 +0.6**
KWP Kalwaria Pacla 60.28 314 *e*P **P 01 37 39.1 +1.0**
comp=Z,5.4nm,0.4s
KWP *ep*P **pP 01 38 06.4 +0.2**
KWP Kalwaria Pacla 60.28 314⇓*i*P **P 01 37 38.7 +0.6**
DRGR 60.52 311⇓P **P 01 37 41.3 +1.4**
DRGR 60.52 311⇓*i*P **P 01 37 41.3 +1.4**
KTK1 Kautokeino 60.58 337 *e*P **P 01 37 40.0 +0.2**
KOLS Kolonicke sedl 60.62 314 *e*P **P 01 37 41.0 +0.6**
KOLS Kolonicke sedl 60.62 314 *e*P **P 01 37 41.0 +0.6**
VTS Vitosha 60.66 306⇓P **P 01 37 42.2 +1.2**
VTS Vitosha 60.66 306⇓*i*P **P 01 37 42.2 +1.2**
ASAR Alice Springs 61.13 139 P **P 01 37 44.0 -0.2**
comp=Z,2.1nm,0.5s,baz=318,slow=6.1,SNR=19
ASAR Alice Springs 61.13 139 P **P 01 37 44.0 -0.2**
CRVS Cervenica-Dubn 61.15 314 *e*P **P 01 37 45.7 +1.7**
CRVS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 61.15 314 *e*P **P 01 37 45.7 +1.7**
KMBO Kilima Mbogo 61.62 254 *e*P **P 01 37 49.2 +1.2**
comp=Z,1.7nm,0.7s
KMBO *ep*P **pP 01 38 18.7 +2.4**
NIE Niedzica 61.85 314 *e*P **P 01 37 50.6 +1.8**
NIE Niedzica 61.85 314 *e*P **P 01 37 50.6 +1.8**
TRO Tromso 62.16 337 *e*P **P 01 37 51.0 +0.6**
VYHS Vyhne 62.93 313 *e*P **P 01 37 56.5 +0.6**
VYHS pmax pmax
comp=Z,22nm,2.6s
VYHS Vyhne 62.93 313 *e*P **P 01 37 56.5 +0.6**
OKC Ostrava-Krasne 63.20 315 *e*P **P 01 37 58.4 +0.7**
OKC Ostrava-Krasne 63.20 315 *e*P **P 01 37 58.4 +0.7**
PKSM Moragy 63.38 311⇑P **P 01 37 57.8 -1.1**
PKSM Moragy 63.38 311⇑*i*P **P 01 37 57.8 -1.1**
SPA0 Spitsbergen Ar 63.57 347 *e*P **P 01 37 60.0 +0.3**
MORC Moravsky Berou 63.60 315⇑P **P 01 38 01.6 +1.3**
MORC Moravsky Berou 63.60 315⇑*i*P **P 01 38 01.6 +1.3**
MOR8 Moi Rana 63.81 333 *e*P **P 01 38 01.3 -0.1**
MOR8 AMB AMB 01 38 04.3
comp=Z,31nm,1.5s
KSP Ksiaz 64.24 316 *e*P **P 01 38 05.8 +1.2**
KSP Ksiaz 64.24 316 *e*P **P 01 38 05.7 +1.2**
VRAC Vranov 64.28 315⇓*i*P **P 01 38 06.3 +1.5**
DPC Dobruska-Polom 64.30 316 *e*P **P 01 38 06.3 +1.4**
DPC Dobruska-Polom 64.30 316 *e*P **P 01 38 06.3 +1.4**
UPC Upice 64.47 316 *e*P **P 01 38 07.4 +1.4**
UPC Upice 64.47 316 *e*P **P 01 38 07.4 +1.4**
KBS Kingsbay 64.50 348 *e*P **P 01 38 06.4 +0.7**
NSS Namsos 64.96 332 *e*P **P 01 38 09.3 +0.5**
CSNA Conrad Observa 64.98 313⇑*i*P **P 01 38 10.1 +0.7**
comp=Z,4.7nm,1.0s
TREC Trest 64.99 315 *e*P **P 01 38 10.7 +1.3**
PVCC Panska Ves 65.38 316 *e*P **P 01 38 13.2 +1.4**
PVCC Panska Ves 65.38 316 *e*P **P 01 38 13.2 +1.4**
PRU Pruhonice 65.48 316 *e*P **P 01 38 13.1 +0.6**
PRU Pruhonice 65.48 316 *e*P **P 01 38 13.1 +0.6**
NC602 NORSAR Array S 65.57 328 *e*P **P 01 38 12.1 -0.8**
NB2 NORSAR Subarra 65.69 328 P **P 01 38 13.9 +0.2**
baz=83,slow=6.5
NB2 NORSAR Subarra 65.69 328 P **P 01 38 13.9 +0.2**
comp=Z,9.9nm,0.6s,baz=83,slow=6.5
NOA NORSAR Array B 65.69 328 P **P 01 38 13.9 +0.2**
comp=Z,11nm,0.7s,baz=84,slow=6.4,SNR=35
NOA NORSAR Array B 65.69 328 P **P 01 38 13.9 +0.2**
LEGS Legarje 65.71 311 *i* P **P 01 38 14.9 +0.8**
BRG Berggiesshubel 65.71 317 *e*P **P 01 38 14.9 +1.0**
comp=Z,13nm,1.6s
BRG *e* 01 38 45.7
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 65.71 317 *e*P **P 01 38 14.9 +1.0**
BRG *e* 01 38 45.7
BRG pmax pmax
comp=Z,13nm,1.7s
MOA Molln 66.05 313⇑*i*P **P 01 38 16.9 +0.7**
comp=Z,4.9nm,0.6s
CLL Collm 66.22 317 *e*P **P 01 38 19.0 +1.8**
CLL Collm 66.22 317 *e*P **P 01 38 18.0 +0.8**
GERES GERESS Array B 66.23 314 P **P 01 38 18.4 +0.9**
comp=Z,5.0nm,0.6s,baz=65,slow=6.3,SNR=64
GERES GERESS Array B 66.23 314 P **P 01 38 18.4 +0.9**
KHC Kasperske Hory 66.25 315 *e*P **P 01 38 18.3 +0.7**
KHC Kasperske Hory 66.25 315 *e*P **P 01 38 18.3 +0.7**
CEY Cerknica 66.36 311 *i* P **P 01 38 19.0 +0.8**
CADS Cadrg 66.73 312 *i* P **P 01 38 20.7 +0.1**
NKC Novy Kostel 66.76 316 *e*P P 01 38 14.5 -6.3
KBA Koelnbreinsper 66.82 313⇑*i*P **P 01 38 21.4 +0.1**
comp=Z,2.6nm,0.5s
MOL Molde 67.18 330 *e*P **P 01 38 24.2 +1.1**
ABTA Abfaltersbach 67.44 312⇑*i*P **P 01 38 24.6 -0.6**
comp=Z,1.8nm,0.7s
WTTA Wattenberg 67.91 313⇑*i*P **P 01 38 28.3 0.0**
comp=Z,4.8nm,0.4s
RETA Reutte 68.44 313⇑*i*P **P 01 38 31.7 +0.3**
comp=Z,7.0nm,0.5s
FETA Feichten 68.57 313⇑*i*P **P 01 38 32.3 0.0**
comp=Z,2.0nm,0.5s
DAVA Damuels 69.07 313⇓*i*P **P 01 38 35.7 +0.2**
comp=Z,4.4nm,0.7s
TUE Stuetta 69.63 313 *e*P **P 01 38 39.2 +0.2**
comp=Z,6.2nm,0.9s
CDF Champ du Feu 70.48 315 *e*P **P 01 38 44.3 +0.4**
comp=Z,7.7nm,0.6s
CDF Champ du Feu 70.48 315 *e*P **P 01 38 44.3 +0.4**
CDF pmax pmax
comp=Z,8.0nm,0.6s
CDF Champ du Feu 70.48 315 *e*P **P 01 38 44.3 +0.4**
comp=Z,7.7nm,0.6s
HINF Hinteralfeld 70.91 315 *e*P **P 01 38 46.6 +0.1**
comp=Z,3.9nm,0.6s
HINF Hinteralfeld 70.91 315 *e*P **P 01 38 46.6 +0.1**
HINF pmax pmax
comp=Z,4.0nm,0.6s
HINF Hinteralfeld 70.91 315 *e*P **P 01 38 46.6 +0.1**
comp=Z,3.9nm,0.6s
PGF Pioggiola 70.92 309 *e*P **P 01 38 47.1 +0.3**
comp=Z,8.0nm,0.5s
PGF Pioggiola 70.92 309 *e*P **P 01 38 47.1 +0.3**
PGF pmax pmax
comp=Z,8.0nm,0.5s
PGF Pioggiola 70.92 309 *e*P **P 01 38 47.1 +0.3**
comp=Z,8.0nm,0.5s
HAU Haudompre 71.19 315 *e*P **P 01 38 48.6 +0.4**
comp=Z,6.5nm,0.6s
HAU Haudompre 71.19 315 *e*P **P 01 38 48.6 +0.4**
HAU pmax pmax
comp=Z,7.0nm,0.6s
HAU Haudompre 71.19 315 *e*P **P 01 38 48.6 +0.4**
comp=Z,6.5nm,0.6s
PAGF Fort de Pagny 71.43 316 *e*P **P 01 38 50.4 +0.8**
comp=Z,2.5nm,0.5s
PAGF Fort de Pagny 71.43 316 *e*P **P 01 38 50.4 +0.8**
comp=Z,2.5nm,0.5s
GIVF Givet 71.55 317 *e*P **P 01 38 51.1 +0.8**
GIVF Givet 71.55 317 *e*P **P 01 38 51.1 +0.8**
GIVF Givet 71.55 317 *e*P **P 01 38 51.1 +0.8**
LPG La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
comp=Z,9.0nm,0.5s
LPG La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.5s
LPG La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
comp=Z,9.0nm,0.5s
LPL La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
comp=Z,11nm,0.4s
LPL La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
LPL pmax pmax
comp=Z,11nm,0.4s
LPL La Plagne 71.64 312 *e*P **P 01 38 52.0 +0.8**
comp=Z,11nm,0.4s
CABF La Chapelle 71.75 313 *e*P **P 01 38 52.2 +0.5**
comp=Z,7.6nm,0.5s
CABF La Chapelle 71.75 313 *e*P **P 01 38 52.2 +0.5**
CABF pmax pmax
comp=Z,8.0nm,0.5s
CABF La Chapelle 71.75 313 *e*P **P 01 38 52.2 +0.5**
comp=Z,7.6nm,0.5s
STKA Stephens Creek 71.76 139 P **P 01 38 51.0 -0.7**
comp=Z,1.5nm,0.5s,baz=333,slow=6.8,SNR=2.2
MBDF Montbardon 71.85 311 *e*P **P 01 38 52.0 -0.3**
comp=Z,6.8nm,0.6s
MBDF Montbardon 71.85 311 *e*P **P 01 38 52.0 -0.3**
MBDF pmax pmax
comp=Z,7.0nm,0.6s
MBDF Montbardon 71.85 311 *e*P **P 01 38 52.0 -0.3**
comp=Z,6.8nm,0.6s
MEZF Maizieres J'vi 71.87 316 *e*P **P 01 38 53.0 +0.8**
comp=Z,16nm,0.5s,baz=66
MEZF Maizieres J'vi 71.87 316 *e*P **P 01 38 53.0 +0.8**
comp=Z,16nm,0.5s
BAIF Baives 71.94 317 *e*P **P 01 38 53.4 +0.8**
comp=Z,7.5nm,0.8s
BAIF Baives 71.94 317 *e*P **P 01 38 53.4 +0.8**
BAIF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 71.94 317 *e*P **P 01 38 53.4 +0.8**
comp=Z,7.5nm,0.8s
SFTF Sexfontaines 71.97 315 *e*P **P 01 38 53.2 +0.4**
comp=Z,8.9nm,0.4s
SFTF Sexfontaines 71.97 315 *e*P **P 01 38 53.2 +0.4**
comp=Z,8.9nm,0.4s
FRF La Foret Royal 72.28 310 *e*P **P 01 38 55.1 +0.3**
FRF La Foret Royal 72.28 310 *e*P **P 01 38 55.1 +0.3**
FRF La Foret Royal 72.28 310 *e*P **P 01 38 55.1 +0.3**
ORIF Oris-en-Rattie 72.40 312 *e*P **P 01 38 54.9 -0.6**
ORIF Oris-en-Rattie 72.40 312 *e*P **P 01 38 54.9 -0.6**
ORIF Oris-en-Rattie 72.40 312 *e*P **P 01 38 54.9 -0.6**
LMR La Mourre 72.44 310 *e*P **P 01 38 56.3 +0.6**
LMR La Mourre 72.44 310 *e*P **P 01 38 56.3 +0.6**
LMR La Mourre 72.44 310 *e*P **P 01 38 56.3 +0.6**
KEST Kesra 72.70 302 P **P 01 38 58.4 +0.9**
comp=Z,1.6nm,0.6s,baz=12,slow=4.5,SNR=23
KEST Kesra 72.70 302 *e*P **P 01 38 58.6 +1.1**
KEST *ep*P **pP 01 39 28.1 +1.4**
SMRF Simiane la Rot 72.89 311 *e*P **P 01 38 59.2 +0.8**
SMRF Simiane la Rot 72.89 311 *e*P **P 01 38 59.2 +0.8**
LOR Lormes 73.01 315 *e*P **P 01 38 59.1 +0.1**
comp=Z,5.4nm,0.6s
LOR Lormes 73.01 315 *e*P **P 01 38 59.1 +0.1**
comp=Z,5.4nm,0.6s
VIVF Saint-Julien-l 73.23 312 *e*P **P 01 39 00.8 +0.4**
comp=Z,8.6nm,0.8s
VIVF Saint-Julien-l 73.23 312 *e*P **P 01 39 00.8 +0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 73.23 312 *e*P **P 01 39 00.8 +0.4**
comp=Z,8.6nm,0.8s
SSF Saint Saulge 73.31 314 *e*P **P 01 39 01.1 +0.3**
comp=Z,11nm,0.6s
SSF *ep*P **pP 01 39 30.9 +1.0**
SSF Saint Saulge 73.31 314 *e*P **P 01 39 01.1 +0.3**
SSF *e**PP **pP 01 39 30.9 +1.0**
SSF pmax pmax
comp=Z,11nm,0.6s
SSF Saint Saulge 73.31 314 *e*P **P 01 39 01.1 +0.3**
comp=Z,11nm,0.6s
SSF *ep*P **pP 01 39 30.9 +1.0**
AVF Avril sur Loir 73.49 314 *e*P **P 01 39 02.1 +0.3**
comp=Z,7.9nm,0.6s
AVF *ep*P **pP 01 39 32.0 +1.0**
AVF Avril sur Loir 73.49 314 *e*P **P 01 39 02.1 +0.3**
AVF *e**PP **pP 01 39 32.0 +1.0**
AVF pmax pmax
comp=Z,8.0nm,0.6s
AVF Avril sur Loir 73.49 314 *e*P **P 01 39 02.1 +0.3**
comp=Z,7.9nm,0.6s
AVF *ep*P **pP 01 39 32.0 +1.0**
HYF Humbligny 73.80 315 *e*P **P 01 39 04.6 +1.0**
HYF Humbligny 73.80 315 *e*P **P 01 39 04.6 +1.0**
BGF Bois d'Agland 73.90 314 *e*P **P 01 39 04.6 +0.4**
comp=Z,6.6nm,0.6s
BGF Bois d'Agland 73.90 314 *e*P **P 01 39 04.6 +0.4**
BGF pmax pmax
comp=Z,7.0nm,0.6s
BGF Bois d'Agland 73.90 314 *e*P **P 01 39 04.6 +0.4**
comp=Z,6.6nm,0.6s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LASF	**Ste Croix**	74.03	311	eP	**P**	**01 39 05.8**	**+0.7**
	comp=Z,21nm,1.0s						
LASF	**Ste Croix**	74.03	311	eP	**P**	**01 39 05.8**	**+0.7**
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	74.40	314	eP	**P**	**01 39 08.0**	**+0.8**
	comp=Z,8.4nm,0.6s						
TCF				epP	**pP**	**01 39 37.8**	**+1.4**
TCF	**Toulx Ste Croi**	74.40	314	eP	**P**	**01 39 08.0**	**+0.8**
TCF				e*PP	**pP**	**01 39 37.8**	**+1.4**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TCF	**Toulx Ste Croi**	74.40	314	eP	**P**	**01 39 08.0**	**+0.8**
	comp=Z,8.4nm,0.6s						
TCF				epP	**pP**	**01 39 37.8**	**+1.4**
CAF	**Calviac**	74.96	313	eP	**P**	**01 39 11.3**	**+0.9**
	comp=Z,5.9nm,0.7s						
CAF	**Calviac**	74.96	313	eP	**P**	**01 39 11.3**	**+0.9**
CAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CAF	**Calviac**	74.96	313	eP	**P**	**01 39 11.3**	**+0.9**
	comp=Z,5.9nm,0.7s						
LDF	**La Druitiere**	75.10	317	eP	**P**	**01 39 11.5**	**+0.4**
	comp=Z,12nm,0.8s						
LDF	**La Druitiere**	75.10	317	eP	**P**	**01 39 11.5**	**+0.4**
LDF				pmax	pmax		
	comp=Z,13nm,0.8s						
LDF	**La Druitiere**	75.10	317	eP	**P**	**01 39 11.5**	**+0.4**
	comp=Z,12nm,0.8s						
RJF	**Les Rejaudoux**	75.19	313	eP	**P**	**01 39 12.9**	**+1.2**
	comp=Z,9.1nm,0.7s						
RJF				epP	**pP**	**01 39 42.7**	**+1.7**
RJF	**Les Rejaudoux**	75.19	313	eP	**P**	**01 39 12.9**	**+1.2**
RJF				e*PP	**pP**	**01 39 42.7**	**+1.7**
RJF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
RJF	**Les Rejaudoux**	75.19	313	eP	**P**	**01 39 12.9**	**+1.2**
	comp=Z,9.1nm,0.6s						
RJF				epP	**pP**	**01 39 42.7**	**+1.7**
GRR	**Gorron**	75.63	317	eP	**P**	**01 39 14.6**	**+0.5**
	comp=Z,5.0nm,0.6s						
GRR	**Gorron**	75.63	317	eP	**P**	**01 39 14.6**	**+0.5**
GRR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GRR	**Gorron**	75.63	317	eP	**P**	**01 39 14.6**	**+0.5**
	comp=Z,5.0nm,0.6s						
MFF	**Saint Martin d**	75.82	315	eP	**P**	**01 39 15.6**	**+0.3**
	comp=Z,4.2nm,0.7s						
MFF	**Saint Martin d**	75.82	315	eP	**P**	**01 39 15.6**	**+0.3**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MFF	**Saint Martin d**	75.82	315	eP	**P**	**01 39 15.6**	**+0.3**
	comp=Z,4.2nm,0.7s						
LFF	**La Frestale**	75.84	313	eP	**P**	**01 39 16.4**	**+1.0**
	comp=Z,7.8nm,0.6s						
LFF	**La Frestale**	75.84	313	eP	**P**	**01 39 16.4**	**+1.0**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LFF	**La Frestale**	75.84	313	eP	**P**	**01 39 16.4**	**+1.0**
	comp=Z,7.8nm,0.6s						
SGMF	**Saint Gilles**	76.73	317	eP	**P**	**01 39 21.2**	**+0.8**
	comp=Z,18nm,0.7s						
SGMF	**Saint Gilles**	76.73	317	eP	**P**	**01 39 21.2**	**+0.8**
SGMF				pmax	pmax		
	comp=Z,18nm,0.7s						
SGMF	**Saint Gilles**	76.73	317	eP	**P**	**01 39 21.2**	**+0.8**
	comp=Z,18nm,0.7s						
ROSF	**Rostrenen**	77.14	317	eP	**P**	**01 39 23.5**	**+0.8**
	comp=Z,16nm,0.7s						
ROSF	**Rostrenen**	77.14	317	eP	**P**	**01 39 23.5**	**+0.8**
ROSF				pmax	pmax		
	comp=Z,16nm,0.7s						
ROSF	**Rostrenen**	77.14	317	eP	**P**	**01 39 23.5**	**+0.8**
	comp=Z,16nm,0.7s						
QUIF	**Quistinic**	77.24	317	eP	**P**	**01 39 23.6**	**+0.4**
QUIF	**Quistinic**	77.24	317	eP	**P**	**01 39 23.6**	**+0.4**
QUIF	**Quistinic**	77.24	317	eP	**P**	**01 39 23.6**	**+0.4**
ETSF	**Etsaut**	77.46	311	eP	**P**	**01 39 25.6**	**+0.9**
	comp=Z,13nm,0.8s						
ETSF	**Etsaut**	77.46	311	eP	**P**	**01 39 25.6**	**+0.9**
ETSF				pmax	pmax		
	comp=Z,13nm,0.8s						
ETSF	**Etsaut**	77.46	311	eP	**P**	**01 39 25.6**	**+0.9**
	comp=Z,13nm,0.8s						
SJPF	**Ste Jean**	77.83	312	eP	**P**	**01 39 27.4**	**+0.8**
SJPF	**Ste Jean**	77.83	312	eP	**P**	**01 39 27.4**	**+0.8**
SJPF	**Ste Jean**	77.83	312	eP	**P**	**01 39 27.4**	**+0.8**
SUMG	**Summit**	77.92	347	i P	**P**	**01 39 26.9**	**-0.1**
	comp=Z,18nm,1.0s						
ILAR	**Eielson Array**	78.80	23	P	**P**	**01 39 29.4**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=306,slow=4.6,SNR=11						
ILAR	**Eielson Array**	78.80	23	P	**P**	**01 39 29.4**	**-2.1**
INK	**Inuvik**	80.55	16	P	**P**	**01 39 39.7**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=326,slow=3.7,SNR=8.0						
INK	**Inuvik**	80.55	16	eP	**P**	**01 39 40.3**	**-0.6**
	comp=Z,4.7nm,0.9s						
ESDC	**Sonseca Array**	81.09	310	P	**P**	**01 39 44.6**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=50,slow=4.6,SNR=5.4						
ESDC				pP	**pP**	**01 40 15.9**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=44,slow=6.0,SNR=2.7						
ESDC	**Sonseca Array**	81.09	310	P	**P**	**01 39 44.6**	**+0.1**
ESDC				pP	**pP**	**01 40 15.9**	**+1.8**
SFJD	**Kangerlussuaq**	84.91	347	i P	**P**	**01 40 03.2**	**-0.3**
	comp=Z,9.2nm,0.8s						
BOSA	**Boshof**	85.62	236	P	**P**	**01 40 09.0**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=68,slow=3.6,SNR=6.7						
BOSA				pP	**pP**	**01 40 38.7**	**+1.0**
	comp=Z,11nm,0.7s,baz=39,slow=3.8,SNR=9.8						
BOSA	**Boshof**	85.62	236	P	**P**	**01 40 09.0**	**+1.2**
BOSA				pP	**pP**	**01 40 38.7**	**+1.0**
YKA	**Yellowknife Ar**	89.81	13	P	**P**	**01 40 26.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=330,slow=4.3,SNR=8.4						
YKA	**Yellowknife Ar**	89.81	13	P	**P**	**01 40 26.5**	**-0.6**
TXAR	**Lajitas Array**	123.22	20	PKP	**PKPdf**	**01 46 24.1**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=338,slow=1.0,SNR=4.8						
TXAR	**Lajitas Array**	123.22	20	PKP	**PKPdf**	**01 46 24.1**	**-1.6**
BDFB	**Brasilia**	144.31	278	PKP	PKPbc	01 47 04.1	+0.4
	comp=Z,12nm,0.7s,baz=68,slow=1.2,SNR=21						
BDFB	**Brasilia**	144.31	278	PKP	PKPbc	01 47 04.1	+0.4
ROSC	**El Rosal**	148.77	339	PKPbc	**PKPbc**	**01 47 18.0**	**+0.9**
	comp=Z,11nm,0.6s,baz=0.0,slow=2.0,SNR=8.1						
ROSC	**El Rosal**	148.77	339	PKPbc	**PKPbc**	**01 47 18.0**	**+0.9**

CSEM ***03*** *01:35:19.2, 38.35°N×21.85°E, h10km, ML1.6/4, After THE*
THE 03 01:35:19.2, 38.35°N×21.85°E, h10km±1km, ML1.6/4, Error ellipse: s-maj=1.1km s-min=0.4km az=137.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPR	**University Cam**	0.09	215	P	Pg	01 35 21.2	-0.3
UPR				S	Sg	01 35 23.2	0.0
UPR	**University Cam**	0.09	215	P	Pg	01 35 21.2	-0.3
UPR				S	Sg	01 35 23.2	0.0
EFP	**Efpalio**	0.09	32	P	Pg	01 35 21.2	-0.4
EFP				S	Sg	01 35 23.3	0.0
EFP	**Efpalio**	0.09	32	P	Pg	01 35 21.2	-0.4
EFP				S	Sg	01 35 23.3	0.0
LAKA	**Lakka**	0.15	138	P	Pg	01 35 22.5	-0.1
LAKA				S	Sg	01 35 25.2	+0.2
LAKA	**Lakka**	0.15	138	P	Pg	01 35 22.5	-0.1
LAKA				S	Sg	01 35 25.2	+0.2
TRIZ	**Trizonia**	0.18	86	P	Pg	01 35 23.0	0.0
TRIZ				S	Sg	01 35 26.2	+0.7
TRIZ	**Trizonia**	0.18	86	P	Pg	01 35 23.0	0.0
TRIZ				S	Sg	01 35 26.2	+0.7
KALE	**Kalithea**	0.23	81	P	Pg	01 35 24.0	-0.1
KALE				S	Sg	01 35 27.6	+0.2
KALE	**Kalithea**	0.23	81	P	Pg	01 35 24.0	-0.1
KALE				S	Sg	01 35 27.6	+0.2
RLS	**Riolos of Patr**	0.42	226	P	Pg	01 35 27.3	-0.2
RLS				S	Sb	01 35 34.2	-1.0
RLS	**Riolos of Patr**	0.42	226	P	Pg	01 35 27.3	-0.2
RLS				S	Sb	01 35 34.2	-1.0
EVR	**Evrytania**	0.56	357	P	Pg	01 35 29.7	-0.6
EVR				S	Sg	01 35 38.2	+0.4
EVR	**Evrytania**	0.56	357	P	Pg	01 35 29.7	-0.6
EVR				S	Sg	01 35 38.2	+0.4
GUR	**Goura**	0.57	137	P	Pg	01 35 29.7	-0.7
GUR				S	Sg	01 35 38.3	+0.2
GUR	**Goura**	0.57	137	P	Pg	01 35 29.7	-0.7
GUR				S	Sg	01 35 38.3	+0.2
MAKR	**Makrakomi, Fth**	0.69	19	P	Pg	01 35 32.5	-0.2
MAKR	**Makrakomi, Fth**	0.69	19	P	Pg	01 35 32.5	-0.2

AUST ***03*** *01:35:00.4, 7.00°S×120.99°E, h0km*
IDC ***03*** *01:36:02.9±1.7, 10.18°S×125.17°E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=69.4km s-min=22.9km az=67.0*
ISCJB ***03*** *01:36:05.0±1.3, 10.27°S±0.09°×124.9°E±0.1°, h33km, mb3.4/1, Error ellipse: s-maj=16.3km s-min=12.3km az=167.3*
ISC 03 01:36:08.0±1.5**, 10.23°S**±0.10°×**124.8°E**±0.1°**, h35km, n7, σ2.23s/8, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTN	**Manton Dam**	6.71	113	P	**Pn**	**01 37 44.0**	**-0.1**
	baz=12,SNR=14						
FITZ	**Fitzroy Crossi**	7.87	174	Pn	Pn	01 37 57.6	-2.4
	0.9nm,0.3s,baz=353,slow=11,SNR=32						
FITZ				Sn	**Sn**	**01 39 29.7**	**+1.9**
	2.0nm,0.3s,baz=221,slow=19,SNR=13						
FITZ	**Fitzroy Crossi**	7.87	174	P	**Pn**	**01 37 58.2**	**-1.7**
	baz=12,SNR=6.3						
KDU	**Kakadu**	7.89	109	P	**Pn**	**01 37 59.1**	**-1.2**
	baz=13,SNR=6.6						
WRA	**Warramunga Arr**	13.32	138	Pn	Pn	01 39 11.1	-3.7
	0.6nm,0.3s,baz=319,slow=13,SNR=12						
WRA				Sn	**Sn**	**01 41 41.9**	**+0.2**
	0.7nm,0.3s,baz=315,slow=24,SNR=6.4						
ASAR	**Alice Springs**	15.93	148	Pn	**Pn**	**01 39 47.2**	**-2.4**
	0.3nm,0.3s,baz=321,slow=11,SNR=4.2						
ASAR				Sn	**Sn**	**01 42 48.2**	**+3.1**
	0.2nm,0.3s,baz=309,slow=20,SNR=4.4						
MKAR	**Makanchi Array**	68.27	330	P	**P**	**01 47 06.6**	**+1.2**
	0.2nm,0.5s,baz=116,slow=8.7,SNR=2.9						

IDC 03 01:42:01.5±1.2**, 4.06°S**×**151.89E, h0km, mb3.7**/10**, mb1 3.9**/10**, mb1mx3.8**/19**, mbtmp3.7**/10**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.9**/36**, Error ellipse: s-maj=44.2km s-min=22.7km az=110.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.09	221	Pn	Pn	01 43 50.9	+4.3
	1.3nm,0.3s,baz=17,slow=11,SNR=5.2						
CTA	**Charters Tower**	16.85	199	Pn	P	01 46 02.1	+1.0
	0.3nm,0.3s,baz=0.0,slow=11,SNR=2.2						
CTA				LR	LR	01 50 53.8	
	comp=Z,267nm,19.8s,baz=140,slow=32						
WRA	**Warramunga Arr**	23.28	226	P	P	01 47 11.2	+0.1
	4.1nm,1.0s,baz=47,slow=10,SNR=7.1						
ASAR	**Alice Springs**	26.11	220	P	P	01 47 37.4	+0.1
	1.5nm,0.9s,baz=57,slow=6.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	56.75	295	P	P	01 51 46.7	-1.0
	1.5nm,0.3s,baz=128,slow=5.8,SNR=4.2						
SONM	**Songino Array**	65.22	328	P	P	01 52 46.3	+1.3
	0.3nm,0.7s,baz=140,slow=7.0,SNR=2.8						
MKAR	**Makanchi Array**	79.18	319	P	P	01 54 08.2	-0.3
	0.5nm,0.8s,baz=90,slow=7.2,SNR=4.1						
ZALV	**Zalesovo Beam**	80.04	326	P	P	01 54 12.6	-0.3
	0.2nm,0.3s,baz=90,slow=4.3,SNR=2.5						
ILAR	**Eielson Array**	81.82	22	P	P	01 54 21.7	-0.5
	0.8nm,0.7s,baz=257,slow=5.8,SNR=7.0						
KURBB	**Kurchatov Arra**	82.66	322	P	P	01 54 27.1	+0.2
	0.5nm,0.8s,baz=103,slow=4.4,SNR=5.3						
AAK	**Ala-Archa**	83.50	314	P	P	01 54 31.4	-0.3
	0.6nm,0.6s,baz=143,slow=5.1,SNR=2.6						
MAW	**Mawson**	85.90	203	P	P	01 54 43.2	+0.2
	10nm,0.3s,baz=301,slow=23,SNR=6.2						
YKA	**Yellowknife Ar**	95.20	28	P	P	01 55 26.9	+0.2
	0.1nm,0.5s,baz=274,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	149.22	289	PKPbc	PKPbc	02 01 52.4	-0.8
	1.5nm,0.9s,baz=63,slow=3.2,SNR=7.8						

IDC 03 02:00:03.4±1.0**, 3.62°S**×**151.33E, h0km, mb3.7**/7**, mb1 3.9**/8**, mb1mx3.8**/20**, mbtmp3.8**/8**, ML3.1**/1**, MS3.7**/12**, Ms1 3.7**/12**, ms1mx3.4**/31**, Error ellipse: s-maj=34.7km s-min=21.0km az=111.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.09	216	Pn	Pn	02 01 48.8	+0.3
	1.9nm,0.3s,baz=300,slow=8.1,SNR=4.3						
PMG				LR	LR	02 04 14.4	
	comp=Z,950nm,18.8s,baz=220,slow=35						
GUMO	**Guam**	18.26	340	LR	LR	02 09 35.6	
	comp=Z,163nm,19.1s,baz=113,slow=31						
WRA	**Warramunga Arr**	23.20	224	P	P	02 05 12.1	-0.1
	1.7nm,0.7s,baz=52,slow=9.7,SNR=16						
DZM	**Mont Dzumac**	23.49	143	P	P	02 05 16.2	+1.0
	6.2nm,0.8s,baz=316,slow=16,SNR=3.6						
DZM				LR	LR	02 12 41.3	
	comp=Z,315nm,18.5s,baz=29,slow=32						
ASAR	**Alice Springs**	26.09	219	P	P	02 05 38.4	-0.8
	2.4nm,0.8s,baz=54,slow=9.0,SNR=6.4						
ASAR				LR	LR	02 15 46.3	
	comp=Z,145nm,18.6s,baz=131,slow=36						
FITZ	**Fitzroy Crossi**	28.99	238	LR	LR	02 17 21.5	
	comp=Z,128nm,20.5s,baz=308,slow=36						
STKA	**Stephens Creek**	29.57	197	LR	LR	02 18 34.1	
	comp=Z,130nm,18.5s,baz=21,slow=38						
CBIJ	**Chichi jima**	31.78	344	LR	LR	02 17 17.5	
	comp=Z,244nm,19.2s,baz=125,slow=32						
JNU	**Nakatsue**	41.35	334	LR	LR	02 21 28.1	
	comp=Z,20nm,21.1s,baz=230,slow=31						
MJAR	**Matsushiro Arr**	41.79	344	LR	LR	02 23 38.9	
	comp=Z,74nm,20.0s,baz=115,slow=34						
KSRS	**Korea Array**	46.30	334	LR	LR	02 25 15.0	
	comp=Z,47nm,18.5s,baz=70,slow=33						
ASAJ	**Asahikawa**	48.16	352	LR	LR	02 26 19.0	
	comp=Z,98nm,18.8s,baz=195,slow=33						
PETK	**Petropavlovsk-**	56.77	5	LR	LR	02 28 43.3	
	comp=Z,71nm,21.9s,baz=93,slow=30						
SONM	**Songino Array**	64.55	328	P	P	02 10 44.0	+1.4
	0.2nm,0.6s,baz=145,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	78.48	319	P	P	02 12 06.8	+0.3
	0.3nm,0.8s,baz=95,slow=6.4,SNR=2.8						
ILAR	**Eielson Array**	81.62	22	P	P	02 12 21.7	-1.4
	0.6nm,0.8s,baz=243,slow=5.1,SNR=9.2						
YKA	**Yellowknife Ar**	95.07	28	P	P	02 13 28.6	+0.5
	0.2nm,0.6s,baz=268,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	148.54	289	PKPbc	PKPbc	02 19 52.5	-0.9
	0.6nm,0.8s,baz=70,slow=1.9,SNR=5.9						

IDC 03 02:03:49.5±3.9**, 1.42°N**×**99.24E, h95km**±17km**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.3**/24**, mbtmp3.4**/4**, Error ellipse: s-maj=114.0km s-min=21.8km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	1.41	347	P	Pn	02 04 13.3	-1.2
	29nm,0.3s,baz=202,slow=4.4,SNR=61						
PSI				S	Sn	02 04 31.2	-2.3
	11nm,0.3s,baz=293,slow=15,SNR=13						
WRA	**Warramunga Arr**	40.43	123	P	P	02 11 18.7	-0.3
	2.4nm,0.6s,baz=302,slow=9.0,SNR=13						
SONM	**Songino Array**	46.65	7	P	P	02 12 09.2	+0.6
	0.2nm,0.4s,baz=190,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	47.56	344	P	P	02 12 15.6	+0.1
	0.4nm,0.7s,baz=152,slow=8.7,SNR=4.1						
ZALV	**Zalesovo Beam**	53.69	349	P	P	02 13 00.4	-1.0
	1.0nm,0.5s,baz=157,slow=7.6,SNR=3.0						

ISK ***03*** *02:04:16.5, 38.91°N×41.30°E, h14km, MD2.8*
ISCJB ***03*** *02:04:17.7±0.5, 38.98°N±0.03°×41.28°E±0.05°, h13km±4km, Error ellipse: s-maj=7.0km s-min=4.9km az=34.7*
DDA ***03*** *02:04:17.2, 38.93°N×41.34°E, h7km, MD2.8*
CSEM ***03*** *02:04:17.0±0.3, 38.95°N×41.21°E, h8km, MD2.8, Error ellipse: s-maj=9.8km s-min=6.4km az=129.0*
ISC 03 02:04:17.3±0.9**, 38.94°N**±0.03°×**41.25°E**±0.03°**, h15km**±6km**, n27, σ0.95s/36, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNGL	**BINGOL**	0.08	276	i P	**Pg**	**02 04 20.6**	**-0.1**
BNGL				i S	**Sg**	**02 04 23.4**	**+0.5**
VRTB	**Varto-Mus**	0.27	36	PG	**Pg**	**02 04 22.9**	**-0.3**
VRTB				SG	**Sg**	**02 04 27.2**	**0.0**
VRTB	**Varto-Mus**	0.27	36	i Pg	**Pg**	**02 04 22.9**	**-0.3**
VRTB				i Sg	**Sg**	**02 04 27.2**	**0.0**
BNGB	**Bingˆ¶l**	0.45	276	ePG	**Pg**	**02 04 26.6**	**+0.3**
BNGB				eSG	**Sb**	**02 04 34.2**	**+0.6**
BINT	**Bingol**	0.60	264	ePg	**Pg**	**02 04 26.7**	**-2.5**
BINT				eSg	**Sg**	**02 04 34.2**	**-3.0**
BTMT	**Batman**	0.77	166	ePG	**Pb**	**02 04 32.4**	**-0.1**
BTMT	**Batman**	0.77	166	ePg	**Pb**	**02 04 32.4**	**-0.1**
ERZM	**Erzurum**	0.96	5	i P	**Pg**	**02 04 35.8**	**-0.3**
ERZM	**Erzurum**	0.96	5	i P	**Pg**	**02 04 35.8**	**-0.3**
EZM	**Erzurum**	0.96	5	ePG	**Pb**	**02 04 36.0**	**+0.1**
BEST	**Besiri**	1.05	179	i P	**Pb**	**02 04 37.1**	**-0.1**
BEST				i S	**Sn**	**02 04 51.9**	**-0.1**
DIY	**Diyarbakir**	1.32	218	ePN	**Pn**	**02 04 40.3**	**-1.0**
DIY	**Diyarbakir**	1.32	218	ePn	**Pn**	**02 04 40.3**	**-1.0**
ERZN	**Erzincan**	1.35	299	ePN	**Pn**	**02 04 41.9**	**+0.1**
DIYA	**Diyarbakir**	1.35	221	i P	**Pg**	**02 04 43.7**	**+0.3**
DIYA				i S	**Sg**	**02 05 02.4**	**+1.4**
DIYA	**Diyarbakir**	1.35	221	i P	**Pg**	**02 04 43.7**	**+0.3**
DIYA				i S	**Sg**	**02 05 02.4**	**+1.4**
AGRB	**Hanur-Agry**	1.49	64	ePN	**Pn**	**02 04 43.7**	**0.0**
AGRB	**Hanur-Agry**	1.49	64	ePn	**Pn**	**02 04 43.7**	**0.0**
SVRC	**Sivrice-ELAZID**	1.62	250	ePN	**Pn**	**02 04 45.8**	**+0.2**
SVRC	**Sivrice-ELAZID**	1.62	250	ePn	**Pn**	**02 04 45.8**	**+0.2**
MARD	**Mardin**	1.67	193	eP	**Pg**	**02 04 49.0**	**-0.4**
MARD				i S	**Sg**	**02 05 10.5**	**-0.6**
EZC	**Erzincan**	1.68	299	ePN	**Pn**	**02 04 47.1**	**+0.8**
EZC	**Erzincan**	1.68	299	ePn	**Pn**	**02 04 47.1**	**+0.8**
BAYT	**Ayd˜–ntepe-Bay**	1.68	330	ePN	**Pn**	**02 04 46.3**	**-0.1**
BAYT	**Ayd˜–ntepe-Bay**	1.68	330	ePn	**Pn**	**02 04 46.3**	**-0.1**
MALT	**Malatya**	2.30	255	ePN	**Pn**	**02 04 56.4**	**+1.6**
MALT	**Malatya**	2.30	255	ePn	**Pn**	**02 04 56.4**	**+1.6**

IDC ***03*** *02:19:02.9±6.2, 36.31°N×71.13°E, h135km±57km, mb3.2/5, mb1 3.2/10, mb1mx3.0/31, mbtmp3.2/10, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=43.5km s-min=23.4km az=21.0*
ISCJB ***03*** *02:19:05.7±0.5, 36.44°N±0.03°×71.23°E±0.09°, h188km, mb3.3/4, Error ellipse: s-maj=10.7km s-min=4.8km az=174.0*
NNC ***03*** *02:19:08.4±4.6, 36.74°N×70.70°E, h101km±65km, mb3.1, mpv3.9, Error ellipse: s-maj=35.4km s-min=26.9km az=5.0*
ISC 03 02:19:06.6±0.7**, 36.49°N**±0.05°×**71.21°E**±0.09°**, h188km, n26, σ2.27s/31, mb3.3/4, 3C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	2.72	168	⇓P	**Pn**	**02 19 50.9**	**-1.6**
CEP				S	**Sn**	**02 20 25.0**	**-3.2**
CHCP	**Chirah Chowk**	3.29	149	P	**Pn**	**02 19 58.9**	**-0.3**
THW	**Thamme Wali**	3.71	173	⇓P	**Pn**	**02 20 03.0**	**-1.4**
THN	**Thein Dam**	5.50	136	eP	**Pn**	**02 20 26.7**	**-0.4**
THN				eS	**Sn**	**02 21 27.9**	**-2.6**
AML	**Almayashu**	5.96	18	P	**Pn**	**02 20 32.6**	**-0.8**
	SNR=37						
UCH	**Uchtor**	6.28	23	P	**Sn**	**02 21 45.2**	**-4.3**
	SNR=6.4						
KZA	**Kyzart**	6.40	28	P	**Pn**	**02 20 40.3**	**+1.0**
	SNR=5.6						
EKS2	**Erkin-Say**	6.48	17	P	**Pn**	**02 20 39.6**	**-0.4**
	SNR=13						
KK31	**Karatay Array**	6.63	356	⇓P	**Pn**	**02 20 40.5**	**-1.4**
	2.5nm,0.3s,baz=177,slow=12,SNR=105						
KK31				⇑S	**Sn**	**02 21 51.8**	**-5.4**
	2.7nm,0.3s,baz=182,slow=20,SNR=8.6						
AAK	**Ala-Archa**	6.64	21	P	**Pn**	**02 20 41.4**	**-0.7**
	1.5nm,0.3s,baz=182,slow=6.3,SNR=24						
AAK				S	**Sn**	**02 21 55.3**	**-2.4**
	1.4nm,0.3s,baz=127,slow=20,SNR=12						
AAK				LR	LR	02 24 00.3	
	comp=Z,186nm,20.9s,baz=113,slow=44						
AAK	**Ala-Archa**	6.64	21	P	**Pn**	**02 20 44.7**	**+2.6**
	SNR=7.7						
TKM2	**Tokmak 2**	7.26	26	⇓P	**Pn**	**02 20 50.6**	**+0.4**
	4.9nm,0.5s						
TKM2				⇑S	**Sn**	**02 22 11.3**	**-1.1**
	2.3nm,0.5s						
TKM2	**Tokmak 2**	7.26	26	P	**Pn**	**02 20 51.7**	**+1.4**
	SNR=8.7						
MK31	**Makanchi Array**	13.20	35	P	**P**	**02 22 13.2**	**+3.0**
	1.0nm,0.5s,baz=214,slow=9.8,SNR=14						
MKAR	**Makanchi Array**	13.20	35	P	**P**	**02 22 08.7**	**-1.5**
	0.2nm,0.3s,baz=224,slow=13,SNR=10						
KURBB	**Kurchatov Arra**	15.08	18	P	**P**	**02 22 32.4**	**+1.5**
	0.1nm,0.3s,baz=205,slow=11,SNR=12						
AB31	**Akbulak array**	15.18	331	⇓P	**Pn**	**02 22 30.6**	**-0.7**
	1.1nm,0.6s,baz=147,slow=15,SNR=6.4						
BVA0	**Borovoye Array**	16.55	358	⇑P	**Pn**	**02 22 52.5**	**+4.6**
	0.2nm,0.8s,baz=180,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	16.55	358	P	**Pn**	**02 22 48.8**	**+1.0**
	0.2nm,0.3s,baz=167,slow=13,SNR=6.1						
AKTO	**Aktyubinsk**	16.88	330	P	**Pn**	**02 22 51.6**	**-0.2**
	0.2nm,0.3s,baz=133,slow=11,SNR=23						
AKTO	**Aktyubinsk**	16.88	330	⇓P	**Pn**	**02 22 52.5**	**+0.7**
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	19.86	24	P	**Pn**	**02 23 25.3**	**-1.6**
	1.9nm,0.5s,baz=224,slow=11,SNR=11						
FINES	**FINESS Array B**	37.59	326	P	**P**	**02 26 05.2**	**+2.6**
	1.5nm,0.8s,baz=134,slow=9.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	65.89	269	P	**P**	**02 29 33.6**	**+1.2**
	0.3nm,0.6s,baz=47,slow=5.6,SNR=6.3						
WRA	**Warramunga Arr**	81.84	122	P	**P**	**02 31 07.4**	**+2.5**
	0.3nm,0.4s,baz=326,slow=4.8,SNR=6.8						
ASAR	**Alice Springs**	84.11	125	P	**P**	**02 31 17.6**	**+1.0**
	0.1nm,0.3s,baz=313,slow=5.4,SNR=4.3						

IGQ ***03*** *02:21:35.1, 1.71°S×77.78°W, h196km±14km, Mb4.0, Ms3.8, Error ellipse: s-maj=4.5km s-min=1.4km az=2.6*
ISCJB ***03*** *02:21:36.1±0.3, 1.73°S±0.03°×77.99°W±0.08°, h200km, mb3.4/9, Error ellipse: s-maj=10.5km s-min=4.6km az=1.1*
IDC ***03*** *02:21:38.7±3.0, 1.86°S×77.72W, h199km±34km, mb3.3/9, mb1 3.4/11, mb1mx3.3/25, mbtmp3.3/11, Error ellipse: s-maj=36.9km s-min=14.8km az=48.0*
ISC 03 02:21:36.9±0.8**, 1.70°S**±0.05°×**77.94°W**±0.10°**, h200km, n60, σ1.75s/55, mb3.4/9, 14C-17D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULBA	**Ulba**	0.53	297	⇑S	**Sn**	**02 22 22.6**	**-3.4**
ULBA	**Ulba**	0.53	297	⇑P	**Pn**	**02 22 03.1**	**-1.4**
PAT1	**Patacocha**	0.54	290	⇓S	**Sn**	**02 22 22.4**	**-3.8**
PAT1	**Patacocha**	0.54	290	⇓P	**Pn**	**02 22 03.3**	**-1.4**
BRUN	**Tungurahua Vol**	0.55	300	⇑S	**Sn**	**02 22 22.6**	**-3.4**
BRUN	**Tungurahua Vol**	0.55	300	⇑P	**Pn**	**02 22 03.2**	**-1.4**
ARRY	**Arrayan**	0.55	290	⇑P	**Pn**	**02 22 03.0**	**-1.6**
ARRY	**Arrayan**	0.55	290	⇑S	**Sn**	**02 22 21.3**	**-4.7**
RUN5	**Runtun**	0.56	300	P	**Pn**	**02 22 03.3**	**-1.4**
RETU	**Refugio**	0.56	295	⇓S	**Sn**	**02 22 25.5**	**-1.0**
RETU	**Refugio**	0.56	295	⇓P	**Pn**	**02 22 03.4**	**-1.5**
JUI6	**Juive**	0.60	297	S	**Sn**	**02 22 24.1**	**-2.1**
JUI6	**Juive**	0.60	297	P	**Pn**	**02 22 03.4**	**-1.4**
BBIL	**Ulba Tungurahu**	0.60	294	⇑P	**Pn**	**02 22 03.5**	**-1.4**
BIL2	**Estacion Bilba**	0.61	293	P	**Pn**	**02 22 04.1**	**-0.8**
IGUA	**Igualata**	0.73	286	P	**Pn**	**02 22 04.7**	**-1.0**
PISA	**Pisayambo**	0.78	325	⇓S	**Sn**	**02 22 26.1**	**-2.3**
PISA	**Pisayambo**	0.78	325	⇓P	**Pn**	**02 22 05.0**	**-0.9**
TAMB	**Tambo**	1.08	337	P	**Pn**	**02 22 06.8**	**-1.2**
BMOR	**Cotopaxi Volca**	1.09	331	⇓S	**Sn**	**02 22 30.2**	**-1.9**
BMOR	**Cotopaxi Volca**	1.09	331	⇓P	**Pn**	**02 22 07.3**	**-0.7**
MOV1	**Cotopaxi Vol s**	1.10	333	P	**Pn**	**02 22 07.1**	**-1.0**
COV1	**Cotopaxi Volc**	1.10	338	P	**Pn**	**02 22 07.7**	**-0.5**
BTAM	**Cotopaxi Volca**	1.11	336	⇓P	**Pn**	**02 22 07.1**	**-1.1**
BVC2	**Cotopaxi Volca**	1.14	335	⇓P	**Pn**	**02 22 07.4**	**-1.0**
BREF	**Cotopaxi Volca**	1.14	334	⇓P	**Pn**	**02 22 07.7**	**-0.7**
VC1	**Cotopaxi 1**	1.15	336	P	**Pn**	**02 22 07.4**	**-1.0**
CAMI	**Rancho Maria**	1.16	331	P	**Pn**	**02 22 08.2**	**-0.2**
NAS2	**Nasa**	1.17	333	P	**Pn**	**02 22 08.0**	**-0.6**
PITA	**Cotopaxi Volc**	1.23	336	P	**Pn**	**02 22 08.2**	**-0.7**
ANTI	**Antisana**	1.26	350	⇓P	**Pn**	**02 22 08.0**	**-1.3**
JUA2	**San Juan 2**	1.62	336	P	**Pn**	**02 22 11.6**	**-0.6**
CHAR	**Charly**	1.62	9	P	**Pn**	**02 22 10.5**	**-1.7**
LAV4	**Lava4-Reventad**	1.62	11	⇓P	**Pn**	**02 22 10.1**	**-2.0**
CONE	**Cono NE Rev Vo**	1.64	10	⇓P	**Pn**	**02 22 10.5**	**-1.8**
GGP	**Refugio Guagua**	1.65	336	⇑P	**Pn**	**02 22 12.3**	**-0.4**
TERV	**Terraza Guagua**	1.65	336	P	**Pn**	**02 22 12.3**	**-0.3**
PINO	**Pino**	1.67	336	⇑P	**Pn**	**02 22 12.0**	**-0.8**
CAYR	**Refugio Cayamb**	1.70	358	P	**Pn**	**02 22 12.2**	**-0.9**
CAYA	**Cayambe**	1.76	358	⇓P	**Pn**	**02 22 12.7**	**-0.9**
OTAV	**Otavalo**	1.99	345	⇓P	**Pn**	**02 22 14.8**	**-1.0**
COTA	**Cotacachi**	2.06	349	⇑P	**Pn**	**02 22 16.3**	**-0.3**
YANT	**Yantaza**	2.31	201	⇑P	**Pn**	**02 22 17.4**	**-1.3**
YANT	**Yantaza**	2.31	201	⇑S	**Sn**	**02 22 48.1**	**-3.4**
CATE	**Catamayo**	2.67	212	⇑S	**Sn**	**02 22 58.0**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CATE	Catamayo	2.67	212	⇑P	Pn	02 22 21.9	-1.0
CHIS	Cerro-Chispas-	2.86	283	⇓P	Pn	02 22 24.5	-0.5
ATAH	Atahualpa	5.42	185	P	Pn	02 22 57.9	+0.7
	6.6nm,0.3s,baz=19,slow=8.9,SNR=37						
ATAH				S	Sn	02 23 58.2	-2.3
	3.3nm,0.3s,baz=306,slow=19,SNR=13						
LPAZ	La Paz	17.42	147	P	Pn	02 25 28.3	-0.6
	0.1nm,0.3s,baz=0.0,slow=6.1,SNR=2.6						
SIV	San Ignacio	21.86	131	P	P	02 26 14.1	+0.2
	0.3nm,0.3s,baz=280,slow=12,SNR=3.6						
TEIG	Tepich	24.03	336	P	P	02 26 38.0	+4.3
	6.3nm,1.0s,baz=306,slow=19,SNR=2.6						
TXAR	Lajitas Array	39.47	323	P	P	02 28 53.2	+5.1
	0.3nm,0.6s,baz=153,slow=8.1,SNR=5.9						
PDAR	Pinedale Array	52.63	331	P	P	02 30 33.8	+3.0
	0.3nm,0.6s,baz=125,slow=9.1,SNR=2.9						
YKA	Yellowknife Ar	69.74	343	P	P	02 32 27.7	+2.8
	0.3nm,0.6s,baz=141,slow=6.0,SNR=9.5						
DBIC	Dimbokro	73.41	83	P	P	02 32 48.5	+0.7
	0.5nm,0.3s,baz=243,slow=6.8,SNR=4.7						
TORD	Torodi Ar. Bea	80.29	76	P	P	02 33 26.9	+0.6
	0.4nm,0.4s,baz=283,slow=6.0,SNR=23						
ILAR	Eielson Array	82.69	336	P	P	02 33 41.1	+3.3
	0.6nm,0.8s,baz=123,slow=3.4,SNR=7.7						
QSPA	South Pole Qui	88.37	180	P	P	02 34 07.3	+1.4
	0.6nm,0.3s,baz=149,slow=1.6,SNR=4.6						
ASAR	Alice Springs	140.07	229	PKhKP	PKPpre	02 40 38.0	
	0.2nm,0.4s,baz=115,slow=3.2,SNR=2.8						
WRA	Warramunga Arr	141.73	234	PKhKP	PKPpre	02 40 44.0	
	0.4nm,0.6s,baz=115,slow=2.9,SNR=5.6						

*ATH **03** 02:23:50.9, 36°.72N×26°.67E, h25km±4km, MD3.1/6*
*ISCJB **03** 02:23:51.7±0.6, 36°.64N±0°.03×26°.59E±0°.03, h12km±5km, Error ellipse: s-maj=4.8km s-min=3.9km az=162.0*
*DDA **03** 02:23:51.1, 36°.67N×26°.63E, h3km, MD2.9*
*CSEM **03** 02:23:52.1±0.2, 36°.65N×26°.60E, h15km, MD3.2, Error ellipse: s-maj=4.7km s-min=3.6km az=149.0*
*ISK **03** 02:23:53.5, 36°.70N×26°.63E, h32km, MD3.2*
ISC 03 02:23:50.8±1.3**, 36°.67N**±0°.02**×26°.61E**±0°.02**, h1**km±11km**, n44, σ0s.54**/64**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BODT	Bodrum	0.69	55	PG	Pb	02 24 06.0	+0.4
BODT				SG	Sb	02 24 15.7	+0.1
BODT	Bodrum	0.69	55	iPg	Pb	02 24 06.0	+0.4
BODT				iSg	Sb	02 24 15.7	+0.1
BDRM	Kayabasi	0.78	59	iP	Pg	02 24 06.2	+0.4
BDRM				iS	Sb	02 24 17.1	-1.1
BDRM	Kayabasi	0.78	59	iP	Pg	02 24 06.2	+0.4
BDRM				iS	Sb	02 24 17.1	-1.1
DAT	Datca	0.78	85	PG	Pb	02 24 07.6	+0.4
DAT				SG	Sb	02 24 19.4	+1.1
DAT	Datca	0.78	85	iPg	Pb	02 24 07.6	+0.4
DAT				iSg	Sb	02 24 19.4	+1.1
APE	Apeiranthos	0.96	295	ePG	Pn	02 24 11.3	-0.2
APE				eSG	Sb	02 24 23.5	+0.1
APE	Apeiranthos	0.96	295	ePN	Pb	02 24 10.2	-0.1
APE				eSN	Sb	02 24 23.3	-0.1
APE	Apeiranthos	0.96	295	ePn	Pb	02 24 10.2	-0.1
APE	Apeiranthos	0.96	295	ePg	Pn	02 24 11.3	-0.2
APE				eSn	Sb	02 24 23.3	-0.1
APE				eSg	Sb	02 24 23.5	+0.1
MLSB	Milas	1.12	56	ePN	Pn	02 24 13.8	0.0
MLSB	Milas	1.12	56	ePn	Pn	02 24 13.8	0.0
GCAM	G?zelcaml?	1.15	25	iP	Pg	02 24 12.9	+0.1
GCAM				iS	Sn	02 24 29.8	-0.5
GCAM	G?zelcaml?	1.15	25	iP	Pg	02 24 12.9	+0.1
GCAM				iS	Sn	02 24 29.8	-0.5
KARP	Karpathos	1.20	158	ePN	Pn	02 24 14.6	-0.2
KARP				eSN	Sn	02 24 31.1	-0.7
KARP	Karpathos	1.20	158	ePn	Pn	02 24 14.6	-0.2
KARP				eSn	Sn	02 24 31.1	-0.7
ARG	Arkhangelos	1.30	110	ePN	Pg	02 24 15.8	0.0
ARG				eSN	Sg	02 24 31.8	-0.8
ARG	Arkhangelos	1.30	110	ePn	Pg	02 24 15.8	0.0
ARG				eSn	Sg	02 24 31.8	-0.8
AYDN	Tasoluk	1.42	45	iP	Pn	02 24 17.6	-0.2
AYDN				iS	Sn	02 24 38.2	+1.0
AYDN	Tasoluk	1.42	45	iP	Pn	02 24 17.6	-0.2
AYDN				iS	Sn	02 24 38.2	+1.0
YER	Yerkesik	1.42	70	ePN	Pn	02 24 17.6	-0.2
YER	Yerkesik	1.42	70	ePn	Pn	02 24 17.6	-0.2
ZKR	Zakros	1.58	192	ePN	Pb	02 24 20.8	-0.1
ZKR	Zakros	1.58	192	ePn	Pb	02 24 20.8	-0.1
NPS	Neapolis	1.62	210	ePN	Pn	02 24 20.5	0.0
NPS	Neapolis	1.62	210	ePn	Pn	02 24 20.5	0.0
URLA	Izmir	1.69	360	iP	Pb	02 24 22.5	-0.3
URLA				iS	Sg	02 24 45.5	+0.3
URLA	Izmir	1.69	360	iP	Pb	02 24 22.5	-0.3
URLA				iS	Sg	02 24 45.5	+0.3
BLCB	Balcova	1.75	11	ePN	Pn	02 24 22.6	+0.3
BLCB	Balcova	1.75	11	ePn	Pn	02 24 22.6	+0.3
LAST	Lasithi	1.76	212	ePB	Pn	02 24 22.4	-0.2
LAST	Lasithi	1.76	212	ePb	Pn	02 24 22.4	-0.2
IZM	Izmir	1.80	16	ePN	Pn	02 24 22.7	-0.4
IZM	Izmir	1.80	16	ePn	Pn	02 24 22.7	-0.4
FETY	Fethiye	1.99	90	ePN	Pn	02 24 25.0	-0.6
FETY	Fethiye	1.99	90	ePn	Pn	02 24 25.0	-0.6
SIVA	Sivas	2.20	222	ePB	Pn	02 24 29.7	+1.2
SIVA	Sivas	2.20	222	ePb	Pn	02 24 29.7	+1.2
VAM	Vamos	2.32	238	ePN	Pn	02 24 30.8	+0.6
VAM	Vamos	2.32	238	ePn	Pn	02 24 30.8	+0.6
PRK	Paraskevi	2.59	354	ePN	Pn	02 24 33.1	-0.8
PRK	Paraskevi	2.59	354	ePn	Pn	02 24 33.1	-0.8
ELL	Elmali	2.65	87	ePN	Pn	02 24 35.2	+0.4
ELL	Elmali	2.65	87	ePn	Pn	02 24 35.2	+0.4

JMA 03 02:50:39.5±0.2**, 30°.56N×138°.87E, h465**km**, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.67	17	P	P	02 51 47.1	+1.8
JIE	Ise	4.24	335	P	P	02 51 59.2	+1.7
JWM	Minabe	4.43	319	P	P	02 51 59.6	+0.3
BSO3	Boso 3	4.45	18	P	P	02 52 00.3	+1.2
BSO3				eS	S	02 53 02.8	-1.3
BSO1	Boso 1	4.45	23	P	P	02 52 00.9	+2.2
BSO1				eS	S	02 53 05.1	+1.6
CBIJ	Chichi jima	4.51	139	P	P	02 52 00.1	-0.1
CBIJ				eS	S	02 53 03.1	-2.8
BSO4	Boso 4	4.59	15	eS	S	02 53 05.9	-0.8
JAI	Aioi	4.94	312	P	P	02 52 03.9	-0.1
JRY	Ryogami san	5.44	0	P	P	02 52 10.2	+1.4
JRY				eS	S	02 53 20.6	-1.2
JWT	Wachi	5.54	329	P	P	02 52 10.1	+0.4
JAG	Ashikaga	5.87	5	P	P	02 52 13.3	+0.3
JHO	Hitachi	6.20	13	eS	S	02 53 32.7	-2.8
JFK	Kawauchi	6.99	13	eS	S	02 53 47.4	-3.0

*ISK **03** 03:15:58.7, 39°.01N×40°.51E, h2km, MD3.6*
*DDA **03** 03:15:58.9, 39°.00N×40°.52E, h26km, MD3.4, ML3.6*
*ISCJB **03** 03:15:59.3±0.7, 39°.01N±0°.02×40°.51E±0°.03, h3km±6km, Error ellipse: s-maj=3.8km s-min=3.6km az=5.4*
*CSEM **03** 03:15:59.8±0.2, 39°.03N×40°.50E, h2km, MD3.6, Error ellipse: s-maj=5.0km s-min=3.5km az=155.0*
ISC 03 03:15:58.5±1.1**, 39°.00N**±0°.02**×40°.51E**±0°.02**, h2**km±11km**, n79, σ1s.27**/91**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNGB	Bingˆ¶l	0.13	94	PG	Pg	03 16 02.1	+0.9
BNGB				SG	Sg	03 16 04.5	+1.5
BNGL	BINGOL	0.50	95	iP	Pb	03 16 08.9	-1.3
BNGL				iS	Sb	03 16 17.3	-0.7
VRTB	Varto-Mus	0.75	77	PG	Pb	03 16 13.7	-0.8
VRTB				SG	Sb	03 16 25.1	-0.1
VRTB	Varto-Mus	0.75	77	iPg	Pb	03 16 13.7	-0.8
VRTB				iSg	Sb	03 16 25.2	-0.1
ERZN	Erzincan	0.85	314	ePG	Pb	03 16 15.6	-0.4
KOPT	Kop Dagi	1.02	360	iP	Pb	03 16 18.7	-0.4
KOPT				iS	Sb	03 16 33.3	+0.3
KOPT	Kop Dagi	1.02	360	iP	Pb	03 16 18.7	-0.4
KOPT				iS	Sb	03 16 33.3	+0.3
BTMT	Batman	1.11	136	ePN	Pg	03 16 19.7	-0.2
DIYA	Diyarbakir	1.12	196	iP	Pn	03 16 20.9	-0.4
DIYA				iS	Sn	03 16 36.9	-0.3
DIYA	Diyarbakir	1.12	196	iP	Pn	03 16 20.9	-0.4
DIYA				iS	Sn	03 16 36.9	-0.3
EZM	Erzurum	1.12	36	ePN	Pb	03 16 20.2	-0.6
ERZM	Erzurum	1.12	36	iP	Pb	03 16 20.2	-0.6
ERZM				iS	Sg	03 16 34.6	0.0
ERZM	Erzurum	1.12	36	iP	Pb	03 16 20.2	-0.6
ERZM				iS	Sg	03 16 34.6	0.0
DIY	Diyarbakir	1.12	191	ePN	Pn	03 16 20.9	-0.4
SVRC	Sivrice-ELAZID	1.13	237	ePN	Pn	03 16 21.6	+0.1
SVRC	Sivrice-ELAZID	1.13	237	ePn	Pn	03 16 21.6	+0.1
EZC	Erzincan	1.17	310	ePN	Pn	03 16 21.5	-0.6
EZC	Erzincan	1.17	310	ePn	Pn	03 16 21.5	-0.6
BEST	Besiri	1.26	151	iP	Pb	03 16 22.7	-0.4
BEST				iS	Sb	03 16 39.5	-0.2
ELZG	Elazig	1.29	248	iP	Pg	03 16 22.7	-0.6
ELZG	Elazig	1.29	248	iP	Pg	03 16 22.7	-0.6
BAYT	Ayd˜–ntepe-Bay	1.42	349	ePN	Pg	03 16 26.5	+0.7
BAYT	Ayd˜–ntepe-Bay	1.42	349	ePn	Pg	03 16 26.5	+0.7
KELT	Kelkit	1.50	320	iP	Pg	03 16 27.2	-0.1
KELT	Kelkit	1.50	320	iP	Pg	03 16 27.2	-0.1
ILIC	ilic-Erzincan	1.57	287	ePN	Pg	03 16 28.6	-0.1
ILIC	ilic-Erzincan	1.57	287	ePn	Pg	03 16 28.6	-0.1
KEMA	Kemaliye	1.59	280	iP	Pn	03 16 27.5	-0.3
KEMA				iS	Sg	03 16 50.6	+1.0
KEMA	Kemaliye	1.59	280	iP	Pn	03 16 27.5	-0.3
KEMA				iS	Sg	03 16 50.6	+1.0
GUMT	Gumushane	1.66	332	ePN	Pg	03 16 29.7	-0.7
GUMT	Gumushane	1.66	332	ePn	Pg	03 16 29.7	-0.7
MARD	Mardin	1.70	173	iP	Pn	03 16 29.5	+0.3
MARD				iS	Sb	03 16 52.5	+0.2
MYA	Malataya	1.76	248	ePN	Pb	03 16 31.6	-0.1
MYA	Malataya	1.76	248	ePn	Pb	03 16 31.6	-0.1
MALT	Malatya	1.77	248	ePN	Pg	03 16 32.0	-0.4
MALT	Malatya	1.77	248	ePn	Pg	03 16 32.0	-0.4
AGRB	Hanur-Agry	2.01	73	ePN	Pb	03 16 34.4	-1.5
AGRB	Hanur-Agry	2.01	73	ePn	Pb	03 16 34.4	-1.5
URFA	Urfa	2.05	221	ePN	Pn	03 16 34.6	+0.6
URFA	Urfa	2.05	221	ePn	Pn	03 16 34.7	+0.6
AKCD	Akcadag	2.14	252	iP	Pb	03 16 36.9	-1.3
AKCD	Akcadag	2.14	252	iP	Pb	03 16 36.9	-1.3
VANT	Van	2.23	104	ePN	Pb	03 16 38.6	-1.1
VANT	Van	2.23	104	ePn	Pb	03 16 38.6	-1.1
VANB	Van	2.29	99	ePN	Pb	03 16 39.1	-1.5
VANB	Van	2.29	99	ePn	Pb	03 16 39.1	-1.5
DAGI	Agillar	2.34	27	iP	Pn	03 16 39.0	+0.9
ESPY	Espiye-Giresun	2.35	325	ePN	Pb	03 16 39.4	-2.3
ESPY	Espiye-Giresun	2.35	325	ePn	Pb	03 16 39.4	-2.3
DBOC	Borcka	2.50	20	iP	Pn	03 16 41.1	+0.8
DBOC	Borcka	2.50	20	iP	Pn	03 16 41.1	+0.8
DYDN	Diyadin	2.53	77	iP	Pb	03 16 43.8	-0.9
DYDN				iS	Sg	03 17 17.9	-1.8
DYDN	Diyadin	2.53	77	iP	Pb	03 16 43.8	-0.9
DYDN				iS	Sg	03 17 17.9	-1.8
KARS	Kars	2.56	50	ePN	Pb	03 16 42.7	-2.6
KARS	Kars	2.56	50	ePn	Pb	03 16 42.7	-2.6
BCA	Borcka	2.59	19	ePN	Pn	03 16 42.5	+1.1
BCA	Borcka	2.59	19	ePn	Pn	03 16 42.5	+1.1
CLDR	Caldiran	2.66	86	ePN	Pn	03 16 44.1	+1.5
CLDR	Caldiran	2.66	86	ePn	Pn	03 16 44.1	+1.5
RSDY	Resadiye-TOKAT	2.82	301	ePN	Pn	03 16 46.5	+1.9
RSDY	Resadiye-TOKAT	2.82	301	ePn	Pn	03 16 46.6	+1.9
CUKT	Cukurca	3.01	125	ePN	Pn	03 16 49.6	+2.3
CUKT	Cukurca	3.01	125	ePn	Pn	03 16 49.6	+2.3
GAZ	Gaziantep	3.18	236	ePN	Pn	03 16 51.8	+2.2
GAZ	Gaziantep	3.18	236	ePn	Pn	03 16 51.8	+2.2
KMRS	Kahramanmaras	3.21	243	ePN	Pn	03 16 51.8	+1.8
KMRS	Kahramanmaras	3.21	243	ePn	Pn	03 16 51.8	+1.8
GNI	Garni	3.47	69	ePN	Pn	03 16 55.7	+2.0
GNI	Garni	3.47	69	ePn	Pn	03 16 55.7	+2.0
BNN	Bunyan	3.64	269	ePN	Pn	03 16 57.8	+1.8
BNN	Bunyan	3.64	269	ePn	Pn	03 16 57.8	+1.8
KOZT	Kozan	3.99	249	ePN	Pn	03 17 03.0	+2.4
KOZT	Kozan	3.99	249	ePn	Pn	03 17 03.0	+2.4
YOZ	Yozgat	4.08	281	ePN	Pn	03 17 04.1	+2.1
YOZ	Yozgat	4.08	281	ePn	Pn	03 17 04.1	+2.1
CORM	Corum	4.69	286	ePN	Pn	03 17 13.4	+3.0
CORM	Corum	4.69	286	ePn	Pn	03 17 13.4	+3.0
KAMT	Kaman	5.29	276	ePN	Pn	03 17 21.7	+3.0
KAMT	Kaman	5.29	276	ePn	Pn	03 17 21.7	+3.0

*CRAAG **03** 03:22:41.5, 35°.90N×0°.62W, Ml3.1*
*CSEM **03** 03:22:42.7±0.3, 35°.92N×0°.64W, h20km, ML2.3, Error ellipse: s-maj=6.6km s-min=5.6km az=28.0*
MDD 03 03:22:42.4±0.4**, 35°.97N×0°.64W, h0**km**, mbLg2.3**/7**, Error ellipse: s-maj=6.0km s-min=3.9km az=55.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USTO	Oran	0.24	163	P	Pg	03 22 47.0	0.0
USTO	Oran	0.24	163	P	Pg	03 22 47.0	0.0
OTSS	Djebel Tessala	0.69	191	P	Pg	03 22 55.7	-0.2
OTSS	Djebel Tessala	0.69	191	P	Pg	03 22 55.7	-0.2
OTSS	Djebel Tessala	0.69	191	P	Pg	03 22 55.7	-0.2
OKGL	Djebel Kef Gue	1.04	86	P	Pg	03 23 01.0	-1.4
	37nm,0.2s,SNR=7.9						
OKGL				S	Sg	03 23 16.3	+0.3
	141nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	1.04	86	P	Pg	03 23 01.1	-1.4
OKGL	Djebel Kef Gue	1.04	86	P	Pg	03 23 01.0	-1.5
	37nm,0.2s,SNR=7.9						
OKGL				S	Sg	03 23 16.3	+0.2
	141nm,0.3s,SNR=7.9						
OJGS	Djebel Guires	1.22	112	P	Pg	03 23 05.5	-0.4
OJGS	Djebel Guires	1.22	112	P	Pg	03 23 05.5	-0.4
OJGS	Djebel Guires	1.22	112	P	Pg	03 23 05.5	-0.4
ENIJ	Nijar	1.61	309	P	Pn	03 23 09.6	-2.6
	2.9nm,0.1s,SNR=7.9						
ENIJ				S	Sn	03 23 29.6	-4.2
	6.2nm,0.1s,SNR=7.9						
ENIJ	Nijar	1.61	309	P	Pn	03 23 09.6	-2.6
	2.9nm,0.1s,SNR=7.9						
ENIJ				S	Sn	03 23 29.6	-4.2
	6.2nm,0.1s,SNR=7.9						
EMUR	La Murta	1.93	346	P	Pn	03 23 14.6	-2.0
	2.8nm,0.3s,SNR=13						
EMUR				S	Sn	03 23 37.6	-4.1
	0.7nm,0.1s,SNR=9.2						
EMUR	La Murta	1.93	346	P	Pn	03 23 14.6	-2.0
	2.8nm,0.3s,SNR=13						
EMUR				S	Sn	03 23 37.6	-4.1
	0.7nm,0.1s,SNR=9.2						
EALB	Alboran	1.94	270	S	Sn	03 23 37.2	-4.6
	1.8nm,0.1s,SNR=7.9						
EALB	Alboran	1.94	270	S	Sn	03 23 37.2	-4.6
	1.8nm,0.1s,SNR=7.9						
EHUE	Huescar	2.42	320	P	Pn	03 23 23.3	-0.1
	0.6nm,0.3s,SNR=7.9						
EHUE				S	Sn	03 23 51.1	-2.7
	0.6nm,0.2s,SNR=7.9						
EHUE	Huescar	2.42	320	P	Pn	03 23 23.3	-0.1
	0.6nm,0.3s,SNR=7.9						
EHUE				S	Sn	03 23 51.1	-2.7
	0.6nm,0.2s,SNR=7.9						
EGUA	Guajares	2.52	291	P	Pn	03 23 22.4	-2.2
	2.6nm,0.2s,SNR=7.9						
EGUA				S	Sn	03 23 50.7	-5.3
	0.9nm,0.1s,SNR=7.9						
EGUA	Guajares	2.52	291	P	Pn	03 23 22.4	-2.2
	2.6nm,0.2s,SNR=7.9						
EGUA				S	Sn	03 23 50.7	-5.3
	0.9nm,0.1s,SNR=7.9						
EQES	Quesada	2.68	314	P	Pn	03 23 26.9	0.0
	1.8nm,0.1s,SNR=41						
EQES				S	Sn	03 23 58.4	-1.8
	0.9nm,0.1s,SNR=7.9						
EQES	Quesada	2.68	314	P	Pn	03 23 26.9	0.0
	1.8nm,0.1s,SNR=41						
EQES				S	Sn	03 23 58.4	-1.8
	0.9nm,0.1s,SNR=7.9						
EBEN	Beniarda	2.75	7	P	Pn	03 23 26.2	-1.7
	0.5nm,0.1s,SNR=7.9						
EBEN				S	Sn	03 23 58.2	-3.8
	0.8nm,0.1s,SNR=7.9						
EBEN	Beniarda	2.75	7	P	Pn	03 23 26.2	-1.7
	0.5nm,0.1s,SNR=7.9						
EBEN				S	Sn	03 23 58.2	-3.8
	0.8nm,0.1s,SNR=7.9						
ETOB	Tobarra	2.77	345	P	Pn	03 23 27.3	-0.8
	2.2nm,0.1s,SNR=26						
ETOB				S	Sn	03 23 59.8	-2.6
	2.8nm,0.2s,SNR=7.9						
ETOB	Tobarra	2.77	345	P	Pn	03 23 27.3	-0.9
	2.2nm,0.1s,SNR=26						
ETOB				S	Sn	03 23 59.8	-2.6
	2.8nm,0.2s,SNR=7.9						
EVIA	Vianos	3.05	331	P	Pn	03 23 31.2	-0.9
	2.1nm,0.1s,SNR=7.9						
EVIA				S	Sn	03 24 07.2	-2.3
	0.6nm,0.1s,SNR=7.9						
EVIA	Vianos	3.05	331	P	Pn	03 23 31.2	-0.9
	2.1nm,0.1s,SNR=7.9						
EVIA				S	Sn	03 24 07.2	-2.3
	0.6nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.44	27	P	Pn	03 23 35.4	-1.9
	4.5nm,0.1s,SNR=18						
EIBI				S	Sn	03 24 14.8	-3.9
	2.1nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.44	27	P	Pn	03 23 35.4	-1.9
	4.5nm,0.1s,SNR=18						
EIBI				S	Sn	03 24 14.8	-3.9
	2.1nm,0.1s,SNR=7.9						
EADA	Adamuz	3.84	306	S	Sn	03 24 25.6	-3.1
	0.3nm,0.1s,SNR=7.9						
EADA	Adamuz	3.84	306	S	Sn	03 24 25.6	-3.1
	0.3nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	4.39	2	P	Pn	03 23 50.7	+0.1
	0.2nm,0.3s,SNR=7.9						
EMOS				S	Sn	03 24 38.7	-4.0
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	4.39	2	P	Pn	03 23 50.7	+0.1
	0.2nm,0.3s,SNR=7.9						
EMOS				S	Sn	03 24 38.7	-4.0
	0.1nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	4.54	326	P	Pn	03 23 52.5	0.0
	baz=142,slow=14,SNR=7.9						
ESDC				S	Sn	03 24 42.1	-4.0
	baz=143,slow=24,SNR=7.9						
ESDC	Sonseca Array	4.54	326	P	Pn	03 23 52.5	0.0
	baz=142,slow=14,SNR=7.9						
ESDC				S	Sn	03 24 42.1	-4.0
	baz=143,slow=24,SNR=7.9						
ETOS	Mallorca	4.68	35	P	Pn	03 23 53.9	-0.4
	0.1nm,0.1s,SNR=4.0						
ETOS				S	Sn	03 24 45.5	-3.8
	0.1nm,0.0s,SNR=7.9						
ETOS	Mallorca	4.68	35	P	Pn	03 23 53.9	-0.4
	0.1nm,0.1s,SNR=4.0						
ETOS				S	Sn	03 24 45.5	-3.8
	0.1nm,0.0s,SNR=7.9						
ERTA	Horta de San J	5.04	8	P	Pn	03 23 59.2	-0.2
	0.3nm,0.1s,SNR=7.9						
ERTA				S	Sn	03 24 53.0	-5.3
	0.2nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.04	8	P	Pn	03 23 59.2	-0.1
	0.3nm,0.1s,SNR=7.9						
ERTA				S	Sn	03 24 53.0	-5.3
	0.2nm,0.2s,SNR=7.9						
PBAR	Barrancos	5.57	295	eSn	Sn	03 25 05.6	-5.7
PBAR				A	A	03 25 28.3	
	1.7nm,0.6s						
PBAR	Barrancos	5.57	295	S	Sn	03 25 05.6	-5.7
	1.7nm,0.6s						
PBAR	Barrancos	5.57	295	S	Sn	03 25 05.6	-5.7
	1.7nm,0.6s						
PVAQ	Vaqueiros	5.87	286	ePn	Pn	03 24 08.8	-1.8
PVAQ				eSn	Sn	03 25 11.9	-6.7
PVAQ				A	A	03 25 18.3	
	2.1nm,0.7s						
PVAQ	Vaqueiros	5.87	286	P	Pn	03 24 08.8	-1.8
PVAQ				S	Sn	03 25 11.9	-6.7
	2.1nm,0.7s						
PVAQ	Vaqueiros	5.87	286	P	Pn	03 24 08.8	-1.8
PVAQ				S	Sn	03 25 11.9	-6.7
	2.1nm,0.7s						

MAN 03 03:23:12, 16°.39N×122°.18E, h24km**, mb4.0, ML2.7, MS2.4, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAUP	Cauayan	0.65	328	eP	Pb	03 23 24.8	0.0
PALP	Palanan	0.71	19	eP	Pn	03 23 26.3	-0.3
BALP	Baler	0.87	222	eP	Pb	03 23 27.7	-0.7
BALP				eS	Sn	03 23 41.6	+1.0

*ISCJB **03** 03:23:31.1±0.3, 50°.51N±0°.01×4°.56E±0°.02, h8km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=156.2*
*CSEM **03** 03:23:31.9±0.1, 50°.60N×4°.56E, h5km, ML3.4/17, Error ellipse: s-maj=2.3km s-min=1.8km az=153.0*
*UCC **03** 03:23:32.6±0.3, 50°.63N×4°.57E, h7km, ML2.8*
*LDG **03** 03:23:32.8±0.1, 50°.63N×4°.59E, h5km, Md3.6/3, Ml3.3/40, Error ellipse: s-maj=2.1km s-min=1.4km az=169.0*
*BGR **03** 03:23:33.3±0.7, 50°.63N×4°.64E, h10km, ML3.0/6, Error ellipse: s-maj=6.7km s-min=4.4km az=83.0*
*BNS **03** 03:23:34.4±1.2, 50°.70N×4°.66E, h5km, ML2.9*
*PRU **03** 03:23:34.7, 50°.32N×4°.70E, h0km*
*STR **03** 03:23:38.1±0.3, 50°.30N×4°.84E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 03 03:23:31.2±0.5**, 50°.60N**±0°.01**×4°.58E**±0°.01**, h14**km±3km**, n188, σ1s.81**/299**, 3C-5D, Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNF	Seneffe	0.21	245	⇓P	Pg	03 23 37.0	+1.1
SNF				S	Sg	03 23 39.8	+0.7
	comp=Z,660nm,0.2s						
SNF	Seneffe	0.21	245	P	Pg	03 23 37.0	+1.1
SNF				S	Sg	03 23 39.8	+0.7
	comp=Z,660nm,0.2s						
BRQR	Ronquiˆ¤re	0.23	272	P	Pg	03 23 36.8	+0.6
UCC	Uccle	0.25	325	⇑P	Pg	03 23 37.0	+0.4
UCC				S	Sg	03 23 39.5	-0.6
	comp=N,3µm,0.1s						
UCC	Uccle	0.25	325	P	Pg	03 23 36.9	+0.4
UCC				S	Sg	03 23 39.5	-0.6
	comp=N,3µm,0.1s						
BMRD	Maredsous	0.32	158	P	Pg	03 23 39.5	+1.7
BMRD				S	Sg	03 23 44.4	+2.2
BSKQ	Steenkerk	0.33	279	P	Pg	03 23 38.2	+0.3
BSKQ				S	Sg	03 23 42.9	+0.5
	comp=N,312nm,0.1s						
BGES	Gesves	0.39	123	P	Pg	03 23 40.6	+1.6
BGES				S	Sg	03 23 46.1	+1.8
	comp=N,455nm,0.1s						
BBOU	Bougnies	0.46	243	P	Pg	03 23 41.7	+1.4
BBOU				S	Sg	03 23 48.4	+2.0
	comp=N,445nm,0.2s						
BCLA	Clavier	0.49	111	⇓P	Pg	03 23 42.5	+1.6
BCLA				S	Sg	03 23 49.4	+1.8
	comp=E,223nm,0.2s						
BCLA	Clavier	0.49	111	P	Pg	03 23 42.5	+1.6
BCLA				S	Sg	03 23 49.3	+1.8
	comp=E,223nm,0.2s						
DOU	Dourbes	0.50	179	⇑P	Pb	03 23 43.1	+1.4
DOU				S	Sg	03 23 50.3	+2.4
DOU	Dourbes	0.50	179	P	Pb	03 23 43.1	+1.4
DOU				S	Sg	03 23 50.2	+2.4
GIVF	Givet	0.52	163	ePg	Pb	03 23 43.6	+1.6
	SNR=1.0						
GIVF				eSg	Sg	03 23 50.9	+2.6
	comp=E,277nm,0.3s						
GIVF	Givet	0.52	163	ePg	Pb	03 23 43.6	+1.6
	SNR=1.0						
GIVF				eSg	Sg	03 23 50.9	+2.6
	comp=E,138nm,0.3s						
BAIF	Baives	0.59	204	ePg	Pg	03 23 44.5	+1.7
	SNR=1.0						
BAIF				eSg	Sg	03 23 52.7	+2.1
	comp=E,124nm,0.2s,SNR=1.0						
BAIF	Baives	0.59	204	ePg	Pg	03 23 44.5	+1.7
	SNR=1.0						
BAIF				eSg	Sg	03 23 52.7	+2.1
	comp=E,62nm,0.2s,SNR=1.0						
RCHB	Rochefort	0.60	137	P	Pb	03 23 44.9	+1.4
BSTI	Sart Tilman	0.63	91	P	Pg	03 23 44.4	+0.9
BLCH	La Chartreuse	0.65	86	P	Pg	03 23 44.7	+0.8
BLCH				S	Sg	03 23 52.8	+0.4
BMOL	Mol	0.69	27	P	Pb	03 23 45.8	+0.8
BMOL				S	Sg	03 23 54.3	+0.4
BEBN	Eben Emael	0.72	74	⇓P	Pg	03 23 45.9	+0.6
BEBN				S	Sg	03 23 55.7	+0.9
BEBN	Eben Emael	0.72	74	P	Pg	03 23 45.8	+0.6
BEBN				S	Sg	03 23 55.7	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HGN	Heimansgroeve	0.87	78	ePg	Pg	03 23 49.0	+0.9
HGN	Heimansgroeve	0.87	78	ePg	Pg	03 23 49.0	+0.9
	comp=E,134nm,0.2s,baz=263						
HGN	Heimansgroeve	0.87	78	ePg	Pg	03 23 49.0	+0.9
	comp=E,134nm,0.2s						
MEM	Membach	0.91	89	⇓P	Pg	03 23 49.7	+1.0
MEM				S	Sb	03 24 02.3	+1.6
MEM	Membach	0.91	89	ePg	Pg	03 23 49.8	+1.0
MEM				eSg	Sb	03 24 02.2	+1.6
MEM	Membach	0.91	89	P	Pg	03 23 49.7	+1.0
MEM				S	Sb	03 24 02.2	+1.6
DREG	Dreilaegerbach	1.05	86	ePg	Pg	03 23 52.2	+0.7
DREG				eSg	Sb	03 24 06.8	+2.0
DREG	Dreilaegerbach	1.05	86	Pg	Pg	03 23 52.2	+0.7
DREG				Sg	Sb	03 24 06.8	+2.0
LKLB	Kalborn	1.10	116	P	Pb	03 23 53.9	+2.0
LKLB				S	Sg	03 24 07.5	+0.9
	comp=E,79nm,0.2s						
KLL	Kalltalsperre	1.10	87	⇓ePg	Pg	03 23 53.2	+0.8
KLL	Kalltalsperre	1.10	87	Pg	Pg	03 23 53.2	+0.8
RODG	Roetgen-Dahlhe	1.15	61	ePg	Pb	03 23 54.2	+1.4
RODG	Roetgen-Dahlhe	1.15	61	Pg	Pb	03 23 54.2	+1.4
BZEV	Zevekote	1.20	298	P	Pb	03 23 54.6	+1.0
BZEV				S	Sg	03 24 09.1	-0.7
LVIA	Vianden	1.23	122	P	Pg	03 23 56.3	+1.4
OPLO	Oploo	1.26	37	ePg	Pn	03 23 56.2	+1.9
OPLO				eSg	Sn	03 24 13.1	+2.1
OPLO	Oploo	1.26	37	ePg	Pn	03 23 56.1	+1.9
	baz=224						
OPLO				eSg	Sn	03 24 13.0	+2.1
OPLO	Oploo	1.26	37	Pg	Pn	03 23 56.2	+1.9
OPLO				eSg	Sn	03 24 13.0	+2.1
HILG	Hillesheim	1.37	102	ePg	Pb	03 23 58.4	+1.7
HILG	Hillesheim	1.37	102	Pg	Pb	03 23 58.4	+1.7
WLF	Walferdange	1.38	132	⇑P	Pg	03 23 58.8	+1.2
WLF				S	Sb	03 24 15.6	+1.5
WLF	Walferdange	1.38	132	ePn	Pg	03 23 58.8	+1.2
WLF				eSg	Sb	03 24 15.7	+1.7
WLF	Walferdange	1.38	132	P	Pg	03 23 58.8	+1.2
WLF				S	Sb	03 24 15.5	+1.5
STB	Steinbach	1.44	89	ePg	Pn	03 23 58.8	+2.0
STB				eSg	Sb	03 24 18.1	+2.3
	comp=E,331nm,0.3s						
STB	Steinbach	1.44	89	Pg	Pn	03 23 58.8	+2.0
STB				Sg	Sb	03 24 18.1	+2.3
	comp=E,331nm,0.3s						
LAUG	Laupendahl	1.67	62	ePg	Pn	03 24 01.3	+1.3
LAUG	Laupendahl	1.67	62	Pg	Pn	03 24 01.3	+1.3
BNS	Bensberg	1.69	76	ePg	Pn	03 24 02.6	+2.4
BNS	Bensberg	1.69	76	Pg	Pn	03 24 02.6	+2.4
HOBG	Hohbusch	1.79	76	ePg	Pn	03 24 03.5	+1.9
HOBG	Hohbusch	1.79	76	Pg	Pn	03 24 03.5	+1.9
BGG	Burgeitz	1.81	101	ePg	Pn	03 24 04.4	+2.6
BGG	Burgeitz	1.81	101	Pg	Pn	03 24 04.4	+2.6
RUP	Ruppelstein	1.83	118	Pn	Pn	03 24 05.1	+2.9
RUP				Sg	Sn	03 24 28.8	+3.7
BUG	Bochum--Univer	1.90	62	ePg	Pb	03 24 07.0	+1.5
BUG				eSg	Sb	03 24 31.2	+2.3
WTSB	Winterswijk	1.95	45	ePn	Pn	03 24 05.0	+1.1
WTSB	Winterswijk	1.95	45	ePg	Pn	03 24 04.9	+1.1
	baz=230						
WTSB	Winterswijk	1.95	45	Pn	Pn	03 24 05.0	+1.1
ABH	Alteburg	2.03	109	Pn	Pn	03 24 07.5	+2.5
MEZF	Maizieres J'vi	2.12	172	ePn	Pn	03 24 08.1	+2.0
	baz=354,SNR=1.0						
MEZF	Maizieres J'vi	2.12	172	ePg	Pg	03 24 12.6	+0.8
	baz=345						
MEZF				eSn	Sn	03 24 32.5	+0.3
	comp=E,62nm,0.2s,SNR=1.0						
MEZF				eSg	Sg	03 24 40.5	+1.2
	comp=E,71nm,0.2s						
MEZF	Maizieres J'vi	2.12	172	ePn	Pn	03 24 08.1	+2.0
	baz=354,SNR=1.0						
MEZF	Maizieres J'vi	2.12	172	ePg	Pg	03 24 12.6	+0.8
	baz=345						
MEZF				eSn	Sn	03 24 32.5	+0.3
	comp=E,31nm,0.2s,SNR=1.0						
MEZF				eSg	Sg	03 24 40.5	+1.2
	comp=E,35nm,0.2s						
PAGF	Fort de Pagny	2.17	160	ePn	Pn	03 24 09.7	+2.8
PAGF	Fort de Pagny	2.17	160	ePg	Pg	03 24 13.8	+0.9
	baz=343						
PAGF				eSn	Sn	03 24 34.0	+0.4
PAGF				eSg	Sg	03 24 42.0	+0.9
	comp=E,17nm,0.4s						
PAGF	Fort de Pagny	2.17	160	ePn	Pn	03 24 09.7	+2.8
PAGF	Fort de Pagny	2.17	160	ePg	Pg	03 24 13.8	+0.9
	baz=343						
PAGF				eSn	Sn	03 24 34.0	+0.4
PAGF				eSg	Sg	03 24 42.0	+0.9
	comp=E,8.4nm,0.4s						
SFTF	Sexfontaines	2.41	173	ePn	Pn	03 24 12.4	+2.2
	baz=340						
SFTF	Sexfontaines	2.41	173	ePg	Pg	03 24 18.2	+0.8
	baz=349						
SFTF				eSn	Sn	03 24 39.3	-0.2
SFTF				eSg	Sg	03 24 49.3	+0.6
	comp=E,65nm,0.2s						
SFTF	Sexfontaines	2.41	173	ePn	Pn	03 24 12.4	+2.2
	baz=340						
SFTF	Sexfontaines	2.41	173	ePg	Pg	03 24 18.2	+0.8
	baz=349						
SFTF				eSn	Sn	03 24 39.3	-0.2
SFTF				eSg	Sg	03 24 49.3	+0.6
	comp=E,32nm,0.2s						
TNS	Taunus Mts	2.50	97	ePn	Pn	03 24 13.7	+2.3
TNS				ePg	Pg	03 24 19.8	+0.7
TNS				eSg	Sg	03 24 51.1	-0.5
TNS	Taunus Mts	2.50	97	Pn	Pn	03 24 13.7	+2.3
THEF	They Montfort	2.54	158	Pn	Pn	03 24 14.2	+2.2
THEF	They Montfort	2.54	158	Pn	Pn	03 24 14.2	+2.2
IBBN	Ibbenburen	2.62	48	eSg	Sg	03 24 55.3	-0.1
IBBN	Ibbenburen	2.62	48	Sg	Sg	03 24 55.3	-0.1
LANF	Langenberg	2.64	127	Pn	Pn	03 24 15.6	+2.3
LANF	Langenberg	2.64	127	Pg	Pg	03 24 22.6	+0.8
LANF	Langenberg	2.64	127	Pn	Pn	03 24 15.6	+2.3
LANF	Langenberg	2.64	127	Pg	Pg	03 24 22.6	+0.8
CDF	Champ du Feu	2.80	140	ePn	Pn	03 24 18.5	+2.9
	SNR=1.0						
CDF	Champ du Feu	2.80	140	ePg	Pg	03 24 25.9	+1.0
CDF				eSn	Sn	03 24 49.1	-0.2
CDF				eSg	Sg	03 25 00.8	-0.4
	comp=E,47nm,0.4s						
CDF	Champ du Feu	2.80	140	ePn	Pn	03 24 18.5	+2.9
	SNR=1.0						
CDF	Champ du Feu	2.80	140	ePg	Pg	03 24 25.9	+1.0
CDF				eSn	Sn	03 24 49.1	-0.2
CDF				eSg	Sg	03 25 00.8	-0.4
	comp=E,23nm,0.4s						
HAU	Haudompre	2.84	155	ePn	Pn	03 24 18.4	+2.3
	SNR=1.0						
HAU	Haudompre	2.84	155	ePg	Pg	03 24 26.1	+0.5
HAU				eSn	Sn	03 24 49.7	-0.3
	SNR=1.0						
HAU				eSg	Sg	03 25 02.2	-0.2
	comp=E,41nm,0.2s,SNR=1.0						
HAU	Haudompre	2.84	155	ePn	Pn	03 24 18.4	+2.3
	SNR=1.0						
HAU	Haudompre	2.84	155	ePg	Pg	03 24 26.1	+0.5
HAU				eSn	Sn	03 24 49.7	-0.3
	SNR=1.0						
HAU				eSg	Sg	03 25 02.2	-0.2
	comp=E,21nm,0.2s,SNR=1.0						
ECH	Echery	2.92	144	Pn	Pn	03 24 19.7	+2.6
ECH				Sg	Sb	03 25 02.1	+3.7
ECH	Echery	2.92	144	Pn	Pn	03 24 19.7	+2.6
ECH				Sg	Sb	03 25 02.1	+3.7
HINF	Hinteralfeld	3.16	151	ePn	Pn	03 24 23.2	+2.8
	SNR=1.0						
HINF	Hinteralfeld	3.16	151	ePg	Pg	03 24 31.7	+0.1
HINF				eSn	Sn	03 24 57.5	-0.4
	SNR=1.0						
HINF				eSg	Sg	03 25 11.7	-0.8
	comp=E,30nm,0.3s						
HINF	Hinteralfeld	3.16	151	ePn	Pn	03 24 23.2	+2.8
	SNR=1.0						
HINF	Hinteralfeld	3.16	151	ePg	Pg	03 24 31.7	+0.1
HINF				eSn	Sn	03 24 57.5	-0.4
	SNR=1.0						
HINF				eSg	Sg	03 25 11.7	-0.8
	comp=E,15nm,0.3s						
MOF	Molkenrain	3.22	148	Pn	Pn	03 24 24.0	+2.7
MOF	Molkenrain	3.22	148	Pn	Pn	03 24 24.0	+2.7
LOR	Lormes	3.37	188	ePn	Pn	03 24 25.0	+1.7
	baz=8.8,SNR=1.0						
LOR	Lormes	3.37	188	ePg	Pb	03 24 34.9	+4.3
	baz=6.9						
LOR				eSn	Sn	03 25 02.5	-0.5
LOR				eSg	Sg	03 25 19.4	+0.2
	comp=E,44nm,0.3s,baz=6.5,SNR=1.0						
LOR	Lormes	3.37	188	ePn	Pn	03 24 25.0	+1.7
	baz=8.8,SNR=1.0						
LOR	Lormes	3.37	188	ePg	Pb	03 24 34.9	+4.3
	baz=6.9						
LOR				eSn	Sn	03 25 02.5	-0.5
LOR				eSg	Sg	03 25 19.4	+0.2
	comp=E,22nm,0.3s,baz=6.5,SNR=1.0						
STU	Stuttgart	3.51	120	eSg	Sg	03 25 24.2	+0.4
STU	Stuttgart	3.51	120	Sg	Sg	03 25 24.2	+0.4
FELD	Feldberg im Sc	3.53	139	Pn	Pn	03 24 27.8	+2.2
HYF	Humbligny	3.57	202	ePn	Pn	03 24 28.6	+2.5
HYF	Humbligny	3.57	202	ePg	Pg	03 24 40.9	+1.4
HYF				eSn	Sn	03 25 07.6	-0.4
HYF				eSg	Sg	03 25 24.9	-0.9
HYF	Humbligny	3.57	202	ePn	Pn	03 24 28.6	+2.5
HYF	Humbligny	3.57	202	ePg	Pg	03 24 40.9	+1.4
HYF				eSn	Sn	03 25 07.6	-0.4
HYF				eSg	Sg	03 25 24.9	-0.9
LOMF	Lomont	3.57	155	Pn	Pn	03 24 27.8	+1.6
LOMF	Lomont	3.57	155	Pn	Pn	03 24 27.8	+1.6
SSF	Saint Saulge	3.61	192	ePn	Pn	03 24 28.5	+1.9
	SNR=1.0						
SSF	Saint Saulge	3.61	192	ePg	Pg	03 24 39.7	-0.6
SSF				eSn	Sn	03 25 08.4	-0.6
	SNR=1.0						
SSF				eSg	Sg	03 25 26.8	-0.2
	comp=E,13nm,0.2s,SNR=1.0						
SSF	Saint Saulge	3.61	192	ePn	Pn	03 24 28.5	+1.9
	SNR=1.0						
SSF	Saint Saulge	3.61	192	ePg	Pg	03 24 39.7	-0.6
SSF				eSn	Sn	03 25 08.4	-0.6
	SNR=1.0						
SSF				eSg	Sg	03 25 26.8	-0.2
	comp=E,6.6nm,0.2s,SNR=1.0						
LDF	La Druitiere	3.66	239	ePn	Pn	03 24 29.2	+1.9
	SNR=1.0						
LDF				eSn	Sn	03 25 08.9	-1.3
LDF				eSg	Sg	03 25 27.7	-0.9
	comp=E,18nm,0.3s,SNR=1.0						
LDF	La Druitiere	3.66	239	ePn	Pn	03 24 29.2	+1.9
	SNR=1.0						
LDF				eSn	Sn	03 25 08.9	-1.3
LDF				eSg	Sg	03 25 27.7	-0.9
	comp=E,8.9nm,0.3s,SNR=1.0						
BBS	Basel-Blauen	3.68	147	Pn	Pn	03 24 29.2	+1.6
FLN	La Foliniere	3.77	243	ePn	Pn	03 24 30.8	+2.0
	baz=64,SNR=1.0						
FLN				eSn	Sn	03 25 10.1	-2.7
	SNR=1.0						
FLN				eSg	Sb	03 25 28.2	+5.4
	comp=E,26nm,0.3s,baz=59,SNR=1.0						
FLN	La Foliniere	3.77	243	ePn	Pn	03 24 30.8	+2.0
	baz=64,SNR=1.0						
FLN				eSg	Sb	03 25 28.2	+5.4
	comp=E,13nm,0.3s,baz=59,SNR=1.0						
AVF	Avril sur Loir	3.90	193	ePn	Pn	03 24 32.0	+1.5
	SNR=1.0						
AVF				eSn	Sn	03 25 13.6	-2.4
	SNR=1.0						
AVF				eSg	Sg	03 25 35.2	-1.0
	comp=E,12nm,0.5s,SNR=1.0						
AVF	Avril sur Loir	3.90	193	ePn	Pn	03 24 32.0	+1.5
	SNR=1.0						
AVF				eSn	Sn	03 25 13.6	-2.4
	SNR=1.0						
AVF				eSg	Sg	03 25 35.2	-1.0
	comp=E,6.0nm,0.5s,SNR=1.0						
SMF	Signal de Mont	3.99	187	ePn	Pn	03 24 34.2	+2.4
	SNR=1.0						
SMF				eSn	Sn	03 25 17.1	-1.2
	SNR=1.0						
SMF				eSg	Sg	03 25 37.7	-1.4
	comp=E,15nm,0.2s						
SMF	Signal de Mont	3.99	187	ePn	Pn	03 24 34.2	+2.4
	SNR=1.0						
SMF				eSn	Sn	03 25 17.1	-1.2
	SNR=1.0						
SMF				eSg	Sg	03 25 37.7	-1.4
	comp=E,7.7nm,0.2s						
CABF	La Chapelle	4.11	165	ePn	Pn	03 24 36.3	+2.7
	SNR=1.0						
CABF				eSn	Sn	03 25 20.2	-1.3
CABF				eSg	Sg	03 25 43.3	+0.1
	comp=E,18nm,0.4s						
CABF	La Chapelle	4.11	165	ePn	Pn	03 24 36.3	+2.7
	SNR=1.0						
CABF				eSn	Sn	03 25 20.2	-1.3
CABF				eSg	Sg	03 25 43.3	+0.1
	comp=E,8.9nm,0.4s						
GRR	Gorron	4.18	240	ePn	Pn	03 24 36.2	+1.8
	SNR=1.0						
GRR				eSn	Sn	03 25 20.6	-2.4
	comp=E,16nm,0.2s,SNR=1.0						
GRR	Gorron	4.18	240	ePn	Pn	03 24 36.2	+1.8
	SNR=1.0						
GRR				eSn	Sn	03 25 20.6	-2.4
	comp=E,8.2nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	4.20	197	ePn	Pn	03 24 36.8	+2.0
	SNR=1.0						
BGF	Bois d'Agland	4.20	197	ePg	Pg	03 24 51.2	-0.5
BGF				eSn	Sn	03 25 21.1	-2.5
	SNR=1.0						
BGF				eSg	Sg	03 25 43.7	-2.4
	comp=E,50nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	4.20	197	ePn	Pn	03 24 36.8	+2.0
	SNR=1.0						
BGF	Bois d'Agland	4.20	197	ePg	Pg	03 24 51.2	-0.5
BGF				eSg	Sg	03 25 43.7	-2.4
	comp=E,25nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	4.59	201	ePn	Pn	03 24 42.0	+1.8
	SNR=1.0						
TCF				eSn	Sn	03 25 30.8	-2.5
	SNR=1.0						
TCF				eSg	Sg	03 25 57.3	-1.2
	comp=E,9.7nm,0.3s,SNR=1.0						
TCF	Toulx Ste Croi	4.59	201	ePn	Pn	03 24 42.0	+1.8
	SNR=1.0						
TCF				eSn	Sn	03 25 30.8	-2.5
	SNR=1.0						
TCF				eSg	Sg	03 25 57.3	-1.2
	comp=E,4.8nm,0.3s,SNR=1.0						
AGO	Saint Agoulin	4.65	193	Pn	Pn	03 24 43.3	+2.4
AGO	Saint Agoulin	4.65	193	Pn	Pn	03 24 43.3	+2.4
PLDF	La Plantade	4.67	188	Pn	Pn	03 24 43.6	+2.3
PLDF	La Plantade	4.67	188	Pn	Pn	03 24 43.6	+2.3
PYM	Petit Puy Mans	4.96	193	Pn	Pn	03 24 47.7	+2.4
PYM	Petit Puy Mans	4.96	193	Pn	Pn	03 24 47.7	+2.4
NKC	Novy Kostel	5.04	91	eSG	Sg	03 26 10.5	-2.5
	comp=E,4.5nm,0.4s						
NKC	Novy Kostel	5.04	91	Sg	Sg	03 26 10.5	-2.5
	comp=E,4.5nm,0.4s						
MFF	Saint Martin d	5.08	220	ePn	Pn	03 24 48.3	+1.5
	SNR=1.0						
MFF				eSn	Sn	03 25 41.6	-3.6
	SNR=1.0						
MFF				eSg	Sg	03 26 10.3	-3.9
	comp=E,14nm,0.4s,SNR=1.0						
MFF	Saint Martin d	5.08	220	ePn	Pn	03 24 48.3	+1.5
	SNR=1.0						
MFF				eSg	Sg	03 26 10.3	-3.9
	comp=E,6.9nm,0.4s,SNR=1.0						
SGMF	Saint Gilles	5.22	246	ePn	Pn	03 24 49.9	+1.2
	SNR=1.0						
SGMF				eSn	Sn	03 25 46.2	-2.3
SGMF				eSg	Sg	03 26 16.5	-2.0
	comp=E,6.7nm,0.4s						
SGMF	Saint Gilles	5.22	246	ePn	Pn	03 24 49.9	+1.2
	SNR=1.0						
SGMF				eSn	Sn	03 25 46.2	-2.3
SGMF				eSg	Sg	03 26 16.5	-2.0
	comp=E,3.3nm,0.4s						
LPL	La Plagne	5.28	163	ePn	Pn	03 24 52.0	+2.2
	SNR=1.0						
LPL				eSn	Sn	03 25 49.1	-1.5
	comp=E,3.7nm,0.4s						
LPL	La Plagne	5.28	163	ePn	Pn	03 24 52.0	+2.2
	SNR=1.0						
LPL				eSn	Sn	03 25 49.1	-1.5
	comp=E,1.9nm,0.4s						
LPG	La Plagne	5.31	163	ePn	Pn	03 24 52.5	+2.3
	SNR=1.0						
LPG				eSn	Sn	03 25 47.2	-4.0
	comp=E,5.2nm,0.3s,SNR=1.0						
LPG	La Plagne	5.31	163	ePn	Pn	03 24 52.5	+2.3
	SNR=1.0						
CLL	Collm	5.37	79	eSg	Sg	03 26 21.8	-1.6
CLL	Collm	5.37	79	Sg	Sg	03 26 21.8	-1.6
LBL	Lubilhac	5.44	190	Pn	Pn	03 24 54.4	+2.5
LBL	Lubilhac	5.44	190	Pn	Pn	03 24 54.4	+2.5
ROSF	Rostrenen	5.60	249	ePn	Pn	03 24 54.7	+0.8
	SNR=1.0						
ROSF				eSn	Sn	03 25 52.7	-5.3
	comp=E,11nm,0.8s,SNR=1.0						
ROSF				eSg	Sg	03 26 28.0	-2.8
	comp=E,3.4nm,0.3s						
ROSF	Rostrenen	5.60	249	ePn	Pn	03 24 54.7	+0.8
	SNR=1.0						
RJF	Les Rejaudoux	5.68	202	ePn	Pn	03 24 56.2	+1.1
	SNR=1.0						
RJF				eSn	Sn	03 25 57.8	-2.3
RJF	Les Rejaudoux	5.68	202	ePn	Pn	03 24 56.2	+1.1
	SNR=1.0						
QUIF	Quistinic	5.74	245	ePn	Pn	03 24 56.8	+1.0
	SNR=1.0						
QUIF				eSn	Sn	03 25 57.8	-3.6
QUIF	Quistinic	5.74	245	ePn	Pn	03 24 56.8	+1.0
	SNR=1.0						
VIVF	Saint-Julien-l	5.75	179	ePn	Pn	03 24 57.5	+1.5
	SNR=1.0						
VIVF				eSn	Sn	03 25 58.3	-3.4
	comp=E,3.9nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	5.75	179	ePn	Pn	03 24 57.5	+1.5
	SNR=1.0						
ORIF	Oris-en-Rattie	5.75	171	ePn	Pn	03 24 58.0	+1.9
	SNR=1.0						
ORIF				eSn	Sn	03 25 59.3	-2.6
	comp=E,3.5nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	5.75	171	ePn	Pn	03 24 58.0	+1.9
	SNR=1.0						
CAF	Calviac	5.92	198	ePn	Pn	03 25 00.1	+1.7
	SNR=1.0						
CAF				eSn	Sn	03 26 02.3	-3.8
	SNR=1.0						
CAF	Calviac	5.92	198	ePn	Pn	03 25 00.1	+1.7
	SNR=1.0						
BRG	Berggiesshubel	5.95	84	SG	Sg	03 26 39.0	-3.0
	comp=E,2.0nm,0.6s						
KHC	Kasperske Hory	6.00	101	ePN	Pn	03 25 04.3	+4.8
KHC				ex	x	03 25 22.0	
KHC				eSG	Sg	03 26 39.1	-4.5
MBDF	Montbardon	6.06	165	eP	Pn	03 25 04.6	+4.2
	SNR=1.0						
MBDF				eSn	Sn	03 26 07.1	-2.4
	comp=E,3.0nm,0.3s						
MBDF	Montbardon	6.06	165	eP	Pn	03 25 04.6	+4.2
	SNR=1.0						
LFF	La Frestale	6.22	206	ePn	Pn	03 25 04.4	+1.9
	SNR=1.0						
LFF				eSn	Sn	03 26 09.4	-4.0
	SNR=1.0						
LFF	La Frestale	6.22	206	ePn	Pn	03 25 04.4	+1.9
	SNR=1.0						
LASF	Ste Croix	6.54	185	ePn	Pn	03 25 09.5	+2.6
	SNR=1.0						
LASF				eSg	Sg	03 26 59.0	-2.1
	comp=E,13nm,0.9s						
LASF	Ste Croix	6.54	185	ePn	Pn	03 25 09.5	+2.6
	SNR=1.0						
SMRF	Simiane la Rot	6.66	174	ePn	Pn	03 25 11.6	+3.1
	SNR=1.0						
SMRF				eSn	Sn	03 26 21.5	-2.7
	comp=E,1.9nm,0.4s						
SMRF	Simiane la Rot	6.66	174	ePn	Pn	03 25 11.6	+3.1
	SNR=1.0						
FRF	La Foret Royal	7.18	168	ePn	Pn	03 25 18.0	+2.4
	SNR=1.0						
FRF				eSn	Sn	03 26 33.1	-3.8
	comp=E,4.3nm,0.2s,SNR=1.0						
FRF	La Foret Royal	7.18	168	ePn	Pn	03 25 18.0	+2.4
	SNR=1.0						
LMR	La Mourre	7.38	169	ePn	Pn	03 25 20.1	+1.7
	SNR=1.0						
LMR				eSn	Sn	03 26 38.4	-3.6
	comp=E,6.1nm,0.8s,SNR=1.0						
LMR	La Mourre	7.38	169	eSn	Sn	03 26 38.4	-3.6
	comp=E,3.0nm,0.8s,SNR=1.0						
LMR	La Mourre	7.38	169	ePn	Pn	03 25 20.1	+1.7
	SNR=1.0						
EPF	Esparros	8.11	203	ePn	Pn	03 25 28.0	-0.4
	SNR=1.0						
EPF				eSn	Sn	03 26 56.0	-3.8
	comp=E,1.5nm,0.2s						
EPF	Esparros	8.11	203	ePn	Pn	03 25 28.0	-0.4
	SNR=1.0						
ETSF	Etsaut	8.47	207	eSn	Sn	03 27 03.0	-5.8
	comp=E,1.1nm,0.3s						
SJPF	Ste Jean	8.48	210	ePn	Pn	03 25 34.2	+0.8
	SNR=1.0						
SJPF				eSn	Sn	03 27 04.8	-4.0
	comp=E,0.8nm,0.2s						
SJPF	Ste Jean	8.48	210	ePn	Pn	03 25 34.2	+0.8
	SNR=1.0						

IDC 03 03:53:01.6±1.3, 83.38N×114.48E, h0km, mb3.3/6, mb1 3.6/6, mb1mx3.3/29, mbtmp3.4/6, MS3.0/3, Ms1 3.1/3, ms1mx2.7/44, Error ellipse: s-maj=57.9km s-min=22.5km az=137.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RES	Resolute Bay	21.46	21	P	P	03 57 51.0	+0.1
	0.5nm,0.7s,baz=342,slow=13,SNR=2.7						
INK	Inuvik	25.06	54	P	P	03 58 27.4	+0.5
	1.3nm,1.0s,baz=4.3,slow=7.5,SNR=3.6						
ILAR	Eielson Array	27.14	68	LR	LR	04 10 41.6	
	comp=Z,32nm,21.1s,baz=344,slow=39						
ZALV	Zalesovo Beam	30.60	215	LR	LR	04 11 38.1	
	comp=Z,32nm,20.3s,baz=61,slow=36						
YKA	Yellowknife Ar	32.39	41	P	P	03 59 32.6	+0.3
	0.2nm,1.0s,baz=352,slow=8.7,SNR=3.9						
MKAR	Makanchi Array	37.89	217	P	P	04 00 19.8	-0.1
	0.5nm,0.9s,baz=0.9,slow=7.4,SNR=3.8						
MKAR				LR	LR	04 16 51.4	
	comp=Z,20nm,18.6s,baz=170,slow=38						
TXAR	Lajitas Array	66.14	36	P	P	04 03 49.6	-0.8
	1.2nm,1.1s,baz=347,slow=5.1,SNR=6.3						
TORD	Torodi Ar. Bea	79.59	294	P	P	04 05 10.4	+0.2
	0.4nm,0.7s,baz=357,slow=5.1,SNR=3.4						

IDC 03 03:59:35.7±1.0, 13.86N×124.34E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/25, mbtmp3.9/9, ML4.6/1, MS3.2/2, Ms1 3.3/2, ms1mx2.6/31, Error ellipse: s-maj=41.9km s-min=17.6km az=63.0

MAN 03 03:59:39, 14.01N×124.12E, h13km, mb4.6, ML3.5, MS3.5

MAN INTENSITY III - BAGAMANOC CATANDUANES.

ISCJB 03 03:59:40.5±0.6, 14.02N±0.05×124.17E±0.06, h36km, mb3.9/11, MS3.1/2, Error ellipse: s-maj=9.5km s-min=6.2km az=144.4

NEIC 03 03:59:40.8±0.6, 13.84N×124.28E, h35km, mb4.0/3, Error ellipse: s-maj=17.9km s-min=10.9km az=60.0

NEIC Felt [III PIVS] at Bagamanoc.

ISC 03 03:59:41.8±0.6, 14.00N±0.08×124.17E±0.08, h36km, n28, σ1§15/28, mb4.0/11, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	Virac	0.40	182	eP	Pn	03 59 48.0	-2.8
CNP	Catarman	1.55	162	eP	Pn	04 00 06.7	-0.2
AUQP	San Andres	1.60	245	eP	Pn	04 00 07.7	+0.2
GQP	Guinayangan	1.68	267	⇓eP	Pn	04 00 07.0	-1.6
GQP				i S	Sn	04 00 28.4	-0.4
BOAC	Boac	2.32	257	eP	Pn	04 00 17.0	-0.5
PLP	Palo	2.92	164	⇓eP	Pn	04 00 27.5	+1.7
PLP				eS	Sn	04 01 01.2	+1.6
BALP	Baler	3.05	305	eP	Pn	04 00 26.4	-1.1
TGY	Tagaytay City	3.14	272	Pn	Pn	04 00 29.8	+1.0
	62nm,0.3s,baz=140,slow=7.9,SNR=2.5						
TGY	Tagaytay City	3.14	272	Pn	Pn	04 00 29.8	+1.0
LUBP	Lubang	3.82	267	eP	Pn	04 00 39.5	+1.4
CMAR	Chiang Mai Arr	24.61	284	P	P	04 04 59.0	0.0
	1.0nm,0.3s,baz=97,slow=8.4,SNR=4.2						
CMAR				LR	LR	04 14 52.3	
	comp=Z,38nm,19.7s,baz=90,slow=37						
CMAR	Chiang Mai Arr	24.61	284	P	P	04 04 59.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.18	163	P	P	04 06 29.1	-3.4
	1.2nm,0.6s,baz=341,slow=9.3,SNR=11						
WRA	Warramunga Arr	35.18	163	P	P	04 06 29.1	-3.4
ULN	Ulaanbaatar	36.64	341	eP	P	04 06 45.5	+0.5
	0.9nm,0.6s						
SONM	Songino Array	36.83	340	P	P	04 06 47.8	+1.2
	0.3nm,0.4s,baz=159,slow=11,SNR=4.2						
SONM	Songino Array	36.83	340	P	P	04 06 47.8	+1.2
ASAR	Alice Springs	38.62	166	P	P	04 07 00.3	-1.4
	1.4nm,0.5s,baz=338,slow=6.2,SNR=20						
ASAR	Alice Springs	38.62	166	P	P	04 07 00.3	-1.4
MKAR	Makanchi Array	47.84	322	P	P	04 08 16.6	+0.5
	0.4nm,0.7s,baz=101,slow=7.6,SNR=3.7						
MKAR	Makanchi Array	47.84	322	P	P	04 08 16.6	+0.5
EKS2	Erkin-Say	51.77	314	eP	P	04 08 45.8	-0.4
	1.9nm,0.7s						
KURK	Kurchatov	51.85	325	eP	P	04 08 47.3	+0.9
	1.1nm,0.6s						
KURBB	Kurchatov Arra	51.86	325	P	P	04 08 47.8	+1.4
	0.9nm,0.5s,baz=120,slow=7.9,SNR=5.9						
KURBB				LR	LR	04 32 59.5	
	comp=Z,25nm,18.6s,baz=240,slow=38						
ARCES	ARCESS Array B	80.00	339	P	P	04 11 47.2	+0.1
	2.0nm,0.8s,baz=79,slow=6.5,SNR=6.6						
ARCES	ARCESS Array B	80.00	339	P	P	04 11 47.2	+0.1
FINES	FINESS Array B	81.66	331	P	P	04 11 56.5	+0.5
	1.0nm,0.6s,baz=103,slow=8.2,SNR=5.1						
FINES	FINESS Array B	81.66	331	P	P	04 11 56.5	+0.5

*ISCJB **03** 03:59:42.6±0.3, 28°.10N±0°.03×57°.62E±0°.04, h10km, mb4.1/30, MS3.4/6, Error ellipse: s-maj=5.3km s-min=3.8km az=12.7*

*IDC **03** 03:59:42.1±0.8, 27°.95N×57°.67E, h0km, mb4.0/22, mb1 4.1/27, mb1mx4.0/40, mbtmp4.1/27, ML4.0/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/53, Error ellipse: s-maj=19.0km s-min=14.6km az=162.0*

*OMAN **03** 03:59:43.4±99.0, 28°.12N×57°.97E, h10km, Error ellipse: s-maj=149.4km s-min=19.3km az=13.0*

*CSEM **03** 03:59:44.7±0.2, 28°.09N×57°.72E, h15km, mb4.4/9, Error ellipse: s-maj=7.4km s-min=5.0km az=101.0*

*TEH **03** 03:59:48.4, 28°.12N×57°.50E, h17km, ML4.0*

*NEIC **03** 03:59:48.5, 28°.11N×57°.50E, h17km, mb4.6/7, MN4.0(TEH), After TEH.*

*THR **03** 03:59:50.8±0.5, 28°.16N×57°.26E, h14km±7km, ML4.2*

ISC 03 03:59:43.5±0.4, **27°.99N**±0°.03×**57°.78E**±0°.04, **h10km, n186, σ1.51**/166, **mb4.2**/30, **MS3.4**/6, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBND	Bandar-abas	1.23	244	eSg	Sg	04 00 26.4	+3.3
IBND				ePg	Pg	04 00 09.8	+2.7
IBND				e		04 00 39.8	
	comp=Z,98µm,0.2s						
KRBR	Kerman	2.18	336	ePg	Pg	04 00 25.1	-0.2
KRBR				AML	AML	04 01 03.1	
	comp=E,3µm,0.6s						
KRBR				AML	AML	04 01 04.3	
	comp=N,3µm,0.6s						
KRBR	Kerman	2.18	336	ePg	Pg	04 00 25.1	-0.2
BANOM	Banah	2.45	213	P	Pn	04 00 24.7	+1.1
	SNR=99						
BANOM	Banah	2.45	213	P	Pn	04 00 24.7	+1.1
	SNR=99						
BANOM				Sn	Sn	04 00 56.0	+2.4
HATD	Hatta, Dubai	3.48	206	Pn	Pn	04 00 37.6	-0.2
ASHO	Ashiyiah	3.64	206	P	Pn	04 00 42.7	+2.7
	SNR=33						
ASHO				P	Pn	04 00 42.7	+2.7
	SNR=6.9						
ASHO	Ashiyiah	3.64	206	Pn	Pn	04 00 41.5	+1.5
	SNR=33						
ASHO	Ashiyiah	3.64	206	P	Pn	04 00 42.7	+2.7
	SNR=6.9						
FAQ	Al Faqa, Dubai	3.78	212	Pn	Pn	04 00 43.7	+1.8
	SNR=12						
ASUD	Al Ashush, Dub	4.01	214	P	Pn	04 00 48.1	+3.1
	SNR=7.7						
ASUD	Al Ashush, Dub	4.01	214	Pn	Pn	04 00 47.4	+2.4
	SNR=7.7						
ASUD	Al Ashush, Dub	4.01	214	P	Pn	04 00 48.1	+3.1
	SNR=7.7						
IBAF	Bafgh	4.07	332	e	Sg	04 02 06.6	+12
	comp=Z,2µm,0.3s						
GHIR	Ghir-Karzin	4.25	275	ePn	Pn	04 00 50.7	+2.3
GHIR				Sn	Sn	04 01 34.5	-3.7
GHIR				AML	AML	04 01 41.4	
	comp=E,276nm,0.4s						
GHIR				AML	AML	04 01 41.4	
	comp=N,272nm,0.4s						
GHIR	Ghir-Karzin	4.25	275	ePn	Pn	04 00 50.7	+2.3
IMEH	Mehriz	4.37	322	Pn	Pn	04 00 54.1	+3.9
IMEH	Mehriz	4.37	322	ePn	Pn	04 00 53.8	+3.6
IMEH				e		04 02 12.0	
	comp=Z,2µm,0.3s						
IMEH	Mehriz	4.37	322	ePn	Pn	04 00 53.8	+3.6
ARQ	Araqi	4.77	194	P	Pn	04 00 57.7	+2.2
	SNR=9.1						
ARQ				P	Pn	04 00 57.8	+2.2
	SNR=18						
ARQ	Araqi	4.77	194	P	Pn	04 00 57.7	+2.2
	SNR=9.1						
WSAR	Wadi Sarin	4.79	171	Pn	Pn	04 00 56.1	+0.3
	comp=Z,5.3nm,0.3s,baz=351,slow=10,SNR=25						
WSAR				Sn	Sn	04 01 48.5	-3.0
	comp=Z,9.8nm,0.3s,baz=62,slow=19,SNR=9.7						
WSAR	Wadi Sarin	4.79	171	Pn	Pn	04 00 56.1	+0.3
WSAR				Sn	Sn	04 01 48.5	-3.0
WSAR	Wadi Sarin	4.79	171	Pn	Pn	04 00 56.1	+0.3
WSAR				Sn	Sn	04 01 48.5	-3.0
ICHK	Chekchek	5.15	326	Pn	Pn	04 01 05.1	+4.2
ICHK	Chekchek	5.15	326	ePn	Pn	04 01 04.6	+3.7
ICHK				e		04 02 41.0	
	comp=Z,2µm,0.3s						
ICHK	Chekchek	5.15	326	ePn	Pn	04 01 04.6	+3.7
BSY	Bisya	5.25	186	P	Pn	04 01 04.4	+2.3
	SNR=8.0						
BSYO	Bisya	5.26	185	P	Pn	04 01 04.4	+2.1
	SNR=8.0						
WBK	Wadi Bani Khal	5.46	168	P	Pn	04 01 06.5	+1.4
	SNR=8.7						
WBK	Wadi Bani Khal	5.46	168	P	Pn	04 01 06.5	+1.4
	SNR=8.7						
TABS	Tabas	5.67	354	ePn	Pn	04 01 14.0	+6.1
TABS				AML	AML	04 03 06.2	
	comp=N,109nm,0.7s						
TABS	Tabas	5.67	354	ePn	Pn	04 01 14.0	+6.1
NASN	Na'in	6.44	319	ePN5	Pn	04 01 22.2	+3.5
IGAR	Gharneh	6.64	313	ePn	Pn	04 01 24.6	+3.3
IGAR				e		04 01 25.6	
	comp=Z,430nm,0.1s						
IZEF	Zefreh	6.79	317	Pn	Pn	04 01 26.5	+3.1
IZEF	Zefreh	6.79	317	ePn	Pn	04 01 26.6	+3.1
IZEF	Zefreh	6.79	317	ePn	Pn	04 01 26.6	+3.1
SLWS		7.15	245	P	Pn	04 01 28.6	+0.4
SLWS				S	Sn	04 02 44.5	-5.0
SLWS		7.15	245	P	Pn	04 01 28.6	+0.4
SLWS				S	Sn	04 02 44.5	-5.0
BTHS		7.37	239	P	Pn	04 01 31.4	+0.1
BTHS				S	Sn	04 02 49.4	-5.6
BTHS		7.37	239	P	Pn	04 01 31.4	+0.1
BTHS				S	Sn	04 02 49.4	-5.6
IKLH	Kolahrood	7.53	316	Pn	Pn	04 01 36.9	+3.2
IKLH	Kolahrood	7.53	316	ePn	Pn	04 01 37.0	+3.2
IKLH				e		04 04 29.2	
	comp=Z,347nm,0.8s						
IKLH	Kolahrood	7.53	316	Pn	Pn	04 01 36.9	+3.2
IPIR	Pirpir	7.57	310	Pn	Pn	04 01 37.3	+3.0
IPIR				Sn	Sn	04 02 57.6	-2.7
IPIR	Pirpir	7.57	310	ePn	Pn	04 01 37.6	+3.3
IPIR				e		04 03 07.8	
	comp=Z,486nm,0.2s						
IPIR	Pirpir	7.57	310	Pn	Pn	04 01 37.3	+3.0
IPIR				Sn	Sn	04 02 57.6	-2.7
BOQSS		7.80	256	P	Pn	04 01 37.2	+0.1
BOQSS				S	Sn	04 03 00.8	-4.7
BOQSS		7.80	256	P	Pn	04 01 37.2	+0.1
BOQSS				S	Sn	04 03 00.8	-4.7
IANJ	Anjilo	8.15	337	Pn	Pn	04 01 46.1	+4.0
IANJ	Anjilo	8.15	337	ePn	Pn	04 01 46.2	+4.1
IANJ				e		04 02 38.3	
	comp=Z,157nm,0.5s						
IANJ	Anjilo	8.15	337	ePn	Pn	04 01 46.2	+4.1
IMOG	Moghan	8.20	9	ePn	Pn	04 01 49.9	+7.0
IMOG	Moghan	8.20	9	ePn	Pn	04 01 49.9	+7.0
ISRO	Mashad	8.42	9	eSg	Sg	04 04 19.2	+5.6
IMYA	Miami	8.55	13	ePn	Pn	04 01 53.8	+6.2
IMYA	Miami	8.55	13	ePn	Pn	04 01 53.8	+6.2
ISHM	Shahmirzad	8.68	335	Pn	Pn	04 01 53.6	+4.2
ISHM	Shahmirzad	8.68	335	ePn	Pn	04 01 53.5	+4.2
ISHM				e		04 02 44.6	
	comp=Z,166nm,0.3s						
ISHM	Shahmirzad	8.68	335	Pn	Pn	04 01 53.6	+4.2
QRN	Al-Qurain	8.72	277	eP	Pn	04 01 49.3	-0.5
KBD	Kabd	8.95	280	eP	Pn	04 01 52.4	-0.5
KBD				AML	AML	04 03 27.0	
	comp=Z,10nm,0.4s						
KBD	Kabd	8.95	280	eP	Pn	04 01 52.4	-0.5
MIB	Mutribah	9.33	284	eP	Pn	04 01 58.2	+0.1
MIB				AML	AML	04 03 40.3	
	comp=Z,47nm,0.5s						
MIB	Mutribah	9.33	284	eP	Pn	04 01 58.2	+0.1
NAY	Al-Naaiem	9.35	280	eP	Pn	04 01 58.4	0.0
NAY				AML	AML	04 03 40.4	
	comp=Z,31nm,0.6s						
NAY	Al-Naaiem	9.35	280	eP	Pn	04 01 58.4	0.0
GNI	Garni	16.22	322	Pn	Pn	04 03 32.5	+0.8
	comp=Z,1.2nm,0.3s,baz=221,slow=10,SNR=9.7						
GNI	Garni	16.22	322	Pn	Pn	04 03 32.5	+0.8
GNI	Garni	16.22	322	Pn	Pn	04 03 32.5	+0.8
ASF	Jabal al Asfar	18.55	288	Pn	P	04 03 58.4	-2.1
	comp=Z,0.7nm,0.3s,baz=345,slow=3.9,SNR=12						
ASF	Jabal al Asfar	18.55	288	Pn	P	04 03 58.4	-2.1
KBZ	Khabaz	19.75	327	P	P	04 04 13.6	+0.1
	comp=Z,0.1nm,0.3s,baz=238,slow=19,SNR=2.3						
KBZ	Khabaz	19.75	327	P	P	04 04 13.6	+0.1
KBZ	Khabaz	19.75	327	P	P	04 04 13.6	+0.1
MMAI	Mount Meron Ar	19.91	290	P	P	04 04 15.3	-0.1
	comp=Z,0.8nm,0.3s,baz=89,slow=12,SNR=7.0						
MMAI	Mount Meron Ar	19.91	290	P	P	04 04 15.3	-0.1
MMAI	Mount Meron Ar	19.91	290	P	P	04 04 15.3	-0.1
AAK	Ala-Archa	19.93	38	P	Pn	04 04 18.1	+0.8
	comp=Z,1.8nm,0.7s,baz=212,slow=11,SNR=5.4						
AAK				LR	LR	04 12 49.6	
	comp=Z,46nm,20.6s,baz=289,slow=39						
AAK	Ala-Archa	19.93	38	P	Pn	04 04 18.1	+0.8
AAK	Ala-Archa	19.93	38	P	Pn	04 04 18.1	+0.8
ATD	Arta Tunnel	21.54	223	LR	LR	04 14 16.1	
	comp=Z,53nm,18.4s,baz=159,slow=41						
AKTO	Aktyubinsk	22.41	0	P	P	04 04 43.5	+1.3
	comp=Z,4.7nm,0.6s,baz=164,slow=11,SNR=20						
AKTO				LR	LR	04 14 22.0	
	comp=Z,74nm,18.6s,baz=351,slow=39						
AKTO	Aktyubinsk	22.41	0	P	P	04 04 43.5	+1.3
AKTO	Aktyubinsk	22.41	0	P	P	04 04 43.5	+1.3
BRTR	Keskin Array B	23.14	307	P	P	04 04 50.6	+0.5
	comp=Z,10nm,0.9s,baz=118,slow=9.9,SNR=52						
BRTR	Keskin Array B	23.14	307	P	P	04 04 50.6	+0.5
BRTR	Keskin Array B	23.14	307	P	P	04 04 50.7	+0.5
BVAR	Borovoye Array	26.70	17	P	P	04 05 23.7	+0.9
	comp=Z,4.3nm,0.7s,baz=196,slow=9.7,SNR=26						
BVAR				LR	LR	04 17 27.3	
	comp=Z,124nm,18.7s,baz=343,slow=40						
BVAR	Borovoye Array	26.70	17	P	P	04 05 23.7	+0.9
BVAR	Borovoye Array	26.70	17	P	P	04 05 23.7	+0.9
MKAR	Makanchi Array	26.86	39	P	P	04 05 25.6	+1.3
	comp=Z,1.7nm,0.7s,baz=225,slow=8.4,SNR=22						
MKAR	Makanchi Array	26.86	39	P	P	04 05 25.6	+1.3
MKAR	Makanchi Array	26.86	39	P	P	04 05 25.6	+1.3
KURBB	Kurchatov Arra	27.54	29	P	P	04 05 31.3	+1.0
	comp=Z,1.7nm,0.6s,baz=227,slow=8.6,SNR=20						
KURK	Kurchatov	27.65	29	P	P	04 05 31.3	0.0
KURK	Kurchatov	27.65	29	P	P	04 05 31.3	0.0
ZALV	Zalesovo Beam	32.63	30	P	P	04 06 16.0	+0.7
	comp=Z,3.1nm,0.3s,baz=250,slow=9.6,SNR=28						
ZALV	Zalesovo Beam	32.63	30	P	P	04 06 16.0	+0.7
ZALV	Zalesovo Beam	32.63	30	P	P	04 06 16.0	+0.7
GTA	Gaotai	36.48	61	eP	P	04 06 51.0	+2.0
GTA				pP	pP	04 06 57.1	+5.0
GTA				sP	sP	04 07 00.4	+7.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VRAC	Vranov	37.95	316	LR	LR	04 23 39.1	
	comp=Z,60nm,18.5s,baz=226,slow=38						
JOF	Joensuu	38.98	341	ep	P	04 07 08.3	-1.3
	comp=Z,2.4nm,0.8s						
JOF	Joensuu	38.98	341	eP	P	04 07 08.3	-1.3
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	39.56	337	P	P	04 07 15.3	+0.8
	comp=Z,1.5nm,0.5s,baz=128,slow=10,SNR=18						
FINES	FINESS Array B	39.56	337	P	P	04 07 15.3	+0.8
FINES	FINESS Array B	39.56	337	P	P	04 07 15.4	+0.8
GERES	GERESS Array B	39.63	314	P	P	04 07 16.1	+0.7
	comp=Z,0.2nm,0.6s,baz=95,slow=9.0,SNR=4.7						
GERES				PcP	PcP	04 09 21.9	-0.4
	comp=Z,0.5nm,0.7s,baz=103,slow=4.2,SNR=4.2						
GERES				LR	LR	04 26 07.0	
	comp=Z,50nm,18.3s,baz=167,slow=40						
GERES	GERESS Array B	39.63	314	P	P	04 07 16.1	+0.7
GERES				PcP	PcP	04 09 21.9	-0.4
GERES	GERESS Array B	39.63	314	P	P	04 07 16.1	+0.7
GERES	GERESS Array B	39.63	314	PcP	PcP	04 09 22.0	-0.4
KHC	Kasperske Hory	39.79	314	eP	P	04 07 16.5	-0.2
KHC				epP	pP	04 07 27.0	+7.2
KHC	Kasperske Hory	39.79	314	P	P	04 07 16.5	-0.2
SONM	Songino Array	42.36	49	P	P	04 07 39.4	+1.4
	comp=Z,0.6nm,0.7s,baz=257,slow=9.6,SNR=6.1						
SONM	Songino Array	42.36	49	P	P	04 07 39.4	+1.4
SONM	Songino Array	42.36	49	P	P	04 07 39.4	+1.4
MBDF	Montbardon	43.61	307	eP	P	04 07 45.9	-2.3
	comp=Z,9.3nm,0.8s						
MBDF	Montbardon	43.61	307	eP	P	04 07 45.9	-2.3
	comp=Z,9.3nm,0.8s						
MBDF	Montbardon	43.61	307	eP	P	04 07 45.9	-2.3
	comp=Z,9.3nm,0.8s						
LPG	La Plagne	43.70	308	eP	P	04 07 47.5	-1.5
	comp=Z,9.1nm,0.9s						
LPG	La Plagne	43.70	308	eP	P	04 07 47.5	-1.5
	comp=Z,9.1nm,0.9s						
LPG	La Plagne	43.70	308	eP	P	04 07 47.5	-1.5
	comp=Z,9.1nm,0.9s						
LPL	La Plagne	43.71	308	eP	P	04 07 46.8	-2.3
	comp=Z,6.5nm,0.9s						
LPL	La Plagne	43.71	308	eP	P	04 07 46.8	-2.3
	comp=Z,6.5nm,0.9s						
LPL	La Plagne	43.71	308	eP	P	04 07 46.8	-2.3
	comp=Z,6.5nm,0.9s						
HFS	Hagfors	43.77	330	P	P	04 07 48.4	-0.7
	comp=Z,2.5nm,0.8s,baz=133,slow=8.7,SNR=5.1						
HFS	Hagfors	43.77	330	P	P	04 07 48.4	-0.7
HFS	Hagfors	43.77	330	P	P	04 07 48.4	-0.7
HINF	Hinteralfeld	43.90	311	eP	P	04 07 48.8	-1.5
	comp=Z,2.9nm,0.5s						
HINF	Hinteralfeld	43.90	311	eP	P	04 07 48.8	-1.5
	comp=Z,2.9nm,0.5s						
HINF	Hinteralfeld	43.90	311	eP	P	04 07 48.8	-1.5
	comp=Z,2.9nm,0.5s						
NB2	NORSAR Subarra	45.27	330	P	P	04 07 59.4	-1.7
	comp=Z,1.7nm,0.8s,baz=116,slow=7.9						
NB2	NORSAR Subarra	45.27	330	P	P	04 07 59.4	-1.7
	comp=Z,1.7nm,0.8s,baz=116,slow=7.9,SNR=3.7						
NOA	NORSAR Array B	45.27	330	P	P	04 07 59.6	-1.5
	comp=Z,1.3nm,0.9s,baz=101,slow=7.2,SNR=3.5						
NOA	NORSAR Array B	45.27	330	P	P	04 07 59.6	-1.5
NOA	NORSAR Array B	45.27	330	P	P	04 07 59.6	-1.5
ARCES	ARCESS Array B	45.57	345	P	P	04 08 02.4	-0.9
	comp=Z,1.9nm,0.7s,baz=140,slow=8.0,SNR=17						
ARCES	ARCESS Array B	45.57	345	P	P	04 08 02.4	-0.9
ARCES	ARCESS Array B	45.57	345	P	P	04 08 02.4	-0.9
SSF	Saint Saulge	46.08	310	eP	P	04 08 05.7	-1.9
SSF	Saint Saulge	46.08	310	eP	P	04 08 05.7	-1.9
SSF	Saint Saulge	46.08	310	eP	P	04 08 05.7	-1.9
BGF	Bois d'Agland	46.49	309	eP	P	04 08 08.5	-2.4
	comp=Z,5.4nm,0.7s						
BGF	Bois d'Agland	46.49	309	eP	P	04 08 08.5	-2.4
	comp=Z,5.4nm,0.7s						
BGF	Bois d'Agland	46.49	309	eP	P	04 08 08.5	-2.4
	comp=Z,5.4nm,0.7s						
TCF	Toulx Ste Croi	46.92	308	eP	P	04 08 12.8	-1.5
	comp=Z,5.1nm,0.8s						
TCF	Toulx Ste Croi	46.92	308	eP	P	04 08 12.8	-1.5
	comp=Z,5.1nm,0.8s						
TCF	Toulx Ste Croi	46.92	308	eP	P	04 08 12.8	-1.5
	comp=Z,5.1nm,0.8s						
CAF	Calviac	46.97	307	eP	P	04 08 13.7	-1.0
	comp=Z,6.5nm,0.9s						
CAF	Calviac	46.97	307	eP	P	04 08 13.7	-1.0
	comp=Z,6.5nm,0.9s						
CAF	Calviac	46.97	307	eP	P	04 08 13.7	-1.0
	comp=Z,6.5nm,0.9s						
RJF	Les Rejaudoux	47.36	307	eP	P	04 08 16.7	-1.0
RJF	Les Rejaudoux	47.36	307	eP	P	04 08 16.7	-1.0
RJF	Les Rejaudoux	47.36	307	eP	P	04 08 16.7	-1.0
LFF	La Frestale	47.91	307	eP	P	04 08 21.1	-0.8
LFF	La Frestale	47.91	307	eP	P	04 08 21.1	-0.8
LFF	La Frestale	47.91	307	eP	P	04 08 21.1	-0.8
ESDC	Sonseca Array	51.69	300	P	P	04 08 50.1	-0.8
	comp=Z,0.7nm,0.6s,baz=68,slow=7.5,SNR=8.4						
ESDC	Sonseca Array	51.69	300	P	P	04 08 50.1	-0.8
ESDC	Sonseca Array	51.69	300	P	P	04 08 50.1	-0.8
SPITS	Spitsbergen Ar	53.59	350	P	P	04 09 04.3	0.0
	comp=Z,5.3nm,0.8s,baz=156,slow=15,SNR=4.1						
SPITS	Spitsbergen Ar	53.59	350	P	P	04 09 04.3	0.0
SPITS	Spitsbergen Ar	53.59	350	P	P	04 09 04.3	0.0
TORD	Torodi Ar. Bea	54.12	266	P	P	04 09 08.6	-0.4
	comp=Z,7.8nm,0.5s,baz=62,slow=7.3,SNR=275						
TORD	Torodi Ar. Bea	54.12	266	P	P	04 09 08.6	-0.4
DBIC	Dimbokro	62.77	263	P	P	04 10 09.3	-0.2
	comp=Z,1.3nm,0.8s,baz=70,slow=7.5,SNR=3.6						
DBIC	Dimbokro	62.77	263	P	P	04 10 09.3	-0.2
FRB	Frobisher Bay	79.33	339	P	P	04 11 48.7	-0.4
	comp=Z,3.4nm,0.9s,baz=46,slow=2.1,SNR=7.9						
FRB	Frobisher Bay	79.33	339	P	P	04 11 48.7	-0.4
FRB	Frobisher Bay	79.33	339	P	P	04 11 48.7	-0.4
INK	Inuvik	83.63	4	P	P	04 12 11.9	+0.1
	comp=Z,0.2nm,0.3s,baz=270,slow=1.0,SNR=4.9						
INK	Inuvik	83.63	4	P	P	04 12 11.9	+0.1
INK	Inuvik	83.63	4	P	P	04 12 11.9	+0.1
ILAR	Eielson Array	85.56	10	P	P	04 12 20.6	-1.0
	comp=Z,0.2nm,0.6s,baz=324,slow=4.8,SNR=6.2						
ILAR	Eielson Array	85.56	10	P	P	04 12 20.6	-1.0
ILAR	Eielson Array	85.56	10	P	P	04 12 20.6	-1.0
WRA	Warramunga Arr	87.99	114	P	P	04 12 34.8	+0.6
	comp=Z,0.6nm,0.8s,baz=319,slow=3.9,SNR=6.5						
WRA	Warramunga Arr	87.99	114	P	P	04 12 34.8	+0.6
WRA	Warramunga Arr	87.99	114	P	P	04 12 34.8	+0.6
YKA	Yellowknife Ar	89.63	356	P	P	04 12 41.4	+0.2
	comp=Z,0.5nm,0.7s,baz=360,slow=5.4,SNR=13						
YKA	Yellowknife Ar	89.63	356	P	P	04 12 41.5	+0.2
YKA	Yellowknife Ar	89.63	356	P	P	04 12 41.5	+0.2
RCBR	Riachuelo	95.95	267	LR	LR	04 56 31.8	
	comp=Z,43nm,19.1s,baz=223,slow=36						
TXAR	Lajitas Array	120.30	341	PKP	PKPdf	04 18 35.2	-0.4
	comp=Z,0.2nm,0.8s,baz=111,slow=4.9,SNR=3.7						
TXAR	Lajitas Array	120.30	341	PKP	PKPdf	04 18 35.2	-0.4

*OMAN **03** 04:03:59.8±99.0, 29°.12N×58°.08E, h3km±999km, Error ellipse: s-maj=2603.0km s-min=40.9km az=359.0*

*IDC **03** 04:04:13.0±1.3, 28°.10N×57°.53E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.6/32, mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=29.1km s-min=20.3km az=140.0*

*ISCJB **03** 04:04:15.6±0.5, 28°.00N±0°.04×57°.92E±0°.06, h30km, mb3.8/8, Error ellipse: s-maj=7.7km s-min=4.8km az=14.5*

*TEH **03** 04:04:15.7, 28°.04N×57°.72E, h17km, ML3.6*

*CSEM **03** 04:04:17.0±0.5, 27°.95N×57°.73E, h15km, ML3.6, Error ellipse: s-maj=13.1km s-min=6.1km az=80.0*

ISC 03 04:04:16.8±0.8, **27°.93N**±0°.05×**57°.86E**±0°.07, **h30km, n43, σ1.36**/46, **mb3.7**/8, **1C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBND	Bandar-abas	1.26	248	ePg	Pn	04 04 39.4	+1.0
IBND				eSg	Sb	04 04 56.7	+0.8
IBND				e		04 05 03.0	
	comp=Z,38µm,0.3s						
IBND	Bandar-abas	1.26	248	ePg	Pn	04 04 39.4	+1.0
IBND				eSg	Sb	04 04 56.7	+0.8
BANOM	Banah	2.44	215	P	Pn	04 04 55.5	+0.9
	SNR=22						
BANOM	Banah	2.44	215	P	Pn	04 04 55.8	+1.2
BANOM				S	Sn	04 05 25.4	+2.0
HATD	Hatta, Dubai	3.46	207	P	Pn	04 05 08.1	-0.6
NAZ	Nazwa, Dubai	3.53	214	P	Pn	04 05 11.4	+1.8
ASHO	Ashiyiah	3.61	207	P	Pn	04 05 13.2	+2.3
	SNR=22						
ASHO	Ashiyiah	3.61	207	P	Pn	04 05 12.5	+1.7
FAQ	Al Faqa, Dubai	3.77	213	P	Pn	04 05 14.3	+1.4
IBAF	Bafgh	4.16	332	ePn	Pn	04 05 19.7	+1.3
IBAF				e		04 05 34.9	
	comp=Z,549nm,0.2s						
IBAF	Bafgh	4.16	332	ePn	Pn	04 05 19.7	+1.3
ISRV	Sarvestan	4.41	290	ePn	Pn	04 05 22.9	+0.8
ISRV	Sarvestan	4.41	290	ePn	Pn	04 05 22.9	+0.8
IMEH	Mehriz	4.46	321	ePn	Pn	04 05 23.5	+0.9
IMEH				e		04 05 44.9	
	comp=Z,552nm,0.2s						
IMEH	Mehriz	4.46	321	ePn	Pn	04 05 23.5	+0.9
IPAR	Pars	4.63	295	ePn	Pn	04 05 26.2	+1.2
IPAR				e		04 06 29.3	
	comp=N,1µm,0.2s						
IPAR	Pars	4.63	295	ePn	Pn	04 05 26.2	+1.2
WSAR	Wadi Sarin	4.72	171	Pn	Pn	04 05 27.6	+1.5
	comp=N,6.2nm,0.3s,baz=355,slow=13,SNR=19						
WSAR				Sn	Sn	04 06 18.4	-1.5
	comp=N,17nm,0.3s,baz=139,slow=15,SNR=11						
ARQ	Araqi	4.73	195	P	Pn	04 05 28.6	+2.4
	SNR=18						
ARQ	Araqi	4.73	195	P	Pn	04 05 28.6	+2.4
	SNR=18						
ICHK	Chekchek	5.24	326	ePn	Pn	04 05 33.5	+0.2
ICHK	Chekchek	5.24	326	ePn	Pn	04 05 33.5	+0.2
WBK	Wadi Bani Khal	5.39	169	⇑P	Pn	04 05 37.1	+1.8
WBK	Wadi Bani Khal	5.39	169	P	Pn	04 05 37.1	+1.8
IGAR	Gharneh	6.72	313	ePn	Pn	04 05 54.8	+1.1
IGAR				e		04 05 56.0	
	comp=Z,236nm,0.1s						
IZEF	Zefreh	6.88	317	ePn	Pn	04 05 56.9	+1.0
IZEF				e		04 05 58.8	
	comp=Z,54nm,0.2s						
IZEF	Zefreh	6.88	317	ePn	Pn	04 05 56.9	+1.0
IPIR	Pirpir	7.66	310	e		04 06 11.5	
	comp=Z,168nm,0.2s						
IPIR				ePn	Pn	04 06 07.8	+1.1
KBD	Kabd	9.03	280	eP	Pn	04 06 23.8	-1.3
KBD	Kabd	9.03	280	eP	Pn	04 06 23.8	-1.3
MIB	Mutribah	9.41	284	eP	Pn	04 06 29.0	-1.4
MIB				AML	AML	04 08 08.3	
	comp=Z,7.7nm,0.5s						
MIB	Mutribah	9.41	284	eP	Pn	04 06 29.0	-1.4
NAY	Al-Naaiem	9.42	281	eP	Pn	04 06 29.4	-1.2
NAY				AML	AML	04 08 10.0	
	comp=Z,5.4nm,0.4s						
NAY	Al-Naaiem	9.42	281	eP	Pn	04 06 29.4	-1.2
AAK	Ala-Archa	19.94	38	P	Pn	04 08 48.4	+0.2
	comp=Z,0.1nm,0.3s,baz=196,slow=15,SNR=3.8						
AKTO	Aktyubinsk	22.48	0	P	P	04 09 11.9	-1.7
	comp=Z,1.1nm,0.5s,baz=218,slow=17,SNR=1.9						
BRTR	Keskin Array B	23.23	307	P	P	04 09 17.1	-4.5
	comp=Z,2.6nm,0.7s,baz=116,slow=9.7,SNR=14						
BVAR	Borovoye Array	26.74	17	P	P	04 09 51.9	-1.7
	comp=Z,0.7nm,0.5s,baz=195,slow=11,SNR=4.8						
MKAR	Makanchi Array	26.87	39	P	P	04 09 56.0	+1.1
	comp=Z,0.4nm,0.6s,baz=221,slow=8.2,SNR=3.6						
KURBB	Kurchatov Arra	27.56	29	P	P	04 10 01.9	+0.9
	comp=Z,0.3nm,0.4s,baz=226,slow=8.6,SNR=3.5						
ZALV	Zalesovo Beam	32.65	30	P	P	04 10 46.3	+0.4
	comp=Z,1.0nm,0.3s,baz=228,slow=8.9,SNR=6.7						
FINES	FINESS Array B	39.64	337	P	P	04 11 44.6	-0.9
	comp=Z,4.7nm,1.1s,baz=130,slow=9.9,SNR=5.3						
TORD	Torodi Ar. Bea	54.18	266	P	P	04 13 39.1	-0.7
	comp=Z,4.3nm,0.5s,baz=62,slow=7.2,SNR=68						

IDC 03 04:10:15.5±1.5, **3°.98N**×**126°.80E, h0km, mb3.4**/4, **mb1 3.5**/4, **mb1mx3.4**/23, **mbtmp3.4**/4, **Error ellipse: s-maj=133.4km s-min=25.4km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.90	163	P	P	04 15 40.4	0.0
	0.8nm,0.5s,baz=343,slow=10,SNR=7.2						
SONM	Songino Array	47.08	341	P	P	04 18 49.6	+0.3
	0.1nm,0.4s,baz=156,slow=7.6,SNR=2.2						
MKAR	Makanchi Array	57.39	325	P	P	04 20 05.8	0.0
	0.2nm,0.5s,baz=118,slow=7.9,SNR=7.9						
KURBB	Kurchatov Arra	61.57	327	P	P	04 20 34.0	-0.5
	0.3nm,0.3s,baz=118,slow=8.0,SNR=3.3						

*IDC **03** 04:16:58.1±0.7, 3°.84S×151°.49E, h0km, mb4.1/16,*

mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML4.0/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/33, Error ellipse: s-maj=23.4km s-min=16.1km az=104.0

*ISCJB **03** 04:16:60.0±0.5, 3°.79S±0°.07×151°.4E±0°.1, h21km, mb4.1/21, MS3.7/13, Error ellipse: s-maj=17.7km s-min=9.1km az=17.2*

*NEIC **03** 04:16:59.8±0.5, 3°.77S×151°.43E, h10km, mb4.4/10, Error ellipse: s-maj=16.1km s-min=8.3km az=104.0*

ISC 03 04:17:01.4±0.6, 3°.81S±0°.08×151°.5E±0°.1, h21km, n53, σ1s.05/45, mb4.2/21, MS3.7/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.02	217	Pn	Pn	04 18 45.0	+1.9
	3.6nm,0.3s,baz=74,slow=4.7,SNR=3.9						
PMG	Port Moresby	7.02	217	Pn	Pn	04 18 45.0	+1.9
CTA	Charters Tower	16.96	197	Pn	P	04 20 58.6	-0.8
	0.4nm,0.3s,baz=13,slow=14,SNR=2.3						
CTA	Charters Tower	16.96	197	Pn	P	04 20 58.6	-0.8
CTAO	Charters Tower	16.96	197	ePn	Pn	04 20 55.9	-1.7
	52nm,1.5s						
WRAB	Tennant Creek	23.14	225	eP	P	04 22 05.5	-1.0
	5.3nm,0.6s						
WRA	Warramunga Arr	23.16	225	P	P	04 22 05.7	-1.0
	2.2nm,0.5s,baz=48,slow=9.9,SNR=20						
WRA	Warramunga Arr	23.16	225	P	P	04 22 05.7	-1.0
DZM	Mont Dzumac	23.25	143	eP	P	04 22 08.7	+1.0
	188nm,1.3s						
DZM				eLR	LR	04 27 46.6	
	828nm,24.9s						
DZM	Mont Dzumac	23.25	143	P	P	04 22 07.8	+0.1
	25nm,0.8s,baz=284,slow=23,SNR=7.1						
DZM				LR	LR	04 28 14.9	
	comp=Z,110nm,21.3s,baz=9.9,slow=29						
DZM	Mont Dzumac	23.25	143	eP	P	04 22 07.9	+0.3
DZM				eS	Px	04 22 14.7	
DZM	Mont Dzumac	23.25	143	eP	P	04 22 09.0	+1.3
	56nm,0.9s						
ASAR	Alice Springs	26.03	219	P	P	04 22 32.2	-1.2
	1.4nm,0.6s,baz=57,slow=8.4,SNR=9.6						
ASAR				LR	LR	04 32 57.0	
	comp=Z,151nm,18.5s,baz=44,slow=37						
ASAR	Alice Springs	26.03	219	P	P	04 22 32.2	-1.2
FITZ	Fitzroy Crossi	29.00	239	P	P	04 22 58.5	-1.5
	1.6nm,0.9s,baz=76,slow=8.3,SNR=2.9						
FITZ				LR	LR	04 35 35.8	
	comp=Z,101nm,19.3s,baz=64,slow=38						
FITZ	Fitzroy Crossi	29.00	239	eP	P	04 22 59.5	-0.5
	3.6nm,0.9s						
STKA	Stephens Creek	29.43	197	LR	LR	04 33 53.5	
	comp=Z,300nm,21.0s,baz=289,slow=34						
JOW	Kunigami	37.82	325	LR	LR	04 37 55.7	
	comp=Z,102nm,18.6s,baz=120,slow=33						
JHJ	Hachijo jima 2	38.36	344	LR	LR	04 37 14.0	
	comp=Z,137nm,18.6s,baz=244,slow=32						
KSRS	Korea Array	46.53	334	LR	LR	04 43 21.1	
	comp=Z,69nm,18.7s,baz=315,slow=34						
ASAJ	Asahikawa	48.37	351	LR	LR	04 46 34.8	
	comp=Z,106nm,18.1s,baz=178,slow=37						
USRK	Ussuriysk Arra	50.89	342	P	P	04 26 01.5	+0.7
	1.3nm,0.7s,baz=152,slow=4.8,SNR=2.7						
USRK				LR	LR	04 47 01.9	
	comp=Z,58nm,18.7s,baz=18,slow=35						
CMAR	Chiang Mai Arr	56.26	295	P	P	04 26 41.5	+0.7
	0.9nm,0.4s,baz=120,slow=5.0,SNR=5.0						
CMAR	Chiang Mai Arr	56.26	295	P	P	04 26 41.5	+0.7
PETK	Petropavlovsk-	56.95	4	P	P	04 26 44.2	-0.8
	1.7nm,0.5s,baz=172,slow=8.9,SNR=4.7						
PETK				LR	LR	04 47 52.0	
	comp=Z,55nm,19.0s,baz=192,slow=32						
PETK	Petropavlovsk-	56.95	4	P	P	04 26 44.2	-0.8
PPT2	Papeete2	59.29	108	eLR	LR	04 44 36.6	
	103nm,24.5s						
FX1	Attu Island--F	59.37	15	LR	LR	04 49 29.0	
	comp=Z,44nm,18.4s,baz=246,slow=33						
TBI	Tubuai	60.17	115	eLR	LR	04 44 48.5	
	116nm,31.0s						
ULN	Ulaanbaatar	64.46	329	eP	P	04 27 36.0	-0.6
	1.5nm,0.8s						
SONM	Songino Array	64.78	328	P	P	04 27 37.5	-1.2
	0.6nm,0.6s,baz=139,slow=4.4,SNR=5.7						
SONM				LR	LR	04 54 04.3	
	comp=Z,109nm,20.3s,baz=121,slow=34						
SONM	Songino Array	64.78	328	P	P	04 27 37.5	-1.2
MKAR	Makanchi Array	78.71	319	P	P	04 29 04.1	+1.8
	1.0nm,0.8s,baz=92,slow=7.2,SNR=7.2						
MKAR	Makanchi Array	78.71	319	P	P	04 29 04.1	+1.8
ZALV	Zalesovo Beam	79.60	327	P	P	04 29 07.0	0.0
	0.8nm,0.6s,baz=114,slow=3.6,SNR=3.3						
ZALV				LR	LR	05 02 05.0	
	comp=Z,77nm,19.2s,baz=108,slow=34						
ZALV	Zalesovo Beam	79.60	327	P	P	04 29 07.0	0.0
MCK	McKinley	80.46	23	eP	P	04 29 11.5	+0.1
	9.4nm,1.0s						
ILAR	Eielson Array	81.75	22	P	P	04 29 17.1	-1.2
	1.2nm,0.6s,baz=245,slow=5.0,SNR=22						
ILAR	Eielson Array	81.75	22	P	P	04 29 17.1	-1.2
KURK	Kurchatov	82.17	322	eP	P	04 29 20.8	0.0
	1.9nm,0.8s						
KURBB	Kurchatov Arra	82.20	322	P	P	04 29 22.0	+1.1
	1.0nm,0.7s,baz=104,slow=4.4,SNR=9.0						
AAK	Ala-Archa	83.02	314	P	P	04 29 27.4	+1.7
	1.4nm,0.6s,baz=144,slow=17,SNR=2.2						
AAK	Ala-Archa	83.02	314	eP	P	04 29 25.7	+0.1
	1.5nm,0.8s						
KKAR	Karatay Array	85.99	314	eP	P	04 29 40.8	+0.4
	3.5nm,1.1s						
DLBC	Dease Lake	87.22	31	P	P	04 29 46.4	+0.2
	2.1nm,1.0s,baz=158,slow=16,SNR=2.3						
BVAR	Borovoye Array	87.66	323	P	P	04 29 49.4	+1.1
	2.3nm,0.9s,baz=107,slow=5.1,SNR=8.8						
BVAR	Borovoye Array	87.66	323	P	P	04 29 49.4	+1.1
INK	Inuvik	88.01	21	P	P	04 29 50.0	+0.4
	2.4nm,1.0s,baz=219,slow=4.1,SNR=5.7						
INK	Inuvik	88.01	21	eP	P	04 29 49.9	+0.3
	4.0nm,1.0s						
TORD	Torodi Ar. Bea	148.74	289	PKPbc	PKPbc	04 36 47.9	-0.4
	2.5nm,0.8s,baz=94,slow=2.1,SNR=11						
TORD	Torodi Ar. Bea	148.74	289	PKPbc	PKPbc	04 36 47.9	-0.4
BDFB	Brasilia	152.70	136	PKPbc	PKPbc	04 36 58.8	+0.9
	3.8nm,0.9s,baz=214,slow=3.6,SNR=2.7						
BDFB	Brasilia	152.70	136	PKPbc	PKPbc	04 36 58.8	+0.9

IDC 03 04:23:22.3±2.7, 12°.15N×144°.18E, h43km±27km, mb3.5/8, mb1 3.7/8, mb1mx3.5/25, mbtmp3.5/8, Error ellipse: s-maj=40.0km s-min=15.4km az=105.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.58	25	P	Pn	04 23 46.4	-1.5
	107nm,0.3s,baz=184,slow=7.7,SNR=20						
GUMO				S	Sn	04 24 07.4	+0.2
	157nm,0.3s,baz=153,slow=23,SNR=21						
WRA	Warramunga Arr	33.33	197	P	P	04 29 56.1	-0.3
	0.8nm,0.8s,baz=20,slow=9.8,SNR=7.8						
ASAR	Alice Springs	36.99	196	P	P	04 30 28.4	+0.5
	0.5nm,0.6s,baz=19,slow=10,SNR=6.1						
PETK	Petropavlovsk-	42.26	12	P	P	04 31 12.9	+1.5
	5.2nm,0.9s,baz=171,slow=3.8,SNR=3.5						
SONM	Songino Array	47.52	326	P	P	04 31 53.1	-0.4
	0.5nm,0.9s,baz=140,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	62.06	317	P	P	04 33 39.1	+0.4
	0.5nm,0.6s,baz=94,slow=8.9,SNR=8.0						
ILAR	Eielson Array	70.15	25	P	P	04 34 29.0	-1.2
	0.3nm,0.6s,baz=251,slow=5.6,SNR=6.5						
YKA	Yellowknife Ar	84.44	27	P	P	04 35 50.9	+0.7
	0.2nm,0.6s,baz=286,slow=4.7,SNR=4.2						
FINES	FINESS Array B	92.17	335	P	P	04 36 26.0	-1.2
	1.2nm,0.6s,baz=65,slow=5.0,SNR=7.6						

IDC 03 04:34:21.5±1.8, 5°.78N×126°.86E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=158.3km s-min=26.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.60	164	P	P	04 40 01.8	0.0
	0.2nm,0.4s,baz=345,slow=10,SNR=4.1						
MJAR	Matsushiro Arr	32.34	17	LR	LR	04 52 56.0	
	comp=Z,87nm,18.9s,baz=130,slow=34						
SONM	Songino Array	45.41	341	P	P	04 42 42.5	+0.3
	0.5nm,0.8s,baz=152,slow=6.6,SNR=3.6						
MKAR	Makanchi Array	55.96	324	P	P	04 44 01.4	-0.4
	0.6nm,0.5s,baz=119,slow=7.1,SNR=12						

GUC 03 04:34:50.7±0.8, 22°.52S×68°.84W, h104km±7km, ML3.5, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.71	123	eP	Pn	04 35 09.4	+0.5
SPCH				iS	Sn	04 35 23.8	+1.1
SPCH				AML	AML	04 35 24.4	
	comp=N,3µm,0.3s						
MACH	Maria Elena	0.91	291	eP	Pn	04 35 11.2	+0.5
MACH				eS	Sn	04 35 26.8	+0.9
CEN1	Los Morros	1.52	235	⇓iP	Pn	04 35 19.5	+1.9
CEN1				iS	Sn	04 35 42.0	+4.0
CEN1				AML	AML	04 35 43.6	
	comp=N,342nm,0.9s						
MECH	Mejillones	1.59	248	eP	Pn	04 35 18.9	+0.6
MECH				iS	Sn	04 35 40.7	+1.4
MECH				AML	AML	04 35 45.3	
	comp=N,674nm,0.6s						
ANCH	Antofagasta	1.85	231	eP	Pn	04 35 21.9	+0.4
ANCH				eS	Sn	04 35 45.8	+0.8
ANCH				AML	AML	04 35 46.9	
	comp=E,1µm,0.3s						

*MEX **03** 04:38:12.6±0.3, 17°.03N×90°.49W, h17km±17km, MD3.9*

*CASC **03** 04:38:12.9±2.3, 17°.00N×91°.09W, h0km±44km, MD4.0*

ISC 03 04:38:10.6±2.7, 17°.09N±0°.10×90°.62W±0°.08, h15km±19km, n14, σ1s.61/26, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.66	241	iP	Pn	04 38 39.0	-0.4
CCIG				iS	Sn	04 38 59.8	-0.7
MRL	Marmol	2.21	156	eP	Pn	04 38 46.6	-0.3
MRL				eS	Sg	04 39 23.1	+1.5
TP2	Tecpan 2	2.33	190	eP	Pn	04 38 50.7	+1.9
TP2				eS	Sb	04 39 21.5	+0.3
TGIG		2.41	263	eP	Pn	04 38 50.5	+0.9
TGIG				iS	Sn	04 39 19.3	+0.4
NBG	Las Nubes	2.50	174	eP	Pb	04 38 54.4	-1.1
NBG				eS	Sb	04 39 27.4	+1.2
FG6		2.53	186	eP	Pn	04 38 53.5	+2.0
FG6				eS	Sb	04 39 27.3	+0.3
FUG	Fuego 3	2.64	185	eP	Pn	04 38 54.4	+1.6
FUG				eS	Sb	04 39 29.5	-0.5
THIG		2.69	216	eP	Pn	04 38 53.4	+0.1
THIG				iS	Sn	04 39 23.7	-1.8
PCIG		2.85	241	eP	Pn	04 38 55.9	+0.3
PCIG				iS	Sn	04 39 30.0	+0.5
RBDL	Robledal	3.10	163	eP	Pb	04 39 04.6	-0.9
RBDL				eS	Sb	04 39 38.6	-4.5
RTR	El Retiro	3.31	163	eP	Pb	04 39 07.8	-1.4
RTR				eS	Sn	04 39 44.0	+2.7
BOQS	Boqueron	3.58	159	eP	Pb	04 39 12.6	-1.2
LBRS	Las Brisas	3.67	155	eP	Pb	04 39 13.9	-1.3
CMIG	Matias Romero	4.08	271	eP	Pn	04 39 13.6	+1.2
CMIG				eS	Sn	04 40 01.0	+1.1

*ISCJB **03** 04:42:16.8±0.5, 37°.84N±0°.02×29°.09E±0°.05, h3km±6km, Error ellipse: s-maj=6.2km s-min=4.1km az=0.3*

*ISK **03** 04:42:16.3, 37°.82N×29°.13E, h6km, MD2.8*

*CSEM **03** 04:42:16.5±0.1, 37°.82N×29°.12E, h5km, MD2.8, Error ellipse: s-maj=3.7km s-min=2.6km az=112.0*

*DDA **03** 04:42:16.4, 37°.83N×29°.11E, h5km, MD2.7*

ISC 03 04:42:16.5±0.9, 37°.83N±0°.02×29°.13E±0°.03, h9km±7km, n30, σ0s.81/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.11	228	PG	Pg	04 42 19.1	0.0
DENT	Denizli	0.11	228	iPg	Pg	04 42 19.1	0.0
DNZL	Cakiroluk	0.15	207	iP	Pg	04 42 19.9	0.0
DNZL				iS	Sg	04 42 22.3	0.0
DNZL	Cakiroluk	0.15	207	iP	Pg	04 42 19.9	0.0
DNZL				iS	Sg	04 42 22.3	0.0
KHL	Karahalli	0.58	32	ePG	Pb	04 42 28.6	-0.3
KHL	Karahalli	0.58	32	ePg	Pb	04 42 28.6	-0.3
KHAL	Karahalli	0.61	27	iP	Pg	04 42 28.0	-0.4
KHAL	Karahalli	0.61	27	iP	Pg	04 42 28.0	-0.4
GOLH	Golhisar	0.68	150	iP	Pb	04 42 30.0	-0.6
GOLH				iS	Sn	04 42 41.6	-1.6
GOLH	Golhisar	0.68	150	iP	Pb	04 42 30.0	-0.6
GOLH				iS	Sn	04 42 41.6	-1.6
KULA	Kula-Manisa	0.78	332	ePG	Pg	04 42 31.3	-0.3
KULA				eSG	Sb	04 42 43.5	+0.4
KULA	Kula-Manisa	0.78	332	ePg	Pg	04 42 31.3	-0.3
KULA				eSg	Sb	04 42 43.5	+0.4
MANT	Manisa	0.80	326	iP	Pg	04 42 31.7	-0.3
MANT				iS	Sb	04 42 43.8	-0.1
MANT	Manisa	0.80	326	iP	Pg	04 42 31.7	-0.3
MANT				iS	Sb	04 42 43.8	-0.1
YER	Yerkesik	0.97	225	ePG	Pg	04 42 34.5	-0.6
YER	Yerkesik	0.97	225	ePg	Pg	04 42 34.5	-0.6
AYDN	Tasoluk	1.01	261	iP	Pg	04 42 35.4	-0.5
AYDN				iS	Sg	04 42 48.3	-0.7
AYDN	Tasoluk	1.01	261	iP	Pg	04 42 35.4	-0.5
AYDN				iS	Sg	04 42 48.3	-0.7
TURN	Turunc	1.04	204	iP	Pn	04 42 39.6	+2.3
TURN				iS	Sn	04 42 58.7	+6.8
TURN	Turunc	1.04	204	iP	Pn	04 42 39.6	+2.3
MLSB	Milas	1.20	244	ePN	Pn	04 42 40.3	+0.8
MLSB	Milas	1.20	244	ePn	Pn	04 42 40.3	+0.8
DEMI	Demirci	1.26	345	iP	Pg	04 42 40.6	0.0
DEMI	Demirci	1.26	345	iP	Pg	04 42 40.6	0.0
GDZ	Gediz	1.29	12	iP	Pn	04 42 40.8	0.0
GDZ				iS	Sn	04 42 59.6	+1.3
GDZ	Gediz	1.29	12	iP	Pn	04 42 40.8	0.0
GDZ				iS	Sn	04 42 59.6	+1.3
SHUT	Suhut-Afyon	1.33	57	ePN	Pg	04 42 42.2	+0.1
SHUT	Suhut-Afyon	1.33	57	ePn	Pg	04 42 42.2	+0.1
TVSB	Tavsanli	1.64	9	ePN	Pb	04 42 46.4	-0.6
TVSB	Tavsanli	1.64	9	ePn	Pb	04 42 46.4	-0.6

*AUST **03** 04:51:58.6, 3°.75S×152°.05E, h0km*

*IDC **03** 04:52:00.1±0.5, 3°.80S×151°.41E, h0km, mb4.5/19, mb1 4.7/20, mb1mx4.6/24, mbtmp4.5/20, ML3.8/1, MS4.5/29, Ms1 4.5/29, ms1mx4.4/33, Error ellipse: s-maj=17.8km s-min=11.3km az=105.0*

*NEIC **03** 04:52:02.6±0.2, 3°.72S×151°.32E, h10km, mb5.1/38, Error ellipse: s-maj=7.1km s-min=5.1km az=83.0*

*MOS **03** 04:52:04.5±1.2, 3°.69S×151°.26E, h33km, mb5.2/24, MS4.6/5, Error ellipse: s-maj=10.7km s-min=7.1km az=94.6*

*GCMT **03** 04:52:05.5±0.2, 3°.67S×151°.38E, h12km, MW5.2, Moment Tensor Solution. s64,c93; s96,c169; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.15; $M_{\theta\theta}$8.05±.13; $M_{\phi\phi}$-6.87±.14; $M_{r\theta}$-0.05±.36; $M_{\theta\phi}$2.68±.13; $M_{\phi r}$-1.09±.37; Best double couple: $M_0$8.00000×10^{16} NP1:ϕ_s305.00000°, δ82.00000°, λ-6.00000°. NP2:ϕ_s36.00000°, δ84.00000°, λ-172.00000°. Principal axes: T 8.5200, Plg1.0000°, Azm170.0000°; N -1.0200, Plg80.0000°, Azm72.0000°; P -7.5200, Plg10.0000°, Azm260.0000°; Data Used: II IU IC G CN.*

*ISCJB **03** 04:52:05.5±1.0, 3°.78S±0°.04×151°.36E±0°.04, h43km±9km, mb5.0/91, MS4.6/45 Error ellipse: s-maj=7.6km s-min=6.5km az=159.3*

*BJI **03** 04:52:09.3, 3°.80S×151°.10E, h61km, mB5.2/33, mb4.9/39, Ms5.0/34, Ms7 4.7/36*

*DJA **03** 04:52:28.9±2.8, 5°S±12°×15°0E±2°4, h124km±13km, M4.9/14, mB5.5/7, mb4.9/14, MLv4.9/1, Mw(mB)4.9/7, Mwp6.6/1*

ISC 03 04:52:09.2±0.4, 3°.84S±0°.04×151°.40E±0°.05, h62km±2km, n226, σ1s.70/246, mb5.0/90, 4C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.95	217	Pn	Pn	04 53 47.7	-0.8
	3.6nm,0.3s,baz=33,slow=11,SNR=22						
PMG				LR	LR	04 55 57.1	
	comp=Z,3µm,21.8s,baz=34,slow=34						
PMG	Port Moresby	6.95	217	ePn	Pn	04 53 47.6	-0.8
PMG				eSn	Sn	04 55 03.7	-2.4
PMG	Port Moresby	6.95	217	P	Pn	04 53 47.8	-0.7
	276nm,1.0s,2µm0.8nm						
HNR	Honiara	10.15	124	Pn	Pn	04 54 32.9	+0.6
	153nm,0.9s						
JAY	Jayapura	10.76	277	P	Pn	04 54 40.2	-0.5
	baz=11,SNR=7.3						
SMPI	Sarmi	12.80	278	P	Pn	04 55 11.7	+3.2
	177nm,1.5s,25µm						
CTA	Charters Tower	16.91	197	Pn	Pn	04 55 59.9	-2.0
	0.2nm,0.3s,baz=11,slow=16,SNR=1.7						
CTA				LR	LR	05 00 19.3	
	comp=Z,543nm,20.3s,baz=18,slow=29						
CTA	Charters Tower	16.91	197	Pn	Pn	04 55 59.9	-2.0
CTAO	Charters Tower	16.91	197	eP	P	04 56 03.5	+0.5
CTAO				pmax	pmax		
	comp=Z,237nm,1.5s						
CTAO	Charters Tower	16.91	197	eP	P	04 56 03.5	+0.5
	comp=Z,237nm,1.5s						
GUMO	Guam	18.49	340	ePn	P	04 56 20.2	-0.3
	comp=Z,253nm,1.1s						
TLE	Tual	18.68	264	P	Pn	04 56 33.6	+10
	baz=19,SNR=3.7						
TLE	Tual	18.68	264	P	Pn	04 56 30.7	+7.1
QIS	Mount Isa	20.20	214	P	P	04 56 39.2	+0.1
	baz=21,SNR=5.3						
PALU	Palau	20.21	303	P	P	04 56 39.8	+0.4
	baz=21,SNR=3.9						
PALU				S	Sn	05 00 34.1	+5.1
	baz=21,SNR=3.0						
KDU	Kakadu	20.67	244	P	P	04 56 27.6	-17
	baz=21,SNR=3.9						
EIDS	Eidsvold	21.41	181	eP	P	04 56 51.3	-0.8
	comp=Z,161nm,1.4s						
EIDS	Eidsvold	21.41	181	P	P	04 56 53.4	+1.4
	baz=22,SNR=5.7						
MTN	Manton Dam	21.93	245	P	P	04 56 57.1	-0.7
	baz=23,SNR=6.1						
MTN				S	S	05 00 44.9	-12
	baz=23,SNR=7.5						
RMQ	Roma	22.66	186	P	P	04 57 04.8	-0.6
	baz=23,SNR=24						
RMQ				S	Sn	05 01 43.8	+17
	baz=23,SNR=7.3						
WRAB	Tennant Creek	23.07	225	eP	P	04 57 08.3	-1.5
WRAB				pmax	pmax		
	comp=Z,84nm,1.2s						
WRAB	Tennant Creek	23.07	225	eP	P	04 57 08.2	-1.5
	comp=Z,84nm,1.2s						
WRAB	Tennant Creek	23.07	225	P	P	04 57 08.0	-1.7
	comp=Z,307nm,1.3s,SNR=22						
WRA	Warramunga Arr	23.08	225	P	P	04 57 07.5	-2.4
	comp=Z,34nm,1.2s,baz=50,slow=9.1,SNR=48						
WRA				S	S	05 01 21.1	+4.8
	comp=Z,2.4nm,1.2s,baz=67,slow=25,SNR=5.1						
WRA				LR	LR	05 07 02.9	
	comp=Z,884nm,18.1s,baz=60,slow=39						
WRA	Warramunga Arr	23.08	225	P	P	04 57 07.5	-2.4
WRA				S	S	05 01 21.1	+4.8
AAI	Ambon	23.15	270	P	P	04 57 23.3	+13
NOUC	Port Laguerre	23.20	143	eP	P	04 57 10.2	-0.8
DZM	Mont Dzumac	23.27	142	eP	P	04 57 10.7	-1.1
	comp=Z,456nm,1.0s						
DZM				eLQ	LQ	05 01 58.2	
	comp=Z,3µm,26.5s						
DZM				eLR	LR	05 02 58.9	
	comp=Z,6µm,24.9s						
DZM	Mont Dzumac	23.27	142	P	P	04 57 10.2	-1.5
	comp=Z,143nm,0.9s,baz=330,slow=10.0,SNR=14						
DZM	Mont Dzumac	23.27	142	eP	P	04 57 10.7	-1.1
DZM	Mont Dzumac	23.27	142	eP	P	04 57 11.1	-0.6
QLP	Quilpie	23.63	196	P	P	04 57 14.3	-0.6
	baz=24,SNR=28						
LBMI	Labuha	24.09	277	P	P	04 57 21.4	+2.1
	comp=Z,197nm,1.3s,comp=Z,2µm						
NLAI	Namlea	24.26	271	P	P	04 57 22.8	+2.0
	comp=Z,95nm,1.5s,comp=Z,2µmcomp=Z,182µm						
ASAR	Alice Springs	25.96	219	P	P	04 57 35.0	-1.3
	comp=Z,20nm,0.9s,baz=53,slow=8.4,SNR=44						
ASAR				LR	LR	05 08 01.5	
	comp=Z,886nm,19.1s,baz=44,slow=37						
ASAR	Alice Springs	25.96	219	P	P	04 57 35.0	-1.3
ARMA	Armidale	26.43	180	eP	P	04 57 42.1	+1.6
	comp=Z,50nm,1.4s						
CMSA	Cobar Meteorol	28.07	190	P	P	04 57 59.7	+4.7
	baz=28,SNR=4.6						
KDI	Kendari	28.71	269	P	P	04 58 11.1	+10
FITZ	Fitzroy Crossi	28.92	239	P	P	04 58 01.5	-1.3
	comp=Z,16nm,1.0s,baz=86,slow=7.4,SNR=15						
FITZ				LR	LR	05 10 07.4	
	comp=Z,842nm,20.3s,baz=64,slow=38						
FITZ	Fitzroy Crossi	28.92	239	eP	P	04 58 01.0	-1.8
	comp=Z,28nm,1.0s						
FITZ	Fitzroy Crossi	28.92	239	P	P	04 58 01.5	-1.3
	baz=30,SNR=15						
STKA	Stephens Creek	29.37	197	P	P	04 58 04.7	-1.8
	comp=Z,12nm,0.8s,baz=16,slow=11,SNR=7.6						
STKA				LR	LR	05 09 07.4	
	comp=Z,2µm,22.0s,baz=13,slow=35						
STKA	Stephens Creek	29.37	197	eP	P	04 58 05.6	-1.0
STKA	Stephens Creek	29.37	197	P	P	04 58 05.7	-0.8
	baz=30,SNR=9.1						
MRSI	Marisa	29.75	278	P	P	04 58 18.6	+8.5
TTSI	Tana Toraja	31.53	270	P	P	04 58 34.8	+8.9
SPSI	Sidrap Palu	31.55	269	P	P	04 58 26.8	+0.7
	comp=Z,30nm,1.2s						
PCI	Palu	31.66	274	P	P	04 58 33.5	+6.4
	baz=32,SNR=8.1						
CBIJ	Chichi jima	32.02	344	LR	LR	05 09 42.5	
	comp=Z,2µm,20.1s,baz=259,slow=33						
MYLDM	Lahad Datu	34.06	285	P	P	04 58 52.1	+4.1
	comp=Z,70nm,1.2s						
KHKI	Kahang-Kahang	35.85	261	P	P	04 59 06.6	+3.1
	comp=Z,48nm,1.4s						
KKM	Kota Kinabalu	36.48	285	eP	P	04 59 06.0	-2.9
	comp=Z,46nm,1.4s						
KKM	Kota Kinabalu	36.48	285	P	P	04 59 07.9	-1.0
KKM	Kota Kinabalu	36.48	285	P	P	04 59 15.5	+6.6
	comp=Z,22nm,1.0s,comp=Z,677nm						
OUZ	Omahuta	37.38	149	eP	P	04 59 18.0	+1.8
	comp=Z,38nm,1.1s						
JOW	Kunigami	37.81	325	LR	LR	05 11 42.8	
	comp=Z,851nm,21.3s,baz=116,slow=31						
JHJ	Hachijo jima 2	38.37	344	LR	LR	05 14 40.4	
	comp=Z,593nm,18.1s,baz=245,slow=36						
MEEK	Meekatharra	38.69	231	P	P	04 59 26.7	-0.7
	baz=39,SNR=4.0						
SBUM	Sibu	39.65	278	P	P	04 59 36.1	+0.6
SBUM	Sibu	39.65	278	P	P	04 59 36.4	+0.9
YULB	Yu-li	39.93	314	eP	P	04 59 36.9	-0.8
	comp=Z,25nm,1.1s						
KSM	Kuching	41.40	277	eP	P	04 59 49.1	-0.8
	comp=Z,29nm,1.0s						
KSM	Kuching	41.40	277	P	P	04 59 55.5	+5.5
	baz=42,SNR=4.6						
KSM	Kuching	41.40	277	P	P	04 59 52.2	+2.2
URZ	Urewera	41.52	149	eP	P	04 59 53.4	+2.8
	comp=Z,30nm,1.1s						
JNU	Nakatsue	41.58	334	P	P	04 59 50.0	-1.2
	comp=Z,14nm,1.0s,baz=275,slow=6.7,SNR=4.6						
JNU	Nakatsue	41.58	334	P	P	04 59 50.0	-1.2
MJAR	Matsushiro Arr	42.02	344	LR	LR	05 16 10.6	
	comp=Z,600nm,19.9s,baz=170,slow=35						
SNZO	South Karori	42.77	154	eP	P	05 00 04.7	+4.0
	comp=Z,220nm,1.7s						
RPZ	Rata Peaks	43.35	159	eP	P	05 00 05.8	+0.4
	comp=Z,458nm,2.6s						
SSE	Sheshan	45.13	322	P	P	05 00 19.6	-0.2
SSE				S	S	05 06 59.0	+4.1
SSE				pmax	pmax		
	comp=Z,13nm,0.8s						
SSE				pmax	pmax		
	comp=Z,140nm,4.6s						
SSE				LR	LR		
	comp=N,400nm,27.5s						
SSE				LR	LR		
	comp=E,420nm,27.9s						
SSE				LR	LR		
	comp=Z,570nm,23.6s						
KSRS	Korea Array	46.53	334	P	P	05 00 29.1	-1.6
	comp=Z,1.3nm,0.7s,baz=159,slow=8.7,SNR=4.0						
KSRS				LR	LR	05 18 12.5	
	comp=Z,449nm,21.0s,baz=149,slow=34						
KSAR	Wonju Array Be	46.53	334	P	P	05 00 29.1	-1.7
QIZ	Qiongzhong	46.78	301	P	P	05 00 31.8	-1.2
QIZ				pP	pP	05 00 48.0	-0.9
QIZ				S	S	05 07 17.1	-1.9
QIZ				sS	sS	05 07 44.6	-1.2

QIZ ScS **ScS** **05 10 21.3 -1.2**
QIZ pmax pmax
comp=Z,28nm,1.8s
QIZ LR LR
comp=Z,410nm,25.5s
INCN Inchon 47.12 333 *e*P **P** **05 00 34.5 -0.9**
comp=Z,100nm,1.3s
NJ2 Nanjing 47.23 322 *e*P **P** **05 00 37.1 +0.9**
NJ2 pP **pP** **05 00 52.0 -0.1**
NJ2 sP **sP** **05 00 58.9 -0.3**
NJ2 S **S** **05 07 30.0 +5.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 pmax pmax
comp=Z,230nm,4.3s
NJ2 LR LR
comp=N,800nm,19.5s
NJ2 LR LR
comp=E,670nm,17.5s
NJ2 LR LR
comp=Z,800nm,19.5s
YUK Yuzh-Kuril'sk 47.92 355*d* *i*P **P** **05 00 38.6 -2.7**
YUK *i* *SP sP 05 00 53.6 -11
YUK *i* 05 02 06.6
YUK *i* PPP PPP 05 03 28.6
YUK *i* S **S** **05 07 33.2 -1.1**
YUK pmax pmax
comp=Z,20nm,5.5s
YUK MLR MLR
comp=Z,385nm,18.0s
YUK MLR MLR
comp=N,170nm,18.0s
YUK MLR MLR
comp=E,99nm,18.0s
WHN Wuhan 49.20 317 P P 05 00 57.9 +6.4
WHN S **S** **05 07 58.0 +5.1**
WHN LR LR
comp=Z,2µm,29.4s
USRK Ussuriysk Arra 50.90 342 P **P** **05 01 01.8 -2.3**
comp=Z,4.9nm,0.8s,baz=159,slow=7.2,SNR=6.1
USRK LR LR 05 19 13.5
comp=Z,615nm,21.2s,baz=151,slow=32
MDJ Mudanjiang 52.05 340 P **P** **05 01 13.2 +0.5**
MDJ pP **pP** **05 01 27.9 -0.9**
MDJ sP **sP** **05 01 34.6 -1.2**
MDJ PcP **PcP** **05 02 23.0 -1.1**
MDJ PP **PP** **05 03 09.4 -2.1**
MDJ S S 05 08 23.0 -8.9
MDJ SS **SS** **05 12 03.2 -6.7**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,100nm,5.4s
MDJ LR LR
comp=N,480nm,24.6s
MDJ LR LR
comp=E,370nm,25.9s
MDJ LR LR
comp=Z,650nm,21.9s
MDJ Mudanjiang 52.05 340 *e*P **P** **05 01 11.1 -1.6**
comp=Z,14nm,0.9s
ENH Enshi 52.48 313 *e*P **P** **05 01 16.0 -0.3**
comp=Z,32nm,1.2s
GYA Guiyang 52.70 308⇑ *i*P **P** **05 01 19.0 +0.9**
GYA pP **pP** **05 01 35.2 +1.0**
GYA sP **sP** **05 01 42.3 +1.1**
GYA PP **PP** **05 03 19.6 +1.7**
GYA ScP **ScP** **05 06 18.8 -0.6**
GYA S **S** **05 08 40.2 -1.5**
GYA sS **sS** **05 09 08.4 -0.6**
GYA SS **SS** **05 12 17.6 -3.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=N,630nm,17.9s
GYA LR LR
comp=E,530nm,18.3s
GYA LR LR
comp=Z,690nm,18.4s
PSI Prapat 52.85 276 P **P** **05 01 19.5 +0.2**
comp=Z,2.0nm,0.4s,baz=153,slow=11,SNR=2.5
PSI Prapat 52.85 276 P **P** **05 01 19.5 +0.2**
PSI Prapat 52.85 276 P P 05 01 23.6 +4.2
baz=54,SNR=3.8
CN2 Changchun 52.86 337 *e*P P 05 01 22.1 +3.4
CN2 *e*pP pP 05 01 38.4 +3.5
CN2 *e*S **S** **05 08 43.7 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,20.0s
CN2 LR LR
comp=E,500nm,20.0s
CN2 LR LR
comp=Z,300nm,17.0s
HABR Khabarovsk 54.02 347 *e*P P 05 01 34.1 +7.0
HABR *e*PPP PPP 05 04 33.7
HABR *e*S **S** **05 08 57.2 -1.4**
HABR *e* 05 11 10.6
HABR SS **SS** **05 12 39.6 -1.3**
HABR *e*SSS SSS 05 14 36.5
HABR pmax pmax
comp=Z,59nm,1.9s
HABR pmax pmax
comp=E,45nm,1.9s
HABR pmax pmax
comp=N,36nm,1.9s
HABR MLR MLR
comp=Z,370nm,17.0s
BJI Beijing 54.33 327 P **P** **05 01 29.7 +0.2**
BJI S **S** **05 09 03.6 +0.6**
BJI sS **sS** **05 09 30.8 +0.4**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,190nm,5.0s
BJI LR LR
comp=N,450nm,20.1s
BJI LR LR
comp=E,300nm,19.5s
BJI LR LR
comp=Z,560nm,34.9s
XAN Xi'an 54.97 317 P P 05 01 38.0 +3.6
XAN pP pP 05 01 52.9 +2.3
XAN S **S** **05 09 11.9 -0.1**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,25nm,4.2s
XAN LR LR
comp=N,100nm,18.9s
XAN LR LR
comp=E,250nm,20.4s
XAN LR LR
comp=Z,150nm,24.1s
KMI Kunming 55.29 304 P **P** **05 01 39.8 +2.7**
KMI pmax pmax
comp=Z,13nm,0.7s
KLR Kul'dur 55.55 344 *e*P P 05 01 32.9 -5.3
KLR pmax pmax
comp=Z,50nm,1.8s
KLR MLR MLR
comp=Z,900nm,12.0s
KLR MLR MLR
comp=E,600nm,13.0s
CM31 Chiang Mai Arr 56.20 295 *e*P **P** **05 01 43.1 -0.4**
comp=E,3.5nm,0.3s
CMAR Chiang Mai Arr 56.20 295 P **P** **05 01 42.5 -1.0**
comp=E,2.2nm,0.3s,baz=117,slow=6.1,SNR=14
CMAR LR LR 05 25 52.4
comp=E,235nm,19.1s,baz=289,slow=36
CMAR Chiang Mai Arr 56.20 295 P **P** **05 01 42.5 -1.0**
CHTO Chiang Mai 56.31 296 *e*P **P** **05 01 43.7 -0.5**
CHTO pmax pmax
comp=Z,29nm,1.4s
CHTO Chiang Mai 56.31 296 *e*P **P** **05 01 43.7 -0.5**
comp=Z,29nm,1.4s
PET Petropavlovsk 56.99 5 *e*S **S** **05 09 42.7 +4.8**
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,500nm,17.0s
PETK Petropavlovsk- 56.99 5 P **P** **05 01 47.0 -1.3**
comp=Z,4.6nm,0.5s,baz=168,slow=8.2,SNR=18
PETK LR LR 05 22 20.8
comp=Z,401nm,21.4s,baz=184,slow=32
PETK Petropavlovsk- 56.99 5 P **P** **05 01 47.0 -1.3**
PETK Petropavlovsk- 56.99 5 P P **05 01 47.0 -1.3**
CD2 Chengdu 57.05 311 P P 05 01 54.2 +4.9
CD2 pP pP 05 02 10.5 +4.8
CD2 sP sP 05 02 17.6 +4.9
CD2 PP PP 05 04 02.8 +6.0
CD2 S **S** **05 09 41.6 +1.8**
CD2 sS sS 05 10 09.5 +2.1
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,210nm,4.5s
CD2 LR LR
comp=N,610nm,16.6s
CD2 LR LR
comp=Z,780nm,17.8s
HHC Hu-ho-hao-te 57.46 325 *e*P **P** **05 01 52.7 +0.6**
HHC sP **sP** **05 02 15.8 +0.4**
HHC PcP **PcP** **05 02 45.9 +0.7**
HHC PP **PP** **05 04 02.6 +2.4**
HHC ScP **ScP** **05 06 39.0 -0.9**
HHC PcS **PcS** **05 06 45.2 -1.2**
HHC S **S** **05 09 43.3 -1.6**
HHC sS **sS** **05 10 11.3 -1.2**
HHC ScS **ScS** **05 11 33.4 -2.8**
HHC SS **SS** **05 13 35.1 -0.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,230nm,6.6s
HHC LR LR
comp=N,390nm,16.4s
HHC LR LR
comp=E,470nm,16.9s
HHC LR LR
comp=Z,620nm,15.9s
PPT Papeete 59.35 108 LR LR 05 20 59.4
comp=Z,227nm,20.5s,baz=347,slow=29
PPT2 Papeete2 59.35 108 *e*LR LR 05 19 46.9
comp=Z,365nm,24.8s
LZH Lanzhou 59.57 316 *e*P P 05 02 14.0 +7.0
LZH pP pP 05 02 31.9 +8.5
LZH sP sP 05 02 38.2 +7.8
LZH PcP PcP 05 03 00.2 +6.4
LZH *e*S **S** **05 10 17.4 +4.7**
LZH sS sS 05 10 36.0 -4.4
LZH SS **SS** **05 14 13.4 +4.2**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.0s
LZH LR LR
comp=N,470nm,16.4s
LZH LR LR
comp=E,150nm,12.8s
LZH LR LR
comp=Z,680nm,17.8s
HIA Hailar 59.60 337 *e*P **P** **05 02 05.1 -1.6**
comp=Z,23nm,1.2s
TBI Tubuai 60.23 115 *e*S **S** **05 10 25.5 +4.4**
comp=Z,359nm,29.6s
TBI *e*LQ LQ 05 17 36.7
comp=Z,2µm,29.8s
TBI *e*LR LR 05 20 10.1
comp=Z,581nm,29.5s
DRV Dumont d'Urvil 63.21 185 S **S** **05 10 54.0 -3.4**
DRV SS **SS** **05 15 07.0 +2.5**
DRV L L 05 18 00.0
DRV R 05 22 00.0
GTA Gaotai 64.01 318 *e*P **P** **05 02 38.3 +1.6**
GTA S **S** **05 11 06.5 -2.1**
GTA SS **SS** **05 15 15.0 -3.4**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=N,330nm,19.5s
GTA LR LR
comp=E,340nm,21.4s
GTA LR LR
comp=Z,440nm,21.4s
CLNS Chul'man 64.21 344 *e*P **P** **05 02 34.9 -2.6**
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.9s
ULN Ulaanbaatar 64.45 329 *e*P **P** **05 02 39.1 -0.3**
comp=N,14nm,1.2s
SONM Songino Array 64.78 328 P **P** **05 02 41.3 -0.2**
comp=N,2.5nm,1.0s,baz=142,slow=5.0,SNR=9.9
SONM LR LR 05 29 16.9
comp=N,605nm,21.5s,baz=288,slow=34
SONM Songino Array 64.78 328 P **P** **05 02 41.3 -0.2**
LSA Lhasa 66.55 305 P **P** **05 02 56.8 +3.1**
LSA Lhasa 66.55 305 *e*P **P** **05 02 53.7 0.0**
LSA pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 66.55 305 *e*P **P** **05 02 53.7 0.0**
comp=Z,16nm,1.0s
SEY Seymchan 66.60 0⇑ *i*P **P** **05 02 52.4 -0.3**
YAK Yakutsk 67.77 349 *e*P **P** **05 02 59.0 -1.2**
YAK *e* 05 03 11.3
YAK *e* 05 05 25.5
YAK *e*S **S** **05 11 50.2 -2.9**
YAK *e**SS sS 05 12 31.1 +10
YAK *e* 05 12 54.7
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,3.0nm,0.4s
YAK smax smax
comp=N,145nm,4.6s
YAK smax smax
comp=E,107nm,4.5s
YAK Yakutsk 67.77 349 *e*P **P** **05 02 59.5 -0.7**
ZAK Zakamensk 67.95 329⇑ *i*P **P** **05 03 01.3 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.3s
BOD Bodaibo 68.41 340 *e*P P 05 03 13.8 +10
BOD pmax pmax
comp=Z,41nm,3.9s
TLY Talaya 68.56 330 *e*P **P** **05 03 05.5 +0.1**
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,252nm,19.0s
TAPN Taplejung 68.72 301 *e*P **P** **05 03 07.4 +0.2**
comp=Z,66nm,1.2s
TAPN Taplejung 68.72 301 *e*P **P** **05 03 07.4 +0.2**
comp=Z,66nm,1.2s
ODAN Odare 68.85 301 *e*P **P** **05 03 07.4 -0.6**
comp=Z,55nm,1.0s
ODAN Odare 68.85 301 *e*P **P** **05 03 07.4 -0.6**
comp=Z,55nm,1.0s
RAMN Ramite 69.56 300 *e*P **P** **05 03 11.9 -0.5**
comp=Z,6.5nm,0.6s
RAMN Ramite 69.56 300 *e*P **P** **05 03 11.9 -0.5**
comp=Z,6.5nm,0.6s
MOY Mondy 69.88 329 *e*P **P** **05 03 13.8 +0.1**
MOY pmax pmax
comp=Z,41nm,3.9s
JIRN Jiri 70.10 301 *e*P **P** **05 03 15.7 -0.2**
comp=Z,7.6nm,1.0s
JIRN Jiri 70.10 301 *e*P **P** **05 03 15.7 -0.2**
comp=Z,7.6nm,1.0s
GUN Gumba 70.43 301 *e*P **P** **05 03 17.7 -0.2**
comp=Z,72nm,1.2s
GUN Gumba 70.43 301 *e*P **P** **05 03 17.7 -0.2**
comp=Z,72nm,1.2s
PKI Pulchoki 70.74 301 *e*P **P** **05 03 19.2 -0.5**
comp=Z,49nm,1.3s
PKI Pulchoki 70.74 301 *e*P **P** **05 03 19.2 -0.5**
PKI pmax pmax
comp=Z,49nm,1.3s
PKI Pulchoki 70.74 301 *e*P **P** **05 03 19.2 -0.5**
comp=Z,49nm,1.3s
DMN Daman 71.01 301 *e*P **P** **05 03 20.7 -0.6**
comp=Z,77nm,1.1s
DMN Daman 71.01 301 *e*P **P** **05 03 20.7 -0.6**
comp=Z,77nm,1.1s
GKN Gorkha 71.52 301 *e*P **P** **05 03 23.8 -0.4**
comp=Z,70nm,1.2s
GKN Gorkha 71.52 301 *e*P **P** **05 03 23.8 -0.4**
comp=Z,70nm,1.2s
KOLN Koldanda 72.35 301 *e*P **P** **05 03 28.4 -0.8**
comp=Z,17nm,0.7s
KOLN Koldanda 72.35 301 *e*P **P** **05 03 28.4 -0.8**
comp=Z,17nm,0.7s
DANN Dangsing 72.35 301 *e*P **P** **05 03 28.4 -1.0**
comp=Z,18nm,0.8s
DANN Dangsing 72.35 301 *e*P **P** **05 03 28.4 -1.0**
comp=Z,18nm,0.8s
GAMB Gambell 72.85 16 *e*P **P** **05 03 31.8 +0.7**
comp=Z,39nm,1.5s
GAMB *e*PP **PP** **05 06 15.6 +1.5**
PYUN Piuthan 72.95 301 *e*P **P** **05 03 31.5 -1.3**
comp=Z,46nm,0.9s
PYUN Piuthan 72.95 301 *e*P **P** **05 03 31.5 -1.3**
comp=Z,46nm,0.9s
RKT Rikitea 73.45 113 *e*S **SKiKP** **05 13 04.7 +3.5**
comp=Z,1µm,37.2s
RKT *e*LQ LQ 05 23 10.8
RKT comp=Z,572nm,32.8s *e*LR LR 05 26 17.7
comp=Z,760nm,22.5s
HVS Khovu-Aksy 73.48 326⇑ *e*P **P** **05 03 36.0 +0.7**
VNDA Vanda 73.83 178 P **P** **05 03 36.3 -0.5**
comp=Z,3.9nm,0.9s,baz=311,slow=5.9,SNR=5.4
VNDA LR LR 05 34 14.3
comp=Z,312nm,19.6s,baz=345,slow=34
VNDA Vanda 73.83 178 P **P** **05 03 36.3 -0.5**
WMQ Urumqi 74.09 318 P **P** **05 03 40.2 +1.2**
WMQ pP **pP** **05 03 58.7 +2.7**
WMQ PP **PP** **05 06 27.8 +2.6**
WMQ S **S** **05 13 05.8 -1.6**
WMQ sS **sS** **05 13 34.5 -1.6**
WMQ pmax pmax
comp=Z,9.0nm,1.4s
WMQ pmax pmax
comp=Z,210nm,4.5s
WMQ LR LR
comp=N,110nm,20.0s
WMQ LR LR
comp=E,260nm,29.0s
WMQ LR LR
comp=Z,290nm,26.0s
KDAK Kodiak Island 75.97 27 LR LR 05 34 08.8
comp=Z,350nm,18.4s,baz=223,slow=33
SVW2 Sparrevohn 76.50 24 *e*P **P** **05 03 53.0 +0.6**
comp=Z,197nm,2.8s
SLKM Skilak Lake 78.41 25 *e*P **P** **05 04 02.7 -0.4**
SLKM Skilak Lake 78.41 25 *e*P **P** **05 04 02.7 -0.4**
SEW Seward 78.54 26 *e*P **P** **05 04 06.2 +2.4**
comp=Z,58nm,1.2s
MKAR Makanchi Array 78.69 319 P **P** **05 04 04.4 -0.5**
comp=Z,1.5nm,0.8s,baz=102,slow=6.3,SNR=12
MKAR LR LR 05 37 59.6
comp=Z,242nm,19.9s,baz=248,slow=35
MKAR Makanchi Array 78.69 319 P **P** **05 04 04.4 -0.5**
MKAR Makanchi Array 78.69 319 P **P** **05 04 04.4 -0.5**
RC01 Rabbit Creek A 78.90 25 *e*P **P** **05 04 05.9 +0.2**
comp=Z,73nm,1.4s
PMR Palmer 79.40 25 *e*P **P** **05 04 07.9 -0.5**
PMR pmax pmax
comp=Z,46nm,1.5s
PMR Palmer 79.40 25 *e*P **P** **05 04 07.9 -0.5**
comp=Z,46nm,1.5s
ZALV Zalesovo Beam 79.59 327 P **P** **05 04 08.2 -1.4**
comp=Z,4.1nm,0.9s,baz=104,slow=6.3,SNR=8.4
ZALV LR LR 05 39 40.2
comp=Z,288nm,19.4s,baz=311,slow=36
ZALV Zalesovo Beam 79.59 327 P **P** **05 04 08.2 -1.4**
ZALV Zalesovo Beam 79.59 327 P **P** **05 04 08.2 -1.4**
SML Sawmill 79.84 25 *e*P **P** **05 04 10.6 -0.3**
SML pmax pmax
comp=Z,28nm,1.6s
SML Sawmill 79.84 25 *e*P **P** **05 04 10.6 -0.3**
comp=Z,28nm,1.6s
TRF Thorofare Moun 79.86 23 *e*P **P** **05 04 09.4 -1.8**
comp=Z,93nm,2.2s
MCK McKinley 80.53 23 *e*P **P** **05 04 13.4 -1.2**
MCK McKinley 80.53 23 *e*P **P** **05 04 13.4 -1.2**
NVS Novosibirsk 80.77 327 *e*P **P** **05 04 14.6 -1.4**
NVS pmax pmax
comp=Z,38nm,2.1s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,11nm,1.5s
KSH Kashi 81.25 311 *e*P **P** **05 04 21.7 +2.6**
KSH pP **pP** **05 04 38.7 +2.4**
KSH sP **sP** **05 04 45.0 +1.9**
KSH S **S** **05 14 28.3 +3.3**
KSH SKS **SKSac** **05 14 33.6 +0.2**
KSH sS **sS** **05 14 54.5 +0.4**
KSH SS **SS** **05 19 48.2 +6.3**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,120nm,7.3s
KSH LR LR
comp=N,160nm,5.7s
KSH LR LR
comp=E,80nm,6.0s
KSH LR LR
comp=Z,200nm,6.4s
COLA College 81.49 22 *e*P **P** **05 04 17.7 -1.9**
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 81.49 22 *e*P **P** **05 04 17.7 -1.9**
comp=Z,15nm,0.8s
PAX Paxson 81.56 24 *e*P **P** **05 04 20.2 +0.1**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 81.56 24 *e*P **P** **05 04 20.2 +0.1**
comp=Z,7.0nm,0.9s
ILAR Eielson Array 81.81 22 P **P** **05 04 19.1 -2.3**
comp=Z,9.5nm,0.8s,baz=247,slow=5.5,SNR=81
ILAR LR LR 05 40 14.7
comp=Z,277nm,18.3s,baz=96,slow=35
ILAR Eielson Array 81.81 22 P **P** **05 04 19.1 -2.3**
KURK Kurchatov 82.16 322⇓ *i*P **P** **05 04 22.7 -0.7**
KURK pmax pmax
comp=Z,14nm,2.2s
KURK Kurchatov 82.16 322 *e*P **P** **05 04 22.8 -0.7**
KURK Kurchatov 82.16 322 *e*P **P** **05 04 22.4 -1.0**
comp=Z,11nm,1.1s
DOT Dot Lake 82.42 24 *e*P **P** **05 04 24.4 -0.2**
comp=Z,50nm,1.0s
AAK Ala-Archa 83.00 314 *e*P **P** **05 04 27.4 -0.8**
AAK pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 83.00 314 *e*P **P** **05 04 27.4 -0.8**
comp=Z,5.6nm,1.0s
EKS2 Erkin-Say 83.52 314 *e*P **P** **05 04 31.0 +0.2**
EKS2 pmax pmax
comp=Z,15nm,1.3s
EKS2 Erkin-Say 83.52 314 *e*P **P** **05 04 31.0 +0.2**
comp=Z,15nm,1.3s
EGAK Eagle 84.04 23 *e*P **P** **05 04 34.2 +1.3**
comp=Z,240nm,2.9s
DAWY Dawson 84.50 24 *e*P **P** **05 04 35.3 +0.1**
MAW Mawson 85.91 203 LR LR 05 39 19.9
comp=Z,770nm,21.1s,baz=96,slow=33
KKAR Karatay Array 85.96 314 *e*P **P** **05 04 43.1 +0.1**
KKAR pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 85.96 314 *e*P **P** **05 04 43.1 +0.1**
comp=Z,10nm,1.1s
QSPA South Pole Qui 86.11 180 P **P** **05 04 43.4 0.0**
comp=Z,8.5nm,0.8s,baz=308,slow=0.6,SNR=23
QSPA LR LR 05 41 54.6
comp=Z,278nm,19.7s,baz=286,slow=35
QSPA South Pole Qui 86.11 180 P **P** **05 04 43.4 0.0**
BBB Bella Bella 87.19 37 LR LR 05 38 17.0
comp=Z,268nm,19.6s,baz=88,slow=32
DLBC Dease Lake 87.29 31 LR LR 05 38 33.1
comp=Z,426nm,19.5s,baz=4.2,slow=32

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**87.71**	**323**	*e*P	**P**	**05 04 49.9**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,11nm,1.3s						
BRVK	**Borovoye**	**87.71**	**323**	*e*P	**P**	**05 04 49.9**	**-1.3**
	comp=Z,11nm,1.3s						
INK	**Inuvik**	**88.07**	**21**	LR	LR	05 42 38.7	
	comp=Z,316nm,19.8s,baz=151,slow=34						
INK	**Inuvik**	**88.07**	**21**	*e*P	**P**	**05 04 52.6**	**+0.1**
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**93.83**	**319**	*e*P	**P**	**05 05 19.6**	**-0.3**
YKA	**Yellowknife Ar**	**95.24**	**28**	P	**P**	**05 05 25.3**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=268,slow=4.7,SNR=36						
YKA	**Yellowknife Ar**	**95.24**	**28**	P	**P**	**05 05 25.3**	**-0.6**
LPIG	**La Paz**	**99.13**	**66**	LR	LR	05 44 19.2	
	comp=Z,54nm,19.0s,baz=242,slow=32						
PDAR	**Pinedale Array**	**99.24**	**47**	P	**Pdif**	**05 05 44.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=255,slow=2.7,SNR=3.4						
PDAR				PP	PP	05 09 58.8	+11
	comp=Z,0.7nm,0.9s,baz=269,slow=6.8,SNR=3.8						
PDAR				LR	LR	05 49 11.0	
	comp=Z,172nm,18.0s,baz=163,slow=35						
PDAR	**Pinedale Array**	**99.24**	**47**	P	**Pdif**	**05 05 44.8**	**0.0**
PDAR				PP	PP	05 09 58.8	+11
RES	**Resolute Bay**	**99.83**	**14**	LR	LR	05 45 06.1	
	comp=Z,236nm,21.3s,baz=229,slow=32						
AKASG	**Malin Array Be**	**112.91**	**324**	*i* PKIKP	PKiKP	05 10 33.4	-5.9
CLL	**Collm**	**121.34**	**331**	*e*SS	SS	05 29 06.0	+10
GERES	**GERESS Array B**	**122.51**	**328**	PKP	**PKPdf**	**05 10 57.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=8.1,slow=2.8,SNR=5.1						
GERES	**GERESS Array B**	**122.51**	**328**	PKP	**PKPdf**	**05 10 57.5**	**-0.5**
CFAA	**Coronel Fontan**	**128.39**	**136**	PKP	**PKPdf**	**05 11 09.6**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=188,slow=7.4,SNR=3.3						
CFAA	**Coronel Fontan**	**128.39**	**136**	PKP	**PKPdf**	**05 11 09.6**	**-0.1**
LPAZ	**La Paz**	**136.10**	**118**	PKP	**PKPdf**	**05 11 26.6**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=25,slow=9.7,SNR=3.6						
LPAZ	**La Paz**	**136.10**	**118**	PKP	**PKPdf**	**05 11 26.6**	**+1.3**
CPUP	**Villa Florida**	**139.10**	**139**	PKP	**PKPdf**	**05 11 30.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=306,slow=14,SNR=2.5						
CPUP	**Villa Florida**	**139.10**	**139**	PKP	**PKPdf**	**05 11 30.7**	**+0.9**
SPB	**Sao Paulo**	**147.13**	**147**	PKPdf	**PKPbc**	**05 11 45.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**148.68**	**289**	PKPbc	**PKPbc**	**05 11 50.2**	**-0.4**
	comp=Z,14nm,1.1s,baz=62,slow=2.7,SNR=30						
TORD	**Torodi Ar. Bea**	**148.68**	**289**	PKPbc	**PKPbc**	**05 11 50.2**	**-0.4**
BDFB	**Brasilia**	**152.73**	**136**	PKPbc	**PKPbc**	**05 12 00.3**	**0.0**
	comp=Z,5.8nm,0.7s,baz=200,slow=2.9,SNR=8.9						
BDFB	**Brasilia**	**152.73**	**136**	PKPbc	**PKPbc**	**05 12 00.3**	**0.0**
DBIC	**Dimbokro**	**156.19**	**278**	PKPab	**PKPab**	**05 12 25.0**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=52,slow=5.0,SNR=6.1						
DBIC	**Dimbokro**	**156.19**	**278**	PKPab	**PKPab**	**05 12 25.0**	**-0.9**

*TIF **03** 04:59:06.8, 43.°14N×45.°17E, h3km±5km*

*MOS **03** 04:59:10.1±1.6, 42.°94N×45.°09E, h11km, mb3.9/1, Error ellipse: s-maj=16.0km s-min=10.2km az=24.5*

ISC 03 04:59:09.4±1.3**, 43.°13N**±0.°05×**45.°13E**±0.°03**, h7**km±10km**, n15, σ1.§32**/28**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.24**	**256**	*i* PG	**Pg**	**04 59 14.0**	**-0.2**
SNJR				*i* S	**Sg**	**04 59 19.9**	**+2.5**
VLKR	**Vladikavkaz**	**0.34**	**257**	*e*PG	**Pb**	**04 59 16.5**	**-1.3**
VLKR				*e*S	**Sb**	**04 59 24.1**	**+0.6**
VLKR				pmax	pmax		
	comp=Z,4µm,0.2s						
VLKR				smax	smax		
	comp=E,6µm,0.2s						
BTLR	**Botlikh**	**0.93**	**120**	*e*PG	**Pn**	**04 59 27.9**	**-1.0**
BTLR				*e*S	**Sb**	**04 59 41.0**	**+0.6**
ZEI	**Tsey**	**0.97**	**249**	*i* PG	**Pg**	**04 59 27.1**	**-1.0**
ZEI				*e*S	**Sb**	**04 59 42.1**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,1µm,0.1s						
ZEI				smax	smax		
	comp=N,4µm,0.2s						
LSNR	**Lesken**	**0.97**	**279**	*i* PG	**Pn**	**04 59 29.1**	**-0.4**
LSNR				*i* S	**Sn**	**04 59 45.7**	**+2.1**
DIGR	**Digorskoe uzhe**	**1.16**	**259**	*i* PG	**Pg**	**04 59 30.6**	**-1.1**
DIGR				*i* S	**Sn**	**04 59 48.5**	**+0.1**
DIGR				pmax	pmax		
	comp=Z,293nm,0.1s						
DIGR				smax	smax		
	comp=E,628nm,0.2s						
UNCR	**Uncukul**	**1.29**	**108**	*e*PG	**Pn**	**04 59 33.5**	**-0.4**
UNCR				*e*S	**Sn**	**04 59 52.0**	**+0.6**
UNCR				pmax	pmax		
	comp=Z,47nm,0.2s						
KRNR	**Karanay**	**1.34**	**102**	*e*PG	**Pb**	**04 59 34.5**	**-0.4**
KRNR				*i* S	**Sn**	**04 59 53.5**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
ONI	**Oni**	**1.34**	**247**	P	**Pg**	**04 59 34.0**	**-1.2**
ONI				S	**Sn**	**04 59 53.8**	**+1.0**
GOR	**Gori**	**1.37**	**214**	P	**Pg**	**04 59 33.9**	**-1.7**
GOR				S	**Sn**	**04 59 53.7**	**+0.4**
TBLG	**Delisi**	**1.42**	**192**	*e*PG	**Pn**	**04 59 34.5**	**-1.1**
TBLG				*e*S	**Sn**	**04 59 56.1**	**+1.5**
TBLG	**Delisi**	**1.42**	**192**	P	**Pn**	**04 59 34.6**	**-1.1**
TBLG				S	**Sn**	**04 59 56.1**	**+1.5**
DGRG	**David-gareji**	**1.68**	**174**	P	**Pb**	**04 59 40.1**	**-0.6**
DGRG				S	**Sg**	**05 00 06.7**	**+3.2**
AKH	**Akhalkalaki**	**2.10**	**216**	P	**Pn**	**04 59 45.5**	**+0.4**
AKH				S	**Sg**	**05 00 16.2**	**-0.7**
ANN	**Anapa**	**5.80**	**289**	*e*P	Pb	05 00 46.2	-4.6

*BJI **03** 05:10:48.5, 13.°12N×144.°00E, h145km, mB5.1/26, mb5.2/54*

*ISCJB **03** 05:10:48.6±0.5, 13.°14N±0.°03×143.°78E±0.°02, h133km±4km, mb5.1/218, Error ellipse: s-maj=4.6km s-min=3.3km az=176.1*

*IDC **03** 05:10:49.6±0.5, 13.°10N×143.°89E, h136km±4km, mb4.8/35, mb1 4.9/36, mb1mx4.9/38, mbtmp4.8/36, MS3.7/2, Ms1 3.7/2, ms1mx3.0/42, Error ellipse: s-maj=9.6km s-min=7.2km az=80.0*

*MOS **03** 05:10:49.0±1.1, 13.°22N×143.°76E, h137km, mb5.1/55, Error ellipse: s-maj=8.1km s-min=5.4km az=104.4*

*DJA **03** 05:10:50.2±0.3, 13°N±6°×14°4E±°, h142km±5km, M5.1/29, mB5.5/9, mb5.2/29, MLv5.2/1, Mw(mB)5.0/9*

*NEIC **03** 05:10:50.2±0.6, 13.°10N×143.°84E, h140km±4km, mb5.3/133, Error ellipse: s-maj=3.4km s-min=3.1km az=180.0*

NEIC Felt [III] at Hagatna and Santa Rita; [II] at Hagatna Heights. Also felt at Andersen AFB, Chalan Pago, Dededo, Mangilao, Tamuning and Yigo.

ISC 03 05:10:49.9±0.3**, 13.°15N**±0.°04×**143.°88E**±0.°04**, h138**km±2km**, h138**km**:pP-P, n905, σ0.§97**/967**, mb5.2**/215**, 190C-191D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.06**	**65**	P	**Pn**	**05 11 14.8**	**+0.6**
	1µm,0.3s,baz=222,slow=1.2,SNR=217						
GUMO				S	**Sn**	**05 11 32.0**	**-0.6**
	13µm,0.3s,baz=0.0,slow=20,SNR=166						
GUMO	**Guam**	**1.06**	**65**	*e*Pn	**Pn**	**05 11 14.5**	**+0.4**
GUMO				*e*Sn	**Sn**	**05 11 31.3**	**-1.2**
CBIJ	**Chichi jima**	**13.97**	**354**	P	**Pn**	**05 14 03.1**	**+1.2**
	10nm,0.3s,baz=303,slow=22,SNR=6.2						
CBIJ	**Chichi jima**	**13.97**	**354**	P	**Pn**	**05 14 03.1**	**+1.2**
JAY	**Jayapura**	**15.87**	**192**	P	**P**	**05 14 27.2**	**+0.4**
	96nm,1.3s,5µm						
SMPI	**Sarmi**	**15.89**	**199**	P	**Pn**	**05 14 25.9**	**-0.1**
	184nm,1.1s						
SWI	**Sorong**	**18.72**	**223**	P	**Pn**	**05 15 00.2**	**+0.2**
	121nm,0.9s,1µm						
JOW	**Kunigami**	**19.98**	**315**	P	**P**	**05 15 12.3**	**+0.7**
	176nm,0.6s,baz=139,slow=12,SNR=60						
JOW				LR	LR	05 21 24.9	
	comp=Z,207nm,21.1s,baz=161,slow=32						
JOW	**Kunigami**	**19.98**	**315**	P	**P**	**05 15 12.3**	**+0.7**
JHJ	**Hachijo jima 2**	**20.23**	**350**	P	**P**	**05 15 14.2**	**-0.1**
	104nm,0.4s,baz=84,slow=21,SNR=6.4						
MSAI	**Masohi**	**22.11**	**223**	P	**P**	**05 15 35.3**	**+0.9**
	32nm,0.7s,2µm						
TGY	**Tagaytay City**	**22.32**	**275**	P	**P**	**05 15 38.0**	**+1.4**
	145nm,0.4s,baz=211,slow=14,SNR=4.8						
TGY	**Tagaytay City**	**22.32**	**275**	P	**P**	**05 15 38.0**	**+1.4**
PMG	**Port Moresby**	**22.64**	**172**	P	**P**	**05 15 37.3**	**-2.2**
	58nm,0.9s,baz=356,slow=9.1,SNR=12						
PMG				pP	**pP**	**05 16 04.6**	**-0.8**
	48nm,0.8s,baz=0.0,slow=16,SNR=3.9						
PMG	**Port Moresby**	**22.64**	**172**	*e*P	**P**	**05 15 37.6**	**-1.9**
	117nm,1.2s						
PMG	**Port Moresby**	**22.64**	**172**	P	**P**	**05 15 37.6**	**-1.9**
	99nm,1.2s						
AAI	**Ambon**	**22.85**	**224**	P	**P**	**05 15 41.8**	**+0.2**
	124nm,0.9s						
JNU	**Nakatsue**	**23.16**	**331**	P	**P**	**05 15 45.4**	**+1.1**
	137nm,0.5s,baz=126,slow=3.8,SNR=104						
JNU	**Nakatsue**	**23.16**	**331**	P	**P**	**05 15 45.4**	**+1.1**
TWG	**Pinlang**	**23.70**	**297**	*e*P	**P**	**05 15 49.0**	**-0.4**
	301nm,0.7s						
YULB	**Yu-li**	**23.71**	**299**	*e*P	**P**	**05 15 49.0**	**-0.4**
	123nm,0.6s						
NACB	**Ninganchiao**	**23.76**	**301**	*e*P	**P**	**05 15 49.2**	**-0.5**
	115nm,0.4s						
MJAR	**Matsushiro Arr**	**23.85**	**349**	P	**P**	**05 15 49.7**	**-0.8**
	58nm,0.6s,baz=166,slow=9.4,SNR=57						
MJAR				PcP	**PcP**	**05 19 30.3**	**+0.4**
	7.5nm,0.5s,baz=189,slow=4.0,SNR=9.1						
MJAR				ScP	**ScP**	**05 22 54.6**	**-0.9**
	4.8nm,0.6s,baz=168,slow=3.7,SNR=7.7						
MJAR	**Matsushiro Arr**	**23.85**	**349**	P	**P**	**05 15 49.7**	**-0.8**
MJAR				PcP	**PcP**	**05 19 30.3**	**+0.4**
MJAR				ScP	**ScP**	**05 22 54.6**	**-0.9**
MAJO	**Matsushiro**	**23.85**	**349**	*e*P	**P**	**05 15 50.1**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,84nm,0.6s						
MAJO	**Matsushiro**	**23.85**	**349**	*e*P	**P**	**05 15 50.1**	**-0.4**
	comp=Z,84nm,0.6s						
MAT	**Matsushiro**	**23.85**	**349**	P	**P**	**05 15 49.8**	**-0.7**
YHNB	**Yeheng**	**24.14**	**302**	*e*P	**P**	**05 15 53.1**	**-0.2**
	comp=Z,68nm,0.8s						
SSLB	**Suanglung**	**24.15**	**299**	*e*P	**P**	**05 15 53.5**	**+0.1**
	comp=Z,232nm,0.6s						
TATO	**Taipei**	**24.17**	**302**	*e*P	**P**	**05 15 53.6**	**0.0**
	comp=Z,53nm,0.7s						
TPUB	**Ta-pu**	**24.25**	**298**	*e*P	**P**	**05 15 53.3**	**-1.0**
	comp=Z,143nm,0.7s						
MRSI	**Marisa**	**25.12**	**242**	P	**P**	**05 16 02.4**	**+0.2**
	comp=Z,49nm,0.9s						
MYLDM	**Lahad Datu**	**26.26**	**255**	P	**P**	**05 16 15.3**	**+2.7**
MYLDM	**Lahad Datu**	**26.26**	**255**	P	**P**	**05 16 17.1**	**+4.6**
QZH	**Quanzhou**	**26.58**	**300**	⇓*i*P	**P**	**05 16 15.9**	**+0.6**
COEN	**Coen**	**26.94**	**182**	*e*P	**P**	**05 16 18.1**	**-0.5**
	comp=Z,183nm,0.8s						
TSM	**Tawau**	**27.14**	**253**	P	**P**	**05 16 24.1**	**+3.6**
KDM	**Kudat**	**27.33**	**260**	P	**P**	**05 16 25.9**	**+3.8**
SDKM	**Sandakan**	**27.34**	**257**	P	**P**	**05 16 26.3**	**+4.0**
KSRS	**Korea Array**	**28.09**	**332**	P	**P**	**05 16 28.4**	**-0.2**
	comp=Z,36nm,0.7s,baz=140,slow=9.6,SNR=71						
KSRS				pP	**pP**	**05 16 57.5**	**-0.6**
	comp=Z,12nm,0.9s,baz=141,slow=9.5,SNR=3.3						
KSRS				PcP	**PcP**	**05 19 40.8**	**+1.2**
	comp=Z,4.4nm,0.9s,baz=179,slow=2.7,SNR=8.0						
KSRS				ScP	**ScP**	**05 23 08.4**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=145,slow=2.4,SNR=10						
KSAR	**Wonju Array Be**	**28.10**	**332**	P	**P**	**05 16 28.4**	**-0.3**
KSAR				pP	**pP**	**05 16 57.5**	**-0.7**
KSAR				PcP	**PcP**	**05 19 40.8**	**+1.1**
KSAR				ScP	**ScP**	**05 23 08.4**	**+0.5**
KKM	**Kota Kinabalu**	**28.16**	**258**	P	P	05 16 33.5	+3.9
ERM	**Erimo**	**28.77**	**359**	*e*P	**P**	**05 16 37.0**	**+2.4**
ERM				pmax	pmax		
	comp=Z,11nm,0.5s						
ERM	**Erimo**	**28.77**	**359**	*e*P	**P**	**05 16 37.0**	**+2.4**
	comp=Z,11nm,0.5s						
NJ2	**Nanjing**	**29.67**	**313**	*e*P	**P**	**05 16 43.7**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**30.83**	**3**	*i* P	P	05 16 43.1	-10
YUK				*i*		05 17 53.6	
YUK				*i* SS	SS	05 23 41.8	-22
YUK				pmax	pmax		
	comp=Z,50nm,9.0s						
YUK				MLR	MLR		
	comp=Z,148nm,18.0s						
YUK				MLR	MLR		
	comp=E,229nm,18.0s						
YUK				MLR	MLR		
	comp=N,54nm,18.0s						
WHN	**Wuhan**	**32.27**	**307**	⇑P	**P**	**05 17 06.7**	**+1.1**
WHN				pmax	pmax		
	comp=Z,2µm,1.0s						
WHN	**Wuhan**	**32.27**	**307**	⇑P	**P**	**05 17 07.0**	**+1.4**
WHN				pmax	pmax		
	comp=Z,140nm,1.1s						
DL2	**Dalian**	**32.35**	**326**	P	**P**	**05 17 07.8**	**+1.6**
DL2				pmax	pmax		
	comp=Z,60nm,0.8s						
USRK	**Ussuriysk Arra**	**32.58**	**344**	P	**P**	**05 17 08.3**	**+0.3**
	comp=Z,8.5nm,0.5s,baz=146,slow=8.4,SNR=23						
USRK				PcP	**PcP**	**05 19 52.4**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=192,slow=4.1,SNR=6.1						
SBUM	**Sibu**	**33.07**	**254**	P	**P**	**05 17 13.3**	**+0.6**
SBUM	**Sibu**	**33.07**	**254**	P	**P**	**05 17 13.6**	**+0.8**
	comp=Z,33nm,1.1s						
QIZ	**Qiongzhong**	**33.19**	**285**	P	**P**	**05 17 14.0**	**+0.3**
QIZ				S	**S**	**05 22 24.3**	**+0.8**
SNY	**Shenyang**	**33.60**	**332**	⇑P	P	05 17 06.6	-10
SNY				sP	sP	05 17 48.2	-15
SNY				S	S	05 22 19.7	-9.5
SNY				pmax	pmax		
	comp=Z,14nm,0.5s						
SNY				pmax	pmax		
	comp=Z,330nm,12.0s						
SNY				LR	LR		
	comp=N,360nm,16.1s						
SNY				LR	LR		
	comp=E,270nm,12.0s						
SNY				LR	LR		
	comp=Z,330nm,20.4s						
MDJ	**Mudanjiang**	**33.66**	**341**	P	**P**	**05 17 18.5**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,28nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,340nm,7.8s						
MDJ	**Mudanjiang**	**33.66**	**341**	*e*P	**P**	**05 17 18.4**	**+1.0**
	comp=Z,15nm,0.9s						
YSS	**Yuzh-Sakhalins**	**33.72**	**359**	⇑*i*P	**P**	**05 17 18.4**	**+0.5**
YSS				*e*		05 17 44.8	
YSS	**Yuzh-Sakhalins**	**33.72**	**359**	*e*P	**P**	**05 17 18.0**	**+0.1**
	comp=Z,23nm,0.5s						
WRAB	**Tennant Creek**	**34.18**	**196**	*e*P	**P**	**05 17 21.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,135nm,0.7s						
WRAB	**Tennant Creek**	**34.18**	**196**	*e*P	**P**	**05 17 21.6**	**-0.7**
	comp=Z,135nm,0.7s						
WRAB	**Tennant Creek**	**34.18**	**196**	P	**P**	**05 17 21.0**	**-1.2**
	comp=Z,1µm,0.7s						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**05 17 21.4**	**-1.0**
	comp=Z,106nm,0.7s,baz=17,slow=9.6,SNR=442						
WRA				S	**S**	**05 22 36.2**	**-2.7**
	comp=Z,5.2nm,1.1s,baz=12,slow=16,SNR=6.7						
WRA				ScP	**ScP**	**05 23 27.0**	**-1.5**
	comp=Z,7.4nm,0.9s,baz=9.1,slow=3.5,SNR=17						
WRA				PKiKP	**PKiKP**	**05 27 18.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=324,slow=1.4,SNR=13						
WRA				P3KPbc		05 48 21.8	
	comp=Z,0.5nm,0.6s,baz=203,slow=4.1,SNR=4.9						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**05 17 21.4**	**-1.0**
WRA				S	**S**	**05 22 36.2**	**-2.7**
WRA				ScP	**ScP**	**05 23 27.0**	**-1.5**
WRA				PKiKP	**PKiKP**	**05 27 18.7**	**-1.3**
WRA				*e*		05 48 21.8	
CN2	**Changchun**	**34.41**	**336**	*e*P	**P**	**05 17 24.4**	**+0.4**
CN2				PcP	**PcP**	**05 19 56.4**	**-0.1**
CN2				*e*S	**S**	**05 22 43.5**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KSM	**Kuching**	**35.20**	**254**	*e*P	**P**	**05 17 30.4**	**-0.7**
	comp=Z,46nm,0.9s						
KSM	**Kuching**	**35.20**	**254**	P	**P**	**05 17 31.4**	**+0.3**
KSM	**Kuching**	**35.20**	**254**	P	**P**	**05 17 31.3**	**+0.2**
	comp=Z,58nm,1.0s						
FITZ	**Fitzroy Crossi**	**35.89**	**211**	P	**P**	**05 17 36.2**	**-0.7**
	comp=Z,23nm,0.8s,baz=32,slow=9.8,SNR=44						
FITZ	**Fitzroy Crossi**	**35.89**	**211**	*e*P	**P**	**05 17 36.1**	**-0.7**
	comp=Z,24nm,0.8s						
HABR	**Khabarovsk**	**35.98**	**350**	*e*P	**P**	**05 17 35.4**	**-1.9**
HABR				*PP	**pP**	**05 18 03.7**	**-3.8**
HABR				*e**SP	**sP**	**05 18 18.6**	**-4.7**
HABR						05 19 00.1	
HABR				*e*S	**S**	**05 23 04.8**	**-0.7**
HABR				*e**SS	**sS**	**05 23 54.8**	**-3.4**
HABR				pmax	pmax		
	comp=N,17nm,0.9s						
HABR				pmax	pmax		
	comp=E,23nm,0.8s						
HABR				pmax	pmax		
	comp=Z,78nm,2.1s						
HABR				MLR	MLR		
	comp=Z,112nm,16.0s						
ENH	**Enshi**	**36.03**	**304**	*e*P	**P**	**05 17 39.2**	**+1.1**
	comp=Z,76nm,0.6s						
ENH				*e*PcP	**PcP**	**05 20 01.8**	**+0.3**
BJT	**Baijiatuau**	**36.20**	**323**	*e*P	**P**	**05 17 40.0**	**+0.7**
	comp=Z,59nm,0.6s						
BJI	**Beijing**	**36.20**	**323**	P	**P**	**05 17 40.0**	**+0.6**
BJI				pmax	pmax		
	comp=Z,110nm,0.8s						
BLJI	**Banyuglugur**	**36.55**	**237**	P	P	05 17 46.9	+4.3
GMJI	**Gumukmas**	**36.97**	**236**	P	**P**	**05 17 46.7**	**+0.6**
	comp=Z,21nm,1.0s,comp=Z,2µm						
GYA	**Guiyang**	**37.29**	**297**	⇑*i*P	**P**	**05 17 50.2**	**+1.2**
GYA				pP	**pP**	**05 18 20.3**	**+1.0**
GYA				sP	**sP**	**05 18 36.6**	**+1.5**
GYA				PP	**PnPn**	**05 19 21.8**	**+2.6**
GYA				PcP	**PcP**	**05 20 07.3**	**+1.7**
GYA				S	**S**	**05 23 25.0**	**-1.4**
GYA				ScP	**ScP**	**05 23 40.0**	**0.0**
GYA				PcS	**PcS**	**05 23 54.3**	**-0.1**
GYA				ScS	**ScS**	**05 27 47.7**	**-0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
KLR	**Kul'dur**	**37.35**	**347**	⇓*i*P	**P**	**05 17 45.8**	**-3.1**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,74nm,1.6s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
ASAR	**Alice Springs**	**37.87**	**195**	P	**P**	**05 17 53.0**	**-0.6**
	comp=Z,27nm,0.6s,baz=19,slow=12,SNR=254						
ASAR				ScP	**ScP**	**05 23 41.3**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=25,slow=3.9,SNR=12						
ASAR				P3KPbc		05 48 06.0	
	comp=Z,0.5nm,0.5s,baz=195,slow=4.2,SNR=8.1						
ASAR	**Alice Springs**	**37.87**	**195**	P	**P**	**05 17 53.0**	**-0.6**
ASAR				ScP	**ScP**	**05 23 41.3**	**-0.7**
ASAR				*e*		05 48 06.0	
XAN	**Xi'an**	**37.92**	**309**	P	**P**	**05 17 54.4**	**+0.3**
XAN				pP	**pP**	**05 18 25.1**	**+0.6**
XAN				PcP	**PcP**	**05 20 07.4**	**+0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PWJI	**Pagerwojo**	**38.18**	**238**	P	**P**	**05 17 55.6**	**-0.7**
	comp=Z,103nm,0.8s						
SKR	**Severo-Kuril's**	**38.74**	**12**	*e*P	P	05 17 56.0	-4.5
PCJI	**Pacitan**	**38.79**	**239**	P	**P**	**05 18 00.8**	**-0.6**
	comp=Z,205nm,0.9s						
EIDS	**Eidsvold**	**38.92**	**170**	*e*P	**P**	**05 18 01.6**	**-0.8**
	comp=Z,20nm,0.6s						
YOGI	**Yogyakarta**	**39.33**	**240**	P	**P**	**05 18 05.7**	**-0.2**
	comp=Z,317nm,0.9s						
HHC	**Hu-ho-hao-te**	**39.49**	**320**	*e*P	**P**	**05 18 07.6**	**+0.5**
HHC				pP	**pP**	**05 18 40.4**	**+2.7**
HHC				sP	**sP**	**05 18 55.9**	**+2.5**
HHC				PP	**PnPn**	**05 19 44.7**	**-0.2**
HHC				PcP	**PcP**	**05 20 12.7**	**+0.6**
HHC				ScP	**ScP**	**05 23 46.8**	**-1.3**
HHC				S	**S**	**05 23 59.2**	**+0.1**
HHC				PcS	**PcS**	**05 24 01.3**	**-1.0**
HHC				sS	**sS**	**05 24 53.5**	**+1.2**
HHC				SS	**SS**	**05 26 53.5**	**-5.8**
HHC				ScS	**ScS**	**05 27 59.3**	**-1.4**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,6.4s						
BJII	**Banjamegara**	**39.58**	**241**	P	**P**	**05 18 10.7**	**+2.6**
	comp=Z,43nm,0.7s						
BTO	**Baotou**	**40.33**	**319**	*e*P	**P**	**05 18 14.3**	**+0.3**
KMI	**Kunming**	**40.50**	**293**	P	**P**	**05 18 16.9**	**+1.1**
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
CD2	**Chengdu**	**40.91**	**302**	P	**P**	**05 18 19.4**	**+0.5**
CD2				pP	**pP**	**05 18 49.7**	**0.0**
CD2				sP	**sP**	**05 19 05.4**	**0.0**
CD2				PP	**PnPn**	**05 19 59.0**	**-2.6**
CD2				S	**S**	**05 24 20.5**	**+0.1**
CD2				sS	**sS**	**05 25 13.5**	**-0.4**
CD2				SS	**SS**	**05 27 22.5**	**-5.1**
CD2				pmax	pmax		
	comp=Z,450nm,11.3s						
CD2				LR	LR		
	comp=N,450nm,11.3s						
CD2				LR	LR		
	comp=Z,370nm,14.9s						
KTGM	**Kuala Trenggan**	**40.91**	**263**	P	**P**	**05 18 15.9**	**-3.1**
LEM	**Lembang**	**41.13**	**243**	P	**P**	**05 18 21.0**	**0.0**
	comp=Z,60nm,1.0s						
HIA	**Hailar**	**41.15**	**336**	*e*P	**P**	**05 18 21.4**	**+1.0**
	comp=Z,30nm,0.7s						
MYKOM	**Kota Tinggi**	**41.19**	**257**	P	**P**	**05 18 22.2**	**+0.9**
MYKOM	**Kota Tinggi**	**41.19**	**257**	P	**P**	**05 18 21.8**	**+0.5**
	comp=Z,223nm,0.9s,comp=Z,2µm						
NOUC	**Port Laguerre**	**41.36**	**148**	*e*P	**P**	**05 18 22.5**	**+0.1**
PETK	**Petropavlovsk-**	**41.36**	**13**	P	**P**	**05 18 22.7**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=176,slow=5.6,SNR=2.6						
PETK				PcP	**PcP**	**05 20 17.6**	**-0.2**
	comp=Z,28nm,0.9s,baz=187,slow=6.2,SNR=11						
PETK	**Petropavlovsk-**	**41.36**	**13**	P	**P**	**05 18 22.7**	**+0.6**
PETK						05 20 17.6	
PETK	**Petropavlovsk-**	**41.36**	**13**	P	**P**	**05 18 22.7**	**+0.6**
PETK				PcP	**PcP**	**05 20 17.6**	**-0.2**
DZM	**Mont Dzumac**	**41.41**	**147**	P	**P**	**05 18 23.5**	**+0.5**
	baz=304,slow=12						
DZM				LR	LR	05 32 20.8	
	comp=Z,126nm,19.5s,baz=294,slow=31						
DZM	**Mont Dzumac**	**41.41**	**147**	*e*P	**P**	**05 18 22.6**	**-0.4**
DZM	**Mont Dzumac**	**41.41**	**147**	P	**P**	**05 18 23.5**	**+0.5**
KGM	**Kluang**	**41.63**	**258**	P	**P**	**05 18 25.7**	**+0.8**
LZH	**Lanzhou**	**42.55**	**310**	*e*P	**P**	**05 18 33.7**	**+1.4**
LZH				pP	**pP**	**05 19 02.3**	**-1.0**
LZH				sP	**sP**	**05 19 17.2**	**-1.7**
LZH				*e*S	**S**	**05 24 43.4**	**-1.3**
LZH				sS	**sS**	**05 25 39.3**	**+0.8**
LZH				SS	SS	05 27 52.4	-7.4
LZH				pmax	pmax		
	comp=Z,61nm,1.2s						
LZH				pmax	pmax		
	comp=Z,190nm,4.2s						
LZH				LR	LR		
	comp=N,530nm,15.5s						
LZH				LR	LR		
	comp=E,200nm,12.6s						
LZH				LR	LR		
	comp=Z,1µm,16.0s						
FRIM	**Kepong**	**42.90**	**261**	P	**P**	**05 18 35.6**	**+0.4**
IPM	**Ipoh**	**43.16**	**262**	*e*P	**P**	**05 18 37.6**	**+0.3**
	comp=Z,38nm,0.8s						
IPM	**Ipoh**	**43.16**	**262**	P	**P**	**05 18 37.6**	**+0.3**
IPM	**Ipoh**	**43.16**	**262**	P	**P**	**05 18 37.8**	**+0.5**
	comp=Z,53nm,0.8s						
KULM	**Kulim**	**43.33**	**264**	*e*P	**P**	**05 18 39.7**	**+1.1**
	comp=Z,54nm,0.7s						
KULM	**Kulim**	**43.33**	**264**	P	**P**	**05 18 39.7**	**+1.1**
KULM	**Kulim**	**43.33**	**264**	P	**P**	**05 18 39.5**	**+0.9**
	comp=Z,94nm,1.0s,comp=Z,852nm						
CM31	**Chiang Mai Arr**	**43.48**	**283**	*e*P	**P**	**05 18 40.8**	**+1.0**
	comp=Z,19nm,0.6s						
CM31				*e*PcP	**PcP**	**05 20 26.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**43.48**	**283**	P	**P**	**05 18 41.0**	**+1.1**
	comp=Z,20nm,0.7s,baz=82,slow=6.6,SNR=101						
CMAR				PcP	**PcP**	**05 20 26.6**	**+1.0**
	comp=Z,14nm,0.5s,baz=94,slow=1.9,SNR=27						
CMAR				ScP	**ScP**	**05 24 03.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=84,slow=1.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**43.48**	**283**	P	**P**	**05 18 41.0**	**+1.1**
CMAR				PcP	**PcP**	**05 20 26.6**	**+1.0**
CMAR				ScP	**ScP**	**05 24 03.6**	**-0.6**
CHTO	**Chiang Mai**	**43.48**	**284**	*e*P	**P**	**05 18 40.0**	**+0.2**
CHTO				*e*		05 20 26.3	
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**43.48**	**284**	*e*P	**P**	**05 18 40.0**	**+0.2**
	comp=Z,7.6nm,0.8s						

CHTO eP cP **PcP** **05 20 26.3 +0.7**
CHTO Chiang Mai 43.48 284 P **P** **05 18 40.1 +0.2**
comp=Z,13nm,1.0s
ARMA Armidale 43.95 170 *e*P **P** **05 18 43.2 -0.2**
comp=Z,30nm,0.9s
STKA Stephens Creek 44.82 183 P **P** **05 18 48.9 -1.3**
comp=Z,10nm,0.4s,baz=355,slow=7.6,SNR=50
STKA Stephens Creek 44.82 183 *e*P **P** **05 18 48.4 -1.7**
comp=Z,3.4nm,0.8s
PPI Padang Panjang 45.17 256 P **P** **05 18 52.5 -0.8**
comp=Z,42nm,0.8s
MNSI Mandailing Nat 45.56 258 P **P** **05 18 56.0 -0.3**
comp=Z,34nm,0.9s,comp=Z,4μm
MSVF Nonsavu 45.59 131 *e*P **P** **05 18 57.8 +1.2**
MSVF pmax pmax
comp=Z,44nm,1.0s
MSVF Nonsavu 45.59 131 *e*P **P** **05 18 57.8 +1.2**
comp=Z,44nm,1.0s
MSVF Nonsavu 45.59 131 P **P** **05 18 57.0 +0.4**
comp=Z,273nm,1.0s,SNR=8.3
PSI Prapat 45.62 261 P **P** **05 18 57.0 0.0**
comp=Z,69nm,0.8s,comp=Z,732nm
FX1 Attu Island--F 46.00 24 *e*P **P** **05 18 59.9 +0.7**
FORT Forrest 46.25 199 *e*P **P** **05 19 00.3 -1.1**
comp=Z,151nm,1.0s
SONM Songino Array 46.55 326 P **P** **05 19 04.8 +1.0**
comp=Z,17nm,0.6s,baz=144,slow=8.0,SNR=141
SONM pP **pP** **05 19 35.4 +0.2**
comp=Z,6.1nm,0.8s,baz=130,slow=7.8,SNR=2.0
SONM PcP **PcP** **05 20 36.1 +0.3**
comp=Z,5.1nm,0.6s,baz=137,slow=3.4,SNR=7.7
SONM ScP **ScP** **05 24 15.2 -1.3**
comp=Z,2.0nm,0.6s,baz=148,slow=4.2,SNR=9.6
SONM PKiKP **PKiKP** **05 27 30.1 -0.1**
comp=Z,0.9nm,0.8s,baz=131,slow=1.0,SNR=5.3
SONM Songino Array 46.55 326 P **P** **05 19 04.8 +1.0**
SONM pP **pP** **05 19 35.4 +0.2**
SONM PcP **PcP** **05 20 36.1 +0.3**
SONM ScP **ScP** **05 24 15.2 -1.3**
SONM PKiKP **PKiKP** **05 27 30.1 -0.1**
GTA Gaotai 46.76 312 P **P** **05 19 06.7 +1.2**
GTA pP **pP** **05 19 38.7 +1.7**
GTA sP **sP** **05 19 51.1 -1.4**
GTA PcP **PcP** **05 20 37.5 +0.8**
GTA PP **PP** **05 20 58.2 +1.1**
GTA ScP **ScP** **05 24 16.8 -0.8**
GTA S **S** **05 25 44.2 -1.0**
GTA sS **sS** **05 26 37.4 -2.3**
GTA ScS **ScS** **05 28 44.0 -2.2**
GTA pmax pmax
comp=Z,61nm,0.8s
GTA pmax pmax
comp=Z,200nm,9.5s
GTA LR LR
comp=N,220nm,19.0s
GTA LR LR
comp=E,260nm,18.1s
GTA LR LR
comp=Z,400nm,18.5s
CAN Canberra 48.44 174 *e*P **P** **05 19 18.5 +0.1**
CAN pmax pmax
comp=Z,38nm,0.8s
CAN Canberra 48.44 174 *e*P **P** **05 19 18.5 +0.1**
comp=Z,38nm,0.8s
BSI Banda Aceh 48.47 266 P **P** **05 19 18.7 -0.3**
ZAK Zakamensk 49.68 327⇓ *i*P **P** **05 19 28.1 +0.3**
ZAK *e* 05 19 59.6
ZAK *e* 05 20 47.3
ZAK pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 49.87 351 *e*P **P** **05 19 28.1 -0.7**
YAK *e* 05 20 46.6
YAK *e*S **S** **05 26 28.4 +0.4**
YAK *e* 05 29 03.4
YAK *e*SS **SS** **05 29 59.8 -2.5**
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK smax smax
comp=N,100nm,5.2s
YAK smax smax
comp=E,35nm,3.3s
YAK Yakutsk 49.87 351 *e*P **P** **05 19 27.8 -1.1**
comp=E,68nm,0.6s
BOD Bodaibo 49.99 340 *e*P **P** **05 19 29.2 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.8s
SEY Seymchan 50.08 5*c e*P **P** **05 19 30.6 +0.2**
TLY Talaya 50.22 328 *e*P **P** **05 19 31.3 -0.4**
TLY pmax pmax
comp=Z,21nm,0.9s
TLY Talaya 50.22 328 *e*P **P** **05 19 32.9 +1.1**
comp=Z,23nm,1.0s
TLY Talaya 50.22 328 P **P** **05 19 32.5 +0.8**
comp=Z,132nm,0.9s,SNR=6.0
IRK Irkutsk 50.23 329 *e*P **P** **05 19 30.8 -1.0**
IRK pmax pmax
comp=Z,40nm,1.1s
LSA Lhasa 51.35 298 P **P** **05 19 42.2 +1.1**
LSA Lhasa 51.35 298 *e*P **P** **05 19 42.2 +1.1**
LSA *e* 05 20 55.2
LSA pmax pmax
comp=Z,37nm,0.7s
LSA Lhasa 51.35 298 *e*P **P** **05 19 42.2 +1.1**
comp=Z,37nm,0.7s
LSA *e*PcP **PcP** **05 20 55.2 +1.1**
MOY Mondy 51.59 327 *e*P **P** **05 19 42.4 +0.3**
MOY pmax pmax
comp=Z,23nm,2.6s
TAPN Taplejung 54.15 294 *e*P **P** **05 20 01.9 +0.4**
comp=Z,70nm,0.7s
TAPN Taplejung 54.15 294 *e*P **P** **05 20 01.9 +0.4**
comp=Z,70nm,0.7s
ODAN Odare 54.41 294 *e*P **P** **05 20 03.5 +0.2**
comp=Z,62nm,0.8s
ODAN Odare 54.41 294 *e*P **P** **05 20 03.5 +0.2**
comp=Z,62nm,0.8s
RAMN Ramite 55.12 294 *e*P **P** **05 20 08.7 +0.2**
comp=Z,82nm,0.8s
RAMN Ramite 55.12 294 *e*P **P** **05 20 08.7 +0.2**
comp=Z,82nm,0.8s
HVS Khovu-Aksy 55.35 324*c i*P **P** **05 20 10.8 +1.3**
JIRN Jiri 55.52 295 *e*P **P** **05 20 11.9 +0.4**
comp=Z,14nm,0.4s
OUZ Omahuta 55.74 151 *e*P **P** **05 20 14.1 +1.8**
comp=Z,40nm,0.7s
GUN Gumba 55.80 295 *e*P **P** **05 20 13.8 +0.3**
comp=Z,107nm,0.4s
PKI Pulchoki 56.21 294 *e*P **P** **05 20 15.9 -0.4**
comp=Z,44nm,0.5s
PKI Pulchoki 56.21 294 *e*P **P** **05 20 15.9 -0.4**
PKI pmax pmax
comp=Z,45nm,0.5s
PKI Pulchoki 56.21 294 *e*P **P** **05 20 15.9 -0.4**
comp=Z,44nm,0.5s
KKN Kakani 56.33 295 *e*P **P** **05 20 17.0 0.0**
comp=Z,63nm,0.9s
KKN Kakani 56.33 295 *e*P **P** **05 20 17.0 0.0**
KKN pmax pmax
comp=Z,63nm,0.9s
KKN Kakani 56.33 295 *e*P **P** **05 20 17.0 0.0**
comp=Z,63nm,0.9s
DMN Daman 56.48 294 *e*P **P** **05 20 18.1 0.0**
comp=Z,72nm,0.8s
DMN Daman 56.48 294 *e*P **P** **05 20 18.1 0.0**
comp=Z,72nm,0.8s
WMQ Urumqi 56.75 314 P **P** **05 20 20.8 +1.2**
WMQ pmax pmax
comp=Z,42nm,1.1s
GKN Gorkha 56.91 295 *e*P **P** **05 20 21.1 0.0**
comp=Z,62nm,0.5s
GKN Gorkha 56.91 295 *e*P **P** **05 20 21.1 0.0**
comp=Z,62nm,0.5s
DANN Dangsing 57.69 295 *e*P **P** **05 20 26.8 +0.1**
comp=Z,158nm,0.6s
DANN Dangsing 57.69 295 *e*P **P** **05 20 26.8 +0.1**
comp=Z,158nm,0.6s
KOLN Koldanda 57.82 295 *e*P **P** **05 20 27.5 0.0**
comp=Z,70nm,0.6s
KOLN Koldanda 57.82 295 *e*P **P** **05 20 27.5 0.0**
comp=Z,70nm,0.6s
PYUN Piuthan 58.36 295 *e*P **P** **05 20 31.2 -0.1**
comp=Z,206nm,0.9s
PYUN Piuthan 58.36 295 *e*P **P** **05 20 31.2 -0.1**
comp=Z,206nm,0.9s
GAMB Gambell 59.23 21 *e*P **P** **05 20 36.5 +0.2**
comp=Z,3.2nm,0.6s
URZ Urewera 59.86 150 *e*P **P** **05 20 40.7 -0.3**
comp=Z,95nm,1.5s
MK31 Makanchi Array 61.14 316 *i*P **P** **05 20 50.4 +0.6**
MK31 pmax pmax
comp=Z,8.0nm,0.3s
MKAR Makanchi Array 61.14 316 P **P** **05 20 50.6 +0.8**
comp=Z,15nm,0.5s,baz=93,slow=8.3,SNR=259
MKAR PKP2bc 05 50 14.2
comp=Z,0.7nm,0.8s,baz=267,slow=2.2,SNR=4.8
MKAR Makanchi Array 61.14 316*ce*P **P** **05 20 50.5 +0.8**
MKAR pmax pmax
comp=Z,15nm,0.5s
MKAR Makanchi Array 61.14 316 *e*P **P** **05 20 50.7 +0.9**
MKAR ⇑*e* 05 50 14.2
ZALV Zalesovo Beam 61.43 325 P **P** **05 20 51.4 -0.1**
comp=Z,18nm,0.5s,baz=110,slow=7.0,SNR=55
ZALV PcP **PcP** **05 21 31.7 -0.5**
comp=Z,15nm,0.4s,baz=125,slow=4.4,SNR=17
ZALV Zalesovo Beam 61.43 325 P **P** **05 20 51.4 -0.1**
ZALV 05 21 31.7
ZALV Zalesovo Beam 61.43 325 P **P** **05 20 51.4 -0.1**
ZALV PcP **PcP** **05 21 31.7 -0.5**
TNA Tin City 61.60 21 *e*P **P** **05 20 53.4 +1.0**
comp=Z,4.4nm,0.8s
RPZ Rata Peaks 61.79 158 *e*P **P** **05 20 53.0 -1.0**
comp=Z,27nm,0.6s
NVS Novosibirsk 62.58 325⇑ *i*P **P** **05 20 58.8 -0.3**
NVS pmax pmax
comp=Z,19nm,0.9s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,13nm,0.8s
HYB Hyderabad 62.91 283 *i*P **P** **05 21 01.0 -1.0**
comp=E,110nm,1.0s
KURK Kurchatov 64.31 320*c i*P **P** **05 21 10.8 +0.2**
KURK pmax pmax
comp=Z,44nm,0.7s
KURK Kurchatov 64.31 320 *e*P **P** **05 21 10.5 -0.1**
comp=Z,41nm,0.8s
KURK Kurchatov 64.31 320 P **P** **05 21 10.5 -0.1**
comp=Z,371nm,0.4s,SNR=54
KSH Kashi 64.75 308 P **P** **05 21 17.0 +3.1**
KSH PcP **pP** **05 21 48.8 +1.6**
KSH pP pwP 05 21 52.4 +5.2
KSH sP **sP** **05 22 05.5 +3.2**
KSH PP PP 05 23 44.9 +7.0
KSH ScP 05 25 34.6
KSH PcS 05 25 51.5
KSH S **S** **05 29 46.3 +2.6**
KSH sS **sS** **05 30 43.5 +2.3**
KSH ScS **SKSac** **05 30 52.9 -2.7**
KSH SS **SS** **05 34 02.8 +5.6**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,110nm,3.1s
KSH LR LR
comp=N,160nm,11.4s
KSH LR LR
comp=E,400nm,18.4s
KSH LR LR
comp=Z,170nm,8.2s
ULHL Ulahol 64.75 311 P **P** **05 21 14.6 +0.6**
SNR=20
KDAK Kodiak Island 64.95 32 P **P** **05 21 14.0 -0.6**
comp=Z,98nm,1.6s,SNR=12
TKM2 Tokmak 2 65.29 311 *e*P **P** **05 21 17.9 +0.5**
TKM2 pmax pmax
comp=Z,13nm,0.9s
TKM2 Tokmak 2 65.29 311 *e*P **P** **05 21 17.9 +0.5**
comp=Z,13nm,0.9s
KZA Kyzart 65.47 310 P **P** **05 21 20.4 +1.5**
SNR=39
KBK Karagaybulak 65.74 311 P **P** **05 21 20.9 +0.6**
SNR=15
CHMS Chumysh 65.91 311 P **P** **05 21 21.6 +0.4**
SNR=7.0
FRU Bishkek 66.00 311 *e*P **P** **05 21 22.0 +0.3**
FRU pmax pmax
comp=Z,50nm,1.0s
AAK Ala-Archa 66.07 311 P **P** **05 21 22.8 +0.4**
comp=Z,5.3nm,0.4s,baz=109,slow=5.3,SNR=16
AAK Ala-Archa 66.07 311 *i*P **P** **05 21 22.8 +0.4**
AAK Ala-Archa 66.07 311 P **P** **05 21 22.8 +0.4**
AAK Ala-Archa 66.07 311 P **P** **05 21 22.0 -0.4**
comp=Z,75nm,0.4s,SNR=8.6
AAK Ala-Archa 66.07 311 P **P** **05 21 22.8 +0.4**
SNR=9.6
EKS2 Erkin-Say 66.60 311 *e*P **P** **05 21 26.1 +0.4**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 66.60 311 *e*P **P** **05 21 26.1 +0.4**
comp=Z,12nm,0.9s
EKS2 Erkin-Say 66.60 311 P **P** **05 21 26.2 +0.5**
SNR=13
AML Almayashu 66.63 310 P **P** **05 21 27.3 +1.0**
SNR=7.9
KAD Karat 67.06 283 *i*P **P** **05 21 28.1 -0.9**
POO Poona 67.23 285⇑ *i*P **P** **05 21 27.0 -3.0**
comp=Z,160nm,1.0s
TRF Thorofare Moun 67.60 26 *e*P **P** **05 21 30.2 -1.4**
comp=Z,9.0nm,0.8s
PMR Palmer 67.63 28 *e*P **P** **05 21 30.9 -0.7**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 67.63 28 *e*P **P** **05 21 30.9 -0.7**
comp=Z,17nm,1.0s
SML Sawmill 68.05 28 *e*P **P** **05 21 34.3 0.0**
SML pmax pmax
comp=Z,5.0nm,0.6s
SML Sawmill 68.05 28 *e*P **P** **05 21 34.3 0.0**
comp=Z,4.8nm,0.6s
MCK McKinley 68.26 26 *e*P **P** **05 21 34.8 -0.8**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 68.26 26 *e*P **P** **05 21 34.8 -0.8**
comp=Z,10.0nm,0.9s
COLD Coldfoot 68.72 22 *e*P **P** **05 21 38.9 +0.5**
comp=Z,13nm,0.6s
COLA College 69.00 25 *e*P **P** **05 21 39.6 -0.5**
COLA pmax pmax
comp=Z,5.0nm,0.6s
COLA College 69.00 25 *e*P **P** **05 21 39.5 -0.5**
comp=Z,5.0nm,0.6s
KK31 Karatay Array 69.02 311 *i*P **P** **05 21 40.6 -0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 69.02 311 *e*P **P** **05 21 41.2 +0.5**
KKAR pmax pmax
comp=Z,20nm,0.8s
KKAR Karatay Array 69.02 311 *e*P **P** **05 21 41.2 +0.5**
comp=Z,20nm,0.8s
ILAR Eielson Array 69.38 25 P **P** **05 21 40.9 -1.6**
comp=Z,8.6nm,0.5s,baz=251,slow=5.6,SNR=287
ILAR Eielson Array 69.38 25 P **P** **05 21 40.9 -1.6**
PAX Paxson 69.61 27 *e*P **P** **05 21 43.3 -0.7**
PAX pmax pmax
comp=Z,10.0nm,0.5s
PAX Paxson 69.61 27 *e*P **P** **05 21 43.3 -0.7**
comp=Z,9.8nm,0.5s
BMRM Bremner River 69.64 30 *e*P **P** **05 21 44.2 0.0**
comp=Z,66nm,1.8s
BVA0 Borovoye Array 69.68 322 *i*P **P** **05 21 44.6 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.4s
BVAR Borovoye Array 69.68 322 P **P** **05 21 44.8 +0.3**
comp=Z,35nm,0.4s,baz=105,slow=7.1,SNR=181
BVAR Borovoye Array 69.68 322 P **P** **05 21 44.8 +0.3**
BVAR Borovoye Array 69.68 322 P **P** **05 21 44.8 +0.3**
BRVK Borovoye 69.75 322 *e*P **P** **05 21 45.0 +0.1**
BRVK pmax pmax
comp=Z,33nm,0.6s
BRVK Borovoye 69.75 322 *e*P **P** **05 21 45.0 +0.1**
comp=Z,33nm,0.6s
BRVK Borovoye 69.75 322 P **P** **05 21 45.3 +0.4**
comp=Z,356nm,0.5s,SNR=23
DOT Dot Lake 70.36 27 *e*P **P** **05 21 47.8 -0.7**
comp=Z,17nm,0.7s
MENT Mentasta 70.39 28 *e*P **P** **05 21 49.0 +0.3**
EGAK Eagle 71.79 26 *e*P **P** **05 21 57.2 +0.1**
comp=Z,61nm,2.2s
PNL Peninsula 72.05 31 *e*P **P** **05 21 59.2 +0.5**
comp=Z,11nm,0.4s
INK Inuvik 75.14 22 *e*P **P** **05 22 16.2 -0.4**
comp=Z,24nm,0.8s
SVE Sverdlovsk 75.42 326⇑ *i*P **P** **05 22 18.9 +0.5**
SVE pmax pmax
comp=Z,29nm,0.9s
AB31 Akbulak array 76.23 318 *i*P **P** **05 22 22.6 -0.5**
AB31 pmax pmax
comp=Z,18nm,0.4s
ABKAR Akbulak array 76.23 318 *e*P **P** **05 22 22.9 -0.2**
comp=Z,22nm,0.5s
ARU Arti 76.58 325*c i*P **P** **05 22 24.7 -0.3**
ARU 05 25 14.8
ARU S **S** **05 32 01.9 +2.1**
ARU SS **SS** **05 36 57.9 +0.4**
ARU pmax pmax
comp=Z,29nm,0.8s
ARU Arti 76.58 325 *e*P **P** **05 22 24.6 -0.3**
comp=Z,25nm,0.6s
DLBC Dease Lake 76.87 33 P **P** **05 22 26.8 +0.1**
comp=Z,12nm,0.9s,baz=316,slow=3.1,SNR=6.9
DLBC Dease Lake 76.87 33 *e*P **P** **05 22 27.6 +0.9**
AKTO Aktyubinsk 77.37 319 P **P** **05 22 29.0 -0.5**
comp=Z,5.3nm,0.5s,baz=87,slow=6.9,SNR=14
AKTO Aktyubinsk 77.37 319 *i*P **P** **05 22 27.9 -1.7**
AKTO Aktyubinsk 77.37 319 P **P** **05 22 29.0 -0.5**
BBB Bella Bella 78.53 39 P **P** **05 22 35.5 -0.3**
comp=Z,32nm,1.2s,baz=304,slow=7.9,SNR=5.0
BBB Bella Bella 78.53 39 P **P** **05 22 35.5 -0.3**
NLWA Neiton Lookou 81.96 43 *e*P **P** **05 22 55.9 +1.4**
comp=Z,66nm,1.2s
PGC Sidney 82.01 42 *e*P **P** **05 22 55.6 +1.0**
comp=Z,2.4nm,0.9s
KEBM Edson Butte 82.48 48 *e*P **P** **05 22 58.2 +0.9**
comp=Z,69nm,0.9s
VDB Vedder Mountai 82.81 41 P **P** **05 22 59.2 +0.5**
JCW Jim Creek 83.09 42 P **P** **05 23 01.0 +0.7**
FL2 Flat Top 2 83.22 44 P **P** **05 23 02.3 +1.2**
LON Longmire 83.47 44 *e*P **P** **05 23 02.7 +0.4**
LON pmax pmax
comp=Z,16nm,0.8s
LON Longmire 83.47 44 *e*P **P** **05 23 02.7 +0.4**
comp=Z,16nm,0.8s
HUMO Hull Mountain 83.53 48 *e*P **P** **05 23 04.0 +1.3**
comp=Z,37nm,0.8s
YKW3 Yellowknife Ar 83.67 27 *e*P **P** **05 23 02.9 +0.1**
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 83.69 27 P **P** **05 23 02.5 -0.5**
comp=Z,25nm,0.4s,baz=285,slow=5.0,SNR=671
YKA PKiKP **PKiKP** **05 28 17.9 -0.5**
comp=Z,0.4nm,0.6s,baz=294,slow=1.5,SNR=5.5
YKA Yellowknife Ar 83.69 27 P **P** **05 23 02.5 -0.5**
YKA S PKiKP **PKiKP** **05 28 17.9 -0.5**
VLL Laurance Lake 83.83 45 P **P** **05 23 05.1 +0.9**
YBH Yreka Blue Hor 83.89 49 *e*P **P** **05 23 05.2 +0.6**
comp=Z,51nm,0.8s
NAC Naches 84.13 44 P **P** **05 23 06.7 +1.0**
TBM Table Mountain 84.19 43 P **P** **05 23 06.5 +0.6**
WDC Whiskeytown Da 84.25 50 *e*P **P** **05 23 06.6 +0.3**
WDC pmax pmax
comp=Z,21nm,0.8s
WDC Whiskeytown Da 84.25 50 *e*P **P** **05 23 06.6 +0.3**
comp=Z,21nm,0.8s
ETW Entiat 84.27 43 P **P** **05 23 06.7 +0.3**
VIPM Ingram Point 84.78 46 P **P** **05 23 09.6 +0.5**
VIPM Ingram Point 84.78 46 P **P** **05 23 09.6 +0.5**
HAWA Hanford 85.08 44 *e*P **P** **05 23 11.0 +0.6**
comp=Z,57nm,1.1s
RES Resolute Bay 85.20 13 P **P** **05 23 10.2 -0.1**
comp=Z,28nm,0.8s,baz=302,slow=5.0,SNR=84
RES Resolute Bay 85.20 13 *e*P **P** **05 23 10.4 +0.1**
comp=Z,24nm,0.8s
WRD Warden 85.24 43 P **P** **05 23 11.7 +0.5**
KLMR Klimovskoe 85.48 332 *e*P **P** **05 23 10.1 -1.9**
KLMR pmax pmax
comp=Z,9.0nm,0.6s
MOD Modoc 85.60 48 *e*P **P** **05 23 13.8 +0.6**
comp=Z,22nm,0.6s
NEW Newport 86.20 41 *e*P **P** **05 23 16.0 +0.1**
comp=Z,98nm,0.6s
NEW Newport 86.20 41 ⇓P **P** **05 23 16.3 +0.4**
baz=86
CMB Columbia Colle 86.45 52 *e*P **P** **05 23 18.0 +0.6**
CMB pmax pmax
comp=Z,28nm,0.7s
CMB Columbia Colle 86.45 52 *e*P **P** **05 23 18.0 +0.6**
comp=Z,28nm,0.7s
KEV Kevo 86.64 342 *e*P **P** **05 23 16.6 -0.9**
KEV pmax pmax
comp=Z,5.0nm,0.4s
KEV Kevo 86.64 342 *e*p **P** **05 23 16.6 -0.9**
comp=Z,5.4nm,0.4s
C11A Tepee Creek (N 86.87 42 ⇓P **P** **05 23 19.6 +0.4**
baz=87
A12A Yaak River Ran 86.95 40 ⇑P **P** **05 23 20.6 +1.0**
baz=87,SNR=42
BMO Blue Mountains 86.98 45 *e*P **P** **05 23 20.2 +0.3**
BMO Blue Mountains 86.98 45 *e*P **P** **05 23 20.2 +0.3**
comp=Z,83nm,0.8s
B12A Libby 87.12 41 ⇓P **P** **05 23 21.1 +0.7**
baz=87,SNR=30
PTRM Twissleman Ran 87.16 54 *e*P **P** **05 23 22.1 +1.2**
ARCES ARCESS Array B 87.21 342 P **P** **05 23 20.3 -0.1**
comp=Z,4.7nm,0.4s,baz=76,slow=7.2,SNR=69
ARCES PKiKP **PKiKP** **05 28 23.9 -0.2**
comp=Z,1.8nm,0.4s,baz=97,slow=1.0,SNR=32
ARCES ARCESS Array B 87.21 342 P **P** **05 23 20.3 -0.1**
ARCES PKiKP **PKiKP** **05 28 23.9 -0.2**
C12B Naegeli Ranch, 87.41 42 ⇓P **P** **05 23 22.2 +0.4**
baz=87,SNR=19
SMMC Simmler 87.41 54 ⇑P **P** **05 23 23.1 +1.0**
baz=87,SNR=5.4
PKM Peak Mountain 87.66 55 ⇓P **P** **05 23 24.5 +1.1**
baz=88,SNR=16
D12A Red Ives Fores 87.68 42 ⇑P **P** **05 23 23.4 +0.3**
baz=88
E12A Beaver Dam Sad 87.72 43 ⇑P **P** **05 23 23.8 +0.3**
baz=88
A13A Flathead Natio 87.73 40 ⇓P **P** **05 23 24.2 +0.8**
baz=88
MLAC Mammoth Lakes 87.74 52 ⇑P **P** **05 23 24.9 +1.0**
baz=88
RCTC Rector, Farmer 87.77 53 ⇑P **P** **05 23 23.9 +0.2**
baz=88
BSMT Bassoo Peak 87.81 41 *e*P **P** **05 23 24.3 +0.4**
SBC Santa Barbara 87.86 55 ⇓P **P** **05 23 25.2 +1.1**
baz=88
B13A Whitefish 87.86 41 ⇓P **P** **05 23 24.6 +0.6**
baz=88,SNR=35
NVAR Mina Array Bea 87.95 51 P **P** **05 23 25.7 +0.9**
comp=Z,95nm,0.7s,baz=264,slow=5.8,SNR=232
NVAR Mina Array Bea 87.95 51 P **P** **05 23 25.7 +0.9**
C13A Hot Springs 88.00 41 ⇑P **P** **05 23 24.8 +0.1**
baz=88,SNR=18
VES Vestal, Richgr 88.00 54 ⇑P **P** **05 23 24.8 0.0**
baz=88,SNR=12
WALA Waterton Lakes 88.01 40 *e*P **P** **05 23 25.3 +0.6**
comp=Z,1.5nm,1.3s
MTUM Tungsten Hills 88.02 52 *e*P **P** **05 23 25.9 +0.8**
BSC Santa Cruz Isl 88.03 56 ⇓P **P** **05 23 25.6 +0.6**
baz=88
BLMT Blacktail Moun 88.04 41 *e*P **P** **05 23 24.9 -0.1**
F12A Elk City 88.12 43 ⇑P **P** **05 23 25.1 -0.2**
baz=88,SNR=24
JTMT Jette 88.17 41 *e*P **P** **05 23 25.8 +0.2**
BMN Battle Mountai 88.22 49 *e*P **P** **05 23 26.9 +0.9**
BMN pmax pmax
comp=Z,34nm,0.8s
BMN Battle Mountai 88.22 49 *e*P **P** **05 23 26.9 +0.9**
comp=Z,34nm,0.8s
D13A Huson 88.25 42 ⇓P **P** **05 23 25.5 -0.4**
baz=88,SNR=19
G12A Big Creek, Yel 88.25 44 ⇑P **P** **05 23 26.0 -0.1**
baz=88
JOF Joensuu 88.29 335 *e*P **P** **05 23 23.4 -2.2**
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 88.29 335 *e*p **P** **05 23 23.4 -2.2**
comp=Z,7.7nm,0.6s
A14A Double T Ranch 88.34 40 ⇓P **P** **05 23 27.0 +0.7**
baz=88,SNR=22
TIN Tinemaha 88.36 52 ⇓P **P** **05 23 27.6 +1.0**
baz=88,SNR=9.9
ZEI Tsey 88.36 313 *e*P **P** **05 23 24.9 -1.8**
ZEI pmax pmax

comp=Z,8.0nm,1.0s
MFID Camas Ranch 88.40 46 *e*P P 05 23 27.4 +0.7
comp=Z,104nm,0.9s
MFID Camas Ranch 88.40 46 ⇑P P 05 23 27.4 +0.7
baz=88,SNR=85
SWMT Swartz Lake 88.43 42 *e*P P 05 23 26.6 -0.1
BLG Laguna Peak 88.46 55 ⇓P P 05 23 27.5 +0.5
baz=88
C14A Swan Lake 88.51 41 ⇑P P 05 23 27.2 +0.1
baz=88
ISA Isabella 88.53 54 *e*P P 05 23 27.9 +0.5
ISA pmax pmax
comp=Z,16nm,0.8s
ISA Isabella 88.53 54 *e*P P 05 23 27.9 +0.5
comp=Z,16nm,0.8s
ISA Isabella 88.53 54 ⇓P P 05 23 27.5 +0.1
baz=88,SNR=11
OSI Osito Adit 88.60 55 *e*P P 05 23 28.6 +0.9
comp=Z,30nm,0.7s
OSI Osito Adit 88.60 55 ⇓P P 05 23 28.9 +1.2
baz=89
E13A Victor 88.63 43 ⇓P P 05 23 27.7 0.0
baz=89,SNR=13
B14A Marquette Ranc 88.63 41 ⇑P P 05 23 28.1 +0.4
baz=89,SNR=34
CWC Cottonwood Cre 88.64 53 ⇑P P 05 23 28.5 +0.5
baz=89
MSO Missoula 88.67 42 *e*P P 05 23 27.8 -0.2
comp=Z,32nm,2.0s
MSO Missoula 88.67 42 ⇓P P 05 23 27.7 -0.2
baz=89
F13A Darby 88.73 43 ⇑P P 05 23 27.8 -0.4
baz=89,SNR=41
H12A Diamond D Ranc 88.74 45 ⇓P P 05 23 28.4 +0.1
baz=89,SNR=23
A15A Johnson Ranch, 88.77 40 ⇓P P 05 23 28.4 +0.1
baz=89,SNR=14
I12A Atlanta 88.77 45 ⇑P P 05 23 28.9 +0.4
baz=89
KBZ Khabaz 88.79 315 P P 05 23 27.8 -0.5
comp=Z,3.5nm,0.8s,baz=261,slow=3.0,SNR=4.8
KBZ Khabaz 88.79 315 P P 05 23 27.8 -0.5
KBZ Khabaz 88.79 315 P P 05 23 27.8 -0.5
SLMT Seeley Lake 88.83 42 *e*P P 05 23 28.6 -0.1
KIV Kislovodsk 88.87 315 *e*P P 05 23 21.8 -7.0
KIV pmax pmax
comp=Z,3.0nm,0.9s
D14A Greenough 88.88 42 ⇑P P 05 23 28.9 +0.1
baz=89,SNR=8.8
OBN Obninsk 88.95 327 ⇑*i*P P 05 23 28.1 -0.7
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,100nm,18.0s
G13A Cobalt 89.00 44 ⇓P P 05 23 29.7 +0.1
baz=89,SNR=91
DECC Green Verdugo 89.01 55 ⇓P P 05 23 30.2 +0.6
baz=89
GRAC Grapevine Rang 89.04 52 ⇓P P 05 23 30.5 +0.8
baz=89
E14A Clinton 89.09 42 ⇓P P 05 23 29.8 -0.2
baz=89,SNR=12
B15A Bradely Ranch, 89.09 40 ⇑P P 05 23 29.7 -0.1
baz=89,SNR=36
CHMT Chamberlain Mo 89.09 42 *e*P P 05 23 29.8 -0.2
EDW2 Edwards Air Fo 89.12 54 ⇓P P 05 23 31.0 +0.9
baz=89,SNR=22
H13A Challis 89.15 44 ⇓P P 05 23 30.8 +0.6
baz=89,SNR=43
PASC Pasadena Art C 89.15 55 *e*P P 05 23 30.7 +0.5
comp=Z,28nm,0.8s
CIS Catalina Islan 89.17 56 ⇑P P 05 23 30.8 +0.4
baz=89,SNR=12
FMP Fort Macarthur 89.18 56 ⇑P P 05 23 31.5 +1.1
baz=89
LRMC Laurel Mountai 89.20 54 ⇑P P 05 23 31.4 +0.8
baz=89
MPMC Manual Prospec 89.20 53 ⇑P P 05 23 31.5 +0.9
baz=89,SNR=52
MWC Mount Wilson 89.24 55 *e*P P 05 23 31.7 +0.8
MWC pmax pmax
comp=Z,48nm,1.3s
MWC Mount Wilson 89.24 55 *e*P P 05 23 31.7 +0.8
comp=Z,48nm,1.3s
C15A Salmond Ranch, 89.24 41 ⇓P P 05 23 30.4 -0.2
baz=89,SNR=22
HLID Hailey 89.34 45 *e*P P 05 23 32.0 +0.8
comp=Z,39nm,0.8s
HLID Hailey 89.34 45 ⇓P P 05 23 31.8 +0.7
baz=89,SNR=65
F14A Wisdom 89.36 43 ⇓P P 05 23 31.2 0.0
baz=89
I13A Wildhorse Cree 89.44 45 ⇓P P 05 23 32.3 +0.6
baz=89,SNR=40
G14A Jackson 89.48 44 ⇑P P 05 23 31.8 0.0
baz=89
A16A West Butte Ran 89.49 40 ⇓P P 05 23 31.6 -0.1
baz=89,SNR=12
D15A Lincoln 89.53 42 ⇓P P 05 23 31.9 0.0
baz=90,SNR=10
BFSC Mount Baldy Ra 89.55 55 ⇑P P 05 23 32.6 +0.3
baz=90,SNR=9.8
J13A Cove Ranch, Pi 89.56 45 ⇓P P 05 23 32.9 +0.7
baz=90,SNR=54
FURC Furnace Creek, 89.58 53 ⇓P P 05 23 33.1 +1.0
baz=90,SNR=31
ELK Elko 89.59 48 *e*P P 05 23 33.4 +0.9
B16A M & M Farms, S 89.60 40 ⇑P P 05 23 32.2 +0.1
baz=90
E15A Deer Lodge 89.65 42 ⇑P P 05 23 32.6 +0.1
baz=90,SNR=32
H14A Leadore 89.73 44 ⇓P P 05 23 33.7 +0.7
baz=90,SNR=46
C16A Fuhringer Ranc 89.78 41 ⇓P P 05 23 32.6 -0.4
baz=90,SNR=16
I14A Mackay 89.89 45 ⇓P P 05 23 34.6 +0.8
baz=90,SNR=45
RRX Edison Barstow 89.90 54 ⇓P P 05 23 34.7 +1.0
baz=90
F15A Butte 89.93 43 ⇑P P 05 23 34.0 +0.1
baz=90,SNR=38
GSC Goldstone 89.94 54 *e*P P 05 23 35.0 +1.0
GSC Goldstone 89.94 54 *e*P P 05 23 35.0 +1.0
comp=Z,52nm,0.8s
GSC Goldstone 89.94 54 ⇑P P 05 23 34.8 +0.8
baz=90,SNR=21
LRM Limekiln Ridge 89.97 43 *e*P P 05 23 34.4 +0.3
DLMT Dillon 90.02 43 *e*P P 05 23 34.6 +0.4
comp=Z,15nm,0.8s
MCMT McKenzie Canyo 90.02 44 *e*P P 05 23 34.5 +0.1
comp=Z,5.6nm,0.7s
R11A Troy Canyon, C 90.02 51 ⇓P P 05 23 35.1 +0.7
baz=90,SNR=7.7
J14A Carey 90.03 45 ⇓P P 05 23 35.5 +1.1
baz=90,SNR=42
A17A Triple J Farms 90.05 39 ⇑P P 05 23 34.3 0.0
baz=90,SNR=6.5
HRY Holter Researc 90.08 42 *e*P P 05 23 35.2 +0.7
MURC Murrieta 90.09 56 ⇓P P 05 23 35.1 +0.4
baz=90,SNR=9.8
G15A Dillon 90.15 43 ⇓P P 05 23 35.1 +0.2
baz=90,SNR=25
D16A Dana Ranch, Ca 90.16 41 ⇓P P 05 23 35.1 +0.2
baz=90,SNR=13
SHOC Shoshone 90.18 53 ⇑P P 05 23 35.7 +0.6
baz=90,SNR=25
B17A L&G Farms, Che 90.21 40 ⇓P P 05 23 34.8 -0.1
baz=90,SNR=22
H15A Lima 90.22 44 ⇓P P 05 23 35.7 +0.4
baz=90,SNR=14
E16A East Helena 90.24 42 ⇑P P 05 23 35.4 +0.2
baz=90,SNR=26
109C Camp Elliot, M 90.36 56 ⇓P P 05 23 36.7 +0.8
baz=90,SNR=20
HEC Hector,Ludlow 90.44 54 ⇓P P 05 23 37.1 +0.7
baz=90,SNR=52
C17A Wharram Farm, 90.46 41 ⇑P P 05 23 36.2 0.0
baz=90,SNR=11
K14A Jones Ranch, D 90.52 46 ⇓P P 05 23 37.6 +1.0
baz=90,SNR=22
F16A Kennard Place, 90.52 43 ⇑P P 05 23 36.8 +0.3
baz=90,SNR=29
I15A Monteview 90.53 45 ⇓P P 05 23 37.6 +1.0
baz=90,SNR=8.9
BOZ Bozeman (W) 90.57 43 *e*P P 05 23 37.3 +0.5
BOZ pmax pmax
comp=Z,11nm,0.6s
BOZ Bozeman (W) 90.57 43 *e*P P 05 23 37.3 +0.5
comp=Z,11nm,0.6s
BOZ Bozeman (W) 90.57 43 ⇓P P 05 23 37.2 +0.5
baz=90,SNR=11
A18A Metzger Ranch, 90.58 39 ⇓P P 05 23 36.7 +0.1
baz=90,SNR=15
G16A Moss Hill, Enn 90.59 43 ⇓P P 05 23 37.5 +0.5
baz=90,SNR=55
TUQ Turquoise Moun 90.59 53 ⇑P P 05 23 37.9 +0.8
baz=91,SNR=16
D17A Six Diamond Ra 90.67 41 ⇓P P 05 23 37.5 +0.3
baz=91,SNR=21
PFO Pinyon Flat Ob 90.69 55 *e*P P 05 23 37.9 +0.3
comp=Z,45nm,1.0s
PFO Pinyon Flat Ob 90.69 55 P P 05 23 38.0 +0.4
comp=Z,170nm,1.0s,SNR=14
PFO Pinyon Flat Ob 90.69 55 ⇓P P 05 23 38.0 +0.4
baz=91,SNR=16
KAF Kangasniemi 90.72 335 *e*P P 05 23 34.6 -2.3
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 90.72 335 *e*p P 05 23 34.6 -2.3
comp=Z,5.7nm,0.5s
J15A Blackfoot 90.76 45 ⇓P P 05 23 39.2 +1.4
baz=91,SNR=44
BAR Barrett 90.77 56 *e*P P 05 23 38.4 +0.6
comp=Z,30nm,0.8s
E17A Martinsdale 90.80 42 ⇑P P 05 23 38.2 +0.3
baz=91,SNR=16
B18A Beardsley Farm 90.81 40 ⇓P P 05 23 37.8 0.0
baz=91,SNR=10.0
MONP Monument Peak 90.91 56 ⇓P P 05 23 39.4 +0.7
baz=91,SNR=33
K15A Arbon 90.92 46 ⇓P P 05 23 39.4 +0.9
baz=91,SNR=13
BELC Belle Mtn. Jos 90.94 55 ⇑P P 05 23 39.2 +0.4
baz=91,SNR=28
EGMT Eagleton 90.96 40 *e*P P 05 23 38.7 +0.3
comp=Z,11nm,0.6s
EGMT Eagleton 90.96 40 ⇑P P 05 23 38.8 +0.3
baz=91,SNR=9.2
QLMT Earthquake Lak 90.97 44 *e*P P 05 23 39.8 +1.0
GMRC Granite Mounta 90.99 54 ⇓P P 05 23 40.0 +1.0
baz=91,SNR=53
HVU Hansel Valley 91.04 47 *e*P P
HVU pmax pmax
comp=Z,22nm,0.8s
HVU Hansel Valley 91.04 47 *e*P P 05 23 40.0 +0.9
comp=Z,22nm,0.8s
VNDA Vanda 91.09 176 P P 05 23 39.0 +0.9
comp=Z,2.6nm,0.9s,baz=330,slow=4.0,SNR=7.2
VNDA Vanda 91.09 176 P P 05 23 39.0 +0.9
F17A Fitzpatrick Pl 91.12 42 ⇓P P 05 23 40.0 +0.6
baz=91,SNR=18
H16A Russell Place, 91.14 44 ⇓P P 05 23 40.8 +1.2
baz=91,SNR=54
FINES FINESS Array B 91.16 335 P P 05 23 37.9 -1.1
comp=Z,12nm,0.5s,baz=67,slow=5.4,SNR=101
FINES FINESS Array B 91.16 335 P P 05 23 37.9 -1.1
D18A Linhart Farms, 91.22 41 ⇓P P 05 23 40.3 +0.6
baz=91,SNR=9.2
DVTC Desert V Tower 91.24 56 ⇑P P 05 23 40.9 +0.9
baz=91,SNR=12
L15A Malad City 91.24 46 ⇑P P 05 23 40.4 +0.4
baz=91,SNR=21
I16A Newdale 91.25 44 ⇓P P 05 23 41.3 +1.2
baz=91,SNR=33
A19A Klindworth Far 91.26 39 ⇑P P 05 23 40.1 +0.3
baz=91,SNR=18
G17A Pierce Place, 91.27 43 ⇑P P 05 23 41.3 +1.2
baz=91,SNR=14
R13A O'Grain Ranch, 91.29 50 ⇑P P 05 23 41.6 +1.2
baz=91,SNR=7.9
B19A Brinkman Farms 91.31 40 ⇑P P 05 23 40.1 0.0
baz=91,SNR=14
LDFC Landfair 91.33 54 *e*P P 05 23 41.5 +1.0
comp=Z,90nm,0.9s
YMR Madison River 91.34 44 *e*P P 05 23 42.0 +1.5
comp=Z,66nm,0.7s
J16A Bone 91.37 45 ⇓P P 05 23 41.8 +1.1
baz=91,SNR=52
E18A Harlowton 91.37 42 ⇑P P 05 23 41.3 +0.8
baz=91,SNR=31
M15A Larsen Ranch, 91.37 47 ⇓P P 05 23 41.2 +0.6
baz=91,SNR=10
BC3 Big Chuckawall 91.47 55 ⇓P P 05 23 42.2 +1.0
baz=91,SNR=28
YFT Old Faithful 91.50 44 *e*P P 05 23 43.8 +2.5
comp=Z,66nm,0.9s
N15A Stansbury Isla 91.51 47 ⇑P P 05 23 41.7 +0.5
baz=92
C19A Slack Wire Ran 91.51 40 ⇓P P 05 23 41.6 +0.6
baz=91,SNR=14
YNR Nels Juncke 91.52 43 *e*P P 05 23 43.5 +2.1
comp=Z,59nm,0.9s
DUG Dugway 91.52 48 *e*P P 05 23 41.8 +0.5
DUG pmax pmax
comp=Z,22nm,0.7s
DUG Dugway 91.52 48 *e*P P 05 23 41.8 +0.5
comp=Z,22nm,0.7s
DUG Dugway 91.52 48 ⇑P P 05 23 41.8 +0.5
baz=92,SNR=24
K16A Soda Springs 91.53 45 ⇑P P 05 23 42.8 +1.4
baz=92,SNR=33
RRI2 Red Ridge 91.54 45 *e*P P 05 23 42.4 +0.8
comp=Z,47nm,0.7s
DCID1 Drake Creek 91.55 45 *e*P P 05 23 42.9 +1.4
comp=Z,20nm,0.8s
IRM Iron Mountain 91.57 55 ⇓P P 05 23 42.5 +1.0
baz=92,SNR=36
IMW Indian Meadow 91.62 44 *e*P P 05 23 42.9 +1.0
comp=Z,47nm,0.6s
H17A Grant Village 91.69 44 ⇓P P 05 23 44.5 +2.3
baz=92,SNR=50
FLWY Flagg Ranch 91.72 44 *e*P P 05 23 43.7 +1.5
comp=Z,85nm,0.6s
F18A Big Timber 91.74 42 ⇓P P 05 23 43.0 +0.8
baz=92,SNR=29
O15A The Old Anders 91.74 48 ⇑P P 05 23 42.8 +0.5
baz=92
TPAW Teton Pass 91.75 45 *e*P P 05 23 43.4 +0.9
comp=Z,31nm,0.6s
LKWY Lake 91.75 44 *e*P P 05 23 45.0 +2.5
LKWY Lake 91.75 44 *e*P P 05 23 45.0 +2.5
comp=Z,39nm,0.8s
A20A Cobblestone Ra 91.78 39 ⇑P P 05 23 42.3 +0.1
baz=92,SNR=16
MOOW Moose Ponds 91.80 44 *e*P P 05 23 43.4 +0.8
comp=Z,25nm,0.6s
ARUT Antelope Range 91.81 51 *e*P P 05 23 43.6 +0.9
ARUT pmax pmax
comp=Z,13nm,0.8s
ARUT Antelope Range 91.81 51 *e*P P 05 23 43.6 +0.9
comp=Z,13nm,0.8s
GCMT Greycliff 91.81 42 *e*P P 05 23 43.2 +0.6
comp=Z,24nm,0.8s
D19A Cripps Ranch, 91.82 41 ⇑P P 05 23 43.0 +0.5
baz=92,SNR=38
I17A Pilgrim Ck. 91.86 44 ⇑P P 05 23 44.4 +1.5
baz=92,SNR=19
REDW Red Top Meadow 91.86 45 *e*P P 05 23 43.5 +0.5
comp=Z,14nm,0.8s
B20A Solberg Farm, 91.89 39 ⇑P P 05 23 42.9 +0.2
baz=92,SNR=10
AHID Auburn Hatcher 91.89 45 *e*P P 05 23 43.7 +0.6
comp=Z,42nm,0.6s
SNOW Snow King Moun 91.89 45 *e*P P 05 23 44.0 +0.9
comp=Z,19nm,0.6s
L16A Fish Haven 91.91 46 ⇓P P 05 23 44.1 +0.9
baz=92,SNR=70
CCUT Cedar City 91.94 51 *e*P P 05 23 44.1 +0.7
comp=Z,16nm,1.0s
LOHW Long Hollow 91.94 44 *e*P P 05 23 43.9 +0.6
comp=Z,16nm,0.6s
HWUT Hardware Ranch 91.95 47 *e*P P 05 23 43.7 +0.3
comp=Z,32nm,0.7s
J17A Brown Place, J 91.96 45 ⇑P P 05 23 44.3 +0.9
baz=92,SNR=20
M16A Huntsville 92.00 47 ⇓P P 05 23 43.8 +0.2
baz=92,SNR=11
K17A Gardner Place, 92.02 45 ⇑P P 05 23 44.1 +0.4
baz=92,SNR=15
G18A Lazy EL Ranch, 92.05 43 ⇑P P 05 23 44.3 +0.6
baz=92,SNR=12
P15A Leamington 92.11 49 ⇑P P 05 23 44.7 +0.6
baz=92
E19A Rath Farm, Rou 92.14 41 ⇓P P 05 23 44.4 +0.4
baz=92,SNR=17
GLA Glamis 92.15 56 *e*P P 05 23 45.5 +1.2
comp=Z,59nm,0.6s
GLA Glamis 92.15 56 ⇑P P 05 23 45.5 +1.2
baz=92,SNR=15
C20A Veseth Ranch, 92.17 40 ⇑P P 05 23 44.8 +0.8
baz=92,SNR=50
Y12C Blythe 92.19 55 ⇓P P 05 23 45.4 +1.0
baz=92,SNR=27
H18A Shoshone NF, C 92.21 43 ⇑P P 05 23 45.6 +1.0
baz=92,SNR=18
F19A Roth Farm, Mol 92.26 42 ⇑P P 05 23 45.1 +0.5
baz=92,SNR=17
L17A Cokeville 92.28 46 ⇑P P 05 23 45.5 +0.6
baz=92,SNR=24
N16A Rees Ranch, Co 92.28 47 ⇓P P 05 23 45.2 +0.2
baz=92
W13A Hualapai Mount 92.29 53 ⇓P P 05 23 46.0 +0.9
baz=92,SNR=16
RLMT Red Lodge 92.31 43 *e*P P 05 23 46.1 +1.1
comp=Z,46nm,0.6s
RLMT Red Lodge 92.31 43 ⇑P P 05 23 46.3 +1.3
baz=92,SNR=70
D20A Manuel Ranch, 92.32 41 ⇓P P 05 23 45.4 +0.6
baz=92,SNR=34
PDMCI Parker Dam,Lak 92.33 54 ⇓P P 05 23 46.0 +1.0
baz=92,SNR=24
A21A Bergtoll Ranch 92.34 39 ⇓P P 05 23 45.0 +0.2
baz=92,SNR=21
JLU Jordanelle 92.37 47 *e*P P 05 23 45.3 -0.1
comp=Z,12nm,0.8s
MPU Maple Canyon 92.43 48 *e*P P 05 23 45.6 0.0
comp=Z,12nm,0.9s
I18A Diamond G Ranc 92.45 44 ⇑P P 05 23 46.5 +0.8
baz=92,SNR=25
J18A Kendall Valley 92.48 45 ⇓P P 05 23 46.5 +0.7
baz=92,SNR=66
B21A Ellsworth Farm 92.51 39 ⇑P P 05 23 46.0 +0.4
baz=92
MSU Marysvale 92.52 50 *e*P P 05 23 47.3 +1.2
MSU Marysvale 92.52 50 *e*P P 05 23 47.3 +1.2
E20A Meyer Farm, Mu 92.54 41 ⇑P P 05 23 46.2 +0.4
baz=92,SNR=15
R15A Junction 92.54 50 ⇑P P 05 23 47.3 +1.1
baz=92,SNR=7.7
P16A Fountain Green 92.55 48 ⇓P P 05 23 46.5 +0.3
baz=92
DAU Daniels Canyon 92.57 48 *e*P P 05 23 47.1 +0.7
DAU Daniels Canyon 92.57 48 *e*P P 05 23 47.1 +0.7
M17A Scullys Gap (B 92.63 46 ⇓P P 05 23 46.6 +0.1
baz=93,SNR=7.6
H19A Powell 92.66 43 ⇓P P 05 23 47.7 +1.2
baz=93,SNR=28
K18A Toltan Ranch, 92.67 45 ⇓P P 05 23 47.5 +0.8
baz=93,SNR=34
C21A Desert Coulee 92.69 40 ⇓P P 05 23 46.9 +0.4
baz=93,SNR=27
N17A Moffit Pass 92.69 47 ⇑P P 05 23 47.1 +0.1
baz=93
FFC Flin Flon 92.70 32 *i*P P 05 23 46.3 +0.1
FFC Flin Flon 92.70 32 *e*P P 05 23 46.0 -0.3
comp=Z,24nm,0.9s
FFC Flin Flon 92.70 32 P P 05 23 46.0 -0.3
comp=Z,124nm,0.8s,SNR=9.1
F20A Billings 92.80 42 ⇓P P 05 23 47.3 +0.2
baz=93,SNR=30
I19A Meeteetse 92.89 44 ⇓P P 05 23 48.4 +0.8
baz=93,SNR=23
L18A Fontenelle, Gr 92.92 46 ⇓P P 05 23 48.4 +0.5
baz=93,SNR=24
A22A Carney Farms, 92.95 38 ⇓P P 05 23 47.4 -0.2
baz=93,SNR=15
BW06 Boulder Array 92.96 45 *e*P P 05 23 47.8 -0.3
comp=Z,6.9nm,0.5s
BW06 Boulder Array 92.96 45 ⇑P P 05 23 48.0 0.0
baz=93,SNR=22
PDAR Pinedale Array 92.96 45 P P 05 23 47.8 -0.2
comp=Z,10nm,0.5s,baz=242,slow=1.4,SNR=98
PDAR Pinedale Array 92.96 45 P P 05 23 47.8 -0.2
G20A Bridger 92.97 42 ⇑P P 05 23 48.3 +0.4
baz=93,SNR=27
TMUT Trail Mountain 92.98 49 *e*P P 05 23 49.0 +0.7
comp=Z,11nm,0.7s
O17A Robinson Place 93.02 48 ⇓P P 05 23 48.9 +0.6
baz=93,SNR=21
D21A La Casta Ranch 93.05 40 ⇑P P 05 23 48.4 +0.2
baz=93,SNR=20
M18A Lyman 93.07 46 ⇓P P 05 23 48.7 +0.2
baz=93,SNR=16
113A Mohawk Valley, 93.09 56 ⇓P P 05 23 49.5 +1.0
baz=93,SNR=28
U15A North Rim 93.10 52 ⇑P P 05 23 49.9 +1.0
baz=93,SNR=29
R16A Teasdale 93.11 50 ⇓P P 05 23 49.9 +1.0
baz=93,SNR=16
J19A Crowheart 93.12 44 ⇑P P 05 23 49.5 +0.8
baz=93,SNR=57
Q16A Castle Valley 93.13 49 ⇑P P 05 23 49.6 +0.7
baz=93,SNR=7.1
B22A Reddig Ranch S 93.18 39 ⇑P P 05 23 49.0 +0.3
baz=93,SNR=7.3
E21A Keefer Ranch, 93.20 41 ⇑P P 05 23 49.3 +0.4
baz=93,SNR=21
S16A Weppner Ranch, 93.21 50 ⇓P P 05 23 50.1 +0.8
baz=93,SNR=14
P17A Butcher Ranch, 93.26 48 ⇑P P 05 23 50.0 +0.6
baz=93
L19A Farson 93.33 46 ⇑P P 05 23 50.1 +0.4
baz=93,SNR=38
Y14A Wickenburg 93.33 54 ⇑P P 05 23 50.7 +1.0
baz=93,SNR=56
H20A Greybull 93.38 43 ⇑P P 05 23 50.1 +0.3
baz=93,SNR=16
F21A Absaloka Mine, 93.45 41 ⇓P P 05 23 50.2 +0.2
baz=93,SNR=5.4
C22A Vida 93.48 39 ⇑P P 05 23 49.9 -0.2
baz=93,SNR=11
I20A Worland 93.50 43 ⇑P P 05 23 50.9 +0.5
baz=93,SNR=28
N18A Larsen Ranch, 93.51 47 ⇑P P 05 23 50.5 -0.1
baz=93,SNR=5.8
O18A Roosevelt 93.52 47 ⇑P P 05 23 51.2 +0.6
baz=94,SNR=6.4
D22A Cohagen 93.53 40 ⇑P P 05 23 50.5 +0.2
baz=94,SNR=19
SRU San Rafael 93.54 49 *e*P P 05 23 51.0 +0.2
SRU pmax pmax
comp=Z,14nm,0.6s
SRU San Rafael 93.54 49 *e*P P 05 23 51.0 +0.2
comp=Z,14nm,0.6s
SRU San Rafael 93.54 49 ⇓P P 05 23 50.9 +0.2
baz=94,SNR=12
Z14A Wintersburg 93.56 55 ⇓P P 05 23 51.9 +1.2
baz=94,SNR=9.6
P18A Preston Nutter 93.57 48 ⇑P P 05 23 51.3 +0.3
baz=94,SNR=9.0
A23A Redstone 93.59 38 ⇑P P 05 23 50.4 -0.1
baz=94
G21A Lodge Grass 93.63 42 ⇓P P 05 23 51.6 +0.7
baz=94,SNR=25
R17A Hanksville Air 93.64 49 ⇑P P 05 23 51.5 +0.3
baz=94,SNR=24
M19A Rock Springs 93.69 46 ⇓P P 05 23 51.9 +0.5
baz=94
B23A Brockton 93.73 38 ⇑P P 05 23 51.1 -0.1
baz=94,SNR=11
J20A Shoshoni 93.75 44 ⇓P P 05 23 51.8 +0.3
baz=94,SNR=16
Q18A Rafter H Ranch 93.83 49 ⇓P P 05 23 51.8 -0.2
baz=94,SNR=7.0
K20A Yellowstone Ra 93.83 45 ⇑P P 05 23 52.0 0.0
baz=94,SNR=36
S17A Black Ridge (B 93.83 50 ⇑P P 05 23 52.1 0.0
baz=94,SNR=11
C23A Lambert 93.88 39 ⇓P P 05 23 52.3 +0.4
baz=94,SNR=18
N19A John Jarvie Ra 93.89 47 ⇓P P 05 23 52.3 0.0
baz=94,SNR=10.0
E22A Miles City 93.96 41 ⇓P P 05 23 52.5 +0.2
baz=94,SNR=30
H21A Big Horn, Sher 93.96 43 ⇑P P 05 23 53.3 +0.8
baz=94,SNR=66
F22A Rosebud 94.03 41 ⇑P P 05 23 52.7 +0.1
baz=94,SNR=20
T17A Navajo Res., N 94.05 51 ⇓P P 05 23 53.8 +0.6
baz=94,SNR=19
L20A Wamsutter 94.07 45 ⇑P P 05 23 53.6 +0.5
baz=94,SNR=12
WUAZ Wupatki 94.10 52 *e*P P 05 23 54.2 +0.8

	comp=Z,23nm,0.9s						
WUAZ	Wupatki	94.10	52	⇓P	P	05 23 54.4	+1.1
	baz=94,SNR=21						
214A	Organ Pipe Nat	94.10	56	⇑P	P	05 23 54.2	+0.9
	baz=94,SNR=33						
I21A	Big Trails, Te	94.11	43	⇓P	P	05 23 53.5	+0.3
	baz=94,SNR=35						
D23A	Lindsay	94.13	40	⇓P	P	05 23 53.7	+0.6
	baz=94,SNR=20						
A24A	Westby	94.13	38	⇓P	P	05 23 52.8	-0.2
	baz=94						
O19A	Miners Draw (B	94.14	47	⇑P	P	05 23 53.3	-0.1
	baz=94,SNR=10						
J21A	Lysite	94.18	44	⇓P	P	05 23 54.2	+0.6
	baz=94,SNR=22						
DGMT	Dagmar	94.21	38	eP	P	05 23 53.2	-0.1
	comp=Z,25nm,0.9s						
DGMT	Dagmar	94.21	38	⇓P	P	05 23 53.1	-0.3
	baz=94,SNR=7.4						
G22A	Birney	94.22	42	⇑P	P	05 23 54.0	+0.4
	baz=94,SNR=18						
R18A	Canyonlands Na	94.25	49	⇑P	P	05 23 53.9	-0.1
	baz=94,SNR=22						
E23A	Ismay	94.34	40	⇓P	P	05 23 54.6	+0.5
	baz=94,SNR=10						
M20A	Sweetwater, Wa	94.37	46	⇓P	P	05 23 55.1	+0.6
	baz=94,SNR=15						
X16A	Lo Mia Camp, P	94.41	53	⇓P	P	05 23 55.9	+1.1
	baz=94,SNR=7.9						
S18A	Hurst Farm, Bl	94.42	50	⇑P	P	05 23 54.9	0.0
	baz=94,SNR=9.6						
H22A	Clearmont	94.43	42	⇑P	P	05 23 55.1	+0.5
	baz=94,SNR=5.2						
C24A	Savage	94.46	39	⇓P	P	05 23 54.7	+0.1
	baz=94						
P19A	Cripple Cowboy	94.48	48	⇑P	P	05 23 55.3	+0.2
	baz=94,SNR=25						
Q19A	Hogan Spring (	94.52	48	⇓P	P	05 23 55.0	-0.1
	baz=94,SNR=13						
N20A	Spence Gulch,	94.56	46	⇓P	P	05 23 55.7	+0.3
	baz=94,SNR=7.1						
K21A	Alcova	94.59	44	⇓P	P	05 23 55.9	+0.4
	baz=94,SNR=30						
F23A	Volborg	94.59	41	⇑P	P	05 23 55.3	0.0
	baz=94,SNR=14						
I22A	9 Mile Ranch,	94.62	43	⇑P	P	05 23 55.8	+0.3
	baz=94,SNR=5.9						
D24A	Glendive	94.70	40	⇑P	P	05 23 56.0	+0.4
	baz=95,SNR=11						
T18A	Mexican Hat	94.70	50	⇓P	P	05 23 56.1	+0.1
	baz=95,SNR=12						
R19A	Curley Farm, L	94.75	49	⇑P	P	05 23 56.5	+0.1
	baz=95,SNR=10						
L21A	Rawlins	94.76	45	⇑P	P	05 23 56.6	+0.3
	baz=95,SNR=12						
J22A	Midwest	94.81	44	⇓P	P	05 23 56.3	-0.1
	baz=95,SNR=17						
G23A	Biddle	94.81	42	⇑P	P	05 23 56.2	-0.1
	baz=95,SNR=24						
AKASG	Malin Array Be	94.82	325	P	P	05 23 54.9	-1.2
	comp=Z,0.3nm,0.3s,baz=54,slow=5.2,SNR=4.3						
AKASG	Malin Array Be	94.82	325	P	P	05 23 54.9	-1.2
AKASG	Malin Array Be	94.82	325	P	P	05 23 54.9	-1.2
O20A	White River Ci	94.83	47	⇑P	P	05 23 56.8	+0.2
	baz=95,SNR=9.0						
PV10	Paradox Valley	94.89	49	eP	P	05 23 57.0	0.0
	comp=Z,376nm,0.5s						
M21A	Separation Pea	94.90	45	⇓P	P	05 23 57.0	0.0
	baz=95,SNR=12						
E24A	Baker	94.94	40	⇑P	P	05 23 57.0	+0.2
	baz=95,SNR=6.2						
P20A	De Beque	94.95	48	⇓P	P	05 23 57.3	+0.1
	baz=95,SNR=5.0						
PV04	Paradox Valley	94.98	49	eP	P	05 23 57.6	+0.3
S19A	Harvey Farm, M	95.04	50	⇑P	P	05 23 57.8	+0.1
	baz=95,SNR=7.3						
H23A	Clabaugh Cattl	95.07	42	⇑P	P	05 23 57.5	-0.1
	baz=95						
K22A	Casper	95.08	44	⇓P	P	05 23 57.8	+0.2
	baz=95,SNR=5.8						
N21A	Black Mountain	95.11	46	⇑P	P	05 23 58.2	+0.3
	baz=95,SNR=16						
F24A	Ekalaka	95.16	41	⇓P	P	05 23 57.9	0.0
	baz=95,SNR=7.9						
Q20A	Ridgley Place,	95.22	48	⇓P	P	05 23 58.9	+0.5
	baz=95,SNR=37						
PV01	Paradox Valley	95.32	49	eP	P	05 23 58.4	-0.6
	comp=Z,1µm,0.7s						
G24A	Alzada	95.39	41	⇓P	P	05 23 58.6	-0.3
	baz=95						
R20A	Redvale	95.44	49	⇑P	P	05 23 59.8	+0.3
	baz=95,SNR=7.7						
T19A	Beclabito	95.44	50	⇑P	P	05 24 00.1	+0.6
	baz=95,SNR=18						
U19A	Dine' College,	95.49	51	⇓P	P	05 24 00.3	+0.5
	baz=95,SNR=12						
M22A	Cedar Creek Ra	95.51	45	⇓P	P	05 24 00.2	+0.4
	baz=95,SNR=8.0						
X18A	Snowflake	95.53	53	⇑P	P	05 24 00.7	+0.7
	baz=96,SNR=5.2						
H24A	Dirks Ranch, A	95.54	42	⇓P	P	05 23 59.5	-0.1
	baz=96,SNR=13						
S20A	Disappointment	95.58	49	⇓P	P	05 24 00.1	-0.1
	baz=96,SNR=6.0						
TUC	Tucson	95.62	55	eP	P	05 24 01.4	+1.1
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TUC	Tucson	95.62	55	eP	P	05 24 01.4	+1.1
	comp=Z,8.7nm,0.9s						
P21A	Newcastle	95.62	47	⇓P	P	05 24 00.5	+0.2
	baz=96						
K23A	Bowen Ranch, D	95.64	44	⇑P	P	05 24 00.2	-0.1
	baz=96						
MVCO	Mesa Verde	95.70	50	eP	P	05 24 01.2	+0.5
	comp=Z,7.3nm,0.7s						
MVCO	Mesa Verde	95.70	50	⇓P	P	05 24 01.1	+0.3
	baz=96,SNR=5.5						
Q21A	Lamborn Mesa,	95.79	48	⇓P	P	05 24 01.6	+0.5
	baz=96,SNR=9.0						
I24A	Kuemmerle Ranc	95.86	43	⇓P	P	05 24 00.9	-0.3
	baz=96,SNR=5.2						
R21A	Cimarron	95.98	49	⇓P	P	05 24 02.6	+0.7
	baz=96,SNR=23						
O22A	Kremmling	96.02	47	⇓P	P	05 24 02.2	0.0
	baz=96,SNR=6.8						
J24A	Dixon Ranch, L	96.06	43	⇑P	P	05 24 02.1	+0.1
	baz=96						
S21A	Coal Bank Pass	96.06	49	⇓P	P	05 24 02.8	+0.4
	baz=96,SNR=8.3						
M23A	Laramie	96.09	45	⇑P	P	05 24 02.4	0.0
	baz=96						
P22A	Eagle	96.09	47	⇓P	P	05 24 02.9	+0.4
	baz=96,SNR=7.7						
SMCO	Snowmass	96.09	48	eP	P	05 24 03.2	+0.6
	comp=Z,11nm,0.8s						
RSSD	Black Hills	96.14	42	eP	P	05 24 02.2	-0.4
RSSD				pmax	pmax		
	comp=Z,12nm,0.5s						
RSSD	Black Hills	96.14	42	eP	P	05 24 02.2	-0.4
	comp=Z,12nm,0.5s						
N23A	Red Feather La	96.16	46	⇑P	P	05 24 03.5	+0.7
	baz=96						
V20A	Brimhall	96.23	51	⇑P	P	05 24 03.9	+0.8
	baz=96,SNR=6.0						
Q22A	Crested Butte,	96.26	48	⇓P	P	05 24 03.9	+0.6
	baz=96,SNR=12						
W20A	Ramah	96.44	52	⇓P	P	05 24 04.7	+0.5
	baz=96						
O23A	Lake Granby, G	96.45	46	⇑P	P	05 24 04.7	+0.6
	baz=96,SNR=8.0						
T21A	Navajo Lake	96.50	50	⇓P	P	05 24 04.8	+0.4
	baz=96						
R22A	Saguache, Gunn	96.61	48	⇓P	P	05 24 05.4	+0.5
	baz=96						
U21A	Nageezi	96.61	50	⇓P	P	05 24 05.4	+0.5
	baz=97,SNR=6.0						
X20A	Quemado	96.65	52	⇑P	P	05 24 06.5	+1.4
	baz=97,SNR=5.7						
BRTR	Keskin Array B	96.67	313	P	P	05 24 03.1	-1.8
	comp=Z,1.1nm,0.4s,baz=133,slow=3.8,SNR=12						
BRTR				PP	PP	05 27 56.2	-4.7
	comp=Z,1.4nm,1.0s,baz=37,slow=6.4,SNR=3.7						
BRTR	Keskin Array B	96.67	313	P	P	05 24 03.1	-1.8
BRTR				PP	PP	05 27 56.2	-4.7
M24A	Cheyenne	96.71	45	⇑P	P	05 24 05.8	+0.6
	baz=97						
S22A	4UR Ranch, Cre	96.74	49	⇓P	P	05 24 06.1	+0.6
	baz=97,SNR=8.7						

ISCO	Idaho Springs	96.82	47	eP	P	05 24 05.9	0.0
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ISCO	Idaho Springs	96.82	47	eP	P	05 24 05.8	0.0
	comp=Z,2.6nm,0.6s						
ISCO	Idaho Springs	96.82	47	⇓P	P	05 24 06.3	+0.4
	baz=97						
P23A	Jefferson	96.83	47	⇑P	P	05 24 07.0	+1.0
	baz=97						
V21A	Milan	96.86	51	⇑P	P	05 24 06.8	+0.9
	baz=97						
K25A	Mack Ranch, Ha	96.88	43	⇑P	P	05 24 06.4	+0.5
	baz=97						
N24A	Carr	96.93	45	⇑P	P	05 24 06.8	+0.7
	baz=97						
T22A	Edith	96.96	50	⇓P	P	05 24 07.0	+0.5
	baz=97,SNR=5.2						
Y20A	Horse Springs,	96.97	53	⇓P	P	05 24 07.7	+1.1
	baz=97,SNR=6.9						
L25A	Engebretsen Ra	97.01	44	⇓P	Pdif	05 24 06.9	+0.4
	baz=97						
O24A	Longmont	97.08	46	⇓P	Pdif	05 24 07.4	+0.5
	baz=97						
Z20A	Nine Sixteen R	97.08	54	⇓P	Pdif	05 24 08.3	+1.2
	baz=97,SNR=13						
W21A	San Fidel	97.10	52	⇓P	Pdif	05 24 07.9	+0.8
	baz=97						
NB2	NORSAR Subarra	97.12	339	P	P	05 24 04.8	-1.6
	comp=Z,3.0nm,1.0s,baz=46,slow=5.1						
NOA	NORSAR Array B	97.12	339	P	P	05 24 05.0	-1.3
	comp=Z,0.9nm,0.6s,baz=47,slow=4.6,SNR=4.5						
NOA	NORSAR Array B	97.12	339	P	P	05 24 05.0	-1.3
319A	Douglas	97.14	56	⇓P	Pdif	05 24 08.5	+1.2
	baz=97						
MDND	Maddock	97.23	37	⇓P	Pdif	05 24 07.4	+0.2
	baz=97						
U22A	Llaves	97.23	50	⇓P	Pdif	05 24 08.2	+0.5
	baz=97						
X21A	Alamocita Cree	97.24	52	⇓P	Pdif	05 24 08.7	+0.8
	baz=97						
120A	U Bar Ranch, L	97.25	54	⇓P	Pdif	05 24 09.0	+1.2
	baz=97,SNR=7.5						
R23A	Moffat	97.30	48	⇓P	Pdif	05 24 08.3	+0.2
	baz=97						
K26A	Motz Farm, Whi	97.31	43	⇓P	Pdif	05 24 07.8	0.0
	baz=97						
V22A	San Miguel Ran	97.37	51	⇑P	Pdif	05 24 08.5	+0.2
	baz=97						
P24A	Kohler Place,	97.44	47	⇓P	Pdif	05 24 09.2	+0.6
	baz=97						
Y21A	Point of Rocks	97.48	53	⇓P	Pdif	05 24 10.1	+1.2
	baz=97,SNR=11						
220A	Playas Peak, P	97.56	55	⇑P	Pdif	05 24 10.2	+1.1
	baz=98,SNR=10						
T23A	Casias Ranch,	97.59	49	⇓P	Pdif	05 24 09.8	+0.4
	baz=98						
Z21A	St. Cloud Mine	97.74	53	⇓P	Pdif	05 24 11.3	+1.3
	baz=98,SNR=6.7						
U23A	El Rito	97.75	50	⇑P	Pdif	05 24 10.7	+0.7
	baz=98,SNR=7.7						
LAZ	Ladron	97.75	52	eP	Pdif	05 24 10.8	+0.8
	comp=Z,2.0nm,0.8s						
320A	Kipp Ranch, An	97.75	55	⇑P	Pdif	05 24 11.5	+1.5
	baz=98,SNR=6.7						
R24A	Sanders Place,	97.81	48	⇓P	Pdif	05 24 10.9	+0.7
	baz=98						
X22A	Bernardo	97.81	52	⇑P	Pdif	05 24 11.1	+0.8
	baz=98						
121A	Cookes Peak, D	97.92	54	⇑P	Pdif	05 24 12.0	+1.1
	baz=98,SNR=6.2						
K27A	Flueckinger Fa	97.93	43	⇑P	P	05 24 10.3	-0.2
	baz=98						
S24A	Houchin Ranch,	97.96	48	⇓P	Pdif	05 24 11.5	+0.5
	baz=98						
V23A	Ortiz Mt. (NFS	97.98	51	⇓P	Pdif	05 24 12.0	+0.9
	baz=98						
Y22A	Socorro	98.06	52	⇓P	Pdif	05 24 12.2	+0.8
	baz=98						
ANMO	Albuquerque	98.07	51	P	Pdif	05 24 12.1	+0.7
	comp=Z,4.4nm,0.9s,baz=278,slow=3.7,SNR=21						
ANMO	Albuquerque	98.07	51	eP	Pdif	05 24 12.2	+0.8
	comp=Z,3.4nm,0.8s						
Q25A	Bedland, Calha	98.15	47	⇑P	P	05 24 11.5	-0.2
	baz=98						
ULM	Lac du Bonnet	98.15	34	P	P	05 24 10.1	-1.1
	comp=Z,8.9nm,0.7s,baz=305,slow=4.6,SNR=23						
ULM	Lac du Bonnet	98.15	34	P	P	05 24 10.1	-1.1
W23A	Werner Place,	98.22	51	⇓P	Pdif	05 24 12.6	+0.5
	baz=98						
T24A	Torres, Weston	98.30	49	⇓P	Pdif	05 24 13.1	+0.5
	baz=98						
Z22A	Elephant Butte	98.31	53	⇑P	Pdif	05 24 13.3	+0.9
	baz=98,SNR=13						
U24A	Moreno Valley	98.40	50	⇑P	Pdif	05 24 13.9	+0.9
	baz=98						
X23A	Hourglass Bar	98.41	52	⇑P	Pdif	05 24 13.6	+0.6
	baz=98						
S25A	Robets Cordova	98.52	48	⇑P	P	05 24 12.9	-0.4
	baz=98						
N27A	Anderson Farm,	98.55	45	⇑P	Pdif	05 24 13.4	+0.1
	baz=98						
222A	Williams Famil	98.62	54	⇓P	Pdif	05 24 15.0	+1.1
	baz=99						
V24A	Rampart Ranch,	98.67	50	⇓P	Pdif	05 24 14.8	+0.6
	baz=99						
T25A	Trinidad	98.75	49	⇑P	Pdif	05 24 14.9	+0.4
	baz=99,SNR=5.1						
Y23A	Lovelace Mesa,	98.76	52	⇓P	Pdif	05 24 15.2	+0.7
	baz=99,SNR=7.7						
W24A	Lazy 6 Ranch,	98.77	51	⇑P	Pdif	05 24 15.3	+0.8
	baz=99,SNR=6.4						
Z23A	Rita Site, Whi	98.87	53	⇑P	Pdif	05 24 16.0	+1.1
	baz=99						
R26A	Arlington	98.97	47	⇓P	Pdif	05 24 15.3	0.0
	baz=99						
KWP	Kalwaria Pacla	98.99	326	eP	P	05 24 13.9	-1.0
KWP				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KWP	Kalwaria Pacla	98.99	326	eP	P	05 24 13.9	-1.0
	comp=Z,8.8nm,1.0s						
X24A	Lazy VL Ranch,	98.99	51	⇓P	Pdif	05 24 16.3	+0.8
	baz=99						
U25A	Circle Dot Ran	99.05	49	⇑P	Pdif	05 24 16.1	+0.3
	baz=99,SNR=5.2						
V25A	Rancho No Teng	99.11	50	⇓P	Pdif	05 24 16.5	+0.4
	baz=99						
S26A	Kim	99.23	48	⇓P	Pdif	05 24 16.4	-0.1
	baz=99						
Y24A	Capitan	99.24	52	⇑P	Pdif	05 24 17.1	+0.4
	baz=99						
T26A	Comanche Natio	99.33	48	⇑P	Pdif	05 24 17.4	+0.4
	baz=99						
FRB	Frobisher Bay	99.40	14	P	Pdif	05 24 15.6	-0.8
	comp=Z,1.1nm,0.4s,baz=335,slow=5.2,SNR=10						
FRB	Frobisher Bay	99.40	14	P	Pdif	05 24 15.6	-0.8
R27A	Eads	99.44	47	⇓P	Pdif	05 24 17.7	+0.3
	baz=99						
W25A	X Bar L Ranch,	99.48	50	⇑P	Pdif	05 24 17.9	+0.3
	baz=99						
Z24A	Sheeppen Canyo	99.52	53	⇓P	Pdif	05 24 18.6	+0.6
	baz=100,SNR=5.2						
U26A	Atchley Ranch,	99.54	49	⇑P	Pdif	05 24 18.6	+0.6
	baz=100						
124A	Stringfield Ra	99.69	53	⇑P	Pdif	05 24 19.6	+0.8
	baz=100						
V26A	Tequesquite Ra	99.75	50	⇑P	Pdif	05 24 19.2	+0.4
	baz=100						
Y25A	Mesa, Roswell	99.81	52	⇑P	Pdif	05 24 19.6	+0.5
	baz=100						
224A	Cornudas Mount	99.87	54	⇑P	Pdif	05 24 20.2	+0.8
	baz=100						
Z25A	Roswell	100.04	52	⇑P	Pdif	05 24 20.8	+0.7
	baz=100						
W26A	Owens Ranch, T	100.05	50	⇑P	Pdif	05 24 20.8	+0.7
	baz=100						
CRVS	Cervenica-Dubn	100.07	326	eP	Pdif	05 24 20.0	+0.2
CRVS	Cervenica-Dubn	100.07	326	PDIF	Pdif	05 24 20.0	+0.2
MNTX	Cornudas Mount	100.13	54	ePdif	Pdif	05 24 20.8	+0.3
	comp=Z,6.6nm,1.1s						
MNTX	Cornudas Mount	100.13	54	⇑P	Pdif	05 24 21.3	+0.9
	baz=100,SNR=7.7						
324A	Moseley Ranch,	100.14	54	⇑P	Pdif	05 24 21.3	+0.6
	baz=100						
X26A	CR and CF Fran	100.23	51	⇑P	Pdif	05 24 21.5	+0.5
	baz=100						
125A	Gardner Draw,	100.33	53	⇑P	Pdif	05 24 22.1	+0.7
	baz=100						
T28A	Walsh	100.43	48	⇓P	Pdif	05 24 22.2	+0.4

	baz=100						
325A	Bean Ranch, Si	100.58	54	⇓P	Pdif	05 24 23.5	+0.8
	baz=100,SNR=7.7						
Z26A	Caprock	100.61	52	⇑P	Pdif	05 24 22.9	+0.3
	baz=101,SNR=6.0						
X27A	F and S Farms,	100.73	51	⇑P	Pdif	05 24 23.3	+0.1
	baz=101						
GDL2	Guadalupe Moun	100.73	53	ePdif	Pdif	05 24 24.2	+1.0
	comp=Z,7.5nm,1.0s						
425A	Indio Mountain	100.79	55	⇑P	Pdif	05 24 24.6	+1.0
	baz=101,SNR=8.2						
126A	Clayton Basin,	100.83	53	⇓P	Pdif	05 24 24.2	+0.6
	baz=101						
V28A	Channing	100.92	49	⇓P	Pdif	05 24 24.4	+0.4
	baz=101						
Y27A	Causey	100.99	51	⇓P	Pdif	05 24 24.9	+0.6
	baz=101						
Z27A	Tatum	101.18	52	⇓P	Pdif	05 24 25.7	+0.5
	baz=101						
326A	Caldwell Ranch	101.38	54	⇑P	Pdif	05 24 27.1	+1.0
	baz=101						
426A	McDonald Obser	101.59	55	⇑P	Pdif	05 24 27.9	+0.7
	baz=102,SNR=6.7						
Y28A	McKinney Farm,	101.67	51	⇑P	Pdif	05 24 27.2	-0.2
	baz=102						
VYHS	Vyhne	101.73	326	eP	Pdif	05 24 27.5	+0.3
VYHS	Vyhne	101.73	326	PDIF	Pdif	05 24 27.5	+0.3
526A	Mary Lane Ranc	101.78	55	⇓P	Pdif	05 24 29.0	+1.0
	baz=102,SNR=6.5						
Z28A	Tucker Farm, M	101.83	52	⇓P	Pdif	05 24 28.8	+0.7
	baz=102						
X29A	Tulia	101.86	50	⇑P	Pdif	05 24 28.9	+0.7
	baz=102						
626A	Big Bend Ranch	101.94	56	⇑P	Pdif	05 24 29.7	+1.1
	baz=102						
427A	Hayter Ranch,	102.02	54	⇑P	Pdif	05 24 29.8	+0.9
	baz=102						
128A	Castleberry Fa	102.02	52	⇑P	Pdif	05 24 29.8	+0.9
	baz=102						
527A	Woodward Ranch	102.13	55	⇑P	Pdif	05 24 30.3	+0.8
	baz=102,SNR=5.7						
Y29A	Porterfield Fa	102.13	51	⇑P	Pdif	05 24 30.3	+0.9
	baz=102						
TXAR	Lajitas Array	102.40	56	P	Pdif	05 24 31.2	+0.5
	comp=Z,1.7nm,0.8s,baz=264,slow=5.4,SNR=20						
TXAR				PP	PP	05 28 44.3	-0.4
	comp=Z,0.3nm,0.7s,baz=282,slow=6.3,SNR=4.7						
TXAR	Lajitas Array	102.40	56	P	Pdif	05 24 31.2	+0.5
TXAR				PP	PP	05 28 44.3	-0.4
627A	Terlingua Ranc	102.58	56	⇑P	Pdif	05 24 32.8	+1.3
	baz=102						
428A	Kincaid Ranch,	102.63	54	⇓P	Pdif	05 24 32.2	+0.6
	baz=103						
528A	Cox Ranch, San	102.78	55	⇑P	Pdif	05 24 32.6	+0.3
	baz=103						
329A	Wagon Wheel Ra	102.88	53	⇑P	Pdif	05 24 33.7	+0.9
	baz=103						
628A	Black Gap, Mar	102.96	55	⇑P	Pdif	05 24 34.2	+1.0
	baz=103,SNR=7.2						
529A	Stev Forest Ra	103.24	54	⇓P	Pdif	05 24 34.6	+0.2
	baz=103						
429A	Davenport Ranc	103.30	54	⇑P	Pdif	05 24 35.4	+0.7
	baz=103						
GERES	GERESS Array B	104.21	329	PKiKP	PKiKP	05 28 54.2	-0.3
	comp=Z,1.0nm,0.6s,baz=61,slow=1.8,SNR=12						
GERES	GERESS Array B	104.21	329	PKiKP	PKiKP	05 28 54.2	-0.3
431A	Sonora	104.28	53	⇓P	Pdif	05 24 39.6	+0.6
	baz=104						
531A	Rocksprings	104.55	54	⇑P	Pdif	05 24 41.1	+1.0
	baz=104						
FETA	Feichten	106.92	329	⇓iPKiKP	PKiKP	05 28 59.9	+0.3
	comp=Z,2.0nm,0.7s						
CABF	La Chapelle	109.50	331	ePKIKP	PKiKP	05 29 04.7	+0.3
CABF	La Chapelle	109.50	331	ePKPdf	PKiKP	05 29 04.7	+0.3
LPL	La Plagne	109.97	329	ePKIKP	PKiKP	05 29 05.5	+0.1
	comp=Z,3.7nm,0.5s						
LPL	La Plagne	109.97	329	ePKPdf	PKiKP	05 29 05.5	+0.1
LPG	La Plagne	109.97	329	ePKIKP	PKiKP	05 29 05.6	+0.1
	comp=Z,2.9nm,0.4s						
LPG	La Plagne	109.97	329	ePKPdf	PKiKP	05 29 05.6	+0.1
LOR	Lormes	110.05	332	ePKIKP	PKiKP	05 29 04.7	-0.6
LOR	Lormes	110.05	332	ePKPdf	PKiKP	05 29 04.7	-0.6
SSF	Saint Saulge	110.37	332	ePKIKP	PKiKP	05 29 05.7	-0.2
SSF	Saint Saulge	110.37	332	ePKIKP	PKiKP	05 29 05.7	-0.2
SSF	Saint Saulge	110.37	332	ePKPdf	PKiKP	05 29 05.7	-0.2
MBDF	Montbardon	110.50	329	ePKIKP	PKiKP	05 29 06.5	+0.1
	comp=Z,10nm,0.8s						
MBDF	Montbardon	110.50	329	ePKIKP	PKiKP	05 29 06.5	+0.1
MBDF	Montbardon	110.50	329	ePKPdf	PKiKP	05 29 06.5	+0.1
LDF	La Druitiere	110.75	335	ePKIKP	PKiKP	05 29 05.9	-0.6
LDF	La Druitiere	110.75	335	ePKIKP	PKiKP	05 29 05.9	-0.6
LDF	La Druitiere	110.75	335	ePKPdf	PKiKP	05 29 05.9	-0.6
FLN	La Foliniere	110.76	336	ePKIKP	PKiKP	05 29 06.4	-0.1
	comp=Z,4.7nm,0.3s						
FLN	La Foliniere	110.76	336	ePKIKP	PKiKP	05 29 06.4	-0.1
FLN	La Foliniere	110.76	336	ePKPdf	PKiKP	05 29 06.4	-0.1
ORIF	Oris-en-Rattie	110.81	329	ePKIKP	PKiKP	05 29 06.8	-0.1
	comp=Z,6.3nm,0.6s						
ORIF	Oris-en-Rattie	110.81	329	ePKIKP	PKiKP	05 29 06.8	-0.1
ORIF	Oris-en-Rattie	110.81	329	ePKPdf	PKiKP	05 29 06.8	-0.1
PGF	Pioggiola	110.84	326	ePKIKP	PKiKP	05 29 06.1	-0.9
PGF	Pioggiola	110.84	326	ePKIKP	PKiKP	05 29 06.1	-0.9
PGF	Pioggiola	110.84	326	ePKPdf	PKiKP	05 29 06.1	-0.9
GRR	Gorron	111.21	336	ePKIKP	PKiKP	05 29 07.3	-0.1
GRR	Gorron	111.21	336	ePKIKP	PKiKP	05 29 07.3	-0.1
GRR	Gorron	111.21	336	ePKPdf	PKiKP	05 29 07.3	-0.1
FRF	La Foret Royal	111.39	328	ePKIKP	PKiKP	05 29 07.6	-0.3
	comp=Z,4.5nm,0.4s						
FRF	La Foret Royal	111.39	328	ePKIKP	PKiKP	05 29 07.6	-0.3
FRF	La Foret Royal	111.39	328	ePKPdf	PKiKP	05 29 07.6	-0.3
VIVF	Saint-Julien-l	111.45	330	ePKIKP	PKiKP	05 29 07.3	-0.7
	comp=Z,1.6nm,0.4s						
VIVF	Saint-Julien-l	111.45	330	ePKIKP	PKiKP	05 29 07.3	-0.7
VIVF	Saint-Julien-l	111.45	330	ePKPdf	PKiKP	05 29 07.3	-0.7
TCF	Toulx Ste Croi	111.54	332	ePKIKP	PKiKP	05 29 07.4	-0.8
	comp=Z,4.1nm,0.6s						
TCF	Toulx Ste Croi	111.54	332	ePKIKP	PKiKP	05 29 07.4	-0.8
TCF	Toulx Ste Croi	111.54	332	ePKPdf	PKiKP	05 29 07.4	-0.8
LMR	La Mourre	111.62	328	ePKIKP	PKiKP	05 29 08.1	-0.2
	comp=Z,5.2nm,0.5s						
LMR	La Mourre	111.62	328	ePKIKP	PKiKP	05 29 08.1	-0.2
LMR	La Mourre	111.62	328	ePKPdf	PKiKP	05 29 08.1	-0.2
SGMF	Saint Gilles	111.99	337	ePKIKP	PKiKP	05 29 08.7	-0.2
	comp=Z,5.4nm,0.5s						
SGMF	Saint Gilles	111.99	337	ePKIKP	PKiKP	05 29 08.7	-0.2
SGMF	Saint Gilles	111.99	337	ePKPdf	PKiKP	05 29 08.7	-0.2
LASF	Ste Croix	112.42	330	ePKIKP	PKiKP	05 29 09.9	0.0
	comp=Z,7.0nm,0.6s						
LASF	Ste Croix	112.42	330	ePKPdf	PKiKP	05 29 09.9	0.0
QUIF	Quistinic	112.50	337	ePKIKP	PKiKP	05 29 10.0	+0.2
	comp=Z,5.1nm,0.6s						
QUIF	Quistinic	112.50	337	ePKIKP	PKiKP	05 29 10.0	+0.2
QUIF	Quistinic	112.50	337	ePKPdf	PKiKP	05 29 10.0	+0.2
RJF	Les Rejaudoux	112.60	332	ePKIKP	PKiKP	05 29 09.6	-0.6
RJF	Les Rejaudoux	112.60	332	ePKIKP	PKiKP	05 29 09.6	-0.6
RJF	Les Rejaudoux	112.60	332	ePKPdf	PKiKP	05 29 09.6	-0.6
CAF	Calviac	112.64	332	ePKIKP	PKiKP	05 29 10.1	-0.2
	comp=Z,1.7nm,0.4s						
CAF	Calviac	112.64	332	ePKIKP	PKiKP	05 29 10.1	-0.2
CAF	Calviac	112.64	332	ePKPdf	PKiKP	05 29 10.1	-0.2
TKL	Tuckaleechee C	113.78	41	PKiKP	PKiKP	05 29 12.7	-0.1
	comp=Z,6.3nm,0.9s,baz=218,slow=3.6,SNR=5.5						
TKL	Tuckaleechee C	113.78	41	PKiKP	PKiKP	05 29 12.7	-0.1
EPF	Esparros	114.89	331	ePKIKP	PKPdf	05 29 15.3	+0.6
	comp=Z,3.0nm,0.5s						
EPF	Esparros	114.89	331	ePKIKP	PKPdf	05 29 15.3	+0.6
EPF	Esparros	114.89	331	ePKPdf	PKPdf	05 29 15.3	+0.6
KEST	Kesra	115.12	320	PKP	PKPdf	05 29 15.6	+0.2
	comp=Z,0.9nm,0.4s,baz=103,slow=3.5,SNR=15						
KEST	Kesra	115.12	320	PKP	PKPdf	05 29 15.6	+0.2
ETSF	Etsaut	115.41	332	ePKIKP	PKPdf	05 29 16.4	+0.7
	comp=Z,9.2nm,0.6s						
ETSF	Etsaut	115.41	332	ePKIKP	PKPdf	05 29 16.4	+0.7
ETSF	Etsaut	115.41	332	ePKPdf	PKPdf	05 29 16.4	+0.7
SJPF	Ste Jean	115.55	332	ePKIKP	PKPdf	05 29 16.4	+0.5
	comp=Z,6.9nm,0.7s						
SJPF	Ste Jean	115.55	332	ePKIKP	PKPdf	05 29 16.4	+0.5
SJPF	Ste Jean	115.55	332	ePKPdf	PKPdf	05 29 16.4	+0.5
LSZ	Lusaka	117.83	260	ePKPdf	PKPdf	05 29 21.6	+0.5
PBRG	Braganca	118.98	335	ePKPdf	PKPdf	05 29 22.8	+0.2
PGAV	Gavieira, Arco	119.46	336	ePKPdf	PKPdf	05 29 23.5	-0.1
ESDC	Sonseca Array	119.53	332	PKP	PKPdf	05 29 23.9	+0.2
	comp=Z,1.2nm,0.5s,baz=22,slow=2.6,SNR=10						
ESDC	Sonseca Array	119.53	332	PKP	PKPdf	05 29 23.9	+0.2
PCAB	Cabril	119.58	336	ePKPdf	PKPdf	05 29 23.8	+0.1

VNA2	Neumayer--Watz	119.62	190	eP	PKPdf	05 29 22.5	-0.3
MVO	Moncorvo	119.64	335	ePKPdf	PKPdf	05 29 24.0	+0.1
VNA3	Neumayer Olymp	119.73	190	eP	PKPdf	05 29 22.5	-0.6
POLO	Lamas de Olo	119.77	336	ePKPdf	PKPdf	05 29 24.9	+0.7
POLO				iP	PKiKP	05 30 05.9	+42
PTO	Porto	120.30	336	ePKPdf	PKPdf	05 29 25.5	+0.5
MTE	Manteigas	120.49	335	ePKPdf	PKPdf	05 29 26.1	+0.5
PCBR	Castelo Branco	120.94	335	ePKPdf	PKPdf	05 29 26.8	+0.5
PCBR				iP	PKiKP	05 30 08.5	+42
BOSA	Boshof	121.20	244	PKP	PKPdf	05 29 27.1	-0.2
	comp=Z,6.3nm,0.9s,baz=297,slow=9.7,SNR=5.3						
BOSA	Boshof	121.20	244	PKP	PKPdf	05 29 27.1	-0.2
PMRV	Marv??o	121.24	334	ePKPdf	PKPdf	05 29 27.4	+0.4
PMRV				iP	PKiKP	05 30 11.7	+45
PTOM	Tomar	121.51	335	ePKPdf	PKPdf	05 29 28.1	+0.7
PESTR	Estremoz	121.80	334	ePKPdf	PKPdf	05 29 28.1	0.0
PMTG	Montargil	121.90	335	ePKPdf	PKPdf	05 29 28.3	+0.1
PBAR	Barrancos	122.13	333	ePKPdf	PKPdf	05 29 29.2	+0.5
EVO	Evora	122.26	334	ePKIKP	PKPdf	05 29 29.1	+0.2
	comp=Z,14nm,0.7s						
EVO	Evora	122.26	334	ePKPdf	PKPdf	05 29 28.9	0.0
EVO				iP	PKiKP	05 30 09.6	+40
EVOP	Sao Brissos	122.31	334	ePKIKP	PKPdf	05 29 29.1	+0.1
EVOP	Sao Brissos	122.31	334	ePKPdf	PKPdf	05 29 29.1	+0.1
PBEJ	Beja	122.62	334	ePKPdf	PKPdf	05 29 30.2	+0.6
PNCL	Nicolau / Gran	122.83	334	ePKPdf	PKPdf	05 29 30.6	+0.6
PCVE	Castro Verde	123.02	334	ePKPdf	PKPdf	05 29 30.9	+0.5
PVAQ	Vaqueiros	123.07	333	ePKPdf	PKPdf	05 29 31.3	+0.8
MORF	Marmelete	123.56	334	ePKPdf	PKPdf	05 29 31.3	-0.2
PFVI	Vila Bisbo	123.78	334	ePKPdf	PKPdf	05 29 32.8	+0.9
PFVI				iP	PKiKP	05 30 06.3	+34
TAM	Tamanrasset	125.79	311	ePKIKP	PKPdf	05 29 37.1	+0.8
TAM	Tamanrasset	125.79	311	ePKPdf	PKPdf	05 29 37.1	+0.8
TORD	Torodi Ar. Bea	134.31	303	PKhKP	PKPpre	05 29 36.4	
	comp=Z,0.3nm,0.4s,baz=50,slow=2.6,SNR=14						
TORD				PKP	PKPdf	05 29 53.1	+0.6
	comp=Z,10nm,0.5s,baz=36,slow=2.5,SNR=47						
TORD				PP	PP	05 32 24.3	-0.9
	comp=Z,1.3nm,0.8s,baz=47,slow=3.8,SNR=4.8						
TORD				SKPbc	SKPbc	05 33 08.6	-0.9
	comp=Z,7.3nm,0.9s,baz=46,slow=3.1,SNR=14						
TORD	Torodi Ar. Bea	134.31	303	PKPpre	PKPpre	05 29 36.4	
TORD				PKP	PKPdf	05 29 53.1	+0.6
TORD				PP	PP	05 32 24.3	-0.9
TORD				SKPbc	SKPbc	05 33 08.6	-0.9
PLCA	Paso Flores	139.24	139	PKP	PKPdf	05 30 02.3	+1.4
	comp=Z,2.6nm,0.6s,baz=270,slow=2.2,SNR=16						
PLCA				SKPbc	SKPbc	05 33 24.4	+0.8
	comp=Z,3.0nm,0.8s,baz=241,slow=6.2,SNR=6.6						
PLCA	Paso Flores	139.24	139	PKP	PKPdf	05 30 02.3	+1.4
PLCA				SKPbc	SKPbc	05 33 24.4	+0.8
SDV	Santo Domingo	139.33	59	ePKP	PKPdf	05 29 55.6	-6.4
DBIC	Dimbokro	143.23	301	PKhKP	PKPpre	05 30 05.3	
	comp=Z,23nm,0.4s,baz=39,slow=3.7,SNR=99						
DBIC	Dimbokro	143.23	301	PKPpre	PKPpre	05 30 05.3	
LIC	Lamto	143.61	300	ePKIKP	PKPab	05 30 06.2	-0.1
	comp=Z,100nm,0.4s,baz=64						
LIC	Lamto	143.61	300	ePKPdf	PKPab	05 30 06.2	-0.1
LCO	Las Campanas	144.24	122	ePKPdf	PKPab	05 30 08.7	0.0
BBGH	Gun Hill	145.04	43	ePKPdf	PKPdf	05 30 13.6	+1.7
CFAA	Coronel Fontan	145.27	127	PKPbc	PKPbc	05 30 12.0	+0.1
	comp=Z,1.3nm,0.7s,baz=226,slow=3.8,SNR=25						
CFAA				SKPbc	SKiKP	05 33 40.1	+0.8
	comp=Z,1.1nm,0.8s,baz=242,slow=3.2,SNR=10						
CFAA	Coronel Fontan	145.27	127	PKPbc	PKPbc	05 30 12.0	+0.1
CFAA				SKPbc	SKiKP	05 33 40.1	+0.8
TRQA	Tornquist	146.17	142	ePKPbc	PKPbc	05 30 14.2	-0.2
LVC	Limon Verde	147.47	111	ePKPbc	PKPbc	05 30 19.0	+0.2
LPAZ	La Paz	148.90	100	PKP	PKPdf	05 30 19.9	+0.9
	comp=Z,8.3nm,0.5s,baz=278,slow=2.4,SNR=13						
LPAZ				PKPbc	PKPbc	05 30 23.6	+0.5
	comp=Z,8.3nm,0.5s,baz=321,slow=4.2,SNR=34						
LPAZ	La Paz	148.90	100	PKP	PKPdf	05 30 19.9	+0.9
LPAZ				PKPbc	PKPbc	05 30 23.6	+0.5
CPUP	Villa Florida	156.16	127	PKP	PKPdf	05 30 28.4	-0.2
	comp=Z,0.8nm,0.5s,baz=184,slow=4.2,SNR=4.1						
CPUP				PKPab	PKPab	05 30 57.4	+0.5
	comp=Z,0.9nm,0.6s,baz=153,slow=2.7,SNR=3.9						
CPUP	Villa Florida	156.16	127	PKP	PKPdf	05 30 28.4	-0.2
CPUP				PKPab	PKPab	05 30 57.4	+0.5
BDFB	Brasilia	168.21	104	PKP	PKPdf	05 30 41.4	+0.3
	comp=Z,6.0nm,0.5s,baz=117,slow=0.6,SNR=13						
BDFB	Brasilia	168.21	104	PKP	PKPdf	05 30 41.4	+0.3

*ISK **03** 05:16:09.4, 37°.63N×29°.34E, h4km, MD2.6*
*ISCJB **03** 05:16:10.0±0.9, 37°.61N±0°.06×29°.33E±0°.07, h12km, Error ellipse: s-maj=9.0km s-min=7.3km az=142.4*
*CSEM **03** 05:16:10.3±0.3, 37°.63N×29°.33E, h8km, MD2.6, Error ellipse: s-maj=7.8km s-min=5.0km az=119.0*
*DDA **03** 05:16:15.0, 37°.70N×29°.13E, h8km, MD2.8*
ISC 03 05:16:10.2±1.1, 37°.63N±0°.04×29°.34E±0°.04, h12km, n18, σ0s.37/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.24	284	iP	Pb	05 16 16.9	+0.2
DNZL				iS	Sg	05 16 19.0	0.0
DNZL	Cakiroluk	0.24	284	iP	Pb	05 16 16.9	+0.2
DNZL				iS	Sg	05 16 19.0	0.0
DENT	Denizli	0.27	297	PG	Pg	05 16 15.8	-0.2
DENT	Denizli	0.27	297	iPg	Pg	05 16 15.8	-0.2
KHL	Karahalli	0.71	12	ePG	Pg	05 16 23.5	-0.5
KHL	Karahalli	0.71	12	ePg	Pg	05 16 23.5	-0.5
YER	Yerkesik	0.98	240	ePG	Pg	05 16 28.5	-0.6
YER	Yerkesik	0.98	240	ePg	Pg	05 16 28.5	-0.6
FETY	Fethiye	1.01	192	ePG	Pg	05 16 29.6	-0.2
FETY	Fethiye	1.01	192	ePg	Pg	05 16 29.6	-0.2
KULA	Kula-Manisa	1.03	329	ePG	Pb	05 16 29.9	-0.3
KULA	Kula-Manisa	1.03	329	ePg	Pb	05 16 29.9	-0.3
SHUT	Suhut-Afyon	1.32	46	ePN	Pg	05 16 35.7	-0.1
SHUT	Suhut-Afyon	1.32	46	ePn	Pg	05 16 35.7	-0.1
ALT	Altintas	1.54	23	ePN	Pb	05 16 38.6	-0.3
ALT	Altintas	1.54	23	ePn	Pb	05 16 38.6	-0.3
TVSB	Tavsanli	1.82	3	ePN	Pn	05 16 42.0	+0.5
TVSB	Tavsanli	1.82	3	ePn	Pn	05 16 42.0	+0.5

*ISCJB **03** 05:21:43.1±0.6, 38°.35N±0°.03×21°.91E±0°.04, h11km±4km, Error ellipse: s-maj=5.6km s-min=4.9km az=42.6*
*THE **03** 05:21:43.4, 38°.35N×21°.90E, h10km±1km, ML1.8/4, Error ellipse: s-maj=1.6km s-min=0.5km az=321.0*
*ATH **03** 05:21:43.1, 38°.35N×21°.91E, h10km±2km, MD2.6/4*
*CSEM **03** 05:21:43.2±0.1, 38°.35N×21°.89E, h5km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.6km az=40.0*
ISC 03 05:21:43.1±1.0, 38°.35N±0°.02×21°.90E±0°.03, h11km±5km, n19, σ0s.37/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFP	Efpalio	0.08	6	P	Pg	05 21 45.5	0.0
EFP				S	Sg	05 21 47.4	+0.1
EFP	Efpalio	0.08	6	ePG	Pg	05 21 45.5	0.0
EFP				eSG	Sg	05 21 47.4	+0.1
EFP	Efpalio	0.08	6	P	Pg	05 21 45.5	0.0
EFP				S	Sg	05 21 47.4	+0.1
UPR	University Cam	0.11	233	P	Pg	05 21 46.0	+0.1
UPR				S	Sg	05 21 48.3	+0.4
UPR	University Cam	0.11	233	ePG	Pg	05 21 45.9	+0.1
UPR				eSG	Sg	05 21 48.2	+0.4
UPR	University Cam	0.11	233	ePg	Pg	05 21 45.9	+0.1
UPR				S	Sg	05 21 48.3	+0.4
LAKA	Lakka	0.13	149	P	Pg	05 21 46.1	-0.1
LAKA				S	Sg	05 21 48.5	+0.1
LAKA	Lakka	0.13	149	P	Pg	05 21 46.1	-0.1
LAKA				S	Sg	05 21 48.5	+0.1
TRIZ	Trizonia	0.14	83	P	Pg	05 21 46.6	+0.2
TRIZ				S	Sg	05 21 48.8	+0.1
TRIZ	Trizonia	0.14	83	P	Pg	05 21 46.6	+0.2
TRIZ				S	Sg	05 21 48.8	+0.1
KALE	Kalithea	0.20	78	P	Pg	05 21 47.6	+0.3
KALE				S	Sg	05 21 50.1	-0.2
KALE	Kalithea	0.20	78	P	Pg	05 21 47.6	+0.3
KALE				S	Sg	05 21 50.1	-0.2
GUR	Goura	0.54	139	P	Pg	05 21 53.4	-0.3
GUR				S	Sg	05 22 01.9	+1.0
GUR	Goura	0.54	139	ePB	Pg	05 21 53.4	-0.3
GUR				eSB	Sg	05 22 01.0	+0.1
GUR	Goura	0.54	139	P	Pg	05 21 53.4	-0.3
GUR				eSb	Sg	05 22 01.0	+0.1
GUR				S	Sg	05 22 01.9	+1.0
EVR	Evrytania	0.57	353	ePB	Pg	05 21 54.3	+0.1
EVR				eSB	Sg	05 22 02.1	+0.3
EVR	Evrytania	0.57	353	ePb	Pg	05 21 54.3	+0.1
EVR				eSb	Sg	05 22 02.1	+0.3
VLS	Valsamata	1.04	261	ePG	Pb	05 22 02.5	-0.6
VLS				eSB	Sn	05 22 18.7	+0.5
VLS	Valsamata	1.04	261	ePg	Pb	05 22 02.5	-0.6
VLS				eSb	Sn	05 22 18.7	+0.5

WEL 03 05:22:08.2±0.5, 38°.15S×175°.96E, h158km±3km, ML3.6/11, Error ellipse: s-maj=4.5km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.91	97	PN	Pn	05 22 32.9	-0.1
URZ				SN	Sn	05 22 51.9	-0.2
BKZ	Black Stump Fm	1.10	158	PN	Pn	05 22 34.5	-0.1
BKZ				SN	Sn	05 22 53.8	-1.3
TUVZ	Tukino	1.14	192	PN	Pn	05 22 35.3	+0.1
TUVZ				SN	Sn	05 22 55.9	-0.1
FWVZ	Far West T-bar	1.15	196	PN	Pn	05 22 36.0	+0.6
FWVZ				SN	Sn	05 22 56.6	+0.4
NMHZ	Naumai	1.16	145	PN	Pn	05 22 36.0	+0.8
NMHZ				SN	Sn	05 22 56.6	+0.6
RAHZ	Arahi	1.17	131	PN	Pn	05 22 35.9	+0.6
RAHZ				SN	Sn	05 22 56.5	+0.5
TRVZ	Turoa	1.19	196	PN	Pn	05 22 36.4	+0.7
WNVZ	Wahianoa	1.21	193	PN	Pn	05 22 35.8	0.0
WNVZ				SN	Sn	05 22 56.5	-0.6
MWZ	Matawai	1.25	99	PN	Pn	05 22 36.0	0.0
MWZ				SN	Sn	05 22 56.6	-0.7
MOVZ	Moawhango	1.27	187	PN	Pn	05 22 35.8	-0.4
MOVZ				SN	Sn	05 22 56.0	-1.8
BHHZ	Black Hill Sta	1.34	177	PN	Pn	05 22 36.4	-0.5
MCHZ	McNeill Hill	1.41	156	PN	Pn	05 22 37.9	+0.4
KNZ	Kokohu	1.60	123	PN	Pn	05 22 39.1	-0.2
PRGZ	Paritu Road	1.69	118	PN	Pn	05 22 40.3	-0.1
CKHZ	Cape Kidnapper	1.74	150	PN	Pn	05 22 40.8	-0.2
CKHZ				SN	Sn	05 23 04.8	-1.4
PNHZ	Pukenui	1.77	174	PN	Pn	05 22 40.7	-0.7
WAZ	Wanganui	1.77	205	PN	Pn	05 22 40.8	-0.5
KAHZ	Kahuranaki	1.79	157	PN	Pn	05 22 41.2	-0.3
CNGZ	Carnagh Statio	1.80	101	PN	Pn	05 22 41.8	+0.2
PUZ	Puketiti	1.81	88	PN	Pn	05 22 41.3	-0.5
MHGZ	Mahia Peninsul	1.82	124	PN	Pn	05 22 41.7	-0.1
TSZ	Takapari Road	1.91	180	PN	Pn	05 22 41.9	-0.9
MXZ	Matakaoa Point	1.95	73	PN	Pn	05 22 43.5	+0.2
WPHZ	Waipukurau	1.95	169	PN	Pn	05 22 42.3	-0.9
PXZ	Pawanui	2.01	160	PN	Pn	05 22 40.4	-3.5
DVHZ	Dannevirke	2.15	176	PN	Pn	05 22 44.1	-1.6
PRHZ	Porangahau	2.18	166	PN	Pn	05 22 44.8	-1.1
POWZ	Post Office Ro	2.24	184	PN	Pn	05 22 45.0	-1.7
MRZ	Mangatainoka R	2.52	187	PN	Pn	05 22 47.8	-2.2
BFZ	Birch Farm	2.54	175	PN	Pn	05 22 48.1	-2.1
TIWZ	Tintock	2.62	181	PN	Pn	05 22 49.1	-2.2
OGWZ	Otaki Gorge	2.73	193	PN	Pn	05 22 49.6	-3.0
HOWZ	Holdsworth Sta	2.77	187	PN	Pn	05 22 50.4	-2.6
KIW	Kapiti Island	2.83	196	PN	Pn	05 22 51.0	-2.7
TMWZ	Te Maipa	2.95	181	PN	Pn	05 22 52.6	-2.7
MTW	Mount Morrison	3.02	187	PN	Pn	05 22 53.0	-3.1
CAW	Cannon Point	3.03	193	PN	Pn	05 22 53.4	-2.9
DUWZ	D'Urville Isla	3.08	210	PN	Pn	05 22 54.1	-2.9
TRWZ	Traveller	3.25	184	PN	Pn	05 22 56.0	-3.0
PAWZ	Paruwai Farm	3.25	187	PN	Pn	05 22 55.7	-3.3
SNZO	South Karori	3.30	197	PN	Pn	05 22 56.2	-3.4
MSWZ	Moikau Station	3.31	189	PN	Pn	05 22 56.4	-3.4
TCW	Tory Channel	3.32	202	PN	Pn	05 22 56.9	-3.0
BHW	Baring Head	3.36	194	PN	Pn	05 22 56.8	-3.5
PLWZ	Palliser	3.46	189	PN	Pn	05 22 58.0	-3.7
TUWZ	Tuamarina	3.63	205	PN	Pn	05 23 00.1	-3.7
NNZ	Nelson	3.65	212	PN	Pn	05 23 00.6	-3.6
QRZ	Quartz Range	3.77	224	PN	Pn	05 23 01.9	-3.7
BSWZ	Blackbirch Sta	3.90	204	PN	Pn	05 23 03.9	-3.5

WEL 03 05:27:48.4±0.7, 37°.97S×175°.79E, h141km±11km, ML3.5/11, Error ellipse: s-maj=10.7km s-min=7.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.08	106	PN	Pn	05 28 13.3	+0.2
URZ				SN	Sn	05 28 32.4	+0.6
TUVZ	Tukino	1.31	185	PN	Pn	05 28 16.2	+0.8
BKZ	Black Stump Fm	1.32	156	PN	Pn	05 28 15.2	-0.3
BKZ				SN	Sn	05 28 35.1	-1.1
WNVZ	Wahianoa	1.37	186	PN	Pn	05 28 16.8	+0.6
NMHZ	Naumai	1.39	145	PN	Pn	05 28 16.6	+0.4
NMHZ				SN	Sn	05 28 38.0	+0.5
MWZ	Matawai	1.42	106	PN	Pn	05 28 16.3	-0.2
MWZ				SN	Sn	05 28 37.0	-1.0
MOVZ	Moawhango	1.44	181	PN	Pn	05 28 16.7	-0.1
BHHZ	Black Hill Sta	1.54	172	PN	Pn	05 28 17.2	-0.6
MCHZ	McNeill Hill	1.64	155	PN	Pn	05 28 18.6	-0.2
PNHZ	Pukenui	1.97	171	PN	Pn	05 28 21.2	-1.6
KAHZ	Kahuranaki	2.02	155	PN	Pn	05 28 22.0	-1.2
PXZ	Pawanui	2.23	158	PN	Pn	05 28 23.7	-2.0
DVHZ	Dannevirke	2.35	173	PN	Pn	05 28 24.8	-2.5
MRZ	Mangatainoka R	2.70	183	PN	Pn	05 28 28.7	-2.9
OGWZ	Otaki Gorge	2.89	189	PN	Pn	05 28 31.2	-2.7
HOWZ	Holdsworth Sta	2.94	184	PN	Pn	05 28 31.2	-3.4
KIW	Kapiti Island	2.97	193	PN	Pn	05 28 31.9	-3.2
CAW	Cannon Point	3.19	190	PN	Pn	05 28 34.3	-3.5
MTW	Mount Morrison	3.20	184	PN	Pn	05 28 33.9	-4.0
SNZO	South Karori	3.44	194	PN	Pn	05 28 37.1	-4.0
TCW	Tory Channel	3.45	199	PN	Pn	05 28 37.6	-3.5
MSWZ	Moikau Station	3.47	187	PN	Pn	05 28 37.2	-4.3
PLWZ	Palliser	3.62	186	PN	Pn	05 28 38.8	-4.7

ISC 03 05:33:36.5±13.0, 38°.8N±1°.0×74°.2E±0°.2, h10km, n9, σ1s.54/8, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.55	62	Pg	Pg	05 34 06.0	-0.3
KSH				Sg	Sn	05 34 22.9	-1.7
AML	Almayashu	3.34	354	P	Pn	05 34 28.2	-0.9
	SNR=15						
KZA	Kyzart	3.36	14	P	Pn	05 34 31.2	+1.7
	SNR=30						
UCH	Uchtor	3.42	4	P	Sn	05 35 06.0	-5.2
	SNR=8.5						
ULHL	Ulahol	3.77	24	P	Pn	05 34 36.8	+1.9
	SNR=10						
EKS2	Erkin-Say	3.86	355	P	Pn	05 34 36.8	+0.7
	SNR=5.7						
KBK	Karagaybulak	3.89	8	P	Pn	05 34 36.5	+0.1
	SNR=16						
TKM2	Tokmak 2	4.24	14	⇑Pn	Pn	05 34 42.3	+1.0
	3.8nm,0.6s						
TKM2				⇑Lg	Lg	05 35 33.3	
	13nm,0.7s						
KK31	Karatay Array	5.12	328	Pn	Pn	05 34 50.8	-2.4
	0.5nm,0.3s,baz=130,slow=13,SNR=14						
KK31				⇑Pg	Pb	05 35 01.3	-4.7
	3.4nm,0.6s,baz=143,slow=15,SNR=6.3						
KK31				⇓Sn	Sn	05 35 43.0	-9.3
	3.0nm,0.3s,baz=141,slow=26,SNR=9.0						
KK31				⇑Lg	Lg	05 36 00.6	
	2.4nm,0.3s,baz=150,slow=25,SNR=3.7						

DJA 03 05:35:32.1±0.7, 3°S±4°×12°8E±°, h10km, M4.0/3, mb5.0/1, MLv3.5/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.60	129	P	Pb	05 35 44.3	-0.4
MSAI				S	Sg	05 35 50.6	-1.0
AAI	Ambon	0.76	200	P	Pn	05 35 48.2	-0.7
AAI				S	Sg	05 35 56.1	-0.7

*AUST **03** 05:35:43.5±4.9, 4°.29N×127°.39E, h0km, Error ellipse: s-maj=1.5km s-min=1.2km az=310.0*
*IDC **03** 05:35:44.9±0.9, 4°.02N×126°.85E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/23, mbtmp4.0/9, MS3.1/1, Ms1 3.1/1, ms1mx2.3/45, Error ellipse: s-maj=52.6km s-min=14.5km az=72.0*
*NEIC **03** 05:35:50.5±0.5, 4°.01N×126°.78E, h35km, mb4.2/9, Error ellipse: s-maj=29.7km s-min=8.3km az=67.0*
ISC 03 05:35:50.7±0.6, 4°.08N±0°.08×126°.9E±0°.1, h36km, n37, σ1s.21/34, mb4.2/16, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.24	337	LR	LR	05 38 24.1	
	comp=Z,263nm,18.3s,baz=150,slow=48						
MNI	Manado	3.31	218	P	Pn	05 36 47.3	+7.3
CTBH	Cotabato--PC H	4.07	320	⇑iP	Pn	05 36 58.0	+7.5
MRSI	Marisa	6.09	234	P	Pn	05 37 19.0	+0.9
SWI	Sorong	6.58	138	P	Pn	05 37 25.6	+0.6
	baz=6.4,SNR=3.8						
PALU	Palau	8.23	66	P	Pn	05 37 36.2	-11
	baz=7.7,SNR=3.1						
PCI	Palu	8.60	235	P	Pn	05 38 00.6	+7.9
	baz=9.2,SNR=7.4						
PCI				S	Sn	05 39 39.8	+11
	baz=9.2,SNR=4.8						
MTN	Manton Dam	17.34	166	P	Pn	05 39 48.8	-1.2
	baz=18,SNR=3.5						
KDU	Kakadu	17.56	162	P	Pn	05 39 51.8	-1.0
	baz=18,SNR=4.6						
FITZ	Fitzroy Crossi	22.07	183	P	P	05 40 39.6	-3.0
	1.4nm,0.5s,baz=19,slow=6.7,SNR=9.0						
FITZ	Fitzroy Crossi	22.07	183	eP	P	05 40 41.2	-1.4
	3.1nm,0.8s						
FITZ	Fitzroy Crossi	22.07	183	P	P	05 40 41.7	-0.9
	baz=22,SNR=4.7						
WRAB	Tennant Creek	24.97	163	eP	P	05 41 09.7	-1.3
	4.7nm,0.6s						
WRA	Warramunga Arr	24.97	163	P	P	05 41 10.2	-0.8
	3.7nm,0.6s,baz=342,slow=10.0,SNR=29						
WRA	Warramunga Arr	24.97	163	P	P	05 41 10.2	-0.8
ASAR	Alice Springs	28.41	166	P	P	05 41 41.2	-0.9
	0.5nm,0.5s,baz=350,slow=7.5,SNR=6.0						
ASAR	Alice Springs	28.41	166	P	P	05 41 41.2	-0.9
CMAR	Chiang Mai Arr	30.82	300	P	P	05 42 02.6	-0.9
	0.5nm,0.3s,baz=125,slow=7.8,SNR=4.3						
CMAR	Chiang Mai Arr	30.82	300	P	P	05 42 02.6	-0.9
MEEK	Meekatharra	31.56	194	P	P	05 42 11.2	+1.4
	baz=32,SNR=3.2						
KSAR	Wonju Array Be	33.22	1	P	P	05 42 22.8	-1.4
KSRS	Korea Array	33.23	2	P	P	05 42 22.8	-1.5
	0.7nm,0.6s,baz=189,slow=9.2,SNR=3.1						
EIDS	Eidsvold	37.54	142	eP	P	05 43 02.0	+0.5
	4.6nm,0.6s						
STKA	Stephens Creek	38.40	160	P	P	05 43 07.9	-0.8
	3.2nm,0.6s,baz=327,slow=21,SNR=6.7						
STKA	Stephens Creek	38.40	160	eP	P	05 43 08.2	-0.6
	1.2nm,0.8s						
ARMA	Armidale	41.68	147	eP	P	05 43 38.0	+1.9
	5.6nm,0.7s						
ARMA	Armidale	41.68	147	P	P	05 43 38.7	+2.7
	baz=42,SNR=4.3						
SONM	Songino Array	47.02	341	P	P	05 44 19.3	+0.7
	1.2nm,0.7s,baz=157,slow=9.1,SNR=8.7						
SONM	Songino Array	47.02	341	P	P	05 44 19.3	+0.7
MKAR	Makanchi Array	57.35	325	P	P	05 45 35.3	0.0
	2.5nm,0.5s,baz=116,slow=7.6,SNR=51						
MKAR				PcP	PcP	05 46 29.8	+0.7
	0.6nm,0.6s,baz=128,slow=4.4,SNR=4.2						
MKAR	Makanchi Array	57.35	325	P	P	05 45 35.3	0.0
MKAR				PcP	PcP	05 46 29.8	+0.7
ZALV	Zalesovo Beam	60.34	333	P	P	05 45 55.4	-0.5
	0.7nm,0.3s,baz=119,slow=7.1,SNR=4.7						
ZALV	Zalesovo Beam	60.34	333	P	P	05 45 55.4	-0.5
KURK	Kurchatov	61.53	327	eP	P	05 46 04.4	+0.5
	5.5nm,0.6s						
KKAR	Karatay Array	63.08	317	eP	P	05 46 15.2	+0.7
	1.1nm,0.6s						
BRVK	Borovoye	67.18	327	eP	P	05 46 42.5	+1.6
	1.5nm,0.6s						
ABKAR	Akbulak array	71.97	321	eP	P	05 47 10.3	-0.3
	1.2nm,0.6s						

IDC 03 05:50:44.5±2.4, 5°.70S×151°.70E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/19, Error ellipse: s-maj=150.4km s-min=28.3km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	20.33	341	LR	LR	06 00 53.3	
	comp=Z,77nm,21.1s,baz=113,slow=30						
WRA	Warramunga Arr	22.03	228	P	P	05 55 41.6	+0.7
	0.8nm,0.8s,baz=53,slow=9.5,SNR=5.9						
ASAR	Alice Springs	24.75	222	P	P	05 56 07.8	-0.2
	1.1nm,0.9s,baz=59,slow=8.8,SNR=5.6						
FITZ	Fitzroy Crossi	28.27	242	P	P	05 56 39.4	-0.4
	1.4nm,0.8s,baz=60,slow=8.1,SNR=4.2						
ILAR	Eielson Array	83.40	22	P	P	06 03 13.5	+0.1
	0.4nm,0.8s,baz=245,slow=5.0,SNR=6.3						

*IDC **03** 06:00:33.9±1.4, 39°.56N×75°.18E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.4/30, mbtmp3.4/8, ML3.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=25.3km s-min=16.7km az=91.0*
*ISCJB **03** 06:00:34.5±1.0, 39°.38N±0°.08×75°.04E±0°.07, h10km, mb3.3/4, Error ellipse: s-maj=11.2km s-min=6.7km az=17.5*
*NNC **03** 06:00:37.7±3.2, 39°.64N×75°.21E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=28.1km s-min=18.8km az=139.0*
ISC 03 06:00:36.0±1.3, 39°.4N±0°.1×75°.23E±0°.06, h10km, n24, σ1s.01/23, mb3.5/4, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.58	82	Pg	Pb	06 00 50.7	+2.3
KSH				Sg	Sn	06 00 59.5	-0.7
KSH				smax	smax		
	comp=N,810nm,0.7s						
KSH				smax	smax		
	comp=E,660nm,0.8s						
KZA	Kyzart	2.64	0	P	Pn	06 01 18.9	-0.2
	SNR=140						
UCH	Uchtor	2.84	349	P	Pn	06 01 22.5	+0.6
	SNR=13						
ULHL	Ulahol	2.91	15	P	Pn	06 01 22.6	-0.1
	SNR=24						
AML	Almayashu	2.94	337	P	Pn	06 01 23.8	+0.7
	SNR=41						
KBK	Karagaybulak	3.23	356	P	Pn	06 01 28.0	+1.1
	SNR=54						
AAK	Ala-Archa	3.25	350	Pn	Pn	06 01 28.2	+1.0
	comp=E,8.4nm,0.3s,baz=157,slow=8.4,SNR=182						
AAK				Sn	Sn	06 02 05.3	-0.7
	comp=E,8.7nm,0.3s,baz=346,slow=21,SNR=9.3						
AAK				Lg	Lg	06 02 10.7	
	comp=E,17nm,0.3s,baz=354,slow=19,SNR=8.4						
AAK	Ala-Archa	3.25	350	P	Pn	06 01 28.0	+0.8
	SNR=63						
EKS2	Erkin-Say	3.41	342	P	Pn	06 01 30.4	+1.0
	SNR=9.6						
TKM2	Tokmak 2	3.50	4	⇑Pn	Pn	06 01 31.2	+0.6
	comp=E,47nm,0.4s						
TKM2				⇓Sn	Sn	06 02 11.6	-0.6
	comp=E,56nm,0.5s						
TKM2	Tokmak 2	3.50	4	P	Pn	06 01 31.4	+0.7
	SNR=63						
CHMS	Chumysh	3.58	354	P	Pn	06 01 32.6	+0.9
	SNR=27						
USP	Ospenovka	3.87	352	P	Pn	06 01 36.1	+0.4
	SNR=5.6						
KK31	Karatay Array	5.11	317	⇑Pn	Pn	06 01 52.3	-0.3
	comp=E,0.3nm,0.3s,baz=127,slow=9.4,SNR=20						
KK31				⇓Pg	Pb	06 02 07.0	+1.5
	comp=E,3.4nm,0.5s,baz=144,slow=17,SNR=12						
KK31				⇓Lg	Lg	06 03 14.1	
	comp=E,5.5nm,0.5s,baz=140,slow=26,SNR=4.3						
MK31	Makanchi Array	8.98	33	P	Pn	06 02 45.1	-0.7
	comp=E,0.4nm,0.6s,baz=214,slow=14,SNR=5.1						
MKAR	Makanchi Array	8.98	33	Pn	Pn	06 02 44.9	-1.0
	comp=E,0.1nm,0.3s,baz=214,slow=15,SNR=7.4						
MKAR				Lg	Lg	06 05 10.0	
	comp=E,0.2nm,0.3s,baz=217,slow=30,SNR=7.3						
KURBB	Kurchatov Arra	11.43	11	Pn	Pn	06 03 16.3	-2.9
	baz=187,slow=7.2,SNR=3.2						
KURBB				Lg	Lg	06 06 26.6	
	comp=E,0.1nm,0.3s,baz=198,slow=29,SNR=8.2						
BVAR	Borovoye Array	14.00	348	Pn	Pn	06 03 50.7	-3.6
	comp=E,0.0nm,0.3s,baz=152,slow=9.5,SNR=2.3						
BVAR				Lg	Lg	06 07 48.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,0.1nm,0.3s,baz=150,slow=31,SNR=6.0						
AB31	**Akbulak array**	**14.67**	**317**	⇑P	**P**	**06 04 09.3**	**-0.5**
	comp=E,0.6nm,0.6s,baz=127,slow=12,SNR=7.5						
ZALV	**Zalesovo Beam**	**15.92**	**21**	LR	LR	06 10 30.5	
	comp=E,73nm,18.5s,baz=258,slow=38						
SONM	**Songino Array**	**23.94**	**59**	P	**P**	**06 05 48.8**	**-1.6**
	comp=E,0.2nm,0.8s,baz=252,slow=9.5,SNR=4.4						
ARCES	**ARCESS Array B**	**39.80**	**335**	P	P	06 08 06.9	-2.0
	comp=E,1.9nm,0.6s,baz=110,slow=9.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**69.09**	**270**	P	**P**	**06 11 41.7**	**-0.8**
	comp=E,0.9nm,1.1s,baz=55,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**78.11**	**5**	P	P	06 12 32.6	-2.1
	comp=E,0.1nm,0.5s,baz=348,slow=5.8,SNR=5.1						

ISCJB ***03*** *06:04:58.3±0.2, 56.°31S±0.°05×26.°92W±0.°08, h101km, mb5.1/52, Error ellipse: s-maj=7.4km s-min=5.9km az=23.6*

IDC ***03*** *06:05:00.1±0.7, 56.°42S×27.°00W, h104km±5km, mb4.7/21, mb1 4.8/22, mb1mx4.7/26, mbtmp4.7/22, MS4.1/18, Ms1 4.1/18, ms1mx4.0/27, Error ellipse: s-maj=12.0km s-min=10.4km az=28.0*

GCMT ***03*** *06:05:02.4±0.2, 56.°45S×26.°67W, h95km±1km, MW5.3, Moment Tensor Solution. s83,c117; s90,c151; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.16; $M_{\theta\theta}$5.87±.18; $M_{\phi\phi}$-4.50±.17; $M_{r\theta}$-3.24±.12; $M_{\theta\phi}$5.96±.17; $M_{\phi r}$4.83±.11; Best double couple: $M_0$9.70000×10^{16} NP1:ϕ_s206.00000°, δ63.00000°, λ-161.00000°. NP2:ϕ_s107.00000°, δ73.00000°, λ-28.00000°. Principal axes: T 8.7000, Plg7.0000°, Azm158.0000°; N 2.1000, Plg58.0000°, Azm259.0000°; P -10.7000, Plg32.0000°, Azm64.0000°; Data Used: II IU IC G CN.*

BJI ***03*** *06:05:02.6, 56.°30S×27.°00W, h133km, mB5.1/7*

NEIC ***03*** *06:05:03.5±1.7, 56.°35S×27.°06W, h134km±14km, mb5.2/34, Error ellipse: s-maj=7.4km s-min=6.4km az=187.0*

DJA ***03*** *06:05:18.0±9.6, 57°S±43°×2°4W±6°0, h191km±74km, M5.0/8, mB5.7/2, mb5.0/8, Mw(mB)5.2/2*

ISC 03 06:04:59.4±0.3**, 56.°39S**±0.°06×**26.°96W**±0.°06**, h101**km**, n235, σ1s17**/280**, mb5.3**/53**, 35C-38D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.43**	**158**	*e*Pn	**P**	**06 08 47.4**	**+3.0**
VNA3	**Neumayer Olymp**	**16.63**	**160**	*e*Pn	**P**	**06 08 47.2**	**+0.6**
VNA3	**Neumayer Olymp**	**16.63**	**160**	*e*Sn	Sn	06 11 39.2	-11
VNA3	**Neumayer Olymp**	**16.63**	**160**	*e*P	**ScP**	**06 16 55.1**	**+0.7**
VNA2	**Neumayer--Watz**	**16.83**	**158**	*e*Pn	**P**	**06 08 49.5**	**+0.7**
	baz=313,slow=8.2						
VNA2	**Neumayer--Watz**	**16.83**	**158**	*e*Sn	Sn	06 11 45.0	-10
	baz=313,slow=8.2						
VNA2	**Neumayer--Watz**	**16.83**	**158**	*e*P	**ScP**	**06 16 56.7**	**+1.9**
	baz=308,slow=4.8						
EFI	**East Falkland**	**18.77**	**271**	*e*P	**Pn**	**06 09 11.5**	**-0.4**
	208nm,1.4s						
PMSA	**Palmer Station**	**19.78**	**230**	P	**Pn**	**06 09 22.6**	**-0.9**
	3.9nm,0.3s,baz=48,slow=9.0,SNR=16						
PMSA				LR	LR	06 16 06.5	
	comp=Z,508nm,18.9s,baz=82,slow=34						
PMSA	**Palmer Station**	**19.78**	**230**	*e*P	**Pn**	**06 09 23.8**	**+0.3**
	114nm,0.8s						
TRIS	**Tristan da Cun**	**21.69**	**33**	*e*P	**P**	**06 09 43.8**	**+1.9**
	146nm,1.0s						
MAIT	**Maitri**	**21.88**	**146**	*e*P	**P**	**06 09 42.8**	**-0.8**
MAIT				*e*		06 10 02.5	
USHA	**Ushuaia**	**23.23**	**256**	P	**P**	**06 09 57.6**	**+0.3**
	9.3nm,0.7s,baz=88,slow=8.5,SNR=3.7						
USHA				LR	LR	06 15 46.0	
	comp=Z,185nm,20.0s,baz=196,slow=28						
USHA	**Ushuaia**	**23.23**	**256**	P	**P**	**06 09 57.6**	**+0.3**
TRQA	**Tornquist**	**29.58**	**293**	*e*P	**P**	**06 10 54.2**	**-0.2**
	15nm,0.7s						
SYO	**Syowa Base**	**31.24**	**140**	⇑*e*X	P	06 11 02.6	-6.1
PLCA	**Paso Flores**	**32.19**	**280**	P	**P**	**06 11 16.6**	**-1.0**
	3.3nm,0.7s,baz=124,slow=8.1,SNR=6.8						
PLCA				PcP	**PcP**	**06 14 03.7**	**-0.1**
	4.6nm,0.9s,baz=158,slow=2.6,SNR=5.0						
PLCA				ScP	**ScP**	**06 17 36.3**	**-1.5**
	2.5nm,0.9s,baz=126,slow=6.0,SNR=4.9						
PLCA				LR	LR	06 23 01.2	
	comp=Z,404nm,21.6s,baz=125,slow=34						
PLCA	**Paso Flores**	**32.19**	**280**	*e*P	**P**	**06 11 16.9**	**-0.6**
	5.5nm,0.8s						
PLCA				PcP	**PcP**	**06 14 03.7**	**-0.1**
PLCA				ScP	**ScP**	**06 17 36.3**	**-1.5**
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**06 11 32.9**	**+1.0**
	30nm,0.5s,baz=201,slow=4.0,SNR=215						
QSPA				ScP	**ScP**	**06 17 42.7**	**-0.5**
	14nm,0.7s,baz=204,slow=1.4,SNR=22						
QSPA				LR	LR	06 24 42.4	
	comp=Z,379nm,19.3s,baz=21,slow=35						
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**06 11 32.9**	**+1.0**
QSPA				ScP	**ScP**	**06 17 42.8**	**-0.5**
SPB	**Sao Paulo**	**36.03**	**327**	*e*P	**P**	**06 11 52.5**	**+1.8**
	102nm,1.2s						
CPUP	**Villa Florida**	**37.13**	**311**	P	**P**	**06 11 59.9**	**-0.1**
	41nm,0.8s,baz=134,slow=7.5,SNR=57						
CPUP				PcP	**PcP**	**06 14 18.6**	**+0.5**
	3.4nm,0.5s,baz=99,slow=2.1,SNR=7.7						
CPUP				ScP	**ScP**	**06 17 55.0**	**-0.6**
	1.5nm,0.6s,baz=183,slow=3.3,SNR=5.6						
CPUP	**Villa Florida**	**37.13**	**311**	P	**P**	**06 11 59.9**	**-0.1**
CPUP				PcP	**PcP**	**06 14 18.6**	**+0.5**
CPUP				ScP	**ScP**	**06 17 55.0**	**-0.6**
CFAA	**Coronel Fontan**	**37.81**	**293**	P	**P**	**06 12 04.4**	**-1.4**
	2.9nm,0.6s,baz=142,slow=9.0,SNR=9.4						
CFAA				PcP	**PcP**	**06 14 19.9**	**-0.4**
	2.0nm,0.8s,baz=161,slow=2.8,SNR=5.6						
CFAA				LR	LR	06 27 22.3	
	comp=Z,40nm,20.4s,baz=143,slow=36						
CFAA	**Coronel Fontan**	**37.81**	**293**	P	**P**	**06 12 04.4**	**-1.4**
CFAA				PcP	**PcP**	**06 14 19.9**	**-0.4**
SUR	**Sutherland**	**40.60**	**74**	P	**P**	**06 12 30.2**	**+0.9**
	30nm,0.9s,baz=220,slow=5.9,SNR=14						
SUR				LR	LR	06 24 53.4	
	comp=Z,364nm,19.3s,baz=218,slow=29						
SUR	**Sutherland**	**40.60**	**74**	*e*P	**P**	**06 12 30.1**	**+0.9**
	78nm,1.2s						
SUR	**Sutherland**	**40.60**	**74**	P	**P**	**06 12 30.1**	**+0.9**
	297nm,1.1s,SNR=9.1						
SUR	**Sutherland**	**40.60**	**74**	⇓*i*P	**P**	**06 12 30.0**	**+0.8**
SUR				AMB	AMB	06 12 31.5	
	comp=Z,52nm,3.5s						
CVNA	**Calvinia**	**40.74**	**72**	⇓*i*P	**P**	**06 12 31.2**	**+0.9**
CVNA				AMB	AMB	06 12 32.0	
	comp=Z,104nm,1.2s						
LCO	**Las Campanas**	**41.16**	**293**	*e*P	**P**	**06 12 33.1**	**-0.7**
	comp=Z,42nm,1.2s						
BUFB	**Buffelsbos**	**41.39**	**80**	*e*P	**P**	**06 12 35.6**	**+0.2**
BUFB				AMB	AMB	06 12 36.4	
	comp=Z,100nm,1.2s						
SOE	**Somerset East**	**42.92**	**79**	*i* P	**P**	**06 12 47.8**	**-0.2**
SOE				AMB	AMB	06 12 48.6	
	comp=Z,91nm,1.4s						
BDFB	**Brasilia**	**43.72**	**330**	P	**P**	**06 12 55.8**	**+1.3**
	comp=Z,24nm,0.8s,baz=149,slow=5.2,SNR=44						
BDFB	**Brasilia**	**43.72**	**330**	P	**P**	**06 12 55.8**	**+1.3**
LVC	**Limon Verde**	**45.58**	**300**	*e*P	**P**	**06 13 10.0**	**+0.6**
	comp=Z,2.8nm,0.5s						
SBA	**Scott Base**	**45.75**	**184**	*e*P	**P**	**06 13 11.7**	**+1.9**
	comp=Z,22nm,0.8s						
BOSA	**Boshof**	**45.93**	**75**	P	**P**	**06 13 11.6**	**-0.4**
	comp=Z,34nm,0.9s,baz=217,slow=7.4,SNR=30						
BOSA				LR	LR	06 29 37.4	
	comp=Z,510nm,18.4s,baz=214,slow=32						
BOSA	**Boshof**	**45.93**	**75**	*e*P	**P**	**06 13 11.6**	**-0.4**
	comp=Z,61nm,1.1s						
BOSA	**Boshof**	**45.93**	**75**	⇓*i*P	**P**	**06 13 11.1**	**-0.9**
BOSA				AMB	AMB	06 13 12.2	
	comp=Z,60nm,1.2s						
VNDA	**Vanda**	**46.24**	**183**	P	**P**	**06 13 14.8**	**+1.2**
	comp=Z,44nm,0.6s,baz=189,slow=6.0,SNR=146						
VNDA				ScP	**ScP**	**06 18 31.2**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=221,slow=2.6,SNR=7.6						
VNDA				LR	LR	06 30 00.6	
	comp=Z,127nm,20.0s,baz=176,slow=32						
VNDA	**Vanda**	**46.24**	**183**	*e*P	**P**	**06 13 14.9**	**+1.2**
	comp=Z,43nm,0.7s						
VNDA				ScP	**ScP**	**06 18 31.2**	**+0.1**
SWZ	**Schweizer**	**47.10**	**74**	⇓*i*P	**P**	**06 13 20.6**	**-0.6**
SWZ				AMB	AMB	06 13 21.2	
	comp=Z,60nm,1.3s						
SIV	**San Ignacio**	**47.90**	**313**	P	**P**	**06 13 27.0**	**-0.3**
	comp=Z,16nm,0.6s,baz=167,slow=7.6,SNR=80						
SIV				ScP	**ScP**	**06 18 38.6**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=192,slow=4.2,SNR=6.6						
SIV				LR	LR	06 32 48.0	
	comp=Z,170nm,19.1s,slow=35						
SIV	**San Ignacio**	**47.90**	**313**	P	**P**	**06 13 27.0**	**-0.3**
SIV				ScP	**ScP**	**06 18 38.6**	**-0.4**
PRYS	**Parys**	**48.40**	**76**	⇓*i*P	**P**	**06 13 30.5**	**-0.7**
PRYS				AMB	AMB	06 13 31.2	
	comp=Z,85nm,1.3s						
LBTB	**Lobatse**	**48.98**	**73**	LR	LR	06 30 47.8	
	comp=Z,213nm,19.1s,baz=233,slow=32						
LBTB	**Lobatse**	**48.98**	**73**	*e*P	**P**	**06 13 35.4**	**-0.2**
	comp=Z,56nm,0.8s						
LBTB	**Lobatse**	**48.98**	**73**	⇓*i*P	**P**	**06 13 35.2**	**-0.5**
LBTB				AMB	AMB	06 13 36.0	
	comp=Z,75nm,1.0s						
KSR	**Koster**	**49.01**	**75**	*e*P	**P**	**06 13 34.5**	**-1.4**
KSR				AMB	AMB	06 13 36.6	
	comp=Z,26nm,3.0s						
ERPM	**east rand prop**	**49.34**	**76**	*e*P	**P**	**06 13 37.7**	**-0.7**
ERPM				AMB	AMB	06 13 39.2	
	comp=Z,93nm,1.1s						
TSUM	**Tsumeb**	**49.74**	**60**	*e*P	**P**	**06 13 41.6**	**+0.1**
	comp=Z,70nm,1.1s						
TSUM	**Tsumeb**	**49.74**	**60**	⇓*i*P	**P**	**06 13 41.6**	**+0.2**
LPAZ	**La Paz**	**50.68**	**305**	P	**P**	**06 13 50.0**	**+0.8**
	comp=Z,82nm,0.6s,baz=147,slow=5.5,SNR=218						
LPAZ	**La Paz**	**50.68**	**305**	*e*P	**P**	**06 13 50.0**	**+0.8**
	comp=Z,104nm,0.8s						
RCBR	**Riachuelo**	**50.92**	**349**	P	**P**	**06 13 51.0**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=164,slow=15,SNR=4.7						
RCBR				LR	LR	06 33 48.9	
	comp=Z,138nm,18.5s,baz=148,slow=34						
RCBR	**Riachuelo**	**50.92**	**349**	P	**P**	**06 13 51.0**	**+0.8**
MSNA	**Messina**	**53.51**	**75**	*e*P	**P**	**06 14 08.8**	**-0.6**
MSNA				AMB	AMB	06 14 09.7	
	comp=Z,67nm,1.3s						
SAML	**Samuel**	**55.13**	**315**	*e*P	**P**	**06 14 20.8**	**-0.3**
	comp=Z,63nm,0.9s						
LSZ	**Lusaka**	**58.38**	**68**	*e*P	**P**	**06 14 44.1**	**-0.1**
	comp=Z,93nm,1.1s						
LSZ	**Lusaka**	**58.38**	**68**	⇓*i*P	**P**	**06 14 43.9**	**-0.3**
NNA	**Nana**	**58.52**	**299**	P	**P**	**06 14 46.1**	**+1.0**
	comp=Z,19nm,0.8s,baz=195,slow=8.0,SNR=7.2						
NNA				LR	LR	06 37 19.1	
	comp=Z,52nm,19.8s,baz=243,slow=33						
NNA	**Nana**	**58.52**	**299**	*e*P	**P**	**06 14 45.0**	**-0.1**
	comp=Z,41nm,1.0s						
ATAH	**Atahualpa**	**63.48**	**300**	P	**P**	**06 15 21.1**	**+2.0**
	comp=Z,42nm,1.0s,baz=184,slow=5.3,SNR=28						
ATAH	**Atahualpa**	**63.48**	**300**	P	**P**	**06 15 21.1**	**+2.0**
DBIC	**Dimbokro**	**65.42**	**24**	P	**P**	**06 15 31.3**	**+0.1**
	comp=Z,10nm,0.6s,baz=161,slow=7.6,SNR=40						
DBIC				LR	LR	06 35 31.4	
	comp=Z,208nm,21.6s,baz=181,slow=28						
DBIC	**Dimbokro**	**65.42**	**24**	*e*P	**P**	**06 15 31.1**	**0.0**
	comp=Z,12nm,0.7s						
DBIC	**Dimbokro**	**65.42**	**24**	⇓*i*P	**P**	**06 15 30.4**	**-0.8**
ABPO	**Ambohimpanom**	**65.63**	**88**	*e*P	**P**	**06 15 34.3**	**+1.5**
	comp=Z,24nm,1.4s						
OTAV	**Otavalo**	**69.95**	**304**	*e*P	**P**	**06 16 01.1**	**+0.9**
	comp=Z,247nm,1.6s						
ROSC	**El Rosal**	**72.22**	**310**	P	**P**	**06 16 14.6**	**+0.8**
	comp=Z,16nm,0.8s,baz=118,slow=5.3,SNR=25						
ROSC				LR	LR	06 48 16.1	
	comp=Z,104nm,20.5s,baz=197,slow=36						
ROSC	**El Rosal**	**72.22**	**310**	P	**P**	**06 16 14.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**73.29**	**29**	P	**P**	**06 16 19.9**	**+0.3**
	comp=Z,30nm,0.6s,baz=198,slow=6.5,SNR=191						
TORD				pP	**pP**	**06 16 46.2**	**+1.0**
	comp=Z,17nm,0.6s,baz=199,slow=5.9,SNR=7.1						
TORD				LR	LR	06 42 25.1	
	comp=Z,196nm,18.4s,baz=245,slow=31						
TORD	**Torodi Ar. Bea**	**73.29**	**29**	P	**P**	**06 16 19.9**	**+0.3**
TORD				pP	**pP**	**06 16 46.2**	**+1.0**
SDV	**Santo Domingo**	**74.34**	**315**	*e*P	**P**	**06 16 26.3**	**+0.3**
	comp=Z,54nm,0.8s						
KMBO	**Kilima Mbogo**	**75.04**	**69**	*e*P	P	06 16 33.5	+3.3
	comp=Z,95nm,2.9s						
RPZ	**Rata Peaks**	**79.11**	**193**	*e*P	**P**	**06 16 52.8**	**+0.4**
	comp=Z,18nm,0.7s						
KHZ	**Kahutara**	**80.05**	**195**	*e*P	**P**	**06 16 58.8**	**+1.4**
	comp=Z,22nm,0.7s						
RKT	**Rikitea**	**80.44**	**243**	*e*T	T	07 45 34.0	
MTP	**Monte Pirata**	**80.98**	**323**	*e*P	**P**	**06 17 02.5**	**0.0**
	comp=Z,13nm,0.8s						
STVI	**Saint Thomas**	**81.02**	**324**	*e*P	**P**	**06 17 02.4**	**-0.3**
	comp=Z,29nm,0.8s						
SJG	**San Juan**	**81.19**	**323**	*e*P	**P**	**06 17 03.0**	**-0.6**
	comp=Z,20nm,1.1s						
JTS	**JuntasAbangare**	**81.81**	**303**	*e*P	**P**	**06 17 07.6**	**+0.6**
	comp=Z,84nm,1.2s						
TAM	**Tamanrasset**	**83.52**	**30**	*e*P	**P**	**06 17 17.9**	**+2.0**
	comp=Z,13nm,1.4s						
SDDR	**Presa de Saban**	**83.82**	**318**	*e*P	**P**	**06 17 17.0**	**-0.3**
	comp=Z,30nm,0.9s						
NWAO	**Narrogin (SRO)**	**85.97**	**150**	P	**P**	**06 17 27.1**	**-1.0**
	comp=Z,5.6nm,0.7s,baz=148,slow=9.5,SNR=4.2						
NWAO	**Narrogin (SRO)**	**85.97**	**150**	P	**P**	**06 17 27.1**	**-1.0**
TBI	**Tubuai**	**86.97**	**231**	*e*LR	LR	06 45 24.3	
	comp=Z,500nm,32.2s						
OUZ	**Omahuta**	**87.08**	**197**	*e*P	**P**	**06 17 34.3**	**+0.8**
	comp=Z,32nm,1.0s						
MDT	**Midelt**	**90.87**	**19**	P	**P**	**06 17 52.8**	**+1.7**
	comp=Z,7.6nm,0.6s,baz=203,slow=4.3,SNR=20						
MDT	**Midelt**	**90.87**	**19**	P	**P**	**06 17 52.8**	**+1.7**
STKA	**Stephens Creek**	**91.54**	**170**	P	**P**	**06 17 55.5**	**+1.0**
	comp=Z,4.8nm,0.6s,baz=149,slow=3.2,SNR=9.0						
STKA				LR	LR	07 00 09.4	
	comp=Z,144nm,18.7s,baz=200,slow=36						
STKA	**Stephens Creek**	**91.54**	**170**	*e*P	**P**	**06 17 56.3**	**+1.8**
	comp=Z,2.0nm,0.9s						
TEIG	**Tepich**	**92.01**	**304**	*e*P	**P**	**06 17 56.8**	**+0.3**
	comp=Z,50nm,0.7s						
PPT2	**Papeete2**	**92.08**	**234**	*e*LR	LR	06 47 49.3	
	comp=Z,851nm,31.2s						
PPT	**Papeete**	**92.10**	**234**	LR	LR	06 48 43.9	
	comp=Z,296nm,21.9s,baz=278,slow=28						
ASAR	**Alice Springs**	**98.62**	**162**	P	**P**	**06 18 26.5**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=181,slow=4.1,SNR=23						
ASAR				PP	**PP**	**06 22 26.1**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=186,slow=7.1,SNR=6.0						
ASAR				LR	LR	06 57 44.3	
	comp=Z,159nm,20.1s,baz=180,slow=32						
ASAR	**Alice Springs**	**98.62**	**162**	P	**P**	**06 18 26.5**	**-0.5**
ASAR				PP	**PP**	**06 22 26.1**	**-1.8**
DZM	**Mont Dzumac**	**101.03**	**193**	*e*LR	LR	06 51 59.7	
	comp=Z,132nm,26.9s						
WRA	**Warramunga Arr**	**102.34**	**162**	P	**Pdif**	**06 18 42.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=196,slow=4.2,SNR=7.2						
WRA				PP	**PP**	**06 22 58.3**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=178,slow=6.5,SNR=6.3						
WRA	**Warramunga Arr**	**102.34**	**162**	P	**Pdif**	**06 18 42.9**	**-0.6**
WRA				PP	**PP**	**06 22 58.3**	**+2.2**
TXAR	**Lajitas Array**	**107.06**	**297**	PP	PP	06 23 31.7	-0.5
	comp=Z,0.4nm,0.7s,baz=126,slow=8.5,SNR=4.2						
TXAR	**Lajitas Array**	**107.06**	**297**	PP	PP	06 23 31.7	-0.5
BRTR	**Keskin Array B**	**108.57**	**45**	PP	PP	06 23 45.3	+2.1
	comp=Z,1.0nm,0.9s,baz=189,slow=6.8,SNR=3.9						
BRTR	**Keskin Array B**	**108.57**	**45**	PP	PP	06 23 45.3	+2.1
T17A	**Navajo Res., N**	**116.76**	**297**	⇑P	**PKPdf**	**06 23 31.9**	**+0.6**
	baz=117						
O19A	**Miners Draw (B**	**118.52**	**300**	⇓P	**PKPdf**	**06 23 34.4**	**-0.2**
	baz=119						
N20A	**Spence Gulch,**	**118.53**	**301**	⇓P	**PKPdf**	**06 23 34.4**	**-0.2**
	baz=119						
EDW2	**Edwards Air Fo**	**118.78**	**290**	⇑P	**PKPdf**	**06 23 35.6**	**+0.5**
	baz=119						
O18A	**Roosevelt**	**118.92**	**300**	⇑P	**PKPdf**	**06 23 36.0**	**+0.7**
	baz=119						
O17A	**Robinson Place**	**119.22**	**299**	⇓P	**PKPdf**	**06 23 36.4**	**+0.4**
	baz=119						
ISA	**Isabella**	**119.63**	**291**	⇑P	**PKPdf**	**06 23 37.1**	**+0.3**
	baz=120						
J22A	**Midwest**	**119.70**	**304**	⇓P	**PKPdf**	**06 23 37.0**	**+0.3**
	baz=120						
H24A	**Dirks Ranch, A**	**119.87**	**307**	⇓P	**PKPdf**	**06 23 36.0**	**-0.9**
	baz=120						
M17A	**Scullys Gap (B**	**120.17**	**300**	⇑P	**PKPdf**	**06 23 37.5**	**-0.3**
	baz=120						
DUG	**Dugway**	**120.23**	**298**	⇑P	**PKPdf**	**06 23 38.0**	**+0.1**
	baz=120						
J20A	**Shoshoni**	**120.39**	**303**	⇑P	**PKPdf**	**06 23 37.9**	**-0.2**
	baz=121						
ULM	**Lac du Bonnet**	**120.58**	**316**	PKP	**PKPdf**	**06 23 37.2**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=176,slow=1.6,SNR=11						
ULM	**Lac du Bonnet**	**120.58**	**316**	PKP	**PKPdf**	**06 23 37.2**	**-0.8**
PDAR	**Pinedale Array**	**120.63**	**302**	PKP	**PKPdf**	**06 23 37.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=119,slow=5.0,SNR=13						
PDAR	**Pinedale Array**	**120.63**	**302**	PKP	**PKPdf**	**06 23 37.8**	**-0.9**
HWUT	**Hardware Ranch**	**120.70**	**300**	*e*PKPdf	**PKPdf**	**06 23 38.5**	**-0.3**
I20A	**Worland**	**120.87**	**304**	⇑P	**PKPdf**	**06 23 38.1**	**-0.9**
	baz=121						
L16A	**Fish Haven**	**120.95**	**300**	⇑P	**PKPdf**	**06 23 39.4**	**+0.1**
	baz=121						
J18A	**Kendall Valley**	**121.19**	**302**	⇑P	**PKPdf**	**06 23 39.5**	**-0.3**
	baz=121						
H20A	**Greybull**	**121.23**	**304**	⇑P	**PKPdf**	**06 23 38.9**	**-0.7**
	baz=121						
L15A	**Malad City**	**121.40**	**299**	⇓P	**PKPdf**	**06 23 40.0**	**0.0**
	baz=122						
D24A	**Glendive**	**121.60**	**309**	⇑P	**PKPdf**	**06 23 40.4**	**+0.2**
	baz=122						
NVAR	**Mina Array Bea**	**121.65**	**293**	PKP	**PKPdf**	**06 23 41.8**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=115,slow=3.9,SNR=4.1						
NVAR	**Mina Array Bea**	**121.65**	**293**	PKP	**PKPdf**	**06 23 41.8**	**+1.1**
LOHW	**Long Hollow**	**121.77**	**302**	*e*PKPdf	**PKPdf**	**06 23 40.2**	**-0.6**
C24A	**Savage**	**121.97**	**309**	⇑P	**PKPdf**	**06 23 40.9**	**+0.1**
	baz=122						
H18A	**Shoshone NF, C**	**122.14**	**303**	⇓P	**PKPdf**	**06 23 42.0**	**+0.5**
	baz=122						
D22A	**Cohagen**	**122.44**	**307**	⇓P	**PKPdf**	**06 23 41.4**	**-0.4**
	baz=123						
C23A	**Lambert**	**122.50**	**309**	⇑P	**PKPdf**	**06 23 41.2**	**-0.7**
	baz=123						
C22A	**Vida**	**122.77**	**308**	⇑P	**PKPdf**	**06 23 42.2**	**-0.2**
	baz=123						
E20A	**Meyer Farm, Mu**	**122.82**	**306**	⇑P	**PKPdf**	**06 23 42.3**	**-0.2**
	baz=123						
A24A	**Westby**	**122.85**	**310**	⇓P	**PKPdf**	**06 23 42.3**	**-0.1**
	baz=123						
J14A	**Carey**	**122.95**	**300**	⇑P	**PKPdf**	**06 23 42.5**	**-0.5**
	baz=123						
E19A	**Rath Farm, Rou**	**123.09**	**305**	⇓P	**PKPdf**	**06 23 42.3**	**-0.7**
	baz=123						
D20A	**Manuel Ranch,**	**123.27**	**306**	⇑P	**PKPdf**	**06 23 43.3**	**0.0**
	baz=123						
C21A	**Desert Coulee**	**123.36**	**307**	⇑P	**PKPdf**	**06 23 43.6**	**+0.1**
	baz=124						
F17A	**Fitzpatrick Pl**	**123.53**	**304**	⇓P	**PKPdf**	**06 23 44.5**	**+0.5**
	baz=124						
G16A	**Moss Hill, Enn**	**123.56**	**302**	⇓P	**PKPdf**	**06 23 44.6**	**+0.5**
	baz=124						
D19A	**Cripps Ranch,**	**123.66**	**306**	⇓P	**PKPdf**	**06 23 43.6**	**-0.5**
	baz=124						
C20A	**Veseth Ranch,**	**123.68**	**307**	⇓P	**PKPdf**	**06 23 44.1**	**0.0**
	baz=124						
E18A	**Harlowton**	**123.68**	**305**	⇑P	**PKPdf**	**06 23 44.2**	**0.0**
	baz=124						
A22A	**Carney Farms,**	**123.72**	**309**	⇓P	**PKPdf**	**06 23 44.3**	**+0.2**
	baz=124						
H14A	**Leadore**	**123.84**	**301**	⇑P	**PKPdf**	**06 23 45.4**	**+0.7**
	baz=124						
I12A	**Atlanta**	**124.08**	**299**	⇓P	**PKPdf**	**06 23 45.6**	**+0.5**
	baz=124						
C19A	**Slack Wire Ran**	**124.16**	**306**	⇓P	**PKPdf**	**06 23 45.2**	**+0.1**
	baz=124						
A21A	**Bergtoll Ranch**	**124.16**	**308**	⇓P	**PKPdf**	**06 23 44.9**	**-0.1**
	baz=124						
H13A	**Challis**	**124.23**	**300**	⇑P	**PKPdf**	**06 23 45.8**	**+0.4**
	baz=124						
E16A	**East Helena**	**124.47**	**304**	⇑P	**PKPdf**	**06 23 46.0**	**+0.2**
	baz=125						
D17A	**Six Diamond Ra**	**124.47**	**305**	⇑P	**PKPdf**	**06 23 45.7**	**-0.1**
	baz=125						
H12A	**Diamond D Ranc**	**124.50**	**300**	⇑P	**PKPdf**	**06 23 46.3**	**+0.4**
	baz=125						
A20A	**Cobblestone Ra**	**124.52**	**308**	⇓P	**PKPdf**	**06 23 46.0**	**+0.3**
	baz=125						
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**06 23 45.1**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=207,slow=1.4,SNR=19						
FINES				pPKP	**pPKPdf**	**06 24 12.7**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=118,slow=1.8,SNR=2.5						
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**06 23 45.1**	**-0.3**
FINES				pPKP	**pPKPdf**	**06 24 12.7**	**-0.3**
B19A	**Brinkman Farms**	**124.65**	**307**	⇑P	**PKPdf**	**06 23 46.4**	**+0.4**
	baz=125						
D16A	**Dana Ranch, Ca**	**124.78**	**304**	⇓P	**PKPdf**	**06 23 46.7**	**+0.4**
	baz=125						
CMAR	**Chiang Mai Arr**	**124.83**	**111**	PKP	**PKPdf**	**06 23 47.5**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=232,slow=3.8,SNR=9.5						
CMAR				pPKP	**pPKPdf**	**06 24 15.5**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=241,slow=4.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**124.83**	**111**	PKP	**PKPdf**	**06 23 47.5**	**+0.3**
CMAR				pPKP	**pPKPdf**	**06 24 15.5**	**+0.7**
C17A	**Wharram Farm,**	**124.86**	**305**	⇑P	**PKPdf**	**06 23 46.3**	**-0.1**
	baz=125						
G12A	**Big Creek, Yel**	**125.16**	**300**	⇑P	**PKPdf**	**06 23 47.4**	**+0.2**
	baz=125						
D15A	**Lincoln**	**125.23**	**303**	⇓P	**PKPdf**	**06 23 47.6**	**+0.4**
	baz=125						
KAF	**Kangasniemi**	**125.25**	**27**	*e*p	**PKPdf**	**06 23 45.0**	**-1.5**
	comp=Z,3.3nm,0.5s						
C16A	**Fuhringer Ranc**	**125.43**	**305**	⇑P	**PKPdf**	**06 23 47.6**	**+0.1**
	baz=126						
MSO	**Missoula**	**125.74**	**302**	⇓P	**PKPdf**	**06 23 48.5**	**+0.3**
	baz=126						
A17A	**Triple J Farms**	**125.80**	**306**	⇓P	**PKPdf**	**06 23 48.2**	**+0.1**
	baz=126						
C15A	**Salmond Ranch,**	**125.81**	**304**	⇑P	**PKPdf**	**06 23 48.0**	**-0.3**
	baz=126						
B16A	**M & M Farms, S**	**125.86**	**305**	⇓P	**PKPdf**	**06 23 47.9**	**-0.4**
	baz=126						
A16A	**West Butte Ran**	**126.20**	**306**	⇓P	**PKPdf**	**06 23 49.0**	**0.0**
	baz=126						
SWMT	**Swartz Lake**	**126.26**	**303**	*e*PKPdf	**PKPdf**	**06 23 48.8**	**-0.3**
C14A	**Swan Lake**	**126.33**	**303**	⇓P	**PKPdf**	**06 23 49.0**	**-0.2**
	baz=126						
D12A	**Red Ives Fores**	**126.57**	**302**	⇑P	**PKPdf**	**06 23 49.2**	**-0.5**
	baz=127						
C13A	**Hot Springs**	**126.66**	**303**	⇑P	**PKPdf**	**06 23 49.1**	**-0.7**
	baz=127						
A15A	**Johnson Ranch,**	**126.74**	**305**	⇑P	**PKPdf**	**06 23 49.8**	**-0.2**
	baz=127						
A14A	**Double T Ranch**	**127.05**	**305**	⇓P	**PKPdf**	**06 23 50.4**	**-0.2**
	baz=127						
C12B	**Naegeli Ranch,**	**127.10**	**302**	⇓P	**PKPdf**	**06 23 50.6**	**0.0**
	baz=127						
B13A	**Whitefish**	**127.11**	**303**	⇓P	**PKPdf**	**06 23 50.5**	**-0.2**
	baz=127						
JOF	**Joensuu**	**127.23**	**29**	*e*p	**PKPdf**	**06 23 49.1**	**-1.2**
	comp=Z,2.1nm,0.5s						
AKTO	**Aktyubinsk**	**127.43**	**53**	PKP	**PKPdf**	**06 23 51.9**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=130,slow=3.4,SNR=3.6						
AKTO	**Aktyubinsk**	**127.43**	**53**	PKP	**PKPdf**	**06 23 51.9**	**+0.7**
ABKAR	**Akbulak array**	**127.46**	**56**	*e*PKPdf	**PKPdf**	**06 23 50.9**	**-0.3**
C11A	**Tepee Creek (N**	**127.56**	**302**	⇑P	**PKPdf**	**06 23 51.0**	**-0.5**
	baz=128						
KSH	**Kashi**	**128.53**	**75**	*e*PKP	**PKPdf**	**06 23 52.0**	**-1.8**
KSH				PP	**PP**	**06 26 01.5**	**+0.4**
KSH				PKS	PKSdf	06 27 24.9	-5.4
KSH				SKS	SKSdf	06 30 44.6	-11
KSH				SKKS	SKKSac	06 32 35.0	-13
KSH				SS	SS	06 42 59.6	-10
KSH				AMB	AMB		
	comp=Z,130nm,5.3s						
KSH				LR	LR		
	comp=N,81nm,5.2s						
KSH				LR	LR		
	comp=E,55nm,4.9s						
KSH				LR	LR		
	comp=Z,190nm,5.6s						
AAK	**Ala-Archa**	**129.97**	**71**	PKP	**PKPdf**	**06 23 57.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=125,slow=1.8,SNR=7.4						
AAK				SKPbc	SKPab	06 27 09.0	-0.4
	comp=Z,2.9nm,0.8s,baz=198,slow=7.5,SNR=7.6						
AAK	**Ala-Archa**	**129.97**	**71**	PKP	**PKPdf**	**06 23 57.1**	**+0.6**
AAK				SKPbc	SKPab	06 27 09.0	-0.4
ARCES	**ARCESS Array B**	**131.21**	**22**	PKP	**PKPdf**	**06 23 57.5**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=218,slow=1.5,SNR=15						
ARCES				SKPbc	**SKPbc**	**06 27 11.7**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=193,slow=3.7,SNR=6.3						
ARCES	**ARCESS Array B**	**131.21**	**22**	PKP	**PKPdf**	**06 23 57.5**	**-0.3**
ARCES				SKPbc	**SKPbc**	**06 27 11.7**	**-1.4**
KMI	**Kunming**	**132.29**	**109**	PKP	**PKPdf**	**06 23 59.8**	**-1.7**
KMI				LR	LR		
	comp=Z,50nm,35.6s						
BVAR	**Borovoye Array**	**134.85**	**58**	PKP	**PKPdf**	**06 24 06.7**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=218,slow=2.1,SNR=10						
BVAR				SKPbc	**SKPbc**	**06 27 25.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=267,slow=3.0,SNR=3.9						
BVAR	**Borovoye Array**	**134.85**	**58**	PKP	**PKPdf**	**06 24 06.7**	**+1.6**
BVAR				SKPbc	**SKPbc**	**06 27 25.8**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA	Guiyang	135.42	112	Pdif	Pdif	06 21 11.0	+0.6
GYA				PKP	PKiKP	06 24 08.3	-0.4
GYA				sPKP		06 24 58.6	
GYA				PP	PP	06 26 50.4	+5.3
GYA				AMB	AMB		
	comp=Z,130nm,7.8s						
YKA	Yellowknife Ar	136.51	318	PKhKP	PKPpre	06 23 57.1	
	comp=Z,0.4nm,0.5s,baz=126,slow=3.4,SNR=5.0						
YKA				PKP	PKPdf	06 24 07.6	-0.2
	comp=Z,4.3nm,0.6s,baz=126,slow=2.3,SNR=50						
YKA				PP	PP	06 26 48.0	-3.6
	comp=Z,2.4nm,0.8s,baz=120,slow=6.6,SNR=13						
YKA				SKPbc	SKPbc	06 27 28.9	-1.8
	comp=Z,3.9nm,0.9s,baz=126,slow=2.1,SNR=21						
YKA	Yellowknife Ar	136.51	318	PKPpre	PKPpre	06 23 57.1	
YKA				PKP	PKPdf	06 24 07.7	-0.2
YKA				PP	PP	06 26 48.0	-3.6
YKA				SKPbc	SKPbc	06 27 28.9	-1.8
YKW3	Yellowknife Ar	136.55	318	ePKPdf	PKPdf	06 24 07.8	-0.1
MKAR	Makanchi Array	136.87	72	PKhKP	PKPpre	06 24 01.6	
	comp=Z,0.2nm,0.4s,baz=225,slow=6.1,SNR=3.9						
MKAR				PKP	PKiKP	06 24 10.9	0.0
	comp=Z,0.4nm,0.5s,baz=231,slow=2.4,SNR=7.8						
MKAR				SKPbc	SKPbc	06 27 31.6	-0.9
	comp=Z,0.7nm,0.5s,baz=246,slow=3.7,SNR=5.7						
MKAR	Makanchi Array	136.87	72	PKPpre	PKPpre	06 24 01.6	
MKAR				PKP	PKiKP	06 24 10.9	0.0
MKAR				SKPbc	SKPbc	06 27 31.6	-0.9
KURBB	Kurchatov Arra	137.33	65	PKP	PKPdf	06 24 07.7	-2.0
	comp=Z,1.0nm,0.7s,baz=234,slow=3.0,SNR=4.8						
KURBB				SKPbc	SKPbc	06 27 32.4	-1.2
	comp=Z,1.0nm,0.9s,baz=244,slow=4.0,SNR=8.5						
KURK	Kurchatov	137.43	65	PKP	PKPdf	06 24 07.7	-2.2
KURK				SKPbc	SKPbc	06 27 32.4	-1.5
CD2	Chengdu	137.44	106	PKP	PKPdf	06 24 11.1	+0.4
CD2				sPKP		06 25 01.4	
CD2				PP	PP	06 27 03.1	+5.4
CD2				PKS	PKSdf	06 27 45.8	-1.1
CD2				SKS	SKSdf	06 31 06.4	-5.6
CD2				SKKS	SKKSac	06 33 38.5	-3.6
CD2				SS	SS	06 44 57.7	+0.4
CD2				AMB	AMB		
	comp=Z,160nm,6.0s						
CD2				LR	LR		
	comp=N,240nm,6.5s						
CD2				LR	LR		
	comp=Z,180nm,6.0s						
WMQ	Urumqi	137.85	79	ePKP	PKPdf	06 24 12.0	+1.0
LZH	Lanzhou	141.42	101	ePKP	PKPdf	06 24 15.1	-2.8
GTA	Gaotai	141.58	93	PKP	PKPdf	06 24 22.4	+4.3
GTA				sPKP		06 25 03.2	
ZALV	Zalesovo Beam	142.40	64	PKhKP	PKPpre	06 24 13.5	
	comp=Z,0.3nm,0.3s,baz=303,slow=38,SNR=4.4						
ZALV				PKP	PKPdf	06 24 18.4	-0.4
	comp=Z,4.4nm,0.5s,baz=219,slow=3.7,SNR=5.0						
ZALV	Zalesovo Beam	142.40	64	PKPpre	PKPpre	06 24 13.5	
ZALV				PKP	PKPdf	06 24 18.4	-0.4
NJ2	Nanjing	146.05	121	ePKPbc	PKPab	06 24 27.3	-0.4
INK	Inuvik	146.15	320	ePKPdf	PKPbc	06 24 25.7	-0.4
DAWY	Dawson	147.12	312	ePKPbc	PKPbc	06 24 28.1	-1.0
EGAK	Eagle	148.06	312	ePKPbc	PKPbc	06 24 30.8	-0.8
BMRM	Bremner River	148.36	305	ePKPbc	PKPbc	06 24 33.3	+0.8
BMRM				ePKPab	PKPab	06 24 37.1	+0.9
MENT	Mentasta	148.61	308	ePKPbc	PKPbc	06 24 33.1	0.0
DOT	Dot Lake	148.96	310	ePKPbc	PKPbc	06 24 34.2	+0.3
HHC	Hu-ho-hao-te	149.05	102	ePKPbc	PKPdf	06 24 29.3	-1.5
HHC				pPKP	pPKPdf	06 25 10.5	+12
HHC				PKS	PKSdf	06 28 03.2	-2.5
HHC				PP	PP	06 28 09.4	+1.9
HHC				SKS	SKSdf	06 31 19.7	-10
HHC				SKKS	SKKSac	06 34 41.7	-6.8
HHC				SS	SS	06 47 06.9	-4.1
PAX	Paxson	149.38	308	ePKPbc	PKPbc	06 24 35.1	+0.1
PAX				ePKPab	PKPab	06 24 39.9	-0.3
SML	Sawmill	150.33	305	ePKPbc	PKPbc	06 24 37.3	0.0
SML				ePKPab	PKPab	06 24 44.7	+0.6
SEW	Seward	150.34	301	ePKPbc	PKPbc	06 24 37.0	-0.2
SEW				ePKPab	PKPab	06 24 44.6	+0.5
ILAR	Eielson Array	150.44	311	PKP	PKPdf	06 24 29.6	-2.4
	comp=Z,0.9nm,0.8s,baz=278,slow=0.8,SNR=7.7						
ILAR				PKPbc	PKPbc	06 24 36.9	-0.6
	comp=Z,11nm,0.8s,baz=154,slow=1.3,SNR=123						
ILAR	Eielson Array	150.44	311	PKP	PKPdf	06 24 29.6	-2.4
ILAR				PKPbc	PKPbc	06 24 36.9	-0.6
SONM	Songino Array	150.62	87	PKPbc	PKPbc	06 24 38.2	-0.4
	comp=Z,7.8nm,0.5s,baz=221,slow=3.8,SNR=81						
SONM	Songino Array	150.62	87	PKPbc	PKPbc	06 24 38.2	-0.4
PMR	Palmer	150.64	304	ePKPbc	PKPbc	06 24 37.8	-0.1
PMR				ePKPab	PKPab	06 24 45.4	+0.1
SLKM	Skilak Lake	150.83	302	ePKPbc	PKPbc	06 24 38.9	+0.4
COLA	College	150.86	311	ePKPbc	PKPbc	06 24 37.8	-0.6
COLA				ePKPab	PKPab	06 24 47.0	+0.8
BJI	Beijing	150.94	108	PKPbc	PKPdf	06 24 35.0	+1.4
KDAK	Kodiak Island	151.08	296	ePKPbc	PKPbc	06 24 40.1	+1.0
MCK	McKinley	151.09	309	ePKPbc	PKPbc	06 24 38.4	-0.7
TRF	Thorofare Moun	151.62	308	ePKPbc	PKPbc	06 24 39.8	-0.7
TRF				ePKPab	PKPab	06 24 49.8	+0.2
RSO	Redoubt South	152.02	301	ePKPbc	PKPbc	06 24 41.5	+0.1
RSO				ePKPab	PKPab	06 24 51.5	+0.1
COLD	Coldfoot	152.16	316	ePKPbc	PKPbc	06 24 41.8	+0.5
CN2	Changchun	158.45	114	ePKP	PKPdf	06 24 49.0	+5.2
PETK	Petropavlovsk-	175.75	221	PKP	PKPdf	06 24 57.9	+1.7
	comp=Z,1.4nm,0.6s,baz=264,slow=5.4,SNR=4.0						
PETK				PKPab	PKPab	06 26 34.6	-0.6
	comp=Z,3.2nm,0.9s,baz=99,slow=9.2,SNR=4.6						
PETK	Petropavlovsk-	175.75	221	PKP	PKPdf	06 24 57.9	+1.7
PETK				PKPab	PKPab	06 26 34.6	-0.6

BYKL 03 06:14:37.1±1.3, 53.77N×111.75E, 1C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	1.16	343	⇑iPg	Pg	06 14 58.5	-0.9
YLYR				eSg	Sg	06 15 14.3	-0.2
YLYR				Pmax			
	27nm,0.2s						
YLYR				Smax			
	376nm,0.5s						
MXMB	Maximikha	1.86	255	ePg	Pn	06 15 10.8	+0.5
MXMB				e		06 15 18.4	
MXMB				eSg	Sb	06 15 35.9	-0.1
MXMB				Pmax			
	13nm,0.1s						
MXMB				Smax			
	304nm,0.4s						
UKT	Uakit	2.04	32	ePg	Pn	06 15 13.1	+0.3
UKT				eSg	Sb	06 15 40.6	-0.6
UKT				Pmax			
	4.0nm,0.1s						
UKT				Smax			
	95nm,0.4s						
KMO	Kumora	2.15	352	eSg	Sn	06 15 42.2	+0.7
KMO				Smax			
	198nm,1.0s						
KMO	Kumora	2.15	352	⇓iPg	Pn	06 15 15.5	+1.3
KMO				e		06 15 22.1	
KMO				eSg	Sn	06 15 35.0	-6.5
KMO				Pmax			
	46nm,0.3s						
KMO				Smax			
	250nm,1.0s						
YOA	Uoyan	2.37	360	eSg	Sn	06 15 44.4	-2.6
YOA				Smax			
	440nm,0.3s						
NIZ	Nizh Angarsk	2.38	328	eSg	Sb	06 15 50.7	-0.2
NIZ				Smax			
	85nm,0.4s						
NIZ	Nizh Angarsk	2.38	328	ePg	Pb	06 15 19.2	-1.7
NIZ				e		06 15 25.7	
NIZ				eSg	Sn	06 15 39.4	-7.9
NIZ				Pmax			
	26nm,0.2s						
NIZ				Smax			
	130nm,0.4s						
OGRR	Ongureny	2.47	269	eSg	Sb	06 15 52.3	-1.2
OGRR				Smax			
	57nm,0.3s						

BYKL 03 06:14:52.9±0.4, 53.85N×111.54E

MOS 03 06:14:57.7±2.8, 54.00N×111.30E, h10km, mb4.2/1, 3C-2D, Error ellipse: s-maj=61.3km s-min=33.9km az=83.8, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SYVR	Suvo	0.84	247	eSg	Pg	06 15 10.0	-4.0
SYVR				Smax			
	329nm,0.2s						
SYVR	Suvo	0.84	247	ePg	Pg	06 15 11.5	-2.5
SYVR				eSg	Sb	06 15 26.0	+0.1
SYVR				Pmax			
	131nm,0.4s						
SYVR				Smax			
	1μm,0.3s						
SYVR	Suvo	0.84	247	ePg	Pg	06 15 09.5	-4.5
SYVR				eSg	Sg	06 15 22.2	-2.9
SYVR				Pmax			
	185nm,0.3s						
SYVR				Smax			
	1μm,0.2s						
YLYR	Ulyunkhan	0.88	355	⇑iPG	Pg	06 15 11.9	-2.9
YLYR				e		06 15 25.6	
YLYR				pmax	pmax		
	comp=Z,734nm,0.2s						
YLYR				smax	smax		
	comp=E,259nm,0.5s						
YLYR	Ulyunkhan	0.88	355	⇑iPg	Pg	06 15 11.9	-2.9
	comp=E,544nm,0.2s						
YLYR				⇓iPg	Pg	06 15 11.9	-2.9
	comp=E,135nm,0.2s						
YLYR				⇑iPg	Pg	06 15 11.9	-2.9
	comp=E,554nm,0.2s						
YLYR				eSg	Sg	06 15 25.2	-1.1
YLYR				Pmax			
	comp=E,728nm,0.2s						
YLYR				Smax			
	comp=E,1μm,0.6s						
MXMB	Maximikha	1.69	245	ePg	Pn	06 15 24.5	-2.8
MXMB				i Sg	Sn	06 15 48.8	-0.3
MXMB				Pmax			
	comp=E,50nm,0.3s						
MXMB				Smax			
	comp=E,870nm,0.9s						
KMO	Kumora	1.89	358	ePg	Pn	06 15 28.9	-1.2
KMO				eSg	Sb	06 15 55.9	-0.2
KMO				Pmax			
	comp=E,142nm,0.3s						
KMO				Smax			
	comp=E,658nm,0.8s						
UKT	Uakit	2.01	41	ePN	Pb	06 15 35.0	+0.5
UKT	Uakit	2.01	41	⇓iPg	Pn	06 15 21.9	-10
UKT				eSg	Sn	06 15 42.3	-15
UKT				Pmax			
	comp=E,42nm,0.5s						
UKT				Smax			
	comp=E,95nm,0.4s						
UKT	Uakit	2.01	41	e	Pn	06 15 28.1	-3.7
UKT				eSg	Sn	06 15 55.4	-1.7
UKT				max			
	comp=E,127nm,0.5s						
UKT				Smax			
	comp=E,289nm,0.3s						
NIZ	Nizh Angarsk	2.05	331	ePN	Pn	06 15 32.6	+0.4
NIZ				e		06 16 03.6	
NIZ				pmax	pmax		
	comp=Z,147nm,0.5s						
NIZ				smax	smax		
	comp=N,252nm,0.9s						
NIZ	Nizh Angarsk	2.05	331	ePg	Pn	06 15 32.8	+0.6
NIZ				eSg	Sg	06 16 03.3	-0.3
NIZ				Pmax			
	comp=N,76nm,0.2s						
NIZ				Smax			
	comp=N,228nm,0.4s						
YOA	Uoyan	2.15	6	ePg	Pn	06 15 33.7	0.0
YOA				eSg	Sb	06 16 05.0	+1.5
YOA				Pmax			
	comp=N,303nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.6s						
OGRR	Ongureny	2.23	262	ePN	Pg	06 15 40.0	-0.4
OGRR				e		06 16 04.9	
OGRR				pmax	pmax		
	comp=Z,44nm,0.4s						
OGRR				smax	smax		
	comp=E,145nm,0.3s						
OGRR	Ongureny	2.23	262	eSg	Sn	06 16 03.4	+1.2
OGRR	Ongureny	2.23	262	e	Pn	06 15 34.7	0.0
OGRR				eSg	Sb	06 16 04.6	-1.1
OGRR				max			
	comp=E,43nm,0.4s						
OGRR				Smax			
	comp=E,144nm,0.3s						
TRG	Tyrgan	3.21	249	ePg	Pb	06 15 51.7	-3.2
TRG				eSg	Sb	06 16 35.5	+1.3
TRG				Pmax			
	comp=E,14nm,0.2s						
TRG				Smax			
	comp=E,82nm,0.4s						
NLYR	Nelyaty	3.55	43	eSg	Sb	06 16 43.6	-0.1
NLYR				e		06 16 54.3	
NLYR				max			
	comp=E,19nm,0.5s						
NLYR				Smax			
	comp=E,147nm,0.8s						
BOD	Bodaibo	4.12	21	ePg	Pb	06 16 08.4	-1.8
BOD				eSg	Sb	06 17 02.1	+2.1
BOD				Pmax			
	comp=E,15nm,0.4s						
BOD				Smax			
	comp=E,93nm,0.7s						
KPC	Khapcheranga	4.35	171	ePg	Pn	06 16 07.3	+3.3
KPC				eSg	Sb	06 17 01.5	-5.5
KPC				Pmax			
	comp=E,19nm,0.3s						
KPC				Smax			
	comp=E,88nm,0.8s						
LSTR	Listvyanka	4.46	244	e	Sn	06 17 00.4	+3.2
LSTR				eSg	Sb	06 17 11.6	+1.8
LSTR				Smax			
	comp=E,64nm,1.8s						
CRS	Chara	4.92	51	e	Pb	06 16 27.1	+3.2
CRS				eSg	Sb	06 17 25.0	+1.9
CRS				Smax			
	comp=E,63nm,0.9s						
TLY	Talaya	5.19	247	e	Pg	06 16 33.0	-4.1
TLY				eSg	Sb	06 17 34.5	+3.6
TLY				max			
	comp=E,4.0nm,0.4s						
TLY				Smax			
	comp=E,34nm,1.3s						
KHNR	Khani	5.74	56	e	Sn	06 17 37.5	+8.7
KHNR				eSg	Sb	06 17 50.5	+3.8
ARS	Arshan	5.75	252	ePN	Pb	06 16 42.0	+3.8
ARS				e		06 17 54.5	
ARS				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ARS				smax	smax		
	comp=E,86nm,1.0s						
ZAK	Zakamensk	6.12	237	ePg	Pb	06 16 45.1	+0.6
ZAK				eSg	Sb	06 18 05.1	+7.3
ZAK				Pmax			
	comp=E,3.0nm,0.3s						
ZAK				Smax			
	comp=E,15nm,1.5s						
MOY	Mondy	6.67	254	e	Pb	06 16 55.3	+1.5
MOY				eSg	Sb	06 18 21.0	+7.4
MOY				max			
	comp=E,6.0nm,0.8s						
MOY				Smax			
	comp=E,33nm,1.4s						
ORL	Orlik	7.05	263	eSg	Sg	06 18 35.9	-8.2
ORL				Smax			
	comp=E,26nm,1.7s						
IENR	Iengra	8.09	69	eSg	Sb	06 19 01.8	+7.6

NEIC 03 06:25:53.0, 19.47N×66.30W, h40km, MD3.5(RSPR), After RSPR.

RSPR 03 06:25:53.0, 19.47N×66.30W, h40km±11km, MD3.5/5, 19C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.20	201	⇑eP	Pn	06 26 11.8	-1.4
AOPR	Arecibo Observ	1.20	201	eS	Sn	06 26 27.1	-1.2
AOPR	Arecibo Observ	1.20	201	⇑eP	Pn	06 26 11.8	-1.4
AOPR				eS	Sn	06 26 27.1	-1.2
CBYP	Canovanas	1.26	161	⇑eP	Pn	06 26 13.2	-1.0
CBYP	Canovanas	1.26	161	eS	Sn	06 26 28.4	-1.6
CBYP	Canovanas	1.26	161	⇑eP	Pn	06 26 13.2	-1.0
CBYP				eS	Sn	06 26 28.4	-1.6
LRS	Lares	1.28	204	⇑eP	Pn	06 26 13.3	-1.1
LRS	Lares	1.28	204	⇑eP	Pn	06 26 13.3	-1.1
SJG	San Juan	1.35	174	⇑eP	Pn	06 26 14.6	-0.8
SJG	San Juan	1.35	174	eS	Sn	06 26 30.9	-1.2
SJG	San Juan	1.35	174	⇑eP	Pn	06 26 14.5	-0.9
SJG				eS	Sn	06 26 31.2	-0.9
SJG	San Juan	1.35	174	⇑eP	Pn	06 26 14.5	-0.9
SJG				eS	Sn	06 26 30.9	-1.2
SJG				eS		06 26 31.2	
HUMP	Col San Antoni	1.38	162	⇑eP	Pn	06 26 14.4	-1.3
HUMP	Col San Antoni	1.38	162	eS	Sn	06 26 31.6	-1.3
HUMP	Col San Antoni	1.38	162	⇑eP	Pn	06 26 14.4	-1.3
HUMP				eS	Sn	06 26 31.6	-1.3
CELP	Cerrillos	1.41	191	⇑eP	Pn	06 26 15.0	-1.2
CELP	Cerrillos	1.41	191	⇑eP	Pn	06 26 15.0	-1.2
OBIP	Obispado Ponce	1.45	192	eS	Sn	06 26 33.2	-1.2
CPD	Cerro la Pandu	1.47	166	⇑eP	Pn	06 26 15.9	-1.1
CPD	Cerro la Pandu	1.47	166	eS	Sn	06 26 33.9	-1.1
CPD	Cerro la Pandu	1.47	166	⇑eP	Pn	06 26 15.9	-1.1
CPD				eS	Sn	06 26 33.9	-1.1
LSP	Las Mesas	1.49	210	⇓eP	Pn	06 26 16.1	-1.2
LSP	Las Mesas	1.49	210	⇓eP	Pn	06 26 16.1	-1.2
MTP	Monte Pirata	1.53	153	⇑eP	Pn	06 26 16.8	-1.1
MTP	Monte Pirata	1.53	153	eS	Sn	06 26 35.5	-1.1
MTP	Monte Pirata	1.53	153	⇑eP	Pn	06 26 16.8	-1.1
MTP				eS	Sn	06 26 35.5	-1.1
CRPR	Cabo Rojo, PR	1.64	208	⇑eP	Pn	06 26 18.7	-0.7
CRPR	Cabo Rojo, PR	1.64	208	eS	Sn	06 26 38.1	-1.1
CRPR	Cabo Rojo, PR	1.64	208	⇑eP	Pn	06 26 18.7	-0.7
CRPR				eS	Sn	06 26 38.1	-1.1

MEX 03 06:32:41.9±0.7, 19.06N×107.14W, h10km, MD3.7, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CJM	Chamela	2.02	77	i P	Pn	06 33 12.2	-3.9
CJM				i S	Sn	06 33 36.9	-4.6
R15V		2.98	87	i P	Pn	06 33 26.3	-3.1
R15V				i S	Sn	06 34 01.6	-3.7
EZ5V		3.36	82	i P	Pn	06 33 33.0	-1.9
EZ5V				i S	Sn	06 34 10.9	-4.3
SFJM	Santa Fe	4.11	69	i P	Pn	06 33 44.8	-0.3

IDC 03 06:42:36.6±0.8, 34.90N×6.35E, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.9/32, mbtmp3.9/17, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=21.0km s-min=16.9km az=112.0

ISCJB 03 06:42:37.9±0.4, 35.00N±0.03×6.45E±0.03, h10km, mb4.0/16, MS3.5/2, Error ellipse: s-maj=5.2km s-min=3.3km az=35.3

NEIC 03 06:42:39.9±0.6, 35.05N×6.43E, h10km, mb4.2/2, Error ellipse: s-maj=13.6km s-min=9.8km az=156.0

CRAAG 03 06:42:41.0, 35.25N×6.53E, Ml4.8

CSEM 03 06:42:41.0±0.3, 35.03N×6.62E, h15km, ML4.8, Mw4.3, Error ellipse: s-maj=9.2km s-min=5.9km az=36.0

LDG 03 06:42:44.6±0.3, 35.15N×6.44E, h30km, Ml3.8/9, Error ellipse: s-maj=7.6km s-min=5.6km az=5.0

ISC 03 06:42:39.7±0.5, 35.07N±0.04×6.52E±0.03, h10km, n138, σ1.39/123, mb4.0/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	1.00	355	P	Pb	06 42 59.8	+0.6
CTEI	Djebel Teioual	1.00	355	P	Pb	06 42 59.8	+0.6
CASM	Ain Smara	1.19	359	P	Pg	06 43 04.1	+1.5
CASM	Ain Smara	1.19	359	P	Pg	06 43 04.1	+1.5
CKHR	Kef el Ahmar	1.26	319	P	Pg	06 43 05.7	+1.9
CKHR	Kef el Ahmar	1.26	319	P	Pg	06 43 05.7	+1.9
CKFL	Kef-Lekhel	1.34	7	P	Pg	06 43 06.1	+0.6
CKFL	Kef-Lekhel	1.34	7	P	Pg	06 43 06.1	+0.6
ABSA	Djebel Ababsia	1.44	33	P	Pg	06 43 08.1	+0.8
ABSA	Djebel Ababsia	1.44	33	P	Pg	06 43 08.1	+0.8
SET	Setif	1.45	322	P	Pg	06 43 09.0	+1.4
SET	Setif	1.45	322	P	Pg	06 43 09.0	+1.4
CMAH	Djebel Manchou	1.72	25	P	Pn	06 43 10.7	+0.9
CMAH	Djebel Manchou	1.72	25	P	Pn	06 43 10.7	+0.9
CAEH	'Ain El Ouahch	1.73	9	P	Pn	06 43 11.1	+1.2
CAEH	'Ain El Ouahch	1.73	9	P	Pn	06 43 11.1	+1.2
AKET	Djebel Ketaf	2.36	295	P	Pg	06 43 25.6	+0.6
KEST	Kesra	2.40	73	Pn	Pn	06 43 21.1	+1.9
	3.1nm,0.3s,baz=222,slow=1.4,SNR=72						
KEST				Sn	Sg	06 43 56.8	-0.2
	9.7nm,0.3s,baz=130,slow=20,SNR=6.2						
KEST	Kesra	2.40	73	ePn	Pn	06 43 21.6	+2.4
KEST				Sn	Sg	06 43 56.8	-0.2
KEST	Kesra	2.40	73	ePn	Pn	06 43 21.6	+2.4
EMHD	Djebel Mahouad	3.12	292	P	Pb	06 43 34.8	-0.5
ABA	Alger-Bouzarea	3.32	303	P	Pn	06 43 29.1	-2.5
EBNR	Beni Rached	4.24	288	P	Pn	06 43 35.8	-8.6
ECHA	Ech Chlef	4.33	286	P	Pn	06 43 40.0	-5.6
EANR	'Ain N'Sour	4.51	283	P	Pn	06 43 44.0	-4.1
ALAS	Alassa	4.78	116	i P	Pn	06 43 52.8	+1.1
	SNR=43						
OKGL	Djebel Kef Gue	4.89	283	P	Pn	06 43 55.5	+2.2
	55nm,0.3s,SNR=7.9						
VSL	Villasalto	4.98	26	ePn	Pn	06 43 56.0	+1.5
	16nm,0.6s						
VSL				eSn	Sn	06 44 54.1	+2.1
VSL	Villasalto	4.98	26	ePn	Pn	06 43 56.0	+1.5
	16nm,0.6s						
VSL				eSn	Sn	06 44 54.1	+2.1
ETOS	Mallorca	5.54	329	P	Pn	06 44 05.6	+3.3
	37nm,0.5s,SNR=32						
ETOS				S	Sn	06 45 08.6	+2.6
	29nm,0.4s						
LGHD	Ghdames	5.61	153	i P	Pn	06 44 02.5	-0.7
	SNR=43						
LGHD				eS	Sn	06 45 02.7	-5.0
	SNR=43						
EIBI	Ibiza	5.72	315	P	Pn	06 44 08.9	+4.2
	67nm,0.4s,SNR=36						
EIBI				S	Sn	06 45 13.7	+3.2
	52nm,0.8s						
GHAR	Gharyan	6.22	116	i P	Pn	06 44 12.7	+1.1
	SNR=41						
GHAR				eS	Sn	06 45 19.3	-3.4
	SNR=41						
EBEN	Beniarda	6.51	306	S	Sn	06 45 31.8	+1.9
	95nm,1.7s						
ETOB	Tobarra	7.39	301	P	Pn	06 44 31.5	+3.9
	9.8nm,0.5s,SNR=9.1						
ETOB				S	Sn	06 45 53.2	+1.7
	48nm,1.3s,SNR=5.8						
CFON	Fontmartina	7.41	336	P	Pn	06 44 30.9	+2.9
	8.3nm,0.4s,SNR=10						
CFON				S	Sn	06 45 52.5	+0.3
	20nm,0.6s,SNR=7.9						
EPOB	Poblet	7.60	327	P	Pn	06 44 34.0	+3.5
	4.5nm,0.3s,SNR=11						
EPOB				S	Sn	06 45 56.6	-0.1
	13nm,0.6s,SNR=5.7						
ERTA	Horta de San J	7.64	322	P	Pn	06 44 35.4	+4.3
	14nm,0.5s,SNR=7.6						
ERTA				S	Sn	06 45 57.6	-0.1
	15nm,0.7s,SNR=7.9						
EMOS	Mosqueruela	7.66	316	S	Sn	06 45 59.0	+0.6
	27nm,1.1s,SNR=7.6						
PGF	Pioggiola	7.72	14	ePn	Pn	06 44 32.6	+0.4
PGF	Pioggiola	7.72	14	eP	Pn	06 44 37.3	+5.1
PGF				eSn	Sn	06 45 53.9	-5.8
	11nm,0.4s						
PGF	Pioggiola	7.72	14	ePn	Pn	06 44 32.6	+0.4
EHUE	Huescar	7.84	293	P	Pn	06 44 38.2	+4.3
	3.8nm,0.6s,SNR=7.9						
EHUE				S	Sn	06 46 03.3	+0.6
	SNR=7.9						
EMIR	Miracle	7.88	332	P	Pn	06 44 38.4	+4.0
	24nm,0.4s,SNR=43						
EMIR				S	Sn	06 46 03.9	+0.3
	SNR=7.9						
EJON	La Jonquera	7.90	340	P	Pn	06 44 38.3	+3.7
	36nm,0.8s,SNR=7.9						
EVIA	Vianos	8.06	299	P	Pn	06 44 40.5	+3.6

	9.4nm,0.8s,SNR=4.5						
EQES	Quesada	8.20	292	P	Pn	06 44 40.9	+2.1
	8.5nm,0.6s,SNR=8.7						
EQES				S	Sn	06 46 11.3	-0.2
	15nm,1.2s,SNR=7.9						
CLLI	Llivia	8.21	336	P	Pn	06 44 42.8	+3.8
	14nm,0.4s						
LMR	La Mourre	8.26	360	*e*Pn	Pn	06 44 39.6	+0.1
LMR	La Mourre	8.26	360	*e*P	Pn	06 44 44.5	+5.0
LMR				*e*Sn	Sn	06 46 04.6	-8.2
	15nm,0.5s						
LMR	La Mourre	8.26	360	*e*Pn	Pn	06 44 39.6	+0.1
LSHF	Shwairf	8.26	126	*i* P	Pn	06 44 39.2	-0.4
	SNR=41						
FRF	La Foret Royal	8.48	1	*e*Pn	Pn	06 44 42.6	0.0
FRF	La Foret Royal	8.48	1	*e*P	Pn	06 44 47.7	+5.1
FRF				*e*Sn	Sn	06 46 09.0	-9.4
	5.2nm,0.4s						
FRF	La Foret Royal	8.48	1	*e*Pn	Pn	06 44 42.6	0.0
ESAC	San Caprasio	8.62	323	S	Sn	06 46 21.2	-0.5
	96nm,1.3s,SNR=5.0						
SBF	Sospel	8.82	4	*e*Sn	Sn	06 46 18.6	-8.0
	9.5nm,0.4s						
SMRF	Simiane la Rot	8.93	356	*e*Pn	Pn	06 44 48.6	-0.1
SMRF	Simiane la Rot	8.93	356	*e*Pn	Pn	06 44 48.6	-0.1
LASF	Ste Croix	9.23	348	*e*Pn	Pn	06 44 52.1	-0.8
LASF	Ste Croix	9.23	348	*e*P	Pn	06 44 57.6	+4.7
LASF				*e*Sn	Sn	06 46 27.0	-10
	9.4nm,0.6s						
LASF	Ste Croix	9.23	348	*e*Pn	Pn	06 44 52.1	-0.8
EPF	Esparros	9.29	331	*e*Pn	Pn	06 44 53.2	-0.5
EPF	Esparros	9.29	331	*e*P	Pn	06 44 58.4	+4.7
EPF				*e*Sn	Sn	06 46 29.3	-9.0
	10nm,0.6s						
EPF	Esparros	9.29	331	*e*Pn	Pn	06 44 53.2	-0.5
MDT	Midelt	9.52	260	Pn	Pn	06 44 56.9	0.0
	0.3nm,0.3s,baz=78,slow=18,SNR=12						
MDT	Midelt	9.52	260	Pn	Pn	06 44 56.9	0.0
MDT	Midelt	9.52	260	Pn	Pn	06 44 56.9	0.0
ESDC	Sonseca Array	9.53	302	Pn	Pn	06 44 58.6	+1.7
	1.5nm,0.3s,baz=109,slow=14,SNR=12						
ESDC	Sonseca Array	9.53	302	Pn	Pn	06 44 58.6	+1.7
ESDC	Sonseca Array	9.53	302	Pn	Pn	06 44 58.7	+1.7
ETSF	Etsaut	9.56	327	*e*Pn	Pn	06 44 57.0	-0.5
ETSF	Etsaut	9.56	327	*e*P	Pn	06 45 02.6	+5.1
ETSF				*e*Sn	Sn	06 46 36.3	-8.7
	4.1nm,0.4s						
ETSF	Etsaut	9.56	327	*e*Pn	Pn	06 44 57.0	-0.5
VIVF	Saint-Julien-l	9.88	352	*e*Pn	Pn	06 45 02.1	+0.3
VIVF	Saint-Julien-l	9.88	352	*e*P	Pn	06 45 08.1	+6.3
VIVF	Saint-Julien-l	9.88	352	*e*Pn	Pn	06 45 02.1	+0.3
EORO	Oroz-Betelu	9.91	324	P	Pn	06 45 06.1	+3.9
	SNR=7.9						
SJPF	Ste Jean	10.04	326	*e*Pn	Pn	06 45 04.0	+0.1
SJPF	Ste Jean	10.04	326	*e*P	Pn	06 45 08.9	+5.0
SJPF				*e*Sn	Sn	06 46 46.5	-10
	5.6nm,0.6s						
SJPF	Ste Jean	10.04	326	*e*Pn	Pn	06 45 04.0	+0.1
CAF	Calviac	10.42	342	*e*Pn	Pn	06 45 08.2	-1.0
CAF				*e*Sn	Sn	06 46 56.7	-9.3
	1.2nm,0.2s						
LFF	La Frestale	10.81	338	*e*P	Pn	06 45 20.5	+6.1
LZLA	Zalla	11.41	122	*i* P	Pn	06 45 20.1	-2.7
	SNR=41						
TAM	Tamanrasset	12.26	184	*e*Pn	Pn	06 45 34.5	0.0
	2.6nm,0.6s						
TAM				*e*Sn	Sn	06 47 56.3	+4.9
TAM	Tamanrasset	12.26	184	*e*Pn	Pn	06 45 34.5	0.0
	2.6nm,0.6s						
FLN	La Foliniere	14.64	341	*e*P	P	06 46 10.5	-2.6
QUIF	Quistinic	14.73	334	*e*P	P	06 46 11.9	-2.2
GERES	GERESS Array B	14.76	19	Pn	Pn	06 46 09.1	+0.6
	0.1nm,0.3s,baz=194,slow=12,SNR=2.4						
GERES	GERESS Array B	14.76	19	Pn	Pn	06 46 09.1	+0.6
GERES	GERESS Array B	14.76	19	Pn	Pn	06 46 09.1	+0.6
SGMF	Saint Gilles	14.81	336	*e*P	Pn	06 46 11.9	+2.9
MLR	Muntele Rosu	18.07	49	Pn	P	06 46 54.0	+2.7
	0.1nm,0.3s,baz=142,slow=18,SNR=9.0						
MLR	Muntele Rosu	18.07	49	Pn	P	06 46 54.0	+2.7
BR131	Keskin Array S	22.01	70	*e*P	P	06 47 37.0	+2.8
	12nm,1.3s						
BRTR	Keskin Array B	22.01	70	P	P	06 47 36.0	+1.8
	2.8nm,1.0s,baz=262,slow=11,SNR=8.7						
BRTR	Keskin Array B	22.01	70	P	P	06 47 36.0	+1.8
BRTR	Keskin Array B	22.01	70	P	P	06 47 36.0	+1.8
TORD	Torodi Ar. Bea	22.25	192	P	P	06 47 33.1	-3.7
	6.6nm,0.8s,baz=1.8,slow=11,SNR=19						
TORD	Torodi Ar. Bea	22.25	192	P	P	06 47 33.1	-3.7
AKASG	Malin Array Be	22.69	40	P	P	06 47 40.3	-0.9
	3.0nm,0.8s,baz=234,slow=8.9,SNR=5.6						
AKASG	Malin Array Be	22.69	40	P	P	06 47 40.3	-0.9
AKASG	Malin Array Be	22.69	40	P	P	06 47 40.3	-0.9
ASF	Jabal al Asfar	25.41	88	LR	LR	07 02 44.8	
	comp=Z,79nm,19.9s,baz=79,slow=47						
HFS	Hagfors	25.51	8	P	P	06 48 09.8	+1.8
	2.7nm,0.8s,baz=231,slow=9.4,SNR=5.2						
HFS	Hagfors	25.51	8	P	P	06 48 09.8	+1.8
HFS	Hagfors	25.51	8	P	P	06 48 09.8	+1.8
FINES	FINESS Array B	29.19	19	P	P	06 48 40.9	-0.1
	1.8nm,0.7s,baz=213,slow=6.6,SNR=5.7						
FINES	FINESS Array B	29.19	19	P	P	06 48 40.9	-0.1
FINES	FINESS Array B	29.19	19	P	P	06 48 40.9	-0.1
LIC	Lamto	30.61	203	*e*P	P	06 49 00.1	+6.1
	11nm,0.9s,baz=24						
ARCES	ARCESS Array B	36.08	11	P	P	06 49 39.8	-1.4
	2.3nm,0.9s,baz=203,slow=8.8,SNR=3.9						
ARCES	ARCESS Array B	36.08	11	P	P	06 49 39.8	-1.4
ARCES	ARCESS Array B	36.08	11	P	P	06 49 39.8	-1.4
SCHQ	Schefferville	52.95	316	P	P	06 51 54.8	-1.3
	1.1nm,0.7s,baz=36,slow=8.7,SNR=2.4						
SCHQ	Schefferville	52.95	316	P	P	06 51 54.8	-1.3
SCHQ	Schefferville	52.95	316	P	P	06 51 54.8	-1.3
KURK	Kurchatov	53.01	49	*e*P	P	06 51 55.8	-0.6
	2.6nm,0.6s						
KURK	Kurchatov	53.01	49	*e*P	P	06 51 55.8	-0.6
	2.5nm,0.6s						
ZALV	Zalesovo Beam	55.97	44	P	P	06 52 17.7	-0.3
	0.9nm,0.5s,baz=289,slow=9.0,SNR=4.5						
ZALV	Zalesovo Beam	55.97	44	P	P	06 52 17.7	-0.3
ZALV	Zalesovo Beam	55.97	44	P	P	06 52 17.7	-0.3
MKAR	Makanchi Array	56.35	53	P	P	06 52 20.9	0.0
	1.1nm,0.5s,baz=285,slow=5.5,SNR=28						
MKAR				LR	LR	07 19 40.1	
	comp=Z,65nm,20.1s,baz=186,slow=39						
MKAR	Makanchi Array	56.35	53	P	P	06 52 20.9	0.0
MKAR	Makanchi Array	56.35	53	P	P	06 52 20.9	0.0
BOSA	Boshof	65.76	162	P	P	06 53 22.5	-2.4
	2.8nm,0.9s,baz=352,slow=6.9,SNR=3.0						
SONM	Songino Array	70.86	45	P	P	06 53 56.0	-0.8
	0.3nm,0.6s,baz=318,slow=1.9,SNR=2.5						
SONM	Songino Array	70.86	45	P	P	06 53 56.0	-0.8
SONM	Songino Array	70.86	45	P	P	06 53 56.0	-0.8
YKA	Yellowknife Ar	71.96	335	P	P	06 54 02.5	-0.5
	0.3nm,0.6s,baz=49,slow=6.2,SNR=7.9						
YKA	Yellowknife Ar	71.96	335	P	P	06 54 02.5	-0.5
YKA	Yellowknife Ar	71.96	335	P	P	06 54 02.5	-0.5
CMAR	Chiang Mai Arr	81.54	73	P	P	06 54 57.6	-0.3
	1.0nm,0.4s,baz=302,slow=6.8,SNR=4.7						
CMAR	Chiang Mai Arr	81.54	73	P	P	06 54 57.6	-0.3
CMAR	Chiang Mai Arr	81.54	73	P	P	06 54 57.6	-0.3
PDAR	Pinedale Array	83.03	318	P	P	06 55 05.2	-0.4
	0.5nm,0.8s,baz=53,slow=4.3,SNR=4.2						
PDAR	Pinedale Array	83.03	318	P	P	06 55 05.2	-0.4
PDAR	Pinedale Array	83.03	318	P	P	06 55 05.2	-0.4

MOS 03 06:51:38.3±0.8**, 42°.92N**×**46°.14E, h9**^{km}**, mb3.9**/1**, 1D, Error ellipse: s-maj=21.2km s-min=14.5km az=32.0, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTLR	Botlikh	0.26	167	*e*PG	Pb	06 51 45.0	-0.2
BTLR				*e*S	Sb	06 51 54.5	+4.6
BTLR				pmax	pmax		
	comp=Z,106nm,0.2s						
DLMR	Dylym	0.39	66	*e*PG	Pb	06 51 48.0	+0.6
DLMR				*e*S	Sb	06 51 58.2	+4.6
DLMR				pmax	pmax		
	comp=Z,69nm,0.2s						
DBC	Dubki	0.51	78	*i* PG	Pg	06 51 48.5	+0.1
DBC				*i* S	Sn	06 52 00.0	-1.0
UNCR	Uncukul	0.52	113	⇓*i*PG	Pb	06 51 50.0	+0.3
UNCR				*e*S	Sn	06 52 01.5	+0.5
UNCR				pmax	pmax		
	comp=Z,40nm,0.2s						
XNZR	Khunzakh	0.56	132	*e*PG	Pb	06 51 50.0	-0.5
XNZR				*e*S	Sn	06 52 02.5	+0.3
KRNR	Karanay	0.57	99	*e*PG	Pg	06 51 49.8	+0.3
KRNR				*i* S	Sn	06 52 02.5	+0.2
KRNR				pmax	pmax		
	comp=Z,43nm,0.1s						
ARKR	Arakani	0.70	116	*e*PG	Pb	06 51 53.0	+0.2
ARKR				*e*S	Sn	06 52 07.0	+1.5

*ISK **03** 06:58:18.6, 37°.15N×28°.59E, h11^{km}, MD2.7*
*CSEM **03** 06:58:19.2±0.2, 37°.15N×28°.60E, h1^{km}, MD2.7, Error ellipse: s-maj=5.6km s-min=4.1km az=168.0*
*DDA **03** 06:58:20.6, 37°.22N×28°.57E, h7^{km}, MD2.8*
ISC 03 06:58:19.7±1.2**, 37°.18N**±0°.03×**28°.59E**±0°.02**, h3**^{km}±10^{km}**, n30, σ0^s.98**/47**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.25	260	PG	Pg	06 58 24.0	-0.4
YER				*e*SG	Sg	06 58 28.3	+0.6
YER	Yerkesik	0.25	260	*i* Pg	Pg	06 58 24.0	-0.4
YER				*e*Sg	Sg	06 58 28.3	+0.6
DNZL	Cakiroluk	0.63	35	*i* P	Pg	06 58 32.6	+0.8
DNZL				*i* S	Sb	06 58 42.5	-0.3
DNZL	Cakiroluk	0.63	35	*i* P	Pg	06 58 32.6	+0.8
DNZL				*i* S	Sb	06 58 42.5	-0.3
MLSB	Milas	0.66	281	*e*PG	Pg	06 58 32.0	-0.3
MLSB	Milas	0.66	281	*e*Pg	Pg	06 58 32.0	-0.3
FETY	Fethiye	0.67	143	*e*PG	Pg	06 58 31.6	-0.9
FETY				*e*SG	Sg	06 58 41.1	-0.2
FETY	Fethiye	0.67	143	*e*Pg	Pg	06 58 31.6	-0.9
FETY				*e*Sg	Sg	06 58 41.1	-0.2
DENT	Denizli	0.68	31	*e*PG	Pg	06 58 32.6	-0.1
DENT	Denizli	0.68	31	*e*Pg	Pg	06 58 32.6	-0.1
AYDN	Tasoluk	0.74	311	*i* P	Pg	06 58 34.6	+0.7
AYDN				*i* S	Sg	06 58 44.0	+0.4
AYDN	Tasoluk	0.74	311	*i* P	Pg	06 58 34.6	+0.7
AYDN				*i* S	Sg	06 58 44.0	+0.4
GOLH	Golhisar	0.78	85	*i* P	Pg	06 58 35.1	+0.4
GOLH				*i* S	Sn	06 58 48.1	-1.8
GOLH	Golhisar	0.78	85	*i* P	Pg	06 58 35.1	+0.4
GOLH				*i* S	Sn	06 58 48.1	-1.8
BDRM	Kayabasi	0.92	263	*i* P	Pg	06 58 37.2	-0.1
BDRM				*i* S	Sn	06 58 53.1	-0.2
BDRM	Kayabasi	0.92	263	*i* P	Pg	06 58 37.2	-0.1
BDRM				*i* S	Sn	06 58 53.1	-0.2
DAT	Datca	0.92	241	*e*PG	Pg	06 58 36.5	-0.9
DAT	Datca	0.92	241	*e*Pg	Pg	06 58 36.5	-0.9
BODT	Bodrum	1.03	264	*e*PG	Pg	06 58 38.6	-0.8
BODT	Bodrum	1.03	264	*e*Pg	Pg	06 58 38.6	-0.8
GCAM	G?zelcaml?	1.20	296	*i* P	Pn	06 58 44.0	+0.7
GCAM				*i* S	Sb	06 58 59.0	+0.1
GCAM	G?zelcaml?	1.20	296	*i* P	Pn	06 58 44.0	+0.7
GCAM				*i* S	Sb	06 58 59.0	+0.1
AKAS	Kas	1.25	139	*i* P	Pn	06 58 45.6	+1.4
AKAS				*i* S	Sn	06 59 04.6	+3.1
AKAS	Kas	1.25	139	*i* P	Pn	06 58 45.6	+1.4
MANT	Manisa	1.31	359	*i* P	Pn	06 58 44.0	-1.2
MANT				*i* S	Sn	06 59 04.2	+0.9
MANT	Manisa	1.31	359	*i* P	Pn	06 58 44.0	-1.2
MANT				*i* S	Sn	06 59 04.2	+0.9
KULA	Kula-Manisa	1.34	2	*e*PN	Pn	06 58 43.9	-1.5
KULA	Kula-Manisa	1.34	2	*e*Pn	Pn	06 58 43.9	-1.5
KHL	Karahalli	1.36	33	*e*PN	Pn	06 58 44.7	-1.1
KHL	Karahalli	1.36	33	*e*Pn	Pn	06 58 44.7	-1.1

*DDA **03** 07:13:51.8, 36°.86N×27°.88E, h6^{km}, MD2.5*
*ISK **03** 07:13:53.4, 37°.25N×28°.22E, h13^{km}, MD2.0*
*CSEM **03** 07:13:54.5±0.7, 37°.06N×28°.26E, h12^{km}, MD2.0, Error ellipse: s-maj=16.1km s-min=8.9km az=127.0*
ISC 03 07:13:54.5±1.1**, 37°.2N**±0°.1×**28°.2E**±0°.1**, h11**^{km}±17^{km}**, n9, σ0^s.52**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.09	119	*e*PG	Pb	07 13 56.9	-0.3
YER				*e*SG	Sb	07 13 59.6	+0.4
YER	Yerkesik	0.09	119	*e*Pg	Pb	07 13 56.9	-0.3
YER				*e*Sg	Sb	07 13 59.6	+0.4
TURN	Turunc	0.45	132	*i* Pg	Pg	07 13 57.7	-5.7
TURN				*i* Sg	Sg	07 14 01.1	-8.2
AYDN	Tasoluk	0.54	333	*e*P	Pn	07 14 07.8	-0.4
AYDN				*e*S	Sn	07 14 17.9	+0.6
AYDN	Tasoluk	0.54	333	*e*P	Pn	07 14 07.8	-0.4
AYDN				*e*S	Sn	07 14 17.9	+0.6
DAT	Datca	0.66	228	*e*PG	Pb	07 14 07.9	-0.2
DAT	Datca	0.66	228	*e*Pg	Pb	07 14 07.9	-0.2
BODT	Bodrum	0.71	261	*e*PG	Pb	07 14 08.4	-0.5
BODT				*e*SG	Sb	07 14 19.2	+0.5
BODT	Bodrum	0.71	261	*e*Pg	Pb	07 14 08.4	-0.5
BODT				*e*Sg	Sb	07 14 19.2	+0.5

*ISCJB **03** 07:19:39.2±0.6, 36°.67N±0°.03×26°.62E±0°.03, h9^{km}±5^{km}, Error ellipse: s-maj=5.5km s-min=3.7km az=172.4*
*ISK **03** 07:19:39.2, 36°.71N×26°.62E, h9^{km}, MD2.9*
*ATH **03** 07:19:39.3, 36°.75N×26°.66E, h45^{km}, MD3.3/5*
*CSEM **03** 07:19:39.3±0.1, 36°.67N×26°.62E, h8^{km}, MD3.0, Error ellipse: s-maj=4.6km s-min=2.9km az=162.0*
*DDA **03** 07:19:41.6, 36°.67N×26°.85E, h7^{km}, MD3.0*
ISC 03 07:19:39.1±1.1**, 36°.68N**±0°.03×**26°.64E**±0°.02**, h11**^{km}±12^{km}**, n44, σ0^s.65**/57**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.44	100	P	Pb	07 19 49.1	+0.3
NIS1				S	Sb	07 19 55.3	-0.1
NIS1	Nisyros Isl.	0.44	100	P	Pb	07 19 49.1	+0.3
NIS1				S	Sb	07 19 55.3	-0.1
BODT	Bodrum	0.66	54	PG	Pb	07 19 52.3	-0.3
BODT				SG	Sb	07 20 01.8	0.0
BODT	Bodrum	0.66	54	*i* Pg	Pb	07 19 52.3	-0.3
BODT				*i* Sg	Sb	07 20 01.8	0.0
BDRM	Kayabasi	0.75	59	*e*P	Pg	07 19 52.6	-1.0
BDRM				*e*S	Sg	07 20 03.7	+0.3
BDRM	Kayabasi	0.75	59	*e*P	Pg	07 19 52.6	-1.0
BDRM				*e*S	Sg	07 20 03.7	+0.3
DAT	Datca	0.75	86	*e*PG	Pb	07 19 54.4	+0.1
DAT	Datca	0.75	86	*e*Pg	Pb	07 19 54.4	+0.1
APE	Apeiranthos	0.97	294	*e*PG	Pb	07 19 57.9	-0.1
APE				*e*SG	Sg	07 20 11.0	+0.3
APE	Apeiranthos	0.97	294	*e*P	Pb	07 19 57.6	-0.4
APE				*e*S	Sg	07 20 10.9	+0.3
APE	Apeiranthos	0.97	294	*e*P	Pb	07 19 57.6	-0.4
APE	Apeiranthos	0.97	294	*e*Pg	Pb	07 19 57.9	-0.1
APE				*e*S	Sg	07 20 10.9	+0.3
THR2	Thira island,	1.00	257	P	Pg	07 19 58.5	+0.1
THR2	Thira island,	1.00	257	P	Pg	07 19 58.5	+0.1
THR1	Thera Island	1.00	253	P	Pb	07 19 58.3	-0.2
THR1	Thera Island	1.00	253	P	Pb	07 19 58.3	-0.2
THR6	Thira Island,	1.05	253	P	Pb	07 19 59.3	0.0
THR6	Thira Island,	1.05	253	P	Pb	07 19 59.3	0.0
MLSB	Milas	1.10	55	*e*PN	Pg	07 20 00.4	+0.2
MLSB	Milas	1.10	55	*e*Pn	Pg	07 20 00.4	+0.2
KARP	Karpathos	1.20	160	*e*P	Pn	07 20 01.8	-0.1
KARP				*e*S	Sb	07 20 17.0	-0.5
KARP	Karpathos	1.20	160	*e*P	Pn	07 20 01.8	-0.1
KARP				*e*S	Sb	07 20 17.0	-0.5
YER	Yerkesik	1.39	70	*e*PN	Pg	07 20 06.1	+0.3
YER	Yerkesik	1.39	70	*e*Pn	Pg	07 20 06.1	+0.3
AYDN	Tasoluk	1.39	45	*i* P	Pb	07 20 05.1	0.0
AYDN				*i* S	Sg	07 20 23.9	0.0
AYDN	Tasoluk	1.39	45	*i* P	Pb	07 20 05.1	0.0
AYDN				*i* S	Sg	07 20 23.9	0.0
TURN	Turunc	1.58	82	*e*P	Pn	07 20 04.1	-3.0
ZKR	Zakros	1.60	193	*e*P	Pn	07 20 07.6	+0.3
ZKR	Zakros	1.60	193	*e*P	Pn	07 20 07.6	+0.3
NPS	Neapolis	1.64	211	*e*P	Pn	07 20 07.7	-0.2
NPS	Neapolis	1.64	211	*e*P	Pn	07 20 07.7	-0.2
BLCB	Balcova	1.73	10	*e*PN	Pb	07 20 10.5	-0.4
BLCB	Balcova	1.73	10	*e*Pn	Pb	07 20 10.5	-0.4
LAST	Lasithi	1.79	212	*e*P	Pn	07 20 09.9	0.0
LAST	Lasithi	1.79	212	*e*P	Pn	07 20 09.9	0.0
IZM	Izmir	1.79	16	*e*PN	Pn	07 20 10.2	+0.3
IZM	Izmir	1.79	16	*e*Pn	Pn	07 20 10.2	+0.3
FETY	Fethiye	1.96	91	*e*PN	Pn	07 20 13.5	+1.2
FETY	Fethiye	1.96	91	*e*Pn	Pn	07 20 13.5	+1.2
MANT	Manisa	2.36	39	*e*P	Pb	07 20 23.0	+1.2
GOLH	Golhisar	2.40	76	*e*P	Pb	07 20 21.5	-0.9
GOLH	Golhisar	2.40	76	*e*P	Pb	07 20 21.5	-0.9
ELL	Elmali	2.62	87	*e*PN	Pn	07 20 22.6	+1.2
ELL	Elmali	2.62	87	*e*Pn	Pn	07 20 22.7	+1.2

*ISK **03** 07:21:55.4, 38°.64N×39°.15E, h5^{km}, MD2.5*
*CSEM **03** 07:21:55.5±0.2, 38°.67N×39°.21E, h15^{km}, MD2.9, Error ellipse: s-maj=4.6km s-min=3.4km az=95.0*
*ISCJB **03** 07:21:56.6±1.0, 38°.64N±0°.05×39°.20E±0°.06, h20^{km}±18^{km}, Error ellipse: s-maj=9.3km s-min=6.8km az=136.9*
*DDA **03** 07:21:57.2, 38°.66N×39°.08E, h7^{km}, MD2.9*
ISC 03 07:21:56.1±1.1**, 38°.65N**±0°.04×**39°.19E**±0°.04**, h16**^{km}±9^{km}**, n14, σ0^s.45**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.22	227	*i* P	Pg	07 22 01.6	+0.3
ELZG				*i* S	Sb	07 22 05.5	-0.3
ELZG	Elazig	0.22	227	*i* P	Pg	07 22 01.6	+0.3
ELZG				*i* S	Sb	07 22 05.5	-0.3
SVRC	Sivrice-ELAZID	0.28	161	*e*PG	Pg	07 22 01.8	-0.6
SVRC				*e*SG	Sb	07 22 08.3	+0.6
SVRC	Sivrice-ELAZID	0.28	161	*e*Pg	Pg	07 22 01.8	-0.6
SVRC				*e*Sg	Sb	07 22 08.3	+0.6
MYA	Malataya	0.68	242	*e*PG	Pg	07 22 09.0	-0.5
MYA				*e*SG	Sb	07 22 18.8	-0.1
MYA	Malataya	0.68	242	*e*Pg	Pg	07 22 09.0	-0.5
MYA				*e*Sg	Sb	07 22 18.8	-0.1
MALT	Malatya	0.69	241	*e*PG	Pg	07 22 09.3	-0.3
MALT				*e*SG	Sb	07 22 19.7	+0.6
MALT	Malatya	0.69	241	*e*Pg	Pg	07 22 09.3	-0.3
MALT				*e*Sg	Sb	07 22 19.7	+0.6
KEMA	Kemaliye	0.82	319	*e*P	Pb	07 22 11.7	-0.5
KEMA				*e*S	Sg	07 22 23.3	+0.3
KEMA	Kemaliye	0.82	319	*e*P	Pb	07 22 11.7	-0.5
KEMA				*e*S	Sg	07 22 23.3	+0.3
ERZN	Erzincan	1.02	24	*e*PG	Pn	07 22 16.6	+0.6
AKCD	Akcadag	1.05	251	*e*P	Pb	07 22 16.0	-0.1
AKCD				*e*S	Sg	07 22 30.2	-0.2
AKCD	Akcadag	1.05	251	*e*P	Pb	07 22 16.0	-0.1
AKCD				*e*S	Sg	07 22 30.2	-0.2
EZC	Erzincan	1.11	7	*e*Pg	Pb	07 22 16.6	-0.5

*HLW **03** 07:47:44.6, 35°.94N×31°.40E, h31^{km}±17^{km}, Md3.7, Ml3.8*
*ISK **03** 07:47:45.6, 35°.79N×31°.70E, h34^{km}, ML3.7*
*ISCJB **03** 07:47:46.0±0.2, 35°.79N±0°.02×31°.70E±0°.02, h69^{km}±6^{km}, mb3.6/4, Error ellipse: s-maj=3.9km s-min=2.3km az=141.6*
*NIC **03** 07:47:46.7±0.3, 35°.95N×31°.91E, h66^{km}, mb4.1, ML3.7, MW3.7*
*DDA **03** 07:47:47.3, 36°.20N×31°.65E, h5^{km}, ML4.0*
*CSEM **03** 07:47:47.6±0.1, 35°.80N×31°.69E, h40^{km}, Mw3.7, Error ellipse: s-maj=3.5km s-min=2.1km az=55.0*
*IDC **03** 07:47:48.5±2.1, 35°.85N×31°.87E, h79^{km}±25^{km}, mb3.5/4, mb1 3.5/9, mb1mx3.3/26, mbtmp3.4/9, Error ellipse: s-maj=24.1km s-min=10.2km az=75.0*
ISC 03 07:47:47.1±0.8**, 35°.82N**±0°.03×**31°.74E**±0°.03**, h55**^{km}±11^{km}**, n175, σ1^s.43**/204**, mb3.7**/4**, 2C-4D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.62	48	*i* Pg	Pn	07 47 59.3	-0.9
GAZI				*i* Sg	Sn	07 48 07.8	-1.9
ALFC	Alevga	0.96	133	⇓P	Pn	07 48 04.6	+0.1
	42nm,0.2s						
ALFC				S	Sn	07 48 18.7	+1.4
ALFC	Alevga	0.96	133	⇓P	Pn	07 48 04.6	+0.1
	42nm,0.2s						
ALFC				S	Sn	07 48 18.7	+1.4
PPCY	Paphos	1.05	152	P	Pn	07 48 06.9	+1.2
PPCY	Paphos	1.05	152	P	Pn	07 48 06.9	+1.2
ERMK	Ermenek	1.25	49	*i* P	Pn	07 48 09.1	+0.6
ERMK				*i* S	Sn	07 48 25.1	+0.6
ERMK	Ermenek	1.25	49	*i* P	Pn	07 48 09.1	+0.6
ERMK				*i* S	Sn	07 48 25.1	+0.6
MAMC	Mammari	1.37	118	P	Pn	07 48 09.9	0.0
MAMC				S	Sn	07 48 27.1	+0.2
MAMC	Mammari	1.37	118	P	Pn	07 48 09.9	0.0
MAMC				S	Sn	07 48 27.1	+0.2
ANTB	Antalya	1.39	321	*e*PN	Pn	07 48 09.3	-0.9
ANTB	Antalya	1.39	321	*e*Pn	Pn	07 48 09.3	-0.9
SZAC	Souni-Zanaja	1.41	138	⇓P	Pn	07 48 13.6	+3.1
	24nm,0.2s						
SZAC				S	Sn	07 48 32.3	+4.2
SZAC	Souni-Zanaja	1.41	138	⇓P	Pn	07 48 13.6	+3.1
	24nm,0.2s						
CSS	Prodhromos	1.55	123	⇑P	Pn	07 48 11.6	-0.8
CSS				S	Sn	07 48 30.7	-0.8
CSS	Prodhromos	1.55	123	*e*PN	Pn	07 48 11.3	-1.1
CSS				*e*SN	Sn	07 48 30.9	-0.6
CSS	Prodhromos	1.55	123	*e*P	Pn	07 48 12.2	-0.2
CSS	Prodhromos	1.55	123	⇑P	Pn	07 48 11.6	-0.8
CSS	Prodhromos	1.55	123	Pn	Pn	07 48 12.0	-0.4
CSS				*e*Sn	Sn	07 48 30.9	-0.6
LFK	Lefkose	1.56	110	*e*PN	Pn	07 48 12.0	-0.5
LFK	Lefkose	1.56	110	*e*Pn	Pn	07 48 12.0	-0.5
KORT	Korkueli	1.63	317	*e*P	Pn	07 48 12.2	-1.3
KORT				*e*S	Sn	07 48 39.5	+6.0
KORT	Korkueli	1.63	317	*e*P	Pn	07 48 12.3	-1.3
ELL	Elmali	1.75	303	*e*PN	Pn	07 48 14.0	-1.2
ELL	Elmali	1.75	303	*e*Pn	Pn	07 48 14.0	-1.2
BCK	Bucak	1.88	331	*e*PN	Pn	07 48 16.3	-0.7
BCK	Bucak	1.88	331	*e*Pn	Pn	07 48 16.3	-0.7
EREN	Erenkoy	2.00	98	*e*PN	Pn	07 48 18.8	+0.4
EREN	Erenkoy	2.00	98	*e*Pn	Pn	07 48 18.8	+0.4
PHNC	Paralimni	2.04	113	P	Pn	07 48 20.5	+1.5
	12nm,0.5s						
PHNC				S	Sn	07 48 50.9	+7.6
PHNC	Paralimni	2.04	113	P	Pn	07 48 20.5	+1.5
	12nm,0.5s						
KONT	Konya--Tatoy	2.18	13	*e*PN	Pn	07 48 20.6	-0.4
KONT	Konya--Tatoy	2.18	13	*e*Pn	Pn	07 48 20.6	-0.4
ISP	Isparta	2.23	334	*e*PN	Pn	07 48 21.5	-0.2
ISP	Isparta	2.23	334	*e*Pn	Pn	07 48 21.5	-0.2
GOLH	Golhisar	2.26	310	*i* P	Pn	07 48 24.5	+2.4
GOLH				*i* S	Sn	07 48 54.6	+5.8
GOLH	Golhisar	2.26	310	*i* P	Pn	07 48 24.5	+2.4
FETY	Fethiye	2.30	292	*e*PN	Pn	07 48 22.6	0.0
FETY	Fethiye	2.30	292	*e*Pn	Pn	07 48 22.6	0.0
LADK	Ladik-KONYA	2.43	12	*e*PN	Pn	07 48 24.6	+0.1
LADK	Ladik-KONYA	2.43	12	*e*Pn	Pn	07 48 24.6	+0.1
MERS	Mersin	2.48	64	*e*PN	Pn	07 48 25.2	+0.1
MERS	Mersin	2.48	64	*e*Pn	Pn	07 48 25.2	+0.1
KDHN	Kadinhani	2.71	6	*e*P	Pn	07 48 28.7	+0.4
KDHN				*e*S	Sn	07 48 58.0	-2.0
KDHN	Kadinhani	2.71	6	*e*P	Pn	07 48 28.7	+0.4
KDHN				*e*S	Sn	07 48 58.0	-2.0
SULT	Sultanhani-AKS	2.77	30	*e*PN	Pn	07 48 29.4	+0.3
SULT	Sultanhani-AKS	2.77	30	*e*Pn	Pn	07 48 29.4	+0.3
GULE	Gulek	2.85	58	*e*P	Pn	07 48 32.6	+2.4
GULE				*e*S	Sn	07 49 07.9	+4.5
GULE	Gulek	2.85	58	*e*P	Pn	07 48 32.6	+2.4
GULE				*e*S	Sn	07 49 07.9	+4.5
SHUT	Suhut-Afyon	2.89	341	*e*PN	Pn	07 48 30.7	-0.1
SHUT	Suhut-Afyon	2.89	341	*e*Pn	Pn	07 48 30.7	-0.1
ARG	Arkhangelos	2.96	279	*e*P	Pn	07 48 31.7	+0.1
KRTS	Karatas	3.03	75	*e*PN	Pn	07 48 33.5	+0.9
KRTS	Karatas	3.03	75	*e*Pn	Pn	07 48 33.5	+0.9
KIZT	Kizilcal	3.06	2	*e*PN	Pn	07 48 33.4	+0.3
KIZT	Kizilcal	3.06	2	*e*Pn	Pn	07 48 33.4	+0.3
KHL	Karahalli	3.07	325	*e*PN	Pn	07 48 33.0	-0.2
KHL	Karahalli	3.07	325	*e*Pn	Pn	07 48 33.0	-0.2
YER	Yerkesik	3.08	296	*e*PN	Pn	07 48 33.1	-0.2
YER	Yerkesik	3.08	296	*e*Pn	Pn	07 48 33.1	-0.2
KHAL	Karahalli	3.12	325	*e*P	Pn	07 48 35.5	+1.6
KHAL				*e*S	Sn	07 49 10.0	0.0
KHAL	Karahalli	3.12	325	*e*P	Pn	07 48 35.5	+1.6
KHAL				*e*S	Sn	07 49 10.0	0.0
NIG	Nigde	3.24	44	*e*PN	Pn	07 48 36.5	+0.8
NIG	Nigde	3.24	44	*e*Pn	Pn	07 48 36.5	+0.8
CEYT	Ceyhan	3.44	69	*e*PN	Pn	07 48 39.0	+0.8
CEYT	Ceyhan	3.44	69	*e*Pn	Pn	07 48 39.0	+0.8
ALT	Altintas	3.48	339	*e*PN	Pn	07 48 39.3	+0.4
ALT	Altintas	3.48	339	*e*Pn	Pn	07 48 39.3	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAT	Datca	3.48	286	ePN	Pn	07 48 38.9	0.0
DAT	Datca	3.48	286	ePn	Pn	07 48 38.9	0.0
MLSB	Milas	3.52	296	ePN	Pn	07 48 39.1	-0.2
MLSB	Milas	3.52	296	ePn	Pn	07 48 39.1	-0.2
HTY	Hatay	3.58	84	ePN	Pn	07 48 41.4	+1.3
HTY	Hatay	3.58	84	ePn	Pn	07 48 41.4	+1.3
SVRH	Sivrihisar-ESK	3.63	357	ePN	Pn	07 48 41.4	+0.6
SVRH	Sivrihisar-ESK	3.63	357	ePn	Pn	07 48 41.4	+0.6
KULA	Kula-Manisa	3.65	318	ePN	Pn	07 48 41.5	+0.4
KULA	Kula-Manisa	3.65	318	ePn	Pn	07 48 41.5	+0.4
KOZT	Kozan	3.68	62	ePN	Pn	07 48 42.6	+1.1
KOZT	Kozan	3.68	62	ePn	Pn	07 48 42.6	+1.1
KARP	Karpathos	3.74	267	eP	Pn	07 48 43.1	+0.8
AFSR	Af¯ar-Bala (A	3.77	16	ePN	Pn	07 48 43.7	+0.8
AFSR	Af¯ar-Bala (A	3.77	16	ePn	Pn	07 48 43.7	+0.8
HWQ	Hawqa	3.78	113	eP	Pn	07 48 44.1	+1.2
HWQ	Hawqa	3.78	113	eP	Pn	07 48 44.1	+1.2
BODT	Bodrum	3.78	290	ePN	Pn	07 48 43.0	+0.1
BODT	Bodrum	3.78	290	ePn	Pn	07 48 43.0	+0.1
KAMT	Kaman	3.88	23	ePN	Pn	07 48 45.0	+0.7
KAMT	Kaman	3.88	23	ePn	Pn	07 48 45.0	+0.7
HNTI	Hanita	3.94	133	Pn	Pn	07 48 46.3	+1.3
HNTI				Sn	Sn	07 49 29.6	-0.3
TVSB	Tavsanli	4.05	334	ePN	Pn	07 48 47.0	+0.4
TVSB	Tavsanli	4.05	334	ePn	Pn	07 48 47.1	+0.4
RCY	Rachaya	4.09	123	eP	Pn	07 48 48.0	+0.7
RCY	Rachaya	4.09	123	eP	Pn	07 48 48.0	+0.7
MMC7	Mount Meron ar	4.11	132	Pn	Pn	07 48 48.7	+1.2
MMA0	Mount Meron ar	4.12	132	Pn	Pn	07 48 48.4	+0.8
MMA0				Sn	Sn	07 49 33.8	-0.8
MMAI	Mount Meron Ar	4.12	132	P	Pn	07 48 48.8	+1.2
	13nm,0.3s,baz=326,slow=13,SNR=24						
MMAI				S	Sn	07 49 33.8	-0.7
	40nm,0.3s,baz=306,slow=28,SNR=13						
KSDI	Kefar Szold	4.16	128	Pn	Pn	07 48 49.0	+0.9
KSDI				Sn	Sn	07 49 34.4	-1.1
BRTR	Keskin Array B	4.18	21	P	Pn	07 48 49.4	+0.9
	1.4nm,0.3s,baz=192,slow=15,SNR=25						
BRTR				S	Sn	07 49 37.3	+1.2
	1.3nm,0.3s,baz=218,slow=28,SNR=7.0						
BLGI	Bet Lehem HaGe	4.20	136	Pn	Pn	07 48 49.7	+1.1
KSHT	Keshet	4.39	129	Pn	Pn	07 48 53.1	+1.7
IZM	Izmir	4.41	307	ePN	Pn	07 48 51.2	-0.3
IZM	Izmir	4.41	307	ePn	Pn	07 48 51.2	-0.3
KMRS	Kahramanmaras	4.47	66	ePN	Pn	07 48 54.1	+1.6
KMRS	Kahramanmaras	4.47	66	ePn	Pn	07 48 54.1	+1.6
SLTI	Sal'it	4.50	142	Pn	Pn	07 48 53.7	+1.0
SLTI				Sn	Sn	07 49 42.3	-1.5
DST	Dursunbey	4.52	328	ePN	Pn	07 48 53.9	+0.9
DST	Dursunbey	4.52	328	ePn	Pn	07 48 53.9	+0.9
MMLI	Mount Malkishu	4.55	137	Pn	Pn	07 48 54.6	+1.2
MMLI				Sn	Sn	07 49 44.3	-0.7
ZKR	Zakros	4.56	263	eP	Pn	07 48 50.8	-2.8
GAZ	Gaziantep	4.61	71	ePN	Pn	07 48 55.7	+1.4
GAZ	Gaziantep	4.61	71	ePn	Pn	07 48 55.7	+1.4
CAVI	Cavuskoy	4.63	342	ePN	Pn	07 48 55.6	+1.1
CAVI	Cavuskoy	4.63	342	ePn	Pn	07 48 55.6	+1.1
MDUB	Mudurnu	4.67	355	ePN	Pn	07 48 56.1	+1.0
MDUB	Mudurnu	4.67	355	ePn	Pn	07 48 56.1	+1.0
GULT	Gulveren	4.71	349	ePN	Pn	07 48 56.6	+1.0
GULT	Gulveren	4.71	349	ePn	Pn	07 48 56.6	+1.0
HMDT	Nahal Hemdat	4.75	137	Pn	Pn	07 48 57.6	+1.5
HMDT				Sn	Sn	07 49 50.2	+0.4
ORLT	Orhaneli	4.78	333	ePN	Pn	07 48 57.8	+1.2
ORLT	Orhaneli	4.78	333	ePn	Pn	07 48 57.8	+1.2
BALB	Balikesir	4.89	322	ePN	Pn	07 48 59.1	+1.0
BALB	Balikesir	4.89	322	ePn	Pn	07 48 59.1	+1.0
CORM	Corum	4.91	27	ePN	Pn	07 49 00.1	+1.6
CORM	Corum	4.91	27	ePn	Pn	07 49 00.1	+1.6
NPS	Neapolis	5.03	265	eP	Pn	07 49 01.3	+1.3
XRY	Khrisi	5.03	261	eP	Pn	07 49 01.8	+1.8
YLV	Yalova	5.09	339	ePN	Pn	07 49 02.7	+1.8
YLV	Yalova	5.09	339	ePn	Pn	07 49 02.7	+1.8
RSH		5.12	161	P	Pn	07 49 02.4	+1.1
LAST	Lasithi	5.15	265	eP	Pn	07 49 02.2	+0.4
APE	Apeiranthos	5.16	286	eP	Pn	07 49 01.0	-0.8
KCTX	Karacabey (Bur	5.18	330	ePN	Pn	07 49 03.3	+1.2
KCTX	Karacabey (Bur	5.18	330	ePn	Pn	07 49 03.3	+1.2
DSI	Dead Sea	5.21	143	Pn	Pn	07 49 03.7	+1.2
CHOS	Chios island	5.22	301	eP	Pn	07 49 01.3	-1.3
GONE	Gonen-Balikesi	5.30	324	ePN	Pn	07 49 05.0	+1.4
GONE	Gonen-Balikesi	5.30	324	ePn	Pn	07 49 05.1	+1.4
AMAG	Maghara	5.30	166	P	Pn	07 49 04.1	+0.2
	baz=163						
AMAG	Maghara	5.30	166	P	Pn	07 49 04.1	+0.2
RTMI	Retamim	5.35	152	Pn	Pn	07 49 06.1	+1.7
MZDA	Masada	5.42	145	Pn	Pn	07 49 06.8	+1.5
MZDA				Sn	Sn	07 50 06.7	+0.4
HBRG	Burj al 'Arab	5.47	197	P	Pn	07 49 04.4	-1.6
	baz=195						
HBRG				AMP		07 50 00.0	
	comp=E,150μm,0.2s,logA/T=5.9,baz=195						
HBRG	Burj al 'Arab	5.47	197	P	Pn	07 49 04.4	-1.6
ASF	Jabal al Asfar	5.62	129	P	Pn	07 49 10.2	+2.0
	comp=E,0.8nm,0.3s,baz=313,slow=14,SNR=6.1						
ASF				S	Sn	07 50 12.9	+1.5
	comp=E,1.8nm,0.3s,baz=16,slow=18,SNR=2.8						
KOT	Kottamia	5.88	179	P	Pn	07 49 11.7	+0.1
	baz=176						
KOT	Kottamia	5.88	179	P	Pn	07 49 11.7	+0.1
MALT	Malatya	5.90	63	ePN	Pn	07 49 14.6	+2.6
MALT	Malatya	5.90	63	ePn	Pn	07 49 14.6	+2.6
MYA	Malataya	5.90	63	ePN	Pn	07 49 13.2	+1.2
MYA	Malataya	5.90	63	ePn	Pn	07 49 13.2	+1.2
SUZ		6.03	171	P	Pn	07 49 14.2	+0.4
	baz=168						
SUZ		6.03	171	P	Pn	07 49 14.2	+0.4
PRNI	Paran	6.10	152	Pn	Pn	07 49 15.7	+1.0
HMAT	Matruh	6.10	221	S	Sn	07 50 18.2	-5.0
	baz=218						
HMAT				AMP		07 50 00.0	
	comp=E,50μm,0.2s,logA/T=5.4,baz=218						
GELI	Tayfur-Gelibol	6.18	319	ePN	Pn	07 49 17.4	+1.7
GELI	Tayfur-Gelibol	6.18	319	ePn	Pn	07 49 17.4	+1.7
HSAF	As Saff	6.18	182	P	Pn	07 49 16.5	+0.6
	baz=178						
HSAF	As Saff	6.18	182	P	Pn	07 49 16.5	+0.6
GLL	Jalalah	6.22	180	P	Pn	07 49 16.8	+0.4
	baz=177						
GLL	Jalalah	6.22	180	P	Pn	07 49 16.8	+0.4
HNAT	Natroun	6.24	189	P	Pn	07 49 16.3	-0.3
	baz=187						
HNAT	Natroun	6.24	189	P	Pn	07 49 16.3	-0.3
MBRI	Mt Berech	6.57	155	Pn	Pn	07 49 22.1	+0.8
ALN	Alexandroupoli	6.76	320	eP	Pn	07 49 25.1	+1.4
SWA2		8.43	221	P	Pn	07 49 44.4	-2.2
	baz=219						
SWA2				AMP		07 51 00.0	
	comp=N,80μm,0.2s,logA/T=5.5,baz=219						
SWA2		8.43	221	P	Pn	07 49 44.4	-2.2
HFRF	Wahat Farafira	9.12	200	P	Pn	07 49 55.6	-0.5
	baz=198						
HFRF	Wahat Farafira	9.12	200	P	Pn	07 49 55.6	-0.5
AKASG	Malin Array Be	14.99	354	P	P	07 51 18.3	-1.5
	comp=N,0.8nm,0.3s,baz=178,slow=9.6,SNR=10.0						
GERES	GERESS Array B	18.58	320	P	P	07 51 59.6	0.0
	comp=N,0.1nm,0.3s,baz=111,slow=10,SNR=4.3						
DAVOX	Davos/Dischmat	19.68	311	P	P	07 52 12.0	+0.2
	comp=N,0.6nm,0.3s,baz=140,slow=17,SNR=3.1						
FINES	FINESS Array B	25.90	354	P	P	07 53 11.3	-2.3
	comp=N,2.8nm,0.6s,baz=154,slow=10,SNR=13						
ARCES	ARCESS Array B	33.95	356	P	P	07 54 22.6	-2.1
	comp=N,1.7nm,0.8s,baz=169,slow=9.8,SNR=6.7						
TORD	Torodi Ar. Bea	35.22	238	P	P	07 54 37.1	+0.8
	comp=N,0.3nm,0.6s,baz=46,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	38.91	58	P	P	07 55 07.1	-0.2
	comp=N,0.7nm,1.1s,baz=258,slow=7.2,SNR=2.8						

*ISCJB **03** 07:55:28.8±0.6, 37.50N±0.05×35.76E±0.06, h15^{km}±6^{km}, Error ellipse: s-maj=9.2km s-min=6.8km az=137.2*
*ISK **03** 07:55:28.0, 37.54N×35.78E, h18^{km}, MD2.5*
*CSEM **03** 07:55:28.9±0.3, 37.49N×35.71E, h20^{km}, MD2.5, Error ellipse: s-maj=10.6km s-min=7.2km az=176.0*
*DDA **03** 07:55:29.4, 37.57N×35.59E, h8^{km}, MD2.9*
ISC 03 07:55:28.6±0.8, **37.53N**±0.03×**35.72E**±0.03, **h16**^{km}±4^{km}, **n16**, σ0^s**56**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.10	118	PG	Pb	07 55 31.8	-0.2
KOZT				eSG	Sb	07 55 33.9	-0.3
KOZT	Kozan	0.10	118	iPg	Pb	07 55 31.8	-0.2
KOZT				eSg	Sb	07 55 33.9	-0.3
ANDN	Andirin	0.50	84	eP	Pn	07 55 41.3	+0.1
ANDN				eS	Sn	07 55 50.2	+0.6
ANDN	Andirin	0.50	84	eP	Pn	07 55 41.3	+0.1
ANDN				eS	Sn	07 55 50.3	+0.6
CEYT	Ceyhan	0.52	177	ePG	Pg	07 55 38.6	-0.2
CEYT				eSG	Sb	07 55 47.4	+0.9
CEYT	Ceyhan	0.52	177	ePg	Pg	07 55 38.6	-0.2
CEYT				eSg	Sb	07 55 47.4	+0.9
GULE	Gulek	0.79	252	iP	Pb	07 55 43.0	-1.1
GULE				iS	Sg	07 55 54.4	0.0
GULE	Gulek	0.79	252	iP	Pb	07 55 43.0	-1.1
GULE				iS	Sg	07 55 54.4	0.0
KMRS	Kahramanmaras	0.94	91	ePG	Pb	07 55 46.0	-0.6
KMRS				eSG	Sb	07 55 58.3	-0.5
KMRS	Kahramanmaras	0.94	91	ePg	Pb	07 55 46.0	-0.6
KMRS				eSg	Sb	07 55 58.3	-0.5
NIG	Nigde	1.05	304	ePN	Pg	07 55 49.1	+0.1
NIG	Nigde	1.05	304	ePn	Pg	07 55 49.2	+0.1
MERS	Mersin	1.16	236	ePN	Pb	07 55 50.2	-0.1
MERS	Mersin	1.16	236	ePn	Pb	07 55 50.2	-0.1
AVNT	Avonos	1.43	332	eP	Pb	07 55 54.4	-0.5
AVNT				eS	Sg	07 56 15.3	+0.6
AVNT	Avonos	1.43	332	eP	Pb	07 55 54.4	-0.5
AVNT				eS	Sg	07 56 15.3	+0.6

*AUST **03** 07:59:11.8±0.0, 11.15S×125.84E, h132^{km}, Error ellipse: s-maj=1.9km s-min=0.9km az=24.0*
IDC 03 07:58:51.6±7.9, **6.85S**×**127.53E**, **h412**^{km}±98^{km}, **mb3.1**/2, **mb1 3.2**/5, **mb1mx2.9**/19, **mbtmp3.0**/5, **Error ellipse: s-maj=101.5km s-min=32.0km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	Tual	5.32	77	P	S	08 01 17.2	-10
	baz=8.8,SNR=3.8						
MTN	Manton Dam	6.93	149	P	P	08 00 34.4	-0.8
	baz=5.4,SNR=22						
KDU	Kakadu	7.58	140	P	P	08 00 41.1	-1.1
	baz=6.7,SNR=4.4						
WSI	Waingapu	7.68	248	P	P	08 00 33.5	-10
	baz=5.6,SNR=6.4						
FITZ	Fitzroy Crossi	11.34	189	P	P	08 01 23.9	+0.2
	0.1nm,0.3s,baz=29,slow=8.3,SNR=3.1						
WRA	Warramunga Arr	14.60	154	P	P	08 01 58.9	-0.6
	1.1nm,0.3s,baz=332,slow=11,SNR=85						
PALU	Palau	15.71	26	P	sP	08 03 57.6	-2.1
	baz=20,SNR=3.4						
ASAR	Alice Springs	17.81	161	P	P	08 02 34.0	+0.3
	1.2nm,0.3s,baz=342,slow=11,SNR=53						
STKA	Stephens Creek	28.15	154	P	P	08 04 08.1	-0.2
	1.3nm,0.3s,baz=325,slow=7.4,SNR=6.2						
MKAR	Makanchi Array	66.78	328	P	P	08 09 00.5	0.0
	0.2nm,0.4s,baz=138,slow=6.7,SNR=4.8						

IDC 03 08:03:37.0±3.0, **5.83S**×**147.39E**, **h199**^{km}±40^{km}, **mb3.2**/2, **mb1 3.3**/4, **mb1mx3.0**/19, **mbtmp3.2**/4, **MS4.2**/1, **Ms1 4.2**/1, **ms1mx2.9**/14, **Error ellipse: s-maj=84.2km s-min=21.3km az=119.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.56	184	P	Pn	08 04 33.9	+0.5
	4.3nm,0.3s,baz=5.2,slow=11,SNR=20						
PMG				S	Sn	08 05 17.5	-0.2
	4.1nm,0.3s,baz=15,slow=20,SNR=9.4						
WRA	Warramunga Arr	18.92	221	P	P	08 07 43.4	+0.5
	0.6nm,0.3s,baz=40,slow=11,SNR=23						
WRA				S	S	08 11 07.1	-0.3
	0.0nm,0.3s,baz=41,slow=21,SNR=3.4						
ASAR	Alice Springs	21.98	215	P	P	08 08 16.4	+1.1
	1.7nm,0.7s,baz=48,slow=8.3,SNR=16						
FITZ	Fitzroy Crossi	24.49	238	P	P	08 08 38.8	+0.7
	0.7nm,0.4s,baz=61,slow=10,SNR=4.5						
AFI	Afiamalu	40.97	104	LR	LR	08 24 45.7	
	comp=Z,273nm,18.1s,baz=95,slow=31						
TORD	Torodi Ar. Bea	145.42	285	PKPbc	PKPdf	08 22 50.5	-1.8
	0.1nm,0.4s,baz=90,slow=2.3,SNR=3.6						

*DDA **03** 08:15:57.5, 37.12N×28.60E, h7^{km}, MD2.7*
*ISCJB **03** 08:15:58.8±0.6, 37.14N±0.09×28.57E±0.06, h15^{km}±13^{km}, Error ellipse: s-maj=15.6km s-min=5.4km az=25.3*
*ISK **03** 08:15:58.5, 37.14N×28.57E, h12^{km}, MD2.3*
*CSEM **03** 08:15:58.8±0.2, 37.18N×28.58E, h10^{km}, MD2.3, Error ellipse: s-maj=5.2km s-min=4.8km az=7.0*
ISC 03 08:15:58.7±1.2, **37.18N**±0.03×**28.62E**±0.04, **h6**^{km}±15^{km}, **n15**, σ**0^{s}98**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.27	260	ePG	Pg	08 16 03.7	-0.3
YER				eSG	Sg	08 16 07.8	+0.2
YER	Yerkesik	0.27	260	ePg	Pg	08 16 03.7	-0.3
YER				eSg	Sg	08 16 07.8	+0.2
TURN	Turunc	0.31	182	iP	Pb	08 16 06.3	-0.3
TURN				iS	Sb	08 16 15.6	+3.7
TURN	Turunc	0.31	182	iP	Pb	08 16 06.3	-0.3
DNZL	Cakiroluk	0.61	34	iP	Pg	08 16 10.5	+0.1
DNZL				iS	Sb	08 16 20.7	-0.1
DNZL	Cakiroluk	0.61	34	iP	Pg	08 16 10.5	+0.1
DNZL				iS	Sb	08 16 20.7	-0.1
FETY	Fethiye	0.66	145	ePG	Pg	08 16 11.5	+0.1
FETY				eSG	Sb	08 16 21.3	-0.8
FETY	Fethiye	0.66	145	ePg	Pg	08 16 11.5	+0.1
FETY				eSg	Sb	08 16 21.3	-0.8
AYDN	Tasoluk	0.76	309	iP	Pg	08 16 13.1	-0.2
AYDN				iS	Sg	08 16 23.4	+0.4
AYDN	Tasoluk	0.76	309	iP	Pg	08 16 13.0	-0.2
AYDN				iS	Sg	08 16 23.4	+0.4
GOLH	Golhisar	0.76	86	eP	Pg	08 16 06.8	-6.4
GOLH				eS	Sb	08 16 23.7	-1.1
DAT	Datca	0.95	242	ePG	Pg	08 16 15.8	-1.0
DAT	Datca	0.95	242	ePg	Pg	08 16 15.8	-1.0
KULA	Kula-Manisa	1.33	2	ePN	Pb	08 16 24.2	+0.2
KULA	Kula-Manisa	1.33	2	ePn	Pb	08 16 24.2	+0.2

*DDA **03** 08:51:23.0, 36.99N×28.28E, h11^{km}, MD2.7*
*ISK **03** 08:51:23.2, 37.01N×28.17E, h3^{km}, MD2.4*
*CSEM **03** 08:51:24.1±0.4, 37.02N×28.19E, h8^{km}, MD2.4, Error ellipse: s-maj=9.2km s-min=5.3km az=29.0*
ISC 03 08:51:23.1±1.2, **36.99N**±0.04×**28.16E**±0.03, **h7**^{km}±8^{km}, **n26**, σ**1^{s}23**/37, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.18	33	ePG	Pg	08 51 26.8	+0.1
YER				eSG	Sg	08 51 29.9	+0.7
YER	Yerkesik	0.18	33	ePg	Pg	08 51 26.8	+0.1
YER				eSg	Sg	08 51 29.9	+0.7
TURN	Turunc	0.37	108	iP	Pg	08 51 27.0	-3.3
TURN				iS	Sg	08 51 30.3	-4.9
TURN	Turunc	0.37	108	iP	Pg	08 51 27.0	-3.3
MLSB	Milas	0.43	315	ePG	Pb	08 51 32.6	-0.5
MLSB				eSG	Sb	08 51 38.8	-1.1
MLSB	Milas	0.43	315	ePg	Pb	08 51 32.6	-0.5
MLSB				eSg	Sb	08 51 38.8	-1.1
BODT	Bodrum	0.69	277	ePG	Pb	08 51 37.2	-0.2
BODT	Bodrum	0.69	277	ePg	Pb	08 51 37.2	-0.2
AYDN	Tasoluk	0.71	342	iP	Pg	08 51 37.2	+0.4
AYDN				iS	Sb	08 51 47.8	0.0
AYDN	Tasoluk	0.71	342	iP	Pg	08 51 37.2	+0.4
AYDN				iS	Sb	08 51 47.8	0.0
FETY	Fethiye	0.82	115	ePG	Pb	08 51 39.6	0.0
FETY	Fethiye	0.82	115	ePg	Pb	08 51 39.6	0.0
DNZL	Cakiroluk	0.99	45	iP	Pg	08 51 40.7	-1.5
DNZL				iS	Sn	08 51 58.7	+0.7
DNZL	Cakiroluk	0.99	45	iP	Pg	08 51 40.7	-1.5
DNZL				iS	Sn	08 51 58.7	+0.7
GCAM	G?zelcaml?	1.03	314	iP	Pn	08 51 44.6	+0.8
GCAM	G?zelcaml?	1.03	314	iP	Pn	08 51 44.6	+0.8
GOLH	Golhisar	1.15	77	iP	Pn	08 51 47.5	+1.9
GOLH	Golhisar	1.15	77	iP	Pn	08 51 47.5	+1.9
AKAS	Kas	1.38	122	iP	Pn	08 51 48.6	-0.3
AKAS				iS	Sg	08 52 09.3	+1.7
AKAS	Kas	1.38	122	iP	Pn	08 51 48.6	-0.3
AKAS				iS	Sg	08 52 09.3	+1.7
ELL	Elmali	1.42	99	ePN	Pg	08 51 50.9	+0.5
ELL	Elmali	1.42	99	ePn	Pg	08 51 50.9	+0.5
MANT	Manisa	1.53	12	iP	Pb	08 51 52.0	0.0
MANT	Manisa	1.53	12	iP	Pb	08 51 52.0	0.0
KHAL	Karahalli	1.74	37	iP	Pn	08 51 53.9	+0.1
KHAL				iS	Sn	08 52 15.6	-0.6
KHAL	Karahalli	1.74	37	iP	Pn	08 51 53.9	+0.1
KHAL				iS	Sn	08 52 15.6	-0.6

*ISCJB **03** 09:22:16.2±0.6, 33.52N±0.03×6.79W±0.05, h10^{km}, Error ellipse: s-maj=6.5km s-min=4.7km az=166.3*
*MDD **03** 09:22:16.3±0.7, 33.33N×6.81W, h0^{km}, mb3.8/5, Error ellipse: s-maj=11.6km s-min=6.5km az=75.0, PRXIMO*
*INMG **03** 09:22:19.7±0.6, 33.34N×6.86W, h31^{km}, ML2.0, Error ellipse: s-maj=6.3km s-min=4.3km az=76.0*
*CSEM **03** 09:22:19.5±0.2, 33.50N×6.72W, h20^{km}, MD2.8, Error ellipse: s-maj=6.1km s-min=4.1km az=69.0*
*CNRM **03** 09:22:21.2, 33.04N×6.61W, h0^{km}, MD2.8*
ISC 03 09:22:15.1±0.8, **33.33N**±0.03×**6.74W**±0.05, **h10**^{km}, **n32**, σ**1^{s}88**/58, **Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TZC	Tazercounte	1.20	170	P	Pn	09 22 37.0	-1.1
TZC				S	Sb	09 22 50.0	-3.7
TZC	Tazercounte	1.20	170	eP	Pn	09 22 37.0	-1.1
TZC				iS	Sb	09 22 50.0	-3.7
CZD	Col de Zad	1.45	101	P	Pg	09 22 45.0	+2.0
CZD				S	Sg	09 23 03.0	+1.1
CZD	Col de Zad	1.45	101	iP	Pg	09 22 45.0	+2.0
CZD				iS	Sg	09 23 03.0	+1.1
CIA	Chichaoua	2.46	225	P	Pb	09 23 00.0	+0.6
CIA				S	Sn	09 23 27.0	+1.6
CIA	Chichaoua	2.46	225	eP	Pb	09 23 00.0	+0.6
CIA				iS	Sn	09 23 27.0	+1.6
PVAQ	Vaqueiros	4.14	349	ePn	Pn	09 23 19.6	+1.2
PVAQ				eSn	Sn	09 24 05.0	-1.9
PVAQ				A	A	09 24 06.8	
	1.8nm,0.6s						
PVAQ	Vaqueiros	4.14	349	P	Pn	09 23 19.6	+1.2
PVAQ				S	Sn	09 24 05.0	-1.9
	1.8nm,0.6s						
PVAQ	Vaqueiros	4.14	349	P	Pn	09 23 19.6	+1.2
PVAQ				S	Sn	09 24 05.0	-1.9
	1.8nm,0.6s						
PFVI	Vila Bisbo	4.16	336	ePn	Pn	09 23 19.9	+1.2
PFVI				eSn	Sn	09 24 04.9	-2.5
PFVI				A	A	09 24 21.4	
	6.6nm,0.9s						
PFVI	Vila Bisbo	4.16	336	P	Pn	09 23 19.7	+1.0
	0.7nm,0.1s,SNR=7.9						
PFVI				S	Sn	09 24 05.7	-1.7
	0.9nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	4.16	336	ePn	Pn	09 23 19.9	+1.2
PFVI				eSn	Sn	09 24 04.9	-2.5
	6.6nm,0.9s						
PFVI				S	Sb	09 24 05.7	-13
	0.9nm,0.1s,SNR=7.9						
EGRO	El Granado	4.24	352	P	Pn	09 23 21.1	+1.4
	0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	09 24 07.0	-2.2
	0.6nm,0.1s,SNR=7.9						
EGRO	El Granado	4.24	352	P	Pn	09 23 21.1	+1.4
	0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	09 24 07.0	-2.2
	0.6nm,0.1s,SNR=7.9						
PCVE	Castro Verde	4.42	346	ePn	Pn	09 23 23.9	+1.6
PCVE				eSn	Sn	09 24 11.5	-2.3
PCVE				A	A	09 24 21.1	
	2.1nm,0.8s						
PCVE	Castro Verde	4.42	346	P	Pn	09 23 23.9	+1.6
PCVE				S	Sn	09 24 11.5	-2.3
	2.1nm,0.8s						
PCVE	Castro Verde	4.42	346	P	Pn	09 23 23.9	+1.6
PCVE				S	Sn	09 24 11.5	-2.3
	2.1nm,0.8s						
EMIN	Mina Concepcio	4.43	1	P	Pn	09 23 22.7	+0.4
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 24 11.7	-2.2
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.43	1	P	Pn	09 23 22.7	+0.4
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 24 11.7	-2.2
	0.4nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	4.51	339	ePn	Pn	09 23 24.7	+1.3
PTEO	Sao Teotonio	4.51	339	P	Pn	09 23 24.7	+1.3
PTEO	Sao Teotonio	4.51	339	P	Pn	09 23 24.7	+1.3
PBAR	Barrancos	4.84	357	ePn	Pn	09 23 29.9	+1.9
PBAR				eSn	Sn	09 24 22.1	-2.0
PBAR				A	A	09 24 28.8	
	1.6nm,0.6s						
PBAR	Barrancos	4.84	357	P	Pn	09 23 29.9	+1.9
PBAR				S	Sn	09 24 22.1	-2.0
	1.6nm,0.6s						
PBAR	Barrancos	4.84	357	P	Pn	09 23 29.9	+1.9
PBAR				S	Sn	09 24 22.1	-2.0
	1.6nm,0.6s						
PNCL	Nicolau / Gran	4.99	344	ePn	Pn	09 23 31.2	+1.2
PNCL				eSn	Sn	09 24 25.1	-2.7
PNCL				A	A	09 24 32.6	
	2.0nm,1.2s						
PNCL	Nicolau / Gran	4.99	344	ePn	Pn	09 23 31.2	+1.2
PNCL				eSn	Sn	09 24 25.1	-2.7
	2.0nm,1.2s						
EADA	Adamuz	5.13	19	P	Pn	09 23 33.8	+1.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	09 24 28.8	-2.7
	0.2nm,0.1s,SNR=7.9						
EADA	Adamuz	5.13	19	P	Pn	09 23 33.8	+1.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	09 24 28.8	-2.7
	0.2nm,0.1s,SNR=7.9						
EQES	Quesada	5.37	33	S	Sn	09 24 36.6	-0.7
	0.2nm,0.1s,SNR=7.9						
EQES	Quesada	5.37	33	S	Sn	09 24 36.6	-0.7
	0.2nm,0.1s,SNR=7.9						
EBAD	Badajoz	5.42	358	P	Pn	09 23 37.1	+1.2
	0.4nm,0.1s,SNR=7.9						

*IDC **03** 09:25:02.4±3.6, 6.96N×72.43W, h130^{km}±28^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.1/23, mbtmp3.2/4, Error ellipse: s-maj=52.9km s-min=24.9km az=93.0*
*ISCJB **03** 09:25:06.1±0.6, 6.87N±0.07×73.06W±0.08, h163^{km}±7^{km}, mb3.3/3, Error ellipse: s-maj=14.8km s-min=7.3km az=38.3*
*FUNV **03** 09:25:06.9, 6.75N×73.15W, h161^{km}, MW3.2*
ISC 03 09:25:07.0±1.0, **6.85N**±0.07×**73.04W**±0.08, **h160**^{km}±8^{km}, **n21**, σ**0^{s}84**/25, **mb3.7**/3, **3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.24	35	⇓iP	Pn	09 25 35.8	+0.7
CAPV				eS	Sn	09 25 56.5	-0.1
ROSC	El Rosal	2.36	213	P	Pn	09 25 47.5	+0.2
	13nm,0.3s,baz=279,slow=19,SNR=37						
ROSC				S	Sn	09 26 16.7	-1.8
	29nm,0.3s,baz=270,slow=20,SNR=12						
VIGV	El Vigia	2.58	40	⇓eP	Pn	09 25 50.4	+0.8
VIGV				eS	Sn	09 26 22.7	0.0
SOCV	Socops	2.59	56	⇓eP	Pn	09 25 50.4	+0.6
SOCV				eS	Sn	09 26 22.2	-0.6
ELOV	Elorza	3.53	87	eP	Pn	09 26 01.9	+0.4
VIRV	Villa del Rosa	3.68	10	eP	Pn	09 26 03.0	-0.5
VIRV				eS	Sn	09 26 45.5	-2.0
QARV	Quebrada Arrib	4.16	37	eP	Pn	09 26 10.4	+0.7
CURV	Curarigua	4.38	44	eP	Pn	09 26 12.8	+0.3
TEPV	Terepaima	4.91	51	eP	Pn	09 26 19.4	0.0
SIQV	Siquisique	4.95	40	eP	Pn	09 26 19.1	-0.8
BAUV	El Baul	5.37	67	eP	Pn	09 26 24.7	-0.7
MAPV	Macapo	5.42	57	eP	Pn	09 26 25.7	-0.4
MONV	Montecano	5.91	31	eP	Pn	09 26 32.3	-0.3
TURV	Turiamo	6.26	55	eP	Pn	09 26 37.6	+0.3
CUPV	Cœpira	7.85	66	eP	Pn	09 26 57.4	-1.1
TXAR	Lajitas Array	36.51	312	P	P	09 31 58.0	+0.8
	0.1nm,0.7s,baz=149,slow=7.2,SNR=2.6						
SCHQ	Schefferville	48.11	5	P	P	09 33 25.8	-4.6
	1.6nm,0.7s,baz=180,slow=6.1,SNR=2.8						
YKA	Yellowknife Ar	63.27	340	P	P	09 35 19.1	+0.9
	0.6nm,0.6s,baz=133,slow=6.7,SNR=21						
MKAR	Makanchi Array	122.27	20	PKP	PKPdf	09 43 42.9	-0.2
	0.1nm,0.3s,baz=303,slow=3.7,SNR=2.2						
ASAR	Alice Springs	149.19	234	PKPbc	PKPbc	09 44 37.2	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.6s,baz=113,slow=3.3,SNR=9.3						
WRA	Warramunga Arr	150.42	241	PKPbc	PKPbc	09 44 40.0	-0.5
	0.5nm,0.4s,baz=108,slow=2.7,SNR=23						

*JMA **03** 09:36:32.3±0.2, 30°.13N×139°.30E, h458km, M4.1*
*ISCJB **03** 09:36:33.3±0.4, 30°.12N±0°.04×139°.11E±0°.08, h435km±4km, mb3.7/21, Error ellipse: s-maj=11.3km s-min=6.9km az=169.4*
*IDC **03** 09:36:34.2±0.8, 30°.06N×138°.85E, h423km±8km, mb3.5/21, mb1 3.6/27, mb1mx3.5/35, mbtmp3.4/27, Error ellipse: s-maj=13.5km s-min=9.0km az=73.0*
ISC 03 09:36:34.3±0.7, **30°.13N**±0°.06×**139°.04E**±0°.09, **h425**km±7km, **n46**, σ**1s.52**/61, **mb3.8**/21, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.04	12	P	P	09 37 40.8	+1.3
JHJ2				eS	S	09 38 34.7	+2.1
JHJ	Hachijo jima 2	3.04	12	P	P	09 37 40.9	+1.4
	134nm,0.3s,baz=247,slow=19,SNR=41						
JHJ				S	S	09 38 33.6	+1.0
	31nm,0.3s,baz=160,slow=6.7,SNR=2.8						
CBIJ	Chichi jima	4.10	137	P	P	09 37 47.9	-0.9
	51nm,0.3s,baz=287,slow=16,SNR=22						
CBIJ				S	S	09 38 46.0	-3.4
	105nm,0.3s,baz=356,slow=22,SNR=19						
CBIJ	Chichi jima	4.10	137	P	P	09 37 47.9	-0.9
CBIJ				S	S	09 38 46.5	-2.9
JWZ	Kozaga	4.41	321	P	P	09 37 53.0	+1.5
JIE	Ise	4.68	336	P	P	09 37 56.5	+2.5
BSO1	Boso 1	4.80	20	P	P	09 37 55.5	+1.0
BSO1				S	S	09 39 00.6	+0.3
BSO3	Boso 3	4.82	15	P	P	09 37 55.6	+0.5
BSO3				eS	S	09 39 00.9	-0.3
JOD2	Odawara 2	5.12	0	P	P	09 37 57.5	-0.8
JOD2				S	S	09 39 06.7	-0.4
JNY	Yasuok	5.30	350	P	P	09 38 01.9	+1.6
JEG	Eigenji	5.46	337	P	P	09 38 04.8	+2.9
JRY	Ryogami san	5.87	359	P	P	09 38 06.9	+0.8
JRY				eS	S	09 39 19.2	-2.1
JTO	Tosashimizu	5.98	299	P	P	09 38 08.6	+1.4
MJAR	Matsushiro Arr	6.43	354	P	P	09 38 11.8	-0.1
	4.6nm,0.3s,baz=211,slow=8.8,SNR=36						
MJAR				S	S	09 39 30.2	-2.0
	0.9nm,0.3s,baz=174,slow=20,SNR=4.9						
MAT	Matsushiro	6.43	354	P	P	09 38 12.1	+0.1
MAT				S	S	09 39 30.2	-2.0
MAT	Matsushiro	6.43	354	P	P	09 38 12.2	+0.2
MAT				eS	S	09 39 31.9	-0.3
JHO	Hitachi	6.59	11	P	P	09 38 13.4	-0.6
JHO				eS	S	09 39 31.2	-4.0
JHS	Saijyo	6.96	316	P	P	09 38 19.5	+1.3
JFK	Kawauchi	7.37	11	P	P	09 38 22.7	+0.1
JFK				eS	S	09 39 47.7	-3.4
JNU	Nakatsue	7.57	295	P	P	09 38 25.4	+0.6
	0.3nm,0.3s,baz=136,slow=15,SNR=2.7						
JMK	Ichinoseki	8.98	11	P	P	09 38 41.7	+1.7
JMK				eS	S	09 40 20.7	-3.0
KSRS	Korea Array	11.77	311	P	P	09 39 11.8	+1.0
	0.6nm,0.3s,baz=124,slow=11,SNR=14						
USRK	Ussuriysk Arra	15.11	340	P	P	09 39 47.9	+1.0
	0.4nm,0.3s,baz=158,slow=8.2,SNR=8.7						
SONM	Songino Array	30.61	314	P	P	09 42 11.4	-0.2
	0.6nm,0.4s,baz=122,slow=8.6,SNR=12						
ZALV	Zalesovo Beam	45.39	318	P	P	09 44 12.3	-0.4
	1.2nm,0.4s,baz=97,slow=7.5,SNR=9.4						
MKAR	Makanchi Array	46.42	308	P	P	09 44 20.3	-0.5
	0.7nm,0.4s,baz=93,slow=8.7,SNR=12						
MKAR				ScP	ScP	09 48 58.1	-1.4
	0.4nm,0.6s,baz=82,slow=5.0,SNR=4.8						
KURBB	Kurchatov Arra	48.95	313	P	P	09 44 39.1	-0.7
	2.5nm,0.4s,baz=91,slow=7.6,SNR=17						
WRA	Warramunga Arr	49.99	186	P	P	09 44 47.1	-0.7
	1.8nm,0.3s,baz=1.1,slow=7.5,SNR=72						
AAK	Ala-Archa	52.27	303	P	P	09 45 04.3	-0.3
	1.0nm,0.5s,baz=153,slow=6.8,SNR=3.9						
ASAR	Alice Springs	53.72	186	P	P	09 45 14.4	-0.6
	2.0nm,0.4s,baz=360,slow=5.6,SNR=58						
BVAR	Borovoye Array	53.94	316	P	P	09 45 15.9	-0.3
	3.9nm,0.5s,baz=96,slow=7.0,SNR=21						
ILAR	Eielson Array	56.42	30	P	P	09 45 34.1	+0.7
	0.8nm,0.5s,baz=257,slow=4.6,SNR=31						
STKA	Stephens Creek	61.72	178	P	P	09 46 09.5	-0.1
	3.5nm,0.5s,baz=9.0,slow=4.9,SNR=7.6						
AKTO	Aktyubinsk	61.93	314	P	P	09 46 10.0	-0.9
	1.9nm,0.6s,baz=73,slow=13,SNR=7.9						
ARCES	ARCESS Array B	69.76	340	P	P	09 47 00.3	+0.5
	4.9nm,0.7s,baz=73,slow=8.8,SNR=22						
YKA	Yellowknife Ar	70.79	28	P	P	09 47 06.9	+1.0
	0.7nm,0.4s,baz=295,slow=6.2,SNR=16						
FINES	FINESS Array B	74.00	333	P	P	09 47 24.3	-0.4
	2.4nm,0.4s,baz=66,slow=5.9,SNR=13						
AKASG	Malin Array Be	78.53	322	P	P	09 47 49.5	-0.6
	0.8nm,0.3s,baz=53,slow=5.2,SNR=4.9						
HFS	Hagfors	79.53	335	P	P	09 47 54.9	-0.4
	4.2nm,0.7s,baz=92,slow=4.9,SNR=11						
NB2	NORSAR Subarra	79.76	337	P	P	09 47 56.0	-0.5
	comp=Z,1.5nm,0.6s,baz=45,slow=5.1						
NOA	NORSAR Array B	79.76	337	P	P	09 47 56.1	-0.4
	comp=Z,1.4nm,0.6s,baz=42,slow=5.4,SNR=5.9						
NVAR	Mina Array Bea	80.79	51	P	P	09 48 04.7	+2.1
	comp=Z,0.8nm,0.6s,baz=297,slow=6.6,SNR=5.0						
BRTR	Keskin Array B	81.92	311	P	P	09 48 08.0	-0.4
	comp=Z,1.7nm,0.8s,baz=104,slow=4.4,SNR=6.6						
PDAR	Pinedale Array	83.97	44	P	P	09 48 20.8	+2.0
	comp=Z,0.3nm,0.5s,baz=300,slow=2.0,SNR=3.3						
TXAR	Lajitas Array	95.94	51	P	P	09 49 16.5	+1.7
	comp=Z,0.4nm,0.7s,baz=278,slow=2.5,SNR=5.6						
TORD	Torodi Ar. Bea	120.51	310	PKP	PKPdf	09 54 36.4	-0.7
	comp=Z,0.1nm,0.5s,baz=43,slow=0.9,SNR=3.1						

IDC 03 09:49:40.6±12.0, **20°.85S**×**179°.08W**, **h587**km±129km, **mb2.9**/4, **mb1 3.1**/4, **mb1mx2.8**/18, **mbtmp2.9**/4, **Error ellipse: s-maj=140.0km s-min=49.0km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.73	244	P	P	09 55 59.5	0.0
	4.3nm,1.0s,baz=83,slow=10,SNR=4.7						
ASAR	Alice Springs	43.45	257	P	P	09 56 53.2	-0.1
	1.3nm,0.5s,baz=99,slow=7.5,SNR=27						
ASAR				PcP	PcP	09 58 27.7	-0.4
	0.5nm,0.6s,baz=106,slow=3.7,SNR=5.1						
WRA	Warramunga Arr	43.55	263	P	P	09 56 53.7	-0.4
	0.4nm,0.6s,baz=96,slow=8.6,SNR=7.6						
ILAR	Eielson Array	88.88	13	P	P	10 01 32.6	0.0
	0.6nm,1.1s,baz=209,slow=5.4,SNR=6.6						

---

*IDC **03** 09:51:32.0±2.8, 35°.59N×71°.26E, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.6/31, mbtmp3.8/9, ML3.8/5, Error ellipse: s-maj=64.1km s-min=24.3km az=135.0*
*ISCJB **03** 09:51:48.9±0.5, 36°.41N±0°.03×71°.35E±0°.07, h114km, mb3.2/3, Error ellipse: s-maj=8.6km s-min=3.2km az=168.2*
*NNC **03** 09:51:53.1±9.3, 36°.68N×70°.74E, h99km±112km, mb3.3, mpv4.2, Error ellipse: s-maj=74.0km s-min=56.0km az=171.0*
ISC 03 09:51:49.7±0.7, **36°.41N**±0°.04×**71°.30E**±0°.09, **h114**km, **n43**, σ**1s.60**/48, **mb3.4**/3, **4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.63	169	⇓P	Pn	09 52 33.2	+2.1
CEP				S	Sn	09 53 05.0	+2.1
CHCP	Chirah Chowk	3.18	149	P	Pn	09 52 41.3	+3.0
THW	Thamme Wali	3.63	174	P	Pn	09 52 45.7	+1.5
THW				S	Sn	09 53 26.0	-0.3
SARP	Sargodha	4.62	165	P	Pn	09 52 58.2	+0.7
THN	Thein Dam	5.39	136	eP	Pn	09 53 08.9	+1.1
THN				eS	Sn	09 54 08.5	-0.2
AML	Almayashu	6.01	17	P	Pn	09 53 17.8	+1.3
	SNR=94						
UCH	Uchtor	6.32	22	P	Sn	09 54 31.1	-0.7
	SNR=6.1						
KZA	Kyzart	6.43	27	P	Pn	09 53 23.8	+1.5
	SNR=11						
EKS2	Erkin-Say	6.53	16	P	Pn	09 53 24.9	+1.6
	SNR=28						
AAK	Ala-Archa	6.69	21	Pn	Pn	09 53 26.6	+1.1
	8.8nm,0.3s,baz=178,slow=7.3,SNR=89						
AAK				Sn	Sn	09 54 40.9	+0.6
	1.4nm,0.3s,baz=241,slow=12,SNR=6.5						
AAK	Ala-Archa	6.69	21	P	Pn	09 53 27.6	+2.2
	SNR=15						
KK31	Karatay Array	6.71	355	⇓P	Pn	09 53 26.4	+0.8
	13nm,0.4s,baz=180,slow=13,SNR=336						
KK31				S	Sn	09 54 38.6	-2.1
	11nm,0.6s,baz=187,slow=25,SNR=8.1						
ULHL	Ulahol	6.97	32	P	Pn	09 53 31.1	+1.7
	SNR=8.7						
CHMS	Chumysh	7.10	21	P	Pn	09 53 32.6	+1.7
	SNR=9.2						
USP	Ospenovka	7.28	19	P	Pn	09 53 35.2	+1.8
	SNR=8.7						
TKM2	Tokmak 2	7.30	26	⇑P	Pn	09 53 35.6	+1.8
	6.6nm,0.6s						
TKM2				⇑S	Sn	09 54 56.8	+1.7
	5.8nm,0.7s						
TKM2	Tokmak 2	7.30	26	P	Pn	09 53 35.6	+1.8
	SNR=18						
DDI	Dehra Dun	8.29	135	ex	x	09 55 06.0	
PYUN	Piuthan	12.90	127	eP	Pn	09 54 47.1	-1.9
	18nm,0.5s						
MKAR	Makanchi Array	13.22	35	Pn	Pn	09 54 52.9	0.0
	0.1nm,0.3s,baz=225,slow=15,SNR=6.5						
DANN	Dangsing	13.24	124	eP	Pn	09 54 52.0	-1.5
	7.5nm,0.3s						
DANN				eS	Sn	09 57 10.4	-9.1
KOLN	Koldanda	13.52	126	eP	Pn	09 54 55.8	-1.3
	10nm,0.5s						
GKN	Gorkha	14.05	123	eP	Pn	09 55 02.5	-1.4
	37nm,0.6s						
GKN				eS	Sn	09 57 29.1	-10
DMN	Daman	14.62	123	eP	Pn	09 55 10.2	-1.1
	16nm,0.5s						
KKN	Kakani	14.62	122	eP	Pn	09 55 09.9	-1.4
	16nm,0.5s						
PKI	Pulchoki	14.85	122	eP	Pn	09 55 12.9	-1.4
GUN	Gumba	14.96	120	eP	Pn	09 55 14.1	-1.6
	15nm,0.5s						
KURBB	Kurchatov Arra	15.13	18	Pn	Pn	09 55 15.5	-1.8
	0.1nm,0.3s,baz=208,slow=10,SNR=6.3						
KURBB				Sn	Sn	09 58 00.4	-4.0
	0.3nm,0.3s,baz=177,slow=22,SNR=12						
AB31	Akbulak array	15.28	331	⇑P	Pn	09 55 18.8	-0.3
	2.8nm,0.6s,baz=145,slow=12,SNR=61						
JIRN	Jiri	15.33	120	eP	Pn	09 55 19.1	-1.3
	10nm,0.4s						
RAMN	Ramite	16.06	122	eP	P	09 55 28.7	-1.8
RAMN				eS	Sn	09 58 17.1	-11
VOSK	Vostochnaya	16.31	359	⇑P	Pn	09 55 30.8	-1.1
	2.3nm,0.8s						
TAPN	Taplejung	16.59	118	eP	P	09 55 35.1	-1.3
	12nm,0.6s						
ZRNK	Zerenda	16.62	355	⇓P	Pn	09 55 34.9	-0.7
	0.7nm,0.6s						
BVA0	Borovoye Array	16.62	358	P	P	09 55 37.6	+1.3
	0.3nm,0.7s,baz=169,slow=12,SNR=8.1						
BVAR	Borovoye Array	16.62	358	P	Pn	09 55 36.3	+0.6
	0.3nm,0.3s,baz=170,slow=12,SNR=9.2						
BVAR				S	Sn	09 58 36.2	-4.2
	0.5nm,0.3s,baz=178,slow=24,SNR=5.0						
ODAN	Odare	16.67	120	eP	P	09 55 36.4	-0.8
	17nm,0.6s						
AKTO	Aktyubinsk	16.98	330	P	P	09 55 40.3	+0.2
	0.4nm,0.3s,baz=136,slow=9.9,SNR=30						
AKTO				S	Sn	09 58 40.3	-8.6
	0.5nm,0.3s,baz=137,slow=19,SNR=7.0						
AKTO	Aktyubinsk	16.98	330	⇓P	P	09 55 40.0	-0.2
	1.0nm,0.7s						
ZALV	Zalesovo Beam	19.90	24	P	P	09 56 12.5	+0.5
	2.4nm,0.6s,baz=221,slow=10,SNR=13						
NOA	NORSAR Array B	44.60	323	P	P	09 59 49.6	-0.6
	0.5nm,0.5s,baz=100,slow=7.8,SNR=3.4						
TORD	Torodi Ar. Bea	65.96	269	P	P	10 02 21.0	-3.0
	0.4nm,0.8s,baz=53,slow=5.4,SNR=5.4						
YKA	Yellowknife Ar	81.32	3	P	P	10 03 53.0	0.0
	0.1nm,0.5s,baz=352,slow=4.9,SNR=4.7						

---

*DDA **03** 09:54:06.4, 37°.57N×35°.76E, h7km, MD2.9*
*ISK **03** 09:54:07.7, 37°.58N×35°.78E, h14km, MD2.5*
*ISCJB **03** 09:54:08.2±0.6, 37°.56N±0°.04×35°.75E±0°.04, h13km±5km, Error ellipse: s-maj=6.6km s-min=5.8km az=157.5*
*CSEM **03** 09:54:08.7±0.2, 37°.57N×35°.64E, h8km, MD2.5, Error ellipse: s-maj=5.3km s-min=4.5km az=24.0*
ISC 03 09:54:08.2±0.9, **37°.58N**±0°.03×**35°.72E**±0°.03, **h12**km±6km, **n20**, σ**1s.02**/33, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.13	139	ePG	Pg	09 54 11.6	+0.1
KOZT				eSG	Sg	09 54 13.6	-0.3
KOZT	Kozan	0.13	139	ePg	Pg	09 54 11.6	+0.1
KOZT				eSg	Sg	09 54 13.6	-0.3
ANDN	Andirin	0.49	90	i P	Pn	09 54 20.6	-0.6
ANDN				i S	Sb	09 54 29.1	+3.0
ANDN	Andirin	0.49	90	i P	Pn	09 54 20.6	-0.6
ANDN				i S	Sb	09 54 29.1	+3.0
CEYT	Ceyhan	0.57	178	ePG	Pg	09 54 19.1	-0.2
CEYT				eSG	Sb	09 54 27.9	-0.1
CEYT	Ceyhan	0.57	178	ePg	Pg	09 54 19.1	-0.2
CEYT				eSg	Sb	09 54 27.9	-0.1
GULE	Gulek	0.81	249	i P	Pg	09 54 22.6	-1.3
GULE				i S	Sg	09 54 34.2	-0.3
GULE	Gulek	0.81	249	i P	Pg	09 54 22.6	-1.3
GULE				i S	Sg	09 54 34.2	-0.3
KMRS	Kahramanmaras	0.94	94	ePG	Pg	09 54 24.8	-1.6
NIG	Nigde	1.03	301	ePG	Pn	09 54 28.4	-0.2
NIG	Nigde	1.03	301	ePg	Pn	09 54 28.4	-0.2
KRTS	Karatas	1.04	196	ePG	Pn	09 54 28.7	+0.2
KRTS	Karatas	1.04	196	ePg	Pn	09 54 28.7	+0.2
MERS	Mersin	1.19	234	ePN	Pg	09 54 31.2	+0.1
MERS				eSN	Sn	09 54 47.4	+0.6
MERS	Mersin	1.19	234	ePn	Pg	09 54 31.2	+0.1
MERS				eSn	Sn	09 54 47.4	+0.6
BNN	Bunyan	1.27	4	ePN	Pn	09 54 31.8	-0.1
BNN	Bunyan	1.27	4	ePn	Pn	09 54 31.8	-0.1
AVNT	Avonos	1.38	331	i P	Pb	09 54 34.2	+0.2
AVNT				i S	Sb	09 54 52.5	+0.8
AVNT	Avonos	1.38	331	i P	Pb	09 54 34.2	+0.2
AVNT				i S	Sb	09 54 52.5	+0.8
GZT	Gaziantep	1.48	98	i P	Pn	09 54 33.4	-1.3
GZT				i S	Sn	09 54 52.9	-1.2

MEX 03 09:55:11.5±0.5, **18°.51N**×**103°.60W**, **h40**km±8km, **MD3.9**, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.33	132	i P	Pn	09 55 18.4	-1.7
MMIG				i S	Sn	09 55 24.4	-1.7
R15V		0.75	331	eP	Pn	09 55 24.2	-1.5
R15V				eS	Sn	09 55 34.0	-2.1
EZ5V		0.97	360	i P	Pn	09 55 26.9	-2.1
EZ5V				eS	Sn	09 55 38.6	-3.2
SFJM	Santa Fe	2.04	15	i P	Pn	09 55 42.5	-1.1
SFJM				i S	Sn	09 56 06.2	-1.8
ZIIG	Zihuatanejo	2.22	113	eP	Pn	09 55 44.0	-1.9
ZIIG				eS	Sn	09 56 10.1	-2.0
ARIG	Puente Sto Nin	3.10	94	eP	Pn	09 55 56.8	-1.1
ARIG				eS	Sn	09 56 31.9	-1.9

---

*NIED **03** 10:27:00, 28°.30N×129°.50E, h29km, Mw3.6 Best double couple: $M_0$2.39000×10[14] NP1:ϕ_s302.00000°, δ61.00000°, λ-103.00000°. NP2:ϕ_s148.00000°, δ32.00000°, λ-68.00000°.*
*ISCJB **03** 10:27:25.9±0.4, 28°.23N±0°.05×129°.59E±0°.07, h49km±4km, mb3.6/7, Error ellipse: s-maj=12.3km s-min=3.9km az=35.1*
*JMA **03** 10:27:26.1±0.1, 28°.29N×129°.50E, h38km±2km, M3.5*
JMA Felt I J1.
*IDC **03** 10:27:28.9±2.3, 28°.22N×129°.44E, h64km±21km, mb3.3/7, mb1 3.5/8, mb1mx3.3/26, mbtmp3.3/8, MS2.6/1, Ms1 2.6/1, ms1mx2.0/18, Error ellipse: s-maj=29.5km s-min=14.0km az=101.0*
ISC 03 10:27:26.7±0.9, **28°.23N**±0°.06×**129°.58E**±0°.07, **h43**km±10km, **n21**, σ**0s.79**/29, **mb3.6**/7, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.18	7	P	Pn	10 27 32.6	-1.6
JAM				eS	Sn	10 27 37.2	-2.1
JZK	Kikaishima	0.35	76	P	Pn	10 27 35.2	-0.6
JZK				eS	Sn	10 27 42.9	+0.7
JTK	Tokunoshima	0.71	232	P	Pn	10 27 39.6	-0.8
JTK				eS	Sn	10 27 49.5	-0.7
JNN	Nakanoshima	1.62	9	P	Pn	10 27 53.1	+0.2
JNN				eS	Sn	10 28 12.9	+0.3
JOW	Kunigami	1.81	220	P	Pn	10 27 56.0	+0.6
	44nm,0.3s,baz=47,slow=11,SNR=91						
JOW				S	Sn	10 28 18.1	+0.9
	60nm,0.3s,baz=106,slow=29,SNR=12						
JOW	Kunigami	1.81	220	P	Pn	10 27 55.7	+0.2
JOW				eS	Sn	10 28 18.7	+1.5
JIH	Iheya	1.86	231	P	Pn	10 27 56.7	+0.6
JIH				eS	Sn	10 28 19.4	+1.0
JKC	Kuchinoerabu	2.29	13	P	Pn	10 28 02.7	+0.7
JKC				eS	Sn	10 28 29.1	+0.2
JAGN	Aguni-jima	2.65	232	P	Pn	10 28 07.4	+0.5
JAGN				eS	Sn	10 28 38.3	+0.6
JJT2	Tamagusuku 2	2.65	218	P	Pn	10 28 07.5	+0.6
JJT2				eS	Sn	10 28 38.7	+0.9
JTN	Tanegashima 3	2.71	26	P	Pn	10 28 08.1	+0.4
JTN				eS	Sn	10 28 41.0	+1.8
JKE	Kume jima 2	3.13	233	P	Pn	10 28 13.9	+0.4
JKE				eS	Sn	10 28 49.9	+0.3
JNU	Nakatsue	5.00	13	P	Pn	10 28 42.0	+2.7
	2.8nm,0.3s,baz=214,slow=3.6,SNR=34						
JNU				S	Sn	10 29 28.9	-6.9
	3.5nm,0.3s,baz=143,slow=2.8,SNR=7.6						
KSRS	Korea Array	9.30	352	LR	LR	10 33 29.3	
	comp=Z,37nm,19.0s,baz=351,slow=39						
MKAR	Makanchi Array	41.14	310	P	P	10 35 06.3	-0.4
	0.5nm,0.8s,baz=95,slow=7.2,SNR=3.7						
FITZ	Fitzroy Crossi	46.22	185	P	P	10 35 46.7	-1.0
	1.0nm,0.6s,baz=23,slow=13,SNR=4.2						
WRA	Warramunga Arr	48.11	174	P	P	10 36 02.3	-0.1
	0.4nm,0.6s,baz=354,slow=8.4,SNR=5.1						
ASAR	Alice Springs	51.76	175	P	P	10 36 30.9	+0.7
	0.4nm,0.6s,baz=6.2,slow=14,SNR=5.5						
FINES	FINESS Array B	71.72	331	P	P	10 38 43.5	-0.6
	0.9nm,0.5s,baz=46,slow=4.0,SNR=4.6						
AKASG	Malin Array Be	74.80	320	P	P	10 39 01.6	-0.8
	0.6nm,0.4s,baz=69,slow=5.5,SNR=4.8						
YKA	Yellowknife Ar	76.21	25	P	P	10 39 10.8	+0.5
	0.2nm,0.6s,baz=302,slow=5.8,SNR=6.2						

IDC 03 10:32:24.5±2.0, **3°.54N**×**126°.24E**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.4**/23, **mbtmp3.5**/4, **Error ellipse: s-maj=134.8km s-min=25.0km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.51	182	P	P	10 37 14.7	-0.5
	1.7nm,0.4s,baz=359,slow=11,SNR=7.6						
WRA	Warramunga Arr	24.66	161	P	P	10 37 48.4	+1.2
	0.4nm,0.3s,baz=345,slow=9.5,SNR=14						
ASAR	Alice Springs	28.06	165	P	P	10 38 16.8	-1.0
	0.1nm,0.4s,baz=350,slow=10,SNR=2.9						
MKAR	Makanchi Array	57.43	326	P	P	10 42 15.0	-0.1
	0.1nm,0.3s,baz=120,slow=7.5,SNR=5.4						

IDC 03 10:37:52.2±2.5, **6°.82S**×**127°.26E**, **h0**km, **mb3.1**/1, **mb1 3.7**/3, **mb1mx3.4**/18, **mbtmp3.5**/3, **ML3.7**/2, **Error ellipse: s-maj=312.6km s-min=32.4km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.74	153	Pn	Pn	10 41 22.3	+0.1
	0.4nm,0.3s,baz=331,slow=12,SNR=15						
WRA				Sn	Sn	10 43 57.4	-9.0
	0.2nm,0.3s,baz=331,slow=22,SNR=5.5						
ASAR	Alice Springs	17.92	160	P	Pn	10 42 02.9	-0.3
	0.3nm,0.3s,baz=338,slow=11,SNR=18						
MKAR	Makanchi Array	66.61	328	P	P	10 48 44.6	+0.1
	0.2nm,0.6s,baz=130,slow=7.9,SNR=2.6						

IDC 03 10:44:08.8±1.9, **2°.01N**×**96°.37E**, **h25**km±7km, **mb3.4**/5, **mb1 3.5**/6, **mb1mx3.3**/25, **mbtmp3.4**/6, **ML2.8**/1, **Error ellipse: s-maj=55.1km s-min=22.0km az=51.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.67	73	Pn	Pn	10 44 50.0	-0.4
	1.9nm,0.3s,baz=274,slow=13,SNR=6.8						
WRA	Warramunga Arr	43.17	122	P	P	10 52 07.3	-0.6
	0.3nm,0.3s,baz=302,slow=8.9,SNR=2.6						
ASAR	Alice Springs	44.55	127	P	P	10 52 19.0	0.0
	0.5nm,1.0s,baz=301,slow=7.9,SNR=4.1						
MKAR	Makanchi Array	46.26	347	P	P	10 52 31.9	-0.2
	0.8nm,0.7s,baz=160,slow=8.1,SNR=12						
MKAR				pP	pP	10 52 39.4	-0.5
	0.5nm,0.4s,baz=161,slow=7.5,SNR=7.8						
SONM	Songino Array	46.46	9	P	P	10 52 33.7	-0.2
	0.2nm,0.5s,baz=193,slow=9.1,SNR=3.3						
SONM				pP	pP	10 52 41.7	+0.1
	0.3nm,0.5s,baz=187,slow=11,SNR=2.4						
ZALV	Zalesovo Beam	52.63	351	P	P	10 53 20.6	-0.1
	1.7nm,0.5s,baz=177,slow=6.7,SNR=7.9						
ZALV				pP	pP	10 53 28.8	+0.3
	0.9nm,0.5s,baz=190,slow=5.4,SNR=2.7						

---

*SOF **03** 10:47:32.3, 38°.14N×28°.61E, h2km, MD3.2*
*ATH **03** 10:47:53.9, 39°.72N×27°.90E, h5km, MD3.5/3*
*ISK **03** 10:47:57.7, 39°.72N×27°.74E, h13km, ML3.6*
*DDA **03** 10:47:57.3, 39°.71N×27°.76E, h26km, ML3.7*
*ISCJB **03** 10:47:58.0±0.3, 39°.74N±0°.01×27°.74E±0°.02, h12km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=44.5*
*THE **03** 10:47:58.4, 39°.74N×27°.70E, h0km±2km, ML4.0/3, Error ellipse: s-maj=5.2km s-min=1.4km az=100.0*
*CSEM **03** 10:47:58.2±0.1, 39°.72N×27°.74E, h10km, ML3.7, Error ellipse: s-maj=1.6km s-min=1.3km az=44.0*
ISC 03 10:47:58.4±0.8, **39°.71N**±0°.01×**27°.75E**±0°.01, **h15**km±4km, **n212**, σ**0s.77**/257, **16C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALY	Balya	0.10	285	i P	Pg	10 48 01.5	-0.2
BALY				i S	Sg	10 48 04.0	+0.1
BALY	Balya	0.10	285	i P	Pg	10 48 01.5	-0.2
BALY				i S	Sg	10 48 04.0	+0.1
BALB	Balikesir	0.13	125	PG	Pg	10 48 01.7	-0.3
BALB				SG	Sg	10 48 03.9	-0.4
BALB	Balikesir	0.13	125	i Pg	Pg	10 48 01.7	-0.3
BALB				i Sg	Sg	10 48 03.9	-0.4
GONE	Gonen-Balikesi	0.34	352	PG	Pg	10 48 05.3	0.0
GONE				eSG	Sg	10 48 10.3	+0.3
GONE	Gonen-Balikesi	0.34	352	i Pg	Pg	10 48 05.3	0.0
DURS	Dursunbey	0.57	101	i P	Pg	10 48 09.0	-0.7
DURS				i S	Sg	10 48 17.2	-0.2
DURS	Dursunbey	0.57	101	i P	Pg	10 48 09.0	-0.7
DURS				i S	Sg	10 48 17.2	-0.2
EDC	Edincik	0.64	8	PG	Pb	10 48 11.3	0.0
EDC	Edincik	0.64	8	i Pg	Pb	10 48 11.3	0.0
BNT	Bandirma	0.66	12	PG	Pg	10 48 10.9	-0.3
BNT	Bandirma	0.66	12	i Pg	Pg	10 48 10.9	-0.3
DST	Dursunbey	0.68	99	PG	Pg	10 48 11.2	-0.6
DST	Dursunbey	0.68	99	i Pg	Pg	10 48 11.2	-0.6
KCTX	Karacabey (Bur	0.72	40	PG	Pg	10 48 11.9	-0.6
KCTX	Karacabey (Bur	0.72	40	i Pg	Pg	10 48 11.9	-0.6
KRBG	Karabiga-Canak	0.76	333	PG	Pg	10 48 12.7	-0.5
KRBG	Karabiga-Canak	0.76	333	i Pg	Pg	10 48 12.7	-0.5
AKHS	Akhisar	0.84	176	i P	Pb	10 48 13.9	-0.7
AKHS				i S	Sb	10 48 25.7	0.0
AKHS	Akhisar	0.84	176	i P	Pb	10 48 13.9	-0.7
AKHS				i S	Sb	10 48 25.7	0.0
AKS	Akhisar	0.84	176	PG	Pb	10 48 14.3	-0.3
AKS	Akhisar	0.84	176	i Pg	Pb	10 48 14.3	-0.3
AYVA	Ayvalik	0.91	244	i P	Pb	10 48 15.9	0.0
AYVA				i S	Sg	10 48 28.7	+0.7
AYVA	Ayvalik	0.91	244	i P	Pb	10 48 15.9	0.0
AYVA				i S	Sg	10 48 28.7	+0.7
ORLT	Orhaneli	0.95	69	PG	Pb	10 48 16.3	-0.2
ORLT	Orhaneli	0.95	69	i Pg	Pb	10 48 16.3	-0.2
LPK	Lapseki	1.00	311	PG	Pb	10 48 17.2	-0.2

LPK	**Lapseki**	**1.00**	**311**	*i* Pg	**Pb**	**10 48 17.2**	**-0.2**
DEMI	**Demirci**	**1.01**	**131**	*i* P	**Pb**	**10 48 17.2**	**-0.4**
DEMI				*i* S	**Sb**	**10 48 30.9**	**+0.2**
DEMI	**Demirci**	**1.01**	**131**	*i* P	**Pb**	**10 48 17.2**	**-0.4**
DEMI				*i* S	**Sb**	**10 48 30.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.06**	**336**	PG	**Pb**	**10 48 18.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.06**	**336**	*i* Pg	**Pb**	**10 48 18.4**	**-0.1**
SART	**Tekirdag**	**1.06**	**336**	*i* P	**Pb**	**10 48 18.3**	**-0.3**
SART				*i* S	**Sg**	**10 48 33.0**	**+0.1**
SART	**Tekirdag**	**1.06**	**336**	*i* P	**Pb**	**10 48 18.3**	**-0.3**
SART				*i* S	**Sg**	**10 48 33.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.09**	**53**	PN	**Pb**	**10 48 18.5**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.09**	**53**	*i* Pn	**Pb**	**10 48 18.5**	**-0.5**
EZN	**Ezine**	**1.10**	**276**	*e*PN	**Pb**	**10 48 19.1**	**0.0**
EZN	**Ezine**	**1.10**	**276**	*e*Pn	**Pb**	**10 48 19.1**	**0.0**
MFT	**Murefte**	**1.13**	**342**	*e*PN	**Pn**	**10 48 19.7**	**-0.1**
MFT	**Murefte**	**1.13**	**342**	*e*Pn	**Pn**	**10 48 19.7**	**-0.1**
ULDT	**Uludag**	**1.15**	**68**	*i* P	**Pn**	**10 48 19.7**	**-0.5**
ULDT				*i* S	**Sn**	**10 48 35.3**	**-0.5**
ULDT	**Uludag**	**1.15**	**68**	*i* P	**Pn**	**10 48 19.7**	**-0.5**
ULDT				*i* S	**Sn**	**10 48 35.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.19**	**305**	*e*PN	**Pb**	**10 48 20.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.19**	**305**	*e*Pn	**Pb**	**10 48 20.6**	**-0.1**
ARMT	**Armutlu**	**1.21**	**45**	*e*PN	**Pn**	**10 48 20.2**	**-0.6**
ARMT	**Armutlu**	**1.21**	**45**	*e*Pn	**Pn**	**10 48 20.2**	**-0.6**
PRK	**Paraskevi**	**1.23**	**248**	P	**Pg**	**10 48 22.0**	**-0.1**
PRK				S	**Sg**	**10 48 39.2**	**+1.0**
PRK	**Paraskevi**	**1.23**	**248**	*e*PB	**Pn**	**10 48 20.4**	**-0.7**
PRK				*e*SB	**Sn**	**10 48 37.7**	**+0.3**
PRK	**Paraskevi**	**1.23**	**248**	*e*Pb	**Pn**	**10 48 20.4**	**-0.7**
PRK	**Paraskevi**	**1.23**	**248**	P	**Pg**	**10 48 22.0**	**-0.1**
PRK				*e*Sb	**Sn**	**10 48 37.7**	**+0.3**
PRK				S	**Sg**	**10 48 39.2**	**+1.0**
TKR	**Tekirdag**	**1.28**	**353**	*e*PN	**Pb**	**10 48 22.1**	**-0.1**
TKR	**Tekirdag**	**1.28**	**353**	*e*Pn	**Pb**	**10 48 22.2**	**-0.1**
BOZC	**Bozcaada**	**1.31**	**276**	*i* P	**Pn**	**10 48 21.9**	**-0.3**
BOZC				*i* S	**Sb**	**10 48 39.7**	**+0.4**
GEMT	**Gemlik**	**1.32**	**57**	*e*PN	**Pb**	**10 48 22.4**	**-0.5**
GEMT	**Gemlik**	**1.32**	**57**	*e*Pn	**Pb**	**10 48 22.4**	**-0.5**
ERIK	**Erikli-Kesan**	**1.34**	**316**	*e*PN	**Pn**	**10 48 22.6**	**+0.1**
ERIK	**Erikli-Kesan**	**1.34**	**316**	*e*Pn	**Pn**	**10 48 22.7**	**+0.1**
TVSB	**Tavsanli**	**1.35**	**101**	*e*PN	**Pb**	**10 48 23.4**	**-0.1**
TVSB	**Tavsanli**	**1.35**	**101**	*e*Pn	**Pb**	**10 48 23.4**	**-0.1**
MANT	**Manisa**	**1.38**	**152**	*i* P	**Pn**	**10 48 22.9**	**-0.4**
MANT				*i* S	**Sn**	**10 48 41.3**	**0.0**
MANT	**Manisa**	**1.38**	**152**	*i* P	**Pn**	**10 48 22.9**	**-0.4**
MANT				*i* S	**Sn**	**10 48 41.3**	**0.0**
KULA	**Kula-Manisa**	**1.39**	**149**	*e*PN	**Pb**	**10 48 23.9**	**-0.3**
KULA	**Kula-Manisa**	**1.39**	**149**	*e*Pn	**Pb**	**10 48 23.9**	**-0.3**
CRLT	**Corlu**	**1.41**	**360**	*e*PN	**Pn**	**10 48 23.6**	**0.0**
CRLT	**Corlu**	**1.41**	**360**	*e*Pn	**Pn**	**10 48 23.6**	**0.0**
BLCB	**Balcova**	**1.44**	**203**	*e*PN	**Pn**	**10 48 23.9**	**0.0**
BLCB	**Balcova**	**1.44**	**203**	*e*Pn	**Pn**	**10 48 23.9**	**0.0**
GDZ	**Gediz**	**1.48**	**114**	*i* P	**Pn**	**10 48 25.0**	**+0.3**
GDZ				*i* S	**Sb**	**10 48 45.4**	**+1.0**
GDZ	**Gediz**	**1.48**	**114**	*i* P	**Pn**	**10 48 25.0**	**+0.3**
GDZ				*i* S	**Sb**	**10 48 45.4**	**+1.0**
YLV	**Yalova**	**1.51**	**55**	*e*PN	**Pn**	**10 48 24.6**	**-0.4**
YLV	**Yalova**	**1.51**	**55**	*e*Pn	**Pn**	**10 48 24.6**	**-0.4**
ELBA	**Catalca**	**1.52**	**20**	*i* P	**Pn**	**10 48 24.1**	**-1.0**
ELBA				*i* S	**Sb**	**10 48 45.3**	**-0.2**
ELBA	**Catalca**	**1.52**	**20**	*i* P	**Pn**	**10 48 24.1**	**-1.0**
ELBA				*i* S	**Sb**	**10 48 45.3**	**-0.2**
BUY	**Buyukada**	**1.55**	**42**	*i* S	**Sg**	**10 48 49.5**	**+1.2**
SLVT	**Silivri**	**1.56**	**13**	*e*PN	**Pn**	**10 48 25.1**	**-0.4**
SLVT	**Silivri**	**1.56**	**13**	*e*Pn	**Pn**	**10 48 25.1**	**-0.4**
ENEZ	**Enez**	**1.59**	**310**	*e*PN	**Pb**	**10 48 26.6**	**-0.9**
ENEZ	**Enez**	**1.59**	**310**	*e*Pn	**Pb**	**10 48 26.6**	**-0.9**
URLA	**Izmir**	**1.62**	**214**	*i* P	**Pn**	**10 48 25.7**	**-0.8**
URLA				*i* S	**Sb**	**10 48 48.2**	**-0.1**
URLA	**Izmir**	**1.62**	**214**	*i* P	**Pn**	**10 48 25.7**	**-0.8**
URLA				*i* S	**Sb**	**10 48 48.2**	**-0.1**
CTKS	**Kestanelik-??a**	**1.63**	**21**	*e*PN	**Pn**	**10 48 26.6**	**+0.1**
CTKS	**Kestanelik-??a**	**1.63**	**21**	*e*Pn	**Pn**	**10 48 26.6**	**+0.1**
BGKT	**Bogazkoy**	**1.66**	**28**	*e*PN	**Pb**	**10 48 27.6**	**-1.1**
BGKT	**Bogazkoy**	**1.66**	**28**	*e*Pn	**Pb**	**10 48 27.6**	**-1.1**
ISK	**Istanbul-Kandi**	**1.68**	**36**	*e*PN	**Pn**	**10 48 27.1**	**-0.2**
ISK	**Istanbul-Kandi**	**1.68**	**36**	*e*Pn	**Pn**	**10 48 27.1**	**-0.2**
CAVI	**Cavuskoy**	**1.68**	**73**	*e*PN	**Pn**	**10 48 27.9**	**+0.6**
CAVI	**Cavuskoy**	**1.68**	**73**	*e*Pn	**Pn**	**10 48 27.9**	**+0.6**
ADVT	**Abdulvahap**	**1.69**	**64**	*e*PN	**Pb**	**10 48 28.1**	**-1.1**
ADVT	**Abdulvahap**	**1.69**	**64**	*e*Pn	**Pb**	**10 48 28.1**	**-1.1**
ALN	**Alexandroupoli**	**1.76**	**313**	P	**Pn**	**10 48 28.3**	**0.0**
ALN				S	**Sb**	**10 48 51.8**	**-0.4**
ALN	**Alexandroupoli**	**1.76**	**313**	*e*PN	**Pn**	**10 48 28.3**	**0.0**
ALN				*e*SB	**Sg**	**10 48 54.1**	**-0.8**
ALN	**Alexandroupoli**	**1.76**	**313**	P	**Pn**	**10 48 28.3**	**0.0**
ALN				*e*Sb	**Sg**	**10 48 54.1**	**-0.8**
CTYL	**Yal??k??y-??at**	**1.81**	**13**	*e*PN	**Pn**	**10 48 29.0**	**0.0**
CTYL	**Yal??k??y-??at**	**1.81**	**13**	*e*Pn	**Pn**	**10 48 29.0**	**0.0**
HRT	**Hereke**	**1.84**	**52**	*e*PN	**Pn**	**10 48 30.3**	**+0.8**
HRT	**Hereke**	**1.84**	**52**	*e*Pn	**Pn**	**10 48 30.3**	**+0.8**
CHOS	**Chios island**	**1.87**	**225**	P	**Pn**	**10 48 30.1**	**+0.2**
CHOS				S	**Sb**	**10 48 55.8**	**+0.4**
CHOS	**Chios island**	**1.87**	**225**	*e*PG	**Pn**	**10 48 30.3**	**+0.4**
CHOS				*e*SB	**Sg**	**10 48 57.6**	**-0.9**
CHOS	**Chios island**	**1.87**	**225**	P	**Pn**	**10 48 30.1**	**+0.2**
CHOS				S	**Sb**	**10 48 55.8**	**+0.4**
CHOS				*e*Sb	**Sg**	**10 48 57.6**	**-0.9**
KHAL	**Karahalli**	**1.91**	**134**	*i* P	**Pn**	**10 48 30.7**	**+0.2**
KHAL				*i* S	**Sb**	**10 48 56.0**	**-0.7**
KHAL	**Karahalli**	**1.91**	**134**	*i* P	**Pn**	**10 48 30.7**	**+0.2**
KHAL				*i* S	**Sb**	**10 48 56.0**	**-0.7**
ALT	**Altintas**	**1.95**	**109**	*e*PN	**Pn**	**10 48 31.7**	**+0.7**
ALT	**Altintas**	**1.95**	**109**	*e*Pn	**Pn**	**10 48 31.7**	**+0.7**
KHL	**Karahalli**	**1.96**	**135**	*e*PN	**Pn**	**10 48 31.3**	**+0.1**
KHL	**Karahalli**	**1.96**	**135**	*e*Pn	**Pn**	**10 48 31.3**	**+0.1**
SILT	**Sile**	**2.04**	**45**	*e*PN	**Pn**	**10 48 33.1**	**+0.9**
SILT	**Sile**	**2.04**	**45**	*e*Pn	**Pn**	**10 48 33.1**	**+0.9**
GCAM	**G?zelcaml?**	**2.05**	**191**	*i* P	**Pb**	**10 48 33.9**	**-1.4**
GCAM				*i* S	**Sg**	**10 49 04.1**	**-0.2**
GCAM	**G?zelcaml?**	**2.05**	**191**	*i* P	**Pb**	**10 48 33.9**	**-1.4**
GPA	**Golpazari**	**2.05**	**73**	*e*PN	**Pn**	**10 48 32.6**	**+0.2**
GPA	**Golpazari**	**2.05**	**73**	*e*Pn	**Pn**	**10 48 32.6**	**+0.2**
AYDN	**Tasoluk**	**2.05**	**177**	*i* P	**Pn**	**10 48 31.7**	**-0.7**
AYDN				*i* S	**Sn**	**10 48 58.0**	**+0.2**
AYDN	**Tasoluk**	**2.05**	**177**	*i* P	**Pn**	**10 48 31.7**	**-0.7**
AYDN				*i* S	**Sn**	**10 48 58.0**	**+0.2**
BORA	**Eskisehir**	**2.09**	**85**	*i* P	**Pn**	**10 48 33.4**	**+0.4**
BORA				*i* S	**Sg**	**10 49 05.5**	**-0.2**
BORA	**Eskisehir**	**2.09**	**85**	*i* P	**Pn**	**10 48 33.4**	**+0.4**
SPNC	**Sapanca-Adapaz**	**2.19**	**63**	*e*PN	**Pn**	**10 48 35.2**	**+1.0**
SPNC	**Sapanca-Adapaz**	**2.19**	**63**	*e*Pn	**Pn**	**10 48 35.2**	**+1.0**
DENT	**Denizli**	**2.20**	**152**	*e*PN	**Pn**	**10 48 35.0**	**+0.5**
DENT	**Denizli**	**2.20**	**152**	*e*Pn	**Pn**	**10 48 35.0**	**+0.5**
GULT	**Gulveren**	**2.24**	**70**	*e*PN	**Pn**	**10 48 36.5**	**+1.4**
GULT	**Gulveren**	**2.24**	**70**	*e*Pn	**Pn**	**10 48 36.5**	**+1.4**
EDRB	**Edirne**	**2.26**	**341**	*e*PN	**Pn**	**10 48 34.9**	**-0.3**
EDRB	**Edirne**	**2.26**	**341**	*e*Pn	**Pn**	**10 48 34.9**	**-0.3**
ESKT	**Eskisehir**	**2.41**	**94**	*e*PN	**Pn**	**10 48 38.8**	**+1.4**
ESKT	**Eskisehir**	**2.41**	**94**	*e*Pn	**Pn**	**10 48 38.8**	**+1.4**
MLSB	**Milas**	**2.42**	**179**	*e*PN	**Pn**	**10 48 37.9**	**+0.5**
MLSB	**Milas**	**2.42**	**179**	*e*Pn	**Pn**	**10 48 37.9**	**+0.5**
SHUT	**Suhut-Afyon**	**2.47**	**117**	*e*PN	**Pn**	**10 48 39.2**	**+1.0**
SHUT	**Suhut-Afyon**	**2.47**	**117**	*e*Pn	**Pn**	**10 48 39.2**	**+1.0**
YER	**Yerkesik**	**2.61**	**171**	*e*PN	**Pn**	**10 48 40.9**	**+0.8**
YER	**Yerkesik**	**2.61**	**171**	*e*Pn	**Pn**	**10 48 40.9**	**+0.8**
KDZ	**Kurdzhali**	**2.62**	**318**	*i* P	**Pn**	**10 48 40.7**	**+0.5**
KDZ	**Kurdzhali**	**2.62**	**318**	*i* P	**Pn**	**10 48 40.7**	**+0.5**
BODT	**Bodrum**	**2.67**	**187**	*e*PN	**Pn**	**10 48 41.8**	**+0.9**
BODT	**Bodrum**	**2.67**	**187**	*e*Pn	**Pn**	**10 48 41.8**	**+0.9**
MDUB	**Mudurnu**	**2.75**	**73**	*e*PN	**Pn**	**10 48 43.4**	**+1.3**
MDUB	**Mudurnu**	**2.75**	**73**	*e*Pn	**Pn**	**10 48 43.4**	**+1.3**
KAVA	**Kavala**	**2.78**	**298**	P	**Pn**	**10 48 42.6**	**+0.2**
KAVA	**Kavala**	**2.78**	**298**	P	**Pn**	**10 48 42.6**	**+0.2**
DIM	**Dimitrovgrad**	**2.87**	**325**	P	**Pn**	**10 48 43.7**	**+0.1**
DIM	**Dimitrovgrad**	**2.87**	**325**	P	**Pn**	**10 48 43.7**	**+0.1**
ISP	**Isparta**	**2.88**	**130**	*e*PN	**Pn**	**10 48 44.9**	**+1.1**
ISP	**Isparta**	**2.88**	**130**	⇑*i*P	**Pn**	**10 48 44.2**	**+0.4**
ISP	**Isparta**	**2.88**	**130**	⇑*i*P	**Pn**	**10 48 44.2**	**+0.4**
ISP	**Isparta**	**2.88**	**130**	*e*Pn	**Pn**	**10 48 44.9**	**+1.1**
JMB	**Yambol**	**2.89**	**343**	P	**Pn**	**10 48 45.1**	**+1.3**
JMB	**Yambol**	**2.89**	**343**	P	**Pn**	**10 48 45.1**	**+1.3**
SVRH	**Sivrihisar-ESK**	**2.93**	**94**	*e*PN	**Pn**	**10 48 44.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.93**	**94**	*e*Pn	**Pn**	**10 48 44.9**	**+0.3**
AOS	**Alonnisos**	**3.04**	**261**	P	**Pn**	**10 48 46.2**	**+0.2**
AOS	**Alonnisos**	**3.04**	**261**	P	**Pn**	**10 48 46.2**	**+0.2**
PAIG	**Paliouri**	**3.14**	**275**	P	**Pn**	**10 48 47.0**	**-0.3**
PAIG	**Paliouri**	**3.14**	**275**	P	**Pn**	**10 48 47.0**	**-0.3**
FETY	**Fethiye**	**3.25**	**161**	*e*PN	**Pn**	**10 48 49.4**	**+0.6**
FETY	**Fethiye**	**3.25**	**161**	*e*Pn	**Pn**	**10 48 49.4**	**+0.6**
KIZT	**Kizilcal**	**3.31**	**103**	*e*PN	**Pn**	**10 48 50.6**	**+0.7**
KIZT	**Kizilcal**	**3.31**	**103**	*e*Pn	**Pn**	**10 48 50.6**	**+0.7**
PLD	**Plovdiv**	**3.32**	**317**	P	**Pn**	**10 48 50.2**	**+0.4**
PLD	**Plovdiv**	**3.32**	**317**	*e*P	**Pn**	**10 48 50.2**	**+0.4**
PLD	**Plovdiv**	**3.32**	**317**	P	**Pn**	**10 48 50.2**	**+0.4**
MRKA	**Markates**	**3.38**	**254**	P	**Pn**	**10 48 52.2**	**+1.5**
MRKA	**Markates**	**3.38**	**254**	P	**Pn**	**10 48 52.2**	**+1.5**
SRS	**Serrai**	**3.47**	**295**	P	**Pn**	**10 48 51.8**	**0.0**
SRS	**Serrai**	**3.47**	**295**	P	**Pn**	**10 48 51.8**	**0.0**
PRD	**Provadia**	**3.49**	**356**	*e*P	**Pn**	**10 48 52.2**	**+0.1**
PRD	**Provadia**	**3.49**	**356**	*e*P	**Pn**	**10 48 52.2**	**+0.1**
NEF	**NEVSHA**	**3.56**	**354**	*e*P	**Pn**	**10 48 53.3**	**+0.1**
NEF	**NEVSHA**	**3.56**	**354**	*e*P	**Pn**	**10 48 53.3**	**+0.1**
MMB	**Musomiste**	**3.58**	**303**	P	**Pn**	**10 48 53.4**	**-0.1**
MMB				S	**Sg**	**10 49 50.5**	**-3.0**
MMB	**Musomiste**	**3.58**	**303**	P	**Pn**	**10 48 53.4**	**-0.1**
SZH	**Strazhica**	**3.80**	**340**	P	**Pn**	**10 48 56.4**	**0.0**
SZH	**Strazhica**	**3.80**	**340**	P	**Pn**	**10 48 56.4**	**0.0**
PGB	**Panagyurishte**	**3.92**	**318**	P	**Pn**	**10 48 57.6**	**-0.4**
PGB				S	**Sg**	**10 50 01.9**	**-2.2**
PGB	**Panagyurishte**	**3.92**	**318**	P	**Pn**	**10 48 57.6**	**-0.4**
PVL	**Pavlikeni**	**3.94**	**333**	P	**Pn**	**10 48 58.8**	**+0.5**
PVL	**Pavlikeni**	**3.94**	**333**	P	**Pn**	**10 48 58.8**	**+0.5**
KNT	**Kendrikon**	**3.97**	**293**	P	**Pn**	**10 48 59.2**	**+0.4**
KNT	**Kendrikon**	**3.97**	**293**	P	**Pn**	**10 48 59.2**	**+0.4**
SAFT	**Safranbolu**	**4.07**	**66**	*e*PN	**Pn**	**10 49 01.6**	**+1.5**
SAFT	**Safranbolu**	**4.07**	**66**	*e*Pn	**Pn**	**10 49 01.6**	**+1.5**
AFSR	**Af¯ar-Bala (A**	**4.12**	**92**	*e*PN	**Pn**	**10 49 02.4**	**+1.4**
AFSR	**Af¯ar-Bala (A**	**4.12**	**92**	*e*Pn	**Pn**	**10 49 02.4**	**+1.4**
VTS	**Vitosha**	**4.47**	**311**	⇓*i*P	**Pn**	**10 49 06.5**	**+0.7**
VTS	**Vitosha**	**4.47**	**311**	*e*P	**Pn**	**10 49 06.4**	**+0.7**
VTS	**Vitosha**	**4.47**	**311**	*e*P	**Pn**	**10 49 06.4**	**+0.7**
MPEP	**Malo Peshtene**	**4.72**	**322**	*e*P	**Pn**	**10 49 09.6**	**+0.6**
MPEP	**Malo Peshtene**	**4.72**	**322**	*e*P	**Pn**	**10 49 09.6**	**+0.6**
TOS	**Tosya**	**4.97**	**73**	*e*PN	**Pn**	**10 49 15.3**	**+2.7**
TOS	**Tosya**	**4.97**	**73**	*e*Pn	**Pn**	**10 49 15.3**	**+2.7**
BARS	**Barje**	**5.44**	**307**	⇓*i*Pn	**Pn**	**10 49 19.7**	**+0.8**
CFR	**Carcaliu**	**5.47**	**3**	⇑*i*P	**Pn**	**10 49 19.6**	**+0.3**
CFR	**Carcaliu**	**5.47**	**3**	⇑*i*P	**Pn**	**10 49 19.6**	**+0.3**
MLR	**Muntele Rosu**	**5.92**	**348**	⇓*i*P	**Pn**	**10 49 28.1**	**+2.4**
MLR	**Muntele Rosu**	**5.92**	**348**	⇓*i*P	**Pn**	**10 49 28.1**	**+2.4**
VOIR		**6.05**	**342**	⇑*i*P	**Pn**	**10 49 28.0**	**+0.6**
VOIR		**6.05**	**342**	⇑*i*P	**Pn**	**10 49 28.0**	**+0.6**
SELS	**Selova**	**6.08**	**307**	⇓*i*Pn	**Pn**	**10 49 28.1**	**+0.3**
PLOR	**Plostina**	**6.19**	**353**	⇑*i*P	**Pn**	**10 49 32.1**	**+2.9**
VRI	**Vrincioaia**	**6.19**	**353**	⇑*i*P	**Pn**	**10 49 30.8**	**+1.5**
VRI	**Vrincioaia**	**6.19**	**353**	⇑*i*P	**Pn**	**10 49 30.8**	**+1.5**
GRUS	**Gruza**	**6.71**	**311**	⇑*i*Pn	**Pn**	**10 49 36.8**	**+0.5**
GZR	**Gura Zlata**	**6.76**	**329**	⇑*i*P	**Pn**	**10 49 36.8**	**-0.3**
GZR	**Gura Zlata**	**6.76**	**329**	⇑*i*P	**Pn**	**10 49 36.8**	**-0.3**
TESR		**6.84**	**354**	⇓*i*P	**Pn**	**10 49 38.7**	**+0.5**
TESR		**6.84**	**354**	⇓*i*P	**Pn**	**10 49 38.7**	**+0.5**
IVAS	**Ivanjica**	**6.87**	**307**	*e*Pn	**Pn**	**10 49 39.0**	**+0.4**
DIVS	**Divibare**	**7.25**	**310**	*e*Pn	**Pn**	**10 49 44.4**	**+0.5**
BZS	**Buzias**	**7.43**	**325**	⇑*i*P	**Pn**	**10 49 45.4**	**-0.8**
BZS	**Buzias**	**7.43**	**325**	⇑*i*P	**Pn**	**10 49 45.4**	**-0.8**
BURAR	**Bucovina Array**	**8.11**	**348**	⇑*i*P	**Pn**	**10 49 57.1**	**+1.5**
BURAR	**Bucovina Array**	**8.11**	**348**	⇑*i*P	**Pn**	**10 49 57.1**	**+1.5**

---

*ISK **03** 11:04:11.5, 37°.37N×28°.38E, h29km, MD2.2*
*ISCJB **03** 11:04:14.2±0.8, 36°.90N±0°.05×28°.27E±0°.05, h10km±8km, Error ellipse: s-maj=9.5km s-min=6.3km az=19.6*
*CSEM **03** 11:04:14.4±0.3, 36°.90N×28°.27E, h10km, MD2.2, Error ellipse: s-maj=9.3km s-min=5.3km az=20.0*
*DDA **03** 11:04:15.9, 36°.97N×28°.21E, h7km, MD2.9*
ISC 03 11:04:14.6±1.0**, 36°.96N**±0°.05×**28°.26E**±0°.03**, h12**km±10km**, n13,** σ1§**13**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**7**	*e*PG	**Pb**	**11 04 19.4**	**-0.5**
YER				*e*SG	**Sg**	**11 04 23.0**	**+1.6**
YER	**Yerkesik**	**0.17**	**7**	*e*Pg	**Pb**	**11 04 19.4**	**-0.5**
YER				*e*Sg	**Sg**	**11 04 23.0**	**+1.6**
TURN	**Turunc**	**0.29**	**108**	*i* P	**Pg**	**11 04 20.0**	**-0.6**
TURN				*i* S	**Sg**	**11 04 23.6**	**-1.0**
TURN	**Turunc**	**0.29**	**108**	*i* P	**Pg**	**11 04 20.0**	**-0.6**
TURN				*i* S	**Sg**	**11 04 23.6**	**-1.0**
MLSB	**Milas**	**0.51**	**311**	*e*PG	**Pg**	**11 04 22.1**	**-2.5**
BDRM	**Kayabasi**	**0.66**	**279**	*e*P	**Pb**	**11 04 28.3**	**+0.2**
BDRM				*e*S	**Sg**	**11 04 36.9**	**+0.8**
BDRM	**Kayabasi**	**0.66**	**279**	*e*P	**Pb**	**11 04 28.3**	**+0.2**
BDRM				*e*S	**Sg**	**11 04 36.9**	**+0.8**
FETY	**Fethiye**	**0.74**	**116**	*e*PG	**Pg**	**11 04 28.6**	**-0.4**
FETY	**Fethiye**	**0.74**	**116**	*e*Pg	**Pg**	**11 04 28.6**	**-0.4**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P	**Pb**	**11 04 30.6**	**+0.8**
AYDN				*i* S	**Sb**	**11 04 40.5**	**+0.3**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P	**Pb**	**11 04 30.6**	**+0.8**
AYDN				*i* S	**Sb**	**11 04 40.5**	**+0.3**
BODT	**Bodrum**	**0.76**	**278**	*e*PG	**Pg**	**11 04 28.0**	**-1.4**
BODT				*e*SG	**Sb**	**11 04 41.5**	**+1.2**
BODT	**Bodrum**	**0.76**	**278**	*e*Pg	**Pg**	**11 04 28.0**	**-1.4**
BODT				*e*Sg	**Sb**	**11 04 41.5**	**+1.2**

IDC 03 11:06:31.3±1.7**, 2°.08N**×**96°.40E, h27**km±6km**, mb3.5**/6**, mb1 3.6**/8**, mb1mx3.5**/27**, mbtmp3.5**/8**, ML3.7**/2**, Error ellipse: s-maj=49.3km s-min=19.5km az=51.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.62**	**74**	Pn	Pn	11 07 11.9	-0.2
	2.3nm,0.3s,baz=310,slow=14,SNR=11						
CMAR	**Chiang Mai Arr**	**16.47**	**9**	Pn	Pn	11 10 19.9	-0.7
	0.4nm,0.3s,baz=197,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**43.18**	**122**	P	P	11 14 29.8	-0.5
	0.3nm,0.5s,baz=302,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**44.56**	**127**	P	P	11 14 41.3	-0.1
	0.4nm,0.8s,baz=303,slow=7.8,SNR=6.3						
MKAR	**Makanchi Array**	**46.20**	**347**	P	P	11 14 54.1	+0.2
	1.9nm,0.8s,baz=164,slow=7.9,SNR=22						
MKAR				pP	pP	11 15 02.7	+0.5
	4.0nm,0.9s,baz=163,slow=7.9,SNR=16						
SONM	**Songino Array**	**46.39**	**9**	P	P	11 14 55.5	-0.1
	0.3nm,0.5s,baz=187,slow=8.9,SNR=4.2						
SONM				pP	pP	11 15 03.1	-0.8
	0.5nm,0.5s,baz=188,slow=9.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**52.57**	**351**	P	P	11 15 42.2	-0.2
	3.5nm,0.6s,baz=185,slow=6.3,SNR=19						
ZALV				pP	pP	11 15 50.7	-0.1
	1.4nm,0.5s,baz=177,slow=6.7,SNR=5.9						
BVAR	**Borovoye Array**	**55.16**	**341**	P	P	11 16 00.6	-0.8
	0.3nm,0.4s,baz=165,slow=12,SNR=3.4						

---

*NIED **03** 11:15:00, 20°.50N×121°.60E, h35km, Mw4.3 Best double couple: $M_0$3.60000×10^15 NP1: ϕ_s179.00000°, δ54.00000°, λ85.00000°. NP2: ϕ_s7.00000°, δ37.00000°, λ97.00000°.*
*IDC **03** 11:15:46.1±0.5, 20°.04N×121°.51E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.3/37, mbtmp4.3/27, ML4.1/2, MS3.7/11, Ms1 3.7/11, ms1mx3.3/37, Error ellipse: s-maj=17.6km s-min=10.5km az=78.0*
*MAN **03** 11:15:51, 20°.11N×121°.39E, h78km, mb4.9, ML3.9, MS3.9*
*ISCJB **03** 11:15:51.6±0.4, 20°.13N±0°.02×121°.61E±0°.05, h55km±4km, mb4.3/28, MS3.7/9, Error ellipse: s-maj=8.0km s-min=3.1km az=10.8*
*NEIC **03** 11:15:51.4±0.8, 20°.02N×121°.49E, h35km±8km, mb4.6/5, Error ellipse: s-maj=9.3km s-min=6.1km az=76.0*
*JMA **03** 11:15:53.0±0.5, 20°.53N×121°.56E, h0km, M4.7*
ISC 03 11:15:53.0±1.1**, 20°.12N**±0°.03×**121°.49E**±0°.07**, h50**km±11km**, n99,** σ1§**13**/108**, mb4.3**/28**, MS3.6**/9**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.94**	**164**	*e*P	**Pn**	**11 16 23.7**	**+0.2**
CVP	**Callao Caves**	**2.42**	**173**	⇓*e*P	**Pn**	**11 16 30.2**	**+0.1**
CVP				*e*S	**Sn**	**11 17 00.0**	**+1.4**
ABRA	**Dolores**	**2.57**	**197**	*e*P	**Pn**	**11 16 31.5**	**-0.6**
ABRA				*e*S	**Sn**	**11 17 01.2**	**-0.9**
TWG	**Pinlang**	**2.71**	**352**	*e*Pn	**Pn**	**11 16 35.0**	**+0.8**
TWG				*e*Sn	**Sn**	**11 17 07.8**	**+2.0**
PALP	**Palanan**	**3.17**	**164**	*e*P	**Pn**	**11 16 40.8**	**+0.4**
CAUP	**Cauayan**	**3.17**	**174**	*e*P	**Pn**	**11 16 41.9**	**+1.5**
YULB	**Yu-li**	**3.26**	**357**	*e*Pn	**Pn**	**11 16 40.6**	**-1.0**
TPUB	**Ta-pu**	**3.27**	**346**	*e*Pn	**Pn**	**11 16 39.2**	**-2.5**
SSLB	**Suanglung**	**3.68**	**352**	*e*Pn	**Pn**	**11 16 47.4**	**-0.1**
SSLB				*e*Sn	Sn	11 17 38.0	+8.4
BOLP	**Bolinao**	**4.01**	**202**	*e*P	**Pn**	**11 16 50.8**	**-1.2**
NACB	**Ninganchiao**	**4.04**	**1**	*e*Pn	**Pn**	**11 16 52.7**	**+0.4**
NACB				*e*Sn	**Sn**	**11 17 37.7**	**-0.6**
BALP	**Baler**	**4.36**	**179**	*e*P	**Pn**	**11 16 56.8**	**+0.1**
HATJ	**Hateruma jima**	**4.46**	**28**	P	**Pn**	**11 16 58.7**	**+0.6**
HATJ				*e*S	**Sn**	**11 17 46.9**	**-1.9**
YHNB	**Yeheng**	**4.53**	**359**	*e*Pn	**Pn**	**11 17 00.7**	**+1.6**
YHNB				*e*Sn	Sn	11 17 57.2	+6.7
YOJ	**Yonaguni jima**	**4.54**	**18**	P	**Pn**	**11 16 59.4**	**+0.2**
YOJ				*e*S	**Sn**	**11 17 49.3**	**-1.4**
SCZP	**Santa Cruz**	**4.58**	**199**	*e*P	**Pn**	**11 17 00.8**	**+1.2**
IRIF	**Iriomote-Funau**	**4.68**	**26**	P	**Pn**	**11 17 00.9**	**-0.1**
IRIF				*e*S	**Sn**	**11 17 52.7**	**-1.3**
JKRS	**Kuro-shima**	**4.71**	**29**	P	**Pn**	**11 17 02.4**	**+0.9**
JKRS				*e*S	**Sn**	**11 17 53.2**	**-1.7**
JIJ	**Ishigaki jima**	**4.88**	**30**	P	**Pn**	**11 17 04.0**	**+0.1**
JIJ				*e*S	**Sn**	**11 17 57.2**	**-1.9**
JTJ	**Tarama**	**5.39**	**33**	P	**Pn**	**11 17 11.3**	**+0.5**
JTJ				*e*S	**Sn**	**11 18 10.1**	**-1.5**
JMJ	**Miyako jima 2**	**5.85**	**36**	*e*S	**Sn**	**11 18 22.5**	**-0.3**
JOGS	**Gusukube**	**5.87**	**37**	P	**Pn**	**11 17 19.3**	**+1.9**
JOGS				*e*S	**Sn**	**11 18 22.5**	**-0.8**
JOW	**Kunigami**	**9.13**	**42**	Pn	**Pn**	**11 18 01.0**	**-1.1**
	9.1nm,0.3s,baz=203,slow=19,SNR=25						
JOW				LR	LR	11 21 41.4	
	comp=Z,210nm,20.7s,baz=125,slow=39						
JOW	**Kunigami**	**9.13**	**42**	Pn	**Pn**	**11 18 01.0**	**-1.1**
DAV	**Davao City (W)**	**13.56**	**162**	LR	LR	11 24 31.5	
	comp=Z,329nm,21.4s,baz=32,slow=39						
KSAR	**Wonju Array Be**	**18.14**	**17**	P	**Pn**	**11 20 01.7**	**+0.5**
KSRS	**Korea Array**	**18.16**	**17**	P	**Pn**	**11 20 01.7**	**+0.2**
	0.2nm,0.3s,baz=196,slow=11,SNR=6.8						
BJT	**Baijiatuau**	**20.35**	**348**	*e*P	**P**	**11 20 25.2**	**0.0**
	14nm,0.5s						
PCI	**Palu**	**20.96**	**185**	P	P	11 20 19.9	-12
	baz=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**21.35**	**269**	P	**P**	**11 20 35.8**	**-0.4**
	2.4nm,0.6s,baz=76,slow=9.5,SNR=15						
CMAR				LR	LR	11 29 06.6	
	comp=Z,151nm,19.1s,baz=80,slow=38						
CMAR	**Chiang Mai Arr**	**21.35**	**269**	P	**P**	**11 20 35.8**	**-0.4**
MJAR	**Matsushiro Arr**	**21.95**	**38**	P	**P**	**11 20 44.0**	**+1.5**
	1.7nm,0.9s,baz=216,slow=10,SNR=4.1						
MJAR	**Matsushiro Arr**	**21.95**	**38**	P	**P**	**11 20 44.0**	**+1.5**
GUMO	**Guam**	**23.28**	**103**	LR	LR	11 28 10.2	
	comp=Z,190nm,19.1s,baz=77,slow=32						
KAPI	**Kappang**	**25.04**	**184**	P	**P**	**11 21 12.0**	**-0.6**
	9.4nm,0.6s,baz=37,slow=10,SNR=9.4						
KAPI				LR	LR	11 30 39.1	
	comp=Z,131nm,21.8s,baz=186,slow=36						
KAPI	**Kappang**	**25.04**	**184**	*e*P	**P**	**11 21 11.5**	**-1.1**
	8.3nm,0.6s						
KAPI				P	**P**	**11 21 12.0**	**-0.6**
SONM	**Songino Array**	**30.23**	**340**	P	**P**	**11 21 59.5**	**+0.4**
	1.5nm,0.7s,baz=151,slow=8.7,SNR=5.1						
SONM				LR	LR	11 35 06.1	
	comp=Z,193nm,21.4s,baz=100,slow=38						
SONM	**Songino Array**	**30.23**	**340**	P	**P**	**11 21 59.5**	**+0.4**
MTN	**Manton Dam**	**34.10**	**163**	P	**P**	**11 22 30.6**	**-2.5**
	baz=24,SNR=6.1						
KDU	**Kakadu**	**34.34**	**161**	P	**P**	**11 22 32.1**	**-3.1**
	baz=24,SNR=3.6						
PATS	**Pohnpei**	**38.05**	**105**	P	PP	11 24 20.5	-14
	baz=36,SNR=3.8						
FITZ	**Fitzroy Crossi**	**38.20**	**174**	P	**P**	**11 23 05.8**	**-2.3**
	3.0nm,0.6s,baz=13,slow=8.4,SNR=8.2						
FITZ	**Fitzroy Crossi**	**38.20**	**174**	P	**P**	**11 23 05.8**	**-2.3**
FITZ	**Fitzroy Crossi**	**38.20**	**174**	P	**P**	**11 23 06.0**	**-2.0**
	baz=28,SNR=3.8						
MKAR	**Makanchi Array**	**41.51**	**319**	P	**P**	**11 23 36.2**	**+0.8**
	2.2nm,0.6s,baz=115,slow=9.2,SNR=34						
MKAR				PcP	**PcP**	**11 25 32.4**	**+0.2**
	0.8nm,0.8s,baz=111,slow=5.0,SNR=2.8						
MKAR				LR	LR	11 42 51.6	
	comp=Z,76nm,18.8s,baz=342,slow=39						
MKAR	**Makanchi Array**	**41.51**	**319**	P	**P**	**11 23 36.2**	**+0.8**
MKAR				PcP	**PcP**	**11 25 32.4**	**+0.2**
WRAB	**Tennant Creek**	**41.75**	**162**	*e*P	**P**	**11 23 35.9**	**-1.6**
	16nm,0.6s						
WRA	**Warramunga Arr**	**41.76**	**162**	P	**P**	**11 23 36.2**	**-1.4**
	14nm,0.5s,baz=343,slow=9.1,SNR=178						
WRA	**Warramunga Arr**	**41.76**	**162**	P	**P**	**11 23 36.2**	**-1.4**
PETK	**Petropavlovsk-**	**43.12**	**31**	P	**P**	**11 23 48.4**	**+0.1**
	2.1nm,0.6s,baz=245,slow=13,SNR=4.2						
PETK	**Petropavlovsk-**	**43.12**	**31**	P	**P**	**11 23 48.4**	**+0.1**
ZALV	**Zalesovo Beam**	**43.84**	**329**	P	**P**	**11 23 54.2**	**+0.1**
	3.7nm,0.7s,baz=112,slow=7.6,SNR=19						
ZALV				LR	LR	11 43 43.4	
	comp=Z,55nm,18.6s,baz=72,slow=38						
ZALV	**Zalesovo Beam**	**43.84**	**329**	P	**P**	**11 23 54.1**	**+0.1**
QIS	**Mount Isa**	**44.15**	**155**	P	**P**	**11 23 55.6**	**-1.3**
	baz=34,SNR=8.5						
ASAR	**Alice Springs**	**45.17**	**164**	P	**P**	**11 24 04.1**	**-1.0**
	9.9nm,0.4s,baz=345,slow=6.8,SNR=274						
ASAR	**Alice Springs**	**45.17**	**164**	P	**P**	**11 24 04.1**	**-1.0**
AAK	**Ala-Archa**	**45.27**	**311**	P	**P**	**11 24 07.1**	**+1.1**
	0.4nm,0.3s,baz=83,slow=6.4,SNR=3.7						
AAK	**Ala-Archa**	**45.27**	**311**	P	**P**	**11 24 07.1**	**+1.1**
KURK	**Kurchatov**	**45.43**	**323**	P	**P**	**11 24 07.4**	**+0.6**
KURBB	**Kurchatov Arra**	**45.44**	**322**	P	**P**	**11 24 07.4**	**+0.5**
	2.4nm,0.7s,baz=123,slow=7.4,SNR=22						
MEEK	**Meekatharra**	**46.56**	**184**	P	**P**	**11 24 15.0**	**-1.0**
	baz=36,SNR=3.4						
CTA	**Charters Tower**	**46.74**	**147**	P	**P**	**11 24 16.6**	**-0.9**
	6.3nm,0.9s,baz=290,slow=5.6,SNR=4.2						
CTA	**Charters Tower**	**46.74**	**147**	P	**P**	**11 24 16.6**	**-0.9**
MORW	**Morawa**	**49.18**	**186**	P	**P**	**11 24 35.7**	**-0.5**
	baz=39,SNR=3.6						
FORT	**Forrest**	**51.00**	**173**	P	**P**	**11 24 50.0**	**+0.1**
	baz=41,SNR=18						
BVAR	**Borovoye Array**	**51.03**	**323**	P	**P**	**11 24 50.8**	**+0.9**
	0.9nm,0.6s,baz=104,slow=12,SNR=3.4						
BVAR				PcP	**PcP**	**11 26 04.7**	**-0.7**
	1.1nm,0.6s,baz=128,slow=2.4,SNR=4.1						
BVAR	**Borovoye Array**	**51.03**	**323**	P	**P**	**11 24 50.8**	**+0.9**
BVAR				PcP	**PcP**	**11 26 04.7**	**-0.7**
FX1	**Attu Island--F**	**51.30**	**38**	P	**P**	**11 24 53.4**	**+1.4**
	6.8nm,0.6s,baz=288,slow=9.6,SNR=4.0						
FX1	**Attu Island--F**	**51.30**	**38**	P	**P**	**11 24 53.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**52.91**	**184**	P	**P**	**11 25 03.6**	**-0.4**
	16nm,0.8s,baz=346,slow=6.9,SNR=6.8						
NWAO	**Narrogin (SRO)**	**52.91**	**184**	P	**P**	**11 25 03.6**	**-0.4**
BBOO	**Buckleboo**	**54.44**	**165**	P	**P**	**11 25 16.1**	**+0.7**
	baz=44,SNR=7.4						
STKA	**Stephens Creek**	**55.18**	**159**	P	**P**	**11 25 21.3**	**+0.7**
	2.7nm,0.7s,baz=335,slow=20,SNR=6.7						
STKA	**Stephens Creek**	**55.18**	**159**	P	**P**	**11 25 21.3**	**+0.7**
STKA	**Stephens Creek**	**55.18**	**159**	P	**P**	**11 25 21.4**	**+0.7**
	baz=45,SNR=4.4						
CMSA	**Cobar Meteorol**	**56.37**	**155**	P	**P**	**11 25 30.3**	**+1.1**
	baz=47,SNR=8.0						
ABKAR	**Akbulak array**	**56.52**	**316**	*e*P	**P**	**11 25 30.9**	**+0.8**
	2.1nm,0.7s						
ARPS	**Mount Arapiles**	**59.76**	**161**	P	**P**	**11 25 53.5**	**+0.7**
	baz=50,SNR=8.8						
DZM	**Mont Dzumac**	**60.72**	**131**	P	**P**	**11 26 00.3**	**+0.5**
	4.0nm,0.9s,baz=295,slow=16,SNR=3.1						
DZM	**Mont Dzumac**	**60.72**	**131**	P	**P**	**11 26 00.3**	**+0.5**
TOO	**Toolangi**	**61.67**	**158**	P	**P**	**11 26 07.2**	**+1.3**
	baz=52,SNR=7.1						
GNI	**Garni**	**67.38**	**306**	LR	LR	12 01 25.5	
	comp=Z,41nm,19.7s,baz=182,slow=41						
KDAK	**Kodiak Island**	**71.06**	**34**	P	**P**	**11 27 06.1**	**+0.5**
	5.9nm,0.8s,baz=137,slow=7.1,SNR=8.0						
KDAK	**Kodiak Island**	**71.06**	**34**	P	**P**	**11 27 06.1**	**+0.5**
ILAR	**Eielson Array**	**72.69**	**27**	P	**P**	**11 27 14.6**	**-0.7**
	0.6nm,0.5s,baz=266,slow=4.8,SNR=16						
ILAR	**Eielson Array**	**72.69**	**27**	P	**P**	**11 27 14.6**	**-0.7**
ARCES	**ARCESS Array B**	**73.40**	**339**	P	**P**	**11 27 19.7**	**+0.2**
	2.8nm,0.9s,baz=70,slow=9.1,SNR=3.8						
ARCES	**ARCESS Array B**	**73.40**	**339**	P	**P**	**11 27 19.7**	**+0.2**
FINES	**FINESS Array B**	**75.09**	**330**	P	**P**	**11 27 30.5**	**+1.1**
	3.5nm,0.9s,baz=98,slow=7.9,SNR=4.9						
FINES				LR	LR	12 05 05.9	
	comp=Z,104nm,21.2s,baz=187,slow=39						
FINES	**FINESS Array B**	**75.09**	**330**	P	**P**	**11 27 30.5**	**+1.1**
INK	**Inuvik**	**76.87**	**22**	P	**P**	**11 27 39.9**	**+0.4**
	0.9nm,0.6s,baz=322,slow=5.4,SNR=4.2						
INK	**Inuvik**	**76.87**	**22**	P	**P**	**11 27 39.9**	**+0.4**
NOA	**NORSAR Array B**	**81.94**	**333**	LR	LR	12 08 24.4	
	comp=Z,80nm,21.7s,baz=265,slow=38						
RES	**Resolute Bay**	**82.61**	**9**	P	**P**	**11 28 10.1**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.2nm,0.9s,baz=308,slow=4.9,SNR=4.2						
RES	Resolute Bay	82.61	9	P	P	11 28 10.1	-0.3
YKA	Yellowknife Ar	86.59	23	P	P	11 28 30.7	0.0
	1.3nm,0.6s,baz=308,slow=4.6,SNR=55						
YKA	Yellowknife Ar	86.59	23	P	P	11 28 30.7	0.0
BSMT	Bassoo Peak	95.66	34	eP	P	11 29 09.6	-4.1
	5.8nm,1.1s						
MNTX	Cornudas Mount	111.64	42	ePKPdf	PKiKP	11 34 19.1	-3.5

*DDA **03** 11:19:39.9, 39°.45N×28°.17E, h7km, MD3.0*
*ISK **03** 11:19:39.9, 39°.45N×28°.16E, h11km, MD2.7*
*ISCJB **03** 11:19:40.2±0.4, 39°.46N±0°.02×28°.17E±0°.03, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.4km az=138.7*
*CSEM **03** 11:19:40.2±0.1, 39°.45N×28°.15E, h8km, MD3.0, Error ellipse: s-maj=2.6km s-min=1.7km az=49.0*
ISC 03 11:19:40.1±1.0**, 39°.45N**±0°.02×**28°.15E**±0°.02**, h15**km±8km**, n50, σ0s.56**/69**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.29	312	ePG	Pg	11 19 46.2	+0.1
BALB				eSG	Sb	11 19 51.2	-0.3
BALB	Balikesir	0.29	312	ePg	Pg	11 19 46.2	+0.1
BALB				eSg	Sb	11 19 51.2	-0.3
DURS	Dursunbey	0.29	58	i P	Pg	11 19 45.8	-0.5
DURS				eS	Sb	11 19 50.9	-0.9
DURS	Dursunbey	0.29	58	i P	Pg	11 19 45.8	-0.5
DURS				eS	Sb	11 19 50.9	-0.9
DST	Dursunbey	0.39	66	ePG	Pb	11 19 48.1	-0.7
DST	Dursunbey	0.39	66	ePg	Pb	11 19 48.1	-0.7
BALY	Balya	0.51	306	i P	Pg	11 19 49.7	-0.5
BALY				i S	Sb	11 19 57.9	-0.1
BALY	Balya	0.51	306	i P	Pg	11 19 49.7	-0.5
BALY				i S	Sb	11 19 57.9	-0.1
DEMI	Demirci	0.59	133	i P	Pb	11 19 51.9	-0.3
DEMI				i S	Sg	11 19 59.7	0.0
DEMI	Demirci	0.59	133	i P	Pb	11 19 51.9	-0.3
DEMI				i S	Sg	11 19 59.7	0.0
AKHS	Akhisar	0.63	205	i P	Pg	11 19 52.2	-0.1
AKHS				eS	Sn	11 20 03.4	-0.8
AKHS	Akhisar	0.63	205	i P	Pg	11 19 52.2	-0.1
GONE	Gonen-Balikesi	0.70	329	ePG	Pg	11 19 53.4	-0.3
GONE				eSG	Sb	11 20 04.2	+0.8
GONE	Gonen-Balikesi	0.70	329	ePg	Pg	11 19 53.4	-0.3
GONE				eSg	Sb	11 20 04.2	+0.8
ORLT	Orhaneli	0.83	43	ePG	Pb	11 19 56.0	-0.2
ORLT	Orhaneli	0.83	43	ePg	Pb	11 19 56.0	-0.2
KCTX	Karacabey (Bur	0.83	11	ePG	Pg	11 19 55.9	-0.4
KCTX	Karacabey (Bur	0.83	11	ePg	Pg	11 19 55.9	-0.4
EDC	Edincik	0.93	346	ePG	Pb	11 19 57.8	-0.1
EDC	Edincik	0.93	346	ePg	Pb	11 19 57.8	-0.1
MANT	Manisa	1.00	162	i P	Pn	11 19 59.7	-0.2
MANT				i S	Sn	11 20 13.3	-0.6
MANT	Manisa	1.00	162	i P	Pn	11 19 59.7	-0.2
MANT				i S	Sn	11 20 13.3	-0.6
KULA	Kula-Manisa	1.01	157	ePG	Pn	11 19 59.7	-0.1
KULA	Kula-Manisa	1.01	157	ePg	Pn	11 19 59.7	-0.1
TVSB	Tavsanli	1.01	89	ePG	Pn	11 19 59.7	-0.1
TVSB	Tavsanli	1.01	89	ePg	Pn	11 19 59.7	-0.1
MDNY	Mudanya-Bursa	1.08	31	ePG	Pn	11 20 01.0	+0.3
MDNY	Mudanya-Bursa	1.08	31	ePg	Pn	11 20 01.0	+0.3
GDZ	Gediz	1.09	109	i P	Pn	11 20 01.0	+0.1
GDZ				i S	Sn	11 20 16.6	+0.7
GDZ	Gediz	1.09	109	i P	Pn	11 20 01.0	+0.1
GDZ				i S	Sn	11 20 16.6	+0.7
KRBG	Karabiga-Canak	1.15	325	ePN	Pg	11 20 01.9	-0.4
KRBG	Karabiga-Canak	1.15	325	ePn	Pg	11 20 01.9	-0.4
ARMT	Armutlu	1.24	26	ePN	Pg	11 20 03.6	-0.4
ARMT	Armutlu	1.24	26	ePn	Pg	11 20 03.6	-0.4
RKY	Sarkoy-Tekirda	1.45	329	ePN	Pb	11 20 06.6	-0.2
RKY	Sarkoy-Tekirda	1.45	329	ePn	Pb	11 20 06.6	-0.2
KHAL	Karahalli	1.50	135	i P	Pb	11 20 08.0	+0.3
KHAL				eS	Sg	11 20 29.3	+0.9
KHAL	Karahalli	1.50	135	i P	Pb	11 20 08.0	+0.3
KHAL				eS	Sg	11 20 29.3	+0.9
CAVI	Cavuskoy	1.50	59	ePN	Pb	11 20 07.4	-0.3
CAVI	Cavuskoy	1.50	59	ePn	Pb	11 20 07.4	-0.3
KHL	Karahalli	1.55	136	ePN	Pn	11 20 07.7	+0.5
KHL	Karahalli	1.55	136	ePn	Pn	11 20 07.7	+0.5
ALT	Altintas	1.57	104	ePN	Pb	11 20 08.6	-0.3
ALT	Altintas	1.57	104	ePn	Pb	11 20 08.6	-0.3
GELI	Tayfur-Gelibol	1.60	307	ePN	Pb	11 20 08.9	-0.5
GELI	Tayfur-Gelibol	1.60	307	ePn	Pb	11 20 08.9	-0.5
BORA	Eskisehir	1.83	76	eP	Pb	11 20 12.1	-1.2
BORA				eS	Sb	11 20 37.0	+1.0
BORA	Eskisehir	1.83	76	eP	Pb	11 20 12.1	-1.2
BORA				eS	Sb	11 20 37.0	+1.0
GULT	Gulveren	2.06	61	ePN	Pn	11 20 15.6	+1.3
GULT	Gulveren	2.06	61	ePn	Pn	11 20 15.6	+1.3

*ISCJB **03** 11:21:44.5±0.5, 29°.64S±0°.04×69°.82W±0°.08, h122km±7km, mb4.0/6, Error ellipse: s-maj=11.8km s-min=6.6km az=2.4*
*NEIC **03** 11:21:44.0, 29°.64S×69°.68W, h100km, MG4.6(GUC), After GUC.*
*GUC **03** 11:21:44.4±0.7, 29°.64S×69°.68W, h100km, ML4.6*
*IDC **03** 11:21:48.3±0.7, 29°.67S×69°.58W, h128km±5km, mb3.8/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.8/7, Error ellipse: s-maj=23.3km s-min=9.0km az=70.0*
ISC 03 11:21:46.8±0.6**, 29°.64S**±0°.05×**69°.86W**±0°.07**, h124**km±5km**, h124**km**:pP-P, n36, σ1s.67**/56**, mb4.1**/6**, 5C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.97	237	⇑iP	Pn	11 22 08.1	-1.1
TLL				i S	Sn	11 22 25.0	-1.2
TLL				AML	AML	11 22 25.8	
	comp=E,11μm,0.4s						
CFAA	Coronel Fontan	2.40	145	P	Pn	11 22 24.8	-0.7
	comp=E,28nm,0.3s,baz=329,slow=9.3,SNR=2592						
CFAA				S	Sn	11 22 53.9	-1.5
	comp=E,68nm,0.3s,baz=235,slow=14,SNR=49						
CFAA	Coronel Fontan	2.40	145	P	Pn	11 22 24.8	-0.7
CFAA				S	Sn	11 22 53.9	-1.5
CHNG	Los Chungos	2.64	212	⇑iP	Pn	11 22 27.2	-1.3
CHNG				i S	Sn	11 22 59.1	-1.5
CHNG				AML	AML	11 23 06.7	
	comp=E,3μm,0.5s						
CDCH	Caldera	2.70	341	⇑iP	Pn	11 22 27.3	-2.0
PEL	Peldehue	3.56	191	⇑iP	Pn	11 22 39.2	-1.4
PEL				i S	Sn	11 23 20.4	-1.9
PCH	Pirque	4.00	188	eP	Pn	11 22 45.8	-0.7
PCH				eS	Sn	11 23 32.0	-0.9
TACH	Talagante	4.10	193	⇓iP	Pn	11 22 45.6	-2.2
CHCH	Chadas Angostu	4.33	189	⇓iP	Pn	11 22 49.0	-1.8
CHCH				eS	Sn	11 23 38.7	-1.9
CACH	El Canelo	4.50	188	⇑iP	Pn	11 22 52.0	-1.3
CACH				eS	Sn	11 23 43.6	-1.3
PLCA	Paso Flores	11.08	183	P	Pn	11 24 18.7	-3.0
	comp=E,0.3nm,0.3s,baz=0.6,slow=14,SNR=8.3						
PLCA	Paso Flores	11.08	183	P	Pn	11 24 18.7	-3.0
CPUP	Villa Florida	11.55	76	P	Pn	11 24 22.6	-5.4
	comp=E,1.5nm,0.3s,baz=236,slow=12,SNR=8.7						
CPUP	Villa Florida	11.55	76	P	Pn	11 24 22.6	-5.4
LPAZ	La Paz	13.39	7	P	Pn	11 24 49.9	-2.6
	comp=E,1.1nm,0.3s,baz=187,slow=7.1,SNR=45						
LPAZ	La Paz	13.39	7	P	Pn	11 24 49.9	-2.6
SIV	San Ignacio	15.81	33	P	Pn	11 25 19.1	-3.5
	comp=E,0.2nm,0.3s,baz=226,slow=12,SNR=8.8						
SIV	San Ignacio	15.81	33	P	Pn	11 25 19.1	-3.5
BDFB	Brasilia	24.45	60	P	P	11 26 53.4	-0.9
	comp=E,1.0nm,0.3s,baz=232,slow=15,SNR=3.2						
BDFB	Brasilia	24.45	60	P	P	11 26 53.4	-0.9
USHA	Ushuaia	25.19	178	P	P	11 27 01.2	+0.7
	comp=E,10nm,0.9s,baz=316,slow=8.2,SNR=4.7						
USHA	Ushuaia	25.19	178	P	P	11 27 01.2	+0.7
QSPA	South Pole Qui	60.58	180	P	P	11 31 44.9	+0.9
	comp=E,2.8nm,0.7s,baz=211,slow=4.4,SNR=18						
QSPA				PcP	PcP	11 32 30.2	+3.0
	comp=E,1.9nm,0.7s,baz=130,slow=4.2,SNR=5.1						
QSPA	South Pole Qui	60.58	180	P	P	11 31 44.9	+0.9
QSPA				PcP	PcP	11 32 30.2	+3.0
TXAR	Lajitas Array	66.94	328	P	P	11 32 26.8	+0.8
	comp=E,0.2nm,0.6s,baz=144,slow=7.8,SNR=3.3						
TXAR				pP	pP	11 32 58.4	+1.9
	comp=E,0.3nm,0.7s,baz=156,slow=8.9,SNR=3.2						
TXAR	Lajitas Array	66.94	328	P	P	11 32 26.8	+0.8
TXAR				pP	pP	11 32 58.4	+1.9
DBIC	Dimbokro	72.02	71	P	P	11 32 57.3	-0.2
	comp=E,2.4nm,0.6s,baz=180,slow=3.7,SNR=4.8						
DBIC	Dimbokro	72.02	71	P	P	11 32 57.3	-0.2
TORD	Torodi Ar. Bea	80.96	69	P	P	11 33 47.7	-0.2
	comp=E,1.7nm,0.7s,baz=275,slow=5.5,SNR=15						
TORD				pP	pP	11 34 20.6	+1.2
	comp=E,1.5nm,1.0s,baz=271,slow=4.0,SNR=3.9						
TORD	Torodi Ar. Bea	80.96	69	P	P	11 33 47.7	-0.2
TORD				pP	pP	11 34 20.6	+1.2
KURBB	Kurchatov Arra	148.38	40	PKPbc	PKPbc	11 41 18.9	+0.6
	comp=E,0.7nm,0.6s,baz=295,slow=3.0,SNR=6.3						
KURBB				pPKPbc	pPKPbc	11 41 53.4	+1.9
	comp=E,0.7nm,0.7s,baz=301,slow=3.2,SNR=4.0						
KURK	Kurchatov	148.39	39	PKPbc	PKPbc	11 41 18.9	+0.6
KURK				pPKPbc	pPKPbc	11 41 53.4	+1.9
ZALV	Zalesovo Beam	149.55	30	PKPbc	PKPbc	11 41 21.6	+0.6
	comp=E,1.2nm,0.5s,baz=311,slow=2.7,SNR=6.5						
ZALV				pPKPbc	pPKPbc	11 41 55.9	+1.6
	comp=E,2.3nm,0.8s,baz=278,slow=3.0,SNR=4.7						
ZALV	Zalesovo Beam	149.55	30	PKPbc	PKPbc	11 41 21.6	+0.6
ZALV				pPKPbc	pPKPbc	11 41 56.0	+1.6
MKAR	Makanchi Array	152.42	44	PKPbc	PKPbc	11 41 28.3	+0.2
	comp=E,0.5nm,0.7s,baz=327,slow=2.0,SNR=4.5						
MKAR				PKPab	PKPab	11 41 39.3	+0.6
	comp=E,0.4nm,0.7s,baz=318,slow=1.6,SNR=4.7						
MKAR				pPKPbc	pPKPbc	11 42 02.3	+0.9
	comp=E,0.6nm,0.6s,baz=314,slow=2.0,SNR=4.4						
MKAR	Makanchi Array	152.42	44	PKPbc	PKPbc	11 41 28.3	+0.2
MKAR				PKPab	PKPab	11 41 39.3	+0.6
MKAR				pPKPbc	pPKPbc	11 42 02.3	+0.9

*IDC **03** 11:24:00.4±1.2, 4°.37S×102°.10E, h0km, mb4.1/13, mb1 4.1/13, mb1mx4.0/26, mbtmp4.1/13, Error ellipse: s-maj=49.1km s-min=14.2km az=54.0*
*NEIC **03** 11:24:05.6±0.7, 4°.36S×102°.12E, h35km, mb4.3/3, Error ellipse: s-maj=28.1km s-min=7.3km az=52.0*
*ISCJB **03** 11:24:07.8±1.2, 4°.3S±0°.1×102°.3E±0°.1, h71km±7km, mb4.1/15, Error ellipse: s-maj=27.2km s-min=5.7km az=140.3*
*DJA **03** 11:24:09.3±0.9, 4°S±7°×10°2E±°, h32km±6km, M4.4/6, MLv4.4/6*
ISC 03 11:24:09.1±1.4**, 4°.3S**±0°.1×**102°.3E**±0°.1**, h60**km±10km**, n38, σ0s.88**/46**, mb4.2**/15**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBSI	MBSI	0.50	353	P	Pn	11 24 20.9	-0.2
MBSI				S	Sn	11 24 30.1	+0.4
MBSI	MBSI	0.50	353	P	Pn	11 24 20.4	-0.7
	10μm,0.6s,505μm						
KSI	Kapahiang	0.66	23	P	Pn	11 24 22.8	-0.1
KSI				S	Sn	11 24 34.0	+1.0
KSI	Kapahiang	0.66	23	P	Pn	11 24 22.2	-0.7
	6μm,0.6s,72μm						
LWLI	Liwa	1.88	114	P	Pn	11 24 40.6	+1.5
LWLI				S	Sn	11 25 02.8	+1.0
KRJI	Kerinci	2.32	338	P	Pn	11 24 46.8	+1.7
KRJI				S	Sn	11 25 15.6	+3.0
KRJI	Kerinci	2.32	338	P	Pn	11 24 51.0	+5.9
KASI	Kota Agung	2.50	120	P	Pn	11 24 46.9	-0.5
KASI				S	Sn	11 25 16.5	-0.2
CGJI	Cibinong	4.08	125	P	Pn	11 25 10.4	+1.3
CGJI				S	Sn	11 25 56.1	+0.5
CMAR	Chiang Mai Arr	22.82	352	P	P	11 29 06.8	-0.4
	1.6nm,0.7s,baz=183,slow=8.5,SNR=11						
CMAR	Chiang Mai Arr	22.82	352	P	P	11 29 06.8	-0.4
FITZ	Fitzroy Crossi	26.63	123	P	P	11 29 42.4	+0.1
	1.4nm,0.5s,baz=4.3,slow=2.4,SNR=5.0						
FITZ	Fitzroy Crossi	26.63	123	eP	P	11 29 42.3	-0.1
	1.0nm,0.4s						
FITZ				P	P	11 29 42.4	+0.1
WRA	Warramunga Arr	34.85	119	P	P	11 30 54.4	-0.5
	0.5nm,0.3s,baz=308,slow=9.3,SNR=18						
WRA				PcP	PcP	11 33 27.0	-0.1
	0.6nm,0.7s,baz=298,slow=1.8,SNR=5.0						
WRA	Warramunga Arr	34.85	119	P	P	11 30 54.4	-0.5
WRA				PcP	PcP	11 33 27.0	-0.1
WRAB	Tennant Creek	34.86	119	eP	P	11 30 55.5	+0.5
	4.6nm,1.0s						
ASAR	Alice Springs	36.05	125	P	P	11 31 05.5	+0.4
	0.6nm,0.6s,baz=296,slow=7.3,SNR=11						
ASAR	Alice Springs	36.05	125	P	P	11 31 05.5	+0.4
STKA	Stephens Creek	45.92	131	P	P	11 32 25.8	-0.3
	4.5nm,1.0s,baz=335,slow=19,SNR=4.1						
STKA	Stephens Creek	45.92	131	P	P	11 32 25.8	-0.3
SONM	Songino Array	51.99	3	P	P	11 33 13.1	+0.6
	1.4nm,0.6s,baz=184,slow=8.9,SNR=17						
SONM				PcP	PcP	11 34 24.0	-0.1
	0.3nm,0.5s,baz=173,slow=4.8,SNR=3.5						
SONM	Songino Array	51.99	3	P	P	11 33 13.1	+0.6
SONM				PcP	PcP	11 34 24.0	-0.1
MKAR	Makanchi Array	53.84	343	P	P	11 33 25.5	-0.5
	2.0nm,0.5s,baz=152,slow=8.6,SNR=22						
MKAR	Makanchi Array	53.84	343	P	P	11 33 25.5	-0.5
USRK	Ussuriysk Arra	55.11	26	P	P	11 33 35.2	+0.1
	1.6nm,0.5s,baz=222,slow=5.5,SNR=3.8						
KURBB	Kurchatov Arra	58.38	342	P	P	11 33 57.7	-0.6
	1.4nm,0.6s,baz=161,slow=6.5,SNR=11						
KURK	Kurchatov	58.43	343	P	P	11 33 57.7	-0.9
ZALV	Zalesovo Beam	59.82	348	P	P	11 34 07.1	-1.0
	2.6nm,0.4s,baz=167,slow=5.3,SNR=18						
ZALV	Zalesovo Beam	59.82	348	P	P	11 34 07.1	-1.0
ASAJ	Asahikawa	60.20	32	P	P	11 34 11.3	+0.4
	4.6nm,0.6s,baz=346,slow=8.3,SNR=2.9						
ASAJ	Asahikawa	60.20	32	P	P	11 34 11.3	+0.4
BVAR	Borovoye Array	63.10	339	P	P	11 34 28.8	-1.5
	1.1nm,0.5s,baz=138,slow=8.8,SNR=5.5						
BVAR	Borovoye Array	63.10	339	P	P	11 34 28.8	-1.5
ABKAR	Akbulak array	64.73	331	eP	P	11 34 40.2	-0.9
	2.3nm,0.6s						
BRTR	Keskin Array B	76.56	312	P	P	11 35 53.0	-0.5
	0.3nm,0.4s,baz=127,slow=6.4,SNR=2.8						
BRTR	Keskin Array B	76.56	312	P	P	11 35 53.0	-0.5
TXAR	Lajitas Array	144.94	42	PKPbc	PKPbc	11 43 40.0	+0.2
	1.1nm,0.5s,baz=253,slow=0.8,SNR=44						
TXAR	Lajitas Array	144.94	42	PKPbc	PKPbc	11 43 40.0	+0.2

IDC 03 11:29:55.1±1.1**, 42°.82S**×**72°.63W, h0**km**, mb3.8**/7**, mb1 4.0**/8**, mb1mx3.9**/20**, mbtmp3.8**/8**, ML4.0**/1**, Error ellipse: s-maj=34.1km s-min=16.3km az=116.0, Southern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.60	37	Pn	Pn	11 30 39.5	+1.0
	7.4nm,0.3s,baz=223,slow=15,SNR=75						
PLCA				Lg	Lg	11 31 17.0	
	21nm,0.3s,baz=128,slow=12,SNR=22						
CPUP	Villa Florida	20.66	42	P	P	11 34 36.6	+0.2
	0.3nm,0.3s,baz=217,slow=5.1,SNR=2.4						
PMSA	Palmer Station	22.54	170	P	P	11 34 55.5	-0.7
	15nm,0.9s,baz=318,slow=14,SNR=2.2						
SIV	San Ignacio	28.51	24	P	P	11 35 53.3	+1.1
	0.6nm,0.6s,baz=233,slow=14,SNR=2.7						
QSPA	South Pole Qui	47.44	180	P	P	11 38 31.9	+0.7
	2.3nm,1.0s,baz=170,slow=6.7,SNR=3.1						
TXAR	Lajitas Array	77.26	333	P	P	11 41 50.9	-0.2
	0.6nm,0.9s,baz=148,slow=9.8,SNR=4.3						
TORD	Torodi Ar. Bea	87.67	70	P	P	11 42 43.7	-2.0
	0.3nm,0.8s,baz=214,slow=5.1,SNR=2.3						
PDAR	Pinedale Array	91.43	334	P	P	11 43 03.4	+0.4
	1.4nm,1.1s,baz=144,slow=6.7,SNR=4.8						

*ISK **03** 11:45:28.8, 38°.38N×39°.21E, h11km, MD2.2*
*CSEM **03** 11:45:28.5±0.3, 38°.32N×39°.24E, h13km±1km, MD2.2, Error ellipse: s-maj=8.9km s-min=3.0km az=155.0*
*ISCJB **03** 11:45:29.6±0.8, 38°.33N±0°.08×39°.18E±0°.04, h7km±6km, Error ellipse: s-maj=14.2km s-min=4.9km az=0.8*
*DDA **03** 11:45:29.3, 38°.32N×39°.21E, h7km, MD2.9*
ISC 03 11:45:28.7±1.1**, 38°.29N**±0°.08×**39°.20E**±0°.03**, h10**km±10km**, n13, σ0s.45**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.12	42	PG	Pg	11 45 31.7	0.0
SVRC				eSG	Sg	11 45 33.5	-0.3
SVRC	Sivrice-ELAZID	0.12	42	i Pg	Pg	11 45 31.7	0.0
SVRC				eSg	Sg	11 45 33.6	-0.3
ELZG	Elazig	0.27	320	i P	Pg	11 45 34.8	+0.5
ELZG				i S	Sg	11 45 38.7	+0.7
ELZG	Elazig	0.27	320	i P	Pg	11 45 34.8	+0.5
ELZG				i S	Sg	11 45 38.7	+0.7
MALT	Malatya	0.61	272	ePG	Pb	11 45 41.3	-0.3
MALT				eSG	Sb	11 45 50.4	+0.1
MALT	Malatya	0.61	272	ePg	Pb	11 45 41.3	-0.3
MALT				eSg	Sb	11 45 50.4	+0.1
MYA	Malataya	0.61	274	ePG	Pg	11 45 40.8	+0.2
MYA	Malataya	0.61	274	ePg	Pg	11 45 40.8	+0.2
AKCD	Akcadag	1.01	271	i P	Pg	11 45 48.2	+0.1
AKCD				eS	Sb	11 46 01.7	-0.1
AKCD	Akcadag	1.01	271	i P	Pg	11 45 48.2	+0.1
AKCD				eS	Sb	11 46 01.7	-0.1
ILIC	ilic-Erzincan	1.26	337	ePN	Pn	11 45 51.9	-0.7
ILIC	ilic-Erzincan	1.26	337	ePn	Pn	11 45 51.9	-0.7
BEST	Besiri	1.68	103	i P	Pb	11 46 00.4	+0.7
BEST				i S	Sg	11 46 23.1	+0.5

*NIED **03** 12:14:00, 27°.00N×142°.80E, h11km, Mw4.5 Best double couple: $M_0$5.93000×10^15 NP1:ϕ_s348.00000°, δ79.00000°, λ-110.00000°. NP2:ϕ_s230.00000°, δ22.00000°, λ-30.00000°.*
*BJI **03** 12:14:29.7, 26°.63N×142°.89E, h37km, mB4.9/30, mb4.7/35, Ms4.5/32, Ms7 4.3/26*
*JMA **03** 12:14:30.6, 26°.96N×142°.79E, h82km±2km, M4.1*
JMA Felt I J1.
*MOS **03** 12:14:31.5±0.8, 26°.88N×142°.59E, h33km, mb5.0/35, Error ellipse: s-maj=11.8km s-min=5.9km az=116.5*
*ISCJB **03** 12:14:33.5±0.2, 27°.07N±0°.03×142°.54E±0°.03, h38km, mb4.8/93, MS4.0/25, Error ellipse: s-maj=4.8km s-min=3.6km az=173.3*
*IDC **03** 12:14:33.7±0.6, 26°.91N×142°.68E, h37km±4km, mb4.3/26, mb1 4.4/30, mb1mx4.3/34, mbtmp4.2/30, ML3.4/4, MS3.8/15, Ms1 3.8/15, ms1mx3.5/56, Error ellipse: s-maj=12.1km s-min=10.9km az=97.0*
*NEIC **03** 12:14:34.1±0.2, 26°.89N×142°.64E, mb5.0/36, MW4.4(NIED), Error ellipse: s-maj=5.5km s-min=5.1km az=158.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.
ISC 03 12:14:33.6±0.3**, 26°.89N**±0°.04×**142°.72E**±0°.04**, h33**km**, h33**km**:pP-P, n295, σ1s.33**/356**, mb4.8**/93**, MS4.0**/27**, 33C-49D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.52	293	Pn	Pn	12 14 45.0	+0.3
	2μm,0.3s,baz=34,slow=4.8,SNR=617						
CBIJ				Sn	Sn	12 14 55.9	+3.5
	3μm,0.3s,baz=93,slow=23,SNR=11						
CBIJ	Chichi jima	0.52	293	Pn	Pn	12 14 45.0	+0.3
CBIJ				Sn	Sn	12 14 55.9	+3.5
CBIJ	Chichi jima	0.52	293	P	Pn	12 14 45.2	+0.6
CBIJ				eS	Sn	12 14 56.0	+3.7
JHHJ	Haha-jima-NKT	0.55	242	P	Pn	12 14 45.9	+0.8
JHHJ				eS	Sn	12 14 57.3	+4.2
JHJ	Hachijo jima 2	6.71	338	LR	LR	12 18 47.6	
	comp=Z,1μm,18.1s,baz=92,slow=38						
BSO1	Boso 1	7.88	349	P	Pn	12 16 24.5	-0.8
JOD2	Odawara 2	8.90	340	P	Pn	12 16 38.5	-1.4
JYN	Shimob	9.29	338	P	Pn	12 16 46.3	+1.0
JYN				eS	Sn	12 18 31.6	+3.0
JHU	Hanno	9.40	343	P	Pn	12 16 44.5	-2.2
JHU				eS	Sn	12 18 24.2	-7.0
JRY	Ryogami san	9.66	341	P	Pn	12 16 51.2	+0.9
JRY				eS	Sn	12 18 35.4	-2.3
JHO	Hitachi	9.86	350	eS	Sn	12 18 32.9	-10
JKT	Katashina	10.28	344	eS	Sn	12 18 46.5	-6.3
MJAR	Matsushiro Arr	10.35	339	Pn	Pn	12 16 58.7	-1.1
	0.7nm,0.3s,baz=90,slow=3.9,SNR=11						
MJAR				LR	LR	12 20 48.1	
	comp=Z,447nm,19.2s,baz=170,slow=36						
MJAR	Matsushiro Arr	10.35	339	Pn	Pn	12 16 58.7	-1.1
MAJO	Matsushiro	10.36	339	eP	Pn	12 16 59.8	0.0
MAJO				e		12 18 50.3	
MAJO	Matsushiro	10.36	339	ePn	Pn	12 16 59.8	0.0
MAJO				eSn	Sn	12 18 50.3	-4.4
JFK	Kawauchi	10.56	352	eS	Sn	12 18 49.7	-10
JFT	Otama	10.78	350	P	Pn	12 17 04.9	-0.8
JFT				eS	Sn	12 18 55.7	-9.5
JMM	Marumori	11.06	352	P	Pn	12 17 07.5	-1.9
JMM				eS	Sn	12 19 03.9	-8.0
JYS	Shirataka	11.51	349	eS	Sn	12 19 14.9	-8.2
JOU	Okura	11.57	352	eS	Sn	12 19 16.1	-8.3
JIO	Ouri	11.59	355	eS	Sn	12 19 11.7	-13
JNU	Nakatsue	11.99	304	Pn	Pn	12 17 24.5	+2.3
	0.1nm,0.3s,baz=83,slow=17,SNR=2.8						
JNU				LR	LR	12 21 41.6	
	comp=Z,464nm,18.3s,baz=226,slow=36						
JNU	Nakatsue	11.99	304	Pn	Pn	12 17 24.5	+2.3
JOW	Kunigami	12.89	273	LR	LR	12 22 03.3	
	comp=Z,334nm,18.2s,baz=180,slow=35						
KSRS	Korea Array	16.34	314	Pn	Pn	12 18 19.4	-1.1
	0.2nm,0.3s,baz=134,slow=16,SNR=3.2						
KSRS				LR	LR	12 24 27.0	
	comp=Z,217nm,18.0s,baz=127,slow=36						
KSAR	Wonju Array Be	16.36	314	Pn	Pn	12 18 19.4	-1.3
ASAJ	Asahikawa	17.19	360	P	Pn	12 18 29.3	-1.7
	0.3nm,0.3s,baz=135,slow=10.0,SNR=4.3						
ASAJ				LR	LR	12 26 04.1	
	comp=Z,309nm,18.4s,baz=145,slow=40						
ASAJ	Asahikawa	17.19	360	P	Pn	12 18 29.3	-1.7
USRK	Ussuriysk Arra	19.32	336	P	Pn	12 18 55.6	-1.4
	0.3nm,0.3s,baz=147,slow=11,SNR=5.5						
YHNB	Yeheng	19.35	268	eP	P	12 18 55.1	-1.4
	31nm,0.6s						
YULB	Yu-li	19.70	265	eP	P	12 19 00.5	+0.3
	26nm,0.9s						
SSLB	Suanglung	19.91	266	ePn	Pn	12 19 04.2	-0.1
	57nm,0.9s						
YSS	Yuzh-Sakhalins	20.02	0	eP	Pn	12 19 12.8	+7.4
YSS				e		12 19 27.2	
MDJ	Mudanjiang	20.60	333	P	Pn	12 19 11.5	-0.7
MDJ				pP	pP	12 19 19.4	+0.8
MDJ				sP	sP	12 19 23.4	+0.6
MDJ				S	S	12 22 56.0	-2.3
MDJ				sS	sS	12 23 12.4	+0.2
MDJ				PcS	PcS	12 26 51.6	-5.7
MDJ				ScS	ScS	12 30 29.4	-7.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,88nm,6.4s						
MDJ				LR	LR		
	comp=N,360nm,14.8s						
MDJ				LR	LR		
	comp=E,230nm,12.3s						
MDJ				LR	LR		
	comp=Z,530nm,13.8s						
NJ2	Nanjing	21.39	290	eP	P	12 19 18.1	-0.3
NJ2				pP	pP	12 19 26.1	-1.1
NJ2				sP	sP	12 19 30.0	-1.4
NJ2				S	S	12 23 13.0	-1.1
NJ2				sS	sS	12 23 25.5	-2.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.2s						
NJ2				LR	LR		
	comp=N,250nm,14.9s						
NJ2				LR	LR		
	comp=E,300nm,15.3s						
NJ2				LR	LR		
	comp=Z,320nm,15.5s						
SNY	Shenyang	21.64	318	⇑P	P	12 19 22.6	+1.5
SNY				pP	pP	12 19 33.4	+3.5
SNY				S	S	12 23 10.6	-8.4
SNY				pmax	pmax		
	comp=Z,11nm,0.7s						
SNY				pmax	pmax		
	comp=Z,180nm,5.1s						
SNY				LR	LR		
	comp=N,250nm,16.9s						
SNY				LR	LR		
	comp=E,230nm,16.3s						
CN2	Changchun	21.90	325	eP	P	12 19 26.1	+2.3
CN2				esP	sP	12 19 41.6	+4.7
CN2				eS	S	12 23 20.2	-3.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						

CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
HABR Khabarovsk 22.36 347 *de*P **P 12 19 28.3 -0.3**
HABR *e**PP **pP 12 19 36.9 -0.6**
HABR *e**SP **sP 12 19 41.5 -0.2**
HABR *e* 12 19 51.6
HABR *e*PPP PPP 12 20 00.0
HABR 12 23 22.2
HABR eS **S 12 23 32.8 +0.5**
HABR *e**SS **sS 12 23 47.7 +0.8**
HABR eSS **SnSn 12 24 03.2 +1.7**
HABR SSS SSS 12 24 17.6
HABR pmax pmax
comp=E,26nm,2.0s
HABR pmax pmax
comp=Z,45nm,1.6s
HABR pmax pmax
comp=N,17nm,1.4s
HABR MLR MLR
comp=Z,136nm,17.0s
KLR Kul'dur 23.86 342 *e*P P 12 19 37.2 -6.7
KLR MLR MLR
comp=Z,700nm,13.0s
TGY Tagaytay City 24.00 242 P **P 12 19 46.1 +0.7**
comp=Z,128nm,0.4s,baz=345,slow=2.8,SNR=5.4
TGY Tagaytay City 24.00 242 P **P 12 19 46.1 +0.7**
WHN Wuhan 25.11 285 P **P 12 19 54.5 -1.0**
BJI Beijing 25.62 308 P **P 12 20 01.4 +1.4**
BJI S **S 12 24 31.6 +5.6**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI LR LR
comp=N,250nm,16.2s
BJI LR LR
comp=E,250nm,18.7s
PETK Petropavlovsk- 28.47 19 LR LR 12 30 04.3
comp=E,70nm,21.5s,baz=197,slow=33
HHC Hu-ho-hao-te 29.20 306 *e*P **P 12 20 32.6 +0.4**
HHC sP **sP 12 20 48.8 +3.0**
HHC PP **PnPn 12 21 27.4 +1.7**
HHC PcP **PcP 12 23 40.1 +1.1**
HHC S **S 12 25 18.6 -4.0**
HHC sS **sS 12 25 38.2 -0.2**
HHC ScP **ScP 12 27 17.4 -0.8**
HHC PcS **PcS 12 27 22.3 +0.4**
HHC ScS **ScS 12 31 08.8 -3.7**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=E,590nm,13.3s
XAN Xi'an 29.89 292 P **P 12 20 36.3 -2.0**
XAN pP **pP 12 20 45.8 -2.1**
XAN S **S 12 25 34.7 +1.2**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,23nm,5.3s
XAN LR LR
comp=N,150nm,12.0s
QIZ Qiongzhong 31.20 262 P **P 12 20 50.9 +0.9**
QIZ pP **pP 12 20 59.0 -0.5**
QIZ sP **sP 12 21 04.2 +0.7**
QIZ S **S 12 25 53.4 -0.7**
QIZ sS **sS 12 26 09.2 -0.7**
QIZ pmax pmax
comp=Z,97nm,5.5s
QIZ LR LR
comp=Z,250nm,8.9s
MYLDM Lahad Datu 31.62 231 P **P 12 20 56.1 +2.5**
GYA Guiyang 32.15 278 P **P 12 20 58.9 +0.5**
GYA pP **pP 12 21 09.5 +1.5**
GYA PP **PnPn 12 22 04.3 -0.5**
GYA S **S 12 26 05.7 -3.5**
GYA sS **sS 12 26 25.0 0.0**
GYA ScP **ScP 12 27 28.3 +0.1**
GYA SS **SnSn 12 27 59.2 -1.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,520nm,17.8s
GYA LR LR
comp=E,480nm,18.2s
GYA LR LR
comp=Z,530nm,18.0s
SDKM Sandakan 32.22 234 P **P 12 21 00.4 +1.4**
CLNS Chul'man 32.53 342 *e*P P 12 21 12.7 +11
CLNS pmax pmax
comp=Z,13nm,1.1s
CLNS pmax pmax
comp=N,13nm,1.6s
TSM Tawau 32.69 231 P **P 12 21 03.2 +0.2**
LZH Lanzhou 34.20 295 *e*P **P 12 21 15.8 -0.5**
LZH pP **pP 12 21 26.1 +0.2**
LZH sP **sP 12 21 32.1 +2.2**
LZH S **S 12 26 38.3 -2.7**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH pmax pmax
comp=Z,150nm,4.2s
LZH LR LR
comp=N,1μm,13.8s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,1μm,16.8s
CD2 Chengdu 34.22 286 P **P 12 21 14.7 -1.7**
CD2 pP **pP 12 21 25.5 -0.5**
CD2 sP **sP 12 21 30.0 0.0**
CD2 PP **PnPn 12 22 29.1 -1.8**
CD2 S **S 12 26 36.3 -4.8**
CD2 sS **sS 12 26 54.0 -3.0**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,150nm,4.5s
CD2 LR LR
comp=N,280nm,7.7s
CD2 LR LR
comp=Z,310nm,8.3s
ULN Ulaanbaatar 34.80 317 *e*P **P 12 21 20.4 -0.8**
comp=Z,3.0nm,0.9s
SONM Songino Array 35.19 316 P **P 12 21 23.7 -0.9**
comp=Z,2.1nm,0.7s,baz=132,slow=8.3,SNR=9.9
SONM PcP **PcP 12 23 54.5 -0.8**
comp=Z,1.7nm,0.9s,baz=150,slow=3.3,SNR=4.4
SONM LR LR 12 36 47.7
comp=Z,112nm,18.0s,baz=206,slow=38
SONM Songino Array 35.19 316 P **P 12 21 23.7 -0.9**
SONM PcP **PcP 12 23 54.5 -0.8**
KMI Kunming 35.87 276 P P 12 21 33.8 +2.9
KMI S **S 12 27 05.3 -1.6**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI LR LR
comp=N,170nm,13.6s
KMI LR LR
comp=E,190nm,12.8s
KMI LR LR
comp=Z,220nm,16.5s
YAK Yakutsk 36.20 350 *e*P P 12 21 35.4 +2.5
YAK *e* 12 23 02.0
YAK eS **S 12 27 14.2 +3.6**
YAK pmax pmax
comp=Z,9.0nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK smax smax
comp=N,87nm,3.8s
YAK smax smax
comp=E,222nm,5.8s
YAK MLR MLR
comp=Z,130nm,22.0s
YAK MLR MLR
comp=N,118nm,20.0s
YAK MLR MLR
comp=E,54nm,18.0s
SEY Seymchan 36.60 7 *ce*P **P 12 21 37.7 +1.4**
BOD Bodaibo 36.94 335 *e*P **P 12 21 38.8 -0.5**
BOD pmax pmax
comp=Z,9.0nm,0.9s
GTA Gaotai 37.69 300 *e*P **P 12 21 45.7 -0.4**
GTA PcP **PcP 12 24 03.2 +0.3**
GTA S **S 12 27 30.8 -3.5**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,83nm,4.3s
GTA LR LR
comp=N,190nm,17.6s
GTA LR LR
comp=E,200nm,17.6s
GTA LR LR
comp=Z,200nm,16.1s
SBUM Sibu 38.01 235 P **P 12 21 47.4 -1.4**
ZAK Zakamensk 38.08 319 ⇓ *i*P **P 12 21 47.1 -2.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 38.40 321 *e*P **P 12 21 50.2 -1.5**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,99nm,17.0s
TLY Talaya 38.40 321 *e*P **P 12 21 51.3 -0.4**
comp=Z,9.4nm,0.9s
CHTO Chiang Mai 40.97 268 *e*P **P 12 22 12.8 -0.7**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 40.97 268 *e*P **P 12 22 12.8 -0.7**
comp=Z,9.9nm,0.9s
CMAR Chiang Mai Arr 41.09 268 P **P 12 22 14.1 -0.4**
comp=Z,6.3nm,0.9s,baz=57,slow=8.5,SNR=36
CMAR LR LR 12 40 42.5
comp=Z,107nm,18.6s,baz=255,slow=38
CMAR Chiang Mai Arr 41.09 268 P **P 12 22 14.2 -0.4**
MYKOM Kota Tinggi 44.85 243 P **P 12 22 46.1 +1.2**
KULM Kulim 45.46 249 *e*P **P 12 22 50.1 +0.3**
comp=Z,20nm,0.8s
KULM Kulim 45.46 249 P **P 12 22 50.5 +0.6**
IPM Ipoh 45.59 248 *e*P **P 12 22 50.6 -0.2**
IPM Ipoh 45.59 248 P **P 12 22 50.9 0.0**
CTA Charters Tower 46.83 175 P **P 12 22 59.4 -1.0**
comp=Z,3.6nm,0.6s,baz=52,slow=12,SNR=3.8
CTA Charters Tower 46.83 175 P **P 12 22 59.4 -1.0**
WMQ Urumqi 47.08 306 *e*P **P 12 23 03.8 +1.5**
WMQ LR LR
comp=N,62nm,20.0s
WMQ LR LR
comp=E,55nm,21.0s
WRAB Tennant Creek 47.25 191 *e*P **P 12 23 03.2 -0.5**
WRAB pmax pmax
comp=Z,56nm,1.0s
WRAB Tennant Creek 47.25 191 *e*P **P 12 23 03.2 -0.5**
comp=Z,56nm,1.0s
WRA Warramunga Arr 47.26 191 P **P 12 23 03.2 -0.6**
comp=Z,24nm,0.6s,baz=12,slow=8.3,SNR=40
WRA Warramunga Arr 47.26 191 P **P 12 23 03.2 -0.6**
FITZ Fitzroy Crossi 47.70 202 P **P 12 23 07.4 +0.2**
comp=Z,26nm,0.8s,baz=27,slow=8.4,SNR=56
FITZ Fitzroy Crossi 47.70 202 P **P 12 23 07.4 +0.2**
PSI Prapat 48.26 248 P **P 12 23 11.5 -0.4**
comp=Z,20nm,0.8s,baz=19,slow=3.3,SNR=27
PSI LR LR 12 40 31.9
comp=Z,106nm,18.4s,baz=226,slow=32
PSI Prapat 48.26 248 P **P 12 23 11.5 -0.4**
TAPN Taplejung 48.61 284 *e*P **P 12 23 14.7 0.0**
comp=Z,7.6nm,0.4s
TAPN Taplejung 48.61 284 *e*P **P 12 23 14.7 0.0**
comp=Z,7.6nm,0.4s
ODAN Odare 49.00 283 *e*P **P 12 23 16.7 -0.9**
comp=Z,14nm,0.4s
ODAN Odare 49.00 283 *e*P **P 12 23 16.7 -0.9**
comp=Z,14nm,0.4s
RAMN Ramite 49.67 284 *e*P **P 12 23 21.2 -1.5**
comp=Z,18nm,0.7s
RAMN Ramite 49.67 284 *e*P **P 12 23 21.2 -1.5**
comp=Z,18nm,0.7s
JIRN Jiri 49.86 285 *e*P **P 12 23 24.0 -0.3**
comp=Z,8.6nm,0.5s
JIRN Jiri 49.86 285 *e*P **P 12 23 24.0 -0.3**
comp=Z,8.6nm,0.5s
ZALV Zalesovo Beam 49.95 319 P **P 12 23 23.1 -1.1**
comp=Z,6.9nm,0.8s,baz=99,slow=7.0,SNR=25
ZALV PcP **PcP 12 24 42.9 -1.0**
comp=Z,5.1nm,0.6s,baz=110,slow=3.6,SNR=11
ZALV LR LR 12 45 38.3
comp=Z,91nm,19.7s,baz=70,slow=37
ZALV Zalesovo Beam 49.95 319 P **P 12 23 23.1 -1.1**
ZALV 12 24 42.9
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV MLR MLR
comp=Z,91nm,19.7s
ZALV Zalesovo Beam 49.95 319 P **P 12 23 23.1 -1.1**
ZALV PcP **PcP 12 24 42.9 -1.0**
GUN Gumba 50.07 285 *e*P **P 12 23 25.3 -0.6**
comp=Z,85nm,0.8s
GUN Gumba 50.07 285 *e*P **P 12 23 25.3 -0.6**
comp=Z,85nm,0.8s
PKI Pulchoki 50.55 285 *e*P **P 12 23 28.6 -0.9**
PKI Pulchoki 50.55 285 *e*P **P 12 23 28.6 -0.9**
PKI Pulchoki 50.55 285 *e*P **P 12 23 28.6 -0.9**
KKN Kakani 50.62 285 *e*P **P 12 23 29.0 -0.9**
KKN Kakani 50.62 285 *e*P **P 12 23 29.0 -0.9**
KKN Kakani 50.62 285 *e*P **P 12 23 29.0 -0.9**
DMN Daman 50.81 285 *e*P **P 12 23 30.8 -0.6**
comp=Z,11nm,0.3s
DMN Daman 50.81 285 *e*P **P 12 23 30.8 -0.6**
comp=Z,11nm,0.3s
MKAR Makanchi Array 50.97 310 P **P 12 23 30.3 -1.7**
comp=Z,0.9nm,0.4s,baz=84,slow=10,SNR=22
MKAR PcP **PcP 12 24 47.6 -0.4**
comp=Z,3.8nm,0.8s,baz=79,slow=6.4,SNR=11
MKAR Makanchi Array 50.97 310 P **P 12 23 30.3 -1.7**
MKAR 12 24 47.6
MKAR Makanchi Array 50.97 310 P **P 12 23 30.3 -1.7**
MKAR PcP **PcP 12 24 47.5 -0.4**
AS31 Alice Springs 50.98 190 *e*P **P 12 23 31.4 -0.9**
ASAR Alice Springs 50.98 190 P **P 12 23 31.0 -1.2**
comp=Z,2.4nm,0.7s,baz=11,slow=6.3,SNR=17
ASAR LR LR 12 43 30.3
comp=Z,190nm,21.4s,baz=355,slow=34
ASAR Alice Springs 50.98 190 P **P 12 23 31.0 -1.2**
NVS Novosibirsk 51.00 320 *e*P **P 12 23 30.7 -1.3**
NVS pmax pmax
comp=Z,12nm,1.5s
NVS pmax pmax
comp=N,2.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.5s
GKN Gorkha 51.12 285 *e*P **P 12 23 32.8 -0.8**
comp=E,14nm,0.7s
GKN Gorkha 51.12 285 *e*P **P 12 23 32.8 -0.8**
comp=E,14nm,0.7s
DANN Dangsing 51.80 286 *e*P **P 12 23 38.1 -0.7**
comp=E,67nm,0.8s
DANN Dangsing 51.80 286 *e*P **P 12 23 38.1 -0.7**
comp=E,67nm,0.8s
KOLN Koldanda 52.07 285 *e*P **P 12 23 40.0 -0.7**
comp=E,23nm,0.7s
KOLN Koldanda 52.07 285 *e*P **P 12 23 40.0 -0.7**
comp=E,23nm,0.7s
PYUN Piuthan 52.52 286 *e*P **P 12 23 43.4 -0.7**
comp=E,25nm,0.4s
PYUN Piuthan 52.52 286 *e*P **P 12 23 43.4 -0.7**
comp=E,25nm,0.4s
KURK Kurchatov 53.47 315 *ce*P **P 12 23 49.0 -1.4**
KURK pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 53.47 315 *e*P **P 12 23 49.4 -1.0**
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 53.52 315 P **P 12 23 49.5 -1.4**
comp=Z,5.4nm,0.5s,baz=91,slow=8.2,SNR=50
KDAK Kodiak Island 54.24 37 P **P 12 23 55.3 -0.6**
comp=Z,9.8nm,1.0s,baz=354,slow=3.4,SNR=7.8
KDAK Kodiak Island 54.24 37 P **P 12 23 55.3 -0.6**
ULHL Ulahol 55.52 304 P **P 12 24 05.5 -0.4**
SNR=7.4
TKM2 Tokmak 2 55.92 305 *i*P **P 12 24 08.6 -0.1**
TKM2 Tokmak 2 55.92 305 *e*P **P 12 24 08.6 -0.1**
comp=Z,4.1nm,0.8s
TKM2 Tokmak 2 55.92 305 P **P 12 24 08.6 -0.1**
SNR=6.0
TRF Thorofare Moun 56.03 30 *e*P **P 12 24 10.3 +1.3**
KSH Kashi 56.09 301 P P 12 24 12.9 +3.1
KSH pP pP 12 24 24.3 +4.4
KSH sP sP 12 24 27.4 +3.6
KSH PcP PcP 12 25 12.5 +4.8
KSH PP PP 12 26 21.1 +6.2
KSH ScP **ScP 12 29 05.9 +1.4**
KSH PcS **PcS 12 29 10.1 +1.9**
KSH S **S 12 32 00.9 +4.3**
KSH sS sS 12 32 17.5 +4.4
KSH ScS **ScS 12 33 58.0 +1.2**
KSH SS **SS 12 35 47.8 +4.9**
KSH pmax pmax
comp=Z,13nm,0.6s
KSH pmax pmax
comp=Z,120nm,7.5s
KSH LR LR
comp=N,220nm,5.5s
KSH LR LR
comp=E,220nm,6.3s
KSH LR LR
comp=Z,240nm,7.5s
KZA Kyzart 56.28 304 P **P 12 24 12.1 +0.6**
SNR=7.9
KBK Karagaybulak 56.43 305 P **P 12 24 12.0 -0.3**
SNR=9.2
COLD Coldfoot 56.65 25 *e*P P 12 24 18.6 +5.5
comp=Z,89nm,2.9s
AAK Ala-Archa 56.76 305 P **P 12 24 13.3 -1.3**
comp=Z,2.8nm,0.6s,baz=128,slow=4.0,SNR=18
AAK Ala-Archa 56.76 305 *e*P **P 12 24 14.2 -0.4**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 56.76 305 *e*P **P 12 24 14.2 -0.4**
comp=Z,15nm,0.8s
EKS2 Erkin-Say 57.28 305 *e*P **P 12 24 17.8 -0.5**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 57.28 305 *e*P **P 12 24 17.8 -0.5**
comp=Z,3.6nm,0.8s
AML Almayashu 57.42 304 P **P 12 24 19.8 +0.3**
SNR=17
ILAR Eielson Array 57.66 29 P **P 12 24 19.2 -1.2**
comp=Z,3.2nm,0.8s,baz=257,slow=5.7,SNR=24
ILAR Eielson Array 57.66 29 P **P 12 24 19.2 -1.2**
STKA Stephens Creek 58.45 181 P **P 12 24 24.8 -1.4**
comp=Z,4.3nm,0.7s,baz=95,slow=4.7,SNR=5.9
STKA Stephens Creek 58.45 181 P **P 12 24 24.8 -1.4**
BVA0 Borovoye Array 58.51 318 *i*P **P 12 24 26.1 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 58.57 318 *d i*P **P 12 24 26.7 -0.2**
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK Borovoye 58.57 318 *e*P **P 12 24 26.8 -0.1**
comp=Z,18nm,0.8s
KK31 Karatay Array 59.59 306 *ce*P **P 12 24 33.2 -1.0**
KK31 pmax pmax
comp=Z,22nm,0.8s
KKAR Karatay Array 59.59 306 *e*P **P 12 24 33.7 -0.5**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 59.59 306 *e*P **P 12 24 33.6 -0.5**
comp=Z,12nm,0.6s
INK Inuvik 63.02 25 P **P 12 24 57.0 +0.2**
comp=Z,4.5nm,0.9s,baz=274,slow=6.2,SNR=13
INK Inuvik 63.02 25 P **P 12 24 57.0 +0.2**
SVE Sverdlovsk 63.67 323 ⇓ *e*P **P 12 25 01.7 +0.3**
SVE pmax pmax
comp=Z,25nm,1.0s
ARU Arti 64.87 322 *c i*P **P 12 25 09.4 +0.1**
ARU 12 27 28.8
ARU S **S 12 33 49.0 +0.8**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 64.87 322 *e*P **P 12 25 09.2 -0.2**
comp=Z,26nm,1.0s
ARU Arti 64.87 322 P **P 12 25 09.1 -0.2**
comp=Z,149nm,0.9s,SNR=7.8
AB31 Akbulak array 65.58 314 *ce*P **P 12 25 13.1 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 65.58 314 *e*P **P 12 25 13.3 -0.7**
comp=Z,12nm,0.8s
YKA Yellowknife Ar 72.09 28 P **P 12 25 53.7 -0.6**
comp=Z,3.7nm,0.7s,baz=293,slow=5.8,SNR=20
YKA Yellowknife Ar 72.09 29 P **P 12 25 53.7 -0.6**
APA Apatity 72.42 338 ⇑ *i*P **P 12 25 58.0 +1.9**
APA MLR MLR
comp=Z,1μm,24.0s
KLMR Klimovskoe 72.99 330 *e*P P 12 25 56.0 -3.7
KLMR pmax pmax
comp=Z,12nm,1.2s
ARCES ARCESS Array B 73.89 341 P **P 12 26 04.9 0.0**
comp=Z,5.7nm,0.8s,baz=57,slow=8.8,SNR=6.7
ARCES pP **pP 12 26 14.4 -0.8**
comp=Z,4.1nm,0.7s,baz=64,slow=8.2,SNR=2.6
ARCES LR LR 13 04 49.0
comp=Z,96nm,18.3s,baz=49,slow=41
ARCES ARCESS Array B 73.89 341 P **P 12 26 04.9 0.0**
ARCES pP **pP 12 26 14.4 -0.8**
JOF Joensuu 75.47 334 *e*P **P 12 26 13.5 -0.6**
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 75.47 334 *ep* **P 12 26 13.5 -0.6**
comp=Z,5.4nm,0.7s
VRHR Novokhopersk 76.06 320 *e*P **P 12 26 16.5 -1.2**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 76.73 43 *e*P **P 12 26 23.6 +2.0**
comp=Z,7.4nm,1.0s
NEW Newport 76.73 43 ⇓P **P 12 26 22.4 +0.7**
baz=77
OBN Obninsk 76.97 325 ⇑ *e*P **P 12 26 22.9 +0.2**
OBN *e* 12 29 14.1
OBN pmax pmax
comp=Z,47nm,2.5s
OBN MLR MLR
comp=Z,200nm,19.0s
A12A Yaak River Ran 77.32 41 ⇑P **P 12 26 26.2 +1.3**
baz=77
VSR Storozhevoye 77.40 321 *e*P **P 12 26 24.9 -0.3**
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 77.44 321 *e*P **P 12 26 25.0 -0.4**
C11A Tepee Creek (N 77.44 43 ⇑P **P 12 26 27.0 +1.3**
baz=77
ZEI Tsey 78.25 312 *e*P **P 12 26 29.0 -1.5**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
B13A Whitefish 78.27 42 ⇑P **P 12 26 31.3 +1.0**
baz=78
WALA Waterton Lakes 78.29 41 *e*P **P 12 26 32.1 +1.7**
comp=Z,0.2nm,0.9s
FINES FINESS Array B 78.34 334 P **P 12 26 29.9 -0.3**
comp=Z,3.8nm,0.5s,baz=64,slow=5.7,SNR=17
FINES pP **pP 12 26 40.6 0.0**
comp=Z,6.2nm,0.9s,baz=71,slow=5.9,SNR=3.9
FINES FINESS Array B 78.34 334 P **P 12 26 29.9 -0.3**
FINES pP **pP 12 26 40.6 0.0**
D12A Red Ives Fores 78.34 43 ⇓P **P 12 26 31.5 +0.7**
baz=78
KBZ Khabaz 78.49 313 P **P 12 26 31.6 +0.2**
comp=Z,9.8nm,0.8s,baz=93,slow=3.9,SNR=15
KBZ pP **pP 12 26 42.5 +0.7**
comp=Z,13nm,0.8s,baz=82,slow=5.0,SNR=9.7
KBZ Khabaz 78.49 313 P **P 12 26 31.6 +0.2**
KBZ *PP **pP 12 26 42.5 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 78.49 313 P **P 12 26 31.6 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBZ				pP	pP	12 26 42.5	+0.7
E12A	Beaver Dam Sad	78.50	44	⇑P	P	12 26 32.2	+0.5
	baz=78						
C13A	Hot Springs	78.53	42	⇑P	P	12 26 31.8	+0.1
	baz=78						
KIV	Kislovodsk	78.53	313	eP	P	12 26 31.5	-0.3
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
A14A	Double T Ranch	78.61	41	⇑P	P	12 26 33.0	+0.8
	baz=78						
JTMT	Jette	78.67	42	eP	P	12 26 34.4	+1.8
	comp=Z,12nm,1.3s						
C14A	Swan Lake	78.98	42	⇓P	P	12 26 34.0	-0.3
	baz=79						
A15A	Johnson Ranch,	79.01	41	⇑P	P	12 26 34.2	-0.2
	baz=79						
SLMT	Seeley Lake	79.38	42	eP	P	12 26 36.9	+0.4
	comp=Z,3.7nm,0.4s						
B15A	Bradely Ranch,	79.43	41	⇓P	P	12 26 37.2	+0.6
	baz=79						
MFID	Camas Ranch	79.69	47	⇓P	P	12 26 39.8	+1.6
	baz=80						
H12A	Diamond D Ranc	79.80	45	⇓P	P	12 26 38.9	+0.1
	baz=80						
B16A	M & M Farms, S	79.88	41	⇓P	P	12 26 39.3	+0.2
	baz=80						
G13A	Cobalt	79.94	44	⇑P	P	12 26 39.6	0.0
	baz=80						
I12A	Atlanta	79.97	46	⇑P	P	12 26 39.9	+0.1
	baz=80						
D15A	Lincoln	80.06	42	⇓P	P	12 26 40.8	+0.6
	baz=80						
C16A	Fuhringer Ranc	80.15	41	⇓P	P	12 26 40.4	-0.2
	baz=80						
H13A	Challis	80.17	45	⇓P	P	12 26 41.7	+0.9
	baz=80						
NVAR	Mina Array Bea	80.27	52	P	P	12 26 42.2	+0.6
	comp=Z,2.4nm,0.9s,baz=273,slow=4.0,SNR=8.6						
NVAR	Mina Array Bea	80.27	52	P	P	12 26 42.2	+0.6
E15A	Deer Lodge	80.28	43	⇓P	P	12 26 41.0	-0.4
	baz=80						
B17A	L&G Farms, Che	80.47	40	⇓P	P	12 26 42.5	+0.2
	baz=80						
HLID	Hailey	80.54	46	⇓P	P	12 26 43.1	+0.2
	baz=80						
F15A	Butte	80.66	43	⇓P	P	12 26 43.0	-0.4
	baz=80						
LRM	Limekiln Ridge	80.69	43	eP	P	12 26 45.9	+2.2
	comp=Z,74nm,1.1s						
A18A	Metzger Ranch,	80.70	40	⇓P	P	12 26 43.4	0.0
	baz=80						
H14A	Leadore	80.70	45	⇓P	P	12 26 44.3	+0.6
	baz=81						
E16A	East Helena	80.81	42	⇓P	P	12 26 44.9	+0.6
	baz=81						
I14A	Mackay	80.98	45	⇓P	P	12 26 46.0	+0.8
	baz=81						
D17A	Six Diamond Ra	81.10	41	⇓P	P	12 26 46.3	+0.6
	baz=81						
J14A	Carey	81.23	46	⇓P	P	12 26 46.7	+0.2
	baz=81						
BOZ	Bozeman (W)	81.28	43	eP	P	12 26 47.7	+1.0
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOZ	Bozeman (W)	81.28	43	eP	P	12 26 47.7	+1.0
	comp=Z,1.8nm,0.8s						
A19A	Klindworth Far	81.32	39	⇓P	P	12 26 47.0	+0.2
	baz=81						
MIB	Mutribah	81.39	299	eP	P	12 26 46.1	-1.2
MIB				AMb	AMB	12 26 48.0	
	comp=Z,32nm,0.9s						
B19A	Brinkman Farms	81.45	40	⇓P	P	12 26 47.2	-0.3
	baz=81						
I15A	Monteview	81.56	45	⇓P	P	12 26 48.1	-0.1
	baz=81						
FFC	Flin Flon	81.66	32	ceP	P	12 26 52.4	+4.1
FFC	Flin Flon	81.66	32	eP	P	12 26 52.0	+3.7
	comp=Z,4.9nm,0.8s						
NAY	Al-Naaiem	81.71	298	eP	P	12 26 48.1	-1.0
NAY				AMb	AMB	12 26 53.2	
	comp=Z,16nm,1.2s						
F17A	Fitzpatrick Pl	81.74	43	⇓P	P	12 26 49.1	0.0
	baz=82						
C19A	Slack Wire Ran	81.76	40	⇓P	P	12 26 49.5	+0.3
	baz=82						
MPMC	Manual Prospec	81.92	54	⇑P	P	12 26 50.4	+0.1
	baz=82						
D19A	Cripps Ranch,	82.15	41	⇑P	P	12 26 51.0	-0.2
	baz=82						
R11A	Troy Canyon, C	82.20	51	⇓P	P	12 26 52.2	+0.5
	baz=82						
A21A	Bergtoll Ranch	82.31	39	⇓P	P	12 26 51.8	-0.2
	baz=82						
C20A	Veseth Ranch,	82.37	40	⇑P	P	12 26 52.5	+0.2
	baz=82						
E19A	Rath Farm, Rou	82.57	41	⇓P	P	12 26 53.1	-0.3
	baz=82						
D20A	Manuel Ranch,	82.62	41	⇓P	P	12 26 53.4	-0.3
	baz=82						
K16A	Soda Springs	82.70	46	⇓P	P	12 26 54.7	+0.4
	baz=82						
C21A	Desert Coulee	82.83	40	⇑P	P	12 26 54.8	+0.1
	baz=83						
A22A	Carney Farms,	82.86	38	⇓P	P	12 26 54.9	+0.1
	baz=83						
AKASG	Malin Array Be	83.06	324	P	P	12 26 54.9	-0.8
	comp=Z,5.4nm,0.8s,baz=49,slow=5.9,SNR=11						
AKASG				pP	pP	12 27 06.3	+0.1
	comp=Z,7.7nm,0.8s,baz=50,slow=5.5,SNR=7.5						
AKASG	Malin Array Be	83.06	324	P	P	12 26 54.9	-0.8
AKASG				*PP	pP	12 27 06.3	+0.1
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	Malin Array Be	83.06	324	P	P	12 26 54.9	-0.8
AKASG				pP	pP	12 27 06.3	+0.1
KIEV	Kiev	83.07	324	eP	P	12 26 55.0	-0.8
KIEV	Kiev	83.07	324	eP	P	12 26 54.3	-1.4
	comp=Z,8.6nm,0.8s						
DUG	Dugway	83.21	48	⇓P	P	12 26 56.9	0.0
	baz=83						
H19A	Powell	83.39	43	⇓P	P	12 26 58.3	+0.6
	baz=83						
J18A	Kendall Valley	83.50	45	⇑P	P	12 26 58.8	+0.3
	baz=83						
B23A	Brockton	83.67	38	⇑P	P	12 26 59.8	+0.8
	baz=84						
D22A	Cohagen	83.72	40	⇓P	P	12 27 00.1	+0.8
	baz=84						
PFO	Pinyon Flat Ob	83.81	56	eP	P	12 26 59.6	-0.5
	comp=Z,7.7nm,0.5s						
NB2	NORSAR Subarra	83.97	338	P	P	12 26 59.1	-1.2
	comp=Z,4.1nm,0.8s,baz=44,slow=5.1						
NOA	NORSAR Array B	83.97	338	P	P	12 26 59.6	-0.7
	comp=Z,2.3nm,0.9s,baz=46,slow=4.7,SNR=5.8						
NOA				pP	pP	12 27 13.1	+2.4
	comp=Z,3.2nm,0.7s,baz=45,slow=5.0,SNR=5.6						
NOA				LR	LR	13 12 10.0	
	comp=Z,59nm,18.4s,baz=65,slow=41						
NOA	NORSAR Array B	83.97	338	P	P	12 26 59.6	-0.7
NOA				pP	pP	12 27 13.1	+2.4
PDAR	Pinedale Array	84.02	45	P	P	12 27 01.8	+0.6
	comp=Z,1.3nm,0.8s,baz=270,slow=1.5,SNR=8.1						
PDAR	Pinedale Array	84.02	45	P	P	12 27 01.8	+0.6
J19A	Crowheart	84.08	44	⇑P	P	12 27 01.9	+0.5
	baz=84						
K20A	Yellowstone Ra	84.84	44	⇓P	P	12 27 05.0	-0.2
	baz=85						
F23A	Volborg	84.95	41	⇓P	P	12 27 06.0	+0.4
	baz=85						
S16A	Weppner Ranch,	85.26	50	⇑P	P	12 27 06.8	-0.6
	baz=85						
I22A	9 Mile Ranch,	85.32	43	⇓P	P	12 27 08.5	+0.9
	baz=85						
R17A	Hanksville Air	85.51	49	⇑P	P	12 27 09.2	+0.6
	baz=85						
K21A	Alcova	85.53	44	⇓P	P	12 27 08.7	-0.1
	baz=85						
J22A	Midwest	85.59	43	⇓P	P	12 27 09.6	+0.6
	baz=85						
RAYN	Ar Rayn	85.66	294	P	P	12 27 09.7	+0.2
	comp=Z,153nm,0.8s,SNR=8.5						
L21A	Rawlins	85.82	45	⇑P	P	12 27 10.8	+0.5
	baz=86						
S17A	Black Ridge (B	85.85	50	⇑P	P	12 27 11.0	+0.7
	baz=86						
P19A	Cripple Cowboy	86.03	47	⇓P	P	12 27 10.8	-0.4
	baz=86						
S18A	Hurst Farm, Bl	86.37	49	⇑P	P	12 27 13.3	+0.3
	baz=86						
BR131	Keskin Array S	86.49	313	eP	P	12 27 12.8	-0.7
	comp=Z,0.7nm,0.5s						
BR131				epP	pP	12 27 25.5	+1.6
BRTR	Keskin Array B	86.49	313	P	P	12 27 11.8	-1.6
	comp=Z,1.7nm,0.7s,baz=88,slow=4.1,SNR=9.5						
BRTR				pP	pP	12 27 24.7	+0.8
	comp=Z,2.4nm,0.8s,baz=98,slow=3.7,SNR=6.2						
BRTR	Keskin Array B	86.49	313	P	P	12 27 11.8	-1.6
BRTR				pP	pP	12 27 24.7	+0.8
Q20A	Ridgley Place,	86.84	48	⇓P	P	12 27 15.9	+0.7
	baz=87						
N22A	Wattenberg Ran	87.03	45	⇑P	P	12 27 16.9	+0.7
	baz=87						
PV01	Paradox Valley	87.09	48	eP	P	12 27 16.9	+0.3
M23A	Laramie	87.12	44	⇑P	P	12 27 16.4	-0.2
	baz=87						
214A	Organ Pipe Nat	87.29	55	⇑P	P	12 27 18.2	+0.8
	baz=87						
U19A	Dine' College,	87.63	50	⇓P	P	12 27 20.2	+1.0
	baz=88						
Q22A	Crested Butte,	87.80	47	⇓P	P	12 27 19.9	-0.1
	baz=88						
CRVS	Cervenica-Dubn	88.15	326	eP	P	12 27 21.0	-0.1
CRVS				pmax	pmax		
	comp=Z,18nm,1.8s						
CRVS	Cervenica-Dubn	88.15	326	eP	P	12 27 21.0	-0.1
CRVS				epP	pP	12 27 35.3	+3.7
Y20A	Horse Springs,	89.47	52	⇓P	P	12 27 28.9	+1.0
	baz=89						
VYHS	Vyhne	89.73	326	eP	P	12 27 28.0	-0.5
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s						
VYHS	Vyhne	89.73	326	eP	P	12 27 28.0	-0.5
Z22A	Elephant Butte	90.82	52	⇓P	P	12 27 33.4	-0.7
	baz=91						
KHC	Kasperske Hory	91.78	329	eP	P	12 27 36.5	-1.6
KHC	Kasperske Hory	91.78	329	eP	P	12 27 36.5	-1.6
GERES	GERESS Array B	91.93	329	P	P	12 27 37.7	-1.2
	comp=Z,0.6nm,0.7s,baz=32,slow=6.3,SNR=5.1						
GERES	GERESS Array B	91.93	329	P	P	12 27 37.7	-1.2
TXAR	Lajitas Array	95.34	53	P	P	12 27 55.4	+0.4
	comp=Z,0.4nm,0.9s,baz=287,slow=2.9,SNR=3.9						
TXAR				LR	LR	13 07 24.2	
	comp=Z,67nm,19.3s,baz=25,slow=33						
TXAR	Lajitas Array	95.34	53	P	P	12 27 55.4	+0.4
TORD	Torodi Ar. Bea	125.07	312	PKP	PKPdf	12 33 30.5	-0.8
	comp=Z,1.1nm,0.8s,baz=20,slow=2.1,SNR=5.3						
TORD	Torodi Ar. Bea	125.07	312	PKP	PKPdf	12 33 30.6	-0.8
PLCA	Paso Flores	149.31	125	PKPbc	PKPbc	12 34 19.2	+0.1
	comp=Z,1.3nm,0.8s,baz=240,slow=6.4,SNR=3.2						
PLCA	Paso Flores	149.31	125	PKPbc	PKPbc	12 34 19.2	+0.1
LPAZ	La Paz	149.51	76	PKPbc	PKPbc	12 34 21.1	+0.1
	comp=Z,2.5nm,0.8s,baz=342,slow=6.1,SNR=5.8						
LPAZ	La Paz	149.51	76	PKPbc	PKPbc	12 34 21.1	+0.1
SAML	Samuel	149.68	59	ePKPdf	PKPdf	12 34 16.5	+0.4
SAML				ePKPbc	PKPbc	12 34 20.0	-0.7

IDC 03 12:23:07.3±0.8**, 26.92N**×**142.91E, h0**km**, mb3.8**/10**, mb1 3.9**/11**, mb1mx3.8**/26**, mbtmp3.7**/11**, ML3.2**/1**, Error ellipse: s-maj=18.1km s-min=15.8km az=37.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.67	285	Pn	Pn	12 23 25.4	+1.3
	587nm,0.3s,baz=284,slow=18,SNR=28						
CBIJ				Sn	Sn	12 23 35.5	+0.3
	1μm,0.3s,baz=281,slow=21,SNR=11						
MJAR	Matsushiro Arr	10.39	339	Pn	Pn	12 25 38.5	+0.9
	0.2nm,0.3s,baz=189,slow=13,SNR=3.0						
CMAR	Chiang Mai Arr	41.26	268	P	P	12 30 53.5	-1.0
	0.3nm,0.3s,baz=59,slow=8.1,SNR=4.2						
WRA	Warramunga Arr	47.32	191	P	P	12 31 43.0	+0.1
	2.5nm,0.4s,baz=12,slow=8.7,SNR=68						
FITZ	Fitzroy Crossi	47.79	202	P	P	12 31 46.9	+0.4
	3.2nm,0.8s,baz=33,slow=8.2,SNR=5.8						
ZALV	Zalesovo Beam	50.04	319	P	P	12 32 02.3	-1.2
	0.4nm,0.4s,baz=96,slow=7.6,SNR=4.4						
ZALV				PcP	PcP	12 33 22.3	-1.1
	0.7nm,0.6s,baz=110,slow=4.2,SNR=4.3						
ASAR	Alice Springs	51.04	191	P	P	12 32 10.7	-0.6
	0.5nm,0.7s,baz=17,slow=14,SNR=5.5						
MKAR	Makanchi Array	51.09	310	P	P	12 32 09.9	-1.7
	0.3nm,0.3s,baz=90,slow=10,SNR=5.3						
MKAR				PcP	PcP	12 33 27.0	-0.4
	0.2nm,0.5s,baz=76,slow=6.1,SNR=3.1						
KURBB	Kurchatov Arra	53.62	314	P	P	12 32 29.6	-0.7
	1.6nm,0.5s,baz=91,slow=8.1,SNR=22						
ILAR	Eielson Array	57.55	29	P	P	12 32 58.1	-0.2
	0.6nm,1.1s,baz=242,slow=5.0,SNR=3.0						
YKA	Yellowknife Ar	71.98	28	P	P	12 34 33.4	+1.0
	0.4nm,0.7s,baz=294,slow=6.1,SNR=4.4						
FINES	FINESS Array B	78.39	334	P	P	12 35 10.5	+1.1
	0.6nm,0.3s,baz=65,slow=4.7,SNR=8.1						

IDC 03 12:29:13.2±1.9**, 15.08S**×**178.93W, h415**km±22km**, mb3.3**/11**, mb1 3.6**/13**, mb1mx3.4**/23**, mbtmp3.3**/13**, Error ellipse: s-maj=32.9km s-min=11.2km az=150.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.03	81	P	P	12 30 56.9	-1.1
	13nm,0.3s,baz=120,slow=2.3,SNR=29						
AFI				S	S	12 32 22.8	-0.2
	0.9nm,0.3s,baz=131,slow=14,SNR=1.5						
DZM	Mont Dzumac	15.51	241	P	P	12 32 31.9	+1.0
	0.8nm,0.3s,baz=93,slow=18,SNR=11						
STKA	Stephens Creek	39.62	238	P	P	12 36 07.7	+0.6
	0.8nm,0.3s,baz=164,slow=13,SNR=3.2						
WRA	Warramunga Arr	44.72	257	P	P	12 36 48.1	+0.3
	0.2nm,0.2s,baz=84,slow=7.2,SNR=18						
ASAR	Alice Springs	45.14	252	P	P	12 36 50.2	-0.9
	2.5nm,0.4s,baz=85,slow=8.5,SNR=67						
VNDA	Vanda	63.21	185	P	P	12 38 58.9	+0.2
	0.5nm,0.6s,baz=336,slow=6.4,SNR=4.4						
KDAK	Kodiak Island	75.79	14	P	P	12 40 15.4	+0.7
	1.6nm,0.4s,baz=125,slow=16,SNR=3.5						
YBH	Yreka Blue Hor	76.67	40	P	P	12 40 21.2	+1.1
	1.8nm,0.6s,baz=182,slow=9.4,SNR=6.7						
NVAR	Mina Array Bea	77.75	44	P	P	12 40 26.6	+0.3
	1.7nm,0.7s,baz=225,slow=9.4,SNR=8.4						
ILAR	Eielson Array	83.26	13	P	P	12 40 53.9	-0.4
	1.6nm,0.5s,baz=231,slow=5.4,SNR=36						
TXAR	Lajitas Array	84.92	58	P	P	12 41 03.8	+0.4
	0.6nm,0.7s,baz=219,slow=6.6,SNR=7.7						
PDAR	Pinedale Array	85.66	44	P	P	12 41 06.7	-0.3
	1.0nm,0.6s,baz=222,slow=2.9,SNR=8.4						
YKA	Yellowknife Ar	91.99	25	P	P	12 41 35.2	-0.5
	0.1nm,0.7s,baz=243,slow=4.4,SNR=5.1						
ARCES	ARCESS Array B	123.46	350	PKP	PKPdf	12 47 20.2	-1.2
	2.0nm,0.6s,baz=349,slow=2.5,SNR=6.9						
BRTR	Keskin Array B	142.41	317	PKP	PKPdf	12 47 54.9	-3.0
	0.9nm,1.0s,baz=33,slow=3.4,SNR=3.4						
GERES	GERESS Array B	144.76	345	PKP	PKPdf	12 48 01.3	-0.3
	0.7nm,0.6s,baz=19,slow=4.5,SNR=5.2						

*VIE **03** 12:29:59.6±0.5, 50.24N×12.77E, h0km, mb2.1/1, ML2.5/2, Error ellipse: s-maj=5.1km s-min=1.5km az=40.0 22 km E of Klingenthal Suspected Mining explosion.*

ISC 03 12:29:57.8±5.8**, 50.2N**±0.1×**12.5E**±0.3**, h0**km**, n3,** σ**0.57**/5**, 1C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	2.51	75	ePg	Pg	12 30 46.1	+0.2
KSP				eSg	Sg	12 31 18.1	-0.3
MOA	Molln	2.67	153	⇓iSg	Sg	12 31 24.0	+0.5
	11nm,0.5s						
CONA	Conrad Observa	3.21	135	⇓iPg	Pg	12 30 58.9	-0.5
CONA				⇑iSg	Sg	12 31 41.3	+0.3
	9.6nm,0.7s						

IDC 03 12:45:47.4±1.1**, 26.92N**×**142.96E, h0**km**, mb3.7**/8**, mb1 3.8**/8**, mb1mx3.6**/25**, mbtmp3.7**/8**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.1**/42**, Error ellipse: s-maj=24.8km s-min=17.5km az=37.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.71	284	Pn	Pn	12 46 05.9	+1.2
	160nm,0.3s,baz=284,slow=20,SNR=23						
CBIJ				Sn	Sn	12 46 16.4	0.0
	580nm,0.3s,baz=297,slow=23,SNR=15						
JOW	Kunigami	13.11	273	LR	LR	12 53 34.8	
	comp=Z,43nm,21.2s,baz=303,slow=36						
CMAR	Chiang Mai Arr	41.31	268	P	P	12 53 33.2	-1.8
	0.4nm,0.3s,baz=74,slow=6.7,SNR=3.4						
WRA	Warramunga Arr	47.33	191	P	P	12 54 23.6	+0.5
	2.3nm,0.4s,baz=12,slow=8.6,SNR=47						
ZALV	Zalesovo Beam	50.07	319	P	P	12 54 43.7	-0.1
	0.3nm,0.3s,baz=101,slow=7.5,SNR=3.0						
ASAR	Alice Springs	51.05	191	P	P	12 54 50.9	-0.6
	0.3nm,0.5s,baz=355,slow=4.9,SNR=7.3						
MKAR	Makanchi Array	51.12	310	P	P	12 54 51.4	-0.5
	0.1nm,0.4s,baz=92,slow=8.1,SNR=3.0						
KURBB	Kurchatov Arra	53.66	314	P	P	12 55 10.3	-0.3
	0.5nm,0.4s,baz=91,slow=8.1,SNR=9.8						
BVAR	Borovoye Array	58.64	318	P	P	12 55 46.0	-0.2
	1.2nm,0.5s,baz=95,slow=8.9,SNR=4.9						
YKA	Yellowknife Ar	71.96	28	P	P	12 57 12.8	+0.3
	0.2nm,0.8s,baz=294,slow=5.5,SNR=3.5						

*IDC **03** 12:48:49.7±4.9, 37.53N×20.99E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.6/6, Error ellipse: s-maj=100.0km s-min=40.7km az=22.0*
*ATH **03** 12:48:57.2, 37.74N×21.25E, h26km, ML3.2*
*CSEM **03** 12:48:57.6±0.2, 37.75N×21.23E, h15km, ML3.3/15, Error ellipse: s-maj=3.3km s-min=2.3km az=42.0*
*ISCJB **03** 12:48:58.1±0.4, 37.75N±0.02×21.20E±0.03, h26km±3km, mb3.5/6, Error ellipse: s-maj=4.1km s-min=2.9km az=42.4*
*THE **03** 12:48:58.1, 37.76N×21.22E, h16km, ML3.3/15, Error ellipse: s-maj=1.1km s-min=0.6km az=232.0*

ISC 03 12:48:57.5±0.9**, 37.76N**±0.02×**21.21E**±0.02**, h29**km±6km**, n94,** σ**1.26**/165**, mb3.5**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.36	34	P	Pb	12 49 05.2	-0.5
RLS				S	Sb	12 49 11.3	-0.1
RLS	Riolos of Patr	0.36	34	ePB	Pb	12 49 05.2	-0.5
RLS				eSB	Sb	12 49 10.9	-0.5
RLS	Riolos of Patr	0.36	34	ePb	Pb	12 49 05.3	-0.5
RLS				eSb	Sb	12 49 10.9	-0.5
RLS				S	Sb	12 49 11.3	-0.1
AMT	Artemida-Makis	0.46	120	P	Pb	12 49 06.7	-0.5
AMT				S	Sb	12 49 13.9	0.0
AMT	Artemida-Makis	0.46	120	P	Pb	12 49 06.7	-0.5
AMT				S	Sb	12 49 13.9	0.0
KFL	Anninata	0.48	316	P	Pb	12 49 07.7	0.0
KFL	Anninata	0.48	316	P	Pb	12 49 07.7	0.0
KFL				S	Sn	12 49 16.5	+0.5
VLS	Valsamata	0.64	311	P	Pn	12 49 10.5	-0.2
VLS				S	Sn	12 49 20.4	+0.5
VLS	Valsamata	0.64	311	ePN	Pn	12 49 11.0	+0.3
VLS				eSN	Sn	12 49 21.2	+1.3
VLS	Valsamata	0.64	311	P	Pn	12 49 10.5	-0.2
VLS	Valsamata	0.64	311	ePn	Pn	12 49 11.0	+0.3
VLS				S	Sn	12 49 20.4	+0.5
VLS				eSn	Sn	12 49 21.2	+1.3
UPR	University Cam	0.69	41	P	Pb	12 49 11.0	-0.1
UPR	University Cam	0.69	41	P	Pb	12 49 11.0	-0.1
LAKA	Lakka	0.77	51	P	Pb	12 49 12.0	-0.5
LAKA				S	Sn	12 49 23.6	+0.5
LAKA	Lakka	0.77	51	P	Pb	12 49 12.0	-0.5
LAKA				S	Sn	12 49 23.6	+0.5
ITM	Ithomi	0.81	135	P	Pn	12 49 13.1	+0.1
ITM				S	Sn	12 49 24.9	+0.8
ITM	Ithomi	0.81	135	ePN	Pn	12 49 12.9	-0.1
ITM				eSN	Sn	12 49 24.1	0.0
ITM	Ithomi	0.81	135	P	Pn	12 49 13.1	+0.1
ITM				eSn	Sn	12 49 24.1	0.0
ITM				S	Sn	12 49 24.9	+0.8
EFP	Efpalio	0.86	39	P	Pb	12 49 13.1	-0.9
EFP				S	Sn	12 49 26.5	+1.2
EFP	Efpalio	0.86	39	ePB	Pb	12 49 13.2	-0.8
EFP				eSN	Sn	12 49 26.6	+1.2
EFP	Efpalio	0.86	39	ePb	Pb	12 49 13.2	-0.8
EFP				S	Sn	12 49 26.5	+1.2
TRIZ	Trizonia	0.91	48	P	Pb	12 49 14.1	-0.7
TRIZ				S	Sn	12 49 28.0	+1.6
TRIZ	Trizonia	0.91	48	P	Pb	12 49 14.1	-0.7
TRIZ				S	Sn	12 49 28.0	+1.6
GUR	Goura	0.91	79	P	Pb	12 49 13.6	-1.3
GUR				S	Sn	12 49 28.3	+1.6
GUR	Goura	0.91	79	ePB	Pb	12 49 13.7	-1.2
GUR				eSN	Sn	12 49 27.4	+0.7
GUR	Goura	0.91	79	ePb	Pb	12 49 13.7	-1.2
GUR				eSn	Sn	12 49 27.4	+0.7
GUR				S	Sn	12 49 28.3	+1.6
PYL	PYLOS	0.96	154	P	Pn	12 49 15.3	+0.2
PYL	PYLOS	0.96	154	ePN	Pn	12 49 15.2	+0.2
PYL	PYLOS	0.96	154	ePn	Pn	12 49 15.2	+0.2
PYL				S	Sn	12 49 31.0	+3.3
KALE	Kalithea	0.97	49	P	Pn	12 49 15.0	-0.2
KALE				S	Sn	12 49 29.7	+1.7
KALE	Kalithea	0.97	49	P	Pn	12 49 15.0	-0.2
KALE				S	Sn	12 49 29.7	+1.7
VLX	Vlachokerasia	1.01	112	P	Pb	12 49 16.4	0.0
VLX				S	Sn	12 49 30.9	+1.9
VLX	Vlachokerasia	1.01	112	ePN	Pb	12 49 16.8	+0.4
VLX				eSN	Sn	12 49 30.0	+1.0
VLX	Vlachokerasia	1.01	112	P	Pb	12 49 16.4	0.0
VLX	Vlachokerasia	1.01	112	ePn	Pb	12 49 16.8	+0.4
VLX				eSn	Sn	12 49 30.0	+1.0
VLX				S	Sn	12 49 30.9	+1.9
LKD2	Lefkada island	1.12	337	P	Pb	12 49 18.5	+0.3
LKD2				S	Sn	12 49 33.7	+2.1
LKD2	Lefkada island	1.12	337	P	Pb	12 49 18.5	+0.3
LKD2				S	Sn	12 49 33.7	+2.1
DESF	Desfina	1.23	58	P	Pb	12 49 19.5	-0.7
DESF	Desfina	1.23	58	P	Pb	12 49 19.5	-0.7
EVR	Evrytania	1.25	22	P	Pb	12 49 20.3	-0.2
EVR	Evrytania	1.25	22	ePN	Pb	12 49 20.5	0.0
EVR				eSN	Sb	12 49 38.0	+1.7
EVR	Evrytania	1.25	22	ePn	Pb	12 49 20.5	0.0
EVR				eSn	Sb	12 49 38.0	+1.7
DYR	Agios Nikonas	1.34	138	P	Pb	12 49 22.9	+0.9
DYR	Agios Nikonas	1.34	138	P	Pb	12 49 22.9	+0.9
DYR				S	Sb	12 49 43.0	+4.2
LTK	Loutraki	1.41	79	P	Pb	12 49 22.7	-0.6
LTK				S	Sb	12 49 41.1	+0.2
LTK	Loutraki	1.41	79	ePN	Pb	12 49 23.0	-0.3
LTK				eSB	Sb	12 49 41.9	+1.0
LTK	Loutraki	1.41	79	P	Pb	12 49 22.7	-0.6
LTK	Loutraki	1.41	79	ePn	Pb	12 49 23.0	-0.3
LTK				S	Sb	12 49 41.1	+0.2
LTK				eSb	Sb	12 49 41.9	+1.0
MAKR	Makrakomi, Fth	1.45	30	P	Pb	12 49 23.9	+0.1
MAKR	Makrakomi, Fth	1.45	30	P	Pb	12 49 23.9	+0.1
AXAR	Agios Charalam	1.52	48	P	Pn	12 49 23.9	+1.2
AXAR				S	Sb	12 49 44.0	0.0
AXAR	Agios Charalam	1.52	48	P	Pn	12 49 23.9	+1.2
AXAR				S	Sb	12 49 44.0	0.0
DIDY	Didyma	1.61	99	P	Pb	12 49 25.8	-0.9
DIDY				S	Sb	12 49 46.1	-0.6
DIDY	Didyma	1.61	99	P	Pb	12 49 25.8	-0.9
DIDY				S	Sb	12 49 46.1	-0.6
DID	Didima	1.63	98	P	Pb	12 49 25.7	-1.2
DID				S	Sb	12 49 46.1	-1.0
DID	Didima	1.63	98	ePN	Pb	12 49 25.9	-1.0
DID				eSN	Sb	12 49 46.2	-0.9
DID	Didima	1.63	98	P	Pb	12 49 25.7	-1.2
DID				eSn	Sb	12 49 46.2	-0.9
LKR	Lokris	1.67	57	P	Pb	12 49 26.2	-1.3
LKR				S	Sb	12 49 47.6	-0.5
LKR	Lokris	1.67	57	ePN	Pb	12 49 26.2	-1.3
LKR				eSN	Sb	12 49 47.9	-0.2
LKR	Lokris	1.67	57	P	Pb	12 49 26.2	-1.3
LKR				S	Sb	12 49 47.6	-0.5
LKR				eSn	Sb	12 49 47.9	-0.2
RGA	Parga	1.70	337	P	Pb	12 49 26.9	-1.2
RGA	Parga	1.70	337	P	Pb	12 49 26.9	-1.2
ATAL	Atalanti	1.70	56	P	Pb	12 49 26.8	-1.4
ATAL				S	Sb	12 49 48.3	-0.9
ATAL	Atalanti	1.70	56	P	Pb	12 49 26.8	-1.4
ATAL				S	Sb	12 49 48.3	-0.9

NAIG	**Nisos Aigina**	**1.81**	**89**	*e*PN	**Pb**	**12 49 28.6**	**-1.3**
NAIG	**Nisos Aigina**	**1.81**	**89**	*e*Pn	**Pb**	**12 49 28.6**	**-1.3**
THL	**Klokotos Trika**	**1.91**	**19**	P	**Pn**	**12 49 29.3**	**+1.2**
THL				S	**Sn**	**12 49 53.4**	**+2.3**
THL	**Klokotos Trika**	**1.91**	**19**	*e*PN	**Pb**	**12 49 30.6**	**-1.1**
THL				*e*SN	**Sb**	**12 49 54.2**	**-0.9**
THL	**Klokotos Trika**	**1.91**	**19**	P	**Pn**	**12 49 29.3**	**+1.2**
THL	**Klokotos Trika**	**1.91**	**19**	*e*Pn	**Pb**	**12 49 30.6**	**-1.1**
THL				S	**Sn**	**12 49 53.4**	**+2.3**
THL				*e*Sn	**Sb**	**12 49 54.2**	**-0.9**
ATH	**Athens Observa**	**2.00**	**83**	*e*PB	**Pn**	**12 49 31.0**	**+1.8**
ATH				*e*SN	**Sb**	**12 49 56.1**	**-1.4**
ATH	**Athens Observa**	**2.00**	**83**	*e*Pb	**Pn**	**12 49 31.0**	**+1.8**
ATH				*e*Sn	**Sb**	**12 49 56.1**	**-1.4**
KYTH	**Kithira**	**2.08**	**135**	P	**Pb**	**12 49 34.1**	**-0.4**
MRKA	**Markates**	**2.10**	**62**	P	**Pn**	**12 49 32.1**	**+1.4**
MRKA				S	**Sn**	**12 49 58.2**	**+2.4**
MRKA	**Markates**	**2.10**	**62**	P	**Pn**	**12 49 32.1**	**+1.4**
MRKA				S	**Sn**	**12 49 58.2**	**+2.4**
ERET	**Eretria**	**2.16**	**71**	P	**Pn**	**12 49 33.0**	**+1.4**
ERET				S	**Sn**	**12 49 59.4**	**+2.0**
ERET	**Eretria**	**2.16**	**71**	P	**Pn**	**12 49 33.0**	**+1.4**
ERET				S	**Sn**	**12 49 59.4**	**+2.0**
NEO	**Neokhori**	**2.21**	**45**	*e*PN	**Pn**	**12 49 34.2**	**+2.0**
NEO				*e*SN	**Sn**	**12 50 01.3**	**+2.7**
NEO	**Neokhori**	**2.21**	**45**	*e*Pn	**Pn**	**12 49 34.2**	**+2.0**
NEO				*e*Sn	**Sn**	**12 50 01.3**	**+2.7**
XOR	**Xorichti**	**2.23**	**43**	P	**Pn**	**12 49 34.2**	**+1.6**
XOR				S	**Sn**	**12 50 01.4**	**+2.2**
XOR	**Xorichti**	**2.23**	**43**	P	**Pn**	**12 49 34.2**	**+1.6**
XOR				S	**Sn**	**12 50 01.4**	**+2.2**
KEK	**Kerkira**	**2.24**	**331**	P	**Pn**	**12 49 34.0**	**+1.4**
KEK	**Kerkira**	**2.24**	**331**	P	**Pn**	**12 49 34.0**	**+1.4**
AOS	**Alonnisos**	**2.52**	**55**	P	**Pn**	**12 49 37.7**	**+1.2**
AOS				S	**Sn**	**12 50 08.4**	**+2.1**
AOS	**Alonnisos**	**2.52**	**55**	P	**Pn**	**12 49 37.7**	**+1.2**
AOS				S	**Sn**	**12 50 08.4**	**+2.1**
PLG	**Polygyros**	**3.14**	**33**	*e*PN	**Pn**	**12 49 46.6**	**+1.6**
PLG				*e*SN	**Sn**	**12 50 23.0**	**+1.5**
PLG	**Polygyros**	**3.14**	**33**	*e*Pn	**Pn**	**12 49 46.6**	**+1.6**
PLG				*e*Sn	**Sn**	**12 50 23.0**	**+1.5**
BRTR	**Keskin Array B**	**9.91**	**75**	Pn	Pn	12 51 22.4	+4.3
	0.1nm,0.3s,baz=260,slow=9.0,SNR=3.2						
FINES	**FINESS Array B**	**23.90**	**6**	P	**P**	**12 54 06.9**	**-1.5**
	0.8nm,0.4s,baz=182,slow=9.5,SNR=9.2						
ARCES	**ARCESS Array B**	**31.92**	**3**	P	**P**	**12 55 19.0**	**-1.1**
	2.0nm,1.0s,baz=192,slow=11,SNR=6.0						
KURBB	**Kurchatov Arra**	**42.04**	**53**	P	**P**	**12 56 45.1**	**-1.1**
	0.4nm,0.7s,baz=280,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**45.06**	**58**	P	**P**	**12 57 09.2**	**-1.4**
	0.3nm,0.5s,baz=282,slow=7.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**45.57**	**48**	P	**P**	**12 57 13.1**	**-1.4**
	0.6nm,0.4s,baz=279,slow=8.8,SNR=4.6						
YKA	**Yellowknife Ar**	**73.97**	**340**	P	P	13 00 27.4	-2.3
	0.1nm,0.4s,baz=46,slow=4.4,SNR=3.5						

IDC 03 12:57:40.6±1.4**, 31°.40S×177°.87W, h0km, mb4.3**/4**, mb1 4.4**/4**, mb1mx4.0**/19**, mbtmp4.3**/4**, MS3.4**/2**, Ms1 3.5**/2**, ms1mx2.8**/27**, Error ellipse: s-maj=58.1km s-min=32.7km az=180.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.80**	**300**	LR	LR	13 06 17.5	
	comp=Z,56nm,19.5s,baz=198,slow=31						
CTA	**Charters Tower**	**34.08**	**281**	P	P	13 04 28.4	+1.4
	4.7nm,0.8s,baz=120,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**34.38**	**258**	P	P	13 04 29.8	+0.4
	2.9nm,0.9s,baz=90,slow=6.1,SNR=2.8						
ASAR	**Alice Springs**	**43.18**	**268**	P	P	13 05 42.3	-1.1
	1.3nm,0.5s,baz=105,slow=7.2,SNR=51						
WRA	**Warramunga Arr**	**44.26**	**273**	P	P	13 05 51.5	-0.6
	2.1nm,0.4s,baz=111,slow=8.0,SNR=57						
CMAR	**Chiang Mai Arr**	**93.84**	**289**	LR	LR	13 49 35.7	
	comp=Z,32nm,18.5s,baz=200,slow=33						
MKAR	**Makanchi Array**	**118.50**	**310**	PKP	PKPdf	13 16 29.3	-0.8
	0.3nm,0.7s,baz=94,slow=4.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**121.86**	**313**	PKP	PKPdf	13 16 35.4	-0.8
	0.7nm,0.8s,baz=122,slow=2.1,SNR=6.6						
ARCES	**ARCESS Array B**	**139.59**	**348**	PKhKP	PKPpre	13 17 03.5	
	2.9nm,1.0s,baz=54,slow=2.3,SNR=3.1						
FINES	**FINESS Array B**	**146.12**	**340**	PKPbc	PKPbc	13 17 21.6	-0.3
	1.9nm,0.4s,baz=42,slow=4.3,SNR=20						
TORD	**Torodi Ar. Bea**	**161.83**	**179**	PKPab	PKPab	13 18 29.8	+0.1
	0.7nm,1.0s,baz=263,slow=0.7,SNR=2.9						

IDC 03 13:10:13.7±27.0**, 20°.58S×171°.22W, h0km, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.8**/21**, mbtmp4.0**/4**, Error ellipse: s-maj=518.9km s-min=177.9km az=74.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.80**	**263**	P	P	13 17 48.6	-0.3
	2.7nm,0.5s,baz=73,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**43.50**	**245**	P	P	13 18 18.0	-1.1
	2.2nm,0.6s,baz=79,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**50.67**	**256**	P	P	13 19 15.6	+0.2
	0.5nm,0.6s,baz=96,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**50.87**	**261**	P	P	13 19 17.1	+0.2
	0.2nm,0.3s,baz=89,slow=5.8,SNR=26						

*ISCJB **03** 13:10:30.2±0.6, 39°.48N±0°.03×28°.18E±0°.04, h0km±6km, Error ellipse: s-maj=5.7km s-min=4.8km az=25.7*
*ISK **03** 13:10:30.0, 39°.47N×28°.19E, h6km, MD2.9*
*DDA **03** 13:10:30.7, 39°.45N×28°.15E, h6km, MD2.8*
*CSEM **03** 13:10:30.5±0.1, 39°.47N×28°.18E, h5km, MD2.9, Error ellipse: s-maj=2.6km s-min=2.3km az=34.0*
ISC 03 13:10:31.1±1.1**, 39°.47N**±0°.03×**28°.17E**±0°.02**, h10km**±9km**, n52, σ0s.72**/59**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.27**	**61**	*i* P	**Pg**	**13 10 36.0**	**-0.6**
DURS				*i* S	**Sb**	**13 10 41.8**	**-0.9**
DURS	**Dursunbey**	**0.27**	**61**	*i* P	**Pg**	**13 10 36.0**	**-0.6**
DURS				*i* S	**Sb**	**13 10 41.8**	**-0.9**
BALB	**Balikesir**	**0.28**	**306**	*e*PG	**Pg**	**13 10 36.4**	**-0.4**
BALB	**Balikesir**	**0.28**	**306**	*e*Pg	**Pg**	**13 10 36.4**	**-0.4**
DST	**Dursunbey**	**0.37**	**69**	*e*PG	**Pg**	**13 10 37.6**	**-0.9**
DST	**Dursunbey**	**0.37**	**69**	*e*Pg	**Pg**	**13 10 37.6**	**-0.9**
BALY	**Balya**	**0.50**	**302**	*i* P	**Pg**	**13 10 40.0**	**-1.0**
BALY				*i* S	**Sg**	**13 10 48.3**	**+0.7**
BALY	**Balya**	**0.50**	**302**	*i* P	**Pg**	**13 10 40.0**	**-1.0**
BALY				*i* S	**Sg**	**13 10 48.3**	**+0.7**
AKS	**Akhisar**	**0.66**	**205**	*e*PG	**Pg**	**13 10 43.1**	**-0.8**
AKS	**Akhisar**	**0.66**	**205**	*e*Pg	**Pg**	**13 10 43.1**	**-0.8**
GONE	**Gonen-Balikesi**	**0.68**	**327**	*e*PG	**Pg**	**13 10 43.4**	**-1.0**
GONE	**Gonen-Balikesi**	**0.68**	**327**	*e*Pg	**Pg**	**13 10 43.4**	**-1.0**
ORLT	**Orhaneli**	**0.80**	**44**	*e*PG	**Pg**	**13 10 45.5**	**-1.1**
ORLT	**Orhaneli**	**0.80**	**44**	*e*Pg	**Pg**	**13 10 45.5**	**-1.1**
KCTX	**Karacabey (Bur**	**0.80**	**10**	*e*PG	**Pg**	**13 10 45.9**	**-0.7**
KCTX	**Karacabey (Bur**	**0.80**	**10**	*e*Pg	**Pg**	**13 10 45.9**	**-0.7**
EDC	**Edincik**	**0.90**	**345**	*e*PG	**Pg**	**13 10 47.9**	**-0.6**
EDC	**Edincik**	**0.90**	**345**	*e*Pg	**Pg**	**13 10 47.9**	**-0.6**
TVSB	**Tavsanli**	**1.00**	**91**	*e*PG	**Pg**	**13 10 49.7**	**-0.7**
TVSB	**Tavsanli**	**1.00**	**91**	*e*Pg	**Pg**	**13 10 49.7**	**-0.7**
MANT	**Manisa**	**1.03**	**163**	*i* P	**Pg**	**13 10 50.1**	**-0.8**
MANT				*i* S	**Sn**	**13 11 06.8**	**+0.5**
MANT	**Manisa**	**1.03**	**163**	*i* P	**Pg**	**13 10 50.1**	**-0.8**
MANT				*i* S	**Sn**	**13 11 06.8**	**+0.5**
KULA	**Kula-Manisa**	**1.03**	**158**	*e*PG	**Pg**	**13 10 50.1**	**-0.9**
KULA	**Kula-Manisa**	**1.03**	**158**	*e*Pg	**Pg**	**13 10 50.1**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.05**	**31**	*e*PG	**Pg**	**13 10 50.6**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.05**	**31**	*e*Pg	**Pg**	**13 10 50.6**	**-0.7**
KRBG	**Karabiga-Canak**	**1.14**	**324**	*e*PN	**Pg**	**13 10 52.4**	**-0.6**
KRBG	**Karabiga-Canak**	**1.14**	**324**	*e*Pn	**Pg**	**13 10 52.4**	**-0.6**
ARMT	**Armutlu**	**1.21**	**26**	*e*PN	**Pg**	**13 10 53.7**	**-0.7**
ARMT	**Armutlu**	**1.21**	**26**	*e*Pn	**Pg**	**13 10 53.7**	**-0.7**
BLCB	**Balcova**	**1.40**	**219**	*e*PN	**Pn**	**13 10 56.8**	**+0.1**
BLCB	**Balcova**	**1.40**	**219**	*e*Pn	**Pn**	**13 10 56.8**	**+0.1**
YLV	**Yalova**	**1.43**	**40**	*e*PN	**Pb**	**13 10 58.0**	**+0.1**
YLV	**Yalova**	**1.43**	**40**	*e*Pn	**Pb**	**13 10 58.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.43**	**328**	*e*PN	**Pn**	**13 10 57.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.43**	**328**	*e*Pn	**Pn**	**13 10 57.3**	**+0.1**
CAVI	**Cavuskoy**	**1.48**	**60**	*e*PN	**Pn**	**13 10 57.6**	**-0.2**
CAVI	**Cavuskoy**	**1.48**	**60**	*e*Pn	**Pn**	**13 10 57.6**	**-0.2**
MFT	**Murefte**	**1.48**	**333**	*e*PN	**Pb**	**13 10 58.8**	**0.0**
MFT	**Murefte**	**1.48**	**333**	*e*Pn	**Pb**	**13 10 58.8**	**0.0**
ADVT	**Abdulvahap**	**1.54**	**51**	*e*PN	**Pn**	**13 10 58.4**	**-0.2**
ADVT	**Abdulvahap**	**1.54**	**51**	*e*Pn	**Pn**	**13 10 58.4**	**-0.2**
ALT	**Altintas**	**1.56**	**105**	*e*PN	**Pn**	**13 10 58.7**	**-0.3**
ALT	**Altintas**	**1.56**	**105**	*e*Pn	**Pn**	**13 10 58.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.60**	**306**	*e*PN	**Pn**	**13 10 59.8**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.60**	**306**	*e*Pn	**Pn**	**13 10 59.8**	**+0.4**
BORA	**Eskisehir**	**1.81**	**76**	*i* P	**Pn**	**13 11 03.3**	**+0.9**
BORA				*i* S	**Sg**	**13 11 31.3**	**+2.1**
BORA	**Eskisehir**	**1.81**	**76**	*i* P	**Pn**	**13 11 03.3**	**+0.9**
GULT	**Gulveren**	**2.04**	**61**	*e*PN	**Pn**	**13 11 05.9**	**+0.3**
GULT	**Gulveren**	**2.04**	**61**	*e*Pn	**Pn**	**13 11 05.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.59**	**90**	*e*PN	**Pn**	**13 11 13.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.59**	**90**	*e*Pn	**Pn**	**13 11 13.5**	**+0.3**

*NIED **03** 13:17:00, 46°.70N×153°.20E, h26km, Mw4.1 Best double couple: M0 1.58000×10[15] NP1:φs127.00000°, δ75.00000°, λ-17.00000°. NP2:φs221.00000°, δ74.00000°, λ-164.00000°.*
*IDC **03** 13:17:52.7±0.6, 46°.84N×152°.81E, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.3/31, mbtmp4.2/23, ML3.9/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/42, Error ellipse: s-maj=18.4km s-min=12.3km az=153.0*
*JMA **03** 13:17:56.9±0.7, 46°.68N×153°.21E, h30km, M4.9*
*ISCJB **03** 13:17:56.4±0.7, 46°.71N±0°.06×153°.00E±0°.07, h41km±6km, mb4.2/28, MS3.5/6, Error ellipse: s-maj=11.7km s-min=4.9km az=139.3*
*SKHL **03** 13:17:59.7±0.0, 46°.87N×153°.10E, h71km±24km, mb4.9/7*
*BJI **03** 13:18:00.5, 47°.22N×153°.20E, h89km, mB4.7/6, mb4.5/12, Ms4.2/2, Ms7 4.0/2*
*MOS **03** 13:18:01.3±1.2, 46°.76N×152°.73E, h84km, mb4.5/20, Error ellipse: s-maj=9.9km s-min=8.2km az=79.4*
ISC 03 13:17:58.5±0.9**, 46°.66N**±0°.08×**153°.03E**±0°.07**, h46km**±7km**, n122, σ1s.49**/125**, mb4.2**/28**, MS3.6**/6**, 15C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**250**⇑	*i*PN	**Pn**	**13 18 57.0**	**+1.6**
KUR				*e*S	**Sn**	**13 19 40.0**	**+0.4**
KUR				pmax	pmax		
	comp=N,110nm,0.4s						
KUR				pmax	pmax		
	comp=Z,230nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.3s						
KUR				smax	smax		
	comp=N,760nm,0.5s						
KUR				smax	smax		
	comp=E,300nm,0.7s						
KUR	**Kuril'sk**	**3.87**	**250**⇑	*i*P	**Pn**	**13 18 57.0**	**+1.6**
KUR				AMB	AMB	13 18 59.0	
	comp=E,90nm,0.3s						
KUR				AMB	AMB	13 18 59.0	
	comp=E,110nm,0.4s						
KUR				AMB	AMB	13 18 59.0	
	comp=E,230nm,0.4s						
KUR				*e*S	**Sn**	**13 19 40.0**	**+0.4**
KUR				A	A	13 20 03.5	
	comp=E,760nm,0.5s						
KUR				A	A	13 20 03.5	
	comp=E,300nm,0.7s						
SKR	**Severo-Kuril's**	**4.52**	**26**	*e*PN	Pn	13 19 01.2	-3.1
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.52**	**26**	*e*P	Pn	13 19 01.2	-3.1
SKR				AMB	AMB	13 19 04.0	
	comp=Z,60nm,0.5s						
SKR				AMB	AMB	13 19 04.0	
	comp=Z,80nm,0.5s						
SKR				*e*S	Sn	13 19 47.3	-8.2
SKR				A	A	13 19 50.5	
	comp=Z,80nm,0.5s						
SKR				A	A	13 19 50.5	
	comp=Z,110nm,0.3s						
SKR				A	A	13 19 50.5	
	comp=Z,180nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**245**	*d i*PN	**Pn**	**13 19 22.8**	**+2.4**
YUK				*i* S	**Sn**	**13 20 28.0**	**+3.7**
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
YUK				pmax	pmax		
	comp=E,53nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,5.3s						
YUK				smax	smax		
	comp=N,522nm,0.6s						
YUK				smax	smax		
	comp=E,374nm,0.6s						
YUK				smax	smax		
	comp=Z,169nm,5.0s						
YUK				smax	smax		
	comp=N,60nm,5.0s						
YUK				smax	smax		
	comp=E,189nm,6.0s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**245**⇓	*i*P	**Pn**	**13 19 22.9**	**+2.5**
YUK				AMB	AMB	13 19 24.4	
	comp=E,50nm,0.2s						
YUK				AMB	AMB	13 19 24.4	
	comp=E,53nm,0.2s						
YUK				AMB	AMB	13 19 24.4	
	comp=E,1μm,0.2s						
YUK				*i* S	**Sn**	**13 20 28.1**	**+3.7**
YUK				A	A	13 20 51.7	
	comp=E,522nm,0.6s						
YUK				A	A	13 20 51.7	
	comp=E,374nm,0.6s						
NEM2	**Nemuro 2**	**6.12**	**240**	P	**Pn**	**13 19 26.1**	**-0.2**
NEM2				*e*S	**Sn**	**13 20 31.8**	**-3.2**
JRA	**Rausu**	**6.20**	**247**	P	**Pn**	**13 19 30.0**	**+2.6**
JNK	**Nakash**	**6.63**	**245**	P	**Pn**	**13 19 35.1**	**+1.8**
JNK				*e*S	**Sn**	**13 20 47.9**	**+0.3**
JAK	**Akkeshi**	**6.96**	**241**	P	**Pn**	**13 19 38.1**	**+0.3**
JAK				*e*S	**Sn**	**13 20 52.0**	**-3.7**
JTKR	**Abashiri--Toko**	**6.97**	**251**	P	**Pn**	**13 19 40.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**7.06**	**276**	*e*PN	Pn	13 19 44.2	+5.1
YSS	**Yuzh-Sakhalins**	**7.06**	**276**	*e*P	Pn	13 19 42.8	+3.7
YSS				AMB	AMB	13 19 44.2	
	comp=E,30nm,0.9s						
PETK	**Petropavlovsk-**	**7.12**	**23**	Pn	**Pn**	**13 19 39.5**	**-0.6**
	comp=E,0.8nm,0.3s,baz=186,slow=13,SNR=6.1						
PETK				LR	LR	13 22 19.4	
	comp=E,60nm,19.5s,baz=8.6,slow=38						
PETK	**Petropavlovsk-**	**7.12**	**23**	PN	**Pn**	**13 19 39.5**	**-0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,60nm,19.5s						
JMP	**Maruseppu**	**7.31**	**252**	P	**Pn**	**13 19 45.4**	**+2.7**
PET	**Petropavlovsk**	**7.33**	**28**	*e*PN	**Pn**	**13 19 44.7**	**+1.8**
PET				pmax	pmax		
	comp=Z,18nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
JAR	**Ashorobuto**	**7.37**	**246**	P	**Pn**	**13 19 45.1**	**+1.6**
JAR				*e*S	**Sn**	**13 21 05.4**	**-0.4**
JOB	**Onbets**	**7.54**	**243**	P	**Pn**	**13 19 46.6**	**+0.8**
JOB				*e*S	**Sn**	**13 21 07.1**	**-2.7**
UGL	**Uglegorsk**	**7.76**	**292**	*e*P	Pn	13 19 52.0	+3.3
UGL				AMB	AMB	13 19 53.0	
	comp=Z,36nm,0.8s						
JKK2	**Kamakawa 2**	**7.77**	**253**	P	**Pn**	**13 19 51.9**	**+3.0**
ASAJ	**Asahikawa**	**7.77**	**255**	Pn	Pn	13 19 52.5	+3.5
	comp=Z,3.3nm,0.3s,baz=80,slow=18,SNR=42						
ASAJ				LR	LR	13 22 30.6	
	comp=Z,139nm,21.2s,baz=255,slow=36						
ASAJ	**Asahikawa**	**7.77**	**255**	P	Pn	13 19 52.4	+3.5
JWK2	**Keihoku**	**7.87**	**264**	P	Pn	13 19 55.4	+5.2
JCH	**Churui**	**7.99**	**243**	P	**Pn**	**13 19 52.0**	**+0.1**
JCH				*e*S	**Sn**	**13 21 16.7**	**-4.2**
TYV	**Tymovskoe**	**8.04**	**305**	*e*P	**Pn**	**13 19 54.5**	**+1.9**
TYV				AMB	AMB	13 19 55.5	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	13 19 55.5	
	comp=Z,13nm,0.8s						
ERM	**Erimo**	**8.46**	**240**	*e*PN	**Pn**	**13 19 59.7**	**+1.3**
JBT2	**Biratori 2**	**8.53**	**247**	P	**Pn**	**13 19 59.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**8.55**	**243**	P	**Pn**	**13 19 58.8**	**-0.8**
JNB	**Noboribetsu**	**9.53**	**248**	P	**Pn**	**13 20 13.3**	**+0.3**
JKB	**Kayabe**	**9.83**	**245**	P	**Pn**	**13 20 16.2**	**-1.0**
JKB				*e*S	Sn	13 21 59.6	-6.5
JYM2	**Yakumo 2**	**10.13**	**248**	P	**Pn**	**13 20 21.5**	**+0.3**
NKL	**Nikolayevsk**	**10.27**	**314**	*e*P	**Pn**	**13 20 21.0**	**-2.1**
NKL				AMB	AMB	13 20 24.0	
	comp=Z,22nm,1.0s						
JSR	**Shiriuchi**	**10.41**	**245**	P	**Pn**	**13 20 24.0**	**-1.1**
JANG	**Nango**	**10.45**	**237**	P	Pn	13 20 22.8	-2.9
JANG				*e*S	Sn	13 22 11.1	-10
JTM	**Tenmabayashi**	**10.45**	**240**	P	**Pn**	**13 20 24.0**	**-1.6**
JOSM	**Okushiri--Mats**	**10.72**	**250**	P	**Pn**	**13 20 29.6**	**+0.3**
OFUJ	**Ofunato**	**11.25**	**232**	P	Pn	13 20 33.9	-2.7
JRG	**Rokugo**	**11.61**	**236**	P	**Pn**	**13 20 39.9**	**-1.5**
JRG				*e*S	Sn	13 22 39.6	-10
JIO	**Ouri**	**11.88**	**231**	P	**Pn**	**13 20 42.6**	**-2.5**
JIO				*e*S	Sn	13 22 45.5	-11
HABR	**Khabarovsk**	**12.28**	**285**	PN	**Pn**	**13 20 52.0**	**+1.5**
HABR				MLR	MLR		
	comp=Z,156nm,23.0s						
FX1	**Attu Island--F**	**14.40**	**57**	Pn	**Pn**	**13 21 18.0**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=349,slow=23,SNR=17						
FX1				Sn	Sn	13 23 46.9	-11
	comp=Z,2.1nm,0.3s,baz=141,slow=14,SNR=5.9						
KLR	**Kul'dur**	**14.48**	**288**	*e*P	**Pn**	**13 21 19.0**	**-1.5**
USRK	**Ussuriysk Arra**	**14.96**	**268**	Pn	**Pn**	**13 21 26.7**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=69,slow=12,SNR=9.2						
MAT	**Matsushiro**	**14.98**	**233**	P	**P**	**13 21 34.0**	**+2.2**
MAT				*e*S	PcP	13 26 21.6	-12
MJAR	**Matsushiro Arr**	**14.98**	**233**	Pn	**Pn**	**13 21 25.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=4.0						
SEY	**Seymchan**	**16.31**	**359**	*e*P	**Pn**	**13 21 42.8**	**-1.3**
YAK	**Yakutsk**	**20.36**	**328**	*e*P	**P**	**13 22 30.9**	**0.0**
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSRS	**Korea Array**	**20.71**	**253**	P	Pn	13 22 36.9	-0.7
	comp=Z,3.5nm,0.7s,baz=53,slow=10,SNR=17						
KSRS				LR	LR	13 29 18.5	
	comp=Z,45nm,19.8s,baz=4.1,slow=33						
JNU	**Nakatsue**	**21.62**	**239**	P	**P**	**13 22 45.6**	**+0.9**
	comp=Z,13nm,1.1s,baz=216,slow=16,SNR=6.6						
SONM	**Songino Array**	**31.31**	**290**	P	**P**	**13 24 13.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=85,slow=8.9,SNR=4.7						
SONM				LR	LR	13 37 50.2	
	comp=Z,85nm,20.3s,baz=97,slow=38						
XAN	**Xi'an**	**35.45**	**265**	P	**P**	**13 24 50.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**36.66**	**38**	P	**P**	**13 25 00.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=261,slow=6.3,SNR=8.7						
GTA	**Gaotai**	**38.92**	**279**	*e*P	**P**	**13 25 22.4**	**+2.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**13 25 43.9**	**+1.2**
	comp=Z,3.9nm,0.7s,baz=286,slow=7.3,SNR=21						
ZALV	**Zalesovo Beam**	**42.62**	**306**	P	**P**	**13 25 48.1**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=56,slow=6.6,SNR=7.0						
ZALV				PcP	**PcP**	**13 27 41.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=102,slow=2.6,SNR=5.7						
ZALV				LR	LR	13 44 17.7	
	comp=Z,64nm,20.7s,baz=64,slow=37						
ZALV	**Zalesovo Beam**	**42.62**	**306**	P	**P**	**13 25 48.1**	**-1.8**
ZALV						13 27 41.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,64nm,20.7s						
MKAR	**Makanchi Array**	**46.93**	**297**	P	**P**	**13 26 23.3**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=69,slow=7.2,SNR=13						
MKAR				PcP	**PcP**	**13 27 56.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=64,slow=2.1,SNR=6.1						
MKAR				LR	LR	13 47 12.3	
	comp=Z,97nm,18.8s,baz=352,slow=38						
MKAR	**Makanchi Array**	**46.93**	**297**	*i* P	**P**	**13 26 23.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.36**	**304**	*e*P	**P**	**13 26 26.2**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURBB	**Kurchatov Arra**	**47.46**	**304**	P	**P**	**13 26 26.5**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=68,slow=8.5,SNR=13						
KURBB				PcP	**PcP**	**13 27 57.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=69,slow=4.1,SNR=4.4						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**13 26 55.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=48,slow=6.9,SNR=4.1						
BVAR				PcP	**PcP**	**13 28 09.9**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=57,slow=6.0,SNR=4.7						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**13 26 55.1**	**+0.7**
BVAR						13 28 09.9	
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**13 26 56.1**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=296,slow=7.1,SNR=31						
YKA				PcP	**PcP**	**13 28 11.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=295,slow=3.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**52.29**	**256**	P	**P**	**13 27 06.6**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=34,slow=7.1,SNR=12						
TAPN	**Taplejung**	**54.04**	**273**	*e*P	**P**	**13 27 19.4**	**+0.8**
	comp=Z,4.3nm,0.3s						
ODAN	**Odare**	**54.58**	**273**	*e*P	**P**	**13 27 23.0**	**+0.6**
	comp=Z,4.7nm,0.4s						
JIRN	**Jiri**	**54.89**	**275**	*e*P	**P**	**13 27 25.5**	**+0.6**
	comp=Z,3.7nm,0.5s						
GUN	**Gumba**	**54.95**	**275**	*e*P	**P**	**13 27 25.8**	**+0.5**
	comp=Z,7.1nm,0.4s						
RAMN	**Ramite**	**55.06**	**274**	*e*P	**P**	**13 27 26.5**	**+0.5**
	comp=Z,19nm,0.4s						
KKN	**Kakani**	**55.44**	**275**	*e*P	**P**	**13 27 29.5**	**+0.9**
PKI	**Pulchoki**	**55.48**	**275**	*e*P	**P**	**13 27 29.7**	**+0.6**
	comp=Z,7.4nm,0.5s						
DMN	**Daman**	**55.67**	**275**	*e*P	**P**	**13 27 31.2**	**+0.9**
	comp=Z,12nm,0.5s						
GKN	**Gorkha**	**55.74**	**276**	*e*P	**P**	**13 27 31.5**	**+0.8**
	comp=Z,10nm,0.6s						
DANN	**Dangsing**	**56.12**	**277**	*e*P	**P**	**13 27 34.6**	**+1.0**
	comp=Z,14nm,0.6s						
KOLN	**Koldanda**	**56.60**	**276**	*e*P	**P**	**13 27 37.8**	**+0.9**
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	**56.81**	**277**	*e*P	**P**	**13 27 38.9**	**+0.5**
FFC	**Flin Flon**	**60.85**	**40**	*i* P	**P**	**13 28 07.3**	**+1.5**
JOF	**Joensuu**	**61.39**	**334**	*e*P	**P**	**13 28 06.9**	**-2.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	**Joensuu**	**61.39**	**334**	*e*p	**P**	**13 28 06.9**	**-2.4**
	comp=Z,1.8nm,0.6s						
FINES	**FINESS Array B**	**64.10**	**335**	P	**P**	**13 28 26.4**	**-0.9**
	comp=Z,4.5nm,0.4s,baz=33,slow=7.9,SNR=30						
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**13 28 33.8**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=301,slow=0.9,SNR=9.7						
ULM	**Lac du Bonnet**	**66.63**	**41**	P	**P**	**13 28 43.3**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=330,slow=5.8,SNR=4.0						
NB2	**NORSAR Subarra**	**68.29**	**341**	P	**P**	**13 28 53.3**	**-1.0**
	comp=Z,5.0nm,0.6s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.29**	**341**	P	**P**	**13 28 53.5**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=28,slow=6.3,SNR=14						
WRA	**Warramunga Arr**	**68.41**	**199**	P	**P**	**13 28 55.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=11,slow=6.5,SNR=6.0						
HFS	**Hagfors**	**68.52**	**339**	P	**P**	**13 28 54.9**	**-0.8**
	comp=Z,8.0nm,0.4s,baz=56,slow=5.9,SNR=41						
AKASG	**Malin Array Be**	**71.59**	**326**	P	**P**	**13 29 13.6**	**-1.0**
	comp=Z,4.7nm,0.4s,baz=34,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**71.59**	**326**	*i* P	**P**	**13 29 13.6**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ASAR	**Alice Springs**	**72.10**	**198**	P	**P**	**13 29 19.9**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=14,slow=5.1,SNR=14						
GNI	**Garni**	**72.54**	**310**	LR	LR	14 04 25.5	
	comp=Z,49nm,19.2s,baz=86,slow=39						
KOLS	**Kolonicke sedl**	**75.61**	**329**	*e*P	**P**	**13 29 38.0**	**-0.3**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KOLS	**Kolonicke sedl**	**75.61**	**329**	*e*P	**P**	**13 29 38.0**	**-0.3**
BURAR	**Bucovina Array**	**75.63**	**327**⇓	*i*P	**P**	**13 29 38.3**	**-0.2**
TESR		**75.98**	**325**⇑	*i*P	**P**	**13 29 39.6**	**-0.9**
TRPA	**Tarpa**	**76.19**	**328**⇑	*i*P	**P**	**13 29 41.3**	**-0.3**
CFR	**Carcaliu**	**76.48**	**323**	⇓P	**P**	**13 29 43.2**	**0.0**
CFR	**Carcaliu**	**76.48**	**323**⇓	*i*P	**P**	**13 29 43.2**	**0.0**
VRI	**Vrincioaia**	**76.48**	**325**	⇑P	**P**	**13 29 42.8**	**-0.5**
VRI	**Vrincioaia**	**76.48**	**325**⇑	*i*P	**P**	**13 29 42.8**	**-0.5**
MORC	**Moravsky Berou**	**76.49**	**332**	⇑P	**P**	**13 29 43.0**	**-0.3**
MORC	**Moravsky Berou**	**76.49**	**332**⇑	*i*P	**P**	**13 29 43.0**	**-0.3**
CLL	**Collm**	**76.52**	**336**	*i* P	**P**	**13 29 42.4**	**-1.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**76.52**	**336**	*i* P	**P**	**13 29 42.4**	**-1.0**
	comp=Z,7.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**77.10**	**325**	⇑*i*P	**P**	**13 29 47.0**	**0.0**
VYHS	**Vyhne**	**77.18**	**331**	*e*P	**P**	**13 29 46.6**	**-0.6**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.4s						
VYHS	**Vyhne**	**77.18**	**331**	*e*P	**P**	**13 29 46.6**	**-0.6**
VYHS				*e*pP	**pP**	**13 30 04.9**	**+4.4**
VOIR		**77.50**	**325**	⇓P	**P**	**13 29 49.5**	**+0.4**
VOIR		**77.50**	**325**	⇓*i*P	**P**	**13 29 49.5**	**+0.4**
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**13 29 50.9**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=304,slow=4.4,SNR=12						
GZR	**Gura Zlata**	**78.41**	**327**	⇑P	**P**	**13 29 53.4**	**-0.8**
GZR	**Gura Zlata**	**78.41**	**327**	⇑*i*P	**P**	**13 29 53.4**	**-0.8**
BRTR	**Keskin Array B**	**78.41**	**317**	P	**P**	**13 29 53.5**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=61,slow=7.5,SNR=7.7						
GERES	**GERESS Array B**	**78.51**	**334**	P	**P**	**13 29 52.7**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=35,slow=5.6,SNR=6.2						
BZS	**Buzias**	**78.66**	**328**	⇑P	**P**	**13 29 53.3**	**-2.1**
BZS	**Buzias**	**78.66**	**328**	⇑*i*P	**P**	**13 29 53.3**	**-2.1**
MIB	**Mutribah**	**78.66**	**301**	*e*P	**P**	**13 29 55.8**	**+0.1**
NAY	**Al-Naaiem**	**79.12**	**301**	*e*P	**P**	**13 29 58.0**	**-0.2**
VTS	**Vitosha**	**80.61**	**325**	⇑P	**P**	**13 30 06.0**	**-0.3**
VTS	**Vitosha**	**80.61**	**325**	⇑*i*P	**P**	**13 30 06.0**	**-0.3**
EIL	**Elat**	**85.70**	**310**	LR	LR	14 14 48.1	
	comp=Z,44nm,18.5s,baz=278,slow=40						
CPUP	**Villa Florida**	**148.56**	**60**	PKPbc	**PKPbc**	**13 37 40.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=100,slow=19,SNR=4.2						

---

*ISK **03** 13:19:46.0, 37°.77N×29°.06E, h23km, MD2.7*
*DDA **03** 13:19:47.7, 37°.84N×29°.10E, h8km, MD2.6*
*CSEM **03** 13:19:47.6±0.2, 37°.81N×29°.09E, h10km, MD2.6, Error ellipse: s-maj=5.1km s-min=4.2km az=102.0*
*ISCJB **03** 13:19:48.2±0.5, 37°.83N±0°.03×29°.06E±0°.05, h8km±5km, Error ellipse: s-maj=6.5km s-min=4.5km az=6.0*
ISC 03 13:19:47.6±0.9**, 37°.82N**±0°.03×**29°.08E**±0°.03**, h13**km±7km**, n16, σ0ˢ58**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.08**	**211**	PG	**Pg**	**13 19 50.2**	**-0.1**
DENT	**Denizli**	**0.08**	**211**	*i* Pg	**Pg**	**13 19 50.2**	**-0.1**
DNZL	**Cakiroluk**	**0.14**	**193**	*i* P	**Pg**	**13 19 51.2**	**0.0**
DNZL				*i* S	**Sg**	**13 19 53.9**	**+0.2**
DNZL	**Cakiroluk**	**0.14**	**193**	*i* P	**Pg**	**13 19 51.2**	**0.0**
DNZL				*i* S	**Sg**	**13 19 53.9**	**+0.2**
KHL	**Karahalli**	**0.61**	**35**	*e*PG	**Pg**	**13 19 59.9**	**+0.4**
KHL				*e*SG	**Sb**	**13 20 09.5**	**+0.8**
KHL	**Karahalli**	**0.61**	**35**	*e*Pg	**Pg**	**13 19 59.9**	**+0.4**
KHL				*e*Sg	**Sb**	**13 20 09.5**	**+0.8**
KHAL	**Karahalli**	**0.64**	**30**	*i* P	**Pg**	**13 19 59.5**	**-0.5**
KHAL				*i* S	**Sb**	**13 20 10.3**	**+0.8**
KHAL	**Karahalli**	**0.64**	**30**	*i* P	**Pg**	**13 19 59.5**	**-0.5**
KHAL				*i* S	**Sb**	**13 20 10.3**	**+0.8**
GOLH	**Golhisar**	**0.70**	**147**	*i* P	**Pb**	**13 20 01.1**	**-0.6**
GOLH				*i* S	**Sn**	**13 20 13.7**	**-0.3**
GOLH	**Golhisar**	**0.70**	**147**	*i* P	**Pb**	**13 20 01.1**	**-0.6**
KULA	**Kula-Manisa**	**0.77**	**334**	*e*PG	**Pg**	**13 20 01.8**	**-0.7**
KULA				*e*SG	**Sb**	**13 20 14.4**	**+1.1**
KULA	**Kula-Manisa**	**0.77**	**334**	*e*Pg	**Pg**	**13 20 01.8**	**-0.7**
KULA				*e*Sg	**Sb**	**13 20 14.4**	**+1.1**
MANT	**Manisa**	**0.79**	**328**	*i* P	**Pb**	**13 20 02.9**	**-0.4**
MANT				*i* S	**Sb**	**13 20 14.3**	**+0.3**
MANT	**Manisa**	**0.79**	**328**	*i* P	**Pb**	**13 20 02.9**	**-0.4**
MANT				*i* S	**Sb**	**13 20 14.3**	**+0.3**
AYDN	**Tasoluk**	**0.97**	**261**	*i* P	**Pg**	**13 20 06.6**	**+0.3**
AYDN				*i* S	**Sb**	**13 20 19.3**	**+0.3**
AYDN	**Tasoluk**	**0.97**	**261**	*i* P	**Pg**	**13 20 06.6**	**+0.3**
AYDN				*i* S	**Sb**	**13 20 19.3**	**+0.3**

IDC 03 13:36:33.7±1.9**, 0°.45N×97°.34E, h0**km**, mb3.4**/5**, mb1 3.6**/6**, mb1mx3.5**/24**, mbtmp3.4**/6**, ML3.6**/1**, Error ellipse: s-maj=58.6km s-min=20.8km az=63.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.82**	**34**	Pn	Pn	13 37 17.5	-2.8
	0.2nm,0.3s,baz=165,slow=22,SNR=7.4						
CMAR	**Chiang Mai Arr**	**17.97**	**5**	P	P	13 40 46.2	+0.5
	0.1nm,0.3s,baz=199,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**41.52**	**121**	P	P	13 44 23.2	0.0
	1.3nm,0.7s,baz=301,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**42.84**	**127**	P	P	13 44 33.7	-0.2
	0.3nm,0.9s,baz=295,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**47.85**	**8**	P	P	13 45 15.0	+1.5
	0.2nm,0.6s,baz=204,slow=8.3,SNR=2.6						
MKAR	**Makanchi Array**	**48.00**	**346**	P	P	13 45 13.7	-0.8
	0.3nm,0.5s,baz=170,slow=8.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**54.32**	**351**	P	P	13 46 00.9	-0.9
	0.4nm,0.4s,baz=184,slow=5.6,SNR=3.2						

---

*DDA **03** 13:49:50.9, 39°.29N×29°.22E, h7km, MD2.6*
*CSEM **03** 13:49:51.1±0.3, 39°.33N×29°.20E, h2km, MD2.5, Error ellipse: s-maj=7.2km s-min=5.4km az=149.0*
*ISK **03** 13:49:53.2, 39°.49N×29°.45E, h14km, MD2.5*
ISC 03 13:49:51.0±1.3**, 39°.33N**±0°.03×**29°.21E**±0°.03**, h0**km±15km**, n17, σ0ˢ57**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.23**	**58**	PG	**Pg**	**13 49 55.1**	**-0.4**
TVSB				SG	**Sg**	**13 49 58.9**	**+0.4**
TVSB	**Tavsanli**	**0.23**	**58**	*i* Pg	**Pg**	**13 49 55.1**	**-0.4**
TVSB				*i* Sg	**Sg**	**13 49 58.9**	**+0.4**
GDZ	**Gediz**	**0.32**	**138**	*i* P	**Pg**	**13 49 57.1**	**-0.1**
GDZ				*i* S	**Sg**	**13 50 02.1**	**+0.8**
GDZ	**Gediz**	**0.32**	**138**	*i* P	**Pg**	**13 49 57.1**	**-0.1**
GDZ				*i* S	**Sg**	**13 50 02.1**	**+0.8**
DEMI	**Demirci**	**0.48**	**233**	*i* P	**Pg**	**13 49 59.8**	**-0.4**
DEMI				*i* S	**Sg**	**13 50 06.1**	**-0.2**
DEMI	**Demirci**	**0.48**	**233**	*i* P	**Pg**	**13 49 59.8**	**-0.4**
DEMI				*i* S	**Sg**	**13 50 06.1**	**-0.2**
DST	**Dursunbey**	**0.53**	**301**	*e*PG	**Pn**	**13 50 06.3**	**+0.3**
ALT	**Altintas**	**0.75**	**111**	*e*PG	**Pb**	**13 50 06.7**	**-0.4**
ALT	**Altintas**	**0.75**	**111**	*e*Pg	**Pb**	**13 50 06.7**	**-0.4**
BORA	**Eskisehir**	**1.11**	**60**	*i* P	**Pg**	**13 50 12.1**	**-0.2**
BORA				*i* S	**Sb**	**13 50 27.7**	**-0.4**
BORA	**Eskisehir**	**1.11**	**60**	*i* P	**Pg**	**13 50 12.1**	**-0.2**
BORA				*i* S	**Sb**	**13 50 27.7**	**-0.4**
KCTX	**Karacabey (Bur**	**1.14**	**325**	*e*PN	**Pn**	**13 50 15.6**	**+1.3**
KCTX	**Karacabey (Bur**	**1.14**	**325**	*e*Pn	**Pn**	**13 50 15.6**	**+1.3**
YLV	**Yalova**	**1.24**	**6**	*e*PG	**Pg**	**13 50 14.4**	**-0.4**
YLV	**Yalova**	**1.24**	**6**	*e*Pg	**Pg**	**13 50 14.4**	**-0.4**
SEYT	**Eskypehyr**	**1.29**	**81**	*i* P	**Pn**	**13 50 16.3**	**0.0**
SEYT	**Eskypehyr**	**1.29**	**81**	*i* P	**Pn**	**13 50 16.3**	**0.0**

---

*ISCJB **03** 13:50:49.2±0.8, 37°.33N±0°.03×20°.84E±0°.04, h6km±5km, Error ellipse: s-maj=6.5km s-min=3.3km az=136.1*
*CSEM **03** 13:50:49.8±0.3, 37°.34N×20°.85E, h5km, ML3.5/9, Error ellipse: s-maj=6.5km s-min=3.2km az=43.0*
*THE **03** 13:50:50.8, 37°.36N×20°.90E, h9km, ML3.5/9, Error ellipse: s-maj=1.4km s-min=0.7km az=229.0*
*ATH **03** 13:50:50.5, 37°.36N×20°.89E, h20km±1km, ML3.2*
ISC 03 13:50:50.0±1.3**, 37°.35N**±0°.03×**20°.87E**±0°.03**, h11**km±9km**, n94, σ0ˢ86**/138**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.69**	**74**	P	**Pg**	**13 51 03.3**	**-0.1**
AMT				S	**Sb**	**13 51 13.5**	**-0.2**
AMT	**Artemida-Makis**	**0.69**	**74**	P	**Pg**	**13 51 03.3**	**-0.1**
AMT				S	**Sb**	**13 51 13.5**	**-0.2**
KFL	**Anninata**	**0.76**	**355**	P	**Pg**	**13 51 05.0**	**+0.2**
KFL				S	**Sb**	**13 51 16.0**	**+0.3**
KFL	**Anninata**	**0.76**	**355**	P	**Pg**	**13 51 04.9**	**+0.2**
KFL				S	**Sb**	**13 51 15.6**	**-0.1**
PYL	**PYLOS**	**0.83**	**123**	P	**Pg**	**13 51 05.9**	**-0.1**
PYL				S	**Sb**	**13 51 18.3**	**+0.7**
PYL	**PYLOS**	**0.83**	**123**	P	**Pg**	**13 51 05.9**	**-0.1**
PYL				S	**Sb**	**13 51 17.8**	**+0.2**
RLS	**Riolos of Patr**	**0.85**	**34**	P	**Pg**	**13 51 06.0**	**-0.5**
RLS				S	**Sb**	**13 51 18.9**	**+0.7**
RLS	**Riolos of Patr**	**0.85**	**34**	*e*PB	**Pg**	**13 51 05.9**	**-0.5**
RLS				*e*SN	**Sb**	**13 51 18.2**	**0.0**
RLS	**Riolos of Patr**	**0.85**	**34**	P	**Pg**	**13 51 06.0**	**-0.5**
RLS				*e*Sn	**Sb**	**13 51 18.2**	**0.0**
RLS				S	**Sb**	**13 51 18.9**	**+0.7**
VLS	**Valsamata**	**0.86**	**345**	P	**Pg**	**13 51 06.4**	**-0.1**
VLS				S	**Sb**	**13 51 19.0**	**+0.6**
VLS	**Valsamata**	**0.86**	**345**	*e*PN	**Pg**	**13 51 06.8**	**+0.3**
VLS				*e*SN	**Sn**	**13 51 20.0**	**-0.6**
VLS	**Valsamata**	**0.86**	**345**	P	**Pg**	**13 51 06.4**	**-0.1**
VLS	**Valsamata**	**0.86**	**345**	*e*Pn	**Pg**	**13 51 06.8**	**+0.3**
VLS				S	**Sb**	**13 51 19.0**	**+0.6**
VLS				*e*Sn	**Sn**	**13 51 20.0**	**-0.6**
ITM	**Ithomi**	**0.86**	**101**	P	**Pg**	**13 51 06.5**	**-0.1**
ITM				S	**Sb**	**13 51 18.7**	**+0.2**
ITM	**Ithomi**	**0.86**	**101**	*e*PN	**Pg**	**13 51 06.7**	**+0.1**
ITM				*e*SN	**Sb**	**13 51 19.6**	**+1.1**
ITM	**Ithomi**	**0.86**	**101**	P	**Pg**	**13 51 06.5**	**-0.1**
ITM				S	**Sb**	**13 51 18.7**	**+0.2**
ITM				*e*Sn	**Sb**	**13 51 19.6**	**+1.1**
UPR	**University Cam**	**1.18**	**38**	P	**Pb**	**13 51 11.8**	**-0.6**
UPR	**University Cam**	**1.18**	**38**	P	**Pb**	**13 51 11.8**	**-0.6**
VLX	**Vlachokerasia**	**1.20**	**88**	P	**Pb**	**13 51 12.0**	**-0.8**
VLX				S	**Sn**	**13 51 29.2**	**0.0**
VLX	**Vlachokerasia**	**1.20**	**88**	P	**Pb**	**13 51 12.0**	**-0.8**
VLX				S	**Sn**	**13 51 29.2**	**0.0**
LAKA	**Lakka**	**1.25**	**44**	P	**Pn**	**13 51 12.8**	**-0.7**
LAKA				S	**Sg**	**13 51 30.1**	**-0.2**
LAKA	**Lakka**	**1.25**	**44**	P	**Pn**	**13 51 12.8**	**-0.7**
LAKA				S	**Sn**	**13 51 31.6**	**+1.3**
GUR	**Goura**	**1.31**	**63**	P	**Pn**	**13 51 13.1**	**-1.2**
GUR				S	**Sn**	**13 51 32.0**	**+0.2**
GUR	**Goura**	**1.31**	**63**	P	**Pn**	**13 51 13.1**	**-1.2**
GUR				S	**Sn**	**13 51 32.0**	**+0.2**
DYR	**Agios Nikonas**	**1.31**	**116**	P	**Pn**	**13 51 14.1**	**-0.1**
DYR	**Agios Nikonas**	**1.31**	**116**	P	**Pn**	**13 51 14.1**	**-0.1**
DYR				S	**Sn**	**13 51 33.1**	**+1.4**
EFP	**Efpalio**	**1.35**	**37**	P	**Pn**	**13 51 14.4**	**-0.4**
EFP	**Efpalio**	**1.35**	**37**	P	**Pn**	**13 51 14.4**	**-0.4**
TRIZ	**Trizonia**	**1.39**	**43**	P	**Pn**	**13 51 15.6**	**+0.3**
TRIZ				S	**Sg**	**13 51 34.3**	**-0.5**
TRIZ	**Trizonia**	**1.39**	**43**	P	**Pn**	**13 51 15.6**	**+0.3**
TRIZ				S	**Sg**	**13 51 34.3**	**-0.5**
KALE	**Kalithea**	**1.45**	**44**	P	**Pn**	**13 51 15.8**	**-0.4**
KALE				S	**Sg**	**13 51 36.4**	**-0.2**
KALE	**Kalithea**	**1.45**	**44**	P	**Pn**	**13 51 15.8**	**-0.4**
KALE				S	**Sg**	**13 51 36.4**	**-0.2**
LKD2	**Lefkada island**	**1.45**	**353**	P	**Pn**	**13 51 16.6**	**+0.4**
LKD2				S	**Sb**	**13 51 36.0**	**+0.5**
LKD2	**Lefkada island**	**1.45**	**353**	*e*PN	**Pg**	**13 51 18.1**	**+0.3**
LKD2				*e*SN	**Sg**	**13 51 37.5**	**+0.9**
LKD2	**Lefkada island**	**1.45**	**353**	P	**Pn**	**13 51 16.6**	**+0.4**
LKD2	**Lefkada island**	**1.45**	**353**	*e*Pn	**Pg**	**13 51 18.1**	**+0.3**
LKD2				S	**Sb**	**13 51 36.0**	**+0.5**
LKD2				*e*Sn	**Sg**	**13 51 37.5**	**+0.9**
DESF	**Desfina**	**1.69**	**51**	P	**Pb**	**13 51 21.3**	**+0.2**
DESF				S	**Sb**	**13 51 42.3**	**-0.2**
DESF	**Desfina**	**1.69**	**51**	P	**Pb**	**13 51 20.9**	**-0.2**
DESF				S	**Sb**	**13 51 42.3**	**-0.2**
EVR	**Evrytania**	**1.73**	**25**	P	**Pn**	**13 51 20.1**	**0.0**
EVR	**Evrytania**	**1.73**	**25**	*e*PN	**Pb**	**13 51 22.0**	**+0.1**
EVR				*e*SN	**Sb**	**13 51 44.1**	**+0.4**
EVR	**Evrytania**	**1.73**	**25**	P	**Pn**	**13 51 20.1**	**0.0**
EVR	**Evrytania**	**1.73**	**25**	*e*Pn	**Pb**	**13 51 22.0**	**+0.1**
EVR				*e*Sn	**Sb**	**13 51 44.1**	**+0.4**
VLI	**Veliai**	**1.77**	**110**	P	**Pb**	**13 51 22.5**	**+0.1**
VLI	**Veliai**	**1.77**	**110**	P	**Pb**	**13 51 22.5**	**+0.1**
LTK	**Loutraki**	**1.79**	**67**	P	**Pn**	**13 51 21.5**	**+0.6**
LTK	**Loutraki**	**1.79**	**67**	P	**Pn**	**13 51 21.5**	**+0.6**
DID	**Didima**	**1.89**	**84**	P	**Pn**	**13 51 22.4**	**+0.2**
DID				S	**Sn**	**13 51 46.5**	**+0.4**
DID	**Didima**	**1.89**	**84**	P	**Pn**	**13 51 22.4**	**+0.2**
DID				S	**Sn**	**13 51 46.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.94**	**30**	P	**Pb**	**13 51 25.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.94**	**30**	P	**Pb**	**13 51 25.4**	**+0.1**
AXAR	**Agios Charalam**	**2.00**	**44**	P	**Pn**	**13 51 24.9**	**+1.2**
AXAR	**Agios Charalam**	**2.00**	**44**	P	**Pn**	**13 51 24.9**	**+1.2**
RGA	**Parga**	**2.01**	**349**	P	**Pn**	**13 51 25.3**	**+1.4**
RGA	**Parga**	**2.01**	**349**	P	**Pn**	**13 51 25.3**	**+1.4**
KYTH	**Kithira**	**2.04**	**121**	P	**Pb**	**13 51 26.5**	**-0.5**
KYTH	**Kithira**	**2.04**	**121**	*e*PN	**Pb**	**13 51 26.6**	**-0.5**
KYTH	**Kithira**	**2.04**	**121**	P	**Pb**	**13 51 26.5**	**-0.5**
NAIG	**Nisos Aigina**	**2.12**	**78**	*e*PB	**Pn**	**13 51 25.4**	**0.0**
NAIG	**Nisos Aigina**	**2.12**	**78**	*e*Pb	**Pn**	**13 51 25.4**	**0.0**
LKR	**Lokris**	**2.13**	**52**	P	**Pn**	**13 51 26.2**	**+0.8**
LKR	**Lokris**	**2.13**	**52**	*e*PB	**Pn**	**13 51 26.5**	**+1.1**
LKR				*e*SN	**Sb**	**13 51 53.8**	**-1.1**
LKR	**Lokris**	**2.13**	**52**	P	**Pn**	**13 51 26.2**	**+0.8**
LKR				*e*Sn	**Sb**	**13 51 53.8**	**-1.1**
ATAL	**Atalanti**	**2.17**	**51**	P	**Pn**	**13 51 26.8**	**+0.8**
ATAL				S	**Sn**	**13 51 53.9**	**+1.1**
ATAL	**Atalanti**	**2.17**	**51**	P	**Pn**	**13 51 26.8**	**+0.8**
ATAL				S	**Sn**	**13 51 53.9**	**+1.1**
ATH	**Athens Observa**	**2.34**	**74**	*e*PB	**Pn**	**13 51 30.3**	**+1.9**
ATH	**Athens Observa**	**2.34**	**74**	*e*Pb	**Pn**	**13 51 30.3**	**+1.9**
THL	**Klokotos Trika**	**2.39**	**22**	P	**Pn**	**13 51 30.4**	**+1.3**
THL	**Klokotos Trika**	**2.39**	**22**	P	**Pn**	**13 51 30.4**	**+1.3**
MEV	**Metsovon**	**2.45**	**6**	P	**Pn**	**13 51 32.0**	**+1.9**
MEV	**Metsovon**	**2.45**	**6**	P	**Pn**	**13 51 32.0**	**+1.9**
PTL	**Penteli**	**2.48**	**73**	*e*PN	**Pn**	**13 51 30.8**	**+0.5**
PTL	**Penteli**	**2.48**	**73**	*e*Pn	**Pn**	**13 51 30.8**	**+0.5**
KEK	**Kerkira**	**2.51**	**341**	*e*PN	**Pn**	**13 51 31.7**	**+1.0**
KEK	**Kerkira**	**2.51**	**341**	*e*Pn	**Pn**	**13 51 31.7**	**+1.0**
MRKA	**Markates**	**2.54**	**57**	P	**Pn**	**13 51 31.6**	**+0.5**
MRKA	**Markates**	**2.54**	**57**	P	**Pn**	**13 51 31.6**	**+0.5**
ERET	**Eretria**	**2.57**	**64**	P	**Pn**	**13 51 32.0**	**+0.4**
ERET	**Eretria**	**2.57**	**64**	P	**Pn**	**13 51 32.0**	**+0.4**
NEO	**Neokhori**	**2.69**	**43**	*e*PN	**Pn**	**13 51 33.9**	**+0.6**
NEO	**Neokhori**	**2.69**	**43**	*e*Pn	**Pn**	**13 51 33.9**	**+0.6**
XOR	**Xorichti**	**2.72**	**41**	P	**Pn**	**13 51 33.8**	**+0.2**
XOR	**Xorichti**	**2.72**	**41**	P	**Pn**	**13 51 33.8**	**+0.2**
AOS	**Alonnisos**	**2.99**	**52**	P	**Pn**	**13 51 37.6**	**+0.3**
AOS	**Alonnisos**	**2.99**	**52**	P	**Pn**	**13 51 37.6**	**+0.3**
KZN	**Kozani**	**3.04**	**13**	*e*PN	**Pn**	**13 51 40.0**	**+1.9**
KZN	**Kozani**	**3.04**	**13**	*e*Pn	**Pn**	**13 51 40.0**	**+1.9**
NEST	**Nestorio**	**3.06**	**3**	P	**Pn**	**13 51 40.2**	**+1.7**
NEST	**Nestorio**	**3.06**	**3**	P	**Pn**	**13 51 40.2**	**+1.7**
BARS	**Barje**	**5.51**	**7**	*e*Pn	**Pn**	**13 52 12.0**	**0.0**
VTS	**Vitosha**	**5.54**	**18**	*e*Pn	**Pn**	**13 52 13.4**	**+0.9**
STON	**Ston**	**6.03**	**337**	*e*Pn	**Pn**	**13 52 18.1**	**-1.0**
STON				Sn	**Sn**	**13 53 23.4**	**-4.6**
STON	**Ston**	**6.03**	**337**	*e*Pn	**Pn**	**13 52 18.0**	**-1.0**
GRUS	**Gruza**	**6.54**	**359**	*e*Pn	**Pn**	**13 52 25.2**	**-0.8**
DIVS	**Divibare**	**6.78**	**355**	*e*Pn	**Pn**	**13 52 28.2**	**-1.2**

---

*TAP **03** 13:54:23.7, 24°.41N×122°.23E, h69km, ML3.0, C*
*JMA **03** 13:54:23.8±0.1, 24°.54N×122°.32E, h70km±1km, M2.0*
*ISCJB **03** 13:54:24.1±0.5, 24°.37N±0°.04×122°.30E±0°.02, h57km±9km, Error ellipse: s-maj=6.2km s-min=3.1km az=167.0*
ISC 03 13:54:24.6±1.3**, 24°.38N**±0°.04×**122°.29E**±0°.03**, h53**km±14km**, n32, σ0ˢ87**/56**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.47**	**300**	P	**Pn**	**13 54 35.6**	**-0.1**
	baz=304						
TWC				*e*S	**Sn**	**13 54 44.3**	**+0.6**
	baz=304						
ENA	**Nanau**	**0.51**	**276**	*i* P	**Pn**	**13 54 36.2**	**0.0**
	baz=272						
ENA				*e*S	**Sn**	**13 54 45.4**	**+1.0**
	baz=272						
YOJ	**Yonaguni jima**	**0.66**	**83**	P	**Pn**	**13 54 38.1**	**+0.1**
YOJ				S	**Sn**	**13 54 48.6**	**+0.9**
TWE	**Neicheng**	**0.67**	**301**	P	**Pn**	**13 54 38.0**	**-0.1**
	baz=307						
TWE				*e*S	**Sn**	**13 54 48.6**	**+0.8**
	baz=307						
TWB1	**Santiao Chiao**	**0.69**	**336**	*e*P	**Pn**	**13 54 37.5**	**-0.9**
	baz=332						
TWB1				*e*S	**Sn**	**13 54 47.3**	**-1.0**
	baz=332						
TWD	**Chiawan**	**0.70**	**245**	*e*P	**Pn**	**13 54 38.1**	**-0.4**
	baz=234						
TWD				*e*S	**Sn**	**13 54 48.9**	**+0.3**
	baz=234						
ENTT	**Nioudou**	**0.71**	**292**	⇑*i*P	**Pn**	**13 54 38.7**	**0.0**
	baz=287						
ENTT				*e*S	**Sn**	**13 54 49.7**	**+0.8**
	baz=287						
NWF	**Wu-fen Shan**	**0.83**	**326**	*e*P	**Pn**	**13 54 39.5**	**-0.8**
	baz=328						
NWF				*e*S	**Sn**	**13 54 50.7**	**-1.1**
	baz=328						
NNS	**Nan Shan**	**0.84**	**274**	P	**Pn**	**13 54 39.7**	**-0.8**
	baz=267						
NSK	**Sanguang**	**0.90**	**289**	P	**Pn**	**13 54 40.9**	**-0.3**
	baz=289						
NSK				*e*S	**Sn**	**13 54 53.5**	**+0.1**
	baz=289						
ESL	**Shilin**	**0.97**	**235**	P	**Pn**	**13 54 41.1**	**-0.9**
	baz=225						
ESL				*e*S	**Sn**	**13 54 53.7**	**-1.1**
	baz=225						
WHF	**Hehuan Shan**	**0.97**	**256**	⇑*i*P	**Pn**	**13 54 42.0**	**-0.4**
	baz=254						
WHF				S	**Sn**	**13 54 55.0**	**-0.4**
	baz=254						
TWT	**Tachien**	**1.03**	**263**	*e*P	**Pn**	**13 54 43.3**	**+0.3**
	baz=258						
TWT				*e*S	**Sn**	**13 54 57.0**	**+0.5**
	baz=258						
TWS1	**Kuangyinshan**	**1.07**	**312**	P	**Pn**	**13 54 42.7**	**-0.8**
	baz=321						
NSTT	**Nanjuang**	**1.20**	**282**	*e*P	**Pn**	**13 54 45.1**	**-0.1**
	baz=282						
NSTT				*e*S	**Sn**	**13 55 01.2**	**+0.7**
	baz=282						
EHY	**Hungye**	**1.24**	**226**	*e*P	**Pn**	**13 54 44.7**	**-1.0**
	baz=222						
EHY				*e*S	**Sn**	**13 54 59.7**	**-1.7**
	baz=222						
IRIF	**Iriomote-Funau**	**1.31**	**92**	P	**Pn**	**13 54 46.4**	**-0.2**
IRIF				S	**Sn**	**13 55 03.1**	**+0.1**
SMLT	**Sun Moon Lake**	**1.36**	**249**	*e*P	**Pn**	**13 54 47.9**	**+0.4**
	baz=240						
TWF1	**Yuli**	**1.37**	**222**	*e*P	**Pn**	**13 54 46.5**	**-0.9**
	baz=228						
TWF1				*e*S	**Sn**	**13 55 03.4**	**-1.0**
	baz=228						
TWQ1	**Liyutan**	**1.39**	**269**	*e*P	**Pn**	**13 54 47.7**	**+0.1**
	baz=268						
TYC	**Yuchr**	**1.39**	**251**	*e*P	**Pn**	**13 54 48.1**	**+0.4**
	baz=243						
TYC				*e*S	**Sn**	**13 55 05.9**	**+0.8**
	baz=243						
HATJ	**Hateruma jima**	**1.42**	**103**	*e*S	**Sn**	**13 55 06.7**	**+1.1**
CHKT	**Chengkung**	**1.53**	**214**	*e*S	**Sn**	**13 55 05.9**	**-2.5**
	baz=203						
JKRS	**Kuro-shima**	**1.57**	**95**	P	**Pn**	**13 54 50.3**	**+0.2**
JKRS				*e*S	**Sn**	**13 55 09.7**	**+0.3**
ALS	**Alishan**	**1.61**	**238**	*e*P	**Pn**	**13 54 51.4**	**+0.5**
	baz=229						
ELDTW	**Lidau**	**1.66**	**225**	*e*P	**Pn**	**13 54 51.1**	**-0.5**
	baz=218						
ELDTW				*e*S	**Sn**	**13 55 10.7**	**-1.1**
	baz=218						
CHN5	**Tsauling**	**1.67**	**243**	*e*P	**Pn**	**13 54 52.0**	**+0.4**
	baz=232						
CHN5				*e*S	**Sn**	**13 55 14.0**	**+2.1**
	baz=232						
JIJ	**Ishigaki jima**	**1.69**	**90**	P	**Pn**	**13 54 51.3**	**-0.4**
JIJ				*e*S	**Sn**	**13 55 11.7**	**-0.5**
WTP	**Ta-pu**	**1.91**	**234**	*e*P	**Pn**	**13 54 55.2**	**+0.4**
	baz=232						
WTP				*e*S	**Sn**	**13 55 19.1**	**+1.4**
	baz=232						
CHN1	**Nanshi**	**2.01**	**234**	*e*P	**Pn**	**13 54 56.3**	**+0.2**
	baz=232						
CHN1				*e*S	**Sn**	**13 55 21.8**	**+1.7**
	baz=232						
SGST	**Jiashian**	**2.03**	**231**	*e*P	**Pn**	**13 54 57.5**	**+1.1**
	baz=229						
JTJ	**Tarama**	**2.21**	**83**	P	**Pn**	**13 54 58.9**	**0.0**
JTJ				*e*S	**Sn**	**13 55 25.1**	**+0.1**

---

*ISCJB **03** 13:54:51.9±1.5, 43°.63N±0°.08×127°.2W±0°.2, h14km, mb3.2/1, MS3.0/4, Error ellipse: s-maj=18.2km s-min=8.5km az=147.7*
*IDC **03** 13:54:51.6±2.9, 43°.66N×126°.91W, h0km, mb3.0/2, mb1 3.5/4, mb1mx3.3/29, mbtmp3.1/4, ML3.5/2, MS3.1/5, Ms1 3.2/5, ms1mx3.1/12, Error ellipse: s-maj=58.4km s-min=19.7km az=44.0*
*NEIC **03** 13:54:53.1±1.5, 43°.60N×127°.17W, h10km, ML3.2, Error ellipse: s-maj=18.4km s-min=10.3km az=61.0*
ISC 03 13:54:52.8±1.8**, 43°.5N**±0°.1×**127°.3W**±0°.1**, h14**km**, n26, σ1ˢ39**/24**, MS3.2**/4**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**3.09**	**68**	*e*P	**Pn**	**13 55 40.2**	**-1.0**
HUMO	**Hull Mountain**	**3.33**	**104**	*e*P	**Pn**	**13 55 42.6**	**-1.9**
BROR	**Big Rock Looko**	**3.60**	**76**	P	**Pn**	**13 55 46.6**	**-1.6**
IRO	**Indian Ridge**	**3.70**	**81**	P	**Pn**	**13 55 47.9**	**-1.9**
FRIS	**Frissel Point**	**3.84**	**78**	P	**Pn**	**13 55 50.2**	**-1.5**
YBH	**Yreka Blue Hor**	**3.84**	**116**	Pn	**Pn**	**13 55 50.0**	**-1.7**
	0.4nm,0.3s,baz=188,slow=1.3,SNR=6.6						
YBH				Sn	**Sn**	**13 56 37.6**	**+1.0**
	0.2nm,0.3s,baz=24,slow=4.3,SNR=2.6						
YBH	**Yreka Blue Hor**	**3.84**	**116**	Pn	**Pn**	**13 55 50.0**	**-1.7**
YBH				Sn	**Sn**	**13 56 37.6**	**+1.0**
LVP	**Lakeview Peak**	**4.33**	**52**	P	**Pn**	**13 55 57.8**	**-0.5**
MTMW	**Mount Mitchell**	**4.42**	**54**	P	**Pn**	**13 55 59.1**	**-0.5**
FL2	**Flat Top 2**	**4.43**	**51**	P	**Pn**	**13 55 59.2**	**-0.6**
LON	**Longmire**	**5.06**	**48**	*e*P	**Pn**	**13 56 07.6**	**-0.8**
PGC	**Sidney**	**5.79**	**26**	*e*P	**Pn**	**13 56 17.3**	**-1.0**
HAWA	**Hanford**	**6.23**	**60**	*e*P	**Pn**	**13 56 23.7**	**-0.6**
BMO	**Blue Mountains**	**7.32**	**76**	*e*Pn	**Pn**	**13 56 37.7**	**-1.7**
JTMT	**Jette**	**10.06**	**61**	P	**Pn**	**13 57 14.6**	**-2.4**
LDFC	**Landfair**	**12.66**	**128**	*e*Pn	**Pn**	**13 57 55.3**	**+2.7**
PDAR	**Pinedale Array**	**13.00**	**87**	Pn	**Pn**	**13 57 58.1**	**+0.8**
	0.0nm,0.3s,baz=293,slow=14,SNR=3.5						
PDAR	**Pinedale Array**	**13.00**	**87**	Pn	**Pn**	**13 57 58.1**	**+0.8**
DLBC	**Dease Lake**	**15.03**	**355**	LR	LR	14 03 22.4	
	comp=Z,109nm,18.3s,baz=203,slow=34						
YKA	**Yellowknife Ar**	**20.41**	**17**	P	**P**	**13 59 28.8**	**-0.4**
	0.4nm,0.7s,baz=206,slow=11,SNR=8.0						
YKA	**Yellowknife Ar**	**20.41**	**17**	P	**P**	**13 59 28.8**	**-0.4**
TXAR	**Lajitas Array**	**23.62**	**119**	LR	LR	14 08 30.4	
	comp=Z,68nm,19.2s,baz=0.0,slow=35						
LPIG	**La Paz**	**23.89**	**139**	LR	LR	14 08 28.2	
	comp=Z,7.9nm,19.5s,baz=213,slow=34						
ILAR	**Eielson Array**	**23.97**	**339**	P	**P**	**14 00 06.5**	**0.0**
	0.7nm,0.7s,baz=151,slow=9.5,SNR=13						
ILAR				LR	LR	14 07 39.2	
	comp=Z,84nm,21.4s,baz=118,slow=32						
ILAR	**Eielson Array**	**23.97**	**339**	P	**P**	**14 00 06.5**	**0.0**
INK	**Inuvik**	**25.06**	**355**	LR	LR	14 09 54.8	
	comp=Z,84nm,18.2s,baz=190,slow=36						

---

*CSEM **03** 13:56:19.4, 37°.74N×21°.28E, h23km, MD3.1, After ATH*
ATH 03 13:56:19.4, 37°.74N×21°.28E, h23km±14km**, MD3.1**/4**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.35**	**25**	*e*PB	Pb	13 56 26.5	-0.6
RLS				*e*SB	Sb	13 56 33.0	+0.7
RLS	**Riolos of Patr**	**0.35**	**25**	*e*Pb	Pb	13 56 26.5	-0.6
RLS				*e*Sb	Sb	13 56 33.0	+0.7
VLS	**Valsamata**	**0.70**	**309**	*e*PN	Pb	13 56 32.6	-0.4
VLS				*e*SN	Sn	13 56 44.1	0.0
VLS	**Valsamata**	**0.70**	**309**	*e*Pn	Pb	13 56 32.6	-0.4
VLS				*e*Sn	Sn	13 56 44.1	0.0
ITM	**Ithomi**	**0.76**	**137**	*e*PN	Pn	13 56 34.4	-0.4
ITM	**Ithomi**	**0.76**	**137**	*e*Pn	Pn	13 56 34.4	-0.4
EVR	**Evrytania**	**1.25**	**19**	*e*PN	Pb	13 56 43.7	+1.3
EVR	**Evrytania**	**1.25**	**19**	*e*Pn	Pb	13 56 43.7	+1.3

---

*ISK **03** 13:57:18.6, 39°.09N×27°.51E, h5km, MD2.8*
*CSEM **03** 13:57:18.7±0.2, 39°.08N×27°.46E, h2km, MD2.8, Error ellipse: s-maj=5.3km s-min=2.8km az=40.0*
ISC 03 13:57:19.2±1.3**, 39°.10N**±0°.03×**27°.48E**±0°.04**, h1**km±16km**, n44, σ0ˢ50**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.34**	**130**	*i* P	**Pg**	**13 57 24.9**	**-0.7**
AKHS				*i* S	**Sg**	**13 57 30.9**	**+0.9**
AKHS	**Akhisar**	**0.34**	**130**	*i* P	**Pg**	**13 57 24.9**	**-0.7**
AKHS				*i* S	**Sg**	**13 57 30.9**	**+0.9**
AKS	**Akhisar**	**0.34**	**130**	PG	**Pg**	**13 57 25.0**	**-0.6**
AKS				*e*SG	**Sg**	**13 57 30.4**	**+0.4**
AKS	**Akhisar**	**0.34**	**130**	*i* Pg	**Pg**	**13 57 25.0**	**-0.6**
AKS				*e*Sg	**Sg**	**13 57 30.4**	**+0.4**
BALB	**Balikesir**	**0.62**	**29**	*e*PG	**Pg**	**13 57 30.9**	**-0.2**
BALB				*e*SG	**Sg**	**13 57 39.6**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.62**	**29**	*e*Pg	**Pg**	**13 57 30.9**	**-0.2**
BALB				*e*Sg	**Sg**	**13 57 39.6**	**+0.5**
GONE	**Gonen-Balikesi**	**0.96**	**9**	*e*PG	**Pg**	**13 57 37.2**	**-0.4**
GONE	**Gonen-Balikesi**	**0.96**	**9**	*e*Pg	**Pg**	**13 57 37.2**	**-0.4**
DEMI	**Demirci**	**0.96**	**93**	*i* P	**Pg**	**13 57 37.4**	**-0.2**
DEMI				*i* S	**Sg**	**13 57 50.1**	**+0.1**
DEMI	**Demirci**	**0.96**	**93**	*i* P	**Pg**	**13 57 37.4**	**-0.2**
DEMI				*i* S	**Sg**	**13 57 50.1**	**+0.1**
DST	**Dursunbey**	**1.01**	**60**	*e*PG	**Pg**	**13 57 38.8**	**+0.2**
DST	**Dursunbey**	**1.01**	**60**	*e*Pg	**Pg**	**13 57 38.8**	**+0.2**
EZN	**Ezine**	**1.15**	**309**	*e*PN	**Pg**	**13 57 41.3**	**0.0**
EZN	**Ezine**	**1.15**	**309**	*e*Pn	**Pg**	**13 57 41.3**	**0.0**
EDC	**Edincik**	**1.28**	**13**	*e*PN	**Pn**	**13 57 44.1**	**-0.1**
EDC	**Edincik**	**1.28**	**13**	*e*Pn	**Pn**	**13 57 44.1**	**-0.1**
KRBG	**Karabiga-Canak**	**1.30**	**354**	*e*PN	**Pg**	**13 57 43.3**	**-0.8**
KRBG	**Karabiga-Canak**	**1.30**	**354**	*e*Pn	**Pg**	**13 57 43.3**	**-0.8**
KCTX	**Karacabey (Bur**	**1.35**	**30**	*e*PN	**Pg**	**13 57 43.9**	**-1.1**
KCTX	**Karacabey (Bur**	**1.35**	**30**	*e*Pn	**Pg**	**13 57 43.9**	**-1.1**
LPK	**Lapseki**	**1.39**	**337**	*e*PN	**Pn**	**13 57 45.6**	**-0.1**
LPK	**Lapseki**	**1.39**	**337**	*e*Pn	**Pn**	**13 57 45.6**	**-0.1**
ORLT	**Orhaneli**	**1.44**	**49**	*e*PN	**Pn**	**13 57 46.2**	**-0.2**
ORLT	**Orhaneli**	**1.44**	**49**	*e*Pn	**Pn**	**13 57 46.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.51**	**329**	*e*PN	**Pn**	**13 57 47.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.51**	**329**	*e*Pn	**Pn**	**13 57 47.6**	**+0.2**
TVSB	**Tavsanli**	**1.57**	**77**	*e*PN	**Pn**	**13 57 48.0**	**-0.3**
TVSB	**Tavsanli**	**1.57**	**77**	*e*Pn	**Pn**	**13 57 48.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.60**	**352**	*e*PN	**Pn**	**13 57 47.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.60**	**352**	*e*Pn	**Pn**	**13 57 47.9**	**-0.8**
MFT	**Murefte**	**1.69**	**355**	*e*PN	**Pn**	**13 57 49.4**	**-0.5**
MFT	**Murefte**	**1.69**	**355**	*e*Pn	**Pn**	**13 57 49.4**	**-0.5**
ERIK	**Erikli-Kesan**	**1.74**	**335**	*e*PN	**Pn**	**13 57 50.4**	**-0.1**
ERIK	**Erikli-Kesan**	**1.74**	**335**	*e*Pn	**Pn**	**13 57 50.4**	**-0.1**
ARMT	**Armutlu**	**1.81**	**35**	*e*PN	**Pn**	**13 57 51.8**	**+0.3**
ARMT	**Armutlu**	**1.81**	**35**	*e*Pn	**Pn**	**13 57 51.8**	**+0.3**
ENEZ	**Enez**	**1.93**	**328**	*e*PN	**Pn**	**13 57 53.4**	**+0.4**
ENEZ	**Enez**	**1.93**	**328**	*e*Pn	**Pn**	**13 57 53.4**	**+0.4**
YLV	**Yalova**	**2.06**	**44**	*e*PN	**Pn**	**13 57 55.5**	**+0.5**
YLV	**Yalova**	**2.06**	**44**	*e*Pn	**Pn**	**13 57 55.5**	**+0.5**
CTKS	**Kestanelik-??a**	**2.27**	**20**	*e*PN	**Pn**	**13 57 58.4**	**+0.6**
CTKS	**Kestanelik-??a**	**2.27**	**20**	*e*Pn	**Pn**	**13 57 58.4**	**+0.6**
GULT	**Gulveren**	**2.69**	**59**	*e*PN	**Pn**	**13 58 04.0**	**+0.4**
GULT	**Gulveren**	**2.69**	**59**	*e*Pn	**Pn**	**13 58 04.0**	**+0.4**

---

*ISK **03** 13:58:05.5, 37°.82N×29°.08E, h13km, MD2.7*
*DDA **03** 13:58:06.0, 37°.83N×29°.10E, h7km, MD2.8*
*CSEM **03** 13:58:05.8±0.2, 37°.81N×29°.14E, h8km, MD2.7, Error ellipse: s-maj=4.5km s-min=3.2km az=113.0*
*ISCJB **03** 13:58:06.1±0.6, 37°.83N±0°.03×29°.09E±0°.05, h8km±6km, Error ellipse: s-maj=6.7km s-min=4.5km az=14.1*
ISC 03 13:58:05.7±0.9**, 37°.82N**±0°.03×**29°.12E**±0°.04**, h12**km±6km**, n18,** σ**0s.36**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.09**	**223**	PG	**Pg**	**13 58 08.5**	**-0.1**
DENT	**Denizli**	**0.09**	**223**	*i* Pg	**Pg**	**13 58 08.5**	**-0.1**
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	**Pg**	**13 58 09.3**	**0.0**
DNZL				*i* S	**Sg**	**13 58 11.9**	**0.0**
DNZL	**Cakiroluk**	**0.14**	**202**	*i* P	**Pg**	**13 58 09.3**	**0.0**
DNZL				*i* S	**Sg**	**13 58 11.9**	**0.0**
KHL	**Karahalli**	**0.59**	**33**	*e*PG	**Pb**	**13 58 18.0**	**-0.2**
KHL	**Karahalli**	**0.59**	**33**	*e*Pg	**Pb**	**13 58 18.0**	**-0.2**
KHAL	**Karahalli**	**0.62**	**28**	*i* P	**Pg**	**13 58 17.9**	**0.0**
KHAL				*i* S	**Sb**	**13 58 27.6**	**+0.2**
KHAL	**Karahalli**	**0.62**	**28**	*i* P	**Pg**	**13 58 17.9**	**0.0**
GOLH	**Golhisar**	**0.68**	**149**	*i* P	**Pg**	**13 58 19.3**	**+0.3**
GOLH				*i* S	**Sn**	**13 58 31.3**	**-0.7**
GOLH	**Golhisar**	**0.68**	**149**	*i* P	**Pg**	**13 58 19.3**	**+0.3**
KULA	**Kula-Manisa**	**0.78**	**333**	*e*PG	**Pg**	**13 58 20.8**	**0.0**
KULA				*e*SG	**Sb**	**13 58 31.8**	**-0.1**
KULA	**Kula-Manisa**	**0.78**	**333**	*e*Pg	**Pg**	**13 58 20.8**	**0.0**
KULA				*e*Sg	**Sb**	**13 58 31.8**	**-0.1**
YER	**Yerkesik**	**0.95**	**224**	*e*PG	**Pg**	**13 58 23.7**	**-0.4**
YER				*e*SG	**Sb**	**13 58 37.2**	**+0.3**
YER	**Yerkesik**	**0.95**	**224**	*e*Pg	**Pg**	**13 58 23.7**	**-0.4**
YER				*e*Sg	**Sb**	**13 58 37.2**	**+0.3**
AYDN	**Tasoluk**	**0.99**	**261**	*i* P	**Pn**	**13 58 25.9**	**+0.3**
AYDN				*i* S	**Sb**	**13 58 38.8**	**+0.8**
AYDN	**Tasoluk**	**0.99**	**261**	*i* P	**Pn**	**13 58 25.9**	**+0.3**
AYDN				*i* S	**Sb**	**13 58 38.8**	**+0.8**
FETY	**Fethiye**	**1.19**	**181**	*e*PN	**Pb**	**13 58 27.9**	**-0.3**
FETY	**Fethiye**	**1.19**	**181**	*e*Pn	**Pb**	**13 58 27.9**	**-0.3**

---

*ISCJB **03** 14:02:09.3±0.5, 39°.47N±0°.04×28°.18E±0°.04, h7km±5km, Error ellipse: s-maj=7.6km s-min=3.7km az=32.4*
*CSEM **03** 14:02:09.6±0.2, 39°.50N×28°.19E, h8km, MD2.8, Error ellipse: s-maj=5.4km s-min=2.8km az=33.0*
*DDA **03** 14:02:09.1, 39°.47N×28°.15E, h7km, MD2.8*
*ISK **03** 14:02:09.4, 39°.51N×28°.22E, h8km, MD2.6*
ISC 03 14:02:09.5±1.0**, 39°.48N**±0°.03×**28°.16E**±0°.03**, h13**km±7km**, n38,** σ**0s.66**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.27**	**63**	*i* P	**Pg**	**14 02 14.7**	**-0.6**
DURS				*i* S	**Sg**	**14 02 20.1**	**+1.0**
DURS	**Dursunbey**	**0.27**	**63**	*i* P	**Pg**	**14 02 14.7**	**-0.6**
DURS				*i* S	**Sg**	**14 02 20.1**	**+1.0**
BALB	**Balikesir**	**0.27**	**307**	*e*PG	**Pg**	**14 02 15.1**	**-0.2**
BALB				*e*SG	**Sb**	**14 02 20.6**	**-0.2**
BALB	**Balikesir**	**0.27**	**307**	*e*Pg	**Pg**	**14 02 15.1**	**-0.2**
BALB				*e*Sg	**Sb**	**14 02 20.6**	**-0.2**
BALY	**Balya**	**0.49**	**302**	*i* P	**Pg**	**14 02 18.0**	**-1.3**
BALY				*i* S	**Sb**	**14 02 27.1**	**-0.2**
BALY	**Balya**	**0.49**	**302**	*i* P	**Pg**	**14 02 18.0**	**-1.3**
BALY				*i* S	**Sb**	**14 02 27.1**	**-0.2**
DEMI	**Demirci**	**0.61**	**135**	*i* P	**Pg**	**14 02 20.7**	**-0.8**
DEMI				*i* S	**Sg**	**14 02 28.7**	**-0.9**
DEMI	**Demirci**	**0.61**	**135**	*i* P	**Pg**	**14 02 20.7**	**-0.8**
DEMI				*i* S	**Sg**	**14 02 28.7**	**-0.9**
GONE	**Gonen-Balikesi**	**0.68**	**327**	*e*PG	**Pg**	**14 02 22.8**	**+0.1**
GONE				*e*SG	**Sb**	**14 02 33.4**	**+0.9**
GONE	**Gonen-Balikesi**	**0.68**	**327**	*e*Pg	**Pg**	**14 02 22.8**	**+0.1**
GONE				*e*Sg	**Sb**	**14 02 33.4**	**+0.9**
KCTX	**Karacabey (Bur**	**0.80**	**11**	*e*PG	**Pg**	**14 02 24.3**	**-0.8**
KCTX	**Karacabey (Bur**	**0.80**	**11**	*e*Pg	**Pg**	**14 02 24.3**	**-0.8**
ORLT	**Orhaneli**	**0.80**	**45**	*e*PG	**Pg**	**14 02 23.9**	**-1.1**
ORLT	**Orhaneli**	**0.80**	**45**	*e*Pg	**Pg**	**14 02 24.0**	**-1.1**
TVSB	**Tavsanli**	**1.01**	**91**	*e*PG	**Pg**	**14 02 28.5**	**-0.5**
TVSB	**Tavsanli**	**1.01**	**91**	*e*Pg	**Pg**	**14 02 28.5**	**-0.5**
KULA	**Kula-Manisa**	**1.04**	**158**	*e*PG	**Pb**	**14 02 30.1**	**+0.7**
KULA	**Kula-Manisa**	**1.04**	**158**	*e*Pg	**Pb**	**14 02 30.1**	**+0.7**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pn**	**14 02 31.0**	**+0.3**
GDZ				*i* S	**Sn**	**14 02 45.9**	**+0.1**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pn**	**14 02 31.0**	**+0.3**
GDZ				*i* S	**Sn**	**14 02 45.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.13**	**324**	*e*PN	**Pn**	**14 02 31.3**	**+0.3**
KRBG	**Karabiga-Canak**	**1.13**	**324**	*e*Pn	**Pn**	**14 02 31.3**	**+0.3**
ARMT	**Armutlu**	**1.21**	**26**	*e*PN	**Pb**	**14 02 31.7**	**-0.7**
ARMT	**Armutlu**	**1.21**	**26**	*e*Pn	**Pb**	**14 02 31.7**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.43**	**328**	*e*PN	**Pn**	**14 02 35.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.43**	**328**	*e*Pn	**Pn**	**14 02 35.3**	**+0.1**
YLV	**Yalova**	**1.43**	**40**	*e*PN	**Pb**	**14 02 35.8**	**-0.3**
YLV	**Yalova**	**1.43**	**40**	*e*Pn	**Pb**	**14 02 35.8**	**-0.3**
MFT	**Murefte**	**1.47**	**333**	*e*PN	**Pb**	**14 02 37.0**	**+0.2**
MFT	**Murefte**	**1.47**	**333**	*e*Pn	**Pb**	**14 02 37.0**	**+0.2**
ALT	**Altintas**	**1.57**	**105**	*e*PN	**Pb**	**14 02 38.3**	**-0.2**
ALT	**Altintas**	**1.57**	**105**	*e*Pn	**Pb**	**14 02 38.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.59**	**306**	*e*PN	**Pb**	**14 02 38.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.59**	**306**	*e*Pn	**Pb**	**14 02 38.7**	**-0.1**
BORA	**Eskisehir**	**1.81**	**76**	*i* P	**Pn**	**14 02 41.6**	**+1.1**
BORA				*e*S	**Sn**	**14 03 03.4**	**0.0**
BORA	**Eskisehir**	**1.81**	**76**	*i* P	**Pn**	**14 02 41.6**	**+1.1**
BORA				*e*S	**Sn**	**14 03 03.4**	**0.0**
GULT	**Gulveren**	**2.04**	**61**	*e*PN	**Pn**	**14 02 44.4**	**+0.7**
GULT	**Gulveren**	**2.04**	**61**	*e*Pn	**Pn**	**14 02 44.4**	**+0.7**

IDC 03 14:13:06.0±1.8**, 2°.33N**×**126°.04E, h0**km**, mb3.5**/4**, mb1 3.8**/4**, mb1mx3.4**/22**, mbtmp3.6**/4**, Error ellipse: s-maj=112.7km s-min=23.0km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.31**	**181**	P	Pn	14 17 45.4	-0.2
	1.0nm,0.4s,baz=4.2,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**23.59**	**160**	P	P	14 18 18.2	-0.4
	1.0nm,0.3s,baz=337,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.95**	**164**	P	P	14 18 48.9	-0.5
	0.3nm,0.5s,baz=342,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**58.31**	**326**	P	P	14 23 02.7	-0.1
	0.5nm,1.1s,baz=128,slow=7.6,SNR=3.5						

IDC 03 14:14:25.7±0.8**, 26°.68N**×**141°.87E, h0**km**, mb3.8**/6**, mb1 4.0**/6**, mb1mx3.6**/26**, mbtmp3.8**/6**, Error ellipse: s-maj=26.2km s-min=12.0km az=119.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.50**	**34**	Pn	Pn	14 14 40.4	+0.2
	197nm,0.3s,baz=283,slow=18,SNR=142						
CBIJ				Sn	Sn	14 14 50.0	+0.4
	527nm,0.3s,baz=296,slow=22,SNR=43						
WRA	**Warramunga Arr**	**46.92**	**190**	P	P	14 22 58.2	+0.1
	1.6nm,0.4s,baz=12,slow=8.6,SNR=38						
FITZ	**Fitzroy Crossi**	**47.22**	**201**	P	P	14 23 00.7	+0.2
	0.9nm,0.5s,baz=6.3,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**50.53**	**310**	P	P	14 23 25.2	-0.6
	0.1nm,0.4s,baz=95,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**50.64**	**189**	P	P	14 23 26.1	-0.7
	0.4nm,0.8s,baz=6.5,slow=6.1,SNR=6.0						
KURBB	**Kurchatov Arra**	**53.13**	**315**	P	P	14 23 45.0	-0.2
	0.7nm,0.4s,baz=91,slow=8.1,SNR=11						
BVAR	**Borovoye Array**	**58.16**	**318**	P	P	14 24 21.5	+0.2
	1.3nm,0.4s,baz=85,slow=6.1,SNR=13						

---

*ISCJB **03** 14:18:12.6±1.2, 34°.61N±0°.08×33°.96E±0°.05, h54km±10km, Error ellipse: s-maj=13.4km s-min=6.6km az=162.1*
*ISK **03** 14:18:13.8, 34°.53N×33°.67E, h32km, MD2.9*
*CSEM **03** 14:18:13.1±0.5, 34°.58N×33°.95E, h40km, Mw3.2, Error ellipse: s-maj=11.8km s-min=5.9km az=161.0*
*NIC **03** 14:18:14.9±0.2, 34°.70N×33°.84E, h42km, ML2.9, MW3.2*
*DDA **03** 14:18:14.8, 35°.18N×34°.20E, h10km, MD2.9*
ISC 03 14:18:12.4±1.8**, 34°.57N**±0°.09×**33°.96E**±0°.04**, h52**km±11km**, n31,** σ**1s.00**/42**, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.44**	**8**	P	**Pn**	**14 18 24.2**	**+1.1**
	3.1nm,0.7s						
PHNC				S	**Sn**	**14 18 30.6**	**-0.1**
PHNC	**Paralimni**	**0.44**	**8**	P	**Pn**	**14 18 24.2**	**+1.1**
	3.1nm,0.7s						
PHNC				S	**Sn**	**14 18 30.6**	**-0.1**
CSS	**Prodhromos**	**0.65**	**307**	P	**Pn**	**14 18 25.4**	**-0.2**
CSS				S	**Sn**	**14 18 34.2**	**-0.9**
CSS	**Prodhromos**	**0.65**	**307**	*e*PG	**Pn**	**14 18 24.7**	**-0.9**
CSS				*e*SG	**Sn**	**14 18 33.3**	**-1.9**
CSS	**Prodhromos**	**0.65**	**307**	*e*Pg	**Pn**	**14 18 24.7**	**-0.9**
CSS	**Prodhromos**	**0.65**	**307**	P	**Pn**	**14 18 25.4**	**-0.2**
CSS				*e*Sg	**Sn**	**14 18 33.3**	**-1.9**
CSS				S		14 18 34.2	
LFK	**Lefkose**	**0.79**	**334**	*e*PG	**Pn**	**14 18 27.9**	**+0.5**
LFK				*e*SG	**Sn**	**14 18 39.3**	**+0.9**
LFK	**Lefkose**	**0.79**	**334**	*e*Pg	**Pn**	**14 18 27.9**	**+0.5**
LFK				*e*Sg	**Sn**	**14 18 39.3**	**+0.9**
MAMC	**Mammari**	**0.85**	**315**	P	**Pn**	**14 18 28.1**	**-0.1**
MAMC	**Mammari**	**0.85**	**315**	P	**Pn**	**14 18 28.1**	**-0.1**
SZAC	**Souni-Zanaja**	**0.90**	**282**	P	**Pn**	**14 18 29.8**	**+0.9**
	2.5nm,0.8s						
SZAC				S	**Sn**	**14 18 41.0**	**-0.1**
SZAC	**Souni-Zanaja**	**0.90**	**282**	P	**Pn**	**14 18 29.8**	**+0.9**
	2.5nm,0.8s						
SZAC				S	**Sn**	**14 18 41.0**	**-0.1**
EREN	**Erenkoy**	**0.97**	**10**	*e*PN	Pn	14 18 33.2	+3.4
EREN	**Erenkoy**	**0.97**	**10**	*e*Pn	Pn	14 18 33.2	+3.4
LEF	**Lefka**	**1.03**	**302**	*e*PG	**Pn**	**14 18 31.3**	**+0.7**
LEF	**Lefka**	**1.03**	**302**	*e*Pg	**Pn**	**14 18 31.3**	**+0.7**
ALFC	**Alevga**	**1.26**	**298**	P	**Pn**	**14 18 34.2**	**+0.5**
	4.1nm,0.2s						
ALFC				S	**Sn**	**14 18 49.4**	**-0.2**
ALFC	**Alevga**	**1.26**	**298**	P	**Pn**	**14 18 34.2**	**+0.5**
	4.1nm,0.2s						
ALFC				S	**Sn**	**14 18 49.4**	**-0.2**
PPCY	**Paphos**	**1.36**	**284**	P	**Pn**	**14 18 36.1**	**+1.0**
PPCY	**Paphos**	**1.36**	**284**	P	**Pn**	**14 18 36.1**	**+1.0**
GAZI	**Gazipasa**	**2.13**	**322**	*i* P	Pn	14 18 38.7	-6.9
GAZI				*i* S	**Sn**	**14 19 07.6**	**-3.3**
ERMK	**Ermenek**	**2.23**	**338**	*i* P	**Pn**	**14 18 48.5**	**+1.3**
ERMK				*i* S	**Sn**	**14 19 14.1**	**+0.4**
ERMK	**Ermenek**	**2.23**	**338**	*i* P	**Pn**	**14 18 48.5**	**+1.3**
ERMK				*i* S	**Sn**	**14 19 14.1**	**+0.4**
YAYL	**Yayladag**	**2.29**	**50**	*i* P	**Pn**	**14 18 48.1**	**+0.3**
YAYL				*i* S	**Sn**	**14 19 13.6**	**-1.2**
YAYL	**Yayladag**	**2.29**	**50**	*i* P	**Pn**	**14 18 48.1**	**+0.3**
YAYL				*i* S	**Sn**	**14 19 13.6**	**-1.2**
KRTS	**Karatas**	**2.31**	**30**	*e*PN	Pn	14 18 52.8	+4.8
KRTS	**Karatas**	**2.31**	**30**	*e*Pn	Pn	14 18 52.8	+4.8
MERS	**Mersin**	**2.34**	**11**	*e*PN	Pn	14 18 53.2	+4.7
MERS	**Mersin**	**2.34**	**11**	*e*Pn	Pn	14 18 53.2	+4.7
GULE	**Gulek**	**2.79**	**14**	*i* P	**Pn**	**14 18 54.1**	**-0.6**
GULE				*i* S	**Sn**	**14 19 27.5**	**+0.3**
GULE	**Gulek**	**2.79**	**14**	*i* P	**Pn**	**14 18 54.1**	**-0.6**
GULE				*i* S	**Sn**	**14 19 27.5**	**+0.3**

---

*ISCJB **03** 14:22:10.3±0.8, 38°.12N±0°.02×71°.56E±0°.02, h10km±4km, mb4.8/135, MS4.6/77, Error ellipse: s-maj=3.7km s-min=2.7km az=20.6*
*IDC **03** 14:22:10.1±0.4, 38°.16N×71°.52E, h0km, mb4.7/33, mb1 4.8/40, mb1mx4.8/42, mbtmp4.7/40, ML4.4/7, MS4.4/42, Ms1 4.5/42, ms1mx4.4/47, Error ellipse: s-maj=9.3km s-min=8.2km az=152.0*
*NEIC **03** 14:22:10.3±1.9, 38°.07N×71°.59E, h3km±12km, mb5.0/66, Error ellipse: s-maj=5.5km s-min=3.7km az=213.0*
NEIC Felt at Khorugh.
*BJI **03** 14:22:11.2, 38°.27N×71°.35E, h21km, mB5.0/36, mb4.8/45, ML5.4/4, Ms5.0/47, Ms7 4.7/43*
*NNC **03** 14:22:14.0±2.4, 38°.43N×71°.22E, h0km, mb5.2, mpv5.1, Error ellipse: s-maj=28.5km s-min=15.6km az=155.0*
*MOS **03** 14:22:14.8±1.1, 38°.18N×71°.56E, h42km, mb5.1/84, MS4.6/37, Error ellipse: s-maj=5.0km s-min=3.7km az=115.9*
*GCMT **03** 14:22:15.9±0.2, 38°.39N×71°.38E, h20km, MW5.1, Moment Tensor Solution. s45,c73; s80,c147; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.32±.19; $M_{\theta\theta}$-4.02±.16; $M_{\phi\phi}$7.33±.14; $M_{r\theta}$0.87±.34; $M_{\theta\phi}$1.77±.11; $M_{\phi r}$-1.00±.26; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_s230.00000°, δ64.00000°, λ-21.00000°. NP2:ϕ_s329.00000°, δ71.00000°, λ-152.00000°. Principal axes: T 7.6700, Plg4.0000°, Azm98.0000°; N -2.7400, Plg57.0000°, Azm1.0000°; P -4.9400, Plg33.0000°, Azm191.0000°; Data Used: IU II IC G CN.*
*SZGRF **03** 14:22:19.6, 39°.00N×71°.90E, h33km, mb4.8, MS4.6, Afghanistan-Tajikistan border region*
ISC 03 14:22:14.0±0.4**, 38°.23N**±0°.03×**71°.43E**±0°.02**, h22**km±2km**, n598,** σ**1s.70**/618**, mb4.9**/141**, MS4.6**/76**, 60C-37D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.77**	**69**	Pg	**Pn**	**14 23 11.7**	**+0.8**
KSH				Sg	**Sn**	**14 23 54.0**	**-0.7**
KSH				smax	smax		
	comp=N,9μm,0.9s						
KSH				smax	smax		
	comp=E,9μm,0.8s						
AML	**Almayashu**	**4.27**	**23**	*i* PN	**Pn**	**14 23 19.4**	**+1.4**
AML	**Almayashu**	**4.27**	**23**	P	**Pn**	**14 23 19.4**	**+1.4**
	SNR=197						
CEP	**Cherat**	**4.41**	**175**	P	Pn	14 23 23.0	+3.2
CEP				S	**Sb**	**14 24 24.0**	**+0.3**
UCH	**Uchtor**	**4.64**	**30**	*i* PN	Pn	14 23 26.3	+3.1
UCH	**Uchtor**	**4.64**	**30**	P	**Pn**	**14 23 25.3**	**+2.2**
	SNR=19						
EKS2	**Erkin-Say**	**4.78**	**21**	*e*PN	**Pn**	**14 23 26.2**	**+1.4**
EKS2	**Erkin-Say**	**4.78**	**21**	*e*Pn	**Pn**	**14 23 26.2**	**+1.4**
EKS2	**Erkin-Say**	**4.78**	**21**	P	**Pn**	**14 23 26.9**	**+2.1**
	SNR=180						
CHCP	**Chirah Chowk**	**4.80**	**161**	P	Pn	14 23 28.8	+3.8
KZA	**Kyzart**	**4.83**	**36**	*i* PN	**Pn**	**14 23 27.4**	**+1.6**
KZA	**Kyzart**	**4.83**	**36**	P	**Pn**	**14 23 27.4**	**+1.6**
	SNR=51						
KK31	**Karatay Array**	**4.92**	**352**	⇑Pn	**Pn**	**14 23 28.3**	**+1.6**
	comp=E,59nm,0.3s,baz=180,slow=15,SNR=1890						
KK31				⇑Pg	**Pb**	**14 23 41.2**	**+1.8**
	comp=E,392nm,0.7s,baz=174,slow=14,SNR=9.7						
KK31				⇑Lg	Lg	14 24 43.1	
	comp=E,1μm,0.7s,baz=170,slow=30,SNR=5.0						
KK31	**Karatay Array**	**4.92**	**352**	*i* PN	**Pn**	**14 23 27.3**	**+0.7**
KK31				pmax	pmax		
	comp=Z,207nm,0.4s						
KKAR	**Karatay Array**	**4.92**	**352**	*e*PN	**Pn**	**14 23 27.6**	**+1.0**
KKAR	**Karatay Array**	**4.92**	**352**	*e*Pn	**Pn**	**14 23 27.6**	**+1.0**
AAK	**Ala-Archa**	**4.98**	**27**	Pn	**Pn**	**14 23 30.0**	**+2.4**
	comp=Z,24nm,0.3s,baz=200,slow=10,SNR=164						
AAK				Lg	Lg	14 24 35.5	
	comp=Z,64nm,0.3s,baz=325,slow=20,SNR=11						
AAK				LR	LR	14 25 36.9	
	comp=Z,6μm,18.6s,baz=204,slow=41						
AAK	**Ala-Archa**	**4.98**	**27**	*ce*PN	**Pn**	**14 23 30.0**	**+2.4**
AAK	**Ala-Archa**	**4.98**	**27**	*e*P	**Pn**	**14 23 29.8**	**+2.2**
	comp=Z,2μm,0.5s						
AAK				Pn	**Pn**	**14 23 30.0**	**+2.4**
AAK				Lg	Lg	14 24 35.5	
AAK	**Ala-Archa**	**4.98**	**27**	Pn	**Pn**	**14 23 29.0**	**+1.4**
	comp=Z,2μm,0.6s						
AAK	**Ala-Archa**	**4.98**	**27**	P	**Pn**	**14 23 30.1**	**+2.4**
	SNR=121						
KBK	**Karagaybulak**	**5.17**	**30**	*i* PN	**Pn**	**14 23 32.7**	**+2.4**
KBK	**Karagaybulak**	**5.17**	**30**	P	**Pn**	**14 23 32.7**	**+2.4**
	SNR=74						
FRU	**Bishkek**	**5.20**	**27**	*i* PN	**Pn**	**14 23 33.0**	**+2.5**
FRU				*i* S	**Sn**	**14 24 34.0**	**+4.2**
FRU				pmax	pmax		
	comp=Z,1μm,1.6s						
FRU				smax	smax		
	comp=N,3μm,1.8s						
CHMS	**Chumysh**	**5.39**	**27**	*i* PN	**Pn**	**14 23 35.0**	**+1.9**
CHMS	**Chumysh**	**5.39**	**27**	P	**Pn**	**14 23 35.0**	**+1.9**
	SNR=111						
THW	**Thamme Wali**	**5.43**	**177**	P	Pn	14 23 36.5	+2.9
ULHL	**Ulahol**	**5.45**	**41**	*i* PN	**Pn**	**14 23 35.7**	**+1.7**
ULHL	**Ulahol**	**5.45**	**41**	P	**Pn**	**14 23 35.7**	**+1.7**
	SNR=127						
USP	**Ospenovka**	**5.55**	**24**	*i* PN	**Pn**	**14 23 36.6**	**+1.3**
USP	**Ospenovka**	**5.55**	**24**	P	**Pn**	**14 23 36.6**	**+1.3**
	SNR=102						
TKM2	**Tokmak 2**	**5.66**	**33**	⇑Pn	**Pn**	**14 23 39.4**	**+2.4**
	comp=N,131nm,0.4s						
TKM2				⇑Pg	Pb	14 23 56.0	+3.9
	comp=N,178nm,0.7s						
TKM2				Lg	Lg	14 25 10.4	
TKM2	**Tokmak 2**	**5.66**	**33**	*i* PN	**Pn**	**14 23 38.6**	**+1.6**
TKM2	**Tokmak 2**	**5.66**	**33**	*e*Pn	**Pn**	**14 23 38.5**	**+1.6**
TKM2	**Tokmak 2**	**5.66**	**33**	P	**Pn**	**14 23 38.6**	**+1.6**
	SNR=179						
SARP	**Sargodha**	**6.37**	**170**	P	Pn	14 23 49.0	+2.4
KNDC	**Almaty**	**6.52**	**38**	⇑Pn	Pn	14 23 52.4	+3.8
KNDC				⇑Lg	Lg	14 25 35.3	
THN	**Thein Dam**	**6.76**	**148**	*e*P	**Pn**	**14 23 51.8**	**-0.1**
THN				*e*x	x	14 25 12.8	
DLH	**Dalhousie**	**6.77**	**146**	*e*P	**Pn**	**14 23 54.0**	**+1.7**
DLH				*e*x	x	14 25 15.0	
BHK	**Bhakra**	**7.93**	**147**	*e*P	Pn	14 24 11.0	+3.0
BHK				*e*S	**Sn**	**14 25 35.4**	**-1.7**
SDNR	**Sundarnagar**	**8.11**	**144**	*e*P	**Pn**	**14 24 11.5**	**+1.1**
SDNR				*e*x	x	14 26 00.0	
SMLA	**Simla**	**8.51**	**145**	*i* P	**Pn**	**14 24 16.5**	**+0.6**
SMLA				AMb	AMB	14 24 21.1	
	comp=Z,895nm,0.1s						
SMLA				*i* x	x	14 25 52.1	
DDI	**Dehra Dun**	**9.60**	**143**	*e*P	**Pn**	**14 24 31.0**	**+0.1**
DDI				*e*x	x	14 26 23.0	
ABKT	**Ailbek**	**10.50**	**272**	Pn	**Pn**	**14 24 40.4**	**-2.8**
	comp=Z,699nm,0.4s,SNR=12						
NDI	**New Delhi**	**10.67**	**151**	*e*P	**Pn**	**14 24 46.0**	**+0.4**
NDI				*e*x	x	14 26 40.0	
PTH	**Pithoragarh**	**11.32**	**137**	*e*P	**Pn**	**14 24 55.9**	**+1.4**
PTH				*e*x	x	14 26 59.5	
LGTI	**Lohaghat**	**11.41**	**138**	*e*P	Pn	14 25 08.9	+13
LGTI				*e*S	Sn	14 27 07.6	+5.2
MK31	**Makanchi Array**	**11.71**	**40**	⇑Pn	**Pn**	**14 25 01.1**	**+1.3**
	comp=Z,84nm,0.8s,baz=224,slow=10,SNR=1056						
MK31	**Makanchi Array**	**11.71**	**40**	*i* P	**Pn**	**14 25 01.0**	**+1.3**
MK31				pmax	pmax		
	comp=Z,135nm,0.9s						
MKAR	**Makanchi Array**	**11.71**	**40**	Pn	**Pn**	**14 25 00.9**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=231,slow=8.9,SNR=387						
MKAR				Lg	Lg	14 28 21.7	
	comp=Z,0.8nm,0.3s,baz=249,slow=26,SNR=3.6						
MKAR				LR	LR	14 29 37.9	
	comp=Z,1μm,19.0s,baz=229,slow=38						
MKAR	**Makanchi Array**	**11.71**	**40**	P	**Pn**	**14 25 00.9**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,1μm,19.0s						
MKAR	**Makanchi Array**	**11.71**	**40**	Pn	**Pn**	**14 25 00.9**	**+1.1**
MKAR				Lg	Lg	14 28 21.7	
AJM	**Ajmer**	**12.02**	**166**	*i* P	Pn	14 25 00.0	-4.1
AJM				*e*S	Sn	14 27 02.0	-16
KURBB	**Kurchatov Arra**	**13.38**	**20**	Pn	**Pn**	**14 25 19.9**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=217,slow=13,SNR=18						
KURBB				Lg	Lg	14 29 06.3	
	comp=Z,0.5nm,0.3s,baz=228,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**13.38**	**20**	⇓Pn	Pn	14 25 19.2	-3.3
	comp=Z,4.3nm,0.7s						
WMQ	**Urumqi**	**13.48**	**60**	P	**Pn**	**14 25 24.6**	**+0.6**
WMQ				sP		14 25 30.5	
WMQ				PP	**P**	**14 25 35.8**	**+2.7**
WMQ				S	**Sn**	**14 27 55.0**	**+1.9**
WMQ				sS	S	14 28 03.1	-13
WMQ				SS	**SnSn**	**14 28 12.4**	**+7.1**
WMQ				pmax	pmax		
	comp=Z,21nm,1.0s						
WMQ				LR	LR		
	comp=N,8μm,26.0s						
WMQ				LR	LR		
	comp=E,2μm,21.0s						
WMQ				LR	LR		
	comp=Z,1μm,26.0s						
KURK	**Kurchatov**	**13.49**	**20**	⇑Pn	**Pn**	**14 25 22.0**	**-2.0**
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**13.49**	**20**	*ce*P	**Pn**	**14 25 21.6**	**-2.3**
KURK				pmax	pmax		
	comp=Z,16nm,1.7s						
KURK	**Kurchatov**	**13.49**	**20**	Pn	Pn	14 25 19.9	-4.0
KURK				*e*Pn	Pn	14 25 20.6	-3.4
KURK				Lg	Lg	14 29 06.3	
AB31	**Akbulak array**	**13.78**	**327**	⇑Pn	Pn	14 25 24.5	-3.4
	comp=Z,32nm,0.6s,baz=142,slow=12,SNR=651						
AB31	**Akbulak array**	**13.78**	**327**	*i* P	Pn	14 25 24.5	-3.4
AB31				pmax	pmax		
	comp=Z,15nm,0.3s						
ABKAR	**Akbulak array**	**13.78**	**327**	*e*Pn	Pn	14 25 24.0	-3.9
	comp=Z,37nm,0.5s						
PYUN	**Piuthan**	**13.98**	**133**	*e*P	Pn	14 25 26.8	-4.1
PYUN	**Piuthan**	**13.98**	**133**	*e*P	Pn	14 25 26.8	-4.1
DANN	**Dangsing**	**14.25**	**130**	*e*P	Pn	14 25 29.7	-5.0
	comp=Z,102nm,0.6s						
DANN	**Dangsing**	**14.25**	**130**	*e*P	Pn	14 25 29.7	-5.0
	comp=Z,102nm,0.6s						
VOSK	**Vostochnaya**	**14.50**	**359**	⇑Pn	**Pn**	**14 25 37.3**	**-0.4**
	comp=Z,33nm,0.8s						
KOLN	**Koldanda**	**14.58**	**132**	*e*P	Pn	14 25 34.9	-4.3
KOLN	**Koldanda**	**14.58**	**132**	*e*P	Pn	14 25 34.9	-4.3
BVA0	**Borovoye Array**	**14.82**	**358**	⇑Pn	**Pn**	**14 25 40.0**	**-2.1**
	comp=Z,4.1nm,0.7s,baz=159,slow=12,SNR=156						
BVA0	**Borovoye Array**	**14.82**	**358**	*i* P	**Pn**	**14 25 39.9**	**-2.1**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**14.82**	**358**	Pn	**Pn**	**14 25 39.7**	**-2.3**
	comp=Z,3.0nm,0.3s,baz=155,slow=13,SNR=35						
BVAR				LR	LR	14 31 49.3	
	comp=Z,3μm,19.1s,baz=24,slow=39						
BVAR	**Borovoye Array**	**14.82**	**358**	P	**Pn**	**14 25 39.7**	**-2.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,3μm,19.1s						
BVAR	**Borovoye Array**	**14.82**	**358**	Pn	**Pn**	**14 25 39.7**	**-2.3**
ZRNK	**Zerenda**	**14.82**	**354**	⇑Pn	**Pn**	**14 25 40.4**	**-1.7**
	comp=Z,20nm,0.6s						
BRVK	**Borovoye**	**14.85**	**357**	*ce*P	**Pn**	**14 25 40.6**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,20nm,1.0s						

BRVK	Borovoye	14.85	357	ePn	Pn	14 25 40.5	-2.1
BRVK	Borovoye	14.85	357	Pn	Pn	14 25 40.4	-2.1
	comp=Z,280nm,0.8s,SNR=11						
GKN	Gorkha	15.03	129	eP	Pn	14 25 40.1	-5.1
	comp=Z,152nm,0.5s						
GKN	Gorkha	15.03	129	eP	Pn	14 25 40.1	-5.1
	comp=Z,152nm,0.5s						
AKTO	Aktyubinsk	15.49	326	Pn	Pn	14 25 49.0	-2.0
	comp=Z,1.4nm,0.3s,baz=143,slow=13,SNR=20						
AKTO				Sn	Sn	14 28 34.0	-7.9
	comp=Z,2.6nm,0.3s,baz=60,slow=20,SNR=3.7						
AKTO				Lg	Lg	14 30 28.6	
	baz=213,slow=21,SNR=3.9						
AKTO				LR	LR	14 32 30.2	
	comp=Z,2µm,20.1s,baz=142,slow=40						
AKTO	Aktyubinsk	15.49	326	⇓Pn	Pn	14 25 50.0	-1.0
	comp=Z,24nm,0.8s						
AKTO	Aktyubinsk	15.49	326	iP	Pn	14 25 50.0	-1.0
AKTO				pmax	pmax		
	comp=Z,27nm,0.7s						
AKTO	Aktyubinsk	15.49	326	Pn	Pn	14 25 49.0	-2.0
AKTO				Sn	Sn	14 28 34.0	-7.9
AKTO				Lg	Lg	14 30 28.6	
KKN	Kakani	15.58	128	eP	Pn	14 25 47.1	-5.4
	comp=Z,98nm,0.6s						
KKN	Kakani	15.58	128	eP	Pn	14 25 47.1	-5.4
KKN				pmax	pmax		
	comp=Z,98nm,0.6s						
KKN	Kakani	15.58	128	eP	Pn	14 25 47.1	-5.4
	comp=Z,98nm,0.6s						
DMN	Daman	15.60	129	eP	Pn	14 25 48.1	-4.7
DMN	Daman	15.60	129	eP	Pn	14 25 48.1	-4.7
PKI	Pulchoki	15.81	128	eP	Pn	14 25 50.8	-4.8
PKI	Pulchoki	15.81	128	eP	Pn	14 25 50.8	-4.8
PKI	Pulchoki	15.81	128	eP	Pn	14 25 50.8	-4.8
GUN	Gumba	15.87	126	eP	Pn	14 25 51.0	-5.4
	comp=Z,385nm,0.9s						
GUN	Gumba	15.87	126	eP	Pn	14 25 51.0	-5.4
	comp=Z,385nm,0.9s						
JIRN	Jiri	16.24	126	eP	Pn	14 25 56.0	-5.2
	comp=Z,20nm,0.4s						
JIRN	Jiri	16.24	126	eP	Pn	14 25 56.0	-5.2
	comp=Z,20nm,0.4s						
RAMN	Ramite	17.00	127	eP	Pn	14 26 07.2	-3.4
	comp=Z,219nm,0.8s						
RAMN	Ramite	17.00	127	eP	Pn	14 26 07.2	-3.4
	comp=Z,219nm,0.8s						
TAPN	Taplejung	17.44	124	eP	Pn	14 26 13.2	-2.9
	comp=Z,49nm,0.8s						
TAPN	Taplejung	17.44	124	eP	Pn	14 26 13.2	-2.9
	comp=Z,49nm,0.8s						
ODAN	Odare	17.57	126	eP	Pn	14 26 14.9	-2.8
ODAN	Odare	17.57	126	eP	Pn	14 26 14.9	-2.8
ZALV	Zalesovo Beam	18.21	26	P	Pn	14 26 23.0	-2.1
	comp=Z,1.7nm,0.3s,baz=218,slow=10.0,SNR=107						
ZALV				S	Sn	14 29 48.5	+0.9
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=3.8						
ZALV	Zalesovo Beam	18.21	26	P	Pn	14 26 23.0	-2.1
ZALV				S	Sn	14 29 48.5	+0.9
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	Zalesovo Beam	18.21	26	P	Pn	14 26 23.0	-2.1
ZALV				S	Sn	14 29 48.5	+0.9
NGP	Nagpur	18.25	157	eP	P	14 26 25.5	-0.4
NGP				ex	x	14 26 44.1	
	comp=Z,109nm,1.1s						
NGP				ex	x	14 29 44.0	
LSA	Lhasa	18.41	112	P	P	14 26 26.7	-1.5
LSA				S	Sn	14 29 54.7	+1.2
LSA				LR	LR		
	comp=N,2µm,20.9s						
LSA				LR	LR		
	comp=E,2µm,23.4s						
LSA	Lhasa	18.41	112	eP	P	14 26 25.7	-2.5
LSA				pmax	pmax		
	comp=Z,134nm,1.4s						
LSA	Lhasa	18.41	112	eP	P	14 26 25.7	-2.5
	comp=Z,134nm,1.4s						
NVS	Novosibirsk	18.45	22	⇑iP	P	14 26 25.3	-2.6
NVS				eS	S	14 29 57.8	+0.6
NVS				pmax	pmax		
	comp=N,36nm,0.7s						
NVS				pmax	pmax		
	comp=Z,44nm,0.7s						
NVS				pmax	pmax		
	comp=E,15nm,0.7s						
NVS				smax	smax		
	comp=N,72nm,2.0s						
NVS				smax	smax		
	comp=E,46nm,1.5s						
WSAR	Wadi Sarin	18.52	220	P	Pn	14 26 29.1	-0.2
	comp=E,0.7nm,0.3s,baz=53,slow=14,SNR=5.3						
WSAR				LR	LR	14 35 01.2	
	comp=E,686nm,19.0s,baz=46,slow=42						
WSAR	Wadi Sarin	18.52	220	P	Pn	14 26 29.1	-0.2
MAK	Makhachkala	18.75	292	eP	Pn	14 26 32.2	+0.4
MAK				eS	Sn	14 29 56.5	-4.4
MAK				pmax	pmax		
	comp=Z,322nm,1.4s						
MAK				MLR	MLR		
	comp=Z,5µm,18.0s						
POO	Poona	19.74	173	eP	P	14 26 40.1	-2.2
POO				AMb	AMB	14 26 45.7	
	comp=Z,52nm,1.2s						
POO				iS	S	14 30 22.0	-1.8
SVE	Sverdlovsk	19.94	342	eP	P	14 26 44.1	-0.1
SVE				eS	S	14 30 16.4	-11
SVE				pmax	pmax		
	comp=Z,49nm,0.9s						
SVE				MLR	MLR		
	comp=Z,4µm,14.0s						
ARU	Arti	20.13	339	d iP	P	14 26 46.2	-0.1
ARU						14 27 12.5	
ARU				PPP	PPP	14 27 23.5	
ARU				S	S	14 30 25.8	-5.4
ARU				pmax	pmax		
	comp=Z,30nm,1.0s						
ARU				MLR	MLR		
	comp=Z,3µm,19.0s						
ARU	Arti	20.13	339	eP	P	14 26 45.1	-1.1
	comp=Z,50nm,0.9s						
ARU	Arti	20.13	339	P	P	14 26 45.4	-0.9
	comp=Z,236nm,0.9s,SNR=13						
LATR	Latur	20.24	166	eP	Pn	14 26 47.9	-1.8
DGRG	David-gareji	20.24	287	P	Pn	14 26 49.3	-0.5
HVS	Khovu-Aksy	20.33	43	c iP	Pn	14 26 49.6	-1.1
HVS				pmax	pmax		
	comp=Z,90nm,1.0s						
TBLG	Delisi	20.72	288	eP	Pn	14 26 54.5	-0.8
TBLG	Delisi	20.72	288	P	Pn	14 26 54.6	-0.8
GNI	Garni	20.75	284	P	Pn	14 26 54.8	-1.1
	comp=Z,24nm,0.6s,baz=175,slow=3.1,SNR=16						
GNI				LR	LR	14 36 37.6	
	comp=Z,606nm,19.2s,baz=234,slow=42						
GNI	Garni	20.75	284	eP	P	14 26 54.0	+0.7
GNI	Garni	20.75	284	eP	P	14 26 51.9	-1.5
	comp=Z,114nm,1.0s						
GNI				P	Pn	14 26 54.8	-1.0
KAD	Karad	20.98	173	iP	P	14 26 52.0	-3.8
GOR	Gori	21.20	289	P	P	14 27 00.7	+2.7
CAL	Calcutta	21.32	132	ex	P	14 26 55.2	-4.2
CAL				ex	x	14 33 27.6	
ZEI	Tsey	21.38	291	eP	P	14 26 59.1	-1.1
ZEI				pmax	pmax		
	comp=Z,56nm,0.8s						
SHL	Shillong	21.41	120	eP	P	14 27 03.0	+2.4
SHL				ex	x	14 31 00.5	
MIB	Mutribah	21.62	254	eP	P	14 27 03.4	+0.8
MIB				AMb	AMB	14 27 20.1	
	comp=Z,120nm,0.8s						
HYB	Hyderabad	21.65	161	iP	P	14 27 02.0	-1.0
HYB				eS	S	14 31 03.0	+1.1
AKH	Akhalkalaki	21.66	287	P	P	14 27 05.6	+2.5
KBD	Kabd	21.67	252	eP	P	14 27 03.3	+0.2
KBD				AMb	AMB	14 27 14.9	
	comp=Z,73nm,1.3s						
ONI	Oni	21.70	290	P	P	14 27 05.2	+1.8
RDF	Al-Radifah	21.90	252	eP	P	14 27 05.8	+0.1
RDF				AMb	AMB	14 27 14.8	
	comp=Z,113nm,1.4s						
VANB	Van	21.95	280	eP	PnPn	14 27 29.9	+1.9
NAY	Al-Naaiem	21.97	253	eP	P	14 27 06.7	+0.4
NAY				AMb	AMB	14 27 15.3	
	comp=Z,61nm,1.0s						
KARS	Kars	22.00	285	eP	P	14 26 58.1	-8.6
GTA	Gaotai	22.11	78	⇑P	P	14 27 09.1	+1.1
GTA				pP	pP	14 27 13.4	-0.8
GTA				sP	sP	14 27 16.4	-0.6
GTA				S	S	14 31 11.2	+0.5
GTA				sS	sS	14 31 19.2	-1.6
GTA				ScP	ScP	14 34 34.7	-6.1
GTA				pmax	pmax		
	comp=Z,31nm,1.0s						
GTA				pmax	pmax		
	comp=Z,350nm,5.7s						
GTA				LR	LR		
	comp=N,2µm,8.6s						
GTA				LR	LR		
	comp=E,1µm,10.4s						
GTA				LR	LR		
	comp=Z,1µm,12.3s						
AGT	Agartala	22.13	125	ix	P	14 27 08.0	-0.1
AGT				ix	x	14 27 48.0	
AGRB	Hanur-Agry	22.14	282	eP	P	14 27 12.3	+4.0
KBZ	Khabaz	22.17	293	P	P	14 27 07.5	-0.9
	comp=Z,55nm,0.9s,baz=132,slow=9.1,SNR=40						
KBZ				LR	LR	14 37 46.9	
	comp=Z,2µm,18.5s,baz=267,slow=42						
KBZ	Khabaz	22.17	293	P	P	14 27 07.5	-0.9
KBZ				pmax	pmax		
	comp=Z,55nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,2µm,18.5s						
KBZ	Khabaz	22.17	293	P	P	14 27 07.5	-0.9
KIV	Kislovodsk	22.34	294	⇓P	P	14 27 10.6	+0.3
KIV	Kislovodsk	22.34	294	eP	P	14 27 09.6	-0.8
KIV				eS	S	14 31 09.7	-5.2
KIV				pmax	pmax		
	comp=Z,69nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1µm,15.0s						
KIV	Kislovodsk	22.34	294	eP	P	14 27 08.4	-2.0
	comp=Z,112nm,0.8s						
KIV	Kislovodsk	22.34	294	P	P	14 27 09.8	-0.6
	comp=Z,735nm,0.6s,SNR=8.7						
BHD	Baghdad	22.47	266	iP	x	14 27 29.0	
BHD				iS	S	14 31 20.0	+2.9
BHD				iLQ	LQ	14 34 57.0	
BHD				iLR	LR	14 35 55.0	
BHD				iScS	ScS	14 38 47.0	+20
SOKR	Solikamsk	23.32	341	⇓iP	P	14 27 21.0	+0.8
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s						
SOKR				MLR	MLR		
	comp=Z,2µm,15.0s						
IMP	Imphal	23.33	119	ex	P	14 27 17.0	-3.7
EZM	Erzurum	23.36	284	eP	P	14 27 20.8	-0.4
VRTB	Varto-Mus	23.37	282	eP	P	14 27 29.9	+8.7
VRTB	Varto-Mus	23.37	282	eP	P	14 27 29.9	+8.7
BAYT	Ayd˜–ntepe-Bay	24.25	285	eP	P	14 27 22.3	-7.2
SOC	Sochi	24.47	293	eP	P	14 27 32.3	+1.0
SOC				e		14 28 07.3	
SOC				eS	S	14 31 44.9	-5.3
SOC				eSS	SnSn	14 32 50.1	+15
SOC				MLR	MLR		
	comp=Z,1µm,17.0s						
VRHR	Novokhopersk	24.61	311	eP	P	14 27 32.6	+0.2
VRHR				eS	S	14 31 52.1	-0.1
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s						
VRHR				pmax	pmax		
	comp=N,50nm,1.6s						
VRHR				pmax	pmax		
	comp=E,30nm,1.0s						
VRHR				smax	smax		
	comp=E,270nm,5.1s						
VRHR				smax	smax		
	comp=Z,260nm,5.5s						
VRHR				smax	smax		
	comp=N,190nm,2.1s						
VRHR				MLR	MLR		
	comp=Z,2µm,26.0s						
VRHR				MLR	MLR		
	comp=N,1µm,20.0s						
VRHR				MLR	MLR		
	comp=E,3µm,27.0s						
MOY	Mondy	24.66	47	eP	P	14 27 34.5	+1.4
MOY				pmax	pmax		
	comp=Z,43nm,3.2s						
ZAK	Zakamensk	25.62	51	eP	P	14 27 42.3	+0.5
ZAK				pmax	pmax		
	comp=Z,26nm,1.0s						
MALT	Malatya	25.84	281	eP	P	14 27 53.3	+9.4
LZH	Lanzhou	25.85	85	eP	P	14 27 47.4	+3.3
LZH				pP	pP	14 27 52.1	+1.4
LZH				sP	sP	14 27 56.3	+2.8
LZH				eS	S	14 32 13.0	+0.3
LZH				SS	SnSn	14 33 17.6	+8.5
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=N,1µm,11.2s						
LZH				LR	LR		
	comp=E,1µm,10.7s						
LZH				LR	LR		
	comp=Z,2µm,12.1s						
VORD	Divnogorie	25.96	310	eP	P	14 27 44.7	0.0
VORD				eS	S	14 32 11.9	-1.9
VORD				e*SS	sS	14 32 32.9	+8.1
VORD				MLR	MLR		
	comp=Z,950nm,14.0s						
VORD				MLR	MLR		
	comp=N,1µm,16.0s						
VORD				MLR	MLR		
	comp=E,1µm,17.0s						
VSR	Storozhevoye	26.11	310	eP	P	14 27 45.8	-0.3
VSR				eS	S	14 32 14.0	-2.2
VSR				e*SS	sS	14 32 35.0	+7.9
VSR				pmax	pmax		
	comp=Z,60nm,0.9s						
VSR				pmax	pmax		
	comp=N,20nm,1.1s						
VSR				pmax	pmax		
	comp=E,100nm,0.9s						
VSR				smax	smax		
	comp=N,440nm,6.3s						
VSR				smax	smax		
	comp=Z,370nm,5.4s						
VSR				smax	smax		
	comp=E,440nm,4.7s						
VSR				MLR	MLR		
	comp=Z,3µm,27.0s						
VSR				MLR	MLR		
	comp=N,2µm,20.0s						
VSR				MLR	MLR		
	comp=E,890nm,16.0s						
ANN	Anapa	26.16	295	eP	P	14 27 48.5	+2.0
ANN				e*PP	pP	14 28 05.2	+12
ANN				e		14 28 30.2	
ANN				eS	S	14 32 15.3	-1.7
ANN				pmax	pmax		
	comp=Z,86nm,0.9s						
TLY	Talaya	26.22	49	eP	P	14 27 47.0	-0.1
TLY				eS	S	14 32 08.2	-10
TLY				pmax	pmax		
	comp=Z,14nm,1.2s						
TLY				MLR	MLR		
	comp=Z,700nm,13.0s						
TLY	Talaya	26.22	49	eP	P	14 27 46.9	-0.3
	comp=Z,12nm,0.9s						
RAYN	Ar Rayn	26.53	244	P	P	14 27 50.7	+0.5
	comp=Z,250nm,0.9s,SNR=9.9						
IRK	Irkutsk	26.77	48	eP	P	14 27 50.7	-1.3
IRK				pmax	pmax		
	comp=Z,41nm,1.0s						
SONM	Songino Array	27.10	58	P	P	14 27 56.1	+0.9
	comp=Z,5.3nm,0.9s,baz=258,slow=8.7,SNR=27						
SONM				PcP	PcP	14 31 13.6	-2.0
	comp=Z,2.1nm,0.9s,baz=270,slow=2.9,SNR=4.2						
SONM				LR	LR	14 39 35.9	
	comp=Z,2µm,21.5s,baz=266,slow=39						
SONM	Songino Array	27.10	58	P	P	14 27 56.1	+0.9
SONM				PcP	PcP	14 31 13.6	-2.0
CD2	Chengdu	27.50	96	P	P	14 27 58.2	-0.7
CD2				pP	pP	14 28 02.5	-3.0
CD2				sP	sP	14 28 05.2	-3.1
CD2				PP	PnPn	14 28 45.4	+1.5
CD2				S	S	14 32 36.4	-2.2
CD2				SS	SnSn	14 33 52.7	+3.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,3.5s						
CD2				LR	LR		
	comp=N,2µm,9.5s						
CD2				LR	LR		
	comp=Z,1µm,11.9s						
ULN	Ulaanbaatar	27.54	58	P	P	14 27 58.4	-0.8
	comp=Z,18nm,1.1s						
SIM	Simferopol'	28.52	296	eP	P	14 28 07.9	+0.1
SIM				pmax	pmax		
	comp=Z,45nm,1.1s						
MOS	Moscow	28.56	319	eP	P	14 28 05.7	-2.3
ASF	Jabal al Asfar	28.75	268	LR	LR	14 42 14.2	
	comp=Z,689nm,19.7s,baz=303,slow=42						
OBN	Obninsk	28.88	317	⇓eP	P	14 28 10.9	+0.1
OBN				e		14 29 05.6	
OBN				S	S	14 33 01.0	+1.4
OBN				pmax	pmax		
	comp=Z,25nm,0.6s						
OBN				MLR	MLR		
	comp=Z,800nm,14.0s						
OBN	Obninsk	28.88	317	eP	P	14 28 10.6	-0.2
	comp=Z,58nm,0.5s						
BRTR	Keskin Array B	29.28	285	P	P	14 28 15.2	+0.5
	comp=Z,10nm,1.0s,baz=96,slow=9.1,SNR=21						
BRTR				LR	LR	14 41 59.6	
	comp=Z,322nm,19.8s,baz=228,slow=40						
BRTR	Keskin Array B	29.28	285	P	P	14 28 15.2	+0.5
KMI	Kunming	29.52	107	P	P	14 28 18.9	+1.8
KMI				S	S	14 33 11.4	+0.6
KMI				SS	SnSn	14 34 42.7	+3.7
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI				LR	LR		
	comp=N,1µm,18.9s						
KMI				LR	LR		
	comp=E,550nm,16.2s						
KMI				LR	LR		
	comp=Z,1µm,21.1s						
MMAI	Mount Meron Ar	29.62	271	LR	LR	14 43 11.3	
	comp=Z,497nm,18.9s,baz=55,slow=42						
KLMR	Klimovskoe	30.16	329	eP	P	14 28 21.7	-0.4
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KLMR				MLR	MLR		
	comp=Z,2µm,19.0s						
XAN	Xi'an	30.43	86	P	P	14 28 27.4	+2.5
XAN				pP	pP	14 28 30.6	-0.9
XAN				S	S	14 33 18.7	-5.9
XAN				SS	ScP	14 35 04.7	-0.4
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,20nm,5.1s						
XAN				LR	LR		
	comp=N,940nm,13.3s						
XAN				LR	LR		
	comp=E,400nm,12.8s						
XAN				LR	LR		
	comp=Z,370nm,13.9s						
CHTO	Chiang Mai	30.77	121	P	P	14 28 27.9	-0.1
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	Chiang Mai	30.77	121	P	P	14 28 27.9	-0.1
	comp=Z,3.5nm,0.8s						
HHC	Hu-ho-hao-te	30.88	72	eP	P	14 28 27.7	-1.1
HHC				PP	PnPn	14 29 28.4	-1.0
HHC				PcP	PcP	14 31 24.8	-0.4
HHC				S	S	14 33 29.5	-2.1
HHC				ScP	ScP	14 35 06.0	-0.6
HHC				PcS	PcS	14 35 08.3	-1.0
HHC				SS	SnSn	14 35 11.6	+0.2
HHC				ScS	ScS	14 39 01.7	-1.7
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.4s						
HHC				LR	LR		
	comp=N,1µm,12.0s						
HHC				LR	LR		
	comp=E,1µm,12.7s						
HHC				LR	LR		
	comp=Z,1µm,12.5s						
CMAR	Chiang Mai Arr	31.02	122	P	P	14 28 28.8	-1.4
	comp=Z,1.8nm,0.8s,baz=314,slow=9.7,SNR=7.0						
CMAR				PcP	PcP	14 31 25.5	-0.3
	comp=Z,4.1nm,0.9s,baz=303,slow=3.8,SNR=7.9						
CMAR				ScP	ScP	14 35 09.0	+1.8
	comp=Z,2.0nm,1.0s,baz=303,slow=3.8,SNR=8.5						
CMAR				LR	LR	14 44 02.3	
	comp=Z,545nm,20.1s,baz=161,slow=42						
CMAR	Chiang Mai Arr	31.02	122	P	P	14 28 28.8	-1.4
CMAR				PcP	PcP	14 31 25.5	-0.3
CMAR				ScP	ScP	14 35 09.0	+1.8
GYA	Guiyang	31.81	101	P	P	14 28 35.0	-2.2
GYA				PP	PnPn	14 29 41.6	-0.2
GYA				S	S	14 33 45.5	-1.0
GYA				ScP	ScP	14 35 13.6	+3.6
GYA				SS	SnSn	14 35 35.0	+0.4
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,580nm,17.5s						
GYA				LR	LR		
	comp=E,520nm,18.0s						
GYA				LR	LR		
	comp=Z,590nm,17.4s						
AKASG	Malin Array Be	32.16	307	P	P	14 28 39.9	+0.1
	comp=Z,3.4nm,0.4s,baz=82,slow=7.6,SNR=19						
AKASG				PP	PnPn	14 29 46.6	+0.8
	comp=Z,5.4nm,0.7s,baz=95,slow=11,SNR=5.2						
AKASG				LR	LR	14 43 59.9	
	comp=Z,996nm,18.1s,baz=105,slow=41						
AKASG	Malin Array Be	32.16	307	P	P	14 28 39.9	+0.1
AKASG						14 29 46.7	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,996nm,18.2s						
AKASG	Malin Array Be	32.16	307	c eP	P	14 28 40.7	+0.8
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	Malin Array Be	32.16	307	P	P	14 28 39.9	+0.1
AKASG				PP	PnPn	14 29 46.6	+0.8
KIEV	Kiev	32.17	307	eP	P	14 28 40.1	+0.2
KIEV	Kiev	32.17	307	eP	P	14 28 39.9	-0.1
KIS	Kishinev	32.22	300	P	P	14 28 42.0	+1.5
KIS				e		14 28 49.0	
KIS				e		14 29 47.0	
KIS				eSS	SS	14 35 44.0	-27
KIS				MLR	MLR		
	comp=E,1µm,16.0s						
KIS				MLR	MLR		
	comp=Z,1µm,16.0s						
KIS				MLR	MLR		
	comp=Z,1µm,16.0s						
KIS	Kishinev	32.22	300	eP	P	14 28 42.0	+1.5
KIS	Kishinev	32.22	300	ePP	PP	14 29 47.0	-6.3
KIS				eSS	SS	14 35 44.0	-27
KIS				eL	L	14 42 22.0	
KIS				LRM	MLR	14 45 36.0	
	comp=Z,1µm,16.0s						
CFR	Carcaliu	32.75	296	⇑P	P	14 28 46.4	+1.3
CFR	Carcaliu	32.75	296	⇑iP	P	14 28 46.4	+1.3
KULA	Kula-Manisa	33.31	284	eP	P	14 28 46.9	-3.3
KULA	Kula-Manisa	33.31	284	eP	P	14 28 46.9	-3.3
NEF	NEVSHA	33.53	293	eP	P	14 28 53.5	+1.5
MICGM	Minsk	33.54	313	e	P	14 28 59.0	+7.1
VRI	Vrincioaia	33.70	298	⇓P	P	14 28 55.9	+2.5
VRI	Vrincioaia	33.70	298	⇓iP	P	14 28 55.9	+2.5
TESR		33.72	299	⇑iP	P	14 28 54.8	+1.2
PLOR	Plostina	33.75	298	⇓P	P	14 28 56.1	+2.2
PLOR	Plostina	33.75	298	⇓iP	P	14 28 56.1	+2.2
BOD	Bodaibo	33.80	41	eP	P	14 28 53.1	-1.0
BOD				pmax	pmax		
	comp=Z,30nm,1.2s						
ISR	Istrita	33.88	296	⇓iP	P	14 28 58.9	+3.9
JMB	Yambol	34.14	292	eP	P	14 29 00.0	+2.8

NACGM **Naroch** 34.24 314 *e* P 14 28 56.0 -2.0
MLR **Muntele Rosu** 34.27 297⇑*i*P P 14 29 01.1 +2.6
BJI **Beijing** 34.48 73 P P 14 28 58.9 -1.3
BJI S S 14 34 28.2 +0.8
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,130nm,5.3s
BJI LR LR
comp=N,2μm,17.6s
BJI LR LR
comp=E,920nm,18.8s
BJI LR LR
comp=Z,620nm,20.1s
JOF **Joensuu** 34.56 329 *e*P P 14 29 00.1 -0.5
JOF pmax pmax
comp=Z,24nm,0.6s
JOF **Joensuu** 34.56 329 *e*p P 14 29 00.1 -0.5
comp=Z,24nm,0.6s
BURAR **Bucovina Array** 34.67 301⇑*i*P P 14 29 03.3 +1.4
VSU **Vasula** 35.07 320*c i*P P 14 29 05.5 +0.5
VSU pmax pmax
comp=Z,25nm,0.8s
LVV **L'vov** 35.44 305 *e*P P 14 29 09.3 +1.0
LVV *e* 14 30 45.1
LVV *e*S S 14 34 36.9 -5.0
LVV MLR MLR
comp=Z,600nm,14.0s
LVV MLR MLR
comp=N,500nm,13.0s
LVV MLR MLR
comp=E,500nm,14.0s
LOT **Lotru** 35.80 297⇓*i*P P 14 29 13.8 +2.1
PGB **Panagyurishte** 35.89 292 *e*P P 14 29 14.5 +2.1
WHN **Wuhan** 35.98 89 P P 14 29 19.4 +6.2
WHN S S 14 34 53.6 +2.9
WHN LR LR
comp=N,2μm,9.4s
WHN LR LR
comp=E,1μm,8.0s
WHN LR LR
comp=Z,2μm,14.8s
LVZ **Lovozero** 35.99 337 *e*P P 14 29 12.2 -0.7
LVZ pmax pmax
comp=Z,34nm,0.9s
LVZ **Lovozero** 35.99 337 *e*P P 14 29 12.2 -0.7
comp=Z,34nm,0.9s
LVZ **Lovozero** 35.99 337 P P 14 29 12.7 -0.2
comp=Z,226nm,0.7s,SNR=11
HIA **Hailar** 36.03 56 *e*P P 14 29 11.9 -1.6
comp=Z,5.7nm,0.8s
APE **Apeiranthos** 36.08 283 ⇑P P 14 29 15.6 +1.5
APE **Apeiranthos** 36.08 283⇑*i*P P 14 29 15.6 +1.5
MPEP **Malo Peshtene** 36.08 294 *e*P P 14 29 15.9 +2.0
APA **Apatity** 36.18 336⇓*i*P P 14 29 15.0 +0.5
APA *i* 14 30 39.0
APA *i*S S 14 34 54.0 +1.0
APA *i*S SS 14 37 50.0 +19
APA MLR MLR
comp=Z,3μm,17.0s
SUW **Suwalki** 36.20 312 *e*P P 14 29 16.3 +1.4
SUW **Suwalki** 36.20 312 *e*P P 14 29 12.2 -2.6
SUW **Suwalki** 36.20 312 *e*P P 14 29 12.2 -2.6
SUW **Suwalki** 36.20 312 *e*P P 14 29 16.2 +1.4
FINES **FINESS Array B** 36.26 325 P P 14 29 15.1 -0.1
comp=Z,20nm,0.5s,baz=114,slow=8.9,SNR=78
FINES LR LR 14 45 11.2
comp=Z,2μm,18.4s,baz=105,slow=38
FINES **FINESS Array B** 36.26 325 P P 14 29 15.1 -0.1
KWP **Kalwaria Pacla** 36.29 304 *e*P P 14 29 18.5 +2.7
KWP **Kalwaria Pacla** 36.29 304 *e*P P 14 29 16.9 +1.2
KWP pmax pmax
comp=Z,66nm,1.4s
KWP **Kalwaria Pacla** 36.29 304 *e*P P 14 29 16.9 +1.2
comp=Z,66nm,1.4s
KWP **Kalwaria Pacla** 36.29 304⇑*i*P P 14 29 17.3 +1.6
KWP **Kalwaria Pacla** 36.29 304 *e*P P 14 29 18.4 +2.7
DRGR 36.41 300 ⇑P P 14 29 19.3 +2.4
DRGR 36.41 300⇑*i*P P 14 29 19.3 +2.4
TRPA **Tarpa** 36.45 302⇓*e* P 14 29 18.7 +1.7
GZR **Gura Zlata** 36.50 297 ⇑P P 14 29 19.4 +1.8
GZR **Gura Zlata** 36.50 297⇑*i*P P 14 29 19.4 +1.8
VTS **Vitosha** 36.58 292 ⇓P P 14 29 20.7 +2.3
VTS **Vitosha** 36.58 292⇓*i*P P 14 29 20.7 +2.3
VTS **Vitosha** 36.58 292 *e*P P 14 29 20.6 +2.2
UZH **Uzhgorod** 36.59 303 *e*P P 14 29 20.2 +2.0
UZH *e* 14 29 27.7
UZH *e* 14 29 35.4
UZH *e* 14 30 46.0
UZH *e*S S 14 34 56.5 -3.1
UZH *e*SS SnSn 14 37 28.5 -1.1
KOLS **Kolonicke sedl** 36.59 303 *e*P P 14 29 19.5 +1.2
KOLS pmax pmax
comp=Z,15nm,1.2s
KOLS **Kolonicke sedl** 36.59 303 *e*P P 14 29 19.5 +1.2
KOLS *e* 14 29 35.2
KOLS *e*PP PP 14 30 41.8 +0.2
CRVS **Cervenica-Dubn** 37.13 303 *e*P P 14 29 25.1 +2.2
CRVS pmax pmax
comp=Z,7.0nm,1.1s
CRVS **Cervenica-Dubn** 37.13 303 *e*P P 14 29 25.1 +2.2
CRVS *e* 14 29 40.7
CRVS *e*PP PnPn 14 30 48.1 +0.2
BZS **Buzias** 37.29 298 ⇑P P 14 29 26.6 +2.4
BZS **Buzias** 37.29 298⇑*i*P P 14 29 26.6 +2.4
NIE **Niedzica** 37.86 304 *e*P P 14 29 31.0 +1.9
NIE **Niedzica** 37.86 304 *e*P P 14 29 31.0 +1.9
GVD **Gavdhos** 37.87 280 *e*P P 14 29 29.4 +0.1
comp=Z,42nm,0.8s
OJC **Ojcow** 38.16 305 *e*P P 14 29 32.0 +0.5
OJC pmax pmax
comp=Z,22nm,0.9s
OJC **Ojcow** 38.16 305 *e*P P 14 29 32.0 +0.5
comp=Z,22nm,0.9s
OJC **Ojcow** 38.16 305 *e*P P 14 29 32.6 +1.1
PSZ **Piszkesteto** 38.23 302 *e*P P 14 29 33.6 +1.3
PSZ pmax pmax
comp=Z,69nm,2.2s
PSZ **Piszkesteto** 38.23 302 *e*P P 14 29 33.6 +1.3
comp=Z,69nm,2.2s
PSZ **Piszkesteto** 38.23 302⇓*e*c 14 29 33.9
QIZ **Qiongzhong** 38.42 109 P P 14 29 31.1 -2.9
QIZ S S 14 35 27.5 -0.4
QIZ ScS ScS 14 39 44.6 +0.6
QIZ pmax pmax
comp=Z,130nm,6.5s
QIZ LR LR
comp=N,500nm,14.4s
QIZ LR LR
comp=E,360nm,18.0s
QIZ LR LR
comp=Z,770nm,21.0s
VYHS **Vyhne** 38.89 303 *e*P P 14 29 39.6 +1.9
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS **Vyhne** 38.89 303 *e*P P 14 29 39.6 +1.9
VYHS *e*PP PnPn 14 31 13.2 +4.0
NJ2 **Nanjing** 38.93 84 *e*P P 14 29 37.4 -0.8
NJ2 PP PP 14 31 06.1 -1.3
NJ2 S S 14 35 37.5 +2.1
NJ2 sS sS 14 35 54.0 +7.5
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,230nm,4.9s
NJ2 LR LR
comp=N,2μm,26.4s
NJ2 LR LR
comp=E,800nm,24.8s
NJ2 LR LR
comp=Z,680nm,23.7s
OKC **Ostrava-Krasne** 39.24 305 AMS AMS 14 48 10.0
comp=Z,700nm,9.9s
PKSM **Moragy** 39.27 299⇓*e*P P 14 29 42.3 +1.4
KEV **Kevo** 39.33 337 *e*P P 14 29 40.4 -0.7
KEV pmax pmax
comp=Z,9.0nm,0.5s
KEV **Kevo** 39.33 337 *e*p P 14 29 40.4 -0.7
comp=Z,9.3nm,0.5s
CLNS **Chul'man** 39.42 44 *e*P P 14 29 39.2 -2.9
CLNS pmax pmax
comp=Z,10.0nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS MLR MLR
comp=Z,1μm,12.0s
MORC **Moravsky Berou** 39.64 305 ⇓P P 14 29 45.3 +1.3
MORC **Moravsky Berou** 39.64 305 *e*P P 14 29 45.3 +1.3
comp=Z,59nm,2.1s
MORC **Moravsky Berou** 39.64 305⇓*i*P P 14 29 45.3 +1.3
ARCES **ARCESS Array B** 39.69 337 P P 14 29 43.9 -0.2
comp=Z,14nm,0.4s,baz=113,slow=8.6,SNR=111
ARCES LR LR 14 47 15.6
comp=Z,3μm,18.3s,baz=119,slow=38
ARCES **ARCESS Array B** 39.69 337 P P 14 29 43.9 -0.2
ARE0 **ARCESS Array S** 39.69 337 *e*P P 14 29 41.8 -2.3
GKP **Gorka Klasztor** 39.70 310 *e*P P 14 29 45.6 +1.3
GKP **Gorka Klasztor** 39.70 310 *e*P P 14 29 45.6 +1.3
KRLC **Kraliky** 40.11 305 *e*P P 14 29 49.2 +1.3
KTK1 **Kautokeino** 40.18 335 *e*P P 14 29 47.8 -0.4
KSP **Ksiaz** 40.36 307 *e*P P 14 29 50.5 +0.6
KSP **Ksiaz** 40.36 307 *e*P P 14 29 50.1 +0.2
KSP **Ksiaz** 40.36 307 *e*P P 14 29 50.5 +0.6
DPC **Dobruska-Polom** 40.38 306 *e*P P 14 29 51.9 +1.7
DPC *e* 14 29 59.8
DPC *e* 14 30 08.2
DPC *e* 14 31 23.3
DPC MLR MLR
comp=Z,1μm,17.1s
DPC **Dobruska-Polom** 40.38 306 *e*P P 14 29 51.8 +1.7
comp=Z,33nm,1.3s
DPC **Dobruska-Polom** 40.38 306 *e*P P 14 29 51.9 +1.7
DPC *ex* x 14 29 59.8
DPC *ex* x 14 30 08.2
DPC *e*PP PP 14 31 23.3 +0.3
DPC AMS AMS 14 48 40.0
comp=Z,1μm,17.1s
CN2 **Changchun** 40.53 64 *e*P P 14 29 53.6 +2.2
CN2 *es*P sP 14 30 00.2 -0.7
CN2 *e*S S 14 35 58.0 -1.2
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,12.0s
CN2 LR LR
comp=E,1μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
UPC **Upice** 40.56 306 *e*P P 14 29 53.1 +1.5
UPC *e* 14 30 01.6
UPC *e* 14 31 29.4
UPC **Upice** 40.56 306 *e*P P 14 29 53.1 +1.5
UPC *ex* x 14 30 01.6
UPC *e*PP PnPn 14 31 29.4 +0.4
CONA **Conrad Observa** 40.93 302⇑*i*sP P 14 29 56.4 +1.7
comp=Z,28nm,1.2s,SNR=6.6
TREC **Trest** 41.01 304 *e*P P 14 29 57.3 +1.9
TREC *e* 14 30 05.4
TREC *e* 14 31 34.6
TREC MLR MLR
comp=Z,1μm,9.0s
TREC **Trest** 41.01 304 *e*P P 14 29 57.3 +1.9
TREC *ex* x 14 30 05.4
TREC *e*PP PnPn 14 31 34.6 +0.3
TREC AMS AMS 14 48 20.0
comp=Z,1μm,9.0s
SSE **Sheshan** 41.13 84 P P 14 29 53.9 -2.6
SSE S S 14 36 11.5 +3.1
SSE pmax pmax
comp=Z,36nm,0.7s
SSE pmax pmax
comp=Z,140nm,4.1s
SSE LR LR
comp=N,730nm,19.2s
SSE LR LR
comp=E,280nm,19.2s
SSE LR LR
comp=Z,340nm,22.6s
ARSA **Arzberg** 41.25 301⇑*i*sP P 14 29 58.8 +1.4
comp=Z,8.6nm,1.2s
GOLS **Golise** 41.38 299 *i* P P 14 30 00.0 +1.7
PVCC **Panska Ves** 41.48 306 *e*P P 14 30 03.9 +4.8
PVCC *e* 14 31 37.1
PVCC MLR MLR
comp=Z,2μm,10.7s
PVCC **Panska Ves** 41.48 306 *e*P P 14 30 03.9 +4.8
PVCC *e*PP PP 14 31 37.1 +2.2
PVCC AMS AMS 14 49 30.0
comp=Z,2μm,10.7s
PRU **Pruhonice** 41.55 305 *e*P P 14 30 00.5 +0.8
PRU *e* 14 30 10.3
PRU *e* 14 31 40.1
PRU MLR MLR
comp=Z,1μm,19.5s
PRU **Pruhonice** 41.55 305 *e*P P 14 30 00.5 +0.8
PRU *ex* x 14 30 10.3
PRU *e*PP PnPn 14 31 40.1 -0.4
PRU AMS AMS 14 49 30.0
comp=Z,1μm,19.5s
SOKA **Soboth** 41.67 300⇑*i*sP P 14 30 02.5 +1.7
comp=Z,16nm,1.0s
BOJS **Bojanci** 41.72 299 *i* P P 14 30 03.0 +1.8
PDKS **Podkum** 41.80 299 *i* P P 14 30 03.7 +1.8
TRO **Tromso** 41.84 335 *e*P P 14 30 02.8 +1.0
TRO AMS AMS 14 48 15.3
comp=Z,2μm,20.3s
BRG **Berggiesshubel** 41.84 307 *e*P P 14 30 03.5 +1.4
comp=Z,17nm,1.0s
BRG *e* 14 31 58.9
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 41.84 307 *e*P P 14 30 03.5 +1.4
BRG *e* 14 31 58.9
BRG pmax pmax
comp=Z,17nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 41.84 307 *e*P P 14 30 03.3 +1.2
comp=Z,17nm,1.0s
OBKA **Obir** 42.03 300⇑*i*sP P 14 30 05.4 +1.6
comp=Z,19nm,1.4s
GEC2 **GERESS Array S** 42.23 304 *e*P P 14 30 07.1 +1.7
GEC2 pmax pmax
comp=Z,8.0nm,1.0s
GEC2 **GERESS Array S** 42.23 304 *e*P P 14 30 07.1 +1.7
comp=Z,8.0nm,1.0s
GERES **GERESS Array B** 42.23 304 P P 14 30 06.6 +1.1
comp=Z,3.2nm,0.6s,baz=69,slow=7.3,SNR=22
GERES LR LR 14 48 56.5
comp=Z,632nm,18.3s,baz=82,slow=38
GERES **GERESS Array B** 42.23 304 P P 14 30 06.6 +1.1
KHC **Kasperske Hory** 42.28 304 *e*P P 14 30 07.2 +1.5
KHC *e* 14 30 15.5
KHC MLR MLR
comp=Z,1μm,8.4s
KHC **Kasperske Hory** 42.28 304 *e*P P 14 30 07.3 +1.6
comp=Z,43nm,1.7s
KHC **Kasperske Hory** 42.28 304 *e*P P 14 30 07.2 +1.5
KHC *ex* x 14 30 15.5
KHC *e*PP PP 14 31 40.5 -3.1
KHC AMS AMS 14 51 00.0
comp=Z,1μm,8.4s
YAK **Yakutsk** 42.37 37 *e*P P 14 30 05.5 -0.7
YAK *e* 14 31 42.3
YAK *e* 14 31 54.7
YAK *e*S S 14 36 21.0 -4.9
YAK *e* 14 39 31.0
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax smax
comp=N,106nm,2.8s
YAK smax smax
comp=E,101nm,2.5s
YAK MLR MLR
comp=E,755nm,12.0s
YAK MLR MLR
comp=Z,1μm,12.0s
YAK MLR MLR
comp=N,173nm,9.0s
YAK **Yakutsk** 42.37 37 *e*P P 14 30 04.5 -1.7
comp=N,30nm,0.8s
CLL **Collm** 42.39 308⇑*i*P P 14 30 07.6 +1.0
CLL *i* 14 30 16.0
CLL *e*S S 14 36 27.0 +0.4
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,700nm,20.1s
CLL **Collm** 42.39 308 *e*P P 14 30 07.4 +0.8
comp=Z,12nm,0.8s
CLL **Collm** 42.39 308⇑*i*P P 14 30 07.6 +1.0
comp=Z,12nm,0.8s
CLL *i* 14 30 16.0
CLL *i* 14 30 29.5
CLL *e*PP PP 14 31 44.0 -0.8
CLL *e* 14 31 54.0
CLL *e*S S 14 36 27.0 +0.4
CLL LmV 14 48 00.0
comp=Z,700nm,20.1s
MOR8 **Moi Rana** 42.49 330 *e*P P 14 30 06.3 -0.9
MOR8 *ep*P pP 14 30 07.1 -6.9
VOY **Vojsko** 42.56 300 *e*P P 14 30 09.3 +1.2
VOY *e* 14 30 21.7
SKDS **Skadanscina** 42.57 299 *e*P P 14 30 09.3 +1.2
CUC **Castrocucco** 42.59 290 *e*P P 14 30 11.5 +3.1
STEI **Steigen** 42.60 332 *e*P P 14 30 08.4 +0.4
CADS **Cadrg** 42.63 300 *i* P P 14 30 09.8 +1.2
WET **Wettzell** 42.73 304 *e*P P 14 30 10.8 +1.4
WET pmax pmax
comp=Z,11nm,1.2s
WET **Wettzell** 42.73 304 *e*P P 14 30 10.8 +1.4
comp=Z,11nm,1.2s
KBA **Koelnbreinsper** 42.74 301⇑*i*sP P 14 30 11.2 +1.5
comp=Z,13nm,1.2s
TANN **Tannenbergstha** 42.83 306 *e*P P 14 30 11.6 +1.4
comp=Z,20nm,1.5s
FLOS **Flostrand** 42.95 330 *e*P P 14 30 11.9 +1.1
NC602 **NORSAR Array S** 43.04 321 *e*P P 14 30 12.1 +0.4
IPM **Ipoh** 43.07 134 *e*P P 14 30 10.5 -1.9
comp=Z,9.7nm,0.6s
STOK **Stokkvaagen** 43.09 330 *e*P P 14 30 08.5 -3.5
NB2 **NORSAR Subarra** 43.22 322 P P 14 30 12.4 -0.8
baz=93,slow=8.6
NB2 **NORSAR Subarra** 43.22 322 P P 14 30 12.4 -0.8
comp=Z,6.6nm,0.6s,baz=93,slow=8.6
NOA **NORSAR Array B** 43.22 322 P P 14 30 12.8 -0.4
comp=Z,8.4nm,0.6s,baz=94,slow=8.0,SNR=31
NOA LR LR 14 49 17.5
comp=Z,859nm,19.8s,baz=100,slow=38
NOA **NORSAR Array B** 43.22 322 P P 14 30 12.8 -0.4
LOF **Lofoten** 43.27 332 *e*P P 14 30 11.8 -1.6
MDJ **Mudanjiang** 43.28 62 P P 14 30 13.5 -0.3
MDJ pP pP 14 30 16.4 -4.2
MDJ PP PP 14 31 52.4 -2.0
MDJ S S 14 36 40.0 +0.2
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ pmax pmax
comp=Z,140nm,5.5s
MDJ LR LR
comp=N,3μm,26.1s
MDJ LR LR
comp=E,840nm,22.9s
MDJ LR LR
comp=Z,640nm,19.2s
PSI **Prapat** 43.30 138 LR LR 14 49 59.2
comp=Z,339nm,19.7s,baz=307,slow=38
MOX **Moxa** 43.34 307 *e*P P 14 30 15.4 +1.1
MOX pmax pmax
comp=Z,9.0nm,1.0s
MOX **Moxa** 43.34 307 *e*P P 14 30 15.4 +1.1
comp=Z,9.0nm,1.0s
HOPEN **Hopen** 43.41 346 *e*P P 14 30 15.9 +1.4
GRF **Grafenberg Arr** 43.72 305 *e*P P 14 30 19.6 +2.2
GRF pmax pmax
comp=Z,18nm,0.9s
GRF MLR MLR
comp=Z,700nm,20.0s
GRF **Grafenberg Arr** 43.72 305 *e*P P 14 30 19.6 +2.2
comp=Z,18nm,0.9s
GRF *e*L L 14 50 50.3
comp=Z,712nm,20.0s
GRFO **Grafenberg** 43.72 305 *e*P P 14 30 19.8 +2.4
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO **Grafenberg** 43.72 305 *e*P P 14 30 19.8 +2.4
comp=Z,17nm,0.9s
BSEG **Bad Segeberg** 43.79 312 *e*P P 14 30 19.3 +1.5
BSEG pmax pmax
comp=Z,29nm,0.8s
BSEG **Bad Segeberg** 43.79 312 *e*P P 14 30 19.3 +1.5
comp=Z,29nm,0.8s
KLR **Kul'dur** 43.86 55 *e*P P 14 30 14.0 -4.5
KLR MLR MLR
comp=E,700nm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s
CLZ **Clausthal** 43.97 309 *e*P P 14 30 20.6 +1.3
CLZ pmax pmax
comp=Z,10.0nm,0.9s
CLZ **Clausthal** 43.97 309 *e*P P 14 30 20.6 +1.3
comp=Z,10.0nm,0.9s
KONO **Kongsberg** 43.98 320 *e*P P 14 30 16.4 -2.9
KONO **Kongsberg** 43.98 320 *e*P P 14 30 19.3 +0.1
KONO pmax pmax
comp=Z,23nm,1.0s
KONO **Kongsberg** 43.98 320 *e*P P 14 30 19.3 +0.1
comp=Z,23nm,1.0s
KSAR **Wonju Array Be** 43.99 73 P P 14 30 19.9 +0.3
KSAR PcP PcP 14 32 05.2 +0.2
KSRS **Korea Array** 44.02 73 P P 14 30 19.9 +0.1
comp=Z,4.3nm,0.7s,baz=281,slow=6.8,SNR=10
KSRS PcP PcP 14 32 05.2 +0.1
comp=Z,3.0nm,0.9s,baz=291,slow=2.8,SNR=5.1
KSRS LR LR 14 50 52.6
comp=Z,499nm,19.3s,baz=295,slow=39
NRDL **Niedersach Rie** 44.05 310 *e*P P 14 30 20.5 +0.6
comp=Z,36nm,1.4s
FETA **Feichten** 44.51 302⇑*i*pP P 14 30 24.4 +0.5
comp=Z,11nm,1.2s
FUORN **Ofenpass-Fuorn** 44.91 301 *e*P P 14 30 28.2 +1.0
comp=Z,16nm,1.1s
DAVA **Damuels** 45.03 302 *i* sP sP 14 30 28.9 -8.7
comp=Z,20nm,1.1s,SNR=5.4
USRK **Ussuriysk Arra** 45.05 62 P P 14 30 27.9 -0.1
comp=Z,4.6nm,0.9s,baz=266,slow=5.4,SNR=9.2
USRK LR LR 14 50 12.8
comp=Z,498nm,20.8s,baz=101,slow=37
IBBN **Ibbenburen** 45.51 310 *e*P P 14 30 34.0 +2.5
comp=Z,39nm,1.0s
TUE **Stuetta** 45.56 301 *e*P P 14 30 32.8 +0.5
comp=Z,5.0nm,0.7s
BFO **Black Forest** 45.84 304 *e*P P 14 30 36.0 +1.7
BFO pmax pmax
comp=Z,12nm,1.2s
BFO **Black Forest** 45.84 304 *e*P P 14 30 36.0 +1.7
comp=Z,12nm,1.2s
SPA0 **Spitsbergen Ar** 45.89 346 *e*P P 14 30 34.8 +0.5
SPITS **Spitsbergen Ar** 45.89 346 P P 14 30 35.0 +0.7
comp=Z,2.7nm,0.4s,baz=105,slow=13,SNR=11
SPITS **Spitsbergen Ar** 45.89 346 P P 14 30 35.0 +0.7
LANF **Langenberg** 46.05 305 *e*P P 14 30 37.1 +1.2
HABR **Khabarovsk** 46.15 56 *e*P P 14 30 37.2 +0.6
HABR *e**PP pP 14 30 54.6 +11
HABR *e* 14 32 13.1
HABR S S 14 37 17.0 -4.2
HABR *e* 14 40 26.0
HABR MLR MLR
comp=Z,763nm,18.0s
CDF **Champ du Feu** 46.51 304 *e*P P 14 30 41.5 +1.9
comp=Z,16nm,1.0s
CDF **Champ du Feu** 46.51 304 *e*P P 14 30 41.5 +1.9
CDF pmax pmax
comp=Z,16nm,1.0s
CDF **Champ du Feu** 46.51 304 *e*P P 14 30 41.5 +1.9
comp=Z,16nm,1.0s
PGF **Pioggiola** 46.80 296 *e*P P 14 30 43.0 +1.0
comp=Z,64nm,1.2s
PGF **Pioggiola** 46.80 296 *e*P P 14 30 43.0 +1.0
PGF pmax pmax
comp=Z,64nm,1.2s
PGF **Pioggiola** 46.80 296 *e*P P 14 30 43.0 +1.0
comp=Z,64nm,1.2s
HINF **Hinteralfeld** 46.91 304 *e*P P 14 30 43.6 +0.9

HINF Hinteralfeld 46.91 304 eP P 14 30 43.6 +0.9
HINF Hinteralfeld 46.91 304 eP P 14 30 43.6 +0.9
SENIN Lac Senin/Sane 46.96 302 eP P 14 30 44.4 +1.0
comp=Z,12nm,0.8s
KBS Kingsbay 47.01 347 eP P 14 30 46.1 +3.1
LOMF Lomont 47.04 303 eP P 14 30 49.7 +5.9
HAU Haudompre 47.20 304 eP P 14 30 45.9 +0.9
HAU eR
comp=Z,667nm,22.8s
HAU Haudompre 47.20 304 eP P 14 30 45.9 +0.9
HAU Haudompre 47.20 304 eP P 14 30 45.9 +0.9
SAOF Saorge 47.41 298 eP P 14 30 48.2 +1.6
AUTN L'Aution 47.49 298 eP P 14 30 50.5 +3.0
SBF Sospel 47.52 298 eP P 14 30 49.0 +1.4
comp=Z,50nm,0.7s
SBF Sospel 47.52 298 eP P 14 30 49.0 +1.4
SBF pmax pmax
comp=Z,50nm,0.7s
SBF Sospel 47.52 298 eP P 14 30 49.0 +1.4
comp=Z,50nm,0.7s
LPG La Plagne 47.55 300 eP P 14 30 49.4 +1.4
comp=Z,10.0nm,0.6s
LPG La Plagne 47.55 300 eP P 14 30 49.4 +1.4
LPG pmax pmax
comp=Z,10.0nm,0.6s
LPG La Plagne 47.55 300 eP P 14 30 49.4 +1.4
comp=Z,10.0nm,0.6s
LPL La Plagne 47.56 301 eP P 14 30 49.0 +1.0
comp=Z,33nm,1.0s
LPL La Plagne 47.56 301 eP P 14 30 49.0 +1.0
LPL pmax pmax
comp=Z,33nm,1.0s
LPL La Plagne 47.56 301 eP P 14 30 49.0 +1.0
comp=Z,33nm,1.0s
RSL Roselend 47.59 301 eP P 14 30 50.2 +2.1
TOUF Mont Tournerai 47.61 298 eP P 14 30 54.1 +5.7
CABF La Chapelle 47.71 302 eP P 14 30 51.1 +2.1
comp=Z,30nm,0.9s
CABF La Chapelle 47.71 302 eP P 14 30 51.1 +2.1
CABF pmax pmax
comp=Z,30nm,0.9s
CABF La Chapelle 47.71 302 eP P 14 30 51.1 +2.1
comp=Z,30nm,0.9s
MVIF Mont Vial 47.71 298 eP P 14 30 55.6 +6.5
BNI Bardonecchia 47.72 300 eP P 14 30 50.5 +1.3
BNI pmax pmax
comp=Z,29nm,1.2s
BNI Bardonecchia 47.72 300 eP P 14 30 50.5 +1.3
comp=Z,29nm,1.2s
MBDF Montbardon 47.74 299 eP P 14 30 50.9 +1.5
comp=Z,27nm,0.8s
MBDF Montbardon 47.74 299 eP P 14 30 50.9 +1.5
MBDF pmax pmax
comp=Z,27nm,0.8s
MBDF Montbardon 47.74 299 eP P 14 30 50.9 +1.5
comp=Z,27nm,0.8s
JNU Nakatsue 47.85 77 P P 14 30 50.4 +0.2
comp=Z,33nm,0.9s,baz=5.2,slow=4.5,SNR=7.7
JNU LR LR 14 52 47.6
comp=Z,315nm,19.2s,baz=102,slow=38
JNU Nakatsue 47.85 77 P P 14 30 50.4 +0.2
MEZF Maizieres J'vi 47.93 305 eP P 14 30 52.0 +1.4
MEZF Maizieres J'vi 47.93 305 eP P 14 30 52.0 +1.4
CALN Calern 47.94 298 eP P 14 30 53.9 +3.0
BAIF Baives 48.11 307 eP P 14 30 53.5 +1.6
BAIF Baives 48.11 307 eP P 14 30 53.5 +1.6
BAIF Baives 48.11 307 eP P 14 30 53.5 +1.6
FRF La Foret Royal 48.16 298 eP P 14 30 53.5 +1.1
comp=Z,24nm,0.8s
FRF La Foret Royal 48.16 298 eP P 14 30 53.5 +1.1
FRF pmax pmax
comp=Z,24nm,0.8s
FRF La Foret Royal 48.16 298 eP P 14 30 53.5 +1.1
comp=Z,24nm,0.8s
ORIF Oris-en-Rattie 48.30 300 eP P 14 30 55.6 +2.0
ORIF eR
comp=Z,943nm,19.2s
ORIF Oris-en-Rattie 48.30 300 eP P 14 30 55.6 +2.0
ORIF Oris-en-Rattie 48.30 300 eP P 14 30 55.6 +2.0
JOW Kunigami 48.58 86 P P 14 30 55.1 -0.8
comp=Z,14nm,0.4s,baz=68,slow=6.3,SNR=6.8
JOW LR LR 14 56 01.5
comp=Z,460nm,19.5s,baz=302,slow=42
JOW Kunigami 48.58 86 P P 14 30 55.1 -0.8
KEST Kesra 48.83 287 P P 14 30 59.7 +1.9
comp=Z,2.9nm,0.8s,baz=360,slow=3.5,SNR=6.6
KEST Kesra 48.83 287 P P 14 30 59.7 +1.9
VIVF Saint-Julien-l 49.14 300 eP P 14 31 01.2 +1.2
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 49.14 300 eP P 14 31 01.2 +1.2
VIVF pmax pmax
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 49.14 300 eP P 14 31 01.2 +1.2
comp=Z,15nm,0.7s
AVF Avril sur Loir 49.48 303 eP P 14 31 03.3 +0.8
comp=Z,46nm,1.1s
AVF Avril sur Loir 49.48 303 eP P 14 31 03.3 +0.8
AVF pmax pmax
comp=Z,46nm,1.1s
AVF Avril sur Loir 49.48 303 eP P 14 31 03.3 +0.8
comp=Z,46nm,1.1s
BGF Bois d'Agland 49.88 303 eP P 14 31 07.4 +1.8
BGF Bois d'Agland 49.88 303 eP P 14 31 07.4 +1.8
BGF Bois d'Agland 49.88 303 eP P 14 31 07.4 +1.8
LASF Ste Croix 49.93 299 eP P 14 31 07.4 +1.4
comp=Z,59nm,1.2s
LASF Ste Croix 49.93 299 eP P 14 31 07.4 +1.4
comp=Z,59nm,1.2s
TCF Toulx Ste Croi 50.38 303 eP P 14 31 10.8 +1.4
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 50.38 303 eP P 14 31 10.8 +1.4
TCF pmax pmax
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 50.38 303 eP P 14 31 10.8 +1.4
comp=Z,17nm,0.7s
CAF Calviac 50.89 301 eP P 14 31 14.7 +1.4
comp=Z,2.3nm,0.2s
CAF Calviac 50.89 301 eP P 14 31 14.7 +1.4
CAF pmax pmax
comp=Z,2.0nm,0.2s
CAF Calviac 50.89 301 eP P 14 31 14.7 +1.4
comp=Z,2.3nm,0.2s
RJF Les Rejaudoux 51.14 302 eP P 14 31 16.8 +1.7
RJF eR
comp=Z,479nm,18.8s
RJF Les Rejaudoux 51.14 302 eP P 14 31 16.8 +1.7
RJF Les Rejaudoux 51.14 302 eP P 14 31 16.8 +1.7
LDF La Druitiere 51.22 306 eP P 14 31 17.2 +1.5
comp=Z,5.0nm,0.4s
LDF La Druitiere 51.22 306 eP P 14 31 17.2 +1.5
LDF pmax pmax
comp=Z,5.0nm,0.4s
LDF La Druitiere 51.22 306 eP P 14 31 17.2 +1.5
comp=Z,5.0nm,0.4s
YSS Yuzh-Sakhalins 51.56 56 eP P 14 31 19.2 +1.0
YSS e 14 31 40.0
YSS MLR MLR
comp=Z,500nm,16.0s
GRR Gorron 51.75 306 eP P 14 31 20.9 +1.3
comp=Z,6.0nm,0.3s
GRR Gorron 51.75 306 eP P 14 31 20.9 +1.3
GRR pmax pmax
comp=Z,6.0nm,0.3s
GRR Gorron 51.75 306 eP P 14 31 20.9 +1.3
comp=Z,6.0nm,0.3s
MAJO Matsushiro 52.02 70 eP P 14 31 20.5 -1.3
MAJO pmax pmax
comp=Z,18nm,1.0s
MAJO Matsushiro 52.02 70 eP P 14 31 20.4 -1.3
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 52.02 70 P P 14 31 21.9 0.0
comp=Z,8.3nm,0.9s,baz=289,slow=10,SNR=15
MJAR LR LR 14 55 13.6
comp=Z,320nm,18.1s,baz=280,slow=38
MJAR Matsushiro Arr 52.02 70 P P 14 31 21.9 0.0
ASAJ Asahikawa 52.37 59 P P 14 31 24.3 0.0
comp=Z,4.8nm,0.8s,baz=85,slow=18,SNR=6.1
ASAJ LR LR 14 55 27.2
comp=Z,631nm,18.2s,baz=171,slow=38
ASAJ Asahikawa 52.37 59 P P 14 31 24.3 0.0
EPF Esparros 52.69 299 eP P 14 31 28.6 +1.9
EPF Esparros 52.69 299 eP P 14 31 28.6 +1.9
EPF Esparros 52.69 299 eP P 14 31 28.6 +1.9
ROSF Rostrenen 53.30 307 eP P 14 31 32.7 +1.6
ROSF Rostrenen 53.30 307 eP P 14 31 32.7 +1.6

ROSF Rostrenen 53.30 307 eP P 14 31 32.7 +1.6
ETSF Etsaut 53.35 299 eP P 14 31 31.7 0.0
comp=Z,12nm,0.7s
ETSF Etsaut 53.35 299 eP P 14 31 31.7 0.0
ETSF pmax pmax
comp=Z,12nm,0.7s
ETSF Etsaut 53.35 299 eP P 14 31 31.7 0.0
comp=Z,12nm,0.7s
YUK Yuzh-Kuril'sk 54.60 58 c iP P 14 31 42.6 +2.0
YUK i 14 33 42.1
YUK i PPP PPP 14 35 03.8
YUK pmax pmax
comp=Z,37nm,6.9s
YUK MLR MLR
comp=E,286nm,21.0s
YUK MLR MLR
comp=Z,696nm,21.0s
YUK MLR MLR
comp=N,250nm,23.0s
JHJ Hachijo jima 2 54.62 73 LR LR 14 57 01.5
comp=N,362nm,19.0s,baz=22,slow=38
ESDC Sonseca Array 56.97 297 P P 14 31 58.0 +0.2
comp=N,2.4nm,0.4s,baz=61,slow=7.1,SNR=14
ESDC Sonseca Array 56.97 297 P P 14 31 58.0 +0.2
TAM Tamanrasset 57.72 275 eP P 14 32 03.8 +0.4
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM Tamanrasset 57.72 275 eP P 14 32 03.8 +0.4
comp=Z,6.3nm,0.9s
PETK Petropavlovsk- 58.50 45 P P 14 32 06.6 -1.6
comp=Z,2.3nm,0.8s,baz=239,slow=6.5,SNR=5.1
PETK LR LR 14 57 08.8
comp=Z,276nm,21.5s,baz=289,slow=36
PETK Petropavlovsk- 58.50 45 P P 14 32 06.6 -1.6
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK MLR MLR
comp=Z,277nm,21.5s
PETK Petropavlovsk- 58.50 45 P P 14 32 06.6 -1.6
CBIJ Chichi jima 59.29 78 LR LR 14 58 50.8
comp=Z,358nm,19.8s,baz=140,slow=37
SUMG Summit 59.54 341 eP P 14 32 16.5 +0.8
SUMG pmax pmax
comp=Z,31nm,0.7s
SUMG Summit 59.54 341 eP P 14 32 16.5 +0.8
comp=Z,31nm,0.7s
SUMG Summit 59.54 341 i P P 14 32 16.8 +1.1
comp=Z,31nm,0.9s
TOA0 Torodi Ar. Sit 66.11 268 eP P 14 32 59.0 -0.8
TORD Torodi Ar. Bea 66.11 268 P P 14 32 59.0 -0.7
comp=Z,14nm,0.6s,baz=48,slow=5.4,SNR=77
TORD LR LR 15 04 14.2
comp=Z,189nm,18.8s,baz=35,slow=38
TORD Torodi Ar. Bea 66.11 268 P P 14 32 59.0 -0.7
GUMO Guam 68.77 89 LR LR 15 04 54.1
comp=Z,162nm,18.4s,baz=68,slow=37
COLD Coldfoot 70.22 16 eP P 14 33 24.9 +0.1
INK Inuvik 72.15 9 P P 14 33 36.0 -0.3
comp=Z,8.7nm,0.5s,baz=13,slow=8.0,SNR=29
INK Inuvik 72.15 9 eP P 14 33 36.1 -0.3
comp=Z,9.2nm,0.6s
COLA College 72.72 16 eP P 14 33 39.9 0.0
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 72.72 16 eP P 14 33 39.9 0.0
comp=Z,16nm,0.9s
ILAR Eielson Array 73.03 16 P P 14 33 40.4 -1.3
comp=Z,3.1nm,0.8s,baz=323,slow=4.8,SNR=38
ILAR LR LR 15 08 48.0
comp=Z,307nm,19.3s,baz=124,slow=38
ILAR Eielson Array 73.03 16 P P 14 33 40.4 -1.3
TRF Thorofare Moun 73.36 18 eP P 14 33 42.5 -1.5
comp=Z,5.0nm,0.9s
MCK McKinley 73.45 17 eP P 14 33 43.9 -0.3
MCK pmax pmax
comp=Z,4.0nm,0.5s
MCK McKinley 73.45 17 eP P 14 33 43.9 -0.3
comp=Z,3.7nm,0.5s
EGAK Eagle 74.19 14 eP P 14 33 49.2 +0.7
PAX Paxson 74.91 17 eP P 14 33 51.5 -1.3
PAX pmax pmax
comp=Z,4.0nm,0.5s
PAX Paxson 74.91 17 eP P 14 33 51.5 -1.3
comp=Z,3.5nm,0.5s
DBIC Dimbokro 75.14 267 P P 14 33 53.8 -1.0
comp=Z,8.6nm,0.8s,baz=42,slow=7.6,SNR=13
DBIC LR LR 15 10 51.6
comp=Z,286nm,20.3s,baz=30,slow=39
DBIC Dimbokro 75.14 267 P P 14 33 53.8 -1.0
DAWY Dawson 75.16 13 eP P 14 33 53.6 -0.7
RSO Redoubt South 75.20 21 eP P 14 33 54.5 -0.3
comp=Z,20nm,0.7s
PMR Palmer 75.22 19 eP P 14 33 53.3 -1.2
PMR pmax pmax
comp=Z,8.0nm,0.7s
PMR Palmer 75.22 19 eP P 14 33 53.3 -1.2
comp=Z,8.2nm,0.7s
SML Sawmill 75.24 18 eP P 14 33 53.9 -0.8
SML pmax pmax
comp=Z,5.0nm,0.8s
SML Sawmill 75.24 18 eP P 14 33 53.9 -0.8
comp=Z,4.6nm,0.8s
RC01 Rabbit Creek A 75.49 19 eP P 14 33 55.3 -0.8
comp=Z,8.1nm,0.7s
FITZ Fitzroy Crossi 75.65 127 LR LR 15 10 17.9
comp=Z,192nm,19.6s,baz=311,slow=38
SEW Seward 76.41 20 eP P 14 34 00.1 -1.2
KDAK Kodiak Island 77.47 22 P P 14 34 06.9 -0.4
comp=Z,11nm,0.7s,baz=30,slow=4.1,SNR=14
KDAK Kodiak Island 77.47 22 P P 14 34 06.9 -0.4
KDAK Kodiak Island 77.47 22 P P 14 34 07.6 +0.3
comp=Z,152nm,1.3s,SNR=5.9
BOSA Boshof 79.29 220 P P 14 34 16.3 -1.5
comp=Z,5.0nm,1.0s,baz=324,slow=3.2,SNR=4.4
BOSA PKKP PKKPdf 14 53 01.1 +2.9
comp=Z,8.0nm,1.0s,baz=195,slow=2.8,SNR=6.2
BOSA LR LR 15 13 46.5
comp=Z,152nm,18.2s,baz=9.3,slow=39
BOSA Boshof 79.29 220 P P 14 34 16.3 -1.5
BOSA PKKP PKKPdf 14 53 01.1 +2.9
YKW3 Yellowknife Ar 79.44 3 eP P 14 34 17.4 -0.7
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 79.51 3 P P 14 34 18.0 -0.4
comp=Z,7.5nm,0.8s,baz=350,slow=5.7,SNR=138
YKA PKKPbc PKKPbc 14 53 06.4 -0.4
comp=Z,0.2nm,0.6s,baz=169,slow=2.6,SNR=7.8
YKA Yellowknife Ar 79.51 3 P P 14 34 18.1 -0.4
YKA PKKPbc PKKPbc 14 53 06.4 -0.4
SCHQ Schefferville 80.64 337 P P 14 34 24.8 0.0
comp=Z,5.3nm,0.7s,baz=61,slow=4.8,SNR=10
SCHQ LR LR 15 09 36.9
comp=Z,567nm,19.4s,baz=53,slow=35
SCHQ Schefferville 80.64 337 P P 14 34 24.8 0.0
WRA Warramunga Arr 82.62 122 P P 14 34 33.9 -1.7
comp=Z,2.3nm,0.6s,baz=325,slow=4.9,SNR=31
WRA LR LR 15 12 06.0
comp=Z,80nm,19.5s,baz=240,slow=36
WRA Warramunga Arr 82.62 122 P P 14 34 33.9 -1.7
WRAB Tennant Creek 82.62 122 eP P 14 34 32.5 -3.2
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 82.62 122 eP P 14 34 32.5 -3.2
comp=Z,5.1nm,0.8s
WRAB Tennant Creek 82.62 122 P P 14 34 34.0 -1.7
comp=Z,31nm,0.8s,SNR=10
NWAO Narrogin (SRO) 82.62 143 LR LR 15 07 43.0
comp=Z,162nm,21.8s,baz=206,slow=33
PMG Port Moresby 84.75 106 P P 14 34 45.7 -1.1
comp=Z,18nm,0.7s,baz=350,slow=6.1,SNR=3.6
PMG Port Moresby 84.75 106 P P 14 34 45.7 -1.1
ASAR Alice Springs 84.97 125 P P 14 34 45.6 -2.0
comp=Z,2.0nm,0.8s,baz=320,slow=4.5,SNR=15
ASAR LR LR 15 13 13.3
comp=Z,206nm,21.8s,baz=308,slow=36
ASAR Alice Springs 84.97 125 P P 14 34 45.6 -2.0
FFC Flin Flon 87.24 356 eP P 14 34 58.2 -0.3
FFC pmax pmax
comp=Z,15nm,0.9s
FFC Flin Flon 87.24 356 eP P 14 34 58.2 -0.3
comp=Z,14nm,0.9s
FFC Flin Flon 87.24 356 P P 14 34 59.6 +1.1
comp=Z,84nm,0.9s,SNR=7.8
CTA Charters Tower 90.95 115 P P 14 35 15.6 -0.9
comp=Z,13nm,1.1s,baz=50,slow=4.2,SNR=4.1
CTA LR LR 15 21 09.0
comp=Z,104nm,18.1s,baz=182,slow=39

CTA Charters Tower 90.95 115 P P 14 35 15.6 -0.9
ULM Lac du Bonnet 91.19 352 P P 14 35 16.3 -0.8
comp=Z,3.9nm,0.7s,baz=14,slow=3.7,SNR=7.7
ULM LR LR 15 18 17.7
comp=Z,378nm,20.2s,baz=17,slow=37
ULM Lac du Bonnet 91.19 352 P P 14 35 16.3 -0.8
A12A Yaak River Ran 92.99 5 ⇑P P 14 35 25.4 -0.1
baz=93
A13A Flathead Natio 93.06 4 ⇓P P 14 35 25.2 -0.7
baz=93
A14A Double T Ranch 93.07 3 ⇑P P 14 35 25.5 -0.6
baz=93
A15A Johnson Ranch, 93.09 3 ⇑P P 14 35 25.8 -0.4
baz=93
AGMN Agassiz Nation 93.11 352 eP P 14 35 26.3 +0.2
comp=Z,5.7nm,0.7s
A16A West Butte Ran 93.16 2 ⇓P P 14 35 26.1 -0.4
baz=93
A18A Metzger Ranch, 93.22 1 ⇓P P 14 35 26.3 -0.3
baz=93
A20A Cobblestone Ra 93.27 360 ⇓P P 14 35 26.9 +0.1
baz=93
NEW Newport 93.55 6 ⇓P P 14 35 28.1 0.0
baz=93
B13A Whitefish 93.62 4 ⇑P P 14 35 28.1 -0.4
baz=93
B14A Marquette Ranc 93.69 3 ⇓P P 14 35 28.4 -0.5
baz=94
B15A Bradely Ranch, 93.76 3 ⇑P P 14 35 28.5 -0.7
baz=94
B17A L&G Farms, Che 93.83 1 ⇓P P 14 35 29.2 -0.3
baz=94
BSMT Bassoo Peak 94.12 4 eP P 14 35 32.0 +1.0
comp=Z,13nm,1.3s
EGMT Eagleton 94.12 1 ⇑P P 14 35 30.6 -0.2
baz=94
C23A Lambert 94.30 358 ⇑P P 14 35 32.0 +0.4
baz=94
C15A Salmond Ranch, 94.30 3 ⇑P P 14 35 31.1 -0.6
baz=94
C13A Hot Springs 94.30 4 ⇓P P 14 35 31.2 -0.4
baz=94
C16A Fuhringer Ranc 94.30 2 ⇓P P 14 35 31.1 -0.6
baz=94
C21A Desert Coulee 94.31 359 ⇑P P 14 35 32.0 +0.3
baz=94
C22A Vida 94.37 358 ⇓P P 14 35 32.4 +0.4
baz=94
C19A Slack Wire Ran 94.42 0 ⇓P P 14 35 32.1 0.0
baz=94
C20A Veseth Ranch, 94.44 360 ⇑P P 14 35 32.1 -0.1
baz=94
C17A Wharram Farm, 94.50 1 ⇑P P 14 35 31.8 -0.7
baz=94
HNR Honiara 94.60 98 LR LR 15 15 03.2
comp=Z,112nm,21.5s,baz=281,slow=34
SLMT Seeley Lake 94.80 3 eP P 14 35 34.4 +0.3
comp=Z,8.0nm,0.8s
D12A Red Ives Fores 94.88 5 ⇑P P 14 35 33.5 -0.8
baz=95
D14A Greenough 94.95 3 ⇑P P 14 35 33.9 -0.9
baz=95
D22A Cohagen 94.97 358 ⇓P P 14 35 34.5 -0.2
baz=95
D17A Six Diamond Ra 94.98 1 ⇓P P 14 35 34.4 -0.5
baz=95
D21A La Casta Ranch 95.07 359 ⇓P P 14 35 35.4 +0.2
baz=95
CHMT Chamberlain Mo 95.13 3 eP P 14 35 34.9 -0.8
comp=Z,2.3nm,0.5s
HRY Holter Researc 95.39 2 eP P 14 35 36.4 -0.3
comp=Z,4.0nm,0.6s
STKA Stephens Creek 95.54 126 LR LR 15 23 04.4
comp=Z,146nm,18.2s,baz=212,slow=38
E16A East Helena 95.57 2 ⇑P P 14 35 37.1 -0.5
baz=95
E18A Harlowton 95.58 1 ⇓P P 14 35 36.8 -0.8
baz=95
F12A Elk City 96.18 5 ⇓P P 14 35 39.5 -0.8
baz=96
F17A Fitzpatrick Pl 96.22 1 ⇑P P 14 35 39.9 -0.7
baz=96
GCMT Greycliff 96.35 1 eP P 14 35 41.3 +0.1
comp=Z,8.1nm,1.5s
G13A Cobalt 96.90 4 ⇑P P 14 35 43.1 -0.6
baz=97
I14A Mackay 98.10 4 ⇓P P 14 35 48.7 -0.5
baz=98
PDAR Pinedale Array 99.38 1 LR LR 15 25 19.2
comp=Z,211nm,19.3s,baz=244,slow=38
DZM Mont Dzumac 107.10 105 eLR LR 15 11 49.3
comp=Z,162nm,24.4s
VNA2 Neumayer--Watz 122.13 202 eP PKPdf 14 41 06.0 +0.3
VNA2 Neumayer--Watz 122.13 202 eWP PKiKP 14 41 12.1 +6.2
VNA3 Neumayer Olymp 122.93 202 eP PKPdf 14 41 08.9 +1.6
QSPA South Pole Qui 128.02 180 ePKPdf PKPdf 14 41 16.4 -0.7
CPUP Villa Florida 135.59 270 PKP PKPdf 14 41 32.6 0.0
comp=Z,1.0nm,0.5s,baz=73,slow=1.0,SNR=5.2
CPUP Villa Florida 135.59 270 PKP PKPdf 14 41 32.6 0.0
PPT2 Papeete2 138.76 72 eLR LR 15 26 39.8
comp=Z,164nm,25.2s
TRQA Tornquist 143.66 255 ePKPpre PKPpre 14 41 45.0
CFAA Coronel Fontan 146.47 269 PKPbc PKPbc 14 41 53.4 -0.1
comp=Z,1.2nm,0.7s,baz=32,slow=3.4,SNR=17
CFAA Coronel Fontan 146.47 269 PKPbc PKPbc 14 41 53.4 -0.1
PLCA Paso Flores 150.70 253 PKPbc PKPbc 14 42 04.8 +0.6
comp=Z,22nm,1.1s,baz=83,slow=3.0,SNR=16
PLCA Paso Flores 150.70 253 PKPbc PKPbc 14 42 04.8 +0.6

IDC 03 14:33:30.6±4.8, 30°31S×178°56W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/17, mbtmp3.4/2, Error ellipse: s-maj=284.5km s-min=69.3km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.63	267	P	P		14 41 28.5	-0.5
	0.2nm,0.7s,baz=105,slow=7.2,SNR=5.4							
WRA	Warramunga Arr	43.61	272	P	P		14 41 37.0	+0.1
	0.4nm,0.3s,baz=110,slow=8.1,SNR=11							
FINES	FINESS Array B	144.89	340	PKP	PKPbc		14 53 08.4	+0.3
	1.0nm,0.7s,baz=28,slow=4.5,SNR=5.9							

IDC 03 14:34:28.6±2.2, 24°29S×67°06W, h165km±20km, mb3.3/2, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, Error ellipse: s-maj=34.4km s-min=21.9km az=111.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.36	188	P	Pn		14 36 13.6	+0.1
	0.1nm,0.3s,baz=17,slow=11,SNR=3.7							
CFAA				S	Sn		14 37 30.0	-6.1
	0.1nm,0.3s,baz=346,slow=13,SNR=2.9							
LPAZ	La Paz	8.02	353	P	Pn		14 36 23.3	+0.2
	2.8nm,0.3s,baz=162,slow=9.2,SNR=41							
LPAZ				S	Sn		14 37 47.4	-6.0
	baz=198,slow=9.4,SNR=1.8							
CPUP	Villa Florida	9.04	105	P	Pn		14 36 44.6	+8.9
	0.3nm,0.3s,baz=273,slow=9.6,SNR=4.5							
SIV	San Ignacio	9.99	35	P	Pn		14 36 47.1	-1.2
	1.8nm,0.3s,baz=255,slow=10.0,SNR=21							
PLCA	Paso Flores	16.66	189	P	Pn		14 38 20.1	+7.6
	0.1nm,0.3s,baz=353,slow=11,SNR=4.1							
BDFB	Brasilia	19.85	68	P	P		14 38 48.1	+1.1
	0.5nm,0.3s,baz=219,slow=9.3,SNR=3.3							
TORD	Torodi Ar. Bea	76.73	69	P	P		14 46 01.4	-0.7
	0.3nm,0.4s,baz=279,slow=5.7,SNR=5.0							
YKA	Yellowknife Ar	94.38	340	P	P		14 47 28.7	-0.2
	0.2nm,0.6s,baz=128,slow=4.5,SNR=5.4							
ASAR	Alice Springs	128.17	205	PKPbc	PKPpre		14 53 01.0	
	0.7nm,1.2s,baz=137,slow=3.2,SNR=4.6							
ASAR				PKP	PKPdf		14 53 15.1	-0.8
	0.3nm,0.6s,baz=134,slow=2.0,SNR=5.9							
WRA	Warramunga Arr	131.34	207	PKPbc	PKPpre		14 52 60.0	
	0.1nm,0.4s,baz=142,slow=2.2,SNR=5.7							
WRA				PKP	PKPdf		14 53 21.7	-0.2
	0.3nm,0.5s,baz=159,slow=1.7,SNR=7.4							
ZALV	Zalesovo Beam	143.68	28	PKP	PKPab		14 53 40.8	+0.2
	0.5nm,0.4s,baz=298,slow=2.8,SNR=3.9							
MKAR	Makanchi Array	146.78	40	PKPbc	PKPbc		14 53 51.4	+0.2
	1.1nm,0.6s,baz=301,slow=3.1,SNR=15							

IDC 03 14:34:54.6±2.7, 3°55N×126°53E, h0km, mb3.4/3,

mb1 3.6/3,mb1mx3.3/22,mbtmp3.4/3,Error ellipse: s-maj=246.7km s-min=27.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.57	162	P	P	14 40 16.7	+0.2
	0.4nm,0.4s,baz=344,slow=12,SNR=3.8						
ASAR	Alice Springs	27.99	165	P	P	14 40 47.2	-0.2
	0.3nm,0.9s,baz=345,slow=10,SNR=2.9						
MKAR	Makanchi Array	57.59	325	P	P	14 44 46.3	-0.1
	0.2nm,0.5s,baz=128,slow=7.2,SNR=4.6						

*UCC **03** 14:35:51.1, 51.°10N×1.°17E, h5km, ML2.8*
*ISCJB **03** 14:35:54.0±0.4, 50.°93N±0.°01×1.°14E±0.°02, h4km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=30.0*
*CSEM **03** 14:35:54.9±0.1, 51.°06N×1.°14E, h2km, ML3.6/24, Error ellipse: s-maj=2.3km s-min=1.7km az=40.0*
*NEIC **03** 14:35:55.9, 51.°12N×1.°18E, h4km, ML3.5(CSEM), ML3.0(BGS), After BGS.*
NEIC Felt [III] at Folkestone. Felt at Ashford, Canterbury, London and Ramsgate.
*BGS **03** 14:35:55.9, 51.°12N×1.°18E, h4km, ML3.0*
*STR **03** 14:35:56.4±0.7, 51.°11N×1.°22E, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **03** 14:35:56.8±0.1, 51.°11N×1.°13E, h5km, Md3.7/4, Ml3.6/42, Error ellipse: s-maj=1.7km s-min=1.4km az=27.0*

ISC 03 14:35:54.5±0.8**, 51.°05N**±0.°02**×1.°16E**±0.°01**, h7**km±6km**, n211, σ1.s31**/339**, 1D, United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELSH	Elham, Standar	0.10	350	eP	Pg	14 35 56.9	+0.2
ELSH				eS	Sg	14 35 58.1	0.0
ELSH				AML	AML	14 35 58.6	
	comp=E,7µm,0.1s						
ELSH				AML	AML	14 35 58.8	
	comp=N,13µm,0.1s						
ELSH	Elham, Standar	0.10	350	P	Pg	14 35 56.9	+0.2
ELSH				S	Sg	14 35 58.1	0.0
ELSH				AML	AML	14 35 58.6	
	comp=N,7µm,0.1s						
ELSH				AML	AML	14 35 58.8	
	comp=N,13µm,0.1s						
ELSH	Elham, Standar	0.10	350	eP	Pg	14 35 56.9	+0.2
ELSH				eS	Sg	14 35 58.1	0.0
ELSH				AML	AML	14 35 58.6	
	comp=E,7µm,0.1s						
ELSH				AML	AML	14 35 58.8	
	comp=N,13µm,0.1s						
ELSH	Elham, Standar	0.10	350	P	Pg	14 35 57.0	+0.4
ELSH				S	Sg	14 35 58.1	0.0
ELSH	Elham, Standar	0.10	350	P	Pg	14 35 57.0	+0.4
ELSH				eS	Sg	14 35 58.1	0.0
	comp=N,13µm,0.1s						
SKP1	Kophill	1.40	299	eP	Pg	14 36 21.9	+0.5
SKP1	Kophill	1.40	299	P	Pg	14 36 21.9	+0.5
SKP1	Kophill	1.40	299	eP	Pg	14 36 21.9	+0.5
SKP1	Kophill	1.40	299	eP	Pg	14 36 21.9	+0.5
WOL	Wolverton	1.52	281	eP	Pg	14 36 23.8	+0.2
WOL				eS	Sg	14 36 45.0	+1.6
WOL				AML	AML	14 36 51.5	
	comp=N,138nm,0.6s						
WOL				AML	AML	14 36 52.1	
	comp=E,118nm,0.4s						
WOL	Wolverton	1.52	281	P	Pg	14 36 23.8	+0.2
WOL				S	Sg	14 36 45.0	+1.6
WOL				AML	AML	14 36 51.5	
	comp=E,138nm,0.6s						
WOL				AML	AML	14 36 52.1	
	comp=E,118nm,0.4s						
WOL	Wolverton	1.52	281	eP	Pg	14 36 23.8	+0.2
WOL				eS	Sg	14 36 45.0	+1.6
WOL				AML	AML	14 36 51.5	
	comp=N,138nm,0.6s						
WOL				AML	AML	14 36 52.1	
	comp=E,118nm,0.4s						
WOL	Wolverton	1.52	281	P	Pg	14 36 24.1	+0.4
WOL				S	Sg	14 36 44.1	+0.7
WOL	Wolverton	1.52	281	eP	Pg	14 36 23.8	+0.2
WOL				S	Sg	14 36 44.1	+0.7
AEU	East Anglia Un	1.57	2	eP	Pb	14 36 24.0	+0.2
AEU				eS	Sn	14 36 43.9	+0.5
AEU	East Anglia Un	1.57	2	P	Pb	14 36 24.0	+0.2
AEU				S	Sn	14 36 43.9	+0.5
AEU	East Anglia Un	1.57	2	eP	Pb	14 36 24.0	+0.2
AEU				eS	Sn	14 36 43.9	+0.5
AEU	East Anglia Un	1.57	2	P	Pb	14 36 24.0	+0.2
AEU				S	Sn	14 36 43.9	+0.5
AEU	East Anglia Un	1.57	2	eP	Pb	14 36 24.0	+0.2
AEU				eS	Sn	14 36 43.9	+0.5
AWI1	Witton	1.79	6	eP	Pb	14 36 27.3	-0.3
AWI1	Witton	1.79	6	P	Pb	14 36 27.3	-0.3
AWI1	Witton	1.79	6	eP	Pb	14 36 27.3	-0.3
AWI1	Witton	1.79	6	eP	Pb	14 36 27.3	-0.3
BBOU	Bougnies	1.89	110	P	Pb	14 36 29.0	-0.3
BBOU				S	Sb	14 36 53.1	0.0
	comp=E,82nm,0.3s						
BSKQ	Steenkerk	1.89	101	P	Pb	14 36 29.2	-0.2
BSKQ				S	Sb	14 36 52.7	-0.5
	comp=E,89nm,0.2s						
SWN1	Swindon	1.92	285	eP	Pb	14 36 29.5	-0.2
SWN1				AML	AML	14 37 00.8	
	comp=E,173nm,0.6s						
SWN1				AML	AML	14 37 02.8	
	comp=N,186nm,0.5s						
SWN1	Swindon	1.92	285	P	Pb	14 36 29.5	-0.2
SWN1				AML	AML	14 37 00.8	
	comp=N,173nm,0.6s						
SWN1				AML	AML	14 37 02.8	
	comp=N,186nm,0.5s						
SWN1	Swindon	1.92	285	eP	Pb	14 36 29.5	-0.2
SWN1				AML	AML	14 37 00.8	
	comp=E,173nm,0.6s						
SWN1				AML	AML	14 37 02.8	
	comp=N,186nm,0.5s						
SWN1	Swindon	1.92	285	eP	Pb	14 36 29.5	-0.2
	comp=N,186nm,0.5s						
SNF	Seneffe	2.06	104	P	Pn	14 36 30.9	+1.4
SNF				S	Sn	14 36 55.6	+0.2
SNF	Seneffe	2.06	104	P	Pn	14 36 30.8	+1.4
SNF				S	Sn	14 36 55.5	+0.2
SSW	Stow on the Wo	2.09	297	eP	Pb	14 36 31.8	-1.0
SSW	Stow on the Wo	2.09	297	P	Pb	14 36 31.8	-1.0
SSW	Stow on the Wo	2.09	297	eP	Pb	14 36 31.8	-1.0
SSW	Stow on the Wo	2.09	297	eP	Pb	14 36 31.8	-1.0
BAIF	Baives	2.18	116	ePn	Pn	14 36 32.5	+1.3
BAIF	Baives	2.18	116	ePg	Pg	14 36 37.7	+1.4
	SNR=1.0						
BAIF				eSn	Sn	14 36 57.0	-1.5
BAIF				eSg	Sg	14 37 06.4	+1.8
	comp=N,66nm,0.3s,SNR=1.0						
BAIF	Baives	2.18	116	Pn	Pb	14 36 33.4	-0.9
BAIF	Baives	2.18	116	ePn	Pn	14 36 32.5	+1.3
BAIF	Baives	2.18	116	ePg	Pg	14 36 37.7	+1.4
	SNR=1.0						
BAIF				eSn	Sn	14 36 57.0	-1.5
BAIF				eSg	Sg	14 37 06.4	+1.8
	comp=N,33nm,0.3s,SNR=1.0						
CWF	Charnwood Fore	2.28	319	P	Pn	14 36 33.6	+1.1
CWF				AML	AML	14 37 06.6	
	comp=N,65nm,0.2s						
CWF				AML	AML	14 37 07.9	
	comp=N,43nm,0.3s						
CWF	Charnwood Fore	2.28	319	eP	Pn	14 36 33.6	+1.1
CWF				AML	AML	14 37 06.6	
	comp=N,65nm,0.2s						
CWF				AML	AML	14 37 07.9	
	comp=E,43nm,0.3s						
CWF	Charnwood Fore	2.28	319	eP	Pn	14 36 33.6	+1.1
	comp=E,43nm,0.3s						
DOU	Dourbes	2.39	112	P	Pn	14 36 35.5	+1.4
DOU				S	Sn	14 37 05.0	+1.4
	comp=E,39nm,0.4s						
DOU	Dourbes	2.39	112	Pn	Pn	14 36 34.1	0.0
DOU				Sg	Sg	14 37 13.7	+2.5
DOU	Dourbes	2.39	112	Pn	Pn	14 36 34.1	0.0
DOU	Dourbes	2.39	112	P	Pn	14 36 35.5	+1.4
DOU				S	Sn	14 37 05.0	+1.4
	comp=E,39nm,0.4s						
DOU				Sg	Sg	14 37 13.7	+2.5
GIVF	Givet	2.52	111	ePn	Pn	14 36 37.4	+1.5
GIVF	Givet	2.52	111	ePg	Pg	14 36 43.9	+1.1
	SNR=1.0						
GIVF				eSn	Sn	14 37 05.3	-1.6
GIVF				eSg	Sg	14 37 16.7	+1.3
	comp=E,82nm,0.3s,SNR=1.0						
GIVF	Givet	2.52	111	Pn	Pn	14 36 37.4	+1.5
GIVF				Pg	Pg	14 36 43.9	+1.1
GIVF				Sn	Sn	14 37 05.3	-1.6
GIVF				Sg	Sg	14 37 16.7	+1.3
GIVF	Givet	2.52	111	ePn	Pn	14 36 37.4	+1.5
GIVF	Givet	2.52	111	ePg	Pg	14 36 43.9	+1.1
	SNR=1.0						
GIVF				eSn	Sn	14 37 05.3	-1.6
GIVF				eSg	Sg	14 37 16.7	+1.3
	comp=E,41nm,0.3s,SNR=1.0						
FLN	La Foliniere	2.53	205	ePn	Pn	14 36 37.2	+1.2
	baz=28,SNR=1.0						
FLN	La Foliniere	2.53	205	ePg	Pg	14 36 44.7	+1.8
	baz=19,SNR=1.0						
FLN				eSn	Sn	14 37 07.4	+0.4
	baz=24						
FLN				eSg	Sg	14 37 17.9	+2.3
	comp=E,87nm,0.3s,baz=28,SNR=1.0						
FLN	La Foliniere	2.53	205	Pn	Pn	14 36 37.4	+1.4
FLN	La Foliniere	2.53	205	ePn	Pn	14 36 37.2	+1.2
	baz=28,SNR=1.0						
FLN	La Foliniere	2.53	205	ePg	Pg	14 36 44.7	+1.8
	baz=19,SNR=1.0						
FLN				eSn	Sn	14 37 07.4	+0.4
	baz=24						
FLN				eSg	Sg	14 37 17.9	+2.3
	comp=E,44nm,0.3s,baz=28,SNR=1.0						
BGES	Gesves	2.58	104	P	Pb	14 36 40.4	-0.7
BGES				S	Sb	14 37 14.4	+1.3
LDF	La Druitiere	2.60	199	ePn	Pn	14 36 38.2	+1.2
	SNR=1.0						
LDF				eSn	Sn	14 37 09.1	+0.3
LDF				eSg	Sg	14 37 20.4	+2.5
	comp=E,66nm,0.3s,SNR=1.0						
LDF	La Druitiere	2.60	199	Pn	Pn	14 36 38.4	+1.4
LDF	La Druitiere	2.60	199	ePn	Pn	14 36 38.2	+1.2
	SNR=1.0						
LDF				eSn	Sn	14 37 09.1	+0.3
LDF				eSg	Sg	14 37 20.4	+2.5
	comp=E,33nm,0.3s,SNR=1.0						
RCHB	Rochefort	2.74	108	P	Pn	14 36 41.3	+2.4
KBI1	Birley Grange	2.76	324	eP	Pn	14 36 39.7	+0.6
KBI1	Birley Grange	2.76	324	P	Pn	14 36 39.7	+0.6
KBI1	Birley Grange	2.76	324	eP	Pn	14 36 39.7	+0.6
KBI1	Birley Grange	2.76	324	eP	Pn	14 36 39.7	+0.6
MCH1	Michaelchurch	2.77	292	eP	Pn	14 36 40.3	+1.1
MCH1				AML	AML	14 37 25.3	
	comp=N,28nm,0.2s						
MCH1				AML	AML	14 37 26.4	
	comp=E,41nm,0.3s						
MCH1	Michaelchurch	2.77	292	P	Pn	14 36 40.3	+1.1
MCH1				AML	AML	14 37 25.3	
	comp=E,28nm,0.2s						
MCH1				AML	AML	14 37 26.4	
	comp=E,41nm,0.3s						
MCH1	Michaelchurch	2.77	292	eP	Pn	14 36 40.3	+1.1
MCH1				AML	AML	14 37 25.3	
	comp=N,28nm,0.2s						
MCH1				AML	AML	14 37 26.4	
	comp=E,41nm,0.3s						
MCH1	Michaelchurch	2.77	292	eP	Pn	14 36 40.3	+1.1
	comp=E,60nm,0.7s						
JSA	Saint Aubin	2.84	230	eP	Pn	14 36 41.6	+1.3
JSA				AML	AML	14 37 33.8	
	comp=E,86nm,0.5s						
JSA				AML	AML	14 37 35.1	
	comp=N,45nm,0.3s						
JSA	Saint Aubin	2.84	230	P	Pn	14 36 41.6	+1.3
JSA				AML	AML	14 37 33.8	
	comp=N,86nm,0.5s						
JSA				AML	AML	14 37 35.1	
	comp=N,45nm,0.3s						
JSA	Saint Aubin	2.84	230	eP	Pn	14 36 41.6	+1.3
JSA				AML	AML	14 37 33.8	
	comp=E,86nm,0.5s						
JSA				AML	AML	14 37 35.1	
	comp=N,45nm,0.3s						
JSA	Saint Aubin	2.84	230	eP	Pn	14 36 41.6	+1.3
	comp=N,45nm,0.3s						
STNC	Stoke	2.91	316	AML	AML	14 37 40.1	
	comp=N,164nm,0.5s						
STNC				AML	AML	14 37 46.8	
	comp=E,60nm,0.7s						
STNC	Stoke	2.91	316	AML	AML	14 37 40.1	
	comp=E,164nm,0.5s						
STNC				AML	AML	14 37 46.8	
	comp=E,60nm,0.7s						
STNC	Stoke	2.91	316	AML	AML	14 37 40.1	
	comp=N,164nm,0.5s						
STNC				AML	AML	14 37 46.8	
	comp=E,60nm,0.7s						
GRR	Gorron	2.97	207	ePn	Pn	14 36 43.1	+1.0
	SNR=1.0						
GRR				eSn	Sn	14 37 17.8	-0.2
	SNR=1.0						
GRR				eSg	Sg	14 37 32.7	+2.8
	comp=E,74nm,0.2s,SNR=1.0						
GRR	Gorron	2.97	207	ePn	Pn	14 36 43.1	+1.0
	SNR=1.0						
GRR				eSn	Sn	14 37 17.8	-0.2
	SNR=1.0						
GRR				eSg	Sg	14 37 32.7	+2.8
	comp=E,37nm,0.2s,SNR=1.0						
HGN	Heimansgroeve	3.03	94	eP	Pn	14 36 43.9	+1.0
HGN	Heimansgroeve	3.03	94	P	Pn	14 36 43.9	+1.0
HGN	Heimansgroeve	3.03	94	eP	Pn	14 36 43.9	+1.0
HGN	Heimansgroeve	3.03	94	P	Pn	14 36 43.9	+1.0
HGN	Heimansgroeve	3.03	94	ePn	Pn	14 36 43.9	+1.0
	comp=E,1.7nm,0.2s						
HGN				ePg	Pg	14 36 51.1	-1.5
HGN				eSn	Sn	14 37 21.3	+1.9
HGN				eSg	Sg	14 37 30.9	-1.0
HGN	Heimansgroeve	3.03	94	eP	Pn	14 36 43.9	+1.0
MEM	Membach	3.10	96	⇓P	Pn	14 36 44.8	+0.9
MEM	Membach	3.10	96	P	Pn	14 36 44.8	+0.9
FOEL	Foel Wylfa	3.27	306	eP	Pn	14 36 47.1	+1.0
FOEL				AML	AML	14 37 41.0	
	comp=E,23nm,0.8s						
FOEL				AML	AML	14 37 41.3	
	comp=N,48nm,0.5s						
FOEL	Foel Wylfa	3.27	306	P	Pn	14 36 47.1	+1.0
FOEL				AML	AML	14 37 41.0	
	comp=N,23nm,0.8s						
FOEL				AML	AML	14 37 41.3	
	comp=N,48nm,0.5s						
FOEL	Foel Wylfa	3.27	306	eP	Pn	14 36 47.1	+1.0
FOEL				AML	AML	14 37 41.0	
	comp=E,23nm,0.8s						
FOEL				AML	AML	14 37 41.3	
	comp=N,48nm,0.5s						
FOEL	Foel Wylfa	3.27	306	eP	Pn	14 36 47.1	+1.0
	comp=N,48nm,0.5s						
HPK	Haverah Park	3.37	331	P	Pn	14 36 47.5	0.0
HPK				AML	AML	14 37 49.1	
	comp=N,100nm,0.6s						
HPK				AML	AML	14 37 51.1	
	comp=N,157nm,0.5s						
HPK	Haverah Park	3.37	331	eP	Pn	14 36 47.5	0.0
HPK				AML	AML	14 37 49.1	
	comp=E,100nm,0.6s						
HPK				AML	AML	14 37 51.1	
	comp=N,157nm,0.5s						
HPK	Haverah Park	3.37	331	eP	Pn	14 36 47.5	0.0
	comp=N,30nm,0.8s						
WLF	Walferdange	3.49	112	Pn	Pn	14 36 51.2	+2.1
WLF				eS	Sg	14 37 44.3	-2.0
WLF	Walferdange	3.49	112	Pn	Pn	14 36 51.2	+2.1
HTL	Hartland	3.57	271	AML	AML	14 38 02.5	
	comp=E,27nm,0.5s						
HTL				AML	AML	14 38 06.1	
	comp=N,30nm,0.8s						
HTL	Hartland	3.57	271	AML	AML	14 38 02.5	
	comp=E,27nm,0.5s						
HTL				AML	AML	14 38 06.1	
	comp=N,30nm,0.8s						
HTL	Hartland	3.57	271	AML	AML	14 38 02.5	
	comp=N,27nm,0.5s						
HTL				AML	AML	14 38 06.1	
	comp=N,30nm,0.8s						
MEZF	Maizieres J'vi	3.59	134	ePn	Pn	14 36 52.4	+1.9
	baz=316,SNR=1.0						
MEZF				eSn	Sn	14 37 32.4	-0.8
	baz=302						
MEZF				eSg	Sg	14 37 50.8	+1.1
	comp=N,39nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	3.59	134	ePn	Pn	14 36 52.4	+1.9
	baz=316,SNR=1.0						
MEZF				eSn	Sn	14 37 32.4	-0.8
	baz=302						
MEZF				eSg	Sg	14 37 50.8	+1.1
	comp=N,20nm,0.4s,SNR=1.0						
SGMF	Saint Gilles	3.70	222	ePn	Pn	14 36 53.0	+0.9
	SNR=1.0						
SGMF				eSn	Sn	14 37 34.5	-1.4
	SNR=1.0						
SGMF				eSg	Sg	14 37 52.9	-0.3
	comp=N,62nm,0.6s,SNR=1.0						
SGMF	Saint Gilles	3.70	222	Pn	Pn	14 36 53.0	+0.9
SGMF				Sn	Sn	14 37 34.5	-1.4
SGMF				Sg	Sg	14 37 52.9	-0.3
SGMF	Saint Gilles	3.70	222	ePn	Pn	14 36 53.0	+0.9
	SNR=1.0						
SGMF				eSn	Sn	14 37 34.5	-1.4
	SNR=1.0						
SGMF				eSg	Sg	14 37 52.9	-0.3
	comp=N,31nm,0.6s,SNR=1.0						
SFTF	Sexfontaines	3.81	137	ePn	Pn	14 36 55.0	+1.5
	baz=323						
SFTF				eSn	Sn	14 37 37.4	-1.1
	baz=318						
SFTF				eSg	Sg	14 37 57.0	+0.4
	comp=N,25nm,0.3s,baz=318						
SFTF	Sexfontaines	3.81	137	ePn	Pn	14 36 55.0	+1.5
	baz=323						
SFTF				eSn	Sn	14 37 37.4	-1.1
	baz=318						
SFTF				eSg	Sg	14 37 57.0	+0.4
	comp=N,13nm,0.3s,baz=318						
WPM1	Penmaenmawr	3.82	307	eP	Pn	14 36 54.1	+0.4
WPM1	Penmaenmawr	3.82	307	P	Pn	14 36 54.1	+0.4
WPM1	Penmaenmawr	3.82	307	eP	Pn	14 36 54.1	+0.4
WPM1	Penmaenmawr	3.82	307	eP	Pn	14 36 54.1	+0.4
PAGF	Fort de Pagny	3.87	128	ePn	Pn	14 36 55.6	+1.2
	baz=319						
PAGF				eSg	Sg	14 37 59.6	+0.8
	comp=N,5.0nm,0.3s,baz=309						
PAGF	Fort de Pagny	3.87	128	ePn	Pn	14 36 55.6	+1.2
	baz=319						
PAGF				eSg	Sg	14 37 59.6	+0.8
	comp=N,2.5nm,0.3s,baz=309						
HYF	Humbligny	3.91	165	ePn	Pn	14 36 57.1	+2.1
HYF				eSg	Sg	14 38 01.2	+1.2
HYF	Humbligny	3.91	165	ePn	Pn	14 36 57.1	+2.1
HYF				eSg	Sg	14 38 01.2	+1.2
YRE	Yr Eifl	3.95	301	eP	Pn	14 36 56.4	+0.9
YRE	Yr Eifl	3.95	301	P	Pn	14 36 56.4	+0.9
YRE	Yr Eifl	3.95	301	eP	Pn	14 36 56.4	+0.9
YRE	Yr Eifl	3.95	301	P	Pn	14 36 56.4	+0.9
YRE	Yr Eifl	3.95	301	eP	Pn	14 36 56.4	+0.9
ROSF	Rostrenen	3.96	228	ePn	Pn	14 36 56.3	+0.6
	SNR=1.0						
ROSF				eSn	Sn	14 37 39.7	-2.6
	SNR=1.0						
ROSF				eSg	Sg	14 38 01.7	+0.1
	comp=N,32nm,0.4s,SNR=1.0						
ROSF	Rostrenen	3.96	228	ePn	Pn	14 36 56.3	+0.6
	SNR=1.0						
ROSF				eSn	Sn	14 37 39.7	-2.6
	SNR=1.0						
ROSF				eSg	Sg	14 38 01.7	+0.1
	comp=N,16nm,0.4s,SNR=1.0						
RUP	Ruppelstein	4.01	107	Pn	Pn	14 36 57.5	+1.1
WME	Myndd Eilian	4.10	307	eP	Pn	14 36 57.7	+0.2
WME	Myndd Eilian	4.10	307	P	Pn	14 36 57.7	+0.2
WME	Myndd Eilian	4.10	307	eP	Pn	14 36 57.7	+0.2
WME	Myndd Eilian	4.10	307	P	Pn	14 36 57.7	+0.2
WME	Myndd Eilian	4.10	307	eP	Pn	14 36 57.7	+0.2
YRC	Rhoscolyn	4.16	304	eP	Pn	14 36 58.7	+0.3
YRC	Rhoscolyn	4.16	304	P	Pn	14 36 58.7	+0.3
YRC	Rhoscolyn	4.16	304	eP	Pn	14 36 58.7	+0.3
YRC	Rhoscolyn	4.16	304	P	Pn	14 36 58.6	+0.2
YRC	Rhoscolyn	4.16	304	eP	Pn	14 36 58.7	+0.3
LOR	Lormes	4.18	154	ePn	Pn	14 37 00.3	+1.6
	baz=335,SNR=1.0						
LOR				eSn	Sn	14 37 46.6	-1.3
	baz=329						
LOR				eSg	Sg	14 38 08.5	-0.2
	comp=N,45nm,0.4s,baz=331,SNR=1.0						
LOR	Lormes	4.18	154	Pn	Pn	14 37 00.3	+1.6
LOR				Sn	Sn	14 37 46.6	-1.3
LOR				Sg	Sg	14 38 08.5	-0.2
LOR	Lormes	4.18	154	ePn	Pn	14 37 00.3	+1.6
	baz=335,SNR=1.0						
LOR				eSn	Sn	14 37 46.6	-1.3
	baz=329						
LOR				eSg	Sg	14 38 08.5	-0.2
	comp=N,22nm,0.4s,baz=331,SNR=1.0						
QUIF	Quistinic	4.22	224	ePn	Pn	14 36 59.6	+0.4
	SNR=1.0						
QUIF				eSn	Sn	14 37 46.8	-1.9
QUIF				eSg	Sg	14 38 10.9	+1.0
	comp=N,26nm,0.4s						
QUIF	Quistinic	4.22	224	ePn	Pn	14 36 59.6	+0.4
	SNR=1.0						
QUIF				eSn	Sn	14 37 46.8	-1.9
QUIF				eSg	Sg	14 38 10.9	+1.0
	comp=N,13nm,0.4s						
THEF	They Montfort	4.22	130	Pn	Pn	14 36 59.3	0.0
THEF	They Montfort	4.22	130	Pn	Pn	14 36 59.3	0.0
SSF	Saint Saulge	4.28	158	ePn	Pn	14 37 01.4	+1.3
	SNR=1.0						
SSF				eSn	Sn	14 37 47.3	-3.0
	SNR=1.0						
SSF				eSg	Sg	14 38 11.8	-0.1
	comp=N,30nm,0.4s						
SSF	Saint Saulge	4.28	158	ePn	Pn	14 37 01.4	+1.3
	SNR=1.0						
SSF				eSn	Sn	14 37 47.3	-3.0
	SNR=1.0						
SSF				eSg	Sg	14 38 11.8	-0.1
	comp=N,15nm,0.4s						
XAL	Allendale	4.33	333	eP	Pn	14 37 00.6	-0.1
XAL	Allendale	4.33	333	P	Pn	14 37 00.6	-0.1
XAL	Allendale	4.33	333	eP	Pn	14 37 00.6	-0.1
XAL	Allendale	4.33	333	P	Pn	14 37 00.6	-0.1
XAL	Allendale	4.33	333	eP	Pn	14 37 00.6	-0.1
BST	Brest	4.37	233	Pn	Pn	14 37 01.9	+0.6
BST	Brest	4.37	233	Pn	Pn	14 37 01.9	+0.6
KESW	Keswick, Cumbr	4.38	326	eP	Pn	14 37 01.6	+0.1
KESW				AML	AML	14 38 24.0	
	comp=E,33nm,0.7s						
KESW				AML	AML	14 38 24.2	
	comp=N,28nm,0.6s						
KESW	Keswick, Cumbr	4.38	326	P	Pn	14 37 01.6	+0.1
KESW				AML	AML	14 38 24.0	
	comp=N,33nm,0.7s						
KESW				AML	AML	14 38 24.2	
	comp=N,28nm,0.6s						
KESW	Keswick, Cumbr	4.38	326	eP	Pn	14 37 01.6	+0.1
KESW				AML	AML	14 38 24.0	
	comp=E,33nm,0.7s						
KESW				AML	AML	14 38 24.2	
	comp=N,28nm,0.6s						
KESW	Keswick, Cumbr	4.38	326	eP	Pn	14 37 01.6	+0.1
	comp=N,28nm,0.6s						
AVF	Avril sur Loir	4.50	160	ePn	Pn	14 37 04.5	+1.4
	SNR=1.0						
AVF				eSn	Sn	14 37 53.5	-2.3
	comp=N,7.2nm,0.2s,SNR=1.0						
AVF				eSg	Sg	14 38 20.1	+1.0
	comp=N,12nm,0.3s						
AVF	Avril sur Loir	4.50	160	ePn	Pn	14 37 04.5	+1.4
	SNR=1.0						
AVF				eSn	Sn	14 37 53.5	-2.3
	comp=N,3.6nm,0.2s,SNR=1.0						
AVF				eSg	Sg	14 38 20.1	+1.0
	comp=N,5.9nm,0.3s						
MFF	Saint Martin d	4.54	191	ePn	Pn	14 37 04.5	+0.9
	SNR=1.0						
MFF				eSn	Sn	14 37 54.2	-2.4
	SNR=1.0						
MFF				eSg	Sg	14 38 20.8	+0.7
	comp=N,26nm,0.4s,SNR=1.0						
MFF	Saint Martin d	4.54	191	ePn	Pn	14 37 04.5	+0.9
	SNR=1.0						
MFF				eSn	Sn	14 37 54.2	-2.4
	SNR=1.0						
MFF				eSg	Sg	14 38 20.8	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,13nm,0.4s,SNR=1.0						
HAU	Haudompre	4.55	130	ePn	Pn	14 37 05.2	+1.4
	SNR=1.0						
HAU				eSn	Sn	14 37 55.1	-1.9
	SNR=1.0						
HAU				eSg	Sg	14 38 21.7	+1.1
	comp=N,24nm,0.3s,SNR=1.0						
HAU	Haudompre	4.55	130	ePn	Pn	14 37 05.2	+1.4
	SNR=1.0						
HAU				eSn	Sn	14 37 55.1	-1.9
	SNR=1.0						
HAU				eSg	Sg	14 38 21.7	+1.1
	comp=N,12nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	4.64	165	ePn	Pn	14 37 06.7	+1.8
	SNR=1.0						
BGF				eSn	Sn	14 37 57.0	-2.0
	SNR=1.0						
BGF				eSg	Sg	14 38 23.9	+0.6
	comp=N,79nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	4.64	165	ePn	Pn	14 37 06.7	+1.8
	SNR=1.0						
BGF				eSn	Sn	14 37 57.0	-2.0
	SNR=1.0						
BGF				eSg	Sg	14 38 23.9	+0.6
	comp=N,40nm,0.4s,SNR=1.0						
SMF	Signal de Mont	4.75	157	ePn	Pn	14 37 08.7	+2.1
	SNR=1.0						
SMF				eSn	Sn	14 38 00.6	-1.3
	comp=N,12nm,0.4s,SNR=1.0						
SMF				eSg	Sg	14 38 27.4	+0.4
	comp=N,20nm,0.3s						
SMF	Signal de Mont	4.75	157	ePn	Pn	14 37 08.7	+2.1
	SNR=1.0						
SMF				eSn	Sn	14 38 00.6	-1.3
	comp=N,6.2nm,0.4s,SNR=1.0						
SMF				eSg	Sg	14 38 27.4	+0.4
	comp=N,10nm,0.3s						
CDF	Champ du Feu	4.77	121	ePn	Pn	14 37 08.1	+1.3
	SNR=1.0						
CDF				eSn	Sn	14 37 59.8	-2.5
	SNR=1.0						
CDF				eSg	Sg	14 38 26.6	-0.8
	comp=N,12nm,0.3s						
CDF	Champ du Feu	4.77	121	ePn	Pn	14 37 08.1	+1.3
	SNR=1.0						
CDF				eSn	Sn	14 37 59.8	-2.5
	SNR=1.0						
CDF				eSg	Sg	14 38 26.6	-0.8
	comp=N,6.0nm,0.3s						
TCF	Toulx Ste Croi	4.82	171	ePn	Pn	14 37 09.4	+1.9
	SNR=1.0						
TCF				eSn	Sn	14 38 02.2	-1.4
TCF				eSg	Sg	14 38 29.7	+0.5
	comp=N,28nm,0.4s						
TCF	Toulx Ste Croi	4.82	171	ePn	Pn	14 37 09.4	+1.9
	SNR=1.0						
TCF				eSn	Sn	14 38 02.2	-1.4
TCF				eSg	Sg	14 38 29.7	+0.5
	comp=N,14nm,0.4s						
ECH	Echery	4.82	124	ePn	Pn	14 37 07.7	+0.2
ECH				eS	Sg	14 38 24.9	-4.3
ECH	Echery	4.82	124	ePn	Pn	14 37 07.7	+0.2
HINF	Hinteralfeld	4.93	129	ePn	Pn	14 37 10.7	+1.7
	SNR=1.0						
HINF				eSn	Sn	14 38 04.5	-1.8
	comp=N,8.7nm,0.3s,SNR=1.0						
HINF				eSg	Sg	14 38 32.7	+0.1
	comp=N,21nm,0.4s						
HINF	Hinteralfeld	4.93	129	ePn	Pn	14 37 10.7	+1.7
	SNR=1.0						
HINF				eSn	Sn	14 38 04.5	-1.8
	comp=N,4.3nm,0.3s,SNR=1.0						
HINF				eSg	Sg	14 38 32.7	+0.1
	comp=N,11nm,0.4s						
ESK	Eskdalemuir	5.01	330	eP	Pn	14 37 09.9	-0.1
ESK				AML	AML	14 38 07.4	
	comp=N,7.6nm,0.4s						
ESK				AML	AML	14 38 39.8	
	comp=E,10nm,0.4s						
ESK	Eskdalemuir	5.01	330	P	Pn	14 37 09.9	-0.1
ESK				AML	AML	14 38 07.4	
	comp=E,7.6nm,0.4s						
ESK				AML	AML	14 38 39.8	
	comp=E,10nm,0.4s						
ESK	Eskdalemuir	5.01	330	eP	Pn	14 37 09.9	-0.1
ESK				AML	AML	14 38 07.4	
	comp=N,7.6nm,0.4s						
ESK				AML	AML	14 38 39.8	
	comp=E,10nm,0.4s						
ESK	Eskdalemuir	5.01	330	ePn	Pn	14 37 10.3	+0.2
ESK	Eskdalemuir	5.01	330	eP	Pn	14 37 09.9	-0.1
	comp=E,10nm,0.4s						
ESK	Eskdalemuir	5.01	330	ePn	Pn	14 37 10.3	+0.2
AGO	Saint Agoulin	5.17	165	Pn	Pn	14 37 12.8	+0.5
AGO	Saint Agoulin	5.17	165	Pn	Pn	14 37 12.8	+0.5
PLDF	La Plantade	5.34	161	Pn	Pn	14 37 15.9	+1.2
PLDF	La Plantade	5.34	161	Pn	Pn	14 37 15.9	+1.2
PYM	Petit Puy Mans	5.45	166	Pn	Pn	14 37 17.1	+0.9
PYM	Petit Puy Mans	5.45	166	Pn	Pn	14 37 17.1	+0.9
CABF	La Chapelle	5.51	142	ePn	Pn	14 37 18.7	+1.7
	SNR=1.0						
CABF				eSn	Sn	14 38 19.2	-1.4
	comp=E,8.2nm,0.4s,SNR=1.0						
CABF				eSg	Sg	14 38 51.4	+0.1
	comp=E,14nm,0.5s						
CABF	La Chapelle	5.51	142	ePn	Pn	14 37 18.7	+1.7
	SNR=1.0						
CABF				eSg	Sg	14 38 51.4	+0.1
	comp=E,7.2nm,0.5s						
RJF	Les Rejaudoux	5.76	178	ePn	Pn	14 37 20.5	+0.1
	SNR=1.0						
RJF				eSn	Sn	14 38 23.2	-3.5
	SNR=1.0						
RJF				eSg	Sg	14 38 59.6	+0.3
	comp=E,23nm,0.4s						
RJF	Les Rejaudoux	5.76	178	ePn	Pn	14 37 20.5	+0.1
	SNR=1.0						
RJF				eSg	Sg	14 38 59.6	+0.3
	comp=E,12nm,0.4s						
LBL	Lubilhac	5.99	166	Pn	Pn	14 37 24.4	+0.8
LBL	Lubilhac	5.99	166	Pn	Pn	14 37 24.4	+0.8
LFF	La Frestale	6.13	183	ePn	Pn	14 37 26.3	+0.9
LFF				eSn	Sn	14 38 32.2	-3.5
LFF				eSg	Sg	14 39 10.1	-0.9
	comp=E,16nm,0.3s						
LFF	La Frestale	6.13	183	ePn	Pn	14 37 26.3	+0.9
LFF				eSg	Sg	14 39 10.1	-0.9
	comp=E,7.8nm,0.3s						
CAF	Calviac	6.16	174	ePn	Pn	14 37 27.1	+1.2
	SNR=1.0						
CAF	Calviac	6.16	174	ePn	Pn	14 37 27.1	+1.2
	SNR=1.0						
VIVF	Saint-Julien-l	6.63	158	ePn	Pn	14 37 33.8	+1.4
	SNR=1.0						
VIVF				eSn	Sn	14 38 45.6	-2.7
	comp=E,10nm,0.5s						
VIVF	Saint-Julien-l	6.63	158	ePn	Pn	14 37 33.8	+1.4
	SNR=1.0						
LPL	La Plagne	6.67	144	ePn	Pn	14 37 34.9	+1.8
LPL				eSn	Sn	14 38 46.7	-2.8
	comp=E,3.7nm,0.3s						
LPL	La Plagne	6.67	144	ePn	Pn	14 37 34.9	+1.8
ORIF	Oris-en-Rattie	6.91	151	ePn	Pn	14 37 38.3	+2.1
	SNR=1.0						
ORIF				eSn	Sn	14 38 52.7	-2.4
	comp=E,7.0nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	6.91	151	ePn	Pn	14 37 38.3	+2.1
	SNR=1.0						
LASF	Ste Croix	7.22	164	ePn	Pn	14 37 41.6	+1.2
LASF				eSn	Sn	14 38 57.4	-5.2
	comp=E,4.2nm,0.4s,SNR=1.0						
LASF	Ste Croix	7.22	164	ePn	Pn	14 37 41.6	+1.2
MBDF	Montbardon	7.37	147	ePn	Pn	14 37 44.6	+2.0
MBDF				eSn	Sn	14 39 03.8	-2.7
	comp=E,4.4nm,0.5s						
MBDF	Montbardon	7.37	147	ePn	Pn	14 37 44.6	+2.0
SMRF	Simiane la Rot	7.69	155	ePn	Pn	14 37 48.3	+1.5
SMRF	Simiane la Rot	7.69	155	ePn	Pn	14 37 48.3	+1.5
EPF	Esparros	8.05	184	ePn	Pn	14 37 51.0	-0.8
	SNR=1.0						
EPF				eSn	Sn	14 39 16.2	-6.9
	comp=E,5.0nm,0.2s						
EPF	Esparros	8.05	184	ePn	Pn	14 37 51.0	-0.8
	SNR=1.0						
SJPF	Ste Jean	8.11	192	ePn	Pn	14 37 52.1	-0.5
	SNR=1.0						
SJPF				eSn	Sn	14 39 17.7	-6.8
	comp=E,4.1nm,0.2s,SNR=1.0						
SJPF	Ste Jean	8.11	192	ePn	Pn	14 37 52.1	-0.5
	SNR=1.0						
ETSF	Etsaut	8.24	189	ePn	Pn	14 37 53.1	-1.4
	SNR=1.0						
ETSF				eSn	Sn	14 39 21.6	-6.3
	comp=E,5.6nm,0.3s						
FRF	La Foret Royal	8.37	151	ePn	Pn	14 37 57.7	+1.5
	SNR=1.0						
FRF	La Foret Royal	8.37	151	ePn	Pn	14 37 57.7	+1.5
	SNR=1.0						

---

*ISCJB **03** 14:39:34.9±0.9, 36°.93N±0°.06×28°.29E±0°.05, h12^{km}, Error ellipse: s-maj=9.0km s-min=5.2km az=21.5*
*CSEM **03** 14:39:34.7±0.2, 36°.96N×28°.39E, h20^{km}, MD1.6, Error ellipse: s-maj=8.7km s-min=5.3km az=35.0*
*DDA **03** 14:39:35.5, 37°.00N×28°.26E, h7^{km}, MD2.6*
*ISK **03** 14:39:36.2, 37°.22N×28°.21E, h18^{km}, MD1.6*
ISC 03 14:39:34.2±1.1**, 36°.86N**±0°.06×**28°.14E**±0°.03**, h12^{km}, n11,** σ1^{s}65/19**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.29	22	ePG	Pg	14 39 40.2	0.0
YER				eSG	Sg	14 39 43.2	-1.1
YER	Yerkesik	0.29	22	ePg	Pg	14 39 40.2	0.0
YER				eSg	Sg	14 39 43.2	-1.1
TURN	Turunc	0.37	88	i P	Pg	14 39 40.5	-1.0
TURN				i S	Sg	14 39 43.9	-2.6
TURN	Turunc	0.37	88	i P	Pg	14 39 40.5	-1.0
TURN				i S	Sg	14 39 43.9	-2.6
BDRM	Kayabasi	0.59	290	i P	Pg	14 39 44.6	-1.2
BDRM	Kayabasi	0.59	290	i P	Pg	14 39 44.6	-1.2
BODT	Bodrum	0.69	287	ePG	Pn	14 39 51.3	+1.4
BODT				eSG	Sn	14 40 01.6	+1.0
BODT	Bodrum	0.69	287	ePg	Pn	14 39 51.3	+1.4
BODT				eSg	Sn	14 40 01.6	+1.0
FETY	Fethiye	0.79	106	ePG	Pn	14 39 54.2	+3.1
AYDN	Tasoluk	0.82	345	i P	Pb	14 39 50.3	-0.2
AYDN				i S	Sg	14 39 59.2	-1.8
AYDN	Tasoluk	0.82	345	i P	Pb	14 39 50.3	-0.2
AYDN				i S	Sg	14 39 59.2	-1.8

BER 03 14:42:48.6±1.5**, 76°.90N**×**18°.73E, h16^{km}**±22^{km}**, MD2.7, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	0.73	280	eP	Pg	14 43 02.1	-0.7
HSP				eS	Sg	14 43 12.4	-0.1
SPA0	Spitsbergen Ar	1.39	339	ePg	Pn	14 43 11.8	-1.4
SPA0				eSg	Sn	14 43 29.9	-1.3
HOPEN	Hopen	1.50	102	ePg	Pn	14 43 14.0	-0.8
HOPEN				eSg	Sb	14 43 34.4	-0.4
KBS	Kingsbay	2.49	328	eP	Pn	14 43 26.8	-1.6
KBS				ePg	Pb	14 43 31.6	-1.3
KBS				eSg	Sb	14 44 03.3	+0.1

---

*IDC **03** 15:01:41.0±1.8, 7°.77S×123°.93E, h0^{km}, mb3.5/1, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=130.3km s-min=26.7km az=64.0*
*AUST **03** 15:01:56.7±3.8, 8°.64S×123°.63E, h105^{km}, Error ellipse: s-maj=4.5km s-min=1.6km az=352.0*
ISC 03 15:01:42.3±1.5**, 7°.8S**±0°.1×**123°.88E**±0°.09**, h10^{km}, n9,** σ**2^{s}00**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	Waingapu	4.00	242	S	Sn	15 03 31.6	+1.0
	baz=3.4,SNR=4.6						
MTN	Manton Dam	8.72	126	P	Pn	15 03 57.8	+9.2
	baz=8.5,SNR=213						
MTN				S	Sn	15 05 30.3	+3.2
	baz=8.5,SNR=6.6						
KDU	Kakadu	9.76	121	P	Pn	15 04 11.7	+9.0
	baz=9.6,SNR=12						
KDU				S	Sn	15 05 55.0	+2.5
	baz=9.6,SNR=4.0						
FITZ	Fitzroy Crossi	10.38	171	Pn	Pn	15 04 11.4	0.0
	0.3nm,0.3s,baz=9.8,slow=4.5,SNR=10						
FITZ				Sn	Sn	15 05 52.6	-15
	1.3nm,0.3s,baz=124,slow=15,SNR=12						
FITZ	Fitzroy Crossi	10.38	171	P	Pn	15 04 11.5	+0.1
	baz=9.7,SNR=3.7						
FITZ				S	Sn	15 05 56.1	-12
	baz=9.7,SNR=5.6						
WRA	Warramunga Arr	15.77	141	Pn	P	15 05 25.1	-3.5
	0.7nm,0.3s,baz=320,slow=14,SNR=46						
WRA				Sn	Sn	15 08 08.6	-11
	0.3nm,0.3s,baz=298,slow=22,SNR=7.8						
ASAR	Alice Springs	18.48	150	P	Pn	15 05 58.1	-0.5
	0.2nm,0.3s,baz=327,slow=12,SNR=30						
ASAR				S	Sn	15 09 12.3	-13
	0.1nm,0.3s,baz=308,slow=22,SNR=5.3						
QIS	Mount Isa	19.81	131	P	Pn	15 06 15.3	+0.6
	baz=20,SNR=7.8						
MKAR	Makanchi Array	65.72	330	P	P	15 12 27.6	+0.4
	0.4nm,0.7s,baz=129,slow=8.1,SNR=4.7						

IDC 03 15:18:38.4±1.9**, 5°.64S**×**150°.08E, h0^{km}, mb3.3**/3**, mb1 3.8**/4**, mb1mx3.4**/18**, mbtmp3.5**/4**, ML3.1**/1**, Error ellipse: s-maj=116.0km s-min=24.8km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.73	218	Pn	Pn	15 19 52.5	+1.5
	5.7nm,0.3s,baz=55,slow=4.6,SNR=25						
PMG				Sn	Sn	15 20 43.4	-3.3
	11nm,0.3s,baz=25,slow=14,SNR=10						
WRA	Warramunga Arr	20.89	226	P	P	15 23 22.0	-0.4
	1.4nm,0.7s,baz=51,slow=10,SNR=18						
ASAR	Alice Springs	23.75	219	P	P	15 23 51.7	-0.9
	0.6nm,0.7s,baz=55,slow=9.1,SNR=15						
ILAR	Eielson Array	83.96	23	P	P	15 31 10.1	-0.1
	0.3nm,1.0s,baz=243,slow=5.9,SNR=3.2						
TORD	Torodi Ar. Bea	147.96	286	PKPbc	PKPbc	15 38 26.7	-0.1
	0.4nm,0.3s,baz=100,slow=2.6,SNR=10.0						

---

*IDC **03** 15:24:03.3±2.0, 0°.44S×133°.20E, h0^{km}, mb4.0/3, mb1 4.2/5, mb1mx3.7/21, mbtmp4.0/5, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/42, Error ellipse: s-maj=84.1km s-min=23.3km az=75.0*
*AUST **03** 15:24:07.2, 0°.49S×133°.00E, h15^{km}*
*DJA **03** 15:24:13.1±1.1, 1°S±6°×13°3E±°, h88^{km}±14^{km}, M4.5/4, mb4.7/4, mB5.2/2, MLv4.3/4, Mw(mB)4.6/2*
ISC 03 15:24:08.1±1.4**, 0°.36S**±0°.09×**132°.94E**±0°.08**, h32^{km}, n16,** σ**1^{s}70**/22**, mb4.3**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWI	Sorong	1.75	253	P	Pn	15 24 36.5	+0.2
	baz=1.8,SNR=157						
SWI				S	Sb	15 24 59.5	-1.8
	baz=1.8,SNR=9.0						
SWI	Sorong	1.75	253	P	Pn	15 24 36.7	+0.4
SWI				S	Sb	15 24 59.5	-1.8
MSAI	Masohi	4.99	233	P	Pn	15 25 23.7	+2.9
TLE	Tual	5.25	182	P	Pn	15 25 25.4	+1.0
	baz=5.2,SNR=33						
TLE				S	Sn	15 26 26.9	+3.1
	baz=5.2,SNR=7.4						
TLE	Tual	5.25	182	P	Pn	15 25 25.3	+0.9
	279nm,0.8s,1.3nm						
TLE				S	Sn	15 26 25.2	+1.4
	279nm,0.8s,1.3nm						
LBMI	Labuha	5.45	267	P	Pn	15 25 28.5	+1.4
	45nm,1.3s,0.2nm						
LBMI				S	Sn	15 26 28.3	-0.4
	45nm,1.3s,0.2nm						
AAI	Ambon	5.78	235	P	Pn	15 25 33.7	+2.0
	baz=5.8,SNR=5.2						
AAI				S	Sn	15 26 38.8	+1.9
	baz=5.8,SNR=5.9						
AAI	Ambon	5.78	235	P	Pn	15 25 33.2	+1.5
AAI				S	Sn	15 26 36.5	-0.5
KDU	Kakadu	12.25	182	P	Pn	15 26 58.7	-1.8
	baz=12,SNR=17						
KDU				S	Sn	15 29 08.0	-8.1
	baz=12,SNR=4.9						
MTN	Manton Dam	12.53	188	P	Pn	15 27 02.2	-2.1
	baz=12,SNR=24						
MTN				S	Sn	15 29 14.5	-8.3
	baz=12,SNR=8.9						
FITZ	Fitzroy Crossi	19.03	202	P	P	15 28 27.8	+0.1
	0.4nm,0.3s,baz=42,slow=14,SNR=6.4						
FITZ				S	Sn	15 31 50.3	-11
	0.2nm,0.3s,baz=158,slow=13,SNR=4.3						
FITZ				LR	LR	15 36 41.6	
	comp=Z,50nm,18.0s,baz=266,slow=40						
FITZ	Fitzroy Crossi	19.03	202	P	Pn	15 28 30.3	+1.8
	baz=19,SNR=5.5						
WRA	Warramunga Arr	19.51	176	P	P	15 28 31.6	-1.2
	0.6nm,0.3s,baz=354,slow=11,SNR=45						
WRA				S	S	15 31 59.7	-12
	0.3nm,0.3s,baz=353,slow=24,SNR=6.6						
ASAR	Alice Springs	23.18	178	P	P	15 29 11.8	-0.5
	10nm,0.7s,baz=354,slow=11,SNR=132						
STKA	Stephens Creek	32.40	166	P	P	15 30 32.3	-2.8
	3.7nm,0.8s,baz=353,slow=8.6,SNR=3.5						
MKAR	Makanchi Array	64.46	324	P	P	15 34 43.2	+1.5
	0.1nm,0.5s,baz=128,slow=5.9,SNR=3.8						

---

*CSEM **03** 15:24:17.8±0.2, 37°.09N×21°.96E, h2^{km}, ML2.9, Error ellipse: s-maj=4.6km s-min=3.1km az=55.0*
*ATH **03** 15:24:17.6, 37°.05N×21°.99E, h5^{km}±2^{km}, ML2.9*
THE 03 15:24:17.7, 37°.06N×**21°.96E, h8^{km}, ML3.1**/10**, Error ellipse: s-maj=0.7km s-min=0.4km az=234.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.12	346	P	Pg	15 24 20.4	-0.1
ITM				S	Sg	15 24 22.6	+0.1
ITM	Ithomi	0.12	346	ePG	Pg	15 24 20.5	0.0
ITM				eSG	Sg	15 24 22.6	+0.1
ITM	Ithomi	0.12	346	P	Pg	15 24 20.4	-0.1
ITM				S	Sg	15 24 22.2	-0.3
ITM				eSg	Sg	15 24 22.6	+0.1
PYL	PYLOS	0.24	227	P	Pg	15 24 22.6	0.0
PYL				S	Sg	15 24 26.3	+0.4
PYL	PYLOS	0.24	227	P	Pg	15 24 22.6	0.0
PYL				S	Sg	15 24 26.3	+0.4
DYR	Agios Nikonas	0.42	135	P	Pg	15 24 25.9	0.0
DYR				S	Sg	15 24 32.0	+0.5
DYR	Agios Nikonas	0.42	135	P	Pg	15 24 25.8	-0.1
DYR				S	Sg	15 24 32.0	+0.5
VLX	Vlachokerasia	0.45	47	P	Pg	15 24 26.6	-0.1
VLX				S	Sg	15 24 33.4	+0.6
VLX	Vlachokerasia	0.45	47	ePB	Pg	15 24 26.6	-0.1
VLX				eSB	Sg	15 24 33.5	+0.7
VLX	Vlachokerasia	0.45	47	P	Pg	15 24 26.5	-0.2
VLX				S	Sg	15 24 31.8	-1.0
VLX				eSb	Sb	15 24 33.5	-1.6
AMT	Artemida-Makis	0.51	337	P	Pg	15 24 27.6	-0.2
AMT				S	Sg	15 24 35.1	+0.5
AMT	Artemida-Makis	0.51	337	P	Pg	15 24 27.6	-0.2
AMT				S	Sg	15 24 34.8	+0.2
VLI	Veliai	0.85	113	P	Pg	15 24 34.0	-0.1
VLI				S	Sg	15 24 45.1	-0.1
VLI	Veliai	0.85	113	ePB	Pg	15 24 34.1	0.0
VLI				eSB	Sg	15 24 45.0	-0.2
VLI	Veliai	0.85	113	P	Pg	15 24 34.0	-0.1
VLI				S	Sg	15 24 44.8	-0.4
GUR	Goura	0.93	19	P	Pg	15 24 34.7	-1.0
GUR				S	Sb	15 24 48.8	+0.1
GUR	Goura	0.93	19	ePG	Pg	15 24 34.6	-1.1
GUR				eSB	Sg	15 24 48.1	+0.3
GUR	Goura	0.93	19	P	Pg	15 24 34.7	-1.0
GUR				S	Sg	15 24 47.2	-0.6
GUR				eSb	Sb	15 24 48.1	-0.6
RLS	Riolos of Patr	1.07	339	P	Pg	15 24 37.7	-0.6
RLS	Riolos of Patr	1.07	339	ePN	Pg	15 24 38.2	-0.1
RLS				eSB	Sn	15 24 53.9	-0.2
RLS	Riolos of Patr	1.07	339	P	Pg	15 24 37.7	-0.6
RLS	Riolos of Patr	1.07	339	ePn	Pg	15 24 38.2	-0.1
RLS				S	Sb	15 24 53.0	+0.4
RLS				eSb	Sn	15 24 53.9	-0.2
DIDY	Didyma	1.08	67	P	Pg	15 24 37.9	-0.7
DIDY				S	Sb	15 24 53.6	+0.5
DIDY	Didyma	1.08	67	P	Pg	15 24 37.9	-0.7
DIDY				S	Sb	15 24 53.6	+0.5
DID	Didima	1.11	66	P	Pg	15 24 38.4	-0.7
DID				S	Sb	15 24 54.4	+0.6
DID	Didima	1.11	66	P	Pg	15 24 38.4	-0.7
DID				S	Sb	15 24 54.4	+0.6
KYTH	Kithira	1.16	132	P	Pb	15 24 39.7	-0.3
KYTH	Kithira	1.16	132	ePB	Pb	15 24 40.0	0.0
KYTH	Kithira	1.16	132	P	Pb	15 24 39.7	-0.3
KYTH	Kithira	1.16	132	ePb	Pb	15 24 40.0	0.0
LAKA	Lakka	1.18	1	P	Pb	15 24 39.4	-1.0
LAKA				S	Sn	15 24 56.8	0.0
LAKA	Lakka	1.18	1	P	Pb	15 24 39.4	-1.0
LAKA				S	Sg	15 24 54.6	-1.2
LTK	Loutraki	1.25	39	P	Pn	15 24 40.6	-0.9
LTK	Loutraki	1.25	39	P	Pn	15 24 40.7	-0.8
TRIZ	Trizonia	1.31	4	P	Pn	15 24 40.9	-1.3
TRIZ	Trizonia	1.31	4	P	Pn	15 24 40.9	-1.3
KALE	Kalithea	1.34	6	P	Pn	15 24 42.0	-0.7
KALE				S	Sb	15 25 00.2	-0.2
KALE	Kalithea	1.34	6	P	Pn	15 24 42.0	-0.7
KALE				S	Sb	15 25 00.3	-0.1
EFP	Efpalio	1.37	358	P	Pn	15 24 43.1	+0.1
EFP	Efpalio	1.37	358	P	Pn	15 24 43.2	+0.2
NAIG	Nisos Aigina	1.40	60	ePB	Pb	15 24 43.9	-0.2
NAIG	Nisos Aigina	1.40	60	ePb	Pb	15 24 43.9	-0.2
KFL	Anninata	1.40	319	P	Pg	15 24 45.4	+0.7
KFL	Anninata	1.40	319	P	Pg	15 24 44.7	0.0
DESF	Desfina	1.42	18	P	Pn	15 24 44.2	+0.3
DESF				S	Sg	15 25 03.4	-0.3
DESF	Desfina	1.42	18	P	Pn	15 24 44.2	+0.3
DESF				S	Sg	15 25 03.4	-0.3
VLS	Valsamata	1.56	316	ePG	Pn	15 24 46.1	+0.3
VLS				eSB	Sg	15 25 10.3	+2.3
VLS	Valsamata	1.56	316	ePg	Pn	15 24 46.1	+0.3
VLS				eSb	Sg	15 25 10.3	+2.3
ATH	Athens Observa	1.67	56	ePB	Pb	15 24 49.1	+0.5
ATH				eSB	Sg	15 25 11.7	+0.5
ATH	Athens Observa	1.67	56	ePb	Pb	15 24 49.1	+0.5
ATH				eSb	Sg	15 25 11.7	+0.5
LKR	Lokris	1.79	27	P	Pb	15 24 49.9	-0.8
LKR				S	Sn	15 25 12.2	+0.5
LKR	Lokris	1.79	27	ePG	Pb	15 24 50.4	-0.3
LKR	Lokris	1.79	27	P	Pb	15 24 49.9	-0.8
LKR	Lokris	1.79	27	ePg	Pb	15 24 50.4	-0.3
LKR				S	Sn	15 25 12.2	+0.5
AXAR	Agios Charalam	1.79	18	P	Pb	15 24 50.7	-0.1
AXAR	Agios Charalam	1.79	18	P	Pb	15 24 50.7	-0.1
PTL	Penteli	1.80	56	ePN	Pb	15 24 51.6	+0.6
PTL	Penteli	1.80	56	ePn	Pb	15 24 51.6	+0.6
ATAL	Atalanti	1.83	27	P	Pn	15 24 49.2	-0.3
ATAL				S	Sn	15 25 13.4	+0.5
ATAL	Atalanti	1.83	27	P	Pn	15 24 49.2	-0.3
ATAL				S	Sn	15 25 13.4	+0.5
EVR	Evrytania	1.86	356	ePN	Pg	15 24 52.8	-0.7
EVR				eSN	Sg	15 25 19.2	+1.5
EVR	Evrytania	1.86	356	ePn	Pg	15 24 52.8	-0.7
EVR				eSn	Sg	15 25 19.2	+1.5
LKD2	Lefkada island	2.01	329	ePG	Pb	15 24 55.4	+0.8
LKD2				eSN	Sg	15 25 22.8	+0.3
LKD2	Lefkada island	2.01	329	ePg	Pb	15 24 55.4	+0.8
LKD2				eSn	Sg	15 25 22.8	+0.3
VAM	Vamos	2.45	132	ePN	Pb	15 25 01.2	-0.7
VAM	Vamos	2.45	132	ePn	Pb	15 25 01.3	-0.6
NEO	Neokhori	2.45	23	ePB	Pn	15 24 59.5	+1.5
NEO	Neokhori	2.45	23	ePb	Pn	15 24 59.5	+1.5
NPS	Neapolis	3.45	120	ePN	Pn	15 25 14.7	+2.9
NPS	Neapolis	3.45	120	ePn	Pn	15 25 14.7	+2.9

---

*CSEM **03** 15:25:28.8±0.1, 39°.98N×28°.10E, h12^{km}, MD2.4, Error ellipse: s-maj=2.2km s-min=2.0km az=30.0*
*DDA **03** 15:25:28.4, 40°.00N×28°.09E, h6^{km}, MD2.4*
ISK 03 15:25:28.3, 39°.97N×**28°.11E, h10^{km}, MD2.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GONE	Gonen-Balikesi	0.33	284	ePG	Pg	15 25 35.2	+0.3
GONE				eSG	Sg	15 25 40.5	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GONE	Gonen-Balikesi	0.33	284	*e*Pg	Pg	15 25 35.2	+0.3
GONE				*e*Sg	Sg	15 25 40.5	+1.1
KCTX	Karacabey (Bur	0.35	33	*e*PG	Pg	15 25 35.8	+0.4
KCTX				*e*SG	Sg	15 25 40.5	+0.4
KCTX	Karacabey (Bur	0.35	33	*e*Pg	Pg	15 25 35.8	+0.4
KCTX				*e*Sg	Sg	15 25 40.6	+0.4
BALB	Balikesir	0.37	208	*e*PG	Pg	15 25 36.1	+0.5
BALB	Balikesir	0.37	208	*e*Pg	Pg	15 25 36.1	+0.5
EDC	Edincik	0.42	334	*e*PG	Pb	15 25 37.4	-0.5
EDC	Edincik	0.42	334	*e*Pg	Pb	15 25 37.4	-0.5
BALY	Balya	0.44	239	*i* P	Pg	15 25 36.9	-0.1
BALY				*i* S	Sb	15 25 44.0	-0.9
BALY	Balya	0.44	239	*i* P	Pg	15 25 36.9	-0.1
DURS	Dursunbey	0.46	142	*i* P	Pb	15 25 38.2	-0.5
DURS				*i* S	Sb	15 25 45.8	+0.1
DURS	Dursunbey	0.46	142	*i* P	Pb	15 25 38.2	-0.5
DURS				*i* S	Sb	15 25 45.8	+0.1
KRBG	Karabiga-Canak	0.75	305	*e*PG	Pb	15 25 43.5	0.0
KRBG	Karabiga-Canak	0.75	305	*e*Pg	Pb	15 25 43.5	0.0
ARMT	Armutlu	0.83	44	*e*PG	Pb	15 25 44.8	-0.1
ARMT	Armutlu	0.83	44	*e*Pg	Pb	15 25 44.8	-0.1
RKY	Sarkoy-Tekirda	1.01	316	*e*PG	Pb	15 25 48.0	0.0
RKY	Sarkoy-Tekirda	1.01	316	*e*Pg	Pb	15 25 48.0	0.0
MFT	Murefte	1.03	323	*e*PG	Pb	15 25 48.5	0.0
MFT	Murefte	1.03	323	*e*Pg	Pb	15 25 48.5	+0.1
YLV	Yalova	1.14	58	*e*PN	Pn	15 25 51.1	+0.7
YLV	Yalova	1.14	58	*e*Pn	Pn	15 25 51.1	+0.7
TVSB	Tavsanli	1.17	116	*e*PN	Pg	15 25 50.9	0.0
TVSB	Tavsanli	1.17	116	*e*Pn	Pg	15 25 50.9	0.0
CTKS	Kestanelik-??a	1.30	13	*e*PN	Pn	15 25 52.4	-0.2
CTKS	Kestanelik-??a	1.30	13	*e*Pn	Pn	15 25 52.4	-0.2

*IDC **03** 15:40:15.5±0.9, 59°.12S×29°.15W, h0km, mb4.2/5, mb1 4.2/5, mb1mx4.0/14, mbtmp4.2/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/22, Error ellipse: s-maj=37.5km s-min=30.6km az=7.0*

ISC 03 15:40:17.1±0.8**, 59°.1S**±0°.2×**29°.2W**±0°.2**, h10**km**, n15,** σ**1s.01**/12**, mb4.4**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
VNA3	Neumayer Olymp	14.58	155	*e*Pn	P	15 43 48.5	-1.1
VNA2	Neumayer--Watz	14.89	152	*e*Pn	P	15 43 54.6	+1.6
	baz=314,slow=17						
PMSA	Palmer Station	17.16	236	LR	LR	15 49 15.0	
	comp=Z,146nm,20.9s,baz=58,slow=31						
BOSA	Boshof	47.80	75	P	P	15 48 53.5	-1.0
	2.7nm,0.8s,baz=229,slow=9.3,SNR=3.2						
BOSA				LR	LR	16 05 13.8	
	comp=Z,98nm,18.6s,baz=167,slow=31						
LPAZ	La Paz	51.36	309	P	P	15 49 21.9	-0.4
	1.6nm,0.5s,baz=155,slow=3.9,SNR=6.4						
DBIC	Dimbokro	68.40	26	P	P	15 51 18.7	0.0
	2.7nm,1.0s,baz=180,slow=6.5,SNR=2.6						
TORD	Torodi Ar. Bea	76.25	31	P	P	15 52 06.0	+0.5
	3.4nm,0.7s,baz=195,slow=6.2,SNR=23						
RAR	Rarotonga	90.28	225	LR	LR	16 28 56.5	
	comp=Z,13nm,21.0s,baz=100,slow=32						
ASAR	Alice Springs	96.37	164	P	P	15 53 45.3	-0.8
	0.3nm,0.7s,baz=159,slow=3.6,SNR=2.9						
BVAR	Borovoye Array	137.28	61	PKP	PKPdf	15 59 40.8	+1.5
	0.4nm,0.6s,baz=220,slow=3.8,SNR=3.6						
YKA	Yellowknife Ar	137.67	317	PKP	PKPdf	15 59 40.1	+0.5
	0.8nm,0.7s,baz=129,slow=2.3,SNR=17						
ZALV	Zalesovo Beam	144.61	69	PKP	PKPbc	15 59 51.2	0.0
	1.4nm,0.6s,baz=252,slow=3.7,SNR=11						
INK	Inuvik	147.41	318	PKPbc	PKPbc	15 59 58.5	-0.8
ILAR	Eielson Array	151.23	308	PKPbc	PKPbc	16 00 09.5	+0.5
	0.4nm,0.6s,baz=57,slow=14,SNR=12						
SONM	Songino Array	151.82	94	PKPbc	PKPbc	16 00 11.5	+0.5
	1.1nm,0.6s,baz=216,slow=2.7,SNR=14						

*ISCJB **03** 15:41:59.2±0.6, 6°.06S±0°.06×129°.8E±0°.1, h10km, mb3.6/4, Error ellipse: s-maj=16.9km s-min=8.2km az=167.2*
*IDC **03** 15:41:59.5±1.2, 6°.06S×129°.89E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.8/3, Error ellipse: s-maj=76.3km s-min=19.9km az=73.0*
*AUST **03** 15:42:02.9±0.0, 5°.84S×129°.81E, h148km, Error ellipse: s-maj=1.7km s-min=1.1km az=234.0*

ISC 03 15:41:59.5±0.8**, 6°.09S**±0°.06×**129°.91E**±0°.07**, h10**km**, n14,** σ**2s.64**/13**, mb3.9**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TLE	Tual	2.85	81	P	Pb	15 42 49.6	-1.0
	baz=2.9,SNR=7.0						
TLE				S	Sb	15 43 27.1	+1.5
	baz=2.9,SNR=4.7						
AAI	Ambon	2.93	324	P	Pn	15 42 46.2	-0.1
	baz=2.7,SNR=5.9						
SWI	Sorong	5.37	15	P	Pn	15 43 19.7	-0.1
	baz=5.2,SNR=30						
SWI				S	Sn	15 44 16.9	-4.7
	baz=5.2,SNR=4.0						
MTN	Manton Dam	6.82	170	P	Pn	15 43 44.7	+5.0
	baz=7.1,SNR=18						
KDU	Kakadu	7.03	159	P	Pn	15 43 46.2	+3.7
	baz=7.3,SNR=20						
PCI	Palu	11.29	297	S	Sn	15 46 54.1	+6.7
	baz=11,SNR=8.4						
FITZ	Fitzroy Crossi	12.64	199	Pn	Pn	15 45 00.6	+1.0
	0.3nm,0.3s,baz=28,slow=12,SNR=5.4						
FITZ				Sn	Sn	15 47 15.2	-5.3
	0.2nm,0.3s,baz=38,slow=11,SNR=3.7						
FITZ	Fitzroy Crossi	12.64	199	P	Pn	15 45 03.8	+4.2
	baz=13,SNR=4.1						
WRA	Warramunga Arr	14.43	163	Pn	Pn	15 45 23.6	-0.4
	0.4nm,0.3s,baz=348,slow=13,SNR=25						
WRA				Sn	Sn	15 47 58.0	-6.2
	0.3nm,0.3s,baz=342,slow=22,SNR=6.6						
ASAR	Alice Springs	17.89	168	P	P	15 46 09.5	+0.1
	0.5nm,0.3s,baz=348,slow=9.3,SNR=29						
STKA	Stephens Creek	27.89	158	P	P	15 47 52.7	+3.0
	2.3nm,0.8s,baz=333,slow=9.0,SNR=3.7						
SONM	Songino Array	57.56	341	P	P	15 51 50.8	+1.3
	0.1nm,0.5s,baz=170,slow=5.1,SNR=1.9						
MKAR	Makanchi Array	67.42	327	P	P	15 52 56.9	+1.5
	0.5nm,0.7s,baz=128,slow=8.1,SNR=5.7						
KURBB	Kurchatov Arra	71.69	328	P	P	15 53 22.8	+1.2
	0.8nm,0.8s,baz=129,slow=5.4,SNR=7.6						

NNC 03 15:43:26.9±5.0**, 38°.60N**×**71°.13E, h0**km**, mb3.6, mpv3.3, 2C-2D, Error ellipse: s-maj=47.9km s-min=39.9km az=178.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KK31	Karatay Array	4.53	354	Pn	Pn	15 44 36.5	-0.2
	1.8nm,0.3s,baz=179,slow=13,SNR=44						
KK31				⇓Lg	Lg	15 45 52.6	
	4.6nm,0.5s,baz=168,slow=30,SNR=3.6						
TKM2	Tokmak 2	5.49	37	⇑Pn	Pn	15 44 51.0	+0.8
	2.6nm,0.6s						
TKM2				⇓Lg	Lg	15 46 17.9	
	11nm,1.1s						
AB31	Akbulak array	13.34	327	⇑P	Pn	15 46 36.0	-1.5
	0.2nm,0.4s,baz=150,slow=11,SNR=6.8						

IDC 03 15:43:41.7±7.1**, 20°.95S**×**176°.98W, h148**km±61km**, mb3.6**/5**, mb1 3.9**/6**, mb1mx3.5**/20**, mbtmp3.7**/6**, Error ellipse: s-maj=109.0km s-min=19.2km az=154.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AFI	Afiamalu	8.59	36	P	Pn	15 45 45.0	+2.0
	3.8nm,0.3s,baz=356,slow=17,SNR=12						
AFI				S	Sn	15 47 15.6	-2.9
	1.7nm,0.3s,baz=58,slow=21,SNR=3.0						
CTA	Charters Tower	34.40	265	P	P	15 50 16.1	+1.1
	3.6nm,0.6s,baz=100,slow=14,SNR=4.9						
STKA	Stephens Creek	38.45	245	P	P	15 50 47.3	-2.0
	2.7nm,0.8s,baz=77,slow=9.1,SNR=3.4						
ASAR	Alice Springs	45.34	257	P	P	15 51 45.4	0.0
	1.8nm,0.7s,baz=88,slow=9.5,SNR=17						
WRA	Warramunga Arr	45.48	262	P	P	15 51 46.2	-0.3
	0.4nm,0.3s,baz=97,slow=8.2,SNR=19						
TXAR	Lajitas Array	86.50	57	P	P	15 56 08.5	+0.2
	0.8nm,0.9s,baz=199,slow=7.6,SNR=3.5						

*IDC **03** 16:04:06.9±13.0, 38°.61S×175°.40E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/15, mbtmp3.2/2, MS4.0/1, Ms1 3.9/1, ms1mx3.1/6, Error ellipse: s-maj=615.2km s-min=59.6km az=170.0*
*ISCJB **03** 16:04:37.9±0.5, 39°.45S±0°.05×174°.27E±0°.07, h266km±5km, mb2.8/2, Error ellipse: s-maj=9.7km s-min=5.3km az=38.1*
*WEL **03** 16:04:41.1±0.3, 39°.49S×174°.42E, h247km±2km, ML3.9/16, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0*

ISC 03 16:04:36.9±1.3**, 39°.41S**±0°.06×**174°.31E**±0°.07**, h268**km±7km**, n86,** σ**1s.41**/86**, 1C, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RAEZ	Rainy Point	0.14	28	PN	Pn	16 05 12.9	+1.5
DFE	Dawson Falls	0.18	297	PN	Pn	16 05 13.1	+1.7
NEZ	North Egmont	0.21	310	PN	Pn	16 05 13.3	+1.8
NRZ	Ngariki Road	0.30	284	PN	Pn	16 05 13.3	+1.8
PKE	Pukeiti	0.33	310	PN	Pn	16 05 13.2	+1.6
MHEZ	Mangahewa	0.33	2	PN	Pn	16 05 13.3	+1.7
NWEZ	Newall Road	0.37	291	PN	Pn	16 05 13.3	+1.7
VRZ	Vera Road	0.45	51	⇑PN	Pn	16 05 12.7	+0.9
VRZ				SN	S	16 05 38.1	-1.2
WAZ	Wanganui	0.63	124	PN	Pn	16 05 14.2	+1.9
PKVZ	Pokaka	0.81	82	PN	Pn	16 05 14.4	+1.3
MTVZ	Mangateitei	0.90	89	SN	S	16 05 40.9	-1.5
TRVZ	Turoa	0.97	84	PN	Pn	16 05 15.3	+1.3
TRVZ				SN	S	16 05 41.6	-1.7
FWVZ	Far West T-bar	0.98	81	PN	Pn	16 05 15.3	+1.2
FWVZ				SN	S	16 05 40.5	-2.9
WPVZ	Whakapapa	0.98	78	PN	Pn	16 05 15.2	+1.3
DRZ	Dome Shelter	0.98	83	PN	Pn	16 05 15.6	+1.4
HIZ	Hauiti	0.99	26	PN	Pn	16 05 14.8	+0.8
HIZ				SN	S	16 05 41.5	-1.7
WNVZ	Wahianoa	1.00	86	PN	Pn	16 05 15.5	+1.3
NGZ	Ngauruhoe	1.03	77	PN	Pn	16 05 15.5	+1.2
WTVZ	West Tongariro	1.04	74	PN	Pn	16 05 15.5	+1.2
TUVZ	Tukino	1.05	83	PN	Pn	16 05 15.9	+1.5
OTVZ	Oturere	1.08	77	PN	Pn	16 05 16.1	+1.5
KRVZ	Karewarewa	1.08	74	PN	Pn	16 05 15.7	+1.2
KATZ	Kakaramea	1.16	69	PN	Pn	16 05 16.4	+1.4
RITZ	Rihia Road	1.28	71	PN	Pn	16 05 17.0	+1.5
BHHZ	Black Hill Sta	1.36	94	PN	Pn	16 05 17.1	+1.0
BHHZ				SN	S	16 05 44.4	-2.7
DUWZ	D'Urville Isla	1.42	192	PN	Pn	16 05 17.9	+1.5
TSZ	Takapari Road	1.43	118	PN	Pn	16 05 18.2	+1.7
POWZ	Post Office Ro	1.49	132	PN	Pn	16 05 18.3	+1.4
KIW	Kapiti Island	1.52	163	PN	Pn	16 05 18.5	+1.4
PNHZ	Pukenui	1.54	110	PN	Pn	16 05 18.8	+1.5
OGWZ	Otaki Gorge	1.55	155	PN	Pn	16 05 18.8	+1.5
OGWZ				SN	S	16 05 47.8	-1.5
MRZ	Mangatainoka R	1.59	142	PN	Pn	16 05 18.8	+1.2
DVHZ	Dannevirke	1.68	122	PN	Pn	16 05 19.7	+1.4
BKZ	Black Stump Fm	1.71	83	PN	Pn	16 05 19.6	+1.0
HOWZ	Holdsworth Sta	1.75	149	PN	Pn	16 05 20.0	+1.2
WPHZ	Waipukurau	1.77	112	PN	Pn	16 05 20.6	+1.6
CAW	Cannon Point	1.79	161	PN	Pn	16 05 20.4	+1.3
TCW	Tory Channel	1.80	181	PN	Pn	16 05 20.6	+1.4
MCHZ	McNeill Hill	1.85	92	PN	Pn	16 05 21.7	+2.0
WEL	Wellington	1.91	170	PN	Pn	16 05 21.3	+1.3
SNZO	South Karori	1.92	171	PN	Pn	16 05 21.4	+1.2
NNZ	Nelson	1.94	201	PN	Pn	16 05 21.8	+1.4
BFZ	Birch Farm	1.96	131	PN	Pn	16 05 21.6	+1.1
NMHZ	Naumai	1.96	82	PN	Pn	16 05 22.5	+1.8
QRZ	Quartz Range	1.97	223	PN	Pn	16 05 21.6	+1.0
MTW	Mount Morrison	1.97	153	PN	Pn	16 05 21.8	+1.2
PRHZ	Porangahau	1.98	116	PN	Pn	16 05 22.4	+1.6
KAHZ	Kahuranaki	2.02	102	PN	Pn	16 05 23.0	+1.9
TUWZ	Tuamarina	2.04	188	PN	Pn	16 05 22.4	+1.2
BHW	Baring Head	2.04	168	PN	Pn	16 05 22.3	+1.2
PXZ	Pawanui	2.06	108	PN	Pn	16 05 22.9	+1.5
TARZ	Mount Tarawera	2.08	56	PN	Pn	16 05 22.6	+0.8
TMWZ	Te Maipa	2.08	145	PN	Pn	16 05 22.9	+1.3
MSWZ	Moikau Station	2.13	161	PN	Pn	16 05 23.1	+1.1
PAWZ	Paruwai Farm	2.15	157	PN	Pn	16 05 23.4	+1.2
CKHZ	Cape Kidnapper	2.15	98	PN	Pn	16 05 24.1	+1.9
RAHZ	Arahi	2.21	78	PN	Pn	16 05 24.1	+1.3
TRWZ	Traveller	2.25	153	PN	Pn	16 05 24.4	+1.3
PLWZ	Palliser	2.28	162	PN	Pn	16 05 24.5	+1.1
BSWZ	Blackbirch Sta	2.33	188	PN	Pn	16 05 25.1	+1.3
OPRZ	Ohinepanea	2.35	49	PN	Pn	16 05 24.7	+0.6
URZ	Urewera	2.47	63	PN	Pn	16 05 25.1	-0.1
THZ	Tophouse	2.58	204	PN	Pn	16 05 27.5	+1.1
KNZ	Kokohu	2.64	83	PN	Pn	16 05 28.0	+1.2
MWZ	Matawai	2.73	68	PN	Pn	16 05 28.2	+0.3
MHGZ	Mahia Peninsul	2.80	86	PN	Pn	16 05 30.0	+1.4
PRGZ	Paritu Road	2.82	81	PN	Pn	16 05 29.9	+1.2
DSZ	Denniston Nort	3.02	218	PN	Pn	16 05 31.4	+0.8
KHZ	Kahutara	3.06	191	PN	Pn	16 05 31.9	+0.9
KHZ				SN	S	16 06 12.3	-1.9
CNGZ	Carnagh Statio	3.18	74	PN	Pn	16 05 33.8	+1.4
PUZ	Puketiti	3.36	68	PN	Pn	16 05 34.6	+0.1
MXZ	Matakaoa Point	3.64	61	PN	Pn	16 05 37.5	+0.1
LTZ	Lake Taylor	3.71	204	PN	Pn	16 05 38.8	+0.6
WVZ	Waitaha Valley	4.55	215	PN	Pn	16 05 48.0	+0.2
RPZ	Rata Peaks	4.95	209	PN	Pn	16 05 52.9	+0.3
FOZ	Fox Glacier	5.41	218	PN	Pn	16 05 56.5	-1.6
LBZ	Lake Benmore	5.85	210	PN	Pn	16 06 03.7	+0.2
ODZ	Otahua Downs	6.25	205	PN	Pn	16 06 09.5	+1.1
WKZ	Wanaka	6.69	214	PN	Pn	16 06 13.2	-0.7
EAZ	Earnscleugh	6.90	211	PN	Pn	16 06 15.0	-1.4
TUZ	Tuapeka	7.39	206	PN	Pn	16 06 23.3	+0.7
WHZ	Wether Hill Ro	8.00	214	PN	Pn	16 06 29.1	-1.0
STKA	Stephens Creek	27.52	276	LR	LR	16 19 29.0	
	comp=Z,268nm,18.1s,baz=293,slow=33						
ASAR	Alice Springs	37.51	283	P	P	16 11 27.9	+2.3
	0.3nm,0.7s,baz=117,slow=5.9,SNR=9.8						
WRA	Warramunga Arr	39.38	288	P	P	16 11 43.5	+2.4
	0.4nm,1.0s,baz=123,slow=8.1,SNR=4.9						
ARCES	ARCESS Array B	145.59	341	PKPbc	PKPdf	16 23 43.9	+1.9
	4.3nm,1.0s,baz=62,slow=4.2,SNR=3.2						

IDC 03 16:07:04.5±6.7**, 15°.05S**×**167°.48E, h185**km±77km**, mb3.1**/5**, mb1 3.3**/6**, mb1mx3.2**/20**, mbtmp3.2**/6**, Error ellipse: s-maj=72.8km s-min=28.9km az=146.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DZM	Mont Dzumac	7.05	188	P	Pn	16 08 47.0	+1.4
	2.1nm,0.3s,baz=66,slow=20,SNR=32						
DZM				S	Sn	16 10 04.1	-1.4
	0.2nm,0.3s,baz=196,slow=23,SNR=2.6						
STKA	Stephens Creek	28.95	230	P	P	16 12 46.7	0.0
	5.3nm,1.1s,baz=81,slow=13,SNR=2.7						
WRA	Warramunga Arr	31.95	256	P	P	16 13 12.4	-0.8
	0.1nm,0.4s,baz=84,slow=8.6,SNR=5.5						
ASAR	Alice Springs	32.75	250	P	P	16 13 20.2	-0.1
	0.3nm,0.6s,baz=72,slow=9.8,SNR=8.2						
SONM	Songino Array	82.88	324	P	P	16 19 09.6	+1.1
	0.3nm,0.4s,baz=127,slow=3.8,SNR=8.3						
ILAR	Eielson Array	86.77	18	P	P	16 19 26.0	-1.4
	0.3nm,0.7s,baz=235,slow=5.6,SNR=4.3						

*ISCJB **03** 16:15:55.7±0.4, 37°.99N±0°.03×37°.88E±0°.04, h9km, Error ellipse: s-maj=5.6km s-min=3.8km az=35.2*
*ISK **03** 16:15:55.0, 38°.12N×37°.81E, h4km, MD2.9*
*DDA **03** 16:15:55.2, 37°.92N×37°.94E, h7km, MD3.3*
*CSEM **03** 16:15:55.3±0.2, 38°.06N×37°.83E, h2km, MD3.3, Error ellipse: s-maj=8.1km s-min=4.5km az=145.0*

ISC 03 16:15:55.1±0.8**, 37°.99N**±0°.03×**37°.86E**±0°.03**, h9**km**, n34,** σ**0s.55**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AKCD	Akcadag	0.31	10	*i* Pg	Pb	16 16 03.1	+0.1
AKCD				*i* S	Sb	16 16 08.9	+0.6
MALT	Malatya	0.56	54	PG	Pg	16 16 05.8	-0.1
MALT				SG	Sg	16 16 13.6	+0.3
MALT	Malatya	0.56	54	*i* Pg	Pg	16 16 05.8	-0.1
MALT				*i* Sg	Sg	16 16 13.6	+0.3
MYA	Malataya	0.56	53	PG	Pg	16 16 06.2	+0.1
MYA	Malataya	0.56	53	*i* Pg	Pg	16 16 06.2	+0.1
ATAB	Bozova	0.62	146	*i* Pg	Pg	16 16 05.8	-1.3
ATAB				*i* S	Sb	16 16 16.9	-0.1
KMRS	Kahramanmaras	0.90	238	*e*PG	Pb	16 16 13.1	+0.3
KMRS	Kahramanmaras	0.90	238	*e*Pg	Pb	16 16 13.1	+0.3
GAZ	Gaziantep	0.96	212	*e*PG	Pn	16 16 15.7	+0.9
GAZ	Gaziantep	0.96	212	*e*Pg	Pn	16 16 15.7	+0.9
ELZG	Elazig	1.02	60	*i* P	Pg	16 16 14.0	-0.8
ELZG	Elazig	1.02	60	*i* P	Pg	16 16 14.0	-0.8
SVRC	Sivrice-ELAZID	1.21	71	*e*PN	Pg	16 16 18.5	+0.2
SVRC	Sivrice-ELAZID	1.21	71	*e*Pn	Pg	16 16 18.5	+0.2
KUZU	Kuzuini	1.36	207	*e*P	Pn	16 16 20.4	+0.1
KUZU				*i* S	Sg	16 16 39.1	+0.3
KUZU	Kuzuini	1.36	207	*e*P	Pn	16 16 20.4	+0.1
KUZU				*i* S	Sg	16 16 39.1	+0.3
ILIC	ilic-Erzincan	1.57	21	*e*PN	Pn	16 16 23.2	0.0
ILIC	ilic-Erzincan	1.57	21	*e*Pn	Pn	16 16 23.2	0.0
KOZT	Kozan	1.69	253	*e*PN	Pb	16 16 26.7	+0.4
KOZT	Kozan	1.69	253	*e*Pn	Pb	16 16 26.7	+0.4
DIYA	Diyarbakir	1.79	91	*e*P	Pb	16 16 27.5	-0.6
DIYA	Diyarbakir	1.79	91	*e*P	Pb	16 16 27.5	-0.6
BNN	Bunyan	1.80	299	*e*PN	Pn	16 16 26.0	-0.4
BNN	Bunyan	1.80	299	*e*Pn	Pn	16 16 26.0	-0.4
DIY	Diyarbakir	1.88	92	*e*PN	Pb	16 16 29.6	0.0
DIY	Diyarbakir	1.88	92	*e*Pn	Pb	16 16 29.6	0.0
EZC	Erzincan	2.12	33	*e*Pn	Pb	16 16 32.6	-1.1
ERZN	Erzincan	2.16	42	*e*PN	Pn	16 16 32.6	+1.1
HTY	Hatay	2.31	217	*e*PN	Pb	16 16 36.6	-0.4
HTY	Hatay	2.31	217	*e*Pn	Pb	16 16 36.6	-0.4
YOZ	Yozgat	2.58	311	*e*PN	Pn	16 16 36.6	-0.6
YOZ	Yozgat	2.58	311	*e*Pn	Pn	16 16 36.6	-0.6
BTMT	Batman	2.87	85	*e*PN	Pn	16 16 41.7	+0.5
BTMT	Batman	2.87	85	*e*Pn	Pn	16 16 41.7	+0.5

*IDC **03** 16:21:46.9±0.5, 31°.84N×104°.98E, h0km, mb4.6/29, mb1 4.7/32, mb1mx4.6/37, mbtmp4.6/32, ML4.0/3, MS3.8/18, Ms1 3.8/18, ms1mx3.7/38, Error ellipse: s-maj=13.9km s-min=10.5km az=37.0*
*ISCJB **03** 16:21:46.5±0.9, 31°.80N±0°.02×104°.97E±0°.02, h8km±5km, mb4.9/136, MS3.9/22, Error ellipse: s-maj=3.9km s-min=3.4km az=170.0*
*BJI **03** 16:21:48.7, 31°.90N×104°.85E, h25km, mB4.7/25, mb4.7/35, ML4.5/21, Ms4.7/48, Ms7 4.3/42*
*NEIC **03** 16:21:48.6±0.2, 31°.80N×104°.79E, h10km, mb5.1/66, Error ellipse: s-maj=5.1km s-min=3.9km az=6.0*
NEIC Felt at Chengdu and Mianyang.
*TEH **03** 16:21:48.0, 31°.77N×104°.95E, h10km, ML5.0*
*DJA **03** 16:21:50.4±0.7, 32°N±9°×10°5E±1°0, h10km, M5.0/9, mB5.8/1, mb5.0/9, Mw(mB)5.4/1*
*MOS **03** 16:21:50.0±0.8, 31°.81N×105°.07E, h33km, mb5.2/76, Error ellipse: s-maj=7.8km s-min=3.9km az=122.6*
*SZGRF **03** 16:21:55.8, 31°.70N×104°.30E, h33km, mb5.2, Sichuan, China*

ISC 03 16:21:49.9±0.5**, 31°.78N**±0°.03×**104°.97E**±0°.03**, h19**km±1km**, h18**km**:pP-P, n443,** σ**1s.36**/482**, mb5.0**/139**, MS3.9**/22**, 32C-27D, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CD2	Chengdu	1.35	231	⇑Pg	Pn	16 22 13.3	-0.6
CD2				Sg	Sg	16 22 33.2	-0.5
CD2				smax	smax		
	comp=N,23μm,0.7s						
CD2				smax	smax		
	comp=E,20μm,0.5s						
XAN	Xi'an	4.01	55	Pn	Pn	16 22 50.0	-0.5
XAN				Pg	Pb	16 23 00.5	+0.4
XAN				Sn	Sn	16 23 39.7	+2.6
XAN				Sg	Sb	16 23 51.0	+2.7
XAN				smax	smax		
	comp=N,3μm,0.8s						
XAN				smax	smax		
	comp=E,1μm,0.8s						
XAN				LR	LR		
	comp=N,6μm,6.5s						
XAN				LR	LR		
	comp=E,1μm,5.3s						
XAN				LR	LR		
	comp=Z,2μm,5.3s						
ENH	Enshi	4.16	110	*e*Pn	Pn	16 22 54.0	+1.6
LZH	Lanzhou	4.40	348	*e*Pn	Pn	16 22 56.7	+0.8
LZH				Pg	Pb	16 23 08.3	+1.6
LZH				Sn	Sn	16 23 52.2	+5.5
LZH				Sg	Sb	16 24 03.5	+4.0
LZH				smax	smax		
	comp=N,4μm,1.0s						
LZH				smax	smax		
	comp=E,3μm,1.2s						
LZH				LR	LR		
	comp=N,11μm,7.0s						
LZH				LR	LR		
	comp=E,4μm,4.7s						
LZH				LR	LR		
	comp=Z,9μm,7.4s						
GYA	Guiyang	5.50	164	⇑*i*Pn	Pn	16 23 12.3	+1.3
GYA				Pg	Pb	16 23 25.8	+0.3
GYA				Sn	Sn	16 24 18.5	+4.6
GYA				Sg	Sg	16 24 47.2	+0.6
GYA				smax	smax		
	comp=N,1μm,0.9s						
GYA				smax	smax		
	comp=E,2μm,1.0s						
GYA				LR	LR		
	comp=E,2μm,3.7s						
GYA				LR	LR		
	comp=Z,3μm,4.9s						
KMI	Kunming	6.91	197	Pn	Pn	16 23 32.6	+2.1
KMI				Sn	Sn	16 24 51.0	+2.2
KMI				smax	smax		
	comp=N,170nm,0.9s						
KMI				smax	smax		
	comp=E,140nm,0.8s						
KMI				LR	LR		
	comp=N,1μm,5.8s						
KMI				LR	LR		
	comp=E,4μm,6.6s						
KMI				LR	LR		
	comp=Z,2μm,8.5s						
WHN	Wuhan	8.13	96	P	Pn	16 23 46.0	-0.9
WHN				S	Sn	16 25 14.9	-3.4
WHN				LR	LR		
	comp=N,8μm,5.2s						
WHN				LR	LR		
	comp=E,5μm,5.8s						
GTA	Gaotai	8.70	333	⇓P	Pn	16 23 53.6	-1.2
GTA				pP		16 23 57.5	
GTA				sP		16 24 00.2	
GTA				S	Sn	16 25 32.1	-0.3
GTA				pmax	pmax		
	comp=Z,21nm,0.8s						
GTA				LR	LR		
	comp=N,2μm,10.0s						
GTA				LR	LR		
	comp=E,2μm,7.4s						
GTA				LR	LR		
	comp=Z,2μm,10.5s						
HHC	Hu-ho-hao-te	10.49	29	*e*P	Pn	16 24 19.5	0.0
HHC				PP	PnPn	16 24 28.0	+0.8
HHC				S	Sn	16 26 17.7	+1.1
HHC				PcS	PcS	16 33 55.0	-2.4
HHC				ScS	ScS	16 37 28.4	-1.9
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
HHC				LR	LR		
	comp=N,2μm,8.6s						
HHC				LR	LR		
	comp=E,2μm,8.5s						
HHC				LR	LR		
	comp=Z,1μm,8.8s						
TIA	Tai'an	11.01	63	*e*P	Pn	16 24 24.6	-1.8
TIA				LR	LR		
	comp=N,1μm,12.7s						
TIA				LR	LR		
	comp=E,700nm,7.4s						
TIA				LR	LR		
	comp=Z,400nm,5.4s						
GZH	Guangzhou	11.41	137	P	Pn	16 24 28.4	-3.5
GZH				S	Sn	16 26 29.8	-9.0
GZH				LR	LR		
	comp=N,2μm,3.4s						
GZH				LR	LR		
	comp=E,2μm,5.8s						
NJ2	Nanjing	11.80	85	*e*P	Pn	16 24 36.0	-1.2
NJ2				pP		16 24 45.8	
NJ2				sP		16 24 49.8	
NJ2				S	Sn	16 26 49.5	+1.1

NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 LR LR
comp=N,2μm,18.7s
NJ2 LR LR
comp=E,910nm,13.8s
NJ2 LR LR
comp=Z,1μm,16.0s
LSA Lhasa 12.07 264 P **Pn** 16 24 41.4 0.0
BJI Beijing 12.26 45 P **Pn** 16 24 43.5 +0.1
BJI pmax pmax
comp=Z,10.0nm,0.5s
BJI LR LR
comp=N,2μm,7.8s
BJI LR LR
comp=E,2μm,9.2s
QIZ Qiongzhong 13.43 160 P **Pn** 16 24 59.4 -0.2
QIZ S **Sn** 16 27 30.0 +1.5
QIZ pmax pmax
comp=Z,17nm,1.9s
QIZ LR LR
comp=N,2μm,12.0s
QIZ LR LR
comp=Z,2μm,11.4s
QZH Quanzhou 13.78 116 *e*P **P** 16 25 11.1 -1.6
QZH *e*S Sn 16 27 43.6 +6.7
QZH LR LR
comp=N,4μm,8.8s
QZH LR LR
comp=E,3μm,7.1s
QZH LR LR
comp=Z,4μm,8.2s
CHTO Chiang Mai 14.01 204 *e*P **Pn** 16 25 08.1 +0.6
CHTO Chiang Mai 14.01 204 *e*Pn **Pn** 16 25 08.1 +0.6
CHTO Chiang Mai 14.01 204 P **Pn** 16 25 09.6 +2.1
comp=Z,9.1nm,0.7s
CMAR Chiang Mai Arr 14.34 204 Pn **Pn** 16 25 12.9 +0.9
comp=Z,0.2nm,0.3s,baz=13,slow=11,SNR=36
CMAR Lg Lg 16 29 34.6
comp=Z,0.0nm,0.3s,baz=13,slow=25,SNR=2.0
CMAR LR LR 16 31 33.0
comp=Z,227nm,21.1s,baz=179,slow=41
CMAR Chiang Mai Arr 14.34 204 Pn **Pn** 16 25 12.9 +0.9
CMAR Lg Lg 16 29 34.6
DL2 Dalian 15.33 58 P **Pn** 16 25 26.2 +1.0
DL2 S **Sn** 16 28 19.5 +5.0
DL2 pmax pmax
comp=Z,10.0nm,1.1s
DL2 pmax pmax
comp=Z,120nm,4.1s
TAPN Taplejung 15.65 258 *e*P **Pn** 16 25 27.0 -2.8
comp=Z,72nm,1.2s
TAPN Taplejung 15.65 258 *e*P **Pn** 16 25 27.0 -2.8
comp=Z,72nm,1.2s
SONM Songino Array 16.07 3 Pn **Pn** 16 25 34.1 -0.8
comp=Z,0.2nm,0.3s,baz=187,slow=14,SNR=35
SONM Lg Lg 16 30 04.0
comp=Z,0.1nm,0.3s,baz=189,slow=26,SNR=3.1
SONM LR LR 16 32 18.7
comp=Z,761nm,19.3s,baz=353,slow=40
SONM Songino Array 16.07 3 Pn **Pn** 16 25 34.1 -0.8
SONM Lg Lg 16 30 04.0
ODAN Odare 16.10 257 *e*P **Pn** 16 25 31.4 -4.1
comp=Z,52nm,0.9s
ODAN Odare 16.10 257 *e*P **Pn** 16 25 31.4 -4.1
comp=Z,52nm,0.9s
SSLB Suanglung 16.22 115 *e*Pn **P** 16 25 40.0 +0.1
comp=Z,151nm,0.9s
TPUB Ta-pu 16.24 117 *e*Pn **P** 16 25 41.4 +1.3
comp=Z,42nm,0.8s
NACB Ninganchiao 16.51 113 *e*Pn **P** 16 25 45.2 +2.1
comp=Z,63nm,1.0s
RAMN Ramite 16.72 258 *e*P **Pn** 16 25 39.6 -3.8
comp=Z,84nm,1.2s
RAMN Ramite 16.72 258 *e*P **Pn** 16 25 39.6 -3.8
comp=Z,84nm,1.2s
JIRN Jiri 16.82 261 *e*P **Pn** 16 25 41.8 -3.0
comp=Z,6.5nm,0.6s
JIRN Jiri 16.82 261 *e*P **Pn** 16 25 41.8 -3.0
comp=Z,6.5nm,0.6s
GUN Gumba 17.01 262 *e*P **Pn** 16 25 44.7 -2.4
comp=Z,99nm,1.0s
GUN Gumba 17.01 262 *e*P **Pn** 16 25 44.7 -2.4
comp=Z,99nm,1.0s
PKI Pulchoki 17.51 261 *e*P **Pn** 16 25 50.4 -3.0
comp=Z,65nm,0.8s
PKI Pulchoki 17.51 261 *e*P **Pn** 16 25 50.4 -3.0
PKI pmax pmax
comp=Z,65nm,0.8s
PKI Pulchoki 17.51 261 *e*P **Pn** 16 25 50.4 -3.0
comp=Z,65nm,0.8s
KKN Kakani 17.55 262 *e*P **Pn** 16 25 51.2 -2.6
comp=Z,46nm,0.9s
KKN Kakani 17.55 262 *e*P **Pn** 16 25 51.2 -2.6
KKN pmax pmax
comp=Z,46nm,0.9s
KKN Kakani 17.55 262 *e*P **Pn** 16 25 51.2 -2.6
comp=Z,46nm,0.9s
DMN Daman 17.75 262 *e*P **Pn** 16 25 53.3 -3.0
comp=Z,94nm,0.9s
DMN Daman 17.75 262 *e*P **Pn** 16 25 53.3 -3.0
comp=Z,94nm,0.9s
SNY Shenyang 17.93 51 ⇓P **P** 16 25 59.7 +1.1
SNY S **Sn** 16 29 16.0 -1.5
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY pmax pmax
comp=Z,290nm,4.9s
SNY LR LR
comp=N,610nm,16.5s
SNY LR LR
comp=E,270nm,14.5s
SNY LR LR
comp=Z,320nm,10.8s
GKN Gorkha 18.03 263 *e*P **Pn** 16 25 57.0 -2.6
comp=Z,25nm,0.6s
GKN Gorkha 18.03 263 *e*P **Pn** 16 25 57.0 -2.6
comp=Z,25nm,0.6s
WMQ Urumqi 18.15 316 *e*P **P** 16 26 01.4 +0.2
WMQ sP **sP** 16 26 07.5 -1.3
WMQ PP **PnPn** 16 26 16.7 +4.5
WMQ S **Sn** 16 29 21.4 -1.6
WMQ sS **S** 16 29 26.6 -1.7
WMQ SS **SnSn** 16 29 43.8 +7.1
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=N,1μm,12.0s
WMQ LR LR
comp=E,900nm,11.0s
ZAK Zakamensk 18.63 357 ⇓*i*P **Pn** 16 26 07.6 +0.8
ZAK pmax pmax
comp=Z,6.0nm,1.4s
DANN Dangsing 18.67 265 *e*P **P** 16 26 04.8 -2.5
comp=Z,28nm,0.6s
DANN Dangsing 18.67 265 *e*P **P** 16 26 04.8 -2.5
comp=Z,28nm,0.6s
KOLN Koldanda 18.97 263 *e*P **P** 16 26 07.0 -3.5
comp=Z,26nm,0.7s
KOLN Koldanda 18.97 263 *e*P **P** 16 26 07.0 -3.5
comp=Z,26nm,0.7s
PYUN Piuthan 19.39 265 *e*P **P** 16 26 12.4 -2.7
comp=Z,69nm,0.9s
PYUN Piuthan 19.39 265 *e*P **P** 16 26 12.4 -2.7
comp=Z,69nm,0.9s
KSAR Wonju Array Be 19.67 67 P **Pn** 16 26 18.6 -0.7
KSRS Korea Array 19.70 67 P **P** 16 26 18.6 +0.4
comp=Z,2.2nm,0.3s,baz=254,slow=10,SNR=50
KSRS LR LR 16 34 33.1
comp=Z,84nm,18.8s,baz=275,slow=39
TLY Talaya 19.91 358 *e*P **P** 16 26 21.0 +0.6
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 19.91 358 *e*P **Pn** 16 26 21.3 -0.8
comp=Z,4.3nm,0.9s
CN2 Changchun 20.09 48 *e*P **P** 16 26 23.0 +0.7
CN2 *ep*P **pP** 16 26 27.0 -0.6
CN2 *es*P **sP** 16 26 30.0 0.0
CN2 *e*S **S** 16 30 02.2 -5.0
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
MOY Mondy 20.09 353 *e*P Pn 16 26 26.3 +2.0
MOY pmax pmax
comp=Z,23nm,1.8s
IRK Irkutsk 20.46 359 *e*P **P** 16 26 26.9 +0.6
IRK pmax pmax
comp=Z,46nm,1.7s
HVS Khovu-Aksy 21.06 340*c i*P **P** 16 26 33.2 +0.3
HVS pmax pmax
comp=Z,117nm,1.0s
JNU Nakatsue 21.89 80 P **P** 16 26 41.8 -0.1
comp=Z,22nm,0.7s,baz=302,slow=4.3,SNR=15
JNU LR LR 16 34 25.6
comp=Z,94nm,21.0s,baz=249,slow=35
JNU Nakatsue 21.89 80 *e*P **P** 16 26 41.9 0.0
MK31 Makanchi Array 22.97 317*ce*P **P** 16 26 52.7 -0.6
MK31 pmax pmax
comp=Z,18nm,0.6s
MKAR Makanchi Array 22.97 317 P **P** 16 26 53.3 0.0
comp=Z,31nm,1.0s,baz=113,slow=9.3,SNR=80
MKAR LR LR 16 36 42.2
comp=Z,513nm,19.7s,baz=141,slow=39
MKAR Makanchi Array 22.97 317 *i*P **P** 16 26 53.2 0.0
MKAR pmax pmax
comp=Z,31nm,1.0s
MKAR Makanchi Array 22.97 317 P **P** 16 26 53.3 0.0
MDJ Mudanjiang 23.11 49 P **P** 16 26 55.2 +0.6
MDJ pP **pP** 16 26 58.1 -1.9
MDJ S **S** 16 31 07.0 +2.1
MDJ PcS **PcS** 16 34 21.7 -0.4
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,80nm,5.0s
MDJ LR LR
comp=N,320nm,14.1s
MDJ LR LR
comp=E,150nm,13.1s
USRK Ussuriysk Arra 24.53 52 P **P** 16 27 08.8 +0.6
comp=E,7.3nm,0.8s,baz=241,slow=8.7,SNR=11
KSH Kashi 24.72 296 P **P** 16 27 13.7 +3.5
KSH pP **pP** 16 27 17.0 +1.1
KSH PP PnPn 16 27 50.5 +8.3
KSH PcP **PcP** 16 30 50.0 +3.1
KSH S **S** 16 31 33.6 +2.2
KSH sS **sS** 16 31 40.0 -0.7
KSH ScP **ScP** 16 34 26.0 +1.2
KSH PcS **PcS** 16 34 28.1 +1.1
KSH ScS **ScS** 16 38 13.0 +0.1
KSH pmax pmax
comp=Z,34nm,1.1s
KSH pmax pmax
comp=Z,220nm,5.9s
KSH LR LR
comp=N,310nm,5.8s
KSH LR LR
comp=E,200nm,8.1s
KSH LR LR
comp=Z,400nm,6.5s
THN Thein Dam 24.76 279 *e*P **P** 16 27 09.3 -1.1
ULHL Ulahol 25.10 303 *i*P **P** 16 27 14.9 +1.2
ULHL Ulahol 25.10 303 P **P** 16 27 14.9 +1.2
SNR=25
TKM2 Tokmak 2 25.74 304 *i*P **P** 16 27 20.7 +1.2
TKM2 Tokmak 2 25.74 304 P **P** 16 27 20.8 +1.2
SNR=9.7
KZA Kyzart 25.77 302 *i*P **P** 16 27 22.1 +2.1
KZA Kyzart 25.77 302 P **P** 16 27 22.1 +2.1
SNR=13
KBK Karagaybulak 26.13 303 *i*P **P** 16 27 24.4 +1.4
KBK Karagaybulak 26.13 303 P **P** 16 27 24.4 +1.4
SNR=15
AAK Ala-Archa 26.45 303 P **P** 16 27 26.3 +0.4
comp=Z,2.6nm,0.6s,baz=111,slow=7.5,SNR=15
AAK LR LR 16 38 51.9
comp=Z,312nm,19.8s,baz=83,slow=39
AAK Ala-Archa 26.45 303 P **P** 16 27 26.3 +0.4
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK MLR MLR
comp=Z,312nm,19.8s
AAK Ala-Archa 26.45 303 P **P** 16 27 26.3 +0.4
ZALV Zalesovo Beam 26.45 333 P **P** 16 27 24.9 -0.6
comp=Z,4.7nm,0.5s,baz=127,slow=9.4,SNR=38
ZALV LR LR 16 38 01.5
comp=Z,116nm,19.9s,baz=243,slow=37
ZALV Zalesovo Beam 26.45 333 P **P** 16 27 24.9 -0.6
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV MLR MLR
comp=Z,116nm,19.9s
ZALV Zalesovo Beam 26.45 333 P **P** 16 27 24.9 -0.6
KLR Kul'dur 26.59 41 *e*P **P** 16 27 23.7 -3.2
KLR pmax pmax
comp=Z,50nm,1.6s
USP Ospenovka 26.61 304 *i*P **P** 16 27 28.5 +1.4
USP Ospenovka 26.61 304 P **P** 16 27 28.5 +1.4
SNR=15
BOD Bodaibo 26.77 11 *e*P **P** 16 27 28.1 -0.2
BOD pmax pmax
comp=Z,9.0nm,1.2s
AML Almayashu 26.91 301 *i*P **P** 16 27 31.1 +0.8
AML Almayashu 26.91 301 P **P** 16 27 31.1 +0.8
SNR=12
EKS2 Erkin-Say 26.97 303 *e*P **P** 16 27 29.8 -0.7
EKS2 pmax pmax
comp=Z,48nm,2.5s
EKS2 Erkin-Say 26.97 303 *e*P **P** 16 27 29.8 -0.7
comp=Z,48nm,2.5s
KURBB Kurchatov Arra 27.16 322 P **P** 16 27 32.4 +0.4
comp=Z,8.1nm,1.0s,baz=128,slow=9.7,SNR=62
KURBB PcP **PcP** 16 30 51.0 -1.1
comp=Z,1.7nm,0.7s,baz=114,slow=1.9,SNR=5.9
KURBB LR LR 16 38 55.3
comp=Z,277nm,19.2s,baz=130,slow=38
KURK Kurchatov 27.16 322*ce*P **P** 16 27 32.9 +0.9
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 27.16 322 *e*P **P** 16 27 32.0 0.0
comp=Z,20nm,1.3s
KURK PcP **PcP** 16 30 51.0 -1.1
KURK Kurchatov 27.16 322 P **P** 16 27 32.4 +0.4
comp=Z,70nm,1.3s,SNR=10
NVS Novosibirsk 27.74 333 *e*P **P** 16 27 35.4 -1.7
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.4s
NVS pmax pmax
comp=Z,9.0nm,1.4s
MAT Matsushiro 27.82 71 P **P** 16 27 37.1 -1.0
MJAR Matsushiro Arr 27.83 71 P **P** 16 27 37.6 -0.5
comp=Z,5.1nm,0.8s,baz=272,slow=11,SNR=17
MJAR LR LR 16 38 07.9
comp=Z,41nm,20.6s,baz=200,slow=35
MJAR Matsushiro Arr 27.83 71 P **P** 16 27 37.6 -0.5
HABR Khabarovsk 28.16 45 P **P** 16 27 39.4 -1.5
HABR 16 30 52.9
HABR S **S** 16 32 22.9 -2.4
HABR *e**SS **sS** 16 32 39.1 +4.4
HABR *e*SS **SnSn** 16 33 40.8 -0.7
HABR *e* 16 38 23.9
HABR MLR MLR
comp=Z,105nm,13.0s
TSI Tuntungan 28.77 193 P **P** 16 27 48.0 +1.4
comp=Z,81nm,0.8s,comp=Z,1μm
JHJ Hachijo jima 2 29.33 78 LR LR 16 40 30.6
comp=Z,142nm,19.6s,baz=55,slow=38
MYLDM Lahad Datu 29.34 152 P P 16 27 55.3 +3.6
comp=Z,36nm,1.1s
PSI Prapat 29.38 192 P **P** 16 27 53.1 +0.9
comp=Z,13nm,0.7s,baz=344,slow=9.5,SNR=17
PSI LR LR 16 40 39.1
comp=Z,223nm,19.9s,baz=346,slow=38
PSI Prapat 29.38 192 P **P** 16 27 53.1 +0.9
KK31 Karatay Array 29.41 302*ce*P **P** 16 27 52.9 +0.7
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 29.41 302 *e*P **P** 16 27 52.2 0.0
KKAR Karatay Array 29.41 302 *e*P **P** 16 27 52.2 0.0
ASAJ Asahikawa 31.85 56 P **P** 16 28 13.4 -0.3
comp=Z,4.8nm,0.5s,baz=267,slow=28,SNR=4.7
ASAJ Asahikawa 31.85 56 P **P** 16 28 13.4 -0.3
RGRI Rengat 32.05 185 P P 16 28 26.0 +10
VOSK Vostochnaya 32.28 320 P **P** 16 28 17.2 -0.1
VOSK pmax pmax
comp=Z,8.0nm,1.3s
BVAR Borovoye Array 32.73 321 P **P** 16 28 21.0 -0.3
comp=Z,1.9nm,0.7s,baz=114,slow=8.7,SNR=11
BVAR Borovoye Array 32.73 321 P **P** 16 28 21.0 -0.3
BVAR Borovoye Array 32.73 321 P **P** 16 28 21.0 -0.3
BRVK Borovoye 32.80 321*ce*P **P** 16 28 23.0 +1.1
BRVK pmax pmax
comp=Z,19nm,2.5s
BRVK Borovoye 32.80 321 *e*P **P** 16 28 22.1 +0.2
comp=Z,16nm,1.5s
ZRNK Zerenda 33.45 320 *i*P **P** 16 28 27.6 0.0
ZRNK pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 34.22 21 *e*P **P** 16 28 33.1 -0.9
YAK *e**PP **pP** 16 28 42.1 +2.4
YAK *e* 16 29 47.6
YAK *e*PPP PPP 16 30 01.9
YAK *e* 16 31 08.8
YAK *e*S **S** 16 34 00.6 +1.0
YAK *e*SS **SnSn** 16 36 06.4 -2.0
YAK *e* 16 38 53.6
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,1.3s
YAK pmax pmax
comp=E,14nm,1.6s
YAK pmax pmax
comp=N,37nm,2.5s
YAK smax smax
comp=N,150nm,5.3s
YAK smax smax
comp=E,73nm,4.6s
YAK MLR MLR
comp=Z,209nm,13.0s
YAK MLR MLR
comp=E,71nm,11.0s
YAK MLR MLR
comp=N,134nm,11.0s
ISRO Mashad 37.71 290 *e*P **P** 16 29 05.4 +0.9
AB31 Akbulak array 37.79 311*ce*P **P** 16 29 04.8 0.0
AB31 pmax pmax
comp=Z,7.0nm,0.5s
IDAH Dahanechah 37.94 284 *e*P **P** 16 29 06.7 +0.1
IKRD Kardeh 38.42 291 *e*P P 16 29 04.1 -6.6
ABKT Ailbek 38.62 292 P **P** 16 29 13.5 +1.5
comp=Z,141nm,1.0s,SNR=6.6
ITEG Tejag 38.83 284 *e*P **P** 16 29 13.9 -0.2
KAPI Kappang 39.20 156 *e*P **P** 16 29 16.7 -0.3
comp=Z,56nm,1.7s
KAPI Kappang 39.20 156 P **P** 16 29 17.7 +0.7
comp=Z,17nm,1.2s
SVE Sverdlovsk 39.41 323 ⇓*i*P **P** 16 29 19.7 +1.4
SVE pmax pmax
comp=Z,24nm,1.1s
ARU Arti 40.36 322*di*P **P** 16 29 26.8 +0.5
ARU S **S** 16 35 34.0 +0.8
ARU SS **SS** 16 38 29.4 -2.5
ARU pmax pmax
comp=Z,38nm,1.2s
ARU Arti 40.36 322 *e*P **P** 16 29 26.5 +0.2
comp=Z,26nm,0.9s
ARU Arti 40.36 322 P **P** 16 29 26.2 -0.1
comp=Z,180nm,0.9s,SNR=12
SOKR Solikamsk 42.26 326 ⇑*i*P **P** 16 29 42.9 +1.2
SOKR pmax pmax
comp=Z,20nm,1.1s
IKIA Kiasar 42.35 290 *e*P **P** 16 29 42.6 -0.6
SEY Seymchan 43.14 30 *e*P **P** 16 29 47.9 -1.0
PETK Petropavlovsk- 43.19 45 P **P** 16 29 48.4 -1.1
comp=Z,1.8nm,0.7s,baz=242,slow=2.7,SNR=6.1
PETK LR LR 16 48 59.5
comp=Z,72nm,18.5s,baz=62,slow=38
PETK Petropavlovsk- 43.19 45 P **P** 16 29 48.4 -1.1
PETK pmax pmax
comp=Z,2.0nm,0.7s
PETK MLR MLR
comp=Z,72nm,18.5s
PETK Petropavlovsk- 43.19 45 P **P** 16 29 48.4 -1.1
ISFB Sefidab 43.86 288 *e*P **P** 16 29 55.4 +0.2
IZEF Zefreh 44.11 286 *e*P **P** 16 29 57.6 +0.2
IPIR Pirpir 45.33 286 *e*P **P** 16 30 08.6 +1.3
IRAZ Razeghan 45.50 290 *e*P P 16 30 03.9 -4.6
ZEI Tsey 48.86 301 *e*P **P** 16 30 35.2 +0.6
ZEI pmax pmax
comp=Z,6.0nm,0.9s
MIB Mutribah 49.05 284 *e*P **P** 16 30 35.4 -0.6
MIB AMb AMB 16 30 38.0
comp=Z,58nm,1.0s
RDF Al-Radifah 49.14 282 *e*P **P** 16 30 36.3 -0.3
RDF AMb AMB 16 30 39.1
comp=Z,59nm,1.0s
NAY Al-Naaiem 49.30 283 *e*P **P** 16 30 36.9 -0.9
NAY AMb AMB 16 30 39.8
comp=Z,47nm,0.9s
KBZ Khabaz 49.45 303 P **P** 16 30 39.6 +0.9
comp=Z,5.8nm,0.8s,baz=148,slow=5.8,SNR=11
KBZ LR LR 16 54 24.1
comp=Z,186nm,18.8s,baz=289,slow=40
KBZ Khabaz 49.45 303 P **P** 16 30 39.7 +0.9
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ MLR MLR
comp=Z,186nm,18.8s
KBZ Khabaz 49.45 303 P **P** 16 30 39.6 +0.9
KIV Kislovodsk 49.57 303 *e*P **P** 16 30 41.2 +1.4
KIV pmax pmax
comp=Z,24nm,0.9s
KIV MLR MLR
comp=Z,101nm,16.0s
KIV Kislovodsk 49.57 303 *e*P **P** 16 30 38.5 -1.3
comp=Z,36nm,1.2s
VRHR Novokhopersk 49.64 312 *e*P **P** 16 30 39.3 -0.8
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,30nm,0.9s
KLMR Klimovskoe 50.94 325 *e*P **P** 16 30 47.9 -1.9
KLMR pmax pmax
comp=Z,63nm,1.6s
VORD Divnogorie 51.11 312 *e*P **P** 16 30 50.5 -0.7
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,7.0nm,0.6s
VSR Storozhevoye 51.17 313 *e*P **P** 16 30 50.9 -0.8
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.8s
MOS Moscow 51.85 318 *e*P P 16 30 53.5 -3.2
MOS pmax pmax
comp=Z,62nm,1.0s
OBN Obninsk 52.48 318 ⇑*e*P **P** 16 31 01.7 +0.3
OBN *e* 16 31 11.7
OBN 16 32 13.0
OBN pmax pmax
comp=Z,33nm,1.2s
OBN MLR MLR
comp=Z,200nm,18.0s
FX1 Attu Island--F 52.51 45 P **P** 16 31 01.9 +0.3
comp=Z,11nm,0.7s,baz=150,slow=10,SNR=4.7
FX1 Attu Island--F 52.51 45 P **P** 16 31 01.9 +0.3
ANN Anapa 53.15 305 *e**PP P 16 31 00.0 -6.5
ANN pmax pmax
comp=Z,43nm,1.0s
APA Apatity 54.04 333 ⇑*e*P **P** 16 31 13.8 +1.2
APA MLR MLR
comp=Z,1μm,11.0s
JOF Joensuu 54.86 328 *e*P **P** 16 31 18.4 -0.3
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 54.86 328 *ep* **P** 16 31 18.4 -0.3
comp=Z,4.4nm,0.7s

KEV Kevo 56.42 336 *e*P P **16 31 28.6 -1.2**
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 56.42 336 *e*p P **16 31 28.6 -1.2**
comp=Z,9.2nm,0.6s
ARCES ARCESS Array B 56.95 336 P P **16 31 32.7 -0.9**
comp=Z,4.9nm,0.7s,baz=356,slow=7.8,SNR=15
ARCES LR LR 16 58 03.4
comp=Z,63nm,20.8s,baz=51,slow=38
ARCES ARCESS Array B 56.95 336 P P **16 31 32.7 -0.9**
BRTR Keskin Array B 57.06 299 P P **16 31 34.5 -0.5**
comp=Z,4.4nm,0.9s,baz=98,slow=6.4,SNR=23
BRTR Keskin Array B 57.06 299 P P **16 31 34.5 -0.5**
FINES FINESS Array B 57.42 326 P P **16 31 36.4 -0.6**
comp=Z,9.8nm,0.8s,baz=86,slow=7.8,SNR=20
FINES FINESS Array B 57.42 326 P P **16 31 36.4 -0.6**
AKASG Malin Array Be 57.47 313 P P **16 31 36.8 -0.8**
comp=Z,11nm,0.7s,baz=70,slow=6.4,SNR=21
AKASG Malin Array Be 57.47 313 *i* P P **16 31 37.5 0.0**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 57.47 313 P P **16 31 36.8 -0.8**
KIEV Kiev 57.48 313*d* *i*P P **16 31 37.5 -0.1**
VSU Vasula 57.52 322 *e*P P **16 31 38.4 +0.7**
VSU pmax pmax
comp=Z,26nm,1.0s
COEN Coen 58.39 135 *e*P P **16 31 44.3 -0.1**
comp=Z,75nm,0.8s
KIS Kishinev 58.56 309 *e*P P **16 31 45.0 -0.3**
KIS Kishinev 58.56 309 *e*UNK P **16 31 45.0 -0.3**
WRAB Tennant Creek 58.62 147 P P **16 31 46.0 +0.1**
comp=Z,472nm,0.7s,SNR=38
WRA Warramunga Arr 58.63 147 P P **16 31 46.4 +0.4**
comp=Z,40nm,0.7s,baz=339,slow=7.4,SNR=291
WRA Warramunga Arr 58.63 147 P P **16 31 46.4 +0.4**
TLCR 59.03 307⇑ *i*P P **16 31 47.5 -1.0**
CFR Carcaliu 59.49 307 ⇓P P **16 31 52.0 +0.3**
CFR Carcaliu 59.49 307 ⇓ *i*P P **16 31 52.0 +0.3**
TIRR Tirgusor 59.50 306 ⇓P P **16 31 52.0 +0.2**
TIRR Tirgusor 59.50 306 ⇓ *i*P P **16 31 52.0 +0.2**
TESR 60.13 309 ⇓ *i*P P **16 31 56.5 +0.4**
VRI Vrincioaia 60.26 308 ⇑P P **16 31 57.7 +0.7**
VRI Vrincioaia 60.26 308⇑ *i*P P **16 31 57.7 +0.7**
PLOR Plostina 60.31 308 ⇑P P **16 31 58.5 +1.1**
PLOR Plostina 60.31 308⇑ *i*P P **16 31 58.5 +1.1**
SUW Suwalki 60.34 318 *e*P P **16 31 57.6 +0.2**
SUW Suwalki 60.34 318 *e*P P **16 31 57.6 +0.2**
ISR Istrita 60.59 307 ⇓P P **16 32 00.0 +0.6**
ISR Istrita 60.59 307 ⇓ *i*P P **16 32 00.0 +0.6**
BURAR Bucovina Array 60.77 310 ⇓ *i*P P **16 32 00.6 0.0**
MLR Muntele Rosu 60.89 308 ⇓ *i*P P **16 32 02.4 +0.9**
LVV L'vov 60.91 313 *e*P P **16 32 02.1 +0.7**
DOPR Dopca 61.12 308 ⇓ *i*P P **16 32 04.5 +1.6**
JMB Yambol 61.36 304 *e*P P **16 32 06.1 +1.6**
VOIR 61.51 308 ⇑P P **16 32 06.1 +0.5**
VOIR 61.51 308⇑ *i*P P **16 32 06.1 +0.5**
ASAR Alice Springs 61.69 150 P P **16 32 07.8 +0.9**
comp=Z,13nm,0.8s,baz=336,slow=6.5,SNR=136
ASAR LR LR 16 58 46.5
comp=Z,71nm,19.4s,baz=353,slow=36
ASAR Alice Springs 61.69 150 P P **16 32 07.8 +0.9**
KWP Kalwaria Pacla 61.79 313 *e*P P **16 32 07.5 +0.1**
KWP Kalwaria Pacla 61.79 313 ⇓P P **16 32 07.9 +0.5**
KWP Kalwaria Pacla 61.79 313 ⇓ *i*P P **16 32 07.8 +0.4**
KWP Kalwaria Pacla 61.79 313 *e*P P **16 32 07.5 +0.1**
KOLS Kolonicke sedl 62.27 312 *e*P P **16 32 11.4 +0.8**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 62.27 312 *e*P P **16 32 11.3 +0.7**
TRPA Tarpa 62.34 311 ⇓ *i*P P **16 32 12.2 +1.1**
UZH Uzhgorod 62.35 312 *e*P P 16 32 07.9 -3.2
LOT Lotru 62.36 308 ⇓ *i*P P **16 32 11.3 -0.1**
KDZ Kurdzhali 62.44 304 *e*P P **16 32 12.7 +0.8**
DRGR 62.64 310 ⇓P P **16 32 14.1 +0.9**
DRGR 62.64 310 ⇓ *i*P P **16 32 14.1 +0.9**
CRVS Cervenica-Dubn 62.79 313 *e*P P **16 32 14.9 +0.8**
CRVS pmax pmax
comp=Z,15nm,1.7s
CRVS Cervenica-Dubn 62.79 313 *e*P P **16 32 14.9 +0.8**
GZR Gura Zlata 63.04 308 ⇑P P **16 32 17.0 +1.1**
GZR Gura Zlata 63.04 308⇑ *i*P P **16 32 17.0 +1.1**
MPEP Malo Peshtene 63.05 306 *e*P P **16 32 15.6 -0.3**
OJC Ojcow 63.41 314 *e*P P **16 32 18.1 0.0**
OJC pmax pmax
comp=Z,25nm,1.1s
OJC Ojcow 63.41 314 *e*P P **16 32 18.1 0.0**
comp=Z,25nm,1.1s
OJC Ojcow 63.41 314 *e*P P **16 32 19.1 +0.9**
VTS Vitosha 63.67 305 ⇑P P **16 32 20.8 +0.6**
VTS Vitosha 63.67 305⇑ *i*P P **16 32 20.8 +0.6**
VTS Vitosha 63.67 305 *e*P P **16 32 17.8 -2.4**
BZS Buzias 63.74 309 ⇑P P **16 32 20.8 +0.4**
BZS Buzias 63.74 309⇑ *i*P P **16 32 20.8 +0.4**
PSZ Piszkesteto 64.09 312 *e*P P **16 32 24.5 +1.7**
PSZ Piszkesteto 64.09 312 *e*P P **16 32 24.5 +1.7**
NB2 NORSAR Subarra 64.49 327 P P **16 32 23.6 -1.5**
comp=Z,7.4nm,0.8s,baz=72,slow=6.9
NOA NORSAR Array B 64.49 327 P P **16 32 24.1 -1.0**
comp=Z,6.0nm,0.8s,baz=69,slow=6.4,SNR=13
NOA LR LR 17 01 52.3
comp=Z,87nm,20.9s,baz=250,slow=37
NOA NORSAR Array B 64.49 327 P P **16 32 24.1 -1.0**
OKC Ostrava-Krasne 64.54 314 *e*P P **16 32 26.6 +1.0**
OKC Ostrava-Krasne 64.54 314 *e*P P **16 32 26.6 +1.0**
VYHS Vyhne 64.57 313 *e*P P **16 32 26.4 +0.6**
VYHS pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 64.57 313 *e*P P **16 32 26.4 +0.6**
MORC Moravsky Berou 64.93 314 *e*P P **16 32 27.4 -0.8**
MORC pmax pmax
comp=Z,9.0nm,0.8s
MORC Moravsky Berou 64.93 314 *e*P P **16 32 27.4 -0.8**
comp=Z,8.9nm,0.8s
MORC Moravsky Berou 64.93 314 ⇓ *i*P P **16 32 28.9 +0.7**
DPC Dobruska-Polom 65.47 315 *e*P P **16 32 30.9 -0.8**
DPC pmax pmax
comp=Z,16nm,0.9s
DPC Dobruska-Polom 65.47 315 *e*P P **16 32 30.9 -0.8**
comp=Z,16nm,0.9s
DPC Dobruska-Polom 65.47 315 *e*P P **16 32 32.5 +0.8**
PKSM Moragy 65.48 310 ⇓P P **16 32 32.3 +0.5**
PKSM Moragy 65.48 310 ⇓ *i*P P **16 32 32.3 +0.5**
UPC Upice 65.59 315 *e*P P **16 32 34.0 +1.5**
UPC Upice 65.59 315 *e*P P **16 32 34.0 +1.5**
VRAC Vranov 65.67 314 *i*P P **16 32 33.5 +0.5**
TREC Trest 66.35 314 *e*P P **16 32 38.5 +1.1**
TREC Trest 66.35 314 *e*P P **16 32 38.5 +1.1**
COLD Coldfoot 66.55 24 *e*P P **16 32 38.7 +0.4**
comp=Z,5.4nm,0.7s
CONA Conrad Observa 66.63 313⇑ *i*P P **16 32 38.0 -1.2**
comp=Z,11nm,1.1s
PRU Pruhonice 66.66 315 *e*P P **16 32 40.4 +1.1**
PRU Pruhonice 66.66 315 *e*P P **16 32 40.4 +1.1**
BRG Berggiesshubel 66.69 316 *e*PKP P **16 32 39.1 -0.3**
comp=Z,14nm,0.9s
BRG Berggiesshubel 66.69 316 *e*P P **16 32 39.1 -0.3**
BRG pmax pmax
comp=Z,14nm,0.9s
BRG Berggiesshubel 66.69 316 *e*P P **16 32 39.9 +0.5**
comp=Z,14nm,0.9s
CLL Collm 67.07 317⇑ *i*P P **16 32 42.5 +0.6**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 67.07 317 *e*P P **16 32 42.1 +0.2**
comp=Z,10.0nm,1.0s
CLL Collm 67.07 317⇑ *i*P P **16 32 42.5 +0.6**
comp=Z,10.0nm,1.0s
BSEG Bad Segeberg 67.56 320 *e*P P **16 32 45.9 +1.0**
BSEG pmax pmax
comp=Z,31nm,1.0s
BSEG Bad Segeberg 67.56 320 *e*P P **16 32 45.9 +1.0**
comp=Z,31nm,1.0s
KHC Kasperske Hory 67.57 315 *e*P P **16 32 46.1 +0.9**
KHC Kasperske Hory 67.57 315 *e*P P **16 32 46.1 +0.9**
PERS Pernice 67.59 312 *i*P P **16 32 45.3 0.0**
GEC2 GERESS Array S 67.61 314 *e*P P **16 32 46.1 +0.6**
GEC2 pmax pmax
comp=Z,13nm,1.2s
GEC2 GERESS Array S 67.61 314 *e*P P **16 32 46.1 +0.6**
comp=Z,13nm,1.2s
GERES GERESS Array B 67.61 314 P P **16 32 45.2 -0.2**
comp=Z,4.3nm,0.7s,baz=64,slow=6.1,SNR=32
GERES LR LR 17 07 34.0
comp=Z,152nm,19.9s,baz=268,slow=41

GERES GERESS Array B 67.61 314 P P **16 32 45.2 -0.2**
SOKA Soboth 67.62 312 ⇓ *i*P P **16 32 44.1 -1.5**
comp=Z,8.8nm,0.7s
MOA Molln 67.65 313⇑ *i*pP P **16 32 45.4 -0.3**
comp=Z,13nm,1.4s
TANN Tannenbergstha 67.73 316 *e*P P **16 32 46.6 +0.4**
comp=Z,9.0nm,0.9s
NKC Novy Kostel 67.81 316 *e*P P **16 32 47.7 +1.1**
NKC Novy Kostel 67.81 316 *e*P P **16 32 47.7 +1.1**
BOJS Bojanci 67.94 311 *i*P P **16 32 48.0 +0.5**
WET Wettzell 67.99 315 *e*P P **16 32 48.4 +0.6**
WET pmax pmax
comp=Z,10.0nm,1.2s
WET Wettzell 67.99 315 *e*P P **16 32 48.4 +0.6**
comp=Z,10.0nm,1.2s
MOX Moxa 68.14 317 *e*P P **16 32 49.3 +0.6**
MOX pmax pmax
comp=Z,11nm,1.2s
MOX Moxa 68.14 317 *e*P P **16 32 49.3 +0.6**
comp=Z,11nm,1.2s
ROTZ Rotzenmuhle 68.14 316 *e*P P **16 32 49.6 +0.9**
comp=Z,17nm,1.0s
NRDL Niedersach Rie 68.25 319 *e*P P **16 32 50.3 +1.1**
comp=Z,19nm,1.0s
CLZ Clausthal 68.37 318 *e*P P **16 32 50.9 +0.8**
CLZ pmax pmax
comp=Z,20nm,0.9s
CLZ Clausthal 68.37 318 *e*P P **16 32 50.9 +0.8**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 68.53 313⇑ *i*pP P **16 32 50.9 -0.4**
comp=Z,8.3nm,0.7s
RSO Redoubt South 68.56 31 *e*P P **16 32 52.5 +1.1**
CADS Cadrg 68.63 312 *e*P P **16 32 51.2 -0.6**
SKDS Skadanscina 68.72 311 *i*P P **16 32 49.9 -2.5**
SKDS *i* 16 32 52.3
GRF Grafenberg Arr 68.76 316 *e*P P **16 32 53.5 +0.9**
GRF pmax pmax
comp=Z,26nm,1.0s
GRF Grafenberg Arr 68.76 316 *e*P P **16 32 53.5 +0.9**
comp=Z,26nm,1.0s
GRFO Grafenberg 68.76 316 *e*P P **16 32 51.9 -0.6**
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO Grafenberg 68.76 316 *e*P P **16 32 51.9 -0.6**
comp=Z,17nm,0.9s
ILAR Eielson Array 68.91 26 P P **16 32 51.5 -1.7**
comp=Z,1.3nm,0.6s,baz=290,slow=3.0,SNR=25
ILAR Eielson Array 68.91 26 P P **16 32 51.5 -1.7**
UBBA Unterbreizbach 69.00 317 *e*P P **16 32 55.7 +1.8**
comp=Z,21nm,1.7s
FUR Furstenfeldbru 69.36 314 *e*P P **16 32 57.5 +1.2**
FUR pmax pmax
comp=Z,38nm,0.8s
FUR Furstenfeldbru 69.36 314 *e*P P **16 32 57.5 +1.2**
comp=Z,38nm,0.8s
TIP Timpagrande 69.49 304 *e*P P **16 32 56.1 -1.2**
PMR Palmer 69.59 29 *e*P P **16 32 56.8 -0.6**
PMR pmax pmax
comp=Z,13nm,0.7s
PMR Palmer 69.59 29 *e*P P **16 32 56.8 -0.6**
comp=Z,13nm,0.7s
IBBN Ibbenburen 69.64 319 *e*P P **16 32 58.6 +0.7**
comp=Z,19nm,0.7s
MOTA Moosalm 69.81 314 ⇓ *i*pP P **16 32 59.8 +0.5**
comp=Z,16nm,1.2s
KDAK Kodiak Island 69.87 34 P P **16 32 58.6 -0.6**
comp=Z,11nm,0.6s,baz=325,slow=3.5,SNR=21
KDAK Kodiak Island 69.87 34 P P **16 32 58.6 -0.6**
TNS Taunus Mts 70.16 317 *e*P P **16 33 01.7 +0.5**
TNS pmax pmax
comp=Z,8.0nm,0.8s
TNS Taunus Mts 70.16 317 *e*P P **16 33 01.7 +0.5**
comp=Z,8.0nm,0.8s
FETA Feichten 70.18 314⇑ *i*P P **16 33 00.7 -0.9**
comp=Z,16nm,1.0s
FUORN Ofenpass-Fuorn 70.64 313 *e*P P **16 33 03.8 -0.7**
comp=Z,26nm,1.3s
EGAK Eagle 70.98 24 *e*P P **16 33 04.8 -1.1**
comp=Z,32nm,2.0s
BFO Black Forest 71.06 316 *e*P P **16 33 06.8 0.0**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 71.06 316 *e*P P **16 33 07.2 +0.4**
comp=Z,10.0nm,1.1s
BFO Black Forest 71.06 316 *e*P P **16 33 06.8 0.0**
comp=Z,8.7nm,1.0s
TUE Stuetta 71.27 313 *e*P P **16 33 07.8 -0.6**
comp=Z,11nm,0.7s
INK Inuvik 71.28 20 *e*P P **16 33 07.0 -0.6**
comp=Z,8.6nm,0.8s
CDF Champ du Feu 71.65 316 *e*P P **16 33 09.6 -0.8**
comp=Z,13nm,0.6s
CDF Champ du Feu 71.65 316 *e*P P **16 33 09.6 -0.8**
CDF pmax pmax
comp=Z,13nm,0.6s
CDF Champ du Feu 71.65 316 *e*P P **16 33 09.6 -0.8**
comp=Z,13nm,0.6s
WLF Walferdange 71.73 317 P P **16 33 11.5 +0.7**
comp=Z,25nm,1.3s
WLF Walferdange 71.73 317 *e*P P **16 33 11.9 +1.2**
comp=Z,24nm,1.2s
KMBO Kilima Mbogo 71.78 257 *e*P P **16 33 12.2 +0.3**
BCLA Clavier 71.86 318 P P **16 33 11.2 -0.3**
comp=Z,15nm,2.4s
EIDS Eidsvold 71.89 137 *e*P P **16 33 11.8 0.0**
comp=Z,18nm,0.8s
STKA Stephens Creek 72.17 148 P P **16 33 13.7 +0.2**
comp=Z,13nm,0.8s,baz=338,slow=6.0,SNR=19
STKA Stephens Creek 72.17 148 P P **16 33 13.7 +0.2**
HINF Hinteralfeld 72.18 316 *e*P P **16 33 12.6 -0.9**
comp=Z,23nm,1.0s
HINF Hinteralfeld 72.18 316 *e*P P **16 33 12.6 -0.9**
HINF pmax pmax
comp=Z,23nm,1.0s
HINF Hinteralfeld 72.18 316 *e*P P **16 33 12.6 -0.9**
comp=Z,23nm,1.0s
GIVF Givet 72.28 318 *e*P P **16 33 13.6 -0.4**
comp=Z,15nm,0.6s
GIVF Givet 72.28 318 *e*P P **16 33 13.6 -0.4**
GIVF pmax pmax
comp=Z,15nm,0.6s
GIVF Givet 72.28 318 *e*P P **16 33 13.6 -0.4**
comp=Z,15nm,0.6s
HAU Haudompre 72.39 316 *e*P P **16 33 13.8 -1.0**
HAU Haudompre 72.39 316 *e*P P **16 33 13.8 -1.0**
HAU Haudompre 72.39 316 *e*P P **16 33 13.8 -1.0**
DOU Dourbes 72.42 318 P P **16 33 15.5 +0.7**
SENIN Lac Senin/Sane 72.58 314 *e*P P **16 33 16.1 -0.1**
comp=Z,8.1nm,0.8s
BAIF Baives 72.65 318 *e*P P **16 33 15.9 -0.3**
comp=Z,26nm,0.9s
BAIF Baives 72.65 318 *e*P P **16 33 15.9 -0.3**
BAIF pmax pmax
comp=Z,26nm,0.9s
BAIF Baives 72.65 318 *e*P P **16 33 15.9 -0.3**
comp=Z,26nm,0.9s
MEZF Maizieres J'vi 72.92 317 *e*P P **16 33 17.4 -0.4**
comp=Z,18nm,0.7s
MEZF Maizieres J'vi 72.92 317 *e*P P **16 33 17.4 -0.4**
comp=Z,18nm,0.7s
RES Resolute Bay 73.00 5 P P **16 33 18.1 +0.2**
comp=Z,6.0nm,0.9s,baz=355,slow=7.3,SNR=21
RES Resolute Bay 73.00 5 *e*P P **16 33 18.3 +0.4**
CABF La Chapelle 73.20 315 *e*P P **16 33 19.1 -0.6**
comp=Z,30nm,1.1s
CABF La Chapelle 73.20 315 *e*P P **16 33 19.1 -0.6**
CABF pmax pmax
comp=Z,31nm,1.1s
CABF La Chapelle 73.20 315 *e*P P **16 33 19.1 -0.6**
comp=Z,30nm,1.1s
PGF Pioggiola 73.29 310 *e*P P **16 33 20.0 -0.3**
comp=Z,58nm,1.0s
PGF Pioggiola 73.29 310 *e*P P **16 33 20.0 -0.3**
PGF pmax pmax
comp=Z,58nm,1.0s
PGF Pioggiola 73.29 310 *e*P P **16 33 20.0 -0.3**
comp=Z,58nm,1.0s
LPG La Plagne 73.33 313 *e*P P **16 33 20.6 -0.1**
comp=Z,65nm,0.7s
LPG La Plagne 73.33 313 *e*P P **16 33 20.6 -0.1**
LPG pmax pmax
comp=Z,65nm,0.7s
LPG La Plagne 73.33 313 *e*P P **16 33 20.6 -0.1**
comp=Z,65nm,0.7s
LPL La Plagne 73.33 313 *e*P P **16 33 20.5 -0.1**
comp=Z,50nm,0.7s

LPL La Plagne 73.33 313 *e*P P **16 33 20.5 -0.1**
LPL pmax pmax
comp=Z,50nm,0.7s
LPL La Plagne 73.33 313 *e*P P **16 33 20.5 -0.1**
comp=Z,50nm,0.7s
BNI Bardonecchia 73.59 313 *e*P P **16 33 22.0 -0.1**
BNI pmax pmax
comp=Z,56nm,2.0s
BNI Bardonecchia 73.59 313 *e*P P **16 33 21.9 -0.1**
comp=Z,56nm,2.0s
SBF Sospel 73.68 312 *e*P P **16 33 21.8 -0.7**
comp=Z,38nm,0.7s
SBF Sospel 73.68 312 *e*P P **16 33 21.8 -0.7**
SBF pmax pmax
comp=Z,38nm,0.7s
SBF Sospel 73.68 312 *e*P P **16 33 21.8 -0.7**
comp=Z,38nm,0.7s
MBDF Montbardon 73.68 313 *e*P P **16 33 21.6 -1.0**
comp=Z,16nm,0.8s
MBDF Montbardon 73.68 313 *e*P P **16 33 21.6 -1.0**
MBDF pmax pmax
comp=Z,16nm,0.8s
MBDF Montbardon 73.68 313 *e*P P **16 33 21.6 -1.0**
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 74.15 313 *e*P P **16 33 24.7 -0.6**
comp=Z,30nm,0.8s
ORIF Oris-en-Rattie 74.15 313 *e*P P **16 33 24.7 -0.6**
ORIF pmax pmax
comp=Z,30nm,0.8s
ORIF Oris-en-Rattie 74.15 313 *e*P P **16 33 24.7 -0.6**
comp=Z,30nm,0.8s
LOR Lormes 74.22 316 *e*P P **16 33 24.4 -1.2**
comp=Z,12nm,0.8s
LOR Lormes 74.22 316 *e*P P **16 33 24.4 -1.2**
comp=Z,12nm,0.8s
FRF La Foret Royal 74.32 312 *e*P P **16 33 25.4 -0.8**
comp=Z,18nm,0.9s
FRF La Foret Royal 74.32 312 *e*P P **16 33 25.4 -0.8**
FRF pmax pmax
comp=Z,18nm,0.9s
FRF La Foret Royal 74.32 312 *e*P P **16 33 25.4 -0.8**
comp=Z,18nm,0.9s
LMR La Mourre 74.52 312 *e*P P **16 33 27.0 -0.3**
comp=Z,9.7nm,0.7s
LMR La Mourre 74.52 312 *e*P P **16 33 27.0 -0.3**
LMR pmax pmax
comp=Z,10.0nm,0.6s
LMR La Mourre 74.52 312 *e*P P **16 33 27.0 -0.3**
comp=Z,9.7nm,0.6s
SSF Saint Saulge 74.53 316 *e*P P **16 33 26.4 -1.0**
comp=Z,24nm,1.1s
SSF Saint Saulge 74.53 316 *e*P P **16 33 26.4 -1.0**
SSF pmax pmax
comp=Z,24nm,1.1s
SSF Saint Saulge 74.53 316 *e*P P **16 33 26.4 -1.0**
comp=Z,24nm,1.1s
AVF Avril sur Loir 74.76 316 *e*P P **16 33 28.0 -0.7**
comp=Z,29nm,0.9s
AVF Avril sur Loir 74.76 316 *e*P P **16 33 28.0 -0.7**
AVF pmax pmax
comp=Z,29nm,0.9s
AVF Avril sur Loir 74.76 316 *e*P P **16 33 28.0 -0.7**
comp=Z,29nm,0.9s
SMRF Simiane la Rot 74.80 312 *e*P P **16 33 28.0 -1.0**
SMRF Simiane la Rot 74.80 312 *e*P P **16 33 28.0 -1.0**
VIVF Saint-Julien-l 74.92 314 *e*P P **16 33 29.1 -0.6**
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 74.92 314 *e*P P **16 33 29.1 -0.6**
VIVF pmax pmax
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 74.92 314 *e*P P **16 33 29.1 -0.6**
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 75.69 316 *e*P P **16 33 33.6 -0.5**
comp=Z,48nm,1.2s
TCF Toulx Ste Croi 75.69 316 *e*P P **16 33 33.6 -0.5**
TCF pmax pmax
comp=Z,48nm,1.2s
TCF Toulx Ste Croi 75.69 316 *e*P P **16 33 33.6 -0.5**
comp=Z,48nm,1.2s
LASF Ste Croix 75.82 313 *e*P P **16 33 34.6 -0.3**
comp=Z,47nm,1.1s
LASF Ste Croix 75.82 313 *e*P P **16 33 34.6 -0.3**
comp=Z,47nm,1.1s
LDF La Druitiere 75.84 319 *e*P P **16 33 34.2 -0.6**
comp=Z,38nm,1.0s
LDF La Druitiere 75.84 319 *e*P P **16 33 34.2 -0.6**
LDF pmax pmax
comp=Z,38nm,1.0s
LDF La Druitiere 75.84 319 *e*P P **16 33 34.2 -0.6**
comp=Z,38nm,1.0s
GRR Gorron 76.36 319 *e*P P **16 33 37.2 -0.6**
comp=Z,33nm,0.7s
GRR Gorron 76.36 319 *e*P P **16 33 37.2 -0.6**
GRR pmax pmax
comp=Z,33nm,0.7s
GRR Gorron 76.36 319 *e*P P **16 33 37.2 -0.6**
comp=Z,33nm,0.7s
SKAG Skagway 76.40 27 *e*P P **16 33 38.3 +0.5**
CAF Calviac 76.49 315 *e*P P **16 33 38.6 -0.1**
comp=Z,35nm,1.1s
CAF Calviac 76.49 315 *e*P P **16 33 38.6 -0.1**
CAF pmax pmax
comp=Z,35nm,1.1s
CAF Calviac 76.49 315 *e*P P **16 33 38.6 -0.1**
comp=Z,35nm,1.1s
RJF Les Rejaudoux 76.62 315 *e*P P **16 33 39.3 -0.1**
RJF Les Rejaudoux 76.62 315 *e*P P **16 33 39.3 -0.1**
RJF Les Rejaudoux 76.62 315 *e*P P **16 33 39.3 -0.1**
MFF Saint Martin d 76.91 317 *e*P P **16 33 40.8 -0.2**
comp=Z,28nm,0.9s
MFF Saint Martin d 76.91 317 *e*P P **16 33 40.8 -0.2**
MFF pmax pmax
comp=Z,28nm,0.9s
MFF Saint Martin d 76.91 317 *e*P P **16 33 40.8 -0.2**
comp=Z,28nm,0.9s
LFF La Frestale 77.28 315 *e*P P **16 33 43.1 +0.1**
comp=Z,32nm,0.8s
LFF La Frestale 77.28 315 *e*P P **16 33 43.1 +0.1**
LFF pmax pmax
comp=Z,32nm,0.8s
LFF La Frestale 77.28 315 *e*P P **16 33 43.1 +0.1**
comp=Z,32nm,0.8s
SGMF Saint Gilles 77.39 319 *e*P P **16 33 43.4 -0.2**
comp=Z,32nm,0.7s
SGMF Saint Gilles 77.39 319 *e*P P **16 33 43.4 -0.2**
SGMF pmax pmax
comp=Z,32nm,0.7s
SGMF Saint Gilles 77.39 319 *e*P P **16 33 43.4 -0.2**
comp=Z,32nm,0.7s
ROSF Rostrenen 77.74 320 *e*P P **16 33 45.3 -0.2**
comp=Z,53nm,1.0s
ROSF Rostrenen 77.74 320 *e*P P **16 33 45.3 -0.2**
ROSF pmax pmax
comp=Z,53nm,1.0s
ROSF Rostrenen 77.74 320 *e*P P **16 33 45.3 -0.2**
comp=Z,53nm,1.0s
ETSF Etsaut 79.17 314 *e*P P **16 33 53.6 -0.1**
comp=Z,8.8nm,0.8s
ETSF Etsaut 79.17 314 *e*P P **16 33 53.6 -0.1**
ETSF pmax pmax
comp=Z,9.0nm,0.8s
ETSF Etsaut 79.17 314 *e*P P **16 33 53.6 -0.1**
comp=Z,8.8nm,0.8s
SJPF Ste Jean 79.46 314 *e*P P **16 33 54.4 -0.8**
comp=Z,17nm,1.0s
SJPF Ste Jean 79.46 314 *e*P P **16 33 54.4 -0.8**
SJPF pmax pmax
comp=Z,17nm,1.0s
SJPF Ste Jean 79.46 314 *e*P P **16 33 54.4 -0.8**
comp=Z,17nm,1.0s
DZM Mont Dzumac 79.54 124 P P **16 33 56.3 +0.4**
comp=Z,10.0nm,1.0s,baz=66,slow=15,SNR=3.6
DZM Mont Dzumac 79.54 124 P P **16 33 56.3 +0.4**
YKA Yellowknife Ar 80.83 17 P P **16 34 01.6 -0.6**
comp=Z,3.4nm,0.6s,baz=331,slow=5.2,SNR=70
YKA PKKPbc **PKKPbc 16 52 38.1 -2.9**
comp=Z,0.5nm,0.6s,baz=147,slow=2.4,SNR=10.0
YKA Yellowknife Ar 80.83 17 P P **16 34 01.6 -0.6**
YKA PKKPbc **PKKPbc 16 52 38.1 -2.9**
ESDC Sonseca Array 83.11 313 P P **16 34 15.9 +1.2**
comp=Z,1.7nm,0.6s,baz=42,slow=5.3,SNR=8.6
ESDC Sonseca Array 83.11 313 P P **16 34 15.9 +1.2**
LSZ Lusaka 87.09 250 *e*P P **16 34 35.2 +0.2**
comp=Z,19nm,1.3s
FFC Flin Flon 90.77 15*ce*P P **16 34 51.8 +0.1**
FFC Flin Flon 90.77 15 *e*P P **16 34 51.5 -0.2**
comp=Z,9.0nm,0.9s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	93.45	355	P	P	16 35 03.7	-0.4
	comp=Z,4.8nm,0.9s,baz=43,slow=3.0,SNR=5.8						
SCHQ	Schefferville	93.45	355	P	P	16 35 03.7	-0.4
TORD	Torodi Ar. Bea	94.14	288	P	P	16 35 06.5	-1.4
	comp=Z,1.5nm,1.0s,baz=49,slow=4.0,SNR=6.0						
TORD	Torodi Ar. Bea	94.14	288	P	P	16 35 06.5	-1.4
PDAR	Pinedale Array	99.33	25	LR	LR	17 23 00.1	
	comp=Z,132nm,19.7s,baz=124,slow=37						
VNA2	Neumayer--Watz	126.98	202	*e*P	PKPdf	16 40 52.1	+0.4
	baz=88,slow=2.3						
VNA2	Neumayer--Watz	126.98	202	*e*WP	PKPdf	16 40 57.1	+5.4
	baz=88,slow=2.3						
VNA3	Neumayer Olymp	127.64	202	*e*P	PKPdf	16 40 53.5	+0.5
VNA3	Neumayer Olymp	127.64	202	*e*WP	PKPdf	16 40 57.4	+4.4

IDC 03 16:27:18.6±14.0, 19°.98S×177°.08W, h465km±126km, mb3.2/4, mb1 3.5/4, mb1mx3.1/19, mbtmp3.2/4, Error ellipse: s-maj=183.9km s-min=51.4km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.48	256	P	P	16 34 55.5	+0.2
	3.4nm,0.8s,baz=88,slow=7.6,SNR=21						
WRA	Warramunga Arr	45.53	261	P	P	16 34 55.1	-0.6
	0.9nm,0.3s,baz=97,slow=7.6,SNR=20						
ILAR	Eielson Array	87.62	12	P	P	16 39 15.8	-0.2
	0.3nm,0.6s,baz=225,slow=5.3,SNR=8.7						
CMAR	Chiang Mai Arr	90.76	289	P	P	16 39 32.1	+0.5
	0.6nm,0.7s,baz=112,slow=3.0,SNR=4.7						
MKAR	Makanchi Array	111.47	313	PKiKP	PKiKP	16 44 57.9	-1.2
	0.1nm,0.5s,baz=86,slow=1.9,SNR=2.4						
ARCES	ARCESS Array B	128.56	350	PKP	PKPdf	16 45 31.2	-0.1
	3.0nm,0.8s,baz=33,slow=2.2,SNR=4.2						
AKASG	Malin Array Be	142.97	332	PKhKP	PKPpre	16 45 54.5	
	0.4nm,0.4s,baz=41,slow=4.1,SNR=4.7						
BRTR	Keskin Array B	147.12	313	PKPbc	PKPbc	16 46 08.0	-1.0
	0.8nm,0.5s,baz=149,slow=6.5,SNR=6.5						
GERES	GERESS Array B	149.92	346	PKPbc	PKPbc	16 46 15.8	+0.1
	0.8nm,0.7s,baz=12,slow=1.9,SNR=6.1						

KRSC 03 16:58:16.6±0.8, 54°.83N×160°.80E, h128km±41km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMR	Tumrok	0.59	321	*e*P	Pn	16 58 36.9	+0.8
MKZ	Mys Kozlova	0.61	117	P	Pn	16 58 36.5	+0.5
MKZ				*e*S	Sn	16 58 51.3	+0.6
KMNR	Kamenistaya	0.98	341	P	Pn	16 58 39.9	+0.7
BZGR	Bezymyannyi-Gr	1.11	357	*e*P	Pn	16 58 40.7	+0.2
BZGR				*e*S	Sn	16 58 58.0	-0.8
BZMR	Bezymyannaya	1.12	351	*e*P	Pn	16 58 41.2	+0.5
BZWR	Bezymyannyi-We	1.15	351	*e*P	Pn	16 58 41.3	+0.3
BZWR				*e*S	Sn	16 58 59.4	-0.1
KIRR	Kirishev	1.16	347	*e*P	Pn	16 58 41.2	+0.2
KPT	Kopyto	1.19	344	*e*P	Pn	16 58 41.3	+0.1
ZLN	Zelenaya	1.19	0	*e*P	Pn	16 58 42.1	+0.8
LGNR	Loginova	1.26	357	*e*P	Pn	16 58 42.7	+0.5
CIRR	Tsirk	1.29	359	*e*P	Pn	16 58 41.9	-0.5
KOZ	Kozyrevsk	1.34	337	*e*P	Pn	16 58 42.9	+0.2
KRSR	Krestovskiy	1.40	355	*e*P	Pn	16 58 43.4	-0.1
KLY	Klyuchi	1.49	357	*e*P	Pn	16 58 44.7	+0.4
KLY				*e*S	Sn	16 59 05.3	-0.2
SRDR	Sredinnyy	1.61	338	*e*P	Pn	16 58 45.6	-0.3
ESO	Esso	1.62	313	*e*P	Pn	16 58 45.9	-0.1
ESO				*e*S	Sn	16 59 07.6	-0.8
SPN	Mys Shipunski	1.79	195	*e*P	Pn	16 58 48.4	+0.5
SPN				*e*S	Sn	16 59 11.3	-0.6
KBTR	Krutoberegovo	1.80	39	P	Pn	16 58 48.3	+0.4
KBTR				*e*S	Sn	16 59 11.2	-0.7
NLC	Nalytchevo	1.87	208	*e*S	Sn	16 59 14.1	+0.7
SDLR	Sedlovina	1.92	217	*e*P	Pn	16 58 50.1	+0.5
SDLR				*e*S	Sn	16 59 14.1	-0.8
AVH	Avacha	1.98	219	*e*P	Pn	16 58 51.6	+1.3
AVH				*e*S	Sn	16 59 16.8	+0.7
UGLR	Uglovaya	2.00	216	*e*P	Pn	16 58 51.4	+0.8
UGLR				*e*S	Sn	16 59 16.3	-0.2
PET	Petropavlovsk	2.21	216	*e*S	Sn	16 59 22.1	+1.2
RUS	Russkaya	2.76	210	*e*P	Pn	16 59 00.9	+0.9
RUS				*e*S	Sn	16 59 32.5	-0.9
ASAK	Asacha	3.00	216	*e*P	Pn	16 59 04.0	+0.8
BKI	Bering	3.00	81	*e*P	Pn	16 59 03.1	+0.1
BKI				*e*S	Sn	16 59 37.3	-1.6

*IDC **03** 17:11:47.5±1.2, 1°.87N×99°.20E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.5/25, mbtmp3.5/8, ML3.7/1, MS3.1/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=52.0km s-min=14.6km az=60.0*

*ISCJB **03** 17:11:48.3±0.5, 1°.93N±0°.04×99°.15E±0°.05, h10km, mb3.5/7, MS3.1/2, Error ellipse: s-maj=7.4km s-min=5.6km az=157.1*

*DJA **03** 17:11:50.9±0.3, 2°N±3°×9°9E±°, h10km, M3.9/10, MLv3.9/10*

ISC 03 17:11:48.4±0.7, 1°.93N±0°.04×99°.16E±0°.05, h10km, n25, σ1.07/21, mb3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	0.90	345	Pg	Pg	17 12 04.4	-1.2
	23nm,0.3s,baz=158,slow=19,SNR=48						
PSI	Prapat	0.90	345	P	Pg	17 12 04.4	-1.2
MNSI	Mandailing Nat	1.20	159	P	Pn	17 12 11.6	+0.3
MNSI				S	Sn	17 12 25.9	-1.8
TSI	Tuntungan	1.67	339	P	Pg	17 12 20.4	0.0
TSI				S	Sn	17 12 25.7	-13
GSI	Gunungsitoli	1.70	249	P	Pn	17 12 17.5	-0.6
GSI				S	Sb	17 12 41.3	+0.2
TPTI		2.37	304	P	Pb	17 12 30.0	-1.2
BKNI	Bangkinang	2.47	130	P	Pg	17 12 35.5	-0.2
PPI	Padang Panjang	2.68	152	P	Pg	17 12 38.3	-1.4
IPM	Ipoh	3.15	36	P	Pb	17 12 42.6	-1.8
IPM	Ipoh	3.15	36	P	Pb	17 12 43.1	-1.3
KULM	Kulim	3.66	24	P	Pn	17 12 48.3	+3.2
KULM	Kulim	3.66	24	P	Pb	17 12 48.4	-4.7
RGRI	Rengat	3.90	125	P	Pg	17 13 03.2	0.0
KGM	Kluang	4.16	89	P	Pn	17 12 54.5	+2.5
MYKOM	Kota Tinggi	4.70	92	P	Pn	17 13 01.0	+1.7
MYKOM	Kota Tinggi	4.70	92	P	Pb	17 13 03.6	-7.2
CMAR	Chiang Mai Arr	16.43	359	Pn	P	17 15 42.1	+0.2
	0.1nm,0.3s,baz=198,slow=11,SNR=8.9						
CMAR				LR	LR	17 22 59.0	
	comp=Z,39nm,18.3s,baz=185,slow=41						
KAPI	Kappang	21.70	109	LR	LR	17 25 34.9	
	comp=Z,44nm,21.2s,baz=118,slow=38						
WRA	Warramunga Arr	40.79	124	P	P	17 19 30.7	+0.5
	1.0nm,0.9s,baz=303,slow=9.2,SNR=8.8						
ASAR	Alice Springs	42.30	129	P	P	17 19 42.5	-0.2
	0.1nm,0.5s,baz=295,slow=7.5,SNR=2.9						
ASAR				LR	LR	17 38 36.1	
	comp=Z,47nm,18.0s,baz=351,slow=38						
SONM	Songino Array	46.15	7	P	P	17 20 13.4	+0.1
	0.4nm,0.9s,baz=185,slow=9.9,SNR=2.5						
MKAR	Makanchi Array	47.04	344	P	P	17 20 20.7	+0.6
	0.2nm,0.5s,baz=151,slow=8.3,SNR=5.4						
ZALV	Zalesovo Beam	53.18	349	P	P	17 21 07.5	+1.0
	1.4nm,0.8s,baz=175,slow=7.0,SNR=8.0						
BRTR	Keskin Array B	70.08	312	P	P	17 23 02.5	+1.3
	0.9nm,1.0s,baz=130,slow=4.5,SNR=3.3						
FINES	FINESS Array B	80.26	332	P	P	17 24 00.5	+1.3
	0.6nm,0.6s,baz=97,slow=4.6,SNR=4.8						

*HLW **03** 17:20:20.9, 35°.60N×27°.06E, h33km±14km, Md4.0, Ml4.0*

*ISCJB **03** 17:20:21.1±0.2, 35°.51N±0°.02×26°.92E±0°.02, h94km±4km, mb3.9/5, Error ellipse: s-maj=3.6km s-min=3.1km az=164.8*

*IDC **03** 17:20:21.7±2.4, 35°.68N×26°.86E, h61km±25km, mb3.7/5, mb1 3.6/10, mb1mx3.3/28, mbtmp3.5/10, ML3.3/5, Error ellipse: s-maj=25.6km s-min=16.4km az=143.0*

*CSEM **03** 17:20:22.1±0.2, 35°.55N×26°.89E, h94km±4km, ML3.2, Error ellipse: s-maj=3.8km s-min=3.5km az=170.0*

*ISK **03** 17:20:22.1, 35°.64N×26°.79E, h50km, MD3.7*

*DDA **03** 17:20:23.3, 35°.91N×27°.11E, h13km, MD3.4*

*ATH **03** 17:20:23.0, 35°.78N×26°.79E, h73km±2km, ML3.2*

*THE **03** 17:20:25.4, 35°.80N×26°.65E, h14km±2km, ML3.2/2, Error ellipse: s-maj=2.3km s-min=0.6km az=114.0*

ISC 03 17:20:22.6±0.7, 35°.62N±0°.03×26°.88E±0°.03, h80km±6km, n155, σ1.53/190, mb4.0/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.24	107	*e*P	Pn	17 20 35.9	+1.2
KARP				*e*S	Sn	17 20 44.8	+1.2
KARP	Karpathos	0.24	107	*e*P	Pn	17 20 35.9	+1.2
KARP				*e*S	Sn	17 20 44.8	+1.2
ZKR	Zakros	0.74	227	P	Pn	17 20 40.2	+1.4
ZKR				S	Sn	17 20 51.8	+1.1
ZKR	Zakros	0.74	227	P	Pn	17 20 40.2	+1.4
ZKR				S	Sn	17 20 51.8	+1.1
NIS1	Nisyros Isl.	1.01	14	P	Pn	17 20 41.7	-0.2
NIS1				S	Sn	17 20 54.9	-1.4
NIS1	Nisyros Isl.	1.01	14	P	Pn	17 20 41.7	-0.2
NIS1				S	Sn	17 20 54.9	-1.4
NPS	Neapolis	1.09	252	P	Pn	17 20 43.5	+0.6
NPS				S	Sn	17 20 57.6	-0.5
NPS	Neapolis	1.09	252	*e*P	Pn	17 20 43.5	+0.6
NPS				*e*S	Sn	17 20 57.5	-0.5
NPS	Neapolis	1.09	252	*e*P	Pn	17 20 43.5	+0.6
NPS				S	Sn	17 20 57.6	-0.5
ARG	Arkhangelos	1.17	59	P	Pn	17 20 45.1	+1.3
ARG				S	Sn	17 21 00.2	+0.5
ARG	Arkhangelos	1.17	59	*e*P	Pn	17 20 45.1	+1.3
ARG				*e*S	Sn	17 21 00.8	+1.1
ARG	Arkhangelos	1.17	59	*e*P	Pn	17 20 45.1	+1.3
ARG				*e*S	Sn	17 21 00.8	+1.1
LAST	Lasithi	1.23	249	P	Pn	17 20 45.5	+0.9
LAST				S	Sn	17 21 01.5	+0.3
LAST	Lasithi	1.23	249	P	Pn	17 20 45.5	+0.9
LAST				S	Sn	17 21 01.5	+0.3
THR1	Thera Island	1.38	304	P	Pn	17 20 45.6	-0.8
THR1	Thera Island	1.38	304	P	Pn	17 20 45.6	-0.8
THR2	Thira island,	1.44	306	P	Pn	17 20 46.6	-0.5
THR2	Thira island,	1.44	306	P	Pn	17 20 46.6	-0.5
BODT	Bodrum	1.48	13	PN	Pn	17 20 47.5	-0.2
BODT				SN	Sn	17 21 05.7	-1.0
BODT	Bodrum	1.48	13	*i* Pn	Pn	17 20 47.5	-0.2
BODT				*i* Sn	Sn	17 21 05.7	-1.0
BDRM	Kayabasi	1.52	17	*i* P	Pn	17 20 48.1	-0.1
BDRM	Kayabasi	1.52	17	*i* P	Pn	17 20 48.1	-0.1
SIVA	Sivas	1.80	251	P	Pn	17 20 53.6	+1.8
SIVA				S	Sn	17 21 15.2	+1.2
SIVA	Sivas	1.80	251	*e*P	Pn	17 20 53.9	+2.1
SIVA				*e*S	Sn	17 21 15.8	+1.8
SIVA	Sivas	1.80	251	P	Pn	17 20 53.6	+1.8
SIVA				S	Sn	17 21 15.2	+1.2
APE	Apeiranthos	1.81	323	*e*PN	Pn	17 20 51.3	-0.8
APE	Apeiranthos	1.81	323	P	Pn	17 20 51.3	-0.8
APE				S	Sn	17 21 11.7	-2.8
APE	Apeiranthos	1.81	323	*e*P	Pn	17 20 51.3	-0.8
APE				*e*S	Sn	17 21 11.7	-2.8
APE	Apeiranthos	1.81	323	*e*P	Pn	17 20 51.3	-0.8
APE				S	Sn	17 21 11.7	-2.8
MLSB	Milas	1.82	23	*e*PN	Pn	17 20 52.4	+0.2
MLSB	Milas	1.82	23	*e*Pn	Pn	17 20 52.4	+0.2
YER	Yerkesik	1.89	36	*e*PN	Pn	17 20 54.1	+1.0
YER	Yerkesik	1.89	36	*e*Pn	Pn	17 20 54.1	+1.0
FETY	Fethiye	2.05	60	*e*PN	Pn	17 20 55.9	+0.6
FETY	Fethiye	2.05	60	*e*Pn	Pn	17 20 55.9	+0.6
GCAM	G?zelcaml?	2.10	8	*i* P	Pn	17 20 56.0	+0.2
GCAM	G?zelcaml?	2.10	8	*i* P	Pn	17 20 56.0	+0.2
AYDN	Tasoluk	2.19	21	*i* P	Pn	17 20 57.9	+0.7
AYDN	Tasoluk	2.19	21	*i* P	Pn	17 20 57.9	+0.7
VAM	Vamos	2.20	265	P	Pn	17 20 57.8	+0.6
VAM				S	Sn	17 21 23.2	-0.3
VAM	Vamos	2.20	265	*e*P	Pn	17 20 57.6	+0.4
VAM				*e*S	Sn	17 21 23.3	-0.3
VAM	Vamos	2.20	265	*e*P	Pn	17 20 57.6	+0.4
VAM				*e*S	Sn	17 21 23.3	-0.3
KSL	Kastellorizon	2.26	76	*e*P	Pn	17 20 59.5	+1.6
KSL	Kastellorizon	2.26	76	*e*P	Pn	17 20 59.5	+1.6
AKAS	Kas	2.29	74	*i* P	Pn	17 20 59.7	+1.1
AKAS	Kas	2.29	74	*i* P	Pn	17 20 59.7	+1.1
GVD	Gavdhos	2.42	252	P	Pn	17 21 01.6	+1.5
GVD				S	Sn	17 21 29.8	+1.0
GVD	Gavdhos	2.42	252	*e*P	Pn	17 21 01.7	+1.6
GVD				*e*S	Sn	17 21 29.8	+1.0
GVD	Gavdhos	2.42	252	P	Pn	17 21 01.6	+1.5
GVD				*e*S	Sn	17 21 29.8	+1.0
ELL	Elmali	2.70	64	*e*PN	Pn	17 21 05.5	+1.5
ELL	Elmali	2.70	64	*e*Pn	Pn	17 21 05.5	+1.5
GOLH	Golhisar	2.70	52	*i* P	Pn	17 21 05.5	+1.5
GOLH				*i* S	Sn	17 21 36.0	+0.3
GOLH	Golhisar	2.70	52	*i* P	Pn	17 21 05.5	+1.5
GOLH				*i* S	Sn	17 21 36.0	+0.3
DNZL	Cakiroluk	2.70	39	*i* P	Pn	17 21 04.9	+0.8
DNZL	Cakiroluk	2.70	39	*i* P	Pn	17 21 04.9	+0.8
URLA	Izmir	2.75	355	*i* P	Pn	17 21 04.1	-0.5
URLA	Izmir	2.75	355	*i* P	Pn	17 21 04.1	-0.5
BLCB	Balcova	2.77	3	*e*PN	Pn	17 21 04.8	0.0
BLCB	Balcova	2.77	3	*e*Pn	Pn	17 21 04.8	0.0
IZM	Izmir	2.79	6	*e*PN	Pn	17 21 05.3	+0.1
IZM	Izmir	2.79	6	*e*Pn	Pn	17 21 05.3	+0.1
KORT	Korkueli	3.12	63	*i* P	Pn	17 21 11.6	+1.8
KORT				*i* S	Sn	17 21 49.1	+3.0
KORT	Korkueli	3.12	63	*i* P	Pn	17 21 11.6	+1.8
KORT				*i* S	Sn	17 21 49.1	+3.0
KYTH	Kithira	3.19	283	P	Pn	17 21 10.4	-0.1
KYTH	Kithira	3.19	283	*e*P	Pn	17 21 10.4	-0.1
KYTH	Kithira	3.19	283	*e*P	Pn	17 21 10.4	-0.1
KULA	Kula-Manisa	3.22	26	*e*PN	Pn	17 21 11.8	+0.8
KULA	Kula-Manisa	3.22	26	*e*Pn	Pn	17 21 11.9	+0.8
VLI	Veliai	3.38	290	P	Pn	17 21 13.0	0.0
VLI	Veliai	3.38	290	*e*P	Pn	17 21 13.0	0.0
VLI	Veliai	3.38	290	*e*P	Pn	17 21 13.0	0.0
ATH	Athens Observa	3.46	314	*e*P	Pn	17 21 13.1	-1.1
ATH	Athens Observa	3.46	314	*e*P	Pn	17 21 13.1	-1.1
DID	Didima	3.49	304	P	Pn	17 21 14.8	+0.2
DID	Didima	3.49	304	*e*P	Pn	17 21 15.2	+0.6
DID	Didima	3.49	304	P	Pn	17 21 14.8	+0.2
BCK	Bucak	3.51	57	*e*PN	Pn	17 21 16.1	+1.3
BCK	Bucak	3.51	57	*e*Pn	Pn	17 21 16.2	+1.3
DEMI	Demirci	3.72	23	*e*P	Pn	17 21 18.2	+0.4
DEMI	Demirci	3.72	23	*e*P	Pn	17 21 18.2	+0.4
DYR	Agios Nikonas	3.85	289	P	Pn	17 21 19.2	-0.3
DYR	Agios Nikonas	3.85	289	P	Pn	17 21 19.2	-0.3
LTK	Loutraki	3.95	309	*e*P	Pn	17 21 21.1	+0.2
LTK	Loutraki	3.95	309	*e*P	Pn	17 21 21.1	+0.2
VLX	Vlachokerasia	4.03	297	P	Pn	17 21 22.2	+0.2
VLX	Vlachokerasia	4.03	297	*e*P	Pn	17 21 22.4	+0.4
VLX				*e*S	Sn	17 22 05.9	-2.1
VLX	Vlachokerasia	4.03	297	P	Pn	17 21 22.2	+0.2
ITM	Ithomi	4.29	293	P	Pn	17 21 26.0	+0.5
ITM	Ithomi	4.29	293	*e*P	Pn	17 21 26.3	+0.8
ITM	Ithomi	4.29	293	P	Pn	17 21 26.0	+0.5
LTBQ	Tobruq	4.32	216	*i* P	Pn	17 21 27.6	+1.6
	SNR=76						
TVSB	Tavsanli	4.34	27	*e*PN	Pn	17 21 27.4	+1.1
TVSB	Tavsanli	4.34	27	*e*Pn	Pn	17 21 27.4	+1.1
SLUM		4.34	199	AMP		17 22 00.0	
	comp=N,180µm,0.2s,logA/T=6.0,baz=202						
SLUM		4.34	199	P	Pn	17 21 24.6	-1.6
PYL	PYLOS	4.34	289	P	Pn	17 21 25.4	-0.8
PYL	PYLOS	4.34	289	*e*P	Pn	17 21 25.4	-0.8
PYL	PYLOS	4.34	289	*e*P	Pn	17 21 25.4	-0.8
GAZI	Gazipasa	4.45	80	*e*P	Pn	17 21 27.5	-0.2
GAZI	Gazipasa	4.45	80	*e*P	Pn	17 21 27.5	-0.2
HMAT	Matruh	4.51	178	S	Sn	17 22 15.8	-4.0
	baz=179						
HMAT	Matruh	4.51	178	S	Sn	17 22 15.9	-4.0
GELI	Tayfur-Gelibol	4.78	356	*e*PN	Pn	17 21 33.9	+1.7
GELI	Tayfur-Gelibol	4.78	356	*e*Pn	Pn	17 21 33.9	+1.7
KONT	Konya--Tatoy	4.97	61	*e*PN	Pn	17 21 37.8	+3.0
KONT	Konya--Tatoy	4.97	61	*e*Pn	Pn	17 21 37.8	+3.0
ERMK	Ermenek	4.99	76	*e*P	Pn	17 21 37.8	+2.6
ERMK	Ermenek	4.99	76	*e*P	Pn	17 21 37.8	+2.6
CSS	Prodhromos	5.32	95	*e*PN	Pn	17 21 42.9	+3.4
CSS	Prodhromos	5.32	95	Pn	Pn	17 21 39.8	+0.3
CSS				Sn	Sn	17 22 36.3	-3.1
SWA2		6.47	191	P	Pn	17 21 54.4	-0.8
	baz=193						
SWA2				AMP		17 23 00.0	
	comp=E,130µm,0.3s,logA/T=5.7,baz=193						
SWA2		6.47	191	P	Pn	17 21 54.4	-0.8
BRTR	Keskin Array B	6.75	51	P	Pn	17 21 59.8	+0.7
	comp=E,0.1nm,0.3s,baz=227,slow=13,SNR=5.4						
BRTR				S	Sn	17 23 12.6	-1.9
	comp=E,0.1nm,0.3s,baz=215,slow=25,SNR=3.5						
HNAT	Natroun	6.75	151	P	Pn	17 21 56.8	-2.3
	baz=152						
HNAT	Natroun	6.75	151	P	Pn	17 21 56.8	-2.3
HSAF	As Saff	7.16	145	P	Pn	17 22 02.6	-2.1
	baz=146						
HSAF	As Saff	7.16	145	P	Pn	17 22 02.6	-2.1
AMAG	Maghara	7.26	131	P	Pn	17 22 03.2	-2.9
	baz=132						
AMAG	Maghara	7.26	131	P	Pn	17 22 03.2	-2.9
GLL	Jalalah	7.27	145	P	Pn	17 22 03.3	-2.9
	baz=145						
GLL	Jalalah	7.27	145	P	Pn	17 22 03.3	-2.9
LJBD	Adjabya	7.30	232	*i* P	Pn	17 22 05.7	-0.9
	SNR=70						
RSH		7.37	127	P	Pn	17 22 04.9	-2.7
	baz=127						
RSH		7.37	127	P	Pn	17 22 04.9	-2.7
AWBH		7.47	166	P	Pn	17 22 07.5	-1.5
	baz=167						
AWBH		7.47	166	P	Pn	17 22 07.5	-1.5
MMAI	Mount Meron Ar	7.51	108	P	Pn	17 22 08.2	-1.4
	comp=E,0.8nm,0.3s,baz=308,slow=12,SNR=5.4						
MMAI				S	Sn	17 23 29.4	-3.8
	comp=E,6.6nm,0.3s,baz=319,slow=27,SNR=12						
SUZ		7.63	137	P	Pn	17 22 09.0	-2.2
	baz=138						
SUZ		7.63	137	P	Pn	17 22 09.0	-2.2
KZIT	Kziot	7.85	125	Pn	Pn	17 22 13.0	-1.1
ZAF		7.92	141	P	Pn	17 22 12.9	-2.2
	baz=142						
ZAF		7.92	141	P	Pn	17 22 12.9	-2.2
ZNM		8.02	139	P	Pn	17 22 14.0	-2.4
	baz=140						
ZNM		8.02	139	P	Pn	17 22 14.0	-2.4
HNKL	Nakhl	8.24	132	P	Pn	17 22 16.9	-2.5
	baz=132						
HNKL	Nakhl	8.24	132	P	Pn	17 22 16.9	-2.5
MZDA	Masada	8.29	119	Pn	Pn	17 22 20.1	+0.1
HFRF	Wahat Farafira	8.53	171	P	Pn	17 22 21.8	-1.6
	baz=172						
HFRF	Wahat Farafira	8.53	171	P	Pn	17 22 21.8	-1.6
KRMI	Paran Flat	8.58	128	Pn	Pn	17 22 23.1	-0.9
PRNI	Paran	8.61	125	Pn	Pn	17 22 23.2	-1.2
HRFI	Mount Harif	8.83	127	Pn	Pn	17 22 26.7	-0.8
MBRI	Mt Berech	8.91	128	Pn	Pn	17 22 28.2	-0.5
ASF	Jabal al Asfar	9.01	110	S	Sn	17 24 07.6	-2.1
	comp=E,0.3nm,0.3s,baz=295,slow=19,SNR=2.3						
EIL	Elat	9.02	129	P	Pn	17 22 29.1	-0.9
	comp=E,0.3nm,0.3s,baz=29,slow=12,SNR=14						
EIL				S	Sn	17 24 04.5	-5.5
	comp=E,2.2nm,0.3s,baz=18,slow=19,SNR=11						
HDK1	Dakhla	10.27	167	P	Pn	17 22 46.1	-1.1
	baz=168						
HDK1	Dakhla	10.27	167	P	Pn	17 22 46.1	-1.1
KEST	Kesra	14.26	276	P	Pn	17 23 41.4	+0.7
	comp=E,0.0nm,0.3s,baz=65,slow=14,SNR=1.8						
AKASG	Malin Array Be	15.17	6	P	Pn	17 23 54.5	+2.3
	comp=E,1.0nm,0.3s,baz=194,slow=11,SNR=4.8						
GERES	GERESS Array B	16.40	328	P	Pn	17 24 09.0	+1.2
	comp=E,0.1nm,0.3s,baz=135,slow=9.8,SNR=3.1						
TORD	Torodi Ar. Bea	31.87	232	P	P	17 26 41.1	+0.9
	comp=E,0.6nm,0.3s,baz=34,slow=8.6,SNR=15						
ARCES	ARCESS Array B	33.98	359	P	P	17 26 56.7	-1.4
	comp=E,2.7nm,0.9s,baz=179,slow=9.0,SNR=4.1						
MKAR	Makanchi Array	42.35	57	P	P	17 28 10.1	+1.4
	comp=E,1.5nm,0.5s,baz=273,slow=7.8,SNR=42						
ZALV	Zalesovo Beam	43.67	47	P	P	17 28 19.5	+0.3
	comp=E,1.2nm,0.4s,baz=271,slow=8.8,SNR=6.6						
SONM	Songino Array	58.11	51	P	P	17 30 09.5	+1.7
	comp=E,0.3nm,0.4s,baz=284,slow=6.3,SNR=7.4						

IDC 03 17:26:49.2±1.3, 17°.77S×178°.74W, h547km±15km, mb3.4/12, mb1 3.6/14, mb1mx3.6/21, mbtmp3.4/14, Error ellipse: s-maj=19.0km s-min=11.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.72	61	P	P	17 28 43.2	-1.1
	15nm,0.3s,baz=220,slow=7.0,SNR=27						
AFI				S	S	17 30 17.3	-1.3
	1.5nm,0.3s,baz=294,slow=20,SNR=2.3						
DZM	Mont Dzumac	14.58	251	P	P	17 29 54.7	+0.1
	1.5nm,0.3s,baz=72,slow=18,SNR=19						
STKA	Stephens Creek	38.42	241	P	P	17 33 25.3	+0.9
	14nm,0.5s,baz=98,slow=9.9,SNR=45						
WRA	Warramunga Arr	44.35	259	P	P	17 34 11.2	-0.3
	3.7nm,0.7s,baz=92,slow=7.3,SNR=73						
WRA				S	S	17 40 02.1	-4.4
	0.5nm,0.9s,baz=94,slow=13,SNR=3.4						
ASAR	Alice Springs	44.53	254	P	P	17 34 12.9	0.0
	43nm,0.6s,baz=88,slow=8.3,SNR=831						
ASAR				ScP	ScP	17 38 44.7	+0.1
	0.5nm,0.8s,baz=107,slow=5.0,SNR=4.4						
ASAR				S	S	17 40 06.5	-2.5
	1.8nm,1.0s,baz=90,slow=16,SNR=8.3						
MJAR	Matsushiro Arr	67.61	324	P	P	17 36 51.6	-0.2
	4.6nm,0.6s,baz=159,slow=6.2,SNR=20						
QSPA	South Pole Qui	72.28	180	P	P	17 37 18.8	-0.5
	3.2nm,0.7s,baz=50,slow=1.9,SNR=7.3						
PETK	Petropavlovsk-	73.47	345	P	P	17 37 25.7	-0.4
	7.1nm,0.8s,baz=138,slow=8.4,SNR=14						
KSRS	Korea Array	74.39	318	P	P	17 37 32.7	+1.1
	0.5nm,0.5s,baz=129,slow=6.1,SNR=5.0						
ILAR	Eielson Array	85.83	13	P	P	17 38 29.7	-1.0
	0.8nm,0.5s,baz=227,slow=5.1,SNR=6.0						
TXAR	Lajitas Array	86.19	58	P	P	17 38 34.6	+1.3
	0.9nm,0.8s,baz=203,slow=6.7,SNR=6.0						
PDAR	Pinedale Array	87.47	44	P	P	17 38 39.1	-0.1
	0.5nm,0.6s,baz=155,slow=2.7,SNR=4.4						
CMAR	Chiang Mai Arr	88.55	290	P	P	17 38 45.4	+0.9
	0.7nm,0.9s,baz=69,slow=3.4,SNR=4.7						
SONM	Songino Array	93.25	319	P	P	17 39 05.8	+0.1
	0.8nm,1.2s,baz=110,slow=3.9,SNR=4.9						
YKA	Yellowknife Ar	94.34	25	P	P	17 39 09.5	-0.7
	0.1nm,0.5s,baz=241,slow=4.5,SNR=5.5						
BRTR	Keskin Array B	144.47	315	PKP	PKPdf	17 45 23.8	-0.2
	1.4nm,0.4s,baz=113,slow=1.8,SNR=11						
GERES	GERESS Array B	147.40	345	PKPbc	PKPbc	17 45 31.4	-0.5
	1.9nm,0.6s,baz=22,slow=2.9,SNR=16						
TORD	Torodi Ar. Bea	175.38	185	PKPab	PKPab	17 47 37.2	-0.7
	0.3nm,0.5s,baz=190,slow=3.4,SNR=3.3						

*ISCJB **03** 17:27:22.2±0.7, 56°.3S±0°.1×26°.9W±0°.3, h101km, mb4.2/6, Error ellipse: s-maj=24.5km s-min=12.4km az=158.7*

*IDC **03** 17:27:24.0±0.8, 56°.34S×26°.90W, h104km±6km, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, Error ellipse: s-maj=22.8km s-min=17.5km az=78.0*

ISC 03 17:27:23.7±0.7, 56°.3S±0°.1×27°.0W±0°.2, h101km, n13, σ0.99/15, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.51	158	*e*Pn	P	17 31 11.7	+2.1
VNA3	Neumayer Olymp	16.70	160	*e*Pn	Pn	17 31 10.7	-0.5
VNA2	Neumayer--Watz	16.90	158	*e*Pn	P	17 31 13.9	-0.1
	baz=319,slow=14						
SNAA	Sanae	18.45	156	P	Pn	17 31 51.7	+19
	0.2nm,0.3s,baz=300,slow=8.8,SNR=23						
QSPA	South Pole Qui	33.94	180	P	P	17 33 56.6	-0.3
	2.7nm,0.5s,baz=184,slow=2.0,SNR=24						
CPUP	Villa Florida	37.08	311	P	P	17 34 23.2	-0.6
	0.9nm,0.4s,baz=141,slow=9.5,SNR=5.2						
VNDA	Vanda	46.31	183	P	P	17 35 38.7	+0.1
	2.9nm,0.7s,baz=192,slow=3.8,SNR=16						
LBTB	Lobatse	48.97	73	P	P	17 35 59.2	-0.6
	2.4nm,0.9s,baz=213,slow=9.4,SNR=5.9						
LPAZ	La Paz	50.63	305	P	P	17 36 13.8	+0.7
	6.6nm,0.6s,baz=147,slow=5.6,SNR=22						
TORD	Torodi Ar. Bea	73.23	29	P	P	17 38 43.7	+0.2
	1.2nm,0.5s,baz=199,slow=6.2,SNR=12						
TORD				pP	pP	17 39 11.1	+1.9
	1.3nm,0.7s,baz=201,slow=7.9,SNR=4.5						
YKA	Yellowknife Ar	136.45	318	PKP	PKPdf	17 46 31.6	-0.4
	0.2nm,0.6s,baz=124,slow=2.4,SNR=5.0						
ILAR	Eielson Array	150.38	311	PKPbc	PKPbc	17 47 01.4	-0.3
	0.5nm,0.5s,baz=122,slow=4.0,SNR=8.3						
ILAR				pPKPbc	pPKPbc	17 47 29.6	+0.4
	0.5nm,0.8s,baz=116,slow=2.1,SNR=2.7						
SONM	Songino Array	150.62	87	PKPbc	PKPbc	17 47 02.1	-0.9
	0.3nm,0.4s,baz=222,slow=3.5,SNR=8.1						
SONM				pPKPbc	pPKPbc	17 47 29.6	-0.9
	0.6nm,0.7s,baz=222,slow=3.1,SNR=3.2						

MAN 03 17:38:54, 6°.87N × 126°.22E, h30^{km}, mb4.6, ML3.5, MS3.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.08	25	eP	Pb	17 39 00.9	+1.7
MATI				eS	Sb	17 39 04.8	+2.0
DMPH	Davao City--Mi	0.74	286	⇑iP	Pn	17 39 09.5	+1.1
DMPH				i S	Sn	17 39 21.5	+2.8
BUKP	Musuan	1.52	311	eP	Pn	17 39 19.5	+0.2
BUKP				eS	Sn	17 39 38.9	+0.7
CTBH	Cotabato--PC H	1.99	280	⇑iP	Pn	17 39 26.3	+0.7
BUTP	Butuan	2.17	344	eP	Pn	17 39 30.3	+2.3
CGP	Cagayan de Oro	2.18	316	eP	Pn	17 39 29.2	+0.9

*ISK **03** 17:40:19.9, 39°.34N × 29°.57E, h26^{km}, MD2.2*
*DDA **03** 17:40:20.6, 39°.32N × 29°.15E, h7^{km}, MD2.7*
*CSEM **03** 17:40:20.5±0.2, 39°.32N × 29°.18E, h2^{km}, MD2.7, Error ellipse: s-maj=5.7km s-min=4.9km az=10.0*
ISC 03 17:40:20.9±1.1, **39°.33N**±0°.03 × **29°.18E**±0°.03, **h4**^{km}±11^{km}, **n20**, σ**0^s.80**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.25	61	PG	Pg	17 40 25.4	-0.3
TVSB				SG	Sg	17 40 29.1	+0.2
TVSB	Tavsanli	0.25	61	i Pg	Pg	17 40 25.4	-0.3
TVSB				i Sg	Sg	17 40 29.2	+0.2
GDZ	Gediz	0.33	136	i P	Pg	17 40 27.6	+0.3
GDZ				i S	Sg	17 40 32.7	+0.9
GDZ	Gediz	0.33	136	i P	Pg	17 40 27.6	+0.3
GDZ				i S	Sg	17 40 32.7	+0.9
DEMI	Demirci	0.46	232	i P	Pg	17 40 29.5	-0.2
DEMI				i S	Sg	17 40 35.7	0.0
DEMI	Demirci	0.46	232	i P	Pg	17 40 29.5	-0.2
DEMI				i S	Sg	17 40 35.7	0.0
DURS	Dursunbey	0.61	297	i P	Pg	17 40 31.5	-1.1
DURS	Dursunbey	0.61	297	i P	Pg	17 40 31.5	-1.1
KHAL	Karahalli	0.99	166	eP	Pg	17 40 39.9	+0.1
KHAL	Karahalli	0.99	166	eP	Pg	17 40 39.9	+0.1
KHL	Karahalli	1.04	165	ePG	Pg	17 40 38.9	-1.9
KHL	Karahalli	1.04	165	ePg	Pg	17 40 38.9	-1.9
BORA	Eskisehir	1.13	60	eP	Pg	17 40 41.9	-0.6
BORA				i S	Sn	17 40 59.6	+0.1
BORA	Eskisehir	1.13	60	eP	Pg	17 40 41.9	-0.6
KCTX	Karacabey (Bur	1.13	326	ePN	Pn	17 40 43.3	-0.2
KCTX	Karacabey (Bur	1.13	326	ePn	Pn	17 40 43.3	-0.2
BALY	Balya	1.27	289	i P	Pn	17 40 45.1	-0.4
BALY				i S	Sn	17 41 04.4	+1.3
BALY	Balya	1.27	289	i P	Pn	17 40 45.1	-0.4
GONE	Gonen-Balikesi	1.36	302	ePN	Pg	17 40 47.6	+0.7
GONE	Gonen-Balikesi	1.36	302	ePn	Pg	17 40 47.6	+0.7

IDC 03 17:44:31.2±63.0, **19°.30S** × **179°.91W**, **h0**^{km}, **mb4.1**/3, **mb1 4.3**/3, **mb1mx3.8**/18, **mbtmp4.1**/3, **Error ellipse: s-maj=1139.0km s-min=147.2km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.72	242	P	P	17 51 40.5	+0.2
	3.5nm,0.8s,baz=72,slow=8.6,SNR=6.4						
WRA	Warramunga Arr	43.00	261	P	P	17 52 32.4	-0.3
	1.0nm,0.4s,baz=98,slow=7.6,SNR=37						
ASAR	Alice Springs	43.06	256	P	P	17 52 33.0	-0.2
	1.4nm,0.4s,baz=89,slow=7.9,SNR=44						

IDC 03 18:02:23.1±0.7, **2°.98N** × **127°.15E**, **h0**^{km}, **mb3.9**/12, **mb1 4.0**/12, **mb1mx3.9**/22, **mbtmp3.9**/12, **1C, Error ellipse: s-maj=37.7km s-min=14.3km az=75.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	5.12	326	⇑iP	Pn	18 03 45.7	+4.7
FITZ	Fitzroy Crossi	21.00	184	P	P	18 07 08.3	0.0
	0.9nm,0.8s,baz=13,slow=11,SNR=2.4						
WRA	Warramunga Arr	23.84	163	P	P	18 07 38.3	+0.1
	2.6nm,0.4s,baz=343,slow=11,SNR=46						
ASAR	Alice Springs	27.29	166	P	P	18 08 09.5	0.0
	0.4nm,0.7s,baz=342,slow=7.8,SNR=17						
CMAR	Chiang Mai Arr	31.62	301	P	P	18 08 48.6	+0.5
	0.4nm,0.8s,baz=133,slow=6.6,SNR=4.2						
STKA	Stephens Creek	37.28	159	P	P	18 09 37.4	+0.5
	4.3nm,0.8s,baz=347,slow=9.4,SNR=6.3						
USRK	Ussuriysk Arra	41.28	5	P	P	18 10 10.6	+0.4
	0.5nm,0.8s,baz=165,slow=9.8,SNR=4.2						
SONM	Songino Array	48.14	341	P	P	18 11 06.1	+1.0
	1.3nm,0.8s,baz=155,slow=8.7,SNR=13						
SONM				PcP	PcP	18 12 32.2	-0.5
	0.5nm,0.7s,baz=163,slow=3.1,SNR=4.7						
PETK	Petropavlovsk-	55.97	22	P	P	18 12 03.7	+0.5
	5.7nm,1.0s,baz=191,slow=4.4,SNR=7.5						
MKAR	Makanchi Array	58.41	325	P	P	18 12 20.6	-0.1
	0.6nm,0.5s,baz=122,slow=7.6,SNR=17						
ZALV	Zalesovo Beam	61.45	333	P	P	18 12 40.8	-0.5
	0.5nm,0.6s,baz=131,slow=5.9,SNR=4.2						
ZALV				PcP	PcP	18 13 23.7	+0.3
	0.2nm,0.4s,baz=139,slow=3.2,SNR=2.2						
ILAR	Eielson Array	85.60	25	P	P	18 15 02.0	-1.3
	0.2nm,0.5s,baz=243,slow=5.6,SNR=3.7						
ARCES	ARCESS Array B	91.30	340	P	P	18 15 28.4	-1.9
	5.2nm,1.1s,baz=74,slow=8.9,SNR=4.7						
TORD	Torodi Ar. Bea	123.55	288	PKP	PKPdf	18 21 22.6	-1.1
	0.4nm,0.7s,baz=95,slow=1.2,SNR=2.8						

*ISCJB **03** 18:08:00.4±0.4, 6°.11S±0°.04 × 147°.56E±0°.06, h77^{km}, mb4.1/20, Error ellipse: s-maj=8.5km s-min=5.4km az=4.6*
*IDC **03** 18:08:00.9±1.8, 6°.13S × 147°.68E, h70^{km}±17^{km}, mb3.8/12, mb1 4.0/15, mb1mx4.0/20, mbtmp3.9/15, MS3.6/10, Ms1 3.6/10, ms1mx3.4/27, Error ellipse: s-maj=22.5km s-min=8.9km az=109.0*
*NEIC **03** 18:08:01.1±1.1, 6°.09S × 147°.58E, h70^{km}±11^{km}, mb4.5/9, Error ellipse: s-maj=10.5km s-min=8.2km az=127.0*
*AUST **03** 18:08:13.1±0.5, 6°.71S × 147°.21E, h138^{km}, Error ellipse: s-maj=1.4km s-min=0.8km az=41.0*
ISC 03 18:08:01.9±0.5, **6°.16S**±0°.05 × **147°.58E**±0°.07, **h77**^{km}, **n73**, σ**1^s.25**/77, **mb4.2**/20, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.25	187	P	Pn	18 08 49.8	-0.8
	22nm,0.3s,baz=17,slow=11,SNR=70						
PMG				S	Sn	18 09 28.9	+0.7
	67nm,0.3s,baz=9.0,slow=19,SNR=5.1						
PMG	Port Moresby	3.25	187	ePn	Pn	18 08 49.6	-1.0
PMG				S	Sn	18 09 28.9	+0.7
JAY	Jayapura	7.75	298	P	Pn	18 10 04.5	+12
	baz=7.7,SNR=3.0						
COEN	Coen	8.88	209	ePn	Pn	18 10 07.1	-0.3
	62nm,0.5s						
COEN				eSn	Sn	18 11 43.6	-2.2
COEN	Coen	8.88	209	P	Pn	18 10 07.5	+0.1
	baz=8.3,SNR=18						
COEN				S	Sn	18 11 44.4	-1.4
	baz=8.3,SNR=4.6						
HNR	Honiara	12.68	106	LR	LR	18 15 01.2	
	comp=Z,126nm,21.4s,baz=276,slow=33						
HNR	Honiara	12.68	106	Pn	Pn	18 10 59.9	+0.6
	57nm,1.0s						
CTA	Charters Tower	13.90	185	P	Pn	18 11 16.1	+0.5
	0.6nm,0.3s,baz=356,slow=11,SNR=5.8						
CTA				LR	LR	18 16 23.1	
	comp=Z,212nm,20.8s,baz=10,slow=36						
CTA	Charters Tower	13.90	185	P	Pn	18 11 16.1	+0.5
CTAO	Charters Tower	13.90	185	ePn	Pn	18 11 16.3	+0.8
TLE	Tual	14.77	271	P	P	18 11 34.6	+3.8
	baz=14,SNR=5.1						
KDU	Kakadu	16.24	245	P	Pn	18 11 45.4	-0.1
	baz=16,SNR=12						
QIS	Mount Isa	16.27	208	P	P	18 11 46.8	-0.6
	baz=16,SNR=4.9						
SWI	Sorong	17.11	287	P	P	18 11 58.2	+1.4
	baz=17,SNR=6.1						
MTN	Manton Dam	17.52	247	P	P	18 12 01.5	+0.2
	baz=17,SNR=3.5						
WRAB	Tennant Creek	18.78	222	eP	P	18 12 15.3	+0.1
	10nm,0.6s						
WRAB				eS	S	18 15 38.7	-6.0
WRA	Warramunga Arr	18.79	222	P	P	18 12 15.6	+0.3
	2.0nm,0.3s,baz=42,slow=12,SNR=42						
WRA				S	Sn	18 15 47.1	+0.5
	baz=42,slow=22,SNR=6.2						
WRA				PcP	PcP	18 16 40.9	+1.0
	baz=57,slow=1.9,SNR=5.6						
WRA	Warramunga Arr	18.79	222	P	P	18 12 15.6	+0.3
WRA				S	Sn	18 15 47.1	+0.5
WRA				PcP	PcP	18 16 40.9	+1.0
EIDS	Eidsvold	19.39	170	P	Pn	18 12 23.8	+0.2
	baz=19,SNR=3.2						
AAI	Ambon	19.46	276	P	Pn	18 12 23.9	-0.7
	baz=19,SNR=11						
GUMO	Guam	19.81	352	LR	LR	18 18 34.5	
	comp=Z,88nm,21.1s,baz=80,slow=32						
RMQ	Roma	20.24	177	P	Pn	18 12 33.2	-0.4
	baz=20,SNR=11						
QLP	Quilpie	20.56	189	P	Pn	18 12 36.1	-1.2
	baz=20,SNR=12						
ASAR	Alice Springs	21.82	216	P	P	18 12 48.2	+0.3
	10nm,0.5s,baz=51,slow=8.8,SNR=179						
ASAR				S	S	18 16 47.3	+2.2
	9.7nm,1.0s,baz=30,slow=18,SNR=14						
ASAR				LR	LR	18 21 39.5	
	comp=Z,199nm,18.2s,baz=6.0,slow=37						
ASAR	Alice Springs	21.82	216	P	P	18 12 48.2	+0.3
ASAR				S	S	18 16 47.3	+2.2
DZM	Mont Dzumac	24.14	133	LR	LR	18 21 13.0	
	comp=Z,218nm,20.9s,baz=40,slow=33						
ARMA	Armidale	24.43	172	P	P	18 13 15.4	+1.9
	baz=24,SNR=9.2						
FITZ	Fitzroy Crossi	24.47	239	P	P	18 13 15.5	+1.6
	33nm,0.6s,baz=52,slow=9.3,SNR=154						
FITZ				LR	LR	18 23 48.6	
	comp=Z,170nm,19.9s,baz=74,slow=39						
FITZ	Fitzroy Crossi	24.47	239	eP	P	18 13 15.2	+1.3
	30nm,0.6s						
FITZ	Fitzroy Crossi	24.47	239	P	P	18 13 14.8	+0.9
	baz=24,SNR=64						
STKA	Stephens Creek	26.19	192	P	P	18 13 29.6	+0.2
	4.4nm,0.6s,baz=359,slow=8.7,SNR=17						
STKA				LR	LR	18 24 01.5	
	comp=Z,130nm,20.6s,baz=293,slow=37						
STKA	Stephens Creek	26.19	192	P	P	18 13 29.6	+0.2
STKA	Stephens Creek	26.19	192	P	P	18 13 30.2	+0.9
	baz=26,SNR=13						
KAPI	Kappang	27.71	271	P	P	18 13 43.3	+0.1
	5.2nm,0.6s,baz=95,slow=10,SNR=5.5						
KAPI	Kappang	27.71	271	P	P	18 13 43.3	+0.1
MBWA	Marble Bar	30.81	238	eP	P	18 14 11.2	+0.6
	10nm,0.6s						
MEEK	Meekatharra	34.29	230	P	P	18 14 42.4	+1.3
	baz=34,SNR=12						
KMBL	Kambalda	34.75	221	P	P	18 14 46.1	+1.2
	baz=34,SNR=5.8						
UGM	Wanagama	36.81	265	P	P	18 15 03.1	+0.3
	baz=36,SNR=3.1						
MORW	Morawa	37.49	229	P	P	18 15 09.6	+1.3
	baz=37,SNR=5.2						
MJAR	Matsushiro Arr	43.38	349	P	P	18 15 55.4	-1.4
	4.7nm,1.0s,baz=173,slow=8.3,SNR=6.6						
MJAR	Matsushiro Arr	43.38	349	P	P	18 15 55.4	-1.4
KSRS	Korea Array	47.11	339	P	P	18 16 26.2	-0.1
	1.5nm,0.8s,baz=152,slow=7.2,SNR=4.4						
KSRS				LR	LR	18 34 50.2	
	comp=Z,38nm,18.6s,baz=239,slow=34						
KSAR	Wonju Array Be	47.11	339	P	P	18 16 26.2	-0.1
KULM	Kulim	48.21	283	P	P	18 16 35.7	+0.5
	2.6nm,0.6s						
MCQ	Macquarie Isla	49.07	171	P	P	18 16 38.1	-3.0
	baz=49,SNR=4.2						
GSI	Gunungsitoli	50.47	277	P	P	18 16 52.6	+0.2
	baz=50,SNR=4.7						
USRK	Ussuriysk Arra	52.06	346	P	P	18 17 04.7	+0.9
	0.7nm,0.6s,baz=182,slow=9.7,SNR=5.0						
CMAR	Chiang Mai Arr	53.83	298	P	P	18 17 17.8	+0.4
	0.7nm,0.5s,baz=115,slow=6.3,SNR=6.4						
CMAR	Chiang Mai Arr	53.83	298	P	P	18 17 17.8	+0.4
SONM	Songino Array	64.82	331	P	P	18 18 33.3	+0.5
	1.2nm,0.9s,baz=140,slow=7.7,SNR=8.8						
SONM				LR	LR	18 45 52.0	
	comp=Z,72nm,18.1s,baz=271,slow=35						
SONM	Songino Array	64.82	331	P	P	18 18 33.3	+0.5
YAK	Yakutsk	69.39	351	P	P	18 19 01.3	+0.1
	16nm,1.3s						
VNDA	Vanda	71.72	177	P	P	18 19 14.6	-0.6
	1.3nm,0.8s,baz=349,slow=7.3,SNR=3.5						
VNDA	Vanda	71.72	177	P	P	18 19 14.6	-0.6
MKAR	Makanchi Array	77.99	320	P	P	18 19 51.3	-0.7
	0.3nm,0.4s,baz=101,slow=7.0,SNR=8.3						
MKAR	Makanchi Array	77.99	320	P	P	18 19 51.3	-0.7
ZALV	Zalesovo Beam	79.45	328	P	P	18 19 58.2	-1.6
	0.6nm,0.5s,baz=93,slow=6.2,SNR=4.2						
ZALV				LR	LR	18 58 22.5	
	comp=Z,39nm,20.0s,baz=158,slow=38						
ZALV	Zalesovo Beam	79.45	328	P	P	18 19 58.2	-1.6
KURK	Kurchatov	81.68	323	P	P	18 20 09.1	-2.7
	6.4nm,1.5s						
AAK	Ala-Archa	81.86	315	eP	P	18 20 12.8	-0.3
	6.3nm,0.8s						
EKS2	Erkin-Say	82.38	314	eP	P	18 20 15.8	0.0
	1.4nm,0.8s						
PMR	Palmer	83.11	25	P	P	18 20 19.2	+0.2
QSPA	South Pole Qui	83.81	180	eP	P	18 20 23.1	+0.4
	5.5nm,0.8s						
ILAR	Eielson Array	85.41	23	P	P	18 20 28.9	-1.6
	0.6nm,0.6s,baz=258,slow=4.6,SNR=9.9						
ILAR	Eielson Array	85.41	23	P	P	18 20 28.9	-1.6
TORD	Torodi Ar. Bea	145.69	284	PKPbc	PKPbc	18 27 33.2	+0.2
	2.9nm,0.5s,baz=80,slow=4.1,SNR=22						
TORD	Torodi Ar. Bea	145.69	284	PKPbc	PKPbc	18 27 33.2	+0.2
SAML	Samuel	145.86	116	ePKPdf	PKPbc	18 27 33.8	+0.2
DBIC	Dimbokro	152.60	273	PKPbc	PKPbc	18 27 51.8	+1.1
	1.7nm,0.5s,baz=80,slow=2.8,SNR=6.4						
DBIC	Dimbokro	152.60	273	PKPbc	PKPbc	18 27 51.8	+1.1
BDFB	Brasilia	153.40	145	PKPbc	PKPbc	18 27 52.3	-0.2
	3.7nm,0.8s,baz=121,slow=5.9,SNR=5.1						
BDFB	Brasilia	153.40	145	PKPbc	PKPbc	18 27 52.3	-0.2

JMA 03 18:20:52.5±0.2, **38°.66N** × **142°.88E**, **h30**^{km}±4^{km}, **M1.8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.03	294	P	Pn	18 21 11.2	+0.2
JIO	Ouri	1.22	261	P	Pn	18 21 13.7	+0.2
JIO				S	Sn	18 21 29.1	+0.2
JMK	Ichinoseki	1.33	283	P	Pn	18 21 15.7	+0.7
JOM	Ohasama	1.48	304	P	Pn	18 21 17.9	+0.8
JOM				S	Sn	18 21 36.1	+0.7
JOU	Okura	1.76	261	P	Pn	18 21 22.2	+1.2
JOU				S	Sn	18 21 43.7	+1.2
JMM	Marumori	1.82	245	P	Pn	18 21 22.4	+0.6
JRG	Rokugo	1.90	293	P	Pn	18 21 24.6	+1.8
JYK	Kaneyama	1.99	278	P	Pn	18 21 25.6	+1.5

*ISCJB **03** 18:26:54.7±1.8, 37°.79N±0°.08 × 29°.3E±0°.1, h14^{km}±10^{km}, Error ellipse: s-maj=15.0km s-min=10.9km az=39.4*
*ISK **03** 18:26:54.9, 37°.83N × 29°.26E, h3^{km}, MD2.5*
*CSEM **03** 18:26:55.5±0.6, 37°.81N × 29°.24E, h5^{km}, MD2.5, Error ellipse: s-maj=12.8km s-min=8.0km az=114.0*
*DDA **03** 18:26:56.5, 37°.83N × 29°.08E, h7^{km}, MD2.3*
ISC 03 18:26:55.1±1.9, **37°.83N**±0°.05 × **29°.3E**±0°.1, **h6**^{km}±21^{km}, **n10**, σ**0^s.65**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.22	252	PG	Pg	18 26 58.9	-0.7
DENT				SG	Sg	18 27 03.7	+1.1
DENT	Denizli	0.22	252	i Pg	Pg	18 26 58.9	-0.7
DENT				i Sg	Sg	18 27 03.7	+1.1
DNZL	Cakiroluk	0.24	236	i P	Pg	18 26 59.9	-0.1
DNZL				i S	Sg	18 27 02.8	-0.5
DNZL	Cakiroluk	0.24	236	i P	Pg	18 26 59.9	-0.1
DNZL				i S	Sg	18 27 02.8	-0.5
KHL	Karahalli	0.53	19	ePG	Pb	18 27 07.1	+0.2
KHL	Karahalli	0.53	19	ePg	Pb	18 27 07.1	+0.2
KULA	Kula-Manisa	0.85	324	ePG	Pg	18 27 11.3	-0.3
KULA				eSG	Sb	18 27 24.1	-0.1
KULA	Kula-Manisa	0.85	324	ePg	Pg	18 27 11.3	-0.3
KULA				eSg	Sb	18 27 24.1	-0.1
MANT	Manisa	0.89	319	i P	Pg	18 27 11.4	-0.8
MANT				i S	Sg	18 27 24.2	+0.5
MANT	Manisa	0.89	319	i P	Pg	18 27 11.4	-0.8
MANT				i S	Sg	18 27 24.2	+0.5

IGQ 03 18:32:21.6, 1°.30S × 81°.26W, h19^{km}±170^{km}**, Mb4.1, Ms3.9, 1C-5D, Error ellipse: s-maj=12.8km s-min=9.6km az=9.2, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	0.59	65	⇓S	Sb	18 32 40.1	-1.0
CHIS	Cerro-Chispas-	0.59	65	⇓P	Pb	18 32 32.5	-0.7
JAMA	Jama	1.47	46	S	Sb	18 33 07.3	+0.5
JAMA	Jama	1.47	46	P	Pg	18 32 49.4	-0.8
IGUA	Igualata	2.63	94	P	Pn	18 33 03.2	-0.6
ARRY	Arrayan	2.81	94	⇓S	Sn	18 33 41.4	+1.6
ARRY	Arrayan	2.81	94	⇓P	Pn	18 33 06.0	-0.1
PAT1	Patacocha	2.83	94	P	Pn	18 33 06.7	+0.2
BULB	Ulba Tungurahu	2.85	93	P	Pn	18 33 09.2	+2.5
BMOR	Cotopaxi Volca	2.85	79	P	Pb	18 33 10.0	-2.7
ULBA	Ulba	2.85	93	P	Pn	18 33 08.5	+1.8
MOV1	Cotopaxi Vol s	2.88	78	P	Pb	18 33 10.5	-2.7
PINO	Pino	2.88	67	P	Pn	18 33 09.2	+1.9
PISA	Pisayambo	2.88	85	P	Pn	18 33 09.5	+2.3
BREF	Cotopaxi Volca	2.89	78	P	Pn	18 33 08.3	+0.9
GGP	Refugio Guagua	2.89	67	P	Pn	18 33 06.9	-0.4
BVC2	Cotopaxi Volca	2.92	77	P	Pn	18 33 10.2	+2.4
PITA	Cotopaxi Volc	2.92	76	P	Pn	18 33 09.7	+2.0
VC1	Cotopaxi 1	2.93	77	P	Pn	18 33 10.4	+2.5
TAMB	Tambo	2.95	78	P	Pb	18 33 11.8	-2.6
COV1	Cotopaxi Volc	2.98	78	⇑P	Pn	18 33 11.4	+2.6
OTAV	Otavalo	3.19	62	P	Pn	18 33 13.2	+1.8
ANTI	Antisana	3.21	75	P	Pn	18 33 14.3	+2.5
CAYR	Refugio Cayamb	3.50	68	P	Pb	18 33 20.0	-3.9
CAYA	Cayambe	3.54	67	⇓P	Pn	18 33 20.0	+3.7

IDC 03 18:33:09.7±3.3, **4°.67S** × **153°.03E**, **h0**^{km}, **mb3.5**/6, **mb1 3.6**/6, **mb1mx3.5**/18, **mbtmp3.5**/6, **Error ellipse: s-maj=99.7km s-min=27.9km az=106.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.49	231	Sn	Sn	18 36 22.8	-3.2
	0.5nm,0.3s,baz=68,slow=19,SNR=2.5						
WRA	Warramunga Arr	23.70	229	P	P	18 38 22.9	-0.6
	0.3nm,0.4s,baz=50,slow=10.0,SNR=10.0						
ASAR	Alice Springs	26.40	223	P	P	18 38 48.8	+0.6
	0.2nm,0.4s,baz=51,slow=8.7,SNR=5.7						
CMAR	Chiang Mai Arr	58.03	295	P	P	18 43 05.0	0.0
	0.4nm,0.6s,baz=122,slow=6.0,SNR=6.2						
SONM	Songino Array	66.34	328	P	P	18 44 00.7	+0.3
	0.2nm,0.5s,baz=143,slow=4.7,SNR=4.4						
MKAR	Makanchi Array	80.38	319	P	P	18 45 22.9	-0.2
	0.2nm,0.4s,baz=98,slow=7.3,SNR=6.6						
ZALV	Zalesovo Beam	81.17	326	P	P	18 45 27.2	0.0
	0.3nm,0.4s,baz=99,slow=6.6,SNR=4.3						
TORD	Torodi Ar. Bea	150.48	288	PKPbc	PKPbc	18 53 04.0	-0.5
	0.6nm,0.4s,baz=83,slow=2.5,SNR=8.0						

IDC 03 18:38:19.6±2.1, **1°.52N** × **126°.30E**, **h0**^{km}, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.4**/20, **mbtmp3.5**/3, **Error ellipse: s-maj=188.0km s-min=25.2km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.74	160	P	P	18 43 23.2	-0.3
	1.4nm,0.7s,baz=339,slow=11,SNR=14						
ASAR	Alice Springs	26.10	164	P	P	18 43 55.5	+0.1
	0.4nm,0.4s,baz=345,slow=9.6,SNR=13						
MKAR	Makanchi Array	59.13	326	P	P	18 48 22.2	0.0
	0.2nm,0.5s,baz=125,slow=7.1,SNR=5.7						

IDC 03 18:39:19.8±1.3, **0°.58S** × **133°.53E**, **h0**^{km}, **mb3.4**/3, **mb1 3.7**/5, **mb1mx3.4**/21, **mbtmp3.4**/5, **ML3.4**/2, **Error ellipse: s-maj=61.5km s-min=23.5km az=89.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.07	204	P	P	18 43 42.6	-1.3
	0.1nm,0.3s,baz=17,slow=11,SNR=2.5						
WRA	Warramunga Arr	19.27	178	P	Pn	18 43 46.7	-0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=6.9						
ASAR	Alice Springs	22.96	179	P	P	18 44 26.6	+0.5
	0.8nm,0.7s,baz=5.9,slow=11,SNR=6.0						
MKAR	Makanchi Array	64.98	324	P	P	18 50 02.1	+0.4
	0.3nm,0.5s,baz=118,slow=8.0,SNR=5.2						
ILAR	Eielson Array	86.07	25	P	P	18 52 01.8	-0.5
	0.2nm,0.7s,baz=243,slow=5.9,SNR=3.4						

IDC 03 18:51:00.4±2.4, **48°.13N** × **152°.96E**, **h151**^{km}±24^{km}, **mb2.9**/7, **mb1 3.1**/11, **mb1mx3.0**/29, **mbtmp3.0**/11, **Error ellipse: s-maj=30.6km s-min=17.0km az=139.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.82	29	P	Pn	18 52 24.8	+0.2
	0.5nm,0.3s,baz=198,slow=14,SNR=16						
ASAJ	Asahikawa	8.24	245	P	Pn	18 52 56.9	0.0
	1.7nm,0.3s,baz=74,slow=11,SNR=24						
USRK	Ussuriysk Arra	15.04	263	P	Pn	18 54 25.1	+0.1
	0.1nm,0.3s,baz=69,slow=12,SNR=4.2						
MJAR	Matsushiro Arr	15.88	229	P	Pn	18 54 35.5	0.0
	0.2nm,0.3s,baz=18,slow=13,SNR=4.3						
KSRS	Korea Array	21.15	249	P	P	18 55 33.4	0.0
	1.8nm,0.6s,baz=54,slow=10.0,SNR=8.8						
SONM	Songino Array	30.80	287	P	P	18 57 01.4	-0.4
	0.2nm,0.7s,baz=56,slow=8.7,SNR=2.2						
MKAR	Makanchi Array	46.23	296	P	P	18 59 09.6	-0.5
	0.5nm,0.7s,baz=67,slow=7.2,SNR=5.8						
YKA	Yellowknife Ar	49.88	37	P	P	18 59 37.7	-0.1
	0.1nm,0.5s,baz=298,slow=7.3,SNR=3.9						
CMAR	Chiang Mai Arr	52.61	255	P	P	19 00 00.2	+1.4
	0.3nm,0.8s,baz=35,slow=6.7,SNR=3.3						
WRA	Warramunga Arr	69.79	199	P	P	19 01 53.9	-0.3
	0.2nm,0.5s,baz=22,slow=6.5,SNR=2.7						
ASAR	Alice Springs	73.49	198	P	P	19 02 16.2	-0.1
	0.2nm,0.6s,baz=10,slow=5.7,SNR=3.1						

JMA 03 18:52:28.1, 37°.15N × 138°.68E, h10^{km}±2^{km}**, M1.5, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	Hiroka	0.29	70	P	Pg	18 52 33.7	-0.2
JHK				S	Sg	18 52 38.2	+0.4
JIZZ	Izumozaki	0.38	4	P	Pg	18 52 36.3	+0.6
JIZZ				S	Sb	18 52 43.0	0.0
JJN	Nakama	0.42	264	P	Pg	18 52 36.3	0.0
JJN				S	Sg	18 52 42.6	+0.8
JGK	Kuni	0.59	183	S	Sg	18 52 47.7	+0.3
JKT	Katashina	0.59	130	P	Pg	18 52 39.3	-0.5
JKT				S	Sg	18 52 47.5	-0.2
MAT	Matsushiro	0.71	212	P	Pg	18 52 41.2	-0.8
MAT				S	Sg	18 52 50.3	-1.1
MAT	Matsushiro	0.71	212	P	Pg	18 52 41.2	-0.8
MAT				S	Sg	18 52 50.5	-0.9
JNS	Sasagawa	0.84	37	P	Pg	18 52 43.7	-0.6
JNS				S	Sg	18 52 54.9	-0.3
JFY	Yanaizu	0.86	72	P	Pg	18 52 43.9	-0.8
JFY				S	Sg	18 52 55.3	-0.6
JSD	Sado	0.95	339	P	Pg	18 52 44.7	-1.6
JSD				S	Sg	18 52 57.2	-1.5
JAG	Ashikaga	0.95	139	P	Pg	18 52 46.0	-0.5
JAG				S	Sg	18 52 58.8	-0.1

KRSC 03 19:05:48.0±0.7, **49°.85N** × **157°.37E**, **h82**^{km}±81^{km}, **ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.46	351	eP	Pn	19 06 26.1	0.0
ASAK	Asacha	2.56	7	eP	Pn	19 06 30.0	+2.5
ASAK				i S	Sn	19 07 00.5	+2.7
RUS	Russkaya	2.69	15	P	Pn	19 06 31.7	+2.7
RUS				i S	Sn	19 07 02.8	+2.2
SMAR	Somma	3.53	14	eP	Pn	19 06 44.2	+3.4
KOK	Koryaka	3.54	12	eP	Pn	19 06 45.1	+4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRER	**Koryakskii**	**3.56**	**13**	eP	Pn	19 06 45.1	+3.9
KRER				iS	Sn	19 07 28.1	+5.7
MKZ	**Mys Kozlova**	**5.42**	**28**	eP	Pn	19 07 09.3	+3.1
MKZ				iS	Sn	19 08 08.7	+1.6
KBTR	**Krutoberegovo**	**7.16**	**25**	eP	Pn	19 07 32.4	+2.5

*IDC **03** 19:07:19.9±2.8, 7°.98S×74°.30W, h128km±33km, mb3.9/4, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, MS2.7/1, Ms1 2.7/1, ms1mx2.2/41, Error ellipse: s-maj=49.3km s-min=13.9km az=38.0*
*ISCJB **03** 19:07:20.3±0.6, 8°.04S±0°.06×74°.41W±0°.05, h151km, mb3.9/4, Error ellipse: s-maj=8.8km s-min=6.2km az=28.1*
*NEIC **03** 19:07:20.9±0.8, 8°.01S×74°.39W, h140km±9km, mb4.6/2, Error ellipse: s-maj=12.8km s-min=8.5km az=210.0*
ISC 03 19:07:21.5±0.6, **8°.07S**±0°.06×**74°.39W**±0°.06, **h151**km, **n29**, σ**1s18**/39, **mb4.1**/4, **Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.08**	**283**	P	**Pn**	**19 08 22.9**	**-0.3**
	21nm,0.3s,baz=84,slow=6.8,SNR=29						
ATAH				S	**Sn**	**19 09 10.0**	**-1.0**
	102nm,0.3s,baz=131,slow=19,SNR=26						
ATAH	**Atahualpa**	**4.08**	**283**	P	**Pn**	**19 08 22.9**	**-0.3**
ATAH				S	**Sn**	**19 09 10.0**	**-1.0**
NNA	**Nana**	**4.58**	**212**	P	**Pn**	**19 08 31.8**	**+2.4**
	13nm,0.3s,baz=37,slow=13,SNR=18						
NNA				S	**Sn**	**19 09 22.2**	**-0.1**
	86nm,0.3s,baz=135,slow=19,SNR=23						
NNA	**Nana**	**4.58**	**212**	ePn	**Pn**	**19 08 30.0**	**+0.6**
NNA				eSn	**Sn**	**19 09 19.8**	**-2.6**
NNA				S		19 09 22.2	
LPAZ	**La Paz**	**10.20**	**144**	P	**Pn**	**19 09 44.5**	**-0.2**
	0.3nm,0.3s,baz=324,slow=9.1,SNR=8.4						
LPAZ				S	**Sn**	**19 11 35.8**	**-2.3**
	0.3nm,0.3s,baz=102,slow=19,SNR=1.8						
LPAZ	**La Paz**	**10.20**	**144**	ePn	**Pn**	**19 09 44.1**	**-0.7**
LPAZ				S	**Sn**	**19 11 35.8**	**-2.3**
SAML	**Samuel**	**11.12**	**95**	ePn	**Pn**	**19 09 54.6**	**-1.8**
	12nm,0.6s						
SAML				eSn	Sn	19 11 52.3	-7.1
SIV	**San Ignacio**	**15.21**	**122**	P	**P**	**19 10 50.8**	**+0.7**
	0.8nm,0.3s,baz=309,slow=13,SNR=12						
SIV				S	**Sn**	**19 13 36.4**	**-1.4**
	0.3nm,0.3s,baz=255,slow=21,SNR=3.9						
SIV				LR	LR	19 16 51.3	
	comp=Z,27nm,18.4s,slow=38						
SIV	**San Ignacio**	**15.21**	**122**	P	**P**	**19 10 50.8**	**+0.7**
SIV				S	**Sn**	**19 13 36.4**	**-1.4**
SDV	**Santo Domingo**	**17.26**	**13**	ePn	**Pn**	**19 11 13.9**	**+0.2**
PAYG	**Puerto Ayora**	**17.46**	**294**	P	**P**	**19 11 13.5**	**-1.4**
	19nm,0.8s						
CPUP	**Villa Florida**	**24.34**	**140**	P	**P**	**19 12 26.3**	**+0.9**
	3.1nm,0.6s,baz=303,slow=9.9,SNR=10						
CPUP	**Villa Florida**	**24.34**	**140**	P	**P**	**19 12 26.3**	**+0.9**
DBIC	**Dimbokro**	**70.86**	**80**	P	**P**	**19 18 22.9**	**+0.3**
	5.0nm,0.4s,baz=242,slow=5.1,SNR=15						
DBIC	**Dimbokro**	**70.86**	**80**	P	**P**	**19 18 22.9**	**+0.3**
YKA	**Yellowknife Ar**	**76.85**	**342**	P	**P**	**19 18 56.6**	**+0.2**
	0.2nm,0.4s,baz=140,slow=6.4,SNR=5.8						
YKA				pP	**pP**	**19 19 32.5**	**-1.1**
	0.4nm,0.8s,baz=137,slow=6.2,SNR=4.8						
YKA	**Yellowknife Ar**	**76.85**	**342**	P	**P**	**19 18 56.6**	**+0.2**
YKA				pP	**pP**	**19 19 32.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**78.44**	**75**	P	**P**	**19 19 06.3**	**+0.1**
	3.2nm,0.7s,baz=286,slow=5.8,SNR=18						
TORD	**Torodi Ar. Bea**	**78.44**	**75**	P	**P**	**19 19 06.3**	**+0.1**
ZALV	**Zalesovo Beam**	**131.28**	**16**	PKP	**PKPdf**	**19 26 16.8**	**+1.1**
	0.4nm,0.7s,baz=294,slow=1.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**131.28**	**16**	PKP	**PKPdf**	**19 26 16.8**	**+1.1**
MKAR	**Makanchi Array**	**136.56**	**23**	PKP	**PKPdf**	**19 26 26.7**	**+0.8**
	0.2nm,0.4s,baz=309,slow=2.1,SNR=5.1						
MKAR	**Makanchi Array**	**136.56**	**23**	PKP	**PKPdf**	**19 26 26.6**	**+0.8**
ASAR	**Alice Springs**	**138.05**	**221**	PKP	**PKPdf**	**19 26 30.2**	**+0.9**
	0.3nm,0.6s,baz=118,slow=2.5,SNR=5.3						
ASAR	**Alice Springs**	**138.05**	**221**	PKP	**PKPdf**	**19 26 30.2**	**+0.9**
WRA	**Warramunga Arr**	**140.32**	**225**	PKP	**PKPdf**	**19 26 34.4**	**+0.9**
	0.6nm,0.6s,baz=121,slow=2.1,SNR=9.8						
WRA	**Warramunga Arr**	**140.32**	**225**	PKP	**PKPdf**	**19 26 34.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**167.81**	**31**	PKPab	**PKPab**	**19 28 19.2**	**+1.2**
	0.5nm,0.8s,baz=335,slow=4.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**167.81**	**31**	PKPab	**PKPab**	**19 28 19.2**	**+1.2**

*ISCJB **03** 19:31:52.5±0.5, 50°.28N±0°.04×18°.85E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.4km az=15.3*
*CSEM **03** 19:31:53.8±0.3, 50°.25N×18°.84E, h2km, ML2.7/7, Error ellipse: s-maj=7.0km s-min=2.9km az=4.0*
*IPEC **03** 19:31:53.1±0.2, 50°.29N×18°.87E, h0km±1km, ML1.9/3, Error ellipse: s-maj=2.5km s-min=0.8km az=171.0*
*PRU **03** 19:31:54.4, 50°.26N×18°.86E, h0km*
ISC 03 19:31:53.3±0.8, **50°.25N**±0°.04×**18°.86E**±0°.02, **h0**km, **n44**, σ**0s75**/67, **6C-4D**, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**249**	ePg	**Pb**	**19 32 04.0**	**-0.3**
RAC				eSg	**Sb**	**19 32 11.4**	**-0.2**
OJC	**Ojcow**	**0.60**	**92**	ePg	**Pg**	**19 32 04.3**	**-0.6**
	baz=277						
OJC				eSg	**Sg**	**19 32 12.2**	**-0.5**
	baz=277						
OJC	**Ojcow**	**0.60**	**92**	ePg	**Pg**	**19 32 04.4**	**-0.5**
OJC				eSg	**Sg**	**19 32 12.4**	**-0.3**
OKC	**Ostrava-Krasne**	**0.62**	**228**	ePG	**Pg**	**19 32 06.2**	**+1.1**
OKC				eSG	**Sb**	**19 32 15.2**	**-1.0**
	comp=Z,47nm,0.9s						
OKC	**Ostrava-Krasne**	**0.62**	**228**	ePg	**Pg**	**19 32 05.8**	**+0.7**
	baz=45						
OKC				Sg	**Sb**	**19 32 15.2**	**-1.0**
	47nm,0.9s						
MORC	**Moravsky Berou**	**0.97**	**241**	⇑iP	**Pg**	**19 32 12.5**	**+0.6**
MORC	**Moravsky Berou**	**0.97**	**241**	ePg	**Pg**	**19 32 12.1**	**+0.2**
	baz=58						
MORC	**Moravsky Berou**	**0.97**	**241**	⇑iP	**Pg**	**19 32 12.5**	**+0.6**
MORC				eSg	**Sg**	**19 32 24.3**	**-0.2**
	20nm,0.2s,baz=58						
MORC				S	**Sb**	**19 32 25.6**	**-0.9**
LIKS	**Likavka**	**1.21**	**172**	eSN	**Sb**	**19 32 33.8**	**+0.5**
LIKS	**Likavka**	**1.21**	**172**	eSn	**Sb**	**19 32 33.9**	**+0.6**
NIE	**Niedzica**	**1.26**	**131**	ePg	**Pg**	**19 32 16.9**	**-0.5**
NIE				eSg	**Sg**	**19 32 34.4**	**+0.8**
NIE	**Niedzica**	**1.26**	**131**	ePg	**Pg**	**19 32 16.9**	**-0.5**
NIE				eSg	**Sg**	**19 32 34.4**	**+0.8**
DPC	**Dobruska-Polom**	**1.63**	**275**	ePG	**Pn**	**19 32 23.3**	**0.0**
DPC				eSG	**Sn**	**19 32 44.9**	**-0.1**
	comp=Z,25nm,0.7s						
DPC	**Dobruska-Polom**	**1.63**	**275**	ePn	**Pn**	**19 32 23.1**	**-0.2**
	baz=91						
DPC				Sg	**Sn**	**19 32 44.9**	**-0.1**
	25nm,0.7s						
KSP	**Ksiaz**	**1.74**	**291**	ePn	**Pg**	**19 32 26.9**	**+0.2**
KSP				eSn	**Sg**	**19 32 50.0**	**+0.7**
KSP	**Ksiaz**	**1.74**	**291**	ePg	**Pg**	**19 32 26.7**	**0.0**
KSP				eSg	**Sg**	**19 32 50.6**	**+1.3**
KSP	**Ksiaz**	**1.74**	**291**	ePn	**Pg**	**19 32 26.9**	**+0.2**
KSP				eSn	**Sg**	**19 32 49.9**	**+0.7**
VRAC	**Vranov**	**1.74**	**238**	⇑iP	**Pn**	**19 32 25.5**	**+0.6**
VRAC	**Vranov**	**1.74**	**238**	ePn	**Pn**	**19 32 25.1**	**+0.2**
	baz=55						
VRAC	**Vranov**	**1.74**	**238**	⇑iP	**Pn**	**19 32 25.5**	**+0.6**
VRAC				eSg	**Sn**	**19 32 48.4**	**+0.6**
	17nm,0.6s,baz=55						
VYHS	**Vyhne**	**1.76**	**180**	ePN	**Pn**	**19 32 24.2**	**-0.8**
VYHS				eSN	**Sn**	**19 32 48.7**	**+0.6**
VYHS	**Vyhne**	**1.76**	**180**	ePn	**Pn**	**19 32 24.2**	**-0.8**
VYHS				eSn	**Sn**	**19 32 48.7**	**+0.6**
UPC	**Upice**	**1.84**	**279**	eSG	**Sg**	**19 32 52.2**	**-0.3**
UPC	**Upice**	**1.84**	**279**	Sg	**Sg**	**19 32 52.2**	**-0.3**
KRUC	**Moravsky**	**1.99**	**234**	ePn	**Pn**	**19 32 28.0**	**-0.3**
	baz=52						
KRUC				eSn	**Sb**	**19 32 55.4**	**-0.4**
	3.4nm,0.2s,baz=52						
CRVS	**Cervenica-Dubn**	**2.17**	**128**	ePN	**Pb**	**19 32 32.9**	**-0.5**
CRVS				eSN	**Sn**	**19 32 59.7**	**+1.5**
CRVS	**Cervenica-Dubn**	**2.17**	**128**	ePn	**Pb**	**19 32 32.9**	**-0.5**
CRVS				eSn	**Sn**	**19 32 59.7**	**+1.5**
PSZ	**Piszkesteto**	**2.43**	**163**	⇓iP	**Pn**	**19 32 34.5**	**+0.1**
PSZ	**Piszkesteto**	**2.43**	**163**	⇓iP	**Pn**	**19 32 34.5**	**+0.1**
KWP	**Kalwaria Pacla**	**2.56**	**102**	ePn	**Pb**	**19 32 40.0**	**-0.2**
KWP				ePb	**Pg**	**19 32 43.2**	**+0.8**
KWP	**Kalwaria Pacla**	**2.56**	**102**	⇓iP	**Pb**	**19 32 38.9**	**-1.3**
KWP	**Kalwaria Pacla**	**2.56**	**102**	⇓iP	**Pb**	**19 32 38.9**	**-1.3**
KWP	**Kalwaria Pacla**	**2.56**	**102**	ePn	**Pb**	**19 32 40.0**	**-0.2**
KWP	**Kalwaria Pacla**	**2.56**	**102**	ePn	**Pb**	**19 32 40.0**	**-0.2**
KWP				ePb	**Pg**	**19 32 43.2**	**+0.8**
KOLS	**Kolonicke sedl**	**2.58**	**119**	ePN	**Pn**	**19 32 36.8**	**+0.4**
KOLS				e		19 32 42.4	
KOLS	**Kolonicke sedl**	**2.58**	**119**	ePn	**Pn**	**19 32 36.8**	**+0.4**
KOLS				eSn	**Sn**	**19 33 08.0**	**-0.5**
PRU	**Pruhonice**	**2.79**	**266**	eSG	**Sg**	**19 33 21.6**	**-1.4**
	comp=Z,4.0nm,0.5s						
PRU	**Pruhonice**	**2.79**	**266**	Sg	**Sg**	**19 33 21.6**	**-1.4**
	4.0nm,0.5s						
BRG	**Berggiesshubel**	**3.20**	**283**	PG	Pg	19 32 58.0	+3.4
BRG				SG	**Sg**	**19 33 37.0**	**+1.0**
	3.8nm,0.7s						
KHC	**Kasperske Hory**	**3.61**	**254**	eSG	**Sg**	**19 33 47.9**	**-1.2**
	comp=Z,6.9nm,0.6s						
KHC	**Kasperske Hory**	**3.61**	**254**	Sg	**Sg**	**19 33 47.9**	**-1.2**
	6.9nm,0.6s						
CLL	**Collm**	**3.87**	**288**	eSg	**Sg**	**19 33 59.0**	**+1.6**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑iP	**Pn**	**19 33 09.4**	**+0.4**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑iP	**Pn**	**19 33 09.4**	**+0.4**

IDC 03 19:44:36.6±3.0, **1°.98S**×**137°.61E**, **h0**km, **mb3.0**/2, **mb1 3.3**/3, **mb1mx3.1**/18, **mbtmp3.1**/3, **Error ellipse: s-maj=105.4km s-min=30.5km az=83.0**, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.14**	**190**	P	Pn	19 48 49.6	-0.6
	0.1nm,0.3s,baz=12,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**21.86**	**189**	P	P	19 49 31.1	0.0
	0.3nm,0.4s,baz=19,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**68.54**	**323**	P	P	19 55 41.4	+0.2
	0.3nm,1.0s,baz=104,slow=6.1,SNR=3.1						

IDC 03 19:49:15.6±1.3, **13°.54N**×**145°.17E**, **h88**km±6km, **mb3.2**/7, **mb1 3.4**/7, **mb1mx3.2**/26, **mbtmp3.2**/7, **Error ellipse: s-maj=32.8km s-min=18.4km az=87.0**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.30**	**279**	P	Pn	19 49 30.2	+1.5
	2μm,0.3s,baz=127,slow=3.0,SNR=986						
GUMO				S	Sn	19 49 40.3	+1.8
	761nm,0.3s,baz=163,slow=19,SNR=37						
WRA	**Warramunga Arr**	**34.94**	**198**	P	P	19 55 58.8	-0.4
	1.2nm,0.7s,baz=21,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**38.59**	**197**	P	P	19 56 30.4	+0.1
	0.3nm,0.6s,baz=18,slow=13,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.62**	**283**	P	P	19 57 19.4	-0.3
	0.5nm,0.6s,baz=89,slow=6.3,SNR=5.0						
SONM	**Songino Array**	**46.94**	**325**	P	P	19 57 37.7	+0.1
	0.3nm,0.8s,baz=123,slow=5.3,SNR=2.2						
SONM				PcP	PcP	19 59 09.0	+0.1
	0.3nm,0.6s,baz=135,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**61.73**	**316**	P	P	19 59 24.8	0.0
	0.3nm,0.5s,baz=94,slow=8.2,SNR=6.7						
KURBB	**Kurchatov Arra**	**64.85**	**320**	P	P	19 59 45.0	-0.3
	0.4nm,0.3s,baz=104,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**68.48**	**25**	P	P	20 00 07.7	-0.5
	0.2nm,0.5s,baz=251,slow=5.6,SNR=3.6						
BVAR	**Borovoye Array**	**70.15**	**322**	P	P	20 00 19.1	+0.4
	0.3nm,0.3s,baz=83,slow=7.1,SNR=4.0						
DBIC	**Dimbokro**	**144.10**	**302**	PKP	PKPbc	20 08 40.7	+0.3
	1.0nm,0.4s,baz=56,slow=2.5,SNR=7.4						

IDC 03 19:51:53.1±49.0, **17°.44S**×**178°.75W**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/19, **mbtmp3.8**/3, **Error ellipse: s-maj=888.5km s-min=154.5km az=78.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.57**	**241**	P	P	19 59 17.9	0.0
	2.2nm,0.9s,baz=90,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**44.40**	**259**	P	P	20 00 05.4	-0.5
	0.1nm,0.3s,baz=95,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**44.61**	**254**	P	P	20 00 07.6	+0.1
	1.7nm,0.5s,baz=89,slow=8.1,SNR=41						

*ISCJB **03** 20:04:21.0±0.2, 43°.53N±0°.01×105°.36W±0°.02, h0km, Error ellipse: s-maj=2.3km s-min=2.1km az=171.5*
*NEIC **03** 20:04:21.7±0.6, 43°.56N×105°.30W, h0km, ML3.1, Error ellipse: s-maj=8.1km s-min=7.4km az=217.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] ENE of Midwest.
*IDC **03** 20:04:50.1±2.2, 43°.39N×105°.16W, h0km, mb4.6/1, mb1 3.9/4, mb1mx3.4/29, mbtmp3.6/4, ML2.7/2, Error ellipse: s-maj=49.7km s-min=9.8km az=155.0*
ISC 03 20:04:21.7±0.8, **43°.54N**±0°.02×**105°.36W**±0°.02, **h0**km, **n100**, σ**0s97**/103, **32C-42D**, **Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.20**	**227**	P	**Pg**	**20 04 26.0**	**+0.6**
	baz=0.2,SNR=585						
J23A				⇑S	**Sg**	**20 04 28.3**	**+0.3**
	baz=0.2						
I23A	**Meade Ranch, G**	**0.43**	**350**	⇑P	**Pg**	**20 04 30.6**	**+0.6**
	baz=0.4,SNR=14						
I23A				⇑S	**Sg**	**20 04 36.4**	**+0.8**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.55**	**112**	P	**Pg**	**20 04 32.5**	**+0.3**
	baz=0.5,SNR=36						
J24A				⇓S	**Sg**	**20 04 40.2**	**+0.9**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.62**	**58**	P	**Pg**	**20 04 33.9**	**+0.3**
	baz=0.6,SNR=149						
I24A				⇓S	**Sg**	**20 04 42.8**	**+1.2**
	baz=0.6						
J22A	**Midwest**	**0.83**	**262**	⇑P	**Pg**	**20 04 37.3**	**-0.3**
	baz=0.9						
J22A				⇓S	**Sg**	**20 04 49.1**	**+0.9**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.89**	**294**	⇓P	**Pg**	**20 04 38.9**	**+0.1**
	baz=0.9,SNR=49						
K24A	**Anderson Ranch**	**0.91**	**154**	⇑P	**Pg**	**20 04 38.5**	**-0.5**
	baz=0.9						
RSSD	**Black Hills**	**1.12**	**58**	ePg	**Pg**	**20 04 42.4**	**-0.7**
K22A	**Casper**	**1.23**	**224**	⇑P	**Pg**	**20 04 44.2**	**-1.1**
	baz=1.3						
H22A	**Clearmont**	**1.28**	**326**	⇑Pg	**Pg**	**20 04 46.2**	**0.0**
	baz=1.3,SNR=80						
H24A	**Dirks Ranch, A**	**1.34**	**25**	⇑P	**Pg**	**20 04 46.4**	**-1.0**
	baz=1.3,SNR=242						
K25A	**Mack Ranch, Ha**	**1.43**	**130**	⇓Pg	**Pn**	**20 04 48.8**	**-0.2**
	baz=1.4,SNR=199						
I21A	**Big Trails, Te**	**1.43**	**282**	⇑Pb	**Pn**	**20 04 47.9**	**-1.2**
	baz=1.5						
L24A	**Wheatland**	**1.52**	**168**	⇑Pb	**Pn**	**20 04 49.4**	**-0.9**
	baz=1.5						
J21A	**Lysite**	**1.54**	**264**	⇓Pb	**Pn**	**20 04 49.5**	**-1.0**
	baz=1.6						
J21A				⇓Sb	**Sn**	**20 05 10.2**	**-1.1**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.63**	**312**	⇑Pg	**Pb**	**20 04 52.5**	**-0.3**
	baz=1.6,SNR=26						
H21A				⇓Sg	**Sg**	**20 05 15.7**	**+1.5**
	baz=1.6						
K21A	**Alcova**	**1.66**	**238**	⇓Pb	**Pn**	**20 04 51.7**	**-0.6**
	baz=1.7						
K21A				⇑Sg	**Sg**	**20 05 15.3**	**+0.3**
	baz=1.7						
G23A	**Biddle**	**1.66**	**359**	⇓Pb	**Pn**	**20 04 52.5**	**+0.2**
	baz=1.6,SNR=56						
G23A				⇑Sg	**Sg**	**20 05 17.4**	**+2.2**
	baz=1.6						
L22A	**Ellis Ranch, M**	**1.70**	**208**	⇓Pb	**Pn**	**20 04 52.4**	**-0.4**
	baz=1.7						
L22A				⇓Sg	**Sg**	**20 05 17.2**	**+0.8**
	baz=1.7						
L25A	**Engebretsen Ra**	**1.72**	**143**	⇓Pg	**Pb**	**20 04 53.9**	**-0.3**
	baz=1.7,SNR=9.5						
K26A	**Motz Farm, Whi**	**1.80**	**117**	⇓Pb	**Pn**	**20 04 54.6**	**+0.5**
	baz=1.8,SNR=24						
G22A	**Birney**	**1.81**	**339**	⇑Pb	**Pn**	**20 04 55.0**	**+0.7**
	baz=1.8,SNR=10						
G24A	**Alzada**	**1.91**	**20**	⇓Pb	**Pb**	**20 04 56.9**	**-0.7**
	baz=1.9,SNR=19						
J20A	**Shoshoni**	**2.00**	**266**	⇑Pg	**Pb**	**20 04 58.8**	**-0.2**
	baz=2.0,SNR=70						
I20A	**Worland**	**2.05**	**283**	⇓Pb	**Pn**	**20 04 58.5**	**+0.9**
	baz=2.1,SNR=289						
M23A	**Laramie**	**2.08**	**188**	⇑Pb	**Pn**	**20 04 58.9**	**+0.8**
	baz=2.1,SNR=24						
M24A	**Cheyenne**	**2.10**	**169**	⇑Pb	**Pn**	**20 04 59.5**	**+1.1**
	baz=2.1,SNR=21						
H20A	**Greybull**	**2.13**	**297**	⇑Pb	**Pn**	**20 04 59.8**	**+1.2**
	baz=2.2,SNR=31						
G21A	**Lodge Grass**	**2.15**	**322**	⇓P	**Pn**	**20 04 58.9**	**0.0**
	baz=2.2,SNR=47						
L21A	**Rawlins**	**2.16**	**224**	⇓Pb	**Pn**	**20 05 00.2**	**+1.0**
	baz=2.2,SNR=22						
F23A	**Volborg**	**2.18**	**359**	⇓P	**Pn**	**20 04 59.6**	**+0.2**
	baz=2.2,SNR=48						
PHWY	**Pilot Hill**	**2.23**	**182**	ePn	**Pn**	**20 04 59.9**	**-0.3**
M25A	**Palm-Egli Farm**	**2.31**	**155**	⇓Pb	**Pn**	**20 05 02.5**	**+1.3**
	baz=2.3,SNR=16						
M22A	**Cedar Creek Ra**	**2.32**	**204**	⇑Pb	**Pn**	**20 05 03.0**	**+1.6**
	baz=2.4,SNR=106						
F22A	**Rosebud**	**2.33**	**344**	⇓P	**Pn**	**20 05 00.7**	**-0.7**
	baz=2.3,SNR=18						
K20A	**Yellowstone Ra**	**2.36**	**249**	⇓Pb	**Pn**	**20 05 03.5**	**+1.7**
	baz=2.4,SNR=50						
F24A	**Ekalaka**	**2.40**	**15**	⇓Pb	**Pb**	**20 05 04.6**	**-1.2**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.43**	**109**	⇑P	**Pn**	**20 05 02.8**	**+0.1**
	baz=2.4,SNR=40						
M21A	**Separation Pea**	**2.43**	**218**	⇑Pb	**Pn**	**20 05 04.5**	**+1.6**
	baz=2.5,SNR=42						
F21A	**Absaloka Mine,**	**2.61**	**332**	P	**Pn**	**20 05 04.8**	**-0.4**
	baz=2.6,SNR=7.5						
G20A	**Bridger**	**2.65**	**310**	P	**Pn**	**20 05 05.7**	**-0.1**
	baz=2.7,SNR=69						
L27A	**T5 Ranch, Ells**	**2.67**	**122**	⇑P	**Pn**	**20 05 07.2**	**+1.2**
	baz=2.6						
N23A	**Red Feather La**	**2.68**	**190**	⇓P	**Pn**	**20 05 07.4**	**+1.1**
	baz=2.7,SNR=33						
I19A	**Meeteetse**	**2.68**	**282**	⇑P	**Pn**	**20 05 07.7**	**+1.3**
	baz=2.7,SNR=15						
H19A	**Powell**	**2.85**	**295**	⇓P	**Pn**	**20 05 09.4**	**+0.9**
	baz=2.9,SNR=11						
M20A	**Sweetwater, Wa**	**2.93**	**227**	⇓Pb	**Pb**	**20 05 13.7**	**-1.2**
	baz=3.0						
E22A	**Miles City**	**2.93**	**352**	⇓P	**Pn**	**20 05 09.3**	**-0.3**
	baz=2.9,SNR=10						
F20A	**Billings**	**3.02**	**320**	⇓P	**Pn**	**20 05 10.7**	**-0.1**
	baz=3.0						
E24A	**Baker**	**3.11**	**13**	⇑P	**Pn**	**20 05 12.6**	**+0.4**
	baz=3.1,SNR=11						
N26A	**Koester Ranch,**	**3.14**	**149**	⇓P	**Pn**	**20 05 12.9**	**+0.4**
	baz=3.1						
BW06	**Boulder Array**	**3.17**	**257**	ePn	**Pn**	**20 05 13.3**	**+0.3**
BW06	**Boulder Array**	**3.17**	**257**	⇓P	**Pn**	**20 05 13.5**	**+0.4**
	baz=3.2,SNR=51						
PDAR	**Pinedale Array**	**3.17**	**257**	Pn	Sn	20 05 45.5	-6.2
	6.6nm,0.3s,baz=90,slow=14,SNR=12						
PDAR				Lg	Lg	20 06 33.6	
	10nm,0.3s,baz=76,slow=34,SNR=5.7						
RLMT	**Red Lodge**	**3.22**	**301**	ePn	**Pn**	**20 05 14.3**	**+0.6**
RLMT	**Red Lodge**	**3.22**	**301**	⇑P	**Pn**	**20 05 14.2**	**+0.4**
	baz=3.2,SNR=10						
E21A	**Keefer Ranch,**	**3.24**	**339**	⇑P	**Pn**	**20 05 13.7**	**-0.2**
	baz=3.2						
F19A	**Roth Farm, Mol**	**3.45**	**313**	⇑P	**Pn**	**20 05 17.3**	**+0.5**
	baz=3.5,SNR=39						
G18A	**Lazy EL Ranch,**	**3.50**	**302**	⇑P	**Pn**	**20 05 18.0**	**+0.5**
	baz=3.5,SNR=23						
OGNE	**Ogallala**	**3.58**	**135**	ePn	**Pn**	**20 05 19.0**	**+0.5**
OGNE	**Ogallala**	**3.58**	**135**	⇑P	**Pn**	**20 05 18.9**	**+0.4**
	baz=3.6,SNR=6.2						
D23A	**Lindsay**	**3.64**	**2**	⇓P	**Pn**	**20 05 20.1**	**+0.7**
	baz=3.6						
D24A	**Glendive**	**3.65**	**11**	⇓P	**Pn**	**20 05 20.3**	**+0.8**
	baz=3.6,SNR=5.0						
D22A	**Cohagen**	**3.66**	**351**	⇓P	**Pn**	**20 05 19.9**	**+0.3**
	baz=3.6						
ISCO	**Idaho Springs**	**3.74**	**183**	ePn	**Pn**	**20 05 21.9**	**+1.0**
E19A	**Rath Farm, Rou**	**3.80**	**321**	⇓P	**Pn**	**20 05 21.6**	**0.0**
	baz=3.8,SNR=9.8						
GCMT	**Greycliff**	**3.81**	**308**	ePn	**Pn**	**20 05 21.6**	**-0.3**
LOHW	**Long Hollow**	**3.81**	**273**	ePn	**Pn**	**20 05 23.6**	**+1.7**
F18A	**Big Timber**	**3.91**	**309**	P	**Pn**	**20 05 23.0**	**-0.1**
	baz=3.9,SNR=20						
FLWY	**Flagg Ranch**	**3.91**	**280**	ePn	**Pn**	**20 05 21.4**	**-1.8**
MOOW	**Moose Ponds**	**3.92**	**275**	ePn	**Pn**	**20 05 24.7**	**+1.4**
SNOW	**Snow King Moun**	**3.93**	**271**	ePn	**Pn**	**20 05 25.5**	**+2.0**
O27A	**Beecher Island**	**3.97**	**146**	⇑P	**Pn**	**20 05 24.4**	**+0.4**
	baz=4.0						
REDW	**Red Top Meadow**	**4.01**	**269**	ePn	Pn	20 05 28.2	+3.6
YNR	**Norris Junctio**	**4.01**	**289**	Pn	**Pn**	**20 05 27.4**	**+2.8**
D20A	**Manuel Ranch,**	**4.06**	**332**	⇓P	**Pn**	**20 05 25.1**	**0.0**
	baz=4.1,SNR=11						
IMW	**Indian Meadow**	**4.06**	**277**	ePn	**Pn**	**20 05 27.4**	**+2.0**
TPAW	**Teton Pass**	**4.07**	**271**	ePn	Pn	20 05 28.8	+3.4
YMR	**Madison River**	**4.20**	**288**	ePn	**Pn**	**20 05 27.7**	**+0.5**
DCID1	**Drake Creek**	**4.24**	**273**	ePn	**Pn**	**20 05 24.8**	**-2.9**
P26A	**Davis Ranch, A**	**4.25**	**159**	⇓P	**Pn**	**20 05 28.2**	**+0.3**
	baz=4.3,SNR=16						
C23A	**Lambert**	**4.27**	**2**	⇓P	**Pn**	**20 05 29.0**	**+1.0**
	baz=4.2						
RRI2	**Red Ridge**	**4.35**	**270**	ePn	**Pn**	**20 05 31.0**	**+1.7**
C21A	**Desert Coulee**	**4.46**	**345**	⇑P	**Pn**	**20 05 31.2**	**+0.5**
	baz=4.4						
F17A	**Fitzpatrick Pl**	**4.46**	**304**	⇓P	**Pn**	**20 05 31.6**	**+0.9**
	baz=4.5,SNR=12						
P27A	**Ficken Ranch,**	**4.49**	**151**	⇑P	**Pn**	**20 05 31.6**	**+0.5**
	baz=4.5						
SMCO	**Snowmass**	**4.52**	**196**	ePn	Pn	20 05 35.2	+3.4
L16A	**Fish Haven**	**4.72**	**253**	⇓P	**Pn**	**20 05 35.0**	**+0.6**
	baz=4.8,SNR=8.2						
Q26A	**Hugo**	**4.81**	**163**	⇓P	**Pn**	**20 05 36.0**	**+0.4**
	baz=4.8,SNR=6.6						
BOZ	**Bozeman (W)**	**4.95**	**297**	ePn	**Pn**	**20 05 37.9**	**+0.4**
HWUT	**Hardware Ranch**	**4.97**	**249**	ePn	**Pn**	**20 05 38.3**	**+0.5**
DGMT	**Dagmar**	**5.00**	**9**	ePn	**Pn**	**20 05 36.6**	**-1.4**
D17A	**Six Diamond Ra**	**5.21**	**316**	⇓P	**Pn**	**20 05 41.5**	**+0.4**
	baz=5.2,SNR=28						
R26A	**Arlington**	**5.43**	**164**	⇓P	**Pn**	**20 05 44.0**	**0.0**
	baz=5.4,SNR=12						
EGMT	**Eagleton**	**5.44**	**327**	ePn	**Pn**	**20 05 44.1**	**0.0**
	4.7nm,0.6s						
LRM	**Limekiln Ridge**	**5.55**	**297**	ePn	**Pn**	**20 05 46.8**	**+1.0**
	23nm,0.4s						
SRU	**San Rafael**	**5.89**	**223**	ePn	**Pn**	**20 05 50.2**	**-0.1**
	10nm,0.5s						
MVCO	**Mesa Verde**	**6.76**	**202**	Pn	**Pn**	**20 06 02.1**	**-0.3**
ULM	**Lac du Bonnet**	**9.33**	**41**	Pn	Pn	20 07 04.3	+27
	0.6nm,0.3s,baz=226,slow=14,SNR=3.4						
YKA	**Yellowknife Ar**	**19.75**	**347**	P	Pn	20 09 22.5	+28
	0.1nm,0.3s,baz=156,slow=12,SNR=3.6						
ARCES	**ARCESS Array B**	**61.63**	**18**	P	P	20 15 09.2	+29
	8.1nm,1.1s,baz=325,slow=7.7,SNR=4.3						

IDC 03 20:16:11.5±4.0, **8°.64S**×**123°.64E**, **h184**km±40km, **mb2.7**/1, **mb1 2.9**/4, **mb1mx2.7**/20, **mbtmp2.7**/4, **Error ellipse: s-maj=90.6km s-min=15.4km az=59.0**, **Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.60**	**169**	P	Pn	20 18 26.7	+0.9
	0.1nm,0.3s,baz=358,slow=13,SNR=4.5						
FITZ				S	Sn	20 20 10.3	-2.6
	0.7nm,0.3s,baz=106,slow=16,SNR=9.3						
WRA	**Warramunga Arr**	**15.28**	**138**	P	Pn	20 19 36.9	-0.9
	0.2nm,0.3s,baz=316,slow=12,SNR=16						
WRA				S	Sn	20 22 17.1	-12
	0.1nm,0.3s,baz=321,slow=24,SNR=4.4						
ASAR	**Alice Springs**	**17.88**	**148**	P	Pn	20 20 09.0	-0.1
	0.1nm,0.3s,baz=331,slow=12,SNR=7.0						
ASAR				S	S	20 23 23.6	+0.5
	0.1nm,0.3s,baz=314,slow=20,SNR=3.0						
MKAR	**Makanchi Array**	**66.33**	**330**	P	P	20 26 40.0	-0.2
	0.1nm,0.4s,baz=142,slow=7.3,SNR=2.9						

*ISCJB **03** 20:32:28.1±1.0, 13°.7N±0°.2×121°.0E±0°.2, h150km, mb3.5/6, Error ellipse: s-maj=26.9km s-min=17.4km az=42.4*
*IDC **03** 20:32:28.5±0.9, 13°.68N×121°.00E, h134km±7km, mb3.4/6, mb1 3.5/6, mb1mx3.2/24, mbtmp3.4/6, Error ellipse: s-maj=41.1km s-min=19.2km az=62.0*
ISC 03 20:32:29.5±1.1, **13°.7N**±0°.2×**121°.0E**±0°.2, **h150**km, **n19**, σ**0s79**/19, **mb3.6**/6, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.42**	**350**	P	**Pn**	**20 32 48.4**	**-2.1**
	344nm,0.3s,baz=142,slow=12,SNR=32						
CMAR	**Chiang Mai Arr**	**21.72**	**286**	P	**P**	**20 37 09.2**	**+0.2**
	3.4nm,0.8s,baz=98,slow=7.9,SNR=21						
TAPN	**Taplejung**	**33.90**	**299**	*e*P	**P**	**20 38 58.4**	**-0.2**
ODAN	**Odare**	**34.03**	**298**	*e*P	**P**	**20 38 59.3**	**-0.4**
	7.3nm,0.6s						
RAMN	**Ramite**	**34.74**	**298**	*e*P	**P**	**20 39 05.8**	**+0.1**
JIRN	**Jiri**	**35.28**	**299**	*e*P	**P**	**20 39 10.6**	**+0.1**
	2.6nm,0.4s						
GUN	**Gumba**	**35.61**	**299**	*e*P	**P**	**20 39 12.9**	**-0.4**
WRA	**Warramunga Arr**	**35.90**	**158**	P	**P**	**20 39 15.9**	**+0.5**
	0.4nm,0.9s,baz=342,slow=8.6,SNR=3.2						
PKI	**Pulchoki**	**35.92**	**298**	*e*P	**P**	**20 39 15.2**	**-0.8**
	4.4nm,0.3s						
KKN	**Kakani**	**36.09**	**299**	*e*P	**P**	**20 39 16.7**	**-0.6**
	4.7nm,0.6s						
SONM	**Songino Array**	**36.16**	**343**	P	**P**	**20 39 18.4**	**+0.9**
	0.5nm,0.6s,baz=162,slow=9.2,SNR=6.9						
DMN	**Daman**	**36.19**	**298**	*e*P	**P**	**20 39 17.6**	**-0.6**
GKN	**Gorkha**	**36.70**	**299**	*e*P	**P**	**20 39 21.5**	**-0.8**
KOLN	**Koldanda**	**37.52**	**298**	*e*P	**P**	**20 39 28.9**	**-0.5**
DANN	**Dangsing**	**37.53**	**299**	*e*P	**P**	**20 39 28.9**	**-0.7**
	5.7nm,0.5s						
PYUN	**Piuthan**	**38.13**	**298**	*e*P	**P**	**20 39 33.9**	**-0.6**
	12nm,1.0s						
MKAR	**Makanchi Array**	**46.22**	**323**	P	**P**	**20 40 40.3**	**+0.8**
	0.5nm,0.3s,baz=120,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**49.21**	**333**	P	**P**	**20 41 02.4**	**+0.1**
	1.2nm,0.4s,baz=121,slow=6.7,SNR=9.1						
ARCES	**ARCESS Array B**	**79.20**	**339**	P	**P**	**20 44 18.2**	**+0.7**
	1.2nm,0.7s,baz=82,slow=7.6,SNR=3.3						

---

*ISCJB **03** 20:59:24.9±1.1, 6°.50S±0°.06×104°.41E±0°.06, h10km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=5.6km az=135.1*

*IDC **03** 20:59:24.9±13.0, 5°.20S×105°.71E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=670.7km s-min=29.3km az=49.0*

*DJA **03** 20:59:25.9±1.1, 6°S±3°×10°4E±°, h8km±9km, M3.9/9, MLv3.9/9*

ISC 03 20:59:24.0±1.5**, 6°.52S**±0°.08×**104°.43E**±0°.08**, h10**km**, n12,** σ1s.**24**/14**, mb3.5**/3**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.99**	**4**	P	**Pg**	**20 59 43.1**	**-0.1**
KASI				S	**Sb**	**20 59 56.2**	**-0.3**
CGJI	**Cibinong**	**1.26**	**94**	P	**Pn**	**20 59 47.7**	**0.0**
CGJI				S	**Sn**	**21 00 05.6**	**+0.9**
BLSI	**Bandar Lampung**	**1.41**	**35**	P	**Pb**	**20 59 50.7**	**+0.3**
BLSI				S	**Sb**	**21 00 07.8**	**-0.6**
LWLI	**Liwa**	**1.54**	**346**	P	**Pn**	**20 59 51.3**	**-0.3**
LWLI				S	**Sb**	**21 00 12.5**	**+0.2**
DBJI	**Dramaga**	**2.31**	**91**	P	**Pn**	**21 00 04.3**	**+2.2**
CBJI	**Citeko**	**2.41**	**88**	P	**Pb**	**21 00 06.8**	**-0.7**
MNAI	**Manna**	**2.60**	**326**	P	**Pn**	**21 00 07.0**	**+0.9**
KSI	**Kapahiang**	**3.39**	**327**	P	**Pn**	**21 00 18.9**	**+1.9**
CISI	**Cisompet, Garu**	**3.52**	**107**	P	**Pn**	**21 00 20.5**	**+1.7**
WRA	**Warramunga Arr**	**31.95**	**118**	P	**P**	**21 05 48.6**	**-1.8**
	0.4nm,1.1s,baz=295,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**56.61**	**342**	P	P	21 09 03.5	-3.6
	0.3nm,0.5s,baz=156,slow=8.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**62.47**	**347**	P	P	21 09 43.4	-4.0
	0.5nm,0.3s,baz=158,slow=5.9,SNR=4.6						

IDC 03 21:16:26.8±14.0**, 5°.95S**×**128°.25E, h414**km±209km**, mb2.6**/2**, mb1 3.2**/4**, mb1mx2.9**/19**, mbtmp3.0**/4**, Error ellipse: s-maj=117.0km s-min=63.6km az=95.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.11**	**157**	P	P	21 19 40.4	+0.2
	1.5nm,0.3s,baz=337,slow=11,SNR=64						
ASAR	**Alice Springs**	**18.43**	**163**	P	P	21 20 15.3	-0.1
	0.8nm,0.3s,baz=343,slow=12,SNR=38						
SONM	**Songino Array**	**56.92**	**343**	P	P	21 25 31.2	+0.4
	0.3nm,0.8s,baz=163,slow=5.4,SNR=2.9						
MKAR	**Makanchi Array**	**66.41**	**327**	P	P	21 26 32.8	-0.4
	0.3nm,0.4s,baz=125,slow=7.6,SNR=7.8						

IDC 03 21:19:18.6±4.8**, 0°.60S**×**131°.11E, h0**km**, mb3.2**/2**, mb1 3.4**/3**, mb1mx3.2**/20**, mbtmp3.2**/3**, ML3.2**/1**, Error ellipse: s-maj=339.4km s-min=26.2km az=72.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.49**	**171**	P	P	21 23 47.0	-0.3
	0.1nm,0.3s,baz=352,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**23.09**	**173**	P	P	21 24 26.4	+0.2
	0.8nm,0.8s,baz=349,slow=8.9,SNR=6.5						
MKAR	**Makanchi Array**	**63.58**	**325**	P	P	21 29 51.2	0.0
	0.1nm,0.5s,baz=122,slow=8.1,SNR=2.7						

---

*IDC **03** 21:47:16.8±1.0, 39°.22N×75°.38E, h0km, mb3.4/10, mb1 3.6/14, mb1mx3.5/31, mbtmp3.4/14, ML3.1/4, Error ellipse: s-maj=18.0km s-min=16.7km az=128.0*

*NEIC **03** 21:47:21.8±0.5, 39°.02N×74°.94E, h49km±15km, mb4.1/1, Error ellipse: s-maj=22.0km s-min=4.4km az=59.0*

*NNC **03** 21:47:21.8±11.0, 39°.28N×74°.74E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=102.4km s-min=61.0km az=159.0*

ISC 03 21:47:18.5±4.1**, 39°.18N**±0°.06×**75°.22E**±0°.07**, h9**km±27km**, n59,** σ1s.**31**/63**, mb3.4**/11**, 2C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.67**	**60**	Pg	Pg	21 47 26.5	-5.0
KSH				Sg	Sg	21 47 32.8	-7.9
KSH				smax	smax		
	comp=N,5μm,1.1s						
KSH				smax	smax		
	comp=E,3μm,0.6s						
KZA	**Kyzart**	**2.89**	**0**	P	**Pn**	**21 48 05.7**	**+0.5**
	SNR=28						
UCH	**Uchtor**	**3.09**	**350**	P	**Pn**	**21 48 09.4**	**+1.5**
	SNR=16						
ULHL	**Ulahol**	**3.16**	**14**	P	Pn	21 48 12.0	+3.4
	SNR=26						
AML	**Almayashu**	**3.17**	**339**	P	**Pn**	**21 48 11.6**	**+2.7**
	SNR=14						
KBK	**Karagaybulak**	**3.48**	**357**	P	**Pn**	**21 48 14.5**	**+1.6**
	SNR=62						
AAK	**Ala-Archa**	**3.49**	**351**	Pn	**Pn**	**21 48 15.1**	**+2.0**
	comp=E,5.9nm,0.3s,baz=149,slow=7.8,SNR=121						
AAK				Sn	**Sn**	**21 48 57.8**	**+3.2**
	comp=E,3.5nm,0.3s,baz=30,slow=20,SNR=4.0						
AAK	**Ala-Archa**	**3.49**	**351**	*e*Pn	**Pn**	**21 48 15.1**	**+2.0**
AAK				*e*Sn	**Sn**	**21 48 57.8**	**+3.2**
AAK	**Ala-Archa**	**3.49**	**351**	P	**Pn**	**21 48 15.0**	**+2.0**
	SNR=43						
EKS2	**Erkin-Say**	**3.65**	**343**	*e*Pn	**Pn**	**21 48 17.2**	**+2.1**
EKS2				*e*Sn	**Sn**	**21 48 59.0**	**+0.7**
EKS2	**Erkin-Say**	**3.65**	**343**	P	**Pn**	**21 48 17.6**	**+2.5**
	SNR=17						
TKM2	**Tokmak 2**	**3.75**	**4**	Pn	**Pn**	**21 48 17.9**	**+1.3**
	comp=E,21nm,0.3s						
TKM2				Sn	**Sn**	**21 49 02.4**	**+1.4**
	comp=E,38nm,0.8s						
TKM2	**Tokmak 2**	**3.75**	**4**	P	**Pn**	**21 48 18.0**	**+1.4**
	SNR=66						
CHMS	**Chumysh**	**3.83**	**355**	P	**Pn**	**21 48 18.9**	**+1.3**
	SNR=25						
USP	**Ospenovka**	**4.12**	**353**	P	**Pn**	**21 48 22.8**	**+1.2**
	SNR=16						
KNDC	**Almaty**	**4.24**	**18**	⇑Pn	Pb	21 48 30.7	-2.5
	comp=E,18nm,0.5s						
KNDC				⇑Sn	**Sb**	**21 49 23.1**	**-1.5**
	comp=E,90nm,1.0s						
KK31	**Karatay Array**	**5.29**	**319**	Pn	**Pn**	**21 48 38.8**	**+1.1**
	comp=E,1.8nm,0.4s,baz=136,slow=13,SNR=23						
KK31				⇓Sn	**Sn**	**21 49 39.2**	**+0.4**
	comp=E,5.7nm,0.5s,baz=145,slow=24,SNR=4.0						
KKAR	**Karatay Array**	**5.29**	**319**	*e*Pn	**Pn**	**21 48 38.6**	**+1.0**
	comp=E,4.4nm,0.4s						
KKAR				*e*Sn	**Sn**	**21 49 36.5**	**-2.2**
MKAR	**Makanchi Array**	**9.20**	**32**	Pn	**Pn**	**21 49 31.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=4.8						
MKAR				Lg	Lg	21 52 04.7	
	comp=E,0.0nm,0.3s,baz=218,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**11.68**	**10**	Pn	**Pn**	**21 50 07.1**	**+2.0**
	comp=E,0.0nm,0.3s,baz=199,slow=11,SNR=2.7						
KURBB				Lg	Lg	21 53 25.4	
	comp=E,0.0nm,0.3s,baz=207,slow=29,SNR=9.1						
PYUN	**Piuthan**	**12.80**	**147**	*e*P	**Pn**	**21 50 21.6**	**+0.8**
	comp=E,7.8nm,0.5s						
PYUN	**Piuthan**	**12.80**	**147**	*e*P	**Pn**	**21 50 21.6**	**+0.8**
	comp=E,7.8nm,0.5s						
DANN	**Dangsing**	**12.92**	**144**	*e*P	**Pn**	**21 50 23.6**	**+1.1**
DANN	**Dangsing**	**12.92**	**144**	*e*P	**Pn**	**21 50 23.6**	**+1.1**
KOLN	**Koldanda**	**13.35**	**146**	*e*P	**Pn**	**21 50 28.4**	**+0.1**
	comp=E,2.6nm,0.3s						
KOLN	**Koldanda**	**13.35**	**146**	*e*P	**Pn**	**21 50 28.4**	**+0.1**
	comp=E,2.6nm,0.3s						
GKN	**Gorkha**	**13.62**	**142**	*e*P	**Pn**	**21 50 32.5**	**+0.5**
	comp=E,2.6nm,0.2s						
GKN	**Gorkha**	**13.62**	**142**	*e*P	**Pn**	**21 50 32.5**	**+0.5**
	comp=E,2.6nm,0.2s						
KKN	**Kakani**	**14.11**	**141**	*e*P	**Pn**	**21 50 39.3**	**+0.6**
	comp=E,2.7nm,0.5s						
KKN	**Kakani**	**14.11**	**141**	*e*P	**Pn**	**21 50 39.3**	**+0.6**
	comp=E,2.7nm,0.5s						
DMN	**Daman**	**14.18**	**142**	*e*P	**Pn**	**21 50 40.4**	**+0.7**
DMN	**Daman**	**14.18**	**142**	*e*P	**Pn**	**21 50 40.4**	**+0.7**
BVAR	**Borovoye Array**	**14.24**	**348**	Pn	**P**	**21 50 45.7**	**-1.9**
	comp=E,0.3nm,0.3s,baz=155,slow=8.6,SNR=6.8						
BVAR				Lg	Lg	21 54 48.4	
	comp=E,0.2nm,0.3s,baz=160,slow=23,SNR=3.9						
GUN	**Gumba**	**14.32**	**139**	*e*P	**Pn**	**21 50 42.4**	**+0.7**
	comp=E,3.0nm,0.4s						
GUN	**Gumba**	**14.32**	**139**	*e*P	**Pn**	**21 50 42.4**	**+0.7**
	comp=E,3.0nm,0.4s						
PKI	**Pulchoki**	**14.36**	**141**	*e*P	**Pn**	**21 50 42.5**	**+0.3**
	comp=E,2.9nm,0.3s						
PKI	**Pulchoki**	**14.36**	**141**	*e*P	**Pn**	**21 50 42.5**	**+0.3**
	comp=E,2.9nm,0.3s						
JIRN	**Jiri**	**14.68**	**138**	*e*P	**Pn**	**21 50 47.1**	**+0.5**
	comp=E,1.7nm,0.4s						
JIRN	**Jiri**	**14.68**	**138**	*e*P	**Pn**	**21 50 47.1**	**+0.5**
	comp=E,1.7nm,0.4s						
ABKAR	**Akbulak array**	**14.85**	**318**	*e*Pn	**Pn**	**21 50 47.7**	**-0.8**
	comp=E,1.5nm,0.6s						
RAMN	**Ramite**	**15.47**	**139**	*e*P	**Pn**	**21 50 56.0**	**-1.1**
	comp=E,13nm,0.8s						
RAMN	**Ramite**	**15.47**	**139**	*e*P	**Pn**	**21 50 56.0**	**-1.1**
	comp=E,13nm,0.8s						
TAPN	**Taplejung**	**15.74**	**135**	*e*P	**Pn**	**21 51 01.1**	**+0.5**
	comp=E,2.9nm,0.6s						
TAPN	**Taplejung**	**15.74**	**135**	*e*P	**Pn**	**21 51 01.1**	**+0.5**
	comp=E,2.9nm,0.6s						
ODAN	**Odare**	**15.95**	**137**	*e*P	**Pn**	**21 51 03.7**	**+0.3**
	comp=E,2.5nm,0.4s						
ODAN	**Odare**	**15.95**	**137**	*e*P	**Pn**	**21 51 03.7**	**+0.3**
	comp=E,2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**16.16**	**21**	Pn	**Pn**	**21 51 04.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**16.56**	**318**	Pn	**Pn**	**21 51 09.9**	**-0.8**
	comp=E,0.1nm,0.3s,baz=118,slow=15,SNR=2.7						
SONM	**Songino Array**	**24.08**	**59**	P	**P**	**21 52 32.7**	**-1.5**
	comp=E,0.2nm,0.7s,baz=267,slow=10,SNR=2.5						
ENH	**Enshi**	**29.39**	**97**	*e*P	**P**	**21 53 22.8**	**+0.7**
	comp=E,1.9nm,0.4s						
BRTR	**Keskin Array B**	**31.91**	**284**	P	**P**	**21 53 45.7**	**+1.4**
	comp=E,0.4nm,0.6s,baz=77,slow=6.6,SNR=3.8						
MLR	**Muntele Rosu**	**36.49**	**296**	P	**P**	**21 54 24.0**	**0.0**
	comp=E,0.2nm,0.5s,baz=50,slow=11						
FINES	**FINESS Array B**	**37.24**	**323**	P	**P**	**21 54 30.4**	**+0.4**
	comp=E,0.4nm,0.6s,baz=97,slow=9.9,SNR=3.3						
GERES	**GERESS Array B**	**44.17**	**304**	P	**P**	**21 55 27.9**	**+0.4**
	comp=E,0.3nm,0.5s,baz=12,slow=7.1,SNR=4.8						
NOA	**NORSAR Array B**	**44.32**	**321**	P	**P**	**21 55 28.8**	**+0.3**
	comp=E,0.5nm,0.8s,baz=93,slow=7.6,SNR=3.1						
ESDC	**Sonseca Array**	**59.16**	**298**	P	**P**	**21 57 19.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=57,slow=7.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**69.09**	**270**	P	**P**	**21 58 25.4**	**+0.4**
	comp=E,0.4nm,0.6s,baz=49,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**78.36**	**5**	P	**P**	**21 59 17.2**	**-1.6**
	comp=E,0.1nm,0.3s,baz=338,slow=5.5,SNR=4.0						
WRA	**Warramunga Arr**	**80.68**	**125**	P	**P**	**21 59 31.7**	**-0.2**
	comp=E,0.2nm,0.5s,baz=322,slow=4.2,SNR=3.6						

---

*ISK **03** 21:49:56.6, 39°.63N×37°.88E, h5km, MD2.6*

*ISCJB **03** 21:49:58.8±1.4, 39°.64N±0°.04×37°.92E±0°.09, h5km±9km, Error ellipse: s-maj=11.2km s-min=6.7km az=11.1*

*DDA **03** 21:49:59.5, 39°.60N×37°.98E, h7km, MD2.9*

*CSEM **03** 21:49:59.6±0.4, 39°.62N×37°.99E, h12km, MD2.9, Error ellipse: s-maj=9.3km s-min=5.5km az=92.0*

ISC 03 21:49:59.1±2.0**, 39°.61N**±0°.03×**37°.98E**±0°.09**, h5**km±13km**, n19,** σ0s.**45**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.48**	**109**	*e*PG	**Pg**	**21 50 08.8**	**+0.4**
ILIC				*e*SG	**Sb**	**21 50 17.6**	**+0.1**
ILIC	**ilic-Erzincan**	**0.48**	**109**	*e*Pg	**Pg**	**21 50 08.8**	**+0.4**
ILIC				*e*Sg	**Sb**	**21 50 17.7**	**+0.1**
KEMA	**Kemaliye**	**0.53**	**130**	*i* P	**Pg**	**21 50 09.4**	**+0.2**
KEMA				*i* S	**Sb**	**21 50 18.0**	**-0.7**
KEMA	**Kemaliye**	**0.53**	**130**	*i* P	**Pg**	**21 50 09.4**	**+0.2**
KEMA				*i* S	**Sb**	**21 50 18.0**	**-0.7**
SUSE	**Susehri**	**0.62**	**16**	*i* P	**Pb**	**21 50 12.2**	**-0.3**
SUSE	**Susehri**	**0.62**	**16**	*i* P	**Pb**	**21 50 12.2**	**-0.3**
EZC	**Erzincan**	**1.07**	**82**	*e*PN	**Pg**	**21 50 19.4**	**-0.2**
EZC	**Erzincan**	**1.07**	**82**	*e*Pn	**Pg**	**21 50 19.4**	**-0.2**
KELT	**Kelkit**	**1.12**	**61**	*e*P	**Pg**	**21 50 20.8**	**+0.2**
KELT				*i* S	**Sb**	**21 50 36.8**	**+0.8**
KELT	**Kelkit**	**1.12**	**61**	*e*P	**Pg**	**21 50 20.8**	**+0.2**
KELT				*i* S	**Sb**	**21 50 36.8**	**+0.8**
AKCD	**Akcadag**	**1.31**	**182**	*i* P	**Pb**	**21 50 24.3**	**0.0**
AKCD				*i* S	**Sn**	**21 50 42.7**	**+0.6**
AKCD	**Akcadag**	**1.31**	**182**	*i* P	**Pb**	**21 50 24.3**	**0.0**
AKCD				*i* S	**Sn**	**21 50 42.7**	**+0.6**
MALT	**Malatya**	**1.34**	**165**	*e*PN	**Pb**	**21 50 24.6**	**0.0**
MALT	**Malatya**	**1.34**	**165**	*e*Pn	**Pb**	**21 50 24.7**	**0.0**
ERZN	**Erzincan**	**1.35**	**90**	*e*PN	**Pn**	**21 50 24.4**	**-0.3**
ESPY	**Espiye-Giresun**	**1.43**	**23**	*e*PN	**Pn**	**21 50 25.3**	**-0.3**
ESPY	**Espiye-Giresun**	**1.43**	**23**	*e*Pn	**Pn**	**21 50 25.3**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.61**	**139**	*e*PN	**Pn**	**21 50 27.7**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.61**	**139**	*e*Pn	**Pn**	**21 50 27.7**	**-0.5**

---

*MOS **03** 21:59:49.1±1.1, 1°.72N×126°.46E, h33km, mb5.2/35, Error ellipse: s-maj=13.1km s-min=5.5km az=120.0*

*BJI **03** 21:59:50.3, 1°.46N×126°.54E, h64km, mB5.1/35, mb4.9/52, Ms4.7/34, Ms7 4.3/34*

*IDC **03** 21:59:51.1±1.9, 1°.63N×126°.42E, h36km±14km, mb4.6/31, mb1 4.6/33, mb1mx4.6/35, mbtmp4.6/33, ML4.9/2, MS4.0/11, Ms1 4.0/11, ms1mx3.6/42, Error ellipse: s-maj=16.6km s-min=7.9km az=71.0*

*NEIC **03** 21:59:51.6±0.9, 1°.71N×126°.48E, h41km±8km, mb5.1/45, Error ellipse: s-maj=6.9km s-min=4.1km az=64.0*

*ISCJB **03** 21:59:51.6±0.4, 1°.69N±0°.02×126°.49E±0°.02, h56km±4km, mb5.0/107, MS4.1/22, Error ellipse: s-maj=4.0km s-min=3.6km az=147.9*

*DJA **03** 21:59:53.4±0.8, 2°N±3°×12°7E±°, h16km±9km, M4.9/28, mB5.4/19, mb5.1/28, MLv5.0/12, Mw(mB)4.8/19*

*GCMT **03** 21:59:54.6±0.3, 1°.73N×126°.45E, h36km±1km, MW4.9, Moment Tensor Solution. s30,c38; s63,c83; Moment tensor: Scale 10^{16}Nm; M_{rr}1.40±.19; $M_{\theta\theta}$-0.11±.13; $M_{\phi\phi}$-1.29±.15; $M_{r\theta}$-0.27±.15; $M_{\theta\phi}$-2.97±.10; $M_{\phi r}$0.58±.18; Best double couple: $M_0$3.20000×10^{16} NP1:ϕ_s262.00000°, δ70.00000°, λ163.00000°. NP2:ϕ_s358.00000°, δ74.00000°, λ21.00000°. Principal axes: T 2.6100, Plg26.0000°, Azm221.0000°; N 1.1400, Plg64.0000°, Azm33.0000°; P -3.7400, Plg3.0000°, Azm129.0000°; Data Used: II IC G IU CN.*

*AUST **03** 21:59:54.1±0.3, 1°.53N×126°.50E, h59km Error ellipse: s-maj=0.9km s-min=0.6km az=226.0*

ISC 03 21:59:53.2±0.3**, 1°.70N**±0°.03×**126°.52E**±0°.04**, h54**km±2km**, n354,** σ1s.**46**/405**, mb5.0**/107**, MS4.0**/22**, 16C-14D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**137**	P	**Pn**	**22 00 12.2**	**-2.2**
TNTI				S	**Sn**	**22 00 28.0**	**-2.2**
MNI	**Manado**	**1.70**	**262**	P	**Pn**	**22 00 19.4**	**-1.1**
MNI				S	**Sn**	**22 00 40.9**	**-0.2**
LBMI	**Labuha**	**2.52**	**157**	P	**Pn**	**22 00 30.5**	**-1.2**
KMSI	**Cibinong**	**2.77**	**246**	P	**Pn**	**22 00 34.8**	**-0.4**
LUWI	**Luwuk**	**4.63**	**234**	P	**Pn**	**22 01 00.8**	**+0.1**
MRSI	**Marisa**	**4.74**	**255**	P	**Pn**	**22 01 03.0**	**+0.9**
SWI	**Sorong**	**5.38**	**118**	P	**Pn**	**22 01 10.5**	**-0.4**
	baz=5.3,SNR=7.5						
SWI	**Sorong**	**5.38**	**118**	P	**Pn**	**22 01 10.6**	**-0.4**
	112nm,0.9s,2μm0.5nm						
DAV	**Davao City (W)**	**5.42**	**350**	Pn	Pn	22 01 08.1	-3.4
	46nm,0.3s,baz=185,slow=11,SNR=2.1						
DAV				Sn	Sn	22 02 20.4	+7.7
	6.3nm,0.3s,baz=277,slow=18,SNR=2.3						
DAV	**Davao City (W)**	**5.42**	**350**	Pn	Pn	22 01 08.1	-3.4
DAV				Sn	Sn	22 02 20.4	+7.7
DAV	**Davao City (W)**	**5.42**	**350**	P	**Pn**	**22 01 13.7**	**+2.1**
	279nm,0.8s,8μm2.0nm						
MSAI	**Masohi**	**5.56**	**154**	P	**Pn**	**22 01 15.8**	**+2.4**
	65nm,0.8s,1μm0.2nm						
AAI	**Ambon**	**5.60**	**163**	P	**Pn**	**22 01 14.8**	**+0.8**
	baz=5.5,SNR=5.9						
AAI	**Ambon**	**5.60**	**163**	P	**Pn**	**22 01 14.2**	**+0.1**
	284nm,1.0s,4μm0.9nm						
CTBH	**Cotabato--PC H**	**5.94**	**338**	⇑*e*P	**Pn**	**22 01 19.0**	**+0.3**
BUKP	**Musuan**	**6.31**	**347**	*e*P	**Pn**	**22 01 25.6**	**+1.7**
KDI	**Kendari**	**6.84**	**215**	P	**Pn**	**22 01 30.1**	**-0.9**
	119nm,0.7s,1μm0.4nm						
PAGZ	**Pagadian**	**6.86**	**333**	*e*P	**Pn**	**22 01 31.4**	**+0.1**
IPIL	**Ipil**	**7.22**	**327**	*e*P	Pn	22 01 30.3	-5.9
FAKI	**Fak Fak**	**7.34**	**129**	P	**Pn**	**22 01 39.6**	**+1.8**
	189nm,1.2s,2μm0.6nm						
BBSI	**Bau Bau**	**8.15**	**209**	P	**Pn**	**22 01 51.0**	**+2.0**
	224nm,1.2s,2μm0.6nm						
TTSI	**Tana Toraja**	**8.19**	**235**	P	**Pn**	**22 01 49.3**	**-0.2**
	165nm,0.7s,1μm						
MYLDM	**Lahad Datu**	**8.72**	**294**	P	Pn	22 02 00.7	+3.9
MYLDM	**Lahad Datu**	**8.72**	**294**	P	**Pn**	**22 01 59.1**	**+2.3**
	310nm,1.1s,3μm						
SPSI	**Sidrap Palu**	**8.78**	**230**	P	**Pn**	**22 01 59.0**	**+1.4**
	118nm,0.8s,1μm						
TSM	**Tawau**	**9.01**	**287**	P	**Pn**	**22 02 00.9**	**+0.1**
BKSI	**Bulukumba**	**9.46**	**222**	P	**Pn**	**22 02 07.0**	**+0.1**
	88nm,0.8s,874nm						
KAPI	**Kappang**	**9.49**	**225**	Pn	**Pn**	**22 02 07.4**	**0.0**
	5.3nm,0.3s,baz=19,slow=6.1,SNR=21						
KAPI				Sn	**Sn**	**22 03 51.2**	**-1.5**
	1.8nm,0.3s,baz=47,slow=19,SNR=2.5						
KAPI	**Kappang**	**9.49**	**225**	*e*Pn	**Pn**	**22 02 07.0**	**-0.3**
	55nm,0.6s						
KAPI				*e*Sn	**Sn**	**22 03 53.0**	**+0.3**
KAPI	**Kappang**	**9.49**	**225**	Pn	**Pn**	**22 02 07.3**	**-0.1**
	554nm,0.6s,SNR=13						
SMKI	**Samarinda**	**9.55**	**257**	P	Pn	22 01 57.1	-11
TLE	**Tual**	**9.57**	**140**	P	**Pn**	**22 02 10.9**	**+2.5**
	baz=9.5,SNR=8.9						
TLE	**Tual**	**9.57**	**140**	P	**Pn**	**22 02 10.4**	**+1.9**
	380nm,1.3s,5μm						
PALU	**Palau**	**9.71**	**54**	P	**Pn**	**22 02 13.0**	**+2.6**
	baz=9.8,SNR=5.4						
PALU				S	**Sn**	**22 03 59.5**	**+1.4**
	baz=9.8,SNR=3.7						
BAKI	**Biak**	**10.01**	**107**	P	Pn	22 02 17.4	+3.0
	329nm,1.0s,5μm						
SDKM	**Sandakan**	**10.10**	**293**	P	**Pn**	**22 02 16.8**	**+1.1**
KKM	**Kota Kinabalu**	**11.15**	**293**	*e*Pn	**Pn**	**22 02 30.3**	**+0.2**
KKM	**Kota Kinabalu**	**11.15**	**293**	P	Pn	22 02 33.5	+3.4
	baz=11,SNR=7.9						
KKM	**Kota Kinabalu**	**11.15**	**293**	P	Pn	22 02 33.3	+3.2
KKM	**Kota Kinabalu**	**11.15**	**293**	P	**Pn**	**22 02 33.2**	**+3.1**
	83nm,1.0s,830nm						
SMPI	**Sarmi**	**12.73**	**107**	P	**Pn**	**22 02 54.2**	**+2.6**
WSI	**Waingapu**	**12.88**	**209**	S	**Sn**	**22 05 15.6**	**+0.1**
	baz=13,SNR=4.4						
TGY	**Tagaytay City**	**13.51**	**336**	Pn	**P**	**22 03 07.2**	**-2.7**
	46nm,0.3s,baz=119,slow=13,SNR=2.2						
TGY	**Tagaytay City**	**13.51**	**336**	Pn	**P**	**22 03 07.2**	**-2.7**
SBUM	**Sibu**	**14.31**	**273**	P	**P**	**22 03 20.4**	**+1.7**
SBUM	**Sibu**	**14.31**	**273**	P	**P**	**22 03 17.6**	**-1.2**
	96nm,1.3s,1μm						
KHKI	**Kahang-Kahang**	**14.77**	**227**	P	**P**	**22 03 24.7**	**+0.8**
STKI	**Sintang**	**15.13**	**264**	P	**P**	**22 03 26.6**	**-1.3**
MTN	**Manton Dam**	**15.15**	**163**	P	**Pn**	**22 03 21.1**	**-3.0**
	baz=15,SNR=26						
KMMI	**Kalianget**	**15.24**	**235**	P	**P**	**22 03 30.5**	**+1.3**
DNP	**Denpasar**	**15.27**	**227**	P	**P**	**22 03 32.5**	**+3.0**
KDU	**Kakadu**	**15.46**	**158**	P	**Pn**	**22 03 24.1**	**-3.9**
	baz=15,SNR=7.5						
BLJI	**Banyuglugur**	**15.94**	**234**	P	**P**	**22 03 37.7**	**+0.8**
	116nm,0.8s						
KSM	**Kuching**	**16.21**	**269**	*e*Pn	**Pn**	**22 03 38.0**	**+0.5**
	45nm,0.9s						
KSM	**Kuching**	**16.21**	**269**	P	**Pn**	**22 03 38.3**	**+0.8**
	baz=16,SNR=9.9						
KSM	**Kuching**	**16.21**	**269**	P	**P**	**22 03 41.7**	**+1.8**
KSM	**Kuching**	**16.21**	**269**	P	**P**	**22 03 40.7**	**+0.8**
	60nm,1.1s,650nm						
GMJI	**Gumukmas**	**16.37**	**233**	P	**P**	**22 03 43.6**	**+1.9**
	113nm,0.9s						
SJI	**Sawahan**	**17.44**	**237**	P	**P**	**22 03 54.2**	**+0.5**
PWJI	**Pagerwojo**	**17.57**	**236**	P	**Pn**	**22 03 53.4**	**-1.1**
	69nm,0.8s						
PCJI	**Pacitan**	**18.18**	**237**	P	**Pn**	**22 04 02.3**	**+0.3**
	148nm,0.7s						
UGM	**Wanagama**	**18.59**	**239**	P	**Pn**	**22 04 07.7**	**+0.7**
	baz=18,SNR=4.3						
BJII	**Banjamegara**	**19.02**	**242**	P	**P**	**22 04 11.5**	**+0.5**
	54nm,1.3s						
TGJI	**Tegal**	**19.34**	**244**	P	**P**	**22 04 13.7**	**-0.7**
	45nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.69**	**182**	P	**P**	**22 04 16.5**	**-1.7**
	2.6nm,0.3s,baz=22,slow=8.5,SNR=55						
FITZ	**Fitzroy Crossi**	**19.69**	**182**	*e*P	**P**	**22 04 16.3**	**-1.9**
	78nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.69**	**182**	P	**P**	**22 04 16.5**	**-1.7**
	baz=20,SNR=37						
LEM	**Lembang**	**20.68**	**246**	P	Pn	22 04 44.9	+13
PPBI	**Pangkal Pinang**	**20.74**	**259**	P	**P**	**22 04 29.3**	**-0.3**
	33nm,0.9s,854nm						
CBJI	**Citeko**	**21.23**	**248**	P	P	22 04 44.8	+10
TWG	**Pinlang**	**21.66**	**346**	*e*P	**P**	**22 04 35.8**	**-3.6**
	127nm,0.9s						
GUMO	**Guam**	**21.66**	**56**	LR	LR	22 11 29.6	
	comp=Z,282nm,20.6s,baz=214,slow=32						
YULB	**Yu-li**	**22.15**	**347**	*e*P	**P**	**22 04 41.4**	**-3.4**
	36nm,1.1s						
TPUB	**Ta-pu**	**22.22**	**346**	*e*P	**P**	**22 04 43.5**	**-2.0**
	68nm,0.8s						
SSLB	**Suanglung**	**22.61**	**347**	*e*P	**P**	**22 04 47.5**	**-2.2**
	44nm,0.9s						
MYKOM	**Kota Tinggi**	**22.66**	**271**	P	**P**	**22 04 50.3**	**0.0**
COEN	**Coen**	**22.68**	**134**	*e*P	**P**	**22 04 50.0**	**-0.5**
	214nm,1.1s						
COEN	**Coen**	**22.68**	**134**	P	**P**	**22 04 50.4**	**-0.1**
	baz=23,SNR=11						
WRAB	**Tennant Creek**	**22.83**	**161**	*e*P	**P**	**22 04 50.1**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,123nm,0.9s						
WRAB	**Tennant Creek**	**22.83**	**161**	*e*P	**P**	**22 04 50.1**	**-1.9**
	comp=Z,123nm,0.9s						
WRAB	**Tennant Creek**	**22.83**	**161**	P	**P**	**22 04 50.0**	**-1.9**
	comp=Z,923nm,0.5s						
WRA	**Warramunga Arr**	**22.83**	**161**	P	**P**	**22 04 50.0**	**-2.0**
	comp=Z,93nm,0.6s,baz=339,slow=11,SNR=380						
WRA				PcP	**PcP**	**22 08 42.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=323,slow=2.3,SNR=4.1						
WRA				S	**S**	**22 08 55.4**	**-2.2**
	comp=Z,4.5nm,0.8s,baz=334,slow=20,SNR=6.5						
WRA				ScP	**ScP**	**22 12 17.0**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=340,slow=3.1,SNR=4.7						
WRA	**Warramunga Arr**	**22.83**	**161**	P	**P**	**22 04 50.0**	**-2.0**
WRA				PcP	**PcP**	**22 08 42.1**	**+0.3**
WRA				S	**S**	**22 08 55.4**	**-2.2**
WRA				ScP	**ScP**	**22 12 17.0**	**+1.8**
KGM	**Kluang**	**23.19**	**271**	P	**P**	**22 04 54.5**	**-1.2**
PMG	**Port Moresby**	**23.33**	**119**	P	**P**	**22 04 57.3**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=320,slow=7.9,SNR=3.1						
PMG	**Port Moresby**	**23.33**	**119**	P	**P**	**22 04 57.3**	**+0.3**
MBWA	**Marble Bar**	**23.67**	**196**	*e*P	**P**	**22 04 58.4**	**-1.6**
	comp=Z,316nm,2.7s						
QIZ	**Qiongzhong**	**23.74**	**318**	P	**P**	**22 05 00.3**	**-0.5**
QIZ				sP	**sP**	**22 05 20.2**	**-0.2**
QIZ				S	**S**	**22 09 14.6**	**+2.2**
QIZ				sS	**sS**	**22 09 34.2**	**-0.9**
QIZ				pmax	pmax		
	comp=Z,89nm,3.8s						
QIZ				LR	LR		

comp=N,290nm,16.6s
QIZ LR LR
comp=Z,490nm,20.3s
KSI Kapahiang 24.50 257 P P 22 05 11.4 +3.6
JOW Kunigami 25.05 4 P P 22 05 14.0 +1.4
comp=Z,104nm,0.8s,baz=201,slow=9.0,SNR=17
JOW Kunigami 25.05 4 *eP* **P 22 05 12.3 -0.3**
comp=Z,44nm,0.9s
QIS Mount Isa 25.57 151 P P **22 05 17.0 -0.4**
baz=26,SNR=46
IPM Ipoh 25.60 277 P P **22 05 17.2 -0.6**
comp=Z,19nm,0.9s
IPM Ipoh 25.60 277 P P **22 05 15.1 -2.7**
KULM Kulim 26.06 279 *eP* **P 22 05 20.4 -1.6**
comp=Z,38nm,1.5s
KULM Kulim 26.06 279 P P **22 05 19.9 -2.1**
ASAR Alice Springs 26.21 165 P P **22 05 22.4 -0.9**
comp=Z,25nm,0.5s,baz=347,slow=10,SNR=98
ASAR PcP **PcP 22 08 49.5 +0.4**
comp=Z,2.2nm,0.6s,baz=345,slow=2.0,SNR=5.1
ASAR S **S 22 09 54.4 +2.6**
comp=Z,2.5nm,0.9s,baz=348,slow=13,SNR=5.0
ASAR ScP **ScP 22 12 27.3 +2.7**
comp=Z,0.6nm,0.6s,baz=347,slow=3.8,SNR=4.0
ASAR Alice Springs 26.21 165 P P **22 05 22.4 -0.9**
ASAR PcP **PcP 22 08 49.5 +0.4**
ASAR S **S 22 09 54.4 +2.6**
ASAR ScP **ScP 22 12 27.3 +2.7**
GIRL Giralia 27.00 206 P P **22 05 31.0 +0.8**
baz=27,SNR=4.3
PSI Prapat 27.59 273 P P **22 05 34.7 -1.2**
comp=Z,15nm,0.9s,baz=90,slow=6.1,SNR=14
PSI Prapat 27.59 273 P P **22 05 34.7 -1.2**
PSI Prapat 27.59 273 P P **22 05 35.2 -0.7**
baz=28,SNR=7.9
GSI Gunungsitoli 28.94 270 P P **22 05 46.2 -1.5**
baz=29,SNR=4.3
GSI S S 22 11 01.1 +26
baz=29,SNR=18
CTA Charters Tower 29.04 139 P P **22 05 48.8 +0.2**
comp=Z,19nm,1.1s,baz=304,slow=11,SNR=6.1
CTA Charters Tower 29.04 139 P P **22 05 48.8 +0.2**
CTAO Charters Tower 29.04 139 *eP* **P 22 05 49.0 +0.4**
CTAO pmax pmax
comp=Z,25nm,1.1s
CTAO Charters Tower 29.04 139 *eP* **P 22 05 49.0 +0.4**
comp=Z,25nm,1.1s
MEEK Meekatharra 29.18 195 P P **22 05 48.9 -0.9**
baz=29,SNR=12
WHN Wuhan 30.92 339 P P **22 06 07.3 +2.2**
NJ2 Nanjing 31.05 347 *eP* **P 22 06 06.4 +0.3**
NJ2 pmax pmax
comp=Z,20nm,0.7s
GYA Guiyang 31.15 324 ⇓ *iP* **P 22 06 06.4 -0.9**
GYA pP **pP 22 06 22.0 +1.1**
GYA PP **PnPn 22 07 12.5 +1.8**
GYA PcP **PcP 22 09 01.6 +0.1**
GYA S **S 22 11 10.2 +0.6**
GYA ScP **ScP 22 12 38.0 -2.2**
GYA SS **SnSn 22 13 00.5 +4.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,580nm,17.8s
GYA LR LR
comp=E,530nm,18.2s
GYA LR LR
comp=Z,570nm,18.0s
JNU Nakatsue 31.53 7 P P **22 06 10.7 +0.2**
comp=Z,27nm,0.8s,baz=170,slow=6.1,SNR=14
JNU Nakatsue 31.53 7 *eP* **P 22 06 11.2 +0.8**
CMAR Chiang Mai Arr 31.76 303 P P **22 06 12.2 -0.5**
comp=Z,5.7nm,0.9s,baz=111,slow=6.7,SNR=38
CMAR PcP **PcP 22 09 02.9 -0.3**
comp=Z,0.7nm,0.7s,baz=113,slow=2.2,SNR=4.5
CMAR LR LR 22 18 33.3
comp=Z,136nm,21.5s,baz=128,slow=35
CMAR Chiang Mai Arr 31.76 303 P P **22 06 12.2 -0.5**
CMAR PcP **PcP 22 09 02.9 -0.3**
CHTO Chiang Mai 31.93 304 *eP* **P 22 06 13.1 -1.0**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 31.93 304 *eP* **P 22 06 13.1 -1.0**
comp=Z,12nm,0.8s
MORW Morawa 32.20 197 P P **22 06 15.9 -0.4**
baz=32,SNR=4.9
FORT Forrest 32.33 178 *eP* **P 22 06 16.8 -0.6**
comp=Z,102nm,0.6s
FORT Forrest 32.33 178 P P **22 06 17.0 -0.4**
baz=32,SNR=54
KMI Kunming 32.69 317 P P **22 06 21.2 +0.2**
KMI pP **pP 22 06 37.9 +3.2**
KMI sP sP 22 06 47.3 +6.3
KMI S **S 22 11 33.8 -0.1**
KMI pmax pmax
comp=Z,15nm,1.4s
KMI LR LR
comp=N,180nm,22.5s
KMI LR LR
comp=E,210nm,21.8s
KMI LR LR
comp=Z,360nm,23.8s
ENH Enshi 32.70 332 *eP* **P 22 06 19.1 -1.6**
comp=Z,46nm,1.1s
BLDU Ballidu 33.46 195 P P **22 06 29.2 +1.8**
baz=34,SNR=6.6
KLBR Kellerberrin 34.13 193 P P **22 06 32.8 -0.4**
baz=34,SNR=12
BBOO Buckleboo 35.49 166 *eP* **P 22 06 44.8 0.0**
comp=Z,3μm,2.0s
BBOO Buckleboo 35.49 166 P P **22 06 44.8 0.0**
baz=36,SNR=19
NWAO Narrogin (SRO) 35.54 194 LR LR 22 21 44.1
comp=Z,111nm,20.6s,baz=177,slow=37
KSAR Wonju Array Be 35.59 2 P P **22 06 46.6 +1.0**
KSRS Korea Array 35.61 2 P P **22 06 46.6 +0.9**
comp=Z,4.9nm,0.8s,baz=178,slow=9.7,SNR=18
EIDS Eidsvold 35.91 140 *eP* **P 22 06 48.4 -0.2**
comp=Z,35nm,1.1s
EIDS Eidsvold 35.91 140 P P **22 06 48.3 -0.3**
baz=36,SNR=4.9
XAN Xi'an 36.14 335 P P **22 06 49.4 -1.1**
XAN pmax pmax
comp=Z,5.0nm,1.3s
XAN pmax pmax
comp=Z,16nm,5.3s
CD2 Chengdu 36.17 326 P P **22 06 49.8 -1.0**
CD2 pP **pP 22 07 03.4 -1.2**
CD2 sP **sP 22 07 09.6 -1.3**
CD2 PP **PP 22 08 14.2 +0.3**
CD2 S **S 22 12 26.3 -0.8**
CD2 sS **sS 22 12 49.2 -1.3**
CD2 SS **SnSn 22 14 53.1 -4.2**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,180nm,4.6s
CD2 LR LR
comp=N,380nm,6.0s
CD2 LR LR
comp=Z,350nm,8.3s
MAT Matsushiro 36.32 16 P P **22 06 51.3 -0.6**
MJAR Matsushiro Arr 36.32 16 P P **22 06 51.2 -0.8**
comp=Z,8.9nm,0.8s,baz=185,slow=10.0,SNR=13
MJAR PcP **PcP 22 09 17.2 +1.4**
comp=Z,1.9nm,0.7s,baz=186,slow=3.1,SNR=5.1
MJAR Matsushiro Arr 36.32 16 P P **22 06 51.2 -0.8**
MJAR PcP **PcP 22 09 17.2 +1.4**
STKA Stephens Creek 36.32 158 P P **22 06 51.2 -0.8**
comp=Z,12nm,0.6s,baz=328,slow=8.5,SNR=20
STKA PP **PnPn 22 08 13.5 -2.0**
comp=Z,6.9nm,0.7s,baz=339,slow=13,SNR=2.1
STKA PcP **PcP 22 09 16.7 +0.8**
comp=Z,5.8nm,0.8s,baz=317,slow=4.5,SNR=2.9
STKA Stephens Creek 36.32 158 P P **22 06 51.2 -0.8**
STKA PP **PnPn 22 08 13.5 -2.0**
STKA PcP **PcP 22 09 16.7 +0.8**
STKA Stephens Creek 36.32 158 P P **22 06 51.1 -0.9**
baz=36,SNR=12
RKGY Rocky Gully 37.21 193 P P **22 07 00.9 +1.4**
baz=37,SNR=8.2
CMSA Cobar Meteorol 37.73 153 P P **22 07 04.5 +0.5**
baz=38,SNR=8.0
BJT Baijiatuau 39.29 347 *eP* **P 22 07 16.3 -0.6**
comp=Z,33nm,0.9s
BJI Beijing 39.31 347 P **P 22 07 16.6 -0.4**
BJI pmax pmax
comp=Z,20nm,1.4s
BJI pmax pmax
comp=Z,120nm,3.0s
ARMA Armidale 39.91 145 *eP* **P 22 07 23.3 +1.0**
comp=Z,63nm,1.4s
ARMA Armidale 39.91 145 P P **22 07 22.8 +0.5**
baz=40,SNR=11
SNY Shenyang 40.04 357 ⇓ P **P 22 07 23.9 +0.8**
SNY S S 22 13 17.2 -8.0
SNY pmax pmax
comp=Z,16nm,1.1s
SNY pmax pmax
comp=Z,200nm,4.9s
SNY LR LR
comp=N,160nm,4.9s
SNY LR LR
comp=E,200nm,5.9s
SNY LR LR
comp=Z,170nm,5.6s
LZH Lanzhou 40.15 331 *eP* **P 22 07 25.1 +0.7**
LZH pP **pP 22 07 37.9 -0.4**
LZH *e*S **S 22 13 25.2 -2.2**
LZH pmax pmax
comp=Z,47nm,1.3s
LZH pmax pmax
comp=Z,150nm,4.7s
LZH LR LR
comp=N,1μm,13.2s
LZH LR LR
comp=E,1μm,14.7s
LZH LR LR
comp=Z,2μm,16.0s
ARPS Mount Arapiles 40.84 161 P P **22 07 31.1 +1.4**
baz=41,SNR=5.3
SHL Shillong 40.94 308 *eP* **P 22 07 31.5 +0.5**
HHC Hu-ho-hao-te 41.26 343 *eP* **P 22 07 32.9 -0.4**
HHC PP **PnPn 22 09 12.4 -2.0**
HHC PcP **PcP 22 09 31.3 -0.1**
HHC ScP **ScP 22 13 15.5 -1.5**
HHC PcS **PcS 22 13 21.4 -1.2**
HHC S **S 22 13 44.6 +1.0**
HHC SS **SS 22 16 44.9 -3.8**
HHC ScS **ScS 22 17 29.9 -3.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,6.0s
HHC LR LR
comp=N,180nm,15.6s
HHC LR LR
comp=E,220nm,15.3s
HHC LR LR
comp=Z,260nm,14.9s
CN2 Changchun 41.94 359 *eP* **P 22 07 38.3 -0.4**
CN2 *ep*P **pP 22 07 52.2 -0.5**
CN2 *eS* **S 22 13 53.7 +0.4**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
USRK Ussuriysk Arra 42.60 6 P P **22 07 45.0 +0.9**
comp=Z,11nm,0.7s,baz=189,slow=7.4,SNR=29
MDJ Mudanjiang 42.83 3 P **P 22 07 46.1 +0.2**
MDJ pP **pP 22 07 58.0 -2.0**
MDJ S **S 22 14 02.8 -3.6**
MDJ SS **SS 22 17 13.3 -6.0**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,140nm,5.8s
MDJ LR LR
comp=N,57nm,24.8s
MDJ LR LR
comp=E,90nm,27.3s
MDJ LR LR
comp=Z,100nm,21.5s
MDJ Mudanjiang 42.83 3 *eP* **P 22 07 45.0 -1.0**
comp=Z,17nm,0.9s
LSA Lhasa 43.64 313 P **P 22 07 53.2 -0.1**
LSA Lhasa 43.64 313 *eP* **P 22 07 53.4 0.0**
LSA *e* 22 09 35.5
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 43.64 313 *eP* **P 22 07 53.4 0.0**
comp=Z,16nm,0.8s
LSA *e*PP **PP 22 09 35.5 -0.2**
ASAJ Asahikawa 44.59 17 P **P 22 08 00.8 +0.7**
comp=Z,11nm,0.8s,baz=270,slow=6.1,SNR=7.6
ASAJ Asahikawa 44.59 17 P **P 22 08 00.8 +0.7**
GTA Gaotai 44.74 330 *eP* **P 22 08 00.8 -0.7**
GTA pP **pP 22 08 16.7 +1.0**
GTA sP **sP 22 08 25.2 +3.3**
GTA PcP **PP 22 09 45.6 -1.3**
GTA S S 22 14 24.2 -11
GTA sS **sS 22 14 58.0 -0.5**
GTA SS ScS 22 17 44.2 -10
GTA pmax pmax
comp=Z,11nm,0.7s
GTA pmax pmax
comp=Z,140nm,5.2s
GTA LR LR
comp=N,250nm,20.9s
GTA LR LR
comp=E,280nm,19.9s
GTA LR LR
comp=Z,280nm,18.0s
TAPN Taplejung 45.07 308 *eP* **P 22 08 03.6 -1.0**
comp=Z,43nm,1.2s
TAPN Taplejung 45.07 308 *eP* **P 22 08 03.6 -1.0**
comp=Z,43nm,1.2s
ODAN Odare 45.10 307 *eP* **P 22 08 03.6 -1.1**
comp=Z,21nm,0.8s
ODAN Odare 45.10 307 *eP* **P 22 08 03.6 -1.1**
comp=Z,21nm,0.8s
DZM Mont Dzumac 45.57 124 *eP* **P 22 08 08.0 -0.3**
comp=Z,48nm,1.3s
DZM *e*LR LR 22 20 53.4
comp=Z,247nm,27.1s
RAMN Ramite 45.77 307 *eP* **P 22 08 09.0 -1.1**
comp=Z,75nm,1.3s
RAMN Ramite 45.77 307 *eP* **P 22 08 09.0 -1.1**
comp=Z,75nm,1.3s
JIRN Jiri 46.41 308 *eP* **P 22 08 14.3 -1.0**
JIRN Jiri 46.41 308 *eP* **P 22 08 14.3 -1.0**
GUN Gumba 46.77 308 *eP* **P 22 08 16.9 -1.1**
comp=Z,34nm,0.7s
GUN Gumba 46.77 308 *eP* **P 22 08 16.9 -1.1**
comp=Z,34nm,0.7s
PKI Pulchoki 46.99 307 *eP* **P 22 08 18.3 -1.5**
PKI Pulchoki 46.99 307 *eP* **P 22 08 18.3 -1.5**
PKI Pulchoki 46.99 307 *eP* **P 22 08 18.3 -1.5**
HABR Khabarovsk 47.17 8 *eP* **P 22 08 18.3 -2.1**
HABR *e**PP pP 22 08 28.2 -6.4
HABR 22 09 49.3
HABR *e*S **S 22 15 09.5 +0.4**
HABR *e**SS sS 22 15 26.2 -6.9
HABR *e* 22 18 09.6
HABR *e*SSS SSS 22 19 41.2
HABR pmax pmax
comp=N,29nm,2.8s
HABR pmax pmax
comp=Z,65nm,2.8s
HABR pmax pmax
comp=E,25nm,2.3s
HABR MLR MLR
comp=Z,82nm,23.0s
KKN Kakani 47.19 307 *eP* **P 22 08 20.0 -1.2**
KKN Kakani 47.19 307 *eP* **P 22 08 20.0 -1.2**
KKN Kakani 47.19 307 *eP* **P 22 08 20.0 -1.2**
YSS Yuzh-Sakhalins 47.25 15 *eP* **P 22 08 22.8 +1.8**
DMN Daman 47.25 307 *eP* **P 22 08 20.5 -1.2**
comp=Z,49nm,1.3s
DMN Daman 47.25 307 *eP* **P 22 08 20.5 -1.2**
comp=Z,49nm,1.3s
HIA Hailar 47.75 354 *eP* **P 22 08 24.1 -0.7**
comp=Z,18nm,1.1s
GKN Gorkha 47.80 307 *eP* **P 22 08 24.6 -1.2**
comp=Z,50nm,1.3s
GKN Gorkha 47.80 307 *eP* **P 22 08 24.6 -1.2**
comp=Z,50nm,1.3s
KOLN Koldanda 48.53 306 *eP* **P 22 08 30.1 -1.4**
comp=Z,33nm,0.6s
KOLN Koldanda 48.53 306 *eP* **P 22 08 30.1 -1.4**
comp=Z,33nm,0.6s
DANN Dangsing 48.64 307 *eP* **P 22 08 30.8 -1.7**
comp=Z,44nm,0.7s
DANN Dangsing 48.64 307 *eP* **P 22 08 30.8 -1.7**
comp=Z,44nm,0.7s
ULN Ulaanbaatar 48.98 343 *eP* **P 22 08 34.9 +0.4**
comp=Z,11nm,0.8s
SONM Songino Array 49.15 342 P **P 22 08 35.3 -0.6**
comp=Z,9.8nm,0.9s,baz=160,slow=8.5,SNR=40
SONM LR LR 22 30 05.1
comp=Z,108nm,20.2s,baz=168,slow=37
SONM Songino Array 49.15 342 P **P 22 08 35.3 -0.6**
PYUN Piuthan 49.16 306 *eP* **P 22 08 35.2 -1.1**
comp=Z,78nm,0.9s
PYUN Piuthan 49.16 306 *eP* **P 22 08 35.2 -1.1**
comp=Z,78nm,0.9s
HYB Hyderabad 49.63 291 *i* P **P 22 08 38.0 -1.9**
ZAK Zakamensk 52.37 341 *eP* **P 22 08 58.4 -1.6**
ZAK *e* 22 10 10.4
TLY Talaya 53.39 342 *eP* **P 22 09 06.6 -0.8**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,121nm,20.0s
TLY Talaya 53.39 342 *eP* **P 22 09 08.1 +0.8**
comp=Z,7.2nm,0.8s
IRK Irkutsk 53.70 343 *eP* **P 22 09 08.9 -0.7**
IRK pmax pmax
comp=Z,18nm,2.4s
MOY Mondy 54.21 341 *eP* **P 22 09 14.5 +1.0**
WMQ Urumqi 54.27 326 P **P 22 09 15.4 +1.4**
WMQ pmax pmax
comp=Z,21nm,1.2s
WMQ LR LR
comp=N,240nm,26.0s
WMQ LR LR
comp=E,180nm,24.0s
WMQ LR LR
comp=Z,180nm,22.0s
MSVF Nonsavu 54.29 113 *eP* **P 22 09 16.4 +1.8**
MSVF pmax pmax
comp=Z,37nm,1.4s
MSVF Nonsavu 54.29 113 *eP* **P 22 09 16.4 +1.8**
comp=Z,37nm,1.4s
HVS Khovu-Aksy 56.49 336 *c iP* **P 22 09 29.7 -0.2**
BOD Bodaibo 56.84 352 *eP* **P 22 09 31.7 -0.4**
BOD pmax pmax
comp=Z,16nm,0.9s
PETK Petropavlovsk- 57.38 22 P **P 22 09 37.8 +1.7**
comp=Z,3.3nm,0.5s,baz=178,slow=6.1,SNR=9.6
PETK Petropavlovsk- 57.38 22 P **P 22 09 37.8 +1.7**
PETK Petropavlovsk- 57.38 22 P **P 22 09 37.8 +1.7**
MK31 Makanchi Array 59.10 326 *i* P **P 22 09 47.6 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 59.10 326 P **P 22 09 47.5 -0.8**
comp=Z,7.4nm,0.4s,baz=121,slow=8.2,SNR=172
MKAR ScP **ScP 22 14 32.8 0.0**
comp=Z,0.3nm,0.7s,baz=116,slow=3.4,SNR=2.6
MKAR LR LR 22 34 59.0
comp=Z,116nm,20.8s,baz=172,slow=36
MKAR Makanchi Array 59.10 326 *i* P **P 22 09 47.5 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR Makanchi Array 59.10 326 *eP* **P 22 09 47.8 -0.4**
MKAR ScP **ScP 22 14 32.8 0.0**
KSH Kashi 59.34 316 P **P 22 09 52.2 +2.1**
KSH pP **pP 22 10 06.0 +1.2**
KSH sP **sP 22 10 12.1 +1.2**
KSH PcP **PcP 22 10 40.4 +2.7**
KSH S **S 22 18 00.5 +5.5**
KSH SS **SS 22 21 56.7 +6.1**
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,350nm,6.9s
KSH LR LR
comp=N,130nm,5.7s
KSH LR LR
comp=E,160nm,5.3s
KSH LR LR
comp=Z,200nm,7.4s
YAK Yakutsk 60.23 2 *eP* **P 22 09 55.6 0.0**
YAK *e**PP pP 22 10 00.9 -9.4
YAK *e* 22 10 36.4
YAK *e* 22 12 10.6
YAK *eS* **S 22 18 06.6 +1.2**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,2.0nm,0.3s
YAK smax smax
comp=N,42nm,2.9s
YAK smax smax
comp=E,140nm,4.6s
YAK Yakutsk 60.23 2 *eP* **P 22 09 54.7 -1.0**
comp=E,21nm,0.6s
ULHL Ulahol 60.40 319 P **P 22 09 58.4 +1.0**
SNR=11
KZA Kyzart 60.97 318 P **P 22 10 01.8 +0.2**
SNR=18
TKM2 Tokmak 2 61.13 319 *i* P **P 22 10 01.7 -0.7**
TKM2 Tokmak 2 61.13 319 *eP* **P 22 10 01.2 -1.2**
comp=E,9.7nm,0.8s
TKM2 Tokmak 2 61.13 319 P **P 22 10 01.8 -0.7**
SNR=20
KBK Karagaybulak 61.44 319 P **P 22 10 05.2 +0.7**
SNR=16
CHMS Chumysh 61.72 319 P **P 22 10 06.3 +0.1**
SNR=6.9
AAK Ala-Archa 61.72 319 LR LR 22 41 30.0
comp=E,152nm,18.4s,baz=219,slow=40
AAK Ala-Archa 61.72 319 *i* P **P 22 10 08.1 +1.7**
AAK Ala-Archa 61.72 319 *eP* **P 22 10 05.8 -0.6**
comp=E,34nm,0.9s
AAK Ala-Archa 61.72 319 P **P 22 10 05.4 -1.0**
comp=E,48nm,0.7s,SNR=5.5
AAK Ala-Archa 61.72 319 P **P 22 10 08.1 +1.7**
SNR=8.7
USP Ospenovka 62.00 319 P **P 22 10 07.7 -0.4**
SNR=20
AML Almayashu 62.03 318 P **P 22 10 08.7 0.0**
SNR=28
EKS2 Erkin-Say 62.21 318 *eP* **P 22 10 09.5 -0.1**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 62.21 318 *eP* **P 22 10 09.5 -0.1**
comp=Z,11nm,0.8s
EKS2 Erkin-Say 62.21 318 P **P 22 10 09.2 -0.4**
SNR=22
ZALV Zalesovo Beam 62.30 334 P **P 22 10 08.5 -1.3**
comp=Z,1.9nm,0.4s,baz=126,slow=7.5,SNR=18
ZALV Zalesovo Beam 62.30 334 P **P 22 10 08.5 -1.3**
ZALV Zalesovo Beam 62.30 334 P **P 22 10 08.5 -1.3**
KURBB Kurchatov Arra 63.33 328 P **P 22 10 16.0 -0.7**
comp=Z,17nm,0.6s,baz=129,slow=6.3,SNR=132
KURK Kurchatov 63.34 328 *c iP* **P 22 10 15.8 -0.9**
KURK pmax pmax
comp=Z,25nm,0.7s
KURK Kurchatov 63.34 328 *eP* **P 22 10 16.3 -0.5**
KURK Kurchatov 63.34 328 P **P 22 10 16.5 -0.2**
comp=Z,311nm,0.5s,SNR=45
NVS Novosibirsk 63.58 334 ⇓ *iP* **P 22 10 15.4 -2.9**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 64.05 13 *ceP* **P 22 10 20.1 -1.1**
KK31 Karatay Array 64.58 318 *i* P **P 22 10 24.2 -0.9**
KK31 pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,15nm,1.0s						
KKAR	Karatay Array	64.58	318	eP	P	22 10 24.6	-0.5
KKAR	Karatay Array	64.58	318	eP	P	22 10 24.6	-0.5
BVAR	Borovoye Array	68.91	327	P	P	22 10 51.8	-0.6
	comp=Z,5.9nm,0.7s,baz=122,slow=5.0,SNR=18						
BVAR				LR	LR	22 43 11.4	
	comp=Z,101nm,19.1s,baz=104,slow=38						
BVAR	Borovoye Array	68.91	327	P	P	22 10 51.8	-0.6
BVAR	Borovoye Array	68.91	327	P	P	22 10 51.8	-0.6
BRVK	Borovoye	68.98	327	ceP	P	22 10 51.6	-1.3
BRVK				pmax	pmax		
	comp=Z,24nm,1.2s						
BRVK	Borovoye	68.98	327	eP	P	22 10 52.3	-0.6
	comp=Z,19nm,0.9s						
BRVK	Borovoye	68.98	327	P	P	22 10 52.5	-0.4
	comp=Z,105nm,1.0s,SNR=5.7						
AB31	Akbulak array	73.59	321	i P	P	22 11 19.7	-1.1
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ABKAR	Akbulak array	73.59	321	eP	P	22 11 20.1	-0.7
AKTO	Aktyubinsk	75.12	322	P	P	22 11 29.3	-0.4
	comp=Z,9.2nm,0.7s,baz=97,slow=8.0,SNR=37						
AKTO	Aktyubinsk	75.12	322	P	P	22 11 29.3	-0.4
AKTO	Aktyubinsk	75.12	322	P	P	22 11 29.3	-0.4
SVE	Sverdlovsk	75.58	329	⇓eP	P	22 11 31.8	-0.4
SVE				pmax	pmax		
	comp=Z,44nm,0.9s						
ARU	Arti	76.53	328	c iP	P	22 11 36.8	-0.9
ARU				S	S	22 21 21.6	+2.2
ARU				SS	SS	22 26 16.1	+0.8
ARU				pmax	pmax		
	comp=Z,33nm,1.0s						
ARU	Arti	76.53	328	eP	P	22 11 36.7	-0.9
	comp=Z,22nm,0.8s						
ARU	Arti	76.53	328	P	P	22 11 36.7	-0.9
	comp=Z,172nm,0.8s,SNR=12						
SOKR	Solikamsk	78.37	331	d iP	P	22 11 47.7	0.0
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s						
RDF	Al-Radifah	79.53	299	eP	P	22 11 52.8	-2.0
MIB	Mutribah	79.77	300	eP	P	22 11 54.6	-1.5
NAY	Al-Naaiem	79.81	299	eP	P	22 11 55.0	-1.4
OPO	Ambohidratompo	80.43	251	LR	LR	22 42 20.1	
	comp=Z,145nm,20.2s,baz=260,slow=32						
ABPO	Ambohimpanom	80.43	251	eP	P	22 11 59.1	-1.0
ABPO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ABPO	Ambohimpanom	80.43	251	eP	P	22 11 59.0	-1.0
	comp=Z,7.1nm,0.8s						
RAYN	Ar Rayn	81.09	293	P	P	22 12 02.4	-1.0
	comp=Z,85nm,1.1s,SNR=6.7						
RAYN	Ar Rayn	81.09	293	eP	P	22 12 03.0	-0.3
	comp=Z,25nm,1.0s						
VNDA	Vanda	81.45	173	P	P	22 12 04.4	+0.3
	comp=Z,8.8nm,0.6s,baz=317,slow=6.2,SNR=37						
VNDA	Vanda	81.45	173	P	P	22 12 04.4	+0.3
MAW	Mawson	81.79	200	LR	LR	22 46 08.9	
	comp=Z,220nm,18.2s,baz=241,slow=34						
GNI	Garni	82.62	310	P	P	22 12 11.9	+0.6
	comp=Z,2.2nm,0.6s,baz=131,slow=13,SNR=4.0						
GNI	Garni	82.62	310	eP	P	22 12 11.2	-0.1
	comp=Z,17nm,1.0s						
ZEI	Tsey	83.43	313	eP	P	22 12 15.5	0.0
ZEI				pmax	pmax		
	comp=Z,13nm,0.6s						
ATD	Arta Tunnel	83.47	281	P	P	22 12 17.4	+1.4
	comp=Z,9.1nm,0.9s,baz=16,slow=24,SNR=3.8						
ATD				LR	LR	22 49 54.5	
	comp=Z,40nm,18.8s,baz=59,slow=36						
ATD	Arta Tunnel	83.47	281	P	P	22 12 17.4	+1.4
RSO	Redoubt South	83.95	29	eP	P	22 12 22.5	+4.8
KBZ	Khabaz	84.22	314	P	P	22 12 19.2	+0.1
	comp=Z,4.8nm,0.7s,baz=100,slow=5.7,SNR=12						
KBZ	Khabaz	84.22	314	P	P	22 12 19.2	+0.1
KBZ	Khabaz	84.22	314	P	P	22 12 19.2	+0.1
KIV	Kislovodsk	84.38	314	eP	P	22 12 21.1	+0.9
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
KIV	Kislovodsk	84.38	314	eP	P	22 12 21.1	+0.9
PPT	Papeete	84.70	108	LR	LR	22 45 37.3	
	comp=Z,201nm,20.8s,baz=319,slow=32						
PPT2	Papeete2	84.70	108	eLR	LR	22 39 03.8	
	comp=Z,86nm,24.8s						
VRHR	Novokhopersk	85.47	321	eP	P	22 12 23.8	-1.5
VRHR				pmax	pmax		
	comp=Z,40nm,0.8s						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
COLD	Coldfoot	85.84	23	eP	P	22 12 29.3	+2.5
VORD	Divnogorie	86.94	321	eP	P	22 12 31.7	-0.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,8.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
ILAR	Eielson Array	87.02	25	P	P	22 12 32.0	-0.6
	comp=E,0.4nm,0.6s,baz=244,slow=5.0,SNR=7.3						
ILAR	Eielson Array	87.02	25	P	P	22 12 32.0	-0.6
VSR	Storozhevoye	87.03	321	eP	P	22 12 33.2	+0.3
VSR				pmax	pmax		
	comp=N,6.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLMR	Klimovskoe	87.06	331	eP	P	22 12 34.4	+1.5
KLMR				pmax	pmax		
	comp=Z,32nm,1.3s						
ANN	Anapa	88.17	315	eP	P	22 12 36.7	-1.8
ANN				pmax	pmax		
	comp=Z,45nm,1.0s						
OBN	Obninsk	88.59	325	P	P	22 12 40.0	-0.3
OBN				pmax	pmax		
	comp=Z,15nm,0.7s						
ASF	Jabal al Asfar	88.79	302	P	P	22 12 42.6	+0.7
	comp=Z,11nm,0.8s,baz=332,slow=5.6,SNR=11						
ASF	Jabal al Asfar	88.79	302	P	P	22 12 42.6	+0.7
KMBO	Kilima Mbogo	89.30	269	eP	P	22 12 44.3	-0.6
	comp=Z,9.6nm,1.1s						
MMAI	Mount Meron Ar	90.02	303	P	P	22 12 48.1	+0.5
	comp=Z,4.5nm,0.7s,baz=89,slow=4.3,SNR=5.8						
MMAI	Mount Meron Ar	90.02	303	P	P	22 12 48.1	+0.5
SYO	Syowa Base	90.47	201	⇓epP	pP	22 13 03.5	-0.8
EIL	Elat	90.53	300	P	P	22 12 50.8	+0.8
	comp=Z,3.0nm,0.7s,baz=99,slow=6.4,SNR=3.3						
EIL	Elat	90.53	300	P	P	22 12 50.8	+0.8
JOF	Joensuu	90.88	333	eP	P	22 12 49.2	-1.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JOF	Joensuu	90.88	333	ep	P	22 12 49.2	-1.6
	comp=Z,2.7nm,0.7s						
BR131	Keskin Array S	91.15	310	eP	P	22 12 51.4	-1.4
	comp=Z,1.1nm,0.6s						
BRTR	Keskin Array B	91.15	310	P	P	22 12 51.8	-1.0
	comp=Z,2.4nm,1.0s,baz=108,slow=4.7,SNR=7.6						
BRTR				PP	PP	22 16 30.1	0.0
	comp=Z,0.2nm,0.5s,baz=99,slow=7.8,SNR=3.7						
BRTR	Keskin Array B	91.15	310	P	P	22 12 51.8	-1.0
BRTR				PP	PP	22 16 30.1	0.0
QSPA	South Pole Qui	91.62	180	P	P	22 12 55.1	+0.7
	comp=Z,2.1nm,0.5s,baz=259,slow=1.4,SNR=17						
QSPA	South Pole Qui	91.62	180	P	P	22 12 55.1	+0.7
KEV	Kevo	91.72	340	eP	P	22 12 57.2	+2.6
KEV	Kevo	91.72	340	ep	P	22 12 57.2	+2.6
	comp=Z,0.4nm,0.4s						
ARCES	ARCESS Array B	92.27	340	P	P	22 12 56.5	-0.7
	comp=Z,3.5nm,0.7s,baz=69,slow=5.9,SNR=7.1						
ARCES	ARCESS Array B	92.27	340	P	P	22 12 56.5	-0.7
AKASG	Malin Array Be	93.33	321	P	P	22 13 00.7	-1.7
	comp=Z,1.3nm,0.7s,baz=67,slow=4.8,SNR=4.2						
AKASG	Malin Array Be	93.33	321	P	P	22 13 00.7	-1.7
AKASG	Malin Array Be	93.33	321	P	P	22 13 00.7	-1.7
FINES	FINESS Array B	93.51	332	P	P	22 13 01.8	-1.3
	comp=Z,2.2nm,0.6s,baz=90,slow=5.6,SNR=11						
FINES	FINESS Array B	93.51	332	P	P	22 13 01.8	-1.3
CFR	Carcaliu	94.72	315	⇓P	P	22 13 10.4	+1.5
CFR	Carcaliu	94.72	315	⇓iP	P	22 13 10.4	+1.5
TESR		95.57	317	⇓iP	P	22 13 11.8	-1.1
VRI	Vrincioaia	95.61	316	⇑P	P	22 13 12.3	-0.8
VRI	Vrincioaia	95.61	316	⇑iP	P	22 13 12.3	-0.8
PLOR	Plostina	95.67	316	⇓P	P	22 13 08.9	-4.4
PLOR	Plostina	95.67	316	⇓iP	P	22 13 08.9	-4.4
ISR	Istrita	95.84	315	⇑P	P	22 13 25.5	+11
ISR	Istrita	95.84	315	⇑iP	P	22 13 25.5	+11
MLR	Muntele Rosu	96.21	316	⇑iP	P	22 13 15.7	-0.2
BUC1	Bucharest	96.32	315	⇑iP	P	22 13 36.5	+20
BURAR	Bucovina Array	96.37	318	⇓iP	P	22 13 15.3	-1.3
KWP	Kalwaria Pacla	97.63	320	⇓P	Pdif	22 13 27.2	+5.0
KWP	Kalwaria Pacla	97.63	320	⇓iP	Pdif	22 13 27.2	+5.0
UZH	Uzhgorod	98.10	319	eP	P	22 13 19.5	-4.7
UZH				e		22 13 26.5	
UZH				e		22 13 37.3	
DRGR		98.20	318	⇑P	P	22 13 24.4	-0.4
DRGR		98.20	318	⇑iP	P	22 13 24.4	-0.4
CRVS	Cervenica-Dubn	98.58	320	eP	Pdif	22 13 28.6	+2.2
CRVS	Cervenica-Dubn	98.58	320	PDIF	Pdif	22 13 28.6	+2.2
VTS	Vitosha	98.63	313	⇑P	P	22 13 26.1	-0.9
VTS	Vitosha	98.63	313	⇑iP	P	22 13 26.1	-0.9
VYHS	Vyhne	100.37	320	eP	Pdif	22 13 35.0	+0.6
VYHS	Vyhne	100.37	320	PDIF	Pdif	22 13 35.0	+0.6
NOA	NORSAR Array B	100.50	333	P	Pdif	22 13 33.3	-1.5
	comp=Z,0.8nm,0.8s,baz=76,slow=4.3,SNR=3.9						
NOA	NORSAR Array B	100.50	333	P	Pdif	22 13 33.3	-1.5
YKA	Yellowknife Ar	101.42	25	P	Pdif	22 13 39.8	+1.1
	comp=Z,0.1nm,0.5s,baz=295,slow=4.7,SNR=4.1						
YKA				PKKPbc	PKKPbc	22 29 46.3	-3.3
	comp=Z,0.2nm,0.6s,baz=112,slow=2.7,SNR=3.8						
YKA	Yellowknife Ar	101.42	25	P	Pdif	22 13 39.8	+1.1
YKA				PKKPbc	PKKPbc	22 29 46.4	-3.3
GERES	GERESS Array B	103.53	321	Pdiff	Pdif	22 13 50.4	+1.8
	comp=Z,0.6nm,0.7s,baz=92,slow=4.0,SNR=4.1						
GERES	GERESS Array B	103.53	321	Pdif	Pdif	22 13 50.4	+1.8
SCHQ	Schefferville	122.59	9	PKP	PKPdf	22 18 42.5	-0.3
	comp=Z,2.8nm,0.8s,baz=348,slow=1.9,SNR=7.5						
SCHQ	Schefferville	122.59	9	PKP	PKPdf	22 18 42.5	-0.3
TXAR	Lajitas Array	122.99	53	PKP	PKPdf	22 18 44.5	0.0
	comp=Z,0.5nm,0.6s,baz=240,slow=1.8,SNR=4.1						
TXAR	Lajitas Array	122.99	53	PKP	PKPdf	22 18 44.5	0.0
TORD	Torodi Ar. Bea	123.33	287	PKP	PKPdf	22 18 44.6	-0.7
	comp=Z,1.5nm,0.8s,baz=72,slow=1.9,SNR=9.8						
TORD				PP	PP	22 20 29.0	+2.5
	comp=Z,1.7nm,1.0s,baz=62,slow=5.6,SNR=4.9						
TORD				PKKPbc	PKKPab	22 28 35.4	+0.2
	comp=Z,0.9nm,0.9s,baz=291,slow=4.7,SNR=4.9						
TORD	Torodi Ar. Bea	123.33	287	PKP	PKPdf	22 18 44.6	-0.7
TORD				PP	PP	22 20 29.0	+2.5
TORD				PKKPbc	PKKPab	22 28 35.4	+0.2
DBIC	Dimbokro	130.76	280	PKP	PKPdf	22 19 00.6	+1.0
	comp=Z,1.9nm,0.8s,baz=90,slow=1.0,SNR=3.3						
DBIC	Dimbokro	130.76	280	PKP	PKPdf	22 19 00.6	+1.0
LCO	Las Campanas	148.26	150	ePKPbc	PKPbc	22 19 34.7	+0.2

IDC 03 22:09:18.3±1.9**,3°.53N×126°.81E,h0km,mb3.6**/3**, mb1 3.8**/3**,mb1mx3.4**/22**,mbtmp3.6**/3**,MS3.4**/1**,Ms1 3.4**/1**, ms1mx2.5**/37**,Error ellipse: s-maj=172.1km s-min=25.8km az=64.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.47	163	P	P	22 14 40.6	+1.3
	0.4nm,0.6s,baz=342,slow=10,SNR=4.9						
JNU	Nakatsue	29.69	7	LR	LR	22 25 58.6	
	comp=Z,70nm,18.6s,baz=274,slow=34						
STKA	Stephens Creek	37.91	159	P	P	22 16 36.5	-1.1
	1.7nm,0.7s,baz=320,slow=7.9,SNR=2.1						
MKAR	Makanchi Array	57.76	325	P	P	22 19 11.2	-0.1
	0.1nm,0.5s,baz=121,slow=7.7,SNR=3.9						

*ISCJB **03** 22:17:04.7±0.5,38°.33N±0°.03×21°.86E±0°.03,h11km±3km, Error ellipse: s-maj=5.1km s-min=4.2km az=147.0*
*ATH **03** 22:17:04.9,38°.34N×21°.88E,h8km±4km,MD2.9/4*
*CSEM **03** 22:17:04.8±0.1,38°.33N×21°.87E,h6km,ML1.3/6,Error ellipse: s-maj=2.8km s-min=2.7km az=150.0*
*THE **03** 22:17:05.0,38°.34N×21°.84E,h8km±1km,ML1.3/6,Error ellipse: s-maj=1.2km s-min=0.4km az=295.0*
ISC 03 22:17:05.4±1.3**,38°.33N**±0°.02×**21°.86E**±0°.02**,h5**km±9km**, n28,σ0s.58**/48**,Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPR	University Cam	0.07	227	P	Pg	22 17 06.7	-0.3
UPR				S	Sg	22 17 08.5	+0.3
UPR	University Cam	0.07	227	P	Pg	22 17 06.7	-0.3
UPR				S	Sg	22 17 08.5	+0.3
EFP	Efpalio	0.10	23	P	Pg	22 17 07.1	-0.5
EFP				S	Sg	22 17 09.0	0.0
EFP	Efpalio	0.10	23	ePG	Pg	22 17 07.0	-0.5
EFP				eSG	Sg	22 17 08.9	0.0
EFP	Efpalio	0.10	23	ePg	Pg	22 17 07.0	-0.5
EFP				S	Sg	22 17 09.0	0.0
LAKA	Lakka	0.13	134	P	Pg	22 17 08.1	0.0
LAKA				S	Sg	22 17 10.5	+0.6
LAKA	Lakka	0.13	134	P	Pg	22 17 08.1	0.0
LAKA				S	Sg	22 17 10.5	+0.6
TRIZ	Trizonia	0.17	80	P	Pg	22 17 08.8	0.0
TRIZ				S	Sg	22 17 11.9	+0.8
TRIZ	Trizonia	0.17	80	P	Pg	22 17 08.8	0.0
TRIZ				S	Sg	22 17 11.9	+0.8
KALE	Kalithea	0.23	76	P	Pg	22 17 09.7	-0.2
KALE				S	Sg	22 17 13.7	+0.8
KALE	Kalithea	0.23	76	P	Pg	22 17 09.7	-0.2
KALE				S	Sg	22 17 13.7	+0.8
RLS	Riolos of Patr	0.41	228	P	Pg	22 17 13.0	-0.3
RLS				S	Sg	22 17 19.0	+0.3
RLS	Riolos of Patr	0.41	228	ePG	Pg	22 17 13.1	-0.3
RLS				eSB	Sg	22 17 19.9	+1.2
RLS	Riolos of Patr	0.41	228	P	Pg	22 17 13.0	-0.3
RLS				S	Sg	22 17 19.0	+0.3
RLS				eSb	Sg	22 17 19.9	+1.2
DSF	Desfina	0.53	82	P	Pg	22 17 15.4	-0.2
DSF	Desfina	0.53	82	P	Pg	22 17 15.4	-0.2
DESF	Desfina	0.54	81	P	Pg	22 17 15.6	-0.1
DESF	Desfina	0.54	81	P	Pg	22 17 15.6	-0.1
GUR	Goura	0.55	136	P	Pg	22 17 15.1	-0.9
GUR				S	Sg	22 17 23.4	+0.2
GUR	Goura	0.55	136	ePB	Pg	22 17 14.6	-1.4
GUR				eSB	Sg	22 17 23.3	+0.1
GUR	Goura	0.55	136	ePb	Pg	22 17 14.6	-1.4
GUR	Goura	0.55	136	P	Pg	22 17 15.1	-0.9
GUR				eSb	Sg	22 17 23.3	+0.1
EVR	Evrytania	0.58	356	P	Pg	22 17 15.9	-0.7
EVR	Evrytania	0.58	356	ePB	Pg	22 17 16.5	-0.1
EVR				eSB	Sg	22 17 24.6	+0.4
EVR	Evrytania	0.58	356	P	Pg	22 17 15.9	-0.7
EVR	Evrytania	0.58	356	ePb	Pg	22 17 16.5	-0.1
EVR				eSb	Sg	22 17 24.6	+0.4
VLS	Valsamata	1.01	261	ePB	Pg	22 17 24.5	-0.2
VLS	Valsamata	1.01	261	ePb	Pg	22 17 24.5	-0.2

IDC 03 22:52:06.6±1.2**,3°.27N×126°.45E,h0km,mb3.6**/6**, mb1 3.8**/6**,mb1mx3.6**/22**,mbtmp3.7**/6**,MS2.8**/1**,Ms1 2.8**/1**, ms1mx2.2**/32**,Error ellipse: s-maj=97.3km s-min=18.1km az=71.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.25	182	P	P	22 56 56.1	+1.6
	0.9nm,0.4s,baz=12,slow=9.3,SNR=2.4						
WRA	Warramunga Arr	24.33	162	P	P	22 57 26.4	+0.1
	5.7nm,0.8s,baz=342,slow=10,SNR=18						
ASAR	Alice Springs	27.74	165	P	P	22 57 55.8	-1.4
	0.2nm,0.5s,baz=346,slow=10,SNR=3.2						
KSRS	Korea Array	34.05	2	LR	LR	23 11 05.5	
	comp=Z,16nm,21.6s,baz=330,slow=34						
STKA	Stephens Creek	37.80	159	P	P	22 59 25.4	+0.5
	3.0nm,0.9s,baz=342,slow=6.4,SNR=4.2						
SONM	Songino Array	47.65	342	P	P	23 00 46.5	+1.7
	0.4nm,0.9s,baz=152,slow=9.4,SNR=2.9						
MKAR	Makanchi Array	57.78	326	P	P	23 01 57.8	-1.9
	0.2nm,0.5s,baz=121,slow=7.8,SNR=5.1						

*ISK **03** 22:55:44.8,37°.62N×28°.73E,h22km,MD2.6*
*CSEM **03** 22:55:45.7±0.5,37°.62N×28°.81E,h23km±4km,MD2.6, Error ellipse: s-maj=24.4km s-min=8.7km az=82.0*
*DDA **03** 22:55:50.1,37°.76N×28°.96E,h7km,MD2.3*
ISC 03 22:55:45.5±1.5**,37°.63N**±0°.07×**28°.8E**±0°.1**,h21**km±2km**,n10, σ0s.57**/14**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.23	76	i P	Pb	22 55 52.3	+0.6
DNZL				i S	Sb	22 55 55.3	-0.7
DNZL	Cakiroluk	0.23	76	i P	Pb	22 55 52.3	+0.6
DNZL				i S	Sb	22 55 55.3	-0.7
DENT	Denizli	0.24	61	ePG	Pb	22 55 51.6	0.0
DENT	Denizli	0.24	61	ePg	Pb	22 55 51.7	0.0
KULA	Kula-Manisa	0.88	355	ePG	Pb	22 56 01.9	-0.2
KULA				eSG	Sn	22 56 15.9	+0.8
KULA	Kula-Manisa	0.88	355	ePg	Pb	22 56 02.0	-0.2
KULA				eSg	Sn	22 56 15.9	+0.8
KHL	Karahalli	0.91	41	ePG	Pb	22 56 02.7	0.0
KHL	Karahalli	0.91	41	ePg	Pb	22 56 02.7	0.0
FETY	Fethiye	1.03	165	ePG	Pn	22 56 04.5	-0.3
FETY	Fethiye	1.03	165	ePg	Pn	22 56 04.5	-0.3

JMA 03 23:13:17.8,34°.91N×137°.00E,h37km±1km**,M3.1,1C-4D Broadband fault plane solution: P waves. NP1:** φs223.00000°,δ87.00000°,λ16.00000°. **NP2:** φs133.00000°,δ74.00000°,λ177.00000°. **Principal axes:** T Plg13.0000°, Azm89.0000°; N Plg74.0000°, Azm233.0000°; P Plg9.0000°, Azm357.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.30	157	⇓P	Pn	23 13 25.6	-0.4
JAA				S	Sn	23 13 31.3	-1.8
TSUJ	Tsu 2	0.52	247	⇑P	Pn	23 13 28.2	-0.5
TSUJ				eS	Sn	23 13 35.9	-0.4
JIE	Ise	0.57	205	⇓P	Pn	23 13 29.5	-0.1
JIE				eS	Sn	23 13 37.4	-0.3
JGM	Miyama	0.82	344	⇓P	Pn	23 13 33.2	+0.3
JGM				eS	Sn	23 13 44.2	+0.3
TK04	Tokai 4	0.89	126	P	Pn	23 13 33.9	+0.3
JKN2	Miekihoku	0.90	222	⇓P	Pn	23 13 33.6	-0.3
JKN2				eS	Sn	23 13 45.6	-0.1
SHZ3	Shizuoka 3	1.01	81	P	Pn	23 13 35.2	-0.2
SHZ3				eS	Sn	23 13 49.2	+0.8
JHE	Heguri	1.11	257	P	Pn	23 13 36.9	+0.1
JHE				eS	Sn	23 13 51.3	+0.4
TK02	Tokai 2	1.15	147	P	Pn	23 13 36.6	-0.4
TK02				eS	Sn	23 13 51.5	+0.3
TTO2	TONANKAI O.B.S	1.17	179	P	Pn	23 13 37.3	0.0
MAT	Matsushiro	1.90	31	P	Pn	23 13 49.7	+2.0
MAT				S	Sn	23 14 13.5	+3.0

WEL 03 23:20:44.8±0.4**,38°.63S×175°.76E,h162**km±3km**,ML3.7**/18 **Error ellipse: s-maj=2.7km s-min=2.3km az=0.0,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.51	210	PN	Pn	23 21 07.5	-0.1
NGZ	Ngauruhoe	0.56	193	PN	Pn	23 21 08.0	0.0
WPVZ	Whakapapa	0.60	196	PN	Pn	23 21 08.1	0.0
TUVZ	Tukino	0.64	187	PN	Pn	23 21 08.5	+0.1
FWVZ	Far West T-bar	0.65	194	PN	Pn	23 21 08.4	-0.2
FWVZ				SN	Sn	23 21 26.8	-0.1
DRZ	Dome Shelter	0.66	193	PN	Pn	23 21 08.7	0.0
TRVZ	Turoa	0.69	194	PN	Pn	23 21 08.8	0.0
WNVZ	Wahianoa	0.71	190	PN	Pn	23 21 08.9	0.0
HIZ	Hauiti	0.72	279	PN	Pn	23 21 08.2	-0.5
MOVZ	Moawhango	0.78	180	PN	Pn	23 21 08.9	-0.3
BKZ	Black Stump Fm	0.78	133	PN	Pn	23 21 08.8	-0.4
MTVZ	Mangateitei	0.79	197	PN	Pn	23 21 09.4	+0.2
BHHZ	Black Hill Sta	0.89	165	PN	Pn	23 21 09.7	-0.3
BHHZ				SN	Sn	23 21 27.8	-1.6
NMHZ	Naumai	0.94	120	PN	Pn	23 21 10.7	+0.4
NMHZ				SN	Sn	23 21 29.8	-0.2
RAHZ	Arahi	1.08	106	SN	Sn	23 21 30.7	-1.0
MCHZ	McNeill Hill	1.09	138	PN	Pn	23 21 12.0	+0.5
URZ	Urewera	1.12	71	SN	Sn	23 21 28.9	-3.4
WAZ	Wanganui	1.27	208	PN	Pn	23 21 13.2	+0.1
PNHZ	Pukenui	1.33	165	PN	Pn	23 21 13.5	-0.1
TSZ	Takapari Road	1.44	174	PN	Pn	23 21 14.6	-0.1
CKHZ	Cape Kidnapper	1.45	135	PN	Pn	23 21 15.0	+0.3
KAHZ	Kahuranaki	1.45	144	PN	Pn	23 21 15.1	+0.2
WPHZ	Waipukurau	1.53	160	PN	Pn	23 21 15.5	0.0
KNZ	Kokohu	1.54	105	PN	Pn	23 21 15.0	-0.7
PXZ	Pawanui	1.64	149	PN	Pn	23 21 16.5	-0.2
DVHZ	Dannevirke	1.70	169	PN	Pn	23 21 16.9	-0.4
POWZ	Post Office Ro	1.76	180	PN	Pn	23 21 17.6	-0.4
PRHZ	Porangahau	1.77	158	PN	Pn	23 21 17.9	-0.2
MRZ	Mangatainoka R	2.03	184	PN	Pn	23 21 20.2	-0.8
PUZ	Puketiti	2.04	75	PN	Pn	23 21 20.7	-0.4
BFZ	Birch Farm	2.08	170	PN	Pn	23 21 20.9	-0.7
TIWZ	Tintock	2.15	177	PN	Pn	23 21 21.6	-0.8
OGWZ	Otaki Gorge	2.23	192	PN	Pn	23 21 22.5	-0.8
HOWZ	Holdsworth Sta	2.27	185	PN	Pn	23 21 22.7	-1.1
MXZ	Matakaoa Point	2.27	63	PN	Pn	23 21 21.7	-2.0
KIW	Kapiti Island	2.32	196	PN	Pn	23 21 23.2	-1.1
TMWZ	Te Maipa	2.48	178	PN	Pn	23 21 25.1	-1.1
CAW	Cannon Point	2.53	192	PN	Pn	23 21 25.7	-1.2
MTW	Mount Morrison	2.53	184	PN	Pn	23 21 25.4	-1.4
DUWZ	D'Urville Isla	2.59	213	PN	Pn	23 21 26.2	-1.4
PAWZ	Paruwai Farm	2.76	185	PN	Pn	23 21 28.0	-1.6
TRWZ	Traveller	2.77	181	PN	Pn	23 21 28.3	-1.4
MSWZ	Moikau Station	2.81	188	PN	Pn	23 21 28.5	-1.7
TCW	Tory Channel	2.82	203	PN	Pn	23 21 28.8	-1.5
BHW	Baring Head	2.86	194	PN	Pn	23 21 29.1	-1.7
PLWZ	Palliser	2.96	187	PN	Pn	23 21 30.2	-2.0
TUWZ	Tuamarina	3.13	206	PN	Pn	23 21 32.3	-1.8
NNZ	Nelson	3.17	215	PN	Pn	23 21 32.6	-2.0
QRZ	Quartz Range	3.32	228	PN	Pn	23 21 34.0	-2.6
BSWZ	Blackbirch Sta	3.40	204	PN	Pn	23 21 36.0	-1.6
THZ	Tophouse	3.82	214	PN	Pn	23 21 40.7	-2.3
KHZ	Kahutara	4.14	203	PN	Pn	23 21 45.2	-1.9
LTZ	Lake Taylor	4.92	211	SN	Sn	23 22 48.5	-5.7
MQZ	McQueen's Vall	5.59	204	PN	Pn	23 22 02.0	-4.0
MQZ				SN	Sn	23 23 02.0	-7.7
ODZ	Otahua Downs	7.46	209	PN	Pn	23 22 27.2	-3.7

*IDC **03** 23:25:03.6±2.0,22°.97S×68°.09W,h107km±19km,mb3.5/3, mb1 3.6/6,mb1mx3.4/19,mbtmp3.5/6,Error ellipse: s-maj=31.2km s-min=15.2km az=96.0*
*ISCJB **03** 23:25:04.2±0.6,22°.92S±0°.05×68°.40W±0°.07,h133km±5km, mb3.5/2,Error ellipse: s-maj=10.6km s-min=8.8km az=5.9*
*GUC **03** 23:25:05.9±0.9,22°.95S×68°.53W,h117km±5km,ML3.8*
ISC 03 23:25:04.5±0.9**,22°.96S**±0°.06×**68°.40W**±0°.07**,h128**km±7km**, n14,σ1s.09**/19**,2C-3D,Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.19	75	⇓iP	Pn	23 25 23.4	+0.9
SPCH				i S	Sn	23 25 36.7	+0.7
SPCH				AML	AML	23 25 37.5	
	comp=E,5μm,0.5s						
LVC	Limon Verde	0.58	306	⇑iP	Pn	23 25 24.0	-0.2
LVC				i S	Sn	23 25 38.3	-0.8
PB04	Plate Boundary	1.22	304	⇑iP	Pn	23 25 35.7	+6.3
PB04				i S	Sn	23 25 58.2	+10
PB04				AML	AML	23 26 01.4	
	comp=N,1μm,0.2s						
PB09	Plate Boundary	1.40	326	i P	Pn	23 25 31.9	+0.4
PB09				i S	Sn	23 25 51.7	-0.3
PB09				AML	AML	23 25 52.7	
	comp=N,2μm,0.5s						
MACH	Maria Elena	1.47	301	eP	Pn	23 25 32.9	+0.5
MACH				i S	Sn	23 25 52.8	-0.8
CEN1	Los Morros	1.71	255	eP	Pn	23 25 39.6	+4.5
CEN1				i S	Sn	23 26 02.8	+4.4
CEN1				AML	AML	23 26 04.4	
	comp=N,376nm,0.4s						
PB07	Plate Boundary	1.84	311	⇓iP	Pn	23 25 36.6	-0.1
PB07				i S	Sn	23 25 59.8	-1.4
PB07				AML	AML	23 26 01.2	
	comp=E,1μm,0.3s						
ANCH	Antofagasta	1.99	248	⇓iP	Pn	23 25 39.9	+1.7
ANCH				i S	Sn	23 26 04.8	+0.8
ANCH				AML	AML	23 26 07.3	
	comp=E,717nm,0.4s						
LPAZ	La Paz	6.64	2	P	Pn	23 26 40.9	+0.7
	comp=E,1.1nm,0.3s,baz=195,slow=8.7,SNR=15						
LPAZ				S	Sn	23 27 54.9	0.0
	baz=263,slow=25,SNR=1.8						
CFAA	Coronel Fontan	8.62	179	P	Pn	23 27 06.7	+0.4
	comp=E,0.1nm,0.3s,baz=7.9,slow=15,SNR=3.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CFAA				S	Sn	23 28 39.0	-2.8
	comp=E,0.1nm,0.3s,baz=315,slow=8.6,SNR=3.8						
SIV	San Ignacio	9.78	46	P	Pn	23 27 17.4	-4.7
	comp=E,3.4nm,0.3s,baz=248,slow=13,SNR=111						
SIV				S	Sn	23 29 01.1	-9.1
	comp=E,0.2nm,0.3s,baz=154,slow=18,SNR=2.7						
BDFB	Brasilia	20.55	73	P	P	23 29 32.6	-0.6
	comp=E,2.1nm,0.6s,baz=256,slow=11,SNR=5.8						
TORD	Torodi Ar. Bea	77.40	70	P	P	23 36 46.4	+0.4
	comp=E,1.1nm,0.6s,baz=253,slow=5.4,SNR=19						
YKA	Yellowknife Ar	92.71	340	P	P	23 38 02.1	+0.6
	comp=E,0.1nm,0.4s,baz=136,slow=4.7,SNR=4.9						

FUNV 03 23:30:54.4, 6°.74N×73°.16W, h168km, MW3.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.40	37	⇓iP	Pn	23 31 24.2	-0.5
CAPV				eS	Sn	23 31 45.4	-2.8
VIGV	El Vigia	2.75	40	i P	Pn	23 31 38.7	-0.8
VIGV				eS	Sn	23 32 10.9	-3.6
SOCV	Socops	2.75	56	eP	Pn	23 31 38.5	-1.1
SOCV				eS	Sn	23 32 11.1	-3.5
ELOV	Elorza	3.66	86	eP	Pn	23 31 50.0	-0.9
VIRV	Villa del Rosa	3.82	11	eP	Pn	23 31 51.1	-1.8
VIRV				eS	Sn	23 32 33.7	-4.8
CURV	Curarigua	4.54	44	eP	Pn	23 32 00.8	-1.5
DABV	Dabajuro	4.85	31	eP	Pn	23 32 05.5	-0.7
TEPV	Terepaima	5.07	50	eP	Pn	23 32 07.7	-1.4
BAUV	El Baul	5.53	66	eP	Pn	23 32 12.4	-2.7
BAUV				eS	Sn	23 33 11.8	-6.5
MAPV	Macapo	5.58	56	eP	Pn	23 32 14.2	-1.6
MONV	Montecano	6.07	31	eP	Pn	23 32 19.9	-2.3
TURV	Turiamo	6.42	55	eP	Pn	23 32 24.8	-2.1
CUPV	Cœpira	8.01	65	eP	Pn	23 32 44.6	-3.3

MEX 03 23:34:52.4±0.4, 16°.54N×98°.74W, h10km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	104	i P	Pg	23 35 02.8	-1.4
PNIG				i S	Sg	23 35 11.6	-0.7
CAIG	El Cayaco	1.55	289	eP	Pn	23 35 17.2	-2.8
CAIG				eS	Sn	23 35 35.3	-4.9
UTMO	Huajuapan	1.57	35	eP	Pn	23 35 16.9	-3.8
UTMO				eS	Sn	23 35 36.3	-4.9
PLIG	Platanillo	1.98	339	eP	Pn	23 35 23.6	-2.6
PLIG				eS	Sn	23 35 45.9	-5.3
VHO	Vista Hermosa	2.00	74	eP	Pn	23 35 23.8	-2.7
VHO				eS	Sn	23 35 46.6	-5.2
YAIG	Yautepec	2.33	352	eP	Pn	23 35 28.0	-3.1
YAIG				eS	Sn	23 35 55.7	-4.2

IDC 03 23:45:08.4±1.3, 33°.57N×78°.12E, h0km, mb3.5/10, mb1 3.7/13, mb1mx3.5/31, mbtmp3.5/13, ML3.0/3, Error ellipse: s-maj=39.6km s-min=15.7km az=65.0
NDI 03 23:45:09.5±2.8, 33°.89N×78°.46E, h10km, ML3.3
ISCJB 03 23:45:13.2±0.5, 33°.74N±0°.04×78°.48E±0°.07, h33km, mb3.6/8, Error ellipse: s-maj=8.5km s-min=4.6km az=22.2
ISC 03 23:45:14.7±0.6, 33°.65N±0°.05×78°.39E±0°.07, h35km, n19, σ1s.95/26, mb3.7/8, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.32	242	eP	Pn	23 45 50.0	-0.6
DLH				eS	Sn	23 46 20.0	+2.0
THN	Thein Dam	2.55	242	ex	Pn	23 45 51.1	-2.5
THN				eS	Sn	23 46 27.0	+3.6
SMLA	Simla	2.72	203	eP	Pn	23 45 57.8	+1.9
SMLA				i S	Sn	23 46 31.7	+4.1
SMLA				AML	AML	23 46 36.2	
	comp=E,1µm,0.6s						
SMLA				AML	AML	23 46 37.2	
	comp=N,746nm,0.6s						
DDI	Dehra Dun	3.33	185	eP	Pn	23 46 06.0	+1.6
DDI				ex	x	23 47 00.0	
AYAN	Aya Nagar	5.27	192	eP	Pn	23 46 30.2	-0.7
AYAN				ex	Sn	23 47 27.7	-2.7
KHET	Khetri	5.99	202	ex	Pn	23 46 38.7	-2.2
KHET				eS	Sn	23 47 47.5	-0.7
KHET				AML	AML	23 48 22.7	
	comp=N,6.4nm,0.1s						
KHET				AML	AML	23 48 22.8	
	comp=E,6.4nm,0.1s						
AAK	Ala-Archa	9.47	342	Pn	Pn	23 47 29.9	+1.1
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=3.0						
AAK				Sn	Sn	23 49 16.0	+1.9
	comp=E,0.0nm,0.3s,baz=180,slow=20,SNR=2.5						
MKAR	Makanchi Array	13.46	12	Pn	Pn	23 48 24.8	+1.7
	comp=E,0.0nm,0.3s,baz=197,slow=13,SNR=3.2						
MKAR				Sn	Sn	23 50 52.5	+1.1
	comp=E,0.0nm,0.3s,baz=186,slow=20,SNR=5.9						
KURBB	Kurchatov Arra	16.96	0	P	Pn	23 49 08.3	-0.8
	comp=E,0.0nm,0.3s,baz=189,slow=11,SNR=3.3						
BVAR	Borovoye Array	20.20	346	P	P	23 49 44.3	-1.9
	comp=E,0.8nm,0.7s,baz=150,slow=12,SNR=6.2						
ZALV	Zalesovo Beam	20.80	11	P	P	23 49 52.6	-0.2
	comp=E,0.4nm,0.5s,baz=198,slow=9.1,SNR=3.3						
AKTO	Aktyubinsk	22.47	324	P	P	23 50 08.8	-2.0
	comp=E,4.2nm,0.8s,baz=114,slow=7.5,SNR=16						
CMAR	Chiang Mai Arr	23.80	124	P	P	23 50 23.5	-0.9
	comp=E,0.9nm,0.3s,baz=314,slow=9.8,SNR=5.3						
SONM	Songino Array	25.34	48	P	P	23 50 40.1	+1.7
	comp=E,0.6nm,1.0s,baz=237,slow=8.3,SNR=4.2						
PETK	Petropavlovsk-	57.77	44	P	P	23 55 01.2	-0.9
	comp=E,2.0nm,0.8s,baz=276,slow=6.8,SNR=3.1						
WRA	Warramunga Arr	75.38	126	P	P	23 56 56.6	+1.7
	comp=E,0.3nm,0.3s,baz=308,slow=5.2,SNR=4.0						
ILAR	Eielson Array	75.71	18	P	P	23 56 56.0	-0.2
	comp=E,0.3nm,0.9s,baz=316,slow=6.3,SNR=3.8						
ASAR	Alice Springs	77.71	129	P	P	23 57 07.7	-0.4
	comp=E,0.2nm,0.3s,baz=338,slow=7.0,SNR=3.4						
YKA	Yellowknife Ar	83.62	6	P	P	23 57 37.3	-1.8
	comp=E,0.2nm,0.6s,baz=338,slow=5.5,SNR=4.8						

ISCJB 03 23:45:44.2±0.5, 38°.33N±0°.03×21°.87E±0°.03, h10km±3km, Error ellipse: s-maj=5.3km s-min=4.2km az=150.3
THE 03 23:45:44.5, 38°.34N×21°.86E, h6km±1km, ML1.3/6, Error ellipse: s-maj=1.7km s-min=0.4km az=319.0
ATH 03 23:45:44.4, 38°.34N×21°.88E, h7km±5km, MD2.8/5
CSEM 03 23:45:44.2±0.2, 38°.34N×21°.86E, h5km, ML1.3/6, Error ellipse: s-maj=4.9km s-min=3.6km az=151.0
ISC 03 23:45:44.3±1.0, 38°.34N±0°.02×21°.85E±0°.02, h7km±5km, n24, σ0s.60/47, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	University Cam	0.08	221	P	Pg	23 45 46.0	-0.3
UPR				S	Sg	23 45 47.9	+0.2
UPR	University Cam	0.08	221	ePG	Pg	23 45 46.1	-0.3
UPR				eSG	Sg	23 45 48.3	+0.6
UPR	University Cam	0.08	221	ePg	Pg	23 45 46.1	-0.3
UPR				S	Sg	23 45 47.9	+0.2
UPR				eSg	Sg	23 45 48.3	+0.5
EFP	Efpalio	0.09	27	P	Pg	23 45 46.5	-0.1
EFP				S	Sg	23 45 48.3	+0.2
EFP	Efpalio	0.09	27	ePG	Pg	23 45 46.5	-0.1
EFP				eSG	Sg	23 45 48.5	+0.4
EFP	Efpalio	0.09	27	P	Pg	23 45 46.5	-0.1
EFP				S	Sg	23 45 48.3	+0.2
LAKA	Lakka	0.14	136	P	Pg	23 45 47.2	-0.2
LAKA				S	Sg	23 45 49.5	0.0
LAKA	Lakka	0.14	136	P	Pg	23 45 47.2	-0.2
LAKA				S	Sg	23 45 49.5	0.0
TRIZ	Trizonia	0.17	83	P	Pg	23 45 48.2	+0.3
TRIZ				S	Sg	23 45 51.0	+0.7
TRIZ	Trizonia	0.17	83	P	Pg	23 45 48.2	+0.3
TRIZ				S	Sg	23 45 51.0	+0.7
KALE	Kalithea	0.23	78	P	Pg	23 45 49.0	0.0
KALE				S	Sg	23 45 52.5	+0.4
KALE	Kalithea	0.23	78	P	Pg	23 45 49.0	0.0
KALE				S	Sg	23 45 52.5	+0.4
RLS	Riolos of Patr	0.42	227	P	Pg	23 45 52.5	+0.1
RLS				S	Sg	23 45 59.0	+1.1
RLS	Riolos of Patr	0.42	227	ePG	Pg	23 45 52.5	+0.1
RLS				eSB	Sg	23 45 59.5	+1.6
RLS	Riolos of Patr	0.42	227	P	Pg	23 45 52.5	+0.1
RLS				S	Sg	23 45 59.0	+1.1
RLS				eSb	Sg	23 45 59.5	+1.6
DSF	Desfina	0.54	83	P	Pg	23 45 54.6	-0.1
DSF	Desfina	0.54	83	P	Pg	23 45 54.6	-0.1
GUR	Goura	0.56	136	P	Pg	23 45 54.5	-0.7
GUR				S	Sg	23 46 02.9	+0.3
GUR	Goura	0.56	136	ePB	Pg	23 45 54.4	-0.7
GUR				eSB	Sg	23 46 02.9	+0.3
GUR	Goura	0.56	136	P	Pg	23 45 54.5	-0.7
GUR				S	Sg	23 46 02.9	+0.3
EVR	Evrytania	0.57	357	ePG	Pg	23 45 55.3	-0.1
EVR				eSB	Sb	23 46 04.5	-0.6
EVR	Evrytania	0.57	357	ePg	Pg	23 45 55.3	-0.1
EVR				eSb	Sb	23 46 04.5	-0.6
VLS	Valsamata	1.01	261	ePB	Pg	23 46 02.5	-1.2
VLS				eSB	Sn	23 46 19.6	+0.3
VLS	Valsamata	1.01	261	ePb	Pg	23 46 02.5	-1.2
VLS				eSb	Sn	23 46 19.6	+0.3

IDC 04 00:17:37.1±0.7, 18°.52N×120°.09E, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.9/25, mbtmp3.8/15, MS3.4/1, Ms1 3.4/1, ms1mx2.3/42, Error ellipse: s-maj=29.8km s-min=15.1km az=65.0
ISCJB 04 00:17:40.1±0.4, 18°.71N±0°.05×119°.99E±0°.06, h24km, mb3.9/16, MS3.2/1, Error ellipse: s-maj=8.9km s-min=5.2km az=144.6
NEIC 04 00:17:42.3±0.5, 18°.53N×120°.13E, h35km, mb4.1/3, Error ellipse: s-maj=14.2km s-min=10.6km az=81.0
MAN 04 00:17:46, 18°.39N×120°.30E, h10km, mb4.4, ML3.3, MS3.1
ISC 04 00:17:41.0±0.5, 18°.61N±0°.05×120°.12E±0°.07, h24km, n43, σ0s.97/44, mb4.0/16, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.55	121	⇑iP	Pn	00 17 53.5	+0.1
SIPP	Brgy, Tapao	0.75	155	⇑eP	Pn	00 17 56.2	0.0
ABRA	Dolores	1.11	149	eP	Pb	00 18 01.8	+0.2
SGCP	Mt. Cagua	1.86	101	eP	Pb	00 18 13.8	-0.5
SGCP				eS	Sb	00 18 38.6	+1.3
BCPH	Baguio City Da	2.26	169	⇑iP	Pn	00 18 17.3	+0.3
CAUP	Cauayan	2.31	135	eP	Pb	00 18 21.9	-0.2
SCZP	Santa Cruz	2.82	184	eP	Pb	00 18 39.4	+8.6
BALP	Baler	3.17	154	eP	Pn	00 18 32.9	+3.5
YULB	Yu-li	4.89	13	ePn	Pn	00 18 53.5	+0.5
YULB				eSn	Sn	00 19 46.4	-2.5
KSAR	Wonju Array Be	19.96	18	P	P	00 22 12.1	+0.6
KSRS	Korea Array	19.98	18	P	P	00 22 12.1	+0.3
	2.6nm,0.8s,baz=198,slow=11,SNR=6.6						
CMAR	Chiang Mai Arr	20.09	273	P	P	00 22 13.5	+0.5
	1.2nm,0.3s,baz=72,slow=9.1,SNR=8.9						
CMAR	Chiang Mai Arr	20.09	273	P	P	00 22 13.5	+0.5
JHJ	Hachijo jima 2	22.79	47	LR	LR	00 29 14.9	
	comp=Z,92nm,21.3s,baz=273,slow=30						
SONM	Songino Array	31.23	342	P	P	00 23 58.7	-0.1
	0.8nm,1.0s,baz=163,slow=9.3,SNR=4.7						
SONM	Songino Array	31.23	342	P	P	00 23 58.7	-0.1
WRA	Warramunga Arr	40.77	159	P	P	00 25 18.5	-2.0
	0.8nm,0.3s,baz=342,slow=8.9,SNR=4.9						
WRA	Warramunga Arr	40.77	159	P	P	00 25 18.5	-2.0
MKAR	Makanchi Array	41.83	321	P	P	00 25 29.9	+0.9
	0.6nm,0.6s,baz=112,slow=9.8,SNR=9.0						
MKAR	Makanchi Array	41.83	321	P	P	00 25 29.9	+0.9
ASAR	Alice Springs	44.12	162	P	P	00 25 47.0	-0.8
	1.8nm,0.5s,baz=342,slow=6.8,SNR=28						
ASAR	Alice Springs	44.12	162	P	P	00 25 47.0	-0.8
ZALV	Zalesovo Beam	44.49	331	P	P	00 25 50.7	+0.3
	1.0nm,0.7s,baz=120,slow=7.6,SNR=7.3						
ZALV	Zalesovo Beam	44.49	331	P	P	00 25 50.7	+0.3
KURK	Kurchatov	45.87	324	eP	P	00 26 01.7	+0.4
	1.9nm,0.8s						
KURK				ePcP	PcP	00 27 37.3	-1.0
KURBB	Kurchatov Arra	45.87	324	P	P	00 26 02.2	+0.8
	1.6nm,0.7s,baz=123,slow=7.9,SNR=14						
BRVK	Borovoye	51.53	324	eP	P	00 26 44.8	-0.1
	1.5nm,0.7s						
STKA	Stephens Creek	54.26	157	P	P	00 27 04.8	-0.3
	3.8nm,0.8s,baz=340,slow=6.5,SNR=6.2						
ABKAR	Akbulak array	56.73	317	eP	P	00 27 23.3	+0.5
	3.1nm,0.8s						
ABKAR				ePcP	PcP	00 28 17.6	-1.1
ILAR	Eielson Array	74.61	26	P	P	00 29 19.6	+1.6
	0.2nm,0.7s,baz=299,slow=5.5,SNR=4.4						
ILAR	Eielson Array	74.61	26	P	P	00 29 19.6	+1.6
BRTR	Keskin Array B	75.72	307	P	P	00 29 25.5	+0.5
	0.2nm,0.5s,baz=70,slow=6.5,SNR=2.9						
BRTR	Keskin Array B	75.72	307	P	P	00 29 25.5	+0.5
FINES	FINESS Array B	75.76	330	P	P	00 29 23.5	-1.1
	2.4nm,0.8s,baz=57,slow=7.0,SNR=9.7						
FINES	FINESS Array B	75.76	330	P	P	00 29 23.5	-1.1
NOA	NORSAR Array B	82.67	332	P	P	00 30 01.7	-0.8
	0.7nm,0.6s,baz=68,slow=4.9,SNR=3.0						
NOA	NORSAR Array B	82.67	332	P	P	00 30 01.7	-0.8
GERES	GERESS Array B	86.50	321	P	P	00 30 21.4	-0.7
	0.3nm,0.8s,baz=44,slow=7.8,SNR=3.8						
GERES	GERESS Array B	86.50	321	P	P	00 30 21.4	-0.7
YKA	Yellowknife Ar	88.47	22	P	P	00 30 31.9	+0.8
	1.0nm,0.7s,baz=315,slow=4.7,SNR=27						
YKA	Yellowknife Ar	88.47	22	P	P	00 30 31.9	+0.8
TXAR	Lajitas Array	116.31	42	PKP	PKPdf	00 36 24.4	+1.1
	0.2nm,0.7s,baz=329,slow=3.4,SNR=4.0						
TXAR	Lajitas Array	116.31	42	PKP	PKPdf	00 36 24.4	+1.1

MEX 04 00:19:06.7±0.4, 16°.28N×98°.08W, h2km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.12	339	eP	Pg	00 19 08.8	-0.4
PNIG				i S	Sg	00 19 11.2	+0.4
VHO	Vista Hermosa	1.52	58	eP	Pn	00 19 31.5	-3.7
VHO				i S	Sn	00 19 51.0	-4.7
UTMO	Huajuapan	1.57	10	eP	Pn	00 19 32.1	-3.8
UTMO				i S	Sn	00 19 51.6	-5.4
HUIG	Huatulco	1.96	105	i P	Pn	00 19 37.4	-3.8
HUIG				i S	Sn	00 20 02.4	-4.0
MEIG	Mezcala	2.20	318	eP	Pn	00 19 40.8	-3.8
MEIG				i S	Sn	00 20 08.2	-4.3
CAIG	El Cayaco	2.23	290	eP	Pn	00 19 41.8	-2.9
CAIG				i S	Sn	00 20 08.9	-4.1
TPIG	Tehuac#an	2.24	18	i P	Pn	00 19 41.2	-3.9
TPIG				i S	Sn	00 20 09.6	-3.9
PLIG	Platanillo	2.50	327	i P	Pn	00 19 46.3	-2.4
PLIG				i S	Sn	00 20 15.1	-4.8
YAIG	Yautepec	2.74	340	i P	Pn	00 19 49.7	-2.3
YAIG				i S	Sn	00 20 22.4	-3.5
ARIG	Puente Sto Nin	2.94	313	i P	Pn	00 19 51.3	-3.3
ARIG				i S	Sn	00 20 26.6	-4.0
CMIG	Matias Romero	3.17	75	i P	Pn	00 19 55.0	-2.7
CMIG				i S	Sn	00 20 32.3	-3.9
PCIG		4.71	96	i P	Pn	00 20 16.9	-2.0
PCIG				i S	Sn	00 21 11.2	-3.0

CSEM 04 00:36:28.8±1.0, 27°.27N×56°.11E, h10km, ML3.4/2, Error ellipse: s-maj=37.4km s-min=4.0km az=57.0
OMAN 04 00:36:30.7±0.0, 27°.09N×56°.07E, h5km±37km, Error ellipse: s-maj=42.2km s-min=8.5km az=259.0
KISR 04 00:36:31.4±0.8, 26°.85N×55°.21E, h8km±999km, ML3.0
ISC 04 00:36:29.6±2.8, 27°.2N±0°.2×55°.9E±0°.2, h14km, n15, σ1s.56/20, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	Banah	1.30	164	⇓P	Pn	00 36 53.5	+0.1
	SNR=189						
BANOM				⇑S	Sb	00 37 10.0	-0.4
BANOM	Banah	1.30	164	P	Pn	00 36 53.6	+0.2
	SNR=189						
BANOM				S	Sb	00 37 10.0	-0.4
NAZ	Nazwa, Dubai	2.20	186	P	Pn	00 37 06.7	+1.1
HATD	Hatta, Dubai	2.35	175	P	Pn	00 37 08.7	+0.9
FAQ	Al Faqa, Dubai	2.44	187	P	Pn	00 37 11.0	+2.0
ASHO	Ashiyiah	2.49	177	P	Pn	00 37 10.8	+1.0
	SNR=8.8						
ASHO	Ashiyiah	2.49	177	P	Pn	00 37 10.7	+1.0
	SNR=8.8						
ASUD	Al Ashush, Dub	2.60	192	P	Pn	00 37 12.8	+1.6
	SNR=7.2						
ASUD	Al Ashush, Dub	2.60	192	P	Pn	00 37 12.8	+1.6
	SNR=7.2						
UMR	Umm Al-Rimmam	7.60	290	eP	Pn	00 38 21.6	+1.8
UMR				eS	Sn	00 39 44.1	-1.6
UMR				AML	AML	00 39 46.0	
	comp=Z,6.8nm,0.4s						
UMR	Umm Al-Rimmam	7.60	290	eP	Pn	00 38 21.6	+1.8
NAY	Al-Naaiem	7.92	287	eP	Pn	00 38 25.7	+1.4
NAY				eS	Sn	00 39 50.8	-2.9
NAY				AML	AML	00 39 54.9	
	comp=Z,0.6nm,0.4s						
NAY	Al-Naaiem	7.92	287	eP	Pn	00 38 25.7	+1.4
MIB	Mutribah	7.98	291	eP	Pn	00 38 26.4	+1.3
MIB				eS	Sn	00 39 53.3	-2.0
MIB				AML	AML	00 39 55.6	
	comp=Z,2.0nm,0.4s						
MIB	Mutribah	7.98	291	eP	Pn	00 38 26.4	+1.3

IDC 04 00:37:04.0±1.3, 15°.76S×175°.15W, h275km±16km, mb3.1/5, mb1 3.5/6, mb1mx3.2/19, mbtmp3.2/6, Error ellipse: s-maj=89.8km s-min=14.1km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.74	61	P	Pn	00 38 06.3	+0.1
	14nm,0.3s,baz=199,slow=1.5,SNR=18						
AFI				S	S	00 38 56.1	+0.3
	17nm,0.3s,baz=13,slow=20,SNR=9.3						
STKA	Stephens Creek	42.40	240	P	P	00 44 31.8	-0.3
	2.3nm,0.7s,baz=84,slow=10,SNR=2.3						
WRA	Warramunga Arr	48.12	257	P	P	00 45 16.9	-0.1
	2.2nm,0.8s,baz=89,slow=7.2,SNR=8.0						
ASAR	Alice Springs	48.40	252	P	P	00 45 19.1	0.0
	15nm,0.6s,baz=87,slow=7.8,SNR=139						
NVAR	Mina Array Bea	75.73	43	P	P	00 48 19.5	-0.5
	0.4nm,0.5s,baz=221,slow=8.1,SNR=3.1						
TXAR	Lajitas Array	82.21	57	P	P	00 48 55.6	+0.5
	0.1nm,0.5s,baz=238,slow=5.1,SNR=3.4						
ILAR	Eielson Array	83.13	12	P	P	00 48 59.1	+0.2
	0.3nm,0.6s,baz=216,slow=5.2,SNR=4.6						

SOF 04 00:49:05.9, 39°.18N×24°.68E, h6km, MD3.2
THE 04 00:49:07.4, 39°.09N×24°.53E, h5km, ML3.5/14, Error ellipse: s-maj=0.9km s-min=0.5km az=287.0
ISCJB 04 00:49:07.3±0.5, 39°.12N±0°.01×24°.47E±0°.02, h8km±4km, Error ellipse: s-maj=2.4km s-min=1.8km az=149.2
BEO 04 00:49:07.9±1.1, 39°.01N×24°.15E, h0km, ML3.2/4
ATH 04 00:49:07.2, 39°.12N×24°.52E, h29km±1km, ML3.6
CSEM 04 00:49:07.9±0.1, 39°.09N×24°.43E, h10km, ML3.5/14, Error ellipse: s-maj=2.5km s-min=2.3km az=150.0
ISK 04 00:49:10.9, 38°.95N×24°.54E, h32km, ML3.4
DDA 04 00:49:24.0, 38°.95N×25°.98E, h40km, MD3.5
ISC 04 00:49:07.5±1.0, 39°.10N±0°.02×24°.51E±0°.01, h11km±9km, n283, σ1s.07/325, 16C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.50	278	P	Pg	00 49 17.5	+0.3
AOS				S	Sb	00 49 24.6	-1.0
AOS	Alonnisos	0.50	278	P	Pg	00 49 17.5	+0.3
AOS				S	Sb	00 49 24.6	-1.0
SKIA	Skiathos	0.82	275	P	Pg	00 49 22.8	-0.5
SKIA				S	Sb	00 49 35.6	+0.8
SKIA	Skiathos	0.82	275	P	Pg	00 49 22.8	-0.5
SKIA				S	Sb	00 49 35.6	+0.8
MRKA	Markates	0.82	242	P	Pg	00 49 23.1	-0.3
MRKA				S	Sb	00 49 34.6	-0.4
MRKA	Markates	0.82	242	P	Pg	00 49 23.1	-0.3
MRKA				S	Sb	00 49 34.6	-0.4
ERET	Eretria	0.86	220	P	Pg	00 49 23.9	-0.2
ERET				S	Sb	00 49 37.1	+1.1
ERET	Eretria	0.86	220	P	Pg	00 49 23.9	-0.2
LIA	Limnos Island	0.95	33	P	Pg	00 49 25.6	-0.2
LIA				S	Sb	00 49 38.5	-0.1
LIA	Limnos Island	0.95	33	ePN	Pg	00 49 25.6	-0.2
LIA				eSN	Sb	00 49 38.5	-0.1
LIA	Limnos Island	0.95	33	P	Pg	00 49 25.6	-0.2
LIA				eSn	Sb	00 49 38.5	-0.1
NEO	Neokhori	1.02	282	ePN	Pg	00 49 26.9	-0.3
NEO				eSN	Sn	00 49 41.7	-0.6
NEO	Neokhori	1.02	282	ePn	Pg	00 49 26.9	-0.3
NEO				eSn	Sn	00 49 41.7	-0.6
MRMA	Marmari	1.05	186	P	Pg	00 49 27.1	-0.5
MRMA				S	Sb	00 49 41.6	+0.2
MRMA	Marmari	1.05	186	P	Pg	00 49 27.1	-0.5
MRMA				S	Sb	00 49 41.6	+0.2
PAIG	Paliouri	1.05	322	P	Pg	00 49 27.2	-0.5
PAIG				S	Sn	00 49 43.0	+0.2
PAIG	Paliouri	1.05	322	P	Pg	00 49 27.2	-0.5
PAIG				S	Sn	00 49 43.0	+0.2
XOR	Xorichti	1.06	285	P	Pb	00 49 27.1	-0.8
XOR				S	Sn	00 49 42.7	-0.5
XOR	Xorichti	1.06	285	P	Pb	00 49 27.1	-0.8
XOR				S	Sn	00 49 42.7	-0.5
PTL	Penteli	1.17	206	P	Pb	00 49 29.0	-0.7
PTL				S	Sn	00 49 45.7	-0.1
PTL	Penteli	1.17	206	ePN	Pb	00 49 29.1	-0.7
PTL				eSN	Sn	00 49 45.9	+0.1
PTL	Penteli	1.17	206	P	Pb	00 49 29.0	-0.7
PTL				eSn	Sn	00 49 45.9	+0.1
ATAL	Atalanti	1.23	251	P	Pn	00 49 30.1	-0.6
ATAL				S	Sn	00 49 47.6	+0.2
ATAL	Atalanti	1.23	251	P	Pn	00 49 30.1	-0.6
ATAL				S	Sn	00 49 47.6	+0.2
LKR	Lokris	1.26	250	P	Pn	00 49 30.4	-0.7
LKR				S	Sg	00 49 48.5	+0.3
LKR	Lokris	1.26	250	ePN	Pn	00 49 30.4	-0.7
LKR				eSN	Sb	00 49 47.7	+0.1
LKR	Lokris	1.26	250	P	Pn	00 49 30.4	-0.7
LKR				eSn	Sb	00 49 47.7	+0.1
LKR				S	Sg	00 49 48.5	+0.3
ATH	Athens Observa	1.29	209	P	Pn	00 49 30.9	-0.6
ATH				S	Sg	00 49 49.3	+0.3
ATH	Athens Observa	1.29	209	ePN	Pn	00 49 30.9	-0.6
ATH				eSN	Sg	00 49 49.8	+0.8
ATH	Athens Observa	1.29	209	P	Pn	00 49 30.9	-0.6
ATH				eSn	Sg	00 49 49.8	+0.8
OUR	Ouranopolis	1.30	342	P	Pn	00 49 30.9	-0.7
OUR				S	Sg	00 49 50.4	+1.1
OUR	Ouranopolis	1.30	342	P	Pn	00 49 30.9	-0.7
OUR				S	Sg	00 49 50.4	+1.1
PRK	Paraskevi	1.37	83	P	Pn	00 49 32.1	-0.5
PRK				S	Sg	00 49 51.5	-0.2
PRK	Paraskevi	1.37	83	ePN	Pn	00 49 32.2	-0.4
PRK				eSN	Sn	00 49 51.0	+0.2
PRK	Paraskevi	1.37	83	ePn	Pn	00 49 32.3	-0.4
PRK				eSn	Sn	00 49 51.0	+0.2
PRK				S	Sg	00 49 51.5	-0.2
CHOS	Chios island	1.40	120	P	Pn	00 49 33.0	-0.1
CHOS				S	Sb	00 49 51.8	+0.2
CHOS	Chios island	1.40	120	P	Pn	00 49 33.0	-0.1
CHOS				S	Sb	00 49 51.8	+0.2
PLG	Polygyros	1.52	327	P	Pn	00 49 33.8	-0.8
PLG	Polygyros	1.52	327	ePN	Pn	00 49 33.8	-0.8
PLG	Polygyros	1.52	327	P	Pn	00 49 33.8	-0.8
NAIG	Nisos Aigina	1.56	211	ePB	Pn	00 49 34.5	-0.7
NAIG	Nisos Aigina	1.56	211	ePb	Pn	00 49 34.5	-0.7
EZN	Ezine	1.58	62	ePN	Pg	00 49 37.3	-0.5
EZN				eSN	Sg	00 49 57.8	-0.5
EZN	Ezine	1.58	62	ePn	Pg	00 49 37.3	-0.5
EZN				eSn	Sg	00 49 57.8	-0.5
LTK	Loutraki	1.62	229	P	Pn	00 49 35.7	-0.4
LTK	Loutraki	1.62	229	P	Pn	00 49 35.7	-0.4
DSF	Desfina	1.70	247	P	Pn	00 49 36.5	-0.7
DSF				S	Sb	00 50 00.1	-0.1
DSF	Desfina	1.70	247	P	Pn	00 49 36.5	-0.7
AYVA	Ayvalik	1.70	82	i P	Pn	00 49 37.2	0.0
AYVA				i S	Sg	00 50 05.1	+2.8
AYVA	Ayvalik	1.70	82	i P	Pn	00 49 37.2	0.0
URLA	Izmir	1.79	114	i P	Pn	00 49 38.6	+0.2
URLA	Izmir	1.79	114	i P	Pn	00 49 38.6	+0.2
HORT	Hortiatis	1.85	324	P	Pn	00 49 39.0	-0.3
HORT	Hortiatis	1.85	324	P	Pn	00 49 39.0	-0.3
LIT	Litokhoron	1.85	303	P	Pn	00 49 39.3	0.0
LIT				S	Sn	00 50 01.8	-1.0
LIT	Litokhoron	1.85	303	ePN	Pn	00 49 38.4	-0.9
LIT				eSN	Sn	00 50 01.5	-1.3
LIT	Litokhoron	1.85	303	ePn	Pn	00 49 38.4	-0.9
LIT	Litokhoron	1.85	303	P	Pn	00 49 39.3	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LIT				eSn	Sn	00 50 01.5	-1.3
LIT				S	Sn	00 50 01.8	-1.0
MAKR	Makrakomi, Fth	1.86	268	P	Pn	00 49 39.8	+0.5
MAKR				S	Sn	00 50 03.7	+0.9
MAKR	Makrakomi, Fth	1.86	268	P	Pn	00 49 39.8	+0.5
MAKR				S	Sn	00 50 03.7	+0.9
DID	Didima	1.88	213	P	Pn	00 49 39.0	-0.7
DID				S	Sn	00 50 02.9	-0.5
DID	Didima	1.88	213	P	Pn	00 49 39.0	-0.7
DID				S	Sn	00 50 02.9	-0.5
KAVA	Kavala	1.89	0	P	Pn	00 49 38.8	-1.0
KAVA	Kavala	1.89	0	P	Pn	00 49 38.8	-1.0
DIDY	Didyma	1.92	213	P	Pn	00 49 39.5	-0.7
DIDY	Didyma	1.92	213	P	Pn	00 49 39.5	-0.7
SOH	Sokhos	1.94	333	P	Pn	00 49 40.3	-0.2
SOH	Sokhos	1.94	333	ePB	Pn	00 49 40.3	-0.2
SOH	Sokhos	1.94	333	P	Pn	00 49 40.3	-0.2
KALE	Kalithea	1.99	250	P	Pn	00 49 41.0	-0.1
KALE				S	Sb	00 50 07.6	-0.9
KALE	Kalithea	1.99	250	P	Pn	00 49 41.0	-0.1
GELI	Tayfur-Gelibol	1.99	49	ePN	Pb	00 49 44.1	+0.3
GELI	Tayfur-Gelibol	1.99	49	ePn	Pb	00 49 44.1	+0.3
THL	Klokotos Trika	1.99	284	P	Pn	00 49 41.3	+0.1
THL	Klokotos Trika	1.99	284	ePB	Pn	00 49 41.2	+0.1
THL	Klokotos Trika	1.99	284	ePb	Pn	00 49 41.2	+0.1
TRIZ	Trizonia	2.04	250	P	Pn	00 49 42.1	+0.2
TRIZ	Trizonia	2.04	250	P	Pn	00 49 42.1	+0.2
GUR	Goura	2.06	236	P	Pn	00 49 42.0	-0.2
GUR				S	Sn	00 50 07.8	-0.2
GUR	Goura	2.06	236	P	Pn	00 49 42.0	-0.2
GUR				S	Sn	00 50 07.8	-0.2
ENEZ	Enez	2.06	37	ePN	Pb	00 49 45.7	+0.7
ENEZ	Enez	2.06	37	ePn	Pb	00 49 45.7	+0.7
BLCB	Balcova	2.10	109	ePN	Pb	00 49 44.4	-1.2
BLCB	Balcova	2.10	109	ePn	Pb	00 49 44.4	-1.2
EVR	Evrytania	2.12	266	P	Pn	00 49 43.6	+0.6
EVR	Evrytania	2.12	266	ePB	Pn	00 49 43.5	+0.6
EVR	Evrytania	2.12	266	ePb	Pn	00 49 43.5	+0.6
SRS	Serrai	2.13	341	P	Pn	00 49 42.6	-0.5
SRS	Serrai	2.13	341	P	Pn	00 49 42.6	-0.5
ALN	Alexandroupoli	2.15	33	P	Pn	00 49 42.2	-1.1
ALN				S	Sn	00 50 11.1	+1.2
ALN	Alexandroupoli	2.15	33	ePN	Pn	00 49 42.0	-1.3
ALN	Alexandroupoli	2.15	33	P	Pn	00 49 42.2	-1.1
ALN				S	Sn	00 50 11.1	+1.2
EFP	Efpalio	2.15	253	P	Pn	00 49 43.5	+0.2
EFP				S	Sb	00 50 11.8	-1.2
EFP	Efpalio	2.15	253	P	Pn	00 49 43.5	+0.2
LPK	Lapseki	2.15	53	ePN	Pb	00 49 46.8	+0.4
LPK	Lapseki	2.15	53	ePn	Pb	00 49 46.8	+0.4
LAKA	Lakka	2.16	247	P	Pn	00 49 43.9	+0.4
LAKA	Lakka	2.16	247	P	Pn	00 49 43.9	+0.4
APE	Apeiranthos	2.18	158	ePN	Pn	00 49 43.5	-0.3
APE	Apeiranthos	2.18	158	P	Pn	00 49 43.2	-0.6
APE				S	Sn	00 50 08.6	-2.2
APE	Apeiranthos	2.18	158	ePN	Pn	00 49 43.5	-0.3
APE	Apeiranthos	2.18	158	⇑iP	Pg	00 49 54.5	+5.2
APE	Apeiranthos	2.18	158	P	Pn	00 49 43.2	-0.6
APE	Apeiranthos	2.18	158	ePn	Pn	00 49 43.5	-0.3
APE				S	Sn	00 50 08.6	-2.2
ERIK	Erikli-Kesan	2.20	44	ePN	Pb	00 49 47.3	+0.1
ERIK	Erikli-Kesan	2.20	44	ePn	Pb	00 49 47.3	+0.1
IZM	Izmir	2.26	107	ePN	Pn	00 49 45.2	+0.3
IZM	Izmir	2.26	107	ePn	Pn	00 49 45.2	+0.3
NVR	Nevrokopi	2.30	348	P	Pn	00 49 45.0	-0.5
NVR	Nevrokopi	2.30	348	ePN	Pn	00 49 45.0	-0.5
NVR	Nevrokopi	2.30	348	P	Pn	00 49 45.0	-0.5
KNT	Kendrikon	2.40	329	P	Pn	00 49 47.0	+0.2
KNT	Kendrikon	2.40	329	P	Pn	00 49 47.0	+0.2
VLX	Vlachokerasia	2.41	225	P	Pn	00 49 47.0	0.0
VLX	Vlachokerasia	2.41	225	P	Pn	00 49 47.0	0.0
KZN	Kozani	2.44	301	ePB	Pn	00 49 48.2	+0.9
KZN	Kozani	2.44	301	ePb	Pn	00 49 48.2	+0.9
GRG	Griva	2.46	319	P	Pn	00 49 48.1	+0.4
GRG	Griva	2.46	319	P	Pn	00 49 48.1	+0.4
KRBG	Karabiga-Canak	2.50	58	ePN	Pb	00 49 50.4	-2.1
KRBG	Karabiga-Canak	2.50	58	ePn	Pb	00 49 50.4	-2.1
GCAM	G?zelcaml?	2.55	122	iP	Pn	00 49 49.5	+0.6
GCAM	G?zelcaml?	2.55	122	iP	Pn	00 49 49.5	+0.6
MMB	Musomiste	2.56	347	iP	Pn	00 49 48.3	-0.7
MMB	Musomiste	2.56	347	iP	Pn	00 49 48.3	-0.7
AKHS	Akhisar	2.58	94	eP	Pn	00 49 50.0	+0.7
AKHS	Akhisar	2.58	94	eP	Pn	00 49 50.0	+0.7
AKS	Akhisar	2.58	94	ePN	Pn	00 49 51.3	+2.0
AKS	Akhisar	2.58	94	ePn	Pn	00 49 51.3	+2.0
RZN	Rozhen	2.59	3	iP	Pn	00 49 49.3	-0.3
RZN	Rozhen	2.59	3	iP	Pn	00 49 49.3	-0.3
RKY	Sarkoy-Tekirda	2.59	51	ePN	Pb	00 49 53.4	-0.6
RKY	Sarkoy-Tekirda	2.59	51	ePn	Pb	00 49 53.4	-0.6
RLS	Riolos of Patr	2.60	247	ePB	Pn	00 49 51.5	+1.9
RLS	Riolos of Patr	2.60	247	ePb	Pn	00 49 51.5	+1.9
GONE	Gonen-Balikesi	2.63	68	ePN	Pb	00 49 52.6	-2.0
GONE	Gonen-Balikesi	2.63	68	ePn	Pb	00 49 52.6	-2.0
KDZ	Kurdzhali	2.64	15	P	Pn	00 49 48.8	-1.3
KDZ	Kurdzhali	2.64	15	P	Pn	00 49 48.8	-1.3
BALB	Balikesir	2.66	77	ePN	Pb	00 49 53.7	-1.5
BALB	Balikesir	2.66	77	ePn	Pb	00 49 53.7	-1.5
VAY	Valandovo	2.67	327	iPn	Pn	00 49 50.1	-0.4
VAY	Valandovo	2.67	327	iPn	Pn	00 49 50.6	+0.1
VLI	Veliai	2.69	208	P	Pn	00 49 50.1	-0.6
VLI	Veliai	2.69	208	ePN	Pn	00 49 50.1	-0.6
VLI	Veliai	2.69	208	P	Pn	00 49 50.1	-0.6
AMT	Artemida-Makis	2.71	236	P	Pn	00 49 52.0	+1.0
AMT				S	Sn	00 50 25.6	+1.9
AMT	Artemida-Makis	2.71	236	P	Pn	00 49 52.0	+1.0
MFT	Murefte	2.71	51	ePN	Pb	00 49 54.9	-1.2
MFT	Murefte	2.71	51	ePn	Pb	00 49 54.9	-1.2
THR2	Thira island,	2.75	164	P	Pn	00 49 51.5	0.0
THR2	Thira island,	2.75	164	P	Pn	00 49 51.5	0.0
ITM	Ithomi	2.80	228	P	Pn	00 49 53.2	+0.9
ITM	Ithomi	2.80	228	ePN	Pn	00 49 53.2	+0.9
ITM	Ithomi	2.80	228	P	Pn	00 49 53.2	+0.9
THR1	Thera Island	2.83	164	P	Pn	00 49 52.4	-0.3
THR1	Thera Island	2.83	164	P	Pn	00 49 52.4	-0.3
EDC	Edincik	2.87	63	ePN	Pb	00 49 56.9	-1.8
EDC	Edincik	2.87	63	ePn	Pb	00 49 56.9	-1.8
DYR	Agios Nikonas	2.90	217	P	Pn	00 49 54.0	+0.3
DYR	Agios Nikonas	2.90	217	P	Pn	00 49 54.0	+0.3
BNT	Bandirma	2.91	63	ePN	Pb	00 49 56.9	-2.6
BNT	Bandirma	2.91	63	ePn	Pb	00 49 56.9	-2.6
KKB	Krupnik	2.97	339	eP	Pn	00 49 54.7	+0.1
KKB	Krupnik	2.97	339	eP	Pn	00 49 54.7	+0.1
TKR	Tekirdag	2.99	50	ePN	Pb	00 49 58.7	-2.1
TKR	Tekirdag	2.99	50	ePn	Pb	00 49 58.7	-2.1
BODT	Bodrum	3.00	132	ePN	Pn	00 49 55.8	+0.7
BODT	Bodrum	3.00	132	ePn	Pn	00 49 55.8	+0.7
AYDN	Tasoluk	3.01	117	iP	Pn	00 49 56.4	+1.2
AYDN	Tasoluk	3.01	117	iP	Pn	00 49 56.4	+1.2
KYTH	Kithira	3.05	203	P	Pn	00 49 55.7	0.0
KYTH	Kithira	3.05	203	ePN	Pn	00 49 55.7	0.0
KYTH	Kithira	3.05	203	ePN	Pn	00 49 55.7	0.0
KYTH	Kithira	3.05	203	P	Pn	00 49 55.7	0.0
KFL	Anninata	3.08	252	P	Pn	00 49 58.4	+2.3
PYL	PYLOS	3.10	226	P	Pn	00 49 57.8	+1.3
PYL	PYLOS	3.10	226	P	Pn	00 49 57.8	+1.3
MLSB	Milas	3.14	124	ePN	Pn	00 49 58.5	+1.5
MLSB	Milas	3.14	124	ePn	Pn	00 49 58.5	+1.5
KCTX	Karacabey (Bur	3.19	67	ePN	Pn	00 50 00.3	+2.7
KCTX	Karacabey (Bur	3.19	67	ePn	Pn	00 50 00.3	+2.7
CRLT	Corlu	3.19	50	ePN	Pb	00 50 01.7	-2.6
CRLT	Corlu	3.19	50	ePn	Pb	00 50 01.7	-2.6
VLS	Valsamata	3.21	255	P	Pn	00 49 58.2	+0.3
VLS	Valsamata	3.21	255	P	Pn	00 49 58.2	+0.3
MANT	Manisa	3.22	100	eP	Pn	00 49 59.1	+0.9
MANT	Manisa	3.22	100	eP	Pn	00 49 59.1	+0.9
EDRB	Edirne	3.23	31	ePN	Pb	00 50 02.7	-2.1
EDRB	Edirne	3.23	31	ePn	Pb	00 50 02.7	-2.1
RGA	Parga	3.24	275	P	Pn	00 50 01.0	+2.7
DEMI	Demirci	3.27	90	eP	Pn	00 49 59.8	+1.0
DEMI	Demirci	3.27	90	eP	Pn	00 49 59.8	+1.0
IGT	Igoumenitsa	3.27	279	P	Pn	00 50 01.2	+2.4
SLVT	Silivri	3.54	52	ePN	Pb	00 50 06.7	-3.5
SLVT	Silivri	3.54	52	ePn	Pb	00 50 06.7	-3.5
YER	Yerkesik	3.56	122	ePN	Pn	00 50 04.8	+2.0
YER	Yerkesik	3.56	122	ePn	Pn	00 50 04.8	+2.0
MDNY	Mudanya-Bursa	3.60	68	ePN	Pn	00 50 07.0	+3.7
MDNY	Mudanya-Bursa	3.60	68	ePn	Pn	00 50 07.0	+3.7
VTS	Vitosha	3.63	345	P	Pn	00 50 04.5	+0.8
VTS				S	Sn	00 50 48.6	+2.0
VTS	Vitosha	3.63	345	⇑iP	Pn	00 50 04.6	+0.8
VTS	Vitosha	3.63	345	iP	Pn	00 50 04.5	+0.8
VTS				eS	Sn	00 50 47.7	+1.1
VTS	Vitosha	3.63	345	⇑iPn	Pn	00 50 04.6	+0.8
VTS				eSn	Sn	00 50 48.8	+2.2
VTS	Vitosha	3.63	345	P	Pn	00 50 04.5	+0.8
VTS				eS	Sn	00 50 47.7	+1.1
VTS				eSn	Sn	00 50 48.8	+2.2
ARMT	Armutlu	3.65	65	ePN	Pn	00 50 07.8	+3.8
ARMT	Armutlu	3.65	65	ePn	Pn	00 50 07.8	+3.8
VAM	Vamos	3.69	184	P	Pn	00 50 04.1	-0.5
VAM	Vamos	3.69	184	P	Pn	00 50 04.1	-0.5
CTKS	Kestanelik-??a	3.73	54	ePN	Pn	00 50 08.8	+3.8
CTKS	Kestanelik-??a	3.73	54	ePn	Pn	00 50 08.8	+3.8
CTYL	Yal??k??y-??at	3.74	49	ePN	Pb	00 50 09.4	-4.1
CTYL	Yal??k??y-??at	3.74	49	ePn	Pb	00 50 09.4	-4.1
GEMT	Gemlik	3.84	68	ePN	Pn	00 50 10.6	+4.0
GEMT	Gemlik	3.84	68	ePn	Pn	00 50 10.6	+4.0
TVSB	Tavsanli	3.86	83	ePN	Pn	00 50 09.4	+2.5
TVSB	Tavsanli	3.86	83	ePn	Pn	00 50 09.4	+2.5
GDZ	Gediz	3.87	89	iP	Pn	00 50 07.8	+0.8
GDZ	Gediz	3.87	89	iP	Pn	00 50 07.8	+0.8
KHAL	Karahalli	3.96	99	iP	Pn	00 50 09.5	+1.2
KHAL	Karahalli	3.96	99	iP	Pn	00 50 09.5	+1.2
KHL	Karahalli	4.00	100	ePN	Pn	00 50 11.0	+2.2
KHL	Karahalli	4.00	100	ePn	Pn	00 50 11.0	+2.2
ISK	Istanbul-Kandi	4.00	59	ePN	Pn	00 50 12.8	+4.0
ISK	Istanbul-Kandi	4.00	59	ePn	Pn	00 50 12.8	+4.0
YLV	Yalova	4.02	67	ePN	Pn	00 50 13.3	+4.3
YLV	Yalova	4.02	67	ePn	Pn	00 50 13.4	+4.3
ARG	Arkhangelos	4.06	134	P	Pn	00 50 10.2	+0.6
ARG	Arkhangelos	4.06	134	P	Pn	00 50 10.2	+0.6
SIVA	Sivas	4.08	177	P	Pn	00 50 10.6	+0.7
SIVA	Sivas	4.08	177	P	Pn	00 50 10.6	+0.7
KARP	Karpathos	4.13	148	ePN	Pn	00 50 10.9	+0.4
KARP	Karpathos	4.13	148	ePn	Pn	00 50 10.9	+0.4
BARS	Barje	4.24	332	ePn	Pn	00 50 12.6	+0.6
BARS	Barje	4.24	332	ePn	Pn	00 50 12.6	+0.6
ADVT	Abdulvahap	4.24	70	ePN	Pn	00 50 16.3	+4.2
ADVT	Abdulvahap	4.24	70	ePn	Pn	00 50 16.3	+4.2
GVD	Gavdhos	4.27	185	P	Pn	00 50 16.3	+3.9
MPEP	Malo Peshtene	4.29	352	eP	Pn	00 50 13.5	+0.7
MPEP	Malo Peshtene	4.29	352	eP	Pn	00 50 13.5	+0.7
ALT	Altintas	4.36	89	ePN	Pn	00 50 16.3	+2.5
ALT	Altintas	4.36	89	ePn	Pn	00 50 16.3	+2.5
ZAPS	Zavoj	4.40	342	ePn	Pn	00 50 16.1	+1.7
ZAPS				eSn	Sn	00 51 06.9	+1.2
SILT	Sile	4.43	61	ePN	Pn	00 50 18.9	+4.2
SILT	Sile	4.43	61	ePn	Pn	00 50 18.9	+4.2
NEF	NEVSHA	4.65	26	eP	Pn	00 50 17.0	-0.7
NEF	NEVSHA	4.65	26	eP	Pn	00 50 17.0	-0.7
GULT	Gulveren	4.81	72	ePN	Pn	00 50 23.6	+3.6
GULT	Gulveren	4.81	72	ePn	Pn	00 50 23.6	+3.6
SELS	Selova	4.85	329	ePn	Pn	00 50 20.0	-0.4
MDUB	Mudurnu	5.33	73	ePN	Pn	00 50 30.8	+3.7
MDUB	Mudurnu	5.33	73	ePn	Pn	00 50 30.8	+3.7
IVAS	Ivanjica	5.55	325	ePn	Pn	00 50 30.8	+0.7
IVAS	Ivanjica	5.55	325	ePn	Pn	00 50 30.8	+0.7
GRUS	Gruza	5.57	330	ePn	Pn	00 50 30.7	+0.4
GRUS				eSn	Sn	00 51 32.1	-2.2
GRUS	Gruza	5.57	330	ePn	Pn	00 50 30.7	+0.4
GRUS				eSn	Sn	00 51 32.1	-2.2
DIVS	Divibare	6.03	327	ePn	Pn	00 50 36.9	+0.1
DIVS				eSn	Sn	00 51 43.6	-2.3
DIVS	Divibare	6.03	327	ePn	Pn	00 50 36.9	+0.1
DIVS				eSn	Sn	00 51 43.6	-2.3
TIRR	Tirgusor	6.09	27	⇑iP	Pn	00 50 40.4	+2.9
TIRR	Tirgusor	6.09	27	⇑iP	Pn	00 50 40.4	+2.9
VOIR		6.34	3	⇓iP	Pn	00 50 41.2	+0.2
VOIR		6.34	3	⇓iP	Pn	00 50 41.2	+0.2
LOT	Lotru	6.37	355	⇓iP	Pn	00 50 41.3	-0.1
LOT	Lotru	6.37	355	⇓iP	Pn	00 50 41.3	-0.1
GZR	Gura Zlata	6.42	349	⇓iP	Pn	00 50 41.7	-0.3
GZR	Gura Zlata	6.42	349	⇓iP	Pn	00 50 41.7	-0.3
MLR	Muntele Rosu	6.47	9	⇓iP	Pn	00 50 44.0	+1.1
MLR	Muntele Rosu	6.47	9	⇓iP	Pn	00 50 44.0	+1.1
CFR	Carcaliu	6.64	23	⇑iP	Pn	00 50 41.0	-4.0
BZS	Buzias	6.86	343	⇑iP	Pn	00 50 47.8	-0.2
BZS	Buzias	6.86	343	⇑iP	Pn	00 50 47.8	-0.2
DOPR	Dopca	6.89	5	⇑iP	Pn	00 50 49.6	+1.1
DOPR	Dopca	6.89	5	⇑iP	Pn	00 50 49.6	+1.1
PLOR	Plostina	6.93	12	⇑iP	Pn	00 50 49.8	+0.8
PLOR	Plostina	6.93	12	⇑iP	Pn	00 50 49.8	+0.8
VRI	Vrincioaia	6.96	13	⇓iP	Pn	00 50 50.8	+1.4
VRI	Vrincioaia	6.96	13	⇓iP	Pn	00 50 50.8	+1.4
TESR		7.57	11	⇑iP	Pn	00 50 59.4	+1.6
TESR		7.57	11	⇑iP	Pn	00 50 59.4	+1.6
DRGR		7.80	351	⇑iP	Pn	00 51 01.0	0.0
DRGR		7.80	351	⇑iP	Pn	00 51 01.0	0.0
BURAR	Bucovina Array	8.53	3	⇓iP	Pn	00 51 12.1	+1.1
BURAR	Bucovina Array	8.53	3	⇓iP	Pn	00 51 12.1	+1.1

*IDC **04** 00:49:17.4±7.9, 38°.13N×71°.93E, h137km±60km, mb3.5/2, mb1 3.1/7, mb1mx2.8/31, mbtmp3.0/7, Error ellipse: s-maj=71.6km s-min=58.2km az=161.0*
*NNC **04** 00:49:17.8±2.4, 38°.56N×71°.68E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.7km s-min=13.9km az=2.0*
ISC 04 00:49:11.6±2.8**, 37°.9N**±0°.2×**71°.6E**±0°.1**, h35km, n11, σ1s.91/13, 5C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.22	24	P	Pn	00 50 28.9	+1.6
	1.7nm,0.3s,baz=185,slow=8.7,SNR=39						
AAK				S	Sn	00 51 26.2	-0.2
	1.0nm,0.3s,baz=331,slow=21,SNR=19						
KK31	Karatay Array	5.26	351	⇓Pn	Pn	00 50 32.2	+4.5
	3.9nm,0.5s,baz=170,slow=12,SNR=38						
KK31				⇑Sn	Sn	00 51 30.2	+3.1
	4.3nm,0.3s,baz=170,slow=23,SNR=13						
TKM2	Tokmak 2	5.87	30	⇓Pn	Pn	00 50 37.6	+1.3
	2.2nm,0.9s						
TKM2				⇑Sn	Sn	00 51 41.0	-1.4
	3.5nm,0.8s						
TKM2				⇑Lg	Lg	00 52 01.5	
	2.1nm,0.7s						
MKAR	Makanchi Array	11.89	38	P	Pn	00 51 59.2	+0.7
	0.0nm,0.3s,baz=225,slow=14,SNR=2.3						
KURBB	Kurchatov Arra	13.64	19	P	Pn	00 52 20.9	-1.6
	0.0nm,0.3s,baz=208,slow=11,SNR=3.0						
AB31	Akbulak array	14.12	327	⇑Pn	Pn	00 52 30.7	+1.7
	0.9nm,0.8s,baz=130,slow=14,SNR=12						
AB31				⇓Sn	Sn	00 55 01.4	-2.9
	1.3nm,0.8s,baz=130,slow=24,SNR=4.0						
BVAR	Borovoye Array	15.14	357	P	Pn	00 52 41.7	-1.1
	0.3nm,0.3s,baz=166,slow=11,SNR=13						
AKTO	Aktyubinsk	15.83	327	P	P	00 52 53.5	-1.7
	0.2nm,0.3s,baz=120,slow=14,SNR=4.1						
AKTO	Aktyubinsk	15.83	327	⇓Pn	P	00 52 53.6	-1.6
AKTO				⇑Sn	Sn	00 55 45.9	-0.1
FINES	FINESS Array B	36.59	325	P	P	00 56 09.1	-4.9
	0.8nm,0.8s,baz=103,slow=3.0,SNR=2.4						
ARCES	ARCESS Array B	40.03	337	P	P	00 56 37.8	-5.1
	3.4nm,1.1s,baz=108,slow=8.9,SNR=3.3						

*IDC **04** 01:02:07.4±2.6, 67°.05N×7°.73E, h0km, mb1 3.6/4, mb1mx3.2/29, mbtmp3.5/4, ML2.7/4, Error ellipse: s-maj=32.4km s-min=19.1km az=79.0*
*HEL **04** 01:02:10.8±0.5, 67°.07N×8°.30E, h10km, ML2.7, MD2.5(BER), ML2.6(NAO)*
*CSEM **04** 01:02:10.6±0.8, 67°.07N×8°.46E, h10km, ML2.7, Error ellipse: s-maj=16.3km s-min=7.9km az=111.0*
*BER **04** 01:02:11.5±3.3, 67°.04N×8°.10E, h10km, MD2.5, ML2.1, ML2.6(NAO)*
*NAO **04** 01:02:12.0±3.3, 67°.10N×7°.90E, h48km±309km, ML2.6*
ISC 04 01:02:08.8±1.6**, 67°.11N**±0°.04×**8°.35E**±0°.09**, h10km, n64, σ2s.30/93, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STOK	Stokkvaagen	2.01	111	eP	Pn	01 02 44.7	+1.9
STOK				eS	Sn	01 03 09.2	+1.3
STOK				AML	AML	01 03 11.2	
	comp=Z,23nm,0.2s						
STOK	Stokkvaagen	2.01	111	eP	Pn	01 02 44.7	+1.9
STOK				eS	Sn	01 03 09.2	+1.3
STOK				AML	AML	01 03 11.2	
	comp=Z,23nm,0.2s						
STOK	Stokkvaagen	2.01	111	P	Pn	01 02 44.6	+1.9
STOK				S	Sn	01 03 09.2	+1.3
	comp=Z,23nm,0.2s						
FLOS	Flostrand	2.14	109	eP	Pn	01 02 46.9	+2.4
FLOS				eS	Sn	01 03 12.9	+1.9
FLOS				AML	AML	01 03 16.2	
	comp=Z,27nm,0.5s						
FLOS	Flostrand	2.14	109	eP	Pn	01 02 46.9	+2.4
FLOS				eS	Sn	01 03 12.9	+1.9
FLOS				AML	AML	01 03 16.2	
	comp=Z,27nm,0.5s						
FLOS	Flostrand	2.14	109	P	Pn	01 02 46.9	+2.4
FLOS				S	Sn	01 03 12.9	+1.9
	comp=Z,27nm,0.5s						
LOF	Lofoten	2.24	60	eP	Pn	01 02 44.8	-1.1
LOF				eS	Sn	01 03 10.7	-2.8
LOF	Lofoten	2.24	60	eP	Pn	01 02 44.8	-1.1
LOF				eS	Sn	01 03 10.7	-2.8
LOF	Lofoten	2.24	60	P	Pn	01 02 44.8	-1.1
LOF				eS	Sn	01 03 10.7	-2.8
MOR8	Moi Rana	2.60	108	eP	Pb	01 02 54.7	-0.9
MOR8				eS	Sn	01 03 26.4	+3.7
MOR8				AML	AML	01 03 29.4	
	comp=Z,32nm,0.2s						
MOR8	Moi Rana	2.60	108	eP	Pb	01 02 54.7	-0.9
MOR8				eS	Sn	01 03 26.4	+3.7
MOR8				AML	AML	01 03 29.4	
	comp=Z,32nm,0.2s						
MOR8	Moi Rana	2.60	108	P	Pb	01 02 54.7	-0.9
MOR8				S	Sn	01 03 26.3	+3.7
	comp=Z,32nm,0.2s						
STEI	Steigen	2.77	70	eS	Sn	01 03 27.5	+0.7
STEI				AML	AML	01 03 29.9	
	comp=Z,6.7nm,0.2s						
STEI	Steigen	2.77	70	eS	Sn	01 03 27.5	+0.7
STEI				AML	AML	01 03 29.9	
	comp=Z,6.7nm,0.2s						
STEI	Steigen	2.77	70	S	Sn	01 03 27.4	+0.7
	comp=Z,6.7nm,0.2s						
NSS	Namsos	2.99	148	eP	Pn	01 02 57.4	+1.1
NSS				eS	Sn	01 03 31.2	-0.8
NSS	Namsos	2.99	148	eP	Pn	01 02 57.4	+1.1
NSS				eS	Sn	01 03 31.2	-0.8
NSS	Namsos	2.99	148	P	Pn	01 02 57.3	+1.1
NSS				eS	Sn	01 03 31.2	-0.8
	SNR=50						
KIF	Kilpisjarvi	5.04	62	eP	Pn	01 03 27.1	+2.8
KIF				e		01 04 10.8	
KIF				eS	Sn	01 04 23.9	+1.4
KIF	Kilpisjarvi	5.04	62	P	Pn	01 03 27.1	+2.8
KIF				S	Sn	01 04 23.9	+1.4
LANU	Lannavaara	5.30	74	eP	Pn	01 03 29.0	+0.9
LANU				eS	Sn	01 04 30.6	+1.5
LANU	Lannavaara	5.30	74	P	Pn	01 03 28.9	+0.9
LANU				S	Sn	01 04 30.6	+1.5
KTK1	Kautokeino	5.89	64	eP	Pn	01 03 33.5	-2.6
KTK1	Kautokeino	5.89	64	eP	Pn	01 03 33.5	-2.6
HEF	Hetta	5.96	70	eP	Pn	01 03 40.6	+3.7
HEF				eS	Sn	01 04 44.1	-1.0
HEF	Hetta	5.96	70	P	Pn	01 03 40.6	+3.7
HEF				S	Sn	01 04 44.1	-1.0
NB2	NORSAR Subarra	6.22	167	Pn	Pn	01 03 40.9	+0.2
	baz=348,slow=14						
NB2	NORSAR Subarra	6.22	167	Pn	Pn	01 03 40.9	+0.2
	baz=348,slow=14						
NB2	NORSAR Subarra	6.22	167	eP	Pn	01 03 40.9	+0.2
NB2	NORSAR Subarra	6.22	167	Pn	Pn	01 03 40.9	+0.2
	baz=348,slow=13,SNR=1.1						
NOA	NORSAR Array B	6.22	167	Pn	Pn	01 03 39.4	-1.3
	comp=Z,0.2nm,0.3s,baz=348,slow=14,SNR=6.2						
NOA				Sn	Sn	01 04 45.0	-6.8
	comp=Z,0.4nm,0.3s,baz=328,slow=17,SNR=2.9						
ARA0	ARCESS Array S	6.80	61	Pn	Pn	01 03 51.5	+3.0
	baz=245,slow=14						
ARA0				Sn	Sn	01 05 05.9	+0.1
	baz=245,slow=28						
ARA0	ARCESS Array S	6.80	61	Pn	Pn	01 03 51.5	+3.0
	baz=245,slow=14						
ARA0				Sn	Sn	01 05 05.9	+0.1
	baz=245,slow=28						
ARA0	ARCESS Array S	6.80	61	eP	Pn	01 03 51.5	+3.0
ARA0				eS	Sn	01 05 05.9	+0.1
ARA0	ARCESS Array S	6.80	61	P	Pn	01 03 51.5	+3.0
ARA0				Sn	Sn	01 05 05.9	+0.1
	baz=245,slow=23,SNR=5.7						
ARCES	ARCESS Array B	6.80	61	Pn	Pn	01 03 51.8	+3.4
	comp=Z,0.1nm,0.3s,baz=254,slow=13,SNR=4.3						
ARCES				Sn	Sn	01 05 05.9	+0.1
	comp=Z,0.1nm,0.3s,baz=250,slow=27,SNR=3.7						
VAF	Ylistaro	7.29	117	eP	Pn	01 03 57.4	+2.2
VAF				eS	Sn	01 05 15.8	-2.0
VAF	Ylistaro	7.29	117	P	Pn	01 03 57.4	+2.2
VAF				S	Sn	01 05 15.8	-2.0
KEV	Kevo	7.36	60	e	Pg	01 05 04.6	+35
HFS	Hagfors	7.39	159	Pn	Pn	01 03 56.7	0.0
	baz=350,slow=12						
HFS				Sn	Sn	01 05 15.3	-5.2
	baz=345,slow=28						
HFS	Hagfors	7.39	159	Pn	Pn	01 03 56.7	0.0
	baz=350,slow=12						
HFS				Sn	Sn	01 05 15.3	-5.2
	baz=345,slow=28						
HFS	Hagfors	7.39	159	eP	Pn	01 03 56.7	0.0
HFS				eS	Sn	01 05 15.3	-5.2
HFS	Hagfors	7.39	159	Pn	Pn	01 03 56.7	0.0
	baz=350,slow=11,SNR=9.8						
VRF	Varrio	8.19	76	eS	Sn	01 05 36.8	-3.3
RAF	Rauma	8.46	130	eP	Pn	01 04 13.5	+2.3
RAF				eS	Sn	01 05 44.6	-2.1
RAF	Rauma	8.46	130	P	Pn	01 04 13.5	+2.3
RAF				S	Sn	01 05 44.5	-2.1
KJN	Kajaani	8.56	102	eS	Sn	01 05 45.5	-3.4
KJN				MSN		01 05 50.7	
	comp=Z,1.0nm,0.4s						
KEF	Keuruu	8.63	117	eP	Pn	01 04 15.5	+1.8
KEF				eS	Sn	01 05 47.5	-3.4
KEF				MSN		01 05 52.4	
	comp=Z,1.0nm,0.3s						
KEF	Keuruu	8.63	117	P	Pn	01 04 15.4	+1.8
KU6	Riekki	8.64	87	eP	Pn	01 04 15.0	+1.2
KU6				eS	Sn	01 05 47.0	-4.1
KU6				MSN		01 05 49.4	
	comp=Z,1.1nm,0.3s						
KU6	Riekki	8.64	87	P	Pn	01 04 14.9	+1.2
SUF	Sumiainen	8.73	112	eP	Pn	01 04 16.4	+1.4
SUF				eS	Sn	01 05 50.3	-3.0
SUF				MSN		01 05 54.4	
	comp=Z,0.8nm,0.3s						
SUF	Sumiainen	8.73	112	P	Pn	01 04 16.4	+1.4
KAF	Kangasniemi	9.18	115	eS	Sn	01 06 00.2	-4.0
FIA0	FINESS Array S	9.55	118	Pn	Pn	01 04 27.8	+1.7
	baz=322,slow=14						
FIA0				Sn	Sn	01 06 08.8	-4.5
	baz=322,slow=28						
FIA0	FINESS Array S	9.55	118	Pn	Pn	01 04 27.8	+1.7
	baz=322,slow=14						
FIA0				Sn	Sn	01 06 08.8	-4.5
	baz=322,slow=28						
FIA0	FINESS Array S	9.55	118	eP	Pn	01 04 27.8	+1.7
FIA0				e		01 06 08.8	
FIA0				eS	Sn	01 06 09.9	-3.4
FIA0	FINESS Array S	9.55	118	P	Pn	01 04 27.8	+1.7
FINES	FINESS Array B	9.55	118	Pn	Pn	01 04 27.9	+1.7
	comp=Z,0.1nm,0.3s,baz=319,slow=14,SNR=6.1						
FINES				Sn	Sn	01 06 09.5	-3.9
	comp=Z,0.3nm,0.3s,baz=319,slow=20,SNR=8.9						
JOF	Joensuu	10.54	103	eS	Sn	01 06 32.3	-5.4
SPA0	Spitsbergen Ar	11.36	8	Pn	Pn	01 04 48.6	-2.3
	baz=177,slow=16						
SPA0	Spitsbergen Ar	11.36	8	P	Pn	01 04 48.6	-2.3
	baz=177,slow=16						
SPA0	Spitsbergen Ar	11.36	8	eP	Pn	01 04 48.6	-2.3
SPITS	Spitsbergen Ar	11.36	8	Pn	Pn	01 04 48.8	-2.1
	baz=186,slow=16,SNR=3.4						

*ISCJB **04** 01:29:39.6±0.4, 23°.84N±0°.02×122°.08E±0°.02, h19km±3km, Error ellipse: s-maj=3.4km s-min=2.1km az=142.8*
*TAP **04** 01:29:40.0, 23°.86N×121°.97E, h10km±1km, ML3.6, D*
*JMA **04** 01:29:40.2±0.3, 23°.96N×122°.04E, h75km, M2.8*
ISC 04 01:29:38.3±1.1**, 23°.82N**±0°.02×**122°.06E**±0°.02**, h18km**±4km**, n55, σ0s.78/109, 5C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.45**	**291**	*e*P	**Pn**	**01 29 49.0**	**-0.8**
	baz=289						
HWA				*e*S	**Sb**	**01 29 54.0**	**0.0**
	baz=289						
TEGC	**Jichi Village**	**0.49**	**257**	*e*P	**Pb**	**01 29 49.1**	**+0.7**
	baz=248						
TEGC				*e*S	**Sn**	**01 29 57.9**	**-0.5**
	baz=248						
TWD	**Chiawan**	**0.50**	**302**	*i* P	**Pn**	**01 29 49.7**	**-0.9**
	baz=303						
TWD				*e*S	**Sb**	**01 29 56.4**	**+0.9**
	baz=303						
ESF	**Shoufeng Towns**	**0.51**	**276**	*e*P	**Pn**	**01 29 49.7**	**-1.0**
	baz=271						
ESF				*e*S	**Sn**	**01 29 57.7**	**-1.3**
	baz=271						
ESL	**Shilin**	**0.57**	**270**	*i* P	**Pn**	**01 29 50.9**	**-0.7**
	baz=264						
ESL				*e*S	**Sg**	**01 29 58.7**	**+1.2**
	baz=264						
ENA	**Nanau**	**0.67**	**334**	*i* P	**Pn**	**01 29 52.4**	**-0.5**
	baz=340						
ENA				*e*S	**Sg**	**01 30 01.3**	**+0.7**
	baz=340						
EHY	**Hungye**	**0.74**	**246**	*i* P	**Pn**	**01 29 53.9**	**-0.1**
	baz=238						
EHY				*i* S	**Sn**	**01 30 03.9**	**-0.9**
	baz=238						
TWC	**Suao**	**0.81**	**346**	P	**Pn**	**01 29 55.0**	**+0.1**
	baz=352						
TWC				S	**Sn**	**01 30 05.7**	**-0.8**
	baz=352						
TWF1	**Yuli**	**0.84**	**237**⇑	*i*P	**Pn**	**01 29 55.6**	**+0.3**
	baz=230						
TWF1				*i* S	**Sn**	**01 30 06.9**	**-0.3**
	baz=230						
NNS	**Nan Shan**	**0.88**	**315**	*e*P	**Pn**	**01 29 55.8**	**-0.1**
	baz=316						
NNS				S	**Sb**	**01 30 06.8**	**+0.1**
	baz=316						
TWT	**Tachien**	**0.92**	**298**	P	**Pg**	**01 29 56.6**	**+0.4**
	baz=297						
TWT				S	**Sn**	**01 30 09.0**	**-0.3**
	baz=297						
ENTT	**Nioudou**	**0.94**	**331**	*e*P	**Pn**	**01 29 56.4**	**-0.2**
	baz=334						
ENTT				*e*S	**Sg**	**01 30 08.7**	**-0.2**
	baz=334						
CHKT	**Chengkung**	**0.96**	**222**	*e*P	**Pg**	**01 29 58.2**	**+1.2**
	baz=215						
CHKT				*e*S	**Sn**	**01 30 10.1**	**0.0**
	baz=215						
TWE	**Neicheng**	**0.97**	**338**	*e*P	**Pg**	**01 29 57.2**	**0.0**
	baz=342						
TWE				*e*S	**Sb**	**01 30 09.3**	**+0.3**
	baz=342						
ILA	**Ilan**	**0.99**	**343**	*e*P	**Pg**	**01 29 57.5**	**0.0**
	baz=347						
ILA				*e*S	**Sg**	**01 30 10.8**	**+0.4**
	baz=347						
SMLT	**Sun Moon Lake**	**1.06**	**274**⇑	*i*P	**Pg**	**01 29 59.0**	**0.0**
	baz=271						
SMLT				*i* S	**Sb**	**01 30 12.0**	**+0.1**
	baz=271						
NSK	**Sanguang**	**1.07**	**323**	*e*P	**Pn**	**01 29 58.4**	**-0.1**
	baz=325						
NSK				*e*S	**Sb**	**01 30 11.8**	**-0.2**
	baz=325						
YUS	**Yu-Shan**	**1.07**	**252**⇑	*i*P	**Pg**	**01 29 59.5**	**+0.4**
	baz=248						
YUS				*i* S	**Sn**	**01 30 12.7**	**-0.8**
	baz=248						
YOJ	**Yonaguni jima**	**1.08**	**53**	P	**Pg**	**01 29 59.3**	**0.0**
YOJ				*e*S	**Sg**	**01 30 13.3**	**-0.1**
TYC	**Yuchr**	**1.10**	**275**	P	**Pg**	**01 29 59.5**	**-0.3**
	baz=272						
TYC				*i* S	**Sg**	**01 30 13.8**	**-0.4**
	baz=272						
ELDTW	**Lidau**	**1.14**	**237**	*e*P	**Pg**	**01 30 00.1**	**-0.4**
	baz=232						
ELDTW				*e*S	**Sg**	**01 30 15.5**	**0.0**
	baz=232						
TWB1	**Santiao Chiao**	**1.19**	**357**	*e*P	**Pg**	**01 30 02.8**	**+1.5**
	baz=1.0						
TWB1				*e*S	**Sn**	**01 30 16.1**	**+0.4**
	baz=1.0						
ALS	**Alishan**	**1.19**	**255**	P	**Pg**	**01 30 01.4**	**0.0**
	baz=251						
ALS				*i* S	**Sn**	**01 30 16.5**	**+0.2**
	baz=251						
NSTT	**Nanjuang**	**1.26**	**310**	*e*P	**Pg**	**01 30 02.3**	**-0.4**
	baz=311						
NSTT				*e*S	**Sn**	**01 30 17.2**	**-0.4**
	baz=311						
WNT	**Mingjian**	**1.26**	**273**	P	**Pg**	**01 30 02.9**	**+0.2**
	baz=270						
WNT				S	**Sg**	**01 30 19.3**	**+0.1**
	baz=270						
NWF	**Wu-fen Shan**	**1.27**	**349**	*e*P	**Pg**	**01 30 02.5**	**-0.4**
	baz=351						
NWF				*e*S	**Sb**	**01 30 18.6**	**+0.7**
	baz=351						
CHN5	**Tsauling**	**1.29**	**260**⇑	*i*P	**Pg**	**01 30 03.1**	**-0.1**
	baz=257						
CHN5				*i* S	**Sg**	**01 30 19.1**	**-0.9**
	baz=257						
TWQ1	**Liyutan**	**1.29**	**294**⇑	*i*P	**Pg**	**01 30 03.0**	**-0.2**
	baz=293						
TWQ1				S	**Sg**	**01 30 19.8**	**-0.4**
	baz=293						
TCU	**Taichung**	**1.31**	**285**	*e*P	**Pg**	**01 30 03.9**	**+0.3**
	baz=283						
TCU				*e*S	**Sg**	**01 30 21.2**	**+0.5**
	baz=283						
TWG	**Pinlang**	**1.35**	**223**	*e*P	**Pg**	**01 30 03.9**	**-0.4**
	baz=218						
TWG				*e*S	**Sg**	**01 30 21.4**	**-0.5**
	baz=218						
WGK	**Gukeng**	**1.38**	**265**	P	**Pg**	**01 30 05.0**	**0.0**
	baz=262						
WGK				*e*S	**Sg**	**01 30 23.4**	**+0.5**
	baz=262						
NCU	**National Centr**	**1.40**	**325**	*e*P	**Pb**	**01 30 03.5**	**-0.4**
	baz=327						
NCU				*e*S	**Sb**	**01 30 21.8**	**+0.4**
	baz=327						
HSN	**Hsinchu**	**1.40**	**315**	*e*P	**Pg**	**01 30 04.5**	**-0.8**
	baz=317						
HSN				*e*S	**Sg**	**01 30 22.5**	**-1.0**
	baz=317						
TWS1	**Kuangyinshan**	**1.41**	**335**	*e*P	**Pb**	**01 30 04.6**	**+0.6**
	baz=337						
TWS1				*e*S	**Sb**	**01 30 21.5**	**-0.1**
	baz=337						
CHN4	**Tsaushan**	**1.42**	**251**	P	**Pg**	**01 30 05.7**	**-0.1**
	baz=248						
CHN4				S	**Sg**	**01 30 24.2**	**-0.2**
	baz=248						
WTP	**Ta-pu**	**1.44**	**247**	P	**Pg**	**01 30 05.6**	**-0.6**
	baz=243						
WTP				S	**Sg**	**01 30 24.3**	**-0.8**
	baz=243						
CHY	**Chiayi**	**1.53**	**258**	*e*P	**Pb**	**01 30 06.2**	**0.0**
	baz=255						
CHY				*e*S	**Sg**	**01 30 26.4**	**-1.4**
	baz=255						
CHN1	**Nanshi**	**1.54**	**246**	P	**Pg**	**01 30 07.1**	**-0.9**
	baz=243						
CHN1				S	**Sg**	**01 30 26.9**	**-1.2**
	baz=243						
SGST	**Jiashian**	**1.54**	**242**	*e*P	**Pg**	**01 30 07.9**	**-0.1**
	baz=238						
SGST				*e*S	**Sg**	**01 30 27.9**	**-0.2**
	baz=238						
TWK	**Hsinying**	**1.54**	**249**	*i* P	**Pg**	**01 30 07.2**	**-0.8**
	baz=246						
TWK				*i* S	**Sg**	**01 30 26.9**	**-1.4**
	baz=246						
IRIF	**Iriomote-Funau**	**1.61**	**71**	P	**Pb**	**01 30 07.0**	**-0.5**
IRIF				*e*S	**Sb**	**01 30 26.8**	**-0.7**
HATJ	**Hateruma jima**	**1.61**	**81**	P	**Pb**	**01 30 07.0**	**-0.6**
HATJ				*e*S	**Sb**	**01 30 27.9**	**+0.3**
WSF	**Szhu**	**1.69**	**264**	*e*P	**Pg**	**01 30 10.3**	**-0.6**
	baz=261						
WSF				*e*S	**Sb**	**01 30 31.2**	**+1.3**
	baz=261						
CHN8	**Yiju**	**1.76**	**255**	*e*S	**Sb**	**01 30 32.3**	**+0.5**
	baz=252						
TWM1	**Shoushan**	**1.80**	**237**	*e*P	**Pn**	**01 30 09.3**	**+0.8**
	baz=233						
TWM1				*e*S	**Sg**	**01 30 35.4**	**-1.1**
	baz=233						
SCLT	**Jiali**	**1.83**	**250**	*e*P	**Pb**	**01 30 09.9**	**-1.4**
	baz=247						
SCLT				*e*S	**Sb**	**01 30 32.9**	**-0.9**
	baz=247						
JKRS	**Kuro-shima**	**1.83**	**76**	P	**Pb**	**01 30 10.2**	**-1.1**
JKRS				*e*S	**Sb**	**01 30 32.8**	**-1.0**
LAY	**Lan-yu**	**1.83**	**195**	*e*P	**Pb**	**01 30 11.9**	**+0.5**
	baz=191						
LAY				*e*S	**Sb**	**01 30 33.4**	**-0.5**
	baz=191						
SCZT	**Fangliau**	**1.96**	**223**	*e*P	**Pb**	**01 30 14.5**	**+1.0**
	baz=219						
SCZT				*e*S	**Sb**	**01 30 38.0**	**+0.5**
	baz=219						
JIJ	**Ishigaki jima**	**1.98**	**74**	P	**Pn**	**01 30 11.6**	**+0.7**
JIJ				*e*S	**Sn**	**01 30 35.2**	**-0.1**
WDGT	**Dungji**	**2.27**	**256**	*e*P	**Pn**	**01 30 16.6**	**+1.7**
	baz=254						
WDGT				*e*S	**Sn**	**01 30 43.3**	**+0.8**
	baz=254						
PNG	**Penghu**	**2.31**	**264**	*e*P	**Pn**	**01 30 16.5**	**+1.0**
	baz=262						
PNG				*e*S	**Sn**	**01 30 43.7**	**+0.3**
	baz=262						
JTJ	**Tarama**	**2.55**	**71**	P	**Pn**	**01 30 19.7**	**+1.0**
JTJ				*e*S	**Sn**	**01 30 49.9**	**+0.6**
QZH	**Quanzhou**	**3.35**	**290**⇓	*i*Pn	**Pn**	**01 30 30.5**	**+0.7**
QZH				Sn	**Sn**	**01 31 07.0**	**-2.2**
QZH				smax	smax		
	comp=N,60nm,0.4s						
QZH				smax	smax		
	comp=E,50nm,0.4s						
KNM	**Kinmen**	**3.37**	**281**	*e*P	**Pn**	**01 30 32.3**	**+2.3**
	baz=279						
KNM				*e*S	**Sn**	**01 31 11.9**	**+2.4**
	baz=279						

IDC 04 01:32:40.4±1.4**, 4°.28N**×**126°.78E, h0**km**, mb3.5**/5**,**
mb1 3.7/5**, mb1mx3.5**/23**, mbtmp3.5**/5**, 1C, Error ellipse:**
s-maj=107.7km s-min=19.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**4.64**	**334**⇑	*e*P	Pb	01 34 05.8	+3.1
CGP				*e*S	Px	01 34 08.6	
FITZ	**Fitzroy Crossi**	**22.26**	**183**	P	P	01 37 39.5	+0.3
	1.4nm,0.7s,baz=359,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**25.19**	**163**	P	P	01 38 07.3	-0.6
	0.9nm,0.6s,baz=343,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**28.63**	**166**	P	P	01 38 39.0	+0.2
	0.2nm,0.4s,baz=341,slow=10.0,SNR=2.7						
SONM	**Songino Array**	**46.80**	**341**	P	P	01 41 12.1	+0.1
	0.2nm,0.4s,baz=147,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**57.13**	**325**	P	P	01 42 28.6	-0.3
	0.5nm,0.6s,baz=119,slow=7.7,SNR=11						

KRSC 04 01:35:20.8±1.1**, 51°.46N**×**154°.70E, h596**km±11km**, ML4.2,**
Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**2.19**	**64**	*e*P	P	01 36 38.0	+2.6
RUS	**Russkaya**	**2.55**	**66**	*e*P	P	01 36 39.4	+2.4
RUS				*i* S	S	01 37 37.0	-2.5
UGLR	**Uglovaya**	**3.08**	**54**	*e*P	P	01 36 43.4	+3.4
SMAR	**Somma**	**3.10**	**53**	*e*P	P	01 36 43.5	+3.3
SDLR	**Sedlovina**	**3.15**	**53**	*e*P	P	01 36 43.1	+2.7
SDLR				*i* S	S	01 37 44.9	-0.8
MKZ	**Mys Kozlova**	**5.26**	**51**	*e*P	P	01 36 58.0	+2.8
MKZ				*i* S	S	01 38 08.7	-3.9
KBTR	**Krutoberegovo**	**6.76**	**42**	*e*P	P	01 37 08.8	+0.7
KBTR				*i* S	S	01 38 28.3	-8.0

IDC ***04*** *01:48:12.1±1.4, 34°.67N×28°.38E, h0km, mb3.8/11,*
mb1 3.8/17, mb1mx3.7/32, mbtmp3.7/17, ML3.6/6, Error
ellipse: s-maj=30.6km s-min=17.3km az=19.0
ATH ***04*** *01:48:14.5, 34°.70N×28°.42E, h25km±13km, MD4.0/14*
DDA ***04*** *01:48:15.9, 34°.96N×28°.36E, h9km, MD3.5*
CSEM ***04*** *01:48:15.2±0.1, 34°.62N×28°.48E, h20km, ML2.9/1, Error*
ellipse: s-maj=3.4km s-min=2.4km az=52.0
THE ***04*** *01:48:19.2, 34°.97N×28°.21E, h0km±1km, ML2.9/1, Error*
ellipse: s-maj=6.0km s-min=0.9km az=127.0
ISK ***04*** *01:48:19.0, 35°.18N×28°.30E, h8km, ML3.6*
HLW ***04*** *01:48:25.1, 33°.95N×28°.81E, h26km±17km, Md3.3, Ml3.0*
ISC 04 01:48:14.1±1.4**, 34°.69N**±0°.04×**28°.48E**±0°.03**, h13**km±9km**,**
n170, σ1§**28**/195**, mb3.7**/11**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.38**	**309**	*e*PN	**Pg**	**01 48 40.7**	**0.0**
KARP				*e*SN	**Sg**	**01 48 58.5**	**-0.2**
KARP	**Karpathos**	**1.38**	**309**	*e*Pn	**Pg**	**01 48 40.7**	**0.0**
KARP				*e*Sn	**Sg**	**01 48 58.5**	**-0.2**
ARG	**Arkhangelos**	**1.56**	**349**	P	**Pb**	**01 48 42.7**	**0.0**
ARG	**Arkhangelos**	**1.56**	**349**	*e*PN	**Pb**	**01 48 42.7**	**0.0**
ARG	**Arkhangelos**	**1.56**	**349**	P	**Pb**	**01 48 42.7**	**0.0**
AKAS	**Kas**	**1.80**	**30**	*i* P	**Pn**	**01 48 46.3**	**+1.5**
AKAS				*i* S	**Sn**	**01 49 08.7**	**+1.1**
AKAS	**Kas**	**1.80**	**30**	*i* P	**Pn**	**01 48 46.3**	**+1.5**
AKAS				*i* S	**Sn**	**01 49 08.7**	**+1.1**
ZKR	**Zakros**	**1.91**	**284**	P	**Pn**	**01 48 47.0**	**+0.8**
ZKR				S	**Sn**	**01 49 10.2**	**+0.1**
ZKR	**Zakros**	**1.91**	**284**	*e*PN	**Pn**	**01 48 47.1**	**+0.8**
ZKR				*e*SN	**Sn**	**01 49 10.3**	**+0.1**
ZKR	**Zakros**	**1.91**	**284**	*e*Pn	**Pn**	**01 48 47.1**	**+0.8**
ZKR				*e*Sn	**Sn**	**01 49 10.3**	**+0.1**
FETY	**Fethiye**	**2.01**	**14**	PN	**Pn**	**01 48 48.2**	**+0.6**
FETY	**Fethiye**	**2.01**	**14**	*i* Pn	**Pn**	**01 48 48.2**	**+0.6**
TURN	**Turunc**	**2.19**	**3**	*i* P	**Pn**	**01 48 50.4**	**+0.4**
TURN				*i* S	**Sn**	**01 49 15.5**	**-1.4**
TURN	**Turunc**	**2.19**	**3**	*i* P	**Pn**	**01 48 50.4**	**+0.4**
TURN				*i* S	**Sn**	**01 49 15.5**	**-1.4**
NIS1	**Nisyros Isl.**	**2.19**	**331**	P	**Pn**	**01 48 50.9**	**+0.8**
NIS1				S	**Sn**	**01 49 13.8**	**-3.3**
NIS1	**Nisyros Isl.**	**2.19**	**331**	P	**Pn**	**01 48 50.9**	**+0.8**
ELL	**Elmali**	**2.36**	**29**	*e*PN	**Pn**	**01 48 54.5**	**+1.9**
ELL	**Elmali**	**2.36**	**29**	*e*Pn	**Pn**	**01 48 54.5**	**+1.9**
NPS	**Neapolis**	**2.43**	**285**	P	**Pn**	**01 48 55.0**	**+1.5**
NPS				S	**Sn**	**01 49 23.1**	**+0.2**
NPS	**Neapolis**	**2.43**	**285**	*e*PB	**Pn**	**01 48 54.9**	**+1.5**
NPS				*e*SN	**Sn**	**01 49 22.8**	**-0.1**
NPS	**Neapolis**	**2.43**	**285**	*e*Pb	**Pn**	**01 48 54.9**	**+1.5**
NPS				S	**Sn**	**01 49 23.1**	**+0.2**
YER	**Yerkesik**	**2.45**	**356**	*e*PN	**Pn**	**01 48 53.7**	**-0.1**
YER	**Yerkesik**	**2.45**	**356**	*e*Pn	**Pn**	**01 48 53.7**	**-0.1**
LAST	**Lasithi**	**2.51**	**282**	P	**Pn**	**01 48 55.8**	**+1.1**
LAST				S	**Sn**	**01 49 25.3**	**+0.1**
LAST	**Lasithi**	**2.51**	**282**	*e*PN	**Pn**	**01 48 55.9**	**+1.2**
LAST				*e*SN	**Sn**	**01 49 25.2**	**+0.1**
LAST	**Lasithi**	**2.51**	**282**	P	**Pn**	**01 48 55.8**	**+1.1**
LAST				*e*Sn	**Sn**	**01 49 25.2**	**+0.1**
BDRM	**Kayabasi**	**2.52**	**341**	*i* P	**Pn**	**01 48 55.5**	**+0.8**
BDRM				*i* S	**Sn**	**01 49 23.3**	**-2.0**
BDRM	**Kayabasi**	**2.52**	**341**	*i* P	**Pn**	**01 48 55.5**	**+0.8**
MLSB	**Milas**	**2.67**	**348**	*e*PN	**Pn**	**01 48 56.4**	**-0.3**
MLSB	**Milas**	**2.67**	**348**	*e*Pn	**Pn**	**01 48 56.4**	**-0.3**
GOLH	**Golhisar**	**2.69**	**19**	*i* P	**Pn**	**01 48 59.9**	**+2.8**
GOLH				*i* S	**Sn**	**01 49 31.1**	**+1.5**
GOLH	**Golhisar**	**2.69**	**19**	*i* P	**Pn**	**01 48 59.9**	**+2.8**
GOLH				*i* S	**Sn**	**01 49 31.1**	**+1.5**
KORT	**Korkueli**	**2.77**	**33**	*i* P	**Pn**	**01 49 00.7**	**+2.5**
KORT				*i* S	**Sb**	**01 49 35.1**	**-2.1**
KORT	**Korkueli**	**2.77**	**33**	*i* P	**Pn**	**01 49 00.7**	**+2.5**
KORT				*i* S	**Sb**	**01 49 35.1**	**-2.1**
ANTB	**Antalya**	**2.83**	**38**	*e*PN	Pn	01 49 02.1	+3.2
ANTB	**Antalya**	**2.83**	**38**	*e*Pn	Pn	01 49 02.1	+3.2
AYDN	**Tasoluk**	**3.01**	**351**	*i* P	**Pn**	**01 49 02.8**	**+1.3**
AYDN				*i* S	**Sn**	**01 49 37.6**	**+0.2**
AYDN	**Tasoluk**	**3.01**	**351**	*i* P	**Pn**	**01 49 02.8**	**+1.3**
AYDN				*i* S	**Sn**	**01 49 37.6**	**+0.2**
DNZL	**Cakiroluk**	**3.03**	**8**	*i* P	**Pn**	**01 49 03.5**	**+1.6**
DNZL				*i* S	**Sn**	**01 49 37.9**	**-0.2**
DNZL	**Cakiroluk**	**3.03**	**8**	*i* P	**Pn**	**01 49 03.5**	**+1.6**
DNZL				*i* S	**Sn**	**01 49 37.9**	**-0.2**
SIVA	**Sivas**	**3.04**	**277**	P	**Pn**	**01 49 03.3**	**+1.5**
SIVA				S	**Sn**	**01 49 37.8**	**-0.2**
SIVA	**Sivas**	**3.04**	**277**	*e*PN	**Pn**	**01 49 03.2**	**+1.5**
SIVA				*e*SN	**Sn**	**01 49 37.4**	**-0.6**
SIVA	**Sivas**	**3.04**	**277**	*e*Pn	**Pn**	**01 49 03.2**	**+1.5**
SIVA				*e*Sn	**Sn**	**01 49 37.4**	**-0.6**
SIVA				S	**Sn**	**01 49 37.8**	**-0.2**
THR2	**Thira island,**	**3.04**	**306**	P	**Pn**	**01 49 02.7**	**+0.8**
THR2	**Thira island,**	**3.04**	**306**	P	**Pn**	**01 49 02.7**	**+0.8**
DENT	**Denizli**	**3.10**	**8**	*e*PN	**Pn**	**01 49 03.2**	**+0.6**
DENT	**Denizli**	**3.10**	**8**	*e*Pn	**Pn**	**01 49 03.2**	**+0.6**
GCAM	**G?zelcaml?**	**3.17**	**342**	*e*P	**Pn**	**01 49 05.1**	**+1.5**
GCAM	**G?zelcaml?**	**3.17**	**342**	*e*P	**Pn**	**01 49 05.1**	**+1.5**
BCK	**Bucak**	**3.25**	**31**	*e*PN	**Pn**	**01 49 07.1**	**+2.3**
BCK	**Bucak**	**3.25**	**31**	*e*Pn	**Pn**	**01 49 07.1**	**+2.3**
APE	**Apeiranthos**	**3.38**	**316**	*e*PN	**Pn**	**01 49 07.0**	**+0.6**
APE	**Apeiranthos**	**3.38**	**316**	P	**Pn**	**01 49 07.2**	**+0.7**
APE				S	**Sn**	**01 49 44.0**	**-2.4**
APE	**Apeiranthos**	**3.38**	**316**	*e*PN	**Pn**	**01 49 07.1**	**+0.6**
APE	**Apeiranthos**	**3.38**	**316**	P	**Pn**	**01 49 07.2**	**+0.7**
GAZI	**Gazipasa**	**3.49**	**63**	*e*P	**Pn**	**01 49 10.1**	**+2.1**
GAZI	**Gazipasa**	**3.49**	**63**	*e*P	**Pn**	**01 49 10.1**	**+2.1**
VAM	**Vamos**	**3.59**	**283**	P	**Pn**	**01 49 11.0**	**+1.7**
VAM				S	**Sn**	**01 49 51.5**	**0.0**
VAM	**Vamos**	**3.59**	**283**	*e*PN	**Pn**	**01 49 10.8**	**+1.5**
VAM	**Vamos**	**3.59**	**283**	*e*Pn	**Pn**	**01 49 10.8**	**+1.5**
VAM				S	**Sn**	**01 49 51.5**	**0.0**
GVD	**Gavdhos**	**3.62**	**274**	*e*PN	**Pn**	**01 49 10.7**	**+0.9**
GVD	**Gavdhos**	**3.62**	**274**	*e*Pn	**Pn**	**01 49 10.7**	**+0.9**
LEF	**Lefka**	**3.65**	**82**	*e*PN	**Pb**	**01 49 18.4**	**+0.1**
KHL	**Karahalli**	**3.73**	**13**	*e*PN	**Pn**	**01 49 12.2**	**+0.9**
KHL	**Karahalli**	**3.73**	**13**	*e*Pn	**Pn**	**01 49 12.2**	**+0.9**
HMAT	**Matruh**	**3.77**	**198**	P	Pn	01 49 08.4	-3.4
KHAL	**Karahalli**	**3.77**	**12**	*i* P	**Pn**	**01 49 12.8**	**+0.9**
KHAL	**Karahalli**	**3.77**	**12**	*i* P	**Pn**	**01 49 12.8**	**+0.9**
KULA	**Kula-Manisa**	**3.83**	**2**	*e*PN	**Pn**	**01 49 12.9**	**+0.2**
KULA	**Kula-Manisa**	**3.83**	**2**	*e*Pn	**Pn**	**01 49 12.9**	**+0.2**
IZM	**Izmir**	**3.83**	**346**	*e*PN	**Pn**	**01 49 12.8**	**+0.1**
IZM	**Izmir**	**3.83**	**346**	*e*Pn	**Pn**	**01 49 12.8**	**+0.1**
BLCB	**Balcova**	**3.87**	**343**	*e*PN	**Pn**	**01 49 13.9**	**+0.8**
BLCB	**Balcova**	**3.87**	**343**	*e*Pn	**Pn**	**01 49 14.0**	**+0.8**
CSS	**Prodhromos**	**4.00**	**85**	*e*PN	**Pb**	**01 49 24.7**	**+0.4**
CHOS	**Chios island**	**4.18**	**333**	*e*PN	**Pn**	**01 49 18.5**	**+0.9**
CHOS	**Chios island**	**4.18**	**333**	*e*Pn	**Pn**	**01 49 18.5**	**+0.9**
LFK	**Lefkose**	**4.19**	**80**	*e*PN	**Pb**	**01 49 27.0**	**-0.7**
SHUT	**Suhut-Afyon**	**4.20**	**23**	*e*PN	**Pn**	**01 49 19.9**	**+2.0**
SHUT	**Suhut-Afyon**	**4.20**	**23**	*e*Pn	**Pn**	**01 49 19.9**	**+2.0**
AKHS	**Akhisar**	**4.22**	**353**	*i* P	**Pn**	**01 49 18.2**	**+0.2**
AKHS	**Akhisar**	**4.22**	**353**	*i* P	**Pn**	**01 49 18.2**	**+0.2**
AKS	**Akhisar**	**4.22**	**353**	*e*PN	**Pn**	**01 49 18.4**	**+0.4**
AKS	**Akhisar**	**4.22**	**353**	*e*Pn	**Pn**	**01 49 18.4**	**+0.4**
DEMI	**Demirci**	**4.35**	**2**	*i* P	**Pn**	**01 49 21.0**	**+1.0**
DEMI	**Demirci**	**4.35**	**2**	*i* P	**Pn**	**01 49 21.0**	**+1.0**
KONT	**Konya--Tatoy**	**4.51**	**43**	*e*PN	Pn	01 49 26.4	+4.3
KONT	**Konya--Tatoy**	**4.51**	**43**	*e*Pn	Pn	01 49 26.4	+4.3
ALT	**Altintas**	**4.55**	**16**	*e*PN	**Pn**	**01 49 23.6**	**+1.0**
ALT	**Altintas**	**4.55**	**16**	*e*Pn	**Pn**	**01 49 23.7**	**+1.0**
LADK	**Ladik-KONYA**	**4.70**	**41**	*e*PN	Pn	01 49 29.1	+4.3
LADK	**Ladik-KONYA**	**4.70**	**41**	*e*Pn	Pn	01 49 29.1	+4.3
KYTH	**Kithira**	**4.72**	**291**	*e*PN	**Pn**	**01 49 25.2**	**+0.3**
KYTH	**Kithira**	**4.72**	**291**	*e*Pn	**Pn**	**01 49 25.2**	**+0.3**
TVSB	**Tavsanli**	**4.82**	**9**	*e*PN	**Pn**	**01 49 27.7**	**+1.3**
TVSB	**Tavsanli**	**4.82**	**9**	*e*Pn	**Pn**	**01 49 27.7**	**+1.3**
PRK	**Paraskevi**	**4.88**	**339**	*e*PN	**Pn**	**01 49 28.5**	**+1.4**
PRK	**Paraskevi**	**4.88**	**339**	*e*Pn	**Pn**	**01 49 28.5**	**+1.4**
DURS	**Dursunbey**	**4.91**	**360**	*i* P	**Pn**	**01 49 28.5**	**+1.0**
DURS	**Dursunbey**	**4.91**	**360**	*i* P	**Pn**	**01 49 28.5**	**+1.0**
DST	**Dursunbey**	**4.91**	**1**	*e*PN	**Pn**	**01 49 28.1**	**+0.5**
DST	**Dursunbey**	**4.91**	**1**	*e*Pn	**Pn**	**01 49 28.1**	**+0.5**
VLI	**Veliai**	**4.95**	**296**	P	**Pn**	**01 49 27.7**	**-0.3**
VLI	**Veliai**	**4.95**	**296**	P	**Pn**	**01 49 27.7**	**-0.3**
PTL	**Penteli**	**5.01**	**313**	*e*PN	**Pn**	**01 49 30.6**	**+1.6**
PTL	**Penteli**	**5.01**	**313**	*e*Pn	**Pn**	**01 49 30.6**	**+1.6**
BALY	**Balya**	**5.09**	**352**	*i* P	**Pn**	**01 49 30.9**	**+0.8**
BALY	**Balya**	**5.09**	**352**	*i* P	**Pn**	**01 49 30.9**	**+0.8**
DID	**Didima**	**5.10**	**305**	P	**Pn**	**01 49 31.0**	**+0.9**
DID	**Didima**	**5.10**	**305**	*e*PN	**Pn**	**01 49 31.0**	**+0.9**
DID	**Didima**	**5.10**	**305**	P	**Pn**	**01 49 31.0**	**+0.9**
SVRH	**Sivrihisar-ESK**	**5.34**	**26**	*e*PN	**Pn**	**01 49 36.5**	**+3.1**
SVRH	**Sivrihisar-ESK**	**5.34**	**26**	*e*Pn	**Pn**	**01 49 36.6**	**+3.1**
HNAT	**Natroun**	**5.35**	**160**	P	**Pn**	**01 49 31.8**	**-1.8**
	baz=159						
HNAT	**Natroun**	**5.35**	**160**	P	**Pn**	**01 49 31.8**	**-1.8**
SULT	**Sultanhani-AKS**	**5.36**	**48**	*e*PN	Pn	01 49 38.6	+4.8
SULT	**Sultanhani-AKS**	**5.36**	**48**	*e*Pn	Pn	01 49 38.6	+4.8
MERS	**Mersin**	**5.37**	**64**	*e*PN	Pn	01 49 41.0	+7.1
KOT	**Kottamia**	**5.52**	**148**	P	**Pn**	**01 49 34.3**	**-1.7**
	baz=146						
KOT				AMP		01 50 00.0	
	comp=E,20μm,0.4s,logA/T=4.7,baz=146						
KOT	**Kottamia**	**5.52**	**148**	P	**Pn**	**01 49 34.3**	**-1.7**
VLX	**Vlachokerasia**	**5.62**	**300**	P	**Pn**	**01 49 38.3**	**+0.9**
VLX	**Vlachokerasia**	**5.62**	**300**	*e*PN	**Pn**	**01 49 38.1**	**+0.7**
VLX	**Vlachokerasia**	**5.62**	**300**	P	**Pn**	**01 49 38.3**	**+0.9**
AMAG	**Maghara**	**5.67**	**134**	P	**Pn**	**01 49 37.8**	**-0.2**
	baz=130						
AMAG	**Maghara**	**5.67**	**134**	P	**Pn**	**01 49 37.8**	**-0.2**
HSAF	**As Saff**	**5.68**	**152**	P	**Pn**	**01 49 37.4**	**-0.8**
	baz=150						
HSAF	**As Saff**	**5.68**	**152**	P	**Pn**	**01 49 37.4**	**-0.8**
RSH		**5.76**	**129**	P	**Pn**	**01 49 39.0**	**-0.3**
	baz=124						
RSH		**5.76**	**129**	P	**Pn**	**01 49 39.0**	**-0.3**
ITM	**Ithomi**	**5.87**	**297**	*e*PN	**Pn**	**01 49 41.2**	**+0.4**
ITM	**Ithomi**	**5.87**	**297**	*e*Pn	**Pn**	**01 49 41.2**	**+0.4**
LKR	**Lokris**	**5.92**	**314**	*e*PN	**Pn**	**01 49 43.1**	**+1.7**
LKR	**Lokris**	**5.92**	**314**	*e*Pn	**Pn**	**01 49 43.1**	**+1.7**
GUR	**Goura**	**5.92**	**305**	P	**Pn**	**01 49 42.2**	**+0.6**
GUR	**Goura**	**5.92**	**305**	*e*PN	**Pn**	**01 49 43.0**	**+1.4**
GUR	**Goura**	**5.92**	**305**	P	**Pn**	**01 49 42.2**	**+0.6**
GUR	**Goura**	**5.92**	**305**	*e*Pn	**Pn**	**01 49 43.0**	**+1.4**
MMAI	**Mount Meron Ar**	**5.99**	**104**	Pn	**Pn**	**01 49 42.7**	**+0.2**
	comp=E,0.5nm,0.3s,baz=284,slow=12,SNR=6.4						
MMAI				Sn	**Sn**	**01 50 48.1**	**-2.8**
	comp=E,2.0nm,0.3s,baz=304,slow=26,SNR=6.4						
AMT	**Artemida-Makis**	**6.17**	**299**	P	**Pn**	**01 49 46.8**	**+1.9**
AMT	**Artemida-Makis**	**6.17**	**299**	P	**Pn**	**01 49 46.8**	**+1.9**
AWBH		**6.35**	**177**	P	**Pn**	**01 49 46.4**	**-1.0**
	baz=179						
AWBH		**6.35**	**177**	P	**Pn**	**01 49 46.4**	**-1.0**
ZAF		**6.40**	**146**	P	**Pn**	**01 49 47.0**	**-1.0**
	baz=144						
ZAF		**6.40**	**146**	P	**Pn**	**01 49 47.0**	**-1.0**
ZNM		**6.47**	**144**	P	**Pn**	**01 49 48.7**	**-0.3**
	baz=141						
ZNM		**6.47**	**144**	P	**Pn**	**01 49 48.7**	**-0.3**
BRTR	**Keskin Array B**	**6.50**	**38**	Pn	**Pn**	**01 49 51.3**	**+1.8**
	comp=E,0.3nm,0.3s,baz=222,slow=16,SNR=8.9						
BRTR				Sn	**Sn**	**01 51 02.8**	**-0.7**
	comp=E,0.6nm,0.3s,baz=203,slow=24,SNR=14						
HNKL	**Nakhl**	**6.64**	**134**	P	**Pn**	**01 49 50.4**	**-1.0**
	baz=130						
HNKL				S	Sn	01 50 56.1	-11
	baz=130						
HNKL	**Nakhl**	**6.64**	**134**	P	**Pn**	**01 49 50.4**	**-1.0**
THL	**Klokotos Trika**	**7.10**	**315**	*e*PN	**Pn**	**01 50 00.0**	**+2.4**
THL	**Klokotos Trika**	**7.10**	**315**	*e*Pn	**Pn**	**01 50 00.0**	**+2.4**
EIL	**Elat**	**7.42**	**131**	Pn	**Pn**	**01 50 02.3**	**+0.3**
	comp=E,1.0nm,0.3s,baz=341,slow=7.6,SNR=15						
EIL				Sn	**Sn**	**01 51 20.2**	**-5.8**
	comp=E,2.0nm,0.3s,baz=346,slow=22,SNR=8.0						
HFRF	**Wahat Farafira**	**7.51**	**181**	P	**Pn**	**01 50 02.9**	**-0.5**
	baz=184						
HFRF	**Wahat Farafira**	**7.51**	**181**	P	**Pn**	**01 50 02.8**	**-0.5**
HKAT	**Jabal Katrina**	**7.73**	**141**	P	**Pn**	**01 50 06.5**	**0.0**
	baz=139						
HKAT	**Jabal Katrina**	**7.73**	**141**	P	**Pn**	**01 50 06.5**	**0.0**
AKASG	**Malin Array Be**	**16.02**	**2**	Pn	**Pn**	**01 51 59.9**	**+1.0**
	comp=E,0.8nm,0.3s,baz=198,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**17.89**	**327**	P	**Pn**	**01 52 22.7**	**+0.2**
	comp=E,0.1nm,0.3s,baz=141,slow=13,SNR=5.0						
DAVOX	**Davos/Dischmat**	**18.51**	**316**	P	**Pn**	**01 52 31.2**	**+0.9**
	comp=E,0.4nm,0.3s,baz=112,slow=2.9,SNR=5.6						
ESDC	**Sonseca Array**	**26.24**	**291**	P	**P**	**01 53 48.5**	**-0.3**
	comp=E,0.5nm,0.5s,baz=80,slow=9.9,SNR=7.8						
AKTO	**Aktyubinsk**	**26.62**	**45**	P	**P**	**01 53 51.2**	**-0.8**
	comp=E,0.8nm,0.7s,baz=251,slow=8.7,SNR=4.2						
FINES	**FINESS Array B**	**26.82**	**357**	P	**P**	**01 53 53.5**	**-0.2**
	comp=E,1.1nm,0.6s,baz=153,slow=13,SNR=7.3						
HFS	**Hagfors**	**27.23**	**344**	P	**P**	**01 53 56.1**	**-1.3**
	comp=E,0.7nm,0.4s,baz=140,slow=12,SNR=9.1						

ARCES	**ARCESS Array B**	**34.94**	**358**	P	**P**	**01 55 04.6**	**-0.6**
	comp=E,1.0nm,0.6s,baz=172,slow=7.9,SNR=10.0						
KURBB	**Kurchatov Arra**	**39.31**	**50**	P	**P**	**01 55 43.3**	**+0.8**
	comp=E,0.5nm,0.6s,baz=274,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**41.76**	**56**	P	**P**	**01 56 04.0**	**+1.0**
	comp=E,0.4nm,0.6s,baz=280,slow=5.8,SNR=8.0						
SPITS	**Spitsbergen Ar**	**43.91**	**356**	P	**P**	**01 56 20.1**	**+0.2**
	comp=E,11nm,0.9s,baz=151,slow=8.4,SNR=6.9						
SONM	**Songino Array**	**57.66**	**51**	P	**P**	**01 58 05.7**	**+1.6**
	comp=E,0.5nm,0.6s,baz=289,slow=7.6,SNR=5.6						
SCHQ	**Schefferville**	**65.30**	**321**	P	**P**	**01 58 54.8**	**-0.6**
	comp=E,1.7nm,0.6s,baz=60,slow=6.1,SNR=5.4						
YKA	**Yellowknife Ar**	**78.71**	**343**	P	**P**	**02 00 16.8**	**+1.2**
	comp=E,0.1nm,0.4s,baz=27,slow=5.6,SNR=3.9						

IDC 04 01:53:08.3±1.7**, 59°.67S**×**25°.29W, h0km, mb3.9**/2, **mb1 4.0**/2**, mb1mx3.7**/15**, mbtmp3.9**/2**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx3.1**/19**, Error ellipse: s-maj=82.1km s-min=38.5km az=170.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**13.24**	**158**	*e*P	Pn	01 56 16.4	-0.9
VNA2	**Neumayer--Watz**	**13.46**	**154**	*e*P	Pn	01 56 19.4	-0.9
PLCA	**Paso Flores**	**33.74**	**284**	P	P	01 59 51.1	-0.2
	0.8nm,0.5s,baz=176,slow=7.0,SNR=4.4						
PLCA				LR	LR	02 11 44.3	
	comp=Z,66nm,19.9s,baz=111,slow=33						
BDFB	**Brasilia**	**47.01**	**329**	LR	LR	02 17 56.5	
	comp=Z,45nm,21.3s,baz=318,slow=32						
TORD	**Torodi Ar. Bea**	**75.77**	**27**	P	P	02 04 55.7	0.0
	0.4nm,0.4s,baz=201,slow=6.4,SNR=15						
YKA	**Yellowknife Ar**	**139.49**	**314**	PKP	PKPdf	02 12 36.1	+0.1
	0.6nm,0.6s,baz=129,slow=2.4,SNR=11						
INK	**Inuvik**	**149.19**	**316**	PKPbc	PKPbc	02 12 56.9	0.0
	1.2nm,0.7s,baz=114,slow=2.3,SNR=4.7						
SONM	**Songino Array**	**149.78**	**91**	PKPbc	PKPbc	02 12 58.6	-0.6
	0.3nm,0.6s,baz=227,slow=2.8,SNR=5.3						
ILAR	**Eielson Array**	**153.18**	**306**	PKPbc	PKPbc	02 13 06.1	-0.3
	0.8nm,0.4s,baz=120,slow=3.2,SNR=9.4						

IDC ***04*** *02:07:05.6±2.0, 62°.32N×147°.91W, h26km±14km, mb3.4/8, mb1 3.6/11, mb1mx3.4/29, mbtmp3.4/11, ML3.0/3, Error ellipse: s-maj=14.4km s-min=11.8km az=63.0*
ISCJB ***04*** *02:07:06.1±0.2, 61°.97N±0°.02×147°.81W±0°.04, h55km±4km, mb3.6/8, Error ellipse: s-maj=3.6km s-min=3.2km az=19.6*
NEIC ***04*** *02:07:07.4, 61°.97N×147°.82W, h29km, ML3.6(AEIC), After AEIC.*
ISC 04 02:07:06.3±0.7**, 61°.97N**±0°.03×**147°.81W**±0°.03**, h35km**±2km**, n95,** σ**1s35**/104**, mb3.5**/8**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCM	**Sheep Creek Mo**	**0.27**	**120**	P	**Pn**	**02 07 14.1**	**-0.1**
SML	**Sawmill**	**0.29**	**238**	P	**Pn**	**02 07 14.3**	**-0.1**
SML				S	**Sn**	**02 07 20.3**	**-0.1**
PMR	**Palmer**	**0.73**	**240**	P	**Pn**	**02 07 19.6**	**-0.5**
PMR				S	**Sn**	**02 07 30.4**	**+0.5**
KLU	**Klutina**	**1.02**	**117**	P	**Pn**	**02 07 23.9**	**-0.2**
VLZ	**Valdez**	**1.10**	**139**	P	**Pn**	**02 07 24.3**	**-0.8**
DHY	**Denali Highway**	**1.13**	**10**	P	**Pn**	**02 07 25.6**	**-0.2**
DHY				S	**Sn**	**02 07 40.2**	**-0.1**
CUT	**Chulitna**	**1.23**	**292**	P	**Pn**	**02 07 27.2**	**+0.2**
RC01	**Rabbit Creek A**	**1.27**	**227**	P	**Pn**	**02 07 28.6**	**+1.0**
RC01				S	**Sn**	**02 07 45.3**	**+1.9**
DIV	**Divide**	**1.29**	**130**	P	**Pn**	**02 07 27.2**	**-0.6**
DIV				S	**Sn**	**02 07 45.9**	**+2.0**
HUR	**Hurricane**	**1.32**	**321**	P	**Pn**	**02 07 28.6**	**+0.3**
HARP	**HAARP**	**1.32**	**69**	P	**Pn**	**02 07 29.2**	**+0.9**
HARP				S	**Sn**	**02 07 46.9**	**+2.2**
SUA	**Susitna One**	**1.48**	**251**	P	**Pn**	**02 07 31.3**	**+0.8**
PAX	**Paxson**	**1.49**	**46**	P	**Pn**	**02 07 31.1**	**+0.5**
RND	**Reindeer**	**1.52**	**342**	P	**Pn**	**02 07 31.5**	**+0.4**
RND				S	**Sn**	**02 07 51.6**	**+1.9**
EYAK	**Cordova Ski Ar**	**1.74**	**144**	P	**Pn**	**02 07 34.9**	**+1.0**
SKT	**Skwentna**	**1.75**	**272**	P	**Pn**	**02 07 35.4**	**+1.2**
BMRM	**Bremner River**	**1.84**	**122**	P	**Pn**	**02 07 35.7**	**+0.4**
MCK	**McKinley**	**1.85**	**344**	P	**Pn**	**02 07 36.6**	**+1.1**
SLKM	**Skilak Lake**	**1.87**	**220**	P	**Pn**	**02 07 37.3**	**+1.5**
TRF	**Thorofare Moun**	**1.88**	**324**	P	**Pn**	**02 07 36.1**	**+0.1**
STLK	**Strandline Lak**	**1.97**	**258**	P	**Pn**	**02 07 38.9**	**+1.7**
GLB	**Gilahina Butte**	**1.98**	**104**	P	**Pn**	**02 07 38.2**	**+0.8**
SEW	**Seward**	**2.03**	**204**	P	**Pn**	**02 07 39.6**	**+1.6**
DDM	**Donnelly Dome**	**2.04**	**25**	P	**Pn**	**02 07 40.5**	**+2.4**
GOAT	**Goat Mountain**	**2.04**	**132**	P	**Pn**	**02 07 39.3**	**+1.2**
CGLM	**Capps Glacier**	**2.11**	**254**	P	**Pn**	**02 07 41.1**	**+2.0**
MENT	**Mentasta**	**2.14**	**61**	P	**Pn**	**02 07 40.8**	**+1.3**
NCG	**North Capps Gl**	**2.15**	**257**	P	**Pn**	**02 07 41.2**	**+1.6**
RAGM	**Ragged Mountai**	**2.19**	**135**	P	**Pn**	**02 07 41.6**	**+1.4**
VRDI	**Verde Repeater**	**2.21**	**108**	P	**Pn**	**02 07 41.4**	**+0.7**
PPLA	**Purkeypile**	**2.24**	**297**	P	**Pn**	**02 07 42.4**	**+1.4**
BGL	**Barrier Glacie**	**2.30**	**254**	P	**Pn**	**02 07 43.4**	**+1.7**
DOT	**Dot Lake**	**2.41**	**44**	P	**Pn**	**02 07 44.4**	**+1.1**
HDA	**Harding Lake**	**2.48**	**9**	P	**Pn**	**02 07 46.2**	**+2.0**
WRH	**Wood River Hil**	**2.52**	**357**	P	**Pn**	**02 07 45.6**	**+1.0**
BERG	**Berg Lake**	**2.54**	**127**	P	**Pn**	**02 07 46.0**	**+1.0**
NICHA	**Nichawak Mount**	**2.55**	**131**	P	**Pn**	**02 07 46.2**	**+1.0**
BRLK	**Bradley Lake**	**2.67**	**216**	P	**Pn**	**02 07 48.7**	**+1.9**
KHIT	**Khitrov Hills**	**2.69**	**123**	P	**Pn**	**02 07 47.9**	**+0.9**
CCB	**Clear Creek Bu**	**2.69**	**0**	P	**Pn**	**02 07 48.4**	**+1.3**
DFR	**Drift River**	**2.73**	**242**	P	**Pn**	**02 07 49.2**	**+1.5**
GRIN	**Grindle Hills**	**2.76**	**126**	P	**Pn**	**02 07 49.2**	**+1.1**
BALM	**Baldy**	**2.78**	**107**	P	**Pn**	**02 07 49.1**	**+0.6**
CHUM	**Lake Minchumin**	**2.82**	**315**	P	**Pn**	**02 07 49.7**	**+1.0**
KIAG	**Kiagna River**	**2.82**	**109**	P	**Pn**	**02 07 49.5**	**+0.5**
RSO	**Redoubt South**	**2.83**	**240**	*e*Pn	**Pn**	**02 07 50.6**	**+1.6**
NCT	**North Crescent**	**2.84**	**243**	P	**Pn**	**02 07 51.0**	**+1.8**
IL1	**Eielson Array**	**2.85**	**8**	P	**Pn**	**02 07 50.4**	**+1.1**
ILAR	**Eielson Array**	**2.85**	**8**	Pg	**Pn**	**02 07 50.8**	**+1.5**
	13nm,0.3s,baz=199,slow=14,SNR=309						
ILAR				Lg	Lg	02 08 24.1	
	35nm,0.3s,baz=197,slow=21,SNR=18						
ILAR	**Eielson Array**	**2.85**	**8**	Pg	**Pn**	**02 07 50.8**	**+1.5**
ILAR				Lg	Lg	02 08 24.1	
COLA	**College**	**2.92**	**360**	P	**Pn**	**02 07 51.0**	**+0.9**
ISLE	**Juniper Island**	**2.98**	**115**	P	**Pn**	**02 07 51.6**	**+0.5**
BCA3	**Beaver Creek A**	**3.01**	**66**	P	**Pn**	**02 07 52.6**	**+1.2**
MDM	**Murphy Dome**	**3.01**	**357**	P	**Pn**	**02 07 52.2**	**+0.8**
KULT	**Kultieth River**	**3.01**	**123**	P	**Pn**	**02 07 51.7**	**+0.2**
BARK	**Barkley Ridge**	**3.02**	**119**	P	**Pn**	**02 07 52.4**	**+0.8**
GLM	**Gilmore Dome**	**3.04**	**3**	P	**Pn**	**02 07 53.5**	**+1.6**
BARN	**Barnard Glacie**	**3.09**	**104**	P	**Pn**	**02 07 54.2**	**+1.5**
BAGL	**Bagley Icefiel**	**3.14**	**116**	P	**Pn**	**02 07 53.9**	**+0.7**
MESA	**MESA**	**3.37**	**120**	P	**Pn**	**02 07 57.3**	**+0.8**
OPT	**Oil Point**	**3.52**	**231**	P	**Pn**	**02 07 59.9**	**+1.4**
TABL	**Table Mountain**	**3.57**	**112**	P	**Pn**	**02 07 59.8**	**+0.4**
PRP	**Porcupine Dome**	**3.71**	**15**	P	**Pn**	**02 08 02.6**	**+1.4**
SAMH	**Samovar Hills**	**3.88**	**115**	P	**Pn**	**02 08 03.8**	**+0.2**
TT01	**Tatalina**	**3.93**	**288**	P	**Pn**	**02 08 04.4**	**+0.3**
EGAK	**Eagle**	**4.12**	**44**	*e*Pn	**Pn**	**02 08 07.6**	**+1.0**
DAWY	**Dawson**	**4.38**	**58**	P	**Pn**	**02 08 11.6**	**+1.3**
PNL	**Peninsula**	**4.72**	**115**	P	**Pn**	**02 08 15.9**	**+0.9**
IM3	**Indian Mountai**	**4.81**	**330**	P	**Pn**	**02 08 16.9**	**+0.8**
KDAK	**Kodiak Island**	**4.83**	**212**	Pn	**Pn**	**02 08 17.3**	**+0.8**
	0.8nm,0.3s,baz=82,slow=11,SNR=19						
KDAK				Sn	**Sn**	**02 09 10.3**	**-0.8**
	2.7nm,0.3s,baz=310,slow=23,SNR=5.7						
KDAK	**Kodiak Island**	**4.83**	**212**	Pn	**Pn**	**02 08 17.3**	**+0.8**
KDAK				Sn	**Sn**	**02 09 10.3**	**-0.8**
GCSA	**Galena City Sc**	**4.94**	**308**	P	**Pn**	**02 08 18.4**	**+0.5**
HYT	**Haines Junctio**	**5.09**	**98**	P	**Pn**	**02 08 20.6**	**+0.6**
COLD	**Coldfoot**	**5.38**	**350**	P	**Pn**	**02 08 25.3**	**+1.3**
BM3	**Burnt Mountain**	**5.65**	**13**	P	**Pn**	**02 08 28.6**	**+1.0**
DLBC	**Dease Lake**	**9.53**	**104**	Pn	**Pn**	**02 09 23.8**	**+3.0**
	0.1nm,0.3s,baz=308,slow=19,SNR=1.9						
DLBC				Lg	Lg	02 12 06.6	
	0.2nm,0.3s,baz=217,slow=18,SNR=3.4						
DLBC	**Dease Lake**	**9.53**	**104**	Pn	**Pn**	**02 09 23.8**	**+3.0**
DLBC				Lg	Lg	02 12 06.6	
YKA	**Yellowknife Ar**	**15.39**	**73**	Pn	**Pn**	**02 10 38.8**	**-1.7**
	0.1nm,0.3s,baz=283,slow=13,SNR=5.2						
YKA	**Yellowknife Ar**	**15.39**	**73**	Pn	**Pn**	**02 10 38.8**	**-1.7**
RES	**Resolute Bay**	**22.28**	**34**	P	**P**	**02 11 58.7**	**-1.1**
	1.0nm,0.5s,baz=236,slow=11,SNR=11						
RES	**Resolute Bay**	**22.28**	**34**	P	**P**	**02 11 58.7**	**-1.1**
PDAR	**Pinedale Array**	**29.60**	**113**	P	**P**	**02 13 10.5**	**+2.5**
	0.3nm,0.6s,baz=329,slow=6.4,SNR=3.8						
PDAR	**Pinedale Array**	**29.60**	**113**	P	**P**	**02 13 10.5**	**+2.5**
TXAR	**Lajitas Array**	**43.48**	**118**	P	**P**	**02 15 07.4**	**+1.4**
	0.5nm,0.7s,baz=337,slow=5.4,SNR=8.0						
TXAR	**Lajitas Array**	**43.48**	**118**	P	**P**	**02 15 07.4**	**+1.4**
ARCES	**ARCESS Array B**	**48.70**	**3**	P	**P**	**02 15 44.7**	**-1.7**
	3.9nm,1.0s,baz=358,slow=7.2,SNR=3.6						
ARCES	**ARCESS Array B**	**48.70**	**3**	P	**P**	**02 15 44.8**	**-1.7**
SONM	**Songino Array**	**55.62**	**308**	P	**P**	**02 16 37.0**	**-1.2**
	0.2nm,0.6s,baz=23,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**55.62**	**308**	P	**P**	**02 16 37.0**	**-1.2**
FINES	**FINESS Array B**	**56.83**	**4**	P	**P**	**02 16 44.8**	**-1.6**
	1.7nm,1.0s,baz=12,slow=9.8,SNR=3.8						
FINES	**FINESS Array B**	**56.83**	**4**	P	**P**	**02 16 44.8**	**-1.6**
ZALV	**Zalesovo Beam**	**57.22**	**326**	P	**P**	**02 16 47.1**	**-2.3**
	0.3nm,0.4s,baz=18,slow=5.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**57.22**	**326**	P	**P**	**02 16 47.1**	**-2.3**
MKAR	**Makanchi Array**	**64.39**	**324**	P	**P**	**02 17 36.6**	**-1.7**
	0.2nm,0.6s,baz=35,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**64.39**	**324**	P	**P**	**02 17 36.6**	**-1.7**

IDC ***04*** *02:48:06.7±0.8, 0°.64S×133°.10E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/24, mbtmp4.1/10, ML4.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/29, Error ellipse: s-maj=47.5km s-min=14.9km az=73.0*
ISCJB ***04*** *02:48:09.8±0.6, 0°.78S±0°.07×132°.9E±0°.2, h32km, mb4.1/10, MS3.3/1, Error ellipse: s-maj=24.5km s-min=7.5km az=166.2*
NEIC ***04*** *02:48:11.9±0.4, 0°.70S×133°.00E, h35km, mb4.3/4, Error ellipse: s-maj=19.8km s-min=7.1km az=71.0*
ISC 04 02:48:11.5±0.8**, 0°.85S**±0°.09×**132°.9E**±0°.2**, h32km, n27,** σ**1s83**/28**, mb4.2**/10**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**16.52**	**142**	*e*Pn	**Pn**	**02 52 02.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.57**	**202**	P	**Pn**	**02 52 27.6**	**+1.2**
	0.9nm,0.3s,baz=47,slow=10.0,SNR=14						
FITZ				S	Sn	02 55 43.1	-10
	0.1nm,0.3s,baz=93,slow=17,SNR=2.4						
FITZ	**Fitzroy Crossi**	**18.57**	**202**	P	**Pn**	**02 52 27.6**	**+1.2**
FITZ				S	Sn	02 55 43.1	-10
WRAB	**Tennant Creek**	**19.02**	**176**	*e*P	**Pn**	**02 52 32.5**	**+0.6**
	10nm,1.0s						
WRA	**Warramunga Arr**	**19.03**	**176**	P	**P**	**02 52 31.4**	**+0.3**
	1.0nm,0.3s,baz=355,slow=11,SNR=12						
WRA				S	**Sn**	**02 55 59.6**	**-4.6**
	0.2nm,0.3s,baz=356,slow=23,SNR=4.0						
WRA				LR	LR	02 58 10.8	
	comp=Z,25nm,22.0s,baz=180,slow=31						
WRA	**Warramunga Arr**	**19.03**	**176**	P	**P**	**02 52 31.4**	**+0.3**
WRA				S	**Sn**	**02 55 59.6**	**-4.6**
AS31	**Alice Springs**	**22.70**	**178**	*e*P	**P**	**02 53 12.9**	**+2.2**
ASAR	**Alice Springs**	**22.70**	**178**	P	**P**	**02 53 12.5**	**+1.8**
	4.8nm,0.3s,baz=357,slow=11,SNR=51						
ASAR	**Alice Springs**	**22.70**	**178**	P	**P**	**02 53 12.5**	**+1.8**
CTA	**Charters Tower**	**23.16**	**146**	P	**P**	**02 53 17.3**	**+1.8**
	2.6nm,0.7s,baz=336,slow=12,SNR=2.5						
CTA	**Charters Tower**	**23.16**	**146**	P	**P**	**02 53 17.3**	**+1.8**
CTAO	**Charters Tower**	**23.16**	**146**	*e*P	**P**	**02 53 16.4**	**+0.9**
	14nm,1.2s						
JOW	**Kunigami**	**27.88**	**351**	LR	LR	03 04 19.5	
	comp=Z,74nm,19.2s,baz=329,slow=35						
STKA	**Stephens Creek**	**31.94**	**166**	P	**P**	**02 54 35.0**	**+0.6**
	2.6nm,0.4s,baz=335,slow=8.1,SNR=9.1						
STKA	**Stephens Creek**	**31.94**	**166**	P	**P**	**02 54 35.0**	**+0.6**
MKAR	**Makanchi Array**	**64.83**	**324**	P	**P**	**02 58 47.9**	**+0.5**
	1.3nm,0.6s,baz=111,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**64.83**	**324**	P	**P**	**02 58 47.9**	**+0.5**
ZALV	**Zalesovo Beam**	**67.48**	**332**	P	**P**	**02 59 02.4**	**-1.8**
	0.7nm,0.7s,baz=107,slow=4.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**67.48**	**332**	P	**P**	**02 59 02.4**	**-1.8**
KURK	**Kurchatov**	**68.92**	**326**	*e*P	**P**	**02 59 13.1**	**-0.2**
	2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**68.92**	**326**	P	**P**	**02 59 13.7**	**+0.4**
	2.3nm,0.8s,baz=120,slow=5.8,SNR=18						
BVAR	**Borovoye Array**	**74.51**	**326**	P	**P**	**02 59 47.4**	**+0.5**
	0.7nm,0.7s,baz=115,slow=5.4,SNR=3.6						
BVAR	**Borovoye Array**	**74.51**	**326**	P	**P**	**02 59 47.4**	**+0.5**
BRVK	**Borovoye**	**74.58**	**326**	*e*P	**P**	**02 59 46.9**	**-0.4**
	3.8nm,1.0s						
ABKAR	**Akbulak array**	**79.58**	**320**	*e*P	**P**	**03 00 15.0**	**-0.5**
ILAR	**Eielson Array**	**86.59**	**25**	P	**P**	**03 00 49.3**	**-2.1**
	0.3nm,0.6s,baz=250,slow=5.1,SNR=5.4						
ILAR	**Eielson Array**	**86.59**	**25**	P	**P**	**03 00 49.3**	**-2.1**

IDC ***04*** *02:49:43.1±0.7, 43°.33N×45°.90E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.5/30, mbtmp3.7/12, ML3.2/3, Error ellipse: s-maj=13.5km s-min=8.9km az=115.0*
ISCJB ***04*** *02:49:43.0±0.5, 43°.43N±0°.02×46°.26E±0°.02, h3km±3km, mb3.7/11, Error ellipse: s-maj=3.8km s-min=2.6km az=19.0*
TIF ***04*** *02:49:44.3, 43°.23N×46°.19E, h8km±3km*
CSEM ***04*** *02:49:44.0±0.3, 43°.40N×46°.19E, h2km, mb3.6, Error ellipse: s-maj=10.0km s-min=5.8km az=127.0*
MOS ***04*** *02:49:44.4±1.1, 43°.41N×46°.23E, h13km, mb4.4/6, Error ellipse: s-maj=6.6km s-min=5.9km az=134.4*
AZER ***04*** *02:49:56.4, 42°.43N×46°.31E, h30km*
NNC ***04*** *02:49:57.1±3.9, 43°.87N×47°.50E, h0km, mb3.6, Error ellipse: s-maj=52.2km s-min=26.7km az=136.0*
ISC 04 02:49:45.0±1.1**, 43°.43N**±0°.03×**46°.28E**±0°.02**, h12km**±8km**, n88,** σ**2s02**/131**, mb3.7**/11**, 25C-14D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.40**	**255**	⇓*i*PG	**Pg**	**02 49 51.7**	**-1.3**
DBC	**Dubki**	**0.57**	**135**	*i* PG	**Pb**	**02 49 55.5**	**-1.5**
DBC				*i* S	**Sb**	**02 50 03.5**	**-1.6**
KRNR	**Karanay**	**0.76**	**142**	*e*PG	**Pb**	**02 49 58.0**	**-2.1**
KRNR				*i* S	**Sb**	**02 50 07.2**	**-3.2**
KRNR				pmax	pmax		
	comp=Z,286nm,0.2s						
BUJR	**Buynaksk**	**0.85**	**135**	⇓*i*PG	**Pn**	**02 50 02.2**	**-0.6**
BUJR				*e*S	**Sg**	**02 50 13.2**	**+0.6**
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
ARKR	**Arakani**	**0.98**	**147**	*e*PG	**Pb**	**02 50 01.8**	**-2.1**
ARKR				*e*S	**Sb**	**02 50 13.5**	**-3.2**
ARKR				pmax	pmax		
	comp=Z,191nm,0.2s						
SNJR	**Sundja**	**1.13**	**252**	⇓*i*PG	**Pn**	**02 50 05.3**	**-1.4**
SNJR				*e*S	**Sb**	**02 50 19.5**	**-1.7**
TRKR	**Terskaya**	**1.16**	**285**	⇑*i*PG	**Pg**	**02 50 07.9**	**+0.5**
TRKR				*i* S	**Sg**	**02 50 24.5**	**+2.0**
VLKR	**Vladikavkaz**	**1.23**	**253**	*e*PG	**Pn**	**02 50 07.1**	**-1.0**
VLKR				*e*S	**Sb**	**02 50 22.6**	**-1.5**
BTKR	**Batakoyurt**	**1.27**	**268**	⇑*i*PG	**Pb**	**02 50 08.5**	**-0.3**
BTKR				*i* S	**Sg**	**02 50 25.5**	**-0.4**
SGKR	**Sergokala**	**1.40**	**133**	*e*PG	**Pb**	**02 50 10.5**	**-0.6**
SGKR				*i* S	**Sn**	**02 50 28.0**	**-0.7**
KMKR	**Kumukh**	**1.43**	**155**	⇓*i*PG	**Pn**	**02 50 10.0**	**-0.9**
KMKR				*e*S	**Sn**	**02 50 28.0**	**-1.7**
KMKR				pmax	pmax		
	comp=Z,387nm,0.3s						
KMSR	**Komsomolskaya**	**1.45**	**268**	⇓*i*PG	**Pb**	**02 50 11.2**	**-0.7**
KMSR				*e*S	**Sb**	**02 50 30.5**	**+0.2**
ARNR	**Ardon**	**1.48**	**261**	⇑*i*PG	**Pn**	**02 50 11.0**	**-0.5**
ARNR				*i* S	**Sb**	**02 50 30.2**	**-1.0**
PRTR	**Priterechnaya**	**1.49**	**283**	⇑*i*PG	**Pg**	**02 50 12.8**	**-0.8**
PRTR				*i* S	**Sg**	**02 50 33.4**	**+0.5**
LACR	**Lac**	**1.57**	**248**	⇑*i*PG	**Pn**	**02 50 10.5**	**-2.3**
KORR	**Kora**	**1.65**	**259**	*i* PG	**Pn**	**02 50 13.8**	**0.0**
KORR				*i* S	**Sb**	**02 50 35.0**	**-1.2**
LSNR	**Lesken**	**1.81**	**266**	⇓*i*PN	**Pb**	**02 50 16.7**	**-1.3**
LSNR				*e*S	**Sb**	**02 50 39.8**	**-0.8**
ZEI	**Tsey**	**1.86**	**250**	*e*PN	**Pn**	**02 50 15.3**	**-1.6**
TBLG	**Delisi**	**2.04**	**214**	*e*PN	**Pn**	**02 50 18.2**	**-0.9**
TBLG	**Delisi**	**2.04**	**214**	P	**Pn**	**02 50 18.3**	**-0.9**
TBLG				S	**Sn**	**02 50 43.2**	**-1.4**
TBLG	**Delisi**	**2.04**	**214**	P	**Pn**	**02 50 18.3**	**-0.9**
TBLG				S	**Sn**	**02 50 43.2**	**-1.4**
DIGR	**Digorskoe uzhe**	**2.04**	**256**	*e*PN	**Pn**	**02 50 18.9**	**-0.5**
DRN	**Derbent**	**2.06**	**132**	*e*PN	**Pb**	**02 50 21.5**	**-0.7**
DRN				*i* S	**Sb**	**02 50 49.0**	**+1.3**
DRN				pmax	pmax		
	comp=Z,99nm,0.3s						
DGRG	**David-gareji**	**2.09**	**199**	P	**Pn**	**02 50 20.3**	**+0.5**
DGRG				S	**Sb**	**02 50 47.4**	**-1.3**
DGRG	**David-gareji**	**2.09**	**199**	P	**Pn**	**02 50 20.3**	**+0.5**
DGRG				S	**Sb**	**02 50 47.4**	**-1.3**
GOR	**Gori**	**2.15**	**229**	P	**Pn**	**02 50 20.8**	**0.0**
GOR				S	**Sn**	**02 50 47.5**	**+0.1**
GOR	**Gori**	**2.15**	**229**	P	**Pn**	**02 50 20.8**	**0.0**
GOR				S	**Sn**	**02 50 47.5**	**+0.1**
AKT	**Akhty**	**2.22**	**151**	*e*PN	**Pb**	**02 50 23.3**	**-1.8**
AKT				*e*S	**Sb**	**02 50 53.0**	**+0.4**
KSMR	**Kasumkent**	**2.28**	**143**	*i* PN	**Pb**	**02 50 25.5**	**-0.6**
KSMR				*i* S	**Sb**	**02 50 55.5**	**+1.3**
KSMR				pmax	pmax		
	comp=Z,300nm,0.3s						
SEKA	**Sheki**	**2.32**	**163**	⇑P	**Pn**	**02 50 22.8**	**-0.2**
	SNR=68						
SEKA				⇓S	**Sn**	**02 50 51.1**	**-0.4**
SEKA	**Sheki**	**2.32**	**163**	P	**Pn**	**02 50 22.8**	**-0.2**
	SNR=68						
SEKA				S	**Sn**	**02 50 51.1**	**-0.4**
KBZ	**Khabaz**	**2.48**	**278**	Pn	**Pn**	**02 50 23.6**	**-1.5**
	comp=Z,4.4nm,0.3s,baz=179,slow=3.1,SNR=122						
KBZ				Lg	Lg	02 51 01.0	
	comp=Z,33nm,0.3s,baz=159,slow=23,SNR=9.1						
KBZ	**Khabaz**	**2.48**	**278**	PN	**Pn**	**02 50 23.6**	**-1.5**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
QUBA	**Quba, Azerbaij**	**2.64**	**141**	⇑P	**Pb**	**02 50 30.4**	**-1.8**
	SNR=7.6						
QUBA				⇓S	**Sb**	**02 51 05.0**	**+0.4**
QUBA	**Quba, Azerbaij**	**2.64**	**141**	P	**Pb**	**02 50 30.4**	**-1.8**
	SNR=7.6						
QUBA				S	**Sb**	**02 51 05.0**	**+0.4**
GANJ	**Ganja**	**2.78**	**179**	⇑P	**Pn**	**02 50 27.7**	**-1.6**
	SNR=11						
GANJ				⇑S	**Sn**	**02 51 00.2**	**-2.6**
GANJ	**Ganja**	**2.78**	**179**	P	**Pn**	**02 50 27.7**	**-1.6**
	SNR=11						
GANJ				S	**Sn**	**02 51 00.2**	**-2.6**
SIZA	**Siyzn**	**3.05**	**140**	⇓P	**Pb**	**02 50 36.9**	**-2.3**
	SNR=7.4						
SIZA				⇑S	**Sb**	**02 51 19.4**	**+3.0**
SIZA	**Siyzn**	**3.05**	**140**	P	**Pb**	**02 50 36.9**	**-2.3**
	SNR=7.4						
SIZA				S	**Sb**	**02 51 19.4**	**+3.0**
PQL	**Pirkuli**	**3.15**	**146**	⇑P	**Pn**	**02 50 35.9**	**+1.4**
	SNR=7.8						
PQL				⇓S	Sg	02 51 26.9	+0.6
PQL	**Pirkuli**	**3.15**	**146**	P	**Pn**	**02 50 35.9**	**+1.4**
	SNR=7.8						
PQL				S	Sg	02 51 26.9	+0.6
BRDA	**Brd**	**3.23**	**168**	⇑P	**Pn**	**02 50 35.5**	**0.0**
	SNR=6.3						
BRDA				⇑S	**Sn**	**02 51 15.2**	**+1.3**
BRDA	**Brd**	**3.23**	**168**	P	**Pn**	**02 50 35.5**	**0.0**
	SNR=6.3						
BRDA				S	**Sn**	**02 51 15.2**	**+1.3**
GNI	**Garni**	**3.47**	**200**	Pn	**Pn**	**02 50 38.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=235,slow=16,SNR=7.0						
GNI				Pg	**Pb**	**02 50 46.2**	**-0.3**
	comp=Z,6.5nm,0.3s,baz=329,slow=3.4,SNR=23						
GNI				Lg	Lg	02 51 24.1	
	comp=Z,8.0nm,0.3s,baz=245,slow=19,SNR=3.4						
DBOC	**Borcka**	**4.00**	**240**	*i* P	**Pn**	**02 50 45.6**	**-0.5**
DBOC	**Borcka**	**4.00**	**240**	*i* P	**Pn**	**02 50 45.6**	**-0.5**
DAGI	**Agillar**	**4.00**	**236**	*i* P	**Pn**	**02 50 45.3**	**-0.9**
DDEM	**Demirkent**	**4.21**	**235**	*i* P	**Pn**	**02 50 48.2**	**-0.9**
DDEM	**Demirkent**	**4.21**	**235**	*i* P	**Pn**	**02 50 48.2**	**-0.9**
NAX	**Nakhchivan**	**4.29**	**188**	⇑S	**Sb**	**02 51 51.7**	**-0.4**
NAX	**Nakhchivan**	**4.29**	**188**	S	**Sb**	**02 51 51.7**	**-0.4**
GLBA	**Clilabad**	**4.47**	**158**	⇑P	**Pn**	**02 50 52.3**	**-0.3**
	SNR=10						
GLBA				⇑S	**Sn**	**02 51 40.8**	**-3.7**
GLBA	**Clilabad**	**4.47**	**158**	P	**Pn**	**02 50 52.3**	**-0.3**
	SNR=10						
GLBA				S	**Sn**	**02 51 40.8**	**-3.7**
LKRN	**Lenkeran, Azer**	**5.08**	**157**	⇑P	**Pn**	**02 50 59.7**	**-1.2**
LKRN				⇓S	**Sn**	**02 51 54.9**	**-4.5**
LKRN	**Lenkeran, Azer**	**5.08**	**157**	P	**Pn**	**02 50 59.7**	**-1.2**
LKRN				S	**Sn**	**02 51 54.9**	**-4.5**
BRTR	**Keskin Array B**	**10.17**	**253**	Pn	Pn	02 52 05.8	-5.0
	comp=Z,0.0nm,0.3s,baz=68,slow=12,SNR=2.8						
AKTO	**Aktyubinsk**	**10.65**	**45**	Pn	**Pn**	**02 52 19.2**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=222,slow=6.1,SNR=15						
AKTO				Sn	**Sn**	**02 54 11.6**	**-4.6**
	comp=Z,0.8nm,0.3s,baz=59,slow=22,SNR=8.9						
AKTO	**Aktyubinsk**	**10.65**	**45**	⇑Pn	Pn	02 52 19.6	+2.4
	comp=Z,0.5nm,0.7s						
AKTO				⇑Sn	**Sn**	**02 54 11.7**	**-4.6**
	comp=Z,0.9nm,0.6s						
AKTO	**Aktyubinsk**	**10.65**	**45**	P	**Pn**	**02 52 19.3**	**+2.0**
AKTO						02 54 11.6	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.65**	**45**	Pn	Pn	02 52 19.6	+2.4
	comp=N,0.5nm,0.7s						
AKTO				Sn	**Sn**	**02 54 11.7**	**-4.6**
	comp=N,0.9nm,0.6s						
AB31	**Akbulak array**	**11.09**	**54**	Pn	**Pn**	**02 52 25.0**	**+1.7**
	comp=N,0.2nm,0.2s,baz=244,slow=11,SNR=84						
AB31				⇑Sn	Sn	02 54 19.8	-7.4
	comp=N,1.1nm,0.3s,baz=251,slow=22,SNR=14						
AB31	**Akbulak array**	**11.09**	**54**	Pn	**Pn**	**02 52 25.0**	**+1.7**
	comp=N,0.2nm,0.2s,baz=244,SNR=84						
ARU	**Arti**	**15.20**	**27**	P	**P**	**02 53 22.5**	**-1.7**
ARU				SS	**Sn**	**02 56 11.1**	**+3.8**
KK31	**Karatay Array**	**17.64**	**83**	P	**P**	**02 53 53.3**	**+1.8**
	comp=N,0.5nm,0.5s,baz=269,slow=16,SNR=5.0						
KK31				⇓S	**Sn**	**02 57 00.3**	**-6.5**
	comp=N,2.2nm,0.8s,baz=285,slow=24,SNR=2.5						
KK31	**Karatay Array**	**17.64**	**83**	P	**P**	**02 53 53.3**	**+1.8**
	comp=N,0.5nm,0.5s,SNR=5.0						
ZRNK	**Zerenda**	**17.83**	**50**	⇓P	**P**	**02 53 54.6**	**+1.2**
	comp=N,3.7nm,0.8s						
ZRNK				⇑S	**Sn**	**02 57 04.0**	**-7.2**
	comp=N,1.5nm,0.7s						
ZRNK	**Zerenda**	**17.83**	**50**	P	**P**	**02 53 54.6**	**+1.2**
	comp=N,3.7nm,0.8s						
BRVK	**Borovoye**	**18.58**	**50**	⇑P	**Pn**	**02 54 01.8**	**-0.2**
	comp=N,5.7nm,0.9s						
BRVK				⇓S	Sn	02 57 18.1	-11
	comp=N,2.5nm,0.6s						
BRVK	**Borovoye**	**18.58**	**50**	P	**Pn**	**02 54 01.8**	**-0.2**
	comp=N,5.7nm,0.9s						
BVA0	**Borovoye Array**	**18.63**	**51**	⇑P	**Pn**	**02 54 02.7**	**+0.1**
	comp=N,0.7nm,1.2s,baz=254,slow=14,SNR=8.4						
BVA0				S	**Sn**	**02 57 24.7**	**-5.9**
	comp=N,0.3nm,0.7s,baz=240,slow=24,SNR=4.9						
BVA0	**Borovoye Array**	**18.63**	**51**	P	**Pn**	**02 54 02.7**	**+0.1**
	comp=N,0.7nm,1.2s,SNR=8.4						
BVA0				S	**Sn**	**02 57 24.7**	**-5.9**
	comp=N,0.3nm,0.7s,SNR=4.9						
BVAR	**Borovoye Array**	**18.63**	**51**	P	**Pn**	**02 54 03.5**	**+1.0**
	comp=N,0.5nm,0.3s,baz=249,slow=14,SNR=8.5						
BVAR	**Borovoye Array**	**18.63**	**51**	P	**Pn**	**02 54 03.5**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**18.86**	**52**	⇑P	**Pn**	**02 54 06.8**	**+1.5**
	comp=Z,3.8nm,1.0s						
VOSK				⇑S	Sn	02 57 28.1	-8.1
	comp=Z,4.3nm,1.6s						
JOF	**Joensuu**	**21.38**	**341**	*e*P	**P**	**02 54 32.1**	**0.0**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JOF	**Joensuu**	**21.38**	**341**	*e*p	**P**	**02 54 32.1**	**0.0**
	comp=Z,6.0nm,0.6s						
FINES	**FINESS Array B**	**21.68**	**333**	P	**P**	**02 54 35.1**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=128,slow=9.0,SNR=25						
KAF	**Kangasniemi**	**22.11**	**335**	*e*P	**P**	**02 54 38.8**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**22.11**	**335**	*e*p	**P**	**02 54 38.8**	**-1.0**
	comp=Z,1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**23.00**	**60**	P	**P**	**02 54 52.1**	**+2.7**
	comp=Z,0.6nm,0.6s,baz=269,slow=13,SNR=6.5						
KURK	**Kurchatov**	**23.06**	**60**	P	**P**	**02 54 52.1**	**+2.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**25.50**	**70**	P	**P**	**02 55 14.0**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=274,slow=8.0,SNR=3.5						
MKAR	**Makanchi Array**	**25.50**	**70**	P	**P**	**02 55 14.0**	**+1.0**
HFS	**Hagfors**	**25.81**	**322**	P	**P**	**02 55 15.1**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=126,slow=10.0,SNR=12						
NOA	**NORSAR Array B**	**27.30**	**322**	P	**P**	**02 55 27.6**	**-1.6**
	comp=Z,1.3nm,1.0s,baz=124,slow=9.3,SNR=2.6						
ARCES	**ARCESS Array B**	**28.26**	**345**	P	**P**	**02 55 38.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=151,slow=11,SNR=7.5						
SPITS	**Spitsbergen Ar**	**36.82**	**350**	P	**P**	**02 56 53.8**	**+1.5**
	comp=Z,8.1nm,1.0s,baz=137,slow=10,SNR=9.2						
TORD	**Torodi Ar. Bea**	**48.68**	**246**	P	P	02 58 25.8	-3.4

comp=Z,0.2nm,0.4s,baz=36,slow=8.0,SNR=12

FUNV 04 02:59:37.1, 6°.78N×73°.19W, h170km, MW3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.39	39	eP	Pn	03 00 06.8	-0.6
CAPV				eS	Sn	03 00 28.3	-2.6
VIGV	El Vigia	2.73	41	eP	Pn	03 00 20.4	-1.7
VIGV				eS	Sn	03 00 54.1	-3.0
SOCV	Socops	2.76	57	eP	Pn	03 00 21.5	-0.9
SOCV				eS	Sn	03 00 53.5	-4.0
ELOV	Elorza	3.69	86	eP	Pn	03 00 32.8	-1.1
VIRV	Villa del Rosa	3.78	12	eP	Pn	03 00 33.6	-1.5
VIRV				eS	Sn	03 01 15.8	-4.8
CURV	Curarigua	4.53	45	eP	Pn	03 00 43.4	-1.6
CURV				eS	Sn	03 01 31.6	-6.3
TEPV	Terepaima	5.07	51	eP	Pn	03 00 50.7	-1.1
SIQV	Siquisique	5.10	41	eP	Pn	03 00 50.2	-2.0
BAUV	El Baul	5.54	67	eP	Pn	03 00 55.3	-2.7
BAUV				eS	Sn	03 01 54.4	-6.9
MAPV	Macapo	5.58	57	eP	Pn	03 00 56.7	-1.8
MAPV				eS	Sn	03 01 56.3	-6.2
MONV	Montecano	6.05	31	eP	Pn	03 01 03.0	-1.7
TURV	Turiamo	6.43	55	eP	Pn	03 01 07.6	-2.1

*ISCJB **04** 03:08:07.0±0.9, 34°.12N±0°.03×37°.72E±0°.04, h2km±6km, Error ellipse: s-maj=6.5km s-min=2.6km az=38.4*
*NSSC **04** 03:08:07.1±2.1, 34°.09N×37°.66E, h1km±5km, MD1.8, ML2.9, Fault plane solution: NP1:φs216.28000°, δ48.44000°, λ-30.79000°.*
*CSEM **04** 03:08:07.7±0.2, 34°.10N×37°.70E, h2km, ML2.9, Error ellipse: s-maj=7.1km s-min=3.9km az=126.0*
*ISK **04** 03:08:29.7, 35°.90N×37°.63E, h5km, MD3.9*
ISC 04 03:08:07.2±1.3, 34°.08N±0°.02×37°.71E±0°.03, h3km±10km, n79, σ1°.04/100, 18C-5D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROOS	tl_alroos	0.36	285	⇑eP	Pg	03 08 14.5	+0.3
ROOS				eS	Sg	03 08 18.9	0.0
ROOS	tl_alroos	0.36	285	⇑eP	Pg	03 08 14.5	+0.3
	SNR=94						
ROOS				eS	Sg	03 08 18.9	0.0
	SNR=59						
RABH	Abou Rabah	0.55	311	i P	Pg	03 08 17.9	+0.1
RABH				⇑eP	Pg	03 08 17.9	+0.1
RABH				eS	Sg	03 08 24.8	-0.1
FKH	Fakeheh	1.09	279	eP	Pg	03 08 27.8	-0.3
FKH	Fakeheh	1.09	279	eP	Pg	03 08 27.8	-0.3
ZALF	Zalf	1.20	195	⇓eP	Pg	03 08 29.9	-0.3
ZALF				eS	Sg	03 08 45.7	0.0
ZALF				AML	AML	03 08 49.1	
	comp=N,231nm,0.4s						
ZALF				AML	AML	03 08 49.2	
	comp=E,191nm,0.2s						
ZALF				AML	AML	03 08 49.3	
	comp=Z,144nm,0.3s						
ZALF	Zalf	1.20	195	⇓eP	Pg	03 08 29.9	-0.3
	SNR=57						
ZALF				eS	Sg	03 08 45.7	0.0
	comp=Z,144nm,0.3s,SNR=49						
TOTH	TOTAH	1.28	236	⇑eP	Pg	03 08 31.2	-0.7
TOTH				eS	Sg	03 08 47.3	-1.2
TOTH				AML	AML	03 08 51.0	
	comp=N,301nm,0.1s						
TOTH				AML	AML	03 08 51.3	
	comp=E,132nm,0.6s						
TOTH	TOTAH	1.28	236	⇑eP	Pg	03 08 31.2	-0.7
	SNR=57						
TOTH				eS	Sg	03 08 47.3	-1.2
	comp=E,132nm,0.6s,SNR=49						
QASN	Qassioun	1.31	246	⇓eP	Pg	03 08 31.9	-0.4
QASN				eS	Sg	03 08 47.9	-1.5
QASN				AML	AML	03 08 49.2	
	comp=N,352nm,0.2s						
QASN				AML	AML	03 08 49.5	
	comp=E,1μm,0.2s						
QASN	Qassioun	1.31	246	⇓eP	Pg	03 08 32.0	-0.4
	SNR=57						
QASN				eS	Sg	03 08 47.9	-1.5
	comp=E,1μm,0.2s,SNR=49						
SALA	Sala	1.59	211	⇑eP	Pn	03 08 36.4	-0.1
SALA				i S	Sn	03 08 57.8	+0.1
SALA	Sala	1.59	211	⇑eP	Pn	03 08 36.4	-0.1
	SNR=57						
SALA				i S	Sn	03 08 57.8	+0.1
	comp=E,221nm,0.3s,SNR=49						
BRBR	Barbar	1.61	246	⇑eP	Pn	03 08 36.2	-0.6
BRBR				eS	Sn	03 08 57.2	-1.0
BRBR				AML	AML	03 08 58.5	
	comp=E,405nm,0.5s						
BRBR				AML	AML	03 08 59.4	
	comp=N,221nm,0.3s						
RCY	Rachaya	1.66	250	eP	Pn	03 08 37.4	-0.1
JHLN	Al Jahlan	1.70	21	⇑eP	Pn	03 08 38.0	+0.1
JHLN				i P	Pn	03 08 38.0	+0.1
JHLN				i S	Sb	03 09 00.7	-0.3
JHLN				AML	AML	03 09 06.2	
	comp=Z,304nm,0.4s						
JHLN	Al Jahlan	1.70	21	⇑eP	Pn	03 08 38.0	+0.1
	SNR=45						
JHLN				i S	Sb	03 09 00.7	-0.3
	comp=Z,304nm,0.4s,SNR=40						
BHL	Bhannes	1.72	265	eP	Pn	03 08 38.0	-0.2
BHL	Bhannes	1.72	265	eP	Pn	03 08 38.0	-0.2
BEYL	Beirut	1.85	264	eP	Pn	03 08 40.5	+0.6
BEYL	Beirut	1.85	264	eP	Pn	03 08 40.5	+0.6
KSDI	Kefar Szold	1.93	243	Pn	Pn	03 08 41.1	+0.2
KSDI				Sn	Sn	03 09 06.0	+0.3
TCHB	Talchebab	2.02	226	⇑eP	Pn	03 08 42.2	-0.1
TCHB				eS	Sn	03 09 09.1	+0.9
TCHB	Talchebab	2.02	226	⇑eP	Pn	03 08 42.2	-0.1
	SNR=45						
MATL	Matarih	2.07	254	eP	Pn	03 08 43.5	+0.6
MATL	Matarih	2.07	254	eP	Pn	03 08 43.5	+0.6
SLMH	Al Salmeh	2.14	5	⇓eP	Pn	03 08 43.7	-0.2
SLMH				eS	Sn	03 09 08.5	-2.5
MMA0	Mount Meron ar	2.20	242	Pn	Pn	03 08 45.4	+0.6
MMA0				Sn	Sb	03 09 14.5	-0.9
MMC7	Mount Meron ar	2.20	242	Pn	Pn	03 08 45.4	+0.6
MNKR	ALMNKUR	2.26	34	⇑eP	Pn	03 08 46.0	+0.4
MNKR				eS	Sb	03 09 15.4	-1.6
MNKR				AML	AML	03 09 23.8	
	comp=Z,216nm,0.5s						
MNKR	ALMNKUR	2.26	34	⇑eP	Pn	03 08 46.0	+0.4
	SNR=45						
MNKR	ALMNKUR	2.26	34	eS	Sn	03 09 15.4	+1.4
	comp=Z,216nm,0.5s,SNR=40						
HNTI	Hanita	2.34	246	Pn	Pn	03 08 47.0	+0.4
HNTI				Sn	Sb	03 09 17.8	-1.6
BLGI	Bet Lehem HaGe	2.50	238	Pn	Pn	03 08 50.3	+1.5
MMLI	Mount Malkishu	2.52	230	Pn	Pn	03 08 50.4	+1.2
MMLI				Sn	Sb	03 09 24.3	-0.3
HMDT	Nahal Hemdat	2.58	226	Pn	Pn	03 08 51.3	+1.3
HMDT				Sn	Sb	03 09 26.2	-0.2
OFRI	‘Ofer	2.70	238	Pn	Pn	03 08 53.0	+1.3
KUZU	Kuzuini	2.74	349	i P	Pn	03 08 48.8	-3.4
KUZU	Kuzuini	2.74	349	i P	Pn	03 08 48.8	-3.4
SLTI	Sal’it	2.89	231	Pn	Pn	03 08 55.9	+1.6
SLTI				Sn	Sb	03 09 33.4	-2.0
MZRK	Al-Mazaregh	2.98	53	⇑eP	Pn	03 08 55.9	+0.4
MZRK				eS	Sn	03 09 30.3	-1.5
MZRK				AML	AML	03 09 47.4	
	comp=Z,54nm,0.4s						
MZRK	Al-Mazaregh	2.98	53	⇑eP	Pn	03 08 55.9	+0.4
	SNR=45						
GAZ	Gaziantep	3.11	353	ePN	Pn	03 08 55.2	-2.1
GAZ	Gaziantep	3.11	353	ePn	Pn	03 08 55.3	-2.1
KRTS	Karatas	3.13	323	ePN	Pb	03 09 04.8	+1.2
KRTS	Karatas	3.13	323	ePn	Pb	03 09 04.8	+1.2
DSI	Dead Sea	3.18	219	Pn	Pn	03 09 00.1	+1.9
GZT	Gaziantep	3.27	358	i P	Pn	03 08 56.9	-2.7
MZDA	Masada	3.40	216	Pn	Pn	03 09 04.0	+2.9
ATAB	Bozova	3.42	8	i P	Pn	03 09 02.0	+0.5
ATAB	Bozova	3.42	8	i P	Pn	03 09 02.0	+0.5
URFA	Urfa	3.47	15	ePN	Pn	03 09 03.1	+0.8
URFA	Urfa	3.47	15	ePn	Pn	03 09 03.1	+0.8
KMRS	Kahramanmaras	3.48	349	ePN	Pn	03 09 01.7	-0.7
KMRS	Kahramanmaras	3.48	349	ePn	Pn	03 09 01.7	-0.7
ANDN	Andirin	3.66	343	i P	Pn	03 09 08.1	+3.1
ANDN	Andirin	3.66	343	i P	Pn	03 09 08.1	+3.1
KBSD	Kabsdagh	3.72	38	⇑eP	Pn	03 09 05.0	-0.7
KBSD				eS	Sn	03 09 50.2	+0.1
KBSD				AML	AML	03 10 08.1	
	comp=Z,42nm,0.6s						
KBSD	Kabsdagh	3.72	38	⇑eP	Pn	03 09 05.0	-0.7
	SNR=45						
KBSD	Kabsdagh	3.72	38	eS	Sn	03 09 50.2	+0.1
	comp=Z,42nm,0.6s,SNR=40						
KOZT	Kozan	3.72	336	ePN	Pn	03 09 07.9	+2.2
KOZT	Kozan	3.72	336	ePn	Pn	03 09 07.9	+2.2
MERS	Mersin	3.81	318	ePN	Pb	03 09 16.1	+0.9
MERS	Mersin	3.81	318	ePn	Pb	03 09 16.1	+0.9
AKCD	Akcadag	4.21	2	i P	Pn	03 09 13.2	+0.7
AKCD	Akcadag	4.21	2	i P	Pn	03 09 13.2	+0.7
KZIT	Kziot	4.22	222	Pn	Pn	03 09 14.6	+2.0
MALT	Malatya	4.26	8	ePN	Pn	03 09 13.7	+0.5
MALT	Malatya	4.26	8	ePn	Pn	03 09 13.7	+0.5
PRNI	Paran	4.37	212	Pn	Pn	03 09 17.9	+3.3
SVRC	Sivrice-ELAZID	4.48	16	ePN	Pn	03 09 17.1	+0.9
SVRC	Sivrice-ELAZID	4.48	16	ePn	Pn	03 09 17.1	+0.9
BNN	Bunyan	4.99	343	ePN	Pn	03 09 24.5	+1.2
BNN	Bunyan	4.99	343	ePn	Pn	03 09 24.5	+1.2
ILIC	ilic-Erzincan	5.41	7	ePN	Pn	03 09 29.0	+0.1
ILIC	ilic-Erzincan	5.41	7	ePn	Pn	03 09 29.0	+0.1
BNGB	Bing˜¶l	5.45	25	ePN	Pn	03 09 33.5	+3.9
ERZN	Erzincan	5.73	16	ePN	Pn	03 09 35.2	+1.8
EZC	Erzincan	5.81	13	ePn	Pn	03 09 35.2	+0.7

GUC 04 03:39:07.0±0.6, 28°.63S×71°.30W, h37km±4km, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.65	126	⇑iP	Pn	03 39 20.4	+0.2
LCO				i S	Sn	03 39 30.4	+0.9
LCO				AML	AML	03 39 31.6	
	comp=N,4μm,0.6s						
CPCH	Copiapo	1.52	34	eP	Pn	03 39 32.7	+1.1
CPCH				i S	Sn	03 39 53.0	+2.8
CPCH				AML	AML	03 39 56.3	
	comp=N,8μm,0.2s						
TLL	Tololo Astrono	1.59	164	eP	Pn	03 39 34.9	+1.9
TLL				i S	Sn	03 39 55.5	+2.9
TLL				AML	AML	03 40 03.3	
	comp=N,627nm,0.6s						
CDCH	Caldera	1.61	15	eP	Pn	03 39 33.0	+0.1
CDCH				i S	Sn	03 39 53.4	+1.0
CDCH				AML	AML	03 40 02.5	
	comp=E,215nm,0.7s						

*BJI **04** 03:44:55.8, 45°.49N×101°.47E, h10km, mB4.9/18, mb4.7/35, ML5.5/6, Ms5.0/53, Ms7 4.7/40*
*ISCJB **04** 03:44:57.0±0.2, 45°.43N±0°.02×101°.48E±0°.03, h10km, mb4.6/82, MS4.3/39, Error ellipse: s-maj=3.4km s-min=3.0km az=14.1*
*IDC **04** 03:44:57.0±0.5, 45°.45N×101°.50E, h0km, mb4.2/21, mb1 4.4/26, mb1mx4.4/32, mbtmp4.3/26, ML3.9/4, MS4.2/33, Ms1 4.2/33, ms1mx4.1/46, Error ellipse: s-maj=14.8km s-min=10.2km az=7.0*
*MOS **04** 03:44:58.7±1.4, 45°.49N×101°.51E, h22km, mb4.8/51, MS4.2/24, Error ellipse: s-maj=6.0km s-min=4.9km az=118.3*
*GCMT **04** 03:44:59.9±0.2, 45°.49N×101°.51E, h21km±1km, MW4.9, Moment Tensor Solution. s34,c37; s73,c131; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21±.13; $M_{\theta\theta}$0.60±.10; $M_{\phi\phi}$-0.39±.10; $M_{r\theta}$0.43±.18; $M_{\theta\phi}$3.14±.09; $M_{\phi r}$-0.58±.18; Best double couple: $M_0$3.30000×10^{16} NP1:φs274.00000°, δ80.00000°, λ-9.00000°. NP2:φs5.00000°, δ81.00000°, λ-170.00000°. Principal axes: T 3.2800, Plg1.0000°, Azm139.0000°; N -0.0400, Plg77.0000°, Azm46.0000°; P -3.2500, Plg13.0000°, Azm230.0000°; Data Used: II G IU CN IC.*
*NEIC **04** 03:44:59.0±0.2, 45°.44N×101°.43E, h10km, mb4.8/50 Error ellipse: s-maj=5.0km s-min=4.3km az=152.0*
NEIC Felt at Arvayheer.
ISC 04 03:44:59.7±0.4, 45°.51N±0°.03×101°.50E±0°.03, h14km±2km, h13km:pP-P, n298, σ1°.62/314, mb4.6/82, MS4.3/41, 18C-14D, Mongolia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	4.09	54	Pn	Pn	03 46 01.5	-0.5
	47nm,0.3s,baz=233,slow=15,SNR=1109						
SONM				Pg	Pb	03 46 12.6	+1.0
	236nm,0.3s,baz=239,slow=17,SNR=108						
SONM				Lg	Lg	03 47 06.9	
	776nm,0.3s,baz=236,slow=31,SNR=15						
SONM				LR	LR	03 47 52.9	
	comp=Z,2μm,20.0s,baz=225,slow=43						
SONM	Songino Array	4.09	54	Pn	Pn	03 46 01.5	-0.5
SONM				Pg	Pb	03 46 12.6	+1.0
SONM				Lg	Lg	03 47 06.9	
ULN	Ulaanbaatar	4.49	56	ePn	Pn	03 46 06.9	-0.5
ULN				ePg	Pb	03 46 20.2	+1.8
ULN				eS	Sb	03 47 16.8	+4.5
ZAK	Zakamensk	5.02	13	eP	Pn	03 46 14.7	0.0
ZAK				e		03 47 12.9	
ZAK				pmax	pmax		
	comp=Z,609nm,1.0s						
ZAK				smax	smax		
	comp=E,9μm,1.2s						
GTA	Gaotai	6.22	192	Pn	Pn	03 46 30.4	-0.9
GTA				Pg	Pb	03 46 49.0	+1.1
GTA				Sn	Sn	03 47 39.2	-3.0
GTA				Sg	Sb	03 48 07.7	+5.4
GTA				smax	smax		
	comp=N,1μm,1.1s						
GTA				smax	smax		
	comp=E,4μm,0.9s						
GTA				LR	LR		
	comp=N,5μm,10.5s						
GTA				LR	LR		
	comp=E,27μm,10.0s						
GTA				LR	LR		
	comp=Z,4μm,8.8s						
TLY	Talaya	6.34	12	eP	Pn	03 46 33.0	+0.3
TLY				pmax	pmax		
	comp=Z,439nm,0.8s						
TLY	Talaya	6.34	12	ePn	Pn	03 46 33.0	+0.3
TLY				ePg	Pb	03 46 54.1	+4.4
TLY				eSn	Sn	03 47 42.7	-2.1
TLY				eSg	Sg	03 48 15.5	-7.5
IRK	Irkutsk	6.98	14	eP	Pn	03 46 41.2	-0.3
IRK				pmax	pmax		
	comp=Z,132nm,0.2s						
HVS	Khovu-Aksy	7.66	320	d iP	Pn	03 46 51.0	+0.1
BTO	Baotou	7.93	125	eP	Pn	03 46 52.9	-1.8
BTO				pmax	pmax		
	comp=Z,72nm,0.9s						
BTO				LR	LR		
	comp=N,3μm,5.9s						
BTO				LR	LR		
	comp=E,2μm,5.9s						
HHC	Hu-ho-hao-te	8.70	119	eP	Pn	03 47 02.1	-3.1
HHC				pP	pP	03 47 05.3	
HHC				sP		03 47 08.1	
HHC				S	Sn	03 48 36.0	-7.2
HHC				pmax	pmax		
	comp=Z,260nm,1.8s						
HHC				LR	LR		
	comp=N,7μm,4.3s						
HHC				LR	LR		
	comp=E,6μm,6.6s						
HHC				LR	LR		
	comp=Z,36μm,12.3s						
LZH	Lanzhou	9.58	169	eP	Pn	03 47 15.6	-1.7
LZH				pP		03 47 17.8	
LZH				PP	PnPn	03 47 23.5	-1.4
LZH				S	Sn	03 49 06.0	+1.1
LZH				sS		03 49 10.4	
LZH				SS	SnSn	03 49 19.5	+3.0
LZH				pmax	pmax		
	comp=Z,65nm,1.0s						
LZH				pmax	pmax		
	comp=Z,270nm,4.1s						
LZH				LR	LR		
	comp=N,5μm,12.0s						
LZH				LR	LR		
	comp=E,16μm,12.1s						
LZH				LR	LR		
	comp=Z,11μm,14.0s						
WMQ	Urumqi	9.98	265	P	Pn	03 47 21.9	-0.8
WMQ				pmax	pmax		
	comp=Z,16nm,1.0s						
WMQ				LR	LR		
	comp=N,8μm,17.0s						
WMQ				LR	LR		
	comp=E,2μm,23.0s						
WMQ				LR	LR		
	comp=Z,2μm,18.4s						
CIT	Chita	10.27	46	eP	Pn	03 47 28.1	+1.4
CIT				pmax	pmax		
	comp=Z,142nm,1.4s						
BJI	Beijing	12.08	112	P	Pn	03 47 50.7	-0.7
BJI				pmax	pmax		
	comp=Z,28nm,1.0s						
BJI				pmax	pmax		
	comp=Z,130nm,3.4s						
BJI				LR	LR		
	comp=N,15μm,12.1s						
BJI				LR	LR		
	comp=E,9μm,12.8s						
BJI				LR	LR		
	comp=Z,1μm,18.7s						
BJT	Baijiatuau	12.09	112	ePn	Pn	03 47 50.9	-0.7
	comp=Z,20nm,0.6s						
XAN	Xi’an	12.79	151	P	Pn	03 47 58.3	-2.9
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				LR	LR		
	comp=N,2μm,8.6s						
XAN				LR	LR		
	comp=E,670nm,7.0s						
XAN				LR	LR		
	comp=Z,690nm,11.1s						
HIA	Hailar	12.91	67	ePn	Pn	03 48 01.4	-1.4
	comp=Z,28nm,0.8s						
HIA				eLg	Lg	03 51 39.7	
MK31	Makanchi Array	13.38	282	i P	Pn	03 48 07.8	-1.4
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	Makanchi Array	13.38	282	ePn	Pn	03 48 07.8	-1.4
MK31				eLg	Lg	03 51 53.0	
MKAR	Makanchi Array	13.38	282	Pn	Pn	03 48 07.5	-1.7
	comp=Z,0.1nm,0.3s,baz=94,slow=14,SNR=11						
MKAR				Lg	Lg	03 51 58.2	
	comp=Z,1.3nm,0.3s,baz=81,slow=32,SNR=5.4						
MKAR				LR	LR	03 52 50.7	
	comp=Z,1μm,18.4s,baz=115,slow=35						
MKAR	Makanchi Array	13.38	282	P	Pn	03 48 07.5	-1.7
MKAR				MLR	MLR		
	comp=Z,1μm,18.4s						
MKAR	Makanchi Array	13.38	282	ePn	Pn	03 48 08.0	-1.2
MKAR				Lg	Lg	03 51 58.2	
ZAA0	Zalesovo Array	13.67	314	ePn	Pn	03 48 12.7	-0.3
ZAA0				eLg	Lg	03 52 00.2	
ZALV	Zalesovo Beam	13.67	314	Pn	Pn	03 48 13.6	+0.5
	baz=119,slow=9.2,SNR=17						
ZALV				Lg	Lg	03 52 00.4	
	comp=Z,0.4nm,0.3s,baz=120,slow=23,SNR=4.5						
ZALV				LR	LR	03 53 22.8	
	comp=Z,830nm,21.8s,baz=209,slow=37						
ZALV	Zalesovo Beam	13.67	314	P	Pn	03 48 13.6	+0.5
ZALV				MLR	MLR		
	comp=Z,830nm,21.8s						
ZALV	Zalesovo Beam	13.67	314	Pn	Pn	03 48 13.6	+0.5
ZALV				Lg	Lg	03 52 00.4	
BOD	Bodaibo	14.53	28	eP	Pn	03 48 23.4	-1.3
BOD				pmax	pmax		
	comp=Z,16nm,1.0s						
CD2	Chengdu	14.68	172	P	P	03 48 32.8	-0.4
CD2				pP	pP	03 48 36.2	
CD2				sP		03 48 39.8	
CD2				PP	PnPn	03 48 44.7	+10
CD2				S	Sn	03 51 18.4	+8.8
CD2				sS	S	03 51 23.5	-5.0
CD2				SS	SnSn	03 51 35.6	+13
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,150nm,4.7s						
CD2				LR	LR		
	comp=N,18μm,11.3s						
CD2				LR	LR		
	comp=Z,2μm,9.5s						
NVS	Novosibirsk	14.93	315	⇑iP	Pn	03 48 29.1	-1.1
NVS				pmax	pmax		
	comp=N,14nm,1.5s						
NVS				pmax	pmax		
	comp=Z,35nm,1.5s						
NVS				pmax	pmax		
	comp=E,22nm,1.5s						
TIA	Tai’an	15.01	123	eP	Pn	03 48 28.5	-2.9
TIA				LR	LR		
	comp=N,2μm,18.4s						
TIA				LR	LR		
	comp=E,2μm,19.0s						
TIA				LR	LR		
	comp=Z,700nm,11.9s						
KURK	Kurchatov	16.12	297	P	Pn	03 48 44.4	-1.3
KURK				MLR	MLR		
	comp=Z,768nm,20.1s						
KURK	Kurchatov	16.12	297	ePn	Pn	03 48 43.5	-2.2
	comp=Z,62nm,0.8s						
KURK				Lg	Lg	03 53 18.5	
KURBB	Kurchatov Arra	16.16	297	Pn	Pn	03 48 44.4	-1.9
	comp=Z,0.1nm,0.3s,baz=99,slow=14,SNR=34						
KURBB				Lg	Lg	03 53 18.5	
	comp=Z,0.1nm,0.3s,baz=100,slow=33,SNR=10						
KURBB				LR	LR	03 55 09.2	
	comp=Z,768nm,20.1s,baz=95,slow=38						
DL2	Dalian	16.29	107	P	P	03 48 50.6	-0.3
DL2				pmax	pmax		
	comp=Z,20nm,0.9s						
DL2				pmax	pmax		
	comp=Z,100nm,3.7s						
DL2				LR	LR		
	comp=N,2μm,14.4s						
DL2				LR	LR		
	comp=E,2μm,14.1s						
DL2				LR	LR		
	comp=Z,600nm,11.8s						
ENH	Enshi	16.45	155	ePn	Pn	03 48 47.5	-2.6
	comp=Z,126nm,1.3s						
CN2	Changchun	17.11	87	eP	P	03 48 59.6	-0.4
CN2				esP	sP	03 49 05.0	-0.7
CN2				eS	Sn	03 52 06.2	-2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,8μm,15.0s						
CN2				LR	LR		
	comp=E,2μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
LSA	Lhasa	17.76	211	P	Pn	03 49 05.2	-1.8
LSA	Lhasa	17.76	211	eP	Pn	03 49 06.6	-0.4
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	Lhasa	17.76	211	eP	Pn	03 49 06.6	-0.4
	comp=Z,13nm,0.8s						
WHN	Wuhan	18.01	142	P	Pn	03 49 07.1	-2.5
WHN				pP	pP	03 49 13.1	-0.8
WHN				S	S	03 52 35.3	-0.9
WHN				LR	LR		
	comp=N,4μm,10.4s						
WHN				LR	LR		
	comp=E,3μm,10.2s						
WHN				LR	LR		
	comp=Z,4μm,11.6s						
ULHL	Ulahol	18.48	269	i P	P	03 49 13.4	-2.0
ULHL	Ulahol	18.48	269	P	P	03 49 13.4	-2.0
	SNR=17						
TKM2	Tokmak 2	18.72	271	i P	P	03 49 18.1	+0.1
TKM2	Tokmak 2	18.72	271	P	P	03 49 18.2	+0.1
	SNR=39						
KZA	Kyzart	19.23	269	i P	Pn	03 49 24.8	0.0
KZA	Kyzart	19.23	269	P	Pn	03 49 24.8	0.0
	SNR=9.9						
KBK	Karagaybulak	19.26	271	i P	P	03 49 24.0	+0.1
KBK	Karagaybulak	19.26	271	P	P	03 49 24.0	+0.1

SNR=13
USP Ospenovka 19.40 273 *i* P **P 03 49 24.7 -0.5**
USP Ospenovka 19.40 273 P **P 03 49 24.7 -0.5**
SNR=10
FRU Bishkek 19.44 272 *e*P **P 03 49 26.0 +0.3**
FRU pmax pmax
comp=Z,140nm,2.2s
FRU MLR MLR
comp=E,2μm,18.5s
FRU MLR MLR
comp=Z,2μm,18.5s
GYA Guiyang 19.46 166⇑ *i*P **Pn 03 49 30.3 +3.0**
GYA S **Sn 03 53 04.4 -1.0**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,1μm,10.3s
GYA LR LR
comp=E,2μm,9.0s
GYA LR LR
comp=Z,1μm,12.1s
AAK Ala-Archa 19.58 271 P **P 03 49 27.3 -0.1**
comp=Z,0.6nm,0.3s,baz=87,slow=7.7,SNR=28
AAK Lg Lg 03 55 22.7
comp=Z,0.1nm,0.3s,baz=127,slow=20,SNR=4.2
AAK LR LR 03 57 01.6
comp=Z,1μm,21.3s,baz=62,slow=37
AAK Ala-Archa 19.58 271 *i* P **P 03 49 27.3 -0.1**
AAK Ala-Archa 19.58 271 *e*P **P 03 49 26.5 -0.9**
comp=Z,63nm,0.8s
AAK Lg Lg 03 55 22.7
AAK Ala-Archa 19.58 271 P **P 03 49 27.4 -0.1**
SNR=13
KSH Kashi 19.70 261 *e*P **Pn 03 49 33.7 +3.5**
KSH pP pP 03 49 39.2 +6.6
KSH sP sP 03 49 42.2 +7.8
KSH PP PnPn 03 49 55.3 +12
KSH S **Sn 03 53 15.2 +3.9**
KSH sS **sS 03 53 20.9 +4.1**
KSH SS SnSn 03 53 43.7 +18
KSH PcP **PcP 03 53 51.8 +4.6**
KSH ScP **ScP 03 57 25.2 +2.5**
KSH PcS **PcS 03 57 27.4 +2.8**
KSH ScS **ScS 04 01 05.9 +0.9**
KSH pmax pmax
comp=Z,86nm,1.4s
KSH LR LR
comp=N,2μm,10.5s
KSH LR LR
comp=E,2μm,10.3s
KSH LR LR
comp=Z,2μm,9.5s
MDJ Mudanjiang 19.83 83 P **P 03 49 30.2 +0.3**
MDJ pP **pP 03 49 32.9 -0.9**
MDJ sP **sP 03 49 34.5 -1.1**
MDJ S **S 03 53 13.2 +0.5**
MDJ sS **sS 03 53 18.6 -0.3**
MDJ ScP **ScP 03 57 24.1 +1.4**
MDJ PcS **PcS 03 57 25.4 +1.0**
MDJ pmax pmax
comp=Z,130nm,3.8s
MDJ LR LR
comp=N,5μm,13.7s
MDJ LR LR
comp=E,850nm,13.7s
MDJ LR LR
comp=Z,2μm,10.7s
MDJ Mudanjiang 19.83 83 *e*P **P 03 49 30.1 +0.3**
comp=Z,24nm,1.0s
EKS2 Erkin-Say 20.08 272 *e*P **P 03 49 32.3 -0.5**
EKS2 pmax pmax
comp=Z,36nm,1.1s
EKS2 Erkin-Say 20.08 272 *e*P **P 03 49 32.3 -0.5**
comp=Z,36nm,1.1s
EKS2 Erkin-Say 20.08 272 P **P 03 49 32.9 +0.1**
SNR=18
AML Almayashu 20.30 270 *i* P **P 03 49 35.9 +0.4**
AML Almayashu 20.30 270 P **P 03 49 35.9 +0.4**
SNR=17
KMI Kunming 20.37 177 P Pn 03 49 40.8 +2.6
KMI S **S 03 53 21.3 -2.8**
KMI pmax pmax
comp=Z,29nm,1.0s
KMI LR LR
comp=N,1μm,11.7s
KMI LR LR
comp=E,7μm,15.7s
KMI LR LR
comp=Z,1μm,16.2s
KLR Kul'dur 20.75 69 *e*P **P 03 49 36.8 -3.1**
KLR MLR MLR
comp=Z,4μm,12.0s
TAPN Taplejung 21.20 216 *e*P **P 03 49 44.6 -0.6**
comp=Z,212nm,0.9s
TAPN Taplejung 21.20 216 *e*P **P 03 49 44.6 -0.6**
comp=Z,212nm,0.9s
KSAR Wonju Array Be 21.28 103 P **P 03 49 45.5 -0.1**
KSAR Lg Lg 03 56 30.1
KSRS Korea Array 21.30 103 P **P 03 49 45.5 -0.3**
comp=Z,17nm,1.0s,baz=292,slow=10,SNR=32
KSRS Lg Lg 03 56 30.1
comp=Z,3.8nm,1.1s,baz=308,slow=32,SNR=4.6
KSRS LR LR 03 57 25.8
comp=Z,200nm,19.0s,baz=301,slow=35
SHL Shillong 21.35 204 *i* x **P 03 49 45.0 -1.7**
SHL *ex* **S 03 53 38.0 -5.5**
GUN Gumba 21.51 221 *e*P **P 03 49 47.4 -1.1**
comp=Z,268nm,1.0s
GUN Gumba 21.51 221 *e*P **P 03 49 47.4 -1.1**
comp=Z,268nm,1.0s
BVA0 Borovoye Array 21.52 302 *i* P **P 03 49 47.2 -0.9**
BVA0 pmax pmax
comp=Z,27nm,1.2s
BVAR Borovoye Array 21.52 302 P **P 03 49 47.8 -0.3**
comp=Z,38nm,0.9s,baz=93,slow=12,SNR=45
BVAR Lg Lg 03 56 25.3
comp=Z,17nm,1.1s,baz=108,slow=22,SNR=3.7
BVAR LR LR 03 58 30.5
comp=Z,685nm,20.5s,baz=99,slow=38
BVAR Borovoye Array 21.52 302 P **P 03 49 47.8 -0.3**
BVAR pmax pmax
comp=Z,38nm,0.9s
BVAR MLR MLR
comp=Z,685nm,20.5s
BVAR Borovoye Array 21.52 302 P **P 03 49 47.8 -0.3**
BVAR Lg Lg 03 56 25.3
IMP Imphal 21.57 199 *e*P **P 03 49 46.0 -2.9**
JIRN Jiri 21.58 220 *e*P **P 03 49 48.6 -0.7**
comp=Z,28nm,0.9s
JIRN Jiri 21.58 220 *e*P **P 03 49 48.6 -0.7**
comp=Z,28nm,0.9s
BRVK Borovoye 21.59 302 *ce*P **P 03 49 47.4 -1.4**
BRVK pmax pmax
comp=Z,141nm,1.7s
BRVK Borovoye 21.59 302 *e*P **P 03 49 47.5 -1.4**
comp=Z,84nm,1.1s
USRK Ussuriysk Arra 21.60 83 P **P 03 49 49.5 +0.4**
comp=Z,3.7nm,0.8s,baz=260,slow=5.8,SNR=8.5
USRK Lg Lg 03 56 21.1
comp=Z,3.0nm,0.9s,baz=280,slow=27,SNR=6.1
ODAN Odare 21.76 216 *e*P **P 03 49 50.2 -0.9**
comp=Z,228nm,0.9s
ODAN Odare 21.76 216 *e*P **P 03 49 50.2 -0.9**
comp=Z,228nm,0.9s
KKN Kakani 21.89 222 *e*P **P 03 49 51.2 -1.3**
comp=Z,108nm,0.9s
KKN Kakani 21.89 222 *e*P **P 03 49 51.2 -1.3**
KKN pmax pmax
comp=Z,108nm,0.9s
KKN Kakani 21.89 222 *e*P **P 03 49 51.2 -1.3**
comp=Z,108nm,0.9s
GKN Gorkha 22.01 223 *e*P **P 03 49 52.2 -1.6**
comp=Z,154nm,1.0s
GKN Gorkha 22.01 223 *e*P **P 03 49 52.2 -1.6**
comp=Z,154nm,1.0s
PKI Pulchoki 22.01 221 *e*P **P 03 49 52.8 -1.1**
comp=Z,289nm,1.1s
PKI Pulchoki 22.01 221 *e*P **P 03 49 52.8 -1.1**
comp=Z,289nm,1.1s
RAMN Ramite 22.02 218 *e*P **P 03 49 51.9 -2.0**
comp=Z,67nm,0.9s
RAMN Ramite 22.02 218 *e*P **P 03 49 51.9 -2.0**
comp=Z,67nm,0.9s
DMN Daman 22.12 222 *e*P **P 03 49 53.9 -1.1**
comp=Z,165nm,1.2s
DMN Daman 22.12 222 *e*P **P 03 49 53.9 -1.1**
comp=Z,165nm,1.2s
DANN Dangsing 22.16 225 *e*P **P 03 49 54.1 -1.3**
comp=Z,241nm,1.3s
DANN Dangsing 22.16 225 *e*P **P 03 49 54.1 -1.3**
comp=Z,241nm,1.3s
KK31 Karatay Array 22.24 275 *i* P **P 03 49 53.6 -2.4**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 22.24 275 *e*P **P 03 49 54.6 -1.4**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 22.24 275 *e*P **P 03 49 54.6 -1.4**
comp=Z,6.3nm,0.8s
KOLN Koldanda 22.71 225 *e*P **P 03 49 59.8 -1.5**
comp=Z,49nm,1.0s
KOLN Koldanda 22.71 225 *e*P **P 03 49 59.8 -1.5**
comp=Z,49nm,1.0s
PYUN Piuthan 22.75 226 *e*P **P 03 50 00.0 -1.7**
comp=Z,174nm,0.9s
PYUN Piuthan 22.75 226 *e*P **P 03 50 00.0 -1.7**
comp=Z,174nm,0.9s
HABR Khabarovsk 22.97 70 *e*P **P 03 50 02.3 -1.3**
HABR *e**PP **pP 03 50 06.8 -0.7**
HABR *e**SP **sP 03 50 08.8 -0.5**
HABR *e*PPP PPP 03 50 35.3
HABR *e* 03 53 51.3
HABR *e*S **S 03 54 13.6 +0.3**
HABR *e**SS **sS 03 54 21.5 +1.3**
HABR *e*SS **SnSn 03 54 47.9 +2.9**
HABR *e*SSS SSS 03 55 00.7
HABR *e* 04 01 14.5
HABR pmax pmax
comp=E,18nm,1.1s
HABR pmax pmax
comp=Z,41nm,1.7s
HABR pmax pmax
comp=N,22nm,1.7s
HABR MLR MLR
comp=Z,359nm,14.0s
YAK Yakutsk 23.18 34 *e*P **P 03 50 05.0 -0.6**
YAK *e**PP **pP 03 50 08.7 -0.9**
YAK *e*PPP PPP 03 50 39.3
YAK *e*S S 03 54 08.6 -8.1
YAK *e*SSS SSS 03 54 52.8
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,15nm,1.3s
YAK smax smax
comp=E,247nm,12.9s
YAK smax smax
comp=N,91nm,9.6s
YAK MLR MLR
comp=Z,228nm,7.0s
YAK MLR MLR
comp=E,313nm,8.0s
YAK MLR MLR
comp=N,1μm,11.0s
QZH Quanzhou 24.72 140⇓ *i*P **P 03 50 21.2 +0.7**
QZH S **S 03 54 46.0 +4.0**
QZH LR LR
comp=N,1μm,9.2s
QZH LR LR
comp=E,1μm,11.3s
QZH LR LR
comp=Z,2μm,9.8s
JNU Nakatsue 25.72 108 LR LR 04 02 05.6
comp=Z,222nm,21.7s,baz=311,slow=40
CHTO Chiang Mai 26.71 185 *e*P **P 03 50 39.0 +0.5**
CHTO *e* 03 50 41.9
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 26.71 185 *e*P **P 03 50 39.0 +0.5**
comp=Z,7.1nm,0.8s
CHTO *e* 03 50 41.9
CMAR Chiang Mai Arr 27.06 185 P **P 03 50 41.0 -0.7**
comp=Z,4.7nm,0.8s,baz=355,slow=8.8,SNR=14
CMAR LR LR 04 02 08.6
comp=Z,280nm,21.5s,baz=360,slow=38
CMAR Chiang Mai Arr 27.06 185 P **P 03 50 41.0 -0.7**
QIZ Qiongzhong 27.30 163 P **P 03 50 47.6 +3.7**
QIZ S **S 03 55 28.3 +5.3**
QIZ pmax pmax
comp=Z,150nm,4.0s
QIZ LR LR
comp=E,1μm,13.9s
QIZ LR LR
comp=Z,1μm,14.3s
YULB Yu-li 27.31 137 *e*P **P 03 50 43.5 -0.4**
comp=Z,34nm,1.1s
SVE Sverdlovsk 27.59 309 *e*P **P 03 50 45.8 -0.4**
SVE *e* 03 54 03.4
SVE pmax pmax
comp=Z,23nm,0.9s
SVE MLR MLR
comp=Z,660nm,10.0s
AB31 Akbulak array 28.13 293 *ce*P **P 03 50 53.3 +2.2**
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 28.13 293 *e*P **P 03 50 51.0 -0.1**
comp=Z,7.7nm,1.0s
JOW Kunigami 28.34 122 LR LR 04 02 17.5
comp=Z,439nm,21.8s,baz=329,slow=37
YSS Yuzh-Sakhalins 28.34 72 *e*P **P 03 50 53.3 +0.3**
YSS MLR MLR
comp=E,1μm,11.0s
YSS MLR MLR
comp=Z,500nm,11.0s
YSS MLR MLR
comp=N,400nm,10.0s
ARU Arti 28.70 308 *c i*P **P 03 50 55.5 -0.5**
ARU S **S 03 55 45.3 +0.9**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 28.70 308 *e*P **P 03 50 55.5 -0.5**
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 28.90 95 LR LR 04 03 11.7
comp=Z,309nm,19.3s,baz=290,slow=38
ASAJ Asahikawa 28.96 78 LR LR 04 01 50.1
comp=Z,325nm,20.5s,baz=234,slow=35
AKTO Aktyubinsk 29.20 296 P **P 03 51 00.4 -0.3**
comp=Z,1.2nm,0.6s,baz=94,slow=11,SNR=6.4
AKTO LR LR 04 02 53.9
comp=Z,754nm,19.0s,baz=272,slow=37
AKTO Aktyubinsk 29.20 296 P **P 03 51 00.4 -0.3**
AKTO MLR MLR
comp=Z,754nm,19.0s
AKTO Aktyubinsk 29.20 296 P **P 03 51 00.4 -0.3**
SOKR Solikamsk 29.96 314⇑ *i*P **P 03 51 08.1 +0.9**
SOKR pmax pmax
comp=Z,80nm,4.1s
SOKR MLR MLR
comp=Z,530nm,16.0s
YUK Yuzh-Kuril'sk 31.23 77 *e*P **P 03 51 16.9 -1.7**
YUK *i* 03 52 20.5
YUK *i* PPP PPP 03 52 31.3
YUK *e*S **S 03 56 23.0 -1.3**
YUK pmax pmax
comp=Z,96nm,6.1s
YUK MLR MLR
comp=Z,726nm,20.0s
YUK MLR MLR
comp=N,1μm,20.0s
YUK MLR MLR
comp=E,537nm,20.0s
SEY Seymchan 33.36 40 *de*P **P 03 51 38.0 +0.9**
PETK Petropavlovsk- 36.57 57 P **P 03 52 04.1 -0.8**
comp=E,10nm,0.9s,baz=267,slow=3.0,SNR=8.4
PETK LR LR 04 07 59.5
comp=E,267nm,19.6s,baz=278,slow=38
PETK Petropavlovsk- 36.57 57 P **P 03 52 04.1 -0.8**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,267nm,19.6s
PETK Petropavlovsk- 36.57 57 P **P 03 52 04.1 -0.8**
PET Petropavlovsk 37.15 57 *e*P **P 03 52 11.8 +2.0**
PET pmax pmax
comp=Z,24nm,1.0s
PET Petropavlovsk 37.15 57 *e*P **P 03 52 11.8 +2.0**
comp=Z,24nm,1.0s
KLMR Klimovskoe 38.58 316 *e*P **P 03 52 20.6 -1.2**
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR MLR MLR
comp=Z,1μm,11.0s
VRHR Novokhopersk 39.25 300 *e*P **P 03 52 24.9 -2.6**
VRHR pmax pmax
comp=E,10.0nm,1.6s
VRHR pmax pmax
comp=Z,10.0nm,1.6s
VRHR pmax pmax
comp=N,8.0nm,0.5s
MOS Moscow 40.40 308 *e*P **P 03 52 36.4 -0.6**
MOS *e* 03 54 15.5
MOS pmax pmax
comp=Z,48nm,1.1s
ZEI Tsey 40.67 287 *e*P **P 03 52 39.2 -0.5**
ZEI pmax pmax
comp=Z,9.0nm,1.5s
VSR Storozhevoye 40.70 301 *e*P **P 03 52 41.3 +1.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,8.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.6s
KBZ Khabaz 40.95 289 P **P 03 52 41.7 +0.1**
comp=E,2.4nm,0.9s,baz=103,slow=6.0,SNR=4.5
KBZ LR LR 04 12 41.6
comp=E,770nm,18.1s,baz=231,slow=41
KBZ Khabaz 40.95 289 P **P 03 52 41.7 +0.1**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ MLR MLR
comp=Z,770nm,18.1s
KBZ Khabaz 40.95 289 P **P 03 52 41.7 +0.1**
KIV Kislovodsk 41.00 290 *e*P **P 03 52 42.8 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,606nm,15.0s
OBN Obninsk 41.14 308⇑ *e*P **P 03 52 42.0 -1.1**
OBN *e* 03 54 16.7
OBN *e*S S 03 59 04.1 +8.6
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,400nm,15.0s
JOF Joensuu 42.16 320 *e*P **P 03 52 50.1 -1.3**
JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF Joensuu 42.16 320 *ep* **P 03 52 50.1 -1.3**
comp=Z,8.5nm,0.7s
KEV Kevo 42.95 331 *e*P **P 03 52 56.0 -1.7**
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 42.95 331 *ep* **P 03 52 56.0 -1.7**
comp=Z,4.4nm,0.7s
ARCES ARCESS Array B 43.49 330 P **P 03 53 00.8 -1.3**
comp=Z,5.8nm,0.7s,baz=74,slow=8.0,SNR=10
ARCES PcP **PcP 03 54 49.0 -0.8**
comp=Z,1.7nm,0.7s,baz=76,slow=3.8,SNR=4.0
ARCES LR LR 04 13 15.4
comp=Z,265nm,20.3s,baz=72,slow=39
ARCES ARCESS Array B 43.49 330 P **P 03 53 00.8 -1.3**
ARCES PcP **PcP 03 54 49.0 -0.8**
KAF Kangasniemi 44.60 320 *e*P **P 03 53 08.4 -2.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 44.60 320 *ep* **P 03 53 08.4 -2.7**
comp=Z,1.7nm,0.5s
FINES FINESS Array B 44.88 319 P **P 03 53 12.3 -1.0**
comp=Z,7.4nm,1.0s,baz=68,slow=7.6,SNR=9.8
FINES LR LR 04 11 57.5
comp=Z,354nm,19.1s,baz=221,slow=36
FINES FINESS Array B 44.88 319 P **P 03 53 12.3 -1.0**
AKASG Malin Array Be 46.77 304 P **P 03 53 29.2 +0.8**
comp=Z,1.8nm,0.5s,baz=54,slow=9.1,SNR=7.9
AKASG LR LR 04 14 26.0
comp=Z,352nm,19.1s,baz=350,slow=38
AKASG Malin Array Be 46.77 304 P **P 03 53 29.2 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG MLR MLR
comp=Z,352nm,19.1s
AKASG Malin Array Be 46.77 304 P **P 03 53 29.2 +0.8**
KIEV Kiev 46.79 304 *e*P **P 03 53 29.5 +1.0**
KIEV Kiev 46.79 304 *e*P **P 03 53 29.5 +1.0**
AK02 Malin Array Si 46.80 304 *e*P **P 03 53 29.8 +1.2**
BRTR Keskin Array B 48.93 289 P **P 03 53 44.8 -0.6**
comp=Z,4.6nm,0.9s,baz=92,slow=5.6,SNR=21
BRTR LR LR 04 18 25.5
comp=Z,241nm,19.5s,baz=259,slow=41
BRTR Keskin Array B 48.93 289 P **P 03 53 44.8 -0.6**
CFR Carcaliu 49.83 298⇑ P **P 03 53 53.8 +1.8**
CFR Carcaliu 49.83 298⇑ *i*P **P 03 53 53.8 +1.8**
TESR 50.12 300⇓ *i*P P 03 54 05.8 +11
LVV L'vov 50.17 305 *e*P **P 03 53 54.4 -0.2**
VRI Vrincioaia 50.38 299⇑ P **P 03 53 58.4 +2.1**
VRI Vrincioaia 50.38 299⇑ *i*P **P 03 53 58.4 +2.1**
PLOR Plostina 50.44 299⇑ P **P 03 53 59.4 +2.7**
PLOR Plostina 50.44 299⇑ *i*P **P 03 53 59.4 +2.7**
BUR08 Bucovina Ar. S 50.47 302 *e*P **P 03 53 56.3 -0.7**
BURAR Bucovina Array 50.48 302⇓ *i*P P 03 54 00.9 +3.8
KWP Kalwaria Pacla 51.02 305 *e*P **P 03 54 00.8 -0.2**
KWP pmax pmax
comp=Z,15nm,0.9s
KWP Kalwaria Pacla 51.02 305 *e*P **P 03 54 00.8 -0.2**
comp=Z,15nm,0.9s
MLR Muntele Rosu 51.04 299⇑ *i*P P 03 54 05.0 +3.6
KOLS Kolonicke sedl 51.60 304 *e*P **P 03 54 03.7 -1.7**
KOLS Kolonicke sedl 51.60 304 *e*P **P 03 54 03.7 -1.7**
VOIR 51.62 299⇑ P **P 03 54 08.6 +2.9**
VOIR 51.62 299⇑ *i*P **P 03 54 08.6 +2.9**
NB2 NORSAR Subarra 51.73 322 P **P 03 54 04.7 -1.5**
comp=Z,7.7nm,0.8s,baz=63,slow=7.4
NOA NORSAR Array B 51.73 322 P **P 03 54 04.5 -1.7**
comp=Z,5.7nm,0.8s,baz=62,slow=7.4,SNR=18
NOA LR LR 04 17 43.8
comp=Z,608nm,20.4s,baz=290,slow=38
NOA NORSAR Array B 51.73 322 P **P 03 54 04.5 -1.7**
CRVS Cervenica-Dubn 52.08 305 *e*P **P 03 54 10.0 +1.0**
CRVS Cervenica-Dubn 52.08 305 *e*P **P 03 54 09.9 +1.0**
DRGR 52.37 302⇓ P P 03 54 15.1 +3.9
DRGR 52.37 302⇓ *i*P P 03 54 15.1 +3.9
OJC Ojcow 52.40 307 *e*P **P 03 54 13.5 +2.2**
OJC Ojcow 52.40 307 *e*P **P 03 54 13.5 +2.2**
KAPI Kappang 52.88 157 *e*P **P 03 54 15.7 +0.6**
comp=Z,6.0nm,0.7s
GZR Gura Zlata 53.03 300⇑ P **P 03 54 18.4 +2.3**
GZR Gura Zlata 53.03 300⇑ *i*P **P 03 54 18.4 +2.3**
BZS Buzias 53.62 301⇓ P P 03 54 24.2 +3.9
BZS Buzias 53.62 301⇓ *i*P P 03 54 24.2 +3.9
VYHS Vyhne 53.80 305 *e*P **P 03 54 23.6 +1.9**
VYHS Vyhne 53.80 305 *e*P **P 03 54 23.6 +1.9**
MORC Moravsky Berou 53.89 307 *e*P **P 03 54 22.0 -0.3**
MORC pmax pmax
comp=Z,75nm,2.6s
MORC Moravsky Berou 53.89 307 *e*P **P 03 54 22.0 -0.3**
comp=Z,75nm,2.6s
VTS Vitosha 54.21 297⇓ P P 03 54 29.4 +4.5
VTS Vitosha 54.21 297⇓ *i*P P 03 54 29.4 +4.5
DPC Dobruska-Polom 54.28 308 *e*P **P 03 54 25.4 +0.2**
DPC Dobruska-Polom 54.28 308 *e*P **P 03 54 25.4 +0.2**
DPC Dobruska-Polom 54.28 308 *e*P P 03 54 28.4 +3.2
UPC Upice 54.37 308 *e*P **P 03 54 28.6 +2.8**
UPC Upice 54.37 308 *e*P **P 03 54 28.6 +2.8**
CLL Collm 55.59 310 *e*P **P 03 54 34.0 -0.6**
CLL *e* 03 54 39.0
CLL Collm 55.59 310 *e*P **P 03 54 34.0 -0.6**
CLL *ep*P **pP 03 54 39.0 0.0**
CLL *e*PcP **PcP 03 55 33.0 -1.2**
CLL *e*PP **PP 03 56 38.0 -0.4**
APE Apeiranthos 55.73 290⇓ P P 03 54 39.1 +3.2
APE Apeiranthos 55.73 290⇓ *i*P P 03 54 39.0 +3.2
CONA Conrad Observa 55.80 306⇓ *i*sP sP 03 54 39.6 -2.7
comp=Z,9.4nm,1.5s
KHC Kasperske Hory 56.44 308 *e*P **P 03 54 43.1 +2.4**
KHC Kasperske Hory 56.44 308 *e*P **P 03 54 43.1 +2.4**
GERES GERESS Array B 56.52 308 P **P 03 54 42.7 +1.2**
comp=Z,0.9nm,0.8s,baz=68,slow=8.5,SNR=8.4
GERES LR LR 04 22 49.6
comp=Z,207nm,20.5s,baz=329,slow=40
GERES GERESS Array B 56.52 308 P **P 03 54 42.6 +1.2**

SVW2	Sparrevohn	56.97	34	eP	P	03 54 47.2	+2.9
	comp=Z,13nm,1.2s						
GRF	Grafenberg Arr	57.42	310	eP	P	03 54 50.2	+2.5
	comp=Z,9.0nm,1.2s						
COLA	College	57.51	28	eP	P	03 54 48.5	+0.5
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
COLA	College	57.51	28	eP	P	03 54 48.5	+0.5
	comp=Z,5.8nm,1.0s						
MCK	McKinley	57.86	30	eP	P	03 54 51.8	+1.3
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MCK	McKinley	57.86	30	eP	P	03 54 51.8	+1.3
	comp=Z,7.0nm,1.0s						
ILAR	Eielson Array	57.90	28	P	P	03 54 51.4	+0.6
	comp=Z,3.1nm,0.8s,baz=296,slow=4.3,SNR=21						
ILAR				LR	LR	04 20 46.9	
	comp=Z,214nm,19.3s,baz=318,slow=37						
ILAR	Eielson Array	57.90	28	P	P	03 54 51.4	+0.6
PMR	Palmer	59.14	32	eP	P	03 55 01.8	+2.4
PMR				pmax	pmax		
	comp=Z,19nm,1.4s						
PMR	Palmer	59.14	32	eP	P	03 55 01.8	+2.4
	comp=Z,20nm,1.4s						
SML	Sawmill	59.30	31	eP	P	03 55 01.2	+0.6
SML				pmax	pmax		
	comp=Z,13nm,1.5s						
SML	Sawmill	59.30	31	eP	P	03 55 01.2	+0.6
	comp=Z,13nm,1.5s						
INK	Inuvik	59.32	21	LR	LR	04 21 38.2	
	comp=Z,189nm,20.1s,baz=336,slow=37						
PAX	Paxson	59.55	29	eP	P	03 55 00.9	-1.5
PAX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PAX	Paxson	59.55	29	eP	P	03 55 00.9	-1.5
	comp=Z,7.1nm,1.1s						
RES	Resolute Bay	59.59	5	eP	P	03 55 01.0	-1.3
	comp=Z,4.6nm,1.4s						
EGAK	Eagle	59.73	26	eP	P	03 55 06.9	+3.4
	comp=Z,12nm,1.2s						
KDAK	Kodiak Island	60.19	36	LR	LR	04 21 36.7	
	comp=Z,255nm,19.7s,baz=327,slow=36						
CDF	Champ du Feu	60.28	310	eP	P	03 55 07.5	-0.2
	comp=Z,7.8nm,0.9s						
CDF	Champ du Feu	60.28	310	eP	P	03 55 07.5	-0.2
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CDF	Champ du Feu	60.28	310	eP	P	03 55 07.5	-0.2
	comp=Z,7.8nm,0.9s						
HINF	Hinteralfeld	60.87	310	eP	P	03 55 11.2	-0.4
	comp=Z,4.7nm,0.7s						
HINF	Hinteralfeld	60.87	310	eP	P	03 55 11.2	-0.4
HINF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HINF	Hinteralfeld	60.87	310	eP	P	03 55 11.2	-0.4
	comp=Z,4.7nm,0.6s						
LPL	La Plagne	62.32	308	eP	P	03 55 20.5	-1.2
	comp=Z,2.7nm,0.5s						
LPL	La Plagne	62.32	308	eP	P	03 55 20.5	-1.2
LPL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LPL	La Plagne	62.32	308	eP	P	03 55 20.5	-1.2
	comp=Z,2.7nm,0.5s						
LPG	La Plagne	62.32	308	eP	P	03 55 19.8	-2.0
LPG	La Plagne	62.32	308	eP	P	03 55 19.8	-2.0
LPG	La Plagne	62.32	308	eP	P	03 55 19.8	-2.0
BNI	Bardonecchia	62.64	307	eP	P	03 55 26.3	+2.6
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNI	Bardonecchia	62.64	307	eP	P	03 55 26.3	+2.6
	comp=Z,9.5nm,1.1s						
MBDF	Montbardon	62.78	307	eP	P	03 55 24.4	-0.3
	comp=Z,13nm,1.0s						
MBDF	Montbardon	62.78	307	eP	P	03 55 24.4	-0.3
MBDF				pmax	pmax		
	comp=Z,13nm,1.0s						
MBDF	Montbardon	62.78	307	eP	P	03 55 24.4	-0.3
	comp=Z,13nm,1.0s						
DLBC	Dease Lake	68.00	26	LR	LR	04 26 21.2	
	comp=Z,174nm,19.9s,baz=339,slow=36						
YKA	Yellowknife Ar	68.53	17	P	P	03 56 00.6	-0.7
	comp=Z,1.1nm,0.8s,baz=332,slow=6.0,SNR=12						
YKA	Yellowknife Ar	68.53	17	P	P	03 56 00.6	-0.7
COEN	Coen	70.15	137	P	P	03 56 13.9	+2.1
WRAB	Tennant Creek	71.65	147	eP	P	03 56 19.0	-1.9
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WRAB	Tennant Creek	71.65	147	eP	P	03 56 19.0	-1.9
	comp=Z,8.6nm,1.1s						
WRA	Warramunga Arr	71.66	147	P	P	03 56 19.3	-1.6
	comp=Z,3.7nm,0.8s,baz=342,slow=6.1,SNR=11						
WRA	Warramunga Arr	71.66	147	P	P	03 56 19.3	-1.6
BBB	Bella Bella	73.75	29	LR	LR	04 29 32.1	
	comp=Z,129nm,19.4s,baz=355,slow=36						
ASAR	Alice Springs	74.90	149	P	P	03 56 39.0	-1.0
	comp=Z,2.8nm,0.8s,baz=330,slow=4.1,SNR=20						
ASAR	Alice Springs	74.90	149	P	P	03 56 39.0	-1.0
HNR	Honiara	75.68	120	LR	LR	04 26 49.1	
	comp=Z,104nm,20.3s,baz=314,slow=33						
FFC	Flin Flon	78.17	14	eP	P	03 56 58.7	+0.5
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FFC	Flin Flon	78.17	14	eP	P	03 56 58.7	+0.5
	comp=Z,3.7nm,0.9s						
NEW	Newport	80.68	25	eP	P	03 57 13.9	+1.8
	comp=Z,1.9nm,0.8s						
BSMT	Bassoo Peak	81.73	24	eP	P	03 57 19.7	+1.8
YBMT	Yellow Bay	81.94	23	eP	P	03 57 20.1	+1.2
	comp=Z,4.5nm,0.9s						
JTMT	Jette	81.97	23	eP	P	03 57 19.7	+0.6
SWMT	Swartz Lake	82.26	23	eP	P	03 57 21.2	+0.6
SLMT	Seeley Lake	82.65	23	eP	P	03 57 22.9	+0.3
ULM	Lac du Bonnet	83.43	11	P	P	03 57 26.2	-0.3
	comp=Z,1.2nm,0.5s,baz=356,slow=4.3,SNR=4.0						
ULM				LR	LR	04 37 00.6	
	comp=Z,149nm,19.4s,baz=345,slow=37						
ULM	Lac du Bonnet	83.43	11	P	P	03 57 26.2	-0.3
HRY	Holter Researc	83.59	22	eP	P	03 57 28.5	+1.0
YBH	Yreka Blue Hor	84.59	32	LR	LR	04 33 28.2	
	comp=Z,206nm,20.4s,baz=321,slow=34						
BOZ	Bozeman (W)	84.62	23	eP	P	03 57 34.0	+1.2
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOZ	Bozeman (W)	84.62	23	eP	P	03 57 34.0	+1.2
	comp=Z,2.2nm,1.0s						
HLID	Hailey	85.74	25	eP	P	03 57 39.6	+1.1
MOOW	Moose Ponds	86.62	23	eP	P	03 57 44.6	+1.8
	comp=Z,2.3nm,1.0s						
TOA0	Torodi Ar. Sit	87.48	286	eP	P	03 57 49.4	+2.3
TORD	Torodi Ar. Bea	87.48	286	P	P	03 57 46.6	-0.6
	comp=Z,3.3nm,1.0s,baz=53,slow=4.1,SNR=10						
TORD				LR	LR	04 41 55.3	
	comp=Z,99nm,19.0s,baz=20,slow=39						
TORD	Torodi Ar. Bea	87.48	286	P	P	03 57 46.6	-0.6
PDAR	Pinedale Array	87.85	22	P	P	03 57 50.4	+1.5
	comp=Z,0.3nm,0.6s,baz=343,slow=5.8,SNR=3.2						
PDAR				LR	LR	04 42 19.5	
	comp=Z,167nm,18.3s,baz=162,slow=39						
PDAR	Pinedale Array	87.85	22	P	P	03 57 50.4	+1.5
RSSD	Black Hills	87.92	18	eP	P	03 57 50.5	+1.4
RSSD				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RSSD	Black Hills	87.92	18	eP	P	03 57 50.5	+1.4
	comp=Z,2.6nm,1.0s						
HWUT	Hardware Ranch	88.37	24	eP	P	03 57 53.2	+1.9
	comp=Z,1.6nm,0.7s						
NVAR	Mina Array Bea	89.09	30	P	P	03 57 55.2	+0.4
	comp=Z,0.5nm,0.6s,baz=331,slow=3.4,SNR=2.1						
NVAR	Mina Array Bea	89.09	30	P	P	03 57 55.2	+0.4
DZM	Mont Dzumac	89.39	123	eLR	LR	04 26 31.2	
	comp=Z,173nm,25.9s						
PHWY	Pilot Hill	90.27	20	eP	P	03 58 00.8	+0.5
	comp=Z,6.1nm,0.9s						
ANMO	Albuquerque	96.02	23	LR	LR	04 46 58.6	
	comp=Z,127nm,20.4s,baz=155,slow=39						
DBIC	Dimbokro	96.58	286	LR	LR	04 48 33.4	
	comp=Z,150nm,18.0s,baz=116,slow=40						
PPT2	Papeete2	115.53	89	eLR	LR	04 38 33.6	
	comp=Z,81nm,23.0s						
VNA2	Neumayer--Watz	138.28	208	ePKPdf	PKPdf	04 04 20.9	-2.2
VNA2	Neumayer--Watz	138.28	208	ePP	PP	04 07 13.6	+0.3
LPAZ	La Paz	149.59	340	PKPbc	PKPbc	04 04 48.8	-0.9
	comp=Z,2.6nm,0.8s,baz=38,slow=8.0,SNR=9.8						
LPAZ	La Paz	149.59	340	PKPbc	PKPbc	04 04 48.8	-0.9

ISCJB ***04*** *03:59:47.8±0.5, 45°.28N±0°.03×12°.03E±0°.03, h4km±4km, Error ellipse: s-maj=4.4km s-min=3.4km az=0.3*
ROM ***04*** *03:59:49.6±0.2, 45°.33N×12°.01E, h5km, Md2.6/10, Ml2.3/6, Error ellipse: s-maj=2.3km s-min=2.0km az=104.0*
VIE ***04*** *03:59:49.5±0.3, 45°.37N×12°.07E, h10km±1km, mb2.2/7, ML2.9/10, Error ellipse: s-maj=2.1km s-min=1.0km az=11.0 23 km WSW of Venice*
CSEM ***04*** *03:59:49.2±0.2, 45°.32N×12°.04E, h10km, ML3.1/5, Error ellipse: s-maj=3.0km s-min=2.6km az=16.0*
ISC 04 03:59:49.1±1.1**, 45°.28N**±0°.03×**12°.02E**±0°.02**, h13**km±9km**, n85, σ0s.64**/137**, 32C-17D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGRP	Cima Grappa	0.62	346	⇑ePg	Pg	04 00 01.1	-0.2
CGRP				eSg	Sb	04 00 09.9	-0.7
CGRP	Cima Grappa	0.62	346	Pg	Pg	04 00 01.2	0.0
CGRP				Sg	Sb	04 00 10.1	-0.5
	117nm,0.6s						
CGRP	Cima Grappa	0.62	346	⇑ePg	Pg	04 00 01.0	-0.2
CGRP				eSg	Sb	04 00 09.9	-0.7
CMPO	Campotto Po	0.71	192	Pg	Pn	04 00 04.9	+0.1
	414nm,2.3s						
CMPO	Campotto Po	0.71	192	Pg	Pn	04 00 04.9	+0.1
	414nm,2.3s						
VARN	Col Varnada, M	0.72	5	⇑ePg	Pg	04 00 02.3	-0.7
VARN				eSg	Sb	04 00 13.1	-0.1
VARN	Col Varnada, M	0.72	5	⇑ePg	Pg	04 00 02.3	-0.7
VARN				eSg	Sb	04 00 13.1	-0.1
FIU	Minerbio Fiu	0.74	211	Pg	Pn	04 00 06.1	+0.9
FIU	Minerbio Fiu	0.74	211	ePg	Pn	04 00 06.1	+0.9
ROVR	Rover˜¤ Verone	0.76	299	Pg	Pg	04 00 03.9	0.0
ROVR	Rover˜¤ Verone	0.76	299	ePg	Pg	04 00 03.9	0.0
CAE	Caneva	0.78	22	⇑ePg	Pg	04 00 04.0	-0.3
CAE	Caneva	0.78	22	⇑ePg	Pg	04 00 04.0	-0.3
CTI	Castel Tesino	0.81	341	Pg	Pg	04 00 04.5	-0.3
	154nm,0.2s						
CTI	Castel Tesino	0.81	341	Pg	Pg	04 00 04.5	-0.3
	154nm,0.2s						
POLC	Polcenigo	0.82	24	⇑ePg	Pb	04 00 05.1	-0.1
DDS	Dosso del Somm	0.84	316	⇓ePg	Pg	04 00 05.0	-0.3
DDS	Dosso del Somm	0.84	316	⇓ePg	Pg	04 00 05.1	-0.3
PANI	Panarotta	0.92	327	ePg	Pg	04 00 06.7	-0.1
PANI	Panarotta	0.92	327	ePg	Pg	04 00 06.7	-0.1
MLNI	Malnisio	0.96	25	⇑ePg	Pb	04 00 07.7	0.0
MLNI				eSg	Sn	04 00 22.1	+0.1
MLNI	Malnisio	0.96	25	⇑ePg	Pb	04 00 07.7	0.0
MLNI				eSg	Sn	04 00 22.0	+0.1
AGOR	Agordo	1.00	1	ePg	Pg	04 00 08.2	-0.3
AGOR	Agordo	1.00	1	Pg	Pg	04 00 07.9	-0.6
	37nm,0.4s						
CIMO	Cimolais	1.07	16	⇓ePg	Pg	04 00 08.6	-1.2
CIMO				eSg	Sn	04 00 24.3	-0.3
CIMO	Cimolais	1.07	16	⇓ePg	Pg	04 00 08.6	-1.2
CIMO				eSg	Sn	04 00 24.3	-0.3
RNI	Roncone	1.19	307	ePg	Pb	04 00 11.8	+0.2
RNI	Roncone	1.19	307	ePg	Pb	04 00 11.8	+0.2
BUA	Buia	1.22	39	Pg	Pg	04 00 12.4	-0.1
BUA	Buia	1.22	39	Pg	Pg	04 00 12.4	-0.1
KOSI	Kohlern	1.27	339	ePg	Pb	04 00 13.0	+0.1
COLI	Coloredo	1.28	48	⇑ePg	Pb	04 00 13.1	+0.1
COLI				eSg	Sn	04 00 30.9	+1.3
COLI	Coloredo	1.28	48	⇑ePg	Pb	04 00 13.1	+0.1
COLI				eSg	Sn	04 00 30.9	+1.3
BAD	Bernadia	1.28	41	⇓ePg	Pn	04 00 13.0	+0.2
BAD				eSg	Sn	04 00 31.0	+1.2
BAD	Bernadia	1.28	41	⇓ePg	Pn	04 00 13.0	+0.2
BAD				eSg	Sn	04 00 31.0	+1.2
SABO	M.te Sabotino	1.31	57	⇑ePg	Pb	04 00 13.8	+0.2
SABO				eSg	Sg	04 00 32.3	+0.9
SABO	M.te Sabotino	1.31	57	Pg	Pb	04 00 13.8	+0.2
SABO				Sg	Sg	04 00 32.6	+1.2
SABO	M.te Sabotino	1.31	57	⇑ePg	Pb	04 00 13.8	+0.2
SABO				eSg	Sg	04 00 32.3	+0.9
VINO	Villanova	1.32	42	⇑ePg	Pn	04 00 13.2	0.0
VINO				eSg	Sg	04 00 32.0	+0.5
VINO	Villanova	1.32	42	⇑ePg	Pn	04 00 13.2	0.0
VINO				eSg	Sg	04 00 32.0	+0.5
APPI	Appiano	1.32	336	Pg	Pb	04 00 14.0	+0.2
APPI				Sg	Sg	04 00 31.5	-0.2
	104nm,0.2s						
APPI	Appiano	1.32	336	ePg	Pb	04 00 14.0	+0.2
APPI				Sg	Sg	04 00 31.5	-0.2
	104nm,0.2s						
FUSE	Fusea	1.33	31	ePg	Pb	04 00 14.0	+0.2
FUSE	Fusea	1.33	31	ePg	Pb	04 00 14.0	+0.2
FVI	Forni Avoltri	1.42	22	Pg	Pg	04 00 15.8	-0.6
	46nm,0.4s						
FVI	Forni Avoltri	1.42	22	Pg	Pg	04 00 15.8	-0.6
	46nm,0.4s						
FVI				eSg	Sg	04 00 36.2	+1.4
SKDS	Skadanscina	1.43	79	i Pn	Pn	04 00 14.3	-0.5
SKDS							
	comp=Z,14nm,0.1s						
SKDS	Skadanscina	1.43	79	i Pn	Pn	04 00 14.3	-0.5
	comp=Z,14nm,0.1s						
ZOU	Zoufplan	1.44	27	⇑ePg	Pb	04 00 15.7	-0.2
ZOU				eSg	Sg	04 00 36.2	+0.7
DRE	Drenchia	1.45	51	⇓ePg	Pn	04 00 15.7	+0.7
DRE				eSg	Sg	04 00 35.9	+0.2
DRE	Drenchia	1.45	51	⇓ePg	Pn	04 00 15.7	+0.7
DRE				eSg	Sg	04 00 35.9	+0.2
PTCC	Patocco-Chiusa	1.46	39	Pg	Pn	04 00 15.8	+0.6
PTCC				Sg	Sg	04 00 36.3	+0.1
	comp=Z,1.0nm,0.2s						
PTCC	Patocco-Chiusa	1.46	39	ePg	Pn	04 00 15.8	+0.6
PTCC				Sg	Sg	04 00 36.3	+0.1
	comp=Z,1.0nm,0.2s						
ABTA	Abfaltersbach	1.51	13	⇑iPg	Pb	04 00 17.2	+0.3
ABTA				⇓iSg	Sb	04 00 36.5	+0.5
	comp=Z,19nm,0.6s						
ABTA	Abfaltersbach	1.51	13	⇑iPg	Pb	04 00 17.2	+0.3
ABTA				Sg	Sb	04 00 36.5	+0.5
	comp=Z,19nm,0.6s						
VOY	Vojsko	1.51	60	ePn	Pn	04 00 16.3	+0.3
VOY				eSn	Sb	04 00 36.5	+0.3
VOY	Vojsko	1.51	60	ePn	Pn	04 00 16.3	+0.3
VOY				eSn	Sb	04 00 36.5	+0.3
ABSI	Aberstueckl	1.53	342	⇑ePg	Pb	04 00 17.5	+0.1
ABSI				eSg	Sg	04 00 38.2	-0.1
CADS	Cadrg	1.53	51	i Pn	Pn	04 00 16.8	+0.7
CADS				eSn	Sg	04 00 37.8	-0.6
CADS							
	comp=Z,14nm,0.2s						
CADS	Cadrg	1.53	51	i Pn	Pn	04 00 16.8	+0.7
CADS				eSn	Sg	04 00 37.8	-0.6
	comp=Z,14nm,0.2s						
LSR	Lussari	1.59	41	⇑ePg	Pn	04 00 17.7	+0.6
LSR				eSg	Sg	04 00 40.3	-0.1
LSR	Lussari	1.59	41	⇑ePg	Pn	04 00 17.7	+0.6
LSR				eSg	Sg	04 00 40.3	-0.1
ACOM	Acomizza, Ital	1.64	39	⇓ePg	Pb	04 00 18.9	-0.4
ACOM	Acomizza, Ital	1.64	39	Pg	Pb	04 00 18.8	-0.5
ACOM	Acomizza, Ital	1.64	39	⇓ePg	Pb	04 00 18.9	-0.4
RISI	Rein	1.67	1	⇑ePg	Pb	04 00 19.8	0.0
MOSI	Grossmontoni	1.69	323	⇑ePg	Pb	04 00 20.7	+0.6
MOSI				eSg	Sg	04 00 43.6	+0.3
ROSI	Rosskopf	1.70	346	ePg	Pb	04 00 20.7	+0.4
FETA	Feichten	1.96	333	⇑iPg	Pg	04 00 25.7	-1.0
FETA				⇓iSn	Sn	04 00 47.5	+0.8
FETA	Feichten	1.96	333	⇑iPg	Pg	04 00 25.7	-1.0
FETA				Sn	Sn	04 00 47.5	+0.8
WTTA	Wattenberg	2.00	353	⇓iPg	Pg	04 00 26.4	-1.1
WTTA				⇑iSg	Sg	04 00 53.1	-0.4
	comp=Z,18nm,0.4s						
WTTA	Wattenberg	2.00	353	⇓iPg	Pg	04 00 26.4	-1.1
WTTA				Sg	Sg	04 00 53.1	-0.4
	comp=Z,18nm,0.4s						
KBA	Koelnbreinsper	2.02	27	⇑iPn	Pn	04 00 22.5	-0.5
KBA				⇓iPg	Pb	04 00 26.6	+0.9
KBA				⇓iSn	Sn	04 00 47.7	-0.5
KBA				⇑iSg	Sg	04 00 53.4	-0.6
	comp=Z,7.2nm,0.4s						
KBA	Koelnbreinsper	2.02	27	⇑iPn	Pn	04 00 22.5	-0.5
VISS	Visnje	2.05	74	i Pn	Pn	04 00 23.9	+0.7
VISS				eSn	Sn	04 00 49.5	+0.9
VISS	Visnje	2.05	74	i Pn	Pn	04 00 23.9	+0.7
VISS				eSn	Sn	04 00 49.5	+0.9
NVLJ	Novalja	2.15	108	ePn	Pn	04 00 25.1	+0.5
NVLJ				Sn	Sn	04 00 51.6	+0.5
NVLJ	Novalja	2.15	108	ePn	Pn	04 00 25.0	+0.5
NVLJ				Sn	Sn	04 00 51.5	+0.5
OBKA	Obir	2.15	54	⇓iPn	Pn	04 00 24.4	-0.3
OBKA				⇑iPg	Pb	04 00 29.0	+1.1
OBKA				⇑iSg	Sg	04 00 57.9	-0.3
	comp=Z,6.8nm,0.2s						
OBKA	Obir	2.15	54	⇑iPn	Pn	04 00 24.4	-0.3
OBKA	Obir	2.15	54	Pg	Pb	04 00 29.0	+1.1
OBKA				Sg	Sg	04 00 57.9	-0.3
	comp=Z,6.8nm,0.2s						
BOJS	Bojanci	2.29	83	i Pn	Pn	04 00 27.2	+0.7
BOJS	Bojanci	2.29	83	i Pn	Pn	04 00 27.2	+0.7
STON	Ston	4.75	118	ePn	Pn	04 00 59.3	-1.0
STON				Sn	Sn	04 01 53.0	-2.1
STON	Ston	4.75	118	ePn	Pn	04 00 59.2	-1.0
STON				Sn	Sn	04 01 53.0	-2.1

ISCJB ***04*** *04:33:03.2±0.8, 43°.38N±0°.04×126°.85W±0°.08, h14km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=9.2km s-min=5.2km az=150.5*
NEIC ***04*** *04:33:03.9±0.7, 43°.37N×126°.93W, h10km, mb4.1/4, Error ellipse: s-maj=7.8km s-min=4.6km az=55.0*
IDC ***04*** *04:33:03.5±2.0, 43°.45N×126°.60W, h0km, mb3.1/5, mb1 3.5/9, mb1mx3.4/32, mbtmp3.2/9, ML3.3/4, MS3.4/1, Ms1 3.3/1, ms1mx2.4/12, Error ellipse: s-maj=41.1km s-min=12.8km az=50.0*
ISC 04 04:33:04.8±1.2**, 43°.35N**±0°.07×**126°.8W**±0°.1**, h14**km**, n82, σ0s.95**/85**, mb3.7**/7**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	Corvallis	2.83	63	ePn	Pn	04 33 48.8	-0.9
HUMO	Hull Mountain	2.94	103	ePn	Pn	04 33 49.9	-1.3
BROR	Big Rock Looko	3.30	72	P	Pn	04 33 55.6	-0.5
IRO	Indian Ridge	3.39	77	P	Pn	04 33 57.1	-0.4
YBH	Yreka Blue Hor	3.45	117	Pn	Pn	04 33 56.9	-1.3
	1.7nm,0.3s,baz=303,slow=12,SNR=42						
YBH				Sn	Sn	04 34 38.8	-0.1
	0.5nm,0.3s,baz=47,slow=19,SNR=2.3						
YBH	Yreka Blue Hor	3.45	117	Pn	Pn	04 33 56.9	-1.3
YBH				Sn	Sn	04 34 38.8	-0.1
FRIS	Frissel Point	3.54	74	P	Pn	04 33 58.9	-0.6
H04A	Detroit Lake	3.61	67	P	Pn	04 34 00.1	-0.3
G04A	Mulino	3.64	58	P	Pn	04 34 00.7	-0.1
NLO	Nicolai Mounta	3.65	40	P	Pn	04 34 00.5	-0.4
MOON	Moon Mountain	3.81	78	P	Pn	04 34 03.4	+0.3
BKCOR	Black Crater	3.84	74	P	Pn	04 34 03.6	0.0
F04A	Amboy	4.08	49	P	Pn	04 34 06.7	0.0
TDH	Tom, Dick, Har	4.11	60	P	Pn	04 34 07.6	+0.3
LVP	Lakeview Peak	4.17	48	P	Pn	04 34 08.2	+0.1
TIMB	Timberline	4.18	60	P	Pn	04 34 09.0	+0.7
MTMW	Mount Mitchell	4.25	49	P	Pn	04 34 08.7	-0.4
VLL	Laurance Lake	4.26	58	P	Pn	04 34 09.8	+0.5
FL2	Flat Top 2	4.28	47	P	Pn	04 34 09.8	+0.2
VFP	Flag Point	4.33	61	P	Pn	04 34 10.5	+0.2
JLK	June Lake	4.35	48	P	Pn	04 34 10.7	+0.1
ERK	Elk Rock	4.35	46	P	Pn	04 34 10.0	-0.7
STD	Studebaker Rid	4.37	47	P	Pn	04 34 11.1	+0.1
VALT	Mount Saint He	4.38	47	P	Pn	04 34 11.3	+0.3
TDL	Tradedollar La	4.45	46	P	Pn	04 34 12.1	+0.1
KOSW	Kosmos	4.54	45	P	Pn	04 34 13.6	+0.5
NLWA	Neilton Lookou	4.55	26	ePn	Pn	04 34 12.1	-1.2
NLWA				eSn	Sn	04 35 05.5	-0.5
OSR	Olympics--Salm	4.62	25	P	Pn	04 34 13.7	-0.6
SMW	South Mountain	4.67	31	P	Pn	04 34 14.1	-0.9
LON	Longmire	4.92	45	ePn	Pn	04 34 19.1	+0.7
REMR	Mount Rainier-	4.96	44	P	Pn	04 34 19.3	+0.4
GL2	New Goldendale	5.02	57	P	Pn	04 34 20.1	+0.3
WPW	White Pass	5.03	46	P	Pn	04 34 20.2	+0.4
HDW	Hoodsport	5.06	30	P	Pn	04 34 19.6	-0.7
FMW	Mount Fremont	5.12	44	P	Pn	04 34 21.5	+0.3
GSM	Grass Mountain	5.25	41	P	Pn	04 34 23.1	+0.2
TRW	Toppenish Ridg	5.36	54	P	Pn	04 34 24.8	+0.4
BLTW	Bickleton	5.40	59	P	Pn	04 34 25.3	+0.4
PAT2	Paterson 2	5.65	61	P	Pn	04 34 28.6	+0.3
HTW	Haystack Looko	5.70	37	P	Pn	04 34 28.9	-0.2
PGC	Sidney	5.80	23	ePn	Pn	04 34 29.8	-0.6
HAWA	Hanford	6.01	57	ePn	Pn	04 34 33.7	+0.4
ETW	Entiat	6.25	45	P	Pn	04 34 37.4	+0.7
BMO	Blue Mountains	7.02	74	ePn	Pn	04 34 46.8	-0.5
NVAR	Mina Array Bea	8.11	124	Pn	Pn	04 35 03.9	+1.5
	0.2nm,0.3s,baz=311,slow=13,SNR=4.0						
NVAR	Mina Array Bea	8.11	124	Pn	Pn	04 35 03.9	+1.5
NEW	Newport	8.38	51	ePn	Pn	04 35 05.6	-0.2
ELK	Elko	9.01	103	ePn	Pn	04 35 15.3	+0.6
HLID	Hailey	9.04	84	ePn	Pn	04 35 17.6	+2.6
BSMT	Bassoo Peak	9.57	58	ePn	Pn	04 35 23.1	+0.8
	2.3nm,0.5s						
MSO	Missoula	9.76	65	ePn	Pn	04 35 24.9	0.0
JTMT	Jette	9.84	59	ePn	Pn	04 35 25.9	0.0
SWMT	Swartz Lake	9.93	61	ePn	Pn	04 35 27.2	0.0
MCMT	McKenzie Canyo	10.17	77	ePn	Pn	04 35 31.8	+1.2
	1.1nm,0.7s						
CHMT	Chamberlain Mo	10.24	65	ePn	Pn	04 35 31.1	-0.3
DLMT	Dillon	10.40	74	ePn	Pn	04 35 35.9	+2.3
DUG	Dugway	10.94	102	ePn	Pn	04 35 40.8	-0.2
BOZ	Bozeman (W)	11.10	73	ePn	Pn	04 35 44.8	+1.5
HWUT	Hardware Ranch	11.41	94	ePn	Pn	04 35 48.2	+0.7
TPAW	Teton Pass	11.56	84	ePn	Pn	04 35 51.5	+1.9
LOHW	Long Hollow	11.80	83	ePn	Pn	04 35 54.9	+2.0
BW06	Boulder Array	12.65	87	ePn	Pn	04 36 06.1	+1.6
PDAR	Pinedale Array	12.65	87	Pn	Pn	04 36 06.7	+2.1
	0.0nm,0.3s,baz=273,slow=13,SNR=6.0						
PDAR	Pinedale Array	12.65	87	Pn	Pn	04 36 06.7	+2.1
DLBC	Dease Lake	15.24	354	Pn	P	04 36 45.9	+1.5
	0.0nm,0.3s,baz=227,slow=8.7,SNR=4.7						
DLBC	Dease Lake	15.24	354	Pn	P	04 36 45.9	+1.5
ANMO	Albuquerque	17.86	111	P	Pn	04 37 12.8	-0.2
	0.1nm,0.3s,baz=288,slow=6.4,SNR=2.4						
ANMO	Albuquerque	17.86	111	P	Pn	04 37 12.8	-0.2
FFC	Flin Flon	19.76	46	eP	P	04 37 34.7	+0.5
	2.5nm,0.9s						
YKA	Yellowknife Ar	20.48	16	P	P	04 37 40.9	-0.9
	1.0nm,0.8s,baz=206,slow=11,SNR=6.9						
YKA	Yellowknife Ar	20.48	16	P	P	04 37 41.0	-0.9
SEW	Seward	21.67	329	eP	P	04 37 55.5	+0.7
	14nm,1.1s						
ULM	Lac du Bonnet	22.18	61	P	P	04 37 59.0	-1.3
	2.2nm,0.7s,baz=278,slow=11,SNR=6.8						
ULM				LR	LR	04 46 41.9	
	comp=Z,88nm,19.1s,baz=350,slow=37						
ULM	Lac du Bonnet	22.18	61	P	P	04 37 59.0	-1.3
TXAR	Lajitas Array	23.22	119	P	P	04 38 11.8	+0.3
	0.2nm,0.8s,baz=294,slow=8.8,SNR=3.3						
TXAR	Lajitas Array	23.22	119	P	P	04 38 11.8	+0.3
WMOK	Wichita Mounta	23.34	102	eP	P	04 38 12.8	+0.2
	6.6nm,0.9s						
MCK	McKinley	24.04	336	eP	P	04 38 16.7	-2.4
	3.0nm,0.5s						
ILAR	Eielson Array	24.26	339	P	P	04 38 21.2	0.0
	0.6nm,0.8s,baz=147,slow=8.8,SNR=5.9						
ILAR	Eielson Array	24.26	339	P	P	04 38 21.2	0.0
INK	Inuvik	25.27	354	P	P	04 38 30.7	+0.5
	0.4nm,0.6s,baz=142,slow=3.2,SNR=3.5						
INK	Inuvik	25.27	354	P	P	04 38 30.7	+0.5

WEL 04 04:58:53.4±0.6**, 35°.98S**×**177°.32E, h229**km±10km**, ML4.2**/4**, Error ellipse: s-maj=11.6km s-min=9.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.77	154	PN	Pn	04 59 32.3	+0.4
MXZ				SN	S	05 00 00.2	-1.9
PUZ	Puketiti	2.22	160	PN	Pn	04 59 36.6	+0.3
PUZ				SN	S	05 00 08.6	-1.3
URZ	Urewera	2.28	184	PN	Pn	04 59 37.8	+1.0
URZ				SN	S	05 00 11.6	+0.6
MWZ	Matawai	2.36	176	PN	Pn	04 59 38.1	+0.5
MWZ				SN	S	05 00 12.8	+0.3
CNGZ	Carnagh Statio	2.60	164	PN	Pn	04 59 40.7	+0.6
RAHZ	Arahi	2.94	183	SN	S	05 00 23.7	+0.1
KNZ	Kokohu	3.05	175	ePN	Pn	04 59 43.9	-1.1
NMHZ	Naumai	3.14	187	PN	Pn	04 59 46.7	+0.5
MHGZ	Mahia Peninsul	3.20	172	PN	Pn	04 59 47.1	+0.2
BKZ	Black Stump Fm	3.25	191	PN	Pn	04 59 47.1	-0.3
MCHZ	McNeill Hill	3.49	188	PN	Pn	04 59 50.2	0.0
TUVZ	Tukino	3.54	201	ePN	Pn	04 59 51.0	+0.1
WNVZ	Wahianoa	3.61	202	PN	Pn	04 59 52.0	+0.2
BHHZ	Black Hill Sta	3.64	195	PN	Pn	04 59 51.5	-0.5

PKVZ	**Pokaka**	**3.66**	**205**	*e*PN	Pn	04 59 51.1	-1.1
CKHZ	**Cape Kidnapper**	**3.68**	**183**	PN	Pn	04 59 51.8	-0.5
KAHZ	**Kahuranaki**	**3.83**	**185**	PN	Pn	04 59 53.5	-0.6
PNHZ	**Pukenui**	**4.03**	**192**	PN	Pn	04 59 55.2	-1.4
PXZ	**Pawanui**	**4.06**	**185**	PN	Pn	04 59 55.5	-1.5
TSZ	**Takapari Road**	**4.21**	**194**	PN	Pn	04 59 57.5	-1.4
PRHZ	**Porangahau**	**4.32**	**187**	PN	Pn	04 59 58.3	-1.7
DVHZ	**Dannevirke**	**4.41**	**192**	PN	Pn	04 59 59.1	-2.1
MRZ	**Mangatainoka R**	**4.87**	**196**	PN	Pn	05 00 04.1	-2.7
MRZ				SN	S	05 01 01.9	-3.2
HOWZ	**Holdsworth Sta**	**5.11**	**196**	*e*PN	Pn	05 00 06.9	-3.0
OGWZ	**Otaki Gorge**	**5.12**	**199**	PN	Pn	05 00 07.1	-2.8
KIW	**Kapiti Island**	**5.23**	**200**	PN	Pn	05 00 08.9	-2.5
MTW	**Mount Morrison**	**5.36**	**195**	*e*PN	Pn	05 00 09.9	-3.1
CAW	**Cannon Point**	**5.42**	**198**	PN	Pn	05 00 10.4	-3.3
MSWZ	**Moikau Station**	**5.66**	**196**	SN	S	05 01 16.6	-6.5
TCW	**Tory Channel**	**5.74**	**204**	*e*PN	Pn	05 00 15.0	-2.8
PLWZ	**Palliser**	**5.81**	**195**	*e*PN	Pn	05 00 14.6	-4.1
NNZ	**Nelson**	**6.07**	**209**	SN	S	05 01 29.7	-2.7
THZ	**Tophouse**	**6.72**	**209**	*e*PN	Pn	05 00 25.8	-4.5
MQZ	**McQueen's Vall**	**8.51**	**203**	SN	S	05 02 20.0	-9.2
CTZ	**Chatham Island**	**9.04**	**151**	*e*PN	P	05 01 06.0	-2.1

MEX 04 05:17:52.0±1.1, 15°.75N×94°.15W, h71km±25km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**0.90**	**93**	*e*P	Pn	05 18 08.0	-1.4
PCIG				*i* S	Sn	05 18 21.2	-1.1
TGIG		**1.43**	**44**	*i* P	Pn	05 18 14.6	-1.5
TGIG				*i* S	Sn	05 18 31.6	-2.7
CMIG	**Matias Romero**	**1.51**	**332**	*e*P	Pn	05 18 16.6	-0.5
CMIG				*e*S	Sn	05 18 33.8	-2.3
HUIG	**Huatulco**	**1.88**	**271**	*i* P	Pn	05 18 20.8	-1.3
HUIG				*i* S	Sn	05 18 42.5	-2.5
THIG		**2.00**	**114**	*i* P	Pn	05 18 21.3	-2.4
THIG				*e*S	Sn	05 18 46.0	-1.9
CCIG	**Comitan**	**2.01**	**74**	*e*P	Pn	05 18 22.7	-1.3
CCIG				*e*S	Sn	05 18 45.8	-2.7
VHO	**Vista Hermosa**	**2.80**	**298**	*e*P	Pn	05 18 36.2	+1.3
VHO				*e*S	Sn	05 19 06.3	-1.4

*ISCJB **04** 05:23:13.7±0.7, 29°.1S±0°.1×13°.7W±0°.1, h10km, mb4.1/7, Error ellipse: s-maj=22.1km s-min=15.2km az=158.4*
*NEIC **04** 05:23:15.8±0.7, 29°.02S×13°.69W, h10km, mb4.1/7, Error ellipse: s-maj=24.8km s-min=11.4km az=164.0*
*GCMT **04** 05:23:19.4, 29°.33S×13°.53W, h26km, MW5.0, Moment Tensor Solution. s21,c22; s70,c100; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88±.17; $M_{\theta\theta}$-0.71±.14; $M_{\phi\phi}$1.58±.14; $M_{r\theta}$1.11±.25; $M_{\theta\phi}$2.93±.11; $M_{\phi r}$0.34±.23; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s350.00000°, δ68.00000°, λ-173.00000°. NP2:ϕ_s257.00000°, δ84.00000°, λ-23.00000°. Principal axes: T 3.7600, Plg11.0000°, Azm306.0000°; N -0.7900, Plg67.0000°, Azm63.0000°; P -2.9700, Plg20.0000°, Azm211.0000°; Data Used: II IU G IC CN.*
ISC 04 05:23:15.4±0.8, 29°.1S±0°.2×13°.7W±0°.1, h10km, n10, σ0s.67/9, mb3.9/7, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**30.09**	**78**	P	**P**	**05 29 25.6**	**+0.3**
	1.4nm,0.7s						
DBIC	**Dimbokro**	**36.59**	**15**	P	**P**	**05 30 21.1**	**-0.6**
	1.0nm,0.5s						
TRQA	**Tornquist**	**40.83**	**244**	P	**P**	**05 30 57.3**	**0.0**
	1.6nm,1.1s						
LSZ	**Lusaka**	**40.91**	**80**	*e*P	**P**	**05 30 59.0**	**+0.7**
	2.3nm,0.9s						
VNA2	**Neumayer--Watz**	**41.99**	**177**	*e*P	**P**	**05 31 05.5**	**-0.8**
	baz=332,slow=9.6						
VNA2	**Neumayer--Watz**	**41.99**	**177**	*e*WP	pwP	05 31 12.7	+3.3
	baz=332,slow=9.6						
TOA0	**Torodi Ar. Sit**	**44.57**	**22**	*e*P	**P**	**05 31 27.4**	**-0.3**
SAML	**Samuel**	**50.50**	**283**	*e*P	**P**	**05 32 14.1**	**+0.1**
	4.2nm,0.8s						
LPAZ	**La Paz**	**51.44**	**272**	*e*P	**P**	**05 32 22.8**	**+1.0**
	7.6nm,1.7s						
SDV	**Santo Domingo**	**66.61**	**295**	*e*P	**P**	**05 34 06.5**	**-0.1**
	8.7nm,1.0s						

*NEIC **04** 05:26:09.6, 45°.35N×112°.59W, h8km, ML2.5(BUT), After BUT.*
ISC 04 05:26:09.4±0.9, 45°.35N±0°.01×112°.58W±0°.01, h6km±6km, n68, σ0s.74/147, 64C-50D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLMT	**Dillon**	**0.02**	**326**	*e*Pg	**Pg**	**05 26 10.9**	**+0.1**
G15A	**Dillon**	**0.19**	**160**	⇑P	**Pg**	**05 26 13.3**	**0.0**
	baz=0.2,SNR=1000						
G15A				⇑S	**Sg**	**05 26 16.1**	**+0.2**
	baz=0.2						
G15A				⇑S	**Sg**	**05 26 16.1**	**+0.2**
	baz=0.2						
LRM	**Limekiln Ridge**	**0.49**	**11**	*e*Pg	**Pg**	**05 26 18.7**	**-0.1**
LRM				*e*Sg	**Sg**	**05 26 25.3**	**+0.1**
F15A	**Butte**	**0.50**	**7**	P	**Pg**	**05 26 19.1**	**0.0**
	baz=0.5,SNR=285						
F15A				⇑S	**Sg**	**05 26 25.7**	**+0.1**
	baz=0.5						
F15A				⇑S	**Sg**	**05 26 25.7**	**+0.1**
	baz=0.5						
MCMT	**McKenzie Canyo**	**0.55**	**200**	*e*Pg	**Pg**	**05 26 19.9**	**-0.2**
MCMT				*e*Sg	**Sg**	**05 26 26.4**	**-0.9**
G16A	**Moss Hill, Enn**	**0.56**	**102**	⇑P	**Pg**	**05 26 20.1**	**-0.1**
	baz=0.6,SNR=65						
G14A	**Jackson**	**0.63**	**261**	⇓P	**Pg**	**05 26 21.6**	**0.0**
	baz=0.6						
G14A				⇓S	**Sg**	**05 26 29.9**	**+0.1**
	baz=0.6						
G14A				⇓S	**Sg**	**05 26 29.9**	**+0.1**
	baz=0.6						
F14A	**Wisdom**	**0.72**	**310**	⇓P	**Pg**	**05 26 23.4**	**0.0**
	baz=0.7						
F14A				⇑S	**Sg**	**05 26 32.8**	**-0.1**
	baz=0.7						
F14A				⇑S	**Sg**	**05 26 32.8**	**-0.1**
	baz=0.7						
H15A	**Lima**	**0.73**	**184**	⇓P	**Pg**	**05 26 23.1**	**-0.3**
	baz=0.7,SNR=34						
H15A				⇓S	**Sg**	**05 26 33.1**	**+0.1**
	baz=0.7						
H15A				⇓S	**Sg**	**05 26 33.1**	**+0.1**
	baz=0.7						
BOZ	**Bozeman (W)**	**0.73**	**65**	*e*Pg	**Pg**	**05 26 22.9**	**-0.6**
BOZ				*e*Sg	**Sg**	**05 26 32.6**	**-0.5**
BOZ	**Bozeman (W)**	**0.73**	**65**	P	**Pg**	**05 26 23.0**	**-0.6**
	baz=0.7,SNR=159						
BOZ				⇑S	**Sg**	**05 26 32.6**	**-0.5**
	baz=0.7						
BOZ				⇑S	**Sg**	**05 26 32.6**	**-0.5**
	baz=0.7						
BOZ				⇑S	**Sg**	**05 26 32.6**	**-0.5**
	baz=0.7						
BOZ				⇑S	**Sg**	**05 26 32.6**	**-0.5**
	baz=0.7						
F16A	**Kennard Place,**	**0.80**	**56**	P	**Pg**	**05 26 24.4**	**-0.4**
	baz=0.8,SNR=35						
F16A				⇑S	**Sg**	**05 26 35.3**	**+0.1**
	baz=0.8						
F16A				⇑S	**Sg**	**05 26 35.3**	**+0.1**
	baz=0.8						
H14A	**Leadore**	**0.92**	**218**	⇓P	**Pg**	**05 26 26.6**	**-0.4**
	baz=0.9						
QLMT	**Earthquake Lak**	**0.96**	**122**	*e*Pg	**Pb**	**05 26 28.9**	**+0.3**
QLMT				*e*Sg	**Sg**	**05 26 40.6**	**+0.2**
E15A	**Deer Lodge**	**1.08**	**358**	⇑P	**Pg**	**05 26 29.8**	**-0.3**
	baz=1.1						
E15A				⇑S	**Sg**	**05 26 44.2**	**0.0**
	baz=1.1						
E15A				⇑S	**Sg**	**05 26 44.2**	**0.0**
	baz=1.1						
H16A	**Russell Place,**	**1.14**	**124**	⇓P	**Pg**	**05 26 30.8**	**-0.5**
	baz=1.1,SNR=107						
H16A				⇓S	**Sg**	**05 26 46.3**	**+0.2**
	baz=1.1						
H16A				⇓S	**Sg**	**05 26 46.3**	**+0.2**
	baz=1.1						
G13A	**Cobalt**	**1.20**	**258**	⇓P	**Pb**	**05 26 31.9**	**-0.7**
	baz=1.2						
G13A				⇓S	**Sg**	**05 26 47.8**	**0.0**
	baz=1.2						
G13A				⇓S	**Sg**	**05 26 47.8**	**0.0**
	baz=1.2						
E14A	**Clinton**	**1.25**	**330**	⇑P	**Pn**	**05 26 33.3**	**-0.3**
	baz=1.2						
E14A				⇓S	**Sb**	**05 26 49.8**	**0.0**
	baz=1.2						
E14A				⇓S	**Sb**	**05 26 49.8**	**0.0**
	baz=1.2						
G17A	**Pierce Place,**	**1.30**	**90**	⇓P	**Pn**	**05 26 33.8**	**-0.4**
	baz=1.3						
G17A				⇑S	**Sb**	**05 26 51.1**	**-0.2**
	baz=1.3						
G17A				⇑S	**Sb**	**05 26 51.1**	**-0.2**
	baz=1.3						
F13A	**Darby**	**1.31**	**290**	⇑P	**Pn**	**05 26 33.9**	**-0.5**
	baz=1.3						
F13A				⇑S	**Sb**	**05 26 50.5**	**-1.1**
	baz=1.3						
F13A				⇑S	**Sb**	**05 26 50.5**	**-1.1**
	baz=1.3						
E16A	**East Helena**	**1.35**	**28**	⇓P	**Pn**	**05 26 34.6**	**-0.3**
	baz=1.3,SNR=36						
E16A				⇑S	**Sb**	**05 26 52.9**	**+0.3**
	baz=1.3						
E16A				⇑S	**Sb**	**05 26 52.9**	**+0.3**
	baz=1.3						
I15A	**Monteview**	**1.35**	**177**	⇑P	**Pn**	**05 26 34.6**	**-0.3**
	baz=1.3,SNR=19						
I15A				⇓S	**Sb**	**05 26 52.7**	**0.0**
	baz=1.3						
I15A				⇓S	**Sb**	**05 26 52.7**	**0.0**
	baz=1.3						
H13A	**Challis**	**1.42**	**237**	⇑P	**Pn**	**05 26 35.8**	**-0.2**
	baz=1.4,SNR=177						
H13A				⇑S	**Sb**	**05 26 54.9**	**0.0**
	baz=1.4						
H13A				⇑S	**Sb**	**05 26 54.9**	**0.0**
	baz=1.4						
F17A	**Fitzpatrick Pl**	**1.46**	**67**	⇑P	**Pn**	**05 26 36.1**	**-0.4**
	baz=1.5,SNR=76						
F17A				⇓S	**Sn**	**05 26 56.0**	**0.0**
	baz=1.5						
F17A				⇓S	**Sn**	**05 26 56.0**	**0.0**
	baz=1.5						
HRY	**Holter Researc**	**1.46**	**21**	*e*Pn	**Pn**	**05 26 36.9**	**+0.4**
HRY				*e*Sn	**Sn**	**05 26 56.0**	**0.0**
I14A	**Mackay**	**1.55**	**204**	⇑P	**Pn**	**05 26 38.1**	**+0.4**
	baz=1.5,SNR=140						
I14A				⇑S	**Sn**	**05 26 58.2**	**0.0**
	baz=1.5						
I14A				⇑S	**Sn**	**05 26 58.2**	**0.0**
	baz=1.5						
E13A	**Victor**	**1.57**	**315**	⇓P	**Pn**	**05 26 37.8**	**-0.1**
	baz=1.6,SNR=44						
E13A				⇑S	**Sb**	**05 26 59.0**	**-0.1**
	baz=1.6						
E13A				⇑S	**Sb**	**05 26 59.0**	**-0.1**
	baz=1.6						
CHMT	**Chamberlain Mo**	**1.64**	**344**	*e*Pn	**Pn**	**05 26 38.5**	**-0.5**
CHMT				*e*Sn	**Sn**	**05 26 59.8**	**-0.6**
E17A	**Martinsdale**	**1.64**	**47**	⇓P	**Pn**	**05 26 38.7**	**-0.3**
	baz=1.6,SNR=35						
I16A	**Newdale**	**1.66**	**152**	⇓Pb	**Pn**	**05 26 40.1**	**+0.8**
	baz=1.7						
I16A				⇑Sb	**Sb**	**05 27 02.8**	**+1.0**
	baz=1.7						
I16A				⇑Sb	**Sb**	**05 27 02.8**	**+1.0**
	baz=1.7						
D15A	**Lincoln**	**1.70**	**1**	⇓P	**Pn**	**05 26 39.6**	**-0.2**
	baz=1.7,SNR=126						
D15A				⇓Sb	**Sg**	**05 27 04.0**	**0.0**
	baz=1.7						
D15A				⇓Sb	**Sg**	**05 27 04.0**	**0.0**
	baz=1.7						
MSO	**Missoula**	**1.76**	**328**	*e*Pn	**Pn**	**05 26 41.4**	**+0.8**
MSO				*e*Sn	**Sn**	**05 27 03.7**	**+0.4**
MSO	**Missoula**	**1.76**	**328**	⇓P	**Pn**	**05 26 40.5**	**-0.1**
	baz=1.8,SNR=8.6						
MSO				⇓Sb	**Sb**	**05 27 05.5**	**+0.9**
	baz=1.8						
MSO				⇓Sb	**Sb**	**05 27 05.5**	**+0.9**
	baz=1.8						
H12A	**Diamond D Ranc**	**1.80**	**245**	⇑Pb	**Pb**	**05 26 42.5**	**-0.4**
	baz=1.8,SNR=21						
H12A				⇑Sb	**Sb**	**05 27 06.8**	**+1.0**
	baz=1.8						
H12A				⇑Sb	**Sb**	**05 27 06.8**	**+1.0**
	baz=1.8						
I13A	**Wildhorse Cree**	**1.80**	**218**	⇑P	**Pn**	**05 26 41.2**	**0.0**
	baz=1.8,SNR=23						
I13A				⇓S	**Sn**	**05 27 05.0**	**+0.4**
	baz=1.8						
I13A				⇓S	**Sn**	**05 27 05.0**	**+0.4**
	baz=1.8						
D16A	**Dana Ranch, Ca**	**1.83**	**23**	⇑P	**Pn**	**05 26 41.5**	**-0.1**
	baz=1.8,SNR=59						
D16A				⇑Sb	**Sg**	**05 27 07.9**	**-0.4**
	baz=1.8						
D16A				⇑Sb	**Sg**	**05 27 07.9**	**-0.4**
	baz=1.8						
D14A	**Greenough**	**1.85**	**340**	⇑P	**Pn**	**05 26 41.6**	**-0.3**
	baz=1.8						
D14A				⇓S	**Sn**	**05 27 05.9**	**+0.3**
	baz=1.8						
D14A				⇓S	**Sn**	**05 27 05.9**	**+0.3**
	baz=1.8						
F12A	**Elk City**	**1.92**	**283**	⇓P	**Pn**	**05 26 42.9**	**+0.1**
	baz=1.9,SNR=32						
F12A				⇓Sb	**Sb**	**05 27 10.2**	**+0.9**
	baz=1.9						
F12A				⇓Sb	**Sb**	**05 27 10.2**	**+0.9**
	baz=1.9						
J15A	**Blackfoot**	**1.95**	**177**	⇑Pb	**Pb**	**05 26 44.6**	**-0.8**
	baz=1.9,SNR=34						
J15A				⇓Sb	**Sb**	**05 27 11.1**	**+1.1**
	baz=1.9						
J15A				⇓Sb	**Sb**	**05 27 11.1**	**+1.1**
	baz=1.9						
G12A	**Big Creek, Yel**	**1.95**	**265**	⇑Sb	**Sb**	**05 27 11.4**	**+1.2**
	baz=1.9						
SLMT	**Seeley Lake**	**2.00**	**342**	*e*Pn	**Pn**	**05 26 43.3**	**-0.6**
SLMT				*e*Sn	**Sn**	**05 27 09.8**	**+0.5**
MOOW	**Moose Ponds**	**2.07**	**140**	*e*Pn	**Pb**	**05 26 46.5**	**-1.0**
MOOW				*e*Sn	**Sb**	**05 27 12.9**	**-0.6**
F18A	**Big Timber**	**2.09**	**73**	⇑Sb	**Sb**	**05 27 14.8**	**+0.8**
	baz=2.1						
G18A	**Lazy EL Ranch,**	**2.13**	**90**	⇓Sb	**Sb**	**05 27 16.3**	**+1.1**
	baz=2.1						
J14A	**Carey**	**2.13**	**199**	⇑Sb	**Sb**	**05 27 16.2**	**+0.9**
	baz=2.1						
H18A	**Shoshone NF, C**	**2.17**	**107**	⇑Sb	**Sb**	**05 27 17.3**	**+0.8**
	baz=2.2						
J16A	**Bone**	**2.18**	**161**	⇑Sb	**Sb**	**05 27 17.7**	**+0.9**
	baz=2.2						
TPAW	**Teton Pass**	**2.19**	**147**	*e*Pn	**Pb**	**05 26 48.8**	**-0.9**
TPAW				*e*Sn	**Sb**	**05 27 18.3**	**+1.2**
RRI2	**Red Ridge**	**2.19**	**155**	*e*Pn	**Pn**	**05 26 47.5**	**+0.9**
RRI2				*e*Sn	**Sn**	**05 27 13.1**	**-1.1**
HLID	**Hailey**	**2.21**	**217**	*e*Pn	**Pn**	**05 26 47.3**	**+0.5**
HLID				*e*Sn	**Sn**	**05 27 15.2**	**+0.5**
HLID	**Hailey**	**2.21**	**217**	⇓Sb	**Sb**	**05 27 18.9**	**+1.2**
	baz=2.2						
D17A	**Six Diamond Ra**	**2.23**	**35**	⇓P	**Pn**	**05 26 46.8**	**-0.3**
	baz=2.2,SNR=14						
D17A				⇑Sb	**Sb**	**05 27 19.1**	**+0.9**
	baz=2.2						
D17A				⇑Sb	**Sb**	**05 27 19.1**	**+0.9**
	baz=2.2						
LOHW	**Long Hollow**	**2.24**	**140**	*e*Pn	**Pb**	**05 26 49.4**	**-1.0**
J13A	**Cove Ranch, Pi**	**2.26**	**211**	⇓P	**Pn**	**05 26 48.0**	**+0.5**
	baz=2.3,SNR=10						
J13A				⇑Sb	**Sb**	**05 27 20.1**	**+1.2**
	baz=2.3						
J13A				⇑Sb	**Sb**	**05 27 20.1**	**+1.2**
	baz=2.3						
E12A	**Beaver Dam Sad**	**2.35**	**298**	⇑Sb	**Sb**	**05 27 23.1**	**+1.6**
	baz=2.3						
SWMT	**Swartz Lake**	**2.38**	**336**	*e*Pn	**Pn**	**05 26 49.3**	**+0.3**
SWMT				*e*Sn	**Sn**	**05 27 19.2**	**+0.6**
I12A	**Atlanta**	**2.39**	**231**	⇑Sb	**Sb**	**05 27 24.5**	**+1.6**
	baz=2.4						
C15A	**Salmond Ranch,**	**2.43**	**360**	⇑P	**Pn**	**05 26 49.5**	**-0.3**
	baz=2.4,SNR=8.5						
C15A				⇓Sb	**Sb**	**05 27 25.8**	**+1.9**
	baz=2.4						
C15A				⇓Sb	**Sb**	**05 27 25.8**	**+1.9**
	baz=2.4						
C16A	**Fuhringer Ranc**	**2.52**	**13**	⇑Sb	**Sb**	**05 27 28.0**	**+1.4**
	baz=2.5						
C14A	**Swan Lake**	**2.55**	**342**	⇑P	**Pn**	**05 26 51.5**	**0.0**
	baz=2.6						
C14A				⇑S	**Sn**	**05 27 22.6**	**-0.3**
	baz=2.6						
C14A				⇑S	**Sn**	**05 27 22.6**	**-0.3**
	baz=2.6						
F19A	**Roth Farm, Mol**	**2.60**	**77**	⇓Sb	**Sb**	**05 27 29.9**	**+1.1**
	baz=2.6						
C17A	**Wharram Farm,**	**2.61**	**28**	⇑Sb	**Sb**	**05 27 30.6**	**+1.7**
	baz=2.6						
D18A	**Linhart Farms,**	**2.67**	**45**	⇑Sb	**Sb**	**05 27 32.9**	**+2.1**
	baz=2.7						
J18A	**Kendall Valley**	**2.82**	**138**	⇓Sb	**Sb**	**05 27 36.5**	**+1.4**
	baz=2.8						
E19A	**Rath Farm, Rou**	**2.87**	**66**	⇓Sb	**Sb**	**05 27 38.1**	**+1.5**
	baz=2.9						
B15A	**Bradely Ranch,**	**2.97**	**0**	⇓Sb	**Sb**	**05 27 41.5**	**+2.1**
	baz=3.0						
MFID	**Camas Ranch**	**3.02**	**231**	Pn	**Pn**	**05 26 55.7**	**-2.2**
EGMT	**Eagleton**	**3.31**	**35**	*e*Pn	**Pn**	**05 27 02.2**	**+0.3**

*ISCJB **04** 05:30:56.0±1.5, 39°.18N±0°.04×25°.92E±0°.09, h10km±7km, Error ellipse: s-maj=11.8km s-min=6.9km az=13.0*
*CSEM **04** 05:30:55.7±1.2, 39°.17N×25°.90E, h10km, MD2.6, Error ellipse: s-maj=32.0km s-min=7.7km az=116.0*
*DDA **04** 05:30:56.4, 39°.21N×26°.15E, h7km, MD2.6*
ISC 04 05:30:56.5±1.4, 39°.18N±0°.04×26°.01E±0°.06, h18km±7km, n9, σ0s.85/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.21**	**72**	P	**Pg**	**05 31 01.9**	**+0.2**
PRK				S	**Sb**	**05 31 06.0**	**+0.6**
PRK	**Paraskevi**	**0.21**	**72**	P	**Pg**	**05 31 01.9**	**+0.2**
PRK				S	**Sb**	**05 31 06.0**	**+0.6**
BOZC	**Bozcaada**	**0.66**	**3**	*i* P	**Pb**	**05 31 08.3**	**-1.3**
BOZC				*i* S	**Sb**	**05 31 19.3**	**+0.8**
CHOS	**Chios island**	**0.79**	**177**	P	**Pb**	**05 31 10.6**	**-1.3**
CHOS				S	**Sb**	**05 31 23.1**	**+0.8**
CHOS	**Chios island**	**0.79**	**177**	P	**Pb**	**05 31 10.6**	**-1.3**
CHOS				S	**Sb**	**05 31 23.1**	**+0.8**
BALY	**Balya**	**1.37**	**65**	*i* P	**Pg**	**05 31 23.0**	**+0.1**
BALY				*i* S	**Sg**	**05 31 40.9**	**+0.2**
BALY	**Balya**	**1.37**	**65**	*i* P	**Pg**	**05 31 23.0**	**+0.1**
BALY				*i* S	**Sg**	**05 31 40.9**	**+0.2**
DURS	**Dursunbey**	**1.96**	**77**	*i* P	**Pn**	**05 31 29.8**	**+0.9**
DURS				*i* S	**Sb**	**05 31 55.1**	**-0.7**
DURS	**Dursunbey**	**1.96**	**77**	*i* P	**Pn**	**05 31 29.8**	**+0.9**
DURS				*i* S	**Sb**	**05 31 55.1**	**-0.7**

IDC 04 05:41:60.0±3.1, 17°.03S×68°.80W, h181km±13km, mb3.0/2, mb1 3.2/2, mb1mx2.9/18, mbtmp3.0/2, Error ellipse: s-maj=74.2km s-min=48.6km az=11.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.98**	**41**	P	Pn	05 42 27.9	-0.6
	3.3nm,0.3s,baz=236,slow=4.8,SNR=103						
LPAZ				S	Sn	05 42 50.9	+0.6
	1.4nm,0.3s,baz=312,slow=23,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.79**	**71**	P	P	05 53 26.5	0.0
	0.4nm,0.6s,baz=253,slow=5.7,SNR=4.3						
YKA	**Yellowknife Ar**	**87.03**	**341**	P	P	05 54 24.6	+0.2
	0.1nm,0.5s,baz=133,slow=5.0,SNR=7.1						

*AUST **04** 05:46:46.5±10.0, 7°.97S×127°.80E, h0km, Error ellipse: s-maj=2.9km s-min=1.1km az=358.0*
*IDC **04** 05:46:58.5±4.4, 8°.60S×127°.92E, h64km±43km, mb3.6/3, mb1 4.1/7, mb1mx3.7/21, mbtmp3.9/7, ML4.4/3, Error ellipse: s-maj=57.6km s-min=19.4km az=58.0*
ISC 04 05:46:56.8±1.1, 8°.52S±0°.09×127°.72E±0°.09, h35km, n19, σ2s.81/18, mb3.8/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.45**	**142**	P	**Pn**	**05 48 17.5**	**+2.0**
	baz=5.9,SNR=35						
MTN				S	**Sn**	**05 49 20.7**	**+3.6**
	baz=5.9,SNR=4.6						
KDU	**Kakadu**	**6.24**	**132**	P	**Pn**	**05 48 26.6**	**+0.1**
	baz=6.6,SNR=18						
KAPI	**Kappang**	**8.65**	**293**	P	Pn	05 49 05.7	+6.2
	0.2nm,0.3s,baz=156,slow=9.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**9.74**	**192**	P	**Pn**	**05 49 15.1**	**+0.6**
	1.2nm,0.3s,baz=23,slow=12,SNR=28						
FITZ				S	**Sn**	**05 51 02.1**	**-0.6**
	1.4nm,0.3s,baz=94,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**9.74**	**192**	P	**Pn**	**05 49 15.4**	**+0.9**
	baz=10,SNR=13						
WRA	**Warramunga Arr**	**13.04**	**151**	P	**Pn**	**05 49 56.8**	**-2.8**
	4.6nm,0.3s,baz=330,slow=13,SNR=131						
WRA				S	Sn	05 52 15.5	-8.1
	1.6nm,0.3s,baz=331,slow=23,SNR=7.3						
COEN	**Coen**	**16.09**	**111**	P	**Pn**	**05 50 37.8**	**-2.6**
	baz=16,SNR=3.9						
ASAR	**Alice Springs**	**16.18**	**159**	P	**Pn**	**05 50 40.2**	**-1.4**
	1.4nm,0.3s,baz=334,slow=9.6,SNR=59						
ASAR				S	**Sn**	**05 53 34.4**	**-5.8**
	0.5nm,0.3s,baz=321,slow=20,SNR=5.6						
QIS	**Mount Isa**	**16.59**	**137**	S	**S**	**05 54 03.6**	**+2.9**
	baz=17,SNR=4.6						
MEEK	**Meekatharra**	**19.99**	**204**	P	**Pn**	**05 51 32.2**	**+3.9**
	baz=21,SNR=5.5						
MEEK				S	**S**	**05 55 08.0**	**-1.3**
	baz=21,SNR=3.8						
XMI	**Christmas Isla**	**21.82**	**263**	P	P	05 51 41.7	-4.5
	baz=22,SNR=4.4						
QLP	**Quilpie**	**23.84**	**141**	P	P	05 52 17.0	+10
	baz=24,SNR=4.0						
STKA	**Stephens Creek**	**26.58**	**153**	P	**P**	**05 52 30.6**	**-1.2**
	1.7nm,0.7s,baz=324,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**26.58**	**153**	P	**P**	**05 52 36.3**	**+4.5**
	baz=27,SNR=4.3						
EIDS	**Eidsvold**	**27.85**	**130**	P	P	05 52 36.4	-6.8
	baz=28,SNR=48						
PPI	**Padang Panjang**	**28.37**	**285**	S	S	05 57 50.2	+17
	baz=28,SNR=3.6						
MKAR	**Makanchi Array**	**68.29**	**328**	P	**P**	**05 57 53.5**	**-0.8**
	0.3nm,0.4s,baz=124,slow=7.8,SNR=8.6						
KURBB	**Kurchatov Arra**	**72.64**	**330**	P	**P**	**05 58 19.9**	**-0.8**
	1.3nm,0.5s,baz=134,slow=5.2,SNR=17						
CPUP	**Villa Florida**	**145.01**	**172**	PKP	**PKPdf**	**06 06 31.8**	**+0.6**
	1.0nm,0.6s,baz=130,slow=4.3,SNR=4.2						

MAN 04 05:49:25, 6°.93N×125°.97E, h29km, mb4.1, ML2.9, MS2.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.29**	**86**	*e*P	Pn	05 49 34.4	+1.1
DMPH	**Davao City--Mi**	**0.48**	**289**	⇑*i*P	Pn	05 49 36.8	+0.9
DMPH				*i* S	Sn	05 49 46.7	+3.2
BUKP	**Musuan**	**1.30**	**317**	*e*P	Pn	05 49 47.6	+0.3
GSPH	**General Santos**	**1.31**	**231**	⇓*i*P	Pn	05 49 44.1	-3.4
GSPH				*i* S	Sn	05 49 59.4	-4.9
CTBH	**Cotabato--PC H**	**1.73**	**280**	⇓*i*P	Pn	05 49 51.7	-1.5
CGP	**Cagayan de Oro**	**1.97**	**320**	*e*P	Pn	05 49 57.5	+1.0
PAGZ	**Pagadian**	**2.72**	**290**	*e*P	Pb	05 50 11.9	-1.2

MEX 04 05:53:02.3±0.4, 16°.25N×98°.14W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**5**	*i* P	Pg	05 53 04.4	-0.8
PNIG				*i* S	Sg	05 53 07.0	-0.1
VHO	**Vista Hermosa**	**1.57**	**59**	*e*P	Pn	05 53 27.1	-4.1
VHO				*e*S	Sn	05 53 47.2	-4.9
UTMO	**Huajuapan**	**1.60**	**12**	*e*P	Pn	05 53 28.1	-3.4
UTMO				*e*S	Sn	05 53 47.8	-5.0
MEIG	**Mezcala**	**2.18**	**320**	*e*P	Pn	05 53 36.4	-3.0
MEIG				*e*S	Sn	05 54 02.8	-4.2
CAIG	**El Cayaco**	**2.19**	**291**	*e*P	Pn	05 53 36.4	-2.9
CAIG				*e*S	Sn	05 54 02.7	-4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**2.28**	**19**	*e*P	Pn	05 53 38.2	-2.6
TPIG				*e*S	Sn	05 54 05.5	-4.0
YAIG	**Yautepec**	**2.74**	**341**	*e*P	Pn	05 53 44.6	-2.5
YAIG				*e*S	Sn	05 54 17.2	-3.6

*ISK **04** 05:57:34.7, 37°.81N×29°.15E, h21km, MD2.7*
*CSEM **04** 05:57:35.5±0.2, 37°.82N×29°.10E, h15km, MD2.3, Error ellipse: s-maj=7.1km s-min=4.5km az=97.0*
*ISCJB **04** 05:57:36.2±0.6, 37°.86N±0°.03×29°.07E±0°.07, h6km±6km, Error ellipse: s-maj=9.2km s-min=5.2km az=1.6*
*DDA **04** 05:57:36.6, 37°.84N×29°.11E, h7km, MD2.3*
ISC 04 05:57:35.6±1.1**, 37°.82N**±0°.03×**29°.10E**±0°.05**, h17**km±7km**, n18, σ0ˢ54**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.09**	**218**	PG	**Pg**	**05 57 39.2**	**+0.1**
DENT	**Denizli**	**0.09**	**218**	*i* Pg	**Pg**	**05 57 39.2**	**+0.1**
DNZL	**Cakiroluk**	**0.14**	**198**	*i* P	**Pb**	**05 57 40.0**	**+0.1**
DNZL				*i* S	**Sb**	**05 57 42.7**	**0.0**
DNZL	**Cakiroluk**	**0.14**	**198**	*i* P	**Pb**	**05 57 40.0**	**+0.1**
DNZL				*i* S	**Sb**	**05 57 42.7**	**0.0**
KHL	**Karahalli**	**0.60**	**34**	*e*PG	**Pg**	**05 57 47.0**	**-0.5**
KHL	**Karahalli**	**0.60**	**34**	*e*Pg	**Pg**	**05 57 47.0**	**-0.5**
KHAL	**Karahalli**	**0.63**	**29**	*i* P	**Pg**	**05 57 48.0**	**0.0**
KHAL				*i* S	**Sb**	**05 57 57.7**	**+1.0**
KHAL	**Karahalli**	**0.63**	**29**	*i* P	**Pg**	**05 57 48.0**	**0.0**
KHAL				*i* S	**Sb**	**05 57 57.7**	**+1.0**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pn**	**05 57 50.1**	**-0.6**
GOLH				*i* S	**Sn**	**05 58 02.3**	**+1.3**
GOLH	**Golhisar**	**0.69**	**148**	*i* P	**Pn**	**05 57 50.1**	**-0.6**
KULA	**Kula-Manisa**	**0.77**	**333**	*e*PG	**Pg**	**05 57 50.9**	**+0.2**
KULA	**Kula-Manisa**	**0.77**	**333**	*e*Pg	**Pg**	**05 57 50.9**	**+0.2**
MANT	**Manisa**	**0.79**	**328**	*i* P	**Pg**	**05 57 51.6**	**+0.5**
MANT				*i* S	**Sn**	**05 58 03.4**	**-0.4**
MANT	**Manisa**	**0.79**	**328**	*i* P	**Pg**	**05 57 51.6**	**+0.5**
MANT				*i* S	**Sn**	**05 58 03.4**	**-0.4**
YER	**Yerkesik**	**0.95**	**224**	*e*PG	**Pb**	**05 57 53.3**	**-0.2**
YER	**Yerkesik**	**0.95**	**224**	*e*Pg	**Pb**	**05 57 53.3**	**-0.2**
TVSB	**Tavsanli**	**1.65**	**10**	*e*PN	**Pn**	**05 58 03.4**	**-0.5**
TVSB	**Tavsanli**	**1.65**	**10**	*e*Pn	**Pn**	**05 58 03.4**	**-0.5**

DHMR 04 06:07:02.1±2.3**, 13°.59N×48°.53E, h10**km**, ML3.6, 2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.01**	**29**	*i* P	Pg	06 07 20.5	-1.1
BDHA	**Al Bayda'**	**2.91**	**278**	*e*	Pb	06 07 52.2	-2.2
	baz=118,slow=16						
BDHA				⇓*i*P	Pb	06 07 52.2	-2.2
BDHA				AML	AML	06 07 53.6	
	comp=E,331nm,0.3s						
BDHA				*i* S	Sb	06 08 30.0	-0.3
LBOS		**3.20**	**275**	⇓*i*P	Pn	06 07 55.5	+2.6
LBOS				*i* S	Sb	06 08 36.6	-2.2

IDC 04 06:20:36.0±2.4**, 5°.81N×126°.35E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/23**, mbtmp3.5**/4**, Error ellipse: s-maj=236.8km s-min=21.5km az=66.0, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.77**	**163**	P	P	06 26 18.2	+0.4
	0.2nm,0.3s,baz=342,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**30.21**	**166**	P	P	06 26 48.0	-0.4
	0.3nm,0.4s,baz=356,slow=8.6,SNR=3.3						
MKAR	**Makanchi Array**	**55.65**	**325**	P	P	06 30 14.3	+0.5
	0.3nm,0.3s,baz=118,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**59.80**	**327**	P	P	06 30 42.2	-0.8
	0.3nm,0.5s,baz=124,slow=5.0,SNR=5.1						

IDC 04 06:25:22.6±3.6**, 48°.66S×117°.53E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/14**, mbtmp3.8**/3**, MS3.9**/7**, Ms1 3.9**/7**, ms1mx3.7**/21**, Error ellipse: s-maj=128.7km s-min=67.8km az=124.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.71**	**56**	P	P	06 30 45.6	+0.3
	4.8nm,1.0s,baz=254,slow=7.4,SNR=3.8						
STKA				LR	LR	06 38 19.3	
	comp=Z,313nm,21.1s,baz=203,slow=31						
ASAR	**Alice Springs**	**28.11**	**33**	P	P	06 31 15.8	-0.2
	1.7nm,0.9s,baz=199,slow=8.4,SNR=9.3						
ASAR				LR	LR	06 41 06.0	
	comp=Z,182nm,19.6s,baz=7.8,slow=34						
WRA	**Warramunga Arr**	**31.69**	**31**	P	P	06 31 47.8	0.0
	0.3nm,0.3s,baz=195,slow=12,SNR=2.7						
MAW	**Mawson**	**33.02**	**215**	LR	LR	06 43 25.1	
	comp=Z,153nm,18.5s,baz=256,slow=33						
VNDA	**Vanda**	**33.50**	**164**	LR	LR	06 43 55.2	
	comp=Z,306nm,18.2s,baz=303,slow=33						
DZM	**Mont Dzumac**	**46.86**	**73**	LR	LR	06 49 15.5	
	comp=Z,83nm,20.5s,baz=192,slow=31						
CMAR	**Chiang Mai Arr**	**68.84**	**341**	LR	LR	07 03 05.0	
	comp=Z,87nm,18.9s,baz=354,slow=33						
ASAJ	**Asahikawa**	**94.98**	**18**	LR	LR	07 19 16.9	
	comp=Z,101nm,18.1s,baz=330,slow=34						
YKA	**Yellowknife Ar**	**148.43**	**44**	PKPbc	PKPbc	06 45 09.0	-0.7
	0.2nm,0.6s,baz=267,slow=2.3,SNR=6.4						

*ISCJB **04** 06:33:46.6±1.2, 5°.62S±0°.06×133°.96E±0°.10, h32km, mb3.4/1, MS3.5/1, Error ellipse: s-maj=14.1km s-min=8.0km az=164.3*
*IDC **04** 06:33:46.2±5.6, 5°.52S×133°.56E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/17, Error ellipse: s-maj=319.5km s-min=32.4km az=77.0*
*AUST **04** 06:33:52.1, 5°.46S×133°.04E, h100km*
ISC 04 06:33:49.0±1.4**, 5°.53S**±0°.08×**133°.9E**±0°.1**, h32**km**, n9, σ1ˢ67**/11**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.13**	**265**	P	**Pn**	**06 34 08.4**	**-0.1**
	baz=0.3,SNR=9.2						
TLE				S	**Sn**	**06 34 23.5**	**+0.5**
	baz=0.3,SNR=7.0						
SWI	**Sorong**	**5.32**	**331**	P	**Pn**	**06 35 05.4**	**-0.9**
	baz=4.9,SNR=5.2						
SWI				S	Sn	06 35 59.3	-7.2
	baz=4.9,SNR=3.0						
KDU	**Kakadu**	**7.24**	**191**	P	**Pn**	**06 35 34.0**	**+1.4**
	baz=7.2,SNR=15						
KDU				S	**Sn**	**06 36 52.4**	**-1.4**
	baz=7.2,SNR=4.9						
MTN	**Manton Dam**	**7.75**	**200**	P	**Pn**	**06 35 41.1**	**+1.5**
	baz=7.6,SNR=9.5						
MTN				S	**Sn**	**06 37 04.9**	**-1.5**
	baz=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**14.33**	**178**	Pn	**Pn**	**06 37 08.8**	**-1.0**
	0.1nm,0.3s,baz=354,slow=13,SNR=3.1						
WRA				Sn	Sn	06 39 36.2	-12
	0.4nm,0.3s,baz=360,slow=23,SNR=6.8						
FITZ	**Fitzroy Crossi**	**14.85**	**212**	P	**Pn**	**06 37 14.5**	**-2.4**
	baz=15,SNR=4.6						
ASAR	**Alice Springs**	**18.03**	**180**	P	**P**	**06 37 59.8**	**+2.3**
	0.4nm,0.3s,baz=5.0,slow=12,SNR=20						
ASAR				S	Sn	06 41 07.3	-10
	0.1nm,0.3s,baz=2.3,slow=28,SNR=4.0						
PSI	**Prapat**	**35.87**	**282**	LR	LR	06 56 55.6	
	comp=Z,78nm,18.3s,baz=22,slow=39						
MKAR	**Makanchi Array**	**69.18**	**325**	P	**P**	**06 44 53.5**	**+1.0**
	0.3nm,0.6s,baz=108,slow=7.9,SNR=4.8						

IDC 04 07:14:00.9±17.0**, 16°.70S×173°.27W, h0**km**, mb4.3**/5**, mb1 4.4**/5**, mb1mx3.9**/23**, mbtmp4.3**/5**, Error ellipse: s-maj=320.9km s-min=146.0km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.50**	**259**	P	P	07 21 25.8	+0.5
	1.7nm,0.3s,baz=77,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**43.51**	**241**	P	P	07 22 06.6	+0.1
	1.6nm,0.3s,baz=78,slow=7.6,SNR=9.8						
WRA	**Warramunga Arr**	**49.69**	**258**	P	P	07 22 54.4	-0.7
	1.7nm,0.4s,baz=97,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**49.84**	**253**	P	P	07 22 55.9	-0.4
	2.7nm,0.5s,baz=86,slow=8.6,SNR=35						
FITZ	**Fitzroy Crossi**	**58.08**	**259**	P	P	07 23 56.5	0.0
	0.6nm,0.3s,baz=107,slow=11,SNR=5.8						

CASC 04 07:27:53.1±1.8**, 8°.36N×82°.97W, h10**km±7km**, MD3.5, 1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.35**	**326**	⇑*e*P	Pg	07 28 00.6	+0.4
ACR				*e*S	Sb	07 28 06.3	-0.8
BRU2	**Volcan**	**0.51**	**33**	*e*P	Pg	07 28 03.8	+0.4
BRU2				*e*S	Sb	07 28 12.0	0.0
TBS2		**0.53**	**36**	*e*P	Pb	07 28 05.1	+0.3
TBS2				*e*S	Sb	07 28 12.2	-0.4
BUS	**Buena Vista**	**1.42**	**327**	⇓*e*P	Pn	07 28 17.8	-1.8
QCR	**Quepos**	**1.58**	**312**	⇓*e*P	Pn	07 28 20.4	-0.8
QCR				*e*S	Sn	07 28 41.8	0.0
SJS	**Escuela Geolog**	**1.90**	**326**	⇓*e*P	Pn	07 28 25.0	-0.8
CGA2	**Cerro Gallo 2**	**2.21**	**318**	*e*P	Pn	07 28 30.8	+0.7
CGA2				*e*S	Sn	07 28 58.9	+1.3

*ISCJB **04** 07:31:32.4±2.0, 39°.17S±0°.03×75°.10W±0°.06, h16km±15km, mb4.4/18, MS3.8/7, Error ellipse: s-maj=8.2km s-min=5.8km az=179.0*
*IDC **04** 07:31:32.7±0.8, 39°.30S×75°.10W, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.3/19, mbtmp4.2/13, ML4.7/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/29, Error ellipse: s-maj=23.7km s-min=19.2km az=71.0*
*NEIC **04** 07:31:35.0, 39°.22S×74°.97W, h42km, mb4.8/8, After GUC.*
*GUC **04** 07:31:35.7±0.8, 39°.22S×74°.97W, h42km±13km, ML4.6*
ISC 04 07:31:35.3±2.1**, 39°.24S**±0°.04×**74°.83W**±0°.06**, h15**km±12km**, n61, σ1ˢ66**/63**, mb4.4**/18**, MS3.8**/7**, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.35**	**115**	*e*P	**Pb**	**07 32 00.6**	**+0.4**
VLCH				*i* S	**Sg**	**07 32 19.0**	**+0.1**
VLCH				AML	AML	07 32 20.0	
	comp=E,17μm,0.2s						
TMU	**Temuco**	**1.81**	**75**	*e*P	**Pb**	**07 32 08.2**	**+0.1**
TMU				*i* S	**Sb**	**07 32 32.1**	**+1.5**
AGCH	**Angol**	**2.20**	**50**	*e*P	**Pn**	**07 32 11.3**	**+0.1**
AGCH				*i* S	**Sn**	**07 32 38.7**	**+0.5**
AGCH				AML	AML	07 32 50.1	
	comp=E,4μm,0.5s						
PMCH	**Puerto Montt**	**2.69**	**147**	⇑*i*P	**Pn**	**07 32 18.4**	**+0.4**
PMCH				*i* S	**Sn**	**07 32 50.9**	**+0.6**
PMCH				AML	AML	07 32 53.1	
	comp=N,3μm,0.5s						
PUEL	**Puelo Alto**	**3.10**	**142**	*e*P	**Pn**	**07 32 24.6**	**+1.0**
PUEL				*e*S	**Sn**	**07 33 00.8**	**+0.5**
PUEL				AML	AML	07 33 09.6	
	comp=N,1μm,0.6s						
CCHI	**Chillan**	**3.42**	**40**	*e*P	**Pn**	**07 32 28.4**	**+0.5**
CCHI				*e*S	**Sn**	**07 33 08.0**	**-0.2**
CCHI				AML	AML	07 33 20.2	
	comp=N,399nm,0.5s						
COCH	**Cobquecura**	**3.50**	**28**	*e*P	**Pn**	**07 32 27.6**	**-1.5**
COCH				*i* S	**Sn**	**07 33 08.0**	**-2.2**
PLCA	**Paso Flores**	**3.61**	**116**	Pn	**Pn**	**07 32 32.8**	**+2.1**
	comp=N,7.4nm,0.3s,baz=284,slow=12,SNR=76						
PLCA				Sn	**Sb**	**07 33 20.2**	**-2.2**
	comp=N,43nm,0.3s,baz=18,slow=22,SNR=8.9						
PLCA				LR	LR	07 34 04.7	
	comp=N,1μm,20.3s,baz=289,slow=40						
PLCA	**Paso Flores**	**3.61**	**116**	Pn	**Pn**	**07 32 32.8**	**+2.1**
PLCA				Sn	**Sb**	**07 33 20.2**	**-2.2**
HUNY	**Huinay**	**3.63**	**150**	*e*P	**Pn**	**07 32 31.4**	**+0.5**
HUNY				*e*S	**Sn**	**07 33 11.6**	**-2.0**
CFAA	**Coronel Fontan**	**9.32**	**37**	Pn	**Pn**	**07 33 46.8**	**-2.4**
	comp=N,0.3nm,0.3s,baz=212,slow=11,SNR=68						
CFAA				Sn	**Sn**	**07 35 29.9**	**-3.9**
	comp=N,0.2nm,0.3s,baz=114,slow=9.6,SNR=5.5						
CFAA				LR	LR	07 37 45.3	
	comp=N,39nm,18.4s,baz=225,slow=39						
CFAA	**Coronel Fontan**	**9.32**	**37**	Pn	**Pn**	**07 33 46.8**	**-2.4**
CFAA				Sn	**Sn**	**07 35 29.9**	**-3.9**
TRQA	**Tornquist**	**10.12**	**87**	*e*Pn	**Pn**	**07 34 01.7**	**+1.6**
	comp=N,7.2nm,0.6s						
LCO	**Las Campanas**	**10.76**	**20**	*e*Pn	**Pn**	**07 34 06.5**	**-2.5**
USHA	**Ushuaia**	**16.19**	**167**	Pn	**Pn**	**07 35 19.6**	**-2.4**
	comp=N,0.1nm,0.3s,baz=3.2,slow=19,SNR=2.0						
USHA				LR	LR	07 41 55.3	
	comp=N,459nm,18.5s,baz=142,slow=38						
USHA	**Ushuaia**	**16.19**	**167**	Pn	**Pn**	**07 35 19.6**	**-2.4**
CPUP	**Villa Florida**	**19.50**	**54**	P	**Pn**	**07 36 03.1**	**-0.1**
	comp=N,1.2nm,0.3s,baz=215,slow=8.6,SNR=13						
CPUP				LR	LR	07 44 26.0	
	comp=N,464nm,19.0s,baz=210,slow=39						
CPUP	**Villa Florida**	**19.50**	**54**	P	**Pn**	**07 36 03.1**	**-0.1**
LPAZ	**La Paz**	**23.60**	**16**	P	**P**	**07 36 48.0**	**+1.7**
	comp=N,2.9nm,0.8s,baz=239,slow=4.8,SNR=8.0						
LPAZ	**La Paz**	**23.60**	**16**	P	**P**	**07 36 48.0**	**+1.7**
SIV	**San Ignacio**	**26.11**	**31**	P	**P**	**07 37 08.6**	**0.0**
	comp=N,4.4nm,1.0s,baz=229,slow=11,SNR=12						
SIV				LR	LR	07 49 05.7	
	comp=N,139nm,18.9s,slow=40						
SIV	**San Ignacio**	**26.11**	**31**	P	**P**	**07 37 08.6**	**0.0**
PMSA	**Palmer Station**	**26.34**	**170**	LR	LR	07 47 48.0	
	comp=N,166nm,18.2s,baz=324,slow=37						
SPB	**Sao Paulo**	**27.96**	**64**	*e*P	P	07 37 18.6	-6.7
	comp=N,40nm,1.3s						
ATAH	**Atahualpa**	**32.12**	**353**	LR	LR	07 48 05.6	
	comp=N,134nm,20.4s,baz=34,slow=31						
BDFB	**Brasilia**	**33.22**	**52**	P	**P**	**07 38 13.5**	**+1.6**
	comp=N,5.7nm,0.8s,baz=207,slow=7.3,SNR=10						
BDFB				LR	LR	07 53 02.6	
	comp=N,205nm,19.7s,baz=19,slow=39						
BDFB	**Brasilia**	**33.22**	**52**	P	**P**	**07 38 13.5**	**+1.6**
VNA3	**Neumayer Olymp**	**45.44**	**156**	*e*P	P	07 40 03.6	+11
VNA3	**Neumayer Olymp**	**45.44**	**156**	*e*P	P	07 40 11.2	+18
VNA2	**Neumayer--Watz**	**46.14**	**155**	*e*P	**P**	**07 39 59.9**	**+1.3**
	baz=270,slow=8.2						
VNA2	**Neumayer--Watz**	**46.14**	**155**	*e*P	P	07 40 09.2	+11
	baz=276,slow=9.4						
SDV	**Santo Domingo**	**48.04**	**6**	*e*P	P	07 40 10.3	-3.9
	comp=N,8.1nm,1.0s						
JTS	**JuntasAbangare**	**50.17**	**347**	*e*P	P	07 40 23.8	-6.5
	comp=N,19nm,0.3s						
QSPA	**South Pole Qui**	**51.01**	**180**	P	**P**	**07 40 35.7**	**-0.5**
	comp=N,4.7nm,1.0s,baz=176,slow=5.1,SNR=7.7						
QSPA	**South Pole Qui**	**51.01**	**180**	P	**P**	**07 40 35.8**	**-0.5**
JCT	**Junction City**	**73.15**	**338**	*e*P	**P**	**07 43 02.1**	**-3.0**
	comp=N,2.6nm,0.8s						
TXAR	**Lajitas Array**	**73.32**	**334**	P	**P**	**07 43 06.1**	**-0.1**
	comp=N,1.7nm,0.7s,baz=156,slow=8.5,SNR=20						
TXAR	**Lajitas Array**	**73.32**	**334**	P	**P**	**07 43 06.1**	**-0.1**
DBIC	**Dimbokro**	**78.96**	**72**	P	**P**	**07 43 41.0**	**+2.5**
	comp=N,3.2nm,0.9s,baz=183,slow=5.8,SNR=3.5						
DBIC	**Dimbokro**	**78.96**	**72**	P	**P**	**07 43 41.0**	**+2.5**
ANMO	**Albuquerque**	**79.40**	**334**	P	P	07 43 36.9	-3.8
	comp=N,6.2nm,1.1s						
BOSA	**Boshof**	**79.60**	**118**	P	**P**	**07 43 42.7**	**+0.6**
	comp=N,4.1nm,1.0s,baz=168,slow=14,SNR=3.2						
BOSA				LR	LR	08 12 55.0	
	comp=N,68nm,19.8s,baz=34,slow=31						
BOSA	**Boshof**	**79.60**	**118**	P	**P**	**07 43 42.7**	**+0.6**
ECSD	**EROS Data Cent**	**84.91**	**344**	*e*P	P	07 44 04.2	-5.0
	comp=N,32nm,1.6s						
AFI	**Afiamalu**	**86.60**	**255**	LR	LR	08 11 40.8	
	comp=N,56nm,20.5s,baz=322,slow=28						
NVAR	**Mina Array Bea**	**86.98**	**327**	P	**P**	**07 44 20.7**	**+0.9**
	comp=N,0.5nm,0.7s,baz=151,slow=3.4,SNR=3.5						
NVAR	**Mina Array Bea**	**86.98**	**327**	P	**P**	**07 44 20.7**	**+0.9**
HWUT	**Hardware Ranch**	**87.13**	**333**	*e*P	**P**	**07 44 17.4**	**-3.1**
	comp=N,10nm,1.0s						
PDAR	**Pinedale Array**	**87.49**	**335**	P	**P**	**07 44 21.6**	**-0.6**
	comp=N,1.6nm,0.9s,baz=158,slow=4.8,SNR=7.8						
PDAR				LR	LR	08 18 14.4	
	comp=N,119nm,20.3s,baz=171,slow=32						
PDAR	**Pinedale Array**	**87.49**	**335**	P	**P**	**07 44 21.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**88.06**	**71**	P	**P**	**07 44 27.6**	**+2.3**
	comp=N,1.1nm,0.9s,baz=252,slow=3.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**88.06**	**71**	P	**P**	**07 44 27.6**	**+2.3**
MCMT	**McKenzie Canyo**	**90.42**	**334**	P	P	07 44 31.9	-4.0
	comp=N,1.6nm,1.1s						
BRTR	**Keskin Array B**	**126.21**	**65**	PKP	**PKPdf**	**07 50 37.6**	**+0.5**
	comp=N,0.5nm,0.5s,baz=179,slow=4.9,SNR=4.0						
BRTR	**Keskin Array B**	**126.21**	**65**	PKP	**PKPdf**	**07 50 37.6**	**+0.5**
AKTO	**Aktyubinsk**	**145.29**	**55**	PKPbc	**PKPdf**	**07 51 11.0**	**-0.8**
	comp=N,3.6nm,0.9s,baz=247,slow=1.7,SNR=9.5						
AKTO	**Aktyubinsk**	**145.29**	**55**	PKPbc	**PKPdf**	**07 51 11.0**	**-0.8**
ZALV	**Zalesovo Beam**	**159.81**	**37**	PKP	**PKPdf**	**07 51 31.4**	**-1.4**
	comp=N,0.3nm,0.3s,baz=335,slow=6.4,SNR=2.8						
ZALV				PKPab	**PKPab**	**07 52 12.2**	**+0.3**
	comp=N,0.5nm,0.4s,baz=289,slow=4.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**159.81**	**37**	PKP	**PKPdf**	**07 51 31.4**	**-1.4**
ZALV				PKPab	**PKPab**	**07 52 12.2**	**+0.3**
MKAR	**Makanchi Array**	**161.69**	**58**	PKPab	**PKPab**	**07 52 19.4**	**-1.1**
	comp=N,0.4nm,0.8s,baz=297,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**161.69**	**58**	PKPab	**PKPab**	**07 52 19.4**	**-1.1**

NNC 04 07:37:34.8±5.4**, 53°.86N×86°.37E, h0**km**, mb3.6, mpv3.1, 3C-7D, Error ellipse: s-maj=42.6km s-min=33.4km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.71**	**240**	⇑Pn	Pn	07 39 02.2	+1.6
	4.3nm,1.3s						
KURK				⇓Sn	Sn	07 40 05.7	-1.1
	1.5nm,0.9s						
KURK				⇓Lg	Lg	07 40 39.0	
	4.6nm,0.9s						
KURBB	**Kurchatov Arra**	**5.81**	**239**	⇑Pn	Pn	07 39 02.8	+0.8
	0.3nm,0.5s						
KURBB				⇓Sn	Sn	07 40 10.9	+1.6
	0.2nm,0.5s						
KURBB				⇑Lg	Lg	07 40 39.3	
	0.7nm,0.8s						
MK31	**Makanchi Array**	**7.54**	**202**	Pn	Pn	07 39 29.7	+3.8
	2.1nm,0.9s,baz=26,slow=14,SNR=48						
MK31				⇓Sn	Sn	07 40 58.0	+5.8
	1.6nm,1.2s,baz=26,slow=29,SNR=2.8						
MK31				⇓Lg	Lg	07 41 34.2	
	4.2nm,1.1s,baz=56,slow=3.8,SNR=4.9						
VOSK	**Vostochnaya**	**9.29**	**269**	⇓Pn	Pn	07 39 46.7	-3.1
	0.8nm,0.5s						
ZRNK	**Zerenda**	**10.41**	**272**	⇓Pn	Pn	07 40 02.3	-2.9
	3.0nm,1.0s						

FUNV 04 07:50:32.5, 6°.86N×73°.19W, h167km**, MW3.7, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.33**	**41**	⇑*e*P	Pn	07 51 01.5	-0.5
CAPV				*e*S	Sn	07 51 21.8	-3.0
VIGV	**El Vigia**	**2.67**	**42**	*e*P	Pn	07 51 16.1	-0.6
VIGV				*e*S	Sn	07 51 47.8	-3.1
SOCV	**Socops**	**2.71**	**58**	*e*P	Pn	07 51 16.4	-0.7
SOCV				*e*S	Sn	07 51 48.7	-3.0
ELOV	**Elorza**	**3.68**	**88**	*e*P	Pn	07 51 28.1	-1.1
VIRV	**Villa del Rosa**	**3.71**	**12**	*e*P	Pn	07 51 28.4	-1.1
VIRV				*e*S	Sn	07 52 09.1	-4.8
QARV	**Quebrada Arrib**	**4.25**	**38**	*e*P	Pn	07 51 35.0	-1.5
CURV	**Curarigua**	**4.48**	**45**	*e*P	Pn	07 51 37.8	-1.8
TEPV	**Terepaima**	**5.02**	**52**	*e*P	Pn	07 51 45.2	-1.4
SIQV	**Siquisique**	**5.04**	**41**	*e*P	Pn	07 51 44.7	-2.1
BAUV	**El Baul**	**5.51**	**68**	*e*P	Pn	07 51 50.2	-2.7
MAPV	**Macapo**	**5.54**	**57**	*e*P	Pn	07 51 51.6	-1.7
MONV	**Montecano**	**5.98**	**32**	*e*P	Pn	07 51 57.5	-1.6
TURV	**Turiamo**	**6.38**	**56**	*e*P	Pn	07 52 02.4	-2.1
CUPV	**Cœpira**	**7.98**	**66**	*e*P	Pn	07 52 22.9	-2.9

*CSEM **04** 07:50:33.9±0.4, 36°.27N×22°.37E, h12km, ML1.7/2, Error ellipse: s-maj=8.5km s-min=3.8km az=22.0*
*ISCJB **04** 07:50:34.2±1.5, 36°.30N±0°.07×22°.40E±0°.05, h11km±6km, Error ellipse: s-maj=12.5km s-min=5.5km az=25.8*
*THE **04** 07:50:34.9, 36°.33N×22°.40E, h1km±3km, ML1.7/2, Error ellipse: s-maj=3.4km s-min=0.7km az=205.0*
*ATH **04** 07:50:35.5, 36°.36N×22°.47E, h23km±1km, MD3.7/6*
ISC 04 07:50:34.9±1.5**, 36°.32N**±0°.06×**22°.38E**±0°.04**, h11**km±10km**, n22, σ0ˢ48**/38**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.44**	**355**	P	**Pg**	**07 50 43.2**	**-0.4**
DYR				S	**Sg**	**07 50 50.0**	**+0.5**
DYR	**Agios Nikonas**	**0.44**	**355**	P	**Pg**	**07 50 43.2**	**-0.4**
DYR				S	**Sg**	**07 50 50.0**	**+0.5**
KYTH	**Kithira**	**0.53**	**94**	P	**Pg**	**07 50 45.1**	**-0.2**
KYTH				S	**Sg**	**07 50 52.3**	**0.0**
KYTH	**Kithira**	**0.53**	**94**	*e*PB	**Pg**	**07 50 45.0**	**-0.2**
KYTH	**Kithira**	**0.53**	**94**	*e*Pb	**Pg**	**07 50 45.0**	**-0.2**
KYTH				S	**Sg**	**07 50 52.3**	**0.0**
VLI	**Veliai**	**0.60**	**48**	P	**Pg**	**07 50 46.3**	**-0.3**
VLI				S	**Sg**	**07 50 54.4**	**-0.1**
VLI	**Veliai**	**0.60**	**48**	*e*PN	**Pg**	**07 50 46.2**	**-0.3**
VLI	**Veliai**	**0.60**	**48**	P	**Pg**	**07 50 46.3**	**-0.3**
VLI				S	**Sg**	**07 50 54.4**	**-0.1**
PYL	**PYLOS**	**0.77**	**318**	P	**Pg**	**07 50 48.9**	**-0.9**
PYL				S	**Sb**	**07 51 01.4**	**+0.6**
PYL	**PYLOS**	**0.77**	**318**	*e*PN	**Pb**	**07 50 50.9**	**+0.6**
PYL				*e*SN	**Sn**	**07 51 02.4**	**-0.9**
PYL	**PYLOS**	**0.77**	**318**	P	**Pg**	**07 50 48.9**	**-0.9**
PYL	**PYLOS**	**0.77**	**318**	*e*Pn	**Pb**	**07 50 50.9**	**+0.6**
PYL				S	**Sb**	**07 51 01.4**	**+0.6**
PYL				*e*Sn	**Sn**	**07 51 02.4**	**-0.9**
ITM	**Ithomi**	**0.93**	**337**	P	**Pg**	**07 50 52.7**	**-0.2**
ITM				S	**Sb**	**07 51 06.0**	**+0.5**
ITM	**Ithomi**	**0.93**	**337**	*e*PN	**Pb**	**07 50 53.2**	**+0.2**
ITM				*e*SN	**Sn**	**07 51 06.6**	**-0.7**
ITM	**Ithomi**	**0.93**	**337**	P	**Pg**	**07 50 52.7**	**-0.2**
ITM	**Ithomi**	**0.93**	**337**	*e*Pn	**Pb**	**07 50 53.3**	**+0.2**
ITM				S	**Sb**	**07 51 06.0**	**+0.5**
ITM				*e*Sn	**Sn**	**07 51 06.6**	**-0.7**
VLX	**Vlachokerasia**	**1.05**	**360**	*e*PN	**Pb**	**07 50 55.0**	**-0.1**
VLX				*e*SN	**Sg**	**07 51 08.8**	**0.0**
VLX	**Vlachokerasia**	**1.05**	**360**	*e*Pn	**Pb**	**07 50 55.0**	**-0.1**
VLX				*e*Sn	**Sg**	**07 51 08.8**	**0.0**
DID	**Didima**	**1.37**	**30**	*e*PN	**Pb**	**07 51 00.6**	**+0.1**
DID	**Didima**	**1.37**	**30**	*e*Pn	**Pb**	**07 51 00.6**	**+0.1**
GUR	**Goura**	**1.61**	**359**	*e*PN	**Pn**	**07 51 03.7**	**+0.3**
GUR	**Goura**	**1.61**	**359**	*e*Pn	**Pn**	**07 51 03.7**	**+0.3**

*GUC **04** 07:53:01.5±0.4, 42°.90S×72°.49W, h2km±49km, ML3.6*
*ISCJB **04** 07:53:03.6±0.8, 42°.85S±0°.04×72°.6W±0°.2, h10km, mb3.8/3, Error ellipse: s-maj=21.7km s-min=6.2km az=4.3*
*IDC **04** 07:53:03.4±1.3, 42°.71S×72°.74W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/18, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=38.5km s-min=18.0km az=123.0*
ISC 04 07:53:02.1±1.0**, 42°.88S**±0°.04×**72°.4W**±0°.2**, h10**km**, n8, σ1ˢ30**/10**, mb4.2**/3**, Southern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.51**	**357**	*e*S	**Sb**	**07 53 19.2**	**-1.2**
HUNY				AML	AML	07 53 21.8	
	comp=E,2μm,0.5s						
PUEL	**Puelo Alto**	**1.22**	**3**	*e*P	**Pb**	**07 53 24.5**	**-0.7**
PUEL				*e*S	**Sn**	**07 53 42.2**	**+0.5**
PMCH	**Puerto Montt**	**1.45**	**344**	*e*P	**Pg**	**07 53 28.4**	**-1.4**
PMCH				*e*S	**Sg**	**07 53 48.4**	**-0.1**
PMCH				AML	AML	07 53 58.8	
	comp=N,1μm,0.4s						
PLCA	**Paso Flores**	**2.55**	**33**	Pn	**Pb**	**07 53 47.3**	**-0.6**
	comp=N,6.5nm,0.3s,baz=221,slow=16,SNR=74						
PLCA				Lg	Lg	07 54 24.3	
	comp=N,26nm,0.3s,baz=20,slow=2.4,SNR=22						
COYC	**Coyhaique**	**2.70**	**176**	*e*P	**Pb**	**07 53 49.0**	**-1.4**
COYC				*e*S	**Sg**	**07 54 28.6**	**-0.1**
QSPA	**South Pole Qui**	**47.37**	**180**	P	P	08 01 39.9	+3.9
	comp=N,2.4nm,1.1s,baz=170,slow=9.2						
TXAR	**Lajitas Array**	**77.41**	**332**	P	**P**	**08 04 59.0**	**+1.7**
	comp=N,0.2nm,0.7s,baz=159,slow=7.7,SNR=4.2						
PDAR	**Pinedale Array**	**91.58**	**334**	P	**P**	**08 06 10.4**	**+1.5**
	comp=N,1.9nm,1.3s,baz=145,slow=3.3,SNR=3.8						

*IDC **04** 07:55:44.8±17.0, 51°.41N×179°.55E, h0km, mb3.1/4, mb1 3.6/4, mb1mx3.3/28, mbtmp3.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/19, Error ellipse: s-maj=355.1km s-min=65.4km az=85.0*
*ISCJB **04** 07:56:05.7±0.9, 52°.0N±0°.2×179°.5E±0°.2, h186km±8km,*

mb3.0/4, Error ellipse: s-maj=39.6km s-min=15.4km az=1.1
*NEIC **04** 07:56:08.5, 52°.14N×179°.57E, h172km, MG2.9(AEIC), After AEIC.*
ISC 04 07:56:06.7±1.0**, 52°.1N**±0°.2×**179°.57E**±0°.09**, h180**km±10km**,**
n11, σ**0s.46**/13**, mb3.0**/4**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEAP	**Semis' Anvil P**	**0.08**	**177**	P	**Pn**	**07 56 30.9**	**+0.3**
LSPA	**Little Sitkin**	**0.63**	**259**	P	**Pn**	**07 56 32.6**	**+0.5**
LSPA				S	**Sn**	**07 56 50.8**	**-0.9**
AMKA	**Amchitka**	**0.72**	**194**	P	**Pn**	**07 56 33.0**	**+0.4**
AMKA				S	**Sn**	**07 56 52.4**	**-0.2**
GANE	**Gareloi Northe**	**1.05**	**104**	P	**Pn**	**07 56 35.1**	**+0.2**
TASE	**Tanaga Southea**	**1.50**	**98**	P	**Pn**	**07 56 39.1**	**+0.4**
TAPA	**Tanaga Point A**	**1.64**	**98**	P	**Pn**	**07 56 40.0**	**0.0**
TAPA				S	**Sn**	**07 57 05.9**	**0.0**
ILAR	**Eielson Array**	**21.35**	**41**	P	**P**	**08 00 39.9**	**+0.4**
	0.2nm,0.4s,baz=243,slow=7.6,SNR=8.6						
YKA	**Yellowknife Ar**	**35.49**	**47**	P	**P**	**08 02 45.6**	**0.0**
	0.1nm,0.5s,baz=283,slow=8.0,SNR=5.2						
JOW	**Kunigami**	**45.73**	**257**	LR	LR	08 20 04.6	
	comp=Z,49nm,20.0s,baz=133,slow=32						
PDAR	**Pinedale Array**	**47.06**	**72**	P	**P**	**08 04 19.9**	**-0.4**
	0.4nm,0.8s,baz=298,slow=5.8,SNR=3.2						
TXAR	**Lajitas Array**	**59.54**	**80**	P	**P**	**08 05 51.2**	**0.0**
	0.2nm,0.5s,baz=307,slow=5.7,SNR=8.9						

---

*ISCJB **04** 08:02:37.0±1.8, 39°.30S±0°.04×75°.04W±0°.09, h10km±14km, mb3.7/5, Error ellipse: s-maj=11.8km s-min=6.7km az=168.0*
*IDC **04** 08:02:38.4±1.1, 39°.55S×75°.06W, h0km, mb3.8/5, mb1 4.0/7, mb1mx4.0/7, mbtmp3.8/7, ML4.3/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=27.5km s-min=22.9km az=84.0*
*GUC **04** 08:02:40.2±0.9, 39°.42S×74°.94W, h37km±5km, ML4.0*
ISC 04 08:02:38.3±3.8**, 39°.36S**±0°.05×**74°.91W**±0°.08**, h2**km±23km**,**
n21, σ**1s.68**/29**, mb3.9**/5**, 1C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.36**	**110**	*e*P	**Pn**	**08 03 04.0**	**-0.4**
VLCH				*e*S	**Sb**	**08 03 21.6**	**-0.7**
VLCH				AML	AML	08 03 22.5	
	comp=E,2μm,0.4s						
TMU	**Temuco**	**1.90**	**72**	⇑*i*P	**Pb**	**08 03 13.3**	**-0.4**
TMU				*i* S	**Sb**	**08 03 37.8**	**-0.1**
PUYE	**Entre Lagos**	**2.21**	**128**	*e*P	**Pn**	**08 03 16.7**	**+0.6**
PUYE				*i* S	**Sn**	**08 03 42.6**	**-1.4**
PUYE				AML	AML	08 03 53.0	
	comp=N,2μm,0.5s						
AGCH	**Angol**	**2.32**	**49**	⇓*i*P	**Pn**	**08 03 17.9**	**+0.4**
AGCH				*i* S	**Sn**	**08 03 46.3**	**-0.4**
AGCH				AML	AML	08 03 53.3	
	comp=E,3μm,0.3s						
PMCH	**Puerto Montt**	**2.63**	**145**	*e*P	**Pn**	**08 03 20.8**	**-0.9**
PMCH				*e*S	**Sn**	**08 03 51.2**	**-2.9**
PMCH				AML	AML	08 03 58.2	
	comp=E,343nm,0.3s						
CCHI	**Chillan**	**3.54**	**40**	⇓*e*P	**Pn**	**08 03 35.0**	**+0.7**
CCHI				*e*S	**Sn**	**08 04 16.3**	**-0.6**
CCHI				AML	AML	08 04 20.6	
	comp=N,130nm,0.7s						
PLCA	**Paso Flores**	**3.61**	**114**	Pn	**Pn**	**08 03 36.7**	**+1.3**
	comp=N,3.2nm,0.3s,baz=281,slow=12,SNR=49						
PLCA				Sn	**Sn**	**08 04 21.4**	**+2.7**
	comp=N,4.5nm,0.3s,baz=179,slow=20,SNR=4.4						
PLCA				LR	LR	08 05 10.9	
	comp=N,162nm,20.6s,baz=117,slow=42						
PLCA	**Paso Flores**	**3.61**	**114**	*e*P	**Pn**	**08 03 35.9**	**+0.5**
LMEL	**Las Melosas**	**6.67**	**36**	*e*P	**Pn**	**08 04 17.0**	**-0.6**
LMEL				*e*S	**Sn**	**08 05 32.6**	**-1.6**
CLCH	**Cerro Calan**	**6.91**	**32**	*e*P	**Pn**	**08 04 19.2**	**-1.5**
PEL	**Peldehue**	**7.07**	**30**	*e*P	**Pn**	**08 04 21.9**	**-1.1**
ROCH	**El Roble**	**7.11**	**27**	*e*P	**Pn**	**08 04 22.1**	**-1.4**
CFAA	**Coronel Fontan**	**9.45**	**37**	Pn	**Pn**	**08 04 53.2**	**-2.3**
	comp=N,0.2nm,0.3s,baz=212,slow=13,SNR=45						
CFAA				Sn	**Sn**	**08 06 38.7**	**-3.7**
	comp=N,0.1nm,0.3s,baz=122,slow=9.8,SNR=6.2						
CPUP	**Villa Florida**	**19.62**	**54**	P	**Pn**	**08 07 09.3**	**0.0**
	comp=N,0.7nm,0.3s,baz=220,slow=9.8,SNR=10						
CPUP				LR	LR	08 14 38.3	
	comp=N,61nm,18.2s,baz=10,slow=36						
LPAZ	**La Paz**	**23.73**	**16**	P	P	08 07 56.3	+3.7
	comp=N,1.3nm,0.7s,baz=209,slow=8.1,SNR=3.8						
SIV	**San Ignacio**	**26.24**	**31**	P	**P**	**08 08 18.5**	**+3.6**
	comp=N,1.0nm,0.9s,baz=214,slow=14,SNR=3.8						
BDFB	**Brasilia**	**33.34**	**52**	P	**P**	**08 09 18.6**	**+0.6**
	comp=N,0.7nm,0.5s,baz=187,slow=17,SNR=3.2						
QSPA	**South Pole Qui**	**50.89**	**180**	P	**P**	**08 11 39.6**	**-1.0**
	comp=N,1.7nm,0.8s,baz=93,slow=3.0,SNR=9.7						
TXAR	**Lajitas Array**	**73.40**	**334**	P	**P**	**08 14 12.6**	**+0.6**
	comp=N,0.6nm,0.5s,baz=156,slow=8.8,SNR=19						
BRTR	**Keskin Array B**	**126.31**	**65**	PKP	**PKPdf**	**08 21 42.3**	**-0.3**
	comp=N,0.3nm,0.5s,baz=243,slow=4.0,SNR=2.4						
MKAR	**Makanchi Array**	**161.80**	**58**	PKPab	**PKPab**	**08 23 28.5**	**+2.2**
	comp=N,0.2nm,0.6s,baz=316,slow=4.0,SNR=3.8						

---

*ISK **04** 08:05:29.6, 41°.05N×33°.81E, h5km, MD2.6*
*DDA **04** 08:05:29.9, 41°.08N×33°.86E, h3km, MD2.9*
*ISCJB **04** 08:05:30.5±0.5, 41°.05N±0°.03×33°.85E±0°.04, h1km±8km, Error ellipse: s-maj=5.4km s-min=4.0km az=37.8*
*CSEM **04** 08:05:30.6±0.1, 41°.06N×33°.85E, h2km, MD2.9, Error ellipse: s-maj=2.8km s-min=2.5km az=94.0*
ISC 04 08:05:30.1±0.8**, 41°.05N**±0°.02×**33°.82E**±0°.02**, h9**km±6km**,**
n32, σ**0s.59**/47**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILGA	**Ilgaz**	**0.08**	**271**	*i* P	**Pg**	**08 05 32.7**	**+0.2**
ILGA				*i* S	**Sg**	**08 05 34.3**	**+0.1**
ILGA	**Ilgaz**	**0.08**	**271**	*i* P	**Pg**	**08 05 32.7**	**+0.2**
ILGA				*i* S	**Sg**	**08 05 34.3**	**+0.1**
TOS	**Tosya**	**0.16**	**95**	PG	**Pg**	**08 05 33.4**	**-0.1**
TOS	**Tosya**	**0.16**	**95**	*i* Pg	**Pg**	**08 05 33.4**	**-0.1**
KAST	**KASTAMONU**	**0.45**	**11**	*i* P	**Pg**	**08 05 38.7**	**-0.2**
KAST				*i* S	**Sg**	**08 05 44.5**	**-0.3**
KAST	**KASTAMONU**	**0.45**	**11**	*i* P	**Pg**	**08 05 38.7**	**-0.2**
KAST				*i* S	**Sg**	**08 05 44.5**	**-0.3**
CANT	**Cankiri**	**0.47**	**199**	*e*PG	**Pg**	**08 05 40.1**	**+0.8**
BALT	**Daday**	**0.58**	**326**	*i* P	**Pg**	**08 05 41.6**	**+0.1**
BALT	**Daday**	**0.58**	**326**	*i* P	**Pg**	**08 05 41.6**	**+0.1**
ELDT	**Eldivan**	**0.63**	**208**	*i* P	**Pb**	**08 05 43.5**	**0.0**
ELDT				*i* S	**Sb**	**08 05 53.5**	**+1.0**
ELDT	**Eldivan**	**0.63**	**208**	*i* P	**Pb**	**08 05 43.5**	**0.0**
ELDT				*i* S	**Sb**	**08 05 53.5**	**+1.0**
BYBT	**Boyabat**	**0.83**	**59**	*e*PG	**Pb**	**08 05 46.5**	**-0.2**
BYBT	**Boyabat**	**0.83**	**59**	*e*Pg	**Pb**	**08 05 46.5**	**-0.2**
CTKT	**Corum**	**0.85**	**120**	*i* P	**Pb**	**08 05 46.8**	**-0.4**
CTKT	**Corum**	**0.85**	**120**	*i* P	**Pb**	**08 05 46.8**	**-0.4**
SAFT	**Safranbolu**	**0.88**	**283**	*e*PG	**Pb**	**08 05 47.7**	**+0.2**
SAFT				*e*SG	**Sb**	**08 05 60.0**	**+0.6**
SAFT	**Safranbolu**	**0.88**	**283**	*e*Pg	**Pb**	**08 05 47.7**	**+0.2**
SAFT				*e*Sg	**Sb**	**08 06 00.0**	**+0.6**
BZK	**Bozkurt**	**0.92**	**9**	*e*PG	**Pn**	**08 05 49.0**	**-0.2**
BZK				*e*SG	**Sn**	**08 06 02.5**	**-0.1**
BZK	**Bozkurt**	**0.92**	**9**	*e*Pg	**Pn**	**08 05 49.0**	**-0.2**
BZK				*e*Sg	**Sn**	**08 06 02.5**	**-0.1**
CORM	**Corum**	**1.07**	**144**	*e*PG	**Pb**	**08 05 50.8**	**-0.1**
CORM	**Corum**	**1.07**	**144**	*e*Pg	**Pb**	**08 05 50.8**	**-0.1**
DIKM	**Dikmen**	**1.24**	**61**	*e*PN	**Pg**	**08 05 54.5**	**+0.6**
DIKM	**Dikmen**	**1.24**	**61**	*e*Pn	**Pg**	**08 05 54.5**	**+0.6**
HAVZ	**Havza**	**1.44**	**88**	*i* P	**Pn**	**08 05 56.6**	**+0.2**
HAVZ				*i* S	**Sg**	**08 06 17.0**	**+0.6**
HAVZ	**Havza**	**1.44**	**88**	*i* P	**Pn**	**08 05 56.6**	**+0.2**
HAVZ				*i* S	**Sg**	**08 06 17.0**	**+0.6**
CDAG	**Cicekdag**	**1.49**	**163**	*i* P	**Pb**	**08 05 57.8**	**-0.2**
CDAG				*i* S	**Sn**	**08 06 16.4**	**-0.4**
CDAG	**Cicekdag**	**1.49**	**163**	*i* P	**Pb**	**08 05 57.8**	**-0.2**
CDAG				*i* S	**Sn**	**08 06 16.4**	**-0.4**
BBAL	**Bala**	**1.60**	**200**	*i* P	**Pn**	**08 05 55.8**	**-2.9**
BBAL				*i* S	**Sg**	**08 06 22.1**	**+0.6**
KAMT	**Kaman**	**1.68**	**183**	*e*PN	**Pb**	**08 06 01.6**	**+0.3**
KAMT	**Kaman**	**1.68**	**183**	*e*Pn	**Pb**	**08 06 01.6**	**+0.3**
YOZ	**Yozgat**	**1.82**	**140**	*e*PN	**Pb**	**08 06 03.5**	**-0.2**
YOZ	**Yozgat**	**1.82**	**140**	*e*Pn	**Pb**	**08 06 03.5**	**-0.2**

---

*MOS **04** 08:06:03.4±1.2, 53°.01N×160°.01E, h52km, mb4.3/25, Error ellipse: s-maj=10.8km s-min=5.9km az=88.2*
*ISCJB **04** 08:06:04.2±0.5, 52°.94N±0°.03×160°.05E±0°.06, h61km±3km, mb4.3/43, Error ellipse: s-maj=7.2km s-min=3.0km az=34.6*
*KRSC **04** 08:06:04.5±0.0, 52°.97N×160°.03E, h50km±30km, ML4.2*
*NEIC **04** 08:06:06.6±0.9, 53°.12N×159°.79E, h61km±7km, mb4.9/9, Error ellipse: s-maj=11.2km s-min=7.2km az=140.0*
*IDC **04** 08:06:07.6±1.8, 53°.14N×159°.74E, h73km±15km, mb3.8/32, mb1 3.9/33, mb1mx3.9/33, mbtmp3.8/33, MS3.1/1, Ms1 3.1/1, ms1mx2.4/49, Error ellipse: s-maj=15.7km s-min=10.5km az=143.0*
ISC 04 08:06:03.8±0.9**, 52°.91N**±0°.04×**160°.15E**±0°.04**, h46**km±7km**,**
n202, σ**1s.22**/239**, mb4.2**/43**, 4C-5D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.20**	**338**	PN	**Pn**	**08 06 11.8**	**+0.1**
SPN	**Mys Shipunski**	**0.20**	**338**	*e*P	**Pn**	**08 06 11.8**	**+0.1**
NLC	**Nalytchevo**	**0.55**	**298**	PN	**Pn**	**08 06 15.3**	**-0.1**
NLC	**Nalytchevo**	**0.55**	**298**	*e*P	**Pn**	**08 06 15.3**	**-0.1**
SDLR	**Sedlovina**	**0.85**	**296**	P	**Pn**	**08 06 19.6**	**+0.1**
UGLR	**Uglovaya**	**0.85**	**291**	P	**Pn**	**08 06 19.8**	**+0.2**
UGLR				*i* S	**Sn**	**08 06 31.0**	**0.0**
SMAR	**Somma**	**0.89**	**294**	P	**Pn**	**08 06 20.0**	**-0.1**
SMAR				*i* S	**Sn**	**08 06 31.1**	**-0.9**
PET	**Petropavlovsk**	**0.91**	**278**	⇓*i*PN	**Pn**	**08 06 20.2**	**0.0**
PET				*e*S	**Sn**	**08 06 31.7**	**-0.5**
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.7s						
PET				smax	smax		
	comp=E,4μm,0.5s						
PET	**Petropavlovsk**	**0.91**	**278**	*e*Pn	**Pn**	**08 06 20.2**	**0.0**
PET				*e*Sn	**Sn**	**08 06 31.5**	**-0.8**
PET	**Petropavlovsk**	**0.91**	**278**	P	**Pn**	**08 06 20.3**	**0.0**
PET				*i* S	**Sn**	**08 06 32.1**	**-0.1**
AVH	**Avacha**	**0.92**	**293**	P	**Pn**	**08 06 20.9**	**+0.4**
AVH				*i* S	**Sn**	**08 06 31.8**	**-0.8**
KRER	**Koryakskii**	**0.93**	**296**	P	**Pn**	**08 06 21.1**	**+0.4**
KRER				*i* S	**Sn**	**08 06 32.5**	**-0.6**
INSR	**Institute**	**0.95**	**280**	*e*P	**Pn**	**08 06 20.2**	**-0.5**
INSR				*i* S	**Sn**	**08 06 32.2**	**-0.9**
KOK	**Koryaka**	**0.99**	**293**	P	**Pn**	**08 06 21.7**	**+0.3**
RUS	**Russkaya**	**1.11**	**245**	PN	**Pn**	**08 06 22.9**	**+0.1**
RUS				S	**Sn**	**08 06 36.6**	**-0.3**
RUS	**Russkaya**	**1.11**	**245**	P	**Pn**	**08 06 22.9**	**+0.1**
RUS				*i* S	**Sn**	**08 06 36.6**	**-0.3**
KII	**Karymskiy**	**1.20**	**340**	*e*P	**Pn**	**08 06 24.4**	**+0.1**
KII				*i* S	**Sn**	**08 06 38.5**	**-0.9**
MTVR	**Mutnovka**	**1.27**	**251**	*e*P	**Pn**	**08 06 25.9**	**+0.6**
MTVR				*i* S	**Sn**	**08 06 41.8**	**+0.6**
ASAK	**Asacha**	**1.47**	**250**	P	**Pn**	**08 06 29.0**	**+1.1**
ASAK				*i* S	**Sn**	**08 06 47.1**	**+1.1**
PETK	**Petropavlovsk-**	**1.50**	**279**	P	**Pn**	**08 06 29.1**	**+0.9**
	comp=E,236nm,0.3s,baz=95,slow=19,SNR=1981						
PETK				S	**Sn**	**08 06 47.5**	**+1.0**
	comp=E,157nm,0.3s,baz=90,slow=31,SNR=19						
PETK	**Petropavlovsk-**	**1.50**	**279**	*e*PN	**Pn**	**08 06 29.1**	**+0.9**
PETK				pmax	pmax		
	comp=Z,236nm,0.3s						
PETK	**Petropavlovsk-**	**1.50**	**279**	P	**Pn**	**08 06 29.1**	**+0.9**
PETK				S	**Sn**	**08 06 47.5**	**+1.0**
APC	**Apacha**	**1.81**	**272**	*e*P	**Pn**	**08 06 34.3**	**+1.8**
APC				*i* S	**Sn**	**08 06 56.1**	**+1.9**
MKZ	**Mys Kozlova**	**1.90**	**29**	PN	**Pn**	**08 06 33.2**	**-0.4**
MKZ				S	**Sn**	**08 06 54.8**	**-1.5**
MKZ	**Mys Kozlova**	**1.90**	**29**	*e*P	**Pn**	**08 06 33.2**	**-0.4**
MKZ				*i* S	**Sn**	**08 06 54.8**	**-1.5**
MIPR	**Malaya Ipel'ka**	**2.17**	**254**	P	**Pn**	**08 06 39.3**	**+1.9**
TUMR	**Tumrok**	**2.38**	**360**	*e*P	**Pn**	**08 06 41.6**	**+1.2**
TUMR				*i* S	**Sn**	**08 07 09.6**	**+1.3**
KMNR	**Kamenistaya**	**2.85**	**1**	*e*P	**Pn**	**08 06 48.8**	**+2.0**
KMNR				*i* S	**Sn**	**08 07 20.8**	**+0.8**
BZMR	**Bezymyannaya**	**3.04**	**4**	*e*P	**Pn**	**08 06 51.7**	**+2.3**
BZMR				*i* S	**Sn**	**08 07 26.2**	**+1.6**
KIRR	**Kirishev**	**3.05**	**2**	*e*P	**Pn**	**08 06 51.8**	**+2.2**
KIRR				*i* S	**Sn**	**08 07 27.3**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.05**	**6**	*e*P	**Pn**	**08 06 52.0**	**+2.4**
BZGR				*i* S	**Sn**	**08 07 28.0**	**+3.1**
KPT	**Kopyto**	**3.06**	**1**	*e*P	**Pn**	**08 06 51.6**	**+1.9**
KPT				*i* S	**Sn**	**08 07 26.5**	**+1.4**
BZWR	**Bezymyannyi-We**	**3.07**	**4**	*e*P	**Pn**	**08 06 52.3**	**+2.5**
BZWR				*i* S	**Sn**	**08 07 28.0**	**+2.7**
ESO	**Esso**	**3.14**	**345**	PN	**Pn**	**08 06 52.0**	**+1.3**
ESO				S	**Sn**	**08 07 28.0**	**+1.1**
ESO	**Esso**	**3.14**	**345**	*e*P	**Pn**	**08 06 52.0**	**+1.3**
ESO				*i* S	**Sn**	**08 07 28.0**	**+1.1**
KOZ	**Kozyrevsk**	**3.16**	**357**	*e*P	**Pn**	**08 06 53.0**	**+2.0**
KOZ				*i* S	**Sn**	**08 07 28.4**	**+1.0**
KOZR	**Kozyr**	**3.17**	**357**	PN	**Pn**	**08 06 53.0**	**+1.9**
KOZR				S	**Sn**	**08 07 28.4**	**+0.9**
SKR	**Severo-Kuril's**	**3.35**	**230**	*e*PN	**Pn**	**08 06 53.2**	**-0.4**
SKR				*e*S	**Sn**	**08 07 32.0**	**-0.1**
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax	smax		
	comp=N,150nm,0.5s						
SKR				smax	smax		
	comp=E,310nm,0.5s						
SRDR	**Sredinnyy**	**3.42**	**356**	*e*P	**Pn**	**08 06 55.9**	**+1.3**
SRDR				*i* S	**Sn**	**08 07 34.3**	**+0.4**
BKI	**Bering**	**4.13**	**54**	PN	**Pn**	**08 07 05.0**	**+0.8**
BKI	**Bering**	**4.13**	**54**	*e*P	**Pn**	**08 07 05.0**	**+0.8**
BKI				*i* S	**Sn**	**08 07 47.3**	**-3.8**
TILK	**Tilichiki**	**8.24**	**21**	*e*P	**Pn**	**08 08 03.3**	**+2.8**
ASAJ	**Asahikawa**	**14.55**	**240**	P	**Pn**	**08 09 28.3**	**+1.5**
	comp=E,0.9nm,0.3s,baz=326,slow=17,SNR=7.1						
ASAJ	**Asahikawa**	**14.55**	**240**	P	**Pn**	**08 09 28.3**	**+1.5**
YAK	**Yakutsk**	**18.59**	**311**	*i* P	**P**	**08 10 16.3**	**-0.4**
USRK	**Ussuriysk Arra**	**20.46**	**256**	P	**P**	**08 10 37.0**	**-0.3**
	comp=E,3.0nm,0.7s,baz=43,slow=10,SNR=5.7						
MJA0	**Matsu Arr-Jizo**	**22.44**	**232**	*e*P	**P**	**08 11 00.1**	**+1.4**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**22.46**	**232**	*i* P	**P**	**08 11 00.2**	**+1.3**
MAT	**Matsushiro**	**22.46**	**232**	P	**P**	**08 10 59.6**	**+0.7**
MJAR	**Matsushiro Arr**	**22.46**	**232**	P	**P**	**08 10 59.3**	**+0.5**
	comp=Z,6.1nm,0.7s,baz=16,slow=10,SNR=16						
MJAR	**Matsushiro Arr**	**22.46**	**232**	P	**P**	**08 10 59.3**	**+0.5**
KSRS	**Korea Array**	**27.18**	**248**	P	**P**	**08 11 44.6**	**+1.9**
	comp=Z,1.8nm,0.9s,baz=42,slow=9.1,SNR=6.6						
KSAR	**Wonju Array Be**	**27.21**	**248**	P	**P**	**08 11 44.6**	**+1.6**
COLA	**College**	**28.50**	**45**	*i* P	P	08 12 01.7	+7.4
JNU	**Nakatsue**	**28.82**	**238**	LR	LR	08 22 47.6	
	comp=Z,37nm,18.9s,baz=50,slow=35						
ILAR	**Eielson Array**	**28.92**	**45**	P	**P**	**08 11 58.8**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=256,slow=9.0,SNR=8.1						
ILAR	**Eielson Array**	**28.92**	**45**	P	**P**	**08 11 58.8**	**+0.7**
TLY	**Talaya**	**33.82**	**291**	*e*P	**P**	**08 12 44.2**	**+2.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**33.98**	**284**	P	**P**	**08 12 41.0**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=71,slow=7.4,SNR=3.5						
SONM				PcP	**PcP**	**08 15 20.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=94,slow=0.8,SNR=6.2						
SONM	**Songino Array**	**33.98**	**284**	P	**P**	**08 12 41.0**	**-1.8**
SONM				PcP	**PcP**	**08 15 20.0**	**+0.1**
INK	**Inuvik**	**33.99**	**38**	P	**P**	**08 12 43.4**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=310,slow=5.2,SNR=5.8						
INK	**Inuvik**	**33.99**	**38**	P	**P**	**08 12 43.4**	**+0.9**
JOW	**Kunigami**	**35.23**	**235**	P	**P**	**08 12 55.8**	**+2.1**
	comp=Z,12nm,0.5s,baz=94,slow=29,SNR=5.1						
JOW	**Kunigami**	**35.23**	**235**	P	**P**	**08 12 55.8**	**+2.1**
YKA	**Yellowknife Ar**	**43.27**	**42**	P	**P**	**08 14 01.3**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=298,slow=8.2,SNR=15						
YKA	**Yellowknife Ar**	**43.27**	**42**	P	**P**	**08 14 01.3**	**+1.0**
RES	**Resolute Bay**	**43.48**	**22**	P	**P**	**08 14 02.1**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=280,slow=3.9,SNR=26						
RES	**Resolute Bay**	**43.48**	**22**	P	**P**	**08 14 02.1**	**+0.3**
SPITS	**Spitsbergen Ar**	**47.32**	**350**	P	**P**	**08 14 31.4**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=58,slow=8.1,SNR=22						
SPITS	**Spitsbergen Ar**	**47.32**	**350**	P	**P**	**08 14 31.4**	**-0.8**
KURK	**Kurchatov**	**47.86**	**302**	*i* P	**P**	**08 14 34.7**	**-2.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**47.86**	**302**	P	**P**	**08 14 35.0**	**-1.7**
KURK				PcP	**PcP**	**08 16 04.0**	**-0.7**
KURBB	**Kurchatov Arra**	**47.96**	**302**	P	**P**	**08 14 35.0**	**-2.5**
	comp=Z,1.6nm,0.5s,baz=59,slow=7.7,SNR=12						
KURBB				PcP	**PcP**	**08 16 04.0**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=46,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**48.27**	**296**	P	**P**	**08 14 37.5**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=57,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**48.27**	**296**	*e*P	**P**	**08 14 37.4**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.27**	**296**	P	**P**	**08 14 37.5**	**-2.5**
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**08 14 54.6**	**-2.5**
	comp=Z,1.0nm,0.5s,baz=79,slow=7.7,SNR=6.0						
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**08 14 54.6**	**-2.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**08 14 54.6**	**-2.5**
ARCES	**ARCESS Array B**	**53.47**	**342**	P	**P**	**08 15 17.0**	**-1.7**
	comp=Z,4.6nm,1.0s,baz=32,slow=8.6,SNR=4.4						
ARCES				PcP	**PcP**	**08 16 25.0**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=55,slow=4.6,SNR=4.4						
ARCES	**ARCESS Array B**	**53.47**	**342**	P	**P**	**08 15 17.0**	**-1.7**
ARCES				PcP	**PcP**	**08 16 25.0**	**-0.1**
AAK	**Ala-Archa**	**55.19**	**296**	P	**P**	**08 15 29.7**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=62,slow=6.1,SNR=5.3						
AAK	**Ala-Archa**	**55.19**	**296**	P	**P**	**08 15 29.7**	**-2.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**55.19**	**296**	P	**P**	**08 15 29.7**	**-2.1**
PDAR	**Pinedale Array**	**57.58**	**61**	P	**P**	**08 15 50.8**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=333,slow=2.5,SNR=8.1						
PDAR	**Pinedale Array**	**57.58**	**61**	P	**P**	**08 15 50.8**	**+1.9**
AKTO	**Aktyubinsk**	**57.97**	**312**	P	**P**	**08 15 48.9**	**-2.3**
	comp=Z,0.8nm,0.4s,baz=74,slow=10,SNR=3.9						
AKTO	**Aktyubinsk**	**57.97**	**312**	P	**P**	**08 15 48.9**	**-2.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**57.97**	**312**	P	**P**	**08 15 48.9**	**-2.3**
ULM	**Lac du Bonnet**	**58.92**	**47**	P	**P**	**08 15 58.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=329,slow=5.9,SNR=4.0						
ULM	**Lac du Bonnet**	**58.92**	**47**	P	**P**	**08 15 58.2**	**+0.4**
FINES	**FINESS Array B**	**60.30**	**337**	P	**P**	**08 16 06.0**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=35,slow=8.2,SNR=8.1						
FINES	**FINESS Array B**	**60.30**	**337**	P	**P**	**08 16 06.0**	**-1.2**
NB2	**NORSAR Subarra**	**63.73**	**344**	P	**P**	**08 16 29.1**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**63.73**	**344**	P	**P**	**08 16 29.4**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=22,slow=6.7,SNR=9.6						
NOA	**NORSAR Array B**	**63.73**	**344**	P	**P**	**08 16 29.4**	**-0.7**
HFS	**Hagfors**	**64.13**	**342**	P	**P**	**08 16 31.4**	**-1.4**
	comp=Z,2.4nm,0.4s,baz=44,slow=4.5,SNR=22						
HFS	**Hagfors**	**64.13**	**342**	P	**P**	**08 16 31.4**	**-1.4**
AKASG	**Malin Array Be**	**68.79**	**329**	P	**P**	**08 17 01.1**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=32,slow=6.0,SNR=4.1						
AKASG	**Malin Array Be**	**68.79**	**329**	*e*P	**P**	**08 17 00.8**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.79**	**329**	P	**P**	**08 17 01.1**	**-1.5**
KIEV	**Kiev**	**68.80**	**329**	*i* P	**P**	**08 17 00.7**	**-2.0**
TXAR	**Lajitas Array**	**70.68**	**67**	P	**P**	**08 17 16.4**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=298,slow=5.0,SNR=40						
TXAR				pP	**PcP**	**08 17 34.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=298,slow=5.1,SNR=3.3						
TXAR	**Lajitas Array**	**70.68**	**67**	P	**P**	**08 17 16.4**	**+1.6**
TXAR				pP	**PcP**	**08 17 34.8**	**-0.8**
KOLS	**Kolonicke sedl**	**72.42**	**332**	*e*P	**P**	**08 17 26.4**	**+1.5**
KOLS	**Kolonicke sedl**	**72.42**	**332**	*e*P	**P**	**08 17 26.4**	**+1.5**
CLL	**Collm**	**72.54**	**339**	*e*P	**P**	**08 17 25.0**	**-0.4**
CLL	**Collm**	**72.54**	**339**	*e*P	**P**	**08 17 25.0**	**-0.4**
BURAR	**Bucovina Array**	**72.75**	**330**	⇓*i*P	**P**	**08 17 26.1**	**-0.8**
TRPA	**Tarpa**	**73.08**	**332**	⇑*i*P	**P**	**08 17 29.2**	**+0.5**
VYHS	**Vyhne**	**73.76**	**334**	*e*P	**P**	**08 17 33.0**	**+0.3**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VYHS	**Vyhne**	**73.76**	**334**	*e*P	**P**	**08 17 33.0**	**+0.3**
DRGR		**74.24**	**331**	⇑*i*P	**P**	**08 17 35.5**	**-0.1**
MLR	**Muntele Rosu**	**74.42**	**328**	P	**P**	**08 17 37.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=319,slow=9.3,SNR=5.7						
MLR	**Muntele Rosu**	**74.42**	**328**	P	**P**	**08 17 37.1**	**+0.3**
MLR	**Muntele Rosu**	**74.42**	**328**	⇓*i*P	**P**	**08 17 37.4**	**+0.6**
TIRR	**Tirgusor**	**74.53**	**326**	⇓*i*P	P	08 17 42.0	+4.7
GERES	**GERESS Array B**	**74.69**	**338**	P	**P**	**08 17 37.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=28,slow=6.3,SNR=11						
GERES	**GERESS Array B**	**74.69**	**338**	P	**P**	**08 17 37.8**	**-0.5**
VOIR		**74.75**	**329**	⇑*i*P	**P**	**08 17 39.0**	**+0.3**
GIVF	**Givet**	**75.26**	**344**	*e*P	**P**	**08 17 40.3**	**-1.1**
GIVF	**Givet**	**75.26**	**344**	*e*P	**P**	**08 17 40.3**	**-1.1**
GIVF	**Givet**	**75.26**	**344**	*e*P	**P**	**08 17 40.3**	**-1.1**
BAIF	**Baives**	**75.41**	**344**	*e*P	**P**	**08 17 41.6**	**-0.6**
BAIF	**Baives**	**75.41**	**344**	*e*P	**P**	**08 17 41.6**	**-0.6**
BAIF	**Baives**	**75.41**	**344**	*e*P	**P**	**08 17 41.6**	**-0.6**
GZR	**Gura Zlata**	**75.48**	**330**	⇑*i*P	**P**	**08 17 42.1**	**-0.8**
BZS	**Buzias**	**75.62**	**331**	⇓*i*P	**P**	**08 17 43.4**	**-0.2**
WRA	**Warramunga Arr**	**75.93**	**205**	P	**P**	**08 17 45.7**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=18,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**75.93**	**205**	P	**P**	**08 17 45.7**	**+0.3**
CDF	**Champ du Feu**	**76.45**	**342**	*e*P	**P**	**08 17 48.3**	**0.0**
	comp=Z,6.0nm,0.5s						
CDF	**Champ du Feu**	**76.45**	**342**	*e*P	**P**	**08 17 48.3**	**0.0**
CDF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CDF	**Champ du Feu**	**76.45**	**342**	*e*P	**P**	**08 17 48.3**	**0.0**
	comp=Z,6.0nm,0.5s						
MEZF	**Maizieres J'vi**	**76.77**	**343**	*e*P	**P**	**08 17 49.5**	**-0.5**
MEZF	**Maizieres J'vi**	**76.77**	**343**	*e*P	**P**	**08 17 49.5**	**-0.5**
BRTR	**Keskin Array B**	**76.78**	**320**	P	**P**	**08 17 49.3**	**-1.1**
	comp=Z,1.2nm,1.1s,baz=90,slow=3.7,SNR=4.7						
BRTR	**Keskin Array B**	**76.78**	**320**	P	**P**	**08 17 49.3**	**-1.1**
HAU	**Haudompre**	**77.02**	**342**	*e*P	**P**	**08 17 51.3**	**-0.1**
HAU	**Haudompre**	**77.02**	**342**	*e*P	**P**	**08 17 51.3**	**-0.1**
HAU	**Haudompre**	**77.02**	**342**	*e*P	**P**	**08 17 51.3**	**-0.1**
SFTF	**Sexfontaines**	**77.06**	**343**	*e*P	**P**	**08 17 50.0**	**-1.7**
	comp=Z,25nm,0.7s						
SFTF	**Sexfontaines**	**77.06**	**343**	*e*P	**P**	**08 17 50.0**	**-1.7**
	comp=Z,25nm,0.6s						
HINF	**Hinteralfeld**	**77.10**	**342**	*e*P	**P**	**08 17 51.6**	**-0.4**
HINF	**Hinteralfeld**	**77.10**	**342**	*e*P	**P**	**08 17 51.6**	**-0.4**
HINF	**Hinteralfeld**	**77.10**	**342**	*e*P	**P**	**08 17 51.6**	**-0.4**
GRR	**Gorron**	**77.79**	**347**	*e*P	**P**	**08 17 55.5**	**-0.2**
GRR	**Gorron**	**77.79**	**347**	*e*P	**P**	**08 17 55.5**	**-0.2**
GRR	**Gorron**	**77.79**	**347**	*e*P	**P**	**08 17 55.5**	**-0.2**
SGMF	**Saint Gilles**	**78.14**	**348**	*e*P	**P**	**08 17 57.6**	**-0.1**
SGMF	**Saint Gilles**	**78.14**	**348**	*e*P	**P**	**08 17 57.6**	**-0.1**
SGMF	**Saint Gilles**	**78.14**	**348**	*e*P	**P**	**08 17 57.6**	**-0.1**
ROSF	**Rostrenen**	**78.15**	**349**	*e*P	**P**	**08 17 57.7**	**0.0**
ROSF	**Rostrenen**	**78.15**	**349**	*e*P	**P**	**08 17 57.7**	**0.0**
ROSF	**Rostrenen**	**78.15**	**349**	*e*P	**P**	**08 17 57.7**	**0.0**
LOR	**Lormes**	**78.17**	**344**	*e*P	**P**	**08 17 57.7**	**-0.2**
LOR	**Lormes**	**78.17**	**344**	*e*P	**P**	**08 17 57.7**	**-0.2**
SSF	**Saint Saulge**	**78.43**	**344**	*e*P	**P**	**08 17 59.9**	**+0.6**
SSF	**Saint Saulge**	**78.43**	**344**	*e*P	**P**	**08 17 59.9**	**+0.6**
SSF	**Saint Saulge**	**78.43**	**344**	*e*P	**P**	**08 17 59.9**	**+0.6**
AVF	**Avril sur Loir**	**78.72**	**344**	*e*P	**P**	**08 18 00.9**	**0.0**
	comp=Z,38nm,1.1s						
AVF	**Avril sur Loir**	**78.72**	**344**	*e*P	**P**	**08 18 00.9**	**0.0**
AVF	**Avril sur Loir**	**78.72**	**344**	*e*P	**P**	**08 18 00.9**	**0.0**
	comp=Z,38nm,1.1s						
BGF	**Bois d'Agland**	**79.03**	**344**	*e*P	**P**	**08 18 02.6**	**0.0**
BGF	**Bois d'Agland**	**79.03**	**344**	*e*P	**P**	**08 18 02.6**	**0.0**
BGF	**Bois d'Agland**	**79.03**	**344**	*e*P	**P**	**08 18 02.6**	**0.0**
LPL	**La Plagne**	**79.34**	**341**	*e*P	**P**	**08 18 05.5**	**+0.9**
	comp=Z,9.7nm,0.5s						
LPL	**La Plagne**	**79.34**	**341**	*e*P	**P**	**08 18 05.5**	**+0.9**
LPL	**La Plagne**	**79.34**	**341**	*e*P	**P**	**08 18 05.5**	**+0.9**
	comp=Z,9.7nm,0.5s						
LPG	**La Plagne**	**79.35**	**341**	*e*P	**P**	**08 18 05.7**	**+0.9**
	comp=Z,25nm,0.9s						
LPG	**La Plagne**	**79.35**	**341**	*e*P	**P**	**08 18 05.7**	**+0.9**
LPG	**La Plagne**	**79.35**	**341**	*e*P	**P**	**08 18 05.7**	**+0.9**
	comp=Z,25nm,0.9s						
TCF	**Toulx Ste Croi**	**79.39**	**345**	*e*P	**P**	**08 18 04.7**	**+0.1**
TCF	**Toulx Ste Croi**	**79.39**	**345**	*e*P	**P**	**08 18 04.7**	**+0.1**
TCF	**Toulx Ste Croi**	**79.39**	**345**	*e*P	**P**	**08 18 04.7**	**+0.1**
ASAR	**Alice Springs**	**79.61**	**204**	P	**P**	**08 18 06.9**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=14,slow=5.7,SNR=13						
ASAR	**Alice Springs**	**79.61**	**204**	P	**P**	**08 18 06.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**80.08**	**342**	*e*P	**P**	**08 18 09.4**	**+1.0**
	comp=Z,16nm,0.7s						
ORIF	**Oris-en-Rattie**	**80.08**	**342**	*e*P	**P**	**08 18 09.4**	**+1.0**
ORIF	**Oris-en-Rattie**	**80.08**	**342**	*e*P	**P**	**08 18 09.4**	**+1.0**
	comp=Z,16nm,0.7s						
MBDF	**Montbardon**	**80.09**	**341**	*e*P	**P**	**08 18 08.3**	**-0.3**
	comp=Z,7.9nm,0.7s						
MBDF	**Montbardon**	**80.09**	**341**	*e*P	**P**	**08 18 08.3**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MBDF	Montbardon	80.09	341	eP	P	08 18 08.3	-0.3
	comp=Z,7.9nm,0.7s						
CAF	Calviac	80.74	344	eP	P	08 18 12.7	+0.8
	comp=Z,7.6nm,0.7s						
CAF	Calviac	80.74	344	eP	P	08 18 12.7	+0.8
CAF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CAF	Calviac	80.74	344	eP	P	08 18 12.7	+0.8
	comp=Z,7.6nm,0.7s						
PGF	Pioggiola	81.71	339	eP	P	08 18 17.5	+0.3
PGF	Pioggiola	81.71	339	eP	P	08 18 17.5	+0.3
PGF	Pioggiola	81.71	339	eP	P	08 18 17.5	+0.3
MMAI	Mount Meron Ar	81.87	316	P	P	08 18 17.7	-0.4
	comp=Z,0.6nm,0.3s,baz=35,slow=7.9,SNR=4.7						
MMAI	Mount Meron Ar	81.87	316	P	P	08 18 17.7	-0.4
ASF	Jabal al Asfar	81.95	314	P	P	08 18 18.1	-0.5
	comp=Z,5.4nm,1.1s,baz=79,slow=5.2,SNR=4.3						
ASF	Jabal al Asfar	81.95	314	P	P	08 18 18.1	-0.5
SJPF	Ste Jean	83.01	346	eP	P	08 18 25.7	+1.8
SJPF	Ste Jean	83.01	346	eP	P	08 18 25.7	+1.8
SJPF	Ste Jean	83.01	346	eP	P	08 18 25.7	+1.8
ETSF	Etsaut	83.13	346	eP	P	08 18 25.0	+0.4
	comp=Z,8.5nm,0.7s						
ETSF	Etsaut	83.13	346	eP	P	08 18 25.0	+0.4
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ETSF	Etsaut	83.13	346	eP	P	08 18 25.0	+0.4
	comp=Z,8.5nm,0.7s						
EIL	Elat	84.95	314	P	P	08 18 33.2	-0.7
	comp=Z,1.8nm,0.4s,baz=75,slow=12,SNR=3.8						
EIL	Elat	84.95	314	P	P	08 18 33.2	-0.7
ESDC	Sonseca Array	86.77	348	P	P	08 18 41.6	-1.3
	comp=Z,0.5nm,0.3s,baz=9.7,slow=4.8,SNR=4.6						
ESDC	Sonseca Array	86.77	348	P	P	08 18 41.6	-1.3

RSPR 04 08:21:23.0,18°.33N×69°.20W,h97km±4km,MD3.7/5,6C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.49	339	⇑eP	Pn	08 21 37.2	-1.3
DR12				eS	Sn	08 21 49.6	-0.5
AGPR	Aguadilla, PR	1.98	86	⇑eP	Pn	08 21 55.3	+0.1
AGPR	Aguadilla, PR	1.98	86	eS	Sn	08 22 20.3	+0.4
CRPR	Cabo Rojo, PR	2.01	99	⇑eP	Pn	08 21 54.5	-1.0
CRPR	Cabo Rojo, PR	2.01	99	eS	Sn	08 22 20.5	0.0
SDDR	Presa de Saban	2.09	289	⇑eP	Pn	08 21 56.6	-0.1
SDDR	Presa de Saban	2.09	289	eS	Sn	08 22 22.6	+0.2
AOPR	Arecibo Observ	2.32	89	⇑eP	Pn	08 21 58.7	-1.0
AOPR	Arecibo Observ	2.32	89	eS	Sn	08 22 27.6	-0.2
HUMP	Col San Antoni	3.19	93	⇑eP	Pn	08 22 11.2	0.0
HUMP	Col San Antoni	3.19	93	eS	Sn	08 22 48.8	+0.5

*ISK **04** 08:33:03.3,37°.78N×29°.12E,h12km,MD2.8*
*ISCJB **04** 08:33:04.1±0.5,37°.83N±0°.03×29°.10E±0°.05,h9km±5km, Error ellipse: s-maj=6.4km s-min=4.5km az=13.8*
*DDA **04** 08:33:04.2,37°.83N×29°.08E,h5km,MD2.6*
*CSEM **04** 08:33:04.0±0.2,37°.81N×29°.10E,h8km,MD2.8,Error ellipse: s-maj=4.1km s-min=3.0km az=104.0*
ISC 04 08:33:04.1±0.9,**37°.82N**±0°.02×**29°.09E**±0°.03,**h9**km±7km, **n24**,σ**0s.42**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.08	216	ePG	Pg	08 33 06.1	-0.3
DENT	Denizli	0.08	216	ePg	Pg	08 33 06.1	-0.3
DNZL	Cakiroluk	0.13	196	i P	Pg	08 33 07.1	-0.2
DNZL				i S	Sg	08 33 10.1	+0.6
DNZL	Cakiroluk	0.13	196	i P	Pg	08 33 07.1	-0.2
DNZL				i S	Sg	08 33 10.1	+0.6
KHL	Karahalli	0.61	34	ePG	Pg	08 33 16.0	+0.1
KHL	Karahalli	0.61	34	ePg	Pg	08 33 16.0	+0.1
KHAL	Karahalli	0.64	30	i P	Pg	08 33 16.1	-0.3
KHAL				i S	Sg	08 33 24.2	-0.6
KHAL	Karahalli	0.64	30	i P	Pg	08 33 16.1	-0.3
KHAL				i S	Sg	08 33 24.2	-0.6
GOLH	Golhisar	0.69	147	i P	Pg	08 33 17.6	+0.2
GOLH				i S	Sb	08 33 28.6	+0.6
GOLH	Golhisar	0.69	147	i P	Pg	08 33 17.6	+0.2
GOLH				i S	Sb	08 33 28.6	+0.6
KULA	Kula-Manisa	0.77	334	ePG	Pg	08 33 19.7	+0.6
KULA				eSG	Sb	08 33 31.2	+0.7
KULA	Kula-Manisa	0.77	334	ePg	Pg	08 33 19.7	+0.6
KULA				eSg	Sb	08 33 31.2	+0.7
MANT	Manisa	0.79	328	i P	Pg	08 33 19.3	-0.1
MANT				i S	Sg	08 33 30.0	+0.2
MANT	Manisa	0.79	328	i P	Pg	08 33 19.3	-0.1
MANT				i S	Sg	08 33 30.0	+0.2
YER	Yerkesik	0.94	224	ePG	Pg	08 33 21.5	-0.7
YER	Yerkesik	0.94	224	ePg	Pg	08 33 21.5	-0.7
AYDN	Tasoluk	0.97	261	i P	Pb	08 33 23.3	+0.1
AYDN				i S	Sg	08 33 35.4	-0.1
AYDN	Tasoluk	0.97	261	i P	Pb	08 33 23.3	+0.1
AYDN				i S	Sg	08 33 35.4	-0.1
GDZ	Gediz	1.30	13	i P	Pg	08 33 29.3	+0.1
GDZ				i S	Sb	08 33 45.6	-0.2
GDZ	Gediz	1.30	13	i P	Pg	08 33 29.3	+0.1
GDZ				i S	Sb	08 33 45.6	-0.2
ALT	Altintas	1.47	33	ePN	Pn	08 33 30.6	-0.3
ALT	Altintas	1.47	33	ePn	Pn	08 33 30.6	-0.3
TVSB	Tavsanli	1.65	10	ePN	Pn	08 33 33.1	-0.3
TVSB	Tavsanli	1.65	10	ePn	Pn	08 33 33.1	-0.3

NNC 04 08:44:38.0±3.0,**53°.75N**×**87°.22E**,**h0**km,**mb3.6**,**mpv3.1**, **8C-4D**,**Error ellipse: s-maj=23.8km s-min=16.1km az=59.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.09	244	⇑Pn	Pn	08 46 10.6	+1.3
	4.2nm,1.1s						
KURK				⇑Sn	Sn	08 47 23.3	+3.7
	4.7nm,1.3s						
KURK				⇑Lg	Lg	08 47 51.9	
	13nm,1.0s						
KURBB	Kurchatov Arra	6.19	243	⇑Pn	Pn	08 46 12.1	+1.5
	0.4nm,0.8s						
KURBB				⇑Sn	Sn	08 47 22.9	+0.9
	1.1nm,0.6s						
KURBB				⇓Lg	Lg	08 47 57.2	
	2.4nm,0.7s						
MK31	Makanchi Array	7.65	206	⇓Pn	Pn	08 46 33.4	+2.7
	1.6nm,1.0s,baz=27,slow=14,SNR=13						
MK31				⇑Sn	Sn	08 48 03.6	+5.6
	3.8nm,1.1s,baz=21,slow=26,SNR=7.3						
MK31				Lg	Lg	08 48 42.4	
	6.0nm,0.8s,baz=32,slow=28,SNR=4.3						
VOSK	Vostochnaya	9.79	271	⇓Pn	Pn	08 46 58.2	-1.8
	1.0nm,0.7s						
VOSK				⇓Sn	Sn	08 48 48.0	-2.6
	3.4nm,0.9s						
ZRNK	Zerenda	10.92	273	⇑Pn	Pn	08 47 15.8	+0.5
	1.8nm,0.8s						
ZRNK				⇑Sn	Sn	08 49 17.0	-1.2
	1.6nm,0.8s						

IDC 04 09:09:38.3±3.4,**7°.05S**×**125°.07E**,**h540**km±50km,**mb3.2**/8, **mb1 3.3**/11,**mb1mx3.3**/11,**mbtmp3.2**/11,**Error ellipse: s-maj=28.9km s-min=18.2km az=89.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.00	177	P	P	09 12 06.9	+0.5
	0.8nm,0.3s,baz=6.5,slow=6.3,SNR=18						
FITZ				S	S	09 14 05.2	-3.0
	0.1nm,0.3s,baz=143,slow=16,SNR=4.1						
WRA	Warramunga Arr	15.65	146	P	P	09 12 53.6	-1.1
	1.0nm,0.3s,baz=324,slow=11,SNR=19						
ASAR	Alice Springs	18.57	154	P	P	09 13 22.2	+0.3
	1.6nm,0.3s,baz=333,slow=9.0,SNR=104						
NWAO	Narrogin (SRO)	26.76	195	P	P	09 14 34.8	-0.2
	2.5nm,0.3s,baz=44,slow=7.8,SNR=5.8						
STKA	Stephens Creek	29.11	150	P	P	09 14 55.4	-0.2
	3.0nm,0.3s,baz=322,slow=9.0,SNR=13						
MJAR	Matsushiro Arr	45.08	15	P	P	09 17 05.4	-0.9
	1.0nm,0.8s,baz=193,slow=8.7,SNR=3.7						
USRK	Ussuriysk Arra	51.40	6	P	P	09 17 53.3	+0.2
	1.0nm,0.6s,baz=150,slow=8.1,SNR=3.6						
MKAR	Makanchi Array	65.68	329	P	P	09 19 29.8	+0.3
	0.5nm,0.4s,baz=123,slow=7.9,SNR=15						
PETK	Petropavlovsk-	66.01	21	P	P	09 19 31.7	+0.5
	1.9nm,1.0s,baz=205,slow=4.7,SNR=2.9						
ZALV	Zalesovo Beam	69.55	336	P	P	09 19 52.2	-0.7
	1.1nm,0.3s,baz=145,slow=6.1,SNR=6.8						
KURBB	Kurchatov Arra	70.07	331	P	P	09 19 55.9	-0.1
	0.5nm,0.3s,baz=135,slow=6.3,SNR=4.3						

*IDC **04** 09:15:48.8±1.0,1°.49N×120°.90E,h0km,mb4.1/6, mb1 4.3/7,mb1mx4.3/7,mbtmp4.1/7,MS3.3/1,Ms1 3.3/1, ms1mx2.4/40,Error ellipse: s-maj=75.4km s-min=17.5km az=67.0*
*ISCJB **04** 09:15:51.5±0.9,1°.4N±0°.1×120°.8E±0°.2,h33km,mb4.1/5, Error ellipse: s-maj=32.3km s-min=13.2km az=158.0*
*AUST **04** 09:17:08.0±0.0,5°.01S×121°.71E,h298km,Error ellipse: s-maj=2.3km s-min=1.0km az=41.0*
ISC 04 09:15:53.7±1.1,**1°.3N**±0°.1×**120°.8E**±0°.2,**h35**km,**n14**, σ**2s.09**/14,**mb4.2**/5,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	6.38	189	Pn	Pn	09 17 26.8	+1.5
	1.7nm,0.3s,baz=50,slow=16,SNR=4.9						
KAPI				LR	LR	09 20 15.2	
	comp=Z,255nm,18.8s,baz=357,slow=41						
MTN	Manton Dam	17.42	144	P	Pn	09 19 50.4	-3.8
	baz=12,SNR=8.8						
MTN				S	S	09 22 04.3	-70
	baz=12,SNR=3.1						
KDU	Kakadu	18.12	141	P	Pn	09 20 01.6	-1.2
	baz=13,SNR=4.6						
FITZ	Fitzroy Crossi	19.89	166	P	P	09 20 22.0	-0.2
	3.0nm,0.6s,baz=1.3,slow=9.5,SNR=7.0						
FITZ	Fitzroy Crossi	19.89	166	P	P	09 20 22.1	-0.1
	baz=14,SNR=3.8						
WRA	Warramunga Arr	24.97	149	P	P	09 21 15.7	+1.5
	9.8nm,0.8s,baz=333,slow=9.5,SNR=5.2						
MEEK	Meekatharra	27.88	184	P	P	09 21 36.7	-3.7
	baz=22,SNR=5.0						
ASAR	Alice Springs	27.93	154	P	P	09 21 42.0	+1.1
	2.7nm,0.5s,baz=329,slow=8.5,SNR=51						
ASAR				PcP	PcP	09 24 56.1	+0.2
	0.4nm,0.7s,baz=338,slow=2.1,SNR=4.4						
PATS	Pohnpei	37.81	81	S	S	09 29 35.3	+39
	baz=38,SNR=4.0						
STKA	Stephens Creek	38.46	151	P	P	09 23 13.8	+1.4
	5.9nm,0.7s,baz=331,slow=10,SNR=11						
STKA	Stephens Creek	38.46	151	P	P	09 23 14.2	+1.8
	baz=33,SNR=6.7						
CMSA	Cobar Meteorol	40.33	146	P	P	09 23 30.8	+2.8
	baz=35,SNR=8.3						
MKAR	Makanchi Array	56.34	329	P	P	09 25 31.1	-0.2
	0.5nm,0.7s,baz=129,slow=8.2,SNR=7.2						
ZALV	Zalesovo Beam	60.21	336	P	P	09 25 57.8	-0.3
	0.4nm,0.5s,baz=137,slow=11,SNR=3.0						

CASC 04 09:29:28.9±2.5,**8°.22N**×**82°.83W**,**h21**km±12km,**MD3.9**,**4C**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.55	322	⇑iP	Pb	09 29 38.5	-1.4
ACR				eS	Sb	09 29 47.3	-0.2
BRU2	Volcan	0.58	13	eP	Pb	09 29 40.4	-0.4
BRU2				eS	Sb	09 29 49.4	+0.6
TBS2		0.59	16	⇑iP	Pn	09 29 42.0	-0.3
TBS2				eS	Sn	09 29 50.7	-0.8
BUS	Buena Vista	1.61	325	⇑iP	Pn	09 29 55.7	-1.1
QCR	Quepos	1.78	312	⇑eP	Pn	09 29 56.8	-1.7
QCR				eS	Sn	09 30 21.6	+1.1
SJS	Escuela Geolog	2.09	325	eP	Pn	09 30 02.9	0.0
CGA2	Cerro Gallo 2	2.41	318	eP	Pn	09 30 08.8	+1.5
BCIP	Isla Barro Col	3.10	72	eP	Pn	09 30 16.8	+0.2
BCIP				eS	Sn	09 30 54.4	+1.3
UPIG		3.34	77	eP	Pn	09 30 21.0	+1.0
UPIG				eS	Sn	09 30 58.1	-1.0

IDC 04 09:47:22.4±2.0,**4°.61S**×**126°.45E**,**h0**km,**mb3.3**/2, **mb1 3.7**/3,**mb1mx3.5**/21,**mbtmp3.5**/3,**ML3.0**/1,**Error ellipse: s-maj=165.3km s-min=29.2km az=64.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.06	154	P	Pn	09 51 23.0	+0.4
	0.1nm,0.3s,baz=332,slow=12,SNR=5.9						
ASAR	Alice Springs	20.26	160	P	P	09 51 59.3	-0.4
	1.2nm,0.7s,baz=343,slow=11,SNR=21						
MKAR	Makanchi Array	64.33	328	P	P	09 58 00.0	+0.1
	0.2nm,0.5s,baz=126,slow=6.8,SNR=3.9						

*ISK **04** 09:53:42.8,37°.24N×28°.22E,h7km,MD2.4*
*ISCJB **04** 09:53:43.2±0.8,37°.24N±0°.05×28°.22E±0°.05,h0km,Error ellipse: s-maj=7.5km s-min=4.2km az=33.9*
*DDA **04** 09:53:43.3,37°.24N×28°.18E,h7km,MD2.8*
*CSEM **04** 09:53:43.2±0.2,37°.25N×28°.22E,h1km,MD2.4,Error ellipse: s-maj=5.0km s-min=3.3km az=39.0*
ISC 04 09:53:42.8±1.1,**37°.23N**±0°.04×**28°.23E**±0°.04,**h0**km,**n13**, σ**0s.94**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.10	157	ePG	Pg	09 53 45.8	+1.1
MLSB	Milas	0.37	280	ePG	Pg	09 53 49.9	0.0
MLSB				eSG	Sg	09 53 56.1	+1.5
MLSB	Milas	0.37	280	ePg	Pg	09 53 49.9	0.0
TURN	Turunc	0.46	140	i P	Pg	09 53 52.2	+0.6
TURN				i S	Sb	09 53 59.6	-1.6
TURN	Turunc	0.46	140	i P	Pg	09 53 52.2	+0.6
TURN				i S	Sb	09 53 59.6	-1.6
AYDN	Tasoluk	0.51	327	i P	Pg	09 53 52.8	+0.2
AYDN				i S	Sg	09 54 00.4	+1.1
AYDN	Tasoluk	0.51	327	i P	Pg	09 53 52.8	+0.2
AYDN				i S	Sg	09 54 00.4	+1.1
BDRM	Kayabasi	0.65	256	eP	Pg	09 53 55.3	+0.1
BDRM				i S	Sg	09 54 04.5	+0.8
BDRM	Kayabasi	0.65	256	eP	Pg	09 53 55.3	+0.1
BDRM				i S	Sg	09 54 04.5	+0.8
DAT	Datca	0.72	227	ePG	Pb	09 53 57.7	-0.6
DAT	Datca	0.72	227	ePg	Pb	09 53 57.7	-0.6
BODT	Bodrum	0.76	257	ePG	Pg	09 53 57.6	+0.4
BODT				eSG	Sg	09 54 08.2	+1.2
BODT	Bodrum	0.76	257	ePg	Pg	09 53 57.6	+0.4
BODT				eSg	Sg	09 54 08.2	+1.2

*ISCJB **04** 09:59:06.7±0.3,44°.28N±0°.01×7°.13E±0°.02,h11km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=152.0*
*LDG **04** 09:59:07.4±0.1,44°.29N×7°.17E,h2km,Md2.5/2,Ml2.5/7, Error ellipse: s-maj=2.2km s-min=1.2km az=65.0*
*ROM **04** 09:59:07.3±0.3,44°.30N×7°.20E,h10km±1km,Md1.8/5, Ml2.0/3,Error ellipse: s-maj=5.1km s-min=2.0km az=29.0*
*CSEM **04** 09:59:07.0±0.1,44°.29N×7°.15E,h10km,ML2.4/10,Error ellipse: s-maj=1.4km s-min=1.0km az=69.0*
*STR **04** 09:59:07.0±0.3,44°.29N×7°.14E,h5km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **04** 09:59:07.5,44°.28N×7°.16E,h9km,ML1.8*
ISC 04 09:59:06.7±0.8,**44°.29N**±0°.01×**7°.17E**±0°.02,**h14**km±5km, **n49**,σ**0s.55**/99,**1C**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	Sant Anna di V	0.12	112	⇑iPg	Pb	09 59 10.5	-0.4
STV				Sg	Sg	09 59 12.4	-0.2
STV	Sant Anna di V	0.12	112	P	Pb	09 59 10.5	-0.4
STV				Sg	Sg	09 59 12.4	-0.2
PZZ	Stroppo	0.22	351	Pg	Pb	09 59 12.4	-0.2
PZZ				Sg	Sg	09 59 15.6	+0.5
	391nm,0.3s						
PZZ	Stroppo	0.22	351	P	Pb	09 59 12.4	-0.2
PZZ				S	Sg	09 59 15.5	+0.5
DOI	San Damiano	0.22	15	Pg	Pb	09 59 12.5	-0.1
DOI				Sg	Sg	09 59 15.8	+0.7
DOI	San Damiano	0.22	15	Pg	Pb	09 59 12.5	-0.1
DOI				Sg	Sg	09 59 15.8	+0.7
TOUF	Mont Tournerai	0.28	168	Pg	Pg	09 59 13.0	+0.2
TOUF				Sg	Sg	09 59 16.5	-0.4
TOUF	Mont Tournerai	0.28	168	Pg	Pg	09 59 13.0	+0.2
TOUF				Sg	Sg	09 59 16.5	-0.4
SURF	Saint Ours	0.32	307	Pg	Pb	09 59 13.9	-0.4
SURF				Sg	Sg	09 59 16.8	-1.1
SURF	Saint Ours	0.32	307	Pg	Pb	09 59 13.9	-0.4
SURF				Sg	Sg	09 59 16.8	-1.1
AUTN	L'Aution	0.35	147	Pg	Pb	09 59 14.4	-0.5
AUTN				Sg	Sg	09 59 19.2	+0.3
AUTN	L'Aution	0.35	147	Pg	Pb	09 59 14.4	-0.5
AUTN				Sg	Sg	09 59 19.2	+0.3
SAOF	Saorge	0.41	137	Pg	Pb	09 59 15.6	-0.2
SAOF				Sg	Sg	09 59 21.2	+0.5
SAOF	Saorge	0.41	137	Pg	Pb	09 59 15.6	-0.2
SAOF				Sg	Sg	09 59 21.2	+0.5
SBF	Sospel	0.47	156	ePg	Pb	09 59 16.5	-0.3
SBF				eSg	Sg	09 59 23.0	+0.6
	36nm,0.2s						
SBF	Sospel	0.47	156	ePg	Pb	09 59 16.5	-0.3
SBF				eSg	Sg	09 59 23.0	+0.6
	18nm,0.2s						
MBDF	Montbardon	0.52	327	ePg	Pb	09 59 17.4	-0.3
MBDF				eSg	Sb	09 59 24.4	-0.7
	19nm,0.2s						
MBDF	Montbardon	0.52	327	ePg	Pb	09 59 17.4	-0.3
MBDF				eSg	Sb	09 59 24.4	-0.7
	9.3nm,0.2s						
CALN	Calern	0.57	200	Pg	Pb	09 59 18.4	-0.2
CALN				Sg	Sg	09 59 26.0	+0.3
CALN	Calern	0.57	200	Pg	Pb	09 59 18.4	-0.2
CALN				Sg	Sg	09 59 26.0	+0.3
NEGI	Seborga	0.59	139	P	Pb	09 59 18.8	0.0
NEGI				S	Sg	09 59 26.4	+0.3
IMI	Imperia	0.65	126	Pg	Pb	09 59 19.8	0.0
IMI				Sg	Sg	09 59 28.2	+0.2
	60nm,0.4s						
IMI	Imperia	0.65	126	P	Pb	09 59 19.8	0.0
IMI				S	Sg	09 59 28.2	+0.2
RORO	Rocca Rossa	0.67	105	Pg	Pb	09 59 20.4	+0.2
RORO				Sg	Sb	09 59 29.3	-0.1
	33nm,0.3s						
RORO	Rocca Rossa	0.67	105	P	Pb	09 59 20.3	+0.1
RORO				S	Sg	09 59 28.7	0.0
RORO				Sg	Sb	09 59 29.3	-0.1
	33nm,0.3s						
FRF	La Foret Royal	0.82	207	ePg	Pg	09 59 22.5	-0.1
FRF	La Foret Royal	0.82	207	ePn	Pn	09 59 23.8	-0.1
FRF				eSg	Sg	09 59 33.2	-0.2
FRF				eSn	Sn	09 59 37.0	+1.2
	35nm,0.2s						
FRF	La Foret Royal	0.82	207	ePg	Pg	09 59 22.5	-0.1
FRF	La Foret Royal	0.82	207	ePn	Pn	09 59 23.8	-0.1
FRF				eSg	Sg	09 59 33.2	-0.2
FRF				eSn	Sn	09 59 37.0	+1.2
	17nm,0.2s						
RSP	Reno Superiore	0.86	5	P	Pb	09 59 23.5	0.0
RSP				S	Sb	09 59 34.7	-0.2
ROTM	Rocchetta Tana	1.01	56	P	Pn	09 59 27.1	+0.6
ROTM				S	Sn	09 59 40.2	-0.4
PCP	Piancastagn	1.02	75	P	Pn	09 59 26.6	0.0
PCP				S	Sb	09 59 38.9	-0.5
LMR	La Mourre	1.07	207	ePn	Pb	09 59 27.0	0.0
LMR	La Mourre	1.07	207	ePg	Pn	09 59 27.6	+0.4
LMR				eSg	Sb	09 59 40.2	-0.6
	30nm,0.2s						
LMR	La Mourre	1.07	207	ePn	Pb	09 59 27.0	0.0
LMR	La Mourre	1.07	207	ePg	Pn	09 59 27.6	+0.4
LMR				eSg	Sb	09 59 40.2	-0.6
	15nm,0.2s						
ORIF	Oris-en-Rattie	1.11	305	ePg	Pg	09 59 28.0	-0.2
ORIF				eSg	Sn	09 59 43.0	-0.1
	7.2nm,0.2s						
ORIF	Oris-en-Rattie	1.11	305	ePg	Pg	09 59 28.0	-0.2
ORIF				eSg	Sn	09 59 43.0	-0.1
	3.6nm,0.2s						
LSD	Lago del Serru	1.17	359	P	Pg	09 59 29.3	0.0
LSD				S	Sb	09 59 43.8	-0.1
SMRF	Simiane la Rot	1.19	255	ePg	Pg	09 59 30.3	+0.7
SMRF				eSg	Sn	09 59 45.3	+0.4
	18nm,0.2s						
SMRF	Simiane la Rot	1.19	255	ePg	Pg	09 59 30.3	+0.7
SMRF				eSg	Sn	09 59 45.3	+0.4
	8.8nm,0.2s						
LPG	La Plagne	1.24	346	ePg	Pg	09 59 31.0	+0.3
LPG				eSg	Sg	09 59 46.9	0.0
	3.6nm,0.2s						
LPG	La Plagne	1.24	346	ePg	Pg	09 59 31.0	+0.3
LPG				eSg	Sg	09 59 46.9	0.0
	1.8nm,0.2s						
LPL	La Plagne	1.26	346	ePg	Pg	09 59 31.0	-0.1
LPL				eSg	Sg	09 59 47.5	0.0
	7.1nm,0.3s						
LPL	La Plagne	1.26	346	ePg	Pg	09 59 31.0	-0.1
LPL				eSg	Sg	09 59 47.5	0.0
	3.5nm,0.3s						
VIVF	Saint-Julien-l	1.87	288	ePn	Pb	09 59 39.9	-0.7
VIVF				eSn	Sn	10 00 02.5	+0.8
VIVF				eSg	Sg	10 00 07.6	+0.8
	5.4nm,0.4s						
VIVF	Saint-Julien-l	1.87	288	ePn	Pb	09 59 39.9	-0.7
VIVF				eSn	Sn	10 00 02.5	+0.8
VIVF				eSg	Sg	10 00 07.6	+0.8
	2.7nm,0.4s						
PGF	Pioggiola	2.20	142	ePn	Pn	09 59 43.6	+0.7
PGF				eSn	Sn	10 00 07.8	-2.1
	3.2nm,0.2s						
PGF	Pioggiola	2.20	142	ePn	Pn	09 59 43.6	+0.7
PGF				eSn	Sn	10 00 07.8	-2.1
	1.6nm,0.2s						

*NIED **04** 10:04:00,35°.90N×140°.90E,h47km,Mw4.6 Best double couple: Mo7.62000×10^15 NP1:φs18.00000°,δ71.00000°, λ87.00000°. NP2:φs208.00000°,δ19.00000°,λ100.00000°.*
*BJI **04** 10:04:28.9,35°.88N×140°.97E,h44km,mB4.9/30,mb4.6/40, Ms4.3/28,Ms7 4.1/31*
*MOS **04** 10:04:29.0±0.9,35°.87N×140°.99E,h33km,mb4.8/42,Error ellipse: s-maj=8.7km s-min=5.3km az=117.5*
*ISCJB **04** 10:04:30.6±0.4,35°.90N±0°.03×140°.94E±0°.04,h44km±3km, mb4.6/84,MS3.9/18,Error ellipse: s-maj=5.1km s-min=4.7km az=163.1*
*NEIC **04** 10:04:31.3±0.2,35°.81N×140°.90E,h35km,mb4.8/15, MW4.5(NIED),Error ellipse: s-maj=5.8km s-min=4.7km az=137.0*
NEIC Felt at Kashima and Tsukuba. Recorded [2 JMA] in Chiba and Ibaraki; [1 JMA] in Fukushima and Tochigi.
*JMA **04** 10:04:32.0±0.1,35°.89N×140°.85E,h39km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs44.00000°,δ69.00000°,λ92.00000°. NP2:φs218.00000°, δ21.00000°,λ85.00000°. Principal axes: T Plg66.0000°, Azm317.0000°; N Plg2.0000°, Azm223.0000°; P Plg24.0000°, Azm132.0000°;*
JMA Felt II J1.
*IDC **04** 10:04:34.3±1.5,35°.81N×140°.77E,h60km±14km,mb4.0/31, mb1 4.2/36,mb1mx4.1/41,mbtmp4.1/36,MS3.8/14, Ms1 3.8/14,ms1mx3.5/41 Error ellipse: s-maj=12.7km s-min=8.7km az=86.0*
ISC 04 10:04:31.2±0.4,**35°.86N**±0°.04×**140°.95E**±0°.04,**h34**km±1km, **h34km:pP-P**,**n214**,σ**1s.41**/265,**mb4.7**/84,**MS3.9**/19,**8C-6D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.17	205	⇑P	Pb	10 04 38.9	+1.2
CHOJ				S	Sb	10 04 43.7	+1.6
JYT	Yasato	0.71	301	⇓P	Pn	10 04 44.3	-0.6
JYT				S	Sn	10 04 53.1	-1.5
JHO	Hitachi	0.81	338	⇓P	Pn	10 04 46.0	-0.2
BSO4	Boso 4	1.00	210	P	Pb	10 04 50.9	+0.9
BSO3	Boso 3	1.11	199	P	Pb	10 04 51.5	-0.3
BSO1	Boso 1	1.20	179	P	Pb	10 04 52.0	-1.2
JAG	Ashikaga	1.34	295	⇓P	Pn	10 04 53.0	-0.5
MJAR	Matsushiro Arr	2.32	288	P	Pn	10 05 07.8	+0.8
	61nm,0.3s,baz=100,slow=8.6,SNR=394						
MJAR				S	Sn	10 05 30.5	-3.8
	35nm,0.3s,baz=107,slow=20,SNR=5.9						
MJAR				LR	LR	10 06 08.1	
	comp=Z,2μm,19.7s,baz=105,slow=43						
MJAR	Matsushiro Arr	2.32	288	P	Pn	10 05 07.8	+0.8
MJAR				S	Sn	10 05 30.5	-3.8
MAJO	Matsushiro	2.32	288	eP	Pn	10 05 08.1	+1.1

MAJO **Matsushiro** 2.32 288 *e*Pn **Pn** **10 05 08.1 +1.1**
MAT **Matsushiro** 2.32 288 P **Pn** **10 05 07.8 +0.8**
MAT *e*S **Sn** **10 05 35.5 +1.1**
JHJ **Hachijo jima 2** 2.90 200 P **Pn** **10 05 16.0 +1.1**
70nm,0.3s,baz=311,slow=0.3,SNR=25
JHJ S **Sn** **10 05 49.8 +1.2**
243nm,0.3s,baz=276,slow=23,SNR=11
JHJ LR LR 10 05 56.8
comp=Z,2μm,19.0s,baz=274,slow=30
ERM **Erimo** 6.38 15 *i* P **Pn** **10 06 01.9 -0.9**
ERM **Erimo** 6.38 15 *e*Pn **Pn** **10 06 02.5 -0.3**
ERM *e*Sn **Sn** **10 07 11.2 -3.2**
ASAJ **Asahikawa** 8.34 8 P **Pn** **10 06 28.8 -0.9**
10.0nm,0.3s,baz=223,slow=9.1,SNR=31
ASAJ S **Sn** **10 07 59.9 -2.8**
3.1nm,0.3s,baz=184,slow=31,SNR=2.9
ASAJ **Asahikawa** 8.34 8 *e*Pn **Pn** **10 06 28.8 -0.9**
ASAJ S **Sn** **10 07 59.9 -2.8**
JNU **Nakatsue** 8.75 255 P **Pn** **10 06 37.8 +2.5**
0.5nm,0.3s,baz=100,slow=6.1,SNR=4.9
JNU **Nakatsue** 8.75 255 *e*Pn **Pn** **10 06 35.6 +0.3**
CBIJ **Chichi jima** 8.80 173 P **Pn** **10 06 34.1 -1.9**
44nm,0.3s,baz=282,slow=16,SNR=16
CBIJ S Sn 10 08 05.6 -8.4
32nm,0.3s,baz=272,slow=22,SNR=7.5
CBIJ **Chichi jima** 8.80 173 P **Pn** **10 06 34.1 -1.9**
CBIJ S Sn 10 08 05.6 -8.4
YUK **Yuzh-Kuril'sk** 8.99 23 *i* P **Pn** **10 06 39.1 +0.5**
YUK *i* S **Sn** **10 08 14.1 -4.5**
YUK pmax pmax
comp=N,30nm,0.1s
YUK pmax pmax
comp=E,37nm,0.2s
YUK pmax pmax
comp=Z,107nm,0.3s
VLA **Vladivostok** 10.07 319 *i* P **Pn** **10 06 52.7 -0.7**
KSRS **Korea Array** 10.59 282 P **Pn** **10 07 03.3 +2.9**
comp=Z,0.7nm,0.3s,baz=95,slow=14,SNR=16
KSRS LR LR 10 11 07.2
comp=Z,378nm,20.8s,baz=137,slow=38
KSAR **Wonju Array Be** 10.62 282 P **Pn** **10 07 03.3 +2.5**
USRK **Ussuriysk Arra** 10.79 323 P **Pn** **10 07 05.4 +2.3**
comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=36
USRK LR LR 10 10 56.0
comp=Z,419nm,20.0s,baz=142,slow=36
YSS **Yuzh-Sakhalins** 11.17 6 *e*P **Pn** **10 07 08.0 -0.3**
YSS MLR MLR
comp=Z,200nm,16.0s
YSS **Yuzh-Sakhalins** 11.17 6 *e*Pn **Pn** **10 07 07.4 -1.0**
comp=Z,30nm,0.8s
MDJ **Mudanjiang** 12.31 319 P **Pn** **10 07 24.2 +0.2**
MDJ pP P 10 07 31.7 -4.1
MDJ sP 10 07 36.5
MDJ S **Sn** **10 09 40.4 +0.5**
MDJ ScP **ScP** **10 16 35.0 +0.3**
MDJ PcS **PcS** **10 16 38.8 +0.4**
MDJ pmax pmax
comp=Z,3.0nm,1.6s
MDJ pmax pmax
comp=Z,56nm,4.6s
MDJ LR LR
comp=N,180nm,24.3s
MDJ LR LR
comp=E,180nm,25.7s
MDJ LR LR
comp=Z,380nm,21.3s
HABR **Khabarovsk** 13.34 343 *e*P **Pn** **10 07 35.7 -2.3**
HABR *e* 10 10 02.7
HABR pmax pmax
comp=N,27nm,3.3s
HABR pmax pmax
comp=E,27nm,2.2s
HABR pmax pmax
comp=Z,53nm,3.3s
HABR MLR MLR
comp=Z,196nm,18.0s
JOW **Kunigami** 14.07 234 LR LR 10 13 08.9
comp=Z,174nm,20.4s,baz=296,slow=37
CN2 **Changchun** 14.29 308 *e*P **Pn** **10 07 52.3 +1.2**
CN2 *es*P 10 08 05.5
CN2 *e*S **Sn** **10 10 30.6 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,800nm,11.0s
KLR **Kul'dur** 14.97 336 *e*P **P** **10 08 06.2 +1.0**
NJ2 **Nanjing** 18.71 265 *e*P **Pn** **10 08 47.5 +0.2**
NJ2 pP **pP** **10 08 59.0 +3.3**
NJ2 PP **PnPn** **10 09 05.6 +6.0**
NJ2 S **Sn** **10 12 11.5 -4.1**
NJ2 sS **sS** **10 12 30.0 -2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,150nm,5.6s
NJ2 LR LR
comp=N,210nm,22.5s
NJ2 LR LR
comp=E,570nm,25.3s
NJ2 LR LR
comp=Z,310nm,24.9s
BJI **Beijing** 19.96 290 P **P** **10 08 57.5 -2.8**
BJI S **S** **10 12 39.7 -3.2**
BJI pmax pmax
comp=Z,11nm,0.5s
BJI pmax pmax
comp=Z,220nm,5.0s
BJI LR LR
comp=Z,150nm,28.5s
PETK **Petropavlovsk-** 20.89 29 P Pn 10 09 12.1 -1.0
comp=Z,8.6nm,1.1s,baz=205,slow=6.6,SNR=5.4
PETK LR LR 10 16 24.1
comp=Z,91nm,21.4s,baz=51,slow=34
PETK **Petropavlovsk-** 20.89 29 P Pn 10 09 12.1 -0.9
PETK pmax pmax
comp=Z,9.0nm,1.1s
PETK MLR MLR
comp=Z,91nm,21.5s
PETK **Petropavlovsk-** 20.89 29 P Pn 10 09 12.1 -1.0
TWG **Pinlang** 21.60 238 *e*P **P** **10 09 17.8 -0.5**
comp=Z,21nm,0.4s
WHN **Wuhan** 22.85 264 *e*P **P** **10 09 27.0 -4.5**
WHN *e*S S 10 13 23.0 -16
WHN LR LR
comp=Z,710nm,25.0s
HHC **Hu-ho-hao-te** 23.52 291 *e*P **P** **10 09 35.9 -2.3**
HHC pP **pP** **10 09 44.9 -2.8**
HHC sP **sP** **10 09 49.2 -2.7**
HHC PP **PnPn** **10 10 07.1 +1.6**
HHC S **S** **10 13 44.8 -5.0**
HHC sS sS 10 13 57.9 -8.1
HHC SS **SnSn** **10 14 30.0 +2.6**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,140nm,7.6s
HHC LR LR
comp=N,190nm,8.6s
HHC LR LR
comp=E,160nm,7.1s
HHC LR LR
comp=Z,130nm,5.0s
CLNS **Chul'man** 23.61 338 *e*P **P** **10 09 39.3 +0.4**
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,1.0s
XAN **Xi'an** 26.25 275 P **P** **10 10 01.6 -1.7**
XAN pP **pP** **10 10 08.4 -4.6**
XAN pmax pmax
comp=Z,2.0nm,0.6s
XAN LR LR
comp=N,110nm,10.8s
XAN LR LR
comp=Z,55nm,9.1s
ENH **Enshi** 26.88 267 *e*P **P** **10 10 06.5 -2.4**
comp=Z,14nm,0.8s
YAK **Yakutsk** 27.14 348 *e*P P 10 10 04.4 -6.4
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.2s
ULN **Ulaanbaatar** 27.72 306 *e*P **P** **10 10 15.5 -1.0**
comp=N,9.0nm,1.2s
SEY **Seymchan** 28.01 11 *i* P **P** **10 10 19.7 +1.0**
SONM **Songino Array** 28.15 306 P **P** **10 10 19.6 -0.7**
comp=N,3.9nm,0.6s,baz=107,slow=9.1,SNR=11
SONM LR LR 10 21 56.2
comp=N,158nm,19.7s,baz=80,slow=37
SONM **Songino Array** 28.15 306 P **P** **10 10 19.6 -0.7**
BOD **Bodaibo** 28.33 329 *e*P **P** **10 10 21.1 -0.5**
BOD pmax pmax
comp=Z,9.0nm,0.8s
LZH **Lanzhou** 29.91 282 *e*P P 10 10 27.5 -8.6
LZH pP pP 10 10 37.4 -8.5
LZH sP sP 10 10 41.2 -8.9
LZH PP PnPn 10 11 25.0 -7.9
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,72nm,5.6s
LZH LR LR
comp=N,220nm,10.5s
LZH LR LR
comp=E,390nm,14.8s
LZH LR LR
comp=Z,400nm,16.7s
IRK **Irkutsk** 30.62 314 *e*P P 10 10 35.0 -7.0
IRK pmax pmax
comp=Z,23nm,0.9s
GYA **Guiyang** 30.67 262 P **P** **10 10 43.8 +1.0**
GYA pP **pP** **10 10 52.3 -0.3**
GYA PP **PnPn** **10 11 44.2 +1.2**
GYA S **S** **10 15 41.8 -1.4**
GYA ScP **ScP** **10 17 20.0 -0.3**
GYA ScS **ScS** **10 21 14.5 -2.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,480nm,17.4s
GYA LR LR
comp=E,430nm,17.6s
GYA LR LR
comp=Z,470nm,18.2s
ZAK **Zakamensk** 30.72 310 *e*P **P** **10 10 42.0 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY **Talaya** 30.83 313 *e*P **P** **10 10 45.4 +1.5**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,124nm,17.0s
CD2 **Chengdu** 31.32 272 P **P** **10 10 49.5 +1.1**
CD2 pP **pP** **10 10 59.4 +1.2**
CD2 sP **sP** **10 11 03.6 +1.2**
CD2 PP **PnPn** **10 11 53.0 +1.7**
CD2 S **S** **10 15 52.3 -0.9**
CD2 sS **sS** **10 16 09.0 -0.4**
CD2 SS **SnSn** **10 17 39.6 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,90nm,5.4s
CD2 LR LR
comp=N,330nm,13.1s
CD2 LR LR
comp=Z,320nm,17.2s
GTA **Gaotai** 32.57 289 ⇑P **P** **10 10 59.7 +0.3**
GTA pP **pP** **10 11 09.3 +0.1**
GTA sP **sP** **10 11 13.2 -0.2**
GTA S **S** **10 16 14.3 +1.6**
GTA sS **sS** **10 16 29.5 +0.5**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,130nm,16.6s
GTA LR LR
comp=E,190nm,16.6s
GTA LR LR
comp=Z,180nm,14.7s
KMI **Kunming** 34.43 263 P **P** **10 11 17.9 +2.1**
KMI pP **pP** **10 11 27.4 +1.7**
KMI sP **sP** **10 11 32.1 +2.3**
KMI S **S** **10 16 40.4 -1.5**
KMI sS **sS** **10 16 57.2 -1.0**
KMI pmax pmax
comp=Z,12nm,1.3s
KMI pmax pmax
comp=Z,100nm,3.8s
KMI LR LR
comp=N,150nm,23.4s
KMI LR LR
comp=E,190nm,20.9s
KMI LR LR
comp=Z,150nm,24.5s
HVS **Khovu-Aksy** 36.84 310⇓ *e*P **P** **10 11 36.0 -0.1**
HVS pmax pmax
comp=Z,32nm,1.6s
CMAR **Chiang Mai Arr** 40.84 256 P **P** **10 12 09.2 -0.6**
comp=Z,0.9nm,0.5s,baz=47,slow=6.2,SNR=4.1
CMAR PcP **PcP** **10 14 10.1 -0.3**
comp=Z,0.9nm,0.4s,baz=134,slow=2.6,SNR=4.1
CMAR LR LR 10 29 50.8
comp=Z,106nm,18.4s,baz=3.2,slow=37
CMAR **Chiang Mai Arr** 40.84 256 P **P** **10 12 09.2 -0.6**
CMAR PcP **PcP** **10 14 10.1 -0.3**
WMQ **Urumqi** 41.05 298 P **P** **10 12 12.2 +0.8**
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ LR LR
comp=N,85nm,18.0s
WMQ LR LR
comp=E,180nm,18.0s
WMQ LR LR
comp=Z,74nm,19.0s
ZALV **Zalesovo Beam** 42.44 313 P **P** **10 12 21.9 -0.5**
comp=Z,3.5nm,0.4s,baz=101,slow=8.3,SNR=30
ZALV PcP **PcP** **10 14 14.3 -0.6**
comp=Z,2.0nm,0.5s,baz=102,slow=3.3,SNR=4.6
ZALV LR LR 10 29 35.4
comp=Z,116nm,20.8s,baz=68,slow=35
ZALV **Zalesovo Beam** 42.44 313 P **P** **10 12 22.0 -0.5**
ZALV 10 14 14.4
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV MLR MLR
comp=Z,116nm,20.8s
ZALV **Zalesovo Beam** 42.44 313 P **P** **10 12 21.9 -0.5**
ZALV PcP **PcP** **10 14 14.3 -0.6**
NVS **Novosibirsk** 43.39 315 *e*P **P** **10 12 28.9 -1.2**
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=Z,5.0nm,0.5s
MK31 **Makanchi Array** 44.43 303 *i* P **P** **10 12 38.6 -0.1**
MK31 pmax pmax
comp=Z,14nm,0.6s
MKAR **Makanchi Array** 44.43 303 P **P** **10 12 38.5 -0.2**
comp=Z,14nm,0.6s,baz=89,slow=9.8,SNR=207
MKAR LR LR 10 31 19.6
comp=Z,132nm,20.3s,baz=348,slow=36
MKAR **Makanchi Array** 44.43 303 *i* P **P** **10 12 38.5 -0.2**
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR **Makanchi Array** 44.43 303 P **P** **10 12 38.5 -0.2**
KAPI **Kappang** 45.26 210 *e*P **P** **10 12 44.4 -1.1**
comp=Z,9.0nm,0.8s
TAPN **Taplejung** 45.66 275 *e*P **P** **10 12 48.7 -0.3**
comp=Z,6.8nm,0.4s
TAPN **Taplejung** 45.66 275 *e*P **P** **10 12 48.7 -0.3**
comp=Z,6.8nm,0.4s
ODAN **Odare** 46.12 274 *e*P **P** **10 12 51.6 -1.0**
comp=Z,9.9nm,0.5s
ODAN **Odare** 46.12 274 *e*P **P** **10 12 51.6 -1.0**
comp=Z,9.9nm,0.5s
KURK **Kurchatov** 46.37 309 *c* *i*P **P** **10 12 53.3 -0.6**
KURK pmax pmax
comp=Z,35nm,1.2s
KURK **Kurchatov** 46.37 309 P **P** **10 12 54.0 +0.1**
comp=Z,2.7nm,0.9s
KURK PcP **PcP** **10 14 28.0 -0.5**
KURBB **Kurchatov Arra** 46.44 309 P **P** **10 12 54.0 -0.5**
comp=Z,16nm,0.4s,baz=84,slow=7.9,SNR=134
KURBB PcP **PcP** **10 14 28.0 -0.7**
comp=Z,1.5nm,0.6s,baz=88,slow=4.2,SNR=4.0
KURBB LR LR 10 32 30.6
comp=Z,74nm,21.9s,baz=335,slow=36
RAMN **Ramite** 46.72 275 *e*P **P** **10 12 56.2 -1.1**
comp=Z,18nm,0.6s
RAMN **Ramite** 46.72 275 *e*P **P** **10 12 56.2 -1.1**
comp=Z,18nm,0.6s
JIRN **Jiri** 46.76 276 *e*P **P** **10 12 57.5 -0.3**
comp=Z,5.4nm,0.6s
JIRN **Jiri** 46.76 276 *e*P **P** **10 12 57.5 -0.3**
comp=Z,5.4nm,0.6s
GUN **Gumba** 46.91 277 *e*P **P** **10 12 59.3 +0.4**
comp=Z,11nm,0.4s
GUN **Gumba** 46.91 277 *e*P **P** **10 12 59.3 +0.4**
comp=Z,11nm,0.4s
PKI **Pulchoki** 47.43 276 *e*P **P** **10 13 02.7 -0.2**
PKI **Pulchoki** 47.43 276 *e*P **P** **10 13 02.7 -0.2**
PKI **Pulchoki** 47.43 276 *e*P **P** **10 13 02.7 -0.2**
KKN **Kakani** 47.44 277 *e*P **P** **10 13 03.2 +0.3**
KKN **Kakani** 47.44 277 *e*P **P** **10 13 03.2 +0.3**
KKN **Kakani** 47.44 277 *e*P **P** **10 13 03.2 +0.3**
DMN **Daman** 47.66 277 *e*P **P** **10 13 04.8 +0.2**
DMN **Daman** 47.66 277 *e*P **P** **10 13 04.8 +0.2**
GKN **Gorkha** 47.87 277 *e*P **P** **10 13 05.4 -0.8**
comp=Z,32nm,0.8s
GKN **Gorkha** 47.87 277 *e*P **P** **10 13 05.4 -0.8**
comp=Z,32nm,0.8s
KDAK **Kodiak Island** 48.23 41 P **P** **10 13 09.1 +0.8**
comp=Z,4.7nm,0.8s,baz=352,slow=15,SNR=5.2
KDAK **Kodiak Island** 48.23 41 P **P** **10 13 09.1 +0.8**
DANN **Dangsing** 48.44 278 *e*P **P** **10 13 10.0 -0.7**
comp=Z,49nm,0.8s
DANN **Dangsing** 48.44 278 *e*P **P** **10 13 10.0 -0.7**
comp=Z,49nm,0.8s
KOLN **Koldanda** 48.80 277 *e*P **P** **10 13 12.9 -0.5**
comp=Z,18nm,0.6s
KOLN **Koldanda** 48.80 277 *e*P **P** **10 13 12.9 -0.5**
comp=Z,18nm,0.6s
PYUN **Piuthan** 49.16 278 *e*P **P** **10 13 15.7 -0.4**
comp=Z,58nm,0.8s
PYUN **Piuthan** 49.16 278 *e*P **P** **10 13 15.7 -0.4**
comp=Z,58nm,0.8s
TKM2 **Tokmak 2** 49.87 299 *i* P **P** **10 13 21.7 +0.4**
TKM2 **Tokmak 2** 49.87 299 *e*P **P** **10 13 21.6 +0.4**
comp=Z,12nm,0.6s
TKM2 **Tokmak 2** 49.87 299 P **P** **10 13 21.8 +0.4**
SNR=23
KZA **Kyzart** 50.34 298 *i* P **P** **10 13 26.3 +1.1**
KZA **Kyzart** 50.34 298 P **P** **10 13 26.2 +1.1**
SNR=14
KBK **Karagaybulak** 50.40 299 *i* P **P** **10 13 25.4 0.0**
KBK **Karagaybulak** 50.40 299 P **P** **10 13 25.4 0.0**
SNR=11
KSH **Kashi** 50.55 295 *e*P P 10 13 31.2 +4.7
KSH sP sP 10 13 44.0 +3.2
KSH PcP **PcP** **10 14 47.8 +3.8**
KSH PP PP 10 15 29.1 +6.8
KSH ScP **ScP** **10 18 39.5 +2.1**
KSH PcS **PcS** **10 18 43.4 +2.0**
KSH S **S** **10 20 41.1 +2.6**
KSH sS sS 10 20 59.2 +3.8
KSH ScS **ScS** **10 23 13.8 -1.1**
KSH SS **SS** **10 24 15.6 +3.1**
KSH pmax pmax
comp=Z,160nm,5.3s
KSH LR LR
comp=N,190nm,5.8s
KSH LR LR
comp=E,180nm,6.5s
KSH LR LR
comp=Z,180nm,12.6s
USP **Ospenovka** 50.55 300 *i* P **P** **10 13 26.4 +0.1**
USP **Ospenovka** 50.55 300 P **P** **10 13 26.4 +0.1**
SNR=10
ILAR **Eielson Array** 50.69 32 P **P** **10 13 27.9 +0.9**
comp=Z,1.9nm,0.7s,baz=268,slow=5.9,SNR=25
ILAR **Eielson Array** 50.69 32 P **P** **10 13 27.9 +0.9**
AAK **Ala-Archa** 50.73 299 P **P** **10 13 27.4 -0.4**
comp=Z,2.5nm,0.5s,baz=95,slow=5.3,SNR=10
AAK **Ala-Archa** 50.73 299 P **P** **10 13 27.4 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK **Ala-Archa** 50.73 299 P **P** **10 13 27.4 -0.4**
comp=Z,0.8nm,0.8s
BVA0 **Borovoye Array** 51.09 313 P **P** **10 13 29.5 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVAR **Borovoye Array** 51.09 313 P **P** **10 13 29.9 -0.3**
comp=Z,4.3nm,0.5s,baz=81,slow=6.6,SNR=22
BVAR PcP **PcP** **10 14 45.6 0.0**
comp=Z,2.3nm,0.6s,baz=96,slow=4.5,SNR=4.4
BVAR **Borovoye Array** 51.09 313 P **P** **10 13 29.9 -0.3**
BVAR 10 14 45.6
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR **Borovoye Array** 51.09 313 P **P** **10 13 29.9 -0.3**
BVAR PcP **PcP** **10 14 45.6 0.0**
BRVK **Borovoye** 51.15 313 *e*P **P** **10 13 30.2 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK **Borovoye** 51.15 313 *e*P **P** **10 13 30.2 -0.4**
comp=Z,6.0nm,0.7s
EKS2 **Erkin-Say** 51.23 299 *e*P **P** **10 13 31.6 +0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 **Erkin-Say** 51.23 299 *e*P **P** **10 13 31.6 +0.1**
comp=Z,3.6nm,0.8s
AML **Almayashu** 51.43 299 *i* P **P** **10 13 34.1 +0.7**
AML **Almayashu** 51.43 299 P **P** **10 13 34.1 +0.7**
SNR=32
KK31 **Karatay Array** 53.40 301 *i* P **P** **10 13 47.0 -0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** 53.40 301 *e*P **P** **10 13 47.6 +0.1**
KKAR **Karatay Array** 53.40 301 *e*P **P** **10 13 47.6 +0.1**
INK **Inuvik** 55.60 27 P **P** **10 14 03.7 +0.7**
comp=Z,4.4nm,0.6s,baz=150,slow=29,SNR=11
INK **Inuvik** 55.60 27 P **P** **10 14 03.7 +0.7**
SVE **Sverdlovsk** 55.78 319⇑ *e*P **P** **10 14 05.0 +0.5**
SVE pmax pmax
comp=Z,18nm,1.0s
WRAB **Tennant Creek** 55.84 188 *e*P **P** **10 14 04.5 -0.8**
WRAB pmax pmax
comp=Z,17nm,1.3s
WRAB **Tennant Creek** 55.84 188 *e*P **P** **10 14 04.5 -0.8**
comp=Z,17nm,1.3s
WRA **Warramunga Arr** 55.85 188 P **P** **10 14 04.8 -0.6**
comp=Z,6.5nm,0.8s,baz=3.9,slow=7.4,SNR=36
WRA **Warramunga Arr** 55.85 188 P **P** **10 14 04.8 -0.6**
CTA **Charters Tower** 55.87 174 P **P** **10 14 04.8 -0.7**
comp=Z,2.7nm,0.7s,baz=348,slow=9.3,SNR=3.8
CTA **Charters Tower** 55.87 174 P **P** **10 14 04.8 -0.7**
ARU **Arti** 56.99 319 *c* *i*P **P** **10 14 12.8 -0.4**
ARU 10 16 18.1
ARU S **S** **10 22 06.8 +1.8**
ARU SS **SS** **10 25 51.0 -2.2**
ARU pmax pmax
comp=Z,23nm,1.0s
ARU **Arti** 56.99 319 *e*P **P** **10 14 12.7 -0.5**
comp=Z,30nm,1.0s
AB31 **Akbulak array** 58.41 311 *i* P **P** **10 14 22.4 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR **Akbulak array** 58.41 311 *e*P **P** **10 14 22.8 -0.5**
comp=Z,5.9nm,0.4s
AKTO **Aktyubinsk** 59.18 312 P **P** **10 14 28.4 -0.2**
comp=Z,2.9nm,0.5s,baz=72,slow=9.9,SNR=13
AKTO **Aktyubinsk** 59.18 312 P **P** **10 14 28.4 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.5s
AKTO **Aktyubinsk** 59.18 312 P **P** **10 14 28.4 -0.2**
ASAR **Alice Springs** 59.58 187 P **P** **10 14 31.4 -0.2**
comp=Z,2.6nm,0.8s,baz=11,slow=7.9,SNR=28
ASAR **Alice Springs** 59.58 187 P **P** **10 14 31.4 -0.2**
DLBC **Dease Lake** 59.78 37 P **P** **10 14 35.2 +2.6**
comp=Z,0.4nm,0.4s,baz=278,slow=7.1,SNR=4.2
DLBC **Dease Lake** 59.78 37 P **P** **10 14 35.2 +2.6**

SPITS	Spitsbergen Ar	61.60	349	P	P	10 14 45.4	+0.7
	comp=Z,4.8nm,0.7s,baz=69,slow=9.1,SNR=8.1						
SPITS	Spitsbergen Ar	61.60	349	P	P	10 14 45.4	+0.7
RES	Resolute Bay	63.83	14	P	P	10 15 00.1	+0.6
	comp=Z,4.5nm,0.9s,baz=302,slow=6.9,SNR=17						
RES	Resolute Bay	63.83	14	P	P	10 15 00.1	+0.6
KEV	Kevo	64.41	339	eP	P	10 15 02.8	-0.6
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KEV	Kevo	64.41	339	ep	P	10 15 02.8	-0.6
	comp=Z,3.1nm,0.6s						
KLMR	Klimovskoe	64.55	328	eP	P	10 15 00.6	-3.9
KLMR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARCES	ARCESS Array B	64.96	339	P	P	10 15 07.3	+0.3
	comp=Z,2.6nm,0.5s,baz=62,slow=8.7,SNR=14						
ARCES	ARCESS Array B	64.96	339	P	P	10 15 07.3	+0.3
YKA	Yellowknife Ar	65.01	30	P	P	10 15 08.0	+0.6
	comp=Z,0.6nm,0.7s,baz=305,slow=7.4,SNR=18						
YKA	Yellowknife Ar	65.01	30	P	P	10 15 08.1	+0.6
JOF	Joensuu	66.82	332	eP	P	10 15 17.7	-1.4
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	Joensuu	66.82	332	ep	P	10 15 17.7	-1.4
	comp=Z,3.3nm,0.5s						
STKA	Stephens Creek	67.38	179	P	P	10 15 23.3	+0.4
	comp=Z,2.5nm,0.9s,baz=283,slow=21,SNR=3.4						
STKA	Stephens Creek	67.38	179	P	P	10 15 23.4	+0.4
KAF	Kangasniemi	69.18	333	eP	P	10 15 32.7	-1.2
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	Kangasniemi	69.18	333	ep	P	10 15 32.7	-1.2
	comp=Z,4.2nm,0.7s						
FINES	FINESS Array B	69.68	332	P	P	10 15 37.0	0.0
	comp=Z,5.1nm,0.8s,baz=60,slow=7.5,SNR=12						
FINES	FINESS Array B	69.68	332	P	P	10 15 37.0	0.0
VSU	Vasula	71.28	330	i P	P	10 15 46.8	0.0
VSU				pmax	pmax		
	comp=Z,14nm,0.9s						
KBZ	Khabaz	71.38	311	P	P	10 15 47.2	-0.5
	comp=Z,4.7nm,0.8s,baz=37,slow=3.2,SNR=9.1						
KBZ	Khabaz	71.38	311	P	P	10 15 47.2	-0.5
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	Khabaz	71.38	311	P	P	10 15 47.2	-0.5
KIV	Kislovodsk	71.39	311	eP	P	10 15 48.8	+0.9
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
NWAO	Narrogin (SRO)	71.94	201	P	P	10 15 50.4	-0.6
	comp=Z,6.3nm,0.7s,baz=28,slow=6.6,SNR=4.9						
NWAO	Narrogin (SRO)	71.94	201	P	P	10 15 50.4	-0.6
FFC	Flin Flon	74.90	32	eP	P	10 16 07.4	-0.9
FFC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FFC	Flin Flon	74.90	32	eP	P	10 16 07.4	-0.9
	comp=Z,2.2nm,0.9s						
AKASG	Malin Array Be	75.00	322	P	P	10 16 08.4	-0.6
	comp=Z,3.5nm,0.6s,baz=47,slow=5.8,SNR=15						
AKASG				LR	LR	10 50 39.8	
	comp=Z,148nm,18.1s,baz=290,slow=37						
AKASG	Malin Array Be	75.00	322	i P	P	10 16 08.3	-0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	75.00	322	P	P	10 16 08.4	-0.6
KIEV	Kiev	75.01	322	⇓eP	P	10 16 08.7	-0.3
HRY	Holter Researc	75.07	43	eP	P	10 16 10.8	+1.3
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	75.12	337	P	P	10 16 09.4	-0.1
	comp=Z,15nm,1.2s,baz=41,slow=5.9						
NOA	NORSAR Array B	75.12	337	P	P	10 16 09.5	-0.1
	comp=Z,5.4nm,1.0s,baz=39,slow=5.8,SNR=7.1						
NOA				LR	LR	10 50 12.7	
	comp=Z,129nm,20.9s,baz=275,slow=36						
NOA	NORSAR Array B	75.12	337	P	P	10 16 09.5	-0.1
LRM	Limekiln Ridge	75.25	44	eP	P	10 16 12.1	+1.3
	comp=Z,20nm,0.6s						
MIB	Mutribah	75.88	297	eP	P	10 16 13.2	-1.2
MIB				AMb	AMB	10 16 15.3	
	comp=Z,13nm,1.3s						
NVAR	Mina Array Bea	76.00	53	P	P	10 16 17.0	+1.8
	comp=Z,0.6nm,0.4s,baz=302,slow=5.7,SNR=4.4						
NVAR	Mina Array Bea	76.00	53	P	P	10 16 17.0	+1.8
QRN	Al-Qurain	76.04	295	eP	P	10 16 14.3	-1.0
QRN				AMb	AMB	10 16 15.2	
	comp=Z,42nm,0.9s						
NAY	Al-Naaiem	76.25	296	eP	P	10 16 15.4	-1.1
NAY				AMb	AMB	10 16 18.6	
	comp=Z,6.9nm,0.6s						
PDAR	Pinedale Array	78.76	45	P	P	10 16 31.6	+1.0
	comp=Z,0.5nm,0.5s,baz=33,slow=1.0,SNR=6.1						
PDAR	Pinedale Array	78.76	45	P	P	10 16 31.6	+1.0
BURAR	Bucovina Array	79.00	322	⇑iP	P	10 16 30.8	-0.8
BRTR	Keskin Array B	79.35	311	P	P	10 16 33.6	-0.2
	comp=Z,2.2nm,0.8s,baz=81,slow=3.9,SNR=12						
BRTR	Keskin Array B	79.35	311	P	P	10 16 33.6	-0.2
VRI	Vrincioaia	79.38	320	⇑iP	P	10 16 34.0	+0.4
TRPA	Tarpa	79.97	323	⇑iP	P	10 16 37.3	+0.5
PSZ	Piszkesteto	81.39	324	⇓iP	P	10 16 45.5	+1.0
VYHS	Vyhne	81.48	325	eP	P	10 16 45.2	+0.3
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s						
VYHS	Vyhne	81.48	325	eP	P	10 16 45.2	+0.3
CLL	Collm	81.93	330	eP	P	10 16 47.0	-0.1
CLL				e		10 17 00.0	
CLL	Collm	81.93	330	eP	P	10 16 47.0	-0.1
CLL				esP	sP	10 17 00.0	-1.8
KHC	Kasperske Hory	83.34	328	eP	P	10 16 55.0	+0.4
KHC	Kasperske Hory	83.34	328	eP	P	10 16 55.0	+0.4
GERES	GERESS Array B	83.51	328	P	P	10 16 55.1	-0.5
	comp=Z,0.8nm,0.6s,baz=32,slow=7.8,SNR=5.2						
GERES	GERESS Array B	83.51	328	P	P	10 16 55.1	-0.5
PPT	Papeete	84.45	116	LR	LR	10 48 38.4	
	comp=Z,109nm,20.5s,baz=344,slow=31						
TXAR	Lajitas Array	91.14	52	P	P	10 17 34.1	+1.2
	comp=Z,0.2nm,0.4s,baz=298,slow=3.3,SNR=12						
TXAR	Lajitas Array	91.14	52	P	P	10 17 34.1	+1.2
TORD	Torodi Ar. Bea	117.88	314	PKP	PKPdf	10 23 13.8	-1.0
	comp=Z,0.4nm,0.6s,baz=9.6,slow=1.2,SNR=11						
TORD	Torodi Ar. Bea	117.88	314	PKP	PKPdf	10 23 13.8	-1.0
SAML	Samuel	145.34	45	ePKPbc	PKPdf	10 24 06.2	+0.2

ISK 04 10:04:50.4, 37°.12N×28°.46E, h2km, MD2.0
DDA 04 10:04:51.4, 37°.23N×28°.19E, h7km, MD2.8
ISCJB 04 10:04:52.5±0.7, 37°.23N±0°.05×28°.18E±0°.05, h0km, Error ellipse: s-maj=8.0km s-min=4.1km az=38.6
CSEM 04 10:04:52.4±0.8, 37°.23N×28°.29E, h1km, MD2.8, Error ellipse: s-maj=18.3km s-min=9.6km az=54.0
ISC 04 10:04:51.7±1.1, 37°.27N±0°.04×28°.26E±0°.05, h0km, n14, σ0s.83/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	172	PG	Pg	10 04 54.0	-0.3
YER				SG	Sg	10 04 56.6	+0.6
YER	Yerkesik	0.14	172	i Pg	Pg	10 04 54.0	-0.3
YER				i Sg	Sg	10 04 56.6	+0.6
MLSB	Milas	0.39	274	ePG	Pb	10 05 02.5	+1.1
MLSB	Milas	0.39	274	ePg	Pb	10 05 02.5	+1.1
TURN	Turunc	0.48	145	eP	Pg	10 05 00.8	-0.1
TURN				eS	Sb	10 05 10.2	-0.5
TURN	Turunc	0.48	145	eP	Pg	10 05 00.8	-0.1
AYDN	Tasoluk	0.49	323	i P	Pb	10 05 02.7	-0.6
AYDN				i S	Sg	10 05 08.9	+1.3
AYDN	Tasoluk	0.49	323	i P	Pb	10 05 02.7	-0.6
AYDN				i S	Sg	10 05 08.9	+1.3
BDRM	Kayabasi	0.68	253	eP	Pg	10 05 04.0	-0.8
BDRM				eS	Sg	10 05 12.0	-1.6
BDRM	Kayabasi	0.68	253	eP	Pg	10 05 04.0	-0.8
DAT	Datca	0.77	226	ePG	Pg	10 05 06.9	+0.5
DAT	Datca	0.77	226	ePg	Pg	10 05 06.9	+0.5
BODT	Bodrum	0.78	255	ePG	Pb	10 05 08.0	-0.2
BODT	Bodrum	0.78	255	ePg	Pb	10 05 08.0	-0.2

IDC 04 10:10:40.1±1.0, 35°.81N×140°.97E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, ML3.5/3, Error ellipse: s-maj=23.2km s-min=17.2km az=89.0
ISCJB 04 10:10:42.9±0.6, 35°.93N±0°.04×141°.08E±0°.06, h31km, mb3.6/7, Error ellipse: s-maj=7.4km s-min=6.3km az=164.8
JMA 04 10:10:45.9±0.1, 35°.89N×140°.86E, h39km±1km, M3.2
ISC 04 10:10:44.9±0.8, 35°.92N±0°.04×140°.98E±0°.08, h31km, n16, σ1s.00/22, mb3.7/7, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.24	204	⇓P	Pn	10 10 52.9	+0.6
CHOJ				eS	Sn	10 10 58.0	+1.0
JYT	Yasato	0.71	296	⇓P	Pn	10 10 58.3	-0.4
JYT				S	Sn	10 11 07.3	-1.2
JHO	Hitachi	0.76	334	P	Pb	10 11 00.1	+0.4
BSO4	Boso 4	1.07	210	P	Pb	10 11 05.3	+0.6
JAG	Ashikaga	1.33	293	⇓P	Pn	10 11 07.1	-0.3
MJAR	Matsushiro Arr	2.32	286	Pn	Pn	10 11 21.3	+0.2
	8.7nm,0.3s,baz=207,slow=1.7,SNR=41						
MJAR				Sn	Sn	10 11 48.9	+0.3
	4.9nm,0.3s,baz=108,slow=16,SNR=6.6						
MAT	Matsushiro	2.33	286	P	Pn	10 11 21.9	+0.9
MAT				S	Sn	10 11 49.2	+0.6
JHJ	Hachijo jima 2	2.96	200	Pn	Pn	10 11 27.8	-2.0
	9.9nm,0.3s,baz=54,slow=23,SNR=6.5						
JHJ				Sn	Sn	10 12 02.8	-1.5
	16nm,0.3s,baz=47,slow=21,SNR=4.0						
ASAJ	Asahikawa	8.28	8	Pn	Pn	10 12 42.7	-0.1
	1.1nm,0.3s,baz=307,slow=25,SNR=5.4						
ASAJ				Sn	Sn	10 14 13.6	-1.6
	0.3nm,0.3s,baz=118,slow=23,SNR=2.4						
ZALV	Zalesovo Beam	42.41	313	P	P	10 18 37.0	+0.6
	0.4nm,0.3s,baz=113,slow=9.4,SNR=3.5						
MKAR	Makanchi Array	44.42	303	P	P	10 18 52.5	-0.2
	0.8nm,0.7s,baz=89,slow=9.7,SNR=9.3						
KURBB	Kurchatov Arra	46.42	309	P	P	10 19 07.9	-0.5
	1.2nm,0.5s,baz=83,slow=7.7,SNR=6.4						
ILAR	Eielson Array	50.62	32	P	P	10 19 41.7	+1.1
	0.4nm,0.8s,baz=267,slow=5.9,SNR=4.8						
WRA	Warramunga Arr	55.91	188	P	P	10 20 18.5	-1.4
	0.9nm,0.6s,baz=4.0,slow=7.5,SNR=6.0						
ASAR	Alice Springs	59.64	188	P	P	10 20 45.3	-0.8
	0.4nm,0.7s,baz=20,slow=11,SNR=5.8						
YKA	Yellowknife Ar	64.94	30	P	P	10 21 21.9	+0.8
	0.2nm,0.8s,baz=295,slow=6.0,SNR=3.7						

IDC 04 10:25:47.0±8.1, 3°.45N×123°.17E, h542km±116km, mb2.7/4, mb1 2.9/4, mb1mx2.6/22, mbtmp2.7/4, Error ellipse: s-maj=78.7km s-min=23.4km az=79.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.70	155	P	P	10 30 34.2	-0.3
	1.1nm,0.3s,baz=332,slow=10,SNR=7.1						
ASAR	Alice Springs	28.91	159	P	P	10 31 02.7	+0.1
	0.6nm,0.5s,baz=339,slow=7.7,SNR=12						
USRK	Ussuriysk Arra	41.33	10	P	P	10 32 45.5	-0.1
	0.6nm,0.5s,baz=190,slow=7.1,SNR=2.8						
MKAR	Makanchi Array	55.81	327	P	P	10 34 32.9	-0.1
	0.2nm,0.5s,baz=121,slow=7.0,SNR=6.3						
MKAR				PcP	PcP	10 35 23.7	-0.3
	0.3nm,0.5s,baz=124,slow=3.4,SNR=4.2						

IDC 04 10:34:18.5±9.1, 5°.72S×150°.75E, h99km±62km, mb2.7/2, mb1 3.1/3, mb1mx2.9/18, mbtmp2.9/3, ML2.2/1, Error ellipse: s-maj=154.5km s-min=59.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.11	224	P	Pn	10 35 33.4	+0.6
	0.6nm,0.3s,baz=267,slow=5.6,SNR=3.2						
PMG				S	Sn	10 36 30.3	-0.3
	1.4nm,0.3s,baz=124,slow=23,SNR=3.5						
WRA	Warramunga Arr	21.32	227	P	P	10 38 59.4	+1.7
	0.5nm,0.7s,baz=52,slow=9.7,SNR=4.8						
ASAR	Alice Springs	24.11	221	P	P	10 39 25.3	0.0
	0.2nm,0.5s,baz=58,slow=8.5,SNR=5.2						
TORD	Torodi Ar. Bea	148.63	286	PKPbc	PKPbc	10 53 54.0	-1.2
	0.3nm,0.6s,baz=95,slow=3.3,SNR=3.0						

IDC 04 10:38:44.5±0.6, 3°.88N×126°.85E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, MS3.2/2, Ms1 3.2/2, ms1mx2.4/39, 1C, Error ellipse: s-maj=32.3km s-min=12.6km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	4.21	322	⇑iP	Pb	10 39 56.0	-3.6
KAPI	Kappang	11.32	219	LR	LR	10 46 16.6	
	comp=Z,81nm,20.0s,baz=243,slow=40						
GUMO	Guam	20.24	60	LR	LR	10 49 03.7	
	comp=Z,87nm,20.0s,baz=91,slow=31						
FITZ	Fitzroy Crossi	21.87	183	P	P	10 43 39.5	+0.4
	3.3nm,0.4s,baz=10,slow=11,SNR=20						
WRA	Warramunga Arr	24.79	163	P	P	10 44 07.5	-0.8
	16nm,0.8s,baz=344,slow=11,SNR=58						
ASAR	Alice Springs	28.23	166	P	P	10 44 39.3	-0.1
	0.6nm,0.3s,baz=345,slow=12,SNR=11						
CMAR	Chiang Mai Arr	30.90	300	P	P	10 45 04.0	+0.9
	0.6nm,0.3s,baz=118,slow=6.4,SNR=3.2						
KSRS	Korea Array	33.43	2	P	P	10 45 25.9	+0.7
	0.6nm,0.6s,baz=175,slow=8.2,SNR=3.9						
NWAO	Narrogin (SRO)	37.72	193	P	P	10 46 02.4	+0.4
	3.4nm,0.4s,baz=39,slow=6.5,SNR=8.7						
STKA	Stephens Creek	38.22	160	P	P	10 46 06.6	+0.3
	6.7nm,0.6s,baz=324,slow=11,SNR=14						
SONM	Songino Array	47.20	341	P	P	10 47 18.2	-1.0
	1.3nm,1.0s,baz=157,slow=9.6,SNR=4.2						
SONM				PcP	PcP	10 48 52.3	+1.6
	0.6nm,0.6s,baz=128,slow=2.4,SNR=2.7						
PETK	Petropavlovsk-	55.25	22	P	P	10 48 20.2	+0.8
	1.7nm,0.7s,baz=212,slow=10,SNR=3.6						
MKAR	Makanchi Array	57.50	325	P	P	10 48 35.3	-0.4
	0.7nm,0.5s,baz=120,slow=8.7,SNR=11						
ZALV	Zalesovo Beam	60.51	333	P	P	10 48 55.4	-1.0
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.7						
BVAR	Borovoye Array	67.26	327	P	P	10 49 41.7	+0.8
	0.8nm,0.6s,baz=140,slow=11,SNR=4.9						
ILAR	Eielson Array	84.92	25	P	P	10 51 20.2	-1.0
	0.3nm,0.8s,baz=265,slow=5.7,SNR=5.8						
BRTR	Keskin Array B	90.02	310	P	P	10 51 45.4	-1.2
	0.7nm,0.8s,baz=144,slow=7.4,SNR=4.4						
ARCES	ARCESS Array B	90.35	340	P	P	10 51 47.0	-0.3
	5.6nm,1.1s,baz=70,slow=8.0,SNR=3.0						
TORD	Torodi Ar. Bea	122.98	288	PKP	PKPdf	10 57 43.0	-1.0
	0.5nm,1.1s,baz=96,slow=0.4,SNR=3.4						

IDC 04 10:46:01.4±1.7, 4°.12N×127°.35E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=95.8km s-min=23.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.15	184	P	P	10 50 58.9	-0.1
	0.6nm,0.5s,baz=3.8,slow=15,SNR=3.1						
WRA	Warramunga Arr	24.88	164	P	P	10 51 25.3	-0.8
	1.5nm,0.8s,baz=344,slow=10,SNR=5.3						
ASAR	Alice Springs	28.35	167	P	P	10 51 57.6	+0.3
	0.1nm,0.3s,baz=344,slow=10,SNR=4.0						
STKA	Stephens Creek	38.28	160	P	P	10 53 24.0	+0.3
	1.7nm,0.8s,baz=342,slow=12,SNR=4.2						
MKAR	Makanchi Array	57.59	325	P	P	10 55 53.1	-0.1
	0.3nm,0.6s,baz=118,slow=7.9,SNR=5.6						

IDC 04 10:49:59.8±2.4, 47°.35N×156°.21E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=58.9km s-min=33.1km az=0.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.84	9	Pn	Pn	10 51 27.1	-0.6
	0.1nm,0.3s,baz=203,slow=17,SNR=3.7						
PETK				Sn	Sn	10 52 36.8	+1.5
	0.1nm,0.3s,baz=199,slow=15,SNR=1.8						
MKAR	Makanchi Array	48.53	298	P	P	10 58 44.5	+0.1
	0.1nm,0.3s,baz=67,slow=7.6,SNR=2.9						
YKA	Yellowknife Ar	49.17	38	P	P	10 58 49.6	+0.7
	0.2nm,0.6s,baz=294,slow=7.3,SNR=5.8						
ARCES	ARCESS Array B	57.97	342	P	P	10 59 53.0	-0.4
	1.2nm,0.8s,baz=32,slow=8.8,SNR=3.1						
TXAR	Lajitas Array	75.35	63	P	P	11 01 44.9	-0.3
	0.2nm,0.5s,baz=296,slow=4.3,SNR=6.0						

ISK 04 10:52:18.3, 37°.59N×36°.15E, h19km, MD2.1
ISCJB 04 10:52:19.5±1.1, 37°.33N±0°.08×36°.14E±0°.05, h8km±7km, Error ellipse: s-maj=13.6km s-min=6.7km az=5.0
CSEM 04 10:52:19.3±0.4, 37°.77N×35°.95E, h2km, MD2.8, Error ellipse: s-maj=8.9km s-min=4.9km az=140.0
DDA 04 10:52:24.4, 37°.47N×36°.38E, h7km, MD2.8
ISC 04 10:52:20.0±1.2, 37°.38N±0°.08×36°.14E±0°.03, h13km±9km, n11, σ0s.79/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.25	39	i P	Pb	10 52 26.6	0.0
ANDN				i S	Sg	10 52 30.2	+1.1
ANDN	Andirin	0.25	39	i P	Pb	10 52 26.6	0.0
ANDN				i S	Sg	10 52 30.2	+1.1
KOZT	Kozan	0.27	291	PG	Pg	10 52 25.1	-0.5
KOZT				SG	Sg	10 52 29.6	+0.1
KOZT	Kozan	0.27	291	i Pg	Pg	10 52 25.1	-0.5
KOZT				i Sg	Sg	10 52 29.6	+0.1
KMRS	Kahramanmaras	0.61	78	ePG	Pg	10 52 30.4	-1.6
KMRS				eSG	Sg	10 52 39.9	-0.2
KMRS	Kahramanmaras	0.61	78	ePg	Pg	10 52 30.4	-1.6
GAZ	Gaziantep	0.88	104	ePG	Pg	10 52 36.9	-0.1
GAZ	Gaziantep	0.88	104	ePg	Pg	10 52 36.9	-0.1
GZT	Gaziantep	1.13	91	i P	Pb	10 52 41.5	0.0
GZT				i S	Sg	10 52 57.4	+0.8
AKCD	Akcadag	1.68	57	eP	Pn	10 52 49.7	+0.4
AKCD				i S	Sn	10 53 10.7	0.0
AKCD	Akcadag	1.68	57	eP	Pn	10 52 49.7	+0.4
AKCD				i S	Sn	10 53 10.7	0.0

IDC 04 10:56:03.8±5.7, 59°.09S×26°.40W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.4/15, mbtmp3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/17, Error ellipse: s-maj=276.2km s-min=67.6km az=149.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	13.99	157	eP	Pn	10 59 11.3	-12
VNA2	Neumayer--Watz	14.23	154	eP	Pn	10 59 13.9	-12
	baz=310,slow=14						
LBTB	Lobatse	49.57	70	LR	LR	11 21 45.0	
	comp=Z,94nm,19.1s,baz=136,slow=31						
TORD	Torodi Ar. Bea	75.52	28	P	P	11 07 49.7	0.0
	0.1nm,0.4s,baz=202,slow=6.3,SNR=4.8						
YKA	Yellowknife Ar	138.68	315	PKP	PKPdf	11 15 30.5	+0.5
	0.1nm,0.6s,baz=126,slow=2.8,SNR=4.9						
ILAR	Eielson Array	152.38	307	PKPbc	PKPbc	11 15 59.8	-0.2
	0.6nm,1.0s,baz=130,slow=1.4,SNR=4.9						
ILAR				PKPab	PKPab	11 16 09.8	-0.5
	0.3nm,0.6s,baz=122,slow=0.5,SNR=4.2						

IDC 04 10:56:14.2±6.2, 2°.54N×95°.21E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=125.6km s-min=40.6km az=25.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.72	86	Pn	Pn	10 57 13.5	+0.4
	0.3nm,0.3s,baz=317,slow=13,SNR=4.9						
CMAR	Chiang Mai Arr	16.24	13	Pn	Pn	11 00 05.1	+1.1
	baz=200,slow=12,SNR=6.2						
MKAR	Makanchi Array	45.50	348	P	P	11 04 35.6	+0.2
	0.7nm,0.6s,baz=171,slow=8.2,SNR=8.8						
SONM	Songino Array	46.15	10	P	P	11 04 39.5	-1.2
	0.6nm,0.7s,baz=201,slow=7.7,SNR=2.9						
ZALV	Zalesovo Beam	51.95	352	P	P	11 05 25.1	+0.2
	1.1nm,0.6s,baz=186,slow=5.9,SNR=6.1						

IDC 04 10:56:39.7±0.4, 2°.81N×95°.44E, h0km, mb4.7/29, mb1 4.8/31, mb1mx4.7/36, mbtmp4.7/31, ML4.7/2, MS4.4/3, Ms1 4.4/3, ms1mx3.5/28, Error ellipse: s-maj=13.7km s-min=10.5km az=49.0
AUST 04 10:56:40.3±4.1, 2°.71N×95°.18E, h10km, Error ellipse: s-maj=2.2km s-min=0.9km az=235.0
ISCJB 04 10:56:41.3±0.9, 2°.79N±0°.03×95°.41E±0°.02, h22km±6km, mb5.1/130, MS4.5/28, Error ellipse: s-maj=5.7km s-min=3.5km az=28.6
BJI 04 10:56:41.4, 2°.72N×95°.45E, h30km, mB5.1/34, mb5.3/57, Ms4.8/55, Ms7 4.6/52
MOS 04 10:56:42.8±0.9, 2°.84N×95°.47E, h33km, mb5.4/43, Error ellipse: s-maj=9.0km s-min=5.0km az=109.0
NEIC 04 10:56:43.7±0.2, 2°.80N×95°.45E, mb5.2/32, Error ellipse: s-maj=5.1km s-min=3.6km az=220.0
DJA 04 10:56:44.6±0.8, 3°N±4°×9°5E±°, h30km, M4.9/19, mB5.3/13, mb5.2/19, MLv5.1/10, Mw(mB)4.8/13
ISC 04 10:56:43.5±0.3, 2°.78N±0°.03×95°.37E±0°.04, h26km±1km, h26km:pP-P, n440, σ1s.35/546, mb5.2/132, MS4.5/28, 60C-48D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPTI		1.87	75	P	Pn	10 57 12.2	-1.6
GSI	Gunungsitoli	2.65	124	P	Pn	10 57 24.1	-0.4
	baz=2.8,SNR=6.6						
GSI				S	Sn	10 57 53.8	-2.0
	baz=2.8,SNR=4.9						
GSI	Gunungsitoli	2.65	124	P	Pn	10 57 23.7	-0.8
BSI	Banda Aceh	2.70	358	P	Pn	10 57 23.7	-1.5
LHMI	Lhok Sumawe	2.90	33	P	Pn	10 57 27.3	-0.6
TSI	Tuntungan	3.27	77	P	Pn	10 57 34.0	+0.9
PSI	Prapat	3.55	90	Pn	Pn	10 57 37.3	+0.3
	29nm,0.3s,baz=283,slow=6.6,SNR=157						
PSI				Sn	Sn	10 58 17.5	-0.8
	20nm,0.3s,baz=156,slow=15,SNR=6.9						
PSI	Prapat	3.55	90	Pn	Pn	10 57 37.3	+0.3
PSI				Sn	Sn	10 58 17.5	-0.8
PSI	Prapat	3.55	90	P	Pn	10 57 37.4	+0.3
	baz=3.7,SNR=69						
MNSI	Mandailing Nat	4.65	115	P	Pn	10 57 51.9	-0.1
KULM	Kulim	5.83	65	ePn	Pn	10 58 08.2	0.0
KULM	Kulim	5.83	65	P	Pn	10 58 08.4	+0.1
KULM	Kulim	5.83	65	P	Pn	10 58 08.0	-0.3
	542nm,1.0s,5μm2.0nm						
IPM	Ipoh	5.89	73	ePn	Pn	10 58 08.9	-0.3
IPM	Ipoh	5.89	73	P	Pn	10 58 09.2	0.0
IPM	Ipoh	5.89	73	P	Pn	10 58 08.7	-0.5
	242nm,0.9s,2μm0.8nm						
PPI	Padang Panjang	5.97	123	P	Pn	10 58 11.0	+0.8
	baz=6.1,SNR=5.8						
PPI	Padang Panjang	5.97	123	P	Pn	10 58 10.2	0.0
	172nm,1.3s,2μm1.0nm						
BKNI	Bangkinang	6.17	113	P	Pn	10 58 12.7	-0.3
	274nm,0.9s,3μm1.7nm						
FRIM	Kepong	6.26	86	P	Pn	10 58 14.2	-0.1
KGM	Kluang	7.98	95	P	Pn	10 58 37.8	0.0
MYKOM	Kota Tinggi	8.53	96	P	Pn	10 58 45.4	0.0
MYKOM	Kota Tinggi	8.53	96	P	Pn	10 58 45.0	-0.4
	90nm,0.8s,1μm						
KSI	Kapahiang	9.64	131	P	Pn	10 59 00.7	0.0
	217nm,0.9s						
KSM	Kuching	14.99	95	ePn	Pn	11 00 13.5	-0.2
KSM	Kuching	14.99	95	P	P	11 00 19.7	+0.8
	baz=15,SNR=23						
KSM				S	Sn	11 03 00.0	+1.0
	baz=15,SNR=6.6						
KSM	Kuching	14.99	95	P	Pn	11 00 14.1	+0.4
KSM	Kuching	14.99	95	P	P	11 00 19.5	+0.6
CM31	Chiang Mai Arr	15.97	12	ePn	Pn	11 00 26.8	+0.3
	80nm,0.8s						
CMAR	Chiang Mai Arr	15.97	12	Pn	Pn	11 00 26.0	-0.5
	2.2nm,0.3s,baz=202,slow=11,SNR=76						
CMAR	Chiang Mai Arr	15.97	12	Pn	Pn	11 00 26.0	-0.5
CHTO	Chiang Mai	16.31	12	eP	Pn	11 00 29.8	-1.1
CHTO				pmax	pmax		
	comp=Z,45nm,0.8s						
CHTO	Chiang Mai	16.31	12	ePn	Pn	11 00 29.8	-1.1
	comp=Z,45nm,0.8s						
CHTO	Chiang Mai	16.31	12	P	Pn	11 00 29.9	-1.1
	SNR=22						
CHTO	Chiang Mai	16.31	12	P	Pn	11 00 29.8	-1.1
	comp=Z,69nm,0.9s,comp=Z,671nm						
STKI	Sintang	16.33	99	P	P	11 00 33.7	-0.1
	comp=Z,100nm,1.0s						
SBUM	Sibu	16.84	91	P	Pn	11 00 38.3	+0.7
SBUM	Sibu	16.84	91	P	P	11 00 39.5	0.0
	comp=Z,79nm,1.0s,comp=Z,835nm						

BTM	**Bintulu**	**17.70**	**88**	P	**P**	**11 00 49.9**	**+0.8**
BBKI	**Banjar Baru**	**20.43**	**108**	P	**P**	**11 01 20.0**	**+1.0**
	comp=Z,126nm,0.9s						
CAL	**Calcutta**	**20.79**	**341**	*e*P	**P**	**11 01 23.4**	**+0.6**
KMMI	**Kalianget**	**20.98**	**118**	P	**P**	**11 01 25.9**	**+1.0**
	comp=Z,118nm,0.9s,comp=Z,3µm						
KKM	**Kota Kinabalu**	**21.03**	**80**	*e*P	**P**	**11 01 25.6**	**0.0**
	comp=Z,131nm,0.8s						
KKM	**Kota Kinabalu**	**21.03**	**80**	P	**P**	**11 01 26.1**	**+0.4**
	baz=21,SNR=15						
KKM	**Kota Kinabalu**	**21.03**	**80**	P	**P**	**11 01 25.8**	**+0.2**
KKM	**Kota Kinabalu**	**21.03**	**80**	P	**P**	**11 01 26.0**	**+0.4**
	comp=Z,174nm,0.9s,comp=Z,2µm						
QIZ	**Qiongzhong**	**21.48**	**40**	P	**P**	**11 01 29.8**	**-0.5**
QIZ				sP	**sP**	**11 01 40.0**	**-0.9**
QIZ				S	**S**	**11 05 30.5**	**+3.1**
QIZ				sS	**sS**	**11 05 39.3**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,340nm,2.4s						
QIZ				LR	LR		
	comp=N,1µm,15.5s						
QIZ				LR	LR		
	comp=Z,1µm,14.5s						
KDM	**Kudat**	**21.77**	**78**	P	**P**	**11 01 34.0**	**+0.5**
IMP	**Imphal**	**21.92**	**357**	*e*x	**P**	**11 01 32.0**	**-3.0**
SDKM	**Sandakan**	**21.95**	**82**	P	**P**	**11 01 35.4**	**0.0**
HYB	**Hyderabad**	**22.00**	**313**	*i* P	**P**	**11 01 39.0**	**+3.1**
SMKI	**Samarinda**	**22.07**	**98**	P	P	11 01 43.0	+6.3
TSM	**Tawau**	**22.51**	**86**	P	**P**	**11 01 42.0**	**+0.6**
SRBI	**Singaraja**	**22.55**	**119**	P	**P**	**11 01 42.8**	**+1.0**
	comp=Z,64nm,1.0s						
MNGI	**Mangalore**	**22.69**	**298**	*e*P	**P**	**11 01 42.6**	**-0.7**
SHL	**Shillong**	**22.90**	**352**	*i* P	**P**	**11 01 41.0**	**-4.6**
SHL				*e*S	**S**	**11 05 53.0**	**-1.1**
MYLDM	**Lahad Datu**	**23.20**	**83**	P	**P**	**11 01 49.4**	**+0.8**
MYLDM	**Lahad Datu**	**23.20**	**83**	P	**P**	**11 01 49.5**	**+1.0**
	comp=Z,167nm,1.1s,comp=Z,2µm						
KMI	**Kunming**	**23.32**	**17**	P	**P**	**11 01 50.7**	**+0.8**
KMI				pP	**pP**	**11 01 58.2**	**+0.9**
KMI				PP	**PnPn**	**11 02 23.1**	**+6.7**
KMI				S	**S**	**11 05 59.4**	**-1.8**
KMI				sS	**sS**	**11 06 13.8**	**-0.2**
KMI				SS	SnSn	11 06 48.3	+11
KMI				pmax	pmax		
	comp=Z,47nm,0.9s						
KMI				LR	LR		
	comp=N,2µm,14.1s						
KMI				LR	LR		
	comp=E,1µm,16.6s						
KMI				LR	LR		
	comp=Z,2µm,14.3s						
NGP	**Nagpur**	**24.20**	**320**	*e*P	**P**	**11 01 59.5**	**+1.4**
TTSI	**Tana Toraja**	**25.12**	**103**	P	**P**	**11 02 10.4**	**+3.9**
	comp=Z,44nm,0.8s,comp=Z,2µm						
ODAN	**Odare**	**25.13**	**343**	*e*P	**P**	**11 02 07.0**	**+0.2**
	comp=Z,149nm,1.0s						
ODAN	**Odare**	**25.13**	**343**	*e*P	**P**	**11 02 07.0**	**+0.2**
	comp=Z,149nm,1.0s						
SPSI	**Sidrap Palu**	**25.29**	**105**	P	**P**	**11 02 08.1**	**0.0**
	comp=Z,34nm,0.9s						
RAMN	**Ramite**	**25.46**	**342**	*e*P	**P**	**11 02 10.6**	**+0.9**
	comp=Z,111nm,0.8s						
RAMN	**Ramite**	**25.46**	**342**	*e*P	**P**	**11 02 10.6**	**+0.9**
	comp=Z,111nm,0.8s						
TAPN	**Taplejung**	**25.51**	**344**	*e*P	**P**	**11 02 11.7**	**+1.5**
	comp=Z,127nm,0.9s						
TAPN	**Taplejung**	**25.51**	**344**	*e*P	**P**	**11 02 11.7**	**+1.5**
	comp=Z,127nm,0.9s						
KAPI	**Kappang**	**25.56**	**108**	P	**P**	**11 02 09.3**	**-1.3**
	comp=Z,42nm,0.8s,baz=287,slow=9.1,SNR=23						
KAPI	**Kappang**	**25.56**	**108**	*e*P	**P**	**11 02 09.6**	**-0.9**
KAPI	**Kappang**	**25.56**	**108**	P	**P**	**11 02 09.7**	**-0.8**
	SNR=14						
KAPI	**Kappang**	**25.56**	**108**	P	**P**	**11 02 09.2**	**-1.3**
	comp=Z,379nm,0.7s,SNR=13						
KAPI	**Kappang**	**25.56**	**108**	P	**P**	**11 02 09.6**	**-0.9**
	comp=Z,71nm,1.0s,comp=Z,619nm						
GYA	**Guiyang**	**25.92**	**24**	⇑*i*P	**P**	**11 02 13.1**	**-0.7**
GYA				pP	**pP**	**11 02 23.8**	**+2.3**
GYA				PP	**PnPn**	**11 02 58.4**	**+6.6**
GYA				PcP	**PcP**	**11 05 44.2**	**+1.8**
GYA				S	**S**	**11 06 41.8**	**-0.8**
GYA				SS	**SnSn**	**11 07 49.0**	**+8.6**
GYA				pmax	pmax		
	comp=Z,50nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,780nm,17.0s						
GYA				LR	LR		
	comp=E,630nm,17.3s						
GYA				LR	LR		
	comp=Z,770nm,18.4s						
BKSI	**Bulukumba**	**26.00**	**108**	P	**P**	**11 02 15.1**	**+0.5**
	comp=Z,87nm,0.8s,comp=Z,816nm						
JIRN	**Jiri**	**26.25**	**341**	*e*P	**P**	**11 02 18.0**	**+0.9**
	comp=Z,39nm,0.8s						
JIRN	**Jiri**	**26.25**	**341**	*e*P	**P**	**11 02 18.0**	**+0.9**
	comp=Z,39nm,0.8s						
POO	**Poona**	**26.25**	**308**	*e*P	**P**	**11 02 17.0**	**+0.2**
PKI	**Pulchoki**	**26.43**	**340**	*e*P	**P**	**11 02 19.0**	**+0.4**
	comp=Z,45nm,0.7s						
PKI	**Pulchoki**	**26.43**	**340**	*e*P	**P**	**11 02 19.0**	**+0.4**
PKI				pmax	pmax		
	comp=Z,45nm,0.7s						
PKI	**Pulchoki**	**26.43**	**340**	*e*P	**P**	**11 02 19.0**	**+0.4**
	comp=Z,45nm,0.7s						
DMN	**Daman**	**26.57**	**339**	*e*P	**P**	**11 02 21.0**	**+1.2**
	comp=Z,50nm,0.8s						
DMN	**Daman**	**26.57**	**339**	*e*P	**P**	**11 02 21.0**	**+1.2**
	comp=Z,50nm,0.8s						
GUN	**Gumba**	**26.58**	**341**	*e*P	**P**	**11 02 20.9**	**+0.9**
	comp=Z,89nm,0.6s						
GUN	**Gumba**	**26.58**	**341**	*e*P	**P**	**11 02 20.9**	**+0.9**
	comp=Z,89nm,0.6s						
MRSI	**Marisa**	**26.66**	**94**	P	**P**	**11 02 20.1**	**-0.4**
KKN	**Kakani**	**26.67**	**340**	*e*P	**P**	**11 02 21.2**	**+0.5**
	comp=Z,102nm,0.9s						
KKN	**Kakani**	**26.67**	**340**	*e*P	**P**	**11 02 21.2**	**+0.5**
KKN				pmax	pmax		
	comp=Z,102nm,0.9s						
KKN	**Kakani**	**26.67**	**340**	*e*P	**P**	**11 02 21.2**	**+0.5**
	comp=Z,102nm,0.9s						
LSA	**Lhasa**	**27.07**	**352**	P	**P**	**11 02 24.9**	**+0.4**
LSA				LR	LR		
	comp=N,250nm,26.8s						
LSA				LR	LR		
	comp=E,520nm,23.4s						
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**11 02 25.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,44nm,0.6s						
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**11 02 25.5**	**+1.0**
	comp=Z,44nm,0.6s						
GKN	**Gorkha**	**27.09**	**339**	*e*P	**P**	**11 02 24.9**	**+0.5**
	comp=Z,180nm,1.0s						
GKN	**Gorkha**	**27.09**	**339**	*e*P	**P**	**11 02 24.9**	**+0.5**
	comp=Z,180nm,1.0s						
KOLN	**Koldanda**	**27.27**	**337**	*e*P	**P**	**11 02 26.9**	**+0.8**
	comp=Z,92nm,0.7s						
KOLN	**Koldanda**	**27.27**	**337**	*e*P	**P**	**11 02 26.9**	**+0.8**
	comp=Z,92nm,0.7s						
DANN	**Dangsing**	**27.73**	**338**	*e*P	**P**	**11 02 30.7**	**+0.4**
	comp=Z,206nm,1.0s						
DANN	**Dangsing**	**27.73**	**338**	*e*P	**P**	**11 02 30.7**	**+0.4**
	comp=Z,206nm,1.0s						
PYUN	**Piuthan**	**27.81**	**336**	*e*P	**P**	**11 02 31.0**	**+0.1**
	comp=Z,128nm,1.0s						
PYUN	**Piuthan**	**27.81**	**336**	*e*P	**P**	**11 02 31.0**	**+0.1**
	comp=Z,128nm,1.0s						
CD2	**Chengdu**	**29.08**	**15**	P	**P**	**11 02 41.0**	**-1.0**
CD2				pP	**pP**	**11 02 49.1**	**-0.7**
CD2				sP	**sP**	**11 02 52.3**	**-0.7**
CD2				PP	**PnPn**	**11 03 35.8**	**+1.0**
CD2				S	**S**	**11 07 30.4**	**-1.8**
CD2				sS	**sS**	**11 07 43.6**	**-1.5**
CD2				SS	**SnSn**	**11 09 01.2**	**+3.9**
CD2				pmax	pmax		
	comp=Z,70nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,3.6s						
CD2				LR	LR		
	comp=N,1µm,13.7s						
CD2				LR	LR		
	comp=Z,2µm,15.5s						
AGRA	**Agra**	**29.48**	**327**	*e*P	**P**	**11 02 46.1**	**+0.6**
AGRA				AMb	AMB	11 02 58.7	

	comp=Z,43nm,0.1s						
DAV	**Davao City (W)**	**30.39**	**81**	P	**P**	**11 02 56.6**	**+2.8**
	comp=Z,74nm,0.3s,baz=318,slow=1.9,SNR=3.7						
DAV	**Davao City (W)**	**30.39**	**81**	P	**P**	**11 02 56.6**	**+2.8**
ENH	**Enshi**	**30.44**	**25**	*e*P	**P**	**11 02 52.8**	**-1.3**
	comp=Z,39nm,0.8s						
AYAN	**Aya Nagar**	**30.91**	**328**	*e*P	**P**	**11 02 58.1**	**0.0**
AYAN				AMb	AMB	11 02 59.3	
	comp=Z,18nm,0.5s						
KHET	**Khetri**	**31.32**	**325**	*e*P	**P**	**11 03 02.1**	**+0.3**
KHET				AMb	AMB	11 03 04.5	
	comp=Z,16nm,0.8s						
QZH	**Quanzhou**	**31.41**	**43**	⇑*i*P	**P**	**11 03 04.3**	**+1.7**
QZH				S	**S**	**11 08 11.3**	**+2.5**
QZH				pmax	pmax		
	comp=Z,70nm,1.0s						
QZH				LR	LR		
	comp=N,960nm,10.2s						
QZH				LR	LR		
	comp=E,960nm,10.0s						
QZH				LR	LR		
	comp=Z,960nm,12.9s						
TWG	**Pinlang**	**31.90**	**49**	*e*P	**P**	**11 03 06.6**	**-0.4**
	comp=Z,124nm,0.8s						
DDI	**Dehra Dun**	**31.92**	**331**	*e*P	**P**	**11 03 05.0**	**-2.2**
KKR	**Kurukshetra**	**32.25**	**329**	*e*P	**P**	**11 03 10.8**	**+0.9**
SSLB	**Suanglung**	**32.37**	**48**	*e*P	**P**	**11 03 11.1**	**-0.1**
	comp=Z,218nm,2.3s						
YULB	**Yu-li**	**32.40**	**49**	*e*P	**P**	**11 03 10.7**	**-0.7**
	comp=Z,27nm,0.6s						
YULB				*e*PcP	PcP	11 05 52.1	-6.5
WHN	**Wuhan**	**32.94**	**31**	P	**P**	**11 03 16.1**	**+0.1**
WHN				pP	**pP**	**11 03 22.8**	**-1.0**
WHN				pmax	pmax		
	comp=Z,110nm,0.9s						
WHN				LR	LR		
	comp=N,1µm,10.0s						
WHN				LR	LR		
	comp=E,2µm,14.1s						
WHN				LR	LR		
	comp=Z,3µm,13.8s						
NACB	**Ninganchiao**	**33.07**	**48**	*e*P	**P**	**11 03 14.1**	**-3.1**
	comp=Z,16nm,0.7s						
XAN	**Xi'an**	**33.57**	**21**	P	**P**	**11 03 20.4**	**-1.1**
XAN				pP	**pP**	**11 03 28.2**	**-1.1**
XAN				pmax	pmax		
	comp=Z,23nm,0.8s						
XAN				pmax	pmax		
	comp=Z,24nm,5.4s						
XAN				LR	LR		
	comp=N,400nm,14.4s						
XAN				LR	LR		
	comp=Z,200nm,13.5s						
MBWA	**Marble Bar**	**33.70**	**136**	*e*P	**P**	**11 03 22.6**	**0.0**
	comp=Z,34nm,1.0s						
LZH	**Lanzhou**	**34.05**	**12**	⇑P	**P**	**11 03 24.9**	**-0.9**
LZH				pP	**pP**	**11 03 32.8**	**-0.9**
LZH				sP	**sP**	**11 03 36.2**	**-0.7**
LZH				PcP	**PcP**	**11 06 03.8**	**+0.5**
LZH				*e*S	**S**	**11 08 48.5**	**-1.6**
LZH				sS	**sS**	**11 09 02.0**	**-1.0**
LZH				SS	**SnSn**	**11 10 58.0**	**-0.4**
LZH				pmax	pmax		
	comp=Z,61nm,1.3s						
LZH				pmax	pmax		
	comp=Z,230nm,5.2s						
LZH				LR	LR		
	comp=N,390nm,13.6s						
LZH				LR	LR		
	comp=E,550nm,12.3s						
LZH				LR	LR		
	comp=Z,610nm,17.2s						
THN	**Thein Dam**	**34.80**	**330**	*e*P	**P**	**11 03 34.9**	**+2.8**
FITZ	**Fitzroy Crossi**	**36.33**	**126**	P	**P**	**11 03 44.4**	**-1.1**
	comp=Z,15nm,0.7s,baz=299,slow=5.5,SNR=35						
FITZ				PcP	**PcP**	**11 06 10.6**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=79,slow=5.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**36.33**	**126**	*e*P	**P**	**11 03 44.4**	**-1.1**
	comp=Z,14nm,0.8s						
FITZ				*e*pP	**pP**	**11 03 52.2**	**-1.1**
FITZ				PcP	**PcP**	**11 06 10.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**36.33**	**126**	P	**P**	**11 03 44.7**	**-0.8**
	baz=36,SNR=12						
NJ2	**Nanjing**	**36.55**	**35**	*e*P	**P**	**11 03 47.1**	**0.0**
NJ2				pP	**pP**	**11 03 55.2**	**+0.2**
NJ2				sP	**sP**	**11 03 57.2**	**-1.0**
NJ2				PP	**PP**	**11 05 10.7**	**+0.1**
NJ2				S	**S**	**11 09 27.5**	**-0.6**
NJ2				sS	**sS**	**11 09 44.5**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,70nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,170nm,5.3s						
NJ2				LR	LR		
	comp=N,350nm,17.9s						
NJ2				LR	LR		
	comp=E,610nm,16.3s						
NJ2				LR	LR		
	comp=Z,600nm,15.6s						
GTA	**Gaotai**	**36.68**	**6**	⇑P	**P**	**11 03 47.9**	**-0.5**
GTA				pP	**pP**	**11 03 55.2**	**-1.0**
GTA				sP	**sP**	**11 03 58.7**	**-0.7**
GTA				PP	**PP**	**11 05 13.5**	**+1.3**
GTA				PcP	**PcP**	**11 06 12.2**	**+1.3**
GTA				S	**S**	**11 09 29.1**	**-1.2**
GTA				sS	sS	11 09 48.6	+5.3
GTA				SS	**SnSn**	**11 11 57.8**	**-4.1**
GTA				pmax	pmax		
	comp=Z,33nm,0.9s						
GTA				pmax	pmax		
	comp=Z,200nm,5.5s						
GTA				LR	LR		
	comp=N,400nm,14.2s						
GTA				LR	LR		
	comp=E,310nm,16.1s						
GTA				LR	LR		
	comp=Z,380nm,15.0s						
MTN	**Manton Dam**	**38.76**	**114**	P	**P**	**11 04 04.5**	**-1.5**
	baz=39,SNR=8.0						
JOW	**Kunigami**	**39.56**	**50**	P	**P**	**11 04 12.4**	**-0.2**
	comp=Z,32nm,0.6s,baz=227,slow=5.3,SNR=13						
JOW	**Kunigami**	**39.56**	**50**	P	**P**	**11 04 12.4**	**-0.2**
BTO	**Baotou**	**39.91**	**17**	*e*P	**P**	**11 04 14.9**	**-0.6**
KSH	**Kashi**	**40.59**	**337**	*e*P	**P**	**11 04 20.6**	**-0.6**
KSH				pP	**pP**	**11 04 30.1**	**+1.0**
KSH				sP	**sP**	**11 04 33.3**	**+1.0**
KSH				PP	**PnPn**	**11 05 59.6**	**+0.5**
KSH				*e*PcP	**PcP**	**11 06 24.7**	**+1.6**
KSH				ScP	**ScP**	**11 10 10.9**	**-0.1**
KSH				PcS	**PcS**	**11 10 14.7**	**+0.9**
KSH				S	**S**	**11 10 30.8**	**+1.5**
KSH				sS	**sS**	**11 10 43.0**	**+0.6**
KSH				SS	**SS**	**11 13 26.0**	**-4.0**
KSH				ScS	**ScS**	**11 14 24.0**	**-1.5**
KSH				pmax	pmax		
	comp=Z,15nm,0.7s						
KSH				pmax	pmax		
	comp=Z,150nm,4.2s						
KSH				LR	LR		
	comp=N,390nm,11.2s						
KSH				LR	LR		
	comp=E,340nm,12.0s						
KSH				LR	LR		
	comp=Z,350nm,5.7s						
HHC	**Hu-ho-hao-te**	**40.62**	**19**	*e*P	**P**	**11 04 22.1**	**+0.7**
HHC				pP	**pP**	**11 04 29.3**	**0.0**
HHC				sP	**sP**	**11 04 32.2**	**-0.3**
HHC				PP	**PnPn**	**11 06 00.7**	**+1.4**
HHC				S	**S**	**11 10 32.1**	**+2.5**
HHC				sS	**sS**	**11 10 44.2**	**+1.5**
HHC				SS	**SS**	**11 13 27.8**	**-2.6**
HHC				ScS	**ScS**	**11 14 23.7**	**-1.8**
HHC				pmax	pmax		
	comp=Z,51nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
HHC				LR	LR		
	comp=N,1µm,14.1s						
HHC				LR	LR		
	comp=E,770nm,19.6s						
HHC				LR	LR		
	comp=Z,820nm,15.1s						
NWAO	**Narrogin (SRO)**	**41.10**	**152**	P	**P**	**11 04 26.1**	**+0.8**
	comp=Z,9.6nm,0.9s,baz=295,slow=11,SNR=5.8						
NWAO	**Narrogin (SRO)**	**41.10**	**152**	P	**P**	**11 04 26.1**	**+0.8**

WMQ	**Urumqi**	**41.43**	**352**	P	**P**	**11 04 28.8**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,27nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,420nm,6.0s						
WMQ				LR	LR		
	comp=N,73nm,21.0s						
WMQ				LR	LR		
	comp=E,370nm,21.0s						
WMQ				LR	LR		
	comp=Z,170nm,21.0s						
BJT	**Baijiatuau**	**41.59**	**24**	*e*P	**P**	**11 04 30.2**	**+1.0**
	comp=Z,103nm,0.8s						
BJT				*e*pP	**pP**	**11 04 37.6**	**+0.5**
BJI	**Beijing**	**41.61**	**24**	P	**P**	**11 04 30.0**	**+0.7**
BJI				pP	**pP**	**11 04 37.0**	**-0.3**
BJI				PP	**PnPn**	**11 06 13.6**	**+2.9**
BJI				pmax	pmax		
	comp=Z,99nm,1.1s						
BJI				LR	LR		
	comp=N,370nm,15.9s						
BJI				LR	LR		
	comp=E,490nm,15.4s						
BJI				LR	LR		
	comp=Z,220nm,15.9s						
ULHL	**Ulahol**	**42.86**	**339**	P	**P**	**11 04 40.8**	**+0.9**
	SNR=7.3						
KZA	**Kyzart**	**43.08**	**338**	P	**P**	**11 04 42.7**	**+0.9**
	SNR=9.9						
DL2	**Dalian**	**43.19**	**30**	P	**P**	**11 04 42.9**	**+0.6**
DL2				pP	**pP**	**11 04 49.7**	**-0.5**
DL2				*e*S	**S**	**11 11 09.4**	**+1.9**
DL2				pmax	pmax		
	comp=Z,50nm,0.8s						
DL2				LR	LR		
	comp=N,250nm,15.6s						
DL2				LR	LR		
	comp=E,210nm,15.6s						
DL2				LR	LR		
	comp=Z,250nm,11.5s						
TKM2	**Tokmak 2**	**43.68**	**339**	*i* P	**P**	**11 04 47.4**	**+1.0**
TKM2	**Tokmak 2**	**43.68**	**339**	P	**P**	**11 04 47.5**	**+1.0**
	SNR=15						
KBK	**Karagaybulak**	**43.69**	**338**	P	**P**	**11 04 48.2**	**+1.7**
	SNR=19						
AML	**Almayashu**	**43.73**	**337**	P	**P**	**11 04 48.5**	**+1.4**
	SNR=38						
AAK	**Ala-Archa**	**43.84**	**338**	P	**P**	**11 04 49.0**	**+1.3**
	comp=Z,8.8nm,0.7s,baz=143,slow=6.9,SNR=42						
AAK	**Ala-Archa**	**43.84**	**338**	P	**P**	**11 04 49.0**	**+1.3**
AAK	**Ala-Archa**	**43.84**	**338**	P	**P**	**11 04 49.0**	**+1.3**
	comp=Z,1.8nm,0.7s						
AAK	**Ala-Archa**	**43.84**	**338**	P	**P**	**11 04 49.7**	**+2.0**
	comp=Z,87nm,0.6s,SNR=8.4						
AAK	**Ala-Archa**	**43.84**	**338**	P	**P**	**11 04 50.4**	**+2.7**
	SNR=13						
FRU	**Bishkek**	**43.97**	**338**	*e*P	**P**	**11 04 50.0**	**+1.5**
EKS2	**Erkin-Say**	**44.14**	**337**	*e*P	**P**	**11 04 51.6**	**+1.6**
EKS2				*e**PP	**pP**	**11 04 58.1**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,20nm,0.6s						
EKS2	**Erkin-Say**	**44.14**	**337**	*e*P	**P**	**11 04 51.6**	**+1.6**
	comp=Z,20nm,0.6s						
EKS2				*e*pP	**pP**	**11 04 58.1**	**+0.1**
EKS2	**Erkin-Say**	**44.14**	**337**	P	**P**	**11 04 51.6**	**+1.6**
	SNR=36						
USP	**Ospenovka**	**44.38**	**338**	P	**P**	**11 04 53.1**	**+1.2**
	SNR=48						
WRA	**Warramunga Arr**	**44.42**	**122**	P	**P**	**11 04 52.0**	**-0.5**
	comp=Z,18nm,0.9s,baz=301,slow=9.0,SNR=84						
WRA	**Warramunga Arr**	**44.42**	**122**	P	**P**	**11 04 52.0**	**-0.5**
WRAB	**Tennant Creek**	**44.43**	**122**	*e*P	**P**	**11 04 52.0**	**-0.5**
WRAB				*e**PP	**pP**	**11 05 00.6**	**+0.1**
WRAB				*e*		11 06 36.3	
WRAB				pmax	pmax		
	comp=Z,34nm,1.2s						
WRAB	**Tennant Creek**	**44.43**	**122**	*e*P	**P**	**11 04 52.0**	**-0.5**
	comp=Z,34nm,1.2s						
WRAB				*e*pP	**pP**	**11 05 00.6**	**+0.1**
WRAB				*e*PcP	**PP**	**11 06 36.3**	**-0.2**
WRAB	**Tennant Creek**	**44.43**	**122**	P	**P**	**11 04 52.2**	**-0.3**
	comp=Z,117nm,0.6s,SNR=19						
JNU	**Nakatsue**	**44.88**	**44**	P	**P**	**11 04 55.3**	**-0.7**
	comp=Z,12nm,0.6s,baz=286,slow=3.1,SNR=18						
JNU	**Nakatsue**	**44.88**	**44**	*e*P	**P**	**11 04 55.3**	**-0.7**
	comp=Z,5.6nm,0.7s						
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**11 04 59.6**	**+0.6**
	comp=Z,49nm,0.6s,baz=165,slow=7.6,SNR=183						
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**11 04 59.6**	**+0.6**
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**11 04 59.6**	**+0.6**
KSAR	**Wonju Array Be**	**45.61**	**37**	P	**P**	**11 05 01.1**	**-0.5**
KSRS	**Korea Array**	**45.64**	**37**	P	**P**	**11 05 01.1**	**-0.7**
	comp=Z,7.9nm,0.7s,baz=223,slow=9.2,SNR=44						
FORT	**Forrest**	**45.66**	**139**	*e*P	**P**	**11 05 03.4**	**+1.3**
	comp=Z,50nm,0.7s						
FORT	**Forrest**	**45.66**	**139**	P	**P**	**11 05 03.6**	**+1.5**
	baz=46,SNR=15						
ASAR	**Alice Springs**	**45.80**	**127**	P	**P**	**11 05 03.1**	**-0.3**
	comp=Z,9.0nm,0.9s,baz=298,slow=8.0,SNR=73						
ASAR				PcP	**PcP**	**11 06 41.2**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=306,slow=3.6,SNR=8.3						
ASAR	**Alice Springs**	**45.80**	**127**	P	**P**	**11 05 03.1**	**-0.3**
ASAR				PcP	**PcP**	**11 06 41.2**	**+0.4**
KKAR	**Karatay Array**	**45.84**	**335**	*e*P	**P**	**11 05 04.3**	**+0.8**
KKAR				*e**PP	**pP**	**11 05 12.4**	**+0.9**
KKAR	**Karatay Array**	**45.84**	**335**	*e*P	**P**	**11 05 04.3**	**+0.8**
KKAR				*e*pP	**pP**	**11 05 12.4**	**+0.9**
SONM	**Songino Array**	**45.88**	**10**	P	**P**	**11 05 03.7**	**-0.1**
	comp=Z,32nm,0.7s,baz=189,slow=9.0,SNR=142						
SONM				PcP	**PcP**	**11 06 41.4**	**+0.7**
	comp=Z,9.5nm,0.7s,baz=193,slow=3.5,SNR=15						
SONM				LR	LR	11 26 00.6	
	comp=Z,398nm,22.0s,baz=164,slow=38						
SONM	**Songino Array**	**45.88**	**10**	P	**P**	**11 05 03.7**	**-0.1**
SONM				PcP	**PcP**	**11 06 41.4**	**+0.7**
ULN	**Ulaanbaatar**	**46.03**	**11**	*e*P	**P**	**11 05 04.6**	**-0.4**
	comp=Z,17nm,0.8s						
ULN				*e*pP	**pP**	**11 05 12.6**	**-0.5**
ULN				*e*sP	**sP**	**11 05 16.1**	**-0.1**
ULN				*e*PcP	**PcP**	**11 06 42.0**	**+0.8**
ULN	**Ulaanbaatar**	**46.03**	**11**	P	**P**	**11 05 05.0**	**0.0**
	SNR=9.1						
SNY	**Shenyang**	**46.38**	**29**	⇓P	**P**	**11 05 07.9**	**+0.3**
SNY				pmax	pmax		
	comp=Z,44nm,0.6s						
SNY				pmax	pmax		
	comp=Z,210nm,4.7s						
SNY				LR	LR		
	comp=N,610nm,15.7s						
SNY				LR	LR		
	comp=Z,560nm,16.3s						
ZAK	**Zakamensk**	**47.90**	**7**	*e*P	**P**	**11 05 19.1**	**-0.4**
ZAK				*e*		11 07 58.6	
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s						
HVS	**Khovu-Aksy**	**48.20**	**359***c*	*i*P	**P**	**11 05 21.8**	**0.0**
HVS				pmax	pmax		
	comp=Z,169nm,1.5s						
CN2	**Changchun**	**48.77**	**29**	⇑P	**P**	**11 05 25.8**	**-0.4**
CN2				*e*sP	**sP**	**11 05 37.8**	**+0.4**
CN2				*e*S	**S**	**11 12 26.4**	**-1.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
MOY	**Mondy**	**48.94**	**5**	*e*P	**P**	**11 05 27.6**	**+0.1**
TLY	**Talaya**	**49.22**	**7**	*e*P	**P**	**11 05 28.7**	**-0.9**
TLY				pmax	pmax		
	comp=Z,22nm,0.8s						
TLY				MLR	MLR		
	comp=Z,244nm,16.0s						
TLY	**Talaya**	**49.22**	**7**	*e*P	**P**	**11 05 29.7**	**+0.1**
TLY	**Talaya**	**49.22**	**7**	P	**P**	**11 05 30.7**	**+1.1**
	SNR=9.1						
TLY	**Talaya**	**49.22**	**7**	P	**P**	**11 05 30.7**	**+1.1**
	comp=Z,175nm,0.8s,SNR=7.3						
KURBB	**Kurchatov Arra**	**49.75**	**346**	P	**P**	**11 05 34.2**	**+0.6**
	comp=Z,15nm,0.6s						
KURK	**Kurchatov**	**49.81**	**346***c*	*i*P	**P**	**11 05 34.5**	**+0.5**
KURK				pmax	pmax		

comp=Z,49nm,1.2s
KURK Kurchatov 49.81 346 P P 11 05 34.2 +0.2
KURK *epP* **pP 11 05 43.1 +1.0**
KURK Kurchatov 49.81 346 P P 11 05 35.2 +1.2
SNR=11
KURK Kurchatov 49.81 346 P P 11 05 34.6 +0.5
comp=Z,167nm,0.8s,SNR=22
IRK Irkutsk 49.85 7 *eP* **P 11 05 32.6 -1.7**
IRK pmax pmax
comp=Z,31nm,1.3s
HIA Hailar 50.77 20 *eP* **P 11 05 41.1 -0.3**
comp=Z,14nm,0.8s
HIA *ePcP* **PcP 11 06 58.5 +0.4**
MDJ Mudanjiang 51.42 31 P P 11 05 46.7 +0.4
MDJ pP **pP 11 05 53.0 -1.4**
MDJ sP **sP 11 05 55.2 -2.4**
MDJ ScP **ScP 11 10 56.1 +0.4**
MDJ PcS **PcS 11 10 58.8 +0.5**
MDJ S **S 11 13 06.3 +1.8**
MDJ sS **sS 11 13 17.0 -0.9**
MDJ ScS **ScS 11 15 35.9 +0.8**
MDJ pmax pmax
comp=Z,12nm,1.9s
MDJ pmax pmax
comp=Z,80nm,3.4s
MDJ LR LR
comp=N,380nm,15.9s
MDJ LR LR
comp=E,360nm,16.8s
MDJ LR LR
comp=Z,330nm,17.2s
MDJ Mudanjiang 51.42 31 *eP* **P 11 05 45.8 -0.5**
comp=Z,11nm,0.8s
MDJ *epP* **pP 11 05 54.7 +0.3**
VLA Vladivostok 51.64 34 *i* P **P 11 05 48.5 +0.5**
VLA pmax pmax
comp=Z,99nm,1.9s
ZALV Zalesovo Beam 51.73 352 P P 11 05 49.0 +0.5
comp=Z,89nm,0.6s,baz=182,slow=6.7,SNR=365
ZALV Zalesovo Beam 51.73 352 P P 11 05 49.0 +0.5
ZALV Zalesovo Beam 51.73 352 P P 11 05 49.0 +0.5
MAT Matsushiro 51.80 44 P P 11 05 50.3 +1.0
MJAR Matsushiro Arr 51.80 44 P P 11 05 49.4 +0.1
comp=Z,2.9nm,0.8s,baz=242,slow=9.2,SNR=8.9
MJAR PcP **PcP 11 07 02.7 +0.5**
comp=Z,5.7nm,1.0s,baz=239,slow=4.8,SNR=7.8
MJAR Matsushiro Arr 51.80 44 P P 11 05 49.4 +0.1
MJAR PcP **PcP 11 07 02.7 +0.5**
OPO Ambohidratompo 51.94 244 P P 11 05 52.1 +1.3
comp=Z,2.5nm,0.9s,baz=106,slow=6.3,SNR=3.7
OPO Ambohidratompo 51.94 244 P P 11 05 52.1 +1.3
USRK Ussuriysk Arra 52.41 33 P P 11 05 53.6 0.0
comp=Z,11nm,0.8s,baz=238,slow=6.4,SNR=17
UMR Umm Al-Rimmam 52.42 306 *eP* **P 11 05 55.4 +1.4**
NAY Al-Naaiem 52.69 305 *eP* **P 11 05 57.0 +0.9**
NAY AMb AMB 11 06 06.6
comp=Z,32nm,0.9s
MIB Mutribah 52.81 306 *eP* **P 11 05 58.0 +1.0**
MIB AMb AMB 11 06 07.7
comp=Z,120nm,1.1s
NVS Novosibirsk 52.83 351⇑ *i* P **P 11 05 56.0 -0.6**
NVS *e* 11 06 02.8
NVS *eS* **S 11 13 22.1 -1.4**
NVS pmax pmax
comp=N,29nm,0.9s
NVS pmax pmax
comp=Z,50nm,0.9s
NVS pmax pmax
comp=E,15nm,0.7s
NVS smax smax
comp=E,27nm,2.0s
PMG Port Moresby 53.00 104 *eP* **P 11 05 57.9 -0.6**
comp=E,19nm,0.7s
BVAR Borovoye Array 54.17 342 P P 11 06 06.6 +0.1
comp=E,22nm,0.7s,baz=145,slow=8.8,SNR=115
BVAR Borovoye Array 54.17 342 P P 11 06 06.6 +0.1
BVAR Borovoye Array 54.17 342 P P 11 06 06.6 +0.1
BRVK Borovoye 54.24 342 *c iP* **P 11 06 07.0 +0.1**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK MLR MLR
comp=Z,223nm,20.0s
BRVK Borovoye 54.24 342 *eP* **P 11 06 07.2 +0.3**
BRVK Borovoye 54.24 342 P P 11 06 07.3 +0.4
comp=Z,218nm,0.6s,SNR=17
BRVK Borovoye 54.24 342 P P 11 06 07.4 +0.4
SNR=7.5
CTAO Charters Tower 54.84 117 *eP* **P 11 06 12.4 +0.4**
CTAO Charters Tower 54.84 117 *eP* **P 11 06 12.4 +0.4**
ABKAR Akbulak array 55.27 332 *eP* **P 11 06 14.8 +0.3**
comp=Z,30nm,0.9s
QLP Quilpie 55.46 125 P P 11 06 17.2 +0.9
baz=56,SNR=8.4
KLR Kul'dur 55.70 28 *eP* P 11 06 13.2 -4.4
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,55nm,1.2s
STKA Stephens Creek 55.77 132 P P 11 06 18.3 -0.1
comp=Z,9.2nm,1.0s,baz=130,slow=22,SNR=5.9
STKA Stephens Creek 55.77 132 P P 11 06 18.3 -0.1
HABR Khabarovsk 56.80 31 *eP* **P 11 06 24.1 -1.4**
HABR *e* 11 06 34.6
HABR 11 07 19.2
HABR *e* 11 08 30.1
HABR *eS* **S 11 14 16.3 -0.7**
HABR *e**SS **sS 11 14 28.9 -1.6**
HABR *e* 11 16 11.2
HABR *eSS* **SS 11 18 05.4 0.0**
HABR pmax pmax
comp=N,22nm,1.7s
HABR pmax pmax
comp=Z,26nm,1.0s
HABR pmax pmax
comp=E,15nm,0.9s
HABR MLR MLR
comp=Z,147nm,21.0s
BOD Bodaibo 56.82 12 *eP* **P 11 06 25.5 +0.1**
BOD pmax pmax
comp=Z,23nm,0.9s
KMBO Kilima Mbogo 58.23 267 *eP* P 11 06 43.7 +7.2
comp=Z,7.6nm,1.0s
ASAJ Asahikawa 58.53 38 P P 11 06 37.6 -0.2
comp=Z,7.4nm,0.7s,baz=211,slow=4.6,SNR=8.2
ASAJ Asahikawa 58.53 38 P P 11 06 37.6 -0.2
CMSA Cobar Meteorol 58.71 130 P P 11 06 39.7 +0.6
baz=59,SNR=12
CLNS Chul'man 58.80 18 *eP* **P 11 06 39.8 +0.3**
CLNS pmax pmax
comp=Z,20nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.8s
RMQ Roma 59.17 123 P P 11 06 43.9 +1.3
baz=59,SNR=4.3
YSS Yuzh-Sakhalins 60.11 36⇑ *eP* **P 11 06 49.0 +0.4**
YSS *e* 11 06 57.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 60.11 36 *eP* **P 11 06 48.6 +0.1**
comp=Z,49nm,1.0s
YUK Yuzh-Kuril'sk 60.55 40 P P 11 06 51.0 -0.6
YUK *eS* **S 11 15 05.4 -0.5**
YUK MLR MLR
comp=Z,433nm,18.0s
SVE Sverdlovsk 60.56 339⇑ *i* P **P 11 06 52.2 +0.7**
SVE pmax pmax
comp=Z,54nm,0.8s
ZEI Tsey 60.61 319 *eP* **P 11 06 52.2 -0.2**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 61.03 338 *c iP* **P 11 06 54.5 -0.1**
ARU S **S 11 15 13.6 +1.9**
ARU SS **SS 11 19 08.4 -3.2**
ARU pmax pmax
comp=Z,40nm,1.7s
ARU Arti 61.03 338 *eP* **P 11 06 54.6 -0.1**
comp=Z,37nm,1.2s
ARU Arti 61.03 338 P P 11 06 54.5 -0.1
comp=Z,136nm,1.0s,SNR=5.1
KBZ Khabaz 61.69 319 P P 11 06 59.2 -0.2
comp=Z,1.6nm,0.7s,baz=155,slow=5.2,SNR=6.3
KBZ Khabaz 61.69 319 P P 11 06 59.2 -0.2
KBZ Khabaz 61.69 319 P P 11 06 59.2 -0.2

KIV Kislovodsk 61.92 319 *eP* **P 11 07 02.1 +1.0**
KIV pmax pmax
comp=Z,15nm,1.1s
SOKR Solikamsk 63.96 339 *d iP* **P 11 07 15.0 +0.8**
SOKR pmax pmax
comp=Z,50nm,1.2s
YAK Yakutsk 64.44 17 *eP* **P 11 07 15.1 -2.2**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK MLR MLR
comp=N,334nm,16.0s
YAK MLR MLR
comp=Z,436nm,16.0s
YAK MLR MLR
comp=E,239nm,15.0s
YAK Yakutsk 64.44 17 *eP* **P 11 07 16.7 -0.6**
comp=E,61nm,0.8s
HNR Honiara 65.47 102 *eP* **P 11 07 23.7 -1.2**
comp=E,60nm,1.1s
AVNT Avonos 65.52 312 *i* P **P 11 07 23.7 -1.4**
ANN Anapa 65.71 319 *eP* **P 11 07 27.3 +1.4**
ANN pmax pmax
comp=Z,548nm,8.2s
VRHR Novokhopersk 65.80 326 *eP* **P 11 07 25.6 -0.7**
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.9s
BRTR Keskin Array B 66.70 312 P **P 11 07 32.0 -0.5**
comp=N,2.8nm,0.8s
BRTR Keskin Array B 66.70 312 P **P 11 07 32.0 -0.5**
VORD Divnogorie 67.06 325 *eP* **P 11 07 31.7 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,130nm,0.6s
VORD pmax pmax
comp=E,470nm,2.0s
VSR Storozhevoye 67.24 325 *eP* **P 11 07 34.2 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.2s
MOS Moscow 70.05 329 *eP* **P 11 07 51.7 -1.3**
MOS *e* 11 07 58.8
OBN Obninsk 70.32 329⇓ *iP* **P 11 07 54.8 +0.2**
OBN *e* 11 10 29.9
OBN pmax pmax
comp=Z,46nm,1.7s
PETK Petropavlovsk- 71.45 34 P **P 11 08 00.7 -0.9**
comp=Z,1.8nm,0.8s,baz=338,slow=11,SNR=3.4
PETK Petropavlovsk- 71.45 34 P **P 11 08 00.7 -0.9**
PETK Petropavlovsk- 71.45 34 P **P 11 08 00.7 -0.9**
KLMR Klimovskoe 71.55 335 *eP* **P 11 07 59.4 -2.6**
KLMR pmax pmax
comp=Z,30nm,1.2s
TIRR Tirgusor 71.72 316⇑ P **P 11 08 03.5 +0.1**
TIRR Tirgusor 71.72 316 *eP* **P 11 08 02.7 -0.7**
comp=Z,6.2nm,0.8s
TIRR Tirgusor 71.72 316⇑ *iP* **P 11 08 03.5 +0.1**
CFR Carcaliu 72.09 317⇑ P **P 11 08 05.4 -0.2**
CFR Carcaliu 72.09 317⇑ *iP* **P 11 08 05.4 -0.2**
AKASG Malin Array Be 72.90 323 P **P 11 08 09.7 -0.6**
comp=Z,4.6nm,0.5s,baz=93,slow=5.1,SNR=14
AKASG Malin Array Be 72.90 323 *ceP* **P 11 08 09.6 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 72.90 323 P **P 11 08 09.7 -0.6**
KIEV Kiev 72.91 323⇑ *eP* **P 11 08 09.6 -0.7**
KIEV Kiev 72.91 323 *eP* **P 11 08 09.1 -1.2**
comp=Z,3.3nm,0.6s
LBTB Lobatse 72.96 243 P **P 11 08 12.2 +0.9**
comp=Z,2.0nm,0.8s,baz=70,slow=8.0,SNR=3.8
LBTB Lobatse 72.96 243 P **P 11 08 12.2 +0.9**
SEY Seymchan 73.04 24 *ceP* **P 11 08 10.2 -0.7**
VRI Vrincioaia 73.22 317⇓ P **P 11 08 13.5 +1.1**
VRI Vrincioaia 73.22 317⇓ *iP* **P 11 08 13.5 +1.1**
TESR 73.43 318⇓ *iP* **P 11 08 14.1 +0.6**
MLR Muntele Rosu 73.67 317⇑ *iP* **P 11 08 16.0 +0.9**
VOIR 74.27 316 ⇓P **P 11 08 18.6 0.0**
VOIR 74.27 316 ⇓ *iP* **P 11 08 18.6 0.0**
BURAR Bucovina Array 74.64 319⇑ *iP* **P 11 08 21.9 +1.2**
VTS Vitosha 75.02 313 ⇓P **P 11 08 22.6 -0.5**
VTS Vitosha 75.02 313 ⇓ *iP* **P 11 08 22.6 -0.5**
JOF Joensuu 75.94 335 *eP* **P 11 08 27.1 -0.7**
JOF Joensuu 75.94 335 *ep* **P 11 08 27.1 -0.7**
comp=Z,1.5nm,0.4s
DRGR 76.14 318⇑ P **P 11 08 29.5 +0.2**
DRGR 76.14 318⇑ *iP* **P 11 08 29.5 +0.2**
TRPA Tarpa 76.51 319 ⇓ *iP* **P 11 08 32.4 +1.1**
VSU Vasula 76.57 330 *i* P **P 11 08 30.6 -0.8**
VSU pmax pmax
comp=Z,89nm,3.4s
LVZ Lovozero 76.73 340 *i* P **P 11 08 32.1 -0.1**
LVZ pmax pmax
comp=Z,84nm,3.0s
UZH Uzhgorod 76.76 319 *eP* **P 11 08 34.0 +1.3**
UZH *e* 11 08 41.4
KOLS Kolonicke sedl 76.83 320 *eP* **P 11 08 34.2 +1.1**
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 76.83 320 *eP* **P 11 08 34.2 +1.1**
KOLS *epP* **PcP 11 08 43.0 -1.3**
KOLS *ePP* **PP 11 11 22.8 -3.4**
APA Apatity 77.02 340⇑ *iP* **P 11 08 34.0 +0.3**
APA *i* 11 08 42.3
APA *i* S **S 11 18 20.0 -0.4**
APA *i* SS **SS 11 23 20.0 +2.5**
APA pmax pmax
comp=Z,28nm,1.0s
APA MLR MLR
comp=Z,1μm,19.0s
SUW Suwalki 77.33 325 *eP* **P 11 08 35.7 -0.2**
SUW *e* 11 08 43.1
SUW Suwalki 77.33 325 *eP* **P 11 08 35.5 -0.3**
SUW pmax pmax
comp=Z,35nm,0.9s
SUW Suwalki 77.33 325 *eP* **P 11 08 35.5 -0.3**
comp=Z,35nm,0.9s
SUW Suwalki 77.33 325 *eP* **P 11 08 35.6 -0.2**
SUW *e* 11 08 43.0
CRVS Cervenica-Dubn 77.36 319 *eP* **P 11 08 36.8 +0.7**
CRVS pmax pmax
comp=Z,5.0nm,0.8s
CRVS Cervenica-Dubn 77.36 319 *eP* **P 11 08 36.8 +0.7**
FINES FINESS Array B 77.76 333 P **P 11 08 38.1 +0.1**
comp=Z,10.0nm,0.6s,baz=97,slow=6.3,SNR=28
FINES LR LR 11 48 02.4
comp=Z,290nm,19.9s,baz=130,slow=40
FINES FINESS Array B 77.76 333 P **P 11 08 38.1 +0.1**
KAF Kangasniemi 77.86 333 *eP* P 11 08 30.6 -7.9
KAF pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 77.86 333 *ep* P 11 08 30.6 -7.9
comp=Z,7.4nm,0.9s
PSZ Piszkesteto 78.22 318⇑ P **P 11 08 41.7 +0.7**
PSZ Piszkesteto 78.22 318⇑ *iP* **P 11 08 41.7 +0.7**
OJC Ojcow 78.65 321 *eP* **P 11 08 43.7 +0.5**
OJC Ojcow 78.65 321 *eP* **P 11 08 43.7 +0.5**
VYHS Vyhne 79.00 319 *eP* **P 11 08 45.8 +0.6**
VYHS pmax pmax
comp=Z,25nm,2.4s
VYHS Vyhne 79.00 319 *eP* **P 11 08 45.8 +0.6**
VYHS *epP* **PcP 11 08 54.5 +0.8**
OKC Ostrava-Krasne 79.64 320 *eP* **P 11 08 49.4 +0.8**
OKC *epP* **pP 11 08 57.7 +0.6**
KEV Kevo 80.02 341 *eP* **P 11 08 49.4 -0.8**
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 80.02 341 *ep* **P 11 08 49.4 -0.8**
comp=Z,5.5nm,0.8s
MORC Moravsky Berou 80.02 320 ⇓P **P 11 08 51.8 +1.0**
MORC Moravsky Berou 80.02 320 ⇓ *iP* **P 11 08 51.8 +1.0**
ARCES ARCESS Array B 80.44 340 P **P 11 08 53.2 +0.6**
comp=Z,9.4nm,0.9s,baz=95,slow=5.4,SNR=33
ARCES ARCESS Array B 80.44 340 P **P 11 08 53.2 +0.6**

DPC Dobruska-Polom 80.87 320 *eP* **P 11 08 56.4 +1.1**
DPC *epP* **pP 11 09 04.9 +1.1**
BOJS Bojanci 81.09 315 *i* P **P 11 08 57.2 +0.7**
BOJS *i* 11 09 04.6
PERS Pernice 81.29 317 *i* P **P 11 08 58.6 +1.0**
PERS *i* 11 09 06.2
SOKA Soboth 81.35 317⇑ *iP* **P 11 08 58.0 0.0**
comp=Z,7.2nm,1.2s
VISS Visnje 81.41 316 *i* P **P 11 08 58.9 +0.6**
VISS *i* 11 09 06.5
JAVS Javornik 81.95 316 *i* P **P 11 08 58.9 -2.3**
MOA Molln 81.97 318⇑ *iP* **P 11 09 01.3 +0.1**
comp=Z,3.1nm,0.8s
GERES GERESS Array B 82.42 319 P **P 11 09 04.6 +0.9**
comp=Z,4.0nm,0.7s,baz=100,slow=5.8,SNR=25
GERES GERESS Array B 82.42 319 P **P 11 09 04.6 +0.9**
KHC Kasperske Hory 82.53 319 *eP* **P 11 09 03.0 -1.1**
KHC *e* 11 09 12.5
KHC Kasperske Hory 82.53 319 *eP* **P 11 09 05.7 +1.6**
KHC *epP* **pP 11 09 12.8 +0.2**
GRF Grafenberg Arr 84.10 319 *eP* **P 11 09 12.7 +0.5**
comp=Z,15nm,1.3s
NB2 NORSAR Subarra 84.74 331 P **P 11 09 15.0 -0.2**
comp=Z,12nm,1.2s,baz=97,slow=6.2
NOA NORSAR Array B 84.74 331 P **P 11 09 15.1 -0.2**
comp=Z,3.2nm,0.8s,baz=95,slow=5.3,SNR=6.8
NOA NORSAR Array B 84.74 331 P **P 11 09 15.1 -0.2**
KEST Kesra 85.16 305 P **P 11 09 19.2 +1.3**
comp=Z,1.4nm,0.8s,baz=126,slow=2.4,SNR=4.7
KEST Kesra 85.16 305 P **P 11 09 19.2 +1.3**
LPG La Plagne 87.06 315 *eP* **P 11 09 27.9 +0.5**
comp=Z,14nm,0.8s
LPG La Plagne 87.06 315 *eP* **P 11 09 27.9 +0.5**
LPG pmax pmax
comp=Z,14nm,0.8s
LPG La Plagne 87.06 315 *eP* **P 11 09 27.9 +0.5**
comp=Z,14nm,0.8s
LPL La Plagne 87.08 315 *eP* **P 11 09 27.1 -0.2**
comp=Z,34nm,1.1s
LPL La Plagne 87.08 315 *eP* **P 11 09 27.1 -0.2**
LPL pmax pmax
comp=Z,34nm,1.1s
LPL La Plagne 87.08 315 *eP* **P 11 09 27.1 -0.2**
comp=Z,34nm,1.1s
HAU Haudompre 87.30 318 *eP* **P 11 09 28.2 +0.1**
comp=Z,27nm,0.9s
HAU Haudompre 87.30 318 *eP* **P 11 09 28.2 +0.1**
HAU pmax pmax
comp=Z,27nm,0.9s
HAU Haudompre 87.30 318 *eP* **P 11 09 28.2 +0.1**
comp=Z,27nm,0.9s
VNDA Vanda 87.73 168 LR LR 11 44 09.1
comp=Z,116nm,18.5s,baz=177,slow=32
SFTF Sexfontaines 88.17 318 *eP* **P 11 09 32.6 +0.4**
comp=Z,24nm,0.8s
SFTF Sexfontaines 88.17 318 *eP* **P 11 09 32.6 +0.4**
comp=Z,24nm,0.8s
LOR Lormes 89.00 317 *eP* **P 11 09 37.4 +1.2**
LOR Lormes 89.00 317 *eP* **P 11 09 37.4 +1.2**
TORD Torodi Ar. Bea 92.95 283 P **P 11 09 55.9 +0.8**
comp=Z,0.5nm,0.9s,baz=104,slow=5.7,SNR=2.4
TORD PKKPbc **PKKPbc 11 27 05.7 +0.6**
comp=Z,0.3nm,0.6s,baz=302,slow=2.5,SNR=5.0
TORD Torodi Ar. Bea 92.95 283 P **P 11 09 56.0 +0.8**
TORD PKKPbc **PKKPbc 11 27 05.7 +0.6**
ILAR Eielson Array 98.96 23 P **P 11 10 19.7 -1.8**
comp=Z,0.4nm,1.1s,baz=338,slow=3.9,SNR=3.5
ILAR PP PP 11 14 17.4 -5.6
comp=Z,0.8nm,1.1s,baz=290,slow=7.6,SNR=4.5
ILAR Eielson Array 98.96 23 P **P 11 10 19.7 -1.8**
ILAR PP PP 11 14 17.4 -5.6
YKA Yellowknife Ar 111.04 14 Pdiff **Pdif 11 11 15.7 +0.5**
comp=Z,0.0nm,0.4s,baz=326,slow=4.0,SNR=2.7
YKA PKiKP **PKiKP 11 15 13.5 -0.8**
comp=Z,0.1nm,0.5s,baz=357,slow=2.7,SNR=4.7
YKA PP **PP 11 15 48.6 -3.7**
comp=Z,1.0nm,0.9s,baz=332,slow=7.3,SNR=6.1
YKA PKKPab **PKKPab 11 26 19.1 -3.5**
comp=Z,0.2nm,0.8s,baz=149,slow=2.4,SNR=4.7
YKA PKKP **PKKPdf 11 26 30.2 -0.9**
comp=Z,0.4nm,1.0s,baz=136,slow=3.9,SNR=5.3
YKA Yellowknife Ar 111.04 14 Pdif **Pdif 11 11 15.7 +0.5**
YKA PKiKP **PKiKP 11 15 13.5 -0.8**
YKA PP **PP 11 15 48.6 -3.7**
YKA PKKPab **PKKPab 11 26 19.1 -3.5**
YKA PKKP **PKKPdf 11 26 30.2 -0.9**
SCHQ Schefferville 120.72 348 PKP **PKPdf 11 15 33.2 0.0**
comp=Z,2.3nm,0.9s,baz=102,slow=10,SNR=4.1
SCHQ Schefferville 120.72 348 PKP **PKPdf 11 15 33.2 0.0**
A13A Flathead Natio 122.37 23 ⇓P **PKPdf 11 15 37.0 +0.4**
baz=122
C11A Tepee Creek (N 122.50 25 ⇑P **PKPdf 11 15 36.8 0.0**
baz=122
B13A Whitefish 122.81 23 ⇓P **PKPdf 11 15 37.4 0.0**
baz=123
B15A Bradely Ranch, 123.59 22 ⇑P **PKPdf 11 15 38.5 -0.4**
baz=123
A17A Triple J Farms 123.73 20 ⇑P **PKPdf 11 15 39.2 0.0**
baz=124
D13A Huson 123.84 24 ⇓P **PKPdf 11 15 39.3 -0.2**
baz=124
C15A Salmond Ranch, 124.02 22 ⇑P **PKPdf 11 15 39.7 -0.2**
baz=124
A18A Metzger Ranch, 124.05 20 ⇑P **PKPdf 11 15 39.7 -0.1**
baz=124
D14A Greenough 124.23 24 ⇓P **PKPdf 11 15 40.0 -0.3**
baz=124
B17A L&G Farms, Che 124.25 21 ⇓P **PKPdf 11 15 40.3 +0.1**
baz=124
MSO Missoula 124.26 24 ⇑P **PKPdf 11 15 40.2 -0.1**
baz=124
A19A Klindworth Far 124.40 19 ⇑P **PKPdf 11 15 40.6 +0.1**
baz=124
E13A Victor 124.47 24 ⇑P **PKPdf 11 15 40.6 -0.1**
baz=124
B18A Beardsley Farm 124.52 20 ⇑P **PKPdf 11 15 40.7 0.0**
baz=124
A20A Cobblestone Ra 124.71 19 ⇓P **PKPdf 11 15 41.0 -0.1**
baz=124
EGMT Eagleton 124.84 20 ⇓P **PKPdf 11 15 41.6 +0.3**
baz=125
A21A Bergtoll Ranch 124.92 18 ⇑P **PKPdf 11 15 41.5 0.0**
baz=125
A22A Carney Farms, 125.22 17 ⇑P **PKPdf 11 15 42.3 +0.3**
baz=125
C19A Slack Wire Ran 125.34 20 ⇓P **PKPdf 11 15 42.7 +0.4**
baz=125
H12A Diamond D Ranc 125.69 26 ⇑P **PKPdf 11 15 43.1 -0.1**
baz=126
C20A Veseth Ranch, 125.71 19 ⇓P **PKPdf 11 15 43.4 +0.4**
baz=126
G14A Jackson 125.74 25 ⇓P **PKPdf 11 15 43.5 +0.1**
baz=126
A24A Westby 125.82 16 ⇓P **PKPdf 11 15 43.5 +0.4**
baz=126
D19A Cripps Ranch, 125.89 20 ⇓P **PKPdf 11 15 43.8 +0.4**
baz=126
C21A Desert Coulee 125.90 19 ⇑P **PKPdf 11 15 43.6 +0.3**
baz=126
H13A Challis 125.94 26 ⇓P **PKPdf 11 15 43.7 0.0**
baz=126
BOZ Bozeman (W) 126.15 23 ⇑P **PKPdf 11 15 44.5 +0.4**
baz=126
G15A Dillon 126.20 24 ⇓P **PKPdf 11 15 44.6 +0.4**
baz=126
ULM Lac du Bonnet 126.30 9 PKP **PKPdf 11 15 43.8 -0.2**
comp=Z,3.5nm,0.7s,baz=22,slow=3.5,SNR=8.4
ULM Lac du Bonnet 126.30 9 PKP **PKPdf 11 15 43.8 -0.2**
C22A Vida 126.35 18 ⇑P **PKPdf 11 15 44.7 +0.5**
baz=126
E19A Rath Farm, Rou 126.53 21 ⇓P **PKPdf 11 15 44.8 +0.2**
baz=126
D22A Cohagen 126.79 18 ⇓P **PKPdf 11 15 45.7 +0.6**
baz=127
J13A Cove Ranch, Pi 126.90 27 ⇓P **PKPdf 11 15 46.1 +0.6**
baz=127
RLMT Red Lodge 127.50 22 ⇑P **PKPdf 11 15 47.5 +0.8**
baz=127
H19A Powell 127.99 22 ⇓P **PKPdf 11 15 48.7 +1.1**
baz=128
NVAR Mina Array Bea 128.54 34 PKP **PKPdf 11 15 49.9 +1.0**
comp=Z,0.9nm,0.6s,baz=297,slow=1.0,SNR=5.0
NVAR Mina Array Bea 128.54 34 PKP **PKPdf 11 15 49.9 +1.0**
G24A Alzada 128.97 18 ⇑P **PKPdf 11 15 49.0 -0.4**
baz=129
PDAR Pinedale Array 129.38 24 PKP **PKPdf 11 15 50.7 +0.3**
comp=Z,0.8nm,0.5s,baz=109,slow=2.8,SNR=7.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	129.38	24	PKP	PKPdf	11 15 50.7	+0.3
H24A	Dirks Ranch, A	129.44	18	⇓P	PKPdf	11 15 50.1	-0.2
	baz=129						
R17A	Hanksville Air	132.44	28	⇓P	PKPdf	11 15 56.4	+0.2
	baz=132						
ECSD	EROS Data Cent	132.46	12	ePKPdf	PKPdf	11 15 55.2	-0.7
Q19A	Hogan Spring (	132.67	26	⇑P	PKPdf	11 15 57.0	+0.4
	baz=132						
N24A	Carr	132.82	21	⇓P	PKPdf	11 15 57.5	+0.6
	baz=133						
O23A	Lake Granby, G	132.98	22	⇑P	PKPdf	11 15 57.9	+0.5
	baz=133						
U15A	North Rim	133.24	31	⇓P	PKPdf	11 15 59.1	+1.1
	baz=133						
S21A	Coal Bank Pass	134.38	26	⇑P	PKPdf	11 16 00.6	+0.4
	baz=134						
R27A	Eads	135.82	21	⇑P	PKPdf	11 16 03.6	+1.0
	baz=136						
U24A	Moreno Valley	136.51	24	⇓P	PKPdf	11 16 01.9	-2.2
	baz=136						
X29A	Tulia	139.64	22	⇓P	PKPdf	11 16 10.0	+0.4
	baz=139						
Z26A	Caprock	139.75	25	⇓P	PKPdf	11 16 07.1	-2.8
	baz=140						
Z27A	Tatum	140.03	25	⇑P	PKPdf	11 16 05.7	-4.8
	baz=140						
Z29A	Hungry Hill Ra	140.69	23	⇓P	PKPdf	11 16 13.9	+2.4
	baz=140						
ABTX	Abilene, Hawle	142.02	21	⇓P	PKPdf	11 16 08.9	-5.0
	baz=142						
230A	Sterling City	142.13	23	⇑P	PKPdf	11 16 09.3	-4.9
	baz=142						
231A	Bronte	142.40	22	⇑P	PKPdf	11 16 09.7	-4.9
	baz=142						
526A	Mary Lane Ranc	142.41	28	⇓P	PKPdf	11 16 10.6	-4.3
	baz=142						
428A	Kincaid Ranch,	142.49	26	⇓P	PKPdf	11 16 10.6	-4.2
	baz=142						
527A	Woodward Ranch	142.57	28	⇑P	PKPdf	11 16 10.5	-4.6
	baz=142						
626A	Big Bend Ranch	142.82	29	⇑P	PKPdf	11 16 10.8	-4.7
	baz=143						
528A	Cox Ranch, San	142.93	27	⇓P	PKPdf	11 16 12.1	-3.7
	baz=143						
430A	Baggett Ranch,	143.05	24	⇑P	PKPbc	11 16 12.3	-0.3
	baz=143						
529A	Stev Forest Ra	143.21	26	⇓P	PKPab	11 16 12.3	+0.5
	baz=143						
TXAR	Lajitas Array	143.22	28	PKhKP	PKPpre	11 16 13.1	
	comp=Z,1.2nm,0.6s,baz=282,slow=2.1,SNR=15						
TXAR	Lajitas Array	143.22	28	PKPpre	PKPpre	11 16 13.1	
431A	Sonora	143.40	23	⇓P	PKPbc	11 16 13.2	-0.4
	baz=143						
628A	Black Gap, Mar	143.46	27	⇓P	PKPbc	11 16 13.3	-0.5
	baz=143						
530A	J-C Ranch, Com	143.57	25	⇑P	PKPab	11 16 13.5	+0.4
	baz=143						
531A	Rocksprings	143.88	24	⇓P	PKPab	11 16 14.2	-0.1
	baz=144						
JCT	Junction City	143.89	23	ePKIKP	PKPbc	11 16 14.8	-0.2
JCT	Junction City	143.89	23	ePKPdf	PKPbc	11 16 14.8	-0.1
JCT	Junction City	143.89	23	⇑P	PKPbc	11 16 14.8	-0.1
	baz=144						
532A	Rocksprings	144.17	23	⇑P	PKPab	11 16 15.1	-0.3
	baz=144						
631A	Perdido Creek	144.53	24	⇓P	PKPab	11 16 16.6	-0.1
	baz=144						
VBMS	Vicksburg	144.75	9	ePKPdf	PKPdf	11 16 18.2	-0.4
632A	Uvalde	144.76	23	⇑P	PKPab	11 16 17.4	-0.2
	baz=145						
CPUP	Villa Florida	144.87	226	PKP	PKPdf	11 16 19.1	+0.1
	comp=Z,2.6nm,0.5s,baz=141,slow=3.5,SNR=8.8						
CPUP	Villa Florida	144.87	226	PKP	PKPdf	11 16 19.1	+0.1
732A	Laxson Ranch,	145.38	24	⇑P	PKPdf	11 16 20.0	+0.1
	baz=145						
CFAA	Coronel Fontan	147.43	207	PKPbc	PKPbc	11 16 26.5	+0.7
	comp=Z,0.5nm,0.5s,baz=157,slow=1.6,SNR=12						
CFAA	Coronel Fontan	147.43	207	PKPbc	PKPbc	11 16 26.5	+0.7
SIV	San Ignacio	153.35	239	PKPbc	PKPbc	11 16 40.4	-0.1
	comp=Z,1.1nm,0.9s,baz=91,slow=6.5,SNR=3.1						
SIV	San Ignacio	153.35	239	PKPbc	PKPbc	11 16 40.4	-0.1
LPAZ	La Paz	158.94	229	PKP	PKPdf	11 16 42.0	+1.0
	comp=Z,1.3nm,0.8s,baz=92,slow=2.7,SNR=4.4						
LPAZ				PKPab	PKPab	11 17 18.6	+1.5
	comp=Z,0.6nm,0.5s,baz=131,slow=6.1,SNR=2.6						
LPAZ	La Paz	158.94	229	PKP	PKPdf	11 16 42.0	+1.0
LPAZ				PKPab	PKPab	11 17 18.6	+1.5

IDC 04 10:59:19.4±0.9**,2°.65N**×**95°.32E,h0km,mb4.4**/16**, mb1 4.4**/18**,mb1mx4.3**/31**,mbtmp4.4**/18**,ML4.2**/2**, MS4.1**/3**,Ms1 4.1**/3**,ms1mx3.4**/39**,Error ellipse: s-maj=29.4km s-min=14.3km az=45.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.61	88	Pn	Pn	11 00 17.9	+1.1
	9.4nm,0.3s,baz=296,slow=8.8,SNR=11						
PSI				Sn	Sn	11 00 57.2	-3.1
	5.2nm,0.3s,baz=169,slow=17,SNR=2.3						
CMAR	Chiang Mai Arr	16.10	13	Pn	P	11 03 09.2	-1.6
	0.5nm,0.3s,baz=202,slow=11,SNR=10						
KAPI	Kappang	25.57	107	P	P	11 04 50.2	-0.3
	8.2nm,0.5s,baz=312,slow=10,SNR=4.0						
FITZ	Fitzroy Crossi	36.30	126	P	P	11 06 24.3	-0.8
	3.6nm,0.8s,baz=340,slow=2.0,SNR=5.7						
WRA	Warramunga Arr	44.40	122	P	P	11 07 32.2	0.0
	5.7nm,0.8s,baz=301,slow=8.9,SNR=6.2						
JNU	Nakatsue	45.01	44	P	P	11 07 36.2	-0.8
	4.1nm,0.8s,baz=337,slow=15,SNR=4.5						
MKAR	Makanchi Array	45.41	347	P	P	11 07 40.0	+0.2
	12nm,0.8s,baz=161,slow=8.9,SNR=9.5						
ASAR	Alice Springs	45.77	127	P	P	11 07 43.6	+0.5
	2.5nm,0.9s,baz=300,slow=8.3,SNR=4.5						
KSRS	Korea Array	45.77	37	P	P	11 07 41.4	-1.5
	2.3nm,0.8s,baz=219,slow=8.7,SNR=5.1						
SONM	Songino Array	46.02	10	P	P	11 07 44.3	-0.6
	8.8nm,0.8s,baz=194,slow=8.7,SNR=7.8						
SONM				PcP	PcP	11 09 21.8	+0.3
	2.0nm,0.7s,baz=178,slow=4.3,SNR=5.2						
KURBB	Kurchatov Arra	49.86	346	P	P	11 08 14.6	+0.3
	4.0nm,0.7s,baz=168,slow=6.6,SNR=5.5						
KURBB				LR	LR	11 32 09.7	
	comp=Z,238nm,19.9s,baz=195,slow=40						
ZALV	Zalesovo Beam	51.85	352	P	P	11 08 29.4	0.0
	20nm,0.7s,baz=169,slow=7.2,SNR=12						
ZALV				LR	LR	11 33 38.8	
	comp=Z,163nm,20.1s,baz=245,slow=40						
MJAR	Matsushiro Arr	51.93	44	PcP	PcP	11 09 43.3	+0.3
	3.0nm,1.1s,baz=200,slow=1.0,SNR=4.1						
USRK	Ussuriysk Arra	52.55	33	P	P	11 08 35.2	+0.6
	2.1nm,0.8s,baz=210,slow=11,SNR=4.2						
BVAR	Borovoye Array	54.28	342	P	P	11 08 47.0	-0.2
	5.4nm,0.8s,baz=132,slow=8.2,SNR=5.4						
ASF	Jabal al Asfar	62.09	305	LR	LR	11 37 46.3	
	comp=Z,158nm,18.0s,baz=130,slow=37						
BRTR	Keskin Array B	66.75	312	P	P	11 10 12.1	-0.9
	0.6nm,0.8s,baz=101,slow=4.6,SNR=2.2						
FINES	FINESS Array B	77.85	333	P	P	11 11 18.3	-0.4
	1.7nm,0.6s,baz=149,slow=3.2,SNR=4.1						
ARCES	ARCESS Array B	80.54	340	P	P	11 11 33.7	+0.4
	1.1nm,0.6s,baz=90,slow=8.6,SNR=4.0						
GERES	GERESS Array B	82.49	319	P	P	11 11 45.0	+0.9
	0.5nm,0.7s,baz=129,slow=7.8,SNR=2.9						
TXAR	Lajitas Array	143.36	28	PKP	PKPdf	11 18 55.8	-1.0
	0.5nm,0.8s,baz=346,slow=1.9,SNR=3.7						

IDC 04 11:16:26.9±2.3**,21°.71S**×**179°.47W,h614km**±27km**, mb3.3**/9**,mb1 3.5**/10**,mb1mx3.2**/21**,mbtmp3.3**/10**,Error ellipse: s-maj=20.0km s-min=14.2km az=172.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.09	266	P	P	11 19 18.5	+1.9
	0.5nm,0.3s,baz=72,slow=19,SNR=7.5						
CTA	Charters Tower	32.03	267	P	P	11 22 05.8	+0.4
	4.1nm,0.4s,baz=94,slow=9.7,SNR=9.5						
STKA	Stephens Creek	36.04	245	P	P	11 22 38.3	-0.2
	2.2nm,0.5s,baz=346,slow=3.1,SNR=6.1						
ASAR	Alice Springs	42.92	258	P	P	11 23 33.5	-0.2
	4.9nm,0.8s,baz=98,slow=7.9,SNR=36						
ASAR				S	S	11 29 14.3	-1.5
	0.4nm,0.8s,baz=96,slow=15,SNR=3.5						
WRA	Warramunga Arr	43.09	264	P	P	11 23 34.3	-0.7
	1.8nm,0.3s,baz=96,slow=7.8,SNR=24						
WRA				S	S	11 29 21.8	+3.5
	0.7nm,1.0s,baz=96,slow=14,SNR=5.8						
QSPA	South Pole Qui	68.37	180	P	P	11 26 28.7	+0.3
	2.8nm,0.7s,baz=56,slow=3.1,SNR=14						
MJAR	Matsushiro Arr	70.39	325	P	P	11 26 40.2	-0.3
	1.6nm,0.8s,baz=257,slow=31,SNR=4.9						
PETK	Petropavlovsk-	77.09	346	P	P	11 27 18.4	+0.4
	0.8nm,0.5s,baz=231,slow=6.8,SNR=4.3						
TXAR	Lajitas Array	88.85	58	P	P	11 28 18.4	+1.0
	0.5nm,0.8s,baz=204,slow=6.0,SNR=6.6						
CMAR	Chiang Mai Arr	89.23	290	P	P	11 28 18.6	-0.7
	0.5nm,0.3s,baz=137,slow=3.4,SNR=6.6						
AKASG	Malin Array Be	143.37	329	PKP	PKPab	11 34 50.3	-0.7
	0.9nm,0.3s,baz=48,slow=5.6,SNR=6.2						
TORD	Torodi Ar. Bea	171.42	188	PKPab	PKPab	11 36 51.2	-0.5
	0.3nm,0.7s,baz=186,slow=4.2,SNR=2.4						

IDC 04 11:18:44.9±1.9**,8°.83S**×**127°.70E,h0km,mb3.3**/1**, mb1 3.5**/4**,mb1mx3.3**/19**,mbtmp3.3**/4**,ML3.7**/2**,Error ellipse: s-maj=92.7km s-min=27.6km az=72.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.44	192	Pn	Pn	11 21 02.2	0.0
	0.6nm,0.3s,baz=11,slow=11,SNR=21						
FITZ				Sn	Sn	11 22 43.5	-5.7
	0.9nm,0.3s,baz=236,slow=18,SNR=7.2						
WRA	Warramunga Arr	12.78	151	Pn	Pn	11 21 48.7	+0.5
	0.4nm,0.3s,baz=329,slow=14,SNR=3.8						
WRA				Sn	Sn	11 24 05.5	-5.8
	0.3nm,0.3s,baz=327,slow=21,SNR=4.0						
ASAR	Alice Springs	15.91	159	Pn	Pn	11 22 29.6	-0.7
	0.1nm,0.3s,baz=339,slow=12,SNR=8.9						
MKAR	Makanchi Array	68.53	328	P	P	11 29 49.4	0.0
	0.2nm,0.6s,baz=134,slow=8.2,SNR=2.5						

WEL 04 11:27:53.2±0.7**,35°.85S**×**178°.37E,h184km**±8km**,ML3.9**/4**, Error ellipse: s-maj=21.1km s-min=8.5km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.71	182	PN	Pn	11 28 27.9	+0.4
MXZ				SN	Sn	11 28 53.7	-0.6
PUZ	Puketiti	2.22	182	PN	Pn	11 28 33.8	+0.9
PUZ				SN	Sn	11 29 03.7	-0.4
MWZ	Matawai	2.58	195	PN	Pn	11 28 37.8	+0.9
MWZ				SN	Sn	11 29 11.0	-0.3
URZ	Urewera	2.61	202	PN	Pn	11 28 37.7	+0.4
URZ				SN	Sn	11 29 12.5	+0.6
CNGZ	Carnagh Statio	2.64	183	ePN	Pn	11 28 38.7	+1.0
KNZ	Kokohu	3.22	190	PN	Pn	11 28 44.5	-0.1
RAHZ	Arahi	3.23	198	PN	Pn	11 28 43.2	-1.6
MHGZ	Mahia Peninsul	3.32	186	PN	Pn	11 28 46.2	+0.3
NMHZ	Naumai	3.48	201	PN	Pn	11 28 45.2	-2.7
BHHZ	Black Hill Sta	4.07	206	ePN	Pn	11 28 55.6	+0.3
PXZ	Pawanui	4.35	195	SN	Sn	11 29 47.9	-2.3
PNHZ	Pukenui	4.41	202	ePN	Pn	11 28 58.2	-1.4
PNHZ				SN	Sn	11 29 50.9	-1.0
TSZ	Takapari Road	4.62	204	PN	Pn	11 29 00.5	-1.8
PRHZ	Porangahau	4.62	197	ePN	Pn	11 29 01.0	-1.3
DVHZ	Dannevirke	4.78	201	SN	Sn	11 29 58.2	-2.1
MRZ	Mangatainoka R	5.29	204	SN	Sn	11 30 08.2	-3.9

*ISCJB **04** 11:35:02.5±0.6,39°.47N±0°.03×28°.12E±0°.05,h8km±5km, Error ellipse: s-maj=7.1km s-min=4.1km az=138.0*
*ISK **04** 11:35:02.3,39°.46N×28°.13E,h12km,MD3.1*
*DDA **04** 11:35:02.3,39°.46N×28°.13E,h7km,MD3.0*
*CSEM **04** 11:35:02.5±0.2,39°.45N×28°.12E,h10km,MD3.1,Error ellipse: s-maj=4.5km s-min=2.4km az=51.0*
ISC 04 11:35:02.5±1.1**,39°.44N**±0°.03×**28°.11E**±0°.03**,h12**km±8km**, n42,**σ**0.48**/52**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	Balikesir	0.27	318	ePG	Pg	11 35 08.4	+0.3
BALB				eSG	Sb	11 35 13.0	-0.7
BALB	Balikesir	0.27	318	ePg	Pg	11 35 08.4	+0.3
BALB				eSg	Sb	11 35 13.0	-0.7
DURS	Dursunbey	0.32	60	i P	Pg	11 35 08.2	-0.9
DURS				i S	Sg	11 35 13.8	+0.3
DURS	Dursunbey	0.32	60	i P	Pg	11 35 08.2	-0.9
DURS				i S	Sg	11 35 13.8	+0.3
DEMI	Demirci	0.61	130	i P	Pg	11 35 14.2	-0.2
DEMI				i S	Sb	11 35 23.6	-0.1
DEMI	Demirci	0.61	130	i P	Pg	11 35 14.2	-0.2
DEMI				i S	Sb	11 35 23.6	-0.1
GONE	Gonen-Balikesi	0.69	332	ePG	Pg	11 35 15.7	-0.2
GONE	Gonen-Balikesi	0.69	332	ePg	Pg	11 35 15.7	-0.2
KCTX	Karacabey (Bur	0.85	13	ePG	Pg	11 35 18.2	-0.6
KCTX	Karacabey (Bur	0.85	13	ePg	Pg	11 35 18.2	-0.6
EDC	Edincik	0.93	348	ePG	Pb	11 35 20.6	+0.1
EDC	Edincik	0.93	348	ePg	Pb	11 35 20.6	+0.1
MANT	Manisa	1.01	160	i P	Pb	11 35 22.0	0.0
MANT				i S	Sn	11 35 37.2	+0.4
MANT	Manisa	1.01	160	i P	Pb	11 35 22.0	0.0
MANT				i S	Sn	11 35 37.2	+0.4
KULA	Kula-Manisa	1.02	155	ePG	Pn	11 35 22.5	-0.1
KULA	Kula-Manisa	1.02	155	ePg	Pn	11 35 22.5	-0.1
TVSB	Tavsanli	1.04	89	ePG	Pb	11 35 22.6	+0.1
TVSB	Tavsanli	1.04	89	ePg	Pb	11 35 22.6	+0.1
MDNY	Mudanya-Bursa	1.10	32	ePN	Pn	11 35 23.5	-0.2
MDNY	Mudanya-Bursa	1.10	32	ePn	Pn	11 35 23.5	-0.2
GDZ	Gediz	1.12	108	i P	Pb	11 35 23.4	-0.4
GDZ				i S	Sn	11 35 39.5	+0.1
GDZ	Gediz	1.12	108	i P	Pb	11 35 23.4	-0.4
GDZ				i S	Sn	11 35 39.5	+0.1
KRBG	Karabiga-Canak	1.14	327	ePN	Pb	11 35 24.1	0.0
KRBG	Karabiga-Canak	1.14	327	ePn	Pb	11 35 24.1	0.0
ARMT	Armutlu	1.26	27	ePN	Pb	11 35 26.2	0.0
ARMT	Armutlu	1.26	27	ePn	Pb	11 35 26.2	0.0
GEMT	Gemlik	1.29	39	ePN	Pb	11 35 26.7	0.0
GEMT	Gemlik	1.29	39	ePn	Pb	11 35 26.7	0.0
RKY	Sarkoy-Tekirda	1.44	330	ePN	Pn	11 35 28.0	-0.4
RKY	Sarkoy-Tekirda	1.44	330	ePn	Pn	11 35 28.0	-0.4
CAVI	Cavuskoy	1.53	60	ePN	Pn	11 35 30.1	+0.5
CAVI	Cavuskoy	1.53	60	ePn	Pn	11 35 30.1	+0.5
GELI	Tayfur-Gelibol	1.58	308	ePN	Pn	11 35 30.1	-0.2
GELI	Tayfur-Gelibol	1.58	308	ePn	Pn	11 35 30.1	-0.2
ALT	Altintas	1.60	103	ePN	Pn	11 35 30.9	+0.3
ALT	Altintas	1.60	103	ePn	Pn	11 35 30.9	+0.3
CTKS	Kestanelik-??a	1.82	9	ePN	Pn	11 35 34.4	+0.8
CTKS	Kestanelik-??a	1.82	9	ePn	Pn	11 35 34.4	+0.8
SILT	Sile	2.07	34	ePN	Pn	11 35 37.5	+0.5
SILT	Sile	2.07	34	ePn	Pn	11 35 37.5	+0.5
MDUB	Mudurnu	2.58	66	ePN	Pn	11 35 45.5	+1.3
MDUB	Mudurnu	2.58	66	ePn	Pn	11 35 45.5	+1.3

*ISCJB **04** 12:04:36.7±0.3,40°.75N±0°.02×29°.00E±0°.03,h5km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=142.3*
*DDA **04** 12:04:36.4,40°.73N×29°.02E,h11km,MD2.9*
*ISK **04** 12:04:36.4,40°.75N×29°.00E,h6km,MD2.6*
*CSEM **04** 12:04:36.9±0.1,40°.74N×29°.01E,h6km±1km,MD2.9,Error ellipse: s-maj=1.7km s-min=1.4km az=44.0*
ISC 04 12:04:36.3±0.8**,40°.74N**±0°.02×**29°.01E**±0°.02**,h13**km±6km**, n69,**σ**0.40**/90**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUY	Buyukada	0.14	37	i P	Pb	12 04 40.5	-0.3
BUY				i S	Sg	12 04 42.0	-0.3
BUY	Buyukada	0.14	37	i P	Pb	12 04 40.5	-0.3
BUY				i S	Sg	12 04 42.0	-0.3
ARMT	Armutlu	0.21	212	PG	Pg	12 04 41.3	+0.4
ARMT	Armutlu	0.21	212	i Pg	Pg	12 04 41.3	+0.4
ISK	Istanbul-Kandi	0.33	7	PG	Pb	12 04 43.6	-0.4
ISK	Istanbul-Kandi	0.33	7	i Pg	Pb	12 04 43.6	-0.4
YLV	Yalova	0.33	122	PG	Pg	12 04 42.7	-0.3
YLV				SG	Sb	12 04 48.8	-0.5
YLV	Yalova	0.33	122	i Pg	Pg	12 04 42.7	-0.3
YLV				i Sg	Sb	12 04 48.8	-0.5
GEMT	Gemlik	0.34	156	PG	Pg	12 04 43.3	+0.2
GEMT	Gemlik	0.34	156	i Pg	Pg	12 04 43.3	+0.2
MDNY	Mudanya-Bursa	0.39	194	PG	Pb	12 04 44.7	-0.2
MDNY				SG	Sb	12 04 50.3	-0.5
MDNY	Mudanya-Bursa	0.39	194	i Pg	Pb	12 04 44.7	-0.2
MDNY				i Sg	Sb	12 04 50.3	-0.5
BGKT	Bogazkoy	0.47	338	ePG	Pg	12 04 45.8	+0.2
BGKT				eSG	Sb	12 04 53.0	-0.4
BGKT	Bogazkoy	0.47	338	ePg	Pg	12 04 45.8	+0.2
BGKT				eSg	Sb	12 04 53.0	-0.4
HRT	Hereke	0.51	81	ePG	Pg	12 04 46.7	+0.4
HRT	Hereke	0.51	81	ePg	Pg	12 04 46.7	+0.4
ELBA	Catalca	0.59	313	i P	Pb	12 04 48.9	+0.3
ELBA				i S	Sb	12 04 56.7	-0.2
ELBA	Catalca	0.59	313	i P	Pb	12 04 48.9	+0.3
ELBA				i S	Sb	12 04 56.7	-0.2
ULDT	Uludag	0.61	171	i P	Pg	12 04 48.5	+0.3
ULDT				i S	Sg	12 04 56.9	+0.6
ULDT	Uludag	0.61	171	i P	Pg	12 04 48.5	+0.3
ULDT				i S	Sg	12 04 56.9	+0.6
CTKS	Kestanelik-??a	0.62	323	ePG	Pg	12 04 48.7	+0.2
CTKS	Kestanelik-??a	0.62	323	ePg	Pg	12 04 48.7	+0.2
SILT	Sile	0.63	49	ePG	Pb	12 04 49.0	-0.2
SILT	Sile	0.63	49	ePg	Pb	12 04 49.0	-0.2
ADVT	Abdulvahap	0.64	119	ePG	Pb	12 04 49.4	+0.2
ADVT	Abdulvahap	0.64	119	ePg	Pb	12 04 49.4	+0.2
KCTX	Karacabey (Bur	0.69	226	ePG	Pb	12 04 50.1	-0.1
KCTX	Karacabey (Bur	0.69	226	ePg	Pb	12 04 50.1	-0.1
ORLT	Orhaneli	0.70	187	ePG	Pb	12 04 50.5	+0.1
ORLT	Orhaneli	0.70	187	ePg	Pb	12 04 50.5	+0.1
SLVT	Silivri	0.78	309	ePG	Pg	12 04 51.4	+0.1
SLVT	Silivri	0.78	309	ePg	Pg	12 04 51.4	+0.1
CAVI	Cavuskoy	0.83	130	ePG	Pb	12 04 52.8	+0.1
CAVI	Cavuskoy	0.83	130	ePg	Pb	12 04 52.8	+0.1
CTYL	Yal??k??y-??at	0.91	324	ePG	Pb	12 04 54.1	+0.1
CTYL	Yal??k??y-??at	0.91	324	ePg	Pb	12 04 54.1	+0.1
EDC	Edincik	0.96	246	ePG	Pn	12 04 55.2	-0.2
EDC	Edincik	0.96	246	ePg	Pn	12 04 55.2	-0.2
SPNC	Sapanca-Adapaz	0.99	93	ePG	Pn	12 04 56.1	+0.2
SPNC	Sapanca-Adapaz	0.99	93	ePg	Pn	12 04 56.1	+0.2
DST	Dursunbey	1.18	195	ePN	Pg	12 04 59.5	+0.6
DST	Dursunbey	1.18	195	ePn	Pg	12 04 59.5	+0.6
GULT	Gulveren	1.19	105	ePN	Pg	12 04 59.7	+0.5
GULT	Gulveren	1.19	105	ePn	Pg	12 04 59.7	+0.5
DURS	Dursunbey	1.21	200	i P	Pg	12 04 59.7	+0.1
DURS				i S	Sg	12 05 16.0	+0.6
DURS	Dursunbey	1.21	200	i P	Pg	12 04 59.7	+0.1
DURS				i S	Sg	12 05 16.0	+0.6
GONE	Gonen-Balikesi	1.23	236	ePN	Pg	12 05 00.2	+0.3
GONE	Gonen-Balikesi	1.23	236	ePn	Pg	12 05 00.2	+0.3
MFT	Murefte	1.31	272	ePN	Pg	12 05 02.3	+0.8
MFT	Murefte	1.31	272	ePn	Pg	12 05 02.3	+0.8
TVSB	Tavsanli	1.34	165	ePN	Pb	12 05 01.7	+0.4
TVSB	Tavsanli	1.34	165	ePn	Pb	12 05 01.7	+0.4
KRBG	Karabiga-Canak	1.35	256	ePN	Pg	12 05 02.2	0.0
KRBG	Karabiga-Canak	1.35	256	ePn	Pg	12 05 02.2	0.0
SART	Tekirdag	1.39	268	i P	Pb	12 05 01.9	-0.3
SART				i S	Sn	12 05 19.8	+0.1
SART	Tekirdag	1.39	268	i P	Pb	12 05 01.9	-0.3
SART				i S	Sn	12 05 19.8	+0.1
RKY	Sarkoy-Tekirda	1.39	268	ePN	Pg	12 05 03.3	+0.2
RKY	Sarkoy-Tekirda	1.39	268	ePn	Pg	12 05 03.3	+0.2
BALB	Balikesir	1.40	218	ePN	Pg	12 05 03.1	-0.1
BALB	Balikesir	1.40	218	ePn	Pg	12 05 03.1	-0.1
BORA	Eskisehir	1.40	127	i P	Pb	12 05 02.4	0.0
BORA				i S	Sg	12 05 21.7	+0.2
BORA	Eskisehir	1.40	127	i P	Pb	12 05 02.4	0.0
BORA				i S	Sg	12 05 21.7	+0.2
BALY	Balya	1.46	227	i P	Pg	12 05 04.2	-0.1
BALY				i S	Sg	12 05 23.8	+0.5
BALY	Balya	1.46	227	i P	Pg	12 05 04.2	-0.1
BALY				i S	Sg	12 05 23.8	+0.5
MDUB	Mudurnu	1.69	99	ePN	Pb	12 05 07.4	+0.1
MDUB	Mudurnu	1.69	99	ePn	Pb	12 05 07.4	+0.1
KULA	Kula-Manisa	2.24	187	ePN	Pb	12 05 15.2	-1.5
KULA	Kula-Manisa	2.24	187	ePn	Pb	12 05 15.2	-1.5
MANT	Manisa	2.27	189	i P	Pg	12 05 19.5	-0.4
MANT				i S	Sg	12 05 49.8	+0.3

*ISCJB **04** 12:31:18.4±0.7,6°.84N±0°.06×72°.93W±0°.06,h174km±6km, mb3.1/3,Error ellipse: s-maj=12.4km s-min=7.3km az=136.9*
*FUNV **04** 12:31:19.4,6°.75N×73°.11W,h168km,MW3.2*
*IDC **04** 12:31:20.8±6.0,6°.51N×73°.04W,h193km±93km,mb2.9/3, mb1 3.2/4,mb1mx3.0/23,mbtmp2.9/4,Error ellipse: s-maj=140.3km s-min=27.2km az=29.0*
ISC 04 12:31:19.2±1.0**,6°.84N**±0°.06×**72°.97W**±0°.07**,h168**km±9km**, n11,**σ**1.34**/18**,mb3.2**/3**,1D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	32	⇓eP	Pn	12 31 48.6	+0.8
CAPV				eS	Sn	12 32 09.9	+0.2
ROSC	El Rosal	2.39	215	P	Pn	12 32 00.3	-0.1
	13nm,0.3s,baz=280,slow=19,SNR=25						
ROSC				S	Sn	12 32 31.2	-1.0
	13nm,0.3s,baz=98,slow=18,SNR=6.5						
SOCV	Socops	2.54	55	eP	Pn	12 32 03.2	+1.5
SOCV				eS	Sn	12 32 35.2	+0.5
ELOV	Elorza	3.46	87	eP	Pn	12 32 13.5	+0.3
ELOV				eS	Sn	12 32 53.7	-1.4
VIRV	Villa del Rosa	3.68	9	eP	Pn	12 32 15.6	-0.4
VIRV				eS	Sn	12 32 57.9	-2.4
CURV	Curarigua	4.33	43	eP	Pn	12 32 25.6	+1.1
CURV				eS	Sn	12 33 13.7	-1.6
BAUV	El Baul	5.31	66	eP	Pn	12 32 37.5	+0.5
BAUV				eS	Sn	12 33 35.3	-2.8
MONV	Montecano	5.88	30	eP	Pn	12 32 44.9	+0.3
TXAR	Lajitas Array	36.56	312	P	P	12 38 09.9	+0.7
	0.2nm,0.6s,baz=126,slow=9.1,SNR=3.2						
YKA	Yellowknife Ar	63.30	340	P	P	12 41 30.6	+0.7
	0.2nm,0.6s,baz=132,slow=6.9,SNR=8.9						
TORD	Torodi Ar. Bea	73.58	78	P	P	12 42 34.3	-0.3
	0.7nm,1.1s,baz=291,slow=4.5,SNR=2.7						

IDC 04 12:36:02.0±3.0**,42°.86S**×**72°.52W,h0km,mb3.8**/2**, mb1 4.2**/3**,mb1mx3.8**/17**,mbtmp3.8**/3**,ML4.1**/1**,Error ellipse: s-maj=102.5km s-min=21.2km az=133.0, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.58	35	Pn	Pn	12 36 46.5	+1.3
	8.7nm,0.3s,baz=213,slow=16,SNR=95						
PLCA				Lg	Lg	12 37 23.4	
	18nm,0.3s,baz=127,slow=20,SNR=19						
TXAR	Lajitas Array	77.34	332	P	P	12 47 59.2	+0.7
	0.3nm,0.8s,baz=167,slow=8.2,SNR=5.0						
PDAR	Pinedale Array	91.51	334	P	P	12 49 09.2	-1.1
	0.3nm,0.8s,baz=149,slow=7.2,SNR=4.0						
ILAR	Eielson Array	121.83	331	PKP	PKPdf	12 54 56.5	-0.4
	0.5nm,1.0s,baz=170,slow=2.5,SNR=3.8						

IDC 04 12:50:46.0±2.7**,6°.54S**×**147°.45E,h0km,mb3.5**/3**, mb1 3.7**/5**,mb1mx3.5**/19**,mbtmp3.5**/5**,Error ellipse: s-maj=61.2km s-min=26.3km az=89.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.87	186	Pn	Pn	12 51 34.7	+1.7
	2.9nm,0.3s,baz=10,slow=8.8,SNR=9.8						
PMG				Sn	Sn	12 52 08.9	+0.5
	5.4nm,0.3s,baz=29,slow=16,SNR=4.7						
WRA	Warramunga Arr	18.43	222	P	Pn	12 55 02.6	-0.6
	0.1nm,0.3s,baz=48,slow=11,SNR=7.9						
ASAR	Alice Springs	21.44	216	P	P	12 55 35.9	-0.2
	0.4nm,0.4s,baz=43,slow=10,SNR=14						
FITZ	Fitzroy Crossi	24.18	240	P	P	12 56 03.2	-1.1
	1.5nm,0.8s,baz=50,slow=11,SNR=4.7						
CMAR	Chiang Mai Arr	53.90	298	P	P	13 00 12.6	+0.9
	0.7nm,0.7s,baz=128,slow=5.8,SNR=3.3						
TORD	Torodi Ar. Bea	145.66	284	PKPbc	PKPdf	13 10 26.6	-0.9
	0.5nm,0.4s,baz=67,slow=3.7,SNR=7.0						

IDC 04 12:58:18.4±1.4**,2°.92N**×**126°.22E,h0km,mb3.6**/6**, mb1 3.7**/6**,mb1mx3.5**/22**,mbtmp3.6**/6**,MS3.6**/1**,Ms1 3.6**/1**, ms1mx2.7**/28**,Error ellipse: s-maj=106.2km s-min=20.0km az=69.0,Northern Molucca Sea**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**20.90**	**182**	P	Pn	13 03 04.4	-0.6
	1.0nm,0.5s,baz=352,slow=7.1,SNR=5.6						
WRA	**Warramunga Arr**	**24.08**	**161**	P	P	13 03 36.1	+0.3
	1.3nm,0.6s,baz=337,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.47**	**165**	P	P	13 04 05.3	-1.2
	0.3nm,0.7s,baz=356,slow=8.2,SNR=5.5						
STKA	**Stephens Creek**	**37.57**	**158**	P	P	13 05 34.6	-0.1
	1.9nm,0.7s,baz=336,slow=10.0,SNR=3.8						
SONM	**Songino Array**	**47.90**	**342**	LR	LR	13 31 55.6	
	comp=Z,57nm,18.4s,baz=200,slow=42						
MKAR	**Makanchi Array**	**57.93**	**326**	P	P	13 08 12.3	-0.3
	0.3nm,0.6s,baz=132,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**61.08**	**333**	P	P	13 08 34.0	-0.1
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.5						

IDC 04 13:21:29.1±2.0**, 2°.65N×95°.33E, h0^{km}, mb3.6**/5**, mb1 3.7**/7**, mb1mx3.5**/27**, mbtmp3.6**/7**, ML3.6**/2**, Error ellipse: s-maj=63.1km s-min=20.1km az=56.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.60**	**88**	Pn	Pn	13 22 26.7	+0.4
	1.0nm,0.3s,baz=312,slow=6.3,SNR=7.4						
CMAR	**Chiang Mai Arr**	**16.11**	**12**	Pn	Pn	13 25 18.7	+1.6
	0.2nm,0.3s,baz=200,slow=12,SNR=12						
WRA	**Warramunga Arr**	**44.39**	**122**	P	P	13 29 41.4	-0.5
	0.1nm,0.3s,baz=300,slow=8.9,SNR=9.2						
MKAR	**Makanchi Array**	**45.41**	**347**	P	P	13 29 49.8	+0.2
	1.4nm,0.6s,baz=165,slow=7.7,SNR=27						
ASAR	**Alice Springs**	**45.76**	**127**	P	P	13 29 53.0	+0.3
	0.1nm,0.7s,baz=302,slow=7.5,SNR=2.7						
SONM	**Songino Array**	**46.02**	**10**	P	P	13 29 52.9	-1.6
	0.8nm,0.8s,baz=198,slow=8.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.86**	**352**	P	P	13 30 39.2	+0.1
	2.5nm,0.6s,baz=183,slow=7.2,SNR=14						

*IDC **04** 13:41:43.8±2.6, 0°.39S×132°.17E, h0^{km}, mb3.3/2, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=124.7km s-min=24.8km az=77.0*

*ISCJB **04** 13:41:47.2±1.3, 0°.45S±0°.09×131°.81E±0°.07, h31^{km}, mb3.2/2, Error ellipse: s-maj=12.6km s-min=10.5km az=175.6*

*DJA **04** 13:41:50.4±1.4, 1°S±13°×13°2E±°, h10^{km}, M3.7/4, MLv3.7/4*

ISC 04 13:41:49.4±1.6**, 0°.6S**±0°.1×**131°.94E**±0°.09**, h31^{km}, n9, σ2^{s}64**/10**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.73**	**249**	P	Pn	13 41 59.3	-4.2
SWI				S	**Sb**	**13 42 08.9**	**-4.5**
FAKI	**Fak Fak**	**2.33**	**172**	P	**Pn**	**13 42 26.1**	**+0.6**
FAKI				S	**Sb**	**13 42 56.4**	**-2.6**
MSAI	**Masohi**	**4.06**	**228**	P	**Pn**	**13 42 52.0**	**+2.6**
BNDI	**Bandanaira**	**4.40**	**208**	P	**Pn**	**13 42 55.5**	**+1.5**
AAI	**Ambon**	**4.84**	**231**	S	**Sn**	**13 43 56.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.46**	**199**	P	**Pn**	**13 46 06.2**	**+3.2**
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=2.6						
WRA	**Warramunga Arr**	**19.37**	**173**	P	**Pn**	**13 46 12.9**	**-1.1**
	0.1nm,0.3s,baz=352,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**23.01**	**175**	P	**P**	**13 46 51.9**	**0.0**
	0.5nm,0.6s,baz=355,slow=9.6,SNR=10						
MKAR	**Makanchi Array**	**64.07**	**324**	P	**P**	**13 52 19.4**	**-1.0**
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.1						

GUC 04 14:07:32.7±0.6**, 32°.34S**×**71°.66W, h40^{km}**±1^{km}**, ML3.5, 7C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**16**	⇓*i*P	Pn	14 07 43.1	0.0
CHNG				*i* S	Sn	14 07 50.9	+0.5
CHNG				AML	AML	14 07 51.1	
	comp=N,4μm,0.2s						
IHA	**Instituto Hidr**	**0.68**	**179**	⇑*i*P	Pn	14 07 46.1	+0.1
IHA				*e*S	Sn	14 07 56.5	+1.0
ROCH	**El Roble**	**0.83**	**139**	⇑*i*P	Pn	14 07 48.6	+0.3
ROCH				*i* S	Sn	14 08 00.9	+1.3
ROCH				AML	AML	14 08 02.4	
	comp=N,1μm,0.3s						
JACH	**Jahuel**	**0.96**	**111**	⇓*i*P	Pn	14 07 50.5	+0.6
PEL	**Peldehue**	**1.15**	**135**	⇓*i*P	Pn	14 07 53.2	+0.8
PEL				*i* S	Sn	14 08 08.8	+1.9
PEL				AML	AML	14 08 09.5	
	comp=N,4μm,0.3s						
RCDM	**Rinconada Maip**	**1.35**	**148**	⇑*i*P	Pn	14 07 55.8	+0.7
RCDM				*i* S	Sn	14 08 13.9	+2.0
RCDM				AML	AML	14 08 15.8	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**1.41**	**138**	⇑*i*P	Pn	14 07 57.0	+0.9
CLCH				*i* S	Sn	14 08 15.5	+2.0
CLCH				AML	AML	14 08 17.6	
	comp=E,1μm,0.5s						
TACH	**Talagante**	**1.44**	**155**	⇓*i*P	Pn	14 07 57.5	+1.1
TACH				*i* S	Sn	14 08 15.9	+1.8
FCH	**Farellones**	**1.51**	**131**	⇑*i*P	Pn	14 07 59.2	+1.4
FCH				*i* S	Sn	14 08 19.5	+2.9
FCH				AML	AML	14 08 20.1	
	comp=N,1μm,0.3s						
SJCH	**San Jose de Ma**	**1.70**	**140**	⇓*i*P	Pn	14 08 00.1	+0.1
SJCH				*i* S	Sn	14 08 21.8	+1.2
CHCH	**Chadas Angostu**	**1.80**	**152**	⇓*i*P	Pn	14 08 02.5	+1.1
LMEL	**Las Melosas**	**1.94**	**141**	⇑*i*P	Pn	14 08 04.5	+1.2
LMEL				*i* S	Sn	14 08 29.0	+2.4
LMEL				AML	AML	14 08 31.2	
	comp=N,936nm,0.1s						
CACH	**El Canelo**	**1.98**	**154**	⇑*i*P	Pn	14 08 05.5	+1.6
TLL	**Tololo Astrono**	**2.29**	**19**	AML	AML	14 08 41.8	
	comp=E,377nm,0.4s						

*BJI **04** 14:19:28.2, 2°.77N×95°.59E, h5^{km}, mB5.0/11, mb4.7/24, Ms4.7/7, Ms7 4.3/7*

*IDC **04** 14:19:29.1±0.8, 2°.74N×95°.41E, h0^{km}, mb4.3/20, mb1 4.4/22, mb1mx4.3/34, mbtmp4.3/22, ML4.2/2, MS3.6/1, Ms1 3.8/1, ms1mx2.6/41, Error ellipse: s-maj=24.5km s-min=13.0km az=38.0*

*ISCJB **04** 14:19:33.6±1.0, 2°.78N±0°.05×95°.51E±0°.06, h42^{km}±8^{km}, mb4.5/46, MS3.9/3, Error ellipse: s-maj=12.3km s-min=5.6km az=141.4*

*NEIC **04** 14:19:36.2±1.5, 2°.83N×95°.58E, h48^{km}±12^{km}, mb4.5/11, Error ellipse: s-maj=14.4km s-min=5.3km az=50.0*

*DJA **04** 14:19:38.8±2.1, 3°N±5°×9°6E±°, h32^{km}±21^{km}, M4.6/10, mb4.9/6, mB5.0/3, MLv4.5/10, Mw(mB)4.3/3*

ISC 04 14:19:31.9±0.8**, 2°.72N**±0°.05×**95°.41E**±0°.06**, h18^{km}**±4^{km}**, n120, σ1^{s}03**/135**, mb4.7**/46**, MS4.0**/3**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.84**	**73**	P	**Pn**	**14 20 02.1**	**-0.6**
GSI	**Gunungsitoli**	**2.58**	**123**	P	**Pn**	**14 20 13.1**	**+0.3**
GSI				S	**Sn**	**14 20 43.1**	**-0.7**
BSI	**Banda Aceh**	**2.76**	**358**	P	**Pn**	**14 20 14.1**	**-1.2**
BSI				S	**Sb**	**14 20 54.6**	**+0.3**
LHMI	**Lhok Sumawe**	**2.92**	**32**	P	**Pn**	**14 20 18.0**	**+0.5**
LHMI				S	**Sb**	**14 21 00.7**	**+1.7**
TSI	**Tuntungan**	**3.24**	**76**	P	**Pn**	**14 20 22.1**	**+0.2**
PSI	**Prapat**	**3.51**	**89**	Pn	**Pn**	**14 20 26.8**	**+1.1**
	12nm,0.3s,baz=283,slow=6.0,SNR=94						
PSI				Sn	**Sn**	**14 21 07.8**	**+0.9**
	12nm,0.3s,baz=215,slow=17,SNR=5.0						
PSI	**Prapat**	**3.51**	**89**	Pn	**Pn**	**14 20 26.8**	**+1.1**
PSI				Sn	**Sn**	**14 21 07.8**	**+0.9**
PSI	**Prapat**	**3.51**	**89**	P	**Pn**	**14 20 25.8**	**+0.1**
MNSI	**Mandailing Nat**	**4.58**	**115**	P	**Pn**	**14 20 41.0**	**+0.6**
MNSI				S	**Sn**	**14 21 32.0**	**-1.3**
KULM	**Kulim**	**5.81**	**64**	*e*P	**Pn**	**14 20 57.5**	**+0.2**
	101nm,0.6s						
KULM	**Kulim**	**5.81**	**64**	P	**Pn**	**14 20 58.2**	**+0.9**
KULM	**Kulim**	**5.81**	**64**	P	**Pn**	**14 20 57.3**	**0.0**
	169nm,0.8s,2μm0.6nm						
IPM	**Ipoh**	**5.87**	**73**	*e*P	**Pn**	**14 20 58.4**	**+0.3**
	67nm,0.4s						
IPM	**Ipoh**	**5.87**	**73**	P	**Pn**	**14 20 58.7**	**+0.6**
IPM	**Ipoh**	**5.87**	**73**	P	**Pn**	**14 20 58.0**	**-0.1**
	80nm,0.5s,1μm0.3nm						
PPI	**Padang Panjang**	**5.90**	**122**	P	**Pn**	**14 21 00.2**	**+1.7**
PPI				S	**Sn**	**14 22 02.7**	**-3.0**
BKNI	**Bangkinang**	**6.11**	**113**	P	**Pn**	**14 21 01.6**	**+0.2**
	113nm,0.5s,0.6nm						
FRIM	**Kepong**	**6.23**	**85**	P	**Pn**	**14 21 03.6**	**+0.6**
KGM	**Kluang**	**7.93**	**95**	P	**Pn**	**14 21 28.2**	**+1.8**
MYKOM	**Kota Tinggi**	**8.48**	**96**	P	**Pn**	**14 21 35.8**	**+1.8**
MYKOM	**Kota Tinggi**	**8.48**	**96**	P	**Pn**	**14 21 34.8**	**+0.8**
	24nm,0.8s						
KSI	**Kapahiang**	**9.57**	**131**	P	Pn	14 21 52.4	+3.4
	72nm,0.9s						
KSM	**Kuching**	**14.94**	**94**	P	**P**	**14 23 07.3**	**-0.5**
	25nm,1.0s						
KSM	**Kuching**	**14.94**	**94**	P	**P**	**14 23 09.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**16.02**	**12**	Pn	**Pn**	**14 23 15.3**	**-1.1**
	0.5nm,0.3s,baz=202,slow=11,SNR=84						
CMAR				LR	LR	14 29 44.2	
	comp=Z,185nm,18.1s,baz=195,slow=38						
CMAR	**Chiang Mai Arr**	**16.02**	**12**	Pn	**Pn**	**14 23 15.3**	**-1.1**
STKI	**Sintang**	**16.27**	**99**	P	**P**	**14 23 24.7**	**+2.0**
CHTO	**Chiang Mai**	**16.36**	**12**	*e*P	**Pn**	**14 23 19.1**	**-1.7**
	10nm,0.8s						
CHTO	**Chiang Mai**	**16.36**	**12**	P	**Pn**	**14 23 22.2**	**+1.3**
SBUM	**Sibu**	**16.79**	**91**	P	**Pn**	**14 23 26.3**	**0.0**
BTM	**Bintulu**	**17.65**	**88**	P	**Pn**	**14 23 36.7**	**-0.5**
SDKM	**Sandakan**	**21.91**	**82**	P	**P**	**14 24 25.4**	**+0.8**
HYB	**Hyderabad**	**22.07**	**313**	*i* P	**P**	**14 24 30.0**	**+3.8**
MYLDM	**Lahad Datu**	**23.16**	**83**	P	**P**	**14 24 39.5**	**+1.8**
KMI	**Kunming**	**23.36**	**17**	P	**P**	**14 24 39.9**	**0.0**
KMI				LR	LR		
	comp=N,470nm,13.6s						
KMI				LR	LR		
	comp=E,210nm,13.0s						
KMI				LR	LR		
	comp=Z,540nm,13.1s						
ODAN	**Odare**	**25.20**	**343**	*e*P	**P**	**14 24 57.4**	**+0.4**
	comp=Z,33nm,0.9s						
ODAN	**Odare**	**25.20**	**343**	*e*P	**P**	**14 24 57.4**	**+0.4**
	comp=Z,33nm,0.9s						
KAPI	**Kappang**	**25.50**	**108**	P	**P**	**14 24 59.3**	**-0.2**
	comp=Z,8.8nm,0.5s,baz=298,slow=15,SNR=7.4						
KAPI	**Kappang**	**25.50**	**108**	*e*P	**P**	**14 24 59.0**	**-0.6**
	comp=Z,17nm,0.9s						
RAMN	**Ramite**	**25.53**	**342**	*e*P	**P**	**14 25 00.9**	**+1.0**
	comp=Z,23nm,0.6s						
RAMN	**Ramite**	**25.53**	**342**	*e*P	**P**	**14 25 00.9**	**+1.0**
	comp=Z,23nm,0.6s						
TAPN	**Taplejung**	**25.57**	**344**	*e*P	**P**	**14 25 01.0**	**+0.6**
	comp=Z,47nm,1.0s						
TAPN	**Taplejung**	**25.57**	**344**	*e*P	**P**	**14 25 01.0**	**+0.6**
	comp=Z,47nm,1.0s						
JIRN	**Jiri**	**26.32**	**341**	*e*P	**P**	**14 25 07.9**	**+0.6**
	comp=Z,8.6nm,0.7s						
JIRN	**Jiri**	**26.32**	**341**	*e*P	**P**	**14 25 07.9**	**+0.6**
	comp=Z,8.6nm,0.7s						
PKI	**Pulchoki**	**26.50**	**340**	*e*P	**P**	**14 25 09.6**	**+0.8**
PKI	**Pulchoki**	**26.50**	**340**	*e*P	**P**	**14 25 09.6**	**+0.8**
DMN	**Daman**	**26.64**	**339**	*e*P	**P**	**14 25 11.3**	**+1.3**
	comp=Z,19nm,0.8s						
DMN	**Daman**	**26.64**	**339**	*e*P	**P**	**14 25 11.3**	**+1.3**
	comp=Z,19nm,0.8s						
GUN	**Gumba**	**26.65**	**341**	*e*P	**P**	**14 25 10.7**	**+0.5**
	comp=Z,43nm,0.7s						
GUN	**Gumba**	**26.65**	**341**	*e*P	**P**	**14 25 10.7**	**+0.5**
	comp=Z,43nm,0.7s						
KKN	**Kakani**	**26.74**	**340**	*e*P	**P**	**14 25 11.1**	**+0.2**
	comp=Z,30nm,0.8s						
KKN	**Kakani**	**26.74**	**340**	*e*P	**P**	**14 25 11.1**	**+0.2**
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**27.13**	**352**	P	**P**	**14 25 15.2**	**+0.5**
LSA	**Lhasa**	**27.13**	**352**	*e*P	**P**	**14 25 15.3**	**+0.5**
	comp=Z,13nm,0.6s						
GKN	**Gorkha**	**27.16**	**339**	*e*P	**P**	**14 25 15.0**	**+0.4**
	comp=Z,65nm,1.0s						
GKN	**Gorkha**	**27.16**	**339**	*e*P	**P**	**14 25 15.0**	**+0.4**
	comp=Z,65nm,1.0s						
KOLN	**Koldanda**	**27.35**	**337**	*e*P	**P**	**14 25 16.7**	**+0.4**
	comp=Z,27nm,0.7s						
KOLN	**Koldanda**	**27.35**	**337**	*e*P	**P**	**14 25 16.7**	**+0.4**
	comp=Z,27nm,0.7s						
DANN	**Dangsing**	**27.80**	**338**	*e*P	**P**	**14 25 20.7**	**+0.2**
	comp=Z,31nm,0.8s						
DANN	**Dangsing**	**27.80**	**338**	*e*P	**P**	**14 25 20.7**	**+0.2**
	comp=Z,31nm,0.8s						
PYUN	**Piuthan**	**27.88**	**336**	*e*P	**P**	**14 25 22.6**	**+1.4**
	comp=Z,29nm,0.8s						
PYUN	**Piuthan**	**27.88**	**336**	*e*P	**P**	**14 25 22.6**	**+1.4**
	comp=Z,29nm,0.8s						
ENH	**Enshi**	**30.47**	**25**	*e*P	**P**	**14 25 42.3**	**-1.7**
	comp=Z,12nm,0.8s						
XAN	**Xi'an**	**33.61**	**21**	P	**P**	**14 26 10.1**	**-1.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				LR	LR		
	comp=N,110nm,9.4s						
XAN				LR	LR		
	comp=Z,67nm,11.9s						
MBWA	**Marble Bar**	**33.62**	**136**	*e*P	**P**	**14 26 12.8**	**+1.1**
LZH	**Lanzhou**	**34.10**	**12**	*e*P	**P**	**14 26 14.5**	**-1.4**
LZH				pP	**pP**	**14 26 21.0**	**-0.3**
LZH				sP	**sP**	**14 26 25.1**	**+1.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**36.26**	**126**	*e*P	**P**	**14 26 33.1**	**-1.4**
NJ2	**Nanjing**	**36.57**	**35**	*e*P	**P**	**14 26 37.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
GTA	**Gaotai**	**36.74**	**6**	*e*P	**P**	**14 26 38.0**	**-0.4**
GTA				pP	**pP**	**14 26 42.9**	**-1.0**
GTA				sP	**sP**	**14 26 45.0**	**-1.1**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,150nm,5.7s						
GTA				LR	LR		
	comp=N,200nm,16.6s						
GTA				LR	LR		
	comp=E,180nm,16.6s						
GTA				LR	LR		
	comp=Z,150nm,15.7s						
JOW	**Kunigami**	**39.56**	**50**	P	**P**	**14 27 01.4**	**-0.9**
	comp=Z,11nm,0.6s,baz=216,slow=18,SNR=4.1						
JOW	**Kunigami**	**39.56**	**50**	P	**P**	**14 27 01.4**	**-0.9**
WMQ	**Urumqi**	**41.49**	**352**	P	**P**	**14 27 18.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJI	**Beijing**	**41.64**	**24**	P	**P**	**14 27 19.9**	**+0.6**
BJI				pmax	pmax		
	comp=Z,35nm,0.8s						
AAK	**Ala-Archa**	**43.91**	**338**	P	**P**	**14 27 39.5**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=157,slow=7.2,SNR=13						
AAK	**Ala-Archa**	**43.91**	**338**	*e*P	**P**	**14 27 39.8**	**+1.9**
	comp=Z,14nm,0.8s						
EKS2	**Erkin-Say**	**44.21**	**337**	*e*P	**P**	**14 27 41.2**	**+1.0**
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**44.35**	**122**	P	**P**	**14 27 41.5**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=300,slow=9.2,SNR=31						
WRA	**Warramunga Arr**	**44.35**	**122**	P	**P**	**14 27 41.5**	**-0.1**
WRAB	**Tennant Creek**	**44.36**	**122**	*e*P	**P**	**14 27 41.6**	**0.0**
JNU	**Nakatsue**	**44.90**	**44**	P	**P**	**14 27 45.0**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=207,slow=6.8,SNR=5.5						
JNU	**Nakatsue**	**44.90**	**44**	P	**P**	**14 27 45.0**	**-0.7**
MKAR	**Makanchi Array**	**45.36**	**347**	P	**P**	**14 27 49.4**	**+0.2**
	comp=Z,15nm,0.6s,baz=165,slow=7.7,SNR=217						
MKAR	**Makanchi Array**	**45.36**	**347**	P	**P**	**14 27 49.4**	**+0.2**
KSAR	**Wonju Array Be**	**45.63**	**37**	P	**P**	**14 27 50.8**	**-0.6**
KSRS	**Korea Array**	**45.66**	**37**	P	**P**	**14 27 50.8**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=223,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**45.73**	**127**	P	**P**	**14 27 53.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=299,slow=8.0,SNR=40						
ASAR				PcP	**PcP**	**14 29 30.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=309,slow=2.7,SNR=5.8						
ASAR	**Alice Springs**	**45.73**	**127**	P	**P**	**14 27 53.0**	**+0.4**
ASAR				PcP	**PcP**	**14 29 30.6**	**+0.3**
KKAR	**Karatay Array**	**45.92**	**335**	*e*P	**P**	**14 27 54.1**	**+0.5**
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**45.93**	**10**	P	**P**	**14 27 53.8**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=192,slow=9.1,SNR=24						
SONM				PcP	**PcP**	**14 29 31.0**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=196,slow=3.4,SNR=4.9						
SONM	**Songino Array**	**45.93**	**10**	P	**P**	**14 27 53.8**	**-0.1**
SONM				PcP	**PcP**	**14 29 31.0**	**+0.4**
ULN	**Ulaanbaatar**	**46.08**	**11**	*e*P	**P**	**14 27 54.4**	**-0.7**
	comp=Z,2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**49.82**	**346**	P	**P**	**14 28 24.1**	**+0.4**
	comp=Z,6.0nm,0.7s,baz=164,slow=7.0,SNR=71						
KURK	**Kurchatov**	**49.88**	**346**	*e*P	**P**	**14 28 24.4**	**+0.2**
	comp=Z,5.6nm,0.8s						
ZALV	**Zalesovo Beam**	**51.80**	**352**	P	**P**	**14 28 38.8**	**+0.2**
	comp=Z,25nm,0.6s,baz=182,slow=6.9,SNR=157						
ZALV	**Zalesovo Beam**	**51.80**	**352**	P	**P**	**14 28 38.8**	**+0.2**
MJAR	**Matsushiro Arr**	**51.81**	**44**	P	**P**	**14 28 37.7**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=249,slow=6.5,SNR=3.7						
MJAR	**Matsushiro Arr**	**51.81**	**44**	P	**P**	**14 28 37.7**	**-1.4**
USRK	**Ussuriysk Arra**	**52.44**	**33**	P	**P**	**14 28 43.3**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=221,slow=5.3,SNR=8.0						
BVAR	**Borovoye Array**	**54.24**	**342**	P	**P**	**14 28 56.7**	**0.0**
	comp=Z,6.0nm,0.7s,baz=145,slow=8.4,SNR=34						
BVAR	**Borovoye Array**	**54.24**	**342**	P	**P**	**14 28 56.7**	**0.0**
BRVK	**Borovoye**	**54.30**	**342**	*e*P	**P**	**14 28 56.8**	**-0.3**
ABKAR	**Akbulak array**	**55.34**	**332**	*e*P	**P**	**14 29 04.2**	**-0.5**
	comp=Z,7.0nm,0.8s						
AKTO	**Aktyubinsk**	**57.06**	**332**	P	**P**	**14 29 16.7**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=139,slow=5.4,SNR=8.2						
AKTO	**Aktyubinsk**	**57.06**	**332**	P	**P**	**14 29 16.7**	**-0.2**
BRTR	**Keskin Array B**	**66.77**	**312**	P	**P**	**14 30 20.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=123,slow=6.3,SNR=3.9						
BRTR	**Keskin Array B**	**66.77**	**312**	P	**P**	**14 30 20.8**	**-1.9**
AKASG	**Malin Array Be**	**72.97**	**323**	P	**P**	**14 30 59.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=93,slow=5.0,SNR=3.6						
AKASG	**Malin Array Be**	**72.97**	**323**	P	**P**	**14 30 59.7**	**-0.7**
JOF	**Joensuu**	**76.02**	**335**	*e*p	**P**	**14 31 17.4**	**-0.5**
	comp=Z,1.5nm,0.6s						
KOLS	**Kolonicke sedl**	**76.91**	**320**	*e*P	**P**	**14 31 24.9**	**+1.6**
KOLS				*e*PCP	**PcP**	**14 31 32.4**	**-1.9**
CRVS	**Cervenica-Dubn**	**77.43**	**319**	*e*P	**P**	**14 31 28.1**	**+1.9**
FINES	**FINESS Array B**	**77.83**	**333**	P	**P**	**14 31 28.2**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=100,slow=5.8,SNR=8.3						
FINES	**FINESS Array B**	**77.83**	**333**	P	**P**	**14 31 28.2**	**+0.1**
KAF	**Kangasniemi**	**77.93**	**333**	*e*p	**P**	**14 31 26.8**	**-1.8**
	comp=Z,2.6nm,0.7s						
VYHS	**Vyhne**	**79.08**	**319**	*e*P	**P**	**14 31 37.5**	**+2.2**
ARCES	**ARCESS Array B**	**80.51**	**340**	P	**P**	**14 31 42.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=104,slow=5.1,SNR=8.7						
ARCES	**ARCESS Array B**	**80.51**	**340**	P	**P**	**14 31 42.9**	**+0.2**
GERES	**GERESS Array B**	**82.50**	**319**	P	**P**	**14 31 53.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=4.0,SNR=4.8						
GERES	**GERESS Array B**	**82.50**	**319**	P	**P**	**14 31 53.4**	**-0.4**

*ISCJB **04** 14:41:21.9±0.3, 43°.30S±0°.04×172°.26E±0°.05, h13^{km}, mb3.4/2, MS3.5/2, Error ellipse: s-maj=7.1km s-min=3.1km az=42.5*

*IDC **04** 14:41:21.4±1.4, 43°.05S×172°.29E, h0^{km}, mb3.4/2, mb1 3.7/2, mb1mx3.6/14, mbtmp3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx3.2/14, Error ellipse: s-maj=94.2km s-min=39.3km az=26.0*

*NEIC **04** 14:41:23.9, 43°.21S×172°.16E, h5^{km}, ML4.1(WEL), After WEL.*

NEIC Felt [IV] at Oxford. Felt in the central part of the South Island.

*WEL **04** 14:41:23.9±0.1, 43°.21S×172°.16E, h5^{km}, ML4.1/34, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*

WEL Felt from West Coast to Canterbury, maximum reported intensity MM 6.

ISC 04 14:41:23.0±0.7**, 43°.25S**±0°.03×**172°.19E**±0°.04**, h13^{km}, n95, σ0^{s}72**/97**, 3C-5D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.45**	**136**	⇓PG	**Pb**	**14 41 33.6**	**+0.7**
CRLZ				SG	**Sn**	**14 41 41.8**	**-1.4**
CRLZ	**Canterbury Las**	**0.45**	**136**	⇓Pg	**Pb**	**14 41 33.6**	**+0.7**
CRLZ				Sg	**Sn**	**14 41 41.8**	**-1.4**
LTZ	**Lake Taylor**	**0.47**	**7**	⇑PG	**Pb**	**14 41 33.1**	**-0.1**
LTZ				SG	**Sg**	**14 41 39.1**	**+0.4**
LTZ	**Lake Taylor**	**0.47**	**7**	⇑Pg	**Pb**	**14 41 33.1**	**-0.1**
LTZ				Sg	**Sg**	**14 41 39.1**	**+0.4**
MQZ	**McQueen's Vall**	**0.57**	**144**	⇓P*	**Pb**	**14 41 35.6**	**+0.8**
MQZ	**McQueen's Vall**	**0.57**	**144**	⇓P*	**Pb**	**14 41 35.6**	**+0.8**
RPZ	**Rata Peaks**	**0.95**	**240**	P*	**Pn**	**14 41 41.7**	**-0.4**
RPZ	**Rata Peaks**	**0.95**	**240**	P*	**Pn**	**14 41 41.8**	**-0.3**
WVZ	**Waitaha Valley**	**1.08**	**279**	⇓P*	**Pn**	**14 41 43.9**	**0.0**
WVZ	**Waitaha Valley**	**1.08**	**279**	P*	**Pn**	**14 41 43.9**	**0.0**
KHZ	**Kahutara**	**1.29**	**51**	⇑P*	**Pb**	**14 41 47.1**	**-0.1**
KHZ	**Kahutara**	**1.29**	**51**	P*	**Pn**	**14 41 46.9**	**+0.1**
DSZ	**Denniston Nort**	**1.53**	**349**	PN	**Pb**	**14 41 50.5**	**-0.8**
DSZ	**Denniston Nort**	**1.53**	**349**	Pn	**Pb**	**14 41 50.5**	**-0.8**
THZ	**Tophouse**	**1.58**	**20**	PN	**Pn**	**14 41 51.1**	**+0.3**
THZ	**Tophouse**	**1.58**	**20**	Pn	**Pn**	**14 41 51.0**	**+0.3**
LBZ	**Lake Benmore**	**1.84**	**231**	PN	**Pn**	**14 41 54.6**	**+0.2**
LBZ	**Lake Benmore**	**1.84**	**231**	Pn	**Pn**	**14 41 54.6**	**+0.2**
FOZ	**Fox Glacier**	**1.85**	**259**	PN	**Pn**	**14 41 54.6**	**+0.2**
FOZ	**Fox Glacier**	**1.85**	**259**	Pn	**Pn**	**14 41 54.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.98**	**40**	PN	**Pn**	**14 41 57.0**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.98**	**40**	Pn	**Pn**	**14 41 57.0**	**+0.8**
ODZ	**Otahua Downs**	**2.11**	**211**	PN	**Pn**	**14 41 57.9**	**-0.2**
ODZ	**Otahua Downs**	**2.11**	**211**	Pn	**Pn**	**14 41 57.9**	**-0.2**
NNZ	**Nelson**	**2.21**	**24**	PN	**Pn**	**14 42 00.3**	**+0.9**
NNZ	**Nelson**	**2.21**	**24**	Pn	**Pn**	**14 42 00.3**	**+0.9**
TUWZ	**Tuamarina**	**2.23**	**36**	PN	**Pn**	**14 42 00.3**	**+0.6**
TUWZ	**Tuamarina**	**2.23**	**36**	Pn	**Pn**	**14 42 00.3**	**+0.6**
QRZ	**Quartz Range**	**2.43**	**6**	PN	**Pn**	**14 42 02.8**	**+0.3**
QRZ	**Quartz Range**	**2.43**	**6**	Pn	**Pn**	**14 42 02.8**	**+0.3**
TCW	**Tory Channel**	**2.56**	**38**	PN	**Pn**	**14 42 04.3**	**+0.1**
TCW	**Tory Channel**	**2.56**	**38**	Pn	**Pn**	**14 42 04.3**	**+0.1**
SNZO	**South Karori**	**2.69**	**45**	PN	**Pn**	**14 42 05.8**	**-0.2**
SNZO	**South Karori**	**2.69**	**45**	Pn	**Pn**	**14 42 05.8**	**-0.2**
BHW	**Baring Head**	**2.71**	**48**	PN	**Pn**	**14 42 05.9**	**-0.3**
BHW	**Baring Head**	**2.71**	**48**	Pn	**Pn**	**14 42 05.9**	**-0.3**
WEL	**Wellington**	**2.74**	**45**	PN	**Pn**	**14 42 06.6**	**0.0**
WEL	**Wellington**	**2.74**	**45**	Pn	**Pn**	**14 42 06.7**	**0.0**
DUWZ	**D'Urville Isla**	**2.76**	**28**	PN	**Pn**	**14 42 08.3**	**+1.3**
DUWZ	**D'Urville Isla**	**2.76**	**28**	Pn	**Pn**	**14 42 08.3**	**+1.3**
WKZ	**Wanaka**	**2.78**	**234**	PN	**Pn**	**14 42 06.7**	**-0.6**
WKZ	**Wanaka**	**2.78**	**234**	Pn	**Pn**	**14 42 06.7**	**-0.6**
PLWZ	**Palliser**	**2.82**	**55**	PN	**Pn**	**14 42 07.3**	**-0.6**
PLWZ	**Palliser**	**2.82**	**55**	Pn	**Pn**	**14 42 07.3**	**-0.6**
EAZ	**Earnscleugh**	**2.87**	**225**	PN	**Pn**	**14 42 08.0**	**-0.5**
EAZ	**Earnscleugh**	**2.87**	**225**	Pn	**Pn**	**14 42 08.0**	**-0.5**
MSWZ	**Moikau Station**	**2.92**	**52**	PN	**Pn**	**14 42 08.4**	**-0.8**
MSWZ	**Moikau Station**	**2.92**	**52**	Pn	**Pn**	**14 42 08.4**	**-0.8**
CAW	**Cannon Point**	**3.02**	**46**	PN	**Pn**	**14 42 10.0**	**-0.6**
CAW	**Cannon Point**	**3.02**	**46**	Pn	**Pn**	**14 42 10.0**	**-0.6**
PAWZ	**Paruwai Farm**	**3.04**	**53**	PN	**Pn**	**14 42 10.0**	**-0.9**
PAWZ	**Paruwai Farm**	**3.04**	**53**	Pn	**Pn**	**14 42 10.0**	**-0.9**
KIW	**Kapiti Island**	**3.13**	**41**	PN	**Pn**	**14 42 12.0**	**0.0**
KIW	**Kapiti Island**	**3.13**	**41**	Pn	**Pn**	**14 42 12.0**	**0.0**
TRWZ	**Traveller**	**3.19**	**56**	PN	**Pn**	**14 42 12.2**	**-0.7**
TRWZ	**Traveller**	**3.19**	**56**	Pn	**Pn**	**14 42 12.2**	**-0.7**
MTW	**Mount Morrison**	**3.23**	**51**	PN	**Pn**	**14 42 13.1**	**-0.3**
MTW	**Mount Morrison**	**3.23**	**51**	Pn	**Pn**	**14 42 13.1**	**-0.3**
TUZ	**Tuapeka**	**3.27**	**213**	PN	**Pn**	**14 42 13.8**	**-0.1**
TUZ	**Tuapeka**	**3.27**	**213**	Pn	**Pn**	**14 42 13.8**	**-0.1**
OGWZ	**Otaki Gorge**	**3.29**	**43**	PN	**Pn**	**14 42 13.7**	**-0.5**
OGWZ	**Otaki Gorge**	**3.29**	**43**	Pn	**Pn**	**14 42 13.7**	**-0.5**
MSZ	**Milford Sound**	**3.39**	**244**	PN	**Pn**	**14 42 14.9**	**-0.7**
MSZ	**Milford Sound**	**3.39**	**244**	Pn	**Pn**	**14 42 14.9**	**-0.7**
MLZ	**Mavora Lakes**	**3.57**	**233**	PN	**Pn**	**14 42 18.1**	**0.0**
MLZ	**Mavora Lakes**	**3.57**	**233**	Pn	**Pn**	**14 42 18.1**	**0.0**
MRZ	**Mangatainoka R**	**3.62**	**45**	PN	**Pn**	**14 42 17.6**	**-1.1**
MRZ	**Mangatainoka R**	**3.62**	**45**	Pn	**Pn**	**14 42 17.6**	**-1.1**
TIWZ	**Tintock**	**3.70**	**49**	PN	**Pn**	**14 42 19.9**	**0.0**
TIWZ	**Tintock**	**3.70**	**49**	Pn	**Pn**	**14 42 19.9**	**0.0**
SYZ	**Scrubby Hill**	**3.94**	**212**	PN	**Pn**	**14 42 23.2**	**+0.1**
SYZ	**Scrubby Hill**	**3.94**	**212**	Pn	**Pn**	**14 42 23.2**	**+0.1**
BFZ	**Birch Farm**	**3.97**	**51**	PN	**Pn**	**14 42 22.3**	**-1.3**
BFZ	**Birch Farm**	**3.97**	**51**	Pn	**Pn**	**14 42 22.3**	**-1.3**
WHZ	**Wether Hill Ro**	**4.02**	**227**	PN	**Pn**	**14 42 23.2**	**-1.1**
WHZ	**Wether Hill Ro**	**4.02**	**227**	Pn	**Pn**	**14 42 23.2**	**-1.1**
NEZ	**North Egmont**	**4.23**	**21**	Pn	**Pn**	**14 42 29.4**	**+2.2**
TSZ	**Takapari Road**	**4.26**	**43**	PN	**Pn**	**14 42 26.1**	**-1.5**
TSZ	**Takapari Road**	**4.26**	**43**	Pn	**Pn**	**14 42 26.3**	**-1.3**
APZ	**The Paps**	**4.66**	**218**	*e*PN	**Pn**	**14 42 31.9**	**-1.2**
OTVZ	**Oturere**	**4.85**	**34**	*e*PN	**Pn**	**14 42 36.2**	**+0.3**
OTVZ	**Oturere**	**4.85**	**34**	Pn	**Pn**	**14 42 36.3**	**+0.4**
KAHZ	**Kahuranaki**	**4.93**	**47**	Pn	**Pn**	**14 42 35.5**	**-1.4**
MCHZ	**McNeill Hill**	**5.09**	**43**	Pn	**Pn**	**14 42 39.5**	**+0.4**
HIZ	**Hauiti**	**5.14**	**24**	PN	**Pn**	**14 42 40.0**	**+0.3**
MKAZ	**Moumakai**	**6.54**	**21**	Pn	**Pn**	**14 42 59.9**	**+1.0**
CTA	**Charters Tower**	**31.71**	**309**	LR	LR	15 00 20.4	
	comp=Z,113nm,19.5s,baz=209,slow=36						
HNR	**Honiara**	**35.35**	**339**	LR	LR	14 59 24.2	
	comp=Z,67nm,20.4s,baz=91,slow=31						
ASAR	**Alice Springs**	**37.03**	**289**	P	**P**	**14 48 32.5**	**-0.1**
	0.3nm,0.5s,baz=127,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**39.26**	**294**	P	**P**	**14 48 52.2**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.7s,baz=132,slow=7.4,SNR=5.7						
MKAR	Makanchi Array	119.68	308	PKP	PKPdf	15 00 11.4	-0.7
	0.1nm,0.6s,baz=116,slow=3.4,SNR=3.1						
ARCES	ARCESS Array B	148.63	338	PKPbc	PKPbc	15 01 09.1	+0.5
	3.9nm,1.0s,baz=19,slow=3.1,SNR=6.7						
TORD	Torodi Ar. Bea	148.90	198	PKPbc	PKPbc	15 01 11.8	+1.0
	0.7nm,0.8s,baz=159,slow=4.3,SNR=3.7						
BRTR	Keskin Array B	148.98	278	PKPbc	PKPbc	15 01 10.8	+0.3
	0.7nm,0.6s,baz=134,slow=4.2,SNR=5.8						
FINES	FINESS Array B	152.90	324	PKPbc	PKPbc	15 01 18.5	-0.3
	0.6nm,0.5s,baz=45,slow=0.6,SNR=3.7						

*IDC **04** 14:52:00.7±1.9, 53°.24N×163°.68W, h0^{km}, mb3.3/4, mb1 3.5/6, mb1mx3.3/31, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=37.7km s-min=26.2km az=168.0*
*ISCJB **04** 14:52:13.7±0.8, 54°.3N±0°.1×163°.8W±0°.1, h79^{km}±7^{km}, mb3.2/3, Error ellipse: s-maj=27.2km s-min=5.0km az=155.1*
*NEIC **04** 14:52:15.2, 54°.41N×163°.86W, h77^{km}, MG2.9(AEIC), After AEIC.*
ISC 04 14:52:14.7±1.3, **54°.4N**±0°.2×**163°.89W**±0°.10, **h81**^{km}±9^{km}, **n21**, σ**1^{s}44**/27, **mb3.5**/3, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.23	22	P	Pn	14 52 26.4	-0.4
SSLS	Shishaldin Sou	0.28	347	P	Pn	14 52 26.6	-0.5
SSLS				S	Sn	14 52 36.4	+0.1
SSLW	Shishaldin Wes	0.36	338	P	Pn	14 52 26.9	-0.6
WESE	West Dahl East	0.41	275	P	Pn	14 52 27.7	-0.3
FALS	False Pass	0.50	33	P	Pn	14 52 28.2	-0.3
FALS				S	Sn	14 52 39.0	+0.2
DRIA	Deer Island	1.08	60	P	Pn	14 52 34.2	-0.6
AKUT	Akutan	1.15	255	P	Pn	14 52 35.3	-0.1
AKUT				S	Sn	14 52 51.3	+0.2
DT1	Dutton Round H	1.15	54	P	Pn	14 52 35.0	-0.6
DTNA	Dutton South F	1.19	52	P	Pn	14 52 35.6	-0.4
AKLV	Akutan Long Va	1.24	258	P	Pn	14 52 36.2	-0.5
AKLV				S	Sn	14 52 52.8	-0.5
ZRO	Akutan Zero	1.27	255	P	Pn	14 52 36.9	-0.3
DOL	Dolgoi Island	1.37	58	P	Pn	14 52 38.1	-0.3
UNV	Unalaska Valle	1.65	250	P	Pn	14 52 41.4	-0.5
UNV				S	Sn	14 53 01.6	-0.9
MSW	Makushin Switc	1.78	254	P	Pn	14 52 43.1	-0.5
SDPT	Sand Point	2.17	64	P	Pn	14 52 49.4	+0.6
SDPT				S	Sn	14 53 15.5	+0.6
KDAK	Kodiak Island	7.15	57	Pn	Pn	14 53 55.4	-1.1
	0.5nm,0.3s,baz=216,slow=14,SNR=8.7						
KDAK				Sn	Sn	14 55 10.8	-5.2
	0.0nm,0.3s,baz=315,slow=20,SNR=2.7						
ILAR	Eielson Array	13.41	33	Pn	Pn	14 55 24.2	+2.9
	0.1nm,0.3s,baz=218,slow=11,SNR=6.3						
INK	Inuvik	19.81	34	P	Pn	14 56 41.2	+0.8
	0.3nm,0.5s,baz=264,slow=9.2,SNR=3.3						
PETK	Petropavlovsk-	22.56	282	P	P	14 57 06.5	-1.3
	1.5nm,0.7s,baz=87,slow=13,SNR=4.7						
YKA	Yellowknife Ar	26.39	52	P	P	14 57 44.8	+1.8
	0.2nm,0.6s,baz=274,slow=9.9,SNR=5.7						
NVAR	Mina Array Bea	34.56	99	P	P	14 58 48.3	-7.2
	0.3nm,0.4s,baz=312,slow=9.5,SNR=3.9						

*ISCJB **04** 15:01:01.4±0.8, 24°.97N±0°.06×121°.87E±0°.04, h124^{km}±5^{km}, Error ellipse: s-maj=9.7km s-min=5.0km az=167.4*
*TAP **04** 15:01:01.1, 24°.98N×121°.83E, h126^{km}, ML3.1, B*
*JMA **04** 15:01:02.6±0.3, 24°.98N×121°.91E, h112^{km}*
ISC 04 15:01:01.4±2.2, **25°.00N**±0°.09×**121°.85E**±0°.05, **h125**^{km}±12^{km}, **n30**, σ**0^{s}60**/49, **Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWF	Wu-fen Shan	0.09	319	eP	Pn	15 01 18.7	+0.2
	baz=329						
NWF				eS	Sn	15 01 31.4	-0.1
	baz=329						
TWB1	Santiao Chiao	0.13	87	eP	Pn	15 01 18.9	+0.5
	baz=80						
ILA	Ilan	0.25	201	eP	Pn	15 01 18.4	-0.3
	baz=202						
ILA				eS	Sn	15 01 32.5	+0.7
	baz=202						
TAP	Taipei	0.31	277	eP	Pn	15 01 18.3	-0.6
	baz=285						
TWE	Neicheng	0.32	211	P	Pn	15 01 19.3	+0.3
	baz=210						
TWE				eS	Sn	15 01 32.9	+0.6
	baz=210						
TWY	Chenhua	0.35	321	eP	Pn	15 01 19.1	0.0
	baz=321						
TWC	Suao	0.39	180	eP	Pn	15 01 19.7	+0.4
	baz=174						
TWC				eS	Sn	15 01 33.0	+0.1
	baz=174						
TWS1	Kuangyinshan	0.40	284	P	Pn	15 01 19.7	+0.4
	baz=288						
ENTT	Nioudou	0.44	216	i P	Pn	15 01 19.7	+0.1
	baz=225						
ENTT				eS	Sn	15 01 33.0	-0.3
	baz=225						
NSK	Sanguang	0.55	234	P	Pn	15 01 20.0	-0.3
	baz=243						
NSK				S	Sn	15 01 33.3	-1.2
	baz=243						
ENA	Nanau	0.58	190	P	Pn	15 01 21.8	+1.4
	baz=180						
ENA				eS	Sn	15 01 35.7	+1.0
	baz=180						
NCU	National Centr	0.60	267	eP	Pn	15 01 20.7	+0.2
	baz=268						
NNS	Nan Shan	0.71	218	P	Pn	15 01 21.4	0.0
	baz=221						
NNS				S	Sn	15 01 36.3	-0.3
	baz=221						
NSTT	Nanjuang	0.85	245	P	Pn	15 01 22.4	-0.1
	baz=249						
NSTT				eS	Sn	15 01 37.9	-0.5
	baz=249						
TWT	Tachien	0.96	220	eP	Pn	15 01 23.8	+0.1
	baz=222						
TWT				eS	Sn	15 01 41.2	+0.6
	baz=222						
WHF	Hehuan Shan	1.00	212	P	Pn	15 01 24.6	+0.3
	baz=209						
WHF				S	Sn	15 01 41.5	-0.2
	baz=209						
TWQ1	Liyutan	1.17	237	eP	Pn	15 01 25.7	+0.1
	baz=238						
TWQ1				eS	Sn	15 01 43.3	-0.7
	baz=238						
YOJ	Yonaguni jima	1.19	117	P	Pn	15 01 25.5	-0.2
YOJ				eS	Sn	15 01 42.4	-1.7
ESL	Shilin	1.24	198	eP	Pn	15 01 24.9	-1.4
	baz=193						
TYC	Yuchr	1.42	220	eP	Pn	15 01 28.2	0.0
	baz=228						
TYC				eS	Sn	15 01 48.2	-0.4
	baz=228						
EHY	Hungye	1.56	198	eS	Sn	15 01 51.6	0.0
	baz=192						
TWF1	Yuli	1.72	197	eP	Pn	15 01 31.4	-0.3
	baz=196						
CHN5	Tsauling	1.76	218	eP	Pn	15 01 33.2	+0.9
	baz=227						
CHN5				eS	Sn	15 01 56.0	+0.2
	baz=227						
ALS	Alishan	1.76	213	eP	Pn	15 01 32.9	+0.4
	baz=215						
ALS				eS	Sn	15 01 55.7	-0.5
	baz=215						
IRIF	Iriomote-Funau	1.84	111	P	Pn	15 01 33.0	-0.1
IRIF				eS	Sn	15 01 56.5	-0.8
ELDTW	Lidau	1.96	203	eP	Pn	15 01 35.4	+0.7
	baz=196						
HATJ	Hateruma jima	2.02	117	P	Pn	15 01 35.5	+0.3
JKRS	Kuro-shima	2.11	111	P	Pn	15 01 36.8	+0.4
JKRS				eS	Sn	15 02 03.2	0.0
JIJ	Ishigaki jima	2.18	106	P	Pn	15 01 37.5	+0.2
JIJ				eS	Sn	15 02 04.9	0.0
JTJ	Tarama	2.62	97	P	Pn	15 01 43.5	+0.7

IDC 04 15:05:38.2±1.3, **23°.74N**×**95°.13E**, **h0**^{km}, **mb3.6**/7, **mb1 3.7**/7, **mb1mx3.5**/27, **mbtmp3.6**/7, **Error ellipse: s-maj=63.2km s-min=16.5km az=61.0**, **Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.47	302	ePN	Pn	15 06 36.0	+2.3
SHL				eSN	Sn	15 07 10.0	-5.7
CMAR	Chiang Mai Arr	6.34	145	Pg	Pg	15 07 35.7	-4.1
	0.4nm,0.3s,baz=310,slow=15,SNR=5.0						
MKAR	Makanchi Array	25.21	339	P	P	15 11 06.2	+0.6
	2.2nm,0.6s,baz=147,slow=9.8,SNR=32						
AAK	Ala-Archa	25.45	323	P	P	15 11 07.6	-0.3
	0.6nm,0.6s,baz=215,slow=2.2,SNR=4.0						
SONM	Songino Array	25.67	18	P	P	15 11 09.6	-0.3
	0.6nm,0.6s,baz=190,slow=7.3,SNR=3.3						
KURBB	Kurchatov Arra	29.78	339	P	P	15 11 46.0	-0.5
	0.1nm,0.3s,baz=155,slow=7.3,SNR=4.8						
ZALV	Zalesovo Beam	31.15	348	P	P	15 11 59.1	+0.5
	0.3nm,0.5s,baz=168,slow=9.6,SNR=2.8						
WRA	Warramunga Arr	57.84	135	P	P	15 15 31.6	-0.3
	0.3nm,0.5s,baz=324,slow=7.3,SNR=5.8						
ASAR	Alice Springs	60.31	139	P	P	15 15 48.9	-0.2
	0.4nm,0.4s,baz=318,slow=6.6,SNR=19						

IDC 04 15:08:47.4±1.0, **49°.19S**×**31°.05E**, **h0**^{km}, **mb3.7**/4, **mb1 3.9**/4, **mb1mx3.6**/20, **mbtmp3.7**/4, **Error ellipse: s-maj=50.5km s-min=28.4km az=59.0**, **South of Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	41.03	180	P	P	15 16 32.1	0.0
	2.8nm,0.9s,baz=259,slow=3.3,SNR=11						
TORD	Torodi Ar. Bea	67.27	329	P	P	15 19 43.8	+0.1
	0.3nm,0.8s,baz=161,slow=5.3,SNR=2.7						
ASAR	Alice Springs	80.36	115	P	P	15 21 01.4	+0.8
	0.5nm,0.8s,baz=217,slow=4.8,SNR=5.8						
WRA	Warramunga Arr	83.45	113	P	P	15 21 16.2	-0.7
	0.5nm,0.9s,baz=206,slow=7.2,SNR=3.6						
PDAR	Pinedale Array	152.13	272	PKPbc	PKPbc	15 28 44.0	-0.4
	0.3nm,0.8s,baz=72,slow=3.9,SNR=2.3						

*IDC **04** 15:55:59.8±1.9, 0°.65N×96°.95E, h0^{km}, mb3.4/4, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=54.6km s-min=22.3km az=62.0*
*ISCJB **04** 15:56:02.3±1.0, 0°.81N±0°.07×96°.92E±0°.07, h25^{km}, mb3.4/4, Error ellipse: s-maj=11.7km s-min=8.0km az=35.8*
*DJA **04** 15:56:06.3±1.3, 1°N±8°×9°7E±°, h25^{km}±7^{km}, M3.5/4, mb3.7/1, MLv3.4/4*
ISC 04 15:56:04.2±1.3, **0°.85N**±0°.08×**96°.97E**±0°.09, **h25**^{km}, **n12**, σ**1^{s}24**/15, **mb3.4**/4, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.76	53	P	Pn	15 56 19.7	+0.4
GSI				S	Sb	15 56 26.3	-2.5
TPTI		2.41	5	P	Pn	15 56 41.7	-0.3
MNSI	Mandailing Nat	2.61	91	P	Pn	15 56 45.0	+0.2
MNSI				S	Sn	15 57 16.6	+0.8
PSI	Prapat	2.76	45	Pn	Pn	15 56 47.5	+0.6
	1.6nm,0.3s,baz=184,slow=16,SNR=4.6						
PSI	Prapat	2.76	45	P	Pb	15 56 53.5	+0.6
PPI	Padang Panjang	3.67	111	P	Pn	15 56 59.7	+0.4
PPI				S	Sn	15 57 43.1	+1.3
IPM	Ipoh	5.43	48	P	Pn	15 57 25.0	+1.4
CMAR	Chiang Mai Arr	17.61	6	P	Pn	16 00 07.9	-0.1
	0.1nm,0.3s,baz=184,slow=11,SNR=3.2						
WRA	Warramunga Arr	42.05	122	P	P	16 03 52.0	-2.2
	0.2nm,0.3s,baz=300,slow=8.7,SNR=2.8						
ASAR	Alice Springs	43.37	127	P	P	16 04 04.2	-0.8
	0.1nm,0.3s,baz=299,slow=7.8,SNR=7.2						
MKAR	Makanchi Array	47.53	346	P	P	16 04 38.4	+0.9
	0.3nm,0.5s,baz=160,slow=9.1,SNR=7.1						
ZALV	Zalesovo Beam	53.87	351	P	P	16 05 25.9	+0.8
	0.6nm,0.4s,baz=159,slow=7.9,SNR=3.6						

*ISCJB **04** 16:24:40.1±0.8, 27°.36N±0°.04×101°.36E±0°.10, h8^{km}, mb3.4/5, MS3.2/1, Error ellipse: s-maj=12.7km s-min=5.7km az=174.7*
*IDC **04** 16:24:41.2±1.1, 27°.41N×101°.22E, h0^{km}, mb3.3/6, mb1 3.5/6, mb1mx3.3/26, mbtmp3.4/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=32.9km s-min=17.9km az=77.0*
ISC 04 16:24:42.2±1.2, **27°.35N**±0°.05×**101°.2E**±0°.1, **h8**^{km}, **n10**, σ**0^{s}68**/10, **mb3.4**/5, **Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.60	148	Pg	Pb	16 25 30.1	+0.8
KMI				Sg	Sg	16 26 04.7	-1.1
KMI				smax	smax		
	comp=N,100nm,0.9s						
KMI				smax	smax		
	comp=E,100nm,0.9s						
KMI				LR	LR		
	comp=N,580nm,5.4s						
KMI				LR	LR		
	comp=E,440nm,5.3s						
KMI				LR	LR		
	comp=Z,320nm,7.9s						
CD2	Chengdu	4.19	31	Pg	Pg	16 26 02.1	-0.4
CD2				Sg	Sg	16 26 56.8	0.0
CD2				smax	smax		
	comp=N,100nm,1.1s						
CD2				smax	smax		
	comp=E,100nm,0.8s						
CMAR	Chiang Mai Arr	9.09	194	Pg	Pn	16 27 29.9	+36
	comp=E,0.1nm,0.3s,baz=3.1,slow=16,SNR=7.0						
CMAR				Lg	Lg	16 29 34.3	
	comp=E,0.1nm,0.3s,baz=10,slow=31,SNR=4.3						
SONM	Songino Array	20.85	10	P	P	16 29 24.5	0.0
	comp=E,0.4nm,0.7s,baz=199,slow=7.6,SNR=2.2						
MKAR	Makanchi Array	24.48	327	P	P	16 30 00.9	-0.9
	comp=E,0.4nm,0.7s,baz=134,slow=9.3,SNR=4.9						
KSRS	Korea Array	24.62	59	P	P	16 30 03.4	+0.2
	comp=E,0.4nm,0.5s,baz=251,slow=9.2,SNR=3.7						
KURBB	Kurchatov Arra	28.96	330	P	P	16 30 42.0	0.0
	comp=E,0.3nm,0.6s,baz=144,slow=9.2,SNR=5.9						
BVAR	Borovoye Array	34.36	327	LR	LR	16 48 44.6	
	comp=E,43nm,20.4s,baz=36,slow=42						
WRA	Warramunga Arr	56.91	142	P	P	16 34 28.1	0.0
	comp=E,0.6nm,0.5s,baz=332,slow=7.9,SNR=3.3						
ASAR	Alice Springs	59.73	145	P	P	16 34 48.1	+0.4
	comp=E,0.3nm,0.4s,baz=325,slow=6.5,SNR=14						

*ATH **04** 16:25:35.9, 37°.86N×26°.70E, h3^{km}, MD2.9/3*
*CSEM **04** 16:25:36.3±0.2, 37°.87N×26°.62E, h1^{km}, MD2.7, Error ellipse: s-maj=4.3km s-min=3.4km az=76.0*
*DDA **04** 16:25:37.8, 38°.01N×26°.85E, h19^{km}, MD2.7*
*ISK **04** 16:25:37.6, 37°.89N×26°.81E, h3^{km}, MD2.5*
ISC 04 16:25:37.7±1.3, **37°.95N**±0°.03×**26°.76E**±0°.03, **h22**^{km}±5^{km}, **n20**, σ**1^{s}36**/36, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.42	343	i P	Pb	16 25 45.2	-1.3
URLA				i S	Sb	16 25 52.5	0.0
URLA	Izmir	0.42	343	i P	Pb	16 25 45.2	-1.3
URLA				i S	Sb	16 25 52.5	0.0
GCAM	G?zelcaml?	0.46	124	i P	Pb	16 25 46.1	-0.9
GCAM				i S	Sb	16 25 53.9	+0.6
GCAM	G?zelcaml?	0.46	124	i P	Pb	16 25 46.1	-0.9
GCAM				i S	Sb	16 25 53.9	+0.6
BLCB	Balcova	0.49	27	ePG	Pn	16 25 48.8	-0.6
BLCB				eSG	Sn	16 25 55.9	-1.4
BLCB	Balcova	0.49	27	ePg	Pn	16 25 48.8	-0.6
BLCB				eSg	Sn	16 25 55.9	-1.4
IZM	Izmir	0.60	42	ePG	Pb	16 25 49.9	+0.3
IZM				eSG	Sn	16 26 00.6	+0.6
IZM	Izmir	0.60	42	ePg	Pb	16 25 49.9	+0.3
IZM				eSg	Sn	16 26 00.6	+0.6
CHOS	Chios island	0.70	308	ePG	Pb	16 25 49.8	-1.5
CHOS				eSG	Sb	16 25 59.8	-0.8
CHOS	Chios island	0.70	308	ePb	Pb	16 25 49.8	-1.5
CHOS				eSb	Sb	16 25 59.8	-0.8
AYDN	Tasoluk	0.94	108	i P	Pb	16 25 55.1	-0.2
AYDN				i S	Sn	16 26 08.6	+0.2
AYDN	Tasoluk	0.94	108	i P	Pb	16 25 55.1	-0.2
AYDN				i S	Sn	16 26 08.6	+0.2
BODT	Bodrum	0.99	154	ePG	Pb	16 25 55.5	-0.8
BODT				eSG	Sn	16 26 09.6	-0.2
BODT	Bodrum	0.99	154	ePg	Pb	16 25 55.5	-0.8
BODT				eSg	Sn	16 26 09.6	-0.2
APE	Apeiranthos	1.32	228	ePN	Pb	16 26 04.0	+2.2
APE	Apeiranthos	1.32	228	ePB	Pn	16 25 58.2	-2.7
APE				eSB	Sn	16 26 16.5	-1.3
APE	Apeiranthos	1.32	228	ePg	Pn	16 25 58.2	-2.7
APE	Apeiranthos	1.32	228	ePn	Pb	16 26 04.0	+2.2
APE				eSb	Sn	16 26 16.5	-1.3
PRK	Paraskevi	1.34	344	ePN	Pb	16 26 03.6	+1.4
PRK				eSB	Sb	16 26 22.4	+3.4
PRK	Paraskevi	1.34	344	ePb	Pb	16 26 03.6	+1.4
PRK				eSb	Sb	16 26 22.4	+3.4

IDC 04 16:25:45.8±1.4, **4°.03N**×**126°.99E**, **h0**^{km}, **mb3.5**/6, **mb1 3.7**/6, **mb1mx3.5**/24, **mbtmp3.6**/6, **Error ellipse: s-maj=94.6km s-min=18.4km az=69.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.03	183	P	P	16 30 41.5	-0.6
	1.2nm,0.6s,baz=5.2,slow=11,SNR=4.2						
WRA	Warramunga Arr	24.89	163	P	P	16 31 09.5	-1.1
	2.5nm,0.8s,baz=344,slow=11,SNR=14						
ASAR	Alice Springs	28.34	167	P	P	16 31 43.1	+1.4
	0.2nm,0.5s,baz=340,slow=7.8,SNR=5.4						
STKA	Stephens Creek	38.32	160	P	P	16 33 08.5	+0.2
	2.8nm,0.7s,baz=328,slow=13,SNR=4.5						
MKAR	Makanchi Array	57.46	325	P	P	16 35 36.6	-0.1
	0.2nm,0.6s,baz=132,slow=8.3,SNR=3.1						
KURBB	Kurchatov Arra	61.63	327	P	P	16 36 05.2	0.0
	0.1nm,0.4s,baz=130,slow=5.0,SNR=3.8						

*ISCJB **04** 16:26:20.7±0.3, 23°.70N±0°.02×121°.66E±0°.02, h37^{km}±9^{km}, Error ellipse: s-maj=4.4km s-min=2.9km az=138.7*
*TAP **04** 16:26:20.4, 23°.71N×121°.67E, h43^{km}±1^{km}, ML3.1, C*
*JMA **04** 16:26:22.2±0.2, 23°.78N×121°.71E, h66^{km}*
ISC 04 16:26:20.9±1.1, **23°.71N**±0°.02×**121°.62E**±0°.03, **h34**^{km}±2^{km}, **n37**, σ**0^{s}70**/61, **4C-2D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESL	Shilin	0.20	302	⇑iP	Pb	16 26 28.0	+0.4
	baz=296						
ESL				eS	Sb	16 26 33.9	+1.5
	baz=296						
EHY	Hungye	0.34	234	⇑P	Pb	16 26 29.1	-0.1
	baz=236						
EHY				eS	Sb	16 26 35.0	+0.1
	baz=236						
TWD	Chiawan	0.37	356	P	Pn	16 26 29.8	-0.1
	baz=351						
TWD				eS	Sn	16 26 36.9	+1.2
	baz=351						
TWF1	Yuli	0.46	220	⇑P	Pb	16 26 30.5	-0.5
	baz=222						
TWF1				eS	Sb	16 26 37.7	-0.2
	baz=222						
WHF	Hehuan Shan	0.55	323	⇓iP	Pb	16 26 32.0	-0.6
	baz=320						
WHF				eS	Sb	16 26 40.4	-0.3
	baz=320						
CHKT	Chengkung	0.65	201	P	Pn	16 26 33.5	-0.1
	baz=203						
CHKT				eS	Sn	16 26 43.4	+0.8
	baz=203						
YUS	Yu-Shan	0.65	251	P	Pn	16 26 34.3	+0.2
	baz=251						
YUS				eS	Sb	16 26 43.6	+0.1
	baz=251						
TWT	Tachien	0.68	323	P	Pn	16 26 34.4	+0.2
	baz=319						
TWT				S	Sb	16 26 43.7	-0.3
	baz=319						
SMLT	Sun Moon Lake	0.69	285	P	Pn	16 26 34.3	+0.1
	baz=283						
SMLT				eS	Sb	16 26 44.0	+0.1
	baz=283						
ENA	Nanau	0.73	8	eP	Pn	16 26 34.0	-0.7
	baz=6.0						
TYC	Yuchr	0.73	286	P	Pn	16 26 34.8	+0.1
	baz=285						
TYC				eS	Sb	16 26 45.3	+0.2
	baz=285						
ELDTW	Lidau	0.76	227	P	Pn	16 26 34.4	-0.8
	baz=228						
ELDTW				eS	Sn	16 26 44.2	-1.4
	baz=228						
NNS	Nan Shan	0.77	343	i P	Pn	16 26 34.8	-0.5
	baz=340						
NNS				eS	Sn	16 26 44.9	-0.9
	baz=340						
ALS	Alishan	0.78	256	⇑iP	Pn	16 26 35.9	+0.2
	baz=255						
ALS				eS	Sn	16 26 46.4	+0.2
	baz=255						
CHN5	Tsauling	0.87	263	eP	Pn	16 26 37.2	+0.5
	baz=263						
CHN5				eS	Sb	16 26 49.4	+0.2
	baz=263						
TWC	Suao	0.92	13	eP	Pn	16 26 37.2	-0.2
	baz=11						
TWC				eS	Sb	16 26 51.2	+0.7
	baz=11						
ENTT	Nioudou	0.93	357	eP	Pn	16 26 37.0	-0.5
	baz=354						
NSK	Sanguang	1.00	346	⇓iP	Pn	16 26 38.2	-0.2
	baz=344						
NSK				eS	Sn	16 26 50.9	-0.5
	baz=344						
TWQ1	Liyutan	1.01	310	eP	Pn	16 26 39.1	+0.5
	baz=308						
TWQ1				eS	Sb	16 26 52.5	-0.4
	baz=308						
CHN4	Tsaushan	1.01	250	eP	Pb	16 26 39.7	-0.2
	baz=250						
CHN4				eS	Sb	16 26 53.8	+0.9
	baz=250						
TWE	Neicheng	1.01	2	eP	Pn	16 26 38.0	-0.6
TWG	Pinlang	1.02	210	eP	Pn	16 26 37.6	-1.1
	baz=211						
WTP	Ta-pu	1.03	244	eP	Pn	16 26 39.9	+0.9
	baz=244						
WTP				eS	Sb	16 26 54.1	+0.4
	baz=244						
NSTT	Nanjuang	1.08	328	eP	Pb	16 26 40.8	-0.4
	baz=326						
TWK	Hsinying	1.13	247	eP	Pb	16 26 41.5	-0.5
	baz=247						
TWK				eS	Sb	16 26 56.3	-0.1
	baz=247						
CHN1	Nanshi	1.13	243	eP	Pn	16 26 40.9	+0.6
	baz=243						
CHN1				eS	Sn	16 26 55.6	+1.0
	baz=243						
SGST	Jiashian	1.14	237	eP	Pn	16 26 41.0	+0.6
	baz=237						
SGST				eS	Sb	16 26 56.4	-0.2
	baz=237						
ECL	Taimali	1.26	209	eP	Pn	16 26 40.4	-1.7
	baz=210						
YOJ	Yonaguni jima	1.48	59	P	Pn	16 26 45.7	+0.7
YOJ				eS	Sn	16 27 03.2	+0.1
EAST	Anshuo	1.50	209	eP	Pn	16 26 46.6	+1.2
	baz=209						
SCZT	Fangliau	1.62	215	eP	Pn	16 26 48.6	+1.7
	baz=215						
LAY	Lan-yu	1.66	182	eP	Pn	16 26 46.6	-1.0
	baz=183						
IRIF	Iriomote-Funau	2.03	72	P	Pn	16 26 53.5	+0.9
IRIF				eS	Sn	16 27 17.2	+0.5
HATJ	Hateruma jima	2.03	80	eS	Sn	16 27 16.9	+0.2
JKRS	Kuro-shima	2.25	76	eS	Sn	16 27 21.7	-0.4
JIJ	Ishigaki jima	2.40	74	eS	Sn	16 27 25.2	-0.6
JTJ	Tarama	2.96	71	eS	Sn	16 27 40.0	+0.2

*ISCJB **04** 16:27:10.7±0.7, 39°.42N±0°.04×28°.13E±0°.05, h2^{km}±11^{km}, Error ellipse: s-maj=7.6km s-min=4.8km az=44.1*
*CSEM **04** 16:27:10.7±0.3, 39°.44N×28°.14E, h12^{km}±4^{km}, MD2.5, Error ellipse: s-maj=8.5km s-min=4.7km az=46.0*
*DDA **04** 16:27:10.6, 39°.43N×28°.13E, h7^{km}, MD2.7*
*ISK **04** 16:27:10.4, 39°.43N×28°.14E, h17^{km}, MD2.5*

ISC 04 16:27:10.2±1.4**, 39°.42N**±0°.04×**28°.15E**±0°.03**, h9**km±11km**,**
n19, σ0s53/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	Balikesir	0.30	317	ePG	Pg	16 27 16.6	+0.4
BALB				eSG	Sb	16 27 22.7	-0.1
BALB	Balikesir	0.30	317	ePg	Pg	16 27 16.6	+0.4
BALB				eSg	Sb	16 27 22.7	-0.1
DURS	Dursunbey	0.31	55	i P	Pg	16 27 16.4	0.0
DURS				i S	Sb	16 27 22.3	-1.0
DURS	Dursunbey	0.31	55	i P	Pg	16 27 16.4	0.0
DURS				i S	Sb	16 27 22.3	-1.0
BALY	Balya	0.52	308	i P	Pg	16 27 20.3	0.0
BALY				i S	Sb	16 27 28.8	-0.3
GONE	Gonen-Balikesi	0.72	331	ePG	Pg	16 27 23.8	-0.3
GONE	Gonen-Balikesi	0.72	331	ePg	Pg	16 27 23.8	-0.3
KCTX	Karacabey (Bur	0.86	11	ePG	Pg	16 27 27.0	+0.3
KCTX	Karacabey (Bur	0.86	11	ePg	Pg	16 27 27.0	+0.3
MANT	Manisa	0.98	161	i P	Pg	16 27 29.3	+0.1
MANT				i S	Sn	16 27 44.3	-0.3
MANT	Manisa	0.98	161	i P	Pg	16 27 29.3	+0.1
MANT				i S	Sn	16 27 44.3	-0.3
KULA	Kula-Manisa	0.99	156	ePG	Pn	16 27 30.3	-0.1
KULA	Kula-Manisa	0.99	156	ePg	Pn	16 27 30.3	-0.1
TVSB	Tavsanli	1.02	88	ePG	Pn	16 27 30.9	+0.1
TVSB	Tavsanli	1.02	88	ePg	Pn	16 27 30.9	+0.1
GDZ	Gediz	1.09	107	i P	Pn	16 27 32.0	+0.2
GDZ				i S	Sn	16 27 48.4	+1.3
GDZ	Gediz	1.09	107	i P	Pn	16 27 32.0	+0.2
GDZ				i S	Sn	16 27 48.4	+1.3
KRBG	Karabiga-Canak	1.17	326	ePN	Pb	16 27 32.4	-0.2
KRBG	Karabiga-Canak	1.17	326	ePn	Pb	16 27 32.4	-0.2

IDC 04 16:28:09.5±4.3**, 21°.00S×69°.93W, h0**km**, mb3.7**/1**,**
mb1 3.6/2**, mb1mx3.4**/17**, mbtmp3.5**/2**, ML3.1**/1**, Error ellipse: s-maj=137.8km s-min=62.8km az=92.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.98	20	Pn	Pn	16 29 26.2	-0.3
	0.5nm,0.3s,baz=221,slow=7.6,SNR=7.8						
TORD	Torodi Ar. Bea	78.09	71	P	P	16 40 10.9	0.0
	0.9nm,1.2s,baz=238,slow=4.9,SNR=3.3						
MKAR	Makanchi Array	145.78	35	PKPbc	PKPdf	16 47 49.7	-0.4
	0.2nm,0.7s,baz=316,slow=3.2,SNR=4.8						

*ISK **04** 16:34:27.1, 38°.48N×25°.36E, h7km, MD3.4*
*DDA **04** 16:34:27.2, 38°.49N×25°.35E, h20km, ML3.5*
*ATH **04** 16:34:28.8, 38°.48N×25°.45E, h33km±4km, ML2.9*
*CSEM **04** 16:34:29.1±0.1, 38°.47N×25°.41E, h12km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=2.0km az=152.0*
*ISCJB **04** 16:34:29.5±0.4, 38°.47N±0°.02×25°.42E±0°.02, h21km±4km, Error ellipse: s-maj=3.4km s-min=2.4km az=154.5*
*THE **04** 16:34:30.3, 38°.44N×25°.49E, h26km±2km, ML3.1/5, Error ellipse: s-maj=2.3km s-min=0.6km az=123.0*
ISC 04 16:34:29.6±1.0**, 38°.48N**±0°.02×**25°.42E**±0°.02**, h16**km±8km**,**
n149, σ0s77/199**, 2D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOS	Chios island	0.51	101	P	Pg	16 34 39.7	-0.1
CHOS				S	Sg	16 34 45.9	-0.8
CHOS	Chios island	0.51	101	⇓iPB	Pg	16 34 39.8	-0.1
CHOS				eSB	Sg	16 34 47.0	+0.3
CHOS	Chios island	0.51	101	⇓iPb	Pg	16 34 39.8	-0.1
CHOS				S	Sg	16 34 45.9	-0.8
CHOS				eSb	Sg	16 34 47.0	+0.3
SIGR	SIGRI	0.81	25	P	Pb	16 34 45.0	-0.2
SIGR				S	Sn	16 34 57.2	-0.7
SIGR	SIGRI	0.81	25	P	Pb	16 34 45.0	-0.2
SIGR				S	Sn	16 34 57.2	-0.7
MRMA	Marmari	0.92	243	P	Pb	16 34 47.0	-0.2
MRMA				S	Sg	16 34 59.6	+0.1
MRMA	Marmari	0.92	243	P	Pb	16 34 47.0	-0.2
MRMA				S	Sg	16 34 59.6	+0.1
URLA	Izmir	0.94	97	i P	Pb	16 34 47.3	-0.1
URLA				i S	Sb	16 34 59.3	-0.3
URLA	Izmir	0.94	97	i P	Pb	16 34 47.3	-0.1
URLA				i S	Sb	16 34 59.3	-0.3
PRK	Paraskevi	1.01	41	P	Pb	16 34 48.1	-0.7
PRK				S	Sb	16 35 00.9	-1.0
PRK	Paraskevi	1.01	41	ePN	Pb	16 34 47.5	-1.3
PRK				eSN	Sb	16 35 01.6	-0.3
PRK	Paraskevi	1.01	41	ePn	Pb	16 34 47.5	-1.3
PRK	Paraskevi	1.01	41	P	Pb	16 34 48.1	-0.7
PRK				S	Sb	16 35 00.9	-1.0
PRK				eSn	Sb	16 35 01.6	-0.3
BLCB	Balcova	1.28	94	ePN	Pn	16 34 52.2	-0.6
BLCB				eSN	Sg	16 35 10.9	-0.1
BLCB	Balcova	1.28	94	ePn	Pn	16 34 52.2	-0.6
BLCB				eSn	Sg	16 35 10.9	-0.1
AYVA	Ayvalik	1.29	50	i P	Pn	16 34 52.5	-0.5
AYVA				i S	Sb	16 35 07.9	-2.0
AYVA	Ayvalik	1.29	50	i P	Pn	16 34 52.5	-0.5
AYVA				i S	Sb	16 35 07.9	-2.0
PTL	Penteli	1.29	251	P	Pn	16 34 52.1	-0.9
PTL				S	Sb	16 35 09.2	-0.7
PTL	Penteli	1.29	251	ePN	Pn	16 34 52.4	-0.6
PTL				eSN	Sb	16 35 09.3	-0.7
PTL	Penteli	1.29	251	P	Pn	16 34 52.1	-0.9
PTL	Penteli	1.29	251	ePn	Pn	16 34 52.4	-0.6
PTL				S	Sb	16 35 09.2	-0.7
AOS	Alonnisos	1.38	300	P	Pn	16 34 54.5	+0.3
AOS				S	Sb	16 35 13.2	+0.8
AOS	Alonnisos	1.38	300	P	Pn	16 34 54.5	+0.3
AOS				S	Sb	16 35 13.2	+0.8
APE	Apeiranthos	1.41	176	P	Pn	16 34 53.3	-1.4
APE				S	Sn	16 35 10.8	-2.2
APE	Apeiranthos	1.41	176	ePB	Pn	16 34 53.4	-1.3
APE				eSN	Sb	16 35 13.5	+0.1
APE	Apeiranthos	1.41	176	ePb	Pn	16 34 53.4	-1.3
APE				S	Sn	16 35 10.8	-2.2
APE				eSn	Sb	16 35 13.5	+0.1
LIA	Limnos Island	1.43	353	P	Pn	16 34 54.3	-0.5
LIA				S	Sn	16 35 12.7	-0.5
LIA	Limnos Island	1.43	353	ePN	Pn	16 34 54.3	-0.5
LIA				eSN	Sb	16 35 14.7	+1.0
LIA	Limnos Island	1.43	353	P	Pn	16 34 54.3	-0.5
LIA				S	Sn	16 35 12.7	-0.5
LIA				eSn	Sb	16 35 14.7	+1.0
ATH	Athens Observa	1.43	250	ePB	Pn	16 34 54.4	-0.5
ATH				eSN	Sn	16 35 13.7	+0.4
ATH	Athens Observa	1.43	250	ePb	Pn	16 34 54.4	-0.5
ATH				eSn	Sn	16 35 13.7	+0.4
BOZC	Bozcaada	1.45	20	i P	Pn	16 34 54.2	-0.9
BOZC				i S	Sg	16 35 16.1	-0.1
IZM	Izmir	1.45	93	ePN	Pn	16 34 55.0	-0.2
IZM				eSN	Sg	16 35 15.8	-0.7
IZM	Izmir	1.45	93	ePn	Pn	16 34 55.0	-0.2
IZM				eSn	Sg	16 35 15.8	-0.7
EZN	Ezine	1.52	28	ePN	Pn	16 34 55.6	-0.5
EZN	Ezine	1.52	28	ePn	Pn	16 34 55.6	-0.5
GCAM	G?zelcaml?	1.63	118	i P	Pn	16 34 55.8	-1.8
GCAM				i S	Sn	16 35 18.6	+0.3
GCAM	G?zelcaml?	1.63	118	i P	Pn	16 34 55.8	-1.8
GCAM				i S	Sn	16 35 18.6	+0.3
SKIA	Skiathos	1.67	295	P	Pn	16 34 58.5	+0.3
SKIA	Skiathos	1.67	295	P	Pn	16 34 58.5	+0.3
NAIG	Nisos Aigina	1.68	245	ePN	Pn	16 34 57.8	-0.5
NAIG	Nisos Aigina	1.68	245	ePn	Pn	16 34 57.8	-0.5
NEO	Neokhori	1.90	296	ePN	Pn	16 35 00.7	-0.6
NEO	Neokhori	1.90	296	ePn	Pn	16 35 00.7	-0.6
LKR	Lokris	1.90	276	ePN	Pn	16 35 01.5	+0.2
LKR	Lokris	1.90	276	ePn	Pn	16 35 01.5	+0.2
AKHS	Akhisar	1.92	77	i P	Pb	16 35 04.1	-0.1
AKHS				i S	Sb	16 35 29.3	+1.4
AKHS	Akhisar	1.92	77	i P	Pb	16 35 04.1	-0.1
AKHS				i S	Sb	16 35 29.3	+1.4
AKS	Akhisar	1.92	77	ePN	Pn	16 35 02.1	+0.5
AKS	Akhisar	1.92	77	ePn	Pn	16 35 02.1	+0.5
DID	Didima	1.98	241	P	Pn	16 35 01.9	-0.5
DID	Didima	1.98	241	ePN	Pn	16 35 02.0	-0.5
DID	Didima	1.98	241	ePn	Pn	16 35 02.0	-0.5
LTK	Loutraki	1.98	257	P	Pn	16 35 02.3	-0.2
LTK	Loutraki	1.98	257	ePN	Pn	16 35 02.7	+0.2
LTK	Loutraki	1.98	257	P	Pn	16 35 02.3	-0.2
LTK	Loutraki	1.98	257	ePn	Pn	16 35 02.7	+0.2
BODT	Bodrum	2.06	133	ePN	Pn	16 35 03.6	0.0
BODT	Bodrum	2.06	133	ePn	Pn	16 35 03.6	0.0
GELI	Tayfur-Gelibol	2.08	23	ePN	Pn	16 35 03.6	-0.2
GELI	Tayfur-Gelibol	2.08	23	ePn	Pn	16 35 03.6	-0.2
AYDN	Tasoluk	2.11	112	i P	Pb	16 35 08.6	+1.1
AYDN				i S	Sb	16 35 35.3	+1.8
AYDN	Tasoluk	2.11	112	i P	Pb	16 35 08.6	+1.1
BALY	Balya	2.13	53	i P	Pn	16 35 04.6	+0.1
BALY				i S	Sn	16 35 30.3	-0.3
BALY	Balya	2.13	53	i P	Pn	16 35 04.6	+0.1
BALY				i S	Sn	16 35 30.3	-0.3
BDRM	Kayabasi	2.14	131	i P	Pb	16 35 09.3	+1.3
BDRM				i S	Sn	16 35 30.0	-0.9
BDRM	Kayabasi	2.14	131	i P	Pb	16 35 09.3	+1.3
BDRM				i S	Sn	16 35 30.0	-0.9
LPK	Lapseki	2.16	28	ePN	Pn	16 35 05.0	+0.1
LPK	Lapseki	2.16	28	ePn	Pn	16 35 05.0	+0.1
OUR	Ouranopolis	2.16	329	P	Pn	16 35 05.0	+0.1
OUR	Ouranopolis	2.16	329	P	Pn	16 35 05.0	+0.1
MLSB	Milas	2.21	122	ePN	Pn	16 35 06.0	+0.3
MLSB	Milas	2.21	122	ePn	Pn	16 35 06.0	+0.3
BALB	Balikesir	2.24	58	ePN	Pn	16 35 06.4	+0.4
BALB	Balikesir	2.24	58	ePn	Pn	16 35 06.4	+0.4
ENEZ	Enez	2.32	14	ePN	Pn	16 35 07.0	-0.1
ENEZ	Enez	2.32	14	ePn	Pn	16 35 07.0	-0.1
ERIK	Erikli-Kesan	2.34	21	ePN	Pn	16 35 07.1	-0.3
ERIK	Erikli-Kesan	2.34	21	ePn	Pn	16 35 07.1	-0.3
GONE	Gonen-Balikesi	2.35	48	ePN	Pn	16 35 07.7	+0.1
GONE	Gonen-Balikesi	2.35	48	ePn	Pn	16 35 07.7	+0.1
KRBG	Karabiga-Canak	2.40	37	ePN	Pn	16 35 07.8	-0.4
KRBG	Karabiga-Canak	2.40	37	ePn	Pn	16 35 07.8	-0.4
DAT	Datca	2.45	135	ePN	Pn	16 35 09.0	0.0
DAT	Datca	2.45	135	ePn	Pn	16 35 09.0	0.0
ALN	Alexandroupoli	2.46	11	P	Pn	16 35 08.0	-1.0
ALN				S	Sn	16 35 38.4	-0.3
ALN	Alexandroupoli	2.46	11	ePN	Pn	16 35 08.3	-0.7
ALN	Alexandroupoli	2.46	11	P	Pn	16 35 08.0	-1.0
ALN	Alexandroupoli	2.46	11	ePn	Pn	16 35 08.3	-0.7
ALN				S	Sn	16 35 38.4	-0.3
MANT	Manisa	2.47	89	i P	Pb	16 35 15.0	+1.3
MANT				i S	Sb	16 35 44.1	+0.3
GUR	Goura	2.48	258	P	Pn	16 35 09.8	+0.3
GUR	Goura	2.48	258	ePN	Pn	16 35 09.7	+0.3
GUR	Goura	2.48	258	ePn	Pn	16 35 09.7	+0.3
KULA	Kula-Manisa	2.55	88	ePN	Pn	16 35 11.1	+0.8
KULA	Kula-Manisa	2.55	88	ePn	Pn	16 35 11.1	+0.8
RKY	Sarkoy-Tekirda	2.59	31	ePN	Pn	16 35 10.7	-0.2
RKY	Sarkoy-Tekirda	2.59	31	ePn	Pn	16 35 10.7	-0.2
SART	Tekirdag	2.59	31	i P	Pn	16 35 11.0	+0.1
SART				i S	Sb	16 35 50.2	+2.9
SART	Tekirdag	2.59	31	i P	Pn	16 35 11.0	+0.1
DURS	Dursunbey	2.63	64	i P	Pn	16 35 10.9	-0.6
DURS				i S	Sb	16 35 48.2	-0.3
DURS	Dursunbey	2.63	64	i P	Pn	16 35 10.9	-0.6
YER	Yerkesik	2.64	120	ePN	Pn	16 35 12.0	+0.5
YER	Yerkesik	2.64	120	ePn	Pn	16 35 12.0	+0.5
VLI	Veliai	2.64	229	ePN	Pn	16 35 11.4	-0.1
VLI	Veliai	2.64	229	ePn	Pn	16 35 11.4	-0.1
VLX	Vlachokerasia	2.65	246	ePN	Pn	16 35 12.5	+0.8
VLX	Vlachokerasia	2.65	246	ePn	Pn	16 35 12.5	+0.8
EDC	Edincik	2.66	45	ePN	Pn	16 35 12.0	+0.3
EDC	Edincik	2.66	45	ePn	Pn	16 35 12.0	+0.3
BNT	Bandirma	2.69	45	ePN	Pn	16 35 12.3	0.0
BNT	Bandirma	2.69	45	ePn	Pn	16 35 12.3	0.0
MFT	Murefte	2.71	31	ePN	Pn	16 35 13.2	+0.7
MFT	Murefte	2.71	31	ePn	Pn	16 35 13.3	+0.7
DST	Dursunbey	2.73	65	ePN	Pn	16 35 13.9	+1.0
DST	Dursunbey	2.73	65	ePn	Pn	16 35 13.9	+1.0
EFP	Efpalio	2.76	270	ePN	Pn	16 35 14.1	+1.0
EFP	Efpalio	2.76	270	ePn	Pn	16 35 14.1	+1.0
KCTX	Karacabey (Bur	2.89	51	ePN	Pn	16 35 15.5	+0.5
KCTX	Karacabey (Bur	2.89	51	ePn	Pn	16 35 15.5	+0.5
KYTH	Kithira	2.90	221	P	Pn	16 35 14.4	-0.7
KYTH	Kithira	2.90	221	ePN	Pn	16 35 15.1	0.0
KYTH	Kithira	2.90	221	P	Pn	16 35 14.4	-0.7
KYTH	Kithira	2.90	221	ePn	Pn	16 35 15.1	0.0
ITM	Ithomi	3.05	246	ePN	Pn	16 35 17.9	+0.7
ITM	Ithomi	3.05	246	ePn	Pn	16 35 17.9	+0.7
CRLT	Corlu	3.19	33	ePN	Pn	16 35 19.5	+0.4
CRLT	Corlu	3.19	33	ePn	Pn	16 35 19.5	+0.4
VAM	Vamos	3.22	198	ePN	Pn	16 35 20.1	+0.6
VAM	Vamos	3.22	198	ePn	Pn	16 35 20.1	+0.6
KHL	Karahalli	3.23	92	ePN	Pn	16 35 20.6	+0.9
KHL	Karahalli	3.23	92	ePn	Pn	16 35 20.6	+0.9
KARP	Karpathos	3.25	154	ePN	Pn	16 35 19.4	-0.5
KARP	Karpathos	3.25	154	ePn	Pn	16 35 19.4	-0.5
MDNY	Mudanya-Bursa	3.28	54	ePN	Pn	16 35 21.2	+0.9
MDNY	Mudanya-Bursa	3.28	54	ePn	Pn	16 35 21.2	+0.9
TVSB	Tavsanli	3.30	72	ePN	Pn	16 35 21.1	+0.4
TVSB	Tavsanli	3.30	72	ePn	Pn	16 35 21.1	+0.4
PYL	PYLOS	3.32	243	ePN	Pn	16 35 22.7	+1.9
PYL	PYLOS	3.32	243	ePn	Pn	16 35 22.7	+1.9
ARMT	Armutlu	3.38	51	ePN	Pn	16 35 22.6	+1.0
ARMT	Armutlu	3.38	51	ePn	Pn	16 35 22.7	+1.0
CTKS	Kestanelik-??a	3.64	40	ePN	Pn	16 35 25.8	+0.6
CTKS	Kestanelik-??a	3.64	40	ePn	Pn	16 35 25.8	+0.6
YLV	Yalova	3.70	55	ePN	Pn	16 35 27.2	+1.1
YLV	Yalova	3.70	55	ePn	Pn	16 35 27.2	+1.1
ALT	Altintas	3.71	80	ePN	Pn	16 35 26.9	+0.5
ALT	Altintas	3.71	80	ePn	Pn	16 35 26.9	+0.5
CAVI	Cavuskoy	3.84	62	ePN	Pn	16 35 29.1	+1.1
CAVI	Cavuskoy	3.84	62	ePn	Pn	16 35 29.1	+1.1

GUC 04 16:46:54.3±0.8**, 33°.11S×70°.31W, h24**km±9km**, MD3.7,**
ML2.9, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.22	175	⇑iP	Pb	16 46 58.9	-1.7
FCH				i S	Sb	16 47 01.7	-3.1
FCH				AML	AML	16 47 02.2	
	comp=E,3μm,0.2s						
PEL	Peldehue	0.31	263	⇓iP	Pb	16 47 01.4	-0.1
PEL				i S	Sb	16 47 06.4	-0.1
CLCH	Cerro Calan	0.34	213	⇑iP	Pb	16 47 01.7	-0.3
CLCH				i S	Sb	16 47 07.0	-0.3
CLCH				AML	AML	16 47 09.1	
	comp=N,1μm,0.4s						
CHCH	Chadas Angostu	0.87	199	eP	Pb	16 47 10.4	-0.4
CHCH				i S	Sb	16 47 22.4	+0.3
CACH	El Canelo	1.03	193	⇑iP	Pb	16 47 13.8	0.0
CACH				i S	Sn	16 47 28.1	+0.6
LNV	Longovilo	1.25	227	i P	Pb	16 47 17.0	-0.1
LNV				i S	Sb	16 47 33.1	+0.3
TLL	Tololo Astrono	2.96	352	eP	Pb	16 47 45.8	-1.0
TLL				AML	AML	16 48 35.3	
	comp=N,62nm,0.8s						

*ISCJB **04** 16:48:18.7±0.3, 36°.60N±0°.02×77°.28E±0°.06, h96km, mb3.6/10, Error ellipse: s-maj=6.4km s-min=3.3km az=169.9*
*IDC **04** 16:48:23.0±0.9, 36°.75N×77°.11E, h112km±6km, mb3.3/8, mb1 3.4/14, mb1mx3.3/30, mbtmp3.3/14, Error ellipse: s-maj=18.1km s-min=12.8km az=48.0*
*NNC **04** 16:48:25.5±3.9, 37°.69N×77°.03E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=34.1km s-min=16.4km az=166.0*
ISC 04 16:48:19.9±0.5**, 36°.56N**±0°.04×**77°.42E**±0°.06**, h96**km**, n47,**
σ2s63/65**, mb3.5**/10**, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	3.17	339	ePn	Pn	16 49 05.6	-2.3
KSH				Sn	Sn	16 49 33.1	-12
KSH				smax	smax		
	comp=N,570nm,0.5s						
KSH				smax	smax		
	comp=E,500nm,0.6s						
DLH	Dalhousie	4.18	197	eP	Pn	16 49 25.0	+3.3
DLH				eS	Sn	16 50 10.0	+0.4
THN	Thein Dam	4.35	199	eP	Pn	16 49 26.5	+2.8
THN				eS	Sn	16 50 13.6	+0.4
SMLA	Simla	5.42	182	i P	Pn	16 49 42.0	+3.8
SMLA				i S	Sn	16 50 38.6	-0.7
ULHL	Ulahol	5.75	351	P	Pn	16 49 48.6	+5.7
	SNR=5.3						
KZA	Kyzart	5.76	344	P	Pn	16 49 44.3	+1.0
	SNR=7.7						
KBK	Karagaybulak	6.38	343	P	Pn	16 49 52.7	+1.2
	SNR=13						
AAK	Ala-Archa	6.47	340	P	Pn	16 49 52.2	-0.5
	comp=E,1.6nm,0.3s,baz=140,slow=8.3,SNR=30						
AAK				S	Sn	16 51 02.2	-3.0
	comp=E,2.5nm,0.3s,baz=356,slow=18,SNR=8.4						
AAK	Ala-Archa	6.47	340	P	Pn	16 49 53.8	+1.0
	SNR=7.9						
TKM2	Tokmak 2	6.51	348	P	Pn	16 49 55.4	+2.2
	SNR=9.9						
LGTI	Lohaghat	7.47	161	ex	Sn	16 51 35.2	+5.8
NDI	New Delhi	7.85	181	eS	Sn	16 51 34.0	-4.7
AYAN	Aya Nagar	8.05	182	eP	Pn	16 50 15.8	+1.6
AYAN				eS	Sn	16 51 38.7	-4.9
AYAN				AML	AML	16 51 43.4	
	comp=Z,49nm,0.4s						
SONA	Sohna	8.29	182	eP	Pn	16 50 19.4	+2.1
SONA				eS	Sn	16 51 45.9	-3.4
SONA				AML	AML	16 51 50.1	
	comp=N,42nm,0.2s						
SONA				AML	AML	16 51 51.0	
	comp=E,68nm,0.3s						
KK31	Karatay Array	8.42	323	Pn	Pn	16 50 17.4	-1.7
	comp=E,1.7nm,0.3s,baz=132,slow=12,SNR=34						
KK31				Sn	Sn	16 51 44.6	-7.8
	comp=E,8.3nm,0.6s,baz=146,slow=22,SNR=9.2						
KHET	Khetri	8.57	190	eP	Pn	16 50 21.8	+0.6
KHET				eS	Sn	16 51 52.1	-4.0
KHET				AML	AML	16 51 52.5	
	comp=E,35nm,0.4s						
KHET				AML	AML	16 51 54.3	
	comp=N,41nm,0.4s						
PYUN	Piuthan	9.66	149	ePn	Pn	16 50 38.7	+2.5
PYUN				eSn	Sn	16 52 20.6	-2.3
	comp=N,151nm,0.5s						
DANN	Dangsing	9.78	145	ePn	Pn	16 50 39.4	+1.5
DANN				eSn	Sn	16 52 23.0	-3.0
	comp=N,54nm,0.5s						
KOLN	Koldanda	10.20	147	ePn	Pn	16 50 45.8	+2.2
KOLN				eSn	Sn	16 52 34.7	-1.5
	comp=N,53nm,0.5s						
GKN	Gorkha	10.49	142	ePn	Pn	16 50 48.8	+1.4
GKN				eSn	Sn	16 52 39.3	-3.7
	comp=N,38nm,0.4s						
WMQ	Urumqi	10.69	44	Pn	Pn	16 50 51.6	+1.6
WMQ				Sg	Sn	16 52 48.1	+0.4
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ				smax	smax		
	comp=N,13nm,0.6s						
WMQ				smax	smax		
	comp=E,8.0nm,0.7s						
MK31	Makanchi Array	10.86	18	Pn	Pn	16 50 52.3	+0.1
	comp=E,0.9nm,0.3s,baz=198,slow=12,SNR=127						
MK31				Sn	Sn	16 52 46.9	-4.7
	comp=E,3.6nm,0.7s,baz=201,slow=18,SNR=11						
MKAR	Makanchi Array	10.86	18	P	Pn	16 50 52.4	+0.2
	comp=E,1.6nm,0.3s,baz=202,slow=12,SNR=110						
MKAR				S	Sn	16 52 47.3	-4.3
	comp=E,1.2nm,0.3s,baz=203,slow=25,SNR=14						
KKN	Kakani	10.98	141	ePn	Pn	16 50 55.3	+1.1
KKN				eSn	Sn	16 52 50.7	-4.5
	comp=E,38nm,0.7s						
DMN	Daman	11.04	142	ePn	Pn	16 50 56.2	+1.1
DMN				eSn	Sn	16 52 52.5	-4.2
	comp=E,59nm,0.7s						
GUN	Gumba	11.20	138	ePn	Pn	16 50 58.5	+1.2
PKI	Pulchoki	11.23	141	ePn	Pn	16 50 59.4	+1.8
JIRN	Jiri	11.57	138	ePn	Pn	16 51 03.2	+1.0
JIRN				eSn	Sn	16 53 04.3	-5.3
	comp=E,4.6nm,0.3s						
RAMN	Ramite	12.35	138	ePn	Pn	16 51 13.3	+0.7
RAMN				eSn	Sn	16 53 23.7	-4.8
	comp=E,99nm,1.0s						
TAPN	Taplejung	12.66	134	ePn	Pn	16 51 17.6	+0.8
TAPN				eSn	Sn	16 53 30.9	-5.2
	comp=E,14nm,0.6s						
ODAN	Odare	12.86	136	ePn	Pn	16 51 20.2	+0.9
ODAN				eSn	Sn	16 53 34.2	-6.5
	comp=E,15nm,0.4s						
KURBB	Kurchatov Arra	14.08	3	P	Pn	16 51 33.1	-1.8
	comp=E,0.0nm,0.3s,baz=190,slow=12,SNR=7.2						
BVAR	Borovoye Array	17.19	346	P	Pn	16 52 12.6	-1.3
	comp=E,0.3nm,0.3s,baz=157,slow=12,SNR=10.0						
BVAR				pP	pP	16 52 36.1	+4.0
	comp=E,0.4nm,0.3s,baz=156,slow=10,SNR=5.0						
BVAR				sP	sP	16 52 46.4	+2.2
	comp=E,0.2nm,0.3s,baz=150,slow=10,SNR=5.2						
AB31	Akbulak array	17.97	320	P	Pn	16 52 21.7	-1.6
	comp=E,1.8nm,0.5s,baz=124,slow=11,SNR=58						
ZALV	Zalesovo Beam	18.14	14	P	P	16 52 23.7	-0.6
	comp=E,0.1nm,0.3s,baz=197,slow=11,SNR=3.8						
AKTO	Aktyubinsk	19.68	321	P	P	16 52 40.3	-0.9
	comp=E,0.4nm,0.3s,baz=112,slow=12,SNR=17						
AKTO	Aktyubinsk	19.68	321	P	P	16 52 39.7	-1.5
	comp=E,0.7nm,0.7s						
SONM	Songino Array	24.10	53	P	P	16 53 29.9	+3.3
	comp=E,0.6nm,0.6s,baz=245,slow=10.0,SNR=6.1						
SONM				pP	pP	16 53 54.4	+6.9
	comp=E,0.4nm,0.5s,baz=252,slow=9.4,SNR=2.3						
SONM				sP	sP	16 54 06.2	+7.0
	comp=E,0.8nm,0.7s,baz=251,slow=10,SNR=4.2						
CMAR	Chiang Mai Arr	26.16	128	P	P	16 53 48.5	+3.2
	comp=E,1.0nm,0.8s,baz=310,slow=11,SNR=9.6						
CMAR				pP	pP	16 54 15.5	+8.8
	comp=E,0.6nm,0.8s,baz=319,slow=11,SNR=3.4						
BRTR	Keskin Array B	34.33	289	P	P	16 54 56.3	-1.1
	comp=E,0.4nm,0.6s,baz=104,slow=6.1,SNR=3.0						
JOF	Joensuu	38.48	328	ep	P	16 55 31.0	-1.2
	comp=E,3.7nm,0.5s						
FINES	FINESS Array B	40.38	325	P	P	16 55 47.0	-0.9
	comp=E,1.2nm,0.4s,baz=111,slow=10,SNR=16						
FINES				sP	sP	16 56 24.6	+3.3
	comp=E,0.7nm,0.5s,baz=112,slow=9.3,SNR=1.7						
ARCES	ARCESS Array B	43.13	336	P	P	16 56 10.5	+0.2
	comp=E,2.0nm,0.6s,baz=106,slow=8.9,SNR=13						
NOA	NORSAR Array B	47.45	323	P	P	16 56 44.2	-0.4
	comp=E,0.8nm,0.7s,baz=91,slow=7.8,SNR=3.4						
TORD	Torodi Ar. Bea	70.89	272	P	P	16 59 24.9	-1.9
	comp=E,0.5nm,0.7s,baz=42,slow=5.3,SNR=5.2						
ILAR	Eielson Array	73.21	18	P	P	16 59 40.6	+0.6
	comp=E,0.2nm,0.6s,baz=339,slow=5.8,SNR=4.5						
YKA	Yellowknife Ar	80.82	6	P	P	17 00 23.3	+0.7
	comp=E,0.2nm,0.5s,baz=344,slow=5.5,SNR=8.1						

*CSEM **04** 16:52:24.8±0.2, 37°.86N×26°.64E, h10km, MD2.5, Error ellipse: s-maj=4.3km s-min=2.0km az=73.0*
*DDA **04** 16:52:25.1, 37°.88N×26°.69E, h7km, MD2.8*
*ISK **04** 16:52:25.8, 37°.89N×26°.79E, h4km, MD2.5*
ISC 04 16:52:26.2±1.3**, 37°.90N**±0°.03×**26°.74E**±0°.04**, h6**km±19km**,**
n11, σ0s66/19**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.47	346	i P	Pg	16 52 34.5	-0.8
URLA				i S	Sg	16 52 41.5	0.0
URLA	Izmir	0.47	346	i P	Pg	16 52 34.5	-0.8
URLA				i S	Sg	16 52 41.5	0.0
BLCB	Balcova	0.54	26	ePG	Pg	16 52 36.6	0.0
BLCB				eSG	Sg	16 52 43.9	+0.3
BLCB	Balcova	0.54	26	ePg	Pg	16 52 36.6	0.0
BLCB				eSg	Sg	16 52 43.9	+0.3
IZM	Izmir	0.65	40	ePG	Pg	16 52 39.0	+0.4
IZM				eSG	Sb	16 52 49.0	-0.2
IZM	Izmir	0.65	40	ePg	Pg	16 52 39.0	+0.4
IZM				eSg	Sb	16 52 49.0	-0.2
AYDN	Tasoluk	0.93	104	i P	Pg	16 52 44.0	-0.1
AYDN				i S	Sg	16 52 56.8	+0.6
AYDN	Tasoluk	0.93	104	i P	Pg	16 52 44.0	-0.1
AYDN				i S	Sg	16 52 56.8	+0.6
BODT	Bodrum	0.95	151	ePG	Pg	16 52 43.3	-1.1
BODT	Bodrum	0.95	151	ePg	Pg	16 52 43.3	-1.1
APE	Apeiranthos	1.27	230	ePN	Pg	16 52 51.6	+1.1

IDC 04 17:01:31.2±2.3**, 20°.16S×177°.51W, h499**km±25km**,**
mb3.1/4**, mb1 3.3**/6**, mb1mx3.1**/21**, mbtmp3.2**/6**, Error ellipse: s-maj=30.7km s-min=21.2km az=117.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.29	42	P	P	17 03 30.4	-0.4
	1.9nm,0.3s,baz=355,slow=21,SNR=6.4						

DZM	**Mont Dzumac**	**15.09**	**260**	P	P	17 04 43.7	+1.1
	0.2nm,0.3s,baz=90,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**38.35**	**244**	P	P	17 08 07.9	-0.9
	2.4nm,0.8s,baz=90,slow=13,SNR=3.9						
QSPA	**South Pole Qui**	**69.90**	**180**	P	P	17 11 51.6	+0.2
	1.2nm,0.8s,baz=83,slow=2.2,SNR=8.0						
MJAR	**Matsushiro Arr**	**70.21**	**323**	P	P	17 11 53.1	-0.4
	0.8nm,0.6s,baz=156,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**87.89**	**13**	P	P	17 13 26.9	+0.3
	0.2nm,0.4s,baz=217,slow=5.4,SNR=7.5						
BVAR	**Borovoye Array**	**119.12**	**320**	PKP	PKPdf	17 19 22.2	-0.6
	0.4nm,0.4s,baz=79,slow=2.4,SNR=3.9						
AKASG	**Malin Array Be**	**142.94**	**332**	PKP	PKPdf	17 20 04.5	-3.0
	0.9nm,0.4s,baz=45,slow=4.0,SNR=4.4						
BRTR	**Keskin Array B**	**146.95**	**313**	PKPbc	PKPbc	17 20 17.9	+0.2
	0.4nm,0.5s,baz=127,slow=5.7,SNR=3.9						
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc	PKPbc	17 20 24.9	-0.1
	0.6nm,0.8s,baz=85,slow=1.1,SNR=3.8						

IDC 04 17:04:44.6±1.7**, 6°.34S×129°.94E, h0^{km}, mb3.8**/2**, mb1 4.0**/5**, mb1mx3.6**/19**, mbtmp3.9**/5**, ML3.9**/3**, Error ellipse: s-maj=73.2km s-min=24.7km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.42**	**199**	Pn	Pn	17 07 41.1	-1.8
	0.4nm,0.3s,baz=25,slow=13,SNR=18						
FITZ				Sn	Sn	17 09 44.4	-18
	1.6nm,0.3s,baz=67,slow=23,SNR=8.7						
WRA	**Warramunga Arr**	**14.18**	**163**	Pn	Pn	17 08 05.8	-1.2
	0.5nm,0.3s,baz=345,slow=12,SNR=6.8						
WRA				Sn	Sn	17 10 31.3	-14
	1.1nm,0.3s,baz=333,slow=25,SNR=7.4						
ASAR	**Alice Springs**	**17.64**	**168**	P	Pn	17 08 51.8	-0.3
	0.8nm,0.3s,baz=346,slow=11,SNR=107						
STKA	**Stephens Creek**	**27.64**	**158**	P	P	17 10 35.3	+1.1
	2.5nm,0.9s,baz=338,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	17 15 43.5	-0.1
	0.3nm,0.6s,baz=120,slow=7.6,SNR=7.4						

*IDC **04** 17:06:09.1±0.5, 13°.17S×167°.85E, h0^{km}, mb4.8/24, mb1 4.9/26, mb1mx4.9/28, mbtmp4.7/26, ML4.8/2, MS4.3/24, Ms1 4.4/24, ms1mx4.2/36, Error ellipse: s-maj=17.7km s-min=13.4km az=123.0*

*DJA **04** 17:06:10.2±0.8, 13°S±10°×16°8E±1°2, h10^{km}, M5.2/14, mB5.8/4, mb5.1/14, Mw(mB)5.4/4*

*ISCJB **04** 17:06:11.0±2.3, 13°.15S±0°.05×167°.71E±0°.03, h17^{km}±16^{km}, mb5.1/110, MS4.7/107, Error ellipse: s-maj=8.1km s-min=4.8km az=2.2*

*GCMT **04** 17:06:12.8±0.2, 13°.24S×167°.91E, h12^{km}, MW5.1, Moment Tensor Solution. s47,c60; s85,c128; Moment tensor: Scale 10^{16}Nm; M_{rr}5.11±.14; $M_{\theta\theta}$-2.24±.15; $M_{\phi\phi}$-2.86±.14; $M_{r\theta}$0.21±.38; $M_{\theta\phi}$3.81±.12; $M_{\phi r}$0.88±.43; Best double couple: $M_0$5.80000×10^{16} NP1:ϕ_s127.00000°, δ43.00000°, λ75.00000°. NP2:ϕ_s328.00000°, δ48.00000°, λ104.00000°. Principal axes: T 5.2700, Plg79.0000°, Azm304.0000°; N 1.1300, Plg11.0000°, Azm138.0000°; P -6.4000, Plg3.0000°, Azm48.0000°; Data Used: IU CN II G IC.*

*MOS **04** 17:06:12.9±0.9, 13°.10S×167°.75E, h33^{km}, mb5.4/33 Error ellipse: s-maj=9.3km s-min=8.2km az=21.3*

*NEIC **04** 17:06:15.2±0.8, 13°.11S×167°.77E, h40^{km}±7^{km}, mb5.3/64, MS4.9/78, Error ellipse: s-maj=5.8km s-min=4.1km az=165.0*

ISC 04 17:06:15.9±0.3**, 13°.21S**±0°.05**×167°.82E**±0°.05**, h46**^{km}±2^{km}**, h46**^{km}**:pP-P, n512,** σ1§**12**/486**, mb5.1**/110**, MS4.8**/108**, 111C-103D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.59**	**295**	Pn	**Pn**	**17 08 15.5**	**-2.1**
	18nm,0.3s,baz=45,slow=1.9,SNR=28						
HNR	**Honiara**	**8.59**	**295**	Pn	**Pn**	**17 08 15.6**	**-2.1**
HNR				*e*Sn	**Sn**	**17 09 55.0**	**+1.7**
DZM	**Mont Dzumac**	**8.91**	**188**	*e*Pn	**Pn**	**17 08 22.2**	**+0.1**
	13nm,0.3s						
DZM				*e*LR	LR	17 10 28.7	
	7μm,27.6s						
DZM	**Mont Dzumac**	**8.91**	**188**	Pn	**Pn**	**17 08 20.6**	**-1.5**
	7.1nm,0.3s,baz=22,slow=20,SNR=117						
DZM				LR	LR	17 11 22.6	
	comp=Z,4μm,21.0s,baz=3.3,slow=35						
DZM	**Mont Dzumac**	**8.91**	**188**	*e*P	**Pn**	**17 08 20.9**	**-1.3**
DZM				*e*S	**Sn**	**17 10 00.9**	**-0.3**
DZM	**Mont Dzumac**	**8.91**	**188**	Pn	**Pn**	**17 08 20.6**	**-1.5**
DZM				*e*Sn	**Sn**	**17 09 59.7**	**-1.5**
NOUC	**Port Laguerre**	**8.96**	**189**	*e*P	**Pn**	**17 08 23.2**	**+0.5**
NOUC				*e*S	**Sn**	**17 09 59.9**	**-2.4**
MSVF	**Nonsavu**	**10.84**	**116**	*e*P	**Pn**	**17 08 49.9**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,360nm,1.8s						
MSVF	**Nonsavu**	**10.84**	**116**	*e*Pn	**Pn**	**17 08 49.9**	**+1.4**
	comp=Z,360nm,1.8s						
MSVF	**Nonsavu**	**10.84**	**116**	Pn	**Pn**	**17 08 50.0**	**+1.4**
	comp=Z,513nm,1.5s,SNR=13						
AFI	**Afiamalu**	**19.85**	**94**	P	**P**	**17 10 44.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=289,slow=23,SNR=4.1						
AFI				LR	LR	17 16 53.3	
	comp=Z,441nm,18.3s,baz=97,slow=32						
AFI	**Afiamalu**	**19.85**	**94**	P	**P**	**17 10 44.2**	**+1.0**
EIDS	**Eidsvold**	**19.87**	**230**	*e*Pn	**Pn**	**17 10 45.2**	**0.0**
	comp=Z,74nm,0.9s						
CTA	**Charters Tower**	**21.75**	**249**	P	**P**	**17 11 04.1**	**+0.4**
	comp=Z,17nm,0.7s,baz=78,slow=12,SNR=10						
CTA				LR	LR	17 18 33.2	
	comp=Z,1μm,18.8s,baz=70,slow=34						
CTA	**Charters Tower**	**21.75**	**249**	P	**P**	**17 11 04.1**	**+0.4**
CTAO	**Charters Tower**	**21.75**	**249**	*e*P	**P**	**17 11 04.1**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,1μm,19.0s						
CTAO	**Charters Tower**	**21.75**	**249**	*e*P	**P**	**17 11 04.1**	**+0.4**
	comp=Z,16nm,0.8s						
CTAO				LR	LR		
	comp=Z,1μm,19.0s						
ARMA	**Armidale**	**22.74**	**219**	*e*P	**P**	**17 11 16.0**	**+1.8**
	comp=Z,91nm,1.1s						
COEN	**Coen**	**23.97**	**265**	*e*P	**P**	**17 11 26.7**	**+0.5**
	comp=Z,300nm,1.0s						
CAN	**Canberra**	**27.81**	**214**	PFAKE		17 12 10.0	+9.1
CAN				LR	LR		
	comp=Z,2μm,19.0s						
SNZO	**South Karori**	**28.63**	**169**	*e*P	**P**	**17 12 09.7**	**+1.8**
	comp=Z,17nm,0.8s						
SNZO				LR	LR		
	comp=Z,1μm,21.0s						
STKA	**Stephens Creek**	**30.39**	**228**	P	**P**	**17 12 24.9**	**+1.1**
	comp=Z,31nm,0.8s,baz=32,slow=8.4,SNR=32						
STKA				LR	LR	17 23 56.4	
	comp=Z,2μm,18.2s,baz=50,slow=35						
STKA	**Stephens Creek**	**30.39**	**228**	P	**P**	**17 12 24.9**	**+1.1**
SMPI	**Sarmi**	**30.89**	**289**	P	**P**	**17 12 28.3**	**0.0**
	comp=Z,47nm,1.4s,comp=Z,2μm						
WRAB	**Tennant Creek**	**32.73**	**254**	*e*P	**P**	**17 12 43.4**	**-1.1**
WRAB				MLR	MLR		
	comp=Z,1μm,20.0s						
WRAB	**Tennant Creek**	**32.73**	**254**	*e*P	**P**	**17 12 43.4**	**-1.1**
WRAB				LR	LR		
	comp=Z,1μm,20.0s						
WRA	**Warramunga Arr**	**32.74**	**254**	P	**P**	**17 12 43.6**	**-1.0**
	comp=Z,3.6nm,0.5s,baz=84,slow=8.8,SNR=8.8						
WRA				LR	LR	17 24 29.1	
	comp=Z,971nm,21.9s,baz=80,slow=34						
WRA	**Warramunga Arr**	**32.74**	**254**	P	**P**	**17 12 43.6**	**-1.0**
ASAR	**Alice Springs**	**33.73**	**247**	P	**P**	**17 12 52.1**	**-1.1**
	comp=Z,7.0nm,0.6s,baz=74,slow=9.3,SNR=27						
ASAR				PcP	**PcP**	**17 15 31.1**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=99,slow=1.7,SNR=4.2						
ASAR				LR	LR	17 25 57.3	
	comp=Z,1μm,18.4s,baz=76,slow=35						
ASAR	**Alice Springs**	**33.73**	**247**	P	**P**	**17 12 52.1**	**-1.1**
ASAR				PcP	**PcP**	**17 15 31.1**	**-1.0**
BBOO	**Buckleboo**	**34.94**	**231**	*e*P	**P**	**17 13 03.7**	**+0.2**
	comp=Z,323nm,0.7s						
GUMO	**Guam**	**35.02**	**319**	LR	LR	17 25 32.6	
	comp=Z,319nm,18.9s,baz=130,slow=33						
TLE	**Tual**	**35.38**	**279**	P	**P**	**17 13 08.2**	**+0.6**
	comp=Z,46nm,1.1s						
FAKI	**Fak Fak**	**36.62**	**283**	P	**P**	**17 13 19.8**	**+1.6**
JOHN	**Johnston Islan**	**37.23**	**38**	PFAKE		17 13 30.0	+6.8
JOHN				LR	LR		
	comp=Z,18nm,22.0s						
SWI	**Sorong**	**38.23**	**286**	P	**P**	**17 13 32.5**	**+0.7**
	comp=Z,49nm,0.9s,comp=Z,591nm						
BNDI	**Bandanaira**	**38.40**	**279**	P	**P**	**17 13 33.8**	**+0.6**
	comp=Z,242nm,1.1s,comp=Z,3μm						
FORT	**Forrest**	**40.54**	**238**	*e*P	**P**	**17 13 50.6**	**-0.2**
	comp=Z,72nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.84**	**258**	P	**P**	**17 13 53.1**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=96,slow=7.5,SNR=8.2						
FITZ	**Fitzroy Crossi**	**40.84**	**258**	P	**P**	**17 13 53.1**	**-0.4**
PPT	**Papeete**	**41.24**	**102**	LR	LR	17 26 21.6	
	comp=Z,593nm,18.8s,baz=272,slow=29						
PPT2	**Papeete2**	**41.24**	**102**	*e*S	**S**	**17 20 04.5**	**-3.3**
	comp=Z,206nm,26.5s						
PPT2				*e*LQ	LQ	17 23 29.8	
	comp=Z,2μm,28.5s						
PPT2				*e*LR	LR	17 25 13.2	
	comp=Z,1μm,28.0s						
TBI	**Tubuai**	**41.66**	**110**	*e*LQ	LQ	17 23 41.3	
	comp=Z,616nm,28.2s						
TBI				*e*LR	LR	17 25 25.6	
	comp=Z,450nm,26.0s						
MBWA	**Marble Bar**	**46.48**	**253**	*e*P	**P**	**17 14 39.2**	**+0.4**
	comp=Z,70nm,0.9s						
KAPI	**Kappang**	**48.09**	**275**	P	**P**	**17 14 50.4**	**-1.0**
	comp=Z,4.3nm,0.4s,baz=224,slow=12,SNR=4.0						
KAPI				LR	LR	17 34 55.1	
	comp=Z,108nm,19.5s,baz=325,slow=36						
KAPI	**Kappang**	**48.09**	**275**	P	**P**	**17 14 50.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**49.99**	**238**	P	**P**	**17 15 04.8**	**-0.9**
	comp=Z,15nm,0.6s,baz=66,slow=7.8,SNR=14						
NWAO				LR	LR	17 35 30.3	
	comp=Z,602nm,20.7s,baz=72,slow=35						
NWAO	**Narrogin (SRO)**	**49.99**	**238**	*e*P	**P**	**17 15 05.4**	**-0.4**
KKM	**Kota Kinabalu**	**54.71**	**287**	*e*P	**P**	**17 15 40.9**	**-0.2**
	comp=Z,47nm,1.0s						
KKM				LR	LR		
	comp=Z,152nm,20.0s						
DRV	**Dumont d'Urvil**	**56.53**	**193**	S	S	17 23 34.0	-7.2
DRV				SS	SKiKP	17 27 01.0	+14
DRV				R		17 32 00.0	
MJAR	**Matsushiro Arr**	**56.82**	**332**	P	**P**	**17 15 54.3**	**-1.5**
	comp=Z,3.8nm,0.8s,baz=170,slow=8.9,SNR=11						
MJAR				LR	LR	17 36 04.4	
	comp=Z,86nm,20.1s,baz=75,slow=32						
MJAR	**Matsushiro Arr**	**56.82**	**332**	P	**P**	**17 15 54.3**	**-1.5**
MAJO	**Matsushiro**	**56.83**	**332**	*e*P	**P**	**17 15 54.8**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s						
MAJO	**Matsushiro**	**56.83**	**332**	*e*P	**P**	**17 15 54.8**	**-1.0**
	comp=Z,24nm,1.1s						
MAT	**Matsushiro**	**56.83**	**332**	P	**P**	**17 15 54.8**	**-0.9**
MAT				*e*S	S	17 23 58.4	+13
JNU	**Nakatsue**	**58.02**	**324**	P	**P**	**17 16 03.9**	**-0.3**
	comp=Z,8.4nm,1.0s,baz=180,slow=5.1,SNR=2.9						
JNU	**Nakatsue**	**58.02**	**324**	*e*P	**P**	**17 16 03.5**	**-0.7**
	comp=Z,15nm,1.0s						
KSM	**Kuching**	**58.86**	**280**	*e*P	**P**	**17 16 08.2**	**-2.3**
	comp=Z,15nm,1.1s						
KSM				LR	LR		
	comp=Z,132nm,20.0s						
KSM	**Kuching**	**58.86**	**280**	P	**P**	**17 16 11.4**	**+0.9**
	comp=Z,14nm,1.2s						
YHNB	**Yeheng**	**58.92**	**310**	P	**P**	**17 16 10.2**	**-0.5**
	comp=Z,72nm,1.1s						
ERM	**Erimo**	**59.46**	**339**	PFAKE		17 16 30.0	+16
ERM				LR	LR		
	comp=Z,274nm,21.0s						
KSRS	**Korea Array**	**62.80**	**325**	P	**P**	**17 16 36.3**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=144,slow=6.0,SNR=8.4						
KSRS				LR	LR	17 41 06.9	
	comp=Z,69nm,20.2s,baz=318,slow=33						
KSAR	**Wonju Array Be**	**62.82**	**325**	P	**P**	**17 16 36.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**63.97**	**341**	*e*P	**P**	**17 16 45.3**	**+1.0**
YSS				*e*		17 16 51.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**63.97**	**341**	*e*P	**P**	**17 16 44.3**	**+0.1**
	comp=Z,35nm,1.4s						
VNDA	**Vanda**	**64.38**	**181**	P	**P**	**17 16 46.7**	**+0.1**
	comp=Z,6.7nm,1.2s,baz=352,slow=6.9,SNR=3.9						
VNDA				LR	LR	17 40 28.0	
	comp=Z,213nm,18.9s,baz=360,slow=32						
VNDA	**Vanda**	**64.38**	**181**	P	**P**	**17 16 46.7**	**+0.1**
SBA	**Scott Base**	**64.65**	**180**	*e*P	**P**	**17 16 49.1**	**+0.7**
SBA				pmax	pmax		
	comp=Z,25nm,1.5s						
SBA				MLR	MLR		
	comp=Z,523nm,19.0s						
SBA	**Scott Base**	**64.65**	**180**	*e*P	**P**	**17 16 49.1**	**+0.7**
	comp=Z,25nm,1.5s						
SBA				LR	LR		
	comp=Z,523nm,19.0s						
NJ2	**Nanjing**	**64.98**	**315**	*e*P	**P**	**17 16 51.6**	**+0.4**
NJ2				pP	**pP**	**17 17 04.6**	**+0.2**
NJ2				sP	**sP**	**17 17 10.2**	**+0.5**
NJ2				PP	**PP**	**17 19 16.4**	**+1.6**
NJ2				S	**S**	**17 25 28.0**	**-1.9**
NJ2				sS	**sS**	**17 25 52.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,340nm,4.9s						
NJ2				LR	LR		
	comp=N,120nm,26.8s						
NJ2				LR	LR		
	comp=E,160nm,17.2s						
NJ2				LR	LR		
	comp=Z,180nm,15.9s						
CASY	**Casey**	**65.13**	**202**	PFAKE		17 17 00.0	+8.4
CASY				LR	LR		
	comp=Z,711nm,20.0s						
USRK	**Ussuriysk Arra**	**65.78**	**333**	P	**P**	**17 16 57.2**	**+1.0**
	comp=Z,8.5nm,1.0s,baz=134,slow=5.5,SNR=19						
USRK				LR	LR	17 41 26.8	
	comp=Z,106nm,19.9s,baz=318,slow=32						
PET	**Petropavlovsk**	**66.44**	**354**	PFAKE		17 17 10.0	+10
PET				LR	LR		
	comp=Z,175nm,22.0s						
PETK	**Petropavlovsk-**	**66.62**	**353**	P	**P**	**17 17 01.7**	**+0.3**
	comp=Z,16nm,1.1s,baz=169,slow=8.9,SNR=5.4						
PETK				LR	LR	17 44 56.8	
	comp=Z,82nm,18.1s,baz=155,slow=35						
PETK	**Petropavlovsk-**	**66.62**	**353**	P	**P**	**17 17 01.7**	**+0.3**
PETK	**Petropavlovsk-**	**66.62**	**353**	P	**P**	**17 17 01.7**	**+0.3**
MDJ	**Mudanjiang**	**67.21**	**331**	P	**P**	**17 17 06.0**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,45nm,3.3s						
MDJ	**Mudanjiang**	**67.21**	**331**	*e*P	**P**	**17 17 05.4**	**+0.2**
	comp=Z,42nm,1.4s						
MDJ				LR	LR		
	comp=Z,102nm,19.0s						
DL2	**Dalian**	**67.42**	**322**	P	P	17 17 12.8	+6.1
DL2				pmax	pmax		
	comp=Z,30nm,1.1s						
HABR	**Khabarovsk**	**67.95**	**337**	*ce*P	**P**	**17 17 08.8**	**-1.0**
HABR				*e**PP	**pP**	**17 17 22.7**	**-0.4**
HABR				*e*		17 17 34.8	
HABR						17 19 38.7	
HABR				*e*PPP	PPP	17 21 16.2	
HABR				*e*S	**S**	**17 26 03.8**	**-1.5**
HABR				*e*		17 26 27.4	
HABR				*e*		17 27 02.9	
HABR				*e*SS	**SS**	**17 30 26.4**	**-2.0**
HABR				pmax	pmax		
	comp=Z,120nm,2.1s						
HABR				pmax	pmax		
	comp=E,52nm,2.5s						
HABR				pmax	pmax		
	comp=N,39nm,2.5s						
HABR				MLR	MLR		
	comp=Z,50nm,16.0s						
IPM	**Ipoh**	**68.60**	**280**	*e*P	**P**	**17 17 14.5**	**-0.2**
	comp=Z,26nm,1.1s						
IPM	**Ipoh**	**68.60**	**280**	P	**P**	**17 17 15.4**	**+0.7**
	comp=Z,19nm,1.2s						
CN2	**Changchun**	**68.64**	**328**	*e*P	**P**	**17 17 14.5**	**+0.2**
CN2				*e*sP	**sP**	**17 17 31.8**	**-1.0**
CN2				*e*S	**S**	**17 26 12.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
KULM	**Kulim**	**69.18**	**281**	PFAKE		17 17 30.0	+12
KULM				LR	LR		
	comp=Z,90nm,21.0s						
KLR	**Kul'dur**	**69.85**	**336**	*e*P	P	17 17 17.8	-3.8
PSI	**Prapat**	**70.17**	**278**	P	**P**	**17 17 24.4**	**-0.1**
	comp=Z,4.8nm,0.5s,baz=205,slow=4.9,SNR=5.4						
PSI	**Prapat**	**70.17**	**278**	P	**P**	**17 17 24.4**	**-0.1**
PSI	**Prapat**	**70.17**	**278**	P	**P**	**17 17 24.9**	**+0.3**
	comp=Z,16nm,1.4s						
GYA	**Guiyang**	**71.31**	**304**	P	**P**	**17 17 32.9**	**+1.7**
GYA				pP	**pP**	**17 17 46.5**	**+1.9**
GYA				sP	**sP**	**17 17 51.3**	**+1.5**
GYA				PP	**PP**	**17 20 13.0**	**+3.0**
GYA				S	**S**	**17 26 45.4**	**-0.5**
GYA				SKS	**SKSac**	**17 27 27.3**	**-3.6**
GYA				SS	**SS**	**17 31 21.2**	**0.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
GYA				LR	LR		
	comp=N,580nm,18.4s						
GYA				LR	LR		
	comp=E,530nm,19.6s						
GYA				LR	LR		
	comp=Z,570nm,18.2s						
BJT	**Baijiatuau**	**71.42**	**321**	PFAKE		17 17 40.0	+8.5
BJT				LR	LR		
	comp=Z,77nm,19.0s						
BJI	**Beijing**	**71.43**	**321**	P	P	17 17 37.1	+5.6
BJI				pmax	pmax		
	comp=Z,24nm,1.3s						
BJI				pmax	pmax		
	comp=Z,130nm,4.5s						
XAN	**Xi'an**	**73.07**	**312**	P	**P**	**17 17 41.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				LR	LR		
	comp=N,110nm,10.7s						
XAN				LR	LR		
	comp=Z,64nm,13.5s						
KMI	**Kunming**	**73.97**	**301**	P	**P**	**17 17 48.0**	**+0.8**
KMI				PcP	**PcP**	**17 18 04.6**	**+2.2**
KMI				pmax	pmax		
	comp=Z,38nm,1.0s						
HHC	**Hu-ho-hao-te**	**74.79**	**319**	*e*P	**P**	**17 17 51.2**	**-0.3**
HHC				pP	**pP**	**17 18 04.7**	**-0.2**
HHC				sP	**sP**	**17 18 09.8**	**-0.4**
HHC				PP	**PP**	**17 20 41.4**	**+2.0**
HHC				S	S	17 27 31.1	+6.2
HHC				sS	**sS**	**17 27 44.5**	**-2.9**
HHC				SKS	**SKSac**	**17 27 51.5**	**-5.0**
HHC				SS	**SS**	**17 32 12.9**	**-1.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,5.0s						
HHC				LR	LR		
	comp=N,160nm,15.9s						
HHC				LR	LR		
	comp=E,180nm,12.5s						
HHC				LR	LR		
	comp=Z,250nm,14.7s						
CMAR	**Chiang Mai Arr**	**74.83**	**293**	P	**P**	**17 17 52.9**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=125,slow=4.7,SNR=33						
CMAR				LR	LR	17 48 19.9	
	comp=Z,52nm,20.8s,baz=150,slow=34						
CMAR	**Chiang Mai Arr**	**74.83**	**293**	P	**P**	**17 17 52.9**	**+0.8**
CHTO	**Chiang Mai**	**74.95**	**294**	*e*P	**P**	**17 17 53.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,105nm,19.0s						
CHTO	**Chiang Mai**	**74.95**	**294**	*e*P	**P**	**17 17 53.0**	**+0.2**
	comp=Z,14nm,1.0s						
CHTO				LR	LR		
	comp=Z,105nm,19.0s						
CHTO	**Chiang Mai**	**74.95**	**294**	P	**P**	**17 17 53.6**	**+0.9**
	comp=Z,17nm,1.1s						
HIA	**Hailar**	**75.25**	**330**	P	**P**	**17 17 51.8**	**-2.1**
	comp=Z,16nm,1.1s						
HIA				LR	LR		
	comp=Z,161nm,21.0s						
CD2	**Chengdu**	**75.52**	**307**	P	**P**	**17 17 56.7**	**+0.9**
CD2				pP	**pP**	**17 18 09.3**	**0.0**
CD2				sP	**sP**	**17 18 14.4**	**-0.1**
CD2				PP	**PP**	**17 20 48.3**	**+2.5**
CD2				S	**S**	**17 27 32.9**	**-0.4**
CD2				sS	**sS**	**17 27 54.2**	**-1.7**
CD2				SS	**SS**	**17 32 26.8**	**+1.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,130nm,4.0s						
CD2				LR	LR		
	comp=N,260nm,5.3s						
CD2				LR	LR		
	comp=Z,220nm,6.5s						
QSPA	**South Pole Qui**	**76.81**	**180**	P	**P**	**17 18 03.1**	**+0.5**
	comp=Z,12nm,1.0s,baz=351,slow=2.1,SNR=15						
QSPA	**South Pole Qui**	**76.81**	**180**	*e*P	**P**	**17 18 02.6**	**-0.1**
	comp=Z,20nm,1.2s						
SEY	**Seymchan**	**76.85**	**353**	⇑*e*P	**P**	**17 18 02.7**	**+0.1**
LZH	**Lanzhou**	**77.71**	**312**	⇑P	**P**	**17 18 09.3**	**+1.1**
LZH				pP	**pP**	**17 18 22.8**	**+1.0**
LZH				sP	**sP**	**17 18 28.2**	**+1.2**
LZH				*e*PP	**PP**	**17 21 06.5**	**+2.3**
LZH				*e*S	**S**	**17 27 56.0**	**-1.3**
LZH				sS	**SKKSac**	**17 28 19.5**	**+0.2**
LZH				SS	**SS**	**17 33 00.4**	**+2.0**
LZH				pmax	pmax		
	comp=Z,49nm,1.5s						
LZH				pmax	pmax		
	comp=Z,310nm,7.1s						
LZH				LR	LR		
	comp=N,140nm,15.0s						
LZH				LR	LR		
	comp=E,200nm,15.6s						
LZH				LR	LR		
	comp=Z,230nm,18.2s						
KDAK	**Kodiak Island**	**77.86**	**20**	PFAKE		17 18 20.0	+12
KDAK				LR	LR		
	comp=Z,707nm,20.0s						
CLNS	**Chul'man**	**78.34**	**338**	*e*P	**P**	**17 18 11.8**	**+0.7**
CLNS				pmax	pmax		
	comp=Z,29nm,1.3s						
CLNS				pmax	pmax		
	comp=N,14nm,1.3s						
CLNS				pmax	pmax		
	comp=E,12nm,1.3s						
RSO	**Redoubt South**	**79.89**	**19**	P	**P**	**17 18 20.5**	**+0.8**
	comp=E,32nm,0.3s						
SLKM	**Skilak Lake**	**80.73**	**20**	P	**P**	**17 18 22.5**	**-1.5**
SLKM	**Skilak Lake**	**80.73**	**20**	P	**P**	**17 18 22.5**	**-1.5**
YAK	**Yakutsk**	**80.75**	**343**	*e*P	**P**	**17 18 23.0**	**-1.0**
YAK				*e*		17 18 28.4	
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**80.75**	**343**	*e*P	**P**	**17 18 23.3**	**-0.7**
	comp=E,63nm,1.1s						
YAK				LR	LR		
	comp=Z,191nm,19.0s						
ULN	**Ulaanbaatar**	**81.24**	**324**	*e*P	**P**	**17 18 27.2**	**+0.1**
	comp=Z,32nm,1.1s						
ULN				LR	LR		
	comp=Z,128nm,20.0s						
ULN	**Ulaanbaatar**	**81.24**	**324**	P	**P**	**17 18 27.9**	**+0.7**
SONM	**Songino Array**	**81.61**	**323**	P	**P**	**17 18 29.3**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=138,slow=3.6,SNR=27						
SONM				LR	LR	17 49 56.6	
	comp=Z,84nm,19.4s,baz=192,slow=32						
SONM	**Songino Array**	**81.61**	**323**	P	**P**	**17 18 29.3**	**+0.2**
PMR	**Palmer**	**81.90**	**19**	*e*P	**P**	**17 18 29.1**	**-1.0**
PMR				pmax	pmax		
	comp=Z,14nm,1.0s						

PMR **Palmer** 81.90 19 eP P 17 18 29.1 -1.0
comp=Z,14nm,1.0s
GTA **Gaotai** 82.01 314 ⇑P P 17 18 32.0 +0.6
GTA pP pP 17 18 45.1 0.0
GTA sP sP 17 18 50.2 0.0
GTA PP PP 17 21 42.3 +2.4
GTA S S 17 28 41.8 -0.7
GTA SKS SKSac 17 28 44.0 -4.3
GTA sS sS 17 29 03.9 -1.4
GTA SS SS 17 34 04.1 +1.4
GTA pmax pmax
comp=Z,15nm,1.3s
GTA pmax pmax
comp=Z,190nm,5.5s
GTA LR LR
comp=N,230nm,15.4s
GTA LR LR
comp=E,220nm,16.6s
GTA LR LR
comp=Z,190nm,17.1s
SML **Sawmill** 82.32 19 eP P 17 18 32.0 -0.4
SML pmax pmax
comp=Z,11nm,1.4s
SML **Sawmill** 82.32 19 eP P 17 18 31.9 -0.4
comp=Z,11nm,1.4s
TRF **Thorofare Moun** 82.94 18 eP P 17 18 33.7 -2.0
comp=Z,19nm,1.2s
BMRM **Bremner River** 82.98 21 eP P 17 18 34.5 -1.4
comp=Z,52nm,1.5s
SHL **Shillong** 83.33 298 eP P 17 18 39.0 +0.4
BOD **Bodaibo** 83.35 334 eP P 17 18 34.3 -3.4
BOD pmax pmax
comp=Z,18nm,1.6s
MAW **Mawson** 83.48 202 LR LR 17 50 31.2
comp=Z,430nm,20.5s,baz=100,slow=32
MCK **McKinley** 83.55 18 eP P 17 18 37.4 -1.3
MCK pmax pmax
comp=Z,41nm,1.5s
MCK **McKinley** 83.55 18 eP P 17 18 37.4 -1.3
comp=Z,41nm,1.5s
PAX **Paxson** 84.08 20 eP P 17 18 40.5 -1.0
PAX pmax pmax
comp=Z,25nm,1.6s
PAX **Paxson** 84.08 20 eP P 17 18 40.5 -1.0
comp=Z,25nm,1.6s
CMB **Columbia Colle** 84.21 49 eP P 17 18 41.6 -1.1
CMB pmax pmax
comp=Z,7.0nm,0.9s
CMB **Columbia Colle** 84.21 49 eP P 17 18 41.6 -1.1
comp=Z,7.1nm,0.9s
ZAK **Zakamensk** 84.63 325 eP P 17 18 44.5 -0.1
ZAK pmax pmax
comp=Z,26nm,1.2s
MENT **Mentasta** 84.64 20 eP P 17 18 43.8 -0.5
COLA **College** 84.72 17 eP P 17 18 43.3 -1.2
COLA pmax pmax
comp=Z,46nm,1.3s
COLA MLR MLR
comp=Z,603nm,22.0s
COLA **College** 84.72 17 eP P 17 18 43.3 -1.2
comp=Z,46nm,1.3s
COLA LR LR
comp=Z,603nm,22.0s
ISA **Isabella** 84.80 52 eP P 17 18 45.8 +0.1
ISA pmax pmax
comp=Z,43nm,1.8s
ISA **Isabella** 84.80 52 eP P 17 18 45.8 +0.1
comp=Z,44nm,1.8s
ISA **Isabella** 84.80 52 ⇑P P 17 18 46.6 +0.9
baz=85
EDW2 **Edwards Air Fo** 84.90 53 ⇑P P 17 18 46.6 +0.3
baz=85
ILAR **Eielson Array** 84.93 18 P P 17 18 44.5 -1.1
comp=Z,9.3nm,0.9s,baz=234,slow=6.0,SNR=79
ILAR LR LR 17 51 19.1
comp=Z,534nm,20.5s,baz=266,slow=32
ILAR **Eielson Array** 84.93 18 P P 17 18 44.5 -1.1
IRK **Irkutsk** 84.97 326 eP P 17 18 45.7 -0.5
IRK e 17 22 01.8
IRK pmax pmax
comp=Z,39nm,1.1s
DOT **Dot Lake** 85.01 19 eP P 17 18 45.9 -0.2
comp=Z,4.6nm,0.9s
TLY **Talaya** 85.04 326 eP P 17 18 45.2 -1.3
TLY pmax pmax
comp=Z,33nm,1.0s
TLY MLR MLR
comp=Z,91µm,19.0s
TLY **Talaya** 85.04 326 eP P 17 18 46.3 -0.3
comp=Z,34nm,1.0s
TLY LR LR
comp=Z,144nm,19.0s
TLY **Talaya** 85.04 326 P P 17 18 46.0 -0.5
comp=Z,178nm,0.9s,SNR=5.5
LSA **Lhasa** 85.22 302 P P 17 18 48.8 +0.3
LSA **Lhasa** 85.22 302 eP P 17 18 48.8 +0.3
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA MLR MLR
comp=Z,116nm,19.0s
LSA **Lhasa** 85.22 302 eP P 17 18 48.8 +0.3
comp=Z,9.0nm,0.8s
LSA LR LR
comp=Z,116nm,19.0s
WRAK **Wrangell Islan** 85.23 29 PFAKE 17 19 00.0 +13
WRAK LR LR
comp=Z,516nm,20.0s
MONP **Monument Peak** 85.48 55 ⇑P P 17 18 50.5 +1.1
baz=86,SNR=5.0
DAC **Darwin (Calif)** 85.68 51 PFAKE 17 19 00.0 +10
DAC LR LR
comp=Z,371nm,20.0s
PFO **Pinyon Flat Ob** 85.68 54 eP P 17 18 49.8 -0.5
comp=Z,27nm,1.4s
PFO LR LR
comp=Z,1µm,20.0s
MPMC **Manual Prospec** 85.68 52 ⇑P P 17 18 50.4 +0.1
baz=86
COLD **Coldfoot** 85.83 15 eP P 17 18 49.9 -0.2
comp=Z,22nm,1.2s
NVAR **Mina Array Bea** 85.88 49 P P 17 18 51.2 -0.1
comp=Z,5.6nm,0.8s,baz=232,slow=8.4,SNR=31
NVAR LR LR 17 49 29.8
comp=Z,746nm,18.7s,baz=26,slow=30
NVAR **Mina Array Bea** 85.88 49 P P 17 18 51.2 -0.1
GSC **Goldstone** 85.96 53 ⇑P P 17 18 52.3 +0.7
baz=86
SWSC **Sam W. Stewart** 85.99 55 ⇑P P 17 18 52.4 +0.7
baz=86
BELC **Belle Mtn. Jos** 86.17 54 ⇑P P 17 18 53.9 +1.2
baz=86,SNR=7.0
HEC **Hector,Ludlow** 86.17 53 ⇓P P 17 18 53.3 +0.7
baz=86
BC3 **Big Chuckawall** 86.49 54 ⇑P P 17 18 55.5 +1.3
baz=87,SNR=10
MOY **Mondy** 86.50 325 eP P 17 18 54.0 +0.1
MOY pmax pmax
comp=Z,34nm,2.8s
TPH **Tonopah** 86.56 50 PFAKE 17 19 10.0 +15
TPH LR LR
comp=Z,545nm,19.0s
GMRC **Granite Mounta** 86.68 53 ⇓P P 17 18 56.1 +0.9
baz=87,SNR=7.5
TUQ **Turquoise Moun** 86.68 53 ⇓P P 17 18 56.1 +0.9
baz=87,SNR=5.6
EGAK **Eagle** 86.72 19 eP P 17 18 53.7 -0.8
comp=Z,12nm,0.9s
EGAK LR LR
comp=Z,361nm,21.0s
GLA **Glamis** 86.80 55 eP P 17 18 56.9 +1.2
GLA pmax pmax
comp=Z,53nm,1.2s
GLA **Glamis** 86.80 55 eP P 17 18 56.9 +1.2
comp=Z,53nm,1.2s
GLA **Glamis** 86.80 55 ⇑P P 17 18 57.1 +1.3
baz=87,SNR=7.4
DAWY **Dawson** 86.85 21 eP P 17 18 54.5 -0.8
IRM **Iron Mountain** 86.89 54 ⇓P P 17 18 57.5 +1.4
baz=87,SNR=16
Y12C **Blythe** 87.25 55 ⇓P P 17 18 59.1 +1.3
baz=87
BMN **Battle Mountai** 87.35 48 PFAKE 17 19 10.0 +12
BMN LR LR
comp=Z,811nm,21.0s
TAPN **Taplejung** 87.42 299 eP P 17 18 59.2 0.0
comp=Z,23nm,0.9s
TAPN **Taplejung** 87.42 299 eP P 17 18 59.2 0.0
comp=Z,23nm,0.9s
ODAN **Odare** 87.56 298 eP P 17 18 59.3 -0.5
comp=Z,35nm,0.8s
ODAN **Odare** 87.56 298 eP P 17 18 59.3 -0.5
comp=Z,35nm,0.8s
113A **Mohawk Valley,** 87.56 56 ⇓P P 17 19 00.2 +0.8
baz=88,SNR=8.8
PDMCI **Parker Dam,Lak** 87.72 54 ⇓P P 17 19 01.4 +1.4
baz=88,SNR=11
R11A **Troy Canyon, C** 87.87 50 ⇑P P 17 19 01.8 +0.9
baz=88
HAWA **Hanford** 87.87 41 PFAKE 17 19 10.0 +10
HAWA LR LR
comp=Z,260nm,19.0s
214A **Organ Pipe Nat** 88.10 57 ⇑P P 17 19 03.2 +1.3
baz=88,SNR=13
W13A **Hualapai Mount** 88.16 53 ⇓P P 17 19 03.4 +1.0
baz=88,SNR=13
RAMN **Ramite** 88.26 298 eP P 17 19 02.6 -0.5
comp=Z,13nm,0.8s
RAMN **Ramite** 88.26 298 eP P 17 19 02.6 -0.5
comp=Z,13nm,0.8s
Z14A **Wintersburg** 88.40 55 ⇓P P 17 19 04.3 +1.0
baz=88,SNR=6.5
Y14A **Wickenburg** 88.52 55 ⇑P P 17 19 04.9 +1.0
baz=89,SNR=6.7
BMO **Blue Mountains** 88.79 43 PFAKE 17 19 20.0 +15
BMO LR LR
comp=Z,242nm,19.0s
JIRN **Jiri** 88.81 299 eP P 17 19 05.3 -0.5
JIRN **Jiri** 88.81 299 eP P 17 19 05.3 -0.5
GUN **Gumba** 89.14 299 eP P 17 19 07.3 -0.1
comp=Z,33nm,0.9s
GUN **Gumba** 89.14 299 eP P 17 19 07.3 -0.1
comp=Z,33nm,0.9s
MFID **Camas Ranch** 89.32 45 ⇓P P 17 19 08.2 +0.6
baz=89,SNR=5.2
PKI **Pulchoki** 89.45 298 eP P 17 19 08.4 -0.4
comp=Z,35nm,1.0s
PKI **Pulchoki** 89.45 298 eP P 17 19 08.4 -0.4
PKI pmax pmax
comp=Z,35nm,1.0s
PKI **Pulchoki** 89.45 298 eP P 17 19 08.4 -0.4
comp=Z,35nm,1.0s
KKN **Kakani** 89.62 299 eP P 17 19 09.2 -0.2
comp=Z,24nm,0.9s
KKN **Kakani** 89.62 299 eP P 17 19 09.2 -0.2
KKN pmax pmax
comp=Z,24nm,0.9s
KKN **Kakani** 89.62 299 eP P 17 19 09.2 -0.2
comp=Z,24nm,0.9s
DMN **Daman** 89.72 298 eP P 17 19 09.4 -0.6
comp=Z,60nm,1.0s
DMN **Daman** 89.72 298 eP P 17 19 09.4 -0.6
comp=Z,60nm,1.0s
U15A **North Rim** 89.79 53 ⇓P P 17 19 11.3 +1.2
baz=90,SNR=13
TUC **Tucson** 89.85 57 eP P 17 19 11.3 +1.0
TUC pmax pmax
comp=Z,49nm,1.4s
TUC MLR MLR
comp=Z,436nm,21.0s
TUC **Tucson** 89.85 57 eP P 17 19 11.3 +1.0
comp=Z,49nm,1.4s
TUC LR LR
comp=Z,436nm,21.0s
X16A **Lo Mia Camp, P** 89.90 55 ⇓P P 17 19 11.8 +1.2
baz=90
I12A **Atlanta** 89.92 45 ⇑P P 17 19 11.1 +0.7
baz=90
NEW **Newport** 90.07 40 eP P 17 19 10.3 -0.5
comp=Z,18nm,1.5s
NEW LR LR
comp=Z,313nm,21.0s
NEW **Newport** 90.07 40 ⇓P P 17 19 10.9 0.0
baz=90
G12A **Big Creek, Yel** 90.21 44 ⇓P P 17 19 12.3 +0.6
baz=90
GKN **Gorkha** 90.22 299 eP P 17 19 11.6 -0.6
comp=Z,23nm,0.9s
GKN **Gorkha** 90.22 299 eP P 17 19 11.6 -0.6
comp=Z,23nm,0.9s
WUAZ **Wupatki** 90.25 54 eP P 17 19 13.6 +1.5
comp=Z,74nm,1.4s
WUAZ LR LR
comp=Z,346nm,19.0s
WUAZ **Wupatki** 90.25 54 ⇑P P 17 19 13.5 +1.3
baz=90
HLID **Hailey** 90.34 45 eP P 17 19 12.9 +0.5
comp=Z,22nm,1.5s
HLID LR LR
comp=Z,612nm,20.0s
HLID **Hailey** 90.34 45 ⇓P P 17 19 13.0 +0.6
baz=90,SNR=9.8
H12A **Diamond D Ranc** 90.34 44 ⇑P P 17 19 12.6 +0.2
baz=90
F12A **Elk City** 90.45 43 ⇑P P 17 19 13.0 +0.2
baz=90,SNR=25
E12A **Beaver Dam Sad** 90.45 42 ⇓P P 17 19 13.0 +0.2
baz=90
J13A **Cove Ranch, Pi** 90.45 45 ⇓P P 17 19 13.6 +0.6
baz=90,SNR=11
C11A **Tepee Creek (N** 90.47 41 ⇓P P 17 19 13.4 +0.7
baz=91
DUG **Dugway** 90.48 49 eP P 17 19 13.0 -0.1
DUG pmax pmax
comp=Z,25nm,1.5s
DUG MLR MLR
comp=Z,718nm,20.0s
DUG **Dugway** 90.48 49 eP P 17 19 13.0 -0.1
comp=Z,25nm,1.5s
DUG LR LR
comp=Z,718nm,20.0s
DUG **Dugway** 90.48 49 ⇓P P 17 19 13.6 +0.5
baz=91
HVS **Khovu-Aksy** 90.48 323 ⇓eP P 17 19 12.9 +0.1
HVS pmax pmax
comp=Z,49nm,1.2s
I13A **Wildhorse Cree** 90.65 45 ⇑P P 17 19 14.4 +0.5
baz=91,SNR=13
S16A **Weppner Ranch,** 90.69 51 ⇓P P 17 19 15.1 +0.9
baz=91
O15A **The Old Anders** 90.75 49 ⇓P P 17 19 15.1 +0.7
baz=91
H13A **Challis** 90.75 44 ⇑P P 17 19 14.7 +0.5
baz=91,SNR=12
D12A **Red Ives Fores** 90.80 42 ⇓P P 17 19 14.5 +0.1
baz=91
319A **Douglas** 90.84 58 ⇑P P 17 19 16.5 +1.6
baz=91
J14A **Carey** 90.89 46 ⇑P P 17 19 15.7 +0.7
baz=91,SNR=7.9
K14A **Jones Ranch, D** 90.90 47 ⇓P P 17 19 15.8 +0.8
baz=91,SNR=8.8
R16A **Teasdale** 90.93 51 ⇓P P 17 19 16.7 +1.3
baz=91
G13A **Cobalt** 90.93 44 ⇓P P 17 19 15.6 +0.6
baz=91,SNR=14
HVU **Hansel Valley** 90.96 47 eP P 17 19 16.0 +0.7
HVU pmax pmax
comp=Z,59nm,1.6s
HVU **Hansel Valley** 90.96 47 eP P 17 19 16.0 +0.7
comp=Z,59nm,1.6s
KOLN **Koldanda** 91.05 298 eP P 17 19 15.7 -0.4
KOLN **Koldanda** 91.05 298 eP P 17 19 15.7 -0.4
DANN **Dangsing** 91.06 299 eP P 17 19 15.4 -0.8
comp=Z,19nm,1.0s
DANN **Dangsing** 91.06 299 eP P 17 19 15.4 -0.8
comp=Z,19nm,1.0s
F13A **Darby** 91.08 43 ⇑P P 17 19 16.2 +0.4
baz=91,SNR=15
M15A **Larsen Ranch,** 91.11 48 ⇑P P 17 19 16.6 +0.6
baz=91
X18A **Snowflake** 91.11 55 ⇑P P 17 19 17.7 +1.4
baz=91
I14A **Mackay** 91.11 45 ⇑P P 17 19 16.9 +0.9
baz=91
A12A **Yaak River Ran** 91.21 40 ⇑P P 17 19 17.2 +1.0
baz=91
L15A **Malad City** 91.31 47 ⇑P P 17 19 17.7 +0.8
baz=91,SNR=5.4
Q16A **Castle Valley** 91.34 50 ⇓P P 17 19 18.4 +1.2
baz=91,SNR=5.4
E13A **Victor** 91.37 43 ⇓P P 17 19 16.7 -0.3
baz=92
H14A **Leadore** 91.38 44 ⇓P P 17 19 18.0 +0.8
baz=92,SNR=9.6
D13A **Huson** 91.39 42 ⇑P P 17 19 17.3 +0.2
baz=92
K15A **Arbon** 91.40 47 ⇓P P 17 19 17.9 +0.6
baz=92
BSMT **Bassoo Peak** 91.41 41 eP P 17 19 17.2 -0.1
comp=Z,14nm,1.4s
W18A **Petrified Fore** 91.44 54 ⇑P P 17 19 19.0 +1.3
baz=92
320A **Kipp Ranch, An** 91.45 58 ⇑P P 17 19 19.5 +1.6
baz=92
G14A **Jackson** 91.50 44 ⇑P P 17 19 18.4 +0.6
baz=92,SNR=12
C13A **Hot Springs** 91.50 41 ⇑P P 17 19 17.6 +0.1
baz=92
R17A **Hanksville Air** 91.55 51 ⇓P P 17 19 19.0 +0.9
baz=92,SNR=6.5
220A **Playas Peak, P** 91.60 58 ⇑P P 17 19 19.8 +1.4
baz=92
MSO **Missoula** 91.65 42 PFAKE 17 19 30.0 +12
MSO LR LR
comp=Z,222nm,19.0s
M16A **Huntsville** 91.66 48 ⇓P P 17 19 19.2 +0.6
baz=92
PYUN **Piuthan** 91.66 298 eP P 17 19 17.7 -1.2
comp=Z,28nm,0.8s
PYUN **Piuthan** 91.66 298 eP P 17 19 17.7 -1.2
comp=Z,28nm,0.8s
J15A **Blackfoot** 91.67 46 ⇓P P 17 19 19.5 +1.0
baz=92,SNR=7.5
120A **U Bar Ranch, L** 91.67 57 ⇓P P 17 19 20.2 +1.4
baz=92
N16A **Rees Ranch, Co** 91.68 48 ⇑P P 17 19 19.8 +1.1
baz=92
JTMT **Jette** 91.71 41 eP P 17 19 18.0 -0.6
comp=Z,30nm,2.0s
B13A **Whitefish** 91.78 41 ⇓P P 17 19 19.0 +0.2
baz=92
HWUT **Hardware Ranch** 91.78 48 PFAKE 17 19 30.0 +11
HWUT LR LR
comp=Z,566nm,20.0s
MCMT **McKenzie Canyo** 91.79 44 eP P 17 19 19.5 +0.3
comp=Z,3.4nm,1.2s
E14A **Clinton** 91.82 43 ⇑P P 17 19 19.3 +0.1
baz=92,SNR=7.7
Z20A **Nine Sixteen R** 91.84 57 ⇑P P 17 19 20.8 +1.1
baz=92,SNR=6.1
T18A **Mexican Hat** 91.85 52 ⇑P P 17 19 20.6 +1.1
baz=92
H15A **Lima** 91.87 45 ⇑P P 17 19 20.4 +0.9
baz=92,SNR=9.6
SRU **San Rafael** 91.87 50 ⇓P P 17 19 20.0 +0.4
baz=92
S18A **Hurst Farm, Bl** 91.90 52 ⇓P P 17 19 20.6 +0.7
baz=92
A13A **Flathead Natio** 91.98 40 ⇑P P 17 19 20.4 +0.6
baz=92
O17A **Robinson Place** 92.00 49 ⇑P P 17 19 21.1 +0.9
baz=92,SNR=7.6
D14A **Greenough** 92.01 42 ⇑P P 17 19 20.2 +0.2
baz=92
WMQ **Urumqi** 92.05 314 P P 17 19 20.0 -0.2
WMQ pmax pmax
comp=Z,17nm,1.3s
C14A **Swan Lake** 92.06 41 ⇑P P 17 19 20.4 +0.2
baz=92
K16A **Soda Springs** 92.10 47 ⇓P P 17 19 20.9 +0.3
baz=92
DLMT **Dillon** 92.11 44 eP P 17 19 20.9 +0.3
comp=Z,9.2nm,0.9s
CHMT **Chamberlain Mo** 92.13 42 eP P 17 19 20.2 -0.5
comp=Z,5.1nm,1.2s
G15A **Dillon** 92.13 44 ⇑P P 17 19 21.4 +0.7
baz=92,SNR=6.6
U19A **Dine' College,** 92.15 53 ⇓P P 17 19 21.4 +0.3
baz=92
R18A **Canyonlands Na** 92.16 51 ⇑P P 17 19 22.0 +1.0
baz=92
J16A **Bone** 92.21 46 ⇓P P 17 19 22.1 +1.0
baz=92,SNR=8.8
Y20A **Horse Springs,** 92.22 56 ⇓P P 17 19 22.8 +1.4
baz=92,SNR=9.4
221A **Mesquite Ranch** 92.24 58 ⇓P P 17 19 22.8 +1.3
baz=92
X20A **Quenado** 92.28 55 ⇑P P 17 19 22.4 +0.7
baz=92
F15A **Butte** 92.32 43 ⇑P P 17 19 21.7 +0.2
baz=92,SNR=6.4
WALA **Waterton Lakes** 92.34 40 eP P 17 19 21.0 -0.5
comp=Z,0.1nm,0.9s
LRM **Limekiln Ridge** 92.34 44 eP P 17 19 21.4 -0.3
comp=Z,114nm,1.5s
121A **Cookes Peak, D** 92.36 57 ⇑P P 17 19 23.3 +1.2
baz=92
E15A **Deer Lodge** 92.39 43 ⇓P P 17 19 22.0 +0.2
baz=92
W20A **Ramah** 92.42 55 ⇓P P 17 19 23.5 +1.2
baz=92
AHID **Auburn Hatcher** 92.43 47 PFAKE 17 19 30.0 +7.8
AHID LR LR
comp=Z,589nm,21.0s
I16A **Newdale** 92.46 46 ⇓P P 17 19 23.0 +0.8
baz=92
B14A **Marquette Ranc** 92.53 41 ⇑P P 17 19 22.7 +0.3
baz=93,SNR=9.5
G16A **Moss Hill, Enn** 92.61 44 ⇑P P 17 19 23.6 +0.7
baz=93,SNR=6.2
R19A **Curley Farm, L** 92.62 51 ⇓P P 17 19 24.1 +0.9
baz=93
Z21A **St. Cloud Mine** 92.64 57 ⇑P P 17 19 24.4 +1.0
baz=93
D15A **Lincoln** 92.64 42 ⇓P P 17 19 23.4 +0.4
baz=93
Q19A **Hogan Spring (** 92.78 51 ⇑P P 17 19 24.2 +0.4
baz=93
C15A **Salmond Ranch,** 92.79 42 ⇓P P 17 19 24.2 +0.5
baz=93,SNR=9.2
Y21A **Point of Rocks** 92.81 56 ⇑P P 17 19 25.2 +1.1
baz=93,SNR=11
222A **Williams Famil** 92.82 58 ⇓P P 17 19 25.4 +1.3
baz=93
X21A **Alamocita Cree** 92.82 55 ⇑P P 17 19 25.1 +0.9
baz=93
BOZ **Bozeman (W)** 92.85 44 PFAKE 17 19 40.0 +16
BOZ LR LR
comp=Z,309nm,20.0s
BOZ **Bozeman (W)** 92.85 44 ⇑P P 17 19 24.4 +0.5
baz=93,SNR=8.1
H16A **Russell Place,** 92.85 45 ⇓P P 17 19 24.7 +0.7
baz=93,SNR=7.7
F16A **Kennard Place,** 92.89 44 ⇑P P 17 19 24.7 +0.6
baz=93,SNR=7.1
MVCO **Mesa Verde** 92.93 53 PFAKE 17 19 40.0 +15
MVCO LR LR
comp=Z,611nm,21.0s
MVCO **Mesa Verde** 92.93 53 ⇑P P 17 19 25.5 +0.8
baz=93
B15A **Bradely Ranch,** 92.98 41 ⇓P P 17 19 24.4 -0.1
baz=93
HRY **Holter Researc** 93.00 43 eP P 17 19 24.9 +0.3
comp=Z,8.0nm,1.0s
122A **Conniff Cattle** 93.04 57 ⇓P P 17 19 26.4 +1.3
baz=93
A15A **Johnson Ranch,** 93.06 40 ⇓P P 17 19 24.8 +0.1
baz=93
E16A **East Helena** 93.06 43 ⇑P P 17 19 25.3 +0.5
baz=93,SNR=9.3
W21A **San Fidel** 93.09 55 ⇓P P 17 19 26.6 +1.2
baz=93
I17A **Pilgrim Ck.** 93.11 46 ⇑P P 17 19 26.2 +0.9
baz=93
P19A **Cripple Cowboy** 93.16 50 ⇑P P 17 19 26.4 +0.7
baz=93
S20A **Disappointment** 93.19 52 ⇓P P 17 19 26.5 +0.6
baz=93
Z22A **Elephant Butte** 93.20 57 ⇓P P 17 19 26.7 +0.8
baz=93,SNR=11
O19A **Miners Draw (B** 93.22 50 ⇓P P 17 19 26.6 +0.7
baz=93
H17A **Grant Village** 93.23 45 ⇓P P 17 19 26.9 +1.0
baz=93
R20A **Redvale** 93.26 52 ⇑P P 17 19 26.5 +0.4
baz=93
D16A **Dana Ranch, Ca** 93.28 43 ⇑P P 17 19 26.4 +0.6
baz=93
J18A **Kendall Valley** 93.31 47 ⇓P P 17 19 26.8 +0.5
baz=93
C16A **Fuhringer Ranc** 93.36 42 ⇓P P 17 19 26.5 +0.3
baz=93
Y22A **Socorro** 93.36 56 ⇓P P 17 19 27.5 +0.9

baz=93,SNR=5.8
LKWY Lake 93.40 45 PFAKE 17 19 40.0 +13
LKWY LR LR
comp=Z,825nm,21.0s
Q20A Ridgley Place, 93.51 51 ⇑P **P 17 19 27.9 +0.7**
baz=94
BW06 Boulder Array 93.53 47 ⇓P **P 17 19 27.8 +0.5**
baz=94
PDAR Pinedale Array 93.53 47 P **P 17 19 27.9 +0.7**
comp=Z,1.3nm,0.8s,baz=237,slow=3.2,SNR=7.1
PDAR LR LR 17 53 08.1
comp=Z,261nm,20.5s,baz=252,slow=30
PDAR Pinedale Array 93.53 47 P **P 17 19 27.9 +0.7**
B16A M & M Farms, S 93.55 41 ⇓P **P 17 19 27.2 +0.2**
baz=94
F17A Fitzpatrick Pl 93.57 44 ⇑P **P 17 19 27.7 +0.4**
baz=94,SNR=6.2
P20A De Beque 93.57 50 ⇑P **P 17 19 28.1 +0.6**
baz=94
I18A Diamond G Ranc 93.58 46 ⇓P **P 17 19 27.9 +0.4**
baz=94
S21A Coal Bank Pass 93.59 52 ⇓P **P 17 19 28.3 +0.5**
baz=94
T21A Navajo Lake 93.63 53 ⇓P **P 17 19 28.4 +0.6**
baz=94
BNM Barren Site 93.68 56 *e*P **P 17 19 28.6 +0.4**
comp=Z,15nm,1.2s
LPM Los Pinos Moun 93.72 56 *e*P **P 17 19 28.9 +0.6**
comp=Z,22nm,1.7s
A16A West Butte Ran 93.77 41 ⇑P **P 17 19 28.2 +0.1**
baz=94
D17A Six Diamond Ra 93.88 43 ⇓P **P 17 19 29.3 +0.6**
baz=94
R21A Cimarron 93.94 52 ⇓P **P 17 19 30.3 +1.1**
baz=94
C17A Wharram Farm, 93.95 42 ⇑P **P 17 19 29.1 +0.2**
baz=94
ANMO Albuquerque 94.00 55 LR LR 17 54 10.0
comp=Z,336nm,18.8s,baz=79,slow=31
324A Moseley Ranch, 94.01 59 ⇓P **P 17 19 30.3 +0.7**
baz=94
J19A Crowheart 94.01 47 ⇑P **P 17 19 30.0 +0.6**
baz=94
Q21A Lamborn Mesa, 94.03 51 ⇑P **P 17 19 30.4 +0.7**
baz=94
Y23A Lovelace Mesa, 94.10 56 ⇑P **P 17 19 30.7 +0.7**
baz=94,SNR=5.7
B17A L&G Farms, Che 94.10 41 ⇓P **P 17 19 30.0 +0.4**
baz=94,SNR=6.4
X23A Hourglass Bar 94.14 56 ⇑P **P 17 19 30.9 +0.6**
baz=94
MNTX Cornudas Mount 94.15 59 PFAKE 17 19 40.0 +10
MNTX LR LR
comp=Z,85nm,21.0s
MNTX Cornudas Mount 94.15 59 ⇑P **P 17 19 30.5 +0.4**
baz=94
G18A Lazy EL Ranch, 94.16 45 ⇑P **P 17 19 30.5 +0.5**
baz=94
F18A Big Timber 94.21 44 ⇑P **P 17 19 31.0 +0.8**
baz=94
L20A Wamsutter 94.22 48 ⇑P **P 17 19 30.8 +0.4**
baz=94
E18A Harlowton 94.24 43 ⇑P **P 17 19 31.1 +0.8**
baz=94
I19A Meeteetse 94.24 46 ⇑P **P 17 19 30.9 +0.5**
baz=94
425A Indio Mountain 94.28 60 ⇓P **P 17 19 31.8 +0.9**
baz=94
124A Stringfield Ra 94.31 58 ⇓P **P 17 19 31.5 +0.4**
baz=94
RLMT Red Lodge 94.32 45 *e*P **P 17 19 31.2 +0.4**
comp=Z,10nm,1.5s
RLMT LR LR
comp=Z,465nm,19.0s
RLMT Red Lodge 94.32 45 ⇓P **P 17 19 31.3 +0.4**
baz=94
A17A Triple J Farms 94.34 41 ⇓P **P 17 19 30.9 +0.3**
baz=94
S22A 4UR Ranch, Cre 94.35 52 ⇓P **P 17 19 31.7 +0.5**
baz=94
325A Bean Ranch, Si 94.42 59 ⇑P **P 17 19 32.0 +0.4**
baz=94
D18A Linhart Farms, 94.47 43 ⇑P **P 17 19 31.7 +0.4**
baz=94
R22A Saguache, Gunn 94.52 52 ⇑P **P 17 19 32.6 +0.6**
baz=95
Q22A Crested Butte, 94.54 51 ⇑P **P 17 19 32.5 +0.4**
baz=95
Y24A Capitan 94.60 56 ⇑P **P 17 19 32.9 +0.5**
baz=95,SNR=6.0
EGMT Eagleton 94.71 42 ⇑P **P 17 19 32.9 +0.5**
baz=95
F19A Roth Farm, Mol 94.72 44 ⇑P **P 17 19 33.0 +0.5**
baz=95
J20A Shoshoni 94.72 47 ⇓P **P 17 19 33.0 +0.4**
baz=95
626A Big Bend Ranch 94.73 61 ⇑P **P 17 19 33.8 +0.9**
baz=95
B18A Beardsley Farm 94.79 42 ⇓P **P 17 19 33.1 +0.4**
baz=95
P22A Eagle 94.82 51 ⇑P **P 17 19 34.2 +1.0**
baz=95
M21A Separation Pea 94.83 49 ⇓P **P 17 19 33.7 +0.4**
baz=95
526A Mary Lane Ranc 94.88 60 ⇓P **P 17 19 34.5 +0.9**
baz=95
W24A Lazy 6 Ranch, 94.90 55 ⇑P **P 17 19 34.3 +0.6**
baz=95
E19A Rath Farm, Rou 94.97 44 ⇓P **P 17 19 34.0 +0.4**
baz=95
Z25A Roswell 95.04 57 ⇓P **P 17 19 35.2 +0.9**
baz=95
426A McDonald Obser 95.06 60 ⇑P **P 17 19 35.2 +0.6**
baz=95
D19A Cripps Ranch, 95.08 43 ⇓P **P 17 19 34.7 +0.6**
baz=95
TXAR Lajitas Array 95.08 61 P **P 17 19 35.4 +0.9**
comp=Z,1.7nm,0.8s,baz=224,slow=5.2,SNR=9.6
TXAR LR LR 17 53 53.4
comp=Z,280nm,20.2s,baz=185,slow=30
TXAR Lajitas Array 95.08 61 P **P 17 19 35.4 +0.9**
O22A Kremmling 95.11 50 ⇓P **P 17 19 35.4 +0.7**
baz=95
J21A Lysite 95.17 47 ⇓P **P 17 19 35.2 +0.5**
baz=95
Y25A Mesa, Roswell 95.20 57 ⇑P **P 17 19 35.6 +0.6**
baz=95,SNR=5.7
R23A Moffat 95.22 52 ⇓P **P 17 19 35.8 +0.6**
baz=95
527A Woodward Ranch 95.30 60 ⇑P **P 17 19 35.6 0.0**
baz=95
N22A Wattenberg Ran 95.32 49 ⇑P **P 17 19 36.3 +0.7**
baz=95
627A Terlingua Ranc 95.34 61 ⇓P **P 17 19 36.4 +0.7**
baz=95
I21A Big Trails, Te 95.38 46 ⇓P **P 17 19 36.1 +0.5**
baz=96
P23A Jefferson 95.47 51 ⇓P **P 17 19 36.6 +0.2**
baz=96
D20A Manuel Ranch, 95.55 43 ⇓P **P 17 19 36.9 +0.7**
baz=96
S24A Houchin Ranch, 95.58 53 ⇑P **P 17 19 36.9 +0.1**
baz=96
A19A Klindworth Far 95.58 41 ⇑P **P 17 19 37.2 +0.9**
baz=96
O23A Lake Granby, G 95.59 50 ⇓P **P 17 19 37.3 +0.5**
baz=96
Z26A Caprock 95.64 57 ⇓P **P 17 19 37.5 +0.5**
baz=96
W25A X Bar L Ranch, 95.66 55 ⇑P **P 17 19 37.9 +0.8**
baz=96
V25A Rancho No Teng 95.67 55 ⇑P **P 17 19 37.7 +0.5**
baz=96
ISCO Idaho Springs 95.73 51 PFAKE 17 19 50.0 +12
ISCO LR LR
comp=Z,485nm,19.0s
ISCO Idaho Springs 95.73 51 ⇑P **P 17 19 38.1 +0.5**
baz=96
628A Black Gap, Mar 95.78 61 ⇓P **P 17 19 38.1 +0.5**
baz=96
J22A Midwest 95.87 47 ⇓P **P 17 19 38.0 +0.1**
baz=96
Y26A Elida 95.91 57 ⇑P **P 17 19 38.4 +0.2**
baz=96
YKA Yellowknife Ar 95.96 27 P **P 17 19 36.5 -1.1**
comp=Z,3.2nm,0.7s,baz=254,slow=4.7,SNR=71
YKA Yellowknife Ar 95.96 27 P **P 17 19 36.5 -1.1**
528A Cox Ranch, San 96.00 61 ⇑P **P 17 19 39.5 +0.7**
baz=96
VNA2 Neumayer--Watz 96.00 182 *e*P **P 17 19 36.4 -1.4**
VNA2 Neumayer--Watz 96.00 182 *e*WP 17 19 53.2
127A Arkansas Junct 96.03 58 ⇑P **P 17 19 39.3 +0.5**
baz=96
W26A Owens Ranch, T 96.19 56 ⇑P **P 17 19 39.9 +0.4**
baz=96
Y27A Causey 96.44 57 ⇓P **P 17 19 41.0 +0.4**
baz=96,SNR=6.5
529A Stev Forest Ra 96.48 61 ⇑P **P 17 19 40.8 0.0**
baz=96
MKAR Makanchi Array 96.48 316 P **P 17 19 39.9 -0.5**
comp=Z,9.6nm,0.8s,baz=102,slow=6.2,SNR=82
MKAR Makanchi Array 96.48 316 P **P 17 19 39.9 -0.5**
MKAR Makanchi Array 96.48 316 P **P 17 19 39.9 -0.5**
ZALV Zalesovo Beam 96.49 324 P **P 17 19 39.4 -0.8**
comp=Z,2.7nm,0.9s,baz=104,slow=4.7,SNR=14
ZALV LR LR 18 03 25.3
comp=Z,63nm,19.1s,baz=73,slow=96
ZALV Zalesovo Beam 96.49 324 P **P 17 19 39.4 -0.8**
ZALV Zalesovo Beam 96.49 324 P **P 17 19 39.4 -0.8**
MSTX Muleshoe 96.77 57 ⇑P **P 17 19 42.5 +0.3**
baz=97,SNR=5.6
429A Davenport Ranc 96.85 60 ⇑P **P 17 19 42.3 -0.2**
baz=97
R26A Arlington 97.08 52 ⇑P Pdif 17 19 43.7 +0.1
baz=97
631A Perdido Creek 97.74 62 ⇓P **P 17 19 46.4 -0.1**
baz=98
AMTX Amarillo 97.83 56 PFAKE 17 20 00.0 +13
AMTX LR LR
comp=Z,392nm,22.0s
AMTX Amarillo 97.83 56 ⇓P **P 17 19 46.8 -0.1**
baz=98
531A Rocksprings 97.91 61 ⇑P Pdif 17 19 47.7 +0.4
baz=98
431A Sonora 97.95 60 ⇓P Pdif 17 19 48.0 +0.5
baz=98
632A Uvalde 98.44 62 ⇓P Pdif 17 19 50.0 +0.4
baz=98
532A Rocksprings 98.45 61 ⇑P Pdif 17 19 50.1 +0.4
baz=98
JCT Junction City 98.60 61 PFAKE 17 20 00.0 +10
JCT LR LR
comp=Z,394nm,19.0s
JCT Junction City 98.60 61 ⇓P Pdif 17 19 51.0 +0.6
baz=99
OGNE Ogallala 98.63 50 PFAKE 17 20 00.0 +10
OGNE LR LR
comp=Z,675nm,21.0s
432A Menard 98.67 60 ⇑P Pdif 17 19 51.0 +0.3
baz=99
KURK Kurchatov 99.59 320 *i* P **Pdif 17 19 53.5 -0.7**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KSH Kashi 99.69 308 *e*P **Pdif 17 19 58.8 +3.7**
KSH sP **sP 17 20 16.1 +2.0**
KSH *e*PP **PP 17 24 03.9 +4.0**
KSH SKS **SKSac 17 30 31.0 +0.8**
KSH S **ScS 17 31 25.1 -0.2**
KSH sS **sS 17 31 47.7 -1.0**
KSH SS **SS 17 38 23.7 +6.0**
KSH pmax pmax
comp=Z,190nm,6.8s
KSH LR LR
comp=N,210nm,5.8s
KSH LR LR
comp=E,160nm,5.9s
KSH LR LR
comp=Z,220nm,8.1s
KVTX Kingsville 99.73 64 PFAKE 17 20 10.0 +15
KVTX LR LR
comp=Z,471nm,19.0s
WMOK Wichita Mounta 100.16 57 PFAKE 17 20 10.0 +13
WMOK LR LR
comp=Z,324nm,20.0s
FFC Flin Flon 100.78 36 PFAKE 17 20 10.0 +11
FFC LR LR
comp=Z,670nm,22.0s
NIL Nilore 100.95 302 PFAKE 17 20 10.0 +9.2
NIL LR LR
comp=Z,45nm,21.0s
KSU1 Kansas State U 102.48 52 PFAKE 17 20 20.0 +13
KSU1 LR LR
comp=Z,374nm,20.0s
NATX Nacogdoches 103.15 60 PFAKE 17 20 20.0 +9.5
NATX LR LR
comp=Z,458nm,20.0s
MIAR Mount Ida 104.39 57 PFAKE 17 20 30.0 +14
MIAR LR LR
comp=Z,293nm,20.0s
RES Resolute Bay 104.58 16 *e*Pdif **Pdif 17 20 14.7 -1.2**
SCIA State Center 105.33 50 PFAKE 17 24 50.0
SCIA LR LR
comp=Z,875nm,20.0s
VBMS Vicksburg 106.70 60 PFAKE 17 24 50.0
VBMS LR LR
comp=Z,212nm,19.0s
EYMN Ely 106.83 44 PFAKE 17 24 50.0
EYMN LR LR
comp=Z,341nm,19.0s
TEIG Tepich 107.32 73 PFAKE 17 24 50.0
TEIG LR LR
comp=Z,251nm,22.0s
TGUH Tegucigalpa,Un 107.33 79 PFAKE 17 24 50.0
TGUH LR LR
comp=Z,286nm,21.0s
OXF Oxford 107.81 58 PFAKE 17 24 50.0
OXF LR LR
comp=Z,313nm,20.0s
HDIL Hopedale 108.21 51 PFAKE 17 24 50.0
HDIL LR LR
comp=Z,568nm,19.0s
COWI Conover 108.42 46 PFAKE 17 24 50.0
COWI LR LR
comp=Z,351nm,22.0s
JTS JuntasAbangare 108.91 84 PFAKE 17 24 50.0
JTS LR LR
comp=Z,178nm,19.0s
PLAL Pickwick Lake 108.93 57 PFAKE 17 24 50.0
PLAL LR LR
comp=Z,309nm,22.0s
LRAL Lakeview Retre 109.72 59 PFAKE 17 24 50.0
LRAL LR LR
comp=Z,231nm,19.0s
GLMI Grayling 111.63 47 PFAKE 17 25 00.0
GLMI LR LR
comp=Z,301nm,19.0s
AAM Ann Arbor 112.44 50 PFAKE 17 25 00.0
AAM LR LR
comp=Z,515nm,21.0s
GOGA Godfrey 112.69 59 PFAKE 17 25 00.0
GOGA LR LR
comp=Z,328nm,21.0s
ACSO Alum Creek Sta 113.03 52 PFAKE 17 25 00.0
ACSO LR LR
comp=Z,481nm,20.0s
ABPO Ambohimpanom 113.29 242 PFAKE 17 25 00.0
ABPO LR LR
comp=Z,493nm,20.0s
BLA Blacksburg 115.15 55 PFAKE 17 25 00.0 +7.5
BLA LR LR
comp=Z,478nm,21.0s
ERPA Erie 115.17 50 PFAKE 17 25 00.0 +7.6
ERPA LR LR
comp=Z,572nm,20.0s
CNNC Cliffs of the 117.28 57 PFAKE 17 25 10.0 +13
CNNC LR LR
comp=Z,369nm,20.0s
CBN Corbin 117.50 54 PFAKE 17 25 10.0 +13
CBN LR LR
comp=Z,398nm,20.0s
BINY Binghamton 118.12 49 PFAKE 17 25 10.0 +12
BINY LR LR
comp=Z,683nm,22.0s
LBNH Lisbon 120.70 46 PFAKE 17 25 10.0 +7.0
LBNH LR LR
comp=Z,350nm,19.0s
ZEI Tsey 123.63 313 *i* PKIKP **PKPdf 17 25 08.5 -0.4**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 124.10 314 PKP **PKPdf 17 25 10.8 +1.4**
comp=Z,1.8nm,1.0s,baz=54,slow=8.7,SNR=3.0
KBZ Khabaz 124.10 314 PKIKP **PKPdf 17 25 10.8 +1.4**
KBZ Khabaz 124.10 314 PKP **PKPdf 17 25 10.8 +1.4**
KMBO Kilima Mbogo 128.96 258 PFAKE 17 25 30.0 +10
KMBO LR LR
comp=Z,249nm,19.0s
AKASG Malin Array Be 129.78 327 PKP **PKPdf 17 25 18.8 -1.3**
comp=Z,0.2nm,0.3s,baz=70,slow=1.1,SNR=4.7
AKASG Malin Array Be 129.78 327 PKIKP **PKPdf 17 25 18.8 -1.3**
AKASG Malin Array Be 129.78 327 PKP **PKPdf 17 25 18.8 -1.3**
LSZ Lusaka 131.05 236 PFAKE 17 25 40.0 +16
LSZ LR LR
comp=Z,374nm,19.0s
BRTR Keskin Array B 131.91 312 PKP **PKPdf 17 25 24.5 -0.2**
comp=Z,0.8nm,0.9s,baz=90,slow=2.5,SNR=5.0
BRTR Keskin Array B 131.91 312 PKP **PKPdf 17 25 24.5 -0.2**
BURAR Bucovina Array 133.69 325 ⇑*i*P **PKPdf 17 25 29.1 +1.4**
PLOR Plostina 133.84 323 ⇓*i*P PKPdf 17 25 34.2 +6.2
BDFB Brasilia 134.41 128 PKP **PKPdf 17 25 28.9 -1.1**
comp=Z,2.7nm,0.7s,baz=84,slow=16,SNR=3.3
BDFB Brasilia 134.41 128 PKP **PKPdf 17 25 28.9 -1.1**
KOLS Kolonicke sedl 134.45 328 *e*PKIKP **PKPdf 17 25 31.3 +2.3**
KOLS Kolonicke sedl 134.45 328 *e*PKP **PKPdf 17 25 31.3 +2.3**
MLR Muntele Rosu 134.45 323 ⇓*i*P PKPdf 17 25 35.4 +6.1
TRPA Tarpa 134.82 327 ⇓*i*P PKPdf 17 25 35.8 +6.1
CRVS Cervenica-Dubn 134.88 329 *e*PKIKP **PKPdf 17 25 34.0 +4.2**
CRVS Cervenica-Dubn 134.88 329 *e*PKP **PKPdf 17 25 34.0 +4.2**
DRGR 135.55 326 ⇓*i*P **PKPdf 17 25 31.3 +0.1**
TSUM Tsumeb 136.44 223 PFAKE 17 25 50.0 +16
TSUM LR LR
comp=Z,281nm,20.0s
VYHS Vyhne 136.45 330 *e*PKIKP **PKPdf 17 25 37.5 +4.7**
VYHS Vyhne 136.45 330 *e*PKP **PKPdf 17 25 37.5 +4.7**
BRG Berggiesshubel 136.86 336 *e*P PKPdf 17 25 38.7 +5.3
comp=Z,19nm,1.6s
BRG Berggiesshubel 136.86 336 *e*PKIKP PKPdf 17 25 38.7 +5.3
BRG pmax pmax
comp=Z,19nm,1.6s
GERES GERESS Array B 138.53 334 PKP **PKPdf 17 25 36.6 -0.1**
comp=Z,0.8nm,0.8s,baz=96,slow=2.7,SNR=7.7
GERES GERESS Array B 138.53 334 PKP **PKPdf 17 25 36.6 -0.1**
FETA Feichten 141.20 335 ⇑*i*PKPdf **PKPdf 17 25 41.7 -0.1**
comp=Z,9.3nm,1.1s
BNI Bardonecchia 144.44 337 *e*PKIKP PKPbc 17 25 46.3 +0.3
BNI Bardonecchia 144.44 337 *e*PKPdf PKPbc 17 25 46.3 +0.3
KEST Kesra 150.36 323 PKPbc **PKPbc 17 26 02.2 -0.6**
comp=Z,6.6nm,0.9s,baz=219,slow=3.1,SNR=7.4
KEST Kesra 150.36 323 PKPbc **PKPbc 17 26 02.2 -0.6**
ESDC Sonseca Array 152.66 346 PKPab **PKPab 17 26 19.3 +0.8**
comp=Z,3.1nm,0.8s,baz=19,slow=3.5,SNR=6.2
ESDC Sonseca Array 152.66 346 PKPab **PKPab 17 26 19.3 +0.8**
TORD Torodi Ar. Bea 166.49 271 PKP **PKPdf 17 26 16.7 -0.5**
comp=Z,3.3nm,1.1s,baz=16,slow=1.4,SNR=11
TORD PKPab **PKPab 17 27 19.7 +0.4**
comp=Z,0.9nm,0.7s,baz=87,slow=3.9,SNR=3.8
TORD Torodi Ar. Bea 166.49 271 PKP **PKPdf 17 26 16.7 -0.5**
TORD PKPab **PKPab 17 27 19.7 +0.4**
DBIC Dimbokro 170.29 229 PKP **PKPdf 17 26 19.4 -0.4**
comp=Z,1.5nm,0.8s,baz=207,slow=4.5,SNR=3.2
DBIC Dimbokro 170.29 229 PKP **PKPdf 17 26 19.4 -0.4**

PRE ***04*** *17:08:23.1±2.2,21°.11S×33°.43E,h10km,ML3.2*
BUL ***04*** *17:08:29.0±0.3,19°.54S×33°.21E,h15km,MD3.9*
ISC 04 17:08:25.1±2.0,**21°.13S**±0°.07×**33°.2E**±0°.1,**h10**km,**n12,**
σ2s 01/18,Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.20**	**247**	*e*P		Pn	17 09 19.0	+3.4
MSNA				*e*S		**Sn**	**17 09 58.0**	**+4.1**
MSNA				AML		AML	17 10 17.6	
baz=83,slow=22								
BLWY	**Bulawayo**	**4.42**	**282**	*i* P		**Pn**	**17 09 33.3**	**+0.9**
BLWY				*i*			17 09 34.2	
BLWY				*i* S		**Sn**	**17 10 20.9**	**-3.2**
CNG	**Changalane**	**5.22**	**190**	*e*P		**Pn**	**17 09 44.0**	**+0.7**
CNG				*e*S		**Sn**	**17 10 41.9**	**-1.7**
SLR	**Silverton**	**6.44**	**224**	*e*P		**Pn**	**17 10 01.1**	**+0.8**
SLR				*e*S		**Sn**	**17 11 15.3**	**+1.4**
SLR				AML		AML	17 11 54.0	
comp=Z,22nm,0.5s								
ERPM	**east rand prop**	**6.90**	**220**	*e*P		**Pn**	**17 10 06.8**	**+0.3**
ERPM				*e*S		**Sn**	**17 11 24.2**	**-1.1**
ERPM				AML		AML	17 12 09.5	
comp=Z,13nm,0.5s								
KSR	**Koster**	**7.46**	**230**	*e*S		**Sn**	**17 11 38.4**	**-0.7**
KSR				AML		AML	17 12 26.8	
comp=Z,14nm,0.4s								
LSZ	**Lusaka**	**7.53**	**320**	*e*P		**Pn**	**17 10 17.8**	**+2.7**
LSZ				*e*S		**Sn**	**17 11 38.4**	**-2.3**
PRYS	**Parys**	**7.87**	**222**	*e*S		**Sn**	**17 11 46.2**	**-2.8**
PRYS				AML		AML	17 12 44.0	
comp=Z,11nm,0.6s								
LBTB	**Lobatse**	**8.01**	**240**	*e*P		**Pn**	**17 10 20.6**	**-1.1**
LBTB				*e*S		**Sn**	**17 11 51.1**	**-1.2**
LBTB				AML		AML	17 12 36.1	
comp=Z,12nm,0.6s								
SWZ	**Schweizer**	**9.38**	**229**	*e*P		**Pn**	**17 10 41.2**	**+0.7**
SWZ				*e*S		Sn	17 12 22.6	-3.7
SWZ				AML		AML	17 13 35.3	
comp=Z,8.7nm,0.6s								
BOSA	**Boshof**	**10.37**	**223**	*e*P		**Pn**	**17 10 53.2**	**-0.9**
BOSA				*e*S		Sn	17 12 46.2	-4.3
BOSA				AML		AML	17 14 06.2	
comp=Z,6.1nm,0.6s								
TSUM	**Tsumeb**	**14.80**	**275**	*e*P		**Pn**	**17 11 55.2**	**+0.5**

ISK ***04*** *17:10:04.7,37°.07N×29°.32E,h8km,MD2.7*
ISCJB ***04*** *17:10:05.4±0.5,37°.05N±0°.03×29°.32E±0°.03,h3km±6km,*
Error ellipse: s-maj=4.8km s-min=4.4km az=135.3
DDA ***04*** *17:10:05.4,37°.05N×29°.30E,h7km,MD2.8*
CSEM ***04*** *17:10:05.3±0.1,37°.06N×29°.35E,h8km,MD2.8,Error*
ellipse: s-maj=3.6km s-min=3.3km az=33.0
ISC 04 17:10:05.8±1.0,**37.06N**±0°.02×**29°.32E**±0°.02,**h10**km±8km,
n37,σ0s 99/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.26**	**47**	*i* P		**Pg**	**17 10 11.1**	**0.0**
GOLH				*i* S		**Sg**	**17 10 15.7**	**+1.1**
GOLH	**Golhisar**	**0.26**	**47**	*i* P		**Pg**	**17 10 11.1**	**0.0**
GOLH				*i* S		**Sg**	**17 10 15.7**	**+1.1**
FETY	**Fethiye**	**0.47**	**204**	*e*PG		**Pg**	**17 10 14.5**	**-0.3**
FETY				*e*SG		**Sb**	**17 10 21.4**	**-1.7**
FETY	**Fethiye**	**0.47**	**204**	*e*Pg		**Pg**	**17 10 14.5**	**-0.3**
FETY				*e*Sg		**Sb**	**17 10 21.4**	**-1.7**
ELL	**Elmali**	**0.56**	**123**	*e*PG		**Pg**	**17 10 16.0**	**-0.7**
ELL				*e*SG		**Sb**	**17 10 25.0**	**-1.0**
ELL	**Elmali**	**0.56**	**123**	*e*Pg		**Pg**	**17 10 16.0**	**-0.7**
ELL				*e*Sg		**Sb**	**17 10 25.0**	**-1.0**
TURN	**Turunc**	**0.61**	**252**	*i* P		**Pn**	**17 10 22.5**	**+2.0**
TURN				*i* S		**Sn**	**17 10 33.8**	**+3.5**
DNZL	**Cakiroluk**	**0.67**	**341**	*i* P		**Pg**	**17 10 17.7**	**-1.0**
DNZL				*i* S		**Sb**	**17 10 28.5**	**-0.5**
DNZL	**Cakiroluk**	**0.67**	**341**	*i* P		**Pg**	**17 10 17.7**	**-1.0**
DNZL				*i* S		**Sb**	**17 10 28.5**	**-0.5**
DENT	**Denizli**	**0.73**	**342**	*e*PG		**Pg**	**17 10 18.6**	**-1.3**
DENT	**Denizli**	**0.73**	**342**	*e*Pg		**Pg**	**17 10 18.6**	**-1.3**
KORT	**Korkueli**	**0.82**	**94**	*i* P		**Pg**	**17 10 21.4**	**-0.2**
KORT				*i* S		**Sb**	**17 10 34.6**	**+1.1**
KORT	**Korkueli**	**0.82**	**94**	*i* P		**Pg**	**17 10 21.4**	**-0.2**
YER	**Yerkesik**	**0.83**	**275**	*e*PG		**Pg**	**17 10 21.1**	**-0.7**
YER	**Yerkesik**	**0.83**	**275**	*e*Pg		**Pg**	**17 10 21.2**	**-0.7**
AKAS	**Kas**	**0.86**	**165**	*i* P		**Pg**	**17 10 21.5**	**-0.7**
AKAS				*i* S		**Sn**	**17 10 37.3**	**+0.6**
AKAS	**Kas**	**0.86**	**165**	*i* P		**Pg**	**17 10 21.5**	**-0.7**
BCK	**Bucak**	**1.09**	**68**	*e*PN		**Pg**	**17 10 25.5**	**-1.1**
BCK	**Bucak**	**1.09**	**68**	*e*Pn		**Pg**	**17 10 25.5**	**-1.1**
ISP	**Isparta**	**1.22**	**51**	*e*PN		**Pb**	**17 10 28.5**	**-0.5**
ISP	**Isparta**	**1.22**	**51**	*e*Pn		**Pb**	**17 10 28.5**	**-0.5**
MLSB	**Milas**	**1.26**	**281**	*e*PN		**Pg**	**17 10 29.5**	**-0.4**
MLSB	**Milas**	**1.26**	**281**	*e*Pn		**Pg**	**17 10 29.5**	**-0.4**
KHL	**Karahalli**	**1.27**	**7**	*e*PN		**Pn**	**17 10 29.5**	**-0.2**
KHL	**Karahalli**	**1.27**	**7**	*e*Pn		**Pn**	**17 10 29.5**	**-0.2**
AYDN	**Tasoluk**	**1.30**	**298**	*i* P		**Pg**	**17 10 30.5**	**-0.2**
AYDN				*i* S		**Sn**	**17 10 48.4**	**+0.9**
AYDN	**Tasoluk**	**1.30**	**298**	*i* P		**Pg**	**17 10 30.5**	**-0.2**
AYDN				*i* S		**Sn**	**17 10 48.4**	**+0.9**
KHAL	**Karahalli**	**1.31**	**6**	*i* P		**Pb**	**17 10 30.5**	**-0.1**
KHAL				*i* S		**Sn**	**17 10 48.9**	**+0.9**
KHAL	**Karahalli**	**1.31**	**6**	*i* P		**Pb**	**17 10 30.5**	**-0.1**
KHAL				*i* S		**Sn**	**17 10 48.9**	**+0.9**
DAT	**Datca**	**1.44**	**257**	*e*PN		**Pn**	**17 10 31.6**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAT	Datca	1.44	257	*e*Pn	Pn	17 10 31.6	-0.4
BDRM	Kayabasi	1.50	271	*i* P	Pg	17 10 33.3	-1.3
BDRM				*i* S	Sg	17 10 54.8	+0.7
BDRM	Kayabasi	1.50	271	*i* P	Pg	17 10 33.3	-1.3
BDRM				*i* S	Sg	17 10 54.8	+0.7
KULA	Kula-Manisa	1.54	340	*e*PN	Pn	17 10 33.4	0.0
KULA	Kula-Manisa	1.54	340	*e*Pn	Pn	17 10 33.4	0.0
BODT	Bodrum	1.61	271	*e*PN	Pn	17 10 34.0	-0.3
BODT	Bodrum	1.61	271	*e*Pn	Pn	17 10 34.0	-0.3

IDC 04 17:30:04.2±2.5**, 3°.88N×126°.72E, h0km, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.2**/22**, mbtmp3.3**/3**, Error ellipse: s-maj=219.2km s-min=26.3km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.83	163	P	P	17 35 26.8	-1.6
	1.4nm,0.8s,baz=342,slow=10,SNR=6.0						
ASAR	Alice Springs	28.26	166	P	P	17 36 01.1	+1.8
	0.1nm,0.4s,baz=342,slow=12,SNR=4.2						
MKAR	Makanchi Array	57.42	325	P	P	17 39 54.7	-0.1
	0.1nm,0.4s,baz=123,slow=7.3,SNR=3.4						

IDC 04 17:43:36.2±2.6**, 22°.17S×171°.05E, h0km, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.7**/18**, mbtmp3.6**/4**, ML3.2**/1**, Error ellipse: s-maj=155.9km s-min=26.9km az=166.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.27	270	Pn	Pn	17 44 43.8	+1.2
	1.4nm,0.3s,baz=87,slow=18,SNR=37						
DZM				Sn	Sn	17 45 33.4	+0.1
	2.4nm,0.3s,baz=156,slow=20,SNR=4.0						
DZM	Mont Dzumac	4.27	270	*e*P	Pn	17 44 42.1	-0.6
ASAR	Alice Springs	34.19	260	P	P	17 50 23.6	0.0
	0.5nm,0.7s,baz=88,slow=9.3,SNR=9.2						
WRA	Warramunga Arr	34.28	267	P	P	17 50 23.9	-0.6
	0.1nm,0.3s,baz=99,slow=10,SNR=3.3						
NVAR	Mina Array Bea	89.48	48	P	P	17 56 35.6	0.0
	1.2nm,0.9s,baz=219,slow=8.6,SNR=4.7						
GERES	GERESS Array B	147.86	331	PKPbc	PKPbc	18 03 22.7	-0.6
	0.6nm,0.8s,baz=29,slow=2.2,SNR=4.6						

WEL 04 17:51:47.4±0.4**, 36°.27S×177°.81E, h213km**±4km**, ML3.9**/4**, Error ellipse: s-maj=7.3km s-min=5.1km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.35	163	PN	Pn	17 52 21.1	+0.1
MXZ				SN	S	17 52 47.1	-0.1
PUZ	Puketiti	1.84	169	PN	Pn	17 52 25.3	0.0
PUZ				SN	S	17 52 54.2	-0.6
URZ	Urewera	2.06	195	PN	Pn	17 52 27.4	-0.1
URZ				SN	S	17 52 58.8	+0.2
MWZ	Matawai	2.08	186	PN	Pn	17 52 28.2	+0.5
CNGZ	Carnagh Statio	2.24	172	PN	Pn	17 52 29.8	+0.6
RAHZ	Arahi	2.71	192	PN	Pn	17 52 34.6	+0.2
RAHZ				SN	S	17 53 12.3	+1.4
KNZ	Kokohu	2.75	182	PN	Pn	17 52 34.4	-0.4
MHGZ	Mahia Peninsul	2.88	178	PN	Pn	17 52 36.4	+0.1
NMHZ	Naumai	2.93	195	PN	Pn	17 52 37.2	+0.1
BKZ	Black Stump Fm	3.08	199	PN	Pn	17 52 38.0	-0.7
MCHZ	McNeill Hill	3.29	195	PN	Pn	17 52 41.0	-0.1
CKHZ	Cape Kidnapper	3.43	189	PN	Pn	17 52 42.3	-0.4
FWVZ	Far West T-bar	3.48	210	PN	Pn	17 52 43.2	-0.3
BHHZ	Black Hill Sta	3.50	203	PN	Pn	17 52 42.6	-1.0
WNVZ	Wahianoa	3.52	209	PN	Pn	17 52 43.4	-0.6
MOVZ	Moawhango	3.53	207	PN	Pn	17 52 43.0	-1.0
KAHZ	Kahuranaki	3.60	191	PN	Pn	17 52 44.3	-0.4
PXZ	Pawanui	3.83	191	PN	Pn	17 52 46.3	-1.2
PXZ				SN	S	17 53 31.9	-2.7
PNHZ	Pukenui	3.85	199	PN	Pn	17 52 46.5	-1.4
WPHZ	Waipukurau	3.94	195	PN	Pn	17 52 47.6	-1.3
TSZ	Takapari Road	4.05	200	PN	Pn	17 52 48.6	-1.7
PRHZ	Porangahau	4.10	193	PN	Pn	17 52 49.5	-1.3
WAZ	Wanganui	4.13	212	PN	Pn	17 52 50.2	-1.0
DVHZ	Dannevirke	4.23	197	PN	Pn	17 52 50.4	-2.0
POWZ	Post Office Ro	4.42	201	PN	Pn	17 52 52.8	-2.0
BFZ	Birch Farm	4.57	195	PN	Pn	17 52 54.7	-2.0
MRZ	Mangatainoka R	4.72	201	PN	Pn	17 52 55.9	-2.6
TIWZ	Tintock	4.75	198	PN	Pn	17 52 56.8	-2.1
HOWZ	Holdsworth Sta	4.96	201	PN	Pn	17 52 58.7	-2.9
OGWZ	Otaki Gorge	4.99	204	PN	Pn	17 52 59.5	-2.4
KIW	Kapiti Island	5.12	205	PN	Pn	17 53 00.6	-2.9
MTW	Mount Morrison	5.21	200	PN	Pn	17 53 01.7	-2.9
CAW	Cannon Point	5.29	203	PN	Pn	17 53 02.5	-3.1
TRWZ	Traveller	5.38	197	PN	Pn	17 53 04.1	-2.8
PAWZ	Paruwai Farm	5.43	199	PN	Pn	17 53 04.3	-3.2
DUWZ	D'Urville Isla	5.46	213	PN	Pn	17 53 04.7	-3.1
MSWZ	Moikau Station	5.51	200	PN	Pn	17 53 05.1	-3.4
SNZO	South Karori	5.59	205	PN	Pn	17 53 06.0	-3.4
SNZO				SN	S	17 54 10.7	-3.6
BHW	Baring Head	5.62	203	PN	Pn	17 53 06.3	-3.5
TCW	Tory Channel	5.66	208	PN	Pn	17 53 06.8	-3.6
PLWZ	Palliser	5.66	200	PN	Pn	17 53 06.8	-3.6
TUWZ	Tuamarina	5.97	209	PN	Pn	17 53 10.6	-3.7
QRZ	Quartz Range	6.15	221	PN	Pn	17 53 12.6	-4.0
BSWZ	Blackbirch Sta	6.24	208	PN	Pn	17 53 14.4	-3.5
THZ	Tophouse	6.68	213	PN	Pn	17 53 20.4	-3.2
KHZ	Kahutara	6.97	207	PN	Pn	17 53 23.2	-4.0
DSZ	Denniston Nort	7.19	219	PN	Pn	17 53 26.0	-4.2
LTZ	Lake Taylor	7.78	212	PN	Pn	17 53 33.3	-4.5
MQZ	McQueen's Vall	8.41	206	PN	Pn	17 53 40.8	-5.0
MQZ				SN	S	17 55 11.5	-9.2
ODZ	Otahua Downs	10.31	210	PN	Pn	17 54 06.3	-4.0

IDC ***04*** *17:53:37.0±2.4, 43°.16N×105°.16W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/29, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=48.1km s-min=9.2km az=156.0*

ISCJB ***04*** *17:53:40.4±0.2, 43°.69N±0°.02×105°.30W±0°.02, h0km, mb4.3/1, Error ellipse: s-maj=2.5km s-min=2.2km az=160.1*

NEIC ***04*** *17:53:40.8±0.7, 43°.67N×105°.15W, h0km, ML2.8, Error ellipse: s-maj=10.8km s-min=8.6km az=173.0, Suspected Mining explosion.*

NEIC 75 km [45 miles] SSE of Gillette.

ISC 04 17:53:39.5±0.6**, 43°.62N**±0°.02×**105°.28W**±0°.02**, h0km, n93, σ1s11**/94**, 34C-34D, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.29	223	P	Pb	17 53 47.5	-0.2
	baz=0.4,SNR=265						
I23A	Meade Ranch, G	0.37	339	P	Pg	17 53 47.4	+0.8
	baz=0.4,SNR=33						
I23A				⇓S	Sg	17 53 51.2	-0.3
	baz=0.4						
I24A	Kuemmerle Ranc	0.54	63	P	Pb	17 53 51.3	-0.6
	baz=0.4,SNR=165						
I24A				⇑S	Sb	17 53 58.8	-1.4
	baz=0.4						
J24A	Dixon Ranch, L	0.54	122	P	Pb	17 53 52.1	+0.2
	baz=0.5,SNR=32						
J24A				⇑S	Sb	17 54 00.3	+0.1
	baz=0.5						
J22A	Midwest	0.89	257	P	Pg	17 53 57.2	+0.6
	baz=1.0,SNR=186						
J22A				⇓S	Sb	17 54 09.8	-0.7
	baz=1.0						
K23A	Bowen Ranch, D	0.90	196	⇓S	Sn	17 54 12.0	-1.3
	baz=1.0						
I22A	9 Mile Ranch,	0.91	288	P	Pg	17 53 57.4	+0.3
	baz=1.0,SNR=161						
I22A				⇓S	Sg	17 54 08.8	0.0
	baz=1.0						
K24A	Anderson Ranch	0.96	159	P	Pn	17 53 60.0	-0.4
	baz=1.0,SNR=200						
H22A	Clearmont	1.25	322	⇓P	Pg	17 54 03.0	-0.4
	baz=1.3,SNR=61						
H24A	Dirks Ranch, A	1.25	25	P	Pg	17 54 02.8	-0.7
	baz=1.2,SNR=92						
K22A	Casper	1.32	224	⇑P	Pn	17 54 05.6	+0.2
	baz=1.4						
K22A				⇓S	Sn	17 54 25.3	+1.4
	baz=1.4						
K25A	Mack Ranch, Ha	1.44	134	⇑P	Pb	17 54 08.7	+1.4
	baz=1.4,SNR=36						
I21A	Big Trails, Te	1.47	278	⇑P	Pn	17 54 06.4	-1.1
	baz=1.6						
G23A	Biddle	1.59	357	⇑P	Pn	17 54 08.5	-0.5
	baz=1.5,SNR=62						
G23A				⇓S	Sn	17 54 30.3	0.0
	baz=1.5						
L24A	Wheatland	1.59	171	⇓P	Pg	17 54 10.9	+0.9
	baz=1.6						
J21A	Lysite	1.60	261	⇓P	Pn	17 54 09.3	0.0
	baz=1.7,SNR=71						
J21A				⇓S	Sb	17 54 31.4	+0.6
	baz=1.7						
H21A	Big Horn, Sher	1.62	309	⇑P	Pn	17 54 09.7	+0.2
	baz=1.7,SNR=38						
H21A				⇑S	Sn	17 54 31.4	+0.2
	baz=1.7						
K21A	Alcova	1.74	236	P	Pg	17 54 12.8	-0.1
	baz=1.9,SNR=52						
K21A				⇑S	Sg	17 54 36.3	+0.8
	baz=1.9						
L25A	Engebretsen Ra	1.75	146	⇓Pb	Pg	17 54 14.5	+1.4
	baz=1.7						
G22A	Birney	1.76	336	⇓P	Pn	17 54 11.8	+0.4
	baz=1.8,SNR=54						
G24A	Alzada	1.82	20	⇑P	Pn	17 54 13.0	+0.8
	baz=1.7,SNR=13						
J20A	Shoshoni	2.06	264	⇑Pb	Pb	17 54 18.1	+0.2
	baz=2.2,SNR=102						
I20A	Worland	2.09	280	⇑P	Pn	17 54 17.2	+1.3
	baz=2.2,SNR=268						
F23A	Volborg	2.11	358	P	Pn	17 54 16.6	+0.4
	baz=2.1,SNR=79						
G21A	Lodge Grass	2.12	320	⇓P	Pn	17 54 16.9	+0.6
	baz=2.1,SNR=29						
H20A	Greybull	2.14	295	⇑P	Pn	17 54 17.2	+0.5
	baz=2.2,SNR=46						
M23A	Laramie	2.17	189	⇓P	Pg	17 54 20.7	-0.5
	baz=2.2,SNR=15						
M24A	Cheyenne	2.17	171	⇓Pb	Pg	17 54 22.0	+0.9
	baz=2.2						
L26A	Underwood Farm	2.26	133	⇑Pb	Pg	17 54 23.2	+0.3
	baz=2.2						
F22A	Rosebud	2.27	343	⇓P	Pn	17 54 18.8	+0.4
	baz=2.3						
PHWY	Pilot Hill	2.32	183	*e*P	Pb	17 54 21.3	-1.1
M25A	Palm-Egli Farm	2.36	157	⇑P	Pg	17 54 23.1	-1.7
	baz=2.4,SNR=8.9						
K27A	Flueckinger Fa	2.41	111	⇓P	Pb	17 54 22.7	-1.1
	baz=2.3						
M22A	Cedar Creek Ra	2.41	204	⇓P	Pb	17 54 23.9	-0.1
	baz=2.5,SNR=41						
K20A	Yellowstone Ra	2.44	248	⇑P	Pb	17 54 22.7	-1.6
	baz=2.5						
K20A				⇑Sb	Sb	17 54 56.1	+1.2
	baz=2.5						
M21A	Separation Pea	2.53	218	⇑P	Pb	17 54 25.4	-0.5
	baz=2.6,SNR=62						
G20A	Bridger	2.64	308	P	Pn	17 54 23.5	-0.1
	baz=2.7,SNR=83						
I19A	Meeteetse	2.72	280	⇓P	Pn	17 54 26.3	+1.7
	baz=2.8,SNR=23						
N23A	Red Feather La	2.76	190	⇑P	Pb	17 54 28.2	-1.7
	baz=2.8						
N23A				⇓Sb	Sg	17 55 08.1	-0.2
	baz=2.8						
J19A	Crowheart	2.77	264	⇑P	Pn	17 54 27.6	+2.3
	baz=2.9,SNR=101						
H19A	Powell	2.87	293	⇓P	Pn	17 54 27.8	+1.1
	baz=2.9,SNR=12						
N22A	Wattenberg Ran	2.94	198	⇓Pb	Pg	17 54 34.2	-1.7
	baz=3.0						
N22A				⇑Sb	Sg	17 55 13.7	-0.3
	baz=3.0						
M20A	Sweetwater, Wa	3.02	226	⇑Pb	Pg	17 54 35.4	-2.0
	baz=3.1						
E24A	Baker	3.03	13	⇑P	Pn	17 54 29.8	+1.1
	baz=3.0,SNR=6.3						
RLMT	Red Lodge	3.23	299	*e*P	Pn	17 54 31.9	+0.2
RLMT	Red Lodge	3.23	299	⇓P	Pn	17 54 32.4	+0.7
	baz=3.3,SNR=27						
PDAR	Pinedale Array	3.24	256	Pn	Pn	17 54 33.4	+1.6
	2.6nm,0.3s,baz=73,slow=16,SNR=51						
PDAR				Lg	Lg	17 55 17.8	
	7.2nm,0.3s,baz=84,slow=28,SNR=16						
PDAR	Pinedale Array	3.24	256	Pn	Pn	17 54 33.4	+1.6
PDAR				Lg	Lg	17 55 17.8	
H18A	Shoshone NF, C	3.33	290	⇓P	Pn	17 54 33.5	+0.5
	baz=3.4,SNR=17						
F19A	Roth Farm, Mol	3.44	312	⇓P	Pn	17 54 35.1	+0.6
	baz=3.5,SNR=100						
G18A	Lazy EL Ranch,	3.50	301	⇑P	Pn	17 54 36.1	+0.7
	baz=3.6,SNR=34						
D23A	Lindsay	3.56	1	⇑P	Pn	17 54 36.7	+0.7
	baz=3.5,SNR=17						
D24A	Glendive	3.56	11	⇑P	Pn	17 54 37.1	+1.0
	baz=3.5,SNR=7.5						
D22A	Cohagen	3.59	350	⇓P	Pn	17 54 36.6	+0.1
	baz=3.6,SNR=8.5						
OGNE	Ogallala	3.60	137	⇑P	Pb	17 54 39.3	-4.7
	baz=3.6						
LKWY	Lake	3.81	286	*e*P	Pn	17 54 41.8	+2.2
ISCO	Idaho Springs	3.82	184	*e*P	Pn	17 54 42.2	+2.4
ISCO	Idaho Springs	3.82	184	⇑P	Pn	17 54 42.3	+2.4
	baz=3.9,SNR=6.0						
LOHW	Long Hollow	3.86	272	*e*P	Pn	17 54 43.9	+3.5
F18A	Big Timber	3.90	307	⇓P	Pn	17 54 41.5	+0.7
	baz=3.9,SNR=7.5						
FLWY	Flagg Ranch	3.95	279	*e*P	Pb	17 54 46.3	-3.7
C24A	Savage	3.96	8	⇓P	Pn	17 54 42.8	+1.2
	baz=3.9						
MOOW	Moose Ponds	3.96	274	*e*P	Pn	17 54 43.8	+2.0
O27A	Beecher Island	4.01	148	⇓P	Pn	17 54 44.9	+2.5
	baz=4.0						
REDW	Red Top Meadow	4.06	268	*e*P	Pn	17 54 44.9	+1.8
IMW	Indian Meadow	4.11	276	*e*P	Pn	17 54 46.1	+2.3
TPAW	Teton Pass	4.12	270	*e*P	Pn	17 54 45.6	+1.6
C22A	Vida	4.15	354	⇑P	Pn	17 54 45.1	+0.9
	baz=4.1,SNR=10						
C23A	Lambert	4.19	1	⇑P	Pn	17 54 45.8	+1.1
	baz=4.1,SNR=21						
P26A	Davis Ranch, A	4.30	160	⇑P	Pn	17 54 48.9	+2.5
	baz=4.3,SNR=9.6						
RRI2	Red Ridge	4.40	269	*e*P	Pn	17 54 49.2	+1.4
E18A	Harlowton	4.41	314	⇓P	Pn	17 54 48.4	+0.6
	baz=4.4,SNR=13						
P27A	Ficken Ranch,	4.53	153	⇓P	Pn	17 54 52.0	+2.4
	baz=4.5,SNR=5.9						
QLMT	Earthquake Lak	4.58	288	*e*P	Pn	17 54 53.9	+3.6
E17A	Martinsdale	4.87	308	⇑P	Pn	17 54 55.5	+1.3
	baz=4.9,SNR=7.7						
BOZ	Bozeman (W)	4.96	296	*e*P	Pb	17 55 03.1	-4.2
	2.6nm,0.4s						
HWUT	Hardware Ranch	5.05	249	*e*P	Pn	17 54 58.4	+1.7
	5.3nm,0.4s						
D17A	Six Diamond Ra	5.20	315	⇓P	Pn	17 54 59.0	+0.4
	baz=5.2,SNR=28						
E16A	East Helena	5.39	305	⇑P	Pn	17 55 01.6	+0.4
	baz=5.4,SNR=5.6						
EGMT	Eagleton	5.40	326	*e*P	Pn	17 55 01.3	-0.1
	13nm,0.5s						
R26A	Arlington	5.49	165	⇓P	Pn	17 55 04.8	+2.1
	baz=5.5,SNR=9.6						
C17A	Wharram Farm,	5.56	318	⇓P	Pn	17 55 03.9	+0.3
	baz=5.6,SNR=6.9						
LRM	Limekiln Ridge	5.56	296	*e*P	Pn	17 55 06.9	+3.1
	12nm,0.4s						
MCMT	McKenzie Canyo	5.57	285	*e*P	Pn	17 55 08.6	+4.7
	0.7nm,0.4s						
TMUT	Trail Mountain	6.20	228	*e*Pg	Pg	17 55 34.4	-3.9
	36nm,1.0s						
ECSD	EROS Data Cent	6.29	86	*e*P	Pn	17 55 14.5	+1.0
	2.7nm,0.4s						
B16A	M & M Farms, S	6.56	319	⇑P	Pn	17 55 16.9	-0.4
	baz=6.6,SNR=6.2						
ULM	Lac du Bonnet	9.24	41	Pn	Pn	17 55 52.8	-1.2
	1.4nm,0.3s,baz=229,slow=11,SNR=6.7						
ULM				Lg	Lg	17 58 33.6	
	0.1nm,0.3s,baz=323,slow=20,SNR=2.5						
ULM	Lac du Bonnet	9.24	41	Pn	Pn	17 55 52.8	-1.2
ULM				Lg	Lg	17 58 33.6	
YKA	Yellowknife Ar	19.68	347	P	Pn	17 58 12.6	+1.4
	0.2nm,0.5s,baz=157,slow=8.3,SNR=4.4						
YKA	Yellowknife Ar	19.68	347	P	Pn	17 58 12.7	+1.4
ARCES	ARCESS Array B	61.54	18	P	P	18 03 56.7	-1.1
	2.3nm,0.9s,baz=317,slow=3.7,SNR=3.6						
ARCES	ARCESS Array B	61.54	18	P	P	18 03 56.7	-1.1

IDC 04 17:59:27.6±3.1**, 21°.14S×175°.14W, h0km, mb4.3**/4**, mb1 4.5**/4**, mb1mx3.9**/21**, mbtmp4.3**/4**, MS3.5**/2**, Ms1 3.6**/2**, ms1mx3.0**/36**, Error ellipse: s-maj=95.8km s-min=42.7km az=138.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.09	265	P	P	18 06 32.7	+1.2
	6.0nm,0.5s,baz=92,slow=11,SNR=7.8						
ASAR	Alice Springs	46.98	257	P	P	18 08 01.1	+0.3
	2.7nm,0.8s,baz=97,slow=7.6,SNR=50						
ASAR				PcP	PcP	18 09 32.6	-0.8
	0.3nm,0.6s,baz=94,slow=4.4,SNR=4.6						
WRA	Warramunga Arr	47.16	262	P	P	18 08 00.8	-1.5
	2.1nm,0.6s,baz=98,slow=8.8,SNR=17						
VNDA	Vanda	57.53	186	LR	LR	18 28 43.0	
	comp=Z,199nm,19.4s,baz=131,slow=30						
MJAR	Matsushiro Arr	72.33	322	P	P	18 10 55.4	+0.1
	0.5nm,0.4s,baz=145,slow=6.3,SNR=5.4						
CFAA	Coronel Fontan	92.56	125	LR	LR	18 47 42.8	
	comp=Z,5.2nm,19.0s,baz=275,slow=31						
BRTR	Keskin Array B	149.23	313	PKPbc	PKPbc	18 19 18.2	-0.4
	0.3nm,0.7s,baz=24,slow=5.0,SNR=3.3						

MAN 04 18:04:16, 10°.28N×125°.91E, h24km, mb4.3, ML3.2, MS3.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.05	262	*e*P	Pn	18 04 35.3	+0.1
MSLP				*e*S	Sn	18 04 51.1	+2.0
PLP	Palo	1.27	314	⇓*e*P	Pn	18 04 38.4	+0.1
PLP				*e*S	Sb	18 04 55.0	-0.3
BUTP	Butuan	1.34	193	*e*P	Pn	18 04 39.4	+0.3
BUTP				*e*S	Sb	18 04 58.8	+1.7
LLP	Lapu-Lapu	1.92	271	*e*P	Pn	18 04 47.8	+0.6
LLP				*e*S	Sb	18 05 12.7	-1.1
TBP	Tagbilaran	2.10	254	*e*P	Pn	18 04 51.5	+1.8
TBP				*e*S	Sn	18 05 16.7	+1.5
CNP	Catarman	2.53	331	*e*P	Pn	18 04 57.1	+1.5
CNP				*e*S	Sb	18 05 29.3	-2.2

NIED ***04*** *18:13:00, 28°.30N×129°.50E, h32km, Mw3.7 Best double couple: $M_0$3.70000×10^14 NP1:ϕ_s151.00000°, δ70.00000°, λ-53.00000°. NP2:ϕ_s265.00000°, δ42.00000°, λ-149.00000°.*

ISCJB ***04*** *18:13:49.4±0.4, 28°.29N±0°.04×129°.59E±0°.06, h33km±6km, mb3.5/4, Error ellipse: s-maj=10.5km s-min=3.7km az=35.3*

JMA ***04*** *18:13:49.2, 28°.32N×129°.52E, h29km±1km, M3.8*

JMA Felt II J1.

IDC ***04*** *18:13:53.0±1.3, 28°.37N×129°.35E, h62km±15km, mb3.0/4, mb1 3.3/6, mb1mx3.1/26, mbtmp3.2/6, Error ellipse: s-maj=38.2km s-min=8.3km az=112.0*

ISC 04 18:13:49.3±0.9**, 28°.26N**±0°.05×**129°.62E**±0°.06**, h26km**±7km**, n18, σ1s22**/31**, mb3.4**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.15	354	P	Pb	18 13 54.4	-0.1
JAM				S	Sb	18 13 57.8	-0.3
JZK	Kikaishima	0.31	80	P	Pn	18 13 57.6	-0.6
JZK				S	Sn	18 14 04.1	+0.1
JTK	Tokunoshima	0.76	232	P	Pb	18 14 03.0	-0.9
JTK				S	Sb	18 14 13.0	-0.8
JNN	Nakanoshima	1.59	8	P	Pn	18 14 15.6	-0.2
JNN				S	Sn	18 14 34.7	-0.9
JOW	Kunigami	1.86	220	P	Pn	18 14 20.4	+0.9
	118nm,0.3s,baz=95,slow=20,SNR=128						
JOW				S	Sb	18 14 44.2	-1.2
	188nm,0.3s,baz=130,slow=29,SNR=20						
JOW	Kunigami	1.86	220	P	Pn	18 14 20.3	+0.9
JOW				S	Sn	18 14 43.2	+1.1
JIH	Iheya	1.91	231	P	Pn	18 14 20.7	+0.6
JIH				S	Sn	18 14 44.1	+0.8
JKC	Kuchinoerabu	2.25	13	P	Pn	18 14 25.0	+0.1
JKC				S	Sn	18 14 50.9	-0.9
JTN	Tanegashima 3	2.66	26	P	Pn	18 14 32.0	+1.4
JTN				S	Sn	18 15 02.2	+0.2
JAGN	Aguni-jima	2.69	232	P	Pn	18 14 31.4	+0.5
JAGN				*e*S	Sn	18 15 01.4	-1.3
JJT2	Tamagusuku 2	2.69	219	P	Pn	18 14 32.2	+1.3
JJT2				S	Sn	18 15 02.3	-0.4
JKE	Kume jima 2	3.17	233	P	Pn	18 14 38.5	+0.9
JKE				S	Sn	18 15 15.5	+0.9
JNU	Nakatsue	4.97	12	P	Pn	18 15 04.7	+2.4
	3.8nm,0.3s,baz=147,slow=4.2,SNR=50						
JNU				S	Sn	18 16 01.0	+2.1
	baz=323,slow=20,SNR=2.1						
MJAR	Matsushiro Arr	10.99	39	P	Pn	18 16 27.1	+2.3
	0.2nm,0.3s,baz=230,slow=15,SNR=4.1						
WRA	Warramunga Arr	48.13	174	P	P	18 22 26.9	-0.4
	0.2nm,0.4s,baz=353,slow=8.1,SNR=2.6						
ASAR	Alice Springs	51.79	175	P	P	18 22 56.2	+1.3
	0.2nm,0.6s,baz=5.0,slow=14,SNR=6.5						
FINES	FINESS Array B	71.71	331	P	P	18 25 06.2	-2.6
	1.2nm,0.7s,baz=71,slow=6.9,SNR=5.5						
YKA	Yellowknife Ar	76.17	26	P	P	18 25 34.9	+0.1
	0.2nm,0.6s,baz=304,slow=5.4,SNR=4.0						

ISCJB ***04*** *18:16:42.5±0.6, 37°.64N±0°.07×95°.93E±0°.06, h12km, mb3.5/7, Error ellipse: s-maj=10.8km s-min=6.1km az=20.8*

BJI ***04*** *18:16:42.6, 37°.40N×95°.88E, h9km, ML3.8/6, Ms3.6/3, Ms7 3.4/2*

IDC ***04*** *18:16:42.6±0.9, 37°.63N×96°.10E, h0km, mb3.7/7, mb1 3.7/12, mb1mx3.6/32, mbtmp3.6/12, ML3.4/5, Error ellipse: s-maj=26.7km s-min=17.5km az=41.0*

ISC 04 18:16:44.6±0.8**, 37°.72N**±0°.09×**96°.06E**±0°.05**, h12km, n15, σ1s84**/20**, mb3.7**/7**, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.39	59	Pn	Pb	18 17 42.6	-2.1
GTA				Pg	Pg	18 17 47.7	-1.9
GTA				Sn	Sn	18 18 20.2	+2.5
GTA				smax	smax		
	comp=N,52nm,0.7s						
GTA				smax	smax		
	comp=E,69nm,0.6s						
GTA				LR	LR		
	comp=N,200nm,9.3s						
GTA				LR	LR		
	comp=E,370nm,8.8s						
GTA				LR	LR		
	comp=Z,320nm,8.3s						
LZH	Lanzhou	6.44	102	*e*Pn	Pn	18 18 22.5	+3.0
LZH				Sn	Sn	18 19 35.7	+2.7
LZH				Sg	Sg	18 20 08.3	-3.2
LZH				smax	smax		
	comp=N,45nm,1.0s						
LZH				smax	smax		
	comp=E,96nm,1.1s						
LZH				LR	LR		
	comp=N,230nm,6.0s						
LZH				LR	LR		
	comp=E,210nm,4.5s						
LZH				LR	LR		
	comp=Z,230nm,7.0s						
WMQ	Urumqi	8.80	316	P	Pn	18 18 53.0	+1.4
SONM	Songino Array	12.63	34	Pn	Pn	18 19 46.2	+2.1
	comp=Z,0.3nm,0.3s,baz=215,slow=15,SNR=10						
MKAR	Makanchi Array	13.63	316	Pn	Pn	18 19 55.7	-2.0
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=9.5						
MKAR				Sn	Sn	18 22 27.4	-1.7
	comp=Z,0.1nm,0.3s,baz=125,slow=25,SNR=4.0						
KURBB	Kurchatov Arra	17.96	322	P	P	18 20 54.0	-0.5
	comp=Z,0.1nm,0.3s,baz=133,slow=11,SNR=18						
ZALV	Zalesovo Beam	17.98	338	P	Pn	18 20 54.3	0.0
	comp=Z,0.1nm,0.3s,baz=145,slow=10,SNR=5.2						
CMAR	Chiang Mai Arr	19.36	172	P	P	18 21 08.8	-1.2
	comp=Z,0.1nm,0.3s,baz=340,slow=9.8,SNR=4.2						
BVAR	Borovoye Array	23.48	319	P	P	18 21 55.0	+1.1
	comp=Z,1.4nm,0.6s,baz=112,slow=8.6,SNR=12						
KSRS	Korea Array	25.19	81	P	P	18 22 09.1	-0.8
	comp=Z,2.7nm,0.8s,baz=273,slow=9.7,SNR=11						
AKTO	Aktyubinsk	29.80	308	P	P	18 22 51.7	+0.5
	comp=Z,0.6nm,0.6s,baz=71,slow=8.6,SNR=4.1						
BRTR	Keskin Array B	47.86	293	P	P	18 25 22.4	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.8s,baz=76,slow=6.1,SNR=3.5						
ILAR	**Eielson Array**	**66.68**	**25**	P	**P**	**18 27 35.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=300,slow=5.4,SNR=7.6						
ASAR	**Alice Springs**	**70.67**	**143**	P	**P**	**18 28 00.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=328,slow=6.1,SNR=7.2						
YKA	**Yellowknife Ar**	**77.12**	**14**	P	**P**	**18 28 37.6**	**0.0**
	comp=Z,0.1nm,0.5s,baz=335,slow=5.4,SNR=3.7						

*IDC **04** 18:19:08.6±1.0, 4.°46S×126.°76E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML4.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/30, Error ellipse: s-maj=29.3km s-min=20.2km az=55.0*

*ISCJB **04** 18:19:10.3±0.4, 4.°52S±0.°04×126.°73E±0.°03, h23km, mb3.7/7, MS3.2/1, Error ellipse: s-maj=6.4km s-min=3.9km az=163.9*

*AUST **04** 18:19:12.8±0.0, 4.°64S×126.°80E, h103km, Error ellipse: s-maj=1.8km s-min=1.2km az=354.0*

*DJA **04** 18:19:13.8±0.4, 4°S±3°×12°7E±°, h56km±13km, M4.3/11, mb4.9/6, mB5.0/4, MLv4.0/11, Mw(mB)4.2/4*

ISC 04 18:19:11.7±0.7**, 4.°58S**±0.°06**×126.°79E**±0.°05**, h23**km**, n30, σ1.s38**/34**, mb3.8**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.66**	**58**	P	**Pn**	**18 19 39.1**	**-0.3**
	baz=1.7,SNR=17						
AAI	**Ambon**	**1.66**	**58**	P	**Pn**	**18 19 39.8**	**+0.4**
AAI				S	**Sn**	**18 20 01.0**	**+0.9**
MSAI	**Masohi**	**2.46**	**60**	P	**Pn**	**18 19 50.8**	**+0.3**
BNDI	**Bandanaira**	**3.11**	**89**	P	**Pn**	**18 19 59.8**	**+0.5**
LBMI	**Labuha**	**3.98**	**10**	P	**Pn**	**18 20 13.8**	**+2.5**
LBMI				S	**Sn**	**18 20 56.3**	**-1.0**
KDI	**Kendari**	**4.20**	**278**	P	**Pn**	**18 20 13.3**	**-1.1**
BBSI	**Bau Bau**	**4.29**	**258**	P	**Pn**	**18 20 16.4**	**+0.7**
BBSI				S	**Sn**	**18 21 06.5**	**+1.4**
LUWI	**Luwuk**	**5.33**	**311**	P	**Pn**	**18 20 30.5**	**+0.6**
	204nm,0.7s,3µm0.8nm						
LUWI				S	**Sn**	**18 21 29.7**	**-0.9**
	204nm,0.7s,3µm0.8nm						
TNTI	**Ternate**	**5.35**	**6**	S	**Sn**	**18 21 31.3**	**+0.2**
FAKI	**Fak Fak**	**5.70**	**73**	P	**Pn**	**18 20 36.2**	**+1.3**
	35nm,0.9s,0.1nm						
SWI	**Sorong**	**5.80**	**51**	P	**Pn**	**18 20 36.9**	**+0.6**
	baz=5.8,SNR=25						
SWI	**Sorong**	**5.80**	**51**	P	**Pn**	**18 20 36.2**	**-0.1**
	72nm,0.8s,1µm0.3nm						
SWI				S	**Sn**	**18 21 43.1**	**+1.0**
	72nm,0.8s,1µm0.3nm						
TLE	**Tual**	**6.02**	**100**	P	**Pn**	**18 20 41.7**	**+2.3**
	baz=6.0,SNR=7.6						
TLE	**Tual**	**6.02**	**100**	P	Pn	18 20 43.2	+3.8
BKSI	**Bulukumba**	**6.68**	**263**	P	**Pn**	**18 20 50.0**	**+1.6**
	73nm,0.5s,940nm0.3nm						
KAPI	**Kappang**	**7.02**	**266**	Pn	**Pn**	**18 20 54.0**	**+0.8**
	16nm,0.3s,baz=117,slow=4.1,SNR=94						
KAPI				Sn	**Sn**	**18 22 12.3**	**-0.1**
	1.2nm,0.3s,baz=261,slow=19,SNR=3.9						
KAPI	**Kappang**	**7.02**	**266**	P	**Pn**	**18 20 53.5**	**+0.3**
SPSI	**Sidrap Palu**	**7.02**	**275**	P	**Pn**	**18 20 54.4**	**+1.2**
	29nm,0.6s,0.1nm						
MTN	**Manton Dam**	**9.27**	**153**	P	**Pn**	**18 21 23.6**	**-0.4**
	baz=9.3,SNR=4.9						
FITZ	**Fitzroy Crossi**	**13.49**	**185**	Pn	Pn	18 22 17.8	-3.9
	0.2nm,0.3s,baz=31,slow=10,SNR=5.3						
FITZ				LR	LR	18 28 21.1	
	comp=Z,64nm,18.4s,baz=260,slow=41						
FITZ	**Fitzroy Crossi**	**13.49**	**185**	P	**Pn**	**18 22 19.1**	**-2.6**
	baz=14,SNR=3.7						
WRA	**Warramunga Arr**	**16.95**	**155**	P	**Pn**	**18 23 03.3**	**-4.2**
	0.1nm,0.3s,baz=326,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**20.18**	**161**	P	**P**	**18 23 45.6**	**+0.8**
	6.9nm,0.8s,baz=341,slow=11,SNR=85						
CTA	**Charters Tower**	**24.43**	**131**	P	**P**	**18 24 31.0**	**+2.1**
	4.0nm,0.8s,baz=324,slow=11,SNR=3.9						
CTA				LR	LR	18 35 12.9	
	comp=Z,84nm,19.1s,baz=5.6,slow=39						
CMAR	**Chiang Mai Arr**	**35.74**	**311**	P	**P**	**18 26 09.3**	**+0.3**
	0.9nm,0.7s,baz=134,slow=7.0,SNR=10						
KSRS	**Korea Array**	**41.83**	**1**	P	**P**	**18 26 59.8**	**0.0**
	0.4nm,0.5s,baz=175,slow=8.5,SNR=3.6						
USRK	**Ussuriysk Arra**	**48.78**	**5**	P	**P**	**18 27 53.9**	**-1.0**
	0.4nm,0.4s,baz=179,slow=7.6,SNR=2.4						
SONM	**Songino Array**	**55.19**	**343**	P	**P**	**18 28 42.9**	**+0.2**
	0.2nm,0.5s,baz=145,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**64.47**	**328**	P	**P**	**18 29 45.7**	**-0.8**
	0.6nm,0.7s,baz=130,slow=7.7,SNR=9.4						
KURBB	**Kurchatov Arra**	**68.80**	**329**	P	**P**	**18 30 13.1**	**-0.9**
	0.6nm,0.5s,baz=126,slow=5.4,SNR=7.7						

IDC 04 18:48:00.1±5.3**, 9.°25S×119.°16E, h69**km±44km**, mb3.0**/2**, mb1 3.3**/5**, mb1mx3.1**/23**, mbtmp3.2**/5**, ML3.4**/3**, Error ellipse: s-maj=87.5km s-min=15.8km az=74.0, Sumba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.25**	**8**	P	Pn	18 49 03.8	+1.5
	2.1nm,0.3s,baz=186,slow=4.0,SNR=18						
KAPI				S	Sn	18 49 50.8	+0.2
	4.0nm,0.3s,baz=43,slow=22,SNR=9.5						
FITZ	**Fitzroy Crossi**	**10.82**	**145**	P	Pn	18 50 30.8	-1.3
	0.4nm,0.3s,baz=341,slow=12,SNR=8.9						
WRA	**Warramunga Arr**	**18.11**	**128**	P	P	18 52 06.3	-0.3
	0.1nm,0.3s,baz=300,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**20.11**	**137**	P	P	18 52 29.2	+0.8
	0.4nm,0.6s,baz=313,slow=9.5,SNR=6.9						
SONM	**Songino Array**	**57.95**	**350**	P	P	18 57 45.1	-0.3
	0.3nm,0.4s,baz=163,slow=8.8,SNR=4.3						

*IDC **04** 18:55:22.7±1.1, 8.°90S×119.°06E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML3.7/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/32, Error ellipse: s-maj=47.1km s-min=16.8km az=66.0*

*ISCJB **04** 18:55:26.5±0.4, 8.°82S±0.°05×118.°71E±0.°04, h102km, mb3.7/5, Error ellipse: s-maj=6.9km s-min=5.0km az=5.6*

*AUST **04** 18:55:26.1±0.7, 8.°85S×118.°81E, h64km, Error ellipse: s-maj=1.1km s-min=0.9km az=256.0*

*DJA **04** 18:55:28.1±5.9, 9°S±5°×11°9E±°, h33km±74km, M4.6/10, mb4.8/3, mB4.9/2, MLv4.5/10, Mw(mB)4.2/2*

ISC 04 18:55:28.1±0.8**, 8.°79S**±0.°06**×118.°76E**±0.°05**, h102**km**, n41, σ1.s55**/26**, mb3.8**/5**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.75**	**120**	P	**Pn**	**18 55 57.6**	**0.0**
KHKI	**Kahang-Kahang**	**3.14**	**277**	P	**Pn**	**18 56 13.3**	**-2.5**
MMRI	**Maumere**	**3.44**	**88**	P	**Pn**	**18 56 20.1**	**+0.3**
DNP	**Denpasar**	**3.51**	**272**	P	**Pn**	**18 56 19.9**	**-0.8**
IGBI	**Denpasar**	**3.57**	**269**	P	**Pn**	**18 56 19.2**	**-2.3**
SRBI	**Singaraja**	**3.58**	**281**	P	**Pn**	**18 56 18.9**	**-2.7**
BKSI	**Bulukumba**	**3.70**	**22**	P	**Pn**	**18 56 23.4**	**+0.1**
KAPI	**Kappang**	**3.88**	**15**	Pn	**Pn**	**18 56 24.8**	**-0.9**
	13nm,0.3s,baz=200,slow=6.9,SNR=81						
KAPI				Sn	**Sn**	**18 57 10.3**	**+0.1**
	10nm,0.3s,baz=274,slow=24,SNR=14						
KAPI				LR	LR	18 58 26.7	
	comp=Z,112nm,19.1s,baz=24,slow=47						
KAPI	**Kappang**	**3.88**	**15**	P	**Pn**	**18 56 24.7**	**-0.9**
NBBI	**Negara**	**4.11**	**275**	P	Pn	18 56 22.5	-6.3
SPSI	**Sidrap Palu**	**4.89**	**12**	P	**Pn**	**18 56 41.3**	**+1.9**
BLJI	**Banyuglugur**	**5.21**	**281**	P	**Pn**	**18 56 43.3**	**-0.4**
GMJI	**Gumukmas**	**5.28**	**275**	P	**Pn**	**18 56 43.9**	**-0.7**
	126nm,0.9s,2µm0.5nm						
TTSI	**Tana Toraja**	**5.80**	**11**	P	**Pn**	**18 56 53.4**	**+1.7**
	53nm,0.7s,671nm0.2nm						
KDI	**Kendari**	**6.14**	**39**	P	Pn	18 57 13.3	+17
KRKI	**Karangkates**	**6.27**	**275**	P	Pn	18 57 02.3	+4.2
PWJI	**Pagerwojo**	**6.92**	**276**	P	**Pn**	**18 57 07.2**	**+0.3**
SJI	**Sawahan**	**7.00**	**278**	P	**Pn**	**18 57 10.6**	**+2.5**
PCI	**Palu**	**7.90**	**8**	S	Sn	18 58 29.6	-19
	baz=8.0,SNR=4.0						
UGM	**Wanagama**	**8.20**	**275**	P	**Pn**	**18 57 22.9**	**-1.4**
	baz=8.3,SNR=9.7						
UGM				S	**Sn**	**18 58 56.0**	**+0.7**
	baz=8.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.42**	**145**	Pn	Pn	18 58 02.8	-5.3
	0.5nm,0.3s,baz=330,slow=6.2,SNR=13						
FITZ				LR	LR	19 03 10.6	
	comp=Z,148nm,19.0s,baz=118,slow=42						
FITZ	**Fitzroy Crossi**	**11.42**	**145**	P	Pn	18 58 03.5	-4.6
	baz=11,SNR=7.2						
MTN	**Manton Dam**	**12.80**	**109**	P	**Pn**	**18 58 24.5**	**-2.0**
	baz=13,SNR=6.0						
KDU	**Kakadu**	**14.02**	**107**	P	**Pn**	**18 58 41.6**	**-0.7**
	baz=14,SNR=7.0						
KDU				S	Sn	19 01 01.8	-15
	baz=14,SNR=3.8						
GIRL	**Giralia**	**14.45**	**197**	P	**P**	**18 58 52.1**	**+0.6**
	baz=14,SNR=4.0						
SWI	**Sorong**	**14.73**	**58**	S	**S**	**19 01 43.5**	**-2.2**
	baz=15,SNR=7.9						
MEEK	**Meekatharra**	**17.75**	**180**	P	**P**	**18 59 27.8**	**-0.4**
	baz=18,SNR=5.8						
MEEK				S	Sn	19 02 26.2	-21
	baz=18,SNR=9.5						
WRA	**Warramunga Arr**	**18.71**	**128**	P	**P**	**18 59 39.4**	**+0.6**
	0.1nm,0.3s,baz=311,slow=11,SNR=5.4						
PPI	**Padang Panjang**	**20.07**	**293**	S	S	19 03 19.9	-14
	baz=20,SNR=6.5						
MORW	**Morawa**	**20.34**	**187**	S	S	19 03 27.5	-11
	baz=20,SNR=7.6						
ASAR	**Alice Springs**	**20.71**	**137**	P	Pn	19 00 02.1	-1.6
	2.9nm,0.6s,baz=311,slow=9.6,SNR=30						
ASAR				LR	LR	19 08 27.3	
	comp=Z,155nm,20.1s,baz=201,slow=38						
JAY	**Jayapura**	**22.70**	**75**	P	P	19 00 10.9	-11
	baz=23,SNR=3.2						
COEN	**Coen**	**24.47**	**104**	P	**P**	**19 00 37.9**	**0.0**
	baz=24,SNR=19						
COEN				S	S	19 04 38.8	-12
	baz=24,SNR=29						
CTA	**Charters Tower**	**28.85**	**116**	LR	LR	19 14 31.5	
	comp=Z,141nm,18.4s,baz=169,slow=40						
STKA	**Stephens Creek**	**31.27**	**140**	P	**P**	**19 01 41.1**	**+2.8**
	1.2nm,0.5s,baz=89,slow=14,SNR=3.4						
CMAR	**Chiang Mai Arr**	**33.40**	**324**	LR	LR	19 16 53.6	
	comp=Z,36nm,19.2s,baz=165,slow=38						
KSRS	**Korea Array**	**46.79**	**10**	P	P	19 03 55.5	+8.1
	1.4nm,0.9s,baz=191,slow=10,SNR=7.3						
SONM	**Songino Array**	**57.43**	**350**	P	P	19 05 13.7	+7.5
	0.5nm,0.6s,baz=165,slow=9.1,SNR=5.7						
MKAR	**Makanchi Array**	**64.16**	**333**	P	P	19 05 59.8	+8.1
	0.5nm,0.6s,baz=149,slow=7.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**68.76**	**339**	P	P	19 06 29.1	+8.2
	0.9nm,0.5s,baz=152,slow=6.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**118.19**	**280**	PKP	PKPdf	19 14 15.1	+11
	0.4nm,0.7s,baz=65,slow=1.6,SNR=6.4						

*TRN **04** 19:03:09.4, 18.°90N×64.°16W, h57km*

*RSPR **04** 19:03:11.5, 19.°01N×64.°17W, h53km±2km, MD3.6/10*

*NEIC **04** 19:03:11.5, 19.°01N×64.°17W, h53km, MD3.6(RSPR), After RSPR.*

ISC 04 19:03:12.9±3.9**, 19.°0N**±0.°1**×64.°3W**±0.°2**, h41**km±21km**, n35, σ0.s85**/50**, 16C-11D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.27**	**185**	⇑iP	**Pn**	**19 03 20.6**	**-0.4**
ABV				eS	**Sn**	**19 03 27.1**	**+0.5**
ABV	**Anegada**	**0.27**	**185**	⇑iP	**Pn**	**19 03 20.6**	**-0.4**
ABV				eS	**Sn**	**19 03 27.1**	**+0.5**
ABVI	**Anegada Island**	**0.27**	**185**	i Pu	**Pn**	**19 03 20.6**	**-0.4**
ABVI				eS	**Sn**	**19 03 27.1**	**+0.5**
TBVI	**Tortola**	**0.65**	**207**	⇑eP	**Pn**	**19 03 24.6**	**-1.1**
TBVI				eS	**Sn**	**19 03 34.6**	**-0.3**
TBVI	**Tortola**	**0.65**	**207**	⇑eP	**Pn**	**19 03 24.6**	**-1.1**
TBVI				eS	**Sn**	**19 03 34.6**	**-0.3**
TBVI	**Tortola**	**0.65**	**207**	⇑eP	**Pn**	**19 03 24.6**	**-1.1**
TBVI				eS	**Sn**	**19 03 34.6**	**-0.3**
STVI	**Saint Thomas**	**0.89**	**224**	⇓eP	**Pn**	**19 03 27.7**	**-1.2**
STVI	**Saint Thomas**	**0.89**	**224**	eS	**Sn**	**19 03 41.5**	**+0.9**
STVI	**Saint Thomas**	**0.89**	**224**	⇓eP	**Pn**	**19 03 27.7**	**-1.2**
STVI				eS	**Sn**	**19 03 41.5**	**+0.9**
STVI	**Saint Thomas**	**0.89**	**224**	⇓eP	**Pn**	**19 03 27.7**	**-1.2**
STVI				eS	**Sn**	**19 03 41.5**	**+0.9**
CDVI	**St. Croix**	**1.32**	**199**	eP	**Pn**	**19 03 35.9**	**+1.1**
CBYP	**Canovanas**	**1.64**	**244**	eP	**Pn**	**19 03 37.7**	**-1.6**
HUMP	**Col San Antoni**	**1.69**	**240**	⇓iP	**Pn**	**19 03 39.5**	**-0.4**
HUMP	**Col San Antoni**	**1.69**	**240**	eS	**Sn**	**19 04 01.5**	**+1.0**
HUMP	**Col San Antoni**	**1.69**	**240**	⇓iP	**Pn**	**19 03 39.5**	**-0.4**
HUMP				eS	**Sn**	**19 04 01.5**	**+1.0**
HUMP	**Col San Antoni**	**1.69**	**240**	⇓iP	**Pn**	**19 03 39.5**	**-0.4**
HUMP				eS	**Sn**	**19 04 01.5**	**+1.0**
SJG	**San Juan**	**1.96**	**243**	⇓eP	**Pn**	**19 03 43.3**	**-0.3**
SJG	**San Juan**	**1.96**	**243**	⇓eP	**Pn**	**19 03 42.8**	**-0.8**
SJG	**San Juan**	**1.96**	**243**	⇓eP	**Pn**	**19 03 42.8**	**-0.8**
SJG	**San Juan**	**1.96**	**243**	⇓eP	**Pn**	**19 03 42.8**	**-0.8**
SJG	**San Juan**	**1.96**	**243**	⇓eP	**Pn**	**19 03 43.3**	**-0.3**
CELP	**Cerrillos**	**2.34**	**247**	⇑eP	**Pn**	**19 03 47.7**	**-1.2**
CELP				eS	**Sn**	**19 04 17.3**	**+0.8**
CELP	**Cerrillos**	**2.34**	**247**	⇑eP	**Pn**	**19 03 47.7**	**-1.2**
CELP				eS	**Sn**	**19 04 17.3**	**+0.8**
CELP	**Cerrillos**	**2.34**	**247**	⇑eP	**Pn**	**19 03 47.7**	**-1.2**
CELP				eS	**Sn**	**19 04 17.3**	**+0.8**
OBIP	**Obispado Ponce**	**2.38**	**247**	⇑eP	**Pn**	**19 03 48.9**	**-0.5**
OBIP	**Obispado Ponce**	**2.38**	**247**	⇑eP	**Pn**	**19 03 48.9**	**-0.5**
OBIP	**Obispado Ponce**	**2.38**	**247**	⇑eP	**Pn**	**19 03 48.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.41**	**255**	⇑eP	**Pn**	**19 03 49.4**	**-0.4**
AOPR	**Arecibo Observ**	**2.41**	**255**	eS	**Sn**	**19 04 19.0**	**+0.9**
AOPR	**Arecibo Observ**	**2.41**	**255**	⇑eP	**Pn**	**19 03 49.4**	**-0.4**
AOPR				eS	**Sn**	**19 04 19.0**	**+0.9**
AOPR	**Arecibo Observ**	**2.41**	**255**	⇑eP	**Pn**	**19 03 49.4**	**-0.4**
AOPR				eS	**Sn**	**19 04 19.1**	**+0.9**
LRS	**Lares**	**2.51**	**254**	ePn	**Pn**	**19 03 50.0**	**-1.2**
CRPR	**Cabo Rojo, PR**	**2.84**	**250**	⇑eP	**Pn**	**19 03 55.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.84**	**250**	⇑eP	**Pn**	**19 03 55.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.84**	**250**	⇑eP	**Pn**	**19 03 55.4**	**-0.2**

WEL 04 19:19:21.9±0.3**, 36.°91S×177.°31E, h208**km±3km**, ML3.5**/9**, Error ellipse: s-maj=6.3km s-min=4.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.03**	**130**	PN	Pn	19 19 52.5	0.0
URZ	**Urewera**	**1.36**	**187**	PN	Pn	19 19 54.7	-0.3
URZ				SN	S	19 20 20.5	-0.2
PUZ	**Puketiti**	**1.39**	**147**	PN	Pn	19 19 55.3	+0.1
PUZ				SN	S	19 20 20.3	-0.9
MWZ	**Matawai**	**1.44**	**173**	PN	Pn	19 19 55.7	0.0
MWZ				SN	S	19 20 21.8	-0.1
RAHZ	**Arahi**	**2.02**	**185**	PN	Pn	19 20 01.3	+0.3
RAHZ				SN	S	19 20 31.8	+0.4
KNZ	**Kokohu**	**2.13**	**172**	PN	Pn	19 20 02.0	-0.1
NMHZ	**Naumai**	**2.22**	**190**	PN	Pn	19 20 03.2	-0.1
MCHZ	**McNeill Hill**	**2.58**	**191**	PN	Pn	19 20 07.0	0.0
BHHZ	**Black Hill Sta**	**2.76**	**200**	PN	Pn	19 20 08.1	-1.1
KAHZ	**Kahuranaki**	**2.90**	**187**	PN	Pn	19 20 10.5	-0.3
PXZ	**Pawanui**	**3.14**	**186**	PN	Pn	19 20 12.5	-0.9
PXZ				SN	S	19 20 51.9	-1.6
TSZ	**Takapari Road**	**3.32**	**198**	PN	Pn	19 20 14.3	-1.4
PRHZ	**Porangahau**	**3.40**	**189**	PN	Pn	19 20 15.3	-1.3
MRZ	**Mangatainoka R**	**3.99**	**199**	PN	Pn	19 20 21.5	-2.2
MRZ				SN	S	19 21 09.5	-2.5
TIWZ	**Tintock**	**4.02**	**196**	SN	S	19 21 10.2	-2.7
HOWZ	**Holdsworth Sta**	**4.22**	**199**	PN	Pn	19 20 23.9	-2.7
OGWZ	**Otaki Gorge**	**4.25**	**202**	PN	Pn	19 20 24.4	-2.5
KIW	**Kapiti Island**	**4.37**	**205**	PN	Pn	19 20 25.6	-2.8
BHW	**Baring Head**	**4.88**	**202**	PN	Pn	19 20 31.3	-3.5
TCW	**Tory Channel**	**4.91**	**208**	SN	S	19 21 29.0	-3.7
PLWZ	**Palliser**	**4.92**	**198**	PN	Pn	19 20 32.5	-2.9
NNZ	**Nelson**	**5.28**	**214**	SN	S	19 21 36.5	-4.9
MQZ	**McQueen's Vall**	**7.67**	**206**	SN	S	19 22 28.2	-9.1

*ISCJB **04** 19:33:59.1±0.5, 38.°47N±0.°02×23.°98E±0.°03, h12km±3km, Error ellipse: s-maj=4.3km s-min=2.9km az=159.0*

*THE **04** 19:33:59.5, 38.°48N×23.°95E, h13km, ML2.8/5, Error ellipse: s-maj=0.8km s-min=0.5km az=67.0*

*ATH **04** 19:33:59.0, 38.°49N×24.°00E, h20km±2km, ML2.8*

*CSEM **04** 19:33:59.1±0.1, 38.°47N×23.°97E, h15km, ML2.8/5, Error ellipse: s-maj=3.0km s-min=2.1km az=64.0*

ISC 04 19:33:59.6±0.9**, 38.°48N**±0.°02**×23.°96E**±0.°02**, h14**km±6km**, n61, σ0.s53**/103**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERET	**Eretria**	**0.12**	**253**	P	**Pg**	**19 34 03.0**	**-0.2**
ERET				S	**Sg**	**19 34 05.3**	**-0.2**
ERET	**Eretria**	**0.12**	**253**	P	**Pg**	**19 34 03.0**	**-0.2**
MRKA	**Markates**	**0.37**	**308**	P	**Pg**	**19 34 06.8**	**-0.3**
MRKA				S	**Sg**	**19 34 12.1**	**-0.1**
MRKA	**Markates**	**0.37**	**308**	P	**Pg**	**19 34 06.8**	**-0.3**
MRKA				S	**Sg**	**19 34 12.1**	**-0.1**
PTL	**Penteli**	**0.43**	**190**	P	**Pg**	**19 34 08.2**	**0.0**
PTL				S	**Sg**	**19 34 14.2**	**0.0**
PTL	**Penteli**	**0.43**	**190**	ePB	**Pg**	**19 34 08.3**	**0.0**
PTL				eSB	**Sg**	**19 34 14.4**	**+0.2**
PTL	**Penteli**	**0.43**	**190**	ePb	**Pg**	**19 34 08.3**	**0.0**
PTL				eSb	**Sg**	**19 34 14.4**	**+0.2**
MRMA	**Marmari**	**0.54**	**142**	P	**Pg**	**19 34 09.7**	**-0.4**
MRMA				S	**Sg**	**19 34 17.2**	**-0.1**
MRMA	**Marmari**	**0.54**	**142**	P	**Pg**	**19 34 09.7**	**-0.4**
MRMA				S	**Sg**	**19 34 17.2**	**-0.1**
ATH	**Athens Observa**	**0.54**	**201**	P	**Pg**	**19 34 09.9**	**-0.3**
ATH				S	**Sg**	**19 34 18.3**	**+0.9**
ATH	**Athens Observa**	**0.54**	**201**	ePN	**Pg**	**19 34 10.0**	**-0.3**
ATH				eSN	**Sg**	**19 34 18.5**	**+1.1**
ATH	**Athens Observa**	**0.54**	**201**	P	**Pg**	**19 34 09.9**	**-0.3**
ATH				S	**Sg**	**19 34 18.3**	**+0.9**
AOS	**Alonnisos**	**0.69**	**355**	P	**Pg**	**19 34 12.8**	**-0.3**
AOS				S	**Sg**	**19 34 22.6**	**+0.3**
AOS	**Alonnisos**	**0.69**	**355**	P	**Pg**	**19 34 12.8**	**-0.3**
AOS				S	**Sg**	**19 34 22.6**	**+0.3**
ATAL	**Atalanti**	**0.77**	**287**	P	**Pg**	**19 34 13.6**	**-0.9**
ATAL				S	**Sg**	**19 34 24.7**	**+0.1**
ATAL	**Atalanti**	**0.77**	**287**	P	**Pg**	**19 34 13.6**	**-0.9**
ATAL				S	**Sg**	**19 34 24.7**	**+0.1**
LKR	**Lokris**	**0.77**	**283**	P	**Pg**	**19 34 13.5**	**-1.1**
LKR				S	**Sg**	**19 34 25.3**	**+0.6**
LKR	**Lokris**	**0.77**	**283**	ePN	**Pg**	**19 34 15.0**	**+0.4**
LKR				eSN	**Sb**	**19 34 26.1**	**+1.0**
LKR	**Lokris**	**0.77**	**283**	P	**Pg**	**19 34 13.5**	**-1.1**
LKR	**Lokris**	**0.77**	**283**	ePn	**Pg**	**19 34 15.0**	**+0.4**
LKR				S	**Sg**	**19 34 25.3**	**+0.6**
LKR				eSn	**Sb**	**19 34 26.1**	**+1.0**
SKIA	**Skiathos**	**0.79**	**331**	P	**Pg**	**19 34 15.1**	**+0.2**
SKIA				S	**Sg**	**19 34 25.4**	**+0.1**
SKIA	**Skiathos**	**0.79**	**331**	P	**Pg**	**19 34 15.1**	**+0.2**
SKIA				S	**Sg**	**19 34 25.4**	**+0.1**
NAIG	**Nisos Aigina**	**0.81**	**207**	ePN	**Pg**	**19 34 14.7**	**-0.6**
NAIG	**Nisos Aigina**	**0.81**	**207**	ePn	**Pg**	**19 34 14.7**	**-0.6**
LTK	**Loutraki**	**0.90**	**240**	P	**Pg**	**19 34 16.6**	**-0.5**
LTK				S	**Sg**	**19 34 29.4**	**+0.5**
LTK	**Loutraki**	**0.90**	**240**	ePN	**Pg**	**19 34 16.5**	**-0.5**
LTK				eSB	**Sg**	**19 34 29.5**	**+0.5**
LTK	**Loutraki**	**0.90**	**240**	P	**Pg**	**19 34 16.6**	**-0.5**
LTK				S	**Sg**	**19 34 29.4**	**+0.5**
NEO	**Neokhori**	**1.01**	**325**	ePN	**Pb**	**19 34 18.9**	**+0.1**
NEO				eSN	**Sg**	**19 34 32.2**	**0.0**
NEO	**Neokhori**	**1.01**	**325**	ePn	**Pb**	**19 34 18.9**	**+0.1**
NEO				eSn	**Sg**	**19 34 32.2**	**0.0**
XOR	**Xorichti**	**1.07**	**326**	P	**Pb**	**19 34 19.7**	**-0.2**
XOR				S	**Sb**	**19 34 33.9**	**+0.1**
XOR	**Xorichti**	**1.07**	**326**	P	**Pb**	**19 34 19.7**	**-0.2**
XOR				S	**Sb**	**19 34 33.9**	**+0.1**
DESF	**Desfina**	**1.12**	**267**	P	**Pb**	**19 34 20.0**	**-0.8**
DESF				S	**Sb**	**19 34 35.7**	**+0.4**
DESF	**Desfina**	**1.12**	**267**	P	**Pb**	**19 34 20.0**	**-0.8**
DESF				S	**Sb**	**19 34 35.7**	**+0.4**
DID	**Didima**	**1.12**	**211**	P	**Pb**	**19 34 20.1**	**-0.7**
DID				S	**Sb**	**19 34 35.5**	**+0.2**
DID	**Didima**	**1.12**	**211**	ePN	**Pb**	**19 34 20.3**	**-0.5**
DID				eSN	**Sb**	**19 34 36.3**	**+1.0**
DID	**Didima**	**1.12**	**211**	ePn	**Pb**	**19 34 20.3**	**-0.5**
DID				S	**Sb**	**19 34 35.5**	**+0.2**
DID				eSn	**Sb**	**19 34 36.3**	**+1.0**
DSF	**Desfina**	**1.13**	**267**	P	**Pb**	**19 34 19.7**	**-1.2**
DSF				S	**Sb**	**19 34 35.4**	**0.0**
DSF	**Desfina**	**1.13**	**267**	P	**Pb**	**19 34 19.7**	**-1.2**
DSF				S	**Sb**	**19 34 35.4**	**0.0**
GUR	**Goura**	**1.38**	**247**	P	**Pn**	**19 34 24.0**	**-0.6**
GUR				S	**Sn**	**19 34 41.9**	**-0.8**
GUR	**Goura**	**1.38**	**247**	ePN	**Pn**	**19 34 25.3**	**+0.7**
GUR	**Goura**	**1.38**	**247**	P	**Pn**	**19 34 24.0**	**-0.6**
GUR	**Goura**	**1.38**	**247**	ePn	**Pn**	**19 34 25.3**	**+0.7**
GUR				S	**Sn**	**19 34 41.9**	**-0.8**
EFP	**Efpalio**	**1.61**	**269**	ePN	**Pb**	**19 34 30.0**	**+0.9**
EFP	**Efpalio**	**1.61**	**269**	ePn	**Pb**	**19 34 30.0**	**+0.9**
CHOS	**Chios island**	**1.65**	**93**	ePN	**Pn**	**19 34 28.4**	**+0.2**
CHOS	**Chios island**	**1.65**	**93**	ePn	**Pn**	**19 34 28.4**	**+0.2**
VLX	**Vlachokerasia**	**1.67**	**229**	P	**Pn**	**19 34 28.4**	**-0.1**
VLX				S	**Sn**	**19 34 49.8**	**+0.1**
VLX	**Vlachokerasia**	**1.67**	**229**	ePN	**Pb**	**19 34 30.9**	**+0.8**
VLX	**Vlachokerasia**	**1.67**	**229**	P	**Pn**	**19 34 28.4**	**-0.1**
VLX	**Vlachokerasia**	**1.67**	**229**	ePn	**Pb**	**19 34 30.9**	**+0.8**
VLX				S	**Sn**	**19 34 49.8**	**+0.1**
APE	**Apeiranthos**	**1.88**	**138**	P	**Pn**	**19 34 31.0**	**-0.3**
APE	**Apeiranthos**	**1.88**	**138**	ePB	**Pn**	**19 34 31.6**	**+0.3**
APE				eSN	**Sb**	**19 34 57.4**	**+0.4**
APE	**Apeiranthos**	**1.88**	**138**	P	**Pn**	**19 34 31.0**	**-0.3**
APE	**Apeiranthos**	**1.88**	**138**	ePb	**Pn**	**19 34 31.6**	**+0.3**
APE				eSn	**Sb**	**19 34 57.4**	**+0.4**
PLG	**Polygyros**	**1.94**	**348**	ePN	**Pn**	**19 34 32.4**	**+0.3**
PLG	**Polygyros**	**1.94**	**348**	ePn	**Pn**	**19 34 32.4**	**+0.3**
VLI	**Veliai**	**1.94**	**205**	P	**Pn**	**19 34 31.8**	**-0.3**
VLI	**Veliai**	**1.94**	**205**	ePB	**Pn**	**19 34 31.7**	**-0.3**
VLI	**Veliai**	**1.94**	**205**	ePb	**Pn**	**19 34 31.7**	**-0.3**
KYTH	**Kithira**	**2.31**	**199**	P	**Pn**	**19 34 36.9**	**-0.4**
KYTH	**Kithira**	**2.31**	**199**	P	**Pn**	**19 34 36.9**	**-0.4**

IDC 04 19:45:22.5±1.8**, 3.°98N×126.°79E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.4**/23**, mbtmp3.5**/4**, Error ellipse: s-maj=156.5km s-min=22.1km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	19 50 46.6	-0.8
	2.7nm,0.8s,baz=342,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	19 51 19.2	+0.9
	0.1nm,0.3s,baz=346,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	19 55 13.2	+0.4
	0.3nm,0.6s,baz=119,slow=8.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.56**	**327**	P	P	19 55 41.1	-0.4
	0.5nm,0.8s,baz=123,slow=7.2,SNR=6.8						

IDC 04 19:46:58.1±10.0**, 2.°14N×95.°53E, h0**km**, mb3.6**/3**, mb1 3.6**/4**, mb1mx3.3**/25**, mbtmp3.5**/4**, ML2.2**/1**, Error ellipse: s-maj=204.4km s-min=112.9km az=148.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.56**	**11**	Pn	Pn	19 50 51.8	-0.1
	0.0nm,0.3s,baz=200,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**45.95**	**347**	P	P	19 55 22.9	+0.1
	0.5nm,0.7s,baz=161,slow=8.0,SNR=6.5						
SONM	**Songino Array**	**46.48**	**10**	P	P	19 55 27.1	0.0
	0.5nm,1.0s,baz=184,slow=9.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**52.38**	**352**	P	P	19 56 11.6	-0.4
	1.0nm,0.6s,baz=184,slow=6.9,SNR=4.7						

IDC 04 19:47:37.3±2.6**, 22.°79S×68.°66W, h0**km**, mb3.9**/2**, mb1 4.0**/3**, mb1mx3.7**/17**, mbtmp3.8**/3**, ML3.5**/1**, Error ellipse: s-maj=81.3km s-min=51.5km az=54.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.49**	**4**	Pn	Pn	19 49 14.9	0.0
	0.6nm,0.3s,baz=190,slow=5.3,SNR=18						
TORD	**Torodi Ar. Bea**	**77.57**	**70**	P	P	19 59 35.4	-0.3
	1.1nm,1.2s,baz=253,slow=5.7,SNR=3.9						
YKA	**Yellowknife Ar**	**92.47**	**340**	P	P	20 00 49.0	-0.6
	0.3nm,0.6s,baz=132,slow=4.4,SNR=9.1						
MKAR	**Makanchi Array**	**146.52**	**37**	PKPbc	PKPbc	20 07 20.9	+0.3
	0.3nm,0.6s,baz=320,slow=4.5,SNR=4.5						

IDC 04 19:49:58.3±2.1**, 27.°17N×101.°93E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/25**, mbtmp3.4**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/27**, Error ellipse: s-maj=64.0km s-min=24.6km az=97.0, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.16**	**160**	Pg	Pg	19 50 42.7	+2.9
KMI				Sg	Sg	19 51 15.9	+8.0
KMI				smax	smax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,94nm,0.9s						
KMI				smax	smax		
	comp=E,96nm,0.9s						
KMI				LR	LR		
	comp=N,360nm,5.4s						
KMI				LR	LR		
	comp=E,410nm,6.2s						
KMI				LR	LR		
	comp=Z,230nm,8.7s						
CD2	Chengdu	4.05	23	Pg	Pg	19 51 15.5	-0.5
CD2				Sg	Sg	19 52 09.8	+1.2
CD2				smax	smax		
	comp=N,80nm,0.8s						
CMAR	Chiang Mai Arr	9.10	198	Pg	Pn	19 52 46.1	+35
	comp=N,0.1nm,0.3s,baz=4.7,slow=17,SNR=7.1						
CMAR				Lg	Lg	19 54 48.5	
	comp=N,0.0nm,0.3s,baz=15,slow=28,SNR=4.5						
SONM	Songino Array	20.92	8	P	P	19 54 43.1	+0.6
	comp=N,0.4nm,0.9s,baz=198,slow=11,SNR=3.0						
AAK	Ala-Archa	27.12	312	LR	LR	20 07 07.5	
	comp=N,55nm,19.1s,baz=169,slow=38						
WRA	Warramunga Arr	56.39	143	P	P	19 59 41.5	-0.2
	comp=N,0.4nm,0.3s,baz=329,slow=8.1,SNR=7.0						
ASAR	Alice Springs	59.23	146	P	P	20 00 01.1	-0.4
	comp=N,0.3nm,0.5s,baz=323,slow=6.6,SNR=7.3						

---

*ISK **04** 20:06:42.6, 38°.13N×26°.60E, h10km, MD2.7*
*ISCJB **04** 20:06:43.1±0.7, 38°.11N±0°.03×26°.58E±0°.04, h7km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=149.8*
*ATH **04** 20:06:43.4, 38°.11N×26°.56E, h30km±2km, MD3.0/3*
*DDA **04** 20:06:43.9, 38°.15N×26°.68E, h15km, MD2.8*
*CSEM **04** 20:06:43.4±0.2, 38°.10N×26°.59E, h10km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.9km az=53.0*
ISC 04 20:06:43.2±1.0**, 38°.11N**±0°.03×**26°.59E**±0°.03**, h11**km±9km**, n35, σ0s40**/58**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.25	0	*i* P	Pg	20 06 48.6	+0.2
URLA				*i* S	Sg	20 06 52.0	+0.1
URLA	Izmir	0.25	0	*i* P	Pg	20 06 48.6	+0.2
URLA				*i* S	Sg	20 06 52.0	+0.1
BLCB	Balcova	0.45	52	PG	Pg	20 06 51.9	-0.1
BLCB				SG	Sg	20 06 57.4	-0.6
BLCB	Balcova	0.45	52	*i* Pg	Pg	20 06 51.9	-0.1
BLCB				*i* Sg	Sg	20 06 57.4	-0.6
CHOS	Chios island	0.51	304	*e*PB	Pb	20 06 54.0	-0.2
CHOS				*e*SB	Sb	20 07 01.5	-0.2
CHOS	Chios island	0.51	304	*e*Pb	Pb	20 06 54.0	-0.2
CHOS				*e*Sb	Sb	20 07 01.5	-0.2
IZM	Izmir	0.60	61	*e*PG	Pg	20 06 55.1	+0.2
IZM				*e*SG	Sg	20 07 03.0	+0.2
IZM	Izmir	0.60	61	*e*Pg	Pg	20 06 55.1	+0.2
IZM				*e*Sg	Sg	20 07 03.0	+0.2
GCAM	G?zelcaml?	0.65	128	*i* P	Pb	20 06 56.5	0.0
GCAM				*i* S	Sb	20 07 06.1	+0.5
GCAM	G?zelcaml?	0.65	128	*i* P	Pb	20 06 56.5	0.0
GCAM				*i* S	Sb	20 07 06.1	+0.5
AYDN	Tasoluk	1.11	113	*i* P	Pb	20 07 03.9	-0.5
AYDN				*i* S	Sg	20 07 19.1	+0.1
AYDN	Tasoluk	1.11	113	*i* P	Pb	20 07 03.9	-0.5
AYDN				*i* S	Sg	20 07 19.1	+0.1
PRK	Paraskevi	1.17	348	*e*PN	Pg	20 07 05.6	0.0
PRK				*e*SN	Sg	20 07 20.4	-0.3
PRK	Paraskevi	1.17	348	*e*Pn	Pg	20 07 05.6	0.0
PRK				*e*Sn	Sg	20 07 20.4	-0.3
BODT	Bodrum	1.19	151	*e*PN	Pb	20 07 05.9	+0.2
BODT	Bodrum	1.19	151	*e*Pn	Pb	20 07 05.9	+0.2
AKHS	Akhisar	1.23	51	*i* P	Pg	20 07 07.2	+0.4
AKHS				*i* S	Sg	20 07 22.5	-0.3
AKHS	Akhisar	1.23	51	*i* P	Pg	20 07 07.2	+0.4
AKHS				*i* S	Sg	20 07 22.5	-0.3
BDRM	Kayabasi	1.24	147	*i* P	Pn	20 07 06.4	-0.1
BDRM				*i* S	Sb	20 07 22.2	-0.4
BDRM	Kayabasi	1.24	147	*i* P	Pn	20 07 06.4	-0.1
BDRM				*i* S	Sb	20 07 22.3	-0.4
APE	Apeiranthos	1.34	220	*e*PN	Pn	20 07 07.7	-0.2
APE	Apeiranthos	1.34	220	*e*PN	Pn	20 07 07.5	-0.3
APE				*e*SN	Sn	20 07 25.8	+0.1
APE	Apeiranthos	1.34	220	*e*Pn	Pn	20 07 07.7	-0.2
APE				*e*Sn	Sn	20 07 25.8	+0.1
MANT	Manisa	1.59	75	*i* P	Pb	20 07 12.7	-0.1
MANT				*i* S	Sb	20 07 32.4	-0.6
MANT	Manisa	1.59	75	*i* P	Pb	20 07 12.7	-0.1
MANT				*i* S	Sb	20 07 32.4	-0.6
KULA	Kula-Manisa	1.68	75	*e*PN	Pb	20 07 13.1	-1.0
KULA	Kula-Manisa	1.68	75	*e*Pn	Pb	20 07 13.1	-1.0
BALY	Balya	1.82	26	*i* P	Pb	20 07 16.4	-0.1
BALY				*i* S	Sg	20 07 41.3	-0.3
BALY	Balya	1.82	26	*i* P	Pb	20 07 16.4	-0.1
KRBG	Karabiga-Canak	2.35	13	*e*PN	Pn	20 07 21.9	+0.2
KRBG	Karabiga-Canak	2.35	13	*e*Pn	Pn	20 07 21.9	+0.2
TVSB	Tavsanli	2.61	58	*e*PN	Pn	20 07 26.1	+0.7
TVSB	Tavsanli	2.61	58	*e*Pn	Pn	20 07 26.1	+0.7
ALN	Alexandroupoli	2.82	352	*e*PN	Pn	20 07 29.0	+0.8
ALN	Alexandroupoli	2.82	352	*e*Pn	Pn	20 07 29.0	+0.8

---

*IDC **04** 20:15:41.3±3.7, 36°.19N×70°.44E, h195km±32km, mb3.1/8, mb1 3.2/13, mb1mx3.1/31, mbtmp3.1/13, Error ellipse: s-maj=25.4km s-min=18.6km az=12.0*
*ISCJB **04** 20:15:42.6±0.5, 36°.41N±0°.04×70°.21E±0°.08, h204km, mb3.2/7, Error ellipse: s-maj=9.9km s-min=4.4km az=162.3*
*NNC **04** 20:15:52.0±6.3, 37°.04N×70°.68E, h209km±57km, mb2.7, mpv4.1, Error ellipse: s-maj=56.6km s-min=34.2km az=11.0*
ISC 04 20:15:43.3±0.7**, 36°.36N**±0°.06×**70°.43E**±0°.09**, h204**km**, n51, σ2s05**/51**, mb3.2**/7**, 4C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.81	154	⇓P	Pn	20 16 34.6	+3.5
CEP				S	S	20 17 06.0	-1.8
CHCP	Chirah Chowk	3.56	138	⇓P	Pn	20 16 43.5	+3.6
THW	Thamme Wali	3.72	163	⇓P	Pn	20 16 44.9	+3.0
THN	Thein Dam	5.87	130	*e*P	Pn	20 17 10.6	+1.7
THN				*e*x	x	20 18 18.1	
DLH	Dalhousie	5.96	128	*e*S	S	20 18 14.5	-4.2
AML	Almayashu	6.29	23	P	Pn	20 17 15.1	+0.4
	SNR=46						
UCH	Uchtor	6.66	27	P	Pn	20 17 20.4	+0.9
	SNR=6.0						
KK31	Karatay Array	6.73	1	⇓P	Pn	20 17 19.9	-0.1
	2.9nm,0.2s,baz=178,slow=11,SNR=17						
KK31				⇑S	S	20 18 31.7	-4.9
	2.8nm,0.4s,baz=183,slow=15,SNR=5.1						
EKS2	Erkin-Say	6.80	21	P	Pn	20 17 21.7	+0.7
	SNR=23						
KZA	Kyzart	6.83	32	P	Pn	20 17 22.2	+0.6
	SNR=7.7						
AAK	Ala-Archa	7.01	25	P	Pn	20 17 24.5	+0.8
	3.7nm,0.3s,baz=171,slow=7.1,SNR=86						
AAK				S	S	20 18 42.2	-1.1
	3.1nm,0.3s,baz=119,slow=23,SNR=15						
AAK	Ala-Archa	7.01	25	P	Pn	20 17 24.4	+0.7
	SNR=21						
KBK	Karagaybulak	7.19	28	P	Pn	20 17 27.0	+0.9
	SNR=12						
ULHL	Ulahol	7.40	36	P	Pn	20 17 29.4	+0.5
	SNR=9.1						
CHMS	Chumysh	7.42	25	P	Pn	20 17 29.8	+0.9
	SNR=7.8						
USP	Ospenovka	7.57	23	P	Pn	20 17 31.2	+0.3
	SNR=5.7						
TKM2	Tokmak 2	7.67	30	⇓P	Pn	20 17 32.6	+0.3
	12nm,0.7s						
TKM2				⇓S	S	20 18 50.3	-8.7
	7.3nm,0.8s						
TKM2	Tokmak 2	7.67	30	P	Pn	20 17 32.8	+0.5
	SNR=25						
KKR	Kurukshetra	8.33	138	*e*x	x	20 18 58.0	
KHET	Khetri	9.43	150	*e*P	Pn	20 17 54.8	-0.4
KHET				*e*S	S	20 19 35.0	-6.0
KHET				AML	AML	20 19 42.0	
	comp=N,15nm,0.2s						
KHET				AML	AML	20 19 42.8	
	comp=E,13nm,0.2s						
AYAN	Aya Nagar	9.68	142	*e*S	S	20 19 42.0	-4.8
AYAN				AML	AML	20 19 46.0	
	comp=Z,14nm,0.4s						
AGRA	Agra	11.12	143	*e*S	S	20 20 15.8	-4.7
PYUN	Piuthan	13.44	124	*e*P	Pn	20 18 46.1	-0.3
MK31	Makanchi Array	13.68	37	⇑P	P	20 18 52.2	+1.1
	comp=Z,0.2nm,0.4s,baz=211,slow=8.4,SNR=8.2						
MKAR	Makanchi Array	13.68	37	P	Pn	20 18 49.4	+0.5
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=7.1						
DANN	Dangsing	13.80	122	*e*P	P	20 18 52.4	-0.6
	comp=Z,4.7nm,0.4s						
KOLN	Koldanda	14.06	124	*e*P	P	20 18 55.5	-0.3
	comp=Z,2.7nm,0.3s						
GKN	Gorkha	14.62	121	*e*P	P	20 19 03.7	+1.8
	comp=Z,7.9nm,0.5s						
AB31	Akbulak array	14.99	333	P	Pn	20 19 04.1	-0.8
	comp=Z,1.3nm,0.4s,baz=159,slow=12,SNR=55						
KKN	Kakani	15.20	120	*e*P	P	20 19 11.6	+3.2
KURBB	Kurchatov Arra	15.40	20	P	Pn	20 19 08.9	-1.1
	comp=Z,0.0nm,0.3s,baz=211,slow=11,SNR=10						
PKI	Pulchoki	15.43	120	*e*P	P	20 19 13.8	+2.8
	comp=Z,17nm,0.6s						
GUN	Gumba	15.55	118	*e*P	Pn	20 19 16.6	+4.2
	comp=Z,12nm,0.8s						
JIRN	Jiri	15.92	119	*e*P	Pn	20 19 20.5	+3.6
	comp=Z,4.9nm,0.5s						
ZRNK	Zerenda	16.62	357	⇑P	Pn	20 19 25.7	+1.1
	comp=Z,1.7nm,0.7s						
RAMN	Ramite	16.64	120	*e*P	Pn	20 19 27.8	+2.4
BVA0	Borovoye Array	16.66	360	P	Pn	20 19 24.9	-0.2
	comp=Z,0.5nm,1.1s,baz=173,slow=11,SNR=24						
BVAR	Borovoye Array	16.66	360	P	Pn	20 19 25.4	+0.3
	comp=Z,0.5nm,0.3s,baz=172,slow=11,SNR=17						
AKTO	Aktyubinsk	16.68	331	P	Pn	20 19 24.3	-0.9
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=7.3						
AKTO	Aktyubinsk	16.68	331	⇑P	Pn	20 19 26.1	+0.8
BRVK	Borovoye	16.70	360	⇓P	Pn	20 19 26.2	+0.7
TAPN	Taplejung	17.19	117	*e*P	Pn	20 19 34.7	+2.7
	comp=Z,4.3nm,0.5s						
ODAN	Odare	17.26	119	*e*P	Pn	20 19 34.9	+2.3
	comp=Z,7.5nm,0.6s						
ZALV	Zalesovo Beam	20.23	25	P	P	20 20 03.3	+0.7
	comp=Z,1.7nm,0.3s,baz=220,slow=10,SNR=16						
SONM	Songino Array	28.79	55	P	P	20 21 23.4	+1.2
	comp=Z,0.2nm,0.7s,baz=270,slow=8.6,SNR=3.6						
ARCES	ARCESS Array B	41.10	338	P	P	20 23 08.0	+1.3
	comp=Z,1.4nm,0.7s,baz=106,slow=8.9,SNR=5.3						
TORD	Torodi Ar. Bea	65.25	268	P	P	20 26 02.3	-1.0
	comp=Z,0.6nm,0.6s,baz=50,slow=5.7,SNR=12						
ILAR	Eielson Array	75.04	16	P	P	20 27 00.3	-1.7
	comp=Z,0.4nm,0.8s,baz=340,slow=4.8,SNR=4.8						
YKA	Yellowknife Ar	81.40	2	P	P	20 27 36.6	-0.2
	comp=Z,0.2nm,0.6s,baz=347,slow=5.2,SNR=5.8						
WRA	Warramunga Arr	82.31	122	P	P	20 27 41.5	-0.8
	comp=Z,0.3nm,0.7s,baz=325,slow=4.9,SNR=3.1						
ASAR	Alice Springs	84.56	125	P	P	20 27 51.0	-2.6
	comp=Z,0.6nm,1.1s,baz=322,slow=4.5,SNR=4.1						

IDC 04 20:37:40.1±2.6**, 8°.87S**×**108°.29E, h0**km**, mb3.5**/6**, mb1 3.6**/6**, mb1mx3.5**/22**, mbtmp3.5**/6**, Error ellipse: s-maj=117.6km s-min=20.4km az=50.0, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.48	116	P	P	20 43 28.7	+0.3
	0.3nm,0.5s,baz=290,slow=10,SNR=4.0						
ASAR	Alice Springs	28.58	124	P	P	20 43 37.7	-0.5
	0.3nm,0.8s,baz=307,slow=6.9,SNR=3.7						
SONM	Songino Array	56.48	358	P	P	20 47 24.9	+0.9
	0.5nm,0.5s,baz=178,slow=8.2,SNR=7.7						
MKAR	Makanchi Array	60.07	340	P	P	20 47 48.7	-0.3
	0.7nm,0.5s,baz=150,slow=8.1,SNR=17						
KURBB	Kurchatov Arra	64.64	340	P	P	20 48 19.3	-0.2
	0.4nm,0.6s,baz=160,slow=5.1,SNR=4.7						
ZALV	Zalesovo Beam	65.66	345	P	P	20 48 25.7	-0.3
	0.2nm,0.3s,baz=152,slow=6.5,SNR=2.5						

---

*BJI **04** 20:45:27.0, 16°.34N×146°.16E, h145km, mB5.0/32, mb5.1/51*
*ISCJB **04** 20:45:28.4±0.7, 16°.23N±0°.03×145°.73E±0°.02, h139km±6km, mb5.1/191, Error ellipse: s-maj=4.6km s-min=3.2km az=170.7*
*MOS **04** 20:45:28.9±1.2, 16°.25N×145°.68E, h154km, mb5.1/34, Error ellipse: s-maj=9.4km s-min=6.2km az=100.2*
*IDC **04** 20:45:29.5±0.4, 16°.18N×145°.66E, h148km±3km, mb4.4/37, mb1 4.5/39, mb1mx4.5/41, mbtmp4.5/39, MS3.7/4, Ms1 3.7/4, ms1mx3.1/44, Error ellipse: s-maj=9.5km s-min=5.1km az=90.0*
*NEIC **04** 20:45:29.4±0.2, 16°.21N×145°.78E, mb5.2/90, Error ellipse: s-maj=5.2km s-min=4.1km az=153.0*
NEIC Felt on Saipan.
*DJA **04** 20:45:31.3±1.3, 16°N±7°×14°6E±1°5, h150km±9km, M5.2/42, mB5.6/17, mb5.3/42, MLv5.3/1, Mw(mB)5.1/17*
*GCMT **04** 20:45:33.2±0.3, 16°.23N×145°.88E, h152km±2km, MW5.0, Moment Tensor Solution. s23,c26; s65,c84; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.97±.11; $M_{\theta\theta}$3.23±.14; $M_{\phi\phi}$-0.26±.15; $M_{r\theta}$-0.68±.13; $M_{\theta\phi}$-1.65±.17; $M_{\phi r}$-0.23±.12; Best double couple: $M_0$3.50000×10^{16} NP1:ϕ_s304.00000°, δ42.00000°, λ-72.00000°. NP2:ϕ_s100.00000°, δ51.00000°, λ-105.00000°. Principal axes: T 3.9300, Plg5.0000°, Azm201.0000°; N -0.8200, Plg12.0000°, Azm110.0000°; P -3.1100, Plg77.0000°, Azm312.0000°; Data Used: IC G IU CN II.*
ISC 04 20:45:29.6±0.3**, 16°.19N**±0°.03×**145°.80E**±0°.04**, h147**km±2km**, h146**km**:pP-P, n695, σ1s34**/809**, mb5.1**/191**, 157C-145D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.74	199	P	Pn	20 46 14.0	+0.4
	783nm,0.3s,baz=112,slow=2.8,SNR=208						
GUMO				S	Sn	20 46 45.9	-1.6
	1µm,0.3s,baz=24,slow=22,SNR=5.1						
GUMO	Guam	2.74	199	P	Pn	20 46 14.0	+0.4
GUMO				S	Sn	20 46 45.9	-1.6
CBIJ	Chichi jima	11.36	343	P	Pn	20 48 09.0	+1.5
	11nm,0.3s,baz=270,slow=17,SNR=4.5						
CBIJ				S	Sn	20 50 11.6	-1.4
	4.7nm,0.3s,baz=90,slow=20,SNR=2.8						
CBIJ	Chichi jima	11.36	343	P	Pn	20 48 09.0	+1.5
CBIJ				S	Sn	20 50 11.6	-1.4
JAY	Jayapura	19.26	196	P	Pn	20 49 46.1	+0.6
	60nm,0.8s						
SMPI	Sarmi	19.38	202	P	Pn	20 49 47.3	+0.4
	73nm,1.1s,1µm						
JOW	Kunigami	19.42	306	P	Pn	20 49 47.3	0.0
	11nm,0.3s,baz=135,slow=8.6,SNR=8.5						
JOW	Kunigami	19.42	306	*e*P	Pn	20 49 47.1	-0.2
	26nm,0.7s						
JOW				*e*		20 50 20.2	
CNP	Catarman	20.80	263	*e*P	Pn	20 50 02.1	-1.6
WAMI	Wamena	21.15	200	P	P	20 50 15.1	+12
MSLP	Maasin	21.25	256	*e*P	P	20 50 06.9	+2.5
MJAR	Matsushiro Arr	21.36	343	P	P	20 50 03.6	-1.7
	1.3nm,0.5s,baz=164,slow=9.4,SNR=11						
MJAR				S	S	20 53 49.2	-4.5
	1.6nm,0.8s,baz=158,slow=15,SNR=4.3						
MJAR	Matsushiro Arr	21.36	343	P	P	20 50 03.6	-1.7
MJAR				S	S	20 53 49.2	-4.5
MAT	Matsushiro	21.36	343	P	P	20 50 04.2	-1.1
MAT				*e*S	S	20 53 51.1	-2.6
JNU	Nakatsue	21.59	324	P	P	20 50 08.7	+0.8
	34nm,0.7s,baz=160,slow=2.5,SNR=38						
JNU	Nakatsue	21.59	324	*e*P	P	20 50 08.3	+0.5
	12nm,0.6s						
DAV	Davao City (W)	21.76	248	P	P	20 50 11.5	+1.7
	292nm,0.5s,baz=82,slow=3.6,SNR=1.6						
DAV	Davao City (W)	21.76	248	P	P	20 50 11.6	+1.7
BUKP	Musuan	21.89	250	*e*P	P	20 50 12.1	+1.0
SWI	Sorong	22.21	222	P	P	20 50 13.7	-0.6
	228nm,0.8s,2µm						
CTBH	Cotabato--PC H	22.89	250	⇓*i*P	P	20 50 22.0	+1.2
CAUP	Cauayan	22.99	275	*e*P	P	20 50 24.5	+2.7
FAKI	Fak Fak	23.24	216	P	P	20 50 23.9	-0.1
	68nm,1.1s,650nm						
BALP	Baler	23.29	272	*e*P	P	20 50 26.2	+1.7
PAGZ	Pagadian	23.42	252	*e*P	P	20 50 27.5	+1.8
ABRA	Dolores	24.04	277	*e*P	P	20 50 31.5	+0.2
TGY	Tagaytay City	24.09	268	P	P	20 50 31.5	-0.3
	234nm,0.6s,baz=95,slow=1.0,SNR=12						
TGY	Tagaytay City	24.09	268	P	P	20 50 31.5	-0.3
YULB	Yu-li	24.12	291	*e*P	P	20 50 32.4	+0.4
	26nm,0.8s						
TWG	Pinlang	24.20	290	*e*P	P	20 50 33.5	+0.8
	134nm,0.8s						
TWG				*e*		20 51 11.2	
YHNB	Yeheng	24.36	294	*e*P	P	20 50 35.2	+0.9
	48nm,0.7s						
SSLB	Suanglung	24.52	292	*e*P	P	20 50 36.5	+1.0
	75nm,0.9s						
SSLB				*e*		20 51 14.5	
CUYO	Cuyo Island	24.66	261	*e*P	P	20 50 38.1	+1.1
TPUB	Ta-pu	24.70	291	*e*P	P	20 50 36.6	-0.6
	24nm,0.9s						
LUBP	Lubang	24.80	268	*e*P	P	20 50 39.7	+1.5
SCZP	Santa Cruz	24.89	273	*e*P	P	20 50 40.4	+1.4
PMG	Port Moresby	25.47	177	P	P	20 50 44.6	+0.4
	26nm,0.7s,baz=4.8,slow=12,SNR=7.2						
PMG	Port Moresby	25.47	177	P	P	20 50 44.6	+0.4
MSAI	Masohi	25.60	222	P	P	20 50 46.5	+1.1
	38nm,0.8s,1µm						
ERM	Erimo	25.83	355	*i* P	P	20 50 46.7	-0.5
AAI	Ambon	26.33	223	P	P	20 50 52.1	+0.1
	180nm,0.7s,2µm						
KSRS	Korea Array	26.42	327	P	P	20 50 52.0	-0.6
	8.0nm,0.7s,baz=138,slow=9.4,SNR=29						
KSRS				pP	pP	20 51 24.6	+1.4
	11nm,1.0s,baz=150,slow=8.7,SNR=4.6						
KSAR	Wonju Array Be	26.43	327	P	P	20 50 52.0	-0.7
KSAR				pP	pP	20 51 24.6	+1.2
ASAJ	Asahikawa	27.96	355	P	P	20 51 05.7	-0.6
	5.5nm,0.6s,baz=202,slow=9.9,SNR=13						
ASAJ	Asahikawa	27.96	355	*e*P	P	20 51 05.3	-1.0
	5.4nm,1.0s						
MRSI	Marisa	28.24	239	P	P	20 51 09.5	+0.4
	88nm,0.8s,1µm						
BATP	Bataraza	28.28	258	*e*P	P	20 51 11.2	+1.7
MYLDM	Lahad Datu	28.93	251	P	P	20 51 18.1	+2.9
MYLDM	Lahad Datu	28.93	251	P	P	20 51 16.7	+1.5
	48nm,1.2s						
HNR	Honiara	29.06	150	LR	LR	21 01 19.6	
	comp=Z,142nm,19.9s,baz=288,slow=33						
TSM	Tawau	29.87	250	P	P	20 51 23.9	+0.4
SDKM	Sandakan	29.94	253	P	P	20 51 25.0	+0.8
USRK	Ussuriysk Arra	30.27	340	P	P	20 51 25.9	-0.7
	2.4nm,0.8s,baz=126,slow=9.9,SNR=4.6						
USRK				LR	LR	21 02 21.3	
	comp=Z,102nm,19.8s,baz=302,slow=34						
KKM	Kota Kinabalu	30.69	254	*e*P	P	20 51 31.8	+0.9
	67nm,0.9s						
KKM	Kota Kinabalu	30.69	254	P	P	20 51 32.4	+1.5
KKM	Kota Kinabalu	30.69	254	P	P	20 51 31.8	+0.9
	84nm,1.0s						
MDJ	Mudanjiang	31.47	338	P	P	20 51 38.0	+0.8
MDJ				pP	pP	20 52 07.9	-0.5
MDJ				sP	sP	20 52 24.2	-1.2
MDJ				S	S	20 56 36.1	+1.8
MDJ				sS	sS	20 57 29.4	+0.2
MDJ				ScP	ScP	20 57 57.3	+0.9
MDJ				PcS	PcS	20 58 12.1	+0.9
MDJ				ScS	ScS	21 01 55.5	+1.2
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,6.3s						
TTSI	Tana Toraja	32.02	236	P	P	20 51 44.0	+1.6
	comp=Z,29nm,1.1s						
WHN	Wuhan	32.08	302	P	P	20 51 43.9	+1.1
WHN				pmax	pmax		
	comp=Z,55nm,0.8s						
CN2	Changchun	32.50	332	*e*P	P	20 51 48.5	+2.3
CN2				*e*sP	sP	20 52 35.6	+1.2
CN2				*e*S	S	20 56 52.0	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
SMKI	Samarinda	32.70	242	P	P	20 51 51.4	+3.0
	comp=Z,251nm,1.0s,comp=Z,2µm						
KAPI	Kappang	33.29	233	P	P	20 51 53.0	-0.5
	comp=Z,7.5nm,0.5s,baz=47,slow=7.8,SNR=9.6						
KAPI	Kappang	33.29	233	P	P	20 51 53.0	-0.5
KAPI	Kappang	33.29	233	P	P	20 51 54.0	+0.5
	comp=Z,28nm,1.4s						
HABR	Khabarovsk	33.38	347	*e*P	P	20 51 51.4	-2.4
HABR				*e*		20 52 41.2	
HABR				*e*		20 53 08.4	
HABR				*e*		20 54 30.3	
HABR				*e*S	S	20 57 02.1	-1.7
HABR				*e*		20 57 59.1	
HABR				*e*SS	SnSn	20 59 22.4	-0.5
HABR						21 02 01.1	
HABR				pmax	pmax		
	comp=E,21nm,2.0s						
HABR				pmax	pmax		
	comp=N,12nm,2.0s						
HABR				pmax	pmax		
	comp=Z,50nm,3.0s						
MMRI	Maumere	33.95	225	P	P	20 51 58.1	-1.1
	comp=Z,94nm,1.1s,comp=Z,873nm						
QIZ	Qiongzhong	34.35	280	P	P	20 52 04.0	+1.4
BTM	Bintulu	34.66	252	P	P	20 52 06.8	+1.4
KLR	Kul'dur	34.88	344	*e*P	P	20 52 01.7	-5.1
BJI	Beijing	35.03	319	P	P	20 52 08.1	-0.1
BJI				pmax	pmax		
	comp=Z,34nm,0.9s						
BJI				pmax	pmax		
	comp=Z,100nm,3.2s						
SBUM	Sibu	35.76	251	P	P	20 52 16.0	+1.3
SBUM	Sibu	35.76	251	P	P	20 52 15.7	+1.0
	comp=Z,47nm,1.4s						
CTA	Charters Tower	36.06	179	P	P	20 52 18.0	+0.9
	comp=Z,4.1nm,0.6s,baz=359,slow=8.2,SNR=7.9						
CTA	Charters Tower	36.06	179	P	P	20 52 18.0	+0.9
STKI	Sintang	37.46	248	P	P	20 52 29.5	+0.4
	comp=Z,63nm,0.9s						
XAN	Xi'an	37.57	305	P	P	20 52 30.6	+0.7
XAN				pP	pP	20 53 03.5	+1.7
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,44nm,6.7s						
XAN				LR	LR		
	comp=N,120nm,14.9s						
XAN				LR	LR		
	comp=Z,40nm,11.5s						
WRAB	Tennant Creek	37.62	198	*e*P	P	20 52 29.9	-0.5
WRAB				*e*S	S	20 58 03.3	-6.1
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s						
WRAB	Tennant Creek	37.62	198	*e*P	P	20 52 29.9	-0.5
	comp=Z,11nm,0.7s						
WRAB				*e*S	S	20 58 03.2	-6.1
WRAB	Tennant Creek	37.62	198	P	P	20 52 30.3	-0.1
	comp=Z,90nm,0.8s,SNR=10						
WRA	Warramunga Arr	37.64	198	P	P	20 52 29.9	-0.6
	comp=Z,5.3nm,0.5s,baz=16,slow=9.2,SNR=42						
WRA				PcP	PcP	20 54 46.2	+1.1
	comp=Z,3.0nm,0.5s,baz=14,slow=3.8,SNR=4.8						
WRA				S	S	20 58 04.3	-5.2
	comp=Z,4.2nm,0.9s,baz=19,slow=16,SNR=6.5						
WRA	Warramunga Arr	37.64	198	P	P	20 52 29.9	-0.6
WRA				PcP	PcP	20 54 46.2	+1.1
WRA				S	S	20 58 04.3	-5.2
GYA	Guiyang	37.73	292	P	P	20 52 32.2	+0.7
GYA				pP	pP	20 53 03.8	+0.4
GYA				sP	sP	20 53 21.4	+1.3
GYA				PP	PnPn	20 54 05.0	+1.5
GYA				S	S	20 58 12.3	+1.1
GYA				ScP	ScP	20 58 20.5	+1.0
GYA				PcS	PcS	20 58 35.0	+0.3
GYA				SS	SS	21 00 55.5	-7.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,610nm,17.4s						
GYA				LR	LR		
	comp=E,560nm,17.6s						
GYA				LR	LR		
	comp=Z,590nm,18.0s						
KSM	Kuching	37.90	251	*e*P	P	20 52 32.9	+0.1
	comp=Z,55nm,0.8s						
KSM				*e*		20 54 45.4	
KSM	Kuching	37.90	251	P	P	20 52 33.6	+0.7
KSM	Kuching	37.90	251	P	P	20 52 32.9	+0.1
	comp=Z,87nm,0.9s,comp=Z,820nm						

PETK Petropavlovsk- 38.01 12 P **P** **20 52 34.0 +0.7**
comp=Z,1.4nm,0.4s,baz=157,slow=4.4,SNR=9.6
PETK Petropavlovsk- 38.01 12 P **P** **20 52 34.0 +0.7**
PETK Petropavlovsk- 38.01 12 P **P** **20 52 34.0 +0.7**
HHC Hu-ho-hao-te 38.45 317 *e*P **P** **20 52 37.7 +0.4**
HHC pP **pP** **20 53 08.7 -0.6**
HHC sP **sP** **20 53 25.0 -1.0**
HHC PP **PnPn** **20 54 12.4 +0.6**
HHC S **ScP** **20 58 23.4 +1.5**
HHC sS **sS** **20 59 15.6 -1.9**
HHC SS **SS** **21 01 09.4 -7.6**
HHC ScS **ScS** **21 02 31.5 -1.0**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.7s
HHC LR LR
comp=N,230nm,11.3s
HHC LR LR
comp=E,180nm,11.8s
HHC LR LR
comp=Z,140nm,11.0s
KHKI Kahang-Kahang 38.58 233 P **P** **20 52 38.8 +0.3**
comp=Z,92nm,1.2s
PBKI Pangkalan Bun 38.61 244 P **P** **20 52 39.7 +0.9**
comp=Z,191nm,0.9s,comp=Z,2µm
BTO Baotou 39.36 315 *e*P **P** **20 52 45.2 +0.3**
FITZ Fitzroy Crossi 39.44 211 P **P** **20 52 45.6 0.0**
comp=Z,6.6nm,0.4s,baz=13,slow=8.9,SNR=31
FITZ S **S** **20 58 31.6 -5.0**
comp=Z,3.3nm,0.9s,baz=82,slow=19,SNR=3.4
FITZ Fitzroy Crossi 39.44 211 *e*P **P** **20 52 45.1 -0.4**
comp=Z,30nm,1.2s
FITZ S **S** **20 58 31.6 -5.0**
BLJI Banyuglugur 39.78 236 P **P** **20 52 49.7 +1.3**
comp=Z,67nm,0.9s
CD2 Chengdu 40.98 299 P **P** **20 52 59.3 +1.0**
CD2 pP **pP** **20 53 30.6 0.0**
CD2 sP **sP** **20 53 46.9 -0.3**
CD2 PP **PnPn** **20 54 38.7 -2.8**
CD2 S **S** **20 58 59.8 +0.2**
CD2 sS **sS** **20 59 55.0 -0.9**
CD2 SS **SS** **21 02 02.2 -5.2**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,210nm,5.5s
KMI Kunming 41.12 290 P **P** **20 53 01.7 +2.0**
KMI pmax pmax
comp=Z,20nm,1.0s
SJI Sawahan 41.23 237 P **P** **20 53 01.2 +0.7**
comp=Z,65nm,1.1s,comp=Z,6µm
ASAR Alice Springs 41.29 197 P **P** **20 53 00.2 -0.5**
comp=Z,5.1nm,0.7s,baz=20,slow=6.9,SNR=68
ASAR PcP **PcP** **20 54 58.4 +1.7**
comp=Z,2.4nm,1.0s,baz=15,slow=3.6,SNR=4.7
ASAR ScP **ScP** **20 58 32.3 -0.7**
comp=Z,1.9nm,0.9s,baz=24,slow=5.5,SNR=5.1
ASAR S **S** **20 59 00.2 -3.8**
comp=Z,7.6nm,1.0s,baz=20,slow=21,SNR=26
ASAR Alice Springs 41.29 197 P **P** **20 53 00.2 -0.5**
ASAR PcP **PcP** **20 54 58.4 +1.7**
ASAR ScP **ScP** **20 58 32.3 -0.7**
ASAR S **S** **20 59 00.2 -3.8**
PWJI Pagerwojo 41.37 237 P **P** **20 53 01.2 -0.3**
comp=Z,113nm,0.8s
PCJI Pacitan 41.98 237 P **P** **20 53 07.5 +1.1**
comp=Z,94nm,1.1s
LZH Lanzhou 42.16 306 ⇓P **P** **20 53 10.0 +2.1**
LZH pP **pP** **20 53 42.5 +2.1**
LZH sP **sP** **20 53 59.0 +2.0**
LZH PP **PP** **20 54 52.6 +4.1**
LZH S **S** **20 59 18.1 +1.0**
LZH sS **sS** **21 00 14.0 +0.4**
LZH pmax pmax
comp=Z,53nm,1.0s
LZH pmax pmax
comp=Z,320nm,6.5s
FX1 Attu Island--F 42.47 24 P **P** **20 53 11.2 +1.2**
comp=Z,29nm,0.7s,baz=231,slow=6.5,SNR=4.7
FX1 Attu Island--F 42.47 24 P **P** **20 53 11.2 +1.2**
BJII Banjamegara 42.69 240 P **P** **20 53 15.3 +2.9**
comp=Z,56nm,1.7s
TGJI Tegal 42.93 241 P **P** **20 53 15.2 +1.0**
comp=Z,85nm,1.2s
DZM Mont Dzumac 43.07 151 P **P** **20 53 17.0 +1.7**
comp=Z,24nm,0.6s,baz=342,slow=5.8,SNR=66
DZM LR LR 21 09 29.6
comp=Z,118nm,18.3s,baz=219,slow=33
DZM Mont Dzumac 43.07 151 *e*P **P** **20 53 16.6 +1.3**
DZM Mont Dzumac 43.07 151 P **P** **20 53 17.0 +1.7**
KTGM Kuala Trenggan 43.19 260 P **P** **20 53 18.7 +2.4**
MYKOM Kota Tinggi 43.71 255 P **P** **20 53 22.3 +1.8**
MYKOM Kota Tinggi 43.71 255 P **P** **20 53 21.7 +1.2**
comp=Z,76nm,1.0s,comp=Z,801nm
KGM Kluang 44.12 256 P **P** **20 53 25.3 +1.5**
LEM Lembang 44.17 242 P **P** **20 53 24.7 +0.3**
comp=Z,88nm,0.9s
CISI Cisompet, Garu 44.39 241 P **P** **20 53 24.5 -1.4**
comp=Z,101nm,0.7s
CBJI Citeko 44.62 243 P **P** **20 53 28.3 +0.6**
comp=Z,153nm,1.0s
CHTO Chiang Mai 44.67 281 ⇓*i*P **P** **20 53 29.4 +1.3**
CHTO pmax pmax
comp=Z,32nm,0.8s
CHTO Chiang Mai 44.67 281 ⇓*i*P **P** **20 53 29.4 +1.3**
comp=Z,32nm,0.8s
CHTO Chiang Mai 44.67 281 P **P** **20 53 29.9 +1.8**
SNR=8.7
CHTO Chiang Mai 44.67 281 P **P** **20 53 29.1 +1.0**
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 44.70 280 P **P** **20 53 30.0 +1.7**
comp=Z,53nm,0.8s,baz=74,slow=6.3,SNR=303
CMAR Chiang Mai Arr 44.70 280 P **P** **20 53 30.0 +1.7**
ULN Ulaanbaatar 44.81 323 *e*P **P** **20 53 28.6 -0.4**
comp=Z,8.3nm,0.8s
ULN *e*pP **pP** **20 54 00.2 -1.6**
ULN Ulaanbaatar 44.81 323 P **P** **20 53 29.9 +0.9**
comp=Z,12nm,0.8s
MBWA Marble Bar 45.08 215 *e*P **P** **20 53 30.8 -0.4**
comp=Z,14nm,0.5s
SONM Songino Array 45.17 323 P **P** **20 53 31.9 +0.1**
comp=Z,7.9nm,0.7s,baz=137,slow=8.1,SNR=62
SONM PcP **PcP** **20 55 09.3 -0.3**
comp=Z,2.8nm,0.7s,baz=142,slow=3.9,SNR=4.0
SONM S **S** **20 59 59.0 -1.4**
comp=Z,0.9nm,1.1s,baz=120,slow=10,SNR=3.6
SONM Songino Array 45.17 323 P **P** **20 53 31.9 +0.1**
SONM PcP **PcP** **20 55 09.3 -0.3**
SONM S **S** **20 59 59.0 -1.4**
FRIM Kepong 45.29 258 P **P** **20 53 35.4 +2.3**
IPM Ipoh 45.45 260 *e*P **P** **20 53 35.7 +1.4**
comp=Z,69nm,1.0s
IPM *e*PcP **PcP** **20 55 10.9 -0.1**
IPM Ipoh 45.45 260 P **P** **20 53 36.4 +2.1**
BLSI Bandar Lampung 45.49 245 P **P** **20 53 34.7 +0.1**
comp=Z,186nm,0.8s
KULM Kulim 45.56 261 *e*P **P** **20 53 37.1 +1.9**
comp=Z,71nm,1.2s
KULM Kulim 45.56 261 P **P** **20 53 37.5 +2.3**
GTA Gaotai 46.18 309 ⇓P **P** **20 53 41.2 +1.4**
GTA pP **pP** **20 54 13.1 +0.3**
GTA PcP **PcP** **20 55 15.4 +2.1**
GTA PP **PP** **20 55 31.8 +1.1**
GTA S **S** **21 00 15.0 -0.1**
GTA sS **sS** **21 01 10.8 -1.6**
GTA SS **SS** **21 03 36.1 -6.1**
GTA pmax pmax
comp=Z,26nm,1.4s
GTA pmax pmax
comp=Z,130nm,4.8s
GTA LR LR
comp=N,150nm,17.1s
GTA LR LR
comp=E,200nm,16.4s
GTA LR LR
comp=Z,190nm,16.1s
KASI Kota Agung 46.21 246 P **P** **20 53 39.5 -0.8**
comp=Z,121nm,1.2s,comp=Z,1µm
LWLI Liwa 46.36 246 P **P** **20 53 40.7 -0.8**
comp=Z,580nm,0.8s,comp=Z,5µm
SEY Seymchan 46.91 4⇓*e*P **P** **20 53 45.2 +0.2**
KSI Kapahiang 47.05 249 P **P** **20 53 46.4 -0.5**
comp=Z,133nm,1.0s
YAK Yakutsk 47.19 350 *e*P **P** **20 53 44.5 -2.6**
YAK *e**PP **pP** **20 54 17.2 -3.0**
YAK *e* 20 55 37.6
YAK *e*S S 21 00 20.0 -8.4
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK smax smax
comp=E,33nm,2.0s
YAK smax smax
comp=N,33nm,1.8s
YAK Yakutsk 47.19 350 *e*P **P** **20 53 45.2 -1.9**
comp=N,44nm,0.6s
BOD Bodaibo 47.84 338 *e*P **P** **20 53 50.9 -1.4**
BOD *e* 20 55 16.2
STKA Stephens Creek 47.97 185 P **P** **20 53 53.5 0.0**
comp=N,5.0nm,0.7s,baz=4.1,slow=8.6,SNR=11
STKA Stephens Creek 47.97 185 P **P** **20 53 53.5 0.0**
PSI Prapat 47.98 259 P **P** **20 53 55.5 +1.4**
comp=N,127nm,0.8s,baz=72,slow=4.7,SNR=95
PSI Prapat 47.98 259 P **P** **20 53 55.5 +1.4**
TLY Talaya 48.67 326 *e*P **P** **20 53 53.1 -5.7**
TLY pmax pmax
comp=Z,50nm,1.2s
TLY Talaya 48.67 326 P **P** **20 53 56.7 -2.1**
comp=Z,2.8nm,0.6s
LHMI Lhok Sumawe 49.10 263 P P 20 54 05.8 +3.2
comp=Z,294nm,0.8s,comp=Z,3µm
BBOO Buckleboo 49.61 191 *e*P **P** **20 54 05.9 -0.1**
comp=Z,179nm,0.5s
GSI Gunungsitoli 49.74 258 P **P** **20 54 08.0 +0.5**
comp=Z,496nm,0.8s,comp=Z,4µm
BSI Banda Aceh 50.60 264 P **P** **20 54 14.9 +1.0**
SHL Shillong 50.95 290 *e*P **P** **20 54 18.0 +1.4**
AFI Afiamalu 51.50 123 LR LR 21 11 43.1
comp=Z,66nm,19.6s,baz=331,slow=30
LSA Lhasa 51.66 295 P **P** **20 54 24.4 +2.2**
UNV Unalaska Valle 52.67 33 *e*P **P** **20 54 28.3 -0.3**
comp=Z,37nm,0.7s
HVS Khovu-Aksy 54.05 322⇑*e*P **P** **20 54 39.6 +0.7**
HVS pmax pmax
comp=Z,64nm,1.3s
TAPN Taplejung 54.66 292 *e*P **P** **20 54 45.1 +1.1**
comp=Z,94nm,0.5s
TAPN Taplejung 54.66 292 *e*P **P** **20 54 45.1 +1.1**
comp=Z,94nm,0.5s
ODAN Odare 54.96 292 *e*P **P** **20 54 47.2 +1.1**
comp=Z,83nm,0.5s
ODAN Odare 54.96 292 *e*P **P** **20 54 47.2 +1.1**
comp=Z,83nm,0.5s
RAMN Ramite 55.66 292 *e*P **P** **20 54 52.0 +0.9**
comp=Z,31nm,0.4s
NWAO Narrogin (SRO) 55.96 209 P **P** **20 54 51.8 -0.9**
comp=Z,9.2nm,0.6s,baz=52,slow=8.4,SNR=10
NWAO PcP **PcP** **20 55 49.4 -0.1**
comp=Z,6.5nm,0.8s,baz=57,slow=4.3,SNR=4.3
NWAO Narrogin (SRO) 55.96 209 P **P** **20 54 51.8 -0.9**
NWAO PcP **PcP** **20 55 49.4 -0.1**
JIRN Jiri 56.01 293 *e*P **P** **20 54 54.8 +1.1**
comp=Z,38nm,0.6s
JIRN Jiri 56.01 293 *e*P **P** **20 54 54.8 +1.1**
comp=Z,38nm,0.6s
WMQ Urumqi 56.03 312 P **P** **20 54 54.7 +1.4**
WMQ pmax pmax
comp=Z,97nm,1.1s
GUN Gumba 56.27 293 *e*P **P** **20 54 56.8 +1.2**
comp=Z,104nm,0.6s
GUN Gumba 56.27 293 *e*P **P** **20 54 56.8 +1.2**
comp=Z,104nm,0.6s
SDPT Sand Point 56.48 34 *e*P **P** **20 54 57.0 +0.9**
comp=Z,86nm,0.6s
PKI Pulchoki 56.70 293 *e*P **P** **20 54 59.2 +0.6**
comp=Z,41nm,0.5s
PKI Pulchoki 56.70 293 *e*P **P** **20 54 59.2 +0.6**
PKI pmax pmax
comp=Z,41nm,0.5s
PKI Pulchoki 56.70 293 *e*P **P** **20 54 59.2 +0.6**
comp=Z,41nm,0.5s
KKN Kakani 56.81 293 *e*P **P** **20 55 00.0 +0.8**
comp=Z,54nm,0.7s
KKN Kakani 56.81 293 *e*P **P** **20 55 00.0 +0.8**
KKN pmax pmax
comp=Z,55nm,0.7s
KKN Kakani 56.81 293 *e*P **P** **20 55 00.0 +0.8**
comp=Z,54nm,0.7s
DMN Daman 56.97 293 *e*P **P** **20 55 01.3 +0.9**
comp=Z,68nm,0.5s
DMN Daman 56.97 293 *e*P **P** **20 55 01.3 +0.9**
comp=Z,68nm,0.5s
GKN Gorkha 57.37 293 *e*P **P** **20 55 04.0 +0.9**
comp=Z,85nm,0.5s
GKN Gorkha 57.37 293 *e*P **P** **20 55 04.0 +0.9**
comp=Z,85nm,0.5s
TNA Tin City 58.11 21 *e*P **P** **20 55 08.5 +1.2**
comp=Z,15nm,1.1s
DANN Dangsing 58.13 294 *e*P **P** **20 55 09.7 +1.2**
comp=Z,346nm,0.6s
DANN Dangsing 58.13 294 *e*P **P** **20 55 09.7 +1.2**
comp=Z,346nm,0.6s
KOLN Koldanda 58.30 293 *e*P **P** **20 55 10.4 +0.8**
comp=Z,103nm,0.8s
KOLN Koldanda 58.30 293 *e*P **P** **20 55 10.4 +0.8**
comp=Z,103nm,0.8s
PYUN Piuthan 58.82 293 *e*P **P** **20 55 13.9 +0.7**
comp=Z,221nm,0.9s
PYUN Piuthan 58.82 293 *e*P **P** **20 55 13.9 +0.7**
comp=Z,221nm,0.9s
ZALV Zalesovo Beam 60.06 323 P **P** **20 55 20.4 -0.5**
comp=Z,3.5nm,0.6s,baz=110,slow=7.6,SNR=20
ZALV pP **pP** **20 55 53.6 -2.0**
comp=Z,2.0nm,0.6s,baz=98,slow=7.1,SNR=2.3
ZALV Zalesovo Beam 60.06 323 P **P** **20 55 20.5 -0.5**
ZALV *PP **pP** **20 55 53.6 -2.0**
ZALV Zalesovo Beam 60.06 323 P **P** **20 55 20.4 -0.5**
ZALV pP **pP** **20 55 53.6 -2.0**
MKAR Makanchi Array 60.28 315 P **P** **20 55 23.6 +0.9**
comp=Z,40nm,0.5s,baz=92,slow=8.3,SNR=963
MKAR S **S** **21 03 25.4 +0.1**
comp=Z,0.7nm,0.9s,baz=95,slow=14,SNR=6.1
MKAR Makanchi Array 60.28 315 *i*P **P** **20 55 23.7 +1.1**
MKAR pmax pmax
comp=Z,40nm,0.5s
MKAR Makanchi Array 60.28 315 P **P** **20 55 23.6 +0.9**
MKAR S **S** **21 03 25.4 +0.1**
NVS Novosibirsk 61.17 324 *e*P **P** **20 55 26.6 -1.9**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.2s
KDAK Kodiak Island 61.40 32 *e*P **P** **20 55 30.5 +0.6**
comp=E,44nm,0.9s
KDAK Kodiak Island 61.40 32 P **P** **20 55 31.0 +1.1**
comp=E,290nm,0.9s,SNR=22
RSO Redoubt South 62.07 30 *e*P **P** **20 55 34.7 0.0**
comp=E,101nm,0.9s
DDI Dehra Dun 63.01 296 *e*P **P** **20 55 42.0 +0.7**
DDI *ex* x 20 56 21.0
KURK Kurchatov 63.20 319 *e*P **P** **20 55 41.6 -0.5**
KURK *PP **pP** **20 56 17.0 0.0**
KURK *e**PP **pwP** **20 56 17.5 +0.5**
KURK pmax pmax
comp=Z,62nm,1.1s
KURK Kurchatov 63.20 319 *e*P **P** **20 55 41.6 -0.5**
comp=Z,62nm,1.1s
KURK pP **pP** **20 56 17.0 0.0**
KURK *e*pP **pwP** **20 56 17.5 +0.5**
KURK Kurchatov 63.20 319 P **P** **20 55 42.4 +0.3**
SNR=20
KURK Kurchatov 63.20 319 P **P** **20 55 42.4 +0.3**
comp=Z,248nm,1.0s,SNR=30
KURBB Kurchatov Arra 63.25 319 P **P** **20 55 42.4 0.0**
comp=Z,35nm,0.5s,baz=97,slow=7.4,SNR=379
KURBB pP **pP** **20 56 17.0 -0.3**
comp=Z,21nm,0.8s,baz=101,slow=6.3,SNR=2.4
SLKM Skilak Lake 63.29 30 *e*P **P** **20 55 42.6 0.0**
SLKM Skilak Lake 63.29 30 *e*P **P** **20 55 42.6 0.0**
AGRA Agra 63.35 293 *e*P **P** **20 55 43.5 0.0**
NDI New Delhi 63.86 294 *e*P **P** **20 55 45.0 -1.8**
AYAN Aya Nagar 63.95 294 *e*P **P** **20 55 47.7 +0.2**
AYAN AMb AMB 20 55 49.3
comp=Z,52nm,1.3s
HYB Hyderabad 64.07 282 *i*P **P** **20 55 48.0 -0.4**
KKR Kurukshetra 64.10 296 *e*P **P** **20 55 49.4 +1.0**
BHGR Bahadurgarh 64.10 294 *e*P **P** **20 55 49.1 +0.7**
ULHL Ulahol 64.23 309 P **P** **20 55 50.5 +1.2**
SNR=18
KSH Kashi 64.41 306 P P 20 55 54.0 +3.6
KSH pP pP 20 56 26.9 +1.4
KSH sP sP 20 56 43.9 +2.5
KSH PP PP 20 58 19.4 +5.6
KSH PcS 21 00 30.4
KSH S **S** **21 04 22.1 +4.6**
KSH sS sS 21 05 20.0 +1.9
KSH ScS **ScS** **21 05 31.0 +0.1**
KSH SS **SS** **21 08 35.1 +5.0**
KSH pmax pmax
comp=Z,43nm,0.9s
KSH pmax pmax
comp=Z,120nm,4.4s
KSH LR LR
comp=N,140nm,7.1s
KSH LR LR
comp=E,250nm,7.7s
KSH LR LR
comp=Z,170nm,9.6s
MCK McKinley 64.72 27 *e*P **P** **20 55 51.2 -0.6**
MCK pmax pmax
comp=Z,25nm,1.1s
MCK McKinley 64.72 27 *e*P **P** **20 55 51.2 -0.6**
comp=Z,25nm,1.1s
TKM2 Tokmak 2 64.72 310 *i*P **P** **20 55 53.5 +1.1**
TKM2 Tokmak 2 64.72 310 P **P** **20 55 53.6 +1.1**
SNR=64
KZA Kyzart 64.96 309 P **P** **20 55 56.1 +1.8**
SNR=51
KHET Khetri 65.15 294 *e*P **P** **20 55 55.7 +0.5**
KHET AMb AMB 20 55 57.0
comp=Z,89nm,0.7s
KBK Karagaybulak 65.19 310 P **P** **20 55 56.4 +1.0**
SNR=48
CHMS Chumysh 65.34 310 P **P** **20 55 56.9 +0.7**
SNR=24
UCH Uchtor 65.51 309 P **P** **20 55 59.6 +1.7**
SNR=9.1
AAK Ala-Archa 65.53 310 P **P** **20 55 58.4 +0.9**
comp=Z,15nm,0.8s,baz=116,slow=5.3,SNR=53
AAK Ala-Archa 65.53 310 *i*P **P** **20 55 58.5 +0.9**
AAK Ala-Archa 65.53 310 P **P** **20 55 58.4 +0.9**
AAK Ala-Archa 65.53 310 P **P** **20 55 58.0 +0.4**
comp=Z,141nm,0.9s,SNR=20
AAK Ala-Archa 65.53 310 P **P** **20 55 58.5 +0.9**
SNR=24
USP Ospenovka 65.53 311 P **P** **20 55 58.2 +0.7**
SNR=52
ILAR Eielson Array 65.84 26 P **P** **20 55 58.5 -0.5**
comp=Z,14nm,0.8s,baz=251,slow=5.8,SNR=124
ILAR pP **pP** **20 56 33.2 -1.0**
comp=Z,3.0nm,0.6s,baz=252,slow=5.3,SNR=2.6
ILAR Eielson Array 65.84 26 P **P** **20 55 58.5 -0.5**
ILAR pP **pP** **20 56 33.2 -1.0**
EKS2 Erkin-Say 66.05 310 *e*P **P** **20 56 01.6 +0.7**
EKS2 pmax pmax
comp=Z,24nm,1.0s
EKS2 Erkin-Say 66.05 310 *e*P **P** **20 56 01.6 +0.7**
comp=Z,24nm,1.0s
EKS2 Erkin-Say 66.05 310 P **P** **20 56 01.9 +0.9**
SNR=25
AML Almayashu 66.12 309 P **P** **20 56 03.0 +1.3**
SNR=58
KAD Karad 68.20 282 *i*P **P** **20 56 14.6 -0.2**
KKAR Karatay Array 68.44 310 *e*P **P** **20 56 16.4 +0.6**
KKAR *e**PP **pP** **20 56 55.7 +4.4**
KKAR pmax pmax
comp=Z,62nm,0.8s
KKAR Karatay Array 68.44 310 *e*P **P** **20 56 16.4 +0.6**
comp=Z,62nm,0.8s
KKAR *e*pP **pP** **20 56 55.7 +4.4**
BVAR Borovoye Array 68.47 321 P **P** **20 56 15.5 -0.2**
comp=Z,20nm,0.6s,baz=98,slow=7.5,SNR=196
BVAR pP **pP** **20 56 50.8 -0.4**
comp=Z,5.9nm,0.7s,baz=97,slow=7.9,SNR=2.2
BVAR S **S** **21 05 02.8 -2.9**
comp=Z,2.0nm,1.0s,baz=92,slow=10,SNR=9.6
BVAR Borovoye Array 68.47 321 P **P** **20 56 15.5 -0.2**
BVAR *PP **pP** **20 56 50.8 -0.4**
BVAR S **S** **21 05 02.8 -2.9**
BVAR Borovoye Array 68.47 321 P **P** **20 56 15.5 -0.2**
BVAR pP **pP** **20 56 50.8 -0.4**
BVAR S **S** **21 05 02.8 -2.9**
PNL Peninsula 68.49 32 *e*P **P** **20 56 16.8 +1.0**
comp=Z,64nm,0.8s
BRVK Borovoye 68.53 321 *d i*P **P** **20 56 15.9 -0.3**
BRVK pmax pmax
comp=Z,26nm,0.9s
BRVK Borovoye 68.53 321 *e*P **P** **20 56 15.8 -0.4**
comp=Z,20nm,0.8s
BRVK *e*pP **pP** **20 56 51.1 -0.5**
BRVK Borovoye 68.53 321 P **P** **20 56 16.4 +0.2**
comp=Z,166nm,0.6s,SNR=19
BRVK Borovoye 68.53 321 P **P** **20 56 16.4 +0.2**
SNR=7.0
DAWY Dawson 68.92 27 *e*P **P** **20 56 19.1 +0.6**
SKAG Skagway 70.55 32 *e*P **P** **20 56 29.7 +1.3**
comp=Z,47nm,0.8s
INK Inuvik 71.63 23 *e*P **P** **20 56 34.1 -0.6**
comp=Z,16nm,0.9s
DIB Dawson Inlet, 72.26 39 T T 22 16 10.2
DLBC Dease Lake 73.32 33 *e*P **P** **20 56 46.5 +1.4**
SVE Sverdlovsk 73.97 325⇓*i*P **P** **20 56 48.9 +0.1**
SVE pmax pmax
comp=Z,27nm,0.9s
ARU Arti 75.16 325 *d i*P **P** **20 56 55.0 -0.6**
ARU 20 59 41.0
ARU S **S** **21 06 23.6 +1.5**
ARU SS **SS** **21 11 16.0 +2.0**
ARU pmax pmax
comp=Z,20nm,0.6s
ARU Arti 75.16 325 *e*P **P** **20 56 54.7 -0.9**
comp=Z,22nm,0.6s
ARU Arti 75.16 325 P **P** **20 56 55.2 -0.4**
comp=Z,246nm,0.6s,SNR=12
ABKAR Akbulak array 75.23 317 *e*P **P** **20 56 55.3 -0.9**
comp=Z,24nm,0.5s
ABKAR *e*pP **pP** **20 57 31.8 -0.5**
AKTO Aktyubinsk 76.30 319 P **P** **20 57 01.4 -0.8**
comp=Z,10nm,0.6s,baz=90,slow=8.2,SNR=46
AKTO Aktyubinsk 76.30 319 P **P** **20 57 01.5 -0.8**
AKTO Aktyubinsk 76.30 319 P **P** **20 57 01.4 -0.8**
ABKT Nilbek 78.44 306 P **P** **20 57 15.7 +1.2**
comp=Z,181nm,1.1s,SNR=16
NLWA Neilton Lookou 78.49 44 *e*P **P** **20 57 16.1 +1.6**
comp=Z,62nm,1.0s
LVP Lakeview Peak 79.74 45 P **P** **20 57 23.2 +1.7**
FL2 Flat Top 2 79.75 45 P **P** **20 57 23.6 +2.1**
RMW Rattlesnake Mo 79.84 44 P **P** **20 57 23.8 +1.8**
RMW Rattlesnake Mo 79.84 44 P **P** **20 57 23.8 +1.8**
LON Longmire 80.00 44 *e*P **P** **20 57 23.7 +0.9**
LON pmax pmax
comp=Z,19nm,1.1s
LON Longmire 80.00 44 *e*P **P** **20 57 23.7 +0.9**
comp=Z,19nm,1.1s
YKA Yellowknife Ar 80.15 28 P **P** **20 57 22.9 -0.2**
comp=Z,11nm,0.6s,baz=287,slow=5.3,SNR=130
YKA pP **pP** **20 57 58.9 -0.7**
comp=Z,5.4nm,0.7s,baz=287,slow=5.3,SNR=4.8
YKA Yellowknife Ar 80.15 28 P **P** **20 57 22.9 -0.2**
YKA pP **pP** **20 57 58.9 -0.7**
KCPM Cahto Peak 80.31 52 *e*P **P** **20 57 26.1 +1.4**
VLL Laurance Lake 80.38 45 P **P** **20 57 26.8 +1.9**
YBH Yreka Blue Hor 80.50 49 P **P** **20 57 26.7 +1.1**
comp=Z,11nm,0.9s,baz=281,slow=1.8,SNR=17
YBH pP **pP** **20 58 01.6 -0.5**
comp=Z,7.3nm,1.0s,baz=288,slow=6.6,SNR=3.2
YBH Yreka Blue Hor 80.50 49 P **P** **20 57 26.7 +1.1**
YBH pP **pP** **20 58 01.6 -0.5**
NLW Nelson Butte 80.66 43 P **P** **20 57 27.8 +1.4**
TRW Toppenish Ridg 80.95 44 P **P** **20 57 29.4 +1.5**
WTV Waterville 81.01 43 P **P** **20 57 29.2 +1.1**
WBK Wadi Bani Khal 81.08 291 P **P** **20 57 30.4 +1.4**
SNR=5.7
WSAR Wadi Sarin 81.24 292 P **P** **20 57 29.9 +0.2**
comp=Z,16nm,0.7s,baz=107,slow=7.8,SNR=12
WSAR Wadi Sarin 81.24 292 P **P** **20 57 29.9 +0.2**
VIPM Ingram Point 81.33 46 P **P** **20 57 31.5 +1.4**
VIPM Ingram Point 81.33 46 P **P** **20 57 31.5 +1.4**

HAWA Hanford 81.61 44 eP P 20 57 32.2 +0.9
comp=Z,22nm,0.8s
SMDO Samad 81.80 292 P P 20 57 33.7 +0.8
SNR=6.3
RES Resolute Bay 81.82 14 P P 20 57 31.1 -0.7
comp=Z,5.4nm,0.7s,baz=328,slow=5.9,SNR=25
RES pP pP 20 58 07.6 -0.8
comp=Z,3.2nm,0.7s,baz=287,slow=4.1,SNR=3.4
RES Resolute Bay 81.82 14 P P 20 57 31.1 -0.7
RES pP pP 20 58 07.6 -0.8
MOD Modoc 82.20 49 eP P 20 57 34.7 +0.1
comp=Z,25nm,1.1s
MOD epP pP 20 58 10.2 -1.1
HOQ Hoqain 82.33 292 P P 20 57 36.6 +1.1
SNR=16
BSY Bisya 82.64 291 P P 20 57 38.2 +1.1
SNR=8.8
NEW Newport 82.70 42 eP P 20 57 37.5 +0.5
comp=Z,34nm,0.8s
NEW epP pP 20 58 12.2 -1.5
NEW Newport 82.70 42 ⇓P P 20 57 37.9 +0.9
baz=83
ARQ Araqi 83.09 292 P P 20 57 40.8 +1.3
SNR=5.1
CMB Columbia Colle 83.13 53 eP P 20 57 38.7 -0.7
CMB e*PP pP 20 58 14.0 -2.1
CMB pmax pmax
comp=Z,21nm,1.0s
CMB Columbia Colle 83.13 53 eP P 20 57 38.7 -0.7
comp=Z,21nm,1.0s
CMB epP pP 20 58 14.0 -2.1
C11A Tepee Creek (N 83.37 42 ⇑P P 20 57 41.0 +0.6
baz=83
A12A Yaak River Ran 83.44 41 ⇑P P 20 57 42.2 +1.4
baz=83,SNR=15
BMO Blue Mountains 83.52 45 eP P 20 57 42.0 +0.6
comp=Z,23nm,0.8s
BMO epP pP 20 58 17.4 -0.7
B12A Libby 83.62 41 ⇓P P 20 57 43.0 +1.3
baz=84,SNR=6.1
KLMR Klimovskoe 83.70 332 eP P 20 57 38.9 -2.8
KLMR pmax pmax
comp=Z,28nm,1.5s
C12B Naegeli Ranch, 83.92 42 ⇑P P 20 57 44.0 +0.7
baz=84,SNR=10
D12A Red Ives Fores 84.19 43 ⇓P P 20 57 45.3 +0.6
baz=84,SNR=35
A13A Flathead Natio 84.22 41 ⇓P P 20 57 45.9 +1.1
baz=84
E12A Beaver Dam Sad 84.24 43 ⇓P P 20 57 45.8 +0.8
baz=84
BSMT Bassoo Peak 84.32 42 eP P 20 57 46.2 +0.8
comp=Z,76nm,0.8s
KEV Kevo 84.33 342 eP P 20 57 42.0 -2.8
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 84.33 342 ep P 20 57 42.0 -2.8
comp=Z,7.1nm,0.6s
B13A Whitefish 84.36 41 ⇑P P 20 57 46.7 +1.2
baz=84,SNR=27
PKM Peak Mountain 84.40 55 ⇑P P 20 57 47.8 +1.7
baz=84
WALA Waterton Lakes 84.50 41 eP P 20 57 47.0 +0.8
comp=Z,1.5nm,1.3s
C13A Hot Springs 84.50 42 ⇓P P 20 57 47.1 +0.8
baz=84,SNR=44
BLMT Blacktail Moun 84.54 42 eP P 20 57 46.9 +0.4
comp=Z,62nm,0.8s
NVAR Mina Array Bea 84.60 52 P P 20 57 48.4 +1.2
comp=Z,8.4nm,0.8s,baz=261,slow=6.5,SNR=42
NVAR pP pP 20 58 22.9 -1.0
comp=Z,7.9nm,0.8s,baz=261,slow=5.7,SNR=6.6
NVAR Mina Array Bea 84.60 52 P P 20 57 48.4 +1.2
NVAR pP pP 20 58 22.9 -1.0
SBC Santa Barbara 84.61 56 ⇑P P 20 57 48.8 +1.9
baz=84
F12A Elk City 84.64 44 ⇑P P 20 57 48.2 +1.2
baz=84
JTMT Jette 84.67 42 eP P 20 57 47.6 +0.4
comp=Z,27nm,1.0s
VES Vestal, Richgr 84.72 54 ⇓P P 20 57 47.9 +0.4
baz=85
D13A Huson 84.76 43 ⇑P P 20 57 47.9 +0.3
baz=85,SNR=41
G12A Big Creek, Yel 84.79 45 ⇓P P 20 57 48.2 +0.4
baz=85
YBMT Yellow Bay 84.81 42 eP P 20 57 48.2 +0.4
comp=Z,71nm,1.0s
A14A Double T Ranch 84.83 41 ⇑P P 20 57 49.3 +1.4
baz=85,SNR=15
ARCES ARCESS Array B 84.89 342 P P 20 57 46.2 -1.4
comp=Z,5.5nm,0.6s,baz=67,slow=6.9,SNR=28
ARCES ARCESS Array B 84.89 342 P P 20 57 46.2 -1.4
SWMT Swartz Lake 84.93 42 eP P 20 57 48.5 +0.1
comp=Z,12nm,0.6s
MFID Camas Ranch 84.96 46 eP P 20 57 49.3 +0.7
comp=Z,68nm,1.0s
MFID epP pP 20 58 25.4 -0.1
MFID Camas Ranch 84.96 46 ⇓P P 20 57 49.7 +1.0
baz=85
C14A Swan Lake 85.01 42 ⇑P P 20 57 49.3 +0.5
baz=85,SNR=62
B14A Marquette Ranc 85.12 41 ⇑P P 20 57 50.4 +1.0
baz=85,SNR=62
E13A Victor 85.14 43 ⇓P P 20 57 49.6 +0.1
baz=85,SNR=13
MSO Missoula 85.18 43 eP P 20 57 48.4 -1.2
comp=Z,13nm,1.3s
MSO Missoula 85.18 43 ⇑P P 20 57 50.1 +0.4
baz=85
ISA Isabella 85.25 54 ⇑P P 20 57 51.3 +1.1
baz=85
F13A Darby 85.25 44 ⇓P P 20 57 50.2 +0.1
baz=85,SNR=77
A15A Johnson Ranch, 85.26 40 ⇑P P 20 57 50.8 +0.8
baz=85,SNR=28
H12A Diamond D Ranc 85.28 45 ⇑P P 20 57 51.0 +0.7
baz=85
I12A Atlanta 85.32 46 ⇑P P 20 57 51.1 +0.6
baz=85
SLMT Seeley Lake 85.34 42 eP P 20 57 50.6 +0.1
comp=Z,30nm,0.9s
D14A Greenough 85.38 42 ⇑P P 20 57 50.7 0.0
baz=85,SNR=8.2
G13A Cobalt 85.53 44 ⇑P P 20 57 52.1 +0.6
baz=85,SNR=138
B15A Bradely Ranch, 85.58 41 ⇓P P 20 57 52.2 +0.5
baz=85,SNR=56
CHMT Chamberlain Mo 85.60 42 eP P 20 57 51.7 -0.2
comp=Z,17nm,0.7s
E14A Clinton 85.60 43 ⇓P P 20 57 52.1 +0.3
baz=86
H13A Challis 85.69 45 ⇓P P 20 57 53.3 +1.0
baz=86,SNR=49
C15A Salmond Ranch, 85.73 41 ⇑P P 20 57 53.0 +0.6
baz=86,SNR=40
EDW2 Edwards Air Fo 85.85 55 ⇓P P 20 57 55.0 +1.8
baz=86
F14A Wisdom 85.88 44 ⇓P P 20 57 53.4 +0.1
baz=86,SNR=12
HLID Hailey 85.89 46 eP P 20 57 54.1 +0.7
comp=Z,41nm,0.9s
HLID Hailey 85.89 46 ⇓P P 20 57 54.4 +1.1
baz=86,SNR=70
MPMC Manual Prospec 85.90 54 ⇑P P 20 57 54.7 +1.2
baz=86
A16A West Butte Ran 85.97 40 ⇑P P 20 57 54.3 +0.7
baz=86
I13A Wildhorse Cree 85.98 46 ⇓P P 20 57 55.0 +1.1
baz=86,SNR=68
G14A Jackson 86.00 44 ⇑P P 20 57 54.1 +0.2
baz=86,SNR=18
D15A Lincoln 86.03 42 ⇑P P 20 57 54.3 +0.3
baz=86,SNR=15
B16A M & M Farms, S 86.09 41 ⇑P P 20 57 54.4 +0.3
baz=86,SNR=12
J13A Cove Ranch, Pi 86.11 46 ⇑P P 20 57 55.5 +1.1
baz=86,SNR=51
E15A Deer Lodge 86.16 43 ⇓P P 20 57 55.2 +0.7
baz=86,SNR=47
ELK Elko 86.19 49 eP P 20 57 55.9 +0.9
ELK epP pP 20 58 31.4 -0.5
H14A Leadore 86.27 45 ⇑P P 20 57 56.2 +1.0
baz=86,SNR=37
C16A Fuhringer Ranc 86.27 41 ⇑P P 20 57 55.3 +0.2
baz=86,SNR=28
BFSC Mount Baldy Ra 86.30 56 ⇑P P 20 57 56.6 +1.2
baz=86

JOF Joensuu 86.32 335 eP P 20 57 51.8 -3.0
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 86.32 335 ep P 20 57 51.8 -3.0
comp=Z,3.8nm,0.7s
I14A Mackay 86.44 45 ⇑P P 20 57 57.1 +1.0
baz=86
F15A Butte 86.45 43 ⇓P P 20 57 56.6 +0.5
baz=86,SNR=40
LRM Limekiln Ridge 86.48 43 eP P 20 57 56.7 +0.4
comp=Z,227nm,0.7s
A17A Triple J Farms 86.53 40 ⇑P P 20 57 56.7 +0.5
baz=86,SNR=5.4
DLMT Dillon 86.54 44 eP P 20 57 56.8 +0.4
comp=Z,12nm,0.7s
MCMT McKenzie Canyo 86.55 44 eP P 20 57 57.0 +0.3
comp=Z,11nm,1.1s
J14A Carey 86.59 46 ⇓P P 20 57 58.2 +1.5
baz=86
HRY Holter Researc 86.59 42 eP P 20 57 57.5 +0.8
comp=Z,38nm,0.6s
GSC Goldstone 86.66 54 ⇓P P 20 57 58.5 +1.3
baz=86
D16A Dana Ranch, Ca 86.66 42 ⇑P P 20 57 57.6 +0.6
baz=86,SNR=24
R11A Troy Canyon, C 86.67 51 ⇑P P 20 57 58.4 +1.1
baz=87
G15A Dillon 86.68 44 ⇑P P 20 57 57.8 +0.6
baz=86,SNR=17
B17A L&G Farms, Che 86.70 41 ⇑P P 20 57 57.5 +0.4
baz=87,SNR=27
RBK Rabkut 86.72 287 P P 20 57 58.3 +0.6
SNR=11
E16A East Helena 86.75 42 ⇑P P 20 57 58.1 +0.6
baz=87,SNR=32
H15A Lima 86.76 44 ⇓P P 20 57 58.6 +1.0
baz=87,SNR=20
MURC Murrieta 86.85 56 ⇓P P 20 57 59.5 +1.4
baz=87
C17A Wharram Farm, 86.95 41 ⇓P P 20 57 58.9 +0.6
baz=87
F16A Kennard Place, 87.04 43 ⇓P P 20 57 59.5 +0.6
baz=87,SNR=14
A18A Metzger Ranch, 87.06 40 ⇑P P 20 57 59.4 +0.6
baz=87
K14A Jones Ranch, D 87.08 47 ⇑P P 20 58 00.5 +1.4
baz=87,SNR=22
BOZ Bozeman (W) 87.08 43 ⇑P P 20 57 59.8 +0.7
baz=87
G16A Moss Hill, Enn 87.11 44 ⇓P P 20 58 00.1 +0.9
baz=87,SNR=48
D17A Six Diamond Ra 87.17 42 ⇑P P 20 57 60.0 +0.5
baz=87,SNR=25
HEC Hector,Ludlow 87.17 55 ⇓P P 20 58 00.5 +0.8
baz=87,SNR=7.1
L14A Malta 87.20 47 ⇑P P 20 58 00.9 +1.2
baz=87
B18A Beardsley Farm 87.30 40 ⇑P P 20 58 00.2 +0.3
baz=87,SNR=7.0
E17A Martinsdale 87.30 42 ⇑P P 20 58 00.8 +0.6
baz=87,SNR=8.9
J15A Blackfoot 87.31 46 ⇑P P 20 58 02.0 +1.8
baz=87,SNR=61
OBN Obninsk 87.42 327 ⇓eP P 20 57 58.2 -2.0
OBN e*PP pP 20 58 40.4 +3.1
OBN e 21 01 28.5
OBN eS SKSac 21 08 13.6 -0.5
OBN pmax pmax
comp=Z,26nm,1.6s
PFO Pinyon Flat Ob 87.44 56 eP P 20 58 01.6 +0.6
comp=Z,13nm,1.1s
PFO Pinyon Flat Ob 87.44 56 ⇓P P 20 58 02.2 +1.2
baz=87
EGMT Eagleton 87.45 41 eP P 20 58 00.9 +0.2
comp=Z,12nm,0.9s
EGMT Eagleton 87.45 41 ⇓P P 20 58 01.2 +0.5
baz=87
K15A Arbon 87.48 46 ⇑P P 20 58 02.4 +1.4
baz=87,SNR=12
QLMT Earthquake Lak 87.50 44 eP P 20 58 02.0 +0.8
comp=Z,4.3nm,0.9s
ABTO Aybut 87.59 287 P P 20 58 02.6 +0.7
SNR=11
HVU Hansel Valley 87.61 47 eP P 20 58 03.0 +1.3
HVU e*PP pP 20 58 38.1 -0.7
HVU pmax pmax
comp=Z,38nm,1.0s
HVU Hansel Valley 87.61 47 eP P 20 58 03.0 +1.3
comp=Z,38nm,1.0s
HVU epP pP 20 58 38.1 -0.7
ZEI Tsey 87.62 314 eP P 20 57 59.6 -2.2
ZEI pmax pmax
comp=Z,12nm,1.0s
F17A Fitzpatrick Pl 87.63 43 ⇑P P 20 58 02.4 +0.7
baz=88,SNR=7.1
H16A Russell Place, 87.66 44 ⇓P P 20 58 03.3 +1.4
baz=88,SNR=17
BELC Belle Mtn. Jos 87.68 55 ⇑P P 20 58 03.2 +1.0
baz=88
MONP Monument Peak 87.69 57 ⇓P P 20 58 03.4 +1.1
baz=88
GMRC Granite Mounta 87.71 55 ⇑P P 20 58 03.3 +1.0
baz=88,SNR=10
D18A Linhart Farms, 87.72 41 ⇑P P 20 58 02.6 +0.5
baz=88
A19A Klindworth Far 87.74 40 ⇓P P 20 58 02.4 +0.4
baz=88,SNR=15
B19A Brinkman Farms 87.79 40 ⇓P P 20 58 02.6 +0.4
baz=88,SNR=6.8
I16A Newdale 87.79 45 ⇑P P 20 58 04.1 +1.5
baz=88,SNR=12
L15A Malad City 87.81 47 ⇑P P 20 58 03.6 +0.9
baz=88,SNR=21
YMR Madison River 87.86 44 eP P 20 58 04.4 +1.5
comp=Z,36nm,0.8s
E18A Harlowton 87.88 42 ⇓P P 20 58 03.6 +0.8
baz=88,SNR=17
J16A Bone 87.91 46 ⇓P P 20 58 04.6 +1.4
baz=88,SNR=22
R13A O'Grain Ranch, 87.93 51 ⇓P P 20 58 04.9 +1.5
baz=88
M15A Larsen Ranch, 87.95 47 ⇑P P 20 58 04.2 +0.9
baz=88,SNR=7.3
KBZ Khabaz 87.97 315 P P 20 58 01.7 -1.4
comp=Z,12nm,0.9s,baz=95,slow=3.8,SNR=24
KBZ pP pP 20 58 41.4 +1.2
comp=Z,6.0nm,0.9s,baz=67,slow=5.4,SNR=3.2
KBZ Khabaz 87.97 315 P P 20 58 01.7 -1.4
KBZ *PP pP 20 58 41.4 +1.2
KBZ Khabaz 87.97 315 P P 20 58 01.7 -1.4
KBZ pP pP 20 58 41.4 +1.2
C19A Slack Wire Ran 88.00 41 ⇓P P 20 58 03.9 +0.6
baz=88,SNR=9.2
YFT Old Faithful 88.03 44 eP P 20 58 06.4 +2.7
comp=Z,17nm,0.7s
KIV Kislovodsk 88.04 315 eP P 20 58 03.0 -0.6
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 88.04 315 eP P 20 58 02.1 -1.5
comp=Z,11nm,0.8s
YNR Norris Junctio 88.04 44 eP P 20 58 05.8 +2.0
comp=Z,37nm,1.1s
LDFC Landfair 88.05 54 eP P 20 58 05.1 +1.2
K16A Soda Springs 88.08 46 ⇓P P 20 58 05.5 +1.5
baz=88,SNR=23
RRI2 Red Ridge 88.09 45 eP P 20 58 05.4 +1.3
comp=Z,19nm,0.8s
RRI2 epP pP 20 58 40.9 -0.3
N15A Stansbury Isla 88.09 48 ⇑P P 20 58 04.7 +0.7
baz=88
DUG Dugway 88.11 49 eP P 20 58 04.8 +0.7
DUG pmax pmax
comp=Z,37nm,0.7s
DUG Dugway 88.11 49 eP P 20 58 04.8 +0.7
comp=Z,37nm,0.7s
DUG Dugway 88.11 49 ⇑P P 20 58 05.2 +1.1
baz=88,SNR=28
IMW Indian Meadow 88.16 45 eP P 20 58 05.5 +1.1
comp=Z,26nm,1.2s
BC3 Big Chuckawall 88.22 56 ⇑P P 20 58 05.8 +1.1
baz=88,SNR=5.1
H17A Grant Village 88.22 44 ⇑P P 20 58 07.5 +2.8
baz=88,SNR=13
F18A Big Timber 88.25 43 ⇓P P 20 58 05.4 +0.9
baz=88,SNR=17
FLWY Flagg Ranch 88.25 45 eP P 20 58 05.8 +1.0
comp=Z,32nm,1.0s
FLWY epP pP 20 58 42.0 +0.1
A20A Cobblestone Ra 88.25 39 ⇑P P 20 58 04.7 +0.2
baz=88,SNR=10
TPAW Teton Pass 88.29 45 eP P 20 58 06.3 +1.3
comp=Z,5.8nm,0.5s
IRM Iron Mountain 88.30 55 ⇓P P 20 58 06.3 +1.3
baz=88,SNR=10
D19A Cripps Ranch, 88.31 41 ⇓P P 20 58 05.4 +0.6
baz=88,SNR=6.0
GCMT Greycliff 88.32 43 eP P 20 58 05.6 +0.7
comp=Z,5.6nm,0.7s
O15A The Old Anders 88.33 49 ⇓P P 20 58 06.1 +0.9
baz=88
MOOW Moose Ponds 88.34 45 eP P 20 58 06.0 +0.8
comp=Z,13nm,1.1s
B20A Solberg Farm, 88.37 40 ⇑P P 20 58 05.2 +0.3
baz=88,SNR=5.2
I17A Pilgrim Ck. 88.39 45 ⇑P P 20 58 06.9 +1.5
baz=88
L16A Fish Haven 88.47 47 ⇓P P 20 58 06.9 +1.0
baz=88,SNR=9.2
LOHW Long Hollow 88.48 45 eP P 20 58 06.5 +0.7
comp=Z,13nm,1.2s
HWUT Hardware Ranch 88.52 47 eP P 20 58 06.9 +0.8
comp=Z,46nm,0.9s
G18A Lazy EL Ranch, 88.56 43 ⇑P P 20 58 06.4 +0.3
baz=88
K17A Gardner Place, 88.57 46 ⇑P P 20 58 06.4 +0.1
baz=88
M16A Huntsville 88.58 47 ⇑P P 20 58 06.8 +0.5
baz=88
CCUT Cedar City 88.59 51 eP P 20 58 07.1 +0.6
comp=Z,26nm,1.4s
E19A Rath Farm, Rou 88.64 42 ⇑P P 20 58 06.7 +0.4
baz=88,SNR=6.0
C20A Veseth Ranch, 88.66 40 ⇓P P 20 58 07.0 +0.7
baz=88,SNR=14
H18A Shoshone NF, C 88.73 44 ⇓P P 20 58 08.1 +1.0
baz=89,SNR=5.9
KAF Kangasniemi 88.73 336 eP P 20 58 01.9 -4.4
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 88.73 336 ep P 20 58 01.9 -4.4
comp=Z,2.1nm,0.7s
F19A Roth Farm, Mol 88.77 42 ⇓P P 20 58 07.5 +0.5
baz=89
D20A Manuel Ranch, 88.81 41 ⇓P P 20 58 07.6 +0.4
baz=89,SNR=9.8
A21A Bergtoll Ranch 88.82 39 ⇑P P 20 58 07.0 -0.1
baz=89
RLMT Red Lodge 88.83 43 eP P 20 58 08.8 +1.4
comp=Z,14nm,0.7s
RLMT Red Lodge 88.83 43 ⇑P P 20 58 08.5 +1.1
baz=89,SNR=20
L17A Cokeville 88.84 46 ⇓P P 20 58 08.2 +0.7
baz=89,SNR=7.2
N16A Rees Ranch, Co 88.86 48 ⇑P P 20 58 08.7 +1.0
baz=89
GLA Glamis 88.91 56 ⇑P P 20 58 09.4 +1.5
baz=89
Y12C Blythe 88.93 55 ⇓P P 20 58 09.2 +1.3
baz=89
UMR Umm Al-Rimmam 88.95 300 eP P 20 58 06.6 -1.4
UMR AMb AMB 20 58 08.1
comp=Z,26nm,0.9s
JLU Jordanelle 88.95 48 eP P 20 58 07.9 -0.3
comp=Z,41nm,0.9s
I18A Diamond G Ranc 88.98 45 ⇓P P 20 58 09.3 +1.0
baz=89
B21A Ellsworth Farm 88.99 40 ⇑P P 20 58 08.1 +0.2
baz=89
W13A Hualapai Mount 88.99 54 ⇓P P 20 58 09.6 +1.2
baz=89,SNR=7.7
J18A Kendall Valley 89.02 45 ⇓P P 20 58 09.4 +0.9
baz=89,SNR=35
MPU Maple Canyon 89.03 49 eP P 20 58 09.4 +1.0
comp=Z,32nm,1.1s
E20A Meyer Farm, Mu 89.04 42 ⇓P P 20 58 08.5 +0.3
baz=89
PDMCI Parker Dam,Lak 89.05 55 ⇑P P 20 58 09.8 +1.4
baz=89,SNR=12
FFC Flin Flon 89.14 32 eP P 20 58 07.9 -0.5
FFC e*PP pP 20 58 43.5 -2.0
FFC pmax pmax
comp=Z,22nm,0.7s
FFC Flin Flon 89.14 32 eP P 20 58 07.9 -0.5
comp=Z,22nm,0.7s
FFC epP pP 20 58 43.5 -2.0
FFC Flin Flon 89.14 32 P P 20 58 08.6 +0.2
comp=Z,198nm,0.7s,SNR=17
P16A Fountain Green 89.15 49 ⇓P P 20 58 09.9 +0.8
baz=89
C21A Desert Coulee 89.18 40 ⇓P P 20 58 09.2 +0.4
baz=89,SNR=13
R15A Junction 89.18 50 ⇑P P 20 58 10.5 +1.3
baz=89
FINES FINESS Array B 89.19 335 P P 20 58 06.4 -2.0
comp=Z,2.4nm,0.6s,baz=64,slow=4.7,SNR=23
FINES FINESS Array B 89.19 335 P P 20 58 06.4 -2.0
MIB Mutribah 89.19 301 eP P 20 58 07.3 -1.8
MIB AMb AMB 20 58 09.2
comp=Z,46nm,0.6s
M17A Scullys Gap (B 89.20 47 ⇑P P 20 58 10.2 +0.9
baz=89
K18A Toltan Ranch, 89.22 46 ⇑P P 20 58 10.4 +1.0
baz=89,SNR=11
N17A Moffit Pass 89.27 47 ⇓P P 20 58 10.5 +0.8
baz=89
RDF Al-Radifah 89.28 300 eP P 20 58 07.9 -1.7
RDF AMb AMB 20 58 10.5
comp=Z,32nm,0.8s
F20A Billings 89.30 42 ⇑P P 20 58 09.9 +0.4
baz=89
I19A Meeteetse 89.41 44 ⇓P P 20 58 11.3 +1.1
baz=89,SNR=6.8
A22A Carney Farms, 89.43 39 ⇓P P 20 58 10.0 +0.1
baz=89
NAY Al-Naaiem 89.44 300 eP P 20 58 08.5 -1.9
NAY AMb AMB 20 58 10.3
comp=Z,36nm,0.7s
G20A Bridger 89.48 43 ⇑P P 20 58 11.0 +0.6
baz=89,SNR=6.9
L18A Fontenelle, Gr 89.48 46 ⇓P P 20 58 11.3 +0.7
baz=89,SNR=7.0
BW06 Boulder Array 89.50 45 ⇓P P 20 58 11.2 +0.5
baz=89
PDAR Pinedale Array 89.50 45 P P 20 58 10.9 +0.2
comp=Z,6.0nm,0.7s,baz=242,slow=1.9,SNR=43
PDAR Pinedale Array 89.50 45 P P 20 58 10.9 +0.2
D21A La Casta Ranch 89.54 41 ⇓P P 20 58 11.1 +0.5
baz=89
O17A Robinson Place 89.61 48 ⇑P P 20 58 12.3 +1.1
baz=90,SNR=22
M18A Lyman 89.64 47 ⇑P P 20 58 12.0 +0.6
baz=90,SNR=6.5
J19A Crowheart 89.66 45 ⇓P P 20 58 12.3 +0.9
baz=90,SNR=37
E21A Keefer Ranch, 89.70 41 ⇑P P 20 58 11.6 +0.4
baz=90
R16A Teasdale 89.74 50 ⇓P P 20 58 13.3 +1.4
baz=90,SNR=7.7
Q16A Castle Valley 89.75 49 ⇓P P 20 58 13.1 +1.3
baz=90,SNR=5.1
U15A North Rim 89.77 52 ⇓P P 20 58 13.4 +1.2
baz=90,SNR=6.3
113A Mohawk Valley, 89.84 56 ⇑P P 20 58 13.3 +1.2
baz=90,SNR=11
S16A Weppner Ranch, 89.85 51 ⇑P P 20 58 13.4 +1.1
baz=90
P17A Butcher Ranch, 89.86 49 ⇑P P 20 58 13.3 +1.0
baz=90
H20A Greybull 89.90 43 ⇑P P 20 58 13.0 +0.6
baz=90
C22A Vida 89.96 40 ⇑P P 20 58 12.9 +0.5
baz=90
D22A Cohagen 90.02 40 ⇓P P 20 58 13.2 +0.5
baz=90,SNR=9.8
I20A Worland 90.02 44 ⇑P P 20 58 13.8 +0.8
baz=90,SNR=9.9
Y14A Wickenburg 90.06 55 ⇑P P 20 58 14.5 +1.3
baz=90,SNR=17
N18A Larsen Ranch, 90.08 47 ⇑P P 20 58 13.7 +0.3
baz=90,SNR=12
O18A Roosevelt 90.10 48 ⇓P P 20 58 14.5 +1.1
baz=90,SNR=7.2
G21A Lodge Grass 90.13 43 ⇓P P 20 58 13.9 +0.5
baz=90
SRU San Rafael 90.15 49 eP P 20 58 14.4 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SRU				pmax	pmax		
	comp=Z,15nm,0.6s						
SRU	San Rafael	90.15	49	eP	P	20 58 14.4	+0.7
	comp=Z,15nm,0.6s						
SRU	San Rafael	90.15	49	⇑P	P	20 58 14.4	+0.7
	baz=90,SNR=7.9						
P18A	Preston Nutter	90.16	49	⇓P	P	20 58 14.7	+0.8
	baz=90,SNR=11						
B23A	Brockton	90.20	39	⇑P	P	20 58 13.9	+0.3
	baz=90						
R17A	Hanksville Air	90.26	50	⇑P	P	20 58 15.0	+0.9
	baz=90,SNR=5.6						
J20A	Shoshoni	90.28	44	⇑P	P	20 58 14.9	+0.7
	baz=90						
Z14A	Wintersburg	90.30	55	⇓P	P	20 58 15.8	+1.5
	baz=90,SNR=5.3						
C23A	Lambert	90.36	40	⇑P	P	20 58 14.7	+0.3
	baz=90						
K20A	Yellowstone Ra	90.37	45	⇑P	P	20 58 15.1	+0.4
	baz=90						
Q18A	Rafter H Ranch	90.44	49	⇓P	P	20 58 15.6	+0.6
	baz=90						
E22A	Miles City	90.45	41	⇑P	P	20 58 15.1	+0.3
	baz=90						
N19A	John Jarvie Ra	90.46	47	⇑P	P	20 58 15.4	+0.3
	baz=90,SNR=14						
S17A	Black Ridge (B	90.47	51	⇑P	P	20 58 16.1	+0.9
	baz=90						
H21A	Big Horn, Sher	90.48	43	⇓P	P	20 58 16.1	+1.1
	baz=90,SNR=6.5						
F22A	Rosebud	90.52	42	⇓P	P	20 58 15.4	+0.3
	baz=90						
A24A	Westby	90.60	38	⇑P	P	20 58 15.6	+0.2
	baz=90						
D23A	Lindsay	90.61	40	⇓P	P	20 58 16.2	+0.7
	baz=90,SNR=6.2						
L20A	Wamsutter	90.62	46	⇓P	P	20 58 16.7	+0.8
	baz=90						
I21A	Big Trails, Te	90.63	44	⇓P	P	20 58 16.2	+0.4
	baz=90,SNR=11						
J21A	Lysite	90.71	44	⇑P	P	20 58 16.7	+0.5
	baz=91,SNR=9.8						
O19A	Miners Draw (B	90.72	48	⇑P	P	20 58 16.7	+0.4
	baz=91,SNR=6.8						
G22A	Birney	90.73	42	⇑P	P	20 58 16.5	+0.3
	baz=91						
WUAZ	Wupatki	90.78	53	⇑P	P	20 58 18.2	+1.5
	baz=91						
R18A	Canyonlands Na	90.87	50	⇓P	P	20 58 17.9	+0.9
	baz=91						
214A	Organ Pipe Nat	90.88	56	⇓P	P	20 58 18.5	+1.5
	baz=91,SNR=13						
M20A	Sweetwater, Wa	90.93	46	⇓P	P	20 58 18.4	+1.1
	baz=91,SNR=7.7						
H22A	Clearmont	90.94	43	⇑P	P	20 58 17.6	+0.4
	baz=91,SNR=6.3						
C24A	Savage	90.94	40	⇑P	P	20 58 17.5	+0.4
	baz=91						
S18A	Hurst Farm, Bl	91.05	50	⇑P	P	20 58 18.6	+0.6
	baz=91						
P19A	Cripple Cowboy	91.07	48	⇓P	P	20 58 18.9	+0.9
	baz=91,SNR=9.0						
F23A	Volborg	91.09	42	⇓P	P	20 58 17.9	+0.1
	baz=91,SNR=5.5						
X16A	Lo Mia Camp, P	91.11	54	⇓P	P	20 58 19.6	+1.3
	baz=91						
K21A	Alcova	91.12	45	⇓P	P	20 58 18.9	+0.7
	baz=91,SNR=7.6						
N20A	Spence Gulch,	91.12	47	⇑P	P	20 58 18.8	+0.5
	baz=91						
I22A	9 Mile Ranch,	91.14	44	⇑P	P	20 58 18.5	+0.4
	baz=91						
D24A	Glendive	91.18	40	⇓P	P	20 58 18.7	+0.6
	baz=91						
L21A	Rawlins	91.31	46	⇓P	P	20 58 19.4	+0.3
	baz=91						
G23A	Biddle	91.32	42	⇑P	P	20 58 19.0	+0.2
	baz=91,SNR=8.3						
J22A	Midwest	91.33	44	⇑P	P	20 58 19.3	+0.3
	baz=91,SNR=7.6						
T18A	Mexican Hat	91.34	51	⇑P	P	20 58 19.8	+0.6
	baz=91,SNR=5.2						
R19A	Curley Farm, L	91.37	50	⇑P	P	20 58 20.0	+0.6
	baz=91						
O20A	White River Ci	91.41	48	⇑P	P	20 58 20.1	+0.6
	baz=91,SNR=8.6						
E24A	Baker	91.43	40	⇑P	P	20 58 19.4	+0.1
	baz=91						
M21A	Separation Pea	91.45	46	⇓P	P	20 58 20.4	+0.6
	baz=91,SNR=11						
P20A	De Beque	91.54	48	⇑P	P	20 58 20.9	+0.8
	baz=91						
H23A	Clabaugh Cattl	91.58	43	⇓P	P	20 58 20.5	+0.4
	baz=91						
K22A	Casper	91.61	45	⇓P	P	20 58 21.0	+0.6
	baz=92						
F24A	Ekalaka	91.65	41	⇑P	P	20 58 20.6	+0.2
	baz=92						
N21A	Black Mountain	91.67	47	⇓P	P	20 58 21.6	+0.8
	baz=92,SNR=5.0						
Q20A	Ridgley Place,	91.82	49	⇓P	P	20 58 22.4	+1.0
	baz=92,SNR=27						
O21A	Pagoda	91.92	47	⇓P	P	20 58 22.3	+0.3
	baz=92						
H24A	Dirks Ranch, A	92.05	42	⇓P	P	20 58 22.4	+0.1
	baz=92						
R20A	Redvale	92.05	49	⇓P	P	20 58 23.4	+0.8
	baz=92						
M22A	Cedar Creek Ra	92.06	46	⇑P	P	20 58 23.4	+0.7
	baz=92,SNR=10						
U19A	Dine' College,	92.15	51	⇑P	P	20 58 24.3	+1.2
	baz=92,SNR=6.9						
K23A	Bowen Ranch, D	92.17	44	⇓P	P	20 58 23.5	+0.6
	baz=92						
W18A	Petrified Fore	92.18	53	⇑P	P	20 58 24.9	+1.7
	baz=92						
S20A	Disappointment	92.20	50	⇑P	P	20 58 24.2	+0.8
	baz=92						
P21A	Newcastle	92.20	48	⇓P	P	20 58 24.4	+1.1
	baz=92						
X18A	Snowflake	92.23	53	⇑P	P	20 58 24.7	+1.3
	baz=92						
MVCO	Mesa Verde	92.33	50	⇓P	P	20 58 25.0	+1.1
	baz=92						
I24A	Kuemmerle Ranc	92.38	43	⇑P	P	20 58 23.8	0.0
	baz=92,SNR=6.5						
Q21A	Lamborn Mesa,	92.38	49	⇑P	P	20 58 25.3	+1.2
	baz=92						
L23A	Garrett	92.39	45	⇑P	P	20 58 24.2	+0.1
	baz=92						
N22A	Wattenberg Ran	92.40	46	⇑P	P	20 58 25.1	+0.9
	baz=92						
J24A	Dixon Ranch, L	92.58	44	⇑P	P	20 58 25.1	+0.3
	baz=92						
R21A	Cimarron	92.58	49	⇑P	P	20 58 26.1	+1.1
	baz=92,SNR=14						
O22A	Kremmling	92.59	47	⇓P	P	20 58 25.8	+0.6
	baz=92,SNR=16						
U20A	Newcomb	92.63	51	⇑P	P	20 58 26.1	+0.8
	baz=92						
M23A	Laramie	92.64	46	⇓P	P	20 58 26.0	+0.8
	baz=92						
RSSD	Black Hills	92.65	43	eP	P	20 58 24.8	-0.4
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RSSD	Black Hills	92.65	43	eP	P	20 58 24.8	-0.4
	comp=Z,6.5nm,0.6s						
P22A	Eagle	92.67	48	⇓P	P	20 58 26.3	+0.9
	baz=92,SNR=8.2						
S21A	Coal Bank Pass	92.68	50	⇑P	P	20 58 26.5	+0.9
	baz=92,SNR=7.5						
SMCO	Snowmass	92.68	48	eP	P	20 58 26.6	+0.9
	comp=Z,30nm,1.0s						
N23A	Red Feather La	92.72	46	⇓P	P	20 58 26.9	+1.3
	baz=93,SNR=12						
K24A	Anderson Ranch	92.73	44	⇑P	P	20 58 26.0	+0.5
	baz=93						
Q22A	Crested Butte,	92.85	48	⇓P	P	20 58 27.5	+1.1
	baz=93,SNR=12						
V20A	Brimhall	92.89	52	⇑P	P	20 58 27.6	+1.1
	baz=93,SNR=7.6						
O23A	Lake Granby, G	93.01	47	⇑P	P	20 58 28.2	+1.1
	baz=93,SNR=5.9						
W20A	Ramah	93.11	52	⇓P	P	20 58 28.6	+1.0
	baz=93,SNR=7.1						
R22A	Saguache, Gunn	93.21	49	⇑P	P	20 58 28.4	+0.3
	baz=93						
M24A	Cheyenne	93.25	45	⇓P	P	20 58 28.9	+0.9
	baz=93						
U21A	Nageezi	93.25	51	⇓P	P	20 58 29.3	+1.1
	baz=93						
X20A	Quemado	93.34	53	⇓P	P	20 58 30.4	+1.8
	baz=93						
S22A	4UR Ranch, Cre	93.35	49	⇑P	P	20 58 29.7	+1.0
	baz=93,SNR=6.5						
ISCO	Idaho Springs	93.39	47	eP	P	20 58 29.4	+0.6
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ISCO	Idaho Springs	93.39	47	eP	P	20 58 29.4	+0.6
	comp=Z,9.9nm,1.0s						
ISCO	Idaho Springs	93.39	47	⇑P	P	20 58 29.8	+0.9
	baz=93,SNR=10						
K25A	Mack Ranch, Ha	93.41	44	⇑P	P	20 58 29.5	+0.9
	baz=93						
P23A	Jefferson	93.41	47	⇓P	P	20 58 30.5	+1.5
	baz=93						
AKASG	Malin Array Be	93.41	325	P	P	20 58 27.0	-1.3
	comp=Z,0.2nm,0.3s,baz=60,slow=4.2,SNR=3.5						
AKASG	Malin Array Be	93.41	325	P	P	20 58 27.0	-1.3
AKASG	Malin Array Be	93.41	325	P	P	20 58 26.9	-1.3
V21A	Milan	93.51	51	⇑P	P	20 58 30.4	+1.1
	baz=93						
L25A	Engebretsen Ra	93.54	44	⇓P	P	20 58 30.0	+0.7
	baz=93,SNR=5.0						
T22A	Edith	93.58	50	⇑P	P	20 58 30.6	+0.9
	baz=94,SNR=6.4						
O24A	Longmont	93.64	47	⇑P	P	20 58 31.1	+1.3
	baz=94						
Y20A	Horse Springs,	93.67	53	⇓P	P	20 58 31.8	+1.6
	baz=94,SNR=5.4						
Z20A	Nine Sixteen R	93.80	54	⇑P	P	20 58 32.3	+1.6
	baz=94,SNR=7.1						
K26A	Motz Farm, Whi	93.83	44	⇓P	P	20 58 31.3	+0.8
	baz=94						
U22A	Llaves	93.87	51	⇓P	P	20 58 32.4	+1.4
	baz=94						
R23A	Moffat	93.90	49	⇓P	P	20 58 32.4	+1.2
	baz=94						
X21A	Alamocita Cree	93.92	53	⇓P	P	20 58 32.8	+1.5
	baz=94						
120A	U Bar Ranch, L	93.98	55	⇓P	P	20 58 32.6	+1.1
	baz=94						
V22A	San Miguel Ran	94.01	51	⇓P	P	20 58 32.7	+1.0
	baz=94						
Y21A	Point of Rocks	94.17	53	⇑P	P	20 58 33.9	+1.4
	baz=94						
L26A	Underwood Farm	94.19	44	⇑P	P	20 58 33.1	+0.9
	baz=94						
O25A	Wiggins	94.31	46	⇑P	P	20 58 33.8	+1.0
	baz=94						
K27A	Flueckinger Fa	94.45	43	⇓P	P	20 58 34.0	+0.6
	baz=94						
P25A	Willow Gulch B	94.53	47	⇑P	P	20 58 34.7	+0.8
	baz=94						
S24A	Houchin Ranch,	94.56	49	⇑P	P	20 58 35.2	+1.0
	baz=94						
ULM	Lac du Bonnet	94.60	35	P	P	20 58 32.9	-0.8
	comp=Z,4.0nm,0.8s,baz=277,slow=6.4,SNR=5.5						
ULM	Lac du Bonnet	94.60	35	P	P	20 58 32.9	-0.8
121A	Cookes Peak, D	94.65	54	⇓P	P	20 58 36.2	+1.6
	baz=94						
O26A	Horse Wrangler	94.81	46	⇓P	P	20 58 35.7	+0.6
	baz=95						
W23A	Werner Place,	94.88	51	⇓P	P	20 58 37.0	+1.4
	baz=95						
NOA	NORSAR Array B	94.94	340	P	P	20 58 32.9	-2.3
	comp=Z,0.7nm,0.6s,baz=45,slow=4.9,SNR=2.7						
NOA	NORSAR Array B	94.94	340	P	P	20 58 32.9	-2.3
Z22A	Elephant Butte	95.01	53	⇓P	P	20 58 37.4	+1.3
	baz=95						
P26A	Davis Ranch, A	95.08	46	⇓P	P	20 58 37.3	+0.9
	baz=95						
S25A	Robets Cordova	95.12	49	⇑P	P	20 58 37.6	+0.9
	baz=95						
122A	Conniff Cattle	95.19	54	⇓P	P	20 58 38.4	+1.4
	baz=95						
V24A	Rampart Ranch,	95.31	51	⇑P	P	20 58 38.4	+0.8
	baz=95						
T25A	Trinidad	95.35	49	⇑P	P	20 58 38.4	+0.6
	baz=95						
O27A	Beecher Island	95.41	46	⇑P	P	20 58 38.4	+0.6
	baz=95						
W24A	Lazy 6 Ranch,	95.41	51	⇓P	P	20 58 39.1	+1.0
	baz=95						
Y23A	Lovelace Mesa,	95.44	53	⇓P	P	20 58 39.4	+1.2
	baz=95						
U25A	Circle Dot Ran	95.66	50	⇑P	P	20 58 40.0	+0.8
	baz=96						
KSCO	Kaye Shedlock'	95.82	47	⇑P	P	20 58 40.6	+0.8
	baz=96						
S26A	Kim	95.83	48	⇓P	P	20 58 40.4	+0.6
	baz=96						
Y24A	Capitan	95.91	52	⇓P	P	20 58 41.2	+0.9
	baz=96						
BRTR	Keskin Array B	95.92	314	P	P	20 58 38.1	-2.1
	comp=Z,4.2nm,0.8s,baz=90,slow=4.4,SNR=26						
BRTR				pP	pP	20 59 17.8	+0.3
	comp=Z,2.1nm,0.8s,baz=85,slow=4.2,SNR=4.4						
BRTR				PP	PP	21 02 35.4	+1.5
	comp=Z,1.0nm,0.8s,baz=75,slow=6.9,SNR=5.6						
BRTR	Keskin Array B	95.92	314	P	P	20 58 38.1	-2.1
BRTR				pP	pP	20 59 17.8	+0.3
BRTR				PP	PP	21 02 35.4	+1.5
U26A	Atchley Ranch,	96.15	49	⇓P	P	20 58 42.3	+0.9
	baz=96						
Z24A	Sheeppen Canyo	96.21	53	⇓P	P	20 58 42.7	+1.0
	baz=96						
X25A	Clemmons Ranch	96.25	52	⇓P	P	20 58 42.8	+1.0
	baz=96						
V26A	Tequesquite Ra	96.38	50	⇓P	P	20 58 43.1	+0.8
	baz=96						
124A	Stringfield Ra	96.39	53	⇑P	P	20 58 43.6	+1.0
	baz=96						
Y25A	Mesa, Roswell	96.48	52	⇓P	P	20 58 43.7	+0.8
	baz=96						
224A	Cornudas Mount	96.59	54	⇓P	P	20 58 44.8	+1.4
	baz=96						
T27A	Campo	96.61	49	⇑P	P	20 58 44.0	+0.7
	baz=96						
Z25A	Roswell	96.72	53	⇑P	P	20 58 44.8	+0.9
	baz=97						
MNTX	Cornudas Mount	96.85	54	⇑P	P	20 58 44.8	+0.4
	baz=97						
X26A	CR and CF Fran	96.88	51	⇓P	P	20 58 45.5	+0.8
	baz=97						
T28A	Walsh	97.02	48	⇑P	Pdif	20 58 45.8	+0.6
	baz=97						
Z26A	Caprock	97.29	52	⇑P	Pdif	20 58 47.4	+0.8
	baz=97						
325A	Bean Ranch, Si	97.30	55	⇑P	Pdif	20 58 47.8	+1.0
	baz=97						
MSTX	Muleshoe	97.91	51	⇑P	P	20 58 49.1	-0.1
	baz=98						
KOLS	Kolonicke sedl	98.14	326	eP	Pdif	20 58 51.9	+2.0
KOLS	Kolonicke sedl	98.14	326	e	Pdif	20 58 51.9	+2.0
AMTX	Amarillo	98.32	50	⇑P	Pdif	20 58 52.0	+0.9
	baz=98						
228A	UT Block 9, Go	98.83	53	⇓P	P	20 58 53.3	-0.1
	baz=99						
TXAR	Lajitas Array	99.16	56	P	Pdif	20 58 55.6	+0.7
	comp=Z,0.3nm,0.5s,baz=245,slow=5.8,SNR=2.0						
TXAR	Lajitas Array	99.16	56	P	Pdif	20 58 55.6	+0.7
329A	Wagon Wheel Ra	99.57	53	⇓P	Pdif	20 58 56.3	-0.4
	baz=99						
TUL1	Tulsa	102.08	47	⇓P	Pdif	20 59 07.4	-0.2
	baz=102						
VNA2	Neumayer--Watz	122.94	190	eP	PKPdf	21 04 07.3	-0.5
VNA2	Neumayer--Watz	122.94	190	eWP		21 04 45.9	
VNA3	Neumayer Olymp	123.03	189	eP	PKPdf	21 04 07.9	-0.1
BOSA	Boshof	124.15	246	PKP	PKPdf	21 04 10.5	-1.0
	comp=Z,2.6nm,0.8s,baz=236,slow=3.6,SNR=3.1						
BOSA	Boshof	124.15	246	PKP	PKPdf	21 04 10.5	-1.0
TORD	Torodi Ar. Bea	134.07	307	PKhKP	PKPpre	21 04 15.9	
	comp=Z,0.6nm,0.9s,baz=47,slow=1.6,SNR=6.1						
TORD				PKP	PKPdf	21 04 27.3	-3.3
	comp=Z,1.2nm,0.6s,baz=197,slow=6.5,SNR=19						
TORD	Torodi Ar. Bea	134.07	307	PKPpre	PKPpre	21 04 15.9	
TORD				PKP	PKPdf	21 04 27.3	-3.3
PLCA	Paso Flores	140.19	135	PKhKP	PKPpre	21 04 33.4	
	comp=Z,1.6nm,0.8s,baz=103,slow=2.2,SNR=3.6						
PLCA				PKP	PKPdf	21 04 39.0	-2.3
	comp=Z,2.3nm,0.8s,baz=244,slow=1.2,SNR=5.3						
PLCA	Paso Flores	140.19	135	PKPpre	PKPpre	21 04 33.4	
PLCA				PKP	PKPdf	21 04 39.0	-2.3
DBIC	Dimbokro	143.13	306	PKP	PKPbc	21 04 44.0	-0.5
	comp=Z,5.2nm,0.6s,baz=31,slow=3.2,SNR=24						
DBIC	Dimbokro	143.13	306	PKP	PKPbc	21 04 44.0	-0.5
LCO	Las Campanas	144.12	117	ePKPdf	PKPdf	21 04 48.3	-0.5
TRQA	Tornquist	147.27	137	ePKPdf	PKPdf	21 04 54.9	+1.2
LPAZ	La Paz	147.44	95	PKPbc	PKPdf	21 04 55.1	-0.1
	comp=Z,10nm,0.6s,baz=290,slow=2.1,SNR=37						
LPAZ				pPKPbc	pPKPbc	21 05 36.0	-0.5
	comp=Z,7.2nm,0.7s,baz=309,slow=6.2,SNR=2.8						
LPAZ	La Paz	147.44	95	PKPbc	PKPdf	21 04 55.1	-0.1
LPAZ				pPKPbc	pPKPbc	21 05 36.0	-0.5
SAML	Samuel	150.83	79	ePKPdf	PKPdf	21 04 59.6	-0.4
SAML				ePKPbc	PKPbc	21 05 05.8	0.0
SAML				ePKPab	PKPab	21 05 13.2	-0.2
CPUP	Villa Florida	156.24	119	PKPab	PKPab	21 05 37.1	+1.1
	comp=Z,6.2nm,0.7s,baz=237,slow=4.2,SNR=16						
CPUP	Villa Florida	156.24	119	PKPab	PKPab	21 05 37.1	+1.1
BDFB	Brasilia	166.70	90	PKPab	PKPab	21 06 22.9	+0.7
	comp=Z,3.8nm,0.7s,baz=288,slow=4.0,SNR=5.9						
BDFB	Brasilia	166.70	90	PKPab	PKPab	21 06 22.9	+0.7

*IDC **04** 21:04:57.1±0.8, 43°.50N×105°.31W, h0km, mb3.5/5, mb1 3.8/10, mb1mx3.6/32, mbtmp3.5/10, ML3.9/4, Error ellipse: s-maj=18.1km s-min=8.7km az=154.0*

*ISCJB **04** 21:04:58.3±0.2, 43°.73N±0°.01×105°.30W±0°.02, h0km, mb3.6/5, Error ellipse: s-maj=2.4km s-min=1.9km az=161.4*

*NEIC **04** 21:04:58.6±0.5, 43°.67N×105°.22W, h0km, ML3.1, Error ellipse: s-maj=7.3km s-min=6.1km az=205.0, Suspected Mining explosion.*

NEIC 75 km [45 miles] SSE of Gillette.

ISC 04 21:04:57.9±0.5, **43°.64N**±0°.02×**105°.28W**±0°.02, **h0km, n136, σ1§40**/185, **mb3.5**/5, **53C-45D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.31	221	⇑P	Pb	21 05 06.1	-0.3
	baz=0.4,SNR=478						
I23A	Meade Ranch, G	0.35	338	⇑P	Pg	21 05 05.4	+0.8
	baz=0.3,SNR=75						
I23A				⇑S	Sg	21 05 09.7	+0.5
	baz=0.3						
I24A	Kuemmerle Ranc	0.52	64	⇓P	Pb	21 05 09.5	-0.5
	baz=0.5,SNR=275						
I24A				⇑S	Sb	21 05 16.4	-1.7
	baz=0.5						
J24A	Dixon Ranch, L	0.54	124	⇓P	Pb	21 05 10.6	+0.2
	baz=0.5,SNR=33						
J22A	Midwest	0.90	256	⇓P	Pg	21 05 15.7	+0.6
	baz=0.9,SNR=300						
I22A	9 Mile Ranch,	0.91	287	⇑P	Pg	21 05 15.8	+0.4
	baz=0.9,SNR=123						
I22A				⇓S	Sg	21 05 27.5	+0.3
	baz=0.9						
K23A	Bowen Ranch, D	0.92	196	⇑P	Pb	21 05 17.3	+0.6
	baz=1.0						
K24A	Anderson Ranch	0.97	160	P	Pn	21 05 18.5	-0.4
	baz=1.0,SNR=184						
K24A				⇑S	Sn	21 05 33.6	+0.1
	baz=1.0						
H24A	Dirks Ranch, A	1.23	25	P	Pg	21 05 21.1	-0.4
	baz=1.2,SNR=102						
H22A	Clearmont	1.23	321	⇓P	Pg	21 05 21.1	-0.4
	baz=1.2,SNR=58						
K22A	Casper	1.34	223	⇑P	Pb	21 05 24.1	+0.1
	baz=1.4,SNR=51						
K22A				⇓S	Sn	21 05 44.6	+1.9
	baz=1.4						
K25A	Mack Ranch, Ha	1.45	134	⇓P	Pb	21 05 27.6	+1.7
	baz=1.4,SNR=157						
I21A	Big Trails, Te	1.47	278	⇓P	Pn	21 05 24.9	-0.9
	baz=1.5						
L23A	Garrett	1.55	192	P	Pg	21 05 28.4	+0.7
	baz=1.6,SNR=55						
L23A				⇑S	Sg	21 05 50.5	+2.8
	baz=1.6						
G23A	Biddle	1.57	357	⇑P	Pn	21 05 26.8	-0.3
	baz=1.5,SNR=123						
J21A	Lysite	1.60	260	⇓P	Pn	21 05 27.7	+0.1
	baz=1.6,SNR=11						
J21A				⇑S	Sg	21 05 50.1	+0.6
	baz=1.6						
H21A	Big Horn, Sher	1.61	309	⇑P	Pn	21 05 28.0	+0.3
	baz=1.6,SNR=99						
H21A				⇑S	Sn	21 05 49.6	+0.3
	baz=1.6						
L24A	Wheatland	1.61	171	⇓P	Pg	21 05 29.6	+0.8
	baz=1.6,SNR=23						
G22A	Birney	1.74	336	⇑P	Pn	21 05 30.0	+0.6
	baz=1.7,SNR=115						
K21A	Alcova	1.76	236	⇑P	Pb	21 05 31.1	0.0
	baz=1.8,SNR=36						
K21A				⇓S	Sg	21 05 55.1	+0.7
	baz=1.8						
L25A	Engebretsen Ra	1.77	146	⇑P	Pg	21 05 32.9	+1.2
	baz=1.8,SNR=59						
K26A	Motz Farm, Whi	1.80	121	⇑P	Pg	21 05 32.7	+0.4
	baz=1.8,SNR=17						
G24A	Alzada	1.80	20	⇓P	Pb	21 05 31.1	-0.7
	baz=1.8,SNR=25						
L22A	Ellis Ranch, M	1.82	208	⇑P	Pg	21 05 32.5	-0.2
	baz=1.9,SNR=10						
L22A				⇑S	Sg	21 05 57.3	+1.1
	baz=1.9						
J20A	Shoshoni	2.06	263	⇓P	Pb	21 05 36.4	+0.1
	baz=2.1						
F23A	Volborg	2.09	358	⇑P	Pn	21 05 34.7	+0.5
	baz=2.1,SNR=161						
I20A	Worland	2.09	280	P	Pb	21 05 35.7	-1.0
	baz=2.1,SNR=498						
G21A	Lodge Grass	2.11	320	⇓P	Pn	21 05 35.2	+0.7
	baz=2.1,SNR=57						
H20A	Greybull	2.14	294	⇓P	Pn	21 05 35.7	+0.7
	baz=2.2,SNR=35						
H20A				⇑S	Sn	21 06 03.2	+0.9
	baz=2.2						
M23A	Laramie	2.19	189	⇑P	Pg	21 05 39.2	-0.7
	baz=2.2						
M24A	Cheyenne	2.19	171	⇓P	Pg	21 05 39.1	-0.8
	baz=2.2,SNR=42						
F22A	Rosebud	2.25	342	⇑P	Pn	21 05 36.9	+0.5
	baz=2.2						
L21A	Rawlins	2.27	223	⇑P	Pb	21 05 39.0	-0.9
	baz=2.3,SNR=18						
F24A	Ekalaka	2.29	15	⇓P	Pn	21 05 38.1	+1.2
	baz=2.2						
PHWY	Pilot Hill	2.34	183	ePn	Pb	21 05 39.8	-1.3
PHWY				eS	Sb	21 06 09.3	-1.3
M25A	Palm-Egli Farm	2.38	157	⇑P	Pb	21 05 41.6	0.0
	baz=2.4,SNR=26						
K27A	Flueckinger Fa	2.41	112	⇓P	Pb	21 05 41.3	-0.9
	baz=2.4						
M22A	Cedar Creek Ra	2.44	204	⇓P	Pb	21 05 42.4	-0.3
	baz=2.5						
K20A	Yellowstone Ra	2.45	248	⇑P	Pb	21 05 41.3	-1.5
	baz=2.5						
M21A	Separation Pea	2.55	218	⇑P	Pb	21 05 43.8	-0.7
	baz=2.6						
G20A	Bridger	2.63	308	P	Pn	21 05 41.9	+0.1
	baz=2.6,SNR=227						
I19A	Meeteetse	2.72	280	⇓P	Pn	21 05 44.8	+1.8
	baz=2.7,SNR=62						
J19A	Crowheart	2.77	264	⇓P	Pn	21 05 45.9	+2.1
	baz=2.8						
N23A	Red Feather La	2.78	190	⇑P	Pb	21 05 46.8	-1.9
	baz=2.8,SNR=49						
H19A	Powell	2.86	292	⇓P	Pn	21 05 46.3	+1.4
	baz=2.9,SNR=31						
N22A	Wattenberg Ran	2.96	198	⇓Sb	Sg	21 06 33.6	+0.5
	baz=3.0						
E24A	Baker	3.00	13	⇑P	Pn	21 05 48.0	+1.2
	baz=3.0						
M20A	Sweetwater, Wa	3.04	226	⇓Sb	Sg	21 06 34.9	-0.5
	baz=3.1						
E21A	Keefer Ranch,	3.17	337	⇓P	Pn	21 05 48.5	-0.6
	baz=3.2,SNR=7.7						
N26A	Koester Ranch,	3.19	151	⇑P	Pn	21 05 52.0	+2.6
	baz=3.2						
RLMT	Red Lodge	3.22	299	ePn	Pn	21 05 51.0	+1.1
RLMT				eS	Sg	21 06 40.6	-0.9
RLMT	Red Lodge	3.22	299	⇓P	Pn	21 05 50.9	+1.0
	baz=3.2,SNR=77						
PDAR	Pinedale Array	3.25	256	Pn	Pn	21 05 52.0	+1.6
	4.8nm,0.3s,baz=71,slow=16,SNR=78						
PDAR				Lg	Lg	21 06 36.9	
	22nm,0.3s,baz=73,slow=30,SNR=16						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	3.25	256	Pn	Pn	21 05 52.0	+1.6
PDAR				Lg	Lg	21 06 36.9	
BW06	Boulder Array	3.25	256	ePn	Pn	21 05 51.7	+1.4
BW06				eS	Sb	21 06 36.0	-0.7
BW06	Boulder Array	3.25	256	⇓P	Pn	21 05 51.6	+1.3
	baz=3.3,SNR=37						
I18A	Diamond G Ranc	3.29	273	⇓P	Pn	21 05 53.2	+2.2
	baz=3.3						
H18A	Shoshone NF, C	3.32	290	⇑P	Pn	21 05 52.0	+0.6
	baz=3.3,SNR=19						
F19A	Roth Farm, Mol	3.43	312	⇑P	Pn	21 05 53.3	+0.7
	baz=3.4,SNR=145						
F19A				⇓S	Sn	21 06 34.5	+0.5
	baz=3.4						
N27A	Anderson Farm,	3.48	143	⇑P	Pn	21 05 56.3	+2.9
	baz=3.5,SNR=18						
G18A	Lazy EL Ranch,	3.50	300	⇓P	Pn	21 05 54.3	+0.7
	baz=3.5,SNR=100						
E20A	Meyer Farm, Mu	3.51	326	⇑P	Pn	21 05 53.9	+0.2
	baz=3.5						
D23A	Lindsay	3.54	1	⇑P	Pn	21 05 54.7	+0.6
	baz=3.5,SNR=29						
D24A	Glendive	3.54	11	⇓P	Pn	21 05 54.7	+0.5
	baz=3.5						
D22A	Cohagen	3.57	350	⇓P	Pn	21 05 54.9	+0.3
	baz=3.5,SNR=16						
OGNE	Ogallala	3.61	137	ePn	Pn	21 05 57.3	+2.2
OGNE				eS	Sg	21 06 54.0	+0.3
OGNE	Ogallala	3.61	137	⇑P	Pn	21 05 57.6	+2.5
	baz=3.6						
K18A	Toltan Ranch,	3.63	256	⇑P	Pn	21 05 56.8	+1.3
	baz=3.7						
E19A	Rath Farm, Rou	3.76	320	⇓P	Pn	21 05 57.1	-0.1
	baz=3.8,SNR=13						
GCMT	Greycliff	3.80	306	ePn	Pn	21 05 58.3	+0.5
GCMT				eS	Sb	21 06 53.8	+1.3
ISCO	Idaho Springs	3.84	184	ePn	Pn	21 06 01.6	+3.1
ISCO				eSg	Sb	21 06 56.6	+2.7
ISCO	Idaho Springs	3.84	184	⇑P	Pn	21 06 01.5	+3.0
	baz=3.9,SNR=26						
LOHW	Long Hollow	3.87	271	ePn	Pn	21 06 01.4	+2.6
LOHW				eSn	Sn	21 06 43.0	-2.0
F18A	Big Timber	3.89	307	⇑P	Pn	21 06 00.1	+1.0
	baz=3.9,SNR=35						
FLWY	Flagg Ranch	3.95	278	ePn	Pn	21 06 01.6	+1.7
FLWY				ePg	Pg	21 06 12.4	-1.1
FLWY				eS	Sg	21 07 05.2	+0.5
MOOW	Moose Ponds	3.97	274	ePn	Pn	21 06 02.4	+2.2
MOOW				eSg	Sg	21 07 03.9	-1.4
N19A	John Jarvie Ra	3.99	228	⇑P	Pn	21 06 02.1	+1.7
	baz=4.0,SNR=8.2						
D20A	Manuel Ranch,	4.00	331	⇑P	Pn	21 06 00.6	+0.1
	baz=4.0,SNR=14						
YNR	Norris Junctio	4.03	287	ePn	Pn	21 06 00.9	-0.2
YNR				ePg	Pb	21 06 12.3	+2.4
YNR				eSg	Sg	21 07 06.0	-1.4
REDW	Red Top Meadow	4.07	268	ePn	Pn	21 06 03.6	+2.0
REDW				ePg	Pb	21 06 13.0	+2.5
REDW				eSg	Sg	21 07 07.5	-1.0
IMW	Indian Meadow	4.11	276	ePn	Pn	21 06 01.8	-0.4
IMW				ePg	Pg	21 06 15.1	-1.5
IMW				eSg	Sg	21 07 08.2	-1.7
TPAW	Teton Pass	4.13	270	ePn	Pn	21 06 02.9	+0.5
TPAW				ePg	Pg	21 06 15.5	-1.4
TPAW				eSn	Sn	21 06 49.1	-2.4
C22A	Vida	4.13	354	⇓P	Pn	21 06 03.4	+1.1
	baz=4.1,SNR=21						
C23A	Lambert	4.17	1	⇑P	Pn	21 06 04.0	+1.2
	baz=4.1,SNR=46						
P26A	Davis Ranch, A	4.32	160	⇑P	Pn	21 06 07.6	+2.6
	baz=4.3,SNR=14						
D19A	Cripps Ranch,	4.35	326	⇑P	Pn	21 06 05.2	0.0
	baz=4.3						
C21A	Desert Coulee	4.38	344	⇓P	Pn	21 06 06.2	+0.5
	baz=4.4						
L17A	Cokeville	4.39	251	⇓P	Pn	21 06 07.9	+1.9
	baz=4.4,SNR=6.1						
E18A	Harlowton	4.40	313	⇑P	Pn	21 06 06.9	+0.8
	baz=4.4,SNR=28						
RRI2	Red Ridge	4.41	268	ePn	Pn	21 06 07.7	+1.4
RRI2				ePg	Pg	21 06 20.4	-1.9
RRI2				eS	Sg	21 07 16.9	-2.5
F17A	Fitzpatrick Pl	4.45	302	⇑P	Pn	21 06 07.9	+1.1
	baz=4.5						
C20A	Veseth Ranch,	4.50	336	⇓P	Pn	21 06 07.3	0.0
	baz=4.5						
P27A	Ficken Ranch,	4.55	153	⇑P	Pn	21 06 10.5	+2.4
	baz=4.6,SNR=5.9						
SMCO	Snowmass	4.63	197	ePn	Pn	21 06 07.9	-1.6
SMCO				ePg	Pg	21 06 25.5	-1.1
SMCO				eSg	Sg	21 07 23.7	-3.0
DGMT	Dagmar	4.89	8	ePn	Pn	21 06 15.3	+2.6
DGMT				ePg	Pg	21 06 28.8	-2.8
DGMT				eSg	Sg	21 07 37.1	+2.1
BOZ	Bozeman (W)	4.96	296	ePn	Pn	21 06 13.3	-0.4
BOZ				ePg	Pb	21 06 26.4	+0.7
BOZ				eS	Sb	21 07 30.1	+4.2
HWUT	Hardware Ranch	5.06	249	ePn	Pn	21 06 17.2	+2.0
	12nm,0.3s						
HWUT				ePg	Pg	21 06 34.2	-0.7
HWUT				eSg	Sg	21 07 37.7	-2.8
B20A	Solberg Farm,	5.17	339	⇓P	Pn	21 06 16.7	+0.2
	baz=5.2,SNR=8.0						
D17A	Six Diamond Ra	5.18	315	⇓P	Pn	21 06 17.1	+0.2
	baz=5.2,SNR=27						
EGMT	Eagleton	5.39	326	ePn	Pn	21 06 20.0	+0.4
	16nm,0.5s						
EGMT				ePg	Pb	21 06 34.4	+1.5
P18A	Preston Nutter	5.47	225	⇓P	Pn	21 06 23.0	+2.2
	baz=5.5,SNR=13						
R26A	Arlington	5.51	165	⇑P	Pn	21 06 23.4	+2.2
	baz=5.5,SNR=9.4						
HRY	Holter Researc	5.56	306	ePn	Pn	21 06 22.3	+0.3
	9.0nm,0.3s						
HRY				ePg	Pg	21 06 43.7	-0.7
HRY				eSg	Sg	21 07 57.5	+1.1
MCMT	McKenzie Canyo	5.57	285	ePn	Pn	21 06 25.1	+2.8
	1.7nm,0.3s						
MCMT				ePg	Pg	21 06 43.5	-1.1
MCMT				eSg	Sg	21 07 56.1	-0.7
E15A	Deer Lodge	5.92	301	⇓P	Pn	21 06 27.2	+0.3
	baz=5.9,SNR=13						
S25A	Robets Cordova	6.00	174	⇓P	Pn	21 06 30.1	+1.9
	baz=6.0,SNR=7.6						
C16A	Fuhringer Ranc	6.15	315	⇓P	Pn	21 06 30.0	0.0
	baz=6.1,SNR=8.4						
S26A	Kim	6.16	167	⇑P	Pn	21 06 32.2	+1.9
	baz=6.2,SNR=8.4						
ECSD	EROS Data Cent	6.28	86	ePn	Pn	21 06 33.3	+1.5
	5.9nm,0.3s						
ECSD				ePg	Pg	21 06 57.0	-1.2
ECSD				eSn	Sn	21 07 47.3	+3.0
ECSD				eSg	Sg	21 08 18.3	-1.3
CHMT	Chamberlain Mo	6.51	303	ePn	Pn	21 06 34.9	-0.2
	1.2nm,0.3s						
CHMT				ePg	Pg	21 07 02.5	-0.1
CHMT				eSg	Sg	21 08 23.1	-3.8
DUG	Dugway	6.59	241	⇑P	Pn	21 06 37.3	+1.2
	baz=6.6,SNR=6.6						
D14A	Greenough	6.74	304	⇑P	Pn	21 06 38.3	+0.1
	baz=6.7,SNR=11						
T27A	Campo	6.85	163	⇓P	Pn	21 06 41.6	+1.9
	baz=6.9,SNR=8.1						
B15A	Bradely Ranch,	6.90	315	⇑P	Pn	21 06 39.9	-0.4
	baz=6.9,SNR=10						
C14A	Swan Lake	7.23	308	⇑P	Pn	21 06 44.8	0.0
	baz=7.2,SNR=14						
B14A	Marquette Ranc	7.30	313	⇓P	Pn	21 06 45.7	-0.1
	baz=7.3						
YBMT	Yellow Bay	7.43	308	ePn	Pn	21 06 48.1	+0.5
	4.3nm,0.3s						
YBMT				eSn	Sn	21 08 13.5	+0.9
ULM	Lac du Bonnet	9.22	41	Pn	Pn	21 07 11.0	-1.0
	4.1nm,0.3s,baz=231,slow=11,SNR=21						
ULM	Lac du Bonnet	9.22	41	Pn	Pn	21 07 11.0	-1.0
NVAR	Mina Array Bea	11.12	247	Lg	Lg	21 10 45.1	
	0.4nm,0.3s,baz=54,slow=30,SNR=8.0						
TXAR	Lajitas Array	14.33	174	Pn	Pn	21 08 21.2	-0.9
	0.1nm,0.3s,baz=333,slow=3.3,SNR=2.4						
TXAR	Lajitas Array	14.33	174	Pn	Pn	21 08 21.2	-0.9
TKL	Tuckaleechee C	18.34	108	P	Pn	21 09 12.3	-1.3
	1.9nm,0.3s,baz=310,slow=12,SNR=5.9						
TKL	Tuckaleechee C	18.34	108	P	Pn	21 09 12.3	-1.3
YKA	Yellowknife Ar	19.66	347	P	Pn	21 09 29.3	-0.1
	0.1nm,0.3s,baz=155,slow=11,SNR=5.2						
YKA	Yellowknife Ar	19.66	347	P	Pn	21 09 29.3	-0.1
ILAR	Eielson Array	31.36	327	P	P	21 11 20.9	+1.1
	0.2nm,0.9s,baz=106,slow=9.5,SNR=2.7						
ILAR	Eielson Array	31.36	327	P	P	21 11 20.9	+1.1
ARCES	ARCESS Array B	61.52	18	P	P	21 15 15.4	-0.6
	3.0nm,1.1s,baz=330,slow=6.4,SNR=8.1						
ARCES	ARCESS Array B	61.52	18	P	P	21 15 15.4	-0.6
BVAR	Borovoye Array	83.64	3	P	P	21 17 26.6	-1.4
	0.3nm,0.7s,baz=356,slow=4.3,SNR=4.2						
BVAR	Borovoye Array	83.64	3	P	P	21 17 26.6	-1.4
SONM	Songino Array	84.73	339	P	P	21 17 33.7	-0.1
	0.2nm,0.7s,baz=20,slow=4.6,SNR=3.7						
SONM	Songino Array	84.73	339	P	P	21 17 33.7	-0.1
MKAR	Makanchi Array	89.71	355	P	P	21 17 57.9	+0.1
	0.3nm,0.8s,baz=17,slow=4.4,SNR=2.7						
MKAR	Makanchi Array	89.71	355	P	P	21 17 57.9	+0.1

---

*DDA **04** 21:07:26.6, 37°.58N×35°.74E, h8km, MD2.8*
*ISK **04** 21:07:27.8, 37°.56N×35°.78E, h15km, MD2.7*
*ISCJB **04** 21:07:28.2±0.6, 37°.55N±0°.04×35°.70E±0°.04, h12km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=9.0*
*CSEM **04** 21:07:28.5±0.3, 37°.53N×35°.66E, h12km, MD2.7, Error ellipse: s-maj=8.2km s-min=5.9km az=2.0*
ISC 04 21:07:27.9±0.8, 37°.52N±0°.03×35°.73E±0°.02, h16km±5km, n23, σ1.01/37, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.09	118	PG	Pg	21 07 31.2	+0.1
KOZT				SG	Sg	21 07 33.4	+0.2
KOZT	Kozan	0.09	118	iPg	Pg	21 07 31.2	+0.1
KOZT				iSg	Sg	21 07 33.4	+0.2
ANDN	Andirin	0.49	83	iP	Pn	21 07 40.9	+0.5
ANDN				iS	Sn	21 07 49.1	+0.4
ANDN	Andirin	0.49	83	iP	Pn	21 07 40.9	+0.5
ANDN				iS	Sn	21 07 49.1	+0.4
CEYT	Ceyhan	0.51	178	ePG	Pg	21 07 38.3	+0.3
CEYT				eSG	Sb	21 07 47.6	+1.9
CEYT	Ceyhan	0.51	178	ePg	Pg	21 07 38.3	+0.3
CEYT				eSg	Sb	21 07 47.6	+1.9
GULE	Gulek	0.80	253	iP	Pb	21 07 42.4	-1.1
GULE				iS	Sb	21 07 54.6	+0.4
GULE	Gulek	0.80	253	iP	Pb	21 07 42.4	-1.1
GULE				iS	Sb	21 07 54.6	+0.4
KMRS	Kahramanmaras	0.93	91	ePG	Pb	21 07 45.5	-0.2
KMRS	Kahramanmaras	0.93	91	ePg	Pb	21 07 45.5	-0.2
NIG	Nigde	1.06	304	ePG	Pg	21 07 49.1	+0.6
NIG	Nigde	1.06	304	ePg	Pg	21 07 49.2	+0.6
MERS	Mersin	1.17	236	ePN	Pn	21 07 50.2	+0.6
MERS	Mersin	1.17	236	ePn	Pn	21 07 50.2	+0.6
KUZU	Kuzuini	1.31	124	iP	Pn	21 07 49.0	-2.6
KUZU				iS	Sb	21 08 09.7	+1.0
KUZU	Kuzuini	1.31	124	iP	Pn	21 07 49.0	-2.6
KUZU				iS	Sb	21 08 09.7	+1.0
BNN	Bunyan	1.33	4	ePN	Pb	21 07 52.3	-0.3
BNN	Bunyan	1.33	4	ePn	Pb	21 07 52.3	-0.3
AVNT	Avonos	1.43	331	iP	Pb	21 07 53.7	-0.7
AVNT				iS	Sn	21 08 11.0	-1.1
AVNT	Avonos	1.43	331	iP	Pb	21 07 53.7	-0.7
GZT	Gaziantep	1.47	96	iP	Pn	21 07 52.4	-1.5
GZT				iS	Sb	21 08 13.9	+0.4
AKCD	Akcadag	1.90	65	iP	Pb	21 08 02.3	+0.1
AKCD				iS	Sb	21 08 26.5	+0.7
AKCD	Akcadag	1.90	65	iP	Pb	21 08 02.3	+0.1
AKCD				iS	Sb	21 08 26.5	+0.7

---

*CSEM **04** 21:11:23.1, 39°.12N×29°.02E, h7km, MD2.7, After DDA*
DDA 04 21:11:23.1, 39°.12N×29°.02E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.24	253	iP	Pg	21 11 28.9	+0.8
DEMI				iS	Sg	21 11 32.4	+1.0
DEMI	Demirci	0.24	253	iP	Pg	21 11 28.9	+0.8
DEMI				iS	Sg	21 11 32.4	+0.9
GDZ	Gediz	0.36	94	iP	Pg	21 11 30.8	+0.4
GDZ				iS	Sg	21 11 35.9	+0.6
GDZ	Gediz	0.36	94	iP	Pg	21 11 30.8	+0.4
GDZ				iS	Sg	21 11 35.9	+0.6
DURS	Dursunbey	0.64	319	iP	Pg	21 11 35.4	-0.2
DURS				iS	Sg	21 11 44.4	+0.3
DURS	Dursunbey	0.64	319	iP	Pg	21 11 35.4	-0.2
DURS				iS	Sg	21 11 44.4	+0.3
MANT	Manisa	0.72	210	iP	Pg	21 11 37.4	+0.1
MANT				iS	Sg	21 11 44.9	-2.0
MANT	Manisa	0.72	210	iP	Pg	21 11 37.4	+0.1
MANT				iS	Sg	21 11 44.9	-1.9
KHAL	Karahalli	0.83	153	iP	Pg	21 11 39.5	+0.3
KHAL				iS	Sg	21 11 50.6	+0.4
KHAL	Karahalli	0.83	153	iP	Pg	21 11 39.5	+0.2
KHAL				iS	Sg	21 11 50.6	+0.4
BORA	Eskisehir	1.35	55	iP	Pn	21 11 48.6	+0.1
BORA				iS	Sg	21 12 06.6	-0.2
BORA	Eskisehir	1.35	55	iP	Pn	21 11 48.6	+0.1
BORA				iS	Sg	21 12 06.6	-0.1

---

*NIED **04** 21:15:00, 26°.90N×142°.60E, h38km, Mw5.0 Best double couple: $M_0$3.32000×10^{16} NP1:ϕ_s327.00000°, δ84.00000°, λ108.00000°. NP2:ϕ_s74.00000°, δ19.00000°, λ18.00000°.*
*IDC **04** 21:15:07.1±0.4, 26°.86N×142°.82E, h0km, mb4.4/29, mb1 4.5/33, mb1mx4.4/37, mbtmp4.3/33, ML3.7/4, MS4.2/26, Ms1 4.2/26, ms1mx4.0/44, Error ellipse: s-maj=11.9km s-min=10.3km az=37.0*
*MOS **04** 21:15:10.8±0.9, 26°.85N×142°.63E, h33km, mb5.0/47, Error ellipse: s-maj=9.8km s-min=5.4km az=112.8*
*JMA **04** 21:15:12.7±0.2, 26°.91N×142°.63E, h63km, M4.4*
JMA Felt I J1.
*ISCJB **04** 21:15:13.7±0.5, 26°.99N±0°.03×142°.55E±0°.04, h52km±4km, mb4.8/107, MS4.2/41, Error ellipse: s-maj=5.5km s-min=4.8km az=30.5*
*BJI **04** 21:15:14.1, 26°.92N×142°.55E, h64km, mB5.0/36, mb4.6/42, Ms4.6/42, Ms7 4.3/42*
*NEIC **04** 21:15:14.2±0.9, 26°.88N×142°.58E, h46km±7km, mb5.1/44, MW4.9(NIED), Error ellipse: s-maj=7.3km s-min=5.5km az=139.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.
ISC 04 21:15:15.7±0.4, 26°.95N±0°.04×142°.52E±0°.04, h57km±2km, h57km:pP-P, n294, σ1.51/352, mb4.8/107, MS4.2/41, 17C-20D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.33	295	Pn	Pn	21 15 25.2	-0.6
	3µm,0.3s,baz=84,slow=10,SNR=516						
CBIJ				Sn	Sn	21 15 34.4	+1.3
	5µm,0.3s,baz=107,slow=20,SNR=35						
CBIJ	Chichi jima	0.33	295	Pn	Pn	21 15 25.2	-0.6
CBIJ				Sn	Sn	21 15 34.4	+1.3
CBIJ	Chichi jima	0.33	295	P	Pn	21 15 24.3	-1.5
CBIJ				eS	Sn	21 15 33.2	+0.1
JHHJ	Haha-jima-NKT	0.44	223	P	Pn	21 15 24.9	-2.0
JHHJ				eS	Sn	21 15 33.3	-1.7
JHJ	Hachijo jima 2	6.59	340	LR	LR	21 19 18.2	
	comp=Z,2µm,18.2s,baz=70,slow=37						
BSO4	Boso 4	8.23	347	eS	Sn	21 18 41.6	-2.1
JOD2	Odawara 2	8.79	341	P	Pn	21 17 18.8	-1.3
JNY	Yasuok	9.28	336	P	Pn	21 17 29.1	+2.2
JHU	Hanno	9.29	343	P	Pn	21 17 25.9	-1.1
JHU				eS	Sn	21 19 08.3	-1.7
JRY	Ryogami san	9.55	342	P	Pn	21 17 28.8	-1.7
JHO	Hitachi	9.77	351	P	Pn	21 17 30.5	-3.0
JHO				eS	Sn	21 19 15.0	-6.7
JAG	Ashikaga	9.80	345	P	Pn	21 17 32.4	-1.5
MJAR	Matsushiro Arr	10.24	340	Pn	Pn	21 17 39.6	-0.3
	1.1nm,0.3s,baz=157,slow=12,SNR=13						
MJAR				Sn	Sn	21 19 33.5	+0.3
	0.6nm,0.3s,baz=159,slow=17,SNR=4.5						
MJAR				LR	LR	21 21 27.7	
	comp=Z,917nm,18.9s,baz=170,slow=37						
MJAR	Matsushiro Arr	10.24	340	Pn	Pn	21 17 39.6	-0.3
MJAR				Sn	Sn	21 19 33.5	+0.3
MAT	Matsushiro	10.24	340	P	Pn	21 17 40.1	+0.2
MAT				eS	Sn	21 19 34.8	+1.6
JNU	Nakatsue	11.81	304	Pn	Pn	21 18 05.1	+3.7
	0.3nm,0.3s,baz=131,slow=9.3,SNR=4.5						
JNU				LR	LR	21 22 20.8	
	comp=Z,1µm,18.3s,baz=118,slow=36						
JNU	Nakatsue	11.81	304	ePn	Pn	21 17 58.7	-2.7
JOW	Kunigami	12.72	273	LR	LR	21 23 11.0	
	comp=Z,871nm,18.9s,baz=226,slow=37						
GUMO	Guam	13.48	170	LR	LR	21 22 55.8	
	comp=Z,861nm,21.0s,baz=18,slow=35						
ERM	Erimo	15.03	2	iP	P	21 18 47.8	-1.0
KSRS	Korea Array	16.17	314	Pn	Pn	21 18 59.9	+0.6
	0.7nm,0.3s,baz=123,slow=11,SNR=12						
KSRS				LR	LR	21 25 06.2	
	comp=Z,559nm,18.1s,baz=121,slow=36						
KSAR	Wonju Array Be	16.19	314	Pn	Pn	21 18 59.9	+0.4
ASAJ	Asahikawa	17.13	0	P	Pn	21 19 09.8	-1.3
	0.6nm,0.3s,baz=214,slow=12,SNR=6.2						
ASAJ				LR	LR	21 26 44.1	
	comp=Z,601nm,19.2s,baz=192,slow=40						
ASAJ	Asahikawa	17.13	0	P	Pn	21 19 09.8	-1.3
YUK	Yuzh-Kuril'sk	17.26	8	P	Pn	21 19 11.1	-1.6
YUK				iS	Sn	21 22 22.8	-1.0
YUK				pmax	pmax		
	comp=N,59nm,0.5s						
YUK				pmax	pmax		
	comp=E,50nm,0.5s						
YUK				pmax	pmax		
	comp=Z,75nm,0.5s						
YUK				pmax	pmax		
	comp=Z,617nm,3.7s						
YUK				MLR	MLR		
	comp=Z,437nm,19.0s						
YHNB	Yeheng	19.17	268	ePn	Pn	21 19 36.5	+0.3
	comp=Z,854nm,2.7s						
USRK	Ussuriysk Arra	19.19	336	P	P	21 19 34.8	+0.1
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=11						
YULB	Yu-li	19.53	264	eP	P	21 19 38.9	+0.2
	comp=Z,36nm,1.0s						
SSLB	Suanglung	19.74	266	ePn	Pn	21 19 43.2	+0.4
	comp=Z,55nm,1.0s						
YSS	Yuzh-Sakhalins	19.96	0	eP	Pn	21 19 48.5	+3.3
YSS				e		21 20 11.3	
YSS				eS	Sn	21 23 28.0	-1.0
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS	Yuzh-Sakhalins	19.96	0	eP	Pn	21 19 44.8	-0.4
	comp=Z,31nm,1.3s						
MDJ	Mudanjiang	20.46	333	P	P	21 19 48.5	-0.1
MDJ				pP	pP	21 20 01.5	+0.3
MDJ				sP	sP	21 20 09.3	+0.9
MDJ				S	S	21 23 32.2	-2.2
MDJ				sS	sS	21 23 54.3	-0.7
MDJ				ScP	ScP	21 27 31.4	+1.2
MDJ				PcS	PcS	21 27 38.3	+2.2
MDJ				pmax	pmax		
	comp=Z,92nm,4.0s						
MDJ				LR	LR		
	comp=N,790nm,17.9s						
MDJ				LR	LR		
	comp=E,350nm,16.6s						
MDJ				LR	LR		
	comp=Z,1µm,17.4s						
MDJ	Mudanjiang	20.46	333	eP	P	21 19 48.2	-0.4
	comp=Z,14nm,0.8s						
NJ2	Nanjing	21.20	290	eP	P	21 19 56.5	-0.1
NJ2				PP	PnPn	21 20 20.6	+2.5
NJ2				S	S	21 23 43.0	-6.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,230nm,5.2s						
NJ2				LR	LR		
	comp=N,240nm,22.7s						
NJ2				LR	LR		
	comp=E,460nm,20.6s						
NJ2				LR	LR		
	comp=Z,400nm,18.2s						
SNY	Shenyang	21.48	319	⇑P	P	21 20 00.6	+1.1
SNY				S	S	21 23 44.1	-11
SNY				pmax	pmax		
	comp=Z,18nm,0.7s						
SNY				pmax	pmax		
	comp=Z,130nm,7.5s						
SNY				LR	LR		
	comp=N,440nm,13.3s						
SNY				LR	LR		
	comp=E,320nm,15.5s						
SNY				LR	LR		
	comp=Z,380nm,15.3s						
QZH	Quanzhou	21.60	270	P	P	21 20 04.2	+3.2
QZH				S	S	21 23 58.3	+1.0
QZH				LR	LR		
	comp=Z,1µm,19.3s						
CN2	Changchun	21.75	325	eP	P	21 20 04.9	+2.5
CN2				esP	sP	21 20 28.0	+5.6
CN2				eS	S	21 23 54.6	-5.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,15.0s						
CN2				LR	LR		
	comp=E,500nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
HABR	Khabarovsk	22.26	347	eP	P	21 20 07.4	-0.4
HABR				e*PP	pP	21 20 16.1	-4.4
HABR				e		21 20 20.6	
HABR				PPP	PPP	21 20 39.3	
HABR						21 24 01.0	
HABR				eS	S	21 24 12.1	+3.0
HABR				e*SS	sS	21 24 27.4	-3.1
HABR				eSS	SnSn	21 24 42.6	+2.1
HABR				e		21 31 21.2	
HABR				pmax	pmax		
	comp=E,42nm,2.7s						
HABR				pmax	pmax		
	comp=N,21nm,1.6s						
HABR				pmax	pmax		
	comp=Z,42nm,1.6s						
HABR				MLR	MLR		
	comp=Z,273nm,17.0s						
KLR	Kul'dur	23.75	342	eP	P	21 20 18.8	-3.9
KLR				eS	S	21 24 38.5	+4.7
KLR				MLR	MLR		
	comp=E,500nm,13.5s						
KLR				MLR	MLR		
	comp=Z,1µm,13.5s						
TGY	Tagaytay City	23.87	242	P	P	21 20 24.3	+0.2
	comp=Z,69nm,0.3s,baz=60,slow=20,SNR=6.5						
TGY	Tagaytay City	23.87	242	P	P	21 20 24.3	+0.2
BJI	Beijing	25.45	308	P	P	21 20 37.3	-0.9
BJI				pP	pP	21 20 53.3	+1.0
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,120nm,3.4s						
BJI				LR	LR		
	comp=N,460nm,16.0s						
BJI				LR	LR		
	comp=E,500nm,16.0s						
BJI				LR	LR		
	comp=Z,330nm,17.4s						
HIA	Hailar	28.39	328	eP	P	21 21 05.5	+1.0
	comp=Z,10nm,0.9s						
PETK	Petropavlovsk-	28.47	19	LR	LR	21 30 33.5	
	comp=Z,165nm,20.9s,baz=198,slow=32						
HHC	Hu-ho-hao-te	29.02	306	eP	P	21 21 10.3	-0.1
HHC				pP	pP	21 21 24.5	-0.2
HHC				sP	sP	21 21 32.5	+1.0
HHC				PP	PnPn	21 22 04.9	+0.1
HHC				S	S	21 25 52.8	-4.9
HHC				sS	sS	21 26 18.6	-3.4
HHC				SS	SnSn	21 27 26.0	+0.3
HHC				ScS	ScS	21 31 44.6	-3.8
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
HHC				LR	LR		
	comp=N,410nm,9.6s						
HHC				LR	LR		
	comp=E,410nm,9.4s						
HHC				LR	LR		
	comp=Z,500nm,11.3s						
XAN	Xi'an	29.70	292	P	P	21 21 15.8	-0.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						

XAN pmax pmax
comp=Z,31nm,6.7s
XAN LR LR
comp=E,170nm,15.4s
XAN LR LR
comp=Z,180nm,17.1s
QIZ Qiongzhong 31.03 262 P **P** **21 21 27.4 -0.9**
QIZ S **S** **21 26 29.4 0.0**
QIZ sS **sS** **21 26 54.7 +1.0**
QIZ LR LR
comp=N,280nm,18.1s
QIZ LR LR
comp=Z,330nm,16.7s
GYA Guiyang 31.97 277 P **P** **21 21 38.0 +1.4**
GYA pP **pP** **21 21 54.6 +3.6**
GYA sP **sP** **21 22 02.0 +4.3**
GYA PP **PnPn** **21 22 45.5 +2.1**
GYA S **S** **21 26 41.9 -2.3**
GYA ScP **ScP** **21 28 05.0 +0.7**
GYA PcS **PcS** **21 28 12.2 +1.5**
GYA SS **SnSn** **21 28 35.6 -2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,620nm,17.0s
GYA LR LR
comp=E,550nm,17.4s
GYA LR LR
comp=Z,560nm,17.8s
KKM Kota Kinabalu 32.55 235 *e*P **P** **21 21 43.3 +1.6**
comp=Z,16nm,1.0s
LZH Lanzhou 34.02 295 *e*P **P** **21 21 56.0 +1.5**
LZH pP **pP** **21 22 11.5 +2.6**
LZH sP **sP** **21 22 19.2 +3.6**
LZH PP **PnPn** **21 23 10.3 +1.1**
LZH *e*S **S** **21 27 14.5 -1.5**
LZH sS **sS** **21 27 40.3 -0.1**
LZH *e*SS **SnSn** **21 29 22.1 -5.2**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,180nm,6.0s
LZH LR LR
comp=N,410nm,13.2s
LZH LR LR
comp=E,560nm,14.0s
LZH LR LR
comp=Z,710nm,17.0s
CD2 Chengdu 34.04 286 P **P** **21 21 53.8 -0.7**
CD2 pP **pP** **21 22 09.6 +0.7**
CD2 sP **sP** **21 22 17.3 +1.6**
CD2 PP **PnPn** **21 23 08.4 -1.0**
CD2 S **S** **21 27 11.7 -4.4**
CD2 sS **sS** **21 27 38.8 -1.8**
CD2 SS **SnSn** **21 29 20.7 -7.0**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,70nm,4.3s
CD2 LR LR
comp=N,530nm,15.5s
CD2 LR LR
comp=Z,590nm,16.1s
FX1 Attu Island--F 34.51 33 *e*P **P** **21 22 00.2 +2.0**
ULN Ulaanbaatar 34.63 317 *e*P **P** **21 21 59.5 -0.1**
comp=Z,17nm,1.8s
SONM Songino Array 35.02 316 P **P** **21 22 02.9 -0.1**
comp=Z,1.9nm,0.6s,baz=122,slow=5.3,SNR=17
SONM PcP **PcP** **21 24 34.4 +0.5**
comp=Z,1.6nm,0.9s,baz=132,slow=2.1,SNR=5.6
SONM LR LR 21 36 03.1
comp=Z,216nm,18.2s,baz=113,slow=36
SONM Songino Array 35.02 316 P **P** **21 22 02.9 -0.1**
SONM PcP **PcP** **21 24 34.4 +0.5**
KMI Kunming 35.69 276 P **P** **21 22 09.8 +0.8**
KMI pP **pP** **21 22 22.6 -0.9**
KMI S **S** **21 27 38.9 -3.1**
KMI sS **sS** **21 28 08.7 +2.2**
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=N,190nm,15.9s
KMI LR LR
comp=E,290nm,16.4s
KMI LR LR
comp=Z,360nm,19.3s
YAK Yakutsk 36.11 350 *e*P **P** **21 22 10.8 -1.0**
YAK pmax pmax
comp=Z,7.0nm,1.0s
SEY Seymchan 36.56 8 *i*P **P** **21 22 15.5 -0.2**
BOD Bodaibo 36.81 335 *e*P **P** **21 22 18.6 +0.7**
BOD pmax pmax
comp=Z,12nm,0.9s
GTA Gaotai 37.51 300⇑ *e*P **P** **21 22 24.7 +0.4**
GTA pP **pP** **21 22 40.2 +1.4**
GTA sP **sP** **21 22 47.5 +2.0**
GTA PP **PnPn** **21 23 53.3 +1.3**
GTA S **S** **21 28 07.2 -2.1**
GTA sS **sS** **21 28 31.9 -2.0**
GTA SS SnSn 21 30 40.4 -11
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=N,400nm,15.9s
GTA LR LR
comp=E,490nm,17.1s
GTA LR LR
comp=Z,460nm,17.1s
ZAK Zakamensk 37.91 319 *e*P **P** **21 22 26.4 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 38.24 321 *e*P **P** **21 22 32.3 +2.2**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,178nm,17.0s
TLY Talaya 38.24 321 *e*P **P** **21 22 31.3 +1.2**
comp=Z,7.7nm,0.8s
MOY Mondy 39.74 320 *e*P P 21 22 48.7 +5.9
CHTO Chiang Mai 40.80 268 *e*P **P** **21 22 51.8 0.0**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 40.80 268 *e*P **P** **21 22 51.8 0.0**
comp=Z,9.1nm,0.8s
CMAR Chiang Mai Arr 40.92 267 P **P** **21 22 53.1 +0.4**
comp=Z,5.4nm,0.9s,baz=59,slow=8.2,SNR=34
CMAR LR LR 21 41 10.8
comp=Z,223nm,18.3s,baz=75,slow=38
CMAR Chiang Mai Arr 40.92 267 P **P** **21 22 53.1 +0.4**
HVS Khovu-Aksy 43.91 317 *i*P **P** **21 23 16.9 +0.1**
HVS pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 45.00 286 *e*P **P** **21 23 25.4 -0.9**
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 45.00 286 *e*P **P** **21 23 25.4 -0.9**
comp=Z,9.3nm,1.0s
SHL Shillong 45.18 280 *e*P **P** **21 23 27.0 -0.4**
KULM Kulim 45.32 249 *e*P **P** **21 23 29.6 +1.2**
comp=Z,15nm,0.9s
IPM Ipoh 45.45 248 *e*P **P** **21 23 29.7 +0.3**
comp=Z,22nm,0.6s
WMQ Urumqi 46.90 306 P **P** **21 23 41.1 +0.6**
WMQ pmax pmax
comp=Z,4.0nm,1.4s
WMQ LR LR
comp=N,110nm,20.0s
WMQ LR LR
comp=E,110nm,20.0s
WMQ LR LR
comp=Z,160nm,20.0s
CTA Charters Tower 46.90 175 P **P** **21 23 38.2 -2.4**
comp=Z,3.2nm,0.8s,baz=354,slow=10,SNR=2.8
CTA Charters Tower 46.90 175 P **P** **21 23 38.2 -2.4**
WRAB Tennant Creek 47.28 190 *e*P **P** **21 23 42.0 -1.5**
WRAB pmax pmax
comp=Z,40nm,0.6s
WRAB Tennant Creek 47.28 190 *e*P **P** **21 23 42.0 -1.5**
comp=Z,40nm,0.6s
WRAB Tennant Creek 47.28 190 P **P** **21 23 42.0 -1.5**
comp=Z,249nm,0.7s,SNR=22
WRA Warramunga Arr 47.29 190 P **P** **21 23 42.2 -1.4**
comp=Z,20nm,0.7s,baz=10,slow=8.4,SNR=60
WRA Warramunga Arr 47.29 190 P **P** **21 23 42.2 -1.4**
FITZ Fitzroy Crossi 47.69 202 *e*P **P** **21 23 46.4 -0.3**
comp=Z,14nm,0.8s
TAPN Taplejung 48.43 284 *e*P **P** **21 23 53.3 +0.4**
comp=Z,9.8nm,0.4s
ODAN Odare 48.81 283 *e*P **P** **21 23 56.1 +0.3**
comp=Z,24nm,0.4s
TNA Tin City 49.39 25 *e*P **P** **21 24 01.1 +1.8**
comp=Z,56nm,2.4s
RAMN Ramite 49.48 283 *e*P **P** **21 24 01.2 +0.3**
comp=Z,14nm,0.5s
RAMN Ramite 49.48 283 *e*P **P** **21 24 01.2 +0.3**
comp=Z,14nm,0.5s
JIRN Jiri 49.67 284 *e*P **P** **21 24 03.3 +0.8**
comp=Z,7.3nm,0.5s
JIRN Jiri 49.67 284 *e*P **P** **21 24 03.3 +0.8**
comp=Z,7.3nm,0.5s
ZAA0 Zalesovo Array 49.79 319 *e*P **P** **21 24 02.5 0.0**
ZAA0 *e*PcP **PcP** **21 25 22.1 -0.5**
ZALV Zalesovo Beam 49.79 319 P **P** **21 24 02.8 +0.3**
comp=Z,5.3nm,0.7s,baz=98,slow=7.6,SNR=29
ZALV PcP **PcP** **21 25 22.5 -0.1**
comp=Z,5.0nm,0.8s,baz=117,slow=4.0,SNR=8.1
ZALV LR LR 21 46 08.6
comp=Z,193nm,18.1s,baz=252,slow=37
ZALV Zalesovo Beam 49.79 319 P **P** **21 24 02.8 +0.3**
ZALV 21 25 22.5
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV MLR MLR
comp=Z,193nm,18.1s
ZALV Zalesovo Beam 49.79 319 P **P** **21 24 02.8 +0.3**
ZALV PcP **PcP** **21 25 22.5 -0.1**
GUN Gumba 49.89 285 *e*P **P** **21 24 04.7 +0.6**
comp=Z,90nm,0.9s
GUN Gumba 49.89 285 *e*P **P** **21 24 04.7 +0.6**
comp=Z,90nm,0.9s
PKI Pulchoki 50.37 285 *e*P **P** **21 24 08.0 +0.3**
comp=Z,15nm,0.6s
PKI Pulchoki 50.37 285 *e*P **P** **21 24 08.0 +0.3**
PKI pmax pmax
comp=Z,15nm,0.6s
PKI Pulchoki 50.37 285 *e*P **P** **21 24 08.0 +0.3**
comp=Z,15nm,0.6s
KKN Kakani 50.43 285 *e*P **P** **21 24 08.4 +0.4**
comp=Z,16nm,0.7s
KKN Kakani 50.43 285 *e*P **P** **21 24 08.4 +0.4**
KKN pmax pmax
comp=Z,16nm,0.7s
KKN Kakani 50.43 285 *e*P **P** **21 24 08.4 +0.4**
comp=Z,16nm,0.7s
DMN Daman 50.62 285 *e*P **P** **21 24 10.4 +0.9**
comp=Z,18nm,0.5s
DMN Daman 50.62 285 *e*P **P** **21 24 10.4 +0.9**
comp=Z,18nm,0.5s
MK31 Makanchi Array 50.80 310 *e*P **P** **21 24 09.6 -0.7**
MK31 *e* 21 25 26.6
MK31 Makanchi Array 50.80 310 *e*P **P** **21 24 09.6 -0.7**
MK31 *e*PcP **PcP** **21 25 26.6 +0.1**
MKAR Makanchi Array 50.80 310 P **P** **21 24 09.9 -0.3**
comp=Z,0.8nm,0.4s,baz=86,slow=10,SNR=24
MKAR LR LR 21 47 02.7
comp=Z,179nm,18.6s,baz=112,slow=38
MKAR Makanchi Array 50.80 310 P **P** **21 24 10.0 -0.3**
MKAR MLR MLR
comp=Z,179nm,18.6s
MKAR Makanchi Array 50.80 310 *e*P **P** **21 24 10.1 -0.2**
NVS Novosibirsk 50.84 320 *e*P **P** **21 24 09.9 -0.5**
NVS pmax pmax
comp=E,10.0nm,1.6s
NVS pmax pmax
comp=Z,20nm,1.6s
GKN Gorkha 50.94 285 *e*P **P** **21 24 12.1 +0.3**
comp=Z,16nm,0.6s
GKN Gorkha 50.94 285 *e*P **P** **21 24 12.1 +0.3**
comp=Z,16nm,0.6s
ASAR Alice Springs 51.01 190 P **P** **21 24 10.2 -1.8**
comp=Z,2.1nm,0.7s,baz=13,slow=6.9,SNR=16
ASAR LR LR 21 44 10.3
comp=Z,346nm,19.8s,baz=4.6,slow=34
ASAR Alice Springs 51.01 190 P **P** **21 24 10.2 -1.8**
DANN Dangsing 51.61 286 *e*P **P** **21 24 17.6 +0.6**
comp=Z,61nm,0.7s
DANN Dangsing 51.61 286 *e*P **P** **21 24 17.6 +0.6**
comp=Z,61nm,0.7s
KOLN Koldanda 51.88 285 *e*P **P** **21 24 19.3 +0.4**
comp=Z,25nm,0.8s
KOLN Koldanda 51.88 285 *e*P **P** **21 24 19.3 +0.4**
comp=Z,25nm,0.8s
PYUN Piuthan 52.33 286 *e*P **P** **21 24 22.8 +0.6**
comp=Z,54nm,0.4s
KURK Kurchatov 53.30 315 P **P** **21 24 29.6 +0.9**
KURK pmax pmax
comp=Z,5.0nm,0.4s
KURK Kurchatov 53.30 315 *e*P **P** **21 24 28.8 +0.1**
KURK Kurchatov 53.30 315 P **P** **21 24 29.9 +1.2**
comp=Z,67nm,0.6s,SNR=10
KURBB Kurchatov Arra 53.35 314 P **P** **21 24 29.6 +0.5**
comp=Z,4.7nm,0.4s,baz=91,slow=8.5,SNR=6.5
DZM Mont Dzumac 53.96 152 *e*LR LR 21 40 24.5
comp=Z,268nm,21.6s
DZM Mont Dzumac 53.96 152 P **P** **21 24 31.9 -2.1**
comp=Z,8.7nm,1.0s,baz=342,slow=10,SNR=5.3
DZM Mont Dzumac 53.96 152 P **P** **21 24 31.9 -2.1**
KDAK Kodiak Island 54.30 37 P **P** **21 24 34.4 -1.5**
comp=Z,5.1nm,0.8s,baz=268,slow=7.1,SNR=5.3
KDAK LR LR 21 46 22.8
comp=Z,133nm,19.0s,baz=257,slow=35
KDAK Kodiak Island 54.30 37 P **P** **21 24 34.4 -1.5**
TKM2 Tokmak 2 55.74 305 *e*P **P** **21 24 47.1 +0.2**
TKM2 Tokmak 2 55.74 305 *e*P **P** **21 24 47.0 +0.2**
comp=Z,43nm,0.7s
KSH Kashi 55.91 301 *e*P P 21 24 52.5 +4.5
KSH pP pP 21 25 10.7 +7.4
KSH sP sP 21 25 15.9 +6.0
KSH PcP **PcP** **21 25 47.4 +1.2**
KSH PP PP 21 27 00.0 +7.0
KSH PcS **PcS** **21 29 48.6 +1.9**
KSH S **S** **21 32 35.8 +4.1**
KSH sS sS 21 33 02.6 +5.1
KSH SS **SS** **21 36 21.5 +3.5**
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,240nm,5.0s
KSH LR LR
comp=N,100nm,6.7s
KSH LR LR
comp=E,230nm,7.1s
KSH LR LR
comp=Z,190nm,8.6s
TRF Thorofare Moun 56.06 30 *e*P **P** **21 24 50.6 +1.7**
comp=Z,12nm,1.3s
PMR Palmer 56.40 32 *e*P **P** **21 24 52.2 +1.3**
PMR pmax pmax
comp=Z,7.0nm,0.9s
PMR Palmer 56.40 32 *e*P **P** **21 24 52.2 +1.3**
comp=Z,6.8nm,0.9s
AAK Ala-Archa 56.58 305 P **P** **21 24 53.9 +1.1**
comp=Z,3.5nm,0.8s
AAK Ala-Archa 56.58 305 *e*P **P** **21 24 53.5 +0.7**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 56.58 305 *e*P **P** **21 24 53.5 +0.7**
comp=Z,15nm,0.8s
MCK McKinley 56.70 30 *e*P **P** **21 24 53.9 +0.7**
MCK pmax pmax
comp=Z,58nm,2.1s
MCK McKinley 56.70 30 *e*P **P** **21 24 53.9 +0.7**
comp=Z,58nm,2.1s
EKS2 Erkin-Say 57.10 305 *e*P **P** **21 24 57.4 +0.9**
EKS2 pmax pmax
comp=Z,42nm,2.5s
EKS2 Erkin-Say 57.10 305 *e*P **P** **21 24 57.4 +0.9**
comp=Z,42nm,2.5s
ILAR Eielson Array 57.69 29 P **P** **21 24 58.2 -1.9**
comp=Z,2.9nm,0.9s,baz=261,slow=5.4,SNR=19
ILAR LR LR 21 50 14.9
comp=Z,117nm,18.5s,baz=254,slow=37
ILAR Eielson Array 57.69 29 P **P** **21 24 58.2 -1.9**
PAX Paxson 58.20 31 *e*P **P** **21 25 05.5 +1.7**
PAX pmax pmax
comp=Z,12nm,1.4s
PAX Paxson 58.20 31 *e*P **P** **21 25 05.5 +1.7**
comp=Z,12nm,1.4s
BVAR Borovoye Array 58.35 318 P **P** **21 25 05.5 +0.6**
comp=Z,12nm,0.4s,baz=91,slow=8.0,SNR=93
BVAR Borovoye Array 58.35 318 P **P** **21 25 05.5 +0.6**
BVAR pmax pmax
comp=Z,12nm,0.4s
BVAR Borovoye Array 58.35 318 P **P** **21 25 05.5 +0.6**
BRVK Borovoye 58.41 318⇓ *e*P **P** **21 25 05.9 +0.6**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK MLR MLR
comp=Z,261nm,18.0s
BRVK Borovoye 58.41 318 *e*P **P** **21 25 05.0 -0.3**
comp=Z,16nm,0.8s
BRVK Borovoye 58.41 318 P **P** **21 25 06.5 +1.2**
comp=Z,136nm,0.8s,SNR=8.3
STKA Stephens Creek 58.51 181 P **P** **21 25 04.4 -1.7**
comp=Z,3.3nm,0.6s,baz=27,slow=4.5,SNR=6.2
STKA Stephens Creek 58.51 181 P **P** **21 25 04.4 -1.7**
KKAR Karatay Array 59.41 306 *e*P **P** **21 25 13.1 +0.7**
KKAR Karatay Array 59.41 306 *e*P **P** **21 25 13.1 +0.7**
KBL Kabul 62.35 297 *e*P **P** **21 25 33.3 +0.5**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 62.35 297 *e*P **P** **21 25 33.3 +0.5**
comp=Z,16nm,0.8s
INK Inuvik 63.03 25 P **P** **21 25 35.7 -0.8**
comp=Z,2.0nm,0.7s,baz=296,slow=8.3,SNR=8.8
INK Inuvik 63.03 25 P **P** **21 25 35.7 -0.8**
SVE Sverdlovsk 63.52 325⇓ *i*P **P** **21 25 40.9 +1.0**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 64.72 322 *d i*P **P** **21 25 48.3 +0.6**
ARU S **S** **21 34 27.3 +3.7**
ARU SS **SS** **21 38 36.5 +1.6**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 64.72 322 *e*P **P** **21 25 47.9 +0.1**
comp=Z,33nm,1.2s
ARU Arti 64.72 322 P **P** **21 25 48.4 +0.7**
comp=Z,131nm,1.2s,SNR=12
ABKAR Akbulak array 65.41 314 *e*P **P** **21 25 52.6 +0.3**
DIB Dawson Inlet, 65.99 41 T T 22 37 37.0
DLBC Dease Lake 66.15 35 P **P** **21 25 56.0 -1.1**
comp=Z,1.0nm,0.4s,baz=280,slow=6.1,SNR=2.2
DLBC Dease Lake 66.15 35 P **P** **21 25 56.0 -1.1**
YKA Yellowknife Ar 72.12 28 P **P** **21 26 32.8 -1.0**
comp=Z,2.5nm,0.8s,baz=292,slow=5.8,SNR=32
YKA Yellowknife Ar 72.12 28 P **P** **21 26 32.9 -1.0**
RES Resolute Bay 72.13 14 P **P** **21 26 32.8 -0.8**
comp=Z,1.6nm,0.9s,baz=282,slow=7.6,SNR=4.3
RES Resolute Bay 72.13 14 P **P** **21 26 32.8 -0.8**
APA Apatity 72.29 338⇓ *i*P **P** **21 26 36.0 +1.2**
APA MLR MLR
comp=Z,1µm,17.0s
KLMR Klimovskoe 72.85 330 *e*P **P** **21 26 37.5 -0.7**
KLMR pmax pmax
comp=Z,25nm,1.4s
KEV Kevo 73.21 341 *e*P **P** **21 26 43.1 +2.9**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 73.21 341 *e*p **P** **21 26 43.1 +2.9**
comp=Z,4.5nm,0.8s
ARCES ARCESS Array B 73.77 341 P **P** **21 26 44.9 +1.4**
comp=Z,5.1nm,0.8s,baz=44,slow=4.8,SNR=14
ARCES LR LR 22 04 24.6
comp=Z,305nm,18.6s,baz=261,slow=40
ARCES ARCESS Array B 73.77 341 P **P** **21 26 45.0 +1.4**
JOF Joensuu 75.34 334 *e*P **P** **21 26 52.6 -0.1**
JOF pmax pmax
comp=Z,11nm,0.7s
JOF Joensuu 75.34 334 *e*p **P** **21 26 52.6 -0.1**
comp=Z,11nm,0.7s
MAK Makhachkala 75.59 311 *e*P P 21 26 50.3 -4.2
MAK MLR MLR
comp=Z,161nm,8.0s
VRHR Novokhopersk 75.91 320 *e*P **P** **21 26 56.1 0.0**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,9.0nm,1.1s
YBH Yreka Blue Hor 75.91 50 P **P** **21 26 55.4 -1.1**
comp=E,1.6nm,0.8s,baz=300,slow=8.1,SNR=2.5
YBH Yreka Blue Hor 75.91 50 P **P** **21 26 55.4 -1.1**
NEW Newport 76.81 42 *e*P **P** **21 27 03.4 +2.0**
comp=E,9.9nm,1.2s
NEW Newport 76.81 42 ⇓P **P** **21 27 01.3 -0.2**
baz=77
OBN Obninsk 76.82 325⇑ *e*P **P** **21 27 01.8 +0.6**
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,500nm,19.0s
VSR Storozhevoye 77.24 321 *e*P **P** **21 27 04.3 +0.6**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 77.28 321 *e*P P 21 26 56.9 -7.0
VORD pmax pmax
comp=Z,30nm,0.5s
VORD pmax pmax
comp=N,100nm,0.6s
VORD pmax pmax
comp=E,210nm,0.6s
C11A Tepee Creek (N 77.52 43⇑P **P** **21 27 05.0 -0.4**
baz=77
KAF Kangasniemi 77.73 334 *e*P **P** **21 27 05.9 -0.3**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 77.73 334 *e*p **P** **21 27 05.9 -0.3**
comp=Z,6.5nm,0.7s
ZEI Tsey 78.08 312 *e*P **P** **21 27 09.0 +0.1**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 78.19 46 *e*P **P** **21 27 09.3 +0.1**
comp=Z,24nm,1.8s
FINES FINESS Array B 78.20 334 P **P** **21 27 09.3 +0.5**
comp=Z,5.4nm,0.6s,baz=66,slow=4.7,SNR=37
FINES FINESS Array B 78.20 334 P **P** **21 27 09.3 +0.5**
KBZ Khabaz 78.32 313 P **P** **21 27 10.9 +1.1**
comp=Z,12nm,0.9s,baz=93,slow=3.1,SNR=23
KBZ LR LR 22 04 13.2
comp=Z,162nm,18.2s,baz=39,slow=38
KBZ Khabaz 78.32 313 P **P** **21 27 10.9 +1.1**
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ MLR MLR
comp=Z,162nm,18.2s
KBZ Khabaz 78.32 313 P **P** **21 27 10.9 +1.1**
KIV Kislovodsk 78.36 313 *e*P **P** **21 27 12.4 +2.2**
KIV pmax pmax
comp=Z,12nm,0.8s
KIV MLR MLR
comp=Z,157nm,19.0s
KIV Kislovodsk 78.36 313 *e*P **P** **21 27 12.7 +2.5**
comp=Z,12nm,0.9s
BSMT Bassoo Peak 78.40 42 *e*P P 21 27 14.6 +4.1
E12A Beaver Dam Sad 78.58 44 ⇓P **P** **21 27 11.0 -0.4**
baz=78
C13A Hot Springs 78.60 42 ⇑P **P** **21 27 11.0 -0.5**
baz=78
A14A Double T Ranch 78.68 41 ⇓P **P** **21 27 11.4 -0.6**
baz=78
JTMT Jette 78.75 42 *e*P **P** **21 27 15.2 +2.9**
PPT Papeete 79.34 116 LR LR 21 57 41.2
comp=Z,229nm,18.0s,baz=179,slow=32
PMOR Pomariorio Ree 79.35 113 *e*T T 22 54 22.0
comp=Z,6.1nm,0.2s
PPT2 Papeete2 79.35 116 *e*LR LR 21 51 29.8
comp=Z,108nm,21.8s
MFID Camas Ranch 79.78 46 *e*P **P** **21 27 18.2 +0.1**
comp=Z,84nm,2.5s
B16A M & M Farms, S 79.95 41 ⇓P **P** **21 27 17.9 -0.8**
baz=80
G13A Cobalt 80.02 44 ⇓P **P** **21 27 18.4 -0.9**
baz=80
NVAR Mina Array Bea 80.37 52 P **P** **21 27 20.2 -1.2**
comp=Z,1.3nm,0.8s,baz=282,slow=3.8,SNR=6.3
NVAR Mina Array Bea 80.37 52 P **P** **21 27 20.2 -1.2**
B17A L&G Farms, Che 80.53 40 ⇓P **P** **21 27 21.0 -0.9**
baz=80

I13A	Wildhorse Cree	80.65	45	⇑P	P	21 27 22.5	-0.3
	baz=80						
D16A	Dana Ranch, Ca	80.72	42	⇑P	P	21 27 22.5	-0.5
	baz=80						
F15A	Butte	80.73	43	⇑P	P	21 27 22.3	-0.9
	baz=80						
LRM	Limekiln Ridge	80.77	43	eP	P	21 27 23.1	-0.3
	comp=Z,46nm,0.8s						
E16A	East Helena	80.89	42	⇓P	P	21 27 24.0	+0.1
	baz=81						
UMR	Umm Al-Rimmam	81.02	298	eP	P	21 27 25.3	+0.6
UMR				AMb	AMB	21 27 31.8	
	comp=Z,24nm,1.3s						
MIB	Mutribah	81.20	299	eP	P	21 27 26.0	+0.3
MIB				AMb	AMB	21 27 27.7	
	comp=Z,28nm,0.7s						
ANN	Anapa	81.30	316	eP	P	21 27 25.9	0.0
ANN				eS	S	21 37 32.0	-0.2
ANN				pmax	pmax		
	comp=Z,25nm,1.0s						
RDF	Al-Radifah	81.42	298	eP	P	21 27 27.4	+0.5
RDF				AMb	AMB	21 27 31.8	
	comp=Z,29nm,1.8s						
B19A	Brinkman Farms	81.52	40	⇑P	P	21 27 26.9	-0.2
	baz=81						
NAY	Al-Naaiem	81.52	298	eP	P	21 27 27.5	+0.1
NAY				AMb	AMB	21 27 34.1	
	comp=Z,14nm,1.0s						
FFC	Flin Flon	81.70	32	eP	P	21 27 27.8	-0.1
FFC				pmax	pmax		
	comp=Z,59nm,2.2s						
FFC	Flin Flon	81.70	32	eP	P	21 27 27.8	-0.1
	comp=Z,59nm,2.2s						
A20A	Cobblestone Ra	81.87	39	⇑P	P	21 27 28.8	-0.1
	baz=82						
E18A	Harlowton	81.92	42	⇓P	P	21 27 29.4	0.0
	baz=82						
EDW2	Edwards Air Fo	82.20	55	⇓P	P	21 27 30.4	-0.6
	baz=82						
A21A	Bergtoll Ranch	82.37	38	⇑P	P	21 27 30.8	-0.8
	baz=82						
TBI	Tubuai	82.57	121	eLR	LR	21 53 08.1	
	comp=Z,132nm,32.5s						
AKASG	Malin Array Be	82.91	324	P	P	21 27 34.0	-0.3
	comp=Z,2.2nm,0.5s,baz=48,slow=5.5,SNR=14						
AKASG	Malin Array Be	82.91	324	i P	P	21 27 34.4	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	82.91	324	P	P	21 27 34.0	-0.3
AK01	Malin Array Si	82.92	324	eP	P	21 27 34.1	-0.2
KIEV	Kiev	82.92	324	eP	P	21 27 33.6	-0.7
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIEV	Kiev	82.92	324	eP	P	21 27 33.6	-0.7
	comp=Z,8.0nm,0.9s						
AK02	Malin Array Si	82.94	324	eP	P	21 27 33.8	-0.6
SIM	Simferopol’	83.26	317	eP	P	21 27 37.0	+0.8
SIM				pmax	pmax		
	comp=Z,18nm,0.9s						
R13A	O’Grain Ranch,	83.50	50	⇓P	P	21 27 37.2	-0.6
	baz=83						
J18A	Kendall Valley	83.58	45	⇑P	P	21 27 37.9	-0.4
	baz=83						
NB2	NORSAR Subarra	83.85	338	P	P	21 27 39.4	+0.4
	comp=Z,3.4nm,0.8s,baz=44,slow=5.1						
NOA	NORSAR Array B	83.85	338	P	P	21 27 38.8	-0.2
	comp=Z,2.8nm,0.8s,baz=46,slow=4.8,SNR=8.4						
NOA				LR	LR	22 10 47.9	
	comp=Z,139nm,20.2s,baz=250,slow=40						
NOA	NORSAR Array B	83.85	338	P	P	21 27 38.8	-0.2
SUW	Suwalki	83.92	329	eP	P	21 27 39.4	0.0
SUW	Suwalki	83.92	329	eP	P	21 27 39.5	0.0
SUW				pmax	pmax		
	comp=Z,26nm,1.0s						
SUW	Suwalki	83.92	329	eP	P	21 27 39.5	0.0
	comp=Z,26nm,1.0s						
SUW	Suwalki	83.92	329	eP	P	21 27 39.4	0.0
C23A	Lambert	83.99	39	⇓P	P	21 27 39.9	-0.1
	baz=84						
PDAR	Pinedale Array	84.10	45	P	P	21 27 40.3	-0.6
	comp=Z,0.8nm,0.7s,baz=4.4,slow=1.2,SNR=3.6						
PDAR				LR	LR	21 58 58.2	
	comp=Z,167nm,22.0s,baz=262,slow=31						
PDAR	Pinedale Array	84.10	45	P	P	21 27 40.3	-0.6
RAYN	Ar Rayn	85.48	294	P	P	21 27 48.9	+1.0
	comp=Z,135nm,0.7s,SNR=16						
RAYN	Ar Rayn	85.48	294	eP	P	21 27 48.7	+0.8
	comp=Z,25nm,0.8s						
SFJD	Kangerlussuaq	85.82	5	LR	LR	22 09 26.6	
	comp=Z,266nm,18.9s,baz=354,slow=38						
L21A	Rawlins	85.90	45	⇓P	P	21 27 48.9	-1.0
	baz=86						
LVV	L’vov	86.12	325	eP	P	21 27 51.0	+0.5
BRTR	Keskin Array B	86.32	313	P	P	21 27 51.8	-0.1
	comp=Z,2.1nm,0.8s,baz=80,slow=3.4,SNR=13						
BRTR	Keskin Array B	86.32	313	P	P	21 27 51.8	-0.1
FRB	Frobisher Bay	86.34	13	P	P	21 27 51.1	-0.1
	comp=Z,2.5nm,0.7s,baz=340,slow=5.3,SNR=6.4						
FRB	Frobisher Bay	86.34	13	P	P	21 27 51.1	-0.1
TESR		86.73	322	⇑iP	P	21 27 53.2	-0.4
KWP	Kalwaria Pacla	86.91	326	eP	P	21 27 54.6	+0.2
KWP	Kalwaria Pacla	86.91	326	⇓P	P	21 27 55.1	+0.7
KWP	Kalwaria Pacla	86.91	326	⇓iP	P	21 27 55.1	+0.7
KWP	Kalwaria Pacla	86.91	326	eP	P	21 27 54.6	+0.2
VRI	Vrincioaia	87.07	321	⇑P	P	21 27 55.7	+0.4
VRI	Vrincioaia	87.07	321	⇑iP	P	21 27 55.7	+0.4
PLOR	Plostina	87.12	321	⇑P	P	21 27 56.1	+0.6
PLOR	Plostina	87.12	321	⇑iP	P	21 27 56.1	+0.6
ULM	Lac du Bonnet	87.40	33	LR	LR	22 12 38.6	
	comp=Z,94nm,18.5s,baz=2.8,slow=40						
MLR	Muntele Rosu	87.73	321	LR	LR	22 13 31.9	
	comp=Z,44nm,18.4s,baz=184,slow=40						
CRVS	Cervenica-Dubn	88.00	326	eP	P	21 28 00.1	+0.4
CRVS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CRVS	Cervenica-Dubn	88.00	326	eP	P	21 28 00.1	+0.4
DRGR		88.70	323	⇓P	P	21 28 03.4	+0.3
DRGR		88.70	323	⇓iP	P	21 28 03.4	+0.3
VYHS	Vyhne	89.58	326	eP	P	21 28 07.5	+0.4
VYHS				pmax	pmax		
	comp=Z,12nm,1.8s						
VYHS	Vyhne	89.58	326	eP	P	21 28 07.5	+0.4
KHC	Kasperske Hory	91.64	329	eP	P	21 28 16.0	-0.7
KHC				e		21 28 29.5	
KHC	Kasperske Hory	91.64	329	eP	P	21 28 16.0	-0.7
KHC				epP	pP	21 28 29.5	-3.5
GERES	GERESS Array B	91.78	329	P	P	21 28 16.9	-0.5
	comp=Z,0.7nm,0.8s,baz=26,slow=6.4,SNR=5.3						
GERES				LR	LR	22 08 38.5	
	comp=Z,196nm,21.4s,baz=333,slow=35						
GERES	GERESS Array B	91.78	329	P	P	21 28 16.9	-0.5
SCHQ	Schefferville	94.73	17	LR	LR	22 10 06.8	
	comp=Z,96nm,19.8s,baz=38,slow=35						
TXAR	Lajitas Array	95.45	53	P	P	21 28 34.4	-0.3
	comp=Z,0.2nm,0.3s,baz=8.7,slow=1.2,SNR=4.0						
TXAR				LR	LR	22 06 04.3	
	comp=Z,67nm,20.3s,baz=5.0,slow=32						
TXAR	Lajitas Array	95.45	53	P	P	21 28 34.4	-0.3
TORD	Torodi Ar. Bea	124.90	311	PKP	PKPdf	21 34 09.5	-0.6
	comp=Z,1.2nm,0.8s,baz=28,slow=1.7,SNR=7.1						
TORD				PP	PP	21 35 59.4	+1.4
	comp=Z,1.0nm,0.9s,baz=24,slow=7.1,SNR=4.1						
TORD	Torodi Ar. Bea	124.90	311	PKP	PKPdf	21 34 09.5	-0.6
TORD				PP	PP	21 35 59.4	+1.4
VNA2	Neumayer--Watz	132.82	193	ePKPdf	PKPdf	21 34 24.0	+0.5
VNA2	Neumayer--Watz	132.82	193	ePKiKP	PKiKP	21 34 27.1	+2.5
VNA2	Neumayer--Watz	132.82	193	ePP	PP	21 37 05.4	+16
PLCA	Paso Flores	149.48	125	PKPbc	PKPbc	21 34 58.0	-0.7
	comp=Z,2.7nm,0.8s,baz=240,slow=6.9,SNR=3.9						
PLCA	Paso Flores	149.48	125	PKPbc	PKPbc	21 34 58.0	-0.7
LPAZ	La Paz	149.67	76	PKPbc	PKPbc	21 35 00.3	-0.2
	comp=Z,3.0nm,0.8s,baz=211,slow=5.9,SNR=11						
LPAZ	La Paz	149.67	76	ePKPdf	PKPdf	21 34 57.8	+2.0
LPAZ				PKPbc	PKPbc	21 35 00.3	-0.2

IDC 04 21:21:09.9±1.5,26°.57N×142°.02E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.6/25,mbtmp3.9/5,Error ellipse: s-maj=40.5km s-min=15.4km az=112.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.54	15	Pn	Pn	21 21 25.0	0.0
	169nm,0.3s,baz=285,slow=20,SNR=33						
CBIJ				Sn	Sn	21 21 35.7	+0.9
	623nm,0.3s,baz=287,slow=20,SNR=43						
WRA	Warramunga Arr	46.83	190	P	P	21 29 41.7	0.0
	1.2nm,0.4s,baz=12,slow=8.5,SNR=4.1						
MKAR	Makanchi Array	50.70	310	P	P	21 30 11.2	-0.1
	0.1nm,0.4s,baz=96,slow=8.3,SNR=3.3						
KURBB	Kurchatov Arra	53.30	315	P	P	21 30 30.7	+0.1
	0.7nm,0.4s,baz=90,slow=8.2,SNR=11						
BVAR	Borovoye Array	58.33	318	P	P	21 31 06.4	-0.2
	1.1nm,0.4s,baz=84,slow=8.3,SNR=8.9						
FINES	FINESS Array B	78.35	334	P	P	21 33 11.7	-0.2
	1.7nm,0.9s,baz=66,slow=4.7,SNR=7.4						

IDC 04 21:23:24.8±0.6,26°.83N×142°.85E,h0km,mb4.0/18, mb1 4.1/21,mb1mx4.0/29,mbtmp3.9/21,ML3.0/3,Error ellipse: s-maj=16.1km s-min=12.7km az=29.0

ISCJB 04 21:23:27.4±0.4,26°.84N±0°.06×142°.96E±0°.06,h32km, mb4.3/36,Error ellipse: s-maj=9.0km s-min=7.3km az=138.3

NEIC 04 21:23:30.1±0.3,26°.85N×142°.85E,h35km,mb4.6/18,Error ellipse: s-maj=6.4km s-min=5.5km az=75.0

ISC 04 21:23:29.6±0.5,26°.85N±0°.08×142°.87E±0°.08,h32km,n79, σ0s.65/83,mb4.2/36,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.66	292	Pn	Pb	21 23 42.6	-0.1
	734nm,0.3s,baz=118,slow=23,SNR=24						
CBIJ				Sn	Sn	21 23 53.2	+1.2
	2µm,0.3s,baz=270,slow=20,SNR=37						
CBIJ	Chichi jima	0.66	292	Pn	Pb	21 23 42.6	-0.1
CBIJ				Sn	Sn	21 23 53.2	+1.2
MJAR	Matsushiro Arr	10.44	339	Pn	Pn	21 25 56.7	-0.5
	0.4nm,0.3s,baz=160,slow=12,SNR=4.0						
MJAR	Matsushiro Arr	10.44	339	Pn	Pn	21 25 56.7	-0.5
KSRS	Korea Array	16.47	314	Pn	P	21 27 19.7	-1.0
	0.1nm,0.3s,baz=128,slow=11,SNR=2.7						
KSAR	Wonju Array Be	16.49	314	Pn	Pn	21 27 19.7	+1.2
ASAJ	Asahikawa	17.23	359	ePn	Pn	21 27 26.7	-1.1
USRK	Ussuriysk Arra	19.41	336	P	P	21 27 51.5	-1.5
	0.1nm,0.3s,baz=133,slow=8.5,SNR=4.0						
ULN	Ulaanbaatar	34.92	317	eP	P	21 30 19.5	+0.9
	0.6nm,0.6s						
SONM	Songino Array	35.31	316	P	P	21 30 22.5	+0.6
	0.5nm,0.6s,baz=123,slow=5.3,SNR=6.3						
SONM	Songino Array	35.31	316	P	P	21 30 22.5	+0.6
CHTO	Chiang Mai	41.10	268	eP	P	21 31 09.6	-1.2
	0.9nm,0.6s						
CMAR	Chiang Mai Arr	41.22	268	P	P	21 31 11.2	-0.6
	0.7nm,0.5s,baz=63,slow=7.0,SNR=5.0						
CMAR	Chiang Mai Arr	41.22	268	P	P	21 31 11.2	-0.6
WRAB	Tennant Creek	47.23	191	eP	P	21 32 00.4	+0.7
	8.3nm,0.6s						
WRA	Warramunga Arr	47.24	191	P	P	21 32 00.5	+0.7
	7.9nm,0.4s,baz=12,slow=8.6,SNR=41						
WRA	Warramunga Arr	47.24	191	P	P	21 32 00.5	+0.7
FITZ	Fitzroy Crossi	47.71	202	eP	P	21 32 03.0	-0.5
	3.4nm,0.6s						
TAPN	Taplejung	48.75	284	eP	P	21 32 12.4	+0.4
	2.9nm,0.4s						
TAPN	Taplejung	48.75	284	eP	P	21 32 12.4	+0.4
	2.9nm,0.4s						
ODAN	Odare	49.14	283	eP	P	21 32 15.4	+0.5
	8.5nm,0.4s						
ODAN	Odare	49.14	283	eP	P	21 32 15.4	+0.5
	8.5nm,0.4s						
JIRN	Jiri	50.00	285	eP	P	21 32 22.5	+0.9
	2.8nm,0.4s						
JIRN	Jiri	50.00	285	eP	P	21 32 22.5	+0.9
	2.8nm,0.4s						
ZALV	Zalesovo Beam	50.07	319	P	P	21 32 20.3	-1.0
	1.0nm,0.5s,baz=105,slow=6.3,SNR=6.0						
ZALV				PcP	PcP	21 33 41.0	+0.3
	1.5nm,0.5s,baz=107,slow=3.9,SNR=5.9						
ZALV	Zalesovo Beam	50.07	319	P	P	21 32 20.3	-1.0
ZALV				PcP	PcP	21 33 41.0	+0.3
GUN	Gumba	50.21	285	eP	P	21 32 23.8	+0.6
	5.9nm,0.3s						
GUN	Gumba	50.21	285	eP	P	21 32 23.8	+0.6
	5.9nm,0.3s						
PKI	Pulchoki	50.70	285	eP	P	21 32 26.8	0.0
PKI	Pulchoki	50.70	285	eP	P	21 32 26.8	0.0
DMN	Daman	50.95	285	eP	P	21 32 28.8	+0.2
DMN	Daman	50.95	285	eP	P	21 32 28.8	+0.2
ASAR	Alice Springs	50.96	191	P	P	21 32 27.6	-0.7
	1.0nm,0.5s,baz=5.0,slow=5.4,SNR=7.2						
ASAR	Alice Springs	50.96	191	P	P	21 32 27.6	-0.7
MK31	Makanchi Array	51.10	310	eP	P	21 32 28.5	-0.7
MKAR	Makanchi Array	51.10	310	P	P	21 32 28.2	-1.0
	0.5nm,0.4s,baz=89,slow=10,SNR=12						
MKAR	Makanchi Array	51.10	310	P	P	21 32 28.2	-1.0
GKN	Gorkha	51.26	285	eP	P	21 32 31.2	+0.3
GKN	Gorkha	51.26	285	eP	P	21 32 31.2	+0.3
DANN	Dangsing	51.94	286	eP	P	21 32 35.9	-0.2
	6.4nm,0.5s						
DANN	Dangsing	51.94	286	eP	P	21 32 35.9	-0.2
	6.4nm,0.5s						
PYUN	Piuthan	52.66	286	eP	P	21 32 41.4	+0.1
	11nm,0.4s						
PYUN	Piuthan	52.66	286	eP	P	21 32 41.4	+0.1
	11nm,0.4s						
KURK	Kurchatov	53.59	315	eP	P	21 32 47.1	-0.5
	1.6nm,0.5s						
KURBB	Kurchatov Arra	53.65	315	P	P	21 32 47.5	-0.4
	2.1nm,0.4s,baz=91,slow=8.2,SNR=32						
DZM	Mont Dzumac	53.72	153	eP	P	21 32 48.9	0.0
	6.9nm,1.1s						
KDAK	Kodiak Island	54.20	37	P	P	21 32 52.7	+0.9
	3.1nm,0.6s,baz=80,slow=2.8,SNR=5.6						
KDAK	Kodiak Island	54.20	37	eP	P	21 32 52.2	+0.3
	14nm,1.2s						
TRF	Thorofare Moun	56.00	30	eP	P	21 33 05.3	+0.3
	1.9nm,0.8s						
AAK	Ala-Archa	56.90	305	P	P	21 33 12.1	+0.3
	0.6nm,0.5s,baz=94,slow=5.6,SNR=4.5						
AAK	Ala-Archa	56.90	305	eP	P	21 33 11.7	-0.1
	3.2nm,0.5s						
ILAR	Eielson Array	57.64	29	P	P	21 33 16.4	0.0
	0.7nm,0.8s,baz=261,slow=5.1,SNR=8.6						
ILAR	Eielson Array	57.64	29	P	P	21 33 16.4	0.0
STKA	Stephens Creek	58.41	181	P	P	21 33 21.7	-0.4
	2.1nm,0.8s,baz=342,slow=6.4,SNR=3.6						
BVAR	Borovoye Array	58.64	318	P	P	21 33 23.9	+0.3
	4.1nm,0.4s,baz=90,slow=7.1,SNR=26						
BVAR	Borovoye Array	58.64	318	P	P	21 33 23.9	+0.3
KKAR	Karatay Array	59.72	306	eP	P	21 33 31.3	0.0
	2.2nm,0.4s						
INK	Inuvik	63.00	24	P	P	21 33 53.6	+0.6
	1.6nm,0.9s,baz=270,slow=4.3,SNR=4.1						
INK	Inuvik	63.00	24	P	P	21 33 53.6	+0.6
NWAO	Narrogin (SRO)	64.25	204	eP	P	21 34 01.6	-0.1
	3.0nm,0.7s						
ABKAR	Akbulak array	65.70	314	eP	P	21 34 10.9	-0.1
	0.7nm,0.4s						
YKA	Yellowknife Ar	72.07	28	P	P	21 34 51.1	+0.8
	1.0nm,0.6s,baz=293,slow=6.0,SNR=19						
YKA	Yellowknife Ar	72.07	28	P	P	21 34 51.1	+0.8
FINES	FINESS Array B	78.44	334	P	P	21 35 27.5	+0.5
	1.3nm,0.5s,baz=64,slow=4.4,SNR=14						
FINES	FINESS Array B	78.44	334	P	P	21 35 27.5	+0.5
KBZ	Khabaz	78.62	313	P	P	21 35 27.9	-0.5
	1.6nm,0.8s,baz=79,slow=5.2,SNR=5.1						
KBZ	Khabaz	78.62	313	P	P	21 35 27.9	-0.5
NVAR	Mina Array Bea	80.19	52	P	P	21 35 38.1	+0.8
	0.6nm,0.5s,baz=278,slow=6.3,SNR=3.6						
NVAR	Mina Array Bea	80.19	52	P	P	21 35 38.1	+0.8
AKASG	Malin Array Be	83.17	324	P	P	21 35 51.6	-0.9
	0.9nm,0.4s,baz=49,slow=5.4,SNR=4.3						
AKASG	Malin Array Be	83.17	324	P	P	21 35 51.6	-0.9
NOA	NORSAR Array B	84.06	339	P	P	21 35 57.2	+0.2
	0.4nm,0.7s,baz=46,slow=4.6,SNR=2.6						
NOA	NORSAR Array B	84.06	339	P	P	21 35 57.2	+0.2
BRTR	Keskin Array B	86.62	313	P	P	21 36 09.2	-1.0
	0.5nm,0.7s,baz=95,slow=2.7,SNR=2.9						
BRTR	Keskin Array B	86.62	313	P	P	21 36 09.2	-1.0
TORD	Torodi Ar. Bea	125.20	312	PKP	PKPdf	21 42 28.0	+0.2
	0.4nm,0.6s,baz=26,slow=3.0,SNR=6.1						
TORD	Torodi Ar. Bea	125.20	312	PKP	PKPdf	21 42 28.0	+0.2
LPAZ	La Paz	149.39	76	PKPbc	PKPbc	21 43 16.9	+0.1
	1.5nm,0.7s,baz=308,slow=5.0,SNR=6.6						
LPAZ	La Paz	149.39	76	PKPbc	PKPbc	21 43 16.9	+0.1

IDC 04 21:40:21.1±3.2,13°.06S×66°.66E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/24,mbtmp3.7/5,MS3.3/1,Ms1 3.5/1, ms1mx2.8/36,Error ellipse: s-maj=108.4km s-min=29.4km az=59.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	44.66	46	LR	LR	22 05 27.3	
	comp=Z,32nm,19.5s,baz=220,slow=34						
MKAR	Makanchi Array	61.21	12	P	P	21 50 37.5	-0.2
	0.4nm,0.9s,baz=179,slow=7.2,SNR=3.5						
ASAR	Alice Springs	64.20	110	P	P	21 50 58.0	-0.3
	0.8nm,0.8s,baz=273,slow=7.0,SNR=8.2						
WRA	Warramunga Arr	64.90	106	P	P	21 51 03.1	+0.2
	1.2nm,0.8s,baz=279,slow=5.6,SNR=7.4						
ZALV	Zalesovo Beam	68.52	11	P	P	21 51 24.6	-0.6
	0.5nm,0.5s,baz=193,slow=5.8,SNR=4.9						
SONM	Songino Array	70.19	27	P	P	21 51 36.5	+0.7
	0.6nm,0.9s,baz=222,slow=6.7,SNR=5.3						
PDAR	Pinedale Array	150.22	354	PKPbc	PKPbc	22 00 14.6	-0.1
	0.5nm,0.7s,baz=56,slow=4.8,SNR=4.3						

KRSC 04 21:43:29.9±0.9,50°.55N×158°.41E,h15km±15km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	1.89	2	eP	Pn	21 44 01.0	-0.6
RUS				iS	Sn	21 44 23.4	-1.7
SMAR	Somma	2.73	5	eP	Pn	21 44 15.0	+1.6
SMAR				iS	Sn	21 44 48.3	+2.0
SDLR	Sedlovina	2.75	6	eP	Pn	21 44 15.0	+1.4
SDLR				iS	Sn	21 44 48.5	+1.9
KOK	Koryaka	2.75	3	eP	Pn	21 44 15.3	+1.7
KOK				iS	Sn	21 44 48.8	+2.2
KRER	Koryakskii	2.77	4	eP	Pn	21 44 15.6	+1.7
KRER				iS	Sn	21 44 48.8	+1.6
MKZ	Mys Kozlova	4.50	25	eP	Pn	21 44 39.4	+2.0
MKZ				iS	Sn	21 45 30.4	+1.1
KBTR	Krutoberegovo	6.25	23	eP	Pn	21 45 03.6	+2.1

KRSC 04 21:51:25.8±0.1,53°.68N×160°.90E,h27km±27km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.79	222	eP	Pn	21 51 41.0	-0.1
SPN				eS	Sn	21 51 51.7	-0.2
KII	Karymskiy	0.93	293	eP	Pn	21 51 42.9	-0.3
KII				eS	Sb	21 51 54.9	-0.6
MKZ	Mys Kozlova	1.00	29	P	Pn	21 51 43.8	-0.3
MKZ				eS	Sn	21 51 56.0	-1.3
NLC	Nalytchevo	1.06	242	eS	Sn	21 51 58.5	-0.2
SDLR	Sedlovina	1.27	252	P	Pn	21 51 48.4	+0.5
SDLR				eS	Sn	21 52 04.3	+0.1
SMAR	Somma	1.32	252	P	Pn	21 51 49.2	+0.4
SMAR				eS	Sn	21 52 05.4	-0.3
UGLR	Uglovaya	1.33	250	P	Pn	21 51 49.4	+0.7
UGLR				eS	Sb	21 52 06.4	-0.5
KRER	Koryakskii	1.34	255	P	Pn	21 51 49.7	+0.7
KRER				eS	Sn	21 52 06.7	+0.6
AVH	Avacha	1.36	253	P	Pb	21 51 49.9	-0.8
AVH				eS	Sb	21 52 07.3	-0.4
KOK	Koryaka	1.41	255	P	Pn	21 51 50.4	+0.6
KOK				eS	Sn	21 52 08.1	+0.6
PET	Petropavlovsk	1.50	245	eP	Pn	21 51 51.7	+0.8
PET				eS	Sn	21 52 09.8	+0.3
RUS	Russkaya	1.91	230	eP	Pn	21 51 56.9	+0.4
RUS				eS	Sn	21 52 19.8	+0.2
MTVR	Mutnovka	2.03	235	eP	Pn	21 51 59.4	+1.0
MTVR				eS	Sn	21 52 24.2	+1.2
KMNR	Kamenistaya	2.12	350	eP	Pn	21 52 00.8	+1.3
KMNR				eS	Sn	21 52 26.2	+1.2
BZGR	Bezymyannyi-Gr	2.27	357	eP	Pn	21 52 02.5	+0.9
BZGR				eS	Sn	21 52 30.0	+1.2
BZMR	Bezymyannaya	2.27	354	eP	Pn	21 52 03.2	+1.5
BZMR				eS	Sn	21 52 30.9	+1.9
BZWR	Bezymyannyi-We	2.30	354	eP	Pn	21 52 03.9	+1.7
BZWR				eS	Sn	21 52 31.6	+1.9
KIRR	Kirishev	2.30	352	eP	Pn	21 52 02.9	+0.8
KIRR				eS	Sn	21 52 31.1	+1.4
KPT	Kopyto	2.33	351	eP	Pn	21 52 03.8	+1.4
KPT				eS	Sn	21 52 30.9	+0.8
APC	Apacha	2.37	253	eP	Pn	21 52 04.8	+2.0
APC				eS	Sn	21 52 33.4	+2.4
CIRR	Tsirk	2.44	358	eP	Pn	21 52 06.5	+2.4
CIRR				eS	Sb	21 52 37.1	-1.9
KOZ	Kozyrevsk	2.46	346	eP	Pn	21 52 05.2	+1.1
KOZ				eS	Sn	21 52 34.9	+1.7
KRSR	Krestovskiy	2.55	356	eP	Pn	21 52 06.9	+1.4
KRSR				eS	Sn	21 52 36.6	+0.9
ESO	Esso	2.58	331	eP	Pn	21 52 06.0	+0.1
KLY	Klyuchi	2.64	357	eP	Pn	21 52 08.1	+1.5
KLY				eS	Sn	21 52 39.5	+1.8
KBTR	Krutoberegovo	2.77	23	eP	Pn	21 52 09.3	+1.0
KBTR				eS	Sn	21 52 40.8	0.0
BKI	Bering	3.33	61	eP	Pn	21 52 16.9	+0.9
BKI				eS	Sn	21 52 52.8	-1.9

ISCJB 04 22:01:06.9±0.5,7°.18S±0°.04×129°.2E±0°.1,h131km, mb3.6/11,Error ellipse: s-maj=15.4km s-min=5.1km az=168.7

IDC 04 22:01:10.2±3.8,7°.41S×129°.31E,h162km±42km,mb3.4/11, mb1 3.6/13,mb1mx3.6/13,mbtmp3.4/13,Error ellipse: s-maj=30.0km s-min=23.6km az=104.0

AUST 04 22:01:14.2,7°.48S×129°.54E,h200km

ISC 04 22:01:08.2±0.7,7°.31S±0°.05×129°.07E±0°.09,h131km,n22, σ2s.40/22,mb3.6/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLE	Tual	4.00	66	P	Pn	22 02 14.2	+6.2
	baz=3.7,SNR=9.6						
TLE				S	Sn	22 02 58.8	+4.3
	baz=3.7,SNR=10						
MTN	Manton Dam	5.86	160	P	Pn	22 02 37.9	+5.0
	baz=5.6,SNR=146						
MTN				S	Sn	22 03 40.8	+1.9
	baz=5.6,SNR=8.7						
KDU	Kakadu	6.30	148	P	Pn	22 02 43.3	+4.5
	baz=6.0,SNR=92						
KDU				S	Sn	22 03 50.0	+0.3
	baz=6.0,SNR=10						
SWI	Sorong	6.77	19	P	Pn	22 02 52.1	+7.0
	baz=6.8,SNR=3.1						
SWI				S	Sn	22 03 58.9	-2.0
	baz=6.8,SNR=5.6						
WSI	Waingapu	8.99	254	P	Pn	22 03 23.9	+8.9
	baz=9.4,SNR=6.0						
PCI	Palu	11.19	304	P	P	22 04 10.4	+17
	baz=12,SNR=3.7						
FITZ	Fitzroy Crossi	11.23	197	P	Pn	22 03 47.5	+2.4
	0.8nm,0.3s,baz=39,slow=10,SNR=26						
FITZ				S	Sn	22 05 45.5	-3.4
	1.9nm,0.3s,baz=85,slow=17,SNR=9.6						
FITZ	Fitzroy Crossi	11.23	197	P	Pn	22 03 47.6	+2.6
	baz=11,SNR=8.9						
WRA	Warramunga Arr	13.55	158	P	Pn	22 04 15.7	+0.3
	1.3nm,0.3s,baz=341,slow=12,SNR=28						
WRA				S	Sn	22 06 40.5	-4.5
	2.3nm,0.3s,baz=322,slow=24,SNR=9.8						
ASAR	Alice Springs	16.91	165	P	Pn	22 05 00.5	+3.4
	2.7nm,0.3s,baz=342,slow=10,SNR=218						
ASAR				S	Sn	22 08 01.9	-3.9
	0.6nm,0.3s,baz=345,slow=27,SNR=7.1						
CMAR	Chiang Mai Arr	39.23	311	P	P	22 08 25.9	+1.7
	0.4nm,0.3s,baz=137,slow=7.0,SNR=4.4						
MJAR	Matsushiro Arr	44.46	11	P	P	22 09 03.9	-2.4
	1.5nm,0.7s,baz=189,slow=9.8,SNR=3.6						
KSRS	Korea Array	44.55	359	P	P	22 09 07.4	+0.5
	0.8nm,0.6s,baz=168,slow=9.3,SNR=3.7						
USRK	Ussuriysk Arra	51.34	3	P	P	22 09 58.1	-1.0
	1.0nm,0.6s,baz=184,slow=7.0,SNR=4.7						
SONM	Songino Array	58.45	342	P	P	22 10 50.5	+0.1
	0.4nm,0.5s,baz=161,slow=6.6,SNR=7.0						
PETK	Petropavlovsk-	64.91	19	P	P	22 11 33.4	0.0
	3.0nm,0.7s,baz=189,slow=7.1,SNR=3.9						
MKAR	Makanchi Array	67.99	327	P	P	22 11 53.4	+0.1
	0.5nm,0.3s,baz=118,slow=7.9,SNR=27						
ZALV	Zalesovo Beam	71.46	334	P	P	22 12 13.2	-1.1
	0.3nm,0.3s,baz=132,slow=5.7,SNR=3.5						
KURBB	Kurchatov Arra	72.30	329	P	P	22 12 18.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.4s,baz=134,slow=5.1,SNR=7.5						
BVAR	**Borovoye Array**	**77.84**	**328**	P	**P**	**22 12 50.7**	**-0.4**
	0.2nm,0.4s,baz=121,slow=5.6,SNR=2.9						
ILAR	**Eielson Array**	**94.02**	**25**	P	**P**	**22 14 09.5**	**-1.7**
	0.1nm,0.5s,baz=268,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**127.97**	**281**	PKP	**PKPdf**	**22 19 58.0**	**-1.6**
	0.4nm,0.7s,baz=96,slow=1.4,SNR=2.7						

---

*ISCJB **04** 22:09:30.3±0.4, 40°.74N±0°.02×29°.03E±0°.03, h1km±5km, Error ellipse: s-maj=4.2km s-min=3.4km az=165.1*
*ISK **04** 22:09:30.2, 40°.74N×29°.03E, h5km, MD2.9*
*DDA **04** 22:09:30.4, 40°.73N×29°.01E, h7km, MD3.0*
*CSEM **04** 22:09:30.6±0.1, 40°.74N×29°.04E, h5km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.6km az=50.0*
ISC 04 22:09:30.7±1.0**, 40°.74N**±0°.02×**29°.03E**±0°.02**, h6**km±8km**, n74, σ0s.40**/88**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.13**	**30**	*i* Pg	**Pg**	**22 09 34.0**	**+0.5**
BUY				*i* Sg	**Sg**	**22 09 34.2**	**-1.1**
ARMT	**Armutlu**	**0.22**	**217**	PG	**Pg**	**22 09 34.9**	**-0.1**
ARMT				SG	**Sg**	**22 09 37.8**	**-0.1**
ARMT	**Armutlu**	**0.22**	**217**	*i* Pg	**Pg**	**22 09 34.9**	**-0.1**
ARMT				*i* Sg	**Sg**	**22 09 37.8**	**-0.1**
YLV	**Yalova**	**0.31**	**123**	PG	**Pg**	**22 09 37.5**	**+0.7**
YLV	**Yalova**	**0.31**	**123**	*i* Pg	**Pg**	**22 09 37.5**	**+0.7**
GEMT	**Gemlik**	**0.33**	**158**	PG	**Pg**	**22 09 36.9**	**-0.2**
GEMT				SG	**Sg**	**22 09 41.4**	**0.0**
GEMT	**Gemlik**	**0.33**	**158**	*i* Pg	**Pg**	**22 09 36.9**	**-0.2**
GEMT				*i* Sg	**Sg**	**22 09 41.4**	**0.0**
ISK	**Istanbul-Kandi**	**0.33**	**4**	*e*PG	**Pg**	**22 09 37.5**	**+0.4**
ISK	**Istanbul-Kandi**	**0.33**	**4**	*e*Pg	**Pg**	**22 09 37.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.39**	**197**	*e*PG	**Pg**	**22 09 38.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.39**	**197**	*e*Pg	**Pg**	**22 09 38.4**	**+0.2**
BGKT	**Bogazkoy**	**0.48**	**336**	*e*PG	**Pg**	**22 09 39.5**	**-0.6**
BGKT	**Bogazkoy**	**0.48**	**336**	*e*Pg	**Pg**	**22 09 39.5**	**-0.6**
HRT	**Hereke**	**0.49**	**80**	*e*PG	**Pg**	**22 09 40.0**	**-0.2**
HRT	**Hereke**	**0.49**	**80**	*e*Pg	**Pg**	**22 09 40.0**	**-0.2**
ULDT	**Uludag**	**0.60**	**172**	*i* P	**Pg**	**22 09 42.3**	**0.0**
ULDT				*i* S	**Sg**	**22 09 50.2**	**0.0**
ULDT	**Uludag**	**0.60**	**172**	*i* P	**Pg**	**22 09 42.3**	**0.0**
ULDT				*i* S	**Sg**	**22 09 50.2**	**0.0**
ELBA	**Catalca**	**0.61**	**312**	*e*P	**Pg**	**22 09 42.9**	**+0.4**
ELBA				*e*S	**Sg**	**22 09 50.3**	**-0.2**
ELBA	**Catalca**	**0.61**	**312**	*e*P	**Pg**	**22 09 42.9**	**+0.4**
ELBA				*e*S	**Sg**	**22 09 50.3**	**-0.2**
ADVT	**Abdulvahap**	**0.62**	**119**	*e*PG	**Pg**	**22 09 42.5**	**-0.1**
ADVT	**Abdulvahap**	**0.62**	**119**	*e*Pg	**Pg**	**22 09 42.5**	**-0.1**
SILT	**Sile**	**0.62**	**48**	*e*PG	**Pg**	**22 09 42.4**	**-0.3**
SILT	**Sile**	**0.62**	**48**	*e*Pg	**Pg**	**22 09 42.4**	**-0.3**
CTKS	**Kestanelik-??a**	**0.64**	**322**	*e*PG	**Pg**	**22 09 42.6**	**-0.4**
CTKS	**Kestanelik-??a**	**0.64**	**322**	*e*Pg	**Pg**	**22 09 42.6**	**-0.4**
KCTX	**Karacabey (Bur**	**0.70**	**228**	*e*PG	**Pg**	**22 09 43.9**	**-0.3**
KCTX	**Karacabey (Bur**	**0.70**	**228**	*e*Pg	**Pg**	**22 09 43.9**	**-0.3**
ORLT	**Orhaneli**	**0.70**	**188**	*e*PG	**Pg**	**22 09 44.5**	**+0.3**
ORLT	**Orhaneli**	**0.70**	**188**	*e*Pg	**Pg**	**22 09 44.5**	**+0.3**
SLVT	**Silivri**	**0.79**	**309**	*e*PG	**Pg**	**22 09 45.6**	**-0.3**
SLVT	**Silivri**	**0.79**	**309**	*e*Pg	**Pg**	**22 09 45.6**	**-0.3**
CAVI	**Cavuskoy**	**0.82**	**131**	*e*PG	**Pg**	**22 09 46.5**	**+0.1**
CAVI	**Cavuskoy**	**0.82**	**131**	*e*Pg	**Pg**	**22 09 46.5**	**+0.1**
CTYL	**Yal??k??y-??at**	**0.92**	**323**	*e*PG	**Pg**	**22 09 48.0**	**-0.5**
CTYL	**Yal??k??y-??at**	**0.92**	**323**	*e*Pg	**Pg**	**22 09 48.0**	**-0.5**
BNT	**Bandirma**	**0.93**	**246**	*e*PG	**Pg**	**22 09 48.8**	**+0.2**
BNT	**Bandirma**	**0.93**	**246**	*e*Pg	**Pg**	**22 09 48.8**	**+0.2**
EDC	**Edincik**	**0.97**	**247**	*e*PG	**Pb**	**22 09 49.8**	**-0.1**
EDC	**Edincik**	**0.97**	**247**	*e*Pg	**Pb**	**22 09 49.8**	**-0.1**
CRLT	**Corlu**	**1.05**	**292**	*e*PG	**Pg**	**22 09 50.4**	**-0.6**
CRLT	**Corlu**	**1.05**	**292**	*e*Pg	**Pg**	**22 09 50.4**	**-0.6**
GULT	**Gulveren**	**1.17**	**105**	*e*PN	**Pg**	**22 09 53.0**	**-0.2**
GULT	**Gulveren**	**1.17**	**105**	*e*Pn	**Pg**	**22 09 53.0**	**-0.2**
DST	**Dursunbey**	**1.18**	**196**	*e*PN	**Pg**	**22 09 53.0**	**-0.3**
DST	**Dursunbey**	**1.18**	**196**	*e*Pn	**Pg**	**22 09 53.0**	**-0.3**
DURS	**Dursunbey**	**1.21**	**201**	*e*P	**Pn**	**22 09 54.3**	**0.0**
DURS				*e*S	**Sg**	**22 10 10.0**	**+0.3**
DURS	**Dursunbey**	**1.21**	**201**	*e*P	**Pn**	**22 09 54.3**	**0.0**
DURS				*e*S	**Sg**	**22 10 10.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.24**	**236**	*e*PN	**Pg**	**22 09 54.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.24**	**236**	*e*Pn	**Pg**	**22 09 54.1**	**-0.4**
MFT	**Murefte**	**1.33**	**273**	*e*PN	**Pg**	**22 09 56.5**	**+0.3**
MFT	**Murefte**	**1.33**	**273**	*e*Pn	**Pg**	**22 09 56.6**	**+0.3**
TVSB	**Tavsanli**	**1.33**	**165**	*e*PN	**Pn**	**22 09 55.2**	**-0.7**
TVSB	**Tavsanli**	**1.33**	**165**	*e*Pn	**Pn**	**22 09 55.2**	**-0.7**
KRBG	**Karabiga-Canak**	**1.36**	**256**	*e*PN	**Pb**	**22 09 56.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.36**	**256**	*e*Pn	**Pb**	**22 09 56.7**	**+0.1**
BALB	**Balikesir**	**1.41**	**219**	*e*PN	**Pn**	**22 09 57.0**	**+0.2**
BALB	**Balikesir**	**1.41**	**219**	*e*Pn	**Pn**	**22 09 57.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.41**	**269**	*e*PN	**Pg**	**22 09 57.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.41**	**269**	*e*Pn	**Pg**	**22 09 57.8**	**0.0**
BALY	**Balya**	**1.47**	**228**	*e*P	**Pn**	**22 09 57.2**	**-0.6**
BALY				*e*S	**Sn**	**22 10 17.2**	**-0.1**
BALY	**Balya**	**1.47**	**228**	*e*P	**Pn**	**22 09 57.2**	**-0.6**
BALY				*e*S	**Sn**	**22 10 17.2**	**-0.1**
MDUB	**Mudurnu**	**1.67**	**99**	*e*PN	**Pn**	**22 10 01.0**	**+0.4**
MDUB	**Mudurnu**	**1.67**	**99**	*e*Pn	**Pn**	**22 10 01.0**	**+0.4**
ALT	**Altintas**	**1.88**	**153**	*e*PN	**Pn**	**22 10 03.6**	**+0.2**
ALT	**Altintas**	**1.88**	**153**	*e*Pn	**Pn**	**22 10 03.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.92**	**269**	*e*PN	**Pn**	**22 10 04.4**	**+0.6**
ERIK	**Erikli-Kesan**	**1.92**	**269**	*e*Pn	**Pn**	**22 10 04.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.98**	**261**	*e*PN	**Pn**	**22 10 05.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.98**	**261**	*e*Pn	**Pn**	**22 10 05.2**	**+0.5**
EDRB	**Edirne**	**2.05**	**303**	*e*PN	**Pn**	**22 10 06.5**	**+0.8**
EDRB	**Edirne**	**2.05**	**303**	*e*Pn	**Pn**	**22 10 06.5**	**+0.8**
AKHS	**Akhisar**	**2.08**	**207**	*e*P	**Sn**	**22 10 32.3**	**-0.1**
AKHS				*e*S	**Sg**	**22 10 37.2**	**-0.3**
ENEZ	**Enez**	**2.19**	**271**	*e*PN	**Pn**	**22 10 08.4**	**+0.8**
ENEZ	**Enez**	**2.19**	**271**	*e*Pn	**Pn**	**22 10 08.4**	**+0.8**

---

*ISCJB **04** 22:09:51.8±0.4, 21°.80S±0°.03×68°.60W±0°.06, h109km±5km, mb4.1/8, Error ellipse: s-maj=9.1km s-min=5.1km az=170.2*
*NEIC **04** 22:09:53.0, 21°.80S×68°.73W, h104km, mb4.5/6, After GUC.*
*GUC **04** 22:09:53.0±0.8, 21°.80S×68°.73W, h104km±4km, ML4.5*
*IDC **04** 22:09:55.3±0.8, 21°.67S×68°.35W, h117km±5km, mb3.8/9, mb1 4.0/13, mb1mx4.0/13, mbtmp3.8/13, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=22.6km s-min=14.5km az=13.0*
ISC 04 22:09:53.3±0.5**, 21°.81S**±0°.04×**68°.62W**±0°.06**, h105**km±5km**, n60, σ1s.18**/76**, mb4.2**/8**, 7C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.58**	**272**	⇑*i*P	**Pn**	**22 10 10.1**	**-0.3**
PB09				*i* S	**Sn**	**22 10 22.5**	**-0.7**
PB09				AML	AML	22 10 23.0	
	comp=N,35μm,0.3s						
LVC	**Limon Verde**	**0.84**	**199**	*e*Pn	**Pn**	**22 10 12.9**	**+0.1**
LVC				*e*Sn	**Sn**	**22 10 27.1**	**-0.2**
LVC	**Limon Verde**	**0.84**	**199**	*e*P	**Pn**	**22 10 12.6**	**-0.2**
LVC				*i* S	**Sn**	**22 10 27.3**	**-0.1**
PB04	**Plate Boundary**	**0.92**	**241**	⇑*i*P	Pn	22 10 19.2	+5.9
PB04				*i* S	Sn	22 10 39.2	+11
PB04				AML	AML	22 10 43.1	
	comp=N,5μm,0.2s						
PB01	**Plate Boundary**	**1.12**	**313**	⇑*i*P	**Pn**	**22 10 14.7**	**-0.8**
PB01				*i* S	**Sn**	**22 10 31.3**	**-0.8**
PB01				AML	AML	22 10 33.5	
	comp=E,7μm,0.3s						
MACH	**Maria Elena**	**1.12**	**250**	⇑*i*P	**Pn**	**22 10 15.0**	**-0.7**
MACH				*i* S	**Sn**	**22 10 31.7**	**-0.9**
SPCH	**San Pedro de A**	**1.16**	**161**	*i* S	**Sn**	**22 10 35.4**	**+2.1**
PB07	**Plate Boundary**	**1.18**	**274**	⇑*i*P	**Pn**	**22 10 15.4**	**-0.9**
PB07				*i* S	**Sn**	**22 10 32.2**	**-1.4**
PB07				AML	AML	22 10 33.8	
	comp=E,8μm,0.5s						
HMBC	**Humberstone**	**1.94**	**322**	⇑*i*P	**Pn**	**22 10 24.6**	**-0.8**
HMBC				*i* S	**Sn**	**22 10 49.0**	**-0.8**
HMBC				AML	AML	22 10 54.1	
	comp=N,6μm,0.7s						
MECH	**Mejillones**	**2.13**	**233**	*e*P	**Pn**	**22 10 27.4**	**-0.3**
MECH				*e*S	**Sn**	**22 10 53.2**	**-0.8**
MECH				AML	AML	22 11 06.0	
	comp=N,3μm,0.5s						
PSGC	**Pisagua**	**2.62**	**327**	⇑*i*P	**Pn**	**22 10 32.4**	**-1.8**
PSGC				*i* S	**Sn**	**22 11 03.4**	**-2.2**
PSGC				AML	AML	22 11 12.7	
	comp=N,2μm,0.3s						
MNMC	**Minimini**	**2.82**	**341**	⇓*i*P	**Pn**	**22 10 36.8**	**-0.3**
MNMC				*i* S	**Sn**	**22 11 10.7**	**0.0**
MNMC				AML	AML	22 11 13.9	
	comp=E,3μm,0.5s						
LPAZ	**La Paz**	**5.52**	**5**	P	**Pn**	**22 11 15.6**	**+1.9**
	comp=E,2.8nm,0.3s,baz=192,slow=5.7,SNR=40						
LPAZ	**La Paz**	**5.52**	**5**	*e*Pn	**Pn**	**22 11 13.9**	**+0.2**
	comp=E,14nm,0.6s						
LCO	**Las Campanas**	**7.41**	**194**	*e*Pn	**Pn**	**22 11 38.0**	**-1.1**
	comp=E,23nm,0.3s						
LCO				*e*Sn	**Sn**	**22 12 58.4**	**-3.3**
SIV	**San Ignacio**	**9.19**	**52**	P	**Pn**	**22 12 00.7**	**-2.4**
	comp=E,3.5nm,0.3s,baz=244,slow=12,SNR=74						
SIV				S	Sn	22 13 37.6	-7.2
	comp=E,0.3nm,0.3s,baz=220,slow=17,SNR=3.6						
SIV	**San Ignacio**	**9.19**	**52**	P	**Pn**	**22 12 00.7**	**-2.4**
SIV				S	Sn	22 13 37.6	-7.2
CFAA	**Coronel Fontan**	**9.76**	**178**	P	**Pn**	**22 12 10.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=357,slow=13,SNR=15						
CFAA				S	Sn	22 13 52.1	-6.3
	comp=E,0.1nm,0.3s,baz=307,slow=20,SNR=3.5						
CFAA	**Coronel Fontan**	**9.76**	**178**	P	**Pn**	**22 12 10.0**	**-0.7**
CFAA				S	Sn	22 13 52.1	-6.3
CPUP	**Villa Florida**	**11.25**	**116**	P	**Pn**	**22 12 30.5**	**-0.3**
	comp=E,0.6nm,0.3s,baz=269,slow=11,SNR=13						
CPUP				LR	LR	22 17 39.2	
	comp=E,88nm,19.8s,baz=75,slow=42						
CPUP	**Villa Florida**	**11.25**	**116**	P	**Pn**	**22 12 30.5**	**-0.3**
TRQA	**Tornquist**	**17.17**	**162**	*e*Pn	**P**	**22 13 46.7**	**0.0**
	comp=E,12nm,1.0s						
ATAH	**Atahualpa**	**17.38**	**326**	P	**Pn**	**22 13 52.5**	**+2.7**
	comp=E,0.3nm,0.3s,baz=146,slow=4.6,SNR=4.1						
ATAH	**Atahualpa**	**17.38**	**326**	P	**Pn**	**22 13 52.5**	**+2.7**
PLCA	**Paso Flores**	**18.93**	**185**	P	**P**	**22 14 06.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=8.8,slow=12,SNR=2.9						
SPB	**Sao Paulo**	**19.62**	**99**	*e*P	**P**	**22 14 13.2**	**-0.4**
	comp=E,18nm,1.0s						
BDFB	**Brasilia**	**20.45**	**76**	P	**P**	**22 14 21.1**	**-1.6**
	comp=E,1.9nm,0.4s,baz=241,slow=12,SNR=6.6						
RCBR	**Riachuelo**	**35.40**	**68**	P	**P**	**22 16 37.2**	**-2.3**
	comp=E,6.6nm,0.9s,baz=234,slow=9.0,SNR=4.3						
RCBR	**Riachuelo**	**35.40**	**68**	*e*P	**P**	**22 16 37.4**	**-2.0**
	comp=E,22nm,1.3s						
VNA3	**Neumayer Olymp**	**59.69**	**161**	*e*Pn	**P**	**22 19 47.4**	**+1.0**
VNA2	**Neumayer--Watz**	**60.27**	**161**	*e*Pn	**P**	**22 19 50.9**	**+0.6**
	baz=302,slow=8.1						
TXAR	**Lajitas Array**	**61.04**	**325**	P	**P**	**22 19 56.4**	**+0.2**
	comp=E,0.5nm,0.5s,baz=146,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**61.04**	**325**	P	**P**	**22 19 56.4**	**+0.2**
DBIC	**Dimbokro**	**68.56**	**73**	P	**P**	**22 20 44.0**	**-1.2**
	comp=E,3.5nm,0.7s,baz=222,slow=6.1,SNR=9.4						
DBIC	**Dimbokro**	**68.56**	**73**	*e*P	**P**	**22 20 44.2**	**-1.1**
	comp=E,7.6nm,1.0s						
PDAR	**Pinedale Array**	**74.52**	**330**	P	**P**	**22 21 20.5**	**-0.2**
	comp=E,0.8nm,0.9s,baz=138,slow=8.2,SNR=4.2						
PDAR	**Pinedale Array**	**74.52**	**330**	P	**P**	**22 21 20.5**	**-0.2**
NVAR	**Mina Array Bea**	**75.91**	**322**	P	**P**	**22 21 30.2**	**+1.5**
	comp=E,1.3nm,0.8s,baz=156,slow=6.9,SNR=7.3						
NVAR	**Mina Array Bea**	**75.91**	**322**	P	**P**	**22 21 30.2**	**+1.5**
TOA0	**Torodi Ar. Sit**	**77.20**	**70**	*e*P	**P**	**22 21 35.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.20**	**70**	P	**P**	**22 21 35.8**	**-0.6**
	comp=E,2.2nm,0.4s,baz=256,slow=5.7,SNR=34						
TORD				pP	**pP**	**22 22 04.0**	**+0.9**
	comp=E,1.5nm,0.6s,baz=252,slow=4.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.20**	**70**	P	**P**	**22 21 35.8**	**-0.6**
TORD				pP	**pP**	**22 22 04.0**	**+0.9**
BOSA	**Boshof**	**83.06**	**118**	P	**P**	**22 22 08.2**	**+0.4**
	comp=E,2.1nm,0.8s,baz=232,slow=4.4,SNR=4.5						
YKA	**Yellowknife Ar**	**91.57**	**340**	P	**P**	**22 22 48.1**	**+0.3**
	comp=E,1.3nm,0.5s,baz=136,slow=4.7,SNR=33						
YKA				pP	**pP**	**22 23 16.8**	**+1.5**
	comp=E,0.8nm,0.7s,baz=136,slow=4.6,SNR=6.7						
YKA	**Yellowknife Ar**	**91.57**	**340**	P	**P**	**22 22 48.1**	**+0.3**
YKA				pP	**pP**	**22 23 16.8**	**+1.5**
ASAR	**Alice Springs**	**129.76**	**207**	PKP	**PKPdf**	**22 28 50.6**	**-0.5**
	comp=E,0.6nm,0.9s,baz=134,slow=2.7,SNR=3.4						
ASAR	**Alice Springs**	**129.76**	**207**	PKP	**PKPdf**	**22 28 50.6**	**-0.5**
WRA	**Warramunga Arr**	**132.82**	**210**	PKP	**PKPdf**	**22 28 56.5**	**-0.5**
	comp=E,0.4nm,0.4s,baz=158,slow=1.7,SNR=4.3						
WRA	**Warramunga Arr**	**132.82**	**210**	PKP	**PKPdf**	**22 28 56.5**	**-0.5**
KURK	**Kurchatov**	**141.44**	**33**	PKP	**PKPdf**	**22 29 12.2**	**+0.4**
KURBB	**Kurchatov Arra**	**141.45**	**34**	PKP	**PKPdf**	**22 29 12.2**	**+0.4**
	comp=E,0.6nm,0.8s,baz=282,slow=4.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**142.12**	**26**	PKhKP	PKPpre	22 29 09.1	
	comp=E,0.3nm,0.4s,baz=349,slow=4.8,SNR=2.8						
ZALV				PKP	**PKPdf**	**22 29 13.9**	**+1.0**
	comp=E,0.3nm,0.4s,baz=338,slow=3.4,SNR=4.2						
ZALV				pPKP	pPKPdf	22 29 44.2	+2.6
	comp=E,0.8nm,0.6s,baz=278,slow=3.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**142.12**	**26**	PKPpre	PKPpre	22 29 09.1	
ZALV				PKP	**PKPdf**	**22 29 13.9**	**+1.0**
ZALV				pPKP	pPKPdf	22 29 44.2	+2.6
MKAR	**Makanchi Array**	**145.72**	**36**	PKPbc	**PKPbc**	**22 29 20.5**	**+0.4**
	comp=E,0.7nm,0.6s,baz=312,slow=3.1,SNR=9.5						
MKAR				pPKPbc	pPKPbc	22 29 51.2	+2.9
	comp=E,1.5nm,0.7s,baz=318,slow=4.7,SNR=10						
MKAR	**Makanchi Array**	**145.72**	**36**	PKPbc	**PKPbc**	**22 29 20.5**	**+0.4**
MKAR				pPKPbc	pPKPbc	22 29 51.2	+2.9
USRK	**Ussuriysk Arra**	**151.91**	**327**	PKPbc	**PKPbc**	**22 29 36.2**	**+0.1**
	comp=E,1.2nm,0.7s,baz=108,slow=1.2,SNR=7.8						
MJAR	**Matsushiro Arr**	**152.48**	**308**	PKPbc	**PKPbc**	**22 29 37.8**	**+0.2**
	comp=E,0.8nm,0.5s,baz=65,slow=1.4,SNR=3.7						
MJAR	**Matsushiro Arr**	**152.48**	**308**	PKPbc	**PKPbc**	**22 29 37.8**	**+0.2**
SONM	**Songino Array**	**153.73**	**8**	PKP	**PKPdf**	**22 29 33.8**	**+1.6**
	comp=E,0.3nm,0.8s,baz=323,slow=2.2,SNR=2.9						
SONM				PKPbc	**PKiKP**	**22 29 40.6**	**+0.4**
	comp=E,0.3nm,0.6s,baz=348,slow=0.8,SNR=5.0						
SONM	**Songino Array**	**153.73**	**8**	PKP	**PKPdf**	**22 29 33.8**	**+1.6**
SONM				PKPbc	**PKiKP**	**22 29 40.6**	**+0.4**

---

*ISK **04** 22:23:43.1, 37°.93N×27°.45E, h8km, MD2.8*
*DDA **04** 22:23:43.1, 37°.94N×27°.46E, h8km, MD3.1*
*CSEM **04** 22:23:43.5±0.1, 37°.92N×27°.48E, h5km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.1km az=77.0*
*ATH **04** 22:23:44.8, 37°.95N×27°.41E, h13km±8km, MD3.1/3*
ISC 04 22:23:43.5±1.0**, 37°.92N**±0°.02×**27°.46E**±0°.02**, h9**km±9km**, n43, σ0s.35**/61**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.28**	**219**	*i* Pg	**Pg**	**22 23 49.0**	**-0.1**
GCAM				*i* Sg	**Sg**	**22 23 52.5**	**-0.4**
AYDN	**Tasoluk**	**0.42**	**127**	*i* Pg	**Pg**	**22 23 52.3**	**+0.5**
AYDN				*i* Sg	**Sg**	**22 23 57.5**	**+0.2**
IZM	**Izmir**	**0.50**	**342**	PG	**Pg**	**22 23 53.5**	**+0.2**
IZM	**Izmir**	**0.50**	**342**	*i* Pg	**Pg**	**22 23 53.5**	**+0.2**
BLCB	**Balcova**	**0.57**	**325**	PG	**Pg**	**22 23 54.8**	**+0.3**
BLCB				SG	**Sg**	**22 24 01.9**	**-0.1**
BLCB	**Balcova**	**0.57**	**325**	*i* Pg	**Pg**	**22 23 54.8**	**+0.3**
BLCB				*i* Sg	**Sg**	**22 24 01.9**	**-0.1**
MLSB	**Milas**	**0.67**	**158**	*e*PG	**Pg**	**22 23 56.7**	**+0.2**
MLSB	**Milas**	**0.67**	**158**	*e*Pg	**Pg**	**22 23 56.7**	**+0.2**
URLA	**Izmir**	**0.81**	**303**	*i* P	**Pg**	**22 23 59.4**	**+0.3**
URLA				*i* S	**Sg**	**22 24 10.0**	**+0.3**
URLA	**Izmir**	**0.81**	**303**	*i* P	**Pg**	**22 23 59.4**	**+0.3**
URLA				*i* S	**Sg**	**22 24 10.0**	**+0.3**
BDRM	**Kayabasi**	**0.85**	**181**	*e*P	**Pg**	**22 23 59.6**	**-0.3**
BDRM				*e*S	**Sb**	**22 24 12.4**	**+0.4**
BDRM	**Kayabasi**	**0.85**	**181**	*e*P	**Pg**	**22 23 59.6**	**-0.3**
BDRM				*e*S	**Sb**	**22 24 12.4**	**+0.4**
BODT	**Bodrum**	**0.86**	**188**	*e*PG	**Pg**	**22 24 00.2**	**+0.1**
BODT	**Bodrum**	**0.86**	**188**	*e*Pg	**Pg**	**22 24 00.2**	**+0.1**
AKHS	**Akhisar**	**1.00**	**16**	*i* P	**Pg**	**22 24 02.7**	**0.0**
AKHS				*i* S	**Sb**	**22 24 15.9**	**-0.3**
AKHS	**Akhisar**	**1.00**	**16**	*i* P	**Pg**	**22 24 02.7**	**0.0**
AKHS				*i* S	**Sb**	**22 24 15.9**	**-0.3**
AKS	**Akhisar**	**1.00**	**16**	*e*PG	**Pg**	**22 24 02.4**	**-0.3**
AKS	**Akhisar**	**1.00**	**16**	*e*Pg	**Pg**	**22 24 02.4**	**-0.3**
YER	**Yerkesik**	**1.02**	**140**	*e*PG	**Pg**	**22 24 03.4**	**+0.3**
YER	**Yerkesik**	**1.02**	**140**	*e*Pg	**Pg**	**22 24 03.4**	**+0.3**
MANT	**Manisa**	**1.04**	**56**	*e*P	**Pb**	**22 24 04.2**	**+0.4**
MANT				*e*S	**Sg**	**22 24 16.0**	**-1.0**
MANT	**Manisa**	**1.04**	**56**	*e*P	**Pb**	**22 24 04.2**	**+0.4**
MANT				*e*S	**Sg**	**22 24 16.0**	**-1.0**
KULA	**Kula-Manisa**	**1.12**	**58**	*e*PN	**Pg**	**22 24 04.9**	**-0.1**
KULA	**Kula-Manisa**	**1.12**	**58**	*e*Pn	**Pg**	**22 24 04.9**	**-0.1**
DAT	**Datca**	**1.19**	**175**	*e*PN	**Pb**	**22 24 06.1**	**-0.2**
DAT	**Datca**	**1.19**	**175**	*e*Pn	**Pb**	**22 24 06.1**	**-0.2**
CHOS	**Chios island**	**1.20**	**293**	*e*PG	**Pb**	**22 24 06.1**	**-0.3**
CHOS				*e*SB	**Sn**	**22 24 22.7**	**-0.2**
CHOS	**Chios island**	**1.20**	**293**	*e*Pg	**Pb**	**22 24 06.1**	**-0.3**
CHOS				*e*Sb	**Sn**	**22 24 22.7**	**-0.2**
AYVA	**Ayvalik**	**1.51**	**337**	*e*P	**Pb**	**22 24 11.7**	**0.0**
AYVA				*e*S	**Sg**	**22 24 32.0**	**-0.1**
AYVA	**Ayvalik**	**1.51**	**337**	*e*P	**Pb**	**22 24 11.7**	**0.0**
AYVA				*e*S	**Sg**	**22 24 32.0**	**-0.1**
PRK	**Paraskevi**	**1.62**	**325**	*e*PB	**Pg**	**22 24 14.6**	**+0.1**
PRK				*e*SB	**Sg**	**22 24 36.0**	**+0.5**
PRK	**Paraskevi**	**1.62**	**325**	*e*Pb	**Pg**	**22 24 14.6**	**+0.1**
PRK				*e*Sb	**Sg**	**22 24 36.0**	**+0.5**
BALB	**Balikesir**	**1.75**	**11**	*e*PN	**Pn**	**22 24 14.0**	**0.0**
BALB	**Balikesir**	**1.75**	**11**	*e*Pn	**Pn**	**22 24 14.0**	**0.0**
APE	**Apeiranthos**	**1.75**	**242**	*e*PN	**Pb**	**22 24 15.4**	**-0.4**
APE	**Apeiranthos**	**1.75**	**242**	*e*PN	**Pg**	**22 24 16.9**	**-0.2**
APE	**Apeiranthos**	**1.75**	**242**	*e*Pn	**Pb**	**22 24 15.4**	**-0.4**
DST	**Dursunbey**	**1.91**	**28**	*e*PN	**Pn**	**22 24 16.1**	**-0.2**
DST	**Dursunbey**	**1.91**	**28**	*e*Pn	**Pn**	**22 24 16.1**	**-0.2**
GONE	**Gonen-Balikesi**	**2.13**	**5**	*e*PN	**Pn**	**22 24 19.8**	**+0.6**
GONE	**Gonen-Balikesi**	**2.13**	**5**	*e*Pn	**Pn**	**22 24 19.8**	**+0.6**
TVSB	**Tavsanli**	**2.19**	**45**	*e*PN	**Pn**	**22 24 20.6**	**+0.5**
TVSB	**Tavsanli**	**2.19**	**45**	*e*Pn	**Pn**	**22 24 20.6**	**+0.5**

PRE 04 22:28:48.1±1.5**, 17°.90S**×**24°.71E, h10**km**, ML3.8, Zambia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**4.23**	**52**	*e*P	Pn	22 29 53.5	+0.6
MSNA	**Messina**	**6.66**	**132**	*e*P	Pn	22 30 27.5	+1.3
MSNA				*e*S	Sn	22 31 40.4	-1.9
MSNA				AML	AML	22 32 26.0	
	comp=Z,144nm,0.5s						
TSUM	**Tsumeb**	**6.89**	**258**	*e*P	Pn	22 30 29.7	+0.3
TSUM				*e*S	Sn	22 31 44.9	-3.1
LBTB	**Lobatse**	**7.12**	**174**	*e*P	Pn	22 30 34.9	+2.3
LBTB				*e*S	Sn	22 31 51.8	-1.9
LBTB				AML	AML	22 32 39.0	
	comp=Z,56nm,0.8s						
KSR	**Koster**	**8.16**	**166**	*e*P	Pn	22 30 49.9	+2.9
KSR				*e*S	Sn	22 32 16.2	-3.3
KSR				AML	AML	22 33 18.7	
	comp=Z,46nm,0.5s						
SLR	**Silverton**	**8.47**	**158**	*e*P	Pn	22 30 54.2	+3.1
SLR				*e*S	Sn	22 32 22.5	-4.4
SLR				AML	AML	22 33 25.8	
	comp=Z,58nm,0.6s						
KLOF	**Kloof**	**8.82**	**163**	*e*P	Pn	22 30 57.8	+1.8
KLOF				*e*S	Sn	22 32 30.4	-5.3
KLOF				AML	AML	22 33 32.4	
	comp=Z,70nm,0.4s						
ERPM	**east rand prop**	**9.01**	**159**	*e*P	Pn	22 30 59.7	+1.1
ERPM				*e*S	Sn	22 32 32.8	-7.5
ERPM				AML	AML	22 33 42.0	
	comp=Z,41nm,0.5s						
SWZ	**Schweizer**	**9.25**	**177**	*e*P	Pn	22 31 03.1	+1.3
SWZ				*e*S	Sn	22 32 40.5	-5.7
SWZ				AML	AML	22 33 55.0	
	comp=Z,49nm,0.7s						
PRYS	**Parys**	**9.30**	**165**	*e*P	Pn	22 31 04.6	+2.0
PRYS				*e*S	Sn	22 32 43.8	-3.7
PRYS				AML	AML	22 33 47.4	
	comp=Z,33nm,0.6s						
BOSA	**Boshof**	**10.67**	**177**	*e*P	Pn	22 31 21.6	+0.4
BOSA				*e*S	Sn	22 33 14.5	-6.5
BOSA				AML	AML	22 34 35.3	
	comp=Z,27nm,0.5s						
SUR	**Sutherland**	**14.84**	**193**	*e*P	Pn	22 32 19.9	+1.6
SUR				*e*S	Sn	22 34 55.6	-7.4
SUR				AML	AML	22 36 55.7	
	comp=Z,5.7nm,0.7s						

---

*LDG **04** 22:30:18.7±0.2, 18°.38N×68°.92W, h110km, Mb4.7/28, Error ellipse: s-maj=12.3km s-min=8.2km az=83.0*
*BJI **04** 22:30:25.1, 18°.20N×68°.60W, h157km, mB5.0/8*
*ISCJB **04** 22:30:25.7±0.2, 18°.21N±0°.04×68°.58W±0°.02, h163km±1km, mb4.5/78, Error ellipse: s-maj=6.1km s-min=2.8km az=13.7*
*IDC **04** 22:30:26.1±0.6, 18°.13N×68°.63W, h156km±4km, mb3.9/29, mb1 4.1/31, mb1mx4.1/31, mbtmp3.9/31, Error ellipse: s-maj=10.4km s-min=7.1km az=23.0*
*NEIC **04** 22:30:26.4, 18°.29N×68°.56W, h163km, mb5.0/41, MD4.8(RSPR), After RSPR.*
NEIC Felt [II] at Santo Domingo. Also felt at Higuey and Santiago.
*RSPR **04** 22:30:26.4, 18°.29N×68°.56W, h163km±2km, MD4.8/20, MD4.5*
ISC 04 22:30:26.9±0.4**, 18°.24N**±0°.05×**68°.60W**±0°.03**, h166**km±3km**, h165**km**:pP-P, n351, σ1s.37**/398**, mb4.6**/78**, 68C-61D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.67**	**101**	⇑*i*P	**Pn**	**22 30 50.0**	**-0.8**
IMO				*e*S	**Sn**	**22 31 07.9**	**-1.3**
IMO	**Isla Mona**	**0.67**	**101**	*i* Pu	**Pn**	**22 30 50.0**	**-0.8**
IMO				*e*S	**Sn**	**22 31 07.9**	**-1.3**
DR12	**Loma Pena Alta**	**0.92**	**307**	⇓*i*P	**Pn**	**22 30 51.4**	**-1.3**
DR12	**Loma Pena Alta**	**0.92**	**307**	⇓*i*P	**Pn**	**22 30 51.4**	**-1.3**
SMN1	**Samana, DR**	**1.14**	**326**	*i* Pu	**Pn**	**22 30 53.7**	**-0.7**
SMN1				*e*S	**Sn**	**22 31 13.5**	**-2.2**
MPR	**Mayaguez**	**1.39**	**91**	⇑*e*P	**Pn**	**22 30 56.0**	**-0.6**
MPR	**Mayaguez**	**1.39**	**91**	*e*S	**Sn**	**22 31 17.9**	**-1.5**
MPR	**Mayaguez**	**1.39**	**91**	⇑*e*P	**Pn**	**22 30 56.0**	**-0.6**
MPR				*e*S	**Sn**	**22 31 17.9**	**-1.5**
AGPR	**Aguadilla, PR**	**1.43**	**80**	⇑*i*P	**Pn**	**22 30 57.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.43**	**80**	*e*S	**Sn**	**22 31 19.8**	**-0.4**
AGPR	**Aguadilla, PR**	**1.43**	**80**	*i* Pu	**Pn**	**22 30 57.0**	**0.0**
AGPR				*e*S	**Sn**	**22 31 19.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.43**	**99**	⇑*i*P	**Pn**	**22 30 56.0**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.43**	**99**	*e*S	**Sn**	**22 31 18.6**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.43**	**99**	*i* Pu	**Pn**	**22 30 56.0**	**-1.0**
CRPR				*e*S	**Sn**	**22 31 18.6**	**-1.6**
LSP	**Las Mesas**	**1.44**	**92**	*e*Pn	**Pn**	**22 30 56.1**	**-1.0**
LSP				*e*Sn	**Sn**	**22 31 19.0**	**-1.4**
GBPR	**Guanica, Bosqu**	**1.66**	**99**	⇓*i*P	**Pn**	**22 30 58.6**	**-0.6**
GBPR				*e*S	**Sn**	**22 31 23.9**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.66**	**99**	⇓*i*P	**Pn**	**22 30 58.6**	**-0.6**
GBPR				*e*S	**Sn**	**22 31 23.9**	**-0.2**
LRS	**Lares**	**1.67**	**88**	⇓*i*P	**Pn**	**22 30 58.8**	**-0.6**
LRS	**Lares**	**1.67**	**88**	⇓*i*P	**Pn**	**22 30 58.8**	**-0.6**
AOPR	**Arecibo Observ**	**1.76**	**86**	⇓*e*P	**Pn**	**22 30 59.5**	**-0.9**
AOPR	**Arecibo Observ**	**1.76**	**86**	⇓*e*P	**Pn**	**22 30 59.7**	**-0.7**
AOPR				*e*S	**Sn**	**22 31 25.5**	**-0.7**
AOPR	**Arecibo Observ**	**1.76**	**86**	⇓*e*P	**Pn**	**22 30 59.5**	**-0.9**
OBIP	**Obispado Ponce**	**1.90**	**95**	⇑*i*P	**Pn**	**22 31 01.0**	**-0.9**
OBIP	**Obispado Ponce**	**1.90**	**95**	*e*S	**Sn**	**22 31 27.4**	**-1.6**
OBIP	**Obispado Ponce**	**1.90**	**95**	*i* Pu	**Pn**	**22 31 01.0**	**-0.9**
OBIP				*e*S	**Sn**	**22 31 27.4**	**-1.6**
CELP	**Cerrillos**	**1.93**	**94**	⇑*i*P	**Pn**	**22 31 01.4**	**-0.8**
CELP				*e*S	**Sn**	**22 31 28.2**	**-1.2**
CELP	**Cerrillos**	**1.93**	**94**	*i* Pu	**Pn**	**22 31 01.4**	**-0.8**
CELP				*e*S	**Sn**	**22 31 28.2**	**-1.2**
SJG	**San Juan**	**2.33**	**93**	*e*S	**Sn**	**22 31 36.0**	**-1.7**
SJG	**San Juan**	**2.33**	**93**	⇑*e*P	**Pn**	**22 31 06.3**	**-0.5**
SJG	**San Juan**	**2.33**	**93**	⇓*e*P	**Pn**	**22 31 05.9**	**-0.9**
SJG				*e*S	**Sn**	**22 31 36.2**	**-1.4**
SJG	**San Juan**	**2.33**	**93**	P	**Pn**	**22 31 06.5**	**-0.3**
	116nm,0.3s,baz=270,slow=11,SNR=154						
SJG				S	**Sn**	**22 31 35.9**	**-1.7**
	96nm,0.3s,baz=270,slow=20,SNR=24						
SJG	**San Juan**	**2.33**	**93**	⇑*e*P	**Pn**	**22 31 06.3**	**-0.5**
SJG				*e*S	**Sn**	**22 31 36.0**	**-1.7**
HUMP	**Col San Antoni**	**2.62**	**92**	*e*S	**Sn**	**22 31 42.1**	**-1.6**
HUMP	**Col San Antoni**	**2.62**	**92**	⇑*i*P	**Pn**	**22 31 09.5**	**-0.7**
HUMP	**Col San Antoni**	**2.62**	**92**	⇑*e*P	**Pn**	**22 31 09.7**	**-0.5**
HUMP	**Col San Antoni**	**2.62**	**92**	*i* Pu	**Pn**	**22 31 09.5**	**-0.7**
HUMP				*e*S	**Sn**	**22 31 42.1**	**-1.6**
SDDR	**Presa de Saban**	**2.66**	**287**	⇑*e*P	**Pn**	**22 31 10.5**	**-0.3**
SDDR	**Presa de Saban**	**2.66**	**287**	*e*S	**Sn**	**22 31 44.3**	**-0.4**
SDDR	**Presa de Saban**	**2.66**	**287**	⇑*e*P	**Pn**	**22 31 10.5**	**-0.3**
SDDR				*e*S	**Sn**	**22 31 44.3**	**-0.4**
STVI	**Saint Thomas**	**3.46**	**88**	⇓*e*P	**Pn**	**22 31 20.1**	**-0.6**
STVI	**Saint Thomas**	**3.46**	**88**	*e*S	**Sn**	**22 32 00.8**	**-1.8**
STVI	**Saint Thomas**	**3.46**	**88**	⇓*e*P	**Pn**	**22 31 20.1**	**-0.6**
STVI				*e*S	**Sn**	**22 32 00.8**	**-1.8**
CDVI	**St. Croix**	**3.68**	**97**	⇓*e*P	**Pn**	**22 31 21.9**	**-1.6**
CDVI	**St. Croix**	**3.68**	**97**	*e*S	**Sn**	**22 32 06.9**	**-0.6**
CDVI	**St. Croix**	**3.68**	**97**	⇓*e*P	**Pn**	**22 31 21.9**	**-1.6**
CDVI				*e*S	**Sn**	**22 32 06.9**	**-0.6**
TBVI	**Tortola**	**3.79**	**87**	⇑*i*P	**Pn**	**22 31 23.8**	**-1.0**

TBVI eS Sn 22 32 06.6 -3.4
TBVI Tortola 3.79 87 *i* Pu Pn 22 31 23.8 -1.0
TBVI eS Sn 22 32 06.6 -3.4
GRTK Grand Turk 4.04 324 *e*Pn Pn 22 31 25.7 -2.4
GRTK eSn Sn 22 32 11.8 -4.0
ABV Anegada 4.08 82[] *e*P Pn 22 31 28.5 -0.1
ABVI Anegada Island 4.08 82[] *e*P Pn 22 31 28.5 -0.1
MASC Masc 5.66 291 *e*P Pn 22 31 46.4 -2.9
MASC eS Sn 22 32 48.3 -5.6
GTBY Guantanamo Bay 6.38 286 *e*Pn Pn 22 31 55.6 -3.3
GTBY eSn Sn 22 33 06.6 -4.5
MOAC Moa 6.47 293 *e*P Pn 22 31 57.1 -2.8
MOAC eS Sn 22 33 08.0 -5.1
comp=N,167nm,0.2s
MOAC *e*
comp=E,156nm,0.2s
ANWB Willy Bob 6.51 94 *e*Pn Pn 22 31 57.4 -3.1
ANWB eSn Sn 22 33 07.8 -6.3
LZG Guadaloupe-1 6.85 107 *e*P Pn 22 32 03.8 -1.2
RCC Rio Carpintero 6.93 286 *e*P Pn 22 32 01.2 -5.0
RCC eS Sn 22 33 17.5 -6.7
comp=N,78nm,0.6s
RCC *e*
comp=E,88nm,0.6s
BCG Bois Riant Cap 7.01 107 *e*P Pn 22 32 09.1 +1.9
PHG Guadaloupe-2 7.01 107 *e*P Pn 22 32 06.3 -0.9
SEG Port Louis 7.02 104 *e*P Pn 22 32 05.8 -1.5
MGG Marie-Galante 7.33 107 *e*P Pn 22 32 10.8 -0.7
DEG La Desirade 7.45 104 *e*P Pn 22 32 11.8 -1.3
DEG eS Sn 22 33 33.3 -3.4
FDF Fort de France 7.95 115 *e*Pn Pn 22 32 19.0 -0.7
LMGC Las Mercedes 8.15 284 *e*P Pn 22 32 18.1 -4.2
LMGC eS Sn 22 33 46.9 -6.5
comp=N,64nm,0.5s
LMGC *e*S
comp=N,76nm,0.5s
GRGR Grenville 9.04 131 *e*Pn Pn 22 32 33.2 -0.9
SDV Santo Domingo 9.50 192 *e*Pn Pn 22 32 42.3 +1.9
SDV eSn Sn 22 34 26.7 +0.6
BBGH Gun Hill 10.07 119 *e*Pn Pn 22 32 47.3 -0.3
MGV Manicaragua 11.36 292 *e*P Pn 22 33 01.7 -2.8
SOR Soroa 14.24 291 *e*P P 22 33 44.5 +0.9
ROSC El Rosal 14.43 204 P P 22 33 47.1 +0.8
comp=N,2.5nm,0.3s,baz=90,slow=13,SNR=7.2
ROSC El Rosal 14.43 204 P P 22 33 47.1 +0.8
comp=N,9.4nm,0.6s
TEIG Tepich 18.69 279 P P 22 34 33.3 +0.7
comp=N,3.1nm,0.3s,baz=92,slow=5.2,SNR=16
TEIG Tepich 18.69 279 P P 22 34 33.4 +0.7
GOGA Godfrey 20.15 321 *e*P P 22 34 49.4 +1.1
comp=N,32nm,1.0s
OTAV Otavalo 20.34 209 *e*P P 22 34 51.3 +0.4
comp=N,21nm,1.2s
JSRW J. Sargeant Re 21.02 339 *e*P P 22 34 58.8 +1.2
LRAL Lakeview Retre 22.14 315 *e*P P 22 35 10.4 +1.2
LRAL *e*pP pP 22 35 40.5 +1.8
LRAL *e*sP sP 22 36 00.3 +0.8
SDMD Soldier's Deli 22.28 343 *e*P P 22 35 12.3 +1.8
SDMD *e* 22 35 31.0
SWET Sewanee 22.87 321 *e*P P 22 35 17.9 +1.8
comp=N,11nm,0.6s
SSPA Standing Stone 23.71 342 *e*P P 22 35 19.7 -4.0
WVT Waverly 24.62 320 *e*P P 22 35 32.9 +0.9
comp=N,24nm,0.5s
OXF Oxford 24.63 315 *e*P P 22 35 33.3 +1.2
BINY Binghamton 24.70 347 *e*P P 22 35 33.0 +0.3
SAML Samuel 27.54 168 *e*P P 22 35 58.2 -0.1
comp=N,23nm,0.6s
WHTX Lake Whitney 29.39 303 ⇓P P 22 36 15.8 +1.1
baz=29
TUL1 Tulsa 29.79 312 ⇓P P 22 36 19.2 +1.1
baz=30
732A Laxson Ranch, 30.53 296 ⇑P P 22 36 25.3 +0.5
baz=30
632A Uvalde 30.55 297 ⇓P P 22 36 26.0 +1.0
baz=31
532A Rocksprings 30.81 298 ⇓P P 22 36 27.8 +0.4
baz=31
JCT Junction City 30.82 299 ⇓P P 22 36 28.3 +0.9
baz=31
432A Menard 30.93 300 ⇓P P 22 36 28.6 +0.3
baz=31
631A Perdido Creek 31.20 297 ⇓P P 22 36 31.3 +0.6
baz=31
ABTX Abilene, Hawle 31.35 303 ⇓P P 22 36 32.8 +0.9
baz=31
531A Rocksprings 31.36 298 ⇑P P 22 36 32.6 +0.5
baz=31
WMOK Wichita Mounta 31.46 307 *e*P P 22 36 33.7 +0.8
WMOK *e*pP pP 22 37 08.0 +0.4
431A Sonora 31.55 299 ⇑P P 22 36 33.8 +0.1
baz=32
530A J-C Ranch, Com 32.02 298 ⇑P P 22 36 38.5 +0.7
baz=32
430A Baggett Ranch, 32.10 299 ⇓P P 22 36 39.0 +0.4
baz=32
429A Davenport Ranc 32.60 299 ⇓P P 22 36 43.3 +0.3
baz=33
529A Stev Forest Ra 32.76 298 ⇓P P 22 36 44.9 +0.5
baz=33
329A Wagon Wheel Ra 32.90 300 ⇓P P 22 36 46.1 +0.5
baz=33
628A Black Gap, Mar 33.18 296 ⇓P P 22 36 49.5 +1.4
baz=33,SNR=5.5
528A Cox Ranch, San 33.24 297 ⇑P P 22 36 50.2 +1.6
baz=33,SNR=22
428A Kincaid Ranch, 33.29 298 ⇑P P 22 36 50.3 +1.3
baz=33
328A Wristen Ranch, 33.55 300 ⇓P P 22 36 51.6 +0.4
baz=34
228A UT Block 9, Go 33.57 301 ⇓P P 22 36 51.6 +0.2
baz=34
X29A Tulia 33.58 305 ⇑P P 22 36 52.4 +0.9
baz=34
627A Terlingua Ranc 33.60 296 ⇓P P 22 36 52.8 +1.1
baz=34,SNR=13
TXAR Lajitas Array 33.82 296 P P 22 36 53.4 -0.2
comp=N,1.5nm,0.5s,baz=114,slow=10.0,SNR=10
TXAR Lajitas Array 33.82 296 P P 22 36 53.4 -0.2
427A Hayter Ranch, 33.92 298 ⇑P P 22 36 55.3 +0.9
baz=34,SNR=9.7
527A Woodward Ranch 33.94 297 ⇑P P 22 36 55.9 +1.2
baz=34
626A Big Bend Ranch 34.26 296 ⇑P P 22 36 58.6 +1.2
baz=34
MSTX Muleshoe 34.26 304 ⇑P P 22 36 58.4 +1.0
baz=34
LPAZ La Paz 34.31 179 P P 22 36 58.0 -0.3
comp=N,1.9nm,0.3s,baz=340,slow=4.9,SNR=14
LPAZ La Paz 34.31 179 *e*P P 22 36 58.1 -0.3
comp=N,9.8nm,1.4s
526A Mary Lane Ranc 34.32 297 ⇑P P 22 36 59.3 +1.3
baz=34,SNR=6.7
127A Arkansas Junct 34.35 302 ⇑P P 22 36 58.7 +0.6
baz=34
426A McDonald Obser 34.40 298 ⇑P P 22 36 59.4 +0.6
baz=34,SNR=10.0
Z27A Tatum 34.41 303 ⇑P P 22 36 59.9 +1.2
baz=34
SIV San Ignacio 34.81 167 P P 22 37 01.3 -0.7
comp=N,8.9nm,0.7s,baz=7.1,slow=12,SNR=31
SIV San Ignacio 34.81 167 P P 22 37 01.3 -0.7
126A Clayton Basin, 34.88 301 ⇑P P 22 37 03.2 +0.6
baz=35
T28A Walsh 34.89 310 ⇓P P 22 37 03.1 +0.4
baz=35
425A Indio Mountain 35.23 298 ⇑P P 22 37 07.3 +1.6
baz=35,SNR=6.5
325A Bean Ranch, Si 35.34 299 ⇓P P 22 37 07.6 +0.8
baz=35,SNR=6.7
Z25A Roswell 35.61 302 ⇓P P 22 37 10.5 +1.5
baz=36
324A Moseley Ranch, 35.79 299 ⇑P P 22 37 11.5 +1.0
baz=36
224A Cornudas Mount 35.96 300 ⇑P P 22 37 13.4 +1.3
baz=36,SNR=8.6
W25A X Bar L Ranch, 35.98 305 ⇑P P 22 37 13.1 +1.0
baz=36
124A Stringfield Ra 36.06 301 ⇓P P 22 37 14.6 +1.7
baz=36
Y24A Capitan 36.37 303 ⇑P P 22 37 18.0 +2.5
baz=36
SCHQ Schefferville 36.55 2 P P 22 37 17.5 +0.9
comp=N,22nm,0.5s,baz=190,slow=7.3,SNR=93
SCHQ Schefferville 36.55 2 P P 22 37 17.5 +0.9
W24A Lazy 6 Ranch, 36.72 305 ⇑P P 22 37 19.8 +1.4
baz=37
BNM Barren Site 37.38 303 *e*P P 22 37 26.7 +2.6
BNM *e*pP pP 22 38 01.0 +1.5
R24A Sanders Place, 37.51 310 ⇓P P 22 37 26.7 +1.6
baz=38
R23A Moffat 38.02 309 ⇓P P 22 37 30.9 +1.5
baz=38
K25A Mack Ranch, Ha 38.50 317 ⇑P P 22 37 34.2 +0.9
baz=39
S22A 4UR Ranch, Cre 38.61 308 ⇑P P 22 37 35.5 +1.1
baz=39
BDFB Brasilia 39.30 148 P P 22 37 39.3 -0.8
comp=N,3.0nm,0.7s,baz=317,slow=11,SNR=6.2
BDFB Brasilia 39.30 148 P P 22 37 39.3 -0.8
S21A Coal Bank Pass 39.30 308 ⇑P P 22 37 41.3 +1.1
baz=39
S20A Disappointment 39.78 308 ⇓P P 22 37 45.4 +1.3
baz=40
T18A Mexican Hat 40.73 306 ⇑P P 22 37 53.2 +1.4
baz=41
C22A Vida 42.28 323 ⇑P P 22 38 05.5 +1.4
baz=42
PDAR Pinedale Array 42.36 314 P P 22 38 04.5 -0.5
comp=N,0.4nm,0.4s,baz=115,slow=10,SNR=7.5
PDAR pP pP 22 38 39.5 -1.7
comp=N,1.0nm,0.8s,baz=120,slow=8.8,SNR=3.6
PDAR PcP PcP 22 39 54.5 -0.8
comp=N,0.4nm,0.6s,baz=108,slow=5.8,SNR=3.0
PDAR Pinedale Array 42.36 314 P P 22 38 04.5 -0.5
PDAR pP pP 22 38 39.5 -1.7
PDAR PcP PcP 22 39 54.5 -0.8
G20A Bridger 42.48 318 ⇑P P 22 38 06.0 +0.2
baz=42
I19A Meeteetse 42.48 316 ⇑P P 22 38 06.7 +0.8
baz=42
I18A Diamond G Ranc 42.89 315 ⇓P P 22 38 10.4 +1.1
baz=43
E20A Meyer Farm, Mu 43.01 320 ⇑P P 22 38 11.5 +1.5
baz=43
C21A Desert Coulee 43.03 322 ⇑P P 22 38 11.4 +1.3
baz=43
RLMT Red Lodge 43.11 318 *e*P P 22 38 12.1 +1.0
comp=N,22nm,1.7s
RLMT Red Lodge 43.11 318 ⇑P P 22 38 11.9 +0.9
baz=43
F19A Roth Farm, Mol 43.22 319 ⇓P P 22 38 12.7 +0.9
baz=43
D20A Manuel Ranch, 43.29 321 ⇑P P 22 38 13.5 +1.3
baz=43
G18A Lazy EL Ranch, 43.38 318 ⇓P P 22 38 13.9 +0.7
baz=43
E19A Rath Farm, Rou 43.40 320 ⇑P P 22 38 14.3 +1.2
baz=43
F18A Big Timber 43.73 318 ⇑P P 22 38 17.0 +1.2
baz=44
E18A Harlowton 44.14 319 ⇑P P 22 38 20.1 +1.0
baz=44
IRM Iron Mountain 44.29 300 ⇓P P 22 38 21.6 +1.2
baz=44
B19A Brinkman Farms 44.41 322 ⇓P P 22 38 22.4 +1.2
baz=44
BC3 Big Chuckawall 44.47 300 ⇑P P 22 38 22.6 +0.8
baz=44
BOZ Bozeman (W) 44.85 317 ⇑P P 22 38 26.1 +1.3
baz=45
D17A Six Diamond Ra 44.87 320 ⇑P P 22 38 26.1 +1.1
baz=45
B18A Beardsley Farm 44.88 322 ⇓P P 22 38 26.1 +1.3
baz=45
C17A Wharram Farm, 45.13 320 ⇓P P 22 38 28.3 +1.5
baz=45
A18A Metzger Ranch, 45.16 322 ⇑P P 22 38 28.2 +1.2
baz=45
E16A East Helena 45.23 318 ⇓P P 22 38 29.1 +1.4
baz=45
D16A Dana Ranch, Ca 45.35 319 ⇓P P 22 38 29.7 +1.0
baz=45
R11A Troy Canyon, C 45.42 306 ⇑P P 22 38 30.6 +1.2
baz=45
FRB Frobisher Bay 45.47 0 P P 22 38 29.9 +0.8
comp=N,8.8nm,0.7s,baz=180,slow=9.0,SNR=25
FRB pP pP 22 39 05.3 -0.5
comp=N,1.5nm,0.5s,baz=187,slow=9.1,SNR=3.2
FRB Frobisher Bay 45.47 0 P P 22 38 29.9 +0.8
FRB pP pP 22 39 05.3 -0.5
CPUP Villa Florida 45.63 166 P P 22 38 29.3 -1.6
comp=N,0.7nm,0.3s,baz=335,slow=6.8,SNR=4.4
CPUP Villa Florida 45.63 166 P P 22 38 29.3 -1.6
J13A Cove Ranch, Pi 45.75 313 ⇑P P 22 38 32.6 +0.7
baz=46
C16A Fuhringer Ranc 45.80 320 ⇑P P 22 38 32.9 +0.8
baz=46
I13A Wildhorse Cree 45.87 314 ⇓P P 22 38 33.9 +0.9
baz=46
HLID Hailey 45.96 314 ⇑P P 22 38 34.7 +1.1
baz=46
D15A Lincoln 45.97 319 ⇓P P 22 38 34.7 +1.2
baz=46
B16A M & M Farms, S 46.03 321 ⇓P P 22 38 34.9 +1.0
baz=46
F14A Wisdom 46.04 317 ⇑P P 22 38 35.3 +1.1
baz=46
H13A Challis 46.18 315 ⇑P P 22 38 36.1 +0.9
baz=46
A16A West Butte Ran 46.20 321 ⇓P P 22 38 36.5 +1.2
baz=46
C15A Salmond Ranch, 46.31 320 ⇓P P 22 38 37.3 +1.1
baz=46
E14A Clinton 46.34 318 ⇑P P 22 38 37.4 +0.9
baz=46
BFSC Mount Baldy Ra 46.36 300 ⇑P P 22 38 37.3 +0.5
baz=46
B15A Bradely Ranch, 46.51 320 ⇑P P 22 38 38.5 +0.8
baz=46
I12A Atlanta 46.53 314 ⇑P P 22 38 39.5 +1.4
baz=46
C14A Swan Lake 47.02 319 ⇓P P 22 38 42.8 +1.1
baz=47
F12A Elk City 47.25 316 ⇓P P 22 38 44.3 +0.8
baz=47
C13A Hot Springs 47.50 319 ⇑P P 22 38 46.5 +1.2
baz=48
NVAR Mina Array Bea 47.52 306 P P 22 38 47.6 +1.8
comp=N,0.9nm,0.4s,baz=92,slow=7.2,SNR=8.3
NVAR pP pP 22 39 22.9 +0.1
comp=N,2.4nm,0.8s,baz=110,slow=5.8,SNR=5.0
NVAR Mina Array Bea 47.52 306 P P 22 38 47.6 +1.8
NVAR pP pP 22 39 22.9 +0.1
E12A Beaver Dam Sad 47.68 317 ⇓P P 22 38 47.6 +0.8
baz=48
B13A Whitefish 47.70 320 ⇑P P 22 38 47.4 +0.6
baz=48
A13A Flathead Natio 47.88 320 ⇑P P 22 38 49.5 +1.2
baz=48
C11A Tepee Creek (N 48.62 318 ⇓P P 22 38 54.8 +0.9
baz=49
NEW Newport 49.31 319 ⇓P P 22 39 00.0 +0.9
baz=49
YBH Yreka Blue Hor 51.45 309 P P 22 39 14.9 -0.4
comp=N,0.9nm,0.5s,baz=108,slow=3.2,SNR=4.7
YBH Yreka Blue Hor 51.45 309 P P 22 39 14.9 -0.4
YKA Yellowknife Ar 54.41 336 P P 22 39 36.3 -0.2
comp=N,2.1nm,0.6s,baz=114,slow=7.5,SNR=29
YKA pP pP 22 40 12.3 -2.1
comp=N,1.1nm,0.6s,baz=114,slow=7.5,SNR=4.9
YKA Yellowknife Ar 54.41 336 P P 22 39 36.3 -0.2
YKA pP pP 22 40 12.3 -2.1
PFVI Vila Bisbo 55.30 57 *e*P P 22 39 39.4 -4.0
comp=N,47nm,1.3s
EVOP Sao Brissos 55.92 55 *e*P P 22 39 48.7 +0.9
comp=N,13nm,0.6s
EVO Evora 56.01 55 *e*P P 22 39 48.7 +0.3
comp=N,13nm,0.6s
EVO Evora 56.01 55 *e*P P 22 39 49.9 +1.5
comp=N,51nm,2.1s
PMRV Marv??o 56.55 54 *e*P P 22 39 53.5 +1.3
comp=N,55nm,2.1s
MVO Moncorvo 56.94 52 *e*P P 22 39 56.4 +1.4
comp=N,55nm,1.6s
SUMG Summit 57.03 10 *e*P P 22 39 56.7 +1.1
comp=N,16nm,0.8s
SUMG Summit 57.03 10 *i* P P 22 39 56.7 +1.1
comp=N,13nm,0.7s
PLCA Paso Flores 58.69 182 P P 22 40 06.3 -0.7
comp=N,1.6nm,0.7s,baz=359,slow=9.3,SNR=2.9
PLCA Paso Flores 58.69 182 P P 22 40 06.3 -0.7
ESDC Sonseca Array 59.20 54 P P 22 40 12.2 +1.4
comp=N,6.5nm,0.6s,baz=272,slow=7.3,SNR=32
ESDC Sonseca Array 59.20 54 P P 22 40 12.2 +1.4
DLBC Dease Lake 59.76 328 P P 22 40 15.5 +1.2
comp=N,3.1nm,0.8s,baz=124,slow=2.8,SNR=5.0
DLBC Dease Lake 59.76 328 P P 22 40 15.5 +1.2
QUIF Quistinic 60.27 45 *e*P P 22 40 18.6 +0.8
QUIF Quistinic 60.27 45 *e*P P 22 40 18.6 +0.8
SJPF Ste Jean 61.34 50 *e*P P 22 40 26.6 +1.4
comp=N,12nm,0.5s
SJPF Ste Jean 61.34 50 *e*P P 22 40 26.6 +1.4
comp=N,12nm,0.5s
ETSF Etsaut 61.83 51 *e*P P 22 40 29.8 +1.3
ETSF Etsaut 61.83 51 *e*P P 22 40 29.8 +1.3
GRR Gorron 61.85 44 *e*P P 22 40 29.2 +0.7
comp=N,20nm,0.7s
GRR Gorron 61.85 44 *e*P P 22 40 29.2 +0.7
comp=N,20nm,0.7s
FLN La Foliniere 62.12 44 *e*P P 22 40 31.1 +0.8
comp=N,17nm,0.5s
FLN La Foliniere 62.12 44 *e*P P 22 40 31.1 +0.8
comp=N,17nm,0.5s
MFF Saint Martin d 62.23 46 *e*P P 22 40 32.0 +1.0
comp=N,34nm,0.5s
MFF Saint Martin d 62.23 46 *e*P P 22 40 32.0 +1.0
comp=N,34nm,0.5s
LDF La Druitiere 62.35 44 *e*P P 22 40 32.6 +0.8
comp=N,19nm,0.6s
LDF La Druitiere 62.35 44 *e*P P 22 40 32.6 +0.8
comp=N,19nm,0.6s
EPF Esparros 62.49 50 *e*P P 22 40 34.3 +1.4
comp=N,26nm,0.6s
EPF Esparros 62.49 50 *e*P P 22 40 34.3 +1.4
comp=N,26nm,0.6s
LFF La Frestale 62.80 48 *e*P P 22 40 35.7 +0.9
comp=N,22nm,0.6s
LFF La Frestale 62.80 48 *e*P P 22 40 35.7 +0.9
comp=N,22nm,0.6s
DBIC Dimbokro 63.03 92 P P 22 40 37.5 +0.7
comp=N,0.8nm,0.5s,baz=264,slow=7.5,SNR=4.0
DBIC Dimbokro 63.03 92 P P 22 40 37.5 +0.7
RJF Les Rejaudoux 63.35 48 *e*P P 22 40 39.1 +0.6
comp=N,21nm,0.8s
RJF Les Rejaudoux 63.35 48 *e*P P 22 40 39.1 +0.6
comp=N,21nm,0.8s
CAF Calviac 63.74 48 *e*P P 22 40 41.8 +0.7
comp=N,12nm,0.6s
CAF Calviac 63.74 48 *e*P P 22 40 41.8 +0.7
comp=N,12nm,0.6s
TCF Toulx Ste Croi 63.85 47 *e*P P 22 40 42.2 +0.4
comp=N,21nm,0.9s
TCF Toulx Ste Croi 63.85 47 *e*P P 22 40 42.2 +0.4
comp=N,21nm,0.9s
INK Inuvik 63.99 338 P P 22 40 41.9 -0.3
comp=N,0.8nm,0.4s,baz=115,slow=7.8,SNR=6.6
INK Inuvik 63.99 338 P P 22 40 41.9 -0.3
HYF Humbligny 64.16 46 *e*P P 22 40 44.5 +0.8
HYF Humbligny 64.16 46 *e*P P 22 40 44.5 +0.8
BGF Bois d'Agland 64.29 47 *e*P P 22 40 45.1 +0.5
comp=N,14nm,0.6s
BGF Bois d'Agland 64.29 47 *e*P P 22 40 45.1 +0.5
comp=N,14nm,0.6s
ALE Alert 64.38 1 P P 22 40 44.6 0.0
comp=N,79nm,0.6s,SNR=7.6
AVF Avril sur Loir 64.64 46 *e*P P 22 40 47.1 +0.2
comp=N,27nm,1.0s
AVF Avril sur Loir 64.64 46 *e*P P 22 40 47.1 +0.2
comp=N,27nm,1.0s
SSF Saint Saulge 64.75 46 *e*P P 22 40 47.6 0.0
SSF Saint Saulge 64.75 46 *e*P P 22 40 47.6 0.0
LOR Lormes 64.99 46 *e*P P 22 40 49.4 +0.3
comp=N,21nm,0.6s
LOR Lormes 64.99 46 *e*P P 22 40 49.4 +0.3
comp=N,21nm,0.6s
LASF Ste Croix 65.03 49 *e*P P 22 40 50.7 +1.2
comp=N,18nm,0.9s
LASF Ste Croix 65.03 49 *e*P P 22 40 50.7 +1.2
comp=N,18nm,0.9s
BAIF Baives 65.24 43 *e*P P 22 40 50.8 +0.2
BAIF Baives 65.24 43 *e*P P 22 40 50.8 +0.2
VIVF Saint-Julien-l 65.59 48 *e*P P 22 40 54.6 +1.5
comp=N,29nm,1.0s
VIVF Saint-Julien-l 65.59 48 *e*P P 22 40 54.6 +1.5
comp=N,29nm,1.0s
GIVF Givet 65.63 43 *e*P P 22 40 53.6 +0.4
GIVF Givet 65.63 43 *e*P P 22 40 53.6 +0.4
SFTF Sexfontaines 65.78 45 *e*P P 22 40 54.5 +0.3
comp=N,20nm,0.7s
SFTF Sexfontaines 65.78 45 *e*P P 22 40 54.5 +0.3
comp=N,20nm,0.7s
MEZF Maizieres J'vi 65.78 44 *e*P P 22 40 54.9 +0.7
comp=N,32nm,0.6s
MEZF Maizieres J'vi 65.78 44 *e*P P 22 40 54.9 +0.7
comp=N,32nm,0.6s
EGAK Eagle 66.23 333 *e*P P 22 40 58.1 +1.3
comp=N,84nm,2.8s
PAGF Fort de Pagny 66.23 44 *e*P P 22 40 57.7 +0.6
comp=N,5.9nm,0.8s
PAGF Fort de Pagny 66.23 44 *e*P P 22 40 57.7 +0.6
comp=N,5.9nm,0.8s
ORIF Oris-en-Rattie 66.45 48 *e*P P 22 41 00.0 +1.4
comp=N,24nm,1.0s
ORIF Oris-en-Rattie 66.45 48 *e*P P 22 41 00.0 +1.4
comp=N,24nm,1.0s
CABF La Chapelle 66.53 46 *e*P P 22 41 00.1 +1.0
CABF La Chapelle 66.53 46 *e*P P 22 41 00.1 +1.0
HAU Haudompre 66.66 45 *e*P P 22 41 00.1 +0.3
comp=N,6.6nm,0.7s
HAU Haudompre 66.66 45 *e*P P 22 41 00.1 +0.3
comp=N,6.6nm,0.6s
HINF Hinteralfeld 67.00 45 *e*P P 22 41 02.0 0.0
comp=N,10nm,0.7s
HINF Hinteralfeld 67.00 45 *e*P P 22 41 02.0 0.0
comp=N,10nm,0.7s
LPL La Plagne 67.02 48 *e*P P 22 41 03.5 +1.1
comp=N,11nm,0.6s
LPL La Plagne 67.02 48 *e*P P 22 41 03.5 +1.1
comp=N,11nm,0.6s
LPG La Plagne 67.04 48 *e*P P 22 41 03.8 +1.2
comp=N,7.5nm,0.6s
LPG La Plagne 67.04 48 *e*P P 22 41 03.8 +1.2
comp=N,7.5nm,0.6s
MBDF Montbardon 67.09 48 *e*P P 22 41 04.0 +1.2
comp=N,11nm,0.8s
MBDF Montbardon 67.09 48 *e*P P 22 41 04.0 +1.2
comp=N,11nm,0.8s
CDF Champ du Feu 67.27 44 *e*P P 22 41 04.0 +0.3
CDF Champ du Feu 67.27 44 *e*P P 22 41 04.0 +0.3
DOT Dot Lake 67.37 332 *e*P P 22 41 05.5 +1.5
comp=N,32nm,2.2s
TORD Torodi Ar. Bea 67.51 83 P P 22 41 05.6 -0.1
comp=N,2.5nm,0.8s,baz=296,slow=6.7,SNR=23
TORD Torodi Ar. Bea 67.51 83 P P 22 41 05.6 -0.1
ILAR Eielson Array 68.67 333 P P 22 41 11.8 -0.3
comp=N,1.4nm,0.6s,baz=92,slow=4.9,SNR=30
ILAR pP pP 22 41 51.2 -0.5
comp=N,0.9nm,0.9s,baz=103,slow=5.0,SNR=2.1
ILAR Eielson Array 68.67 333 P P 22 41 11.8 -0.3
ILAR pP pP 22 41 51.2 -0.5
TUE Stuetta 68.78 46 *e*P P 22 41 13.9 +0.6
comp=N,107nm,2.7s
DAVOX Davos/Dischmat 69.12 46 P P 22 41 17.0 +1.5
comp=N,5.6nm,0.7s,baz=184,slow=13
DAVOX Davos/Dischmat 69.12 46 P P 22 41 17.0 +1.5
NAO01 NORSAR Array S 69.14 31 *e*P P 22 41 15.6 +0.6
comp=N,2.4nm,0.3s
NB2 NORSAR Subarra 69.30 31 P P 22 41 17.2 +1.1
comp=Z,2.1nm,0.6s,baz=272,slow=6.5
NOA NORSAR Array B 69.30 31 P P 22 41 17.4 +1.3
comp=Z,5.5nm,0.8s,baz=272,slow=6.4,SNR=8.5
NOA NORSAR Array B 69.30 31 P P 22 41 17.4 +1.3
RETA Reutte 69.66 45⇓ *i* P P 22 41 19.6 +1.0
comp=Z,3.8nm,0.5s
FETA Feichten 69.68 46⇓ *i* P P 22 41 20.2 +1.3
comp=Z,7.8nm,0.6s
KEST Kesra 69.98 58 P P 22 41 21.4 +0.7
comp=Z,4.7nm,0.8s,baz=243,slow=4.5,SNR=18
KEST Kesra 69.98 58 *e*P P 22 41 21.9 +1.1
TRF Thorofare Moun 70.15 332 *e*P P 22 41 21.8 +0.4
comp=Z,91nm,2.6s
HFS Hagfors 70.55 32 P P 22 41 24.3 +0.6
comp=Z,1.6nm,0.6s,baz=276,slow=2.8,SNR=8.2
HFS Hagfors 70.55 32 P P 22 41 24.3 +0.6
KHC Kasperske Hory 71.37 43 *e*P P 22 41 30.2 +1.3
comp=Z,63nm,2.5s
KHC Kasperske Hory 71.37 43 *e*P P 22 41 30.0 +1.1
BRG Berggiesshubel 71.41 42 *e*P P 22 41 30.1 +1.1
comp=Z,6.2nm,0.7s
BRG *e* 22 45 43.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,18nm,1.9s						
KBA	Koelnbreinsper	71.45	46	⇑iP	P	22 41 30.7	+1.1
	comp=Z,2.9nm,0.5s						
GERES	GERESS Array B	71.48	44	P	P	22 41 30.3	+0.7
	comp=Z,2.0nm,0.8s,baz=294,slow=1.3,SNR=13						
GERES	GERESS Array B	71.48	44	P	P	22 41 30.3	+0.7
ARCES	ARCESS Array B	74.50	21	P	P	22 41 47.6	+0.8
	comp=Z,8.2nm,0.8s,baz=265,slow=4.2,SNR=38						
ARCES	ARCESS Array B	74.50	21	P	P	22 41 47.6	+0.8
VYHS	Vyhne	74.90	43	eP	P	22 41 51.0	+1.4
KEV	Kevo	74.97	21	ep	P	22 41 49.7	+0.2
	comp=Z,3.4nm,0.8s						
PKSM	Moragy	75.19	46	⇓iP	P	22 41 51.8	+0.6
KAF	Kangasniemi	76.33	29	ep	P	22 41 57.2	-0.2
	comp=Z,2.3nm,0.3s						
FINES	FINESS Array B	76.38	30	P	P	22 41 58.8	+1.2
	comp=Z,7.8nm,0.5s,baz=280,slow=4.4,SNR=76						
FINES	FINESS Array B	76.38	30	P	P	22 41 58.8	+1.2
SUW	Suwalki	76.49	37	eP	P	22 41 59.7	+1.2
SUW	Suwalki	76.49	37	eP	P	22 41 59.6	+1.2
CRVS	Cervenica-Dubn	76.52	43	eP	P	22 42 01.1	+2.3
KOLS	Kolonicke sedl	77.04	43	eP	P	22 42 04.1	+2.4
KWP	Kalwaria Pacla	77.16	42	eP	P	22 42 04.9	+2.6
KWP	Kalwaria Pacla	77.16	42	eP	P	22 42 04.7	+2.3
	comp=Z,151nm,2.5s						
KWP	Kalwaria Pacla	77.16	42	⇓iP	P	22 42 04.9	+2.6
KWP	Kalwaria Pacla	77.16	42	eP	P	22 42 04.9	+2.6
BZS	Buzias	77.35	46	⇓iP	P	22 42 05.1	+1.7
TRPA	Tarpa	77.39	43	⇑iP	P	22 42 05.3	+1.7
DRGR		77.82	45	⇑iP	P	22 42 07.7	+1.6
GZR	Gura Zlata	78.19	46	⇑iP	P	22 42 09.9	+1.7
JOF	Joensuu	78.37	27	ep	P	22 42 08.4	-0.3
	comp=Z,2.8nm,0.3s						
VTS	Vitosha	79.19	49	⇑iP	P	22 42 15.7	+1.9
MLR	Muntele Rosu	80.32	45	P	P	22 42 22.1	+2.3
	comp=Z,2.8nm,0.8s,baz=231,slow=6.5,SNR=20						
MLR	Muntele Rosu	80.32	45	P	P	22 42 22.1	+2.3
MLR	Muntele Rosu	80.32	45	⇑iP	P	22 42 22.4	+2.6
AKASG	Malin Array Be	80.92	40	P	P	22 42 23.3	+0.6
	comp=Z,0.6nm,0.4s,baz=298,slow=3.6,SNR=5.5						
AKASG	Malin Array Be	80.92	40	P	P	22 42 23.3	+0.6
BRTR	Keskin Array B	87.56	49	P	P	22 42 57.6	+1.0
	comp=Z,2.4nm,0.8s,baz=290,slow=4.1,SNR=16						
BRTR	Keskin Array B	87.56	49	P	P	22 42 57.6	+1.0
EIL	Elat	92.33	58	P	P	22 43 20.5	+1.6
	comp=Z,1.4nm,0.5s,baz=298,slow=5.6,SNR=3.6						
EIL	Elat	92.33	58	P	P	22 43 20.5	+1.6
VNA2	Neumayer--Watz	98.23	163	eP	P	22 43 42.7	-2.0
VNA2	Neumayer--Watz	98.23	163	ePP	PP	22 47 55.6	+8.9
KSH	Kashi	113.70	29	ePKP	PKiKP	22 48 45.3	-0.9
KSH				PP	PP	22 49 45.6	+5.5
KSH				PKS	PKSdf	22 52 21.0	-2.0
KSH				SKS	SKSdf	22 55 40.4	-2.6
KSH				SKKS	SKKSac	22 56 21.0	-5.5
KSH				AMB	AMB		
	comp=Z,100nm,4.3s						
KSH				LR	LR		
	comp=N,68nm,7.1s						
KSH				LR	LR		
	comp=E,79nm,8.2s						
KSH				LR	LR		
	comp=Z,210nm,6.6s						
MDJ	Mudanjiang	115.29	346	PKP	PKPdf	22 48 48.2	-0.7
MDJ				AMB	AMB		
	comp=Z,23nm,3.9s						
HHC	Hu-ho-hao-te	121.22	360	ePKP	PKPdf	22 48 59.2	-1.4
HHC				sPKP		22 49 58.5	
HHC				PP	PP	22 50 35.0	+3.3
HHC				PKS	PKSdf	22 52 33.4	-4.0
HHC				SKS	SKSdf	22 55 53.7	-3.6
HHC				SKKS	SKKSac	22 57 08.7	-7.5
HHC				AMB	AMB		
	comp=Z,100nm,11.0s						
LZH	Lanzhou	125.50	8	ePKP	PKPdf	22 49 08.5	-0.5
LZH				sPKP		22 50 08.3	
LZH				LR	LR		
	comp=N,110nm,18.2s						
LZH				LR	LR		
	comp=Z,150nm,20.1s						
CD2	Chengdu	130.59	9	PKP	PKPdf	22 49 18.8	+0.1
GYA	Guiyang	135.34	6	ePdif	Pdif	22 46 28.0	-3.0
GYA				PKP	PKPdf	22 49 26.4	-1.5
GYA				sPKP		22 50 25.8	
GYA				PP	PP	22 52 07.6	+3.5
GYA				AMB	AMB		
	comp=Z,80nm,8.0s						

*NIED **04** 22:36:00, 24°.30N×125°.30E, h20km, Mw4.2 Best double couple: M0 1.99000×10^15 NP1:φs43.00000°, δ72.00000°, λ85.00000°. NP2:φs240.00000°, δ19.00000°, λ106.00000°.*
*ISCJB **04** 22:36:37.3±0.7, 24°.30N±0°.06×125°.24E±0°.04, h47km±4km, mb4.0/33, MS3.6/4, Error ellipse: s-maj=10.5km s-min=4.7km az=149.2*
*NEIC **04** 22:36:37.4±0.9, 24°.32N×125°.32E, h35km, mb4.4/16, Error ellipse: s-maj=17.5km s-min=10.3km az=148.0*
*JMA **04** 22:36:37.1±0.2, 24°.29N×125°.29E, h44km, M4.2*
*IDC **04** 22:36:45.1±2.4, 24°.26N×125°.10E, h102km±22km, mb3.5/17, mb1 3.7/19, mb1mx3.7/19, mbtmp3.5/19, MS3.5/7, Ms1 3.5/7, ms1mx3.1/38, Error ellipse: s-maj=17.4km s-min=15.1km az=80.0*
ISC 04 22:36:37.7±0.8, **24°.27N**±0°.08×**125°.32E**±0°.07, **h40**km±7km, **n69**, σ**1s.28**/77, **mb4.1**/33, **MS3.5**/4, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.50	10	P	Pn	22 36 47.8	-0.7
JOGS				S	Sn	22 36 55.9	-0.1
JMJ	Miyako jima 2	0.55	358	P	Pn	22 36 48.2	-0.9
JMJ				S	Sn	22 36 56.5	-0.6
JTJ	Tarama	0.67	304	P	Pn	22 36 49.7	-1.1
JTJ				eS	Sn	22 36 59.0	-1.1
JIJ	Ishigaki jima	1.07	275	P	Pn	22 36 55.8	-0.5
JIJ				eS	Sn	22 37 09.9	-0.1
JKRS	Kuro-shima	1.19	269	P	Pn	22 36 58.1	+0.2
JKRS				eS	Sn	22 37 15.8	+2.9
HATJ	Hateruma jima	1.40	262	P	Pn	22 37 00.5	-0.2
HATJ				eS	Sn	22 37 17.0	-0.9
IRIF	Iriomote-Funau	1.45	273	P	Pn	22 37 03.2	+1.8
IRIF				eS	Sn	22 37 23.3	+4.1
YOJ	Yonaguni jima	2.11	276	P	Pn	22 37 11.8	+1.3
NACB	Ninganchiao	3.40	269	ePn	Pn	22 37 27.2	-1.1
NACB				eSn	Sn	22 38 06.2	-1.1
TATO	Taipei	3.55	282	ePn	Pn	22 37 31.0	+0.6
TATO				eSn	Sn	22 38 09.8	-1.3
JOW	Kunigami	3.70	46	P	Pn	22 37 42.1	+10
	5.7nm,0.3s,baz=225,slow=13,SNR=3.4						
JOW				S	Sn	22 38 27.7	+13
	4.6nm,0.3s,baz=209,slow=19,SNR=2.7						
JOW				LR	LR	22 39 24.4	
	comp=Z,377nm,21.7s,baz=160,slow=41						
YULB	Yu-li	3.78	258	ePn	Pn	22 37 32.0	-1.5
YULB				eSn	Sn	22 38 15.3	-1.5
SSLB	Suanglung	4.02	264	ePn	Pn	22 37 36.8	0.0
SSLB				eSn	Sn	22 38 21.5	-1.1
TWG	Pinlang	4.15	251	ePn	Pn	22 37 36.1	-2.5
TWG				eSn	Sn	22 38 24.0	-1.9
JNU	Nakatsue	10.08	28	LR	LR	22 42 57.2	
	comp=Z,97nm,19.1s,baz=58,slow=37						
KSRS	Korea Array	13.34	9	P	Pn	22 39 45.6	+1.2
	0.1nm,0.3s,baz=184,slow=12,SNR=4.1						
KSRS				LR	LR	22 45 19.6	
	comp=Z,90nm,18.4s,baz=348,slow=38						
MAJO	Matsushiro	16.51	39	eP	Pn	22 40 25.3	-1.1
	5.5nm,0.7s						
MJAR	Matsushiro Arr	16.51	39	P	P	22 40 30.5	+1.9
	0.3nm,0.3s,baz=230,slow=12,SNR=12						
CHTO	Chiang Mai	25.10	263	eP	P	22 41 56.8	-2.1
	2.0nm,0.6s						
CMAR	Chiang Mai Arr	25.21	262	P	P	22 42 00.1	+0.2
	0.5nm,0.3s,baz=84,slow=9.2,SNR=2.9						
ULN	Ulaanbaatar	27.66	333	eP	P	22 42 21.1	-0.8
	1.0nm,0.7s						
SONM	Songino Array	27.91	332	P	P	22 42 23.0	-1.2
	0.6nm,0.6s,baz=148,slow=10,SNR=7.3						
SONM				LR	LR	22 54 15.8	
	comp=Z,112nm,18.4s,baz=294,slow=38						
TAPN	Taplejung	33.91	283	eP	P	22 43 18.9	+1.4
	12nm,1.0s						
TAPN	Taplejung	33.91	283	eP	P	22 43 18.9	+1.4
	12nm,1.0s						
ODAN	Odare	34.23	283	eP	P	22 43 21.5	+1.3
ODAN	Odare	34.23	283	eP	P	22 43 21.5	+1.3
RAMN	Ramite	34.93	283	eP	P	22 43 27.2	+1.0
RAMN	Ramite	34.93	283	eP	P	22 43 27.2	+1.0
JIRN	Jiri	35.24	284	eP	P	22 43 29.3	+0.3
	5.6nm,0.7s						
JIRN	Jiri	35.24	284	eP	P	22 43 29.3	+0.3
	5.6nm,0.7s						
GUN	Gumba	35.50	285	eP	P	22 43 32.5	+1.2
GUN	Gumba	35.50	285	eP	P	22 43 32.5	+1.2
PKI	Pulchoki	35.94	284	ePn	P	22 43 35.6	+0.6
PKI	Pulchoki	35.94	284	ePn	P	22 43 35.6	+0.6
GKN	Gorkha	36.59	285	eP	P	22 43 41.0	+0.6
GKN	Gorkha	36.59	285	eP	P	22 43 41.0	+0.6
DANN	Dangsing	37.34	285	eP	P	22 43 47.9	+1.0
	9.9nm,0.7s						
DANN	Dangsing	37.34	285	eP	P	22 43 47.9	+1.0
	9.9nm,0.7s						
KOLN	Koldanda	37.52	285	eP	P	22 43 49.3	+0.9
	6.4nm,0.7s						
KOLN	Koldanda	37.52	285	eP	P	22 43 49.3	+0.9
	6.4nm,0.7s						
PETK	Petropavlovsk-	37.75	32	LR	LR	22 59 45.2	
	comp=Z,31nm,18.7s,baz=79,slow=36						
PYUN	Piuthan	38.04	285	eP	P	22 43 53.9	+1.2
	20nm,0.8s						
PYUN	Piuthan	38.04	285	eP	P	22 43 53.9	+1.2
	20nm,0.8s						
MK31	Makanchi Array	40.94	314	eP	P	22 44 16.6	+0.1
MK31				e		22 44 26.2	
MKAR	Makanchi Array	40.94	314	P	P	22 44 16.6	+0.2
	2.2nm,0.5s,baz=100,slow=9.8,SNR=62						
ZALV	Zalesovo Beam	42.28	325	P	P	22 44 26.1	-1.1
	1.3nm,0.4s,baz=115,slow=8.4,SNR=13						
ZALV				LR	LR	23 04 06.9	
	comp=Z,83nm,20.1s,baz=251,slow=39						
KURK	Kurchatov	44.49	319	eP	P	22 44 43.7	-1.4
	1.5nm,0.5s						
TKM2	Tokmak 2	44.70	307	eP	P	22 44 47.4	+0.2
	3.6nm,0.5s						
WRAB	Tennant Creek	44.80	168	eP	P	22 44 48.9	+1.0
	3.4nm,0.8s						
WRA	Warramunga Arr	44.81	168	P	P	22 44 48.4	+0.4
	0.6nm,0.5s,baz=349,slow=8.6,SNR=3.2						
AAK	Ala-Archa	45.47	307	eP	P	22 44 51.4	-1.8
	5.7nm,0.7s						
AAK				e		22 45 03.9	
EKS2	Erkin-Say	46.00	307	eP	P	22 44 57.0	-0.4
	1.4nm,0.7s						
ASAR	Alice Springs	48.37	169	P	P	22 45 17.4	+1.6
	0.4nm,0.6s,baz=356,slow=8.2,SNR=6.7						
BVAR	Borovoye Array	50.02	320	P	P	22 45 28.5	+0.4
	0.7nm,0.5s,baz=101,slow=8.1,SNR=8.6						
BRVK	Borovoye	50.09	320	eP	P	22 45 26.9	-1.7
	1.1nm,0.5s						
ABKAR	Akbulak array	56.09	314	eP	P	22 46 13.3	+0.5
	6.2nm,0.6s						
ABKAR				e		22 46 23.9	
ARU	Arti	57.32	323	eP	P	22 46 20.5	-1.0
	2.8nm,0.7s						
ARU				e		22 46 30.8	
AKTO	Aktyubinsk	57.35	316	P	P	22 46 22.2	+0.3
	1.5nm,0.7s,baz=66,slow=7.1,SNR=9.6						
ILAR	Eielson Array	67.40	28	P	P	22 47 30.3	+1.5
	0.3nm,0.6s,baz=295,slow=9.3,SNR=7.8						
KBZ	Khabaz	68.36	309	P	P	22 47 35.9	+0.8
	1.4nm,0.8s,baz=66,slow=7.5,SNR=2.9						
INK	Inuvik	71.72	23	P	P	22 47 56.0	+0.8
	0.9nm,0.8s,baz=298,slow=4.7,SNR=2.7						
FINES	FINESS Array B	73.26	330	P	P	22 48 05.2	+0.5
	2.6nm,0.7s,baz=70,slow=6.1,SNR=12						
AKASG	Malin Array Be	75.30	319	P	P	22 48 16.7	0.0
	0.5nm,0.4s,baz=60,slow=5.8,SNR=3.1						
BRTR	Keskin Array B	76.14	307	P	P	22 48 19.1	-2.8
	0.2nm,0.4s,baz=105,slow=9.1,SNR=3.9						
HFS	Hagfors	79.31	332	P	P	22 48 38.9	0.0
	4.0nm,1.0s,baz=92,slow=9.4,SNR=5.1						
NOA	NORSAR Array B	79.89	333	P	P	22 48 42.1	0.0
	0.5nm,0.8s,baz=63,slow=4.9,SNR=2.8						
YKA	Yellowknife Ar	81.40	24	P	P	22 48 50.7	+0.6
	0.6nm,0.9s,baz=307,slow=5.1,SNR=7.4						
VRAC	Vranov	83.27	321	LR	LR	23 25 46.4	
	comp=Z,140nm,19.8s,baz=281,slow=35						
GERES	GERESS Array B	85.14	322	P	P	22 49 08.1	-1.7
	0.2nm,0.5s,baz=66,slow=3.3,SNR=2.3						

MAN 04 22:55:18, 6°.27N×126°.52E, h24km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.72	339	eP	Pb	22 55 31.5	-0.4
MATI				eS	Sn	22 55 44.8	+1.8
GSPH	General Santos	1.57	263	⇑iP	Pn	22 55 41.6	-3.0
GSPH				i S	Sn	22 55 58.5	-5.8
BUKP	Musuan	2.15	318	eP	Pn	22 55 53.7	+1.2

*ISK **04** 22:55:27.4, 37°.02N×34°.37E, h9km, MD3.4*
*DDA **04** 22:55:28.2, 37°.03N×34°.48E, h7km, MD3.3*
*CSEM **04** 22:55:28.2±0.2, 37°.03N×34°.39E, h8km, MD3.4, Error ellipse: s-maj=4.5km s-min=4.0km az=80.0*
ISC 04 22:55:28.0±1.2, **37°.05N**±0°.02×**34°.40E**±0°.03, **h3**km±12km, **n50**, σ**1s.12**/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MERS	Mersin	0.20	151	PG	Pg	22 55 32.3	+0.3
MERS				SG	Sg	22 55 35.0	+0.3
MERS	Mersin	0.20	151	i Pg	Pg	22 55 32.3	+0.3
MERS				i Sg	Sg	22 55 35.0	+0.3
GULE	Gulek	0.38	52	i P	Pg	22 55 35.7	+0.3
GULE				i S	Sg	22 55 41.2	+0.8
GULE	Gulek	0.38	52	i P	Pg	22 55 35.7	+0.3
GULE				i S	Sg	22 55 41.2	+0.8
KRTS	Karatas	0.91	121	PG	Pb	22 55 45.2	-1.3
KRTS	Karatas	0.91	121	i Pg	Pb	22 55 45.2	-1.3
NIG	Nigde	1.07	9	ePN	Pg	22 55 49.0	+0.4
NIG	Nigde	1.07	9	ePn	Pg	22 55 49.1	+0.4
CEYT	Ceyhan	1.08	92	ePN	Pn	22 55 49.0	-1.0
CEYT	Ceyhan	1.08	92	ePn	Pn	22 55 49.0	-1.0
KOZT	Kozan	1.22	69	ePN	Pn	22 55 51.6	-0.4
KOZT	Kozan	1.22	69	ePn	Pn	22 55 51.6	-0.4
ERMK	Ermenek	1.26	252	eP	Pg	22 55 53.5	+1.3
ERMK				eS	Sn	22 56 12.5	+2.2
ERMK	Ermenek	1.26	252	eP	Pg	22 55 53.5	+1.3
ERMK				eS	Sn	22 56 12.5	+2.2
SULT	Sultanhani-AKS	1.35	329	ePN	Pn	22 55 53.6	-0.2
SULT	Sultanhani-AKS	1.35	329	ePn	Pn	22 55 53.6	-0.2
EREN	Erenkoy	1.52	187	ePN	Pn	22 55 55.5	-0.7
EREN	Erenkoy	1.52	187	ePn	Pn	22 55 55.5	-0.7
ANDN	Andirin	1.64	70	eP	Pg	22 56 01.5	+2.1
ANDN				eS	Sg	22 56 22.4	+1.7
ANDN	Andirin	1.64	70	eP	Pg	22 56 01.5	+2.1
ANDN				eS	Sg	22 56 22.4	+1.7
HTY	Hatay	1.68	123	ePN	Pb	22 55 57.9	-1.6
HTY	Hatay	1.68	123	ePn	Pb	22 55 57.9	-1.6
AVNT	Avonos	1.77	12	i P	Pg	22 56 01.8	-0.1
AVNT				i S	Sg	22 56 24.7	-0.1
AVNT	Avonos	1.77	12	i P	Pg	22 56 01.8	-0.1
AVNT				i S	Sg	22 56 24.7	-0.1
KONT	Konya--Tatoy	1.85	300	ePN	Pn	22 55 59.3	-1.5
KONT	Konya--Tatoy	1.85	300	ePn	Pn	22 55 59.3	-1.5
LFK	Lefkose	1.90	202	ePN	Pn	22 56 00.1	-1.3
LFK	Lefkose	1.90	202	ePn	Pn	22 56 00.1	-1.3
LADK	Ladik-KONYA	1.98	306	ePN	Pn	22 56 02.3	-0.3
LADK	Ladik-KONYA	1.98	306	ePn	Pn	22 56 02.3	-0.3
KMRS	Kahramanmaras	2.05	76	ePN	Pn	22 56 03.2	-0.2
KMRS	Kahramanmaras	2.05	76	ePn	Pn	22 56 03.2	-0.2
BNN	Bunyan	2.13	32	ePN	Pn	22 56 05.0	+0.3
BNN	Bunyan	2.13	32	ePn	Pn	22 56 05.0	+0.3
GAZ	Gaziantep	2.25	86	ePN	Pb	22 56 06.7	-2.7
GAZ	Gaziantep	2.25	86	ePn	Pb	22 56 06.7	-2.7
CSS	Prodhromos	2.25	203	ePN	Pn	22 56 06.0	-0.2
CSS	Prodhromos	2.25	203	ePn	Pn	22 56 06.0	-0.2
LEF	Lefka	2.28	213	ePN	Pn	22 56 05.6	-1.0
LEF	Lefka	2.28	213	ePn	Pn	22 56 05.6	-1.0
KAMT	Kaman	2.38	347	ePN	Pn	22 56 07.2	-0.9
KAMT	Kaman	2.38	347	ePn	Pn	22 56 07.2	-0.9
AFSR	Af¯ar-Bala (A	2.61	337	ePN	Pn	22 56 11.3	0.0
AFSR	Af¯ar-Bala (A	2.61	337	ePn	Pn	22 56 11.3	0.0
YOZ	Yozgat	2.69	15	ePN	Pn	22 56 12.1	-0.3
YOZ	Yozgat	2.69	15	ePn	Pn	22 56 12.1	-0.3
KIZT	Kizilcal	2.70	313	ePN	Pn	22 56 11.5	-1.0
KIZT	Kizilcal	2.70	313	ePn	Pn	22 56 11.5	-1.0
CORM	Corum	3.13	3	ePN	Pn	22 56 18.3	-0.1
CORM	Corum	3.13	3	ePn	Pn	22 56 18.3	-0.1

*ISCJB **04** 22:58:14.9±0.4, 39°.68N±0°.02×26°.45E±0°.03, h11km±3km, Error ellipse: s-maj=4.2km s-min=3.4km az=162.4*
*ISK **04** 22:58:14.8, 39°.70N×26°.50E, h6km, MD2.9*
*ATH **04** 22:58:14.3, 39°.68N×26°.45E, h28km±1km, MD3.1/4*
*DDA **04** 22:58:15, 39°.68N×26°.54E, h7km, MD2.9*
*CSEM **04** 22:58:15.0±0.1, 39°.69N×26°.43E, h10km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.6km az=80.0*
ISC 04 22:58:15.1±0.8, **39°.69N**±0°.02×**26°.48E**±0°.02, **h15**km±6km, **n65**, σ**0s.74**/85, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZN	Ezine	0.18	319	PG	Pg	22 58 19.3	-0.1
EZN				eSG	Sg	22 58 22.4	+0.1
EZN	Ezine	0.18	319	i Pg	Pg	22 58 19.3	-0.1
EZN				eSg	Sg	22 58 22.4	+0.1
BOZC	Bozcaada	0.36	295	i Pg	Pb	22 58 23.8	+0.6
BOZC				i Sg	Sb	22 58 29.2	+0.5
AYVA	Ayvalik	0.41	157	i P	Pg	22 58 23.0	-0.4
AYVA				i S	Sg	22 58 28.5	-0.5
AYVA	Ayvalik	0.41	157	i P	Pg	22 58 23.0	-0.4
AYVA				i S	Sg	22 58 28.5	-0.5
PRK	Paraskevi	0.47	200	ePB	Pg	22 58 24.0	-0.4
PRK				eSB	Sg	22 58 31.4	+0.7
PRK	Paraskevi	0.47	200	ePb	Pg	22 58 24.0	-0.4
PRK				eSb	Sg	22 58 31.4	+0.7
GELI	Tayfur-Gelibol	0.71	360	ePG	Pg	22 58 28.6	-0.3
GELI				eSG	Sb	22 58 39.0	+0.3
GELI	Tayfur-Gelibol	0.71	360	ePg	Pg	22 58 28.6	-0.3
GELI				eSg	Sb	22 58 39.0	+0.3
LPK	Lapseki	0.72	17	ePG	Pg	22 58 28.9	-0.1
LPK	Lapseki	0.72	17	ePg	Pg	22 58 28.9	-0.1
BALY	Balya	0.88	86	eP	Pb	22 58 32.5	+0.4
BALY				eS	Sg	22 58 43.2	-0.6
BALY	Balya	0.88	86	eP	Pb	22 58 32.5	+0.4
BALY				eS	Sg	22 58 43.2	-0.6
KRBG	Karabiga-Canak	0.94	42	ePG	Pg	22 58 32.7	-0.6
KRBG	Karabiga-Canak	0.94	42	ePg	Pg	22 58 32.7	-0.6
ERIK	Erikli-Kesan	0.98	2	ePG	Pg	22 58 33.6	-0.5
ERIK	Erikli-Kesan	0.98	2	ePg	Pg	22 58 33.6	-0.5
GONE	Gonen-Balikesi	1.00	69	ePG	Pb	22 58 34.1	+0.1
GONE	Gonen-Balikesi	1.00	69	ePg	Pb	22 58 34.1	+0.1
LIA	Limnos Island	1.02	282	ePN	Pg	22 58 34.1	-0.7
LIA				eSN	Sg	22 58 47.7	-0.4
LIA	Limnos Island	1.02	282	ePn	Pg	22 58 34.1	-0.7
ENEZ	Enez	1.08	347	ePG	Pg	22 58 35.3	-0.6
ENEZ	Enez	1.08	347	ePg	Pg	22 58 35.3	-0.6
BALB	Balikesir	1.08	92	ePG	Pn	22 58 36.3	+0.6
BALB	Balikesir	1.08	92	ePg	Pn	22 58 36.3	+0.6
RKY	Sarkoy-Tekirda	1.13	28	ePN	Pg	22 58 36.6	-0.3
RKY	Sarkoy-Tekirda	1.13	28	ePn	Pg	22 58 36.6	-0.3
SART	Tekirdag	1.14	28	eP	Pb	22 58 36.0	-0.4
SART				eS	Sn	22 58 51.9	0.0
SART	Tekirdag	1.14	28	eP	Pb	22 58 36.0	-0.4
SART				eS	Sn	22 58 51.9	0.0
EDC	Edincik	1.25	58	ePN	Pg	22 58 38.7	-0.5
EDC	Edincik	1.25	58	ePn	Pg	22 58 38.7	-0.5
ALN	Alexandroupoli	1.25	345	ePN	Pn	22 58 38.0	-0.1
ALN				eSN	Sb	22 58 54.5	+0.1
ALN	Alexandroupoli	1.25	345	ePn	Pn	22 58 38.0	-0.1
ALN				eSn	Sb	22 58 54.5	+0.1
MFT	Murefte	1.26	29	ePN	Pg	22 58 39.1	-0.2
MFT	Murefte	1.26	29	ePn	Pg	22 58 39.1	-0.2
BNT	Bandirma	1.29	58	ePN	Pn	22 58 38.7	+0.1
BNT	Bandirma	1.29	58	ePn	Pn	22 58 38.7	+0.1
AKHS	Akhisar	1.31	128	eP	Pb	22 58 39.6	+0.1
AKHS				eS	Sg	22 58 56.9	-0.6
AKHS	Akhisar	1.31	128	eP	Pb	22 58 39.6	+0.1
AKHS				eS	Sg	22 58 56.9	-0.6
CHOS	Chios island	1.34	194	ePN	Pn	22 58 38.5	-0.9
CHOS				eSN	Sb	22 58 57.2	+0.2
CHOS	Chios island	1.34	194	ePn	Pn	22 58 38.5	-0.9
CHOS				eSn	Sb	22 58 57.2	+0.2
BLCB	Balcova	1.37	161	ePN	Pb	22 58 40.6	+0.1
BLCB	Balcova	1.37	161	ePn	Pb	22 58 40.6	+0.1
IZM	Izmir	1.43	154	ePN	Pb	22 58 41.6	+0.2
IZM	Izmir	1.43	154	ePn	Pb	22 58 41.6	+0.2
KCTX	Karacabey (Bur	1.55	68	ePN	Pb	22 58 43.2	-0.4
KCTX	Karacabey (Bur	1.55	68	ePn	Pb	22 58 43.2	-0.4
DST	Dursunbey	1.66	92	ePN	Pg	22 58 45.9	-1.0
DST	Dursunbey	1.66	92	ePn	Pg	22 58 45.9	-1.0
ORLT	Orhaneli	1.90	78	ePN	Pn	22 58 48.2	+1.3
ORLT	Orhaneli	1.90	78	ePn	Pn	22 58 48.3	+1.3
ARMT	Armutlu	2.03	64	ePN	Pb	22 58 50.9	-0.7
ARMT	Armutlu	2.03	64	ePn	Pb	22 58 50.9	-0.7
SLVT	Silivri	2.03	40	ePN	Pn	22 58 50.1	+1.4
SLVT	Silivri	2.03	40	ePn	Pn	22 58 50.1	+1.4
KULA	Kula-Manisa	2.06	124	ePN	Pn	22 58 50.9	+1.6
KULA	Kula-Manisa	2.06	124	ePn	Pn	22 58 50.9	+1.6
EDRB	Edirne	2.17	5	ePN	Pn	22 58 52.5	+1.9
EDRB	Edirne	2.17	5	ePn	Pn	22 58 52.5	+1.9
CTKS	Kestanelik-??a	2.19	44	ePN	Pb	22 58 52.8	-1.6
CTKS	Kestanelik-??a	2.19	44	ePn	Pb	22 58 52.8	-1.6
YLV	Yalova	2.39	68	ePN	Pn	22 58 55.5	+1.8
YLV	Yalova	2.39	68	ePn	Pn	22 58 55.5	+1.8
NVR	Nevrokopi	2.59	311	ePN	Pn	22 58 56.4	-0.2
NVR	Nevrokopi	2.59	311	ePn	Pn	22 58 56.4	-0.2

*IDC **04** 23:06:30.4±1.6, 19°.58N×64°.80W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.9/3, mbtmp3.5/3, Error ellipse: s-maj=138.7km s-min=23.5km az=50.0*
*RSPR **04** 23:06:36.1, 18°.97N×65°.22W, h22km±24km, MD3.7/17*
*NEIC **04** 23:06:36.1, 18°.97N×65°.22W, h22km, MD3.7(RSPR), After RSPR.*
ISC 04 23:06:33.5±1.3, **18°.97N**±0°.05×**65°.24W**±0°.02, **h29**km±11km, **n73**, σ**1s.05**/99, **mb3.7**/3, **23C-22D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.67	156	⇑eP	Pn	23 06 47.8	+0.6
STVI	Saint Thomas	0.67	156	eS	Sn	23 06 56.8	+0.1
STVI	Saint Thomas	0.67	156	⇑eP	Pn	23 06 47.8	+0.6
STVI				eS	Sn	23 06 56.8	+0.1
STVI	Saint Thomas	0.67	156	⇑eP	Pn	23 06 47.8	+0.6
STVI				eS	Sn	23 06 56.8	+0.1
TBVI	Tortola	0.81	133	⇑iP	Pn	23 06 49.2	+0.2
TBVI	Tortola	0.81	133	i Pu	Pn	23 06 49.2	+0.2
TBVI	Tortola	0.81	133	⇑iP	Pn	23 06 49.2	+0.2
ABVI	Anegada Island	0.89	106	⇑eP	Pb	23 06 50.0	-0.4
ABV	Anegada	0.89	106	⇑eP	Pb	23 06 50.0	-0.3
ABV	Anegada	0.89	106	⇑eP	Pb	23 06 50.1	-0.3
HUMP	Col San Antoni	1.01	215	⇑eP	Pb	23 06 52.2	-0.2
HUMP	Col San Antoni	1.01	215	eS	Sb	23 07 05.2	-0.1
HUMP	Col San Antoni	1.01	215	⇑eP	Pb	23 06 52.2	-0.2
HUMP				eS	Sb	23 07 05.2	-0.1
HUMP	Col San Antoni	1.01	215	⇑eP	Pb	23 06 52.2	-0.2
HUMP				eS	Sb	23 07 05.2	-0.1
SJG	San Juan	1.22	226	⇓eP	Pn	23 06 55.0	+0.5
SJG	San Juan	1.22	226	eS	Sn	23 07 10.1	0.0
SJG	San Juan	1.22	226	⇓iP	Pn	23 06 55.1	+0.5
SJG	San Juan	1.22	226	⇓iP	Pn	23 06 55.1	+0.5
SJG				eS	Sn	23 07 10.1	0.0
SJG	San Juan	1.22	226	⇓iP	Pn	23 06 55.1	+0.5
SJG	San Juan	1.22	226	⇓eP	Pb	23 06 55.4	-0.5
SJG				eS	Sn	23 07 10.1	0.0
CDVI	St. Croix	1.29	160	⇓eP	Pb	23 06 57.0	-0.1
CDVI	St. Croix	1.29	160	eS	Sn	23 07 12.7	+0.7
CDVI	St. Croix	1.29	160	⇓eP	Pb	23 06 57.0	-0.1
CDVI				eS	Sn	23 07 12.7	+0.7
CDVI	St. Croix	1.29	160	⇓eP	Pb	23 06 57.5	+0.3
CDVI				eS	Sn	23 07 12.7	+0.7
CELP	Cerrillos	1.56	235	⇓eP	Pn	23 07 00.4	+1.1
CELP				eS	Sn	23 07 19.1	+0.6
CELP	Cerrillos	1.56	235	⇓eP	Pn	23 07 00.4	+1.1
CELP				eS	Sn	23 07 19.1	+0.6
CELP	Cerrillos	1.56	235	⇓eP	Pn	23 07 00.4	+1.1
CELP				eS	Sn	23 07 19.6	+1.1
AOPR	Arecibo Observ	1.57	247	⇓eP	Pn	23 07 00.4	+0.9
AOPR	Arecibo Observ	1.57	247	eS	Sn	23 07 19.8	+0.9
AOPR	Arecibo Observ	1.57	247	⇓eP	Pn	23 07 00.4	+0.9
AOPR				eS	Sn	23 07 19.8	+0.9
AOPR	Arecibo Observ	1.57	247	⇓eP	Pn	23 07 00.4	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOPR				eS	Sn	23 07 19.8	+0.9
OBIP	Obispado Ponce	1.59	235	⇓iP	Pn	23 07 00.9	+1.1
OBIP	Obispado Ponce	1.59	235	eS	Sn	23 07 20.0	+0.5
OBIP	Obispado Ponce	1.59	235	⇓iP	Pn	23 07 00.9	+1.1
OBIP				eS	Sn	23 07 20.0	+0.5
OBIP	Obispado Ponce	1.59	235	⇓iP	Pn	23 07 00.9	+1.1
OBIP				eS	Sn	23 07 20.0	+0.5
LRS	Lares	1.67	246	⇑iP	Pn	23 07 02.2	+1.3
LRS	Lares	1.67	246	i Pu	Pn	23 07 02.2	+1.3
LRS	Lares	1.67	246	⇑iP	Pn	23 07 02.2	+1.3
AGPR	Aguadilla, PR	1.85	255	eS	Sn	23 07 26.1	+0.4
AGPR	Aguadilla, PR	1.85	255	⇑eP	Pn	23 07 04.5	+1.2
AGPR	Aguadilla, PR	1.85	255	⇑eP	Pn	23 07 04.5	+1.2
AGPR				eS	Sn	23 07 26.1	+0.4
AGPR	Aguadilla, PR	1.85	255	⇑eP	Pn	23 07 04.5	+1.2
AGPR				eS	Sn	23 07 26.1	+0.4
GBPR	Guanica, Bosqu	1.85	238	⇓eP	Pb	23 07 05.1	-1.6
GBPR				eS	Sn	23 07 27.3	+1.6
GBPR	Guanica, Bosqu	1.85	238	⇓eP	Pb	23 07 05.1	-1.6
GBPR				eS	Sn	23 07 27.3	+1.6
GBPR	Guanica, Bosqu	1.85	238	⇓eP	Pb	23 07 05.6	-1.0
GBPR				eS	Sn	23 07 27.3	+1.6
LSP	Las Mesas	1.93	246	⇑eP	Pn	23 07 05.9	+1.5
LSP	Las Mesas	1.93	246	⇑eP	Pn	23 07 05.9	+1.5
LSP	Las Mesas	1.93	246	⇑eP	Pn	23 07 05.9	+1.5
CRPR	Cabo Rojo, PR	2.02	242	eS	Sn	23 07 30.7	+0.7
CRPR	Cabo Rojo, PR	2.02	242	⇑eP	Pn	23 07 07.3	+1.6
CRPR	Cabo Rojo, PR	2.02	242	⇑eP	Pn	23 07 07.3	+1.6
CRPR				eS	Sn	23 07 30.7	+0.7
CRPR	Cabo Rojo, PR	2.02	242	⇑eP	Pn	23 07 07.3	+1.6
CRPR				eS	Sn	23 07 30.7	+0.7
ANWB	Willy Bob	3.52	111	ePn	Pn	23 07 27.0	+0.6
ANWB				eSn	Sn	23 08 10.2	+3.0
SMN1	Samana, DR	3.82	274	⇑eP	Pn	23 07 31.8	+1.3
SMN1				eS	Sn	23 08 15.3	+0.7
SMN1	Samana, DR	3.82	274	⇑eP	Pn	23 07 31.8	+1.3
SMN1				eS	Sn	23 08 15.3	+0.7
DR12	Loma Pena Alta	3.93	268	⇓eP	Pn	23 07 33.5	+1.5
DR12	Loma Pena Alta	3.93	268	⇓eP	Pn	23 07 33.5	+1.5
LZG	Guadaloupe-1	4.34	130	eP	Pn	23 07 38.6	+1.1
LZG				eS	Sn	23 08 26.8	-0.4
SEG	Port Louis	4.38	125	eP	Pn	23 07 40.0	+1.9
SCG	Saint Claude	4.48	130	eP	Pn	23 07 40.8	+1.3
BCG	Bois Riant Cap	4.49	129	eP	Pn	23 07 41.3	+1.6
HMG	Houelmont	4.50	131	eP	Pn	23 07 40.7	+0.9
PHG	Guadaloupe-2	4.52	130	eP	Pn	23 07 39.2	-0.9
TBG	Guadaloupe-3	4.62	132	eP	Pn	23 07 42.6	+1.1
DEG	La Desirade	4.78	123	eP	Pn	23 07 45.2	+1.5
MGG	Marie-Galante	4.82	128	⇑iP	Pn	23 07 46.2	+2.0
FDF	Fort de France	5.75	137	eP	Pn	23 07 58.0	+0.9
PDAR	Pinedale Array	44.18	312	P	P	23 14 40.5	+0.4
	0.6nm,0.6s,baz=113,slow=9.3,SNR=4.7						
PDAR	Pinedale Array	44.18	312	P	P	23 14 40.5	+0.4
YKA	Yellowknife Ar	55.09	335	P	P	23 16 00.9	-1.7
	0.3nm,0.4s,baz=104,slow=7.3,SNR=8.6						
YKA	Yellowknife Ar	55.09	335	P	P	23 16 00.9	-1.7
ILAR	Eielson Array	69.46	333	P	P	23 17 38.2	-0.6
	0.4nm,0.6s,baz=102,slow=4.2,SNR=8.8						
ILAR	Eielson Array	69.46	333	P	P	23 17 38.2	-0.6

*ISCJB **04** 23:09:12.4±0.8, 37°.36N±0°.04×23°.43E±0°.07, h23^{km}±5^{km}, Error ellipse: s-maj=9.7km s-min=5.4km az=20.5*
*ATH **04** 23:09:12.8, 37°.36N×23°.37E, h22^{km}±1^{km}, MD2.8/6*
*CSEM **04** 23:09:12.1±0.3, 37°.36N×23°.43E, h18^{km}±2^{km}, MD2.8, Error ellipse: s-maj=9.7km s-min=5.7km az=104.0*
ISC 04 23:09:12.5±1.1**, 37°.35N**±0°.02×**23°.40E**±0°.04**, h17**^{km}±4^{km}**, n30,** σ**0.41**/42**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DIDY	Didyma	0.20	310	P	Pg	23 09 17.2	-0.2
DIDY	Didyma	0.20	310	P	Pg	23 09 17.2	-0.2
DID	Didima	0.20	320	P	Pg	23 09 17.2	-0.2
DID	Didima	0.20	320	ePB	Pg	23 09 17.3	-0.2
DID				eSB	Sb	23 09 21.8	+0.5
DID	Didima	0.20	320	ePb	Pg	23 09 17.3	-0.2
DID				eSb	Sb	23 09 21.8	+0.5
NAIG	Nisos Aigina	0.41	10	ePB	Pb	23 09 21.8	+0.4
NAIG	Nisos Aigina	0.41	10	ePb	Pb	23 09 21.8	+0.4
ATH	Athens Observa	0.67	22	ePN	Pb	23 09 25.8	+0.1
ATH				eSN	Sb	23 09 35.0	+0.3
ATH	Athens Observa	0.67	22	ePn	Pb	23 09 25.8	+0.1
ATH				eSn	Sb	23 09 35.0	+0.3
VLI	Veliai	0.73	211	P	Pb	23 09 26.4	-0.4
VLI	Veliai	0.73	211	ePN	Pb	23 09 26.7	-0.1
VLI				eSN	Sg	23 09 37.6	+1.0
VLI	Veliai	0.73	211	P	Pb	23 09 26.4	-0.4
VLI	Veliai	0.73	211	ePn	Pb	23 09 26.7	-0.1
VLI				eSn	Sg	23 09 37.6	+1.0
LTK	Loutraki	0.75	333	P	Pg	23 09 27.5	+0.2
LTK	Loutraki	0.75	333	ePN	Pg	23 09 27.1	-0.2
LTK				eSN	Sg	23 09 37.2	0.0
LTK	Loutraki	0.75	333	ePn	Pg	23 09 27.1	-0.2
LTK	Loutraki	0.75	333	P	Pg	23 09 27.5	+0.2
LTK				eSn	Sg	23 09 37.3	0.0
PTL	Penteli	0.79	28	ePN	Pg	23 09 27.8	-0.1
PTL				eSN	Sn	23 09 39.3	-1.0
PTL	Penteli	0.79	28	ePn	Pg	23 09 27.8	-0.1
PTL				eSn	Sn	23 09 39.3	-1.0
VLX	Vlachokerasia	0.81	272	ePN	Pg	23 09 28.3	-0.1
VLX	Vlachokerasia	0.81	272	ePn	Pg	23 09 28.3	-0.1
GUR	Goura	1.02	305	P	Pn	23 09 32.1	-0.1
GUR	Goura	1.02	305	ePN	Pb	23 09 31.7	-0.1
GUR				eSN	Sn	23 09 46.2	+0.1
GUR	Goura	1.02	305	ePn	Pb	23 09 31.7	-0.1
GUR	Goura	1.02	305	P	Pn	23 09 32.1	-0.1
GUR				eSn	Sn	23 09 46.2	+0.1
KYTH	Kithira	1.11	195	P	Pg	23 09 33.9	0.0
KYTH	Kithira	1.11	195	ePN	Pg	23 09 34.0	0.0
KYTH	Kithira	1.11	195	P	Pg	23 09 33.9	0.0
PYL	PYLOS	1.40	252	ePN	Pg	23 09 39.0	-0.5
PYL	PYLOS	1.40	252	ePn	Pg	23 09 39.0	-0.5

IDC 04 23:13:42.6±1.6**, 58°.89S**×**25°.03W, h0**^{km}**, mb3.9**/1**, mb1 3.9**/1**, mb1mx3.9**/1**, mbtmp3.9**/1**, Error ellipse: s-maj=91.5km s-min=60.3km az=143.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	13.92	159	ePn	Pn	23 17 03.6	+2.7
VNA2	Neumayer--Watz	14.12	156	ePn	Pn	23 17 06.4	+2.8
	baz=323,slow=13						
TORD	Torodi Ar. Bea	75.01	27	P	P	23 25 25.6	0.0
	0.5nm,0.4s,baz=200,slow=6.3,SNR=24						
YKA	Yellowknife Ar	139.03	315	PKP	PKPdf	23 33 09.0	-0.4
	0.2nm,0.5s,baz=124,slow=2.2,SNR=6.1						
INK	Inuvik	148.71	317	PKPbc	PKPbc	23 33 29.5	-0.5
	2.1nm,0.7s,baz=91,slow=4.1,SNR=9.5						
SONM	Songino Array	149.66	90	PKPbc	PKPbc	23 33 32.7	-0.5
	0.3nm,0.7s,baz=205,slow=3.4,SNR=2.8						
ILAR	Eielson Array	152.82	307	PKPbc	PKPbc	23 33 39.6	-0.2
	0.8nm,0.7s,baz=152,slow=3.8,SNR=12						

*ISCJB **04** 23:23:07.8±0.6, 38°.17N±0°.03×27°.07E±0°.05, h0^{km}±10^{km}, Error ellipse: s-maj=6.1km s-min=4.4km az=166.3*
*DDA **04** 23:23:07.5, 38°.17N×27°.05E, h7^{km}, MD2.9*
*ISK **04** 23:23:08.1, 38°.22N×27°.05E, h6^{km}, MD2.5*
*CSEM **04** 23:23:08.2±0.2, 38°.18N×27°.06E, h2^{km}, MD2.5, Error ellipse: s-maj=4.0km s-min=2.5km az=92.0*
ISC 04 23:23:08.1±1.1**, 38°.18N**±0°.03×**27°.05E**±0°.04**, h5**^{km}±12^{km}**, n20,** σ**0.31**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.21	359	PG	Pg	23 23 11.7	-0.5
BLCB				SG	Sg	23 23 14.9	0.0
BLCB	Balcova	0.21	359	i Pg	Pg	23 23 11.7	-0.5
BLCB				i Sg	Sg	23 23 15.0	0.0
IZM	Izmir	0.28	37	ePG	Pg	23 23 13.6	+0.1
IZM				eSG	Sg	23 23 17.6	+0.4
IZM	Izmir	0.28	37	ePg	Pg	23 23 13.6	+0.1
IZM				eSg	Sg	23 23 17.6	+0.4
URLA	Izmir	0.40	297	i Pg	Pg	23 23 15.7	-0.1
URLA				i Sg	Sg	23 23 21.8	+0.7
GCAM	G?zelcaml?	0.50	163	i Pg	Pg	23 23 17.6	0.0
GCAM				i Sg	Sg	23 23 24.1	0.0
AYDN	Tasoluk	0.84	128	eP	Pg	23 23 24.3	+0.2
AYDN				eS	Sg	23 23 34.7	-0.2
AYDN	Tasoluk	0.84	128	eP	Pg	23 23 24.3	+0.2
AYDN				eS	Sg	23 23 34.7	-0.2
AKS	Akhisar	0.92	40	ePG	Pg	23 23 25.7	-0.1
AKS	Akhisar	0.92	40	ePg	Pg	23 23 25.7	-0.1
AKHS	Akhisar	0.92	40	eP	Pg	23 23 26.0	+0.2
AKHS				eS	Sb	23 23 38.6	-0.5
AKHS	Akhisar	0.92	40	eP	Pg	23 23 26.0	+0.2
AKHS				eS	Sb	23 23 38.6	-0.5
MLSB	Milas	1.05	146	ePN	Pn	23 23 29.5	0.0
MLSB	Milas	1.05	146	ePn	Pn	23 23 29.5	0.0
APE	Apeiranthos	1.64	228	ePN	Pb	23 23 38.7	0.0
APE	Apeiranthos	1.64	228	ePn	Pb	23 23 38.7	0.0
DST	Dursunbey	1.88	40	ePN	Pn	23 23 41.1	+0.2
DST	Dursunbey	1.88	40	ePn	Pn	23 23 41.1	+0.2
GONE	Gonen-Balikesi	1.93	15	ePN	Pn	23 23 41.9	+0.4
GONE	Gonen-Balikesi	1.93	15	ePn	Pn	23 23 41.9	+0.4

*IDC **04** 23:24:31.0±1.6, 63°.69N×150°.40W, h119^{km}±28^{km}, mb3.3/5, mb1 3.2/8, mb1mx3.2/8, mbtmp3.1/8, Error ellipse: s-maj=49.2km s-min=11.7km az=116.0*
*ISCJB **04** 23:24:32.3±0.3, 63°.69N±0°.03×149°.89W±0°.08, h146^{km}±3^{km}, mb3.4/6, Error ellipse: s-maj=6.0km s-min=4.5km az=18.6*
*NEIC **04** 23:24:33.9, 63°.67N×149°.89W, h138^{km}, MG3.0(AEIC), After AEIC.*
ISC 04 23:24:33.3±0.7**, 63°.66N**±0°.04×**149°.89W**±0°.04**, h143**^{km}±5^{km}**, n63,** σ**0.98**/75**, mb3.5**/6**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.28	221	P	Pn	23 24 52.6	-0.5
TRF				S	Sn	23 25 06.6	-1.5
MCK	McKinley	0.43	80	P	Pn	23 24 53.6	+0.1
MCK				S	Sn	23 25 08.3	-0.6
RND	Reindeer	0.53	118	P	Pn	23 24 53.8	-0.2
RND				S	Sn	23 25 10.2	+0.4
HUR	Hurricane	0.69	170	P	Pn	23 24 55.1	+0.1
NEA	Nenana	0.99	21	P	Pn	23 24 56.9	-0.3
WRH	Wood River Hil	1.14	43	P	Pn	23 24 58.4	-0.2
DHY	Denali Highway	1.28	116	P	Pn	23 25 00.2	+0.1
DHY				S	Sn	23 25 21.0	+0.4
PPLA	Purkeypile	1.29	235	P	Pn	23 25 00.7	+0.5
PPLA				S	Sn	23 25 21.5	+0.7
CCB	Clear Creek Bu	1.35	42	P	Pn	23 25 00.5	-0.2
MDM	Murphy Dome	1.49	28	P	Pn	23 25 02.1	-0.1
MDM				S	Sn	23 25 23.3	-1.0
HDA	Harding Lake	1.49	59	P	Pn	23 25 02.0	-0.2
COLA	College	1.51	35	P	Pn	23 25 02.3	0.0
GLM	Gilmore Dome	1.72	38	P	Pn	23 25 04.5	-0.2
IL1	Eielson Array	1.72	48	P	Pn	23 25 04.3	-0.4
ILAR	Eielson Array	1.72	48	P	Pn	23 25 04.3	-0.4
	2.1nm,0.3s,baz=229,slow=11,SNR=197						
ILAR				S	Sn	23 25 27.0	-1.9
	3.9nm,0.3s,baz=235,slow=19,SNR=22						
ILAR	Eielson Array	1.72	48	P	Pn	23 25 04.3	-0.4
ILAR				S	Sn	23 25 27.0	-1.9
DDM	Donnelly Dome	1.80	84	P	Pn	23 25 05.7	+0.1
SML	Sawmill	1.99	158	P	Pn	23 25 07.7	-0.2
SML				S	Sn	23 25 34.5	+0.1
PMR	Palmer	2.10	170	P	Pn	23 25 09.4	+0.3
PMR				S	Sn	23 25 37.1	+0.4
PAX	Paxson	2.11	107	P	Pn	23 25 09.3	0.0
SCM	Sheep Creek Mo	2.18	146	P	Pn	23 25 09.9	-0.3
SUA	Susitna One	2.24	191	P	Pn	23 25 11.6	+0.6
STLK	Strandline Lak	2.35	203	P	Pn	23 25 12.4	+0.2
HARP	HAARP	2.50	118	P	Pn	23 25 14.1	+0.2
NCG	North Capps Gl	2.50	206	P	Pn	23 25 14.3	+0.2
RC01	Rabbit Creek A	2.58	178	P	Pn	23 25 15.2	+0.2
DOT	Dot Lake	2.60	88	P	Pn	23 25 14.9	-0.3
PRP	Porcupine Dome	2.65	43	P	Pn	23 25 15.8	-0.2
SPBG	Spurr Blockage	2.67	207	P	Pn	23 25 17.2	+1.0
IM3	Indian Mountai	2.86	326	P	Pn	23 25 18.4	-0.1
TT01	Tatalina	2.87	258	P	Pn	23 25 18.8	+0.2
SEW	Seward	3.58	176	P	Pn	23 25 28.1	+0.4
BMRM	Bremner River	3.66	135	P	Pn	23 25 28.3	-0.5
BCA3	Beaver Creek A	3.70	96	P	Pn	23 25 28.9	-0.5
VRDI	Verde Repeater	3.86	126	P	Pn	23 25 31.7	+0.1
GOAT	Goat Mountain	3.93	140	P	Pn	23 25 33.3	+0.9
BRLK	Bradley Lake	3.94	187	P	Pn	23 25 32.6	+0.2
BM3	Burnt Mountain	4.37	28	P	Pn	23 25 37.8	-0.3
BERG	Berg Lake	4.38	136	P	Pn	23 25 38.7	+0.3
BALM	Baldy	4.39	123	P	Pn	23 25 38.6	+0.1
KIAG	Kiagna River	4.46	125	P	Pn	23 25 39.0	-0.5
KHIT	Khitrov Hills	4.49	133	P	Pn	23 25 40.4	+0.6
DAWY	Dawson	4.66	80	P	Pn	23 25 41.9	-0.1
BARK	Barkley Ridge	4.77	130	P	Pn	23 25 43.5	-0.1
KDAK	Kodiak Island	6.04	194	P	Pn	23 25 59.6	-0.7
	0.9nm,0.3s,baz=10,slow=11,SNR=11						
KDAK				S	Sn	23 27 04.2	-4.2
	0.7nm,0.3s,baz=37,slow=20,SNR=8.9						
KDAK	Kodiak Island	6.04	194	P	Pn	23 25 59.6	-0.7
KDAK				S	Sn	23 27 04.2	-4.2
HYT	Haines Junctio	6.45	111	P	Pn	23 26 05.8	-0.1
INK	Inuvik	8.13	48	P	Pn	23 26 28.3	+0.2
	0.1nm,0.3s,baz=250,slow=12,SNR=3.2						
INK	Inuvik	8.13	48	P	Pn	23 26 28.3	+0.2
YKA	Yellowknife Ar	15.90	78	P	P	23 28 10.1	+0.6
	0.1nm,0.3s,baz=291,slow=10,SNR=6.1						
YKA	Yellowknife Ar	15.90	78	P	P	23 28 10.2	+0.6
ARCES	ARCESS Array B	47.05	2	P	P	23 32 50.0	+0.4
	3.5nm,0.9s,baz=353,slow=8.6,SNR=5.7						
ARCES	ARCESS Array B	47.05	2	P	P	23 32 50.0	+0.4
SONM	Songino Array	53.84	306	P	P	23 33 42.8	+1.7
	0.3nm,0.7s,baz=18,slow=6.1,SNR=3.6						
SONM	Songino Array	53.84	306	P	P	23 33 42.8	+1.7
FINES	FINESS Array B	55.17	2	P	P	23 33 50.2	-0.1
	1.0nm,0.6s,baz=5.7,slow=7.7,SNR=5.8						
FINES	FINESS Array B	55.17	2	P	P	23 33 50.2	-0.1
ZALV	Zalesovo Beam	55.28	324	P	P	23 33 49.5	-1.7
	0.3nm,0.4s,baz=38,slow=7.3,SNR=2.5						
ZALV	Zalesovo Beam	55.28	324	P	P	23 33 49.5	-1.7
BVAR	Borovoye Array	59.49	333	P	P	23 34 20.1	-0.6
	0.3nm,0.6s,baz=15,slow=1.6,SNR=3.3						
BVAR	Borovoye Array	59.49	333	P	P	23 34 20.1	-0.6
MKAR	Makanchi Array	62.46	322	P	P	23 34 40.0	-0.8
	0.1nm,0.4s,baz=31,slow=6.6,SNR=7.0						
MKAR	Makanchi Array	62.46	322	P	P	23 34 40.0	-0.8

*IDC **04** 23:35:51.5±5.5, 36°.02N×70°.94E, h65^{km}±48^{km}, mb3.4/8, mb1 3.5/13, mb1mx3.5/13, mbtmp3.4/13, ML3.3/5, Error ellipse: s-maj=35.9km s-min=21.2km az=32.0*
*NNC **04** 23:36:02.3±3.8, 37°.26N×70°.37E, h0^{km}, mb3.6, mpv3.5, Error ellipse: s-maj=34.1km s-min=24.2km az=41.0*
ISC 04 23:36:04.4±1.2**, 36°.82N**±0°.10×**70°.9E**±0°.1**, h188**^{km}**, n18,** σ**2.21**/17**, mb3.3**/7**, 2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.28	357	Pn	Pn	23 37 33.5	-1.6
	1.6nm,0.3s,baz=183,slow=13,SNR=32						
KK31				Sn	Sn	23 38 44.4	-2.4
	3.5nm,0.4s,baz=187,slow=24,SNR=13						
AAK	Ala-Archa	6.43	24	P	Pn	23 37 34.8	-2.4
	0.9nm,0.3s,baz=183,slow=11,SNR=18						
AAK				S	Sn	23 38 50.7	+0.1
	1.2nm,0.3s,baz=332,slow=19,SNR=18						
TKM2	Tokmak 2	7.08	29	⇑Pn	Pn	23 37 44.2	-1.6
	3.4nm,0.9s						
TKM2				⇓Sn	Sn	23 39 04.6	-1.4
	6.3nm,0.8s						
MK31	Makanchi Array	13.08	37	Pn	P	23 39 10.2	+3.6
	2.1nm,0.9s,baz=210,slow=8.9,SNR=8.9						
MKAR	Makanchi Array	13.08	37	P	Pn	23 39 03.0	-0.2
	0.0nm,0.3s,baz=224,slow=14,SNR=3.4						
AB31	Akbulak array	14.76	331	Pn	P	23 39 25.0	-0.3
	0.2nm,0.3s,baz=166,slow=12,SNR=19						
AB31				Sn	Sn	23 41 59.7	-9.1
	1.3nm,0.5s,baz=148,slow=21,SNR=8.5						
KURBB	Kurchatov Arra	14.84	19	P	P	23 39 29.0	+2.8
	0.1nm,0.3s,baz=208,slow=10,SNR=4.2						
BVAR	Borovoye Array	16.20	359	P	Pn	23 39 44.9	+3.3
	0.2nm,0.3s,baz=164,slow=10,SNR=7.3						
AKTO	Aktyubinsk	16.46	330	P	Pn	23 39 48.8	+4.1
	0.1nm,0.3s,baz=149,slow=11,SNR=5.9						
AKTO				S	Sn	23 42 48.4	-0.9
	0.2nm,0.3s,baz=176,slow=13,SNR=5.1						
AKTO	Aktyubinsk	16.46	330	⇑Pn	Pn	23 39 47.8	+3.2
	0.3nm,0.8s						
AKTO				⇓Sn	S	23 42 45.8	-0.3
	0.5nm,0.9s						
ZALV	Zalesovo Beam	19.66	25	P	Pn	23 40 22.3	-0.1
	6.7nm,0.5s,baz=220,slow=11,SNR=44						
FINES	FINESS Array B	37.17	326	P	P	23 43 02.1	+5.2
	1.5nm,0.9s,baz=97,slow=12,SNR=4.6						
ARCES	ARCESS Array B	40.81	337	P	P	23 43 32.6	+5.6
	2.2nm,0.9s,baz=101,slow=6.3,SNR=6.3						
NOA	NORSAR Array B	44.07	323	P	P	23 43 58.2	+4.7
	0.8nm,0.7s,baz=97,slow=7.7,SNR=3.0						
TORD	Torodi Ar. Bea	65.64	268	P	P	23 46 27.2	-1.5
	0.2nm,0.5s,baz=52,slow=5.6,SNR=4.0						
YKA	Yellowknife Ar	80.93	3	P	P	23 48 02.6	+5.4
	0.2nm,0.4s,baz=350,slow=5.5,SNR=4.6						
WRA	Warramunga Arr	82.23	122	P	P	23 48 04.1	-0.6
	0.2nm,0.3s,baz=324,slow=5.4,SNR=3.8						
ASAR	Alice Springs	84.51	125	P	P	23 48 14.6	-1.7
	0.3nm,0.5s,baz=310,slow=5.8,SNR=3.1						

*ISCJB **04** 23:44:31.0±0.3, 44°.24N±0°.02×10°.43E±0°.03, h18^{km}±2^{km}, Error ellipse: s-maj=3.5km s-min=3.0km az=25.5*
*GEN **04** 23:44:30.5, 44°.28N×10°.53E, h18^{km}, ML2.3*
*CSEM **04** 23:44:31.3±0.1, 44°.22N×10°.48E, h20^{km}, ML2.6/14, Error ellipse: s-maj=3.9km s-min=3.4km az=56.0*
*VIE **04** 23:44:31.6±0.3, 44°.24N×10°.56E, h10^{km}, mb2.5/3, ML2.6/7, Error ellipse: s-maj=4.1km s-min=1.6km az=123.0 68 km WSW of Bologna*
*ROM **04** 23:44:31.1±0.1, 44°.26N×10°.51E, h10^{km}±1^{km}, Md2.4/12, Ml2.4/7, Error ellipse: s-maj=2.4km s-min=1.3km az=97.0*
*LDG **04** 23:44:31.9±0.1, 44°.23N×10°.52E, h5^{km}, Ml2.6/10, Error ellipse: s-maj=2.6km s-min=2.3km az=36.0*
ISC 04 23:44:31.2±0.8**, 44°.24N**±0°.02×**10°.45E**±0°.02**, h16**^{km}±4^{km}**, n89,** σ**1.21**/139**, 7C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLC	Villacollemand	0.09	210	Pg	Pg	23 44 34.9	+0.3
VLC				Sg	Sg	23 44 38.0	+1.3
	2µm,0.2s						
VLC	Villacollemand	0.09	210	ePg	Pg	23 44 34.9	+0.3
VLC				Sg	Sg	23 44 38.0	+1.3
	2µm,0.2s						
GSCL	Gusciola	0.15	41	⇑iPg	Pg	23 44 34.0	-1.3
GSCL				Sg	Sg	23 44 36.6	-1.4
	1.0nm,0.3s						
GSCL	Gusciola	0.15	41	ePg	Pg	23 44 34.0	-1.3
GSCL				Sg	Sg	23 44 36.6	-1.4
	1.0nm,0.3s						
VALM	Valbona	0.18	308	P	Pg	23 44 35.5	-0.3
VALM				S	Sg	23 44 39.1	+0.3
ERBM	Eremo	0.18	352	Pg	Pg	23 44 35.0	-0.8
ERBM				Sg	Sg	23 44 38.3	-0.6
	872nm,0.6s						
ERBM	Eremo	0.18	352	ePg	Pg	23 44 35.0	-0.8
ERBM				Sg	Sg	23 44 38.3	-0.6
	872nm,0.6s						
BDI	Bagni Di Lucca	0.20	149	Pg	Pg	23 44 35.8	-0.3
BDI				Sg	Sg	23 44 39.8	+0.5
	748nm,0.3s						
BDI	Bagni Di Lucca	0.20	149	ePg	Pg	23 44 35.8	-0.3
BDI				Sg	Sg	23 44 39.8	+0.5
	748nm,0.3s						
CRDM	Cardoso	0.21	174	P	Pg	23 44 36.1	0.0
CRDM				S	Sg	23 44 40.2	+0.8
MAIM	Mastiano	0.32	175	Pg	Pg	23 44 38.0	0.0
MAIM				Sg	Sb	23 44 44.1	+0.5
	140nm,0.3s						
MAIM	Mastiano	0.32	175	P	Pg	23 44 37.8	-0.2
MAIM	Mastiano	0.32	175	ePg	Pg	23 44 38.0	0.0
MAIM				S	Sg	23 44 43.1	+0.5
MAIM				Sg	Sb	23 44 44.1	+0.5
	140nm,0.3s						
GRAM	Graiana	0.38	313	P	Pg	23 44 38.5	-0.4
GRAM				S	Sg	23 44 43.8	-0.4
ZCCA	Zocca	0.40	73	Pg	Pg	23 44 39.3	0.0
	282nm,0.8s						
ZCCA	Zocca	0.40	73	Pg	Pg	23 44 39.3	0.0
	282nm,0.8s						
PII	Pisa	0.52	174	Pg	Pg	23 44 41.7	+0.2
PII	Pisa	0.52	174	ePg	Pg	23 44 41.7	+0.2
PRMA	PARMA	0.54	350	Pg	Pg	23 44 42.1	+0.2
PRMA	PARMA	0.54	350	ePg	Pg	23 44 42.1	+0.2
CRMI	Carmignano	0.58	140	Pg	Pg	23 44 42.7	0.0
CRMI	Carmignano	0.58	140	ePg	Pg	23 44 42.7	0.0
NOVE	Novellara	0.59	19	Pg	Pg	23 44 43.1	+0.2
	415nm,0.4s						
NOVE	Novellara	0.59	19	Pg	Pg	23 44 43.1	+0.2
	415nm,0.4s						
SC2M	Scurtabo	0.68	285	P	Pg	23 44 44.0	-0.5
SC2M				S	Sg	23 44 53.3	-0.2
SEI	Scarperia	0.68	105	Pg	Pg	23 44 43.6	-0.9
	460nm,0.4s						
SEI	Scarperia	0.68	105	Pg	Pg	23 44 43.6	-0.9
	460nm,0.4s						
VMG	Vicchio	0.83	109	Pg	Pg	23 44 46.6	-0.9
	52nm,0.6s						
VMG	Vicchio	0.83	109	Pg	Pg	23 44 46.6	-0.9
	52nm,0.6s						
PCP	Piancastagn	1.40	283	P	Pn	23 44 55.8	-0.3
RORO	Rocca Rossa	1.72	267	P	Pn	23 44 58.8	-1.7
DDS	Dosso del Somm	1.73	17	ePg	Pn	23 45 01.5	+0.8
DDS				eSg	Sn	23 45 21.5	-1.0
DDS	Dosso del Somm	1.73	17	ePg	Pn	23 45 01.5	+0.8
DDS				eSg	Sn	23 45 21.5	-1.0
RNI	Roncone	1.75	4	⇑ePg	Pn	23 45 02.4	+1.3
RNI				eSg	Sn	23 45 22.5	-0.6
RNI	Roncone	1.75	4	⇑ePg	Pn	23 45 02.4	+1.3
RNI				eSg	Sn	23 45 22.5	-0.6
IMI	Imperia	1.87	261	P	Pn	23 45 00.8	-1.8
IMI				S	Sn	23 45 20.8	-5.1
CGRP	Cima Grappa	1.90	30	⇓ePg	Pn	23 45 03.9	+0.7
CGRP				eSg	Sn	23 45 25.5	-1.4
CGRP	Cima Grappa	1.90	30	⇓ePg	Pn	23 45 03.9	+0.7
CGRP				eSg	Sn	23 45 25.5	-1.4
PGF	Pioggiola	1.99	213	ePn	Pn	23 45 04.6	+0.3
PGF				eSn	Sn	23 45 29.1	+0.1
	1.7nm,0.2s						
PGF	Pioggiola	1.99	213	ePn	Pn	23 45 04.6	+0.3
PGF				eSn	Sn	23 45 29.1	+0.1
	0.9nm,0.2s						
CTI	Castel Tesino	2.00	25	Pg	Pn	23 45 04.0	-0.5
	32nm,0.4s						
CTI	Castel Tesino	2.00	25	Pg	Pn	23 45 04.0	-0.5
	32nm,0.4s						
SBF	Sospel	2.21	261	ePn	Pn	23 45 08.5	+1.3
SBF				eSn	Sn	23 45 34.0	-0.2
	11nm,0.3s						
SBF	Sospel	2.21	261	ePn	Pn	23 45 08.5	+1.3
SBF				eSn	Sn	23 45 34.0	-0.2
	5.5nm,0.3s						
KOSI	Kohlern	2.32	16	ePg	Pn	23 45 09.2	+0.3
MOSI	Grossmontoni	2.38	2	ePg	Pn	23 45 12.2	+2.4
MBDF	Montbardon	2.68	282	ePn	Pn	23 45 14.7	+0.9
MBDF				eSn	Sn	23 45 46.4	+0.4
	3.4nm,0.4s						
MBDF	Montbardon	2.68	282	ePn	Pn	23 45 14.7	+0.9
MBDF				eSn	Sn	23 45 46.4	+0.4
	1.7nm,0.4s						
FRF	La Foret Royal	2.83	258	ePn	Pn	23 45 16.0	+0.2
FRF				eSn	Sn	23 45 49.0	-0.5
	3.7nm,0.3s						
FRF	La Foret Royal	2.83	258	ePn	Pn	23 45 16.0	+0.2
FRF				eSn	Sn	23 45 49.0	-0.5
	1.9nm,0.3s						
LPG	La Plagne	2.92	297	ePn	Pn	23 45 18.1	+0.9
LPG	La Plagne	2.92	297	ePn	Pn	23 45 18.1	+0.9
LPL	La Plagne	2.94	297	ePn	Pn	23 45 18.2	+0.8
LPL				eSn	Sn	23 45 52.1	-0.3
	2.6nm,0.4s						
LPL	La Plagne	2.94	297	ePn	Pn	23 45 18.2	+0.8
LPL				eSn	Sn	23 45 52.1	-0.3
	1.3nm,0.4s						
RISI	Rein	2.94	22	ePg	Pn	23 45 18.8	+1.3
LMR	La Mourre	2.99	254	ePn	Pn	23 45 17.8	-0.2
LMR				eSn	Sn	23 45 51.3	-2.2
	1.5nm,0.2s						
LMR	La Mourre	2.99	254	ePn	Pn	23 45 17.8	-0.2
LMR				eSn	Sn	23 45 51.3	-2.2
	0.8nm,0.2s						
DAVA	Damuels	3.08	353	⇑iPn	Pn	23 45 20.6	+1.3
DAVA				⇑iSn	Sn	23 45 58.8	+3.0
DAVA	Damuels	3.08	353	Pn	Pn	23 45 20.6	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAVA				Sn	Sn	23 45 58.8	+3.0
WTTA	Wattenberg	3.14	15	⇑iPn	Pn	23 45 21.4	+1.2
WTTA				⇓iSn	Sn	23 45 59.6	+2.2
WTTA	Wattenberg	3.14	15	Pn	Pn	23 45 21.4	+1.2
WTTA				Sn	Sn	23 45 59.6	+2.2
NVLJ	Novalja	3.19	83	ePn	Pn	23 45 20.7	0.0
NVLJ				Sn	Sn	23 45 56.4	-1.9
NVLJ	Novalja	3.19	83	ePn	Pn	23 45 20.6	0.0
NVLJ				Sn	Sn	23 45 56.3	-1.9
WATA	Walderalm	3.20	14	⇓iPn	Pn	23 45 22.1	+1.2
WATA				⇓iSn	Sn	23 46 00.4	+1.6
WATA	Walderalm	3.20	14	Pn	Pn	23 45 22.1	+1.2
WATA				Sn	Sn	23 46 00.4	+1.6
RETA	Reutte	3.26	4	⇓iPn	Pn	23 45 23.3	+1.6
RETA				⇑iSn	Sn	23 46 02.1	+1.9
RETA	Reutte	3.26	4	Pn	Pn	23 45 23.3	+1.6
RETA				Sn	Sn	23 46 02.1	+1.9
ORIF	Oris-en-Rattie	3.33	283	eP	Pn	23 45 26.7	+3.9
ORIF	Oris-en-Rattie	3.33	283	eP	Pn	23 45 26.7	+3.9
SMRF	Simiane la Rot	3.52	267	ePn	Pn	23 45 26.8	+1.5
SMRF	Simiane la Rot	3.52	267	ePn	Pn	23 45 26.8	+1.5
CABF	La Chapelle	3.88	309	ePn	Pn	23 45 32.1	+1.8
CABF	La Chapelle	3.88	309	ePn	Pn	23 45 32.1	+1.8
VIVF	Saint-Julien-l	4.18	281	ePn	Pn	23 45 35.4	+1.1
VIVF	Saint-Julien-l	4.18	281	ePn	Pn	23 45 35.4	+1.1
HINF	Hinteralfeld	4.37	326	ePn	Pn	23 45 36.6	-0.3
HINF				eSn	Sn	23 46 25.9	-1.6
	4.4nm,0.4s						
HINF	Hinteralfeld	4.37	326	ePn	Pn	23 45 36.6	-0.3
HINF				eSn	Sn	23 46 25.9	-1.6
	2.2nm,0.4s						
CDF	Champ du Feu	4.72	333	ePn	Pn	23 45 41.7	-0.1
CDF				eSn	Sn	23 46 34.4	-1.8
	2.9nm,0.3s						
CDF	Champ du Feu	4.72	333	ePn	Pn	23 45 41.7	-0.1
CDF				eSn	Sn	23 46 34.4	-1.8
	1.5nm,0.3s						
HAU	Haudompre	4.73	324	ePn	Pn	23 45 42.2	+0.4
HAU				eSn	Sn	23 46 34.5	-1.8
	17nm,0.5s						
HAU	Haudompre	4.73	324	ePn	Pn	23 45 42.2	+0.4
HAU				eSn	Sn	23 46 34.5	-1.8
	8.5nm,0.5s						
PAGF	Fort de Pagny	5.42	325	ePn	Pn	23 45 51.8	+0.5
PAGF	Fort de Pagny	5.42	325	ePn	Pn	23 45 51.8	+0.5
SFTF	Sexfontaines	5.46	318	ePn	Pn	23 45 52.5	+0.6
	baz=135						
SFTF	Sexfontaines	5.46	318	ePn	Pn	23 45 52.5	+0.6
	baz=135						
LOR	Lormes	5.52	306	ePn	Pn	23 45 54.1	+1.4
	baz=123						
LOR				eSn	Sn	23 46 53.8	-2.0
	1.5nm,0.3s						
LOR	Lormes	5.52	306	ePn	Pn	23 45 54.1	+1.4
	baz=123						
LOR				eSn	Sn	23 46 53.8	-2.0
	0.8nm,0.3s						
MEZF	Maizieres J'vi	5.67	321	ePn	Pn	23 45 54.9	+0.2
	baz=149						
MEZF	Maizieres J'vi	5.67	321	ePn	Pn	23 45 54.9	+0.2
	baz=149						

*ISCJB **04** 23:47:10.8±0.6, 38°.37N±0°.04×39°.04E±0°.04, h8km±5km, Error ellipse: s-maj=7.6km s-min=4.6km az=11.0*
*ISK **04** 23:47:10.0, 38°.38N×39°.06E, h10km, MD2.4*
*CSEM **04** 23:47:10.6±0.1, 38°.40N×39°.05E, h8km, MD2.4, Error ellipse: s-maj=4.2km s-min=2.4km az=9.0*
*DDA **04** 23:47:10.9, 38°.38N×39°.05E, h11km, MD2.8*
ISC 04 23:47:10.7±0.9**, 38°.38N**±0°.04×**39°.06E**±0°.03**, h12**km±7km**, n17, σ0^{s}32**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.13	332	i Pg	Pg	23 47 14.4	+0.2
ELZG				i Sg	Sg	23 47 16.9	+0.3
SVRC	Sivrice-ELAZID	0.19	90	PG	Pg	23 47 14.7	-0.3
SVRC				SG	Sg	23 47 17.6	-0.4
SVRC	Sivrice-ELAZID	0.19	90	i Pg	Pg	23 47 14.7	-0.3
SVRC				i Sg	Sg	23 47 17.6	-0.4
MALT	Malatya	0.50	263	PG	Pg	23 47 20.1	-0.5
MALT				SG	Sg	23 47 27.5	+0.2
MALT	Malatya	0.50	263	i Pg	Pg	23 47 20.1	-0.5
MALT				i Sg	Sg	23 47 27.5	+0.2
MYA	Malataya	0.50	264	PG	Pg	23 47 20.4	-0.2
MYA	Malataya	0.50	264	i Pg	Pg	23 47 20.4	-0.2
AKCD	Akcadag	0.90	265	eP	Pg	23 47 27.6	-0.5
AKCD				eS	Sg	23 47 39.9	0.0
AKCD	Akcadag	0.90	265	eP	Pg	23 47 27.6	-0.5
AKCD				eS	Sg	23 47 39.9	0.0
DIYA	Diyarbakir	0.95	118	eP	Pb	23 47 29.6	+0.4
DIYA				eS	Sn	23 47 43.3	-0.1
DIYA	Diyarbakir	0.95	118	eP	Pb	23 47 29.6	+0.4
DIYA				eS	Sn	23 47 43.3	-0.1
KEMA	Kemaliye	0.99	334	eP	Pg	23 47 29.6	-0.2
KEMA				eS	Sb	23 47 43.1	+0.1
KEMA	Kemaliye	0.99	334	eP	Pg	23 47 29.6	-0.2
KEMA				eS	Sb	23 47 43.1	+0.1
ILIC	ilic-Erzincan	1.14	340	ePN	Pb	23 47 32.2	-0.2
ILIC	ilic-Erzincan	1.14	340	ePn	Pb	23 47 32.2	-0.2
KMRS	Kahramanmaras	1.92	244	ePN	Pn	23 47 43.5	+0.2
KMRS	Kahramanmaras	1.92	244	ePn	Pn	23 47 43.5	+0.2

IDC 04 23:56:34.2±5.4**, 6°.13S**×**133°.69E, h0**km**, mb3.4**/1**, mb1 3.5**/3**, mb1mx3.5**/3**, mbtmp3.3**/3**, ML3.5**/2**, Error ellipse: s-maj=310.7km s-min=32.6km az=78.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.75	177	Pn	Pn	23 59 50.4	-0.1
	0.3nm,0.3s,baz=358,slow=13,SNR=3.2						
WRA				Sn	Sn	00 02 08.7	-15
	0.3nm,0.3s,baz=359,slow=23,SNR=3.1						
ASAR	Alice Springs	17.44	179	P	Pn	00 00 39.1	+0.1
	0.1nm,0.3s,baz=356,slow=13,SNR=4.4						
MKAR	Makanchi Array	69.57	325	P	P	00 07 45.1	0.0
	0.8nm,1.1s,baz=116,slow=7.6,SNR=3.0						

MEX 05 00:07:57.0±0.3**, 18°.37N**×**102°.70W, h4**km±3km**, MD3.7, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.62	263	i P	Pg	00 08 08.4	-0.5
MMIG				i S	Sg	00 08 17.5	+0.5
ZIIG	Zihuatanejo	1.40	123	i P	Pn	00 08 19.6	-3.7
ZIIG				i S	Sb	00 08 37.1	-4.8
EZ5V		1.40	322	eP	Pn	00 08 20.0	-3.7
EZ5V				i S	Sb	00 08 37.7	-4.9
R15V		1.46	304	i P	Pn	00 08 20.4	-3.9
R15V				eS	Sb	00 08 38.8	-5.0
ARIG	Puente Sto Nin	2.23	92	i P	Pn	00 08 32.2	-2.7
ARIG				i S	Sn	00 08 58.6	-4.4
PLIG	Platanillo	3.04	89	i P	Pn	00 08 43.0	-3.0
PLIG				i S	Sn	00 09 19.0	-3.9
PNIG	Pinotepa	4.79	114	i P	Pn	00 09 07.3	-2.7

MEX 05 00:08:26.2±0.9**, 15°.49N**×**96°.03W, h5**km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.28	345	eP	Pg	00 08 30.7	-1.1
HUIG				i S	Sg	00 08 35.4	-0.1
VHO	Vista Hermosa	1.71	337	i P	Pn	00 08 53.7	-3.3
VHO				i S	Sn	00 09 15.2	-4.2
CMIG	Matias Romero	1.93	35	i P	Pn	00 08 57.0	-2.8
CMIG				i S	Sn	00 09 19.7	-4.8
PNIG	Pinotepa	2.21	294	i P	Pn	00 08 59.5	-4.0
PNIG				i S	Sn	00 09 27.1	-4.2

MAN 05 00:47:21, 18°.30N×**120°.62E, h1**km**, mb4.2, ML3.0, MS2.7, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.02	355	⇑iP	Pg	00 47 21.5	-0.1
SIPP	Brgy, Tapao	0.41	202	⇓eP	Pg	00 47 28.8	0.0
ABRA	Dolores	0.65	172	eP	Pg	00 47 33.1	-0.5
ABRA				eS	Sn	00 48 00.8	+12
BALP	Baler	2.71	160	eP	Pn	00 48 06.9	+1.3
BALP				eS	Sg	00 48 47.1	-0.9

IDC 05 00:47:50.1±3.2**, 14°.95S**×**176°.60W, h0**km**, mb3.7**/4**, mb1 4.1**/4**, mb1mx3.7**/19**, mbtmp3.7**/4**, Error ellipse: s-maj=174.8km s-min=28.3km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.94	257	P	P	00 56 23.6	+0.6
	0.3nm,0.3s,baz=91,slow=8.4,SNR=3.3						
ASAR	Alice Springs	47.32	252	P	P	00 56 25.4	-0.6
	0.8nm,0.4s,baz=87,slow=7.2,SNR=7.2						
NVAR	Mina Array Bea	76.10	44	P	P	00 59 40.6	+0.4
	0.2nm,0.5s,baz=234,slow=7.2,SNR=3.9						
ILAR	Eielson Array	82.64	12	P	P	01 00 14.7	-0.3
	0.4nm,0.6s,baz=217,slow=5.7,SNR=12						

*ISK **05** 01:00:51.8, 40°.86N×42°.64E, h6km, MD2.6*
*ISCJB **05** 01:00:52.1±0.8, 40°.94N±0°.06×42°.70E±0°.06, h4km±7km, Error ellipse: s-maj=11.4km s-min=4.6km az=31.1*
*CSEM **05** 01:00:52.4±0.3, 40°.92N×42°.69E, h8km, MD2.6, Error ellipse: s-maj=9.9km s-min=3.9km az=32.0*
*DDA **05** 01:00:53.7, 40°.91N×42°.58E, h7km, MD2.8*
ISC 05 01:00:52.5±1.2**, 40°.91N**±0°.06×**42°.66E**±0°.03**, h11**km±12km**, n18, σ0^{s}57**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARS	Kars	0.42	132	PG	Pg	01 01 00.1	-0.8
KARS				SG	Sg	01 01 07.3	+0.7
KARS	Kars	0.42	132	i Pg	Pg	01 01 00.1	-0.8
KARS				i Sg	Sg	01 01 07.3	+0.7
DAGI	Agillar	0.59	286	eP	Pg	01 01 04.3	+0.3
DAGI				eS	Sb	01 01 12.8	-0.5
ARTV	Artvin	0.62	296	eP	Pb	01 01 05.3	-0.2
ARTV				eS	Sb	01 01 14.4	+0.2
ARTV	Artvin	0.62	296	eP	Pb	01 01 05.3	-0.2
ARTV				eS	Sb	01 01 14.4	+0.2
DDEM	Demirkent	0.69	269	i P	Pg	01 01 05.5	-0.4
DDEM				i S	Sg	01 01 14.8	-0.2
DDEM	Demirkent	0.69	269	i P	Pg	01 01 05.5	-0.4
DDEM				i S	Sg	01 01 14.8	-0.2
DBOC	Borcka	0.87	300	eP	Pb	01 01 09.4	-0.2
DBOC				eS	Sb	01 01 21.4	+0.1
DBOC	Borcka	0.87	300	eP	Pb	01 01 09.4	-0.2
DBOC				eS	Sb	01 01 21.4	+0.1
BCA	Borcka	0.95	304	PG	Pb	01 01 10.8	-0.2
BCA	Borcka	0.95	304	i Pg	Pb	01 01 10.8	-0.2
AGRB	Hanur-Agry	1.36	169	ePN	Pn	01 01 17.0	-0.6
AGRB	Hanur-Agry	1.36	169	ePn	Pn	01 01 17.0	-0.6
ERZM	Erzurum	1.41	225	eP	Pg	01 01 19.6	0.0
ERZM				eS	Sg	01 01 39.2	+1.3
ERZM	Erzurum	1.41	225	eP	Pg	01 01 19.6	0.0
ERZM				eS	Sg	01 01 39.2	+1.3
EZM	Erzurum	1.41	225	ePN	Pn	01 01 18.1	-0.3
GNI	Garni	1.76	115	ePN	Pn	01 01 23.7	+0.7
GNI	Garni	1.76	115	ePn	Pn	01 01 23.7	+0.7

IDC 05 01:18:15.9±13.0**, 19°.00N**×**145°.51E, h348**km±147km**, mb2.8**/5**, mb1 3.0**/5**, mb1mx2.8**/24**, mbtmp2.8**/5**, Error ellipse: s-maj=42.8km s-min=28.2km az=85.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.22	196	P	P	01 25 19.8	-0.2
	1.0nm,0.6s,baz=14,slow=8.7,SNR=3.9						
SONM	Songino Array	42.80	321	P	P	01 25 39.7	-1.0
	0.2nm,0.6s,baz=135,slow=11,SNR=3.4						
MKAR	Makanchi Array	58.13	314	P	P	01 27 35.3	+1.2
	0.1nm,0.4s,baz=97,slow=7.2,SNR=3.6						
ILAR	Eielson Array	63.46	26	P	P	01 28 09.3	0.0
	0.1nm,0.3s,baz=260,slow=5.7,SNR=5.8						
FINES	FINESS Array B	86.54	335	P	P	01 30 19.4	-0.6
	0.6nm,0.5s,baz=57,slow=5.1,SNR=10						

*IDC **05** 01:20:42.5±2.2, 22°.26S×68°.45W, h108km±20km, mb3.4/5, mb1 3.6/8, mb1mx3.5/19, mbtmp3.5/8, Error ellipse: s-maj=27.5km s-min=19.2km az=93.0*
*ISCJB **05** 01:20:43.8±0.5, 22°.02S±0°.04×68°.57W±0°.06, h131km±5km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=6.1km az=174.6*
*GUC **05** 01:20:45.4±0.8, 22°.09S×68°.66W, h119km±4km, ML4.0*
ISC 05 01:20:44.8±0.8**, 22°.01S**±0°.04×**68°.56W**±0°.06**, h125**km±6km**, n20, σ1^{s}11**/30**, mb3.6**/4**, 8C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	0.67	288	⇑iP	Pn	01 21 04.8	+0.2
PB09				i S	Sn	01 21 19.4	-0.1
PB09				AML	AML	01 21 20.1	
	comp=N,8μm,0.4s						
LVC	Limon Verde	0.68	208	⇑iP	Pn	01 21 04.1	-0.7
LVC				i S	Sn	01 21 18.9	-1.1
PB04	Plate Boundary	0.89	253	⇑iP	Pn	01 21 12.4	+6.2
PB04				i S	Sn	01 21 32.9	+10
PB04				AML	AML	01 21 39.7	
	comp=E,1μm,0.4s						
SPCH	San Pedro de A	0.96	159	⇑iP	Pn	01 21 07.6	+0.4
SPCH				i S	Sn	01 21 24.4	+0.3
MACH	Maria Elena	1.12	260	⇑iP	Pn	01 21 08.5	-0.2
MACH				i S	Sn	01 21 26.3	-0.5
PB07	Plate Boundary	1.26	283	⇑iP	Pn	01 21 10.0	-0.1
PB07				i S	Sn	01 21 28.7	-0.6
PB07				AML	AML	01 21 29.2	
	comp=N,3μm,0.1s						
PB01	Plate Boundary	1.29	318	⇑iP	Pn	01 21 10.1	-0.2
PB01				i S	Sn	01 21 29.6	0.0
PB01				AML	AML	01 21 31.0	
	comp=E,3μm,0.8s						
CEN1	Los Morros	2.04	227	eP	Pn	01 21 20.0	+0.9
CEN1				eS	Sn	01 21 47.5	+2.1
CEN1				AML	AML	01 21 59.0	
	comp=E,533nm,0.6s						
MECH	Mejillones	2.06	238	⇑iP	Pn	01 21 19.0	-0.1
MECH				eS	Sn	01 21 44.2	-1.3
MECH				AML	AML	01 22 01.9	
	comp=E,1μm,0.4s						
HMBC	Humberstone	2.12	324	⇓iP	Pn	01 21 19.4	-0.7
HMBC				i S	Sn	01 21 46.4	-0.8
HMBC				AML	AML	01 21 49.5	
	comp=E,2μm,0.3s						
ANCH	Antofagasta	2.38	225	eP	Pn	01 21 22.7	-0.5
ANCH				i S	Sn	01 21 51.0	-1.8
ANCH				AML	AML	01 21 53.0	
	comp=E,2μm,0.2s						
MNMC	Minimini	3.02	341	eP	Pn	01 21 31.5	-0.3
MNMC				eS	Sn	01 22 08.7	+0.7
MNMC				AML	AML	01 22 10.3	
	comp=N,796nm,0.3s						
LPAZ	La Paz	5.71	4	P	Pn	01 22 09.7	+1.8
	comp=N,5.9nm,0.3s,baz=192,slow=4.6,SNR=120						
SIV	San Ignacio	9.27	51	P	Pn	01 22 52.5	-3.0
	comp=N,5.5nm,0.3s,baz=250,slow=12,SNR=90						
SIV				S	Sn	01 24 29.1	-9.1
	comp=N,0.6nm,0.3s,baz=306,slow=19,SNR=6.5						
CFAA	Coronel Fontan	9.56	178	P	Pn	01 22 55.1	-4.2
	comp=N,0.2nm,0.3s,baz=354,slow=12,SNR=14						
CFAA				S	Sn	01 24 35.3	-10
	comp=N,0.1nm,0.3s,baz=259,slow=18,SNR=3.5						
BDFB	Brasilia	20.45	75	P	P	01 25 11.8	-0.8
	comp=N,2.6nm,0.5s,baz=255,slow=9.2,SNR=6.1						
TXAR	Lajitas Array	61.23	325	P	P	01 30 48.0	+1.2
	comp=N,0.2nm,0.6s,baz=150,slow=7.3,SNR=2.8						
DBIC	Dimbokro	68.57	73	P	P	01 31 34.3	-0.3
	comp=N,0.9nm,0.4s,baz=237,slow=7.3,SNR=3.8						
TORD	Torodi Ar. Bea	77.22	70	P	P	01 32 25.2	-0.4
	comp=N,0.9nm,0.5s,baz=255,slow=5.4,SNR=32						
YKA	Yellowknife Ar	91.77	340	P	P	01 33 38.1	+0.3
	comp=N,0.1nm,0.4s,baz=133,slow=4.4,SNR=5.5						
YKA				pP	pP	01 34 11.6	+1.6
	comp=N,0.2nm,0.8s,baz=141,slow=3.8,SNR=2.7						

*ISK **05** 01:24:22.8, 39°.55N×35°.46E, h7km, MD2.6*
*CSEM **05** 01:24:22.3±0.8, 39°.64N×35°.61E, h2km, MD2.6, Error ellipse: s-maj=15.9km s-min=7.8km az=52.0*
*DDA **05** 01:24:27.8, 39°.56N×35°.24E, h7km, MD2.8*
ISC 05 01:24:23.8±1.4**, 39°.52N**±0°.03×**35°.42E**±0°.06**, h3**km±10km**, n16, σ0^{s}83**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOZ	Yozgat	0.15	328	PG	Pg	01 24 26.9	+0.1
YOZ				SG	Sg	01 24 28.4	-0.3
YOZ	Yozgat	0.15	328	i Pg	Pg	01 24 26.9	+0.1
YOZ				i Sg	Sg	01 24 28.5	-0.3
BNN	Bunyan	0.74	153	ePG	Pg	01 24 37.4	-0.6
BNN	Bunyan	0.74	153	ePg	Pg	01 24 37.4	-0.6
CDAG	Cicekdag	0.82	278	eP	Pb	01 24 40.3	-0.4
CDAG				eS	Sg	01 24 51.0	+0.9
CDAG	Cicekdag	0.82	278	eP	Pb	01 24 40.3	-0.4
CDAG				eS	Sg	01 24 51.0	+0.9
AVNT	Avonos	0.86	211	eP	Pn	01 24 43.7	+0.8
AVNT				eS	Sn	01 24 56.4	+0.4
AVNT	Avonos	0.86	211	eP	Pn	01 24 43.7	+0.8
AVNT				eS	Sn	01 24 56.4	+0.4
CORM	Corum	0.90	318	ePG	Pg	01 24 40.2	-0.8
CORM				eSG	Sb	01 24 53.4	-1.1
CORM	Corum	0.90	318	ePg	Pg	01 24 40.2	-0.8
CORM				eSg	Sb	01 24 53.4	-1.1
CTKT	Corum	1.21	337	eP	Pn	01 24 49.4	+1.7
CTKT				eS	Sn	01 25 04.3	-0.4
CTKT	Corum	1.21	337	eP	Pn	01 24 49.4	+1.7
CTKT				eS	Sn	01 25 04.3	-0.4
KAMT	Kaman	1.33	264	ePN	Pn	01 24 48.9	-0.4
KAMT	Kaman	1.33	264	ePn	Pn	01 24 48.9	-0.4
BBAL	Bala	1.78	272	eP	Pb	01 24 57.2	+0.1
BBAL				eS	Sg	01 25 21.8	+0.9
BBAL	Bala	1.78	272	eP	Pb	01 24 57.2	+0.1
BBAL				eS	Sg	01 25 21.8	+0.9

*IDC **05** 01:32:31.6±0.7, 30°.75S×13°.52W, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/20, mbtmp4.3/14, MS4.4/18, Ms1 4.3/18, ms1mx4.3/21, Error ellipse: s-maj=26.0km s-min=15.5km az=165.0*
*ISCJB **05** 01:32:32.1±0.3, 30°.82S±0°.07×13°.54W±0°.08, h10km, mb4.5/23, MS4.4/18, Error ellipse: s-maj=10.4km s-min=8.9km az=137.1*
*NEIC **05** 01:32:33.3±0.3, 30°.75S×13°.50W, h10km, mb4.7/12, Error ellipse: s-maj=10.3km s-min=8.9km az=151.0*
*GCMT **05** 01:32:36.7±0.2, 30°.78S×13°.45W, h12km, MW5.1, Moment Tensor Solution. s43,c49; s85,c135; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.80±.15; $M_{\theta\theta}$-1.01±.16; $M_{\phi\phi}$2.81±.13; $M_{r\theta}$-1.67±.41; $M_{\theta\phi}$-4.94±.11; $M_{\phi r}$1.17±.37; Best double couple: $M_0$5.60000×10^{16} NP1:ϕ_s11.00000°, δ69.00000°, λ-2.00000°. NP2:ϕ_s102.00000°, δ88.00000°, λ-159.00000°. Principal axes: T 6.6300, Plg13.0000°, Azm235.0000°; N -2.0300, Plg69.0000°, Azm108.0000°; P -4.6000, Plg16.0000°, Azm329.0000°; Data Used: II IU CN G IC.*
ISC 05 01:32:33.4±0.4**, 30°.73S**±0°.08×**13°.53W**±0°.09**, h10**km**, n79, σ1^{s}23**/65**, mb4.5**/23**, MS4.4**/18**, 10C-5D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRIS	Tristan da Cun	6.40	171	Pn	Pn	01 34 07.1	-0.6
SUR	Sutherland	29.24	102	LR	LR	01 47 35.9	
	comp=Z,808nm,18.4s,baz=261,slow=31						
SUR	Sutherland	29.24	102	P	P	01 38 34.3	-1.4
BOSA	Boshof	33.65	96	P	P	01 39 14.4	-0.2
	12nm,1.0s,baz=247,slow=10.0,SNR=12						
BOSA				LR	LR	01 49 38.5	
	comp=Z,653nm,21.0s,baz=258,slow=30						
BOSA	Boshof	33.65	96	eP	P	01 39 14.0	-0.6
	23nm,0.9s						
BDFB	Brasilia	34.91	288	P	P	01 39 24.7	-0.8
	14nm,0.7s,baz=126,slow=9.2,SNR=17						
BDFB				LR	LR	01 50 02.1	
	comp=Z,272nm,21.0s,baz=286,slow=30						
LBTB	Lobatse	34.92	90	P	P	01 39 25.1	-0.5
	5.9nm,1.0s,baz=267,slow=12,SNR=4.1						
LBTB	Lobatse	34.92	90	eP	P	01 39 26.0	+0.4
	10.0nm,0.8s						
DBIC	Dimbokro	38.11	14	P	P	01 39 51.2	-1.3
	2.4nm,0.6s,baz=166,slow=11,SNR=8.1						
DBIC				LR	LR	01 51 19.7	
	comp=Z,345nm,20.9s,baz=173,slow=30						
DBIC	Dimbokro	38.11	14	eP	P	01 39 51.3	-1.3
	3.9nm,0.7s						
CPUP	Villa Florida	38.55	265	P	P	01 39 56.1	-0.2
	2.0nm,0.8s,baz=103,slow=8.9,SNR=3.1						
CPUP				LR	LR	01 53 36.9	
	comp=Z,825nm,18.8s,baz=97,slow=33						
CPUP	Villa Florida	38.55	265	P	P	01 39 56.1	-0.2
TRQA	Tornquist	40.27	246	eP	P	01 40 10.4	-0.2
	56nm,2.0s						
TRQA				ePP	PP	01 41 43.7	+0.5
VNA2	Neumayer--Watz	40.39	177	eP	P	01 40 12.3	+1.2
	baz=352,slow=10						
LSZ	Lusaka	41.11	78	eP	P	01 40 18.2	+0.3
	9.1nm,1.1s						
SIV	San Ignacio	45.72	278	P	P	01 40 55.9	+0.9
	4.8nm,0.9s,baz=114,slow=6.0,SNR=17						
SIV	San Ignacio	45.72	278	P	P	01 40 55.9	+0.9
TOA0	Torodi Ar. Sit	46.02	21	eP	P	01 40 56.7	-0.5
TOA0				ePcP	PcP	01 42 32.5	-1.3
TORD	Torodi Ar. Bea	46.02	21	P	P	01 40 56.2	-1.0
	2.8nm,0.6s,baz=198,slow=8.6,SNR=24						
TORD				LR	LR	01 55 58.4	
	comp=Z,805nm,21.0s,baz=205,slow=31						
TORD	Torodi Ar. Bea	46.02	21	P	P	01 40 56.2	-1.0
PLCA	Paso Flores	46.63	241	P	P	01 41 01.5	-0.5
	4.6nm,1.0s,baz=68,slow=5.4,SNR=5.3						
PLCA				LR	LR	01 57 04.2	
	comp=Z,451nm,20.1s,baz=106,slow=32						
PLCA	Paso Flores	46.63	241	eP	P	01 41 01.7	-0.3
	7.0nm,1.1s						
SAML	Samuel	51.00	284	eP	P	01 41 36.9	+1.2
	12nm,1.0s						
SAML				ePcP	PcP	01 42 53.4	+1.6
LPAZ	La Paz	51.63	273	P	P	01 41 40.8	-0.4
	2.5nm,1.0s,baz=117,slow=8.9,SNR=4.4						
LPAZ				LR	LR	02 00 59.6	
	comp=Z,405nm,19.9s,baz=87,slow=33						
LPAZ	La Paz	51.63	273	eP	P	01 41 41.0	-0.2
	4.0nm,0.9s						
MAW	Mawson	56.82	154	LR	LR	02 01 27.5	
	comp=Z,366nm,21.4s,baz=282,slow=31						
QSPA	South Pole Qui	59.50	180	eP	P	01 42 36.5	-0.1
	31nm,1.3s						
SDV	Santo Domingo	67.42	296	eP	P	01 43 29.3	-0.3
	11nm,1.0s						
KEST	Kesra	69.52	20	P	P	01 43 42.5	+0.3
	4.2nm,1.1s,baz=146,slow=7.3,SNR=3.8						
KEST				LR	LR	02 11 19.0	
	comp=Z,290nm,18.7s,baz=179,slow=34						
KEST	Kesra	69.52	20	eP	P	01 43 42.7	+0.5
ESDC	Sonseca Array	70.61	8	P	P	01 43 47.6	-1.2
	0.4nm,0.6s,baz=188,slow=6.9,SNR=2.6						
ESDC				LR	LR	02 08 38.2	
	comp=Z,216nm,21.8s,baz=55,slow=31						
ESDC	Sonseca Array	70.61	8	P	P	01 43 47.6	-1.2
VNDA	Vanda	71.96	179	LR	LR	02 11 02.6	
	comp=Z,129nm,19.3s,baz=181,slow=32						
VNDA	Vanda	71.96	179	eP	P	01 43 57.1	+0.6
	5.6nm,1.2s						
VTS	Vitosha	80.40	27	⇑iP	P	01 44 51.6	+6.5
ABTA	Abfaltersbach	80.63	18	⇑iP	P	01 44 49.1	+3.0
	17nm,1.4s						
WTTA	Wattenberg	80.88	17	⇑isP	sP	01 44 54.4	+2.4
	12nm,1.3s						
KBA	Koelnbreinsper	81.16	18	⇓iP	P	01 44 52.5	+3.5
	12nm,1.4s						
ARSA	Arzberg	81.92	20	⇑iP	P	01 44 54.6	+1.7
	11nm,1.4s						
PKSM	Moragy	81.94	22	⇓iP	P	01 44 59.5	+6.6
BZS	Buzias	82.42	24	⇑iP	P	01 45 01.5	+6.0
GZR	Gura Zlata	82.64	25	⇑iP	P	01 45 02.9	+6.2
BRTR	Keskin Array B	82.66	35	P	P	01 44 58.1	+1.1
	2.3nm,1.0s,baz=205,slow=6.4,SNR=10						
BRTR	Keskin Array B	82.66	35	P	P	01 44 58.1	+1.1
BR131	Keskin Array S	82.66	35	eP	P	01 44 58.7	+1.6
	2.8nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BR131				ePcP	PcP	01 45 03.6	+1.6
GERES	GERESS Array B	82.87	18	P	P	01 44 59.8	+1.9
	0.5nm,0.5s,baz=201,slow=5.2,SNR=5.3						
GERES				LR	LR	02 21 04.7	
	comp=Z,218nm,21.8s,baz=84,slow=35						
GERES	GERESS Array B	82.87	18	P	P	01 44 59.8	+1.9
VOIR		83.52	26	⇓iP	P	01 45 04.7	+3.4
DRGR		83.81	24	⇑iP	P	01 45 04.4	+1.6
PSZ	Piszkesteto	83.85	22	⇑iP	P	01 45 00.3	-2.6
MLR	Muntele Rosu	83.91	27	⇓iP	P	01 45 02.6	-0.8
VYHS	Vyhne	84.02	21	eP	P	01 45 03.6	-0.1
VYHS				epP	PcP	01 45 09.9	+2.3
PLOR	Plostina	84.48	27	⇑iP	P	01 45 08.2	+2.0
VRI	Vrincioaia	84.53	27	⇑iP	P	01 45 08.2	+1.9
MORC	Moravsky Berou	84.78	20	⇓iP	P	01 45 08.1	+0.5
CRVS	Cervenica-Dubn	85.22	22	eP	P	01 45 10.5	+0.8
KOLS	Kolonicke sedl	85.51	23	eP	P	01 45 13.4	+2.2
AKASG	Malin Array Be	89.45	26	P	P	01 45 31.5	+1.4
	0.4nm,0.4s,baz=215,slow=5.0,SNR=3.0						
AKASG				LR	LR	02 21 59.3	
	comp=Z,118nm,18.5s,baz=225,slow=33						
AKASG	Malin Array Be	89.45	26	P	P	01 45 31.5	+1.4
KBZ	Khabaz	90.29	37	LR	LR	02 29 43.7	
	comp=Z,88nm,18.4s,baz=313,slow=38						
NOA	NORSAR Array B	93.65	12	LR	LR	02 27 16.7	
	comp=Z,153nm,18.4s,baz=220,slow=35						
SCHQ	Schefferville	96.72	332	LR	LR	02 20 45.9	
	comp=Z,149nm,19.2s,baz=2.9,slow=30						
FINES	FINESS Array B	97.31	18	LR	LR	02 25 31.4	
	comp=Z,188nm,20.0s,baz=313,slow=33						
TXAR	Lajitas Array	104.46	296	PP	PP	01 51 03.4	+5.2
	0.3nm,0.7s,baz=131,slow=9.7,SNR=4.4						
TXAR	Lajitas Array	104.46	296	PP	PP	01 51 03.4	+5.2
TBI	Tubuai	111.61	223	eSS	SS	02 07 34.0	+10
	104nm,33.5s						
TBI				eLR	LR	02 24 16.4	
	212nm,33.8s						
REDW	Red Top Meadow	115.34	307	ePKPdf	PKPdf	01 51 16.5	+1.1
PPT2	Papeete2	116.01	227	eSS	SS	02 08 29.7	+6.9
	116nm,26.2s						
PPT2				eLR	LR	02 26 21.0	
	428nm,33.5s						
ASAR	Alice Springs	117.54	146	PKP	PKPdf	01 51 19.3	-0.8
	0.8nm,0.6s,baz=188,slow=2.5,SNR=5.8						
ASAR	Alice Springs	117.54	146	PKP	PKPdf	01 51 19.3	-0.8
WRA	Warramunga Arr	120.90	144	PKP	PKPdf	01 51 25.3	-1.3
	0.5nm,0.3s,baz=227,slow=1.9,SNR=5.5						
WRA	Warramunga Arr	120.90	144	PKP	PKPdf	01 51 25.3	-1.3
YKA	Yellowknife Ar	121.81	328	PKP	PKPdf	01 51 25.6	-1.3
	0.3nm,0.6s,baz=80,slow=2.1,SNR=4.9						
YKA	Yellowknife Ar	121.81	328	PKP	PKPdf	01 51 25.6	-1.3
DZM	Mont Dzumac	127.50	180	eLR	LR	02 31 42.9	
	160nm,23.8s						
ILAR	Eielson Array	135.46	334	PKP	PKPdf	01 51 52.3	-0.6
	0.6nm,0.7s,baz=23,slow=1.2,SNR=7.7						
ILAR	Eielson Array	135.46	334	PKP	PKPdf	01 51 52.3	-0.6
KSAR	Wonju Array Be	147.51	68	PKPbc	PKPbc	01 52 17.0	-0.8
KSRS	Korea Array	147.55	68	PKPbc	PKPbc	01 52 17.0	-0.8
	1.1nm,0.6s,baz=132,slow=1.8,SNR=4.2						

*GEN **05** 01:38:00.8, 44.°28N×10.°54E, h13km, ML2.2*
*ROM **05** 01:38:01.1±0.1, 44.°26N×10.°50E, h10km±1km, Md2.3/13, Ml2.4/7, Error ellipse: s-maj=3.0km s-min=1.8km az=90.0*
*VIE **05** 01:38:01.2±0.3, 44.°20N×10.°61E, h10km, mb2.4/3, ML2.5/6, Error ellipse: s-maj=3.7km s-min=1.4km az=132.0 67 km WSW of Bologna*
*ISCJB **05** 01:38:01.1±0.3, 44.°24N±0.°02×10.°42E±0.°03, h18km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=147.0*
*CSEM **05** 01:38:01.2±0.1, 44.°24N×10.°45E, h12km, ML2.4/9, Error ellipse: s-maj=2.5km s-min=1.9km az=43.0*
*LDG **05** 01:38:01.8±0.1, 44.°24N×10.°52E, h5km, Ml2.5/9, Error ellipse: s-maj=2.2km s-min=1.8km az=82.0*
ISC 05 01:38:01.1±0.8, **44.°23N**±0.°02×**10.°46E**±0.°02, **h17**km±4km, **n78**, σ1.°**16**/117, **8C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLC	Villacollemand	0.09	217	⇑iPg	Pg	01 38 04.9	+0.3
VLC				Sg	Sg	01 38 08.0	+1.0
	1μm,0.3s						
VLC	Villacollemand	0.09	217	⇑iPg	Pg	01 38 04.9	+0.3
VLC				Sg	Sg	01 38 08.0	+1.0
	1μm,0.3s						
GSCL	Gusciola	0.15	37	⇓iPg	Pg	01 38 04.0	-1.3
	1.0nm,0.4s						
GSCL	Gusciola	0.15	37	⇓iPg	Pg	01 38 04.0	-1.3
	1.0nm,0.4s						
ERBM	Eremo	0.19	350	Pg	Pg	01 38 05.0	-0.9
ERBM				Sg	Sg	01 38 08.1	-1.1
	758nm,0.2s						
ERBM	Eremo	0.19	350	Pg	Pg	01 38 05.0	-0.9
ERBM				Sg	Sg	01 38 08.1	-1.1
	758nm,0.2s						
VALM	Valbona	0.19	308	P	Pg	01 38 05.6	-0.3
VALM				S	Sg	01 38 08.8	-0.4
BDI	Bagni Di Lucca	0.20	150	⇑ePg	Pb	01 38 05.9	-0.4
BDI				Sg	Sb	01 38 09.9	+0.2
BDI	Bagni Di Lucca	0.20	150	⇑ePg	Pb	01 38 05.9	-0.4
BDI				Sg	Sb	01 38 09.9	+0.2
CRDM	Cardoso	0.20	176	P	Pb	01 38 06.1	-0.3
CRDM				S	Sb	01 38 09.8	-0.2
MAIM	Mastiano	0.32	176	Pg	Pb	01 38 07.9	-0.4
MAIM				Sg	Sb	01 38 13.9	+0.7
	193nm,0.4s						
MAIM	Mastiano	0.32	176	Pg	Pb	01 38 07.9	-0.4
MAIM				S	Sb	01 38 13.0	-0.2
MAIM				Sg	Sb	01 38 13.9	+0.7
	193nm,0.4s						
GRAM	Graiana	0.39	313	P	Pg	01 38 08.5	-0.6
GRAM				S	Sg	01 38 13.9	-0.6
ZCCA	Zocca	0.39	72	Pg	Pg	01 38 09.2	0.0
	149nm,0.6s						
ZCCA	Zocca	0.39	72	Pg	Pg	01 38 09.2	0.0
	149nm,0.6s						
PII	Pisa	0.51	175	Pg	Pb	01 38 11.5	-0.1
PII	Pisa	0.51	175	Pg	Pb	01 38 11.5	-0.1
PRMA	PARMA	0.54	349	Pg	Pb	01 38 12.2	0.0
	276nm,0.6s						
PRMA	PARMA	0.54	349	Pg	Pb	01 38 12.2	0.0
	276nm,0.6s						
CRMI	Carmignano	0.57	140	Pg	Pb	01 38 12.7	0.0
CRMI				Sg	Sb	01 38 21.4	+0.8
CRMI	Carmignano	0.57	140	Pg	Pb	01 38 12.7	0.0
CRMI				Sg	Sb	01 38 21.4	+0.8
NOVE	Novellara	0.60	18	Pg	Pb	01 38 13.3	+0.2
	697nm,0.4s						
NOVE	Novellara	0.60	18	Pg	Pb	01 38 13.3	+0.2
	697nm,0.4s						
SEI	Scarperia	0.67	105	Pg	Pg	01 38 13.6	-0.7
	371nm,0.3s						
SEI	Scarperia	0.67	105	Pg	Pg	01 38 13.6	-0.7
	371nm,0.3s						
SC2M	Scurtabo	0.69	285	Pg	Pb	01 38 14.7	0.0
SC2M	Scurtabo	0.69	285	P	Pg	01 38 14.3	-0.3
SC2M	Scurtabo	0.69	285	Pg	Pb	01 38 14.7	0.0
SC2M				S	Sg	01 38 23.5	-0.3
MTRZ	Monterenzio	0.74	78	Pg	Pb	01 38 15.7	+0.2
MTRZ	Monterenzio	0.74	78	Pg	Pb	01 38 15.7	+0.2
VMG	Vicchio	0.82	109	Pg	Pg	01 38 16.3	-0.9
	52nm,0.6s						
VMG	Vicchio	0.82	109	Pg	Pg	01 38 16.3	-0.9
	52nm,0.6s						
CSNT	Castellina Chi	0.97	141	Pg	Pn	01 38 20.4	+0.5
CSNT	Castellina Chi	0.97	141	Pg	Pn	01 38 20.4	+0.5
PCP	Piancastagn	1.41	283	P	Pn	01 38 25.9	-0.1
PCP				S	Sn	01 38 42.3	-1.9
PGF	Pioggiola	1.99	213	ePn	Pn	01 38 34.6	+0.5
PGF				eSn	Sn	01 38 58.6	-0.1
	3.0nm,0.3s						
PGF	Pioggiola	1.99	213	ePn	Pn	01 38 34.6	+0.5
PGF				eSn	Sn	01 38 58.6	-0.1
	1.5nm,0.3s						
CTI	Castel Tesino	2.00	24	Pg	Pn	01 38 33.8	-0.4
	86nm,1.4s						
CTI	Castel Tesino	2.00	24	Pg	Pn	01 38 33.8	-0.4
	86nm,1.4s						
SBF	Sospel	2.21	261	ePn	Pn	01 38 38.2	+1.1
SBF				eSn	Sn	01 39 04.5	+0.4
	13nm,0.4s						
SBF	Sospel	2.21	261	ePn	Pn	01 38 38.2	+1.1
SBF				eSn	Sn	01 39 04.5	+0.4
	6.3nm,0.4s						
MBDF	Montbardon	2.69	282	ePn	Pn	01 38 44.4	+0.7
MBDF				eSn	Sn	01 39 15.8	-0.1
	1.6nm,0.3s						
MBDF	Montbardon	2.69	282	ePn	Pn	01 38 44.4	+0.7
MBDF				eSn	Sn	01 39 15.8	-0.1
	0.8nm,0.3s						
FRF	La Foret Royal	2.84	258	ePn	Pn	01 38 45.7	+0.1
FRF				eSn	Sn	01 39 19.4	0.0
	2.4nm,0.2s						
FRF	La Foret Royal	2.84	258	ePn	Pn	01 38 45.7	+0.1
FRF				eSn	Sn	01 39 19.4	0.0
	1.2nm,0.2s						
LPG	La Plagne	2.93	297	ePn	Pn	01 38 48.4	+1.3
LPG	La Plagne	2.93	297	ePn	Pn	01 38 48.4	+1.3
LPL	La Plagne	2.95	297	ePn	Pn	01 38 48.5	+1.2
LPL				eSn	Sn	01 39 21.9	-0.5
	0.6nm,0.2s						
LPL	La Plagne	2.95	297	ePn	Pn	01 38 48.5	+1.2
LPL				eSn	Sn	01 39 21.9	-0.5
	0.3nm,0.2s						
LMR	La Mourre	3.00	254	ePn	Pn	01 38 47.9	+0.1
LMR				eSn	Sn	01 39 23.1	-0.3
	3.5nm,0.3s						
LMR	La Mourre	3.00	254	ePn	Pn	01 38 47.9	+0.1
LMR				eSn	Sn	01 39 23.1	-0.3
	1.8nm,0.3s						
WTTA	Wattenberg	3.14	15	⇓iPn	Pn	01 38 51.0	+1.0
WTTA				⇓iSn	Sn	01 39 30.0	+2.8
WTTA	Wattenberg	3.14	15	Pn	Pn	01 38 51.0	+1.0
WTTA				Sn	Sn	01 39 30.0	+2.8
NVLJ	Novalja	3.18	82	i Pn	Pn	01 38 50.1	-0.2
NVLJ				Sn	Sn	01 39 23.7	-4.0
WATA	Walderalm	3.20	14	⇑iPn	Pn	01 38 52.0	+1.2
WATA				⇑iSn	Sn	01 39 31.3	+2.7
WATA	Walderalm	3.20	14	Pn	Pn	01 38 52.0	+1.2
WATA				Sn	Sn	01 39 31.3	+2.7
RETA	Reutte	3.26	4	⇑iPn	Pn	01 38 53.2	+1.6
RETA				⇑iSn	Sn	01 39 32.9	+2.9
RETA	Reutte	3.26	4	Pn	Pn	01 38 53.2	+1.6
RETA				Sn	Sn	01 39 32.9	+2.9
ORIF	Oris-en-Rattie	3.34	283	eP	Pb	01 38 56.5	-3.5
ORIF	Oris-en-Rattie	3.34	283	eP	Pb	01 38 56.5	-3.5
SMRF	Simiane la Rot	3.53	268	ePn	Pn	01 38 56.3	+1.1
SMRF	Simiane la Rot	3.53	268	ePn	Pn	01 38 56.3	+1.1
CABF	La Chapelle	3.89	309	ePn	Pn	01 39 01.9	+1.7
CABF	La Chapelle	3.89	309	ePn	Pn	01 39 01.9	+1.7
VIVF	Saint-Julien-l	4.18	281	ePn	Pn	01 39 04.8	+0.6
VIVF	Saint-Julien-l	4.18	281	ePn	Pn	01 39 04.8	+0.6
HINF	Hinteralfeld	4.38	326	ePn	Pn	01 39 06.9	+0.1
HINF				eSn	Sn	01 39 55.0	-2.4
	2.6nm,0.4s						
HINF	Hinteralfeld	4.38	326	ePn	Pn	01 39 06.9	+0.1
HINF				eSn	Sn	01 39 55.0	-2.4
	1.3nm,0.4s						
CDF	Champ du Feu	4.73	333	ePn	Pn	01 39 11.3	-0.4
CDF				eSn	Sn	01 40 03.9	-2.2
	1.6nm,0.3s						
CDF	Champ du Feu	4.73	333	ePn	Pn	01 39 11.3	-0.4
CDF				eSn	Sn	01 40 03.9	-2.2
	0.8nm,0.3s						
HAU	Haudompre	4.74	324	ePn	Pn	01 39 12.2	+0.5
HAU				eSn	Sn	01 40 04.1	-2.1
	5.4nm,0.4s						
HAU	Haudompre	4.74	324	ePn	Pn	01 39 12.2	+0.5
HAU				eSn	Sn	01 40 04.1	-2.1
	2.7nm,0.4s						
PAGF	Fort de Pagny	5.42	325	ePn	Pn	01 39 21.7	+0.5
PAGF	Fort de Pagny	5.42	325	ePn	Pn	01 39 21.7	+0.5
SFTF	Sexfontaines	5.47	318	ePn	Pn	01 39 22.1	+0.3
	baz=137						
SFTF	Sexfontaines	5.47	318	ePn	Pn	01 39 22.1	+0.3
	baz=137						
LOR	Lormes	5.53	306	ePn	Pn	01 39 24.0	+1.4
	baz=126						
LOR	Lormes	5.53	306	ePn	Pn	01 39 24.0	+1.4
	baz=126						

MEX 05 02:17:19.4±0.9, **16.°81N**×**100.°22W, h15**km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.24	350	eP	Pg	02 17 24.4	-0.3
CAIG				i S	Sg	02 17 28.7	+0.4
ACX	Acapulco	0.35	81	i P	Pg	02 17 24.8	-1.9
ACX				i S	Sg	02 17 29.8	-2.0
ARIG	Puente Sto Nin	1.47	355	i P	Pn	02 17 42.0	-3.3
ARIG				i S	Sn	02 17 58.2	-6.1
PLIG	Platanillo	1.72	24	i P	Pn	02 17 44.8	-4.1
PLIG				i S	Sn	02 18 05.9	-4.8
PNIG	Pinotepa	2.05	101	i P	Pn	02 17 50.9	-2.6
PNIG				i S	Sn	02 18 15.0	-3.9

*IDC **05** 02:55:22.9±0.9, 16.°14N×92.°67W, h203km±9km, mb3.6/13, mb1 3.8/14, mb1mx3.6/27, mbtmp3.6/14, Error ellipse: s-maj=22.3km s-min=9.1km az=54.0*
*NEIC **05** 02:55:25.1, 16.°14N×92.°85W, h231km, mb4.4/24, MD4.3(MEX), After MEX.*
*MEX **05** 02:55:25.0±0.5, 16.°14N×92.°85W, h232km±4km, MD4.3*
ISC 05 02:55:24.9±0.6, **16.°08N**±0.°05×**92.°87W**±0.°04, **h223**km±4km, **n388**, σ1.°**47**/415, **mb4.1**/29, **151C-149D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.50	223	i P	Pn	02 55 54.1	-0.5
PCIG				i S	S	02 56 17.4	-0.5
PCIG		0.50	223	i P	Pn	02 55 54.1	-0.5
PCIG				i S	S	02 56 17.4	-0.5
SCX	San Cristobal	0.69	19	i P	Pn	02 55 56.3	+1.0
SCX				i S	S	02 56 19.2	-0.1
SCX	San Cristobal	0.69	19	i P	Pn	02 55 56.3	+1.0
SCX				i S	S	02 56 19.2	-0.1
CCIG	Comitan	0.73	74	eP	Pn	02 55 55.0	-0.7
CCIG				i S	S	02 56 19.1	-0.7
CCIG	Comitan	0.73	74	eP	Pn	02 55 55.0	-0.7
CCIG				i S	S	02 56 19.1	-0.7
TGIG		0.74	341	i P	Pn	02 55 55.1	-0.5
TGIG				i S	S	02 56 18.3	-1.5
TGIG		0.74	341	i P	Pn	02 55 55.1	-0.5
TGIG				i S	S	02 56 18.3	-1.5
THIG		1.30	153	eP	Pn	02 55 59.2	+0.1
THIG				i S	S	02 56 25.6	-0.1
THIG		1.30	153	eP	Pn	02 55 59.2	+0.1
THIG				i S	S	02 56 25.6	-0.1
CMIG	Matias Romero	2.18	298	P	Pn	02 56 06.4	-0.5
	34nm,0.3s,baz=95,slow=6.3,SNR=428						
CMIG				S	S	02 56 37.5	-2.1
	232nm,0.3s,baz=30,slow=20,SNR=60						
CMIG	Matias Romero	2.18	298	eP	Pn	02 56 06.5	-0.5
CMIG				i S	S	02 56 38.1	-1.6
CMIG	Matias Romero	2.18	298	eP	Pn	02 56 06.5	-0.5
CMIG				i S	S	02 56 38.1	-1.6
HUIG	Huatulco	3.13	265	eP	Pn	02 56 16.9	-0.3
HUIG				i S	S	02 56 57.9	-0.3
HUIG	Huatulco	3.13	265	eP	Pn	02 56 16.9	-0.3
HUIG				i S	S	02 56 57.9	-0.3
OXX	Oaxaca	3.83	286	i P	Pn	02 56 28.1	+2.4
OXX				i S	S	02 57 08.7	-4.7
OXX	Oaxaca	3.83	286	i P	Pn	02 56 28.1	+2.4
OXX				i S	S	02 57 08.7	-4.7
VHO	Vista Hermosa	3.84	285	eP	Pn	02 56 27.5	+1.7
VHO				i S	S	02 57 12.1	-1.4
VHO	Vista Hermosa	3.84	285	i P	Pn	02 56 25.7	0.0
VHO				i S	S	02 57 12.1	-1.4
UTMO	Huajuapan	5.04	291	i P	Pn	02 56 42.4	+1.9
UTMO				eS	S	02 57 38.5	-1.8
UTMO	Huajuapan	5.04	291	eP	Pn	02 56 40.7	+0.2
UTMO				eS	S	02 57 38.5	-1.8
PNIG	Pinotepa	5.06	274	i P	Pn	02 56 42.0	+1.3
PNIG				i S	S	02 57 39.0	-1.6
PNIG	Pinotepa	5.06	274	eP	Pn	02 56 41.0	+0.3
PNIG				i S	S	02 57 39.0	-1.6
TEIG	Tepich	6.01	46	P	Pn	02 56 49.0	-3.6
	162nm,0.3s,baz=245,slow=5.2,SNR=840						
TEIG				S	S	02 57 52.2	-10
	baz=18,slow=19,SNR=2.6						
TEIG	Tepich	6.01	46	ePn	Pn	02 56 48.9	-3.6
JTS	JuntasAbangare	9.61	126	ePn	Pn	02 57 38.1	-0.8
HKT	Hockley	14.07	349	ePn	Pn	02 58 34.0	-0.8
732A	Laxson Ranch,	14.20	334	⇑P	Pn	02 58 36.0	-0.4
	baz=14,SNR=63						
632A	Uvalde	14.80	336	⇓P	Pn	02 58 43.5	-0.3
	baz=15,SNR=21						
631A	Perdido Creek	15.05	333	⇓P	Pn	02 58 46.4	-0.4
	baz=15,SNR=95						
532A	Rocksprings	15.40	336	⇑P	Pn	02 58 51.7	+0.6
	baz=15,SNR=32						
JCT	Junction City	15.68	337	eP	Pn	02 58 55.1	+0.7
	26nm,0.8s						
JCT	Junction City	15.68	337	⇓P	Pn	02 58 54.7	+0.3
	baz=16,SNR=16						
531A	Rocksprings	15.69	335	⇓P	Pn	02 58 55.2	+0.7
	baz=16						
NATX	Nacogdoches	15.70	354	ePn	P	02 58 54.0	0.0
530A	J-C Ranch, Com	16.02	332	⇓P	Pn	02 58 59.6	+1.1
	baz=16						
432A	Menard	16.04	338	⇑P	Pn	02 58 59.2	+0.6
	baz=16,SNR=49						
431A	Sonora	16.17	335	⇑P	Pn	02 59 00.8	+0.5
	baz=16,SNR=40						
VBMS	Vicksburg	16.21	7	eP	P	02 58 59.1	-0.5
	93nm,0.9s						
628A	Black Gap, Mar	16.22	327	⇑P	Pn	02 59 02.2	+1.3
	baz=16,SNR=71						
WHTX	Lake Whitney	16.39	346	⇑P	P	02 59 01.9	+0.3
	baz=16,SNR=7.8						
529A	Stev Forest Ra	16.41	330	⇑P	Pn	02 59 03.4	+0.3
	baz=16,SNR=37						
627A	Terlingua Ranc	16.46	326	⇓P	Pn	02 59 05.6	+1.9
	baz=16						
TXAR	Lajitas Array	16.52	325	P	Pn	02 59 06.1	+1.7
	2.0nm,0.3s,baz=150,slow=9.3,SNR=221						
TXAR				ScP	ScP	03 06 55.5	+0.7
	0.1nm,0.3s,baz=156,slow=6.8,SNR=5.6						
430A	Baggett Ranch,	16.52	334	⇓P	Pn	02 59 05.4	+0.9
	baz=16,SNR=44						
429A	Davenport Ranc	16.67	332	⇓P	Pn	02 59 06.7	+0.4
	baz=17,SNR=92						
528A	Cox Ranch, San	16.71	329	⇓P	Pn	02 59 07.4	+0.6
	baz=17,SNR=19						
626A	Big Bend Ranch	16.95	324	⇑P	Pn	02 59 11.0	+1.5
	baz=17,SNR=77						
527A	Woodward Ranch	17.12	327	⇑P	Pn	02 59 12.8	+1.2
	baz=17						
428A	Kincaid Ranch,	17.13	330	⇓P	Pn	02 59 11.8	+0.3
	baz=17						
526A	Mary Lane Ranc	17.31	325	⇑P	Pn	02 59 15.0	+1.2
	baz=17,SNR=62						
329A	Wagon Wheel Ra	17.45	333	⇓P	Pn	02 59 14.8	-0.5
	baz=18,SNR=41						
427A	Hayter Ranch,	17.58	329	⇓P	Pn	02 59 16.9	-0.1
	baz=18,SNR=33						
ABTX	Abilene, Hawle	17.58	341	⇓P	P	02 59 15.4	+0.7
	baz=18,SNR=18						
LRAL	Lakeview Retre	17.70	16	eP	Pn	02 59 17.6	-0.6
328A	Wristen Ranch,	17.73	331	⇑P	Pn	02 59 18.3	-0.3
	baz=18,SNR=52						
426A	McDonald Obser	17.76	327	⇑P	Pn	02 59 18.8	-0.4
	baz=18,SNR=35						
229A	Bryant Ranch,	17.79	334	⇑P	Pn	02 59 18.4	-1.0
	baz=18,SNR=35						
326A	Caldwell Ranch	18.25	328	⇓P	Pn	02 59 24.3	-0.4
	baz=18,SNR=151						
228A	UT Block 9, Go	18.25	333	⇓P	P	02 59 23.2	+1.2
	baz=18,SNR=42						
425A	Indio Mountain	18.36	325	⇓P	Pn	02 59 25.3	-0.9
	baz=18,SNR=23						
129A	Stewart Farms,	18.39	335	⇑P	P	02 59 24.4	+0.9
	baz=18,SNR=70						
MIAR	Mount Ida	18.40	358	eP	P	02 59 22.7	-0.8
	27nm,0.9s						
227A	Bennet, Jal	18.48	331	⇓P	Pn	02 59 26.5	-1.0
	baz=18,SNR=31						
OXF	Oxford	18.62	9	eP	Pn	02 59 27.9	-1.1
	32nm,0.9s						
UALR	University of	18.63	1	eP	P	02 59 25.6	-0.4
128A	Castleberry Fa	18.64	334	⇑P	P	02 59 27.2	+1.0
	baz=19,SNR=53						
325A	Bean Ranch, Si	18.81	326	⇓P	Pn	02 59 29.8	-1.6
	baz=19,SNR=31						
Z29A	Hungry Hill Ra	18.88	337	⇑P	P	02 59 29.1	+0.2
	baz=19,SNR=82						
CLNB	Carlsbad	18.97	330	eP	Pn	02 59 31.6	-1.6
	9.6nm,0.9s						
127A	Arkansas Junct	19.07	332	⇓P	P	02 59 31.4	+0.6
	baz=19,SNR=14						
324A	Moseley Ranch,	19.14	325	⇑P	P	02 59 33.3	+1.6
	baz=19,SNR=67						
GDL2	Guadalupe Moun	19.15	329	eP	Pn	02 59 34.0	-1.4
Z28A	Tucker Farm, M	19.18	335	⇓P	P	02 59 32.5	+0.5
	baz=19,SNR=46						
GOGA	Godfrey	19.24	24	eP	P	02 59 32.0	-0.5
	6.1nm,0.8s						
MNTX	Cornudas Mount	19.28	326	⇑P	P	02 59 34.7	+1.7
	baz=19						
225A	Deer Hill, Car	19.31	328	⇓P	P	02 59 35.4	+1.9
	baz=19,SNR=83						
126A	Clayton Basin,	19.35	330	⇑P	P	02 59 34.5	+0.7
	baz=19,SNR=16						
Y29A	Porterfield Fa	19.41	337	⇓P	P	02 59 34.8	+0.4
	baz=19,SNR=8.6						
Z27A	Tatum	19.55	333	⇓P	P	02 59 36.2	+0.2
	baz=20,SNR=50						
224A	Cornudas Mount	19.65	326	⇑P	P	02 59 38.3	+1.2
	baz=20,SNR=103						
Y28A	McKinney Farm,	19.67	336	⇑P	P	02 59 37.3	+0.1
	baz=20,SNR=45						
125A	Gardner Draw,	19.67	329	⇓P	P	02 59 38.3	+1.1
	baz=20,SNR=34						
Z26A	Caprock	19.85	332	⇓P	P	02 59 39.6	+0.4
	baz=20,SNR=30						
TUL1	Tulsa	19.93	353	⇑P	P	02 59 38.5	-1.3
	baz=20						
MSTX	Muleshoe	19.93	335	⇑P	P	02 59 39.8	-0.3
	baz=20,SNR=19						
X29A	Tulia	19.94	338	⇑P	P	02 59 40.0	-0.2
	baz=20,SNR=6.0						
Y27A	Causey	20.01	334	⇓P	P	02 59 40.5	-0.5
	baz=20,SNR=14						
223A	Chaparral, Ant	20.09	325	⇑P	P	02 59 43.3	+1.5
	baz=20						
124A	Stringfield Ra	20.10	328	⇓P	P	02 59 43.9	+1.8
	baz=20,SNR=72						
X28A	Dimmitt	20.19	337	⇓P	P	02 59 42.6	-0.2
	baz=20,SNR=24						
Z25A	Roswell	20.20	330	⇑P	P	02 59 43.7	+0.7
	baz=20,SNR=29						
AMTX	Amarillo	20.33	339	eP	P	02 59 44.3	0.0
	52nm,0.6s						
AMTX	Amarillo	20.33	339	⇓P	P	02 59 44.3	0.0
	baz=20,SNR=25						
Y26A	Elida	20.33	333	⇓P	P	02 59 44.5	+0.1
	baz=20,SNR=6.2						
WVT	Waverly	20.47	12	eP	Pn	02 59 49.0	-2.2
	4.8nm,0.7s						
123A	Bell Site, Whi	20.48	326	⇑P	P	02 59 46.8	+0.9
	baz=20						
W29A	Amraillo	20.53	339	⇑P	P	02 59 46.5	0.0
	baz=20,SNR=32						
Z24A	Sheeppen Canyo	20.56	329	⇑P	P	02 59 48.4	+1.5
	baz=21,SNR=74						
X27A	F and S Farms,	20.65	335	⇑P	P	02 59 47.4	-0.3
	baz=21,SNR=13						
Y25A	Mesa, Roswell	20.72	331	⇑P	P	02 59 49.7	+1.2
	baz=21,SNR=60						
SDDR	Presa de Saban	20.78	79	eP	P	02 59 48.1	-1.1
	26nm,1.0s						
320A	Kipp Ranch, An	20.85	320	⇑P	P	02 59 52.4	+2.5
	baz=21,SNR=11						
W28A	Vega	20.85	338	⇓P	P	02 59 49.6	-0.3
	baz=21,SNR=7.5						
X26A	CR and CF Fran	20.86	334	⇑P	P	02 59 49.8	-0.2
	baz=21,SNR=9.4						
221A	Mesquite Ranch	20.87	322	⇑P	P	02 59 52.3	+2.2
	baz=21,SNR=6.8						
122A	Conniff Cattle	20.93	325	⇓P	P	02 59 52.9	+2.2
	baz=21,SNR=14						
Z23A	Rita Site, Whi	20.95	327	⇓P	P	02 59 52.6	+1.7
	baz=21,SNR=75						
W27A	Bowe Ranch, En	21.00	336	⇑P	P	02 59 51.0	-0.4
	baz=21,SNR=38						
Y24A	Capitan	21.07	330	⇑P	P	02 59 53.7	+1.4
	baz=21,SNR=32						
V29A	Stinnett	21.18	340	⇓P	P	02 59 53.7	+0.5
	baz=21						
X25A	Clemmons Ranch	21.21	332	⇑P	P	02 59 54.6	+1.0
	baz=21						
OTAV	Otavalo	21.21	137	eP	P	02 59 56.4	+2.3

220A	Playas Peak, P baz=21,SNR=25	21.24 321	⇑P	P	02 59 56.1	+2.2
121A	Cookes Peak, D baz=21,SNR=25	21.25 323	⇓P	P	02 59 56.1	+2.0
V28A	Channing baz=21,SNR=5.8	21.30 339	⇑P	P	02 59 54.3	-0.1
W26A	Owens Ranch, T baz=21	21.30 335	⇓P	P	02 59 55.0	+0.5
Z22A	Elephant Butte baz=21,SNR=13	21.33 326	⇓P	P	02 59 57.1	+2.3
319A	Douglas baz=21,SNR=5.4	21.35 318	⇑P	P	02 59 57.7	+2.6
Y23A	Lovelace Mesa, baz=21,SNR=38	21.38 329	⇑P	P	02 59 56.9	+1.5
X24A	Lazy VL Ranch, baz=22,SNR=11	21.59 331	⇓P	P	02 59 58.4	+0.9
KMSC	Kings Mountain baz=22	21.61 26	⇓P	P	02 59 56.2	-1.2
W25A	X Bar L Ranch, baz=22,SNR=39	21.70 334	⇑P	P	02 59 59.2	+0.7
120A	U Bar Ranch, L baz=22,SNR=10	21.75 322	⇓P	P	03 00 01.8	+2.8
Z21A	St. Cloud Mine baz=22,SNR=12	21.76 325	⇑P	P	03 00 01.1	+2.0
BNM	Barren Site 35nm,1.0s	21.85 328	eP	P	03 00 01.6	+1.6
Y22A	Socorro baz=22,SNR=19	21.85 327	⇑P	P	03 00 01.7	+1.7
V26A	Tequesquite Ra baz=22,SNR=24	21.93 336	⇑P	P	03 00 00.8	+0.2
Y22D	IRIS PASSCAL I baz=22	21.94 327	⇑P	P	03 00 02.8	+2.0
X23A	Hourglass Bar baz=22	21.97 329	⇓P	P	03 00 02.7	+1.5
LPM	Los Pinos Moun	21.98 328	eP	P	03 00 03.0	+1.8
LENM	Lemitar	22.04 327	eP	P	03 00 03.9	+2.1
W24A	Lazy 6 Ranch, baz=22,SNR=45	22.12 332	⇑P	P	03 00 03.9	+1.4
Z20A	Nine Sixteen R baz=22,SNR=15	22.14 323	⇓P	P	03 00 05.3	+2.7
Y21A	Point of Rocks baz=22,SNR=14	22.29 326	⇓P	P	03 00 06.5	+2.4
V25A	Rancho No Teng baz=22,SNR=26	22.30 334	⇑P	P	03 00 05.1	+1.0
LAZ	Ladron 8.8nm,0.9s	22.31 328	eP	P	03 00 06.2	+2.0
X22A	Bernardo baz=22,SNR=6.3	22.32 328	⇑P	P	03 00 06.7	+2.4
ANMO	Albuquerque 8.0nm,0.7s,baz=146,slow=11,SNR=43	22.39 330	P	P	03 00 06.3	+1.3
ANMO	Albuquerque 8.5nm,0.8s	22.39 330	eP	P	03 00 06.7	+1.7
W23A	Werner Place, baz=22,SNR=11	22.42 330	⇑P	P	03 00 07.3	+2.0
U26A	Atchley Ranch, baz=22,SNR=55	22.43 336	⇑P	P	03 00 06.4	+1.0
V24A	Rampart Ranch, baz=22,SNR=32	22.49 333	⇑P	P	03 00 07.9	+2.0
T28A	Walsh baz=22	22.51 340	⇑P	P	03 00 06.9	+1.0
Y20A	Horse Springs, baz=23,SNR=17	22.59 325	⇑P	P	03 00 08.8	+1.9
T27A	Campo baz=23,SNR=16	22.66 339	⇑P	P	03 00 06.9	-0.4
X21A	Alamocita Cree baz=23,SNR=38	22.68 327	⇑P	P	03 00 10.1	+2.5
W22A	Albuquerque baz=23	22.70 329	⇓P	P	03 00 10.0	+2.2
U25A	Circle Dot Ran baz=23,SNR=31	22.70 335	⇑P	P	03 00 09.2	+1.5
SDV	Santo Domingo 6.0nm,0.8s	22.84 106	eP	P	03 00 10.2	+1.0
V23A	Ortiz Mt. (NFS baz=23,SNR=24	22.91 331	⇑P	P	03 00 12.3	+2.5
TUC	Tucson	22.93 318	eP	P	03 00 12.5	+2.8
T26A	Comanche Natio baz=23,SNR=11	23.06 338	⇓P	P	03 00 12.1	+1.1
U24A	Moreno Valley baz=23,SNR=7.0	23.07 334	⇑P	P	03 00 13.6	+2.5
W21A	San Fidel baz=23	23.12 328	⇓P	P	03 00 13.6	+1.9
X20A	Quemado baz=23,SNR=8.9	23.13 326	⇓P	P	03 00 14.7	+3.0
KSU1	Kansas State U 66nm,0.8s	23.17 353	eP	P	03 00 10.7	-1.1
S27A	Las Animas baz=23	23.28 340	⇓P	P	03 00 13.7	+0.8
T25A	Trinidad baz=23,SNR=27	23.34 336	⇑P	P	03 00 15.1	+1.6
U23A	El Rito baz=23,SNR=33	23.40 332	⇓P	P	03 00 15.6	+1.5
S26A	Kim baz=23,SNR=12	23.42 338	⇑P	P	03 00 14.8	+0.7
T24A	Torres, Weston baz=24,SNR=11	23.54 335	⇑P	P	03 00 17.3	+1.8
W20A	Ramah baz=24,SNR=20	23.58 326	⇓P	P	03 00 18.4	+2.6
V21A	Milan baz=24,SNR=6.1	23.66 329	⇓P	P	03 00 18.7	+2.2
U22A	Llaves baz=24,SNR=13	23.74 331	⇓P	P	03 00 19.3	+2.0
R27A	Eads baz=24,SNR=7.6	23.79 340	⇑P	P	03 00 17.8	+0.3
S25A	Robets Cordova baz=24	23.81 337	⇓P	P	03 00 19.1	+1.3
T23A	Casias Ranch, baz=24,SNR=5.2	23.92 333	⇑P	P	03 00 20.4	+1.5
X18A	Snowflake baz=24	23.94 323	⇓P	P	03 00 21.0	+2.0
R26A	Arlington baz=24,SNR=7.2	24.02 339	⇑P	P	03 00 21.1	+1.4
214A	Organ Pipe Nat baz=24	24.05 315	⇑P	P	03 00 22.5	+2.5
V20A	Brimhall baz=24,SNR=6.7	24.07 328	⇑P	P	03 00 22.4	+2.2
S24A	Houchin Ranch, baz=24	24.09 335	⇓P	P	03 00 22.1	+1.5
U21A	Nageezi baz=24,SNR=8.4	24.16 330	⇓P	P	03 00 24.1	+3.0
R25A	Fountain Ranch baz=24	24.18 338	⇓P	P	03 00 22.6	+1.5
T22A	Edith baz=24	24.29 332	⇑P	P	03 00 23.9	+1.7
KSCO	Kaye Shedlock' baz=24,SNR=5.2	24.40 341	⇑P	P	03 00 23.4	+0.4
U20A	Newcomb baz=25	24.55 328	⇑P	P	03 00 26.5	+2.0
T21A	Navajo Lake baz=25,SNR=7.0	24.56 331	⇓P	P	03 00 26.9	+2.3
R24A	Sanders Place, baz=25	24.56 336	⇓P	P	03 00 26.0	+1.3
Q26A	Hugo baz=25	24.61 340	⇓P	P	03 00 25.8	+0.8
X16A	Lo Mia Camp, P baz=25,SNR=6.1	24.74 321	⇓P	P	03 00 28.6	+2.3
R23A	Moffat baz=25	24.81 335	⇑P	P	03 00 28.4	+1.4
U19A	Dine' College, baz=25,SNR=5.4	24.84 327	⇓P	P	03 00 28.8	+1.6
Q25A	Bedland, Calha baz=25,SNR=5.4	24.85 339	⇑P	P	03 00 27.9	+0.6
S22A	4UR Ranch, Cre baz=25,SNR=5.6	24.86 333	⇓P	P	03 00 28.7	+1.3
P27A	Ficken Ranch, baz=25,SNR=9.7	24.89 342	⇓P	P	03 00 28.1	+0.7
P26A	Davis Ranch, A baz=25,SNR=5.3	25.13 341	⇓P	P	03 00 30.6	+0.9
MVCO	Mesa Verde 13nm,0.8s	25.19 330	eP	P	03 00 32.5	+2.1
MVCO	Mesa Verde baz=25,SNR=9.8	25.19 330	⇓P	P	03 00 32.4	+2.0
S21A	Coal Bank Pass baz=25	25.22 331	⇑P	P	03 00 32.3	+1.6
R22A	Saguache, Gunn baz=25	25.23 334	⇑P	P	03 00 32.5	+1.7
Y14A	Wickenburg baz=25	25.40 318	⇑P	P	03 00 34.4	+2.3
O27A	Beecher Island baz=26	25.44 343	⇑P	P	03 00 33.5	+1.0
T18A	Mexican Hat baz=26	25.83 328	⇑P	P	03 00 38.1	+2.1
Q22A	Crested Butte, baz=26	25.83 334	⇑P	P	03 00 37.8	+1.7
P23A	Jefferson baz=26,SNR=9.2	25.84 336	⇑P	P	03 00 37.6	+1.4
R20A	Redvale baz=26	25.92 331	⇓P	P	03 00 38.9	+2.0
N27A	Anderson Farm, baz=26	26.03 343	⇓P	P	03 00 39.0	+1.2
GLA	Glamis baz=26	26.07 314	⇑P	P	03 00 40.7	+2.6
ISCO	Idaho Springs baz=26	26.12 337	⇑P	P	03 00 40.5	+1.7
O24A	Longmont baz=26	26.21 338	⇓P	P	03 00 41.0	+1.6
Y12C	Blythe baz=26	26.28 316	⇑P	P	03 00 42.5	+2.6
S18A	Hurst Farm, Bl baz=26	26.31 328	⇑P	P	03 00 42.4	+1.9
PV04	Paradox Valley	26.33 331	eP	P	03 00 46.9	+6.4
PDMCI	Parker Dam,Lak baz=26	26.36 317	⇓P	P	03 00 42.7	+2.1
P22A	Eagle baz=26	26.39 335	⇓P	P	03 00 42.5	+1.4
R19A	Curley Farm, L baz=26	26.42 330	⇓P	P	03 00 43.0	+1.6
U15A	North Rim baz=27	26.63 323	⇑P	P	03 00 45.4	+2.1
S17A	Black Ridge (B baz=27	26.68 327	⇓P	P	03 00 45.8	+2.1
SWSC	Sam W. Stewart baz=27	26.68 313	⇓P	P	03 00 46.4	+2.9
W13A	Hualapai Mount baz=27	26.70 319	⇓P	P	03 00 46.3	+2.4
O22A	Kremmling baz=27	26.79 336	⇓P	P	03 00 45.6	+0.8
BC3	Big Chuckawall baz=27,SNR=5.1	26.85 315	⇑P	P	03 00 47.8	+2.6
IRM	Iron Mountain baz=27	26.94 316	⇓P	P	03 00 48.5	+2.7
Q19A	Hogan Spring (baz=27	26.95 331	⇑P	P	03 00 47.7	+1.8
S16A	Weppner Ranch, baz=27	27.17 326	⇓P	P	03 00 50.3	+2.2
R17A	Hanksville Air baz=27	27.23 328	⇓P	P	03 00 50.8	+2.3
N22A	Wattenberg Ran baz=27	27.31 337	⇑P	P	03 00 50.7	+1.4
BELC	Belle Mtn. Jos baz=27	27.42 315	⇑P	P	03 00 52.7	+2.5
O20A	White River Ci baz=28	27.45 334	⇑P	P	03 00 52.5	+2.0
Q18A	Rafter H Ranch baz=28	27.48 330	⇓P	P	03 00 52.6	+1.9
R16A	Teasdale baz=28	27.53 327	⇑P	P	03 00 53.4	+2.2
GMRC	Granite Mounta baz=28	27.65 317	⇓P	P	03 00 54.8	+2.5
ECSD	EROS Data Cent 7.1nm,1.1s	27.75 354	eP	P	03 00 51.6	-1.3
M22A	Cedar Creek Ra baz=28	27.89 338	⇑P	P	03 00 56.3	+1.9
R15A	Junction baz=28	27.89 326	⇓P	P	03 00 56.9	+2.5
CCUT	Cedar City	28.02 324	eP	P	03 00 59.1	+3.5
N20A	Spence Gulch, baz=28,SNR=6.6	28.05 335	⇑P	P	03 00 57.3	+1.5
P17A	Butcher Ranch, baz=28	28.06 330	⇓P	P	03 00 57.8	+1.9
L23A	Garrett baz=28	28.20 340	⇓P	P	03 00 57.7	+0.6
ARUT	Antelope Range 4.8nm,0.7s	28.23 324	eP	P	03 01 00.6	+3.1
O18A	Roosevelt baz=28	28.34 332	⇓P	P	03 01 00.4	+2.1
M21A	Separation Pea baz=28	28.35 337	⇓P	P	03 01 00.3	+1.8
N19A	John Jarvie Ra baz=28	28.48 333	⇑P	P	03 01 00.8	+1.2
M20A	Sweetwater, Wa baz=29	28.57 335	⇓P	P	03 01 01.9	+1.5
O17A	Robinson Place baz=29	28.62 331	⇑P	P	03 01 02.6	+1.7
L21A	Rawlins baz=29,SNR=6.2	28.66 337	⇓P	P	03 01 02.0	+0.8
K23A	Bowen Ranch, D baz=29	28.75 340	⇑P	P	03 01 03.2	+1.3
R13A	O'Grain Ranch, baz=29	28.81 324	⇑P	P	03 01 05.2	+2.6
P15A	Leamington baz=29	28.90 328	⇑P	P	03 01 05.5	+2.2
K22A	Casper baz=29	28.95 339	⇑P	P	03 01 04.3	+0.5
L20A	Wamsutter baz=29	29.07 336	⇑P	P	03 01 05.9	+1.1
N17A	Moffit Pass baz=29	29.26 331	⇓P	P	03 01 08.3	+1.7
EDW2	Edwards Air Fo baz=29	29.27 314	⇓P	P	03 01 07.8	+1.3
I24A	Kuemmerle Ranc baz=30	29.44 343	⇓P	P	03 01 08.6	+0.6
N16A	Rees Ranch, Co baz=30	29.50 331	⇑P	P	03 01 10.3	+1.7
RSSD	Black Hills 1.5nm,0.6s	29.52 344	eP	P	03 01 08.5	-0.3
L19A	Farson baz=30	29.56 335	⇓P	P	03 01 10.2	+1.0
MPMC	Manual Prospec baz=30,SNR=7.5	29.61 317	⇓P	P	03 01 12.1	+2.5
J22A	Midwest baz=30	29.61 340	⇓P	P	03 01 10.5	+1.0
L18A	Fontenelle, Gr baz=30	29.70 334	⇓P	P	03 01 11.4	+1.0
R11A	Troy Canyon, C baz=30,SNR=8.6	29.85 322	⇑P	P	03 01 14.4	+2.7
J21A	Lysite baz=30,SNR=7.1	29.89 338	⇑P	P	03 01 13.3	+1.3
M16A	Huntsville baz=30	29.92 331	⇑P	P	03 01 13.5	+1.2
ISA	Isabella baz=30	30.04 315	⇓P	P	03 01 15.6	+2.3
I22A	9 Mile Ranch, baz=30	30.04 340	⇓P	P	03 01 14.5	+1.2
J20A	Shoshoni baz=30	30.12 338	⇓P	P	03 01 15.6	+1.6
BW06	Boulder Array	30.20 335	eP	P	03 01 16.3	+1.6
BW06	Boulder Array baz=30	30.20 335	⇓P	P	03 01 15.3	+0.5
PDAR	Pinedale Array 0.6nm,0.6s,baz=133,slow=7.5,SNR=5.6	30.20 335	P	P	03 01 15.0	+0.2
PDAR				ScP	03 07 31.4	+0.2
L17A	0.4nm,0.9s,baz=134,slow=2.6,SNR=4.6 Cokeville baz=30	30.20 333	⇑P	P	03 01 15.6	+0.8
H24A	Dirks Ranch, A baz=30	30.24 343	⇓P	P	03 01 15.5	+0.6
K18A	Toltan Ranch, baz=30,SNR=7.8	30.29 334	⇓P	P	03 01 16.8	+1.2
L16A	Fish Haven baz=30,SNR=6.1	30.38 332	⇑P	P	03 01 17.1	+0.7
J19A	Crowheart baz=30	30.41 336	⇓P	P	03 01 17.5	+0.9
VES	Vestal, Richgr baz=30,SNR=6.8	30.55 315	⇓P	P	03 01 20.8	+3.1
I20A	Ward baz=31,SNR=5.4	30.66 338	⇓P	P	03 01 19.7	+1.0
K17A	Gardner Place, baz=31	30.75 333	⇓P	P	03 01 20.5	+0.9
J18A	Kendall Valley baz=31	30.75 335	⇓P	P	03 01 20.3	+0.6
L15A	Malad City baz=31,SNR=5.6	30.81 331	⇓P	P	03 01 21.3	+1.2
H21A	Big Horn, Sher baz=31	30.88 340	⇓P	P	03 01 21.1	+0.5
G23A	Biddle baz=31	30.89 343	⇑P	P	03 01 20.9	+0.2
RCTC	Rector, Farmer baz=31	30.91 316	⇑P	P	03 01 24.0	+3.1
I19A	Meeteetse baz=31	31.05 337	⇑P	P	03 01 23.3	+1.1
H20A	Greybull baz=31	31.08 339	⇓P	P	03 01 22.7	+0.4
I18A	Diamond G Ranc baz=31	31.08 336	⇓P	P	03 01 23.4	+0.9
K16A	Soda Springs baz=31	31.11 333	⇑P	P	03 01 23.8	+1.1
J17A	Brown Place, J baz=31,SNR=13	31.16 334	⇑P	P	03 01 24.4	+1.2
G22A	Birney baz=31	31.17 342	⇓P	P	03 01 23.5	+0.4
REDW	Red Top Meadow 17nm,1.0s	31.22 334	eP	P	03 01 24.7	+1.0
SNOW	Snow King Moun 19nm,0.9s	31.26 334	eP	P	03 01 24.5	+0.4
ELK	Elko	31.31 326	eP	P	03 01 26.3	+1.7
LOHW	Long Hollow	31.32 335	eP	P	03 01 25.9	+1.3
TPAW	Teton Pass	31.37 334	eP	P	03 01 26.6	+1.6
F23A	Volborg baz=31	31.37 343	⇑P	P	03 01 25.1	+0.2
J16A	Bone baz=32	31.47 333	⇑P	P	03 01 27.2	+1.2
MOOW	Moose Ponds	31.49 335	eP	P	03 01 27.1	+1.0
NVAR	Mina Array Bea 9.1nm,0.7s,baz=135,slow=9.0,SNR=51	31.55 320	P	P	03 01 30.1	+3.5
H19A	Powell baz=32	31.59 338	⇑P	P	03 01 28.0	+1.1
K14A	Jones Ranch, D baz=32,SNR=5.2	31.60 331	⇑P	P	03 01 27.9	+1.0
H18A	Shoshone NF, C baz=32,SNR=6.8	31.85 337	⇓P	P	03 01 29.5	+0.3
J15A	Blackfoot baz=32	31.93 333	⇑P	P	03 01 30.8	+1.0
MDND	Maddock baz=32,SNR=5.6	32.17 351	⇑P	P	03 01 30.6	-1.1
G18A	Lazy EL Ranch, baz=32	32.35 338	⇓P	P	03 01 33.7	+0.2
J14A	Carey baz=32	32.36 331	⇑P	P	03 01 34.5	+0.9
D24A	Glendive baz=32	32.38 345	⇓P	P	03 01 33.8	+0.2
H16A	Russell Place, baz=32	32.48 335	⇓P	P	03 01 36.0	+1.2
F19A	Roth Farm, Mol baz=33	32.60 339	⇑P	P	03 01 35.7	+0.1
E21A	Keefer Ranch, baz=33	32.60 342	⇑P	P	03 01 35.4	-0.2
D23A	Lindsay baz=33	32.65 344	⇑P	P	03 01 36.0	+0.1
J13A	Cove Ranch, Pi baz=33	32.73 331	⇑P	P	03 01 37.6	+0.8
C24A	Savage baz=33	32.79 345	⇓P	P	03 01 37.6	+0.4
I14A	Mackay baz=33,SNR=5.4	32.80 332	⇑P	P	03 01 39.1	+1.6
D22A	Cohagen baz=33,SNR=10.0	32.89 343	⇓P	P	03 01 38.5	+0.5
E20A	Meyer Farm, Mu baz=33	32.90 340	⇑P	P	03 01 38.1	-0.1
F18A	Big Timber baz=33	32.91 338	⇓P	P	03 01 38.8	+0.5
HLID	Hailey	32.96 331	eP	P	03 01 40.5	+1.6
HLID	Hailey baz=33	32.96 331	⇑P	P	03 01 40.5	+1.6
H15A	Lima baz=33	32.99 334	⇑P	P	03 01 40.4	+1.3
E19A	Rath Farm, Rou baz=33	33.08 340	⇓P	P	03 01 40.1	+0.4
I13A	Wildhorse Cree baz=33,SNR=5.5	33.09 331	⇓P	P	03 01 42.0	+2.0
G16A	Moss Hill, Enn baz=33	33.14 335	⇓P	P	03 01 41.9	+1.5
C23A	Lambert baz=33	33.23 345	⇓P	P	03 01 41.1	+0.1
MCMT	McKenzie Canyo 6.5nm,1.3s	33.25 334	eP	P	03 01 43.1	+1.7
F17A	Fitzpatrick Pl baz=33	33.26 337	⇓P	P	03 01 42.3	+0.9
H14A	Leadore baz=33	33.31 333	⇑P	P	03 01 43.6	+1.7
C22A	Vida baz=33	33.36 344	⇓P	P	03 01 42.6	+0.5
G15A	Dillon baz=33	33.37 334	⇑P	P	03 01 43.4	+1.0
BOZ	Bozeman (W)	33.42 336	eP	P	03 01 44.7	+2.0
BOZ	Bozeman (W) baz=33	33.42 336	⇓P	P	03 01 43.7	+0.9
D20A	Manuel Ranch, baz=33,SNR=5.4	33.42 341	⇓P	P	03 01 42.9	+0.3
I12A	Atlanta baz=34,SNR=5.5	33.48 330	⇓P	P	03 01 44.9	+1.5
MFID	Camas Ranch 0.9nm,0.6s	33.54 329	eP	P	03 01 45.5	+1.7
MFID	Camas Ranch baz=34	33.54 329	⇑P	P	03 01 46.1	+2.3
E18A	Harlowton baz=34	33.55 339	⇑P	P	03 01 44.8	+1.0
H13A	Challis baz=34	33.66 332	⇑P	P	03 01 46.0	+1.2
D19A	Cripps Ranch, baz=34,SNR=5.2	33.72 340	⇑P	P	03 01 45.2	-0.1
C21A	Desert Coulee baz=34,SNR=7.6	33.77 343	⇓P	P	03 01 46.0	+0.4
B23A	Brockton baz=34	33.80 345	⇓P	P	03 01 46.2	+0.3
E17A	Martinsdale baz=34	33.80 337	⇑P	P	03 01 46.5	+0.4
F15A	Butte baz=34	33.92 335	⇑P	P	03 01 47.7	+0.6
H12A	Diamond D Ranc baz=34,SNR=8.2	33.92 331	⇓P	P	03 01 48.4	+1.2
C20A	Veseth Ranch, baz=34	33.93 342	⇓P	P	03 01 47.4	+0.4
A24A	Westby baz=34	34.00 347	⇑P	P	03 01 47.3	-0.3
D18A	Linhart Farms, baz=34	34.06 339	⇓P	P	03 01 48.3	+0.2
G13A	Cobalt baz=34	34.06 333	⇓P	P	03 01 49.2	+0.9
E16A	East Helena baz=34	34.17 337	⇓P	P	03 01 50.1	+0.9
ULM	Lac du Bonnet 0.6nm,0.4s,baz=174,slow=7.9,SNR=4.7	34.17 357	P	P	03 01 46.4	-2.6
A23A	Redstone baz=34	34.23 346	⇓P	P	03 01 50.1	+0.6
C19A	Slack Wire Ran baz=34	34.28 340	⇑P	P	03 01 50.6	+0.6
D17A	Six Diamond Ra baz=34	34.33 338	⇑P	P	03 01 51.1	+0.5
E15A	Deer Lodge baz=34	34.46 336	⇓P	P	03 01 52.4	+0.7
A22A	Carney Farms, baz=34	34.52 345	⇑P	P	03 01 52.7	+0.7
G12A	Big Creek, Yel baz=35	34.58 332	⇓P	P	03 01 53.8	+1.0
B20A	Solberg Farm, baz=35	34.59 342	⇑P	P	03 01 53.3	+0.6
F13A	Darby baz=35	34.65 333	⇓P	P	03 01 53.9	+0.6
EGMT	Eagleton 3.5nm,0.6s	34.76 340	eP	P	03 01 54.4	+0.2
EGMT	Eagleton baz=35,SNR=5.9	34.76 340	⇑P	P	03 01 54.4	+0.2
C17A	Wharram Farm, baz=35	34.77 339	⇑P	P	03 01 54.8	+0.6
A21A	Bergtoll Ranch baz=35	34.78 344	⇓P	P	03 01 54.6	+0.3
B19A	Brinkman Farms baz=35,SNR=5.7	34.88 341	⇓P	P	03 01 55.3	+0.1
D15A	Lincoln baz=35	34.92 336	⇓P	P	03 01 55.9	+0.3
A20A	Cobblestone Ra baz=35	34.96 343	⇑P	P	03 01 55.7	-0.1
F12A	Elk City baz=35,SNR=13	35.03 332	⇑P	P	03 01 57.4	+0.9
B18A	Beardsley Farm baz=35	35.09 340	⇑P	P	03 01 57.3	+0.3
E13A	Victor baz=35	35.10 334	⇑P	P	03 01 57.7	+0.6
A19A	Klindworth Far baz=35	35.24 342	⇓P	P	03 01 58.5	+0.3
C16A	Fuhringer Ranc baz=35,SNR=5.6	35.26 338	⇑P	P	03 01 58.7	+0.3
MSO	Missoula baz=35	35.31 335	⇑P	P	03 01 59.8	+0.9
D14A	Greenough baz=35	35.34 335	⇓P	P	03 01 59.3	+0.2
C15A	Salmond Ranch, baz=36	35.56 337	⇑P	P	03 02 01.1	+0.1
A18A	Metzger Ranch, baz=36	35.58 341	⇓P	P	03 02 01.1	+0.1
E12A	Beaver Dam Sad baz=36	35.68 333	⇓P	P	03 02 02.3	+0.2
D13A	Huson baz=36	35.74 335	⇓P	P	03 02 02.9	+0.4
A17A	Triple J Farms baz=36	35.87 340	⇓P	P	03 02 03.8	+0.1
D12A	Red Ives Fores baz=36	36.08 334	⇑P	P	03 02 05.5	+0.1
C13A	Hot Springs baz=36	36.25 335	⇓P	P	03 02 07.5	+0.7
A15A	Johnson Ranch, baz=37	36.61 338	⇑P	P	03 02 10.3	+0.5
B13A	Whitefish	36.77 336	⇑P	P	03 02 11.9	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=37						
A14A	Double T Ranch	36.85	337	⇑P	P	03 02 12.8	+0.8
	baz=37						
C11A	Tepee Creek (N	37.08	334	⇑P	P	03 02 14.5	+0.7
	baz=37						
SAML	Samuel	38.49	128	eP	P	03 02 22.1	-3.9
	3.3nm,0.8s						
LPAZ	La Paz	40.37	142	P	P	03 02 42.0	-0.1
	4.9nm,0.6s,baz=323,slow=8.6,SNR=18						
SIV	San Ignacio	44.72	134	P	P	03 03 14.7	-1.7
	2.4nm,0.5s,baz=322,slow=9.4,SNR=18						
YKA	Yellowknife Ar	48.82	347	P	P	03 03 46.7	-0.7
	3.2nm,0.5s,baz=150,slow=7.4,SNR=79						
YKA				ScP	ScP	03 08 42.3	+0.2
	0.3nm,0.7s,baz=149,slow=4.6,SNR=4.4						
DLBC	Dease Lake	50.43	336	P	P	03 04 01.3	+1.6
	3.2nm,0.9s,baz=161,slow=9.3,SNR=5.6						
BDFB	Brasilia	54.35	123	P	P	03 04 27.3	-1.8
	1.5nm,0.7s,baz=290,slow=6.3,SNR=3.6						
CPUP	Villa Florida	54.50	140	P	P	03 04 28.8	-1.1
	0.6nm,0.4s,baz=280,slow=5.7,SNR=3.5						
INK	Inuvik	58.22	343	P	P	03 04 55.4	-0.1
	2.0nm,0.6s,baz=136,slow=6.3,SNR=9.8						
INK				PcP	PcP	03 05 43.8	-0.4
	1.9nm,0.9s,baz=130,slow=8.5,SNR=4.9						
PLCA	Paso Flores	60.20	161	P	P	03 05 11.1	+1.6
	1.4nm,0.8s,baz=2.1,slow=9.6,SNR=3.1						
KDAK	Kodiak Island	60.52	328	P	P	03 05 12.1	+0.7
	4.7nm,0.9s,baz=72,slow=3.2,SNR=3.7						
ILAR	Eielson Array	60.61	337	P	P	03 05 11.9	0.0
	1.5nm,0.8s,baz=122,slow=5.8,SNR=17						
ILAR				pP	PcP	03 05 57.2	+3.4
	0.2nm,0.8s,baz=101,slow=4.7,SNR=2.6						
HHC	Hu-ho-hao-te	118.99	339	ePKP	PKPdf	03 13 46.5	-1.0
HHC				sPKP		03 15 07.0	
HHC				PP	PP	03 15 12.9	+4.1
HHC				PKS	PKSdf	03 17 21.4	-2.8
HHC				SKS	SKSdf	03 20 35.2	-3.3
HHC				SKKS	SKKSac	03 21 40.7	-6.8
HHC				SS	SS	03 31 13.1	+2.7
KSH	Kashi	123.72	10	ePKP	PKPdf	03 13 54.9	-1.7
KSH				sPKP		03 15 14.6	
KSH				PP	PP	03 15 44.5	+3.8
KSH				PKS	PKSdf	03 17 30.2	-3.2
KSH				SKS	SKSdf	03 20 46.0	-1.5
KSH				SKKS	SKKSac	03 22 13.3	-4.9
KSH				LR	LR		
	comp=N,100nm,9.9s						
KSH				LR	LR		
	comp=E,55nm,6.4s						
KSH				LR	LR		
	comp=Z,190nm,10.6s						
LZH	Lanzhou	125.76	343	ePKP	PKPdf	03 14 01.5	+0.8
LZH				sPKP		03 15 15.0	
CD2	Chengdu	130.62	341	PKP	PKPdf	03 14 10.8	+0.9
CMAR	Chiang Mai Arr	143.77	341	SKPbc	SKiKP	03 17 53.9	+1.1
	comp=Z,0.6nm,0.3s,baz=318,slow=2.4,SNR=5.2						

*IDC **05** 03:17:39.8±1.4, 15°.86S×166°.61E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML4.0/2, MS3.6/10, Ms1 3.6/10, ms1mx3.4/38, Error ellipse: s-maj=42.2km s-min=22.8km az=126.0*

*ISCJB **05** 03:17:41.8±0.8, 16°.08S±0°.05×166°.6E±0°.1, h26km, mb3.8/9, MS3.7/7, Error ellipse: s-maj=20.3km s-min=7.7km az=178.6*

ISC 05 03:17:44.5±1.2, **16°.06S**±0°.08×**166°.5E**±0°.2, **h26**km, **n21**, σ**1s.88**/17, **mb3.9**/8, **MS3.7**/7, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.98	181	ePn	Pn	03 19 12.7	+1.2
	19nm,0.2s						
DZM				eSn	Sn	03 20 16.6	-2.5
	48nm,0.2s						
DZM				eLR	LR	03 20 29.9	
	439nm,23.4s						
DZM	Mont Dzumac	5.98	181	Pn	Pn	03 19 12.6	+1.2
	5.5nm,0.3s,baz=17,slow=19,SNR=95						
DZM				Sn	Sn	03 20 19.3	+0.1
	9.4nm,0.3s,baz=315,slow=20,SNR=8.9						
DZM				LR	LR	03 21 17.4	
	comp=Z,504nm,19.6s,baz=18,slow=35						
DZM	Mont Dzumac	5.98	181	eP	Pn	03 19 12.9	+1.5
DZM				eS	Sn	03 20 15.7	-3.4
NOUC	Port Laguerre	6.01	182	eP	Pn	03 19 14.7	+2.9
NOUC				eS	Sn	03 20 19.1	-0.7
HNR	Honiara	9.20	315	LR	LR	03 22 50.0	
	comp=Z,273nm,19.5s,baz=13,slow=34						
CTA	Charters Tower	19.68	255	P	Pn	03 22 13.4	0.0
	0.2nm,0.3s,baz=73,slow=14,SNR=9.1						
CTA				LR	LR	03 27 43.5	
	comp=Z,131nm,20.7s,baz=60,slow=30						
STKA	Stephens Creek	27.59	231	P	P	03 23 31.7	+1.9
	2.2nm,0.7s,baz=350,slow=6.1,SNR=3.5						
STKA				LR	LR	03 34 38.9	
	comp=Z,70nm,19.9s,baz=27,slow=37						
WRA	Warramunga Arr	30.83	258	P	P	03 23 57.0	-1.6
	0.8nm,0.4s,baz=88,slow=8.4,SNR=9.8						
ASAR	Alice Springs	31.55	251	P	P	03 24 05.0	+0.1
	5.3nm,0.7s,baz=74,slow=9.8,SNR=33						
ASAR				LR	LR	03 36 09.8	
	comp=Z,99nm,20.4s,baz=167,slow=35						
FITZ	Fitzroy Crossi	39.08	261	LR	LR	03 40 48.5	
	comp=Z,164nm,19.8s,baz=271,slow=35						
PPT2	Papeete2	41.98	99	eLR	LR	03 37 23.2	
	87nm,26.2s						
NWAO	Narrogin (SRO)	47.46	240	LR	LR	03 47 02.5	
	comp=Z,195nm,18.7s,baz=184,slow=37						
MJAR	Matsushiro Arr	58.76	333	P	P	03 27 42.1	+1.7
	1.4nm,0.7s,baz=161,slow=9.3,SNR=4.2						
JNU	Nakatsue	59.60	325	LR	LR	03 52 15.9	
	comp=Z,75nm,18.1s,baz=35,slow=35						
KSRS	Korea Array	64.44	327	LR	LR	03 52 43.9	
	comp=Z,35nm,18.1s,baz=346,slow=33						
USRK	Ussuriysk Arra	67.75	334	P	P	03 28 39.1	-0.7
	0.5nm,0.5s,baz=141,slow=7.5,SNR=2.8						
PETK	Petropavlovsk-	69.31	354	LR	LR	03 54 04.2	
	comp=Z,40nm,19.3s,baz=72,slow=32						
SONM	Songino Array	83.14	324	P	P	03 30 08.0	-0.3
	0.2nm,0.8s,baz=120,slow=8.5,SNR=2.2						
ILAR	Eielson Array	88.01	18	P	P	03 30 29.9	-2.1
	0.5nm,0.9s,baz=222,slow=6.9,SNR=4.5						
MKAR	Makanchi Array	97.67	316	P	P	03 31 15.6	-1.4
	0.1nm,0.6s,baz=103,slow=4.6,SNR=2.2						
YKA	Yellowknife Ar	99.05	27	P	Pdif	03 31 20.5	-2.2
	0.2nm,0.5s,baz=249,slow=4.6,SNR=6.3						

IDC 05 03:17:45.9±2.2, **6°.27S**×**129°.84E**, **h0**km, **mb3.4**/1, **mb1 3.7**/4, **mb1mx3.4**/19, **mbtmp3.5**/4, **ML3.2**/2, **Error ellipse: s-maj=100.4km s-min=28.0km az=76.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.45	199	Pn	Pn	03 20 43.5	-1.1
	0.1nm,0.3s,baz=15,slow=12,SNR=4.6						
FITZ				Sn	Sn	03 22 44.6	-20
	0.2nm,0.3s,baz=126,slow=17,SNR=4.0						
WRA	Warramunga Arr	14.28	163	Pn	Pn	03 21 10.5	+0.9
	0.1nm,0.3s,baz=348,slow=13,SNR=3.1						
WRA				Sn	Sn	03 23 38.1	-11
	0.2nm,0.3s,baz=332,slow=22,SNR=3.1						
ASAR	Alice Springs	17.73	168	P	Pn	03 21 54.7	+0.2
	0.3nm,0.3s,baz=339,slow=9.0,SNR=11						
MKAR	Makanchi Array	67.53	327	P	P	03 28 44.1	0.0
	0.5nm,1.1s,baz=111,slow=8.2,SNR=2.7						

MEX 05 03:21:36.7±0.3, **16°.79N**×**100°.29W**, **h5**km, **MD3.6**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.26	5	eP	Pg	03 21 41.3	-0.4
CAIG				i S	Sg	03 21 45.1	0.0
ACX	Acapulco	0.42	79	i P	Pg	03 21 43.2	-1.7
ACX				i S	Sg	03 21 48.7	-1.7
ARIG	Puente Sto Nin	1.48	358	eP	Pn	03 22 01.1	-3.0
ARIG				i S	Sn	03 22 19.6	-4.2
PLIG	Platanillo	1.76	25	i P	Pn	03 22 05.2	-2.8
PLIG				i S	Sn	03 22 26.0	-4.9
UTMO	Huajuapan	2.59	66	i P	Pn	03 22 16.5	-3.1
UTMO				i S	Sn	03 22 47.0	-4.7

*ISCJB **05** 03:28:54.7±0.5, 0°.20S±0°.08×29°.54E±0°.05, h10km, mb3.8/8, MS3.6/3, Error ellipse: s-maj=11.3km s-min=6.3km az=18.2*

*IDC **05** 03:28:55.3±1.1, 0°.23S×29°.51E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/26, mbtmp3.9/7, MS3.5/4, Ms1 3.5/4, ms1mx3.0/43, Error ellipse: s-maj=29.9km s-min=25.0km az=125.0*

*NEIC **05** 03:28:56.5±0.4, 0°.24S×29°.55E, h10km, mb4.2/3, Error ellipse: s-maj=9.8km s-min=8.5km az=217.0*

ISC 05 03:28:56.7±0.6, **0°.26S**±0°.08×**29°.57E**±0°.07, **h10**km, **n26**, σ**1s.02**/27, **mb3.8**/8, **MS3.7**/3, **Zaire**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	1.22	106	ePn	Pn	03 29 19.2	-0.9
MBAR				eS	Sb	03 29 34.6	-1.3
KMBO	Kilima Mbogo	7.73	96	ePn	Pn	03 30 49.5	-0.3
	18nm,0.6s						
KMBO				Sn	Sn	03 32 18.9	+1.3
LSZ	Lusaka	14.98	185	ePn	Pn	03 32 27.9	-0.9
	6.5nm,0.8s						
LSZ				eS	S	03 35 34.1	+1.1
ATD	Arta Tunnel	17.64	48	LR	LR	03 40 52.0	
	comp=Z,64nm,18.5s,baz=191,slow=41						
TSUM	Tsumeb	22.19	211	P	P	03 33 54.2	+0.7
	3.0nm,0.7s						
LBTB	Lobatse	24.91	189	P	P	03 34 20.1	0.0
	6.4nm,1.0s,baz=18,slow=9.6,SNR=5.9						
LBTB				LR	LR	03 43 00.8	
	comp=Z,50nm,20.2s,baz=176,slow=34						
LBTB	Lobatse	24.91	189	eP	P	03 34 20.2	+0.1
	4.4nm,0.7s						
ABPO	Ambohimpanom	25.45	138	eP	P	03 34 25.9	+0.6
BOSA	Boshof	28.49	188	LR	LR	03 46 31.9	
	comp=Z,179nm,18.5s,baz=358,slow=37						
TOA0	Torodi Ar. Sit	30.67	297	eP	P	03 35 11.0	-0.9
TORD	Torodi Ar. Bea	30.67	297	P	P	03 35 11.5	-0.4
	1.8nm,0.4s,baz=106,slow=7.7,SNR=70						
TORD	Torodi Ar. Bea	30.67	297	P	P	03 35 11.5	-0.4
DBIC	Dimbokro	35.03	282	P	P	03 35 49.5	-0.5
	1.5nm,0.6s,baz=94,slow=9.2,SNR=6.5						
DBIC	Dimbokro	35.03	282	eP	P	03 35 49.2	-0.8
	2.1nm,0.3s						
BRTR	Keskin Array B	39.97	5	P	P	03 36 31.6	0.0
	0.7nm,0.8s,baz=187,slow=10,SNR=4.8						
BRTR	Keskin Array B	39.97	5	P	P	03 36 31.6	0.0
BBTS	Babate	47.93	290	LR	LR	03 58 38.0	
	comp=Z,184nm,19.6s,baz=102,slow=37						
GERES	GERESS Array B	50.80	347	P	P	03 37 56.4	-1.0
	0.9nm,0.8s,baz=165,slow=4.1,SNR=4.2						
GERES	GERESS Array B	50.80	347	P	P	03 37 56.4	-1.0
KHC	Kasperske Hory	51.09	347	eP	P	03 37 58.0	-1.5
KHC				epP	pP	03 38 05.5	+2.8
MKAR	Makanchi Array	65.62	37	P	P	03 39 40.7	-0.4
	0.5nm,0.8s,baz=246,slow=6.1,SNR=5.1						
MKAR	Makanchi Array	65.62	37	P	P	03 39 40.7	-0.4
SONM	Songino Array	81.36	42	P	P	03 41 14.9	+1.0
	0.4nm,0.7s,baz=243,slow=6.3,SNR=5.0						
SONM	Songino Array	81.36	42	P	P	03 41 14.9	+1.0
TXAR	Lajitas Array	126.89	307	PKP	PKPdf	03 48 02.6	+0.8
	0.2nm,0.7s,baz=97,slow=3.7,SNR=2.7						
TXAR	Lajitas Array	126.89	307	PKP	PKPdf	03 48 02.6	+0.8

IDC 05 03:33:10.4±2.0, **0°.75S**×**132°.85E**, **h0**km, **mb4.0**/3, **mb1 4.2**/5, **mb1mx3.8**/21, **mbtmp4.0**/5, **ML4.1**/2, **Error ellipse: s-maj=82.0km s-min=25.7km az=75.0**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.65	202	P	P	03 37 29.2	-0.7
	0.3nm,0.3s,baz=12,slow=14,SNR=6.3						
FITZ				S	Sn	03 40 47.6	-12
	0.2nm,0.3s,baz=255,slow=16,SNR=3.3						
WRA	Warramunga Arr	19.14	176	P	Pn	03 37 36.1	0.0
	0.9nm,0.3s,baz=355,slow=11,SNR=20						
WRA				S	Sn	03 41 01.8	-9.4
	0.2nm,0.3s,baz=354,slow=21,SNR=2.8						
ASAR	Alice Springs	22.81	178	P	P	03 38 15.8	+0.8
	5.7nm,0.5s,baz=358,slow=9.6,SNR=39						
STKA	Stephens Creek	32.05	166	P	P	03 39 37.8	-1.2
	3.4nm,0.8s,baz=346,slow=10,SNR=4.4						
MKAR	Makanchi Array	64.72	324	P	P	03 43 50.6	+0.1
	0.2nm,0.3s,baz=112,slow=8.2,SNR=3.8						

*NIED **05** 03:42:00, 24°.20N×125°.30E, h23km, Mw3.6   Best double couple: $M_0$2.55000×10^{14} NP1:ϕ_s43.00000°, δ74.00000°, λ71.00000°.   NP2:ϕ_s274.00000°, δ25.00000°, λ138.00000°.*

JMA 05 03:42:45.3±0.3, **24°.23N**×**125°.26E**, **h0**km, **M3.5**, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.54	14	P	Pg	03 42 56.6	+0.8
JOGS				S	Sb	03 43 04.5	-1.6
JMJ	Miyako jima 2	0.58	3	P	Pg	03 42 57.0	+0.5
JMJ				S	Sg	03 43 05.1	+1.0
JTJ	Tarama	0.65	309	P	Pg	03 42 58.4	+0.6
JTJ				S	Sg	03 43 07.5	+1.2
JIJ	Ishigaki jima	1.03	278	P	Pg	03 43 04.8	-0.2
JIJ				S	Sb	03 43 19.6	-0.4
JKRS	Kuro-shima	1.14	271	P	Pg	03 43 07.3	+0.1
JKRS				S	Sb	03 43 22.7	-0.6
HATJ	Hateruma jima	1.34	263	P	Pn	03 43 11.2	-0.1
IRIF	Iriomote-Funau	1.40	275	P	Pn	03 43 11.8	-0.3
IRIF				S	Sg	03 43 30.5	+0.2
YOJ	Yonaguni jima	2.06	277	P	Pn	03 43 20.8	-0.4

GUC 05 03:46:52.6±0.5, **24°.50S**×**70°.08W**, **h45**km±3km, **ML3.6**, **3D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	0.86	340	⇓iP	Pn	03 47 08.6	+0.2
ANCH				i S	Sn	03 47 21.1	+1.2
ANCH				AML	AML	03 47 23.9	
	comp=E,4μm,0.1s						
CEN1	Los Morros	1.11	354	⇓iP	Pn	03 47 10.2	-1.7
CEN1				i S	Sn	03 47 23.0	-3.1
CEN1				AML	AML	03 47 26.1	
	comp=E,953nm,0.4s						
MECH	Mejillones	1.43	346	eP	Pn	03 47 16.9	+0.9
MECH				AML	AML	03 47 48.8	
	comp=N,756nm,0.1s						
LVC	Limon Verde	2.16	30	eP	Pn	03 47 27.9	+1.3
LVC				i S	Sn	03 47 54.8	+2.5
LVC				AML	AML	03 48 00.1	
	comp=N,208nm,0.4s						
PB04	Plate Boundary	2.29	14	⇓iP	Pn	03 47 26.1	-1.8
PB04				i S	Sn	03 47 52.5	-2.2
PB04				AML	AML	03 48 03.2	
	comp=N,674nm,0.5s						
PB07	Plate Boundary	2.76	4	eP	Pn	03 47 34.2	-0.5
PB07				i S	Sn	03 48 07.4	+0.5
PB07				AML	AML	03 48 24.2	
	comp=E,397nm,0.2s						
PB09	Plate Boundary	2.80	16	eP	Pn	03 47 36.4	+1.3
PB09				AML	AML	03 48 24.5	
	comp=E,1μm,0.8s						

*DDA **05** 04:07:17.3, 39°.35N×33°.26E, h7km, MD2.7*

*ISCJB **05** 04:07:18.3±1.1, 39°.40N±0°.08×33°.2E±0°.2, h7km±23km, Error ellipse: s-maj=21.3km s-min=11.4km az=25.4*

*ISK **05** 04:07:18.1, 39°.43N×33°.20E, h8km, MD2.2*

*CSEM **05** 04:07:18.0±0.2, 39°.41N×33°.25E, h5km, MD2.2, Error ellipse: s-maj=8.7km s-min=4.5km az=17.0*

ISC 05 04:07:18.0±1.3, **39°.38N**±0°.06×**33°.26E**±0°.03, **h3**km±14km, **n16**, σ**0s.78**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFSR	Af¯ar-Bala (A	0.16	296	PG	Pg	04 07 20.7	-0.5
AFSR				SG	Sg	04 07 22.9	-0.5
AFSR	Af¯ar-Bala (A	0.16	296	i Pg	Pg	04 07 20.7	-0.5
AFSR				i Sg	Sg	04 07 22.9	-0.5
BBAL	Bala	0.20	327	i P	Pg	04 07 22.2	+0.3
BBAL				i S	Sg	04 07 25.8	+1.2
BBAL	Bala	0.20	327	i P	Pg	04 07 22.2	+0.3
BBAL				i S	Sg	04 07 25.8	+1.2
LOD	Lodumlu	0.64	323	ePG	Pg	04 07 29.9	-0.4
LOD	Lodumlu	0.64	323	ePg	Pg	04 07 29.9	-0.4
CDAG	Cicekdag	0.89	74	i P	Pg	04 07 34.8	-0.4
CDAG				i S	Sg	04 07 47.7	+0.9
CDAG	Cicekdag	0.89	74	i P	Pg	04 07 34.8	-0.4
CDAG				i S	Sg	04 07 47.7	+0.9
SULT	Sultanhani-AKS	1.19	170	ePN	Pn	04 07 42.6	+1.0
SULT	Sultanhani-AKS	1.19	170	ePn	Pn	04 07 42.6	+1.0
CORM	Corum	1.32	52	ePN	Pn	04 07 43.3	-0.2
CORM	Corum	1.32	52	ePn	Pn	04 07 43.3	-0.2
AVNT	Avonos	1.38	115	i P	Pn	04 07 43.0	-1.2
AVNT				i S	Sn	04 08 03.3	+0.3
AVNT	Avonos	1.38	115	i P	Pn	04 07 43.0	-1.2
AVNT				i S	Sn	04 08 03.3	+0.3
YOZ	Yozgat	1.61	80	ePN	Pb	04 07 48.1	-0.3
YOZ	Yozgat	1.61	80	ePn	Pb	04 07 48.2	-0.3

*NIED **05** 04:21:00, 24°.20N×125°.30E, h23km, Mw4.3   Best double couple: $M_0$3.14000×10^{15} NP1:ϕ_s48.00000°, δ78.00000°, λ80.00000°.   NP2:ϕ_s268.00000°, δ16.00000°, λ129.00000°.*

*IDC **05** 04:21:27.1±0.6, 24°.22N×125°.04E, h0km, mb4.1/15, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, ML3.4/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/47, Error ellipse: s-maj=24.3km s-min=13.1km az=71.0*

*MOS **05** 04:21:30.3±1.0, 24°.23N×125°.12E, h33km, mb4.6/16, Error ellipse: s-maj=15.7km s-min=7.2km az=119.6*

*JMA **05** 04:21:30.4±0.3, 24°.22N×125°.26E, h0km, M4.5*

*ISCJB **05** 04:21:31.5±0.6, 24°.27N±0°.04×125°.22E±0°.04, h44km±4km, mb4.4/43, MS3.7/11, Error ellipse: s-maj=8.0km s-min=4.5km az=149.5*

*NEIC **05** 04:21:32.9±0.7, 24°.24N×125°.21E, h40km±6km, mb4.4/8, Error ellipse: s-maj=7.7km s-min=6.8km az=151.0*

ISC 05 04:21:32.6±0.6, **24°.29N**±0°.06×**125°.25E**±0°.05, **h38**km±2km, **n123**, σ**1s.11**/129, **mb4.4**/43, **MS3.8**/11, **2C-3D**, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.49	17	P	Pn	04 21 41.7	-1.4
JOGS				eS	Sn	04 21 50.2	-0.3
JMJ	Miyako jima 2	0.52	5	P	Pn	04 21 42.5	-1.2
JMJ				eS	Sn	04 21 50.7	-0.7
JTJ	Tarama	0.60	305	P	Pn	04 21 43.7	-1.1
JTJ				eS	Sn	04 21 52.7	-0.7
JIJ	Ishigaki jima	1.01	274	P	Pn	04 21 50.3	+0.1
JIJ				eS	Sn	04 22 04.8	+1.6
JKRS	Kuro-shima	1.13	268	P	Pn	04 21 52.8	+0.9
HATJ	Hateruma jima	1.33	260	P	Pn	04 21 57.0	+2.3
IRIF	Iriomote-Funau	1.38	272	P	Pn	04 21 57.5	+2.1
IRIF				eS	Sn	04 22 16.0	+3.6
NACB	Ninganchiao	3.33	269	ePn	Pn	04 22 21.3	-1.0
NACB				eSn	Sn	04 23 00.1	-0.5
TATO	Taipei	3.49	282	ePn	Pn	04 22 25.5	+1.2
TATO				eSn	Sn	04 23 01.5	-2.8
YHNB	Yeheng	3.54	277	ePn	Pn	04 22 26.9	+1.7
YHNB				eSn	Sn	04 23 05.0	-0.9
YULB	Yu-li	3.72	257	ePn	Pn	04 22 26.0	-1.7
YULB				eSn	Sn	04 23 06.9	-3.4
JOW	Kunigami	3.73	47	Pn	Pn	04 22 28.7	+1.0
	3.4nm,0.3s,baz=204,slow=19,SNR=5.0						
JOW				Sn	Sn	04 23 23.6	+13
	5.5nm,0.3s,baz=279,slow=26,SNR=4.2						
JOW				LR	LR	04 24 08.0	
	comp=Z,297nm,20.5s,baz=300,slow=41						
JOW	Kunigami	3.73	47	Pn	Pn	04 22 28.7	+1.0
JOW				Sn	Sn	04 23 23.6	+13
SSLB	Suanglung	3.96	264	ePn	Pn	04 22 30.7	-0.1
SSLB				eSn	Sn	04 23 16.8	+0.9
TWG	Pinlang	4.10	250	ePn	Pn	04 22 30.4	-2.4
TWG				eSn	Sn	04 23 16.6	-2.9
TPUB	Ta-pu	4.34	258	ePn	Pn	04 22 36.2	+0.1
TPUB				eSn	Sn	04 23 24.2	-1.3
KSAR	Wonju Array Be	13.30	9	Pn	Pn	04 24 40.0	+1.1
KSRS	Korea Array	13.32	9	Pn	Pn	04 24 40.0	+0.9
	baz=196,slow=11,SNR=3.9						
KSRS				LR	LR	04 30 15.2	
	comp=Z,192nm,18.3s,baz=176,slow=39						
JHJ	Hachijo jima 2	15.48	52	LR	LR	04 31 12.1	
	comp=Z,132nm,18.1s,baz=6.2,slow=37						
MAT	Matsushiro	16.54	39	P	P	04 25 24.1	+0.2
MJAR	Matsushiro Arr	16.54	39	Pn	P	04 25 24.9	+1.0
	0.3nm,0.3s,baz=227,slow=12,SNR=9.3						
MJAR	Matsushiro Arr	16.54	39	Pn	P	04 25 24.9	+1.0
GUMO	Guam	21.37	116	LR	LR	04 32 41.3	
	comp=Z,153nm,18.2s,baz=235,slow=31						
CMAR	Chiang Mai Arr	25.15	262	LR	LR	04 38 02.2	
	comp=Z,90nm,19.0s,baz=75,slow=40						
YSS	Yuzh-Sakhalins	26.60	27	P	P	04 27 19.2	+12
ULN	Ulaanbaatar	27.61	333	eP	P	04 27 15.4	-1.1
	1.5nm,0.6s						
SONM	Songino Array	27.86	332	P	P	04 27 17.3	-1.4
	0.5nm,0.3s,baz=147,slow=9.7,SNR=8.5						
SONM				LR	LR	04 39 54.2	
	comp=Z,243nm,19.1s,baz=167,slow=40						
SONM	Songino Array	27.86	332	P	P	04 27 17.3	-1.4
TAPN	Taplejung	33.84	283	eP	P	04 28 13.2	+1.3
	9.5nm,0.7s						
TAPN	Taplejung	33.84	283	eP	P	04 28 13.2	+1.3
	9.5nm,0.7s						
ODAN	Odare	34.16	283	eP	P	04 28 15.7	+1.1
	7.2nm,0.5s						
ODAN	Odare	34.16	283	eP	P	04 28 15.7	+1.1
	7.2nm,0.5s						
RAMN	Ramite	34.86	283	eP	P	04 28 21.6	+1.0
RAMN	Ramite	34.86	283	eP	P	04 28 21.6	+1.0
JIRN	Jiri	35.17	284	eP	P	04 28 24.1	+0.6
	2.5nm,0.7s						
JIRN	Jiri	35.17	284	eP	P	04 28 24.1	+0.6
	2.5nm,0.7s						
GUN	Gumba	35.43	284	eP	P	04 28 26.8	+1.1
	11nm,0.8s						
GUN	Gumba	35.43	284	eP	P	04 28 26.8	+1.1
	11nm,0.8s						
PKI	Pulchoki	35.87	284	eP	P	04 28 30.0	+0.6
PKI	Pulchoki	35.87	284	eP	P	04 28 30.0	+0.6
PKI	Pulchoki	35.87	284	eP	P	04 28 30.0	+0.6
KKN	Kakani	35.97	284	eP	P	04 28 30.7	+0.5
KKN	Kakani	35.97	284	eP	P	04 28 30.7	+0.5
KKN	Kakani	35.97	284	eP	P	04 28 30.7	+0.5
HVS	Khovu-Aksy	36.13	326	i P	P	04 28 32.0	+0.9
DMN	Daman	36.13	284	eP	P	04 28 32.2	+0.6
	8.3nm,0.3s						
DMN	Daman	36.13	284	eP	P	04 28 32.2	+0.6
	8.3nm,0.3s						
GKN	Gorkha	36.52	285	eP	P	04 28 35.3	+0.5
GKN	Gorkha	36.52	285	eP	P	04 28 35.3	+0.5
DANN	Dangsing	37.27	285	eP	P	04 28 42.4	+1.0
	16nm,0.7s						
DANN	Dangsing	37.27	285	eP	P	04 28 42.4	+1.0
	16nm,0.7s						
KOLN	Koldanda	37.45	284	eP	P	04 28 43.6	+0.8
	12nm,0.8s						
KOLN	Koldanda	37.45	284	eP	P	04 28 43.6	+0.8
	12nm,0.8s						
PETK	Petropavlovsk-	37.76	32	LR	LR	04 42 45.8	
	comp=Z,42nm,20.6s,baz=71,slow=34						
PYUN	Piuthan	37.97	285	eP	P	04 28 48.2	+1.1
	26nm,0.8s						
PYUN	Piuthan	37.97	285	eP	P	04 28 48.2	+1.1
	26nm,0.8s						
MK31	Makanchi Array	40.88	314	i P	P	04 29 10.6	-0.3
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	Makanchi Array	40.88	314	eP	P	04 29 10.5	-0.5
MKAR	Makanchi Array	40.88	314	P	P	04 29 10.8	-0.1
	comp=Z,3.7nm,0.5s,baz=98,slow=9.6,SNR=70						
MKAR				LR	LR	04 47 41.0	
	comp=Z,130nm,18.2s,baz=352,slow=39						
MKAR	Makanchi Array	40.88	314	P	P	04 29 10.9	-0.1
MKAR	Makanchi Array	40.88	314	P	P	04 29 10.8	-0.1
FITZ	Fitzroy Crossi	42.14	179	P	P	04 29 19.8	-1.6
	baz=350,slow=17						
FITZ	Fitzroy Crossi	42.14	179	P	P	04 29 19.8	-1.6
ZAA0	Zalesovo Array	42.22	325	eP	P	04 29 20.1	-1.7
ZALV	Zalesovo Beam	42.22	325	P	P	04 29 20.0	-1.8
	comp=Z,2.0nm,0.5s,baz=116,slow=7.9,SNR=15						
ZALV				LR	LR	04 48 21.8	
	comp=Z,114nm,19.6s,baz=101,slow=38						
ZALV	Zalesovo Beam	42.22	325	P	P	04 29 20.0	-1.8
ZALV	Zalesovo Beam	42.22	325	P	P	04 29 20.0	-1.8

KURK	Kurchatov	44.42	319⇓	eP	P	04 29 39.3	-0.3
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURK				MLR	MLR		
	comp=Z,79nm,16.0s						
KURK	Kurchatov	44.42	319	eP	P	04 29 38.7	-0.9
	comp=Z,5.7nm,0.9s						
KURBB	Kurchatov Arra	44.45	319	P	P	04 29 39.5	-0.3
	comp=Z,2.9nm,0.7s,baz=109,slow=8.3,SNR=17						
TKM2	Tokmak 2	44.64	307	eP	P	04 29 41.0	-0.7
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TKM2	Tokmak 2	44.64	307	eP	P	04 29 41.0	-0.7
	comp=Z,5.3nm,0.7s						
WRAB	Tennant Creek	44.84	168	eP	P	04 29 42.9	-0.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRAB	Tennant Creek	44.84	168	eP	P	04 29 42.9	-0.3
	comp=Z,4.7nm,0.7s						
WRA	Warramunga Arr	44.85	168	P	P	04 29 43.0	-0.3
	comp=Z,4.3nm,0.6s,baz=350,slow=8.5,SNR=18						
WRA	Warramunga Arr	44.85	168	P	P	04 29 43.0	-0.3
AAK	Ala-Archa	45.40	307	LR	LR	04 49 27.6	
	comp=Z,65nm,21.3s,baz=166,slow=37						
AAK	Ala-Archa	45.40	307	eP	P	04 29 47.7	0.0
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AAK	Ala-Archa	45.40	307	eP	P	04 29 47.7	0.0
	comp=Z,7.5nm,0.6s						
KKAR	Karatay Array	48.36	307	eP	P	04 30 11.5	+0.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	48.36	307	eP	P	04 30 11.5	+0.8
	comp=Z,0.5nm,0.4s						
ASAR	Alice Springs	48.41	169	P	P	04 30 11.5	+0.4
	comp=Z,2.0nm,0.8s,baz=344,slow=8.2,SNR=14						
ASAR	Alice Springs	48.41	169	P	P	04 30 11.5	+0.4
CTA	Charters Tower	48.63	153	LR	LR	04 51 26.6	
	comp=Z,97nm,18.4s,baz=233,slow=37						
CTAO	Charters Tower	48.63	153	eP	P	04 30 12.5	-0.3
CTAO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTAO	Charters Tower	48.63	153	eP	P	04 30 12.5	-0.3
	comp=Z,4.6nm,1.0s						
BVAR	Borovoye Array	49.96	320	P	P	04 30 22.8	+0.1
	comp=Z,1.0nm,0.5s,baz=106,slow=7.7,SNR=8.5						
BVAR	Borovoye Array	49.96	320	P	P	04 30 22.8	+0.1
BVAR	Borovoye Array	49.96	320	P	P	04 30 22.8	+0.1
BRVK	Borovoye	50.03	320⇓	eP	P	04 30 24.8	+1.6
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,152nm,18.0s						
BRVK	Borovoye	50.03	320	eP	P	04 30 22.9	-0.4
	comp=Z,2.1nm,0.6s						
ZRNK	Zerenda	50.76	319	iP	P	04 30 28.2	-0.6
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31	Akbulak array	56.02	314c	eP	P	04 31 07.6	+0.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ABKAR	Akbulak array	56.02	314	eP	P	04 31 07.5	0.0
	comp=Z,9.2nm,0.6s						
ARU	Arti	57.26	323d	iP	P	04 31 15.6	-0.5
ARU						04 33 18.8	
ARU				S	S	04 39 07.1	-2.2
ARU				pmax	pmax		
	comp=Z,19nm,2.5s						
STKA	Stephens Creek	58.00	164	P	P	04 31 21.3	-0.2
	comp=Z,1.3nm,0.7s,baz=341,slow=6.7,SNR=5.0						
STKA	Stephens Creek	58.00	164	P	P	04 31 21.1	-0.4
ILAR	Eielson Array	67.41	28	P	P	04 32 25.3	+1.4
	comp=Z,0.3nm,0.7s,baz=259,slow=5.3,SNR=8.8						
ILAR	Eielson Array	67.41	28	P	P	04 32 25.3	+1.4
VRHR	Novokhopersk	67.58	317	eP	P	04 32 24.4	-0.8
VRHR				pmax	pmax		
	comp=N,5.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,4.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZEI	Tsey	67.80	308	eP	P	04 32 27.7	+0.7
ZEI				e		04 32 36.9	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	68.29	309	P	P	04 32 30.4	+0.6
	comp=Z,1.4nm,0.8s,baz=26,slow=6.3,SNR=2.5						
KBZ	Khabaz	68.29	309	P	P	04 32 30.4	+0.6
KBZ	Khabaz	68.29	309	P	P	04 32 30.4	+0.6
KIV	Kislovodsk	68.39	310	eP	P	04 32 31.4	+0.9
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
VORD	Divnogorie	69.05	318	eP	P	04 32 33.6	-0.7
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VSR	Storozhevoye	69.07	318	eP	P	04 32 34.6	+0.1
VSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.5s						
JOF	Joensuu	70.42	331	eP	P	04 32 41.5	-1.1
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	Joensuu	70.42	331	ep	P	04 32 41.5	-1.1
	comp=Z,0.6nm,0.4s						
KAF	Kangasniemi	72.88	331	eP	P	04 32 56.3	-1.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	Kangasniemi	72.88	331	ep	P	04 32 56.3	-1.1
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	73.21	330	P	P	04 32 58.7	-0.6
	comp=Z,3.5nm,0.7s,baz=64,slow=4.4,SNR=12						
FINES				LR	LR	05 09 47.8	
	comp=Z,159nm,18.6s,baz=134,slow=40						
FINES	FINESS Array B	73.21	330	P	P	04 32 58.7	-0.6
AKASG	Malin Array Be	75.24	319	P	P	04 33 11.6	+0.2
	comp=Z,0.8nm,0.5s,baz=59,slow=4.4,SNR=4.3						
AKASG	Malin Array Be	75.24	319c	eP	P	04 33 12.3	+0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	75.24	319	P	P	04 33 11.6	+0.2
BRTR	Keskin Array B	76.07	307	P	P	04 33 16.7	+0.1
	comp=Z,1.0nm,0.9s,baz=73,slow=5.6,SNR=4.6						
BRTR	Keskin Array B	76.07	307	P	P	04 33 16.7	+0.1
NB2	NORSAR Subarra	79.83	333	P	P	04 33 37.2	+0.3
	comp=Z,2.9nm,0.7s,baz=61,slow=5.3						
NOA	NORSAR Array B	79.83	333	P	P	04 33 37.4	+0.4
	comp=Z,1.0nm,0.8s,baz=57,slow=5.6,SNR=4.6						
NOA	NORSAR Array B	79.83	333	P	P	04 33 37.4	+0.4
YKA	Yellowknife Ar	81.40	24	P	P	04 33 45.7	+0.5
	comp=Z,1.0nm,0.7s,baz=306,slow=4.8,SNR=10.0						
YKA	Yellowknife Ar	81.40	24	P	P	04 33 45.8	+0.5

*IDC **05** 04:23:46.6±1.9, 42°.97S×72°.27W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=63.9km s-min=21.7km az=126.0*

*ISCJB **05** 04:23:48.7±0.8, 42°.65S±0°.05×72°.1W±0°.2, h10km, mb3.4/2, Error ellipse: s-maj=16.9km s-min=5.5km az=162.5*

ISC 05 04:23:47.6±1.3**, 42°.80S**±0°.08×**72°.2W**±0°.1**, h10km, n8, σ1s36**/9**, 1C, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTA	Futaleufœ	0.48	145⇑	iP	Pn	04 23 59.0	-1.5
FUTA				iS	Sb	04 24 09.0	+3.8
PUEL	Puelo Alto	1.14	357	eP	Pn	04 24 09.0	-0.5
PMCH	Puerto Montt	1.40	339	eP	Pn	04 24 11.3	-1.9
PMCH				eS	Sn	04 24 30.9	-0.8
PMCH				AML	AML	04 24 42.1	
	comp=N,982nm,0.7s						
PLCA	Paso Flores	2.42	32	Pn	Pb	04 24 31.4	+0.2
	comp=N,7.0nm,0.3s,baz=219,slow=17,SNR=112						
PLCA				Pg	Pg	04 24 33.4	-0.5
	comp=N,8.5nm,0.3s,baz=222,slow=17,SNR=130						
PLCA				Lg	Lg	04 25 08.5	
	comp=N,15nm,0.3s,baz=115,slow=19,SNR=16						
CPUP	Villa Florida	20.45	41	P	Pn	04 28 27.1	-0.3
	comp=N,1.1nm,0.6s,baz=246,slow=12,SNR=2.4						
SIV	San Ignacio	28.38	23	P	P	04 29 42.6	+0.5
	comp=N,1.0nm,0.7s,baz=221,slow=8.3,SNR=4.2						
TXAR	Lajitas Array	77.39	332	P	P	04 35 44.4	+1.7
	comp=N,0.4nm,0.9s,baz=148,slow=7.4,SNR=4.6						
MKAR	Makanchi Array	161.51	69	PKPab	PKPab	04 44 33.7	+0.9
	comp=N,0.7nm,0.9s,baz=266,slow=3.6,SNR=4.3						

*DDA **05** 04:23:49.4, 38°.38N×26°.44E, h24km, MD3.2*

*ISCJB **05** 04:23:50.5±0.5, 38°.39N±0°.03×26°.39E±0°.03, h14km±3km, Error ellipse: s-maj=4.9km s-min=3.2km az=37.5*

*ATH **05** 04:23:50.2, 38°.38N×26°.27E, h32km±2km, MD3.2/4*

*CSEM **05** 04:23:50.1±0.2, 38°.38N×26°.38E, h15km, MD3.2, Error ellipse: s-maj=4.7km s-min=3.3km az=54.0*

*THE **05** 04:23:51.4, 38°.38N×26°.38E, h17km±2km, ML3.3/1, Error ellipse: s-maj=3.6km s-min=0.8km az=264.0*

ISC 05 04:23:50.6±0.9**, 38°.37N**±0°.03×**26°.39E**±0°.03**, h19km**±2km**, n46, σ0s66**/77**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.17	91	iP	Pb	04 23 54.2	0.0
URLA				iS	Sb	04 23 57.0	+0.6
URLA	Izmir	0.17	91	iP	Pb	04 23 54.2	0.0
CHOS	Chios island	0.26	275	P	Pg	04 23 57.2	+0.6
CHOS				S	Sg	04 24 01.3	+0.6
CHOS	Chios island	0.26	275	ePB	Pg	04 23 57.1	+0.5
CHOS				eSB	Sg	04 24 00.9	+0.2
CHOS	Chios island	0.26	275	P	Pg	04 23 57.2	+0.6
CHOS				eSb	Sg	04 24 00.9	+0.2
CHOS				S	Sg	04 24 01.3	+0.6
PRK	Paraskevi	0.89	354	P	Pb	04 24 06.9	-0.5
PRK				S	Sb	04 24 19.7	+0.8
PRK	Paraskevi	0.89	354	ePN	Pb	04 24 07.0	-0.5
PRK				eSN	Sb	04 24 19.0	+0.1
PRK	Paraskevi	0.89	354	P	Pb	04 24 06.9	-0.5
PRK				eSn	Sb	04 24 19.0	+0.1
PRK				S	Sb	04 24 19.7	+0.8
GCAM	G?zelcaml?	0.94	134	iP	Pb	04 24 08.5	+0.1
GCAM				iS	Sb	04 24 20.5	0.0
GCAM	G?zelcaml?	0.94	134	iP	Pb	04 24 08.5	+0.1
GCAM				iS	Sb	04 24 20.5	0.0
SIGR	SIGRI	0.94	334	P	Pb	04 24 08.4	0.0
SIGR				S	Sb	04 24 21.4	+0.9
SIGR	SIGRI	0.94	334	P	Pb	04 24 08.4	0.0
SIGR				S	Sb	04 24 21.4	+0.9
AYVA	Ayvalik	0.97	14	iP	Pb	04 24 08.0	-0.9
AYVA				iS	Sb	04 24 21.7	+0.3
AYVA	Ayvalik	0.97	14	iP	Pb	04 24 08.0	-0.9
AYVA				iS	Sb	04 24 21.7	+0.3
AKHS	Akhisar	1.23	65	iP	Pn	04 24 12.7	-0.2
AKHS				iS	Sb	04 24 29.3	+0.4
AKHS	Akhisar	1.23	65	iP	Pn	04 24 12.7	-0.2
AKHS				iS	Sb	04 24 29.3	+0.4
AYDN	Tasoluk	1.37	120	iP	Pn	04 24 14.7	-0.2
AYDN				iS	Sn	04 24 31.8	-0.8
AYDN	Tasoluk	1.37	120	iP	Pn	04 24 14.7	-0.2
AYDN				iS	Sn	04 24 31.8	-0.8
APE	Apeiranthos	1.46	208	P	Pn	04 24 15.7	-0.4
APE	Apeiranthos	1.46	208	ePN	Pn	04 24 15.6	-0.5
APE	Apeiranthos	1.46	208	P	Pn	04 24 15.7	-0.4
BOZC	Bozcaada	1.50	350	iP	Pn	04 24 16.8	+0.2
BOZC				iS	Sb	04 24 38.5	+1.9
BDRM	Kayabasi	1.54	147	iP	Pn	04 24 17.0	-0.2
BDRM				iS	Sg	04 24 40.8	+0.3
BDRM	Kayabasi	1.54	147	iP	Pn	04 24 17.0	-0.2
BALY	Balya	1.68	35	iP	Pn	04 24 18.5	-0.6
BALY				iS	Sn	04 24 39.1	-1.0
BALY	Balya	1.68	35	iP	Pn	04 24 18.5	-0.6
BALY				iS	Sn	04 24 39.1	-1.0
MANT	Manisa	1.71	85	iP	Pn	04 24 21.1	+1.4
MANT				iS	Sb	04 24 43.3	+0.4
MANT	Manisa	1.71	85	iP	Pn	04 24 21.1	+1.4
MANT				iS	Sb	04 24 43.3	+0.4
LIA	Limnos Island	1.79	329	P	Pn	04 24 20.9	+0.3
LIA	Limnos Island	1.79	329	ePB	Pn	04 24 20.8	+0.2
LIA				eSN	Sn	04 24 41.8	-1.1
LIA	Limnos Island	1.79	329	ePb	Pn	04 24 20.8	+0.2
LIA				eSn	Sn	04 24 41.8	-1.1
DEMI	Demirci	1.94	69	iP	Pb	04 24 25.9	+0.4
DEMI				iS	Sg	04 24 53.5	+0.1
DURS	Dursunbey	2.04	52	iP	Pn	04 24 23.1	-1.1
DURS				iS	Sn	04 24 42.8	-6.4
DURS	Dursunbey	2.04	52	iP	Pn	04 24 23.1	-1.1
DNZL	Cakiroluk	2.21	107	iP	Pn	04 24 26.6	+0.1
DNZL				iS	Sb	04 24 56.1	-1.0
DNZL	Cakiroluk	2.21	107	iP	Pn	04 24 26.6	+0.1
TURN	Turunc	2.31	130	iP	Pn	04 24 22.6	-5.1
SART	Tekirdag	2.40	15	iP	Pn	04 24 27.9	-1.1
SART				iS	Sn	04 24 58.1	+0.1
SART	Tekirdag	2.40	15	iP	Pn	04 24 27.9	-1.1
SART				iS	Sn	04 24 58.1	+0.1
KHAL	Karahalli	2.44	89	iP	Pn	04 24 29.9	+0.3
KHAL				iS	Sb	04 25 03.6	-0.2
KHAL	Karahalli	2.44	89	iP	Pn	04 24 29.9	+0.3
GDZ	Gediz	2.53	72	iP	Pn	04 24 31.3	+0.5
GDZ				iS	Sb	04 25 07.8	+1.5
GDZ	Gediz	2.53	72	iP	Pn	04 24 31.3	+0.5
ALN	Alexandroupoli	2.54	354	P	Pn	04 24 31.0	+0.1
ALN	Alexandroupoli	2.54	354	P	Pn	04 24 31.0	+0.1
GOLH	Golhisar	2.75	113	iP	Pn	04 24 31.1	-2.8

MEX 05 04:27:49.1±0.5**, 18°.21N**×**103°.47W, h5km, MD3.8, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.14	57	iP	Pg	04 27 51.4	-0.6
MMIG				iS	Sg	04 27 54.1	+0.2
R15V		1.07	333	eP	Pg	04 28 06.9	-2.9
R15V				iS	Sg	04 28 21.3	-2.5
EZ5V		1.27	354	eP	Pg	04 28 09.9	-3.9
EZ5V				iS	Sg	04 28 26.1	-4.4
ZIIG	Zihuatanejo	2.00	107	iP	Pn	04 28 20.6	-3.0
ZIIG				iS	Sn	04 28 45.1	-3.9
SFJM	Santa Fe	2.30	10	iP	Pn	04 28 23.8	-4.2
SFJM				iS	Sn	04 28 52.1	-4.7
ARIG	Puente Sto Nin	2.97	88	eP	Pn	04 28 35.0	-1.9
ARIG				iS	Sn	04 29 09.6	-3.4

IDC 05 04:32:52.4±1.9**, 7°.30S**×**121°.77E, h0km, mb3.2**/2**, mb1 3.5**/4**, mb1mx3.4**/22**, mbtmp3.4**/4**, ML3.5**/2**, Error ellipse: s-maj=153.9km s-min=27.6km az=59.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.38	161	Pn	Pn	04 35 36.5	+0.1
	0.3nm,0.3s,baz=345,slow=12,SNR=5.2						
FITZ				Sn	Sn	04 37 31.5	-13
	0.3nm,0.3s,baz=321,slow=13,SNR=3.9						
WRA	Warramunga Arr	17.51	137	P	Pn	04 36 58.1	-0.1
	0.2nm,0.3s,baz=315,slow=11,SNR=4.8						
WRA				S	Sn	04 40 00.1	-14
	baz=308,slow=25,SNR=2.3						
ASAR	Alice Springs	20.02	146	P	P	04 37 27.0	0.0
	0.7nm,0.5s,baz=320,slow=12,SNR=6.0						
MKAR	Makanchi Array	64.25	331	P	P	04 43 29.4	0.0
	0.2nm,0.5s,baz=151,slow=6.5,SNR=2.3						

WEL 05 04:35:30.2±0.2**, 37°.10S**×**176°.43E, h238km**±3km**, ML4.0**/10**, Error ellipse: s-maj=4.6km s-min=4.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.28	155	PN	Pn	04 36 05.8	+0.1
URZ				SN	S	04 36 33.6	0.0
MWZ	Matawai	1.51	145	PN	Pn	04 36 07.6	+0.1
MWZ				SN	S	04 36 36.2	-0.6
MXZ	Matakaoa Point	1.57	108	PN	Pn	04 36 08.5	+0.7
MXZ				SN	S	04 36 37.5	+0.1
PUZ	Puketiti	1.75	124	PN	Pn	04 36 09.5	+0.1
PUZ				SN	S	04 36 38.9	-1.3
RAHZ	Arahi	1.89	164	PN	Pn	04 36 10.8	+0.2
RAHZ				SN	S	04 36 42.5	0.0
NMHZ	Naumai	2.02	172	PN	Pn	04 36 12.3	+0.4
NMHZ				SN	S	04 36 44.8	+0.1
BKZ	Black Stump Fm	2.07	179	PN	Pn	04 36 11.8	-0.5
BKZ				SN	S	04 36 44.5	-1.0
KNZ	Kokohu	2.16	153	PN	Pn	04 36 12.3	-0.8
TUVZ	Tukino	2.25	195	PN	Pn	04 36 14.2	0.0
FWVZ	Far West T-bar	2.26	197	PN	Pn	04 36 14.2	-0.2
WNVZ	Wahianoa	2.32	196	PN	Pn	04 36 14.7	-0.2
MCHZ	McNeill Hill	2.35	175	PN	Pn	04 36 14.6	-0.4
MOVZ	Moawhango	2.37	193	PN	Pn	04 36 14.5	-0.8
BHHZ	Black Hill Sta	2.40	187	PN	Pn	04 36 14.9	-0.8
CKHZ	Cape Kidnapper	2.61	169	PN	Pn	04 36 16.5	-1.1
KAHZ	Kahuranaki	2.72	173	PN	Pn	04 36 17.7	-1.2
PNHZ	Pukenui	2.82	184	PN	Pn	04 36 18.3	-1.7
PXZ	Pawanui	2.95	173	PN	Pn	04 36 19.7	-1.6
WPHZ	Waipukurau	2.96	180	PN	Pn	04 36 20.1	-1.3
TSZ	Takapari Road	2.98	187	PN	Pn	04 36 19.7	-2.0
DVHZ	Dannevirke	3.20	184	PN	Pn	04 36 22.2	-2.0
POWZ	Post Office Ro	3.33	189	PN	Pn	04 36 23.7	-1.9
MRZ	Mangatainoka R	3.62	190	PN	Pn	04 36 25.9	-3.0
TIWZ	Tintock	3.70	186	PN	Pn	04 36 27.2	-2.6
OGWZ	Otaki Gorge	3.84	194	PN	Pn	04 36 28.6	-2.9
HOWZ	Holdsworth Sta	3.86	190	PN	Pn	04 36 28.6	-3.1
KIW	Kapiti Island	3.94	197	PN	Pn	04 36 29.5	-3.1
MTW	Mount Morrison	4.12	190	PN	Pn	04 36 31.4	-3.4
CAW	Cannon Point	4.14	194	PN	Pn	04 36 31.8	-3.3
DUWZ	D'Urville Isla	4.18	207	PN	Pn	04 36 32.6	-3.0
TRWZ	Traveller	4.33	187	PN	Pn	04 36 33.9	-3.5
PAWZ	Paruwai Farm	4.35	190	PN	Pn	04 36 34.1	-3.5
MSWZ	Moikau Station	4.41	192	PN	Pn	04 36 34.3	-4.0
SNZO	South Karori	4.41	197	PN	Pn	04 36 34.7	-3.6
TCW	Tory Channel	4.44	201	PN	Pn	04 36 35.3	-3.3
BHW	Baring Head	4.47	195	PN	Pn	04 36 35.3	-3.7
PLWZ	Palliser	4.56	191	PN	Pn	04 36 35.9	-4.2
TUWZ	Tuamarina	4.74	203	PN	Pn	04 36 38.5	-3.7
NNZ	Nelson	4.75	209	PN	Pn	04 36 38.7	-3.7
QRZ	Quartz Range	4.80	218	PN	Pn	04 36 39.2	-3.9
BSWZ	Blackbirch Sta	5.01	202	PN	Pn	04 36 42.2	-3.5
THZ	Tophouse	5.40	209	PN	Pn	04 36 46.7	-3.9
KHZ	Kahutara	5.76	202	PN	Pn	04 36 51.0	-3.9
LTZ	Lake Taylor	6.51	208	PN	Pn	04 36 59.6	-5.0
MQZ	McQueen's Vall	7.20	202	PN	Pn	04 37 07.3	-5.9
WVZ	Waitaha Valley	7.39	214	PN	Pn	04 37 10.0	-5.5

IDC 05 04:36:09.0±9.3**, 20°.44S**×**179°.91E, h0km, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/18**, mbtmp3.7**/3**, Error ellipse: s-maj=414.2km s-min=37.4km az=146.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.63	257	P	P	04 44 07.5	+0.1
	0.8nm,0.7s,baz=97,slow=7.8,SNR=7.2						
WRA	Warramunga Arr	42.67	262	P	P	04 44 07.5	-0.4
	0.3nm,0.4s,baz=97,slow=7.7,SNR=2.5						
ILAR	Eielson Array	88.70	14	P	P	04 49 03.8	0.0
	0.4nm,1.0s,baz=200,slow=4.7,SNR=3.8						

*IDC **05** 04:42:41.9±0.8, 3°.59N×126°.83E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, MS3.7/2, Ms1 3.7/2, ms1mx2.7/41, Error ellipse: s-maj=69.6km s-min=15.4km az=74.0*

*ISCJB **05** 04:42:46.3±0.5, 3°.59N±0°.09×126°.8E±0°.3, h48km, mb4.0/12, MS3.7/2, Error ellipse: s-maj=40.1km s-min=7.1km az=163.8*

*NEIC **05** 04:42:46.9±1.3, 3°.58N×126°.76E, h35km±13km, mb4.1/5, Error ellipse: s-maj=31.7km s-min=6.4km az=73.0*

ISC 05 04:42:48.3±0.7**, 3°.6N**±0°.1×**126°.8E**±0°.3**, h48km, n28, σ0s69**/29**, mb4.1**/12**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.65	341	ePn	Pn	04 43 41.2	-1.1
DAV				eSn	Sn	04 44 23.9	-0.3
FITZ	Fitzroy Crossi	21.59	183	P	P	04 47 33.9	-0.3
	1.9nm,0.5s,baz=26,slow=12,SNR=8.5						
FITZ	Fitzroy Crossi	21.59	183	eP	P	04 47 33.9	-0.3
	1.4nm,0.5s						
WRAB	Tennant Creek	24.54	163	eP	P	04 48 03.5	-0.1
	12nm,0.9s						
WRA	Warramunga Arr	24.55	163	P	P	04 48 03.1	-0.7
	4.4nm,0.7s,baz=342,slow=10,SNR=19						
WRA	Warramunga Arr	24.55	163	P	P	04 48 03.1	-0.7
PSI	Prapat	27.82	269	LR	LR	05 00 01.7	
	comp=Z,77nm,18.6s,baz=122,slow=37						
ASAR	Alice Springs	27.98	166	P	P	04 48 34.0	-0.6
	0.4nm,0.5s,baz=341,slow=6.8,SNR=6.2						
ASAR	Alice Springs	27.98	166	P	P	04 48 34.0	-0.6
KSAR	Wonju Array Be	33.70	2	P	P	04 49 25.4	+0.5
KSRS	Korea Array	33.71	2	P	P	04 49 25.4	+0.4
	1.7nm,0.6s,baz=180,slow=9.0,SNR=6.4						
STKA	Stephens Creek	37.99	159	P	P	04 50 01.2	-0.6
	4.2nm,0.7s,baz=346,slow=12,SNR=5.9						
STKA	Stephens Creek	37.99	159	eP	P	04 50 01.5	-0.3
	1.3nm,0.8s						
ULN	Ulaanbaatar	47.26	342	eP	P	04 51 16.5	-0.4
	1.3nm,0.6s						
SONM	Songino Array	47.44	341	P	P	04 51 18.4	+0.1
	0.5nm,0.6s,baz=156,slow=7.5,SNR=5.1						
SONM				PcP	PcP	04 52 49.0	+0.9
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.7						
SONM	Songino Array	47.44	341	P	P	04 51 18.4	+0.1
SONM				PcP	PcP	04 52 49.0	+0.9
MK31	Makanchi Array	57.69	325	eP	P	04 52 34.1	0.0
MKAR	Makanchi Array	57.69	325	P	P	04 52 34.5	+0.4
	0.7nm,0.4s,baz=120,slow=8.0,SNR=14						
MKAR	Makanchi Array	57.69	325	P	P	04 52 34.5	+0.4
AAK	Ala-Archa	60.48	318	eP	P	04 52 53.3	-0.4
KURK	Kurchatov	61.87	328	eP	P	04 53 02.1	-0.6
	1.6nm,0.5s						
OPO	Ambohidratompo	81.29	251	LR	LR	05 27 29.6	
	comp=Z,78nm,18.2s,baz=172,slow=33						
BRTR	Keskin Array B	90.14	310	P	P	04 55 45.2	+1.3
	0.7nm,0.8s,baz=75,slow=7.6,SNR=3.2						
BRTR	Keskin Array B	90.14	310	P	P	04 55 45.1	+1.3
ARCES	ARCESS Array B	90.59	340	P	P	04 55 44.5	-0.6
	3.9nm,1.0s,baz=89,slow=7.3,SNR=3.8						
ARCES	ARCESS Array B	90.59	340	P	P	04 55 44.5	-0.6
CFAA	Coronel Fontan	148.76	155	PKPbc	PKPbc	05 02 32.2	+1.0
	0.2nm,0.8s,baz=188,slow=7.1,SNR=2.7						
CFAA	Coronel Fontan	148.76	155	PKPbc	PKPbc	05 02 32.2	+1.0

*ISCJB **05** 04:47:56.0±0.3, 44°.26N±0°.02×10°.44E±0°.04, h21km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=151.3*

*LDG **05** 04:47:56.9±0.1, 44°.20N×10°.52E, h5km, Ml2.5/10, Error ellipse: s-maj=2.1km s-min=1.8km az=11.0*

*ROM **05** 04:47:56.3±0.1, 44°.26N×10°.51E, h10km±1km, Md2.3/13, Ml2.3/7, Error ellipse: s-maj=2.6km s-min=1.7km az=91.0*

*CSEM **05** 04:47:56.3±0.1, 44°.24N×10°.46E, h13km±1km, ML2.5/14, Error ellipse: s-maj=3.2km s-min=2.7km az=57.0*

*GEN **05** 04:47:56.1, 44°.27N×10°.51E, h16km, ML2.3*

*VIE **05** 04:47:57.1±0.6, 44°.25N×10°.51E, h10km, mb2.4/2, ML2.6/2, Error ellipse: s-maj=9.6km s-min=2.6km az=112.0 71 km WSW of Bologna*

ISC 05 04:47:56.5±0.8**, 44°.24N**±0°.02×**10°.45E**±0°.02**, h17km**±4km**, n70, σ0s96**/104**, 6C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	Villacollemand	0.10	207	Pg	Pg	04 48 00.2	+0.2
VLC				Sg	Sb	04 48 03.3	+0.9
	2µm,0.2s						
VLC	Villacollemand	0.10	207	Pg	Pg	04 48 00.2	+0.2
VLC				Sg	Sb	04 48 03.3	+0.9
	2µm,0.2s						
GSCL	Gusciola	0.15	44⇑	iPg	Pg	04 47 59.3	-1.4
	1.0nm,0.3s						
GSCL	Gusciola	0.15	44⇑	iPg	Pg	04 47 59.3	-1.4
	1.0nm,0.3s						
ERBM	Eremo	0.18	352⇑	iPg	Pg	04 48 00.3	-0.8
ERBM				Sg	Sg	04 48 03.6	-0.6
	701nm,0.4s						
ERBM	Eremo	0.18	352⇑	iPg	Pg	04 48 00.3	-0.8
ERBM				Sg	Sg	04 48 03.6	-0.6
	701nm,0.4s						
VALM	Valbona	0.18	306	P	Pg	04 48 00.8	-0.3
VALM				S	Sg	04 48 04.2	0.0
BDI	Bagni Di Lucca	0.21	149	Pg	Pg	04 48 01.1	-0.5
BDI				Sg	Sg	04 48 05.1	+0.1
	739nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BDI	Bagni Di Lucca	0.21	149	Pg	Pg	04 48 01.1	-0.5
BDI				Sg	Sg	04 48 05.1	+0.1
	739nm,0.1s						
CRDM	Cardoso	0.22	173	P	Pg	04 48 01.3	-0.3
CRDM				S	Sg	04 48 05.1	0.0
MAIM	Mastiano	0.33	174	Pg	Pg	04 48 03.3	-0.2
MAIM				Sg	Sg	04 48 08.8	+0.6
	132nm,0.3s						
MAIM	Mastiano	0.33	174	P	Pg	04 48 03.0	-0.5
MAIM	Mastiano	0.33	174	Pg	Pg	04 48 03.3	-0.2
MAIM				S	Sg	04 48 08.0	-0.2
MAIM				Sg	Sg	04 48 08.8	+0.6
	132nm,0.3s						
GRAM	Graiana	0.37	312	P	Pg	04 48 03.8	-0.4
GRAM				S	Sg	04 48 09.1	-0.3
ZCCA	Zocca	0.40	74	Pg	Pg	04 48 04.5	-0.1
	212nm,0.7s						
ZCCA	Zocca	0.40	74	Pg	Pg	04 48 04.5	-0.1
	212nm,0.7s						
FNVD	Fontana Vidola	0.49	99	Pg	Pg	04 48 05.3	-1.1
FNVD	Fontana Vidola	0.49	99	Pg	Pg	04 48 05.3	-1.1
PII	Pisa	0.53	174	Pg	Pg	04 48 06.8	-0.1
PII	Pisa	0.53	174	Pg	Pg	04 48 06.8	-0.1
NOVE	Novellara	0.59	19	Pg	Pb	04 48 08.7	+0.5
	406nm,0.4s						
NOVE	Novellara	0.59	19	Pg	Pb	04 48 08.7	+0.5
	406nm,0.4s						
CRMI	Carmignano	0.59	140	Pg	Pg	04 48 07.9	-0.3
	35nm,0.4s						
CRMI	Carmignano	0.59	140	Pg	Pg	04 48 07.9	-0.3
	35nm,0.4s						
SC2M	Scurtabo	0.67	284	Pg	Pb	04 48 10.3	+0.5
SC2M	Scurtabo	0.67	284	P	Pg	04 48 09.4	-0.3
SC2M	Scurtabo	0.67	284	Pg	Pb	04 48 10.3	+0.5
SC2M				S	Sg	04 48 18.3	-0.4
SEI	Scarperia	0.68	106	Pg	Pg	04 48 08.9	-1.0
	383nm,0.4s						
SEI	Scarperia	0.68	106	Pg	Pg	04 48 08.9	-1.0
	383nm,0.4s						
VMG	Vicchio	0.84	109	Pg	Pb	04 48 11.6	-1.0
	46nm,0.6s						
VMG	Vicchio	0.84	109	Pg	Pb	04 48 11.6	-1.0
	46nm,0.6s						
PCP	Piancastagn	1.40	283	P	Pn	04 48 20.9	-0.3
PCP				S	Sn	04 48 37.3	-1.9
PGF	Pioggiola	2.00	212	ePn	Pn	04 48 29.2	-0.3
PGF				eSn	Sn	04 48 53.7	-0.4
	3.5nm,0.3s						
PGF	Pioggiola	2.00	212	ePn	Pn	04 48 29.2	-0.3
PGF				eSn	Sn	04 48 53.7	-0.4
	1.8nm,0.3s						
SBF	Sospel	2.20	261	ePn	Pn	04 48 33.3	+1.0
SBF				eSn	Sn	04 48 59.5	+0.3
	8.5nm,0.4s						
SBF	Sospel	2.20	261	ePn	Pn	04 48 33.3	+1.0
SBF				eSn	Sn	04 48 59.5	+0.3
	4.2nm,0.4s						
MBDF	Montbardon	2.67	282	eP	Pb	04 48 43.0	-0.9
MBDF				eSn	Sn	04 49 11.7	+0.8
	4.5nm,0.5s						
MBDF	Montbardon	2.67	282	eP	Pb	04 48 43.0	-0.9
MBDF				eSn	Sn	04 49 11.7	+0.8
	2.2nm,0.5s						
FRF	La Foret Royal	2.83	257	ePn	Pn	04 48 41.3	+0.5
FRF				eSn	Sn	04 49 14.6	+0.1
	1.7nm,0.2s						
FRF	La Foret Royal	2.83	257	ePn	Pn	04 48 41.3	+0.5
FRF				eSn	Sn	04 49 14.6	+0.1
	0.9nm,0.2s						
LPG	La Plagne	2.91	297	ePn	Pn	04 48 43.5	+1.3
LPG	La Plagne	2.91	297	eP	Pb	04 48 46.3	-1.7
LPG	La Plagne	2.91	297	ePn	Pn	04 48 43.5	+1.3
LPG	La Plagne	2.91	297	eP	Pb	04 48 46.3	-1.7
LPL	La Plagne	2.93	297	eP	Pb	04 48 46.6	-1.7
LPL				eSn	Sn	04 49 17.1	-0.2
	2.1nm,0.3s						
LPL	La Plagne	2.93	297	eP	Pb	04 48 46.6	-1.7
LPL				eSn	Sn	04 49 17.1	-0.2
	1.0nm,0.3s						
LMR	La Mourre	2.99	254	ePn	Pn	04 48 43.1	+0.1
LMR	La Mourre	2.99	254	ePn	Pn	04 48 43.1	+0.1
WTTA	Wattenberg	3.13	15	⇑iPn	Pn	04 48 46.7	+1.6
WTTA				⇑iSn	Sn	04 49 24.6	+2.4
WTTA	Wattenberg	3.13	15	Pn	Pn	04 48 46.7	+1.6
WTTA				Sn	Sn	04 49 24.6	+2.4
ORIF	Oris-en-Rattie	3.33	283	ePn	Pn	04 48 48.5	+0.7
ORIF	Oris-en-Rattie	3.33	283	eP	Pn	04 48 51.9	+4.1
ORIF				eSn	Sn	04 49 27.3	+0.3
	0.8nm,0.3s						
ORIF	Oris-en-Rattie	3.33	283	ePn	Pn	04 48 48.5	+0.7
ORIF	Oris-en-Rattie	3.33	283	eP	Pn	04 48 51.9	+4.1
ORIF				eSn	Sn	04 49 27.3	+0.3
	0.4nm,0.3s						
SMRF	Simiane la Rot	3.52	267	ePn	Pn	04 48 50.7	+0.4
SMRF	Simiane la Rot	3.52	267	ePn	Pn	04 48 50.7	+0.4
CABF	La Chapelle	3.88	309	ePn	Pn	04 48 57.6	+2.3
CABF	La Chapelle	3.88	309	ePn	Pn	04 48 57.6	+2.3
HINF	Hinteralfeld	4.36	326	ePn	Pn	04 49 02.7	+0.8
HINF				eSn	Sn	04 49 51.8	-0.5
	3.1nm,0.3s						
HINF	Hinteralfeld	4.36	326	ePn	Pn	04 49 02.7	+0.8
HINF				eSn	Sn	04 49 51.8	-0.5
	1.5nm,0.3s						
CDF	Champ du Feu	4.71	333	ePn	Pn	04 49 06.7	-0.1
CDF				eSn	Sn	04 49 59.9	-1.1
	2.5nm,0.3s						
CDF	Champ du Feu	4.71	333	ePn	Pn	04 49 06.7	-0.1
CDF				eSn	Sn	04 49 59.9	-1.1
	1.2nm,0.3s						
HAU	Haudompre	4.72	324	ePn	Pn	04 49 07.6	+0.8
HAU				eSn	Sn	04 50 00.3	-0.8
	9.0nm,0.4s						
HAU	Haudompre	4.72	324	ePn	Pn	04 49 07.6	+0.8
HAU				eSn	Sn	04 50 00.3	-0.8
	4.5nm,0.4s						
LASF	Ste Croix	4.74	270	ePn	Pn	04 49 08.0	+0.8
LASF	Ste Croix	4.74	270	ePn	Pn	04 49 08.0	+0.8
PAGF	Fort de Pagny	5.41	325	ePn	Pn	04 49 17.3	+1.1
PAGF	Fort de Pagny	5.41	325	ePn	Pn	04 49 17.3	+1.1
LOR	Lormes	5.51	306	ePn	Pn	04 49 19.9	+2.2
	baz=118						
LOR				eSn	Sn	04 50 19.6	-1.0
	1.9nm,0.3s						
LOR	Lormes	5.51	306	ePn	Pn	04 49 19.9	+2.2
	baz=118						
LOR				eSn	Sn	04 50 19.6	-1.0
	0.9nm,0.3s						

IDC 05 04:53:14.5±2.5, 20°.47S×69°.85W, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=61.7km s-min=47.6km az=176.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.47	22	Pn	Pn	04 54 25.1	+0.8
	0.6nm,0.3s,baz=205,slow=7.5,SNR=15						
SIV	San Ignacio	9.45	63	Pn	Pn	04 55 30.1	-1.9
	0.7nm,0.3s,baz=269,slow=10,SNR=9.2						
TORD	Torodi Ar. Bea	77.84	71	P	P	05 05 15.0	+0.6
	1.8nm,1.4s,baz=256,slow=6.6,SNR=3.4						
YKA	Yellowknife Ar	89.93	341	P	P	05 06 14.5	-0.5
	0.1nm,0.5s,baz=137,slow=4.7,SNR=7.4						

IDC 05 05:10:28.0±1.2, 0°.33N×98°.36E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.9/25, mbtmp4.0/12, ML3.6/1, Error ellipse: s-maj=36.2km s-min=21.1km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.52	13	Pn	Pn	05 11 10.2	-0.2
	14nm,0.3s,baz=172,slow=7.1,SNR=58						
WRA	Warramunga Arr	40.59	122	P	P	05 18 10.3	+0.5
	0.2nm,0.3s,baz=307,slow=9.2,SNR=3.2						
ASAR	Alice Springs	41.95	127	P	P	05 18 20.8	-0.2
	0.2nm,0.4s,baz=306,slow=7.9,SNR=3.5						
KSRS	Korea Array	45.92	33	P	P	05 18 51.6	-1.0
	2.6nm,0.7s,baz=220,slow=9.1,SNR=8.8						
SONM	Songino Array	47.83	7	P	P	05 19 07.8	+0.2
	1.1nm,0.6s,baz=191,slow=8.8,SNR=12						
MKAR	Makanchi Array	48.37	345	P	P	05 19 11.9	+0.3
	2.2nm,0.5s,baz=158,slow=8.7,SNR=49						
USRK	Ussuriysk Arra	52.93	30	P	P	05 19 45.1	-0.9
	2.5nm,0.8s,baz=246,slow=9.8,SNR=4.5						
ZALV	Zalesovo Beam	54.60	350	P	P	05 19 58.0	-0.1
	2.5nm,0.4s,baz=172,slow=5.7,SNR=14						
BVAR	Borovoye Array	57.45	340	P	P	05 20 18.3	-0.3
	0.9nm,0.5s,baz=147,slow=8.3,SNR=7.8						
BRTR	Keskin Array B	70.55	312	P	P	05 21 45.1	-0.2
	0.4nm,0.5s,baz=115,slow=8.4,SNR=3.8						
FINES	FINESS Array B	81.30	332	P	P	05 22 46.0	0.0
	0.7nm,0.4s,baz=100,slow=2.1,SNR=6.8						
ARCES	ARCESS Array B	83.74	340	P	P	05 22 58.6	0.0
	1.8nm,0.9s,baz=103,slow=5.2,SNR=7.8						

ISCJB 05 06:04:57.2±0.5, 23°.95S±0°.04×66°.50W±0°.05, h196km±3km, mb4.3/32, Error ellipse: s-maj=7.5km s-min=5.5km az=144.7
NEIC 05 06:04:58.3±0.4, 23°.97S×66°.49W, h200km±3km, mb4.4/25, Error ellipse: s-maj=6.7km s-min=5.3km az=59.0
IDC 05 06:04:58.1±1.3, 23°.92S×66°.47W, h197km±10km, mb3.9/8, mb1 4.0/13, mb1mx3.9/20, mbtmp3.8/13, Error ellipse: s-maj=15.9km s-min=13.0km az=55.0
GUC 05 06:05:00.2±0.5, 23°.74S×67°.11W, h248km±8km, ML5.1
ISC 05 06:04:58.7±0.5, 23°.97S±0°.05×66°.57W±0°.06, h210km±4km, n387, σ1.81/420, mb4.4/32, 150C-148D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.83	305	⇓eP	Pn	06 05 38.5	+1.9
SPCH				iS	S	06 06 09.6	+3.8
SPCH	San Pedro de A	1.83	305	⇓eP	Pn	06 05 38.5	+1.9
SPCH				iS	S	06 06 09.6	+3.8
LVC	Limon Verde	2.54	302	ePn	Pn	06 05 44.8	+0.8
LVC				eSn	S	06 06 18.9	+0.1
LVC	Limon Verde	2.54	302	⇑iP	Pn	06 05 44.7	+0.8
LVC				iS	S	06 06 18.5	-0.3
PB04	Plate Boundary	3.18	302	⇑iP	Pn	06 05 56.8	+5.9
PB04				eS	S	06 06 39.6	+8.2
PB04				AML	AML	06 06 42.6	
	comp=N,1μm,0.7s						
PB09	Plate Boundary	3.28	311	eP	Pn	06 05 52.9	+0.6
PB09				eS	S	06 06 32.6	-1.3
PB09				AML	AML	06 06 39.0	
	comp=E,2μm,0.6s						
CEN1	Los Morros	3.38	279	⇓iP	Pn	06 05 54.2	+0.9
CEN1				eS	S	06 06 35.4	-0.4
MACH	Maria Elena	3.43	300	eP	Pn	06 05 53.6	-0.5
MACH				eS	S	06 06 35.0	-2.1
MACH	Maria Elena	3.43	300	eP	Pn	06 05 53.6	-0.5
MACH				eS	S	06 06 35.0	-2.1
ANCH	Antofagasta	3.53	274	⇑iP	Pn	06 05 55.2	+0.2
ANCH				eS	S	06 06 36.4	-2.4
ANCH	Antofagasta	3.53	274	⇑iP	Pn	06 05 55.2	+0.2
ANCH				eS	S	06 06 36.4	-2.4
ANCH				AML	AML	06 06 39.8	
	comp=E,2μm,0.3s						
MECH	Mejillones	3.66	283	⇑iP	Pn	06 05 57.1	+0.4
MECH				iS	S	06 06 39.2	-2.5
MECH	Mejillones	3.66	283	⇑iP	Pn	06 05 57.1	+0.4
MECH				iS	S	06 06 39.2	-2.5
MECH				AML	AML	06 06 50.8	
	comp=N,1μm,0.4s						
PB07	Plate Boundary	3.79	306	⇑iP	Pn	06 05 58.1	-0.3
PB07				iS	S	06 06 41.4	-3.5
PB07				AML	AML	06 06 43.7	
	comp=N,2μm,0.5s						
PB01	Plate Boundary	3.97	317	⇑iP	Pn	06 06 00.1	-0.6
PB01				iS	S	06 06 46.0	-2.9
PB01				AML	AML	06 06 48.4	
	comp=E,1μm,0.3s						
HMBC	Humberstone	4.79	319	eP	Pn	06 06 09.0	-1.9
HMBC	Humberstone	4.79	319	eP	Pn	06 06 09.0	-1.9
PSGC	Pisagua	5.46	322	eP	Pn	06 06 17.1	-2.3
PSGC	Pisagua	5.46	322	eP	Pn	06 06 17.1	-2.3
LCO	Las Campanas	6.23	216	ePn	Pn	06 06 28.2	-1.1
LCO				eSn	S	06 07 36.3	-4.7
CFAA	Coronel Fontan	7.74	191	P	Pn	06 06 48.0	-0.6
	comp=E,0.2nm,0.3s,baz=16,slow=11,SNR=103						
CFAA				S	S	06 08 11.2	-5.1
	comp=E,0.9nm,0.3s,baz=275,slow=18,SNR=16						
CFAA	Coronel Fontan	7.74	191	P	Pn	06 06 48.0	-0.6
CFAA				S	S	06 08 11.2	-5.1
LPAZ	La Paz	7.79	349	P	Pn	06 06 49.9	0.0
	comp=E,6.3nm,0.3s,baz=168,slow=6.1,SNR=116						
LPAZ				S	S	06 08 13.9	-4.4
	baz=90,slow=20,SNR=1.5						
LPAZ	La Paz	7.79	349	ePn	Pn	06 06 49.8	0.0
LPAZ				S	S	06 08 13.9	-4.4
CPUP	Villa Florida	8.70	108	P	Pn	06 07 01.1	+0.2
	comp=E,1.9nm,0.3s,baz=272,slow=11,SNR=41						
CPUP	Villa Florida	8.70	108	P	Pn	06 07 01.1	+0.2
SIV	San Ignacio	9.47	34	P	Pn	06 07 09.9	-1.3
	comp=E,1.0nm,0.3s,baz=223,slow=13,SNR=24						
SIV	San Ignacio	9.47	34	P	Pn	06 07 09.9	-1.3
TRQA	Tornquist	14.58	165	ePn	Pn	06 08 14.3	-1.0
SAML	Samuel	15.29	13	ePn	Pn	06 08 23.2	-0.9
	comp=E,10nm,0.8s						
PLCA	Paso Flores	17.04	190	P	P	06 08 44.4	+1.0
	comp=E,0.3nm,0.3s,baz=10,slow=11,SNR=9.5						
PLCA	Paso Flores	17.04	190	P	P	06 08 44.4	+1.0
PLCA				ePn	Pn	06 08 44.9	-0.1
SPB	Sao Paulo	17.52	93	eP	P	06 08 48.3	-0.4
	comp=E,19nm,0.5s						
BDFB	Brasilia	19.31	68	P	P	06 09 08.9	+0.6
	comp=E,5.0nm,0.3s,baz=233,slow=12,SNR=73						
BDFB	Brasilia	19.31	68	P	P	06 09 08.9	+0.6
RCBR	Riachuelo	34.56	63	eP	P	06 11 27.8	0.0
	comp=E,16nm,1.1s						
PMSA	Palmer Station	40.83	178	eP	P	06 12 19.7	+0.3
	comp=E,146nm,1.4s						
VNA3	Neumayer Olymp	57.05	161	eP	P	06 14 24.7	+2.3
VNA2	Neumayer--Watz	57.61	160	eP	P	06 14 28.8	+2.5
	baz=311,slow=17						
VBMS	Vicksburg	60.38	337	eP	P	06 14 43.7	-2.1
	comp=E,94nm,0.3s						
732A	Laxson Ranch,	61.48	327	⇓P	P	06 14 54.3	+1.1
	baz=62						
632A	Uvalde	62.02	327	⇑P	P	06 14 58.0	+1.1
	baz=62						
631A	Perdido Creek	62.34	327	⇓P	P	06 14 59.5	+0.5
	baz=63						
532A	Rocksprings	62.59	328	⇓P	P	06 15 01.9	+1.2
	baz=63						
JCT	Junction City	62.83	328	eP	P	06 15 03.2	+1.0
	comp=E,6.8nm,0.7s						
JCT	Junction City	62.83	328	⇑P	P	06 15 03.5	+1.2
	baz=63						
531A	Rocksprings	62.94	327	⇑P	P	06 15 04.2	+1.2
	baz=63						
WVT	Waverly	63.07	341	eP	P	06 15 03.1	-0.5
432A	Menard	63.15	328	⇓P	P	06 15 05.0	+0.6
	baz=64						
530A	J-C Ranch, Com	63.32	326	⇓P	P	06 15 06.4	+0.9
	baz=64						
431A	Sonora	63.39	327	⇑P	P	06 15 06.7	+0.7
	baz=64						
628A	Black Gap, Mar	63.59	325	⇑P	P	06 15 08.8	+1.4
	baz=64,SNR=5.7						
MIAR	Mount Ida	63.60	335	eP	P	06 15 07.2	+0.1
	comp=E,12nm,1.3s						
529A	Stev Forest Ra	63.75	326	⇑P	P	06 15 09.7	+1.3
	baz=64						
430A	Baggett Ranch,	63.79	327	⇓P	P	06 15 09.6	+1.0
	baz=64						
627A	Terlingua Ranc	63.83	324	⇑P	P	06 15 10.0	+1.0
	baz=64						
TXAR	Lajitas Array	63.89	324	P	P	06 15 10.1	+0.8
	comp=E,0.8nm,0.6s,baz=153,slow=8.8,SNR=13						
TXAR	Lajitas Array	63.89	324	P	P	06 15 10.1	+0.8
PVMO	Portageville	63.91	339	eP	P	06 15 09.2	+0.1
PVMO				epP	pP	06 15 53.4	-4.1
429A	Davenport Ranc	63.99	326	⇑P	P	06 15 11.1	+1.2
	baz=64						
528A	Cox Ranch, San	64.08	325	⇑P	P	06 15 11.4	+0.9
	baz=64						
626A	Big Bend Ranch	64.31	324	⇑P	P	06 15 13.7	+1.6
	baz=65,SNR=12						
527A	Woodward Ranch	64.50	325	⇑P	P	06 15 14.4	+1.1
	baz=65						
526A	Mary Lane Ranc	64.68	324	⇑P	P	06 15 16.0	+1.5
	baz=65,SNR=8.3						
329A	Wagon Wheel Ra	64.73	327	⇑P	P	06 15 15.8	+1.1
	baz=65						
427A	Hayter Ranch,	64.94	325	⇓P	P	06 15 17.3	+1.2
	baz=65						
328A	Wristen Ranch,	65.06	326	⇑P	P	06 15 17.9	+1.1
	baz=65						
426A	McDonald Obser	65.13	325	⇓P	P	06 15 18.6	+1.1
	baz=65,SNR=7.1						
FVM	French Village	65.58	339	eP	P	06 15 19.8	-0.2
	comp=E,5.1nm,0.8s						
129A	Stewart Farms,	65.60	328	⇓P	P	06 15 21.1	+0.8
	baz=66						
326A	Caldwell Ranch	65.61	325	⇓P	P	06 15 21.4	+1.0
	baz=66						
TUL1	Tulsa	65.66	334	⇓P	P	06 15 21.8	+1.3
	baz=66						
425A	Indio Mountain	65.73	324	⇓P	P	06 15 22.2	+1.0
	baz=66,SNR=7.8						
227A	Bennet, Jal	65.81	326	⇑P	P	06 15 22.6	+1.0
	baz=66						
128A	Castleberry Fa	65.89	327	⇑P	P	06 15 22.9	+0.7
	baz=66						
Z29A	Hungry Hill Ra	66.03	328	⇓P	P	06 15 23.5	+0.5
	baz=66						
325A	Bean Ranch, Si	66.18	324	⇑P	P	06 15 25.0	+0.9
	baz=66,SNR=13						
Z28A	Tucker Farm, M	66.39	328	⇑P	P	06 15 25.8	+0.6
	baz=67						
Y29A	Porterfield Fa	66.50	329	⇓P	P	06 15 26.7	+0.7
	baz=67						
324A	Moseley Ranch,	66.51	324	⇓P	P	06 15 26.3	+0.2
	baz=67,SNR=6.6						
GDL2	Guadalupe Moun	66.51	325	eP	P	06 15 27.7	+1.5
	comp=E,2.1nm,0.5s						
MNTX	Cornudas Mount	66.65	324	⇓P	P	06 15 27.1	+0.2
	baz=67,SNR=5.3						
225A	Deer Hill, Car	66.68	325	⇓P	P	06 15 28.0	+0.8
	baz=67						
126A	Clayton Basin,	66.69	326	⇓P	P	06 15 28.0	+0.8
	baz=67						
Z27A	Tatum	66.81	327	⇓P	P	06 15 28.5	+0.5
	baz=67						
X29A	Tulia	67.00	329	⇑P	P	06 15 29.5	+0.4
	baz=67						
224A	Cornudas Mount	67.02	325	⇑P	P	06 15 30.1	+0.7
	baz=67,SNR=11						
125A	Gardner Draw,	67.03	326	⇓P	P	06 15 29.8	+0.4
	baz=67						
MSTX	Muleshoe	67.12	328	⇑P	P	06 15 30.6	+0.7
	baz=67						
Z26A	Caprock	67.16	326	⇑P	P	06 15 31.0	+0.8
	baz=68						
Y27A	Causey	67.25	327	⇓P	P	06 15 31.3	+0.6
	baz=68						
AMTX	Amarillo	67.35	329	eP	P	06 15 32.2	+0.9
	comp=E,1.9nm,0.5s						
DBIC	Dimbokro	67.42	71	P	P	06 15 31.2	-0.9
	comp=E,3.1nm,0.4s,baz=220,slow=6.7,SNR=15						
DBIC	Dimbokro	67.42	71	P	P	06 15 31.2	-0.9
124A	Stringfield Ra	67.47	325	⇓P	P	06 15 33.7	+1.4
	baz=68						
Z25A	Roswell	67.55	326	⇓P	P	06 15 33.5	+0.9
	baz=68						
Z24A	Sheeppen Canyo	67.92	326	⇑P	P	06 15 36.1	+1.1
	baz=68,SNR=7.3						
Y25A	Mesa, Roswell	68.04	326	⇓P	P	06 15 36.5	+0.8
	baz=68						
X26A	CR and CF Fran	68.10	327	⇓P	P	06 15 37.2	+1.2
	baz=68						
320A	Kipp Ranch, An	68.10	322	⇓P	P	06 15 38.2	+2.1
	baz=68						
W27A	Bowe Ranch, En	68.15	328	⇑P	P	06 15 37.4	+1.1
	baz=68						
Z23A	Rita Site, Whi	68.32	325	⇑P	P	06 15 39.4	+1.9
	baz=69						
X25A	Clemmons Ranch	68.50	327	⇓P	P	06 15 40.0	+1.4
	baz=69						
W26A	Owens Ranch, T	68.51	328	⇑P	P	06 15 40.8	+2.2
	baz=69						
220A	Playas Peak, P	68.53	322	⇓P	P	06 15 40.4	+1.7
	baz=69						
319A	Douglas	68.56	321	⇑P	P	06 15 40.9	+2.0
	baz=69						
121A	Cookes Peak, D	68.59	323	⇑P	P	06 15 41.4	+2.2
	baz=69						
Z22A	Elephant Butte	68.70	324	⇑P	P	06 15 42.1	+2.3
	baz=69,SNR=11						
Y23A	Lovelace Mesa,	68.75	325	⇓P	P	06 15 41.8	+1.6
	baz=69						
W25A	X Bar L Ranch,	68.95	327	⇓P	P	06 15 42.7	+1.4
	baz=69						
120A	U Bar Ranch, L	69.07	323	⇑P	P	06 15 44.1	+2.0
	baz=69						
V26A	Tequesquite Ra	69.09	328	⇓P	P	06 15 43.5	+1.3
	baz=69						
Z21A	St. Cloud Mine	69.12	324	⇑P	P	06 15 44.4	+1.9
	baz=69						
T28A	Walsh	69.38	330	⇓P	P	06 15 45.1	+1.2
	baz=70						
W24A	Lazy 6 Ranch,	69.42	327	⇓P	P	06 15 45.4	+1.1
	baz=70						
Z20A	Nine Sixteen R	69.47	323	⇓P	P	06 15 46.3	+1.7
	baz=70						
V25A	Rancho No Teng	69.52	328	⇓P	P	06 15 46.3	+1.4
	baz=70						
U26A	Atchley Ranch,	69.55	329	⇑P	P	06 15 46.4	+1.4
	baz=70						
T27A	Campo	69.61	330	⇑P	P	06 15 46.5	+1.1
	baz=70						
ANMO	Albuquerque	69.74	326	eP	P	06 15 47.6	+1.3
	comp=E,29nm,2.8s						
W23A	Werner Place,	69.75	326	⇑P	P	06 15 48.5	+2.1
	baz=70						
V24A	Rampart Ranch,	69.76	327	⇓P	P	06 15 48.2	+1.8
	baz=70						
U25A	Circle Dot Ran	69.87	328	⇓P	P	06 15 49.0	+2.0
	baz=70						
X21A	Alamocita Cree	70.05	325	⇓P	P	06 15 50.1	+1.9
	baz=70						
T26A	Comanche Natio	70.11	329	⇑P	P	06 15 50.2	+1.8
	baz=70						
V23A	Ortiz Mt. (NFS	70.23	327	⇑P	P	06 15 51.1	+1.8
	baz=70						
S26A	Kim	70.41	330	⇑P	P	06 15 51.7	+1.5
	baz=71						
T25A	Trinidad	70.47	329	⇑P	P	06 15 52.5	+1.8
	baz=71						
U23A	El Rito	70.69	327	⇑P	P	06 15 54.6	+2.6
	baz=71						
S25A	Robets Cordova	70.89	329	⇑P	P	06 15 55.0	+1.8
	baz=71						
R26A	Arlington	70.95	330	⇑P	P	06 15 55.2	+1.8
	baz=71						
V21A	Milan	71.02	326	⇑P	P	06 15 56.5	+2.5
	baz=71						
214A	Organ Pipe Nat	71.03	320	⇓P	P	06 15 55.9	+2.0
	baz=71						
U22A	Llaves	71.06	327	⇑P	P	06 15 56.9	+2.6
	baz=71						
KSCO	Kaye Shedlock'	71.17	331	⇓P	P	06 15 56.3	+1.6
	baz=72						
R25A	Fountain Ranch	71.22	329	⇓P	P	06 15 56.7	+1.6
	baz=72						
S24A	Houchin Ranch,	71.25	328	⇓P	P	06 15 57.6	+2.2
	baz=72						
Q26A	Hugo	71.49	330	⇑P	P	06 15 59.4	+2.7
	baz=72						
U21A	Nageezi	71.51	326	⇓P	P	06 15 59.2	+2.3
	baz=72						
T22A	Edith	71.58	327	⇓P	P	06 15 59.3	+1.9
	baz=72						
R24A	Sanders Place,	71.67	329	⇑P	P	06 15 59.7	+1.9
	baz=72						
T21A	Navajo Lake	71.88	326	⇓P	P	06 16 01.4	+2.3
	baz=72						
U20A	Newcomb	71.91	325	⇑P	P	06 16 01.1	+1.9
	baz=72						
X16A	Lo Mia Camp, P	72.02	322	⇑P	P	06 16 02.3	+2.3
	baz=72						
S22A	4UR Ranch, Cre	72.12	327	⇓P	P	06 16 03.4	+2.8
	baz=72						
113A	Mohawk Valley,	72.18	320	⇑P	P	06 16 02.9	+2.3
	baz=72						
P25A	Willow Gulch B	72.26	330	⇓P	P	06 16 03.6	+2.3
	baz=73						
Q24A	Divide	72.28	329	⇑P	P	06 16 03.7	+2.2
	baz=73						
O26A	Horse Wrangler	72.48	331	⇑P	P	06 16 04.7	+2.2
	baz=73						
OGNE	Ogallala	72.50	333	⇑P	P	06 16 04.6	+2.0
	baz=73						

S21A Coal Bank Pass 72.53 327 ⇓P P 06 16 05.2 +2.1
baz=73
Y14A Wickenburg 72.57 321 ⇑P P 06 16 05.5 +2.5
baz=73
P24A Kohler Place, 72.60 330 ⇑P P 06 16 06.0 +2.7
baz=73
O25A Wiggins 72.73 331 ⇓P P 06 16 06.7 +2.7
baz=73
ECSD EROS Data Cent 72.80 338 *e*P P 06 16 04.2 +0.1
comp=E,11nm,1.3s
ECSD *e*pP pP 06 16 57.0 +3.2
ECSD *e*sP sP 06 17 24.6 +8.4
S20A Disappointment 72.95 327 ⇓P P 06 16 08.1 +2.6
baz=73
R21A Cimarron 72.96 327 ⇑P P 06 16 07.8 +2.4
baz=73
ISCO Idaho Springs 73.16 330 *e*P P 06 16 07.9 +1.2
comp=E,2.9nm,0.9s
ISCO Idaho Springs 73.16 330 ⇑P P 06 16 08.9 +2.2
baz=74
T18A Mexican Hat 73.20 325 ⇑P P 06 16 09.3 +2.5
baz=74
R20A Redvale 73.23 327 ⇑P P 06 16 09.4 +2.4
baz=74
S19A Harvey Farm, M 73.28 326 ⇓P P 06 16 09.7 +2.4
baz=74
SMCO Snowmass 73.31 328 *e*P P 06 16 09.0 +1.3
comp=E,30nm,0.8s
SMCO *e*pP pP 06 17 02.6 +5.2
N24A Carr 73.65 331 ⇑P P 06 16 12.1 +2.8
baz=74
S18A Hurst Farm, Bl 73.68 325 ⇑P P 06 16 12.0 +2.3
baz=74
R19A Curley Farm, L 73.75 326 ⇑P P 06 16 11.9 +1.8
baz=74
BC3 Big Chuckawall 73.81 319 ⇑P P 06 16 12.6 +2.2
baz=74
O22A Kremmling 73.88 329 ⇑P P 06 16 12.7 +1.8
baz=74
W13A Hualapai Mount 73.90 321 ⇓P P 06 16 12.9 +1.8
baz=74
U15A North Rim 73.97 323 ⇓P P 06 16 13.3 +1.9
baz=74
IRM Iron Mountain 73.98 320 ⇑P P 06 16 13.3 +2.0
baz=74
K27A Flueckinger Fa 74.05 333 ⇑P P 06 16 13.8 +2.3
baz=74
M24A Cheyenne 74.14 331 ⇓P P 06 16 14.8 +2.6
baz=74
N23A Red Feather La 74.18 330 ⇓P P 06 16 14.6 +2.0
baz=74
N22A Wattenberg Ran 74.34 330 ⇑P P 06 16 15.7 +2.1
baz=75
S16A Weppner Ranch, 74.54 324 ⇓P P 06 16 16.9 +2.3
baz=75
R17A Hanksville Air 74.60 325 ⇑P P 06 16 17.4 +2.5
baz=75
P19A Cripple Cowboy 74.64 327 ⇓P P 06 16 17.3 +2.1
baz=75,SNR=6.2
O20A White River Ci 74.67 328 ⇓P P 06 16 17.1 +1.8
baz=75,SNR=5.3
GMRC Granite Mounta 74.71 320 ⇓P P 06 16 17.8 +2.2
baz=75
Q18A Rafter H Ranch 74.81 326 ⇓P P 06 16 18.5 +2.4
baz=75
M22A Cedar Creek Ra 74.89 330 ⇓P P 06 16 18.9 +2.3
baz=75
SRU San Rafael 75.02 326 ⇑P P 06 16 19.0 +1.7
baz=75
N20A Spence Gulch, 75.22 329 ⇑P P 06 16 20.7 +2.2
baz=76
O19A Miners Draw (B 75.22 328 ⇓P P 06 16 20.6 +2.2
baz=76
R15A Junction 75.27 324 ⇑P P 06 16 21.1 +2.4
baz=76
P18A Preston Nutter 75.27 327 ⇓P P 06 16 21.2 +2.3
baz=76
M21A Separation Pea 75.40 330 ⇑P P 06 16 21.9 +2.4
baz=76
P17A Butcher Ranch, 75.40 326 ⇑P P 06 16 21.7 +2.2
baz=76
K23A Bowen Ranch, D 75.53 331 ⇑P P 06 16 22.5 +2.4
baz=76
J24A Dixon Ranch, L 75.58 332 ⇑P P 06 16 23.0 +2.7
baz=76
O18A Roosevelt 75.63 327 ⇓P P 06 16 23.2 +2.4
baz=76
L21A Rawlins 75.68 330 ⇓P P 06 16 22.7 +1.6
baz=76,SNR=8.1
M20A Sweetwater, Wa 75.69 329 ⇓P P 06 16 23.2 +2.1
baz=76
N19A John Jarvie Ra 75.70 328 ⇓P P 06 16 23.2 +2.0
baz=76
K22A Casper 75.84 331 ⇑P P 06 16 24.1 +2.2
baz=76
SHOC Shoshone 75.85 320 ⇓P P 06 16 24.0 +2.1
baz=76
O17A Robinson Place 75.94 327 ⇑P P 06 16 24.7 +2.1
baz=76
RSSD Black Hills 75.96 333 *e*P P 06 16 24.1 +1.5
I24A Kuemmerle Ranc 75.99 333 ⇑P P 06 16 24.9 +2.2
baz=76
N18A Larsen Ranch, 76.01 328 ⇑P P 06 16 25.1 +2.1
baz=76
K21A Alcova 76.16 330 ⇑P P 06 16 25.7 +1.9
baz=76,SNR=11
R13A O'Grain Ranch, 76.16 323 ⇓P P 06 16 26.3 +2.4
baz=76
L20A Wamsutter 76.17 329 ⇓P P 06 16 25.9 +2.1
baz=76
EDW2 Edwards Air Fo 76.17 319 ⇑P P 06 16 25.8 +2.0
baz=76
TOA0 Torodi Ar. Sit 76.19 69 *e*P P 06 16 23.9 -0.3
TORD Torodi Ar. Bea 76.19 69 P P 06 16 24.1 -0.2
comp=E,4.5nm,0.5s,baz=258,slow=5.6,SNR=108
TORD Torodi Ar. Bea 76.19 69 P P 06 16 24.1 -0.2
J22A Midwest 76.43 331 ⇑P P 06 16 26.9 +1.7
baz=77
M18A Lyman 76.55 328 ⇑P P 06 16 27.6 +1.6
baz=77
N17A Moffit Pass 76.56 327 ⇑P P 06 16 28.4 +2.3
baz=77,SNR=7.3
AGMN Agassiz Nation 76.59 340 *e*P P 06 16 26.4 +0.7
comp=E,3.2nm,0.7s
K20A Yellowstone Ra 76.67 330 ⇓P P 06 16 28.0 +1.4
baz=77,SNR=5.7
H24A Dirks Ranch, A 76.69 333 ⇓P P 06 16 27.8 +1.3
baz=77
L19A Farson 76.72 329 ⇑P P 06 16 28.5 +1.6
baz=77
J21A Lysite 76.81 331 ⇑P P 06 16 29.4 +2.0
baz=77
I22A 9 Mile Ranch, 76.81 332 ⇓P P 06 16 28.8 +1.5
baz=77
N16A Rees Ranch, Co 76.81 327 ⇑P P 06 16 29.7 +2.3
baz=77
L18A Fontenelle, Gr 76.91 328 ⇓P P 06 16 29.8 +1.9
baz=77,SNR=6.3
ISA Isabella 76.99 319 ⇓P P 06 16 30.5 +2.1
baz=77
DUG Dugway 77.00 325 *e*P P 06 16 30.8 +2.3
comp=E,42nm,2.7s
DUG Dugway 77.00 325 ⇑P P 06 16 30.6 +2.2
baz=77
J20A Shoshoni 77.10 330 ⇓P P 06 16 31.2 +2.3
baz=77
G24A Alzada 77.10 334 ⇑P P 06 16 30.2 +1.4
baz=77
I21A Big Trails, Te 77.11 331 ⇓P P 06 16 30.3 +1.4
baz=77,SNR=11
R11A Troy Canyon, C 77.17 323 ⇑P P 06 16 31.7 +2.2
baz=78
M16A Huntsville 77.23 327 ⇑P P 06 16 32.0 +2.2
baz=78
CWC Cottonwood Cre 77.28 320 ⇓P P 06 16 32.2 +2.1
baz=78
PKM Peak Mountain 77.30 318 ⇓P P 06 16 32.4 +2.2
baz=78
PDAR Pinedale Array 77.33 329 P P 06 16 31.4 +1.2
comp=E,1.3nm,0.5s,baz=132,slow=7.8,SNR=13
PDAR Pinedale Array 77.33 329 P P 06 16 31.4 +1.2
BW06 Boulder Array 77.33 329 ⇓P P 06 16 31.6 +1.3
baz=78
G23A Biddle 77.40 333 ⇓P P 06 16 31.8 +1.3
baz=78
MDND Maddock 77.41 338 ⇓P P 06 16 32.1 +1.7
baz=78
L17A Cokeville 77.45 328 ⇓P P 06 16 32.9 +1.9
baz=78
K18A Toltan Ranch, 77.46 329 ⇓P P 06 16 33.3 +2.2
baz=78,SNR=7.3
J19A Crowheart 77.47 330 ⇑P P 06 16 33.0 +1.9
baz=78,SNR=7.1
VES Vestal, Richgr 77.48 319 ⇑P P 06 16 33.3 +2.3
baz=78
F24A Ekalaka 77.54 334 ⇓P P 06 16 32.7 +1.5
baz=78
I20A Worland 77.59 331 ⇓P P 06 16 33.4 +1.8
baz=78,SNR=6.0
H21A Big Horn, Sher 77.64 332 ⇑P P 06 16 33.1 +1.2
baz=78,SNR=6.4
L16A Fish Haven 77.66 327 ⇑P P 06 16 34.0 +1.8
baz=78
G22A Birney 77.79 332 ⇑P P 06 16 33.9 +1.3
baz=78
F23A Volborg 77.83 333 ⇑P P 06 16 34.1 +1.3
baz=78
J18A Kendall Valley 77.89 329 ⇑P P 06 16 35.0 +1.6
baz=78,SNR=16
H20A Greybull 77.95 331 ⇑P P 06 16 34.9 +1.4
baz=78,SNR=5.5
K17A Gardner Place, 77.96 328 ⇑P P 06 16 35.5 +1.7
baz=78,SNR=7.9
I19A Meeteetse 78.05 330 ⇓P P 06 16 35.9 +1.7
baz=78
E24A Baker 78.07 334 ⇓P P 06 16 35.9 +1.8
baz=78
L15A Malad City 78.12 327 ⇓P P 06 16 36.3 +1.7
baz=78,SNR=7.1
I18A Diamond G Ranc 78.17 329 ⇓P P 06 16 36.8 +1.9
baz=78,SNR=6.0
G21A Lodge Grass 78.19 332 ⇓P P 06 16 36.4 +1.6
baz=78
F22A Rosebud 78.23 333 ⇓P P 06 16 36.4 +1.4
baz=78
J17A Brown Place, J 78.33 329 ⇑P P 06 16 37.9 +2.1
baz=79
ULM Lac du Bonnet 78.33 341 P P 06 16 35.8 +0.5
comp=E,2.7nm,0.5s,baz=149,slow=6.1,SNR=8.2
ULM Lac du Bonnet 78.33 341 P P 06 16 35.8 +0.5
K16A Soda Springs 78.35 328 ⇓P P 06 16 38.1 +2.3
baz=79,SNR=7.0
REDW Red Top Meadow 78.39 329 *e*P P 06 16 37.8 +1.6
comp=E,51nm,2.6s
LOHW Long Hollow 78.47 329 *e*P P 06 16 37.5 +1.0
comp=E,3.7nm,0.7s
SCHQ Schefferville 78.48 360 P P 06 16 36.7 +0.7
comp=E,1.9nm,0.6s,baz=251,slow=18,SNR=9.6
SCHQ Schefferville 78.48 360 P P 06 16 36.7 +0.7
D24A Glendive 78.53 335 ⇑P P 06 16 38.5 +1.9
baz=79
H19A Powell 78.53 331 ⇑P P 06 16 38.3 +1.6
baz=79,SNR=5.8
L14A Malta 78.57 326 ⇑P P 06 16 38.6 +1.5
baz=79
G20A Bridger 78.62 331 ⇓P P 06 16 38.3 +1.1
baz=79,SNR=11
MOOW Moose Ponds 78.64 329 *e*P P 06 16 38.9 +1.4
comp=E,41nm,2.8s
ELK Elko 78.68 324 *e*P P 06 16 39.8 +2.0
comp=E,5.4nm,1.1s
I17A Pilgrim Ck. 78.69 329 ⇓P P 06 16 40.1 +2.4
baz=79,SNR=6.2
J16A Bone 78.69 328 ⇑P P 06 16 39.9 +2.1
baz=79
K15A Arbon 78.70 327 ⇑P P 06 16 39.7 +2.0
baz=79
NVAR Mina Array Bea 78.76 321 P P 06 16 40.0 +1.7
comp=E,0.7nm,0.5s,baz=151,slow=6.1,SNR=7.4
NVAR Mina Array Bea 78.76 321 P P 06 16 40.0 +1.7
IMW Indian Meadow 78.84 329 *e*P P 06 16 39.5 +0.8
comp=E,5.0nm,0.8s
H18A Shoshone NF, C 78.85 330 ⇑P P 06 16 40.2 +1.6
baz=79,SNR=9.4
FLWY Flagg Ranch 78.87 329 *e*P P 06 16 40.4 +1.7
comp=E,8.3nm,1.1s
C24A Savage 78.91 335 ⇓P P 06 16 40.9 +2.2
baz=79
K14A Jones Ranch, D 78.92 327 ⇓P P 06 16 40.6 +1.7
baz=79
D23A Lindsay 78.93 334 ⇑P P 06 16 40.6 +1.9
baz=79
RLMT Red Lodge 79.01 331 *e*P P 06 16 39.3 -0.1
comp=E,5.6nm,0.6s
RLMT Red Lodge 79.01 331 ⇓P P 06 16 41.3 +1.8
baz=79,SNR=8.5
F20A Billings 79.05 332 ⇓P P 06 16 41.3 +1.8
baz=79
H17A Grant Village 79.05 330 ⇑P P 06 16 42.3 +2.5
baz=79
I16A Newdale 79.08 329 ⇑P P 06 16 41.9 +2.1
baz=79
E21A Keefer Ranch, 79.18 333 ⇑P P 06 16 41.9 +1.8
baz=80
J15A Blackfoot 79.18 328 ⇓P P 06 16 42.6 +2.2
baz=80,SNR=6.0
G18A Lazy EL Ranch, 79.29 331 ⇑P P 06 16 42.5 +1.5
baz=80,SNR=6.8
D22A Cohagen 79.30 334 ⇑P P 06 16 42.6 +1.8
baz=80,SNR=5.6
C23A Lambert 79.43 335 ⇓P P 06 16 43.0 +1.5
baz=80
F19A Roth Farm, Mol 79.44 331 ⇓P P 06 16 43.2 +1.5
baz=80,SNR=5.9
D21A La Casta Ranch 79.56 333 ⇓P P 06 16 43.9 +1.7
baz=80
E20A Meyer Farm, Mu 79.59 332 ⇓P P 06 16 44.0 +1.6
baz=80,SNR=8.7
H16A Russell Place, 79.60 329 ⇓P P 06 16 44.6 +2.0
baz=80,SNR=5.4
DGMT Dagmar 79.60 336 ⇓P P 06 16 44.3 +2.0
baz=80
I15A Monteview 79.65 328 ⇓P P 06 16 45.3 +2.4
baz=80
J14A Carey 79.66 327 ⇓P P 06 16 44.8 +1.9
baz=80
C22A Vida 79.66 334 ⇑P P 06 16 44.3 +1.6
baz=80
GCMT Greycliff 79.71 331 *e*P P 06 16 44.1 +1.0
F18A Big Timber 79.82 331 ⇑P P 06 16 45.3 +1.7
baz=80,SNR=10
E19A Rath Farm, Rou 79.84 332 ⇓P P 06 16 45.4 +1.7
baz=80,SNR=8.0
B23A Brockton 79.89 335 ⇑P P 06 16 45.9 +2.0
baz=80
A24A Westby 79.90 336 ⇑P P 06 16 46.2 +2.3
baz=80
J13A Cove Ranch, Pi 80.04 327 ⇑P P 06 16 47.4 +2.4
baz=80
D20A Manuel Ranch, 80.06 333 ⇓P P 06 16 46.3 +1.4
baz=80,SNR=7.0
I14A Mackay 80.07 328 ⇓P P 06 16 47.7 +2.5
baz=80
H15A Lima 80.19 329 ⇑P P 06 16 47.9 +2.1
baz=80
C21A Desert Coulee 80.21 334 ⇑P P 06 16 47.1 +1.4
baz=80,SNR=7.6
F17A Fitzpatrick Pl 80.24 330 ⇓P P 06 16 48.2 +2.2
baz=80,SNR=5.7
G16A Moss Hill, Enn 80.25 329 ⇑P P 06 16 48.1 +2.0
baz=81
HLID Hailey 80.28 327 *e*P P 06 16 48.6 +2.4
comp=E,7.3nm,0.8s
HLID Hailey 80.28 327 ⇓P P 06 16 48.8 +2.5
baz=81
I13A Wildhorse Cree 80.39 327 ⇓P P 06 16 49.2 +2.3
baz=81
E18A Harlowton 80.41 331 ⇓P P 06 16 48.5 +1.6
baz=81
D19A Cripps Ranch, 80.43 332 ⇑P P 06 16 48.1 +1.3
baz=81,SNR=6.3
MCMT McKenzie Canyo 80.44 329 *e*P P 06 16 49.5 +2.3
BOZ Bozeman (W) 80.48 330 ⇓P P 06 16 48.7 +1.4
baz=81
C20A Veseth Ranch, 80.50 333 ⇓P P 06 16 48.3 +1.1
baz=81,SNR=5.4
G15A Dillon 80.53 329 ⇑P P 06 16 49.8 +2.2
baz=81
H14A Leadore 80.54 328 ⇑P P 06 16 50.1 +2.5
baz=81
F16A Kennard Place, 80.59 330 ⇑P P 06 16 49.7 +1.9
baz=81
B21A Ellsworth Farm 80.66 334 ⇑P P 06 16 49.7 +1.7
baz=81
A22A Carney Farms, 80.68 335 ⇓P P 06 16 49.7 +1.6
baz=81,SNR=5.9
DLMT Dillon 80.72 329 *e*P P 06 16 49.7 +1.2
comp=E,2.2nm,0.5s
E17A Martinsdale 80.75 331 ⇑P P 06 16 50.3 +1.5
baz=81,SNR=7.0
I12A Atlanta 80.81 327 ⇑P P 06 16 51.3 +2.2
baz=81
D18A Linhart Farms, 80.85 332 ⇓P P 06 16 50.9 +1.7
baz=81
MFID Camas Ranch 80.89 326 ⇓P P 06 16 51.6 +2.1
baz=81
H13A Challis 80.93 328 ⇑P P 06 16 51.9 +2.3
baz=81
C19A Slack Wire Ran 80.95 333 ⇑P P 06 16 50.9 +1.3
baz=81
F15A Butte 81.03 329 ⇑P P 06 16 52.4 +2.1
baz=81
G14A Jackson 81.04 329 ⇓P P 06 16 52.4 +2.0
baz=81
E16A East Helena 81.18 330 ⇓P P 06 16 52.8 +1.9
baz=82
D17A Six Diamond Ra 81.20 331 ⇓P P 06 16 52.5 +1.5
baz=82,SNR=6.6
H12A Diamond D Ranc 81.21 327 ⇑P P 06 16 53.2 +2.0
baz=82
G13A Cobalt 81.30 328 ⇑P P 06 16 53.9 +2.3
baz=82
A20A Cobblestone Ra 81.39 334 ⇓P P 06 16 53.2 +1.3
baz=82,SNR=7.2
F14A Wisdom 81.42 329 ⇓P P 06 16 54.5 +2.2
baz=82,SNR=5.7
B19A Brinkman Farms 81.47 333 ⇑P P 06 16 53.6 +1.3
baz=82
EGMT Eagleton 81.47 332 ⇓P P 06 16 53.8 +1.5
baz=82
D16A Dana Ranch, Ca 81.49 331 ⇓P P 06 16 54.7 +2.2
baz=82,SNR=8.9
E15A Deer Lodge 81.53 330 ⇓P P 06 16 54.5 +1.7
baz=82
C17A Wharram Farm, 81.61 332 ⇓P P 06 16 54.2 +1.2
baz=82,SNR=5.7
A19A Klindworth Far 81.76 333 ⇑P P 06 16 55.0 +1.2
baz=82
B18A Beardsley Farm 81.77 333 ⇓P P 06 16 55.3 +1.5
baz=82
F13A Darby 81.86 328 ⇑P P 06 16 56.5 +2.0
baz=82
G12A Big Creek, Yel 81.86 327 ⇓P P 06 16 56.4 +1.8
baz=82
E14A Clinton 81.92 329 ⇓P P 06 16 56.8 +2.0
baz=82
D15A Lincoln 81.94 330 ⇓P P 06 16 56.9 +1.9
baz=82
B17A L&G Farms, Che 82.12 332 ⇓P P 06 16 56.7 +1.0
baz=82
C16A Fuhringer Ranc 82.17 331 ⇓P P 06 16 57.3 +1.3
baz=82
E13A Victor 82.27 329 ⇑P P 06 16 58.7 +2.2
baz=83
F12A Elk City 82.28 328 ⇓P P 06 16 58.2 +1.5
baz=83
D14A Greenough 82.42 330 ⇓P P 06 16 58.9 +1.5
baz=83
MSO Missoula 82.44 329 ⇓P P 06 16 59.3 +1.8
baz=83
C15A Salmond Ranch, 82.53 331 ⇓P P 06 16 59.4 +1.5
baz=83,SNR=7.4
A17A Triple J Farms 82.58 332 ⇑P P 06 16 59.3 +1.2
baz=83
D13A Huson 82.87 329 ⇑P P 06 17 01.4 +1.8
baz=83
E12A Beaver Dam Sad 82.91 328 ⇓P P 06 17 01.5 +1.6
baz=83
B15A Bradely Ranch, 82.91 331 ⇓P P 06 17 00.6 +0.7
baz=83
A16A West Butte Ran 82.97 332 ⇑P P 06 17 01.5 +1.4
baz=83
C14A Swan Lake 83.04 330 ⇓P P 06 17 02.2 +1.7
baz=83
D12A Red Ives Fores 83.26 329 ⇓P P 06 17 03.4 +1.8
baz=84
C13A Hot Springs 83.35 330 ⇑P P 06 17 03.7 +1.6
baz=84
BSMT Bassoo Peak 83.58 330 *e*P P 06 17 04.9 +1.5
comp=E,0.7nm,0.4s
C12B Naegeli Ranch, 83.79 329 ⇓P P 06 17 05.8 +1.5
baz=84
A13A Flathead Natio 84.20 331 ⇓P P 06 17 08.2 +1.9
baz=84
C11A Tepee Creek (N 84.25 329 ⇑P P 06 17 08.1 +1.5
baz=85
B12A Libby 84.39 330 ⇑P P 06 17 09.0 +1.7
baz=85
A12A Yaak River Ran 84.76 330 ⇑P P 06 17 10.7 +1.6
baz=85
YKA Yellowknife Ar 94.24 340 P P 06 17 53.9 +0.6
comp=E,1.2nm,0.6s,baz=134,slow=4.5,SNR=39
YKA Yellowknife Ar 94.24 340 P P 06 17 54.0 +0.6
ASAR Alice Springs 128.64 204 PKP PKPdf 06 23 42.3 +0.8
comp=E,2.0nm,0.6s,baz=141,slow=2.0,SNR=18
ASAR Alice Springs 128.64 204 PKP PKPdf 06 23 42.3 +0.8
WRA Warramunga Arr 131.83 207 PKP PKPdf 06 23 48.7 +1.1
comp=E,1.2nm,0.5s,baz=171,slow=1.5,SNR=14
WRA SKPbc SKPbc 06 26 54.9 +1.1
comp=E,1.3nm,0.9s,baz=159,slow=4.0,SNR=6.6
WRA Warramunga Arr 131.83 207 PKP PKPdf 06 23 48.7 +1.1
WRA SKPbc SKPbc 06 26 54.9 +1.1
PETK Petropavlovsk- 135.83 323 PKP PKPdf 06 23 54.5 +0.5
comp=E,1.7nm,0.7s,baz=108,slow=1.8,SNR=3.8
PETK Petropavlovsk- 135.83 323 PKP PKPdf 06 23 54.5 +0.5
ZALV Zalesovo Beam 143.19 28 PKP PKPbc 06 24 05.8 +0.8
comp=E,1.3nm,0.4s,baz=298,slow=3.1,SNR=11
ZALV SKPbc SKiKP 06 27 27.8 +1.0
comp=E,0.9nm,0.5s,baz=323,slow=3.7,SNR=3.9
ZALV Zalesovo Beam 143.19 28 PKP PKPbc 06 24 05.8 +0.8
ZALV SKPbc SKiKP 06 27 27.8 +1.0
KSH Kashi 144.86 55 *e*PKP PKPbc 06 24 09.5 -1.1
KSH *e*pPKP pPKPdf 06 25 04.6 -0.6
KSH sPKP 06 25 27.5
KSH PP PP 06 27 28.9 -2.1
KSH PKS PKSdf 06 27 41.7 -4.8
KSH SS SS 06 45 57.0 -6.0
KSH AMB AMB
comp=Z,82nm,4.9s
KSH LR LR
comp=N,73nm,7.4s
KSH LR LR
comp=E,52nm,4.2s
KSH LR LR
comp=Z,230nm,6.2s
MK31 Makanchi Array 146.26 40 *e*PKPdf PKPbc 06 24 14.3 -0.1
MK31 *e*PKPbc PKPab 06 24 15.7 +0.1
MKAR Makanchi Array 146.26 40 PKPbc PKPbc 06 24 14.4 0.0
comp=Z,2.4nm,0.5s,baz=315,slow=2.7,SNR=45
MKAR SKPbc SKiKP 06 27 35.1 +1.7
comp=Z,0.4nm,0.7s,baz=336,slow=1.2,SNR=3.7
MKAR Makanchi Array 146.26 40 PKPbc PKPbc 06 24 14.4 0.0
MKAR SKPbc SKiKP 06 27 35.1 +1.7
SONM Songino Array 155.54 11 PKP PKPdf 06 24 28.4 +1.1
comp=Z,0.3nm,0.4s,baz=349,slow=0.7,SNR=4.8
SONM PKPab PKPab 06 24 55.2 +1.1
comp=Z,0.5nm,0.4s,baz=336,slow=3.2,SNR=5.0
SONM Songino Array 155.54 11 PKP PKPdf 06 24 28.4 +1.1
SONM PKPab PKPab 06 24 55.2 +1.1
HHC Hu-ho-hao-te 163.10 5 *e*PKP PKPdf 06 24 31.5 -4.6
HHC pPKP pPKPdf 06 25 30.4 -0.3
HHC sPKP 06 25 52.9
HHC PKS PKSdf 06 28 05.0 -4.2
HHC PP PP 06 29 11.6 0.0
HHC SKS SKSdf 06 31 17.6 -3.3
HHC AMB AMB
comp=Z,130nm,5.4s
LZH Lanzhou 165.36 32 *e*PKP PKPdf 06 24 37.5 -0.9
LZH pPKP pPKPdf 06 25 33.6 +0.7
LZH sPKP 06 25 52.3
CD2 Chengdu 168.98 49 PKP PKPdf 06 24 40.2 -0.8

MEX 05 06:10:52.9±0.4, 17.°25N×100.°40W, h10km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.23	147	*e*P	Pg	06 10 57.1	-0.6
CAIG				*i* S	Sg	06 11 01.0	+0.1
ACX	Acapulco	0.64	126	*e*P	Pg	06 11 03.8	-1.6
ARIG	Puente Sto Nin	1.03	3	*e*P	Pg	06 11 09.5	-3.3
ARIG				*i* S	Sg	06 11 22.7	-3.6

ZIIG	Zihuatanejo	1.08	290	*i* P	Pg	06 11 10.7	-2.9
ZIIG				*i* S	Sg	06 11 23.9	-3.8
PLIG	Platanillo	1.43	37	*i* P	Pn	06 11 15.5	-3.5
PLIG				*i* S	Sn	06 11 33.7	-4.3
YAIG	Yautepec	2.05	38	*i* P	Pn	06 11 24.9	-2.8
YAIG				*i* S	Sn	06 11 48.7	-4.8
PNIG	Pinotepa	2.34	111	*i* P	Pn	06 11 28.0	-3.5
PNIG				*i* S	Sn	06 11 55.4	-4.9
PPM	Popocatepetl	2.48	43	*i* P	Pn	06 11 34.8	+0.8
UTMO	Huajuapan	2.55	76	*i* P	Pn	06 11 31.4	-3.3
UTMO				*i* S	Sn	06 12 01.0	-5.0

*NEIC **05** 06:23:42.0, 20°.90N×105°.42W, h16km, mb4.2/3, MD3.8(MEX), After MEX.*
NEIC Felt [III] at Bucerias and [II] at Puerto Vallarta. Also felt at Jaltemba and Valle de Banderas.
*MEX **05** 06:23:44.9±1.1, 20°.80N×105°.27W, h14km±13km, MD3.9*
ISC 05 06:23:41.7±1.1**, 20°.77N**±0°.05×**105°.34W**±0°.08**, h20**km±7km**, n14, σ1s.23**/23**, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANIG	Ahuacatlan	0.81	70	*i* P	Pb	06 23 57.1	0.0
ANIG				*i* S	Sb	06 24 07.3	-0.5
CJM	Chamela	1.30	168	*e*P	Pn	06 24 04.3	-0.4
CJM				*i* S	Sn	06 24 20.7	-0.6
R15V		2.04	141	*i* P	Pn	06 24 16.3	+1.4
R15V				*i* S	Sn	06 24 40.0	+0.2
EZ5V		2.08	128	*e*P	Pn	06 24 16.4	+0.8
EZ5V				*i* S	Sn	06 24 40.9	-0.1
SFJM	Santa Fe	2.17	97	*i* P	Pb	06 24 21.7	+1.3
SFJM				*i* S	Sb	06 24 46.0	-0.9
MAIG	Mazatlaan	2.61	337	*i* P	Pn	06 24 24.7	+2.1
MAIG				*i* S	Sn	06 24 54.1	+0.4
MMIG	Aquila	3.10	142	*e*P	Pn	06 24 30.1	+0.7
MMIG				*i* S	Sn	06 25 06.8	+0.8
ZAIG	Zacatecas	3.25	52	*i* P	Pn	06 24 32.0	+0.2
ZAIG				*i* S	Sn	06 25 08.8	-1.2
ZIIG	Zihuatanejo	4.83	130	*i* P	Pn	06 24 54.4	+1.2
ZIIG				*i* S	Sn	06 25 48.2	-0.3
JCT	Junction City	10.88	26	P	Pn	06 26 16.4	+0.1
WMOK	Wichita Mounta	15.07	21	P	Pn	06 27 14.6	+1.2
	0.7nm,0.7s						
WUAZ	Wupatki	15.62	341	P	Pn	06 27 17.5	-3.3
	11nm,0.6s						
TEIG	Tepich	15.99	89	P	Pn	06 27 26.4	+0.9
	38nm,1.4s						
MIAR	Mount Ida	17.21	35	P	Pn	06 27 39.9	-1.0
	1.0nm,0.5s						

IDC 05 06:25:03.1±0.8**, 3°.96N**×**126°.95E, h0**km**, mb3.8**/11**, mb1 4.0**/11**, mb1mx3.9**/26**, mbtmp3.9**/11**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.1**/32**, Error ellipse: s-maj=47.1km s-min=14.5km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	11.45	219	LR	LR	06 31 15.9	
	comp=Z,34nm,20.0s,baz=99,slow=33						
FITZ	Fitzroy Crossi	21.96	183	P	P	06 29 57.6	-1.0
	0.9nm,0.4s,baz=15,slow=10,SNR=6.0						
WRA	Warramunga Arr	24.84	163	P	P	06 30 27.6	+0.3
	3.4nm,0.8s,baz=341,slow=11,SNR=14						
ASAR	Alice Springs	28.28	166	P	P	06 30 58.1	-0.3
	0.2nm,0.5s,baz=345,slow=10,SNR=3.3						
CMAR	Chiang Mai Arr	30.95	300	P	P	06 31 22.1	-0.1
	0.8nm,0.3s,baz=113,slow=7.6,SNR=4.6						
STKA	Stephens Creek	38.27	160	P	P	06 32 25.6	+0.3
	1.0nm,0.3s,baz=338,slow=8.3,SNR=4.6						
SONM	Songino Array	47.15	341	P	P	06 33 38.2	+0.7
	0.6nm,0.7s,baz=157,slow=8.0,SNR=3.8						
SONM				PcP	PcP	06 35 09.9	+0.8
	0.7nm,0.7s,baz=171,slow=3.0,SNR=5.1						
MKAR	Makanchi Array	57.49	325	P	P	06 34 53.7	-0.5
	0.7nm,0.5s,baz=126,slow=8.2,SNR=13						
KURBB	Kurchatov Arra	61.66	327	P	P	06 35 22.2	-0.6
	0.5nm,0.4s,baz=129,slow=5.7,SNR=15						
BVAR	Borovoye Array	67.25	327	P	P	06 35 59.5	+0.1
	1.3nm,0.8s,baz=120,slow=8.8,SNR=3.6						
AKTO	Aktyubinsk	73.62	322	P	P	06 36 38.6	+0.3
	0.8nm,0.5s,baz=108,slow=6.4						
ILAR	Eielson Array	84.80	25	P	P	06 37 38.4	-0.9
	0.3nm,0.8s,baz=264,slow=6.3,SNR=3.4						
TORD	Torodi Ar. Bea	123.06	288	PKP	PKPdf	06 44 03.0	+0.3
	0.4nm,0.8s,baz=111,slow=3.2,SNR=2.5						

IDC 05 06:58:23.8±8.6**, 23°.99S**×**179°.73E, h538**km±94km**, mb3.1**/5**, mb1 3.3**/5**, mb1mx3.0**/19**, mbtmp3.1**/5**, Error ellipse: s-maj=45.6km s-min=28.7km az=53.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	31.23	271	P	P	07 03 59.1	-0.5
	1.6nm,0.6s,baz=108,slow=13,SNR=4.1						
ASAR	Alice Springs	41.77	261	P	P	07 05 26.4	-0.1
	0.3nm,0.3s,baz=94,slow=7.2,SNR=5.6						
WRA	Warramunga Arr	42.15	266	P	P	07 05 29.6	+0.1
	0.8nm,0.4s,baz=104,slow=8.5,SNR=5.8						
QSPA	South Pole Qui	66.10	180	P	P	07 08 17.4	0.0
	1.3nm,0.6s,baz=210,slow=6.9,SNR=9.4						
TXAR	Lajitas Array	90.69	58	P	P	07 10 29.6	0.0
	0.5nm,0.7s,baz=217,slow=6.6,SNR=7.4						
BVAR	Borovoye Array	120.34	319	PKP	PKPdf	07 16 12.7	-0.9
	0.4nm,0.6s,baz=50,slow=2.3,SNR=3.3						
BRTR	Keskin Array B	147.43	307	PKPbc	PKPbc	07 17 07.6	0.0
	0.3nm,0.4s,baz=98,slow=2.8,SNR=2.3						

IDC 05 07:07:58.2±8.6**, 7°.59S**×**156°.67E, h67**km±63km**, mb3.6**/7**, mb1 3.8**/8**, mb1mx3.6**/20**, mbtmp3.7**/8**, ML3.6**/1**, MS3.3**/3**, Ms1 3.3**/3**, ms1mx2.8**/28**, Error ellipse: s-maj=88.1km s-min=30.7km az=114.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	3.72	120	P	Pn	07 09 00.7	+7.4
	9.6nm,0.3s,baz=357,slow=17,SNR=2.2						
PMG	Port Moresby	9.57	258	P	Pn	07 10 12.9	-0.4
	2.7nm,0.3s,baz=23,slow=12,SNR=3.8						
CTA	Charters Tower	16.00	218	P	P	07 11 41.6	0.0
	0.4nm,0.3s,baz=33,slow=13,SNR=2.2						
CTA				LR	LR	07 17 15.2	
	comp=Z,54nm,18.5s,baz=228,slow=35						
DZM	Mont Dzumac	17.20	148	P	P	07 12 01.1	+6.2
	0.0nm,0.3s,baz=320,slow=17,SNR=1.8						
WRA	Warramunga Arr	24.88	238	P	P	07 13 15.1	+0.2
	6.8nm,0.6s,baz=62,slow=9.5,SNR=44						
WRA				LR	LR	07 22 51.3	
	comp=Z,70nm,19.4s,baz=35,slow=36						
ASAR	Alice Springs	27.05	231	P	P	07 13 34.8	+0.2
	1.0nm,0.4s,baz=58,slow=10.0,SNR=28						
ASAR				LR	LR	07 23 16.3	
	comp=Z,89nm,19.4s,baz=163,slow=34						
SONM	Songino Array	70.74	327	P	P	07 19 07.8	+0.4
	0.3nm,0.5s,baz=134,slow=6.2,SNR=3.4						
ILAR	Eielson Array	83.33	21	P	P	07 20 17.5	0.0
	0.2nm,0.9s,baz=255,slow=5.1,SNR=2.9						
MKAR	Makanchi Array	84.95	318	P	P	07 20 26.7	+0.5
	0.7nm,0.5s,baz=97,slow=6.6,SNR=4.8						
MKAR				pP	pP	07 20 39.1	-5.5
	1.2nm,0.8s,baz=116,slow=6.6,SNR=5.8						
ZALV	Zalesovo Beam	85.60	326	P	P	07 20 29.5	+0.3
	0.5nm,0.5s,baz=113,slow=3.9,SNR=3.0						
ZALV				pP	pP	07 20 41.8	-5.9
	0.5nm,0.3s,baz=124,slow=6.3,SNR=3.1						
KURBB	Kurchatov Arra	88.36	321	P	P	07 20 42.3	-0.4
	0.4nm,0.5s,baz=94,slow=4.4,SNR=2.3						
TORD	Torodi Ar. Bea	154.78	285	PKPab	PKPab	07 28 06.5	-1.6
	0.8nm,0.9s,baz=44,slow=2.7,SNR=2.9						

IDC 05 07:20:46.2±2.2**, 31°.44S**×**179°.54E, h465**km±21km**, mb3.5**/8**, mb1 3.7**/10**, mb1mx3.5**/21**, mbtmp3.6**/10**, Error ellipse: s-maj=29.3km s-min=13.5km az=156.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.95	305	P	P	07 23 58.1	+1.4
	0.8nm,0.3s,baz=127,slow=12,SNR=28						
AFI	Afiamalu	19.18	27	P	P	07 24 39.1	-0.5
	3.3nm,0.3s,baz=154,slow=6.8,SNR=5.8						
CTA	Charters Tower	31.91	283	P	P	07 26 32.4	0.0
	3.3nm,0.7s,baz=98,slow=8.3,SNR=3.3						
STKA	Stephens Creek	32.19	259	P	P	07 26 35.4	+0.7
	3.6nm,0.4s,baz=99,slow=9.0,SNR=11						
ASAR	Alice Springs	40.96	269	P	P	07 27 47.0	-0.3
	2.4nm,0.7s,baz=105,slow=7.4,SNR=26						
ASAR				PcP	PcP	07 29 36.7	-0.2
	0.6nm,0.7s,baz=133,slow=3.3,SNR=4.3						
ASAR				ScP	ScP	07 32 43.1	+1.2
	0.8nm,0.6s,baz=117,slow=3.8,SNR=10.0						
WRA	Warramunga Arr	42.04	275	P	P	07 27 55.7	-0.4
	4.2nm,0.4s,baz=112,slow=7.8,SNR=26						
WRA				S	S	07 33 39.9	-0.9
	0.9nm,1.0s,baz=108,slow=14,SNR=2.6						
FITZ	Fitzroy Crossi	50.26	272	P	P	07 28 58.5	-0.3
	2.7nm,0.7s,baz=153,slow=4.5						
KSRS	Korea Array	83.80	321	P	P	07 32 26.3	+0.7
	0.9nm,0.4s,baz=143,slow=5.9,SNR=4.5						
PETK	Petropavlovsk-	86.32	347	P	P	07 32 37.9	+0.3
	3.3nm,0.6s,baz=147,slow=7.1,SNR=3.8						
NVAR	Mina Array Bea	90.45	44	P	P	07 32 57.6	+0.1
	0.9nm,0.7s,baz=221,slow=7.5,SNR=7.7						
MKAR	Makanchi Array	116.82	310	PKP	PKPdf	07 38 35.9	-0.9
	0.3nm,0.6s,baz=187,slow=1.2,SNR=5.7						
ZALV	Zalesovo Beam	117.40	318	PKP	PKPdf	07 38 36.4	-1.2
	0.4nm,0.4s,baz=116,slow=5.9,SNR=3.6						
ARCES	ARCESS Array B	139.13	346	PKhKP	PKPpre	07 39 10.5	
	1.0nm,0.7s,baz=86,slow=1.7,SNR=8.5						
ARCES				PKP	PKiKP	07 39 19.6	-1.1
	2.0nm,0.7s,baz=82,slow=2.6,SNR=7.6						
JOF	Joensuu	142.57	337	*e*p	PKPdf	07 39 20.9	-3.8
	1.3nm,0.4s						
KBZ	Khabaz	143.90	302	PKP	PKPdf	07 39 28.4	+0.8
	1.3nm,0.7s,baz=264,slow=3.5,SNR=4.0						
KAF	Kangasniemi	144.78	338	*e*p	PKPdf	07 39 27.4	-1.1
	4.1nm,0.4s						
FINES	FINESS Array B	145.35	338	PKPbc	PKPdf	07 39 30.0	+0.5
	7.3nm,0.3s,baz=44,slow=5.0,SNR=74						
NOA	NORSAR Array B	149.41	349	PKPbc	PKPbc	07 39 40.8	-0.5
	1.6nm,0.6s,baz=16,slow=4.2,SNR=6.4						
NOA				PKPab	PKPab	07 39 47.4	-0.7
	1.8nm,0.7s,baz=22,slow=3.3,SNR=4.7						
AKASG	Malin Array Be	150.78	320	PKPbc	PKPbc	07 39 44.5	-0.2
	1.2nm,0.4s,baz=46,slow=3.2,SNR=6.3						
BRTR	Keskin Array B	151.19	296	PKPbc	PKPbc	07 39 46.0	-0.4
	1.2nm,0.5s,baz=146,slow=4.1,SNR=7.1						
GERES	GERESS Array B	159.58	332	PKPab	PKPab	07 40 31.1	-0.8
	0.2nm,0.4s,baz=29,slow=2.2,SNR=3.9						
TORD	Torodi Ar. Bea	161.69	187	PKPab	PKPab	07 40 40.9	-0.9
	0.4nm,0.9s,baz=168,slow=3.5,SNR=3.2						

IDC 05 07:29:37.7±34.0**, 4°.58N**×**127°.07E, h0**km**, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.5**/22**, mbtmp3.8**/3**, Error ellipse: s-maj=569.1km s-min=149.4km az=161.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.40	164	P	P	07 35 06.8	-0.2
	1.0nm,0.3s,baz=343,slow=10,SNR=18						
ASAR	Alice Springs	28.86	167	P	P	07 35 38.5	+0.3
	0.6nm,0.5s,baz=356,slow=7.9,SNR=12						
STKA	Stephens Creek	38.81	160	P	P	07 37 04.1	-0.2
	1.0nm,0.5s,baz=331,slow=8.6,SNR=6.7						

IDC 05 07:38:53.5±7.8**, 6°.63S**×**154°.82E, h47**km±63km**, mb3.1**/4**, mb1 3.5**/5**, mb1mx3.3**/19**, mbtmp3.3**/5**, ML3.4**/1**, Error ellipse: s-maj=90.4km s-min=32.9km az=114.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.07	250	P	Pn	07 40 48.3	+0.1
	2.5nm,0.3s,baz=59,slow=12,SNR=6.4						
WRA	Warramunga Arr	23.88	234	P	P	07 44 02.5	-0.4
	0.5nm,0.9s,baz=58,slow=9.3,SNR=4.2						
WRA				PcP	PcP	07 47 44.8	-0.3
	0.2nm,0.3s,baz=59,slow=2.5,SNR=5.4						
ASAR	Alice Springs	26.28	228	P	P	07 44 24.9	+0.1
	0.4nm,0.3s,baz=56,slow=8.3,SNR=5.2						
SONM	Songino Array	68.94	327	P	P	07 49 54.2	+0.3
	0.2nm,0.5s,baz=124,slow=6.4,SNR=3.8						
ILAR	Eielson Array	83.10	22	P	P	07 51 13.7	-0.3
	0.3nm,0.9s,baz=241,slow=5.0,SNR=5.3						

*IDC **05** 07:49:13.4±0.8, 2°.75N×128°.92E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/26, mbtmp4.1/14, ML3.9/1, Error ellipse: s-maj=38.1km s-min=13.6km az=73.0*
*ISCJB **05** 07:49:16.9±0.6, 2°.68N±0°.06×128°.92E±0°.09, h35km, mb4.1/14, Error ellipse: s-maj=12.7km s-min=8.3km az=16.9*
*DJA **05** 07:49:20.7±1.9, 3°N±9°×12°9E±1°3, h79km±16km, M4.8/7, mB4.9/1, mb4.6/7, MLv4.9/3, Mw(mB)4.2/1*
ISC 05 07:49:18.4±0.8**, 2°.71N**±0°.09×**129°.1E**±0°.1**, h35**km**, n26, σ1s.51**/26**, mb4.2**/14**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBMI	Labuha	3.68	205	P	Pn	07 50 20.1	+7.2
LBMI				S	Sn	07 51 05.6	+11
MNI	Manado	4.42	254	P	Pn	07 50 23.9	+0.9
MRSI	Marisa	7.47	253	P	Pn	07 51 05.5	+0.5
	76nm,0.6s,974nm0.3nm						
KDI	Kendari	9.25	224	P	Pn	07 51 28.3	-1.1
	29nm,1.2s						
TTSI	Tana Toraja	10.88	238	P	Pn	07 51 49.9	-1.8
	34nm,0.6s						
SPSI	Sidrap Palu	11.43	235	P	Pn	07 51 57.2	-2.0
	22nm,0.8s						
BKSI	Bulukumba	11.99	228	P	Pn	07 52 08.0	+1.1
	13nm,0.8s						
KAPI	Kappang	12.07	231	Pn	Pn	07 52 06.6	-1.5
	0.7nm,0.3s,baz=93,slow=2.5,SNR=4.0						
SBUM	Sibu	16.84	270	P	P	07 53 17.3	+3.8
PWJI	Pagerwojo	20.26	238	P	P	07 53 50.7	-0.3
	32nm,0.8s						
FITZ	Fitzroy Crossi	20.96	189	P	P	07 53 57.4	-1.0
	1.8nm,0.5s,baz=20,slow=6.8,SNR=6.5						
WRA	Warramunga Arr	23.10	167	P	P	07 54 21.7	+0.4
	3.7nm,0.5s,baz=349,slow=9.5,SNR=31						
ASAR	Alice Springs	26.64	170	P	P	07 54 54.9	+0.9
	2.9nm,0.5s,baz=353,slow=8.3,SNR=69						
CMAR	Chiang Mai Arr	33.41	300	P	P	07 55 53.1	-0.9
	0.8nm,0.4s,baz=118,slow=7.3,SNR=6.6						
STKA	Stephens Creek	36.40	162	P	P	07 56 20.6	+1.0
	5.6nm,0.6s,baz=334,slow=9.2,SNR=14						
LZH	Lanzhou	40.59	328	*e*P	P	07 56 55.7	+0.8
LZH				pP	pP	07 57 01.0	-4.2
LZH				sP	sP	07 57 04.3	-5.1
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
GTA	Gaotai	45.19	328	*e*P	P	07 57 32.7	+0.5
GTA				pP	pP	07 57 38.8	-3.7
GTA				sP	sP	07 57 41.8	-4.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	Songino Array	49.03	340	P	P	07 58 02.2	+0.2
	comp=Z,1.2nm,0.7s,baz=151,slow=8.3,SNR=11						
MKAR	Makanchi Array	59.73	325	P	P	07 59 19.6	-0.2
	comp=Z,2.3nm,0.7s,baz=118,slow=8.4,SNR=28						
ZALV	Zalesovo Beam	62.56	332	P	P	07 59 37.5	-1.2
	comp=Z,0.2nm,0.3s,baz=106,slow=5.2,SNR=4.0						
KURBB	Kurchatov Arra	63.86	327	P	P	07 59 46.8	-0.6
	comp=Z,3.0nm,0.7s,baz=124,slow=6.0,SNR=30						
BVAR	Borovoye Array	69.45	327	P	P	08 00 22.6	-0.5
	comp=Z,2.2nm,0.8s,baz=116,slow=6.8,SNR=11						
AKTO	Aktyubinsk	75.91	321	P	P	08 01 00.8	-0.7
	comp=Z,1.2nm,0.8s,baz=90,slow=5.7,SNR=3.6						
ILAR	Eielson Array	85.01	25	P	P	08 01 50.9	+0.9
	comp=Z,0.1nm,0.4s,baz=246,slow=5.4,SNR=5.1						
ARCES	ARCESS Array B	92.20	340	P	P	08 02 25.2	+1.0
	comp=Z,1.8nm,0.8s,baz=93,slow=6.9,SNR=2.9						
TORD	Torodi Ar. Bea	125.46	288	PKP	PKPdf	08 08 15.4	-1.4
	comp=Z,0.3nm,0.6s,baz=60,slow=1.5,SNR=3.4						

IDC 05 07:52:07.1±5.5**, 5°.21S**×**151°.54E, h71**km±46km**, mb3.8**/6**, mb1 4.1**/7**, mb1mx3.7**/19**, mbtmp3.9**/7**, MS2.9**/1**, Ms1 3.1**/1**, ms1mx2.7**/30**, Error ellipse: s-maj=70.0km s-min=28.7km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.02	226	P	Pn	07 53 34.7	+1.1
	3.2nm,0.3s,baz=39,slow=13,SNR=5.9						
PMG				S	Sn	07 54 41.5	+0.2
	9.2nm,0.3s,baz=60,slow=20,SNR=12						
WRA	Warramunga Arr	22.24	227	P	P	07 56 57.9	-0.4
	5.8nm,0.5s,baz=52,slow=9.8,SNR=22						
ASAR	Alice Springs	25.01	221	P	P	07 57 24.9	+0.2
	7.4nm,0.6s,baz=55,slow=9.0,SNR=50						
FITZ	Fitzroy Crossi	28.36	241	P	P	07 57 54.7	-0.1
	3.7nm,0.3s,baz=68,slow=6.9,SNR=21						
CMAR	Chiang Mai Arr	56.92	296	LR	LR	08 25 51.9	
	comp=Z,10nm,18.6s,baz=200,slow=36						
MKAR	Makanchi Array	79.81	319	P	P	08 04 08.2	+0.4
	0.6nm,0.8s,baz=104,slow=6.1,SNR=5.1						
ZALV	Zalesovo Beam	80.80	327	P	P	08 04 12.7	-0.3
	0.3nm,0.3s,baz=99,slow=8.9,SNR=3.5						
ILAR	Eielson Array	83.01	22	P	P	08 04 24.0	-0.3
	0.4nm,0.6s,baz=244,slow=5.3,SNR=9.4						
TORD	Torodi Ar. Bea	149.23	287	PKPbc	PKPbc	08 11 48.6	-0.1
	1.6nm,0.6s,baz=68,slow=2.7,SNR=10						

*NEIC **05** 08:07:50.9±0.2, 24°.74S×179°.83E, mb4.6/39, Error ellipse: s-maj=9.0km s-min=5.6km az=153.0*
*IDC **05** 08:07:50.9±1.1, 24°.65S×179°.82E, h496km±11km, mb4.0/18, mb1 4.2/19, mb1mx4.1/22, mbtmp4.0/19, Error ellipse: s-maj=12.3km s-min=10.1km az=173.0*
*BJI **05** 08:07:50.0, 24°.63S×179°.78E, h491km, mB5.0/12, mb4.5/17*
*ISCJB **05** 08:07:50.7±0.8, 24°.76S±0°.05×179°.76E±0°.04, h502km±9km, mb4.6/60, Error ellipse: s-maj=8.4km s-min=4.3km az=153.7*
*AUST **05** 08:07:51.9±1.6, 24°.58S×179°.81W, h539km, Error ellipse: s-maj=1.7km s-min=1.5km az=289.0*
*DJA **05** 08:08:15.4±7.4, 25°S±24°×17°8E±6°4, h690km±52km, M4.9/11, mB5.4/1, mb4.9/11, Mw(mB)4.9/1*
ISC 05 08:07:51.1±0.4**, 24°.80S**±0°.06×**179°.86E**±0°.05**, h499**km±3km**, h499**km**:pP-P, n353, σ1s.12**/401**, mb4.6**/60**, 94C-98D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.23	346	*e*P	P	08 09 38.6	-1.2
	22nm,1.0s						
NIUE	Niue	11.05	61	P	P	08 10 17.7	-2.0
	baz=11,SNR=4.6						
NIUE				S	S	08 12 23.2	+1.1
	baz=11,SNR=18						
DZM	Mont Dzumac	12.61	280	*e*Pn	P	08 10 38.3	+2.0
	127nm,1.0s						
DZM				*e*Sn	S	08 12 58.0	+5.5
	85nm,1.5s						
DZM	Mont Dzumac	12.61	280	P	P	08 10 38.3	+2.0
	1.5nm,0.3s,baz=83,slow=16,SNR=64						
DZM				S	S	08 12 50.6	-1.9
	0.1nm,0.3s,baz=3.6,slow=19,SNR=2.4						
DZM				ScP	ScP	08 18 20.1	+2.9
	0.1nm,0.3s,baz=124,slow=3.6,SNR=6.5						
DZM	Mont Dzumac	12.61	280	*e*P	P	08 10 37.8	+1.5
	52nm,0.9s						
DZM				S	S	08 12 50.6	-1.9
DZM				ScP	ScP	08 18 20.1	+2.9
AFI	Afiamalu	13.39	38	P	P	08 10 41.8	-2.8
	2.9nm,0.3s,baz=26,slow=8.5,SNR=4.2						
AFI				S	S	08 12 53.5	-14
	4.6nm,0.3s,baz=63,slow=23,SNR=8.0						
AFI	Afiamalu	13.39	38	P	P	08 10 41.8	-2.8
AFI				S	S	08 12 53.5	-14
SNZO	South Karori	17.02	193	*e*P	P	08 11 21.6	-0.5
	18nm,0.7s						
SNZO				*e*S	S	08 14 12.2	-2.7
RPZ	Rata Peaks	20.20	199	*e*P	P	08 11 50.7	-0.7
	12nm,0.5s						
HNR	Honiara	24.35	305	P	P	08 12 27.5	-1.5
	105nm,0.7s,baz=250,slow=1.4,SNR=9.9						
HNR	Honiara	24.35	305	*e*P	P	08 12 28.0	-1.1
ARMA	Armidale	25.60	251	*e*P	P	08 12 42.1	+2.0
ARMA	Armidale	25.60	251	P	P	08 12 42.0	+2.0
	baz=26,SNR=10						
EIDS	Eidsvold	26.05	263	*e*P	P	08 12 44.5	+0.5
	50nm,0.9s						
EIDS	Eidsvold	26.05	263	P	P	08 12 45.1	+1.0
	baz=26,SNR=6.4						
MGCD	Mangrove Creek	26.44	245	P	P	08 12 49.4	+2.0
	baz=27,SNR=6.2						
RMQ	Roma	28.06	260	P	P	08 13 03.5	+1.8
	baz=28,SNR=34						
CNB	Canberra Magne	28.30	241	P	P	08 13 05.5	+1.7
	baz=29,SNR=9.7						
CAN	Canberra	28.59	241	*e*P	P	08 13 06.7	+0.5
	12nm,0.7s						
YNG	Young	28.87	244	P	P	08 13 10.1	+1.5
	baz=29,SNR=8.4						
CMSA	Cobar Meteorol	30.77	250	P	P	08 13 25.8	+0.6
	baz=31,SNR=38						
CTA	Charters Tower	31.36	272	P	P	08 13 31.2	+0.7
	90nm,0.5s,baz=99,slow=10,SNR=173						
CTA				ScP	ScP	08 19 06.2	+1.2
	7.4nm,0.9s,baz=177,slow=2.6,SNR=5.5						
CTA	Charters Tower	31.36	272	P	P	08 13 31.2	+0.7
CTA				ScP	ScP	08 19 06.2	+1.2
CTAO	Charters Tower	31.36	272	*e*P	P	08 13 31.0	+0.5
	117nm,0.6s						
CTAO				*e*ScP	ScP	08 19 07.9	+3.0
TOO	Toolangi	31.86	238	P	P	08 13 35.7	+1.2
	baz=32,SNR=7.8						
QLP	Quilpie	32.09	259	P	P	08 13 36.9	+0.3
	baz=32,SNR=12						
STKA	Stephens Creek	34.28	249	P	P	08 13 55.3	+0.2
	14nm,0.5s,baz=89,slow=8.9,SNR=64						
STKA	Stephens Creek	34.28	249	*e*P	P	08 13 55.2	+0.2
	6.2nm,0.9s						
STKA	Stephens Creek	34.28	249	P	P	08 13 55.4	+0.4
	baz=35,SNR=54						
ARPS	Mount Arapiles	34.56	241	P	P	08 13 58.0	+0.7
	baz=35,SNR=9.4						
PMG	Port Moresby	34.68	290	P	P	08 13 58.3	-0.4
	78nm,0.8s,baz=119,slow=4.8,SNR=16						
PMG	Port Moresby	34.68	290	*e*P	P	08 13 58.2	-0.4
	72nm,0.8s						
PMG	Port Moresby	34.68	290	P	P	08 13 58.7	+0.1
	116nm,0.9s						
COEN	Coen	36.14	280	*e*P	P	08 14 11.2	+0.4
	321nm,0.9s						
COEN	Coen	36.14	280	P	P	08 14 11.2	+0.4
	baz=36,SNR=18						
QIS	Mount Isa	37.29	268	P	P	08 14 20.4	+0.2
	baz=38,SNR=7.3						
BBOO	Buckleboo	38.98	248	*e*P	P	08 14 33.2	-0.7
	362nm,0.6s						
BBOO	Buckleboo	38.98	248	P	P	08 14 33.4	-0.5
	baz=39,SNR=36						
ASAR	Alice Springs	41.77	262	P	P	08 14 56.2	-0.2
	24nm,0.8s,baz=98,slow=8.0,SNR=187						
ASAR				ScP	ScP	08 19 45.4	+1.6
	1.9nm,0.8s,baz=102,slow=4.5,SNR=7.0						
ASAR				S	S	08 20 35.1	-2.3
	0.8nm,0.9s,baz=124,slow=11,SNR=3.3						
ASAR	Alice Springs	41.77	262	P	P	08 14 56.2	-0.2
ASAR				ScP	ScP	08 19 45.4	+1.6
ASAR				S	S	08 20 35.1	-2.3
WRAB	Tennant Creek	42.22	267	*e*P	P	08 14 58.9	-1.0
	61nm,0.8s						
WRAB				*e*ScP	ScP	08 19 38.0	-7.6
WRA	Warramunga Arr	42.23	267	P	P	08 14 58.8	-1.2
	28nm,0.3s,baz=103,slow=8.2,SNR=272						
WRA				ScP	ScP	08 19 46.1	+0.4
	15nm,0.9s,baz=100,slow=4.2,SNR=27						
WRA				S	S	08 20 42.9	-1.1
	5.4nm,0.9s,baz=104,slow=14,SNR=8.5						
WRA	Warramunga Arr	42.23	267	P	P	08 14 58.8	-1.2
WRA				ScP	ScP	08 19 46.1	+0.4
WRA				S	S	08 20 42.9	-1.1
JAY	Jayapura	43.76	294	P	P	08 15 10.8	-1.3
	baz=44,SNR=4.8						
FORT	Forrest	45.88	250	*e*P	P	08 15 27.2	-1.0
	90nm,0.6s						
FORT	Forrest	45.88	250	P	P	08 15 27.4	-0.9
	baz=46,SNR=32						
KDU	Kakadu	46.25	276	P	P	08 15 30.2	-1.0
	baz=46,SNR=22						
MTN	Manton Dam	47.40	275	P	P	08 15 38.9	-1.0
	baz=48,SNR=10.0						

BAKI Biak 48.32 292 P P 08 15 47.0 +0.1
TLE Tual 48.99 285 P P 08 15 51.4 -0.5
92nm,0.9s
FITZ Fitzroy Crossi 50.64 266 P P 08 16 03.8 -0.2
50nm,0.8s,baz=144,slow=6.4,SNR=88
FITZ Fitzroy Crossi 50.64 266 eP P 08 16 03.7 -0.2
45nm,0.7s
FITZ epP pP 08 17 40.1 +0.3
FITZ eScP ScP 08 20 23.7 +2.7
FITZ Fitzroy Crossi 50.64 266 P P 08 16 03.8 -0.2
baz=51,SNR=56
FAKI Fak Fak 50.73 288 P P 08 16 03.3 -1.3
KMBL Kambalda 51.08 249 P P 08 16 06.2 -0.8
baz=51,SNR=6.5
KMBL S S 08 22 42.6 -4.4
baz=51,SNR=12
SBA Scott Base 53.48 183 eP P 08 16 23.7 +0.2
30nm,1.5s
VNDA Vanda 53.48 185 P P 08 16 24.8 +1.3
1.6nm,0.7s,baz=18,slow=6.4,SNR=13
VNDA ScP ScP 08 20 32.7 +0.4
1.8nm,0.8s,baz=356,slow=2.6,SNR=5.7
VNDA Vanda 53.48 185 P P 08 16 24.8 +1.3
VNDA ScP ScP 08 20 32.7 +0.4
KLBR Kellerberrin 54.53 248 P P 08 16 31.0 -0.7
baz=55,SNR=31
RKGY Rocky Gully 54.72 244 P P 08 16 32.9 -0.2
baz=55,SNR=4.4
MEEK Meekatharra 54.74 254 P P 08 16 32.1 -1.2
baz=55,SNR=16
NWAO Narrogin (SRO) 54.75 246 eP P 08 16 32.6 -0.6
10.0nm,1.0s
MBWA Marble Bar 55.10 261 eP P 08 16 35.0 -0.8
24nm,0.9s
MBWA epP pP 08 18 13.6 -0.4
BLDU Ballidu 55.58 249 P P 08 16 38.2 -0.8
baz=56,SNR=23
MORW Morawa 56.45 250 P P 08 16 44.4 -0.7
baz=57,SNR=13
CASY Casey 59.25 206 eP P 08 17 03.2 -0.3
37nm,0.9s
GIRL Giralia 59.59 257 P P 08 17 07.3 +0.7
baz=60,SNR=5.9
KAPI Kappang 60.83 278 eP P 08 17 13.6 -1.3
25nm,1.2s
KAPI Kappang 60.83 278 P P 08 17 13.6 -1.3
20nm,1.2s
QSPA South Pole Qui 65.29 180 P P 08 17 43.6 +0.6
2.1nm,0.6s,baz=257,slow=0.5,SNR=19
QSPA South Pole Qui 65.29 180 eP P 08 17 43.6 +0.6
2.2nm,0.6s
KKM Kota Kinabalu 69.05 287 eP P 08 18 05.8 -1.2
17nm,0.8s
SBUM Sibu 70.87 282 P P 08 18 16.8 -0.9
13nm,1.1s
KSM Kuching 72.14 280 eP P 08 18 24.9 -0.3
30nm,0.8s
KSM Kuching 72.14 280 P P 08 18 24.4 -0.7
40nm,0.9s
MJAR Matsushiro Arr 72.56 326 P P 08 18 26.2 -0.9
6.4nm,0.8s,baz=167,slow=6.1,SNR=18
MJAR Matsushiro Arr 72.56 326 P P 08 18 26.2 -0.9
KSRS Korea Array 78.85 320 P P 08 19 02.2 +0.2
3.2nm,0.7s,baz=128,slow=5.2,SNR=9.3
KSAR Wonju Array Be 78.87 320 P P 08 19 02.2 +0.1
NJ2 Nanjing 81.15 311 eP P 08 19 15.3 +1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Arra 81.44 327 P P 08 19 15.8 +0.4
comp=Z,4.3nm,0.9s,baz=132,slow=5.4,SNR=6.6
IPM Ipoh 81.77 279 eP P 08 19 17.6 -0.2
comp=Z,19nm,0.8s
IPM Ipoh 81.77 279 P P 08 19 17.2 -0.7
KULM Kulim 82.46 279 eP P 08 19 20.8 -0.5
comp=Z,6.8nm,0.7s
109C Camp Elliot, M 83.03 49 ⇑P P 08 19 24.2 +0.5
baz=83
ARVC Arvin 83.18 46 ⇑P P 08 19 24.6 +0.1
baz=83
BAR Barrett 83.21 49 eP P 08 19 25.0 +0.3
comp=Z,31nm,1.6s
MURC Murrieta 83.38 48 ⇑P P 08 19 25.6 +0.1
baz=84
BFSC Mount Baldy Ra 83.44 48 ⇓P P 08 19 26.1 +0.2
baz=84
VES Vestal, Richgr 83.44 46 ⇑P P 08 19 25.7 0.0
baz=84
MONP Monument Peak 83.50 49 ⇑P P 08 19 26.9 +0.5
baz=84
EDW2 Edwards Air Fo 83.59 47 ⇓P P 08 19 26.3 -0.3
baz=84,SNR=6.8
RCTC Rector, Farmer 83.62 45 ⇓P P 08 19 26.8 +0.2
baz=84
ISA Isabella 83.73 46 eP P 08 19 27.4 +0.1
comp=Z,15nm,0.9s
ISA Isabella 83.73 46 ⇑P P 08 19 27.6 +0.3
baz=84,SNR=12
PFO Pinyon Flat Ob 83.89 49 eP P 08 19 28.1 -0.1
comp=Z,13nm,1.5s
PFO Pinyon Flat Ob 83.89 49 ⇑P P 08 19 28.5 +0.3
baz=84
CMB Columbia Colle 83.94 43 eP P 08 19 28.4 +0.1
BBRC Big Bear Solar 83.95 48 ⇓P P 08 19 28.9 +0.3
baz=84
SWSC Sam W. Stewart 83.96 50 ⇑P P 08 19 29.0 +0.6
baz=84
VNA3 Neumayer Olymp 83.99 177 eP P 08 19 27.8 -0.2
LRMC Laurel Mountai 84.14 47 ⇑P P 08 19 30.0 +0.6
baz=84
WDC Whiskeytown Da 84.22 40 eP P 08 19 30.0 +0.5
comp=Z,10nm,1.0s
VNA2 Neumayer--Watz 84.40 178 eP P 08 19 31.5 +1.5
baz=191,slow=4.8
BELC Belle Mtn. Jos 84.42 49 ⇓P P 08 19 31.1 +0.3
baz=85,SNR=13
CWC Cottonwood Cre 84.45 46 ⇑P P 08 19 31.0 +0.1
baz=85
CN2 Changchun 84.53 324 eP P 08 19 30.8 -0.1
CN2 epP pP 08 21 23.7 +3.1
CN2 eS S 08 29 15.1 -0.7
CN2 SS SS 08 35 04.0 +2.3
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
BC3 Big Chuckawall 84.60 49 ⇓P P 08 19 32.3 +0.7
baz=85
MPMC Manual Prospec 84.61 46 ⇓P P 08 19 32.3 +0.5
baz=85
GSC Goldstone 84.62 47 eP P 08 19 32.0 +0.2
comp=Z,9.8nm,0.9s
GSC Goldstone 84.62 47 ⇓P P 08 19 32.0 +0.2
baz=85,SNR=9.2
HEC Hector,Ludlow 84.67 48 ⇑P P 08 19 32.1 +0.1
baz=85
GLA Glamis 84.70 50 eP P 08 19 33.3 +1.2
GLA Glamis 84.70 50 ⇓P P 08 19 32.5 +0.5
baz=85
IRM Iron Mountain 85.09 49 ⇑P P 08 19 34.5 +0.5
baz=85,SNR=6.3
GMRC Granite Mounta 85.10 48 ⇑P P 08 19 34.3 +0.2
baz=85
FURC Furnace Creek, 85.27 46 ⇑P P 08 19 35.0 +0.3
baz=85
HUMO Hull Mountain 85.28 39 eP P 08 19 35.5 +0.9
comp=Z,51nm,2.0s
113A Mohawk Valley, 85.28 51 ⇑P P 08 19 35.2 +0.4
baz=86
Y12C Blythe 85.30 50 ⇑P P 08 19 35.3 +0.4
baz=86
SHOC Shoshone 85.32 47 ⇓P P 08 19 35.6 +0.6
baz=86
NVAR Mina Array Bea 85.48 44 P P 08 19 35.4 -0.6
comp=Z,3.2nm,0.8s,baz=223,slow=8.8,SNR=27
NVAR Mina Array Bea 85.48 44 P P 08 19 35.4 -0.6
214A Organ Pipe Nat 85.52 52 ⇓P P 08 19 36.1 0.0
baz=86
PDMCI Parker Dam,Lak 85.87 49 ⇓P P 08 19 37.7 0.0
baz=86,SNR=6.2
Z14A Wintersburg 86.19 51 ⇑P P 08 19 39.7 +0.4
baz=86
MOD Modoc 86.37 40 eP P 08 19 39.8 -0.3
comp=Z,8.7nm,1.3s
Y14A Wickenburg 86.46 50 ⇑P P 08 19 40.8 +0.3
baz=87,SNR=5.3
W13A Hualapai Mount 86.48 49 ⇓P P 08 19 41.2 +0.3
baz=87,SNR=5.8

GYA Guiyang 87.09 301 eP P 08 19 44.0 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 87.16 53 eP P 08 19 44.9 +0.9
comp=Z,14nm,1.0s
R11A Troy Canyon, C 87.17 45 ⇑P P 08 19 43.9 -0.1
baz=87
BJI Beijing 87.59 316 P P 08 19 47.2 +1.6
BJI S S 08 29 48.0 +3.0
BJI SS SS 08 35 50.0 +3.8
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI pmax pmax
comp=Z,100nm,4.9s
PLCA Paso Flores 87.73 134 P P 08 19 47.4 +0.8
comp=Z,0.5nm,0.3s,baz=212,slow=9.6,SNR=3.2
PLCA Paso Flores 87.73 134 P P 08 19 47.4 +0.8
319A Douglas 87.78 54 ⇑P P 08 19 47.8 +0.9
baz=88
X16A Lo Mia Camp, P 87.81 50 ⇓P P 08 19 47.6 +0.6
baz=88,SNR=8.2
R13A O'Grain Ranch, 88.13 46 ⇓P P 08 19 49.4 +0.9
baz=88
ARUT Antelope Range 88.26 47 eP P 08 19 49.6 +0.5
comp=Z,3.6nm,0.9s
U15A North Rim 88.29 48 ⇑P P 08 19 49.9 +0.5
baz=88,SNR=6.6
320A Kipp Ranch, An 88.31 54 ⇑P P 08 19 50.3 +0.8
baz=88
220A Playas Peak, P 88.60 54 ⇑P P 08 19 51.6 +0.9
baz=89,SNR=7.4
120A U Bar Ranch, L 88.84 53 ⇓P P 08 19 52.8 +0.9
baz=89
X18A Snowflake 88.91 51 ⇓P P 08 19 52.8 +0.5
baz=89
Z20A Nine Sixteen R 89.16 53 ⇑P P 08 19 53.9 +0.5
baz=89,SNR=5.6
XAN Xi'an 89.19 308 P P 08 19 54.0 +0.6
XAN pmax pmax
comp=Z,3.0nm,1.2s
221A Mesquite Ranch 89.20 54 ⇑P P 08 19 54.3 +0.8
baz=89
R15A Junction 89.26 47 ⇑P P 08 19 54.3 +0.5
baz=89
W18A Petrified Fore 89.37 51 ⇓P P 08 19 54.6 +0.3
baz=90
S16A Weppner Ranch, 89.46 48 ⇓P P 08 19 54.7 0.0
baz=90
121A Cookes Peak, D 89.46 54 ⇓P P 08 19 55.1 +0.3
baz=90
KMI Kunming 89.57 298 P P 08 19 56.6 +1.1
KMI pmax pmax
comp=Z,8.0nm,1.0s
Y20A Horse Springs, 89.72 52 ⇓P P 08 19 56.7 +0.7
baz=90,SNR=10
CMAR Chiang Mai Arr 89.72 290 P P 08 19 57.5 +1.4
comp=Z,6.4nm,0.9s,baz=141,slow=3.3,SNR=36
CMAR Chiang Mai Arr 89.72 290 P P 08 19 57.5 +1.4
222A Williams Famil 89.75 54 ⇓P P 08 19 56.7 +0.6
baz=90
R16A Teasdale 89.83 47 ⇑P P 08 19 56.9 +0.5
baz=90
CHTO Chiang Mai 89.87 291 eP P 08 19 57.9 +1.1
comp=Z,7.4nm,0.8s
MFID Camas Ranch 89.92 41 eP P 08 19 56.5 -0.1
comp=Z,8.4nm,0.9s
MFID Camas Ranch 89.92 41 ⇓P P 08 19 56.7 +0.1
baz=90
Z21A St. Cloud Mine 89.93 53 ⇑P P 08 19 57.5 +0.5
baz=90
S17A Black Ridge (B 89.94 48 ⇓P P 08 19 56.7 -0.2
baz=90
X20A Quemado 89.95 52 ⇓P P 08 19 57.5 +0.5
baz=90,SNR=9.0
DUG Dugway 89.99 45 ⇑P P 08 19 56.8 -0.2
baz=90
P15A Leamington 90.00 46 ⇑P P 08 19 57.8 +0.7
baz=90
W20A Ramah 90.24 51 ⇑P P 08 19 58.5 +0.1
baz=90,SNR=7.7
O15A The Old Anders 90.25 45 ⇓P P 08 19 58.4 +0.1
baz=90
Y21A Point of Rocks 90.27 52 ⇓P P 08 19 59.1 +0.5
baz=90
T18A Mexican Hat 90.31 49 ⇓P P 08 19 58.5 -0.1
baz=90
U19A Dine' College, 90.34 50 ⇑P P 08 19 59.1 +0.2
baz=90
Q16A Castle Valley 90.37 47 ⇑P P 08 19 59.3 +0.4
baz=91
X21A Alamocita Cree 90.41 52 ⇓P P 08 19 59.7 +0.4
baz=91,SNR=6.1
Z22A Elephant Butte 90.41 53 ⇓P P 08 19 59.5 +0.4
baz=91,SNR=8.7
R17A Hartville Air 90.42 47 ⇑P P 08 19 59.3 +0.2
baz=91
P16A Fountain Green 90.42 46 ⇓P P 08 19 59.5 +0.4
baz=91
I12A Atlanta 90.55 41 ⇓P P 08 19 59.9 +0.3
baz=91
TMUT Trail Mountain 90.55 46 eP P 08 20 00.5 +0.6
comp=Z,15nm,0.8s
324A Moseley Ranch, 90.63 56 ⇑P P 08 19 60.0 -0.2
baz=91
425A Indio Mountain 90.69 56 ⇑P P 08 20 00.5 0.0
baz=91,SNR=5.1
L14A Malta 90.72 43 ⇑P P 08 20 00.7 +0.3
baz=91
Y22A Socorro 90.75 53 ⇓P P 08 20 00.7 0.0
baz=91,SNR=5.2
626A Big Bend Ranch 90.76 58 ⇓P P 08 20 00.7 -0.1
baz=91,SNR=6.5
MNTX Cornudas Mount 90.83 55 eP P 08 20 01.0 +0.1
comp=Z,2.9nm,0.9s
MNTX Cornudas Mount 90.83 55 ⇓P P 08 20 00.7 -0.3
baz=91,SNR=6.8
HLID Hailey 90.85 42 eP P 08 20 01.4 +0.4
comp=Z,5.1nm,1.1s
HLID Hailey 90.85 42 ⇓P P 08 20 01.2 +0.2
baz=91
HVU Hansel Valley 90.87 44 eP P 08 20 01.1 -0.1
J13A Cove Ranch, Pi 90.90 42 ⇓P P 08 20 01.3 +0.1
baz=91
224A Cornudas Mount 90.90 55 ⇑P P 08 20 01.8 +0.3
baz=91
SRU San Rafael 90.90 47 ⇑P P 08 20 01.5 +0.2
baz=91
M15A Larsen Ranch, 90.91 44 ⇓P P 08 20 01.4 +0.2
baz=91
R18A Canyonlands Na 90.95 48 ⇑P P 08 20 01.6 0.0
baz=91
P17A Butcher Ranch, 90.95 46 ⇓P P 08 20 02.2 +0.7
baz=91
Z23A Rita Site, Whi 90.95 54 ⇓P P 08 20 01.9 +0.3
baz=91
HHC Hu-ho-hao-te 90.96 315 eP P 08 20 00.3 -1.2
HHC pP pP 08 21 52.7 -0.1
HHC sP sP 08 22 45.0 +1.7
HHC PP PP 08 23 46.9 +0.1
HHC SKS SKSac 08 29 43.0 -2.4
HHC S S 08 30 12.2 -3.7
HHC sS sS 08 33 33.2 -1.8
HHC SS SS 08 36 36.8 +2.0
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.7s
325A Bean Ranch, Si 90.98 56 ⇓P P 08 20 02.0 +0.1
baz=91
TXAR Lajitas Array 91.01 58 P P 08 20 02.4 +0.4
comp=Z,4.4nm,0.8s,baz=212,slow=6.6,SNR=53
TXAR Lajitas Array 91.01 58 P P 08 20 02.4 +0.4
526A Mary Lane Ranc 91.03 57 ⇑P P 08 20 01.8 -0.3
baz=91,SNR=5.8
S19A Harvey Farm, M 91.13 49 ⇓P P 08 20 02.2 -0.2
baz=91
H12A Diamond D Ranc 91.14 41 ⇓P P 08 20 02.0 -0.3
baz=91
Q18A Rafter H Ranch 91.16 47 ⇑P P 08 20 02.3 -0.1
baz=91
G12A Big Creek, Yel 91.19 40 ⇑P P 08 20 02.3 -0.2
baz=91
L15A Malad City 91.24 44 ⇑P P 08 20 02.7 -0.1
baz=91
N16A Rees Ranch, Co 91.24 45 ⇑P P 08 20 03.0 +0.1
baz=91
124A Stringfield Ra 91.25 54 ⇓P P 08 20 03.1 -0.1
baz=91
J14A Carey 91.26 42 ⇑P P 08 20 02.9 +0.1
baz=92
627A Terlingua Ranc 91.28 58 ⇓P P 08 20 03.0 -0.3
baz=91,SNR=7.7
R19A Curley Farm, L 91.33 48 ⇑P P 08 20 03.2 -0.2
baz=92
O17A Robinson Place 91.33 46 ⇓P P 08 20 03.6 +0.3
baz=92
426A McDonald Obser 91.36 57 ⇑P P 08 20 03.6 -0.1
baz=92,SNR=5.8
Y23A Lovelace Mesa, 91.41 53 ⇓P P 08 20 03.6 -0.2
baz=92
527A Woodward Ranch 91.43 57 ⇓P P 08 20 03.8 -0.2
baz=92,SNR=6.0
225A Deer Hill, Car 91.44 55 ⇓P P 08 20 03.9 -0.1
baz=92
CD2 Chengdu 91.47 303 P P 08 20 04.9 +1.0
CD2 pP pP 08 21 56.9 +1.6
CD2 sP sP 08 22 46.2 +0.4
CD2 PP PP 08 23 54.1 +3.2
CD2 S S 08 30 20.0 -0.7
CD2 sS sS 08 33 38.2 -1.8
CD2 SS SS 08 36 45.0 +2.8
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,150nm,6.5s
U21A Nageezi 91.49 50 ⇓P P 08 20 04.1 0.0
baz=92
H13A Challis 91.50 41 ⇓P P 08 20 04.7 +0.8
baz=92
K15A Arbon 91.52 43 ⇑P P 08 20 04.5 +0.4
baz=92
PV10 Paradox Valley 91.52 48 eP P 08 20 07.0 +2.7
F12A Elk City 91.59 39 ⇑P P 08 20 04.1 -0.2
baz=92
ANMO Albuquerque 91.61 52 eP P 08 20 04.4 -0.3
comp=Z,2.6nm,1.0s
Z24A Sheeppen Canyo 91.62 54 ⇑P P 08 20 04.7 -0.1
baz=92
I14A Mackay 91.63 42 ⇓P P 08 20 04.9 +0.3
baz=92
N17A Moffit Pass 91.66 45 ⇓P P 08 20 05.1 +0.2
baz=92
Q19A Hogan Spring (91.66 47 ⇑P P 08 20 04.8 +0.1
baz=92
628A Black Gap, Mar 91.68 58 ⇓P P 08 20 04.8 -0.2
baz=92,SNR=8.0
G13A Cobalt 91.81 40 ⇓P P 08 20 05.5 +0.1
baz=92
125A Gardner Draw, 91.82 55 ⇓P P 08 20 05.9 +0.2
baz=92
GDL2 Guadalupe Moun 91.83 55 eP P 08 20 06.0 +0.3
comp=Z,8.9nm,1.3s
O18A Roosevelt 91.84 46 ⇑P P 08 20 05.8 +0.2
baz=92
L16A Fish Haven 91.84 44 ⇑P P 08 20 05.2 -0.4
baz=92
T21A Navajo Lake 91.85 50 ⇑P P 08 20 05.4 -0.4
baz=92
Y24A Capitan 91.85 53 ⇑P P 08 20 05.9 0.0
baz=92,SNR=7.9
427A Hayter Ranch, 91.92 57 ⇑P P 08 20 06.0 -0.1
baz=92,SNR=9.4
J15A Blackfoot 91.96 42 ⇓P P 08 20 06.3 +0.2
baz=92
S21A Coal Bank Pass 92.01 49 ⇓P P 08 20 06.7 0.0
baz=92
M17A Scullys Gap (B 92.05 45 ⇑P P 08 20 06.6 0.0
baz=92
H14A Leadore 92.06 41 ⇑P P 08 20 06.6 +0.1
baz=92
Z25A Roswell 92.07 54 ⇓P P 08 20 07.1 +0.3
baz=92
F13A Darby 92.14 40 ⇑P P 08 20 06.1 -0.7
baz=92
K16A Soda Springs 92.18 43 ⇓P P 08 20 07.5 +0.4
baz=92
V23A Ortiz Mt. (NFS 92.19 51 ⇓P P 08 20 07.4 0.0
baz=92
P19A Cripple Cowboy 92.20 47 ⇑P P 08 20 07.3 -0.1
baz=92
C11A Tepee Creek (N 92.22 37 ⇑P P 08 20 07.0 0.0
baz=92
L17A Cokeville 92.24 44 ⇑P P 08 20 06.9 -0.6
baz=92
D12A Red Ives Fores 92.27 38 ⇑P P 08 20 07.2 -0.1
baz=92
Q20A Ridgley Place, 92.31 48 ⇓P P 08 20 07.6 -0.3
baz=92
Y25A Mesa, Roswell 92.40 54 ⇓P P 08 20 08.1 -0.2
baz=93
J16A Bone 92.40 43 ⇓P P 08 20 08.3 +0.1
baz=93
M18A Lyman 92.41 45 ⇓P P 08 20 08.1 -0.1
baz=93
428A Kincaid Ranch, 92.41 57 ⇓P P 08 20 08.3 -0.1
baz=93
N18A Larsen Ranch, 92.43 46 ⇑P P 08 20 08.2 -0.1
baz=93
O19A Miners Draw (B 92.44 46 ⇓P P 08 20 08.3 -0.1
baz=93
U23A El Rito 92.47 51 ⇑P P 08 20 09.1 +0.4
baz=93
W24A Lazy 6 Ranch, 92.49 52 ⇑P P 08 20 08.2 -0.6
baz=93
529A Stev Forest Ra 92.49 58 ⇓P P 08 20 08.4 -0.3
baz=93,SNR=5.7
P20A De Beque 92.52 47 ⇓P P 08 20 08.7 0.0
baz=93
R21A Cimarron 92.53 49 ⇓P P 08 20 08.8 -0.1
baz=93
C12B Naegeli Ranch, 92.58 38 ⇑P P 08 20 08.7 +0.1
baz=93
CPRX Cap Rock 92.58 55 epP pP 08 22 01.5 +0.9
CPRX esP sP 08 22 54.8 +3.8
Z26A Caprock 92.61 55 ⇓P P 08 20 08.9 -0.4
baz=93
L18A Fontenelle, Gr 92.68 45 ⇓P P 08 20 09.8 +0.2
baz=93
S22A 4UR Ranch, Cre 92.71 49 ⇓P P 08 20 10.0 +0.1
baz=93
Q21A Lamborn Mesa, 92.74 48 ⇑P P 08 20 09.8 0.0
baz=93
G15A Dillon 92.88 41 ⇑P P 08 20 10.4 0.0
baz=93
ILAR Eielson Array 92.93 14 P P 08 20 07.3 -2.5
comp=Z,0.2nm,0.6s,baz=225,slow=6.0,SNR=5.3
ILAR Eielson Array 92.93 14 P P 08 20 07.3 -2.5
O20A White River Ci 92.94 47 ⇓P P 08 20 10.4 -0.3
baz=93
MSO Missoula 92.95 39 ⇓P P 08 20 10.7 +0.2
baz=93
429A Davenport Ranc 92.97 58 ⇑P P 08 20 11.1 +0.1
baz=93,SNR=12
R22A Saguache, Gunn 93.00 49 ⇓P P 08 20 11.1 -0.1
baz=93
J17A Brown Place, J 93.01 43 ⇓P P 08 20 11.0 +0.1
baz=93
SNOW Snow King Moun 93.03 43 eP P 08 20 11.2 +0.1
comp=Z,34nm,2.2s
K18A Toltan Ranch, 93.05 44 ⇑P P 08 20 11.2 0.0
baz=93
W25A X Bar L Ranch, 93.17 53 ⇑P P 08 20 11.6 -0.3
baz=93
A12A Yaak River Ran 93.18 37 ⇓P P 08 20 11.7 +0.3
baz=93
530A J-C Ranch, Com 93.19 58 ⇓P P 08 20 11.4 -0.5
baz=93
Q22A Crested Butte, 93.21 48 ⇑P P 08 20 12.0 -0.1
baz=93
L19A Farson 93.21 45 ⇓P P 08 20 11.8 -0.1
baz=93
F15A Butte 93.25 40 ⇓P P 08 20 12.2 +0.3
baz=93
N20A Spence Gulch, 93.28 46 ⇑P P 08 20 12.1 -0.2
baz=94
329A Wagon Wheel Ra 93.29 57 ⇓P P 08 20 12.0 -0.3
baz=93
SMCO Snowmass 93.32 48 epP pP 08 22 04.1 -0.1
SMCO ePP PP 08 24 10.2 +4.8
V25A Rancho No Teng 93.36 52 ⇑P P 08 20 12.6 -0.1
baz=94
J18A Kendall Valley 93.36 44 ⇓P P 08 20 12.0 -0.6
baz=94
BW06 Boulder Array 93.42 44 ⇓P P 08 20 13.3 +0.4
baz=94

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	93.42	44	P	P	08 20 11.4	-1.5
	comp=Z,1.3nm,0.8s,baz=223,slow=2.5,SNR=12						
PDAR	Pinedale Array	93.42	44	P	P	08 20 11.4	-1.5
128A	Castleberry Fa	93.43	56	⇓P	P	08 20 12.5	-0.4
	baz=94						
631A	Perdido Creek	93.45	59	⇑P	P	08 20 12.7	-0.3
	baz=94,SNR=7.6						
430A	Baggett Ranch,	93.55	58	⇓P	P	08 20 13.1	-0.5
	baz=94						
C14A	Swan Lake	93.58	38	⇑P	P	08 20 13.4	+0.1
	baz=94						
BOZ	Bozeman (W)	93.65	41	⇑P	P	08 20 13.6	-0.2
	baz=94						
N21A	Black Mountain	93.73	47	⇓P	P	08 20 14.3	-0.1
	baz=94						
U25A	Circle Dot Ran	93.77	52	⇑P	P	08 20 14.1	-0.5
	baz=94						
S24A	Houchin Ranch,	93.79	50	⇑P	P	08 20 14.6	-0.2
	baz=94						
531A	Rocksprings	93.81	59	⇓P	P	08 20 14.6	-0.1
	baz=94						
A13A	Flathead Natio	93.85	37	⇓P	P	08 20 14.8	+0.2
	baz=94						
O22A	Kremmling	94.08	47	⇓P	P	08 20 15.3	-0.7
	baz=94						
632A	Uvalde	94.11	59	⇑P	P	08 20 15.8	-0.3
	baz=94						
R24A	Sanders Place,	94.14	50	⇑P	P	08 20 16.3	+0.1
	baz=94						
B14A	Marquette Ranc	94.17	38	⇑P	P	08 20 15.1	-1.0
	baz=94						
M21A	Separation Pea	94.25	46	⇑P	P	08 20 16.5	-0.2
	baz=94						
532A	Rocksprings	94.29	59	⇓P	P	08 20 16.5	-0.4
	baz=94,SNR=5.3						
N22A	Wattenberg Ran	94.46	47	⇑P	P	08 20 17.5	-0.2
	baz=95						
Q24A	Divide	94.46	49	⇓P	P	08 20 17.2	-0.6
	baz=95						
ISCO	Idaho Springs	94.54	48	⇑P	P	08 20 18.0	-0.1
	baz=95						
432A	Menard	94.70	58	⇑P	P	08 20 18.1	-0.7
	baz=95						
T26A	Comanche Natio	94.71	51	⇓P	P	08 20 18.7	-0.1
	baz=95						
RLMT	Red Lodge	94.80	42	⇓P	P	08 20 19.3	+0.1
	baz=95						
X29A	Tulia	94.84	54	⇓P	P	08 20 19.4	0.0
	baz=95						
I20A	Worland	94.92	44	⇑P	P	08 20 19.5	0.0
	baz=95						
F18A	Big Timber	94.93	41	⇑P	P	08 20 19.8	+0.3
	baz=95						
D17A	Six Diamond Ra	95.00	40	⇑P	P	08 20 19.6	-0.2
	baz=95						
S26A	Kim	95.00	51	⇑P	P	08 20 20.0	-0.1
	baz=95						
C17A	Wharram Farm,	95.20	39	⇓P	P	08 20 20.1	-0.6
	baz=95						
A16A	West Butte Ran	95.42	38	⇓P	P	08 20 21.5	-0.1
	baz=96						
N24A	Carr	95.52	48	⇑P	P	08 20 22.3	-0.1
	baz=96						
Q26A	Hugo	95.56	50	⇑P	P	08 20 22.2	-0.4
	baz=96						
L23A	Garrett	95.58	46	⇓P	P	08 20 22.7	0.0
	baz=96						
SONM	Songino Array	97.70	319	pP	pP	08 22 21.2	-2.6
	comp=Z,0.1nm,0.3s,baz=108,slow=4.7,SNR=2.4						
SONM	Songino Array	97.70	319	pP	pP	08 22 21.2	-2.6
MKAR	Makanchi Array	112.66	312	SKP	SKPdf	08 28 17.9	-0.4
	comp=Z,1.1nm,0.8s,baz=58,slow=2.2,SNR=6.2						
MKAR				PKKPbc	PKKPbc	08 36 19.5	-1.6
	comp=Z,0.4nm,0.7s,baz=272,slow=3.0,SNR=4.8						
MKAR				PKKPab	PKKPab	08 36 29.1	+0.2
	comp=Z,0.5nm,0.8s,baz=290,slow=3.5,SNR=4.5						
MKAR	Makanchi Array	112.66	312	PKKPbc	PKKPbc	08 36 19.5	-1.6
MKAR				PKKPab	PKKPab	08 36 29.1	+0.2
KSH	Kashi	115.66	304	ePKP	PKPdf	08 25 37.8	+1.3
KSH				ePP	PP	08 26 56.7	+8.1
KSH				sPKP		08 28 20.1	
KSH				PKS	PKSdf	08 29 13.7	+0.4
KSH				SKKS		08 32 58.0	
KSH				AMB	AMB		
	comp=Z,190nm,5.0s						
KURBB	Kurchatov Arra	115.80	316	SKP	SKPdf	08 28 23.1	-1.0
	comp=Z,1.5nm,1.0s,baz=104,slow=2.0,SNR=6.8						
MSNY	Massena	117.64	51	ePdif	Pdif	08 21 52.7	-7.8
BVAR	Borovoye Array	121.03	318	PKP	PKPdf	08 25 44.7	-1.5
	comp=Z,0.7nm,0.3s,baz=112,slow=3.8,SNR=5.1						
BVAR	Borovoye Array	121.03	318	PKP	PKPdf	08 25 44.7	-1.5
ARCES	ARCESS Array B	132.74	348	PKP	PKPdf	08 26 08.0	-0.1
	comp=Z,3.8nm,1.1s,baz=2.9,slow=2.4,SNR=10						
ARCES				SKPbc	SKPbc	08 28 47.8	-0.8
	comp=Z,5.5nm,0.8s,baz=23,slow=6.6,SNR=9.7						
ARCES	ARCESS Array B	132.74	348	PKP	PKPdf	08 26 08.0	-0.1
ARCES				SKPbc	SKPbc	08 28 47.8	-0.8
JOF	Joensuu	136.53	340	epkp	SKPbc	08 28 59.5	-1.1
KAF	Kangasniemi	138.66	342	epkp	SKPbc	08 29 05.1	-1.6
FINES	FINESS Array B	139.25	341	SKP	SKPdf	08 29 08.4	+0.9
	comp=Z,7.4nm,0.8s,baz=72,slow=6.2,SNR=19						
HFS	Hagfors	143.40	348	PKP	PKPab	08 26 24.6	-1.3
	comp=Z,4.3nm,0.3s,baz=55,slow=3.9,SNR=44						
HFS	Hagfors	143.40	348	PKP	PKPab	08 26 24.6	-1.3
NACGM	Naroch	143.96	334	e	PKPbc	08 26 26.0	-2.1
AKASG	Malin Array Be	145.65	326	PKPbc	PKPdf	08 26 31.1	-0.8
	comp=Z,1.4nm,0.3s,baz=48,slow=4.5,SNR=7.1						
AKASG				pPKPbc	pPKPbc	08 28 28.3	-1.5
	comp=Z,0.4nm,0.3s,baz=47,slow=4.3,SNR=1.6						
AKASG				SKPbc	SKPbc	08 29 24.4	0.0
	comp=Z,1.0nm,0.5s,baz=41,slow=4.3,SNR=4.8						
AKASG	Malin Array Be	145.65	326	PKPbc	PKPdf	08 26 31.1	-0.8
AKASG				pPKPbc	pPKPbc	08 28 28.3	-1.5
AKASG				SKPbc	SKPbc	08 29 24.4	0.0
ASF	Jabal al Asfar	146.75	291	PKPbc	PKPbc	08 26 36.0	-1.2
	comp=Z,3.9nm,0.7s,baz=238,slow=2.7,SNR=5.8						
ASF	Jabal al Asfar	146.75	291	PKPbc	PKPbc	08 26 36.0	-1.2
MMAI	Mount Meron Ar	147.94	293	PKPbc	PKPbc	08 26 40.5	+0.3
	comp=Z,2.1nm,0.3s,baz=38,slow=4.6,SNR=10						
MMAI	Mount Meron Ar	147.94	293	PKPbc	PKPbc	08 26 40.5	+0.3
BR131	Keskin Array S	148.01	306	ePKPab	PKPab	08 26 44.5	-0.4
BRTR	Keskin Array B	148.01	306	PKPbc	PKPbc	08 26 39.2	-1.1
	comp=Z,2.2nm,0.7s,baz=135,slow=2.3,SNR=9.5						
BRTR				pPKPbc	pPKPbc	08 28 36.1	-1.2
	comp=Z,0.7nm,0.8s,baz=129,slow=2.0,SNR=2.6						
BRTR	Keskin Array B	148.01	306	PKPbc	PKPbc	08 26 39.2	-1.1
BRTR				pPKPbc	pPKPbc	08 28 36.1	-1.2
EIL	Elat	148.50	287	PKPbc	PKPbc	08 26 40.7	-0.9
	comp=Z,6.1nm,0.7s,baz=52,slow=2.2,SNR=4.7						
EIL	Elat	148.50	287	PKPbc	PKPbc	08 26 40.7	-0.9
KOLS	Kolonicke sedl	150.18	330	ePKP	PKPbc	08 26 46.5	+1.4
VYHS	Vyhne	152.03	333	ePKP	PKPbc	08 26 50.3	+1.0
TOA0	Torodi Ar. Sit	168.28	189	ePKPdf	PKPdf	08 27 01.1	+0.3
TOA0				ePKPab	PKPab	08 28 13.5	+0.9
TORD	Torodi Ar. Bea	168.28	189	PKPab	PKPab	08 28 12.8	+0.2
	comp=Z,0.4nm,0.5s,baz=183,slow=3.3,SNR=6.8						
TORD	Torodi Ar. Bea	168.28	189	PKPab	PKPab	08 28 12.8	+0.2

*ISCJB **05** 08:26:22.7±0.8, 36°.94N±0°.05×27°.60E±0°.07, h11km±8km, Error ellipse: s-maj=10.7km s-min=6.5km az=146.4*
*DDA **05** 08:26:22.7, 36°.95N×27°.60E, h5km, MD2.8*
*ISK **05** 08:26:22.1, 36°.93N×27°.59E, h14km, MD2.1*
*CSEM **05** 08:26:22.8±0.2, 36°.93N×27°.61E, h5km, MD2.8, Error ellipse: s-maj=4.3km s-min=3.3km az=96.0*
ISC 05 08:26:20.8±1.1**, 36°.99N**±0°.04×**27°.79E**±0°.04**, h4**km±13km**, n15, σ0s.59**/26**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	286	i P	Pg	08 26 26.6	+0.3
BDRM				i S	Sg	08 26 29.7	-0.3
BDRM	Kayabasi	0.28	286	i P	Pg	08 26 26.6	+0.3
BDRM				i S	Sg	08 26 29.7	-0.3
DAT	Datca	0.31	213	ePG	Pg	08 26 27.0	+0.3
DAT				eSG	Sg	08 26 30.8	+0.1
DAT	Datca	0.31	213	ePg	Pg	08 26 27.0	+0.3
DAT				eSg	Sg	08 26 30.8	+0.1
MLSB	Milas	0.31	359	ePG	Pn	08 26 30.9	-1.1
MLSB	Milas	0.31	359	ePg	Pn	08 26 31.0	-1.1
BODT	Bodrum	0.39	282	ePG	Pg	08 26 28.2	-0.1
BODT				eSG	Sg	08 26 32.4	-1.0
BODT	Bodrum	0.39	282	ePg	Pg	08 26 28.2	-0.1
BODT				eSg	Sg	08 26 32.4	-1.0
YER	Yerkesik	0.42	69	ePG	Pn	08 26 33.5	-0.2
YER	Yerkesik	0.42	69	ePg	Pn	08 26 33.5	-0.2
TURN	Turunc	0.66	99	i P	Pg	08 26 32.8	-0.8
TURN				i S	Sg	08 26 42.7	+0.6
AYDN	Tasoluk	0.68	6	i P	Pn	08 26 37.5	+0.3
AYDN				i S	Sn	08 26 48.4	+0.1
AYDN	Tasoluk	0.68	6	i P	Pn	08 26 37.5	+0.3
AYDN				i S	Sn	08 26 48.4	+0.1
GCAM	G?zelcaml?	0.84	328	i P	Pb	08 26 38.3	+0.4
GCAM				i S	Sg	08 26 48.5	+0.7
GCAM	G?zelcaml?	0.84	328	i P	Pb	08 26 38.3	+0.4
GCAM				i S	Sg	08 26 48.5	+0.7

WEL 05 08:27:46.3±0.5**, 38°.31S×175°.89E, h149**km±4km**, ML3.6**/16**, 1C, Error ellipse: s-maj=5.5km s-min=4.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.97	87	PN	Pn	08 28 10.5	-0.2
URZ				SN	Sn	08 28 28.9	-0.4
BKZ	Black Stump Fm	0.97	151	⇑PN	Pn	08 28 10.9	0.0
BKZ				SN	Sn	08 28 29.0	-0.7
WNVZ	Wahianoa	1.04	192	PN	Pn	08 28 11.9	+0.3
WNVZ				SN	Sn	08 28 31.0	+0.1
NMHZ	Naumai	1.06	138	PN	Pn	08 28 12.4	+0.7
MOVZ	Moawhango	1.10	185	PN	Pn	08 28 11.9	-0.1
MOVZ				SN	Sn	08 28 31.3	-0.3
RAHZ	Arahi	1.12	123	PN	Pn	08 28 12.6	+0.5
RAHZ				SN	Sn	08 28 32.2	+0.4
MTVZ	Mangateitei	1.12	197	PN	Pn	08 28 12.5	+0.3
BHHZ	Black Hill Sta	1.18	173	PN	Pn	08 28 12.5	-0.3
BHHZ				SN	Sn	08 28 32.1	-0.9
MWZ	Matawai	1.29	91	PN	Pn	08 28 13.5	-0.3
MCHZ	McNeill Hill	1.29	151	PN	Pn	08 28 14.2	+0.4
KNZ	Kokohu	1.57	117	PN	Pn	08 28 16.2	-0.3
WAZ	Wanganui	1.60	206	PN	Pn	08 28 16.8	-0.1
PNHZ	Pukenui	1.62	171	PN	Pn	08 28 16.4	-0.8
KAHZ	Kahuranaki	1.67	153	PN	Pn	08 28 17.5	-0.2
TSZ	Takapari Road	1.75	178	PN	Pn	08 28 17.7	-0.8
WPHZ	Waipukurau	1.80	166	PN	Pn	08 28 18.3	-0.9
DVHZ	Dannevirke	2.00	174	PN	Pn	08 28 20.0	-1.4
POWZ	Post Office Ro	2.08	182	PN	Pn	08 28 20.9	-1.4
MRZ	Mangatainoka R	2.36	186	PN	Pn	08 28 23.7	-2.0
BFZ	Birch Farm	2.38	173	PN	Pn	08 28 24.0	-1.9
TIWZ	Tintock	2.46	180	PN	Pn	08 28 24.9	-2.1
OGWZ	Otaki Gorge	2.56	192	PN	Pn	08 28 26.2	-2.0
HOWZ	Holdsworth Sta	2.60	186	PN	Pn	08 28 26.2	-2.5
KIW	Kapiti Island	2.65	196	PN	Pn	08 28 27.0	-2.3
TMWZ	Te Maipa	2.79	180	PN	Pn	08 28 28.4	-2.6
MTW	Mount Morrison	2.86	186	PN	Pn	08 28 28.9	-2.9
CAW	Cannon Point	2.86	192	PN	Pn	08 28 29.3	-2.6
DUWZ	D'Urville Isla	2.91	211	PN	Pn	08 28 30.2	-2.3
PAWZ	Paruwai Farm	3.08	186	PN	Pn	08 28 31.6	-3.1
TRWZ	Traveller	3.08	183	PN	Pn	08 28 31.9	-2.9
SNZO	South Karori	3.13	197	PN	Pn	08 28 32.1	-3.1
MSWZ	Moikau Station	3.14	189	PN	Pn	08 28 32.2	-3.2
TCW	Tory Channel	3.15	203	PN	Pn	08 28 32.9	-2.6
BHW	Baring Head	3.19	194	PN	Pn	08 28 32.7	-3.3
PLWZ	Palliser	3.29	188	PN	Pn	08 28 33.9	-3.5
TUWZ	Tuamarina	3.45	205	PN	Pn	08 28 36.4	-3.0
QRZ	Quartz Range	3.61	225	PN	Pn	08 28 38.1	-3.3
THZ	Tophouse	4.14	213	PN	Pn	08 28 44.7	-3.7
KHZ	Kahutara	4.47	203	PN	Pn	08 28 49.0	-3.7

*SZGRF **05** 08:29:26.6, 20°.76S×176°.98W, h33km, Fiji Islands region*
*ISCJB **05** 08:30:29.3±0.6, 19°.25S±0°.05×177°.60W±0°.03, h557km±8km, mb4.8/106, Error ellipse: s-maj=7.8km s-min=3.3km az=160.0*
*AUST **05** 08:30:30.8±0.0, 19°.16S×177°.31W, h578km, Error ellipse: s-maj=1.3km s-min=1.1km az=293.0*
*IDC **05** 08:30:31.3±0.7, 19°.16S×177°.56W, h572km±7km, mb4.2/25, mb1 4.3/28, mb1mx4.3/30, mbtmp4.2/28, Error ellipse: s-maj=10.3km s-min=7.8km az=157.0*
*NEIC **05** 08:30:31.0±0.2, 19°.21S×177°.56W, mb4.7/54, Error ellipse: s-maj=6.9km s-min=4.5km az=146.0*
*DJA **05** 08:30:31.1±0.9, 19°S±12°×17°8W±1°0, h574km±14km, M5.3/17, mB5.3/5, mb5.0/17, MLv5.8/1, Mw(mB)4.7/5*
*BGS **05** 08:30:31.3±2.5, 19°.21S×177°.56W, h573km, mb4.7(NEIC)*
*BJI **05** 08:30:33.1, 18°.66S×177°.95W, h573km, mB4.9/19, mb4.7/28*
ISC 05 08:30:31.3±0.4**, 19°.19S**±0°.05×**177°.52W**±0°.05**, h573**km±3km**, h574**km**:pP-P, n699,** σ**1s.02**/763**, mb4.8**/106**, 179C-171D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.45	288	eP	P	08 31 59.9	+1.6
NIUE	Niue	7.18	90	P	P	08 32 21.2	-0.7
	baz=7.0,SNR=14						
NIUE				S	S	08 34 03.8	+11
	baz=7.0,SNR=5.0						
AFI	Afiamalu	7.61	47	P	P	08 32 24.3	-1.9
	120nm,0.3s,baz=50,slow=1.2,SNR=82						
AFI				S	S	08 33 53.8	-6.4
	32nm,0.3s,baz=259,slow=23,SNR=6.1						
AFI	Afiamalu	7.61	47	ePn	P	08 32 24.2	-2.0
	521nm,0.6s						
AFI				S	S	08 33 53.8	-6.4
AFI				eSn		08 33 54.2	
DZM	Mont Dzumac	15.28	256	eP	P	08 33 42.5	-0.7
	160nm,1.4s						
DZM	Mont Dzumac	15.28	256	P	P	08 33 42.6	-0.5
	2.0nm,0.3s,baz=79,slow=16,SNR=62						
DZM				ScP	ScP	08 40 50.0	+1.8
	0.1nm,0.3s,baz=260,slow=2.7,SNR=3.6						
DZM	Mont Dzumac	15.28	256	P	P	08 33 42.6	-0.5
DZM				ScP	ScP	08 40 50.0	+1.8
NOUC	Port Laguerre	15.42	256	eP	P	08 33 43.8	-0.6
NFK	Norfolk Island	16.49	231	P	P	08 33 58.1	+3.8
	baz=17,SNR=4.0						
RAR	Rarotonga	16.78	100	P	P	08 33 56.6	-0.4
	6.7nm,0.3s,baz=234,slow=7.2,SNR=5.3						
RAR	Rarotonga	16.78	100	eP	P	08 33 56.8	-0.2
URZ	Urewera	19.57	193	eP	P	08 34 20.5	-1.7
	86nm,0.8s						
URZ				eS	S	08 37 20.5	-8.7
SNZO	South Karori	23.02	195	eP	P	08 34 51.8	-1.4
	43nm,0.7s						
SNZO				eS	S	08 38 21.7	-2.0
HNR	Honiara	23.86	291	P	P	08 35 00.0	-1.0
	21nm,0.3s,baz=200,slow=12,SNR=3.0						
HNR	Honiara	23.86	291	P	P	08 35 00.1	-1.0
	3.8nm,0.8s						
KHZ	Kahutara	24.36	196	eP	P	08 35 03.6	-1.4
	45nm,1.0s						
RPZ	Rata Peaks	26.27	199	eP	P	08 35 21.2	-0.6
	25nm,0.5s						
TBI	Tubuai	26.45	104	eP	P	08 35 23.8	+0.1
	336nm,1.4s						
PAE	Paea	26.54	91	eP	P	08 35 24.3	-0.3
	15nm,1.0s						
PPT2	Papeete2	26.55	91	eP	P	08 35 24.8	0.0
	93nm,1.0s						
PPT	Papeete	26.56	91	P	P	08 35 24.2	-0.6
	132nm,1.0s,baz=77,slow=3.4,SNR=11						
PPT	Papeete	26.56	91	P	P	08 35 24.2	-0.6
TIAR	Tiarei	26.78	91	eP	P	08 35 26.6	-0.1
	81nm,0.8s						
TVO	Taravao	26.84	92	eP	P	08 35 27.0	-0.2
	50nm,0.8s						
ODZ	Otahua Downs	27.60	198	eP	P	08 35 32.1	-1.3
	19nm,0.6s						
PMOR	Pomariorio Ree	28.60	86	eP	P	08 35 42.4	-0.2
	142nm,1.1s						
EIDS	Eidsvold	29.65	252	eP	P	08 35 51.0	-0.6
	45nm,1.3s						
EIDS	Eidsvold	29.65	252	P	P	08 35 51.5	-0.1
	baz=30,SNR=3.3						
ARMA	Armidale	30.06	242	eP	P	08 35 55.3	+0.1
	37nm,1.3s						
ARMA	Armidale	30.06	242	P	P	08 35 55.7	+0.6
	baz=30,SNR=29						
ARMA				S	S	08 40 21.5	+7.4
	baz=30,SNR=4.6						
MGCD	Mangrove Creek	31.28	237	P	P	08 36 06.8	+1.4
	baz=32,SNR=9.8						
RMQ	Roma	31.85	251	P	P	08 36 11.1	+0.7
	baz=32,SNR=13						
CNB	Canberra Magne	33.34	234	P	P	08 36 23.4	+0.5
	baz=34,SNR=30						
YNG	Young	33.77	237	P	P	08 36 26.6	+0.1
	baz=34,SNR=10						
CTA	Charters Tower	34.09	262	P	P	08 36 29.3	-0.1
	50nm,0.9s,baz=93,slow=10.0,SNR=41						
CTA				PcP	PcP	08 38 48.8	-1.2
	2.8nm,0.7s,baz=41,slow=4.1,SNR=3.8						
CTA				ScP	ScP	08 41 43.0	+1.9
	13nm,1.0s,baz=134,slow=2.6,SNR=6.3						
CTA	Charters Tower	34.09	262	P	P	08 36 29.3	-0.1
CTA				PcP	PcP	08 38 48.8	-1.2
CTA				ScP	ScP	08 41 43.0	+1.9
CTAO	Charters Tower	34.09	262	eP	P	08 36 29.3	-0.1
	76nm,1.0s						
CTAO				ePcP	PcP	08 38 50.2	+0.2
CMSA	Cobar Meteorol	35.28	242	P	P	08 36 39.2	+0.1
	baz=35,SNR=163						
PMG	Port Moresby	35.52	281	P	P	08 36 42.0	+0.8
	138nm,1.0s,baz=83,slow=5.5,SNR=16						
PMG	Port Moresby	35.52	281	eP	P	08 36 41.7	+0.4
	163nm,1.0s						
PMG	Port Moresby	35.52	281	P	P	08 36 42.1	+0.8
	169nm,1.1s,2µm						
QLP	Quilpie	35.89	251	P	P	08 36 44.2	-0.1
	baz=36,SNR=35						
TOO	Toolangi	37.04	233	P	P	08 36 53.8	+0.2
	baz=37,SNR=57						
MOO	Moorlands	37.74	224	P	P	08 36 59.5	+0.3
	baz=38,SNR=4.9						
COEN	Coen	37.97	272	eP	P	08 37 01.6	+0.2
	471nm,1.1s						
COEN	Coen	37.97	272	P	P	08 37 01.6	+0.2
	baz=38,SNR=24						
STKA	Stephens Creek	38.77	243	P	P	08 37 07.8	+0.2
	39nm,0.5s,baz=91,slow=9.4,SNR=155						
STKA				ScP	ScP	08 42 00.3	+1.9
	2.6nm,0.9s,baz=96,slow=4.9,SNR=3.7						
STKA	Stephens Creek	38.77	243	eP	P	08 37 07.9	+0.2
	26nm,1.0s						
STKA				ScP	ScP	08 42 00.3	+1.9
STKA	Stephens Creek	38.77	243	P	P	08 37 07.9	+0.2
	baz=39,SNR=155						
ARPS	Mount Arapiles	39.59	235	P	P	08 37 14.0	-0.1
	baz=40,SNR=18						
RKT	Rikitea	39.77	103	eP	P	08 37 15.5	-0.3
	82nm,0.9s						
QIS	Mount Isa	40.26	261	P	P	08 37 19.7	-0.1
	baz=40,SNR=8.7						
BBOO	Buckleboo	43.54	242	eP	P	08 37 45.1	-0.2
	902nm,0.6s						
BBOO	Buckleboo	43.54	242	P	P	08 37 45.2	-0.1
	baz=44,SNR=198						
BBOO				S	S	08 43 33.9	+0.4
	baz=44,SNR=6.4						
JAY	Jayapura	44.08	287	P	P	08 37 50.3	+0.5
	baz=44,SNR=16						
JAY				S	S	08 43 45.0	+3.4
	baz=44,SNR=3.7						
WRAB	Tennant Creek	45.23	261	eP	P	08 37 57.6	-0.9
WRA	Warramunga Arr	45.24	261	P	P	08 37 57.6	-1.0
	33nm,0.6s,baz=96,slow=7.9,SNR=224						
WRA				PcP	PcP	08 39 25.2	-1.1
	12nm,0.9s,baz=90,slow=3.9,SNR=8.5						
WRA				ScP	ScP	08 42 26.8	+2.0
	4.4nm,1.0s,baz=95,slow=4.5,SNR=4.8						
WRA				S	S	08 43 54.1	-3.7
	12nm,1.1s,baz=96,slow=14,SNR=14						
WRA	Warramunga Arr	45.24	261	P	P	08 37 57.6	-1.0
WRA				PcP	PcP	08 39 25.2	-1.1
WRA				ScP	ScP	08 42 26.8	+2.0
WRA				S	S	08 43 54.1	-3.7
ASAR	Alice Springs	45.27	255	P	P	08 37 58.4	-0.4
	92nm,0.7s,baz=88,slow=8.0,SNR=572						
ASAR				PcP	PcP	08 39 25.9	-0.5
	12nm,0.7s,baz=106,slow=3.6,SNR=11						
ASAR				ScP	ScP	08 42 26.5	+1.6
	2.5nm,0.9s,baz=100,slow=3.5,SNR=5.1						
ASAR				S	S	08 43 55.9	-2.3
	8.0nm,0.5s,baz=91,slow=16,SNR=22						
ASAR	Alice Springs	45.27	255	P	P	08 37 58.4	-0.4
ASAR				PcP	PcP	08 39 25.9	-0.5
ASAR				ScP	ScP	08 42 26.5	+1.6
ASAR				S	S	08 43 55.9	-2.3
KDU	Kakadu	48.39	270	P	P	08 38 21.6	-0.6
	baz=49,SNR=33						
KDU				S	S	08 44 41.6	+0.3
	baz=49,SNR=4.5						
MTN	Manton Dam	49.62	269	P	P	08 38 30.3	-1.0
	baz=50,SNR=60						
MTN				S	S	08 44 56.6	-1.5
	baz=50,SNR=5.3						
FORT	Forrest	50.23	246	eP	P	08 38 34.8	-0.9
FORT	Forrest	50.23	246	P	P	08 38 34.7	-0.9
	baz=50,SNR=78						
FITZ	Fitzroy Crossi	53.66	261	P	P	08 39 00.1	-0.2
	21nm,0.5s,baz=111,slow=3.4,SNR=107						
FITZ	Fitzroy Crossi	53.66	261	eP	P	08 39 00.2	-0.2
FITZ	Fitzroy Crossi	53.66	261	P	P	08 39 00.1	-0.2
	baz=54,SNR=72						
KMBL	Kambalda	55.52	245	P	P	08 39 12.2	-1.1
	baz=56,SNR=7.1						
LBMI	Labuha	56.91	282	P	P	08 39 23.6	+0.5
	118nm,1.0s,0.4nm						
MBWA	Marble Bar	58.59	256	eP	P	08 39 33.5	-0.8
	92nm,1.1s						
MEEK	Meekatharra	58.78	250	P	P	08 39 34.5	-1.1
	baz=59,SNR=26						
KLBR	Kellerberrin	59.02	244	P	P	08 39 36.4	-0.7
	baz=59,SNR=62						
SBA	Scott Base	59.20	184	eP	P	08 39 39.4	+2.0
	12nm,0.9s						
VNDA	Vanda	59.24	185	P	P	08 39 38.8	+1.1
	3.7nm,0.6s,baz=356,slow=4.2,SNR=33						
VNDA	Vanda	59.24	185	P	P	08 39 38.8	+1.1
NWAO	Narrogin (SRO)	59.36	243	P	P	08 39 38.4	-1.0
	18nm,0.7s,baz=97,slow=7.3,SNR=11						
NWAO	Narrogin (SRO)	59.36	243	eP	P	08 39 38.4	-1.0
	33nm,1.0s						
RKGY	Rocky Gully	59.47	241	P	P	08 39 40.2	+0.2
	baz=60,SNR=7.0						
BLDU	Ballidu	60.00	245	P	P	08 39 42.8	-0.8
	baz=60,SNR=46						
MORW	Morawa	60.75	247	P	P	08 39 47.7	-0.8
	baz=61,SNR=11						
KAPI	Kappang	62.63	274	eP	P	08 39 59.6	-1.4
KAPI	Kappang	62.63	274	P	P	08 40 00.4	-0.6
	23nm,1.0s						
GIRL	Giralia	63.34	254	P	P	08 40 06.3	+0.8
	baz=64,SNR=8.8						
CASY	Casey	65.33	205	P	P	08 40 16.4	-0.8
	42nm,1.1s						
IGBI	Denpasar	65.81	269	P	P	08 40 21.3	+0.2
SRBI	Singaraja	65.97	270	P	P	08 40 21.7	-0.4
	73nm,1.1s						
JHJ	Hachijo jima 2	66.09	322	P	P	08 40 22.4	-0.1
	92nm,0.6s,baz=140,slow=7.9,SNR=4.0						
JAGI	Jajag, Banyuwa	66.85	269	P	P	08 40 26.3	-1.3
	148nm,0.9s						
GMJI	Gumukmas	67.58	269	P	P	08 40 35.9	+3.9
	76nm,1.0s						
BLJI	Banyuglugur	67.59	269	P	P	08 40 32.3	+0.2
TSM	Tawau	67.67	283	P	P	08 40 33.0	+0.4
SDKM	Sandakan	68.82	284	P	P	08 40 40.4	+0.9
PWJI	Pagerwojo	69.20	269	P	P	08 40 41.4	-0.4
	93nm,0.8s						
PWJI	Pagerwojo	69.20	269	P	P	08 40 40.5	-1.3
	93nm,0.8s						
SJI	Sawahan	69.33	269	P	P	08 40 42.4	-0.3
	87nm,0.7s,10µm						
MJAR	Matsushiro Arr	69.44	323	P	P	08 40 42.4	-0.3
	14nm,0.7s,baz=165,slow=6.3,SNR=53						
MJAR	Matsushiro Arr	69.44	323	P	P	08 40 42.4	-0.3
MAT	Matsushiro	69.44	323	P	P	08 40 42.1	-0.7
MAT				S	S	08 49 02.0	-3.2
PCJI	Pacitan	69.75	268	P	P	08 40 45.1	0.0
	260nm,0.9s						
KKM	Kota Kinabalu	69.87	284	eP	P	08 40 45.6	-0.3
	24nm,0.6s						
KKM	Kota Kinabalu	69.87	284	P	P	08 40 46.1	+0.1
	baz=70,SNR=4.1						
KKM	Kota Kinabalu	69.87	284	P	P	08 40 46.2	+0.3
KKM	Kota Kinabalu	69.87	284	P	P	08 40 46.0	+0.1
	44nm,0.9s						
UGM	Wanagama	70.45	268	P	P	08 40 49.0	-0.3
	baz=71,SNR=9.9						
QSPA	South Pole Qui	70.87	180	P	P	08 40 51.5	+0.5
	18nm,0.6s,baz=49,slow=2.0,SNR=110						
QSPA	South Pole Qui	70.87	180	eP	P	08 40 51.4	+0.5

	23nm,0.8s						
JNU	Nakatsue	71.64	316	P	P	08 40 55.6	-0.3
	12nm,0.9s,baz=117,slow=7.1,SNR=4.6						
JNU	Nakatsue	71.64	316	P	P	08 40 55.6	-0.3
TGJI	Tegal	72.09	269	P	P	08 40 59.0	+0.2
SBUM	Sibu	72.24	279	P	P	08 40 59.8	+0.1
SBUM	Sibu	72.24	279	P	P	08 41 00.0	+0.3
	26nm,1.0s,677nm						
ASAJ	Asahikawa	72.80	331	P	P	08 41 03.0	+0.8
	24nm,0.8s,baz=219,slow=9.6,SNR=30						
ASAJ	Asahikawa	72.80	331	P	P	08 41 03.0	+0.8
YULB	Yu-li	73.17	303	*e*P	P	08 41 03.3	-1.5
	16nm,0.8s						
LEM	Lembang	73.52	268	P	P	08 41 07.5	+0.3
	baz=74,SNR=5.0						
LEM	Lembang	73.52	268	P	P	08 41 07.2	0.0
	168nm,1.1s,2µm						
SSLB	Suanglung	73.64	303	*e*P	P	08 41 06.7	-0.9
	27nm,0.8s						
TPUB	Ta-pu	73.66	302	*e*P	P	08 41 06.3	-1.3
	76nm,0.8s						
KSM	Kuching	73.69	277	*e*P	P	08 41 08.0	0.0
	51nm,0.8s						
KSM	Kuching	73.69	277	P	P	08 41 08.5	+0.5
	baz=74,SNR=12						
KSM	Kuching	73.69	277	P	P	08 41 08.2	+0.2
KSM	Kuching	73.69	277	P	P	08 41 08.1	+0.2
	63nm,0.9s,675nm						
YHNB	Yeheng	73.75	304	*e*P	P	08 41 07.3	-0.8
	83nm,1.4s						
CNJI	Cibinong	73.83	268	P	P	08 41 08.5	-0.3
CBJI	Citeko	74.37	269	P	P	08 41 11.1	-0.7
	274nm,0.7s						
DBJI	Dramaga	74.42	268	P	P	08 41 11.9	-0.3
	113nm,1.1s						
YSS	Yuzh-Sakhalins	74.94	333	*e*P	P	08 41 14.6	+0.4
	19nm,0.8s						
PETK	Petropavlovsk-	75.13	345	P	P	08 41 14.9	-0.3
	10nm,0.6s,baz=146,slow=9.2,SNR=16						
PETK	Petropavlovsk-	75.13	345	P	P	08 41 14.9	-0.3
CGJI	Cibinong	75.40	268	P	P	08 41 16.6	-1.0
KSRS	Korea Array	76.22	318	P	P	08 41 22.2	+0.7
	4.4nm,1.0s,baz=145,slow=5.6,SNR=9.8						
KSAR	Wonju Array Be	76.23	318	P	P	08 41 22.2	+0.6
KASI	Kota Agung	76.87	269	P	P	08 41 25.5	-0.2
	151nm,0.9s						
ARVC	Arvin	77.56	46	⇓P	P	08 41 29.8	+0.9
	baz=78						
MWC	Mount Wilson	77.59	47	*e*P	P	08 41 29.8	+0.4
	16nm,0.8s						
VES	Vestal, Richgr	77.79	45	⇓P	P	08 41 30.8	+0.7
	baz=78						
MURC	Murrieta	77.84	48	⇓P	P	08 41 31.3	+0.8
	baz=78,SNR=6.6						
BFSC	Mount Baldy Ra	77.87	47	⇓P	P	08 41 31.1	+0.3
	baz=78,SNR=5.5						
RCTC	Rector, Farmer	77.95	45	⇑P	P	08 41 32.2	+1.2
	baz=78						
EDW2	Edwards Air Fo	78.00	46	⇓P	P	08 41 32.1	+0.8
	baz=78						
MONP	Monument Peak	78.01	49	⇓P	P	08 41 32.6	+0.8
	baz=78,SNR=11						
ISA	Isabella	78.10	46	⇓P	P	08 41 32.9	+0.9
	baz=78						
USRK	Ussuriysk Arra	78.14	325	P	P	08 41 32.5	+0.7
	8.6nm,0.8s,baz=154,slow=3.6,SNR=20						
CMB	Columbia Colle	78.20	43	*e*P	P	08 41 33.1	+0.7
	6.8nm,0.8s						
PFO	Pinyon Flat Ob	78.37	48	⇓P	P	08 41 34.1	+0.6
	baz=79						
SWSC	Sam W. Stewart	78.48	49	⇓P	P	08 41 34.8	+0.9
	baz=79						
CWC	Cottonwood Cre	78.80	45	⇓P	P	08 41 36.8	+1.1
	baz=79						
BELC	Belle Mtn. Jos	78.90	48	⇓P	P	08 41 37.4	+1.1
	baz=79,SNR=9.3						
MLAC	Mammoth Lakes	78.97	44	⇓P	P	08 41 37.6	+0.9
	baz=79						
MPMC	Manual Prospec	78.99	46	⇓P	P	08 41 37.5	+0.7
	baz=79						
YBH	Yreka Blue Hor	78.99	39	*e*P	P	08 41 37.5	+0.9
	5.0nm,0.8s						
GSC	Goldstone	79.04	47	⇓P	P	08 41 37.8	+0.8
	baz=79						
BC3	Big Chuckawall	79.10	49	⇑P	P	08 41 38.3	+1.0
	baz=79						
HEC	Hector,Ludlow	79.11	47	⇑P	P	08 41 38.5	+1.2
	baz=79						
GLA	Glamis	79.24	49	⇑P	P	08 41 39.3	+1.3
	baz=80						
NJ2	Nanjing	79.40	309	*e*P	P	08 41 39.9	+1.1
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
IRM	Iron Mountain	79.58	48	⇑P	P	08 41 40.9	+1.1
	baz=80						
MDJ	Mudanjiang	79.72	325	P	P	08 41 41.0	+0.8
MDJ				pmax	pmax		
	comp=Z,28nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.4s						
SHOC	Shoshone	79.72	46	⇓P	P	08 41 41.1	+0.7
	baz=80						
NVAR	Mina Array Bea	79.77	43	P	P	08 41 41.8	+0.9
	comp=Z,6.0nm,0.7s,baz=224,slow=9.2,SNR=52						
NVAR				pP	pP	08 43 43.4	+1.3
	comp=Z,1.0nm,0.9s,baz=225,slow=9.8,SNR=3.7						
NVAR	Mina Array Bea	79.77	43	P	P	08 41 41.8	+0.9
NVAR				pP	pP	08 43 43.4	+1.3
Y12C	Blythe	79.81	49	⇓P	P	08 41 42.0	+1.1
	baz=80						
113A	Mohawk Valley,	79.86	50	⇓P	P	08 41 42.2	+1.1
	baz=80						
MYKOM	Kota Tinggi	79.86	275	P	P	08 41 42.9	+1.3
214A	Organ Pipe Nat	80.15	51	⇓P	P	08 41 44.1	+1.3
	baz=80						
PDMCI	Parker Dam,Lak	80.37	49	⇑P	P	08 41 45.1	+1.2
	baz=81,SNR=6.7						
KGM	Kluang	80.43	275	P	P	08 41 45.6	+1.0
MOD	Modoc	80.53	40	*e*P	P	08 41 44.8	+0.1
	comp=Z,15nm,0.9s						
Z14A	Wintersburg	80.75	50	⇓P	P	08 41 47.1	+1.3
	baz=81,SNR=6.9						
W13A	Hualapai Mount	80.96	48	⇑P	P	08 41 48.1	+0.9
	baz=81						
Y14A	Wickenburg	81.00	49	⇓P	P	08 41 47.9	+0.7
	baz=81,SNR=9.1						
R11A	Troy Canyon, C	81.51	45	⇓P	P	08 41 50.6	+0.7
	baz=82						
CN2	Changchun	81.55	322	*e*P	P	08 41 49.9	+0.3
CN2				*e*pP	pP	08 43 55.9	+4.3
CN2				*e*S	S	08 51 15.8	+1.0
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
TUC	Tucson	81.82	52	*e*P	P	08 41 52.8	+1.4
	comp=Z,14nm,0.9s						
WHN	Wuhan	82.04	306	P	P	08 41 53.2	+0.8
X16A	Lo Mia Camp, P	82.36	50	⇓P	P	08 41 55.6	+1.4
	baz=83,SNR=20						
FRIM	Kepong	82.44	276	P	P	08 41 55.9	+1.0
R13A	O'Grain Ranch,	82.50	45	⇓P	P	08 41 56.0	+1.1
	baz=83						
319A	Douglas	82.51	53	⇓P	P	08 41 56.8	+1.8
	baz=83,SNR=30						
ARUT	Antelope Range	82.65	46	*e*P	P	08 41 56.6	+1.0
	comp=Z,4.9nm,1.0s						
U15A	North Rim	82.75	48	⇑P	P	08 41 57.0	+0.7
	baz=83						
ELK	Elko	83.02	43	*e*P	P	08 41 57.9	+0.4
320A	Kipp Ranch, An	83.06	54	⇓P	P	08 41 59.5	+1.7
	baz=83,SNR=26						
220A	Playas Peak, P	83.32	53	⇓P	P	08 42 00.5	+1.4
	baz=84,SNR=12						
IPM	Ipoh	83.42	277	*e*P	P	08 42 00.1	+0.3
	comp=Z,63nm,0.9s						
IPM	Ipoh	83.42	277	P	P	08 42 00.3	+0.5
IPM	Ipoh	83.42	277	P	P	08 41 59.8	0.0
	comp=Z,60nm,0.9s,comp=Z,780nm						
X18A	Snowflake	83.49	50	⇑P	P	08 42 01.0	+1.1
	baz=84,SNR=5.7						
120A	U Bar Ranch, L	83.54	52	⇑P	P	08 42 01.7	+1.5
	baz=84						
HAWA	Hanford	83.63	36	*e*P	P	08 42 01.0	+0.9
	comp=Z,5.7nm,0.8s						
PMR	Palmer	83.65	13	*e*P	P	08 41 59.0	-0.8
	comp=Z,9.2nm,0.5s						

R15A	Junction	83.66	46	⇓P	P	08 42 01.8	+1.1
	baz=84						
Z20A	Nine Sixteen R	83.83	52	⇑P	P	08 42 03.0	+1.4
	baz=84,SNR=8.9						
S16A	Weppner Ranch,	83.88	47	⇓P	P	08 42 02.6	+0.8
	baz=84						
W18A	Petrified Fore	83.93	50	⇓P	P	08 42 03.0	+1.0
	baz=84						
221A	Mesquite Ranch	83.94	53	⇓P	P	08 42 03.6	+1.5
	baz=84,SNR=5.8						
KULM	Kulim	84.04	278	P	P	08 41 51.9	-11
KULM	Kulim	84.04	278	P	P	08 41 51.7	-11
	comp=Z,181nm,0.6s,comp=Z,1µm						
MFID	Camas Ranch	84.10	40	⇑P	P	08 42 03.3	+0.7
	baz=84						
121A	Cookes Peak, D	84.17	53	⇑P	P	08 42 04.8	+1.5
	baz=84,SNR=8.6						
R16A	Teasdale	84.23	46	⇑P	P	08 42 04.7	+1.1
	baz=84						
Y20A	Horse Springs,	84.35	51	⇑P	P	08 42 05.7	+1.4
	baz=85,SNR=13						
X20A	Quemado	84.56	51	⇑P	P	08 42 06.6	+1.4
	baz=85						
Z21A	St. Cloud Mine	84.60	52	⇑P	P	08 42 06.8	+1.3
	baz=85,SNR=7.4						
I12A	Atlanta	84.73	40	⇓P	P	08 42 06.3	+0.5
	baz=85						
Q16A	Castle Valley	84.76	46	⇑P	P	08 42 07.4	+1.3
	baz=85						
T18A	Mexican Hat	84.79	48	⇓P	P	08 42 06.9	+0.7
	baz=85,SNR=13						
TNA	Tin City	84.81	4	*e*P	P	08 42 05.6	+0.2
	comp=Z,8.2nm,0.8s						
W20A	Ramah	84.83	50	⇑P	P	08 42 07.2	+0.7
	baz=85,SNR=6.5						
R17A	Hanksville Air	84.83	46	⇑P	P	08 42 06.8	+0.5
	baz=85						
PSI	Prapat	84.83	275	P	P	08 42 06.3	-0.6
	baz=85,SNR=7.4						
PSI	Prapat	84.83	275	P	P	08 42 06.3	-0.6
PSI	Prapat	84.83	275	P	P	08 42 04.1	-2.8
U19A	Dine' College,	84.86	49	⇓P	P	08 42 07.2	+0.5
	baz=85						
Y21A	Point of Rocks	84.92	52	⇑P	P	08 42 08.3	+1.3
	baz=85,SNR=7.1						
S18A	Hurst Farm, Bl	84.97	47	⇓P	P	08 42 07.4	+0.2
	baz=85						
L14A	Malta	84.98	42	⇑P	P	08 42 07.1	+0.1
	baz=85						
X21A	Alamocita Cree	85.03	51	⇑P	P	08 42 08.4	+0.8
	baz=85						
HLID	Hailey	85.05	41	⇑P	P	08 42 08.3	+1.0
	baz=85,SNR=8.6						
TRF	Thorofare Moun	85.08	12	*e*P	P	08 42 05.3	-1.7
	comp=Z,20nm,0.7s						
TRF				*e*pP	pP	08 44 10.7	+0.3
J13A	Cove Ranch, Pi	85.11	41	⇑P	P	08 42 08.6	+1.1
	baz=85,SNR=9.9						
Z22A	Elephant Butte	85.11	52	⇓P	P	08 42 08.9	+1.1
	baz=85,SNR=11						
BJI	Beijing	85.29	315	P	P	08 42 08.9	+0.6
BJI				S	S	08 51 53.3	+1.8
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
BJI				pmax	pmax		
	comp=Z,170nm,4.6s						
SRU	San Rafael	85.30	46	⇑P	P	08 42 09.4	+0.8
	baz=86						
H12A	Diamond D Ranc	85.31	40	⇓P	P	08 42 09.0	+0.4
	baz=86,SNR=14						
G12A	Big Creek, Yel	85.34	39	⇑P	P	08 42 09.0	+0.3
	baz=86,SNR=10						
R18A	Canyonlands Na	85.38	47	⇓P	P	08 42 09.9	+0.9
	baz=86						
U20A	Newcomb	85.39	49	⇓P	P	08 42 10.1	+0.9
	baz=86						
Y22A	Socorro	85.41	52	⇑P	P	08 42 10.0	+0.7
	baz=86,SNR=8.5						
I13A	Wildhorse Cree	85.42	40	⇑P	P	08 42 10.5	+1.3
	baz=86						
324A	Moseley Ranch,	85.44	55	⇑P	P	08 42 10.1	+0.6
	baz=86,SNR=17						
J14A	Carey	85.47	41	⇑P	P	08 42 10.5	+1.1
	baz=86,SNR=6.0						
425A	Indio Mountain	85.55	55	⇑P	P	08 42 11.2	+1.2
	baz=86,SNR=23						
Q18A	Rafter H Ranch	85.56	46	⇑P	P	08 42 10.3	+0.5
	baz=86						
N16A	Rees Ranch, Co	85.56	44	⇑P	P	08 42 10.6	+0.7
	baz=86						
S19A	Harvey Farm, M	85.60	48	⇓P	P	08 42 10.8	+0.7
	baz=86						
MCK	McKinley	85.61	12	*e*P	P	08 42 08.9	-0.4
	comp=Z,15nm,0.8s						
MCK				*e*pP	pP	08 44 08.7	-4.1
MNTX	Cornudas Mount	85.63	54	*e*P	P	08 42 10.8	+0.6
	comp=Z,8.0nm,0.9s						
MNTX	Cornudas Mount	85.63	54	⇓P	P	08 42 11.1	+0.9
	baz=86,SNR=17						
X22A	Bernardo	85.63	51	⇓P	P	08 42 11.2	+0.9
	baz=86						
Z23A	Rita Site, Whi	85.66	53	⇓P	P	08 42 11.6	+1.1
	baz=86						
H13A	Challis	85.68	40	⇓P	P	08 42 11.2	+0.9
	baz=86						
O17A	Robinson Place	85.68	45	⇓P	P	08 42 11.4	+0.9
	baz=86,SNR=16						
PAX	Paxson	85.68	14	*e*P	P	08 42 08.9	-0.9
	comp=Z,7.8nm,1.3s						
224A	Cornudas Mount	85.68	54	⇓P	P	08 42 11.6	+1.0
	baz=86,SNR=10						
626A	Big Bend Ranch	85.69	57	⇑P	P	08 42 12.0	+1.4
	baz=86,SNR=21						
F12A	Elk City	85.72	38	⇑P	P	08 42 11.1	+0.6
	baz=86						
P18A	Preston Nutter	85.73	46	⇓P	P	08 42 11.4	+0.5
	baz=86						
BNM	Barren Site	85.76	52	*e*P	P	08 42 11.8	+0.8
	comp=Z,3.5nm,0.8s						
BNM				*e*pP	pP	08 44 15.7	+1.1
V21A	Milan	85.76	50	⇑P	P	08 42 12.0	+1.0
	baz=86						
R19A	Curley Farm, L	85.77	47	⇑P	P	08 42 11.5	+0.6
	baz=86,SNR=6.3						
325A	Bean Ranch, Si	85.81	55	⇑P	P	08 42 11.9	+0.7
	baz=86,SNR=13						
I14A	Mackay	85.83	41	⇑P	P	08 42 12.4	+1.3
	baz=86,SNR=10						
E12A	Beaver Dam Sad	85.90	38	⇑P	P	08 42 11.2	-0.1
	baz=86,SNR=6.5						
526A	Mary Lane Ranc	85.94	56	⇓P	P	08 42 13.0	+1.2
	baz=86,SNR=20						
G13A	Cobalt	85.97	39	⇓P	P	08 42 12.4	+0.7
	baz=86,SNR=7.4						
TXAR	Lajitas Array	85.97	57	P	P	08 42 13.1	+1.2
	comp=Z,7.6nm,0.8s,baz=217,slow=6.5,SNR=92						
TXAR				PKKPbc	PKKPbc	09 00 10.3	+1.7
	comp=Z,0.2nm,0.5s,baz=173,slow=2.9,SNR=4.5						
TXAR	Lajitas Array	85.97	57	P	P	08 42 13.1	+1.2
TXAR				PKKPbc	PKKPbc	09 00 10.3	+1.7
N17A	Moffit Pass	85.98	44	⇑P	P	08 42 12.2	+0.2
	baz=86						
124A	Stringfield Ra	86.00	54	⇑P	P	08 42 12.9	+0.7
	baz=86						
U21A	Nageezi	86.03	49	⇑P	P	08 42 13.0	+0.7
	baz=86,SNR=19						
NEW	Newport	86.05	36	⇓P	P	08 42 12.3	+0.5
	baz=86						
Q19A	Hogan Spring (	86.08	47	⇑P	P	08 42 13.1	+0.8
	baz=86						
Y23A	Lovelace Mesa,	86.09	52	⇓P	P	08 42 13.0	+0.4
	baz=86						
L16A	Fish Haven	86.13	43	⇑P	P	08 42 12.9	+0.4
	baz=86						
S20A	Disappointment	86.18	48	⇑P	P	08 42 13.3	+0.4
	baz=86						
J15A	Blackfoot	86.19	41	⇓P	P	08 42 13.6	+0.9
	baz=86,SNR=5.9						
225A	Deer Hill, Car	86.23	54	⇓P	P	08 42 14.2	+1.0
	baz=86						
426A	McDonald Obser	86.24	56	⇑P	P	08 42 14.2	+0.9
	baz=86,SNR=28						
627A	Terlingua Ranc	86.24	57	⇑P	P	08 42 14.1	+0.8
	baz=86,SNR=16						
H14A	Leadore	86.24	40	⇓P	P	08 42 13.9	+0.8
	baz=86,SNR=6.8						
X23A	Hourglass Bar	86.28	52	⇑P	P	08 42 14.2	+0.8
	baz=86,SNR=8.7						

F13A	Darby	86.28	39	⇓P	P	08 42 13.2	+0.1
	baz=86,SNR=12						
C11A	Tepee Creek (N	86.30	36	⇑P	P	08 42 13.7	+0.7
	baz=86						
V22A	San Miguel Ran	86.34	50	⇓P	P	08 42 14.7	+0.9
	baz=86						
Z24A	Sheeppen Canyo	86.34	53	⇓P	P	08 42 14.4	+0.6
	baz=86						
527A	Woodward Ranch	86.35	57	⇑P	P	08 42 14.6	+0.8
	baz=86,SNR=19						
D12A	Red Ives Fores	86.37	37	⇓P	P	08 42 13.5	+0.1
	baz=87,SNR=8.1						
T21A	Navajo Lake	86.38	49	⇑P	P	08 42 14.5	+0.6
	baz=87						
K16A	Soda Springs	86.44	42	⇓P	P	08 42 15.1	+1.1
	baz=87						
I15A	Monteview	86.47	41	⇓P	P	08 42 15.1	+1.1
	baz=87						
S21A	Coal Bank Pass	86.50	48	⇓P	P	08 42 15.1	+0.5
	baz=87,SNR=7.7						
G14A	Jackson	86.52	40	⇑P	P	08 42 15.2	+0.8
	baz=87,SNR=9.9						
Y24A	Capitan	86.55	52	⇓P	P	08 42 15.4	+0.6
	baz=87,SNR=25						
326A	Caldwell Ranch	86.55	55	⇓P	P	08 42 14.7	0.0
	baz=87						
W23A	Werner Place,	86.56	51	⇑P	P	08 42 15.4	+0.7
	baz=87						
U22A	Llaves	86.59	50	⇓P	P	08 42 15.5	+0.6
	baz=87						
125A	Gardner Draw,	86.59	54	⇑P	P	08 42 15.5	+0.7
	baz=87						
J16A	Bone	86.64	42	⇑P	P	08 42 16.1	+1.1
	baz=87,SNR=6.8						
628A	Black Gap, Mar	86.66	57	⇑P	P	08 42 15.9	+0.8
	baz=87,SNR=9.1						
C12B	Naegeli Ranch,	86.66	37	⇓P	P	08 42 15.3	+0.5
	baz=87,SNR=5.7						
MCMT	McKenzie Canyo	86.67	40	*e*P	P	08 42 15.5	+0.4
	comp=Z,5.5nm,0.9s						
H15A	Lima	86.69	40	⇑P	P	08 42 16.1	+1.0
	baz=87,SNR=11						
E13A	Victor	86.72	38	⇓P	P	08 42 15.5	+0.4
	baz=87						
M18A	Lyman	86.73	44	⇓P	P	08 42 15.7	+0.3
	baz=87						
Q20A	Ridgley Place,	86.75	47	⇑P	P	08 42 16.0	+0.5
	baz=87						
N18A	Larsen Ranch,	86.77	45	⇑P	P	08 42 16.3	+0.7
	baz=87						
V23A	Ortiz Mt. (NFS	86.79	51	⇓P	P	08 42 17.0	+1.2
	baz=87,SNR=6.6						
427A	Hayter Ranch,	86.81	56	⇑P	P	08 42 17.0	+1.1
	baz=87,SNR=30						
O19A	Miners Draw (B	86.81	45	⇑P	P	08 42 16.1	+0.3
	baz=87						
Z25A	Roswell	86.81	53	⇓P	P	08 42 16.8	+1.0
	baz=87,SNR=6.2						
K17A	Gardner Place,	86.82	43	⇓P	P	08 42 16.8	+1.0
	baz=87						
T22A	Edith	86.84	49	⇑P	P	08 42 16.6	+0.6
	baz=87						
COLA	College	86.84	12	*e*P	P	08 42 13.8	-1.2
	comp=Z,18nm,0.7s						
F14A	Wisdom	86.87	39	⇓P	P	08 42 16.2	+0.3
	baz=87,SNR=6.9						
D13A	Huson	86.91	38	⇑P	P	08 42 16.4	+0.5
	baz=87,SNR=6.6						
P20A	De Beque	86.93	46	⇓P	P	08 42 17.0	+0.6
	baz=87						
ILAR	Eielson Array	86.95	13	P	P	08 42 14.2	-1.3
	comp=Z,3.0nm,0.7s,baz=236,slow=5.3,SNR=59						
ILAR				pP	pP	08 44 19.0	-0.6
	comp=Z,1.2nm,0.9s,baz=227,slow=6.6,SNR=3.9						
ILAR	Eielson Array	86.95	13	P	P	08 42 14.2	-1.3
ILAR				pP	pP	08 44 19.0	-0.6
R21A	Cimarron	86.99	48	⇓P	P	08 42 17.1	+0.4
	baz=87						
528A	Cox Ranch, San	87.01	57	⇑P	P	08 42 17.8	+0.9
	baz=87,SNR=10						
U23A	El Rito	87.04	50	⇑P	P	08 42 17.1	+0.1
	baz=87,SNR=6.3						
G15A	Dillon	87.06	40	⇑P	P	08 42 17.8	+1.0
	baz=87,SNR=20						
MSO	Missoula	87.07	38	⇓P	P	08 42 17.3	+0.5
	baz=87						
126A	Clayton Basin,	87.08	54	⇑P	P	08 42 17.3	+0.2
	baz=87						
DLMT	Dillon	87.10	40	*e*P	P	08 42 17.5	+0.6
	comp=Z,11nm,0.9s						
Y25A	Mesa, Roswell	87.11	53	⇓P	P	08 42 17.7	+0.5
	baz=87,SNR=6.6						
E14A	Clinton	87.11	39	⇑P	P	08 42 17.3	+0.3
	baz=87,SNR=8.0						
W24A	Lazy 6 Ranch,	87.13	51	⇓P	P	08 42 17.7	+0.3
	baz=87,SNR=5.2						
BSMT	Bassoo Peak	87.13	37	*e*P	P	08 42 17.2	+0.1
	comp=Z,2.3nm,0.7s						
BSMT				*e*pP	pP	08 44 21.2	0.0
BSMT				*e*sP	sP	08 45 19.1	+0.4
C13A	Hot Springs	87.16	37	⇓P	P	08 42 17.3	+0.2
	baz=87						
Q21A	Lamborn Mesa,	87.19	47	⇓P	P	08 42 18.4	+0.8
	baz=87						
S22A	4UR Ranch, Cre	87.22	49	⇓P	P	08 42 18.9	+1.0
	baz=87,SNR=7.3						
A12A	Yaak River Ran	87.24	36	⇑P	P	08 42 18.4	+1.0
	baz=88						
J17A	Brown Place, J	87.26	42	⇓P	P	08 42 18.6	+0.8
	baz=88,SNR=7.9						
SNOW	Snow King Moun	87.28	42	*e*P	P	08 42 18.5	+0.5
	comp=Z,7.7nm,1.0s						
428A	Kincaid Ranch,	87.32	56	⇓P	P	08 42 19.3	+1.0
	baz=88,SNR=5.2						
K18A	Toltan Ranch,	87.33	43	⇑P	P	08 42 19.0	+0.8
	baz=88,SNR=9.9						
O20A	White River Ci	87.33	46	⇓P	P	08 42 18.9	+0.6
	baz=88						
M19A	Rock Springs	87.36	44	⇓P	P	08 42 18.7	+0.3
	baz=88						
Z26A	Caprock	87.37	54	⇑P	P	08 42 19.1	+0.6
	baz=88,SNR=16						
227A	Bennet, Jal	87.37	55	⇓P	P	08 42 19.3	+0.8
	baz=88						
X25A	Clemmons Ranch	87.39	52	⇓P	P	08 42 18.8	+0.2
	baz=88						
F15A	Butte	87.41	39	⇓P	P	08 42 19.2	+0.7
	baz=88,SNR=5.2						
LRM	Limekiln Ridge	87.42	39	*e*P	P	08 42 19.5	+0.9
	comp=Z,26nm,0.8s						
529A	Stev Forest Ra	87.44	57	⇑P	P	08 42 19.5	+0.6
	baz=88,SNR=6.9						
D14A	Greenough	87.45	38	⇑P	P	08 42 18.6	0.0
	baz=88						
R22A	Saguache, Gunn	87.49	48	⇓P	P	08 42 20.1	+0.9
	baz=88						
328A	Wristen Ranch,	87.49	56	⇓P	P	08 42 19.6	+0.6
	baz=88,SNR=8.5						
G16A	Moss Hill, Enn	87.51	40	⇑P	P	08 42 19.5	+0.6
	baz=88,SNR=8.9						
CHMT	Chamberlain Mo	87.51	38	*e*P	P	08 42 18.6	-0.3
	comp=Z,3.2nm,0.9s						
L19A	Farson	87.52	44	⇑P	P	08 42 19.3	+0.2
	baz=88						
QLMT	Earthquake Lak	87.54	41	*e*P	P	08 42 20.6	+1.4
	comp=Z,0.6nm,0.6s						
SLMT	Seeley Lake	87.55	38	*e*P	P	08 42 18.6	-0.5
H16A	Russell Place,	87.59	41	⇓P	P	08 42 20.6	+1.3
	baz=88,SNR=16						
B13A	Whitefish	87.59	37	⇓P	P	08 42 18.7	-0.4
	baz=88						
127A	Arkansas Junct	87.60	54	⇑P	P	08 42 20.2	+0.7
	baz=88,SNR=7.1						
I17A	Pilgrim Ck.	87.62	42	⇓P	P	08 42 20.4	+0.9
	baz=88						
E15A	Deer Lodge	87.62	39	⇑P	P	08 42 20.2	+0.8
	baz=88						
FLWY	Flagg Ranch	87.62	42	*e*P	P	08 42 20.3	+0.8
	comp=Z,13nm,0.9s						
FLWY				*e*pP	pP	08 44 25.1	+1.3
J18A	Kendall Valley	87.62	43	⇓P	P	08 42 20.0	+0.4
	baz=88,SNR=28						
N20A	Spence Gulch,	87.64	45	⇓P	P	08 42 20.1	+0.3
	baz=88						
Q22A	Crested Butte,	87.67	47	⇑P	P	08 42 20.7	+0.7
	baz=88						
C14A	Swan Lake	87.68	37	⇑P	P	08 42 19.9	+0.3
	baz=88						

BW06	Boulder Array	87.70	43	⇑P	P	08 42 20.3	+0.3
	baz=88,SNR=6.3						
XAN	Xi'an	87.70	307	P	P	08 42 20.5	+0.6
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PDAR	Pinedale Array	87.70	43	P	P	08 42 20.1	+0.2
	comp=Z,3.4nm,0.8s,baz=226,slow=2.6,SNR=24						
PDAR				pP	pP	08 44 24.6	+0.3
	comp=Z,1.0nm,0.8s,baz=205,slow=3.1,SNR=6.1						
PDAR				PKKPbc	PKKPbc	09 00 03.9	-1.5
	comp=Z,0.6nm,0.8s,baz=29,slow=3.4,SNR=4.7						
PDAR	Pinedale Array	87.70	43	P	P	08 42 20.1	+0.2
PDAR				pP	pP	08 44 24.6	+0.3
PDAR				PKKPbc	PKKPbc	09 00 03.9	-1.5
Y26A	Elida	87.76	53	⇓P	P	08 42 20.6	+0.3
	baz=88						
BOZ	Bozeman (W)	87.83	40	eP	P	08 42 20.7	+0.3
	comp=Z,9.3nm,1.0s						
BOZ	Bozeman (W)	87.83	40	⇑P	P	08 42 21.3	+0.9
	baz=88,SNR=16						
W25A	X Bar L Ranch,	87.83	52	⇑P	P	08 42 20.6	0.0
	baz=88,SNR=7.7						
H17A	Grant Village	87.85	41	⇑P	P	08 42 22.5	+1.8
	baz=88,SNR=7.3						
F16A	Kennard Place,	87.90	40	⇓P	P	08 42 21.6	+0.9
	baz=88,SNR=8.4						
429A	Davenport Ranc	87.90	57	⇓P	P	08 42 21.9	+0.9
	baz=88,SNR=35						
A13A	Flathead Natio	87.92	36	⇑P	P	08 42 21.4	+0.7
	baz=88						
228A	UT Block 9, Go	87.96	55	⇑P	P	08 42 21.6	+0.4
	baz=88						
Z27A	Tatum	87.97	54	⇓P	P	08 42 21.3	+0.1
	baz=88						
V25A	Rancho No Teng	87.98	51	⇓P	P	08 42 21.7	+0.3
	baz=88						
I18A	Diamond G Ranc	87.99	42	⇓P	P	08 42 21.7	+0.4
	baz=88,SNR=5.1						
M20A	Sweetwater, Wa	88.00	45	⇓P	P	08 42 21.3	-0.1
	baz=88						
D15A	Lincoln	88.01	38	⇑P	P	08 42 21.7	+0.6
	baz=88,SNR=5.8						
DAWY	Dawson	88.08	16	eP	P	08 42 20.5	-0.5
N21A	Black Mountain	88.11	46	⇓P	P	08 42 22.5	+0.6
	baz=88,SNR=5.4						
R23A	Moffat	88.13	48	⇓P	P	08 42 22.8	+0.7
	baz=88						
L20A	Wamsutter	88.14	44	⇑P	P	08 42 22.7	+0.7
	baz=88						
530A	J-C Ranch, Com	88.15	57	⇑P	P	08 42 22.8	+0.6
	baz=88						
329A	Wagon Wheel Ra	88.18	56	⇑P	P	08 42 23.0	+0.8
	baz=88,SNR=8.8						
G17A	Pierce Place,	88.21	40	⇓P	P	08 42 23.0	+0.9
	baz=88						
EGAK	Eagle	88.23	15	eP	P	08 42 21.5	-0.1
	comp=Z,8.0nm,0.8s						
Y27A	Causey	88.24	53	⇑P	P	08 42 22.7	+0.2
	baz=88,SNR=14						
128A	Castleberry Fa	88.25	55	⇑P	P	08 42 23.2	+0.7
	baz=88,SNR=7.5						
HRY	Holter Researc	88.25	39	eP	P	08 42 22.8	+0.5
	comp=Z,6.5nm,0.9s						
E16A	East Helena	88.25	39	⇑P	P	08 42 22.7	+0.4
	baz=88,SNR=6.6						
B14A	Marquette Ranc	88.26	37	⇑P	P	08 42 22.4	+0.1
	baz=88,SNR=8.1						
J19A	Crowheart	88.27	43	⇑P	P	08 42 22.6	+0.1
	baz=88,SNR=7.6						
W26A	Owens Ranch, T	88.29	52	⇑P	P	08 42 22.5	-0.3
	baz=88						
S24A	Houchin Ranch,	88.32	49	⇑P	P	08 42 23.9	+0.9
	baz=88						
U25A	Circle Dot Ran	88.37	51	⇑P	P	08 42 23.6	+0.4
	baz=89						
K20A	Yellowstone Ra	88.44	44	⇓P	P	08 42 23.3	0.0
	baz=89,SNR=6.2						
631A	Perdido Creek	88.47	58	⇓P	P	08 42 24.5	+0.9
	baz=89,SNR=16						
430A	Baggett Ranch,	88.49	57	⇓P	P	08 42 23.9	+0.2
	baz=89						
A14A	Double T Ranch	88.50	36	⇓P	P	08 42 23.7	+0.3
	baz=89						
O22A	Kremmling	88.50	46	⇑P	P	08 42 24.3	+0.4
	baz=89						
229A	Bryant Ranch,	88.50	55	⇓P	P	08 42 24.0	+0.3
	baz=89						
COLD	Coldfoot	88.52	10	eP	P	08 42 22.8	-0.1
	comp=Z,6.8nm,0.7s						
F17A	Fitzpatrick Pl	88.55	40	⇓P	P	08 42 25.0	+1.3
	baz=89,SNR=6.7						
H18A	Shoshone NF, C	88.56	41	⇓P	P	08 42 24.5	+0.6
	baz=89						
V26A	Tequesquite Ra	88.57	51	⇑P	P	08 42 24.2	+0.1
	baz=89						
D16A	Dana Ranch, Ca	88.57	39	⇓P	P	08 42 24.6	+0.8
	baz=89,SNR=5.9						
MSTX	Muleshoe	88.58	53	⇓P	P	08 42 24.5	+0.4
	baz=89,SNR=8.3						
Z28A	Tucker Farm, M	88.59	54	⇓P	P	08 42 24.6	+0.4
	baz=89						
M21A	Separation Pea	88.60	45	⇑P	P	08 42 24.4	+0.2
	baz=89,SNR=5.1						
X27A	F and S Farms,	88.61	53	⇓P	P	08 42 24.6	+0.3
	baz=89,SNR=6.0						
B15A	Bradely Ranch,	88.64	37	⇑P	P	08 42 24.4	+0.4
	baz=89						
I19A	Meeteetse	88.67	42	⇓P	P	08 42 25.3	+0.9
	baz=89,SNR=7.7						
T25A	Trinidad	88.68	50	⇓P	P	08 42 25.5	+0.8
	baz=89						
732A	Laxson Ranch,	88.70	59	⇑P	P	08 42 25.8	+1.1
	baz=89,SNR=6.1						
E17A	Martinsdale	88.70	39	⇑P	P	08 42 25.6	+1.1
	baz=89						
129A	Stewart Farms,	88.73	55	⇓P	P	08 42 25.3	+0.6
	baz=89,SNR=5.6						
L21A	Rawlins	88.76	45	⇑P	P	08 42 24.7	-0.2
	baz=89						
HHC	Hu-ho-hao-te	88.77	314	eP	P	08 42 24.9	+0.1
HHC				PP	PP	08 46 08.2	+3.3
HHC				SKS	SKSac	08 51 56.4	-3.5
HHC				S	S	08 52 21.7	-2.6
HHC				SS	SS	08 58 35.1	+0.6
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,5.7s						
531A	Rocksprings	88.79	58	⇓P	P	08 42 26.0	+0.9
	baz=89,SNR=10						
W27A	Bowe Ranch, En	88.81	52	⇑P	P	08 42 25.2	+0.1
	baz=89						
C16A	Fuhringer Ranc	88.85	38	⇑P	P	08 42 25.1	+0.1
	baz=89,SNR=5.6						
N22A	Wattenberg Ran	88.85	46	⇓P	P	08 42 26.2	+0.8
	baz=89,SNR=6.3						
U26A	Atchley Ranch,	88.85	51	⇓P	P	08 42 25.6	+0.2
	baz=89						
A15A	Johnson Ranch,	88.89	37	⇑P	P	08 42 25.5	+0.3
	baz=89						
G18A	Lazy EL Ranch,	88.93	41	⇑P	P	08 42 26.5	+0.9
	baz=89,SNR=6.4						
J20A	Shoshoni	88.93	43	⇓P	P	08 42 26.3	+0.8
	baz=89,SNR=11						
Y28A	McKinney Farm,	88.95	54	⇑P	P	08 42 25.9	+0.1
	baz=89						
O23A	Lake Granby, G	88.95	47	⇑P	P	08 42 26.4	+0.5
	baz=89						
H19A	Powell	88.98	42	⇑P	P	08 42 26.9	+1.2
	baz=89,SNR=7.9						
ISCO	Idaho Springs	88.98	47	⇑P	P	08 42 26.4	+0.3
	baz=89						
RLMT	Red Lodge	89.02	41	⇓P	P	08 42 27.0	+1.0
	baz=89,SNR=9.4						
M22A	Cedar Creek Ra	89.02	45	⇓P	P	08 42 27.1	+0.9
	baz=89						
Z29A	Hungry Hill Ra	89.10	54	⇑P	P	08 42 26.8	+0.3
	baz=89,SNR=6.2						
F18A	Big Timber	89.12	40	⇓P	P	08 42 27.1	+0.8
	baz=89,SNR=7.0						
K21A	Alcova	89.14	44	⇑P	P	08 42 26.6	-0.1
	baz=89,SNR=5.8						
D17A	Six Diamond Ra	89.14	39	⇓P	P	08 42 27.1	+0.7
	baz=89,SNR=11						
632A	Uvalde	89.15	58	⇑P	P	08 42 27.3	+0.6
	baz=89,SNR=8.1						
KMI	Kunming	89.16	297	P	P	08 42 28.2	+1.0
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
I20A	Worland	89.18	43	⇑P	P	08 42 27.1	+0.4
	baz=89,SNR=8.8						
R25A	Fountain Ranch	89.20	49	⇓P	P	08 42 27.9	+0.9
	baz=89						
X28A	Dimmitt	89.23	53	⇓P	P	08 42 27.2	+0.1
	baz=89,SNR=6.7						
N23A	Red Feather La	89.24	46	⇓P	P	08 42 28.0	+0.7
	baz=89						
532A	Rocksprings	89.29	58	⇑P	P	08 42 28.0	+0.6
	baz=90,SNR=6.3						
E18A	Harlowton	89.32	40	⇑P	P	08 42 28.5	+1.3
	baz=90						
C17A	Wharram Farm,	89.34	38	⇓P	P	08 42 27.6	+0.4
	baz=90,SNR=12						
J21A	Lysite	89.34	43	⇓P	P	08 42 28.0	+0.4
	baz=90,SNR=12						
Y29A	Porterfield Fa	89.37	54	⇓P	P	08 42 28.1	+0.3
	baz=90,SNR=15						
VNA3	Neumayer Olymp	89.41	176	eP	P	08 42 27.0	-0.2
VNA3	Neumayer Olymp	89.41	176	ePcP	PcP	08 42 28.2	+0.1
L22A	Ellis Ranch, M	89.41	45	⇓P	P	08 42 28.8	+0.9
	baz=90						
O24A	Longmont	89.50	47	⇑P	P	08 42 29.0	+0.7
	baz=90						
JCT	Junction City	89.50	58	eP	P	08 42 27.6	-0.8
	comp=Z,4.9nm,0.8s						
JCT	Junction City	89.50	58	⇑P	P	08 42 28.6	+0.2
	baz=90						
A16A	West Butte Ran	89.52	37	⇓P	P	08 42 28.5	+0.4
	baz=90						
H20A	Greybull	89.52	42	⇓P	P	08 42 28.8	+0.6
	baz=90						
S26A	Kim	89.56	50	⇑P	P	08 42 29.4	+0.8
	baz=90,SNR=5.0						
F19A	Roth Farm, Mol	89.57	41	⇑P	P	08 42 29.2	+0.8
	baz=90						
X29A	Tulia	89.58	53	⇑P	P	08 42 29.0	+0.3
	baz=90						
K22A	Casper	89.63	44	⇓P	P	08 42 29.2	+0.3
	baz=90						
B17A	L&G Farms, Che	89.64	38	⇑P	P	08 42 28.9	+0.3
	baz=90						
I21A	Big Trails, Te	89.66	43	⇑P	P	08 42 28.9	0.0
	baz=90,SNR=12						
432A	Menard	89.66	57	⇑P	P	08 42 29.2	+0.1
	baz=90,SNR=6.3						
D18A	Linhart Farms,	89.69	39	⇑P	P	08 42 29.6	+0.7
	baz=90						
V28A	Channing	89.71	52	⇓P	P	08 42 29.9	+0.6
	baz=90						
G20A	Bridger	89.72	41	⇑P	P	08 42 30.4	+1.2
	baz=90						
AMTX	Amarillo	89.77	53	⇓P	P	08 42 29.9	+0.3
	baz=90						
PLCA	Paso Flores	89.84	133	P	P	08 42 30.4	+0.5
	comp=Z,3.0nm,1.0s,baz=180,slow=3.0,SNR=4.3						
PLCA	Paso Flores	89.84	133	P	P	08 42 30.4	+0.5
VNA2	Neumayer--Watz	89.86	177	eP	P	08 42 31.0	+1.8
	baz=200,slow=4.1						
R26A	Arlington	89.86	49	⇑P	P	08 42 31.1	+1.1
	baz=90						
W29A	Amraillo	89.89	53	⇓P	P	08 42 30.6	+0.5
	baz=90						
N24A	Carr	89.93	46	⇓P	P	08 42 31.3	+1.0
	baz=90,SNR=5.0						
L23A	Garrett	89.94	45	⇓P	P	08 42 30.8	+0.5
	baz=90,SNR=6.1						
E19A	Rath Farm, Rou	89.95	40	⇑P	P	08 42 30.9	+0.8
	baz=90,SNR=5.1						
J22A	Midwest	90.00	44	⇑P	P	08 42 30.4	-0.1
	baz=90,SNR=7.0						
A17A	Triple J Farms	90.03	37	⇑P	P	08 42 31.3	+0.9
	baz=90						
CMAR	Chiang Mai Arr	90.11	289	P	P	08 42 32.5	+1.1
	comp=Z,15nm,0.8s,baz=122,slow=2.9,SNR=70						
CMAR	Chiang Mai Arr	90.11	289	P	P	08 42 32.5	+1.1
EGMT	Eagleton	90.12	38	⇓P	P	08 42 31.5	+0.6
	baz=90						
H21A	Big Horn, Sher	90.19	42	⇓P	P	08 42 32.0	+0.7
	baz=90						
I22A	9 Mile Ranch,	90.21	43	⇑P	P	08 42 31.6	+0.1
	baz=90,SNR=6.8						
CHTO	Chiang Mai	90.23	290	eP	P	08 42 31.8	-0.1
	comp=Z,16nm,0.8s						
D19A	Cripps Ranch,	90.23	39	⇑P	P	08 42 32.1	+0.7
	baz=90,SNR=7.3						
M24A	Cheyenne	90.25	46	⇓P	P	08 42 32.4	+0.6
	baz=90						
K23A	Bowen Ranch, D	90.27	44	⇑P	P	08 42 32.1	+0.3
	baz=90						
B18A	Beardsley Farm	90.29	38	⇑P	P	08 42 32.3	+0.6
	baz=90						
R27A	Eads	90.32	49	⇑P	P	08 42 32.7	+0.6
	baz=90						
T28A	Walsh	90.35	51	⇓P	P	08 42 32.9	+0.6
	baz=90						
E20A	Meyer Farm, Mu	90.37	40	⇑P	P	08 42 33.0	+0.9
	baz=91,SNR=5.4						
C19A	Slack Wire Ran	90.40	39	⇓P	P	08 42 33.1	+1.0
	baz=91,SNR=13						
ABTX	Abilene, Hawle	90.45	56	⇓P	P	08 42 33.1	+0.4
	baz=91						
CD2	Chengdu	90.47	303	P	P	08 42 33.8	+1.0
CD2				pP	pP	08 44 38.7	+0.9
CD2				sP	sP	08 45 34.6	-0.5
CD2				PP	PP	08 46 21.7	+3.4
CD2				S	S	08 52 39.5	-0.4
CD2				sS	sS	08 56 20.9	-2.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,4.6s						
A18A	Metzger Ranch,	90.50	38	⇑P	P	08 42 33.4	+0.8
	baz=91						
D20A	Manuel Ranch,	90.64	40	⇓P	P	08 42 34.2	+1.0
	baz=91,SNR=6.2						
KSCO	Kaye Shedlock'	90.74	49	⇑P	P	08 42 35.1	+1.0
	baz=91						
B19A	Brinkman Farms	90.81	38	⇑P	P	08 42 35.6	+1.6
	baz=91						
C20A	Veseth Ranch,	91.01	39	⇑P	P	08 42 36.2	+1.2
	baz=91,SNR=12						
E21A	Keefer Ranch,	91.04	41	⇑P	P	08 42 36.2	+1.1
	baz=91						
A19A	Klindworth Far	91.15	38	⇓P	P	08 42 36.2	+0.6
	baz=91,SNR=7.0						
D21A	La Casta Ranch	91.33	40	⇑P	P	08 42 37.6	+1.2
	baz=92,SNR=5.8						
G23A	Biddle	91.49	42	⇑P	P	08 42 37.9	+0.6
	baz=92						
A20A	Cobblestone Ra	91.60	38	⇓P	P	08 42 38.1	+0.5
	baz=92,SNR=9.4						
C21A	Desert Coulee	91.61	39	⇑P	P	08 42 38.2	+0.5
	baz=92						
E22A	Miles City	91.69	41	⇓P	P	08 42 38.5	+0.4
	baz=92						
F23A	Volborg	91.71	42	⇓P	P	08 42 38.7	+0.5
	baz=92,SNR=5.7						
H24A	Dirks Ranch, A	91.83	43	⇑P	P	08 42 39.0	+0.1
	baz=92,SNR=7.0						
D22A	Cohagen	91.86	40	⇑P	P	08 42 39.8	+0.9
	baz=92						
K26A	Motz Farm, Whi	91.88	45	⇑P	P	08 42 39.7	+0.6
	baz=92,SNR=7.5						
RSSD	Black Hills	91.90	44	eP	P	08 42 39.0	-0.4
	comp=Z,5.6nm,0.9s						
B21A	Ellsworth Farm	91.93	39	⇑P	P	08 42 40.1	+1.0
	baz=92						
C22A	Vida	92.30	40	⇓P	P	08 42 41.9	+1.1
	baz=92						
LZH	Lanzhou	92.34	307	P	P	08 42 42.1	+0.6
LZH				pP	pP	08 44 47.2	+0.6
LZH				sP	sP	08 45 44.7	+0.9
LZH				PP	PP	08 46 37.5	+4.7
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
F24A	Ekalaka	92.37	42	⇑P	P	08 42 42.0	+0.7
	baz=93						
D23A	Lindsay	92.47	41	⇓P	P	08 42 42.7	+1.0
	baz=93						
B22A	Reddig Ranch S	92.48	39	⇓P	P	08 42 42.8	+1.0
	baz=93,SNR=6.5						
K27A	Flueckinger Fa	92.51	46	⇑P	P	08 42 42.8	+0.8
	baz=93						
C23A	Lambert	92.75	40	⇓P	P	08 42 44.0	+1.0
	baz=93,SNR=6.4						
A22A	Carney Farms,	92.83	39	⇓P	P	08 42 43.6	+0.3
	baz=93						
D24A	Glendive	92.98	41	⇓P	P	08 42 45.0	+1.0
	baz=93						
C24A	Savage	93.10	40	⇑P	P	08 42 45.5	+1.0
	baz=93						
B23A	Brockton	93.16	39	⇓P	P	08 42 45.9	+1.2
	baz=93,SNR=7.5						
DGMT	Dagmar	93.64	40	eP	P	08 42 47.5	+0.5
	comp=Z,18nm,0.9s						
DGMT	Dagmar	93.64	40	⇓P	P	08 42 47.6	+0.6
	baz=94,SNR=6.9						
A24A	Westby	93.94	39	⇓P	P	08 42 49.5	+1.1
	baz=94						
SONM	Songino Array	95.07	319	P	P	08 42 54.4	+0.8
	comp=Z,0.9nm,0.6s,baz=124,slow=3.9,SNR=9.3						
SONM	Songino Array	95.07	319	P	P	08 42 54.4	+0.8
YKA	Yellowknife Ar	95.14	25	P	P	08 42 52.6	-0.7
	comp=Z,1.5nm,0.9s,baz=242,slow=4.5,SNR=26						
YKA				PKKPbc	PKKPdf	08 59 42.8	-3.8
	comp=Z,0.4nm,0.5s,baz=48,slow=2.2,SNR=11						
YKA	Yellowknife Ar	95.14	25	P	P	08 42 52.6	-0.7
YKA				PKKPbc	PKKPdf	08 59 42.8	-3.8
SIV	San Ignacio	108.38	115	PKKPbc	PKKPbc	08 59 06.8	-0.8
	comp=Z,0.7nm,0.7s,baz=93,slow=3.8,SNR=4.5						
SIV				PKKPab	PKKPdf	08 59 21.9	+1.7
	comp=Z,1.1nm,0.8s,baz=97,slow=4.4,SNR=4.5						
SIV	San Ignacio	108.38	115	PKKPbc	PKKPbc	08 59 06.8	-0.8
SIV				PKKPab	PKKPdf	08 59 21.9	+1.7
ZAA0	Zalesovo Array	109.76	322	PKPdf	PKiKP	08 47 55.2	-2.2
ZALV	Zalesovo Beam	109.76	322	PKiKP	PKiKP	08 47 55.9	-1.5
	comp=Z,2.0nm,0.7s,baz=186,slow=1.2,SNR=11						
ZALV	Zalesovo Beam	109.76	322	PKiKP	PKiKP	08 47 55.9	-1.5
MK31	Makanchi Array	110.63	314	ePKPdf	PKiKP	08 47 57.8	-1.6
MKAR	Makanchi Array	110.63	314	Pdiff	Pdif	08 44 04.8	+2.0
	comp=Z,0.6nm,0.7s,baz=88,slow=6.2,SNR=7.4						
MKAR				PKiKP	PKiKP	08 47 57.7	-1.6
	comp=Z,1.7nm,0.6s,baz=70,slow=1.0,SNR=23						
MKAR				PKKPbc	PKKPbc	08 59 00.1	-1.0
	comp=Z,0.2nm,0.5s,baz=272,slow=3.6,SNR=3.9						
MKAR	Makanchi Array	110.63	314	Pdif	Pdif	08 44 04.8	+2.0
MKAR				PKiKP	PKiKP	08 47 57.7	-1.6
MKAR				PKKPbc	PKKPbc	08 59 00.1	-1.0
KURK	Kurchatov	113.34	318	PKiKP	PKiKP	08 48 03.0	-1.3
KURK				PP	PP	08 49 06.0	-0.5
KURBB	Kurchatov Arra	113.39	318	PKiKP	PKiKP	08 48 03.0	-1.4
	comp=Z,4.5nm,0.7s,baz=94,slow=1.7,SNR=42						
KURBB				PP	PP	08 49 06.0	-0.9
	comp=Z,1.0nm,0.7s,baz=96,slow=6.7,SNR=5.0						
KSH	Kashi	114.51	305	PKP	PKPdf	08 48 09.6	+2.4
KSH				PP	PP	08 49 23.5	+8.4
KSH				PKS	PKSdf	08 51 45.2	+1.3
KSH				SKS	SKSdf	08 54 30.5	+5.0
KSH				AMB	AMB		
	comp=Z,64nm,4.8s						
AAK	Ala-Archa	115.84	309	PKP	PKPdf	08 48 08.1	-1.6
	comp=Z,1.4nm,0.6s,baz=135,slow=5.7,SNR=8.7						
AAK	Ala-Archa	115.84	309	PKP	PKPdf	08 48 08.1	-1.6
BVAR	Borovoye Array	118.37	320	PKP	PKPdf	08 48 12.7	-1.3
	comp=Z,6.3nm,0.7s,baz=69,slow=0.5,SNR=26						
BVAR	Borovoye Array	118.37	320	PKP	PKPdf	08 48 12.7	-1.3
BRVK	Borovoye	118.43	321	ePKPdf	PKPdf	08 48 12.6	-1.5
KKAR	Karatay Array	118.78	309	ePKPdf	PKPdf	08 48 14.0	-1.1
SPITS	Spitsbergen Ar	120.59	357	PKP	PKPdf	08 48 16.3	-1.3
	comp=Z,8.4nm,0.8s,baz=71,slow=5.4,SNR=5.5						
SPITS	Spitsbergen Ar	120.59	357	PKP	PKPdf	08 48 16.3	-1.3
ARU	Arti	124.38	326	ePKPdf	PKPdf	08 48 24.6	-0.8
ABKAR	Akbulak array	125.44	317	ePKPdf	PKPdf	08 48 26.8	-0.9
AKTO	Aktyubinsk	126.39	319	PKP	PKPdf	08 48 29.3	-0.2
	comp=Z,3.7nm,0.7s,baz=87,slow=4.5,SNR=10						
AKTO	Aktyubinsk	126.39	319	PKP	PKPdf	08 48 29.3	-0.2
KEV	Kevo	127.27	350	epkp	PKPdf	08 48 29.1	-1.4
	comp=Z,3.8nm,0.7s						
BOSA	Boshof	127.62	205	PKP	PKPdf	08 48 33.3	+0.6
	comp=Z,2.7nm,0.6s,baz=224,slow=4.1,SNR=5.9						
BOSA	Boshof	127.62	205	PKP	PKPdf	08 48 33.3	+0.6
ARCES	ARCESS Array B	127.72	350	PKP	PKPdf	08 48 31.2	-0.2
	comp=Z,9.5nm,0.8s,baz=66,slow=0.9,SNR=28						
ARCES	ARCESS Array B	127.72	350	PKP	PKPdf	08 48 31.2	-0.2
JOF	Joensuu	132.03	343	epkp	PKPdf	08 48 38.9	-0.9
	comp=Z,7.7nm,0.7s						
KAF	Kangasniemi	134.02	345	epkp	PKPdf	08 48 43.4	-0.1
	comp=Z,4.9nm,0.6s						
FINES	FINESS Array B	134.65	344	PKP	PKPdf	08 48 45.0	+0.3
	comp=Z,2.8nm,0.7s,baz=20,slow=6.1,SNR=5.1						
FINES				PP	PP	08 51 22.3	-3.8
	comp=Z,1.8nm,0.6s,baz=42,slow=3.1,SNR=5.2						
FINES	FINESS Array B	134.65	344	PKP	PKPdf	08 48 45.0	+0.3
FINES				PP	PP	08 51 22.3	-3.8
NB2	NORSAR Subarra	137.74	354	PKP	PKPpre	08 48 39.6	
	comp=Z,1.6nm,0.8s,baz=17,slow=2.6						
NOA	NORSAR Array B	137.74	354	PKhKP	PKPpre	08 48 43.0	
	comp=Z,1.7nm,0.8s,baz=16,slow=5.1,SNR=6.2						
NOA				PKP	PKPdf	08 48 51.5	+0.9
	comp=Z,2.8nm,0.8s,baz=14,slow=4.1,SNR=7.8						
NOA	NORSAR Array B	137.74	354	PKPpre	PKPpre	08 48 43.0	
NOA				PKP	PKPdf	08 48 51.5	+0.9
KMBO	Kilima Mbogo	140.34	243	ePKPdf	PKPdf	08 48 51.5	-5.5
AKASG	Malin Array Be	142.08	332	PKhKP	PKPpre	08 48 53.6	
	comp=Z,8.4nm,0.6s,baz=42,slow=4.0,SNR=21						
AKASG	Malin Array Be	142.08	332	PKPpre	PKPpre	08 48 53.6	
KIEV	Kiev	142.09	332	ePKPdf	PKPpre	08 48 53.8	
KELT	Kelkit	142.20	312	i P	PKPdf	08 48 56.2	-3.3
ELZG	Elazig	143.00	309	i P	PKPbc	08 48 59.6	+0.6
PGBU	Glenifferbraes	143.06	7	eP	PKPab	08 48 57.3	-0.6
PGBU	Glenifferbraes	143.06	7	P	PKPab	08 48 57.3	-0.6
KEMA	Kemaliye	143.08	311	i P	PKPbc	08 48 59.3	+0.1
ESY	Stoneypath	143.13	5	eP	PKPab	08 48 57.8	-0.4
ESY	Stoneypath	143.13	5	P	PKPab	08 48 57.8	-0.4
EAU	Auchinoon	143.13	6	eP	PKPab	08 48 58.0	-0.3
EAU	Auchinoon	143.13	6	P	PKPab	08 48 58.0	-0.3
EBL	Broad Law	143.24	5	eP	PKPab	08 48 58.0	-0.6
EBL	Broad Law	143.24	5	P	PKPab	08 48 58.0	-0.6
ESK	Eskdalemuir	143.68	5	eP	PKPab	08 48 58.5	-1.8
ESK	Eskdalemuir	143.68	5	P	PKPab	08 48 58.5	-1.8
AKCD	Akcadag	143.85	309	i P	PKPab	08 49 01.8	+0.1
GAL1	Galloway	143.97	7	eP	PKPbc	08 48 56.7	-4.5
GAL1	Galloway	143.97	7	P	PKPbc	08 48 56.7	-4.5
GKP	Gorka Klasztor	144.12	345	ePKP	PKPbc	08 49 01.5	-0.2
GKP	Gorka Klasztor	144.12	345	ePKP	PKPbc	08 49 01.5	-0.2
XAL	Allendale	144.21	5	eP	PKPbc	08 49 00.8	-1.2
XAL	Allendale	144.21	5	P	PKPbc	08 49 00.8	-1.2
BEL	Belsk	144.39	340	ePKP	PKPab	08 49 03.7	+0.6
BEL	Belsk	144.39	340	ePKP	PKPab	08 49 03.7	+0.6
GZT	Gaziantep	144.46	308	i P	PKPbc	08 49 03.7	+0.1
KUZU	Kuzuini	145.03	307	i P	PKPbc	08 49 05.2	+0.1
CTKT	Corum	145.08	315	i P	PKPbc	08 49 05.8	+0.5
ANDN	Andirin	145.28	309	i P	PKPab	08 49 09.6	+2.4
LEOM	Leova	145.53	328	⇑iP	PKPbc	08 49 06.4	+0.2
LHO	Holmfirth	145.55	5	eP	PKPdf	08 49 04.7	+0.2
LHO	Holmfirth	145.55	5	P	PKPdf	08 49 04.7	+0.2
WLF1	Llynfaes	145.55	7	eP	PKPdf	08 49 05.0	+0.5
WLF1	Llynfaes	145.55	7	P	PKPdf	08 49 05.0	+0.5
BALT	Daday	145.55	317	i P	PKPdf	08 49 05.7	+0.5
AVNT	Avonos	145.86	312	i P	PKPbc	08 49 06.9	-0.8
FOEL	Foel Wylfa	146.08	6	eP	PKPdf	08 49 04.6	-0.9
FOEL	Foel Wylfa	146.08	6	P	PKPdf	08 49 04.6	-0.9
OJC	Ojcow	146.10	340	ePKPbc	PKPdf	08 49 06.6	+1.0
OJC				ePKPab	PKPbc	08 49 07.6	-0.1
TLCR		146.10	326	⇓iP	PKPbc	08 49 07.8	0.0
BUR08	Bucovina Ar. S	146.12	332	ePKPbc	PKPbc	08 49 08.1	+0.1
BURAR	Bucovina Array	146.14	332	⇑iP	PKPbc	08 49 09.0	+1.0
BR131	Keskin Array S	146.28	314	ePKPbc	PKPbc	08 49 08.1	-0.6
BR131				ePKPab	PKPab	08 49 11.5	+0.3
BRTR	Keskin Array B	146.28	314	PKPbc	PKPdf	08 49 06.0	-0.5
	comp=Z,11nm,0.7s,baz=140,slow=4.8,SNR=50						
BRTR	Keskin Array B	146.28	314	PKPbc	PKPdf	08 49 06.0	-0.5
KOLS	Kolonicke sedl	146.31	336	ePKP	PKPbc	08 49 08.5	+0.2
CFR	Carcaliu	146.47	326	⇓iP	PKPbc	08 49 08.9	+0.1
GULE	Gulek	146.54	309	i P	PKPbc	08 49 09.6	0.0
ASF	Jabal al Asfar	146.55	300	PKPbc	PKPbc	08 49 09.6	-0.1
	comp=Z,12nm,0.8s,baz=328,slow=2.1,SNR=25						
ASF	Jabal al Asfar	146.55	300	PKPbc	PKPbc	08 49 09.6	-0.1
KSP	Ksiaz	146.57	344	ePKP	PKPbc	08 49 09.1	+0.1
KSP	Ksiaz	146.57	344	ePKP	PKPbc	08 49 09.1	+0.1
NIE	Niedzica	146.62	339	ePKPdf	PKPbc	08 49 09.6	+0.4
CRVS	Cervenica-Dubn	146.64	337	ePKP	PKPbc	08 49 09.4	+0.2
IBBN	Ibbenburen	146.69	354	ePKPab	PKPab	08 49 12.2	+0.1
VRI	Vrincioaia	146.71	328	⇑iP	PKPbc	08 49 09.2	-0.3
PLOR	Plostina	146.76	329	⇓iP	PKPbc	08 49 09.6	-0.1
TIRR	Tirgusor	146.80	325	⇓iP	PKPbc	08 49 09.9	+0.2
CLZ	Clausthal	146.83	351	ePKPbc	PKPbc	08 49 09.6	-0.1
BMR	Baia Mare	146.83	334	⇓iP	PKPbc	08 49 10.2	+0.4
TRPA	Tarpa	146.86	335	⇓iP	PKPbc	08 49 09.4	-0.4

CLL	Collm	146.89	348	ePKPbc	PKPbc	08 49 09.5	-0.3
CLL				ePKPab	PKPab	08 49 12.9	-0.1
CLL	Collm	146.89	348	⇓iPKPbc	PKPbc	08 49 09.4	-0.3
	comp=Z,26nm,0.6s						
CLL				i PKPab	PKPab	08 49 12.4	-0.6
	comp=Z,13nm,0.7s						
UPC	Upice	146.95	344	⇑ePKP	PKPbc	08 49 10.1	+0.1
UPC				ePKPAB	PKPab	08 49 13.5	+0.2
MCH1	Michaelchurch	146.98	6	eP	PKPbc	08 49 09.0	-1.0
MCH1	Michaelchurch	146.98	6	P	PKPbc	08 49 09.0	-1.0
DPC	Dobruska-Polom	147.01	344	⇑ePKP	PKPbc	08 49 10.2	0.0
DPC				ePKPAB	PKPab	08 49 14.1	+0.5
BRG	Berggiesshubel	147.11	347	ePKP	PKPpre	08 48 58.7	
	comp=Z,12nm,1.6s						
BRG				i		08 49 10.2	
	comp=Z,16nm,0.8s						
BRG	Berggiesshubel	147.11	347	ePKPbc	PKPbc	08 49 10.2	-0.2
MANR	Mangalia	147.12	324	⇓iP	PKPbc	08 49 11.8	+1.2
FBE	Freiberg	147.19	347	ePKPbc	PKPbc	08 49 10.7	+0.1
MORC	Moravsky Berou	147.19	342	ePKPbc	PKPbc	08 49 10.7	0.0
MORC	Moravsky Berou	147.19	342	⇓iP	PKPbc	08 49 10.9	+0.2
NEUB	Neuenburg	147.22	349	ePKPbc	PKPbc	08 49 10.6	0.0
AMRR	Amara	147.27	326	⇓iP	PKPab	08 49 16.4	+1.7
PVCC	Panska Ves	147.29	346	⇑ePKP	PKPbc	08 49 11.0	+0.1
PVCC				ePKPAB	PKPab	08 49 14.5	-0.1
ISR	Istrita	147.33	328	⇑iP	PKPbc	08 49 12.0	+0.8
HENT	Hendek	147.52	318	i P	PKPbc	08 49 11.5	-0.4
MMAI	Mount Meron Ar	147.54	302	PKPbc	PKPbc	08 49 12.2	0.0
	comp=Z,31nm,0.8s,baz=43,slow=6.3,SNR=36						
MMAI	Mount Meron Ar	147.54	302	PKPbc	PKPbc	08 49 12.2	0.0
MOX	Moxa	147.79	349	ePKPbc	PKPbc	08 49 11.9	-0.3
PRU	Pruhonice	147.80	345	⇑ePKP	PKPbc	08 49 12.3	+0.1
PRU				ePKPAB	PKPab	08 49 16.6	-0.1
VOIR		147.84	329	⇓iP	PKPbc	08 49 13.2	+0.6
PLN	Plauen	147.84	348	ePKPbc	PKPbc	08 49 12.1	-0.2
TANN	Tannenbergstha	147.85	348	ePKPbc	PKPbc	08 49 12.1	-0.3
WERD	Werda	147.85	348	ePKPbc	PKPbc	08 49 12.2	-0.1
DRGR		147.86	333	⇑iP	PKPdf	08 49 10.1	+1.4
UBBA	Unterbreizbach	147.88	351	ePKPbc	PKPbc	08 49 12.2	0.0
VYHS	Vyhne	147.91	339	ePKP	PKPbc	08 49 12.4	-0.2
VYHS				e		08 49 17.8	
GUNZ	Gunzen	147.92	348	ePKPbc	PKPbc	08 49 12.5	-0.1
GUNZ				ePKPab	PKPab	08 49 17.5	+0.2
WERN	Wernitzgruen	147.99	348	ePKPbc	PKPbc	08 49 12.7	0.0
WERN				ePKPab	PKPab	08 49 17.9	+0.4
NKC	Novy Kostel	148.02	348	⇑ePKP	PKPbc	08 49 13.1	+0.3
NKC				ePKPAB	PKPab	08 49 17.8	+0.1
PSZ	Piszkesteto	148.04	338	ePKPbc	PKPbc	08 49 12.7	-0.2
PSZ				ePKPab	PKPab	08 49 17.4	-0.5
PSZ	Piszkesteto	148.04	338	⇑iP	PKPbc	08 49 12.8	-0.2
ERMK	Ermenek	148.17	309	i P	PKPbc	08 49 13.9	+0.1
SEYT	Eskypehyr	148.25	316	i P	PKPbc	08 49 12.9	-1.0
ROTZ	Rotzenmuhle	148.52	348	ePKPbc	PKPbc	08 49 14.0	0.0
CSS	Prodhromos	148.52	306	ePKPdf	PKPdf	08 49 09.2	-0.9
CSS				ePKPbc	PKPbc	08 49 14.1	-0.4
MEM	Membach	148.53	356	PKPbc	PKPbc	08 49 14.3	+0.3
TNS	Taunus Mts	148.68	353	ePKPbc	PKPbc	08 49 14.3	-0.2
EIL	Elat	148.75	296	PKPbc	PKPbc	08 49 13.4	-1.8
	comp=Z,16nm,0.8s,baz=332,slow=3.0,SNR=11						
EIL	Elat	148.75	296	PKPbc	PKPbc	08 49 13.4	-1.8
GRF	Grafenberg Arr	148.77	349	ePKPbc	PKPbc	08 49 14.6	-0.1
GRF				ePKPab	PKPab	08 49 21.2	+0.4
GAZI	Gazipasa	148.78	309	i P	PKPbc	08 49 14.4	-0.7
KHC	Kasperske Hory	148.82	346	ePKPbc	PKPbc	08 49 14.6	-0.2
KHC				ePKPab	PKPab	08 49 21.3	+0.3
KHC	Kasperske Hory	148.82	346	⇑ePKP	PKPbc	08 49 14.6	-0.2
KHC				ePKPAB	PKPab	08 49 21.1	+0.1
KHC				ex	x	08 49 54.5	
GEC2	GERESS Array S	149.06	346	ePKPbc	PKPbc	08 49 15.2	-0.3
GERES	GERESS Array B	149.06	346	PKPbc	PKPbc	08 49 15.1	-0.4
	comp=Z,11nm,0.7s,baz=29,slow=3.0,SNR=44						
GERES	GERESS Array B	149.06	346	PKPbc	PKPbc	08 49 15.1	-0.4
DOU	Dourbes	149.12	357	PKPbc	PKPbc	08 49 15.2	-0.3
BZS	Buzias	149.25	333	⇑iP	PKPbc	08 49 15.4	-0.5
CONA	Conrad Observa	149.34	342	⇑iPKiKP	PKPbc	08 49 16.2	0.0
	comp=Z,20nm,0.7s,SNR=13						
WLF	Walferdange	149.46	355	PKPbc	PKPbc	08 49 16.8	+0.5
WLF	Walferdange	149.46	355	ePKPbc	PKPbc	08 49 16.8	+0.5
WLF				ePKPab	PKPab	08 49 24.4	+0.9
KORT	Korkueli	149.84	312	i P	PKPbc	08 49 17.1	-0.7
MOA	Molln	149.85	344	⇑iPKPbc	PKPbc	08 49 16.3	-1.0
	comp=Z,9.8nm,0.6s						
PKSM	Moragy	149.94	337	⇑iP	PKPbc	08 49 16.9	-0.6
DNZL	Cakiroluk	150.41	314	i P	PKPbc	08 49 19.8	+0.6
BFO	Black Forest	150.55	352	ePKPbc	PKPbc	08 49 18.6	-0.3
SOKA	Soboth	150.71	342	⇑iPKPbc	PKPbc	08 49 18.6	-0.8
	comp=Z,18nm,0.8s						
PERS	Pernice	150.72	342	i PKPbc	PKPbc	08 49 18.5	-0.9
KBA	Koelnbreinsper	150.80	345	⇑iPKPbc	PKPbc	08 49 19.1	-0.6
	comp=Z,20nm,0.7s,SNR=6.8						
VTS	Vitosha	150.82	328	⇑iP	PKPbc	08 49 19.0	-0.9
WATA	Walderalm	150.96	347	⇑iPKPdf	PKPdf	08 49 15.0	+1.3
	comp=Z,2.6nm,0.4s						
WATA				⇑iPKPbc	PKPbc	08 49 19.3	-0.8
	comp=Z,13nm,0.5s						
OBKA	Obir	151.00	343	⇑iPKPbc	PKPbc	08 49 19.3	-0.8
	comp=Z,13nm,0.8s						
WTTA	Wattenberg	151.02	347	i PKPbc	PKPbc	08 49 19.6	-0.6
	comp=Z,38nm,0.6s,SNR=19						
MYKA	Terra Mystica	151.14	344	⇑iPKPbc	PKPbc	08 49 19.1	-1.3
	comp=Z,18nm,0.6s						
GCIS	Gornji Cirnik	151.26	341	i PKPbc	PKPbc	08 49 20.3	-0.2
ABTA	Abfaltersbach	151.31	346	⇑iPKPbc	PKPbc	08 49 19.3	-1.5
	comp=Z,36nm,0.6s,SNR=23						
FETA	Feichten	151.43	348	⇓iPKPdf	PKPdf	08 49 14.3	-0.2
	comp=Z,3.2nm,0.9s						
FETA				i PKiKP	PKPbc	08 49 20.8	-0.3
	comp=Z,16nm,0.7s,SNR=12						
LJU	Ljubljana	151.43	342	ePKPbc	PKPbc	08 49 20.6	-0.4
DAVOX	Davos/Dischmat	151.82	349	PKPbc	PKPbc	08 49 21.7	-0.4
	comp=Z,26nm,0.7s,baz=328,slow=1.6,SNR=29						
DAVOX	Davos/Dischmat	151.82	349	PKPbc	PKPbc	08 49 21.7	-0.4
TUE	Stuetta	152.21	350	ePKPbc	PKPbc	08 49 22.8	-0.2
KEST	Kesra	162.44	341	PKPab	PKPab	08 50 19.4	-0.6
	comp=Z,2.5nm,1.0s,baz=90,slow=1.0,SNR=5.0						
KEST	Kesra	162.44	341	PKPab	PKPab	08 50 19.4	-0.6
DBIC	Dimbokro	165.65	149	PKP	PKPdf	08 49 30.7	-1.0
	comp=Z,2.2nm,0.6s,baz=166,slow=2.5,SNR=5.3						
DBIC	Dimbokro	165.65	149	PKP	PKPdf	08 49 30.7	-1.0
TOA0	Torodi Ar. Sit	173.94	173	ePKPdf	PKPdf	08 49 34.9	-1.5
TOA0				ePKPab	PKPab	08 51 12.2	+1.0
TORD	Torodi Ar. Bea	173.94	173	PKP	PKPdf	08 49 35.0	-1.4
	comp=Z,2.5nm,0.8s,baz=336,slow=1.5,SNR=12						
TORD				PKPab	PKPab	08 51 11.5	+0.3
	comp=Z,0.8nm,0.5s,baz=170,slow=4.3,SNR=8.9						
TORD				PP	PP	08 55 04.0	+1.6
	comp=Z,0.5nm,0.7s,baz=172,slow=5.2,SNR=3.1						
TORD	Torodi Ar. Bea	173.94	173	PKP	PKPdf	08 49 35.0	-1.4
TORD				PKPab	PKPab	08 51 11.5	+0.3
TORD				PP	PP	08 55 04.0	+1.6

GUC 05 08:35:04.6, 43°.00S×72°.83W, h25km, ML3.7, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUTA	Futaleufœ	0.74	105	eP	Pb	08 35 18.3	-0.5
FUTA				eS	Sb	08 35 28.9	+0.4
PUEL	Puelo Alto	1.39	17	eP	Pn	08 35 28.8	+0.4
PMCH	Puerto Montt	1.51	358	eP	Pb	08 35 31.4	-0.5
PMCH				i S	Sb	08 35 50.5	-0.2
PMCH				AML	AML	08 36 03.4	
	comp=N,976nm,0.6s						
COYC	Coyhaique	2.63	169	eP	Pb	08 35 52.0	+1.0
COYC				eS	Sb	08 36 29.6	+6.9
COYC				AML	AML	08 36 35.1	
	comp=E,111nm,0.5s						

CASC 05 08:38:13.4±0.9, 11°.29N×85°.63W, h173km±6km, MD3.5, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GBS2	Las Lilas	0.48	159	i P	Pn	08 38 37.4	+0.1
GBS2				i S	Sn	08 38 56.8	+1.0
LAPC	Finca la Perla	0.56	160	i P	Pn	08 38 37.3	-0.4
LAPC				i S	Sn	08 38 56.9	+0.5
NY14	Universidad de	0.65	172	i P	Pn	08 38 38.0	-0.1
NY14				i S	Sn	08 38 57.9	+0.8
MESS	Mesas	0.70	142	i P	Pn	08 38 38.8	+0.3
LIM1	Limonal	0.70	148	i P	Pn	08 38 38.5	0.0
COLC	Colonia	0.75	146	i P	Pn	08 38 39.2	+0.5
CUI	Cuipilapa	0.78	144	i P	Pn	08 38 39.3	+0.4
PTEN	Parque Tenorio	0.85	132	i P	Pn	08 38 39.8	+0.4
CGA2	Cerro Gallo 2	1.71	138	⇓eP	Pn	08 38 47.7	+0.6
CGA2				eS	Sn	08 39 13.5	+0.4
QCR	Quepos	2.35	142	eP	Pn	08 38 54.7	+0.7
BUS	Buena Vista	2.52	133	eP	Pn	08 38 57.9	+1.3

*ISCJB **05** 08:43:20.4±0.5, 38°.76N±0°.03×140°.81E±0°.04, h12km±4km, mb3.7/8, MS2.9/1, Error ellipse: s-maj=5.1km s-min=4.0km az=42.3*

*JMA **05** 08:43:20.8, 38°.76N×140°.78E, h4km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs0.00000°, δ68.00000°, λ81.00000°. NP2: φs203.00000°, δ24.00000°, λ111.00000°. Principal axes: T Plg66.0000°, Azm254.0000°; N Plg8.0000°, Azm4.0000°; P Plg22.0000°, Azm97.0000°;*

JMA Felt II J1.

*IDC **05** 08:43:27.0±2.6, 38°.71N×140°.58E, h54km±24km, mb3.4/8, mb1 3.6/11, mb1mx3.4/27, mbtmp3.4/11, ML3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/20 Error ellipse: s-maj=25.3km s-min=16.5km az=102.0*

ISC 05 08:43:19.9±1.2, 38°.75N±0°.03×140°.84E±0°.03, h3km±9km, n23, σ0s.84/29, mb3.7/8, 3C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.36	56	⇓P	Pb	08 43 28.4	-0.6
JMK				S	Sb	08 43 33.8	-1.2
JYK	Kaneyama	0.41	294	⇓P	Pg	08 43 28.1	+0.3
JYK				S	Sg	08 43 33.1	0.0
JOU	Okura	0.41	199	⇑P	Pb	08 43 28.7	-1.1
JOU				S	Sg	08 43 34.2	+1.1
JIO	Ouri	0.50	126	⇓P	Pb	08 43 30.8	-0.5
JIO				S	Sb	08 43 38.0	-1.0
JRG	Rokugo	0.66	346	⇑P	Pb	08 43 33.5	-0.6
JOM	Ohasama	0.80	26	⇓P	Pb	08 43 36.1	-0.4
JOM				eS	Sg	08 43 46.4	+0.7
JYS	Shirataka	0.81	229	⇑P	Pb	08 43 35.6	-1.0
JYS				S	Sg	08 43 46.0	+0.2
JMM	Marumori	0.89	182	P	Pg	08 43 36.9	0.0
JMM				S	Sg	08 43 48.5	+0.1
JYA	Atsumi	0.89	260	⇓P	Pg	08 43 36.9	-0.1
JYA				eS	Sg	08 43 48.2	-0.4
MAT	Matsushiro	3.04	224	P	Pn	08 44 09.8	+0.9
MAT				S	Sn	08 44 46.9	+1.1
MJAR	Matsushiro Arr	3.04	224	P	Pn	08 44 09.6	+0.7
	1.7nm,0.3s,baz=30,slow=15,SNR=14						
MJAR				S	Sb	08 44 52.8	+0.7
	2.6nm,0.3s,baz=360,slow=27,SNR=6.6						
ASAJ	Asahikawa	5.52	13	P	Pn	08 44 47.5	+4.5
	1.5nm,0.3s,baz=242,slow=13,SNR=5.7						
USRK	Ussuriysk Arra	8.58	312	LR	LR	08 48 40.8	
	comp=Z,79nm,18.5s,baz=72,slow=37						
KSRS	Korea Array	10.26	267	P	Pn	08 45 51.0	+3.0
	0.5nm,0.3s,baz=77,slow=14,SNR=11						
GUMO	Guam	25.32	171	LR	LR	08 58 39.9	
	comp=Z,32nm,19.0s,baz=87,slow=36						
ZALV	Zalesovo Beam	40.43	311	P	P	08 50 57.9	-1.4
	0.6nm,0.5s,baz=97,slow=12,SNR=2.3						
ILAR	Eielson Array	48.30	33	P	P	08 52 02.8	+0.7
	0.4nm,0.8s,baz=251,slow=5.4,SNR=4.1						
WRA	Warramunga Arr	58.70	187	P	P	08 53 18.4	-0.5
	0.9nm,0.7s,baz=5.5,slow=7.3,SNR=14						
ASAR	Alice Springs	62.43	187	P	P	08 53 43.9	-0.5
	0.3nm,0.6s,baz=12,slow=4.7,SNR=7.5						
FINES	FINESS Array B	67.08	332	P	P	08 54 14.1	-0.2
	1.2nm,0.8s,baz=32,slow=3.4,SNR=3.2						
AKASG	Malin Array Be	72.66	322	P	P	08 54 48.2	-0.5
	0.7nm,0.5s,baz=46,slow=5.5,SNR=3.4						
NVAR	Mina Array Bea	74.33	53	P	P	08 55 00.6	+1.5
	0.4nm,0.8s,baz=313,slow=4.5,SNR=3.1						
PDAR	Pinedale Array	76.79	45	P	P	08 55 14.2	+1.0
	0.6nm,1.0s,baz=204,slow=3.3,SNR=3.4						

DDA 05 08:46:29.4, 39°.67N×29°.43E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	Gediz	0.58	176	i P	Pg	08 46 40.6	-0.2
GDZ				i S	Sg	08 46 49.6	+1.0
DURS	Dursunbey	0.74	265	i P	Pg	08 46 43.9	0.0
DURS				i S	Sb	08 46 54.8	-0.5
BORA	Eskisehir	0.81	75	i P	Pg	08 46 44.9	-0.4
BORA				i S	Sb	08 46 57.3	-0.1

*IDC **05** 09:32:52.7±5.5, 5°.53S×151°.57E, h75km±44km, mb3.9/8, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, ML4.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/31, Error ellipse: s-maj=55.9km s-min=24.5km az=109.0*

*AUST **05** 09:32:59.2, 5°.22S×150°.59E, h60km*

ISC 05 09:32:51.6±1.4, 5°.4S±0°.2×151°.5E±0°.3, h57km, n22, σ1s.53/21, mb4.3/9, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.87	227	P	Pn	09 34 17.5	+1.4
	38nm,0.3s,baz=47,slow=7.0,SNR=78						
PMG				S	Sn	09 35 19.2	-2.8
	38nm,0.3s,baz=115,slow=20,SNR=11						
COEN	Coen	11.82	223	P	Pn	09 35 38.3	+0.8
	baz=11,SNR=5.2						
KDU	Kakadu	20.13	248	P	P	09 37 20.5	-0.6
	baz=19,SNR=36						
MTN	Manton Dam	21.41	248	P	P	09 37 35.1	+0.1
	baz=21,SNR=49						
MTN				S	S	09 41 23.2	-6.5
	baz=21,SNR=5.7						
DZM	Mont Dzumac	22.01	140	LR	LR	09 44 44.5	
	comp=Z,87nm,19.2s,baz=25,slow=33						
WRA	Warramunga Arr	22.09	228	P	P	09 37 40.9	-1.3
	20nm,0.6s,baz=52,slow=10.0,SNR=153						
WRA				PcP	PcP	09 41 37.9	-0.3
	0.8nm,0.6s,baz=33,slow=1.8,SNR=5.3						
ASAR	Alice Springs	24.85	221	P	P	09 38 08.0	-1.0
	8.1nm,0.6s,baz=57,slow=8.7,SNR=92						
FITZ	Fitzroy Crossi	28.24	241	P	P	09 38 38.2	-1.3
	35nm,0.6s,baz=68,slow=7.6,SNR=52						
FITZ				LR	LR	09 51 51.9	
	comp=Z,60nm,19.1s,baz=121,slow=40						
FITZ	Fitzroy Crossi	28.24	241	P	P	09 38 38.2	-1.3
	baz=28,SNR=100						
MEEK	Meekatharra	37.82	232	P	P	09 40 05.2	+2.3
	baz=37,SNR=10						
KMBL	Kambalda	37.94	223	P	P	09 40 07.0	+3.3
	baz=38,SNR=6.5						
KLBR	Kellerberrin	40.97	226	P	P	09 40 31.3	+2.3
	baz=40,SNR=5.8						
MORW	Morawa	40.97	231	P	P	09 40 31.2	+2.1
	baz=40,SNR=17						
BLDU	Ballidu	41.22	228	P	P	09 40 33.4	+2.3
	baz=41,SNR=8.6						
SONM	Songino Array	66.13	329	P	P	09 43 34.2	+1.1
	2.1nm,0.7s,baz=145,slow=5.2,SNR=11						
KDAK	Kodiak Island	77.28	27	LR	LR	10 11 23.9	
	comp=Z,253nm,20.7s,baz=126,slow=30						
MKAR	Makanchi Array	79.91	319	P	P	09 44 54.6	+0.1
	1.2nm,0.9s,baz=106,slow=7.1,SNR=9.9						
ZALV	Zalesovo Beam	80.92	327	P	P	09 44 58.7	-0.9
	1.8nm,0.5s,baz=122,slow=5.3,SNR=9.4						
ILAR	Eielson Array	83.19	22	P	P	09 45 10.2	-1.1
	0.3nm,0.5s,baz=257,slow=5.4,SNR=7.7						
KURBB	Kurchatov Arra	83.45	322	P	P	09 45 12.7	-0.3
	0.6nm,0.2s,baz=113,slow=4.1,SNR=4.1						
BVAR	Borovoye Array	88.93	323	P	P	09 45 39.3	-0.5
	1.9nm,0.8s,baz=98,slow=6.1,SNR=9.4						
TORD	Torodi Ar. Bea	149.24	287	PKPbc	PKPbc	09 52 34.0	-1.0
	3.6nm,0.5s,baz=109,slow=2.8,SNR=62						

IDC 05 10:01:05.6±1.3, 16°.03S×176°.42W, h346km±16km, mb3.6/8, mb1 3.7/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=21.6km s-min=13.7km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.96	65	P	Pn	10 02 26.6	+1.8
	20nm,0.3s,baz=85,slow=1.0,SNR=33						
AFI				S	S	10 03 27.5	-1.2
	2.5nm,0.3s,baz=37,slow=20,SNR=2.1						
DZM	Mont Dzumac	17.27	247	P	P	10 04 45.8	+0.7
	0.2nm,0.3s,baz=58,slow=20,SNR=13						
STKA	Stephens Creek	41.20	240	P	P	10 08 17.5	-0.3
	3.4nm,0.8s,baz=72,slow=9.6,SNR=8.9						
WRA	Warramunga Arr	46.87	258	P	P	10 09 01.8	-0.7
	4.9nm,0.7s,baz=92,slow=7.3,SNR=84						
ASAR	Alice Springs	47.15	252	P	P	10 09 04.5	-0.2
	16nm,0.5s,baz=87,slow=8.1,SNR=277						
VNDA	Vanda	62.47	185	P	P	10 10 53.1	+0.6
	0.9nm,0.6s,baz=20,slow=7.5,SNR=6.8						
PETK	Petropavlovsk-	72.38	344	P	P	10 11 54.8	+0.5
	3.5nm,0.8s,baz=163,slow=10,SNR=3.9						
QSPA	South Pole Qui	74.02	180	P	P	10 12 03.6	-0.3
	5.6nm,1.0s,baz=68,slow=0.6,SNR=21						
NVAR	Mina Array Bea	76.76	43	P	P	10 12 20.8	+0.8
	0.2nm,0.5s,baz=230,slow=7.0,SNR=3.5						
ILAR	Eielson Array	83.65	12	P	P	10 12 54.9	-0.6
	0.4nm,0.6s,baz=216,slow=5.6,SNR=9.4						

*IDC **05** 10:01:20.4±1.9, 44°.37N×130°.19W, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/29, mbtmp3.4/8, ML3.4/3, MS3.4/11, Ms1 3.5/11, ms1mx3.3/30, Error ellipse: s-maj=45.2km s-min=20.2km az=40.0*

*BJI **05** 10:01:23.2, 44°.70N×129°.60W, h10km, mB5.2/4, mb4.9/6, Ms5.0/4, Ms7 4.4/4*

*ISCJB **05** 10:01:25.5±0.5, 44°.63N±0°.06×129°.48W±0°.06, h13km, mb4.3/10, MS3.7/10, Error ellipse: s-maj=10.0km s-min=5.0km az=28.4*

*NEIC **05** 10:01:26.1±0.8, 44°.56N×129°.59W, h10km, mb4.2/11, Error ellipse: s-maj=13.5km s-min=6.4km az=41.0*

ISC 05 10:01:25.9±0.7, 44°.6N±0°.1×129°.61W±0°.07, h13km, n63, σ1s.37/61, mb4.7/10, MS3.6/10, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMOR	Kings Mountain	4.46	74	P	Pn	10 02 31.7	-1.5
COR	Corvallis	4.51	88	ePn	Pn	10 02 32.6	-1.2
COR				eSn	Sn	10 03 26.1	0.0
BROR	Big Rock Looko	5.14	91	P	Pn	10 02 41.0	-1.5
HUMO	Hull Mountain	5.23	110	ePn	Pn	10 02 41.8	-2.0
	3.6nm,0.6s						
FRIS	Frissel Point	5.40	92	P	Pn	10 02 45.1	-1.2
YBH	Yreka Blue Hor	5.81	117	Pn	Pn	10 02 52.5	+0.7
	0.2nm,0.3s,baz=294,slow=8.6,SNR=8.1						
YBH				LR	LR	10 04 56.6	
	comp=Z,127nm,21.6s,baz=301,slow=36						
YBH	Yreka Blue Hor	5.81	117	ePn	Pn	10 02 52.0	+0.2
PGC	Sidney	5.86	44	ePn	Pn	10 02 53.1	+0.7
LON	Longmire	5.88	66	ePn	Pn	10 02 53.4	+0.7
BBB	Bella Bella	7.65	7	LR	LR	10 05 29.0	
	comp=Z,148nm,19.1s,baz=184,slow=31						
BMO	Blue Mountains	8.77	84	ePn	Pn	10 03 31.8	-0.6
	1.3nm,0.5s						
NVAR	Mina Array Bea	10.48	122	Pn	Pn	10 03 56.9	+0.8
	0.1nm,0.3s,baz=280,slow=14,SNR=5.5						
NVAR				LR	LR	10 07 35.7	
	comp=Z,251nm,21.1s,baz=87,slow=35						
NVAR	Mina Array Bea	10.48	122	Pn	Pn	10 03 56.9	+0.8
HLID	Hailey	10.99	90	ePn	Pn	10 04 05.3	+2.4
JTMT	Jette	11.09	68	ePn	Pn	10 04 07.3	+3.1
MSO	Missoula	11.18	73	ePn	Pn	10 04 05.2	-0.3
SWMT	Swartz Lake	11.23	69	ePn	Pn	10 04 07.4	+1.3
SLMT	Seeley Lake	11.54	71	ePn	Pn	10 04 11.0	+0.6
MCMT	McKenzie Canyo	11.93	83	ePn	Pn	10 04 18.3	+2.4
	9.7nm,1.6s						
ISA	Isabella	12.33	133	ePn	Pn	10 04 24.9	+3.7
BOZ	Bozeman (W)	12.75	79	ePn	Pn	10 04 28.8	+1.9
FLWY	Flagg Ranch	13.55	86	ePn	Pn	10 04 42.0	+4.0
LKWY	Lake	13.70	83	ePn	Pn	10 04 40.2	+0.2
ARUT	Antelope Range	13.94	114	ePn	Pn	10 04 44.2	+1.0
	3.2nm,0.3s						
CCUT	Cedar City	14.12	114	ePn	Pn	10 04 47.5	+1.7
EGMT	Eagleton	14.14	69	ePn	Pn	10 04 46.1	+0.3
MSU	Marysvale	14.39	109	ePn	Pn	10 04 50.5	+1.0
MSU				eSn	Sn	10 07 28.9	-0.1
MSU				ePcP	PcP	10 10 03.8	-1.5
PDAR	Pinedale Array	14.63	90	Pn	P	10 04 59.3	+0.2
	0.0nm,0.3s,baz=290,slow=17,SNR=3.4						
PDAR				LR	LR	10 10 35.2	
	comp=Z,391nm,18.5s,baz=352,slow=37						
PDAR	Pinedale Array	14.63	90	Pn	P	10 04 59.3	+0.2
SRU	San Rafael	15.24	104	ePn	Pn	10 05 01.5	+0.7
	37nm,1.7s						
MVCO	Mesa Verde	17.56	108	eP	P	10 05 38.5	+7.0
	56nm,2.1s						
ISCO	Idaho Springs	18.39	97	ePn	Pn	10 05 41.9	+1.0
	4.8nm,1.0s						
YKA	Yellowknife Ar	19.92	21	P	Pn	10 05 58.5	-0.2
	0.9nm,0.8s,baz=210,slow=11,SNR=12						
YKA	Yellowknife Ar	19.92	21	P	Pn	10 05 58.5	-0.2
LAZ	Ladron	20.05	113	eP	Pn	10 05 59.9	-0.9
	14nm,1.8s						
ANMO	Albuquerque	20.18	111	P	P	10 06 00.6	+0.2
	1.3nm,0.9s,baz=326,slow=7.3,SNR=2.8						
ANMO	Albuquerque	20.18	111	P	P	10 06 00.6	+0.2
ANMO				ePn	Pn	10 06 04.1	+1.8
RC01	Rabbit Creek A	20.36	331	eP	Pn	10 06 02.9	-1.0
	12nm,1.0s						
SML	Sawmill	20.42	334	ePn	Pn	10 06 06.7	+2.0
	8.7nm,1.4s						
FFC	Flin Flon	20.43	50	eP	Pn	10 06 04.0	-0.7
PAX	Paxson	20.54	339	ePn	Pn	10 06 08.3	+2.2
	9.6nm,1.2s						
BNM	Barren Site	20.54	113	eP	P	10 06 04.9	+0.6
	10nm,1.5s						
TRF	Thorofare Moun	22.26	335	eP	P	10 06 23.0	+0.5
	196nm,2.8s						
ILAR	Eielson Array	22.39	340	P	P	10 06 23.2	-0.4
	2.0nm,1.1s,baz=150,slow=8.1,SNR=15						
ILAR				LR	LR	10 13 50.7	
	comp=Z,165nm,20.2s,baz=144,slow=33						
ILAR	Eielson Array	22.39	340	P	P	10 06 23.2	-0.4
ULM	Lac du Bonnet	23.38	64	P	P	10 06 33.8	-0.3
	2.2nm,0.8s,baz=274,slow=9.2,SNR=4.1						
ULM				LR	LR	10 15 28.2	
	comp=Z,182nm,19.9s,baz=303,slow=36						
ULM	Lac du Bonnet	23.38	64	P	P	10 06 33.8	-0.3
AGMN	Agassiz Nation	23.43	69	eP	P	10 06 35.4	+0.8
	48nm,2.4s						
ECSD	EROS Data Cent	23.60	80	eP	P	10 06 36.4	0.0
	73nm,2.8s						
INK	Inuvik	23.85	356	LR	LR	10 15 05.6	
	comp=Z,151nm,21.1s,baz=147,slow=34						
TXAR	Lajitas Array	25.58	118	P	P	10 06 53.7	-1.0
	0.6nm,0.9s,baz=304,slow=8.9,SNR=6.8						
TXAR				LR	LR	10 16 05.2	
	comp=Z,89nm,21.3s,baz=0.0,slow=34						
TXAR	Lajitas Array	25.58	118	P	P	10 06 53.7	-1.0
LPIG	La Paz	25.81	136	LR	LR	10 15 27.6	
	comp=Z,15nm,21.6s,baz=221,slow=33						
SCHQ	Schefferville	40.55	52	LR	LR	10 25 39.0	
	comp=Z,129nm,19.1s,baz=309,slow=36						
CN2	Changchun	69.55	312	eP	P	10 12 35.5	+1.2
SONM	Songino Array	75.64	325	P	P	10 13 06.9	-3.7
	0.8nm,0.8s,baz=43,slow=4.0,SNR=6.3						
SONM	Songino Array	75.64	325	P	P	10 13 06.9	-3.7
BJI	Beijing	77.08	314	P	P	10 13 18.8	+0.1
BJI				S	S	10 23 06.7	-0.4
BJI				SS	SS	10 28 03.7	+0.3
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,160nm,4.9s						
BJI				LR	LR		
	comp=N,220nm,16.0s						
BJI				LR	LR		
	comp=E,290nm,16.4s						
BJI				LR	LR		
	comp=Z,28nm,19.5s						
HHC	Hu-ho-hao-te	78.77	317	eP	P	10 13 26.0	-2.3
HHC				pP	pP	10 13 30.5	-2.1
HHC				sP	sP	10 13 33.1	-1.0
HHC				PP	PP	10 16 25.4	-0.5
HHC				S	S	10 23 21.7	-3.9
HHC				SS	SS	10 28 26.2	-2.8
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.1s						
HHC				LR	LR		
	comp=N,180nm,13.1s						
HHC				LR	LR		
	comp=E,230nm,11.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC				LR	LR		
	comp=Z,150nm,12.8s						
KURBB	**Kurchatov Arra**	**82.05**	**342**	LR	LR	10 56 45.8	
	comp=Z,28nm,18.7s,baz=285,slow=40						
WMQ	**Urumqi**	**85.89**	**334**	*e*P	**P**	**10 14 08.0**	**+2.6**
LZH	**Lanzhou**	**86.22**	**319**	*e*P	**P**	**10 14 08.5**	**+1.2**
LZH				pP	**pP**	**10 14 11.7**	**+0.1**
LZH				sP	**sP**	**10 14 13.2**	**0.0**
LZH				*e*PP	**PP**	**10 17 30.0**	**+2.8**
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				pmax	pmax		
	comp=Z,51nm,8.3s						
LZH				LR	LR		
	comp=N,100nm,17.5s						
LZH				LR	LR		
	comp=E,120nm,18.0s						
LZH				LR	LR		
	comp=Z,150nm,19.8s						
CD2	**Chengdu**	**90.49**	**316**	P	**P**	**10 14 29.0**	**+1.4**

*IDC **05** 10:08:36.0±1.0, 36°.48N×141°.58E, h0^{km}, mb3.6/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML3.5/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/49, Error ellipse: s-maj=22.6km s-min=18.6km az=106.0*
*JMA **05** 10:08:41.2±0.1, 36°.57N×141°.35E, h46^{km}±2^{km}, M3.4*
ISC 05 10:08:37.4±1.9**, 36°.52N**±0°.04×**141°.48E**±0°.06**, h11**^{km}±11^{km}**, n22,** σ**1^{s}00**/29**, mb3.7**/7**, MS3.5**/4**, 5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.74**	**277**	⇓P	**Pn**	**10 08 53.9**	**+0.1**
JHO				*e*S	**Sb**	**10 09 02.6**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.80**	**317**	⇓P	**Pn**	**10 08 54.4**	**-0.3**
ONAJ				S	**Sb**	**10 09 04.1**	**-0.1**
JFK	**Kawauchi**	**0.97**	**330**	⇓P	**Pn**	**10 08 56.9**	**-0.2**
JFK				*e*S	**Sg**	**10 09 09.0**	**+0.1**
JYT	**Yasato**	**1.07**	**255**	P	**Pn**	**10 08 59.0**	**+0.6**
JYT				*e*S	**Sb**	**10 09 12.3**	**+0.2**
JFT	**Otama**	**1.35**	**318**	⇓P	**Pg**	**10 09 03.4**	**0.0**
JFT				S	**Sb**	**10 09 19.2**	**-0.9**
JMM	**Marumori**	**1.45**	**338**	⇓P	**Pn**	**10 09 03.7**	**+0.1**
JMM				*e*S	**Sn**	**10 09 21.2**	**-1.5**
JAG	**Ashikaga**	**1.63**	**267**	P	**Pb**	**10 09 07.1**	**-0.5**
JAG				*e*S	**Sn**	**10 09 26.5**	**-0.7**
JFY	**Yanaizu**	**1.67**	**302**	P	**Pb**	**10 09 08.1**	**-0.2**
JFY				*e*S	**Sn**	**10 09 28.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.63**	**271**	Pn	**Pn**	**10 09 21.8**	**+1.9**
	12nm,0.3s,baz=106,slow=8.4,SNR=209						
MJAR				LR	LR	10 09 45.7	
	comp=Z,472nm,21.6s,baz=90,slow=26						
MJAR				Sn	**Sb**	**10 09 56.1**	**-0.9**
	9.2nm,0.3s,baz=140,slow=27,SNR=6.4						
MAT	**Matsushiro**	**2.63**	**271**	P	**Pn**	**10 09 21.1**	**+1.2**
MAT				S	**Sn**	**10 09 49.0**	**-2.9**
JHJ	**Hachijo jima 2**	**3.67**	**203**	Pn	**Pn**	**10 09 32.5**	**-1.6**
	7.1nm,0.3s,baz=104,slow=4.2,SNR=2.6						
JHJ				Sn	**Sn**	**10 10 17.4**	**0.0**
	53nm,0.3s,baz=254,slow=23,SNR=7.0						
KSRS	**Korea Array**	**10.88**	**279**	LR	LR	10 15 13.6	
	comp=Z,63nm,20.3s,baz=65,slow=36						
PETK	**Petropavlovsk-**	**20.11**	**29**	LR	LR	10 20 16.0	
	comp=Z,38nm,18.7s,baz=58,slow=35						
SONM	**Songino Array**	**28.12**	**305**	P	**P**	**10 14 29.4**	**-0.1**
	1.7nm,0.9s,baz=98,slow=11,SNR=7.2						
SONM				LR	LR	10 25 00.5	
	comp=Z,52nm,19.7s,baz=101,slow=35						
ZALV	**Zalesovo Beam**	**42.30**	**313**	P	**P**	**10 16 31.8**	**+0.8**
	0.6nm,0.3s,baz=98,slow=6.6,SNR=6.4						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**10 16 49.2**	**+0.9**
	0.3nm,0.5s,baz=92,slow=8.9,SNR=3.7						
INK	**Inuvik**	**54.82**	**27**	P	**P**	**10 18 06.2**	**-0.8**
	0.5nm,0.6s,baz=270,slow=8.1,SNR=6.2						
WRA	**Warramunga Arr**	**56.56**	**188**	P	**P**	**10 18 20.0**	**-0.1**
	0.8nm,1.0s,baz=6.5,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**60.29**	**188**	P	**P**	**10 18 46.8**	**+0.7**
	0.6nm,1.1s,baz=25,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**64.23**	**30**	P	**P**	**10 19 13.2**	**+1.2**
	0.2nm,0.8s,baz=300,slow=6.1,SNR=4.9						
KBZ	**Khabaz**	**71.28**	**311**	LR	LR	10 57 06.3	
	comp=Z,50nm,18.7s,baz=192,slow=41						
ASF	**Jabal al Asfar**	**81.84**	**304**	LR	LR	11 01 54.8	
	comp=Z,39nm,18.8s,baz=348,slow=39						

*ISCJB **05** 10:14:38.6±0.5, 37°.86N±0°.03×29°.20E±0°.05, h3^{km}±7^{km}, Error ellipse: s-maj=6.8km s-min=4.5km az=21.1*
*DDA **05** 10:14:38.5, 37°.88N×29°.17E, h11^{km}, ML2.9*
*ISK **05** 10:14:38.5, 37°.87N×29°.18E, h6^{km}, MD3.0*
*CSEM **05** 10:14:38.7±0.1, 37°.86N×29°.19E, h5^{km}, MD3.0, Error ellipse: s-maj=1.5km s-min=1.2km az=115.0*
ISC 05 10:14:38.9±1.0**, 37°.87N**±0°.02×**29°.18E**±0°.03**, h9**^{km}±11^{km}**, n34,** σ**0^{s}25**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**224**	*e*PG	**Pg**	**10 14 42.2**	**-0.2**
DENT	**Denizli**	**0.16**	**224**	*e*Pg	**Pg**	**10 14 42.2**	**-0.2**
DNZL	**Cakiroluk**	**0.21**	**209**	*i* P	**Pg**	**10 14 43.0**	**-0.2**
DNZL				*i* S	**Sg**	**10 14 46.5**	**+0.3**
DNZL	**Cakiroluk**	**0.21**	**209**	*i* P	**Pg**	**10 14 43.0**	**-0.2**
DNZL				*i* S	**Sg**	**10 14 46.5**	**+0.3**
KHL	**Karahalli**	**0.53**	**31**	*e*PG	**Pg**	**10 14 48.9**	**-0.2**
KHL	**Karahalli**	**0.53**	**31**	*e*Pg	**Pg**	**10 14 48.9**	**-0.2**
KHAL	**Karahalli**	**0.56**	**27**	*i* P	**Pg**	**10 14 49.3**	**-0.4**
KHAL				*i* S	**Sg**	**10 14 57.5**	**+0.5**
KHAL	**Karahalli**	**0.56**	**27**	*i* P	**Pg**	**10 14 49.3**	**-0.4**
KHAL				*i* S	**Sg**	**10 14 57.5**	**+0.5**
GOLH	**Golhisar**	**0.70**	**154**	*i* P	**Pg**	**10 14 52.3**	**-0.2**
GOLH	**Golhisar**	**0.70**	**154**	*i* P	**Pg**	**10 14 52.3**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**328**	*e*PG	**Pg**	**10 14 53.8**	**+0.3**
KULA				*e*SG	**Sb**	**10 15 04.8**	**0.0**
KULA	**Kula-Manisa**	**0.76**	**328**	*e*Pg	**Pg**	**10 14 53.8**	**+0.3**
KULA				*e*Sg	**Sb**	**10 15 04.8**	**0.0**
MANT	**Manisa**	**0.79**	**322**	*i* P	**Pb**	**10 14 54.5**	**-0.4**
MANT	**Manisa**	**0.79**	**322**	*i* P	**Pb**	**10 14 54.5**	**-0.4**
YER	**Yerkesik**	**1.02**	**224**	*e*PG	**Pg**	**10 14 58.4**	**-0.1**
YER	**Yerkesik**	**1.02**	**224**	*e*Pg	**Pg**	**10 14 58.4**	**-0.1**
AYDN	**Tasoluk**	**1.05**	**259**	*i* P	**Pg**	**10 14 59.0**	**0.0**
AYDN	**Tasoluk**	**1.05**	**259**	*i* P	**Pg**	**10 14 59.0**	**0.0**
ISP	**Isparta**	**1.07**	**92**	*e*PG	**Pg**	**10 14 59.3**	**-0.1**
ISP	**Isparta**	**1.07**	**92**	*e*Pg	**Pg**	**10 14 59.3**	**-0.1**
BCK	**Bucak**	**1.20**	**110**	*e*PN	**Pb**	**10 15 01.7**	**0.0**
BCK	**Bucak**	**1.20**	**110**	*e*Pn	**Pb**	**10 15 01.7**	**0.0**
FETY	**Fethiye**	**1.24**	**183**	*e*PN	**Pg**	**10 15 02.5**	**-0.1**
FETY	**Fethiye**	**1.24**	**183**	*e*Pn	**Pg**	**10 15 02.5**	**-0.1**
MLSB	**Milas**	**1.25**	**243**	*e*PN	**Pg**	**10 15 03.0**	**+0.1**
MLSB	**Milas**	**1.25**	**243**	*e*Pn	**Pg**	**10 15 03.0**	**+0.1**
ELL	**Elmali**	**1.27**	**152**	*e*PN	**Pb**	**10 15 02.9**	**-0.1**
ELL	**Elmali**	**1.27**	**152**	*e*Pn	**Pb**	**10 15 02.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*PN	**Pg**	**10 15 03.5**	**0.0**
SHUT	**Suhut-Afyon**	**1.28**	**57**	*e*Pn	**Pg**	**10 15 03.5**	**0.0**
ALT	**Altintas**	**1.39**	**32**	*e*PN	**Pb**	**10 15 05.0**	**-0.1**
ALT	**Altintas**	**1.39**	**32**	*e*Pn	**Pb**	**10 15 05.0**	**-0.1**
TVSB	**Tavsanli**	**1.59**	**8**	*e*PN	**Pb**	**10 15 08.1**	**-0.4**
TVSB	**Tavsanli**	**1.59**	**8**	*e*Pn	**Pb**	**10 15 08.1**	**-0.4**

*ISCJB **05** 10:16:29.8±0.9, 23°.1S±0°.2×170°.32E±0°.08, h28^{km}, mb3.9/7, MS3.7/2, Error ellipse: s-maj=30.4km s-min=9.7km az=7.9*
*IDC **05** 10:16:30.2±1.8, 23°.13S×170°.43E, h22^{km}±6^{km}, mb3.8/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, ML3.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.9/31, Error ellipse: s-maj=64.1km s-min=25.8km az=157.0*
ISC 05 10:16:31.0±1.0**, 23°.1S**±0°.2×**170°.35E**±0°.10**, h28**^{km}**, n13,** σ**1^{s}03**/15**, mb3.9**/7**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.76**	**285**	Pn	**Pn**	**10 17 27.1**	**-0.1**
	9.0nm,0.3s,baz=106,slow=16,SNR=300						
DZM				Sn	**Sn**	**10 18 10.0**	**-0.6**
	3.5nm,0.3s,baz=161,slow=19,SNR=11						
DZM				LR	LR	10 18 14.7	
	comp=Z,110nm,18.5s,baz=206,slow=27						
NOUC	**Port Laguerre**	**3.88**	**284**	*e*P	**Pn**	**10 17 28.5**	**-0.2**
NOUC				*e*S	**Sn**	**10 18 13.5**	**+0.2**
HNR	**Honiara**	**16.86**	**322**	LR	LR	10 26 03.0	
	comp=Z,55nm,18.1s,baz=120,slow=34						
CTA	**Charters Tower**	**22.60**	**273**	LR	LR	10 29 47.8	
	comp=Z,43nm,18.2s,baz=230,slow=35						
STKA	**Stephens Creek**	**26.90**	**245**	P	**P**	**10 22 10.5**	**+0.8**
	1.7nm,0.7s,baz=87,slow=14,SNR=2.8						
STKA				pP	**pP**	**10 22 17.1**	**-0.9**
	2.6nm,0.8s,baz=88,slow=13,SNR=2.0						
ASAR	**Alice Springs**	**33.40**	**262**	P	**P**	**10 23 07.8**	**+0.4**
	3.1nm,0.8s,baz=92,slow=9.7,SNR=34						
ASAR				pP	**pP**	**10 23 14.9**	**-0.8**
	3.9nm,0.7s,baz=89,slow=9.5,SNR=16						
WRA	**Warramunga Arr**	**33.60**	**268**	P	**P**	**10 23 08.7**	**-0.5**
	0.6nm,0.5s,baz=98,slow=8.5,SNR=12						
WRA				pP	**pP**	**10 23 15.9**	**-1.5**
	0.7nm,0.5s,baz=98,slow=8.4,SNR=6.6						
GUMO	**Guam**	**44.19**	**323**	LR	LR	10 38 29.9	
	comp=Z,576nm,21.4s,baz=64,slow=30						
CMAR	**Chiang Mai Arr**	**81.04**	**294**	P	**P**	**10 28 46.1**	**+2.3**
	0.5nm,0.3s,baz=142,slow=4.7,SNR=7.2						
NVAR	**Mina Array Bea**	**90.58**	**48**	P	**P**	**10 29 30.6**	**-0.4**
	0.2nm,0.6s,baz=243,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**90.92**	**323**	P	**P**	**10 29 33.1**	**+0.9**
	0.4nm,0.6s,baz=129,slow=4.4,SNR=2.7						
ILAR	**Eielson Array**	**93.60**	**17**	P	**P**	**10 29 42.9**	**-1.1**
	0.6nm,1.0s,baz=233,slow=5.3,SNR=4.3						
GERES	**GERESS Array B**	**148.36**	**330**	PKPbc	**PKPbc**	**10 36 14.5**	**-0.2**
	2.2nm,0.9s,baz=100,slow=6.0,SNR=6.7						

*CSEM **05** 10:19:43.9±0.1, 38°.35N×21°.85E, h8^{km}, MD2.7, Error ellipse: s-maj=3.0km s-min=2.9km az=3.0*
*ISCJB **05** 10:19:44.4±0.6, 38°.36N±0°.03×21°.85E±0°.04, h9^{km}±4^{km}, Error ellipse: s-maj=5.8km s-min=5.2km az=157.9*
*THE **05** 10:19:44.4, 38°.36N×21°.82E, h5^{km}±2^{km}, ML1.8/1, Error ellipse: s-maj=2.7km s-min=0.5km az=317.0*
*ATH **05** 10:19:44.4, 38°.35N×21°.85E, h9^{km}±3^{km}, MD2.7/5*
ISC 05 10:19:44.2±1.0**, 38°.36N**±0°.03×**21°.83E**±0°.03**, h9**^{km}±5^{km}**, n19,** σ**0^{s}45**/36**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.08**	**203**	P	**Pg**	**10 19 46.4**	**-0.1**
UPR	**University Cam**	**0.08**	**203**	*e*PG	**Pg**	**10 19 46.1**	**-0.4**
UPR				*e*SG	**Sg**	**10 19 49.3**	**+1.2**
UPR	**University Cam**	**0.08**	**203**	*e*Pg	**Pg**	**10 19 46.1**	**-0.4**
UPR	**University Cam**	**0.08**	**203**	P	**Pg**	**10 19 46.4**	**-0.1**
UPR				*e*Sg	**Sg**	**10 19 49.3**	**+1.2**
EFP	**Efpalio**	**0.09**	**42**	P	**Pg**	**10 19 46.3**	**-0.3**
EFP				S	**Sg**	**10 19 48.1**	**-0.3**
EFP	**Efpalio**	**0.09**	**42**	*e*PG	**Pg**	**10 19 46.3**	**-0.3**
EFP				*e*SG	**Sg**	**10 19 48.2**	**-0.2**
EFP	**Efpalio**	**0.09**	**42**	P	**Pg**	**10 19 46.3**	**-0.3**
EFP				*e*Sg	**Sg**	**10 19 48.2**	**-0.2**
LAKA	**Lakka**	**0.17**	**134**	P	**Pg**	**10 19 47.7**	**-0.1**
LAKA				S	**Sg**	**10 19 50.3**	**0.0**
LAKA	**Lakka**	**0.17**	**134**	P	**Pg**	**10 19 47.7**	**-0.1**
LAKA				S	**Sg**	**10 19 50.3**	**0.0**
TRIZ	**Trizonia**	**0.19**	**88**	P	**Pg**	**10 19 48.3**	**+0.1**
TRIZ				S	**Sg**	**10 19 51.6**	**+0.6**
TRIZ	**Trizonia**	**0.19**	**88**	P	**Pg**	**10 19 48.3**	**+0.1**
TRIZ				S	**Sg**	**10 19 51.6**	**+0.6**
KALE	**Kalithea**	**0.25**	**82**	P	**Pg**	**10 19 49.4**	**+0.1**
KALE				S	**Sg**	**10 19 53.2**	**+0.5**
KALE	**Kalithea**	**0.25**	**82**	P	**Pg**	**10 19 49.4**	**+0.1**
KALE				S	**Sg**	**10 19 53.2**	**+0.5**
EVR	**Evrytania**	**0.56**	**359**	*e*PB	**Pg**	**10 19 55.5**	**+0.4**
EVR				*e*SB	**Sb**	**10 20 04.1**	**-0.2**
EVR	**Evrytania**	**0.56**	**359**	*e*Pb	**Pg**	**10 19 55.5**	**+0.4**
EVR				*e*Sb	**Sb**	**10 20 04.1**	**-0.2**
GUR	**Goura**	**0.58**	**136**	*e*PG	**Pg**	**10 19 55.2**	**-0.4**
GUR				*e*SB	**Sg**	**10 20 03.7**	**+0.4**
GUR	**Goura**	**0.58**	**136**	*e*Pg	**Pg**	**10 19 55.2**	**-0.4**
GUR				*e*Sb	**Sg**	**10 20 03.7**	**+0.4**
VLS	**Valsamata**	**0.99**	**260**	*e*PG	**Pg**	**10 20 03.0**	**-0.2**
VLS				*e*SB	**Sn**	**10 20 18.1**	**-0.3**
VLS	**Valsamata**	**0.99**	**260**	*e*Pg	**Pg**	**10 20 03.0**	**-0.2**
VLS				*e*Sb	**Sn**	**10 20 18.1**	**-0.3**

*ISK **05** 10:28:12.8, 37°.88N×29°.14E, h4^{km}, MD2.8*
*DDA **05** 10:28:12.9, 37°.87N×29°.15E, h7^{km}, MD2.6, ML2.7*
*ISCJB **05** 10:28:13.1±0.6, 37°.87N±0°.03×29°.16E±0°.07, h3^{km}±9^{km}, Error ellipse: s-maj=9.7km s-min=4.8km az=14.5*
*CSEM **05** 10:28:13.0±0.1, 37°.87N×29°.18E, h2^{km}, MD2.8, Error ellipse: s-maj=3.6km s-min=2.3km az=113.0*
ISC 05 10:28:13.4±1.0**, 37°.88N**±0°.03×**29°.16E**±0°.04**, h8**^{km}±11^{km}**, n26,** σ**0^{s}58**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**219**	*e*PG	**Pg**	**10 28 16.4**	**-0.3**
DENT	**Denizli**	**0.15**	**219**	*e*Pg	**Pg**	**10 28 16.4**	**-0.3**
DNZL	**Cakiroluk**	**0.20**	**205**	*i* P	**Pg**	**10 28 17.3**	**-0.3**
DNZL				*i* S	**Sg**	**10 28 20.4**	**-0.1**
DNZL	**Cakiroluk**	**0.20**	**205**	*i* P	**Pg**	**10 28 17.3**	**-0.3**
DNZL				*i* S	**Sg**	**10 28 20.4**	**-0.1**
KHL	**Karahalli**	**0.53**	**33**	*e*PG	**Pg**	**10 28 23.1**	**-0.6**
KHL	**Karahalli**	**0.53**	**33**	*e*Pg	**Pg**	**10 28 23.1**	**-0.6**
KHAL	**Karahalli**	**0.56**	**28**	*i* P	**Pg**	**10 28 23.5**	**-0.8**
KHAL				*i* S	**Sg**	**10 28 32.7**	**+1.1**
KHAL	**Karahalli**	**0.56**	**28**	*i* P	**Pg**	**10 28 23.5**	**-0.8**
KHAL				*i* S	**Sg**	**10 28 32.7**	**+1.1**
KULA	**Kula-Manisa**	**0.75**	**329**	*e*PG	**Pg**	**10 28 27.9**	**+0.1**
KULA				*e*SG	**Sg**	**10 28 38.3**	**+0.7**
KULA	**Kula-Manisa**	**0.75**	**329**	*e*Pg	**Pg**	**10 28 27.9**	**+0.1**
KULA				*e*Sg	**Sg**	**10 28 38.3**	**+0.7**
MANT	**Manisa**	**0.78**	**323**	*i* P	**Pg**	**10 28 28.6**	**+0.3**
MANT	**Manisa**	**0.78**	**323**	*i* P	**Pg**	**10 28 28.6**	**+0.3**
YER	**Yerkesik**	**1.01**	**224**	*e*PG	**Pg**	**10 28 32.5**	**-0.4**
YER	**Yerkesik**	**1.01**	**224**	*e*Pg	**Pg**	**10 28 32.5**	**-0.4**
ISP	**Isparta**	**1.08**	**92**	*e*PN	**Pb**	**10 28 34.8**	**+0.4**
ISP	**Isparta**	**1.08**	**92**	*e*Pn	**Pb**	**10 28 34.8**	**+0.4**
DEMI	**Demirci**	**1.22**	**344**	*e*P	**Pb**	**10 28 36.4**	**-0.3**
DEMI	**Demirci**	**1.22**	**344**	*e*P	**Pb**	**10 28 36.4**	**-0.3**
FETY	**Fethiye**	**1.24**	**183**	*e*PN	**Pn**	**10 28 37.2**	**+0.2**
FETY	**Fethiye**	**1.24**	**183**	*e*Pn	**Pn**	**10 28 37.2**	**+0.2**
GDZ	**Gediz**	**1.24**	**12**	*i* P	**Pn**	**10 28 36.2**	**-1.0**
GDZ	**Gediz**	**1.24**	**12**	*i* P	**Pn**	**10 28 36.2**	**-1.0**
SHUT	**Suhut-Afyon**	**1.29**	**58**	*e*PN	**Pb**	**10 28 38.6**	**+0.6**
SHUT	**Suhut-Afyon**	**1.29**	**58**	*e*Pn	**Pb**	**10 28 38.6**	**+0.6**
ALT	**Altintas**	**1.40**	**32**	*e*PN	**Pb**	**10 28 40.0**	**+0.2**
ALT	**Altintas**	**1.40**	**32**	*e*Pn	**Pb**	**10 28 40.0**	**+0.2**

*TIR **05** 10:28:39.0±1.4, 42°.17N×21°.07E, h2^{km}±8^{km}, ML3.3*
*SKO **05** 10:28:40.6, 42°.27N×21°.39E, h18^{km}, M1.6, ML2.0*
*CSEM **05** 10:28:40.3±0.2, 42°.30N×21°.26E, h2^{km}, ML2.0, Error ellipse: s-maj=4.2km s-min=3.7km az=145.0*
*BEO **05** 10:28:41.4±0.5, 42°.30N×21°.26E, h0^{km}, ML2.2/6*
ISC 05 10:28:40.6±0.9**, 42°.29N**±0°.02×**21°.25E**±0°.02**, h13**^{km}±9^{km}**, n24,** σ**0^{s}64**/45**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.34**	**156**	*i* Pg	**Pg**	**10 28 47.4**	**-0.2**
SKO				*e*Sg	**Sg**	**10 28 52.7**	**+0.5**
SKO				*e*Lg	Lg	10 28 52.9	
	comp=N,186nm,0.3s						
SKO				*e*Lg	Lg	10 28 53.0	
	comp=E,127nm,0.2s						
SKO	**Skopje**	**0.34**	**156**	*i* Pg	**Pg**	**10 28 47.8**	**+0.2**
SKO				*e*Sg	**Sg**	**10 28 53.2**	**+1.0**
SKO				*e*Lg	Lg	10 28 53.5	
	comp=E,127nm,0.2s						
BARS	**Barje**	**0.68**	**38**	*e*Pg	**Pg**	**10 28 53.8**	**+0.1**
BARS				*e*Sg	**Sg**	**10 29 02.7**	**+0.1**
PHP	**Peshkopia**	**0.85**	**225**	*e*PG	**Pg**	**10 28 56.2**	**-0.9**
PHP				*e*SG	**Sg**	**10 29 07.8**	**-0.4**
PHP	**Peshkopia**	**0.85**	**225**	*e*Pg	**Pg**	**10 28 56.2**	**-0.9**
	SNR=92						
PHP				*e*Sg	**Sg**	**10 29 07.8**	**-0.4**
	SNR=92						
BCI	**Bajram Curri**	**0.88**	**276**	*e*PG	**Pg**	**10 28 57.9**	**+0.3**
BCI				*e*SG	**Sn**	**10 29 11.8**	**+0.3**
BCI	**Bajram Curri**	**0.88**	**276**	*e*Pg	**Pg**	**10 28 57.9**	**+0.3**
	SNR=92						
BCI				*e*Sg	**Sn**	**10 29 11.8**	**+0.3**
	SNR=92						
SELS	**Selova**	**0.94**	**354**	*e*Pg	**Pg**	**10 28 57.3**	**-1.4**
SELS				*e*Sg	**Sg**	**10 29 10.5**	**-0.5**
PUK	**Puka**	**1.04**	**257**	*e*PG	**Pg**	**10 28 59.8**	**-0.8**
PUK				*e*SG	**Sn**	**10 29 16.3**	**+0.9**
PUK	**Puka**	**1.04**	**257**	*e*Pg	**Pg**	**10 28 59.8**	**-0.8**
	SNR=92						
PUK				*e*Sg	**Sn**	**10 29 16.3**	**+0.9**
	SNR=92						
VAY	**Valandovo**	**1.38**	**134**	*e*Pg	**Pn**	**10 29 05.6**	**0.0**
VAY				*e*Sg	**Sb**	**10 29 22.1**	**-1.7**
VAY				*e*Lg	Lg	10 29 24.4	
	comp=N,60nm,1.4s						
VAY				*e*Lg	Lg	10 29 24.5	
	comp=E,25nm,0.5s						
VAY	**Valandovo**	**1.38**	**134**	*e*Sg	**Sb**	**10 29 22.5**	**-1.3**
VAY				*e*Lg	Lg	10 29 25.0	
	comp=E,25nm,0.5s						
ZAPS	**Zavoj**	**1.42**	**45**	*e*Pg	**Pg**	**10 29 07.6**	**-0.3**
ZAPS				*e*Sg	**Sg**	**10 29 26.1**	**-0.2**
ZAPS	**Zavoj**	**1.42**	**45**	*e*Pg	**Pg**	**10 29 07.6**	**-0.3**
ZAPS				*e*Sg	**Sg**	**10 29 26.1**	**-0.2**
VTS	**Vitosha**	**1.48**	**77**	*e*Pg	**Pg**	**10 29 08.8**	**-0.3**
VTS				*e*Sg	**Sb**	**10 29 27.3**	**+0.4**
VTS	**Vitosha**	**1.48**	**77**	*e*Pg	**Pg**	**10 29 08.8**	**-0.3**
VTS				*e*Sg	**Sb**	**10 29 27.3**	**+0.4**
PDG	**Podgorica**	**1.48**	**276**	*e*Pn	**Pb**	**10 29 08.3**	**+0.2**
PDG				*e*Sg	**Sg**	**10 29 29.2**	**+0.8**
PDG	**Podgorica**	**1.48**	**276**	*e*Pn	**Pb**	**10 29 08.3**	**+0.2**
PDG				*e*Sg	**Sg**	**10 29 29.2**	**+0.8**
IVAS	**Ivanjica**	**1.52**	**328**	*e*Pg	**Pn**	**10 29 07.6**	**0.0**
IVAS				*e*Sg	**Sg**	**10 29 29.6**	**0.0**
IVAS	**Ivanjica**	**1.52**	**328**	*e*Pg	**Pn**	**10 29 07.6**	**0.0**
IVAS				*e*Sg	**Sg**	**10 29 29.6**	**0.0**
GRUS	**Gruza**	**1.65**	**346**	*e*Pn	**Pb**	**10 29 10.7**	**-0.2**
GRUS				*e*Sg	**Sg**	**10 29 33.9**	**+0.3**
GRUS	**Gruza**	**1.65**	**346**	*e*Pn	**Pb**	**10 29 10.7**	**-0.2**
GRUS				*e*Sg	**Sg**	**10 29 33.9**	**+0.3**
TRUS	**Trudelj**	**2.03**	**343**	*e*Pg	**Pb**	**10 29 18.1**	**+0.7**
TRUS	**Trudelj**	**2.03**	**343**	*e*Pg	**Pb**	**10 29 18.1**	**+0.7**

*BYKL **05** 10:34:43.1±0.2, 52°.68N×107°.67E, h24^{km}±4^{km}*
*MOS **05** 10:34:44.9±2.2, 52°.89N×107°.34E, h11^{km}, mb4.4/1, Error ellipse: s-maj=16.7km s-min=9.7km az=57.8*
ISC 05 10:34:41.6±1.2**, 52°.72N**±0°.02×**107°.69E**±0°.02**, h3**^{km}±10^{km}**, n41,** σ**1^{s}70**/78**, 3C-2D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.37**	**243**	⇓*i*Pg	**Pb**	**10 34 50.7**	**-0.1**
ZRHB				*i* Sg	**Sb**	**10 34 56.4**	**-0.6**
ZRHB				Pmax			
	916nm,0.1s						
ZRHB				Smax			
	14μm,0.5s						
TRG	**Tyrgan**	**0.81**	**273**	⇑*i*PG	**Pg**	**10 34 58.3**	**+1.1**
TRG				*e*		10 35 10.2	
TRG				pmax	pmax		
	comp=Z,727nm,0.2s						
TRG				smax	smax		
	comp=N,2μm,0.2s						
TRG	**Tyrgan**	**0.81**	**273**	*e*Pg	**Pg**	**10 34 58.3**	**+1.1**
TRG				*e*Pb	**Pn**	**10 34 59.6**	**-0.5**
TRG				*e*Sg	**Sb**	**10 35 10.6**	**+0.7**
TRG				max			
	comp=N,721nm,0.2s						
TRG				Smax			
	comp=N,2μm,0.2s						
MXMB	**Maximikha**	**0.84**	**49**	*e*Pg	**Pg**	**10 34 59.0**	**+1.3**
MXMB				*e*Pb	**Pn**	**10 35 00.3**	**-0.1**
MXMB				*e*Sg	**Sb**	**10 35 11.2**	**+0.6**
MXMB				max			
	comp=N,569nm,0.3s						
MXMB				Smax			
	comp=N,3μm,0.5s						
FFNB	**Fofonovo**	**0.88**	**220**	⇓*i*Pg	**Pg**	**10 34 58.8**	**+0.3**
FFNB				*e*Sg	**Sg**	**10 35 10.2**	**+0.3**
FFNB				Pmax			
	comp=N,232nm,0.2s						
FFNB				Smax			
	comp=N,3μm,0.1s						
KAB	**Kabansk**	**0.92**	**224**	⇑*i*PG	**Pg**	**10 34 59.9**	**+0.6**
KAB				*e*		10 35 12.7	
KAB				pmax	pmax		
	comp=Z,167nm,0.1s						
KAB				smax	smax		
	comp=N,3μm,0.6s						
KAB	**Kabansk**	**0.92**	**224**	*e*Pg	**Pg**	**10 34 59.9**	**+0.6**
KAB				*i* Sg	**Sb**	**10 35 12.7**	**-0.3**
KAB				Pmax			
	comp=N,176nm,0.3s						
KAB				Smax			
	comp=N,3μm,0.3s						
OGRR	**Ongureny**	**0.92**	**357**	*e*PG	**Pb**	**10 35 01.1**	**+0.8**
OGRR				*e*		10 35 14.1	
OGRR				pmax	pmax		
	comp=Z,287nm,0.4s						
OGRR				smax	smax		
	comp=E,1μm,0.6s						
OGRR	**Ongureny**	**0.92**	**357**	⇑*i*Pg	**Pb**	**10 35 01.1**	**+0.8**
OGRR				*i* Sg	**Sb**	**10 35 13.9**	**+0.9**
OGRR				Pmax			
	comp=E,288nm,0.3s						
OGRR				Smax			
	comp=E,1μm,0.4s						
SYVR	**Suvo**	**1.68**	**55**	*e*PN	**Pn**	**10 35 12.0**	**+0.1**
SYVR				*e*		10 35 35.8	
SYVR				pmax	pmax		
	comp=Z,198nm,0.3s						
SYVR				smax	smax		
	comp=N,380nm,0.5s						
SYVR	**Suvo**	**1.68**	**55**	*e*Pn	**Pn**	**10 35 12.0**	**+0.1**
SYVR				*e*Pg	**Pb**	**10 35 13.4**	**+0.2**
SYVR				*e*		10 35 18.9	
SYVR				*e*Sg	**Sg**	**10 35 36.6**	**+1.1**
SYVR				max			
	comp=N,197nm,0.3s						
SYVR				Smax			
	comp=N,384nm,1.0s						
LSTR	**Listvyanka**	**1.95**	**245**	*e*PN	**Pn**	**10 35 15.4**	**-0.3**
LSTR				*e*		10 35 17.7	
LSTR				*e*S	**Sn**	**10 35 39.9**	**-0.8**
LSTR				*e*		10 35 43.2	
LSTR				pmax	pmax		
	comp=Z,19nm,0.1s						
LSTR				smax	smax		
	comp=N,230nm,0.4s						
LSTR	**Listvyanka**	**1.95**	**245**	*e*Pn	**Pn**	**10 35 15.3**	**-0.4**
LSTR				*e*Pg	**Pb**	**10 35 17.5**	**-0.3**
LSTR				*e*Sn	**Sn**	**10 35 39.4**	**-1.3**
LSTR				*e*Sg	**Sb**	**10 35 42.5**	**0.0**
LSTR				Pmax			
	comp=N,26nm,0.3s						
LSTR				Smax			
	comp=N,401nm,0.4s						
IRK	**Irkutsk**	**2.14**	**258**	*e*PN	**Pb**	**10 35 21.7**	**+0.6**
IRK				*e*		10 35 48.8	
IRK				pmax	pmax		
	comp=Z,213nm,0.1s						
IRK				smax	smax		
	comp=N,1μm,0.4s						
IRK	**Irkutsk**	**2.14**	**258**	*e*Sg	**Sb**	**10 35 48.8**	**+0.7**
IRK				Smax			
	comp=N,1μm,0.3s						
TLY	**Talaya**	**2.70**	**249**	*e*Pn	**Pn**	**10 35 26.0**	**+0.1**
TLY				*e*Pg	**Pb**	**10 35 30.8**	**+0.3**
TLY				*e*Sg	**Sb**	**10 36 04.7**	**+0.7**
TLY				Pmax			
	comp=N,23nm,0.4s						
TLY				Smax			
	comp=N,178nm,0.4s						
YLYR	**Ulyunkhan**	**2.98**	**42**	*i* Pn	**Pn**	**10 35 30.3**	**+0.4**
YLYR				*e*Pg	**Pb**	**10 35 35.7**	**+0.3**
YLYR				*e*Sg	**Sg**	**10 36 15.7**	**-1.7**
YLYR				Pmax			
	comp=N,8.0nm,0.3s						
YLYR				Smax			
	comp=N,83nm,0.8s						
NIZ	**Nizh Angarsk**	**3.25**	**19**	*e*PN	**Pb**	**10 35 40.2**	**+0.3**
ARS	**Arshan**	**3.33**	**258**	*e*PN	**Pn**	**10 35 35.8**	**+1.2**
ARS				*e*		10 35 42.6	
ARS				*e*S	**Sn**	**10 36 13.5**	**-1.2**
ARS				*e*		10 36 25.0	
ARS				pmax	pmax		
	comp=Z,22nm,0.1s						
ARS				smax	smax		
	comp=E,753nm,0.6s						
ARS	**Arshan**	**3.33**	**258**	*e*Pn	**Pn**	**10 35 35.6**	**+1.0**

ARS *e*Pg **Pb** **10 35 41.7 +0.4**
ARS *e*Sg **Sb** **10 36 23.7 +1.5**
ARS Pmax
comp=E,46nm,0.6s
ARS Smax
comp=E,755nm,0.8s
ZAK **Zakamensk** **3.61 231** *e*Pn **Pn** **10 35 38.0 -0.6**
ZAK *e*Pg **Pb** **10 35 47.3 +1.1**
ZAK *e*Sg **Sg** **10 36 35.4 -2.2**
ZAK Pmax
comp=E,9.0nm,0.3s
ZAK Smax
comp=E,82nm,0.4s
CIT **Chita** **3.66 99** *e*PN **Pb** **10 35 47.6 +0.6**
CIT *e* 10 36 34.3
CIT pmax pmax
comp=Z,56nm,0.3s
CIT smax smax
comp=N,305nm,0.6s
CIT **Chita** **3.66 99** *e*Sg **Sb** **10 36 34.7 +2.8**
CIT Smax
comp=N,305nm,0.6s
KMO **Kumora** **3.78 32** *e*PN **Pn** **10 35 41.2 +0.4**
KMO *e* 10 35 49.7
KMO *e*S **Sn** **10 36 24.0 -1.8**
KMO **Kumora** **3.78 32** *e*Pn **Pn** **10 35 41.2 +0.4**
KMO *e*Pg **Pb** **10 35 51.1 +2.1**
KMO *e*Sg **Sg** **10 36 41.1 -1.8**
KMO Pmax
comp=N,18nm,0.5s
KMO Smax
comp=N,105nm,1.1s
YOA **Uoyan** **4.15 33** *e*Sg **Sg** **10 36 53.4 -1.4**
YOA Smax
comp=N,202nm,0.5s
KPC **Khapcheranga** **4.22 134** *e*PN **Pb** **10 35 58.9 +2.3**
KPC pmax pmax
comp=Z,80nm,0.5s
KPC **Khapcheranga** **4.22 134** *e*Pn **Pn** **10 35 45.1 -1.9**
KPC *e*Pg **Pb** **10 35 58.2 +1.6**
KPC *e* 10 36 04.1
KPC *e*Sn **Sn** **10 36 32.5 -4.3**
KPC *e*Sg **Sb** **10 36 53.2 +5.2**
KPC max
comp=Z,70nm,0.6s
KPC Smax
comp=Z,88nm,0.8s
MOY **Mondy** **4.25 258** *e*PN **Pn** **10 35 49.6 +2.2**
MOY *e* 10 36 00.0
MOY *e*S **Sn** **10 36 36.2 -1.4**
MOY *e* 10 36 53.4
MOY pmax pmax
comp=Z,19nm,0.4s
MOY smax smax
comp=N,184nm,0.7s
MOY **Mondy** **4.25 258** *e*Pn **Pn** **10 35 48.8 +1.4**
MOY *e*Pg **Pb** **10 35 57.4 +0.3**
MOY *e* 10 36 39.5
MOY *e*Sg **Sb** **10 36 52.2 +3.4**
MOY Pmax
comp=N,19nm,0.5s
MOY Smax
comp=N,184nm,0.1s
UKT **Uakit** **4.46 49** *e*PN **Pg** **10 36 05.5 -1.5**
UKT *e* 10 37 02.7
UKT pmax pmax
comp=Z,20nm,1.2s
UKT smax smax
comp=N,49nm,0.5s
UKT **Uakit** **4.46 49** *e*Pn **Pn** **10 35 50.8 +0.6**
UKT *e*Pg **Pb** **10 36 03.4 +2.8**
UKT *e*Sg **Sg** **10 37 02.9 -1.9**
UKT Pmax
comp=N,6.0nm,0.7s
UKT Smax
comp=N,46nm,1.1s
ORL **Orlik** **4.80 271** *e*PN **Pn** **10 35 56.0 +1.0**
ORL *e* 10 36 08.7
ORL *e*S **Sn** **10 36 50.7 -0.4**
ORL *e* 10 37 08.7
ORL pmax pmax
comp=Z,8.0nm,0.5s
ORL smax smax
comp=N,67nm,1.0s
ORL **Orlik** **4.80 271** *e*Pn **Pn** **10 35 55.9 +1.0**
ORL *e*Pg **Pb** **10 36 07.1 +0.7**
ORL *e*Sn **Sn** **10 36 50.7 -0.4**
ORL *e*Sg **Sb** **10 37 10.1 +5.5**
ORL Pmax
comp=N,9.0nm,0.4s
ORL Smax
comp=N,67nm,1.0s
ULN **Ulaanbaatar** **4.88 185** *e*Pn **Pn** **10 35 55.6 -0.5**
ULN *e*Pg **Pb** **10 36 09.8 +2.0**
ULN *e*Sn **Sn** **10 36 51.6 -1.5**
ULN *e*Sg Sb 10 37 13.2 +6.2
NLYR **Nelyaty** **6.00 48** *e*PN Pg 10 36 32.6 -3.8
NLYR *e* 10 37 48.7
NLYR pmax pmax
comp=Z,17nm,0.5s
NLYR smax smax
comp=N,78nm,1.1s
NLYR **Nelyaty** **6.00 48** *e*Pg Pb 10 36 31.8 +5.1
NLYR *e*Sg **Sg** **10 37 51.4 -2.6**
NLYR Pmax
comp=N,6.0nm,0.6s
NLYR Smax
comp=N,75nm,1.1s
BOD **Bodaibo** **6.25 33** *e*Sg **Sg** **10 37 57.2 -5.0**
BOD Smax
comp=N,23nm,1.0s
CRS **Chara** **7.41 51** *e*Sg Sg 10 38 33.5 -5.7
CRS Smax
comp=N,86nm,2.2s
TUP **Tupik** **7.50 72** *e*PN **Pn** **10 36 31.6 -0.3**
TUP pmax pmax
comp=Z,5.0nm,0.6s
TUP **Tupik** **7.50 72** *e*Pg Pb 10 36 57.4 +5.1
TUP *e*Sg Sg 10 38 35.8 -6.5
TUP Pmax
comp=Z,2.0nm,0.6s
TUP Smax
comp=Z,66nm,1.8s

NIED ***05*** *10:37:00,45˙.40N×151˙.00E,h20km,Mw4.2 Best double couple: M₀1.90000×10¹⁵ NP1:φ=29.00000°,δ62.00000°, λ100.00000°. NP2:φ=189.00000°,δ30.00000°,λ72.00000°.*
SKHL ***05*** *10:37:46.5±1.9,45˙.08N×151˙.09E,h68km±28km,mb5.0/5, Ms3.6/1,msh4.9/1*
JMA ***05*** *10:37:46.4±0.6,45˙.39N×150˙.99E,h30km,M4.9*
ISCJB ***05*** *10:37:47.6±0.6,45˙.05N±0˙.05×150˙.88E±0˙.05,h48km±5km, mb4.5/66,MS3.8/8,Error ellipse: s-maj=8.9km s-min=4.6km az=152.2*
MOS ***05*** *10:37:48.1±0.8,45˙.25N×150˙.83E,h46km,mb4.8/20,Error ellipse: s-maj=8.4km s-min=7.5km az=98.5*
BJI ***05*** *10:37:50.8,44˙.67N×151˙.02E,h96km,mB4.9/17,mb4.6/24*
NEIC ***05*** *10:37:51.5±0.6,45˙.27N×150˙.81E,h59km±5km,mb4.7/13, Error ellipse: s-maj=8.1km s-min=4.2km az=148.0*
IDC ***05*** *10:37:51.5±2.4,45˙.34N×150˙.74E,h58km±21km,mb3.8/24, mb1 3.9/29,mb1mx3.9/35,mbtmp3.8/29,ML3.6/5,MS3.6/6, Ms1 3.6/6,ms1mx3.1/53,Error ellipse: s-maj=16.6km s-min=11.7km az=155.0*

ISC 05 10:37:52.0±0.8,45.13N±0˙.06×150.76E±0˙.05,h69km±6km, n215,σ1$52/241,mb4.5/66,10C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.05**	**274**	*e*PN		Pn		10 38 20.8	-3.4
KUR				*e*S		**Sn**		**10 38 48.0**	**-0.7**
KUR				pmax	pmax				
	comp=Z,500nm,0.7s								
KUR				pmax	pmax				
	comp=N,150nm,0.5s								
KUR				pmax	pmax				
	comp=E,150nm,0.5s								
KUR				smax	smax				
	comp=N,1μm,0.5s								
KUR				smax	smax				
	comp=E,530nm,0.5s								
KUR				smax	smax				
	comp=N,2μm,2.0s								
KUR				smax	smax				
	comp=E,2μm,2.0s								
KUR	**Kuril'sk**	**2.05**	**274**	*e*P		Pn		10 38 20.8	-3.4
KUR				AMB	AMB			10 38 35.5	
	comp=E,150nm,0.5s								
KUR				AMB	AMB			10 38 35.5	
	comp=E,500nm,0.7s								
KUR				*e*S		**Sn**		**10 38 48.0**	**-0.7**
KUR				A	A			10 38 52.2	
	comp=E,1μm,0.5s								
KUR				A	A			10 38 52.2	
	comp=E,530nm,0.5s								
KUR				A	A			10 38 58.0	
	comp=E,2μm,2.0s								
KUR				A	A			10 38 58.0	
	comp=E,2μm,2.0s								
YUK	**Yuzh-Kuril'sk**	**3.67**	**254**	*i* PN		**Pn**		**10 38 45.6**	**-0.6**
YUK				*i* S		**Sn**		**10 39 28.7**	**+0.5**
YUK				pmax	pmax				
	comp=N,140nm,0.2s								
YUK				pmax	pmax				
	comp=E,281nm,0.2s								
YUK				pmax	pmax				
	comp=E,522nm,0.2s								
YUK				smax	smax				
	comp=N,523nm,0.6s								
YUK				smax	smax				
	comp=E,832nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.67**	**254**	⇓*i* P		**Pn**		**10 38 45.7**	**-0.5**
YUK				AMB	AMB			10 38 49.9	
	comp=E,140nm,0.2s								
YUK				AMB	AMB			10 38 49.9	
	comp=E,281nm,0.2s								
YUK				AMB	AMB			10 38 49.9	
	comp=E,522nm,0.2s								
YUK				*i* S		**Sn**		**10 39 28.7**	**+0.5**
YUK				A	A			10 39 42.4	
	comp=E,520nm,0.6s								
YUK				A	A			10 39 42.4	
	comp=E,832nm,0.6s								
NEM2	**Nemuro 2**	**4.01**	**246**	P		**Pn**		**10 38 48.5**	**-2.4**
NEM2				*e*S		**Sn**		**10 39 34.2**	**-2.5**
JRA	**Rausu**	**4.20**	**255**	P		**Pn**		**10 38 53.2**	**-0.3**
JNK	**Nakash**	**4.60**	**252**	P		**Pn**		**10 38 58.0**	**-0.9**
JNK				*e*S		**Sn**		**10 39 50.4**	**-0.6**
JAK	**Akkeshi**	**4.86**	**246**	P		**Pn**		**10 39 00.1**	**-2.4**
JTKR	**Abashiri--Toko**	**5.03**	**259**	P		**Pn**		**10 39 04.7**	**-0.1**
JAR	**Ashorobuto**	**5.35**	**252**	P		**Pn**		**10 39 08.8**	**-0.4**
JAR				*e*S		**Sn**		**10 40 09.7**	**+0.3**
JMP	**Maruseppu**	**5.41**	**261**	P		**Pn**		**10 39 10.2**	**+0.2**
JOB	**Onbets**	**5.47**	**248**	P		**Pn**		**10 39 09.7**	**-1.1**
JOB				*e*S		**Sn**		**10 40 10.4**	**-1.9**
YSS	**Yuzh-Sakhalins**	**5.86**	**291**	*e*PN		**Pn**		**10 39 15.0**	**-1.2**
YSS				MLR	MLR				
	comp=E,400nm,15.0s								
YSS				MLR	MLR				
	comp=Z,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**5.86**	**291**	*e*Pn		**Pn**		**10 39 16.3**	**+0.2**
	comp=Z,22nm,0.8s								
YSS	**Yuzh-Sakhalins**	**5.86**	**291**	*e*P		**Pn**		**10 39 15.0**	**-1.2**
YSS				*e*S		**Sn**		**10 40 17.0**	**-4.9**
YSS				AMS	AMS			10 41 32.0	
	comp=Z,400nm,15.0s								
YSS				AMS	AMS			10 41 32.0	
	comp=Z,300nm,15.0s								
JKK2	**Kamakawa 2**	**5.87**	**260**	P		**Pn**		**10 39 16.8**	**+0.5**
JCH	**Churui**	**5.91**	**247**	P		**Pn**		**10 39 16.0**	**-0.8**
JCH				*e*S		**Sn**		**10 40 21.7**	**-1.4**
ASAJ	**Asahikawa**	**5.91**	**263**	P		**Pn**		**10 39 18.0**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=78,slow=17,SNR=32								
ASAJ				LR	LR			10 41 41.7	
	comp=Z,290nm,20.9s,baz=353,slow=39								
ASAJ	**Asahikawa**	**5.91**	**263**	*e*Pn		**Pn**		**10 39 18.1**	**+1.1**
ASAJ				*e*Sn		**Sn**		**10 40 22.0**	**-1.2**
ASAJ	**Asahikawa**	**5.91**	**263**	P		**Pn**		**10 39 17.9**	**+1.0**
JFR	**Furan**	**6.20**	**254**	P		**Pn**		**10 39 21.7**	**+0.9**
JAB	**Ashibetsu**	**6.34**	**258**	P		**Pn**		**10 39 24.7**	**+2.0**
ERM	**Erimo**	**6.34**	**243**	*ce*PN		**Pn**		**10 39 22.1**	**-0.6**
ERM	**Erimo**	**6.34**	**243**	*e*Pn		**Pn**		**10 39 23.0**	**+0.3**
JEM	**Erimo**	**6.34**	**243**	P		**Pn**		**10 39 22.7**	**0.0**
JNBK	**Urakawa-nobuka**	**6.46**	**247**	P		**Pn**		**10 39 22.3**	**-2.1**
JBT2	**Biratori 2**	**6.50**	**252**	P		**Pn**		**10 39 23.3**	**-1.6**
SKR	**Severo-Kuril's**	**6.62**	**31**	*e*PN		Pn		10 39 22.2	-4.3
SKR				pmax	pmax				
	comp=N,60nm,0.5s								
SKR				pmax	pmax				
	comp=Z,80nm,0.5s								
SKR	**Severo-Kuril's**	**6.62**	**31**	*e*P		Pn		10 39 22.2	-4.3
SKR				AMB	AMB			10 39 23.8	
	comp=Z,60nm,0.5s								
SKR				AMB	AMB			10 39 23.8	
	comp=Z,80nm,0.5s								
SKR				*e*S		Sn		10 40 32.4	-8.0
SKR				A	A			10 40 54.5	
	comp=Z,80nm,0.5s								
JEW	**Eniwo**	**7.09**	**254**	P		**Pn**		**10 39 33.7**	**+0.7**
JNB	**Noboribetsu**	**7.52**	**253**	P		**Pn**		**10 39 38.1**	**-0.7**
JNB				*e*S		**Sn**		**10 41 00.2**	**-2.3**
JKB	**Kayabe**	**7.78**	**249**	P		**Pn**		**10 39 40.6**	**-1.8**
JKB				*e*S		**Sn**		**10 41 04.4**	**-4.5**
TYV	**Tymovskoe**	**7.90**	**319**	*e*P		**Pn**		**10 39 42.2**	**-1.7**
TYV				AMB	AMB			10 39 45.0	
	comp=Z,9.0nm,1.0s								
TYV				AMB	AMB			10 39 45.0	
	comp=Z,11nm,0.8s								
JYM2	**Yakumo 2**	**8.12**	**252**	P		**Pn**		**10 39 46.0**	**-1.0**
JANG	**Nango**	**8.30**	**238**	P		Pn		10 39 45.3	-4.2
JANG				*e*S		Sn		10 41 13.3	-8.3
JTM	**Tenmabayashi**	**8.33**	**242**	P		**Pn**		**10 39 47.4**	**-2.5**
JTM				*e*S		Sn		10 41 16.3	-6.0
JTH	**Tanohata**	**8.37**	**235**	P		Pn		10 39 46.3	-4.2
JTH				*e*S		Sn		10 41 14.5	-8.9
JOSM	**Okushiri--Mats**	**8.74**	**254**	P		**Pn**		**10 39 54.3**	**-1.2**
OFUJ	**Ofunato**	**9.06**	**231**	P		Pn		10 39 56.7	-3.3
OFUJ				*e*S		Sn		10 41 31.9	-8.5
PEA0B	**Petropavlovsk-**	**9.18**	**27**	*e*Pn		**Pn**		**10 39 59.4**	**-2.1**
PETK	**Petropavlovsk-**	**9.18**	**27**	P		**Pn**		**10 39 59.0**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=183,slow=14,SNR=6.8								
PETK				LR	LR			10 43 21.8	
	comp=Z,112nm,19.7s,baz=90,slow=37								
PETK	**Petropavlovsk-**	**9.18**	**27**	PN		**Pn**		**10 39 59.0**	**-2.5**
PETK	**Petropavlovsk-**	**9.18**	**27**	P		**Pn**		**10 39 59.0**	**-2.5**
PET	**Petropavlovsk**	**9.44**	**30**	*e*PN		Pn		10 40 13.4	+8.4
PET				*e*S		Sn		10 41 56.8	+7.4
PET				MLR	MLR				
	comp=Z,200nm,12.0s								
JRG	**Rokugo**	**9.44**	**236**	P		Pn		10 40 02.0	-3.1
JIO	**Ouri**	**9.69**	**230**	P		Pn		10 40 05.2	-3.2
JIO				*e*S		Sn		10 41 47.2	-8.3
NKL	**Nikolayevsk**	**10.38**	**324**	*e*P		Pn		10 40 13.5	-4.3
NKL				AMB	AMB			10 40 15.5	
	comp=Z,17nm,1.2s								
NKL				AMB	AMB			10 40 15.5	
	comp=Z,20nm,1.2s								
NKL				AMB	AMB			10 40 15.5	
	comp=Z,35nm,1.2s								
HABR	**Khabarovsk**	**11.27**	**293**	*e*PN		**Pn**		**10 40 31.4**	**+1.4**
HABR				*e*S		**Sn**		**10 42 37.9**	**+3.7**
HABR				pmax	pmax				
	comp=N,10.0nm,1.1s								
HABR				pmax	pmax				
	comp=Z,11nm,1.3s								
HABR				pmax	pmax				
	comp=E,24nm,1.5s								
HABR				MLR	MLR				
	comp=Z,146nm,17.0s								
MJAR	**Matsushiro Arr**	**12.79**	**232**	P		**Pn**		**10 40 50.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=5.4								
MJAR	**Matsushiro Arr**	**12.79**	**232**	P		**Pn**		**10 40 50.4**	**-0.5**
MAJO	**Matsushiro**	**12.79**	**232**	*e*PN		Pn		10 40 45.8	-5.0
USRK	**Ussuriysk Arra**	**13.39**	**273**	P		**Pn**		**10 40 57.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=88,slow=13,SNR=7.0								
KLR	**Kul'dur**	**13.56**	**294**	*e*P		**P**		**10 41 06.0**	**-1.7**
SEY	**Seymchan**	**17.86**	**2**⇓	*e*P		**Pn**		**10 41 56.5**	**+1.1**
CN2	**Changchun**	**18.10**	**275**	*e*P		**Pn**		**10 42 00.1**	**+1.6**
CN2				*es*P		sP		10 42 30.1	+9.2
CN2				*e*S		**Sn**		**10 45 17.4**	**-2.3**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
KSRS	**Korea Array**	**18.76**	**254**	P		**P**		**10 42 06.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=3.3								
KSAR	**Wonju Array Be**	**18.79**	**254**	P		**P**		**10 42 06.2**	**+0.6**
YAK	**Yakutsk**	**20.88**	**332**	*e*P		**P**		**10 42 27.4**	**-0.7**
YAK				*e**PP		**pP**		**10 42 42.2**	**-0.3**
YAK				*e*S		**S**		**10 46 20.2**	**+3.4**
YAK				*e**SS		sS		10 46 47.9	+7.4
YAK				pmax	pmax				
	comp=Z,63nm,0.9s								
YAK				pmax	pmax				
	comp=N,27nm,1.0s								
YAK				pmax	pmax				
	comp=E,22nm,1.1s								
YAK				smax	smax				
	comp=N,12nm,1.5s								
YAK				smax	smax				
	comp=E,18nm,1.4s								
YAK	**Yakutsk**	**20.88**	**332**	*e*P		**P**		**10 42 28.1**	**0.0**
	comp=E,53nm,0.9s								
BJI	**Beijing**	**25.84**	**271**	P		**P**		**10 43 16.1**	**-0.6**
BJI				S		**S**		**10 47 40.2**	**-1.1**
BJI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
BJI				pmax	pmax				
	comp=Z,140nm,5.2s								
BJI				LR	LR				
	comp=N,170nm,16.1s								
BJI				LR	LR				
	comp=E,190nm,17.9s								
BJI				LR	LR				
	comp=Z,59nm,18.7s								
NJ2	**Nanjing**	**27.95**	**253**	*e*P		**P**		**10 43 33.6**	**-2.2**
NJ2				pmax	pmax				
	comp=Z,20nm,0.6s								
HHC	**Hu-ho-hao-te**	**28.79**	**275**	*e*P		**P**		**10 43 44.0**	**+0.7**
HHC				pP		pP		10 44 05.6	+5.8
HHC				sP		sP		10 44 17.3	+9.5
HHC				PP		**PnPn**		**10 44 41.3**	**+3.9**
HHC				S		**S**		**10 48 26.3**	**-1.8**
HHC				sS		sS		10 49 04.6	+8.4
HHC				SS		**SnSn**		**10 49 59.8**	**+4.2**
HHC				pmax	pmax				
	comp=Z,12nm,1.0s								
HHC				pmax	pmax				
	comp=Z,130nm,6.2s								
SONM	**Songino Array**	**30.35**	**291**	P		**P**		**10 43 57.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=84,slow=6.7,SNR=3.6								
SONM	**Songino Array**	**30.35**	**291**	P		**P**		**10 43 57.2**	**+0.1**
LZH	**Lanzhou**	**36.30**	**272**	*e*P		**P**		**10 44 49.5**	**+0.5**
LZH				pP		pP		10 45 12.0	+6.3
LZH				sP		sP		10 45 23.8	+10
LZH				PP		**PnPn**		**10 46 16.7**	**+4.0**
LZH				pmax	pmax				
	comp=Z,20nm,1.2s								
LZH				pmax	pmax				
	comp=Z,65nm,5.1s								
LZH				LR	LR				
	comp=N,310nm,13.2s								
LZH				LR	LR				
	comp=E,340nm,12.8s								
LZH				LR	LR				
	comp=Z,400nm,17.3s								
GTA	**Gaotai**	**37.61**	**280**	*e*P		**P**		**10 45 01.1**	**+1.1**
GTA				pP		pP		10 45 23.7	+6.9
GTA				sP		sP		10 45 35.5	+11
GTA				S		**S**		**10 50 44.6**	**-0.1**
GTA				sS		sS		10 51 23.5	+10
GTA				SS		**SnSn**		**10 53 26.1**	**-3.2**
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,130nm,7.4s								
GTA				LR	LR				
	comp=N,94nm,15.0s								
GTA				LR	LR				
	comp=E,130nm,15.4s								
GTA				LR	LR				
	comp=Z,100nm,14.7s								
COLA	**College**	**38.42**	**37**	*i* P		**P**		**10 45 06.2**	**-0.1**
ILAR	**Eielson Array**	**38.83**	**37**	P		**P**		**10 45 08.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=262,slow=7.1,SNR=13								
ILAR	**Eielson Array**	**38.83**	**37**	P		**P**		**10 45 08.6**	**-1.2**
CD2	**Chengdu**	**39.11**	**265**	P		**P**		**10 45 11.8**	**-0.8**
CD2				pP		pP		10 45 34.7	+5.3
CD2				sP		sP		10 45 46.4	+9.0
CD2				PP		**PnPn**		**10 46 47.7**	**+1.3**
CD2				S		**ScP**		**10 51 04.3**	**+1.1**
CD2				sS		sS		10 51 43.9	+8.0
CD2				SS		**SS**		**10 53 54.2**	**-7.7**
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,130nm,7.1s								
CD2				LR	LR				
	comp=N,240nm,5.9s								
CD2				LR	LR				
	comp=Z,190nm,5.4s								
GYA	**Guiyang**	**39.76**	**257**	*e*P		**P**		**10 45 16.0**	**-2.1**
GYA				pP		**pP**		**10 45 38.8**	**+3.8**
GYA				sP		sP		10 45 51.2	+8.3
GYA				PP		**PnPn**		**10 46 53.6**	**-0.7**
GYA				PcP		**PcP**		**10 47 21.0**	**-2.3**
GYA				S		**S**		**10 51 13.0**	**-4.2**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ZALV	**Zalesovo Beam**	**42.24**	**307**	PcP		**PcP**		**10 47 31.6**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=80,slow=3.5,SNR=3.9								
ZALV				LR	LR			11 04 47.8	
	comp=Z,58nm,18.5s,baz=59,slow=38								
ZALV	**Zalesovo Beam**	**42.24**	**307**	PcP		**PcP**		**10 47 31.6**	**+0.9**
KMI	**Kunming**	**43.33**	**259**	P		**P**		**10 45 47.8**	**+0.4**
KMI				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KMI				LR	LR				
	comp=N,140nm,18.3s								
KMI				LR	LR				
	comp=E,130nm,18.6s								
KMI				LR	LR				
	comp=Z,120nm,15.5s								
INK	**Inuvik**	**43.89**	**31**	P		**P**		**10 45 51.1**	**0.0**
	comp=Z,1.5nm,0.5s,baz=279,slow=9.4,SNR=8.3								
INK	**Inuvik**	**43.89**	**31**	*e*P		**P**		**10 45 50.9**	**-0.2**
	comp=Z,7.2nm,1.3s								
WMQ	**Urumqi**	**43.99**	**292**	*e*P		**P**		**10 45 55.2**	**+2.8**
MK31	**Makanchi Array**	**46.23**	**298**	*e*P		**P**		**10 46 10.5**	**+0.5**
MK31	**Makanchi Array**	**46.23**	**298**	*e*P		**P**		**10 46 10.5**	**+0.5**
MKAR	**Makanchi Array**	**46.23**	**298**	P		**P**		**10 46 10.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=73,slow=7.8,SNR=24								
MKAR				PcP		**PcP**		**10 47 45.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=112,slow=1.3,SNR=4.6								
MKAR				LR	LR			11 06 37.1	
	comp=Z,76nm,20.1s,baz=354,slow=37								
MKAR	**Makanchi Array**	**46.23**	**298**	P		**P**		**10 46 10.0**	**-0.1**
MKAR								10 47 45.4	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR				MLR	MLR				
	comp=Z,76nm,20.1s								
MKAR	**Makanchi Array**	**46.23**	**298**	*e*P		**P**		**10 46 10.7**	**+0.7**
MKAR				PcP		**PcP**		**10 47 45.4**	**+0.8**
KURK	**Kurchatov**	**46.90**	**304**⇑	*e*P		**P**		**10 46 14.9**	**-0.2**
KURK				pmax	pmax				
	comp=Z,11nm,2.5s								
KURK	**Kurchatov**	**46.90**	**304**	P		**P**		**10 46 15.8**	**+0.6**
KURBB	**Kurchatov Arra**	**46.99**	**304**	P		**P**		**10 46 15.8**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=78,slow=8.1,SNR=6.8								
DLBC	**Dease Lake**	**47.90**	**44**	P		**P**		**10 46 23.9**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=280,slow=9.3,SNR=4.5								
DLBC	**Dease Lake**	**47.90**	**44**	P		**P**		**10 46 23.9**	**+1.0**
BVAR	**Borovoye Array**	**50.62**	**310**	P		**P**		**10 46 44.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=77,slow=6.4,SNR=3.5								
BVAR	**Borovoye Array**	**50.62**	**310**	P		**P**		**10 46 44.9**	**+1.2**
BVAR	**Borovoye Array**	**50.62**	**310**	P		**P**		**10 46 44.9**	**+1.2**
BRVK	**Borovoye**	**50.66**	**310**⇑	*e*P		**P**		**10 46 43.0**	**-0.9**
BRVK				pmax	pmax				
	comp=Z,10.0nm,1.7s								
TKM2	**Tokmak 2**	**52.23**	**296**	*e*P		**P**		**10 46 56.6**	**+0.5**
TKM2				pmax	pmax				
	comp=Z,1.0nm,0.4s								
TKM2	**Tokmak 2**	**52.23**	**296**	*e*P		**P**		**10 46 56.6**	**+0.5**
	comp=Z,0.6nm,0.4s								
TAPN	**Taplejung**	**52.54**	**273**	*e*P		**P**		**10 46 59.9**	**+1.2**
	comp=Z,9.2nm,0.6s								
TAPN	**Taplejung**	**52.54**	**273**	*e*P		**P**		**10 46 59.9**	**+1.2**
	comp=Z,9.2nm,0.6s								
RES	**Resolute Bay**	**52.88**	**18**	P		**P**		**10 46 59.1**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=223,slow=1.3,SNR=18								
RES	**Resolute Bay**	**52.88**	**18**	*e*P		**P**		**10 46 59.4**	**-0.8**

comp=Z,2.8nm,0.8s
ODAN Odare 53.07 273 *e*P **P 10 47 03.2 +0.7**
comp=Z,5.5nm,0.5s
ODAN Odare 53.07 273 *e*P **P 10 47 03.2 +0.7**
comp=Z,5.5nm,0.5s
AAK Ala-Archa 53.08 296 P **P 10 47 03.2 +0.9**
comp=Z,2.2nm,0.6s,baz=111,slow=2.2,SNR=10
AAK Ala-Archa 53.08 296 P **P 10 47 03.2 +0.9**
AAK Ala-Archa 53.08 296 P **P 10 47 03.2 +0.9**
YKA Yellowknife Ar 53.20 35 P **P 10 47 02.2 -0.4**
comp=Z,1.2nm,0.8s,baz=298,slow=7.0,SNR=13
YKA Yellowknife Ar 53.20 35 P **P 10 47 02.2 -0.4**
JIRN Jiri 53.43 274 *e*P **P 10 47 06.5 +1.2**
comp=Z,2.9nm,0.5s
JIRN Jiri 53.43 274 *e*P **P 10 47 06.5 +1.2**
comp=Z,2.9nm,0.5s
GUN Gumba 53.50 275 *e*P **P 10 47 06.7 +0.9**
comp=Z,12nm,0.6s
GUN Gumba 53.50 275 *e*P **P 10 47 06.7 +0.9**
comp=Z,12nm,0.6s
EKS2 Erkin-Say 53.52 297 *e*P **P 10 47 05.6 +0.1**
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 53.52 297 *e*P **P 10 47 05.6 +0.1**
comp=Z,3.0nm,0.6s
RAMN Ramite 53.57 273 *e*P **P 10 47 07.0 +0.8**
comp=Z,24nm,0.7s
RAMN Ramite 53.57 273 *e*P **P 10 47 07.0 +0.8**
comp=Z,24nm,0.7s
KSH Kashi 53.75 292 *e*P P 10 47 12.0 +4.8
KSH pP pP 10 47 35.2 +10
KSH sP sP 10 47 45.3 +13
KSH PcP **PcP 10 48 14.6 +2.2**
KSH ScP **ScP 10 52 01.1 -3.0**
KSH PcS **PcS 10 52 12.9 +1.2**
KSH S **S 10 54 40.2 +3.8**
KSH sS sS 10 55 22.8 +17
KSH ScS **ScS 10 56 47.6 -2.6**
KSH SS **SS 10 58 23.0 +5.5**
KSH pmax pmax
comp=Z,7.0nm,1.2s
KSH pmax pmax
comp=Z,110nm,6.6s
KSH LR LR
comp=N,68nm,9.8s
KSH LR LR
comp=E,150nm,6.6s
KSH LR LR
comp=Z,200nm,8.6s
KKN Kakani 53.99 275 *e*P **P 10 47 10.7 +1.5**
KKN Kakani 53.99 275 *e*P **P 10 47 10.7 +1.5**
KKN Kakani 53.99 275 *e*P **P 10 47 10.7 +1.5**
PKI Pulchoki 54.03 275 *e*P **P 10 47 10.5 +0.8**
PKI Pulchoki 54.03 275 *e*P **P 10 47 10.5 +0.8**
PKI Pulchoki 54.03 275 *e*P **P 10 47 10.5 +0.8**
DMN Daman 54.23 275 *e*P **P 10 47 11.6 +0.6**
DMN Daman 54.23 275 *e*P **P 10 47 11.6 +0.6**
GKN Gorkha 54.32 275 *e*P **P 10 47 12.4 +0.9**
comp=Z,8.1nm,0.3s
GKN Gorkha 54.32 275 *e*P **P 10 47 12.4 +0.9**
comp=Z,8.1nm,0.3s
DANN Dangsing 54.73 276 *e*P **P 10 47 16.0 +1.4**
comp=Z,11nm,0.4s
DANN Dangsing 54.73 276 *e*P **P 10 47 16.0 +1.4**
comp=Z,11nm,0.4s
KOLN Koldanda 55.19 276 *e*P **P 10 47 19.0 +1.1**
KOLN Koldanda 55.19 276 *e*P **P 10 47 19.0 +1.1**
KKAR Karatay Array 55.34 299 *e*P **P 10 47 18.8 +0.3**
KKAR Karatay Array 55.34 299 *e*P **P 10 47 18.8 +0.3**
PYUN Piuthan 55.42 277 *e*P **P 10 47 20.6 +1.1**
comp=Z,15nm,0.6s
PYUN Piuthan 55.42 277 *e*P **P 10 47 20.6 +1.1**
comp=Z,15nm,0.6s
ABKAR Akbulak array 58.20 310 *e*P **P 10 47 38.1 -0.5**
comp=Z,16nm,0.9s
AKTO Aktyubinsk 58.58 312 P **P 10 47 39.2 -2.0**
comp=Z,0.5nm,0.5s,baz=80,slow=12,SNR=2.3
AKTO LR LR 11 15 18.2
comp=Z,97nm,18.8s,baz=239,slow=38
AKTO Aktyubinsk 58.58 312 P **P 10 47 39.3 -2.0**
AKTO Aktyubinsk 58.58 312 P **P 10 47 39.2 -2.0**
ARCES ARCESS Array B 58.83 340 P **P 10 47 41.4 -1.3**
comp=Z,2.0nm,0.9s,baz=54,slow=6.8,SNR=2.9
ARCES ARCESS Array B 58.83 340 P **P 10 47 41.4 -1.3**
KBL Kabul 61.13 291 *e*P **P 10 47 59.0 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 61.13 291 *e*P **P 10 47 59.0 -0.2**
comp=Z,7.6nm,0.7s
SUMG Summit 62.42 3 *e*P **P 10 48 07.3 -0.2**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 62.42 3 *e*P **P 10 48 07.3 -0.2**
comp=Z,15nm,0.9s
FFC Flin Flon 63.03 38 *e*P **P 10 48 11.5 +0.1**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC Flin Flon 63.03 38 *e*P **P 10 48 11.5 +0.1**
comp=Z,5.1nm,1.0s
NVAR Mina Array Bea 64.65 60 P **P 10 48 23.3 +0.7**
comp=Z,0.4nm,0.6s,baz=307,slow=7.5,SNR=4.2
NVAR Mina Array Bea 64.65 60 P **P 10 48 23.3 +0.7**
FINES FINESS Array B 64.79 334 P **P 10 48 20.9 -1.9**
comp=Z,1.1nm,0.4s,baz=53,slow=7.4,SNR=7.9
FINES FINESS Array B 64.79 334 P **P 10 48 20.9 -1.9**
WRA Warramunga Arr 66.47 197 P **P 10 48 35.6 +1.5**
comp=Z,0.9nm,0.6s,baz=18,slow=6.8,SNR=7.8
WRA Warramunga Arr 66.47 197 P **P 10 48 35.6 +1.5**
PDAR Pinedale Array 67.03 52 P **P 10 48 37.7 -0.2**
comp=Z,1.2nm,0.8s,baz=285,slow=2.0,SNR=9.9
PDAR Pinedale Array 67.03 52 P **P 10 48 37.7 -0.2**
NB2 NORSAR Subarra 69.21 340 P **P 10 48 49.8 -1.1**
comp=Z,1.5nm,0.6s,baz=29,slow=6.2
NOA NORSAR Array B 69.21 340 P **P 10 48 49.5 -1.4**
comp=Z,1.8nm,0.6s,baz=29,slow=6.3,SNR=10
NOA NORSAR Array B 69.21 340 P **P 10 48 49.5 -1.4**
ASAR Alice Springs 70.17 196 P **P 10 48 59.2 +2.1**
comp=Z,0.7nm,0.8s,baz=10,slow=5.8,SNR=7.7
ASAR LR LR 11 17 24.7
comp=Z,75nm,19.7s,baz=354,slow=34
ASAR Alice Springs 70.17 196 P **P 10 48 59.2 +2.1**
KIV Kislovodsk 70.73 313 *e*P **P 10 49 01.8 +1.2**
KIV pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 70.78 313 P **P 10 49 01.6 +0.9**
comp=Z,8.9nm,0.9s,baz=37,slow=2.2,SNR=15
KBZ Khabaz 70.78 313 P **P 10 49 01.6 +0.9**
KBZ Khabaz 70.78 313 P **P 10 49 01.6 +0.9**
ZEI Tsey 70.93 312 *e*P **P 10 49 01.4 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 71.96 325 P **P 10 49 06.9 -0.8**
comp=Z,1.4nm,0.4s,baz=37,slow=6.1,SNR=5.2
AKASG Malin Array Be 71.96 325*ce*P **P 10 49 06.9 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.96 325 P **P 10 49 06.9 -0.8**
SCHQ Schefferville 75.43 21 P **P 10 49 27.9 -0.1**
comp=Z,1.2nm,0.4s,baz=15,slow=9.3,SNR=7.8
SCHQ Schefferville 75.43 21 P **P 10 49 27.9 -0.1**
OJC Ojcow 75.92 330 *e*P **P 10 49 31.1 +0.2**
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 75.92 330 *e*P **P 10 49 31.1 +0.2**
comp=Z,11nm,1.0s
OJC Ojcow 75.92 330 *e*P **P 10 49 29.2 -1.7**
BUR08 Bucovina Ar. S 75.99 325 *e*P **P 10 49 31.4 -0.1**
BURAR Bucovina Array 76.01 325⇑*i*P **P 10 49 32.0 +0.4**
KOLS Kolonicke sedl 76.08 328 *e*P **P 10 49 32.3 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 76.08 328 *e*P **P 10 49 32.3 +0.4**
TRPA Tarpa 76.64 327⇓*i*P **P 10 49 35.4 +0.4**
DPC Dobruska-Polom 77.00 332 *e*P **P 10 49 37.3 +0.2**
DPC Dobruska-Polom 77.00 332 *e*P **P 10 49 37.3 +0.2**
MORC Moravsky Berou 77.08 331 *e*P **P 10 49 37.9 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 77.08 331 *e*P **P 10 49 37.9 +0.4**
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 77.08 331⇑*i*P **P 10 49 37.6 +0.1**
CLL Collm 77.23 334⇓*i*P **P 10 49 37.9 -0.3**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 77.23 334 *e*P **P 10 49 38.0 -0.3**
comp=Z,10.0nm,0.6s
CLL Collm 77.23 334⇓*i*P **P 10 49 37.9 -0.3**
comp=Z,12nm,1.1s
BRG Berggiesshubel 77.32 334 *e*(P) **P 10 49 38.4 -0.4**
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 77.32 334 *e*P **P 10 49 38.4 -0.4**
BRG pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 77.42 324⇓*i*P **P 10 49 40.1 +0.5**
VYHS Vyhne 77.71 330 *e*P **P 10 49 41.0 0.0**
VYHS pmax pmax
comp=Z,36nm,2.7s
VYHS Vyhne 77.71 330 *e*P **P 10 49 41.0 0.0**
PSZ Piszkesteto 77.81 329⇑*i*P **P 10 49 42.0 +0.3**
VOIR 77.84 324⇑*i*P **P 10 49 42.6 +0.7**
PRU Pruhonice 77.90 333 *e*P **P 10 49 42.1 +0.1**
PRU Pruhonice 77.90 333 *e*P **P 10 49 42.1 +0.1**
MIB Mutribah 78.08 300 *e*P **P 10 49 43.9 +0.5**
MIB AMb AMB 10 49 46.0
comp=Z,13nm,1.0s
BRTR Keskin Array B 78.42 316 P **P 10 49 46.0 +0.8**
comp=Z,2.6nm,0.9s,baz=68,slow=6.8,SNR=8.1
BRTR Keskin Array B 78.42 316 P **P 10 49 46.0 +0.8**
QRN Al-Qurain 78.47 299 *e*P **P 10 49 46.2 +0.7**
NAY Al-Naaiem 78.53 300 *e*P **P 10 49 46.2 +0.3**
NAY AMb AMB 10 49 47.3
comp=Z,8.2nm,1.5s
RDF Al-Radifah 78.57 299 *e*P **P 10 49 47.0 +0.9**
RDF AMb AMB 10 49 48.4
comp=Z,19nm,0.6s
ROTZ Rotzenmuhle 78.83 334 *e*P **P 10 49 48.7 +1.5**
comp=Z,2.0nm,1.0s
KHC Kasperske Hory 78.95 333 *e*P **P 10 49 48.1 +0.2**
KHC Kasperske Hory 78.95 333 *e*P **P 10 49 48.1 +0.2**
comp=Z,9.8nm,1.0s
KHC Kasperske Hory 78.95 333 *e*P **P 10 49 48.1 +0.2**
GEC2 GERESS Array S 79.17 333 *e*P **P 10 49 49.2 +0.1**
comp=Z,6.0nm,1.5s
GERES GERESS Array B 79.17 333 P **P 10 49 49.0 -0.1**
comp=Z,1.5nm,0.5s,baz=42,slow=6.1,SNR=9.6
GERES GERESS Array B 79.17 333 P **P 10 49 49.0 -0.1**
WET Wettzell 79.17 333 *e*P **P 10 49 49.7 +0.7**
comp=Z,20nm,1.3s
GRFO Grafenberg 79.20 335 *e*P **P 10 49 48.7 -0.5**
GRFO Grafenberg 79.20 335 *e*P **P 10 49 48.7 -0.5**
comp=Z,89nm,2.1s
CONA Conrad Observa 79.24 331⇑*i*P **P 10 49 47.8 -1.7**
comp=Z,4.6nm,0.9s
TXAR Lajitas Array 79.73 59 P **P 10 49 52.6 +0.1**
comp=Z,0.5nm,0.5s,baz=297,slow=4.4,SNR=18
TXAR Lajitas Array 79.73 59 P **P 10 49 52.6 +0.1**
SOKA Soboth 80.60 331 ⇑P **P 10 49 55.4 -1.5**
comp=Z,4.9nm,0.8s
PLCA Paso Flores 149.68 96 PKPbc **PKPbc 10 57 34.3 +0.9**
comp=Z,2.4nm,1.0s,baz=223,slow=3.7,SNR=3.5
PLCA Paso Flores 149.68 96 PKPbc **PKPbc 10 57 34.3 +0.9**
CPUP Villa Florida 150.70 60 PKPbc **PKPbc 10 57 36.2 +0.1**
comp=Z,1.4nm,0.5s,baz=1.1,slow=3.3,SNR=3.4
CPUP Villa Florida 150.70 60 PKPbc **PKPbc 10 57 36.2 +0.1**

JMA 05 10:49:50.7±0.1**, 35.°28N**×**138.°37E, h24**km±1km**, M2.9, 2C-3D Broadband fault plane solution: P waves. NP1:** ϕ_s343.00000°**,** δ85.00000°**,** λ105.00000°. **NP2:** ϕ_s92.00000°**,** δ16.00000°**,** λ19.00000°. **Principal axes:** T Plg48.0000°**,** Azm269.0000°**;** N Plg15.0000°**,** Azm162.0000°**;** P Plg38.0000°**,** Azm60.0000°**; Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.25**	**212**	⇓P	Pb	10 49 56.8	-0.2
SHZ3				S	Sb	10 50 01.6	+0.3
JYN	**Shimob**	**0.26**	**33**	⇑P	Pb	10 49 56.6	-0.6
JYN				*e*S	Sb	10 50 01.3	-0.3
JNY	**Yasuok**	**0.42**	**281**	⇓P	Pb	10 49 59.6	-0.1
JNY				S	Sb	10 50 06.3	+0.4
JOD2	**Odawara 2**	**0.59**	**91**	⇑P	Pb	10 50 01.8	-0.6
JIZS	**Izushimoda**	**0.70**	**143**	P	Pb	10 50 03.5	-0.7
JRY	**Ryogami san**	**0.85**	**30**	⇓P	Pb	10 50 06.2	-0.7
TK04	**Tokai 4**	**0.98**	**205**	P	Pb	10 50 09.3	+0.4
MAT	**Matsushiro**	**1.27**	**354**	P	Pn	10 50 13.1	+0.1
MAT				S	Sb	10 50 30.7	+0.8

---

*TEH **05** 10:51:07.2, 27.°17N×56.°77E, h28km, ML4.2*
*IDC **05** 10:51:08.7±1.1, 27.°59N×56.°71E, h0km, mb4.2/17, mb1 4.2/20, mb1mx4.1/33, mbtmp4.2/20, ML4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=23.5km s-min=15.2km az=171.0*
*ISCJB **05** 10:51:10.7±0.3, 27.°70N±0.°03×56.°74E±0.°04, h18km, mb4.1/26, MS3.1/1, Error ellipse: s-maj=4.7km s-min=4.0km az=25.8*
*CSEM **05** 10:51:12.0±0.2, 27.°61N×56.°62E, h2km, ML4.2, Error ellipse: s-maj=7.8km s-min=4.0km az=96.0*
*MOS **05** 10:51:12.6±1.0, 27.°76N×56.°75E, h33km, mb4.3/19, Error ellipse: s-maj=12.0km s-min=7.0km az=93.9*
*OMAN **05** 10:51:36.5±99.0, 26.°32N×56.°93E, h4km, Error ellipse: s-maj=32.0km s-min=2.1km az=9.0*
ISC 05 10:51:11.6±0.4**, 27.°61N**±0.°03×**56.°72E**±0.°05**, h18**km**, n106,** σ1**§38**/102**, mb4.2**/26**, 6C-3D, Southern Iran**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IBND Bandar-abas 0.22 226 *e*Pg **Pg 10 51 16.3 -0.6**
IBND *e*Sg **Sb 10 51 23.2 +2.8**
IBND *e* 10 51 33.0
comp=Z,50μm,0.2s
IBND Bandar-abas 0.22 226 *e*Pg **Pg 10 51 16.3 -0.6**
BANOM Banah 1.72 193 P Pg 10 51 49.7 +5.0
SNR=6.4
BANOM Banah 1.72 193 P **Pn 10 51 42.2 +1.6**
SNR=8.1
BANOM S **Sb 10 52 05.6 +1.7**
NAZ Nazwa, Dubai 2.77 200 P **Pg 10 52 05.7 +0.9**
SNR=6.2
NAZ Nazwa, Dubai 2.77 200 P **Pn 10 51 57.3 +2.2**
HATD Hatta, Dubai 2.82 191 P Pg 10 52 09.5 +3.9
SNR=8.3
HATD Hatta, Dubai 2.82 191 P **Pn 10 51 57.2 +1.4**
ASHO Ashiyiah 2.97 192 P **Pg 10 52 09.1 +0.6**
SNR=22
ASHO Ashiyiah 2.97 192 P **Pn 10 51 59.5 +1.6**
FAQ Al Faqa, Dubai 3.02 200 P **Pn 10 52 00.4 +1.8**
ASUD Al Ashush, Dub 3.22 203 P **Pn 10 52 03.9 +2.6**
ISRV Sarvestan 3.63 300 *e*Pn **Pn 10 52 08.6 +1.3**
ISRV *e*Sg Sg 10 53 16.3 +7.9
ISRV *e* 10 53 32.5
comp=Z,3μm,0.5s
ISRV Sarvestan 3.63 300 *e*Pn **Pn 10 52 08.6 +1.3**
IPAR Pars 3.92 306 *e*Pn **Pn 10 52 13.0 +1.8**
IPAR *e* 10 53 55.3
comp=Z,2μm,0.5s
IPAR Pars 3.92 306 *e*Pn **Pn 10 52 13.0 +1.8**
IBAF Bafgh 4.10 346 *e*Pn **Pn 10 52 15.5 +2.0**
IBAF *e* 10 53 25.9
comp=Z,2μm,0.3s
IBAF Bafgh 4.10 346 *e*Pn **Pn 10 52 15.5 +2.0**
IMEH Mehriz 4.20 335 *e*Pn **Pn 10 52 17.9 +3.0**
IMEH *e* 10 53 44.4
comp=Z,2μm,0.3s
IMEH Mehriz 4.20 335 *e*Pn **Pn 10 52 17.9 +3.0**
WSAR Wadi Sarin 4.68 158 Pn **Pn 10 52 22.4 +1.0**
comp=Z,13nm,0.3s,baz=337,slow=12,SNR=51
WSAR Sn **Sn 10 53 13.8 -1.4**
comp=Z,23nm,0.3s,baz=127,slow=22,SNR=19
WSAR LR LR 10 54 15.0
comp=Z,134nm,21.5s,baz=4.7,slow=40
BSY Bisya 4.86 175 P Pb 10 52 32.5 -3.7
SNR=6.4
BSYO Bisya 4.88 174 P Pb 10 52 32.5 -4.0
SNR=6.4
ICHK Chekchek 5.04 337 *e*Pn Pn 10 52 30.0 +3.5
ICHK *e* 10 54 13.4
comp=Z,918nm,0.4s
ICHK Chekchek 5.04 337 *e*Pn Pn 10 52 30.0 +3.5
IKOO Kooshah 5.20 22 *e*Pn **Pn 10 52 31.4 +2.7**
IKOO *e* 10 54 08.5
comp=Z,2μm,0.4s
IKOO Kooshah 5.20 22 *e*Pn **Pn 10 52 31.4 +2.7**
ITEG Tejag 5.56 18 *e*Pn **Pn 10 52 36.4 +2.8**
ITEG *e* 10 54 21.5
comp=Z,1μm,0.3s
ITEG Tejag 5.56 18 *e*Pn **Pn 10 52 36.4 +2.8**
IDAH Dahanechah 5.80 27 *e*Pg **Pg 10 53 03.3 +0.7**
IDAH *e* 10 54 48.6
comp=Z,485nm,0.3s
IDAH Dahanechah 5.80 27 *e*Pg **Pg 10 53 03.3 +0.7**
IMON Monand 6.12 24 *e*Pn **Pn 10 52 44.2 +2.8**
IMON *e* 10 54 52.1
comp=E,2μm,0.3s
IMON Monand 6.12 24 *e*Pn **Pn 10 52 44.2 +2.8**
IGAR Gharneh 6.27 321 *e*Pn **Pn 10 52 45.3 +1.9**
IZEF Zefreh 6.50 325 *e*Pn **Pn 10 52 48.2 +1.6**
IZEF *e* 10 52 50.5
comp=Z,158nm,0.2s
IZEF Zefreh 6.50 325 *e*Pn **Pn 10 52 48.2 +1.6**
IPIR Pirpir 7.15 317 *e*Pn **Pn 10 52 57.4 +1.9**
IPIR *e* 10 53 44.3
comp=Z,346nm,0.2s
IPIR Pirpir 7.15 317 *e*Pn **Pn 10 52 57.4 +1.9**
IKLH Kolahrood 7.22 323 *e*Pn **Pn 10 52 58.3 +1.8**
IKLH Kolahrood 7.22 323 *e*Pn **Pn 10 52 58.3 +1.8**
RDF Al-Radifah 8.19 281 *e*P **Pn 10 53 09.6 0.0**
RDF AML AML 10 54 37.1
comp=Z,10nm,0.4s
RDF Al-Radifah 8.19 281 *e*P **Pn 10 53 09.6 0.0**
NAY Al-Naaiem 8.50 283 *e*P **Pn 10 53 13.6 -0.3**
NAY AML AML 10 54 48.5
comp=Z,8.1nm,0.7s
NAY Al-Naaiem 8.50 283 *e*P **Pn 10 53 13.6 -0.3**
MIB Mutribah 8.52 287 *e*P **Pn 10 53 14.1 0.0**
MIB AML AML 10 54 49.8
comp=Z,40nm,0.7s
MIB Mutribah 8.52 287 *e*P **Pn 10 53 14.1 0.0**
IKRD Kardeh 9.27 9 *e*Pn Pn 10 53 29.7 +5.1
GNI Garni 15.96 325 Pn **P 10 55 00.8 +1.9**
comp=Z,0.7nm,0.3s,baz=278,slow=2.0,SNR=4.6
DGRG David-gareji 16.66 329 P **P 10 55 08.7 +2.2**
ASF Jabal al Asfar 17.78 290 P **Pn 10 55 18.4 +0.2**
comp=Z,0.3nm,0.3s,baz=320,slow=12,SNR=4.0
ZEI Tsey 18.37 329 *e*P **Pn 10 55 27.1 +1.5**
ZEI pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 19.08 32*ce*P **P 10 55 31.8 -1.4**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
EIL Elat 19.22 281 P **Pn 10 55 36.0 +0.2**
comp=Z,0.4nm,0.3s,baz=116,slow=6.4,SNR=4.3
KIV Kislovodsk 19.85 329 *e*P **P 10 55 40.2 -1.4**
KIV pmax pmax
comp=Z,12nm,1.0s
ATD Arta Tunnel 20.62 222 LR LR 11 03 19.2
comp=Z,72nm,18.7s,baz=44,slow=36
AAK Ala-Archa 20.82 39 P **P 10 55 53.0 +0.7**
comp=Z,3.4nm,0.6s,baz=222,slow=10.0,SNR=20
AAK Ala-Archa 20.82 39 P **P 10 55 53.0 +0.7**
AAK pmax pmax
comp=Z,3.0nm,0.6s
AB31 Akbulak array 21.76 6*ce*P **P 10 56 01.5 -0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
BRTR Keskin Array B 22.62 308 P **P 10 56 12.3 +0.6**
comp=Z,6.5nm,0.7s,baz=125,slow=11,SNR=19
AKTO Aktyubinsk 22.82 2 P **P 10 56 14.0 +0.6**
comp=Z,16nm,0.6s,baz=184,slow=9.8,SNR=68
AKTO Aktyubinsk 22.82 2 *i* P **P 10 56 12.2 -1.2**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
ANN Anapa 23.07 323 *e*P **P 10 56 16.1 +0.1**
ANN pmax pmax
comp=Z,32nm,1.0s
KOLN Koldanda 23.79 83 *e*P **P 10 56 24.3 +0.7**
DANN Dangsing 23.88 82 *e*P **P 10 56 25.7 +1.1**
comp=Z,22nm,0.7s
GKN Gorkha 24.68 83 *e*P **P 10 56 32.3 +0.5**
comp=Z,3.7nm,0.4s
DMN Daman 25.14 83 *e*P **P 10 56 36.2 +0.2**
KKN Kakani 25.27 83 *e*P **P 10 56 37.9 +0.7**
comp=Z,11nm,0.5s
PKI Pulchoki 25.41 83 *e*P **P 10 56 39.2 +0.6**
GUN Gumba 25.78 82 *e*P **P 10 56 42.6 +0.6**
comp=Z,18nm,0.7s
JIRN Jiri 26.09 83 *e*P **P 10 56 45.4 +0.6**
RAMN Ramite 26.54 84 *e*P **P 10 56 48.7 0.0**
comp=Z,4.1nm,0.5s
ZRNK Zerenda 26.92 17 *i* P **P 10 56 50.3 -1.3**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s
ODAN Odare 27.25 84 *e*P **P 10 56 54.2 -0.9**
comp=Z,4.1nm,0.3s
BVAR Borovoye Array 27.35 18 P **P 10 56 55.4 -0.1**
comp=Z,2.9nm,0.7s,baz=199,slow=8.8,SNR=17
BVAR Borovoye Array 27.35 18 P **P 10 56 55.4 -0.1**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 27.35 18⇑*e*P **P 10 56 55.1 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
MKAR Makanchi Array 27.76 40 P **P 10 56 59.2 -0.1**
comp=Z,0.3nm,0.4s,baz=216,slow=8.3,SNR=14
MKAR Makanchi Array 27.76 40*ce*P **P 10 56 59.2 -0.1**
KURBB Kurchatov Arra 28.34 30 P **P 10 57 04.8 +0.5**
comp=Z,2.4nm,0.8s,baz=227,slow=8.9,SNR=22
KURK Kurchatov 28.45 30 P **P 10 57 04.8 -0.5**
KURK pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 31.09 325 P **P 10 57 28.2 -0.5**
comp=Z,4.6nm,0.6s,baz=132,slow=8.4,SNR=15
AKASG Malin Array Be 31.09 325*ce*P **P 10 57 28.0 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
OBN Obninsk 31.14 337⇓*e*P **P 10 57 29.3 +0.3**
OBN *i* 10 57 34.4
OBN pmax pmax
comp=Z,7.0nm,0.5s
NVS Novosibirsk 33.35 28 *e*P **P 10 57 47.9 -0.5**
ZALV Zalesovo Beam 33.43 30 P **P 10 57 49.0 -0.2**
comp=Z,7.1nm,0.5s,baz=244,slow=9.2,SNR=38
ZALV Zalesovo Beam 33.43 30 P **P 10 57 49.0 -0.2**
ZALV pmax pmax
comp=Z,7.0nm,0.5s
HVS Khovu-Aksy 36.43 40⇑*e*P **P 10 58 16.1 +0.9**
HVS pmax pmax
comp=Z,9.0nm,1.0s
GTA Gaotai 37.49 60 ⇓P **P 10 58 25.0 +0.6**
GTA pP **pP 10 58 28.8 -1.2**
GTA pmax pmax
comp=Z,7.0nm,1.0s
JOF Joensuu 39.04 342 *e*P **P 10 58 36.8 -0.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 39.04 342 *e*p **P 10 58 36.8 -0.2**
comp=Z,0.9nm,0.4s
GERES GERESS Array B 39.23 315 P **P 10 58 38.6 -0.3**
comp=Z,0.7nm,0.5s,baz=126,slow=6.9,SNR=4.8
KHC Kasperske Hory 39.39 315 *e*P **P 10 58 39.0 -1.2**
KHC Kasperske Hory 39.39 315 *e*P **P 10 58 39.0 -1.2**
FINES FINESS Array B 39.55 337 P **P 10 58 41.1 -0.1**
comp=Z,5.2nm,0.5s,baz=133,slow=9.6,SNR=22
SONM Songino Array 43.32 48 P **P 10 59 13.1 +0.5**
comp=Z,1.7nm,0.8s,baz=256,slow=8.3,SNR=17
NB2 NORSAR Subarra 45.14 331 P **P 10 59 25.6 -1.3**
comp=Z,3.2nm,0.7s,baz=112,slow=7.9
NOA NORSAR Array B 45.14 331 P **P 10 59 26.0 -0.9**
comp=Z,4.5nm,0.7s,baz=115,slow=7.9,SNR=15
KEV Kevo 45.54 346 *e*P **P 10 59 27.9 -1.9**
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 45.54 346 *e*p **P 10 59 27.9 -1.9**
comp=Z,3.6nm,0.6s
ARCES ARCESS Array B 45.70 345 P **P 10 59 31.4 +0.3**
comp=Z,2.4nm,0.8s,baz=134,slow=5.2,SNR=5.3
BOD Bodaibo 49.76 36 *e*P **P 11 00 01.6 -1.1**
TORD Torodi Ar. Bea 53.15 266 P **P 11 00 27.8 -1.0**
comp=Z,1.5nm,0.6s,baz=64,slow=7.0,SNR=20
KSRS Korea Array 59.56 61 P **P 11 01 13.2 -0.9**
comp=Z,1.9nm,0.8s,baz=264,slow=6.5,SNR=4.5
SEY Seymchan 68.30 29⇓*e*P **P 11 02 11.4 +0.2**
ILAR Eielson Array 86.10 10 P **P 11 03 49.9 -1.3**
comp=Z,0.7nm,1.1s,baz=328,slow=3.2,SNR=4.2
YKA Yellowknife Ar 89.95 356 P **P 11 04 09.5 +0.1**
comp=Z,1.0nm,0.8s,baz=2.0,slow=5.0,SNR=27

---

*IDC **05** 10:56:53.2±0.4, 3.°72N×126.°89E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.4/29, mbtmp4.3/25, MS3.8/10,*

Ms1 3.8/10, ms1mx3.4/40, Error ellipse: s-maj=23.8km s-min=8.9km az=72.0

BJI 05 10:56:57.3, 3°.81N×127°.10E, h31km, mB5.0/16, mb4.8/25, Ms4.7/16, Ms7 4.5/16

ISCJB 05 10:56:58.4±0.2, 3°.73N±0°.03×127°.04E±0°.04, h48km, mb4.5/46, MS3.9/15, Error ellipse: s-maj=6.3km s-min=4.0km az=161.5

AUST 05 10:57:01.0±1.0, 3°.56N×126°.87E, h52km, Error ellipse: s-maj=1.3km s-min=1.2km az=230.0

DJA 05 10:57:01.9±0.9, 4°N±8°×12°7E±°, h50km±9km, M4.7/15, mB5.2/7, mb4.7/15, MLv4.7/4, Mw(mB)4.6/7

NEIC 05 10:57:02.2±1.1, 3°.72N×126°.95E, h69km±9km, mb4.5/14, Error ellipse: s-maj=11.0km s-min=5.4km az=75.0

ISC 05 10:57:00.6±0.3, 3°.73N±0°.04×127°.01E±0°.06, h48km, n126, σ1.72/144, mb4.5/45, MS3.9/15, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	2.96	173	P	Pn	10 57 43.0	-2.2
DAV	Davao City (W)	3.60	337	Pn	Pn	10 57 57.1	+3.2
	32nm,0.3s,baz=34,slow=11,SNR=2.6						
DAV				Sn	Sn	10 58 43.3	+8.0
	46nm,0.3s,baz=290,slow=11,SNR=3.5						
DAV	Davao City (W)	3.60	337	Pn	Pn	10 57 57.1	+3.2
DAV				Sn	Sn	10 58 43.3	+8.0
DMPH	Davao City--Mi	3.65	336⇑	eP	Pn	10 57 59.0	+4.4
DMPH				eS	Sn	10 58 41.0	+4.7
KMSI	Cibinong	4.36	224	P	Pn	10 58 06.2	+1.9
LBMI	Labuha	4.37	173	P	Pn	10 58 08.6	+4.1
CTBH	Cotabato--PC H	4.42	322⇓	iP	Pn	10 58 07.0	+1.9
MRSI	Marisa	6.01	238	P	Pn	10 58 25.8	-1.1
	137nm,0.6s,1μm						
SWI	Sorong	6.24	137	P	Pn	10 58 30.4	+0.3
	baz=6.2,SNR=3.7						
SWI				S	Sn	10 59 41.8	+1.6
	baz=6.2,SNR=9.5						
SWI	Sorong	6.24	137	P	Pn	10 58 31.3	+1.2
	75nm,0.5s,0.3nm						
LUWI	Luwuk	6.36	222	P	Pn	10 58 38.0	+6.3
	256nm,1.0s,2μm0.8nm						
PALU	Palau	8.25	64	P	Pn	10 59 00.8	+3.0
	baz=8.5,SNR=4.0						
FAKI	Fak Fak	8.44	142	P	Pn	10 58 59.8	-0.5
	55nm,0.8s,628nm						
TTSI	Tana Toraja	9.84	227	P	Pn	10 59 18.8	-0.8
	51nm,0.9s,1μm						
SPSI	Sidrap Palu	10.52	223	P	Pn	10 59 32.7	+3.8
	22nm,1.0s,1μm						
KKM	Kota Kinabalu	10.99	282	ePn	Pn	10 59 35.8	+0.4
KKM	Kota Kinabalu	10.99	282	P	Pn	10 59 36.8	+1.4
	17nm,0.8s						
KAPI	Kappang	11.31	220	Pn	Pn	10 59 40.4	+0.8
	baz=62,slow=17,SNR=3.2						
KAPI				LR	LR	11 04 32.1	
	comp=Z,278nm,19.4s,baz=93,slow=41						
KAPI	Kappang	11.31	220	Pn	Pn	10 59 40.4	+0.8
BKSI	Bulukumba	11.32	217	P	Pn	10 59 39.2	-0.6
	11nm,1.2s						
BBKI	Banjar Baru	14.10	240	P	P	11 00 24.1	-0.1
SBUM	Sibu	14.82	265	P	Pn	11 00 28.9	+1.7
	20nm,1.2s,645nm						
JAY	Jayapura	15.03	114	P	P	11 00 36.2	+1.6
	baz=15,SNR=4.7						
STKI	Sintang	15.94	257	P	P	11 00 44.9	+0.3
	35nm,0.8s,14μm						
SRBI	Singaraja	16.62	225	P	P	11 00 51.3	-0.9
	41nm,1.4s						
KSM	Kuching	16.83	263	ePn	P	11 00 53.7	-0.8
	15nm,0.9s						
KSM	Kuching	16.83	263	P	P	11 00 54.2	-0.3
	baz=17,SNR=4.7						
KSM	Kuching	16.83	263	P	Pn	11 00 52.8	-0.2
	20nm,0.9s						
MTN	Manton Dam	16.97	166	P	Pn	11 00 52.8	-1.9
	baz=17,SNR=24						
MTN				S	Sn	11 03 47.2	-15
	baz=17,SNR=3.7						
KDU	Kakadu	17.19	162	P	P	11 00 58.5	0.0
	baz=17,SNR=6.0						
GUMO	Guam	20.17	60	LR	LR	11 07 29.1	
	comp=Z,211nm,19.5s,baz=240,slow=31						
TPUB	Ta-pu	20.41	343	eP	P	11 01 31.1	-2.6
FITZ	Fitzroy Crossi	21.74	184	P	P	11 01 47.1	-1.0
	4.9nm,0.5s,baz=1.4,slow=11,SNR=22						
FITZ	Fitzroy Crossi	21.74	184	eP	P	11 01 46.8	-1.2
	7.1nm,0.7s						
FITZ	Fitzroy Crossi	21.74	184	P	P	11 01 46.4	-1.6
	baz=22,SNR=14						
WRAB	Tennant Creek	24.60	163	eP	P	11 02 15.1	-1.3
	27nm,0.9s						
WRA	Warramunga Arr	24.61	163	P	P	11 02 15.1	-1.4
	19nm,0.8s,baz=343,slow=10,SNR=65						
WRA				S	S	11 06 38.1	+3.5
	3.4nm,1.0s,baz=332,slow=19,SNR=4.7						
WRA				ScP	ScP	11 09 31.8	+3.2
	2.0nm,0.9s,baz=339,slow=3.1,SNR=9.2						
WRA	Warramunga Arr	24.61	163	P	P	11 02 15.1	-1.4
WRA				S	S	11 06 38.1	+3.5
WRA				ScP	ScP	11 09 31.8	+3.2
MBWA	Marble Bar	25.75	196	eP	P	11 02 27.2	+0.4
	16nm,1.1s						
IPM	Ipoh	25.92	273	eP	P	11 02 34.3	+5.7
	22nm,1.2s						
AS31	Alice Springs	28.05	166	eP	P	11 02 46.8	-0.8
ASAR	Alice Springs	28.05	166	P	P	11 02 46.5	-1.1
	1.8nm,0.6s,baz=341,slow=6.3,SNR=34						
ASAR				S	S	11 07 33.6	+4.5
	0.8nm,1.0s,baz=348,slow=24,SNR=4.0						
ASAR	Alice Springs	28.05	166	P	P	11 02 46.5	-1.1
ASAR				S	S	11 07 33.6	+4.5
NJ2	Nanjing	29.19	346	eP	P	11 02 57.4	-0.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA	Guiyang	29.84	321	eP	P	11 03 04.6	+1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	Chiang Mai Arr	31.11	300	P	P	11 03 13.9	-0.8
	comp=Z,1.5nm,0.6s,baz=109,slow=7.1,SNR=8.9						
CMAR				ScP	ScP	11 09 51.3	+2.7
	comp=Z,1.3nm,0.8s,baz=134,slow=2.3,SNR=9.0						
CMAR				LR	LR	11 17 38.7	
	comp=Z,92nm,18.3s,baz=110,slow=40						
CMAR	Chiang Mai Arr	31.11	300	P	P	11 03 13.9	-0.8
CMAR				ScP	ScP	11 09 51.3	+2.7
MEEK	Meekatharra	31.27	195	P	P	11 03 15.2	-0.8
	baz=31,SNR=5.6						
KMI	Kunming	31.57	315	P	P	11 03 21.3	+2.3
KMI				S	S	11 08 27.2	+2.4
KMI				sS	sS	11 08 44.3	-1.6
KMI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,39nm,3.5s						
KMI				LR	LR		
	comp=N,150nm,25.1s						
KMI				LR	LR		
	comp=E,190nm,23.7s						
KMI				LR	LR		
	comp=Z,170nm,21.8s						
KSAR	Wonju Array Be	33.56	1	P	P	11 03 35.5	-0.4
KSRS	Korea Array	33.57	1	P	P	11 03 35.5	-0.5
	comp=Z,1.8nm,0.8s,baz=183,slow=10,SNR=5.3						
KSRS				LR	LR	11 15 53.1	
	comp=Z,90nm,18.8s,baz=335,slow=34						
MJAR	Matsushiro Arr	34.24	16	LR	LR	11 17 15.3	
	comp=Z,170nm,19.4s,baz=200,slow=36						
QLP	Quilpie	34.44	152	P	P	11 03 42.4	-1.3
	baz=34,SNR=5.0						
CD2	Chengdu	34.80	324	P	P	11 03 48.7	+1.8
CD2				pP	pP	11 03 58.8	-0.8
CD2				sP	sP	11 04 03.0	-2.3
CD2				PP	PP	11 05 07.3	+0.7
CD2				S	S	11 09 17.1	+2.7
CD2				sS	sS	11 09 33.9	-1.8
CD2				SS	SnSn	11 11 32.8	+1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,130nm,5.3s						
CD2				LR	LR		
	comp=N,350nm,7.7s						
CD2				LR	LR		
	comp=Z,360nm,5.7s						
HNR	Honiara	35.34	112	LR	LR	11 16 25.2	
	comp=Z,121nm,19.1s,baz=290,slow=33						
BBOO	Buckleboo	37.34	167	P	P	11 04 07.9	-0.6
	baz=37,SNR=10						
BJI	Beijing	37.45	346	P	P	11 04 09.4	+0.1
BJI				S	S	11 09 57.5	+3.0
BJI				pmax	pmax		
	comp=Z,35nm,0.8s						
BJI				pmax	pmax		
	comp=Z,120nm,4.3s						
BJI				LR	LR		
	comp=N,180nm,14.8s						
BJI				LR	LR		
	comp=E,220nm,15.5s						
STKA	Stephens Creek	38.04	160	P	P	11 04 13.8	-0.6
	comp=E,18nm,0.6s,baz=337,slow=8.6,SNR=30						
STKA	Stephens Creek	38.04	160	eP	P	11 04 13.9	-0.6
	comp=E,4.1nm,0.8s						
STKA	Stephens Creek	38.04	160	P	P	11 04 13.8	-0.6
	baz=38,SNR=8.9						
LZH	Lanzhou	38.64	329	eP	P	11 04 18.5	-1.1
LZH				pP	pP	11 04 29.0	-3.4
LZH				sP	sP	11 04 32.9	-5.2
LZH				PP	PnPn	11 05 51.6	+0.4
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,63nm,5.0s						
LZH				LR	LR		
	comp=N,300nm,12.5s						
LZH				LR	LR		
	comp=E,330nm,13.3s						
LZH				LR	LR		
	comp=Z,380nm,17.0s						
CMSA	Cobar Meteorol	39.33	154	P	P	11 04 24.7	-0.6
	baz=39,SNR=6.5						
HHC	Hu-ho-hao-te	39.48	341	eP	P	11 04 27.5	+1.0
HHC				pP	pP	11 04 37.2	-2.2
HHC				sP	sP	11 04 41.5	-3.5
HHC				PP	PnPn	11 06 02.6	+1.5
HHC				eS	S	11 10 27.7	+2.3
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=N,220nm,12.3s						
HHC				LR	LR		
	comp=E,300nm,10.4s						
HHC				LR	LR		
	comp=Z,310nm,12.8s						
CN2	Changchun	39.92	358	eP	P	11 04 30.3	+0.3
CN2				esP	sP	11 04 45.0	-3.5
CN2				eS	S	11 10 27.0	-4.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
SHL	Shillong	40.09	306	eP	P	11 04 31.0	-1.0
USRK	Ussuriysk Arra	40.54	6	P	P	11 04 34.9	-0.2
	comp=Z,2.3nm,0.7s,baz=186,slow=9.7,SNR=6.0						
ASAJ	Asahikawa	42.51	17	P	P	11 04 51.0	-0.2
	comp=Z,1.6nm,0.3s,baz=120,slow=20,SNR=4.4						
ASAJ				LR	LR	11 22 29.1	
	comp=Z,164nm,18.2s,baz=173,slow=36						
ASAJ	Asahikawa	42.51	17	P	P	11 04 51.0	-0.2
TOO	Toolangi	44.54	159	S	S	11 11 46.3	+6.2
	baz=45,SNR=6.6						
MILA	Mila	45.52	155	S	S	11 11 29.7	-25
	baz=46,SNR=8.5						
DZM	Mont Dzumac	46.31	125	P	P	11 05 22.3	+0.2
	comp=Z,6.9nm,0.8s,baz=347,slow=6.5,SNR=13						
DZM	Mont Dzumac	46.31	125	P	P	11 05 22.3	+0.2
ULN	Ulaanbaatar	47.20	342	eP	P	11 05 27.6	-1.1
	comp=Z,4.1nm,0.7s						
SONM	Songino Array	47.38	341	P	P	11 05 28.3	-1.8
	comp=Z,1.3nm,0.6s,baz=160,slow=8.3,SNR=11						
SONM				PcP	PcP	11 07 00.7	+0.5
	comp=Z,2.1nm,0.8s,baz=159,slow=3.6,SNR=7.7						
SONM	Songino Array	47.38	341	P	P	11 05 28.3	-1.8
SONM				PcP	PcP	11 07 00.7	+0.5
WMQ	Urumqi	52.88	325	eP	P	11 06 13.6	+1.8
WMQ				LR	LR		
	comp=N,160nm,24.0s						
WMQ				LR	LR		
	comp=E,120nm,21.0s						
WMQ				LR	LR		
	comp=Z,79nm,20.0s						
PETK	Petropavlovsk-	55.32	22	P	P	11 06 29.3	0.0
	comp=Z,2.5nm,0.6s,baz=196,slow=8.9,SNR=2.9						
PETK	Petropavlovsk-	55.32	22	P	P	11 06 29.3	0.0
MK31	Makanchi Array	57.71	325	eP	P	11 06 45.5	-0.9
MKAR	Makanchi Array	57.71	325	P	P	11 06 45.3	-1.1
	comp=Z,2.3nm,0.6s,baz=116,slow=8.2,SNR=27						
MKAR				LR	LR	11 33 11.1	
	comp=Z,106nm,18.7s,baz=86,slow=38						
MKAR	Makanchi Array	57.71	325	eP	P	11 06 45.5	-0.9
YAK	Yakutsk	58.20	1	eP	P	11 06 49.1	-0.4
	comp=Z,26nm,0.9s						
KSH	Kashi	58.23	315	P	P	11 06 53.6	+3.2
KSH				sP	sP	11 07 07.8	-1.5
KSH				PcP	PcP	11 07 44.0	+2.7
KSH				PP	PP	11 09 05.4	+5.6
KSH				ScP	ScP	11 11 40.2	+2.4
KSH				PcS	PcS	11 11 44.3	+1.4
KSH				S	S	11 14 54.2	+5.1
KSH				sS	sS	11 15 10.9	-0.7
KSH				ScS	ScS	11 16 37.5	+1.1
KSH				SS	SS	11 18 49.7	+8.1
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,120nm,4.9s						
KSH				LR	LR		
	comp=N,120nm,5.5s						
KSH				LR	LR		
	comp=E,120nm,5.1s						
KSH				LR	LR		
	comp=Z,190nm,7.4s						
TKM2	Tokmak 2	59.92	318	eP	P	11 07 01.5	-0.6
	comp=Z,4.0nm,0.9s						
AAK	Ala-Archa	60.54	318	P	P	11 07 05.6	-0.7
	comp=Z,1.2nm,0.7s,baz=96,slow=9.2,SNR=3.9						
AAK	Ala-Archa	60.54	318	P	P	11 07 05.6	-0.7
ZAA0	Zalesovo Array	60.71	333	eP	P	11 07 05.9	-1.1
ZALV	Zalesovo Beam	60.71	333	P	P	11 07 05.5	-1.4
	comp=Z,2.7nm,0.9s,baz=126,slow=5.6,SNR=4.4						
ZALV	Zalesovo Beam	60.71	333	P	P	11 07 05.5	-1.4
EKS2	Erkin-Say	61.03	318	eP	P	11 07 09.0	-0.6
	comp=Z,4.3nm,0.8s						
KURBB	Kurchatov Arra	61.88	327	P	P	11 07 13.8	-1.1
	comp=Z,3.8nm,0.7s,baz=129,slow=6.3,SNR=15						
KURK	Kurchatov	61.88	327	eP	P	11 07 14.0	-1.0
	comp=Z,5.6nm,0.7s						
KKAR	Karatay Array	63.42	317	eP	P	11 07 24.4	-1.0
	comp=Z,3.5nm,0.8s						
BVAR	Borovoye Array	67.47	327	P	P	11 07 51.1	-0.3
	comp=Z,2.2nm,0.7s,baz=126,slow=7.5,SNR=14						
BVAR	Borovoye Array	67.47	327	P	P	11 07 51.1	-0.3
BRVK	Borovoye	67.54	327	eP	P	11 07 51.0	-0.8
	comp=Z,4.7nm,0.8s						
ABKAR	Akbulak array	72.32	321	eP	P	11 08 20.1	-1.1
	comp=Z,2.9nm,0.7s						
AKTO	Aktyubinsk	73.83	322	P	P	11 08 29.0	-1.2
	comp=Z,3.3nm,0.8s,baz=96,slow=7.0,SNR=9.2						
AKTO	Aktyubinsk	73.83	322	P	P	11 08 29.0	-1.2
KDAK	Kodiak Island	81.74	32	P	P	11 09 14.3	+0.3
	comp=Z,3.6nm,0.6s,baz=348,slow=5.0,SNR=4.1						
KDAK	Kodiak Island	81.74	32	P	P	11 09 14.3	+0.3
KBZ	Khabaz	83.18	313	LR	LR	11 51 42.9	
	comp=Z,74nm,18.1s,baz=73,slow=40						
VNDA	Vanda	83.40	173	P	P	11 09 23.2	+1.0
	comp=Z,1.9nm,1.0s,baz=324,slow=11,SNR=3.7						
VNDA	Vanda	83.40	173	P	P	11 09 23.2	+1.0
ILAR	Eielson Array	84.98	25	P	P	11 09 29.9	-0.7
	comp=Z,1.3nm,1.0s,baz=241,slow=5.8,SNR=6.8						
ILAR	Eielson Array	84.98	25	P	P	11 09 29.9	-0.7
BRTR	Keskin Array B	90.23	310	P	P	11 09 57.4	+0.8
	comp=Z,1.6nm,0.9s,baz=93,slow=4.9,SNR=4.7						
BRTR	Keskin Array B	90.23	310	P	P	11 09 57.4	+0.8
ARCES	ARCESS Array B	90.54	340	P	P	11 09 55.8	-1.4
	comp=Z,5.4nm,0.8s,baz=70,slow=7.1,SNR=15						
ARCES	ARCESS Array B	90.54	340	P	P	11 09 55.8	-1.4
FINES	FINESS Array B	91.96	332	P	P	11 10 01.8	-2.0
	comp=Z,1.2nm,0.6s,baz=57,slow=7.0,SNR=3.7						
FINES	FINESS Array B	91.96	332	P	P	11 10 01.8	-2.0
AKASG	Malin Array Be	92.06	321	P	P	11 10 00.5	-4.1
	comp=Z,2.3nm,0.6s,baz=69,slow=4.8,SNR=4.1						
AKASG	Malin Array Be	92.06	321	P	P	11 10 00.5	-4.1
MLR	Muntele Rosu	95.09	316	LR	LR	12 02 25.2	
	comp=Z,32nm,19.3s,baz=162,slow=41						
CRVS	Cervenica-Dubn	97.34	320	PDIF	Pdif	11 10 30.6	+1.7
NB2	NORSAR Subarra	98.91	334	P	P	11 10 33.5	-2.1
	baz=67,slow=4.6						
NB2	NORSAR Subarra	98.91	334	P	P	11 10 33.5	-2.1
	comp=Z,2.7nm,0.8s,baz=67,slow=4.6						
NOA	NORSAR Array B	98.91	334	P	P	11 10 33.8	-1.8
	comp=Z,1.6nm,0.7s,baz=66,slow=4.6,SNR=4.7						
NOA	NORSAR Array B	98.91	334	P	P	11 10 33.8	-1.8
YKA	Yellowknife Ar	99.38	24	P	Pdif	11 10 37.9	+0.3
	comp=Z,0.1nm,0.7s,baz=292,slow=3.6,SNR=3.3						
YKA				PKiKP	PKiKP	11 15 07.5	+0.6
	comp=Z,0.1nm,0.5s,baz=310,slow=2.0,SNR=3.7						
YKA	Yellowknife Ar	99.38	24	P	Pdif	11 10 38.0	+0.3
YKA				PKiKP	PKiKP	11 15 07.5	+0.6
TXAR	Lajitas Array	121.38	52	PKP	PKPdf	11 15 49.8	+0.4
	comp=Z,0.2nm,0.7s,baz=17,slow=1.2,SNR=4.4						
TXAR	Lajitas Array	121.38	52	PKP	PKPdf	11 15 49.8	+0.4
TORD	Torodi Ar. Bea	123.18	288	PKP	PKPdf	11 15 52.0	-1.1
	comp=Z,0.9nm,0.8s,baz=86,slow=1.3,SNR=5.3						
TORD	Torodi Ar. Bea	123.18	288	PKP	PKPdf	11 15 52.0	-1.1

CSEM 05 11:21:44.1, 34°.69N×27°.29E, h21km, MD2.9, After ATH

ATH 05 11:21:44.1, 34°.69N×27°.29E, h21km±2km, MD2.9/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.86	353	ePN	Pn	11 22 00.8	-0.3
KARP				eSN	Sn	11 22 12.6	-0.5
KARP	Karpathos	0.86	353	ePn	Pn	11 22 00.8	-0.3
KARP				eSn	Sn	11 22 12.6	-0.5
ZKR	Zakros	0.98	296	ePB	Pb	11 22 02.3	-0.1
ZKR				eSN	Sn	11 22 16.8	+0.9
ZKR	Zakros	0.98	296	ePb	Pb	11 22 02.3	-0.1
ZKR				eSn	Sn	11 22 16.8	+0.9
NPS	Neapolis	1.49	293	ePN	Pb	11 22 12.1	+1.0
NPS				eSN	Sb	11 22 31.5	+1.9
NPS	Neapolis	1.49	293	ePn	Pb	11 22 12.1	+1.0
NPS				eSn	Sb	11 22 31.5	+1.9
LAST	Lasithi	1.56	288	ePN	Pb	11 22 12.4	0.0
LAST				eSN	Sb	11 22 33.2	+1.4
LAST	Lasithi	1.56	288	ePn	Pb	11 22 12.4	0.0
LAST				eSn	Sb	11 22 33.3	+1.5

SKO 05 11:27:43.1, 39°.95N×21°.50E, h8km

ATH 05 11:27:43.8, 40°.14N×21°.78E, h29km±1km, MD2.9/8

ISCJB 05 11:27:44.7±0.5, 40°.11N±0°.03×21°.79E±0°.05, h28km±5km, Error ellipse: s-maj=7.5km s-min=5.0km az=152.0

THE 05 11:27:44.4, 40°.08N×21°.62E, h16km±2km, ML2.5/3, Error ellipse: s-maj=2.8km s-min=0.8km az=82.0

CSEM 05 11:27:44.2±0.2, 40°.11N×21°.72E, h15km, MD2.9, Error ellipse: s-maj=6.0km s-min=4.2km az=55.0

ISC 05 11:27:44.0±1.0, 40°.12N±0°.03×21°.78E±0°.03, h25km±8km, n26, σ1.01/41, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.18	359	P	Pn	11 27 49.9	-1.4
KZN				S	Sb	11 27 53.9	+0.6
KZN	Kozani	0.18	359	ePB	Pn	11 27 50.0	-1.4
KZN				eSB	Sb	11 27 54.0	+0.6
KZN	Kozani	0.18	359	P	Pn	11 27 49.9	-1.4
KZN				S	Sb	11 27 53.9	+0.6
LIT	Litokhoron	0.55	92	P	Pn	11 27 57.2	+0.9
LIT	Litokhoron	0.55	92	ePN	Pn	11 27 55.5	-0.8
LIT				eSN	Sn	11 28 03.7	-0.9
LIT	Litokhoron	0.55	92	ePn	Pn	11 27 55.5	-0.8
LIT	Litokhoron	0.55	92	P	Pn	11 27 57.2	+0.9
LIT				eSn	Sn	11 28 03.7	-0.9
THL	Klokotos Trika	0.59	162	P	Pb	11 27 55.2	-0.5
THL				S	Sn	11 28 05.4	-0.1
THL	Klokotos Trika	0.59	162	ePN	Pb	11 27 55.2	-0.5
THL				eSN	Sn	11 28 05.1	-0.4
THL	Klokotos Trika	0.59	162	P	Pb	11 27 55.2	-0.5
THL				eSn	Sn	11 28 05.1	-0.4
THL				S	Sn	11 28 05.4	-0.1
NEST	Nestorio	0.63	298	P	Pb	11 27 55.0	-1.4
NEST				S	Sn	11 28 06.2	-0.5
NEST	Nestorio	0.63	298	P	Pb	11 27 55.0	-1.4
NEST				S	Sn	11 28 06.2	-0.5
FNA	Florina	0.73	335	P	Pn	11 27 58.1	-0.7
FNA				S	Sn	11 28 09.6	+0.5
FNA	Florina	0.73	335	P	Pn	11 27 58.1	-0.7
FNA				S	Sn	11 28 09.6	+0.5
JAN	Janina	0.85	237	ePN	Pb	11 28 01.0	+0.9
JAN	Janina	0.85	237	ePn	Pb	11 28 01.0	+0.9
BIA	Bitola	0.96	339	ePg	Pb	11 28 02.2	+0.2
BIA				eSg	Sb	11 28 17.2	+2.9
BIA	Bitola	0.96	339	ePg	Pb	11 28 02.2	+0.2
BIA				eSg	Sb	11 28 17.2	+2.9
EVR	Evrytania	1.21	179	ePB	Pb	11 28 05.8	-0.4
EVR	Evrytania	1.21	179	ePb	Pb	11 28 05.8	-0.4
NEO	Neokhori	1.38	126	ePN	Pb	11 28 09.1	-0.1
NEO	Neokhori	1.38	126	ePn	Pb	11 28 09.1	-0.1
SOH	Sokhos	1.39	59	ePN	Pb	11 28 09.1	-0.3
SOH	Sokhos	1.39	59	ePn	Pb	11 28 09.1	-0.3
LKD2	Lefkada island	1.59	213	ePN	Pb	11 28 12.3	-0.4
LKD2	Lefkada island	1.59	213	ePn	Pb	11 28 12.3	-0.4

IDC 05 11:39:59.1±5.1, 29°.01S×177°.62W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.6/27, Error ellipse: s-maj=187.9km s-min=78.8km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.95	292	LR	LR	11 48 05.3	
	comp=Z,30nm,18.3s,baz=18,slow=30						
STKA	Stephens Creek	35.14	255	P	P	11 46 54.8	+0.2
	2.6nm,0.8s,baz=104,slow=11,SNR=4.6						
ASAR	Alice Springs	43.54	265	P	P	11 48 04.5	-0.4
	0.5nm,0.5s,baz=102,slow=6.7,SNR=12						
WRA	Warramunga Arr	44.40	271	P	P	11 48 11.7	-0.1
	0.8nm,0.4s,baz=110,slow=8.1,SNR=16						
FINES	FINESS Array B	143.95	341	PKP	PKPdf	11 59 35.5	-0.3
	2.0nm,0.5s,baz=90,slow=1.9,SNR=6.2						

IDC 05 11:45:09.3±7.1, 30°.29S×177°.57W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/18, mbtmp3.4/2, Error ellipse: s-maj=298.0km s-min=56.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.48	267	P	P	11 53 14.8	+0.1
	0.2nm,0.4s,baz=107,slow=7.2,SNR=5.6						
WRA	Warramunga Arr	44.46	272	P	P	11 53 22.1	-0.4
	0.4nm,0.3s,baz=110,slow=8.0,SNR=12						
FINES	FINESS Array B	145.17	340	PKPbc	PKPbc	12 04 46.9	-0.8
	0.8nm,0.4s,baz=81,slow=8.7,SNR=3.0						

IDC 05 11:54:44.6±7.5, 19°.95S×169°.44E, h246km±34km, mb3.6/4, mb1 3.7/5, mb1mx3.3/19, mbtmp3.5/5, Error ellipse: s-maj=86.0km s-min=72.2km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.51	232	P	Pn	11 55 42.7	+0.1
	2.1nm,0.3s,baz=88,slow=22,SNR=73						
DZM				S	S	11 56 28.8	+0.2
	1.7nm,0.3s,baz=144,slow=19,SNR=3.4						
DZM	Mont Dzumac	3.51	232	eP	Pn	11 55 42.3	-0.3
CTA	Charters Tower	21.79	266	P	P	11 59 18.5	+1.3
	2.2nm,0.5s,baz=88,slow=11,SNR=4.0						
STKA	Stephens Creek	27.64	239	P	P	12 00 10.2	+0.3
	2.4nm,0.6s,baz=71,slow=11,SNR=8.7						
WRA	Warramunga Arr	32.96	264	P	P	12 00 55.8	-1.0
	1.0nm,0.3s,baz=83,slow=6.2,SNR=57						
ASAR	Alice Springs	33.15	257	P	P	12 00 58.0	-0.3

4.4nm,0.6s,baz=87,slow=9.2,SNR=126

IDC 05 11:59:34.4±4.0**,31°.06S**×**177°.18W,h0**km**,mb4.1**/4**, mb1 4.2**/4**,mb1mx4.0**/19**,mbtmp4.1**/4**,Error ellipse: s-maj=148.3km s-min=46.7km az=154.0,Kermadec Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTA Charters Tower 34.60 280 P P 12 06 26.4 +1.1
2.8nm,0.8s,baz=103,slow=9.5,SNR=3.9
STKA Stephens Creek 35.02 258 P P 12 06 29.1 +0.3
1.3nm,0.3s,baz=120,slow=10,SNR=8.4
ASAR Alice Springs 43.78 267 P P 12 07 41.8 -0.3
0.8nm,0.7s,baz=106,slow=7.5,SNR=15
WRA Warramunga Arr 44.83 272 P P 12 07 49.3 -1.2
1.4nm,0.5s,baz=111,slow=8.0,SNR=21
FINES FINESS Array B 146.00 340 PKPbc PKPdf 12 19 14.6 0.0
3.0nm,0.3s,baz=46,slow=4.5,SNR=27

*ISCJB **05** 12:17:24.4±0.9,80°.23N±0°.02×1°.33W±0°.10,h11km±5km, mb5.0/224,MS4.7/65,Error ellipse: s-maj=4.2km s-min=2.0km az=31.4*
*BJI **05** 12:17:24.8,80°.30N×1°.10W,h10km,mB5.2/33,mb4.7/39, Ms5.4/38,Ms7 5.0/36*
*MOS **05** 12:17:24.3±1.1,80°.15N×1°.30W,h10km,mb5.2/65, MS4.6/23,Error ellipse: s-maj=28.1km s-min=4.1km az=94.2*
*IDC **05** 12:17:24.3±0.4,80°.21N×1°.45W,h0km,mb4.3/24, mb1 4.5/27,mb1mx4.5/30,mbtmp4.3/27,ML4.1/2,MS4.6/34, Ms1 4.7/34,ms1mx4.6/40,Error ellipse: s-maj=13.2km s-min=9.3km az=35.0*
*CSEM **05** 12:17:24.5±0.1,80°.22N×1°.08W,h2km,mb5.1/99,Ms4.4, Mw5.4,Error ellipse: s-maj=4.5km s-min=2.4km az=39.0*
*NAO **05** 12:17:25.9±4.9,80°.16N×0°.06W,ML5.0*
*BER **05** 12:17:26.1±3.9,80°.18N×1°.12W,h10km,MD3.2,ML4.5, ML5.0(NAO)*
*NEIC **05** 12:17:26.2±0.1,80°.21N×1°.09W,h10km,mb5.1/134,Error ellipse: s-maj=4.1km s-min=2.2km az=217.0*
*GCMT **05** 12:17:29.4±0.1,80°.23N×1°.91W,h19km,MW5.4,Moment Tensor Solution. s68,c108; s99,c187; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.03; $M_{\theta\theta}$-1.32±.03; $M_{\phi\phi}$1.59±.03; $M_{r\theta}$-0.23±.06; $M_{\theta\phi}$-0.44±.03; $M_{\phi r}$-0.73±.07; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s126.00000°,δ65.00000°, λ179.00000°. NP2:ϕ_s216.00000°,δ89.00000°,λ25.00000°. Principal axes: T 1.8800, Plg18.0000°, Azm84.0000°; N -0.3900, Plg65.0000°, Azm217.0000°; P -1.4900, Plg17.0000°, Azm348.0000°; Data Used: II IU IC G CN. Surface waves from 105 sta.*
*SZGRF **05** 12:17:55.6,77°.94N×0°.85E,h33km,mb5.2,MS4.4, Greenland Sea*
ISC 05 12:17:26.7±0.4**,80°.19N**±0°.04×**0°.92W**±0°.03**,h14**km±2km**, h14**km**:pP-P,n1075,**σ**1.28**/1064**,mb5.1**/224**,MS4.7**/66**, 200C-159D,North of Svalbard**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBS Kingsbay 2.66 112 Pn **Pn 12 18 06.4 -2.6**
KBS Sn **Sn 12 18 36.7 -4.2**
KBS Kingsbay 2.66 112 *e*P **Pn 12 18 06.2 -2.7**
KBS *e*S **Sn 12 18 36.1 -4.8**
KBS AML AML 12 18 45.1
comp=Z,2μm,0.6s
KBS Kingsbay 2.66 112*c i*P **Pn 12 18 06.4 -2.6**
KBS Kingsbay 2.66 112 *e*Pn **Pn 12 18 06.3 -2.6**
KBS *e*Sn **Sn 12 18 36.6 -4.2**
KBS Kingsbay 2.66 112 *e*Pn **Pn 12 18 06.3 -2.6**
KBS *e*S **Sn 12 18 36.1 -4.8**
comp=Z,2μm,0.6s,SNR=50
KBS *e*Sn Sb 12 18 36.6 -10
SPA0 Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
baz=320,slow=10
SPA0 Sn **Sn 12 19 05.1 -4.4**
SPA0 Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
baz=320,slow=10
SPA0 Sn **Sn 12 19 05.1 -4.4**
SPA0 Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
baz=320,slow=9.6,SNR=999
SPA0 Sn **Sn 12 19 05.1 -4.4**
SPITS Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
baz=328,slow=7.8,SNR=1577
SPITS Sn **Sn 12 19 05.2 -4.4**
baz=325,slow=8.6,SNR=8.2
SPITS LR LR 12 19 56.6
comp=Z,9μm,18.9s,baz=300,slow=39
SPITS Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
SPITS Sn **Sn 12 19 05.2 -4.4**
SPITS Spitsbergen Ar 3.82 113 Pn **Pn 12 18 23.0 -1.9**
SPITS Sn **Sn 12 19 05.2 -4.3**
HOPEN Hopen 6.35 112 *e*P **Pn 12 18 57.3 -2.3**
HOPEN *e*S Sn 12 20 04.8 -6.9
HOPEN AML AML 12 20 11.6
comp=Z,851nm,0.5s
HOPEN Hopen 6.35 112 *e*P **Pn 12 18 57.3 -2.3**
SNR=47
BJO Bjornoya 7.15 132 *e*Pn **Pn 12 19 09.9 -0.6**
BJO *e*Sn **Sn 12 20 27.0 -4.4**
BJO Bjornoya 7.15 132 *e*Pn **Pn 12 19 09.9 -0.6**
SNR=50
ALE Alert 9.10 313 Pn Pn 12 19 31.0 -6.2
comp=Z,511nm,0.7s,SNR=19
JNW Jan Mayen West 9.38 195 *e*Pn **Pn 12 19 39.5 -1.6**
JNW *e*Sn Sn 12 21 16.9 -9.3
JNW AML AML 12 21 25.5
comp=Z,471nm,0.4s
JNW Jan Mayen West 9.38 195 *e*Pn **Pn 12 19 39.5 -1.6**
SNR=50
JNE Jan Mayen East 9.41 195 *e*Pn **Pn 12 19 40.1 -1.5**
JNE Jan Mayen East 9.41 195 *e*Pn **Pn 12 19 40.1 -1.5**
SNR=50
JMIC Jan Mayen 9.43 195 Pn **Pn 12 19 40.0 -1.8**
JMIC Sn Sn 12 21 17.7 -10
JMIC Jan Mayen 9.43 195 Pn **Pn 12 19 40.0 -1.8**
comp=Z,274nm,0.3s,baz=6.7,slow=1.3,SNR=21
JMIC Sn Sn 12 21 18.8 -8.5
comp=Z,114nm,0.3s,baz=48,slow=19,SNR=10
JMIC LR LR 12 21 57.6
comp=Z,1μm,19.6s,baz=49,slow=29
JMIC Jan Mayen 9.43 195 *e*Pn **Pn 12 19 39.8 -1.9**
JMIC *e*Sn Sn 12 21 17.4 -10
JMIC AML AML 12 21 24.1
comp=Z,336nm,0.5s
JMIC Jan Mayen 9.43 195 Pn **Pn 12 19 40.0 -1.8**
JMIC Sn Sn 12 21 18.8 -8.5
JMIC Jan Mayen 9.43 195 Pn **Pn 12 19 40.0 -1.8**
JMI Jan Mayen 9.50 196 *e*Pn **Pn 12 19 40.8 -1.8**
JMI *e*Sn Sn 12 21 21.4 -7.5
JMI Jan Mayen 9.50 196 *e*Pn **Pn 12 19 40.8 -1.8**
SNR=50
SUMG Summit 11.37 249 *e*P Pn 12 20 02.7 -5.9
SUMG pmax pmax
comp=Z,243nm,0.5s
SUMG Summit 11.37 249 *e*Pn Pn 12 20 02.7 -5.9
comp=Z,243nm,0.5s
SUMG Summit 11.37 249 *i* P Pn 12 20 02.9 -5.7
SUMG *e*S Sn 12 22 01.0 -15
SUMG *i* 12 22 04.8
TRO Tromso 11.67 144 *e*Pn Pn 12 20 16.4 +4.0
KEV Kevo 12.49 131 *e*P **Pn 12 20 23.8 +0.2**
KEV pmax pmax
comp=Z,22nm,0.6s
KEV Kevo 12.49 131 *e*Pn **Pn 12 20 23.8 +0.2**
comp=Z,22nm,0.6s
KEV *e*Sn Sn 12 22 36.3 -5.9
KEV Kevo 12.49 131 *e*p **Pn 12 20 23.3 -0.3**
comp=Z,5.4nm,0.3s
KEV Kevo 12.49 131 *e*Pn **Pn 12 20 23.8 +0.2**
comp=Z,22nm,0.6s
ARA0 ARCESS Array S 12.51 134 Pn **Pn 12 20 23.1 -0.8**
baz=349,slow=12
ARA0 Sn Sn 12 22 34.4 -8.4
baz=349,slow=18
ARA0 ARCESS Array S 12.51 134 Pn **Pn 12 20 23.1 -0.8**
baz=349,slow=12
ARA0 Sn Sn 12 22 34.4 -8.4
baz=349,slow=18
ARA0 ARCESS Array S 12.51 134 Pn **Pn 12 20 23.1 -0.8**
baz=349,slow=12,SNR=167
ARA0 Sn Sn 12 22 34.3 -8.4
baz=349,slow=18,SNR=7.1
ARCES ARCESS Array B 12.51 134 Pn **Pn 12 20 23.3 -0.5**
comp=Z,1.6nm,0.3s,baz=348,slow=10,SNR=36
ARCES Sn Sn 12 22 36.2 -6.5
comp=Z,7.0nm,0.3s,baz=335,slow=31,SNR=11
ARCES LR LR 12 24 44.9
comp=Z,3μm,19.9s,baz=341,slow=35
ARCES ARCESS Array B 12.51 134 Pn **Pn 12 20 23.3 -0.5**
ARCES Sn Sn 12 22 36.2 -6.5
ARCES ARCESS Array B 12.51 134 Pn **Pn 12 20 23.3 -0.5**
ARE0 ARCESS Array S 12.51 134 *e*Pn **Pn 12 20 24.0 +0.2**
ARE0 *e*Sn **Sn 12 22 42.4 -0.4**
ARE0 ARCESS Array S 12.51 134 *e*Pn **Pn 12 20 24.0 +0.2**
ARE0 *e*Sn **Sn 12 22 42.3 -0.4**
LOF Lofoten 12.67 155 *e*Pn Pn 12 20 22.0 -4.0
STEI Steigen 13.00 152 *e*Pn **Pn 12 20 32.6 +2.2**
STOK Stokkvaagen 14.41 157 *e*Pn **Pn 12 20 51.7 +2.0**
FLOS Flostrand 14.43 156 *e*Pn **Pn 12 20 52.5 +2.5**
MOR8 Moi Rana 14.67 155 *e*Pn **Pn 12 20 55.7 +2.3**
LVZ Lovozero 15.27 123⇓*e*P **Pn 12 21 01.6 +0.3**
LVZ pmax pmax
comp=Z,47nm,1.7s
LVZ Lovozero 15.27 123 *e*Pn **Pn 12 20 59.7 -1.7**
comp=Z,23nm,0.8s
LVZ Lovozero 15.27 123 *e*Pn **Pn 12 20 59.7 -1.7**
comp=Z,23nm,0.8s
APA0 Apatity Array 15.30 126 Pn **Pn 12 20 59.6 -2.2**
baz=346,slow=8.6
APA0 Apatity Array 15.30 126 Pn **Pn 12 20 59.6 -2.2**
baz=346,slow=8.6
APA0 Apatity Array 15.30 126 Pn **Pn 12 20 59.6 -2.2**
baz=346,slow=8.0,SNR=7.4
APA Apatity 15.40 125⇑*i*P **Pn 12 21 02.2 -0.8**
APA MLR MLR
comp=Z,4μm,16.0s
BORG Borgarnes 16.48 212 Pn **P 12 21 23.8 +4.2**
BORG Sn **Sn 12 24 18.8 -0.5**
BORG LR LR 12 28 09.3
comp=Z,2μm,19.6s,slow=39
BORG Borgarnes 16.48 212 Pn **P 12 21 23.8 +4.2**
BORG Sn **Sn 12 24 18.8 -0.5**
SFJD Kangerlussuaq 18.29 253 P Pn 12 21 31.5 -7.8
comp=Z,12nm,0.3s,baz=18,slow=12,SNR=28
SFJD LR LR 12 29 03.4
comp=Z,4μm,18.8s,baz=253,slow=38
SFJD Kangerlussuaq 18.29 253 *e*Pn Pn 12 21 32.2 -7.2
SFJD Kangerlussuaq 18.29 253 *i* P Pn 12 21 32.1 -7.2
SFJD *i* S Sn 12 24 42.1 -21
SFJD
comp=Z,4μm,12.0s
RES Resolute Bay 18.81 305 P P 12 21 37.8 -7.4
comp=Z,2.3nm,0.3s,baz=30,slow=12,SNR=41
RES LR LR 12 29 01.3
comp=Z,5μm,18.4s,baz=38,slow=37
RES Resolute Bay 18.81 305 *e*P P 12 21 38.1 -7.0
JOF Joensuu 19.55 133 *e*P **P 12 21 53.1 -0.2**
JOF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 19.55 133 *e*p **P 12 21 53.1 -0.2**
comp=Z,15nm,0.7s
NB2 NORSAR Subarra 19.57 162 P **Pn 12 21 55.2 +0.2**
NB2 NORSAR Subarra 19.57 162 Pn **Pn 12 21 55.2 +0.2**
NB2 NORSAR Subarra 19.57 162 P **Pn 12 21 55.0 0.0**
comp=Z,27nm,1.1s,baz=354,slow=11
NOA NORSAR Array B 19.57 162 P **Pn 12 21 54.8 -0.2**
comp=Z,0.3nm,0.3s,baz=349,slow=12,SNR=7.5
NOA LR LR 12 28 22.9
comp=Z,2μm,18.9s,baz=345,slow=34
NOA NORSAR Array B 19.57 162 P **Pn 12 21 54.8 -0.2**
NOA NORSAR Array B 19.57 162 P **Pn 12 21 54.8 -0.2**
KAF Kangasniemi 19.75 140 *e*P **P 12 21 56.0 +0.5**
KAF pmax pmax
comp=Z,38nm,0.8s
KAF Kangasniemi 19.75 140 *e*p **P 12 21 56.0 +0.5**
comp=Z,38nm,0.8s
NAO01 NORSAR Array S 19.75 163 *e*P **Pn 12 22 00.4 +3.3**
comp=Z,31nm,1.1s
FIA0 FINESS Array S 20.37 141 P **P 12 22 02.6 +0.3**
baz=348,slow=9.3
FIA0 FINESS Array S 20.37 141 P **P 12 22 02.6 +0.3**
baz=348,slow=9.3
FIA0 FINESS Array S 20.37 141 P **P 12 22 02.6 +0.3**
baz=348,slow=9.0,SNR=2.3
FIA1 FINESS Array S 20.37 141 *e*P Pn 12 22 04.2 -0.2
FIA1 FINESS Array S 20.37 141 *e*P Pn 12 22 04.2 -0.2
FINES FINESS Array B 20.37 141 P **P 12 22 02.9 +0.6**
comp=Z,13nm,0.8s,baz=354,slow=10,SNR=11
FINES LR LR 12 29 30.2
comp=Z,3μm,19.8s,baz=352,slow=36
FINES FINESS Array B 20.37 141 P **P 12 22 02.9 +0.6**
FINES FINESS Array B 20.37 141 P **P 12 22 02.9 +0.6**
HFS Hagfors 20.61 159 P **P 12 22 05.1 +0.2**
baz=11,slow=10
HFS Hagfors 20.61 159 P **P 12 22 05.1 +0.2**
comp=Z,14nm,0.7s,baz=4.1,slow=10,SNR=19
HFS LR LR 12 29 13.0
comp=Z,2μm,18.5s,baz=4.2,slow=34
HFS Hagfors 20.61 159 P **P 12 22 05.1 +0.2**
baz=11,slow=10
HFS Hagfors 20.61 159 P **P 12 22 05.1 +0.2**
HFS Hagfors 20.61 159 P **P 12 22 05.1 +0.2**
baz=11,slow=9.9,SNR=3.7
KONO Kongsberg 20.88 165 *e*P **P 12 22 08.2 +0.4**
KONO pmax pmax
comp=Z,66nm,1.2s
KONO Kongsberg 20.88 165 *e*P **P 12 22 08.2 +0.4**
comp=Z,66nm,1.2s
KONO Kongsberg 20.88 165 *e*P **P 12 22 08.2 +0.4**
comp=Z,66nm,1.2s
PUL Pulkovo 22.49 137⇑*e*P **P 12 22 25.1 0.0**
PUL pmax pmax
comp=Z,81nm,0.3s
KLMR Klimovskoe 22.64 124*d i*P **P 12 22 26.8 +0.2**
KLMR *e*S **S 12 26 31.2 -2.4**
KLMR pmax pmax
comp=Z,136nm,1.3s
KLMR MLR MLR
comp=Z,1μm,13.0s
VSU Vasula 23.37 142*d i*P **P 12 22 35.6 +1.5**
VSU pmax pmax
comp=Z,34nm,1.2s
FRB Frobisher Bay 24.30 268 P **P 12 22 41.1 -1.8**
comp=Z,58nm,0.8s,baz=21,slow=9.8,SNR=108
FRB Frobisher Bay 24.30 268 P **P 12 22 41.1 -1.8**
FRB Frobisher Bay 24.30 268 P **P 12 22 41.2 -1.8**
IZAR Zarasai 25.99 144 *e*P **P 12 23 00.1 +1.8**
IZAR Zarasai 25.99 144 *e*P **P 12 23 00.1 +1.8**
ISAL Salakas 26.15 144 *e*P **P 12 23 02.3 +2.5**
ISAL Salakas 26.15 144 *e*P **P 12 23 02.3 +2.5**
RGN Rugen 26.16 161 *e*L L 12 32 14.9
comp=Z,2μm,18.5s
HLG Helgoland 26.27 168 *e*P P 12 23 11.5 +11
comp=Z,146nm,1.1s
HLG *e*L L 12 32 10.1
comp=Z,1μm,21.8s
IIGN Ignalina 26.38 144 *e*P **P 12 23 02.9 +0.9**
IIGN Ignalina 26.38 144 *e*P **P 12 23 02.8 +0.9**
SOKR Solikamsk 26.54 106⇑*i*P P 12 23 08.3 +5.0
SOKR S S 12 27 44.0 +7.4
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,2μm,18.0s
BSEG Bad Segeberg 26.62 165 *e*P P 12 23 14.5 +10
comp=Z,161nm,1.5s
BSEG *e*L L 12 32 33.3
comp=Z,2μm,18.8s
NACGM Naroch 26.88 144 *e* **P 12 23 03.0 -3.4**
MOS Moscow 27.33 130 *e*P P 12 23 17.7 +7.3
MOS MLR MLR
comp=Z,1μm,14.0s
MNK Minsk 27.38 142 *e*P **P 12 23 12.0 +1.1**
MICGM Minsk 27.39 142 *e* **P 12 23 12.0 +1.0**
SUW Suwalki 27.41 148 *e*P **P 12 23 12.5 +1.3**
SUW Suwalki 27.41 148 *e*P **P 12 23 12.5 +1.3**
SUW Suwalki 27.41 148 *e*P **P 12 23 12.5 +1.3**
OBN Obninsk 27.80 131⇑*e*P **P 12 23 16.8 +2.1**
OBN *i* S S 12 28 05.0 +8.4
OBN pmax pmax
comp=Z,75nm,1.9s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 27.80 131 P **P 12 23 15.0 +0.4**
OBN Obninsk 27.80 131 P **P 12 23 15.0 +0.4**
NRDL Niedersach Rie 28.05 166 *e*P P 12 23 27.3 +10
comp=Z,52nm,1.6s
IBBN Ibbenburen 28.15 169 *e*P P 12 23 27.8 +10
comp=Z,167nm,2.3s
IBBN *e*L L 12 33 19.5
comp=Z,1μm,21.1s
RUE Ruedersdorf 28.25 161 *e*P P 12 23 29.2 +11
comp=Z,72nm,1.5s
RUE *e*L L 12 33 39.6
comp=Z,2μm,20.0s
CLZ Clausthal 28.71 165 *e*P P 12 23 33.4 +10
comp=Z,57nm,1.7s
CLZ *e*L L 12 33 25.7
comp=Z,2μm,21.2s
BUG Bochum--Univer 29.00 169 *e*L L 12 33 56.2
comp=Z,857nm,19.4s
CLL Collm 29.37 162 *e*P **P 12 23 30.0 +1.3**
CLL *i* 12 23 38.5
CLL *e*S S 12 28 30.0 +8.6
CLL MLR MLR
comp=Z,1μm,18.3s
CLL Collm 29.37 162 *e*P P 12 23 38.8 +10
comp=Z,59nm,1.4s
CLL *e*L L 12 34 23.7
comp=Z,1μm,18.4s
CLL Collm 29.37 162 *e*P **P 12 23 30.0 +1.3**
CLL *i* 12 23 38.5
comp=Z,58nm,1.4s
CLL *e*S S 12 28 30.0 +8.6
CLL Lm MLR 12 34 00.0
comp=Z,1μm,18.3s
INK Inuvik 29.38 326 P **P 12 23 27.8 -0.7**
comp=Z,5.9nm,0.8s,baz=15,slow=10.0,SNR=8.1
INK LR LR 12 35 49.5
comp=Z,590nm,21.7s,baz=284,slow=38
INK Inuvik 29.38 326 *e*P **P 12 23 27.6 -1.0**
comp=Z,17nm,1.0s
INK Inuvik 29.38 326 *e*P **P 12 23 27.6 -1.0**
comp=Z,17nm,1.0s
UBBA Unterbreizbach 29.72 166 *e*P P 12 23 42.5 +11
comp=Z,58nm,2.0s
UBBA *e*L L 12 34 07.2
comp=Z,1μm,21.6s
FBE Freiberg 29.78 162 *e*P P 12 23 42.8 +11
comp=Z,79nm,1.1s
SVE Sverdlovsk 29.79 103 *e*P **P 12 23 33.5 +1.2**
SVE *e*S S 12 28 36.9 +9.1
SVE pmax pmax
comp=Z,28nm,1.8s
SVE MLR MLR
comp=Z,2μm,15.0s
ARU Arti 29.82 106*d i*P **P 12 23 32.9 +0.3**
ARU 12 24 28.6
ARU PPP PPP 12 24 39.7
ARU S **S 12 28 31.7 +3.3**
ARU SS **SnSn 12 30 02.0 +3.6**
ARU pmax pmax
comp=Z,31nm,1.7s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 29.82 106 *e*P **P 12 23 33.1 +0.5**
comp=Z,19nm,0.9s
ARU Arti 29.82 106 *e*P **P 12 23 33.1 +0.5**
comp=Z,19nm,0.9s
BRG Berggiesshubel 29.86 161 *e*P **P 12 23 32.9 -0.1**
comp=Z,8.9nm,1.2s
BRG *i* 12 23 43.0
comp=Z,58nm,1.2s
BRG
comp=N,1μm,23.0s
BRG
comp=E,471nm,14.0s
BRG
comp=Z,2μm,20.8s
BRG Berggiesshubel 29.86 161 *e*P **P 12 23 32.9 -0.1**
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG MLR MLR
comp=N,1μm,23.0s
BRG MLR MLR
comp=E,471nm,14.0s
BRG MLR MLR
comp=Z,2μm,20.8s
BRG Berggiesshubel 29.86 161 *e*P P 12 23 43.4 +10
comp=Z,58nm,1.2s
BRG *e*L L 12 34 38.0
comp=Z,1μm,20.2s
MOX Moxa 29.97 164 *e*P P 12 23 44.7 +11
comp=Z,60nm,1.4s
MOX *e*L L 12 34 24.7
comp=Z,769nm,21.3s
KSP Ksiaz 30.03 158 *e*P **P 12 23 37.6 +3.1**
KSP *e**PP pP 12 23 44.7 +5.8
PLN Plauen 30.15 163 *e*P P 12 23 46.5 +11
comp=Z,289nm,1.1s
WERD Werda 30.20 163 *e*P P 12 23 46.7 +11
comp=Z,52nm,1.2s
TANN Tannenbergstha 30.24 163 *e*P P 12 23 47.3 +11
comp=Z,58nm,1.1s
TANN *e*L L 12 34 12.5
comp=Z,535nm,21.7s
PVCC Panska Ves 30.24 160 *e*P **P 12 23 38.9 +2.6**
PVCC *e* 12 23 46.5
PVCC MLR MLR
comp=Z,2μm,20.9s
PVCC Panska Ves 30.24 160 *e*P **P 12 23 38.9 +2.6**
PVCC *e*x x 12 23 46.5
PVCC AMS AMS 12 34 40.0
comp=Z,2μm,20.9s
PVCC Panska Ves 30.24 160 P **P 12 23 38.9 +2.6**
TNS Taunus Mts 30.26 168 *e*P P 12 23 47.0 +10
TNS *e*L L 12 34 35.1
comp=Z,1μm,21.3s
GUNZ Gunzen 30.28 163 *e*P P 12 23 47.7 +11
comp=Z,63nm,1.2s
UPC Upice 30.35 158 *e*P P 12 23 47.6 +10
UPC Upice 30.35 158 *e*P P 12 23 47.6 +10
WERN Wernitzgruen 30.36 163 *e*P P 12 23 48.5 +11
comp=Z,81nm,1.1s
NKC Novy Kostel 30.42 163 *e*P **P 12 23 38.9 +0.9**
NKC MLR MLR
comp=Z,1μm,11.6s
NKC Novy Kostel 30.42 163 *e*P **P 12 23 38.9 +0.9**
NKC *e*x x 12 23 48.5
NKC AMS AMS 12 35 40.0
comp=Z,1μm,11.6s
NKC Novy Kostel 30.42 163 P **P 12 23 38.9 +0.9**
DPC Dobruska-Polom 30.52 158 *e*P P 12 23 49.5 +11
DPC MLR MLR
comp=Z,1μm,20.2s
DPC Dobruska-Polom 30.52 158 *e*P P 12 23 49.5 +11
DPC AMS AMS 12 34 50.0
comp=Z,1μm,20.2s
WLF Walferdange 30.74 171 *e*L L 12 37 42.1
comp=Z,689nm,20.4s
PRU Pruhonice 30.77 160 *e*P P 12 23 44.8 +3.7
PRU *e* 12 23 51.7
PRU MLR MLR
comp=Z,2μm,20.6s
PRU Pruhonice 30.77 160 *e*P P 12 23 44.8 +3.7
PRU *e*x x 12 23 51.7
PRU AMS AMS 12 35 10.0
comp=Z,2μm,20.6s
ROTZ Rotzenmuhle 30.87 163 *e*P P 12 23 52.9 +11
comp=Z,46nm,1.2s
ROTZ *e*L L 12 35 21.9
comp=Z,600nm,19.3s
OJC Ojcow 30.90 154 *e*P P 12 23 52.1 +10
OJC Ojcow 30.90 154 *e*P P 12 23 52.1 +10
GRF Grafenberg Arr 30.90 165 *e*P P 12 23 53.0 +11
comp=Z,32nm,1.2s
GRF *e*L L 12 34 42.3
comp=Z,1μm,20.8s
OKC Ostrava-Krasne 31.16 156 *e*P **P 12 23 47.6 +3.2**
OKC *e* 12 23 54.8
OKC MLR MLR
comp=Z,1μm,20.4s
OKC Ostrava-Krasne 31.16 156 *e*P **P 12 23 47.6 +3.2**
OKC *e*x x 12 23 54.8
OKC AMS AMS 12 35 10.0
comp=Z,1μm,20.4s
OKC Ostrava-Krasne 31.16 156 P **P 12 23 47.6 +3.2**
MORC Moravsky Berou 31.18 157 *e*P **P 12 23 45.6 +0.9**
MORC pmax pmax
comp=Z,41nm,1.1s
MORC Moravsky Berou 31.18 157 *e*P **P 12 23 45.6 +0.9**
comp=Z,41nm,1.1s

MORC **Moravsky Berou** **31.18 157** *e*P **P** **12 23 45.6 +0.9**
comp=Z,41nm,1.1s
AKASG **Malin Array Be** **31.28 142** P **P** **12 23 45.2 -0.3**
comp=Z,2.7nm,0.5s,baz=347,slow=9.2,SNR=12
AKASG LR LR 12 35 49.8
comp=Z,2µm,21.4s,baz=355,slow=35
AKASG **Malin Array Be** **31.28 142** *i* P **P** **12 23 45.5 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG **Malin Array Be** **31.28 142** P **P** **12 23 45.2 -0.3**
AKASG **Malin Array Be** **31.28 142** P **P** **12 23 45.2 -0.3**
KIEV **Kiev** **31.28 142** *e*P **P** **12 23 45.5 0.0**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV **Kiev** **31.28 142** *e*P **P** **12 23 45.5 0.0**
comp=Z,12nm,0.8s
KIEV **Kiev** **31.28 142** *e*P **P** **12 23 45.5 0.0**
comp=Z,12nm,0.8s
AK01 **Malin Array Si** **31.29 142** *e*P **P** **12 23 45.7 +0.2**
AK01 **Malin Array Si** **31.29 142** *e*P **P** **12 23 45.7 +0.2**
AK02 **Malin Array Si** **31.32 142** *e*P **P** **12 23 45.8 -0.1**
AK02 **Malin Array Si** **31.32 142** *e*P **P** **12 23 45.8 -0.1**
WET **Wettzell** **31.53 163** *e*P P 12 23 59.1 +11
comp=Z,32nm,1.3s
WET *e*L L 12 35 50.1
comp=Z,597nm,19.2s
KHC **Kasperske Hory** **31.58 162** *e*P **P** **12 23 51.3 +3.1**
KHC pmax pmax
comp=Z,58nm,1.5s
KHC **Kasperske Hory** **31.58 162** *e*P **P** **12 23 51.3 +3.1**
comp=Z,58nm,1.5s
KHC **Kasperske Hory** **31.58 162** *e*P P 12 23 51.8 +3.6
KHC *ex* x 12 23 58.3
KHC *ex* x 12 24 13.0
KHC AMS AMS 12 35 40.0
comp=Z,2µm,9.0s
KHC **Kasperske Hory** **31.58 162** *e*P **P** **12 23 51.3 +3.1**
comp=Z,58nm,1.5s
VRAC **Vranov** **31.58 158**‖ *i* P **P** **12 23 50.3 +2.1**
VRAC **Vranov** **31.58 158**‖ *i* P **P** **12 23 50.3 +2.1**
LVV **L'vov** **31.64 149** *e*P P 12 23 55.3 +6.6
NIE **Niedzica** **31.73 153** *e*P **P** **12 23 52.7 +3.1**
NIE *e* 12 24 00.5
NIE **Niedzica** **31.73 153** *e*P **P** **12 23 52.7 +3.1**
NIE *e* 12 24 00.5
STU **Stuttgart** **31.73 167** *e*P P 12 24 00.2 +11
comp=Z,33nm,1.1s
STU *e*L L 12 35 29.6
comp=Z,961nm,20.7s
COLD **Coldfoot** **31.78 338** *e*P **P** **12 23 48.6 -1.2**
comp=Z,14nm,0.9s
COLD **Coldfoot** **31.78 338** *e*P **P** **12 23 48.6 -1.2**
comp=Z,14nm,0.9s
PAGF **Fort de Pagny** **31.84 172** *e*P **P** **12 23 50.7 +0.2**
comp=Z,14nm,1.1s
PAGF **Fort de Pagny** **31.84 172** *e*P **P** **12 23 50.7 +0.2**
comp=Z,14nm,1.1s
PAGF **Fort de Pagny** **31.84 172** *e*P **P** **12 23 50.7 +0.2**
comp=Z,7.2nm,1.1s
GEC2 **GERESS Array S** **31.87 162** *e*P P 12 24 02.2 +11
comp=Z,62nm,1.2s
GEC2 *e*L L 12 35 59.7
comp=Z,969nm,18.3s
GERES **GERESS Array B** **31.87 162** P **P** **12 23 51.6 +0.8**
comp=Z,5.2nm,0.7s,baz=19,slow=8.6,SNR=22
GERES LR LR 12 36 18.8
comp=Z,934nm,18.1s,baz=3.3,slow=36
GERES **GERESS Array B** **31.87 162** P **P** **12 23 51.6 +0.8**
GERES **GERESS Array B** **31.87 162** P **P** **12 23 51.6 +0.8**
VSR **Storozhevoye** **31.95 130** *e*P **P** **12 23 50.2 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR MLR MLR
comp=Z,2µm,17.0s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,820nm,19.0s
CDF **Champ du Feu** **32.03 170** *e*P **P** **12 23 53.5 +1.3**
comp=E,26nm,1.0s
CDF **Champ du Feu** **32.03 170** *e*P **P** **12 23 53.5 +1.3**
CDF pmax pmax
comp=Z,26nm,1.0s
CDF **Champ du Feu** **32.03 170** *e*P **P** **12 23 53.5 +1.3**
comp=Z,26nm,1.0s
CDF **Champ du Feu** **32.03 170** *e*P **P** **12 23 53.5 +1.3**
comp=Z,13nm,1.0s
BFO **Black Forest** **32.14 168** *e*P P 12 24 03.7 +11
comp=Z,12nm,1.0s
BFO *e*L L 12 35 18.8
comp=Z,1µm,22.0s
ECH **Echery** **32.22 170** *e*P **P** **12 23 55.7 +1.8**
ECH pmax pmax
comp=Z,28nm,1.2s
ECH **Echery** **32.22 170** *e*P **P** **12 23 55.7 +1.8**
comp=Z,28nm,1.2s
ECH **Echery** **32.22 170** *e*P **P** **12 23 55.7 +1.8**
comp=Z,28nm,1.2s
KOLS **Kolonicke sedl** **32.37 151** *e*P **P** **12 23 57.0 +1.8**
KOLS *e* 12 24 05.5
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS **Kolonicke sedl** **32.37 151** *e*P **P** **12 23 57.0 +1.8**
KOLS *e* 12 24 05.4
VRHR **Novokhopersk** **32.40 127** *e*P P 12 23 51.3 -4.0
VRHR pmax pmax
comp=Z,9.0nm,0.5s
VRHR pmax pmax
comp=N,30nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,1µm,19.0s
VRHR MLR MLR
comp=N,400nm,13.0s
VRHR MLR MLR
comp=E,1µm,16.0s
HAU **Haudompre** **32.41 171** *e*P **P** **12 23 56.7 +1.2**
comp=E,49nm,1.1s
HAU *e*R
comp=E,1µm,18.8s
HAU **Haudompre** **32.41 171** *e*P **P** **12 23 56.7 +1.2**
HAU pmax pmax
comp=Z,49nm,1.1s
HAU **Haudompre** **32.41 171** *e*P **P** **12 23 56.7 +1.2**
comp=Z,49nm,1.1s
HAU **Haudompre** **32.41 171** *e*P **P** **12 23 56.7 +1.2**
comp=Z,25nm,1.1s
FUR **Furstenfeldbru** **32.43 165** *e*P P 12 24 06.7 +11
comp=Z,72nm,1.6s
FUR *e*L L 12 36 39.4
comp=Z,927nm,18.6s
SCHQ **Schefferville** **32.43 260** P **P** **12 23 54.6 -1.0**
comp=Z,9.3nm,0.7s,baz=20,slow=7.6,SNR=34
SCHQ LR LR 12 38 00.6
comp=Z,2µm,18.5s,baz=190,slow=38
SCHQ **Schefferville** **32.43 260** *e*P **P** **12 23 54.1 -1.5**
comp=Z,11nm,0.7s
SCHQ **Schefferville** **32.43 260** *e*P **P** **12 23 54.1 -1.5**
comp=Z,11nm,0.7s
VYHS **Vyhne** **32.54 155** *e*P P 12 24 00.0 +3.4
VYHS *e* 12 24 07.1
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS **Vyhne** **32.54 155** *e*P P 12 24 00.0 +3.4
VYHS *e* 12 24 07.1
UZH **Uzhgorod** **32.67 151** *e*P P 12 24 02.0 +4.2
UZH *i* 12 24 07.3
UZH *e* 12 25 12.5
UZH *e*S **S** **12 29 18.0 +5.0**
UZH *e*SS **SnSn** **12 31 13.0 +5.2**
UZH MLR MLR
comp=N,900nm,16.0s
UZH MLR MLR
comp=E,1µm,16.0s
UZH MLR MLR
comp=Z,600nm,16.0s
YKW3 **Yellowknife Ar** **32.74 308** *e*P **P** **12 23 57.6 -0.6**
comp=Z,0.5nm,1.1s
YKW3 **Yellowknife Ar** **32.74 308** *e*P **P** **12 23 57.6 -0.6**
comp=Z,0.5nm,1.1s
YKA **Yellowknife Ar** **32.80 308** P **P** **12 23 57.1 -1.6**
comp=Z,1.9nm,0.7s,baz=7.3,slow=8.6,SNR=48
YKA PcP **PcP** **12 26 43.6 +0.5**
comp=Z,1.0nm,0.8s,baz=8.3,slow=3.1,SNR=3.0
YKA **Yellowknife Ar** **32.80 308** P **P** **12 23 57.1 -1.6**
YKA PcP **PcP** **12 26 43.6 +0.5**
YKA **Yellowknife Ar** **32.80 308** P **P** **12 23 57.1 -1.6**
MOA **Molln** **32.89 161**⇑ *i*P **P** **12 24 00.5 +0.8**
comp=Z,42nm,1.3s
MOA **Molln** **32.89 161** P **P** **12 24 00.5 +0.8**
comp=Z,42nm,1.3s
CONA **Conrad Observa** **32.91 159**⇑ *i*pP **P** **12 24 01.8 +1.9**
comp=Z,41nm,1.2s
CONA **Conrad Observa** **32.91 159** P **P** **12 24 01.8 +1.9**
comp=Z,41nm,1.2s
LOR **Lormes** **33.09 174** *e*P **P** **12 24 01.9 +0.5**
comp=Z,35nm,1.0s
LOR *e*R
comp=Z,966nm,23.0s
LOR **Lormes** **33.09 174** *e*P **P** **12 24 01.9 +0.5**
comp=Z,35nm,1.0s
LOR **Lormes** **33.09 174** *e*P **P** **12 24 01.9 +0.5**
comp=Z,18nm,1.0s
TRPA **Tarpa** **33.19 151**⇑ *i*P **P** **12 24 04.9 +2.6**
TRPA **Tarpa** **33.19 151**⇑ *i*P **P** **12 24 04.9 +2.6**
TRPA **Tarpa** **33.19 151**‖ *e*P P 12 24 09.3 +7.0
PSZ **Piszkesteto** **33.19 154** *e*P **P** **12 24 04.6 +2.2**
PSZ pmax pmax
comp=Z,43nm,1.1s
PSZ **Piszkesteto** **33.19 154** *e*P **P** **12 24 04.6 +2.2**
comp=Z,43nm,1.1s
PSZ **Piszkesteto** **33.19 154**⇑ *i*P P 12 24 06.2 +3.8
PSZ **Piszkesteto** **33.19 154** *e*P **P** **12 24 04.6 +2.2**
comp=Z,43nm,1.1s
PSZ **Piszkesteto** **33.19 154**‖ *e*P P 12 24 09.9 +7.5
SOP **Sopron** **33.20 158**‖ *e*P P 12 24 12.7 +10
SSF **Saint Saulge** **33.29 174** *e*P **P** **12 24 02.9 -0.3**
comp=Z,41nm,1.1s
SSF **Saint Saulge** **33.29 174** *e*P **P** **12 24 02.9 -0.3**
SSF pmax pmax
comp=Z,41nm,1.1s
SSF **Saint Saulge** **33.29 174** *e*P **P** **12 24 02.9 -0.3**
comp=Z,41nm,1.1s
SSF **Saint Saulge** **33.29 174** *e*P **P** **12 24 02.9 -0.3**
comp=Z,20nm,1.1s
EGAK **Eagle** **33.52 330** *e*P **P** **12 24 04.5 -0.6**
comp=Z,27nm,1.3s
EGAK **Eagle** **33.52 330** *e*P **P** **12 24 04.4 -0.6**
comp=Z,27nm,1.3s
AVF **Avril sur Loir** **33.56 175** *e*P **P** **12 24 04.8 -0.7**
comp=Z,116nm,1.2s
AVF **Avril sur Loir** **33.56 175** *e*P **P** **12 24 04.8 -0.7**
AVF pmax pmax
comp=Z,116nm,1.2s
AVF **Avril sur Loir** **33.56 175** *e*P **P** **12 24 04.8 -0.7**
comp=Z,116nm,1.2s
AVF **Avril sur Loir** **33.56 175** *e*P **P** **12 24 04.8 -0.7**
comp=Z,58nm,1.2s
BUD **Budapest** **33.56 155**‖ *e*P P 12 24 16.7 +11
MFF **Saint Martin d** **33.71 179** *e*P **P** **12 24 08.2 +1.3**
MFF **Saint Martin d** **33.71 179** *e*P **P** **12 24 08.2 +1.3**
MFF **Saint Martin d** **33.71 179** *e*P **P** **12 24 08.2 +1.3**
MFF **Saint Martin d** **33.71 179** *e*P **P** **12 24 08.2 +1.3**
BGF **Bois d'Agland** **33.78 175** *e*P **P** **12 24 06.7 -0.8**
comp=Z,177nm,1.3s
BGF **Bois d'Agland** **33.78 175** *e*P **P** **12 24 06.7 -0.8**
BGF pmax pmax
comp=Z,177nm,1.3s
BGF **Bois d'Agland** **33.78 175** *e*P **P** **12 24 06.7 -0.8**
comp=Z,177nm,1.3s
BGF **Bois d'Agland** **33.78 175** *e*P **P** **12 24 06.7 -0.8**
comp=Z,88nm,1.3s
CABF **La Chapelle** **33.79 171** *e*P **P** **12 24 08.9 +1.2**
CABF **La Chapelle** **33.79 171** *e*P **P** **12 24 08.9 +1.2**
CABF **La Chapelle** **33.79 171** *e*P **P** **12 24 08.9 +1.2**
CABF **La Chapelle** **33.79 171** *e*P **P** **12 24 08.9 +1.2**
BUR08 **Bucovina Ar. S** **33.91 148** *e*P **P** **12 24 10.1 +1.4**
BUR08 **Bucovina Ar. S** **33.91 148** *e*P **P** **12 24 10.1 +1.4**
BURAR **Bucovina Array** **33.94 148**⇑ *i*P **P** **12 24 10.6 +1.7**
BURAR **Bucovina Array** **33.94 148**⇑ *i*P **P** **12 24 10.6 +1.7**
COLA **College** **33.95 335** *e*P **P** **12 24 08.6 -0.1**
COLA pmax pmax
comp=Z,29nm,1.2s
COLA **College** **33.95 335** *e*P **P** **12 24 08.6 -0.1**
comp=Z,30nm,1.2s
COLA **College** **33.95 335** *e*P **P** **12 24 08.6 -0.1**
comp=Z,30nm,1.2s
ILAR **Eielson Array** **33.98 335** P **P** **12 24 08.8 -0.3**
comp=Z,7.3nm,0.6s,baz=4.6,slow=7.4,SNR=154
ILAR PcP **PcP** **12 26 46.8 +0.3**
comp=Z,0.4nm,0.8s,baz=322,slow=4.5,SNR=1.1
ILAR LR LR 12 36 22.2
comp=Z,500nm,20.5s,baz=200,slow=34
ILAR **Eielson Array** **33.98 335** P **P** **12 24 08.8 -0.3**
ILAR PcP **PcP** **12 26 46.8 +0.3**
ILAR **Eielson Array** **33.98 335** P **P** **12 24 08.8 -0.3**
TUE **Stuetta** **34.04 167** *e*P **P** **12 24 11.0 +1.1**
comp=Z,9.2nm,0.9s
TUE **Stuetta** **34.04 167** *e*P **P** **12 24 11.0 +1.1**
comp=Z,9.2nm,0.9s
TCF **Toulx Ste Croi** **34.04 176** *e*P **P** **12 24 10.8 +1.0**
comp=Z,77nm,1.0s
TCF **Toulx Ste Croi** **34.04 176** *e*P **P** **12 24 10.8 +1.0**
TCF pmax pmax
comp=Z,77nm,1.0s
TCF **Toulx Ste Croi** **34.04 176** *e*P **P** **12 24 10.8 +1.0**
comp=Z,77nm,1.0s
TCF **Toulx Ste Croi** **34.04 176** *e*P **P** **12 24 10.8 +1.0**
comp=Z,38nm,1.0s
DAWY **Dawson** **34.07 329** *e*P **P** **12 24 09.7 -0.2**
DAWY **Dawson** **34.07 329** *e*P **P** **12 24 09.7 -0.2**
SOKA **Soboth** **34.10 160**⇑ *i*P **P** **12 24 10.8 +0.5**
comp=Z,31nm,1.2s
SOKA **Soboth** **34.10 160** P **P** **12 24 10.8 +0.5**
comp=Z,31nm,1.2s
PERS **Pernice** **34.15 160** *e*P P 12 24 21.5 +11
BEHE **Becsehely** **34.42 158**‖ *e*P P 12 24 19.0 +6.0
PKSM **Moragy** **34.80 156**‖ *e*P P 12 24 26.9 +11
DOT **Dot Lake** **34.88 332** *e*P **P** **12 24 17.2 +0.4**
comp=Z,10nm,1.2s
DOT **Dot Lake** **34.88 332** *e*P **P** **12 24 17.2 +0.4**
comp=Z,10nm,1.2s
LPL **La Plagne** **34.91 171** *e*P **P** **12 24 17.4 -0.1**
comp=Z,56nm,1.3s
LPL **La Plagne** **34.91 171** *e*P **P** **12 24 17.4 -0.1**
LPL pmax pmax
comp=Z,56nm,1.3s
LPL **La Plagne** **34.91 171** *e*P **P** **12 24 17.4 -0.1**
comp=Z,56nm,1.3s
LPL **La Plagne** **34.91 171** *e*P **P** **12 24 17.4 -0.1**
comp=Z,28nm,1.3s
ZRNK **Zerenda** **34.92 97** *i* P **P** **12 24 17.6 +0.4**
ZRNK pmax pmax
comp=Z,106nm,2.7s
LPG **La Plagne** **34.92 171** *e*P **P** **12 24 18.5 +0.8**
LPG **La Plagne** **34.92 171** *e*P **P** **12 24 18.5 +0.8**
LPG **La Plagne** **34.92 171** *e*P **P** **12 24 18.5 +0.8**
LPG **La Plagne** **34.92 171** *e*P **P** **12 24 18.5 +0.8**
RJF **Les Rejaudoux** **35.02 177** *e*P **P** **12 24 17.9 -0.3**
comp=Z,148nm,1.0s
RJF *e*R
comp=Z,1µm,17.2s
RJF **Les Rejaudoux** **35.02 177** *e*P **P** **12 24 17.9 -0.3**
RJF **Les Rejaudoux** **35.02 177** *e*P **P** **12 24 17.9 -0.3**
comp=Z,148nm,1.0s
RJF **Les Rejaudoux** **35.02 177** *e*P **P** **12 24 17.9 -0.3**
comp=Z,74nm,1.0s
BRVK **Borovoye** **35.03 95** *c i*P **P** **12 24 19.3 +1.0**
BRVK pmax pmax
comp=Z,41nm,2.5s
BRVK **Borovoye** **35.03 95** *e*P **P** **12 24 18.9 +0.7**
comp=Z,13nm,1.0s
BRVK **Borovoye** **35.03 95** P **P** **12 24 19.2 +1.0**
comp=Z,58nm,1.0s,SNR=6.8
BRVK **Borovoye** **35.03 95** *e*P **P** **12 24 18.9 +0.7**
comp=Z,13nm,1.0s
BVAO **Borovoye Array** **35.08 95** *i* P **P** **12 24 19.1 +0.5**
TESR **35.16 146**⇑ *i*P **P** **12 24 21.8 +2.4**
TESR **35.16 146**⇑ *i*P **P** **12 24 21.8 +2.4**
YAK **Yakutsk** **35.30 38** *e*P **P** **12 24 21.2 +0.8**
YAK *e**PP **pP** **12 24 29.3 +4.5**
YAK *e* 12 25 38.6
YAK *e*PPP PPP 12 25 54.1
YAK *e* 12 26 50.7
YAK *e*S **S** **12 29 52.3 -1.0**
YAK *e*SS **SnSn** **12 32 07.6 -3.3**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=Z,87nm,4.2s
YAK pmax pmax
comp=N,133nm,4.3s
YAK pmax pmax
comp=E,121nm,4.9s
YAK smax smax
comp=N,97nm,13.9s
YAK smax smax
comp=E,283nm,13.9s
YAK MLR MLR
comp=E,782nm,19.0s
YAK **Yakutsk** **35.30 38** *e*P **P** **12 24 21.6 +1.2**
comp=E,21nm,0.7s
YAK **Yakutsk** **35.30 38** *e*P **P** **12 24 21.6 +1.2**
comp=E,21nm,0.7s
CAF **Calviac** **35.41 176** *e*P **P** **12 24 21.8 +0.3**
comp=E,43nm,1.1s
CAF **Calviac** **35.41 176** *e*P **P** **12 24 21.8 +0.3**
CAF pmax pmax
comp=Z,43nm,1.1s
CAF **Calviac** **35.41 176** *e*P **P** **12 24 21.8 +0.3**
comp=Z,43nm,1.1s
CAF **Calviac** **35.41 176** *e*P **P** **12 24 21.8 +0.3**
comp=Z,22nm,1.1s
VOSK **Vostochnaya** **35.47 95** P **P** **12 24 23.8 +1.8**
VOSK pmax pmax
comp=Z,108nm,2.3s
ORIF **Oris-en-Rattie** **35.48 172** *e*P **P** **12 24 24.9 +2.6**
ORIF *e*R
comp=Z,1µm,18.2s
ORIF **Oris-en-Rattie** **35.48 172** *e*P **P** **12 24 24.9 +2.6**
ORIF **Oris-en-Rattie** **35.48 172** *e*P **P** **12 24 24.9 +2.6**
ORIF **Oris-en-Rattie** **35.48 172** *e*P **P** **12 24 24.9 +2.6**
AKTO **Aktyubinsk** **35.51 109** *i* P **P** **12 24 23.0 +0.6**
AKTO pmax pmax
comp=Z,5.0nm,1.2s
VIVF **Saint-Julien-l** **35.52 173** *e*P **P** **12 24 22.9 +0.4**
comp=Z,46nm,1.3s
VIVF **Saint-Julien-l** **35.52 173** *e*P **P** **12 24 22.9 +0.4**
VIVF pmax pmax
comp=Z,46nm,1.3s
VIVF **Saint-Julien-l** **35.52 173** *e*P **P** **12 24 22.9 +0.4**
comp=Z,46nm,1.3s
VIVF **Saint-Julien-l** **35.52 173** *e*P **P** **12 24 22.9 +0.4**
comp=Z,23nm,1.3s
NVS **Novosibirsk** **35.54 82**⇑ *i*P **P** **12 24 22.6 +0.1**
NVS *e* 12 25 44.4
NVS pmax pmax
comp=Z,85nm,1.9s
NVS pmax pmax
comp=N,30nm,1.7s
BZS **Buzias** **35.61 152**⇑ P **P** **12 24 24.6 +1.3**
BZS **Buzias** **35.61 152**⇑ *i*P **P** **12 24 24.6 +1.3**
BZS **Buzias** **35.61 152**⇑ *i*P **P** **12 24 24.6 +1.3**
PAX **Paxson** **35.66 333** *e*P **P** **12 24 23.2 -0.4**
PAX pmax pmax
comp=Z,22nm,1.0s
PAX **Paxson** **35.66 333** *e*P **P** **12 24 23.2 -0.4**
comp=Z,22nm,1.0s
PAX **Paxson** **35.66 333** *e*P **P** **12 24 23.2 -0.4**
comp=Z,22nm,1.0s
VRI **Vrincioaia** **35.81 146**⇑ P P 12 24 33.8 +8.8
VRI **Vrincioaia** **35.81 146**⇑ *i*P P 12 24 33.8 +8.8
PLOR **Plostina** **35.82 146**⇑ P P 12 24 34.0 +8.9
PLOR **Plostina** **35.82 146**⇑ *i*P P 12 24 34.0 +8.9
VOIR **36.08 148**‖ P **P** **12 24 28.5 +1.1**
VOIR **36.08 148**‖ *i*P **P** **12 24 28.5 +1.1**
VOIR **36.08 148**‖ *i*P **P** **12 24 28.5 +1.1**
SEY **Seymchan** **36.30 20**‖ *e*P **P** **12 24 27.8 -1.2**
SBF **Sospel** **36.58 170** *e*P **P** **12 24 31.3 -0.3**
comp=Z,96nm,1.0s
SBF **Sospel** **36.58 170** *e*P **P** **12 24 31.3 -0.3**
SBF pmax pmax
comp=Z,96nm,1.0s
SBF **Sospel** **36.58 170** *e*P **P** **12 24 31.3 -0.3**
comp=Z,96nm,1.0s
SBF **Sospel** **36.58 170** *e*P **P** **12 24 31.3 -0.3**
comp=Z,48nm,1.0s
ZAA0 **Zalesovo Array** **36.66 81** *e*P **P** **12 24 32.5 +0.4**
ZAA0 **Zalesovo Array** **36.66 81** *e*P **P** **12 24 32.5 +0.4**
ZALV **Zalesovo Beam** **36.66 81** P **P** **12 24 32.8 +0.7**
comp=Z,5.2nm,0.8s,baz=345,slow=9.1,SNR=14
ZALV LR LR 12 43 22.6
comp=Z,2µm,18.0s,baz=348,slow=42
ZALV **Zalesovo Beam** **36.66 81** P **P** **12 24 32.8 +0.7**
ZALV **Zalesovo Beam** **36.66 81** P **P** **12 24 32.8 +0.7**
ZALV **Zalesovo Beam** **36.66 81** P **P** **12 24 32.8 +0.7**
FRF **La Foret Royal** **36.86 171** *e*P **P** **12 24 35.4 +1.5**
FRF **La Foret Royal** **36.86 171** *e*P **P** **12 24 35.4 +1.5**
FRF **La Foret Royal** **36.86 171** *e*P **P** **12 24 35.4 +1.5**
FRF **La Foret Royal** **36.86 171** *e*P **P** **12 24 35.4 +1.5**
TRUS **Trudelj** **36.91 154** *e*P **P** **12 24 35.8 +1.5**
AB31 **Akbulak array** **36.97 108** *c e*P **P** **12 24 34.8 0.0**
AB31 pmax pmax
comp=Z,10.0nm,1.0s
ABKAR **Akbulak array** **36.97 108** *e*P **P** **12 24 35.5 +0.7**
comp=Z,7.8nm,0.9s
ABKAR **Akbulak array** **36.97 108** *e*P **P** **12 24 35.5 +0.7**
comp=Z,7.8nm,0.9s
MTLF **Montolieu** **36.99 176** *e*P **P** **12 24 35.4 +0.3**
comp=Z,28nm,0.9s
MTLF **Montolieu** **36.99 176** *e*P **P** **12 24 35.4 +0.3**
MTLF pmax pmax
comp=Z,28nm,0.9s
MTLF **Montolieu** **36.99 176** *e*P **P** **12 24 35.4 +0.3**
comp=Z,28nm,0.9s
MTLF **Montolieu** **36.99 176** *e*P **P** **12 24 35.4 +0.3**
comp=Z,14nm,0.9s
DIVS **Divibare** **37.00 155** *e*P **P** **12 24 35.9 +0.7**
SML **Sawmill** **37.03 335** *e*P **P** **12 24 35.2 0.0**
SML pmax pmax
comp=Z,12nm,1.1s
SML **Sawmill** **37.03 335** *e*P **P** **12 24 35.2 0.0**
comp=Z,12nm,1.1s
SML **Sawmill** **37.03 335** *e*P **P** **12 24 35.2 0.0**
comp=Z,12nm,1.1s
SJPF **Ste Jean** **37.20 180** *e*P **P** **12 24 36.9 0.0**
SJPF **Ste Jean** **37.20 180** *e*P **P** **12 24 36.9 0.0**
SJPF **Ste Jean** **37.20 180** *e*P **P** **12 24 36.9 0.0**
SJPF **Ste Jean** **37.20 180** *e*P **P** **12 24 36.9 0.0**
GRUS **Gruza** **37.26 154** *e*P **P** **12 24 39.7 +2.4**
EPF **Esparros** **37.29 178** *e*P **P** **12 24 37.4 -0.2**
comp=Z,70nm,1.2s
EPF **Esparros** **37.29 178** *e*P **P** **12 24 37.4 -0.2**
EPF pmax pmax
comp=Z,70nm,1.2s
EPF **Esparros** **37.29 178** *e*P **P** **12 24 37.4 -0.2**
comp=Z,70nm,1.2s
EPF **Esparros** **37.29 178** *e*P **P** **12 24 37.4 -0.2**
comp=Z,35nm,1.2s
ETSF **Etsaut** **37.42 180** *e*P **P** **12 24 40.1 +1.3**
ETSF **Etsaut** **37.42 180** *e*P **P** **12 24 40.1 +1.3**
ETSF **Etsaut** **37.42 180** *e*P **P** **12 24 40.1 +1.3**
ETSF **Etsaut** **37.42 180** *e*P **P** **12 24 40.1 +1.3**
BOD **Bodaibo** **37.48 53** *e*P **P** **12 24 39.3 +0.2**
BOD pmax pmax
comp=Z,13nm,1.5s
BMRM **Bremner River** **37.57 332** *e*P **P** **12 24 40.3 +0.4**
comp=Z,28nm,1.2s
BMRM **Bremner River** **37.57 332** *e*P **P** **12 24 40.3 +0.4**
comp=Z,28nm,1.2s
RC01 **Rabbit Creek A** **37.84 336** *e*P **P** **12 24 41.2 -0.9**
comp=Z,30nm,1.3s
RC01 **Rabbit Creek A** **37.84 336** *e*P **P** **12 24 41.2 -0.9**
comp=Z,30nm,1.3s
ANN **Anapa** **38.04 134** *e*P **P** **12 24 45.3 +1.4**
BARS **Barje** **38.41 153** *e*P **P** **12 24 48.1 +1.0**
FFC **Flin Flon** **38.43 294** *e*P **P** **12 24 47.3 +0.2**
FFC pmax pmax
comp=Z,27nm,1.2s
FFC **Flin Flon** **38.43 294** *e*P **P** **12 24 47.3 +0.2**
comp=Z,26nm,1.2s
FFC **Flin Flon** **38.43 294** *e*P **P** **12 24 47.3 +0.2**
comp=Z,26nm,1.2s
DLBC **Dease Lake** **38.65 319** *e*P **P** **12 24 50.0 +1.0**
DLBC **Dease Lake** **38.65 319** *e*P **P** **12 24 50.0 +1.0**
KURK **Kurchatov** **38.72 88** *i* P **P** **12 24 49.9 +0.4**
KURK pmax pmax
comp=Z,34nm,1.1s
KURK **Kurchatov** **38.72 88** *e*P **P** **12 24 50.1 +0.6**

comp=Z,30nm,1.0s
KURK Kurchatov 38.72 88 P **P** 12 24 50.8 +1.3
comp=Z,158nm,1.1s,SNR=25
KURK Kurchatov 38.72 88 *e*P **P** 12 24 50.1 +0.6
comp=Z,30nm,1.0s
VTS Vitosha 38.75 151 ⇓P **P** 12 24 47.3 -2.8
VTS Vitosha 38.75 151 ⇓*i*P **P** 12 24 47.3 -2.8
SOC Sochi 39.52 132 *e*P **P** 12 24 58.9 +2.6
SOC *e*PPP PPP 12 26 52.9
SOC *e*S S 12 31 06.1 +8.3
SOC *e*SS **SS** 12 33 48.5 -3.5
SOC pmax pmax
comp=Z,13nm,0.6s
SOC MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 39.54 129 *e*P **P** 12 24 54.5 -2.2
KIV *e* 12 26 26.5
KIV *e*S **S** 12 30 58.2 -0.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,840nm,15.0s
KBZ Khabaz 39.80 128 P **P** 12 25 01.0 +2.4
comp=Z,8.7nm,0.8s,baz=341,slow=3.4,SNR=16
KBZ LR LR 12 41 30.3
comp=Z,1µm,19.3s,baz=346,slow=36
KBZ Khabaz 39.80 128 P **P** 12 25 01.0 +2.4
KBZ Khabaz 39.80 128 P **P** 12 25 01.0 +2.4
KBZ Khabaz 39.80 128 P **P** 12 25 01.0 +2.4
CLNS Chul'man 39.84 44 *e*P **P** 12 25 00.3 +1.4
CLNS *e**PP **pP** 12 25 07.5 +4.1
CLNS *e* 12 26 29.3
CLNS *e*PPP PPP 12 26 55.6
CLNS *e* 12 27 07.6
CLNS *e*S **S** 12 30 57.9 -4.5
CLNS *e* 12 35 00.2
CLNS pmax pmax
comp=Z,17nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.2s
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=Z,15nm,1.3s
CLNS smax smax
comp=E,162nm,11.8s
CLNS smax smax
comp=N,105nm,11.4s
CLNS MLR MLR
comp=Z,392nm,12.0s
CLNS MLR MLR
comp=N,351nm,13.0s
CLNS MLR MLR
comp=E,498nm,15.0s
VAY Valandovo 39.96 152 *e*P P 12 25 09.6 +10
ESDC Sonseca Array 40.65 184 P **P** 12 25 06.3 +0.5
comp=E,2.3nm,0.6s,baz=4.8,slow=8.7,SNR=5.6
ESDC Sonseca Array 40.65 184 P **P** 12 25 06.3 +0.5
ESDC Sonseca Array 40.65 184 P **P** 12 25 06.3 +0.5
HVS Khovu-Aksy 40.86 74 *de*P **P** 12 25 08.8 +1.3
HVS pmax pmax
comp=Z,181nm,1.7s
ZEI Tsey 40.87 128 *e*P **P** 12 25 08.3 +0.5
ZEI pmax pmax
comp=Z,13nm,1.7s
MAK Makhachkala 41.19 123 P P 12 25 06.5 -3.6
MAK *e* 12 26 43.9
MAK *e*PPP PPP 12 27 17.4
MAK *e*S **S** 12 31 24.0 +1.4
MAK *e*SSS SSS 12 34 58.7
MAK *e* 12 35 20.8
MAK MLR MLR
comp=Z,2µm,17.0s
KDAK Kodiak Island 41.32 337 P **P** 12 25 11.3 +0.3
comp=Z,278nm,0.6s,SNR=9.4
MOY Mondy 41.52 67 *e*P **P** 12 25 15.0 +2.1
MOY pmax pmax
comp=Z,61nm,3.6s
ULM Lac du Bonnet 41.77 286 P **P** 12 25 13.9 -0.9
comp=Z,2.8nm,0.6s,baz=9.0,slow=5.8,SNR=7.4
ULM LR LR 12 42 33.8
comp=Z,3µm,18.8s,baz=13,slow=36
ULM Lac du Bonnet 41.77 286 P **P** 12 25 13.9 -0.9
ULM Lac du Bonnet 41.77 286 P **P** 12 25 13.9 -0.9
TLY Talaya 41.92 64 *e*P **P** 12 25 16.5 +0.4
TLY *e*SSS SSS 12 34 33.7
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,2µm,21.0s
TBLG Delisi 42.01 127 P P 12 25 20.6 +3.6
AKH Akhalkalaki 42.15 128 P P 12 25 22.5 +4.2
EMMW East Machias 42.32 256 *e*P P 12 25 22.5 +3.2
comp=Z,63nm,0.9s
DGRG David-gareji 42.37 126 P **P** 12 25 21.0 +1.1
BR131 Keskin Array S 42.60 140 *e*P **P** 12 25 23.2 +1.3
comp=Z,12nm,1.0s
BR131 Keskin Array S 42.60 140 *e*P **P** 12 25 23.2 +1.3
comp=Z,12nm,1.0s
BRTR Keskin Array B 42.60 140 P **P** 12 25 23.2 +1.3
comp=Z,2.3nm,0.8s,baz=352,slow=7.5,SNR=9.6
BRTR LR LR 12 44 53.1
comp=Z,353nm,18.3s,baz=352,slow=39
BRTR Keskin Array B 42.60 140 P **P** 12 25 23.2 +1.3
BRTR Keskin Array B 42.60 140 P **P** 12 25 23.2 +1.3
WVL Waterville 42.83 259 P **P** 12 25 25.5 +2.0
comp=Z,39nm,1.0s
WVL Waterville 42.83 259 P **P** 12 25 25.5 +2.0
comp=Z,39nm,1.0s
ZAK Zakamensk 43.12 65 *e*P **P** 12 25 25.4 -0.6
ZAK *e* 12 27 04.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
MK31 Makanchi Array 43.13 86 *ce*P **P** 12 25 26.3 +0.3
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 43.13 86 *e*P **P** 12 25 26.6 +0.6
MK31 Makanchi Array 43.13 86 *e*P **P** 12 25 26.6 +0.6
MKAR Makanchi Array 43.13 86 P **P** 12 25 26.7 +0.7
comp=Z,7.4nm,0.7s,baz=341,slow=7.3,SNR=55
MKAR LR LR 12 46 54.4
comp=Z,837nm,19.2s,baz=321,slow=41
MKAR Makanchi Array 43.13 86 *ce*P **P** 12 25 26.7 +0.7
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 43.13 86 P **P** 12 25 26.7 +0.7
MKAR Makanchi Array 43.13 86 P **P** 12 25 26.7 +0.7
FRNY Flat Rock 43.23 263 *e*P **P** 12 25 27.2 +0.5
comp=Z,26nm,1.1s
FRNY Flat Rock 43.23 263 *e*P **P** 12 25 27.2 +0.5
comp=Z,26nm,1.1s
EYMN Ely 43.27 281 *e*P **P** 12 25 25.9 -1.2
comp=Z,25nm,1.0s
EYMN Ely 43.27 281 *e*P **P** 12 25 25.9 -1.2
comp=Z,25nm,1.0s
MSNY Massena 43.29 264 *e*P **P** 12 25 27.2 0.0
comp=Z,393nm,0.9s
MSNY Massena 43.29 264 *e*P **P** 12 25 27.2 0.0
comp=Z,393nm,0.9s
LONY Lake Ozonia 43.61 264 *e*P **P** 12 25 29.9 +0.1
comp=Z,29nm,1.0s
LONY Lake Ozonia 43.61 264 *e*P **P** 12 25 29.9 +0.1
comp=Z,29nm,1.0s
AGMN Agassiz Nation 43.66 285 *e*P **P** 12 25 31.0 +0.8
comp=Z,27nm,1.3s
AGMN Agassiz Nation 43.66 285 *e*P **P** 12 25 31.0 +0.8
comp=Z,27nm,1.3s
A24A Westby 44.37 293 ⇑P **P** 12 25 35.7 -0.2
baz=44
A23A Redstone 44.47 294 ⇓P **P** 12 25 35.9 -0.8
baz=44
A22A Carney Farms, 44.60 295 ⇑P **P** 12 25 37.2 -0.6
baz=44,SNR=12
ACCN Adirondack Com 44.65 262 P **P** 12 25 38.6 +0.4
ACCN Adirondack Com 44.65 262 P **P** 12 25 38.6 +0.4
MDND Maddock 44.71 289 ⇑P **P** 12 25 38.2 -0.4
baz=44
KEST Kesra 44.76 168 P P 12 25 48.4 +9.2
comp=Z,3.4nm,0.8s,baz=340,slow=8.1,SNR=5.8
KEST LR LR 12 42 54.3
comp=Z,136nm,21.4s,baz=187,slow=34
KEST Kesra 44.76 168 P P 12 25 48.4 +9.2

A21A Bergtoll Ranch 44.76 296 ⇑P **P** 12 25 38.4 -0.6
baz=44
DGMT Dagmar 44.84 293 *e*P **P** 12 25 39.9 +0.2
comp=Z,16nm,0.7s
DGMT Dagmar 44.84 293 ⇑P **P** 12 25 39.3 -0.4
baz=45
DGMT Dagmar 44.84 293 *e*P **P** 12 25 39.9 +0.2
comp=Z,16nm,0.7s
B23A Brockton 44.97 294 ⇓P **P** 12 25 40.5 -0.2
baz=45
A20A Cobblestone Ra 45.02 297 ⇑P **P** 12 25 40.8 -0.3
baz=45,SNR=9.9
A19A Klindworth Far 45.09 298 ⇑P **P** 12 25 41.6 -0.1
baz=45,SNR=15
A18A Metzger Ranch, 45.27 299 ⇑P **P** 12 25 42.5 -0.6
baz=45
B22A Reddig Ranch S 45.28 295 ⇓P **P** 12 25 43.1 -0.2
baz=45
A17A Triple J Farms 45.37 299 ⇓P **P** 12 25 43.2 -0.7
baz=45,SNR=11
A16A West Butte Ran 45.51 300 ⇓P **P** 12 25 44.0 -1.0
baz=45
CHMS Chumysh 45.52 95 P **P** 12 25 47.2 +2.0
SNR=8.8
B19A Brinkman Farms 45.59 298 ⇑P **P** 12 25 45.4 -0.2
baz=45
C23A Lambert 45.64 294 ⇑P **P** 12 25 45.8 -0.3
baz=45,SNR=9.9
A15A Johnson Ranch, 45.64 301 ⇑P **P** 12 25 45.6 -0.5
baz=45,SNR=11
FRU Bishkek 45.66 95 *e*P **P** 12 25 48.0 +1.7
FRU *e* 12 27 35.0
FRU pmax pmax
comp=Z,80nm,2.0s
EKS2 Erkin-Say 45.69 96 *e*P **P** 12 25 47.4 +0.8
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 45.69 96 *e*P **P** 12 25 47.4 +0.8
comp=Z,7.1nm,0.9s
EKS2 Erkin-Say 45.69 96 P **P** 12 25 49.8 +3.2
SNR=8.2
EKS2 Erkin-Say 45.69 96 *e*P **P** 12 25 47.4 +0.8
comp=Z,7.1nm,0.9s
WALA Waterton Lakes 45.74 302 *e*P **P** 12 25 46.4 -0.5
comp=Z,1.0nm,1.1s
WALA Waterton Lakes 45.74 302 *e*P **P** 12 25 46.4 -0.5
comp=Z,0.9nm,1.1s
TKM2 Tokmak 2 45.74 94 *i* P **P** 12 25 49.1 +2.0
TKM2 Tokmak 2 45.74 94 *e*P **P** 12 25 47.7 +0.6
comp=Z,8.6nm,0.8s
TKM2 Tokmak 2 45.74 94 P **P** 12 25 49.1 +2.0
SNR=9.1
TKM2 Tokmak 2 45.74 94 *e*P **P** 12 25 47.7 +0.6
comp=Z,8.6nm,0.8s
A14A Double T Ranch 45.75 302 ⇑P **P** 12 25 46.7 -0.3
baz=46,SNR=5.2
B18A Beardsley Farm 45.77 298 ⇑P **P** 12 25 46.6 -0.5
baz=46
C24A Savage 45.79 293 ⇑P **P** 12 25 46.9 -0.3
baz=46
C22A Vida 45.81 295 ⇓P **P** 12 25 46.9 -0.5
baz=46,SNR=8.0
AAK Ala-Archa 45.84 95 *i* P **P** 12 25 49.7 +1.9
AAK Ala-Archa 45.84 95 *e*P **P** 12 25 49.3 +1.4
comp=Z,79nm,0.9s
AAK Ala-Archa 45.84 95 P **P** 12 25 49.2 +1.4
comp=Z,94nm,0.9s,SNR=15
AAK Ala-Archa 45.84 95 P **P** 12 25 49.8 +1.9
SNR=17
AAK Ala-Archa 45.84 95 *e*P **P** 12 25 49.3 +1.4
comp=Z,79nm,0.9s
C21A Desert Coulee 45.92 296 ⇓P **P** 12 25 47.4 -0.8
baz=46
A13A Flathead Natio 45.93 303 ⇑P **P** 12 25 47.7 -0.7
baz=46
B17A L&G Farms, Che 46.03 299 ⇑P **P** 12 25 49.0 -0.1
baz=46
B16A M & M Farms, S 46.04 300 ⇓P **P** 12 25 49.1 -0.2
baz=46
SONM Songino Array 46.08 63 P **P** 12 25 50.4 +0.7
comp=Z,4.6nm,1.1s,baz=330,slow=5.3,SNR=26
SONM PP **PP** 12 27 35.1 -2.3
comp=Z,1.7nm,0.9s,baz=318,slow=2.0,SNR=3.0
SONM LR LR 12 46 51.3
comp=Z,4µm,19.4s,baz=82,slow=38
SONM Songino Array 46.08 63 P **P** 12 25 50.4 +0.7
SONM PP **PP** 12 27 35.1 -2.3
SONM Songino Array 46.08 63 P **P** 12 25 50.4 +0.7
SONM Songino Array 46.08 63 PP PP 12 27 35.1 -2.3
A12A Yaak River Ran 46.11 304 ⇓P **P** 12 25 50.0 +0.2
baz=46
SPMN St. Paul 46.13 282 ⇑P **P** 12 25 49.2 -0.7
baz=46
EGMT Eagleton 46.13 298 *e*P **P** 12 25 49.8 -0.2
comp=Z,23nm,1.1s
EGMT Eagleton 46.13 298 ⇑P **P** 12 25 49.5 -0.5
baz=46
EGMT Eagleton 46.13 298 *e*P **P** 12 25 49.8 -0.2
comp=Z,23nm,1.1s
ULN Ulaanbaatar 46.16 63 *e*P **P** 12 25 51.2 +1.0
comp=Z,46nm,1.5s
ULN Ulaanbaatar 46.16 63 *e*P **P** 12 25 51.2 +1.0
comp=Z,46nm,1.5s
C20A Veseth Ranch, 46.17 297 ⇓P **P** 12 25 49.5 -0.7
baz=46,SNR=8.1
D24A Glendive 46.18 293 ⇓P **P** 12 25 50.0 -0.3
baz=46
AML Almayashu 46.19 96 P **P** 12 25 53.3 +2.4
SNR=15
BINY Binghamton 46.20 264 *e*P **P** 12 25 51.0 +0.5
comp=Z,37nm,0.8s
BINY Binghamton 46.20 264 *e*P **P** 12 25 51.0 +0.5
comp=Z,37nm,0.8s
D23A Lindsay 46.26 294 ⇑P **P** 12 25 50.7 -0.2
baz=46
B15A Bradely Ranch, 46.27 301 ⇑P **P** 12 25 49.9 -1.2
baz=46,SNR=14
C19A Slack Wire Ran 46.30 297 ⇑P **P** 12 25 50.7 -0.6
baz=46,SNR=12
B14A Marquette Ranc 46.33 301 ⇑P **P** 12 25 50.4 -1.1
baz=46,SNR=5.1
PETK Petropavlovsk- 46.39 18 P P 12 25 56.8 +4.9
comp=Z,3.7nm,0.9s,baz=238,slow=13,SNR=2.9
PETK LR LR 12 43 41.4
comp=Z,456nm,21.0s,baz=350,slow=34
PETK Petropavlovsk- 46.39 18 P P 12 25 56.8 +4.9
PETK Petropavlovsk- 46.39 18 P P 12 25 56.8 +4.9
D22A Cohagen 46.43 295 ⇓P **P** 12 25 51.3 -1.0
baz=46
B13A Whitefish 46.49 303 ⇓P **P** 12 25 52.7 0.0
baz=46,SNR=6.8
B12A Libby 46.55 304 ⇑P **P** 12 25 53.6 +0.3
baz=46
D21A La Casta Ranch 46.64 295 ⇓P **P** 12 25 53.2 -0.8
baz=46,SNR=8.4
C16A Fuhringer Ranc 46.65 300 ⇑P **P** 12 25 54.0 -0.1
baz=46,SNR=22
C17A Wharram Farm, 46.66 299 ⇓P **P** 12 25 53.4 -0.8
baz=46
E24A Baker 46.71 293 ⇑P **P** 12 25 53.6 -0.9
baz=46
D20A Manuel Ranch, 46.79 296 ⇑P **P** 12 25 54.5 -0.6
baz=46,SNR=13
C15A Salmond Ranch, 46.80 301 ⇓P **P** 12 25 54.9 -0.4
baz=46
D19A Cripps Ranch, 46.84 297 ⇑P **P** 12 25 55.0 -0.4
baz=47,SNR=14
YBMT Yellow Bay 46.92 302 *e*P **P** 12 25 56.1 -0.1
comp=Z,12nm,0.7s
YBMT Yellow Bay 46.92 302 *e*P **P** 12 25 56.1 -0.1
comp=Z,12nm,0.7s
E23A Ismay 46.93 294 ⇑P **P** 12 25 55.7 -0.5
baz=47
WMQ Urumqi 46.94 82 P **P** 12 25 58.7 +2.4
WMQ PP **PP** 12 27 49.5 +3.1
WMQ S **S** 12 32 49.0 +2.4
WMQ ScS **ScS** 12 35 49.0 -0.7
WMQ pmax pmax
comp=Z,19nm,1.6s
WMQ LR LR
comp=N,3µm,18.0s
WMQ LR LR
comp=E,2µm,17.0s
WMQ LR LR
comp=Z,1µm,20.0s
D18A Linhart Farms, 46.95 298 ⇑P **P** 12 25 56.3 -0.1
baz=47
C14A Swan Lake 46.97 302 ⇑P **P** 12 25 56.0 -0.6
baz=47
NEW Newport 46.97 305 *e*P **P** 12 25 56.6 +0.1
comp=Z,27nm,1.1s
NEW Newport 46.97 305 ⇓P **P** 12 25 57.2 +0.7
baz=47
NEW Newport 46.97 305 *e*P **P** 12 25 56.6 +0.1
comp=Z,27nm,1.1s
BSMT Bassoo Peak 47.04 303 *e*P **P** 12 25 57.3 +0.1
comp=Z,45nm,1.1s
BSMT Bassoo Peak 47.04 303 *e*P **P** 12 25 57.3 +0.1
comp=Z,45nm,1.1s
JTMT Jette 47.07 302 *e*P **P** 12 25 57.4 0.0
comp=Z,18nm,1.1s
JTMT Jette 47.07 302 *e*P **P** 12 25 57.4 0.0
comp=Z,18nm,1.1s
D17A Six Diamond Ra 47.12 299 ⇓P **P** 12 25 57.5 -0.3
baz=47
E21A Keefer Ranch, 47.17 295 ⇓P **P** 12 25 57.7 -0.3
baz=47
C13A Hot Springs 47.18 302 ⇓P **P** 12 25 58.4 +0.3
baz=47,SNR=15
SWMT Swartz Lake 47.26 302 *e*P **P** 12 25 58.5 -0.4
comp=Z,25nm,1.0s
SWMT Swartz Lake 47.26 302 *e*P **P** 12 25 58.5 -0.4
comp=Z,24nm,1.0s
C11A Tepee Creek (N 47.26 304 ⇑P **P** 12 25 59.6 +0.7
baz=47
C12B Naegeli Ranch, 47.28 303 ⇓P **P** 12 26 00.1 +1.2
baz=47,SNR=9.6
E20A Meyer Farm, Mu 47.37 296 ⇑P **P** 12 25 59.3 -0.3
baz=47,SNR=5.8
D16A Dana Ranch, Ca 47.37 300 ⇓P **P** 12 25 59.3 -0.4
baz=47
F24A Ekalaka 47.43 293 ⇓P **P** 12 25 59.3 -0.8
baz=47
ALLY Alegheny Colle 47.45 268 *e*P **P** 12 26 00.0 -0.2
comp=Z,50nm,0.8s
ALLY Alegheny Colle 47.45 268 *e*P **P** 12 26 00.0 -0.2
comp=Z,50nm,0.8s
SLMT Seeley Lake 47.45 301 *e*P **P** 12 26 00.1 -0.3
comp=Z,30nm,1.0s
SLMT Seeley Lake 47.45 301 *e*P **P** 12 26 00.1 -0.3
comp=Z,30nm,1.0s
D15A Lincoln 47.50 300 ⇓P **P** 12 26 00.2 -0.5
baz=47,SNR=17
E19A Rath Farm, Rou 47.51 297 ⇓P **P** 12 26 00.4 -0.3
baz=47,SNR=12
E18A Harlowton 47.58 298 ⇑P **P** 12 26 00.6 -0.8
baz=47,SNR=5.2
D14A Greenough 47.61 301 ⇑P **P** 12 26 01.1 -0.5
baz=47,SNR=8.8
F23A Volborg 47.70 294 ⇓P **P** 12 26 00.7 -1.6
baz=48
ABKT Ailbek 47.71 114 P **P** 12 26 04.4 +2.0
comp=Z,73nm,1.5s,SNR=5.3
HRY Holter Researc 47.72 300 *e*P **P** 12 26 01.9 -0.6
comp=Z,59nm,1.0s
HRY Holter Researc 47.72 300 *e*P **P** 12 26 01.9 -0.6
comp=Z,59nm,1.0s
CHMT Chamberlain Mo 47.73 301 *e*P **P** 12 26 01.7 -1.0
comp=Z,21nm,1.0s
CHMT Chamberlain Mo 47.73 301 *e*P **P** 12 26 01.7 -1.0
comp=Z,21nm,1.0s
D13A Huson 47.73 302 ⇑P **P** 12 26 02.4 -0.1
baz=48
F22A Rosebud 47.78 294 ⇓P **P** 12 26 01.7 -1.1
baz=48
E17A Martinsdale 47.82 299 ⇓P **P** 12 26 03.3 0.0
baz=48
E16A East Helena 47.87 299 ⇓P **P** 12 26 03.2 -0.4
baz=48,SNR=11
D12A Red Ives Fores 47.91 303 ⇑P **P** 12 26 03.3 -0.6
baz=48
MSO Missoula 47.92 302 *e*P **P** 12 26 03.9 -0.1
comp=Z,52nm,1.2s
MSO Missoula 47.92 302 ⇑P **P** 12 26 03.7 -0.3
baz=48,SNR=33
MSO Missoula 47.92 302 *e*P **P** 12 26 03.9 -0.1
comp=Z,52nm,1.2s
SSPA Standing Stone 48.04 266 *e*P **P** 12 26 04.7 -0.1
comp=Z,18nm,1.0s
SSPA Standing Stone 48.04 266 *e*P **P** 12 26 04.7 -0.1
comp=Z,18nm,1.0s
E15A Deer Lodge 48.12 300 ⇑P **P** 12 26 04.9 -0.7
baz=48
F19A Roth Farm, Mol 48.12 297 ⇓P **P** 12 26 05.2 -0.4
baz=48,SNR=18
F18A Big Timber 48.19 298 ⇑P **P** 12 26 06.0 -0.1
baz=48
G23A Biddle 48.21 293 ⇑P **P** 12 26 05.6 -0.6
baz=48
ECSD EROS Data Cent 48.22 285 *e*P **P** 12 26 05.0 -1.2
comp=Z,40nm,1.4s
ECSD EROS Data Cent 48.22 285 *e*P **P** 12 26 05.0 -1.2
comp=Z,40nm,1.4s
E14A Clinton 48.26 301 ⇓P **P** 12 26 06.5 -0.2
baz=48
GCMT Greycliff 48.30 297 *e*P **P** 12 26 07.0 +0.1
comp=Z,26nm,1.2s
GCMT Greycliff 48.30 297 *e*P **P** 12 26 07.0 +0.1
comp=Z,26nm,1.2s
E13A Victor 48.33 302 ⇓P **P** 12 26 07.3 +0.1
baz=48,SNR=34
F17A Fitzpatrick Pl 48.33 298 ⇑P **P** 12 26 06.9 -0.3
baz=48
G21A Lodge Grass 48.47 295 ⇓P **P** 12 26 07.5 -0.7
baz=48
H24A Dirks Ranch, A 48.52 292 ⇓P **P** 12 26 07.7 -0.9
baz=48
E12A Beaver Dam Sad 48.56 303 ⇑P **P** 12 26 08.2 -0.8
baz=48
F16A Kennard Place, 48.60 299 ⇓P **P** 12 26 09.4 +0.2
baz=48,SNR=8.5
G20A Bridger 48.63 296 ⇑P **P** 12 26 09.1 -0.4
baz=48
F15A Butte 48.67 300 ⇓P **P** 12 26 10.1 +0.2
baz=48,SNR=9.8
LRM Limekiln Ridge 48.68 300 *e*P **P** 12 26 10.1 0.0
comp=Z,366nm,1.1s
LRM Limekiln Ridge 48.68 300 *e*P **P** 12 26 10.1 0.0
comp=Z,366nm,1.1s
F14A Wisdom 48.83 301 ⇓P **P** 12 26 10.9 -0.1
baz=49
H22A Clearmont 48.95 294 ⇓P **P** 12 26 11.4 -0.6
baz=49
F13A Darby 48.99 302 ⇓P **P** 12 26 11.7 -0.6
baz=49,SNR=10
H21A Big Horn, Sher 49.03 295 ⇑P **P** 12 26 11.3 -1.2
baz=49
RSSD Black Hills 49.05 292 *e*P **P** 12 26 12.5 -0.3
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 49.05 292 *e*P **P** 12 26 12.5 -0.3
comp=Z,9.2nm,0.8s
RSSD Black Hills 49.05 292 *e*P **P** 12 26 12.5 -0.3
comp=Z,9.2nm,0.8s
SDMD Soldier's Deli 49.06 264 *e*P **P** 12 26 13.0 +0.4
comp=Z,42nm,0.9s
SDMD Soldier's Deli 49.06 264 *e*P **P** 12 26 13.0 +0.4
comp=Z,42nm,0.9s
LON Longmire 49.10 309 *e*P **P** 12 26 12.8 -0.2
LON pmax pmax
comp=Z,33nm,1.3s
LON Longmire 49.10 309 *e*P **P** 12 26 12.8 -0.2
comp=Z,33nm,1.3s
LON Longmire 49.10 309 *e*P **P** 12 26 12.8 -0.2
comp=Z,33nm,1.3s
KSH Kashi 49.12 95 *e*P P 12 26 16.8 +3.5
KSH PcP **PcP** 12 27 38.4 +1.9
KSH PP **PP** 12 28 09.2 +2.5
KSH ScP **ScP** 12 31 31.6 +1.0
KSH PcS **PcS** 12 31 33.6 +0.6
KSH S **S** 12 33 19.9 +2.2
KSH ScS **ScS** 12 36 04.6 +0.1
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,180nm,4.9s
KSH LR LR
comp=N,750nm,13.4s
KSH LR LR
comp=E,2µm,17.8s
KSH LR LR
comp=Z,2µm,19.1s
HAWA Hanford 49.14 307 *e*P **P** 12 26 12.6 -0.6
comp=Z,39nm,1.4s
HAWA Hanford 49.14 307 *e*P **P** 12 26 12.6 -0.6
comp=Z,39nm,1.4s

DLMT **Dillon** 49.16 300 *e*P P 12 26 14.4 +0.9
comp=Z,15nm,1.0s
DLMT **Dillon** 49.16 300 *e*P P 12 26 14.4 +0.9
comp=Z,15nm,1.0s
G16A **Moss Hill, Enn** 49.17 299 ⇑P P 12 26 13.5 -0.1
baz=49
H19A **Powell** 49.28 296 ⇑P P 12 26 13.6 -1.0
baz=49,SNR=6.8
ACSO **Alum Creek Sta** 49.31 270 *e*P P 12 26 14.5 -0.1
comp=Z,30nm,0.9s
ACSO **Alum Creek Sta** 49.31 270 *e*P P 12 26 14.5 -0.1
comp=Z,30nm,0.9s
G15A **Dillon** 49.33 300 ⇓P P 12 26 14.8 -0.2
baz=49,SNR=9.1
H18A **Shoshone NF, C** 49.38 297 ⇓P P 12 26 15.4 0.0
baz=49,SNR=8.8
G14A **Jackson** 49.40 301 ⇑P P 12 26 15.4 -0.1
baz=49
SCIA **State Center** 49.42 281 *e*P P 12 26 15.3 -0.2
comp=Z,34nm,0.9s
SCIA **State Center** 49.42 281 *e*P P 12 26 15.3 -0.2
comp=Z,34nm,0.9s
YNR **Norris Junctio** 49.50 298 *e*P P 12 26 18.2 +1.9
comp=Z,20nm,1.2s
YNR **Norris Junctio** 49.50 298 *e*P P 12 26 18.2 +1.9
comp=Z,20nm,1.2s
QLMT **Earthquake Lak** 49.50 299 *e*P P 12 26 16.9 +0.6
comp=Z,1.2nm,0.8s
QLMT **Earthquake Lak** 49.50 299 *e*P P 12 26 16.9 +0.6
comp=Z,1.2nm,0.8s
H16A **Russell Place,** 49.60 299 ⇑P P 12 26 17.0 0.0
baz=49
I22A **9 Mile Ranch,** 49.66 294 ⇓P P 12 26 17.2 -0.2
baz=49,SNR=6.7
G13A **Cobalt** 49.66 301 ⇓P P 12 26 17.2 -0.2
baz=49,SNR=18
MCMT **McKenzie Canyo** 49.72 300 *e*P P 12 26 18.2 +0.3
comp=Z,19nm,1.2s
MCMT **McKenzie Canyo** 49.72 300 *e*P P 12 26 18.2 +0.3
comp=Z,19nm,1.2s
YFT **Old Faithful** 49.78 298 P P 12 26 20.6 +2.1
comp=Z,24nm,1.1s
YFT **Old Faithful** 49.78 298 P P 12 26 20.6 +2.1
comp=Z,24nm,1.1s
G12A **Big Creek, Yel** 49.78 302 ⇑P P 12 26 17.6 -0.7
baz=50,SNR=5.6
H17A **Grant Village** 49.80 298 ⇓P P 12 26 18.5 -0.1
baz=50
I20A **Worland** 49.86 296 ⇓P P 12 26 18.0 -0.9
baz=50,SNR=6.2
I21A **Big Trails, Te** 49.86 295 ⇑P P 12 26 17.9 -1.0
baz=50,SNR=11
SFIN **Scholer Farm** 49.87 275 ⇑P P 12 26 17.7 -1.1
baz=50
H15A **Lima** 49.89 300 ⇑P P 12 26 18.4 -0.8
baz=50,SNR=21
I19A **Meeteetse** 49.91 296 ⇓P P 12 26 18.2 -1.2
baz=50,SNR=6.0
J24A **Dixon Ranch, L** 49.92 292 ⇓P P 12 26 18.7 -0.6
baz=50
H14A **Leadore** 50.00 300 ⇑P P 12 26 19.8 -0.2
baz=50,SNR=16
HDIL **Hopedale** 50.08 277 *e*P P 12 26 20.5 +0.1
comp=Z,26nm,0.8s
HDIL **Hopedale** 50.08 277 *e*P P 12 26 20.5 +0.1
comp=Z,26nm,0.8s
FLWY **Flagg Ranch** 50.12 298 *e*P P 12 26 22.3 +1.3
comp=Z,45nm,1.2s
FLWY **Flagg Ranch** 50.12 298 *e*P P 12 26 22.3 +1.3
comp=Z,45nm,1.2s
J22A **Midwest** 50.12 294 ⇓P P 12 26 19.3 -1.6
baz=50,SNR=5.6
H13A **Challis** 50.18 301 ⇑P P 12 26 21.0 -0.4
baz=50,SNR=16
I17A **Pilgrim Ck.** 50.26 298 ⇑P P 12 26 22.0 -0.1
baz=50,SNR=8.0
H12A **Diamond D Ranc** 50.28 302 ⇑P P 12 26 21.6 -0.6
baz=50,SNR=23
K26A **Motz Farm, Whi** 50.29 291 ⇑P P 12 26 20.9 -1.2
baz=50
BMO **Blue Mountains** 50.34 304 *e*P P 12 26 21.8 -0.7
comp=Z,26nm,1.1s
BMO **Blue Mountains** 50.34 304 *e*P P 12 26 21.8 -0.7
comp=Z,26nm,1.1s
IMW **Indian Meadow** 50.34 298 *e*P P 12 26 23.7 +1.0
comp=Z,45nm,1.0s
IMW **Indian Meadow** 50.34 298 *e*P P 12 26 23.7 +1.0
comp=Z,45nm,1.0s
J21A **Lysite** 50.34 295 ⇑P P 12 26 21.7 -1.0
baz=50,SNR=6.0
I18A **Diamond G Ranc** 50.36 297 ⇓P P 12 26 21.7 -1.2
baz=50
J20A **Shoshoni** 50.43 295 ⇓P P 12 26 22.6 -0.7
baz=50,SNR=16
MOOW **Moose Ponds** 50.45 298 *e*P P 12 26 23.7 +0.2
comp=Z,27nm,1.2s
MOOW **Moose Ponds** 50.45 298 *e*P P 12 26 23.7 +0.2
comp=Z,27nm,1.2s
I15A **Monteview** 50.47 300 ⇓P P 12 26 23.4 -0.2
baz=50
LOHW **Long Hollow** 50.57 298 *e*P P 12 26 26.4 +2.1
comp=Z,25nm,1.2s
LOHW **Long Hollow** 50.57 298 *e*P P 12 26 26.5 +2.1
comp=Z,25nm,1.2s
J19A **Crowheart** 50.67 296 ⇑P P 12 26 24.2 -0.9
baz=50,SNR=17
DCID1 **Drake Creek** 50.67 298 P P 12 26 25.0 -0.1
comp=Z,69nm,1.2s
DCID1 **Drake Creek** 50.67 298 P P 12 26 25.0 -0.1
comp=Z,69nm,1.2s
I14A **Mackay** 50.68 300 ⇓P P 12 26 24.6 -0.6
baz=50
SNOW **Snow King Moun** 50.73 298 *e*P P 12 26 25.1 -0.6
comp=Z,26nm,1.1s
SNOW **Snow King Moun** 50.73 298 *e*P P 12 26 25.1 -0.6
comp=Z,26nm,1.1s
TPAW **Teton Pass** 50.74 298 *e*P P 12 26 26.5 +0.8
comp=Z,27nm,1.0s
TPAW **Teton Pass** 50.74 298 *e*P P 12 26 26.5 +0.8
comp=Z,27nm,1.0s
L27A **T5 Ranch, Ells** 50.76 290 ⇓P P 12 26 25.0 -0.7
baz=50
I13A **Wildhorse Cree** 50.80 301 ⇓P P 12 26 25.7 -0.4
baz=50,SNR=20
J17A **Brown Place, J** 50.83 298 ⇓P P 12 26 25.7 -0.6
baz=51,SNR=5.2
REDW **Red Top Meadow** 50.85 298 *e*P P 12 26 28.8 +2.3
comp=Z,34nm,1.2s
REDW **Red Top Meadow** 50.85 298 *e*P P 12 26 28.8 +2.3
comp=Z,34nm,1.2s
J18A **Kendall Valley** 50.87 297 ⇓P P 12 26 26.0 -0.7
baz=51,SNR=12
K22A **Casper** 50.88 294 ⇑P P 12 26 25.4 -1.3
baz=51
JSRW **J. Sargeant Re** 50.91 265 *e*P P 12 26 27.1 +0.4
JSRW **J. Sargeant Re** 50.91 265 *e*P P 12 26 27.1 +0.4
L26A **Underwood Farm** 50.93 290 ⇓P P 12 26 26.1 -0.9
baz=51
RRI2 **Red Ridge** 50.93 298 *e*P P 12 26 28.5 +1.3
comp=Z,30nm,1.3s
RRI2 **Red Ridge** 50.93 298 *e*P P 12 26 28.5 +1.3
comp=Z,30nm,1.3s
BLO **Bloomington** 50.95 274 *e*P P 12 26 26.7 -0.3
BLO **Bloomington** 50.95 274 *e*P P 12 26 26.7 -0.3
BLO **Bloomington** 50.95 274 *e*P P 12 26 26.7 -0.3
K21A **Alcova** 51.01 294 ⇑P P 12 26 26.6 -1.0
baz=51
J16A **Bone** 51.05 299 ⇓P P 12 26 27.0 -1.0
baz=51,SNR=11
J15A **Blackfoot** 51.05 299 ⇑P P 12 26 27.0 -0.9
baz=51
I12A **Atlanta** 51.06 302 ⇑P P 12 26 27.1 -1.0
baz=51
K20A **Yellowstone Ra** 51.15 295 ⇓P P 12 26 27.5 -1.2
baz=51,SNR=6.2
HLID **Hailey** 51.18 301 *e*P P 12 26 28.5 -0.5
comp=Z,28nm,1.4s
HLID **Hailey** 51.18 301 ⇑P P 12 26 28.2 -0.7
baz=51
HLID **Hailey** 51.18 301 *e*P P 12 26 28.5 -0.5
comp=Z,28nm,1.4s
BW06 **Boulder Array** 51.23 296 ⇑P P 12 26 28.5 -0.9
baz=51
PDAR **Pinedale Array** 51.23 296 P P 12 26 28.9 -0.5
comp=Z,1.3nm,1.0s,baz=359,slow=5.9,SNR=9.0
PDAR LR LR 12 47 01.7
comp=Z,1μm,20.8s,baz=21,slow=35
PDAR **Pinedale Array** 51.23 296 P P 12 26 28.9 -0.5
PDAR **Pinedale Array** 51.23 296 P P 12 26 29.0 -0.5
L23A **Garrett** 51.27 293 ⇓P P 12 26 28.4 -1.3
baz=51
J14A **Carey** 51.29 300 ⇓P P 12 26 29.0 -0.7
baz=51
J13A **Cove Ranch, Pi** 51.31 301 ⇑P P 12 26 29.3 -0.6
baz=51,SNR=21
K18A **Toltan Ranch,** 51.43 297 ⇓P P 12 26 30.2 -0.7
baz=51,SNR=7.3
L22A **Ellis Ranch, M** 51.47 293 ⇓P P 12 26 29.9 -1.3
baz=51,SNR=5.1
AHID **Auburn Hatcher** 51.47 298 *e*P P 12 26 32.0 +0.8
comp=Z,23nm,1.1s
AHID **Auburn Hatcher** 51.47 298 *e*P P 12 26 32.0 +0.8
comp=Z,23nm,1.1s
K16A **Soda Springs** 51.48 298 ⇑P P 12 26 30.2 -1.0
baz=51
MFID **Camas Ranch** 51.53 302 *e*P P 12 26 32.7 +1.2
comp=Z,16nm,1.2s
MFID **Camas Ranch** 51.53 302 ⇑P P 12 26 30.8 -0.7
baz=51
MFID **Camas Ranch** 51.53 302 *e*P P 12 26 32.7 +1.2
comp=Z,16nm,1.2s
OLIL **Olney** 51.65 275 *e*P P 12 26 32.3 0.0
comp=Z,35nm,1.0s
OLIL **Olney** 51.65 275 *e*P P 12 26 32.3 0.0
comp=Z,35nm,1.0s
M25A **Palm-Egli Farm** 51.67 291 ⇑P P 12 26 31.5 -1.2
baz=51
L21A **Rawlins** 51.68 294 ⇑P P 12 26 31.5 -1.3
baz=51,SNR=5.6
VWCC **Virginia Weste** 51.70 267 *e*P P 12 26 33.3 +0.6
VWCC **Virginia Weste** 51.70 267 *e*P P 12 26 33.3 +0.6
M24A **Cheyenne** 51.76 292 ⇑P P 12 26 32.2 -1.1
baz=52
K15A **Arbon** 51.76 299 ⇓P P 12 26 32.6 -0.6
baz=52
L20A **Wamsutter** 51.79 295 ⇓P P 12 26 33.3 -0.3
baz=52
BLA **Blacksburg** 51.81 267 *e*P P 12 26 34.2 +0.6
BLA pmax pmax
comp=Z,43nm,0.9s
BLA **Blacksburg** 51.81 267 *e*P P 12 26 34.2 +0.6
comp=Z,43nm,0.9s
BLA **Blacksburg** 51.81 267 *e*P P 12 26 34.2 +0.6
comp=Z,43nm,0.9s
OGNE **Ogallala** 51.82 289 ⇓P P 12 26 32.7 -1.0
baz=52
L19A **Farson** 51.85 296 ⇑P P 12 26 33.4 -0.7
baz=52
ELN **Prospectdale** 51.85 267 *e*P P 12 26 35.3 +1.4
ELN **Prospectdale** 51.85 267 *e*P P 12 26 35.3 +1.4
K14A **Jones Ranch, D** 52.00 300 ⇑P P 12 26 34.5 -0.5
baz=52
M21A **Separation Pea** 52.03 294 ⇓P P 12 26 34.4 -0.9
baz=52
L17A **Cokeville** 52.09 298 ⇑P P 12 26 35.2 -0.6
baz=52
M22A **Cedar Creek Ra** 52.10 293 ⇓P P 12 26 35.0 -0.9
baz=52
L18A **Fontenelle, Gr** 52.13 297 ⇓P P 12 26 35.8 -0.3
baz=52
L16A **Fish Haven** 52.25 298 ⇑P P 12 26 36.3 -0.7
baz=52
N24A **Carr** 52.40 292 ⇑P P 12 26 36.6 -1.4
baz=52,SNR=8.7
L15A **Malad City** 52.41 299 ⇑P P 12 26 37.4 -0.7
baz=52,SNR=5.3
MDJ **Mudanjiang** 52.41 43 P P 12 26 36.3 -1.6
MDJ pP **pP** 12 26 39.6 -2.8
MDJ sP **sP** 12 26 40.7 -3.5
MDJ PP **PP** 12 28 32.7 -3.5
MDJ ScP **ScP** 12 31 45.4 +0.9
MDJ PcS **PcS** 12 31 46.4 -0.3
MDJ S **S** 12 34 06.7 +3.9
MDJ sS **sS** 12 34 07.3 -3.1
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,180nm,5.6s
MDJ LR LR
comp=N,220nm,12.4s
MDJ LR LR
comp=E,740nm,15.5s
MDJ LR LR
comp=Z,420nm,7.8s
N23A **Red Feather La** 52.50 293 ⇑P P 12 26 38.2 -0.7
baz=52
L14A **Malta** 52.51 300 ⇓P P 12 26 38.5 -0.3
baz=52,SNR=5.6
M17A **Scullys Gap (B** 52.67 297 ⇓P P 12 26 39.1 -1.0
baz=52,SNR=6.0
N22A **Wattenberg Ran** 52.67 293 ⇓P P 12 26 39.5 -0.7
baz=52
HWUT **Hardware Ranch** 52.67 298 *e*P P 12 26 40.6 +0.5
comp=Z,30nm,1.2s
HWUT **Hardware Ranch** 52.67 298 *e*P P 12 26 40.6 +0.5
comp=Z,30nm,1.2s
CN2 **Changchun** 52.71 47 *e*P P 12 26 41.4 +1.3
CN2 *e*sP **sP** 12 26 48.3 +1.9
CN2 PcP **PcP** 12 27 51.2 +1.6
CN2 *e*S **S** 12 34 05.2 -1.7
CN2 SS **SS** 12 37 41.1 -3.6
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,800nm,18.0s
CN2 LR LR
comp=Z,700nm,16.0s
SIUC **Southern Illin** 52.83 276 *e*P P 12 26 40.5 -0.5
comp=Z,30nm,0.9s
SIUC **Southern Illin** 52.83 276 *e*P P 12 26 40.5 -0.5
comp=Z,30nm,0.9s
N21A **Black Mountain** 52.88 294 ⇑P P 12 26 40.8 -0.9
baz=53
N20A **Spence Gulch,** 52.92 295 ⇑P P 12 26 40.9 -1.1
baz=53,SNR=6.1
N18A **Larsen Ranch,** 53.00 296 ⇑P P 12 26 42.5 0.0
baz=53,SNR=5.9
TZTN **Tazewell** 53.00 270 *e*P P 12 26 42.5 +0.1
comp=Z,26nm,1.0s
TZTN **Tazewell** 53.00 270 *e*P P 12 26 42.5 +0.1
comp=Z,26nm,1.0s
N19A **Jon Jarvie Ra** 53.01 296 ⇑P P 12 26 42.8 +0.2
baz=53
USRK **Ussuriysk Arra** 53.10 41 P P 12 26 42.8 -0.2
comp=Z,0.7nm,0.6s,baz=320,slow=22,SNR=3.4
USRK LR LR 12 51 10.1
comp=Z,457nm,18.0s,baz=341,slow=38
O24A **Longmont** 53.11 292 ⇑P P 12 26 43.1 -0.3
baz=53
O23A **Lake Granby, G** 53.16 292 ⇓P P 12 26 43.7 -0.1
baz=53
N17A **Moffit Pass** 53.21 297 ⇑P P 12 26 44.0 -0.2
baz=53
GTA **Gaotai** 53.26 72 P P 12 26 44.7 +0.3
GTA pP **pP** 12 26 49.3 +0.4
GTA PP **PP** 12 28 46.4 +2.3
GTA S **S** 12 34 14.3 -0.5
GTA SS **SS** 12 37 51.9 -1.9
GTA pmax pmax
comp=Z,15nm,1.9s
GTA pmax pmax
comp=Z,150nm,5.5s
GTA LR LR
comp=N,2μm,17.1s
GTA LR LR
comp=E,2μm,17.1s
GTA LR LR
comp=Z,2μm,17.6s
O22A **Kremmling** 53.31 293 ⇑P P 12 26 44.8 -0.2
baz=53,SNR=11
ISCO **Idaho Springs** 53.52 292 *e*P P 12 26 47.6 +1.1
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 53.52 292 *e*P P 12 26 47.6 +1.1
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 53.52 292 ⇓P P 12 26 46.0 -0.5
baz=53,SNR=5.2
ISCO **Idaho Springs** 53.52 292 *e*P P 12 26 47.6 +1.1
comp=Z,11nm,1.1s
P25A **Willow Gulch B** 53.57 291 ⇓P P 12 26 46.3 -0.4
baz=53
O19A **Miners Draw (B** 53.58 295 ⇓P P 12 26 46.8 +0.1
baz=53
O20A **White River Ci** 53.60 295 ⇑P P 12 26 47.1 +0.1
baz=53,SNR=15
MOD **Modoc** 53.65 306 *e*P P 12 26 48.3 +1.0
comp=Z,24nm,1.3s
MOD **Modoc** 53.65 306 *e*P P 12 26 48.3 +1.0
comp=Z,24nm,1.3s
P24A **Kohler Place,** 53.68 291 ⇑P P 12 26 48.1 +0.5
baz=53
HHC **Hu-ho-hao-te** 53.69 60 *e*P P 12 26 48.2 +0.7
HHC pP **pP** 12 26 52.7 +0.6
HHC sP **sP** 12 26 55.3 +1.5
HHC PP **PP** 12 28 50.5 +2.5
HHC S **S** 12 34 19.0 -1.6
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,180nm,3.8s
HHC LR LR
comp=N,2μm,15.0s
HHC LR LR
comp=E,920nm,12.8s
HHC LR LR
comp=Z,2μm,14.4s
DAU **Daniels Canyon** 53.80 297 *e*P P 12 26 49.6 +1.1
DAU pmax pmax
comp=Z,12nm,1.1s
DAU **Daniels Canyon** 53.80 297 *e*P P 12 26 49.6 +1.1
comp=Z,12nm,1.1s
DAU **Daniels Canyon** 53.80 297 *e*P P 12 26 49.6 +1.1
comp=Z,12nm,1.1s
P22A **Eagle** 53.90 293 ⇓P P 12 26 49.1 -0.1
baz=54
TKL **Tuckaleechee C** 53.90 270 *e*P P 12 26 48.8 -0.2
TKL **Tuckaleechee C** 53.90 270 *e*P P 12 26 48.8 -0.2
O17A **Robinson Place** 53.93 297 ⇓P P 12 26 49.4 0.0
baz=54,SNR=5.8
KMSC **Kings Mountain** 53.99 267 ⇑P P 12 26 50.2 +0.6
baz=54
Q26A **Hugo** 54.04 290 ⇑P P 12 26 50.2 +0.1
baz=54
ELK **Elko** 54.06 301 *e*P P 12 26 51.5 +1.1
ELK **Elko** 54.06 301 *e*P P 12 26 51.5 +1.1
P21A **Newcastle** 54.08 294 ⇑P P 12 26 50.7 +0.2
baz=54
WVT **Waverly** 54.14 274 *e*P P 12 26 49.8 -0.9
WVT pmax pmax
comp=Z,22nm,1.5s
WVT **Waverly** 54.14 274 *e*P P 12 26 49.8 -0.9
comp=Z,22nm,1.5s
WVT **Waverly** 54.14 274 *e*P P 12 26 49.8 -0.9
comp=Z,22nm,1.5s
Q25A **Bedland, Calha** 54.16 291 ⇑P P 12 26 50.8 -0.3
baz=54
P19A **Cripple Cowboy** 54.21 295 ⇓P P 12 26 51.3 -0.1
baz=54,SNR=6.0
CPCT **Cooper Cave** 54.23 271 *e*P P 12 26 50.8 -0.6
CPCT **Cooper Cave** 54.23 271 *e*P P 12 26 50.8 -0.6
DUG **Dugway** 54.24 299 ⇓P P 12 26 51.0 -0.6
baz=54
P20A **De Beque** 54.25 295 ⇓P P 12 26 51.1 -0.6
baz=54
Q24A **Divide** 54.26 291 ⇑P P 12 26 51.2 -0.7
baz=54
SMCO **Snowmass** 54.34 293 *e*P P 12 26 52.4 -0.2
comp=Z,28nm,0.9s
SMCO **Snowmass** 54.34 293 *e*P P 12 26 52.4 -0.2
comp=Z,28nm,0.9s
P18A **Preston Nutter** 54.41 296 ⇓P P 12 26 52.9 -0.1
baz=54
SNY **Shenyang** 54.41 49 ⇓P P 12 26 54.8 +2.2
SNY pmax pmax
comp=Z,150nm,4.8s
SNY LR LR
comp=N,290nm,16.8s
SNY LR LR
comp=E,830nm,14.4s
SNY LR LR
comp=Z,460nm,21.6s
R26A **Arlington** 54.63 290 ⇑P P 12 26 54.3 -0.1
baz=54
Q22A **Crested Butte,** 54.64 293 ⇑P P 12 26 54.6 0.0
baz=54
P16A **Fountain Green** 54.64 298 ⇑P P 12 26 54.7 +0.1
baz=54,SNR=6.5
BMN **Battle Mountai** 54.66 303 *e*P P 12 26 55.6 +1.0
BMN pmax pmax
comp=Z,20nm,1.1s
BMN **Battle Mountai** 54.66 303 *e*P P 12 26 55.6 +1.0
comp=Z,20nm,1.1s
BMN **Battle Mountai** 54.66 303 *e*P P 12 26 55.6 +1.0
comp=Z,20nm,1.1s
SWET **Sewanee** 54.70 272 *e*P P 12 26 53.1 -1.7
comp=Z,15nm,1.0s
SWET **Sewanee** 54.70 272 *e*P P 12 26 53.1 -1.7
comp=Z,15nm,1.0s
Q20A **Ridgley Place,** 54.77 294 ⇑P P 12 26 55.3 -0.1
baz=54,SNR=5.2
Q21A **Lamborn Mesa,** 54.77 294 ⇑P P 12 26 55.3 -0.2
baz=54
P15A **Leamington** 54.77 298 ⇑P P 12 26 55.6 +0.1
baz=54
JSC **Jenkinsville** 54.82 267 *e*P P 12 26 55.9 +0.3
JSC **Jenkinsville** 54.82 267 *e*P P 12 26 55.9 +0.3
JSC **Jenkinsville** 54.82 267 *e*P P 12 26 55.9 +0.3
Q18A **Rafter H Ranch** 54.91 296 ⇑P P 12 26 56.1 -0.3
baz=55,SNR=6.3
Q19A **Hogan Spring (** 54.91 295 ⇑P P 12 26 56.4 -0.1
baz=55
R25A **Fountain Ranch** 54.92 290 ⇑P P 12 26 56.3 -0.2
baz=55
R24A **Sanders Place,** 54.97 291 ⇓P P 12 26 56.4 -0.6
baz=55
R23A **Moffat** 55.12 292 ⇑P P 12 26 57.7 -0.5
baz=55
BJI **Beijing** 55.16 56 P P 12 26 57.8 -0.2
BJI S **S** 12 34 39.4 -0.7
BJI SS **SS** 12 38 23.9 +0.5
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI pmax pmax
comp=Z,85nm,3.6s
BJI LR LR
comp=N,1μm,17.0s
BJI LR LR
comp=E,2μm,16.3s
BJI LR LR
comp=Z,1μm,19.4s
R21A **Cimarron** 55.22 294 ⇑P P 12 26 58.5 -0.3
baz=55
R22A **Saguache, Gunn** 55.23 293 ⇑P P 12 26 57.8 -1.2
baz=55
Q16A **Castle Valley** 55.25 297 ⇑P P 12 26 58.6 -0.3
baz=55,SNR=5.4
S26A **Kim** 55.30 289 ⇑P P 12 26 58.0 -1.2
baz=55
PV04 **Paradox Valley** 55.41 295 *e*P P 12 27 01.7 +1.6
PV04 **Paradox Valley** 55.41 295 *e*P P 12 27 01.7 +1.6
S25A **Robets Cordova** 55.42 290 ⇑P P 12 26 59.4 -0.7
baz=55
R20A **Redvale** 55.53 294 ⇓P P 12 27 00.7 -0.3
baz=55
S24A **Houchin Ranch,** 55.56 291 ⇑P P 12 27 00.6 -0.7
baz=55
R19A **Curley Farm, L** 55.56 295 ⇓P P 12 27 00.4 -0.8
baz=55
PV01 **Paradox Valley** 55.61 294 *e*P P 12 26 58.1 -3.5
comp=Z,3μm,1.0s
R17A **Hanksville Air** 55.66 296 ⇓P P 12 27 01.9 0.0
baz=55,SNR=8.6
S22A **4UR Ranch, Cre** 55.72 293 ⇑P P 12 27 01.9 -0.5
baz=56
T26A **Comanche Natio** 55.76 289 ⇓P P 12 27 02.3 -0.3
baz=56
MSU **Marysvale** 55.80 298 *e*P P 12 27 03.0 +0.1
MSU pmax pmax
comp=Z,17nm,1.1s
MSU **Marysvale** 55.80 298 *e*P P 12 27 03.0 +0.1
comp=Z,17nm,1.1s
MSU **Marysvale** 55.80 298 *e*P P 12 27 03.0 +0.1
comp=Z,17nm,1.1s
S20A **Disappointment** 55.88 294 ⇓P P 12 27 03.2 -0.4
baz=56
T25A **Trinidad** 55.92 290 ⇑P P 12 27 03.3 -0.5
baz=56
S21A **Coal Bank Pass** 55.95 294 ⇑P P 12 27 03.4 -0.7

baz=56
OXF Oxford 55.99 275 eP P 12 27 02.2 -1.8
OXF pmax pmax
comp=Z,29nm,0.8s
OXF Oxford 55.99 275 eP P 12 27 02.2 -1.8
comp=Z,29nm,0.8s
OXF Oxford 55.99 275 eP P 12 27 02.2 -1.8
comp=Z,29nm,0.8s
GOGA Godfrey 56.04 269 eP P 12 27 03.7 -0.7
GOGA pmax pmax
comp=Z,24nm,1.0s
GOGA Godfrey 56.04 269 eP P 12 27 03.7 -0.7
comp=Z,24nm,1.0s
GOGA Godfrey 56.04 269 eP P 12 27 03.7 -0.7
comp=Z,24nm,1.0s
S19A Harvey Farm, M 56.08 295 ⇓P P 12 27 05.2 +0.3
baz=56
R15A Junction 56.11 298 ⇑P P 12 27 05.5 +0.4
baz=56
UALR University of 56.23 278 eP P 12 27 06.6 +0.8
comp=Z,27nm,1.1s
UALR University of 56.23 278 eP P 12 27 06.6 +0.8
comp=Z,27nm,1.1s
S18A Hurst Farm, Bl 56.27 296 ⇑P P 12 27 06.5 +0.2
baz=56,SNR=5.8
T23A Casias Ranch, 56.29 292 ⇑P P 12 27 06.4 -0.1
baz=56
R13A O'Grain Ranch, 56.39 299 ⇑P P 12 27 07.0 -0.1
baz=56
T22A Edith 56.45 293 ⇓P P 12 27 07.4 -0.2
baz=56
R11A Troy Canyon, C 56.47 301 ⇓P P 12 27 07.0 -0.6
baz=56
S16A Weppner Ranch, 56.48 297 ⇓P P 12 27 07.6 -0.2
baz=56
MVCO Mesa Verde 56.50 294 eP P 12 27 08.2 +0.2
comp=Z,42nm,1.3s
MVCO Mesa Verde 56.50 294 ⇓P P 12 27 07.7 -0.3
baz=56,SNR=5.9
MVCO Mesa Verde 56.50 294 eP P 12 27 08.2 +0.2
comp=Z,42nm,1.3s
U26A Atchley Ranch, 56.55 289 ⇑P P 12 27 07.6 -0.6
baz=56
T21A Navajo Lake 56.57 293 ⇓P P 12 27 07.7 -0.7
baz=56
U25A Circle Dot Ran 56.65 290 ⇑P P 12 27 08.3 -0.7
baz=56
MIAR Mount Ida 56.66 279 eP P 12 27 07.1 -1.8
MIAR pmax pmax
comp=Z,57nm,1.1s
MIAR Mount Ida 56.66 279 eP P 12 27 07.1 -1.8
comp=Z,57nm,1.1s
MIAR Mount Ida 56.66 279 eP P 12 27 07.1 -1.8
comp=Z,57nm,1.1s
ARUT Antelope Range 56.70 299 eP P 12 27 10.3 +1.0
ARUT pmax pmax
comp=Z,5.0nm,0.8s
ARUT Antelope Range 56.70 299 eP P 12 27 10.3 +1.0
comp=Z,5.1nm,0.8s
ARUT Antelope Range 56.70 299 eP P 12 27 10.3 +1.0
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 56.78 304 P P 12 27 10.4 +0.5
comp=Z,4.6nm,1.0s,baz=18,slow=6.8,SNR=12
NVAR Mina Array Bea 56.78 304 P P 12 27 10.4 +0.5
NVAR Mina Array Bea 56.78 304 P P 12 27 10.4 +0.5
T18A Mexican Hat 56.79 295 ⇑P P 12 27 09.2 -0.7
baz=56,SNR=6.0
U23A El Rito 57.00 292 ⇑P P 12 27 10.7 -0.8
baz=57,SNR=11
U22A Llaves 57.06 292 ⇑P P 12 27 10.5 -1.4
baz=57
V26A Tequesquite Ra 57.14 289 ⇑P P 12 27 11.2 -1.2
baz=57
U21A Nageezi 57.14 293 ⇓P P 12 27 11.5 -1.0
baz=57,SNR=5.7
LZH Lanzhou 57.16 69 eP P 12 27 13.5 +0.9
LZH PP PP 12 29 21.6 +2.5
LZH eS S 12 35 06.1 -1.0
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,150nm,6.0s
LZH LR LR
comp=N,2μm,17.0s
LZH LR LR
comp=E,2μm,14.7s
LZH LR LR
comp=Z,2μm,19.6s
V25A Rancho No Teng 57.23 290 ⇓P P 12 27 12.4 -0.7
baz=57,SNR=5.3
WMOK Wichita Mounta 57.35 284 eP P 12 27 13.2 -0.6
WMOK pmax pmax
comp=Z,22nm,1.1s
WMOK Wichita Mounta 57.35 284 eP P 12 27 13.2 -0.6
comp=Z,22nm,1.1s
WMOK Wichita Mounta 57.35 284 eP P 12 27 13.2 -0.6
comp=Z,22nm,1.1s
V24A Rampart Ranch, 57.45 291 ⇑P P 12 27 14.3 -0.4
baz=57
V22A San Miguel Ran 57.52 292 ⇑P P 12 27 14.9 -0.3
baz=57,SNR=15
TAM Tamanrasset 57.53 173 eP P 12 27 21.7 +6.4
TAM pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 57.53 173 eP P 12 27 21.7 +6.4
comp=Z,12nm,1.2s
V23A Ortiz Mt. (NFS 57.57 292 ⇓P P 12 27 15.5 -0.1
baz=57
MLAC Mammoth Lakes 57.64 304 ⇓P P 12 27 14.9 -1.1
baz=57
W27A Bowe Ranch, En 57.74 288 ⇑P P 12 27 15.8 -0.8
baz=58
V21A Milan 57.74 293 ⇓P P 12 27 16.0 -0.7
baz=58
U15A North Rim 57.86 297 ⇓P P 12 27 17.2 -0.4
baz=58
V20A Brimhall 57.88 294 ⇑P P 12 27 17.1 -0.6
baz=58
W24A Lazy 6 Ranch, 57.97 291 ⇑P P 12 27 17.5 -0.9
baz=58,SNR=9.3
X29A Tulia 58.12 287 ⇓P P 12 27 19.0 -0.2
baz=58
X28A Dimmitt 58.13 288 ⇑P P 12 27 19.0 -0.4
baz=58
W23A Werner Place, 58.14 291 ⇓P P 12 27 19.0 -0.6
baz=58
FURC Furnace Creek, 58.50 302 ⇓P P 12 27 21.2 -0.5
baz=58
X25A Clemmons Ranch 58.52 290 ⇓P P 12 27 22.0 -0.1
baz=58
W20A Ramah 58.55 294 ⇑P P 12 27 21.6 -0.8
baz=58,SNR=5.3
X24A Lazy VL Ranch, 58.61 291 ⇓P P 12 27 22.4 -0.4
baz=58
Y29A Porterfield Fa 58.69 287 ⇓P P 12 27 22.9 -0.3
baz=58
CWC Cottonwood Cre 58.70 303 ⇑P P 12 27 23.1 -0.2
baz=58
MSTX Muleshoe 58.76 288 ⇑P P 12 27 23.3 -0.4
baz=58
Y27A Causey 58.91 288 ⇑P P 12 27 24.5 -0.3
baz=59
X22A Bernardo 58.92 292 ⇓P P 12 27 24.7 -0.2
baz=59
SHOC Shoshone 58.97 301 ⇑P P 12 27 25.0 0.0
baz=59
MPMC Manual Prospec 58.99 302 ⇓P P 12 27 25.5 0.0
baz=59
LAZ Ladron 59.04 292 eP P 12 27 25.3 -0.5
comp=Z,7.1nm,1.2s
LAZ Ladron 59.04 292 eP P 12 27 25.3 -0.5
comp=Z,7.1nm,1.2s
LPM Los Pinos Moun 59.05 292 eP P 12 27 26.0 +0.2
comp=Z,8.3nm,1.1s
LPM Los Pinos Moun 59.05 292 eP P 12 27 26.0 +0.2
comp=Z,8.3nm,1.1s
X20A Quemado 59.12 294 ⇑P P 12 27 25.7 -0.6
baz=59
Y25A Mesa, Roswell 59.12 290 ⇓P P 12 27 25.8 -0.5
baz=59,SNR=5.3
BNM Barren Site 59.20 292 eP P 12 27 26.4 -0.6
comp=Z,7.1nm,0.9s
BNM Barren Site 59.20 292 eP P 12 27 26.4 -0.6
comp=Z,7.1nm,0.9s
Y24A Capitan 59.23 290 ⇓P P 12 27 26.7 -0.5
baz=59
LENM Lemitar 59.24 292 eP P 12 27 28.2 +1.0
comp=Z,11nm,1.2s
LENM Lemitar 59.24 292 eP P 12 27 28.2 +1.0
comp=Z,11nm,1.2s
KSRS Korea Array 59.27 46 P P 12 27 28.9 +1.9
comp=Z,2.2nm,1.0s,baz=296,slow=29,SNR=2.8
KSRS LR LR 12 54 23.8
comp=Z,547nm,18.4s,baz=356,slow=37
Z29A Hungry Hill Ra 59.28 287 ⇑P P 12 27 26.5 -0.8
baz=59,SNR=5.9
KSAR Wonju Array Be 59.28 46 P P 12 27 28.9 +1.8
KSAR Wonju Array Be 59.28 46 P P 12 27 28.9 +1.8
Y23A Lovelace Mesa, 59.33 291 ⇓P P 12 27 27.2 -0.5
baz=59
Z28A Tucker Farm, M 59.36 287 ⇑P P 12 27 27.7 -0.2
baz=59
W13A Hualapai Mount 59.40 299 ⇑P P 12 27 28.7 +0.3
baz=59
VES Vestal, Richgr 59.44 304 ⇓P P 12 27 28.5 +0.2
baz=59
Y22A Socorro 59.47 292 ⇑P P 12 27 28.3 -0.5
baz=59
Z27A Tatum 59.47 288 ⇑P P 12 27 28.0 -0.7
baz=59,SNR=11
Y21A Point of Rocks 59.51 293 ⇓P P 12 27 29.0 -0.1
baz=59
ISA Isabella 59.52 303 ⇑P P 12 27 29.2 +0.3
baz=59
NATX Nacogdoches 59.57 280 eP P 12 27 29.4 +0.2
comp=Z,31nm,0.7s
NATX Nacogdoches 59.57 280 eP P 12 27 29.4 +0.2
comp=Z,31nm,0.7s
LRMC Laurel Mountai 59.59 302 ⇓P P 12 27 30.0 +0.5
baz=59
GSC Goldstone 59.63 301 ⇓P P 12 27 30.0 +0.3
baz=59
Z26A Caprock 59.64 289 ⇑P P 12 27 29.9 0.0
baz=59
X16A Lo Mia Camp, P 59.70 296 ⇓P P 12 27 30.7 +0.4
baz=60
Y20A Horse Springs, 59.72 293 ⇑P P 12 27 30.5 0.0
baz=60
Z25A Roswell 59.75 290 ⇑P P 12 27 30.9 +0.3
baz=60
Z24A Sheeppen Canyo 59.80 290 ⇓P P 12 27 31.0 -0.1
baz=60
129A Stewart Farms, 59.92 287 ⇓P P 12 27 31.5 -0.3
baz=60
XAN Xi'an 59.96 64 P P 12 27 32.7 +0.7
XAN pP pP 12 27 39.0 +2.4
XAN S S 12 35 44.0 +0.6
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,45nm,6.0s
XAN LR LR
comp=N,2μm,19.7s
XAN LR LR
comp=Z,690nm,19.7s
GMRC Granite Mounta 59.98 300 ⇓P P 12 27 31.4 -0.8
baz=60
128A Castleberry Fa 60.03 287 ⇓P P 12 27 32.5 0.0
baz=60
127A Arkansas Junct 60.12 288 ⇑P P 12 27 33.3 +0.1
baz=60
Z22A Elephant Butte 60.13 292 ⇑P P 12 27 33.0 -0.3
baz=60
Z21A St. Cloud Mine 60.19 292 ⇓P P 12 27 34.1 +0.3
baz=60
EDW2 Edwards Air Fo 60.22 302 ⇑P P 12 27 33.9 +0.1
baz=60
PDMCI Parker Dam,Lak 60.22 299 ⇑P P 12 27 33.7 +0.1
baz=60
126A Clayton Basin, 60.26 289 ⇓P P 12 27 33.9 -0.2
baz=60
125A Gardner Draw, 60.35 289 ⇑P P 12 27 34.1 -0.7
baz=60,SNR=8.7
Y14A Wickenburg 60.41 298 ⇑P P 12 27 35.5 +0.4
baz=60
124A Stringfield Ra 60.44 290 ⇓P P 12 27 34.7 -0.7
baz=60,SNR=5.6
Z20A Nine Sixteen R 60.53 293 ⇑P P 12 27 35.7 -0.4
baz=60
229A Bryant Ranch, 60.56 287 ⇓P P 12 27 35.2 -0.9
baz=60
CLNB Carlsbad 60.61 289 eP P 12 27 36.9 +0.4
comp=Z,2.0nm,0.3s
CLNB Carlsbad 60.61 289 eP P 12 27 36.9 +0.4
comp=Z,2.0nm,0.3s
GDL2 Guadalupe Moun 60.75 289 eP P 12 27 36.7 -0.8
comp=Z,45nm,1.2s
GDL2 Guadalupe Moun 60.75 289 eP P 12 27 36.7 -0.8
comp=Z,45nm,1.2s
227A Bennet, Jal 60.76 288 ⇑P P 12 27 37.2 -0.3
baz=60
BELC Belle Mtn. Jos 60.79 300 ⇓P P 12 27 37.8 0.0
baz=61
BFSC Mount Baldy Ra 60.80 302 ⇑P P 12 27 37.5 -0.4
baz=61
121A Cookes Peak, D 60.97 292 ⇓P P 12 27 38.4 -0.6
baz=61
224A Cornudas Mount 61.06 290 ⇓P P 12 27 39.2 -0.4
baz=61
329A Wagon Wheel Ra 61.06 287 ⇑P P 12 27 39.1 -0.4
baz=61
120A U Bar Ranch, L 61.09 293 ⇓P P 12 27 40.0 +0.1
baz=61
PFO Pinyon Flat Ob 61.24 301 ⇑P P 12 27 40.0 -0.8
baz=61
222A Williams Famil 61.28 292 ⇑P P 12 27 40.4 -0.7
baz=61
328A Wristen Ranch, 61.30 287 ⇑P P 12 27 40.1 -1.0
baz=61
LSA Lhasa 61.30 82 P P 12 27 42.6 +1.0
MJAR Matsushiro Arr 61.34 37 P P 12 27 40.7 -0.6
comp=Z,0.4nm,0.3s,baz=66,slow=35,SNR=2.9
MJAR LR LR 12 55 14.6
comp=Z,387nm,19.1s,baz=330,slow=37
MJAR Matsushiro Arr 61.34 37 P P 12 27 40.7 -0.6
MJAR Matsushiro Arr 61.34 37 P P 12 27 40.7 -0.6
DANN Dangsing 61.35 90 eP P 12 27 42.3 +0.5
comp=Z,70nm,1.0s
DANN Dangsing 61.35 90 eP P 12 27 42.3 +0.5
comp=Z,70nm,1.0s
DANN Dangsing 61.35 90 eP P 12 27 42.3 +0.5
comp=Z,70nm,1.0s
MNTX Cornudas Mount 61.40 290 eP P 12 27 40.6 -1.2
comp=Z,5.2nm,0.8s
MNTX Cornudas Mount 61.40 290 ⇓P P 12 27 41.2 -0.6
baz=61
MNTX Cornudas Mount 61.40 290 eP P 12 27 40.6 -1.2
comp=Z,5.2nm,0.8s
PYUN Piuthan 61.47 91 eP P 12 27 43.1 +0.6
comp=Z,50nm,1.1s
PYUN Piuthan 61.47 91 eP P 12 27 43.1 +0.6
comp=Z,50nm,1.1s
PYUN Piuthan 61.47 91 eP P 12 27 43.1 +0.6
comp=Z,50nm,1.1s
326A Caldwell Ranch 61.55 289 ⇑P P 12 27 42.7 -0.2
baz=61
431A Sonora 61.62 285 ⇑P P 12 27 42.8 -0.5
baz=61,SNR=7.9
430A Baggett Ranch, 61.62 286 ⇑P P 12 27 42.8 -0.5
baz=61
325A Bean Ranch, Si 61.66 289 ⇑P P 12 27 43.4 -0.3
baz=61
TUC Tucson 61.66 295 eP P 12 27 43.6 0.0
TUC pmax pmax
comp=Z,19nm,1.1s
TUC Tucson 61.66 295 eP P 12 27 43.6 0.0
comp=Z,19nm,1.1s
TUC Tucson 61.66 295 eP P 12 27 43.6 0.0
comp=Z,19nm,1.1s
113A Mohawk Valley, 61.67 298 ⇓P P 12 27 43.4 -0.1
baz=61
324A Moseley Ranch, 61.67 290 ⇓P P 12 27 43.0 -0.7
baz=61
JCT Junction City 61.68 284 eP P 12 27 44.7 +1.0
JCT pmax pmax
comp=Z,49nm,1.2s
JCT Junction City 61.68 284 eP P 12 27 44.7 +1.0
comp=Z,49nm,1.2s
JCT Junction City 61.68 284 ⇑P P 12 27 43.5 -0.2
baz=62
JCT Junction City 61.68 284 eP P 12 27 44.7 +1.0
comp=Z,49nm,1.2s
220A Playas Peak, P 61.70 293 ⇑P P 12 27 43.4 -0.6
baz=62
GKN Gorkha 61.84 89 eP P 12 27 45.1 +0.1
comp=Z,32nm,1.0s
GKN Gorkha 61.84 89 eP P 12 27 45.1 +0.1
comp=Z,32nm,1.0s
429A Davenport Ranc 61.89 286 ⇓P P 12 27 44.1 -1.1
baz=62
KOLN Koldanda 61.89 90 eP P 12 27 45.4 0.0
comp=Z,26nm,1.2s
KOLN Koldanda 61.89 90 eP P 12 27 45.4 0.0
comp=Z,26nm,1.2s
KOLN Koldanda 61.89 90 eP P 12 27 45.4 0.0
comp=Z,26nm,1.2s
427A Hayter Ranch, 61.91 288 ⇑P P 12 27 44.4 -0.9
baz=62
428A Kincaid Ranch, 61.92 287 ⇓P P 12 27 44.7 -0.7
baz=62,SNR=9.6
532A Rocksprings 62.04 284 ⇑P P 12 27 45.3 -0.9
baz=62
531A Rocksprings 62.11 285 ⇓P P 12 27 46.4 -0.3
baz=62
GUN Gumba 62.15 88 eP P 12 27 47.7 +0.5
comp=Z,76nm,1.1s
GUN Gumba 62.15 88 eP P 12 27 47.7 +0.5
comp=Z,76nm,1.1s
GUN Gumba 62.15 88 eP P 12 27 47.7 +0.5
comp=Z,76nm,1.1s
KKN Kakani 62.16 89 eP P 12 27 47.7 +0.5
comp=Z,30nm,0.8s
KKN Kakani 62.16 89 eP P 12 27 47.7 +0.5
KKN pmax pmax
comp=Z,30nm,0.8s
KKN Kakani 62.16 89 eP P 12 27 47.7 +0.5
comp=Z,30nm,0.8s
KKN Kakani 62.16 89 eP P 12 27 47.7 +0.5
comp=Z,30nm,0.8s
CD2 Chengdu 62.21 70 P P 12 27 48.9 +1.6
CD2 pP pP 12 27 53.5 +1.6
CD2 sP sP 12 27 55.9 +2.3
CD2 PP PP 12 30 07.6 +3.9
CD2 S S 12 36 11.9 -0.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,150nm,4.9s
CD2 LR LR
comp=N,2μm,16.7s
CD2 LR LR
comp=Z,530nm,19.0s
425A Indio Mountain 62.23 289 ⇓P P 12 27 47.2 -0.4
baz=62,SNR=28
530A J-C Ranch, Com 62.26 286 ⇓P P 12 27 46.5 -1.1
baz=62
320A Kipp Ranch, An 62.26 293 ⇑P P 12 27 47.1 -0.6
baz=62
DMN Daman 62.31 89 eP P 12 27 48.9 +0.7
DMN Daman 62.31 89 eP P 12 27 48.9 +0.7
DMN Daman 62.31 89 eP P 12 27 48.9 +0.7
214A Organ Pipe Nat 62.32 297 ⇓P P 12 27 47.4 -0.6
baz=62
319A Douglas 62.34 294 ⇑P P 12 27 47.5 -0.7
baz=62
PKI Pulchoki 62.40 89 eP P 12 27 49.8 +0.9
PKI Pulchoki 62.40 89 eP P 12 27 49.8 +0.9
PKI Pulchoki 62.40 89 eP P 12 27 49.8 +0.9
PKI Pulchoki 62.40 89 eP P 12 27 49.8 +0.9
529A Stev Forest Ra 62.43 287 ⇑P P 12 27 48.1 -0.7
baz=62
JIRN Jiri 62.45 88 eP P 12 27 50.2 +0.9
comp=Z,12nm,1.0s
JIRN Jiri 62.45 88 eP P 12 27 50.2 +0.9
comp=Z,12nm,1.0s
JIRN Jiri 62.45 88 eP P 12 27 50.2 +0.9
comp=Z,12nm,1.0s
528A Cox Ranch, San 62.49 287 ⇑P P 12 27 48.5 -0.7
baz=62
527A Woodward Ranch 62.64 288 ⇑P P 12 27 49.5 -0.7
baz=62
526A Mary Lane Ranc 62.80 288 ⇓P P 12 27 50.9 -0.4
baz=62
TAPN Taplejung 63.01 86 eP P 12 27 54.2 +1.3
TAPN Taplejung 63.01 86 eP P 12 27 54.2 +1.3
TAPN Taplejung 63.01 86 eP P 12 27 54.2 +1.3
628A Black Gap, Mar 63.16 287 ⇑P P 12 27 53.4 -0.2
baz=63
RAMN Ramite 63.21 87 eP P 12 27 54.5 +0.3
comp=Z,56nm,1.0s
RAMN Ramite 63.21 87 eP P 12 27 54.5 +0.3
comp=Z,56nm,1.0s
RAMN Ramite 63.21 87 eP P 12 27 54.5 +0.3
comp=Z,56nm,1.0s
627A Terlingua Ranc 63.28 288 ⇑P P 12 27 54.3 -0.1
baz=63
626A Big Bend Ranch 63.30 288 ⇑P P 12 27 54.6 0.0
baz=63,SNR=10
NJ2 Nanjing 63.39 56 eP P 12 27 54.1 -0.9
NJ2 pP pP 12 27 59.3 -0.3
NJ2 sP sP 12 27 59.9 -1.5
NJ2 PcP PcP 12 28 31.1 -0.7
NJ2 S S 12 36 30.0 +3.3
NJ2 SS SS 12 40 35.5 +2.9
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,150nm,4.7s
NJ2 LR LR
comp=N,660nm,13.8s
NJ2 LR LR
comp=E,490nm,12.6s
NJ2 LR LR
comp=Z,9μm,16.2s
732A Laxson Ranch, 63.42 284 ⇓P P 12 27 55.7 +0.4
baz=63
ODAN Odare 63.43 87 eP P 12 27 56.2 +0.5
comp=Z,118nm,1.3s
ODAN Odare 63.43 87 eP P 12 27 56.2 +0.5
comp=Z,118nm,1.3s
ODAN Odare 63.43 87 eP P 12 27 56.2 +0.5
comp=Z,118nm,1.3s
TXAR Lajitas Array 63.44 288 P P 12 27 54.9 -0.7
comp=Z,3.0nm,0.6s,baz=36,slow=4.8,SNR=31
TXAR LR LR 12 56 23.6
comp=Z,2μm,18.4s,baz=355,slow=37
TXAR Lajitas Array 63.44 288 P P 12 27 54.9 -0.7
TXAR Lajitas Array 63.44 288 P P 12 27 54.9 -0.7
SSE Sheshan 64.65 54 P P 12 28 01.2 -2.1
SSE PP PP 12 30 21.6 -3.5
SSE S S 12 36 40.6 -1.8
SSE SS SS 12 40 51.8 -0.6
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,340nm,3.6s
SSE LR LR
comp=N,380nm,20.1s
SSE LR LR
comp=E,370nm,20.1s
SSE LR LR
comp=Z,270nm,21.9s
GYA Guiyang 67.04 68 P P 12 28 21.0 +2.1
GYA PP PP 12 30 51.2 +5.0
GYA ScP 12 32 52.8
GYA S S 12 37 12.0 +0.1
GYA SKS SKSac 12 38 14.8 -0.6
GYA SS SS 12 41 32.6 +2.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,540nm,19.8s
GYA LR LR
comp=E,490nm,20.5s
GYA LR LR
comp=Z,560nm,20.5s
TOA0 Torodi Ar. Sit 67.07 177 eP P 12 28 25.2 +6.1
TORD Torodi Ar. Bea 67.07 177 P P 12 28 18.2 -0.9
comp=Z,2.2nm,0.6s,baz=6.4,slow=5.8,SNR=9.1
TORD LR LR 12 58 31.7
comp=Z,450nm,18.1s,baz=335,slow=37
TORD Torodi Ar. Bea 67.07 177 P P 12 28 18.1 -0.9
TORD Torodi Ar. Bea 67.07 177 P P 12 28 18.1 -0.9
KMI Kunming 67.71 72 P P 12 28 25.7 +2.4
KMI S S 12 37 22.3 +2.1
KMI SKS SKiKP 12 38 19.1 -0.3
KMI pmax pmax
comp=Z,9.0nm,2.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI				pmax	pmax		
	comp=Z,220nm,3.7s						
KMI				LR	LR		
	comp=N,720nm,22.8s						
KMI				LR	LR		
	comp=E,2µm,17.9s						
KMI				LR	LR		
	comp=Z,1µm,19.0s						
HYB	**Hyderabad**	**71.16**	**97**	*i* P	**P**	**12 28 44.0**	**-0.4**
ATD	**Arta Tunnel**	**71.51**	**134**	LR	LR	13 06 32.0	
	comp=Z,240nm,18.6s,baz=16,slow=41						
DBIC	**Dimbokro**	**73.52**	**184**	LR	LR	12 59 34.1	
	comp=Z,295nm,21.2s,baz=345,slow=34						
CM31	**Chiang Mai Arr**	**73.61**	**77**	P	**P**	**12 28 58.7**	**-0.4**
CM31	**Chiang Mai Arr**	**73.61**	**77**	P	**P**	**12 28 58.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**73.61**	**77**	P	**P**	**12 28 58.3**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=335,slow=6.2,SNR=18						
CMAR				LR	LR	13 04 28.7	
	comp=Z,495nm,19.2s,baz=155,slow=38						
CMAR	**Chiang Mai Arr**	**73.61**	**77**	P	**P**	**12 28 58.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**73.61**	**77**	P	**P**	**12 28 58.3**	**-0.8**
LIC	**Lamto**	**73.97**	**184**	*e*P	P	12 29 05.0	+3.9
	comp=Z,42nm,1.2s						
LIC				*e*R			
	comp=Z,425nm,22.8s						
LIC	**Lamto**	**73.97**	**184**	*e*P	P	12 29 05.0	+3.9
	comp=Z,42nm,1.2s						
QIZ	**Qiongzhong**	**74.83**	**66**	P	**P**	**12 29 06.5**	**+0.4**
QIZ				S	**S**	**12 38 42.9**	**+0.7**
QIZ				LR	LR		
	comp=N,1µm,20.3s						
QIZ				LR	LR		
	comp=Z,2µm,20.5s						
SDV	**Santo Domingo**	**77.88**	**251**	*e*P	**P**	**12 29 24.0**	**+0.3**
	comp=Z,12nm,0.8s						
SDV	**Santo Domingo**	**77.88**	**251**	*e*P	**P**	**12 29 24.0**	**+0.3**
	comp=Z,12nm,0.8s						
TGY	**Tagaytay City**	**81.33**	**56**	LR	LR	13 08 22.5	
	comp=Z,3.9nm,18.5s,baz=147,slow=38						
ROSC	**El Rosal**	**82.43**	**254**	LR	LR	13 06 33.7	
	comp=Z,186nm,21.3s,baz=20,slow=36						
OTAV	**Otavalo**	**87.64**	**258**	*e*P	P	12 30 18.6	+3.9
	comp=Z,22nm,1.4s						
DAV	**Davao City (W)**	**88.90**	**53**	LR	LR	13 10 06.5	
	comp=Z,302nm,20.9s,baz=327,slow=36						
BDFB	**Brasilia**	**98.71**	**226**	LR	LR	13 13 10.5	
	comp=Z,244nm,18.8s,baz=162,slow=34						
PPT2	**Papeete2**	**115.83**	**327**	*e*SS	SS	12 52 58.3	-13
	comp=Z,462nm,28.0s						
PPT2				*e*LR	LR	13 10 28.8	
	comp=Z,307nm,25.5s						
WRA	**Warramunga Arr**	**116.66**	**48**	PKP	**PKPdf**	**12 36 07.3**	**-2.2**
	comp=Z,0.3nm,0.9s,baz=328,slow=1.7,SNR=3.3						
WRA	**Warramunga Arr**	**116.66**	**48**	PKP	**PKPdf**	**12 36 07.3**	**-2.2**
ASAR	**Alice Springs**	**120.27**	**49**	PKP	**PKPdf**	**12 36 15.1**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=7.1,slow=2.2,SNR=6.9						
ASAR	**Alice Springs**	**120.27**	**49**	PKP	**PKPdf**	**12 36 15.1**	**-1.3**
ASAR	**Alice Springs**	**120.27**	**49**	PKIKP	**PKPdf**	**12 36 15.1**	**-1.3**
TBI	**Tubuai**	**121.52**	**326**	*e*SS	SS	12 54 12.6	-12
	comp=Z,299nm,33.2s						
TBI				*e*LR	LR	13 13 07.0	
	comp=Z,349nm,27.0s						
DZM	**Mont Dzumac**	**121.56**	**14**	*e*LR	LR	13 13 06.7	
	comp=Z,355nm,24.2s						
SYO	**Syowa Base**	**150.69**	**151**	⇑*e*PKiKP	**PKPab**	**12 37 20.2**	**-2.9**
SYO	**Syowa Base**	**150.69**	**151**	⇑*e*pPKiKP	**PKPab**	**12 37 23.4**	**+0.3**
VNA2	**Neumayer--Watz**	**150.97**	**184**	*e*sPKiKP	sPKiKP	12 37 22.0	-1.8
	baz=352,slow=4.7						
VNA3	**Neumayer Olymp**	**151.32**	**186**	*e*sPKiKP	sPKiKP	12 37 25.5	+1.0

IGQ 05 12:22:23.7, 1°.65S×78°.17W, h177km±13km, Mb4.0, Ms3.8, 9C-23D, Error ellipse: s-maj=4.4km s-min=1.3km az=2.4, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**0.30**	**298**	⇓S	Sn	12 23 05.2	-1.6
PAT1	**Patacocha**	**0.30**	**298**	⇓P	Pn	12 22 48.0	-0.2
ULBA	**Ulba**	**0.31**	**310**	⇓S	Sn	12 23 04.8	-1.8
ULBA	**Ulba**	**0.31**	**310**	⇓P	Pn	12 22 47.7	-0.3
ARRY	**Arrayan**	**0.32**	**296**	S	Sn	12 23 04.7	-1.9
ARRY	**Arrayan**	**0.32**	**296**	P	Pn	12 22 47.4	-0.7
BULB	**Ulba Tungurahu**	**0.32**	**311**	⇓P	Pn	12 22 49.6	+1.6
BULB	**Ulba Tungurahu**	**0.32**	**311**	⇓S	Sn	12 23 06.8	+0.1
BRUN	**Tungurahua Vol**	**0.33**	**313**	⇓P	Pn	12 22 47.7	-0.3
BRUN	**Tungurahua Vol**	**0.33**	**313**	⇓S	Sn	12 23 04.7	-1.9
RETU	**Refugio**	**0.34**	**306**	⇑P	Pn	12 22 48.2	0.0
BMAS	**Trigal station**	**0.34**	**295**	⇓P	Pn	12 22 47.9	-0.2
BMAS	**Trigal station**	**0.34**	**295**	⇓S	Sn	12 23 05.1	-1.6
RUN5	**Runtun**	**0.34**	**312**	P	Pn	12 22 47.8	-0.2
JUI6	**Juive**	**0.37**	**307**	⇑P	Pn	12 22 47.9	-0.2
IGUA	**Igualata**	**0.49**	**289**	P	Pn	12 22 48.7	-0.2
MACE	**Macas**	**0.60**	**183**	⇓S	Sn	12 23 06.2	-2.2
MACE	**Macas**	**0.60**	**183**	⇓P	Pn	12 22 48.7	-0.2
PISA	**Pisayambo**	**0.62**	**340**	⇑P	Pn	12 22 49.4	0.0
TAMB	**Tambo**	**0.97**	**348**	⇓P	Pn	12 22 52.0	+0.4
BTAM	**Cotopaxi Volca**	**0.99**	**347**	⇓P	Pn	12 22 52.2	+0.4
COV1	**Cotopaxi Volc**	**1.00**	**350**	⇓P	Pn	12 22 52.7	+0.7
BREF	**Cotopaxi Volca**	**1.01**	**344**	⇓P	Pn	12 22 52.6	+0.6
BVC2	**Cotopaxi Volca**	**1.01**	**346**	⇓P	Pn	12 22 52.5	+0.5
CAMI	**Rancho Maria**	**1.02**	**341**	⇓P	Pn	12 22 53.0	+1.1
VC1	**Cotopaxi 1**	**1.03**	**347**	⇓P	Pn	12 22 52.5	+0.4
NAS2	**Nasa**	**1.04**	**343**	P	Pn	12 22 53.2	+1.1
PITA	**Cotopaxi Volc**	**1.11**	**346**	P	Pn	12 22 53.1	+0.4
ANTI	**Antisana**	**1.19**	**0**	S	Sn	12 23 16.3	-0.2
ANTI	**Antisana**	**1.19**	**0**	P	Pn	12 22 53.5	+0.1
JUA2	**San Juan 2**	**1.49**	**343**	P	Pn	12 22 56.4	+0.5
GGP	**Refugio Guagua**	**1.52**	**344**	⇑P	Pn	12 22 57.0	+0.6
TERV	**Terraza Guagua**	**1.53**	**344**	P	Pn	12 22 57.5	+1.1
PINO	**Pino**	**1.54**	**344**	⇑P	Pn	12 22 56.8	+0.1
CONE	**Cono NE Rev Vo**	**1.66**	**19**	P	Pn	12 22 57.6	+0.2
CAYA	**Cayambe**	**1.72**	**6**	P	Pn	12 22 59.0	+0.7
OTAV	**Otavalo**	**1.90**	**351**	⇓P	Pn	12 23 00.5	+0.4
COTA	**Cotacachi**	**1.98**	**355**	⇓P	Pn	12 23 02.4	+1.4
YANT	**Yantaza**	**2.28**	**195**	⇑S	Sn	12 23 33.5	-1.5
YANT	**Yantaza**	**2.28**	**195**	⇑P	Pn	12 23 04.2	+0.4
CATE	**Catamayo**	**2.59**	**208**	⇑S	Sn	12 23 41.9	+0.2
CATE	**Catamayo**	**2.59**	**208**	⇑P	Pn	12 23 07.8	+0.3
CHIS	**Cerro-Chispas-**	**2.62**	**283**	P	Pn	12 23 07.4	-0.3
ARNL	**Arenillas**	**2.67**	**225**	⇓S	Sn	12 23 41.6	-1.4
ARNL	**Arenillas**	**2.67**	**225**	⇓P	Pn	12 23 07.2	-1.1

*ISCJB **05** 12:40:56.6±1.7, 37°.69N±0°.08×29°.45E±0°.09, h12km, Error ellipse: s-maj=14.9km s-min=6.3km az=139.8*
*ISK **05** 12:40:56.6, 37°.72N×29°.43E, h18km, MD2.7*
*CSEM **05** 12:40:56.7±0.4, 37°.69N×29°.44E, h15km, MD2.7, Error ellipse: s-maj=9.9km s-min=4.0km az=127.0*
*DDA **05** 12:40:59.6, 37°.87N×29°.17E, h7km, MD2.4*
ISC 05 12:40:57.0±1.9, **37°.71N**±0°.08×**29°.40E**±0°.08, **h12**km, **n12**, σ**0.35**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.28**	**266**	*i* P	**Pb**	**12 41 03.8**	**-0.3**
DNZL				*i* S	**Sg**	**12 41 07.6**	**+0.8**
DNZL	**Cakiroluk**	**0.28**	**266**	*i* P	**Pb**	**12 41 03.8**	**-0.3**
DNZL				*i* S	**Sg**	**12 41 07.6**	**+0.8**
DENT	**Denizli**	**0.29**	**279**	PG	**Pb**	**12 41 04.0**	**-0.3**
DENT				SG	**Sb**	**12 41 08.9**	**-0.2**
DENT	**Denizli**	**0.29**	**279**	*i* Pg	**Pb**	**12 41 04.0**	**-0.3**
DENT				*i* Sg	**Sb**	**12 41 08.9**	**-0.2**
KHL	**Karahalli**	**0.62**	**9**	*e*PG	**Pg**	**12 41 09.0**	**-0.2**
KHL	**Karahalli**	**0.62**	**9**	*e*Pg	**Pg**	**12 41 09.0**	**-0.2**
KHAL	**Karahalli**	**0.67**	**6**	*i* P	**Pb**	**12 41 10.7**	**+0.1**
KHAL				*i* S	**Sg**	**12 41 19.0**	**+0.2**
KHAL	**Karahalli**	**0.67**	**6**	*i* P	**Pb**	**12 41 10.7**	**+0.1**
KHAL				*i* S	**Sg**	**12 41 19.0**	**+0.2**
KULA	**Kula-Manisa**	**0.99**	**324**	*e*PG	**Pb**	**12 41 16.3**	**+0.1**
KULA	**Kula-Manisa**	**0.99**	**324**	*e*Pg	**Pb**	**12 41 16.3**	**+0.1**
YER	**Yerkesik**	**1.06**	**238**	*e*PN	**Pb**	**12 41 17.3**	**0.0**
YER	**Yerkesik**	**1.06**	**238**	*e*Pn	**Pb**	**12 41 17.3**	**0.0**

*ISCJB **05** 12:53:48.9±0.6, 30°.12S±0°.07×118°.24E±0°.07, h5km, mb4.1/5, MS4.0/1, Error ellipse: s-maj=10.2km s-min=8.4km az=152.4*
*IDC **05** 12:53:50.4±0.8, 30°.20S×118°.21E, h0km, mb4.1/4, mb1 4.5/8, mb1mx4.2/18, mbtmp4.3/8, ML4.3/3, MS3.5/4, Ms1 3.5/4, ms1mx3.2/27, Error ellipse: s-maj=32.3km s-min=18.9km az=102.0*
*NEIC **05** 12:53:51.0, 30°.21S×117°.77E, h0km, mb4.6/2, ML4.5(AUST), After AUST.*
ISC 05 12:53:50.7±0.6, **30°.24S**±0°.07×**118°.04E**±0°.08, **h5**km, **n38**, σ**2.20**/38, **mb4.2**/5, **Western Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**2.77**	**194**	Pn	**Pn**	**12 54 35.4**	**-0.3**
	14nm,0.3s,baz=12,slow=13,SNR=186						
NWAO				Sn	**Sn**	**12 55 06.5**	**-3.0**
	170nm,0.3s,baz=102,slow=23,SNR=19						
NWAO				Lg	Lg	12 55 15.8	
	362nm,0.3s,baz=109,slow=21,SNR=23						
NWAO				Rg	Rg	12 55 29.6	
	704nm,0.5s,baz=239,slow=17,SNR=5.8						
NWAO	**Narrogin (SRO)**	**2.77**	**194**	Pn	**Pn**	**12 54 35.4**	**-0.3**
NWAO				Sn	**Sn**	**12 55 06.5**	**-3.0**
NWAO				Lg	Lg	12 55 15.8	
NWAO				Rg	Rg	12 55 29.6	
FORT	**Forrest**	**8.66**	**96**	*e*Pn	**Pn**	**12 55 58.3**	**+1.5**
	80nm,0.7s						
FORT				*e*Sn	**Sn**	**12 57 31.8**	**-3.0**
MBWA	**Marble Bar**	**9.17**	**10**	*e*Pn	**Pn**	**12 56 01.1**	**-2.6**
	19nm,0.8s						
FITZ	**Fitzroy Crossi**	**13.93**	**32**	Pn	**Pn**	**12 57 06.9**	**-1.9**
	1.9nm,0.3s,baz=210,slow=11,SNR=102						
FITZ				Sn	Sn	12 59 33.5	-10
	2.4nm,0.3s,baz=128,slow=21,SNR=4.0						
FITZ				Lg	Lg	13 01 07.7	
	0.6nm,0.3s,baz=98,slow=18,SNR=3.7						
FITZ				LR	LR	13 03 13.9	
	comp=Z,112nm,19.6s,baz=92,slow=41						
FITZ	**Fitzroy Crossi**	**13.93**	**32**	Pn	**Pn**	**12 57 06.9**	**-1.9**
FITZ				Sn	Sn	12 59 33.5	-10
FITZ				Lg	Lg	13 01 07.7	
ASAR	**Alice Springs**	**15.58**	**69**	Pn	**Pn**	**12 57 27.7**	**-3.5**
	1.1nm,0.3s,baz=244,slow=11,SNR=82						
ASAR				Sn	Sn	13 00 13.6	-11
	1.1nm,0.3s,baz=245,slow=21,SNR=11						
ASAR				Lg	Lg	13 02 04.0	
	0.6nm,0.3s,baz=238,slow=26,SNR=4.7						
ASAR				LR	LR	13 04 10.0	
	comp=Z,139nm,21.7s,baz=43,slow=40						
ASAR	**Alice Springs**	**15.58**	**69**	Pn	**Pn**	**12 57 27.7**	**-3.5**
ASAR				Sn	Sn	13 00 13.6	-11
ASAR				Lg	Lg	13 02 04.0	
AS31	**Alice Springs**	**15.58**	**69**	*e*Pn	**Pn**	**12 57 28.1**	**-3.2**
WRA	**Warramunga Arr**	**17.95**	**59**	P	**Pn**	**12 57 58.1**	**-3.2**
	0.6nm,0.3s,baz=232,slow=13,SNR=81						
WRA				S	Sn	13 01 09.1	-13
	0.5nm,0.3s,baz=231,slow=23,SNR=5.2						
WRA				LR	LR	13 05 28.7	
	comp=Z,136nm,21.9s,baz=215,slow=39						
WRA	**Warramunga Arr**	**17.95**	**59**	P	**Pn**	**12 57 58.1**	**-3.2**
WRA				S	Sn	13 01 09.1	-13
WRAB	**Tennant Creek**	**17.97**	**59**	*e*Pn	**Pn**	**12 57 58.1**	**-3.3**
	22nm,1.0s						
STKA	**Stephens Creek**	**20.24**	**101**	P	Pn	12 58 28.1	-0.7
	17nm,0.9s,baz=282,slow=9.4,SNR=18						
STKA	**Stephens Creek**	**20.24**	**101**	P	Pn	12 58 28.1	-0.7
CTA	**Charters Tower**	**27.40**	**75**	P	**P**	**12 59 41.3**	**+4.0**
	20nm,0.8s,baz=254,slow=12,SNR=20						
CTA	**Charters Tower**	**27.40**	**75**	P	**P**	**12 59 41.3**	**+4.0**
CTAO	**Charters Tower**	**27.40**	**75**	*e*P	**P**	**12 59 40.7**	**+3.3**
	24nm,0.9s						
PMG	**Port Moresby**	**34.17**	**59**	P	**P**	**13 00 38.6**	**+1.5**
	baz=235,slow=12						
PMG	**Port Moresby**	**34.17**	**59**	P	**P**	**13 00 38.6**	**+1.5**
PSI	**Prapat**	**37.59**	**328**	P	**P**	**13 01 05.6**	**-1.0**
	3.8nm,0.8s,baz=150,slow=14,SNR=3.3						
PSI	**Prapat**	**37.59**	**328**	P	**P**	**13 01 05.6**	**-1.0**
DZM	**Mont Dzumac**	**43.94**	**91**	LR	LR	13 20 16.7	
	comp=Z,204nm,21.1s,baz=21,slow=36						
QSPA	**South Pole Qui**	**59.86**	**180**	P	**P**	**13 03 58.1**	**+0.9**
	3.1nm,1.0s,baz=5.4,slow=1.0,SNR=17						
QSPA	**South Pole Qui**	**59.86**	**180**	P	**P**	**13 03 58.1**	**+0.9**
VNA2	**Neumayer--Watz**	**72.04**	**196**	*e*P	**P**	**13 05 16.2**	**+0.9**
	baz=40,slow=4.2						
VNA3	**Neumayer Olymp**	**72.37**	**196**	*e*P	**P**	**13 05 18.5**	**+1.2**
SONM	**Songino Array**	**78.42**	**352**	P	**P**	**13 05 53.7**	**+1.4**
	1.9nm,0.8s,baz=163,slow=5.7,SNR=16						
SONM	**Songino Array**	**78.42**	**352**	P	**P**	**13 05 53.7**	**+1.4**
MKAR	**Makanchi Array**	**83.20**	**336**	P	**P**	**13 06 17.6**	**-0.2**
	0.2nm,0.6s,baz=148,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**83.20**	**336**	P	**P**	**13 06 17.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**119.17**	**269**	PKP	**PKPdf**	**13 12 41.2**	**-0.3**
	0.5nm,0.8s,baz=79,slow=1.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**119.17**	**269**	PKP	**PKPdf**	**13 12 41.2**	**-0.3**
YKA	**Yellowknife Ar**	**133.44**	**31**	PKP	**PKPdf**	**13 13 08.0**	**+0.7**
	0.4nm,0.8s,baz=298,slow=1.9,SNR=7.1						
YKA	**Yellowknife Ar**	**133.44**	**31**	PKP	**PKPdf**	**13 13 08.1**	**+0.7**
TXAR	**Lajitas Array**	**143.94**	**81**	PKP	**PKPdf**	**13 13 27.6**	**-0.1**
	1.9nm,0.9s,baz=214,slow=4.2,SNR=17						
TXAR	**Lajitas Array**	**143.94**	**81**	PKP	**PKPdf**	**13 13 27.6**	**-0.1**
ULM	**Lac du Bonnet**	**147.70**	**42**	PKPbc	**PKPbc**	**13 13 36.9**	**+0.8**
	4.7nm,0.7s,baz=309,slow=3.7,SNR=11						
ULM	**Lac du Bonnet**	**147.70**	**42**	PKPbc	**PKPbc**	**13 13 36.9**	**+0.8**

IDC 05 13:02:07.6±7.3, **9°.24S**×**127°.18E**, **h84**km±82km, **mb3.4**/3, **mb1 3.8**/6, **mb1mx3.5**/19, **mbtmp3.6**/6, **ML4.0**/3, **Error ellipse: s-maj=58.4km s-min=36.2km az=36.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.94**	**189**	P	Pn	13 04 13.8	-0.2
	1.5nm,0.3s,baz=183,slow=15,SNR=19						
FITZ				S	Sn	13 05 53.0	-0.1
	1.8nm,0.3s,baz=112,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**12.70**	**148**	P	Pn	13 05 04.6	-0.5
	0.9nm,0.3s,baz=325,slow=14,SNR=8.9						
WRA				S	Sn	13 07 25.2	+0.4
	1.2nm,0.3s,baz=327,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**15.73**	**157**	P	P	13 05 46.1	-0.6
	0.4nm,0.3s,baz=324,slow=11,SNR=5.1						
ASAR				S	Sn	13 08 39.7	+1.5
	0.3nm,0.3s,baz=313,slow=15,SNR=3.0						
CMAR	**Chiang Mai Arr**	**39.16**	**315**	P	P	13 09 27.9	+0.4
	0.3nm,0.4s,baz=133,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**68.61**	**329**	P	P	13 13 01.4	-0.3
	0.4nm,0.5s,baz=133,slow=8.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**72.39**	**335**	P	P	13 13 24.2	-0.2
	1.1nm,0.7s,baz=137,slow=5.0,SNR=6.6						

MEX 05 13:22:48.9±0.6, **17°.95N**×**98°.17W**, **h61**km±6km, **MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.36**	**109**	*e*P	Pn	13 22 58.3	-1.7
UTMO				*i* S	Sn	13 23 06.3	-1.6
TPIG	**Tehuac#an**	**0.90**	**58**	*e*P	Pn	13 23 04.4	-1.5
TPIG				*i* S	Sn	13 23 16.8	-1.6
PPM	**Popocatepetl**	**1.20**	**339**	*e*P	Pn	13 23 08.6	-1.7
PPM				*e*S	Sn	13 23 24.1	-2.0
YAIG	**Yautepec**	**1.25**	**317**	*e*P	Pn	13 23 08.9	-1.6
YAIG				*e*S	Sn	13 23 23.9	-2.7
PLIG	**Platanillo**	**1.35**	**289**	*e*P	Pn	13 23 10.6	-1.1
PLIG				*e*S	Sn	13 23 26.9	-1.9
PNIG	**Pinotepa**	**1.55**	**179**	*e*P	Pn	13 23 13.5	-0.8
PNIG				*i* S	Sn	13 23 32.4	-1.0
MZVM		**1.59**	**321**	*i* P	Pn	13 23 12.6	-2.3
MZVM				*i* S	Sn	13 23 32.9	-1.6
VHO	**Vista Hermosa**	**1.62**	**122**	*i* P	Pn	13 23 14.7	-0.8
VHO				*i* S	Sn	13 23 34.2	-1.4
ARIG	**Puente Sto Nin**	**2.10**	**279**	*i* P	Pn	13 23 20.9	-0.9
ARIG				*i* S	Sn	13 23 44.3	-2.6
HUIG	**Huatulco**	**2.93**	**137**	*i* P	Pn	13 23 32.8	-0.2
HUIG				*i* S	Sn	13 24 05.2	-1.9
CMIG	**Matias Romero**	**3.25**	**105**	*e*P	Pn	13 23 35.6	-1.8
CMIG				*e*S	Sn	13 24 13.3	-1.6

*ISK **05** 14:00:05.9, 41°.07N×34°.55E, h5km, MD2.8*
*DDA **05** 14:00:06.6, 41°.04N×34°.55E, h7km, MD2.8*
*CSEM **05** 14:00:06.6±0.2, 41°.05N×34°.58E, h5km, MD2.8, Error ellipse: s-maj=4.7km s-min=4.0km az=81.0*
ISC 05 14:00:06.7±1.1, **41°.07N**±0°.02×**34°.57E**±0°.03, **h5**km±12km, **n24**, σ**0.58**/37, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.41**	**266**	PG	**Pg**	**14 00 14.0**	**-0.7**
TOS				SG	**Sg**	**14 00 20.3**	**+0.2**
TOS	**Tosya**	**0.41**	**266**	*i* Pg	**Pg**	**14 00 14.0**	**-0.7**
TOS				*i* Sg	**Sg**	**14 00 20.3**	**+0.2**
BYBT	**Boyabat**	**0.43**	**21**	PG	**Pg**	**14 00 14.8**	**-0.1**
BYBT				SG	**Sg**	**14 00 21.4**	**+0.9**
BYBT	**Boyabat**	**0.43**	**21**	*i* Pg	**Pg**	**14 00 14.8**	**-0.1**
BYBT				*i* Sg	**Sg**	**14 00 21.4**	**+0.9**
BOYT	**Boyabat**	**0.43**	**36**	*e*P	**Pg**	**14 00 15.1**	**0.0**
BOYT				*e*S	**Sb**	**14 00 23.2**	**-0.7**
CTKT	**Corum**	**0.48**	**159**	*i* P	**Pg**	**14 00 15.6**	**-0.3**
CTKT				*i* S	**Sg**	**14 00 22.2**	**+0.1**
CTKT	**Corum**	**0.48**	**159**	*i* P	**Pg**	**14 00 15.6**	**-0.3**
CTKT				*i* S	**Sg**	**14 00 22.2**	**+0.1**
ILGA	**Ilgaz**	**0.64**	**269**	*i* P	**Pg**	**14 00 18.3**	**-0.8**
ILGA				*i* S	**Sg**	**14 00 27.6**	**+0.1**
CANT	**Cankiri**	**0.85**	**238**	*e*PG	**Pg**	**14 00 22.4**	**-0.7**
CORM	**Corum**	**0.89**	**177**	*e*PG	**Pg**	**14 00 23.8**	**0.0**
CORM	**Corum**	**0.89**	**177**	*e*Pg	**Pg**	**14 00 23.8**	**0.0**
BZK	**Bozkurt**	**0.98**	**335**	*e*PG	**Pb**	**14 00 26.0**	**-0.3**
BZK	**Bozkurt**	**0.98**	**335**	*e*Pg	**Pb**	**14 00 26.0**	**-0.3**
BALT	**Daday**	**1.00**	**298**	*e*P	**Pb**	**14 00 26.9**	**+0.2**
BALT				*e*S	**Sb**	**14 00 40.9**	**+0.6**
BALT	**Daday**	**1.00**	**298**	*e*P	**Pb**	**14 00 26.9**	**+0.2**
BALT				*e*S	**Sb**	**14 00 40.9**	**+0.6**
KVT	**Kavak**	**1.12**	**89**	*e*PN	**Pg**	**14 00 27.4**	**-0.8**
KVT	**Kavak**	**1.12**	**89**	*e*Pn	**Pg**	**14 00 27.4**	**-0.8**
SAFT	**Safranbolu**	**1.43**	**277**	*e*PN	**Pb**	**14 00 33.6**	**-0.3**
SAFT	**Safranbolu**	**1.43**	**277**	*e*Pn	**Pb**	**14 00 33.6**	**-0.3**
CDAG	**Cicekdag**	**1.45**	**186**	*i* P	**Pn**	**14 00 33.6**	**-0.2**
CDAG				*i* S	**Sg**	**14 00 54.4**	**+1.0**
KAMT	**Kaman**	**1.82**	**201**	*e*PN	**Pn**	**14 00 38.5**	**-0.3**
KAMT	**Kaman**	**1.82**	**201**	*e*Pn	**Pn**	**14 00 38.5**	**-0.3**
BBAL	**Bala**	**1.88**	**216**	*e*P	**Pn**	**14 00 40.1**	**+0.4**
BBAL				*e*S	**Sg**	**14 01 08.4**	**+1.2**
BBAL	**Bala**	**1.88**	**216**	*e*P	**Pn**	**14 00 40.1**	**+0.4**
BBAL				*e*S	**Sg**	**14 01 08.4**	**+1.2**

*ISK **05** 14:05:36.5, 41°.53N×41°.26E, h14km, MD2.9*
*ISCJB **05** 14:05:37.9±0.5, 41°.34N±0°.04×41°.32E±0°.03, h0km, Error ellipse: s-maj=6.5km s-min=3.0km az=158.6*
*DDA **05** 14:05:37.8, 41°.32N×41°.34E, h7km, MD3.1*
*CSEM **05** 14:05:38.0±0.2, 41°.33N×41°.31E, h2km, MD3.1, Error ellipse: s-maj=7.3km s-min=3.6km az=156.0*
ISC 05 14:05:37.0±0.8, **41°.40N**±0°.04×**41°.28E**±0°.03, **h0**km, **n30**, σ**0.85**/50, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.26**	**79**	PG	**Pg**	**14 05 42.6**	**+0.6**
BCA				SG	**Sb**	**14 05 47.9**	**-1.8**
BCA	**Borcka**	**0.26**	**79**	*i* Pg	**Pg**	**14 05 42.6**	**+0.6**
BCA				*i* Sg	**Sb**	**14 05 47.9**	**-1.8**
DBOC	**Borcka**	**0.29**	**100**	*i* P	**Pg**	**14 05 43.2**	**+0.6**
DBOC				*i* S	**Sg**	**14 05 47.0**	**+0.6**
DBOC	**Borcka**	**0.29**	**100**	*i* P	**Pg**	**14 05 43.2**	**+0.6**
DBOC				*i* S	**Sg**	**14 05 47.0**	**+0.6**
PZAR	**Pazar-Rize**	**0.36**	**233**	*e*PG	**Pb**	**14 05 45.9**	**-0.3**
PZAR				*e*SG	**Sb**	**14 05 52.5**	**+0.1**
PZAR	**Pazar-Rize**	**0.36**	**233**	*e*Pg	**Pb**	**14 05 45.9**	**-0.3**
PZAR				*e*Sg	**Sb**	**14 05 52.5**	**+0.1**
DDEM	**Demirkent**	**0.61**	**145**	*i* P	**Pg**	**14 05 48.0**	**-0.7**
DDEM				*i* S	**Sg**	**14 05 55.9**	**-0.8**
DDEM	**Demirkent**	**0.61**	**145**	*i* P	**Pg**	**14 05 48.0**	**-0.7**
DDEM				*i* S	**Sg**	**14 05 55.9**	**-0.8**
MACK	**Trabzon**	**1.23**	**249**	*i* P	**Pb**	**14 06 01.2**	**+0.1**
MACK				*e*S	**Sn**	**14 06 19.3**	**+0.6**
MACK	**Trabzon**	**1.23**	**249**	*i* P	**Pb**	**14 06 01.2**	**+0.1**
MACK				*e*S	**Sn**	**14 06 19.3**	**+0.6**
BAYT	**Ayd˜–ntepe-Bay**	**1.32**	**221**	*e*PN	**Pg**	**14 06 01.6**	**-0.7**
BAYT	**Ayd˜–ntepe-Bay**	**1.32**	**221**	*e*Pn	**Pg**	**14 06 01.6**	**-0.7**
ERZM	**Erzurum**	**1.49**	**177**	*e*P	**Pn**	**14 06 04.8**	**-0.4**
ERZM				*e*S	**Sn**	**14 06 28.9**	**+3.4**
ERZM	**Erzurum**	**1.49**	**177**	*e*P	**Pn**	**14 06 04.8**	**-0.4**
EZM	**Erzurum**	**1.49**	**178**	*e*PN	**Pn**	**14 06 05.1**	**-0.1**
KOPT	**Kop Dagi**	**1.50**	**204**	*e*P	**Pn**	**14 06 05.5**	**+0.1**
KOPT				*e*S	**Sn**	**14 06 26.2**	**+0.4**
KOPT	**Kop Dagi**	**1.50**	**204**	*e*P	**Pn**	**14 06 05.5**	**+0.1**
KOPT				*e*S	**Sn**	**14 06 26.2**	**+0.4**
GUMT	**Gumushane**	**1.65**	**236**	*e*PN	**Pn**	**14 06 07.2**	**-0.2**
GUMT	**Gumushane**	**1.65**	**236**	*e*Pn	**Pn**	**14 06 07.2**	**-0.2**
AKH	**Akhalkalaki**	**1.66**	**89**	P	**Pb**	**14 06 08.9**	**+0.3**
AKH				S	**Sn**	**14 06 29.6**	**-0.1**
AKH	**Akhalkalaki**	**1.66**	**89**	P	**Pb**	**14 06 08.9**	**+0.3**
AKH				S	**Sn**	**14 06 29.6**	**-0.1**
KELT	**Kelkit**	**1.98**	**232**	*i* P	**Pn**	**14 06 12.9**	**+1.0**
KELT				*i* S	**Sb**	**14 06 39.3**	**+0.1**
KELT	**Kelkit**	**1.98**	**232**	*i* P	**Pn**	**14 06 12.9**	**+1.0**
KELT				*i* S	**Sb**	**14 06 39.3**	**+0.1**
ESPY	**Espiye-Giresun**	**1.99**	**257**	*e*PN	**Pn**	**14 06 11.5**	**-0.3**
ESPY	**Espiye-Giresun**	**1.99**	**257**	*e*Pn	**Pn**	**14 06 11.5**	**-0.3**
ONI	**Oni**	**2.01**	**53**	P	**Pb**	**14 06 13.8**	**-0.7**
ONI				S	**Sn**	**14 06 39.1**	**+1.0**
ONI	**Oni**	**2.01**	**53**	P	**Pb**	**14 06 13.8**	**-0.7**
ONI				S	**Sn**	**14 06 39.1**	**+1.0**
EZC	**Erzincan**	**2.20**	**222**	*e*PN	**Pn**	**14 06 15.3**	**+0.4**
EZC	**Erzincan**	**2.20**	**222**	*e*Pn	**Pn**	**14 06 15.3**	**+0.4**
DGRG	**David-gareji**	**3.08**	**88**	P	**Pb**	**14 06 33.9**	**+1.3**
DGRG				S	**Sg**	**14 07 14.5**	**-1.3**

*ISCJB **05** 14:13:05.6±0.4, 38°.14N±0°.03×72°.53E±0°.08, h119km, mb3.6/7, Error ellipse: s-maj=8.4km s-min=4.2km az=175.6*
*IDC **05** 14:13:06.7±4.4, 38°.16N×72°.56E, h96km±34km, mb3.4/7, mb1 3.6/12, mb1mx3.4/31, mbtmp3.5/12, Error ellipse: s-maj=36.1km s-min=21.2km az=167.0*
*NNC **05** 14:13:10.3±1.6, 38°.47N×72°.27E, h143km±17km, mb3.2, mpv3.8, Error ellipse: s-maj=14.2km s-min=7.7km az=13.0*
ISC 05 14:13:06.7±0.7, **38°.15N**±0°.05×**72°.50E**±0°.08, **h119**km, **n44**, σ**2.15**/47, **mb3.4**/7, **9C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.08**	**13**	P	**Pn**	**14 14 08.0**	**+0.4**
	SNR=74						
CEP	**Cherat**	**4.34**	**187**	P	**Pn**	**14 14 13.4**	**+2.5**
UCH	**Uchtor**	**4.36**	**20**	P	**Pn**	**14 14 12.1**	**+0.8**
	SNR=9.1						
KZA	**Kyzart**	**4.46**	**27**	P	Pn	14 14 02.0	-11
	SNR=6.2						
CHCP	**Chirah Chowk**	**4.52**	**172**	P	**Pn**	**14 14 15.5**	**+2.3**
EKS2	**Erkin-Say**	**4.62**	**12**	P	**Pn**	**14 14 15.6**	**+1.1**
	SNR=26						
AAK	**Ala-Archa**	**4.73**	**18**	P	**Pn**	**14 14 17.2**	**+1.1**
	7.5nm,0.3s,baz=163,slow=6.3,SNR=108						
AAK				S	**Sn**	**14 15 09.1**	**-1.0**
	11nm,0.3s,baz=323,slow=20,SNR=33						
AAK	**Ala-Archa**	**4.73**	**18**	P	**Pn**	**14 14 17.3**	**+1.2**
	SNR=36						
KBK	**Karagaybulak**	**4.88**	**22**	P	**Pn**	**14 14 19.6**	**+1.5**
	SNR=11						
ULHL	**Ulahol**	**5.00**	**34**	P	**Pn**	**14 14 20.2**	**+0.6**
	SNR=27						
CHMS	**Chumysh**	**5.14**	**19**	P	**Pn**	**14 14 22.4**	**+0.9**
	SNR=21						
KK31	**Karatay Array**	**5.18**	**344**	⇓Pn	**Pn**	**14 14 22.3**	**+0.3**
	11nm,0.3s,baz=154,slow=12,SNR=240						
KK31				⇑Sn	**Sn**	**14 15 19.2**	**-1.4**
	13nm,0.3s,baz=168,slow=26,SNR=16						
TKM2	**Tokmak 2**	**5.32**	**25**	⇑Pn	**Pn**	**14 14 25.3**	**+1.2**
	2.1nm,0.4s						
TKM2				⇑Sn	**Sn**	**14 15 24.5**	**+0.2**
	15nm,0.7s						
TKM2	**Tokmak 2**	**5.32**	**25**	P	**Pn**	**14 14 25.2**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**5.34**	**16**	P	**Pn**	**14 14 24.5**	**+0.4**
	SNR=13						
THW	**Thamme Wali**	**5.38**	**187**	P	**Pn**	**14 14 25.7**	**+1.0**
DLH	**Dalhousie**	**6.27**	**152**	*e*P	**Pn**	**14 14 36.0**	**-0.9**
DLH				*e*S	**Sn**	**14 15 44.0**	**-3.3**
THN	**Thein Dam**	**6.28**	**154**	*e*P	**Pn**	**14 14 35.6**	**-1.2**
THN				*e*S	**Sn**	**14 15 41.8**	**-5.3**
SDNR	**Sundarnagar**	**7.58**	**150**	*e*S	Sn	14 16 09.0	-10
SMLA	**Simla**	**7.99**	**150**	*i* P	**Pn**	**14 14 58.2**	**-1.7**
SMLA				*i* S	Sn	14 16 19.7	-8.9
SMLA				⇓AML	AML	14 16 25.7	
	comp=N,1µm,0.2s						
SMLA				⇓AML	AML	14 16 25.8	
	comp=E,2µm,0.7s						
AYAN	**Aya Nagar**	**10.38**	**157**	*e*S	Sn	14 17 16.2	-11

AYAN				AML	AML	14 17 22.2	
	comp=Z,19nm,0.6s						
KHET	Khetri	10.42	164	eP	Pn	14 15 31.9	-0.9
KHET				eS	Sn	14 17 16.6	-11
KHET				AML	AML	14 17 40.3	
	comp=E,5.4nm,0.2s						
KHET				AML	AML	14 17 40.5	
	comp=N,8.1nm,0.1s						
MK31	Makanchi Array	11.26	37	⇑P	Pn	14 15 44.4	+0.4
	comp=N,0.5nm,0.6s						
MKAR	Makanchi Array	11.26	37	P	Pn	14 15 42.8	-1.1
	comp=N,0.1nm,0.3s,baz=228,slow=13,SNR=9.6						
KURBB	Kurchatov Arra	13.19	17	P	Pn	14 16 06.7	-2.5
	comp=N,0.0nm,0.3s,baz=208,slow=12,SNR=9.1						
KURBB	Kurchatov Arra	13.19	17	P	Pn	14 16 09.0	-0.2
	comp=N,0.4nm,0.7s						
KURK	Kurchatov	13.30	17	⇓P	Pn	14 16 10.2	-0.4
	comp=N,5.7nm,1.4s						
AB31	Akbulak array	14.32	325	Pn	Pn	14 16 21.8	-2.0
	comp=N,5.2nm,0.5s,baz=136,slow=12,SNR=199						
AB31				⇑Sn	Sn	14 18 56.3	-5.5
	comp=N,2.3nm,0.6s,baz=126,slow=26,SNR=6.2						
VOSK	Vostochnaya	14.62	356	⇑P	Pn	14 16 25.5	-2.0
	comp=N,1.7nm,0.8s						
BVA0	Borovoye Array	14.95	355	⇓P	Pn	14 16 30.8	-1.0
	comp=N,0.4nm,0.7s,baz=158,slow=14,SNR=19						
BVAR	Borovoye Array	14.95	355	P	Pn	14 16 30.9	-0.8
	comp=N,0.5nm,0.3s,baz=157,slow=13,SNR=11						
BRVK	Borovoye	14.99	355	⇑P	Pn	14 16 31.0	-1.2
	comp=N,5.3nm,0.7s						
ZRNK	Zerenda	15.01	352	⇓P	Pn	14 16 30.7	-1.6
	comp=N,7.0nm,0.6s						
AKTO	Aktyubinsk	16.04	325	P	Pn	14 16 45.0	-0.3
	comp=N,1.2nm,0.3s,baz=122,slow=13,SNR=16						
AKTO				S	Sn	14 19 35.2	-7.9
	comp=N,0.2nm,0.3s,baz=327,slow=22,SNR=6.2						
AKTO	Aktyubinsk	16.04	325	⇑Pn	Pn	14 16 43.6	-1.7
	comp=N,0.4nm,0.7s						
AKTO				⇑Sn	Sn	14 19 36.8	-6.3
	comp=N,0.5nm,0.8s						
ZALV	Zalesovo Beam	17.93	24	P	Pn	14 17 07.7	-0.4
	comp=N,0.9nm,0.3s,baz=216,slow=12,SNR=21						
SONM	Songino Array	26.43	58	P	P	14 18 34.4	+2.2
	comp=N,0.3nm,0.7s,baz=267,slow=8.7,SNR=3.3						
BRTR	Keskin Array B	30.11	285	P	P	14 19 08.7	+3.6
	comp=N,0.4nm,0.5s,baz=69,slow=7.9,SNR=3.2						
FINES	FINESS Array B	36.81	324	P	P	14 20 05.3	+2.6
	comp=N,2.0nm,0.3s,baz=109,slow=8.7,SNR=16						
ARCES	ARCESS Array B	40.10	336	P	P	14 20 32.6	+2.5
	comp=N,2.7nm,1.1s,baz=111,slow=8.8,SNR=15						
NB2	NORSAR Subarra	43.81	322	P	P	14 21 02.5	+2.2
	comp=Z,0.9nm,0.5s,baz=91,slow=7.9						
NOA	NORSAR Array B	43.81	322	P	P	14 21 02.6	+2.2
	comp=Z,1.3nm,0.7s,baz=93,slow=7.9,SNR=3.9						
TORD	Torodi Ar. Bea	66.95	269	P	P	14 23 48.6	+1.9
	comp=Z,0.3nm,0.8s,baz=57,slow=5.1,SNR=3.4						
YKA	Yellowknife Ar	79.54	3	P	P	14 25 02.1	+2.2
	comp=Z,0.3nm,0.5s,baz=346,slow=5.4,SNR=5.2						

---

*ISCJB **05** 14:34:44.4±0.5, 30.°15S±0.°08×177.°87W±0.°08, h50km, mb4.7/19, MS3.9/6, Error ellipse: s-maj=11.3km s-min=9.8km az=148.5*

*IDC **05** 14:34:45.3±2.9, 30.°14S×177.°86W, h43km±25km, mb4.3/12, mb1 4.3/14, mb1mx4.2/21, mbtmp4.3/14, ML3.7/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/28, Error ellipse: s-maj=16.7km s-min=16.1km az=6.0*

*NEIC **05** 14:34:46.5±1.6, 30.°12S×177.°89W, h56km±13km, mb4.8/6, Error ellipse: s-maj=11.8km s-min=8.1km az=157.0*

*AUST **05** 14:34:52.1±2.5, 30.°27S×117.°79E, h4km, Error ellipse: s-maj=1.9km s-min=1.0km az=252.0*

ISC 05 14:34:46.0±0.4**, 30.°16S**±0.°08×**177.°78W**±0.°09**, h50**km**, n93, σ1.°33**/88**, mb4.8**/18**, MS3.9**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	12.94	342	ePn	Pn	14 37 46.9	-0.4
	15nm,1.0s						
DZM	Mont Dzumac	16.29	296	ePn	P	14 38 37.5	+3.7
	58nm,1.1s						
DZM				eLR	LR	14 42 36.3	
	597nm,24.9s						
DZM	Mont Dzumac	16.29	296	LR	LR	14 43 26.4	
	comp=Z,374nm,19.1s,baz=199,slow=32						
DZM	Mont Dzumac	16.29	296	ePn	Pn	14 38 31.0	-0.5
	28nm,0.6s						
AFI	Afiamalu	17.09	20	P	Pn	14 38 41.5	0.0
	1.6nm,0.3s,baz=250,slow=18,SNR=4.1						
AFI				LR	LR	14 44 02.0	
	comp=Z,164nm,21.1s,baz=204,slow=33						
AFI	Afiamalu	17.09	20	P	Pn	14 38 41.5	0.0
RAR	Rarotonga	18.49	65	P	P	14 38 57.3	-0.6
	1.9nm,0.3s,baz=140,slow=14,SNR=2.7						
RAR	Rarotonga	18.49	65	P	P	14 38 57.4	-0.6
TBI	Tubuai	26.13	82	eLR	LR	14 46 38.6	
	299nm,26.8s,baz=242						
EIDS	Eidsvold	27.92	272	eP	P	14 40 31.1	-0.4
	11nm,1.0s						
PPT2	Papeete2	28.57	70	eLR	LR	14 47 48.0	
	312nm,26.8s,baz=232						
RMQ	Roma	29.63	269	P	P	14 40 48.7	+2.0
	baz=27,SNR=19						
CTA	Charters Tower	33.95	279	P	P	14 41 25.7	+1.0
	55nm,0.6s,baz=104,slow=10,SNR=112						
CTA				LR	LR	14 53 45.3	
	comp=Z,159nm,18.7s,baz=68,slow=34						
CTA	Charters Tower	33.95	279	P	P	14 41 25.7	+1.0
STKA	Stephens Creek	34.72	257	P	P	14 41 31.6	+0.3
	44nm,0.7s,baz=96,slow=9.7,SNR=97						
STKA				LR	LR	14 52 49.3	
	comp=Z,158nm,18.4s,baz=153,slow=31						
STKA	Stephens Creek	34.72	257	eP	P	14 41 31.5	+0.2
	9.3nm,0.8s						
PMG	Port Moresby	38.68	295	P	P	14 42 05.0	-0.1
	8.2nm,0.9s,baz=263,slow=10,SNR=2.4						
PMG	Port Moresby	38.68	295	P	P	14 42 05.0	-0.1
BBOO	Buckleboo	39.22	254	eP	P	14 42 08.3	-1.1
	358nm,0.9s						
AS31	Alice Springs	43.31	267	eP	P	14 42 41.4	-1.8
ASAR	Alice Springs	43.32	267	P	P	14 42 41.6	-1.6
	9.1nm,0.5s,baz=105,slow=7.3,SNR=226						
ASAR				PcP	PcP	14 44 30.1	-1.3
	0.8nm,0.5s,baz=114,slow=3.5,SNR=3.5						
ASAR				ScP	ScP	14 48 20.3	+1.7
	0.8nm,0.9s,baz=112,slow=3.7,SNR=4.8						
ASAR				LR	LR	15 00 45.7	
	comp=Z,152nm,19.0s,baz=165,slow=36						
ASAR	Alice Springs	43.32	267	P	P	14 42 41.6	-1.6
ASAR				PcP	PcP	14 44 30.1	-1.3
ASAR				ScP	ScP	14 48 20.3	+1.7
WRAB	Tennant Creek	44.28	272	eP	P	14 42 48.9	-2.1
	16nm,0.6s						
WRA	Warramunga Arr	44.28	272	P	P	14 42 49.6	-1.4
	17nm,0.3s,baz=111,slow=8.1,SNR=380						
WRA	Warramunga Arr	44.28	272	P	P	14 42 49.6	-1.4
VNDA	Vanda	48.35	186	P	P	14 43 23.2	+1.1
	1.3nm,0.6s,baz=18,slow=7.1,SNR=9.0						
VNDA	Vanda	48.35	186	P	P	14 43 23.2	+1.1
FITZ	Fitzroy Crossi	52.55	270	P	P	14 43 53.4	-1.2
	7.4nm,0.8s,baz=150,slow=6.7,SNR=19						
FITZ	Fitzroy Crossi	52.55	270	eP	P	14 43 52.3	-2.4
	6.0nm,0.7s						
QSPA	South Pole Qui	59.95	180	P	P	14 44 47.2	+0.3
	6.5nm,0.7s,baz=25,slow=2.2,SNR=28						
QSPA	South Pole Qui	59.95	180	P	P	14 44 47.2	+0.3
MJAR	Matsushiro Arr	78.16	325	P	P	14 46 39.6	-0.3
	1.3nm,0.8s,baz=26,slow=1.1,SNR=3.7						
MJAR	Matsushiro Arr	78.16	325	P	P	14 46 39.6	-0.3
VNA3	Neumayer Olymp	78.53	176	eP	P	14 46 40.8	-0.7
VNA2	Neumayer--Watz	78.97	177	eP	P	14 46 43.6	-0.3
	baz=176,slow=4.8						
ASAJ	Asahikawa	82.32	332	P	P	14 47 03.2	+1.2
	3.8nm,0.8s,baz=71,slow=28,SNR=4.5						
ASAJ	Asahikawa	82.32	332	P	P	14 47 03.2	+1.2
PLCA	Paso Flores	82.53	133	P	P	14 47 05.0	+1.4
	1.7nm,0.7s,baz=205,slow=19,SNR=3.5						
PLCA	Paso Flores	82.53	133	P	P	14 47 05.0	+1.4
KSRS	Korea Array	84.29	319	LR	LR	15 24 38.1	
	comp=Z,21nm,18.5s,baz=325,slow=36						
PETK	Petropavlovsk-	85.63	345	P	P	14 47 17.8	-0.9
	6.7nm,0.7s,baz=120,slow=7.8,SNR=10						
PETK	Petropavlovsk-	85.63	345	P	P	14 47 17.8	-0.9
ISA	Isabella	85.99	45	eP	P	14 47 20.8	-0.2
	22nm,1.8s						
YBH	Yreka Blue Hor	87.72	38	LR	LR	15 16 01.9	
	comp=Z,62nm,21.6s,baz=223,slow=28						
NVAR	Mina Array Bea	87.93	43	P	P	14 47 32.5	+1.9
	1.1nm,0.7s,baz=224,slow=7.8,SNR=7.0						
NVAR	Mina Array Bea	87.93	43	P	P	14 47 32.5	+1.9
TXAR	Lajitas Array	92.09	57	LR	LR	15 18 45.9	
	comp=Z,68nm,21.9s,baz=180,slow=29						
CMAR	Chiang Mai Arr	93.50	289	P	P	14 47 59.3	+2.6
	0.7nm,0.8s,baz=141,slow=5.3,SNR=5.6						
CMAR	Chiang Mai Arr	93.50	289	P	P	14 47 59.3	+2.6
ILAR	Eielson Array	97.65	13	P	Pdif	14 48 14.9	+0.4
	0.4nm,0.9s,baz=231,slow=4.3,SNR=3.9						
ILAR	Eielson Array	97.65	13	P	Pdif	14 48 14.9	+0.4
SONM	Songino Array	103.09	318	PKiKP	PKiKP	14 52 58.1	-0.8
	0.2nm,0.7s,baz=130,slow=2.3,SNR=2.6						
SONM	Songino Array	103.09	318	PKiKP	PKiKP	14 52 58.1	-0.8
BOSA	Boshof	117.56	203	PKP	PKPdf	14 53 26.3	-0.6
	3.5nm,1.0s,baz=1.2,slow=11,SNR=2.5						
BOSA	Boshof	117.56	203	PKP	PKPdf	14 53 26.3	-0.6
MK31	Makanchi Array	117.77	310	ePKPdf	PKPdf	14 53 25.1	-1.4
MKAR	Makanchi Array	117.77	310	PKP	PKPdf	14 53 25.2	-1.2
	1.1nm,0.6s,baz=212,slow=1.3,SNR=17						
MKAR	Makanchi Array	117.77	310	PKP	PKPdf	14 53 25.2	-1.2
ZALV	Zalesovo Beam	117.98	318	PKP	PKPdf	14 53 25.1	-1.5
	0.7nm,0.5s,baz=107,slow=1.1,SNR=6.7						
ZALV	Zalesovo Beam	117.98	318	PKP	PKPdf	14 53 25.1	-1.5
KURK	Kurchatov	121.02	314	ePKPdf	PKPdf	14 53 31.0	-1.5
KURK				PKP	PKiKP	14 53 31.5	-1.1
KURBB	Kurchatov Arra	121.06	314	PKP	PKPdf	14 53 31.5	-1.1
	4.9nm,0.6s,baz=105,slow=1.9,SNR=49						
KKAR	Karatay Array	125.10	304	ePKPdf	PKPdf	14 53 39.7	-0.9
BVAR	Borovoye Array	126.37	316	PKP	PKPdf	14 53 42.5	-0.2
	3.7nm,0.5s,baz=155,slow=1.6,SNR=30						
BVAR	Borovoye Array	126.37	316	PKP	PKPdf	14 53 42.5	-0.2
ABKAR	Akbulak array	132.90	311	ePKPdf	PKPdf	14 53 54.8	-0.4
ARCES	ARCESS Array B	138.40	348	PKhKP	PKPpre	14 53 56.5	
	1.2nm,0.6s,baz=56,slow=3.1,SNR=8.3						
ARCES				PKP	PKPdf	14 54 05.1	+0.2
	2.7nm,0.8s,baz=90,slow=1.2,SNR=8.4						
ARCES	ARCESS Array B	138.40	348	PKPpre	PKPpre	14 53 56.5	
ARCES				PKP	PKPdf	14 54 05.1	+0.2
JOF	Joensuu	142.26	339	ep	PKPdf	14 54 06.1	-6.0
KAF	Kangasniemi	144.39	341	ep	PKPab	14 54 11.5	-2.6
FIA1	FINESS Array S	144.98	340	ePKPbc	PKPbc	14 54 15.7	-0.6
FINES	FINESS Array B	144.99	340	PKP	PKPbc	14 54 15.7	-0.6
	31nm,0.7s,baz=62,slow=4.5,SNR=70						
FINES	FINESS Array B	144.99	340	PKP	PKPbc	14 54 15.7	-0.6
KBZ	Khabaz	145.14	304	PKP	PKPbc	14 54 17.1	-0.2
	8.1nm,0.9s,baz=177,slow=2.1,SNR=10						
KBZ	Khabaz	145.14	304	PKP	PKPbc	14 54 17.1	-0.2
NB2	NORSAR Subarra	148.54	352	PKP	PKPbc	14 54 26.2	-0.4
	comp=Z,4.9nm,0.7s,baz=13,slow=2.7						
NOA	NORSAR Array B	148.54	352	PKPbc	PKPbc	14 54 26.5	-0.2
	comp=Z,4.0nm,0.6s,baz=13,slow=4.2,SNR=14						
NOA	NORSAR Array B	148.54	352	PKPbc	PKPbc	14 54 26.5	-0.2
NACGM	Naroch	149.66	332	e	PKPbc	14 54 28.0	-1.5
AKASG	Malin Array Be	151.22	323	PKPbc	PKPbc	14 54 33.0	-0.4
	comp=Z,10.0nm,0.5s,baz=48,slow=2.8,SNR=25						
AKASG	Malin Array Be	151.22	323	PKPbc	PKPbc	14 54 33.0	-0.4
EIL	Elat	151.68	277	PKPbc	PKPbc	14 54 34.9	-0.2
	comp=Z,12nm,0.8s,baz=354,slow=6.9,SNR=4.5						
EIL	Elat	151.68	277	PKPbc	PKPbc	14 54 35.0	-0.2
BRTR	Keskin Array B	152.65	299	PKPbc	PKPbc	14 54 36.3	-0.9
	comp=Z,3.9nm,0.8s,baz=150,slow=5.5,SNR=9.9						
BRTR	Keskin Array B	152.65	299	PKPbc	PKPbc	14 54 36.3	-0.9
DBIC	Dimbokro	155.70	163	PKPab	PKPab	14 55 01.7	+0.5
	comp=Z,4.0nm,0.9s,baz=325,slow=1.3,SNR=3.1						
DBIC	Dimbokro	155.70	163	PKPab	PKPab	14 55 01.7	+0.5
CLL	Collm	157.40	342	ePKPab	PKPab	14 55 11.0	+3.4
	comp=Z,5.0nm,0.8s						
BRG	Berggiesshubel	157.53	340	eP	PKPab	14 55 12.2	+4.0
	comp=Z,6.1nm,0.8s						
GERES	GERESS Array B	159.39	338	PKPab	PKPab	14 55 16.9	+0.5
	comp=Z,0.5nm,0.4s,baz=18,slow=4.8,SNR=5.1						
GERES	GERESS Array B	159.39	338	PKPab	PKPab	14 55 16.9	+0.5
TORD	Torodi Ar. Bea	163.06	178	PKP	PKPdf	14 54 44.5	+1.0
	comp=Z,0.8nm,0.9s,baz=197,slow=4.6,SNR=3.3						
TORD				PKPab	PKPab	14 55 32.0	-1.1
	comp=Z,3.9nm,0.9s,baz=182,slow=3.3,SNR=13						
TORD	Torodi Ar. Bea	163.06	178	PKP	PKPdf	14 54 44.5	+1.0
TORD				PKPab	PKPab	14 55 32.0	-1.1

---

*DDA **05** 14:50:20.9, 39.°46N×28.°16E, h7km, MD2.8*

*ISCJB **05** 14:50:21.2±0.6, 39.°47N±0.°03×28.°15E±0.°04, h4km±9km, Error ellipse: s-maj=5.4km s-min=4.5km az=154.4*

*ISK **05** 14:50:21.2, 39.°50N×28.°16E, h12km, MD2.5*

*CSEM **05** 14:50:21.1±0.2, 39.°47N×28.°17E, h8km, MD2.5, Error ellipse: s-maj=4.2km s-min=3.2km az=62.0*

ISC 05 14:50:21.1±1.1**, 39.°46N**±0.°02×**28.°15E**±0.°03**, h8**km±9km**, n22, σ0.°51**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	Balikesir	0.28	312	ePG	Pg	14 50 26.8	+0.2
BALB				eSG	Sb	14 50 32.3	-0.9
BALB	Balikesir	0.28	312	ePg	Pg	14 50 26.8	+0.2
BALB				eSg	Sb	14 50 32.3	-0.9
DURS	Dursunbey	0.29	60	i P	Pg	14 50 26.3	-0.7
DURS				i S	Sg	14 50 31.8	+0.8
DURS	Dursunbey	0.29	60	i P	Pg	14 50 26.3	-0.7
DURS				i S	Sg	14 50 31.8	+0.8
DEMI	Demirci	0.61	133	i P	Pg	14 50 32.7	-0.2
DEMI				i S	Sb	14 50 41.9	-0.8
DEMI	Demirci	0.61	133	i P	Pg	14 50 32.7	-0.2
DEMI				i S	Sb	14 50 41.9	-0.8
AKHS	Akhisar	0.63	204	eP	Pg	14 50 32.8	-0.5
AKHS				i S	Sb	14 50 43.7	+0.3
AKHS	Akhisar	0.63	204	eP	Pg	14 50 32.8	-0.5
AKHS				i S	Sb	14 50 43.7	+0.3
GONE	Gonen-Balikesi	0.69	329	ePG	Pg	14 50 34.0	-0.4
GONE				eSG	Sg	14 50 43.6	+0.2
GONE	Gonen-Balikesi	0.69	329	ePg	Pg	14 50 34.0	-0.4
GONE				eSg	Sg	14 50 43.6	+0.2
KCTX	Karacabey (Bur	0.82	11	ePG	Pg	14 50 37.0	0.0
KCTX	Karacabey (Bur	0.82	11	ePg	Pg	14 50 37.0	0.0
TVSB	Tavsanli	1.02	90	ePG	Pg	14 50 40.8	+0.1
TVSB	Tavsanli	1.02	90	ePg	Pg	14 50 40.8	+0.1
ULDT	Uludag	1.03	48	i P	Pg	14 50 40.6	-0.3
ULDT				i S	Sn	14 50 57.3	+0.7
ULDT	Uludag	1.03	48	i P	Pg	14 50 40.6	-0.3
ULDT				i S	Sn	14 50 57.3	+0.7
MDNY	Mudanya-Bursa	1.07	32	ePG	Pg	14 50 41.2	-0.6
MDNY	Mudanya-Bursa	1.07	32	ePg	Pg	14 50 41.2	-0.6
ARMT	Armutlu	1.24	26	ePN	Pn	14 50 44.8	0.0
ARMT	Armutlu	1.24	26	ePn	Pn	14 50 44.8	0.0
KHAL	Karahalli	1.51	135	eP	Pn	14 50 48.6	0.0
KHAL				eS	Sg	14 51 09.8	+0.1
KHAL	Karahalli	1.51	135	eP	Pn	14 50 48.6	0.0
KHAL				eS	Sg	14 51 09.8	+0.1

IDC 05 15:18:28.1±2.2**, 20.°01N**×**145.°46E, h146**km±19km**, mb3.2**/8**, mb1 3.4**/11**, mb1mx3.3**/28**, mbtmp3.3**/11**, Error ellipse: s-maj=41.1km s-min=11.4km az=80.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	6.41	185	P	Pn	15 20 00.5	+0.2
	5.4nm,0.3s,baz=22,slow=18,SNR=2.1						
GUMO				S	Sn	15 21 13.4	+1.0
	3.0nm,0.3s,baz=223,slow=22,SNR=1.8						
CBIJ	Chichi jima	7.67	338	P	Pn	15 20 17.2	+0.3
	1.9nm,0.3s,baz=268,slow=18,SNR=3.6						
CBIJ				S	Sn	15 21 40.9	-1.6
	2.3nm,0.3s,baz=280,slow=21,SNR=3.5						
MJAR	Matsushiro Arr	17.65	340	P	Pn	15 22 24.9	0.0
	0.4nm,0.3s,baz=168,slow=10,SNR=5.6						
KSRS	Korea Array	23.14	322	P	P	15 23 21.0	-0.4
	2.3nm,0.5s,baz=149,slow=9.0,SNR=15						
WRA	Warramunga Arr	41.17	196	P	P	15 25 56.8	-1.6
	0.3nm,0.6s,baz=23,slow=9.4,SNR=6.7						
SONM	Songino Array	41.98	321	P	P	15 26 06.1	+1.2
	0.2nm,0.5s,baz=125,slow=6.9,SNR=5.1						
STKA	Stephens Creek	51.72	184	P	P	15 27 21.5	+1.1
	3.6nm,1.1s,baz=150,slow=4.0,SNR=2.9						
ZALV	Zalesovo Beam	56.84	322	P	P	15 27 57.0	-0.2
	0.4nm,0.6s,baz=120,slow=4.9,SNR=2.8						
MKAR	Makanchi Array	57.40	313	P	P	15 28 01.9	+0.6
	0.2nm,0.6s,baz=88,slow=9.2,SNR=3.8						
YKA	Yellowknife Ar	76.94	28	P	P	15 30 04.3	+0.1
	0.2nm,0.5s,baz=292,slow=5.7,SNR=5.0						
FINES	FINESS Array B	85.60	335	P	P	15 30 48.2	-1.6
	1.4nm,0.9s,baz=39,slow=1.2,SNR=3.5						

IDC 05 15:24:39.8±1.1**, 1.°25N**×**126.°07E, h0**km**, mb3.8**/7**, mb1 3.9**/7**, mb1mx3.7**/22**, mbtmp3.8**/7**, Error ellipse: s-maj=128.1km s-min=16.3km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.57	159	P	P	15 29 41.8	-0.1
	3.2nm,0.5s,baz=338,slow=11,SNR=41						
ASAR	Alice Springs	25.91	163	P	P	15 30 14.5	+0.6
	0.8nm,0.4s,baz=345,slow=8.1,SNR=19						
STKA	Stephens Creek	36.08	157	P	P	15 31 42.4	-1.1
	1.2nm,0.7s,baz=322,slow=7.9,SNR=3.8						
SONM	Songino Array	49.44	343	P	P	15 33 31.9	+0.1
	0.2nm,0.6s,baz=160,slow=8.7,SNR=3.7						
MKAR	Makanchi Array	59.23	326	P	P	15 34 41.7	-1.2
	0.6nm,0.4s,baz=118,slow=8.4,SNR=26						
KURBB	Kurchatov Arra	63.48	328	P	P	15 35 12.5	+0.9
	1.0nm,0.3s,baz=129,slow=5.8,SNR=5.8						
BVAR	Borovoye Array	69.04	328	P	P	15 35 47.8	+0.5
	0.3nm,0.4s,baz=130,slow=8.4,SNR=3.5						

---

*BJI **05** 15:49:50.4, 15.°37N×95.°94E, h15km, mB5.2/38, mb4.9/54, Ms5.2/58, Ms7 5.0/50*

*IDC **05** 15:49:51.6±0.3, 15.°53N×96.°03E, h0km, mb4.7/33, mb1 4.7/35, mb1mx4.7/37, mbtmp4.6/35, ML5.5/1, MS4.5/31, Ms1 4.5/31, ms1mx4.4/43, Error ellipse: s-maj=12.4km s-min=9.3km az=44.0*

*ISCJB **05** 15:49:51.4±0.9, 15.°58N±0.°03×95.°99E±0.°02, h8km±5km, mb5.0/131, MS4.6/51, Error ellipse: s-maj=4.7km s-min=3.5km az=32.2*

*NEIC **05** 15:49:52.8±1.6, 15.°58N×95.°99E, h8km±10km, mb5.2/51, Error ellipse: s-maj=5.4km s-min=3.5km az=225.0*

*MOS **05** 15:49:54.7±0.8, 15.°59N×96.°10E, h33km, mb5.3/51, MS4.7/11, Error ellipse: s-maj=8.6km s-min=4.4km az=111.3*

*GCMT **05** 15:49:55.0±0.2, 15.°48N×96.°09E, h12km, MW5.1, Moment Tensor Solution. s35,c47; s82,c137; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.94±.13; $M_{\theta\theta}$2.60±.11; $M_{\phi\phi}$0.35±.13; $M_{r\theta}$2.06±.33; $M_{\theta\phi}$3.73±.09; $M_{\phi r}$1.06±.35; Best double couple: $M_0$4.80000×10^{16} NP1:ϕ_s33.00000°, δ34.00000°, λ-120.00000°. NP2:ϕ_s247.00000°, δ61.00000°, λ-72.00000°. Principal axes: T 5.9600, Plg14.0000°, Azm324.0000°; N -2.3200, Plg16.0000°, Azm58.0000°; P -3.6400, Plg68.0000°, Azm194.0000°; Data Used: II G IU CN IC.*

*DJA **05** 15:50:00.1±1.6, 16°N±4°×9°6E±°, h30km±14km, M4.8/20, mB5.2/11, mb4.7/20, MLv5.1/1, Mw(mB)4.7/11*

ISC 05 15:49:54.3±0.4**, 15.°58N**±0.°03×**95.°98E**±0.°03**, h17**km±1km**, n437, σ1.°40**/501**, mb5.0**/132**, MS4.6**/53**, 37C-26D, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	4.03	44	ePn	Pn	15 50 54.4	-0.9
CMAR	Chiang Mai Arr	4.03	44	Pn	Pn	15 50 54.5	-0.7
	80nm,0.3s,baz=234,slow=15,SNR=1437						
CMAR				LR	LR	15 52 54.1	
	comp=Z,5μm,20.5s,baz=44,slow=45						
CMAR	Chiang Mai Arr	4.03	44	Pn	Pn	15 50 54.5	-0.7
CHTO	Chiang Mai	4.29	41	⇓iP	Pn	15 50 58.0	-0.9
CHTO	Chiang Mai	4.29	41	⇓iPn	Pn	15 50 58.0	-0.9
CHTO	Chiang Mai	4.29	41	P	Pn	15 50 58.2	-0.6
	SNR=75						
CHTO	Chiang Mai	4.29	41	P	Pn	15 50 57.0	-1.8
IMP	Imphal	9.36	348	eP	Pn	15 52 09.0	+0.4
IMP				ex	Sn	15 53 53.0	-0.5
CAL	Calcutta	10.01	315	eP	Pn	15 52 16.5	-0.9
CAL				ex	Sn	15 54 06.1	-3.4
SHL	Shillong	10.65	340	eP	Pn	15 52 26.0	-0.4
SHL				ex	Sn	15 54 21.0	-4.5
BWNR	Bhubaneshwar	10.76	297	eP	Pn	15 52 20.0	-7.7
BWNR				eS	Sn	15 54 11.0	-17
KULM	Kulim	11.20	155	ePn	Pn	15 52 33.5	-0.3
	34nm,1.3s						
KULM				eSn	Sn	15 54 48.5	+10
KULM	Kulim	11.20	155	P	Pn	15 52 35.4	+1.6
KULM	Kulim	11.20	155	P	Pn	15 52 38.8	+5.0
	20nm,1.3s,552nm						
KMI	Kunming	11.41	33	⇓P	Pn	15 52 42.4	+5.5
KMI				sP		15 52 50.3	
KMI				S	Sn	15 54 50.4	+6.2
KMI				pmax	pmax		
	comp=Z,33nm,1.5s						
KMI				pmax	pmax		
	comp=Z,300nm,3.1s						
KMI				LR	LR		
	comp=N,7μm,6.6s						
KMI				LR	LR		
	comp=E,5μm,8.7s						
KMI				LR	LR		
	comp=Z,6μm,7.9s						
IPM	Ipoh	12.09	155	ePn	Pn	15 52 45.6	-0.3
	comp=Z,47nm,1.5s						
IPM				eSn	Sn	15 54 49.2	-11
IPM	Ipoh	12.09	155	P	Pn	15 52 46.3	+0.4
IPM	Ipoh	12.09	155	P	Pn	15 52 50.8	+4.8
	comp=Z,18nm,1.5s						
TSI	Tuntungan	12.27	168	P	P	15 52 54.5	-6.1
	comp=Z,134nm,1.1s						
PSI	Prapat	13.02	167	Pn	Pn	15 53 00.6	+1.9
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=7.9						
PSI				LR	LR	15 58 36.5	
	comp=Z,2μm,21.0s,baz=326,slow=40						
PSI	Prapat	13.02	167	Pn	Pn	15 53 00.6	+1.9
PSI	Prapat	13.02	167	P	Pn	15 53 02.4	+3.6
	comp=Z,32nm,1.7s,comp=Z,604nm						
FRIM	Kepong	13.46	155	P	Pn	15 53 05.4	+0.8
QIZ	Qiongzhong	13.67	73	P	Pn	15 53 07.2	-0.4
QIZ				S	Sn	15 55 40.4	+1.2
QIZ				LR	LR		
	comp=N,7μm,11.6s						
QIZ				LR	LR		
	comp=Z,5μm,13.0s						
QIZ	Qiongzhong	13.67	73	Pn	Pn	15 53 06.3	-1.2
ODAN	Odare	13.79	326	eP	Pn	15 53 06.6	-2.7
	comp=Z,197nm,1.0s						
ODAN	Odare	13.79	326	eP	Pn	15 53 06.6	-2.7
	comp=Z,197nm,1.0s						
TAPN	Taplejung	14.01	328	eP	Pn	15 53 10.0	-2.5
	comp=Z,177nm,1.0s						
TAPN	Taplejung	14.01	328	eP	Pn	15 53 10.0	-2.5
	comp=Z,177nm,1.0s						
RAMN	Ramite	14.29	324	eP	Pn	15 53 13.4	-2.9
RAMN	Ramite	14.29	324	eP	Pn	15 53 13.4	-2.9
GYA	Guiyang	14.71	41	⇑iP	Pn	15 53 21.9	+0.1
GYA				S	S	15 56 15.9	-7.4
GYA				SS	SnSn	15 56 23.4	+5.9
GYA				pmax	pmax		
	comp=Z,70nm,1.2s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,3μm,11.5s						
GYA				LR	LR		
	comp=E,2μm,8.7s						
GYA				LR	LR		
	comp=Z,4μm,10.6s						
LSA	Lhasa	14.74	343	P	Pn	15 53 18.7	-3.9
LSA				LR	LR		
	comp=N,1μm,17.9s						
LSA				LR	LR		
	comp=E,3μm,17.1s						
LSA	Lhasa	14.74	343	ePn	Pn	15 53 18.6	-4.1
	comp=E,30nm,0.8s						
LSA				eSn	Sn	15 55 54.0	-12
JIRN	Jiri	15.07	325	eP	Pn	15 53 25.6	-1.4
	comp=E,44nm,0.8s						
JIRN	Jiri	15.07	325	eP	Pn	15 53 25.6	-1.4
	comp=E,44nm,0.8s						
KGM	Kluang	15.29	151	P	P	15 53 33.4	-0.9
GUN	Gumba	15.44	324	eP	Pn	15 53 30.3	-1.5
GUN	Gumba	15.44	324	eP	Pn	15 53 30.3	-1.5
PKI	Pulchoki	15.45	322	eP	Pn	15 53 34.1	+2.2
	comp=E,252nm,1.2s						
PKI	Pulchoki	15.45	322	eP	Pn	15 53 34.1	+2.2
	comp=E,252nm,1.2s						
DMN	Daman	15.66	322	eP	Pn	15 53 36.2	+1.6
	comp=E,250nm,0.9s						
DMN	Daman	15.66	322	eP	Pn	15 53 36.2	+1.6

comp=E,250nm,0.9s
KKN Kakani 15.69 323 *e*P **Pn** **15 53 33.8 -1.1**
comp=E,154nm,1.1s
KKN Kakani 15.69 323 *e*P **Pn** **15 53 33.8 -1.1**
comp=E,154nm,1.1s
MYKOM Kota Tinggi 15.74 150 P **P** **15 53 39.8 +0.5**
MYKOM Kota Tinggi 15.74 150 P **P** **15 53 40.2 +0.9**
comp=E,91nm,1.4s,comp=E,1µm
BKNI Bangkinang 15.95 161 P **P** **15 53 41.4 -0.2**
comp=E,89nm,1.1s,comp=E,1µm
GKN Gorkha 16.23 322 *e*P **Pn** **15 53 40.3 -1.5**
comp=E,293nm,1.1s
GKN Gorkha 16.23 322 *e*P **Pn** **15 53 40.3 -1.5**
comp=E,293nm,1.1s
KOLN Koldanda 16.71 319 *e*P **P** **15 53 51.0 +0.8**
comp=E,117nm,0.7s
KOLN Koldanda 16.71 319 *e*P **P** **15 53 51.0 +0.8**
comp=E,117nm,0.7s
HYB Hyderabad 16.82 279 *i* P **P** **15 53 52.5 +1.2**
comp=E,70nm,1.0s
CD2 Chengdu 16.84 24 P **Pn** **15 53 49.7 +0.3**
CD2 pP **P** **15 53 53.2 +1.7**
CD2 sP **sP** **15 53 56.7 -1.9**
CD2 PP **PnPn** **15 54 04.0 +4.8**
CD2 S **Sn** **15 56 56.0 -0.3**
CD2 SS **SnSn** **15 57 16.7 +6.8**
CD2 pmax pmax
comp=Z,160nm,1.4s
CD2 pmax pmax
comp=Z,290nm,3.6s
CD2 LR LR
comp=N,7µm,10.1s
CD2 LR LR
comp=Z,5µm,8.9s
NGP Nagpur 17.00 292 *e*P **Pn** **15 53 50.9 -0.6**
NGP *ex* x 15 54 03.9
comp=Z,75nm,1.2s
NGP *ex* **S** **15 57 06.6 -3.3**
DANN Dangsing 17.02 320 *e*P **P** **15 53 54.5 +0.8**
comp=Z,187nm,0.9s
DANN Dangsing 17.02 320 *e*P **P** **15 53 54.5 +0.8**
comp=Z,187nm,0.9s
SISI Saibi 17.07 169 P P 15 53 59.8 +5.8
comp=Z,100nm,1.2s,comp=Z,11µm
PYUN Piuthan 17.32 318 *e*P **P** **15 53 58.7 +1.7**
comp=Z,227nm,0.9s
PYUN Piuthan 17.32 318 *e*P **P** **15 53 58.7 +1.7**
comp=Z,227nm,0.9s
HKC Hong Kong Obse 18.45 66 ⇑P **Pn** **15 54 14.0 +4.6**
AKL Akola 18.73 289 *e*P **Pn** **15 54 13.6 +0.8**
AKL AMb AMB 15 54 24.4
comp=Z,72nm,1.5s
KSM Kuching 19.90 133 *e*P **P** **15 54 25.3 +0.1**
comp=Z,88nm,1.5s
KSM Kuching 19.90 133 P **Pn** **15 54 26.5 -0.4**
KSM Kuching 19.90 133 P **Pn** **15 54 26.8 -0.1**
comp=Z,34nm,1.6s,comp=Z,643nm
PTH Pithoragarh 20.10 316 *e*P **P** **15 54 28.5 +1.0**
PTH *e*S **S** **15 58 13.1 +0.2**
PPBI Pangkal Pinang 20.28 149 P Pn 15 54 31.2 -0.2
comp=Z,43nm,1.8s,comp=Z,704nm
SBUM Sibu 20.64 128 P Pn 15 54 34.2 -1.4
SBUM Sibu 20.64 128 P **P** **15 54 34.1 +0.8**
comp=Z,24nm,0.9s,comp=Z,669nm
BTM Bintulu 20.85 124 P Pn 15 54 36.8 -1.2
KAD Karad 20.98 278 *i* x Pn 15 54 41.9 +2.3
KAD *i* S **S** **15 58 29.9 -0.4**
POO Poona 21.36 281 ⇑*i*P **P** **15 54 42.0 +0.9**
comp=Z,120nm,1.0s
POO *i* x Sn 15 58 44.0 -1.7
LZH Lanzhou 21.60 18 ⇓P **P** **15 54 44.7 +1.1**
LZH pP **pP** **15 54 48.9 +0.4**
LZH sP **sP** **15 54 51.6 +0.9**
LZH PP **PnPn** **15 55 05.5 +1.1**
LZH S **S** **15 58 39.1 -3.3**
LZH sS **sS** **15 58 46.8 -3.4**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,550nm,4.8s
LZH LR LR
comp=N,6µm,11.3s
LZH LR LR
comp=E,7µm,14.5s
LZH LR LR
comp=Z,7µm,15.0s
NDI New Delhi 21.69 310 *e*P **P** **15 54 46.0 +1.5**
NDI *ex* x 15 58 53.0
STKI Sintang 21.72 134 P **P** **15 54 46.3 +1.5**
comp=Z,48nm,0.7s,comp=Z,7µm
XAN Xi'an 21.78 30 P **P** **15 54 44.3 -1.1**
XAN pP **pP** **15 54 52.9 +2.6**
XAN S **S** **15 58 43.2 -2.5**
XAN pmax pmax
comp=Z,15nm,1.2s
XAN LR LR
comp=N,2µm,17.2s
XAN LR LR
comp=E,1µm,16.1s
XAN LR LR
comp=Z,1µm,10.9s
KKM Kota Kinabalu 21.99 113 *e*P **P** **15 54 48.7 +0.8**
comp=Z,125nm,1.5s
KKM Kota Kinabalu 21.99 113 P **P** **15 54 49.2 +1.3**
KKM Kota Kinabalu 21.99 113 P **P** **15 54 49.9 +2.0**
comp=Z,57nm,1.5s,comp=Z,898nm
DDI Dehra Dun 22.04 315 *e*P **P** **15 54 50.0 +1.7**
DDI *ex* x 15 58 48.5
KDM Kudat 22.17 111 P **P** **15 54 49.1 -0.6**
WHN Wuhan 22.48 45 P **P** **15 54 53.2 +0.3**
WHN S **S** **15 58 57.8 -1.2**
WHN pmax pmax
comp=Z,75nm,1.2s
WHN LR LR
comp=N,8µm,7.8s
WHN LR LR
comp=E,6µm,10.6s
WHN LR LR
comp=Z,12µm,9.8s
AJM Ajmer 22.65 302 *i* P **P** **15 54 54.0 -0.8**
SDKM Sandakan 23.04 113 P **P** **15 54 59.8 +0.7**
QZH Quanzhou 23.14 63 P **P** **15 55 02.0 +2.2**
QZH S **S** **15 59 08.5 -2.2**
QZH LR LR
comp=N,3µm,9.7s
QZH LR LR
comp=E,4µm,13.0s
QZH LR LR
comp=Z,3µm,11.6s
SMLA Simla 23.14 315 *i* P **P** **15 55 00.2 +0.4**
SMLA AMb AMB 15 55 00.7
comp=Z,249nm,0.3s
SMLA *i* S **S** **15 59 11.5 +0.9**
SDNR Sundarnagar 23.50 316 *e*P **P** **15 55 05.0 +1.5**
GTA Gaotai 23.98 7 ⇓P **P** **15 55 08.8 +0.7**
GTA pP **pP** **15 55 13.0 -0.4**
GTA sP **sP** **15 55 15.9 +0.4**
GTA PcP **PcP** **15 58 51.3 +1.2**
GTA S **S** **15 59 25.2 +0.9**
GTA sS **sS** **15 59 32.1 -0.8**
GTA pmax pmax
comp=Z,41nm,1.6s
GTA pmax pmax
comp=Z,440nm,5.5s
GTA LR LR
comp=N,2µm,12.6s
GTA LR LR
comp=E,3µm,13.1s
GTA LR LR
comp=Z,2µm,14.5s
TGY Tagaytay City 24.16 90 LR LR 16 04 35.0
comp=Z,4.8nm,18.1s,baz=336,slow=37
TSM Tawau 24.27 115 P **P** **15 55 10.1 -0.8**
TPUB Ta-pu 24.45 68 *e*P **P** **15 55 13.7 +1.1**
comp=Z,64nm,1.1s
SSLB Suanglung 24.86 67 *e*P **P** **15 55 17.4 +1.2**
comp=Z,100nm,1.2s
THN Thein Dam 24.91 316 *e*P **P** **15 55 15.4 -1.1**
YULB Yu-li 25.07 68 *e*P **P** **15 55 19.4 +1.3**
comp=Z,199nm,1.8s
NACB Ninganchiao 25.53 66 P **P** **15 55 23.1 +0.9**
comp=Z,96nm,1.5s
NJ2 Nanjing 26.50 48 *e*P **P** **15 55 31.5 +0.6**
NJ2 pP **pP** **15 55 35.6 -0.5**
NJ2 PcP **PcP** **15 58 57.6 +1.9**
NJ2 S **S** **16 00 07.0 +2.7**
NJ2 sS **sS** **16 00 14.0 +1.0**
NJ2 pmax pmax
comp=Z,100nm,1.2s
NJ2 pmax pmax
comp=Z,1µm,4.2s
NJ2 LR LR
comp=N,4µm,12.4s
NJ2 LR LR
comp=E,3µm,17.2s
NJ2 LR LR
comp=Z,10µm,13.4s
BBKI Banjar Baru 26.57 134 P **P** **15 55 35.6 +3.8**
comp=Z,63nm,1.0s
COCO West Island 27.60 178 P **P** **15 55 43.1 +2.2**
COCO pmax pmax
comp=Z,95nm,1.1s
COCO West Island 27.60 178 P **P** **15 55 43.0 +2.2**
comp=Z,95nm,1.1s
HHC Hu-ho-hao-te 28.59 25 *e*P **P** **15 55 50.3 +0.6**
HHC pP **pP** **15 55 54.7 -0.3**
HHC sP **sP** **15 55 57.3 +0.2**
HHC PP **PnPn** **15 56 42.5 +2.8**
HHC S **S** **16 00 36.9 -0.5**
HHC SS **SnSn** **16 02 02.5 +5.2**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=N,2µm,8.5s
HHC LR LR
comp=E,2µm,10.9s
WMQ Urumqi 29.02 348 P **P** **15 55 55.5 +2.0**
WMQ PP **PnPn** **15 56 48.9 +3.3**
WMQ S **S** **16 00 45.1 +1.0**
WMQ SS **SnSn** **16 02 12.9 +5.0**
WMQ pmax pmax
comp=Z,30nm,1.2s
WMQ pmax pmax
comp=Z,58nm,13.0s
WMQ LR LR
comp=N,930nm,15.0s
WMQ LR LR
comp=E,2µm,17.0s
WMQ LR LR
comp=Z,670nm,17.0s
KSH Kashi 29.59 328 ⇓*i*P **P** **15 55 58.6 0.0**
KSH pP **pP** **15 56 03.5 -0.4**
KSH sP **sP** **15 56 06.2 +0.2**
KSH PP **PnPn** **15 56 54.6 +1.1**
KSH PcP **PcP** **15 59 04.9 +1.6**
KSH S **S** **16 00 51.0 -2.2**
KSH sS **sS** **16 01 00.3 -1.6**
KSH SS **SnSn** **16 02 26.1 +4.3**
KSH ScP **ScP** **16 02 41.3 -3.4**
KSH PcS **PcS** **16 02 43.0 -3.5**
KSH ScS **ScS** **16 06 37.9 -1.6**
KSH pmax pmax
comp=Z,16nm,1.2s
KSH pmax pmax
comp=Z,200nm,5.0s
KSH LR LR
comp=N,940nm,14.5s
KSH LR LR
comp=E,1µm,12.0s
KSH LR LR
comp=Z,2µm,28.7s
MRSI Marisa 29.69 118 P **P** **15 56 01.2 +1.6**
comp=Z,18nm,1.2s
BJI Beijing 30.07 32 P **P** **15 56 03.3 +0.6**
BJI S **S** **16 01 01.8 +1.4**
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJI pmax pmax
comp=Z,89nm,3.7s
BJI LR LR
comp=N,2µm,16.4s
BJI LR LR
comp=E,3µm,17.8s
BJI LR LR
comp=Z,900nm,21.3s
DAV Davao City (W) 30.19 103 LR LR 16 07 08.9
comp=Z,643nm,20.3s,baz=348,slow=34
SPSI Sidrap Palu 30.52 128 P P 15 56 10.6 +3.7
comp=Z,14nm,1.9s
KAPI Kappang 31.18 129 P **P** **15 56 11.6 -1.2**
comp=Z,4.2nm,0.4s,baz=188,slow=13,SNR=5.7
KAPI LR LR 16 10 06.2
comp=Z,735nm,19.1s,baz=126,slow=39
KAPI Kappang 31.18 129 P **P** **15 56 11.6 -1.2**
KAPI Kappang 31.18 129 P **P** **15 56 12.8 0.0**
comp=Z,14nm,1.4s
LUWI Luwuk 31.20 120 P **P** **15 56 13.7 +0.7**
comp=Z,61nm,1.3s,comp=Z,726nm
ULHL Ulahol 31.54 331 P **P** **15 56 18.0 +2.0**
SNR=6.5
KZA Kyzart 31.88 330 P **P** **15 56 20.7 +1.5**
SNR=21
JOW Kunigami 32.03 64 LR LR 16 11 34.9
comp=Z,967nm,19.1s,baz=169,slow=41
TKM2 Tokmak 2 32.37 331 *i* P **P** **15 56 24.7 +1.5**
TKM2 Tokmak 2 32.37 331 *e*P **P** **15 56 24.0 +0.8**
comp=Z,11nm,0.9s
TKM2 Tokmak 2 32.37 331 P **P** **15 56 24.8 +1.5**
SNR=17
KBK Karagaybulak 32.47 330 P **P** **15 56 25.8 +1.8**
SNR=25
DGAR Diego Garcia 32.64 227 P **P** **15 56 25.2 -0.4**
AAK Ala-Archa 32.66 330 PcP **PcP** **15 59 12.5 +0.9**
AAK Ala-Archa 32.66 330 *i* P **P** **15 56 27.7 +2.0**
AAK Ala-Archa 32.66 330 *e*P **P** **15 56 27.3 +1.5**
comp=Z,240nm,1.3s
AAK PcP **PcP** **15 59 12.5 +0.9**
AAK Ala-Archa 32.66 330 P **P** **15 56 27.3 +1.5**
comp=Z,184nm,1.1s,SNR=34
AAK Ala-Archa 32.66 330 P **P** **15 56 27.8 +2.0**
SNR=33
AML Almayashu 32.69 329 P **P** **15 56 27.5 +1.3**
SNR=25
KDI Kendari 32.74 124 P **P** **15 56 27.1 +0.6**
comp=Z,13nm,0.7s
FRU Bishkek 32.76 330 *e*P **P** **15 56 28.0 +1.6**
FRU *e* 15 57 44.0
FRU pmax pmax
comp=Z,70nm,1.6s
CHMS Chumysh 32.82 331 P **P** **15 56 28.2 +1.3**
SNR=16
EKS2 Erkin-Say 33.04 329 *e*P **P** **15 56 30.3 +1.4**
EKS2 *e* 15 57 40.3
EKS2 *e* 15 59 10.7
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 33.04 329 *e*P **P** **15 56 30.3 +1.4**
comp=Z,15nm,0.8s
EKS2 ePP **PnPn** **15 57 40.2 +1.8**
EKS2 ePcP **PcP** **15 59 10.7 -1.8**
EKS2 Erkin-Say 33.04 329 P **P** **15 56 31.2 +2.3**
SNR=23
USP Ospenovka 33.14 331 P **P** **15 56 31.2 +1.4**
SNR=31
MK31 Makanchi Array 33.15 343 *ce*P **P** **15 56 30.1 +0.3**
MK31 pmax pmax
comp=Z,37nm,0.9s
MK31 Makanchi Array 33.15 343 *e*P **P** **15 56 30.3 +0.5**
MK31 ePcP **PcP** **15 59 12.7 +0.1**
MKAR Makanchi Array 33.15 343 P **P** **15 56 30.6 +0.9**
comp=Z,19nm,0.8s,baz=151,slow=10.0,SNR=159
MKAR PcP **PcP** **15 59 12.6 0.0**
comp=Z,2.5nm,0.8s,baz=100,slow=2.7,SNR=6.0
MKAR LR LR 16 13 59.5
comp=Z,735nm,19.5s,baz=157,slow=44
MKAR Makanchi Array 33.15 343 P **P** **15 56 30.7 +0.9**
MKAR 15 59 12.6
MKAR Makanchi Array 33.15 343 P **P** **15 56 30.6 +0.9**
MKAR PcP **PcP** **15 59 12.6 0.0**
SONM Songino Array 33.30 13 P **P** **15 56 31.4 +0.2**
comp=Z,4.2nm,1.0s,baz=192,slow=9.8,SNR=29
SONM PcP **PcP** **15 59 13.3 +0.2**
comp=Z,1.6nm,0.9s,baz=203,slow=3.2,SNR=3.6
SONM Songino Array 33.30 13 P **P** **15 56 31.4 +0.2**
SONM PcP **PcP** **15 59 13.3 +0.2**
ULN Ulaanbaatar 33.47 14 *e*P **P** **15 56 32.3 -0.4**
comp=Z,36nm,1.8s
ULN Ulaanbaatar 33.47 14 P **P** **15 56 34.0 +1.2**
SNR=5.7
ULN Ulaanbaatar 33.47 14 P **P** **15 56 33.1 +0.4**
KKAR Karatay Array 35.02 327 *e*P **P** **15 56 46.3 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 35.02 327 *e*P **P** **15 56 46.3 +0.2**
comp=Z,4.3nm,0.6s
ZAK Zakamensk 35.22 8 ⇑*i*P **P** **15 56 47.6 -0.1**
ZAK *e* 15 59 16.8
ZAK pmax pmax
comp=Z,7.0nm,1.2s
SNY Shenyang 35.35 37 ⇓P **P** **15 56 48.4 -0.5**
SNY pmax pmax
comp=Z,95nm,5.4s
SNY LR LR
comp=N,1µm,16.2s
SNY LR LR
comp=E,2µm,15.9s
SNY LR LR
comp=Z,1µm,15.6s
HVS Khovu-Aksy 35.52 358 *d*P **P** **15 56 50.9 +0.6**
HVS pmax pmax
comp=Z,114nm,1.2s
KSAR Wonju Array Be 35.63 46 P **P** **15 56 50.6 -0.8**
KSRS Korea Array 35.67 46 P **P** **15 56 50.6 -1.0**
comp=Z,5.3nm,0.9s,baz=240,slow=9.1,SNR=8.9
KSRS LR LR 16 14 02.7
comp=Z,942nm,19.0s,baz=238,slow=41
WSAR Wadi Sarin 35.97 288 LR LR 16 15 18.1
comp=Z,351nm,18.7s,baz=97,slow=42
JNU Nakatsue 36.05 55 P **P** **15 56 55.6 +0.5**
comp=Z,8.7nm,0.9s,baz=103,slow=8.1,SNR=3.6
JNU LR LR 16 14 13.0
comp=Z,799nm,19.7s,baz=41,slow=40
JNU Nakatsue 36.05 55 P **P** **15 56 55.6 +0.5**
MOY Mondy 36.23 5 *e*P **P** **15 56 57.8 +1.4**
MOY pmax pmax
comp=Z,48nm,5.7s
TLY Talaya 36.54 8 *e*P **P** **15 56 59.4 +0.5**
TLY *e*S S 16 02 30.0 -11
TLY *e* 16 05 29.0
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,612nm,14.0s
TLY Talaya 36.54 8 *e*P **P** **15 56 59.1 +0.2**
TLY Talaya 36.54 8 P **P** **15 57 00.9 +1.9**
SNR=5.8
IRK Irkutsk 37.17 8 *e*P **P** **15 57 03.4 -0.9**
IRK pmax pmax
comp=Z,30nm,2.3s
CN2 Changchun 37.66 36 *e*P **P** **15 57 08.2 -0.4**
CN2 *es*P **sP** **15 57 15.4 -0.7**
CN2 PcP **PcP** **15 59 24.4 -1.5**
CN2 *e*S S 16 02 51.5 -6.3
CN2 SS **SnSn** **16 05 31.7 -5.7**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,14.0s
CN2 LR LR
comp=E,1µm,14.0s
CN2 LR LR
comp=Z,1µm,13.0s
KURBB Kurchatov Arra 37.69 342 P **P** **15 57 09.5 +0.8**
comp=Z,41nm,0.8s,baz=158,slow=7.7,SNR=191
KURBB PcP **PcP** **15 59 26.2 +0.5**
comp=Z,7.3nm,0.8s,baz=160,slow=2.1,SNR=6.8
KURK Kurchatov 37.75 342 P **P** **15 57 09.7 +0.5**
KURK pmax pmax
comp=Z,59nm,0.9s
KURK Kurchatov 37.75 342 P **P** **15 57 09.5 +0.3**
KURK PcP **PcP** **15 59 26.2 +0.3**
KURK Kurchatov 37.75 342 P **P** **15 57 10.2 +1.0**
SNR=18
KURK Kurchatov 37.75 342 P **P** **15 57 10.7 +1.5**
comp=Z,391nm,0.9s,SNR=15
HIA Hailar 38.79 25 *e*P **P** **15 57 17.6 -0.4**
comp=Z,49nm,1.4s
ZAA0 Zalesovo Array 39.27 350 *e*P **P** **15 57 22.6 +0.6**
ZALV Zalesovo Beam 39.27 350 P **P** **15 57 22.8 +0.8**
comp=Z,59nm,0.8s,baz=173,slow=8.9,SNR=284
ZALV LR LR 16 14 52.8
comp=Z,588nm,18.2s,baz=352,slow=38
ZALV Zalesovo Beam 39.27 350 P **P** **15 57 22.8 +0.8**
ZALV Zalesovo Beam 39.27 350 P **P** **15 57 22.8 +0.8**
ABKT Ailbek 40.09 311 P **P** **15 57 30.8 +1.6**
comp=Z,217nm,1.3s,SNR=23
NVS Novosibirsk 40.41 349 *e*P **P** **15 57 31.0 -0.4**
NVS *i* S **S** **16 03 39.3 +0.4**
NVS pmax pmax
comp=E,15nm,0.9s
NVS pmax pmax
comp=Z,46nm,0.9s
NVS pmax pmax
comp=N,26nm,0.8s
NVS smax smax
comp=N,29nm,2.4s
MDJ Mudanjiang 40.53 37 P P 15 57 36.1 +3.5
MDJ pP pP 15 57 42.1 +4.1
MDJ sP sP 15 57 45.0 +4.9
MDJ PP **PnPn** **15 59 12.9 +2.9**
MDJ S **S** **16 03 41.8 +0.8**
MDJ sS sS 16 03 58.7 +8.9
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,140nm,4.0s
MDJ LR LR
comp=N,1µm,11.9s
MDJ LR LR
comp=E,620nm,11.3s
MDJ LR LR
comp=Z,1µm,10.6s
USRK Ussuriysk Arra 41.75 39 P **P** **15 57 42.2 -0.4**
comp=Z,8.7nm,0.9s,baz=236,slow=7.6,SNR=10
USRK LR LR 16 15 57.8
comp=Z,394nm,18.4s,baz=230,slow=38
BVA0 Borovoye Array 42.47 337 *i* P **P** **15 57 48.1 -0.2**
BVAR Borovoye Array 42.47 337 PcP **PcP** **15 59 41.3 +0.2**
baz=151,slow=3.3
BVAR LR LR 16 17 32.6
comp=Z,868nm,20.7s,baz=143,slow=39
BVAR Borovoye Array 42.47 337 PcP **PcP** **15 59 41.3 +0.2**
BRVK Borovoye 42.53 337 *ci*P **P** **15 57 48.3 -0.6**
BRVK pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 42.53 337 *e*P **P** **15 57 48.6 -0.3**
comp=Z,14nm,0.9s
BRVK Borovoye 42.53 337 P **P** **15 57 49.8 +0.9**
comp=Z,92nm,0.8s,SNR=9.0
BRVK Borovoye 42.53 337 P **P** **15 57 49.4 +0.6**
SNR=5.7
MAT Matsushiro 42.87 53 P **P** **15 57 51.0 -0.9**
MAT S **S** **16 04 12.2 -3.7**
MJAR Matsushiro Arr 42.87 53 P **P** **15 57 52.3 +0.4**
comp=Z,6.8nm,1.0s,baz=263,slow=11,SNR=12
MJAR LR LR 16 17 38.2
comp=Z,517nm,21.7s,baz=245,slow=39
MJAR Matsushiro Arr 42.87 53 P **P** **15 57 52.3 +0.4**
ZRNK Zerenda 42.94 336 *i* P **P** **15 57 51.4 -0.8**
ZRNK pmax pmax
comp=Z,31nm,1.2s
JHJ Hachijo jima 2 43.21 58 P **P** **15 57 54.8 +0.1**
comp=Z,107nm,0.4s,baz=234,slow=21,SNR=2.8
MBWA Marble Bar 43.31 147 *e*P **P** **15 57 54.1 -1.4**
comp=Z,11nm,1.1s
BOD Bodaibo 44.29 14 *e*P **P** **15 58 02.8 -0.1**
FITZ Fitzroy Crossi 44.43 138 P **P** **15 58 03.6 -0.9**
comp=Z,1.4nm,0.7s,baz=107,slow=9.8,SNR=4.5
FITZ LR LR 16 19 16.5
comp=Z,609nm,19.2s,baz=308,slow=40
FITZ Fitzroy Crossi 44.43 138 P **P** **15 58 03.6 -0.9**
KLR Kul'dur 44.43 33 *e*P P 15 58 00.0 -4.2
KLR *e* 15 59 43.8
AB31 Akbulak array 44.59 327 *ce*P **P** **15 58 06.0 +0.5**
AB31 pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 44.59 327 *e*P **P** **15 58 06.2 +0.7**
comp=Z,12nm,0.8s
HABR Khabarovsk 45.80 36 *e*P **P** **15 58 12.9 -2.2**
HABR *e**PP pP 15 58 28.3 +7.8
HABR *e* 15 59 49.2
HABR *e* 16 00 01.3
HABR *e*S **S** **16 04 53.0 -5.2**

HABR e 16 08 02.9
HABR eSSS SSS 16 09 14.1
HABR pmax pmax
comp=N,25nm,1.9s
HABR pmax pmax
comp=E,78nm,2.8s
HABR pmax pmax
comp=Z,55nm,2.3s
HABR MLR MLR
comp=Z,745nm,16.0s
AKTO Aktyubinsk 46.29 327 *i* P **P 15 58 18.9 -0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s
UMR Umm Al-Rimmam 46.38 296 *eP* **P 15 58 19.8 -0.2**
UMR AMb AMB 15 58 24.4
comp=Z,54nm,1.0s
RDF Al-Radifah 46.45 295 *eP* **P 15 58 20.5 -0.1**
RDF AMb AMB 15 58 25.4
comp=Z,100nm,1.0s
CLNS Chul'man 46.64 21 *eP* **P 15 58 21.8 +0.1**
CLNS *e**PP pP 15 58 38.6 +12
CLNS *e* 15 59 52.4
CLNS *e* 16 00 11.0
CLNS *e*PPP PPP 16 00 53.7
CLNS *e*S **S 16 05 06.1 -4.0**
CLNS *e*SSS SSS 16 09 35.1
CLNS pmax pmax
comp=Z,21nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,1.2s
CLNS pmax pmax
comp=N,4.0nm,1.2s
CLNS smax smax
comp=E,185nm,12.8s
CLNS smax smax
comp=N,107nm,16.9s
CLNS MLR MLR
comp=N,452nm,14.0s
CLNS MLR MLR
comp=Z,551nm,11.0s
CLNS MLR MLR
comp=E,570nm,15.0s
MIB Mutribah 46.73 296 *eP* **P 15 58 22.7 -0.1**
MIB AMb AMB 15 58 27.4
comp=Z,71nm,0.8s
NAY Al-Naaiem 46.76 296 *eP* **P 15 58 22.5 -0.5**
NAY AMb AMB 15 58 27.4
comp=Z,57nm,0.9s
SVE Sverdlovsk 49.08 335⇑ *eP* **P 15 58 41.3 +0.8**
SVE *e*S **S 16 05 47.2 +2.7**
SVE pmax pmax
comp=Z,59nm,1.1s
SVE MLR MLR
comp=Z,490nm,15.0s
ARU Arti 49.68 334 *d i*P **P 15 58 45.0 -0.1**
ARU 16 00 38.3
ARU S **S 16 05 49.6 -3.4**
ARU SS **SS 16 09 22.2 -3.0**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU Arti 49.68 334 *eP* **P 15 58 45.2 +0.1**
comp=Z,34nm,1.3s
ARU Arti 49.68 334 P **P 15 58 45.2 +0.1**
comp=Z,115nm,1.0s,SNR=8.4
YSS Yuzh-Sakhalins 49.72 41⇑ *eP* **P 15 58 47.0 +1.5**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS Yuzh-Sakhalins 49.72 41 *eP* **P 15 58 45.0 -0.5**
comp=Z,18nm,1.1s
DGRG David-gareji 50.53 311 P **P 15 58 54.3 +2.4**
GNI Garni 50.67 309 P **P 15 58 54.8 +1.7**
GNI Garni 50.67 309 *eP* **P 15 58 54.2 +1.2**
comp=Z,52nm,0.9s
GNI Garni 50.67 309 P **P 15 58 55.6 +2.5**
SNR=12
TBLG Delisi 51.06 311 *eP* **P 15 58 56.9 +1.1**
TBLG Delisi 51.06 311 P **P 15 58 57.0 +1.1**
WRA Warramunga Arr 51.65 132 P **P 15 58 59.7 -0.8**
comp=Z,8.1nm,0.7s,baz=311,slow=7.7,SNR=111
WRA LR LR 16 22 36.3
comp=Z,514nm,21.2s,baz=330,slow=38
WRA Warramunga Arr 51.65 132 P **P 15 58 59.7 -0.8**
WRAB Tennant Creek 51.65 132 *eP* **P 15 58 59.5 -1.0**
WRAB pmax pmax
comp=Z,26nm,1.1s
WRAB Tennant Creek 51.65 132 *eP* **P 15 58 59.5 -1.0**
comp=Z,26nm,1.1s
WRAB Tennant Creek 51.65 132 P **P 15 58 59.3 -1.2**
comp=Z,127nm,1.4s,SNR=6.9
ATD Arta Tunnel 51.71 273 LR LR 16 18 55.7
comp=Z,215nm,20.0s,baz=262,slow=34
AKH Akhalkalaki 51.89 311 P **P 15 59 04.1 +1.8**
ZEI Tsey 51.93 312 *eP* **P 15 59 03.9 +1.3**
ZEI pmax pmax
comp=Z,103nm,1.3s
YAK Yakutsk 52.17 19 *eP* **P 15 59 02.4 -1.3**
YAK *e**PP pP 15 59 15.3 +6.1
YAK *e* 16 00 16.4
YAK *e* 16 00 58.9
YAK *e*PPP PPP 16 02 05.5
YAK *e*S **S 16 06 26.2 -1.1**
YAK *e* 16 08 44.6
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,62nm,3.2s
YAK pmax pmax
comp=N,68nm,4.2s
YAK pmax pmax
comp=E,127nm,4.9s
YAK smax smax
comp=N,33nm,8.1s
YAK smax smax
comp=E,12nm,6.2s
YAK MLR MLR
comp=Z,520nm,16.0s
YAK MLR MLR
comp=N,544nm,14.0s
YAK MLR MLR
comp=E,653nm,15.0s
YAK Yakutsk 52.17 19 *eP* **P 15 59 01.6 -2.1**
comp=E,19nm,1.1s
ONI Oni 52.20 312 P P 15 59 07.9 +3.4
NWAO Narrogin (SRO) 52.33 157 P **P 15 59 04.8 -0.5**
NWAO LR LR 16 19 13.3
comp=E,611nm,21.8s,baz=329,slow=34
NWAO Narrogin (SRO) 52.33 157 P **P 15 59 04.3 -1.1**
SOKR Solikamsk 52.42 336 *c i*P **P 15 59 07.1 +1.5**
SOKR pmax pmax
comp=Z,50nm,1.2s
SOKR MLR MLR
comp=Z,640nm,21.0s
KBZ Khabaz 52.88 313 P **P 15 59 10.3 +1.0**
comp=Z,16nm,0.8s,baz=105,slow=7.1,SNR=37
KBZ LR LR 16 27 25.5
comp=Z,283nm,18.6s,baz=332,slow=43
KBZ Khabaz 52.88 313 P **P 15 59 10.3 +1.0**
KBZ Khabaz 52.88 313 P **P 15 59 10.3 +1.0**
KIV Kislovodsk 53.09 314 *eP* **P 15 59 12.0 +1.0**
KIV *e* 16 01 10.1
KIV *e*PPP PPP 16 02 20.1
KIV *e*S **S 16 06 39.4 -1.3**
KIV pmax pmax
comp=Z,110nm,6.1s
KIV pmax pmax
comp=Z,156nm,1.0s
KIV Kislovodsk 53.09 314 *eP* **P 15 59 11.7 +0.7**
comp=Z,161nm,1.0s
KIV Kislovodsk 53.09 314 P **P 15 59 12.7 +1.7**
SNR=37
KIV Kislovodsk 53.09 314 P **P 15 59 12.8 +1.7**
comp=Z,877nm,0.9s,SNR=24
ASAR Alice Springs 53.80 136 P **P 15 59 15.8 -0.6**
comp=Z,2.1nm,0.6s,baz=315,slow=6.8,SNR=74

ASAR PcP **PcP 16 00 22.4 +0.2**
comp=Z,2.8nm,0.9s,baz=313,slow=5.4,SNR=6.1
ASAR LR LR 16 26 08.4
comp=Z,480nm,19.3s,baz=293,slow=40
ASAR Alice Springs 53.80 136 P **P 15 59 15.8 -0.6**
ASAR PcP **PcP 16 00 22.4 +0.2**
COEN Coen 55.12 120 *eP* **P 15 59 26.7 +0.6**
comp=Z,74nm,1.1s
ASF Jabal al Asfar 55.85 298 P **P 15 59 32.2 +0.9**
comp=Z,9.2nm,0.9s
ASF Jabal al Asfar 55.85 298 P **P 15 59 32.2 +0.9**
VRHR Novokhopersk 55.86 322 *eP* **P 15 59 30.4 -0.5**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.3s
ANN Anapa 56.95 314 *eP* P 15 59 34.4 -4.4
ANN pmax pmax
comp=Z,60nm,1.3s
MMAI Mount Meron Ar 57.15 299 P **P 15 59 41.2 +0.7**
comp=Z,2.9nm,0.8s,baz=59,slow=15,SNR=3.0
MMAI Mount Meron Ar 57.15 299 P **P 15 59 41.2 +0.7**
VSR Storozhevoye 57.37 321 *eP* **P 15 59 41.1 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.1s
EIL Elat 57.48 295 P **P 15 59 43.2 +0.4**
comp=E,16nm,0.8s
EIL Elat 57.48 295 P **P 15 59 43.2 +0.4**
OPO Ambohidratompo 58.82 237 P **P 15 59 52.1 -0.3**
comp=E,2.5nm,0.7s
OPO Ambohidratompo 58.82 237 P **P 15 59 52.1 -0.3**
BR131 Keskin Array S 59.01 307 *eP* **P 15 59 53.1 -0.4**
comp=E,16nm,1.0s
BRTR Keskin Array B 59.01 307 P **P 15 59 53.5 0.0**
comp=E,14nm,0.9s,baz=118,slow=7.1,SNR=36
BRTR LR LR 16 32 32.3
comp=E,167nm,18.0s,baz=318,slow=43
BRTR Keskin Array B 59.01 307 P **P 15 59 53.5 0.0**
MOS Moscow 59.60 326 *eP* **P 15 59 56.5 -0.6**
MOS pmax pmax
comp=Z,51nm,0.7s
OBN Obninsk 59.99 325⇑ *eP* **P 15 59 59.7 -0.1**
OBN *e* 16 00 45.6
OBN *e*S **S 16 08 17.3 +5.9**
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,500nm,21.0s
OBN Obninsk 59.99 325 P **P 15 59 58.6 -1.2**
comp=Z,57nm,1.5s
KMBO Kilima Mbogo 60.34 260 P **P 16 00 01.6 -1.5**
KLMR Klimovskoe 60.44 332 *eP* **P 16 00 00.2 -2.6**
KLMR pmax pmax
comp=Z,51nm,1.5s
PETK Petropavlovsk- 60.78 37 P **P 16 00 04.7 -0.6**
comp=Z,3.6nm,0.9s,baz=232,slow=7.3,SNR=4.4
PETK LR LR 16 29 25.6
comp=Z,558nm,18.6s,baz=89,slow=39
PETK Petropavlovsk- 60.78 37 P **P 16 00 04.7 -0.6**
PETK Petropavlovsk- 60.78 37 P **P 16 00 04.7 -0.6**
CTA Charters Tower 60.80 124 P **P 16 00 06.3 +0.4**
comp=Z,3.2nm,0.8s
CTA Charters Tower 60.80 124 P **P 16 00 06.3 +0.4**
SEY Seymchan 61.23 26⇑ *i*P **P 16 00 07.7 -0.4**
PET Petropavlovsk 61.32 38 *eP* **P 16 00 08.8 -0.1**
PET *e*S **S 16 08 25.3 -3.2**
PET MLR MLR
comp=Z,700nm,16.0s
AKASG Malin Array Be 63.40 319 P **P 16 00 22.2 -0.7**
comp=Z,5.2nm,0.8s,baz=81,slow=6.4,SNR=10
AKASG LR LR 16 33 34.4
comp=Z,436nm,20.6s,baz=90,slow=41
AKASG Malin Array Be 63.40 319 P **P 16 00 22.2 -0.7**
AKASG Malin Array Be 63.40 319 P **P 16 00 22.2 -0.7**
AK01 Malin Array Si 63.41 319 *eP* **P 16 00 20.2 -2.7**
STKA Stephens Creek 64.32 138 P **P 16 00 28.8 -0.5**
comp=Z,14nm,0.9s,baz=305,slow=5.0,SNR=13
STKA LR LR 16 31 47.5
comp=Z,797nm,18.4s,baz=107,slow=39
STKA Stephens Creek 64.32 138 *eP* **P 16 00 28.7 -0.5**
comp=Z,4.7nm,1.1s
VRI Vrincioaia 64.57 314⇑ P **P 16 00 31.3 +0.6**
JOF Joensuu 64.79 333 *eP* **P 16 00 30.9 -0.9**
JOF pmax pmax
comp=Z,10.0nm,0.8s
JOF Joensuu 64.79 333 *ep* **P 16 00 30.9 -0.9**
comp=Z,10nm,0.8s
LVZ Lovozero 65.04 339⇑ *i*P **P 16 00 33.7 +0.3**
LVZ pmax pmax
comp=Z,35nm,1.7s
APA Apatity 65.37 338⇓ *i*P **P 16 00 35.4 -0.1**
APA pmax pmax
comp=Z,39nm,1.2s
APA MLR MLR
comp=Z,800nm,22.0s
NACGM Naroch 65.45 324 *e* **P 16 00 34.0 -2.2**
BUR08 Bucovina Ar. S 65.73 316 P **P 16 00 38.4 +0.1**
VSU Vasula 66.02 327⇓ *eP* **P 16 00 39.7 -0.1**
VSU pmax pmax
comp=Z,46nm,2.5s
LVV L'vov 66.63 318 *eP* P 16 00 57.3 +13
FINES FINESS Array B 66.85 331 P **P 16 00 45.5 +0.5**
comp=Z,7.1nm,0.7s,baz=100,slow=7.9,SNR=16
FINES LR LR 16 36 01.6
comp=Z,525nm,18.9s,baz=113,slow=41
FINES FINESS Array B 66.85 331 P **P 16 00 45.5 +0.5**
KAF Kangasniemi 66.87 331 *eP* **P 16 00 44.5 -0.7**
KAF pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 66.87 331 *ep* **P 16 00 44.5 -0.7**
comp=Z,7.3nm,0.9s
DRGR 67.39 315⇓ P **P 16 00 48.9 0.0**
KWP Kalwaria Pacla 67.48 318 *eP* **P 16 00 49.6 +0.3**
KWP pmax pmax
comp=Z,17nm,1.0s
KWP Kalwaria Pacla 67.48 318 *eP* **P 16 00 49.6 +0.3**
comp=Z,17nm,1.0s
UZH Uzhgorod 67.72 317 *c i*P **P 16 00 51.0 +0.2**
UZH *i* 16 00 58.5
UZH *i* 16 01 03.3
KOLS Kolonicke sedl 67.74 317 *eP* **P 16 00 51.6 +0.6**
KOLS Kolonicke sedl 67.74 317 *eP* **P 16 00 51.6 +0.6**
HNR Honiara 68.04 107 P **P 16 00 53.2 -0.3**
comp=Z,31nm,0.8s,baz=202,slow=3.5,SNR=3.8
HNR Honiara 68.04 107 *eP* **P 16 00 51.9 -1.5**
comp=Z,52nm,1.0s
BZS Buzias 68.14 313⇓ P **P 16 00 51.8 -1.8**
KEV Kevo 68.25 340 *eP* **P 16 00 53.1 -0.7**
KEV pmax pmax
comp=Z,7.0nm,0.8s
KEV Kevo 68.25 340 *ep* **P 16 00 53.1 -0.7**
comp=Z,7.0nm,0.8s
CRVS Cervenica-Dubn 68.27 317 *eP* **P 16 00 55.6 +1.2**
CRVS pmax pmax
comp=Z,41nm,1.6s
CRVS Cervenica-Dubn 68.27 317 *eP* **P 16 00 55.6 +1.2**
ARCES ARCESS Array B 68.71 339 P **P 16 00 57.3 +0.6**
comp=Z,6.1nm,0.8s,baz=84,slow=5.0,SNR=13
ARCES LR LR 16 36 28.9
comp=Z,326nm,18.1s,baz=104,slow=41
ARCES ARCESS Array B 68.71 339 P **P 16 00 57.3 +0.6**
PSZ Piszkesteto 69.31 316 *eP* **P 16 01 00.7 -0.2**
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 69.31 316 *eP* **P 16 01 00.7 -0.2**
comp=Z,18nm,1.1s
OJC Ojcow 69.37 318 *eP* **P 16 01 01.8 +0.6**
OJC Ojcow 69.37 318 *eP* **P 16 01 01.8 +0.6**
VYHS Vyhne 70.01 316 *eP* **P 16 01 04.0 -1.2**
VYHS pmax pmax
comp=Z,15nm,1.9s
VYHS Vyhne 70.01 316 *eP* **P 16 01 04.0 -1.2**
PKSM Moragy 70.20 314⇓ P **P 16 01 06.8 +0.4**
MORC Moravsky Berou 70.83 318⇑ P **P 16 01 11.0 +0.8**
MORC Moravsky Berou 70.83 318 *eP* **P 16 01 10.7 +0.5**
comp=Z,14nm,1.4s
KSP Ksiaz 71.60 319 *eP* **P 16 01 14.6 -0.1**
CSNA Conrad Observa 72.02 316⇑ *i*pP **P 16 01 18.8 +1.3**
comp=Z,14nm,1.3s

CRES Cresnjev 72.44 314 *eP* **P 16 01 20.9 +0.9**
CRES *e* 16 01 33.1
LEGS Legarje 72.53 314 *i*P **P 16 01 21.3 +0.8**
BRG Berggiesshubel 73.08 319 *eP* **P 16 01 24.2 +0.6**
comp=Z,10.0nm,0.9s
BRG *e* 16 01 36.9
comp=Z,13nm,1.1s
BRG Berggiesshubel 73.08 319 *eP* **P 16 01 24.2 +0.6**
BRG *e* 16 01 36.9
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 73.39 317 P **P 16 01 26.3 +0.7**
comp=Z,3.7nm,0.8s,baz=76,slow=5.6,SNR=22
GERES LR LR 16 38 32.5
comp=Z,328nm,18.4s,baz=173,slow=40
GERES GERESS Array B 73.39 317 P **P 16 01 26.3 +0.7**
VOY Vojsko 73.51 314 *eP* **P 16 01 26.7 +0.3**
VOY *e* 16 01 38.5
VOY *e* 16 01 50.8
CLL Collm 73.64 320 *eP* **P 16 01 27.0 +0.1**
CLL *e**PP **PcP 16 01 40.0 -2.7**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 73.64 320 *eP* **P 16 01 27.0 +0.1**
comp=Z,11nm,1.2s
CLL *e*PcP **PcP 16 01 40.0 -2.7**
CLL *e* 16 19 42.0
CLL LmH 16 38 00.0
comp=N,300nm,20.8s
CLL LmH 16 38 00.0
comp=E,200nm,20.4s
ROBS Robic 73.76 314 *eP* **P 16 01 27.4 -0.3**
NB2 NORSAR Subarra 73.99 330 P **P 16 01 28.3 -0.5**
comp=Z,12nm,0.9s,baz=86,slow=6.2
NOA NORSAR Array B 73.99 330 P **P 16 01 28.6 -0.2**
comp=Z,6.0nm,0.8s,baz=90,slow=5.8,SNR=12
NOA LR LR 16 40 27.3
comp=Z,259nm,18.2s,baz=75,slow=41
NOA NORSAR Array B 73.99 330 P **P 16 01 28.6 -0.2**
GRF Grafenberg Arr 74.93 318 *eP* **P 16 01 35.6 +1.1**
comp=Z,22nm,1.7s
DAVA Damuels 76.11 316⇓ *i*P **P 16 01 41.7 +0.2**
comp=Z,14nm,1.1s
PGF Pioggiola 77.45 311 *eP* **P 16 01 49.0 -0.1**
PGF Pioggiola 77.45 311 *eP* **P 16 01 49.0 -0.1**
PGF Pioggiola 77.45 311 *eP* **P 16 01 49.0 -0.1**
CDF Champ du Feu 77.67 317 *eP* **P 16 01 49.9 -0.3**
CDF Champ du Feu 77.67 317 *eP* **P 16 01 49.9 -0.3**
CDF Champ du Feu 77.67 317 *eP* **P 16 01 49.9 -0.3**
HAU Haudompre 78.36 317 *eP* **P 16 01 53.6 -0.3**
comp=Z,47nm,1.3s
HAU *e*R
comp=Z,382nm,19.2s
HAU Haudompre 78.36 317 *eP* **P 16 01 53.6 -0.3**
HAU pmax pmax
comp=Z,47nm,1.3s
HAU Haudompre 78.36 317 *eP* **P 16 01 53.6 -0.3**
comp=Z,47nm,1.3s
KEST Kesra 78.40 304 P **P 16 01 54.4 -0.1**
comp=Z,7.0nm,1.0s,baz=312,slow=2.5,SNR=5.7
KEST LR LR 16 39 38.3
comp=Z,67nm,21.3s,baz=348,slow=38
KEST Kesra 78.40 304 P **P 16 01 54.4 -0.1**
DZM Mont Dzumac 78.50 117 *e*LR LR 16 26 21.9
comp=Z,226nm,22.6s
LPG La Plagne 78.53 314 *eP* **P 16 01 55.3 0.0**
comp=Z,62nm,1.4s
LPG La Plagne 78.53 314 *eP* **P 16 01 55.3 0.0**
LPG pmax pmax
comp=Z,62nm,1.4s
LPG La Plagne 78.53 314 *eP* **P 16 01 55.3 0.0**
comp=Z,62nm,1.4s
LPL La Plagne 78.55 314 *eP* **P 16 01 55.3 +0.1**
comp=Z,63nm,1.4s
LPL La Plagne 78.55 314 *eP* **P 16 01 55.3 +0.1**
LPL pmax pmax
comp=Z,63nm,1.4s
LPL La Plagne 78.55 314 *eP* **P 16 01 55.3 +0.1**
comp=Z,63nm,1.4s
PAGF Fort de Pagny 78.67 317 *eP* **P 16 01 55.7 +0.1**
PAGF Fort de Pagny 78.67 317 *eP* **P 16 01 55.7 +0.1**
CABF La Chapelle 78.78 315 *eP* **P 16 01 56.4 0.0**
CABF La Chapelle 78.78 315 *eP* **P 16 01 56.4 0.0**
CABF La Chapelle 78.78 315 *eP* **P 16 01 56.4 0.0**
FRF La Foret Royal 78.97 312 *eP* **P 16 01 57.3 0.0**
comp=Z,93nm,1.1s
FRF La Foret Royal 78.97 312 *eP* **P 16 01 57.3 0.0**
FRF pmax pmax
comp=Z,93nm,1.1s
FRF La Foret Royal 78.97 312 *eP* **P 16 01 57.3 0.0**
comp=Z,93nm,1.1s
LMR La Mourre 79.11 312 *eP* **P 16 01 58.2 +0.1**
LMR La Mourre 79.11 312 *eP* **P 16 01 58.2 +0.1**
LMR La Mourre 79.11 312 *eP* **P 16 01 58.2 +0.1**
BAIF Baives 79.35 319 *eP* **P 16 01 59.5 +0.2**
comp=Z,28nm,1.1s
BAIF Baives 79.35 319 *eP* **P 16 01 59.5 +0.2**
BAIF pmax pmax
comp=Z,28nm,1.1s
BAIF Baives 79.35 319 *eP* **P 16 01 59.5 +0.2**
comp=Z,28nm,1.1s
SMRF Simiane la Rot 79.65 313 *eP* **P 16 02 01.4 +0.3**
SMRF Simiane la Rot 79.65 313 *eP* **P 16 02 01.4 +0.3**
LOR Lormes 80.15 316 *eP* **P 16 02 03.4 -0.3**
comp=Z,67nm,1.5s
LOR *e*R
comp=Z,324nm,17.5s
LOR Lormes 80.15 316 *eP* **P 16 02 03.4 -0.3**
comp=Z,67nm,1.5s
SSF Saint Saulge 80.43 316 *eP* **P 16 02 05.2 0.0**
comp=Z,30nm,1.2s
SSF Saint Saulge 80.43 316 *eP* **P 16 02 05.2 0.0**
SSF pmax pmax
comp=Z,30nm,1.2s
SSF Saint Saulge 80.43 316 *eP* **P 16 02 05.2 0.0**
comp=Z,30nm,1.2s
AVF Avril sur Loir 80.59 316 *eP* **P 16 02 05.8 -0.2**
AVF Avril sur Loir 80.59 316 *eP* **P 16 02 05.8 -0.2**
AVF Avril sur Loir 80.59 316 *eP* **P 16 02 05.8 -0.2**
LASF Ste Croix 80.84 313 *eP* **P 16 02 07.7 +0.2**
LASF Ste Croix 80.84 313 *eP* **P 16 02 07.7 +0.2**
BGF Bois d'Agland 80.98 316 *eP* **P 16 02 08.2 0.0**
BGF Bois d'Agland 80.98 316 *eP* **P 16 02 08.2 0.0**
BGF Bois d'Agland 80.98 316 *eP* **P 16 02 08.2 0.0**
BOSA Boshof 81.23 237 P **P 16 02 09.9 +0.1**
comp=Z,19nm,0.8s,baz=64,slow=5.0,SNR=12
BOSA LR LR 16 32 42.0
comp=Z,238nm,19.9s,baz=136,slow=32
BOSA Boshof 81.23 237 P **P 16 02 09.9 +0.1**
ALE Alert 81.55 357 P **P 16 02 10.9 +0.3**
comp=Z,76nm,1.3s,SNR=6.2
TAM Tamanrasset 84.51 292 *eP* **P 16 02 28.0 +0.8**
TAM pmax pmax
comp=Z,25nm,1.4s
TAM Tamanrasset 84.51 292 *eP* **P 16 02 28.0 +0.8**
comp=Z,25nm,1.4s
SUR Sutherland 86.19 235 *eP* **P 16 02 35.5 +0.1**
comp=Z,27nm,1.3s
COLA College 86.57 23 P **P 16 02 36.0 -0.3**
COLA College 86.57 23 P **P 16 02 36.0 -0.3**
MCK McKinley 86.72 24 *eP* **P 16 02 36.9 -0.3**
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 86.72 24 *eP* **P 16 02 36.9 -0.3**
comp=Z,28nm,1.2s
ILAR Eielson Array 86.98 22 P **P 16 02 37.2 -1.2**
comp=Z,2.9nm,0.9s,baz=301,slow=4.3,SNR=28
ILAR LR LR 16 46 19.2
comp=Z,462nm,18.7s,baz=137,slow=39
ILAR Eielson Array 86.98 22 P **P 16 02 37.2 -1.2**
ESDC Sonseca Array 87.64 310 P **P 16 02 42.2 0.0**
comp=Z,1.0nm,0.5s,baz=67,slow=5.4,SNR=5.9
ESDC Sonseca Array 87.64 310 P **P 16 02 42.2 0.0**
PMR Palmer 87.68 26 P **P 16 02 40.9 -0.9**
PMR Palmer 87.68 26 P **P 16 02 40.9 -0.9**
INK Inuvik 89.14 16 *eP* **P 16 02 47.8 -0.8**
comp=Z,17nm,1.3s
RES Resolute Bay 89.67 3 *eP* **P 16 02 50.2 -0.7**
comp=Z,4.3nm,0.9s
BMRM Bremner River 89.88 25 *eP* **P 16 02 52.4 +0.1**
comp=Z,35nm,1.0s
TOA0 Torodi Ar. Sit 90.57 284 *eP* **P 16 02 56.4 +0.1**
TORD Torodi Ar. Bea 90.57 284 P **P 16 02 56.6 +0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,4.2nm,1.2s,baz=74,slow=3.6,SNR=8.2						
TORD				PP	**PP**	**16 06 29.0**	**-2.3**
	comp=Z,2.3nm,1.1s,baz=47,slow=3.0,SNR=5.3						
TORD				LR	LR	16 46 42.0	
	comp=Z,231nm,19.7s,baz=15,slow=38						
TORD	**Torodi Ar. Bea**	**90.57**	**284**	P	**P**	**16 02 56.6**	**+0.3**
TORD				PP	**PP**	**16 06 29.0**	**-2.3**
YKA	**Yellowknife Ar**	**98.56**	**14**	P	**P**	**16 03 31.3**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=329,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**98.56**	**14**	P	**P**	**16 03 31.3**	**-0.6**
PDAR	**Pinedale Array**	**117.38**	**21**	PKP	**PKPdf**	**16 08 38.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=29,slow=3.4,SNR=4.9						
PDAR	**Pinedale Array**	**117.38**	**21**	PKP	**PKPdf**	**16 08 38.9**	**-0.8**
NVAR	**Mina Array Bea**	**117.40**	**30**	PKP	**PKPdf**	**16 08 39.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=3.2						
NVAR				PKKPbc	**PKKPbc**	**16 19 05.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=113,slow=3.9,SNR=3.6						
NVAR	**Mina Array Bea**	**117.40**	**30**	PKP	**PKPdf**	**16 08 39.7**	**0.0**
NVAR				PKKPbc	**PKKPbc**	**16 19 05.6**	**+2.0**
PPT2	**Papeete2**	**117.42**	**102**	*e*LR	LR	16 44 19.6	
	comp=Z,95nm,21.2s						
TBI	**Tubuai**	**118.25**	**108**	*e*LR	LR	16 44 39.2	
	comp=Z,153nm,25.8s						
Q22A	**Crested Butte,**	**121.76**	**21**	⇓P	**PKPdf**	**16 08 47.7**	**-0.5**
	baz=122						
R21A	**Cimarron**	**121.98**	**22**	⇓P	**PKPdf**	**16 08 47.8**	**-0.8**
	baz=122						
S21A	**Coal Bank Pass**	**122.52**	**22**	⇑P	**PKPdf**	**16 08 48.9**	**-0.9**
	baz=122						
Q26A	**Hugo**	**122.80**	**18**	⇓P	**PKPdf**	**16 08 49.5**	**-0.6**
	baz=122						
S26A	**Kim**	**124.01**	**19**	⇑P	**PKPdf**	**16 08 52.2**	**-0.2**
	baz=124						
SFIN	**Scholer Farm**	**124.26**	**3**	⇑P	**PKPdf**	**16 08 52.1**	**-0.5**
	baz=124						
U25A	**Circle Dot Ran**	**124.83**	**20**	⇑P	**PKPdf**	**16 08 53.5**	**-0.6**
	baz=125						
X26A	**CR and CF Fran**	**126.71**	**20**	⇑P	**PKPdf**	**16 08 57.5**	**-0.1**
	baz=126						
Z22A	**Elephant Butte**	**126.73**	**24**	⇑P	**PKPdf**	**16 08 58.0**	**+0.2**
	baz=126						
Y25A	**Mesa, Roswell**	**126.98**	**22**	⇑P	**PKPdf**	**16 08 58.1**	**0.0**
	baz=127						
121A	**Cookes Peak, D**	**127.03**	**25**	⇑P	**PKPdf**	**16 08 58.8**	**+0.4**
	baz=127						
220A	**Playas Peak, P**	**127.26**	**26**	⇓P	**PKPdf**	**16 08 59.0**	**+0.2**
	baz=127						
Z25A	**Roswell**	**127.55**	**22**	⇑P	**PKPdf**	**16 08 60.0**	**+0.7**
	baz=127						
Z27A	**Tatum**	**128.04**	**20**	⇓P	**PKPdf**	**16 09 00.2**	**0.0**
	baz=128						
125A	**Gardner Draw,**	**128.13**	**22**	⇓P	**PKPdf**	**16 09 00.3**	**-0.1**
	baz=128						
Z28A	**Tucker Farm, M**	**128.34**	**20**	⇑P	**PKPdf**	**16 09 00.7**	**0.0**
	baz=128						
225A	**Deer Hill, Car**	**128.56**	**23**	⇓P	**PKPdf**	**16 09 00.5**	**-0.9**
	baz=128						
Z29A	**Hungry Hill Ra**	**128.58**	**19**	⇑P	**PKPdf**	**16 09 01.6**	**+0.4**
	baz=128						
MNTX	**Cornudas Mount**	**128.72**	**23**	⇓P	**PKPdf**	**16 09 01.9**	**+0.5**
	baz=128						
128A	**Castleberry Fa**	**128.92**	**20**	⇑P	**PKPdf**	**16 09 02.0**	**+0.2**
	baz=129						
325A	**Bean Ranch, Si**	**129.17**	**23**	⇓P	**PKPdf**	**16 09 02.3**	**-0.2**
	baz=129						
KMSC	**Kings Mountain**	**129.50**	**357**	⇑P	**PKPdf**	**16 09 02.7**	**-0.1**
	baz=129						
428A	**Kincaid Ranch,**	**130.59**	**21**	⇑P	**PKPdf**	**16 09 05.8**	**+0.7**
	baz=130						
430A	**Baggett Ranch,**	**131.02**	**20**	⇑P	**PKPdf**	**16 09 05.8**	**0.0**
	baz=131						
528A	**Cox Ranch, San**	**131.06**	**22**	⇑P	**PKPdf**	**16 09 06.0**	**0.0**
	baz=131						
626A	**Big Bend Ranch**	**131.11**	**23**	⇑P	**PKPdf**	**16 09 05.9**	**-0.2**
	baz=131						
529A	**Stev Forest Ra**	**131.29**	**21**	⇑P	**PKPdf**	**16 09 06.3**	**-0.1**
	baz=131						
627A	**Terlingua Ranc**	**131.49**	**23**	⇓P	**PKPdf**	**16 09 07.0**	**+0.2**
	baz=131						
530A	**J-C Ranch, Com**	**131.57**	**20**	⇓P	**PKPdf**	**16 09 07.0**	**+0.1**
	baz=131						
JCT	**Junction City**	**131.75**	**18**	⇑P	**PKPdf**	**16 09 07.4**	**+0.2**
	baz=132						
531A	**Rocksprings**	**131.82**	**19**	⇑P	**PKPdf**	**16 09 07.6**	**+0.3**
	baz=132						
BDFB	**Brasilia**	**145.35**	**265**	PKPbc	**PKPab**	**16 09 32.7**	**+0.3**
	comp=Z,31nm,0.9s,baz=102,slow=3.2,SNR=29						
BDFB	**Brasilia**	**145.35**	**265**	PKPbc	**PKPab**	**16 09 32.7**	**+0.3**
PLCA	**Paso Flores**	**152.34**	**202**	PKPbc	**PKPbc**	**16 09 50.0**	**+0.2**
	comp=Z,12nm,1.0s,baz=172,slow=5.0,SNR=9.8						
PLCA	**Paso Flores**	**152.34**	**202**	PKPbc	**PKPbc**	**16 09 50.0**	**+0.2**
CPUP	**Villa Florida**	**152.93**	**242**	PKP	**PKPdf**	**16 09 44.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=260,slow=11,SNR=3.2						
CPUP				PKPbc	**PKPbc**	**16 09 50.8**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=85,slow=0.7,SNR=9.1						
CPUP	**Villa Florida**	**152.93**	**242**	PKP	**PKPdf**	**16 09 44.3**	**+0.2**
CPUP				PKPbc	**PKPbc**	**16 09 50.8**	**-0.5**
ROSC	**El Rosal**	**157.55**	**334**	PKP	**PKPdf**	**16 09 52.1**	**+0.8**
	comp=Z,5.2nm,0.4s,baz=73,slow=20,SNR=4.3						
ROSC				PKPab	**PKPab**	**16 10 24.4**	**+1.6**
	comp=Z,5.5nm,0.3s,baz=131,slow=19,SNR=3.5						
ROSC	**El Rosal**	**157.55**	**334**	PKP	**PKPdf**	**16 09 52.1**	**+0.8**
ROSC				PKPab	**PKPab**	**16 10 24.4**	**+1.6**
LPAZ	**La Paz**	**164.70**	**265**	PKP	**PKPdf**	**16 09 58.9**	**-0.2**
	comp=Z,4.9nm,1.2s,baz=3.5,slow=6.0,SNR=5.5						
LPAZ				PKPab	**PKPab**	**16 10 53.9**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=107,slow=3.5,SNR=6.0						
LPAZ	**La Paz**	**164.70**	**265**	PKP	**PKPdf**	**16 09 58.9**	**-0.2**
LPAZ				PKPab	**PKPab**	**16 10 53.9**	**-0.8**

IDC 05 15:57:45.9±3.6**, 0°.70S**×**132°.13E, h142**km±34km**, mb3.4**/5**, mb1 3.6**/8**, mb1mx3.4**/24**, mbtmp3.5**/8**, Error ellipse: s-maj=30.7km s-min=10.9km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.08**	**251**	P	Pn	16 00 47.6	+1.1
	0.4nm,0.3s,baz=82,slow=14,SNR=8.0						
FITZ	**Fitzroy Crossi**	**18.43**	**200**	P	P	16 01 50.2	-0.4
	0.2nm,0.3s,baz=42,slow=12,SNR=4.3						
FITZ				S	S	16 05 13.5	-0.3
	0.2nm,0.3s,baz=145,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**19.25**	**174**	P	P	16 01 59.3	-0.1
	0.4nm,0.3s,baz=352,slow=12,SNR=11						
WRA				S	S	16 05 31.3	+1.3
	0.2nm,0.3s,baz=355,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**22.90**	**176**	P	P	16 02 38.6	+1.0
	5.8nm,1.0s,baz=358,slow=9.7,SNR=20						
CTA	**Charters Tower**	**23.72**	**145**	P	P	16 02 43.9	-1.2
	2.7nm,0.8s,baz=314,slow=8.8,SNR=2.1						
MKAR	**Makanchi Array**	**64.26**	**324**	P	P	16 08 05.8	-0.2
	1.2nm,1.1s,baz=99,slow=8.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**66.98**	**332**	P	P	16 08 23.3	0.0
	0.3nm,0.3s,baz=118,slow=5.2,SNR=2.7						
BVAR	**Borovoye Array**	**73.96**	**326**	P	P	16 09 05.7	+0.1
	0.3nm,0.5s,baz=99,slow=7.4,SNR=3.1						

GUC 05 15:58:30.9±1.0**, 31°.53S**×**69°.70W, h125**km±15km**, MD3.6, ML3.5, 2C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.38**	**213**	*e*P	Pn	15 58 58.5	+1.1
JACH				*i* S	Sn	15 59 19.0	+1.4
CHNG	**Los Chungos**	**1.58**	**257**	*e*P	Pn	15 58 59.8	+0.3
CHNG				*e*S	Sn	15 59 21.7	+0.4
TLL	**Tololo Astrono**	**1.66**	**325**	*e*P	Pn	15 59 02.7	+1.8
TLL				*i* S	Sn	15 59 26.3	+2.6
TLL				AML	AML	15 59 28.5	
	comp=E,207nm,0.3s						
ROCH	**El Roble**	**1.82**	**217**	⇑*e*P	Pn	15 59 03.2	+0.5
ROCH				*i* S	Sn	15 59 27.6	+0.6
FCH	**Farellones**	**1.86**	**196**	⇑*e*P	Pn	15 59 03.9	+0.5
FCH				*e*S	Sn	15 59 29.3	+1.1
CLCH	**Cerro Calan**	**1.99**	**201**	*e*P	Pn	15 59 05.5	+0.9
CLCH				*e*S	Sn	15 59 31.0	+0.6
CLCH				AML	AML	15 59 36.5	
	comp=E,517nm,0.4s						
ANTU	**Antumapu**	**2.18**	**201**	*e*P	Pn	15 59 07.3	+0.4
ANTU				*e*S	Sn	15 59 35.1	+0.5
ANTU				AML	AML	15 59 38.3	
	comp=N,449nm,0.3s						
CHCH	**Chadas Angostu**	**2.53**	**198**	*e*P	Pn	15 59 11.6	+0.3
CHCH				*i* S	Sn	15 59 42.9	+0.5
LCO	**Las Campanas**	**2.66**	**341**	⇓*e*P	Pn	15 59 14.5	+1.2
LCO				*e*S	Sn	15 59 46.2	+0.4
LCO				AML	AML	15 59 49.0	
	comp=N,127nm,0.3s						
CACH	**El Canelo**	**2.69**	**196**	*e*P	Pn	15 59 14.3	+0.8
LNV	**Longovilo**	**2.82**	**210**	*e*P	Pn	15 59 14.2	-0.7

IDC 05 15:58:53.8±1.2**, 15°.72N**×**95°.99E, h0**km**, mb3.9**/6**, mb1 4.1**/7**, mb1mx3.7**/27**, mbtmp3.9**/7**, ML4.7**/1**, Error ellipse: s-maj=40.6km s-min=23.9km az=59.0, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.92**	**46**	Pn	Pn	15 59 55.2	-0.1
	13nm,0.3s,baz=234,slow=15,SNR=141						
MKAR	**Makanchi Array**	**33.02**	**343**	P	P	16 05 31.3	+0.6
	1.4nm,0.7s,baz=152,slow=10.0,SNR=17						
ZALV	**Zalesovo Beam**	**39.14**	**350**	P	P	16 06 23.6	+0.6
	5.5nm,0.6s,baz=174,slow=8.3,SNR=24						
BVAR	**Borovoye Array**	**42.34**	**337**	P	P	16 06 49.7	+0.2
	0.6nm,0.5s,baz=128,slow=9.3,SNR=4.7						
WRA	**Warramunga Arr**	**51.73**	**132**	P	P	16 08 03.9	+0.6
	0.6nm,0.7s,baz=318,slow=7.8,SNR=2.7						
FINES	**FINESS Array B**	**66.73**	**331**	P	P	16 09 46.0	-0.6
	0.8nm,0.6s,baz=122,slow=6.7,SNR=3.5						
ILAR	**Eielson Array**	**86.84**	**22**	P	P	16 11 38.4	-1.6
	0.3nm,0.7s,baz=293,slow=5.0,SNR=5.0						
BDFB	**Brasilia**	**145.37**	**265**	PKPbc	PKPbc	16 18 33.6	-1.1
	1.2nm,0.4s,baz=131,slow=4.7,SNR=3.0						

*ISK **05** 16:01:45.7, 34°.84N×34°.24E, h8km, MD2.9*
*CSEM **05** 16:01:47.9±0.8, 34°.91N×34°.19E, h20km, Mw3.0, Error ellipse: s-maj=18.7km s-min=7.9km az=150.0*
*NIC **05** 16:01:48.2±0.3, 34°.96N×34°.22E, h25km, ML2.6, MW3.0*
ISC 05 16:01:48.0±2.4**, 34°.90N**±0°.10×**34°.21E**±0°.07**, h20**km±3km**, n18, σ0s.82**/26**, 2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.18**	**305**	⇓P	**Pb**	**16 01 53.1**	**-0.6**
	14nm,0.1s						
PHNC				S	**Sb**	**16 01 57.5**	**-0.1**
PHNC	**Paralimni**	**0.18**	**305**	⇓*i*P	**Pb**	**16 01 53.1**	**-0.6**
	14nm,0.1s						
PHNC				S	**Sb**	**16 01 57.5**	**-0.1**
EREN	**Erenkoy**	**0.63**	**357**	*e*PG	**Pb**	**16 01 59.2**	**-1.1**
EREN	**Erenkoy**	**0.63**	**357**	*e*Pg	**Pb**	**16 01 59.2**	**-1.1**
LFK	**Lefkose**	**0.67**	**304**	*e*PG	**Pb**	**16 02 00.2**	**-0.8**
LFK				*e*SG	**Sb**	**16 02 11.0**	**+1.0**
LFK	**Lefkose**	**0.67**	**304**	*e*Pg	**Pb**	**16 02 00.2**	**-0.8**
LFK				*e*Sg	**Sb**	**16 02 11.0**	**+1.0**
CSS	**Prodhromos**	**0.72**	**275**	P	**Pb**	**16 02 01.2**	**-0.7**
	1.8nm,0.3s						
CSS				S	**Sb**	**16 02 11.0**	**-0.4**
CSS	**Prodhromos**	**0.72**	**275**	*e*PG	**Pb**	**16 02 00.8**	**-1.0**
CSS				*e*SG	**Sb**	**16 02 11.4**	**0.0**
CSS	**Prodhromos**	**0.72**	**275**	*e*Pg	**Pb**	**16 02 00.9**	**-1.0**
CSS	**Prodhromos**	**0.72**	**275**	P	**Pb**	**16 02 01.2**	**-0.7**
	1.8nm,0.3s						
CSS				S	**Sb**	**16 02 11.0**	**-0.4**
CSS				*e*Sg	**Sb**	**16 02 11.4**	**0.0**
MAMC	**Mammari**	**0.86**	**289**	P	**Pb**	**16 02 03.1**	**-1.0**
MAMC	**Mammari**	**0.86**	**289**	P	**Pb**	**16 02 03.1**	**-1.0**
LEF	**Lefka**	**1.10**	**282**	*e*PN	**Pb**	**16 02 09.1**	**+0.8**
LEF	**Lefka**	**1.10**	**282**	*e*Pn	**Pb**	**16 02 09.1**	**+0.8**
ALFC	**Alevga**	**1.34**	**281**	P	**Pn**	**16 02 11.8**	**+0.2**
ALFC	**Alevga**	**1.34**	**281**	P	**Pn**	**16 02 11.8**	**+0.2**
MERS	**Mersin**	**1.98**	**7**	*e*PN	**Pn**	**16 02 21.2**	**+0.9**
MERS	**Mersin**	**1.98**	**7**	*e*Pn	**Pn**	**16 02 21.2**	**+0.9**

*ISCJB **05** 16:11:06.6±1.5, 43°.5N±0°.2×84°.20E±0°.07, h10km, Error ellipse: s-maj=24.6km s-min=7.2km az=3.9*
*NNC **05** 16:11:09.0±1.2, 43°.51N×84°.05E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=13.9km s-min=6.7km az=96.0*
ISC 05 16:11:09.8±1.5**, 43°.6N**±0°.1×**84°.02E**±0°.07**, h10**km**, n5, σ1s.96**/7**, 2C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.68**	**84**	Pg	**Pb**	**16 11 57.1**	**-0.8**
WMQ				Sg	**Sb**	**16 12 32.1**	**+1.3**
WMQ				smax	smax		
	comp=N,85nm,0.6s						
WMQ				smax	smax		
	comp=E,64nm,0.7s						
MK31	**Makanchi Array**	**3.42**	**340**	Pn	Pb	16 12 07.6	-2.9
	comp=E,1.9nm,0.7s,baz=166,slow=14,SNR=149						
MK31				⇓Pg	**Pg**	**16 12 13.0**	**-2.3**
	comp=E,1.4nm,0.3s						
MK31				⇑Sn	**Sb**	**16 12 53.7**	**+1.5**
	comp=E,4.2nm,0.5s						
MK31				Lg	Lg	16 12 60.0	
	comp=E,15nm,0.4s,baz=154,slow=28,SNR=14						
TKM2	**Tokmak 2**	**6.19**	**267**	Pn	**Pn**	**16 12 42.2**	**+0.8**
	comp=E,1.6nm,0.8s						
TKM2				⇓Lg	Lg	16 14 26.0	
	comp=E,6.1nm,0.7s						
KURBB	**Kurchatov Arra**	**7.96**	**334**	Pn	**Pn**	**16 13 07.2**	**+1.7**
	comp=E,0.2nm,0.8s						
KURBB				Lg	Lg	16 15 24.6	
	comp=E,2.4nm,0.7s						
KURK	**Kurchatov**	**8.01**	**335**	⇑Pn	**Pn**	**16 13 07.5**	**+1.3**
	comp=E,0.5nm,0.6s						
KURK				⇓Lg	Lg	16 15 25.5	
	comp=E,6.3nm,0.7s						

GUC 05 16:16:40.5±0.9**, 36°.41S**×**71°.21W, h155**km±10km**, ML3.5, 3C-2D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.72**	**254**	⇑*i*P	Pn	16 17 03.7	+0.1
CCHI				*i* S	Sn	16 17 21.4	+0.1
CCHI				AML	AML	16 17 22.3	
	comp=N,264nm,0.7s						
COCH	**Cobquecura**	**1.31**	**282**	*e*P	Pn	16 17 09.5	+1.0
COCH				*i* S	Sn	16 17 30.2	+0.4
CACH	**El Canelo**	**2.34**	**12**	⇓*i*P	Pn	16 17 20.8	+0.6
LNV	**Longovilo**	**2.46**	**356**	⇑*i*P	Pn	16 17 22.2	+0.9
LNV				*i* S	Sn	16 17 53.0	+0.2
LMEL	**Las Melosas**	**2.69**	**18**	*e*P	Pn	16 17 25.3	+0.9
LMEL				*i* S	Sn	16 17 58.9	+0.6
LMEL				AML	AML	16 18 04.6	
	comp=N,82nm,0.2s						
CLCH	**Cerro Calan**	**3.06**	**11**	*i* S	Sn	16 18 06.8	+0.4
CLCH				AML	AML	16 18 09.6	
	comp=E,96nm,0.4s						
FCH	**Farellones**	**3.17**	**14**	⇑*i*P	Pn	16 17 31.1	+0.5
FCH				*i* S	Sn	16 18 10.4	+1.0
FCH				AML	AML	16 18 12.9	
	comp=N,82nm,0.2s						
PEL	**Peldehue**	**3.29**	**8**	⇓*i*P	Pn	16 17 32.2	+0.4
PEL				*i* S	Sn	16 18 11.9	+0.3
PEL				AML	AML	16 18 13.7	
	comp=N,164nm,0.3s						
ROCH	**El Roble**	**3.44**	**3**	*e*P	Pn	16 17 33.7	-0.2
ROCH				*e*S	Sn	16 18 15.5	+0.2

IDC 05 16:16:51.1±1.2**, 15°.57N**×**96°.15E, h0**km**, mb3.6**/5**, mb1 3.8**/6**, mb1mx3.5**/26**, mbtmp3.6**/6**, ML4.3**/1**, Error ellipse: s-maj=28.6km s-min=20.5km az=88.0, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.92**	**43**	Pn	Pn	16 17 54.3	+1.7
	5.7nm,0.3s,baz=234,slow=15,SNR=117						
CMAR				Sn	Sn	16 18 40.7	+1.3
	1.8nm,0.3s,baz=234,slow=25,SNR=5.1						
CMAR				Lg	Lg	16 18 54.6	
	1.3nm,0.3s,baz=231,slow=31,SNR=4.3						
MKAR	**Makanchi Array**	**33.20**	**343**	P	P	16 23 29.2	-0.4
	0.8nm,0.9s,baz=154,slow=10,SNR=7.4						
ZALV	**Zalesovo Beam**	**39.31**	**349**	P	P	16 24 22.3	+0.6
	2.8nm,0.6s,baz=174,slow=8.6,SNR=18						
WRA	**Warramunga Arr**	**51.53**	**132**	P	P	16 25 59.1	+0.1
	0.4nm,0.6s,baz=308,slow=7.8,SNR=5.5						
ASAR	**Alice Springs**	**53.69**	**136**	P	P	16 26 15.0	-0.1
	0.1nm,0.7s,baz=319,slow=7.7,SNR=4.5						
ILAR	**Eielson Array**	**86.92**	**22**	P	P	16 29 36.7	-1.0
	0.2nm,0.7s,baz=326,slow=4.7,SNR=3.3						

*ISCJB **05** 16:30:09.9±1.7, 48°.6N±0°.2×154°.0E±0°.3, h77km, mb3.2/3, Error ellipse: s-maj=43.5km s-min=6.3km az=138.1*
*MOS **05** 16:30:10.2±1.8, 48°.68N×153°.89E, h79km, mb4.0/1, Error ellipse: s-maj=40.8km s-min=17.3km az=56.5*
*IDC **05** 16:30:11.8±3.5, 48°.58N×153°.97E, h82km±30km, mb3.0/3, mb1 3.4/6, mb1mx3.1/28, mbtmp3.3/6, Error ellipse: s-maj=74.6km s-min=19.3km az=146.0*
ISC 05 16:30:11.7±2.0**, 48°.6N**±0°.3×**154°.0E**±0°.2**, h77**km**, n11, σ0s.67**/12**, mb3.2**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**33**	*e*PN	Pn	16 30 46.5	-4.0
SKR				*e*S	**Sn**	**16 31 19.5**	**-0.8**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax	smax		
	comp=N,90nm,0.5s						
SKR				smax	smax		
	comp=E,60nm,0.5s						
PETK	**Petropavlovsk-**	**5.11**	**26**	P	**Pn**	**16 31 25.9**	**+0.3**
	comp=E,1.1nm,0.3s,baz=182,slow=14,SNR=27						
PETK				S	Sn	16 32 35.3	+12
	baz=220,slow=27,SNR=2.4						
PETK	**Petropavlovsk-**	**5.11**	**26**	PN	**Pn**	**16 31 26.0**	**+0.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**5.35**	**32**	*e*PN	**Pn**	**16 31 30.2**	**+1.3**
PET				*e*S	**Sn**	**16 32 29.3**	**+0.3**
PET				smax	smax		
	comp=E,27nm,0.8s						
PET				smax	smax		
	comp=N,23nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.73**	**262**	PN	**Pn**	**16 32 02.0**	**+0.6**
ASAJ	**Asahikawa**	**9.04**	**245**	P	**Pn**	**16 32 19.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=79,slow=16,SNR=6.3						
USRK	**Ussuriysk Arra**	**15.76**	**262**	P	**Pn**	**16 33 48.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=63,slow=16,SNR=4.0						
KSRS	**Korea Array**	**21.94**	**249**	P	**P**	**16 34 59.0**	**+0.3**
	comp=N,0.7nm,0.6s,baz=44,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**46.63**	**296**	P	**P**	**16 38 31.5**	**-0.5**
	comp=N,0.2nm,0.8s,baz=72,slow=6.2,SNR=3.0						
MKAR	**Makanchi Array**	**46.63**	**296**	P	**P**	**16 38 31.5**	**-0.5**
YKA	**Yellowknife Ar**	**49.12**	**38**	P	**P**	**16 38 50.3**	**-0.6**
	comp=N,0.6nm,0.8s,baz=298,slow=7.2,SNR=8.4						

MEX 05 16:59:44.4±0.8**, 16°.73N**×**93°.80W, h153**km±9km**, MD3.6, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGIG		**0.65**	**86**	*i* P	Pn	17 00 05.7	-1.3
TGIG				*e*S	Sn	17 00 21.4	-2.7
CMIG	**Matias Romero**	**1.09**	**289**	*e*P	Pn	17 00 09.2	-1.1
CMIG				*e*S	Sn	17 00 28.4	-1.6
PCIG		**1.16**	**151**	*e*P	Pn	17 00 09.8	-1.1
PCIG				*e*S	Sn	17 00 29.5	-1.7
CCIG	**Comitan**	**1.66**	**105**	*i* P	Pn	17 00 14.8	-1.3
CCIG				*i* S	Sn	17 00 38.3	-2.1
HUIG	**Huatulco**	**2.41**	**247**	*i* P	Pn	17 00 22.6	-2.1
HUIG				*i* S	Sn	17 00 53.2	-2.4

*IDC **05** 17:05:33.5±1.2, 29°.33N×69°.86E, h0km, mb3.4/8, mb1 3.6/11, mb1mx3.5/32, mbtmp3.5/11, ML3.7/2, Error ellipse: s-maj=27.9km s-min=23.9km az=123.0*
*ISCJB **05** 17:05:37.1±1.2, 29°.4N±0°.1×69°.9E±0°.1, h33km, mb3.4/9, Error ellipse: s-maj=22.1km s-min=16.7km az=160.0*
ISC 05 17:05:38.1±0.9**, 29°.3N**±0°.1×**69°.86E**±0°.08**, h35**km**, n15, σ1s.30**/14**, mb3.4**/9**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.90**	**57**	*e*P	**Pn**	**17 07 03.7**	**+0.6**
NDI	**New Delhi**	**6.48**	**94**	*e*P	**Sn**	**17 08 23.0**	**-0.7**
DDI	**Dehra Dun**	**7.19**	**80**	*e*x	**Sn**	**17 08 40.0**	**-1.3**
WSAR	**Wadi Sarin**	**11.76**	**241**	Pn	**Pn**	**17 08 21.7**	**-1.7**
	0.6nm,0.3s,baz=50,slow=7.9,SNR=9.6						
AAK	**Ala-Archa**	**13.78**	**15**	Pn	**Pn**	**17 08 48.8**	**-2.2**
	0.2nm,0.3s,baz=167,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**19.94**	**26**	P	**P**	**17 10 06.6**	**-0.4**
	0.1nm,0.3s,baz=204,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**22.24**	**15**	P	**P**	**17 10 30.8**	**-0.8**
	1.1nm,0.6s,baz=208,slow=9.3,SNR=9.1						
AKTO	**Aktyubinsk**	**22.89**	**340**	P	P	17 10 43.9	+5.3
	0.6nm,0.5s,baz=157,slow=14,SNR=3.7						
BVAR	**Borovoye Array**	**23.66**	**1**	P	**P**	**17 10 46.2**	**0.0**
	0.2nm,0.5s,baz=158,slow=4.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**26.89**	**20**	P	**P**	**17 11 16.7**	**+1.1**
	0.3nm,0.4s,baz=238,slow=8.3,SNR=2.9						
BRTR	**Keskin Array B**	**31.39**	**299**	P	**P**	**17 11 57.4**	**+1.5**
	0.8nm,0.7s,baz=100,slow=5.3,SNR=4.5						
SONM	**Songino Array**	**33.60**	**46**	P	**P**	**17 12 16.7**	**+1.6**
	0.2nm,0.7s,baz=237,slow=5.0,SNR=3.2						
ARCES	**ARCESS Array B**	**47.47**	**341**	P	**P**	**17 14 10.0**	**+0.9**
	0.7nm,0.6s,baz=123,slow=6.6,SNR=7.0						
ASAR	**Alice Springs**	**81.04**	**123**	P	**P**	**17 17 50.4**	**+0.7**
	0.3nm,0.7s,baz=322,slow=5.5,SNR=2.9						
YKA	**Yellowknife Ar**	**88.42**	**2**	P	**P**	**17 18 25.9**	**-0.4**
	0.2nm,0.6s,baz=350,slow=5.2,SNR=5.5						

IDC 05 17:09:55.2±2.9**, 15°.64N**×**96°.13E, h0**km**, mb3.3**/2**, mb1 3.4**/3**, mb1mx3.1**/26**, mbtmp3.3**/3**, Error ellipse: s-maj=36.2km s-min=25.2km az=177.0, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.88**	**43**	Pn	Pn	17 10 56.8	+0.6
	2.4nm,0.3s,baz=234,slow=15,SNR=62						
CMAR				Sn	Sn	17 11 42.8	+0.2
	0.8nm,0.3s,baz=233,slow=27,SNR=5.2						
CMAR				Lg	Lg	17 11 58.5	
	0.5nm,0.3s,baz=230,slow=30,SNR=4.9						
MKAR	**Makanchi Array**	**33.13**	**342**	P	P	17 16 33.0	-0.2
	0.2nm,0.8s,baz=145,slow=8.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**39.24**	**349**	P	P	17 17 25.1	-0.1
	0.2nm,0.3s,baz=172,slow=7.2,SNR=3.6						

*IDC **05** 17:18:38.7±6.7, 40°.28N×144°.71E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.3/28, mbtmp3.4/7, ML2.7/3, Error ellipse: s-maj=115.5km s-min=40.7km az=107.0*
*ISCJB **05** 17:18:44.8±0.9, 40°.47N±0°.06×143°.87E±0°.09, h16km, mb3.3/4, Error ellipse: s-maj=12.3km s-min=4.2km az=35.6*
*JMA **05** 17:18:44.6±0.3, 40°.48N×143°.79E, h12km±4km, M3.3*
ISC 05 17:18:45.9±1.4**, 40°.43N**±0°.07×**143°.87E**±0°.10**, h16**km**, n16, σ1s.35**/22**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.61**	**253**	P	**Pn**	**17 19 12.5**	**-1.2**
JTH				*e*S	**Sn**	**17 19 32.8**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.79**	**242**	P	**Pn**	**17 19 15.6**	**-0.5**
JANG	**Nango**	**1.80**	**269**	P	**Pn**	**17 19 15.2**	**-1.1**
JOM	**Ohasama**	**2.20**	**245**	P	**Pn**	**17 19 21.7**	**-0.1**
JOM				*e*S	**Sn**	**17 19 49.0**	**+0.4**
JOT	**Ohata**	**2.34**	**295**	*e*S	**Sn**	**17 19 51.4**	**-0.8**
JMK	**Ichinoseki**	**2.52**	**235**	P	**Pn**	**17 19 26.2**	**0.0**
JMK				*e*S	**Sn**	**17 19 56.5**	**0.0**
JAR	**Ashorobuto**	**2.87**	**359**	P	**Pn**	**17 19 30.6**	**-0.4**
JAR				*e*S	**Sn**	**17 20 03.2**	**-2.0**
NEM2	**Nemuro 2**	**3.25**	**25**	P	**Pn**	**17 19 36.5**	**+0.2**
NEM2				*e*S	**Sn**	**17 20 12.6**	**-2.0**
JTKR	**Abashiri--Toko**	**3.54**	**0**	P	**Pn**	**17 19 40.3**	**+0.1**
JTKR				*e*S	**Sn**	**17 20 20.8**	**-1.0**
ASAJ	**Asahikawa**	**3.81**	**346**	Pn	**Pn**	**17 19 44.8**	**+0.9**
	0.5nm,0.3s,baz=172,slow=26,SNR=8.5						
ASAJ				Sn	**Sn**	**17 20 32.4**	**+4.0**
	1.1nm,0.3s,baz=236,slow=30,SNR=4.5						
MJAR	**Matsushiro Arr**	**5.89**	**231**	Pn	**Pn**	**17 20 14.0**	**+1.4**
	0.3nm,0.3s,baz=46,slow=12,SNR=9.0						
USRK	**Ussuriysk Arra**	**9.57**	**297**	Pn	Pn	17 21 06.6	+3.7
	0.2nm,0.3s,baz=101,slow=16,SNR=4.6						
SONM	**Songino Array**	**27.69**	**298**	P	**P**	**17 24 33.9**	**+0.7**
	0.2nm,0.5s,baz=80,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**41.14**	**310**	P	**P**	**17 26 29.2**	**+0.2**
	0.3nm,0.4s,baz=101,slow=7.8,SNR=3.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.03**	**300**	P	**P**	**17 26 52.1**	**-0.6**
	0.2nm,0.2s,baz=85,slow=6.7,SNR=11						
KURBB	**Kurchatov Arra**	**45.51**	**306**	P	**P**	**17 27 04.6**	**+0.3**
	0.5nm,0.5s,baz=77,slow=8.5,SNR=4.1						

*ISCJB **05** 17:29:01.6±0.6, 39°09N±0°04×29°03E±0°04, h3km±7km, Error ellipse: s-maj=8.1km s-min=4.1km az=146.2*
*DDA **05** 17:29:01.1, 39°11N×29°06E, h7km, MD2.7*
*ISK **05** 17:29:01.2, 39°11N×28°98E, h5km, MD2.6*
*CSEM **05** 17:29:01.9±0.1, 39°11N×29°01E, h5km, MD2.7, Error ellipse: s-maj=4.4km s-min=2.9km az=140.0*
ISC 05 17:29:01.7±0.9**, 39°07N**±0°03×**29°04E**±0°03**, h12**km±9km**,**
n28, σ**0s50**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**263**	*i* P	**Pg**	**17 29 07.3**	**+0.2**
DEMI				*i* S	**Sg**	**17 29 10.7**	**+0.1**
DEMI	**Demirci**	**0.25**	**263**	*i* P	**Pg**	**17 29 07.3**	**+0.2**
DEMI				*i* S	**Sg**	**17 29 10.7**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**41**	*e*PG	**Pg**	**17 29 11.3**	**-0.2**
TVSB				*e*SG	**Sg**	**17 29 18.1**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**41**	*e*Pg	**Pg**	**17 29 11.3**	**-0.2**
TVSB				*e*Sg	**Sg**	**17 29 18.1**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**208**	*e*PG	**Pg**	**17 29 13.2**	**-0.8**
KULA	**Kula-Manisa**	**0.63**	**208**	*e*Pg	**Pg**	**17 29 13.2**	**-0.8**
DURS	**Dursunbey**	**0.69**	**320**	*i* P	**Pg**	**17 29 14.0**	**-1.1**
DURS	**Dursunbey**	**0.69**	**320**	*i* P	**Pg**	**17 29 14.0**	**-1.1**
MANT	**Manisa**	**0.69**	**213**	*i* P	**Pb**	**17 29 15.8**	**-0.1**
MANT				*i* S	**Sg**	**17 29 24.2**	**-0.1**
MANT	**Manisa**	**0.69**	**213**	*i* P	**Pb**	**17 29 15.8**	**-0.1**
MANT				*i* S	**Sg**	**17 29 24.2**	**-0.1**
ALT	**Altintas**	**0.83**	**91**	*e*PG	**Pn**	**17 29 19.2**	**-0.2**
ALT	**Altintas**	**0.83**	**91**	*e*Pg	**Pn**	**17 29 19.2**	**-0.2**
AKHS	**Akhisar**	**0.97**	**259**	*i* P	**Pb**	**17 29 20.8**	**+0.2**
AKHS				*i* S	**Sb**	**17 29 34.2**	**+0.8**
AKHS	**Akhisar**	**0.97**	**259**	*i* P	**Pb**	**17 29 20.8**	**+0.2**
AKHS				*i* S	**Sb**	**17 29 34.2**	**+0.8**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN	**Pg**	**17 29 26.4**	**-0.1**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn	**Pg**	**17 29 26.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pb**	**17 29 26.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pb**	**17 29 26.3**	**+0.1**
BORA	**Eskisehir**	**1.36**	**53**	*i* P	**Pn**	**17 29 26.9**	**+0.3**
BORA				*i* S	**Sb**	**17 29 44.1**	**-0.5**
BORA	**Eskisehir**	**1.36**	**53**	*i* P	**Pn**	**17 29 26.9**	**+0.3**
BORA				*i* S	**Sb**	**17 29 44.1**	**-0.5**
GONE	**Gonen-Balikesi**	**1.43**	**313**	*e*PN	**Pn**	**17 29 27.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**313**	*e*Pn	**Pn**	**17 29 27.3**	**-0.2**
YLV	**Yalova**	**1.51**	**10**	*e*PN	**Pb**	**17 29 29.8**	**0.0**
YLV	**Yalova**	**1.51**	**10**	*e*Pn	**Pb**	**17 29 29.8**	**0.0**
ISP	**Isparta**	**1.71**	**137**	*e*PN	**Pb**	**17 29 33.6**	**+0.5**
ISP	**Isparta**	**1.71**	**137**	*e*Pn	**Pb**	**17 29 33.6**	**+0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**17 29 33.3**	**+1.0**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**17 29 33.3**	**+1.0**

IDC 05 17:36:19.5±2.2**, 3°02N**×**126°34E, h0**km**, mb3.1**/3**,**
mb1 3.3/3**, mb1mx3.1**/21**, mbtmp3.1**/3**, Error ellipse:**
s-maj=191.5km s-min=26.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**161**	P	P	17 41 37.5	+0.1
	0.4nm,0.4s,baz=341,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**27.53**	**165**	P	P	17 42 08.6	+0.4
	0.2nm,0.7s,baz=348,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**57.92**	**326**	P	P	17 46 13.0	-0.5
	0.1nm,0.4s,baz=115,slow=8.2,SNR=5.3						

*ISCJB **05** 17:37:42.7±0.2, 62°99N±0°02×150°43W±0°06, h110km±3km, mb3.6/10, Error ellipse: s-maj=4.4km s-min=3.3km az=23.6*
*IDC **05** 17:37:43.1±1.9, 63°00N×150°74W, h95km±17km, mb3.3/10, mb1 3.4/14, mb1mx3.3/32, mbtmp3.3/14, Error ellipse: s-maj=18.9km s-min=16.7km az=111.0*
*NEIC **05** 17:37:44.5, 62°98N×150°42W, h94km, MG3.3(AEIC), After AEIC.*
ISC 05 17:37:43.7±0.7**, 62°98N**±0°03×**150°45W**±0°03**,**
h102km±5km**, n92,** σ**0s89**/107**, mb3.7**/10**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.37**	**90**	P	**Pn**	**17 37 58.9**	**0.0**
TRF	**Thorofare Moun**	**0.48**	**9**	P	**Pn**	**17 37 59.3**	**-0.5**
TRF				S	**Sn**	**17 38 11.0**	**-0.8**
CUT	**Chulitna**	**0.58**	**172**	P	**Pn**	**17 38 00.2**	**-0.1**
TRAP	**Trapper Creek**	**0.66**	**172**	P	**Pn**	**17 38 00.8**	**-0.1**
TRAP				S	**Sn**	**17 38 13.5**	**-0.3**
PPLA	**Purkeypile**	**0.80**	**265**	P	**Pn**	**17 38 02.6**	**+0.2**
PPLA				S	**Sn**	**17 38 16.2**	**-0.2**
RND	**Reindeer**	**0.84**	**59**	P	**Pn**	**17 38 03.0**	**+0.3**
RND				S	**Sn**	**17 38 16.9**	**-0.2**
MCK	**McKinley**	**1.02**	**41**	*e*Pn	**Pn**	**17 38 04.8**	**+0.3**
SKT	**Skwentna**	**1.12**	**207**	P	**Pn**	**17 38 05.2**	**-0.4**
SKT				S	**Sn**	**17 38 21.8**	**-0.4**
CHUM	**Lake Minchumin**	**1.23**	**318**	P	**Pn**	**17 38 07.2**	**+0.3**
CHUM				S	**Sn**	**17 38 24.2**	**-0.2**
PMR	**Palmer**	**1.52**	**156**	P	**Pn**	**17 38 10.2**	**-0.1**
PMR				S	**Sn**	**17 38 30.7**	**+0.2**
SUA	**Susitna One**	**1.53**	**185**	P	**Pn**	**17 38 10.9**	**+0.4**
SUA				S	**Sn**	**17 38 31.7**	**+0.9**
SML	**Sawmill**	**1.54**	**139**	P	**Pn**	**17 38 10.7**	**+0.1**
SML				S	**Sn**	**17 38 31.6**	**+0.7**
STLK	**Strandline Lak**	**1.62**	**204**	P	**Pn**	**17 38 11.7**	**0.0**
NEA	**Nenana**	**1.71**	**20**	P	**Pn**	**17 38 12.9**	**+0.2**
NCG	**North Capps Gl**	**1.77**	**208**	P	**Pn**	**17 38 13.5**	**-0.1**
FIB	**Fire Island**	**1.83**	**176**	P	**Pn**	**17 38 15.3**	**+1.2**
WRH	**Wood River Hil**	**1.83**	**34**	P	**Pn**	**17 38 14.4**	**+0.3**
CGLM	**Capps Glacier**	**1.83**	**204**	P	**Pn**	**17 38 14.4**	**+0.1**
RC01	**Rabbit Creek A**	**1.93**	**170**	*e*Pn	**Pn**	**17 38 15.1**	**-0.4**
SPBG	**Spurr Blockage**	**1.95**	**208**	P	**Pn**	**17 38 17.2**	**+1.4**
BGL	**Barrier Glacie**	**1.95**	**209**	P	**Pn**	**17 38 16.3**	**+0.5**
CCB	**Clear Creek Bu**	**2.04**	**34**	P	**Pn**	**17 38 17.0**	**+0.2**
MLY	**Manley**	**2.06**	**357**	P	**Pn**	**17 38 17.6**	**+0.4**
HDA	**Harding Lake**	**2.12**	**46**	P	**Pn**	**17 38 18.3**	**+0.5**
MDM	**Murphy Dome**	**2.21**	**25**	P	**Pn**	**17 38 19.4**	**+0.3**
COLA	**College**	**2.22**	**30**	P	**Pn**	**17 38 19.5**	**+0.4**
PAX	**Paxson**	**2.27**	**88**	P	**Pn**	**17 38 21.1**	**+1.1**
ILAR	**Eielson Array**	**2.39**	**40**	P	**Pn**	**17 38 21.3**	**-0.1**
	11nm,0.3s,baz=221,slow=14,SNR=878						
ILAR				S	**Sn**	**17 38 51.7**	**+1.4**
	14nm,0.3s,baz=224,slow=21,SNR=14						
ILAR	**Eielson Array**	**2.39**	**40**	P	**Pn**	**17 38 21.3**	**-0.1**
ILAR				S	**Sn**	**17 38 51.7**	**+1.4**
IL1	**Eielson Array**	**2.39**	**40**	P	**Pn**	**17 38 21.4**	**0.0**
GLM	**Gilmore Dome**	**2.42**	**32**	P	**Pn**	**17 38 22.3**	**+0.4**
SLKM	**Skilak Lake**	**2.48**	**177**	P	**Pn**	**17 38 23.7**	**+1.0**
HARP	**HAARP**	**2.51**	**101**	P	**Pn**	**17 38 23.8**	**+0.9**
TT01	**Tatalina**	**2.55**	**271**	P	**Pn**	**17 38 23.3**	**-0.2**
KLU	**Klutina**	**2.59**	**123**	P	**Pn**	**17 38 23.5**	**-0.6**
DFR	**Drift River**	**2.62**	**205**	P	**Pn**	**17 38 25.4**	**+0.9**
VLZ	**Valdez**	**2.68**	**132**	P	**Pn**	**17 38 24.2**	**-1.0**
NCT	**North Crescent**	**2.70**	**207**	P	**Pn**	**17 38 26.0**	**+0.5**
RDN	**Redoubt North**	**2.71**	**205**	P	**Pn**	**17 38 26.7**	**+0.9**
RSO	**Redoubt South**	**2.75**	**204**	*e*Pn	**Pn**	**17 38 27.4**	**+1.0**
DIV	**Divide**	**2.88**	**128**	P	**Pn**	**17 38 27.0**	**-0.9**
SEW	**Seward**	**2.93**	**170**	*e*Pn	**Pn**	**17 38 28.2**	**-0.3**
DOT	**Dot Lake**	**2.96**	**74**	*e*Pn	**Pn**	**17 38 29.3**	**+0.4**
MENT	**Mentasta**	**3.08**	**88**	*e*Pn	**Pn**	**17 38 30.3**	**-0.2**
BRLK	**Bradley Lake**	**3.23**	**184**	P	**Pn**	**17 38 33.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.31**	**135**	P	**Pn**	**17 38 33.2**	**-0.3**
IM3	**Indian Mountai**	**3.34**	**336**	P	**Pn**	**17 38 34.1**	**+0.2**
BMRM	**Bremner River**	**3.42**	**124**	P	**Pn**	**17 38 34.2**	**-0.9**
OPT	**Oil Point**	**3.60**	**203**	P	**Pn**	**17 38 38.7**	**+1.2**
VRDI	**Verde Repeater**	**3.73**	**115**	P	**Pn**	**17 38 39.0**	**-0.4**
BCA3	**Beaver Creek A**	**3.95**	**85**	P	**Pn**	**17 38 42.1**	**-0.1**
COLD	**Coldfoot**	**4.27**	**1**	*e*Pn	**Pn**	**17 38 46.6**	**+0.2**
KHIT	**Khitrov Hills**	**4.27**	**123**	P	**Pn**	**17 38 46.8**	**+0.2**
BALM	**Baldy**	**4.29**	**113**	P	**Pn**	**17 38 46.2**	**-0.6**
KIAG	**Kiagna River**	**4.34**	**115**	P	**Pn**	**17 38 46.8**	**-0.9**
EGAK	**Eagle**	**4.49**	**62**	*e*Pn	**Pn**	**17 38 48.7**	**-0.6**
ISLE	**Juniper Island**	**4.53**	**118**	P	**Pn**	**17 38 49.9**	**-0.2**
BARN	**Barnard Glacie**	**4.57**	**111**	P	**Pn**	**17 38 50.9**	**+0.2**
BARK	**Barkley Ridge**	**4.59**	**121**	P	**Pn**	**17 38 51.5**	**+0.7**
DAWY	**Dawson**	**5.07**	**73**	*e*Pn	**Pn**	**17 38 56.9**	**-0.4**
BM3	**Burnt Mountain**	**5.09**	**26**	P	**Pn**	**17 38 58.1**	**+0.5**
KAKN	**Katmai Knife C**	**5.22**	**208**	P	**Pn**	**17 38 60.0**	**+0.6**
KABU	**Katmai Buttres**	**5.29**	**209**	P	**Pn**	**17 39 01.3**	**+0.9**
KCE	**Katmai Mt Cerb**	**5.29**	**208**	P	**Pn**	**17 39 01.6**	**+1.2**
KDAK	**Kodiak Island**	**5.32**	**192**	P	**Pn**	**17 38 59.2**	**-1.5**
	3.3nm,0.3s,baz=27,slow=11,SNR=52						
KDAK				S	**Sn**	**17 39 57.0**	**-3.7**
	4.8nm,0.3s,baz=120,slow=23,SNR=19						
KDAK	**Kodiak Island**	**5.32**	**192**	P	**Pn**	**17 38 59.2**	**-1.5**
KDAK				S	**Sn**	**17 39 57.0**	**-3.7**
KABR	**Katmai Barrier**	**5.35**	**207**	P	**Pn**	**17 39 02.1**	**+0.9**
SAMH	**Samovar Hills**	**5.43**	**117**	P	**Pn**	**17 39 03.0**	**+0.7**
INK	**Inuvik**	**8.78**	**45**	P	**Pn**	**17 39 48.9**	**+1.3**
	0.3nm,0.3s,baz=242,slow=14,SNR=6.3						
INK				S	**Sn**	**17 41 23.1**	**-1.4**
	0.1nm,0.3s,baz=225,slow=18,SNR=2.1						
INK	**Inuvik**	**8.78**	**45**	P	**Pn**	**17 39 48.9**	**+1.3**
INK				S	**Sn**	**17 41 23.1**	**-1.4**
YKA	**Yellowknife Ar**	**16.30**	**76**	P	**Pn**	**17 41 26.0**	**-0.2**
	0.1nm,0.3s,baz=284,slow=9.9,SNR=15						
YKA	**Yellowknife Ar**	**16.30**	**76**	P	**Pn**	**17 41 26.0**	**-0.2**
RES	**Resolute Bay**	**22.14**	**36**	P	**P**	**17 42 30.7**	**+0.3**
	0.7nm,0.5s,baz=240,slow=6.4,SNR=5.1						
RES	**Resolute Bay**	**22.14**	**36**	P	**P**	**17 42 30.7**	**+0.3**
SCHQ	**Schefferville**	**40.98**	**61**	P	**P**	**17 45 16.5**	**+0.5**
	1.4nm,0.8s,baz=294,slow=10.0,SNR=3.7						
SCHQ	**Schefferville**	**40.98**	**61**	P	**P**	**17 45 16.5**	**+0.5**
TXAR	**Lajitas Array**	**45.03**	**116**	P	**P**	**17 45 50.7**	**+1.6**
	0.2nm,0.5s,baz=328,slow=4.6,SNR=3.6						
TXAR	**Lajitas Array**	**45.03**	**116**	P	**P**	**17 45 50.6**	**+1.6**
ARCES	**ARCESS Array B**	**47.74**	**2**	P	**P**	**17 46 08.3**	**-1.2**
	3.5nm,1.1s,baz=1.4,slow=7.3,SNR=3.6						
ARCES	**ARCESS Array B**	**47.74**	**2**	P	**P**	**17 46 08.3**	**-1.2**
SONM	**Songino Array**	**54.03**	**306**	P	**P**	**17 46 57.2**	**0.0**
	0.1nm,0.3s,baz=300,slow=12,SNR=3.7						
SONM	**Songino Array**	**54.03**	**306**	P	**P**	**17 46 57.2**	**0.0**
ZALV	**Zalesovo Beam**	**55.69**	**324**	P	**P**	**17 47 08.0**	**-0.8**
	0.4nm,0.4s,baz=350,slow=4.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**55.69**	**324**	P	**P**	**17 47 08.0**	**-0.8**
BVAR	**Borovoye Array**	**59.98**	**333**	P	**P**	**17 47 38.1**	**-0.7**
	0.8nm,0.5s,baz=43,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**59.98**	**333**	P	**P**	**17 47 38.1**	**-0.7**
KURK	**Kurchatov**	**60.23**	**326**	P	**P**	**17 47 40.9**	**+0.3**
KURBB	**Kurchatov Arra**	**60.34**	**326**	P	**P**	**17 47 40.9**	**-0.4**
	0.4nm,0.4s,baz=31,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**62.84**	**322**	P	**P**	**17 47 57.5**	**-0.7**
	0.3nm,0.5s,baz=43,slow=6.9,SNR=9.7						
MKAR	**Makanchi Array**	**62.84**	**322**	P	**P**	**17 47 57.5**	**-0.7**
AKTO	**Aktyubinsk**	**64.71**	**340**	P	**P**	**17 48 10.2**	**-0.1**
	0.4nm,0.4s,baz=19,slow=9.4,SNR=4.1						
AKTO	**Aktyubinsk**	**64.71**	**340**	P	**P**	**17 48 10.2**	**-0.1**

*ISK **05** 17:40:19.6, 39°85N×25°53E, h5km, MD3.3*
*ATH **05** 17:40:20.4, 39°59N×25°36E, h11km±6km, MD3.2/3*
*CSEM **05** 17:40:20.5±0.3, 39°78N×25°51E, h2km, MD3.2, Error ellipse: s-maj=7.1km s-min=4.2km az=20.0*
*DDA **05** 17:40:22.0, 39°79N×25°83E, h7km, MD3.1*
ISC 05 17:40:20.2±1.3**, 39°83N**±0°03×**25°52E**±0°02**, h2**km±12km**,**
n75, σ**0s95**/88**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.27**	**285**	*e*PB	**Pb**	**17 40 27.5**	**-0.3**
LIA				*e*SB	**Sb**	**17 40 31.9**	**-1.0**
LIA	**Limnos Island**	**0.27**	**285**	*e*Pb	**Pb**	**17 40 27.5**	**-0.3**
EZN	**Ezine**	**0.62**	**90**	PG	**Pg**	**17 40 32.7**	**+0.7**
EZN				SG	**Sb**	**17 40 42.2**	**-0.7**
EZN	**Ezine**	**0.62**	**90**	*i* Pg	**Pg**	**17 40 32.7**	**+0.7**
EZN				*i* Sg	**Sb**	**17 40 42.2**	**-0.7**
PRK	**Paraskevi**	**0.82**	**135**	*e*PB	**Pg**	**17 40 35.5**	**-0.4**
PRK				*e*SB	**Sg**	**17 40 46.1**	**-0.4**
PRK	**Paraskevi**	**0.82**	**135**	*e*Pb	**Pg**	**17 40 35.5**	**-0.4**
PRK				*e*Sb	**Sg**	**17 40 46.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.93**	**52**	PG	**Pg**	**17 40 37.6**	**-0.4**
GELI				SG	**Sb**	**17 40 52.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.93**	**52**	*i* Pg	**Pg**	**17 40 37.6**	**-0.4**
GELI				*i* Sg	**Sb**	**17 40 52.1**	**+0.4**
ENEZ	**Enez**	**1.03**	**28**	*e*PG	**Pg**	**17 40 39.8**	**-0.1**
ENEZ				*e*SG	**Sb**	**17 40 54.6**	**-0.1**
ENEZ	**Enez**	**1.03**	**28**	*e*Pg	**Pg**	**17 40 39.8**	**-0.1**
ENEZ				*e*Sg	**Sb**	**17 40 54.6**	**-0.1**
AYVA	**Ayvalik**	**1.04**	**119**	*i* P	Pg	17 40 35.7	-4.4
AYVA	**Ayvalik**	**1.04**	**119**	*i* P	Pg	17 40 35.7	-4.4
LPK	**Lapseki**	**1.09**	**60**	*e*PG	**Pg**	**17 40 41.0**	**-0.2**
LPK	**Lapseki**	**1.09**	**60**	*e*Pg	**Pg**	**17 40 41.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.13**	**42**	*e*PN	**Pg**	**17 40 41.2**	**-0.7**
ERIK	**Erikli-Kesan**	**1.13**	**42**	*e*Pn	**Pg**	**17 40 41.2**	**-0.7**
KRBG	**Karabiga-Canak**	**1.47**	**67**	*e*PN	**Pn**	**17 40 47.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.47**	**67**	*e*Pn	**Pn**	**17 40 47.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.53**	**55**	*e*PN	**Pn**	**17 40 48.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.53**	**55**	*e*Pn	**Pn**	**17 40 48.6**	**0.0**
BALY	**Balya**	**1.62**	**92**	*i* P	**Pn**	**17 40 49.0**	**-0.8**
BALY				*i* S	**Sn**	**17 41 10.3**	**-1.0**
BALY	**Balya**	**1.62**	**92**	*i* P	**Pn**	**17 40 49.0**	**-0.8**
BALY				*i* S	**Sn**	**17 41 10.3**	**-1.0**
MFT	**Murefte**	**1.65**	**54**	*e*PN	**Pn**	**17 40 51.0**	**+0.7**
MFT	**Murefte**	**1.65**	**54**	*e*Pn	**Pn**	**17 40 51.0**	**+0.7**
GONE	**Gonen-Balikesi**	**1.68**	**82**	*e*PN	**Pn**	**17 40 50.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.68**	**82**	*e*Pn	**Pn**	**17 40 50.8**	**+0.2**
PLG	**Polygyros**	**1.69**	**290**	*e*PB	**Pn**	**17 40 50.8**	**+0.1**
PLG				*e*SB	**Sb**	**17 41 13.9**	**+0.3**
PLG	**Polygyros**	**1.69**	**290**	*e*Pb	**Pn**	**17 40 50.8**	**+0.1**
PLG				*e*Sb	**Sb**	**17 41 13.9**	**+0.3**
BALB	**Balikesir**	**1.83**	**95**	*e*PN	**Pn**	**17 40 53.1**	**+0.5**
BALB	**Balikesir**	**1.83**	**95**	*e*Pn	**Pn**	**17 40 53.1**	**+0.5**
EDC	**Edincik**	**1.87**	**73**	*e*PN	**Pn**	**17 40 53.3**	**+0.1**
EDC	**Edincik**	**1.87**	**73**	*e*Pn	**Pn**	**17 40 53.3**	**+0.1**
BNT	**Bandirma**	**1.91**	**73**	*e*PN	**Pn**	**17 40 54.3**	**+0.4**
BNT	**Bandirma**	**1.91**	**73**	*e*Pn	**Pn**	**17 40 54.3**	**+0.4**
TKR	**Tekirdag**	**1.93**	**52**	*e*PN	**Pn**	**17 40 55.1**	**+1.2**
TKR	**Tekirdag**	**1.93**	**52**	*e*Pn	**Pn**	**17 40 55.2**	**+1.2**
IZM	**Izmir**	**1.97**	**136**	*e*PN	**Pn**	**17 40 54.6**	**0.0**
IZM	**Izmir**	**1.97**	**136**	*e*Pn	**Pn**	**17 40 54.6**	**0.0**
CRLT	**Corlu**	**2.13**	**52**	*e*PN	**Pn**	**17 40 58.0**	**+1.2**
CRLT	**Corlu**	**2.13**	**52**	*e*Pn	**Pn**	**17 40 58.0**	**+1.2**
KCTX	**Karacabey (Bur**	**2.22**	**78**	*e*PN	**Pn**	**17 40 58.6**	**+0.5**
KCTX	**Karacabey (Bur**	**2.22**	**78**	*e*Pn	**Pn**	**17 40 58.6**	**+0.5**
EDRB	**Edirne**	**2.22**	**24**	*e*PN	**Pn**	**17 40 59.2**	**+1.1**
EDRB	**Edirne**	**2.22**	**24**	*e*Pn	**Pn**	**17 40 59.2**	**+1.1**
DURS	**Dursunbey**	**2.29**	**95**	*i* P	**Pn**	**17 40 58.9**	**-0.2**
DURS	**Dursunbey**	**2.29**	**95**	*i* P	**Pn**	**17 40 58.9**	**-0.2**
DST	**Dursunbey**	**2.40**	**94**	*e*PN	**Pn**	**17 41 01.4**	**+0.8**
DST	**Dursunbey**	**2.40**	**94**	*e*Pn	**Pn**	**17 41 01.4**	**+0.8**
SLVT	**Silivri**	**2.48**	**55**	*e*PN	**Pn**	**17 41 02.1**	**+0.5**
SLVT	**Silivri**	**2.48**	**55**	*e*Pn	**Pn**	**17 41 02.1**	**+0.5**
DEMI	**Demirci**	**2.59**	**107**	*i* P	**Pn**	**17 41 03.2**	**-0.1**
DEMI				*i* S	**Pg**	**17 41 09.7**	**-0.2**
DEMI	**Demirci**	**2.59**	**107**	*i* P	**Pn**	**17 41 03.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.63**	**77**	*e*PN	**Pn**	**17 41 04.8**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.63**	**77**	*e*Pn	**Pn**	**17 41 04.8**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.67**	**51**	*e*PN	**Pn**	**17 41 05.7**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.67**	**51**	*e*Pn	**Pn**	**17 41 05.7**	**+1.5**
CTKS	**Kestanelik-??a**	**2.67**	**57**	*e*PN	**Pn**	**17 41 06.0**	**+1.7**
CTKS	**Kestanelik-??a**	**2.67**	**57**	*e*Pn	**Pn**	**17 41 06.0**	**+1.7**
VAY	**Valandovo**	**2.70**	**305**	*e*Pn	**Pg**	**17 41 12.2**	**+0.2**
VAY				*e*Sg	**Sg**	**17 41 47.4**	**+0.4**
APE	**Apeiranthos**	**2.75**	**180**	*e*PN	**Pn**	**17 41 07.4**	**+2.0**
APE	**Apeiranthos**	**2.75**	**180**	*e*Pn	**Pn**	**17 41 07.4**	**+2.0**
BGKT	**Bogazkoy**	**2.82**	**60**	*e*PN	**Pn**	**17 41 07.2**	**+0.9**
BGKT	**Bogazkoy**	**2.82**	**60**	*e*Pn	**Pn**	**17 41 07.2**	**+0.9**
ISK	**Istanbul-Kandi**	**2.97**	**64**	*e*PN	**Pn**	**17 41 09.7**	**+1.4**
ISK	**Istanbul-Kandi**	**2.97**	**64**	*e*Pn	**Pn**	**17 41 09.7**	**+1.4**
VTS	**Vitosha**	**3.27**	**328**	*e*Pn	**Pn**	**17 41 12.4**	**-0.2**
HRT	**Hereke**	**3.32**	**71**	*e*PN	**Pn**	**17 41 14.9**	**+1.7**
HRT	**Hereke**	**3.32**	**71**	*e*Pn	**Pn**	**17 41 15.0**	**+1.7**
CAVI	**Cavuskoy**	**3.34**	**82**	*e*PN	**Pn**	**17 41 15.3**	**+1.9**
CAVI	**Cavuskoy**	**3.34**	**82**	*e*Pn	**Pn**	**17 41 15.3**	**+1.9**
ALT	**Altintas**	**3.63**	**101**	*e*PN	**Pn**	**17 41 19.8**	**+2.2**
ALT	**Altintas**	**3.63**	**101**	*e*Pn	**Pn**	**17 41 19.8**	**+2.2**
GULT	**Gulveren**	**3.87**	**79**	*e*PN	**Pn**	**17 41 22.7**	**+1.8**
GULT	**Gulveren**	**3.87**	**79**	*e*Pn	**Pn**	**17 41 22.7**	**+1.8**
BARS	**Barje**	**4.09**	**318**	*e*Pn	**Pn**	**17 41 23.9**	**+0.1**

IDC 05 17:55:17.0±2.7**, 15°28N**×**146°06E, h88**km±25km**, mb3.3**/7**,**
mb1 3.5/8**, mb1mx3.3**/27**, mbtmp3.3**/8**, Error ellipse:**
s-maj=33.0km s-min=20.0km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.04**	**215**	P	Pn	17 55 50.7	+1.0
	34nm,0.3s,baz=352,slow=8.3,SNR=23						
GUMO				S	Sn	17 56 14.9	+0.4
	129nm,0.3s,baz=145,slow=20,SNR=22						
WRA	**Warramunga Arr**	**36.85**	**199**	P	P	18 02 17.2	+0.2
	0.1nm,0.4s,baz=16,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**40.49**	**197**	P	P	18 02 47.1	-0.2
	0.3nm,0.8s,baz=14,slow=6.1,SNR=3.3						
SONM	**Songino Array**	**46.05**	**323**	P	P	18 03 32.0	0.0
	0.2nm,0.6s,baz=136,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**61.09**	**315**	P	P	18 05 22.1	+0.2
	0.6nm,0.4s,baz=92,slow=8.0,SNR=21						
ILAR	**Eielson Array**	**66.56**	**25**	P	P	18 05 57.0	-0.4
	0.4nm,0.5s,baz=249,slow=5.8,SNR=13						
BVAR	**Borovoye Array**	**69.33**	**321**	P	P	18 06 14.6	-0.4
	0.8nm,0.3s,baz=99,slow=7.3,SNR=7.6						
YKA	**Yellowknife Ar**	**80.84**	**28**	P	P	18 07 21.2	+0.3
	0.4nm,0.4s,baz=288,slow=5.4,SNR=7.7						

*TIR **05** 18:03:47.9±0.9, 41°42N×19°89E, h29km±6km, ML3.0*
*SKO **05** 18:03:48.8, 41°42N×19°78E, h21km*
*ISCJB **05** 18:03:49.7±0.7, 41°38N±0°04×19°86E±0°04, h21km±3km, Error ellipse: s-maj=7.1km s-min=4.3km az=25.4*
*CSEM **05** 18:03:49.2±0.5, 41°37N×19°80E, h20km, ML2.8, Error ellipse: s-maj=9.6km s-min=5.7km az=21.0*
*PDG **05** 18:03:50.7±0.2, 41°53N×19°88E, h8km, ML2.8/9, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
*BEO **05** 18:03:50.1±0.4, 41°38N×19°86E, h20km±3km, ML2.8/9*
ISC 05 18:03:49.7±1.0**, 41°42N**±0°03×**19°83E**±0°02**, h22**km±7km**,**
n52, σ**1s34**/100**, 7C-8D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.07**	**159**	*e*PG	**Pb**	**18 03 53.2**	**-0.6**
TIR				*i* SG	**Sb**	**18 03 57.3**	**+0.8**
TIR	**Tirane**	**0.07**	**159**	*e*Pg	**Pb**	**18 03 53.2**	**-0.6**
TIR				*e*Sg	**Sb**	**18 03 57.4**	**+0.8**
TIR	**Tirane**	**0.07**	**159**	*e*Pg	**Pb**	**18 03 53.2**	**-0.6**
TIR				*e*Sg	**Sb**	**18 03 57.4**	**+0.8**
PHP	**Peshkopia**	**0.53**	**60**	*e*PG	**Pb**	**18 03 58.5**	**-2.0**
PHP				*i* SG	**Sb**	**18 04 06.8**	**-0.9**
PHP	**Peshkopia**	**0.53**	**60**	*e*Pg	**Pb**	**18 03 58.5**	**-2.0**
	SNR=112						
PHP				*i* Sg	**Sb**	**18 04 06.8**	**-0.9**
	SNR=112						
PUK	**Puka**	**0.63**	**4**	*e*PG	**Pb**	**18 04 00.5**	**-1.6**
PUK				*i* SG	**Sb**	**18 04 10.5**	**0.0**
PUK	**Puka**	**0.63**	**4**	*e*Pg	**Pb**	**18 04 00.5**	**-1.6**
	SNR=106						
PUK				*i* Sg	**Sb**	**18 04 10.5**	**0.0**
	SNR=106						
ULC	**Ulcinj**	**0.70**	**321**	⇓*i*Pg	**Pb**	**18 04 02.5**	**-0.8**
ULC				*e*Sg	**Sb**	**18 04 13.1**	**+0.6**
ULC	**Ulcinj**	**0.70**	**321**	⇓*i*Pg	**Pb**	**18 04 02.5**	**-0.8**
ULC				*e*Sg	**Sb**	**18 04 13.1**	**+0.6**
BCI	**Bajram Curri**	**0.96**	**11**	*i* PG	**Pb**	**18 04 07.3**	**-0.5**
BCI	**Bajram Curri**	**0.96**	**11**	*i* Pg	**Pb**	**18 04 07.3**	**-0.5**
	SNR=98						
TTG	**Podgorica**	**1.10**	**337**	⇑*i*Pg	**Pn**	**18 04 09.6**	**-0.1**
TTG				*e*Sg	**Sn**	**18 04 25.1**	**+0.9**
PDG	**Podgorica**	**1.10**	**337**	*e*Pg	**Pb**	**18 04 10.1**	**+0.1**
PDG				*e*Sg	**Sn**	**18 04 25.9**	**+1.6**
PDG	**Podgorica**	**1.10**	**337**	*e*Pg	**Pb**	**18 04 10.1**	**+0.1**
PDG				*e*Sg	**Sn**	**18 04 25.9**	**+1.6**
BUM	**Brajici-Budva**	**1.13**	**322**	⇑*i*Pg	**Pb**	**18 04 10.6**	**0.0**
BUM				*e*Sg	**Sn**	**18 04 26.9**	**+1.8**
BUM	**Brajici-Budva**	**1.13**	**322**	⇑*i*Pg	**Pb**	**18 04 10.6**	**0.0**
BUM				*e*Sg	**Sn**	**18 04 26.9**	**+1.8**
PVY	**Plav**	**1.18**	**5**	⇓*i*Pg	**Pn**	**18 04 10.3**	**-0.7**
PVY				*e*Sg	**Sn**	**18 04 27.5**	**+1.0**
PVY	**Plav**	**1.18**	**5**	⇓*i*Pg	**Pn**	**18 04 10.3**	**-0.7**
PVY				*e*Sg	**Sn**	**18 04 27.5**	**+1.0**
BIA	**Bitola**	**1.20**	**109**	*e*Pn	**Pn**	**18 04 10.5**	**-0.7**
BIA				*e*Sg	**Sb**	**18 04 28.2**	**+1.4**
BIA	**Bitola**	**1.20**	**109**	*e*Pn	**Pn**	**18 04 10.5**	**-0.7**
BIA				*e*Sg	**Sb**	**18 04 28.2**	**+1.4**
SKO	**Skopje**	**1.33**	**65**	*e*Pn	**Pb**	**18 04 14.1**	**+0.1**
SKO				*e*Sg	**Sb**	**18 04 31.9**	**+1.4**
SKO	**Skopje**	**1.33**	**65**	*e*Pg	**Pb**	**18 04 14.6**	**+0.7**
SKO				*e*Sg	**Sb**	**18 04 31.8**	**+1.3**
SKO	**Skopje**	**1.33**	**65**	*e*Pg	**Pb**	**18 04 14.6**	**+0.7**
SKO				*e*Sg	**Sb**	**18 04 31.8**	**+1.3**
HCY	**Herceg Novi**	**1.43**	**316**	⇓*i*Pg	**Pb**	**18 04 15.5**	**-0.2**
HCY	**Herceg Novi**	**1.43**	**316**	⇓*i*Pg	**Pb**	**18 04 15.5**	**-0.2**
BEY	**Berane**	**1.45**	**2**	*e*Pg	**Pb**	**18 04 15.6**	**-0.6**
BEY				*e*Sg	**Sb**	**18 04 36.6**	**+2.3**
IVA	**Berane**	**1.45**	**2**	*e*Pg	**Pb**	**18 04 15.6**	**-0.6**
IVA				*e*Sg	**Sb**	**18 04 36.6**	**+2.3**
BRY	**Bratogost**	**1.77**	**328**	⇑*i*Pn	**Pb**	**18 04 21.7**	**+0.2**
BRY				*e*Sn	**Sb**	**18 04 46.2**	**+2.9**
BRY	**Bratogost**	**1.77**	**328**	⇑*i*Pn	**Pb**	**18 04 21.7**	**+0.2**
BRY				*e*Sn	**Sb**	**18 04 46.2**	**+2.9**
SJES	**Sjenica**	**1.85**	**3**	*e*Pn	**Pn**	**18 04 21.4**	**+1.2**
SJES				*e*Sn	**Sb**	**18 04 45.2**	**-0.3**
SJES	**Sjenica**	**1.85**	**3**	*e*Pn	**Pn**	**18 04 21.4**	**+1.2**
SJES				*e*Sn	**Sb**	**18 04 45.2**	**-0.3**
UPM	**Unac-Piva**	**1.91**	**339**	⇑*i*Pn	**Pb**	**18 04 23.7**	**-0.3**
UPM				*e*Sn	**Sb**	**18 04 49.2**	**+1.7**
UPM	**Unac-Piva**	**1.91**	**339**	⇑*i*Pn	**Pb**	**18 04 23.7**	**-0.3**
UPM				*e*Sn	**Sb**	**18 04 49.2**	**+1.7**
PLE	**Pljevlja**	**1.94**	**350**	⇓*i*Pn	**Pb**	**18 04 23.6**	**-0.8**
PLE				*e*Sn	**Sb**	**18 04 49.9**	**+1.7**
PLE	**Pljevlja**	**1.94**	**350**	⇓*i*Pn	**Pb**	**18 04 23.6**	**-0.8**
PLE				*e*Sn	**Sb**	**18 04 49.9**	**+1.7**
BARS	**Barje**	**2.03**	**46**	*e*Pn	**Pn**	**18 04 23.3**	**+0.6**
BARS				*e*Sn	**Sb**	**18 04 49.3**	**-1.6**
BARS	**Barje**	**2.03**	**46**	*e*Pn	**Pn**	**18 04 23.3**	**+0.6**
BARS				*e*Sn	**Sb**	**18 04 49.3**	**-1.6**
SELS	**Selova**	**2.04**	**28**	*e*Pn	**Pn**	**18 04 23.1**	**+0.4**
SELS				*e*Sn	**Sb**	**18 04 49.3**	**-1.7**
STON	**Ston**	**2.15**	**313**	*e*Pn	**Pn**	**18 04 22.1**	**-2.2**
STON				Sn	**Sn**	**18 04 49.6**	**-0.5**
STON	**Ston**	**2.15**	**313**	*e*Pn	**Pn**	**18 04 22.0**	**-2.2**
STON				Sn	**Sn**	**18 04 49.6**	**-0.5**
IVAS	**Ivanjica**	**2.17**	**6**	*e*Pn	**Pn**	**18 04 26.2**	**+1.6**
IVAS				*e*Sn	**Sb**	**18 04 52.8**	**-2.1**
IVAS	**Ivanjica**	**2.17**	**6**	*e*Pn	**Pn**	**18 04 26.2**	**+1.6**
IVAS				*e*Sn	**Sb**	**18 04 52.8**	**-2.1**
GRUS	**Gruza**	**2.56**	**15**	*e*Pn	**Pn**	**18 04 30.3**	**+0.5**
GRUS				*e*Sn	**Sb**	**18 05 03.0**	**-2.8**
GRUS	**Gruza**	**2.56**	**15**	*e*Pn	**Pn**	**18 04 30.3**	**+0.5**
GRUS				*e*Sn	**Sb**	**18 05 03.0**	**-2.8**
DIVS	**Divibare**	**2.68**	**3**	*e*Pn	**Pn**	**18 04 32.4**	**+0.8**
DIVS				*e*Sn	**Sn**	**18 05 05.7**	**+2.2**
DIVS	**Divibare**	**2.68**	**3**	*e*Pn	**Pn**	**18 04 32.4**	**+0.8**
DIVS				*e*Sn	**Sn**	**18 05 05.7**	**+2.2**
VTS	**Vitosha**	**2.78**	**64**	*e*Pn	**Pn**	**18 04 33.9**	**+0.9**
VTS				*e*Sn	**Sn**	**18 05 05.9**	**0.0**
VTS	**Vitosha**	**2.78**	**64**	*e*Pn	**Pn**	**18 04 33.9**	**+0.9**
VTS				*e*Sn	**Sn**	**18 05 05.9**	**0.0**
ZAPS	**Zavoj**	**2.79**	**47**	*e*Pn	**Pn**	**18 04 33.6**	**+0.6**
ZAPS				*e*Sn	**Sn**	**18 05 06.7**	**+0.7**
ZAPS	**Zavoj**	**2.79**	**47**	*e*Pn	**Pn**	**18 04 33.6**	**+0.6**
ZAPS				*e*Sn	**Sn**	**18 05 06.7**	**+0.7**
NVLJ	**Novalja**	**4.81**	**312**	*i* Pn	**Pn**	**18 04 58.8**	**-1.9**
NVLJ				Sn	**Sn**	**18 05 53.5**	**-2.2**
NVLJ	**Novalja**	**4.81**	**312**	*i* Pn	**Pn**	**18 04 58.8**	**-1.9**
NVLJ				Sn	**Sn**	**18 05 53.5**	**-2.2**

*IDC **05** 18:12:57.2±1.1, 15°27S×173°60W, h0km, mb3.8/7, mb1 4.2/8, mb1mx4.0/20, mbtmp3.9/8, ML4.0/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/32, Error ellipse: s-maj=54.9km s-min=21.4km az=154.0*
*ISCJB **05** 18:12:59.7±0.7, 15°0S±0°1×173°26W±0°09, h29km, mb3.8/7, MS4.1/11, Error ellipse: s-maj=21.2km s-min=8.1km az=151.3*
*NEIC **05** 18:13:02.9±0.8, 15°00S×173°21W, h35km, mb4.5/1, Error ellipse: s-maj=26.2km s-min=13.8km az=161.0*
ISC 05 18:13:02.9±0.7**, 15°0S**±0°1×**173°23W**±0°09**, h29**km**, n39,**
σ**1s65**/23**, mb3.7**/7**, MS4.3**/11**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.78**	**52**	Pn	Pn	18 13 28.4	-3.4
	38nm,0.3s,baz=195,slow=1.0,SNR=39						
AFI				Sn	**Sn**	**18 13 50.6**	**-2.9**
	100nm,0.3s,baz=71,slow=21,SNR=12						
AFI				LR	LR	18 14 18.4	
	comp=Z,2µm,21.2s,baz=294,slow=36						
AFI	**Afiamalu**	**1.78**	**52**	Pn	Pn	18 13 28.4	-3.4
AFI				Sn	**Sn**	**18 13 50.6**	**-2.9**

MSVF Nonsavu 8.80 251 P Pn 18 15 07.2 -1.1
47nm,1.3s
RAR Rarotonga 14.20 118 Pn Pn 18 16 21.7 -0.4
0.7nm,0.3s,baz=307,slow=20,SNR=3.3
RAR Rarotonga 14.20 118 Pn Pn 18 16 21.8 -0.4
DZM Mont Dzumac 20.50 247 *e*P P 18 17 37.0 -1.8
65nm,1.4s
DZM *e*LR LR 18 22 12.1
485nm,26.8s
DZM Mont Dzumac 20.50 247 P P 18 17 37.5 -1.4
14nm,1.1s,baz=82,slow=15,SNR=7.3
DZM Mont Dzumac 20.50 247 *e*P P 18 17 37.8 -1.1
34nm,1.4s
PPT Papeete 22.84 100 LR LR 18 25 46.3
comp=Z,41nm,18.8s,baz=281,slow=33
PPT2 Papeete2 22.85 100 *e*LQ LQ 18 22 36.4
780nm,27.2s
PPT2 *e*LR LR 18 23 33.1
256nm,26.5s
TBI Tubuai 23.91 114 *e*LQ LQ 18 23 05.3
570nm,28.5s
TBI *e*LR LR 18 24 10.0
430nm,27.8s
HNR Honiara 26.78 279 LR LR 18 26 39.4
comp=Z,620nm,18.1s,baz=128,slow=31
WRA Warramunga Arr 50.09 256 P P 18 21 51.2 -4.5
0.9nm,0.8s,baz=90,slow=6.8,SNR=11
WRA Warramunga Arr 50.09 256 P P 18 21 51.2 -4.5
ASAR Alice Springs 50.39 252 P P 18 21 53.0 -4.9
6.6nm,0.8s,baz=86,slow=8.1,SNR=62
ASAR Alice Springs 50.39 252 P P 18 21 53.0 -4.9
DAV Davao City (W) 64.49 286 LR LR 18 49 54.8
comp=Z,136nm,19.7s,baz=247,slow=34
NWAO Narrogin (SRO) 64.95 240 LR LR 18 50 43.2
comp=Z,168nm,18.6s,baz=55,slow=35
MJAR Matsushiro Arr 68.74 320 LR LR 18 48 36.5
comp=Z,157nm,19.4s,baz=145,slow=31
NVAR Mina Array Bea 73.93 42 P P 18 24 35.4 -0.4
1.0nm,0.8s,baz=222,slow=9.3,SNR=2.7
NVAR Mina Array Bea 73.93 42 P P 18 24 35.4 -0.4
KSRS Korea Array 75.99 315 LR LR 18 57 35.6
comp=Z,70nm,18.6s,baz=267,slow=35
USRK Ussuriysk Arra 77.16 323 LR LR 18 53 08.6
comp=Z,142nm,20.0s,baz=118,slow=31
TXAR Lajitas Array 80.26 56 P P 18 25 13.9 +2.5
0.6nm,0.8s,baz=226,slow=6.7,SNR=5.4
TXAR LR LR 18 53 10.3
comp=Z,73nm,21.8s,baz=175,slow=30
TXAR Lajitas Array 80.26 56 P P 18 25 13.9 +2.5
PDAR Pinedale Array 81.86 42 P P 18 25 22.3 +2.5
0.5nm,0.7s,baz=258,slow=4.5,SNR=3.8
PDAR Pinedale Array 81.86 42 P P 18 25 22.3 +2.5
ILAR Eielson Array 82.03 11 P P 18 25 20.2 +0.3
0.6nm,0.9s,baz=224,slow=5.0,SNR=4.0
ILAR Eielson Array 82.03 11 P P 18 25 20.2 +0.3
PLCA Paso Flores 89.65 132 LR LR 18 55 51.3
comp=Z,116nm,20.0s,baz=267,slow=29
YKA Yellowknife Ar 89.67 23 P P 18 25 58.3 +0.6
0.1nm,0.5s,baz=234,slow=4.4,SNR=3.2
YKA Yellowknife Ar 89.67 23 P P 18 25 58.4 +0.6
ULM Lac du Bonnet 93.52 39 LR LR 19 01 50.8
comp=Z,99nm,19.6s,baz=281,slow=31
SONM Songino Array 94.66 318 LR LR 19 03 17.4
comp=Z,105nm,20.8s,baz=135,slow=32
KHC Kasperske Hory 145.51 352 *e*PKP PKPab 18 32 39.5 +0.9
GERES GERESS Array B 145.78 352 PKPbc PKPab 18 32 40.0 +0.3
0.2nm,0.3s,baz=346,slow=2.0,SNR=4.1
GERES GERESS Array B 145.78 352 PKPbc PKPab 18 32 40.0 +0.3
BRTR Keskin Array B 145.95 321 PKPbc PKPdf 18 32 38.4 -1.1
1.1nm,0.8s,baz=268,slow=4.7,SNR=3.6
BRTR Keskin Array B 145.95 321 PKPbc PKPdf 18 32 38.4 -1.1

---

*IDC **05** 18:20:27.3±0.7, 13.°22S×167.°91E, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.4/23, mbtmp4.3/19, ML4.7/2, MS4.0/7, Ms1 4.0/7, ms1mx3.7/27, Error ellipse: s-maj=21.9km s-min=16.1km az=129.0*

*ISCJB **05** 18:20:30.2±2.8, 13.°27S±0.°05×167.°68E±0.°04, h19km±19km, mb4.7/45, MS4.5/12, Error ellipse: s-maj=8.4km s-min=6.9km az=13.6*

*NEIC **05** 18:20:35.5±1.4, 13.°28S×167.°73E, h54km±13km, mb5.0/19, Error ellipse: s-maj=12.8km s-min=9.3km az=160.0*

ISC 05 18:20:35.7±0.4**, 13.°36S**±0.°05×**167.°73E**±0.°05**, h48**km±2km**, n129, σ1.°71**/161**, mb4.7**/45**, MS4.3**/12**, 26C-17D, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 8.57 296 Pn Pn 18 22 35.5 -1.7
14nm,0.3s,baz=78,slow=0.5,SNR=9.4
HNR Sn Sn 18 24 10.3 -2.3
2.7nm,0.3s,baz=176,slow=22,SNR=2.0
HNR Honiara 8.57 296 *e*P Pn 18 22 35.9 -1.3
HNR Sn Sn 18 24 10.3 -2.3
DZM Mont Dzumac 8.75 188 *e*Pn Pn 18 22 39.9 +0.1
12nm,0.3s
DZM *e*LR LR 18 24 38.7
468nm,24.6s
DZM Mont Dzumac 8.75 188 Pn Pn 18 22 39.6 -0.2
4.5nm,0.3s,baz=45,slow=18,SNR=109
DZM Sn Sn 18 24 19.3 +2.2
baz=333,slow=20,SNR=1.2
DZM LR LR 18 25 24.9
comp=Z,338nm,20.1s,baz=12,slow=33
DZM Mont Dzumac 8.75 188 *e*P Pn 18 22 39.7 -0.1
DZM Mont Dzumac 8.75 188 *e*P Pn 18 22 39.5 -0.3
84nm,1.2s
DZM Sn Sn 18 24 19.3 +2.2
MSVF Nonsavu 10.86 115 *e*P Pn 18 23 08.9 +0.2
116nm,1.5s
MSVF Nonsavu 10.86 115 Pn Pn 18 23 09.0 +0.4
251nm,1.2s,SNR=6.5
EIDS Eidsvold 19.70 230 *e*P Pn 18 25 03.3 +0.3
87nm,1.3s
AFI Afiamalu 19.93 94 LR LR 18 30 32.9
comp=Z,265nm,18.5s,baz=100,slow=31
CTA Charters Tower 21.61 249 P P 18 25 22.4 +0.5
7.2nm,1.1s,baz=75,slow=12,SNR=5.3
CTA Charters Tower 21.61 249 P P 18 25 22.4 +0.5
CTAO Charters Tower 21.61 249 *e*P P 18 25 18.3 -3.6
24nm,1.3s
ARMA Armidale 22.56 219 *e*P P 18 25 33.3 +1.2
85nm,1.2s
COEN Coen 23.86 266 *e*P P 18 25 45.1 +0.2
200nm,1.3s
STKA Stephens Creek 30.22 228 P P 18 26 42.2 +0.2
16nm,0.8s,baz=44,slow=8.0,SNR=26
STKA Stephens Creek 30.22 228 *e*P P 18 26 42.5 +0.6
WRAB Tennant Creek 32.60 254 *e*P P 18 27 00.5 -2.5
24nm,1.5s
WRA Warramunga Arr 32.61 254 P P 18 27 01.7 -1.4
1.2nm,0.5s,baz=85,slow=9.5,SNR=21
WRA Warramunga Arr 32.61 254 P P 18 27 01.7 -1.4
ASAR Alice Springs 33.59 247 P P 18 27 10.3 -1.3
5.7nm,0.8s,baz=72,slow=9.9,SNR=39
ASAR PcP PcP 18 29 49.4 -2.0
1.5nm,1.1s,baz=125,slow=3.3,SNR=4.0
ASAR Alice Springs 33.59 247 P P 18 27 10.3 -1.3
ASAR PcP PcP 18 29 49.4 -2.0
GUMO Guam 35.07 319 LR LR 18 39 45.3
comp=Z,239nm,20.8s,baz=128,slow=33
FORT Forrest 40.38 238 *e*P P 18 28 09.2 -0.1
70nm,0.8s
FITZ Fitzroy Crossi 40.72 258 *e*P P 18 28 11.6 -0.5
18nm,1.3s
PPT Papeete 41.30 101 LR LR 18 40 44.1
comp=Z,287nm,19.2s,baz=8.5,slow=30
PPT2 Papeete2 41.30 101 *e*S S 18 34 33.0 +4.7
55nm,25.8s
PPT2 *e*LQ LQ 18 37 58.2
499nm,27.5s
PPT2 *e*LR LR 18 39 44.8
454nm,27.8s
TBI Tubuai 41.70 110 *e*S S 18 34 43.1 +9.2
60nm,30.2s
TBI *e*LR LR 18 39 54.7
285nm,34.5s
MBWA Marble Bar 46.34 253 *e*P P 18 28 57.6 +0.1
53nm,1.2s
KAPI Kappang 48.01 275 *e*P P 18 29 09.4 -1.1
18nm,1.2s
NWAO Narrogin (SRO) 49.84 238 *e*P P 18 29 21.4 -2.9
MJAR Matsushiro Arr 56.91 332 P P 18 30 15.3 -0.7
3.9nm,0.9s,baz=169,slow=7.8,SNR=9.4
MJAR Matsushiro Arr 56.91 332 P P 18 30 15.3 -0.7
KSRS Korea Array 62.87 325 P P 18 30 55.2 -1.7
2.2nm,1.0s,baz=162,slow=8.6,SNR=3.1
KSAR Wonju Array Be 62.88 325 P P 18 30 55.2 -1.8
YSS Yuzh-Sakhalins 64.08 341 *e*P P 18 31 05.0 +0.3
14nm,1.0s
VNDA Vanda 64.23 181 LR LR 18 53 56.4
comp=Z,167nm,18.1s,baz=335,slow=31
NJ2 Nanjing 65.02 315 *e*P P 18 31 14.5 +3.4
NJ2 pP pP 18 31 25.5 +0.8
NJ2 sP sP 18 31 32.2 +2.1
NJ2 pmax pmax
comp=Z,30nm,1.2s
USRK Ussuriysk Arra 65.87 333 P P 18 31 13.8 -2.6
comp=Z,1.5nm,0.8s,baz=126,slow=9.9,SNR=3.3
MDJ Mudanjiang 67.29 331 P P 18 31 27.5 +2.0
MDJ pmax pmax
comp=Z,11nm,1.7s
MDJ pmax pmax
comp=Z,99nm,4.1s
CN2 Changchun 68.71 328 *e*P P 18 31 37.9 +3.5
CN2 *e*pP pP 18 31 51.5 +3.5
CN2 *e*S S 18 40 37.4 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
CN2 LR LR
comp=Z,600nm,17.0s
GYA Guiyang 71.31 304 P P 18 31 52.3 +1.4
GYA pP pP 18 32 06.4 +1.8
GYA PP PP 18 34 32.8 +3.1
GYA S S 18 41 05.9 +0.4
GYA sS SKiKP 18 41 29.3 +1.8
GYA SKS SKSac 18 41 46.5 -4.0
GYA SS SS 18 45 41.2 +0.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,520nm,19.8s
GYA LR LR
comp=E,490nm,20.3s
GYA LR LR
comp=Z,540nm,19.3s
BJI Beijing 71.49 321 P P 18 31 53.0 +1.5
BJI S S 18 41 09.6 +2.9
BJI SS SS 18 45 46.3 +3.5
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI pmax pmax
comp=Z,190nm,4.3s
BJI LR LR
comp=N,200nm,24.7s
BJI LR LR
comp=E,200nm,25.9s
BJI LR LR
comp=Z,130nm,32.5s
XAN Xi'an 73.10 312 P P 18 32 05.2 +3.9
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN pmax pmax
comp=Z,32nm,4.3s
KMI Kunming 73.97 301 P P 18 32 06.8 -0.1
KMI pmax pmax
comp=Z,15nm,1.4s
CM31 Chiang Mai Arr 74.81 294 *e*P P 18 32 10.2 -1.4
comp=Z,4.7nm,0.8s
CMAR Chiang Mai Arr 74.81 294 P P 18 32 11.4 -0.2
comp=Z,1.8nm,0.9s,baz=115,slow=3.7,SNR=11
CMAR Chiang Mai Arr 74.81 294 P P 18 32 11.4 -0.2
HHC Hu-ho-hao-te 74.84 319 *e*P P 18 32 12.9 +1.5
HHC pP PcP 18 32 25.9 +0.7
HHC sP sP 18 32 31.4 +0.8
HHC PP PP 18 35 02.6 +3.1
HHC S S 18 41 45.8 +0.8
HHC sS SKSac 18 42 08.1 -8.3
HHC SS SS 18 46 37.5 +3.3
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.1s
HHC LR LR
comp=N,87nm,11.9s
HHC LR LR
comp=E,170nm,11.0s
HHC LR LR
comp=Z,210nm,15.5s
CD2 Chengdu 75.54 307 P P 18 32 16.1 +0.5
CD2 pP pP 18 32 30.3 +0.9
CD2 sP sP 18 32 36.0 +1.2
CD2 PP PP 18 35 07.9 +2.3
CD2 S S 18 41 51.8 -1.2
CD2 sS SKSac 18 42 15.9 -6.0
CD2 SS SS 18 46 46.0 +1.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,130nm,4.3s
CD2 LR LR
comp=N,410nm,5.4s
CD2 LR LR
comp=Z,330nm,5.4s
QSPA South Pole Qui 76.66 180 P P 18 32 21.0 -0.5
comp=Z,4.5nm,1.0s,baz=22,slow=2.4,SNR=6.8
QSPA South Pole Qui 76.66 180 P P 18 32 21.0 -0.5
LZH Lanzhou 77.74 312 *e*P P 18 32 28.0 -0.1
LZH pP pP 18 32 42.5 +0.6
LZH sP sP 18 32 47.6 +0.3
LZH PP PP 18 35 25.8 +1.7
LZH *e*S S 18 42 16.0 -1.1
LZH sS SKKSac 18 42 40.3 +1.3
LZH pmax pmax
comp=Z,34nm,1.5s
LZH pmax pmax
comp=Z,240nm,7.4s
LZH LR LR
comp=N,400nm,17.2s
LZH LR LR
comp=E,570nm,18.0s
LZH LR LR
comp=Z,500nm,19.3s
YAK Yakutsk 80.86 343 *e*P P 18 32 42.3 -1.9
comp=Z,26nm,1.2s
ULN Ulaanbaatar 81.30 324 *e*P P 18 32 46.1 -1.0
comp=Z,18nm,1.2s
SONM Songino Array 81.67 323 P P 18 32 47.8 -1.3
comp=Z,3.3nm,0.9s,baz=131,slow=4.0,SNR=11
SONM Songino Array 81.67 323 P P 18 32 47.8 -1.3
GTA Gaotai 82.05 314⇑*e*P P 18 32 51.1 -0.2
GTA pP pP 18 33 04.4 -0.8
GTA sP sP 18 33 09.4 -1.2
GTA S S 18 43 01.3 -1.1
GTA SKS SKSac 18 43 03.9 -4.1
GTA sS ScS 18 43 23.9 +5.5
GTA SS SS 18 48 25.8 +3.1
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,180nm,15.2s
GTA LR LR
comp=E,140nm,15.9s
GTA LR LR
comp=Z,180nm,16.6s
MCK McKinley 83.72 18 *e*P P 18 33 00.7 +1.4
comp=Z,9.2nm,1.2s
COLA College 84.89 17 *e*P P 18 33 06.7 +1.6
comp=Z,19nm,1.0s
ILAR Eielson Array 85.09 18 P P 18 33 02.9 -3.3
comp=Z,5.8nm,0.9s,baz=236,slow=5.7,SNR=14
ILAR LR LR 19 04 43.4
comp=Z,126nm,19.5s,baz=262,slow=31
ILAR Eielson Array 85.09 18 P P 18 33 02.9 -3.3
TLY Talaya 85.11 326 *e*P P 18 33 05.1 -1.5
comp=Z,18nm,1.2s
MPMC Manual Prospec 85.85 52 ⇑P P 18 33 10.1 -0.7
baz=86
NVAR Mina Array Bea 86.05 49 P P 18 33 09.5 -2.3
comp=Z,2.4nm,0.8s,baz=227,slow=8.4,SNR=6.7
NVAR Mina Array Bea 86.05 49 P P 18 33 09.5 -2.3
BELC Belle Mtn. Jos 86.33 54 ⇓P P 18 33 12.3 -0.8
baz=86
HEC Hector,Ludlow 86.34 53 ⇓P P 18 33 12.7 -0.4
baz=86
BC3 Big Chuckawall 86.65 54 ⇑P P 18 33 14.2 -0.5
baz=87
EGAK Eagle 86.89 20 *e*P P 18 33 17.2 +2.2
comp=Z,11nm,1.0s
GLA Glamis 86.96 55 ⇑P P 18 33 16.0 -0.2
baz=87
IRM Iron Mountain 87.05 54 ⇓P P 18 33 16.7 +0.2
baz=87
PDMCI Parker Dam,Lak 87.89 54 ⇓P P 18 33 20.3 -0.2
baz=88
R11A Troy Canyon, C 88.03 50 ⇑P P 18 33 21.1 -0.2
baz=88
W13A Hualapai Mount 88.33 53 ⇑P P 18 33 22.7 -0.2
baz=88
ELK Elko 89.05 48 *e*P P 18 33 25.9 -0.3
R13A O'Grain Ranch, 89.19 51 ⇓P P 18 33 26.7 -0.1
baz=89
U15A North Rim 89.95 53 ⇑P P 18 33 30.6 0.0
baz=90
TUC Tucson 90.01 57 *e*P P 18 33 29.7 -1.0
comp=Z,13nm,1.2s
X16A Lo Mia Camp, P 90.06 55 ⇑P P 18 33 30.3 -0.6
baz=90
I12A Atlanta 90.09 45 ⇑P P 18 33 31.1 +0.2
baz=90
G12A Big Creek, Yel 90.38 44 ⇑P P 18 33 31.6 -0.6
baz=90
HLID Hailey 90.51 45 ⇑P P 18 33 32.3 -0.6
baz=91
H12A Diamond D Ranc 90.51 44 ⇓P P 18 33 31.4 -1.4
baz=91
F12A Elk City 90.62 43 ⇓P P 18 33 32.7 -0.5
baz=91
E12A Beaver Dam Sad 90.62 42 ⇓P P 18 33 33.1 -0.2
baz=91
C11A Tepee Creek (N 90.64 41 ⇓P P 18 33 33.2 -0.1
baz=91
I13A Wildhorse Cree 90.82 45 ⇑P P 18 33 34.3 0.0
baz=91
L14A Malta 90.87 47 ⇑P P 18 33 34.2 -0.3
baz=91
H13A Challis 90.92 44 ⇑P P 18 33 34.3 -0.4
baz=91
D12A Red Ives Fores 90.97 42 ⇓P P 18 33 34.5 -0.3
baz=91
319A Douglas 91.00 58 ⇑P P 18 33 35.0 -0.3
baz=91
G13A Cobalt 91.10 44 ⇓P P 18 33 34.6 -1.0
baz=91
F13A Darby 91.25 43 ⇑P P 18 33 35.8 -0.4
baz=91
I14A Mackay 91.28 45 ⇑P P 18 33 35.6 -0.9
baz=91
INK Inuvik 91.46 19 *e*P P 18 33 34.1 -2.3
W18A Petrified Fore 91.60 54 ⇑P P 18 33 37.3 -0.8
baz=92
320A Kipp Ranch, An 91.61 58 ⇓P P 18 33 37.7 -0.5
baz=92
220A Playas Peak, P 91.75 58 ⇑P P 18 33 37.6 -1.3
baz=92
S18A Hurst Farm, Bl 92.07 52 ⇑P P 18 33 39.3 -1.1
baz=92
WMQ Urumqi 92.09 314 *e*P P 18 33 40.2 +0.2
WMQ LR LR
comp=N,32nm,16.0s
WMQ LR LR
comp=E,74nm,20.0s
WMQ LR LR
comp=Z,67nm,21.0s
I16A Newdale 92.63 46 ⇑P P 18 33 42.3 -0.3
baz=93
B14A Marquette Ranc 92.71 41 ⇓P P 18 33 42.6 -0.3
baz=93
Z22A Elephant Butte 93.36 57 ⇑P P 18 33 45.5 -0.8
baz=93
PDAR Pinedale Array 93.70 47 P P 18 33 46.7 -1.0
comp=Z,0.3nm,0.7s,baz=253,slow=6.1,SNR=2.6
PDAR Pinedale Array 93.70 47 P P 18 33 46.7 -1.0
BNM Barren Site 93.84 56 *e*P P 18 33 49.2 +0.6
comp=Z,7.3nm,1.0s
Y23A Lovelace Mesa, 94.26 56 ⇑P P 18 33 48.5 -1.9
baz=94
224A Cornudas Mount 94.27 58 ⇓P P 18 33 49.1 -1.4
baz=94
426A McDonald Obser 95.21 60 ⇑P P 18 33 53.8 -1.1
baz=95
TXAR Lajitas Array 95.23 61 P P 18 33 52.4 -2.5
comp=Z,0.3nm,0.5s,baz=205,slow=4.0,SNR=2.8
TXAR Lajitas Array 95.23 61 P P 18 33 52.4 -2.5
C19A Slack Wire Ran 95.27 42 ⇑P P 18 33 54.2 -0.4
baz=95
527A Woodward Ranch 95.45 60 ⇓P P 18 33 55.3 -0.6
baz=96
A19A Klindworth Far 95.75 41 ⇓P P 18 33 56.2 -0.6
baz=96
H21A Big Horn, Sher 95.91 46 ⇑P P 18 33 56.4 -1.3
baz=96
YKA Yellowknife Ar 96.13 27 P P 18 33 54.5 -3.5
comp=Z,1.6nm,0.7s,baz=255,slow=4.7,SNR=13
YKA Yellowknife Ar 96.13 27 P P 18 33 54.5 -3.5
528A Cox Ranch, San 96.16 61 ⇓P P 18 33 58.3 -0.8
baz=96
MK31 Makanchi Array 96.52 316 *e*P P 18 33 58.9 -1.3
MKAR Makanchi Array 96.52 316 P P 18 33 58.6 -1.6
comp=Z,2.8nm,0.9s,baz=101,slow=6.3,SNR=18
MKAR Makanchi Array 96.52 316 P P 18 33 58.6 -1.6
ZALV Zalesovo Beam 96.56 324 P P 18 33 57.6 -2.5
comp=Z,0.4nm,0.5s,baz=84,slow=4.6,SNR=4.3
ZALV LR LR 19 15 45.5
comp=Z,72nm,19.4s,baz=246,slow=34
ZALV Zalesovo Beam 96.56 324 P P 18 33 57.6 -2.5
KSH Kashi 99.70 308 P Pdif 18 34 16.6 +1.8
KSH pP pP 18 34 30.1 +1.1
KSH sP sP 18 34 35.9 +1.6
KSH SKS SKSac 18 44 50.7 +0.9
KSH S ScS 18 45 44.2 -0.7
KSH sS sS 18 46 07.1 -1.8
KSH SS SS 18 52 42.8 +5.3
KSH pmax pmax
comp=Z,210nm,5.8s
KSH LR LR
comp=N,80nm,4.7s
KSH LR LR
comp=E,86nm,4.6s
KSH LR LR
comp=Z,240nm,6.6s
KEST Kesra 150.42 323 PKPbc PKPbc 18 40 21.8 -0.8
comp=Z,3.1nm,0.9s,baz=90,slow=1.0,SNR=3.6
KEST Kesra 150.42 323 PKPbc PKPbc 18 40 21.8 -0.8
TORD Torodi Ar. Bea 166.40 271 PKP PKPdf 18 40 34.7 -2.0
comp=Z,1.5nm,1.1s,baz=313,slow=1.0,SNR=3.7
TORD PKPab PKPab 18 41 40.7 +2.1
comp=Z,1.2nm,0.9s,baz=95,slow=4.3,SNR=4.5
TORD Torodi Ar. Bea 166.40 271 PKP PKPdf 18 40 34.7 -2.0
TORD PKPab PKPab 18 41 40.7 +2.1

IDC 05 18:33:06.4±1.4**, 13.°21S**×**167.°89E, h0**km**, mb3.9**/9**, mb1 4.1**/11**, mb1mx3.9**/22**, mbtmp3.9**/11**, ML4.2**/2**, MS4.6**/1**, Ms1 4.6**/1**, ms1mx2.8**/34**, Error ellipse: s-maj=38.3km s-min=22.1km az=127.0, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 8.65 295 Pn Pn 18 35 14.8 +2.0
2.8nm,0.3s,baz=23,slow=13,SNR=3.0
HNR Sn Sn 18 36 51.3 +0.1
1.2nm,0.3s,baz=352,slow=23,SNR=3.1
DZM Mont Dzumac 8.92 189 Pn Pn 18 35 18.3 +1.6
2.4nm,0.3s,baz=304,slow=23,SNR=52
DZM Mont Dzumac 8.92 189 *e*P Pn 18 35 18.0 +1.3
STKA Stephens Creek 30.44 228 P P 18 39 21.7 +0.9
4.3nm,0.7s,baz=48,slow=9.9,SNR=15
WRA Warramunga Arr 32.80 254 P P 18 39 40.5 -1.3
0.4nm,0.5s,baz=85,slow=9.5,SNR=12
ASAR Alice Springs 33.79 247 P P 18 39 49.1 -1.3
1.2nm,0.6s,baz=74,slow=9.5,SNR=35
GUMO Guam 35.06 319 LR LR 18 51 03.0
comp=Z,1μm,21.4s,baz=125,slow=31
FITZ Fitzroy Crossi 40.91 258 P P 18 40 50.4 -0.3
1.2nm,0.9s,baz=112,slow=8.0,SNR=2.7
CMAR Chiang Mai Arr 74.89 293 P P 18 44 50.5 +0.8
0.6nm,0.8s,baz=140,slow=4.3,SNR=4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SONM	**Songino Array**	**81.64**	**323**	P	P	18 45 27.2	+0.6
	0.5nm,0.9s,baz=80,slow=4.7,SNR=3.7						
ILAR	**Eielson Array**	**84.91**	**18**	P	P	18 45 42.6	-0.3
	0.9nm,1.0s,baz=231,slow=5.0,SNR=6.0						
YKA	**Yellowknife Ar**	**95.93**	**27**	P	P	18 46 33.9	-0.9
	0.1nm,0.6s,baz=260,slow=4.8,SNR=4.0						
MKAR	**Makanchi Array**	**96.53**	**316**	P	P	18 46 38.3	+0.2
	0.8nm,0.8s,baz=101,slow=6.3,SNR=5.8						

---

*ISCJB **05** 18:34:53.3±0.5, 38°.25N±0°.03×28°.75E±0°.04, h9km±5km, Error ellipse: s-maj=5.9km s-min=3.8km az=156.1*
*DDA **05** 18:34:53.1, 38°.24N×28°.70E, h10km, MD2.7*
*ISK **05** 18:34:53.0, 38°.26N×28°.78E, h8km, MD2.6*
*CSEM **05** 18:34:53.4±0.1, 38°.25N×28°.74E, h10km, MD2.6, Error ellipse: s-maj=3.9km s-min=2.9km az=59.0*
ISC 05 18:34:53.4±0.9**, 38°.25N**±0°.02×**28°.74E**±0°.02**, h11**km±8km**, n32, σ0^{s}63**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.27**	**346**	PG	**Pg**	**18 34 59.5**	**+0.5**
KULA				SG	**Sg**	**18 35 02.9**	**+0.2**
KULA	**Kula-Manisa**	**0.27**	**346**	*i* Pg	**Pg**	**18 34 59.5**	**+0.5**
KULA				*i* Sg	**Sg**	**18 35 02.9**	**+0.2**
MANT	**Manisa**	**0.28**	**329**	*i* P	**Pg**	**18 34 59.5**	**+0.3**
MANT				*i* S	**Sg**	**18 35 03.2**	**+0.1**
MANT	**Manisa**	**0.28**	**329**	*i* P	**Pg**	**18 34 59.5**	**+0.3**
MANT				*i* S	**Sg**	**18 35 03.2**	**+0.1**
DENT	**Denizli**	**0.55**	**155**	*e*PG	**Pg**	**18 35 04.3**	**+0.3**
DENT	**Denizli**	**0.55**	**155**	*e*Pg	**Pg**	**18 35 04.3**	**+0.3**
KHAL	**Karahalli**	**0.60**	**78**	*i* P	**Pb**	**18 35 05.7**	**-0.3**
KHAL				*i* S	**Sg**	**18 35 13.2**	**+0.1**
KHAL	**Karahalli**	**0.60**	**78**	*i* P	**Pb**	**18 35 05.7**	**-0.3**
KHAL				*i* S	**Sg**	**18 35 13.2**	**+0.1**
DNZL	**Cakiroluk**	**0.61**	**157**	*i* P	**Pg**	**18 35 05.2**	**-0.1**
DNZL				*i* S	**Sg**	**18 35 13.3**	**0.0**
DNZL	**Cakiroluk**	**0.61**	**157**	*i* P	**Pg**	**18 35 05.2**	**-0.1**
DNZL				*i* S	**Sg**	**18 35 13.3**	**0.0**
KHL	**Karahalli**	**0.62**	**83**	*e*PG	**Pg**	**18 35 04.5**	**-1.0**
KHL	**Karahalli**	**0.62**	**83**	*e*Pg	**Pg**	**18 35 04.5**	**-1.0**
DEMI	**Demirci**	**0.79**	**359**	*i* P	**Pb**	**18 35 09.1**	**-0.2**
DEMI				*i* S	**Sg**	**18 35 19.1**	**-0.1**
DEMI	**Demirci**	**0.79**	**359**	*i* P	**Pb**	**18 35 09.1**	**-0.2**
DEMI				*i* S	**Sg**	**18 35 19.0**	**-0.1**
AYDN	**Tasoluk**	**0.90**	**229**	*i* P	**Pg**	**18 35 09.7**	**-1.1**
AYDN				*i* S	**Sg**	**18 35 22.5**	**0.0**
AYDN	**Tasoluk**	**0.90**	**229**	*i* P	**Pg**	**18 35 09.7**	**-1.1**
AYDN				*i* S	**Sg**	**18 35 22.5**	**0.0**
AKHS	**Akhisar**	**0.96**	**311**	*i* P	**Pn**	**18 35 12.6**	**-0.3**
AKHS				*i* S	**Sb**	**18 35 25.3**	**+0.5**
AKHS	**Akhisar**	**0.96**	**311**	*i* P	**Pn**	**18 35 12.6**	**-0.3**
AKHS				*i* S	**Sb**	**18 35 25.3**	**+0.5**
AKS	**Akhisar**	**0.96**	**311**	*e*PG	**Pb**	**18 35 12.3**	**+0.2**
AKS	**Akhisar**	**0.96**	**311**	*e*Pg	**Pb**	**18 35 12.3**	**+0.2**
YER	**Yerkesik**	**1.17**	**198**	*e*PN	**Pb**	**18 35 15.4**	**-0.3**
YER	**Yerkesik**	**1.17**	**198**	*e*Pn	**Pb**	**18 35 15.4**	**-0.3**
IZM	**Izmir**	**1.17**	**278**	*e*PN	**Pg**	**18 35 16.2**	**+0.2**
IZM	**Izmir**	**1.17**	**278**	*e*Pn	**Pg**	**18 35 16.2**	**+0.2**
GOLH	**Golhisar**	**1.20**	**147**	*i* P	**Pg**	**18 35 16.9**	**+0.4**
GOLH				*i* S	**Sn**	**18 35 34.7**	**+2.0**
GOLH	**Golhisar**	**1.20**	**147**	*i* P	**Pg**	**18 35 16.9**	**+0.4**
GOLH				*i* S	**Sn**	**18 35 34.7**	**+2.0**
TVSB	**Tavsanli**	**1.32**	**25**	*e*PN	**Pb**	**18 35 18.3**	**-0.1**
TVSB	**Tavsanli**	**1.32**	**25**	*e*Pn	**Pb**	**18 35 18.3**	**-0.1**
BLCB	**Balcova**	**1.34**	**276**	*e*PN	**Pg**	**18 35 18.9**	**-0.3**
BLCB	**Balcova**	**1.34**	**276**	*e*Pn	**Pg**	**18 35 18.9**	**-0.3**
BALY	**Balya**	**1.73**	**330**	*i* P	**Pn**	**18 35 22.2**	**-1.3**
BALY				*i* S	**Sn**	**18 35 45.6**	**0.0**
BALY	**Balya**	**1.73**	**330**	*i* P	**Pn**	**18 35 22.2**	**-1.3**
BALY				*i* S	**Sn**	**18 35 45.6**	**0.0**

---

*ISCJB **05** 18:48:23.5±0.9, 23°.92S±0°.06×66°.6W±0°.1, h195km, mb3.5/2, Error ellipse: s-maj=15.3km s-min=8.8km az=171.7*
*IDC **05** 18:48:28.2±1.9, 23°.59S×66°.37W, h222km±17km, mb3.5/2, mb1 3.5/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=26.7km s-min=17.4km az=79.0*
ISC 05 18:48:25.2±0.8**, 23°.78S**±0°.08×**66°.6W**±0°.1**, h195**km**, n13, σ1^{s}55**/15**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.60**	**349**	P	**Pn**	**18 50 15.5**	**+1.7**
	0.4nm,0.3s,baz=187,slow=7.2,SNR=8.2						
LPAZ				S	**Sn**	**18 51 40.0**	**0.0**
	0.1nm,0.3s,baz=332,slow=16,SNR=2.8						
CPUP	**Villa Florida**	**8.75**	**109**	P	**Pn**	**18 50 28.5**	**+0.3**
	0.5nm,0.3s,baz=274,slow=9.3,SNR=9.3						
SIV	**San Ignacio**	**9.31**	**35**	P	**Pn**	**18 50 35.8**	**+0.2**
	0.6nm,0.3s,baz=224,slow=16,SNR=16						
SIV				S	**Sn**	**18 52 20.9**	**+0.9**
	0.1nm,0.3s,baz=112,slow=24,SNR=2.3						
PLCA	**Paso Flores**	**17.23**	**190**	P	**Pn**	**18 52 17.4**	**+2.9**
	0.4nm,0.3s,baz=2.0,slow=12,SNR=7.3						
BDFB	**Brasilia**	**19.23**	**68**	P	**P**	**18 52 36.3**	**+1.3**
	0.6nm,0.3s,baz=239,slow=12,SNR=12						
VNA3	**Neumayer Olymp**	**57.23**	**161**	*e*P	**P**	**18 57 51.5**	**-0.2**
VNA2	**Neumayer--Watz**	**57.79**	**161**	*e*P	**P**	**18 57 55.6**	**0.0**
	baz=286,slow=6.9						
TORD	**Torodi Ar. Bea**	**76.12**	**69**	P	**P**	**18 59 51.0**	**-1.0**
	0.7nm,0.5s,baz=256,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**94.06**	**340**	P	**P**	**19 01 19.9**	**-0.8**
	0.2nm,0.5s,baz=135,slow=4.3,SNR=7.6						
ASAR	**Alice Springs**	**128.82**	**204**	PKP	**PKPdf**	**19 07 08.8**	**-1.4**
	0.4nm,0.7s,baz=113,slow=1.5,SNR=3.3						
WRA	**Warramunga Arr**	**132.00**	**207**	PKP	**PKPdf**	**19 07 14.9**	**-1.3**
	0.3nm,0.6s,baz=151,slow=1.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**143.01**	**28**	PKP	**PKPdf**	**19 07 32.2**	**-3.2**
	0.3nm,0.4s,baz=305,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**146.10**	**40**	PKPbc	**PKPdf**	**19 07 41.0**	**0.0**
	4.3nm,0.3s,baz=308,slow=2.9,SNR=15						

IDC 05 18:57:24.4±1.0**, 6°.69S**×**154°.69E, h0**km**, mb3.9**/10**, mb1 4.0**/11**, mb1mx3.9**/19**, mbtmp3.9**/11**, ML3.7**/1**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx3.1**/28**, Error ellipse: s-maj=37.5km s-min=20.3km az=110.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.88**	**118**	Pn	Pn	18 58 57.1	+4.3
	1.5nm,0.3s,baz=219,slow=13,SNR=1.7						
HNR				Sn	Sb	19 00 14.0	-4.7
	2.9nm,0.3s,baz=105,slow=20,SNR=2.7						
PMG	**Port Moresby**	**7.93**	**250**	Pn	Pn	18 59 25.7	+4.7
	0.8nm,0.3s,baz=72,slow=3.2,SNR=4.3						
PMG				Sn	Sn	19 00 55.9	+4.3
	0.3nm,0.3s,baz=66,slow=20,SNR=3.6						
CTA	**Charters Tower**	**15.63**	**211**	Pn	Pn	19 01 07.5	+1.3
	0.2nm,0.3s,baz=40,slow=6.7,SNR=3.6						
CTA				LR	LR	19 06 32.4	
	comp=Z,101nm,18.1s,baz=54,slow=35						
WRA	**Warramunga Arr**	**23.74**	**234**	P	P	19 02 37.4	-1.2
	2.3nm,0.9s,baz=59,slow=10.0,SNR=9.4						
ASAR	**Alice Springs**	**26.15**	**228**	P	P	19 03 00.8	+0.1
	1.1nm,0.8s,baz=66,slow=9.2,SNR=5.3						
ASAR				LR	LR	19 12 27.3	
	comp=Z,82nm,18.7s,baz=146,slow=34						
STKA	**Stephens Creek**	**27.88**	**204**	P	P	19 03 17.1	+1.0
	2.7nm,1.1s,baz=27,slow=11,SNR=3.2						
STKA				LR	LR	19 14 36.4	
	comp=Z,114nm,18.6s,baz=23,slow=37						
PETK	**Petropavlovsk-**	**59.62**	**2**	P	P	19 07 33.0	+2.9
	3.2nm,0.8s,baz=171,slow=8.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**60.38**	**296**	P	P	19 07 37.6	+1.7
	1.3nm,0.8s,baz=106,slow=4.9,SNR=12						
SONM	**Songino Array**	**68.92**	**327**	P	P	19 08 30.6	-0.7
	0.2nm,0.5s,baz=151,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**82.98**	**319**	P	P	19 09 51.4	-0.1
	1.2nm,0.7s,baz=103,slow=5.5,SNR=6.2						
ILAR	**Eielson Array**	**83.20**	**22**	P	P	19 09 52.4	+0.1
	0.4nm,1.0s,baz=248,slow=4.8,SNR=3.1						
QSPA	**South Pole Qui**	**83.28**	**180**	P	P	19 09 52.5	-0.4
	2.8nm,1.0s,baz=6.2,slow=4.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**83.76**	**326**	P	P	19 09 53.8	-1.6
	1.0nm,0.8s,baz=129,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**96.21**	**28**	P	P	19 10 55.7	+1.6
	0.2nm,0.5s,baz=263,slow=4.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**152.65**	**286**	PKPbc	PKPbc	19 17 23.0	-1.1
	3.4nm,0.8s,baz=60,slow=1.9,SNR=19						

CASC 05 19:14:37.3±3.7**, 13°.72N**×**89°.72W, h109**km±20km**, MD3.5, 1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.40**	**5**	*e*P	Pn	19 14 55.4	+1.7
BOQS	**Boqueron**	**0.43**	**88**	*e*P	Pn	19 14 53.9	0.0
BOQS				*e*S	Sn	19 15 07.9	+1.5
LFRS	**El Faro**	**0.65**	**98**	⇑*e*P	Pn	19 14 55.1	-0.2
LFRS				*e*S	Sn	19 15 10.1	+1.3
LBRS	**Las Brisas**	**0.66**	**88**	*e*P	Pn	19 14 56.4	+1.1
MTO2	**Montecristo 2**	**0.76**	**27**	*e*P	Pn	19 15 01.2	+4.8
IXG	**Ixpaco**	**0.85**	**303**	*e*P	Pn	19 14 55.9	-1.2
IXG				*e*S	Sn	19 15 13.4	+1.4
SNVI	**San Vicente**	**0.86**	**97**	*e*P	Pn	19 14 58.1	+0.8
NBG	**Las Nubes**	**1.06**	**325**	*e*P	Pn	19 14 59.1	-0.3
NBG				*e*S	Sn	19 15 19.1	+3.0
FUG	**Fuego 3**	**1.31**	**304**	*e*P	Pn	19 15 01.8	-0.3
FUG				*e*S	Sn	19 15 23.8	+3.0
MRL	**Marmol**	**1.34**	**1**	*e*P	Pn	19 14 56.1	-6.3
MRL				*e*S	Sn	19 15 20.9	-0.6
TP2	**Tecpan 2**	**1.65**	**310**	*e*P	Pn	19 15 08.3	+1.9
TP2				*e*S	Sn	19 15 33.4	+4.9

---

*TIR **05** 19:15:23.5±2.1, 41°.03N×19°.47E, h6km±24km, ML3.0*
*CSEM **05** 19:15:24.2±0.4, 41°.02N×19°.48E, h2km, ML3.0, Error ellipse: s-maj=6.3km s-min=4.6km az=8.0*
*SKO **05** 19:15:25.6, 41°.15N×19°.49E, h9km*
*BEO **05** 19:15:25.0±0.8, 41°.02N×19°.47E, h4km±2km, ML2.9/5*
*PDG **05** 19:15:27.6±0.3, 41°.23N×19°.61E, h11km±1km, ML2.9/9, Error ellipse: s-maj=1.7km s-min=2.0km az=0.0*
ISC 05 19:15:23.0±1.6**, 40°.97N**±0°.05×**19°.43E**±0°.03**, h1**km±10km**, n51, σ1^{s}07**/102**, 6C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.50**	**41**	*e*PG	**Pg**	**19 15 32.4**	**-0.1**
TIR				*i* SG	**Sg**	**19 15 37.7**	**-1.2**
TIR	**Tirane**	**0.50**	**41**	*e*Pg	**Pg**	**19 15 32.2**	**-0.3**
TIR				*e*Sg	**Sg**	**19 15 40.1**	**+1.2**
TIR	**Tirane**	**0.50**	**41**	*e*Pg	**Pg**	**19 15 32.4**	**-0.1**
	SNR=90						
TIR				*i* Sg	**Sg**	**19 15 37.7**	**-1.2**
	SNR=90						
ULC	**Ulcinj**	**1.00**	**352**	⇑*i*Pg	**Pg**	**19 15 42.2**	**+0.1**
ULC				*e*Sg	**Sg**	**19 15 54.6**	**-0.5**
ULC	**Ulcinj**	**1.00**	**352**	⇑*i*Pg	**Pg**	**19 15 42.2**	**+0.1**
ULC				*e*Sg	**Sg**	**19 15 54.6**	**-0.5**
PHP	**Peshkopia**	**1.04**	**47**	*e*PG	**Pg**	**19 15 41.0**	**-1.9**
PHP				*i* SG	**Sg**	**19 15 56.2**	**-0.2**
PHP	**Peshkopia**	**1.04**	**47**	*e*Pg	**Pg**	**19 15 41.0**	**-1.9**
	SNR=90						
PHP				*i* Sg	**Sg**	**19 15 56.2**	**-0.2**
	SNR=90						
PUK	**Puka**	**1.12**	**18**	*e*PG	**Pg**	**19 15 44.7**	**+0.2**
PUK				*i* SG	**Sb**	**19 16 00.8**	**+0.4**
PUK	**Puka**	**1.12**	**18**	*e*Pg	**Pg**	**19 15 44.7**	**+0.2**
	SNR=90						
PUK				*i* Sg	**Sb**	**19 16 00.8**	**+0.4**
	SNR=90						
BUM	**Brajici-Budva**	**1.39**	**343**	⇓*i*Pg	**Pg**	**19 15 49.8**	**+0.2**
BUM				*e*Sg	**Sn**	**19 16 08.5**	**-0.1**
BUM	**Brajici-Budva**	**1.39**	**343**	⇓*i*Pg	**Pg**	**19 15 49.8**	**+0.2**
BUM				*e*Sg	**Sn**	**19 16 08.5**	**-0.1**
BIA	**Bitola**	**1.43**	**88**	*e*Pn	**Pn**	**19 15 50.3**	**+0.1**
BIA				*e*Sg	**Sn**	**19 16 10.2**	**+0.6**
BIA	**Bitola**	**1.43**	**88**	*e*Pn	**Pn**	**19 15 50.2**	**+0.1**
BIA				*e*Sg	**Sn**	**19 16 10.2**	**+0.6**
PDG	**Podgorica**	**1.46**	**355**	*e*Pg	**Pn**	**19 15 50.1**	**-0.4**
PDG				*e*Sg	**Sg**	**19 16 09.4**	**-0.5**
PDG	**Podgorica**	**1.46**	**355**	*e*Pg	**Pn**	**19 15 50.1**	**-0.4**
PDG				*e*Sg	**Sg**	**19 16 09.4**	**-0.5**
TTG	**Podgorica**	**1.46**	**355**	⇓*i*Pg	**Pn**	**19 15 50.0**	**-0.4**
TTG				*e*Sg	**Sg**	**19 16 09.4**	**-0.5**
BCI	**Bajram Curri**	**1.47**	**19**	*e*PG	**Pn**	**19 15 49.5**	**-1.2**
BCI				*i* SG	**Sn**	**19 16 10.6**	**0.0**
BCI	**Bajram Curri**	**1.47**	**19**	*e*Pg	**Pn**	**19 15 49.5**	**-1.2**
	SNR=90						
BCI				*i* Sg	**Sn**	**19 16 10.6**	**0.0**
	SNR=90						
HCY	**Herceg Novi**	**1.63**	**335**	⇓*i*Pg	**Pg**	**19 15 54.7**	**+0.4**
HCY				*e*Sg	**Sg**	**19 16 17.2**	**+1.8**
HCY	**Herceg Novi**	**1.63**	**335**	⇓*i*Pg	**Pg**	**19 15 54.7**	**+0.4**
HCY				*e*Sg	**Sg**	**19 16 17.2**	**+1.8**
PVY	**Plav**	**1.67**	**13**	⇓*i*Pg	**Pn**	**19 15 53.8**	**+0.3**
PVY				*e*Sg	**Sn**	**19 16 15.2**	**-0.4**
PVY	**Plav**	**1.67**	**13**	⇓*i*Pg	**Pn**	**19 15 53.8**	**+0.3**
PVY				*e*Sg	**Sn**	**19 16 15.2**	**-0.4**
SKO	**Skopje**	**1.81**	**56**	*e*Pn	**Pn**	**19 15 55.7**	**+0.5**
SKO				*e*Sg	**Sn**	**19 16 18.5**	**-0.4**
SKO	**Skopje**	**1.81**	**56**	*e*Pn	**Pn**	**19 15 56.1**	**+0.8**
SKO				*e*Sn	**Sn**	**19 16 18.8**	**-0.1**
SKO	**Skopje**	**1.81**	**56**	*e*Pn	**Pn**	**19 15 56.1**	**+0.8**
SKO				*e*Sn	**Sn**	**19 16 18.8**	**-0.1**
BEY	**Berane**	**1.93**	**10**	⇓*i*Pn	**Pn**	**19 15 57.4**	**+0.4**
BEY				*e*Sn	**Sn**	**19 16 22.0**	**0.0**
IVA	**Berane**	**1.93**	**10**	⇓*i*Pn	**Pn**	**19 15 57.4**	**+0.4**
IVA				*e*Sn	**Sn**	**19 16 22.0**	**0.0**
BAI	**Bari**	**1.94**	**275**	*e*Pn	**Pn**	**19 15 58.6**	**+1.6**
BAI				*e*Sn	**Sn**	**19 16 22.4**	**+0.4**
BRY	**Bratogost**	**2.04**	**341**	⇑*i*Pn	**Pb**	**19 16 01.2**	**+0.3**
BRY				*e*Sn	**Sb**	**19 16 26.2**	**-0.6**
BRY	**Bratogost**	**2.04**	**341**	⇑*i*Pn	**Pb**	**19 16 01.2**	**+0.3**
BRY				*e*Sn	**Sb**	**19 16 26.2**	**-0.6**
UPM	**Unac-Piva**	**2.26**	**350**	⇑*i*Pn	**Pn**	**19 16 03.3**	**+1.6**
UPM				*e*Sn	**Sn**	**19 16 31.4**	**+1.0**
UPM	**Unac-Piva**	**2.26**	**350**	⇑*i*Pn	**Pn**	**19 16 03.3**	**+1.6**
UPM				*e*Sn	**Sn**	**19 16 31.4**	**+1.0**
STON	**Ston**	**2.30**	**326**	*e*Pn	**Pn**	**19 16 01.6**	**-0.4**
STON				Sn	**Sn**	**19 16 27.5**	**-3.4**
STON	**Ston**	**2.30**	**326**	*e*Pn	**Pn**	**19 16 01.5**	**-0.4**
STON				Sn	**Sn**	**19 16 27.4**	**-3.4**
SJES	**Sjenica**	**2.32**	**10**	*e*Pn	**Pn**	**19 16 03.1**	**+0.7**
SJES				*e*Sn	**Sn**	**19 16 31.7**	**0.0**
SJES	**Sjenica**	**2.32**	**10**	*e*Pn	**Pn**	**19 16 03.1**	**+0.7**
SJES				*e*Sn	**Sn**	**19 16 31.7**	**0.0**
PLE	**Pljevlja**	**2.35**	**359**	⇓*i*Pn	**Pn**	**19 16 04.8**	**+1.9**
PLE				*e*Sn	**Sn**	**19 16 33.2**	**+0.7**
PLE	**Pljevlja**	**2.35**	**359**	⇓*i*Pn	**Pn**	**19 16 04.8**	**+1.9**
PLE				*e*Sn	**Sn**	**19 16 33.2**	**+0.7**
BARS	**Barje**	**2.56**	**43**	*e*Pn	**Pn**	**19 16 07.5**	**+1.9**
BARS				*e*Sn	**Sn**	**19 16 38.0**	**+0.6**
BARS	**Barje**	**2.56**	**43**	*e*Pn	**Pn**	**19 16 07.5**	**+1.9**
BARS				*e*Sn	**Sn**	**19 16 38.0**	**+0.6**
SELS	**Selova**	**2.57**	**29**	*e*Pn	**Pn**	**19 16 06.4**	**+0.6**
SELS				*e*Sn	**Sn**	**19 16 37.7**	**0.0**
GRUS	**Gruza**	**3.06**	**18**	*e*Pn	**Pn**	**19 16 13.5**	**+1.0**
GRUS				*e*Sn	**Sn**	**19 16 49.4**	**-0.4**
GRUS	**Gruza**	**3.06**	**18**	*e*Pn	**Pn**	**19 16 13.5**	**+1.0**
GRUS				*e*Sn	**Sn**	**19 16 49.4**	**-0.4**
DIVS	**Divibare**	**3.15**	**7**	*e*Pn	**Pn**	**19 16 15.1**	**+1.3**
DIVS				*e*Sn	**Sn**	**19 16 52.7**	**+0.6**
DIVS	**Divibare**	**3.15**	**7**	*e*Pn	**Pn**	**19 16 15.1**	**+1.3**
DIVS				*e*Sn	**Sn**	**19 16 52.7**	**+0.6**
VTS	**Vitosha**	**3.25**	**59**	*e*Pn	**Pn**	**19 16 16.0**	**+0.7**
VTS				*e*Sn	**Sn**	**19 16 53.8**	**-0.9**
VTS	**Vitosha**	**3.25**	**59**	*e*Pn	**Pn**	**19 16 16.0**	**+0.7**
VTS				*e*Sn	**Sn**	**19 16 53.8**	**-0.9**
ZAPS	**Zavoj**	**3.31**	**45**	*e*Pn	**Pn**	**19 16 16.6**	**+0.7**
ZAPS				*e*Sn	**Sn**	**19 16 55.4**	**-0.5**
ZAPS	**Zavoj**	**3.31**	**45**	*e*Pn	**Pn**	**19 16 16.6**	**+0.7**
ZAPS				*e*Sn	**Sn**	**19 16 55.4**	**-0.5**
NVLJ	**Novalja**	**4.91**	**318**	*e*Pn	**Pn**	**19 16 38.0**	**+0.1**
NVLJ				Sn	**Sn**	**19 17 31.9**	**-3.5**
NVLJ	**Novalja**	**4.91**	**318**	*e*Pn	**Pn**	**19 16 38.0**	**+0.1**
NVLJ				Sn	**Sn**	**19 17 31.9**	**-3.5**

IDC 05 19:24:26.0±1.4**, 4°.10N**×**127°.00E, h0**km**, mb3.2**/4**, mb1 3.3**/4**, mb1mx3.2**/22**, mbtmp3.2**/4**, Error ellipse: s-maj=137.3km s-min=21.7km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.96**	**163**	P	P	19 29 52.4	+0.9
	0.5nm,0.6s,baz=343,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**28.41**	**167**	P	P	19 30 21.4	-1.1
	0.3nm,0.8s,baz=349,slow=12,SNR=4.9						
SONM	**Songino Array**	**47.03**	**341**	P	P	19 32 59.2	-0.3
	0.1nm,0.8s,baz=159,slow=5.7,SNR=2.6						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	19 34 16.6	+0.1
	0.2nm,0.5s,baz=120,slow=7.8,SNR=7.7						

---

*ISCJB **05** 19:31:53.2±0.2, 43°.97N±0°.01×105°.31W±0°.02, h0km, mb4.0/1, Error ellipse: s-maj=2.1km s-min=1.7km az=166.8*
*IDC **05** 19:31:54.7±1.0, 44°.29N×105°.72W, h0km, mb4.0/1, mb1 3.8/6, mb1mx3.5/31, mbtmp3.5/6, ML2.6/3, Error ellipse: s-maj=22.3km s-min=8.5km az=143.0*
*NEIC **05** 19:31:54.6±0.5, 43°.91N×105°.16W, h0km, ML3.4, Error ellipse: s-maj=9.4km s-min=6.3km az=172.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] SE of Gillette. ML 3.4 [GS].
ISC 05 19:31:53.5±0.6**, 43°.98N**±0°.02×**105°.30W**±0°.02**, h0**km**, n130, σ0^{s}88**/156**, 50C-54D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.12**	**262**	⇑P	**Pg**	**19 31 57.1**	**+1.4**
	baz=0.2,SNR=1000						
I23A				⇓S	**Sg**	**19 31 58.4**	**+1.2**
	baz=0.2						
I24A	**Kuemmerle Ranc**	**0.50**	**103**	P	**Pg**	**19 32 03.3**	**+0.1**
	baz=0.4,SNR=83						
H23A	**Clabaugh Cattl**	**0.59**	**353**	P	**Pb**	**19 32 05.8**	**-1.0**
	baz=0.7,SNR=45						
J23A	**Dilts Ranch, B**	**0.60**	**197**	P	**Pg**	**19 32 04.9**	**-0.1**
	baz=0.6,SNR=55						
J23A				⇑S	**Sg**	**19 32 11.9**	**-0.8**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.80**	**144**	P	**Pg**	**19 32 08.5**	**-0.3**
	baz=0.7,SNR=122						
J24A				⇓S	**Sg**	**19 32 19.6**	**+0.5**
	baz=0.7						
I22A	**9 Mile Ranch,**	**0.86**	**265**	P	**Pg**	**19 32 10.3**	**+0.4**
	baz=1.0,SNR=186						
RSSD	**Black Hills**	**0.93**	**81**	*e*Pg	**Pg**	**19 32 10.7**	**-0.6**
RSSD				*e*S	**Sg**	**19 32 24.2**	**+0.9**
H24A	**Dirks Ranch, A**	**0.94**	**35**	P	**Pg**	**19 32 11.6**	**0.0**
	baz=0.9,SNR=168						
H22A	**Clearmont**	**0.97**	**310**	⇓P	**Pb**	**19 32 13.0**	**-0.4**
	baz=1.1,SNR=262						
J22A	**Midwest**	**1.02**	**237**	⇑P	**Pg**	**19 32 12.3**	**-0.7**
	baz=1.1						
J22A				⇑S	**Sg**	**19 32 26.1**	**-0.2**
	baz=1.1						
G23A	**Biddle**	**1.23**	**357**	⇑P	**Pb**	**19 32 17.0**	**-0.6**
	baz=1.3,SNR=297						
K23A	**Bowen Ranch, D**	**1.24**	**191**	⇑P	**Pg**	**19 32 16.7**	**-0.7**
	baz=1.2,SNR=9.9						
K23A				⇓S	**Sg**	**19 32 33.4**	**0.0**
	baz=1.2						
K24A	**Anderson Ranch**	**1.30**	**164**	⇓P	**Pg**	**19 32 17.2**	**-1.3**
	baz=1.2						
K24A				⇓S	**Sg**	**19 32 35.5**	**+0.1**
	baz=1.2						
H21A	**Big Horn, Sher**	**1.41**	**298**	⇑P	**Pn**	**19 32 20.3**	**-0.2**
	baz=1.5,SNR=28						
G22A	**Birney**	**1.43**	**331**	⇑P	**Pg**	**19 32 20.7**	**-0.2**
	baz=1.5,SNR=163						
I21A	**Big Trails, Te**	**1.45**	**264**	⇓P	**Pn**	**19 32 19.8**	**-1.3**
	baz=1.5						
I21A				⇓S	**Sn**	**19 32 40.9**	**0.0**
	baz=1.5						
G24A	**Alzada**	**1.49**	**25**	⇑P	**Pg**	**19 32 21.8**	**-0.3**
	baz=1.5,SNR=32						
G24A				⇓S	**Sn**	**19 32 43.1**	**+1.2**
	baz=1.5						
K22A	**Casper**	**1.60**	**214**	P	**Pn**	**19 32 22.6**	**-0.6**
	baz=1.6,SNR=83						
K22A				⇓S	**Sn**	**19 32 44.3**	**-0.3**
	baz=1.6						
J21A	**Lysite**	**1.68**	**249**	⇓P	**Pn**	**19 32 23.7**	**-0.6**
	baz=1.7,SNR=30						
J21A				⇑S	**Sn**	**19 32 46.5**	**-0.1**
	baz=1.7						
K25A	**Mack Ranch, Ha**	**1.72**	**142**	⇓P	**Pn**	**19 32 24.7**	**-0.1**
	baz=1.6,SNR=67						
F23A	**Volborg**	**1.75**	**358**	⇑P	**Pb**	**19 32 25.9**	**-0.6**
	baz=1.8,SNR=77						
F23A				⇓Sb	**Sg**	**19 32 51.1**	**+1.5**
	baz=1.8						
G21A	**Lodge Grass**	**1.84**	**313**	P	**Pb**	**19 32 27.4**	**-0.8**
	baz=2.0,SNR=137						
G21A				⇑S	**Sg**	**19 32 51.8**	**-1.0**
	baz=2.0						
L23A	**Garrett**	**1.89**	**189**	P	**Pn**	**19 32 26.9**	**-0.3**
	baz=1.8,SNR=114						
L23A				⇑S	**Sn**	**19 32 52.1**	**+0.3**
	baz=1.8						
F22A	**Rosebud**	**1.93**	**340**	⇓P	**Pn**	**19 32 27.9**	**+0.3**
	baz=2.0,SNR=38						
F22A				⇓Sb	**Sg**	**19 32 55.8**	**+0.4**
	baz=2.0						
L24A	**Wheatland**	**1.95**	**172**	⇑P	**Pn**	**19 32 28.3**	**+0.3**
	baz=1.9,SNR=37						
L24A				⇑S	**Sn**	**19 32 53.7**	**+0.3**
	baz=1.9						
K21A	**Alcova**	**1.96**	**227**	⇓P	**Pn**	**19 32 28.5**	**+0.4**
	baz=2.0,SNR=56						
K21A				⇓Sb	**Sb**	**19 32 56.3**	**+1.1**
	baz=2.0						
F24A	**Ekalaka**	**1.96**	**18**	⇑P	**Pn**	**19 32 28.8**	**+0.6**
	baz=2.0,SNR=33						
F24A				⇓Sb	**Sg**	**19 32 56.9**	**+0.3**
	baz=2.0						
K26A	**Motz Farm, Whi**	**2.01**	**129**	⇓P	**Pn**	**19 32 28.9**	**+0.2**
	baz=1.9,SNR=22						
K26A				⇑Sb	**Sb**	**19 32 56.8**	**+0.3**
	baz=1.9						
I20A	**Worland**	**2.04**	**270**	⇑P	**Pn**	**19 32 29.7**	**+0.5**
	baz=2.1,SNR=86						
I20A				⇓Sb	**Sb**	**19 32 58.0**	**+0.5**
	baz=2.1						
L25A	**Engebretsen Ra**	**2.07**	**151**	⇑P	**Pn**	**19 32 30.3**	**+0.6**
	baz=2.0,SNR=16						
L25A				⇑Sb	**Sb**	**19 32 59.0**	**+0.7**
	baz=2.0						
J20A	**Shoshoni**	**2.11**	**254**	⇓Pb	**Pb**	**19 32 32.2**	**-0.5**
	baz=2.2						
J20A				⇑Sb	**Sg**	**19 33 00.7**	**-0.6**
	baz=2.2						
L22A	**Ellis Ranch, M**	**2.11**	**203**	⇑P	**Pn**	**19 32 31.1**	**+0.7**
	baz=2.1,SNR=18						
F21A	**Absaloka Mine,**	**2.25**	**326**	⇓Sb	**Sg**	**19 33 05.2**	**-0.7**
	baz=2.4						
G20A	**Bridger**	**2.42**	**302**	P	**Pn**	**19 32 34.7**	**+0.2**
	baz=2.5,SNR=223						
E22A	**Miles City**	**2.50**	**350**	⇑P	**Pn**	**19 32 35.7**	**+0.1**
	baz=2.6,SNR=26						
L21A	**Rawlins**	**2.52**	**218**	⇓P	**Pn**	**19 32 36.0**	**0.0**
	baz=2.5,SNR=5.9						
L21A				⇑Sb	**Sb**	**19 33 11.0**	**-0.4**
	baz=2.5						
M23A	**Laramie**	**2.53**	**187**	⇑P	**Pn**	**19 32 36.1**	**0.0**
	baz=2.5						
M24A	**Cheyenne**	**2.53**	**172**	⇓P	**Pn**	**19 32 36.9**	**+0.9**
	baz=2.5,SNR=82						
M24A				⇓Sb	**Sb**	**19 33 12.9**	**+1.2**
	baz=2.5						
K27A	**Flueckinger Fa**	**2.58**	**119**	⇓Sb	**Sb**	**19 33 13.3**	**+0.5**
	baz=2.4						
I19A	**Meeteetse**	**2.66**	**273**	⇓P	**Pn**	**19 32 38.8**	**+0.9**
	baz=2.8,SNR=11						
PHWY	**Pilot Hill**	**2.68**	**182**	*e*Pn	**Pn**	**19 32 37.7**	**-0.5**
E24A	**Baker**	**2.68**	**15**	⇓P	**Pn**	**19 32 38.9**	**+1.0**
	baz=2.7,SNR=24						
M25A	**Palm-Egli Farm**	**2.70**	**160**	⇓P	**Pn**	**19 32 39.2**	**+0.8**
	baz=2.6						
F20A	**Billings**	**2.72**	**313**	⇑P	**Pn**	**19 32 38.6**	**0.0**
	baz=2.8,SNR=74						
H19A	**Powell**	**2.73**	**286**	⇓P	**Pn**	**19 32 39.2**	**+0.5**
	baz=2.8,SNR=25						
M22A	**Cedar Creek Ra**	**2.74**	**201**	⇓P	**Pn**	**19 32 39.7**	**+0.6**
	baz=2.7,SNR=16						
M21A	**Separation Pea**	**2.81**	**213**	⇓P	**Pn**	**19 32 41.4**	**+1.4**
	baz=2.8,SNR=22						
RLMT	**Red Lodge**	**3.06**	**293**	*e*Pn	**Pn**	**19 32 42.9**	**-0.4**
RLMT	**Red Lodge**	**3.06**	**293**	⇓P	**Pn**	**19 32 42.9**	**-0.4**
	baz=3.2						
N23A	**Red Feather La**	**3.12**	**189**	P	**Pn**	**19 32 45.0**	**+0.8**
	baz=3.1,SNR=29						
F19A	**Roth Farm, Mol**	**3.19**	**307**	⇑P	**Pn**	**19 32 45.8**	**+0.7**
	baz=3.3,SNR=26						
F19A				⇓S	**Sn**	**19 33 24.7**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=3.3						
D23A	Lindsay	3.20	1	⇑P	Pn	19 32 46.0	+0.9
	baz=3.3,SNR=62						
H18A	Shoshone NF, C	3.21	284	⇑P	Pn	19 32 45.5	+0.1
	baz=3.3,SNR=9.2						
D24A	Glendive	3.21	12	⇑P	Pn	19 32 46.8	+1.5
	baz=3.3						
E20A	Meyer Farm, Mu	3.22	323	⇑P	Pn	19 32 45.4	0.0
	baz=3.3						
D22A	Cohagen	3.23	349	⇑P	Pn	19 32 46.4	+0.8
	baz=3.3,SNR=14						
G18A	Lazy EL Ranch,	3.32	295	⇓P	Pn	19 32 47.6	+0.7
	baz=3.4,SNR=18						
BW06	Boulder Array	3.33	250	ePn	Pn	19 32 48.5	+1.4
PDAR	Pinedale Array	3.33	250	Pn	Pn	19 32 48.4	+1.3
	3.4nm,0.3s,baz=65,slow=16,SNR=40						
PDAR				Pg	Pb	19 32 52.7	-0.8
	4.4nm,0.3s,baz=63,slow=18,SNR=58						
PDAR				Sn	Sn	19 33 28.6	+1.2
	2.2nm,0.3s,baz=72,slow=20,SNR=4.6						
PDAR				Lg	Lg	19 33 35.2	
	2.7nm,0.3s,baz=64,slow=30,SNR=6.0						
PDAR	Pinedale Array	3.33	250	Pn	Pn	19 32 48.4	+1.3
PDAR				Pg	Pb	19 32 52.7	-0.8
PDAR				Sn	Sn	19 33 28.6	+1.2
PDAR				Lg	Lg	19 33 35.2	
E19A	Rath Farm, Rou	3.50	316	⇓P	Pn	19 32 49.0	-0.2
	baz=3.6						
C24A	Savage	3.61	10	⇓P	Pn	19 32 52.1	+1.4
	baz=3.7						
N21A	Black Mountain	3.61	208	⇓P	Pn	19 32 51.9	+1.0
	baz=3.6,SNR=7.7						
F18A	Big Timber	3.68	303	⇑P	Pn	19 32 52.2	+0.5
	baz=3.8						
D20A	Manuel Ranch,	3.69	328	⇓P	Pn	19 32 52.2	+0.3
	baz=3.8						
N27A	Anderson Farm,	3.77	146	⇑P	Pn	19 32 53.3	+0.2
	baz=3.7						
C22A	Vida	3.79	354	⇓P	Pn	19 32 54.8	+1.6
	baz=3.9						
O23A	Lake Granby, G	3.79	187	⇑P	Pn	19 32 54.4	+1.0
	baz=3.7						
C23A	Lambert	3.83	1	⇓P	Pn	19 32 55.3	+1.6
	baz=3.9						
N20A	Spence Gulch,	3.83	216	⇓P	Pn	19 32 54.8	+0.8
	baz=3.8,SNR=11						
LOHW	Long Hollow	3.85	266	Pn	Pn	19 32 57.4	+3.1
O24A	Longmont	3.86	177	⇑P	Pn	19 32 55.2	+0.9
	baz=3.8						
OGNE	Ogallala	3.88	140	ePn	Pn	19 32 54.3	-0.1
OGNE				ePg	Pb	19 33 03.9	+1.1
OGNE	Ogallala	3.88	140	⇑P	Pn	19 32 54.5	0.0
	baz=3.8,SNR=8.7						
FLWY	Flagg Ranch	3.89	273	ePn	Pn	19 32 58.0	+3.2
O22A	Kremmling	3.92	194	⇓P	Pn	19 32 55.7	+0.4
	baz=3.9,SNR=12						
SNOW	Snow King Moun	3.98	264	P	Pb	19 33 05.9	+1.2
YFT	Old Faithful	4.00	279	ePn	Pb	19 33 00.8	-4.3
O26A	Horse Wrangler	4.02	158	⇓P	Pn	19 32 57.0	+0.6
	baz=3.9						
IMW	Indian Meadow	4.07	271	ePg	Pb	19 33 08.0	+1.8
YMR	Madison River	4.12	282	Pn	Pb	19 33 05.3	-1.7
TPAW	Teton Pass	4.12	265	ePn	Pn	19 33 02.2	+4.2
E18A	Harlowton	4.16	310	⇑P	Pn	19 32 59.3	+0.9
	baz=4.3,SNR=8.2						
ISCO	Idaho Springs	4.18	183	ePn	Pn	19 32 59.4	+0.5
ISCO	Idaho Springs	4.18	183	⇑P	Pn	19 32 59.3	+0.5
	baz=4.1						
N19A	John Jarvie Ra	4.21	224	⇑P	Pn	19 32 59.3	+0.2
	baz=4.2,SNR=12						
F17A	Fitzpatrick Pl	4.26	299	⇓P	Pn	19 33 01.2	+1.4
	baz=4.4,SNR=40						
O27A	Beecher Island	4.33	150	⇓P	Pn	19 33 00.9	+0.2
	baz=4.2,SNR=6.5						
B22A	Reddig Ranch S	4.35	354	⇑P	Pn	19 33 01.6	+0.6
	baz=4.4						
N18A	Larsen Ranch,	4.41	229	⇑P	Pn	19 33 02.9	+1.0
	baz=4.4,SNR=11						
O20A	White River Ci	4.42	211	⇑P	Pn	19 33 02.9	+0.9
	baz=4.4,SNR=8.3						
DGMT	Dagmar	4.56	9	ePn	Pn	19 33 05.5	+1.7
E17A	Martinsdale	4.64	304	⇓P	Pn	19 33 05.9	+0.8
	baz=4.8,SNR=25						
P26A	Davis Ranch, A	4.65	161	⇑P	Pn	19 33 05.5	+0.4
	baz=4.6,SNR=8.8						
D17A	Six Diamond Ra	4.94	312	P	Pn	19 33 09.6	+0.5
	baz=5.0,SNR=56						
SMCO	Snowmass	4.96	195	eP	Pn	19 33 13.5	+3.9
P19A	Cripple Cowboy	5.14	214	⇓P	Pn	19 33 12.8	+0.9
	baz=5.1,SNR=9.8						
E16A	East Helena	5.17	302	⇓P	Pn	19 33 12.8	+0.5
	baz=5.3,SNR=16						
HWUT	Hardware Ranch	5.18	245	ePn	Pn	19 33 13.3	+0.9
	14nm,0.6s						
D16A	Dana Ranch, Ca	5.35	307	⇓P	Pn	19 33 15.0	+0.3
	baz=5.5,SNR=6.7						
HRY	Holter Researc	5.35	303	ePn	Pn	19 33 15.3	+0.6
	20nm,0.5s						
LRM	Limekiln Ridge	5.40	292	ePn	Pn	19 33 16.1	+0.6
	36nm,0.6s						
JLU	Jordanelle	5.67	236	Pn	Pn	19 33 21.1	+1.9
	11nm,0.7s						
DAU	Daniels Canyon	5.68	233	eP	Pn	19 33 20.9	+1.6
	14nm,0.8s						
P18A	Preston Nutter	5.70	222	⇑P	Pn	19 33 20.4	+0.7
	baz=5.7,SNR=35						
E15A	Deer Lodge	5.73	298	⇓P	Pn	19 33 20.4	+0.4
	baz=5.8,SNR=6.5						
C16A	Fuhringer Ranc	5.90	313	⇑P	Pn	19 33 22.2	0.0
	baz=6.0,SNR=5.7						
D15A	Lincoln	5.92	304	⇓P	Pn	19 33 22.9	+0.2
	baz=6.0,SNR=9.0						
SRU	San Rafael	6.24	221	⇑P	Pn	19 33 26.9	-0.2
	baz=6.3,SNR=19						
ECSD	EROS Data Cent	6.29	89	ePn	Pn	19 33 27.2	-0.3
	16nm,0.6s						
CHMT	Chamberlain Mo	6.32	300	ePn	Pn	19 33 28.6	+0.5
	2.9nm,0.4s						
TMUT	Trail Mountain	6.43	225	ePn	Pn	19 33 30.5	+0.7
	110nm,0.5s						
D14A	Greenough	6.54	301	⇑P	Pn	19 33 31.3	+0.2
	baz=6.7,SNR=5.2						
R18A	Canyonlands Na	6.57	213	P	Pn	19 33 31.6	0.0
	baz=6.6,SNR=42						
Q16A	Castle Valley	6.71	223	⇑P	Pn	19 33 33.7	+0.3
	baz=6.7,SNR=19						
DUG	Dugway	6.74	238	⇓P	Pn	19 33 34.2	+0.3
	baz=6.8,SNR=11						
D13A	Huson	7.14	299	⇓P	Pn	19 33 39.4	+0.1
	baz=7.2,SNR=6.3						
S18A	Hurst Farm, Bl	7.22	211	⇑P	Pn	19 33 40.6	+0.1
	baz=7.2,SNR=11						
S17A	Black Ridge (B	7.58	215	P	Pn	19 33 45.5	+0.2
	baz=7.6,SNR=5.9						
ULM	Lac du Bonnet	8.98	42	Pn	Pn	19 34 03.0	-1.3
	0.6nm,0.3s,baz=232,slow=12,SNR=4.5						
ULM				Pg	Pg	19 34 30.2	-15
	0.4nm,0.3s,baz=226,slow=13,SNR=2.3						
ULM				Lg	Lg	19 36 33.1	
	0.4nm,0.3s,baz=149,slow=22,SNR=3.6						
ULM	Lac du Bonnet	8.98	42	Pn	Pn	19 34 03.0	-1.3
ULM				Pg	Pg	19 34 30.2	-15
ULM				Lg	Lg	19 36 33.1	
FFC	Flin Flon	10.97	10	ePn	Pn	19 34 29.8	-1.9
	4.5nm,0.8s						
NVAR	Mina Array Bea	11.25	245	Pn	Pn	19 34 37.8	+2.1
	0.0nm,0.3s,baz=60,slow=12,SNR=5.3						
NVAR	Mina Array Bea	11.25	245	Pn	Pn	19 34 37.8	+2.1
TXAR	Lajitas Array	14.67	174	Pn	P	19 35 29.7	+0.8
	baz=0.4,slow=13,SNR=3.0						
TXAR				Lg	Lg	19 39 41.8	
	0.1nm,0.3s,baz=0.0,slow=33,SNR=3.3						
TXAR	Lajitas Array	14.67	174	Pn	P	19 35 29.8	+0.8
TXAR				Lg	Lg	19 39 41.8	
YKA	Yellowknife Ar	19.33	347	P	P	19 36 18.9	-1.1
	0.1nm,0.3s,baz=157,slow=12,SNR=10						
YKA	Yellowknife Ar	19.33	347	P	P	19 36 18.9	-1.1
MKAR	Makanchi Array	89.36	355	P	P	19 44 50.8	-1.0
	0.7nm,0.8s,baz=11,slow=3.8,SNR=8.9						
MKAR	Makanchi Array	89.36	355	P	P	19 44 50.8	-1.0

*SZGRF **05** 19:33:09.7, 19°.30S×179°.65W, h515km, Fiji Islands region*
*BJI **05** 19:33:12.6, 17°.39S×178°.40W, h535km, mB5.3/37, mb5.2/46*
*BGS **05** 19:33:13.0±8.6, 17°.51S×179°.06W, h532km, mb5.9(NEIC)*
*ISCJB **05** 19:33:13.5±0.6, 17°.52S±0°.04×179°.08W±0°.02, h523km±7km, mb5.3/235, Error ellipse: s-maj=6.4km s-min=2.7km az=164.2*
*IDC **05** 19:33:13.9±0.8, 17°.50S×179°.00W, h517km±8km, mb4.9/37, mb1 4.9/40, mb1mx4.9/40, mbtmp4.9/40, Error ellipse: s-maj=9.4km s-min=7.0km az=161.0*
*NEIC **05** 19:33:14.9±0.1, 17°.51S×179°.06W, mb5.4/139, MW5.8, Error ellipse: s-maj=5.5km s-min=3.3km az=151.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}1.05; $M_{\theta\theta}$3.19; $M_{\phi\phi}$-4.24; $M_{r\theta}$3.66; $M_{\theta\phi}$3.16; $M_{\phi r}$-0.15; Best double couple: $M_0$6.20000×10^{17} NP1: ϕ_s118.00000°, δ78.00000°, λ34.00000°. NP2: ϕ_s20.00000°, δ57.00000°, λ165.00000°. Principal axes: T 6.5100, Plg32.0000°, Azm344.0000°; N -0.7600, Plg53.0000°, Azm135.0000°; P -5.7500, Plg13.0000°, Azm245.0000°;*
*DJA **05** 19:33:14.8±0.8, 17°S±7°×17°9W±°, h549km±11km, M5.3/43, mb5.4/43, mB5.7/37, Mw(mB)5.2/37*
*MOS **05** 19:33:14.5±0.8, 17°.50S×179°.05W, h537km, mb5.5/52, Error ellipse: s-maj=9.0km s-min=7.6km az=137.7*
*AUST **05** 19:33:17.0±1.7, 17°.61S×178°.89W, h562km, Error ellipse: s-maj=1.4km s-min=1.0km az=257.0*
*GCMT **05** 19:33:18.5±0.2, 17°.46S×178°.90W, h553km±1km, MW5.9, Moment Tensor Solution. s99,c194; s53,c54; Moment tensor: Scale 10^{17}Nm; M_{rr}1.21±.08; $M_{\theta\theta}$4.64±.12; $M_{\phi\phi}$-5.85±.12; $M_{r\theta}$4.01±.12; $M_{\theta\phi}$4.84±.11; $M_{\phi r}$-0.61±.12; Best double couple: $M_0$8.30000×10^{17} NP1: ϕ_s21.00000°, δ61.00000°, λ170.00000°. NP2: ϕ_s116.00000°, δ81.00000°, λ29.00000°. Principal axes: T 8.3300, Plg27.0000°, Azm342.0000°; N -0.1100, Plg59.0000°, Azm132.0000°; P -8.2200, Plg13.0000°, Azm245.0000°; Data Used: II IU IC G CN.*
*NEIC **05** 19:33:29.2±0.0, 17°.72S×179°.21W, h539km, Moment Tensor Solution. s155 Moment tensor: Scale 10^{17}Nm; M_{rr}1.50; $M_{\theta\theta}$3.73; $M_{\phi\phi}$-5.23; $M_{r\theta}$3.21; $M_{\theta\phi}$3.78; $M_{\phi r}$0.32; Best double couple: $M_0$6.80000×10^{17} NP1: ϕ_s21.00000°, δ64.00000°, λ162.00000°. NP2: ϕ_s119.00000°, δ74.00000°, λ27.00000°. Principal axes: T 6.9300, Plg30.0000°, Azm341.0000°; N -0.2300, Plg59.0000°, Azm147.0000°; P -6.7000, Plg6.0000°, Azm248.0000°;*

ISC 05 19:33:15.4±0.2, **17°.52S**±0°.04×**178°.91W**±0°.03, **h538**km±1km, **h539**km**:pP-P, n1504**, σ1s.**22**/1684, **mb5.3**/234, **311C-241D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.91	265	⇓iP	P	19 34 30.2	+1.2
MSVF				eS	S	19 35 32.2	+3.4
MSVF	Nonsavu	2.91	265	⇓iP	P	19 34 30.2	+1.2
MSVF				eS	S	19 35 32.2	+3.4
MSVF	Nonsavu	2.91	265	P	P	19 34 30.0	+1.0
	41µm,0.6s						
AFI	Afiamalu	7.75	63	P	P	19 35 07.5	-2.9
	337nm,0.3s,baz=245,slow=2.4,SNR=702						
AFI				S	S	19 36 38.7	-6.0
	39nm,0.3s,baz=182,slow=22,SNR=2.5						
AFI	Afiamalu	7.75	63	⇓iP	P	19 35 07.2	-3.3
	6µm,0.8s						
AFI				S	S	19 36 38.7	-6.0
NIUE	Niue	8.67	102	S	S	19 36 58.8	-2.7
	baz=8.6,SNR=9.5						
BAYA	Yate Dam	14.13	249	eP	P	19 36 14.6	-1.5
DZM	Mont Dzumac	14.51	249	eP	P	19 36 18.1	-1.9
	2µm,1.3s						
DZM	Mont Dzumac	14.51	249	P	P	19 36 18.2	-1.9
	34nm,0.3s,baz=71,slow=10,SNR=377						
DZM				ScP	ScP	19 43 40.0	+2.7
	baz=96,slow=3.0,SNR=5.1						
DZM	Mont Dzumac	14.51	249	eP	P	19 36 17.4	-2.7
DZM	Mont Dzumac	14.51	249	P	P	19 36 18.2	-1.9
DZM				ScP	ScP	19 43 40.0	+2.7
NORM	Noumea	14.51	249	eP	P	19 36 18.0	-2.0
NOUC	Port Laguerre	14.64	249	eP	P	19 36 21.3	0.0
NFK	Norfolk Island	16.64	224	P	P	19 36 41.1	-0.2
	baz=17,SNR=14						
RAR	Rarotonga	18.43	105	P	P	19 36 58.0	+0.3
	7.0nm,0.3s,baz=250,slow=7.2,SNR=91						
RAR	Rarotonga	18.43	105	eP	P	19 36 57.9	+0.1
	492nm,0.9s						
OUZ	Omahuta	18.85	199	eP	P	19 37 02.8	+1.4
	590nm,1.4s						
TARA	Tarawa	20.41	336	eP	P	19 37 14.9	-1.0
	700nm,0.5s						
URZ	Urewera	20.95	189	eP	P	19 37 16.5	-4.0
	148nm,0.7s						
HNR	Honiara	22.06	289	P	P	19 37 30.4	-0.3
	219nm,0.7s,baz=132,slow=3.6,SNR=21						
HNR	Honiara	22.06	289	eP	P	19 37 29.6	-1.1
	453nm,1.0s						
LHI	Lord Howe Isla	24.34	231	P	P	19 37 52.1	+1.2
	baz=24,SNR=4.8						
KHZ	Kahutara	25.64	193	eP	P	19 37 59.6	-2.5
	96nm,0.9s						
RPZ	Rata Peaks	27.46	196	eP	P	19 38 15.5	-2.7
	55nm,0.8s						
PAE	Paea	27.95	95	⇓iP	P	19 38 22.9	+0.1
	149nm,1.2s						
PAE				epP	pP	19 39 44.0	-7.2
	33nm,1.3s						
PAE				eScP	ScP	19 44 14.4	+3.6
	8.8nm,1.1s						
PPT2	Papeete2	27.96	95	⇓iP	P	19 38 23.4	+0.4
	625nm,1.3s						
PPT2				epP	pP	19 39 44.5	-6.9
	213nm,1.4s						
PPT2				eScP	ScP	19 44 14.8	+3.9
	68nm,1.1s						
PPT	Papeete	27.96	95	P	P	19 38 23.9	+0.9
	309nm,0.8s,baz=12,slow=2.0,SNR=40						
PPT				ScP	ScP	19 44 14.7	+3.9
	59nm,0.9s,baz=324,slow=7.1,SNR=4.3						
PPT	Papeete	27.96	95	P	P	19 38 23.9	+0.9
PPT				ScP	ScP	19 44 14.7	+3.9
TBI	Tubuai	28.17	107	⇓iP	P	19 38 25.4	+0.7
	466nm,0.8s						
TIAR	Tiarei	28.18	95	⇓iP	P	19 38 25.2	+0.3
	578nm,0.9s						
TIAR				epP	pP	19 39 46.3	-7.1
	311nm,1.3s						
TIAR				eScP	ScP	19 44 15.2	+3.7
	79nm,0.9s						
TVO	Taravao	28.25	95	⇓iP	P	19 38 25.8	+0.2
	407nm,0.9s						
TVO				epP	pP	19 39 47.4	-6.7
	375nm,1.3s						
EIDS	Eidsvold	28.95	249	eP	P	19 38 30.0	-1.5
	778nm,1.3s						
EIDS	Eidsvold	28.95	249	P	P	19 38 30.3	-1.2
	baz=29,SNR=221						
EIDS				S	S	19 42 42.7	-2.0
	baz=29,SNR=5.7						
KWAJ	Kwajalein Atol	29.35	332	eP	P	19 38 34.7	-0.3
KWAJ	Kwajalein Atol	29.35	332	eP	P	19 38 34.7	-0.3
	556nm,0.6s						
MEH	Mehetia	29.37	95	⇓iP	P	19 38 35.4	+0.2
	362nm,1.1s						
MEH				epP	pP	19 39 57.1	-7.2
	268nm,1.3s						
ARMA	Armidale	29.72	239	eP	P	19 38 38.0	-0.3
	261nm,0.5s						
ARMA	Armidale	29.72	239	P	P	19 38 38.1	-0.2
	baz=30,SNR=341						
PMOR	Pomariorio Ree	29.86	90	⇓iP	P	19 38 39.9	+0.4
	1µm,1.2s						
PMOR				epP	pP	19 40 01.5	-7.3
	376nm,1.3s						
MGCD	Mangrove Creek	31.13	234	P	P	19 38 50.3	+0.2
	baz=31,SNR=700						
RMQ	Roma	31.20	248	P	P	19 38 50.8	-0.2
	baz=31,SNR=645						
CTA	Charters Tower	33.04	260	P	P	19 39 05.6	-1.1
	101nm,0.5s,baz=85,slow=10,SNR=183						
CTA				ScP	ScP	19 44 30.6	+2.8
	41nm,1.1s,baz=76,slow=2.5,SNR=10.0						
CTA	Charters Tower	33.04	260	P	P	19 39 05.6	-1.1
CTA				ScP	ScP	19 44 30.6	+2.8
CTAO	Charters Tower	33.04	260	eP	P	19 39 05.5	-1.1
CTAO				pmax	pmax		
	comp=Z,195nm,0.8s						
CTAO	Charters Tower	33.04	260	eP	P	19 39 05.5	-1.1
	comp=Z,195nm,0.8s						
CNB	Canberra Magne	33.29	232	P	P	19 39 08.5	-0.1
	baz=33,SNR=408						
CAN	Canberra	33.56	232	eP	P	19 39 10.3	-0.6
CAN				pmax	pmax		
	comp=Z,372nm,1.0s						
CAN	Canberra	33.56	232	eP	P	19 39 10.3	-0.6
	comp=Z,372nm,1.0s						
YNG	Young	33.63	234	P	P	19 39 11.3	-0.1
	baz=34,SNR=51						
PMG	Port Moresby	33.92	279	P	P	19 39 14.5	+0.4
	comp=Z,133nm,0.8s,baz=85,slow=6.5,SNR=49						
PMG	Port Moresby	33.92	279	eP	P	19 39 14.2	+0.1
	comp=Z,311nm,1.1s						
PMG	Port Moresby	33.92	279	P	P	19 39 14.8	+0.7
	comp=Z,255nm,1.3s,comp=Z,4µm						
MILA	Mila	34.17	229	P	P	19 39 15.7	-0.2
	baz=34,SNR=106						
CMSA	Cobar Meteorol	34.93	240	P	P	19 39 21.7	-0.6
	baz=35,SNR=1000						
QLP	Quilpie	35.23	249	P	P	19 39 24.0	-0.8
	baz=35,SNR=419						
COEN	Coen	36.62	270	eP	P	19 39 35.9	-0.7
	comp=Z,1µm,0.9s						
COEN	Coen	36.62	270	P	P	19 39 36.3	-0.3
	baz=37,SNR=266						
TOO	Toolangi	37.05	230	P	P	19 39 39.5	-0.3
	baz=37,SNR=59						
TOO				S	S	19 44 46.8	-0.5
	baz=37,SNR=4.8						
MOO	Moorlands	38.05	222	P	P	19 39 47.9	+0.1
	baz=38,SNR=33						
TAU	Tasmania Unive	38.21	221	P	P	19 39 49.0	-0.1
	comp=Z,1µm,0.8s,SNR=38						
STKA	Stephens Creek	38.40	241	P	P	19 39 50.5	-0.4
	comp=Z,325nm,0.4s,baz=87,slow=9.3,SNR=2454						
STKA				ScP	ScP	19 44 49.5	+2.2
	comp=Z,24nm,1.1s,baz=72,slow=2.1,SNR=3.9						
STKA	Stephens Creek	38.40	241	eP	P	19 39 50.4	-0.5
	comp=Z,0.9nm,0.3s						
STKA				ScP	ScP	19 44 49.5	+2.2
STKA	Stephens Creek	38.40	241	P	P	19 39 50.5	-0.4
	baz=38,SNR=1000						
STKA				S	S	19 44 51.0	-16
	baz=38,SNR=4.2						
QIS	Mount Isa	39.26	259	P	P	19 39 56.6	-1.4
	baz=39,SNR=29						
ARPS	Mount Arapiles	39.50	233	P	P	19 39 59.0	-0.6
	baz=40,SNR=129						
MMPI	Merauke	40.59	277	P	P	19 40 09.7	+1.0
	baz=41,SNR=4.4						
MMPI	Merauke	40.59	277	P	P	19 40 09.3	+0.6
	comp=Z,1µm,0.8s,comp=Z,15µm						
RKT	Rikitea	41.46	105	⇓iP	P	19 40 16.3	+0.8
	comp=Z,248nm,1.2s						
RKT				eScP	ScP	19 45 04.6	+5.0
	comp=Z,208nm,1.6s						
JAY	Jayapura	42.34	286	P	P	19 40 23.0	+0.3
	baz=42,SNR=20						
JAY				S	S	19 46 08.2	+3.1
	baz=42,SNR=6.2						
JAY	Jayapura	42.34	286	P	P	19 40 22.7	+0.1
	comp=Z,203nm,1.4s,comp=Z,3µm						
BBOO	Buckleboo	43.18	241	eP	P	19 40 28.2	-0.7
	comp=Z,5µm,0.4s						
BBOO	Buckleboo	43.18	241	P	P	19 40 28.2	-0.7
	baz=43,SNR=1000						
WRAB	Tennant Creek	44.22	259	eP	P	19 40 35.1	-2.1
WRAB				pmax	pmax		
	comp=Z,221nm,1.1s						
WRAB	Tennant Creek	44.22	259	eP	P	19 40 35.1	-2.1
	comp=Z,221nm,1.1s						
WRAB	Tennant Creek	44.22	259	P	P	19 40 35.0	-2.1
	comp=Z,1µm,1.3s,SNR=60						
WRA	Warramunga Arr	44.23	259	P	P	19 40 35.3	-1.9
	comp=Z,90nm,0.9s,baz=93,slow=7.8,SNR=406						
WRA				PcP	PcP	19 42 10.6	+0.4
	comp=Z,25nm,0.8s,baz=89,slow=4.0,SNR=7.2						
WRA				PP	PP	19 42 31.8	+0.9
	comp=Z,27nm,1.1s,baz=92,slow=9.5,SNR=6.3						
WRA				ScP	ScP	19 45 13.2	+2.3
	comp=Z,20nm,1.0s,baz=87,slow=4.2,SNR=10						
WRA				S	S	19 46 27.2	-4.7
	comp=Z,4.4nm,1.0s,baz=90,slow=15,SNR=5.3						
WRA				ScS	ScS	19 49 36.7	+0.5
	comp=Z,4.8nm,1.0s,baz=98,slow=5.1,SNR=4.7						
WRA	Warramunga Arr	44.23	259	P	P	19 40 35.3	-1.9
WRA				PcP	PcP	19 42 10.6	+0.4
WRA				PP	PP	19 42 31.8	+0.9
WRA				ScP	ScP	19 45 13.2	+2.3
WRA				S	S	19 46 27.2	-4.7
WRA				ScS	ScS	19 49 36.7	+0.5
SMPI	Sarmi	44.38	286	P	P	19 40 38.3	-0.1
	comp=Z,188nm,1.4s						
ASAR	Alice Springs	44.44	254	P	P	19 40 37.8	-1.1
	comp=Z,656nm,0.5s,baz=89,slow=8.0						
ASAR				PcP	PcP	19 42 11.6	+0.7
	comp=Z,22nm,0.7s,baz=100,slow=4.2,SNR=5.2						
ASAR				ScP	ScP	19 45 14.4	+2.6
	comp=Z,11nm,0.6s,baz=89,slow=4.8,SNR=8.1						
ASAR				S	S	19 46 31.8	-3.0
	comp=Z,22nm,1.0s,baz=84,slow=16,SNR=17						
ASAR				ScS	ScS	19 49 38.8	+1.3
	comp=Z,2.5nm,1.0s,baz=67,slow=7.1,SNR=4.1						
ASAR	Alice Springs	44.44	254	P	P	19 40 37.8	-1.1
ASAR				PcP	PcP	19 42 11.6	+0.7
ASAR				ScP	ScP	19 45 14.4	+2.6
ASAR				S	S	19 46 31.8	-3.0
ASAR				ScS	ScS	19 49 38.8	+1.3
BAKI	Biak	47.08	285	P	P	19 40 58.7	-0.3
	comp=Z,227nm,1.4s,comp=Z,3µm						
KDU	Kakadu	47.09	269	P	P	19 40 58.1	-0.9
	baz=47,SNR=601						
KDU				S	S	19 47 09.1	-2.9
	baz=47,SNR=3.5						
GUMO	Guam	47.26	309	P	P	19 41 00.4	+0.1
	comp=Z,428nm,0.5s,baz=151,slow=20,SNR=42						
GUMO	Guam	47.26	309	eP	P	19 41 00.3	0.0
	comp=Z,355nm,0.6s						
MTN	Manton Dam	48.33	268	P	P	19 41 07.1	-1.2
	baz=48,SNR=181						
MTN				S	S	19 47 25.4	-3.7
	baz=48,SNR=13						
TLE	Tual	48.68	278	P	P	19 41 11.2	+0.3
	baz=49,SNR=82						
TLE				S	S	19 47 34.3	+0.4
	baz=49,SNR=22						
TLE	Tual	48.68	278	P	P	19 41 11.1	+0.1
	comp=Z,589nm,1.2s,comp=Z,7µm						
FORT	Forrest	49.74	244	eP	P	19 41 17.3	-1.3
	comp=Z,856nm,0.9s						
FORT	Forrest	49.74	244	P	P	19 41 17.4	-1.3
	baz=50,SNR=369						
FORT				S	S	19 47 45.3	-2.7
	baz=50,SNR=5.0						
FAKI	Fak Fak	50.03	281	P	P	19 41 21.3	+0.3
	comp=Z,148nm,1.6s,comp=Z,2µm						
SWI	Sorong	51.69	283	P	P	19 41 32.9	-0.1
	baz=52,SNR=36						
SWI				S	S	19 48 15.7	+1.0
	baz=52,SNR=5.3						
SWI	Sorong	51.69	283	P	P	19 41 32.7	-0.3
	comp=Z,491nm,1.1s,comp=Z,5µm						
BNDI	Bandanaira	51.70	278	P	P	19 41 33.3	+0.2
	comp=Z,466nm,1.2s,comp=Z,6µm						
PALU	Palau	52.26	294	P	P	19 41 37.7	+0.7
	baz=52,SNR=4.8						
FITZ	Fitzroy Crossi	52.62	260	P	P	19 41 39.3	-0.4
	comp=Z,49nm,0.4s,baz=76,slow=11,SNR=267						
FITZ				pP	pP	19 43 26.7	+4.4
	comp=Z,12nm,0.5s,baz=84,slow=4.8,SNR=1.7						
FITZ	Fitzroy Crossi	52.62	260	eP	P	19 41 39.1	-0.5
	comp=Z,147nm,0.9s						
FITZ				pP	pP	19 43 26.7	+4.4
FITZ	Fitzroy Crossi	52.62	260	P	P	19 41 39.2	-0.4
	baz=53,SNR=246						
FITZ				S	S	19 48 28.9	+1.9
	baz=53,SNR=5.5						
MSAI	Masohi	53.01	279	P	P	19 41 41.8	-0.7
	comp=Z,37nm,1.2s,comp=Z,432nm						
AAI	Ambon	53.59	279	P	P	19 41 46.1	-0.5
	baz=54,SNR=19						
AAI				S	S	19 48 40.1	+0.2
	baz=54,SNR=6.2						
AAI	Ambon	53.59	279	P	P	19 41 45.7	-0.9
	comp=Z,324nm,1.3s,comp=Z,4µm						
KMBL	Kambalda	55.05	244	P	P	19 41 55.0	-1.6
	baz=55,SNR=18						
LBMI	Labuha	55.27	282	P	P	19 41 58.5	+0.1
	comp=Z,200nm,1.2s,comp=Z,2µm						

DRV	Dumont d'Urvil	55.88	198	S	S	19 48 50.0	-18
DRV				L	L	19 55 00.0	
TNTI	Ternate	55.91	283	P	P	19 42 01.8	-1.0
	comp=Z,405nm,1.2s,comp=Z,4µm						
MBWA	Marble Bar	57.70	256	eP	P	19 42 14.2	-0.9
	comp=Z,583nm,1.4s						
MBWA	Marble Bar	57.70	256	P	P	19 42 14.6	-0.4
	SNR=24						
MBWA				mb		19 42 15.8	
	SNR=48						
MMRI	Maumere	57.81	271	P	P	19 42 14.8	-1.1
	comp=Z,190nm,1.1s,comp=Z,3µm						
MEEK	Meekatharra	58.12	249	P	P	19 42 16.5	-1.4
	baz=58,SNR=75						
CBIJ	Chichi jima	58.24	319	P	P	19 42 17.2	-1.2
	comp=Z,128nm,0.5s,baz=278,slow=14						
CBIJ	Chichi jima	58.24	319	P	P	19 42 17.2	-1.2
BBSI	Bau Bau	58.37	274	P	P	19 42 18.7	-1.0
	comp=Z,106nm,1.4s,comp=Z,2µm						
MNI	Manado	58.50	283	P	P	19 42 19.6	-1.0
	comp=Z,174nm,1.1s,comp=Z,2µm						
KLBR	Kellerberrin	58.57	243	P	P	19 42 19.8	-1.1
	baz=58,SNR=58						
KDI	Kendari	58.78	276	P	P	19 42 21.5	-0.9
	comp=Z,123nm,1.2s,comp=Z,1µm						
NWAO	Narrogin (SRO)	58.97	242	P	P	19 42 22.6	-0.9
	comp=Z,79nm,0.8s,baz=96,slow=5.9,SNR=62						
NWAO	Narrogin (SRO)	58.97	242	eP	P	19 42 22.4	-1.0
	comp=Z,404nm,1.4s						
NWAO	Narrogin (SRO)	58.97	242	mb		19 42 24.9	
	SNR=21						
RKGY	Rocky Gully	59.15	240	P	P	19 42 24.2	-0.4
	baz=59,SNR=12						
WSI	Waingapu	59.40	269	P	P	19 42 25.6	-1.0
	comp=Z,360nm,1.6s,comp=Z,5µm						
BLDU	Ballidu	59.51	244	P	P	19 42 26.2	-1.0
	baz=59,SNR=128						
BLDU				S	S	19 49 53.8	-1.9
	baz=59,SNR=6.3						
LUWI	Luwuk	59.57	279	P	P	19 42 25.5	-2.2
	comp=Z,372nm,1.4s,comp=Z,5µm						
MORW	Morawa	60.20	246	P	P	19 42 30.7	-1.0
	baz=60,SNR=63						
BKSI	Bulukumba	60.74	274	P	P	19 42 34.1	-1.4
	comp=Z,67nm,1.6s,comp=Z,916nm						
SBA	Scott Base	60.77	183	eP	P	19 42 36.4	+1.8
SBA				pmax	pmax		
	comp=Z,285nm,1.7s						
SBA	Scott Base	60.77	183	eP	P	19 42 36.4	+1.8
	comp=Z,285nm,1.7s						
VNDA	Vanda	60.79	185	P	P	19 42 35.5	+0.8
	comp=Z,15nm,0.7s,baz=359,slow=7.0,SNR=52						
VNDA				pP	pP	19 44 23.8	+2.1
	comp=Z,15nm,1.2s,baz=313,slow=5.2,SNR=2.8						
VNDA	Vanda	60.79	185	P	P	19 42 35.5	+0.8
VNDA				pP	pP	19 44 23.8	+2.1
KAPI	Kappang	61.19	274	P	P	19 42 37.0	-1.5
	comp=Z,38nm,0.5s,baz=133,slow=5.1,SNR=56						
KAPI	Kappang	61.19	274	eP	P	19 42 36.7	-1.8
	comp=Z,170nm,1.3s						
KAPI	Kappang	61.19	274	mb		19 42 38.5	
	SNR=21						
KAPI	Kappang	61.19	274	P	P	19 42 37.2	-1.2
	comp=Z,582nm,0.6s,SNR=12						
KAPI	Kappang	61.19	274	P	P	19 42 36.8	-1.6
	comp=Z,123nm,1.3s,comp=Z,1µm						
PCI	Palu	62.38	278	S	S	19 50 22.8	-8.9
	baz=62,SNR=4.1						
GIRL	Giralia	62.55	253	P	P	19 42 47.6	+0.5
	baz=62,SNR=38						
TSM	Tawau	66.01	283	P	P	19 43 09.6	+0.4
KMMI	Kalianget	66.13	270	P	P	19 43 09.8	-0.2
CASY	Casey	66.29	205	eP	P	19 43 09.6	-0.4
	comp=Z,179nm,1.0s						
BLJI	Banyuglugur	66.30	269	P	P	19 43 10.3	-0.7
GMJI	Gumukmas	66.30	269	P	P	19 43 09.8	-1.2
BBKI	Banjar Baru	66.32	274	P	P	19 43 11.6	+0.4
SDKM	Sandakan	67.13	284	P	P	19 43 16.6	+0.3
TGY	Tagaytay City	67.15	294	P	P	19 43 16.7	+0.4
	comp=Z,112nm,0.3s,baz=49,slow=23,SNR=3.1						
TGY	Tagaytay City	67.15	294	P	P	19 43 16.7	+0.4
KRKI	Karangkates	67.28	268	P	P	19 43 18.3	+1.2
MJAR	Matsushiro Arr	67.31	324	P	P	19 43 16.3	-0.5
	comp=Z,95nm,0.4s,baz=150,slow=5.8,SNR=571						
MJAR	Matsushiro Arr	67.31	324	P	P	19 43 16.3	-0.5
MAJO	Matsushiro	67.31	324	eP	P	19 43 16.4	-0.4
MAJO				pmax	pmax		
	comp=Z,123nm,0.4s						
MAJO	Matsushiro	67.31	324	eP	P	19 43 16.4	-0.4
	comp=Z,123nm,0.4s						
MAT	Matsushiro	67.31	324	P	P	19 43 16.5	-0.3
MAT				S	S	19 51 28.0	-1.9
JOW	Kunigami	67.61	310	P	P	19 43 19.6	+0.8
	comp=Z,47nm,0.4s,baz=120,slow=9.8,SNR=26						
JOW	Kunigami	67.61	310	P	P	19 43 19.6	+0.8
PWJI	Pagerwojo	67.93	268	P	P	19 43 20.4	-0.7
SJI	Sawahan	68.04	269	P	P	19 43 21.4	-0.5
KKM	Kota Kinabalu	68.18	284	eP	P	19 43 22.4	-0.4
	comp=Z,48nm,0.9s						
KKM	Kota Kinabalu	68.18	284	P	P	19 43 22.6	-0.1
	baz=68,SNR=22						
KKM	Kota Kinabalu	68.18	284	P	P	19 43 22.9	+0.2
KKM	Kota Kinabalu	68.18	284	P	P	19 43 20.6	-2.1
	comp=Z,78nm,1.5s,comp=Z,972nm						
PCJI	Pacitan	68.48	268	P	P	19 43 24.2	-0.2
AMKA	Amchitka	68.62	359	eP	P	19 43 23.4	-0.9
	comp=Z,60nm,0.4s						
ERM	Erimo	68.82	331	⇑eP	P	19 43 26.6	+0.8
ERM				pmax	pmax		
	comp=Z,73nm,1.7s						
ERM	Erimo	68.82	331	eP	P	19 43 26.7	+0.9
	comp=Z,28nm,0.8s						
ERM	Erimo	68.82	331	P	P	19 43 26.6	+0.8
	comp=Z,223nm,1.0s,SNR=5.5						
UGM	Wanagama	69.18	268	P	P	19 43 28.1	-0.6
	baz=69,SNR=28						
UGM	Wanagama	69.18	268	P	P	19 43 28.8	+0.1
YUK	Yuzh-Kuril'sk	69.21	334	i P	P	19 43 23.7	-4.4
YUK				i *PP	pP	19 45 17.3	-1.8
YUK				i S	S	19 51 48.3	-3.1
YUK				pmax	pmax		
	comp=E,192nm,1.0s						
YUK				pmax	pmax		
	comp=Z,1µm,2.2s						
YUK				pmax	pmax		
	comp=Z,452nm,2.0s						
YUK				pmax	pmax		
	comp=N,92nm,1.0s						
SMRI	Semarang	69.49	269	P	P	19 43 30.7	+0.2
SMRI	Semarang	69.49	269	P	P	19 43 29.6	-0.9
	comp=N,222nm,1.2s						
JNU	Nakatsue	69.53	317	P	P	19 43 30.1	-0.3
	comp=N,25nm,0.5s,baz=159,slow=3.9,SNR=11						
JNU	Nakatsue	69.53	317	P	P	19 43 30.1	-0.3
PBKI	Pangkalan Bun	69.57	274	P	P	19 43 31.7	+0.7
BTM	Bintulu	70.11	280	P	P	19 43 34.7	+0.5
BJII	Banjamegara	70.11	268	P	P	19 43 34.7	+0.4
	comp=N,128nm,1.5s,comp=N,0.4nm						
STKI	Sintang	70.60	276	P	P	19 43 37.7	+0.6
	comp=N,125nm,1.4s,comp=N,0.5nm						
CLJI	Cilicap	70.67	268	P	P	19 43 36.3	-1.2
	comp=N,227nm,1.0s,comp=N,2µmcomp=N,0.7nm						
SBUM	Sibu	70.67	279	P	P	19 43 38.2	+0.6
SBUM	Sibu	70.67	279	P	P	19 43 37.6	+0.1
	comp=N,54nm,1.4s,comp=N,608nm						
ASAJ	Asahikawa	70.71	332	eP	P	19 43 38.3	+1.2
	comp=N,30nm,0.4s						
TGJI	Tegal	70.80	269	P	P	19 43 37.7	-0.6
	comp=N,224nm,1.2s,comp=N,0.9nm						
YULB	Yu-li	71.16	303	eP	P	19 43 38.1	-2.1
	comp=N,16nm,0.5s						
SKR	Severo-Kuril's	71.37	344	eP	P	19 43 38.5	-2.2
SKR				eS	S	19 52 15.0	-0.7
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,20nm,0.4s						
SKR				pmax	pmax		
	comp=Z,2µm,8.0s						
SKR				pmax	pmax		
	comp=N,1µm,5.0s						
SKR				pmax	pmax		
	comp=E,1µm,5.0s						
SKR				smax	smax		
	comp=N,3µm,8.0s						
SKR				smax	smax		
	comp=E,2µm,14.0s						
SSLB	Suanglung	71.62	303	eP	P	19 43 41.3	-1.6
	comp=E,59nm,0.4s						
TPUB	Ta-pu	71.65	303	eP	P	19 43 41.6	-1.5
	comp=E,74nm,0.8s						
CISI	Cisompet, Garu	71.86	268	P	P	19 43 43.7	-0.9
	comp=E,239nm,1.4s,comp=E,4µmcomp=E,1.2nm						
UNV	Unalaska Valle	71.87	8	eP	P	19 43 42.2	-1.4
	comp=E,102nm,0.8s						
KSM	Kuching	72.16	277	eP	P	19 43 46.3	+0.1
	comp=E,247nm,1.1s						
KSM	Kuching	72.16	277	P	P	19 43 46.6	+0.3
	baz=72,SNR=74						
KSM	Kuching	72.16	277	P	P	19 43 46.9	+0.6
KSM	Kuching	72.16	277	P	P	19 43 37.2	-9.0
	comp=E,209nm,1.2s,comp=E,2µm						
LEM	Lembang	72.25	268	P	P	19 43 46.9	0.0
	baz=72,SNR=23						
LEM	Lembang	72.25	268	P	P	19 43 46.8	-0.1
	comp=E,382nm,0.9s,comp=E,4µmcomp=E,1.6nm						
AKUT	Akutan	72.25	8	eP	P	19 43 44.0	-1.8
QSPA	South Pole Qui	72.53	180	P	P	19 43 47.8	+0.3
	comp=E,108nm,0.9s,baz=32,slow=1.7,SNR=190						
QSPA				pP	pP	19 45 40.6	+0.8
	comp=E,83nm,1.0s,baz=22,slow=4.3,SNR=8.8						
QSPA				S	S	19 52 28.9	+0.2
	comp=E,3.5nm,1.1s,baz=348,slow=21,SNR=7.9						
QSPA	South Pole Qui	72.53	180	P	P	19 43 47.9	+0.3
QSPA				pP	pP	19 45 40.6	+0.8
QSPA				S	S	19 52 28.9	+0.2
YSS	Yuzh-Sakhalins	72.86	334	⇑iP	P	19 43 51.0	+1.5
YSS				e		19 46 47.0	
YSS				eS	S	19 52 34.0	+1.6
YSS				pmax	pmax		
	comp=N,40nm,1.1s						
YSS				pmax	pmax		
	comp=E,110nm,1.1s						
YSS				pmax	pmax		
	comp=Z,170nm,1.1s						
YSS				pmax	pmax		
	comp=Z,800nm,4.0s						
YSS				smax	smax		
	comp=E,1µm,5.0s						
YSS				MLR	MLR		
	comp=Z,400nm,19.0s						
YSS	Yuzh-Sakhalins	72.86	334	eP	P	19 43 49.8	+0.4
	comp=Z,68nm,0.5s						
PET	Petropavlovsk	72.88	346	eP	P	19 43 49.0	-0.5
PET				e		19 46 42.1	
PET				eS	S	19 52 31.2	-1.2
PET				pmax	pmax		
	comp=Z,178nm,1.3s						
PET				pmax	pmax		
	comp=Z,700nm,15.0s						
PET	Petropavlovsk	72.88	346	eP	P	19 43 48.6	-0.9
	comp=Z,93nm,0.4s						
CBJI	Citeko	73.09	268	P	P	19 43 50.2	-1.4
	comp=Z,665nm,1.1s,comp=Z,7µmcomp=Z,2.3nm						
XMIS	Christmas Isla	73.14	264	P	P	19 43 52.6	+0.7
	baz=73,SNR=3.3						
DBJI	Dramaga	73.15	268	P	P	19 43 51.2	-0.8
	comp=Z,381nm,1.2s,comp=Z,4µmcomp=Z,1.5nm						
PEA0B	Petropavlovsk-	73.19	346	eP	P	19 43 51.0	-0.2
PETK	Petropavlovsk-	73.19	346	P	P	19 43 51.1	-0.1
	comp=Z,74nm,0.6s,baz=139,slow=11,SNR=281						
PETK	Petropavlovsk-	73.19	346	P	P	19 43 51.1	-0.1
PETK	Petropavlovsk-	73.19	346	P	P	19 43 51.1	-0.1
SKJI	Sukabumi	73.21	268	P	P	19 43 50.6	-1.7
	comp=Z,583nm,1.0s,comp=Z,5µmcomp=Z,2.0nm						
SBJI	Serang	73.86	269	P	P	19 43 55.8	-0.2
	comp=Z,420nm,1.1s,comp=Z,5µmcomp=Z,1.5nm						
QZH	Quanzhou	74.07	303	⇑iP	P	19 43 57.2	+0.3
QZH				S	S	19 52 52.0	+5.4
QZH				sS	sS	19 56 07.0	-1.0
QZH				pmax	pmax		
	comp=Z,130nm,0.8s						
KSRS	Korea Array	74.09	319	P	P	19 43 57.5	+0.8
	comp=Z,12nm,0.6s,baz=135,slow=7.1,SNR=52						
KSAR	Wonju Array Be	74.11	318	P	P	19 43 57.5	+0.7
CGJI	Cibinong	74.14	268	P	P	19 43 56.4	-1.2
	comp=Z,424nm,0.7s,comp=Z,5µm						
BLSI	Bandar Lampung	74.92	269	P	P	19 44 01.1	-0.9
PPBI	Pangkal Pinang	75.00	272	P	P	19 44 02.8	+0.4
	comp=Z,99nm,1.1s,comp=Z,1µm						
SSE	Sheshan	75.12	310	P	P	19 44 03.0	+0.3
SSE				PcP	PcP	19 44 11.9	-1.3
SSE				sP	sP	19 46 53.3	+1.6
SSE				PP	PP	19 47 00.1	-0.7
SSE				S	S	19 52 59.3	+1.4
SSE				pmax	pmax		
	comp=Z,37nm,0.7s						
SSE				pmax	pmax		
	comp=Z,400nm,3.5s						
CHGN	Chignik	75.54	12	eP	P	19 44 03.2	-1.2
KASI	Kota Agung	75.59	269	P	P	19 44 04.4	-1.3
USRK	Ussuriysk Arra	76.02	326	P	P	19 44 08.0	+0.7
	comp=Z,16nm,0.4s,baz=128,slow=5.1,SNR=77						
LWLI	Liwa	76.15	269	P	P	19 44 08.3	-0.6
BSC	Santa Cruz Isl	76.20	47	⇑P	P	19 44 09.9	+1.2
	baz=76,SNR=8.2						
SBC	Santa Barbara	76.39	47	⇑P	P	19 44 10.9	+1.4
	baz=77						
SCI	San Clemente I	76.44	49	⇑P	P	19 44 11.1	+1.1
	baz=77						
SAO	San Andreas Ge	76.48	44	eP	P	19 44 11.2	+1.1
SAO				pmax	pmax		
	comp=Z,146nm,1.2s						
SAO	San Andreas Ge	76.48	44	eP	P	19 44 11.2	+1.1
	comp=Z,146nm,1.2s						
PKM	Peak Mountain	76.56	46	⇓P	P	19 44 12.1	+1.4
	baz=77,SNR=27						
SMMC	Simmler	76.66	46	⇑P	P	19 44 12.7	+1.6
	baz=77,SNR=8.7						
BLG	Laguna Peak	76.67	48	⇓P	P	19 44 11.9	+0.8
	baz=77						
HOPS	Hopland	76.70	41	eP	P	19 44 12.4	+1.1
	comp=Z,148nm,1.4s						
HOPS				epP	pP	19 46 06.3	+1.0
CIS	Catalina Islan	76.76	48	⇑P	P	19 44 12.5	+0.8
	baz=77						
KCPM	Cahto Peak	76.79	41	eP	P	19 44 13.0	+1.2
	comp=Z,115nm,1.4s						
KIPM	Iron Peak	76.92	41	eP	P	19 44 13.6	+0.9
	comp=Z,180nm,1.3s						
KIPM				epP	pP	19 46 09.1	+2.3
FMP	Fort Macarthur	77.00	48	⇓P	P	19 44 14.3	+1.3
	baz=77						
OSI	Osito Adit	77.17	47	eP	P	19 44 15.0	+1.0
	comp=Z,62nm,1.2s						
OSI				epP	pP	19 46 09.5	+1.4
OSI	Osito Adit	77.17	47	⇑P	P	19 44 15.2	+1.2
	baz=77						
DECC	Green Verdugo	77.26	48	⇓P	P	19 44 15.1	+0.7
	baz=78						
PASC	Pasadena Art C	77.32	48	eP	P	19 44 15.3	+0.6
	comp=Z,95nm,1.3s						
PASC				epP	pP	19 46 11.6	+2.6
NJ2	Nanjing	77.32	310	eP	P	19 44 15.6	+0.8
NJ2				pP	pP	19 46 09.1	+0.1
NJ2				sP	sP	19 47 02.0	-2.4
NJ2				PP	PP	19 47 18.5	-0.5
NJ2				S	S	19 53 23.0	+1.7
NJ2				sS	sS	19 56 47.0	+2.0
NJ2				SS	SS	19 58 35.0	-0.4
NJ2				pmax	pmax		
	comp=Z,70nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,620nm,5.7s						
ARVC	Arvin	77.37	47	⇑P	P	19 44 15.9	+0.9
	baz=78						
KHMM	Horse Mountain	77.40	40	eP	P	19 44 16.3	+1.1
	comp=Z,152nm,1.2s						
KHMM				epP	pP	19 46 10.7	+1.2
109C	Camp Elliot, M	77.43	49	⇑P	P	19 44 16.4	+1.0
	baz=78						
MWC	Mount Wilson	77.43	48	eP	P	19 44 16.3	+0.7
MWC				e*PP	pP	19 46 12.1	+2.2
MWC				pmax	pmax		
	comp=Z,115nm,1.0s						
MWC	Mount Wilson	77.43	48	eP	P	19 44 16.3	+0.7
	comp=Z,115nm,1.0s						
MWC				epP	pP	19 46 12.1	+2.2
HABR	Khabarovsk	77.44	331c	iP	P	19 44 16.1	+1.1
HABR				e		19 44 21.7	
HABR				e		19 47 06.5	
HABR				e		19 47 17.9	
HABR				S	S	19 53 22.4	+0.6
HABR				e		19 53 40.9	
HABR				eSS	SS	19 58 35.5	-1.0
HABR				eSSS	SSS	20 02 05.4	
HABR				pmax	pmax		
	comp=Z,238nm,1.5s						
HABR				pmax	pmax		
	comp=E,43nm,1.2s						
HABR				pmax	pmax		
	comp=N,76nm,2.3s						
VES	Vestal, Richgr	77.57	46	⇑P	P	19 44 16.8	+0.8
	baz=78,SNR=39						
MDJ	Mudanjiang	77.59	325	P	P	19 44 17.0	+1.0
MDJ				pP	pP	19 46 08.6	-1.7
MDJ				sP	sP	19 47 05.2	-0.5
MDJ				PP	PP	19 47 20.3	-0.8
MDJ				S	S	19 53 26.2	+2.5
MDJ				sS	sS	19 56 47.9	+0.3
MDJ				pmax	pmax		
	comp=Z,120nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,740nm,5.2s						
MDJ	Mudanjiang	77.59	325	eP	P	19 44 16.7	+0.7
	comp=Z,106nm,0.9s						
BAR	Barrett	77.64	50	eP	P	19 44 17.0	+0.5
	comp=Z,23nm,0.9s						
BAR				epP	pP	19 46 11.8	+0.9
KRMB	Red Mountain	77.68	39	eP	P	19 44 18.0	+1.4
	comp=Z,193nm,1.5s						
KRMB				epP	pP	19 46 11.8	+0.7
RCTC	Rector, Farmer	77.72	46	⇑P	P	19 44 17.4	+0.6
	baz=78						
BFSC	Mount Baldy Ra	77.72	48	⇑P	P	19 44 17.6	+0.5
	baz=78,SNR=22						
MURC	Murrieta	77.72	49	⇑P	P	19 44 17.7	+0.8
	baz=78,SNR=14						
EDW2	Edwards Air Fo	77.82	47	⇑P	P	19 44 18.5	+1.0
	baz=78,SNR=94						
CMB	Columbia Colle	77.89	44	eP	P	19 44 18.3	+0.5
CMB				e*PP	pP	19 46 12.0	-0.3
CMB				pmax	pmax		
	comp=Z,131nm,1.2s						
CMB	Columbia Colle	77.89	44	eP	P	19 44 18.2	+0.5
	comp=Z,131nm,1.2s						
CMB				epP	pP	19 46 12.0	-0.3
ISA	Isabella	77.90	46	eP	P	19 44 18.8	+0.9
ISA				e*PP	pP	19 46 12.9	+0.5
ISA				pmax	pmax		
	comp=Z,179nm,1.2s						
ISA	Isabella	77.90	46	eP	P	19 44 18.8	+0.9
	comp=Z,179nm,1.2s						
ISA				epP	pP	19 46 12.9	+0.5
ISA	Isabella	77.90	46	⇑P	P	19 44 19.1	+1.2
	baz=78,SNR=96						
MONP	Monument Peak	77.93	50	⇑P	P	19 44 19.4	+1.1
	baz=78,SNR=49						
WDC	Whiskeytown Da	77.96	40	eP	P	19 44 18.7	+0.7
WDC				e*PP	pP	19 46 12.3	-0.2
WDC				pmax	pmax		
	comp=Z,164nm,1.4s						
WDC	Whiskeytown Da	77.96	40	eP	P	19 44 18.7	+0.7
	comp=Z,164nm,1.4s						
WDC				epP	pP	19 46 12.3	-0.2
KDAK	Kodiak Island	78.14	14	P	P	19 44 18.9	+0.3
	comp=Z,75nm,0.5s,baz=200,slow=2.8,SNR=84						
KDAK	Kodiak Island	78.14	14	eP	P	19 44 18.6	+0.1
	comp=Z,591nm,1.4s						
KDAK	Kodiak Island	78.14	14	P	P	19 44 18.0	-0.6
	comp=Z,1µm,1.1s,SNR=34						
BBRC	Big Bear Solar	78.26	48	⇓P	P	19 44 21.2	+1.1
	baz=78						
PFO	Pinyon Flat Ob	78.27	49	eP	P	19 44 20.5	+0.5
	comp=Z,72nm,1.2s						
PFO				epP	pP	19 46 16.1	+1.4
PFO	Pinyon Flat Ob	78.27	49	P	P	19 44 21.8	+1.8
	comp=Z,194nm,1.3s,SNR=10						
PFO	Pinyon Flat Ob	78.27	49	⇓P	P	19 44 20.8	+0.8
	baz=78,SNR=11						
LRMC	Laurel Mountai	78.34	47	⇑P	P	19 44 21.3	+0.9
	baz=79,SNR=31						
MYKOM	Kota Tinggi	78.38	276	P	P	19 44 19.8	-1.1
MYKOM	Kota Tinggi	78.38	276	P	P	19 44 18.1	-2.8
	comp=Z,84nm,1.3s,comp=Z,1µm						
SWSC	Sam W. Stewart	78.41	50	⇓P	P	19 44 21.8	+1.2
	baz=79,SNR=24						
RRX	Edison Barstow	78.52	48	⇑P	P	19 44 22.1	+0.9
	baz=79						
YBH	Yreka Blue Hor	78.53	39	P	P	19 44 22.6	+1.4
	comp=Z,68nm,1.0s,baz=197,slow=2.6,SNR=92						
YBH				pP	pP	19 46 16.9	+1.0
	comp=Z,14nm,1.0s,baz=140,slow=2.6,SNR=5.5						
YBH	Yreka Blue Hor	78.53	39	eP	P	19 44 22.1	+0.9
	comp=Z,96nm,1.1s						
YBH				epP	pP	19 46 15.9	0.0
YBH				pP	pP	19 46 16.9	+1.0
CWC	Cottonwood Cre	78.58	46	⇑P	P	19 44 22.7	+1.1
	baz=79						
LPIG	La Paz	78.66	60	P	P	19 44 23.6	+1.4
	comp=Z,2.6nm,0.3s,baz=314,slow=3.6,SNR=7.8						
LPIG	La Paz	78.66	60	P	P	19 44 23.6	+1.4
MLAC	Mammoth Lakes	78.70	45	⇑P	P	19 44 23.7	+1.3
	baz=79						
MPMC	Manual Prospec	78.78	47	⇓P	P	19 44 23.9	+1.1
	baz=79,SNR=31						
BELC	Belle Mtn. Jos	78.79	49	⇑P	P	19 44 24.2	+1.3
	baz=79,SNR=41						
TIN	Tinemaha	78.80	45	⇑P	P	19 44 23.9	+1.1
	baz=79,SNR=16						
QIZ	Qiongzhong	78.86	294	P	P	19 44 23.6	+0.3
QIZ				sP	sP	19 47 10.9	-2.4
QIZ				S	S	19 53 37.7	-0.2
QIZ				sS	sS	19 56 59.7	-2.8
QIZ				pmax	pmax		
	comp=Z,190nm,6.0s						
GSC	Goldstone	78.87	47	eP	P	19 44 23.7	+0.5
GSC				e*PP	pP	19 46 18.8	+0.8
GSC				pmax	pmax		
	comp=Z,103nm,1.4s						
GSC	Goldstone	78.87	47	eP	P	19 44 23.7	+0.5
	comp=Z,103nm,1.4s						
GSC				epP	pP	19 46 18.8	+0.8
GSC	Goldstone	78.87	47	⇓P	P	19 44 24.1	+0.9
	baz=79,SNR=35						
HUMO	Hull Mountain	78.90	39	eP	P	19 44 24.1	+1.0
	comp=Z,119nm,1.2s						
KGM	Kluang	78.96	276	P	P	19 44 24.4	+0.4
HEC	Hector,Ludlow	78.97	48	⇑P	P	19 44 24.4	+0.7
	baz=79,SNR=57						
BC3	Big Chuckawall	79.01	49	⇓P	P	19 44 25.4	+1.4
	baz=79,SNR=29						
GLA	Glamis	79.17	50	eP	P	19 44 26.3	+1.5
GLA				e*PP	pP	19 46 21.2	+1.5
GLA				pmax	pmax		
	comp=Z,160nm,1.3s						
GLA	Glamis	79.17	50	eP	P	19 44 26.3	+1.5
	comp=Z,160nm,1.3s						
GLA				epP	pP	19 46 21.2	+1.5
GLA	Glamis	79.17	50	⇑P	P	19 44 26.3	+1.5
	baz=79,SNR=26						
GRAC	Grapevine Rang	79.36	46	⇓P	P	19 44 27.0	+1.4
	baz=80,SNR=32						
SNY	Shenyang	79.38	320	⇑P	P	19 44 26.0	+0.5
SNY				S	S	19 53 48.0	+5.6
SNY				pmax	pmax		
	comp=Z,120nm,5.7s						
GMRC	Granite Mounta	79.42	48	⇑P	P	19 44 27.0	+0.9
	baz=80,SNR=45						
CN2	Changchun	79.42	323	⇑P	P	19 44 24.0	-1.7
CN2				epP	pP	19 46 21.3	+0.5
CN2				esP	sP	19 47 14.5	-1.4
CN2				eS	S	19 53 41.3	-1.4
CN2				SS	SS	19 59 07.7	+1.6
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
FURC	Furnace Creek,	79.43	46	⇓P	P	19 44 27.0	+1.1
	baz=80,SNR=7.2						
NVAR	Mina Array Bea	79.48	44	P	P	19 44 27.4	+1.0
	comp=Z,68nm,0.9s,baz=227,slow=8.3,SNR=278						
NVAR				pP	pP	19 46 21.7	+0.2
	comp=Z,3.2nm,1.0s,baz=35,slow=49,SNR=3.1						
NVAR				PKKPbc	PKKPbc	20 03 12.9	+1.0
	comp=Z,0.4nm,0.7s,baz=57,slow=5.5,SNR=3.7						

NVAR **Mina Array Bea** 79.48 44 P P 19 44 27.4 +1.0
NVAR pP **pP** 19 46 21.7 +0.2
NVAR PKKPbc **PKKPbc** 20 03 12.9 +1.0
IRM **Iron Mountain** 79.48 49 ⇑P P 19 44 27.7 +1.3
baz=80,SNR=42
KLR **Kul'dur** 79.54 330 ⇓*i*P P 19 44 23.0 -3.2
KLR *e*S **S** 19 53 41.5 -2.2
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s
KLR pmax pmax
comp=Z,1μm,6.5s
SHOC **Shoshone** 79.55 47 ⇓P P 19 44 27.5 +0.9
baz=80
TUQ **Turquoise Moun** 79.56 48 ⇑P P 19 44 27.9 +1.1
baz=80,SNR=30
Y12C **Blythe** 79.73 50 ⇑P P 19 44 29.0 +1.4
baz=80,SNR=16
113A **Mohawk Valley,** 79.82 51 ⇓P P 19 44 29.5 +1.4
baz=80,SNR=27
COR **Corvallis** 79.88 37 *e*P P 19 44 29.5 +1.4
COR **Corvallis** 79.88 37 *e*P P 19 44 29.5 +1.4
LDFC **Landfair** 79.96 48 *e*P P 19 44 30.9 +1.9
comp=Z,350nm,1.1s
LDFC *e*pP **pP** 19 46 25.6 +1.4
MOD **Modoc** 80.10 40 *e*P P 19 44 30.2 +0.6
comp=Z,140nm,1.1s
214A **Organ Pipe Nat** 80.15 52 ⇓P P 19 44 31.5 +1.6
baz=80
NEE2 **Needles Airpor** 80.16 49 ⇓P P 19 44 31.0 +1.2
baz=80
PDMCI **Parker Dam,Lak** 80.28 49 ⇑P P 19 44 31.7 +1.2
baz=80,SNR=38
RSO **Redoubt South** 80.53 13 *e*P P 19 44 30.4 -1.0
comp=Z,111nm,0.6s
Z14A **Wintersburg** 80.71 51 ⇓P P 19 44 34.3 +1.5
baz=81,SNR=22
W13A **Hualapai Mount** 80.85 49 ⇓P P 19 44 34.8 +1.1
baz=81,SNR=38
Y14A **Wickenburg** 80.94 50 ⇑P P 19 44 35.3 +1.3
baz=81,SNR=29
FRIM **Kepong** 80.94 276 P P 19 44 34.6 +0.3
SEW **Seward** 80.95 14 *e*P P 19 44 32.0 -1.3
comp=Z,287nm,1.5s
SLKM **Skilak Lake** 81.13 14 *e*P P 19 44 33.7 -0.6
SLKM **Skilak Lake** 81.13 14 *e*P P 19 44 33.7 -0.6
BMN **Battle Mountai** 81.25 43 *e*P P 19 44 36.5 +0.9
BMN pmax pmax
comp=Z,135nm,1.1s
BMN **Battle Mountai** 81.25 43 *e*P P 19 44 36.5 +0.9
comp=Z,135nm,1.1s
NLWA **Neilton Lookou** 81.26 34 *e*P P 19 44 36.4 +1.1
comp=Z,195nm,1.3s
R11A **Troy Canyon, C** 81.26 45 ⇑P P 19 44 36.4 +0.7
baz=82
VIPM **Ingram Point** 81.39 38 P P 19 44 37.3 +1.1
VIPM **Ingram Point** 81.39 38 P P 19 44 37.3 +1.1
TDL **Tradedollar La** 81.54 36 P P 19 44 38.5 +1.6
RC01 **Rabbit Creek A** 81.76 14 *e*P P 19 44 37.0 -0.5
comp=Z,318nm,1.3s
TUC **Tucson** 81.84 53 *e*P P 19 44 40.3 +1.6
TUC *e**PP **pP** 19 46 35.8 +1.1
TUC pmax pmax
comp=Z,151nm,1.3s
TUC **Tucson** 81.84 53 *e*P P 19 44 40.3 +1.6
comp=Z,151nm,1.3s
TUC *e*pP **pP** 19 46 35.8 +1.1
IPM **Ipoh** 81.90 277 *e*P P 19 44 39.1 -0.2
comp=Z,206nm,1.2s
IPM **Ipoh** 81.90 277 P P 19 44 39.5 +0.2
IPM **Ipoh** 81.90 277 P P 19 44 39.3 0.0
comp=Z,140nm,1.1s,comp=Z,1μm
LON **Longmire** 82.00 36 *e*P P 19 44 39.3 +0.1
LON pmax pmax
comp=Z,128nm,1.7s
LON **Longmire** 82.00 36 *e*P P 19 44 39.2 +0.1
comp=Z,128nm,1.7s
WPW **White Pass** 82.12 36 P P 19 44 40.9 +1.1
BBB **Bella Bella** 82.21 29 P P 19 44 40.7 +0.8
comp=Z,43nm,0.7s,baz=246,slow=5.8,SNR=24
BBB **Bella Bella** 82.21 29 P P 19 44 40.7 +0.8
PGC **Sidney** 82.25 33 *e*P P 19 44 40.9 +0.6
comp=Z,4.0nm,1.1s
R13A **O'Grain Ranch,** 82.28 46 ⇑P P 19 44 42.4 +1.4
baz=82
X16A **Lo Mia Camp, P** 82.31 50 ⇑P P 19 44 42.9 +1.7
baz=83,SNR=60
PMR **Palmer** 82.34 14 *e*P P 19 44 39.7 -0.7
PMR pmax pmax
comp=Z,320nm,1.3s
PMR **Palmer** 82.34 14 *e*P P 19 44 39.7 -0.7
comp=Z,320nm,1.3s
CRAG **Craig** 82.36 24 *e*P P 19 44 41.0 +0.4
comp=Z,153nm,1.4s
CCUT **Cedar City** 82.40 47 *e*P P 19 44 42.8 +1.2
comp=Z,134nm,1.3s
CCUT *e*pP **pP** 19 46 38.2 +0.5
RMW **Rattlesnake Mo** 82.42 35 P P 19 44 42.6 +1.3
RMW **Rattlesnake Mo** 82.42 35 P P 19 44 42.5 +1.3
ARUT **Antelope Range** 82.46 47 *e*P P 19 44 43.0 +1.2
ARUT pmax pmax
comp=Z,114nm,1.3s
ARUT **Antelope Range** 82.46 47 *e*P P 19 44 43.0 +1.2
comp=Z,114nm,1.3s
KULM **Kulim** 82.51 278 *e*P P 19 44 41.2 -1.2
comp=Z,86nm,1.2s
KULM **Kulim** 82.51 278 P P 19 44 43.0 +0.7
KULM **Kulim** 82.51 278 P P 19 44 42.9 +0.5
comp=Z,68nm,1.2s,comp=Z,745nm
319A **Douglas** 82.58 54 ⇑P P 19 44 44.4 +1.9
baz=83,SNR=29
U15A **North Rim** 82.62 48 ⇓P P 19 44 44.3 +1.5
baz=83,SNR=143
ELK **Elko** 82.70 43 *e*P P 19 44 43.6 +0.6
ELK *e*pP **pP** 19 46 39.0 -0.4
SML **Sawmill** 82.72 14 *e*P P 19 44 41.7 -0.7
SML pmax pmax
comp=Z,80nm,1.6s
SML **Sawmill** 82.72 14 *e*P P 19 44 41.7 -0.7
comp=Z,80nm,1.6s
TWW **Teanaway** 82.75 36 P P 19 44 44.6 +1.7
WUAZ **Wupatki** 82.86 49 *e*P P 19 44 45.3 +1.4
comp=Z,151nm,1.2s
WUAZ **Wupatki** 82.86 49 ⇑P P 19 44 45.3 +1.4
baz=83,SNR=16
TBM **Table Mountain** 82.92 36 P P 19 44 45.0 +1.2
HAWA **Hanford** 83.08 37 *e*P P 19 44 45.1 +0.5
comp=Z,155nm,1.1s
HAWA *e*pP **pP** 19 46 42.2 +1.3
320A **Kipp Ranch, An** 83.15 54 ⇓P P 19 44 47.5 +2.1
baz=83,SNR=25
BJT **Baijiatuau** 83.17 316 *e*P P 19 44 45.5 +0.4
comp=Z,112nm,0.9s
BJI **Beijing** 83.17 316 P P 19 44 45.7 +0.6
BJI S **S** 19 54 16.9 -3.7
BJI SS **SS** 20 00 02.5 +1.1
BJI pmax pmax
comp=Z,89nm,0.9s
BJI pmax pmax
comp=Z,650nm,3.6s
TNA **Tin City** 83.25 5 *e*P P 19 44 46.0 +1.1
comp=Z,446nm,1.4s
SEY **Seymchan** 83.29 347 *c i*P P 19 44 44.7 -0.4
ETW **Entiat** 83.32 36 P P 19 44 46.2 +0.4
PNL **Peninsula** 83.35 19 *e*P P 19 44 45.5 -0.1
comp=Z,211nm,1.2s
PNL *e*pP **pP** 19 46 43.0 +0.9
WRAK **Wrangell Islan** 83.35 24 *e*P P 19 44 46.2 +0.6
comp=Z,190nm,1.3s
PSI **Prapat** 83.37 275 P P 19 44 45.9 -1.0
comp=Z,59nm,1.0s,baz=176,slow=3.9,SNR=49
PSI pP **pP** 19 46 46.2 +2.9
comp=Z,9.3nm,1.0s,baz=4.5,slow=17,SNR=1.9
PSI PP **PP** 19 48 05.6 -3.2
comp=Z,5.0nm,0.6s,baz=159,slow=6.5,SNR=5.9
PSI **Prapat** 83.37 275 P P 19 44 45.9 -1.0
PSI pP **pP** 19 46 46.2 +2.9
PSI PP **PP** 19 48 05.6 -3.2
220A **Playas Peak, P** 83.39 54 ⇓P P 19 44 48.3 +1.7
baz=84,SNR=27
OT3 **Othello 3** 83.41 37 P P 19 44 47.6 +1.4
X18A **Snowflake** 83.45 51 ⇑P P 19 44 48.2 +1.3
baz=84,SNR=7.5
R15A **Junction** 83.47 47 ⇑P P 19 44 48.5 +1.6
baz=84,SNR=24

BMO **Blue Mountains** 83.54 39 *e*P P 19 44 47.0 0.0
BMO pmax pmax
comp=Z,148nm,1.9s
BMO **Blue Mountains** 83.54 39 *e*P P 19 44 47.0 0.0
comp=Z,148nm,1.9s
120A **U Bar Ranch, L** 83.58 53 ⇓P P 19 44 49.0 +1.5
baz=84,SNR=11
MSU **Marysvale** 83.68 46 *e*P P 19 44 49.2 +1.3
MSU *e**PP **pP** 19 46 45.4 +0.8
MSU pmax pmax
comp=Z,115nm,1.2s
MSU **Marysvale** 83.68 46 *e*P P 19 44 49.2 +1.3
comp=Z,115nm,1.2s
MSU *e*pP **pP** 19 46 45.4 +0.8
MFID **Camas Ranch** 83.69 41 *e*P P 19 44 48.4 +0.6
comp=Z,152nm,1.3s
MFID **Camas Ranch** 83.69 41 ⇓P P 19 44 48.7 +0.9
baz=84,SNR=67
S16A **Weppner Ranch,** 83.71 47 ⇑P P 19 44 49.0 +0.9
baz=84,SNR=15
TRF **Thorofare Moun** 83.74 13 *e*P P 19 44 45.8 -1.8
comp=Z,174nm,0.8s
TRF *e*pP **pP** 19 46 47.3 +3.1
Z20A **Nine Sixteen R** 83.86 53 ⇓P P 19 44 50.3 +1.4
baz=84,SNR=24
W18A **Petrified Fore** 83.87 50 ⇑P P 19 44 49.7 +0.8
baz=84,SNR=15
221A **Mesquite Ranch** 84.01 54 ⇑P P 19 44 51.3 +1.7
baz=84
DUG **Dugway** 84.04 45 *e*P P 19 44 49.6 0.0
DUG *e**PP **pP** 19 46 46.7 +0.3
DUG pmax pmax
comp=Z,55nm,1.4s
DUG **Dugway** 84.04 45 *e*P P 19 44 49.6 0.0
comp=Z,56nm,1.4s
DUG *e*pP **pP** 19 46 46.7 +0.3
DUG **Dugway** 84.04 45 ⇑P P 19 44 50.2 +0.6
baz=84,SNR=22
R16A **Teasdale** 84.05 47 ⇑P P 19 44 51.2 +1.3
baz=84,SNR=26
MAW **Mawson** 84.06 200 P P 19 44 49.3 +0.3
comp=Z,60nm,0.9s,baz=114,slow=7.1,SNR=4.2
MAW **Mawson** 84.06 200 P P 19 44 49.3 +0.3
P15A **Leamington** 84.11 46 ⇓P P 19 44 50.9 +0.9
baz=84,SNR=7.9
GSI **Gununguitoli** 84.20 273 P P 19 44 51.5 +0.6
baz=84,SNR=18
121A **Cookes Peak, D** 84.23 53 ⇓P P 19 44 52.5 +1.8
baz=84,SNR=13
S17A **Black Ridge (B** 84.23 48 ⇓P P 19 44 51.6 +0.9
baz=84,SNR=21
MCK **McKinley** 84.27 13 *e*P P 19 44 49.2 -0.8
MCK **McKinley** 84.27 13 *e*P P 19 44 49.2 -0.8
comp=Z,7.9nm,1.4s
O15A **The Old Anders** 84.31 45 ⇑P P 19 44 52.2 +1.2
baz=85,SNR=6.0
I12A **Atlanta** 84.32 41 ⇓P P 19 44 52.0 +1.1
baz=85
PMSA **Palmer Station** 84.35 157 P P 19 44 54.6 +4.1
comp=Z,44nm,0.4s,baz=130,slow=23,SNR=23
PMSA **Palmer Station** 84.35 157 P P 19 44 54.6 +4.1
Y20A **Horse Springs,** 84.36 52 ⇓P P 19 44 53.3 +1.8
baz=85,SNR=13
PAX **Paxson** 84.40 15 *e*P P 19 44 49.7 -1.1
PAX pmax pmax
comp=Z,136nm,1.2s
PAX **Paxson** 84.40 15 *e*P P 19 44 49.7 -1.1
comp=Z,136nm,1.2s
SKAG **Skagway** 84.51 21 *e*P P 19 44 52.1 +0.9
comp=Z,408nm,1.6s
X20A **Quemado** 84.54 51 ⇓P P 19 44 53.7 +1.4
baz=85
P16A **Fountain Green** 84.55 46 ⇓P P 19 44 53.6 +1.5
baz=85
Q16A **Castle Valley** 84.56 46 ⇑P P 19 44 53.8 +1.6
baz=85,SNR=18
N15A **Stansbury Isla** 84.57 44 ⇓P P 19 44 52.9 +0.7
baz=85
222A **Williams Famil** 84.58 54 ⇑P P 19 44 53.6 +1.2
baz=85
Z21A **St. Cloud Mine** 84.64 53 ⇑P P 19 44 54.3 +1.5
baz=85,SNR=11
L14A **Malta** 84.65 43 ⇑P P 19 44 53.6 +1.0
baz=85,SNR=20
HLID **Hailey** 84.65 41 *e*P P 19 44 53.5 +0.9
comp=Z,85nm,1.1s
HLID *e*pP **pP** 19 46 50.5 +1.0
HLID **Hailey** 84.65 41 ⇑P P 19 44 53.8 +1.2
baz=85,SNR=70
R17A **Hanksville Air** 84.65 47 ⇓P P 19 44 53.7 +1.1
baz=85,SNR=30
TMUT **Trail Mountain** 84.71 46 *e*P P 19 44 54.4 +1.2
comp=Z,164nm,1.6s
TMUT *e*pP **pP** 19 46 51.0 +0.9
J13A **Cove Ranch, Pi** 84.72 41 ⇑P P 19 44 54.3 +1.4
baz=85,SNR=87
U19A **Dine' College,** 84.78 50 ⇑P P 19 44 54.2 +0.7
baz=85
W20A **Ramah** 84.79 51 ⇓P P 19 44 54.8 +1.3
baz=85
MENT **Mentasta** 84.80 15 *e*P P 19 44 52.5 -0.1
S18A **Hurst Farm, Bl** 84.83 48 ⇑P P 19 44 54.4 +0.7
baz=85,SNR=15
HVU **Hansel Valley** 84.83 43 *e*P P 19 44 54.2 +0.7
HVU pmax pmax
comp=Z,120nm,1.5s
HVU **Hansel Valley** 84.83 43 *e*P P 19 44 54.2 +0.7
comp=Z,120nm,1.5s
H12A **Diamond D Ranc** 84.88 40 ⇑P P 19 44 54.2 +0.5
baz=85,SNR=119
G12A **Big Creek, Yel** 84.89 40 ⇑P P 19 44 54.4 +0.8
baz=85
M15A **Larsen Ranch,** 84.89 44 ⇓P P 19 44 54.5 +0.7
baz=85,SNR=8.5
122A **Conniff Cattle** 84.90 54 ⇓P P 19 44 55.3 +1.4
baz=85
Y21A **Point of Rocks** 84.93 52 ⇑P P 19 44 55.8 +1.6
baz=85,SNR=9.9
K14A **Jones Ranch, D** 84.94 43 ⇑P P 19 44 55.0 +1.0
baz=85,SNR=32
I13A **Wildhorse Cree** 85.02 41 ⇑P P 19 44 55.5 +1.1
baz=85,SNR=42
X21A **Alamocita Cree** 85.03 52 ⇑P P 19 44 56.0 +1.3
baz=85,SNR=6.2
223A **Chaparral, Ant** 85.06 54 ⇑P P 19 44 55.9 +1.2
baz=85
SRU **San Rafael** 85.10 47 *e*P P 19 44 55.6 +0.7
SRU pmax pmax
comp=Z,128nm,1.6s
SRU **San Rafael** 85.10 47 *e*P P 19 44 55.6 +0.7
comp=Z,128nm,1.6s
SRU **San Rafael** 85.10 47 ⇓P P 19 44 55.7 +0.7
baz=85,SNR=12
J14A **Carey** 85.10 42 ⇑P P 19 44 56.1 +1.4
baz=85
V20A **Brimhall** 85.10 50 ⇓P P 19 44 55.7 +0.7
baz=85,SNR=6.3
P17A **Butcher Ranch,** 85.11 46 ⇓P P 19 44 55.8 +0.9
baz=85,SNR=7.1
JLU **Jordanelle** 85.15 45 *e*P P 19 44 55.6 +0.5
comp=Z,106nm,1.8s
JLU *e*pP **pP** 19 46 52.9 +0.6
Z22A **Elephant Butte** 85.16 53 ⇑P P 19 44 56.3 +1.0
baz=85
L15A **Malad City** 85.19 43 ⇑P P 19 44 55.9 +0.7
baz=86
DAU **Daniels Canyon** 85.19 45 *e*P P 19 44 56.5 +1.0
DAU pmax pmax
comp=Z,91nm,1.6s
DAU **Daniels Canyon** 85.19 45 *e*P P 19 44 56.5 +1.0
comp=Z,92nm,1.6s
R18A **Canyonlands Na** 85.21 47 ⇑P P 19 44 56.2 +0.8
baz=86,SNR=31
F12A **Elk City** 85.25 39 ⇑P P 19 44 55.9 +0.5
baz=86
H13A **Challis** 85.26 40 ⇓P P 19 44 56.4 +1.0
baz=86,SNR=54
N16A **Rees Ranch, Co** 85.29 45 ⇑P P 19 44 56.8 +1.0
baz=86,SNR=15
U20A **Newcomb** 85.31 50 ⇓P P 19 44 56.8 +0.8
baz=86,SNR=6.5
DOT **Dot Lake** 85.31 15 *e*P P 19 44 54.5 -0.6
comp=Z,49nm,1.0s
Q18A **Rafter H Ranch** 85.37 47 ⇓P P 19 44 56.7 +0.6
baz=86,SNR=15
E12A **Beaver Dam Sad** 85.40 38 ⇓P P 19 44 56.0 -0.1
baz=86

W21A **San Fidel** 85.42 51 ⇑P P 19 44 57.5 +1.0
baz=86
K15A **Arbon** 85.42 43 ⇓P P 19 44 57.2 +0.9
baz=86,SNR=21
Y22A **Socorro** 85.44 52 ⇑P P 19 44 57.8 +1.1
baz=86,SNR=13
123A **Bell Site, Whi** 85.44 54 ⇑P P 19 44 57.7 +1.1
baz=86
O17A **Robinson Place** 85.45 46 ⇓P P 19 44 57.9 +1.3
baz=86,SNR=50
S19A **Harvey Farm, M** 85.46 48 ⇑P P 19 44 57.5 +0.8
baz=86,SNR=14
NEW **Newport** 85.48 36 *e*P P 19 44 56.0 -0.3
comp=Z,60nm,1.1s
NEW **Newport** 85.48 36 ⇓P P 19 44 56.5 +0.1
baz=86,SNR=32
LAZ **Ladron** 85.50 52 *e*P P 19 44 57.8 +0.9
comp=Z,19nm,1.5s
LAZ *e*pP **pP** 19 46 55.8 +1.6
COLA **College** 85.50 13 *e*P P 19 44 54.8 -1.1
COLA pmax pmax
comp=Z,214nm,1.4s
COLA **College** 85.50 13 *e*P P 19 44 54.8 -1.1
comp=Z,214nm,1.4s
P18A **Preston Nutter** 85.53 46 ⇓P P 19 44 57.9 +0.8
baz=86,SNR=10.0
Y22D **IRIS PASSCAL I** 85.53 52 ⇑P P 19 44 58.0 +1.0
baz=86
G13A **Cobalt** 85.53 40 ⇑P P 19 44 57.4 +0.6
baz=86,SNR=52
HWUT **Hardware Ranch** 85.55 44 *e*P P 19 44 57.0 +0.1
comp=Z,38nm,1.2s
324A **Moseley Ranch,** 85.57 55 ⇓P P 19 44 58.2 +0.9
baz=86,SNR=42
R19A **Curley Farm, L** 85.61 48 ⇓P P 19 44 58.0 +0.6
baz=86,SNR=11
ILAR **Eielson Array** 85.62 13 P P 19 44 55.5 -1.1
comp=Z,22nm,0.4s,baz=226,slow=5.3,SNR=461
ILAR pP **pP** 19 46 53.8 0.0
comp=Z,3.8nm,1.0s,baz=229,slow=4.1,SNR=2.3
ILAR PKKP **PKKPdf** 20 02 54.4 +3.1
comp=Z,0.5nm,0.6s,baz=330,slow=1.2,SNR=6.2
ILAR **Eielson Array** 85.62 13 P P 19 44 55.5 -1.1
ILAR pP **pP** 19 46 53.8 0.0
ILAR PKKP **PKKPdf** 20 02 54.4 +3.1
X22A **Bernardo** 85.64 52 ⇑P P 19 44 59.1 +1.5
baz=86
XAN **Xi'an** 85.64 308 P P 19 44 58.3 +0.9
XAN SKS **SKSac** 19 54 32.0 +0.3
XAN S **S** 19 54 50.6 +5.6
XAN pmax pmax
comp=Z,34nm,1.1s
XAN pmax pmax
comp=Z,110nm,5.8s
DLBC **Dease Lake** 85.67 23 P P 19 44 57.8 +0.8
comp=Z,48nm,1.0s,baz=219,slow=5.1,SNR=54
DLBC PP **PP** 19 48 23.4 -2.8
comp=Z,10nm,1.2s,baz=166,slow=6.1,SNR=4.0
DLBC **Dease Lake** 85.67 23 *e*P P 19 44 57.5 +0.5
DLBC PP **PP** 19 48 23.4 -2.8
MVCO **Mesa Verde** 85.69 49 *e*P P 19 44 58.2 +0.4
comp=Z,16nm,1.0s
MVCO **Mesa Verde** 85.69 49 ⇑P P 19 44 58.5 +0.7
baz=86,SNR=7.2
425A **Indio Mountain** 85.70 56 ⇑P P 19 44 59.4 +1.5
baz=86,SNR=62
V21A **Milan** 85.71 51 ⇑P P 19 44 59.0 +1.0
baz=86
Z23A **Rita Site, Whi** 85.72 53 ⇑P P 19 44 58.8 +0.9
baz=86
N17A **Moffit Pass** 85.72 45 ⇓P P 19 44 58.6 +0.7
baz=86,SNR=6.2
C11A **Tepee Creek (N** 85.75 37 ⇑P P 19 44 58.5 +0.8
baz=86
HIA **Hailar** 85.78 325 *e*P P 19 44 57.8 +0.1
comp=Z,188nm,1.8s
BNM **Barren Site** 85.78 52 *e*P P 19 44 59.1 +0.8
comp=Z,37nm,1.3s
BNM *e*pP **pP** 19 46 56.8 +1.1
224A **Cornudas Mount** 85.79 55 ⇑P P 19 44 59.5 +1.2
baz=86,SNR=19
F13A **Darby** 85.82 39 ⇑P P 19 44 58.7 +0.5
baz=86,SNR=82
L16A **Fish Haven** 85.82 44 ⇓P P 19 44 58.9 +0.5
baz=86,SNR=13
J15A **Blackfoot** 85.83 42 ⇑P P 19 44 59.7 +1.5
baz=86,SNR=36
H14A **Leadore** 85.83 41 ⇓P P 19 44 59.5 +1.2
baz=86,SNR=48
LPM **Los Pinos Moun** 85.84 52 *e*P P 19 44 59.3 +0.7
comp=Z,36nm,1.2s
LPM *e*pP **pP** 19 46 56.1 +0.1
626A **Big Bend Ranch** 85.90 57 ⇑P P 19 45 00.6 +1.8
baz=86,SNR=48
Q19A **Hogan Spring (** 85.91 47 ⇓P P 19 44 59.5 +0.9
baz=86,SNR=12
325A **Bean Ranch, Si** 85.94 55 ⇑P P 19 45 00.3 +1.2
baz=86,SNR=18
U21A **Nageezi** 85.96 50 ⇑P P 19 45 00.2 +1.1
baz=86,SNR=13
O18A **Roosevelt** 85.98 46 ⇑P P 19 45 00.1 +1.1
baz=86,SNR=5.8
W22A **Albuquerque** 85.98 51 ⇑P P 19 45 00.2 +1.0
baz=86
S20A **Disappointment** 86.05 48 ⇑P P 19 45 00.4 +0.9
baz=86,SNR=14
M17A **Scullys Gap (B** 86.08 44 ⇓P P 19 44 59.9 +0.4
baz=86,SNR=10.0
G14A **Jackson** 86.08 40 ⇑P P 19 45 00.3 +0.8
baz=86,SNR=9.7
I15A **Monteview** 86.09 42 ⇓P P 19 45 01.0 +1.5
baz=86,SNR=17
124A **Stringfield Ra** 86.09 54 ⇓P P 19 45 01.0 +1.1
baz=86,SNR=8.8
K16A **Soda Springs** 86.11 43 ⇑P P 19 45 00.9 +1.3
baz=86,SNR=48
Y23A **Lovelace Mesa,** 86.12 53 ⇑P P 19 45 00.7 +0.7
baz=86,SNR=10
C12B **Naegeli Ranch,** 86.13 37 ⇓P P 19 44 59.8 +0.4
baz=86,SNR=25
526A **Mary Lane Ranc** 86.13 57 ⇑P P 19 45 01.5 +1.5
baz=86,SNR=36
R20A **Redvale** 86.19 48 ⇑P P 19 45 00.6 +0.5
baz=86,SNR=5.7
TXAR **Lajitas Array** 86.19 58 P P 19 45 02.2 +2.0
comp=Z,70nm,1.1s,baz=224,slow=5.2,SNR=150
TXAR pP **pP** 19 46 59.0 +1.3
comp=Z,1.3nm,0.7s,baz=231,slow=50,SNR=3.2
TXAR **Lajitas Array** 86.19 58 P P 19 45 02.2 +2.0
TXAR pP **pP** 19 46 59.0 +1.3
L17A **Cokeville** 86.23 44 ⇑P P 19 45 00.5 +0.3
baz=86
ANMO **Albuquerque** 86.23 52 P P 19 45 01.4 +1.0
comp=Z,41nm,1.1s,baz=229,slow=5.3,SNR=39
ANMO pP **pP** 19 46 57.9 -0.1
comp=Z,8.5nm,1.0s,baz=227,slow=5.2,SNR=5.0
ANMO **Albuquerque** 86.23 52 P P 19 45 01.4 +1.0
ANMO pP **pP** 19 46 57.9 -0.1
E13A **Victor** 86.24 39 ⇑P P 19 45 00.0 0.0
baz=86,SNR=27
MCMT **McKenzie Canyo** 86.26 41 *e*P P 19 45 01.1 +0.8
comp=Z,54nm,1.2s
MCMT *e*pP **pP** 19 46 58.7 +0.8
H15A **Lima** 86.28 41 ⇓P P 19 45 01.7 +1.2
baz=86,SNR=60
X23A **Hourglass Bar** 86.29 52 ⇓P P 19 45 01.3 +0.6
baz=86
T21A **Navajo Lake** 86.29 49 ⇑P P 19 45 01.4 +0.7
baz=86,SNR=6.3
J16A **Bone** 86.30 42 ⇑P P 19 45 01.8 +1.2
baz=87,SNR=47
225A **Deer Hill, Car** 86.35 55 ⇑P P 19 45 02.1 +1.1
baz=87,SNR=8.0
S21A **Coal Bank Pass** 86.39 49 ⇑P P 19 45 02.1 +0.9
baz=87,SNR=36
AHID **Auburn Hatcher** 86.39 43 *e*P P 19 45 01.8 +0.9
comp=Z,52nm,1.1s
P19A **Cripple Cowboy** 86.40 47 ⇓P P 19 45 02.0 +0.8
baz=87,SNR=6.2
D13A **Huson** 86.41 38 ⇓P P 19 45 00.6 -0.2
baz=87,SNR=35
Z24A **Sheeppen Canyo** 86.41 54 ⇓P P 19 45 02.3 +1.0
baz=87
426A **McDonald Obser** 86.41 56 ⇑P P 19 45 03.0 +1.6
baz=87,SNR=43
F14A **Wisdom** 86.42 40 ⇑P P 19 45 01.5 +0.4
baz=87,SNR=20

B12A	Libby	86.46	37	⇓P	P	19 45 01.8	+0.8
	baz=87,SNR=13						
M18A	Lyman	86.46	45	⇓P	P	19 45 02.1	+0.7
	baz=87,SNR=33						
627A	Terlingua Ranc	86.46	58	⇑P	P	19 45 03.4	+1.9
	baz=87,SNR=85						
K17A	Gardner Place,	86.50	43	⇓P	P	19 45 02.4	+0.8
	baz=87,SNR=19						
RRI2	Red Ridge	86.52	43	eP	P	19 45 02.7	+1.0
	comp=Z,269nm,1.3s						
N18A	Larsen Ranch,	86.52	45	⇑P	P	19 45 02.1	+0.5
	baz=87,SNR=7.6						
U22A	Llaves	86.53	50	⇑P	P	19 45 02.3	+0.5
	baz=87						
527A	Woodward Ranch	86.55	57	⇑P	P	19 45 03.1	+1.2
	baz=87						
W23A	Werner Place,	86.55	52	⇓P	P	19 45 02.6	+0.7
	baz=87,SNR=8.6						
MSO	Missoula	86.58	39	eP	P	19 45 01.3	-0.4
	comp=Z,17nm,1.0s						
MSO				epP	pP	19 47 00.7	+1.3
MSO	Missoula	86.58	39	⇓P	P	19 45 01.6	-0.1
	baz=87,SNR=16						
Q20A	Ridgley Place,	86.58	47	⇑P	P	19 45 02.7	+0.7
	baz=87,SNR=15						
Y24A	Capitan	86.59	53	⇑P	P	19 45 03.0	+0.8
	baz=87,SNR=26						
O19A	Miners Draw (B	86.60	46	⇑P	P	19 45 02.5	+0.6
	baz=87,SNR=8.8						
BSMT	Bassoo Peak	86.60	37	eP	P	19 45 01.7	-0.2
	comp=Z,31nm,1.1s						
BSMT				epP	pP	19 46 58.5	-1.0
C13A	Hot Springs	86.64	38	⇓P	P	19 45 01.9	0.0
	baz=87,SNR=14						
E14A	Clinton	86.64	39	⇑P	P	19 45 02.4	+0.4
	baz=87,SNR=39						
G15A	Dillon	86.64	41	⇑P	P	19 45 03.0	+0.9
	baz=87,SNR=61						
HHC	Hu-ho-hao-te	86.66	315	eP	P	19 45 01.5	-0.7
HHC				pP	pP	19 47 00.0	+0.1
HHC				sP	sP	19 47 54.7	+0.4
HHC				PP	PP	19 48 36.5	+1.9
HHC				SKS	SKSac	19 54 40.3	+2.6
HHC				S	S	19 54 52.3	-2.2
HHC				sS	sS	19 58 25.1	+0.9
HHC				pmax	pmax		
	comp=Z,77nm,1.2s						
HHC				pmax	pmax		
	comp=Z,640nm,6.6s						
I16A	Newdale	86.66	42	⇑P	P	19 45 03.6	+1.4
	baz=87,SNR=6.2						
A12A	Yaak River Ran	86.66	36	⇓P	P	19 45 02.7	+0.8
	baz=87,SNR=35						
DLMT	Dillon	86.67	40	eP	P	19 45 02.6	+0.4
	comp=Z,142nm,1.4s						
125A	Gardner Draw,	86.69	54	⇑P	P	19 45 03.7	+1.1
	baz=87,SNR=12						
326A	Caldwell Ranch	86.70	56	⇑P	P	19 45 03.6	+1.0
	baz=87						
L18A	Fontenelle, Gr	86.71	44	⇓P	P	19 45 02.9	+0.4
	baz=87						
DCID1	Drake Creek	86.72	42	eP	P	19 45 04.0	+1.5
	comp=Z,48nm,0.8s						
GDL2	Guadalupe Moun	86.74	55	eP	P	19 45 03.8	+1.1
	comp=Z,74nm,1.4s						
P20A	De Beque	86.75	47	⇑P	P	19 45 03.6	+0.9
	baz=87,SNR=15						
T22A	Edith	86.76	50	⇑P	P	19 45 03.5	+0.6
	baz=87						
V23A	Ortiz Mt. (NFS	86.77	51	⇓P	P	19 45 04.3	+1.4
	baz=87,SNR=8.3						
N19A	John Jarvie Ra	86.82	45	⇓P	P	19 45 03.3	+0.3
	baz=87,SNR=5.7						
TPAW	Teton Pass	86.83	43	eP	P	19 45 03.9	+0.8
	comp=Z,99nm,1.3s						
REDW	Red Top Meadow	86.83	43	eP	P	19 45 03.6	+0.6
	comp=Z,190nm,1.3s						
JTMT	Jette	86.84	38	eP	P	19 45 02.2	-0.7
	comp=Z,11nm,0.8s						
X24A	Lazy VL Ranch,	86.85	52	⇑P	P	19 45 03.3	0.0
	baz=87						
DAWY	Dawson	86.85	16	eP	P	19 45 02.0	-0.5
DAWY				epP	pP	19 47 01.1	+0.9
R21A	Cimarron	86.86	48	⇑P	P	19 45 04.4	+1.0
	baz=87,SNR=18						
628A	Black Gap, Mar	86.88	58	⇑P	P	19 45 05.2	+1.8
	baz=87,SNR=61						
SWMT	Swartz Lake	86.89	38	eP	P	19 45 02.5	-0.6
	comp=Z,30nm,1.4s						
Z25A	Roswell	86.89	54	⇓P	P	19 45 04.3	+0.9
	baz=87						
J17A	Brown Place, J	86.92	43	⇓P	P	19 45 04.5	+1.1
	baz=87,SNR=28						
BLMT	Blacktail Moun	86.93	37	eP	P	19 45 03.2	-0.2
	comp=Z,8.6nm,0.1s						
SNOW	Snow King Moun	86.94	43	eP	P	19 45 04.5	+0.9
	comp=Z,163nm,1.2s						
D14A	Greenough	86.96	38	⇑P	P	19 45 03.4	-0.1
	baz=87,SNR=37						
EGAK	Eagle	86.97	15	eP	P	19 45 02.5	-0.4
	comp=Z,46nm,0.7s						
F15A	Butte	86.97	40	⇓P	P	19 45 04.2	+0.6
	baz=87,SNR=36						
427A	Hayter Ranch,	86.98	56	⇑P	P	19 45 05.4	+1.5
	baz=87,SNR=40						
LRM	Limekiln Ridge	86.98	40	eP	P	19 45 04.1	+0.3
	comp=Z,508nm,1.2s						
U23A	El Rito	87.00	51	⇓P	P	19 45 05.0	+1.0
	baz=87,SNR=15						
IMW	Indian Meadow	87.02	42	eP	P	19 45 05.0	+1.0
	comp=Z,171nm,1.3s						
K18A	Toltan Ranch,	87.03	44	⇓P	P	19 45 05.2	+1.2
	baz=87,SNR=30						
CHMT	Chamberlain Mo	87.03	39	eP	P	19 45 03.9	0.0
	comp=Z,43nm,1.1s						
Q21A	Lamborn Mesa,	87.04	48	⇓P	P	19 45 05.1	+1.0
	baz=87,SNR=6.9						
B13A	Whitefish	87.05	37	⇓P	P	19 45 03.9	+0.1
	baz=87,SNR=24						
SLMT	Seeley Lake	87.05	38	eP	P	19 45 03.3	-0.6
	comp=Z,102nm,1.6s						
MOOW	Moose Ponds	87.08	42	eP	P	19 45 04.6	+0.4
	comp=Z,69nm,1.4s						
G16A	Moss Hill, Enn	87.10	41	⇓P	P	19 45 05.2	+0.9
	baz=87,SNR=16						
LOHW	Long Hollow	87.11	43	eP	P	19 45 05.1	+0.7
	comp=Z,195nm,1.7s						
327A	Balmorhea Ranc	87.11	56	⇑P	P	19 45 05.5	+1.0
	baz=87						
M19A	Rock Springs	87.11	45	⇑P	P	19 45 04.8	+0.4
	baz=87,SNR=6.2						
S22A	4UR Ranch, Cre	87.12	49	⇓P	P	19 45 05.7	+1.1
	baz=87,SNR=29						
COLD	Coldfoot	87.12	11	eP	P	19 45 03.4	-0.2
	comp=Z,62nm,0.9s						
W24A	Lazy 6 Ranch,	87.13	52	⇓P	P	19 45 05.2	+0.5
	baz=87,SNR=13						
O20A	White River Ci	87.13	46	⇑P	P	19 45 05.5	+0.9
	baz=87,SNR=11						
QLMT	Earthquake Lak	87.15	41	eP	P	19 45 05.9	+1.4
	comp=Z,22nm,1.4s						
Y25A	Mesa, Roswell	87.16	53	⇑P	P	19 45 05.4	+0.7
	baz=87,SNR=16						
E15A	Deer Lodge	87.16	39	⇑P	P	19 45 04.9	+0.5
	baz=87,SNR=12						
C14A	Swan Lake	87.16	38	⇓P	P	19 45 04.2	-0.1
	baz=87						
126A	Clayton Basin,	87.18	55	⇑P	P	19 45 05.5	+0.7
	baz=87,SNR=7.4						
H16A	Russell Place,	87.20	41	⇓P	P	19 45 06.4	+1.6
	baz=88,SNR=32						
528A	Cox Ranch, San	87.21	57	⇓P	P	19 45 06.5	+1.5
	baz=87,SNR=44						
KMI	Kunming	87.23	297	⇑P	P	19 45 06.4	+1.1
KMI				SKS	SKSac	19 54 39.6	-2.4
KMI				S	S	19 54 59.9	-0.8
KMI				SS	SS	20 01 06.5	+5.2
KMI				pmax	pmax		
	comp=Z,37nm,1.0s						
KMI				pmax	pmax		
	comp=Z,200nm,4.7s						
L19A	Farson	87.24	44	⇑P	P	19 45 05.9	+0.9
	baz=88,SNR=15						
FLWY	Flagg Ranch	87.26	42	eP	P	19 45 06.3	+1.2
	comp=Z,207nm,1.4s						
I17A	Pilgrim Ck.	87.27	42	⇑P	P	19 45 06.5	+1.4
	baz=88,SNR=5.7						
J18A	Kendall Valley	87.30	43	⇓P	P	19 45 06.1	+0.8

	baz=88,SNR=58						
YFT	Old Faithful	87.34	42	eP	P	19 45 07.6	+2.1
	comp=Z,138nm,1.3s						
YMR	Madison River	87.36	41	eP	P	19 45 07.0	+1.5
	comp=Z,245nm,1.5s						
A13A	Flathead Natio	87.36	37	⇓P	P	19 45 05.9	+0.6
	baz=88						
R22A	Saguache, Gunn	87.37	49	⇑P	P	19 45 07.0	+1.2
	baz=88,SNR=8.1						
T23A	Casias Ranch,	87.40	50	⇑P	P	19 45 06.7	+0.8
	baz=88						
BW06	Boulder Array	87.40	44	⇓P	P	19 45 06.5	+0.7
	baz=88,SNR=15						
PDAR	Pinedale Array	87.40	44	P	P	19 45 06.5	+0.7
	comp=Z,22nm,0.5s,baz=198,slow=2.7,SNR=74						
PDAR				pP	pP	19 47 03.8	0.0
	comp=Z,7.4nm,0.9s,baz=226,slow=3.5,SNR=4.8						
PDAR				PP	PP	19 48 38.6	-1.9
	comp=Z,7.6nm,1.0s,baz=243,slow=6.5,SNR=5.5						
PDAR				PKKPbc	PKKPbc	20 02 52.7	-1.0
	comp=Z,1.5nm,0.9s,baz=117,slow=5.4,SNR=4.2						
PDAR	Pinedale Array	87.40	44	P	P	19 45 06.5	+0.7
PDAR				pP	pP	19 47 03.8	0.0
PDAR				PP	PP	19 48 38.6	-1.9
PDAR				PKKPbc	PKKPbc	20 02 52.7	-1.0
BOZ	Bozeman (W)	87.41	40	eP	P	19 45 06.1	+0.5
BOZ				e*PP	pP	19 47 04.2	+0.6
BOZ				pmax	pmax		
	comp=Z,93nm,1.4s						
BOZ	Bozeman (W)	87.41	40	eP	P	19 45 06.1	+0.5
	comp=Z,93nm,1.4s						
BOZ				epP	pP	19 47 04.2	+0.6
BOZ	Bozeman (W)	87.41	40	⇑P	P	19 45 06.5	+0.9
	baz=88,SNR=14						
X25A	Clemmons Ranch	87.42	53	⇓P	P	19 45 06.3	+0.3
	baz=88						
N20A	Spence Gulch,	87.42	46	⇓P	P	19 45 06.8	+0.9
	baz=88,SNR=12						
P21A	Newcastle	87.42	47	⇓P	P	19 45 06.7	+0.7
	baz=88						
V24A	Rampart Ranch,	87.44	51	⇓P	P	19 45 06.7	+0.6
	baz=88						
Z26A	Caprock	87.45	54	⇑P	P	19 45 06.8	+0.7
	baz=88,SNR=27						
F16A	Kennard Place,	87.47	40	⇑P	P	19 45 06.8	+0.9
	baz=88,SNR=9.9						
H17A	Grant Village	87.48	42	⇓P	P	19 45 08.2	+2.0
	baz=88,SNR=26						
428A	Kincaid Ranch,	87.51	57	⇓P	P	19 45 07.9	+1.5
	baz=88,SNR=13						
227A	Bennet, Jal	87.51	55	⇑P	P	19 45 06.9	+0.6
	baz=88						
Q22A	Crested Butte,	87.52	48	⇑P	P	19 45 07.5	+1.0
	baz=88,SNR=11						
D15A	Lincoln	87.53	39	⇑P	P	19 45 06.8	+0.7
	baz=88,SNR=38						
YNR	Norris Junctio	87.56	42	eP	P	19 45 08.5	+2.0
	comp=Z,126nm,1.5s						
CLNS	Chul'man	87.60	333	eP	P	19 45 06.4	+0.3
CLNS				e		19 48 39.0	
CLNS				eS	SKSac	19 54 41.9	-0.6
CLNS				pmax	pmax		
	comp=Z,87nm,1.3s						
CLNS				pmax	pmax		
	comp=E,30nm,1.3s						
CLNS				pmax	pmax		
	comp=N,55nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,11nm,2.1s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.4s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.7s						
CLNS				smax	smax		
	comp=E,306nm,12.2s						
CLNS				smax	smax		
	comp=N,303nm,11.5s						
BTO	Baotou	87.61	314	eP	P	19 45 07.1	+0.5
SMCO	Snowmass	87.61	48	eP	P	19 45 07.8	+0.7
	comp=N,73nm,1.4s						
328A	Wristen Ranch,	87.65	56	⇓P	P	19 45 07.7	+0.7
	baz=88,SNR=10						
I18A	Diamond G Ranc	87.65	43	⇑P	P	19 45 07.6	+0.7
	baz=88,SNR=9.6						
529A	Stev Forest Ra	87.66	58	⇓P	P	19 45 08.0	+1.0
	baz=88,SNR=34						
S23A	Nye Farm, Mont	87.70	49	⇑P	P	19 45 08.1	+0.8
	baz=88						
O21A	Pagoda	87.70	47	⇓P	P	19 45 07.7	+0.4
	baz=88						
U24A	Moreno Valley	87.70	51	⇓P	P	19 45 08.5	+1.1
	baz=88						
WALA	Waterton Lakes	87.71	37	eP	P	19 45 07.0	+0.1
	comp=N,2.4nm,1.2s						
B14A	Marquette Ranc	87.73	37	⇑P	P	19 45 07.3	+0.2
	baz=88,SNR=78						
M20A	Sweetwater, Wa	87.76	45	⇑P	P	19 45 08.2	+0.7
	baz=88,SNR=9.6						
HRY	Holter Researc	87.79	39	eP	P	19 45 08.2	+0.8
	comp=N,169nm,1.5s						
E16A	East Helena	87.80	40	⇑P	P	19 45 08.1	+0.7
	baz=88,SNR=31						
G17A	Pierce Place,	87.81	41	⇓P	P	19 45 08.7	+1.2
	baz=88						
Y26A	Elida	87.82	54	⇓P	P	19 45 08.3	+0.5
	baz=88,SNR=5.8						
C15A	Salmond Ranch,	87.84	38	⇓P	P	19 45 08.0	+0.4
	baz=88,SNR=44						
W25A	X Bar L Ranch,	87.84	52	⇓P	P	19 45 08.2	+0.3
	baz=88,SNR=10						
L20A	Wamsutter	87.88	45	⇑P	P	19 45 09.2	+1.2
	baz=88,SNR=24						
N21A	Black Mountain	87.90	46	⇓P	P	19 45 09.1	+1.0
	baz=88,SNR=23						
P22A	Eagle	87.94	47	⇓P	P	19 45 09.2	+0.9
	baz=88,SNR=6.1						
A14A	Double T Ranch	87.95	37	⇑P	P	19 45 08.3	+0.3
	baz=88,SNR=48						
J19A	Crowheart	87.96	43	⇓P	P	19 45 08.8	+0.5
	baz=88,SNR=16						
V25A	Rancho No Teng	87.97	52	⇑P	P	19 45 09.1	+0.5
	baz=88						
R23A	Moffat	88.02	49	⇑P	P	19 45 09.6	+0.7
	baz=88,SNR=8.3						
Z27A	Tatum	88.06	54	⇑P	P	19 45 09.2	+0.2
	baz=88,SNR=20						
X26A	CR and CF Fran	88.08	53	⇑P	P	19 45 09.2	+0.1
	baz=88						
228A	UT Block 9, Go	88.10	56	⇓P	P	19 45 09.8	+0.7
	baz=88,SNR=11						
429A	Davenport Ranc	88.10	57	⇑P	P	19 45 10.1	+1.0
	baz=88,SNR=56						
D16A	Dana Ranch, Ca	88.11	39	⇑P	P	19 45 09.4	+0.6
	baz=88,SNR=22						
B15A	Bradely Ranch,	88.12	38	⇑P	P	19 45 08.6	-0.2
	baz=88,SNR=36						
F17A	Fitzpatrick Pl	88.13	40	⇑P	P	19 45 10.1	+1.1
	baz=88,SNR=14						
T24A	Torres, Weston	88.14	50	⇑P	P	19 45 10.1	+0.7
	baz=88						
K20A	Yellowstone Ra	88.16	44	⇑P	P	19 45 09.4	+0.1
	baz=88,SNR=12						
H18A	Shoshone NF, C	88.19	42	⇓P	P	19 45 10.2	+0.8
	baz=88						
S24A	Houchin Ranch,	88.24	50	⇓P	P	19 45 10.9	+1.0
	baz=88,SNR=5.8						
E17A	Martinsdale	88.26	40	⇓P	P	19 45 10.5	+0.9
	baz=88						
CM31	Chiang Mai Arr	88.30	290	eP	P	19 45 10.8	+0.6
	comp=N,17nm,0.8s						
CMAR	Chiang Mai Arr	88.30	290	P	P	19 45 11.1	+0.9
	comp=N,20nm,1.0s,baz=109,slow=2.9,SNR=97						
CMAR				pP	pP	19 47 11.0	+2.6
	comp=N,2.1nm,1.0s,baz=77,slow=5.2,SNR=3.5						
CMAR				PP	PP	19 48 52.8	+5.0
	comp=N,2.0nm,0.9s,baz=132,slow=5.4,SNR=4.5						
CMAR				PKiKP	PKiKP	19 50 08.2	+0.5
	comp=N,0.8nm,0.6s,baz=168,slow=0.6,SNR=4.1						
CMAR				PKKPbc	PKKPbc	20 02 51.1	+0.9
	comp=N,0.9nm,0.7s,baz=282,slow=4.4,SNR=6.4						
CMAR	Chiang Mai Arr	88.30	290	P	P	19 45 11.1	+0.9
CMAR				pP	pP	19 47 11.0	+2.6
CMAR				PP	PP	19 48 52.8	+5.0
CMAR				PKiKP	PKiKP	19 50 08.2	+0.5
CMAR				PKKPbc	PKKPbc	20 02 51.1	+0.9
Q23A	Hartsel	88.31	48	⇓P	P	19 45 10.8	+0.6
	baz=89						
W26A	Owens Ranch, T	88.32	52	⇑P	P	19 45 10.2	+0.1

	baz=89						
Y27A	Causey	88.32	54	⇓P	P	19 45 10.4	+0.2
	baz=89,SNR=11						
O22A	Kremmling	88.32	47	⇓P	P	19 45 10.9	+0.7
	baz=89,SNR=15						
I19A	Meeteetse	88.34	43	⇓P	P	19 45 10.9	+0.8
	baz=89,SNR=14						
U25A	Circle Dot Ran	88.34	51	⇑P	P	19 45 10.6	+0.3
	baz=89						
A15A	Johnson Ranch,	88.35	37	⇑P	P	19 45 09.9	+0.1
	baz=89,SNR=40						
329A	Wagon Wheel Ra	88.35	56	⇓P	P	19 45 11.2	+0.9
	baz=89,SNR=16						
C16A	Fuhringer Ranc	88.36	38	⇓P	P	19 45 10.1	+0.2
	baz=89,SNR=23						
M21A	Separation Pea	88.36	45	⇑P	P	19 45 10.8	+0.5
	baz=89,SNR=15						
128A	Castleberry Fa	88.37	55	⇓P	P	19 45 11.2	+0.9
	baz=89						
530A	J-C Ranch, Com	88.38	58	⇑P	P	19 45 11.4	+1.0
	baz=89						
CHTO	Chiang Mai	88.42	290	eP	P	19 45 10.8	0.0
CHTO				pmax	pmax		
	comp=Z,28nm,0.9s						
CHTO	Chiang Mai	88.42	290	eP	P	19 45 10.8	0.0
	comp=Z,28nm,0.9s						
CHTO	Chiang Mai	88.42	290	P	P	19 45 11.5	+0.8
	SNR=8.0						
CHTO	Chiang Mai	88.42	290	P	P	19 45 11.2	+0.4
	comp=Z,27nm,1.1s						
CD2	Chengdu	88.46	303	P	P	19 45 11.0	+0.3
CD2				pP	pP	19 47 09.1	+0.1
CD2				sP	sP	19 48 01.7	-1.6
CD2				PP	PP	19 48 51.0	+2.1
CD2				SKS	SKSac	19 54 48.3	-0.4
CD2				S	S	19 55 10.2	-1.3
CD2				sS	sS	19 58 38.7	-3.6
CD2				SS	SS	20 01 20.0	+1.5
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,330nm,4.8s						
P23A	Jefferson	88.49	48	⇓P	P	19 45 12.3	+1.2
	baz=89,SNR=5.6						
L21A	Rawlins	88.51	45	⇑P	P	19 45 11.2	+0.2
	baz=89,SNR=6.5						
G18A	Lazy EL Ranch,	88.54	41	⇓P	P	19 45 11.9	+0.9
	baz=89,SNR=12						
R24A	Sanders Place,	88.56	49	⇑P	P	19 45 12.1	+0.9
	baz=89,SNR=11						
V26A	Tequesquite Ra	88.57	52	⇓P	P	19 45 11.6	+0.3
	baz=89						
H19A	Powell	88.62	42	⇑P	P	19 45 12.5	+1.2
	baz=89,SNR=21						
J20A	Shoshoni	88.63	44	⇑P	P	19 45 12.3	+0.9
	baz=89,SNR=14						
T25A	Trinidad	88.63	50	⇑P	P	19 45 11.9	+0.3
	baz=89						
RLMT	Red Lodge	88.64	42	eP	P	19 45 12.5	+1.0
	comp=Z,95nm,1.3s						
RLMT	Red Lodge	88.64	42	⇓P	P	19 45 12.7	+1.2
	baz=89,SNR=13						
MSTX	Muleshoe	88.65	54	⇑P	P	19 45 12.2	+0.5
	baz=89,SNR=7.9						
N22A	Wattenberg Ran	88.65	46	⇑P	P	19 45 12.9	+1.2
	baz=89,SNR=14						
X27A	F and S Farms,	88.66	53	⇑P	P	19 45 12.4	+0.7
	baz=89,SNR=5.4						
229A	Bryant Ranch,	88.66	56	⇑P	P	19 45 12.5	+0.8
	baz=89,SNR=8.7						
B16A	M & M Farms, S	88.67	38	⇑P	P	19 45 11.5	+0.1
	baz=89,SNR=13						
D17A	Six Diamond Ra	88.69	39	⇓P	P	19 45 12.7	+1.1
	baz=89,SNR=13						
430A	Baggett Ranch,	88.69	57	⇑P	P	19 45 12.7	+0.8
	baz=89,SNR=18						
Z28A	Tucker Farm, M	88.69	55	⇑P	P	19 45 12.0	+0.1
	baz=89						
F18A	Big Timber	88.71	41	⇓P	P	19 45 12.9	+1.2
	baz=89,SNR=11						
631A	Perdido Creek	88.73	59	⇑P	P	19 45 13.4	+1.3
	baz=89,SNR=86						
O23A	Lake Granby, G	88.78	47	⇑P	P	19 45 13.3	+0.9
	baz=89,SNR=6.4						
M22A	Cedar Creek Ra	88.80	46	⇑P	P	19 45 13.0	+0.6
	baz=89,SNR=5.8						
S25A	Robets Cordova	88.82	50	⇑P	P	19 45 13.1	+0.6
	baz=89						
Q24A	Divide	88.82	48	⇓P	P	19 45 13.5	+0.9
	baz=89,SNR=15						
ISCO	Idaho Springs	88.83	48	eP	P	19 45 13.3	+0.7
ISCO				pmax	pmax		
	comp=Z,70nm,1.6s						
ISCO	Idaho Springs	88.83	48	eP	P	19 45 13.3	+0.7
	comp=Z,70nm,1.6s						
ISCO	Idaho Springs	88.83	48	⇓P	P	19 45 13.6	+1.0
	baz=89,SNR=6.5						
U26A	Atchley Ranch,	88.84	51	⇓P	P	19 45 12.9	+0.3
	baz=89						
W27A	Bowe Ranch, En	88.84	53	⇑P	P	19 45 12.8	+0.3
	baz=89						
129A	Stewart Farms,	88.86	55	⇓P	P	19 45 13.2	+0.6
	baz=89,SNR=8.0						
I20A	Worland	88.86	43	⇑P	P	19 45 13.2	+0.8
	baz=89,SNR=17						
C17A	Wharram Farm,	88.86	39	⇑P	P	19 45 12.8	+0.5
	baz=89,SNR=23						
K21A	Alcova	88.88	44	⇓P	P	19 45 13.1	+0.5
	baz=89,SNR=7.7						
E18A	Harlowton	88.89	40	⇓P	P	19 45 13.8	+1.3
	baz=89,SNR=18						
732A	Laxson Ranch,	88.99	60	⇑P	P	19 45 14.4	+1.3
	baz=89,SNR=26						
A16A	West Butte Ran	88.99	37	⇑P	P	19 45 13.2	+0.3
	baz=89						
531A	Rocksprings	89.02	58	⇓P	P	19 45 14.6	+1.2
	baz=89,SNR=51						
Y28A	McKinney Farm,	89.03	54	⇓P	P	19 45 13.7	+0.2
	baz=89						
N23A	Red Feather La	89.04	46	⇑P	P	19 45 14.7	+1.2
	baz=89,SNR=9.0						
YAK	Yakutsk	89.04	338	eP	P	19 45 11.6	-1.0
YAK				eS	SKSac	19 54 48.8	-1.7
YAK				e		19 55 11.1	
YAK				pmax	pmax		
	comp=Z,29nm,1.4s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
YAK				pmax	pmax		
	comp=Z,370nm,3.7s						
YAK				pmax	pmax		
	comp=N,160nm,1.5s						
YAK				pmax	pmax		
	comp=E,184nm,2.0s						
YAK				smax	smax		
	comp=N,271nm,2.0s						
YAK				smax	smax		
	comp=E,125nm,2.7s						
YAK	Yakutsk	89.04	338	eP	P	19 45 10.4	-2.2
	comp=E,22nm,0.6s						
J21A	Lysite	89.05	44	⇓P	P	19 45 14.2	+0.8
	baz=89,SNR=7.8						
R25A	Fountain Ranch	89.12	49	⇑P	P	19 45 14.0	+0.2
	baz=89						
B17A	L&G Farms, Che	89.15	38	⇓P	P	19 45 13.9	+0.4
	baz=89,SNR=22						
431A	Sonora	89.16	58	⇓P	P	19 45 14.6	+0.5
	baz=89,SNR=9.5						
F19A	Roth Farm, Mol	89.17	41	⇓P	P	19 45 14.6	+0.8
	baz=89,SNR=9.1						
L22A	Ellis Ranch, M	89.17	45	⇓P	P	19 45 14.9	+0.9
	baz=89,SNR=9.3						
H20A	Greybull	89.18	43	⇓P	P	19 45 14.0	+0.2
	baz=89						
Z29A	Hungry Hill Ra	89.21	55	⇓P	P	19 45 14.2	-0.1
	baz=89						
D18A	Linhart Farms,	89.25	40	⇑P	P	19 45 15.0	+0.9
	baz=90,SNR=9.7						
T26A	Comanche Natio	89.25	51	⇑P	P	19 45 14.5	+0.1
	baz=90						
X28A	Dimmitt	89.30	53	⇑P	P	19 45 14.7	0.0
	baz=90						
O24A	Longmont	89.34	47	⇑P	P	19 45 15.8	+1.0
	baz=90						
I21A	Big Trails, Te	89.35	43	⇓P	P	19 45 15.0	+0.2
	baz=90,SNR=21						

G20A Bridger 89.36 42 ⇓P P 19 45 15.3 +0.6
baz=90
K22A Casper 89.37 45 ⇑P P 19 45 15.5 +0.7
baz=90
632A Uvalde 89.41 59 ⇓P P 19 45 16.6 +1.4
baz=90,SNR=29
SYO Syowa Base 89.42 193⇑eP P 19 45 12.2 -2.2
SYO Syowa Base 89.42 193⇑ePcP P 19 45 14.6 +0.2
SYO Syowa Base 89.42 193⇓epP pP 19 47 10.8 -2.0
M23A Laramie 89.43 46 ⇑P P 19 45 15.7 +0.5
baz=90,SNR=7.4
Q25A Bedland, Calha 89.44 49 ⇑P P 19 45 15.8 +0.4
baz=90,SNR=5.9
Y29A Porterfield Fa 89.46 54 ⇓P P 19 45 15.8 +0.4
baz=90
S26A Kim 89.51 50 ⇑P P 19 45 15.7 +0.1
baz=90,SNR=6.3
A17A Triple J Farms 89.51 38 ⇓P P 19 45 15.8 +0.6
baz=90,SNR=12
532A Rocksprings 89.53 58 ⇑P P 19 45 16.7 +0.9
baz=90,SNR=33
E19A Rath Farm, Rou 89.54 41 ⇓P P 19 45 16.4 +1.0
baz=90,SNR=18
PHWY Pilot Hill 89.54 46 eP P 19 45 16.8 +0.9
comp=E,38nm,1.4s
W28A Vega 89.56 53 ⇑P P 19 45 15.9 0.0
baz=90
CMIG Matias Romero 89.57 72 P P 19 45 17.5 +1.4
comp=E,13nm,1.1s,baz=267,slow=5.2,SNR=6.1
CMIG pP pP 19 47 14.2 -0.3
comp=E,2.4nm,0.7s,baz=103,slow=11,SNR=2.6
CMIG Matias Romero 89.57 72 P P 19 45 17.5 +1.4
CMIG pP pP 19 47 14.2 -0.3
EGMT Eagleton 89.65 39 ⇓P P 19 45 16.6 +0.7
baz=90
F20A Billings 89.65 41 ⇑P P 19 45 16.6 +0.6
baz=90,SNR=6.2
X29A Tulia 89.65 54 ⇓P P 19 45 16.6 +0.3
baz=90
L23A Garrett 89.70 45 ⇑P P 19 45 17.1 +0.6
baz=90,SNR=15
J22A Midwest 89.72 44 ⇓P P 19 45 16.9 +0.4
baz=90,SNR=6.2
V28A Channing 89.73 52 ⇑P P 19 45 17.0 +0.4
baz=90
JCT Junction City 89.73 58 eP P 19 45 17.1 +0.4
JCT pmax pmax
comp=Z,128nm,1.7s
JCT Junction City 89.73 58 eP P 19 45 17.1 +0.4
comp=Z,128nm,1.7s
JCT Junction City 89.73 58 ⇓P P 19 45 17.2 +0.4
baz=90,SNR=8.2
P25A Willow Gulch B 89.73 48 ⇓P P 19 45 17.5 +0.9
baz=90,SNR=5.2
N24A Carr 89.75 47 ⇑P P 19 45 17.8 +1.2
baz=90,SNR=6.9
R26A Arlington 89.79 50 ⇓P P 19 45 17.2 +0.3
baz=90,SNR=10.0
D19A Cripps Ranch, 89.79 40 ⇓P P 19 45 17.5 +0.9
baz=90,SNR=14
B18A Beardsley Farm 89.80 39 ⇑P P 19 45 17.2 +0.6
baz=90,SNR=9.4
AMTX Amarillo 89.83 53 eP P 19 45 17.8 +0.8
AMTX Amarillo 89.83 53 ⇑P P 19 45 17.5 +0.4
baz=90
T27A Campo 89.85 51 ⇑P P 19 45 17.3 +0.1
baz=90,SNR=6.9
H21A Big Horn, Sher 89.86 43 ⇓P P 19 45 17.5 +0.5
baz=90
432A Menard 89.88 58 ⇓P P 19 45 18.0 +0.7
baz=90,SNR=60
I22A 9 Mile Ranch, 89.91 44 ⇓P P 19 45 18.0 +0.7
baz=90,SNR=6.5
W29A Amraillo 89.94 53 ⇑P P 19 45 18.1 +0.5
baz=90,SNR=9.0
C19A Slack Wire Ran 89.94 39 ⇑P P 19 45 18.2 +0.9
baz=90,SNR=12
S27A Las Animas 89.95 50 ⇓P P 19 45 18.0 +0.3
baz=90
E20A Meyer Farm, Mu 89.97 41 ⇓P P 19 45 18.3 +0.8
baz=90,SNR=7.9
Q26A Hugo 89.97 49 ⇓P P 19 45 18.2 +0.5
baz=90
A18A Metzger Ranch, 90.00 38 ⇓P P 19 45 17.9 +0.5
baz=90,SNR=14
G21A Lodge Grass 90.00 42 ⇓P P 19 45 18.5 +0.8
baz=90
O25A Wiggins 90.00 48 ⇑P P 19 45 18.5 +0.7
baz=90
K23A Bowen Ranch, D 90.02 45 ⇓P P 19 45 18.4 +0.5
baz=90,SNR=5.1
M24A Cheyenne 90.04 46 ⇓P P 19 45 18.9 +0.9
baz=90,SNR=7.1
L24A Wheatland 90.20 46 ⇓P P 19 45 19.6 +0.9
baz=90,SNR=8.5
D20A Manuel Ranch, 90.22 40 ⇓P P 19 45 19.7 +1.2
baz=90,SNR=18
R27A Eads 90.25 50 ⇓P P 19 45 19.3 +0.3
baz=90
LZH Lanzhou 90.28 308 ⇑P P 19 45 20.4 +1.2
LZH pP **pP** 19 47 20.0 +2.2
LZH sP **sP** 19 48 13.5 +1.5
LZH PP **PP** 19 49 07.0 +3.8
LZH SKS **SKSac** 19 54 59.0 -0.2
LZH S **S** 19 55 28.9 +0.9
LZH sS **sS** 19 58 58.7 -1.2
LZH SS **SS** 20 01 47.5 +2.9
LZH pmax pmax
comp=Z,73nm,1.1s
LZH pmax pmax
comp=Z,470nm,5.4s
H22A Clearmont 90.29 43 ⇑P P 19 45 19.7 +0.7
baz=90,SNR=7.0
N25A Grover 90.30 47 ⇑P P 19 45 20.0 +0.8
baz=90
F21A Absaloka Mine, 90.31 42 ⇓P P 19 45 20.2 +1.1
baz=91,SNR=12
V29A Stinnett 90.31 52 ⇓P P 19 45 19.8 +0.5
baz=90
T28A Walsh 90.32 51 ⇑P P 19 45 19.4 +0.1
baz=91,SNR=8.0
B19A Brinkman Farms 90.33 39 ⇑P P 19 45 19.9 +0.9
baz=91,SNR=9.4
J23A Dilts Ranch, B 90.33 44 ⇑P P 19 45 20.0 +0.7
baz=91
P26A Davis Ranch, A 90.34 48 ⇓P P 19 45 20.2 +0.7
baz=91
K24A Anderson Ranch 90.55 45 ⇓P P 19 45 20.9 +0.6
baz=91
M25A Palm-Egli Farm 90.56 47 ⇓P P 19 45 21.4 +1.0
baz=91,SNR=7.5
C20A Veseth Ranch, 90.57 40 ⇓P P 19 45 21.4 +1.2
baz=91,SNR=30
CIT Chita 90.57 325 eP P 19 45 20.5 +0.5
CIT e 19 54 59.0
CIT e 19 55 33.8
CIT pmax pmax
comp=Z,149nm,2.0s
G22A Birney 90.58 42 ⇑P P 19 45 21.1 +0.7
baz=91
ABTX Abilene, Hawle 90.61 56 ⇑P P 19 45 21.3 +0.7
baz=91
I23A Meade Ranch, G 90.61 44 ⇑P P 19 45 20.9 +0.4
baz=91
O26A Horse Wrangler 90.62 48 ⇓P P 19 45 21.4 +0.7
baz=91,SNR=7.1
E21A Keefer Ranch, 90.64 41 ⇑P P 19 45 21.7 +1.2
baz=91,SNR=5.6
KSCO Kaye Shedlock' 90.65 49 ⇓P P 19 45 21.6 +0.7
baz=91
A19A Klindworth Far 90.66 38 ⇓P P 19 45 21.1 +0.6
baz=91,SNR=8.4
F22A Rosebud 90.84 42 ⇓P P 19 45 22.3 +0.9
baz=91
B20A Solberg Farm, 90.87 39 ⇓P P 19 45 22.2 +0.7
baz=91,SNR=7.1
P27A Ficken Ranch, 90.89 49 ⇓P P 19 45 22.3 +0.4
baz=91
J24A Dixon Ranch, L 90.89 45 ⇑P P 19 45 22.4 +0.5
baz=91
H23A Clabaugh Cattl 90.90 43 ⇓P P 19 45 22.1 +0.2
baz=91
L25A Engebretsen Ra 90.91 46 ⇓P P 19 45 23.0 +1.0
baz=91,SNR=9.1
N26A Koester Ranch, 90.91 47 ⇓P P 19 45 22.5 +0.5
baz=91
D21A La Casta Ranch 90.91 41 ⇓P P 19 45 22.9 +1.1
baz=91,SNR=15
A20A Cobblestone Ra 91.12 39 ⇓P P 19 45 23.3 +0.6
baz=91,SNR=12
I24A Kuemmerle Ranc 91.13 44 ⇑P P 19 45 23.0 +0.1
baz=91
K25A Mack Ranch, Ha 91.15 46 ⇓P P 19 45 24.1 +1.0
baz=91
VNA3 Neumayer Olymp 91.15 177 eP P 19 45 22.3 -0.2
VNA3 Neumayer Olymp 91.15 177 epP pP 19 47 23.6 +2.5
G23A Biddle 91.16 43 ⇓P P 19 45 23.7 +0.7
baz=91
C21A Desert Coulee 91.17 40 ⇓P P 19 45 23.8 +0.9
baz=91,SNR=10
O27A Beecher Island 91.19 48 ⇑P P 19 45 24.1 +0.8
baz=91
M26A McRoberts Ranc 91.21 47 ⇓P P 19 45 24.1 +0.7
baz=92
E22A Miles City 91.31 41 ⇑P P 19 45 24.4 +0.9
baz=92,SNR=7.9
F23A Volborg 91.36 42 ⇓P P 19 45 24.6 +0.8
baz=92,SNR=6.3
N27A Anderson Farm, 91.38 48 ⇓P P 19 45 24.8 +0.6
baz=92
D22A Cohagen 91.45 41 ⇑P P 19 45 25.5 +1.2
baz=92,SNR=13
L26A Underwood Farm 91.47 46 ⇓P P 19 45 25.6 +1.0
baz=92
B21A Ellsworth Farm 91.47 39 ⇓P P 19 45 25.1 +0.8
baz=92
H24A Dirks Ranch, A 91.53 43 ⇓P P 19 45 25.0 +0.3
baz=92,SNR=18
VNA2 Neumayer--Watz 91.59 177 eP P 19 45 24.6 +0.2
VNA2 Neumayer--Watz 91.59 177 epP pP 19 47 25.4 +2.3
MAIT Maitri 91.62 184 eP P 19 45 24.9 +0.3
MAIT e 19 45 36.5
NVL N'lazarevskaya 91.62 184 eP P 19 45 23.6 -1.0
NVL e 19 47 24.5
NVL ePPP PPP 19 48 11.5
NVL pmax pmax
comp=Z,17nm,0.6s
INK Inuvik 91.64 15 P P 19 45 23.9 -0.6
comp=Z,85nm,1.2s,baz=220,slow=4.8,SNR=61
INK Inuvik 91.64 15 eP P 19 45 23.5 -1.0
comp=Z,127nm,1.3s
K26A Motz Farm, Whi 91.65 46 ⇑P P 19 45 26.1 +0.8
baz=92,SNR=6.8
E23A Ismay 91.74 42 ⇑P P 19 45 26.4 +0.9
baz=92
M27A Reverse DX Ran 91.76 47 ⇑P P 19 45 26.6 +0.7
baz=92
A21A Bergtoll Ranch 91.76 39 ⇑P P 19 45 26.2 +0.6
baz=92,SNR=14
OGNE Ogallala 91.79 48 ⇓P P 19 45 26.4 +0.4
baz=92
VNA1 Neumayer--Stat 91.82 177 eP P 19 45 25.8 +0.3
VNA1 Neumayer--Stat 91.82 177 epP pP 19 47 31.6 +7.4
G24A Alzada 91.84 43 ⇓P P 19 45 26.5 +0.4
baz=92
C22A Vida 91.88 40 ⇓P P 19 45 26.8 +0.7
baz=92
PLCA Paso Flores 91.94 134 pP pP 19 47 30.4 +4.8
comp=Z,5.6nm,1.0s,baz=264,slow=3.7,SNR=5.0
PLCA Paso Flores 91.94 134 pP pP 19 47 30.4 +4.8
F24A Ekalaka 92.03 42 ⇑P P 19 45 27.6 +0.7
baz=92,SNR=6.9
B22A Reddig Ranch S 92.04 40 ⇓P P 19 45 27.7 +0.7
baz=92,SNR=15
D23A Lindsay 92.07 41 ⇑P P 19 45 28.6 +1.5
baz=92,SNR=27
WHTX Lake Whitney 92.14 57 ⇓P P 19 45 28.3 +0.6
baz=92
K27A Flueckinger Fa 92.30 46 ⇑P P 19 45 29.2 +0.9
baz=92
C23A Lambert 92.33 40 ⇑P P 19 45 29.5 +1.2
baz=93,SNR=31
A22A Carney Farms, 92.37 39 ⇓P P 19 45 28.8 +0.4
baz=93,SNR=6.2
E24A Baker 92.39 42 ⇓P P 19 45 29.2 +0.6
baz=93
ULN Ulaanbaatar 92.55 320 eP P 19 45 29.0 -0.4
comp=Z,62nm,1.4s
ULN Ulaanbaatar 92.55 320 P P 19 45 29.6 +0.2
SNR=12
ULN Ulaanbaatar 92.55 320 P P 19 45 29.3 -0.1
D24A Glendive 92.60 41 ⇑P P 19 45 30.6 +1.1
baz=93,SNR=23
C24A Savage 92.70 41 ⇓P P 19 45 31.0 +1.1
baz=93,SNR=10
B23A Brockton 92.72 40 ⇑P P 19 45 31.1 +1.1
baz=93,SNR=15
SONM Songino Array 92.95 319 P P 19 45 30.6 -0.6
comp=Z,5.1nm,0.4s,baz=122,slow=4.2,SNR=156
SONM pP pP 19 47 35.5 +5.5
comp=Z,0.8nm,1.0s,baz=120,slow=8.8,SNR=2.0
SONM PP **PP** 19 49 20.9 -2.6
comp=Z,3.8nm,1.2s,baz=130,slow=5.8,SNR=7.4
SONM PKKP **PKKPbc** 20 02 40.2 +0.3
comp=Z,0.4nm,0.9s,baz=278,slow=4.0,SNR=3.6
SONM Songino Array 92.95 319 P P 19 45 30.6 -0.6
SONM pP pP 19 47 35.5 +5.5
SONM PP **PP** 19 49 20.9 -2.6
SONM PKKP **PKKPbc** 20 02 40.2 +0.3
A23A Redstone 92.98 39 ⇑P P 19 45 31.8 +0.6
baz=93
BOD Bodaibo 93.09 330 eP P 19 45 30.3 -1.1
BOD pmax pmax
comp=Z,17nm,1.5s
DGMT Dagmar 93.21 40 eP P 19 45 32.9 +0.7
comp=Z,193nm,1.1s
DGMT Dagmar 93.21 40 ⇓P P 19 45 33.0 +0.7
baz=93,SNR=11
A24A Westby 93.50 40 ⇑P P 19 45 34.2 +0.6
baz=94,SNR=5.5
YKA Yellowknife Ar 94.18 25 P P 19 45 35.9 -0.3
comp=Z,12nm,0.6s,baz=244,slow=4.4,SNR=213
YKA pP **pP** 19 47 33.9 -1.3
comp=Z,0.3nm,0.5s,baz=346,slow=19,SNR=1.7
YKA PKKP **PKKPdf** 20 02 33.3 -2.6
comp=Z,0.4nm,0.6s,baz=31,slow=2.3,SNR=5.7
YKA Yellowknife Ar 94.18 25 P P 19 45 36.0 -0.3
YKA pP **pP** 19 47 34.0 -1.3
YKA PKKP **PKKPdf** 20 02 33.4 -2.6
GTA Gaotai 94.42 310 ⇑P P 19 45 38.2 +0.1
GTA pP **pP** 19 47 38.8 +1.7
GTA sP **sP** 19 48 31.5 +0.4
GTA PP **PP** 19 49 38.8 +3.7
GTA SKS **SKSac** 19 55 21.4 -0.3
GTA S **S** 19 56 02.9 -1.1
GTA sS **sS** 19 59 36.7 -1.4
GTA SS **SS** 20 02 48.2 +5.2
GTA pmax pmax
comp=Z,15nm,1.4s
GTA pmax pmax
comp=Z,180nm,5.9s
BGNE Belgrade 94.70 48 ⇑P P 19 45 40.2 +1.0
baz=95
TUL1 Tulsa 94.70 54 ⇑P P 19 45 39.7 +0.4
baz=95
KSU1 Kansas State U 95.08 51 eP P 19 45 42.5 +1.5
comp=Z,247nm,1.6s
ZAK Zakamensk 95.79 321 eP P 19 45 42.3 -1.7
ZAK pmax pmax
comp=Z,5.0nm,1.2s
MDND Maddock 95.85 42 ⇑P P 19 45 44.4 +0.2
baz=96
ECSD EROS Data Cent 96.51 46 eP P 19 45 46.7 -0.6
comp=Z,9.6nm,1.0s
FFC Flin Flon 96.81 35 eP P 19 45 47.0 -1.4
FFC pmax pmax
comp=Z,7.0nm,1.5s
FFC Flin Flon 96.81 35 eP P 19 45 47.0 -1.4
comp=Z,6.6nm,1.5s
ULM Lac du Bonnet 98.92 40 P Pdif 19 45 57.2 -0.7
comp=Z,4.1nm,0.7s,baz=277,slow=3.7,SNR=7.3
ULM Lac du Bonnet 98.92 40 P Pdif 19 45 57.2 -0.7
TAPN Taplejung 100.76 295 eP **PKiKP** 19 50 29.2 -0.4
comp=Z,6.7nm,0.4s
ODAN Odare 100.92 295 eP **PKiKP** 19 50 29.3 -0.5
comp=Z,9.5nm,0.5s
RAMN Ramite 101.63 295 eP **PKiKP** 19 50 29.5 -1.6
comp=Z,11nm,0.6s
HVS Khovu-Aksy 101.83 320 *d* iP **Pdif** 19 46 10.9 0.0
HVS pmax pmax
comp=Z,39nm,1.3s
JIRN Jiri 102.15 295 eP **PKiKP** 19 50 30.9 -1.3
comp=Z,3.0nm,0.5s
GUN Gumba 102.47 295 eP **PKiKP** 19 50 31.4 -1.3
PKI Pulchoki 102.80 295 eP **PKiKP** 19 50 32.2 -1.1
comp=Z,8.1nm,0.5s
KKN Kakani 102.96 295 eP **PKiKP** 19 50 32.4 -1.1
comp=Z,6.6nm,0.6s
GKN Gorkha 103.56 295 eP **PKiKP** 19 50 33.0 -1.5
comp=Z,5.5nm,0.4s
DANN Dangsing 104.40 296 eP **PKiKP** 19 50 35.3 -0.9
comp=Z,7.9nm,0.5s
KOLN Koldanda 104.41 295 eP **PKiKP** 19 50 34.5 -1.6
comp=Z,4.5nm,0.4s
PYUN Piuthan 105.01 295 eP **PKiKP** 19 50 36.5 -0.7
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 107.63 322 Pdiff **Pdif** 19 46 36.1 -0.4
comp=Z,1.5nm,0.8s,baz=114,slow=5.5,SNR=7.6
ZALV PKiKP **PKiKP** 19 50 39.9 -1.1
comp=Z,6.4nm,0.5s,baz=143,slow=2.2,SNR=18
ZALV Zalesovo Beam 107.63 322 P **Pdif** 19 46 36.1 -0.4
ZALV Zalesovo Beam 107.63 322 Pdif **Pdif** 19 46 36.1 -0.4
ZALV PKiKP **PKiKP** 19 50 39.9 -1.1
CPUP Villa Florida 108.45 126 PKKPbc PKKPbc 20 01 55.5 +0.4
comp=Z,0.7nm,0.4s,baz=69,slow=13,SNR=3.4
CPUP PKKPab **PKKPab** 20 02 10.2 -1.2
comp=Z,5.4nm,1.1s,baz=124,slow=6.2,SNR=4.2
CPUP Villa Florida 108.45 126 PKKPbc PKKPbc 20 01 55.5 +0.4
CPUP PKKPab **PKKPab** 20 02 10.2 -1.2
MK31 Makanchi Array 108.52 314 eP **Pdif** 19 46 41.1 +0.4
MK31 Makanchi Array 108.52 314 ePdif **Pdif** 19 46 41.1 +0.4
MKAR Makanchi Array 108.52 314 Pdiff **Pdif** 19 46 41.5 +0.9
comp=Z,0.8nm,0.5s,baz=84,slow=6.4,SNR=29
MKAR PKiKP **PKiKP** 19 50 41.8 -1.2
comp=Z,7.3nm,0.5s,baz=216,slow=0.7,SNR=21
MKAR PKKPbc **PKKPbc** 20 01 54.4 -1.0
comp=Z,0.4nm,0.4s,baz=281,slow=2.8,SNR=7.7
MKAR Makanchi Array 108.52 314 P **Pdif** 19 46 41.6 +0.9
MKAR Makanchi Array 108.52 314 Pdif **Pdif** 19 46 41.5 +0.9
MKAR PKiKP **PKiKP** 19 50 41.8 -1.2
MKAR PKKPbc **PKKPbc** 20 01 54.4 -1.0
SADO Sadowa 108.99 48 PP PP 19 51 27.1 +4.6
comp=Z,7.1nm,0.7s,baz=58,slow=7.0,SNR=3.8
SADO Sadowa 108.99 48 PP PP 19 51 27.1 +4.6
SIV San Ignacio 110.28 115 PKKPbc PKKPbc 20 01 48.7 -0.5
comp=Z,2.1nm,0.6s,baz=100,slow=3.8,SNR=10
SIV PKKP **PKKPab** 20 02 02.5 -0.5
comp=Z,0.4nm,0.4s,baz=29,slow=5.4,SNR=3.8
SIV San Ignacio 110.28 115 PKKPbc PKKPbc 20 01 48.7 -0.5
SIV PKKP **PKKPab** 20 02 02.5 -0.5
KURK Kurchatov 111.22 318 PKKPbc PKKPbc 20 01 45.9 -0.9
KURBB Kurchatov Arra 111.27 318 PKKPbc PKKPbc 20 01 45.9 -0.7
comp=Z,0.5nm,0.6s,baz=275,slow=3.8,SNR=9.0
KSH Kashi 112.46 306 ePKP **PKiKP** 19 50 50.2 -0.6
KSH PP **PP** 19 51 50.5 +3.0
KSH sPKP 19 53 48.5
KSH PKS **PKSdf** 19 54 25.4 -2.1
KSH SKS **SKSdf** 19 57 11.7 -0.4
KSH SKKS **SKKSac** 19 57 49.9 -3.3
KSH SS **SS** 20 06 52.8 +5.0
KSH AMB AMB
comp=Z,120nm,3.8s
AAK Ala-Archa 113.77 309 PKKPbc PKKPbc 20 01 38.2 -0.2
comp=Z,0.4nm,0.4s,baz=194,slow=8.7,SNR=3.8
AAK Ala-Archa 113.77 309 PKKPbc PKKPbc 20 01 38.2 -0.2
BRVK Borovoye 116.30 321 ⇓*i* PKiKP **PKPdf** 19 50 57.0 -0.5
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 116.30 321 ePKPdf **PKPdf** 19 50 56.2 -1.4
SCHQ Schefferville 116.84 37 PKKP **PKKPdf** 20 01 55.1 +1.7
comp=Z,2.9nm,0.7s,baz=263,slow=13,SNR=4.2
KBL Kabul 117.68 300 P **PKPdf** 19 51 01.0 -0.1
baz=118,SNR=7.9
KBS Kingsbay 118.34 358 eP **PKPdf** 19 51 01.0 +0.2
SPA0 Spitsbergen Ar 118.85 356 eP **PKPdf** 19 51 01.2 -0.6
SVE Sverdlovsk 121.05 326 ePKiKP **PKPdf** 19 51 06.0 -0.6
SVE pmax pmax
comp=Z,27nm,0.6s
BDFB Brasilia 121.45 121 PKP **PKPdf** 19 51 08.2 -0.5
comp=Z,3.5nm,0.6s,baz=98,slow=0.5,SNR=4.1
BDFB PKKPbc **PKKPbc** 20 01 11.4 +0.2
comp=Z,3.4nm,0.7s,baz=60,slow=3.0,SNR=4.4
BDFB Brasilia 121.45 121 PKP **PKPdf** 19 51 08.2 -0.5
BDFB PKKPbc **PKKPbc** 20 01 11.4 +0.2
KEV Kevo 125.40 349 ePKiKP **PKPdf** 19 51 13.9 -0.6
KEV Kevo 125.40 349 epkp **PKPdf** 19 51 13.9 -0.6
ARCES ARCESS Array B 125.85 350 PKhKP PKPpre 19 51 04.3
comp=Z,1.4nm,0.4s,baz=135,slow=1.1,SNR=4.5
ARCES PKP **PKPdf** 19 51 14.4 -1.0
comp=Z,15nm,0.8s,baz=97,slow=0.7,SNR=3.7
ARCES PP **PP** 19 53 15.4 -1.3
comp=Z,4.2nm,0.9s,baz=356,slow=11,SNR=4.6
ARCES ARCESS Array B 125.85 350 PKPpre PKPpre 19 51 04.3
ARCES PKP **PKPdf** 19 51 14.4 -1.0
ARCES PP **PP** 19 53 15.4 -1.3
ARE0 ARCESS Array S 125.85 350 eP **PKPdf** 19 51 14.7 -0.8
ARE0 ARCESS Array S 125.85 350 ePKPdf **PKPdf** 19 51 13.8 -1.6
APA Apatity 125.86 345 ⇓*i* PKiKP **PKPdf** 19 51 14.4 -1.1
APA *e* 19 53 14.0
APA pmax pmax
comp=Z,26nm,1.0s
JMIC Jan Mayen 126.23 4 eP **PKPdf** 19 51 11.9 -4.2
JMDO Jabal Madar 126.45 285 ⇓P **PKPdf** 19 51 17.6 -0.4
KTK1 Kautokeino 126.69 350 eP **PKPdf** 19 51 15.2 -1.9
TRO Tromso 126.75 352 eP **PKPdf** 19 51 16.8 -0.3
SUR Sutherland 126.91 201 PKP **PKPdf** 19 51 19.6 +0.7
comp=Z,17nm,0.8s,baz=119,slow=2.1,SNR=12
SUR Sutherland 126.91 201 PKP **PKPdf** 19 51 19.6 +0.7
BSY Bisya 127.31 286 ⇑P **PKPdf** 19 51 19.2 -0.4
HATD Hatta, Dubai 128.44 288 ⇓P **PKPdf** 19 51 21.5 -0.2
ASHO Ashiyiah 128.50 288 ⇓P **PKPdf** 19 51 21.4 -0.4
BOSA Boshof 128.53 207 PKP **PKPdf** 19 51 23.2 +1.2
comp=Z,10.0nm,0.9s,baz=163,slow=3.9,SNR=7.9
BOSA PP **PP** 19 53 36.6 +2.2
comp=Z,6.3nm,1.0s,baz=127,slow=3.2,SNR=3.1
BOSA SKPbc SKiKP 19 53 53.4 -14
comp=Z,5.4nm,0.6s,baz=166,slow=3.0,SNR=8.9
BOSA Boshof 128.53 207 PKP **PKPdf** 19 51 23.2 +1.2
BOSA PP **PP** 19 53 36.6 +2.2
BOSA SKPbc SKiKP 19 53 53.4 -14
RBK Rabkut 129.49 278 P **PKPdf** 19 51 24.6 +0.6
SNR=7.5
JOF Joensuu 130.04 342 ePKiKP **PKPdf** 19 51 22.8 -0.8
JOF Joensuu 130.04 342 epkp **PKPdf** 19 51 22.8 -0.8
ABTO Aybut 130.33 278 ⇑P **PKPdf** 19 51 25.2 -0.4
STOK Stokkvaagen 130.59 354 eP PKPdf 19 51 18.3 -6.2
LBTB Lobatse 131.44 210 PKP **PKPdf** 19 51 27.9 +0.3
comp=Z,4.7nm,0.7s,baz=179,slow=2.2,SNR=7.0
LBTB PP **PP** 19 53 52.4 -0.7
comp=Z,5.5nm,1.0s,baz=252,slow=1.8,SNR=3.6
LBTB SKPbc **SKPab** 19 54 04.7 +0.8
comp=Z,5.6nm,0.7s,baz=189,slow=12,SNR=9.5
LBTB Lobatse 131.44 210 PKP **PKPdf** 19 51 27.9 +0.3
LBTB PP **PP** 19 53 52.4 -0.7
LBTB SKPbc **SKPab** 19 54 04.7 +0.8
KAF Kangasniemi 132.06 344 ePKiKP PKPpre 19 51 20.7
KAF Kangasniemi 132.06 344 epkp PKPpre 19 51 20.7
FINES FINESS Array B 132.69 344 PKhKP PKPpre 19 51 14.1
comp=Z,4.0nm,0.4s,baz=55,slow=2.1,SNR=7.7
FINES PKP **PKPdf** 19 51 28.8 +0.2
comp=Z,13nm,0.8s,baz=92,slow=3.1,SNR=11
FINES SKPbc **SKPab** 19 54 07.5 -0.3
comp=Z,24nm,0.9s,baz=64,slow=4.4,SNR=17
FINES FINESS Array B 132.69 344 PKPpre PKPpre 19 51 14.1
FINES PKP **PKPdf** 19 51 28.8 +0.2
FINES SKPbc **SKPab** 19 54 07.5 -0.3
VRHR Novokhopersk 133.59 326 ePKiKP **PKPdf** 19 51 30.9 +0.3
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
OBN Obninsk 133.73 333 ⇑ *i* PKiKP **PKPdf** 19 51 29.6 -1.1
OBN *i* 19 54 04.0
OBN pmax pmax
comp=Z,70nm,1.7s
VSR Storozhevoye 134.83 327 ePKiKP **PKPdf** 19 51 33.9 +1.0
VSR pmax pmax
comp=Z,40nm,1.1s
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
QRN Al-Qurain 135.76 293 *i* Pg **SKPdf** 19 54 17.6 -1.8
NB2 NORSAR Subarra 135.94 353 PKP PKPpre 19 51 23.3
baz=17,slow=2.6
NB2 NORSAR Subarra 135.94 353 PKP PKPpre 19 51 23.3
comp=Z,3.4nm,0.6s,baz=17,slow=2.6

NOA	NORSAR Array B	135.94	353	PKhKP	PKPpre	19 51 21.5	
	comp=Z,1.3nm,0.5s,baz=16,slow=4.2,SNR=9.6						
NOA				PKP	PKiKP	19 51 35.9	-0.6
	comp=Z,4.3nm,0.6s,baz=14,slow=4.0,SNR=9.2						
NOA				SKPbc	SKPbc	19 54 16.9	+0.7
	comp=Z,18nm,1.2s,baz=16,slow=4.5,SNR=5.8						
NOA	NORSAR Array B	135.94	353	PKPpre	PKPpre	19 51 21.5	
NOA				PKP	PKiKP	19 51 35.9	-0.6
NOA				SKPbc	SKPbc	19 54 16.9	+0.7
MIB	Mutribah	136.18	295	eP	SKPbc	19 54 17.0	-0.8
MIB				eS	PKSbc	19 55 09.0	-1.6
NAY	Al-Naaiem	136.31	294	eP	SKPab	19 54 23.0	-2.0
HFS	Hagfors	136.48	351	PKhKP	PKPpre	19 51 22.8	
	comp=Z,4.3nm,0.4s,baz=63,slow=0.3,SNR=19						
HFS				SKPbc	SKPbc	19 54 19.7	+2.0
	comp=Z,10nm,0.8s,baz=35,slow=3.6,SNR=7.0						
HFS	Hagfors	136.48	351	PKPpre	PKPpre	19 51 22.8	
HFS				SKPbc	SKPbc	19 54 19.7	+2.0
NACGM	Naroch	137.81	338	e	SKPbc	19 54 21.0	-0.7
KMY	Karmoy	138.26	357	eP	PKPpre	19 51 30.7	
ANN	Anapa	139.23	320	i PKHKP	PKPpre	19 51 35.7	
ANN				e		19 58 04.4	
ANN				pmax	pmax		
	comp=Z,63nm,1.2s						
MVH1	Achvaich	139.47	4	eP	PKPdf	19 51 33.4	-7.8
MVH1	Achvaich	139.47	4	P	PKPdf	19 51 33.4	-7.8
SUW	Suwalki	139.76	340	ePKP	PKPdf	19 51 36.3	-5.7
SUW	Suwalki	139.76	340	ePKP	PKPdf	19 51 36.2	-5.7
KAC	Achnashellach	139.80	5	eP	PKPdf	19 51 34.6	-7.3
KAC	Achnashellach	139.80	5	P	PKPdf	19 51 34.6	-7.3
KMBO	Kilima Mbogo	139.85	246	ePKPpre	PKPpre	19 51 37.4	
MCD	Coleburn Disti	139.87	4	eP	PKPdf	19 51 34.2	-7.8
MCD	Coleburn Disti	139.87	4	P	PKPdf	19 51 34.2	-7.8
KPL	Plockton	139.93	6	eP	PKPdf	19 51 34.7	-7.3
KPL	Plockton	139.93	6	P	PKPdf	19 51 34.7	-7.3
MDO	Dochfour	139.94	5	eP	PKPdf	19 51 35.6	-6.5
MDO	Dochfour	139.94	5	P	PKPdf	19 51 35.6	-6.5
AKASG	Malin Array Be	140.00	332	PKhKP	PKPpre	19 51 33.9	
	comp=Z,6.1nm,0.4s,baz=41,slow=4.2,SNR=34						
AKASG				PKP	PKiKP	19 51 44.1	-1.0
	comp=Z,13nm,0.5s,baz=45,slow=3.5,SNR=18						
AKASG				SKPbc	SKPbc	19 54 27.6	-0.3
	comp=Z,6.1nm,0.8s,baz=40,slow=3.3,SNR=9.8						
AKASG	Malin Array Be	140.00	332	PKHKP	PKPpre	19 51 33.9	
AKASG						19 51 44.1	
AKASG	Malin Array Be	140.00	332	PKPpre	PKPpre	19 51 33.9	
AKASG				PKP	PKiKP	19 51 44.1	-1.0
AKASG				SKPbc	SKPbc	19 54 27.6	-0.3
KIEV	Kiev	140.01	332	ePKHKP	PKPpre	19 51 33.3	
KIEV	Kiev	140.01	332	ePKPpre	PKPpre	19 51 33.3	
KSB	Sheil Bridge	140.08	6	eP	PKPdf	19 51 35.6	-6.7
KSB	Sheil Bridge	140.08	6	P	PKPdf	19 51 35.6	-6.7
ELZG	Elazig	140.93	310	i P	PKPdf	19 51 37.7	-7.1
EAB	Aberfoyle	141.18	5	eP	PKPdf	19 51 38.6	-5.8
EAB	Aberfoyle	141.18	5	P	PKPdf	19 51 38.6	-5.8
PGBU	Glenifferbraes	141.54	5	eP	PKPdf	19 51 39.3	-5.7
PGBU	Glenifferbraes	141.54	5	P	PKPdf	19 51 39.3	-5.7
ESY	Stoneypath	141.57	3	eP	PKPdf	19 51 39.5	-5.6
ESY	Stoneypath	141.57	3	P	PKPdf	19 51 39.5	-5.6
EAU	Auchinoon	141.59	4	eP	PKPdf	19 51 40.5	-4.7
EAU	Auchinoon	141.59	4	P	PKPdf	19 51 40.5	-4.7
ERBA	Erbaa	141.61	314	i P	PKPdf	19 51 41.7	-4.1
EBL	Broad Law	141.69	4	eP	PKPdf	19 51 40.3	-5.1
EBL	Broad Law	141.69	4	P	PKPdf	19 51 40.3	-5.1
ESK	Eskdalemuir	142.13	4	eP	PKPdf	19 51 40.7	-5.5
ESK	Eskdalemuir	142.13	4	P	PKPdf	19 51 40.7	-5.5
GKP	Gorka Klasztor	142.16	344	ePKP	PKPdf	19 51 42.9	-3.3
GKP				ePP	PP	19 54 36.6	-22
GKP	Gorka Klasztor	142.16	344	ePKP	PKPdf	19 51 42.9	-3.3
GKP				ePP	PP	19 54 36.6	-22
ECK	Cauldkaine Hil	142.27	4	eP	PKPdf	19 51 42.5	-3.9
ECK	Cauldkaine Hil	142.27	4	P	PKPdf	19 51 42.5	-3.9
BEL	Belsk	142.38	340	ePKP	PKPdf	19 51 43.7	-2.9
BEL	Belsk	142.38	340	ePKP	PKPdf	19 51 43.7	-2.9
GAL1	Galloway	142.46	6	eP	PKPdf	19 51 38.3	-8.4
GAL1	Galloway	142.46	6	P	PKPdf	19 51 38.3	-8.4
XAL	Allendale	142.64	3	eP	PKPdf	19 51 43.5	-3.5
XAL	Allendale	142.64	3	P	PKPdf	19 51 43.5	-3.5
PINB	Pinarbasi	142.72	312	i P	PKPdf	19 51 45.7	-2.4
LVV	L'vov	142.86	335	ePKHKP	PKPpre	19 51 43.7	
KUZU	Kuzuini	142.97	308	i P	PKPdf	19 51 47.8	-0.4
CTKT	Corum	142.97	315	i P	PKPdf	19 51 46.7	-1.6
KAST	KASTAMONU	143.11	317	i P	PKPbc	19 51 47.3	+0.8
ANDN	Andirin	143.20	310	i P	PKPdf	19 51 50.8	+2.0
LEOM	Leova	143.42	328	⇑PKIKP	PKPbc	19 51 47.3	+0.1
LEOM	Leova	143.42	328	⇑iP	PKPbc	19 51 47.3	+0.1
BALT	Daday	143.44	318	i P	PKPbc	19 51 47.7	0.0
KWP	Kalwaria Pacla	143.53	336	ePKP	PKPbc	19 51 47.4	0.0
KWP	Kalwaria Pacla	143.53	336	⇑PKIKP	PKPbc	19 51 47.6	+0.1
KWP	Kalwaria Pacla	143.53	336	ePKPdf	PKPab	19 51 47.2	-0.1
KWP	Kalwaria Pacla	143.53	336	⇑iP	PKPbc	19 51 47.5	0.0
KWP	Kalwaria Pacla	143.53	336	ePKP	PKPbc	19 51 47.4	-0.1
COBT	Iskenderun	143.67	308	i P	PKPbc	19 51 48.9	+0.4
RUE	Ruedersdorf	143.71	347	ePKPdf	PKPab	19 51 47.8	0.0
CDAG	Cicekdag	143.72	314	i P	PKPab	19 51 48.2	-0.3
PRAR	RASCA	143.77	331	⇓iP	PKPab	19 51 48.3	0.0
ELDT	Eldivan	143.94	316	i P	PKPbc	19 51 48.9	-0.4
WME	Myndd Eilian	143.95	5	eP	PKPbc	19 51 47.9	-0.7
WME	Myndd Eilian	143.95	5	P	PKPbc	19 51 47.9	-0.7
YAYL	Yayladag	143.96	308	i P	PKPbc	19 51 48.9	-0.5
TLCR		143.98	326	PKIKP	PKPdf	19 51 49.4	-0.3
TLCR		143.98	326	⇓iP	PKPab	19 51 49.3	+0.2
BUR08	Bucovina Ar. S	144.03	332	ePKPdf	PKPab	19 51 49.5	+0.1
BURAR	Bucovina Array	144.05	332	⇓iP	PKPdf	19 51 49.9	0.0
WLF1	Llynfaes	144.05	6	eP	PKPbc	19 51 48.4	-0.5
WLF1	Llynfaes	144.05	6	P	PKPbc	19 51 48.4	-0.5
YRC	Rhoscolyn	144.07	6	eP	PKPbc	19 51 47.9	-1.0
YRC	Rhoscolyn	144.07	6	P	PKPbc	19 51 47.9	-1.0
OJC	Ojcow	144.08	339	ePKIKP	PKPab	19 51 49.3	-0.1
OJC	Ojcow	144.08	339	ePKPdf	PKPab	19 51 49.3	-0.1
GHRR		144.12	328	⇑iP	PKPdf	19 51 50.6	+0.7
WPM1	Penmaenmawr	144.12	5	eP	PKPbc	19 51 48.7	-0.5
WPM1	Penmaenmawr	144.12	5	P	PKPbc	19 51 48.7	-0.5
BR131	Keskin Array S	144.17	315	ePKPdf	PKPbc	19 51 49.6	-0.4
BRTR	Keskin Array B	144.17	315	PKP	PKPbc	19 51 49.8	-0.2
	comp=Z,36nm,0.4s,baz=107,slow=2.3,SNR=227						
BRTR				pPKP	pPKPdf	19 53 55.5	-1.6
	comp=Z,7.3nm,0.9s,baz=90,slow=1.6,SNR=1.9						
BRTR				SKPbc	SKiKP	19 54 39.9	+0.5
	comp=Z,2.2nm,0.6s,baz=124,slow=2.5,SNR=3.8						
BRTR	Keskin Array B	144.17	315	PKP	PKPbc	19 51 49.8	-0.2
BRTR				pPKP	pPKPdf	19 53 55.5	-1.6
BRTR				SKPbc	SKiKP	19 54 39.9	+0.5
TESR		144.18	329	⇑iP	PKPbc	19 51 49.6	0.0
YLL	Llanberis	144.22	5	eP	PKPbc	19 51 48.7	-0.8
YLL	Llanberis	144.22	5	P	PKPbc	19 51 48.7	-0.8
KOLS	Kolonicke sedl	144.26	336	ePKIKP	PKPab	19 51 50.1	0.0
KOLS	Kolonicke sedl	144.26	336	ePKP	PKPab	19 51 50.1	0.0
KBI1	Birley Grange	144.28	3	eP	PKPbc	19 51 49.0	-0.6
KBI1	Birley Grange	144.28	3	P	PKPbc	19 51 49.0	-0.6
FKH	Fakeheh	144.34	305	eP	PKPab	19 51 51.2	+0.1
CFR	Carcaliu	144.35	327	⇑PKIKP	PKPab	19 51 50.9	+0.4
CFR	Carcaliu	144.35	327	⇑iP	PKPab	19 51 50.9	+0.4
YRE	Yr Eifl	144.35	6	eP	PKPbc	19 51 49.3	-0.6
YRE	Yr Eifl	144.35	6	P	PKPbc	19 51 49.3	-0.6
NRDL	Niedersach Rie	144.39	351	ePKPbc	PKPbc	19 51 49.9	0.0
NRDL				esPKPbc	SKiKP	19 54 41.5	+2.4
STNC	Stoke	144.41	3	eP	PKPdf	19 51 50.1	0.0
STNC	Stoke	144.41	3	P	PKPdf	19 51 50.1	0.0
GULE	Gulek	144.46	310	i P	PKPdf	19 51 51.0	0.0
UZH	Uzhgorod	144.49	336	d iPKIKP	PKPdf	19 51 50.2	-0.2
FOEL	Foel Wylfa	144.55	4	eP	PKPdf	19 51 49.8	-0.7
FOEL	Foel Wylfa	144.55	4	P	PKPdf	19 51 49.8	-0.7
NIE	Niedzica	144.59	338	ePKIKP	PKPab	19 51 51.4	0.0
NIE	Niedzica	144.59	338	ePKPdf	PKPab	19 51 51.4	0.0
CRVS	Cervenica-Dubn	144.59	337	ePKIKP	PKPab	19 51 51.2	-0.2
CRVS	Cervenica-Dubn	144.59	337	ePKP	PKPab	19 51 51.2	-0.2
VRI	Vrincioaia	144.60	329	⇑PKIKP	PKPab	19 51 51.7	+0.2
VRI	Vrincioaia	144.60	329	⇑iP	PKPab	19 51 51.7	+0.2
KSP	Ksiaz	144.60	343	ePKP	PKPab	19 51 51.3	-0.1
KSP				ePP	PP	19 54 41.9	-31
KSP	Ksiaz	144.60	343	ePKIKP	PKPab	19 51 51.2	-0.1
KSP	Ksiaz	144.60	343	ePKP	PKPab	19 51 51.3	-0.1
KSP				ePP	PP	19 54 41.8	-31
BBAL	Bala	144.61	315	i P	PKPdf	19 51 49.9	-1.3
PLOR	Plostina	144.65	329	PKIKP	PKPab	19 51 53.0	+1.3
PLOR	Plostina	144.65	329	⇑iP	PKPab	19 51 51.8	+0.1
TIRR	Tirgusor	144.68	325	⇓PKIKP	PKPbc	19 51 51.4	+0.2
TIRR	Tirgusor	144.68	325	⇓iP	PKPbc	19 51 51.4	+0.2
HWQ	Hawqa	144.70	305	eP	PKPdf	19 51 51.5	+0.1
ABA1	Baconsthorpe	144.71	360	eP	PKPbc	19 51 50.8	-0.1
ABA1	Baconsthorpe	144.71	360	P	PKPbc	19 51 50.8	-0.1
RAC	Raciborz	144.72	341	ePKIKP	PKPab	19 51 51.6	-0.2
BMR	Baia Mare	144.76	333	⇑PKIKP	PKPab	19 51 51.7	-0.3
BMR	Baia Mare	144.76	333	⇑iP	PKPab	19 51 51.7	-0.3
AWI1	Witton	144.76	360	eP	PKPdf	19 51 50.7	0.0
AWI1	Witton	144.76	360	P	PKPdf	19 51 50.7	0.0
TRPA	Tarpa	144.79	335	⇑iP	PKPbc	19 51 51.6	+0.2
TRPA	Tarpa	144.79	335	⇑e	PKPbc	19 51 51.5	+0.1
GRER		144.81	328	⇓iP	PKPab	19 51 52.9	+0.6
IBBN	Ibbenburen	144.89	353	ePKPbc	PKPbc	19 51 51.8	+0.2
IBBN				esPKPbc	SKiKP	19 54 42.9	+2.7
OKC	Ostrava-Krasne	144.95	341	ePKIKP	PKPbc	19 51 52.0	+0.1
OKC	Ostrava-Krasne	144.95	341	ePKP	PKPbc	19 51 52.0	+0.1
CLZ	Clausthal	144.97	350	ePKPbc	PKPab	19 51 52.4	-0.4
CLZ				esPKPbc	SKiKP	19 54 43.1	+2.6
AEU	East Anglia Un	144.98	360	eP	PKPbc	19 51 51.6	-0.2
AEU	East Anglia Un	144.98	360	P	PKPbc	19 51 51.6	-0.2
CLL	Collm	144.98	347	⇑iPKIKP	PKPbc	19 51 52.0	+0.1
CLL				pmax	pmax		
	comp=Z,233nm,0.6s						
CLL	Collm	144.98	347	ePKPbc	PKPbc	19 51 52.1	+0.2
CLL	Collm	144.98	347	⇑iPKPdf	PKPbc	19 51 52.0	+0.1
	comp=Z,233nm,0.6s						
CLL				i (PKPab)	PKPab	19 51 53.4	+0.7
CLL				e		19 52 30.0	
CLL				epPKiKP	pPKiKP	19 54 00.0	-1.4
CLL				e		19 54 06.0	
CLL				eSKPbc	SKPbc	19 54 39.0	-1.0
UPC	Upice	144.98	343	ePKIKP	PKPab	19 51 52.5	-0.3
UPC	Upice	144.98	343	ePKP	PKPab	19 51 52.5	-0.3
MANR	Mangalia	145.00	324	⇑iP	PKPab	19 51 52.7	-0.3
RCY	Rachaya	145.04	304	eP	PKPbc	19 51 52.9	0.0
DPC	Dobruska-Polom	145.04	343	ePKIKP	PKPbc	19 51 52.6	+0.4
DPC	Dobruska-Polom	145.04	343	ePKP	PKPbc	19 51 52.6	+0.4
BHL	Bhannes	145.05	305	eP	PKPbc	19 51 52.9	0.0
PGOR	Pogoanele	145.13	327	⇑iP	PKPab	19 51 53.5	0.0
KRLC	Kraliky	145.16	342	ePKP	PKPab	19 51 53.4	-0.1
BRG	Berggiesshubel	145.18	346	ePKP	PKPbc	19 51 52.7	+0.2
	comp=Z,182nm,1.2s						
BRG				i pPKP	pPKPdf	19 54 01.2	+3.0
	comp=Z,22nm,1.2s						
BRG				e		19 54 12.8	
	comp=Z,22nm,1.2s						
BRG				i		19 54 42.5	
	comp=Z,51nm,1.6s						
BRG	Berggiesshubel	145.18	346	ePKP2	PKPbc	19 51 52.7	+0.2
BRG				pmax	pmax		
	comp=Z,182nm,1.2s						
BRG	Berggiesshubel	145.18	346	ePKPbc	PKPbc	19 51 52.8	+0.3
DOPR	Dopca	145.18	330	⇓iP	PKPab	19 51 53.8	0.0
MORC	Moravsky Berou	145.19	341	⇑PKP2	PKPbc	19 51 52.9	+0.2
MORC	Moravsky Berou	145.19	341	ePKPdf	PKPbc	19 51 52.3	-0.3
MORC	Moravsky Berou	145.19	341	⇑iP	PKPbc	19 51 52.9	+0.2
ISR	Istrita	145.22	328	⇓PKP2	PKPab	19 51 54.1	+0.1
ISR	Istrita	145.22	328	⇓iP	PKPab	19 51 54.1	+0.1
WTSB	Winterswijk	145.34	354	eP	PKPbc	19 51 52.4	-0.5
	comp=Z,283nm,0.8s						
PVCC	Panska Ves	145.34	345	ePKP2	PKPbc	19 51 53.5	+0.5
PVCC	Panska Ves	145.34	345	ePKP	PKPbc	19 51 53.5	+0.5
MCH1	Michaelchurch	145.45	4	eP	PKPbc	19 51 52.7	-0.6
MCH1	Michaelchurch	145.45	4	P	PKPbc	19 51 52.7	-0.6
SECR		145.51	328	⇓iP	PKPbc	19 51 54.0	+0.3
SSW	Stow on the Wo	145.55	3	eP	PKPbc	19 51 53.6	+0.1
SSW	Stow on the Wo	145.55	3	P	PKPbc	19 51 53.6	+0.1
SULR		145.67	327	⇓iP	PKPdf	19 51 52.8	+0.2
VOIR		145.73	329	⇑PKP2	PKPbc	19 51 55.0	+0.6
VOIR		145.73	329	⇑iP	PKPbc	19 51 55.0	+0.6
DRGR		145.78	333	⇑PKP2	PKPbc	19 51 54.7	+0.2
DRGR		145.78	333	⇑iP	PKPbc	19 51 54.7	+0.2
KDHN	Kadinhani	145.79	314	i P	PKPbc	19 51 54.2	-0.6
PRA	Prague	145.80	345	PKP	PKPbc	19 51 55.0	+0.7
SKP1	Kophill	145.84	2	eP	PKPbc	19 51 53.7	-0.7
SKP1	Kophill	145.84	2	P	PKPbc	19 51 53.7	-0.7
PRU	Pruhonice	145.85	344	ePKP2	PKPbc	19 51 54.7	+0.2
PRU	Pruhonice	145.85	344	ePKP	PKPbc	19 51 54.7	+0.2
VYHS	Vyhne	145.89	339	ePKP2	PKPbc	19 51 55.2	+0.5
VYHS	Vyhne	145.89	339	ePKP	PKPbc	19 51 55.2	+0.5
MOX	Moxa	145.90	348	ePKPbc	PKPbc	19 51 54.7	+0.1
VRAC	Vranov	145.90	342	⇑iP	PKPbc	19 51 55.0	+0.3
PHNC	Paralimni	145.92	307	P	PKPbc	19 51 54.5	-0.6
TANN	Tannenbergstha	145.94	347	ePKPbc	PKPbc	19 51 55.1	+0.3
AYKD	Aykdinkavak	145.99	309	i P	PKPdf	19 51 45.4	-7.9
PSZ	Piszkesteto	146.00	337	PKP2	PKPbc	19 51 55.9	+0.8
PSZ	Piszkesteto	146.00	337	ePKPdf	PKPbc	19 51 54.6	-0.5
PSZ	Piszkesteto	146.00	337	⇑iP	PKPbc	19 51 55.2	+0.1
PSZ	Piszkesteto	146.00	337	⇑e	PKPbc	19 51 55.1	0.0
SWN1	Swindon	146.01	3	eP	PKPbc	19 51 54.5	-0.4
SWN1	Swindon	146.01	3	P	PKPbc	19 51 54.5	-0.4
NEF	NEVSHA	146.08	325	i P	PKPab	19 51 59.0	+1.6
ERMK	Ermenek	146.09	311	i P	PKPbc	19 51 55.3	-0.6
NKC	Novy Kostel	146.11	347	ePKP2	PKPbc	19 51 55.6	+0.4
NKC	Novy Kostel	146.11	347	ePKP	PKPbc	19 51 55.6	+0.4
SEYT	Eskypehyr	146.13	316	i P	PKPdf	19 51 52.6	-1.1
BORA	Eskisehir	146.20	317	i P	PKPbc	19 51 55.3	-0.7
TREC	Trest	146.23	343	ePKP2	PKPbc	19 51 55.8	+0.2
TREC	Trest	146.23	343	ePKP	PKPbc	19 51 55.8	+0.2
WOL	Wolverton	146.24	3	eP	PKPbc	19 51 54.6	-0.9
WOL	Wolverton	146.24	3	P	PKPbc	19 51 54.6	-0.9
HEX	Exmoor	146.31	6	eP	PKPbc	19 51 55.3	-0.4
HEX	Exmoor	146.31	6	P	PKPbc	19 51 55.3	-0.4
HTL	Hartland	146.31	6	eP	PKPbc	19 51 55.4	-0.3
HTL	Hartland	146.31	6	P	PKPbc	19 51 55.4	-0.3
SMOL	Smolenice	146.34	340	ePKP2	PKPbc	19 51 56.8	+0.9
SMOL	Smolenice	146.34	340	ePKP	PKPbc	19 51 56.8	+0.9
HUMR	Humele	146.42	328	⇑iP	PKPbc	19 51 56.3	+0.1
ELSH	Elham, Standar	146.45	360	eP	PKPbc	19 51 55.8	-0.2
ELSH	Elham, Standar	146.45	360	P	PKPbc	19 51 55.8	-0.2
CSS	Prodhromos	146.46	308	P	PKPdf	19 51 54.6	+0.3
	comp=Z,0.9nm,0.7s						
CSS	Prodhromos	146.46	308	ePKPbc	PKPbc	19 51 56.1	-0.6
MAMC	Mammari	146.47	308	P	PKPbc	19 51 56.0	-0.7
BEBN	Eben Emael	146.60	355	PKP	PKPbc	19 51 57.2	+0.7
ROTZ	Rotzenmuhle	146.60	347	ePKPbc	PKPbc	19 51 57.1	+0.5
ROTZ				ePKPab	PKPab	19 52 00.2	+1.0
HGN	Heimansgroeve	146.61	354	eP	PKPbc	19 51 56.4	-0.1
	comp=Z,222nm,1.7s						
BUD	Budapest	146.68	338	⇑e	PKPbc	19 51 57.0	+0.2
GAZI	Gazipasa	146.70	310	i P	PKPbc	19 51 56.4	-0.9
MEM	Membach	146.75	354	PKP	PKPdf	19 51 55.1	+0.9
GZR	Gura Zlata	146.83	332	⇑PKHKP	PKPbc	19 51 57.2	-0.2
GZR	Gura Zlata	146.83	332	⇑iP	PKPbc	19 51 57.2	-0.2
ZIMR		146.84	327	⇓PKP2	PKPab	19 51 59.1	-1.3
ZIMR		146.84	327	⇓iP	PKPab	19 51 59.0	-1.3
TNS	Taunus Mts	146.84	351	ePKPbc	PKPbc	19 51 57.6	+0.3
TNS				ePKPab	PKPab	19 52 00.6	+0.4
GRF	Grafenberg Arr	146.88	348	ePKPbc	PKPbc	19 51 57.8	+0.5
GRF				ePKPab	PKPab	19 52 01.3	+1.0
KHC	Kasperske Hory	146.88	345	ePKIKP	PKPdf	19 51 54.6	0.0
KHC				e		19 51 57.6	
KHC	Kasperske Hory	146.88	345	ePKPDF	PKPdf	19 51 54.6	0.0
KHC				⇑ePKP	PKPbc	19 51 57.6	+0.2
KHC				ePKPAB	PKPab	19 52 01.4	+1.0
KHC				ex	x	19 52 17.5	
KHC				epPKP	pPKPdf	19 54 03.5	+2.2
GRFO	Grafenberg	146.88	348	ePKIKP	PKPdf	19 51 55.3	+0.8
GRFO	Grafenberg	146.88	348	ePKPdf	PKPdf	19 51 55.3	+0.8
SZAC	Souni-Zanaja	146.88	307	P	PKPdf	19 51 55.7	+0.7
ALFC	Alevga	146.94	308	P	PKPbc	19 51 56.7	-1.3
	comp=Z,2.3nm,0.6s						
PKSG		146.98	338	⇑e	PKPbc	19 51 57.5	-0.1
SNF	Seneffe	146.99	356	PKPbc	PKPbc	19 51 57.7	+0.1
SNF				PKPab	PKPab	19 52 00.6	-0.1
BCLA	Clavier	147.01	355	PKPbc	PKPbc	19 51 57.8	+0.2
BCLA				PKPab	PKPab	19 52 00.8	0.0
WET	Wettzell	147.04	346	ePKPbc	PKPbc	19 51 58.1	+0.3
WET				ePKPab	PKPab	19 52 02.0	+1.0
WET				epPKPbc	pPKPbc	19 53 57.8	-4.5
WET				esPKPbc	SKiKP	19 54 47.4	+2.6
GEC2	GERESS Array S	147.11	345	ePKPbc	PKPbc	19 51 58.3	+0.2
GEC2				ePKPab	PKPab	19 52 02.0	+0.6
GERES	GERESS Array B	147.11	345	PKPbc	PKPbc	19 51 58.1	0.0
	comp=Z,42nm,0.5s,baz=23,slow=3.4,SNR=324						
GERES				pPKPbc	pPKPbc	19 54 04.8	+2.1
	comp=Z,1.5nm,0.9s,baz=48,slow=24,SNR=1.6						
GERES	GERESS Array B	147.11	345	PKPbc	PKPbc	19 51 58.1	0.0
GERES				pPKPbc	pPKPbc	19 54 04.8	+2.1
BZS	Buzias	147.17	333	⇑PKIKP	PKPdf	19 51 55.3	+0.2
BZS	Buzias	147.17	333	⇑iP	PKPdf	19 51 55.3	+0.2
AKMC	Akamas	147.19	308	P	PKPdf	19 51 56.8	+1.3
PKS6	Bocsa	147.22	336	⇓e	PKPbc	19 51 58.7	+0.4
PKST	T^'s	147.22	338	⇑e	PKPbc	19 51 58.1	-0.2
ISP	Isparta	147.22	314	ePKP2	PKPbc	19 51 57.6	-1.2
ISP	Isparta	147.22	314	ePKPbc	PKPbc	19 51 57.6	-1.2
ISP	Isparta	147.22	314	⇓iP	PKPbc	19 51 57.6	-1.2
PPCY	Paphos	147.24	308	P	PKPbc	19 51 57.5	-1.2
ABH	Alteburg	147.30	352	PKP	PKPbc	19 51 58.6	+0.1
CONA	Conrad Observa	147.35	341	⇓iPKPdf	PKPdf	19 51 55.5	+0.1
	comp=Z,6.0nm,0.9s						
CONA				i PKiKP	PKPbc	19 51 59.1	+0.4
	comp=Z,105nm,0.7s,SNR=54						
SOP	Sopron	147.35	340	⇑e	PKPbc	19 51 58.9	+0.3
GIVF	Givet	147.36	356	ePKIKP	PKPdf	19 51 55.3	+0.1
GIVF	Givet	147.36	356	ePKIKP	PKPdf	19 51 55.3	+0.1
GIVF	Givet	147.36	356	ePKPdf	PKPdf	19 51 55.3	+0.1
DOU	Dourbes	147.38	356	PKPbc	PKPbc	19 51 58.9	+0.3
TOD	Tromm	147.39	351	PKP2	PKPbc	19 51 58.6	-0.1
TOD	Tromm	147.39	351	PKP	PKPbc	19 51 58.6	-0.1
PKS2	Kecel	147.44	336	⇓e	PKPbc	19 51 59.7	+0.8
BAIF	Baives	147.44	356	ePKIKP	PKPdf	19 51 55.6	+0.2
BAIF	Baives	147.44	356	ePKIKP	PKPdf	19 51 55.6	+0.2
BAIF	Baives	147.44	356	ePKPdf	PKPdf	19 51 55.6	+0.2
RUP	Ruppelstein	147.54	353	PKP2	PKPbc	19 51 59.4	+0.3
RUP	Ruppelstein	147.54	353	PKP	PKPbc	19 51 59.4	+0.3
DURS	Dursunbey	147.62	318	i P	PKPbc	19 51 58.6	-1.1
KHAL	Karahalli	147.64	316	i P	PKPbc	19 51 58.5	-1.3
WLF	Walferdange	147.68	354	PKP	PKPbc	19 52 00.2	+0.9
WLF	Walferdange	147.68	354	ePKPbc	PKPbc	19 52 00.3	+0.9
PKS9	Tamasi	147.71	338	⇓e	PKPbc	19 51 59.8	+0.2
KORT	Korkueli	147.75	313	i P	PKPdf	19 51 57.6	+1.1
KTD	Kalmit	147.78	351	PKP2	PKPbc	19 51 59.9	+0.2
KTD	Kalmit	147.78	351	PKP	PKPbc	19 51 59.9	+0.2
DEMI	Demirci	147.78	317	i P	PKPbc	19 51 58.5	-1.6
DIM	Dimitrovgrad	147.85	325	i P	PKPbc	19 52 00.9	+0.8
MOA	Molln	147.88	343	⇑iPKPdf	PKPdf	19 51 54.9	-1.3
	comp=Z,9.7nm,1.5s						
MOA				i PKPbc	PKPbc	19 52 00.1	+0.1
	comp=Z,76nm,1.2s,SNR=14						
MPEP	Malo Peshtene	147.88	328	i P	PKPbc	19 52 00.9	+0.8
PKSM	Moragy	147.89	337	⇑PKP2	PKPbc	19 51 59.8	-0.2
PKSM	Moragy	147.89	337	⇑iP	PKPbc	19 51 59.8	-0.2
PKSM	Moragy	147.89	337	⇑e	PKPbc	19 52 00.0	0.0
ARSA	Arzberg	148.06	341	⇑iPKPbc	PKPbc	19 52 00.2	-0.2
	comp=Z,60nm,1.4s,SNR=11						
STU	Stuttgart	148.14	350	ePKPbc	PKPbc	19 52 00.9	+0.3
STU				ePKPab	PKPab	19 52 05.6	+0.1
LANF	Langenberg	148.15	352	PKP2	PKPbc	19 52 00.9	+0.3
LANF	Langenberg	148.15	352	PKP	PKPbc	19 52 00.9	+0.3
LANF	Langenberg	148.15	352	PKP	PKPbc	19 52 00.9	+0.3
GOLH	Golhisar	148.18	314	i P	PKPbc	19 51 59.5	-1.7
KDZ	Kurdzhali	148.18	324	i P	PKPbc	19 52 01.3	+0.3
MANT	Manisa	148.19	317	i P	PKPbc	19 52 00.6	-0.7
DNZL	Cakiroluk	148.30	315	i P	PKPbc	19 52 01.3	-0.3
JSA	Saint Aubin	148.30	4	eP	PKPbc	19 52 00.6	-0.4
JSA	Saint Aubin	148.30	4	P	PKPbc	19 52 00.6	-0.4
RHK3	Tenkes	148.31	337	⇑e	PKPbc	19 52 01.0	-0.1
FUR	Furstenfeldbru	148.32	347	ePKPbc	PKPbc	19 52 01.5	+0.4
FUR				ePKPab	PKPab	19 52 07.1	+0.8
BEHE	Becsehely	148.34	339	⇓e	PKPbc	19 52 01.9	+0.7
RDO	Rodhopi	148.44	323	eP	PKPdf	19 51 44.0	-13
KOGS	Kog	148.53	340	ePKPbc	PKPbc	19 52 01.1	-0.6
KOGS				ePKPab	PKPab	19 52 07.3	+0.1
AKAS	Kas	148.64	312	i P	PKPbc	19 52 01.3	-1.1
BFO	Black Forest	148.71	351	ePKPbc	PKPbc	19 52 02.3	+0.2
BFO				ePKPab	PKPab	19 52 08.1	+0.3
VTS	Vitosha	148.71	328	⇑PKP2	PKPbc	19 52 02.4	0.0
VTS	Vitosha	148.71	328	P	PKPbc	19 52 02.3	-0.1
VTS	Vitosha	148.71	328	⇑iP	PKPbc	19 52 02.4	0.0
VTS	Vitosha	148.71	328	i P	PKPbc	19 52 02.4	0.0
SOKA	Soboth	148.72	341	⇑iPKPbc	PKPbc	19 52 01.6	-0.6
	comp=Z,70nm,1.2s						
SOKA				⇑iPKPab	PKPab	19 52 08.7	+0.7
	comp=Z,32nm,0.8s						
CDF	Champ du Feu	148.78	352	ePKIKP	PKPdf	19 51 57.2	-0.5
CDF	Champ du Feu	148.78	352	ePKHKP	PKPdf	19 51 57.2	-0.5
CDF	Champ du Feu	148.78	352	ePKPdf	PKPdf	19 51 57.2	-0.5
PAGF	Fort de Pagny	148.82	354	ePKIKP	PKPdf	19 51 57.7	0.0
	comp=Z,8.6nm,0.8s						
PAGF	Fort de Pagny	148.82	354	ePKPdf	PKPdf	19 51 57.7	0.0
KBA	Koelnbreinsper	148.84	344	⇑iPKPdf	PKPdf	19 51 56.8	-1.2
	comp=Z,13nm,1.8s						
KBA				i PKPbc	PKPbc	19 52 01.9	-0.7
	comp=Z,48nm,0.5s,SNR=16						
SPAK	Spaichingen-Ko	148.85	350	PKP	PKPbc	19 52 02.2	-0.3
AYVA	Ayvalik	148.91	320	i P	PKPbc	19 52 01.9	-0.8
MEZF	Maizieres J'vi	148.93	355	ePKIKP	PKPdf	19 51 58.0	+0.2
MEZF	Maizieres J'vi	148.93	355	ePKPdf	PKPdf	19 51 58.0	+0.2
ECH	Echery	148.99	352	ePKHKP	PKPbc	19 52 02.3	-0.4
ECH	Echery	148.99	352	ePKPbc	PKPbc	19 52 02.3	-0.4
ECH	Echery	148.99	352	PKP	PKPbc	19 52 02.7	0.0
LIBD	Limburg	148.99	352	PKHKP	PKPbc	19 52 02.7	0.0
LIBD	Limburg	148.99	352	PKP	PKPbc	19 52 02.7	0.0
LDF	La Druitiere	148.99	2	ePKIKP	PKPdf	19 51 58.2	+0.3
LDF	La Druitiere	148.99	2	ePKHKP	PKPdf	19 51 58.2	+0.3
LDF	La Druitiere	148.99	2	ePKPdf	PKPdf	19 51 58.2	+0.3
OBKA	Obir	149.01	342	i PKPbc	PKPbc	19 52 02.8	-0.2
	comp=Z,53nm,1.5s,SNR=5.7						
WATA	Walderalm	149.04	346	⇑iPKPdf	PKPdf	19 51 58.3	0.0
	comp=Z,11nm,1.2s						
WATA				i PKPbc	PKPbc	19 52 02.8	-0.2
	comp=Z,48nm,0.5s,SNR=37						
WATA				⇓iPKPab	PKPab	19 52 09.5	+0.1
	comp=Z,47nm,0.7s						
ROSF	Rostrenen	149.06	6	ePKIKP	PKPdf	19 51 58.4	+0.3
ROSF	Rostrenen	149.06	6	ePKHKP	PKPdf	19 51 58.4	+0.3
ROSF	Rostrenen	149.06	6	ePKPdf	PKPdf	19 51 58.4	+0.3
RETA	Reutte	149.07	347	⇑iPKPdf	PKPdf	19 51 58.7	+0.5
	comp=Z,23nm,2.0s						
RETA				i PKPbc	PKPbc	19 52 02.8	-0.3
	comp=Z,41nm,0.5s,SNR=35						
RETA				⇑iPKPab	PKPab	19 52 10.3	+0.8
	comp=Z,66nm,1.2s						
DIVS	Divibare	149.08	333	P	PKPbc	19 52 03.3	+0.1
WTTA	Wattenberg	149.09	346	⇑iPKPdf	PKPdf	19 51 58.8	+0.4
	comp=Z,11nm,1.1s						
WTTA				i PKiKP	PKPbc	19 52 03.2	0.0
	comp=Z,133nm,0.6s,SNR=71						
WTTA				⇑iPKPab	PKPab	19 52 10.3	+0.6
	comp=Z,131nm,1.0s						
AYDN	Tasoluk	149.09	316	i P	PKPbc	19 52 03.1	-0.3
THEF	They Montfort	149.11	354	PKHKP	PKPbc	19 52 03.3	+0.3
THEF	They Montfort	149.11	354	PKP	PKPbc	19 52 03.3	+0.3
THEF	They Montfort	149.11	354	PKP	PKPbc	19 52 03.3	+0.3
KAVA	Kavala	149.12	324	P	PKPbc	19 52 02.8	-0.4
MOTA	Moosalm	149.13	347	⇑iPKPdf	PKPdf	19 51 58.0	-0.5
	comp=Z,15nm,1.3s						
MOTA				i PKPbc	PKPbc	19 52 03.1	-0.2
	comp=Z,42nm,0.6s,SNR=30						
MOTA				⇑iPKPab	PKPab	19 52 09.1	-0.7
	comp=Z,102nm,1.1s						
MMB	Musomiste	149.15	326	i P	PKPbc	19 52 03.0	-0.4
MYKA	Terra Mystica	149.17	343	⇑iPKPbc	PKPbc	19 52 02.5	-0.7
	comp=Z,61nm,0.5s						
MYKA				⇑iPKPab	PKPab	19 52 10.2	+0.3
	comp=Z,32nm,0.5s						
GRR	Gorron	149.17	3	ePKIKP	PKPdf	19 51 58.1	-0.1
GRR	Gorron	149.17	3	ePKHKP	PKPdf	19 51 58.1	-0.1
GRR	Gorron	149.17	3	ePKPdf	PKPdf	19 51 58.1	-0.1
FELD	Feldberg im Sc	149.20	351	PKP	PKPbc	19 52 03.1	-0.3
SGMF	Saint Gilles	149.20	5	ePKIKP	PKPdf	19 51 57.7	-0.6
SGMF	Saint Gilles	149.20	5	ePKIKP	PKPdf	19 51 57.7	-0.6
SGMF	Saint Gilles	149.20	5	ePKPdf	PKPdf	19 51 57.7	-0.6
PRK	Paraskevi	149.21	320	P	PKPbc	19 52 03.4	-0.1
PRK	Paraskevi	149.21	320	eP	PKPbc	19 52 03.0	-0.5
SFTF	Sexfontaines	149.23	355	ePKIKP	PKPdf	19 51 58.3	0.0
	comp=Z,16nm,0.7s						
SFTF	Sexfontaines	149.23	355	ePKPdf	PKPdf	19 51 58.3	0.0
NVR	Nevrokopi	149.24	325	P	PKPbc	19 52 03.2	-0.4
NVR	Nevrokopi	149.24	325	eP	PKPbc	19 52 03.0	-0.6
HAU	Haudompre	149.29	353	ePKIKP	PKPdf	19 51 58.1	-0.4
HAU	Haudompre	149.29	353	ePKHKP	PKPdf	19 51 58.1	-0.4
HAU	Haudompre	149.29	353	ePKPdf	PKPdf	19 51 58.1	-0.4
KKB	Krupnik	149.29	327	i P	PKPbc	19 52 03.9	+0.2
MOF	Molkenrain	149.35	352	PKHKP	PKPbc	19 52 03.5	-0.2
MOF	Molkenrain	149.35	352	PKP	PKPbc	19 52 03.5	-0.2
MOF	Molkenrain	149.35	352	PKP	PKPbc	19 52 03.5	-0.2
ABTA	Abfaltersbach	149.36	344	⇑iPKPdf	PKPdf	19 51 58.6	-0.1
	comp=Z,17nm,1.3s						
ABTA				i PKPbc	PKPbc	19 52 03.1	-0.7
	comp=Z,93nm,0.6s,SNR=30						
ABTA				⇑iPKPab	PKPab	19 52 11.2	+0.5
	comp=Z,57nm,0.7s						
HINF	Hinteralfeld	149.42	352	ePKIKP	PKPdf	19 51 58.1	-0.6

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HINF	Hinteralfeld	149.42	352	ePKIKP	PKPdf	19 51 58.1	-0.6
HINF	Hinteralfeld	149.42	352	ePKPdf	PKPdf	19 51 58.1	-0.6
LJU	Ljubljana	149.44	341	ePKPbc	PKPbc	19 52 03.6	-0.3
DAVA	Damuels	149.44	348	⇑iPKPdf	PKPdf	19 51 59.0	+0.1
	comp=Z,14nm,1.2s						
DAVA				iPKiKP	PKPbc	19 52 03.9	-0.1
	comp=Z,66nm,0.7s,SNR=22						
LIA	Limnos Island	149.46	322	eP	PKPbc	19 52 03.5	-0.6
QUIF	Quistinic	149.49	6	ePKIKP	PKPdf	19 51 58.7	0.0
QUIF	Quistinic	149.49	6	ePKHKP	PKPdf	19 51 58.7	0.0
QUIF	Quistinic	149.49	6	ePKPdf	PKPdf	19 51 58.7	0.0
GCAM	G?zelcaml?	149.50	316	iP	PKPbc	19 52 03.8	-0.4
CADS	Cadrg	149.51	343	ePKPbc	PKPbc	19 52 03.1	-1.0
CADS				iPKPab	PKPab	19 52 10.3	-0.9
FETA	Feichten	149.52	347	⇑iPKPdf	PKPdf	19 51 59.7	+0.6
	comp=Z,20nm,1.0s,SNR=9.5						
FETA				⇑iPKiKP	PKPbc	19 52 04.5	+0.2
	comp=Z,100nm,1.1s						
VOY	Vojsko	149.64	342	ePKPbc	PKPbc	19 52 02.7	-1.8
VOY				ePKPab	PKPab	19 52 11.2	-0.7
VOY				e		19 52 26.9	
BBS	Basel-Blauen	149.67	351	PKHKP	PKPbc	19 52 04.0	-0.4
BBS	Basel-Blauen	149.67	351	PKP	PKPbc	19 52 04.0	-0.4
BOJS	Bojanci	149.70	340	ePKPbc	PKPbc	19 52 04.7	+0.2
CHOS	Chios island	149.86	319	P	PKPbc	19 52 04.7	-0.5
LOMF	Lomont	149.88	352	PKHKP	PKPbc	19 52 05.1	+0.1
LOMF	Lomont	149.88	352	PKP	PKPbc	19 52 05.1	+0.1
LOMF	Lomont	149.88	352	PKP	PKPbc	19 52 05.1	+0.1
VAY	Valandovo	149.95	327	ePKP	PKPbc	19 52 03.7	-1.5
PLE	Pljevlja	149.96	333	ePKP	PKPbc	19 52 04.7	-0.6
SKO	Skopje	150.05	329	P	PKPbc	19 52 06.6	+1.1
SKO	Skopje	150.05	329	ePKP	PKPbc	19 52 05.7	+0.3
IVA	Berane	150.09	332	⇑iPKP	PKPbc	19 52 04.7	-0.9
PLG	Polygyros	150.14	324	P	PKPbc	19 52 04.5	-1.3
PLG	Polygyros	150.14	324	eP	PKPbc	19 52 04.5	-1.3
LOR	Lormes	150.25	356	ePKIKP	PKPdf	19 51 59.7	-0.3
LOR	Lormes	150.25	356	ePKPdf	PKPdf	19 51 59.7	-0.3
UPM	Unac-Piva	150.27	333	⇓iPKP	PKPbc	19 52 05.4	-0.8
PVY	Plav	150.28	331	⇑iPKP	PKPbc	19 52 04.5	-1.6
SSF	Saint Saulge	150.47	357	ePKIKP	PKPdf	19 52 00.3	0.0
	comp=Z,24nm,0.9s						
SSF	Saint Saulge	150.47	357	ePKIKP	PKPdf	19 52 00.3	0.0
SSF	Saint Saulge	150.47	357	ePKPdf	PKPdf	19 52 00.3	0.0
NVLJ	Novalja	150.65	340	P	PKPbc	19 52 06.3	-0.4
BRY	Bratogost	150.67	333	⇑iPKP	PKPbc	19 52 05.7	-1.3
CABF	La Chapelle	150.70	353	ePKIKP	PKPdf	19 52 01.0	+0.2
CABF	La Chapelle	150.70	353	ePKIKP	PKPdf	19 52 01.0	+0.2
CABF	La Chapelle	150.70	353	ePKPdf	PKPdf	19 52 01.0	+0.2
KARP	Karpathos	150.71	313	eP	PKPbc	19 52 06.5	-0.7
TTG	Podgorica	150.73	332	⇑iPKP	PKPbc	19 52 06.5	-0.5
AVF	Avril sur Loir	150.75	357	ePKIKP	PKPdf	19 52 00.4	-0.3
AVF	Avril sur Loir	150.75	357	ePKIKP	PKPdf	19 52 00.4	-0.3
AVF	Avril sur Loir	150.75	357	ePKPdf	PKPdf	19 52 00.4	-0.3
BIA	Bitola	150.82	328	P	PKPbc	19 52 07.0	-0.3
BIA	Bitola	150.82	328	ePKP	PKPbc	19 52 06.5	-0.9
LIT	Litokhoron	150.86	325	P	PKPbc	19 52 06.5	-0.9
OG01	Vacheresse	150.90	352	PKP	PKPbc	19 52 07.7	+0.3
OG01	Vacheresse	150.90	352	PKP	PKPbc	19 52 07.7	+0.3
FNA	Florina	150.96	327	P	PKPbc	19 52 06.9	-0.8
XOR	Xorichti	150.97	323	P	PKPbc	19 52 06.4	-1.3
APE	Apeiranthos	150.97	317	⇑PKIKP	PKPbc	19 52 06.2	-1.6
APE	Apeiranthos	150.97	317	eP	PKPbc	19 52 06.0	-1.8
APE	Apeiranthos	150.97	317	⇑iP	PKPbc	19 52 06.2	-1.6
MFF	Saint Martin d	150.98	2	ePKIKP	PKPdf	19 52 00.8	-0.3
MFF	Saint Martin d	150.98	2	ePKIKP	PKPdf	19 52 00.8	-0.3
MFF	Saint Martin d	150.98	2	ePKPdf	PKPdf	19 52 00.8	-0.3
NEO	Neokhori	150.99	323	eP	PKPbc	19 52 06.5	-1.2
BUM	Brajici-Budva	151.00	332	⇑iPKP	PKPbc	19 52 06.3	-1.4
KZN	Kozani	151.10	326	P	PKPbc	19 52 07.2	-0.8
KZN	Kozani	151.10	326	eP	PKPbc	19 52 07.0	-1.0
ULC	Ulcinj	151.11	331	⇓iPKP	PKPbc	19 52 05.2	-2.7
TCF	Toulx Ste Croi	151.30	358	ePKIKP	PKPdf	19 52 01.0	-0.6
TCF	Toulx Ste Croi	151.30	358	ePKIKP	PKPdf	19 52 01.0	-0.6
TCF	Toulx Ste Croi	151.30	358	ePKPdf	PKPdf	19 52 01.0	-0.6
OG35	Corcelles	151.31	353	PKP	PKPbc	19 52 08.5	+0.2
NEST	Nestorio	151.40	327	P	PKPbc	19 52 08.5	-0.2
THR1	Thera Island	151.42	316	P	PKPbc	19 52 06.8	-2.0
PTL	Penteli	151.43	320	P	PKPbc	19 52 07.7	-1.1
PTL	Penteli	151.43	320	eP	PKPbc	19 52 07.5	-1.3
THL	Klokotos Trika	151.49	325	P	PKPbc	19 52 07.3	-1.5
THL	Klokotos Trika	151.49	325	eP	PKPbc	19 52 07.0	-1.8
AGO	Saint Agoulin	151.50	357	PKP	PKPbc	19 52 09.0	+0.3
AGO	Saint Agoulin	151.50	357	PKP	PKPbc	19 52 09.0	+0.3
ATAL	Atalanti	151.51	322	P	PKPbc	19 52 07.8	-1.1
RSL	Roselend	151.54	352	PKIKP	PKPbc	19 52 10.2	+1.3
RSL	Roselend	151.54	352	PKP	PKPbc	19 52 10.2	+1.3
RSL	Roselend	151.54	352	PKP	PKPbc	19 52 10.2	+1.3
PLDF	La Plantade	151.56	356	PKIKP	PKPbc	19 52 09.0	+0.1
PLDF	La Plantade	151.56	356	PKP	PKPbc	19 52 09.0	+0.1
PLDF	La Plantade	151.56	356	PKP	PKPbc	19 52 09.0	+0.1
LKR	Lokris	151.56	322	P	PKPbc	19 52 07.6	-1.4
LKR	Lokris	151.56	322	eP	PKPbc	19 52 07.5	-1.4
ATH	Athens Observa	151.57	320	eP	PKPbc	19 52 07.5	-1.5
ZKR	Zakros	151.59	313	P	PKPbc	19 52 09.1	-0.1
ZKR	Zakros	151.59	313	eP	PKPbc	19 52 07.5	-1.7
AXAR	Agios Charalam	151.68	323	P	PKPbc	19 52 08.4	-0.9
LPG	La Plagne	151.71	352	ePKIKP	PKPdf	19 52 02.7	+0.1
LPG	La Plagne	151.71	352	ePKIKP	PKPdf	19 52 02.7	+0.1
LPG	La Plagne	151.71	352	ePKPdf	PKPdf	19 52 02.7	+0.1
PYM	Petit Puy Mans	151.81	357	PKIKP	PKPbc	19 52 10.1	+0.7
PYM	Petit Puy Mans	151.81	357	PKP	PKPbc	19 52 10.1	+0.7
PYM	Petit Puy Mans	151.81	357	PKP	PKPbc	19 52 10.1	+0.7
MAKR	Makrakomi, Fth	151.81	324	P	PKPbc	19 52 09.0	-0.6
NAIG	Nisos Aigina	151.84	320	eP	PKPbc	19 52 07.5	-2.2
NPS	Neapolis	151.93	314	P	PKPbc	19 52 09.9	-0.1
NPS	Neapolis	151.93	314	eP	PKPbc	19 52 09.5	-0.5
DESF	Desfina	151.99	322	P	PKPbc	19 52 09.3	-0.7
LTK	Loutraki	151.99	321	P	PKPbc	19 52 08.7	-1.3
LTK	Loutraki	151.99	321	eP	PKPbc	19 52 08.5	-1.5
DSF	Desfina	151.99	322	P	PKPbc	19 52 08.8	-1.2
JAN	Janina	152.06	326	eP	PKPbc	19 52 10.0	-0.1
EVR	Evrytania	152.06	324	eP	PKPbc	19 52 09.5	-0.7
LAST	Lasithi	152.08	314	P	PKPbc	19 52 10.4	+0.1
LAST	Lasithi	152.08	314	eP	PKPbc	19 52 10.5	+0.1
DID	Didima	152.16	320	P	PKPbc	19 52 08.8	-1.6
DID	Didima	152.16	320	eP	PKPbc	19 52 08.5	-1.9
FRNF	Fournols	152.19	358	PKP	PKPbc	19 52 11.1	+0.9
FRNF	Fournols	152.19	358	PKP	PKPbc	19 52 11.1	+0.9
KALE	Kalithea	152.23	323	P	PKPbc	19 52 09.9	-0.7
TRIZ	Trizonia	152.29	323	P	PKPbc	19 52 10.2	-0.4
RJF	Les Rejaudoux	152.30	359	ePKIKP	PKPdf	19 52 02.8	-0.3
	comp=Z,26nm,1.0s						
RJF	Les Rejaudoux	152.30	359	ePKIKP	PKPdf	19 52 02.8	-0.3
RJF	Les Rejaudoux	152.30	359	ePKPdf	PKPdf	19 52 02.8	-0.3
LBL	Lubilhac	152.31	357	PKIKP	PKPbc	19 52 10.9	+0.3
LBL	Lubilhac	152.31	357	PKP	PKPbc	19 52 10.9	+0.3
LBL	Lubilhac	152.31	357	PKP	PKPbc	19 52 10.9	+0.3
EFP	Efpalio	152.34	323	P	PKPbc	19 52 11.1	+0.3
EFP	Efpalio	152.34	323	eP	PKPbc	19 52 11.0	+0.3
ORIF	Oris-en-Rattie	152.39	353	ePKIKP	PKPdf	19 52 03.1	-0.3
ORIF	Oris-en-Rattie	152.39	353	ePKIKP	PKPdf	19 52 03.1	-0.3
ORIF	Oris-en-Rattie	152.39	353	ePKPdf	PKPdf	19 52 03.1	-0.3
IDI	Anoyia	152.41	315	P	PKPbc	19 52 10.4	-0.6
IDI	Anoyia	152.41	315	ePKPbc	PKPbc	19 52 10.5	-0.6
IDI	Anoyia	152.41	315	eP	PKPbc	19 52 10.5	-0.6
GUR	Goura	152.42	322	P	PKPbc	19 52 10.3	-0.8
GUR	Goura	152.42	322	eP	PKPbc	19 52 10.5	-0.6
LAKA	Lakka	152.43	323	P	PKPbc	19 52 11.3	+0.3
MBDF	Montbardon	152.46	351	ePKIKP	PKPdf	19 52 03.3	-0.3
MBDF	Montbardon	152.46	351	ePKIKP	PKPdf	19 52 03.3	-0.3
MBDF	Montbardon	152.46	351	ePKPdf	PKPdf	19 52 03.3	-0.3
KEK	Kerkira	152.57	328	eP	PKPbc	19 52 10.5	-0.7
SIVA	Sivas	152.61	314	P	PKPbc	19 52 11.9	+0.5
SIVA	Sivas	152.61	314	eP	PKPbc	19 52 11.5	+0.1
LFF	La Frestale	152.66	1	ePKIKP	PKPdf	19 52 03.5	-0.1
	comp=Z,61nm,0.9s						
LFF	La Frestale	152.66	1	ePKIKP	PKPdf	19 52 03.5	-0.1
LFF	La Frestale	152.66	1	ePKPdf	PKPdf	19 52 03.5	-0.1
VLX	Vlachokerasia	152.77	321	P	PKPbc	19 52 11.7	-0.1
VAM	Vamos	152.81	315	P	PKPbc	19 52 12.0	+0.1
VLI	Veliai	152.84	319	eP	PKPbc	19 52 13.0	+1.1
RLS	Riolos of Patr	152.84	323	eP	PKPab	19 52 26.0	+0.5
KYTH	Kithira	153.05	318	eP	PKPbc	19 52 11.5	-0.9
SAOF	Saorge	153.06	350	PKIKP	PKPbc	19 52 11.5	-0.7
SAOF	Saorge	153.06	350	PKP	PKPbc	19 52 11.5	-0.7
SAOF	Saorge	153.06	350	PKP	PKPbc	19 52 11.5	-0.7
AMT	Artemida-Makis	153.06	322	P	PKPbc	19 52 12.6	+0.2
AUTN	L'Aution	153.07	350	PKIKP	PKPbc	19 52 15.0	+2.6
AUTN	L'Aution	153.07	350	PKP	PKPbc	19 52 15.0	+2.6
AUTN	L'Aution	153.07	350	PKP	PKPbc	19 52 15.0	+2.6
TOUF	Mont Tournerai	153.08	350	PKIKP	PKPbc	19 52 12.2	-0.2
TOUF	Mont Tournerai	153.08	350	PKP	PKPbc	19 52 12.2	-0.2
TOUF	Mont Tournerai	153.08	350	PKP	PKPbc	19 52 12.2	-0.2
AQU	L'Aquila	153.11	340	⇓iP	PKPbc	19 52 12.6	+0.2
ITM	Ithomi	153.16	321	eP	PKPbc	19 52 12.0	-0.6
GVD	Gavdhos	153.21	315	eP	PKPbc	19 52 12.5	-0.2
VLS	Valsamata	153.26	324	eP	PKPbc	19 52 12.5	-0.3
FRF	La Foret Royal	153.62	351	ePKIKP	PKPdf	19 52 04.7	-0.4
FRF	La Foret Royal	153.62	351	ePKIKP	PKPdf	19 52 04.7	-0.4
FRF	La Foret Royal	153.62	351	ePKPdf	PKPdf	19 52 04.7	-0.4
PGAV	Gavieira, Arco	154.35	16	ePKPab	PKPab	19 52 32.5	+0.6
PBRG	Braganca	154.88	14	ePKPab	PKPab	19 52 34.6	+0.5
POLO	Lamas de Olo	155.03	16	ePKPab	PKPab	19 52 35.4	+0.5
PVRL	Vila Real	155.14	16	ePKPab	PKPab	19 52 35.8	+0.5
MVO	Moncorvo	155.42	15	ePKPab	PKPab	19 52 36.8	+0.3
PVIS	Viseu	155.62	17	ePKPab	PKPab	19 52 37.8	+0.4
MTE	Manteigas	156.01	16	ePKPab	PKPab	19 52 39.4	+0.3
PTOM	Tomar	156.49	19	ePKPab	PKPab	19 52 41.3	+0.3
PCBR	Castelo Branco	156.55	17	ePKPab	PKPab	19 52 41.6	+0.3
PMRV	Marv??o	156.96	17	ePKPab	PKPab	19 52 43.5	+0.4
PMTG	Montargil	157.04	19	ePKPab	PKPab	19 52 43.5	0.0
PESTR	Estremoz	157.42	18	ePKPab	PKPab	19 52 45.1	-0.1
ESDC	Sonseca Array	157.49	10	PKPab	PKPab	19 52 45.0	-0.4
	comp=Z,4.4nm,0.4s,baz=345,slow=4.8,SNR=18						
ESDC				PP	PP	19 56 27.1	+1.2
	comp=Z,3.1nm,1.0s,baz=11,slow=5.4,SNR=5.3						
ESDC	Sonseca Array	157.49	10	PKPab	PKPab	19 52 45.0	-0.4
ESDC				PP	PP	19 56 27.1	+1.2
MOE	Montemor	157.50	20	ePKPab	PKPab	19 52 46.2	+0.7
EVOP	Sao Brissos	157.57	19	ePKP2	PKPab	19 52 45.6	-0.2
EVOP	Sao Brissos	157.57	19	ePKPab	PKPab	19 52 45.6	-0.2
EVO	Evora	157.60	19	ePKP2	PKPab	19 52 45.6	-0.3
	comp=Z,102nm,1.1s						
EVO	Evora	157.60	19	ePKPab	PKPab	19 52 46.4	+0.5
PNCL	Nicolau / Gran	157.82	20	ePKPab	PKPab	19 52 47.5	+0.6
PBEJ	Beja	158.11	19	ePKPab	PKPab	19 52 48.6	+0.4
PBAR	Barrancos	158.22	17	ePKPab	PKPab	19 52 49.4	+0.8
PCVE	Castro Verde	158.42	20	ePKPab	PKPab	19 52 50.2	+0.7
PVAQ	Vaqueiros	158.73	20	ePKPab	PKPab	19 52 51.7	+0.8
KEST	Kesra	160.43	340	PKPab	PKPab	19 52 58.4	-0.1
	comp=Z,4.3nm,0.5s,baz=270,slow=2.8,SNR=14						
KEST	Kesra	160.43	340	PKPab	PKPab	19 52 58.4	-0.1
LIC	Lamto	167.28	151	ePKIKP	PKPdf	19 52 19.4	-1.2
	comp=Z,34nm,1.0s						
LIC	Lamto	167.28	151	ePKPdf	PKPdf	19 52 19.4	-1.2
DBIC	Dimbokro	167.75	151	PKP	PKPdf	19 52 20.5	-0.4
	comp=Z,6.2nm,0.9s,baz=164,slow=2.3,SNR=7.5						
DBIC				pPKPab	pPKPab	19 55 29.8	-0.8
	comp=Z,6.1nm,1.0s,baz=215,slow=7.7,SNR=2.9						
DBIC	Dimbokro	167.75	151	PKP	PKPdf	19 52 20.5	-0.4
DBIC				pPKPab	pPKPab	19 55 29.8	-0.8
TORD	Torodi Ar. Bea	175.61	188	PKP	PKPdf	19 52 23.8	-0.8
	comp=Z,6.0nm,0.8s,baz=330,slow=1.3,SNR=34						
TORD				pPKP	pPKPdf	19 54 37.5	+5.2
	comp=Z,1.5nm,0.7s,baz=13,slow=2.4,SNR=1.3						
TORD				pPKPab	pPKPab	19 56 01.7	-3.5
	comp=Z,3.3nm,1.0s,baz=169,slow=4.8,SNR=4.1						
TORD				PP	PP	19 57 59.1	+1.7
	comp=Z,4.6nm,1.0s,baz=158,slow=4.8,SNR=5.9						
TORD	Torodi Ar. Bea	175.61	188	PKP	PKPdf	19 52 23.8	-0.8
TORD				pPKP	pPKPdf	19 54 37.5	+5.2
TORD				pPKPab	pPKPab	19 56 01.7	-3.5
TORD				PP	PP	19 57 59.1	+1.7

---

*IDC **05** 19:41:38.9±0.3, 80°.28N×1°.96W, h0km, mb4.7/37, mb1 4.8/40, mb1mx4.8/41, mbtmp4.7/40, ML4.5/2, MS4.7/37, Ms1 4.7/37, ms1mx4.7/39, Error ellipse: s-maj=10.7km s-min=7.8km az=33.0*

*BJI **05** 19:41:38.7, 80°.30N×1°.90W, h10km, mB5.4/30, mb5.0/43, Ms5.5/39, Ms7 5.1/37*

*MOS **05** 19:41:38.6±0.9, 80°.21N×1°.84W, h10km, mb5.5/93, MS4.9/55, Error ellipse: s-maj=30.4km s-min=3.7km az=93.8*

*ISCJB **05** 19:41:39.5±0.1, 80°.27N±0°.02×2°.02W±0°.09, h15km, mb5.3/282, MS4.9/192, Error ellipse: s-maj=3.1km s-min=1.5km az=36.9*

*NEIC **05** 19:41:40.7±0.1, 80°.28N×1°.83W, h10km, mb5.5/185, MS5.0/130, MW5.4, Error ellipse: s-maj=3.7km s-min=2.1km az=224.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}0.44; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$1.18; $M_{r\theta}$-0.30; $M_{\theta\phi}$-0.77; $M_{\phi r}$-0.01; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s121.00000°, δ88.00000°, λ-172.00000°. NP2:ϕ_s30.00000°, δ82.00000°, λ-2.00000°. Principal axes: T 1.3800, Plg4.0000°, Azm255.0000°; N 0.4800, Plg81.0000°, Azm135.0000°; P -1.8600, Plg7.0000°, Azm345.0000°;*

*BER **05** 19:41:40.1±2.9, 80°.28N×1°.53W, h10km, ML4.2, ML4.9(NAO)*

*GCMT **05** 19:41:42.1±0.1, 80°.32N×2°.31W, h17km, MW5.5, Moment Tensor Solution. s70,c116; s99,c216; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.51±.03; $M_{\theta\theta}$-1.30±.03; $M_{\phi\phi}$1.81±.03; $M_{r\theta}$-0.34±.08; $M_{\theta\phi}$-0.84±.03; $M_{\phi r}$-0.59±.08; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s122.00000°, δ66.00000°, λ-171.00000°. NP2:ϕ_s28.00000°, δ82.00000°, λ-24.00000°. Principal axes: T 2.1100, Plg11.0000°, Azm77.0000°; N -0.4000, Plg65.0000°, Azm191.0000°; P -1.7100, Plg23.0000°, Azm343.0000°; Data Used: II IU IC G CN. Surface waves from 110 sta.*

*CSEM **05** 19:41:42.1±0.1, 80°.26N×1°.92W, h22km, mb5.4/99, Ms4.8, Mw5.5 Error ellipse: s-maj=3.9km s-min=2.0km az=44.0*

*NAO **05** 19:41:43.5±7.6, 80°.09N×0°.82W, h22km±96km, ML4.9*

*SZGRF **05** 19:42:03.2, 77°.65N×0°.64E, h33km, mb5.2, MS4.4, Greenland Sea*

ISC 05 19:41:41.3±0.3**, 80°.21N**±0°.03×**1°.40W**±0°.03**, h14**km±1km**, h14km:pP-P, n1449, σ1s.38**/1433**, mb5.4**/279**, MS4.9**/194**, 211C-205D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.74	111	Pn	Pn	19 42 21.9	-2.8
KBS				Sn	Sn	19 42 52.9	-4.7
KBS	Kingsbay	2.74	111	Pn	Pn	19 42 21.9	-2.8
KBS				Sn	Sn	19 42 52.9	-4.7
KBS				AML	AML	19 42 59.6	
	comp=Z,917nm,1.0s						
KBS	Kingsbay	2.74	111c	iP	Pn	19 42 21.9	-2.8
KBS				pmax	pmax		
	comp=Z,433nm,0.7s						
KBS	Kingsbay	2.74	111	ePn	Pn	19 42 21.9	-2.8
KBS				eSn	Sn	19 42 52.5	-5.1
KBS	Kingsbay	2.74	111	Pn	Pn	19 42 21.9	-2.8
KBS	Kingsbay	2.74	111	eP	Pn	19 42 22.7	-2.0
	SNR=114						
KBS				Sn	Sn	19 42 52.9	-4.7
	comp=Z,917nm,1.0s,SNR=50						
SPA0	Spitsbergen Ar	3.90	112	Pn	Pn	19 42 38.6	-2.1
	baz=319,slow=8.6						
SPA0				Sn	Sn	19 43 21.8	-4.4
	baz=327,slow=28						
SPA0	Spitsbergen Ar	3.90	112	eP	Pn	19 42 38.8	-1.9
SPA0				eS	Sn	19 43 22.0	-4.1
SPA0	Spitsbergen Ar	3.90	112	Pn	Pn	19 42 38.6	-2.1
	baz=319,slow=8.2,SNR=999						
SPA0				Sn	Sn	19 43 21.8	-4.4
	baz=327,slow=26,SNR=1.1						
SPITS	Spitsbergen Ar	3.90	112	Pn	Pn	19 42 38.8	-1.9
	baz=326,slow=7.3,SNR=5445						
SPITS				Sn	Sn	19 43 21.1	-5.1
	baz=329,slow=18,SNR=5.3						
SPITS	Spitsbergen Ar	3.90	112	Pn	Pn	19 42 38.8	-1.9
SPITS				Sn	Sn	19 43 21.1	-5.1
SPITS	Spitsbergen Ar	3.90	112	Pn	Pn	19 42 38.8	-1.9
SPITS				Sn	Sn	19 43 21.1	-5.1
HSP	Hornsund	4.63	125	eP	Pn	19 42 49.0	-1.6
HSP				eS	Sn	19 43 39.5	-4.5
HOPEN	Hopen	6.44	111	eP	Pn	19 43 12.9	-2.5
HOPEN				eS	Sn	19 44 22.9	-5.5
HOPEN				AML	AML	19 44 27.2	
	comp=Z,251nm,0.8s						
BJO	Bjornoya	7.23	131	ePn	Pn	19 43 25.7	-0.5
BJO				eSn	Sn	19 44 42.3	-5.6
BJO	Bjornoya	7.23	131	ePn	Pn	19 43 25.7	-0.5
	SNR=50						
ALE	Alert	9.03	313	Pn	Pn	19 43 44.4	-6.4
	comp=Z,3µm,0.5s						
JNW	Jan Mayen West	9.38	194	ePn	Pn	19 43 54.5	-1.2
JNW				AML	AML	19 45 40.0	
	comp=Z,331nm,0.3s						
JNW	Jan Mayen West	9.38	194	ePn	Pn	19 43 54.5	-1.2
	SNR=50						
JNE	Jan Mayen East	9.41	194	ePn	Pn	19 43 54.9	-1.3
JNE				AML	AML	19 45 39.4	
	comp=Z,318nm,0.2s						
JNE	Jan Mayen East	9.41	194	ePn	Pn	19 43 54.9	-1.3
	SNR=50						
JMIC	Jan Mayen	9.43	194	Pn	Pn	19 43 54.7	-1.7
JMIC				Sn	Sn	19 45 34.5	-7.4
JMIC	Jan Mayen	9.43	194	Pn	Pn	19 43 54.6	-1.7
	comp=Z,302nm,0.3s,baz=5.8,slow=2.1,SNR=25						
JMIC				Sn	Sn	19 45 34.4	-7.5
	comp=Z,43nm,0.3s,baz=163,slow=20,SNR=7.4						
JMIC				LR	LR	19 46 12.1	
	comp=Z,2µm,19.6s,baz=17,slow=29						
JMIC	Jan Mayen	9.43	194	Pn	Pn	19 43 54.7	-1.7
JMIC				ePn	Pn	19 43 55.0	-1.3
JMIC				Sn	Sn	19 45 34.5	-7.4
JMIC	Jan Mayen	9.43	194	Pn	Pn	19 43 54.6	-1.7
JMIC				Sn	Sn	19 45 34.4	-7.5
JMIC	Jan Mayen	9.43	194	Pn	Pn	19 43 54.6	-1.7
JMI	Jan Mayen	9.49	195	ePn	Pn	19 43 56.1	-1.1
JMI	Jan Mayen	9.49	195	ePn	Pn	19 43 56.1	-1.1
	SNR=50						
SCO	Scoresbysund	10.95	218	iP	Pn	19 44 14.7	-2.4
	SNR=74						
SUMG	Summit	11.30	248	eP	Pn	19 44 16.7	-5.6
SUMG	Summit	11.30	248	ePn	Pn	19 44 16.7	-5.6
SUMG	Summit	11.30	248	iP	Pn	19 44 16.7	-5.6
SUMG				iS	Sn	19 46 14.8	-14
TRO	Tromso	11.74	143	ePn	Pn	19 44 28.7	+0.8
TRO	Tromso	11.74	143	ePn	Pn	19 44 28.7	+0.8
	SNR=50						
KEV	Kevo	12.57	130	eP	Pn	19 44 39.1	-0.2
KEV	Kevo	12.57	130	ePn	Pn	19 44 39.1	-0.2
KEV	Kevo	12.57	130	ep	Pn	19 44 38.3	-0.9
	comp=Z,14nm,0.5s						
KEV	Kevo	12.57	130	ePn	Pn	19 44 39.1	-0.2
ARA0	ARCESS Array S	12.58	133	Pn	Pn	19 44 37.5	-2.0
	baz=351,slow=12						
ARA0				Sn	Sn	19 46 51.0	-8.1
	baz=351,slow=18						
ARA0	ARCESS Array S	12.58	133	Pn	Pn	19 44 37.5	-2.0
	baz=351,slow=12						
ARA0				Sn	Sn	19 46 51.0	-8.1
	baz=351,slow=18						
ARA0	ARCESS Array S	12.58	133	Pn	Pn	19 44 37.5	-2.0
	baz=351,slow=12,SNR=215						
ARCES	ARCESS Array B	12.58	133	Pn	Pn	19 44 39.0	-0.5
	comp=Z,3.6nm,0.3s,baz=347,slow=11,SNR=78						
ARCES				Sn	Sn	19 46 56.5	-2.7
	comp=Z,1.8nm,0.3s,baz=2.7,slow=21,SNR=4.5						
ARCES				LR	LR	19 48 51.4	
	comp=Z,3µm,21.8s,baz=340,slow=34						
ARCES	ARCESS Array B	12.58	133	Pn	Pn	19 44 39.0	-0.5
ARCES				Sn	Sn	19 46 56.5	-2.7
ARCES	ARCESS Array B	12.58	133	Pn	Pn	19 44 39.0	-0.5
ARE0	ARCESS Array S	12.58	133	ePn	Pn	19 44 37.1	-2.4
ARE0	ARCESS Array S	12.58	133	eP	Pn	19 44 39.1	-0.4
ARE0	ARCESS Array S	12.58	133	eP	Pn	19 44 39.1	-0.4
LOF	Lofoten	12.72	154	ePn	Pn	19 44 36.6	-4.8
KTK1	Kautokeino	12.80	137	ePn	Pn	19 44 42.9	+0.4
KTK1	Kautokeino	12.80	137	ePn	Pn	19 44 42.9	+0.4
	SNR=50						
STEI	Steigen	13.05	151	ePn	Pn	19 44 47.7	+1.8
STOK	Stokkvaagen	14.46	156	ePn	Pn	19 45 07.5	+2.4
FLOS	Flostrand	14.48	156	ePn	Pn	19 45 07.5	+2.2
FLOS				ePn	Pn	19 45 07.6	+2.2
MOR8	Moi Rana	14.72	154	ePn	Pn	19 45 10.4	+1.7
MOR8	Moi Rana	14.72	154	ePn	Pn	19 45 10.4	+1.7
	SNR=50						
LVZ	Lovozero	15.35	123	⇓eP	Pn	19 45 16.8	-0.2
LVZ				pmax	pmax		
	comp=Z,44nm,1.5s						
LVZ	Lovozero	15.35	123	eP	Pn	19 45 13.7	-3.4
	comp=Z,53nm,1.0s						
APA	Apatity	15.48	125	⇓iP	Pn	19 45 15.4	-3.3
APA				pmax	pmax		
	comp=Z,24nm,0.9s						
APA				MLR	MLR		
	comp=Z,4µm,18.0s						
NSS	Namsos	16.18	159	ePn	P	19 45 32.4	+1.5
BORG	Borgarnes	16.46	211	Pn	P	19 45 36.0	+2.0
	comp=Z,0.4nm,0.3s,baz=36,slow=8.7,SNR=3.0						
BORG				LR	LR	19 52 32.6	
	comp=Z,3µm,18.2s,baz=8.8,slow=40						
BORG	Borgarnes	16.46	211	Pn	P	19 45 36.0	+2.0
SFJD	Kangerlussuaq	18.21	252	P	Pn	19 45 44.2	-8.9
	comp=Z,37nm,0.3s,baz=17,slow=13,SNR=131						
SFJD				S	Sn	19 48 52.9	-23
	comp=Z,25nm,0.3s,baz=272,slow=11,SNR=6.0						
SFJD				LR	LR	19 52 56.9	
	comp=Z,5µm,21.2s,baz=26,slow=37						
SFJD	Kangerlussuaq	18.21	252	P	Pn	19 45 44.2	-8.9
SFJD				S	Sn	19 48 52.9	-23
SFJD	Kangerlussuaq	18.21	252	iP	Pn	19 45 44.4	-8.7
SFJD				iS	Sn	19 48 51.5	-24
RES	Resolute Bay	18.73	304	P	P	19 45 50.8	-8.2
	comp=Z,6.4nm,0.3s,baz=26,slow=12,SNR=100						
RES				S	Sn	19 49 03.4	-25
	comp=Z,5.0nm,0.3s,baz=329,slow=24,SNR=11						
RES				LR	LR	19 52 11.8	
	comp=Z,2µm,18.3s,baz=39,slow=34						
RES	Resolute Bay	18.73	304	eP	P	19 45 50.0	-9.0
	comp=Z,3.4nm,0.4s						
RES				S	Sn	19 49 03.4	-25
NB2	NORSAR Subarra	19.61	162	P	Pn	19 46 10.8	+0.7
NB2	NORSAR Subarra	19.61	162	Pn	Pn	19 46 10.8	+0.7
NB2				P	Pn	19 46 11.0	+0.9
	baz=354,slow=11						
NB2	NORSAR Subarra	19.61	162	P	Pn	19 46 11.0	+0.9
	comp=Z,19nm,1.0s,baz=354,slow=11						
NB2	NORSAR Subarra	19.61	162	Pn	Pn	19 46 10.8	+0.7
	SNR=50						
NOA	NORSAR Array B	19.61	162	P	P	19 46 09.4	+0.7
	comp=Z,0.6nm,0.3s,baz=347,slow=9.4,SNR=19						
NOA				LR	LR	19 52 29.6	
	comp=Z,2µm,20.1s,baz=345,slow=33						
NOA	NORSAR Array B	19.61	162	P	P	19 46 09.4	+0.7
NOA	NORSAR Array B	19.61	162	P	P	19 46 09.4	+0.7
JOF	Joensuu	19.62	133	eP	P	19 46 08.4	-0.4
JOF				pmax	pmax		
	comp=Z,31nm,0.7s						
JOF	Joensuu	19.62	133	ep	P	19 46 08.4	-0.4
	comp=Z,31nm,0.7s						
JOF	Joensuu	19.62	133	eP	P	19 46 08.4	-0.4
	comp=Z,31nm,0.7s						
NAO01	NORSAR Array S	19.79	162	eP	Pn	19 46 12.8	+0.6
	comp=Z,27nm,0.9s						
NAO01	NORSAR Array S	19.79	162	eP	Pn	19 46 12.8	+0.6
	comp=Z,27nm,0.9s						
KAF	Kangasniemi	19.81	140	eP	P	19 46 11.1	+0.2
KAF				pmax	pmax		
	comp=Z,42nm,0.7s						
KAF	Kangasniemi	19.81	140	ep	P	19 46 11.1	+0.2
	comp=Z,42nm,0.7s						
KAF	Kangasniemi	19.81	140	eP	P	19 46 11.1	+0.2
	comp=Z,42nm,0.7s						
NC602	NORSAR Array S	19.93	161	ePn	Pn	19 46 17.5	+3.6
NC602	NORSAR Array S	19.93	161	ePn	Pn	19 46 17.5	+3.6
	SNR=50						
FIA1	FINESS Array S	20.44	141	eP	P	19 46 18.1	+0.5
FIA1	FINESS Array S	20.44	141	eP	P	19 46 18.1	+0.5
FIA0	FINESS Array S	20.44	141	P	P	19 46 18.4	+0.7
	baz=353,slow=11						
FIA0	FINESS Array S	20.44	141	P	P	19 46 18.4	+0.7
	baz=353,slow=11						
FIA0	FINESS Array S	20.44	141	P	P	19 46 18.4	+0.7
	baz=353,slow=11,SNR=47						
FINES	FINESS Array B	20.44	141	P	P	19 46 18.7	+1.0
	comp=Z,16nm,0.8s,baz=355,slow=9.6,SNR=36						
FINES				LR	LR	19 53 37.0	
	comp=Z,2µm,20.7s,baz=352,slow=35						
FINES	FINESS Array B	20.44	141	P	P	19 46 18.7	+1.0
FINES	FINESS Array B	20.44	141	P	P	19 46 18.7	+1.0
HFS	Hagfors	20.66	158	P	P	19 46 20.1	0.0
	baz=358,slow=12						
HFS	Hagfors	20.66	158	P	P	19 46 20.6	+0.5
	comp=Z,25nm,0.8s,baz=1.3,slow=6.4,SNR=22						
HFS				LR	LR	19 52 53.4	
	comp=Z,2µm,21.6s,baz=356,slow=32						
HFS	Hagfors	20.66	158	P	P	19 46 20.1	0.0
	baz=358,slow=12						
HFS	Hagfors	20.66	158	P	P	19 46 20.6	+0.5

HFS **Hagfors** **20.66 158** P **P** **19 46 20.0 0.0**
baz=358,slow=12,SNR=47
KONO **Kongsberg** **20.92 164** *e*P **P** **19 46 24.2 +1.3**
KONO pmax pmax
comp=Z,73nm,1.1s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO **Kongsberg** **20.92 164** *e*P **P** **19 46 24.2 +1.3**
comp=Z,74nm,1.1s
KONO LR LR
comp=Z,2µm,20.0s
KONO **Kongsberg** **20.92 164** *e*P **P** **19 46 24.2 +1.3**
comp=Z,74nm,1.1s
PUL **Pulkovo** **22.56 136**⇓ *e*P **P** **19 46 40.9 +0.4**
PUL pmax pmax
comp=Z,196nm,0.4s
KLMR **Klimovskoe** **22.71 124***d i*P **P** **19 46 46.0 +3.9**
KLMR *i* S **S** **19 50 55.1 +5.4**
KLMR 19 51 52.5
KLMR pmax pmax
comp=Z,166nm,1.4s
KLMR MLR MLR
comp=Z,2µm,16.0s
VSU **Vasula** **23.43 141**⇑ *e*P **P** **19 46 48.8 -0.6**
VSU pmax pmax
comp=Z,104nm,1.9s
FRB **Frobisher Bay** **24.21 268** P **P** **19 46 55.1 -1.7**
comp=Z,338nm,0.8s,baz=22,slow=10,SNR=491
FRB LR LR 19 56 12.7
comp=Z,3µm,21.2s,baz=26,slow=36
FRB **Frobisher Bay** **24.21 268** P **P** **19 46 55.1 -1.7**
FRB **Frobisher Bay** **24.21 268** P **P** **19 46 55.2 -1.7**
ESK **Eskdalemuir** **25.01 182** *e*P **P** **19 47 03.7 -0.4**
ESK **Eskdalemuir** **25.01 182** *e*P **P** **19 47 03.7 -0.4**
ESK **Eskdalemuir** **25.01 182** *e*P **P** **19 47 03.7 -0.4**
IZAR **Zarasai** **26.05 143** *e*P **P** **19 47 13.8 +0.2**
IZAR **Zarasai** **26.05 143** *e*P **P** **19 47 13.8 +0.2**
SNR=28
ISAL **Salakas** **26.22 144** *e*P **P** **19 47 14.9 -0.1**
ISAL *e*ScP **ScP** **19 54 22.6 +2.8**
ISAL **Salakas** **26.22 144** *e*P **P** **19 47 14.9 -0.1**
SNR=28
ISAL *e*ScP **ScP** **19 54 22.6 +2.8**
IIGN **Ignalina** **26.44 144** *e*P **P** **19 47 17.3 +0.2**
IIGN *e*ScP **ScP** **19 54 23.3 +2.8**
IIGN **Ignalina** **26.44 144** *e*P **P** **19 47 17.3 +0.2**
SNR=28
IIGN *e*ScP **ScP** **19 54 23.3 +2.8**
IDID **Didziasalis** **26.53 143** *e*P **P** **19 47 18.1 +0.2**
IDID **Didziasalis** **26.53 143** *e*P **P** **19 47 18.1 +0.2**
SNR=28
SOKR **Solikamsk** **26.62 105**⇑ *i*P **P** **19 47 20.0 +1.3**
SOKR pmax pmax
comp=Z,40nm,2.2s
SOKR MLR MLR
comp=Z,3µm,20.0s
BSEG **Bad Segeberg** **26.66 164** *e*P **P** **19 47 20.4 +1.3**
comp=Z,115nm,1.1s
BSEG *e*L L 19 56 38.3
comp=Z,3µm,21.7s
NACGM **Naroch** **26.95 143** *e* **P** **19 47 19.0 -2.6**
MOS **Moscow** **27.41 129** *e*P P 19 47 34.4 +8.6
MOS *e* 19 48 08.5
MOS MLR MLR
comp=Z,1µm,12.0s
MNK **Minsk** **27.45 142** *e*P **P** **19 47 26.0 -0.2**
MICGM **Minsk** **27.45 142** *e* **P** **19 47 26.0 -0.2**
SUW **Suwalki** **27.47 148** *e*P **P** **19 47 26.4 +0.1**
SUW **Suwalki** **27.47 148** *e*P **P** **19 47 26.5 +0.1**
SUW pmax pmax
comp=Z,52nm,1.1s
SUW **Suwalki** **27.47 148** *e*P **P** **19 47 26.5 +0.1**
comp=Z,52nm,1.1s
SUW **Suwalki** **27.47 148** *e*P **P** **19 47 26.4 +0.1**
SUW **Suwalki** **27.47 148** *e*P **P** **19 47 26.4 +0.1**
OBN **Obninsk** **27.88 131**⇑ *e*P **P** **19 47 29.9 -0.1**
OBN *i* S **S** **19 52 14.8 +2.4**
OBN pmax pmax
comp=Z,50nm,2.5s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN **Obninsk** **27.88 131** PFAKE 19 47 40.0 +10
OBN LR LR
comp=Z,1µm,19.0s
NRDL **Niedersach Rie** **28.09 165** *e*P **P** **19 47 33.1 +1.3**
comp=Z,37nm,1.3s
NRDL *e*L L 19 57 32.5
comp=Z,2µm,21.3s
IBBN **Ibbenburen** **28.18 168** *e*L L 19 57 23.9
comp=Z,1µm,21.9s
CLZ **Clausthal** **28.75 165** *e*L L 19 58 04.0
comp=Z,2µm,20.8s
BUG **Bochum--Univer** **29.03 169** *e*P **P** **19 47 41.4 +1.1**
comp=Z,71nm,1.5s
BUG *e*L L 19 58 00.3
comp=Z,1µm,21.0s
INK **Inuvik** **29.32 326** P **P** **19 47 40.5 -2.1**
comp=Z,22nm,0.9s,baz=19,slow=13,SNR=13
INK LR LR 19 59 59.6
comp=Z,557nm,20.4s,baz=34,slow=38
INK **Inuvik** **29.32 326** *e*P **P** **19 47 40.8 -1.8**
comp=Z,34nm,0.8s
INK **Inuvik** **29.32 326** *e*P **P** **19 47 40.8 -1.8**
comp=Z,34nm,0.8s
CLL **Collm** **29.42 161** *e*P **P** **19 47 44.0 +0.3**
CLL *i* 19 47 52.8
CLL *e*S **S** **19 52 38.0 +1.2**
CLL pmax pmax
comp=Z,13nm,1.2s
CLL MLR MLR
comp=Z,1µm,18.9s
CLL **Collm** **29.42 161** *e*P **P** **19 47 44.7 +1.0**
comp=Z,74nm,1.3s
CLL *e*L L 19 58 48.6
comp=Z,1µm,18.8s
CLL **Collm** **29.42 161** *e*P **P** **19 47 44.0 +0.3**
comp=Z,13nm,1.2s
CLL *i* sP **sP** **19 47 52.8 +2.9**
comp=Z,74nm,1.3s
CLL *i* 19 48 13.3
CLL *e*PPP PPP 19 48 53.0
CLL *e* 19 49 05.0
CLL *e*S **S** **19 52 38.0 +1.2**
CLL *e*(SSSS) 19 54 51.0
CLL Lm MLR 19 58 00.0
comp=Z,1µm,18.9s
BEL **Belsk** **29.42 152** *e*P P 19 47 50.0 +6.2
BEL **Belsk** **29.42 152** *e*P P 19 47 49.9 +6.2
UBBA **Unterbreizbach** **29.76 165** *e*L L 19 58 45.1
comp=Z,1µm,21.0s
SVE **Sverdlovsk** **29.87 103**⇑ *e*P **P** **19 47 48.7 +1.0**
SVE *e*S S 19 52 53.1 +9.3
SVE pmax pmax
comp=Z,27nm,1.2s
SVE MLR MLR
comp=Z,3µm,15.0s
BRG **Berggiesshubel** **29.91 160** *e*P **P** **19 47 49.1 +1.1**
comp=Z,6.5nm,0.9s
BRG *i* 19 47 57.3
comp=Z,67nm,1.3s
BRG
comp=N,1µm,15.8s
BRG
comp=E,720nm,24.3s
BRG
comp=Z,2µm,22.7s
BRG **Berggiesshubel** **29.91 160** *e*P **P** **19 47 49.1 +1.1**
BRG *i* 19 47 57.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,67nm,1.3s
BRG MLR MLR
comp=N,1µm,15.8s
BRG MLR MLR
comp=E,720nm,24.3s
BRG MLR MLR
comp=Z,2µm,22.7s
BRG **Berggiesshubel** **29.91 160** *e*P **P** **19 47 49.1 +1.1**
comp=Z,67nm,1.3s
BRG *e*L L 19 59 04.0
comp=Z,2µm,19.1s
ARU **Arti** **29.91 105***c i*P **P** **19 47 48.7 +0.7**
ARU 19 48 42.6
ARU S **S** **19 52 45.8 +1.4**
ARU SS **SnSn** **19 54 17.7 +2.6**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU **Arti** **29.91 105** *e*P **P** **19 47 48.4 +0.4**
comp=Z,117nm,1.9s
ARU LR LR
comp=Z,3µm,20.0s
ARU **Arti** **29.91 105** P **P** **19 47 48.7 +0.7**
comp=Z,82nm,0.7s,SNR=6.5
ARU **Arti** **29.91 105** *e*P **P** **19 47 48.4 +0.4**
comp=Z,117nm,1.9s
MOX **Moxa** **30.01 163** *e*P **P** **19 47 50.4 +1.4**
comp=Z,62nm,1.2s
MOX *e*L L 19 58 42.0
comp=Z,914nm,21.3s
KSP **Ksiaz** **30.08 157** *e*P **P** **19 47 50.6 +1.0**
KSP **Ksiaz** **30.08 157** *e*P **P** **19 47 50.4 +0.8**
KSP *e**PP **pP** **19 47 57.2 +3.2**
KSP MLR MLR
comp=Z,3µm,19.8s
KSP **Ksiaz** **30.08 157** *e*P **P** **19 47 50.4 +0.8**
KSP *e*pP **pP** **19 47 57.2 +3.2**
KSP **Ksiaz** **30.08 157** *e*P **P** **19 47 50.5 +1.0**
TANN **Tannenbergstha** **30.28 162** *e*P **P** **19 47 53.0 +1.6**
comp=Z,69nm,1.1s
TANN *e*L L 19 58 40.1
comp=Z,659nm,20.9s
PVCC **Panska Ves** **30.29 160** *e*P **P** **19 47 52.8 +1.4**
PVCC *e* 19 48 00.1
PVCC MLR MLR
comp=Z,2µm,21.1s
PVCC **Panska Ves** **30.29 160** *e*P **P** **19 47 52.8 +1.4**
PVCC *e**x* x 19 48 00.1
PVCC AMS AMS 19 58 30.0
comp=Z,2µm,21.1s
PVCC **Panska Ves** **30.29 160** P **P** **19 47 52.8 +1.4**
TNS **Taunus Mts** **30.29 167** *e*P **P** **19 47 52.8 +1.3**
comp=Z,75nm,1.8s
TNS *e*L L 19 58 50.4
comp=Z,1µm,21.4s
GIVF **Givet** **30.30 172** *e*P **P** **19 47 52.8 +1.2**
GIVF **Givet** **30.30 172** *e*P **P** **19 47 52.8 +1.2**
GIVF **Givet** **30.30 172** *e*P **P** **19 47 52.8 +1.2**
GIVF **Givet** **30.30 172** *e*P **P** **19 47 52.8 +1.2**
BAIF **Baives** **30.33 173** *e*P **P** **19 47 52.8 +1.0**
comp=Z,116nm,1.3s
BAIF **Baives** **30.33 173** *e*P **P** **19 47 52.8 +1.0**
BAIF pmax pmax
comp=Z,116nm,1.3s
BAIF **Baives** **30.33 173** *e*P **P** **19 47 52.8 +1.0**
comp=Z,116nm,1.3s
BAIF **Baives** **30.33 173** *e*P **P** **19 47 52.8 +1.0**
comp=Z,58nm,1.3s
UPC **Upice** **30.40 158** *e*P **P** **19 47 54.2 +1.8**
UPC *e* 19 48 02.5
UPC **Upice** **30.40 158** *e*P **P** **19 47 54.2 +1.8**
UPC *e**x* x 19 48 02.5
UPC **Upice** **30.40 158** P **P** **19 47 54.2 +1.8**
NKC **Novy Kostel** **30.46 162** *e*P **P** **19 47 54.7 +1.7**
NKC *e* 19 48 02.3
NKC **Novy Kostel** **30.46 162** *e*P **P** **19 47 54.7 +1.7**
NKC *e**x* x 19 48 02.3
NKC **Novy Kostel** **30.46 162** P **P** **19 47 54.7 +1.7**
DPC **Dobruska-Polom** **30.57 157** *e*P **P** **19 47 56.6 +2.6**
DPC *e* 19 48 03.6
DPC MLR MLR
comp=Z,2µm,20.2s
DPC **Dobruska-Polom** **30.57 157** *e*P **P** **19 47 55.5 +1.5**
comp=Z,44nm,1.3s
DPC **Dobruska-Polom** **30.57 157** *e*P **P** **19 47 56.6 +2.6**
DPC *e**x* x 19 48 03.6
DPC *e*XS S 19 53 08.6 +14
DPC AMS AMS 19 59 00.0
comp=Z,2µm,20.2s
DPC **Dobruska-Polom** **30.57 157** *e*P **P** **19 47 55.5 +1.5**
comp=Z,44nm,1.3s
PRA **Prague** **30.73 160** P **P** **19 47 56.0 +0.7**
PRA *e**x* x 19 48 06.0
PRA AMS AMS 19 58 00.0
WLF **Walferdange** **30.78 170** *e*L L 20 02 56.3
comp=Z,748nm,19.7s
WLF **Walferdange** **30.78 170** PFAKE 19 48 10.0 +14
WLF LR LR
comp=Z,1µm,19.0s
PRU **Pruhonice** **30.82 160** *e*P **P** **19 47 57.3 +1.2**
PRU *e* 19 48 05.0
PRU MLR MLR
comp=Z,2µm,17.4s
PRU **Pruhonice** **30.82 160** *e*P **P** **19 47 57.3 +1.2**
PRU *e**x* x 19 48 05.0
PRU *e*S S 19 53 11.8 +13
PRU AMS AMS 19 59 10.0
comp=Z,2µm,17.4s
PRU **Pruhonice** **30.82 160** P **P** **19 47 57.3 +1.2**
ROTZ **Rotzenmuhle** **30.91 163** *e*P **P** **19 47 58.7 +1.7**
comp=Z,54nm,1.2s
ROTZ *e*L L 19 59 10.1
comp=Z,649nm,20.8s
GRF **Grafenberg Arr** **30.94 164** *e*P **P** **19 47 58.9 +1.7**
comp=Z,73nm,1.6s
GRF *e*L L 19 59 20.9
comp=Z,974nm,21.2s
OJC **Ojcow** **30.95 153** *e*P **P** **19 47 58.5 +1.2**
OJC pmax pmax
comp=Z,44nm,1.1s
OJC **Ojcow** **30.95 153** *e*P **P** **19 47 58.5 +1.2**
comp=Z,44nm,1.1s
OJC **Ojcow** **30.95 153** *e*P **P** **19 47 56.6 -0.7**
OJC **Ojcow** **30.95 153** *e*P **P** **19 47 56.6 -0.7**
OJC *e*pP **pP** **19 47 59.8 -1.9**
OKC **Ostrava-Krasne** **31.21 155** *e*P **P** **19 48 00.1 +0.6**
OKC *e* 19 48 08.4
OKC **Ostrava-Krasne** **31.21 155** *e*P **P** **19 48 00.1 +0.6**
OKC *e**x* x 19 48 08.4
OKC **Ostrava-Krasne** **31.21 155** P **P** **19 48 00.1 +0.6**
MORC **Moravsky Berou** **31.23 156** *e*P **P** **19 48 01.0 +1.2**
MORC pmax pmax
comp=Z,49nm,1.1s
MORC **Moravsky Berou** **31.23 156** *e*P **P** **19 48 01.0 +1.2**
comp=Z,49nm,1.1s
MORC **Moravsky Berou** **31.23 156**⇓ *e*P **P** **19 47 59.8 0.0**
MORC **Moravsky Berou** **31.23 156** *e*P **P** **19 48 00.6 +0.8**
AKASG **Malin Array Be** **31.34 141** P **P** **19 48 00.0 -0.7**
comp=Z,5.7nm,0.5s,baz=348,slow=9.4,SNR=23
AKASG LR LR 20 00 06.9
comp=Z,2µm,21.4s,baz=355,slow=35
AKASG **Malin Array Be** **31.34 141** P **P** **19 48 00.0 -0.7**
AKASG **Malin Array Be** **31.34 141** P **P** **19 48 00.0 -0.7**
AKASG **Malin Array Be** **31.34 141** P **P** **19 48 00.0 -0.7**
KIEV **Kiev** **31.35 142** *e*P **P** **19 48 00.3 -0.4**
KIEV pmax pmax
comp=Z,60nm,1.4s
KIEV MLR MLR
comp=Z,2µm,22.0s
KIEV **Kiev** **31.35 142** *e*P **P** **19 48 00.3 -0.4**
comp=Z,60nm,1.4s
KIEV LR LR
comp=Z,2µm,22.0s
KIEV **Kiev** **31.35 142** *e*P **P** **19 48 00.3 -0.4**
comp=Z,60nm,1.4s
AK01 **Malin Array Si** **31.35 141** *e*P **P** **19 48 00.4 -0.4**
AK01 **Malin Array Si** **31.35 141** *e*P **P** **19 48 00.4 -0.4**
AK02 **Malin Array Si** **31.39 142** *e*P **P** **19 48 00.2 -0.9**
AK02 **Malin Array Si** **31.39 142** *e*P **P** **19 48 00.2 -0.9**
TREC **Trest** **31.57 159** *e*P **P** **19 48 04.6 +1.8**
TREC *e* 19 48 11.9
TREC MLR MLR
comp=Z,2µm,21.3s
TREC **Trest** **31.57 159** *e*P **P** **19 48 04.6 +1.8**
TREC *e**x* x 19 48 11.9
TREC AMS AMS 19 59 40.0
comp=Z,2µm,21.3s
TREC **Trest** **31.57 159** P **P** **19 48 04.6 +1.8**
WET **Wettzell** **31.57 162** *e*P **P** **19 48 04.8 +2.0**
comp=Z,40nm,1.3s
WET *e*L L 19 59 17.8
comp=Z,629nm,21.5s
KHC **Kasperske Hory** **31.62 161** *e*P **P** **19 48 05.7 +2.5**
KHC *e* 19 48 13.5
KHC *e*S **S** **19 53 16.5 +5.1**
KHC MLR MLR
comp=Z,1µm,19.2s
KHC **Kasperske Hory** **31.62 161** *e*P **P** **19 48 04.1 +0.8**
comp=Z,31nm,1.1s
KHC **Kasperske Hory** **31.62 161** *e*P **P** **19 48 05.7 +2.5**
KHC *e**x* x 19 48 13.5
KHC *e**x* x 19 48 26.5
KHC *e*S **S** **19 53 16.5 +5.1**
KHC AMS AMS 19 59 50.0
comp=Z,1µm,19.2s
KHC **Kasperske Hory** **31.62 161** *e*P **P** **19 48 04.1 +0.8**
comp=Z,31nm,1.1s
VRAC **Vranov** **31.63 157**⇑ *i*P **P** **19 48 05.1 +1.8**
VRAC **Vranov** **31.63 157** *e*P **P** **19 48 03.9 +0.6**
LVV **L'vov** **31.70 148** *e*P **P** **19 48 04.1 +0.2**
COLD **Coldfoot** **31.73 337** *e*P **P** **19 48 03.2 -0.8**
comp=Z,57nm,0.9s
COLD **Coldfoot** **31.73 337** *e*P **P** **19 48 03.2 -0.8**
comp=Z,57nm,0.9s
LDF **La Druitiere** **31.74 178** *e*P **P** **19 48 06.7 +2.5**
comp=Z,134nm,1.5s
LDF **La Druitiere** **31.74 178** *e*P **P** **19 48 06.7 +2.5**
LDF pmax pmax
comp=Z,134nm,1.5s
LDF **La Druitiere** **31.74 178** *e*P **P** **19 48 06.7 +2.5**
comp=Z,134nm,1.5s
LDF **La Druitiere** **31.74 178** *e*P **P** **19 48 06.7 +2.5**
comp=Z,67nm,1.5s
STU **Stuttgart** **31.77 167** P **P** **19 48 05.6 +1.1**
STU pmax pmax
comp=Z,85nm,1.4s
STU **Stuttgart** **31.77 167** *e*P **P** **19 48 06.0 +1.5**
comp=Z,86nm,1.4s
STU *e*L L 19 59 33.6
comp=Z,1µm,22.0s
STU **Stuttgart** **31.77 167** P **P** **19 48 05.6 +1.1**
comp=Z,85nm,1.4s
STU **Stuttgart** **31.77 167** P **P** **19 48 05.6 +1.1**
comp=Z,85nm,1.4s
KWP **Kalwaria Pacla** **31.77 150** *e*P **P** **19 48 06.0 +1.4**
KWP **Kalwaria Pacla** **31.77 150** *e*P **P** **19 48 06.0 +1.4**
KWP pmax pmax
comp=Z,95nm,1.4s
KWP MLR MLR
comp=Z,1µm,20.0s
KWP **Kalwaria Pacla** **31.77 150** *e*P **P** **19 48 06.0 +1.4**
comp=Z,95nm,1.4s
KWP LR LR
comp=Z,1µm,20.0s
KWP **Kalwaria Pacla** **31.77 150**⇓ *i*P **P** **19 48 05.5 +1.0**
KWP **Kalwaria Pacla** **31.77 150**⇓ *i*P **P** **19 48 05.5 +1.0**
KWP **Kalwaria Pacla** **31.77 150** *e*P **P** **19 48 05.9 +1.4**
PAGF **Fort de Pagny** **31.87 171** *e*P **P** **19 48 07.0 +1.6**
comp=Z,39nm,1.3s
PAGF **Fort de Pagny** **31.87 171** *e*P **P** **19 48 07.0 +1.6**
comp=Z,39nm,1.3s
PAGF **Fort de Pagny** **31.87 171** *e*P **P** **19 48 07.0 +1.6**
comp=Z,19nm,1.3s
MEZF **Maizieres J'vi** **31.91 172** *e*P **P** **19 48 07.8 +2.1**
comp=Z,122nm,1.3s
MEZF **Maizieres J'vi** **31.91 172** *e*P **P** **19 48 07.8 +2.1**
comp=Z,122nm,1.3s
MEZF **Maizieres J'vi** **31.91 172** *e*P **P** **19 48 07.8 +2.1**
comp=Z,61nm,1.3s
GEC2 **GERESS Array S** **31.91 161** *e*P **P** **19 48 08.0 +2.1**
comp=Z,74nm,1.1s
GEC2 *e*L L 20 00 15.3
comp=Z,1µm,18.5s
GERES **GERESS Array B** **31.91 161** P **P** **19 48 07.5 +1.6**
comp=Z,8.6nm,0.8s,baz=3.2,slow=7.1,SNR=61
GERES LR LR 20 00 25.3
comp=Z,1µm,18.3s,baz=357,slow=35
GERES **GERESS Array B** **31.91 161** P **P** **19 48 07.5 +1.6**
GERES **GERESS Array B** **31.91 161** P **P** **19 48 07.5 +1.6**
GRR **Gorron** **31.95 179** *e*P **P** **19 48 05.6 -0.4**
comp=Z,79nm,1.1s
GRR **Gorron** **31.95 179** *e*P **P** **19 48 05.6 -0.4**
GRR pmax pmax
comp=Z,79nm,1.1s
GRR **Gorron** **31.95 179** *e*P **P** **19 48 05.6 -0.4**
comp=Z,79nm,1.1s
GRR **Gorron** **31.95 179** *e*P **P** **19 48 05.6 -0.4**
comp=Z,40nm,1.1s
VSR **Storozhevoye** **32.03 130** *e*P **P** **19 48 06.4 -0.3**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,8.0nm,1.0s
VSR MLR MLR
comp=Z,3µm,20.0s
VSR MLR MLR
comp=N,1µm,20.0s
VSR MLR MLR
comp=E,1µm,16.0s
CDF **Champ du Feu** **32.06 169** *e*P **P** **19 48 09.1 +1.9**
comp=E,175nm,1.4s
CDF **Champ du Feu** **32.06 169** *e*P **P** **19 48 09.1 +1.9**
CDF pmax pmax
comp=Z,175nm,1.4s
CDF **Champ du Feu** **32.06 169** *e*P **P** **19 48 09.1 +1.9**
comp=Z,175nm,1.4s
CDF **Champ du Feu** **32.06 169** *e*P **P** **19 48 09.1 +1.9**
comp=Z,88nm,1.4s
BFO **Black Forest** **32.18 168** *e*P **P** **19 48 09.0 +0.9**
BFO pmax pmax
comp=Z,19nm,1.0s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO **Black Forest** **32.18 168** *e*P **P** **19 48 09.5 +1.4**
comp=Z,36nm,1.5s
BFO *e*L L 19 59 57.7
comp=Z,1µm,21.3s
BFO **Black Forest** **32.18 168** *e*P **P** **19 48 09.0 +0.9**
comp=Z,19nm,1.0s
BFO LR LR
comp=Z,2µm,20.0s
BFO **Black Forest** **32.18 168** *e*P **P** **19 48 09.0 +0.9**
comp=Z,19nm,1.0s
SFTF **Sexfontaines** **32.21 172** *e*P **P** **19 48 10.1 +1.8**
comp=Z,164nm,1.5s
SFTF **Sexfontaines** **32.21 172** *e*P **P** **19 48 10.1 +1.8**
comp=Z,164nm,1.5s
SFTF **Sexfontaines** **32.21 172** *e*P **P** **19 48 10.1 +1.8**
comp=Z,82nm,1.5s
ECH **Echery** **32.26 169** *e*P **P** **19 48 10.5 +1.7**
ECH pmax pmax
comp=Z,69nm,1.3s
ECH MLR MLR
comp=Z,1µm,19.0s
ECH **Echery** **32.26 169** *e*P **P** **19 48 10.5 +1.7**
comp=Z,68nm,1.3s
ECH LR LR
comp=Z,1µm,19.0s
ECH **Echery** **32.26 169** *e*P **P** **19 48 10.5 +1.7**
comp=Z,68nm,1.3s
SCHQ **Schefferville** **32.35 260** P **P** **19 48 07.7 -1.8**
comp=Z,21nm,0.5s,baz=18,slow=8.3,SNR=55
SCHQ LR LR 20 02 14.5
comp=Z,2µm,19.3s,baz=27,slow=38
SCHQ **Schefferville** **32.35 260** *e*P **P** **19 48 07.9 -1.7**
SCHQ **Schefferville** **32.35 260** *e*P **P** **19 48 07.9 -1.7**
CRVS **Cervenica-Dubn** **32.39 151** *e*P **P** **19 48 10.4 +0.4**
CRVS pmax pmax
comp=Z,25nm,1.4s
CRVS **Cervenica-Dubn** **32.39 151** *e*P **P** **19 48 10.4 +0.4**
CRVS **Cervenica-Dubn** **32.39 151** *e*P **P** **19 48 10.4 +0.4**
comp=Z,25nm,1.4s
KOLS **Kolonicke sedl** **32.43 150** *e*P **P** **19 48 11.1 +0.8**
KOLS *e* 19 48 16.2
KOLS pmax pmax
comp=Z,30nm,1.3s
KOLS **Kolonicke sedl** **32.43 150** *e*P **P** **19 48 11.1 +0.8**
KOLS *e*pP **pP** **19 48 16.1 +1.4**
KOLS **Kolonicke sedl** **32.43 150** *e*P **P** **19 48 11.1 +0.8**
comp=Z,30nm,1.3s
HAU **Haudompre** **32.44 170** *e*P **P** **19 48 12.2 +1.8**
comp=Z,103nm,1.3s
HAU *e*R
comp=Z,1µm,18.8s
HAU **Haudompre** **32.44 170** *e*P **P** **19 48 12.2 +1.8**
HAU pmax pmax
comp=Z,103nm,1.3s
HAU **Haudompre** **32.44 170** *e*P **P** **19 48 12.2 +1.8**
comp=Z,103nm,1.3s
HAU **Haudompre** **32.44 170** *e*P **P** **19 48 12.2 +1.8**
comp=Z,52nm,1.3s
FUR **Furstenfeldbru** **32.47 164** *e*P **P** **19 48 12.4 +1.7**
comp=Z,100nm,1.4s

FUR eL L 19 59 54.6
comp=Z,1µm,21.7s
VRHR Novokhopersk 32.48 127 eP **P 19 48 08.9 -1.8**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR MLR MLR
comp=E,1µm,19.0s
VRHR MLR MLR
comp=Z,2µm,19.0s
VRHR MLR MLR
comp=N,430nm,14.0s
VYHS Vyhne 32.59 155 eP **P 19 48 12.1 +0.3**
VYHS e 19 48 17.8
VYHS pmax pmax
comp=Z,18nm,1.2s
VYHS Vyhne 32.59 155 eP **P 19 48 12.1 +0.3**
VYHS epP **pP 19 48 17.8 +1.7**
VYHS Vyhne 32.59 155 eP **P 19 48 12.1 +0.3**
comp=Z,18nm,1.2s
YKA Yellowknife Ar 32.72 308 P **P 19 48 11.2 -1.5**
comp=Z,27nm,0.8s,baz=9.4,slow=8.4,SNR=58
YKA PcP **PcP 19 50 57.1 -0.5**
comp=Z,2.4nm,0.7s,baz=6.6,slow=2.7,SNR=2.9
YKA Yellowknife Ar 32.72 308 P **P 19 48 11.2 -1.5**
YKA PcP **PcP 19 50 57.1 -0.5**
YKA Yellowknife Ar 32.72 308 P **P 19 48 11.2 -1.5**
YKA Yellowknife Ar 32.72 308 PcP **PcP 19 50 57.1 -0.5**
UZH Uzhgorod 32.73 150 eP **P 19 48 14.0 +1.1**
UZH e 19 48 18.6
UZH eS **S 19 53 28.0 -0.5**
MOA Molln 32.94 160⇑iP **P 19 48 16.2 +1.4**
comp=Z,59nm,1.7s
MOA Molln 32.94 160 P **P 19 48 16.2 +1.4**
comp=Z,59nm,1.7s
CONA Conrad Observa 32.96 158⇑iP **P 19 48 16.6 +1.6**
comp=Z,55nm,1.4s
CONA Conrad Observa 32.96 158 P **P 19 48 16.6 +1.6**
comp=Z,55nm,1.4s
HYF Humbligny 33.10 175 eP **P 19 48 17.2 +1.1**
HYF Humbligny 33.10 175 eP **P 19 48 17.2 +1.1**
HYF Humbligny 33.10 175 eP **P 19 48 17.2 +1.1**
LOR Lormes 33.12 173 eP **P 19 48 16.9 +0.6**
comp=Z,64nm,1.1s
LOR eR
comp=Z,912nm,18.5s
LOR Lormes 33.12 173 eP **P 19 48 16.9 +0.6**
comp=Z,64nm,1.1s
LOR Lormes 33.12 173 eP **P 19 48 16.9 +0.6**
comp=Z,32nm,1.1s
SOP Sopron 33.24 158⇑eP P 19 48 24.0 +6.6
PSZ Piszkesteto 33.25 154 eP **P 19 48 19.4 +1.9**
PSZ pmax pmax
comp=Z,52nm,1.2s
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 33.25 154 eP **P 19 48 19.4 +1.9**
comp=Z,52nm,1.2s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 33.25 154⇓iP **P 19 48 19.4 +1.9**
PSZ Piszkesteto 33.25 154 eP **P 19 48 19.4 +1.9**
comp=Z,52nm,1.2s
PSZ Piszkesteto 33.25 154 eP **P 19 48 19.7 +2.2**
TRPA Tarpa 33.25 150⇓iP **P 19 48 18.6 +1.2**
TRPA Tarpa 33.25 150⇑eP **P 19 48 18.6 +1.2**
TRPA Tarpa 33.25 150⇑eP **P 19 48 18.6 +1.2**
SSF Saint Saulge 33.32 174 eP **P 19 48 18.1 0.0**
comp=Z,138nm,1.3s
SSF Saint Saulge 33.32 174 eP **P 19 48 18.1 0.0**
SSF pmax pmax
comp=Z,139nm,1.3s
SSF Saint Saulge 33.32 174 eP **P 19 48 18.1 0.0**
comp=Z,138nm,1.3s
SSF Saint Saulge 33.32 174 eP **P 19 48 18.1 0.0**
comp=Z,69nm,1.3s
EGAK Eagle 33.47 330 eP **P 19 48 18.3 -0.9**
comp=Z,43nm,0.8s
EGAK LR LR
comp=Z,653nm,21.0s
EGAK Eagle 33.47 330 eP **P 19 48 18.3 -0.9**
comp=Z,43nm,0.8s
AVF Avril sur Loir 33.59 174 eP **P 19 48 20.9 +0.5**
comp=Z,115nm,1.2s
AVF Avril sur Loir 33.59 174 eP **P 19 48 20.9 +0.5**
AVF pmax pmax
comp=Z,115nm,1.2s
AVF Avril sur Loir 33.59 174 eP **P 19 48 20.9 +0.5**
comp=Z,115nm,1.2s
AVF Avril sur Loir 33.59 174 eP **P 19 48 20.9 +0.5**
comp=Z,58nm,1.2s
BUD Budapest 33.61 155 eP P 19 48 31.0 +10
KBA Koelnbreinsper 33.66 162⇑ipP pP 19 48 24.4 -1.2
comp=Z,50nm,1.9s
KBA Koelnbreinsper 33.66 162 P pP 19 48 24.4 -1.2
comp=Z,50nm,1.9s
MFF Saint Martin d 33.73 178 eP **P 19 48 24.6 +2.9**
MFF Saint Martin d 33.73 178 eP **P 19 48 24.6 +2.9**
MFF Saint Martin d 33.73 178 eP **P 19 48 24.6 +2.9**
MFF Saint Martin d 33.73 178 eP **P 19 48 24.6 +2.9**
BGF Bois d'Agland 33.81 175 eP **P 19 48 22.1 -0.3**
comp=Z,262nm,1.4s
BGF Bois d'Agland 33.81 175 eP **P 19 48 22.1 -0.3**
BGF pmax pmax
comp=Z,262nm,1.4s
BGF Bois d'Agland 33.81 175 eP **P 19 48 22.1 -0.3**
comp=Z,262nm,1.4s
BGF Bois d'Agland 33.81 175 eP **P 19 48 22.1 -0.3**
comp=Z,131nm,1.4s
CABF La Chapelle 33.83 171 eP **P 19 48 25.2 +2.6**
comp=Z,158nm,1.6s
CABF La Chapelle 33.83 171 eP **P 19 48 25.2 +2.6**
CABF pmax pmax
comp=Z,158nm,1.6s
CABF La Chapelle 33.83 171 eP **P 19 48 25.2 +2.6**
comp=Z,158nm,1.6s
CABF La Chapelle 33.83 171 eP **P 19 48 25.2 +2.6**
comp=Z,79nm,1.6s
COLA College 33.90 335 eP **P 19 48 21.4 -1.5**
COLA pmax pmax
comp=Z,48nm,0.9s
COLA MLR MLR
comp=Z,603nm,22.0s
COLA College 33.90 335 eP **P 19 48 21.4 -1.5**
comp=Z,48nm,0.9s
COLA LR LR
comp=Z,603nm,22.0s
COLA College 33.90 335 eP **P 19 48 21.4 -1.5**
comp=Z,48nm,0.9s
ILAR Eielson Array 33.93 334 P **P 19 48 23.0 -0.2**
comp=Z,29nm,0.8s,baz=6.2,slow=7.7,SNR=65
ILAR PcP **PcP 19 51 00.8 -0.2**
comp=Z,3.1nm,0.6s,baz=335,slow=3.9,SNR=8.5
ILAR LR LR 20 00 43.9
comp=Z,680nm,20.8s,baz=183,slow=34
ILAR Eielson Array 33.93 334 P **P 19 48 23.0 -0.2**
ILAR PcP **PcP 19 51 00.8 -0.2**
ILAR Eielson Array 33.93 334 P **P 19 48 23.0 -0.2**
BUR08 Bucovina Ar. S 33.97 147 eP **P 19 48 24.5 +0.6**
BUR08 Bucovina Ar. S 33.97 147 eP **P 19 48 24.5 +0.6**
BURAR Bucovina Array 34.00 147⇓iP **P 19 48 24.7 +0.6**
BURAR Bucovina Array 34.00 147⇓iP **P 19 48 24.7 +0.6**
TCF Toulx Ste Croi 34.07 176 eP **P 19 48 25.4 +0.8**
comp=Z,98nm,1.1s
TCF Toulx Ste Croi 34.07 176 eP **P 19 48 25.4 +0.8**
TCF pmax pmax
comp=Z,98nm,1.1s
TCF Toulx Ste Croi 34.07 176 eP **P 19 48 25.4 +0.8**
comp=Z,98nm,1.1s
TCF Toulx Ste Croi 34.07 176 eP **P 19 48 25.4 +0.8**
comp=Z,49nm,1.1s
TUE Stuetta 34.08 167 eP **P 19 48 26.9 +2.0**
comp=Z,47nm,1.1s
TUE LR LR
comp=Z,2µm,20.0s
TUE Stuetta 34.08 167 eP **P 19 48 26.9 +2.0**
comp=Z,47nm,1.1s
SOKA Soboth 34.15 160⇑iP **P 19 48 26.2 +0.8**
comp=Z,36nm,1.2s
SOKA Soboth 34.15 160 P **P 19 48 26.2 +0.8**
comp=Z,36nm,1.2s
TNA Tin City 34.24 350 eP **P 19 48 26.8 +0.9**
TNA Tin City 34.24 350 eP **P 19 48 26.8 +0.9**

OBKA Obir 34.29 160⇑ipP pP 19 48 28.6 -2.4
comp=Z,90nm,1.1s
OBKA Obir 34.29 160 P pP 19 48 28.6 -2.4
comp=Z,90nm,1.1s
PRAR RASCA 34.34 146⇑iP **P 19 48 27.4 +0.4**
PRAR RASCA 34.34 146⇑iP **P 19 48 27.4 +0.4**
BEHE Becsehely 34.47 158 e P 19 48 38.6 +11
DOT Dot Lake 34.82 332 eP **P 19 48 30.9 -0.1**
comp=Z,55nm,1.1s
DOT Dot Lake 34.82 332 eP **P 19 48 30.9 -0.1**
comp=Z,55nm,1.1s
PKSM Moragy 34.85 155 ⇑P **P 19 48 32.7 +1.4**
PKSM Moragy 34.85 155⇑iP **P 19 48 32.7 +1.4**
PKSM Moragy 34.85 155⇑iP **P 19 48 32.7 +1.4**
PKSM Moragy 34.85 155 eP **P 19 48 33.1 +1.8**
LPL La Plagne 34.94 170 eP **P 19 48 32.9 +0.5**
LPL La Plagne 34.94 170 eP **P 19 48 32.9 +0.5**
LPL La Plagne 34.94 170 eP **P 19 48 32.9 +0.5**
LPL La Plagne 34.94 170 eP **P 19 48 32.9 +0.5**
LPG La Plagne 34.96 170 eP **P 19 48 34.3 +1.7**
comp=Z,88nm,1.3s
LPG La Plagne 34.96 170 eP **P 19 48 34.3 +1.7**
LPG pmax pmax
comp=Z,88nm,1.3s
LPG La Plagne 34.96 170 eP **P 19 48 34.3 +1.7**
comp=Z,88nm,1.3s
LPG La Plagne 34.96 170 eP **P 19 48 34.3 +1.7**
comp=Z,44nm,1.3s
KIS Kishinev 34.96 143 eP P 19 48 40.0 +7.7
KIS e 19 49 53.0
KIS MLR MLR
comp=Z,1µm,15.0s
KIS MLR MLR
comp=N,700nm,16.0s
KIS MLR MLR
comp=Z,2µm,14.0s
KIS Kishinev 34.96 143 eP P 19 48 40.0 +7.7
KIS eLR LR 19 59 48.0
comp=Z,700nm,16.0s
RJF Les Rejaudoux 35.05 176 eP **P 19 48 33.7 +0.6**
comp=Z,190nm,1.3s
RJF eR
comp=Z,2µm,18.2s
RJF Les Rejaudoux 35.05 176 eP **P 19 48 33.7 +0.6**
RJF pmax pmax
comp=Z,190nm,1.3s
RJF Les Rejaudoux 35.05 176 eP **P 19 48 33.7 +0.6**
comp=Z,190nm,1.3s
RJF Les Rejaudoux 35.05 176 eP **P 19 48 33.7 +0.6**
comp=Z,95nm,1.3s
BRVK Borovoye 35.12 95diP **P 19 48 34.9 +1.4**
BRVK Borovoye 35.12 95 eP **P 19 48 35.0 +1.4**
comp=Z,134nm,2.3s
BRVK LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 35.12 95 eP **P 19 48 35.0 +1.4**
comp=Z,134nm,2.3s
BVA0 Borovoye Array 35.16 95 i P **P 19 48 34.9 +0.9**
BVAR Borovoye Array 35.16 95 LR LR 20 04 16.6
comp=Z,2µm,19.6s,baz=330,slow=38
TESR 35.23 146⇓iP **P 19 48 35.1 +0.5**
TESR 35.23 146⇓iP **P 19 48 35.1 +0.5**
YAK Yakutsk 35.33 38 eP **P 19 48 34.6 -0.7**
YAK pmax pmax
comp=Z,71nm,0.8s
YAK MLR MLR
comp=Z,666nm,20.0s
YAK Yakutsk 35.33 38 eP **P 19 48 34.6 -0.7**
comp=Z,71nm,0.8s
YAK LR LR
comp=Z,666nm,20.0s
YAK Yakutsk 35.33 38 eP **P 19 48 34.6 -0.7**
comp=Z,71nm,0.8s
BNI Bardonecchia 35.40 170 PFAKE 19 48 50.0 +14
BNI LR LR
comp=Z,1µm,20.0s
CAF Calviac 35.43 176 eP **P 19 48 37.7 +1.3**
CAF Calviac 35.43 176 eP **P 19 48 37.7 +1.3**
CAF Calviac 35.43 176 eP **P 19 48 37.7 +1.3**
CAF Calviac 35.43 176 eP **P 19 48 37.7 +1.3**
MENT Mentasta 35.49 331 eP **P 19 48 37.3 +0.5**
MENT Mentasta 35.49 331 eP **P 19 48 37.3 +0.5**
ORIF Oris-en-Rattie 35.51 171 eP P 19 48 40.4 +3.2
comp=Z,103nm,1.2s
ORIF eR
comp=Z,622nm,20.5s
ORIF Oris-en-Rattie 35.51 171 eP P 19 48 40.4 +3.2
ORIF pmax pmax
comp=Z,103nm,1.2s
ORIF Oris-en-Rattie 35.51 171 eP P 19 48 40.4 +3.2
comp=Z,103nm,1.2s
ORIF Oris-en-Rattie 35.51 171 eP P 19 48 40.4 +3.2
comp=Z,51nm,1.2s
VIVF Saint-Julien-l 35.55 173 eP **P 19 48 38.6 +1.2**
comp=Z,84nm,1.3s
VIVF Saint-Julien-l 35.55 173 eP **P 19 48 38.6 +1.2**
VIVF pmax pmax
comp=Z,84nm,1.3s
VIVF Saint-Julien-l 35.55 173 eP **P 19 48 38.6 +1.2**
comp=Z,84nm,1.3s
VIVF Saint-Julien-l 35.55 173 eP **P 19 48 38.6 +1.2**
comp=Z,42nm,1.3s
PAX Paxson 35.60 333 eP **P 19 48 37.6 -0.2**
PAX pmax pmax
comp=Z,39nm,0.8s
PAX Paxson 35.60 333 eP **P 19 48 37.6 -0.2**
comp=Z,39nm,0.8s
PAX Paxson 35.60 333 eP **P 19 48 37.6 -0.2**
comp=Z,39nm,0.8s
NVS Novosibirsk 35.62 81⇑iP **P 19 48 38.2 +0.4**
NVS e 19 49 59.3
NVS e 19 51 09.2
NVS eS S 19 54 19.4 +6.4
NVS i SS **SnSn 19 56 27.1 -6.4**
NVS pmax pmax
comp=Z,101nm,2.0s
NVS pmax pmax
comp=N,56nm,2.1s
NVS pmax pmax
comp=N,163nm,3.2s
NVS pmax pmax
comp=Z,148nm,3.2s
NVS smax smax
comp=E,292nm,5.0s
BZS Buzias 35.67 152 ⇑P **P 19 48 40.2 +1.8**
BZS Buzias 35.67 152⇑iP **P 19 48 40.2 +1.8**
BZS Buzias 35.67 152⇑iP **P 19 48 40.2 +1.8**
MBDF Montbardon 35.73 170 eP **P 19 48 39.8 +0.7**
comp=E,76nm,1.2s
MBDF Montbardon 35.73 170 eP **P 19 48 39.8 +0.7**
MBDF pmax pmax
comp=Z,76nm,1.2s
MBDF Montbardon 35.73 170 eP **P 19 48 39.8 +0.7**
comp=Z,76nm,1.2s
MBDF Montbardon 35.73 170 eP **P 19 48 39.8 +0.7**
comp=Z,38nm,1.2s
VRI Vrincioaia 35.87 146 ⇑P **P 19 48 41.9 +1.7**
VRI Vrincioaia 35.87 146⇑iP **P 19 48 41.9 +1.7**
VRI Vrincioaia 35.87 146⇑iP **P 19 48 41.9 +1.7**
PLOR Plostina 35.88 146 ⇓P **P 19 48 41.1 +0.8**
PLOR Plostina 35.88 146⇓iP **P 19 48 41.1 +0.8**
PLOR Plostina 35.88 146⇓iP **P 19 48 41.1 +0.8**
GZR Gura Zlata 35.99 151 ⇓P **P 19 48 40.7 -0.5**
GZR Gura Zlata 35.99 151⇓iP **P 19 48 40.7 -0.5**
GZR Gura Zlata 35.99 151⇓iP **P 19 48 40.7 -0.5**
DRLN Deer Lake 36.21 247 eP **P 19 48 41.7 -1.3**
comp=Z,57nm,0.9s
DRLN Deer Lake 36.21 247 eP **P 19 48 41.7 -1.3**
comp=Z,57nm,0.9s
LASF Ste Croix 36.31 174 eP **P 19 48 45.8 +1.9**
comp=Z,88nm,1.2s
LASF Ste Croix 36.31 174 eP **P 19 48 45.8 +1.9**
comp=Z,88nm,1.2s
LASF Ste Croix 36.31 174 eP **P 19 48 45.8 +1.9**
comp=Z,44nm,1.2s
SEY Seymchan 36.31 20⇓eP **P 19 48 44.2 +0.5**
VLC Villacollemand 36.43 166 PFAKE 19 49 00.0 +15
VLC LR LR
comp=Z,2µm,21.0s
SMRF Simiane la Rot 36.45 172 eP **P 19 48 46.4 +1.3**
comp=Z,46nm,0.9s
SMRF Simiane la Rot 36.45 172 eP **P 19 48 46.4 +1.3**
comp=Z,46nm,0.9s
SMRF Simiane la Rot 36.45 172 eP **P 19 48 46.4 +1.3**
comp=Z,23nm,0.9s

SBF Sospel 36.61 169 eP P 19 48 50.2 +3.6
comp=Z,234nm,1.0s
SBF Sospel 36.61 169 eP P 19 48 50.2 +3.6
SBF Sospel 36.61 169 eP P 19 48 50.2 +3.6
comp=Z,234nm,1.0s
ZAA0 Zalesovo Array 36.74 80 eP **P 19 48 47.4 -0.1**
ZAA0 Zalesovo Array 36.74 80 eP **P 19 48 47.4 -0.1**
ZALV Zalesovo Beam 36.74 80 P **P 19 48 47.6 +0.2**
comp=Z,3.5nm,0.6s,baz=345,slow=9.3,SNR=18
ZALV PcP **PcP 19 51 08.8 -0.6**
comp=Z,2.3nm,0.8s,baz=356,slow=3.2,SNR=1.9
ZALV LR LR 20 07 37.0
comp=Z,2µm,18.4s,baz=347,slow=42
ZALV Zalesovo Beam 36.74 80 P **P 19 48 47.6 +0.2**
ZALV 19 51 08.8
ZALV Zalesovo Beam 36.74 80 P **P 19 48 47.6 +0.2**
ZALV PcP **PcP 19 51 08.8 -0.6**
ZALV Zalesovo Beam 36.74 80 P **P 19 48 47.6 +0.2**
FRF La Foret Royal 36.89 170 eP P 19 48 52.2 +3.4
comp=Z,64nm,1.0s
FRF La Foret Royal 36.89 170 eP P 19 48 52.2 +3.4
FRF pmax pmax
comp=Z,64nm,1.0s
FRF La Foret Royal 36.89 170 eP P 19 48 52.2 +3.4
comp=Z,64nm,1.0s
SML Sawmill 36.97 334 eP **P 19 48 48.6 -0.8**
SML pmax pmax
comp=Z,29nm,0.9s
SML Sawmill 36.97 334 eP **P 19 48 48.6 -0.8**
comp=Z,30nm,0.9s
SML Sawmill 36.97 334 eP **P 19 48 48.6 -0.8**
comp=Z,30nm,0.9s
MTLF Montolieu 37.02 176 eP **P 19 48 51.2 +1.3**
MTLF Montolieu 37.02 176 eP **P 19 48 51.2 +1.3**
MTLF Montolieu 37.02 176 eP **P 19 48 51.2 +1.3**
MTLF Montolieu 37.02 176 eP **P 19 48 51.2 +1.3**
AB31 Akbulak array 37.05 107ceP **P 19 48 50.1 -0.1**
AB31 pmax pmax
comp=Z,19nm,1.0s
ABKAR Akbulak array 37.05 107 eP **P 19 48 50.8 +0.7**
ABKAR Akbulak array 37.05 107 eP **P 19 48 50.8 +0.7**
DIVS Divibare 37.05 154 eP **P 19 48 51.2 +0.9**
LMR La Mourre 37.11 170 eP **P 19 48 51.9 +1.2**
comp=Z,182nm,1.6s
LMR La Mourre 37.11 170 eP **P 19 48 51.9 +1.2**
LMR pmax pmax
comp=Z,183nm,1.6s
LMR La Mourre 37.11 170 eP **P 19 48 51.9 +1.2**
comp=Z,182nm,1.6s
LMR La Mourre 37.11 170 eP **P 19 48 51.9 +1.2**
comp=Z,91nm,1.6s
SJPF Ste Jean 37.22 180 eP **P 19 48 53.0 +1.3**
SJPF Ste Jean 37.22 180 eP **P 19 48 53.0 +1.3**
SJPF Ste Jean 37.22 180 eP **P 19 48 53.0 +1.3**
SJPF Ste Jean 37.22 180 eP **P 19 48 53.0 +1.3**
PMR Palmer 37.25 335 eP **P 19 48 50.1 -1.5**
PMR pmax pmax
comp=Z,40nm,1.0s
PMR Palmer 37.25 335 eP **P 19 48 50.1 -1.5**
comp=Z,40nm,1.0s
PMR Palmer 37.25 335 eP **P 19 48 50.1 -1.5**
comp=Z,40nm,1.0s
EPF Esparros 37.31 178 eP **P 19 48 52.9 +0.4**
comp=Z,175nm,1.4s
EPF Esparros 37.31 178 eP **P 19 48 52.9 +0.4**
EPF pmax pmax
comp=Z,175nm,1.4s
EPF Esparros 37.31 178 eP **P 19 48 52.9 +0.4**
comp=Z,175nm,1.4s
EPF Esparros 37.31 178 eP **P 19 48 52.9 +0.4**
comp=Z,88nm,1.4s
ETSF Etsaut 37.44 179 eP **P 19 48 54.9 +1.3**
comp=Z,43nm,1.0s
ETSF Etsaut 37.44 179 eP **P 19 48 54.9 +1.3**
ETSF pmax pmax
comp=Z,43nm,1.0s
ETSF Etsaut 37.44 179 eP **P 19 48 54.9 +1.3**
comp=Z,43nm,1.0s
ETSF Etsaut 37.44 179 eP **P 19 48 54.9 +1.3**
comp=Z,21nm,1.0s
BOD Bodaibo 37.54 53 eP **P 19 48 53.5 -0.7**
BOD pmax pmax
comp=Z,48nm,1.6s
RC01 Rabbit Creek A 37.79 335 eP **P 19 48 53.6 -2.6**
comp=Z,21nm,0.5s
RC01 Rabbit Creek A 37.79 335 eP **P 19 48 53.7 -2.6**
comp=Z,21nm,0.5s
SPU Mount Spurr 37.86 337 eP **P 19 48 55.3 -1.6**
SPU Mount Spurr 37.86 337 eP **P 19 48 55.3 -1.6**
ANN Anapa 38.11 134 eP **P 19 49 02.0 +2.9**
ANN e*PP **pP 19 49 05.7 +2.1**
ANN eS **S 19 54 56.3 +5.2**
ANN pmax pmax
comp=Z,73nm,1.3s
PNL Peninsula 38.34 327 eP **P 19 48 59.7 -1.3**
PNL Peninsula 38.34 327 eP **P 19 48 59.7 -1.3**
FFC Flin Flon 38.34 293 eP **P 19 48 59.6 -1.4**
FFC pmax pmax
comp=Z,60nm,1.0s
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 38.34 293 eP **P 19 48 59.6 -1.4**
comp=Z,60nm,1.0s
FFC LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 38.34 293 P **P 19 49 00.7 -0.3**
comp=Z,276nm,0.6s,SNR=7.8
FFC Flin Flon 38.34 293 eP **P 19 48 59.6 -1.4**
comp=Z,60nm,1.0s
AQU L'Aquila 38.37 162 PFAKE 19 49 10.0 +8.6
AQU LR LR
comp=Z,2µm,21.0s
SLKM Skilak Lake 38.40 336 eP **P 19 49 00.2 -1.3**
SLKM Skilak Lake 38.40 336 eP **P 19 49 00.2 -1.3**
SLKM Skilak Lake 38.40 336 eP **P 19 49 00.2 -1.3**
DLBC Dease Lake 38.58 319 P **P 19 49 03.0 -0.1**
comp=Z,11nm,0.7s,baz=349,slow=6.3,SNR=11
DLBC Dease Lake 38.58 319 eP **P 19 49 02.3 -0.8**
DLBC Dease Lake 38.58 319 eP **P 19 49 02.3 -0.8**
RSO Redoubt South 38.62 338 eP **P 19 49 02.1 -1.4**
RSO Redoubt South 38.62 338 eP **P 19 49 02.1 -1.4**
SEW Seward 38.75 335 eP P 19 49 01.2 -3.1
KURK Kurchatov 38.80 88c iP **P 19 49 05.2 +0.4**
KURK pmax pmax
comp=Z,36nm,1.2s
KURK Kurchatov 38.80 88 eP **P 19 49 05.4 +0.6**
comp=Z,47nm,1.1s
KURK Kurchatov 38.80 88 P **P 19 49 05.8 +1.0**
comp=Z,146nm,0.9s,SNR=17
KURK Kurchatov 38.80 88 eP **P 19 49 05.4 +0.6**
comp=Z,47nm,1.1s
VTS Vitosha 38.80 151 ⇑P **P 19 49 05.5 +0.3**
VTS Vitosha 38.80 151⇑iP **P 19 49 05.5 +0.3**
VTS Vitosha 38.80 151⇑iP **P 19 49 05.5 +0.3**
KURBB Kurchatov Arra 38.87 88 LR LR 20 09 12.1
comp=Z,784nm,18.1s,baz=355,slow=42
SOC Sochi 39.60 131 eP **P 19 49 12.8 +1.2**
SOC e 19 50 45.4
SOC eS **S 19 55 14.8 +1.3**
SOC eSS **SS 19 58 03.7 -4.4**
SOC pmax pmax
comp=Z,27nm,0.9s
SOC MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 39.62 128 eP **P 19 49 10.6 -1.3**
KIV eS **S 19 55 16.4 +2.3**
KIV pmax pmax
comp=Z,2.0nm,0.6s
KIV MLR MLR
comp=Z,842nm,15.0s
KIV Kislovodsk 39.62 128 PFAKE 19 49 20.0 +8.0
KIV LR LR
comp=Z,1µm,20.0s
TIR Tirane 39.78 155 PFAKE 19 49 30.0 +17
TIR LR LR
comp=Z,1µm,19.0s
KBZ Khabaz 39.87 128 P **P 19 49 15.5 +1.6**
comp=Z,7.9nm,0.8s,baz=350,slow=5.1,SNR=20
KBZ LR LR 20 05 47.0
comp=Z,1µm,20.0s,baz=344,slow=36
KBZ Khabaz 39.87 128 P **P 19 49 15.5 +1.6**
KBZ Khabaz 39.87 128 P **P 19 49 15.5 +1.6**
KBZ Khabaz 39.87 128 P **P 19 49 15.5 +1.6**
PQI Presque Isle 40.43 257 eP **P 19 49 16.2 -2.3**
comp=Z,33nm,0.4s

PQI	Presque Isle	40.43	257	eP	P	19 49 16.2	-2.3
	comp=Z,33nm,0.4s						
ESDC	Sonseca Array	40.67	183	P	P	19 49 21.4	+0.8
	comp=Z,3.6nm,0.7s,baz=2.5,slow=8.5,SNR=9.6						
ESDC				LR	LR	20 03 48.5	
	comp=Z,562nm,21.2s,baz=345,slow=33						
ESDC	Sonseca Array	40.67	183	P	P	19 49 21.4	+0.8
ESDC	Sonseca Array	40.67	183	P	P	19 49 21.4	+0.8
WRAK	Wrangell Islan	40.82	320	PFAKE		19 49 30.0	+8.4
WRAK				LR	LR		
	comp=Z,1µm,22.0s						
CUC	Castrocucco	40.86	160	PFAKE		19 49 30.0	+7.8
CUC				LR	LR		
	comp=Z,941nm,19.0s						
HVS	Khovu-Aksy	40.93	73	⇑eP	P	19 49 24.4	+1.7
HVS				pmax	pmax		
	comp=Z,189nm,1.7s						
ZEI	Tsey	40.95	127	eP	P	19 49 23.2	+0.1
ZEI				pmax	pmax		
	comp=Z,25nm,2.2s						
ONI	Oni	41.07	128	P	P	19 49 36.2	+12
ONI				S	SS	19 58 35.6	-2.0
MAK	Makhachkala	41.27	123	eP	P	19 49 25.0	-0.4
MAK				e		19 50 59.6	
MAK				eS	S	19 55 43.3	+4.8
MAK				eSS	SS	19 58 39.7	-1.7
MAK				eSSS	SSS	19 59 12.4	
MAK				pmax	pmax		
	comp=Z,127nm,2.1s						
MAK				MLR	MLR		
	comp=Z,2µm,16.0s						
KDAK	Kodiak Island	41.27	337	P	P	19 49 24.4	-0.9
	comp=Z,85nm,0.6s,baz=24,slow=7.2,SNR=66						
KDAK	Kodiak Island	41.27	337	eP	P	19 49 24.4	-0.9
	comp=Z,93nm,0.7s						
KDAK				LR	LR		
	comp=Z,1µm,20.0s						
KDAK	Kodiak Island	41.27	337	P	P	19 49 24.6	-0.7
	comp=Z,798nm,0.7s,SNR=22						
KDAK	Kodiak Island	41.27	337	eP	P	19 49 24.4	-0.9
	comp=Z,93nm,0.7s						
IRK	Irkutsk	41.54	63	eP	P	19 49 27.7	+0.1
IRK				e		19 51 00.5	
IRK				pmax	pmax		
	comp=Z,57nm,1.4s						
MOY	Mondy	41.59	66	eP	P	19 49 30.0	+1.9
MOY				pmax	pmax		
	comp=Z,73nm,2.3s						
ULM	Lac du Bonnet	41.68	286	P	P	19 49 27.4	-1.4
	comp=Z,14nm,0.6s,baz=14,slow=7.2,SNR=17						
ULM				LR	LR	20 06 37.2	
	comp=Z,3µm,19.0s,baz=16,slow=36						
ULM	Lac du Bonnet	41.68	286	eP	P	19 49 27.8	-1.0
ULM	Lac du Bonnet	41.68	286	eP	P	19 49 27.8	-1.0
GOR	Gori	41.75	127	P	P	19 49 34.9	+5.4
TLY	Talaya	41.99	64	eP	P	19 49 37.7	+6.4
TLY				eS	S	19 55 51.1	+2.1
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,2µm,18.0s						
TLY	Talaya	41.99	64	P	P	19 49 32.9	+1.6
	comp=Z,10nm,1.0s						
TLY				LR	LR		
	comp=Z,3µm,20.0s						
TLY	Talaya	41.99	64	P	P	19 49 32.9	+1.6
	comp=Z,10nm,1.0s						
TBLG	Delisi	42.09	126	eP	P	19 49 33.3	+1.1
TBLG				eS	SS	19 58 52.8	-4.9
TBLG	Delisi	42.09	126	P	P	19 49 33.3	+1.1
TBLG				S	SS	19 58 52.9	-4.9
TBLG	Delisi	42.09	126	P	P	19 49 33.3	+1.1
AKH	Akhalkalaki	42.23	128	P	P	19 49 35.1	+1.5
AKH				S	SS	19 59 01.0	+0.1
AKH	Akhalkalaki	42.23	128	P	P	19 49 35.1	+1.5
DGRG	David-gareji	42.45	126	P	P	19 49 37.9	+2.7
DGRG				S	SS	19 59 07.1	+2.2
DGRG	David-gareji	42.45	126	P	P	19 49 37.9	+2.7
BR131	Keskin Array S	42.67	139	eP	P	19 49 37.7	+0.6
	comp=Z,7.1nm,0.8s						
BR131	Keskin Array S	42.67	139	eP	P	19 49 37.7	+0.6
	comp=Z,7.1nm,0.8s						
BRTR	Keskin Array B	42.67	139	P	P	19 49 38.1	+1.0
	comp=Z,3.7nm,0.8s,baz=346,slow=5.4,SNR=12						
BRTR				LR	LR	20 09 43.9	
	comp=Z,317nm,18.2s,baz=352,slow=39						
BRTR	Keskin Array B	42.67	139	P	P	19 49 38.1	+1.0
BRTR	Keskin Array B	42.67	139	P	P	19 49 38.1	+1.0
WVL	Waterville	42.75	258	eP	P	19 49 36.7	-0.8
	comp=Z,137nm,1.0s						
WVL	Waterville	42.75	258	eP	P	19 49 36.7	-0.8
	comp=Z,137nm,1.0s						
FRNY	Flat Rock	43.15	262	eP	P	19 49 40.0	-0.7
	comp=Z,74nm,1.1s						
FRNY	Flat Rock	43.15	262	eP	P	19 49 40.0	-0.7
	comp=Z,74nm,1.1s						
EYMN	Ely	43.18	281	eP	P	19 49 40.0	-1.0
	comp=Z,59nm,0.8s						
EYMN				LR	LR		
	comp=Z,3µm,20.0s						
EYMN	Ely	43.18	281	eP	P	19 49 40.0	-1.0
	comp=Z,59nm,0.8s						
MSNY	Massena	43.21	263	eP	P	19 49 40.5	-0.7
	comp=Z,2µm,1.0s						
MSNY	Massena	43.21	263	eP	P	19 49 40.5	-0.7
	comp=Z,2µm,1.0s						
MK31	Makanchi Array	43.22	86	ceP	P	19 49 41.6	+0.3
MK31				pmax	pmax		
	comp=Z,13nm,0.6s						
MKAR	Makanchi Array	43.22	86	P	P	19 49 41.6	+0.2
	comp=Z,8.6nm,0.7s,baz=345,slow=7.0,SNR=73						
MKAR				LR	LR	20 12 42.1	
	comp=Z,1µm,18.3s,baz=323,slow=43						
MKAR	Makanchi Array	43.22	86	ceP	P	19 49 41.5	+0.2
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	Makanchi Array	43.22	86	eP	P	19 49 42.0	+0.7
MKAR	Makanchi Array	43.22	86	eP	P	19 49 42.0	+0.7
LBNH	Lisbon	43.45	260	eP	P	19 49 42.6	-0.6
LBNH				pmax	pmax		
	comp=Z,63nm,0.9s						
LBNH				MLR	MLR		
	comp=Z,2µm,19.0s						
LBNH	Lisbon	43.45	260	eP	P	19 49 42.6	-0.6
	comp=Z,63nm,0.9s						
LBNH				LR	LR		
	comp=Z,2µm,19.0s						
LBNH	Lisbon	43.45	260	eP	P	19 49 42.6	-0.6
	comp=Z,63nm,0.9s						
LONY	Lake Ozonia	43.53	263	eP	P	19 49 43.1	-0.7
	comp=Z,107nm,0.9s						
LONY				LR	LR		
	comp=Z,3µm,20.0s						
LONY	Lake Ozonia	43.53	263	eP	P	19 49 43.1	-0.7
	comp=Z,107nm,0.9s						
AGMN	Agassiz Nation	43.57	285	eP	P	19 49 44.2	+0.1
	comp=Z,151nm,1.4s						
AGMN				LR	LR		
	comp=Z,2µm,20.0s						
AGMN	Agassiz Nation	43.57	285	eP	P	19 49 44.2	+0.1
	comp=Z,151nm,1.4s						
GNI	Garni	43.64	127	PFAKE		19 50 00.0	+15
GNI				LR	LR		
	comp=Z,748nm,22.0s						
MDV	Middlebury	43.89	261	eP	P	19 49 46.3	-0.4
MDV	Middlebury	43.89	261	eP	P	19 49 46.3	-0.4
HNH	Hanover	44.03	260	eP	P	19 49 48.1	+0.3
HNH	Hanover	44.03	260	eP	P	19 49 48.1	+0.3
FFD	Franklin Falls	44.15	260	eP	P	19 49 48.5	-0.3
	comp=Z,39nm,0.8s						
FFD	Franklin Falls	44.15	260	eP	P	19 49 48.5	-0.3
	comp=Z,39nm,0.8s						
SADO	Sadowa	44.16	268	P	P	19 49 46.8	-2.1
	comp=Z,28nm,1.0s,baz=5.3,slow=2.4,SNR=16						
SADO	Sadowa	44.16	268	P	P	19 49 46.8	-2.1
SADO	Sadowa	44.16	268	P	P	19 49 46.8	-2.1
ISP	Isparta	44.22	143	PFAKE		19 50 00.0	+10
ISP				LR	LR		
	comp=Z,844nm,21.0s						
A24A	Westby	44.28	293	⇑P	P	19 49 48.7	-1.2
	baz=44						
A23A	Redstone	44.38	294	⇓P	P	19 49 49.7	-1.0
	baz=44						
APE	Apeiranthos	44.49	149	⇓P	P	19 50 01.0	+9.4
APE	Apeiranthos	44.49	149	⇓iP	P	19 50 01.0	+9.4
BBB	Bella Bella	44.49	315	P	P	19 49 49.6	-1.7
	comp=Z,19nm,0.8s,baz=78,slow=6.0,SNR=4.6						
BBB	Bella Bella	44.49	315	P	P	19 49 49.6	-1.7
BBB	Bella Bella	44.49	315	P	P	19 49 49.7	-1.7
A22A	Carney Farms,	44.52	295	⇑P	P	19 49 50.4	-1.4
	baz=44,SNR=10						
ACCN	Adirondack Com	44.57	262	eP	P	19 49 51.9	-0.3
	comp=Z,61nm,0.8s						
ACCN	Adirondack Com	44.57	262	eP	P	19 49 51.9	-0.3
	comp=Z,61nm,0.8s						
COWI	Conover	44.58	278	eP	P	19 49 50.6	-1.6
	comp=Z,34nm,0.8s						
COWI	Conover	44.58	278	eP	P	19 49 50.6	-1.6
	comp=Z,34nm,0.8s						
MDND	Maddock	44.62	288	⇓P	P	19 49 51.3	-1.3
	baz=44,SNR=6.6						
MALT	Malatya	44.63	134	PFAKE		19 50 10.0	+17
MALT				LR	LR		
	comp=Z,29nm,22.0s						
A21A	Bergtoll Ranch	44.67	295	⇓P	P	19 49 51.5	-1.5
	baz=44,SNR=15						
DGMT	Dagmar	44.75	293	eP	P	19 49 53.5	-0.1
	comp=Z,64nm,0.7s						
DGMT				LR	LR		
	comp=Z,3µm,19.0s						
DGMT	Dagmar	44.75	293	⇑P	P	19 49 52.7	-1.0
	baz=44						
DGMT	Dagmar	44.75	293	eP	P	19 49 53.5	-0.1
	comp=Z,64nm,0.7s						
KKAR	Karatay Array	44.79	99	eP	P	19 49 55.4	+1.4
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	Karatay Array	44.79	99	eP	P	19 49 55.4	+1.4
	comp=Z,7.2nm,0.7s						
KKAR	Karatay Array	44.79	99	eP	P	19 49 55.3	+1.4
	comp=Z,7.2nm,0.7s						
KEST	Kesra	44.79	168	P	P	19 49 55.8	+1.7
	comp=Z,1.9nm,0.8s,baz=277,slow=15,SNR=2.6						
KEST				LR	LR	20 07 00.4	
	comp=Z,251nm,21.6s,baz=187,slow=34						
KEST	Kesra	44.79	168	P	P	19 49 55.8	+1.7
KEST	Kesra	44.79	168	P	P	19 49 55.8	+1.7
B23A	Brockton	44.88	294	⇓P	P	19 49 53.8	-0.9
	baz=45,SNR=12						
A20A	Cobblestone Ra	44.94	296	⇑P	P	19 49 54.3	-0.8
	baz=45,SNR=23						
A19A	Klindworth Far	45.01	297	⇑P	P	19 49 54.7	-1.0
	baz=45,SNR=23						
GLMI	Grayling	45.04	273	PFAKE		19 50 10.0	+14
GLMI				LR	LR		
	comp=Z,2µm,19.0s						
HRV	Adam Dziewonsk	45.07	259	eP	P	19 49 56.3	+0.1
HRV				pmax	pmax		
	comp=Z,40nm,0.9s						
HRV	Adam Dziewonsk	45.07	259	eP	P	19 49 56.3	+0.1
	comp=Z,40nm,0.9s						
HRV	Adam Dziewonsk	45.07	259	eP	P	19 49 56.3	+0.1
	comp=Z,40nm,0.9s						
WES	Weston	45.15	259	eP	P	19 49 56.1	-0.6
WES				pmax	pmax		
	comp=Z,61nm,0.8s						
WES	Weston	45.15	259	eP	P	19 49 56.1	-0.6
	comp=Z,61nm,0.8s						
WES	Weston	45.15	259	eP	P	19 49 56.1	-0.6
	comp=Z,61nm,0.8s						
A18A	Metzger Ranch,	45.19	298	⇑P	P	19 49 55.3	-1.8
	baz=45						
B22A	Reddig Ranch S	45.20	294	⇓P	P	19 49 55.8	-1.4
	baz=45,SNR=9.7						
A17A	Triple J Farms	45.29	299	⇑P	P	19 49 56.7	-1.3
	baz=45						
USP	Ospenovka	45.30	95	P	P	19 49 59.1	+1.0
	SNR=9.6						
B20A	Solberg Farm,	45.38	296	⇓P	P	19 49 57.2	-1.4
	baz=45,SNR=6.7						
A16A	West Butte Ran	45.42	300	⇑P	P	19 49 57.5	-1.6
	baz=45						
QUA2	Belchertown	45.42	260	eP	P	19 49 59.0	0.0
	comp=Z,31nm,0.3s						
QUA2	Belchertown	45.42	260	eP	P	19 49 59.0	0.0
	comp=Z,31nm,0.3s						
B19A	Brinkman Farms	45.51	297	⇑P	P	19 49 57.9	-1.8
	baz=45						
C23A	Lambert	45.56	293	⇓P	P	19 49 58.9	-1.1
	baz=45,SNR=24						
A15A	Johnson Ranch,	45.56	301	⇓P	P	19 49 58.5	-1.6
	baz=45,SNR=14						
CHMS	Chumysh	45.61	95	P	P	19 50 02.2	+1.8
	SNR=22						
WALA	Waterton Lakes	45.66	302	eP	P	19 49 59.6	-1.3
	comp=Z,0.9nm,0.4s						
WALA	Waterton Lakes	45.66	302	eP	P	19 49 59.6	-1.3
	comp=Z,0.9nm,0.4s						
A14A	Double T Ranch	45.67	301	⇓P	P	19 49 59.8	-1.2
	baz=45,SNR=26						
B18A	Beardsley Farm	45.69	298	⇓P	P	19 49 59.1	-2.0
	baz=45,SNR=8.2						
C24A	Savage	45.70	293	⇑P	P	19 49 60.0	-1.2
	baz=45						
C22A	Vida	45.72	294	⇑P	P	19 49 60.0	-1.4
	baz=45,SNR=12						
FRU	Bishkek	45.75	95	eP	P	19 50 03.0	+1.4
FRU				pmax	pmax		
	comp=Z,90nm,1.8s						
FRU				MLR	MLR		
	comp=E,5µm,20.0s						
EKS2	Erkin-Say	45.77	96	eP	P	19 50 03.5	+1.6
EKS2				pmax	pmax		
	comp=Z,11nm,1.1s						
EKS2				MLR	MLR		
	comp=Z,2µm,22.0s						
EKS2	Erkin-Say	45.77	96	eP	P	19 50 03.5	+1.6
	comp=Z,11nm,1.1s						
EKS2				LR	LR		
	comp=Z,2µm,22.0s						
EKS2	Erkin-Say	45.77	96	P	P	19 50 03.6	+1.6
	SNR=8.6						
EKS2	Erkin-Say	45.77	96	eP	P	19 50 03.5	+1.6
	comp=Z,11nm,1.1s						
TKM2	Tokmak 2	45.83	94	eP	P	19 50 03.4	+1.0
TKM2				MLR	MLR		
	comp=Z,2µm,19.0s						
TKM2	Tokmak 2	45.83	94	eP	P	19 50 03.4	+1.0
TKM2				LR	LR		
	comp=Z,2µm,19.0s						
TKM2	Tokmak 2	45.83	94	P	P	19 50 04.0	+1.6
	SNR=11						
TKM2	Tokmak 2	45.83	94	eP	P	19 50 03.4	+1.0
C21A	Desert Coulee	45.83	295	⇑P	P	19 50 01.0	-1.2
	baz=46,SNR=9.0						
A13A	Flathead Natio	45.85	302	⇓P	P	19 50 00.7	-1.7
	baz=46,SNR=34						
AAK	Ala-Archa	45.92	95	LR	LR	20 11 49.9	
	comp=Z,2µm,21.3s,baz=331,slow=39						
AAK	Ala-Archa	45.92	95	ceP	P	19 50 04.8	+1.7
AAK	Ala-Archa	45.92	95	P	P	19 50 04.2	+1.1
	comp=Z,84nm,0.7s,SNR=17						
AAK	Ala-Archa	45.92	95	P	P	19 50 04.8	+1.7
	SNR=19						
B17A	L&G Farms, Che	45.94	299	⇑P	P	19 50 01.5	-1.6
	baz=46,SNR=16						
B16A	M & M Farms, S	45.96	300	⇑P	P	19 50 01.7	-1.6
	baz=46,SNR=8.6						
KBK	Karagaybulak	45.98	94	P	P	19 50 05.3	+1.7
	SNR=7.0						
A12A	Yaak River Ran	46.03	303	⇑P	P	19 50 02.7	-1.0
	baz=46,SNR=27						
SPMN	St. Paul	46.04	281	⇓P	P	19 50 02.9	-0.9
	baz=46						
EGMT	Eagleton	46.05	298	PFAKE		19 50 20.0	+16
EGMT				LR	LR		
	comp=Z,2µm,19.0s						
EGMT	Eagleton	46.05	298	⇑P	P	19 50 03.3	-0.7
	baz=46						
C20A	Veseth Ranch,	46.08	296	⇑P	P	19 50 03.2	-1.0
	baz=46						
D24A	Glendive	46.09	292	⇑P	P	19 50 03.2	-1.1
	baz=46,SNR=5.7						
BINY	Binghamton	46.12	264	eP	P	19 50 04.2	-0.3
	comp=Z,167nm,1.0s						
BINY				LR	LR		
	comp=Z,2µm,20.0s						
BINY	Binghamton	46.12	264	eP	P	19 50 04.2	-0.3
	comp=Z,167nm,1.0s						
SONM	Songino Array	46.15	63	P	P	19 50 05.4	+0.6
	comp=Z,2.5nm,0.8s,baz=333,slow=7.0,SNR=7.7						
SONM				LR	LR	20 10 54.9	
	comp=Z,6µm,19.7s,baz=351,slow=38						
SONM	Songino Array	46.15	63	P	P	19 50 05.4	+0.6
SONM	Songino Array	46.15	63	P	P	19 50 05.4	+0.6
D23A	Lindsay	46.17	293	⇓P	P	19 50 03.9	-1.0
	baz=46,SNR=14						
B15A	Bradely Ranch,	46.19	300	⇑P	P	19 50 03.5	-1.6
	baz=46,SNR=24						
ULN	Ulaanbaatar	46.22	62	eP	P	19 50 06.4	+1.0
	comp=Z,70nm,1.0s						
ULN				LR	LR		
	comp=Z,5µm,20.0s						
ULN	Ulaanbaatar	46.22	62	eP	P	19 50 06.4	+1.0
	comp=Z,70nm,1.0s						
C19A	Slack Wire Ran	46.22	297	⇑P	P	19 50 04.2	-1.2
	baz=46,SNR=12						
B14A	Marquette Ranc	46.24	301	⇓P	P	19 50 03.4	-2.1
	baz=46,SNR=13						
AML	Almayashu	46.27	96	P	P	19 50 08.3	+2.1
	SNR=29						
D22A	Cohagen	46.35	294	⇓P	P	19 50 05.3	-1.0
	baz=46,SNR=6.6						
PETK	Petropavlovsk-	46.40	17	P	P	19 50 04.4	-2.2
	comp=Z,12nm,0.8s,baz=46,slow=4.3,SNR=11						
PETK				LR	LR	20 07 54.4	
	comp=Z,635nm,20.5s,baz=353,slow=34						
PETK	Petropavlovsk-	46.40	17	P	P	19 50 04.4	-2.2
PETK	Petropavlovsk-	46.40	17	P	P	19 50 04.4	-2.2
PETK	Petropavlovsk-	46.40	17	P	P	19 50 04.4	-2.2
B13A	Whitefish	46.41	302	⇓P	P	19 50 05.8	-0.9
	baz=46,SNR=26						
YLE	Yale	46.46	260	eP	P	19 50 06.9	-0.2
	comp=Z,191nm,1.0s						
YLE	Yale	46.46	260	eP	P	19 50 06.9	-0.2
	comp=Z,191nm,1.0s						
B12A	Libby	46.47	303	⇓P	P	19 50 06.0	-1.3
	baz=46,SNR=5.5						
PET	Petropavlovsk	46.53	16	eP	P	19 50 06.0	-1.5
PET				eS	S	19 56 44.1	-11
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET	Petropavlovsk	46.53	16	PFAKE		19 50 20.0	+12
PET				LR	LR		
	comp=Z,1µm,22.0s						
D21A	La Casta Ranch	46.56	295	⇓P	P	19 50 06.6	-1.4
	baz=46,SNR=19						
C16A	Fuhringer Ranc	46.56	299	⇓P	P	19 50 06.5	-1.6
	baz=46,SNR=29						
GVD	Gavdhos	46.57	151	P	P	19 50 08.9	+0.8
	comp=Z,188nm,0.9s						
GVD	Gavdhos	46.57	151	P	P	19 50 08.9	+0.8
	comp=Z,188nm,0.9s						
C17A	Wharram Farm,	46.58	299	⇑P	P	19 50 06.2	-1.9
	baz=46,SNR=12						
E24A	Baker	46.63	292	⇓P	P	19 50 06.8	-1.7
	baz=46						
HIA	Hailar	46.65	50	eP	P	19 50 10.0	+1.4
	comp=Z,44nm,1.4s						
HIA				LR	LR		
	comp=Z,1µm,19.0s						
HIA	Hailar	46.65	50	eP	P	19 50 10.0	+1.4
	comp=Z,44nm,1.4s						
D20A	Manuel Ranch,	46.71	296	⇓P	P	19 50 08.0	-1.1
	baz=46,SNR=39						
C15A	Salmond Ranch,	46.72	300	⇑P	P	19 50 07.7	-1.6
	baz=46,SNR=15						
BLMT	Blacktail Moun	46.74	302	eP	P	19 50 09.6	0.0
BLMT	Blacktail Moun	46.74	302	eP	P	19 50 09.6	0.0
D19A	Cripps Ranch,	46.75	297	⇓P	P	19 50 08.3	-1.2
	baz=46,SNR=25						
YBMT	Yellow Bay	46.84	302	eP	P	19 50 09.2	-1.0
	comp=Z,67nm,0.8s						
YBMT	Yellow Bay	46.84	302	eP	P	19 50 09.2	-1.0
	comp=Z,67nm,0.8s						
E23A	Ismay	46.85	293	⇓P	P	19 50 09.3	-0.9
	baz=46						
D18A	Linhart Farms,	46.86	298	⇑P	P	19 50 08.9	-1.4
	baz=46,SNR=5.2						
ERPA	Erie	46.88	268	eP	P	19 50 09.8	-0.7
	comp=Z,99nm,1.4s						
ERPA				LR	LR		
	comp=Z,1µm,19.0s						
ERPA	Erie	46.88	268	eP	P	19 50 09.8	-0.7
	comp=Z,99nm,1.4s						
C14A	Swan Lake	46.89	301	⇑P	P	19 50 09.0	-1.6
	baz=47,SNR=34						
NEW	Newport	46.89	304	eP	P	19 50 10.1	-0.4
	comp=Z,86nm,0.9s						
NEW				LR	LR		
	comp=Z,1µm,21.0s						
NEW	Newport	46.89	304	⇑P	P	19 50 09.5	-1.0
	baz=47,SNR=52						
NEW	Newport	46.89	304	eP	P	19 50 10.1	-0.4
	comp=Z,86nm,0.9s						
PAL	Palisades	46.93	261	eP	P	19 50 10.6	-0.2
PAL				pmax	pmax		
	comp=Z,70nm,0.8s						
PAL	Palisades	46.93	261	eP	P	19 50 10.6	-0.2
	comp=Z,70nm,0.8s						
PAL	Palisades	46.93	261	eP	P	19 50 10.6	-0.2
	comp=Z,70nm,0.8s						
BSMT	Bassoo Peak	46.96	302	eP	P	19 50 10.7	-0.6
BSMT	Bassoo Peak	46.96	302	eP	P	19 50 10.7	-0.6
JTMT	Jette	46.99	302	eP	P	19 50 10.9	-0.5
JTMT	Jette	46.99	302	eP	P	19 50 10.9	-0.5
E22A	Miles City	47.01	294	⇑P	P	19 50 10.3	-1.1
	baz=47						
WMQ	Urumqi	47.02	82	eP	P	19 50 13.3	+1.7
WMQ				PcP	PcP	19 51 45.0	+1.5
WMQ				PP	PP	19 52 03.8	+2.0
WMQ				S	S	19 57 05.0	+2.6
WMQ				sS	sS	19 57 10.6	+0.8
WMQ				ScS	ScS	20 00 04.6	-0.3
WMQ				SS	SS	20 00 23.6	-5.0
WMQ				pmax	pmax		
	comp=Z,24nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.0s						
WMQ				LR	LR		
	comp=N,3µm,18.0s						
WMQ				LR	LR		
	comp=E,2µm,20.0s						
WMQ				LR	LR		
	comp=Z,2µm,21.0s						
D17A	Six Diamond Ra	47.04	298	⇑P	P	19 50 10.6	-1.2
	baz=47						
C13A	Hot Springs	47.10	302	⇓P	P	19 50 10.9	-1.3
	baz=47,SNR=41						
SWMT	Swartz Lake	47.18	301	eP	P	19 50 12.0	-0.9
SWMT	Swartz Lake	47.18	301	eP	P	19 50 12.0	-0.9
C11A	Tepee Creek (N	47.19	304	⇑P	P	19 50 10.8	-2.0
	baz=47						
C12B	Naegeli Ranch,	47.20	303	⇓P	P	19 50 11.6	-1.4
	baz=47,SNR=6.0						
E20A	Meyer Farm, Mu	47.28	296	⇑P	P	19 50 12.5	-1.1
	baz=47						
D16A	Dana Ranch, Ca	47.29	299	⇑P	P	19 50 12.0	-1.7
	baz=47,SNR=37						
AAM	Ann Arbor	47.33	271	PFAKE		19 50 30.0	+16
AAM				LR	LR		
	comp=Z,2µm,19.0s						
CSS	Prodhromos	47.34	140	PFAKE		19 50 30.0	+16
CSS				LR	LR		
	comp=Z,454nm,19.0s						
F24A	Ekalaka	47.35	292	⇑P	P	19 50 12.8	-1.4
	baz=47,SNR=7.7						
BRNJ	Basking Ridge	47.35	262	eP	P	19 50 14.9	+0.8
	comp=Z,16µm,0.8s						
BRNJ	Basking Ridge	47.35	262	eP	P	19 50 14.9	+0.8
	comp=Z,10µm,0.8s						
ALLY	Alegheny Colle	47.36	268	eP	P	19 50 13.7	-0.5
	comp=Z,168nm,1.0s						
ALLY	Alegheny Colle	47.36	268	eP	P	19 50 13.7	-0.5
	comp=Z,168nm,1.0s						
SLMT	Seeley Lake	47.37	301	eP	P	19 50 13.2	-1.2
SLMT	Seeley Lake	47.37	301	eP	P	19 50 13.2	-1.2
D15A	Lincoln	47.42	300	⇑P	P	19 50 12.8	-2.0
	baz=47,SNR=19						
E19A	Rath Farm, Rou	47.42	296	⇑P	P	19 50 13.3	-1.4
	baz=47,SNR=12						
E18A	Harlowton	47.49	297	⇑P	P	19 50 14.0	-1.3
	baz=47,SNR=11						
D14A	Greenough	47.53	301	⇑P	P	19 50 14.5	-1.1
	baz=47,SNR=18						
F23A	Volborg	47.62	293	⇑P	P	19 50 15.0	-1.2
	baz=47,SNR=20						
HRY	Holter Researc	47.64	299	eP	P	19 50 15.3	-1.2
HRY	Holter Researc	47.64	299	eP	P	19 50 15.3	-1.2
CHMT	Chamberlain Mo	47.65	301	eP	P	19 50 15.4	-1.3
CHMT	Chamberlain Mo	47.65	301	eP	P	19 50 15.4	-1.3

D13A **Huson** 47.66 302 ⇑P P 19 50 15.1 -1.4
baz=47,SNR=12
F22A **Rosebud** 47.70 294 ⇑P P 19 50 15.7 -1.1
baz=47
E17A **Martinsdale** 47.74 298 ⇑P P 19 50 15.9 -1.4
baz=47,SNR=15
F21A **Absaloka Mine,** 47.79 295 ⇓P P 19 50 16.4 -1.2
baz=48
E16A **East Helena** 47.79 299 ⇓P P 19 50 15.8 -1.8
baz=48,SNR=26
ABKT **Ailbek** 47.80 113 P P 19 50 19.5 +1.8
comp=Z,111nm,0.8s,SNR=9.6
BRSD **Miller** 47.83 287 ⇑P P 19 50 16.4 -1.4
baz=48
MSO **Missoula** 47.84 301 *e*P P 19 50 17.2 -0.8
MSO LR LR
comp=Z,1μm,20.0s
MSO **Missoula** 47.84 301 ⇓P P 19 50 16.5 -1.4
baz=48,SNR=41
MSO **Missoula** 47.84 301 *e*P P 19 50 17.2 -0.8
G24A **Alzada** 47.85 292 ⇑P P 19 50 17.0 -1.0
baz=48
SSPA **Standing Stone** 47.96 265 *e*P P 19 50 18.1 -0.8
comp=Z,50nm,0.8s
SSPA **Standing Stone** 47.96 265 *e*P P 19 50 18.1 -0.8
comp=Z,50nm,0.8s
F20A **Billings** 47.97 296 ⇑P P 19 50 18.0 -1.0
baz=48
F19A **Roth Farm, Mol** 48.04 296 ⇓P P 19 50 18.1 -1.4
baz=48,SNR=17
E15A **Deer Lodge** 48.04 300 ⇓P P 19 50 17.9 -1.7
baz=48,SNR=26
F18A **Big Timber** 48.11 297 ⇑P P 19 50 19.2 -0.9
baz=48,SNR=5.4
G23A **Biddle** 48.12 293 ⇓P P 19 50 18.8 -1.4
baz=48,SNR=7.5
ECSD **EROS Data Cent** 48.13 284 *e*P P 19 50 19.2 -1.0
comp=Z,89nm,1.1s
ECSD LR LR
comp=Z,2μm,20.0s
ECSD **EROS Data Cent** 48.13 284 *e*P P 19 50 19.2 -1.0
comp=Z,89nm,1.1s
E14A **Clinton** 48.18 301 ⇓P P 19 50 19.0 -1.6
baz=48
G22A **Birney** 48.25 294 ⇑P P 19 50 20.0 -1.1
baz=48,SNR=7.9
E13A **Victor** 48.25 301 ⇓P P 19 50 20.0 -1.2
baz=48,SNR=79
F17A **Fitzpatrick Pl** 48.25 298 ⇓P P 19 50 20.3 -1.0
baz=48,SNR=11
MVL **Millersville** 48.32 263 *e*P P 19 50 20.6 -1.0
comp=Z,38nm,0.7s
MVL **Millersville** 48.32 263 *e*P P 19 50 20.6 -1.0
comp=Z,38nm,0.7s
G21A **Lodge Grass** 48.39 295 ⇑P P 19 50 21.0 -1.3
baz=48
H24A **Dirks Ranch, A** 48.43 292 ⇓P P 19 50 21.1 -1.5
baz=48,SNR=8.9
E12A **Beaver Dam Sad** 48.48 303 ⇑P P 19 50 21.9 -1.1
baz=48
LCCM **Lewis and Clar** 48.50 299 P P 19 50 22.8 -0.4
LCCM **Lewis and Clar** 48.50 299 P P 19 50 22.8 -0.4
F16A **Kennard Place,** 48.52 299 ⇓P P 19 50 21.6 -1.7
baz=48,SNR=18
G20A **Bridger** 48.55 295 ⇓P P 19 50 22.2 -1.3
baz=48,SNR=20
OSR **Olympics--Salm** 48.57 310 P P 19 50 23.8 +0.3
OSR **Olympics--Salm** 48.57 310 P P 19 50 23.8 +0.3
F15A **Butte** 48.59 300 ⇓P P 19 50 22.5 -1.4
baz=48,SNR=31
LRM **Limekiln Ridge** 48.60 300 *e*P P 19 50 23.3 -0.8
LRM **Limekiln Ridge** 48.60 300 *e*P P 19 50 23.3 -0.8
BOZ **Bozeman (W)** 48.65 299 *e*P P 19 50 24.4 +0.1
BOZ pmax pmax
comp=Z,22nm,0.9s
BOZ MLR MLR
comp=Z,921nm,19.0s
BOZ **Bozeman (W)** 48.65 299 *e*P P 19 50 24.4 +0.1
comp=Z,22nm,0.9s
BOZ LR LR
comp=Z,921nm,19.0s
BOZ **Bozeman (W)** 48.65 299 ⇓P P 19 50 23.5 -0.8
baz=48,SNR=10
BOZ **Bozeman (W)** 48.65 299 *e*P P 19 50 24.4 +0.1
comp=Z,22nm,0.9s
G18A **Lazy EL Ranch,** 48.66 297 ⇓P P 19 50 23.1 -1.3
baz=48
NLWA **Neilton Lookou** 48.67 310 *e*P P 19 50 24.1 -0.2
comp=Z,76nm,0.8s
NLWA LR LR
comp=Z,2μm,22.0s
NLWA **Neilton Lookou** 48.67 310 *e*P P 19 50 24.1 -0.2
comp=Z,76nm,0.8s
F14A **Wisdom** 48.75 300 ⇓P P 19 50 24.0 -1.1
baz=48
H23A **Clabaugh Cattl** 48.75 293 ⇓P P 19 50 24.0 -1.0
baz=48
RLMT **Red Lodge** 48.80 296 *e*P P 19 50 25.1 -0.5
comp=Z,67nm,1.0s
RLMT LR LR
comp=Z,4μm,21.0s
RLMT **Red Lodge** 48.80 296 ⇑P P 19 50 24.3 -1.3
baz=48,SNR=34
RLMT **Red Lodge** 48.80 296 *e*P P 19 50 25.1 -0.5
comp=Z,67nm,1.0s
G17A **Pierce Place,** 48.84 298 ⇑P P 19 50 24.6 -1.2
baz=48
H22A **Clearmont** 48.87 294 ⇓P P 19 50 24.8 -1.1
baz=49,SNR=8.8
F13A **Darby** 48.91 301 ⇓P P 19 50 24.9 -1.4
baz=49,SNR=18
H21A **Big Horn, Sher** 48.94 294 ⇓P P 19 50 25.3 -1.3
baz=49
RSSD **Black Hills** 48.96 291 *e*P P 19 50 25.8 -1.0
RSSD pmax pmax
comp=Z,56nm,0.8s
RSSD **Black Hills** 48.96 291 *e*P P 19 50 25.8 -1.0
comp=Z,56nm,0.8s
RSSD **Black Hills** 48.96 291 *e*P P 19 50 25.8 -1.0
comp=Z,56nm,0.8s
SDMD **Soldier's Deli** 48.98 264 *e*P P 19 50 26.5 -0.2
comp=Z,134nm,0.8s
SDMD *e*ScP ScP 19 55 50.4 +5.9
SDMD **Soldier's Deli** 48.98 264 *e*P P 19 50 26.5 -0.2
comp=Z,134nm,0.8s
LON **Longmire** 49.02 308 *e*P P 19 50 26.6 -0.5
LON pmax pmax
comp=Z,180nm,1.6s
LON **Longmire** 49.02 308 *e*P P 19 50 26.6 -0.5
comp=Z,180nm,1.6s
LON **Longmire** 49.02 308 *e*P P 19 50 26.5 -0.5
comp=Z,180nm,1.6s
HAWA **Hanford** 49.06 306 *e*P P 19 50 26.6 -0.7
comp=Z,46nm,0.9s
HAWA LR LR
comp=Z,1μm,21.0s
HAWA **Hanford** 49.06 306 *e*P P 19 50 26.6 -0.7
comp=Z,46nm,0.9s
DLMT **Dillon** 49.07 300 *e*P P 19 50 27.1 -0.4
comp=Z,49nm,0.9s
DLMT **Dillon** 49.07 300 *e*P P 19 50 27.1 -0.4
comp=Z,49nm,0.9s
F12A **Elk City** 49.08 302 ⇓P P 19 50 25.9 -1.7
baz=49
G16A **Moss Hill, Enn** 49.09 299 ⇓P P 19 50 26.4 -1.2
baz=49,SNR=12
H19A **Powell** 49.20 296 ⇓P P 19 50 27.6 -0.9
baz=49,SNR=15
KSH **Kashi** 49.21 94 P P 19 50 32.3 +3.7
KSH pP pP 19 50 37.5 +4.4
KSH sP sP 19 50 39.4 +4.5
KSH PcP **PcP** **19 51 53.9 +2.4**
KSH PP PP 19 52 29.1 +7.0
KSH ScP **ScP** **19 55 46.8 +1.2**
KSH PcS **PcS** **19 55 50.0 +2.0**
KSH S **S** **19 57 38.7 +5.2**
KSH ScS **ScS** **20 00 20.9 +1.2**
KSH SS **SS** **20 01 03.7 -0.5**
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH pmax pmax
comp=Z,250nm,7.1s
KSH LR LR
comp=N,1μm,11.3s
KSH LR LR
comp=E,2μm,15.0s
KSH LR LR
comp=Z,2μm,19.5s
ACSO **Alum Creek Sta** 49.23 270 *e*P P 19 50 27.7 -0.9
comp=Z,103nm,0.9s
ACSO *e*ScP ScP 19 55 46.6 +1.0
ACSO LR LR
comp=Z,1μm,19.0s
ACSO **Alum Creek Sta** 49.23 270 *e*P P 19 50 27.7 -0.9
comp=Z,103nm,0.9s
ACSO *e*ScP ScP 19 55 46.6 +1.0
H20A **Greybull** 49.23 295 ⇑P P 19 50 27.2 -1.5
baz=49
G15A **Dillon** 49.25 299 ⇓P P 19 50 27.7 -1.2
baz=49,SNR=21
H18A **Shoshone NF, C** 49.30 297 ⇓P P 19 50 27.9 -1.5
baz=49,SNR=17
I24A **Kuemmerle Ranc** 49.31 292 ⇑P P 19 50 28.6 -0.7
baz=49
G14A **Jackson** 49.32 300 ⇑P P 19 50 28.1 -1.4
baz=49,SNR=13
SCIA **State Center** 49.34 280 *e*P P 19 50 28.7 -0.8
SCIA LR LR
comp=Z,3μm,20.0s
SCIA **State Center** 49.34 280 *e*P P 19 50 28.7 -0.8
comp=Z,83nm,0.8s
YNR **Norris Junctio** 49.42 298 *e*P P 19 50 30.7 +0.4
comp=Z,51nm,1.2s
YNR **Norris Junctio** 49.42 298 *e*P P 19 50 30.7 +0.4
comp=Z,51nm,1.2s
QLMT **Earthquake Lak** 49.42 298 *e*P P 19 50 29.8 -0.5
QLMT **Earthquake Lak** 49.42 298 *e*P P 19 50 29.8 -0.5
H16A **Russell Place,** 49.52 298 ⇓P P 19 50 29.6 -1.4
baz=49,SNR=20
LKWY **Lake** 49.52 297 PFAKE 19 50 40.0 +8.8
LKWY LR LR
comp=Z,9μm,22.0s
I22A **9 Mile Ranch,** 49.57 294 ⇓P P 19 50 30.0 -1.4
baz=49,SNR=12
G13A **Cobalt** 49.58 301 ⇓P P 19 50 30.0 -1.4
baz=49,SNR=29
MCMT **McKenzie Canyo** 49.63 300 *e*P P 19 50 31.1 -0.8
comp=Z,58nm,1.1s
MCMT **McKenzie Canyo** 49.63 300 *e*P P 19 50 31.1 -0.8
comp=Z,58nm,1.1s
YFT **Old Faithful** 49.70 298 *e*P P 19 50 32.4 0.0
comp=Z,48nm,0.8s
YFT **Old Faithful** 49.70 298 *e*P P 19 50 32.4 0.0
comp=Z,48nm,0.8s
G12A **Big Creek, Yel** 49.70 302 ⇓P P 19 50 30.9 -1.5
baz=49
H17A **Grant Village** 49.72 297 ⇑P P 19 50 32.5 -0.1
baz=49,SNR=20
I20A **Worland** 49.77 295 ⇓P P 19 50 32.1 -0.8
baz=50,SNR=12
I21A **Big Trails, Te** 49.78 294 ⇓P P 19 50 31.5 -1.4
baz=50,SNR=23
SFIN **Scholer Farm** 49.79 274 ⇓P P 19 50 31.5 -1.4
baz=50,SNR=9.4
H15A **Lima** 49.81 299 ⇑P P 19 50 32.1 -1.1
baz=50,SNR=47
I19A **Meeteetse** 49.82 296 ⇑P P 19 50 32.1 -1.2
baz=50,SNR=18
J24A **Dixon Ranch, L** 49.83 292 ⇑P P 19 50 32.1 -1.2
baz=50,SNR=21
J23A **Dilts Ranch, B** 49.90 293 ⇓P P 19 50 32.3 -1.6
baz=50
H14A **Leadore** 49.92 300 ⇑P P 19 50 32.7 -1.4
baz=50,SNR=26
HDIL **Hopedale** 49.99 276 PFAKE 19 50 50.0 +16
HDIL LR LR
comp=Z,3μm,20.0s
FLWY **Flagg Ranch** 50.04 297 *e*P P 19 50 35.7 +0.7
comp=Z,142nm,1.2s
FLWY **Flagg Ranch** 50.04 297 *e*P P 19 50 35.7 +0.7
comp=Z,142nm,1.2s
J22A **Midwest** 50.04 293 ⇓P P 19 50 33.7 -1.3
baz=50
H13A **Challis** 50.10 301 ⇑P P 19 50 33.8 -1.6
baz=50,SNR=36
I17A **Pilgrim Ck.** 50.18 297 ⇑P P 19 50 35.3 -0.7
baz=50
H12A **Diamond D Ranc** 50.20 301 ⇓P P 19 50 34.7 -1.5
baz=50,SNR=57
K26A **Mc Farm, Whi** 50.21 290 ⇑P P 19 50 35.1 -1.1
baz=50
CBN **Corbin** 50.24 264 *e*P P 19 50 36.6 +0.3
comp=Z,130nm,0.8s
CBN *e*ScP ScP 19 55 53.7 +3.8
CBN LR LR
comp=Z,2μm,19.0s
CBN **Corbin** 50.24 264 *e*P P 19 50 36.6 +0.3
comp=Z,130nm,0.8s
IMW **Indian Meadow** 50.26 298 *e*P P 19 50 36.9 +0.2
comp=Z,123nm,0.9s
IMW **Indian Meadow** 50.26 298 *e*P P 19 50 36.9 +0.2
comp=Z,123nm,0.9s
BMO **Blue Mountains** 50.26 304 *e*P P 19 50 35.8 -0.7
comp=Z,62nm,0.8s
BMO LR LR
comp=Z,1μm,22.0s
BMO **Blue Mountains** 50.26 304 *e*P P 19 50 35.8 -0.7
comp=Z,62nm,0.8s
I18A **Diamond G Ranc** 50.28 297 ⇑P P 19 50 36.1 -0.8
baz=50
J20A **Shoshoni** 50.35 295 ⇓P P 19 50 36.4 -0.9
baz=50,SNR=18
MOOW **Moose Ponds** 50.37 297 *e*P P 19 50 37.7 +0.1
comp=Z,56nm,0.9s
MOOW **Moose Ponds** 50.37 297 *e*P P 19 50 37.7 +0.1
comp=Z,56nm,0.9s
I15A **Monteview** 50.39 299 ⇑P P 19 50 36.5 -1.0
baz=50,SNR=19
K25A **Mack Ranch, Ha** 50.41 291 ⇑P P 19 50 36.7 -1.0
baz=50,SNR=8.9
K24A **Anderson Ranch** 50.45 292 ⇓P P 19 50 36.9 -1.1
baz=50
LOHW **Long Hollow** 50.48 297 *e*P P 19 50 38.8 +0.4
comp=Z,64nm,1.1s
LOHW **Long Hollow** 50.48 297 *e*P P 19 50 38.8 +0.4
comp=Z,64nm,1.1s
J19A **Crowheart** 50.59 296 ⇑P P 19 50 38.2 -0.9
baz=50,SNR=11
DCID1 **Drake Creek** 50.59 298 *e*P P 19 50 40.5 +1.4
comp=Z,173nm,1.0s
DCID1 **Drake Creek** 50.59 298 *e*P P 19 50 40.5 +1.4
comp=Z,173nm,1.0s
BGNE **Belgrade** 50.65 285 ⇓P P 19 50 38.4 -1.0
baz=50
SNOW **Snow King Moun** 50.65 297 *e*P P 19 50 39.9 +0.2
comp=Z,53nm,0.9s
SNOW **Snow King Moun** 50.65 297 *e*P P 19 50 39.9 +0.2
comp=Z,53nm,0.9s
TPAW **Teton Pass** 50.66 298 *e*P P 19 50 40.4 +0.6
comp=Z,69nm,0.9s
TPAW **Teton Pass** 50.66 298 *e*P P 19 50 40.3 +0.6
comp=Z,69nm,0.9s
I13A **Wildhorse Cree** 50.72 301 ⇓P P 19 50 38.7 -1.4
baz=50,SNR=30
J17A **Brown Place, J** 50.74 297 ⇓P P 19 50 39.6 -0.7
baz=50,SNR=13
REDW **Red Top Meadow** 50.77 297 *e*P P 19 50 40.5 0.0
comp=Z,62nm,1.0s
REDW **Red Top Meadow** 50.77 297 *e*P P 19 50 40.5 0.0
comp=Z,62nm,1.0s
J18A **Kendall Valley** 50.79 297 ⇑P P 19 50 39.4 -1.3
baz=50,SNR=22
K22A **Casper** 50.79 293 ⇑P P 19 50 39.3 -1.4
baz=50,SNR=5.2
JSRW **J. Sargeant Re** 50.83 264 *e*P P 19 50 40.0 -0.7
JSRW *e*ScP ScP 19 55 53.9 +1.5
JSRW **J. Sargeant Re** 50.83 264 *e*P P 19 50 40.0 -0.7
JSRW *e*ScP ScP 19 55 53.9 +1.5
RRI2 **Red Ridge** 50.85 298 P P 19 50 40.4 -0.8
comp=Z,307nm,1.9s
RRI2 **Red Ridge** 50.85 298 P P 19 50 40.4 -0.8
comp=Z,307nm,1.9s
BLO **Bloomington** 50.87 273 *e*P P 19 50 39.9 -1.1
BLO pmax pmax
comp=Z,82nm,0.8s
BLO **Bloomington** 50.87 273 *e*P P 19 50 39.9 -1.1
comp=Z,82nm,0.8s
BLO **Bloomington** 50.87 273 *e*P P 19 50 39.9 -1.1
comp=Z,82nm,0.8s
J16A **Bone** 50.97 298 ⇑P P 19 50 40.8 -1.2
baz=51,SNR=19
J15A **Blackfoot** 50.97 299 ⇑P P 19 50 40.7 -1.3
baz=51,SNR=22
I12A **Atlanta** 50.98 301 ⇓P P 19 50 40.5 -1.6
baz=51
K20A **Yellowstone Ra** 51.07 295 ⇑P P 19 50 42.0 -0.8
baz=51
HLID **Hailey** 51.10 301 *e*P P 19 50 42.4 -0.6
comp=Z,42nm,1.0s
HLID LR LR
comp=Z,2μm,20.0s
HLID **Hailey** 51.10 301 ⇑P P 19 50 41.8 -1.2
baz=51,SNR=14
HLID **Hailey** 51.10 301 *e*P P 19 50 42.4 -0.6
comp=Z,42nm,1.0s
L24A **Wheatland** 51.13 292 ⇑P P 19 50 42.0 -1.2
baz=51
BW06 **Boulder Array** 51.15 296 *e*P P 19 50 43.2 -0.2
comp=Z,80nm,1.4s
BW06 LR LR
comp=Z,2μm,21.0s
BW06 **Boulder Array** 51.15 296 ⇓P P 19 50 42.4 -1.0
baz=51
BW06 **Boulder Array** 51.15 296 *e*P P 19 50 43.2 -0.2
comp=Z,80nm,1.4s
PDAR **Pinedale Array** 51.15 296 P P 19 50 42.4 -1.0
comp=Z,28nm,1.3s,baz=53,slow=5.3,SNR=15
PDAR LR LR 20 12 42.5
comp=Z,2μm,18.5s,baz=22,slow=36
PDAR **Pinedale Array** 51.15 296 P P 19 50 42.4 -1.0
PDAR **Pinedale Array** 51.15 296 P P 19 50 42.4 -1.0
L23A **Garrett** 51.19 292 ⇑P P 19 50 42.4 -1.3
baz=51
J14A **Carey** 51.20 300 ⇓P P 19 50 42.8 -0.9
baz=51
M27A **Reverse DX Ran** 51.23 289 ⇑P P 19 50 42.4 -1.5
baz=51
J13A **Cove Ranch, Pi** 51.23 300 ⇓P P 19 50 42.6 -1.3
baz=51,SNR=58
K18A **Toltan Ranch,** 51.35 296 ⇓P P 19 50 43.8 -1.1
baz=51,SNR=16
L22A **Ellis Ranch, M** 51.38 293 ⇑P P 19 50 44.1 -1.1
baz=51
AHID **Auburn Hatcher** 51.39 297 P P 19 50 45.3 +0.1
comp=Z,51nm,1.0s
AHID LR LR
comp=Z,2μm,19.0s
AHID **Auburn Hatcher** 51.39 297 P P 19 50 45.3 +0.1
comp=Z,51nm,1.0s
K16A **Soda Springs** 51.40 298 ⇓P P 19 50 44.5 -0.7
baz=51,SNR=26
M26A **McRoberts Ranc** 51.41 290 ⇑P P 19 50 44.4 -0.8
baz=51
MFID **Camas Ranch** 51.45 302 *e*P P 19 50 44.2 -1.3
comp=Z,42nm,0.9s
MFID **Camas Ranch** 51.45 302 ⇓P P 19 50 44.3 -1.3
baz=51,SNR=12
MFID **Camas Ranch** 51.45 302 *e*P P 19 50 44.2 -1.3
comp=Z,42nm,0.9s
YSS **Yuzh-Sakhalins** 51.49 31 PFAKE 19 51 00.0 +14
YSS LR LR
comp=Z,236nm,21.0s
OLIL **Olney** 51.56 275 *e*P P 19 50 45.1 -1.2
comp=Z,56nm,0.9s
OLIL **Olney** 51.56 275 *e*P P 19 50 45.1 -1.2
comp=Z,56nm,0.9s
M25A **Palm-Egli Farm** 51.59 291 ⇓P P 19 50 45.6 -1.0
baz=51
L21A **Rawlins** 51.59 294 ⇓P P 19 50 45.4 -1.3
baz=51
VWCC **Virginia Weste** 51.62 266 *e*P P 19 50 46.2 -0.6
VWCC **Virginia Weste** 51.62 266 *e*P P 19 50 46.2 -0.6
M24A **Cheyenne** 51.68 291 ⇓P P 19 50 46.0 -1.4
baz=51,SNR=5.0
K15A **Arbon** 51.68 299 ⇓P P 19 50 46.4 -0.9
baz=51,SNR=18
L20A **Wamsutter** 51.70 295 ⇓P P 19 50 45.9 -1.7
baz=51
BLA **Blacksburg** 51.73 267 PFAKE 19 51 00.0 +12
BLA LR LR
comp=Z,1μm,20.0s
OGNE **Ogallala** 51.74 289 *e*P P 19 50 46.1 -1.6
comp=Z,109nm,0.9s
OGNE LR LR
comp=Z,2μm,19.0s
OGNE **Ogallala** 51.74 289 ⇑P P 19 50 46.7 -1.0
baz=51
OGNE **Ogallala** 51.74 289 *e*P P 19 50 46.1 -1.6
comp=Z,109nm,0.9s
WCI **Wyandotte Cave** 51.75 273 *e*P P 19 50 46.5 -1.2
WCI pmax pmax
comp=Z,63nm,1.3s
WCI **Wyandotte Cave** 51.75 273 *e*P P 19 50 46.5 -1.2
comp=Z,63nm,1.3s
WCI **Wyandotte Cave** 51.75 273 *e*P P 19 50 46.5 -1.2
comp=Z,63nm,1.3s
L19A **Farson** 51.77 296 ⇑P P 19 50 46.6 -1.4
baz=52
ELN **Prospectdale** 51.77 267 *e*P P 19 50 45.3 -2.6
ELN **Prospectdale** 51.77 267 *e*P P 19 50 45.3 -2.6
M23A **Laramie** 51.82 292 ⇓P P 19 50 47.3 -1.2
baz=52
K14A **Jones Ranch, D** 51.91 299 ⇓P P 19 50 48.0 -1.0
baz=52,SNR=18
M21A **Separation Pea** 51.94 294 ⇑P P 19 50 48.2 -1.2
baz=52,SNR=17
N27A **Anderson Farm,** 51.95 289 ⇑P P 19 50 48.6 -0.8
baz=52
M22A **Cedar Creek Ra** 52.02 293 ⇑P P 19 50 49.1 -0.8
baz=52
N26A **Koester Ranch,** 52.04 290 ⇑P P 19 50 49.0 -1.0
baz=52
L18A **Fontenelle, Gr** 52.05 296 ⇑P P 19 50 49.3 -0.8
baz=52
L16A **Fish Haven** 52.17 298 ⇓P P 19 50 49.4 -1.7
baz=52,SNR=11
M20A **Sweetwater, Wa** 52.19 294 ⇑P P 19 50 49.5 -1.7
baz=52,SNR=7.5
USIN **University of** 52.24 274 *e*P P 19 50 50.3 -1.0
comp=Z,140nm,1.1s
USIN **University of** 52.24 274 *e*P P 19 50 50.3 -1.0
comp=Z,140nm,1.1s
N24A **Carr** 52.31 291 ⇓P P 19 50 51.1 -1.0
baz=52,SNR=6.5
M19A **Rock Springs** 52.32 295 ⇓P P 19 50 50.7 -1.4
baz=52
L15A **Malad City** 52.33 298 ⇓P P 19 50 50.7 -1.4
baz=52,SNR=18
N23A **Red Feather La** 52.41 292 ⇑P P 19 50 51.7 -1.2
baz=52,SNR=11
L14A **Malta** 52.42 299 ⇓P P 19 50 52.5 -0.4
baz=52,SNR=5.9
MDJ **Mudanjiang** 52.45 43 P P 19 50 52.0 -0.8
MDJ pP **pP** **19 50 55.1 -2.3**
MDJ PcP **PcP** **19 52 06.9 +3.7**
MDJ PP **PP** **19 52 53.7 +2.5**
MDJ ScP **ScP** **19 55 58.5 -0.9**
MDJ PcS **PcS** **19 56 00.9 -0.6**
MDJ S S 19 58 26.6 +8.5
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,160nm,3.4s
MDJ LR LR
comp=N,250nm,11.0s
MDJ LR LR
comp=E,900nm,13.8s
MDJ LR LR
comp=Z,600nm,9.7s
MDJ **Mudanjiang** 52.45 43 *e*P P 19 50 53.9 +1.1
comp=Z,28nm,0.9s
MDJ LR LR
comp=Z,594nm,21.0s
MDJ **Mudanjiang** 52.45 43 *e*P P 19 50 53.9 +1.1
comp=Z,28nm,0.9s
M18A **Lyman** 52.54 296 ⇓P P 19 50 52.2 -1.6
baz=52,SNR=5.4
O27A **Beecher Island** 52.55 289 ⇓P P 19 50 52.7 -1.0
baz=52
M17A **Scullys Gap (B** 52.59 297 ⇑P P 19 50 53.3 -0.8
baz=52,SNR=17
N22A **Wattenberg Ran** 52.59 293 ⇓P P 19 50 53.2 -1.0
baz=52
HWUT **Hardware Ranch** 52.59 298 *e*P P 19 50 53.9 -0.2
comp=Z,88nm,1.0s
HWUT **Hardware Ranch** 52.59 298 *e*P P 19 50 53.9 -0.2
comp=Z,88nm,1.0s
HVU **Hansel Valley** 52.60 299 *e*P P 19 50 53.7 -0.5
HVU pmax pmax
comp=Z,43nm,1.0s
HVU **Hansel Valley** 52.60 299 *e*P P 19 50 53.7 -0.5
comp=Z,43nm,1.0s

HVU	Hansel Valley	52.60	299	*e*P	P	19 50 53.7	-0.5
	comp=Z,43nm,1.0s						
O26A	Horse Wrangler	52.63	290	⇑P	P	19 50 53.7	-0.7
	baz=52						
KSU1	Kansas State U	52.64	283	*e*P	P	19 50 53.2	-1.1
	comp=Z,50nm,1.0s						
KSU1				LR	LR		
	comp=Z,3µm,19.0s						
KSU1	Kansas State U	52.64	283	*e*P	P	19 50 53.2	-1.1
	comp=Z,50nm,1.0s						
FVM	French Village	52.69	277	*e*P	P	19 50 52.0	-2.6
FVM				pmax	pmax		
	comp=Z,19nm,0.4s						
FVM	French Village	52.69	277	*e*P	P	19 50 52.0	-2.6
	comp=Z,19nm,0.4s						
FVM	French Village	52.69	277	*e*P	P	19 50 52.0	-2.6
	comp=Z,19nm,0.4s						
SIUC	Southern Illin	52.75	275	*e*P	P	19 50 53.9	-1.1
	comp=Z,78nm,0.8s						
SIUC	Southern Illin	52.75	275	*e*P	P	19 50 53.9	-1.1
	comp=Z,78nm,0.8s						
CN2	Changchun	52.76	47	*e*P	P	19 50 58.9	+3.8
CN2				*e*sP	sP	19 51 05.9	+4.5
CN2				*e*S	S	19 58 24.6	+2.4
CN2				SS	SS	20 02 00.7	+0.6
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1µm,13.0s						
CN2				LR	LR		
	comp=E,1µm,13.0s						
CN2				LR	LR		
	comp=Z,2µm,15.0s						
N21A	Black Mountain	52.80	294	⇓P	P	19 50 54.9	-0.8
	baz=52						
N20A	Spence Gulch,	52.84	294	⇓P	P	19 50 54.7	-1.3
	baz=52,SNR=11						
M15A	Larsen Ranch,	52.87	298	⇑P	P	19 50 54.9	-1.2
	baz=52,SNR=14						
O25A	Wiggins	52.89	290	⇑P	P	19 50 55.5	-0.8
	baz=53						
KBL	Kabul	52.89	103	*e*P	P	19 50 57.3	+0.9
	comp=Z,18nm,0.8s						
KBL	Kabul	52.89	103	*e*P	P	19 50 57.3	+0.9
	comp=Z,18nm,0.8s						
N18A	Larsen Ranch,	52.92	296	⇑P	P	19 50 55.5	-1.0
	baz=53,SNR=10						
TZTN	Tazewell	52.92	270	*e*P	P	19 50 55.6	-0.8
	comp=Z,70nm,1.0s						
TZTN	Tazewell	52.92	270	*e*P	P	19 50 55.6	-0.8
	comp=Z,70nm,1.0s						
N19A	John Jarvie Ra	52.92	295	⇑P	P	19 50 55.5	-1.1
	baz=53,SNR=10						
O23A	Lake Granby, G	53.08	292	⇑P	P	19 50 57.6	-0.2
	baz=53						
N17A	Moffit Pass	53.13	297	⇓P	P	19 50 56.7	-1.5
	baz=53,SNR=14						
USRK	Ussuriysk Arra	53.14	41	P	P	19 50 58.1	+0.3
	comp=Z,7.2nm,0.9s,baz=253,slow=2.0,SNR=4.7						
USRK				LR	LR	20 16 19.6	
	comp=Z,575nm,19.0s,baz=341,slow=39						
CNNC	Cliffs of the	53.23	264	*e*P	P	19 50 56.9	-1.7
	comp=Z,188nm,0.4s						
CNNC				LR	LR		
	comp=Z,2µm,19.0s						
CNNC	Cliffs of the	53.23	264	*e*P	P	19 50 56.9	-1.7
	comp=Z,188nm,0.4s						
O22A	Kremmling	53.23	293	⇑P	P	19 50 58.0	-1.0
	baz=53,SNR=14						
HUMO	Hull Mountain	53.24	308	*e*P	P	19 50 57.3	-1.4
	comp=Z,36nm,1.0s						
HUMO	Hull Mountain	53.24	308	*e*P	P	19 50 57.3	-1.4
	comp=Z,36nm,1.0s						
N16A	Rees Ranch, Co	53.28	297	⇑P	P	19 50 57.8	-1.4
	baz=53						
P26A	Davis Ranch, A	53.30	289	⇓P	P	19 50 58.4	-0.9
	baz=53						
O21A	Pagoda	53.32	293	⇑P	P	19 50 58.4	-1.2
	baz=53						
GTA	Gaotai	53.33	71	P	P	19 51 00.1	+0.6
GTA				pP	pP	19 51 04.6	+0.5
GTA				sP	sP	19 51 07.2	+1.4
GTA				PP	PP	19 53 01.7	+2.3
GTA				S	S	19 58 31.8	+1.4
GTA				sS	sS	19 58 39.1	+1.2
GTA				SS	SS	20 02 11.7	+2.1
GTA				pmax	pmax		
	comp=Z,11nm,1.5s						
GTA				pmax	pmax		
	comp=Z,230nm,5.5s						
GTA				LR	LR		
	comp=N,1µm,20.0s						
GTA				LR	LR		
	comp=E,2µm,18.3s						
GTA				LR	LR		
	comp=Z,1µm,19.0s						
ISCO	Idaho Springs	53.43	292	*e*P	P	19 51 00.3	-0.2
ISCO				pmax	pmax		
	comp=Z,51nm,1.5s						
ISCO				MLR	MLR		
	comp=Z,2µm,22.0s						
ISCO	Idaho Springs	53.43	292	*e*P	P	19 51 00.3	-0.2
	comp=Z,51nm,1.5s						
ISCO				LR	LR		
	comp=Z,2µm,22.0s						
ISCO	Idaho Springs	53.43	292	⇑P	P	19 50 59.5	-1.0
	baz=53,SNR=5.8						
ISCO	Idaho Springs	53.43	292	*e*P	P	19 51 00.3	-0.2
	comp=Z,51nm,1.5s						
P25A	Willow Gulch B	53.48	290	⇑P	P	19 50 59.1	-1.6
	baz=53						
O19A	Miners Draw (B	53.50	295	⇓P	P	19 50 58.7	-2.1
	baz=53						
O20A	White River Ci	53.52	294	⇑P	P	19 51 00.0	-1.0
	baz=53,SNR=20						
JLU	Jordanelle	53.56	297	*e*P	P	19 51 05.0	+3.7
	comp=Z,20nm,1.0s						
MOD	Modoc	53.57	306	*e*P	P	19 51 01.7	+0.4
	comp=Z,66nm,1.0s						
MOD	Modoc	53.57	306	*e*P	P	19 51 01.7	+0.4
	comp=Z,66nm,1.0s						
P24A	Kohler Place,	53.60	291	⇓P	P	19 50 59.7	-1.8
	baz=53						
DAU	Daniels Canyon	53.71	297	*e*P	P	19 51 01.9	-0.6
DAU	Daniels Canyon	53.71	297	*e*P	P	19 51 01.9	-0.6
DAU	Daniels Canyon	53.71	297	*e*P	P	19 51 01.9	-0.6
KSCO	Kaye Shedlock'	53.72	289	⇓P	P	19 51 00.8	-1.6
	baz=53						
HHC	Hu-ho-hao-te	53.75	60	*e*P	P	19 51 01.5	-1.1
HHC				pP	pP	19 51 05.9	-1.2
HHC				sP	sP	19 51 08.6	-0.3
HHC				PP	PP	19 53 05.2	+2.1
HHC				S	S	19 58 36.1	0.0
HHC				ScS	ScS	20 00 47.0	-4.0
HHC				SS	SKiKP	20 02 12.6	-2.7
HHC				pmax	pmax		
	comp=Z,35nm,1.2s						
HHC				pmax	pmax		
	comp=Z,200nm,5.6s						
HHC				LR	LR		
	comp=N,1µm,18.6s						
HHC				LR	LR		
	comp=E,3µm,19.0s						
HHC				LR	LR		
	comp=Z,2µm,23.5s						
P22A	Eagle	53.81	293	⇑P	P	19 51 01.9	-1.3
	baz=54						
TKL	Tuckaleechee C	53.82	269	P	P	19 51 01.9	-1.1
	comp=Z,43nm,1.0s,baz=27,slow=6.2,SNR=31						
TKL	Tuckaleechee C	53.82	269	*e*P	P	19 51 02.0	-1.1
TKL	Tuckaleechee C	53.82	269	*e*P	P	19 51 02.0	-1.1
O17A	Robinson Place	53.85	296	⇓P	P	19 51 01.8	-1.6
	baz=54,SNR=15						
PARMO	Parma	53.86	276	*e*P	P	19 51 03.3	0.0
PARMO	Parma	53.86	276	*e*P	P	19 51 03.3	0.0
P23A	Jefferson	53.88	292	⇑P	P	19 51 02.7	-1.1
	baz=54						
KMSC	Kings Mountain	53.91	267	⇑P	P	19 51 02.8	-0.9
	baz=54						
Q26A	Hugo	53.95	289	⇑P	P	19 51 02.9	-1.3
	baz=54						
ELK	Elko	53.98	301	*e*P	P	19 51 04.2	-0.2
ELK	Elko	53.98	301	*e*P	P	19 51 04.2	-0.2
P21A	Newcastle	53.99	293	⇑P	P	19 51 03.4	-1.1
	baz=54						
WVT	Waverly	54.05	274	*e*P	P	19 51 02.7	-2.0
WVT				pmax	pmax		
	comp=Z,25nm,1.1s						
WVT	Waverly	54.05	274	*e*P	P	19 51 02.7	-2.0
	comp=Z,25nm,1.1s						
WVT	Waverly	54.05	274	*e*P	P	19 51 02.7	-2.0
	comp=Z,25nm,1.1s						
YBH	Yreka Blue Hor	54.07	308	P	P	19 51 03.9	-1.0
	comp=Z,8.7nm,0.9s,baz=61,slow=3.7,SNR=8.8						
YBH	Yreka Blue Hor	54.07	308	P	P	19 51 03.9	-1.0
YBH	Yreka Blue Hor	54.07	308	P	P	19 51 03.8	-1.0
Q25A	Bedland, Calha	54.08	290	⇓P	P	19 51 04.0	-1.1
	baz=54						
P19A	Cripple Cowboy	54.12	295	⇑P	P	19 51 04.3	-1.1
	baz=54,SNR=18						
CPCT	Cooper Cave	54.15	270	*e*P	P	19 51 04.3	-1.1
CPCT	Cooper Cave	54.15	270	*e*P	P	19 51 04.3	-1.1
MPU	Maple Canyon	54.16	297	*e*P	P	19 51 06.0	+0.3
	comp=Z,24nm,1.0s						
MPU	Maple Canyon	54.16	297	*e*P	P	19 51 06.0	+0.3
	comp=Z,24nm,1.0s						
DUG	Dugway	54.16	298	*e*P	P	19 51 04.4	-1.2
DUG				pmax	pmax		
	comp=Z,29nm,0.9s						
DUG				MLR	MLR		
	comp=Z,1µm,19.0s						
DUG	Dugway	54.16	298	*e*P	P	19 51 04.4	-1.2
	comp=Z,29nm,0.9s						
DUG				LR	LR		
	comp=Z,1µm,19.0s						
DUG	Dugway	54.16	298	⇑P	P	19 51 04.9	-0.7
	baz=54,SNR=16						
DUG	Dugway	54.16	298	*e*P	P	19 51 04.4	-1.2
	comp=Z,29nm,0.9s						
P20A	De Beque	54.16	294	⇓P	P	19 51 05.1	-0.6
	baz=54,SNR=8.9						
MIB	Mutribah	54.17	126	*e*P	P	19 51 06.0	+0.4
MIB				AMb	AMB	19 51 13.3	
	comp=Z,61nm,0.9s						
MIB	Mutribah	54.17	126	*e*P	P	19 51 06.0	+0.4
	comp=Z,61nm,0.9s						
Q24A	Divide	54.17	291	⇓P	P	19 51 04.5	-1.5
	baz=54,SNR=14						
SMCO	Snowmass	54.26	293	*e*P	P	19 51 07.0	+0.4
	comp=Z,104nm,1.1s						
SMCO	Snowmass	54.26	293	*e*P	P	19 51 07.0	+0.4
	comp=Z,104nm,1.1s						
ASAJ	Asahikawa	54.29	31	LR	LR	20 13 38.2	
	comp=Z,528nm,20.0s,baz=179,slow=35						
P18A	Preston Nutter	54.33	296	⇓P	P	19 51 06.0	-1.0
	baz=54,SNR=6.3						
KRMB	Red Mountain	54.44	309	*e*P	P	19 51 08.3	+0.7
	comp=Z,366nm,2.6s						
KRMB	Red Mountain	54.44	309	*e*P	P	19 51 08.3	+0.7
	comp=Z,366nm,2.6s						
R27A	Eads	54.46	289	⇑P	P	19 51 06.7	-1.1
	baz=54						
SNY	Shenyang	54.46	49	⇓P	P	19 51 09.8	+2.2
SNY				S	S	19 58 52.6	+7.3
SNY				pmax	pmax		
	comp=Z,290nm,4.2s						
SNY				LR	LR		
	comp=N,670nm,16.2s						
SNY				LR	LR		
	comp=E,850nm,16.8s						
SNY				LR	LR		
	comp=Z,660nm,15.9s						
NIL	Nilore	54.47	99	PFAKE		19 51 20.0	+12
NIL				LR	LR		
	comp=Z,30nm,22.0s						
Q22A	Crested Butte,	54.55	293	⇓P	P	19 51 07.7	-1.0
	baz=54,SNR=10.0						
P16A	Fountain Green	54.56	297	⇑P	P	19 51 08.1	-0.5
	baz=54,SNR=11						
BMN	Battle Mountai	54.58	303	*e*P	P	19 51 08.1	-0.6
BMN				pmax	pmax		
	comp=Z,49nm,0.8s						
BMN				MLR	MLR		
	comp=Z,1µm,20.0s						
BMN	Battle Mountai	54.58	303	*e*P	P	19 51 08.1	-0.6
	comp=Z,49nm,0.8s						
BMN				LR	LR		
	comp=Z,1µm,20.0s						
BMN	Battle Mountai	54.58	303	*e*P	P	19 51 08.1	-0.6
	comp=Z,49nm,0.8s						
SWET	Sewanee	54.62	272	*e*P	P	19 51 06.8	-2.1
	comp=Z,37nm,0.8s						
SWET	Sewanee	54.62	272	*e*P	P	19 51 06.8	-2.1
	comp=Z,37nm,0.8s						
YUK	Yuzh-Kuril'sk	54.65	29	*i* P	P	19 51 07.3	-1.6
YUK				*i* PPP	PPP	19 54 22.5	
YUK				*e*S	S	19 58 48.0	+0.2
YUK				*i* SSS	SSS	20 04 33.2	
YUK				pmax	pmax		
	comp=Z,174nm,0.9s						
YUK				pmax	pmax		
	comp=N,108nm,1.0s						
YUK				pmax	pmax		
	comp=Z,169nm,1.0s						
YUK				pmax	pmax		
	comp=E,27nm,0.5s						
YUK				MLR	MLR		
	comp=Z,540nm,22.0s						
YUK				MLR	MLR		
	comp=N,476nm,22.0s						
Q20A	Ridgley Place,	54.68	294	⇑P	P	19 51 08.4	-1.1
	baz=54						
Q21A	Lamborn Mesa,	54.69	293	⇓P	P	19 51 09.1	-0.5
	baz=54						
NAY	Al-Naaiem	54.70	127	*e*P	P	19 51 09.4	-0.1
NAY				AMb	AMB	19 51 21.4	
	comp=Z,32nm,1.4s						
NAY	Al-Naaiem	54.70	127	*e*P	P	19 51 09.4	-0.1
	comp=Z,32nm,1.4s						
JSC	Jenkinsville	54.73	267	*e*P	P	19 51 08.9	-0.7
JSC	Jenkinsville	54.73	267	*e*P	P	19 51 08.9	-0.7
JSC	Jenkinsville	54.73	267	*e*P	P	19 51 08.9	-0.7
TMUT	Trail Mountain	54.80	297	*e*P	P	19 51 10.2	-0.3
	comp=Z,43nm,0.7s						
TMUT	Trail Mountain	54.80	297	*e*P	P	19 51 10.2	-0.3
	comp=Z,43nm,0.7s						
Q18A	Rafter H Ranch	54.82	296	⇓P	P	19 51 09.3	-1.1
	baz=54,SNR=7.2						
KBD	Kabd	54.84	126	*e*P	P	19 51 11.3	+0.8
KBD				AMb	AMB	19 51 22.2	
	comp=Z,65nm,1.1s						
KBD	Kabd	54.84	126	*e*P	P	19 51 11.3	+0.8
	comp=Z,65nm,1.1s						
SRU	San Rafael	54.88	296	*e*P	P	19 51 10.6	-0.3
SRU				pmax	pmax		
	comp=Z,24nm,1.0s						
SRU	San Rafael	54.88	296	*e*P	P	19 51 10.6	-0.3
	comp=Z,24nm,1.0s						
SRU	San Rafael	54.88	296	⇓P	P	19 51 09.9	-0.9
	baz=55						
SRU	San Rafael	54.88	296	*e*P	P	19 51 10.6	-0.3
	comp=Z,24nm,1.0s						
R24A	Sanders Place,	54.88	291	⇓P	P	19 51 09.8	-1.2
	baz=55						
R23A	Moffat	55.04	291	⇑P	P	19 51 11.0	-1.2
	baz=55,SNR=7.1						
KHMM	Horse Mountain	55.05	309	*e*P	P	19 51 10.5	-1.6
	comp=Z,83nm,1.2s						
KHMM	Horse Mountain	55.05	309	*e*P	P	19 51 10.5	-1.6
	comp=Z,83nm,1.2s						
RDF	Al-Radifah	55.06	126	*e*P	P	19 51 12.5	+0.4
RDF				AMb	AMB	19 51 18.6	
	comp=Z,36nm,1.1s						
RDF	Al-Radifah	55.06	126	*e*P	P	19 51 12.5	+0.4
	comp=Z,36nm,1.1s						
R21A	Cimarron	55.14	293	⇑P	P	19 51 11.9	-1.0
	baz=55,SNR=6.4						
R22A	Saguache, Gunn	55.15	292	⇑P	P	19 51 12.1	-0.9
	baz=55						
Q16A	Castle Valley	55.16	297	⇓P	P	19 51 12.4	-0.6
	baz=55,SNR=18						
WDC	Whiskeytown Da	55.18	307	*e*P	P	19 51 11.4	-1.4
WDC				pmax	pmax		
	comp=Z,36nm,1.2s						
WDC	Whiskeytown Da	55.18	307	*e*P	P	19 51 11.3	-1.4
	comp=Z,36nm,1.2s						
WDC	Whiskeytown Da	55.18	307	*e*P	P	19 51 11.4	-1.4
	comp=Z,36nm,1.2s						
BJI	Beijing	55.22	56	P	P	19 51 12.6	-0.4
BJI				S	S	19 58 55.0	-0.5
BJI				SS	SS	20 02 40.8	+1.9
BJI				pmax	pmax		
	comp=Z,11nm,1.3s						
BJI				pmax	pmax		
	comp=Z,390nm,4.6s						
BJI				LR	LR		
	comp=N,2µm,17.7s						
BJI				LR	LR		
	comp=E,2µm,19.0s						
BJI				LR	LR		
	comp=Z,1µm,19.4s						
PLAL	Pickwick Lake	55.22	274	PFAKE		19 51 20.0	+6.9
PLAL				LR	LR		
	comp=Z,1µm,19.0s						
S26A	Kim	55.22	289	⇑P	P	19 51 12.5	-0.8
	baz=55						
BJT	Baijiatuau	55.24	56	PFAKE		19 51 30.0	+17
BJT				LR	LR		
	comp=Z,1µm,20.0s						
PV04	Paradox Valley	55.33	294	*e*P	P	19 51 14.3	+0.2
PV04	Paradox Valley	55.33	294	*e*P	P	19 51 14.3	+0.2
S25A	Robets Cordova	55.33	290	⇑P	P	19 51 13.2	-1.0
	baz=55,SNR=13						
R20A	Redvale	55.44	294	⇓P	P	19 51 14.3	-0.7
	baz=55,SNR=5.3						
S24A	Houchin Ranch,	55.48	291	⇑P	P	19 51 14.0	-1.4
	baz=55						
R19A	Curley Farm, L	55.48	295	⇑P	P	19 51 14.5	-0.8
	baz=55,SNR=7.7						
T28A	Walsh	55.49	288	⇑P	P	19 51 14.4	-0.8
	baz=55,SNR=5.8						
R18A	Canyonlands Na	55.49	295	⇓P	P	19 51 14.2	-1.1
	baz=55,SNR=6.8						
PV01	Paradox Valley	55.53	294	*e*P	P	19 51 14.6	-1.0
	comp=Z,10µm,0.9s						
PV01	Paradox Valley	55.53	294	*e*P	P	19 51 14.6	-1.0
	comp=Z,10µm,0.9s						
R17A	Hanksville Air	55.58	296	⇑P	P	19 51 15.2	-0.7
	baz=55,SNR=21						
TUL1	Tulsa	55.62	281	⇓P	P	19 51 14.7	-1.3
	baz=55						
S22A	4UR Ranch, Cre	55.63	292	⇓P	P	19 51 15.8	-0.7
	baz=55,SNR=6.2						
T27A	Campo	55.64	288	⇓P	P	19 51 15.3	-1.0
	baz=55						
T26A	Comanche Natio	55.67	289	⇓P	P	19 51 16.9	+0.2
	baz=55,SNR=6.4						
NHSC	New Hope	55.70	265	*e*P	P	19 51 16.2	-0.4
	comp=Z,166nm,1.0s						
NHSC				LR	LR		
	comp=Z,2µm,20.0s						
NHSC	New Hope	55.70	265	*e*P	P	19 51 16.2	-0.4
	comp=Z,166nm,1.0s						
MSU	Marysvale	55.71	297	*e*P	P	19 51 16.4	-0.6
MSU	Marysvale	55.71	297	*e*P	P	19 51 16.4	-0.6
MSU	Marysvale	55.71	297	*e*P	P	19 51 16.4	-0.6
S20A	Disappointment	55.79	294	⇓P	P	19 51 16.8	-0.7
	baz=56,SNR=12						
R16A	Teasdale	55.83	297	⇓P	P	19 51 17.6	-0.2
	baz=56,SNR=6.3						
T25A	Trinidad	55.84	290	⇓P	P	19 51 17.0	-0.9
	baz=56						
S21A	Coal Bank Pass	55.87	293	⇓P	P	19 51 17.5	-0.7
	baz=56,SNR=7.0						
OXF	Oxford	55.90	275	*e*P	P	19 51 15.7	-2.4
OXF				pmax	pmax		
	comp=Z,120nm,0.6s						
OXF				MLR	MLR		
	comp=Z,1µm,19.0s						
OXF	Oxford	55.90	275	*e*P	P	19 51 15.7	-2.4
	comp=Z,120nm,0.6s						
OXF				LR	LR		
	comp=Z,1µm,19.0s						
OXF	Oxford	55.90	275	*e*P	P	19 51 15.7	-2.4
	comp=Z,120nm,0.6s						
GOGA	Godfrey	55.96	269	*e*P	P	19 51 17.1	-1.4
GOGA				pmax	pmax		
	comp=Z,57nm,0.9s						
GOGA				MLR	MLR		
	comp=Z,894nm,19.0s						
GOGA	Godfrey	55.96	269	*e*P	P	19 51 17.1	-1.4
	comp=Z,57nm,0.9s						
GOGA				LR	LR		
	comp=Z,894nm,19.0s						
GOGA	Godfrey	55.96	269	*e*P	P	19 51 17.1	-1.4
	comp=Z,57nm,0.9s						
S19A	Harvey Farm, M	56.00	294	⇓P	P	19 51 18.2	-0.8
	baz=56,SNR=21						
R15A	Junction	56.02	297	⇑P	P	19 51 18.6	-0.6
	baz=56,SNR=6.9						
KIPM	Iron Peak	56.07	308	*e*P	P	19 51 19.5	+0.1
	comp=Z,53nm,1.4s						
KIPM	Iron Peak	56.07	308	*e*P	P	19 51 19.5	+0.1
	comp=Z,53nm,1.4s						
UALR	University of	56.15	278	*e*P	P	19 51 18.5	-1.3
	comp=Z,50nm,1.0s						
UALR	University of	56.15	278	*e*P	P	19 51 18.5	-1.3
	comp=Z,50nm,1.0s						
S18A	Hurst Farm, Bl	56.18	295	⇑P	P	19 51 19.8	-0.6
	baz=56,SNR=10						
KCPM	Cahto Peak	56.20	308	*e*P	P	19 51 19.8	-0.5
	comp=Z,18nm,0.9s						
KCPM	Cahto Peak	56.20	308	*e*P	P	19 51 19.8	-0.5
	comp=Z,18nm,0.9s						
OHCM	Honcut	56.26	306	*e*P	P	19 51 19.8	-0.7
OHCM	Honcut	56.26	306	*e*P	P	19 51 19.8	-0.7
R13A	O'Grain Ranch,	56.31	299	⇑P	P	19 51 20.5	-0.7
	baz=56,SNR=15						
T22A	Edith	56.36	292	⇓P	P	19 51 21.2	-0.4
	baz=56						
S17A	Black Ridge (B	56.36	296	⇓P	P	19 51 20.9	-0.6
	baz=56,SNR=7.8						
R11A	Troy Canyon, C	56.38	301	⇑P	P	19 51 20.7	-1.0
	baz=56,SNR=34						
S16A	Weppner Ranch,	56.40	297	⇑P	P	19 51 20.8	-1.0
	baz=56,SNR=7.3						
MVCO	Mesa Verde	56.42	294	*e*P	P	19 51 22.8	+0.8
	comp=Z,103nm,1.3s						
MVCO				LR	LR		
	comp=Z,2µm,20.0s						
MVCO	Mesa Verde	56.42	294	⇑P	P	19 51 21.4	-0.7
	baz=56,SNR=9.7						
MVCO	Mesa Verde	56.42	294	*e*P	P	19 51 22.8	+0.8
	comp=Z,103nm,1.3s						
ERM	Erimo	56.42	31	P	P	19 51 21.6	-0.1
ERM				pmax	pmax		
	comp=Z,36nm,0.9s						
ERM				MLR	MLR		
	comp=Z,584nm,19.0s						
ERM	Erimo	56.42	31	P	P	19 51 21.6	-0.1
	comp=Z,36nm,0.9s						
ERM				LR	LR		
	comp=Z,584nm,19.0s						
ERM	Erimo	56.42	31	P	P	19 51 21.6	-0.1
	comp=Z,36nm,0.9s						
U26A	Atchley Ranch,	56.46	289	⇓P	P	19 51 21.3	-1.0
	baz=56						
T21A	Navajo Lake	56.48	293	⇓P	P	19 51 21.6	-0.9
	baz=56,SNR=5.8						
U25A	Circle Dot Ran	56.56	290	⇑P	P	19 51 21.8	-1.2
	baz=56,SNR=6.6						
MIAR	Mount Ida	56.58	279	*e*P	P	19 51 21.5	-1.4
MIAR				pmax	pmax		
	comp=Z,63nm,0.8s						
MIAR				MLR	MLR		
	comp=Z,2µm,19.0s						
MIAR	Mount Ida	56.58	279	*e*P	P	19 51 21.5	-1.4
	comp=Z,63nm,0.8s						
MIAR				LR	LR		
	comp=Z,2µm,19.0s						
MIAR	Mount Ida	56.58	279	*e*P	P	19 51 21.5	-1.4
	comp=Z,63nm,0.8s						
V29A	Stinnett	56.61	287	⇓P	P	19 51 21.9	-1.3
	baz=56						
ARUT	Antelope Range	56.62	298	P	P	19 51 25.1	+1.8
ARUT	Antelope Range	56.62	298	P	P	19 51 25.1	+1.8
ARUT	Antelope Range	56.62	298	P	P	19 51 25.1	+1.8
NVAR	Mina Array Bea	56.70	303	P	P	19 51 23.4	-0.6
	comp=Z,20nm,0.9s,baz=18,slow=4.4,SNR=32						
NVAR				LR	LR	20 16 43.5	
	comp=Z,1µm,21.8s,baz=163,slow=37						
NVAR	Mina Array Bea	56.70	303	P	P	19 51 23.4	-0.6
NVAR	Mina Array Bea	56.70	303	P	P	19 51 23.4	-0.6
CCUT	Cedar City	56.84	298	*e*P	P	19 51 26.3	+1.3
	comp=Z,39nm,1.1s						
CCUT	Cedar City	56.84	298	*e*P	P	19 51 26.3	+1.3
	comp=Z,39nm,1.1s						
V28A	Channing	56.84	287	⇓P	P	19 51 23.9	-1.0
	baz=57						

TPH Tonopah 56.89 302 PFAKE 19 51 40.0 +15
TPH LR LR
comp=Z,2µm,19.0s
U23A El Rito 56.92 291 ⇑P P 19 51 24.7 -0.9
baz=57
LRAL Lakeview Retre 56.93 272 eP P 19 51 23.0 -2.4
comp=Z,56nm,1.8s
LRAL LR LR
comp=Z,945nm,20.0s
LRAL Lakeview Retre 56.93 272 eP P 19 51 23.0 -2.4
comp=Z,56nm,1.8s
U22A Llaves 56.98 292 ⇓P P 19 51 25.7 -0.3
baz=57
V26A Tequesquite Ra 57.05 289 ⇑P P 19 51 25.4 -1.0
baz=57
V25A Rancho No Teng 57.15 290 ⇑P P 19 51 26.3 -0.8
baz=57
LZH Lanzhou 57.23 68 eP P 19 51 27.8 +0.1
LZH pP **pP 19 51 31.1 -1.2**
LZH PP **PP 19 53 36.0 +1.7**
LZH eS **S 19 59 21.0 -1.7**
LZH SS **SS 20 03 10.0 -1.1**
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH LR LR
comp=N,700nm,14.0s
LZH LR LR
comp=E,2µm,16.2s
LZH LR LR
comp=Z,2µm,19.3s
U20A Newcomb 57.24 293 ⇑P P 19 51 26.6 -1.2
baz=57
WMOK Wichita Mounta 57.27 284 eP P 19 51 25.3 -2.5
WMOK pmax pmax
comp=Z,14nm,0.6s
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 57.27 284 eP P 19 51 25.3 -2.5
comp=Z,14nm,0.6s
WMOK LR LR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 57.27 284 eP P 19 51 25.3 -2.5
comp=Z,14nm,0.6s
V24A Rampart Ranch, 57.36 290 ⇓P P 19 51 28.2 -0.5
baz=57
V22A San Miguel Ran 57.44 292 ⇓P P 19 51 28.5 -0.8
baz=57,SNR=13
TAM Tamanrasset 57.57 172 eP P 19 51 31.8 +1.6
TAM pmax pmax
comp=Z,21nm,1.3s
TAM MLR MLR
comp=Z,290nm,21.0s
TAM Tamanrasset 57.57 172 eP P 19 51 31.8 +1.6
comp=Z,21nm,1.3s
TAM LR LR
comp=Z,290nm,21.0s
TAM Tamanrasset 57.57 172 eP P 19 51 31.8 +1.6
comp=Z,21nm,1.3s
AMTX Amarillo 57.60 287 PFAKE 19 51 40.0 +10
AMTX LR LR
comp=Z,2µm,19.0s
W27A Bowe Ranch, En 57.65 288 ⇑P P 19 51 29.4 -1.2
baz=57,SNR=5.8
W25A X Bar L Ranch, 57.73 289 ⇑P P 19 51 30.0 -1.2
baz=57
W26A Owens Ranch, T 57.74 289 ⇑P P 19 51 30.6 -0.7
baz=57
U15A North Rim 57.77 297 ⇑P P 19 51 30.6 -1.1
baz=58,SNR=5.6
V20A Brimhall 57.80 293 ⇑P P 19 51 30.5 -1.2
baz=58,SNR=5.4
W24A Lazy 6 Ranch, 57.89 290 ⇑P P 19 51 31.2 -1.2
baz=58,SNR=6.6
X29A Tulia 58.03 287 ⇑P P 19 51 31.9 -1.4
baz=58
TIN Tinemaha 58.04 303 ⇑P P 19 51 32.3 -1.0
baz=58,SNR=15
X28A Dimmitt 58.04 287 ⇑P P 19 51 32.6 -0.8
baz=58
W23A Werner Place, 58.05 291 ⇑P P 19 51 32.3 -1.3
baz=58
X27A F and S Farms, 58.06 288 ⇓P P 19 51 32.5 -1.1
baz=58
X26A CR and CF Fran 58.27 289 ⇑P P 19 51 34.2 -0.8
baz=58
ANMO Albuquerque 58.31 291 P P 19 51 34.1 -1.2
comp=Z,5.3nm,0.9s,baz=19,slow=7.3,SNR=9.7
ANMO Albuquerque 58.31 291 eP P 19 51 35.1 -0.3
ANMO Albuquerque 58.31 291 eP P 19 51 35.1 -0.3
VBMS Vicksburg 58.33 275 eP P 19 51 35.1 -0.1
comp=Z,120nm,1.1s
VBMS LR LR
comp=Z,2µm,20.0s
VBMS Vicksburg 58.33 275 eP P 19 51 35.1 -0.1
comp=Z,120nm,1.1s
FURC Furnace Creek, 58.41 301 ⇑P P 19 51 34.9 -0.9
baz=58
X25A Clemmons Ranch 58.44 289 ⇑P P 19 51 35.0 -1.2
baz=58
W20A Ramah 58.46 293 ⇓P P 19 51 35.0 -1.4
baz=58
WUAZ Wupatki 58.53 296 eP P 19 51 36.5 -0.3
comp=Z,54nm,0.9s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 58.53 296 ⇑P P 19 51 36.0 -0.8
baz=58
WUAZ Wupatki 58.53 296 eP P 19 51 36.5 -0.3
comp=Z,54nm,0.9s
DDI Dehra Dun 58.53 95 ex P 19 51 32.5 -4.3
W18A Petrified Fore 58.66 294 ⇓P P 19 51 36.7 -1.0
baz=58,SNR=5.8
MSTX Muleshoe 58.67 287 ⇓P P 19 51 36.9 -0.9
baz=58
DAC Darwin (Calif) 58.71 302 PFAKE 19 51 50.0 +12
DAC LR LR
comp=Z,2µm,19.0s
SAO San Andreas Ge 58.78 306 eP P 19 51 38.9 +0.5
SAO pmax pmax
comp=Z,37nm,1.0s
SAO San Andreas Ge 58.78 306 eP P 19 51 38.9 +0.5
comp=Z,37nm,1.0s
SAO San Andreas Ge 58.78 306 eP P 19 51 38.9 +0.5
comp=Z,37nm,1.0s
Y27A Causey 58.82 288 ⇓P P 19 51 37.8 -1.0
baz=58
X22A Bernardo 58.83 292 ⇓P P 19 51 38.3 -0.6
baz=58
Y26A Elida 58.89 288 ⇓P P 19 51 38.7 -0.7
baz=59
MPMC Manual Prospec 58.91 302 ⇓P P 19 51 38.9 -0.6
baz=59,SNR=30
BRAL Brewton 58.92 272 PFAKE 19 51 50.0 +11
BRAL LR LR
comp=Z,1µm,19.0s
LAZ Ladron 58.95 292 eP P 19 51 39.0 -0.8
comp=Z,15nm,1.1s
LAZ Ladron 58.95 292 eP P 19 51 39.0 -0.8
comp=Z,15nm,1.1s
LPM Los Pinos Moun 58.96 291 eP P 19 51 39.5 -0.4
LPM Los Pinos Moun 58.96 291 eP P 19 51 39.5 -0.4
X21A Alamocita Cree 59.02 292 ⇑P P 19 51 40.0 -0.3
baz=59
Y25A Mesa, Roswell 59.03 289 ⇑P P 19 51 39.4 -0.9
baz=59,SNR=7.5
X20A Quemado 59.03 293 ⇓P P 19 51 40.1 -0.3
baz=59,SNR=5.2
BNM Barren Site 59.12 291 eP P 19 51 40.4 -0.7
comp=Z,17nm,0.9s
BNM Barren Site 59.12 291 eP P 19 51 40.3 -0.7
comp=Z,17nm,0.9s
Y24A Capitan 59.15 290 ⇓P P 19 51 40.2 -1.0
baz=59,SNR=6.6
LENM Lemitar 59.16 292 eP P 19 51 41.3 +0.1
LENM Lemitar 59.16 292 eP P 19 51 41.3 +0.1
Z29A Hungry Hill Ra 59.19 286 ⇓P P 19 51 41.0 -0.3
baz=59
Y23A Lovelace Mesa, 59.24 291 ⇑P P 19 51 41.3 -0.5
baz=59
Z28A Tucker Farm, M 59.28 287 ⇑P P 19 51 41.6 -0.3
baz=59
TUQ Turquoise Moun 59.29 300 ⇓P P 19 51 41.8 -0.3
baz=59,SNR=9.2
W13A Hualapai Mount 59.32 298 ⇓P P 19 51 41.9 -0.5
baz=59,SNR=18

KSRS Korea Array 59.32 46 P P 19 51 42.4 +0.3
comp=Z,3.9nm,0.9s,baz=357,slow=7.4,SNR=9.1
KSRS LR LR 20 18 38.2
comp=Z,525nm,18.9s,baz=352,slow=37
KSAR Wonju Array Be 59.33 46 P P 19 51 42.4 +0.2
KSAR Wonju Array Be 59.33 46 P P 19 51 42.3 +0.2
VES Vestal, Richgr 59.35 303 ⇑P P 19 51 42.0 -0.3
baz=59
Y22A Socorro 59.38 291 ⇑P P 19 51 42.1 -0.7
baz=59
Z27A Tatum 59.39 288 ⇓P P 19 51 42.2 -0.5
baz=59,SNR=20
ISA Isabella 59.44 303 eP P 19 51 43.1 0.0
ISA pmax pmax
comp=Z,53nm,1.0s
ISA Isabella 59.44 303 eP P 19 51 43.1 0.0
comp=Z,52nm,1.0s
ISA Isabella 59.44 303 ⇓P P 19 51 42.5 -0.6
baz=59,SNR=21
ISA Isabella 59.44 303 eP P 19 51 43.1 0.0
comp=Z,52nm,1.0s
ABTX Abilene, Hawle 59.47 284 ⇑P P 19 51 42.7 -0.6
baz=59
NATX Nacogdoches 59.48 279 eP P 19 51 43.6 +0.3
comp=Z,83nm,0.7s
NATX LR LR
comp=Z,2µm,21.0s
NATX Nacogdoches 59.48 279 eP P 19 51 43.6 +0.3
comp=Z,83nm,0.7s
LRMC Laurel Mountai 59.51 302 ⇓P P 19 51 44.1 +0.5
baz=59,SNR=12
LDFC Landfair 59.52 299 eP P 19 51 42.5 -1.2
comp=Z,77nm,1.1s
LDFC Landfair 59.52 299 eP P 19 51 42.5 -1.2
comp=Z,77nm,1.1s
Z26A Caprock 59.55 288 ⇑P P 19 51 43.1 -0.7
baz=59,SNR=6.1
GSC Goldstone 59.55 301 eP P 19 51 44.2 +0.3
GSC pmax pmax
comp=Z,64nm,1.1s
GSC Goldstone 59.55 301 eP P 19 51 44.2 +0.3
comp=Z,64nm,1.1s
GSC Goldstone 59.55 301 ⇑P P 19 51 43.3 -0.6
baz=59,SNR=23
GSC Goldstone 59.55 301 eP P 19 51 44.2 +0.3
comp=Z,64nm,1.1s
X16A Lo Mia Camp, P 59.61 296 ⇓P P 19 51 43.9 -0.5
baz=59,SNR=5.3
Y20A Horse Springs, 59.63 293 ⇑P P 19 51 43.7 -0.9
baz=59
Z25A Roswell 59.66 289 ⇑P P 19 51 44.4 -0.3
baz=59
PTRM Twissleman Ran 59.70 304 eP P 19 51 44.9 +0.1
PTRM Twissleman Ran 59.70 304 eP P 19 51 44.9 +0.1
Z24A Sheeppen Canyo 59.72 290 ⇓P P 19 51 44.5 -0.6
baz=59
WHTX Lake Whitney 59.73 282 ⇓P P 19 51 44.9 0.0
baz=60
GMRC Granite Mounta 59.90 300 ⇓P P 19 51 46.0 -0.3
baz=60,SNR=19
128A Castleberry Fa 59.95 287 ⇓P P 19 51 45.8 -0.8
baz=60
HEC Hector,Ludlow 59.95 300 ⇑P P 19 51 45.9 -0.6
baz=60,SNR=26
XAN Xi'an 60.03 64 P P 19 51 48.4 +1.3
XAN pP pP 19 51 55.6 +3.9
XAN pmax pmax
comp=Z,3.0nm,1.6s
XAN pmax pmax
comp=Z,33nm,4.6s
Z22A Elephant Butte 60.05 291 ⇓P P 19 51 46.3 -1.1
baz=60
PDMCI Parker Dam,Lak 60.14 298 ⇓P P 19 51 47.3 -0.4
baz=60,SNR=15
EDW2 Edwards Air Fo 60.14 302 ⇓P P 19 51 46.7 -1.1
baz=60,SNR=16
126A Clayton Basin, 60.17 288 ⇑P P 19 51 47.1 -1.1
baz=60
125A Gardner Draw, 60.26 289 ⇑P P 19 51 47.9 -0.9
baz=60,SNR=9.1
Y14A Wickenburg 60.32 297 ⇑P P 19 51 48.8 -0.3
baz=60,SNR=5.6
124A Stringfield Ra 60.35 290 ⇑P P 19 51 48.5 -1.0
baz=60,SNR=12
IRM Iron Mountain 60.43 299 ⇑P P 19 51 49.4 -0.4
baz=60,SNR=15
Z20A Nine Sixteen R 60.45 293 ⇓P P 19 51 49.3 -0.8
baz=60,SNR=6.0
228A UT Block 9, Go 60.45 287 ⇑P P 19 51 49.3 -0.8
baz=60
229A Bryant Ranch, 60.48 286 ⇓P P 19 51 49.5 -0.6
baz=60
OSI Osito Adit 60.51 303 eP P 19 51 51.5 +1.2
comp=Z,68nm,1.0s
OSI Osito Adit 60.51 303 eP P 19 51 51.5 +1.2
comp=Z,68nm,1.0s
CLNB Carlsbad 60.52 288 eP P 19 51 50.9 +0.3
comp=Z,14nm,0.7s
CLNB Carlsbad 60.52 288 eP P 19 51 50.8 +0.3
comp=Z,14nm,0.7s
GDL2 Guadalupe Moun 60.66 289 eP P 19 51 51.2 -0.3
GDL2 Guadalupe Moun 60.66 289 eP P 19 51 51.2 -0.3
227A Bennet, Jal 60.67 288 ⇑P P 19 51 50.7 -0.9
baz=60
BELC Belle Mtn. Jos 60.71 300 ⇓P P 19 51 50.9 -0.9
baz=60,SNR=16
BFSC Mount Baldy Ra 60.72 302 ⇓P P 19 51 51.2 -0.7
baz=60,SNR=13
Y12C Blythe 60.74 299 ⇓P P 19 51 51.0 -0.9
baz=60,SNR=11
MWC Mount Wilson 60.80 302 eP P 19 51 53.0 +0.5
MWC pmax pmax
comp=Z,79nm,1.0s
MWC Mount Wilson 60.80 302 eP P 19 51 53.0 +0.5
comp=Z,79nm,1.0s
MWC Mount Wilson 60.80 302 eP P 19 51 53.0 +0.5
comp=Z,79nm,1.0s
225A Deer Hill, Car 60.83 289 ⇓P P 19 51 51.6 -1.2
baz=60
PASC Pasadena Art C 60.87 302 eP P 19 51 53.6 +0.9
comp=Z,45nm,1.0s
PASC Pasadena Art C 60.87 302 eP P 19 51 53.6 +0.9
comp=Z,45nm,1.0s
Z14A Wiersburg 60.88 297 ⇑P P 19 51 52.2 -0.6
baz=61,SNR=5.3
121A Cookes Peak, D 60.89 292 ⇑P P 19 51 51.7 -1.4
baz=61
BC3 Big Chuckawall 60.97 299 ⇓P P 19 51 53.1 -0.5
baz=61,SNR=9.9
329A Wagon Wheel Ra 60.97 286 ⇓P P 19 51 52.6 -1.0
baz=61
224A Cornudas Mount 60.97 290 ⇑P P 19 51 52.4 -1.2
baz=61
120A U Bar Ranch, L 61.01 293 ⇓P P 19 51 52.6 -1.3
baz=61,SNR=5.6
BLG Laguna Peak 61.05 303 ⇓P P 19 51 53.4 -0.7
baz=61
PFO Pinyon Flat Ob 61.16 300 eP P 19 51 53.7 -1.2
comp=Z,26nm,1.0s
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 61.16 300 eP P 19 51 53.7 -1.2
comp=Z,26nm,1.0s
222A Williams Famil 61.20 291 ⇑P P 19 51 54.3 -0.8
baz=61
432A Menard 61.21 284 ⇓P P 19 51 54.4 -0.8
baz=61
328A Wristen Ranch, 61.21 287 ⇓P P 19 51 54.1 -1.1
baz=61,SNR=20
MAJO Matsushiro 61.38 36 PFAKE 19 52 10.0 +14
MAJO LR LR
comp=Z,493nm,21.0s
MAT Matsushiro 61.38 36 P P 19 51 55.7 -0.5
MJAR Matsushiro Arr 61.38 36 P P 19 51 55.7 -0.5
comp=Z,2.2nm,0.9s,baz=350,slow=7.0,SNR=4.1
MJAR LR LR 20 19 27.9
comp=Z,434nm,19.1s,baz=65,slow=37
MJAR Matsushiro Arr 61.38 36 P P 19 51 55.7 -0.5
MJAR Matsushiro Arr 61.38 36 P P 19 51 55.7 -0.5
LSA Lhasa 61.38 82 P P 19 51 55.9 -0.9
LSA Lhasa 61.38 82 eP P 19 51 58.6 +1.8
LSA pmax pmax
comp=Z,62nm,1.5s
LSA MLR MLR
comp=Z,1µm,20.0s
LSA Lhasa 61.38 82 eP P 19 51 58.6 +1.8
comp=Z,62nm,1.5s

LSA LR LR
comp=Z,1µm,20.0s
LSA Lhasa 61.38 82 eP P 19 51 58.6 +1.8
comp=Z,62nm,1.5s
HKT Hockley 61.45 280 eP P 19 51 56.7 +0.1
HKT pmax pmax
comp=Z,33nm,1.3s
HKT Hockley 61.45 280 eP P 19 51 56.7 +0.1
comp=Z,33nm,1.3s
HKT Hockley 61.45 280 eP P 19 51 56.7 +0.1
comp=Z,33nm,1.3s
326A Caldwell Ranch 61.47 288 ⇓P P 19 51 55.7 -1.2
baz=61
GLA Glamis 61.47 299 eP P 19 51 55.4 -1.5
GLA pmax pmax
comp=Z,48nm,1.3s
GLA Glamis 61.47 299 eP P 19 51 55.4 -1.5
comp=Z,48nm,1.3s
GLA Glamis 61.47 299 ⇑P P 19 51 55.5 -1.5
baz=61
GLA Glamis 61.47 299 eP P 19 51 55.4 -1.5
comp=Z,48nm,1.3s
431A Sonora 61.53 285 ⇓P P 19 51 56.4 -0.9
baz=61,SNR=13
430A Baggett Ranch, 61.53 285 ⇓P P 19 51 56.2 -1.2
baz=61
325A Bean Ranch, Si 61.57 289 ⇓P P 19 51 56.5 -1.2
baz=61
TUC Tucson 61.58 295 eP P 19 51 57.7 0.0
TUC pmax pmax
comp=Z,58nm,1.0s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 61.58 295 eP P 19 51 57.7 0.0
comp=Z,58nm,1.0s
TUC LR LR
comp=Z,2µm,19.0s
TUC Tucson 61.58 295 eP P 19 51 57.7 0.0
comp=Z,58nm,1.0s
324A Moseley Ranch, 61.59 290 ⇑P P 19 51 56.7 -1.1
baz=61
JCT Junction City 61.60 284 eP P 19 51 57.3 -0.5
JCT pmax pmax
comp=Z,74nm,1.0s
JCT MLR MLR
comp=Z,2µm,19.0s
JCT Junction City 61.60 284 eP P 19 51 57.3 -0.5
comp=Z,74nm,1.0s
JCT LR LR
comp=Z,2µm,19.0s
JCT Junction City 61.60 284 ⇑P P 19 51 56.6 -1.1
baz=61,SNR=8.2
JCT Junction City 61.60 284 eP P 19 51 57.3 -0.5
comp=Z,74nm,1.0s
220A Playas Peak, P 61.62 293 ⇓P P 19 51 57.2 -0.9
baz=61,SNR=6.6
429A Davenport Ranc 61.80 286 ⇓P P 19 51 58.5 -0.7
baz=62,SNR=9.2
427A Hayter Ranch, 61.83 287 ⇑P P 19 51 58.9 -0.5
baz=62
428A Kincaid Ranch, 61.83 287 ⇓P P 19 51 58.6 -0.8
baz=62,SNR=15
MONP Monument Peak 61.86 300 ⇓P P 19 51 58.9 -0.9
baz=62
532A Rocksprings 61.96 284 ⇓P P 19 51 59.2 -1.0
baz=62,SNR=5.8
531A Rocksprings 62.03 285 ⇑P P 19 52 00.1 -0.6
baz=62
426A McDonald Obser 62.11 288 ⇓P P 19 52 00.5 -0.9
baz=62,SNR=12
BAR Barrett 62.11 300 P P 19 51 59.3 -1.9
comp=Z,38nm,1.1s
BAR Barrett 62.11 300 P P 19 51 59.3 -1.9
comp=Z,38nm,1.1s
425A Indio Mountain 62.15 289 ⇓P P 19 52 00.6 -1.0
baz=62,SNR=44
530A J-C Ranch, Com 62.18 285 ⇑P P 19 52 00.8 -0.9
baz=62
320A Kipp Ranch, An 62.18 292 ⇑P P 19 52 00.7 -1.1
baz=62,SNR=5.6
214A Organ Pipe Nat 62.24 297 ⇓P P 19 52 00.8 -1.2
baz=62
319A Douglas 62.26 293 ⇓P P 19 52 01.6 -0.7
baz=62,SNR=7.1
CD2 Chengdu 62.28 70 P P 19 52 02.8 +0.4
CD2 pP **pP 19 52 07.4 +0.4**
CD2 sP **sP 19 52 09.8 +1.1**
CD2 PP **PP 19 54 21.1 +2.1**
CD2 S **S 20 00 26.6 -1.0**
CD2 SS **SS 20 04 31.2 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,60nm,4.9s
CD2 LR LR
comp=N,3µm,16.7s
CD2 LR LR
comp=Z,1µm,19.0s
529A Stev Forest Ra 62.34 286 ⇑P P 19 52 01.9 -0.9
baz=62
528A Cox Ranch, San 62.40 287 ⇑P P 19 52 02.5 -0.7
baz=62,SNR=8.9
632A Uvalde 62.55 284 ⇓P P 19 52 03.4 -0.7
baz=62
527A Woodward Ranch 62.55 287 ⇓P P 19 52 03.3 -1.0
baz=62
526A Mary Lane Ranc 62.71 288 ⇑P P 19 52 04.6 -0.8
baz=62,SNR=12
631A Perdido Creek 62.77 284 ⇓P P 19 52 04.7 -0.9
baz=62
628A Black Gap, Mar 63.08 287 ⇓P P 19 52 06.6 -1.1
baz=63
627A Terlingua Ranc 63.19 287 ⇑P P 19 52 08.0 -0.6
baz=63,SNR=12
626A Big Bend Ranch 63.22 288 ⇓P P 19 52 07.9 -0.8
baz=63,SNR=13
732A Laxson Ranch, 63.34 284 ⇓P P 19 52 08.7 -0.6
baz=63,SNR=9.2
TXAR Lajitas Array 63.36 287 P P 19 52 08.4 -1.2
comp=Z,7.3nm,0.7s,baz=35,slow=4.9,SNR=26
TXAR LR LR 20 18 32.0
comp=Z,2µm,20.1s,baz=355,slow=35
TXAR Lajitas Array 63.36 287 P P 19 52 08.4 -1.2
TXAR Lajitas Array 63.36 287 P P 19 52 08.4 -1.2
NJ2 Nanjing 63.44 55 eP P 19 52 10.6 +0.6
NJ2 pP **pP 19 52 13.4 -1.2**
NJ2 PP **PP 19 54 30.5 +1.4**
NJ2 S **S 20 00 46.0 +4.0**
NJ2 SS **SS 20 04 53.0 +4.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,440nm,5.2s
NJ2 LR LR
comp=N,940nm,16.0s
NJ2 LR LR
comp=E,1µm,17.0s
NJ2 LR LR
comp=Z,9µm,13.3s
JNU Nakatsue 63.95 44 P P 19 52 14.4 +1.0
comp=Z,12nm,0.9s,baz=61,slow=13,SNR=2.4
JNU Nakatsue 63.95 44 P P 19 52 14.4 +1.0
JNU Nakatsue 63.95 44 P P 19 52 14.4 +1.0
KVTX Kingsville 64.15 281 PFAKE 19 52 30.0 +15
KVTX LR LR
comp=Z,3µm,19.0s
WHN Wuhan 64.28 60 P P 19 52 24.3 +8.8
GRTK Grand Turk 65.52 254 PFAKE 19 52 40.0 +16
GRTK LR LR
comp=Z,1µm,19.0s
SHL Shillong 65.54 82 eP P 19 52 25.0 +1.0
SACV Santiago Islan 66.04 204 PFAKE 19 52 40.0 +13
SACV LR LR
comp=Z,712nm,19.0s
TORD Torodi Ar. Bea 67.09 177 P P 19 52 34.5 +0.7
comp=Z,5.2nm,0.6s,baz=358,slow=6.5,SNR=12
TORD LR LR 20 22 38.6
comp=Z,575nm,19.4s,baz=350,slow=37
TORD Torodi Ar. Bea 67.09 177 P P 19 52 34.5 +0.7
TORD Torodi Ar. Bea 67.09 177 P P 19 52 34.5 +0.7
GYA Guiyang 67.11 68 P P 19 52 36.0 +2.0
GYA PP **PP 19 55 04.8 +3.4**
GYA S **S 20 01 28.7 +1.4**
GYA SKS **SKSac 20 02 28.7 -1.8**
GYA SS **SS 20 05 47.6 +2.0**
GYA pmax pmax
comp=Z,20nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,580nm,19.2s						
GYA				LR	LR		
	comp=E,530nm,20.4s						
GYA				LR	LR		
	comp=Z,590nm,19.0s						
GTBY	**Guantanamo Bay**	**67.73**	**257**	PFAKE		19 52 50.0	+12
GTBY				LR	LR		
	comp=Z,1µm,21.0s						
KMI	**Kunming**	**67.78**	**72**	P	**P**	**19 52 38.0**	**-0.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ANWB	**Willy Bob**	**67.80**	**244**	PFAKE		19 52 50.0	+12
ANWB				LR	LR		
	comp=Z,592nm,20.0s						
SDDR	**Presa de Saban**	**68.02**	**253**	PFAKE		19 52 50.0	+10
SDDR				LR	LR		
	comp=Z,1µm,19.0s						
SJG	**San Juan**	**68.04**	**248**	PFAKE		19 52 50.0	+10
SJG				LR	LR		
	comp=Z,499nm,21.0s						
LPIG	**La Paz**	**69.55**	**293**	P	P	19 52 52.0	+2.9
	comp=Z,1.8nm,0.4s,baz=315,slow=1.4,SNR=3.5						
LPIG	**La Paz**	**69.55**	**293**	P	P	19 52 52.0	+2.9
TEIG	**Tepich**	**69.67**	**271**	P	**P**	**19 52 49.2**	**-0.7**
	comp=Z,43nm,1.1s,baz=6.4,slow=6.9,SNR=6.5						
TEIG	**Tepich**	**69.67**	**271**	*e*P	**P**	**19 52 49.6**	**-0.3**
	comp=Z,44nm,0.9s						
TEIG				LR	LR		
	comp=Z,945nm,20.0s						
TEIG	**Tepich**	**69.67**	**271**	*e*P	**P**	**19 52 49.6**	**-0.3**
	comp=Z,44nm,0.9s						
MTDJ	**Mount Denham**	**69.80**	**259**	PFAKE		19 53 00.0	+9.1
MTDJ				LR	LR		
	comp=Z,863nm,19.0s						
FDF	**Fort de France**	**70.58**	**242**	PFAKE		19 53 10.0	+14
FDF				LR	LR		
	comp=Z,1µm,21.0s						
YHNB	**Yeheng**	**71.06**	**54**	PFAKE		19 53 10.0	+12
YHNB				LR	LR		
	comp=Z,616nm,19.0s						
HYB	**Hyderabad**	**71.24**	**97**	*i* P	**P**	**19 52 59.0**	**-0.6**
BBGH	**Gun Hill**	**71.90**	**241**	PFAKE		19 53 20.0	+16
BBGH				LR	LR		
	comp=Z,1µm,21.0s						
GRGR	**Grenville**	**73.21**	**242**	PFAKE		19 53 20.0	+8.7
GRGR				LR	LR		
	comp=Z,1µm,21.0s						
CHTO	**Chiang Mai**	**73.34**	**77**	*e*P	**P**	**19 53 10.6**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,31nm,1.5s						
CHTO				MLR	MLR		
	comp=Z,902nm,20.0s						
CHTO	**Chiang Mai**	**73.34**	**77**	*e*P	**P**	**19 53 10.6**	**-1.5**
	comp=Z,31nm,1.5s						
CHTO				LR	LR		
	comp=Z,902nm,20.0s						
CHTO	**Chiang Mai**	**73.34**	**77**	*e*P	**P**	**19 53 10.6**	**-1.5**
	comp=Z,31nm,1.5s						
DBIC	**Dimbokro**	**73.53**	**184**	P	**P**	**19 53 13.5**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=306,slow=8.7,SNR=2.6						
DBIC				LR	LR	20 26 13.3	
	comp=Z,382nm,19.1s,baz=164,slow=36						
DBIC	**Dimbokro**	**73.53**	**184**	P	**P**	**19 53 13.5**	**+0.3**
DBIC	**Dimbokro**	**73.53**	**184**	P	**P**	**19 53 13.5**	**+0.3**
CM31	**Chiang Mai Arr**	**73.69**	**77**	*e*P	**P**	**19 53 14.9**	**+0.8**
	comp=Z,11nm,1.0s						
CM31	**Chiang Mai Arr**	**73.69**	**77**	*e*P	**P**	**19 53 14.9**	**+0.8**
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.69**	**77**	P	**P**	**19 53 13.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=344,slow=6.0,SNR=12						
CMAR	**Chiang Mai Arr**	**73.69**	**77**	P	**P**	**19 53 13.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**73.69**	**77**	P	**P**	**19 53 13.4**	**-0.7**
CMIG	**Matias Romero**	**73.87**	**276**	P	**P**	**19 53 15.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=18,slow=9.6,SNR=3.9						
CMIG	**Matias Romero**	**73.87**	**276**	P	**P**	**19 53 15.1**	**-0.1**
CMIG	**Matias Romero**	**73.87**	**276**	P	**P**	**19 53 15.1**	**-0.1**
LIC	**Lamto**	**73.98**	**184**	*e*P	P	19 53 19.8	+4.0
	comp=Z,53nm,1.1s						
LIC				*e*R			
	comp=Z,595nm,17.5s						
LIC	**Lamto**	**73.98**	**184**	*e*P	P	19 53 19.8	+4.0
	comp=Z,53nm,1.1s						
QIZ	**Qiongzhong**	**74.89**	**66**	P	**P**	**19 53 19.9**	**-1.2**
QIZ				PP	**PP**	**19 56 11.1**	**+2.8**
QIZ				S	**S**	**20 02 58.1**	**+0.6**
QIZ				LR	LR		
	comp=N,2µm,18.6s						
QIZ				LR	LR		
	comp=Z,2µm,20.3s						
QIZ	**Qiongzhong**	**74.89**	**66**	PFAKE		19 53 30.0	+8.9
QIZ				LR	LR		
	comp=Z,3µm,21.0s						
SDV	**Santo Domingo**	**77.81**	**251**	*e*P	**P**	**19 53 37.0**	**-1.0**
	comp=Z,44nm,1.2s						
SDV				LR	LR		
	comp=Z,220nm,20.0s						
SDV	**Santo Domingo**	**77.81**	**251**	*e*P	**P**	**19 53 37.0**	**-1.0**
	comp=Z,44nm,1.2s						
JTS	**JuntasAbangare**	**78.83**	**265**	PFAKE		19 53 50.0	+6.6
JTS				LR	LR		
	comp=Z,964nm,20.0s						
BCIP	**Isla Barro Col**	**79.06**	**260**	PFAKE		19 54 00.0	+15
BCIP				LR	LR		
	comp=Z,501nm,22.0s						
ROSC	**El Rosal**	**82.36**	**254**	P	**P**	**19 54 03.8**	**+1.0**
	comp=Z,8.1nm,0.4s,baz=266,slow=11,SNR=2.4						
ROSC				LR	LR	20 30 35.9	
	comp=Z,372nm,21.2s,baz=3.6,slow=36						
ROSC	**El Rosal**	**82.36**	**254**	P	**P**	**19 54 03.8**	**+1.0**
ROSC	**El Rosal**	**82.36**	**254**	P	**P**	**19 54 03.8**	**+1.0**
KMBO	**Kilima Mbogo**	**83.43**	**141**	PFAKE		19 54 20.0	+12
KMBO				LR	LR		
	comp=Z,343nm,20.0s						
KULM	**Kulim**	**86.87**	**77**	PFAKE		19 54 40.0	+15
KULM				LR	LR		
	comp=Z,1µm,21.0s						
OTAV	**Otavalo**	**87.57**	**257**	*e*P	**P**	**19 54 30.1**	**+1.1**
	comp=Z,55nm,1.3s						
OTAV				LR	LR		
	comp=Z,304nm,20.0s						
OTAV	**Otavalo**	**87.57**	**257**	*e*P	**P**	**19 54 30.1**	**+1.1**
	comp=Z,55nm,1.3s						
RCBR	**Riachuelo**	**87.65**	**214**	PFAKE		19 54 40.0	+11
RCBR				LR	LR		
	comp=Z,474nm,20.0s						
IPM	**Ipoh**	**87.72**	**77**	*e*P	**P**	**19 54 30.4**	**+1.2**
	comp=Z,28nm,1.0s						
IPM	**Ipoh**	**87.72**	**77**	*e*P	**P**	**19 54 30.4**	**+1.2**
	comp=Z,28nm,1.0s						
KKM	**Kota Kinabalu**	**88.62**	**62**	PFAKE		19 54 50.0	+16
KKM				LR	LR		
	comp=Z,797nm,21.0s						
DAV	**Davao City (W)**	**88.95**	**52**	PFAKE		19 54 50.0	+15
DAV				LR	LR		
	comp=Z,341nm,20.0s						
PSI	**Prapat**	**89.02**	**79**	P	**P**	**19 54 36.7**	**+1.3**
	comp=Z,20nm,0.8s,baz=307,slow=5.9,SNR=16						
PSI	**Prapat**	**89.02**	**79**	P	**P**	**19 54 36.7**	**+1.3**
MSEY	**Mahe Island**	**89.23**	**123**	PFAKE		19 54 50.0	+14
MSEY				LR	LR		
	comp=Z,309nm,20.0s						
KSM	**Kuching**	**92.19**	**68**	PFAKE		19 55 00.0	+10
KSM				LR	LR		
	comp=Z,734nm,20.0s						
SAML	**Samuel**	**94.14**	**241**	*e*P	**P**	**19 55 00.4**	**+1.4**
	comp=Z,2.6nm,0.8s						
SAML				LR	LR		
	comp=Z,442nm,20.0s						
SAML	**Samuel**	**94.14**	**241**	*e*P	**P**	**19 55 00.4**	**+1.4**
	comp=Z,2.6nm,0.8s						
TARA	**Tarawa**	**98.46**	**6**	PFAKE		19 55 30.0	+11
TARA				LR	LR		
	comp=Z,1µm,22.0s						
BDFB	**Brasilia**	**98.67**	**225**	LR	LR	20 38 07.9	
	comp=Z,416nm,18.1s,baz=145,slow=34						
NNA	**Nana**	**99.28**	**254**	PFAKE		19 55 30.0	+7.7
NNA				LR	LR		
	comp=Z,423nm,21.0s						
KAPI	**Kappang**	**100.01**	**60**	P	**Pdif**	**19 55 26.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=257,slow=6.2,SNR=2.9						
KAPI	**Kappang**	**100.01**	**60**	P	**Pdif**	**19 55 26.4**	**+0.9**
KAPI				LR	LR		
	comp=Z,329nm,20.0s						
SIV	**San Ignacio**	**100.75**	**238**	P	**Pdif**	**19 55 34.4**	**+5.6**
	comp=Z,2.0nm,0.9s,baz=17,slow=7.0,SNR=5.6						
SIV	**San Ignacio**	**100.75**	**238**	P	**Pdif**	**19 55 34.4**	**+5.6**
ABPO	**Ambohimpanom**	**102.24**	**133**	PFAKE		19 55 50.0	+15
ABPO				LR	LR		
	comp=Z,352nm,20.0s						
SPB	**Sao Paulo**	**106.44**	**224**	PFAKE		20 00 20.0	
SPB				LR	LR		
	comp=Z,354nm,19.0s						
PMG	**Port Moresby**	**107.70**	**33**	PFAKE		20 00 20.0	
PMG				LR	LR		
	comp=Z,238nm,21.0s						
LVC	**Limon Verde**	**108.43**	**244**	PFAKE		20 00 20.0	
LVC				LR	LR		
	comp=Z,27nm,20.0s						
HNR	**Honiara**	**108.69**	**19**	PFAKE		20 00 20.0	
HNR				LR	LR		
	comp=Z,313nm,20.0s						
LCO	**Las Campanas**	**114.98**	**245**	PFAKE		20 00 30.0	+9.0
LCO				LR	LR		
	comp=Z,804nm,22.0s						
PPT2	**Papeete2**	**115.76**	**326**	*e*SS	SS	20 17 48.6	+23
	comp=Z,555nm,27.5s						
PPT2				*e*LR	LR	20 35 24.8	
	comp=Z,323nm,26.5s						
MBWA	**Marble Bar**	**115.86**	**63**	PFAKE		20 00 30.0	+7.4
MBWA				LR	LR		
	comp=Z,386nm,19.0s						
WRAB	**Tennant Creek**	**116.70**	**47**	PFAKE		20 00 40.0	+16
WRAB				LR	LR		
	comp=Z,267nm,21.0s						
ASAR	**Alice Springs**	**120.32**	**48**	PKP	**PKPdf**	**20 00 30.1**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=342,slow=0.8,SNR=16						
ASAR	**Alice Springs**	**120.32**	**48**	PKP	**PKPdf**	**20 00 30.1**	**-1.0**
TBI	**Tubuai**	**121.45**	**325**	*e*SS	SS	20 18 54.7	+16
	comp=Z,502nm,34.0s						
TBI				*e*LR	LR	20 38 03.7	
	comp=Z,367nm,23.8s						
DZM	**Mont Dzumac**	**121.56**	**13**	*e*LR	LR	20 38 07.1	
	comp=Z,311nm,22.9s						
TRQA	**Tornquist**	**122.58**	**235**	PFAKE		20 00 50.0	+15
TRQA				LR	LR		
	comp=Z,515nm,19.0s						
PLCA	**Paso Flores**	**126.45**	**242**	PKP	**PKPdf**	**20 00 42.1**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=193,slow=18,SNR=2.0						
PLCA	**Paso Flores**	**126.45**	**242**	PKP	**PKPdf**	**20 00 42.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**127.02**	**68**	PFAKE		20 01 00.0	+16
NWAO				LR	LR		
	comp=Z,461nm,19.0s						
SYO	**Syowa Base**	**150.75**	**151**	⇑*e*pPKPdf	**PKPbc**	**20 01 31.0**	**+0.3**
SYO	**Syowa Base**	**150.75**	**151**	⇓*e*PKiKP	**PKPab**	**20 01 35.0**	**-3.0**
MAIT	**Maitri**	**150.97**	**171**	*e*P	**PKPab**	**20 01 37.0**	**-1.9**
VNA2	**Neumayer--Watz**	**150.98**	**184**	*e*PKP	**PKPbc**	**20 01 33.0**	**+1.7**
	baz=358,slow=3.9						
VNA3	**Neumayer Olymp**	**151.34**	**186**	*e*PKP	**PKPbc**	**20 01 33.5**	**+1.4**
CASY	**Casey**	**157.96**	**91**	PFAKE		20 01 50.0	+15
CASY				LR	LR		
	comp=Z,646nm,20.0s						

*NEIC **05** 19:43:00.5, 18°.20N×68°.97W, h84km, MD3.6(RSPR), After RSPR.*

RSPR 05 19:43:00.5, 18°.20N×68°.97W, h84km±15km, MD3.5/8, 7C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.70**	**326**	⇑*i*P	Pn	19 43 15.1	-1.5
DR12				*e*S	Sn	19 43 27.8	-0.7
DR12	**Loma Pena Alta**	**0.70**	**326**	*i* Pu	Pn	19 43 15.1	-1.5
DR12				*e*S	Sn	19 43 27.8	-0.7
SMN1	**Samana, DR**	**1.02**	**344**	⇑*e*P	Pn	19 43 18.5	-1.6
SMN1				*e*S	Sn	19 43 34.8	0.0
AGPR	**Aguadilla, PR**	**1.79**	**81**	⇓*i*P	Pn	19 43 29.8	+0.1
AGPR	**Aguadilla, PR**	**1.79**	**81**	*e*S	Sn	19 43 53.2	+1.3
AGPR	**Aguadilla, PR**	**1.79**	**81**	⇓*i*P	Pn	19 43 29.8	+0.1
AGPR				*e*S	Sn	19 43 53.2	+1.3
LSP	**Las Mesas**	**1.79**	**91**	*e*Pn	Pn	19 43 29.6	-0.2
LRS	**Lares**	**2.02**	**87**	⇑*e*P	Pn	19 43 32.7	-0.2
LRS				*e*S	Sn	19 43 58.8	+1.2
LRS	**Lares**	**2.02**	**87**	⇑*e*P	Pn	19 43 32.7	-0.2
LRS				*e*S	Sn	19 43 58.8	+1.2
AOPR	**Arecibo Observ**	**2.11**	**86**	⇓*e*P	Pn	19 43 33.1	-0.9
AOPR	**Arecibo Observ**	**2.11**	**86**	*e*S	Sn	19 43 59.7	+0.1
AOPR	**Arecibo Observ**	**2.11**	**86**	⇓*e*P	Pn	19 43 33.1	-0.9
AOPR				*e*S	Sn	19 43 59.7	+0.1
CELP	**Cerrillos**	**2.28**	**93**	⇑*e*P	Pn	19 43 34.5	-1.7
CELP	**Cerrillos**	**2.28**	**93**	⇑*e*P	Pn	19 43 34.5	-1.7
SDDR	**Presa de Saban**	**2.33**	**290**	⇓*e*P	Pn	19 43 37.5	+0.5
SDDR	**Presa de Saban**	**2.33**	**290**	*e*S	Sn	19 44 06.3	+1.4
SDDR	**Presa de Saban**	**2.33**	**290**	⇓*e*P	Pn	19 43 37.5	+0.5
SDDR				*e*S	Sn	19 44 06.3	+1.4
CBYP	**Canovanas**	**2.96**	**88**	⇑*e*P	Pn	19 43 43.7	-1.7
CBYP	**Canovanas**	**2.96**	**88**	*e*S	Sn	19 44 17.9	-2.3
CBYP	**Canovanas**	**2.96**	**88**	⇑*e*P	Pn	19 43 43.7	-1.7
CBYP				*e*S	Sn	19 44 17.9	-2.3
MTP	**Monte Pirata**	**3.25**	**91**	⇓*e*P	Pn	19 43 49.2	-0.2
MTP	**Monte Pirata**	**3.25**	**91**	*e*S	Sn	19 44 27.2	+0.2
MTP	**Monte Pirata**	**3.25**	**91**	⇓*e*P	Pn	19 43 49.2	-0.2
MTP				*e*S	Sn	19 44 27.2	+0.2
STVI	**Saint Thomas**	**3.82**	**87**	*e*Pn	Pn	19 43 55.2	-1.8

PRU 05 19:46:49.5, 50°.24N×18°.86E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.61**	**229**	*e*SG	Sg	19 47 09.4	+0.2
	comp=Z,4.2nm,0.3s						
DPC	**Dobruska-Polom**	**1.63**	**275**	*e*SG	Sn	19 47 41.3	0.0
	comp=Z,3.1nm,0.3s						

IDC 05 19:54:13.2±1.7**, 4°.11N×127°.28E, h0km, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.5**/23**, mbtmp3.6**/5**, Error ellipse: s-maj=95.1km s-min=23.1km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.13**	**184**	P	P	19 59 11.0	+0.5
	0.5nm,0.4s,baz=4.4,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**24.89**	**164**	P	P	19 59 37.2	-0.7
	4.3nm,0.9s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.35**	**167**	P	P	20 00 09.1	-0.1
	0.2nm,0.7s,baz=340,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**38.29**	**160**	P	P	20 01 35.9	+0.3
	2.0nm,0.6s,baz=350,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	20 04 04.8	0.0
	0.4nm,0.8s,baz=128,slow=8.1,SNR=3.2						

IDC 05 19:54:39.0±1.1**, 3°.94N×126°.98E, h0km, mb3.9**/7**, mb1 4.1**/7**, mb1mx3.8**/25**, mbtmp4.0**/7**, Error ellipse: s-maj=68.1km s-min=16.3km az=73.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.94**	**183**	P	P	19 59 34.5	+0.2
	1.2nm,0.5s,baz=20,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**24.81**	**163**	P	P	20 00 02.3	-0.7
	10.0nm,0.8s,baz=343,slow=10,SNR=21						
NWAO	**Narrogin (SRO)**	**37.81**	**193**	P	P	20 01 57.8	+0.5
	4.8nm,0.9s,baz=27,slow=9.0,SNR=2.5						
STKA	**Stephens Creek**	**38.23**	**160**	P	P	20 02 00.9	0.0
	5.7nm,0.7s,baz=336,slow=8.8,SNR=15						
SONM	**Songino Array**	**47.19**	**341**	P	P	20 03 14.7	+1.1
	0.3nm,0.6s,baz=151,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	20 04 29.3	-1.1
	0.4nm,0.5s,baz=119,slow=7.6,SNR=7.0						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	P	20 04 58.7	-0.3
	1.0nm,0.8s,baz=130,slow=6.0,SNR=4.9						

*AUST **05** 19:58:36.0, 5°.27S×147°.58E, h30km*

*IDC **05** 19:58:46.0±1.1, 6°.13S×147°.50E, h58km±8km, mb3.7/12, mb1 3.8/14, mb1mx3.8/22, mbtmp3.7/14, Error ellipse: s-maj=21.2km s-min=9.7km az=96.0*

*ISCJB **05** 19:58:46.9±0.5, 6°.14S±0°.05×147°.33E±0°.08, h77km, mb3.7/12, Error ellipse: s-maj=11.4km s-min=7.0km az=2.8*

ISC 05 19:58:48.5±0.7**, 6°.19S**±0°.07×**147°.3E**±0°.1**, h77km, n31, σ1§93**/35**, mb3.9**/12**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**182**	P	**Pn**	**19 59 36.5**	**0.0**
	20nm,0.3s,baz=349,slow=6.2,SNR=72						
PMG				S	**Sn**	**20 00 12.6**	**-1.0**
	82nm,0.3s,baz=216,slow=19,SNR=11						
COEN	**Coen**	**8.72**	**207**	P	**Pn**	**20 00 54.1**	**+2.3**
	baz=9.7,SNR=19						
CTA	**Charters Tower**	**13.86**	**184**	P	**Pn**	**20 02 03.3**	**+1.8**
	0.4nm,0.3s,baz=3.6,slow=13,SNR=2.9						
TLE	**Tual**	**14.48**	**271**	P	Pn	20 02 03.8	-5.9
	baz=15,SNR=3.4						
KDU	**Kakadu**	**15.97**	**245**	P	**Pn**	**20 02 27.8**	**-0.9**
	baz=17,SNR=4.8						
WRA	**Warramunga Arr**	**18.58**	**221**	P	**Pn**	**20 03 00.4**	**-0.2**
	0.5nm,0.3s,baz=45,slow=12,SNR=10.0						
WRA				pP	**pP**	**20 03 13.3**	**-1.7**
	0.5nm,0.3s,baz=47,slow=11,SNR=5.1						
WRA				S	**S**	**20 06 22.2**	**-4.8**
	0.2nm,0.3s,baz=45,slow=24,SNR=4.9						
WRA				ScP	**ScP**	**20 10 55.7**	**+0.7**
	0.1nm,0.3s,baz=45,slow=2.1,SNR=5.6						
EIDS	**Eidsvold**	**19.42**	**170**	P	**P**	**20 03 09.9**	**+1.3**
	baz=20,SNR=4.4						
RMQ	**Roma**	**20.24**	**176**	P	**P**	**20 03 19.3**	**+1.8**
	baz=21,SNR=6.8						
QLP	**Quilpie**	**20.49**	**188**	P	**P**	**20 03 21.7**	**+1.4**
	baz=22,SNR=20						
ASAR	**Alice Springs**	**21.63**	**215**	P	**P**	**20 03 33.8**	**+1.2**
	3.5nm,0.4s,baz=51,slow=8.8,SNR=62						
ASAR				pP	**pP**	**20 03 45.7**	**-2.6**
	3.7nm,0.8s,baz=46,slow=10,SNR=7.4						
ASAR				sP	**sP**	**20 03 53.7**	**-4.3**
	6.0nm,0.8s,baz=49,slow=8.0,SNR=9.1						
ASAR				S	**S**	**20 07 31.7**	**+3.6**
	3.8nm,0.9s,baz=32,slow=20,SNR=14						
ASAR				ScP	**ScP**	**20 11 05.2**	**+3.1**
	1.3nm,0.8s,baz=48,slow=2.5,SNR=8.8						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	**P**	**20 04 00.1**	**+2.0**
	3.2nm,0.4s,baz=55,slow=8.7,SNR=24						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	**P**	**20 04 00.4**	**+2.2**
	baz=25,SNR=16						
DZM	**Mont Dzumac**	**24.33**	**132**	P	**P**	**20 03 57.8**	**-1.5**
	3.2nm,0.6s,baz=260,slow=12,SNR=8.9						
ARMA	**Armidale**	**24.45**	**171**	P	**P**	**20 04 01.0**	**+0.7**
	baz=25,SNR=6.4						
STKA	**Stephens Creek**	**26.11**	**191**	P	**P**	**20 04 15.2**	**0.0**
	2.5nm,0.4s,baz=358,slow=7.6,SNR=19						
STKA	**Stephens Creek**	**26.11**	**191**	P	**P**	**20 04 15.7**	**+0.5**
	baz=27,SNR=22						
WSI	**Waingapu**	**26.95**	**261**	S	**S**	**20 08 53.5**	**-1.4**
	baz=27,SNR=5.6						
PCI	**Palu**	**27.89**	**280**	S	S	20 08 44.9	-25
	baz=28,SNR=6.3						
MEEK	**Meekatharra**	**34.05**	**230**	P	**P**	**20 05 27.3**	**+1.7**
	baz=35,SNR=5.2						
KSRS	**Korea Array**	**47.03**	**339**	P	**P**	**20 07 13.2**	**+1.0**
	1.0nm,0.7s,baz=151,slow=7.0,SNR=3.6						
GSI	**Gunungsitoli**	**50.18**	**277**	P	P	20 07 13.3	-24
	baz=50,SNR=6.0						
CMAR	**Chiang Mai Arr**	**53.59**	**298**	pP	pP	20 08 16.9	-4.6
	0.4nm,0.5s,baz=127,slow=6.0,SNR=2.9						
SONM	**Songino Array**	**64.70**	**331**	P	**P**	**20 09 19.5**	**+0.9**
	0.9nm,1.0s,baz=142,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**77.82**	**320**	P	**P**	**20 10 37.2**	**-0.4**
	0.2nm,0.4s,baz=99,slow=8.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**79.32**	**328**	P	**P**	**20 10 44.3**	**-1.3**
	1.2nm,0.5s,baz=106,slow=5.6,SNR=7.0						
KURBB	**Kurchatov Arra**	**81.55**	**323**	P	**P**	**20 10 57.5**	**-0.2**
	0.4nm,0.8s,baz=118,slow=4.2,SNR=3.5						
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**20 11 09.6**	**+0.4**
	1.2nm,0.4s,baz=74,slow=2.3,SNR=8.2						
ILAR	**Eielson Array**	**85.54**	**23**	P	**P**	**20 11 16.1**	**-1.7**
	0.4nm,0.8s,baz=249,slow=2.5,SNR=4.5						
BVAR	**Borovoye Array**	**87.09**	**324**	P	**P**	**20 11 24.4**	**-1.3**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=3.6						
GERES	**GERESS Array B**	**122.22**	**326**	PKP	**PKPdf**	**20 17 34.2**	**-0.5**
	0.3nm,0.5s,baz=17,slow=1.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**145.41**	**284**	PKPbc	**PKPab**	**20 18 18.8**	**-0.2**
	1.9nm,0.5s,baz=63,slow=3.8,SNR=27						

IDC 05 20:06:10.3±8.3**, 23°.17S×179°.87W, h0km, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.5**/18**, mbtmp3.5**/2**, Error ellipse: s-maj=430.8km s-min=65.2km az=154.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.28**	**260**	P	P	20 14 06.0	0.0
	0.4nm,0.4s,baz=99,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**42.58**	**265**	P	P	20 14 08.1	-0.3
	0.3nm,0.3s,baz=101,slow=8.3,SNR=7.6						
BRTR	**Keskin Array B**	**147.23**	**308**	PKPbc	PKPbc	20 25 55.3	-0.8
	0.7nm,0.6s,baz=87,slow=2.9,SNR=4.0						

IDC 05 20:07:28.7±8.9**, 6°.74S×154°.62E, h99km**±83km**, mb3.4**/7**, mb1 3.6**/9**, mb1mx3.4**/21**, mbtmp3.4**/9**, ML3.5**/2**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.6**/18**, Error ellipse: s-maj=36.0km s-min=31.3km az=6.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.91**	**117**	LR	LR	20 10 19.5	
	comp=Z,72nm,18.5s,baz=213,slow=29						
CTA	**Charters Tower**	**15.56**	**211**	P	Pn	20 11 03.5	+0.9
	0.1nm,0.3s,baz=38,slow=10,SNR=4.5						
CTA				LR	LR	20 16 13.5	
	comp=Z,117nm,19.2s,baz=247,slow=34						
DZM	**Mont Dzumac**	**19.04**	**144**	P	P	20 11 43.6	+0.2
	0.2nm,0.3s,baz=308,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**23.66**	**234**	P	P	20 12 29.9	-1.5
	1.7nm,0.8s,baz=56,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**26.07**	**228**	P	P	20 12 52.0	-1.3
	0.7nm,0.8s,baz=63,slow=9.3,SNR=6.5						
STKA	**Stephens Creek**	**27.81**	**204**	P	P	20 13 09.5	+0.8
	1.6nm,0.7s,baz=36,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**30.42**	**246**	P	P	20 13 33.3	+1.3
	1.6nm,0.8s,baz=68,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.34**	**296**	P	P	20 17 29.1	+1.3
	0.5nm,0.9s,baz=108,slow=4.2,SNR=4.6						
SONM	**Songino Array**	**68.92**	**327**	P	P	20 18 22.9	-0.3
	0.2nm,0.5s,baz=140,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**82.97**	**319**	P	P	20 19 42.3	-0.7
	0.5nm,0.7s,baz=104,slow=5.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**152.60**	**286**	PKPbc	PKPbc	20 27 14.7	-0.1
	1.8nm,0.7s,baz=66,slow=2.3,SNR=10						

IDC 05 20:13:08.4±3.6**, 31°.13S×138°.73E, h0km, mb1 3.5**/3**, mb1mx3.3**/15**, mbtmp3.2**/3**, ML3.1**/3**, Error ellipse: s-maj=67.7km s-min=15.8km az=35.0, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.56**	**108**	Pn	Pn	20 13 50.5	-0.7
	0.9nm,0.3s,baz=294,slow=16,SNR=23						
STKA				Pg	Pg	20 13 56.8	-0.8
	6.9nm,0.3s,baz=287,slow=16,SNR=45						
STKA				Sn	Sn	20 14 23.7	+0.6
	4.0nm,0.3s,baz=286,slow=17,SNR=4.4						
STKA				Lg	Lg	20 14 28.9	
	10nm,0.3s,baz=24,slow=20,SNR=13						
ASAR	**Alice Springs**	**8.58**	**329**	Pn	Pn	20 15 14.4	+0.4
	0.2nm,0.3s,baz=150,slow=12,SNR=14						
ASAR				Sn	Sn	20 16 50.4	-1.3
	0.5nm,0.3s,baz=152,slow=22,SNR=9.4						
WRA	**Warramunga Arr**	**11.82**	**339**	Pn	Pn	20 15 58.5	0.0
	0.3nm,0.3s,baz=157,slow=12,SNR=15						
WRA				Sn	Sn	20 18 08.8	-2.5
	0.2nm,0.3s,baz=166,slow=24,SNR=4.6						

*IDC **05** 20:31:45.1±0.6, 15°.52N×96°.02E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.2/27, mbtmp4.2/18, ML4.8/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/42, Error ellipse: s-maj=22.2km s-min=14.9km az=56.0*

*ISCJB **05** 20:31:47.6±0.5, 15°.53N±0°.06×96°.00E±0°.05, h28km, mb4.4/31, MS3.9/11, Error ellipse: s-maj=8.2km s-min=6.7km az=10.7*

*NEIC **05** 20:31:50.6±0.3, 15°.56N×96°.06E, h35km, mb4.5/15, Error ellipse: s-maj=8.0km s-min=6.1km az=219.0*

ISC 05 20:31:49.8±0.5**, 15°.59N**±0°.07×**95°.94E**±0°.07**, h28km, n95, σ1§16**/96**, mb4.4**/31**, MS3.9**/11**, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	4.05	45	ePn	Pn	20 32 48.9	-1.1
CMAR	Chiang Mai Arr	4.05	45	Pn	Pn	20 32 48.9	-1.0
	14nm,0.3s,baz=234,slow=15,SNR=402						
CMAR				Sn	Sn	20 33 37.1	+0.7
	3.9nm,0.3s,baz=228,slow=18,SNR=5.4						
CMAR				Lg	Lg	20 33 48.5	
	4.6nm,0.3s,baz=227,slow=32,SNR=5.8						
CMAR	Chiang Mai Arr	4.05	45	Pn	Pn	20 32 48.9	-1.0
CMAR				Sn	Sn	20 33 37.1	+0.7
CMAR				Lg	Lg	20 33 48.5	
CHTO	Chiang Mai	4.30	41	ePn	Pn	20 32 52.2	-1.2
SHL	Shillong	10.62	340	eP	Pn	20 34 22.0	+1.6
SHL				eS	Sn	20 36 17.0	-1.6
ODAN	Odare	13.75	326	eP	Pn	20 35 01.5	-1.7
	33nm,0.5s						
ODAN	Odare	13.75	326	eP	Pn	20 35 01.5	-1.7
	33nm,0.5s						
TAPN	Taplejung	13.98	328	eP	Pn	20 35 04.4	-1.9
	15nm,0.4s						
TAPN	Taplejung	13.98	328	eP	Pn	20 35 04.4	-1.9
	15nm,0.4s						
RAMN	Ramite	14.26	324	eP	Pn	20 35 08.4	-1.7
	26nm,0.6s						
RAMN	Ramite	14.26	324	eP	Pn	20 35 08.4	-1.7
	26nm,0.6s						
LSA	Lhasa	14.72	343	ePn	Pn	20 35 12.2	-4.4
	5.7nm,0.7s						
JIRN	Jiri	15.03	325	eP	Pn	20 35 19.2	-1.6
	10nm,0.6s						
JIRN	Jiri	15.03	325	eP	Pn	20 35 19.2	-1.6
	10nm,0.6s						
GUN	Gumba	15.40	324	eP	Pn	20 35 24.5	-1.1
	28nm,0.5s						
GUN	Gumba	15.40	324	eP	Pn	20 35 24.5	-1.1
	28nm,0.5s						
PKI	Pulchoki	15.41	322	eP	Pn	20 35 25.1	-0.6
	27nm,0.7s						
PKI	Pulchoki	15.41	322	eP	Pn	20 35 25.1	-0.6
	27nm,0.7s						
KKN	Kakani	15.65	323	eP	Pn	20 35 28.4	-0.3
KKN	Kakani	15.65	323	eP	Pn	20 35 28.4	-0.3
GKN	Gorkha	16.19	322	eP	Pn	20 35 35.3	-0.3
	24nm,0.3s						
KOLN	Koldanda	16.67	319	eP	P	20 35 42.8	-1.0
	81nm,0.6s						
KOLN	Koldanda	16.67	319	eP	P	20 35 42.8	-1.0
	81nm,0.6s						
DANN	Dangsing	16.98	320	eP	Pn	20 35 46.0	+0.4
	31nm,0.6s						
DANN	Dangsing	16.98	320	eP	Pn	20 35 46.0	+0.4
	31nm,0.6s						
PYUN	Piuthan	17.28	318	eP	P	20 35 50.5	-0.2
	59nm,0.8s						
PYUN	Piuthan	17.28	318	eP	P	20 35 50.5	-0.2
	59nm,0.8s						
DDI	Dehra Dun	22.00	315	ex	P	20 36 42.0	+0.1
KZA	Kyzart	31.84	330	P	P	20 38 14.9	+2.1
	SNR=6.4						
TKM2	Tokmak 2	32.33	331	eP	P	20 38 18.4	+1.5
	3.4nm,1.0s						
KBK	Karagaybulak	32.43	330	P	P	20 38 19.5	+1.9
	SNR=7.5						
AAK	Ala-Archa	32.63	330	eP	P	20 38 21.7	+2.3
	63nm,1.3s						
AAK	Ala-Archa	32.63	330	P	P	20 38 22.1	+2.6
	SNR=11						
AML	Almayashu	32.65	329	P	P	20 38 21.9	+2.1
	SNR=5.5						
CHMS	Chumysh	32.78	331	P	P	20 38 22.1	+1.5
	SNR=7.3						
EKS2	Erkin-Say	33.00	329	eP	P	20 38 24.7	+2.1
	3.5nm,0.8s						
EKS2	Erkin-Say	33.00	329	P	P	20 38 24.7	+2.1
	SNR=6.9						
USP	Ospenovka	33.11	331	P	P	20 38 25.5	+2.0
	SNR=7.8						
MK31	Makanchi Array	33.12	343	eP	P	20 38 24.8	+1.3
MKAR	Makanchi Array	33.12	343	P	P	20 38 24.4	+0.9
	4.6nm,0.8s,baz=151,slow=9.6,SNR=56						
MKAR				PcP	PcP	20 41 06.7	+0.4
	0.7nm,0.7s,baz=104,slow=3.1,SNR=4.6						
MKAR				LR	LR	20 55 21.4	
	comp=Z,160nm,19.2s,baz=197,slow=43						
MKAR	Makanchi Array	33.12	343	P	P	20 38 24.4	+0.9
MKAR				PcP	PcP	20 41 06.7	+0.4
SONM	Songino Array	33.29	13	P	P	20 38 25.3	+0.2
	0.5nm,0.5s,baz=197,slow=11,SNR=7.6						
SONM	Songino Array	33.29	13	P	P	20 38 25.3	+0.2
ULN	Ulaanbaatar	33.47	14	eP	P	20 38 27.1	+0.5
	0.6nm,0.4s						
KKAR	Karatay Array	34.98	327	eP	P	20 38 40.7	+1.0
KSRS	Korea Array	35.69	46	LR	LR	20 54 26.0	
	comp=Z,98nm,18.3s,baz=58,slow=38						
KURK	Kurchatov	37.72	342	eP	P	20 39 03.8	+0.9
	8.7nm,0.7s						
ZAA0	Zalesovo Array	39.25	350	eP	P	20 39 16.6	+0.9
ZALV	Zalesovo Beam	39.25	350	P	P	20 39 16.7	+1.0
	18nm,0.6s,baz=173,slow=8.3,SNR=122						
ZALV				PcP	PcP	20 41 24.0	-0.3
	0.9nm,0.8s,baz=180,slow=2.9,SNR=3.0						
ZALV	Zalesovo Beam	39.25	350	P	P	20 39 16.7	+1.0
ZALV				PcP	PcP	20 41 24.0	-0.3
BRVK	Borovoye	42.50	337	eP	P	20 39 42.7	+0.1
	10.0nm,1.4s						
MJAR	Matsushiro Arr	42.89	53	LR	LR	20 59 11.6	
	comp=Z,99nm,18.5s,baz=265,slow=38						
ABKAR	Akbulak array	44.55	327	eP	P	20 40 00.2	+1.1
	2.2nm,0.6s						
AKTO	Aktyubinsk	46.25	327	LR	LR	21 02 33.5	
	comp=Z,116nm,20.7s,baz=208,slow=40						
RDF	Al-Radifah	46.41	295	eP	P	20 40 14.4	+0.3
RDF				AMb	AMB	20 40 15.4	
	comp=Z,25nm,0.7s						
MIB	Mutribah	46.69	296	eP	P	20 40 16.4	0.0
MIB				AMb	AMB	20 40 21.2	
	comp=Z,18nm,0.9s						
NAY	Al-Naaiem	46.71	296	eP	P	20 40 16.2	-0.3
NAY				AMb	AMB	20 40 17.5	
	comp=Z,13nm,0.7s						
GNI	Garni	50.62	309	LR	LR	21 05 44.4	
	comp=Z,93nm,21.0s,baz=276,slow=40						
WRA	Warramunga Arr	51.69	132	P	P	20 40 53.8	-0.9
	comp=Z,2.9nm,0.7s,baz=313,slow=7.6,SNR=17						
WRA				PP	PP	20 42 54.9	+2.2
	comp=Z,0.3nm,0.8s,baz=311,slow=7.6,SNR=5.5						
WRA	Warramunga Arr	51.69	132	P	P	20 40 53.8	-0.9
WRA				PP	PP	20 42 54.9	+2.2
WRAB	Tennant Creek	51.69	132	eP	P	20 40 53.5	-1.2
	comp=Z,3.0nm,0.6s						
KBZ	Khabaz	52.84	313	P	P	20 41 04.2	+1.2
	comp=Z,3.9nm,0.8s,baz=104,slow=8.3,SNR=9.1						
KBZ	Khabaz	52.84	313	P	P	20 41 04.2	+1.2
KIV	Kislovodsk	53.05	314	eP	P	20 41 06.0	+1.4
	comp=Z,49nm,1.1s						
ASAR	Alice Springs	53.84	136	P	P	20 41 09.8	-0.8
	comp=Z,1.2nm,0.7s,baz=318,slow=7.6,SNR=12						
ASAR	Alice Springs	53.84	136	P	P	20 41 09.8	-0.8
EIL	Elat	57.43	295	LR	LR	21 09 51.6	
	comp=Z,102nm,19.2s,baz=272,slow=40						
BRTR	Keskin Array B	58.97	307	P	P	20 41 47.3	+0.2
	comp=Z,3.5nm,1.0s,baz=136,slow=8.0,SNR=9.5						
BRTR				LR	LR	21 08 13.4	
	comp=Z,104nm,21.6s,baz=264,slow=37						
BRTR	Keskin Array B	58.97	307	P	P	20 41 47.3	+0.2
PETK	Petropavlovsk-	60.79	37	LR	LR	21 11 21.9	
	comp=Z,84nm,18.8s,baz=243,slow=39						
AKASG	Malin Array Be	63.36	319	P	P	20 42 16.4	-0.1
	comp=Z,0.3nm,0.3s,baz=81,slow=6.5,SNR=3.1						
AKASG	Malin Array Be	63.36	319	P	P	20 42 16.4	-0.1
STKA	Stephens Creek	64.36	138	P	P	20 42 22.2	-1.2
	comp=Z,3.2nm,0.8s,baz=330,slow=8.1,SNR=3.6						
STKA	Stephens Creek	64.36	138	P	P	20 42 22.2	-1.2
JOF	Joensuu	64.75	333	ep	P	20 42 23.6	-1.8
	comp=Z,2.6nm,0.7s						
FINES	FINESS Array B	66.82	331	P	P	20 42 38.9	+0.2
	comp=Z,2.9nm,0.7s,baz=92,slow=6.5,SNR=18						
FINES				LR	LR	21 17 36.6	
	comp=Z,136nm,20.1s,baz=138,slow=41						
FINES	FINESS Array B	66.82	331	P	P	20 42 38.9	+0.2
KAF	Kangasniemi	66.83	331	ep	P	20 42 30.9	-7.9
	comp=Z,1.8nm,0.8s						
ARCES	ARCESS Array B	68.68	339	P	P	20 42 50.5	+0.1
	comp=Z,2.7nm,0.8s,baz=92,slow=8.1,SNR=5.7						
ARCES				LR	LR	21 16 06.0	
	comp=Z,90nm,18.4s,baz=27,slow=39						
ARCES	ARCESS Array B	68.68	339	P	P	20 42 50.5	+0.1
GERES	GERESS Array B	73.35	317	P	P	20 43 20.2	+0.9
	comp=Z,0.5nm,0.5s,baz=87,slow=4.7,SNR=7.3						
GERES	GERESS Array B	73.35	317	P	P	20 43 20.1	+0.9
NOA	NORSAR Array B	73.95	330	P	P	20 43 22.4	0.0
	comp=Z,1.9nm,0.9s,baz=92,slow=6.1,SNR=2.9						
NOA				LR	LR	21 16 23.0	
	comp=Z,71nm,20.7s,baz=80,slow=36						
NOA	NORSAR Array B	73.95	330	P	P	20 43 22.4	0.0
BOSA	Boshof	81.20	237	P	P	20 44 03.4	-0.1
	comp=Z,3.8nm,0.7s,baz=124,slow=3.2,SNR=4.3						
BOSA	Boshof	81.20	237	P	P	20 44 03.4	-0.1
ILAR	Eielson Array	86.98	22	P	P	20 44 31.0	-1.2
	comp=Z,1.0nm,0.7s,baz=298,slow=4.3,SNR=13						
ILAR	Eielson Array	86.98	22	P	P	20 44 31.0	-1.2
RES	Resolute Bay	89.66	3	P	P	20 44 44.3	-0.4
	comp=Z,1.6nm,0.9s,baz=335,slow=1.3,SNR=5.4						
RES	Resolute Bay	89.66	3	P	P	20 44 44.3	-0.4
TORD	Torodi Ar. Bea	90.52	284	P	P	20 44 49.1	-0.8
	comp=Z,1.5nm,1.2s,baz=57,slow=5.3,SNR=2.9						
TORD	Torodi Ar. Bea	90.52	284	P	P	20 44 49.1	-0.8
BDFB	Brasilia	145.31	265	PKPbc	PKPdf	20 51 26.6	+0.5
	comp=Z,6.8nm,0.7s,baz=31,slow=3.6,SNR=7.6						
BDFB	Brasilia	145.31	265	PKPbc	PKPdf	20 51 26.6	+0.5
SDV	Santo Domingo	152.28	330	ePKPbc	PKPbc	20 51 43.7	-0.5

*ISCJB **05** 20:53:45.7±0.5, 50.24N±0.04×18.94E±0.03, h0km, Error ellipse: s-maj=6.2km s-min=2.5km az=13.1*
*CSEM **05** 20:53:46.9±0.2, 50.23N×18.95E, h2km, ML2.7/4, Error ellipse: s-maj=6.6km s-min=2.7km az=11.0*
*PRU **05** 20:53:47.6, 50.23N×18.94E, h0km*
*WAR **05** 20:53:47.3, 50.23N×19.03E*
ISC 05 20:53:46.9±0.8**, 50.22N**±0.04×**18.95E**±0.02**, h0km, n29, σ0.72**/49**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.55	89	ePg	Pg	20 53 57.2	-0.2
OJC				eSg	Sg	20 54 04.5	0.0
OJC	Ojcow	0.55	89	ePg	Pg	20 53 57.2	-0.2
OJC				eSg	Sg	20 54 04.5	0.0
OKC	Ostrava-Krasne	0.64	234	ePG	Pb	20 54 00.7	-0.3
OKC				eSG	Sg	20 54 09.3	+1.8
	comp=Z,15nm,0.3s						
OKC	Ostrava-Krasne	0.64	234	Pg	Pb	20 54 00.7	-0.3
OKC				Sg	Sg	20 54 09.3	+1.8
	15nm,0.3s						
MORC	Moravsky Berou	1.01	245	ePg	Pg	20 54 06.8	+0.6
MORC				eSg	Sb	20 54 20.7	-0.4
NIE	Niedzica	1.19	132	ePg	Pg	20 54 09.9	+0.1
NIE				eSg	Sb	20 54 26.7	+0.3
NIE	Niedzica	1.19	132	ePg	Pg	20 54 09.9	+0.1
NIE				eSg	Sb	20 54 26.7	+0.3
KRLC	Kraliky	1.40	265	ePG	Pn	20 54 13.3	-0.5
KRLC				eSG	Sn	20 54 32.9	-0.1
KRLC	Kraliky	1.40	265	Pg	Pn	20 54 13.3	-0.5
KRLC				Sg	Sn	20 54 32.9	-0.1
DPC	Dobruska-Polom	1.69	276	ePG	Pn	20 54 17.9	+0.2
DPC				eSG	Sb	20 54 41.0	+0.3
	comp=Z,11nm,0.2s						
DPC	Dobruska-Polom	1.69	276	Pg	Pn	20 54 17.9	+0.2
DPC				Sg	Sb	20 54 41.0	+0.3
	11nm,0.2s						
VYHS	Vyhne	1.73	182	ePN	Pn	20 54 17.9	-0.3
VYHS				eSN	Sn	20 54 40.3	-0.7
VYHS	Vyhne	1.73	182	ePn	Pn	20 54 17.9	-0.3
VYHS				eSn	Sn	20 54 40.3	-0.7
VRAC	Vranov	1.78	240	ePn	Pn	20 54 18.7	-0.2
VRAC				eSg	Sn	20 54 42.8	+0.6
KSP	Ksiaz	1.81	291	ePn	Pn	20 54 19.7	+0.4
KSP	Ksiaz	1.81	291	ePn	Pn	20 54 19.7	+0.4
KSP				ePg	Pg	20 54 21.7	+0.2
KSP				eSg	Sg	20 54 46.4	+1.5
UPC	Upice	1.90	280	eSG	Sg	20 54 48.4	+0.4
	comp=Z,3.2nm,0.3s						
UPC	Upice	1.90	280	Sg	Sg	20 54 48.4	+0.4
	3.2nm,0.3s						
CRVS	Cervenica-Dubn	2.10	128	ePN	Pn	20 54 24.2	+0.8
CRVS				ePG	Pb	20 54 26.5	+0.6
CRVS				eSG	Sg	20 54 54.5	+0.1
CRVS	Cervenica-Dubn	2.10	128	ePn	Pn	20 54 24.2	+0.8
KOLS	Kolonicke sedl	2.52	119	e	Pg	20 54 34.5	-0.7
KOLS	Kolonicke sedl	2.52	119	eSN	Sn	20 54 59.8	-0.7
KOLS	Kolonicke sedl	2.52	119	eSn	Sn	20 54 59.8	-0.7
PRU	Pruhonice	2.85	267	eSG	Sg	20 55 17.3	-1.0
PRU	Pruhonice	2.85	267	Sg	Sg	20 55 17.3	-1.0
BRG	Berggiesshubel	3.26	284	SG	Sg	20 55 31.1	-0.5
	3.1nm,0.4s						
KHC	Kasperske Hory	3.65	255	ePN	Pn	20 54 45.0	+0.3
KHC				eSG	Sg	20 55 42.7	-1.5
	comp=Z,5.9nm,0.5s						
KHC	Kasperske Hory	3.65	255	Pn	Pn	20 54 45.0	+0.3
KHC				Sg	Sg	20 55 42.7	-1.5
	5.9nm,0.5s						
CLL	Collm	3.93	288	eSg	Sg	20 55 52.0	-1.1

AUST 05 20:59:30.6±1.8**, 30.28S×117.65E, h21km, Error ellipse: s-maj=1.6km s-min=1.0km az=260.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLDU	Ballidu	0.88	247	P	Pb	20 59 46.8	-0.4
	baz=0.9,SNR=21						
BLDU				S	Sb	20 59 59.2	+0.7
	baz=0.9,SNR=10						
KLBR	Kellerberrin	1.31	176	P	Pn	20 59 54.0	+0.3
	baz=1.3,SNR=10						
KLBR				S	Sb	21 00 10.8	-0.1
	baz=1.3,SNR=14						
MORW	Morawa	1.85	310	P	Pn	21 00 01.3	+0.2
	baz=1.9,SNR=4.7						
MORW				S	Sn	21 00 24.9	+1.0
	baz=1.9,SNR=5.2						
MEEK	Meekatharra	3.73	13	P	Pn	21 00 26.6	-0.4
	baz=3.7,SNR=3.8						

*MDD **05** 21:05:22.5±0.6, 36.52N×4.85E, h0km, mb4.3/9, Error ellipse: s-maj=13.0km s-min=6.0km az=38.0, PRXIMO*
*CSEM **05** 21:05:22.8±0.5, 36.55N×4.82E, h10km, mb4.3/9, Error ellipse: s-maj=13.0km s-min=10.5km az=18.0*
*CRAAG **05** 21:05:24.2, 36.26N×4.80E, Ml3.6*
ISC 05 21:05:21.4±1.1**, 36.54N**±0.06×**4.84E**±0.04**, h13km, n29, σ1.85**/39**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET	Setif	0.57	127	P	Pg	21 05 32.0	-0.5
SET	Setif	0.57	127	P	Pg	21 05 32.0	-0.5
CASM	Ain Smara	1.36	102	P	Pn	21 05 48.0	+1.8
CASM	Ain Smara	1.36	102	P	Pn	21 05 48.0	+1.8
CASM	Ain Smara	1.36	102	P	Pn	21 05 48.0	+1.8
ABA	Alger-Bouzarea	1.47	281	P	Pg	21 05 50.3	+0.6
ABA	Alger-Bouzarea	1.47	281	P	Pg	21 05 50.3	+0.6
ABA	Alger-Bouzarea	1.47	281	P	Pg	21 05 50.3	+0.6
EMHD	Djebel Mahouad	1.56	258	P	Pn	21 05 49.8	+0.8
EMHD	Djebel Mahouad	1.56	258	P	Pn	21 05 49.8	+0.8
EMHD	Djebel Mahouad	1.56	258	P	Pn	21 05 49.8	+0.8
ETOS	Mallorca	3.59	334	P	Pn	21 06 18.0	+1.2
	17nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.59	334	P	Pn	21 06 18.0	+1.2
	17nm,0.3s,SNR=7.9						
ETOB	Tobarra	5.49	294	P	Pn	21 06 44.3	+1.4
	2.8nm,0.3s,SNR=5.8						
ETOB	Tobarra	5.49	294	P	Pn	21 06 44.3	+1.4
	2.8nm,0.3s,SNR=5.8						
ECHE	Chera	5.50	305	P	Pn	21 06 44.0	+1.0
	1.9nm,0.6s,SNR=4.0						
ECHE	Chera	5.50	305	P	Pn	21 06 44.0	+1.0
	1.9nm,0.6s,SNR=4.0						
CFON	Fontmartina	5.54	341	P	Pn	21 06 44.7	+1.2
	6.3nm,0.2s,SNR=7.9						
CFON				S	Sn	21 07 44.6	-2.5
	2.0nm,0.2s,SNR=4.0						
CFON	Fontmartina	5.54	341	P	Pn	21 06 44.7	+1.2
	6.3nm,0.2s,SNR=7.9						
CFON				S	Sn	21 07 44.6	-2.5
	2.0nm,0.2s,SNR=4.0						
EPOB	Poblet	5.62	330	P	Pn	21 06 45.7	+0.9
	1.7nm,0.3s,SNR=4.0						
EPOB				S	Sn	21 07 46.8	-2.5
	0.5nm,0.2s,SNR=4.0						
EPOB	Poblet	5.62	330	P	Pn	21 06 45.7	+0.9
	1.7nm,0.3s,SNR=4.0						
EPOB				S	Sn	21 07 46.8	-2.5
	0.5nm,0.2s,SNR=4.0						
EMIR	Miracle	5.95	335	P	Pn	21 06 51.8	+2.6
	16nm,0.2s,SNR=39						
EMIR				S	Sn	21 07 55.0	-2.2
	28nm,0.4s,SNR=5.0						
EMIR	Miracle	5.95	335	P	Pn	21 06 51.8	+2.6
	16nm,0.2s,SNR=39						
EMIR				S	Sn	21 07 55.0	-2.2
	28nm,0.4s,SNR=5.0						
EJON	La Jonquera	6.09	346	P	Pn	21 06 52.5	+1.4
	2.8nm,0.3s,SNR=7.9						
EJON	La Jonquera	6.09	346	P	Pn	21 06 52.5	+1.4
	2.8nm,0.3s,SNR=7.9						
CLLI	Llivia	6.33	340	P	Pn	21 06 57.2	+2.7
	2.7nm,0.2s,SNR=23						
CLLI				S	Sn	21 08 04.2	-2.4
	0.3nm,0.3s,SNR=7.9						
CLLI	Llivia	6.33	340	P	Pn	21 06 57.2	+2.7
	2.7nm,0.2s,SNR=23						
CLLI				S	Sn	21 08 04.2	-2.4
	0.3nm,0.3s,SNR=7.9						
CSOR	Sort	6.49	335	P	Pn	21 06 59.4	+2.7
	2.4nm,0.3s,SNR=7.5						
CSOR				S	Sn	21 08 09.6	-1.0
	3.6nm,0.5s						
CSOR	Sort	6.49	335	P	Pn	21 06 59.4	+2.7
	2.4nm,0.3s,SNR=7.5						
CSOR				S	Sn	21 08 09.6	-1.0
	3.6nm,0.5s						

IDC 05 21:08:26.8±9.3**, 10.51N×91.24E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/25**, mbtmp3.4**/3**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/36**, Error ellipse: s-maj=470.1km s-min=29.1km az=60.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	36.95	350	P	P	21 15 37.5	-0.1
	0.4nm,0.7s,baz=176,slow=8.9,SNR=4.9						
WRA	Warramunga Arr	52.11	125	P	P	21 17 39.1	-0.1
	0.2nm,0.5s,baz=305,slow=8.5,SNR=3.2						
GUMO	Guam	52.45	81	LR	LR	21 39 14.0	
	comp=Z,71nm,19.3s,baz=37,slow=35						
ASAR	Alice Springs	53.79	130	P	P	21 17 51.4	-0.1
	0.3nm,0.5s,baz=307,slow=6.9,SNR=3.9						

*ISCJB **05** 21:11:43.0±0.7, 79.80N±0.07×2.2W±0.3, h10km, mb3.6/8, Error ellipse: s-maj=10.8km s-min=7.0km az=0.6*
*IDC **05** 21:11:44.0±1.1, 80.18N×1.99W, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.5/33, mbtmp3.7/11, ML3.1/1, Error ellipse: s-maj=30.0km s-min=16.7km az=32.0*
*CSEM **05** 21:11:43.9±0.9, 79.86N×1.67W, h15km, ML3.4, Error ellipse: s-maj=47.1km s-min=11.6km az=173.0*
*BER **05** 21:11:44.9±2.2, 80.19N×1.38W, h10km, MD2.5, ML2.8*
ISC 05 21:11:44.5±0.8**, 79.9N**±0.1×**1.72W**±0.06**, h10km, n20, σ2.41**/26**, mb3.7**/8**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.71	105	eP	Pn	21 12 26.6	-1.4
KBS				eS	Sn	21 12 57.0	-3.8
KBS				AML	AML	21 13 05.4	
	comp=Z,94nm,0.5s						
KBS	Kingsbay	2.71	105	eP	Pn	21 12 26.6	-1.4
	SNR=50						
KBS				eS	Sn	21 12 57.0	-3.8
	comp=Z,94nm,0.5s,SNR=50						
SPA0	Spitsbergen Ar	3.86	108	eP	Pn	21 12 43.3	-0.5
SPA0				eS	Sn	21 13 25.9	-3.3
SPA0	Spitsbergen Ar	3.86	108	eP	Pn	21 12 43.3	-0.5
	SNR=49						
SPA0				eS	Sn	21 13 25.9	-3.3
	SNR=49						
SPITS	Spitsbergen Ar	3.86	108	Pn	Pn	21 12 43.4	-0.5
	baz=321,slow=7.5,SNR=622						
SPITS				Sn	Sn	21 13 25.5	-3.6
	baz=324,slow=19,SNR=9.5						
HSP	Hornsund	4.53	122	eP	Pn	21 12 54.2	+1.3
HSP				eS	Sn	21 13 43.2	-2.2
HOPEN	Hopen	6.39	109	eS	Sn	21 14 26.8	-4.6
SCO	Scoresbysund	10.70	219	eS	Sn	21 16 15.4	-1.7
	comp=Z,5.5nm,0.6s,SNR=46						
SUMG	Summit	11.15	249	i P	Pn	21 14 22.5	-1.5
SUMG				eS	Sn	21 16 20.2	-8.4
SUMG	Summit	11.15	249	i P	Pn	21 14 22.5	-1.5
	SNR=46						
ARCES	ARCESS Array B	12.44	132	Pn	Pn	21 14 43.9	+2.6
	comp=Z,0.2nm,0.3s,baz=346,slow=11,SNR=4.6						
ARCES				Sn	Sn	21 17 02.1	+2.4
	comp=Z,0.2nm,0.3s,baz=331,slow=20,SNR=3.2						
HFS	Hagfors	20.43	158	P	Pn	21 16 25.0	+1.4
	comp=Z,1.6nm,0.8s,baz=1.1,slow=7.2,SNR=2.3						
FRB	Frobisher Bay	24.15	268	P	P	21 17 00.7	+0.5
	comp=Z,1.2nm,0.5s,baz=37,slow=9.1,SNR=4.5						
ILAR	Eielson Array	34.15	334	P	P	21 18 28.1	-1.0
	comp=Z,0.7nm,0.7s,baz=4.4,slow=7.4,SNR=9.2						
BVAR	Borovoye Array	35.20	94	P	P	21 18 40.0	+1.9
	comp=Z,0.5nm,0.7s,baz=355,slow=8.9,SNR=3.7						
AKTO	Aktyubinsk	35.56	108	P	P	21 18 43.4	+2.1
	comp=Z,1.3nm,0.9s,baz=340,slow=8.9,SNR=4.5						
ZALV	Zalesovo Beam	36.84	80	P	P	21 18 52.7	+0.5
	comp=Z,0.2nm,0.3s,baz=335,slow=9.7,SNR=3.0						
MKAR	Makanchi Array	43.29	85	P	P	21 19 46.9	+1.1
	comp=Z,1.0nm,0.7s,baz=344,slow=7.4,SNR=16						
AAK	Ala-Archa	45.95	94	P	P	21 20 09.9	+2.6
	comp=Z,1.2nm,0.6s,baz=343,slow=4.0,SNR=7.3						
CMAR	Chiang Mai Arr	73.81	76	P	P	21 23 19.0	+0.2
	comp=Z,0.2nm,0.6s,baz=354,slow=8.2,SNR=4.4						

*KRSC **05** 21:19:50.4±2.9, 53.87N×155.60E, h570km±60km, ML4.3*
*ISCJB **05** 21:19:54.7±1.1, 53.9N±0.2×156.1E±0.5, h553km±26km, mb3.2/4, Error ellipse: s-maj=58.1km s-min=16.8km az=35.9*
*MOS **05** 21:19:54.3±0.9, 53.86N×155.60E, h539km, mb3.9/1, Error ellipse: s-maj=48.7km s-min=32.1km az=131.9*
*IDC **05** 21:19:57.6±1.4, 54.79N×154.02E, h439km±142km, mb2.9/4, mb1 2.9/5, mb1mx2.5/29, mbtmp2.9/5, Error ellipse: s-maj=225.9km s-min=52.3km az=145.0*
ISC 05 21:19:55.0±1.1**, 53.9N**±0.2×**156.0E**±0.2**, h540km**±21km**, n29, σ1.51**/37**, mb3.1**/4**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APC	Apacha	1.19	142	eP	P	21 21 01.0	+0.3
PETK	Petropavlovsk-	1.29	126	P	P	21 21 02.0	+1.0
	2.1nm,0.3s,baz=305,slow=3.0,SNR=19						
PETK	Petropavlovsk-	1.29	126	P	P	21 21 02.0	+1.0
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOK	Koryaka	1.70	109	eP	P	21 21 04.4	+1.9
KRER	Koryakskii	1.76	108	eP	P	21 21 05.2	+2.3
AVH	Avacha	1.77	109	eP	P	21 21 04.8	+2.0
SMAR	Somma	1.81	109	eP	P	21 21 05.2	+2.1
UGLR	Uglovaya	1.84	110	eP	P	21 21 05.4	+2.3
SDLR	Sedlovina	1.85	108	eP	P	21 21 04.9	+1.8
ASAK	Asacha	1.90	141	eP	P	21 21 04.7	+1.3
MTVR	Mutnovka	1.93	135	eP	P	21 21 05.5	+1.9
RUS	Russkaya	2.11	132	P	P	21 21 05.1	+0.9
RUS				S	S	21 21 59.7	-0.9
RUS	Russkaya	2.11	132	eP	P	21 21 05.1	+0.9
RUS				i S	S	21 21 59.7	-0.9
SPN	Mys Shipunski	2.55	106	P	P	21 21 07.4	+1.0
SPN				S	S	21 22 03.6	-1.1
SPN	Mys Shipunski	2.55	106	eP	P	21 21 07.4	+1.0
SPN				i S	S	21 22 03.6	-1.1
TUMR	Tumrok	2.82	58	eP	P	21 21 10.5	+2.5
KMNR	Kamenistaya	3.12	51	eP	P	21 21 11.2	+1.4
SRDR	Sredinnyy	3.27	40	eP	P	21 21 12.2	+1.5
MKZ	Mys Kozlova	3.46	76	P	P	21 21 13.0	+1.0
MKZ				S	S	21 22 13.5	-1.5
MKZ	Mys Kozlova	3.46	76	eP	P	21 21 13.0	+1.0
MKZ				i S	S	21 22 13.5	-1.5
KBTR	Krutoberegovo	4.59	57	P	P	21 21 21.9	+1.4
KBTR				S	S	21 22 28.9	-1.8
KBTR	Krutoberegovo	4.59	57	eP	P	21 21 21.9	+1.4
KBTR				i S	S	21 22 28.9	-1.8
MKAR	Makanchi Array	45.58	293	P	P	21 27 25.4	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.2nm,0.3s,baz=54,slow=6.5,SNR=15						
MKAR	Makanchi Array	45.58	293	P	P	21 27 25.4	-1.1
BVAR	Borovoye Array	47.94	306	P	P	21 27 43.1	-1.1
	comp=Z,1.1nm,0.4s,baz=57,slow=7.3,SNR=14						
BVAR	Borovoye Array	47.94	306	P	P	21 27 43.1	-1.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	Ala-Archa	52.51	293	P	P	21 28 18.0	+0.1
	comp=Z,0.4nm,0.4s,baz=73,slow=11,SNR=3.6						
AAK	Ala-Archa	52.51	293	P	P	21 28 18.0	+0.1
FINES	FINESS Array B	58.38	334	P	P	21 28 59.7	+1.5
	comp=Z,0.3nm,0.3s,baz=27,slow=9.9,SNR=5.5						

IDC 05 21:32:23.5±9.7, 12°.20S×166°.94E, h218km±101km, mb3.3/4, mb1 3.6/5, mb1mx3.3/20, mbtmp3.3/5, Error ellipse: s-maj=99.3km s-min=26.4km az=159.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.83	183	P	Pn	21 34 40.4	0.0
	0.2nm,0.3s,baz=6.7,slow=13,SNR=3.8						
WRA	Warramunga Arr	32.21	252	P	P	21 38 31.5	-0.1
	0.6nm,0.5s,baz=81,slow=9.2,SNR=8.6						
ASAR	Alice Springs	33.35	245	P	P	21 38 41.3	-0.1
	0.6nm,0.6s,baz=77,slow=8.9,SNR=9.4						
ILAR	Eielson Array	84.24	18	P	P	21 44 30.6	+0.4
	1.2nm,0.6s,baz=235,slow=6.4,SNR=12						
YKA	Yellowknife Ar	95.46	27	P	P	21 45 22.1	-1.0
	0.1nm,0.3s,baz=262,slow=4.1,SNR=3.9						
ARCES	ARCESS Array B	117.74	346	PKP	PKPdf	21 50 43.0	-0.3
	1.6nm,0.7s,baz=67,slow=2.3,SNR=10.0						
FINES	FINESS Array B	123.27	339	PKP	PKPdf	21 50 54.2	+0.2
	1.4nm,1.0s,baz=25,slow=3.7,SNR=3.5						

IDC 05 21:49:44.6±1.3, 4°.40N×127°.36E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/23, mbtmp3.3/5, MS3.4/1, Ms1 3.3/1, ms1mx2.8/15, Error ellipse: s-maj=137.4km s-min=20.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.14	164	P	P	21 55 11.2	-0.4
	0.4nm,0.5s,baz=343,slow=10,SNR=8.4						
STKA	Stephens Creek	38.53	160	P	P	21 57 09.1	+0.1
	1.0nm,0.7s,baz=338,slow=11,SNR=2.9						
STKA				LR	LR	22 13 28.4	
	comp=Z,52nm,20.7s,baz=14,slow=37						
SONM	Songino Array	46.88	341	P	P	21 58 15.4	-1.4
	0.1nm,0.6s,baz=157,slow=7.8,SNR=2.2						
MKAR	Makanchi Array	57.38	325	P	P	21 59 34.8	-0.1
	0.1nm,0.5s,baz=119,slow=7.7,SNR=3.9						
KURBB	Kurchatov Arra	61.52	327	P	P	22 00 04.5	+1.1
	0.2nm,0.4s,baz=121,slow=6.9,SNR=3.3						

*THR **05** 22:01:44.7±0.3, 34°.23N×51°.17E, h18km, ML4.2*
*TEH **05** 22:01:45.4, 34°.20N×51°.12E, h6km, ML4.2*
*CSEM **05** 22:01:45.3±0.2, 34°.27N×51°.18E, h2km, ML4.2, Error ellipse: s-maj=4.2km s-min=3.9km az=163.0*
*IDC **05** 22:01:49.2±3.4, 34°.17N×51°.05E, h35km±30km, mb3.5/16, mb1 3.7/21, mb1mx3.6/35, mbtmp3.6/21, ML3.7/4, MS3.0/6, Ms1 3.0/6, ms1mx2.8/33, Error ellipse: s-maj=21.5km s-min=14.3km az=4.0*
ISC 05 22:01:44.7±1.1, 34°.22N±0°.02×51°.15E±0°.02, h3km±8km, n125, σ1s.17/149, mb3.6/17, MS2.9/3, 3C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IVRN	Varamin	0.91	32	eSg	Sb	22 02 15.3	-0.3
IVRN				ePg	Pb	22 02 02.4	-0.7
IVRN				ePg	Pg	22 02 02.6	+0.5
IVRN				eSg	Sb	22 02 15.3	-0.3
IVRN				e		22 02 16.7	
	comp=Z,99μm,0.1s						
ISFB	Sefidab	0.92	82	eSg	Sb	22 02 14.6	-1.3
ISFB				⇓ePg	Pg	22 02 02.0	-0.2
ISFB				e		22 02 22.4	
	comp=Z,34μm,0.2s						
IR5	Iran Long-Peri	1.09	335	eSg	Sg	22 02 19.9	+0.2
IR5				⇑ePg	Pg	22 02 05.2	-0.4
KHMZ	Khomeyn	1.10	244	ePg	Pg	22 02 05.6	-0.1
KHMZ				AML	AML	22 02 23.1	
	comp=E,5μm,0.3s						
KHMZ				AML	AML	22 02 23.1	
	comp=N,5μm,0.4s						
KHMZ	Khomeyn	1.10	244	ePg	Pg	22 02 05.6	-0.1
IMHD	Mahdasht	1.51	345	ePn	Pn	22 02 12.2	-0.5
IMHD				eSg	Sg	22 02 33.2	0.0
IMHD				e		22 02 34.0	
	comp=Z,1μm,0.1s						
IMHD	Mahdasht	1.51	345	ePn	Pn	22 02 12.2	-0.5
IMHD				eSg	Sg	22 02 33.2	0.0
IDMV	Damavand	1.53	28	ePn	Pn	22 02 12.9	-0.3
IDMV				eSg	Sg	22 02 34.9	+0.9
IDMV				e		22 02 36.5	
	comp=Z,3μm,0.2s						
IDMV	Damavand	1.53	28	ePn	Pn	22 02 12.9	-0.3
IDMV				eSg	Sg	22 02 34.9	+0.9
IRAZ	Razeghan	1.54	320	⇑ePn	Pn	22 02 13.3	0.0
IRAZ				eSg	Sg	22 02 34.4	+0.1
IRAZ				e		22 02 39.0	
	comp=Z,52μm,0.1s						
IRAZ	Razeghan	1.54	320	⇑ePn	Pn	22 02 13.3	0.0
IRAZ				eSg	Sg	22 02 34.4	+0.1
CHTH	Charan	1.68	359	ePg	Pn	22 02 15.3	+0.1
CHTH				eSg	Sb	22 02 38.0	-0.1
CHTH				AML	AML	22 02 41.0	
	comp=E,5μm,0.4s						
CHTH	Charan	1.68	359	ePg	Pn	22 02 15.3	+0.1
CHTH				eSg	Sb	22 02 38.0	-0.1
THKV	Tehran--Karaj	1.70	353	ePg	Pb	22 02 15.9	-0.8
THKV				AML	AML	22 02 42.1	
	comp=E,2μm,0.4s						
THKV				AML	AML	22 02 50.1	
	comp=N,2μm,0.4s						
THKV	Tehran--Karaj	1.70	353	ePg	Pb	22 02 15.9	-0.8
ILAS	Lasjerd	1.89	52	ePn	Pn	22 02 18.3	+0.2
ILAS				eSg	Sg	22 02 44.6	-0.7
ILAS				e		22 02 45.2	
	comp=Z,37μm,0.3s						
ILAS	Lasjerd	1.89	52	ePn	Pn	22 02 18.3	+0.2
ILAS				eSg	Sg	22 02 44.6	-0.7
IFIR	Firoozkooh	1.94	43	ePn	Pb	22 02 19.7	-1.1
IFIR				eSg	Sg	22 02 46.4	-0.5
IFIR				e		22 02 49.2	
	comp=Z,43μm,0.1s						
IFIR	Firoozkooh	1.94	43	ePn	Pb	22 02 19.7	-1.1
IFIR				eSg	Sg	22 02 46.4	-0.5
NASN	Na'in	1.99	135	ePg	Pb	22 02 20.9	-0.8
NASN				eSg	Sg	22 02 47.5	-1.0
NASN				AML	AML	22 02 49.7	
	comp=N,1μm,0.5s						
NASN	Na'in	1.99	135	ePg	Pb	22 02 20.9	-0.8
NASN				eSg	Sg	22 02 47.5	-1.0
IPRN	Peran	2.24	26	ePn	Pb	22 02 24.8	-1.0
IPRN				eSg	Sg	22 02 55.8	-0.8
IPRN				e		22 02 58.2	
	comp=Z,86μm,0.3s						
IGZV	Ghazvin	2.29	341	ePn	Pn	22 02 24.2	+0.7
IGZV				e		22 02 30.8	
	comp=Z,20μm,0.2s						
IGZV				eSg	Sg	22 02 57.2	-0.9
IGZV	Ghazvin	2.29	341	ePn	Pn	22 02 24.2	+0.7
IGZV				eSg	Sg	22 02 57.2	-0.9
IALA	Alasht	2.30	36	ePn	Pn	22 02 24.8	+1.0
IALA				eSg	Sg	22 02 56.9	-1.8
IALA				e		22 03 00.8	
	comp=Z,47μm,0.2s						
IALA	Alasht	2.30	36	ePn	Pn	22 02 24.8	+1.0
IALA				eSg	Sg	22 02 56.9	-1.8
ISHM	Shahmirzad	2.37	48	ePn	Pn	22 02 25.6	+0.9
ISHM				e		22 03 00.3	
	comp=Z,49μm,0.2s						
ISHM	Shahmirzad	2.37	48	ePn	Pn	22 02 25.6	+0.9
IANJ	Anjilo	2.59	61	ePn	Pn	22 02 28.1	+0.3
IANJ				e		22 03 23.2	
	comp=Z,9μm,0.2s						
IANJ	Anjilo	2.59	61	ePn	Pn	22 02 28.1	+0.3
IKIA	Kiasar	2.87	46	ePn	Pn	22 02 32.3	+0.7
IKIA				eSg	Sg	22 03 15.1	-1.8
IKIA				e		22 03 16.6	
	comp=Z,7μm,0.3s						
IKIA	Kiasar	2.87	46	ePn	Pn	22 02 32.3	+0.7
IKIA				eSg	Sg	22 03 15.1	-1.8
IKOM	Komasi	3.01	270	ePn	Pb	22 02 37.1	-2.0
IKOM				e		22 03 38.6	
	comp=Z,9μm,0.4s						
IKOM	Komasi	3.01	270	ePn	Pb	22 02 37.1	-2.0
ICHK	Chekchek	3.37	125	ePn	Pn	22 02 38.7	+0.2
ICHK				e		22 03 48.4	
	comp=Z,4μm,0.4s						
ICHK	Chekchek	3.37	125	ePn	Pn	22 02 38.7	+0.2
IVIS	Veis	3.56	276	ePn	Pn	22 02 44.1	+3.1
IVIS				e		22 03 37.1	
	comp=Z,2μm,0.3s						
IVIS	Veis	3.56	276	ePn	Pn	22 02 44.1	+3.1
IGHG	Ghaleghazi	3.79	273	ePn	Pn	22 02 47.5	+3.3
IGHG				e		22 03 59.3	
	comp=Z,4μm,0.3s						
IGHG	Ghaleghazi	3.79	273	ePn	Pn	22 02 47.5	+3.3
IMEH	Mehriz	4.06	133	ePn	Pn	22 02 47.7	-0.3
IMEH				e		22 03 59.6	
	comp=Z,2μm,0.3s						
IMEH	Mehriz	4.06	133	ePn	Pn	22 02 47.7	-0.3
IBAF	Bafgh	4.55	124	ePn	Pn	22 02 55.1	+0.5
IBAF				e		22 03 16.8	
	comp=Z,1μm,0.3s						
IBAF	Bafgh	4.55	124	ePn	Pn	22 02 55.1	+0.5
ISRB	Sarab	4.57	323	ePn	Pn	22 02 54.7	-0.2
ISRB				e		22 03 12.4	
	comp=Z,2μm,0.2s						
ISRB				eSg	Sg	22 04 08.1	-3.3
ISRB	Sarab	4.57	323	ePn	Pn	22 02 54.7	-0.2
ISRB				eSg	Sg	22 04 08.1	-3.3
IMND	Minoodasht	4.60	48	ePn	Pb	22 03 06.4	+0.4
IPAR	Pars	4.66	159	ePn	Pn	22 02 57.1	+0.9
IPAR	Pars	4.66	159	ePn	Pn	22 02 57.1	+0.9
IBST	Bostanabad	4.89	316	ePn	Pn	22 02 59.7	+0.4
IBST				e		22 03 07.3	
	comp=Z,1μm,0.1s						
IBST	Bostanabad	4.89	316	ePn	Pn	22 02 59.7	+0.4
ISRV	Sarvestan	5.11	160	ePn	Pn	22 03 02.2	-0.2
ISRV	Sarvestan	5.11	160	ePn	Pn	22 03 02.2	-0.2
IHRS	Heris	5.26	322	e		22 03 22.4	
	comp=Z,1μm,0.2s						
IHRS				ePn	Pn	22 03 04.9	+0.5
IAZR	Azarshahr	5.42	311	e		22 03 32.5	
	comp=Z,946nm,0.1s						
IAZR				ePn	Pn	22 03 06.5	-0.2
MIB	Mutribah	5.46	217	eP	Pn	22 03 09.8	+2.8
MIB				AML	AML	22 04 14.6	
	comp=Z,32nm,3.4s						
MIB	Mutribah	5.46	217	eP	Pn	22 03 09.8	+2.8
UMR	Umm Al-Rimmam	5.50	213	eP	Pn	22 03 10.1	+2.7
UMR				AML	AML	22 04 14.2	
	comp=Z,44nm,0.5s						
UMR	Umm Al-Rimmam	5.50	213	eP	Pn	22 03 10.1	+2.7
BHD	Baghdad	5.71	262	eP	Pn	22 03 08.0	-2.4
BHD				eS	Sn	22 04 15.0	-1.5
BHD	Baghdad	5.71	262	eP	Pn	22 03 08.0	-2.4
BHD				eS	Sn	22 04 15.0	-1.5
NAY	Al-Naaiem	5.97	215	eP	Pn	22 03 16.5	+2.6
NAY				AML	AML	22 04 26.6	
	comp=Z,17nm,0.5s						
NAY	Al-Naaiem	5.97	215	eP	Pn	22 03 16.5	+2.6
RDF	Al-Radifah	6.11	211	eP	Pn	22 03 19.2	+3.4
RDF				AML	AML	22 04 34.8	
	comp=Z,53nm,0.6s						
ISFR	Sfrayin	6.25	61	ePn	Pn	22 03 18.1	0.0
ISFR				e		22 03 28.9	
	comp=Z,864nm,0.3s						
ISFR	Sfrayin	6.25	61	ePn	Pn	22 03 18.1	0.0
ISHV	Shirvan	6.26	56	ePn	Pn	22 03 18.2	0.0
ISHV				e		22 05 28.8	
	comp=Z,1μm,0.3s						
ISHV	Shirvan	6.26	56	ePn	Pn	22 03 18.2	0.0
IMRD	Marand	6.27	317	ePn	Pn	22 03 17.8	-0.4
IMRD				e		22 03 57.7	
	comp=Z,903nm,0.3s						
IMRD	Marand	6.27	317	ePn	Pn	22 03 17.8	-0.4
ITEG	Tejag	6.48	100	ePn	Pn	22 03 21.4	+0.2
ITEG				e		22 03 23.3	
	comp=Z,2μm,0.3s						
ITEG	Tejag	6.48	100	ePn	Pn	22 03 21.4	+0.2
IKRD	Kardeh	6.53	65	ePn	Pb	22 03 32.0	-7.0
IKRD				e		22 03 34.8	
	comp=Z,351nm,0.1s						
IKRD	Kardeh	6.53	65	ePn	Pb	22 03 32.0	-7.0
IPAY	Payeh	6.79	69	ePn	Pn	22 03 25.3	-0.1
IPAY				e		22 04 45.6	
	comp=Z,462nm,0.1s						
IPAY	Payeh	6.79	69	ePn	Pn	22 03 25.3	-0.1
IKOO	Kooshah	6.82	103	ePn	Pn	22 03 26.8	+0.9
IKOO				e		22 03 31.5	
	comp=Z,575nm,0.1s						
IKOO	Kooshah	6.82	103	ePn	Pn	22 03 26.8	+0.9
IMOG	Moghan	6.97	72	ePn	Pn	22 03 27.9	0.0
IMOG				e		22 03 29.2	
	comp=Z,596nm,0.2s						
IMOG	Moghan	6.97	72	ePn	Pn	22 03 27.9	0.0
ISRO	Mashad	7.12	71	ePn	Pn	22 03 29.4	-0.4
ISRO	Mashad	7.12	71	ePn	Pn	22 03 29.4	-0.4
IMON	Monand	7.18	96	ePn	Pn	22 03 32.5	+1.8
IMON				e		22 03 34.2	
	comp=Z,936nm,0.1s						
IMON	Monand	7.18	96	ePn	Pn	22 03 32.5	+1.8
IDAH	Dahanechah	7.44	99	ePn	Pn	22 03 35.2	+0.9
IDAH				e		22 03 49.0	
	comp=Z,490nm,0.2s						
IDAH	Dahanechah	7.44	99	ePn	Pn	22 03 35.2	+0.9
IMYA	Miami	7.62	71	ePn	Pn	22 03 36.9	+0.1
IMYA				e		22 03 38.8	
	comp=Z,863nm,0.2s						
IMYA	Miami	7.62	71	ePn	Pn	22 03 36.9	+0.1
GNI	Garni	7.81	321	Pn	Pn	22 03 43.5	+4.1
	comp=Z,0.1nm,0.3s,baz=115,slow=17,SNR=2.3						
GNI				Pg	Pb	22 04 06.4	+5.5
	comp=Z,0.3nm,0.3s,baz=185,slow=23,SNR=4.3						
GNI				LR	LR	22 07 13.9	
	comp=Z,155nm,18.3s,baz=92,slow=42						
ASF	Jabal al Asfar	12.11	264	Pn	Pn	22 04 38.1	-0.1
	comp=Z,0.4nm,0.3s,baz=78,slow=19,SNR=6.2						
ASF				Sn	Sn	22 06 47.2	-6.6
	comp=Z,0.3nm,0.3s,baz=300,slow=18,SNR=2.8						
ASF				LR	LR	22 10 20.9	
	comp=Z,57nm,18.2s,baz=94,slow=43						
WSAR	Wadi Sarin	12.76	147	Pn	Pn	22 04 47.8	+0.8
	comp=Z,0.4nm,0.3s,baz=336,slow=14,SNR=4.3						
WSAR				Sn	Sn	22 07 05.3	-4.3
	comp=Z,0.3nm,0.3s,baz=10,slow=18,SNR=2.9						
MMAI	Mount Meron Ar	13.18	269	Pn	Pn	22 04 54.0	+1.2
	comp=Z,0.4nm,0.3s,baz=64,slow=14,SNR=6.7						
EIL	Elat	14.48	256	Pn	Pn	22 05 10.8	+0.3
	comp=Z,0.3nm,0.3s,baz=45,slow=14,SNR=4.9						
EIL				LR	LR	22 11 48.3	
	comp=Z,60nm,20.6s,baz=83,slow=42						
AKTO	Aktyubinsk	16.96	15	P	Pn	22 05 41.2	-1.7
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=4.5						
AAK	Ala-Archa	20.08	58	P	Pn	22 06 21.2	-0.1
	comp=Z,0.3nm,0.3s,baz=253,slow=9.8,SNR=2.4						
AAK				LR	LR	22 16 27.3	
	comp=Z,53nm,18.9s,baz=80,slow=44						
MLR	Muntele Rosu	22.29	308	P	P	22 06 44.1	+1.0
	comp=Z,1.0nm,0.7s,baz=95,slow=11,SNR=4.5						
MLR				LR	LR	22 16 02.7	
	comp=Z,15nm,20.2s,baz=303,slow=38						
AKASG	Malin Array Be	22.94	322	P	P	22 06 49.0	-0.9
	comp=Z,1.0nm,0.5s,baz=131,slow=8.6,SNR=4.4						
BVAR	Borovoye Array	23.26	30	P	P	22 06 53.3	+0.2
	comp=Z,0.8nm,0.6s,baz=216,slow=7.3,SNR=7.6						
KURBB	Kurchatov Arra	25.81	42	P	P	22 07 18.2	+1.3
	comp=Z,0.3nm,0.3s,baz=245,slow=9.8,SNR=2.5						
KOLS	Kolonicke sedl	25.93	313	eP	P	22 07 19.4	+1.4
MKAR	Makanchi Array	26.62	52	P	P	22 07 25.7	+1.4
	comp=Z,0.5nm,0.7s,baz=240,slow=7.6,SNR=5.7						
DANN	Dangsing	28.40	93	eP	P	22 07 41.8	+1.0
	comp=Z,36nm,1.4s						
GKN	Gorkha	29.25	93	eP	P	22 07 48.6	+0.4
KKN	Kakani	29.86	93	eP	P	22 07 53.9	+0.3
PKI	Pulchoki	30.04	93	eP	P	22 07 56.2	+0.8
GUN	Gumba	30.31	92	eP	P	22 07 58.8	+1.0
	comp=Z,14nm,0.7s						
JIRN	Jiri	30.66	93	eP	P	22 08 01.9	+1.0
	comp=Z,2.1nm,0.6s						
ZALV	Zalesovo Beam	30.78	40	P	P	22 08 02.2	+1.0
	comp=Z,0.4nm,0.5s,baz=222,slow=8.7,SNR=3.5						
GERES	GERESS Array B	31.25	309	P	P	22 08 05.3	-0.3
	comp=Z,0.6nm,0.8s,baz=107,slow=9.1,SNR=5.4						
RAMN	Ramite	31.26	94	eP	P	22 08 06.6	+0.6
	comp=Z,8.2nm,0.6s						
FINES	FINESS Array B	31.61	337	P	P	22 08 08.2	-0.3
	comp=Z,1.9nm,1.0s,baz=144,slow=7.9,SNR=3.1						
TAPN	Taplejung	32.03	92	eP	P	22 08 13.3	+0.4
	comp=Z,8.7nm,0.8s						
SBF	Sospel	34.93	299	eP	P	22 08 37.4	-0.4
MBDF	Montbardon	35.43	301	eP	P	22 08 42.0	-0.1
	comp=Z,10nm,0.9s						
LPG	La Plagne	35.47	302	eP	P	22 08 42.5	-0.2
	comp=Z,9.1nm,0.9s						
HFS	Hagfors	35.52	328	P	P	22 08 42.2	-0.4
	comp=Z,3.5nm,0.7s,baz=115,slow=10,SNR=10						
CABF	La Chapelle	36.00	304	eP	P	22 08 46.0	-0.9
NB2	NORSAR Subarra	37.03	329	P	P	22 08 54.8	-0.7
	comp=Z,1.2nm,0.7s,baz=120,slow=8.6						
NB2	NORSAR Subarra	37.03	329	P	P	22 08 54.8	-0.7
	comp=Z,1.2nm,0.7s,SNR=6.4						
NOA	NORSAR Array B	37.03	329	P	P	22 08 54.8	-0.7
	comp=Z,1.5nm,0.7s,baz=117,slow=8.0,SNR=6.6						
ARCES	ARCESS Array B	38.11	346	P	P	22 09 04.9	+0.4
	comp=Z,1.8nm,0.8s,baz=136,slow=11,SNR=4.8						
CMAR	Chiang Mai Arr	45.21	98	P	P	22 10 03.3	+0.1
	comp=Z,0.9nm,0.3s,baz=306,slow=9.5,SNR=5.8						
CMAR				LR	LR	22 32 39.4	
	comp=Z,22nm,19.0s,baz=190,slow=41						
SPITS	Spitsbergen Ar	46.52	351	P	P	22 10 13.1	+0.3
	comp=Z,8.7nm,1.0s,baz=130,slow=12,SNR=5.2						
TORD	Torodi Ar. Bea	49.36	257	P	P	22 10 34.6	-1.0
	comp=Z,0.5nm,0.9s,baz=46,slow=8.0,SNR=2.9						
YKA	Yellowknife Ar	82.94	353	P	P	22 14 10.2	-0.4
	comp=Z,0.1nm,0.3s,baz=3.9,slow=5.7,SNR=4.0						

*ISCJB **05** 22:10:50.2±0.6, 1°.70N±0°.09×129°.0E±0°.1, h35km, mb3.8/13, Error ellipse: s-maj=20.2km s-min=10.9km az=154.1*
*IDC **05** 22:10:59.7±8.3, 1°.61N×128°.84E, h113km±82km, mb3.5/13, mb1 3.6/13, mb1mx3.5/24, mbtmp3.5/13, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=29.2km s-min=17.4km az=73.0*
ISC 05 22:10:51.9±0.8, 1°.7N±0°.1×128°.9E±0°.2, h35km, n24, σ0s.93/23, mb3.8/13, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	6.31	328	LR	LR	22 15 30.3	
	comp=Z,188nm,18.3s,baz=26,slow=43						
WRA	Warramunga Arr	22.14	166	P	P	22 15 44.8	0.0
	1.1nm,0.8s,baz=346,slow=10,SNR=6.1						
ASAR	Alice Springs	25.66	169	P	P	22 16 19.1	+0.5
	0.6nm,0.7s,baz=349,slow=12,SNR=6.8						
PSI	Prapat	30.01	273	P	P	22 16 57.5	-0.4
	2.6nm,0.5s,baz=94,slow=9.7,SNR=4.2						
STKA	Stephens Creek	35.47	161	P	P	22 17 45.5	+0.3
	1.6nm,0.6s,baz=331,slow=9.4,SNR=5.7						
KSRS	Korea Array	35.61	359	P	P	22 17 48.5	+2.2
	0.6nm,0.4s,baz=172,slow=8.8,SNR=3.0						
MJAR	Matsushiro Arr	35.73	13	P	P	22 17 47.6	+0.2
	0.8nm,0.5s,baz=191,slow=9.4,SNR=4.4						
TAPN	Taplejung	47.00	307	eP	P	22 19 21.1	+0.7
	8.1nm,0.9s						
ODAN	Odare	47.05	306	eP	P	22 19 21.4	+0.7
	12nm,0.6s						
RAMN	Ramite	47.72	306	eP	P	22 19 26.9	+0.9
	13nm,0.6s						
JIRN	Jiri	48.35	306	eP	P	22 19 31.7	+0.7
	2.4nm,0.6s						
GUN	Gumba	48.70	306	eP	P	22 19 34.2	+0.5
	16nm,0.7s						
PKI	Pulchoki	48.95	306	eP	P	22 19 35.7	+0.2
GKN	Gorkha	49.74	306	eP	P	22 19 41.8	+0.4
	6.4nm,0.8s						
SONM	Songino Array	49.94	340	P	P	22 19 42.7	+0.2
	0.4nm,0.5s,baz=148,slow=8.5,SNR=3.6						
KOLN	Koldanda	50.50	305	eP	P	22 19 47.9	+0.7
	9.1nm,0.6s						
DANN	Dangsing	50.59	306	eP	P	22 19 48.5	+0.5
	13nm,0.7s						
PYUN	Piuthan	51.12	305	eP	P	22 19 52.4	+0.5
	14nm,1.0s						
MKAR	Makanchi Array	60.48	325	P	P	22 20 58.2	-0.2
	1.0nm,0.5s,baz=113,slow=7.7,SNR=21						
AAK	Ala-Archa	63.34	318	P	P	22 21 18.0	+0.1
	0.3nm,0.3s,baz=101,slow=5.2,SNR=3.0						
ZALV	Zalesovo Beam	63.40	333	P	P	22 21 16.6	-1.3
	0.4nm,0.5s,baz=122,slow=5.2,SNR=2.9						
KURBB	Kurchatov Arra	64.64	327	P	P	22 21 23.9	-2.1
	1.3nm,0.5s,baz=126,slow=6.2,SNR=12						
BVAR	Borovoye Array	70.23	327	P	P	22 22 00.4	-0.9
	1.0nm,0.8s,baz=123,slow=5.5,SNR=5.4						
ILAR	Eielson Array	86.00	25	P	P	22 23 27.5	-1.0
	0.2nm,0.9s,baz=276,slow=8.1,SNR=3.3						

*IDC **05** 22:13:51.5±0.7, 7°.98S×13°.59W, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/30, mbtmp4.1/17, ML3.1/1, MS4.2/23, Ms1 4.2/23, ms1mx4.1/28, Error ellipse: s-maj=25.1km s-min=14.0km az=145.0*
*ISCJB **05** 22:13:52.2±0.5, 8°.0S±0°.1×13°.52W±0°.09, h17km, mb4.1/19, MS4.2/22, Error ellipse: s-maj=16.9km s-min=9.6km az=146.1*
*NEIC **05** 22:13:52.8±0.5, 8°.03S×13°.53W, h10km, mb4.2/6, Error ellipse: s-maj=17.4km s-min=10.2km az=147.0*
*GCMT **05** 22:13:54.7±0.3, 7°.97S×13°.54W, h18km±1km, MW5.0, Moment Tensor Solution. s19,c22; s62,c87; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.16±.26; $M_{\theta\theta}$0.03±.15; $M_{\phi\phi}$3.13±.18; $M_{r\theta}$-0.43±.42; $M_{\theta\phi}$-0.77±.10; $M_{\phi r}$1.80±.36; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s347.00000°, δ30.00000°, λ-90.00000°. NP2:ϕ_s167.00000°, δ60.00000°, λ-90.00000°. Principal axes: T 3.8000, Plg15.0000°, Azm257.0000°; N -0.1500, Plg0.0000°, Azm167.0000°; P -3.6500, Plg75.0000°, Azm76.0000°; Data Used: IU II G IC CN.*
ISC 05 22:13:53.8±0.6, 8°.0S±0°.1×13°.55W±0°.10, h17km, n56, σ1s.37/42, mb4.2/19, MS4.2/22, Ascension Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	16.96	31	Pn	Pn	22 17 49.1	-1.3
	0.1nm,0.3s,baz=207,slow=14,SNR=3.2						
DBIC				LR	LR	22 22 55.4	
	comp=Z,602nm,21.2s,baz=194,slow=32						
DBIC	Dimbokro	16.96	31	ePn	Pn	22 17 49.5	-0.9
	24nm,1.4s						
RCBR	Riachuelo	22.29	274	P	P	22 18 48.6	-2.1
	13nm,1.1s,baz=76,slow=12,SNR=2.3						
RCBR				LR	LR	22 25 34.6	
	comp=Z,641nm,19.2s,baz=88,slow=32						
RCBR	Riachuelo	22.29	274	eP	P	22 18 48.2	-2.4
	25nm,1.2s						
BBTS	Babate	22.71	352	P	P	22 18 56.1	+1.2
	21nm,0.6s,baz=182,slow=18,SNR=3.3						
BBTS	Babate	22.71	352	P	P	22 18 56.1	+1.2
TOA0	Torodi Ar. Sit	25.90	36	eP	P	22 19 24.1	-1.0
TORD	Torodi Ar. Bea	25.90	36	P	P	22 19 24.2	-0.9
	15nm,0.9s,baz=222,slow=9.8,SNR=43						
TORD				LR	LR	22 28 16.3	
	comp=Z,724nm,18.9s,baz=210,slow=33						
TORD	Torodi Ar. Bea	25.90	36	P	P	22 19 24.2	-0.9
BDFB	Brasilia	34.54	254	P	P	22 20 41.0	-0.8
	3.5nm,0.7s,baz=108,slow=6.4,SNR=6.3						
BDFB				LR	LR	22 32 01.4	
	comp=Z,659nm,21.3s,baz=35,slow=32						
BDFB	Brasilia	34.54	254	P	P	22 20 41.0	-0.8
TAM	Tamanrasset	35.85	31	eP	P	22 20 54.7	+1.6
	3.7nm,1.0s						
TAM				e		22 21 00.8	
LSZ	Lusaka	41.46	104	eP	P	22 21 38.7	-1.6
	2.9nm,0.9s						
BOSA	Boshof	41.89	124	P	P	22 21 43.4	-0.3
	2.0nm,0.8s,baz=284,slow=12,SNR=3.0						
BOSA				LR	LR	22 35 47.6	
	comp=Z,287nm,18.9s,baz=97,slow=31						
BOSA	Boshof	41.89	124	P	P	22 21 43.4	-0.3
CPUP	Villa Florida	45.35	241	LR	LR	22 39 15.7	
	comp=Z,332nm,19.5s,baz=41,slow=34						
SIV	San Ignacio	47.07	256	P	P	22 22 25.5	+0.4
	1.8nm,0.9s,baz=92,slow=10.0,SNR=5.7						
SIV	San Ignacio	47.07	256	P	P	22 22 25.5	+0.4

ESDC	Sonseca Array	48.26	10	LR	LR	22 42 07.9	
	comp=Z,125nm,21.1s,baz=190,slow=35						
KEST	Kesra	48.55	25	LR	LR	22 43 06.3	
	comp=Z,152nm,20.2s,baz=186,slow=36						
SAML	Samuel	49.07	265	eP	P	22 22 42.3	+1.6
	6.9nm,1.0s						
LPAZ	La Paz	53.86	256	P	P	22 23 18.2	+1.0
	1.6nm,0.7s,baz=82,slow=7.1,SNR=6.8						
LPAZ				LR	LR	22 44 04.9	
	comp=Z,232nm,18.9s,baz=69,slow=34						
LPAZ	La Paz	53.86	256	eP	P	22 23 18.2	+1.0
	1.1nm,0.6s						
CFAA	Coronel Fontan	55.91	237	P	P	22 23 32.5	+1.3
	0.7nm,1.0s,baz=61,slow=7.2,SNR=6.1						
CFAA	Coronel Fontan	55.91	237	P	P	22 23 32.5	+1.3
PLCA	Paso Flores	60.02	227	LR	LR	22 47 13.5	
	comp=Z,202nm,20.4s,baz=292,slow=33						
GERES	GERESS Array B	61.46	20	P	P	22 24 10.2	+0.7
	0.4nm,0.7s,baz=206,slow=5.8,SNR=5.5						
GERES				PP	PP	22 26 21.9	-3.1
	1.0nm,0.9s,baz=204,slow=9.4,SNR=3.7						
GERES				LR	LR	22 52 04.5	
	comp=Z,171nm,18.6s,baz=26,slow=37						
GERES	GERESS Array B	61.46	20	P	P	22 24 10.2	+0.7
GERES				PP	PP	22 26 21.9	-3.1
ROSC	El Rosal	61.96	280	LR	LR	22 49 22.8	
	comp=Z,380nm,18.2s,baz=353,slow=34						
MLR	Muntele Rosu	63.94	30	P	P	22 24 26.0	-0.2
	1.0nm,1.0s,baz=225,slow=8.6						
MLR	Muntele Rosu	63.94	30	P	P	22 24 26.0	-0.2
BRTR	Keskin Array B	64.47	39	P	P	22 24 31.3	+1.5
	2.0nm,0.9s,baz=234,slow=4.8,SNR=7.4						
BRTR	Keskin Array B	64.47	39	P	P	22 24 31.3	+1.5
PMSA	Palmer Station	66.74	201	LR	LR	22 46 34.0	
	comp=Z,237nm,18.4s,baz=20,slow=29						
AKASG	Malin Array Be	69.17	28	P	P	22 24 59.0	-0.3
	0.4nm,0.3s,baz=230,slow=6.5,SNR=4.8						
AKASG				LR	LR	22 56 34.5	
	comp=Z,104nm,21.4s,baz=335,slow=37						
AKASG	Malin Array Be	69.17	28	P	P	22 24 59.0	-0.3
NOA	NORSAR Array B	71.52	12	P	P	22 25 15.2	+1.7
	0.5nm,0.7s,baz=196,slow=6.0,SNR=3.1						
NOA				LR	LR	22 57 51.1	
	comp=Z,67nm,18.1s,baz=200,slow=37						
NOA	NORSAR Array B	71.52	12	P	P	22 25 15.2	+1.7
KBZ	Khabaz	72.45	39	P	P	22 25 20.6	+1.3
	3.3nm,0.9s,baz=250,slow=2.4,SNR=5.8						
KBZ	Khabaz	72.45	39	P	P	22 25 20.6	+1.3
FINES	FINESS Array B	75.80	18	LR	LR	22 56 55.1	
	comp=Z,84nm,19.3s,baz=298,slow=34						
SCHQ	Schefferville	76.72	332	P	P	22 25 42.6	-1.4
	1.9nm,0.8s,baz=132,slow=12,SNR=3.6						
SCHQ	Schefferville	76.72	332	P	P	22 25 42.6	-1.4
ARCES	ARCESS Array B	81.89	13	LR	LR	23 03 47.2	
	comp=Z,105nm,20.4s,baz=211,slow=37						
QSPA	South Pole Qui	82.12	180	LR	LR	22 54 55.0	
	comp=Z,164nm,18.7s,baz=16,slow=30						
AKTO	Aktyubinsk	84.61	38	P	P	22 26 27.5	+1.2
	2.4nm,1.1s,baz=224,slow=7.9,SNR=3.5						
AKTO	Aktyubinsk	84.61	38	P	P	22 26 27.5	+1.2
ULM	Lac du Bonnet	91.21	320	LR	LR	23 01 31.4	
	comp=Z,112nm,18.1s,baz=24,slow=31						
TXAR	Lajitas Array	93.97	299	LR	LR	23 08 56.7	
	comp=Z,51nm,19.3s,baz=185,slow=35						
VNDA	Vanda	94.58	179	LR	LR	23 03 32.3	
	comp=Z,165nm,18.9s,baz=12,slow=32						
MKAR	Makanchi Array	99.77	44	LR	LR	23 16 11.9	
	comp=Z,65nm,18.1s,baz=84,slow=38						
PDAR	Pinedale Array	99.78	312	LR	LR	23 03 46.5	
	comp=Z,121nm,21.5s,baz=90,slow=30						
TBI	Tubuai	126.82	233	eLR	LR	23 12 52.4	
	122nm,30.2s						
PPT2	Papeete2	129.67	239	eSS	SS	22 52 46.6	+10
	62nm,24.0s						
PPT2				eLR	LR	23 14 04.0	
	82nm,23.0s						
ASAR	Alice Springs	135.26	136	PKP	PKPdf	22 33 13.7	+0.2
	0.8nm,1.0s,baz=225,slow=4.7,SNR=4.0						
ASAR	Alice Springs	135.26	136	PKP	PKPdf	22 33 13.7	+0.2

IDC 05 23:03:19.1±2.3**, 47°.26N**×**155°.52E, h0**km**, mb3.4**/7**, mb1 3.6**/8**, mb1mx3.5**/26**, mbtmp3.4**/8**, ML3.3**/1**, Error ellipse: s-maj=60.3km s-min=21.2km az=173.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.02	13	Pn	Pn	23 04 49.6	+0.3
	0.8nm,0.3s,baz=168,slow=15,SNR=7.9						
SONM	Songino Array	32.72	290	P	P	23 09 54.3	+0.9
	0.3nm,0.8s,baz=65,slow=7.2,SNR=2.5						
ILAR	Eielson Array	35.12	39	P	P	23 10 13.3	-0.5
	0.1nm,0.5s,baz=253,slow=9.2,SNR=3.3						
ZALV	Zalesovo Beam	43.65	306	P	P	23 11 24.6	-0.5
	0.3nm,0.4s,baz=70,slow=8.4,SNR=2.6						
MKAR	Makanchi Array	48.16	298	P	P	23 11 59.7	-1.2
	0.3nm,0.9s,baz=79,slow=7.5,SNR=2.5						
YKA	Yellowknife Ar	49.52	38	P	P	23 12 10.9	-0.1
	0.4nm,0.5s,baz=297,slow=7.3,SNR=6.6						
NVAR	Mina Array Bea	60.73	64	P	P	23 13 32.7	+0.1
	0.2nm,0.6s,baz=292,slow=8.6,SNR=2.5						
FINES	FINESS Array B	64.27	336	P	P	23 13 56.0	+0.4
	0.5nm,0.5s,baz=35,slow=7.0,SNR=7.1						

*AUST **05** 23:46:38.8±0.8, 37°.04S×177°.65E, h304km, Error ellipse: s-maj=1.9km s-min=1.1km az=261.0*
*ISCJB **05** 23:46:42.8±0.4, 37°.02S±0°.04×176°.83E±0°.08, h335km±3km, mb4.0/13, Error ellipse: s-maj=9.8km s-min=6.4km az=12.9*
*NEIC **05** 23:46:42.8±0.2, 37°.01S×176°.95E, h338km±2km, mb4.5/7, Error ellipse: s-maj=7.1km s-min=4.9km az=110.0*
*WEL **05** 23:46:44.7±0.4, 36°.97S×176°.98E, h315km±3km, ML4.9/21, Error ellipse: s-maj=4.4km s-min=3.8km az=0.0*
*IDC **05** 23:46:45.8±1.9, 36°.69S×177°.12E, h360km±17km, mb3.9/11, mb1 4.0/11, mb1mx3.8/19, mbtmp3.9/11, Error ellipse: s-maj=16.1km s-min=13.5km az=7.0*
ISC 05 23:46:42.6±0.6**, 36°.98S**±0°.05×**176°.91E**±0°.06**, h334**km±4km**, n203,** σ1s.**15**/219**, mb4.1**/13**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.91	198	PN	Pn	23 47 26.3	+0.2
OPRZ	Ohinepanea	0.91	198	Pn	Pn	23 47 26.3	+0.2
KUZ	Kuaotunu	0.98	283	PN	Pn	23 47 26.3	-0.2
KUZ				SN	S	23 47 59.8	-1.8
KUZ	Kuaotunu	0.98	283	Pn	Pn	23 47 26.3	-0.2
MXZ	Matakaoa Point	1.25	118	PN	Pn	23 47 27.9	+0.2
MXZ				SN	S	23 48 00.9	-2.9
MXZ	Matakaoa Point	1.25	118	Pn	Pn	23 47 27.9	+0.2
URZ	Urewera	1.29	173	PN	Pn	23 47 27.8	0.0
URZ				SN	S	23 48 01.3	-2.7
URZ	Urewera	1.29	173	ePn	Pn	23 47 27.8	0.0
URZ				eS	S	23 48 01.6	-2.5
TARZ	Mount Tarawera	1.29	194	PN	Pn	23 47 29.2	+1.2
TARZ	Mount Tarawera	1.29	194	Pn	Pn	23 47 29.2	+1.2
TOZ	Tahuroa Road	1.35	236	PN	Pn	23 47 29.2	+1.0
TOZ	Tahuroa Road	1.35	236	Pn	Pn	23 47 29.2	+1.0
RRRZ	Republican Roa	1.39	193	PN	Pn	23 47 29.1	+0.7
RRRZ	Republican Roa	1.39	193	Pn	Pn	23 47 29.1	+0.7
MKAZ	Moumakai	1.40	264	PN	Pn	23 47 29.0	+0.6
MKAZ	Moumakai	1.40	264	Pn	Pn	23 47 29.0	+0.6
MWZ	Matawai	1.44	160	PN	Pn	23 47 29.0	+0.4
MWZ				SN	S	23 48 04.3	-1.3
MWZ	Matawai	1.44	160	Pn	Pn	23 47 29.1	+0.4
PUZ	Puketiti	1.53	136	PN	Pn	23 47 29.5	+0.4
PUZ	Puketiti	1.53	136	Pn	Pn	23 47 29.6	+0.4
ALRZ	Allen Road	1.64	196	PN	Pn	23 47 30.5	+0.6
ALRZ	Allen Road	1.64	196	Pn	Pn	23 47 30.5	+0.6
CNGZ	Carnagh Statio	1.82	146	PN	Pn	23 47 32.2	+1.2
CNGZ	Carnagh Statio	1.82	146	Pn	Pn	23 47 32.2	+1.2
WHTZ	Whakaora	1.84	204	PN	Pn	23 47 33.1	+1.8
WHTZ	Whakaora	1.84	204	Pn	Pn	23 47 33.1	+1.8
RAHZ	Arahi	1.94	176	PN	Pn	23 47 32.8	+0.9
RAHZ	Arahi	1.94	176	Pn	Pn	23 47 32.8	+0.9
RAHZ				Sn	S	23 48 13.0	+1.6
WATZ	Wairara	1.96	208	PN	Pn	23 47 33.2	+1.1
HATZ	Hinemaiaia	2.01	199	PN	Pn	23 47 32.8	+0.4
HATZ				SN	S	23 48 12.5	+0.2
HATZ	Hinemaiaia	2.01	199	Pn	Pn	23 47 32.8	+0.4
HATZ				Sn	S	23 48 12.5	+0.2
PRGZ	Paritu Road	2.09	159	PN	Pn	23 47 34.4	+1.4
PRGZ	Paritu Road	2.09	159	Pn	Pn	23 47 34.4	+1.4
RATZ	Rangitukua	2.09	205	PN	Pn	23 47 33.7	+0.7
RATZ	Rangitukua	2.09	205	Pn	Pn	23 47 33.7	+0.7
NMHZ	Naumai	2.12	182	PN	Pn	23 47 34.4	+1.2
NMHZ	Naumai	2.12	182	Pn	Pn	23 47 34.4	+1.2
KNZ	Kokohu	2.12	164	PN	Pn	23 47 33.8	+0.7
KNZ	Kokohu	2.12	164	Pn	Pn	23 47 33.8	+0.7
RITZ	Rihia Road	2.16	202	Pn	Pn	23 47 34.5	+1.0
BKZ	Black Stump Fm	2.21	188	PN	Pn	23 47 34.2	+0.3
BKZ	Black Stump Fm	2.21	188	Pn	Pn	23 47 34.2	+0.3
KATZ	Kakaramea	2.21	205	PN	Pn	23 47 35.5	+1.5
KATZ	Kakaramea	2.21	205	Pn	Pn	23 47 35.5	+1.5
MHGZ	Mahia Peninsul	2.31	160	PN	Pn	23 47 35.9	+1.3
MHGZ	Mahia Peninsul	2.31	160	Pn	Pn	23 47 36.0	+1.3
KRVZ	Karewarewa	2.34	205	PN	Pn	23 47 36.1	+1.1
WTVZ	West Tongariro	2.37	206	PN	Pn	23 47 35.8	+0.6
TWVZ	Taurewa	2.39	209	Pn	Pn	23 47 36.1	+0.7
OTVZ	Oturere	2.39	204	Pn	Pn	23 47 36.3	+0.9
MCHZ	McNeill Hill	2.46	184	PN	Pn	23 47 36.9	+1.0
MCHZ	McNeill Hill	2.46	184	Pn	Pn	23 47 36.9	+1.0
WPVZ	Whakapapa	2.47	205	PN	Pn	23 47 36.9	+0.8
WPVZ	Whakapapa	2.47	205	Pn	Pn	23 47 36.4	+0.4
TUVZ	Tukino	2.49	203	PN	Pn	23 47 36.9	+0.6
TUVZ	Tukino	2.49	203	Pn	Pn	23 47 36.9	+0.6
FWVZ	Far West T-bar	2.51	205	PN	Pn	23 47 36.9	+0.4
FWVZ	Far West T-bar	2.51	205	Pn	Pn	23 47 37.0	+0.4
TRVZ	Turoa	2.55	204	PN	Pn	23 47 35.9	-1.0
TRVZ	Turoa	2.55	204	Pn	Pn	23 47 35.9	-1.0
WNVZ	Wahianoa	2.56	203	PN	Pn	23 47 37.3	+0.4
WNVZ	Wahianoa	2.56	203	Pn	Pn	23 47 37.4	+0.4
MOVZ	Moawhango	2.59	200	PN	Pn	23 47 37.0	0.0
MOVZ	Moawhango	2.59	200	Pn	Pn	23 47 37.0	0.0
BHHZ	Black Hill Sta	2.59	195	PN	Pn	23 47 37.3	+0.3
BHHZ	Black Hill Sta	2.59	195	Pn	Pn	23 47 37.3	+0.3
MTVZ	Mangateitei	2.66	205	PN	Pn	23 47 38.2	+0.6
MTVZ	Mangateitei	2.66	205	Pn	Pn	23 47 38.2	+0.6
CKHZ	Cape Kidnapper	2.68	177	PN	Pn	23 47 38.7	+1.0
CKHZ	Cape Kidnapper	2.68	177	Pn	Pn	23 47 38.7	+1.0
VRZ	Vera Road	2.73	218	PN	Pn	23 47 39.5	+1.4
VRZ	Vera Road	2.73	218	Pn	Pn	23 47 39.5	+1.4
KAHZ	Kahuranaki	2.81	181	PN	Pn	23 47 39.8	+0.9
KAHZ	Kahuranaki	2.81	181	Pn	Pn	23 47 39.9	+0.9
PNHZ	Pukenui	2.98	191	PN	Pn	23 47 40.6	+0.2
PNHZ	Pukenui	2.98	191	Pn	Pn	23 47 40.6	+0.2
PXZ	Pawanui	3.05	181	PN	Pn	23 47 41.9	+0.9
PXZ	Pawanui	3.05	181	Pn	Pn	23 47 41.9	+0.9
WPHZ	Waipukurau	3.10	187	PN	Pn	23 47 42.3	+0.7
WPHZ	Waipukurau	3.10	187	Pn	Pn	23 47 42.3	+0.7
WAZ	Wanganui	3.16	208	PN	Pn	23 47 42.6	+0.5
WAZ	Wanganui	3.16	208	Pn	Pn	23 47 42.6	+0.5
TSZ	Takapari Road	3.16	193	PN	Pn	23 47 42.2	0.0
TSZ	Takapari Road	3.16	193	Pn	Pn	23 47 42.2	0.0
NEZ	North Egmont	3.19	223	Pn	Pn	23 47 44.5	+2.1
PKE	Pukeiti	3.19	225	Pn	Pn	23 47 44.6	+2.1
OUZ	Omahuta	3.21	302	ePn	Pn	23 47 42.5	-0.2
OUZ				eS	S	23 48 27.1	-3.8
PRHZ	Porangahau	3.29	184	PN	Pn	23 47 44.1	+0.8
PRHZ	Porangahau	3.29	184	Pn	Pn	23 47 44.1	+0.8
DVHZ	Dannevirke	3.36	190	PN	Pn	23 47 44.3	+0.3
DVHZ	Dannevirke	3.36	190	Pn	Pn	23 47 44.4	+0.3
POWZ	Post Office Ro	3.52	194	PN	Pn	23 47 46.0	+0.4
POWZ	Post Office Ro	3.52	194	Pn	Pn	23 47 46.0	+0.4
BFZ	Birch Farm	3.73	188	PN	Pn	23 47 48.1	+0.4
BFZ	Birch Farm	3.73	188	Pn	Pn	23 47 48.1	+0.4
MRZ	Mangatainoka R	3.82	195	PN	Pn	23 47 48.3	-0.3
MRZ	Mangatainoka R	3.82	195	Pn	Pn	23 47 48.3	-0.3
TIWZ	Tintock	3.87	192	PN	Pn	23 47 49.4	+0.2
TIWZ	Tintock	3.87	192	Pn	Pn	23 47 49.4	+0.2
HOWZ	Holdsworth Sta	4.06	195	Pn	Pn	23 47 51.0	-0.2
OGWZ	Otaki Gorge	4.06	199	Pn	Pn	23 47 51.0	-0.2
KIW	Kapiti Island	4.18	201	PN	Pn	23 47 52.0	-0.3
KIW	Kapiti Island	4.18	201	Pn	Pn	23 47 52.0	-0.3
TMWZ	Te Maipa	4.20	191	Pn	Pn	23 47 53.0	+0.4
MTW	Mount Morrison	4.31	194	Pn	Pn	23 47 53.4	-0.4
DUWZ	D'Urville Isla	4.47	211	Pn	Pn	23 47 55.3	-0.3
TRWZ	Traveller	4.51	192	PN	Pn	23 47 56.2	+0.3
TRWZ	Traveller	4.51	192	Pn	Pn	23 47 56.2	+0.3
PAWZ	Paruwai Farm	4.54	194	PN	Pn	23 47 56.3	0.0
PAWZ	Paruwai Farm	4.54	194	Pn	Pn	23 47 56.3	0.0
WEL	Wellington	4.61	201	Pn	Pn	23 47 57.1	+0.1
MSWZ	Moikau Station	4.61	196	Pn	Pn	23 47 56.5	-0.5
SNZO	South Karori	4.65	201	PN	Pn	23 47 57.4	-0.1
SNZO	South Karori	4.65	201	ePn	Pn	23 47 57.5	+0.1
SNZO				eS	S	23 48 55.2	-2.6
BHW	Baring Head	4.70	199	Pn	Pn	23 47 58.0	+0.1
TCW	Tory Channel	4.70	205	Pn	Pn	23 47 57.8	-0.2
PLWZ	Palliser	4.76	195	PN	Pn	23 47 58.4	-0.3
PLWZ	Palliser	4.76	195	Pn	Pn	23 47 58.4	-0.3
TUWZ	Tuamarina	5.00	207	Pn	Pn	23 48 01.2	-0.2
NNZ	Nelson	5.04	212	Pn	Pn	23 48 01.1	-0.7
QRZ	Quartz Range	5.14	220	Pn	Pn	23 48 01.8	-1.1
THZ	Tophouse	5.70	212	Pn	Pn	23 48 09.2	-0.1
KHZ	Kahutara	6.02	205	PN	Pn	23 48 13.1	+0.2
KHZ	Kahutara	6.02	205	ePn	Pn	23 48 13.7	+0.8
	267nm,0.6s						
KHZ				eS	S	23 49 23.9	-2.2
DSZ	Denniston Nort	6.19	218	Pn	Pn	23 48 14.1	-0.8
LTZ	Lake Taylor	6.80	210	Pn	Pn	23 48 21.9	-0.2
MQZ	McQueen's Vall	7.46	204	Pn	Pn	23 48 29.4	-0.5
WVZ	Waitaha Valley	7.71	216	Pn	Pn	23 48 32.5	-0.3
RPZ	Rata Peaks	8.07	212	ePn	Pn	23 48 36.3	-0.9
	122nm,1.8s						
RPZ				eS	S	23 50 07.5	-3.2
FOZ	Fox Glacier	8.58	218	Pn	Pn	23 48 41.5	-1.8
LBZ	Lake Benmore	8.99	213	Pn	Pn	23 48 48.3	+0.1
ODZ	Otahua Downs	9.34	208	Pn	Pn	23 48 53.8	+1.4
WKZ	Wanaka	9.85	215	Pn	Pn	23 48 58.1	-0.5
DZM	Mont Dzumac	17.41	326	eP	P	23 50 22.6	-1.6
	22nm,0.8s						
MSVF	Nonsavu	19.20	3	eP	P	23 50 42.1	-1.2
	16nm,0.8s						
MCQ	Macquarie Isla	21.43	209	P	P	23 51 00.8	-3.6
	baz=22,SNR=4.5						
AFI	Afiamalu	25.10	27	P	P	23 51 36.0	-2.2
	42nm,1.0s,baz=157,slow=17,SNR=6.5						
AFI	Afiamalu	25.10	27	eP	P	23 51 36.5	-1.6
	50nm,1.1s						
RMQ	Roma	26.04	286	P	P	23 51 52.3	+5.9
	baz=27,SNR=4.0						
STKA	Stephens Creek	29.46	269	P	P	23 52 20.7	+4.1
	2.6nm,0.8s,baz=70,slow=10,SNR=5.2						
STKA	Stephens Creek	29.46	269	eP	P	23 52 17.2	+0.6
STKA	Stephens Creek	29.46	269	P	P	23 52 21.3	+4.7
	baz=30,SNR=3.9						
QLP	Quilpie	29.52	281	P	P	23 52 20.2	+3.1
	baz=30,SNR=5.9						
CTA	Charters Tower	31.57	294	P	P	23 52 36.1	+1.0
	7.5nm,0.8s,baz=132,slow=11,SNR=5.5						
CTA	Charters Tower	31.57	294	P	P	23 52 36.1	+1.0
CTAO	Charters Tower	31.57	294	eP	P	23 52 35.7	+0.6
COEN	Coen	37.81	298	eP	P	23 53 29.2	+1.1
COEN	Coen	37.81	298	P	P	23 53 29.5	+1.4
	baz=38,SNR=22						
PMG	Port Moresby	38.44	308	P	P	23 53 34.7	+1.3
	14nm,0.7s,baz=134,slow=11,SNR=4.3						
PMG	Port Moresby	38.44	308	eP	P	23 53 34.0	+0.6
AS31	Alice Springs	39.10	277	eP	P	23 53 40.2	+1.4
ASAR	Alice Springs	39.10	277	P	P	23 53 40.4	+1.6
	13nm,0.7s,baz=118,slow=7.5,SNR=70						
ASAR				ScP	ScP	23 58 55.1	-1.7
	0.3nm,0.3s,baz=117,slow=3.4,SNR=4.6						
ASAR				S	S	23 59 14.8	+1.6
	1.6nm,0.9s,baz=123,slow=14,SNR=12						
ASAR	Alice Springs	39.10	277	P	P	23 53 40.4	+1.6
ASAR				ScP	ScP	23 58 55.1	-1.7
ASAR				S	S	23 59 14.8	+1.6
FORT	Forrest	40.67	264	P	P	23 53 53.5	+2.0
	baz=41,SNR=7.9						
WRAB	Tennant Creek	40.72	283	eP	P	23 53 52.5	+0.5
	6.6nm,0.6s						
WRA	Warramunga Arr	40.72	283	P	P	23 53 53.0	+1.0
	5.1nm,0.6s,baz=121,slow=7.6,SNR=18						
WRA				PcP	PcP	23 55 46.9	+0.7
	1.3nm,0.8s,baz=127,slow=3.5,SNR=4.6						
WRA				ScP	ScP	23 59 01.9	-1.3
	0.7nm,0.8s,baz=130,slow=3.8,SNR=4.5						
WRA	Warramunga Arr	40.72	283	P	P	23 53 53.0	+1.0
WRA				PcP	PcP	23 55 46.9	+0.7
WRA				ScP	ScP	23 59 01.9	-1.3
JAY	Jayapura	47.81	307	P	P	23 54 56.4	+8.7
	baz=48,SNR=3.1						
FITZ	Fitzroy Crossi	48.59	278	eP	P	23 54 54.5	+1.0
	19nm,1.5s						
FITZ	Fitzroy Crossi	48.59	278	P	P	23 54 55.2	+1.7
	baz=49,SNR=4.3						
MEEK	Meekatharra	49.93	264	P	P	23 55 04.5	+1.0
	baz=50,SNR=3.5						
MBWA	Marble Bar	51.68	271	eP	P	23 55 17.0	+0.5
QSPA	South Pole Qui	53.14	180	P	P	23 55 30.2	+3.6
	2.3nm,0.6s,baz=97,slow=1.1,SNR=21						
QSPA	South Pole Qui	53.14	180	P	P	23 55 30.2	+3.6
KSRS	Korea Array	86.82	323	P	P	23 58 51.4	+1.9
	0.6nm,0.4s,baz=142,slow=5.2,SNR=7.0						
KSAR	Wonju Array Be	86.83	323	P	P	23 58 51.4	+1.8
PETK	Petropavlovsk-	91.26	349	P	P	23 59 09.7	-0.2
	3.1nm,0.8s,baz=181,slow=7.4,SNR=3.6						
PETK	Petropavlovsk-	91.26	349	P	P	23 59 09.7	-0.2
CMAR	Chiang Mai Arr	91.72	292	P	P	23 59 14.7	+1.8
	2.0nm,0.8s,baz=158,slow=3.6,SNR=14						
CMAR	Chiang Mai Arr	91.72	292	P	P	23 59 14.7	+1.8
NVAR	Mina Array Bea	95.90	46	P	P	23 59 31.5	-0.4
	0.3nm,0.7s,baz=224,slow=5.9,SNR=2.6						
NVAR	Mina Array Bea	95.90	46	P	P	23 59 31.5	-0.4
YKA	Yellowknife Ar	113.21	28	PP	PP	00 05 33.5	-2.7
	0.2nm,0.9s,baz=245,slow=5.7,SNR=3.9						
YKA	Yellowknife Ar	113.21	28	PP	PP	00 05 33.5	-2.7
MKAR	Makanchi Array	118.66	309	PKP	PKPdf	00 04 49.6	-1.1
	0.9nm,0.9s,baz=83,slow=3.8,SNR=7.0						
MKAR				PP	PP	00 06 11.5	-3.0
	0.8nm,1.1s,baz=133,slow=5.1,SNR=4.4						
MKAR	Makanchi Array	118.66	309	PKP	PKPdf	00 04 49.6	-1.1
MKAR				PP	PP	00 06 11.5	-3.0
ZALV	Zalesovo Beam	120.03	317	PKP	PKPdf	00 04 51.0	-2.1
	0.2nm,0.3s,baz=111,slow=2.0,SNR=2.9						
ZALV	Zalesovo Beam	120.03	317	PKP	PKPdf	00 04 51.0	-2.1
TBLG	Delisi	143.09	293	P	PKPab	00 05 34.0	+0.8
KEV	Kevo	143.39	343	ep	PKPab	00 05 33.6	+0.2
	0.3nm,0.3s						
GOR	Gori	143.59	293	P	PKPbc	00 05 36.4	+0.3
ARCES	ARCESS Array B	143.90	343	PKP	PKPab	00 05 35.3	-0.2
	11nm,0.9s,baz=357,slow=1.6,SNR=14						
ARCES	ARCESS Array B	143.90	343	PKP	PKPab	00 05 35.4	-0.2
AKH	Akhalkalaki	143.97	292	P	PKPbc	00 05 37.8	+0.5
ONI	Oni	144.16	294	P	PKPab	00 05 38.0	+0.6
KBZ	Khabaz	144.68	296	PKP	PKPbc	00 05 39.1	0.0
	9.1nm,1.0s,baz=161,slow=3.9,SNR=12						
KBZ	Khabaz	144.68	296	PKP	PKPbc	00 05 39.1	0.0
JOF	Joensuu	146.61	332	ep	PKPdf	00 05 42.6	+0.6
	2.0nm,0.3s						
KAF	Kangasniemi	148.95	333	ep	PKPdf	00 05 48.4	+2.5
	1.1nm,0.4s						
FINES	FINESS Array B	149.46	333	PKPbc	PKPbc	00 05 51.1	-0.5
	6.1nm,0.8s,baz=34,slow=5.9,SNR=35						
FINES				PKPab	PKPab	00 05 57.7	-0.1
	1.1nm,0.4s,baz=41,slow=4.6,SNR=7.0						
FINES	FINESS Array B	149.46	333	PKPbc	PKPbc	00 05 51.1	-0.5
FINES				PKPab	PKPab	00 05 57.7	-0.1
BR131	Keskin Array S	151.19	287	ePKPdf	PKPdf	00 05 51.2	+0.9
BR131				ePKPbc	PKPbc	00 05 56.3	-0.3
BR131				ePKPab	PKPab	00 06 05.4	-0.5
BRTR	Keskin Array B	151.19	287	PKPbc	PKPbc	00 05 56.4	-0.2
	5.3nm,1.0s,baz=140,slow=3.8,SNR=13						
BRTR				PKPab	PKPab	00 06 05.7	-0.2
	2.6nm,0.8s,baz=162,slow=4.8,SNR=6.9						
BRTR	Keskin Array B	151.19	287	PKPbc	PKPbc	00 05 56.4	-0.2
BRTR				PKPab	PKPab	00 06 05.7	-0.2
AKASG	Malin Array Be	153.21	311	PKPbc	PKPbc	00 05 59.4	-1.1
	0.4nm,0.3s,baz=60,slow=2.2,SNR=3.4						
AKASG				PKPab	PKPab	00 06 13.7	-0.1
	0.2nm,0.2s,baz=52,slow=5.1,SNR=5.0						
AKASG	Malin Array Be	153.21	311	PKPbc	PKPbc	00 05 59.4	-1.1
AKASG				PKPab	PKPab	00 06 13.7	-0.1
NOA	NORSAR Array B	154.28	344	PKPbc	PKPbc	00 06 03.7	+1.2
	0.3nm,0.7s,baz=43,slow=2.0,SNR=2.9						
NOA				PKPab	PKPab	00 06 17.1	-1.0
	2.4nm,0.9s,baz=29,slow=3.4,SNR=4.9						
NOA	NORSAR Array B	154.28	344	PKPbc	PKPbc	00 06 03.7	+1.2
NOA				PKPab	PKPab	00 06 17.1	-1.0
TORD	Torodi Ar. Bea	155.88	191	PKPbc	PKPdf	00 06 09.3	+12
	0.5nm,1.0s,baz=176,slow=3.8,SNR=4.6						
TORD				PKPab	PKPab	00 06 26.4	+0.3
	0.5nm,0.7s,baz=163,slow=4.2,SNR=6.1						
TORD	Torodi Ar. Bea	155.88	191	PKPbc	PKPdf	00 06 09.3	+12
TORD				PKPab	PKPab	00 06 26.4	+0.3
BRG	Berggiesshubel	161.53	324	eP	PKPab	00 06 50.7	+0.8
	41nm,1.9s						
GERES	GERESS Array B	162.96	319	PKPab	PKPab	00 06 56.2	-0.2
	0.6nm,0.8s,baz=15,slow=5.5,SNR=5.0						
GERES	GERESS Array B	162.96	319	PKPab	PKPab	00 06 56.2	-0.2

*IDC **05** 23:58:53.9±2.0, 18°.62S×72°.11W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.9/20, mbtmp4.1/7, ML4.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=67.2km s-min=26.0km az=15.0*
*ISCJB **05** 23:58:59.5±0.6, 17°.65S±0°.07×71°.86W±0°.09, h33km, mb3.9/4, MS3.7/1, Error ellipse: s-maj=13.5km s-min=7.5km az=143.8*
*NEIC **05** 23:59:03.0, 17°.67S×71°.99W, h34km, ML4.3(ARE), After ARE.*
NEIC Felt [II] at Ilo and Punta de Bombon.
ISC 05 23:59:01.4±0.7**, 17°.72S**±0°.08×**71°.84W**±0°.10**, h33**km**, n26,** σ1s.**23**/25**, mb4.1**/4**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.83	69	Pn	Pb	00 00 04.1	-4.5
	16nm,0.3s,baz=254,slow=8.0,SNR=262						
LPAZ				LR	LR	00 02 00.3	
	comp=Z,93nm,20.1s,baz=295,slow=42						
LPAZ	La Paz	3.83	69	ePn	Pb	00 00 03.9	-4.7
LVC	Limon Verde	5.59	151	ePn	Pn	00 00 22.8	+0.3
LVC				eSn	Sn	00 01 22.4	-3.3
NNA	Nana	7.48	319	Pn	Pn	00 00 52.8	+4.5
	1.7nm,0.3s,baz=143,slow=11,SNR=4.3						
NNA				Sn	Sn	00 02 12.3	+0.3
	4.0nm,0.3s,baz=208,slow=14,SNR=4.1						
NNA	Nana	7.48	319	ePn	Pn	00 00 48.3	0.0
NNA				eSn	Sn	00 02 10.5	-1.5
SIV	San Ignacio	10.45	82	Pn	Pn	00 01 29.7	+0.6
	0.9nm,0.3s,baz=273,slow=10,SNR=14						
SIV	San Ignacio	10.45	82	Pn	Pn	00 01 29.7	+0.6
LCO	Las Campanas	11.28	175	ePn	Pn	00 01 41.8	+1.1
LCO				eSn	Sn	00 03 35.7	-10
SAML	Samuel	12.12	45	ePn	Pn	00 01 51.5	-0.4
OTAV	Otavalo	19.00	339	eP	P	00 03 20.1	-0.8
TRQA	Tornquist	22.02	159	eP	P	00 03 53.8	+0.7
BDFB	Brasilia	22.91	88	P	P	00 04 01.3	-1.6
	1.8nm,0.3s,baz=270,slow=8.1,SNR=5.5						
BDFB	Brasilia	22.91	88	P	P	00 04 01.3	-1.6
DBIC	Dimbokro	70.41	76	P	P	00 10 14.2	+1.4
	1.0nm,0.4s,baz=236,slow=7.3,SNR=4.2						
DBIC	Dimbokro	70.41	76	P	P	00 10 14.2	+1.4
SCHQ	Schefferville	72.39	3	LR	LR	00 43 17.2	
	comp=Z,40nm,20.0s,baz=353,slow=36						
TORD	Torodi Ar. Bea	78.77	72	P	P	00 11 02.5	+1.2
	1.6nm,0.7s,baz=254,slow=5.7,SNR=17						
TORD	Torodi Ar. Bea	78.77	72	P	P	00 11 02.5	+1.2
YKA	Yellowknife Ar	86.74	342	P	P	00 11 41.4	-0.2
	0.1nm,0.4s,baz=138,slow=4.6,SNR=3.4						
YKA	Yellowknife Ar	86.74	342	P	P	00 11 41.4	-0.2
ZALV	Zalesovo Beam	139.58	21	PKP	PKPdf	00 18 25.9	+0.4
	0.2nm,0.3s,baz=330,slow=5.0,SNR=2.4						
ZALV	Zalesovo Beam	139.58	21	PKP	PKPdf	00 18 25.9	+0.4
MKAR	Makanchi Array	144.01	31	PKP	PKPdf	00 18 32.2	-1.5
	0.1nm,0.3s,baz=210,slow=18,SNR=4.1						
MKAR	Makanchi Array	144.01	31	PKP	PKPdf	00 18 32.2	-1.5
SONM	Songino Array	149.94	2	PKPbc	PKPbc	00 18 48.9	+0.4
	0.4nm,0.7s,baz=331,slow=2.3,SNR=3.6						
SONM	Songino Array	149.94	2	PKPbc	PKPbc	00 18 48.9	+0.4

IDC 05 23:59:11.8±3.5**, 6°.83S**×**147°.59E, h79**km±34km**, mb3.5**/6**, mb1 3.6**/8**, mb1mx3.5**/19**, mbtmp3.5**/8**, Error ellipse: s-maj=58.5km s-min=25.5km az=100.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.60	190	P	Pn	23 59 53.0	+1.2
	14nm,0.3s,baz=21,slow=9.6,SNR=21						
PMG				S	Sn	00 00 22.9	+0.5
	22nm,0.3s,baz=323,slow=20,SNR=19						
WRA	Warramunga Arr	18.32	223	P	P	00 03 19.8	-0.2
	0.5nm,0.3s,baz=49,slow=11,SNR=5.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	21.29	217	P	P	00 03 52.4	+0.2
	2.6nm,0.6s,baz=51,slow=9.5,SNR=40						
FITZ	Fitzroy Crossi	24.16	240	P	P	00 04 20.8	0.0
	4.8nm,0.5s,baz=65,slow=8.5,SNR=32						
STKA	Stephens Creek	25.55	192	P	P	00 04 33.0	-0.4
	1.4nm,0.4s,baz=19,slow=10,SNR=7.6						
SONM	Songino Array	65.41	331	P	P	00 09 47.0	+0.7
	0.1nm,0.5s,baz=135,slow=5.9,SNR=2.6						
MKAR	Makanchi Array	78.51	320	P	P	00 11 04.1	-0.5
	0.1nm,0.4s,baz=101,slow=6.1,SNR=3.5						
ZALV	Zalesovo Beam	80.02	328	P	P	00 11 11.4	-1.2
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.6						
TORD	Torodi Ar. Bea	145.86	283	PKPbc	PKPab	00 18 44.1	+0.3
	0.2nm,0.4s,baz=76,slow=3.4,SNR=7.0						

*NEIC **06** 00:09:27.9, 19°.11N×68°.79W, h81km, MD3.8(RSPR), After RSPR.*

RSPR 06 00:09:27.9, 19°.11N×68°.79W, h81km±3km, MD3.8/15, 16C-12D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMN1	Samana, DR	0.47	280	⇓eP	Pn	00 09 41.3	-0.2
SMN1				eS	Sn	00 09 51.5	-0.1
DR12	Loma Pena Alta	0.65	241	⇓iP	Pn	00 09 42.1	-1.1
DR12				eS	Sn	00 09 52.2	-2.3
DR12	Loma Pena Alta	0.65	241	⇓iP	Pn	00 09 42.1	-1.1
DR12				eS	Sn	00 09 52.2	-2.3
AGPR	Aguadilla, PR	1.71	112	eS	Sn	00 10 16.0	-1.3
AGPR	Aguadilla, PR	1.71	112	⇑eP	Pn	00 09 54.7	-1.3
AGPR	Aguadilla, PR	1.71	112	⇑eP	Pn	00 09 54.7	-1.3
AGPR				eS	Sn	00 10 16.0	-1.3
LSP	Las Mesas	1.86	120	⇓eP	Pn	00 09 57.1	-1.0
LSP				eS	Sn	00 10 21.0	+0.1
LSP	Las Mesas	1.86	120	⇓eP	Pn	00 09 57.1	-1.0
LSP				eS	Sn	00 10 21.0	+0.1
LRS	Lares	2.01	113	⇑eP	Pn	00 09 59.1	-1.0
LRS				eS	Sn	00 10 23.3	-1.2
LRS	Lares	2.01	113	⇑eP	Pn	00 09 59.1	-1.0
LRS				eS	Sn	00 10 23.3	-1.2
AOPR	Arecibo Observ	2.07	111	⇑eP	Pn	00 09 59.5	-1.3
AOPR	Arecibo Observ	2.07	111	⇑eP	Pn	00 09 59.5	-1.3
GBPR	Guanica, Bosqu	2.13	122	⇑iP	Pn	00 10 02.0	+0.4
GBPR				eS	Sn	00 10 27.1	-0.1
GBPR	Guanica, Bosqu	2.13	122	i Pu	Pn	00 10 02.0	+0.4
GBPR				eS	Sn	00 10 27.1	-0.1
OBIP	Obispado Ponce	2.32	117	eS	Sn	00 10 33.5	+1.5
OBIP	Obispado Ponce	2.32	117	⇓eP	Pn	00 10 04.4	+0.3
OBIP	Obispado Ponce	2.32	117	⇓eP	Pn	00 10 04.4	+0.3
OBIP				eS	Sn	00 10 33.5	+1.5
CELP	Cerrillos	2.33	116	⇓eP	Pn	00 10 04.2	-0.1
CELP				eS	Sn	00 10 32.8	+0.7
CELP	Cerrillos	2.33	116	⇓eP	Pn	00 10 04.2	-0.1
CELP				eS	Sn	00 10 32.8	+0.7
SJG	San Juan	2.69	111	⇓eP	Pn	00 10 07.6	-1.4
SJG	San Juan	2.69	111	⇑eP	Pn	00 10 08.1	-0.9
SJG				eS	Sn	00 10 40.5	-0.2
SJG	San Juan	2.69	111	⇑eP	Pn	00 10 08.1	-0.9
SJG				eS	Sn	00 10 40.5	-0.2
CBYP	Canovanas	2.90	106	⇑eP	Pn	00 10 11.1	-0.9
CBYP	Canovanas	2.90	106	⇑eP	Pn	00 10 11.1	-0.9
CPD	Cerro la Pandu	2.92	111	⇑eP	Pn	00 10 12.4	+0.1
CPD	Cerro la Pandu	2.92	111	⇑eP	Pn	00 10 12.4	+0.1
HUMP	Col San Antoni	2.95	109	⇑eP	Pn	00 10 11.5	-1.0
HUMP	Col San Antoni	2.95	109	eS	Sn	00 10 48.2	+1.2
HUMP	Col San Antoni	2.95	109	⇑eP	Pn	00 10 11.5	-1.0
HUMP				eS	Sn	00 10 48.2	+1.2
MTP	Monte Pirata	3.23	108	⇓eP	Pn	00 10 15.1	-1.3
MTP	Monte Pirata	3.23	108	⇓eP	Pn	00 10 15.1	-1.3
STVI	Saint Thomas	3.71	101	⇑eP	Pn	00 10 21.6	-1.2
STVI	Saint Thomas	3.71	101	⇑eP	Pn	00 10 21.6	-1.2

*PRU **06** 00:10:25.6, 51°.56N×16°.05E, h0km*
*CSEM **06** 00:10:25.3±0.6, 51°.54N×16°.02E, h2km, ML3.1/7, Error ellipse: s-maj=9.2km s-min=5.8km az=21.0*
*WAR **06** 00:10:27.8, 51°.47N×16°.10E*
*VIE **06** 00:10:28.4±0.3, 51°.29N×16°.17E, h0km, mb2.0/2, ML2.3/4, Error ellipse: s-maj=2.2km s-min=2.1km az=172.0 62 km WNW of Wroclaw Suspected Mining induced.*

ISC 06 00:10:23.9±1.7, 51°.66N±0°.07×16°.10E±0°.05, h0km, n29, σ1s24/52, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.82	172	ePg	Pg	00 10 39.7	0.0
KSP				eSg	Sg	00 10 50.3	-0.1
KSP	Ksiaz	0.82	172	ePg	Pg	00 10 39.7	0.0
KSP				eSg	Sg	00 10 50.2	-0.1
KSP				e		00 10 53.4	
UPC	Upice	1.15	183	ePG	Pg	00 10 45.6	-0.4
UPC	Upice	1.15	183	Pg	Pg	00 10 45.6	-0.4
DPC	Dobruska-Polom	1.31	174	ePG	Pg	00 10 48.5	-0.6
DPC				eSG	Sg	00 11 04.7	-1.4
	comp=Z,16nm,0.3s						
DPC	Dobruska-Polom	1.31	174	Pg	Pg	00 10 48.5	-0.6
DPC				Sg	Sg	00 11 04.7	-1.4
	16nm,0.3s						
PVCC	Panska Ves	1.49	221	ePG	Pn	00 10 52.0	+0.1
PVCC				eSG	Sb	00 11 10.7	-1.1
	comp=Z,54nm,0.2s						
PVCC	Panska Ves	1.49	221	Pg	Pn	00 10 52.0	+0.1
PVCC				Sg	Sb	00 11 10.7	-1.1
	54nm,0.2s						
BRG	Berggiesshubel	1.57	241	PG	Pn	00 10 53.1	+0.1
BRG				SG	Sn	00 11 13.2	-0.8
	26nm,0.5s						
PRU	Pruhonice	1.94	211	ePN	Pn	00 10 57.3	-0.8
PRU				ePG	Pb	00 10 59.6	-0.6
PRU				eSG	Sn	00 11 23.8	+0.6
	comp=Z,7.4nm,0.3s						
PRU	Pruhonice	1.94	211	Pn	Pn	00 10 57.3	-0.8
CLL	Collm	1.97	261	ePn	Pn	00 10 58.0	-0.5
CLL				ePg	Pb	00 11 01.0	+0.4
CLL				i		00 11 04.5	
CLL				eSg	Sb	00 11 26.0	+0.3
	comp=Z,8.0nm,0.8s						
MORC	Moravsky Berou	2.09	153	ePn	Pn	00 10 59.8	-0.5
MORC				eSg	Sb	00 11 30.1	+0.8
OKC	Ostrava-Krasne	2.24	144	eSG	Sb	00 11 34.4	+1.0
	comp=Z,12nm,0.5s						
OKC	Ostrava-Krasne	2.24	144	Sg	Sb	00 11 34.4	+1.0
	comp=Z,12nm,0.5s						
VRAC	Vranov	2.37	172	ePn	Pn	00 11 04.1	0.0
VRAC				eSg	Sb	00 11 38.5	+1.2
TREC	Trest	2.40	190	ePN	Pn	00 11 03.9	-0.5
TREC				ePG	Pb	00 11 08.1	+0.2
TREC	Trest	2.40	190	Pn	Pn	00 11 03.9	-0.5
TREC	Trest	2.40	190	Pg	Pb	00 11 08.1	+0.2
NKC	Novy Kostel	2.71	240	ePN	Pn	00 11 08.8	0.0
NKC				ePG	Pb	00 11 14.8	+1.4
NKC				eSG	Sb	00 11 49.2	+2.0
	comp=Z,14nm,0.2s						
NKC	Novy Kostel	2.71	240	Pn	Pn	00 11 08.8	0.0
KHC	Kasperske Hory	3.00	214	ePN	Pn	00 11 14.2	+1.5
KHC				ePG	Pb	00 11 18.4	+0.2
KHC				eSG	Sb	00 11 57.9	+2.5
KHC	Kasperske Hory	3.00	214	Pn	Pn	00 11 14.2	+1.5
KHC	Kasperske Hory	3.00	214	Pg	Pb	00 11 18.4	+0.2
KHC				Sg	Sb	00 11 57.9	+2.5
VYHS	Vyhne	3.62	150	ePN	Pn	00 11 20.9	-0.4
CONA	Conrad Observa	3.73	182	⇑iPn	Pn	00 11 22.3	-0.6
CONA				⇑iSg	Sb	00 12 20.0	+3.4
	comp=Z,2.4nm,0.3s						
CONA	Conrad Observa	3.73	182	Pn	Pn	00 11 22.3	-0.6
CONA				Sg	Sb	00 12 20.0	+3.4
	comp=Z,2.4nm,0.3s						
MOA	Molln	3.99	198	⇓iPn	Pn	00 11 26.2	-0.2
MOA				⇑iSg	Sg	00 12 29.6	-2.5
	comp=Z,2.3nm,0.3s						
MOA	Molln	3.99	198	Pn	Pn	00 11 26.2	-0.2
MOA				Sg	Sg	00 12 29.6	-2.5
	comp=Z,2.3nm,0.3s						

IDC 06 00:20:05.7±4.3, 17°.28N×146°.59E, h75km±40km, mb3.4/11, mb1 3.6/12, mb1mx3.5/27, mbtmp3.4/12, ML4.3/1, Error ellipse: s-maj=29.7km s-min=17.9km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.03	205	P	Pn	00 21 05.2	+0.2
	20nm,0.3s,baz=167,slow=8.5,SNR=6.9						
GUMO				S	Sn	00 21 56.4	+5.4
	21nm,0.3s,baz=342,slow=20,SNR=3.4						
WRA	Warramunga Arr	38.90	199	P	P	00 27 23.9	-0.3
	2.5nm,0.8s,baz=21,slow=9.4,SNR=9.4						
ASAR	Alice Springs	42.54	197	P	P	00 27 54.3	+0.1
	0.3nm,0.4s,baz=26,slow=8.7,SNR=3.6						
SONM	Songino Array	44.78	322	P	P	00 28 10.9	-1.2
	0.1nm,0.4s,baz=134,slow=8.3,SNR=3.8						
CMAR	Chiang Mai Arr	45.27	279	P	P	00 28 16.8	+0.5
	0.5nm,0.4s,baz=68,slow=7.9,SNR=4.3						
STKA	Stephens Creek	49.11	186	P	P	00 28 45.1	-0.7
	1.3nm,0.6s,baz=9.9,slow=6.5,SNR=3.4						
ZALV	Zalesovo Beam	59.66	323	P	P	00 30 02.0	-0.1
	0.7nm,0.4s,baz=104,slow=6.3,SNR=7.0						
MKAR	Makanchi Array	60.06	314	P	P	00 30 06.0	+1.0
	0.1nm,0.4s,baz=86,slow=8.0,SNR=5.4						
ILAR	Eielson Array	64.54	26	P	P	00 30 34.3	-0.3
	0.2nm,0.4s,baz=248,slow=6.4,SNR=6.2						
YKA	Yellowknife Ar	78.84	28	P	P	00 32 00.6	+0.2
	0.1nm,0.4s,baz=286,slow=5.1,SNR=3.2						
RES	Resolute Bay	80.60	14	P	P	00 32 11.2	+1.5
	0.5nm,0.6s,baz=336,slow=6.9,SNR=4.6						
FINES	FINESS Array B	88.53	336	P	P	00 32 48.5	-1.4
	0.4nm,0.3s,baz=67,slow=4.7,SNR=9.2						

*ISCJB **06** 00:30:30.2±0.4, 67°.84N±0°.03×20°.18E±0°.06, h0km, Error ellipse: s-maj=4.0km s-min=3.1km az=155.6*
*HEL **06** 00:30:31.6±0.1, 67°.86N×20°.19E, h0km, ML1.8, ML1.9(UPP), Explosion*
*CSEM **06** 00:30:31.2±0.2, 67°.85N×20°.18E, h2km, ML1.9, Error ellipse: s-maj=4.1km s-min=3.4km az=136.0, Mining explosion.*
*UPP **06** 00:30:31.0, 67°.85N×20°.20E, h0km, ML1.9, Mining explosion.*
*NAO **06** 00:30:31.4±1.3, 67°.81N×20°.55E, ML2.3*
*IDC **06** 00:30:32.6±1.1, 67°.84N×20°.48E, h0km, mb1 3.0/3, mb1mx2.9/27, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=16.9km s-min=8.3km az=119.0*
*BER **06** 00:30:32.8±3.6, 67°.81N×20°.25E, h0km, ML2.0, ML2.3(NAO), Suspected explosion*

ISC 06 00:30:30.4±0.7, 67°.83N±0°.02×20°.31E±0°.02, h0km, n57, σ1s12/83, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	5	iP	Pg	00 30 33.4	+0.6
KUA	Kurravaara	0.13	5	P	Pg	00 30 33.4	+0.6
NIKU	Nikkaluokta	0.48	275	iP	Pg	00 30 39.4	-0.2
NIKU	Nikkaluokta	0.48	275	P	Pg	00 30 39.4	-0.2
	baz=96						
LANU	Lannavaara	0.67	70	eP	Pg	00 30 42.7	-0.6
LANU				eS	Sg	00 30 52.5	+0.6
LANU				eRG	Rg	00 30 53.4	
LANU	Lannavaara	0.67	70	P	Pg	00 30 44.2	+1.0
LANU				S	Sg	00 30 52.5	+0.6
MASU	Masugnsbyn	0.75	119	iP	Pb	00 30 45.9	-0.3
MASU	Masugnsbyn	0.75	119	P	Pb	00 30 45.9	-0.3
SALU	Saltoluokta	0.82	238	iP	Pg	00 30 46.0	-0.1
SALU	Saltoluokta	0.82	238	P	Pg	00 30 46.0	-0.1
KIF	Kilpisjarvi	1.20	9	eP	Pg	00 30 53.6	+0.3
KIF				e		00 31 02.0	
KIF				eRG	Rg	00 31 08.0	
KIF	Kilpisjarvi	1.20	9	P	Pg	00 30 53.5	+0.3
HEF	Hetta	1.39	64	eP	Pn	00 30 56.7	-0.2
HEF				eSB	Sg	00 31 15.3	+0.5
HEF				MSG		00 31 15.3	
	comp=Z,7.2nm,0.4s						
HEF				eRG	Rg	00 31 19.6	
ERTU	Ertsjaerv	1.47	149	eP	Pn	00 30 58.4	+0.3
ERTU	Ertsjaerv	1.47	149	P	Pn	00 30 58.4	+0.3
KTK1	Kautokeino	1.61	41	eP	Pn	00 31 00.5	+0.4
KTK1				eS	Sn	00 31 21.9	+0.5
KTK1				AML	AML	00 31 25.9	
	comp=Z,47nm,0.2s						
KTK1	Kautokeino	1.61	41	eP	Pn	00 31 00.4	+0.4
	SNR=50						
KTK1				eS	Sn	00 31 21.9	+0.5
	comp=Z,47nm,0.2s,SNR=50						
HARU	Harads	1.69	171	eP	Pb	00 31 02.1	-0.2
HARU	Harads	1.69	171	P	Pb	00 31 02.1	-0.2
TRO	Tromso	1.88	345	eP	Pn	00 31 04.8	+1.0
TRO				eS	Sn	00 31 28.6	+0.5
TRO				AML	AML	00 31 31.9	
	comp=Z,30nm,0.3s						
TRO	Tromso	1.88	345	eP	Pn	00 31 04.8	+1.0
	SNR=50						
TRO				eS	Sn	00 31 28.6	+0.5
	SNR=50						
STEI	Steigen	1.92	275	eP	Pb	00 31 05.5	-0.7
STEI				eSg	Sb	00 31 30.7	0.0
STEI				AML	AML	00 31 35.1	
	comp=Z,13nm,0.4s						
KALU	Kalix	2.31	147	eP	Pb	00 31 11.9	-1.0
KALU	Kalix	2.31	147	P	Pb	00 31 11.9	-1.0
SJUU	Sjulsmark	2.39	167	eP	Pb	00 31 12.7	-1.4
SJUU	Sjulsmark	2.39	167	P	Pb	00 31 12.7	-1.4
RNF	Rovaniemi	2.54	116	eP	Pb	00 31 15.4	-1.3
RNF				MSG	Sb	00 31 49.7	+1.4
	comp=Z,3.0nm,0.1s						
RNF				eSB	Sb	00 31 49.7	+1.4
RNF	Rovaniemi	2.54	116	P	Pb	00 31 15.4	-1.3
RNF				Sb	Sb	00 31 49.7	+1.4
LILU	Lilltraesk	2.56	184	eP	Pn	00 31 15.1	+2.1
LILU	Lilltraesk	2.56	184	P	Pn	00 31 15.1	+2.1
ARA0	ARCESS Array S	2.56	46	Pn	Pn	00 31 14.1	+1.0
	baz=226,slow=14						
ARA0				Sn	Sn	00 31 45.6	+0.8
	baz=228,slow=28						
ARA0	ARCESS Array S	2.56	46	Pn	Pn	00 31 14.1	+1.0
	baz=226,slow=14						
ARA0				Sn	Sn	00 31 45.6	+0.8
	baz=228,slow=28						
ARA0	ARCESS Array S	2.56	46	Pn	Pn	00 31 14.1	+1.0
	baz=226,slow=14,SNR=140						
ARA0				Sn	Sn	00 31 45.7	+0.8
	baz=228,slow=24,SNR=50						
ARCES	ARCESS Array B	2.56	46	Pn	Pn	00 31 14.3	+1.3
	comp=Z,0.1nm,0.3s,baz=226,slow=15,SNR=11						
ARCES				Sn	Sb	00 31 48.2	-0.9
	comp=Z,5.1nm,0.3s,baz=227,slow=24,SNR=23						
LOF	Lofoten	2.57	280	eS	Sn	00 31 44.4	-0.6
LOF				AML	AML	00 31 46.4	
	comp=Z,16nm,0.4s						
LOF	Lofoten	2.57	280	eS	Sn	00 31 44.4	-0.6
	comp=Z,16nm,0.4s,SNR=50						
MOR8	Moi Rana	2.84	237	ePg	Pn	00 31 19.4	+2.5
MOR8				eSg	Sn	00 31 54.3	+2.5
MOR8				AML	AML	00 31 55.2	
	comp=Z,17nm,0.3s						
KEV	Kevo	3.11	48	eP	Pn	00 31 21.8	+1.2
KEV				eSB	Sb	00 32 05.5	+0.6
KEV				MSG		00 32 05.5	
	comp=Z,5.6nm,0.4s						
KEV	Kevo	3.11	48	P	Pn	00 31 21.8	+1.2
KEV				Sb	Sb	00 32 05.5	+0.6
VRF	Varrio	3.53	87	eP	Pn	00 31 30.4	+4.0
VRF	Varrio	3.53	87	P	Pn	00 31 30.4	+4.0
MSF	Maaselka	3.94	115	eP	Pn	00 31 34.4	+2.3
MSF				MSG	Sg	00 32 37.7	+0.8
	comp=Z,1.4nm,0.4s						
MSF				eSG	Sg	00 32 37.7	+0.8
MSF	Maaselka	3.94	115	P	Pn	00 31 34.4	+2.3
MSF				Sg	Sg	00 32 37.7	+0.8
APA0	Apatity Array	4.83	87	Pn	Pn	00 31 44.9	+0.6
	baz=294,slow=12						
APA0				Sn	Sn	00 32 39.4	-1.5
	baz=293,slow=28						
APA0				Lg	Lg	00 32 59.2	
	baz=279,slow=28						
APA0	Apatity Array	4.83	87	Pn	Pn	00 31 44.9	+0.6
	baz=294,slow=12						
APA0				Sn	Sn	00 32 39.4	-1.5
	baz=293,slow=28						
APA0				Lg	Lg	00 32 59.2	
	baz=279,slow=28						
APA0	Apatity Array	4.83	87	Pn	Pn	00 31 44.8	+0.6
	baz=294,slow=12,SNR=50						
APA0				Sn	Sn	00 32 39.4	-1.5
	baz=293,slow=25,SNR=50						
APA0				Lg	Lg	00 32 59.2	
	baz=279,slow=26,SNR=4.5						
FIA0	FINESS Array S	6.87	156	Pn	Pn	00 32 13.7	+1.5
	baz=347,slow=14						
FIA0				Sn	Sn	00 33 28.8	-2.2
	baz=350,slow=18						
FIA0				Lg	Lg	00 34 05.0	
	baz=334,slow=37						
FIA0	FINESS Array S	6.87	156	Pn	Pn	00 32 13.7	+1.5
	baz=347,slow=14						
FIA0				Sn	Sn	00 33 28.8	-2.2
	baz=350,slow=18						
FIA0				Lg	Lg	00 34 05.0	
	baz=334,slow=37						
FIA0	FINESS Array S	6.87	156	Pn	Pn	00 32 13.7	+1.5
	baz=347,slow=13,SNR=50						
FIA0				Lg	Lg	00 34 05.1	
	baz=334,slow=28,SNR=4.5						
FINES	FINESS Array B	6.87	156	Pn	Pn	00 32 14.4	+2.2
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=4.6						
FINES				Sn	Sn	00 33 32.3	+1.4
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=5.2						
FINES				Lg	Lg	00 34 06.9	
	comp=Z,0.4nm,0.3s,baz=348,slow=26,SNR=8.4						
NB2	NORSAR Subarra	7.86	214	Pn	Pn	00 32 25.6	-0.2
NB2	NORSAR Subarra	7.86	214	Pn	Pn	00 32 25.6	-0.2
NB2	NORSAR Subarra	7.86	214	Pn	Pn	00 32 25.6	-0.2
	SNR=50						
NOA	NORSAR Array B	7.86	214	Pn	Pn	00 32 26.3	+0.6
	comp=Z,0.1nm,0.3s,baz=22,slow=11,SNR=2.6						
NOA				Sn	Sn	00 33 54.6	-0.7
	comp=Z,0.1nm,0.3s,baz=355,slow=16,SNR=2.8						
NOA				Lg	Lg	00 34 41.5	
	comp=Z,0.3nm,0.3s,baz=352,slow=16,SNR=6.3						
HFS	Hagfors	8.25	204	Pn	Pn	00 32 30.4	-0.6
	baz=11,slow=12						
HFS	Hagfors	8.25	204	Pn	Pn	00 32 30.4	-0.6
	baz=11,slow=12						
HFS	Hagfors	8.25	204	Pn	Pn	00 32 30.5	-0.6
	baz=11,slow=12,SNR=50						

*IDC **06** 00:44:52.6±0.7, 4°.12N×126°.62E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/24, mbtmp4.1/13, ML4.0/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=38.1km s-min=13.6km az=72.0*
*ISCJB **06** 00:44:57.6±0.5, 3°.99N±0°.06×126°.5E±0°.1, h45km, mb4.1/14, MS3.4/3, Error ellipse: s-maj=18.3km s-min=7.0km az=160.2*
*AUST **06** 00:45:03.4, 4°.00N×127°.51E, h100km*

ISC 06 00:44:59.2±0.6, 4°.01N±0°.07×126°.6E±0°.1, h45km, n36, σ0s98/34, mb4.1/14, MS3.5/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.19	342	Pn	Pn	00 45 48.5	+1.6
	56nm,0.3s,baz=333,slow=5.1,SNR=1.6						
CTBH	Cotabato--PC H	3.94	324	⇓iP	Pn	00 46 03.0	+5.8
KAPI	Kappang	11.26	217	Pn	Pn	00 47 37.3	-0.2
	1.1nm,0.3s,baz=77,slow=15,SNR=2.4						
WSI	Waingapu	14.96	205	S	S	00 51 27.8	-0.7
	baz=15,SNR=3.6						
MTN	Manton Dam	17.35	165	P	Pn	00 48 55.5	-2.7
	baz=17,SNR=5.5						
KDU	Kakadu	17.60	161	P	P	00 49 02.1	+0.3
	baz=17,SNR=7.1						
FITZ	Fitzroy Crossi	21.99	182	P	P	00 49 49.4	-0.2
	1.5nm,0.3s,baz=13,slow=11,SNR=12						
FITZ	Fitzroy Crossi	21.99	182	P	P	00 49 52.3	+2.7
	baz=22,SNR=4.8						
WRA	Warramunga Arr	25.00	162	P	P	00 50 18.8	-0.2
	5.2nm,0.7s,baz=343,slow=11,SNR=16						
ASAR	Alice Springs	28.42	166	P	P	00 50 49.8	-0.1
	0.9nm,0.7s,baz=347,slow=6.9,SNR=10						
GSI	Gunungsitoli	29.08	265	S	S	00 55 26.9	-18
	baz=30,SNR=3.7						
CMAR	Chiang Mai Arr	30.59	300	P	P	00 51 08.2	-0.9
	2.3nm,0.8s,baz=118,slow=7.4,SNR=12						
MEEK	Meekatharra	31.43	194	P	P	00 51 17.3	+1.0
	baz=32,SNR=7.7						
MJAR	Matsushiro Arr	34.10	17	LR	LR	01 04 20.6	
	comp=Z,42nm,21.2s,baz=220,slow=34						
KLBR	Kellerberrin	36.39	193	P	P	00 52 00.6	+1.3
	baz=37,SNR=4.7						
BBOO	Buckleboo	37.71	167	P	P	00 52 10.8	+0.3
	baz=38,SNR=6.7						
STKA	Stephens Creek	38.45	159	P	P	00 52 17.2	+0.4
	7.3nm,0.9s,baz=330,slow=8.6,SNR=10						
STKA	Stephens Creek	38.45	159	P	P	00 52 17.5	+0.8
	baz=38,SNR=6.3						
MGCD	Mangrove Creek	43.71	150	S	S	00 59 14.3	-13
	baz=43,SNR=6.3						
TAPN	Taplejung	43.72	306	eP	P	00 53 00.3	-0.3
	8.7nm,0.8s						
RAMN	Ramite	44.45	305	eP	P	00 53 06.9	+0.5
	6.9nm,0.7s						
JIRN	Jiri	45.08	306	eP	P	00 53 11.6	+0.1
GUN	Gumba	45.43	306	eP	P	00 53 14.3	0.0
	14nm,0.7s						
SONM	Songino Array	46.98	341	P	P	00 53 25.5	-0.4
	0.3nm,0.3s,baz=151,slow=9.2,SNR=6.7						
SONM				PcP	PcP	00 54 58.0	+0.2
	0.7nm,0.8s,baz=172,slow=2.8,SNR=4.4						
KOLN	Koldanda	47.23	305	eP	P	00 53 28.1	-0.2
DANN	Dangsing	47.32	305	eP	P	00 53 28.9	-0.2
	17nm,0.6s						
PYUN	Piuthan	47.85	305	eP	P	00 53 33.1	0.0
MKAR	Makanchi Array	57.23	325	P	P	00 54 41.4	-0.7
	2.6nm,0.7s,baz=128,slow=8.1,SNR=36						
MKAR				PcP	PcP	00 55 37.0	+0.9
	1.3nm,0.7s,baz=124,slow=2.5,SNR=5.7						
MKAR				LR	LR	01 20 25.5	
	comp=Z,59nm,20.5s,baz=248,slow=37						
ZALV	Zalesovo Beam	60.27	333	P	P	00 55 01.4	-1.5
	0.9nm,0.6s,baz=133,slow=6.7,SNR=7.4						
ZALV				LR	LR	01 24 15.2	
	comp=Z,33nm,19.3s,baz=49,slow=39						
VNDA	Vanda	83.72	173	P	P	00 57 23.5	+0.6
	1.7nm,0.9s,baz=323,slow=6.3,SNR=4.7						
ILAR	Eielson Array	84.92	25	P	P	00 57 28.8	-0.4
	0.5nm,0.8s,baz=243,slow=6.4,SNR=5.2						
JOF	Joensuu	88.86	333	ep	P	00 57 48.0	-0.3
	0.3nm,0.3s						
ARCES	ARCESS Array B	90.13	340	P	P	00 57 52.9	-1.3
	4.1nm,1.1s,baz=72,slow=6.0,SNR=3.8						
KAF	Kangasniemi	91.27	332	ep	P	00 58 00.7	+1.1
	0.3nm,0.3s						
FINES	FINESS Array B	91.51	332	P	P	00 58 00.2	-0.5
	1.4nm,0.8s,baz=64,slow=6.3,SNR=5.2						
TORD	Torodi Ar. Bea	122.68	288	PKP	PKPdf	01 03 51.1	0.0
	0.5nm,0.8s,baz=66,slow=2.9,SNR=3.1						

IDC 06 01:12:40.8±11.0, 56°.28S×26°.15W, h194km±108km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=40.0km s-min=23.9km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	16.59	161	eP	P	01 16 17.4	-3.7
VNA2	Neumayer--Watz	16.77	159	eP	P	01 16 22.0	-1.1
VNDA	Vanda	46.37	182	P	P	01 20 46.6	-0.2
	2.6nm,0.6s,baz=186,slow=10.0,SNR=13						
LPAZ	La Paz	50.98	304	P	P	01 21 23.6	+0.2
	0.9nm,0.5s,baz=125,slow=5.6,SNR=4.0						
TORD	Torodi Ar. Bea	72.97	28	P	P	01 23 48.8	-0.1
	0.4nm,0.5s,baz=198,slow=6.3,SNR=12						
SONM	Songino Array	150.16	86	PKPbc	PKPbc	01 32 07.9	+0.2
	0.2nm,0.4s,baz=215,slow=1.8,SNR=3.3						
ILAR	Eielson Array	150.70	311	PKPbc	PKPbc	01 32 07.2	-1.0
	0.1nm,0.4s,baz=119,slow=1.1,SNR=4.3						

*ISCJB **06** 01:35:54.6±0.2, 16°.26S±0°.03×121°.24E±0°.04, h10km, mb4.7/39, MS3.8/6, Error ellipse: s-maj=5.4km s-min=3.7km az=157.9*
*BJI **06** 01:35:55.8, 16°.20S×121°.20E, h6km, mB5.1/17, mb4.8/23, Ms5.1/8, Ms7 4.7/9*
*IDC **06** 01:35:56.4±0.7, 16°.08S×121°.20E, h0km, mb4.5/10, mb1 4.6/12, mb1mx4.5/19, mbtmp4.6/12, ML4.4/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/35, Error ellipse: s-maj=26.0km s-min=10.6km az=43.0*
*NEIC **06** 01:35:57.7±0.3, 16°.17S×121°.30E, h10km, mb4.7/16,*

ML5.1(AUST), Error ellipse: s-maj=10.0km s-min=4.6km az=44.0
NEIC Felt at Broome.
*DJA **06** 01:35:58.5±0.3, 16°S±4°×12°1E±°, h30km, M5.2/22, mB5.6/8, mb5.2/22, MLv5.3/2, Mw(mB)5.1/8, Mwp6.1/1*
ISC 06 01:35:57.6±0.3**, 16.27S**±0.04×**121.24E**±0.04**, h10km, n120,** σ**1.77**/131**, mb4.8**/39**, MS3.9**/6**, 1D, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**4.58**	**114**	Pn	**Pn**	**01 37 07.4**	**+0.3**
	25nm,0.3s,baz=305,slow=11,SNR=230						
FITZ				Pg	**Pg**	**01 37 25.5**	**+0.1**
	56nm,0.3s,baz=321,slow=14,SNR=21						
FITZ				Sn	**Sn**	**01 37 58.6**	**-1.8**
	89nm,0.3s,baz=198,slow=20,SNR=7.9						
FITZ				Lg	Lg	01 38 24.6	
	88nm,0.3s,baz=179,slow=11,SNR=3.8						
FITZ				LR	LR	01 39 17.4	
	comp=Z,780nm,18.2s,baz=300,slow=43						
FITZ	**Fitzroy Crossi**	**4.58**	**114**	Pn	**Pn**	**01 37 07.4**	**+0.3**
FITZ				Pg	**Pg**	**01 37 25.5**	**+0.1**
FITZ				Sn	**Sn**	**01 37 58.6**	**-1.8**
FITZ				Lg	Lg	01 38 24.6	
MBWA	**Marble Bar**	**5.07**	**196**	*e*Pn	**Pn**	**01 37 15.0**	**+1.2**
MBWA				*e*Pg	**Pg**	**01 37 35.7**	**+0.9**
MBWA				*e*Sn	**Sn**	**01 38 11.2**	**-1.2**
MBWA				*e*Sg	**Sg**	**01 38 42.0**	**+1.6**
MMRI	**Maumere**	**7.65**	**7**	P	**Pn**	**01 37 46.6**	**-2.6**
	126nm,0.8s,2μm0.6nm						
IGBI	**Denpasar**	**9.50**	**321**	P	**Pn**	**01 38 11.4**	**-3.2**
	60nm,0.6s,35μm						
KHKI	**Kahang-Kahang**	**9.59**	**324**	P	**Pn**	**01 38 13.5**	**-2.4**
	153nm,0.8s,1μm						
SRBI	**Singaraja**	**10.04**	**323**	P	**Pn**	**01 38 19.6**	**-2.5**
	77nm,1.0s						
NBBI	**Negara**	**10.17**	**320**	P	Pn	01 38 18.3	-5.5
JAGI	**Jajag, Banyuwa**	**10.39**	**317**	P	Pn	01 38 22.1	-4.8
	133nm,0.6s						
BYJI	**Banyuwangi**	**10.46**	**319**	P	Pn	01 38 23.8	-3.9
	145nm,0.8s						
BBSI	**Bau Bau**	**10.80**	**7**	P	**Pn**	**01 38 30.8**	**-1.6**
	32nm,0.9s						
BKSI	**Bulukumba**	**10.94**	**354**	P	**Pn**	**01 38 32.0**	**-2.3**
	32nm,0.6s						
GMJI	**Gumukmas**	**11.01**	**315**	P	Pn	01 38 31.4	-3.9
	68nm,0.5s						
KAPI	**Kappang**	**11.28**	**352**	Pn	**Pn**	**01 38 37.5**	**-1.5**
	1.3nm,0.3s,baz=200,slow=13,SNR=5.7						
KAPI				Sn	Sn	01 40 33.5	-12
	1.1nm,0.3s,baz=9.9,slow=22,SNR=5.6						
KAPI				LR	LR	01 42 22.2	
	comp=Z,70nm,21.4s,baz=0.9,slow=35						
KAPI	**Kappang**	**11.28**	**352**	*e*Pn	**Pn**	**01 38 37.5**	**-1.5**
KAPI				Sn	Sn	01 40 33.5	-12
BLJI	**Banyuglugur**	**11.30**	**318**	P	Pn	01 38 35.8	-3.5
	75nm,0.5s						
KMMI	**Kalianget**	**11.60**	**321**	P	**Pn**	**01 38 40.8**	**-2.6**
	32nm,0.7s						
KRKI	**Karangkates**	**11.78**	**312**	P	Pn	01 38 42.4	-3.4
	287nm,0.6s						
SPSI	**Sidrap Palu**	**12.31**	**353**	P	Pn	01 38 49.0	-4.2
	13nm,1.1s,941nm63μm						
PWJI	**Pagerwojo**	**12.34**	**311**	P	Pn	01 38 48.8	-4.7
	111nm,0.8s,5μm						
SJI	**Sawahan**	**12.56**	**311**	P	**Pn**	**01 38 53.8**	**-2.8**
	64nm,0.5s,5μm						
PCJI	**Pacitan**	**12.69**	**308**	P	Pn	01 38 54.4	-3.9
	76nm,0.8s						
WRA	**Warramunga Arr**	**12.98**	**108**	Pn	**Pn**	**01 39 00.2**	**-2.0**
	6.3nm,0.3s,baz=282,slow=14,SNR=95						
WRA				Sn	Sn	01 41 16.8	-10
	12nm,0.3s,baz=280,slow=24,SNR=9.3						
WRA				Lg	Lg	01 42 51.5	
	baz=289,slow=28,SNR=4.2						
WRA				LR	LR	01 44 15.0	
	comp=Z,352nm,19.1s,baz=275,slow=38						
WRA	**Warramunga Arr**	**12.98**	**108**	Pn	**Pn**	**01 39 00.2**	**-2.0**
WRA				Sn	Sn	01 41 16.8	-10
WRA				Lg	Lg	01 42 51.5	
WRAB	**Tennant Creek**	**12.98**	**108**	*e*Pn	**Pn**	**01 39 00.5**	**-1.9**
WRAB				*e*Sn	Sn	01 41 13.0	-14
UGM	**Wanagama**	**13.37**	**307**	*e*Pn	Pn	01 39 04.0	-3.6
UGM	**Wanagama**	**13.37**	**307**	P	**Pn**	**01 39 05.3**	**-2.3**
	142nm,1.2s						
ASAR	**Alice Springs**	**13.99**	**124**	Pn	**Pn**	**01 39 15.1**	**-1.0**
	2.9nm,0.3s,baz=302,slow=13,SNR=80						
ASAR				Sn	Sn	01 41 44.6	-7.0
	6.4nm,0.3s,baz=308,slow=24,SNR=11						
ASAR				LR	LR	01 45 02.4	
	comp=Z,208nm,18.9s,baz=290,slow=39						
ASAR	**Alice Springs**	**13.99**	**124**	Pn	**Pn**	**01 39 15.1**	**-1.0**
ASAR				Sn	Sn	01 41 44.6	-7.0
AS31	**Alice Springs**	**13.99**	**124**	*e*Pn	**Pn**	**01 39 15.1**	**-1.0**
AS31				*e*Sn	Sn	01 41 45.4	-6.2
NLAI	**Namlea**	**14.17**	**25**	P	**P**	**01 39 28.7**	**+2.5**
BJII	**Banjamegara**	**14.36**	**307**	P	**Pn**	**01 39 20.2**	**-1.0**
TLE	**Tual**	**15.45**	**48**	P	**Pn**	**01 39 33.0**	**-2.9**
	96nm,0.7s						
FORT	**Forrest**	**15.73**	**158**	*e*Pn	**Pn**	**01 39 35.9**	**-3.5**
	63nm,0.6s						
FORT				*e*Sn	Sn	01 42 24.4	-9.4
NWAO	**Narrogin (SRO)**	**16.98**	**192**	Pn	**Pn**	**01 39 53.0**	**-2.3**
	4.8nm,0.3s,baz=14,slow=12,SNR=30						
NWAO				Sn	Sn	01 42 46.0	-18
	9.7nm,0.3s,baz=297,slow=19,SNR=4.2						
NWAO				Lg	Lg	01 44 56.6	
	baz=282,slow=22,SNR=3.8						
NWAO				LR	LR	01 45 48.2	
	comp=Z,100nm,21.2s,baz=127,slow=34						
NWAO	**Narrogin (SRO)**	**16.98**	**192**	Pn	**Pn**	**01 39 53.0**	**-2.3**
NWAO				Sn	Sn	01 42 46.0	-18
NWAO				Lg	Lg	01 44 56.6	
SBUM	**Sibu**	**20.63**	**334**	P	**P**	**01 40 37.0**	**-0.4**
BBOO	**Buckleboo**	**21.24**	**144**	*e*P	**P**	**01 40 45.3**	**+1.4**
	366nm,0.6s						
BBOO				*e*S	**S**	**01 44 37.7**	**-2.4**
COEN	**Coen**	**21.30**	**87**	*e*P	**P**	**01 40 45.4**	**+0.6**
	177nm,0.8s						
COEN				*e*S	S	01 44 30.9	-11
KKM	**Kota Kinabalu**	**22.72**	**347**	*e*P	**P**	**01 41 00.8**	**+0.8**
	16nm,1.0s						
CTA	**Charters Tower**	**24.06**	**103**	P	**P**	**01 41 14.1**	**+0.8**
	6.0nm,0.8s,baz=277,slow=12,SNR=4.2						
CTA				S	**S**	**01 45 34.5**	**+3.7**
	3.9nm,0.7s,baz=274,slow=15,SNR=2.2						
CTA				LR	LR	01 51 03.6	
	comp=Z,310nm,18.1s,baz=229,slow=38						
CTA	**Charters Tower**	**24.06**	**103**	P	**P**	**01 41 14.1**	**+0.8**
CTA				S	**S**	**01 45 34.5**	**+3.7**
CTAO	**Charters Tower**	**24.06**	**103**	*e*P	**P**	**01 41 14.2**	**+0.8**
	6.6nm,0.8s						
STKA	**Stephens Creek**	**24.16**	**134**	P	**P**	**01 41 15.5**	**+1.4**
	6.6nm,0.6s,baz=308,slow=11,SNR=16						
STKA				S	**S**	**01 45 38.5**	**+6.3**
	9.2nm,0.6s,baz=335,slow=14,SNR=4.4						
STKA				LR	LR	01 51 31.5	
	comp=Z,220nm,18.9s,baz=205,slow=38						
STKA	**Stephens Creek**	**24.16**	**134**	*e*P	**P**	**01 41 15.6**	**+1.4**
	4.8nm,0.8s						
STKA				*e*S	**S**	**01 45 31.5**	**-0.7**
STKA				S	S	01 45 38.5	+6.3
CMAR	**Chiang Mai Arr**	**40.90**	**327**	P	**P**	**01 43 39.0**	**-1.4**
	1.4nm,0.4s,baz=161,slow=7.4,SNR=8.2						
CMAR	**Chiang Mai Arr**	**40.90**	**327**	P	**P**	**01 43 39.0**	**-1.4**
CHTO	**Chiang Mai**	**41.19**	**327**	*e*P	**P**	**01 43 41.0**	**-1.7**
	3.2nm,0.7s						
DZM	**Mont Dzumac**	**42.97**	**105**	LR	LR	02 02 34.9	
	comp=Z,134nm,18.2s,baz=356,slow=37						
KMI	**Kunming**	**44.92**	**336**	P	P	01 44 17.6	+4.5
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NJ2	**Nanjing**	**48.10**	**357**	*e*P	P	01 44 40.8	+3.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**49.83**	**340**	P	P	01 44 53.9	+2.9
CD2				pP	pP	01 44 58.4	+4.2
CD2				sP	sP	01 45 00.9	+5.5
CD2				PP	**PP**	**01 46 49.9**	**+3.9**
CD2				S	**S**	**01 52 03.8**	**+2.9**
CD2				sS	sS	01 52 10.5	+4.4
CD2				SS	**SS**	**01 55 33.1**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.1s						
CD2				LR	LR		
	comp=E,410nm,5.3s						
CD2				LR	LR		
	comp=Z,420nm,4.8s						
XAN	**Xi'an**	**51.39**	**347**	P	**P**	**01 45 01.7**	**-1.0**
XAN				pP	**pP**	**01 45 08.3**	**+2.4**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,27nm,5.6s						
KSAR	**Wonju Array Be**	**53.79**	**7**	P	**P**	**01 45 20.1**	**-0.3**
KSRS	**Korea Array**	**53.80**	**7**	P	**P**	**01 45 20.1**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=183,slow=8.4,SNR=9.9						
KSRS				LR	LR	02 12 17.4	
	comp=Z,21nm,18.4s,baz=211,slow=41						
LSA	**Lhasa**	**54.14**	**327**	*e*P	**P**	**01 45 24.0**	**+0.3**
	comp=Z,5.0nm,0.5s						
TAPN	**Taplejung**	**54.20**	**323**	*e*P	**P**	**01 45 23.9**	**-0.1**
TAPN	**Taplejung**	**54.20**	**323**	*e*P	**P**	**01 45 23.9**	**-0.1**
RAMN	**Ramite**	**54.56**	**321**	*e*P	**P**	**01 45 26.1**	**-0.5**
	comp=Z,21nm,0.9s						
RAMN	**Ramite**	**54.56**	**321**	*e*P	**P**	**01 45 26.1**	**-0.5**
	comp=Z,21nm,0.9s						
LZH	**Lanzhou**	**54.61**	**343**	*e*P	**P**	**01 45 26.0**	**-0.7**
LZH				pP	**pP**	**01 45 30.0**	**+0.1**
LZH				sP	**sP**	**01 45 32.0**	**+0.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	**54.92**	**17**	*e*P	**P**	**01 45 26.9**	**-1.7**
	comp=Z,16nm,0.9s						
MAT	**Matsushiro**	**54.92**	**17**	P	**P**	**01 45 27.6**	**-1.1**
MJAR	**Matsushiro Arr**	**54.92**	**17**	P	**P**	**01 45 27.2**	**-1.5**
	comp=Z,11nm,0.8s,baz=193,slow=8.4,SNR=19						
MJAR	**Matsushiro Arr**	**54.92**	**17**	P	**P**	**01 45 27.2**	**-1.5**
JIRN	**Jiri**	**55.33**	**322**	*e*P	**P**	**01 45 31.4**	**-0.9**
	comp=Z,3.7nm,0.7s						
JIRN	**Jiri**	**55.33**	**322**	*e*P	**P**	**01 45 31.4**	**-0.9**
	comp=Z,3.7nm,0.7s						
GUN	**Gumba**	**55.70**	**322**	*e*P	**P**	**01 45 34.1**	**-0.8**
	comp=Z,17nm,0.7s						
GUN	**Gumba**	**55.70**	**322**	*e*P	**P**	**01 45 34.1**	**-0.8**
	comp=Z,17nm,0.7s						
PKI	**Pulchoki**	**55.73**	**321**	*e*P	**P**	**01 45 34.3**	**-0.8**
PKI	**Pulchoki**	**55.73**	**321**	*e*P	**P**	**01 45 34.3**	**-0.8**
GKN	**Gorkha**	**56.52**	**321**	*e*P	**P**	**01 45 39.4**	**-1.1**
GKN	**Gorkha**	**56.52**	**321**	*e*P	**P**	**01 45 39.4**	**-1.1**
KOLN	**Koldanda**	**56.98**	**320**	*e*P	**P**	**01 45 42.7**	**-1.2**
	comp=Z,12nm,0.7s						
KOLN	**Koldanda**	**56.98**	**320**	*e*P	**P**	**01 45 42.7**	**-1.2**
	comp=Z,12nm,0.7s						
DANN	**Dangsing**	**57.30**	**320**	*e*P	**P**	**01 45 45.3**	**-0.9**
	comp=Z,27nm,0.6s						
DANN	**Dangsing**	**57.30**	**320**	*e*P	**P**	**01 45 45.3**	**-0.9**
	comp=Z,27nm,0.6s						
HHC	**Hu-ho-hao-te**	**57.53**	**351**	*e*P	P	01 45 52.1	+4.7
HHC				PcP	**PcP**	**01 46 44.6**	**+3.8**
HHC				PP	PP	01 48 01.3	+6.0
HHC				S	S	01 53 50.9	+5.8
HHC				ScS	**ScS**	**01 55 39.2**	**+2.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
HHC				LR	LR		
	comp=N,150nm,17.8s						
HHC				LR	LR		
	comp=E,190nm,17.8s						
HHC				LR	LR		
	comp=Z,190nm,17.8s						
PYUN	**Piuthan**	**57.60**	**320**	*e*P	**P**	**01 45 47.3**	**-0.9**
	comp=Z,15nm,0.8s						
PYUN	**Piuthan**	**57.60**	**320**	*e*P	**P**	**01 45 47.3**	**-0.9**
	comp=Z,15nm,0.8s						
GTA	**Gaotai**	**58.90**	**341**	*e*P	**P**	**01 45 58.0**	**+1.0**
GTA				pP	**pP**	**01 46 02.6**	**+2.4**
GTA				sP	**sP**	**01 46 05.0**	**+3.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CN2	**Changchun**	**59.90**	**4**	*e*P	**P**	**01 46 03.1**	**-0.6**
CN2				*e*sP	**sP**	**01 46 10.0**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Arra**	**60.97**	**9**	P	**P**	**01 46 10.7**	**-0.3**
	comp=Z,9.3nm,0.7s,baz=187,slow=6.6,SNR=18						
ULN	**Ulaanbaatar**	**65.09**	**350**	*e*P	**P**	**01 46 37.9**	**-0.7**
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**65.18**	**349**	P	**P**	**01 46 38.7**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=170,slow=8.2,SNR=19						
SONM	**Songino Array**	**65.18**	**349**	P	**P**	**01 46 38.7**	**-0.4**
HIA	**Hailar**	**65.26**	**359**	*e*P	**P**	**01 46 39.6**	**+0.1**
	comp=Z,5.3nm,0.4s						
WMQ	**Urumqi**	**67.21**	**334**	*e*P	**P**	**01 46 53.4**	**+1.3**
KSH	**Kashi**	**69.73**	**324**	⇓*i*P	**P**	**01 47 06.6**	**-1.5**
KSH				PP	**PP**	**01 49 43.5**	**+0.9**
KSH				S	**S**	**01 56 11.7**	**-5.5**
KSH				SKS	**SKSac**	**01 57 04.1**	**-5.0**
KSH				SS	**SS**	**02 00 47.2**	**+1.1**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,240nm,5.3s						
KSH				LR	LR		
	comp=N,79nm,4.5s						
KSH				LR	LR		
	comp=E,140nm,5.1s						
KSH				LR	LR		
	comp=Z,220nm,6.9s						
KBL	**Kabul**	**70.80**	**316**	*e*P	**P**	**01 47 15.1**	**+0.2**
	comp=Z,4.3nm,0.8s						
MK31	**Makanchi Array**	**71.89**	**333**	*e*P	**P**	**01 47 20.1**	**-0.8**
MKAR	**Makanchi Array**	**71.89**	**333**	P	**P**	**01 47 20.7**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=143,slow=6.9,SNR=55						
MKAR	**Makanchi Array**	**71.89**	**333**	*e*P	**P**	**01 47 20.8**	**-0.2**
TKM2	**Tokmak 2**	**72.28**	**327**	*e*P	**P**	**01 47 23.7**	**+0.1**
	comp=Z,0.8nm,0.4s						
AAK	**Ala-Archa**	**72.68**	**326**	*e*P	**P**	**01 47 26.3**	**+0.4**
	comp=Z,8.1nm,0.7s						
EKS2	**Erkin-Say**	**73.08**	**325**	*e*P	**P**	**01 47 29.3**	**+1.0**
	comp=Z,43nm,2.5s						
KURK	**Kurchatov**	**76.45**	**334**	*e*P	**P**	**01 47 46.8**	**-0.6**
	comp=Z,5.5nm,1.1s						
ZALV	**Zalesovo Beam**	**76.57**	**339**	P	**P**	**01 47 46.6**	**-1.4**
	comp=Z,3.6nm,0.5s,baz=143,slow=4.7,SNR=23						
ZALV	**Zalesovo Beam**	**76.57**	**339**	P	**P**	**01 47 46.6**	**-1.4**
ATD	**Arta Tunnel**	**82.29**	**284**	LR	LR	02 18 01.8	
	comp=Z,54nm,21.3s,baz=81,slow=31						
ABKAR	**Akbulak array**	**84.73**	**325**	*e*P	**P**	**01 48 31.1**	**-0.8**
VNA2	**Neumayer--Watz**	**86.23**	**195**	*e*P	**P**	**01 48 38.0**	**-1.1**
	baz=128,slow=2.5						
AKTO	**Aktyubinsk**	**86.41**	**325**	P	**P**	**01 48 39.6**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=111,slow=7.5,SNR=21						
AKTO	**Aktyubinsk**	**86.41**	**325**	P	**P**	**01 48 39.6**	**-0.6**
KIV	**Kislovodsk**	**93.15**	**315**	*e*P	**P**	**01 49 12.6**	**+0.3**
	comp=Z,5.2nm,0.9s						
YKA	**Yellowknife Ar**	**119.80**	**26**	PKP	**PKPdf**	**01 54 45.5**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=302,slow=1.8,SNR=11						
YKA	**Yellowknife Ar**	**119.80**	**26**	PKP	**PKPdf**	**01 54 45.5**	**-2.2**
TOA0	**Torodi Ar. Sit**	**121.62**	**276**	*e*PKPdf	**PKPdf**	**01 54 52.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**121.62**	**276**	PKP	**PKPdf**	**01 54 51.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=85,slow=1.7,SNR=19						
TORD	**Torodi Ar. Bea**	**121.62**	**276**	PKP	**PKPdf**	**01 54 51.7**	**-0.9**
HLID	**Hailey**	**125.81**	**48**	*e*PKPdf	**PKPdf**	**01 55 00.5**	**+0.4**
DUG	**Dugway**	**127.65**	**52**	*e*PKPdf	**PKPdf**	**01 55 04.1**	**+0.4**
PDAR	**Pinedale Array**	**129.45**	**48**	PKP	**PKPdf**	**01 55 06.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=281,slow=1.5,SNR=4.1						
PDAR	**Pinedale Array**	**129.45**	**48**	PKP	**PKPdf**	**01 55 06.4**	**-0.8**
LPAZ	**La Paz**	**146.35**	**164**	PKPbc	**PKPab**	**01 55 41.5**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=182,slow=4.8,SNR=13						
LPAZ	**La Paz**	**146.35**	**164**	*e*PKPbc	**PKPab**	**01 55 41.5**	**+0.3**
BDFB	**Brasilia**	**146.56**	**199**	PKPbc	**PKPab**	**01 55 42.1**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=219,slow=3.7,SNR=3.5						
BDFB	**Brasilia**	**146.56**	**199**	PKPbc	**PKPab**	**01 55 42.1**	**+0.7**
WCI	**Wyandotte Cave**	**147.39**	**42**	*e*PKPbc	**PKPbc**	**01 55 41.1**	**-1.0**
WVT	**Waverly**	**147.46**	**47**	*e*PKPbc	**PKPbc**	**01 55 42.5**	**+0.1**

---

*ISCJB **06** 01:45:52.4±0.4, 37.58N±0.01×22.96E±0.02, h13km±3km, mb3.7/3, Error ellipse: s-maj=2.4km s-min=2.3km az=2.1*
*THE **06** 01:45:52.6, 37.59N×22.94E, h11km, ML3.6/8, Error ellipse: s-maj=0.8km s-min=0.4km az=159.0*
*ATH **06** 01:45:52.2, 37.59N×22.93E, h21km, ML3.5*
*CSEM **06** 01:45:52.1±0.1, 37.60N×22.93E, h8km, ML3.6/8, Error ellipse: s-maj=2.1km s-min=1.9km az=107.0*
*IDC **06** 01:45:57.4±3.6, 37.64N×22.93E, h64km±38km, mb3.5/3, mb1 3.4/5, mb1mx3.1/27, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=62.6km s-min=22.2km az=138.0*
ISC 06 01:45:52.5±0.8**, 37.61N**±0.02×**22.93E**±0.01**, h14km**±6km**, n112,** σ**0.95**/184**, mb3.8**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIDY	**Didyma**	**0.26**	**120**	P	**Pg**	**01 45 57.6**	**-0.5**
DIDY				S	**Sg**	**01 46 01.7**	**-0.2**
DIDY	**Didyma**	**0.26**	**120**	P	**Pg**	**01 45 57.6**	**-0.5**
DIDY				S	**Sg**	**01 46 01.7**	**-0.2**
DID	**Didima**	**0.26**	**112**	P	**Pg**	**01 45 57.7**	**-0.4**
DID				S	**Sg**	**01 46 02.2**	**+0.3**
DID	**Didima**	**0.26**	**112**	*e*PB	**Pg**	**01 45 57.8**	**-0.4**
DID				*e*SB	**Sg**	**01 46 02.3**	**+0.3**
DID	**Didima**	**0.26**	**112**	P	**Pg**	**01 45 57.7**	**-0.4**
DID				S	**Sg**	**01 46 01.8**	**-0.2**
DID				*e*Sb	**Sg**	**01 46 02.3**	**+0.3**
LTK	**Loutraki**	**0.42**	**4**	P	**Pg**	**01 46 01.1**	**+0.2**
LTK				S	**Sb**	**01 46 07.6**	**-0.2**
LTK	**Loutraki**	**0.42**	**4**	*e*PB	**Pb**	**01 46 01.2**	**-0.4**
LTK				*e*SB	**Sb**	**01 46 07.8**	**0.0**
LTK	**Loutraki**	**0.42**	**4**	P	**Pg**	**01 46 01.0**	**+0.2**
LTK				S	**Sg**	**01 46 06.5**	**0.0**
LTK				*e*Sb	**Sb**	**01 46 07.8**	**0.0**
NAIG	**Nisos Aigina**	**0.47**	**71**	*e*PB	**Pg**	**01 46 01.6**	**-0.2**
NAIG	**Nisos Aigina**	**0.47**	**71**	*e*Pb	**Pg**	**01 46 01.6**	**-0.2**
VLX	**Vlachokerasia**	**0.50**	**242**	P	**Pg**	**01 46 02.2**	**-0.2**
VLX				S	**Sg**	**01 46 08.9**	**-0.2**
VLX	**Vlachokerasia**	**0.50**	**242**	*e*PB	**Pg**	**01 46 02.2**	**-0.2**
VLX				*e*SB	**Sg**	**01 46 08.9**	**-0.2**
VLX	**Vlachokerasia**	**0.50**	**242**	P	**Pg**	**01 46 02.2**	**-0.2**
VLX				S	**Sg**	**01 46 08.7**	**-0.4**
GUR	**Goura**	**0.57**	**305**	P	**Pg**	**01 46 03.6**	**-0.1**
GUR				S	**Sb**	**01 46 12.7**	**+0.4**
GUR	**Goura**	**0.57**	**305**	*e*PN	**Pg**	**01 46 03.7**	**0.0**
GUR				*e*SN	**Sb**	**01 46 12.2**	**-0.1**
GUR	**Goura**	**0.57**	**305**	*e*Pn	**Pg**	**01 46 03.7**	**0.0**
GUR				S	**Sg**	**01 46 11.3**	**-0.1**
GUR				*e*Sn	**Sb**	**01 46 12.2**	**-0.1**
ATH	**Athens Observa**	**0.72**	**59**	P	**Pg**	**01 46 06.4**	**-0.1**
ATH				S	**Sb**	**01 46 17.8**	**+1.3**
ATH	**Athens Observa**	**0.72**	**59**	*e*PN	**Pg**	**01 46 06.5**	**-0.1**
ATH				*e*SN	**Sb**	**01 46 16.9**	**+0.4**
ATH	**Athens Observa**	**0.72**	**59**	P	**Pg**	**01 46 06.4**	**-0.1**
ATH				S	**Sb**	**01 46 16.3**	**-0.2**
ATH				*e*Sn	**Sb**	**01 46 16.9**	**+0.4**
ATHU	**Athens Univers**	**0.77**	**62**	P	**Pg**	**01 46 05.7**	**-1.7**
ATHU				S	**Sb**	**01 46 17.8**	**0.0**
ATHU	**Athens Univers**	**0.77**	**62**	P	**Pg**	**01 46 05.7**	**-1.7**
ATHU				S	**Sg**	**01 46 16.7**	**-0.8**
PTL	**Penteli**	**0.86**	**59**	P	**Pg**	**01 46 08.7**	**-0.5**
PTL				S	**Sb**	**01 46 21.6**	**+1.0**
PTL	**Penteli**	**0.86**	**59**	*e*PN	**Pg**	**01 46 08.7**	**-0.5**
PTL				*e*SN	**Sb**	**01 46 21.2**	**+0.6**
PTL	**Penteli**	**0.86**	**59**	P	**Pg**	**01 46 08.7**	**-0.5**
PTL				S	**Sg**	**01 46 20.3**	**-0.2**
PTL				*e*Sn	**Sb**	**01 46 21.3**	**+0.6**
DSF	**Desfina**	**0.86**	**338**	P	**Pg**	**01 46 09.1**	**-0.2**
DSF				S	**Sn**	**01 46 22.4**	**-0.3**
DSF	**Desfina**	**0.86**	**338**	P	**Pg**	**01 46 09.1**	**-0.2**
DSF				S	**Sg**	**01 46 20.6**	**0.0**
VLI	**Veliai**	**0.89**	**180**	P	**Pg**	**01 46 08.5**	**-1.2**
VLI				S	**Sb**	**01 46 21.5**	**+0.2**
VLI	**Veliai**	**0.89**	**180**	*e*PN	**Pg**	**01 46 09.3**	**-0.4**
VLI				*e*SN	**Sb**	**01 46 21.8**	**+0.5**
VLI	**Veliai**	**0.89**	**180**	P	**Pg**	**01 46 08.9**	**-0.8**
VLI	**Veliai**	**0.89**	**180**	*e*Pn	**Pg**	**01 46 09.3**	**-0.4**
VLI				S	**Sg**	**01 46 20.2**	**-1.1**
VLI				*e*Sn	**Sb**	**01 46 21.8**	**+0.5**
ITM	**Ithomi**	**0.91**	**242**	P	**Pg**	**01 46 09.5**	**-0.5**
ITM	**Ithomi**	**0.91**	**242**	*e*PN	**Pg**	**01 46 09.5**	**-0.5**
ITM	**Ithomi**	**0.91**	**242**	P	**Pg**	**01 46 09.5**	**-0.5**
ITM				S	**Sg**	**01 46 19.3**	**-2.6**
DYR	**Agios Nikonas**	**0.97**	**210**	P	**Pg**	**01 46 10.1**	**-1.1**
DYR	**Agios Nikonas**	**0.97**	**210**	P	**Pg**	**01 46 10.1**	**-1.1**
DYR				S	**Sg**	**01 46 22.9**	**-1.0**
AMT	**Artemida-Makis**	**0.97**	**266**	P	**Pg**	**01 46 10.7**	**-0.6**
AMT				S	**Sb**	**01 46 24.6**	**+0.8**
AMT	**Artemida-Makis**	**0.97**	**266**	P	**Pg**	**01 46 10.7**	**-0.6**
AMT				S	**Sg**	**01 46 24.2**	**+0.1**
LAKA	**Lakka**	**0.98**	**310**	P	**Pg**	**01 46 10.8**	**-0.7**
LAKA				S	**Sn**	**01 46 26.8**	**+1.2**
LAKA	**Lakka**	**0.98**	**310**	P	**Pg**	**01 46 10.8**	**-0.7**
LAKA				S	**Sn**	**01 46 26.8**	**+1.2**
KALE	**Kalithea**	**1.00**	**322**	P	**Pb**	**01 46 12.1**	**+0.5**
KALE				S	**Sn**	**01 46 27.4**	**+1.3**
KALE	**Kalithea**	**1.00**	**322**	P	**Pb**	**01 46 12.1**	**+0.5**
KALE				S	**Sn**	**01 46 27.4**	**+1.3**
TRIZ	**Trizonia**	**1.02**	**318**	P	**Pb**	**01 46 12.1**	**+0.3**
TRIZ	**Trizonia**	**1.02**	**318**	P	**Pb**	**01 46 12.1**	**+0.3**
LKR	**Lokris**	**1.04**	**3**	P	**Pb**	**01 46 12.1**	**-0.2**
LKR				S	**Sn**	**01 46 28.0**	**+1.0**
LKR	**Lokris**	**1.04**	**3**	*e*PN	**Pg**	**01 46 12.4**	**-0.2**
LKR				*e*SN	**Sn**	**01 46 27.3**	**+0.3**
LKR	**Lokris**	**1.04**	**3**	P	**Pb**	**01 46 12.1**	**-0.2**
LKR	**Lokris**	**1.04**	**3**	*e*Pn	**Pg**	**01 46 12.4**	**-0.2**
LKR				*e*Sn	**Sn**	**01 46 27.3**	**+0.3**
LKR				S	**Sn**	**01 46 28.0**	**+1.0**
ERET	**Eretria**	**1.08**	**39**	P	**Pb**	**01 46 12.9**	**-0.1**
ERET				S	**Sn**	**01 46 28.1**	**0.0**
ERET	**Eretria**	**1.08**	**39**	P	**Pb**	**01 46 12.9**	**-0.1**
ERET				S	**Sn**	**01 46 28.1**	**0.0**
ATAL	**Atalanti**	**1.09**	**4**	P	**Pb**	**01 46 13.1**	**+0.1**
ATAL				S	**Sn**	**01 46 28.9**	**+0.8**
ATAL	**Atalanti**	**1.09**	**4**	P	**Pb**	**01 46 13.1**	**+0.1**
ATAL				S	**Sn**	**01 46 28.9**	**+0.8**
EFP	**Efpalio**	**1.15**	**316**	P	**Pn**	**01 46 14.4**	**+0.3**
EFP				S	**Sn**	**01 46 30.3**	**+0.7**
EFP	**Efpalio**	**1.15**	**316**	*e*PN	**Pg**	**01 46 14.9**	**+0.2**
EFP				*e*SN	**Sn**	**01 46 30.3**	**+0.7**
EFP	**Efpalio**	**1.15**	**316**	P	**Pn**	**01 46 14.4**	**+0.3**
EFP	**Efpalio**	**1.15**	**316**	*e*Pn	**Pg**	**01 46 14.9**	**+0.2**
EFP				*e*Sn	**Sn**	**01 46 30.3**	**+0.7**
AXAR	**Agios Charalam**	**1.18**	**350**	P	**Pn**	**01 46 14.8**	**+0.3**
AXAR				S	**Sn**	**01 46 32.0**	**+1.7**
AXAR	**Agios Charalam**	**1.18**	**350**	P	**Pn**	**01 46 14.8**	**+0.3**
AXAR				S	**Sn**	**01 46 32.0**	**+1.7**
PYL	**PYLOS**	**1.19**	**234**	P	**Pn**	**01 46 14.2**	**-0.4**
PYL				S	**Sn**	**01 46 31.5**	**+1.0**
PYL	**PYLOS**	**1.19**	**234**	*e*PN	**Pn**	**01 46 14.8**	**+0.2**
PYL	**PYLOS**	**1.19**	**234**	P	**Pn**	**01 46 14.2**	**-0.4**
PYL	**PYLOS**	**1.19**	**234**	*e*Pn	**Pn**	**01 46 14.8**	**+0.2**
PYL				S	**Sn**	**01 46 31.5**	**+1.0**
MRKA	**Markates**	**1.21**	**25**	P	**Pn**	**01 46 14.8**	**-0.2**
MRKA				S	**Sn**	**01 46 31.7**	**+0.5**
MRKA	**Markates**	**1.21**	**25**	P	**Pn**	**01 46 14.8**	**-0.2**
MRKA				S	**Sn**	**01 46 31.7**	**+0.5**
MRMA	**Marmari**	**1.23**	**68**	P	**Pn**	**01 46 15.3**	**0.0**
MRMA				S	**Sb**	**01 46 31.3**	**0.0**
MRMA	**Marmari**	**1.23**	**68**	P	**Pn**	**01 46 15.3**	**0.0**
MRMA				S	**Sb**	**01 46 31.3**	**0.0**
RLS	**Riolos of Patr**	**1.24**	**292**	P	**Pn**	**01 46 15.4**	**0.0**
RLS				S	**Sg**	**01 46 33.4**	**+0.8**
RLS	**Riolos of Patr**	**1.24**	**292**	*e*PN	**Pn**	**01 46 15.4**	**0.0**
RLS				*e*SN	**Sg**	**01 46 33.3**	**+0.7**
RLS	**Riolos of Patr**	**1.24**	**292**	P	**Pn**	**01 46 15.4**	**0.0**
RLS				*e*Sn	**Sg**	**01 46 33.3**	**+0.7**
KYTH	**Kithira**	**1.33**	**176**	P	**Pn**	**01 46 16.6**	**0.0**
KYTH	**Kithira**	**1.33**	**176**	*e*PN	**Pn**	**01 46 16.6**	**0.0**
KYTH	**Kithira**	**1.33**	**176**	P	**Pn**	**01 46 16.6**	**0.0**
EVR	**Evrytania**	**1.58**	**326**	*e*PN	**Pn**	**01 46 21.0**	**+0.9**
EVR	**Evrytania**	**1.58**	**326**	*e*Pn	**Pn**	**01 46 21.0**	**+0.9**
SKIA	**Skiathos**	**1.61**	**15**	P	**Pn**	**01 46 20.9**	**+0.4**
SKIA				S	**Sn**	**01 46 41.5**	**+0.4**
SKIA	**Skiathos**	**1.61**	**15**	P	**Pn**	**01 46 20.9**	**+0.4**
SKIA				S	**Sn**	**01 46 41.5**	**+0.4**
NEO	**Neokhori**	**1.71**	**8**	*e*PB	**Pn**	**01 46 22.2**	**+0.3**
NEO	**Neokhori**	**1.71**	**8**	*e*Pb	**Pn**	**01 46 22.2**	**+0.3**
AOS	**Alonnisos**	**1.73**	**25**	P	**Pn**	**01 46 22.0**	**-0.1**
AOS	**Alonnisos**	**1.73**	**25**	P	**Pn**	**01 46 22.0**	**-0.1**
KFL	**Anninata**	**1.77**	**287**	P	**Pg**	**01 46 26.1**	**-0.3**
XOR	**Xorichti**	**1.77**	**7**	P	**Pn**	**01 46 22.7**	**0.0**
XOR	**Xorichti**	**1.77**	**7**	P	**Pn**	**01 46 22.7**	**0.0**
VLS	**Valsamata**	**1.94**	**288**	*e*PN	**Pb**	**01 46 27.3**	**-0.2**
VLS	**Valsamata**	**1.94**	**288**	*e*Pn	**Pb**	**01 46 27.3**	**-0.2**
THL	**Klokotos Trika**	**2.08**	**340**	*e*PB	**Pn**	**01 46 27.7**	**+0.8**
THL	**Klokotos Trika**	**2.08**	**340**	*e*Pb	**Pn**	**01 46 27.7**	**+0.8**
APE	**Apeiranthos**	**2.14**	**104**	*e*PB	**Pn**	**01 46 28.7**	**+0.9**
APE	**Apeiranthos**	**2.14**	**104**	*e*Pb	**Pn**	**01 46 28.7**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	**Vamos**	**2.42**	**155**	*e*PN	**Pn**	**01 46 32.6**	**+1.0**
VAM				*e*SN	**Sn**	**01 47 02.7**	**+1.7**
VAM	**Vamos**	**2.42**	**155**	*e*Pn	**Pn**	**01 46 32.6**	**+1.0**
VAM				*e*Sn	**Sn**	**01 47 02.7**	**+1.7**
PLG	**Polygyros**	**2.79**	**8**	*e*PN	**Pn**	**01 46 36.9**	**+0.2**
PLG	**Polygyros**	**2.79**	**8**	*e*Pn	**Pn**	**01 46 36.9**	**+0.2**
KZN	**Kozani**	**2.84**	**342**	*e*PN	**Pn**	**01 46 38.5**	**+1.0**
KZN	**Kozani**	**2.84**	**342**	*e*Pn	**Pn**	**01 46 38.5**	**+1.0**
SIVA	**Sivas**	**3.00**	**149**	*e*PN	**Pn**	**01 46 41.3**	**+1.8**
SIVA	**Sivas**	**3.00**	**149**	*e*Pn	**Pn**	**01 46 41.3**	**+1.8**
NPS	**Neapolis**	**3.19**	**136**	*e*PN	**Pn**	**01 46 43.5**	**+1.4**
NPS				*e*SN	**Sn**	**01 47 20.8**	**+0.9**
NPS	**Neapolis**	**3.19**	**136**	*e*Pn	**Pn**	**01 46 43.5**	**+1.4**
NPS				*e*Sn	**Sn**	**01 47 20.8**	**+0.9**
LAST	**Lasithi**	**3.19**	**139**	*e*PN	**Pn**	**01 46 43.3**	**+1.0**
LAST				*e*SN	**Sn**	**01 47 20.9**	**+0.8**
LAST	**Lasithi**	**3.19**	**139**	*e*Pn	**Pn**	**01 46 43.3**	**+1.0**
LAST				*e*Sn	**Sn**	**01 47 20.9**	**+0.8**
VAY	**Valandovo**	**3.72**	**356**	*e*Pn	Pn	01 46 43.8	-5.6
VAY				*e*Sg	Sn	01 47 26.6	-6.4
NVR	**Nevrokopi**	**3.81**	**11**	*e*PN	**Pn**	**01 46 51.9**	**+1.2**
NVR	**Nevrokopi**	**3.81**	**11**	*e*Pn	**Pn**	**01 46 51.9**	**+1.2**
STON	**Ston**	**6.61**	**324**	*e*Pn	**Pn**	**01 47 28.0**	**-1.1**
STON				Sn	**Sn**	**01 48 38.7**	**-5.4**
STON	**Ston**	**6.61**	**324**	*e*Pn	**Pn**	**01 47 27.9**	**-1.1**
MLR	**Muntele Rosu**	**8.19**	**15**	P	**Pn**	**01 47 53.1**	**+2.1**
	0.0nm,0.3s,baz=183,slow=16,SNR=4.7						
BRTR	**Keskin Array B**	**8.64**	**73**	P	**Pn**	**01 47 59.9**	**+2.8**
	0.1nm,0.3s,baz=254,slow=14,SNR=6.3						
NVLJ	**Novalja**	**9.23**	**321**	*e*Pn	**Pn**	**01 48 03.8**	**-1.3**
NVLJ				Sn	**Sn**	**01 49 43.6**	**-5.1**
NVLJ	**Novalja**	**9.23**	**321**	*e*Pn	**Pn**	**01 48 03.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**30.86**	**223**	P	**P**	**01 52 07.8**	**-0.4**
	0.7nm,0.5s,baz=35,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**43.98**	**58**	P	**P**	**01 53 57.7**	**-1.4**
	0.4nm,0.7s,baz=272,slow=7.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.66**	**48**	P	**P**	**01 54 03.4**	**-1.0**
	1.0nm,0.3s,baz=270,slow=8.7,SNR=6.7						

IDC 06 01:56:13.9±2.4**, 16°.49S×171°.72W, h0km, mb3.5**/4**, mb1 3.8**/5**, mb1mx3.7**/22**, mbtmp3.5**/5**, ML1.6**/1**, Error ellipse: s-maj=79.7km s-min=27.9km az=130.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.57**	**359**	Pn	Pn	01 56 57.1	+0.2
	6.8nm,0.3s,baz=180,slow=9.1,SNR=5.2						
AFI				Sn	Sn	01 57 23.6	-5.4
	95nm,0.3s,baz=347,slow=19,SNR=31						
WRA	**Warramunga Arr**	**51.18**	**257**	P	P	02 05 19.2	-0.1
	0.2nm,0.6s,baz=96,slow=8.6,SNR=2.6						
ASAR	**Alice Springs**	**51.32**	**253**	P	P	02 05 20.4	0.0
	0.3nm,0.4s,baz=92,slow=7.8,SNR=4.7						
ILAR	**Eielson Array**	**83.21**	**10**	P	P	02 08 41.4	-0.3
	0.3nm,0.7s,baz=217,slow=6.2,SNR=4.5						
YKA	**Yellowknife Ar**	**90.46**	**23**	P	P	02 09 17.2	+0.1
	0.2nm,0.8s,baz=238,slow=5.0,SNR=4.7						

IDC 06 02:10:51.1±1.4**, 3°.54N×126°.38E, h0km, mb3.8**/7**, mb1 3.9**/7**, mb1mx3.7**/25**, mbtmp3.8**/7**, Error ellipse: s-maj=108.3km s-min=17.7km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.52**	**182**	P	P	02 15 41.8	-0.1
	2.7nm,1.3s,baz=22,slow=9.9,SNR=2.7						
WRA	**Warramunga Arr**	**24.61**	**162**	P	P	02 16 12.4	-0.9
	0.8nm,0.5s,baz=340,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**28.02**	**165**	P	P	02 16 45.7	+1.6
	0.3nm,0.4s,baz=340,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**38.08**	**159**	P	P	02 18 10.7	-0.9
	1.0nm,0.6s,baz=332,slow=9.8,SNR=3.3						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	02 20 41.1	-1.1
	0.5nm,0.6s,baz=119,slow=8.6,SNR=7.7						
KURBB	**Kurchatov Arra**	**61.71**	**328**	P	P	02 21 11.8	+0.7
	1.7nm,0.4s,baz=122,slow=7.6,SNR=4.6						
BVAR	**Borovoye Array**	**67.29**	**327**	P	P	02 21 48.1	+0.5
	0.2nm,0.5s,baz=107,slow=5.0,SNR=3.6						

IDC 06 02:13:02.4±1.2**, 3°.80N×127°.01E, h0km, mb3.8**/8**, mb1 3.9**/8**, mb1mx3.8**/24**, mbtmp3.8**/8**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.2**/29**, Error ellipse: s-maj=68.9km s-min=15.8km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.37**	**220**	LR	LR	02 20 36.0	
	comp=Z,56nm,18.6s,baz=309,slow=40						
FITZ	**Fitzroy Crossi**	**21.81**	**184**	P	P	02 17 54.7	-1.5
	0.5nm,0.4s,baz=15,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**24.67**	**163**	P	P	02 18 25.3	+0.1
	2.4nm,0.7s,baz=341,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**28.12**	**166**	P	P	02 18 58.0	+1.7
	0.2nm,0.3s,baz=341,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**31.07**	**300**	P	P	02 19 23.3	+0.7
	1.0nm,0.3s,baz=102,slow=6.6,SNR=6.8						
STKA	**Stephens Creek**	**38.10**	**160**	P	P	02 20 22.1	-1.0
	2.0nm,0.7s,baz=334,slow=8.5,SNR=4.9						
SONM	**Songino Array**	**47.32**	**341**	P	P	02 21 38.1	+0.1
	0.3nm,0.7s,baz=152,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	02 22 54.3	-0.3
	0.3nm,0.4s,baz=120,slow=7.6,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.83**	**327**	P	P	02 23 22.6	-0.6
	0.8nm,0.6s,baz=131,slow=6.2,SNR=3.8						

*AUST **06** 02:48:26.0, 5°.00N×126°.51E, h0km*
*IDC **06** 02:48:36.7±0.5, 3°.91N×126°.76E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.4/23, mbtmp4.3/16, Error ellipse: s-maj=32.6km s-min=12.7km az=74.0*
*ISCJB **06** 02:48:40.1±0.3, 3°.94N±0°.04×126°.77E±0°.06, h33km, mb4.5/38, Error ellipse: s-maj=9.0km s-min=5.7km az=164.3*
*NEIC **06** 02:48:41.9±0.2, 3°.90N×126°.73E, h35km, mb4.5/16, Error ellipse: s-maj=9.1km s-min=4.0km az=62.0*
ISC 06 02:48:36.7±2.7**, 3°.99N**±0°.07**×126°.80E**±0°.10**, h0km**±16km**, n85, σ0s.77**/88**, mb4.5**/38**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.09**	**322**⇓	*i*P	**Pb**	**02 49 47.9**	**-1.8**
PCI	**Palu**	**8.48**	**235**	S	**Sn**	**02 52 19.1**	**+1.6**
	baz=8.9,SNR=9.9						
MTN	**Manton Dam**	**17.27**	**166**	P	**P**	**02 52 40.5**	**-0.5**
	baz=18,SNR=8.2						
SSLB	**Suanglung**	**20.48**	**345**	*e*P	Pn	02 53 17.8	-0.6
	7.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	**P**	**02 53 31.5**	**-0.9**
	4.4nm,0.4s,baz=18,slow=9.3,SNR=20						
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	**P**	**02 53 31.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	**P**	**02 53 32.3**	**-0.1**
	baz=23,SNR=18						
WRAB	**Tennant Creek**	**24.90**	**163**	*e*P	**P**	**02 54 01.1**	**-0.5**
	36nm,0.8s						
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**02 54 01.1**	**-0.4**
	30nm,0.7s,baz=343,slow=10,SNR=88						
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**02 54 01.1**	**-0.4**
AS31	**Alice Springs**	**28.34**	**166**	*e*P	**P**	**02 54 32.1**	**-0.5**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**02 54 31.9**	**-0.6**
	1.0nm,0.7s,baz=339,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**02 54 31.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P	**P**	**02 54 56.0**	**+1.5**
	1.4nm,0.3s,baz=124,slow=7.8,SNR=7.5						
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P	**P**	**02 54 56.0**	**+1.5**
CHTO	**Chiang Mai**	**30.95**	**301**	*e*P	**P**	**02 54 56.3**	**+0.6**
	2.0nm,0.4s						
MEEK	**Meekatharra**	**31.46**	**194**	P	**P**	**02 55 00.3**	**+0.2**
	baz=32,SNR=4.7						
PATS	**Pohnpei**	**31.50**	**83**	P	P	02 54 47.8	-13
	baz=32,SNR=3.5						
FORT	**Forrest**	**34.59**	**178**	P	**P**	**02 55 27.4**	**0.0**
	baz=36,SNR=6.3						
KLBR	**Kellerberrin**	**36.41**	**193**	P	**P**	**02 55 43.5**	**+0.3**
	baz=38,SNR=4.5						
EIDS	**Eidsvold**	**37.51**	**142**	*e*P	**P**	**02 55 52.3**	**-0.3**
	4.8nm,0.8s						
BBOO	**Buckleboo**	**37.63**	**167**	*e*P	**P**	**02 55 53.2**	**-0.3**
	107nm,0.5s						
BBOO	**Buckleboo**	**37.63**	**167**	P	**P**	**02 55 52.9**	**-0.5**
	baz=39,SNR=24						
STKA	**Stephens Creek**	**38.34**	**159**	P	**P**	**02 55 59.2**	**-0.3**
	22nm,0.7s,baz=334,slow=8.2,SNR=70						
STKA				PcP	**PcP**	**02 58 13.3**	**-0.2**
	2.1nm,0.6s,baz=334,slow=4.0,SNR=3.5						
STKA	**Stephens Creek**	**38.34**	**159**	P	**P**	**02 55 59.2**	**-0.3**
STKA				PcP	**PcP**	**02 58 13.3**	**-0.2**
STKA	**Stephens Creek**	**38.34**	**159**	P	**P**	**02 55 59.2**	**-0.3**
	baz=40,SNR=56						
USRK	**Ussuriysk Arra**	**40.31**	**6**	P	**P**	**02 56 17.6**	**+1.9**
	0.5nm,0.4s,baz=172,slow=7.9,SNR=5.6						
ARMA	**Armidale**	**41.64**	**147**	*e*P	**P**	**02 56 27.7**	**+0.6**
	6.6nm,0.7s						
ARMA	**Armidale**	**41.64**	**147**	P	**P**	**02 56 27.9**	**+0.8**
	baz=43,SNR=5.5						
TAPN	**Taplejung**	**43.92**	**306**	*e*P	**P**	**02 56 45.9**	**0.0**
	11nm,0.7s						
TAPN	**Taplejung**	**43.92**	**306**	*e*P	**P**	**02 56 45.9**	**0.0**
	11nm,0.7s						
ODAN	**Odare**	**43.98**	**305**	*e*P	**P**	**02 56 45.7**	**-0.6**
	12nm,0.5s						
ODAN	**Odare**	**43.98**	**305**	*e*P	**P**	**02 56 45.7**	**-0.6**
	12nm,0.5s						
RAMN	**Ramite**	**44.66**	**305**	*e*P	**P**	**02 56 52.0**	**+0.2**
	13nm,0.7s						
RAMN	**Ramite**	**44.66**	**305**	*e*P	**P**	**02 56 52.0**	**+0.2**
	13nm,0.7s						
JIRN	**Jiri**	**45.28**	**306**	*e*P	**P**	**02 56 56.9**	**+0.1**
JIRN	**Jiri**	**45.28**	**306**	*e*P	**P**	**02 56 56.9**	**+0.1**
GUN	**Gumba**	**45.63**	**306**	*e*P	**P**	**02 56 59.5**	**-0.1**
	13nm,0.7s						
GUN	**Gumba**	**45.63**	**306**	*e*P	**P**	**02 56 59.5**	**-0.1**
	13nm,0.7s						
PKI	**Pulchoki**	**45.88**	**305**	*e*P	**P**	**02 57 00.9**	**-0.6**
PKI	**Pulchoki**	**45.88**	**305**	*e*P	**P**	**02 57 00.9**	**-0.6**
ULN	**Ulaanbaatar**	**46.90**	**342**	*e*P	**P**	**02 57 10.6**	**+1.5**
	1.5nm,0.6s						
SONM	**Songino Array**	**47.08**	**341**	P	**P**	**02 57 11.6**	**+1.2**
	0.6nm,0.5s,baz=162,slow=7.4,SNR=11						
SONM				PcP	**PcP**	**02 58 42.8**	**+0.3**
	1.3nm,0.6s,baz=162,slow=3.2,SNR=8.5						
SONM	**Songino Array**	**47.08**	**341**	P	**P**	**02 57 11.6**	**+1.2**
SONM				PcP	**PcP**	**02 58 42.8**	**+0.3**
KOLN	**Koldanda**	**47.43**	**305**	*e*P	**P**	**02 57 13.6**	**0.0**
	24nm,0.6s						
KOLN	**Koldanda**	**47.43**	**305**	*e*P	**P**	**02 57 13.6**	**0.0**
	24nm,0.6s						
DANN	**Dangsing**	**47.52**	**305**	*e*P	**P**	**02 57 14.1**	**-0.3**
	27nm,0.6s						
DANN	**Dangsing**	**47.52**	**305**	*e*P	**P**	**02 57 14.1**	**-0.3**
	27nm,0.6s						
PYUN	**Piuthan**	**48.06**	**305**	*e*P	**P**	**02 57 18.4**	**-0.1**
	13nm,0.6s						
PYUN	**Piuthan**	**48.06**	**305**	*e*P	**P**	**02 57 18.4**	**-0.1**
	13nm,0.6s						
PETK	**Petropavlovsk-**	**55.17**	**22**	P	**P**	**02 58 11.4**	**+0.4**
	3.1nm,0.7s,baz=197,slow=4.5,SNR=3.4						
PETK	**Petropavlovsk-**	**55.17**	**22**	P	**P**	**02 58 11.4**	**+0.4**
MK31	**Makanchi Array**	**57.38**	**325**	*e*P	**P**	**02 58 26.9**	**-0.1**
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**02 58 27.0**	**0.0**
	2.2nm,0.5s,baz=120,slow=7.9,SNR=46						
MKAR				ScP	**ScP**	**03 03 20.9**	**-1.5**
	0.4nm,0.8s,baz=132,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**02 58 27.0**	**0.0**
MKAR				ScP	**ScP**	**03 03 20.9**	**-1.5**
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	**P**	**02 58 48.7**	**+1.0**
	0.6nm,0.4s,baz=111,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	**P**	**02 58 48.7**	**+1.0**
EKS2	**Erkin-Say**	**60.71**	**317**	*e*P	**P**	**02 58 49.5**	**-0.8**
	1.6nm,0.7s						
KURK	**Kurchatov**	**61.56**	**327**	*e*P	**P**	**02 58 55.4**	**-0.4**
	4.8nm,0.6s						
BRVK	**Borovoye**	**67.22**	**327**	*e*P	**P**	**02 59 33.3**	**+0.6**
	2.3nm,0.6s						
ABKAR	**Akbulak array**	**72.00**	**321**	*e*P	**P**	**03 00 02.1**	**-0.2**
	1.4nm,0.6s						
ARU	**Arti**	**74.76**	**328**	*e*P	**P**	**03 00 18.2**	**-0.3**
	2.0nm,0.3s						
TRF	**Thorofare Moun**	**83.28**	**27**	*e*P	**P**	**03 01 04.7**	**-0.6**
	6.3nm,1.1s						
COLD	**Coldfoot**	**83.63**	**23**	*e*P	**P**	**03 01 08.2**	**+1.4**
	3.4nm,1.0s						
VNDA	**Vanda**	**83.67**	**173**	P	**P**	**03 01 07.0**	**+0.2**
	2.2nm,0.9s,baz=315,slow=7.2,SNR=5.0						
VNDA	**Vanda**	**83.67**	**173**	*e*P	**P**	**03 01 07.5**	**+0.7**
	6.2nm,1.1s						
PMR	**Palmer**	**83.69**	**29**	*e*P	**P**	**03 01 07.2**	**0.0**
	6.7nm,0.8s						
MCK	**McKinley**	**83.91**	**26**	*e*P	**P**	**03 01 08.3**	**-0.1**
	4.2nm,0.8s						
ILAR	**Eielson Array**	**84.84**	**25**	P	**P**	**03 01 13.2**	**+0.1**
	1.0nm,0.9s,baz=239,slow=6.8,SNR=8.5						
ILAR	**Eielson Array**	**84.84**	**25**	P	**P**	**03 01 13.2**	**+0.1**
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**03 01 37.5**	**-0.8**
	0.8nm,0.7s,baz=108,slow=4.0,SNR=4.9						
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**03 01 37.5**	**-0.8**
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**	**03 01 38.4**	**-0.6**
	1.6nm,0.6s,baz=77,slow=6.2,SNR=13						
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**	**03 01 38.4**	**-0.6**
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**	**03 01 45.0**	**-0.6**
	0.8nm,0.6s,baz=67,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**	**03 01 45.0**	**-0.6**
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**03 01 44.7**	**-1.5**
	1.2nm,0.6s,baz=67,slow=4.4,SNR=4.3						
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**03 01 44.8**	**-1.5**
BUR08	**Bucovina Ar. S**	**94.86**	**318**	*e*P	**P**	**03 02 00.7**	**-0.2**
KOLS	**Kolonicke sedl**	**96.49**	**320**	*e*P	**P**	**03 02 10.0**	**+1.8**
CRVS	**Cervenica-Dubn**	**97.02**	**320**	*e*P	Pdif	03 02 11.1	+0.4
TXAR	**Lajitas Array**	**121.39**	**52**	PKP	**PKPdf**	**03 07 32.3**	**-0.6**
	0.5nm,1.0s,baz=310,slow=3.1,SNR=3.5						
TXAR	**Lajitas Array**	**121.39**	**52**	PKP	**PKPdf**	**03 07 32.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP	**PKPdf**	**03 07 35.5**	**-0.5**
	0.6nm,0.7s,baz=68,slow=0.8,SNR=6.7						
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP	**PKPdf**	**03 07 35.5**	**-0.5**

IDC 06 02:49:24.5±1.4**, 4°.20N×127°.36E, h0km, mb4.3**/5**, mb1 4.4**/5**, mb1mx3.9**/23**, mbtmp4.3**/5**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.7**/33**, Error ellipse: s-maj=93.6km s-min=21.6km az=72.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.36**	**328**	LR	LR	02 51 18.9	
	comp=Z,1000nm,18.3s,baz=236,slow=34						
KAPI	**Kappang**	**11.89**	**220**	LR	LR	02 56 31.1	
	comp=Z,164nm,18.3s,baz=314,slow=36						
FITZ	**Fitzroy Crossi**	**22.22**	**184**	P	P	02 54 22.9	0.0
	3.5nm,0.8s,baz=22,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**24.95**	**164**	P	P	02 54 49.4	-0.5
	8.8nm,0.7s,baz=344,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	02 56 47.6	+0.3
	6.3nm,0.7s,baz=330,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	02 59 16.2	+0.3
	0.8nm,0.5s,baz=121,slow=8.8,SNR=2.1						
ARCES	**ARCESS Array B**	**90.23**	**340**	P	P	03 02 26.3	-0.5
	2.8nm,1.0s,baz=72,slow=5.8,SNR=3.0						

IDC 06 03:04:05.5±3.8**, 0°.88S×130°.56E, h0km, mb3.4**/2**, mb1 3.6**/3**, mb1mx3.3**/20**, mbtmp3.4**/3**, ML3.4**/1**, Error ellipse: s-maj=267.1km s-min=27.5km az=71.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.30**	**169**	P	P	03 08 31.6	-0.8
	0.1nm,0.3s,baz=352,slow=11,SNR=4.7						
WRA				S	Sn	03 12 00.7	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**22.88**	**172**	P	P	03 09 11.3	+0.3
	0.9nm,0.8s,baz=354,slow=9.2,SNR=9.5						
MKAR	**Makanchi Array**	**63.50**	**325**	P	P	03 14 37.7	0.0
	0.3nm,0.5s,baz=121,slow=8.3,SNR=4.5						

*ISCJB **06** 03:05:25.8±0.6, 23°.24S±0°.05×66°.74W±0°.07, h201km±7km, mb3.8/9, Error ellipse: s-maj=9.9km s-min=7.6km az=179.7*
*IDC **06** 03:05:26.7±1.5, 23°.19S×66°.67W, h194km±14km, mb3.7/8, mb1 3.8/13, mb1mx3.7/20, mbtmp3.7/13, Error ellipse: s-maj=16.1km s-min=11.4km az=75.0*
*GUC **06** 03:05:28.8±1.1, 23°.36S×67°.26W, h220km, ML4.5*
ISC 06 03:05:26.4±0.8**, 23°.22S**±0°.06**×66°.71W**±0°.07**, h195km**±8km**, n32, σ1s.19**/39**, mb3.9**/9**, 6C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.73**	**290**⇑	*i*P	Pn	03 06 20.1	+7.5
PB04				*e*S	Sn	03 06 59.4	+11
PB04				AML	AML	03 07 02.2	
	comp=N,695nm,0.6s						
PB09	**Plate Boundary**	**2.73**	**301**⇑	*i*P	**Pn**	**03 06 14.7**	**+1.9**
PB09				*e*S	**Sn**	**03 06 50.3**	**+1.3**
MACH	**Maria Elena**	**2.99**	**289**	*e*P	**Pn**	**03 06 16.7**	**+0.8**
MACH				*i* S	**Sn**	**03 06 53.3**	**-1.1**
CEN1	**Los Morros**	**3.21**	**266**⇓	*i*P	**Pn**	**03 06 20.5**	**+2.1**
CEN1				*i* S	**Sn**	**03 06 58.5**	**-0.4**
CEN1				AML	AML	03 06 59.7	
	comp=N,287nm,0.5s						
PB07	**Plate Boundary**	**3.29**	**296**⇑	*i*P	**Pn**	**03 06 20.2**	**+0.8**
PB07				*i* S	**Sn**	**03 06 59.0**	**-1.8**
PB07				AML	AML	03 06 59.8	
	comp=N,1μm,0.3s						
PB01	**Plate Boundary**	**3.36**	**310**⇑	*e*P	**Pn**	**03 06 21.0**	**+0.8**
PB01				*e*S	**Sn**	**03 07 01.2**	**-1.1**
PB01				AML	AML	03 07 03.4	
	comp=E,563nm,0.6s						
ANCH	**Antofagasta**	**3.42**	**262**⇑	*i*P	**Pn**	**03 06 21.7**	**+0.9**
ANCH				*i* S	**Sn**	**03 07 01.7**	**-1.7**
ANCH				AML	AML	03 07 04.2	
	comp=E,510nm,0.3s						
MECH	**Mejillones**	**3.44**	**271**⇑	*i*P	**Pn**	**03 06 22.1**	**+1.1**
HMBC	**Humberstone**	**4.16**	**314**	*e*P	**Pn**	**03 06 29.8**	**-0.2**
PSGC	**Pisagua**	**4.80**	**318**	*e*P	**Pn**	**03 06 37.2**	**-1.1**
CPCH	**Copiapo**	**5.27**	**218**	*e*P	**Pn**	**03 06 42.5**	**-1.6**
LPAZ	**La Paz**	**7.02**	**349**	P	**Pn**	**03 07 09.3**	**+1.7**
	comp=E,1.0nm,0.3s,baz=159,slow=5.5,SNR=27						
LPAZ				S	**Sn**	**03 08 25.9**	**-1.7**
	baz=156,slow=20,SNR=2.9						
CFAA	**Coronel Fontan**	**8.46**	**189**	P	**Pn**	**03 07 24.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=45,slow=16,SNR=10						
CFAA				S	Sn	03 08 53.5	-7.2
	comp=E,0.7nm,0.3s,baz=186,slow=18,SNR=12						
SIV	**San Ignacio**	**8.94**	**37**	P	**Pn**	**03 07 31.5**	**-0.5**
	comp=E,5.2nm,0.3s,baz=227,slow=12,SNR=94						
CPUP	**Villa Florida**	**9.07**	**112**	P	**Pn**	**03 07 34.0**	**+0.5**
	comp=E,0.6nm,0.3s,baz=270,slow=11,SNR=11						
PLCA	**Paso Flores**	**17.76**	**190**	P	**Pn**	**03 09 21.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=359,slow=12,SNR=8.8						
BDFB	**Brasilia**	**19.17**	**70**	P	**P**	**03 09 36.4**	**+0.9**
	comp=E,2.3nm,0.3s,baz=245,slow=12,SNR=40						
VNA2	**Neumayer--Watz**	**58.36**	**161**	*e*P	**P**	**03 15 02.0**	**+1.2**
	baz=292,slow=6.3						
TXAR	**Lajitas Array**	**63.20**	**324**	P	**P**	**03 15 34.4**	**+0.3**
	comp=E,0.3nm,0.4s,baz=148,slow=6.7,SNR=11						
QSPA	**South Pole Qui**	**66.98**	**180**	P	**P**	**03 15 58.9**	**+1.0**
	comp=E,3.4nm,0.6s,baz=112,slow=5.4,SNR=35						
DBIC	**Dimbokro**	**67.31**	**72**	P	**P**	**03 16 01.1**	**+0.5**
	comp=E,0.9nm,0.5s,baz=235,slow=7.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**76.05**	**69**	P	**P**	**03 16 52.0**	**-0.8**
	comp=E,2.1nm,0.6s,baz=260,slow=5.8,SNR=67						
PDAR	**Pinedale Array**	**76.62**	**329**	P	**P**	**03 16 56.2**	**+0.5**
	comp=E,0.8nm,0.6s,baz=141,slow=6.4,SNR=7.1						
ULM	**Lac du Bonnet**	**77.58**	**341**	P	**P**	**03 17 00.4**	**-0.1**
	comp=E,0.7nm,0.3s,baz=163,slow=7.3,SNR=3.9						
SCHQ	**Schefferville**	**77.73**	**360**	P	**P**	**03 17 01.0**	**-0.3**
	comp=E,2.1nm,0.6s,baz=222,slow=4.3,SNR=8.0						
NVAR	**Mina Array Bea**	**78.10**	**321**	P	**P**	**03 17 05.4**	**+1.4**
	comp=E,1.1nm,0.5s,baz=148,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**93.49**	**340**	P	**P**	**03 18 19.4**	**+0.1**
	comp=E,0.7nm,0.6s,baz=132,slow=4.5,SNR=22						
ASAR	**Alice Springs**	**129.27**	**205**	PKP	**PKPdf**	**03 24 11.2**	**-1.1**
	comp=E,0.5nm,0.7s,baz=122,slow=1.2,SNR=4.2						
WRA	**Warramunga Arr**	**132.44**	**207**	PKP	**PKPdf**	**03 24 18.1**	**-0.2**
	comp=E,0.4nm,0.5s,baz=160,slow=1.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**142.58**	**28**	PKP	**PKPdf**	**03 24 33.3**	**-2.5**
	comp=E,0.8nm,0.5s,baz=298,slow=2.7,SNR=5.0						
MKAR	**Makanchi Array**	**145.76**	**39**	PKPbc	**PKPbc**	**03 24 42.3**	**-0.1**
	comp=E,4.9nm,0.7s,baz=304,slow=3.5,SNR=51						
SONM	**Songino Array**	**154.83**	**11**	PKPbc	**PKPbc**	**03 25 04.5**	**-0.1**
	comp=E,0.2nm,0.4s,baz=354,slow=1.4,SNR=3.7						
SONM				PKPab	**PKPab**	**03 25 21.2**	**+0.8**
	comp=E,0.7nm,0.7s,baz=329,slow=3.7,SNR=5.5						

*IDC **06** 03:23:00.1±1.0, 13°.15S×166°.61E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.1/11, ML3.2/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/29, Error ellipse: s-maj=34.3km s-min=20.2km az=123.0*
*ISCJB **06** 03:23:04.6±0.6, 13°.25S±0°.06×166°.60E±0°.10, h44km, mb4.1/14, MS3.6/10, Error ellipse: s-maj=13.8km s-min=8.5km az=174.7*
*NEIC **06** 03:23:06.4±1.8, 13°.29S×166°.70E, h48km±15km, mb4.4/6, Error ellipse: s-maj=15.4km s-min=13.3km az=77.0*
ISC 06 03:23:06.2±0.7**, 13°.19S**±0°.07**×166°.7E**±0°.1**, h44km, n40, σ1s.24**/34**, mb4.1**/14**, MS3.7**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.58**	**299**	*e*Pn	**Pn**	**03 24 55.3**	**+1.0**
	134nm,0.8s						
DZM	**Mont Dzumac**	**8.83**	**181**	*e*Pn	**Pn**	**03 25 10.3**	**-1.1**
	11nm,0.2s						
DZM				*e*LR	LR	03 27 15.4	
	280nm,25.2s						
DZM	**Mont Dzumac**	**8.83**	**181**	Pn	**Pn**	**03 25 09.8**	**-1.6**
	0.3nm,0.3s,baz=348,slow=20,SNR=4.8						
DZM				Sn	**Sn**	**03 26 51.9**	**+2.2**
	0.2nm,0.3s,baz=72,slow=16,SNR=1.8						
DZM				LR	LR	03 28 17.7	
	comp=Z,222nm,18.5s,baz=203,slow=36						
DZM	**Mont Dzumac**	**8.83**	**181**	Pn	**Pn**	**03 25 09.8**	**-1.6**
DZM				Sn	**Sn**	**03 26 51.9**	**+2.2**
PMG	**Port Moresby**	**19.50**	**279**	*e*P	**Pn**	**03 27 30.9**	**-0.6**
	32nm,1.2s						
CTA	**Charters Tower**	**20.72**	**248**	LR	LR	03 34 47.9	
	comp=Z,215nm,19.6s,baz=59,slow=34						
CTAO	**Charters Tower**	**20.72**	**248**	*e*P	Pn	03 27 44.6	-1.3
	38nm,1.4s						
AFI	**Afiamalu**	**20.96**	**94**	LR	LR	03 33 04.9	
	comp=Z,51nm,19.4s,baz=297,slow=29						
STKA	**Stephens Creek**	**29.58**	**227**	P	**P**	**03 29 08.4**	**+1.3**
	0.8nm,0.5s,baz=32,slow=12,SNR=5.6						
STKA				LR	LR	03 40 26.1	
	comp=Z,136nm,18.4s,baz=24,slow=35						
STKA	**Stephens Creek**	**29.58**	**227**	P	**P**	**03 29 08.4**	**+1.3**
WRAB	**Tennant Creek**	**31.66**	**253**	*e*P	**P**	**03 29 24.7**	**-1.0**
	6.3nm,1.3s						
WRA	**Warramunga Arr**	**31.68**	**253**	P	**P**	**03 29 24.2**	**-1.5**
	1.9nm,0.7s,baz=84,slow=9.1,SNR=14						
WRA				LR	LR	03 41 27.2	
	comp=Z,181nm,19.8s,baz=90,slow=35						
WRA	**Warramunga Arr**	**31.68**	**253**	P	**P**	**03 29 24.2**	**-1.5**
AS31	**Alice Springs**	**32.72**	**247**	*e*P	**P**	**03 29 33.2**	**-1.7**
ASAR	**Alice Springs**	**32.72**	**247**	P	**P**	**03 29 33.5**	**-1.4**
	2.5nm,0.7s,baz=74,slow=9.6,SNR=26						
ASAR				PcP	**PcP**	**03 32 18.9**	**-1.0**
	1.0nm,0.8s,baz=76,slow=2.6,SNR=6.6						
ASAR				LR	LR	03 42 24.1	
	comp=Z,176nm,18.2s,baz=263,slow=36						
ASAR	**Alice Springs**	**32.72**	**247**	P	**P**	**03 29 33.5**	**-1.4**
ASAR				PcP	**PcP**	**03 32 18.9**	**-1.0**
GUMO	**Guam**	**34.28**	**320**	LR	LR	03 41 46.3	
	comp=Z,103nm,20.4s,baz=88,slow=33						
PPT2	**Papeete2**	**42.34**	**102**	*e*LR	LR	03 42 57.8	
	185nm,26.2s						
TBI	**Tubuai**	**42.71**	**110**	*e*LR	LR	03 43 09.5	
	114nm,29.2s						
MBWA	**Marble Bar**	**45.41**	**253**	*e*P	**P**	**03 31 20.9**	**-0.1**
	6.1nm,1.0s						
DAV	**Davao City (W)**	**45.52**	**294**	LR	LR	03 48 22.3	
	comp=Z,68nm,20.9s,baz=258,slow=34						
NWAO	**Narrogin (SRO)**	**49.06**	**238**	LR	LR	03 52 40.5	
	comp=Z,78nm,18.1s,baz=14,slow=36						
VNDA	**Vanda**	**64.38**	**181**	*e*P	**P**	**03 33 36.1**	**-1.0**
	3.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**03 34 38.0**	**+1.4**
	0.7nm,0.3s,baz=125,slow=4.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**03 34 38.0**	**+1.4**
ULN	**Ulaanbaatar**	**80.56**	**324**	*e*P	**P**	**03 35 13.0**	**-1.1**
	6.7nm,1.2s						
SONM	**Songino Array**	**80.93**	**324**	P	**P**	**03 35 16.5**	**+0.4**
	1.1nm,0.8s,baz=132,slow=6.6,SNR=8.4						
SONM	**Songino Array**	**80.93**	**324**	P	**P**	**03 35 16.5**	**+0.4**
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**03 35 38.7**	**+0.9**
	1.5nm,0.4s,baz=238,slow=4.9,SNR=17						
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**03 35 38.7**	**+0.9**
NVAR	**Mina Array Bea**	**86.71**	**49**	P	**P**	**03 35 46.7**	**+0.8**
	0.3nm,0.6s,baz=238,slow=8.5,SNR=3.8						
NVAR	**Mina Array Bea**	**86.71**	**49**	P	**P**	**03 35 46.7**	**+0.8**
PDAR	**Pinedale Array**	**94.33**	**47**	LR	LR	04 12 09.8	
	comp=Z,55nm,18.9s,baz=78,slow=31						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	95.70	317	P	P	03 36 27.6	+0.2
	1.1nm,0.7s,baz=98,slow=5.8,SNR=14						
MKAR	Makanchi Array	95.70	317	P	P	03 36 27.6	+0.2
ZALV	Zalesovo Beam	95.82	324	P	P	03 36 26.5	-1.2
	0.2nm,0.4s,baz=108,slow=4.8,SNR=5.2						
ZALV	Zalesovo Beam	95.82	324	P	P	03 36 26.5	-1.2
TXAR	Lajitas Array	96.05	61	LR	LR	04 13 12.4	
	comp=Z,38nm,20.5s,baz=5.0,slow=31						
YKA	Yellowknife Ar	96.45	27	P	P	03 36 29.9	-0.4
	0.3nm,0.7s,baz=257,slow=4.5,SNR=3.9						
YKA	Yellowknife Ar	96.45	27	P	P	03 36 29.9	-0.4

*ISCJB **06** 03:32:35.0±0.3, 42°.65N±0°.05×131°.83E±0°.06, h500km, mb3.8/28, Error ellipse: s-maj=7.4km s-min=4.7km az=35.4*
*MOS **06** 03:32:35.7±0.8, 42°.62N×131°.88E, h519km, mb3.9/16, Error ellipse: s-maj=15.0km s-min=8.9km az=113.9*
*SKHL **06** 03:32:36.7±0.9, 42°.79N×131°.83E, h522km±20km, mb4.2/5*
*IDC **06** 03:32:37.7±0.6, 42°.57N×131°.80E, h523km±5km, mb3.2/16, mb1 3.3/19, mb1mx3.2/29, mbtmp3.2/19, Error ellipse: s-maj=13.4km s-min=10.3km az=65.0*
*BJI **06** 03:32:38.0, 42°.66N×131°.69E, h529km, mB4.6/2, mb4.4/3*
*JMA **06** 03:32:39.3±0.5, 42°.39N×132°.52E, h548km, M3.7*
ISC 06 03:32:35.7±0.5, **42°.58N**±0°.07×**131°.94E**±0°.07, **h500**km, **n75**, σ**1s.61**/74, **mb3.9**/28, **6C-6D, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLA	Vladivostok	0.55	356	i P	P	03 33 37.9	+2.1
VLA	Vladivostok	0.55	356	i P	P	03 33 37.9	+2.1
GRTR	Gornotajezhnoj	1.14	8 ⇑	iP	P	03 33 42.1	+4.9
GRTR				i S	S	03 34 33.1	+5.6
USRK	Ussuriysk Arra	1.62	1	P	P	03 33 43.5	+4.6
	9.1nm,0.3s,baz=159,slow=2.0,SNR=200						
USRK				S	S	03 34 36.7	+6.2
	baz=153,slow=13,SNR=2.2						
MDJ	Mudanjiang	2.66	321	P	P	03 33 48.8	+4.5
MDJ				pmax	pmax		
	comp=Z,76nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.5s						
TEY	Ternei	4.17	52 ⇑	eP	P	03 33 59.6	+4.3
TEY				AMB	AMB	03 33 59.8	
	comp=Z,21nm,0.7s						
KSRS	Korea Array	5.97	212	P	P	03 34 15.8	+4.0
	comp=Z,0.5nm,0.3s,baz=28,slow=10,SNR=7.3						
HABR	Khabarovsk	6.29	19	eP	P	03 34 16.6	+2.1
HABR				eS	S	03 35 39.5	+3.9
HABR				pmax	pmax		
	comp=E,46nm,1.3s						
HABR				pmax	pmax		
	comp=Z,29nm,0.7s						
HABR				pmax	pmax		
	comp=N,38nm,2.2s						
KHBR	Khabarovsk	6.29	19	eP	P	03 34 16.6	+2.0
KHBR				AMB	AMB	03 34 18.0	
	comp=N,29nm,0.7s						
KLR	Kul'dur	6.66	359 ⇓	iP	P	03 34 18.7	+0.5
KLR				eS	S	03 35 42.3	0.0
KLR				pmax	pmax		
	comp=Z,60nm,1.2s						
KLR	Kul'dur	6.66	359 ⇓	iP	P	03 34 18.7	+0.5
KLR				AMB	AMB	03 34 19.0	
	comp=Z,60nm,1.2s						
KLR				eS	S	03 35 42.3	0.0
JKB	Kayabe	6.78	93	P	P	03 34 21.8	+2.2
JHS	Saijyo	7.62	173	P	P	03 34 31.6	+3.3
MJAR	Matsushiro Arr	7.73	139	P	P	03 34 29.9	+0.5
	comp=Z,0.3nm,0.3s,baz=327,slow=9.5,SNR=6.0						
MJA0	Matsu Arr-Jizo	7.75	139	eP	P	03 34 31.6	+2.0
JMK	Ichinoseki	7.92	114	P	P	03 34 32.0	+0.8
ASAJ	Asahikawa	7.92	75	P	P	03 34 33.0	+1.9
	comp=Z,0.9nm,0.3s,baz=290,slow=12,SNR=5.0						
ERM	Erimo	8.33	90	i P	P	03 34 37.2	+1.8
ERM				i S	S	03 36 12.8	-1.0
JCH	Churui	8.43	86	eS	S	03 36 12.1	-3.4
JRY	Ryogami san	8.48	138	P	P	03 34 40.2	+3.0
YSS	Yuzh-Sakhalins	8.85	57	eP	P	03 34 43.7	+3.0
YSS	Yuzh-Sakhalins	8.85	57	eP	P	03 34 42.2	+1.5
JIE	Ise	8.98	154	P	P	03 34 45.3	+2.9
NEM2	Nemuro 2	10.15	81	P	P	03 34 55.6	+1.1
NEM2				eS	S	03 36 45.0	-3.7
EKMR	Ekimchan	10.52	3	eP	P	03 34 56.8	-1.5
EKMR				AMB	AMB	03 34 57.8	
	comp=Z,12nm,0.8s						
BSO1	Boso 1	10.60	135	P	P	03 34 59.0	+0.1
YASR	Yasnyy	11.04	347	eP	P	03 35 02.2	-1.6
YASR				AMB	AMB	03 35 03.2	
	comp=Z,3.0nm,0.8s						
KROS	Kirovskiy	12.31	346	eP	P	03 35 15.1	-2.1
BMKR	Bomnak	12.31	352 ⇓	iP	P	03 35 15.0	-2.3
BMKR				AMB	AMB	03 35 15.3	
	comp=Z,5.0nm,0.5s						
SONM	Songino Array	18.71	295	P	P	03 36 23.9	+1.4
	comp=Z,0.8nm,0.3s,baz=102,slow=8.9,SNR=24						
ZALV	Zalesovo Beam	32.77	307	P	P	03 38 26.4	0.0
	comp=Z,0.7nm,0.2s,baz=90,slow=8.9,SNR=5.0						
ZALV				ScP	ScP	03 43 48.9	-4.3
	comp=Z,0.8nm,0.5s,baz=109,slow=1.3,SNR=5.6						
ZALV	Zalesovo Beam	32.77	307	eP	P	03 38 26.4	0.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MK31	Makanchi Array	35.08	294 c	eP	P	03 38 46.2	+0.2
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	35.08	294	P	P	03 38 46.2	+0.2
	comp=Z,0.7nm,0.4s,baz=83,slow=12,SNR=16						
MKAR	Makanchi Array	35.08	294	eP	P	03 38 46.2	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	36.79	302 d	iP	P	03 38 59.7	-0.4
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURBB	Kurchatov Arra	36.86	302	P	P	03 39 00.6	-0.1
	comp=Z,4.8nm,0.5s,baz=82,slow=8.5,SNR=30						
BVA0	Borovoye Array	41.43	307	i P	P	03 39 36.8	-0.9
BRVK	Borovoye	41.49	307 ⇓	eP	P	03 39 37.0	-1.1
AAK	Ala-Archa	41.57	290 ⇑	eP	P	03 39 39.5	+0.4
AAK				pmax	pmax		
	comp=Z,12nm,2.5s						
ARU	Arti	47.32	314 c	iP	P	03 40 21.1	-2.0
ARU						03 42 17.8	
ARU				S	S	03 46 38.2	-0.9
ARU				SS	SS	03 50 17.1	+2.9
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AB31	Akbulak array	48.79	304 c	eP	P	03 40 33.9	-0.3
AB31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
ILAR	Eielson Array	48.88	34	P	P	03 40 35.8	+1.1
	comp=Z,0.6nm,0.5s,baz=291,slow=8.5,SNR=12						
KEV	Kevo	55.55	336	eP	P	03 41 22.1	-0.4
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KEV	Kevo	55.55	336	ep	P	03 41 22.1	-0.4
	comp=Z,2.2nm,0.3s						
ARCES	ARCESS Array B	56.12	336	P	P	03 41 26.6	0.0
	comp=Z,3.2nm,0.6s,baz=58,slow=7.9,SNR=30						
JOF	Joensuu	57.52	328	eP	P	03 41 35.1	-1.1
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOF	Joensuu	57.52	328	ep	P	03 41 35.1	-1.1
	comp=Z,1.9nm,0.3s						
KAF	Kangasniemi	59.91	328	eP	P	03 41 51.4	-1.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	59.91	328	ep	P	03 41 51.4	-1.0
	comp=Z,0.8nm,0.3s						
FINES	FINESS Array B	60.39	328	P	P	03 41 54.8	-0.7
	comp=Z,3.6nm,0.5s,baz=74,slow=6.3,SNR=41						
KIV	Kislovodsk	61.76	305 ⇓	eP	P	03 42 04.2	-0.8
KIV						03 42 40.0	
KIV				pmax	pmax		
	comp=Z,15nm,1.3s						
WRA	Warramunga Arr	62.24	177	P	P	03 42 07.5	-0.8
	comp=Z,1.7nm,0.6s,baz=353,slow=7.1,SNR=23						
YKA	Yellowknife Ar	62.58	29	P	P	03 42 10.5	+0.7
	comp=Z,0.6nm,0.7s,baz=309,slow=6.8,SNR=14						
AKASG	Malin Array Be	65.36	317	P	P	03 42 26.6	-1.2
	comp=Z,1.1nm,0.4s,baz=49,slow=6.4,SNR=4.9						
AKASG	Malin Array Be	65.36	317	eP	P	03 42 25.6	-2.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	65.88	331	P	P	03 42 30.1	-0.8
	comp=Z,3.9nm,0.5s,baz=76,slow=6.1,SNR=35						
ASAR	Alice Springs	65.93	178	P	P	03 42 31.7	0.0
	comp=Z,0.4nm,0.3s,baz=355,slow=7.0,SNR=5.3						
NB2	NORSAR Subarra	66.10	333	P	P	03 42 31.7	-0.6
	comp=Z,1.2nm,0.5s,baz=41,slow=6.5						
NOA	NORSAR Array B	66.10	333	P	P	03 42 31.8	-0.5
	comp=Z,1.5nm,0.6s,baz=42,slow=6.1,SNR=14						
BRTR	Keskin Array B	69.71	306	P	P	03 42 53.7	-1.1
	comp=Z,0.6nm,0.8s,baz=59,slow=5.6,SNR=3.3						
VYHS	Vyhne	71.91	320	eP	P	03 43 07.9	+0.3
VYHS	Vyhne	71.91	320	eP	P	03 43 07.9	+0.3
GERES	GERESS Array B	74.03	323	P	P	03 43 19.8	-0.1
	comp=Z,0.3nm,0.4s,baz=38,slow=5.0,SNR=4.5						
STKA	Stephens Creek	74.62	171	P	P	03 43 23.8	+0.7
	comp=Z,2.5nm,0.3s,baz=360,slow=5.9,SNR=14						
CDF	Champ du Feu	77.13	326	eP	P	03 43 37.3	+0.2
NVAR	Mina Array Bea	77.22	49	P	P	03 43 39.4	+1.4
	comp=Z,0.2nm,0.4s,baz=272,slow=3.3,SNR=2.9						
HAU	Haudompre	77.83	326	eP	P	03 43 41.0	+0.2
LOR	Lormes	79.44	327	eP	P	03 43 48.6	-0.8
	comp=Z,4.1nm,0.4s						
LPL	La Plagne	79.64	324	eP	P	03 43 50.4	-0.4
	comp=Z,4.1nm,0.5s						
LPG	La Plagne	79.64	324	eP	P	03 43 50.5	-0.4
	comp=Z,4.8nm,0.4s						
SSF	Saint Saulge	79.75	327	eP	P	03 43 51.1	+0.1
AVF	Avril sur Loir	80.03	327	eP	P	03 43 51.8	-0.7
MBDF	Montbardon	80.24	324	eP	P	03 43 52.8	-1.1
SBF	Sospel	80.63	323	eP	P	03 43 54.6	-1.2

*DJA **06** 03:39:20.0±0.6, 3°N±4°×9°6E±°, h10km, M3.9/6, MLv3.9/6*
*IDC **06** 03:39:23.1±3.8, 3°.27N×96°.54E, h81km±34km, mb3.7/13, mb1 3.8/14, mb1mx3.6/28, mbtmp3.7/14, MS3.0/1, Ms1 3.2/1, ms1mx2.4/40, Error ellipse: s-maj=37.5km s-min=15.0km az=54.0*
ISC 06 03:39:17.8±0.6, **3°.20N**±0°.07×**96°.42E**±0°.08, **h33**km, **n25**, σ**1s.07**/23, **mb4.2**/13, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPTI		0.76	85	P	Pb	03 39 33.1	+0.4
LHMI	Lhok Sumawe	2.08	15	P	Pb	03 40 02.1	+7.1
LHMI				S	Sb	03 40 22.9	+2.4
TSI	Tuntungan	2.16	82	P	Pb	03 39 57.4	+1.1
GSI	Gunungsitoli	2.21	148	P	Pb	03 39 59.2	+2.1
PSI	Prapat	2.53	99	P	Pb	03 40 01.9	-0.7
	1.9nm,0.3s,baz=324,slow=10,SNR=12						
BSI	Banda Aceh	2.54	334	P	Pn	03 39 58.4	+1.6
BSI				S	Sb	03 40 33.0	-0.7
MNSI	Mandailing Nat	3.96	127	P	Pb	03 40 31.7	+4.8
KULM	Kulim	4.70	64	P	Pn	03 40 31.5	+5.0
IPM	Ipoh	4.77	74	P	Pn	03 40 32.0	+4.6
CMAR	Chiang Mai Arr	15.37	9	LR	LR	03 49 22.8	
	comp=Z,54nm,18.9s,baz=200,slow=39						
KAPI	Kappang	24.70	109	P	P	03 44 34.3	-1.8
	3.9nm,0.3s,baz=355,slow=12,SNR=6.3						
WRA	Warramunga Arr	43.76	123	P	P	03 47 20.7	+0.1
	2.5nm,0.5s,baz=300,slow=9.2,SNR=29						
MKAR	Makanchi Array	45.13	346	P	P	03 47 30.9	-0.2
	1.8nm,0.4s,baz=159,slow=8.7,SNR=74						
ASAR	Alice Springs	45.22	128	P	P	03 47 32.3	0.0
	0.6nm,0.5s,baz=298,slow=7.7,SNR=7.4						
SONM	Songino Array	45.29	9	P	P	03 47 32.8	+0.3
	0.8nm,0.4s,baz=191,slow=9.2,SNR=14						
SONM				PcP	PcP	03 49 11.4	-0.5
	0.4nm,0.4s,baz=206,slow=4.5,SNR=4.4						
KURBB	Kurchatov Arra	49.61	345	P	P	03 48 05.6	-0.3
	1.3nm,0.4s,baz=166,slow=6.7,SNR=7.5						
ZALV	Zalesovo Beam	51.48	351	P	P	03 48 19.4	-0.5
	1.4nm,0.4s,baz=161,slow=7.2,SNR=9.2						
BRTR	Keskin Array B	67.20	312	P	P	03 50 08.4	-0.7
	0.7nm,0.6s,baz=127,slow=4.8,SNR=5.5						
AKASG	Malin Array Be	73.21	322	P	P	03 50 44.7	-0.8
	1.9nm,0.6s,baz=85,slow=6.2,SNR=5.9						
ARCES	ARCESS Array B	80.41	340	P	P	03 51 25.5	-0.2
	0.6nm,0.4s,baz=87,slow=5.9,SNR=7.0						
GERES	GERESS Array B	82.81	319	P	P	03 51 40.0	+1.0
	0.2nm,0.5s,baz=92,slow=7.0,SNR=4.2						
HFS	Hagfors	83.61	330	P	P	03 51 42.5	-0.3
	2.1nm,0.8s,baz=106,slow=5.1,SNR=6.2						
TORD	Torodi Ar. Bea	93.88	283	P	P	03 52 32.9	+0.2
	0.1nm,0.6s,baz=67,slow=5.2,SNR=2.3						
TXAR	Lajitas Array	142.35	29	PKP	PKPdf	03 58 46.8	-1.2
	0.1nm,0.3s,baz=41,slow=1.9,SNR=2.3						
CPUP	Villa Florida	145.90	225	PKPbc	PKPbc	03 58 54.3	-0.4
	2.6nm,0.8s,baz=135,slow=2.9,SNR=5.4						

JMA 06 04:02:28.2±0.5, **30°.10N**×**139°.19E**, **h444**km, **M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	4.79	18	P	P	04 03 50.9	+1.6
BSO3	Boso 3	4.82	13	eS	S	04 04 56.2	-0.7
BSO4	Boso 4	4.97	11	eS	S	04 05 00.8	+0.9
JHU	Hanno	5.74	1	P	P	04 03 59.7	+0.3
JHU				eS	S	04 05 11.6	-2.5
JRY	Ryogami san	5.91	358	P	P	04 04 02.7	+1.5
JAG	Ashikaga	6.31	2	P	P	04 04 05.8	+0.4
JAG				eS	S	04 05 22.5	-2.4
JHO	Hitachi	6.59	10	P	P	04 04 09.8	+1.4
JHO				eS	S	04 05 28.1	-2.3
JMK	Ichinoseki	8.99	10	P	P	04 04 37.8	+3.7

*ISCJB **06** 04:14:35.7±0.6, 43°.97N±0°.04×16°.22E±0°.05, h10km, Error ellipse: s-maj=7.7km s-min=3.4km az=37.0*
*VIE **06** 04:14:35.3±0.6, 43°.93N×16°.19E, h10km, mb2.5/1, ML2.6/5, Error ellipse: s-maj=6.9km s-min=4.4km az=74.0 51 km NNW of Split*
*BEO **06** 04:14:35.7±0.5, 44°.00N×16°.20E, h0km, ML2.7/4*
*CSEM **06** 04:14:35.9±0.3, 44°.03N×16°.23E, h2km, ML2.7, Error ellipse: s-maj=7.7km s-min=3.9km az=31.0*
ISC 06 04:14:33.3±1.0, **43°.89N**±0°.04×**16°.14E**±0°.04, **h10**km, **n29**, σ**1s.67**/52, **2C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	1.14	307	ePg	Pb	04 14 53.9	-1.3
NVLJ				Sg	Sn	04 15 12.1	+1.1
NVLJ	Novalja	1.14	307	ePg	Pb	04 14 53.8	-1.3
NVLJ				Sg	Sn	04 15 12.0	+1.1
BLY	Banja Luka	1.14	40	ePg	Pg	04 14 53.5	-1.8
BLY				eSg	Sn	04 15 10.0	-1.1
BLY	Banja Luka	1.14	40	ePg	Pg	04 14 53.5	-1.8
BLY				eSg	Sn	04 15 10.0	-1.1
STON	Ston	1.52	131	ePn	Pn	04 14 59.2	-1.3
STON				Sn	Sn	04 15 21.6	+1.3
BOJS	Bojanci	1.74	339	i Pn	Pb	04 15 05.1	-0.2
BOJS				i Sn	Sg	04 15 28.0	-1.2
BOJS							
	comp=Z,17nm,0.3s						
BOJS	Bojanci	1.74	339	ePn	Pb	04 15 05.4	+0.1
BOJS				eSn	Sg	04 15 28.2	-1.0
BOJS	Bojanci	1.74	339	ePn	Pb	04 15 05.4	+0.1
BOJS				eSn	Sg	04 15 28.2	-1.0
GBRS	Gornja Briga	1.90	330	i Pn	Pb	04 15 07.9	-0.2
GBRS				i Sn	Sg	04 15 33.9	-0.5
SKDS	Skadanscina	2.25	318	eSn	Sb	04 15 41.5	-0.5
SKDS	Skadanscina	2.25	318	eSn	Sb	04 15 41.5	-0.5
VOY	Vojsko	2.67	324	ePn	Pn	04 15 18.3	+1.7
VOY				eSn	Sb	04 15 53.3	-1.0
VOY	Vojsko	2.67	324	ePn	Pn	04 15 18.3	+1.7
VOY				eSn	Sb	04 15 53.3	-1.0
PDG	Podgorica	2.70	121	ePn	Pb	04 15 21.5	-0.2
PDG				eSn	Sb	04 15 54.7	-0.2
PDG	Podgorica	2.70	121	ePn	Pb	04 15 21.5	-0.2
PDG				eSn	Sb	04 15 54.7	-0.2
DIVS	Divibare	2.79	84	ePn	Pn	04 15 21.1	+3.0
DIVS				eSn	Sn	04 15 54.2	+2.4
DIVS	Divibare	2.79	84	ePn	Pn	04 15 21.1	+3.0
DIVS				eSn	Sn	04 15 54.2	+2.4
OBKA	Obir	2.86	337 ⇓	iPn	Pn	04 15 20.9	+1.8
OBKA			⇑	iSn	Sn	04 15 55.4	+1.9
OBKA	Obir	2.86	337	Pn	Pn	04 15 20.9	+1.8
OBKA				Sn	Sn	04 15 55.4	+1.9
SOKA	Soboth	2.90	345 ⇑	iPn	Pn	04 15 21.1	+1.4
SOKA			⇓	iSn	Sn	04 15 55.7	+1.1
SOKA	Soboth	2.90	345	Pn	Pn	04 15 21.1	+1.4
SOKA				Sn	Sn	04 15 55.7	+1.1
PKSM	Moragy	2.92	36	ePn	Pn	04 15 21.7	+1.8
PKSM				eSg	Sg	04 16 05.1	-2.1
PKSM	Moragy	2.92	36	ePn	Pn	04 15 21.7	+1.8
PKSM				eSg	Sg	04 16 05.1	-2.1
GRUS	Gruza	3.31	88	ePn	Pn	04 15 27.6	+2.5
GRUS	Gruza	3.31	88	ePn	Pn	04 15 27.6	+2.5
ARSA	Arzberg	3.39	353	ePn	Pn	04 15 28.0	+1.6
ARSA	Arzberg	3.39	353	ePn	Pn	04 15 28.0	+1.6
MOA	Molln	4.18	342 ⇓	iPn	Pn	04 15 38.7	+1.6
MOA			⇓	iSn	Sn	04 16 28.9	+2.9
MOA	Molln	4.18	342	Pn	Pn	04 15 38.7	+1.6
MOA				Sn	Sn	04 16 28.9	+2.9

*CSEM **06** 04:38:32.4±0.6, 38°.72N×42°.02E, h15km, MD3.1, Error ellipse: s-maj=13.9km s-min=5.9km az=165.0*
*DDA **06** 04:38:33.9, 39°.08N×40°.26E, h9km, MD3.1*
*ISCJB **06** 04:38:34.3±1.4, 38°.83N±0°.09×42°.03E±0°.05, h9km±8km, Error ellipse: s-maj=15.2km s-min=6.2km az=165.0*
*ISK **06** 04:38:35.2, 38°.91N×42°.02E, h17km, MD3.1*
ISC 06 04:38:35.6±1.7, **39°.03N**±0°.05×**42°.01E**±0°.05, **h4**km±14km, **n13**, σ**1s.10**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.45	287	PG	Pb	04 38 45.6	-0.7
VRTB				SG	Sb	04 38 53.3	-0.1
VRTB	Varto-Mus	0.45	287	i Pg	Pb	04 38 45.6	-0.7
VRTB				i Sg	Sb	04 38 53.3	-0.1
BNGL	BINGOL	0.68	264	i P	Pb	04 38 49.3	-0.8
BNGL				i S	Sg	04 38 57.6	+0.2
AGRB	Hanur-Agry	0.94	54	ePG	Pn	04 38 54.6	-1.1
AGRB				eSG	Sn	04 39 10.4	+0.7
AGRB	Hanur-Agry	0.94	54	ePg	Pn	04 38 54.7	-1.1
AGRB				eSg	Sn	04 39 10.4	+0.7
ERZM	Erzurum	1.01	330	i P	Pb	04 38 55.6	-0.2
ERZM				i S	Sn	04 39 12.1	+0.5
ERZM	Erzurum	1.01	330	i P	Pb	04 38 55.6	-0.2
ERZM				i S	Sn	04 39 12.1	+0.5
EZM	Erzurum	1.01	330	ePN	Pn	04 38 56.4	-0.4
HOMI	Horasan	1.02	355	i P	Pn	04 38 57.0	+0.1
BNGB	Bingˆ¶l	1.04	268	ePG	Pb	04 38 56.0	-0.2
BINT	Bingol	1.20	263	ePg	Pb	04 38 56.0	-3.0
BEST	Besiri	1.28	207	i P	Pg	04 39 01.0	+0.9
BEST				i S	Sn	04 39 20.3	+2.3
DAGI	Agillar	2.05	358	i P	Pb	04 39 13.2	-0.2

*IDC **06** 04:54:08.2±0.9, 20°.09N×121°.46E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, MS3.7/3, Ms1 3.8/3, ms1mx2.8/44, Error ellipse: s-maj=46.6km s-min=17.3km az=71.0*
*ISCJB **06** 04:54:12.0±0.6, 20°.14N±0°.06×121°.3E±0°.2, h34km, mb3.8/8, MS3.8/3, Error ellipse: s-maj=22.5km s-min=8.5km az=177.6*
*MAN **06** 04:54:23, 19°.10N×121°.24E, h1km, mb4.6, ML3.5, MS3.5*
ISC 06 04:54:13.7±0.8, **20°.09N**±0°.09×**121°.1E**±0°.2, **h34**km, **n16**, σ**1s.32**/13, **mb3.9**/8, **MS3.4**/3, **2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.82	196 ⇓	iP	Pn	04 54 42.3	-0.3
SIPP	Brgy, Tapao	2.25	197 ⇓	iP	Pn	04 54 48.9	+0.4
ABRA	Dolores	2.46	189	eP	Pn	04 54 51.7	+0.3
ABRA				eS	Sn	04 55 12.3	-7.9
CAUP	Cauayan	3.19	168	eP	Pn	04 55 04.2	+2.7
PALP	Palanan	3.25	158	eP	Pn	04 55 02.8	+0.5
USRK	Ussuriysk Arra	25.70	18	P	P	04 59 39.2	-1.4
	1.3nm,0.7s,baz=196,slow=9.1,SNR=4.2						
SONM	Songino Array	30.15	340	P	P	05 00 20.8	+0.2
	0.6nm,0.6s,baz=155,slow=7.9,SNR=8.2						
MKAR	Makanchi Array	41.32	319	P	P	05 01 57.3	+1.2
	0.4nm,0.7s,baz=112,slow=9.5,SNR=5.2						
WRA	Warramunga Arr	41.83	161	P	P	05 01 58.5	-2.0
	2.7nm,0.6s,baz=343,slow=9.1,SNR=37						
ASAR	Alice Springs	45.23	163	P	P	05 02 27.2	-0.7
	1.3nm,0.3s,baz=345,slow=6.8,SNR=26						
KURBB	Kurchatov Arra	45.26	323	P	P	05 02 28.9	+1.0
	0.8nm,0.6s,baz=120,slow=7.4,SNR=6.9						
NWAO	Narrogin (SRO)	52.85	184	LR	LR	05 27 19.9	
	comp=Z,31nm,18.6s,baz=239,slow=38						
FINES	FINESS Array B	74.95	330	P	P	05 05 51.6	+0.5
	1.3nm,0.8s,baz=85,slow=4.6,SNR=2.9						
NOA	NORSAR Array B	81.81	332	LR	LR	05 49 35.2	
	comp=Z,17nm,19.4s,baz=85,slow=41						
YKA	Yellowknife Ar	86.75	23	P	P	05 06 53.4	-0.6
	1.0nm,1.1s,baz=315,slow=4.8,SNR=5.9						
MAW	Mawson	97.23	199	LR	LR	05 47 52.4	
	comp=Z,191nm,18.1s,baz=314,slow=33						

*ISCJB **06** 05:00:19.6±0.8, 51°.44N±0°.04×16°.08E±0°.04, h0km, Error ellipse: s-maj=6.3km s-min=3.2km az=17.4*
*WAR **06** 05:00:20.0, 51°.54N×16°.07E*
*CSEM **06** 05:00:21.0±0.5, 51°.44N×16°.06E, h2km, ML3.0/6, Error ellipse: s-maj=8.7km s-min=4.5km az=6.0*
*PRU **06** 05:00:22.0, 51°.43N×16°.08E, h0km*
ISC 06 05:00:21.2±1.2, **51°.46N**±0°.05×**16°.07E**±0°.03, **h0**km, **n24**, σ**0s.49**/45, **1D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	167	ePg	Pg	05 00 33.3	-0.1
KSP				eSg	Sg	05 00 41.9	+0.4
KSP	Ksiaz	0.63	167 ⇓	iPg	Pg	05 00 33.2	-0.1
KSP				eSg	Sg	05 00 41.7	+0.2
KSP	Ksiaz	0.63	167	ePg	Pg	05 00 33.2	-0.1
KSP				eSg	Sg	05 00 41.9	+0.4
UPC	Upice	0.95	182	ePG	Pg	05 00 39.3	-0.1
UPC	Upice	0.95	182	Pg	Pg	05 00 39.3	-0.1
DPC	Dobruska-Polom	1.12	172	ePG	Pg	05 00 42.1	-0.6
DPC				eSG	Sg	05 00 56.9	-0.3
	comp=Z,13nm,0.3s						
DPC	Dobruska-Polom	1.12	172	Pg	Pg	05 00 42.1	-0.6
DPC				Sg	Sg	05 00 56.9	-0.3
	13nm,0.3s						
PVCC	Panska Ves	1.33	226	ePG	Pn	05 00 46.7	-0.3
PVCC				eSG	Sb	05 01 04.8	+0.3
	comp=Z,60nm,0.2s						
PVCC	Panska Ves	1.33	226	Pg	Pn	05 00 46.7	-0.3
PVCC				Sg	Sb	05 01 04.8	+0.3
	60nm,0.2s						
BRG	Berggiesshubel	1.46	247	PG	Pg	05 00 48.9	-0.2
BRG				SG	Sn	05 01 08.7	+0.1
	24nm,0.5s						
PRU	Pruhonice	1.76	214	ePG	Pn	05 00 53.2	+0.3
PRU				eSG	Sg	05 01 18.4	+0.6
	comp=Z,12nm,0.3s						
PRU	Pruhonice	1.76	214	Pg	Pn	05 00 53.2	+0.3
PRU				Sg	Sg	05 01 18.4	+0.6
	12nm,0.3s						
CLL	Collm	1.93	267	ePn	Pn	05 00 54.0	-1.2
CLL				i Pg	Pg	05 00 58.0	-0.1
CLL				i		05 01 02.1	
CLL				eSg	Sg	05 01 24.0	+1.0
	comp=Z,9.0nm,0.5s						
MORC	Moravsky Berou	1.93	150	ePn	Pn	05 00 54.1	-1.2
MORC				eSg	Sb	05 01 22.1	+0.2
OKC	Ostrava-Krasne	2.10	140	eSG	Sb	05 01 26.5	-0.1
	comp=Z,8.2nm,0.4s						
OKC	Ostrava-Krasne	2.10	140	Sg	Sb	05 01 26.5	-0.1
	comp=Z,8.2nm,0.4s						
VRAC	Vranov	2.18	171	ePn	Pn	05 00 58.6	-0.1
VRAC				eSg	Sg	05 01 31.0	-0.2
NKC	Novy Kostel	2.60	243	ePN	Pn	05 01 05.0	+0.5
NKC				ePG	Pg	05 01 10.2	-0.8
NKC				eSG	Sg	05 01 44.1	-0.6
	comp=Z,12nm,0.3s						
NKC	Novy Kostel	2.60	243	Pn	Pn	05 01 05.0	+0.5
NKC	Novy Kostel	2.60	243	Pg	Pg	05 01 10.2	-0.8
NKC				Sg	Sg	05 01 44.1	-0.6
	comp=Z,12nm,0.3s						
OJC	Ojcow	2.67	116	ePg	Pg	05 01 12.4	0.0
OJC				eSg	Sg	05 01 47.3	+0.3
OJC	Ojcow	2.67	116	ePg	Pg	05 01 12.4	0.0
OJC				eSg	Sg	05 01 47.3	+0.3
KHC	Kasperske Hory	2.82	215	ePN	Pn	05 01 07.3	-0.3
KHC				ePG	Pb	05 01 13.1	+0.6
KHC				eSG	Sg	05 01 51.3	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.8nm,0.5s						
KHC	**Kasperske Hory**	**2.82**	**215**	Pn	**Pn**	**05 01 07.3**	**-0.3**

DDA ***06*** *05:02:04.4, 37.°28N×26.°87E, h1^{km}, MD2.9*
ISK ***06*** *05:02:05.4, 37.°31N×26.°88E, h8^{km}, MD2.7*
CSEM ***06*** *05:02:05.7±0.2, 37.°27N×26.°86E, h2^{km}, MD2.7, Error ellipse: s-maj=5.6km s-min=4.9km az=114.0*
ATH ***06*** *05:02:06.6, 37.°10N×26.°91E, h14^{km}±1^{km}, MD3.3/9*
ISC 06 05:02:05.5±1.2**, 37.°27N**±0.°03×**26.°88E**±0.°03**, h10**^{km}±11^{km}**, n55,** σ1.ˢ25/71**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.40**	**122**	PG	**Pb**	**05 02 14.1**	**-0.6**
BODT				SG	**Sb**	**05 02 20.6**	**-0.3**
BODT	**Bodrum**	**0.40**	**122**	*i* Pg	**Pb**	**05 02 14.1**	**-0.6**
BODT				*i* Sg	**Sb**	**05 02 20.6**	**-0.3**
GCAM	**G?zelcaml?**	**0.51**	**33**	*i* P	**Pg**	**05 02 15.7**	**+0.3**
GCAM				*i* S	**Sb**	**05 02 23.3**	**-0.7**
GCAM	**G?zelcaml?**	**0.51**	**33**	*i* P	**Pg**	**05 02 15.7**	**+0.3**
GCAM				*i* S	**Sb**	**05 02 23.3**	**-0.7**
MLSB	**Milas**	**0.71**	**88**	PG	**Pg**	**05 02 19.6**	**+0.4**
MLSB	**Milas**	**0.71**	**88**	*i* Pg	**Pg**	**05 02 19.6**	**+0.4**
DAT	**Datca**	**0.78**	**134**	*e*PG	**Pb**	**05 02 21.3**	**+0.1**
DAT				*e*SG	**Sb**	**05 02 32.9**	**+1.1**
DAT	**Datca**	**0.78**	**134**	*e*Pg	**Pb**	**05 02 21.3**	**+0.1**
DAT				*e*Sg	**Sb**	**05 02 32.9**	**+1.1**
AYDN	**Tasoluk**	**0.88**	**64**	*i* P	**Pg**	**05 02 21.8**	**-0.7**
AYDN				*i* S	**Sg**	**05 02 34.2**	**+0.2**
AYDN	**Tasoluk**	**0.88**	**64**	*i* P	**Pg**	**05 02 21.8**	**-0.7**
AYDN				*i* S	**Sg**	**05 02 34.2**	**+0.2**
APE	**Apeiranthos**	**1.10**	**260**	*e*PN	**Pn**	**05 02 27.1**	**+0.1**
APE	**Apeiranthos**	**1.10**	**260**	*e*PN	**Pn**	**05 02 27.3**	**+0.3**
APE				*e*SB	**Sn**	**05 02 43.1**	**+0.8**
APE	**Apeiranthos**	**1.10**	**260**	*e*Pn	**Pn**	**05 02 27.1**	**+0.1**
APE				*e*Sb	**Sn**	**05 02 43.1**	**+0.8**
URLA	**Izmir**	**1.11**	**348**	*i* P	**Pg**	**05 02 25.5**	**-1.3**
URLA				*i* S	**Sn**	**05 02 42.6**	**+0.1**
URLA	**Izmir**	**1.11**	**348**	*i* P	**Pg**	**05 02 25.5**	**-1.3**
URLA				*i* S	**Sn**	**05 02 42.6**	**+0.1**
BLCB	**Balcova**	**1.12**	**6**	*e*PG	**Pg**	**05 02 26.4**	**-0.5**
BLCB	**Balcova**	**1.12**	**6**	*e*Pg	**Pg**	**05 02 26.4**	**-0.5**
YER	**Yerkesik**	**1.12**	**97**	*e*PN	**Pn**	**05 02 27.8**	**+0.4**
YER	**Yerkesik**	**1.12**	**97**	*e*Pn	**Pn**	**05 02 27.8**	**+0.4**
IZM	**Izmir**	**1.16**	**15**	*e*PN	**Pg**	**05 02 27.5**	**-0.3**
IZM	**Izmir**	**1.16**	**15**	*e*Pn	**Pg**	**05 02 27.5**	**-0.3**
TURN	**Turunc**	**1.43**	**106**	*i* P	Pn	05 02 28.2	-3.3
TURN				*i* S	**Sb**	**05 02 45.4**	**-5.1**
TURN	**Turunc**	**1.43**	**106**	*i* P	Pn	05 02 28.2	-3.3
KARP	**Karpathos**	**1.74**	**173**	*e*PB	**Pn**	**05 02 36.2**	**+0.5**
KARP	**Karpathos**	**1.74**	**173**	*e*Pb	**Pn**	**05 02 36.2**	**+0.5**
AKHS	**Akhisar**	**1.76**	**24**	*i* P	**Pg**	**05 02 39.1**	**-0.2**
AKHS				*i* S	**Sg**	**05 03 02.7**	**+0.5**
AKHS	**Akhisar**	**1.76**	**24**	*i* P	**Pg**	**05 02 39.1**	**-0.2**
AKHS				*i* S	**Sg**	**05 03 02.7**	**+0.5**
DENT	**Denizli**	**1.77**	**74**	*e*PN	**Pb**	**05 02 37.5**	**-0.6**
DENT	**Denizli**	**1.77**	**74**	*e*Pn	**Pb**	**05 02 37.5**	**-0.6**
MANT	**Manisa**	**1.80**	**47**	*i* P	**Pb**	**05 02 39.0**	**+0.4**
MANT	**Manisa**	**1.80**	**47**	*i* P	**Pb**	**05 02 39.0**	**+0.4**
PRK	**Paraskevi**	**2.03**	**346**	*e*PN	**Pg**	**05 02 44.8**	**+0.4**
PRK				*e*SN	**Sg**	**05 03 13.1**	**+2.4**
AYVA	**Ayvalik**	**2.04**	**356**	*i* P	**Pb**	**05 02 42.3**	**-0.3**
AYVA	**Ayvalik**	**2.04**	**356**	*i* P	**Pb**	**05 02 42.3**	**-0.3**
GOLH	**Golhisar**	**2.14**	**90**	*i* P	**Pn**	**05 02 42.9**	**+1.6**
GOLH	**Golhisar**	**2.14**	**90**	*i* P	**Pn**	**05 02 42.9**	**+1.6**
ZKR	**Zakros**	**2.22**	**194**	*e*PN	**Pn**	**05 02 42.9**	**+0.5**
ZKR	**Zakros**	**2.22**	**194**	*e*Pn	**Pn**	**05 02 42.9**	**+0.5**
NPS	**Neapolis**	**2.25**	**207**	*e*PN	**Pn**	**05 02 43.2**	**+0.4**
NPS	**Neapolis**	**2.25**	**207**	*e*Pn	**Pn**	**05 02 43.2**	**+0.4**
DEMI	**Demirci**	**2.28**	**39**	*i* P	**Pg**	**05 02 48.2**	**-1.0**
DEMI	**Demirci**	**2.28**	**39**	*i* P	**Pg**	**05 02 48.2**	**-1.0**
LAST	**Lasithi**	**2.39**	**209**	*e*PN	**Pn**	**05 02 45.8**	**+1.0**
LAST	**Lasithi**	**2.39**	**209**	*e*Pn	**Pn**	**05 02 45.8**	**+1.0**
AKAS	**Kas**	**2.42**	**115**	*i* P	**Pb**	**05 02 47.9**	**-1.2**
AKAS				*i* S	**Sb**	**05 03 17.7**	**-1.4**
AKAS	**Kas**	**2.42**	**115**	*i* P	**Pb**	**05 02 47.9**	**-1.2**
AKAS				*i* S	**Sb**	**05 03 17.7**	**-1.4**
IDI	**Anoyia**	**2.55**	**220**	*e*PN	**Pn**	**05 02 48.3**	**+1.3**
GDZ	**Gediz**	**2.73**	**48**	*i* P	**Pg**	**05 02 56.5**	**-1.4**
SIVA	**Sivas**	**2.81**	**217**	*e*PN	**Pn**	**05 02 51.6**	**+1.2**
VAM	**Vamos**	**2.86**	**230**	*e*PN	**Pn**	**05 02 52.8**	**+1.7**
VAM	**Vamos**	**2.86**	**230**	*e*Pn	**Pn**	**05 02 52.8**	**+1.7**
LTK	**Loutraki**	**3.20**	**285**	*e*PN	**Pb**	**05 02 59.8**	**-2.6**
LTK	**Loutraki**	**3.20**	**285**	*e*Pn	**Pb**	**05 02 59.8**	**-2.6**
KYTH	**Kithira**	**3.24**	**253**	*e*PN	**Pn**	**05 02 59.5**	**+3.0**
KYTH	**Kithira**	**3.24**	**253**	*e*Pn	**Pn**	**05 02 59.5**	**+3.0**

IDC 06 05:18:41.3±2.0**, 13.°91S**×**167.°19E, h217**^{km}±19^{km}**, mb3.6**/16**, mb1 3.8**/17**, mb1mx3.7**/22**, mbtmp3.6**/17**, Error ellipse: s-maj=20.3km s-min=11.1km az=137.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.14**	**185**	P	Pn	05 20 35.9	-0.6
	2.1nm,0.3s,baz=4.8,slow=12,SNR=26						
DZM				S	S	05 22 08.6	-0.2
	baz=322,slow=19,SNR=3.9						
CTA	**Charters Tower**	**20.93**	**250**	P	P	05 23 07.1	-0.5
	4.7nm,0.8s,baz=73,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**29.47**	**228**	P	P	05 24 25.9	+0.8
	2.2nm,0.5s,baz=58,slow=7.9,SNR=10						
STKA				PcP	PcP	05 27 25.6	+0.4
	0.9nm,0.6s,baz=68,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**31.96**	**255**	P	P	05 24 46.4	-0.8
	0.7nm,0.5s,baz=85,slow=9.6,SNR=13						
WRA				PcP	PcP	05 27 32.4	+0.3
	0.3nm,0.7s,baz=86,slow=2.7,SNR=6.5						
ASAR	**Alice Springs**	**32.90**	**248**	P	P	05 24 54.8	-0.6
	1.3nm,0.5s,baz=74,slow=9.4,SNR=18						
ASAR				PcP	PcP	05 27 33.2	-1.4
	0.9nm,0.6s,baz=70,slow=2.3,SNR=6.2						
ASAR				S	S	05 29 56.6	-0.5
	1.4nm,0.9s,baz=81,slow=16,SNR=9.2						
FITZ	**Fitzroy Crossi**	**40.10**	**258**	P	P	05 25 57.7	+1.6
	0.9nm,0.6s,baz=76,slow=4.2,SNR=3.3						
MJAR	**Matsushiro Arr**	**57.15**	**332**	P	P	05 28 04.0	-1.5
	2.0nm,0.5s,baz=145,slow=8.6,SNR=5.3						
USRK	**Ussuriysk Arra**	**66.12**	**333**	P	P	05 29 06.3	+1.1
	2.2nm,0.7s,baz=138,slow=8.5,SNR=5.3						
PETK	**Petropavlovsk-**	**67.25**	**354**	P	P	05 29 12.4	+0.2
	6.6nm,0.8s,baz=160,slow=9.0,SNR=8.5						
CMAR	**Chiang Mai Arr**	**74.55**	**294**	P	P	05 29 57.4	+0.5
	2.6nm,0.7s,baz=127,slow=4.3,SNR=13						
SONM	**Songino Array**	**81.80**	**324**	P	P	05 30 36.1	-0.1
	0.7nm,0.5s,baz=129,slow=5.1,SNR=7.7						
ILAR	**Eielson Array**	**85.78**	**18**	P	P	05 30 54.8	-1.0
	0.9nm,0.7s,baz=235,slow=5.3,SNR=22						
NVAR	**Mina Array Bea**	**86.80**	**49**	P	P	05 31 01.2	-0.4
	0.2nm,0.5s,baz=230,slow=7.7,SNR=4.8						
TXAR	**Lajitas Array**	**95.96**	**61**	P	P	05 31 44.1	-0.1
	0.2nm,0.7s,baz=232,slow=4.4,SNR=2.3						
MKAR	**Makanchi Array**	**96.56**	**316**	P	P	05 31 46.5	+0.1
	1.9nm,0.7s,baz=94,slow=6.4,SNR=24						
ZALV	**Zalesovo Beam**	**96.69**	**324**	P	P	05 31 45.6	-1.1
	1.4nm,0.7s,baz=113,slow=3.9,SNR=8.2						
YKA	**Yellowknife Ar**	**96.86**	**27**	P	P	05 31 45.9	-1.4
	0.1nm,0.4s,baz=254,slow=5.0,SNR=4.1						
ARCES	**ARCESS Array B**	**119.45**	**345**	PKP	PKPdf	05 37 04.2	-0.2
	3.1nm,0.7s,baz=18,slow=3.1,SNR=14						
FINES	**FINESS Array B**	**124.94**	**338**	PKP	PKPdf	05 37 14.5	-0.6
	1.6nm,0.8s,baz=35,slow=5.1,SNR=3.9						
NB2	**NORSAR Subarra**	**129.82**	**345**	PKPdf	PKPdf	05 37 24.3	-0.2
	comp=Z,5.6nm,1.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.82**	**345**	PKP	PKPdf	05 37 24.2	-0.3
	comp=Z,1.8nm,0.8s,baz=33,slow=2.0,SNR=4.4						
GERES	**GERESS Array B**	**138.88**	**333**	PKP	PKPdf	05 37 42.8	+0.9
	comp=Z,0.7nm,0.6s,baz=76,slow=1.7,SNR=5.1						
KEST	**Kesra**	**150.53**	**321**	PKPbc	PKPbc	05 38 08.6	+0.7
	comp=Z,1.3nm,0.5s,baz=32,slow=0.9,SNR=4.2						
ESDC	**Sonseca Array**	**153.18**	**345**	PKPbc	PKPbc	05 38 14.8	+1.0
	comp=Z,0.2nm,0.4s,baz=356,slow=4.9,SNR=2.7						
ESDC				PKPab	PKPab	05 38 25.6	-0.5
	comp=Z,0.6nm,0.6s,baz=358,slow=4.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**165.88**	**269**	PKP	PKPdf	05 38 20.9	-0.2
	comp=Z,1.2nm,0.8s,baz=66,slow=0.8,SNR=6.5						
TORD				PKPab	PKPab	05 39 21.3	-0.9
	comp=Z,1.0nm,0.8s,baz=82,slow=4.7,SNR=5.3						

IDC ***06*** *05:26:04.5±1.2, 3.°39S×146.°24E, h0^{km}, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML3.0/1, MS3.4/11, Ms1 3.4/11, ms1mx3.2/35, Error ellipse: s-maj=43.8km s-min=17.5km az=98.0*
ISCJB ***06*** *05:26:06.6±0.9, 3.°43S±0.°08×146.°2E±0.°2, h25^{km}, mb3.7/7, MS3.5/10, Error ellipse: s-maj=27.7km s-min=11.9km az=3.4*
NEIC ***06*** *05:26:10.6±2.5, 3.°47S×146.°25E, h46^{km}±25^{km}, mb4.3/2, Error ellipse: s-maj=27.0km s-min=13.6km az=114.0*
ISC 06 05:26:08.3±0.9**, 3.°4S**±0.°1×**146.°2E**±0.°2**, h25**^{km}**, n28,** σ**0.ˢ57**/22**, mb3.6**/7**, MS3.4**/10**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**171**	Pn	**Pn**	**05 27 36.2**	**+0.2**
	2.3nm,0.3s,baz=352,slow=14,SNR=4.0						
PMG	**Port Moresby**	**6.03**	**171**	Pn	**Pn**	**05 27 36.2**	**+0.2**
CTA	**Charters Tower**	**16.58**	**180**	LR	LR	05 36 20.8	
	comp=Z,69nm,18.9s,baz=1.8,slow=37						
WRAB	**Tennant Creek**	**20.09**	**214**	*e*P	**P**	**05 30 40.3**	**0.0**
	23nm,1.0s						
WRA	**Warramunga Arr**	**20.11**	**214**	P	**P**	**05 30 40.7**	**+0.3**
	12nm,0.9s,baz=37,slow=12,SNR=47						
WRA	**Warramunga Arr**	**20.11**	**214**	P	**P**	**05 30 40.7**	**+0.3**
AS31	**Alice Springs**	**23.39**	**209**	*e*P	**P**	**05 31 15.2**	**-0.2**
ASAR	**Alice Springs**	**23.39**	**210**	P	**P**	**05 31 15.4**	**-0.1**
	6.1nm,0.9s,baz=40,slow=8.9,SNR=38						
ASAR				LR	LR	05 40 26.8	
	comp=Z,51nm,20.4s,baz=188,slow=37						
ASAR	**Alice Springs**	**23.39**	**210**	P	**P**	**05 31 15.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.89**	**233**	P	**P**	**05 31 29.0**	**-0.4**
	5.9nm,0.7s,baz=56,slow=7.4,SNR=19						
FITZ				LR	LR	05 41 55.4	
	comp=Z,75nm,19.4s,baz=62,slow=38						
FITZ	**Fitzroy Crossi**	**24.89**	**233**	*e*P	**P**	**05 31 28.6**	**-0.8**
	6.2nm,0.7s						
DZM	**Mont Dzumac**	**27.01**	**135**	LR	LR	05 40 53.4	
	comp=Z,101nm,18.1s,baz=207,slow=33						
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**05 32 03.6**	**+0.4**
	1.2nm,0.7s,baz=4.8,slow=12,SNR=2.5						
STKA				LR	LR	05 44 27.4	
	comp=Z,85nm,18.4s,baz=25,slow=38						
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**05 32 03.6**	**+0.4**
JNU	**Nakatsue**	**39.12**	**339**	LR	LR	05 46 10.9	
	comp=Z,56nm,20.5s,baz=88,slow=31						
KSRS	**Korea Array**	**44.07**	**339**	LR	LR	05 49 37.9	
	comp=Z,35nm,19.1s,baz=180,slow=32						
PETK	**Petropavlovsk-**	**57.13**	**8**	LR	LR	05 59 24.9	
	comp=Z,58nm,19.1s,baz=324,slow=35						
SONM	**Songino Array**	**61.77**	**331**	P	**P**	**05 36 26.2**	**+1.1**
	0.3nm,0.7s,baz=141,slow=5.0,SNR=3.2						
SONM				LR	LR	06 03 16.0	
	comp=Z,45nm,18.8s,baz=108,slow=36						
SONM	**Songino Array**	**61.77**	**331**	P	**P**	**05 36 26.2**	**+1.1**
MKAR	**Makanchi Array**	**75.02**	**320**	P	**P**	**05 37 47.8**	**-0.1**
	0.6nm,1.0s,baz=113,slow=5.7,SNR=4.3						
MKAR	**Makanchi Array**	**75.02**	**320**	P	**P**	**05 37 47.8**	**-0.1**
ZALV	**Zalesovo Beam**	**76.42**	**328**	P	**P**	**05 37 55.8**	**+0.2**
	0.2nm,0.3s,baz=118,slow=5.2,SNR=2.4						
ZALV				LR	LR	06 14 10.6	
	comp=Z,24nm,18.4s,baz=102,slow=38						
ZALV	**Zalesovo Beam**	**76.42**	**328**	P	**P**	**05 37 55.8**	**+0.2**
ILAR	**Eielson Array**	**83.42**	**23**	P	**P**	**05 38 32.9**	**-0.5**
	0.2nm,0.6s,baz=265,slow=5.3,SNR=3.3						
ILAR	**Eielson Array**	**83.42**	**23**	P	**P**	**05 38 32.9**	**-0.5**
YBH	**Yreka Blue Hor**	**93.05**	**49**	LR	LR	06 17 29.1	
	comp=Z,41nm,18.0s,baz=285,slow=33						
TORD	**Torodi Ar. Bea**	**143.63**	**288**	PKP	**PKPdf**	**05 45 41.2**	**-0.9**
	0.4nm,0.9s,baz=69,slow=2.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**143.63**	**288**	PKP	**PKPdf**	**05 45 41.2**	**-0.9**

MAN 06 05:40:28, 10.°89N×**125.°45E, h60**^{km}**, mb4.3, ML3.2, MS3.0, Leyte**

IDC 06 05:54:46.4±1.9**, 1.°30N**×**126.°74E, h0**^{km}**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.5**/21**, mbtmp3.6**/4**, Error ellipse: s-maj=193.4km s-min=22.0km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.39**	**161**	P	P	05 59 45.8	-0.8
	0.4nm,0.5s,baz=340,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.77**	**165**	P	P	06 00 19.9	+0.7
	0.3nm,0.3s,baz=341,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	06 04 52.1	+0.2
	0.3nm,0.4s,baz=125,slow=8.2,SNR=6.5						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	P	06 05 20.0	-0.3
	0.9nm,0.7s,baz=133,slow=5.8,SNR=7.5						

ISCJB ***06*** *06:03:54.9±0.8, 32.°04N±0.°03×50.°67E±0.°03, h4^{km}±6^{km}, mb3.6/7, Error ellipse: s-maj=5.4km s-min=4.9km az=153.0*
IDC ***06*** *06:03:54.0±2.2, 31.°94N×50.°52E, h0^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.5/27, mbtmp3.7/8, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/42, Error ellipse: s-maj=47.6km s-min=27.5km az=157.0*
CSEM ***06*** *06:03:55.8±0.2, 32.°03N×50.°69E, h2^{km}, ML3.6, Error ellipse: s-maj=4.5km s-min=3.9km az=140.0*
THR ***06*** *06:03:56.0±1.3, 31.°93N×50.°69E, h16^{km}±10^{km}, ML3.6*
TEH ***06*** *06:03:56.4, 31.°99N×50.°64E, h6^{km}, ML3.6*
ISC 06 06:03:56.8±1.3**, 32.°04N**±0.°03×**50.°70E**±0.°03**, h15**^{km}±9^{km}**, n70,** σ**1.ˢ08**/81**, mb3.7**/7**, 1C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**0.67**	**14**	*e*Sg	**Sb**	**06 04 19.9**	**+0.5**
IPIR				⇓*e*Pg	**Pg**	**06 04 09.5**	**-0.4**
IPIR				*e*		06 04 21.9	
	comp=Z,28μm,0.2s						
IGAR	**Gharneh**	**1.20**	**72**	⇑*e*Pg	**Pn**	**06 04 19.0**	**-0.2**
IGAR				*e*		06 04 22.8	
	comp=Z,17μm,0.1s						
IKLH	**Kolahrood**	**1.48**	**30**	*e*Pn	**Pn**	**06 04 23.4**	**+0.3**
IKLH				*e*Sg	**Sb**	**06 04 43.4**	**+0.6**
IKLH				*e*		06 04 50.8	
	comp=Z,12μm,0.2s						
IKLH	**Kolahrood**	**1.48**	**30**	*e*Pn	**Pn**	**06 04 23.4**	**+0.3**
IKLH				*e*Sg	**Sb**	**06 04 43.4**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.61**	**273**	*e*Pg	**Pb**	**06 04 26.0**	**-0.2**
SHGR				AML	AML	06 05 01.8	
	comp=E,951nm,0.6s						
SHGR				AML	AML	06 05 04.9	
	comp=N,758nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.61**	**273**	*e*Pg	**Pb**	**06 04 26.0**	**-0.2**
IZEF	**Zefreh**	**1.62**	**58**	*e*Pn	**Pb**	**06 04 26.3**	**-0.3**
IZEF				*e*Sg	**Sg**	**06 04 48.9**	**-0.3**
IZEF				*e*		06 04 53.3	
	comp=Z,5μm,0.2s						
IZEF	**Zefreh**	**1.62**	**58**	*e*Pn	**Pb**	**06 04 26.3**	**-0.3**
IZEF				*e*Sg	**Sg**	**06 04 48.9**	**-0.3**
KHMZ	**Khomeyn**	**1.81**	**340**	*e*Pg	**Pb**	**06 04 30.1**	**+0.5**
KHMZ				*e*Sg	**Sg**	**06 04 56.4**	**+1.3**
KHMZ	**Khomeyn**	**1.81**	**340**	*e*Pg	**Pb**	**06 04 30.1**	**+0.5**
KHMZ				*e*Sg	**Sg**	**06 04 56.3**	**+1.3**
NASN	**Na'in**	**1.94**	**66**	*e*Pg	**Pb**	**06 04 32.4**	**+0.4**
NASN	**Na'in**	**1.94**	**66**	*e*Pg	**Pb**	**06 04 32.4**	**+0.4**
GHVR	**GHOM**	**2.49**	**11**	*e*Pn	**Pb**	**06 04 39.4**	**-1.8**
GHVR				*e*Sg	**Sg**	**06 05 17.2**	**+0.5**
GHVR				AML	AML	06 05 20.4	
	comp=N,166nm,0.4s						
GHVR				AML	AML	06 05 27.8	
	comp=E,283nm,0.6s						
GHVR	**GHOM**	**2.49**	**11**	*e*Pn	**Pb**	**06 04 39.4**	**-1.8**
GHVR				*e*Sg	**Sg**	**06 05 17.2**	**+0.5**
IPAR	**Pars**	**2.98**	**137**	*e*Pn	**Pn**	**06 04 44.4**	**+0.7**
IPAR				*e*		06 05 47.8	
	comp=Z,2μm,0.5s						
IPAR	**Pars**	**2.98**	**137**	*e*Pn	**Pn**	**06 04 44.4**	**+0.7**
IVRN	**Varamin**	**3.07**	**16**	*e*Pn	**Pn**	**06 04 45.7**	**+0.9**
IVRN				*e*Pn	Pb	06 04 46.9	-4.3
IVRN				*e*Sg	**Sg**	**06 05 33.6**	**-1.9**
IVRN				*e*Sg	**Sg**	**06 05 35.9**	**+0.4**
IVRN	**Varamin**	**3.07**	**16**	*e*Pn	**Pn**	**06 04 45.7**	**+0.9**
IVRN				*e*Sg	**Sg**	**06 05 35.9**	**+0.4**
ICHK	**Chekchek**	**3.15**	**85**	*e*Pn	**Pn**	**06 04 47.4**	**+1.3**
ICHK				*e*		06 04 59.3	
	comp=Z,1μm,0.3s						
ICHK	**Chekchek**	**3.15**	**85**	*e*Pn	**Pn**	**06 04 47.4**	**+1.3**
IR5	**Iran Long-Peri**	**3.17**	**358**	*e*Pn	**Pn**	**06 04 47.1**	**+0.9**
ISRV	**Sarvestan**	**3.37**	**141**	*e*Pn	**Pn**	**06 04 49.6**	**+0.5**
ISRV				*e*		06 05 56.0	
	comp=Z,2μm,0.3s						
ISRV	**Sarvestan**	**3.37**	**141**	*e*Pn	**Pn**	**06 04 49.6**	**+0.5**
IMEH	**Mehriz**	**3.40**	**100**	*e*Pn	**Pn**	**06 04 50.6**	**+1.1**
IMEH				*e*		06 05 09.4	
	comp=Z,541nm,0.2s						
IMEH	**Mehriz**	**3.40**	**100**	*e*Pn	**Pn**	**06 04 50.6**	**+1.1**
IRAZ	**Razeghan**	**3.42**	**349**	*e*Pn	**Pn**	**06 04 50.3**	**+0.6**
IRAZ				*e*		06 05 57.4	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.42**	**349**	*e*Pn	**Pn**	**06 04 50.3**	**+0.6**
IKOM	**Komasi**	**3.42**	**309**	*e*Pn	**Pn**	**06 04 50.0**	**+0.3**
IKOM				*e*		06 05 55.5	
	comp=Z,3μm,0.4s						
IKOM	**Komasi**	**3.42**	**309**	*e*Pn	**Pn**	**06 04 50.0**	**+0.3**
MIB	**Mutribah**	**3.65**	**233**	*e*P	**Pn**	**06 04 53.6**	**+1.0**
MIB				AML	AML	06 05 40.2	
	comp=Z,111nm,0.5s						
MIB	**Mutribah**	**3.65**	**233**	*e*P	**Pn**	**06 04 53.6**	**+1.0**
IDMV	**Damavand**	**3.70**	**17**	*e*Pn	**Pn**	**06 04 54.5**	**+0.8**
IDMV				*e*		06 06 05.7	
	comp=Z,784nm,0.3s						
IDMV	**Damavand**	**3.70**	**17**	*e*Pn	**Pn**	**06 04 54.5**	**+0.8**
DAMV	**Damavand**	**3.74**	**16**	*e*Pn	**Pn**	**06 04 57.0**	**+2.9**
DAMV				AML	AML	06 06 06.6	
	comp=E,86nm,0.6s						
DAMV				AML	AML	06 06 06.9	
	comp=N,74nm,0.6s						
DAMV	**Damavand**	**3.74**	**16**	*e*Pn	**Pn**	**06 04 57.0**	**+2.9**
ILAS	**Lasjerd**	**3.83**	**29**	*e*Pn	**Pn**	**06 04 56.2**	**+0.8**
ILAS				*e*		06 06 03.6	
	comp=Z,962nm,0.2s						
ILAS	**Lasjerd**	**3.83**	**29**	*e*Pn	**Pn**	**06 04 56.2**	**+0.8**
KBD	**Kabd**	**3.85**	**223**	*e*P	**Pn**	**06 04 56.4**	**+0.9**
KBD				AML	AML	06 05 45.9	
	comp=Z,42nm,0.3s						
KBD	**Kabd**	**3.85**	**223**	*e*P	**Pn**	**06 04 56.3**	**+0.9**
IFIR	**Firoozkooh**	**3.98**	**25**	*e*Pn	**Pn**	**06 04 59.3**	**+1.8**
IFIR				*e*		06 05 21.9	
	comp=Z,378nm,0.1s						
IFIR	**Firoozkooh**	**3.98**	**25**	*e*Pn	**Pn**	**06 04 59.3**	**+1.8**
IVIS	**Veis**	**4.07**	**309**	*e*Pn	**Pn**	**06 04 58.5**	**0.0**
IVIS				*e*		06 06 20.2	
	comp=N,1μm,0.4s						
IVIS	**Veis**	**4.07**	**309**	*e*Pn	**Pn**	**06 04 58.5**	**0.0**
NAY	**Al-Naaiem**	**4.07**	**228**	*e*P	**Pn**	**06 04 59.6**	**+1.1**
NAY				AML	AML	06 05 41.4	
	comp=Z,26nm,0.7s						
NAY	**Al-Naaiem**	**4.07**	**228**	*e*P	**Pn**	**06 04 59.6**	**+1.1**
RDF	**Al-Radifah**	**4.12**	**222**	*e*P	**Pn**	**06 05 00.9**	**+1.7**
RDF	**Al-Radifah**	**4.12**	**222**	*e*P	**Pn**	**06 05 00.9**	**+1.7**
SNGE	**Sanandaj**	**4.13**	**318**	*e*Pn	**Pn**	**06 05 01.2**	**+1.7**
SNGE	**Sanandaj**	**4.13**	**318**	*e*Pn	**Pn**	**06 05 01.2**	**+1.7**
IGHG	**Ghaleghazi**	**4.15**	**305**	*e*Pn	**Pn**	**06 04 59.2**	**-0.6**
IGHG				*e*		06 06 25.6	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**4.15**	**305**	*e*Pn	**Pn**	**06 04 59.2**	**-0.6**
IBAF	**Bafgh**	**4.17**	**95**	*e*Pn	**Pn**	**06 05 00.8**	**+0.8**
IBAF				*e*		06 05 03.8	
	comp=Z,378nm,0.2s						
IBAF	**Bafgh**	**4.17**	**95**	*e*Pn	**Pn**	**06 05 00.8**	**+0.8**
ISHM	**Shahmirzad**	**4.33**	**29**	*e*Pn	**Pn**	**06 05 03.0**	**+0.6**
ISHM				*e*		06 06 31.8	
	comp=Z,1μm,0.3s						
ISHM	**Shahmirzad**	**4.33**	**29**	*e*Pn	**Pn**	**06 05 03.0**	**+0.6**
IANJ	**Anjilo**	**4.34**	**37**	*e*Pn	**Pn**	**06 05 03.5**	**+1.0**
IANJ				*e*		06 06 26.6	
	comp=Z,520nm,0.3s						
IANJ	**Anjilo**	**4.34**	**37**	*e*Pn	**Pn**	**06 05 03.5**	**+1.0**
IGZV	**Ghazvin**	**4.36**	**355**	*e*		06 05 20.1	
	comp=Z,897nm,0.3s						
IGZV				*e*Pn	**Pn**	**06 05 03.4**	**+0.8**
IDHR	**Dehrash**	**4.48**	**308**	*e*Pn	**Pn**	**06 05 03.9**	**-0.4**
IDHR				*e*		06 05 59.8	
	comp=Z,1μm,0.1s						
IDHR	**Dehrash**	**4.48**	**308**	*e*Pn	**Pn**	**06 05 03.9**	**-0.4**
ASF	**Jabal al Asfar**	**11.70**	**274**	Pn	**Pn**	**06 06 40.6**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=326,slow=2.4,SNR=5.9						
EIL	**Elat**	**13.73**	**264**	LR	LR	06 12 12.6	
	comp=Z,30nm,21.1s,baz=81,slow=37						
BRTR	**Keskin Array B**	**15.80**	**304**	Pn	**P**	**06 07 42.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=140,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**28.28**	**49**	P	**P**	**06 09 51.1**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=231,slow=8.6,SNR=2.8						
FINES	**FINESS Array B**	**33.49**	**339**	P	**P**	**06 10 35.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.0,SNR=4.6						
HFS	**Hagfors**	**37.20**	**330**	P	**P**	**06 11 06.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=135,slow=8.8,SNR=10						
NOA	**NORSAR Array B**	**38.72**	**330**	P	**P**	**06 11 19.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=133,slow=8.6,SNR=2.9						
ARCES	**ARCESS Array B**	**40.14**	**347**	P	**P**	**06 11 32.8**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=136,slow=8.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**48.54**	**259**	P	**P**	**06 12 38.3**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=56,slow=8.4,SNR=4.6						
YKA	**Yellowknife Ar**	**85.06**	**353**	P	**P**	**06 16 30.5**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=14,slow=4.8,SNR=3.0						

IDC ***06*** *06:16:12.5±0.5, 3.°76N×126.°55E, h0^{km}, mb4.2/20, mb1 4.3/20, mb1mx4.3/27, mbtmp4.2/20, MS3.6/6, Ms1 3.6/6, ms1mx3.1/37, Error ellipse: s-maj=28.8km s-min=11.7km az=71.0*
DJA ***06*** *06:16:15.6±1.2, 4.°N±10.°×12.°7E±.°, h10^{km}, M5.0/14, mB5.8/5, mb4.7/14, MLv5.0/8, Mw(mB)5.3/5*
ISCJB ***06*** *06:16:16.5±0.3, 3.°84N±0.°03×126.°99E±0.°05, h36^{km}, mb4.4/40, MS3.8/9, Error ellipse: s-maj=6.6km s-min=3.6km az=170.8*
NEIC ***06*** *06:16:17.7±0.4, 3.°85N×126.°86E, h35^{km}, mb4.5/14, Error ellipse: s-maj=14.3km s-min=7.9km az=62.0*
BJI ***06*** *06:16:19.7, 4.°29N×126.°82E, h32^{km}, mB5.2/14, mb4.7/21, Ms4.4/10, Ms7 4.2/6*
MAN ***06*** *06:16:31, 4.°44N×126.°13E, h85^{km}, mb4.8, ML3.7, MS3.7*
AUST ***06*** *06:16:59.0, 1.°50N×126.°50E, h300^{km}*
ISC 06 06:16:18.3±0.4**, 3.°86N**±0.°04×**127.°01E**±0.°07**, h36**^{km}**, n110,** σ**1.ˢ62**/132**, mb4.5**/40**, MS3.8**/9**, 2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.02**	**317**	⇑*e*P	**Pn**	**06 17 03.1**	**-0.6**
TNTI	**Ternate**	**3.09**	**173**	P	**Pn**	**06 17 05.6**	**+1.1**
MATI	**Mati**	**3.16**	**346**	*e*P	Pn	06 17 10.8	+5.3
MATI				*e*S	**Sn**	**06 17 40.5**	**-1.5**
MNI	**Manado**	**3.23**	**222**	P	**Pn**	**06 17 07.2**	**+0.6**
DAV	**Davao City (W)**	**3.50**	**336**	LR	LR	06 18 56.3	
	comp=Z,446nm,18.2s,baz=295,slow=48						
CTBH	**Cotabato--PC H**	**4.33**	**321**	⇑*i* P	**Pn**	**06 17 21.7**	**+0.1**
BUKP	**Musuan**	**4.44**	**334**	*e*P	**Pn**	**06 17 25.3**	**+2.1**
KMSI	**Cibinong**	**4.45**	**223**	P	**Pn**	**06 17 22.2**	**-1.1**
LBMI	**Labuha**	**4.49**	**174**	P	**Pn**	**06 17 24.7**	**+0.8**
PAGZ	**Pagadian**	**5.36**	**318**	*e*P	**Pn**	**06 17 37.1**	**+1.3**
MRSI	**Marisa**	**6.08**	**237**	P	**Pn**	**06 17 45.2**	**-0.5**
	230nm,0.7s,2μm0.7nm						
LUWI	**Luwuk**	**6.45**	**221**	P	**Pn**	**06 17 52.6**	**+1.8**
	235nm,1.2s,3μm1.2nm						
NLAI	**Namlea**	**7.05**	**179**	P	**Pn**	**06 17 58.5**	**-0.5**
	39nm,0.7s,6μm0.4nm						
APSI	**Ampana**	**7.15**	**229**	P	**Pn**	**06 17 59.0**	**-1.5**
	72μm,0.7s,484nm						
KDI	**Kendari**	**8.92**	**210**	P	**Pn**	**06 18 24.2**	**-0.5**
	25nm,0.8s						
TTSI	**Tana Toraja**	**9.94**	**226**	P	**Pn**	**06 18 40.6**	**+2.0**
	57nm,1.2s,785nm						
SPSI	**Sidrap Palu**	**10.62**	**223**	P	**Pn**	**06 18 48.9**	**+0.9**
	17nm,1.0s						
KKM	**Kota Kinabalu**	**10.97**	**282**	*e*Pn	**Pn**	**06 18 52.9**	**-0.1**
KAPI	**Kappang**	**11.41**	**220**	Pn	**Pn**	**06 19 01.1**	**+2.2**
	0.5nm,0.3s,baz=54,slow=22,SNR=5.2						
KAPI				LR	LR	06 23 47.0	
	comp=Z,298nm,19.0s,baz=226,slow=41						
KAPI	**Kappang**	**11.41**	**220**	*e*Pn	**Pn**	**06 19 01.8**	**+2.9**
KAPI	**Kappang**	**11.41**	**220**	P	Pn	06 19 10.8	+12
BBKI	**Banjar Baru**	**14.17**	**239**	P	Pn	06 19 39.9	+3.3
	38nm,1.6s						
SBUM	**Sibu**	**14.84**	**265**	P	**Pn**	**06 19 46.0**	**+0.4**
	19nm,1.3s						
SRBI	**Singaraja**	**16.71**	**225**	P	**Pn**	**06 20 10.3**	**+0.5**
	26nm,1.3s						
KSM	**Kuching**	**16.85**	**262**	*e*P	**Pn**	**06 20 11.7**	**+0.1**
	5.8nm,0.6s						
KSM	**Kuching**	**16.85**	**262**	P	**Pn**	**06 20 12.0**	**+0.4**
	16nm,1.2s						
MTN	**Manton Dam**	**17.09**	**166**	P	**Pn**	**06 20 11.8**	**-2.7**

baz=15,SNR=10
KDU Kakadu 17.31 162 P Pn 06 20 16.9 -0.3
baz=15,SNR=7.1
GUMO Guam 20.11 60 LR LR 06 26 44.6
comp=Z,211nm,21.8s,baz=247,slow=31
PPBI Pangkal Pinang 21.70 254 P P 06 21 09.5 +3.1
15nm,0.9s
FITZ Fitzroy Crossi 21.86 184 P P 06 21 06.9 -1.2
3.5nm,0.5s,baz=13,slow=9.2,SNR=19
FITZ Fitzroy Crossi 21.86 184 *eP* **P 06 21 06.8 -1.2**
6.7nm,0.8s
FITZ Fitzroy Crossi 21.86 184 P P 06 21 06.7 -1.2
baz=20,SNR=8.1
COEN Coen 23.88 138 P P 06 21 38.1 +9.3
baz=23,SNR=4.6
WRAB Tennant Creek 24.72 163 *eP* **P 06 21 35.0 -1.4**
37nm,1.1s
WRA Warramunga Arr 24.72 163 P **P 06 21 35.4 -1.0**
14nm,0.6s,baz=344,slow=9.9,SNR=80
WRA Warramunga Arr 24.72 163 P **P 06 21 35.4 -1.0**
MBWA Marble Bar 25.87 196 *eP* **P 06 21 45.1 -1.7**
13nm,1.0s
IPM Ipoh 25.93 272 *eP* **P 06 21 50.2 +2.7**
23nm,1.2s
KULM Kulim 26.32 274 *eP* **P 06 21 54.4 +3.4**
8.6nm,0.8s
QIS Mount Isa 27.23 153 S S 06 26 15.0 -21
baz=26,SNR=4.9
PSI Prapat 28.06 269 LR LR 06 33 55.3
comp=Z,142nm,19.7s,baz=230,slow=38
ASAR Alice Springs 28.17 167 P **P 06 22 06.7 -0.8**
1.4nm,0.6s,baz=345,slow=7.2,SNR=24
ASAR Alice Springs 28.17 167 P **P 06 22 06.7 -0.8**
NJ2 Nanjing 29.07 346 *eP* **P 06 22 14.5 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
GSI Gunungsitoli 29.52 266 P P 06 22 32.2 +13
baz=29,SNR=7.4
GYA Guiyang 29.75 321 *eP* **P 06 22 22.0 +0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 31.05 300 P **P 06 22 31.1 -2.0**
comp=Z,1.2nm,0.4s,baz=116,slow=7.4,SNR=6.0
CMAR Chiang Mai Arr 31.05 300 P **P 06 22 31.1 -2.0**
MEEK Meekatharra 31.39 195 P **P 06 22 34.4 -1.5**
baz=29,SNR=7.0
KMI Kunming 31.49 314 P **P 06 22 38.0 +0.8**
KMI pP **pP 06 22 46.9 -0.6**
KMI sP **sP 06 22 51.4 -0.5**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=N,260nm,23.5s
KMI LR LR
comp=E,140nm,26.3s
KSAR Wonju Array Be 33.43 1 P **P 06 22 55.0 +1.3**
KSRS Korea Array 33.45 1 P **P 06 22 55.0 +1.2**
comp=E,0.9nm,0.4s,baz=174,slow=9.9,SNR=4.1
MJAR Matsushiro Arr 34.12 16 LR LR 06 36 29.6
comp=E,102nm,18.7s,baz=175,slow=35
FORT Forrest 34.46 178 *eP* **P 06 23 01.4 -1.3**
comp=E,22nm,0.9s
CD2 Chengdu 34.71 323 P **P 06 23 05.8 +0.8**
CD2 pP **pP 06 23 15.9 +0.5**
CD2 sP **sP 06 23 20.1 +0.4**
CD2 PP **PP 06 24 23.4 -0.7**
CD2 S **S 06 28 32.6 -0.2**
CD2 sS **sS 06 28 49.3 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,190nm,5.3s
CD2 LR LR
comp=N,390nm,5.3s
CD2 LR LR
comp=Z,300nm,4.7s
KLBR Kellerberrin 36.34 193 P **P 06 23 17.2 -1.7**
baz=34,SNR=5.1
EIDS Eidsvold 37.28 142 *eP* **P 06 23 28.1 +1.1**
comp=Z,4.2nm,0.6s
BJI Beijing 37.33 346 P **P 06 23 26.8 -0.4**
BJI S **S 06 29 13.4 +0.9**
BJI pmax pmax
comp=Z,20nm,0.6s
BJI pmax pmax
comp=Z,180nm,5.2s
BJI LR LR
comp=N,210nm,24.8s
BJI LR LR
comp=E,250nm,24.7s
BBOO Buckleboo 37.46 167 P **P 06 23 28.2 -0.3**
baz=36,SNR=13
STKA Stephens Creek 38.15 160 P **P 06 23 34.3 0.0**
comp=E,11nm,0.6s,baz=337,slow=9.8,SNR=15
STKA Stephens Creek 38.15 160 *eP* **P 06 23 34.3 0.0**
comp=E,1.9nm,0.7s
STKA Stephens Creek 38.15 160 P **P 06 23 34.3 0.0**
baz=36,SNR=16
LZH Lanzhou 38.54 329 *eP* **P 06 23 40.0 +2.3**
LZH pP **pP 06 23 51.1 +2.9**
LZH sP **sP 06 23 55.6 +3.1**
LZH pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 39.37 341 *eP* **P 06 23 45.3 +0.8**
HHC pP **pP 06 23 55.3 +0.3**
HHC sP **sP 06 23 58.9 -0.4**
HHC PP **PnPn 06 25 21.0 +2.8**
HHC S **S 06 29 46.2 +2.6**
HHC sS **sS 06 30 00.5 -0.4**
HHC ScS **ScS 06 33 50.0 -0.5**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,200nm,6.7s
HHC LR LR
comp=N,180nm,16.6s
HHC LR LR
comp=E,350nm,14.3s
HHC LR LR
comp=Z,93nm,15.5s
CMSA Cobar Meteorol 39.44 155 P **P 06 23 46.2 +1.1**
baz=38,SNR=7.4
CN2 Changchun 39.80 358 *eP* **P 06 23 48.5 +0.6**
USRK Ussuriysk Arra 40.42 6 P **P 06 23 54.2 +1.3**
comp=Z,1.5nm,0.7s,baz=198,slow=6.4,SNR=3.4
ARMA Armidale 41.42 147 *eP* **P 06 24 03.6 +2.0**
comp=Z,6.7nm,0.8s
ARMA Armidale 41.42 147 P **P 06 24 03.5 +1.9**
baz=40,SNR=5.3
ASAJ Asahikawa 42.39 17 LR LR 06 39 33.1
comp=Z,80nm,20.9s,baz=272,slow=33
ARPS Mount Arapiles 42.72 162 P **P 06 24 13.2 +1.3**
baz=41,SNR=5.2
GTA Gaotai 43.13 329 *eP* **P 06 24 16.2 +0.7**
GTA pP **pP 06 24 26.2 +0.1**
GTA sP **sP 06 24 30.1 -0.3**
GTA S **S 06 30 40.4 +0.8**
GTA sS **sS 06 30 56.5 -0.5**
GTA SS **SS 06 33 46.6 -6.6**
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=N,99nm,13.3s
GTA LR LR
comp=E,170nm,14.7s
GTA LR LR
comp=Z,150nm,16.6s
DZM Mont Dzumac 46.38 126 P **P 06 24 43.9 +2.3**
comp=Z,5.6nm,1.0s,baz=291,slow=14,SNR=3.6
DZM Mont Dzumac 46.38 126 P **P 06 24 43.9 +2.3**
SONM Songino Array 47.27 341 P **P 06 24 47.8 -0.4**
comp=Z,0.7nm,0.6s,baz=154,slow=8.1,SNR=7.3
SONM PcP **PcP 06 26 18.6 -0.4**
comp=Z,1.2nm,1.0s,baz=152,slow=2.0,SNR=4.1
SONM Songino Array 47.27 341 P **P 06 24 47.8 -0.4**
SONM PcP **PcP 06 26 18.6 -0.4**
WMQ Urumqi 52.78 325 *eP* **P 06 25 29.7 -0.3**
WMQ LR LR
comp=N,71nm,26.0s
WMQ LR LR
comp=E,71nm,22.0s
MSVF Nonsavu 54.71 115 *eP* **P 06 25 45.1 +0.5**
comp=E,12nm,1.4s
PETK Petropavlovsk- 55.21 22 P **P 06 25 49.4 +2.0**
comp=E,4.0nm,0.7s,baz=191,slow=6.9,SNR=6.0
PETK Petropavlovsk- 55.21 22 P **P 06 25 49.4 +2.0**
MK31 Makanchi Array 57.61 325 *eP* **P 06 26 02.9 -1.9**
MKAR Makanchi Array 57.61 325 P **P 06 26 02.7 -2.1**
comp=E,0.8nm,0.3s,baz=119,slow=8.4,SNR=18
MKAR Makanchi Array 57.61 325 P **P 06 26 02.7 -2.1**
KSH Kashi 58.15 315 *eP* **P 06 26 11.4 +2.6**
KSH *eS*P **sP 06 26 23.9 -0.1**
KSH *eP*cP **PcP 06 27 01.0 +0.8**
KSH *eP*P **PP 06 28 22.4 +4.5**
KSH ScP **ScP 06 30 57.6 -0.2**
KSH PcS **PcS 06 31 01.6 -0.1**
KSH S **S 06 34 09.3 +1.2**
KSH sS **sS 06 34 25.3 -0.7**
KSH ScS **ScS 06 35 53.9 -2.2**
KSH SS **SS 06 38 01.3 +1.2**
KSH pmax pmax
comp=Z,170nm,6.3s
KSH LR LR
comp=N,94nm,7.6s
KSH LR LR
comp=E,110nm,6.2s
ZALV Zalesovo Beam 60.60 333 P **P 06 26 22.1 -3.2**
comp=E,0.7nm,0.3s,baz=134,slow=6.2,SNR=4.7
ZALV Zalesovo Beam 60.60 333 P **P 06 26 22.1 -3.2**
KURBB Kurchatov Arra 61.78 327 P **P 06 26 31.8 -1.6**
comp=E,3.3nm,0.7s,baz=128,slow=6.3,SNR=16
KURK Kurchatov 61.79 327 *eP* **P 06 26 32.0 -1.3**
comp=E,4.9nm,0.7s
KKAR Karatay Array 63.33 317 *eP* **P 06 26 41.3 -2.6**
BVAR Borovoye Array 67.37 327 P **P 06 27 08.5 -1.3**
comp=E,3.8nm,0.9s,baz=120,slow=5.5,SNR=8.9
BVAR Borovoye Array 67.37 327 P **P 06 27 08.5 -1.3**
BRVK Borovoye 67.44 327 *eP* **P 06 27 08.6 -1.6**
comp=E,7.9nm,1.2s
ABKAR Akbulak array 72.23 321 *eP* **P 06 27 38.2 -1.6**
comp=E,1.0nm,0.4s
AKTO Aktyubinsk 73.73 322 P **P 06 27 48.2 -0.5**
comp=E,2.5nm,0.6s,baz=83,slow=7.1,SNR=7.7
AKTO Aktyubinsk 73.73 322 P **P 06 27 48.2 -0.5**
VNDA Vanda 83.52 173 P **P 06 28 42.0 0.0**
comp=E,0.8nm,0.7s,baz=337,slow=7.4,SNR=4.2
VNDA Vanda 83.52 173 P **P 06 28 42.0 0.0**
ILAR Eielson Array 84.87 25 P **P 06 28 50.0 +0.9**
comp=E,0.8nm,0.7s,baz=240,slow=5.1,SNR=9.4
ILAR Eielson Array 84.87 25 P **P 06 28 50.0 +0.9**
BRTR Keskin Array B 90.16 310 P **P 06 29 13.7 -1.6**
comp=E,1.2nm,0.8s,baz=56,slow=3.6,SNR=4.0
BRTR Keskin Array B 90.16 310 P **P 06 29 13.7 -1.6**
ARCES ARCESS Array B 90.43 340 P **P 06 29 14.3 -1.4**
comp=E,6.4nm,1.2s,baz=82,slow=6.5,SNR=5.6
ARCES ARCESS Array B 90.43 340 P **P 06 29 14.3 -1.4**
FINES FINESS Array B 91.85 332 P **P 06 29 20.5 -2.0**
comp=E,0.2nm,0.3s,baz=340,slow=37,SNR=2.3
FINES FINESS Array B 91.85 332 P **P 06 29 20.5 -2.0**
CRVS Cervenica-Dubn 97.26 320 *eP* **P 06 29 47.0 -0.6**
VYHS Vyhne 99.04 320 PDIF **Pdif 06 29 56.1 +0.5**
TORD Torodi Ar. Bea 123.15 288 PKP **PKPdf 06 35 10.4 -1.9**
comp=E,0.4nm,0.8s,baz=74,slow=2.6,SNR=2.8
TORD Torodi Ar. Bea 123.15 288 PKP **PKPdf 06 35 10.4 -1.9**

IDC 06 06:18:58.7±1.4,3.2°24.5S×145.7°7E,h0km,mb4.3/6, mb1 4.5/7,mb1mx4.1/20,mbtmp4.3/7,ML2.9/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/29,Error ellipse: s-maj=49.1km s-min=23.8km az=105.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**167**	Pn	Pn	06 20 30.9	-1.9
1.7nm,0.3s,baz=203,slow=13,SNR=2.8							
PMG				LR	LR	06 22 59.5	
comp=Z,1μm,18.0s,baz=177,slow=38							
KDU	**Kakadu**	**16.16**	**234**	S	P	06 22 50.0	-0.8
baz=15,SNR=7.0							
MTN	**Manton Dam**	**17.34**	**236**	S	P	06 23 05.5	+1.6
baz=15,SNR=5.8							
WRA	**Warramunga Arr**	**20.01**	**213**	P	P	06 23 33.4	+0.2
27nm,0.8s,baz=38,slow=12,SNR=22							
ASAR	**Alice Springs**	**23.33**	**208**	P	P	06 24 08.3	-0.5
11nm,0.9s,baz=39,slow=9.2,SNR=36							
FITZ	**Fitzroy Crossi**	**24.64**	**232**	P	P	06 24 21.7	+0.4
12nm,0.6s,baz=57,slow=11,SNR=16							
FITZ				LR	LR	06 34 47.3	
comp=Z,174nm,18.8s,baz=56,slow=38							
FITZ	**Fitzroy Crossi**	**24.64**	**232**	S	P	06 24 21.7	+0.4
baz=20,SNR=15							
DZM	**Mont Dzumac**	**27.44**	**135**	LR	LR	06 34 17.5	
comp=Z,166nm,19.9s,baz=227,slow=34							
STKA	**Stephens Creek**	**28.76**	**187**	P	P	06 24 59.5	+1.2
4.4nm,0.8s,baz=354,slow=12,SNR=3.1							
JOW	**Kunigami**	**34.34**	**332**	LR	LR	06 37 16.7	
comp=Z,103nm,20.7s,baz=107,slow=32							
JNU	**Nakatsue**	**38.81**	**340**	LR	LR	06 39 00.8	
comp=Z,72nm,21.5s,baz=154,slow=31							
KSRS	**Korea Array**	**43.75**	**339**	LR	LR	06 42 47.4	
comp=Z,62nm,19.5s,baz=340,slow=33							
ILAR	**Eielson Array**	**83.44**	**23**	P	P	06 31 28.4	+0.5
0.6nm,1.0s,baz=252,slow=5.5,SNR=3.7							
BVAR	**Borovoye Array**	**83.83**	**324**	P	P	06 31 29.1	-1.1
0.8nm,0.5s,baz=253,slow=40,SNR=2.6							

*SZGRF **06** 06:59:01.6,21.57S×178.07W,h33km,Fiji Islands region*
*BJI **06** 07:00:00.6,20.05S×176.92W,h556km,mB5.0/19, mb4.7/24*
*IDC **06** 07:00:01.9±1.6,19.93S×177.72W,h527km±19km, mb4.2/24,mb1 4.3/27,mb1mx4.3/28,mbtmp4.1/27,Error ellipse: s-maj=11.8km s-min=8.9km az=161.0*
*ISCJB **06** 07:00:03.0±0.1,20.06S±0.05×177.80W±0.03,h550km, mb4.7/124,Error ellipse: s-maj=7.5km s-min=2.8km az=159.5*
*NEIC **06** 07:00:03.4±0.5,19.96S×177.76W,h544km±6km,mb4.6/71, Error ellipse: s-maj=7.6km s-min=3.9km az=157.0*
*DJA **06** 07:00:06.1±5.0,20.5±21.1×17.8W±2.6,h565km±42km, M4.9/12,mB5.4/2,mb4.9/12,Mw(mB)4.8/2*
*AUST **06** 07:00:08.0,19.99S×177.78W,h600km*

ISC 06 07:00:03.8±0.3,20.04S±0.07×177.71W±0.05,h550km, n612,s0?80/636,mb4.7/124,191C-157D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.62**	**299**	*e*Pn	P	**07 01 31.2**	**+0.5**
AFI	**Afiamalu**	**8.32**	**44**	P	P	07 02 01.9	-3.1
5.5nm,0.3s,baz=232,slow=17,SNR=8.9							
AFI	**Afiamalu**	**8.32**	**44**	P	P	07 02 01.9	-3.1
DZM	**Mont Dzumac**	**14.93**	**259**	*e*P	P	**07 03 11.7**	**-1.0**
78nm,1.1s							
DZM	**Mont Dzumac**	**14.93**	**259**	P	P	**07 03 11.5**	**-1.2**
2.9nm,0.3s,baz=78,slow=17,SNR=32							
DZM	**Mont Dzumac**	**14.93**	**259**	P	P	**07 03 11.5**	**-1.2**
RAR	**Rarotonga**	**16.83**	**97**	P	P	**07 03 29.5**	**-1.6**
baz=249,slow=8.4,SNR=3.6							
RAR	**Rarotonga**	**16.83**	**97**	P	P	**07 03 29.6**	**-1.6**
OUZ	**Omahuta**	**16.96**	**205**	*e*P	P	**07 03 34.0**	**+1.9**
58nm,1.1s							
PAE	**Paea**	**26.71**	**90**	*e*P	P	**07 04 58.9**	**-0.9**
8.1nm,0.8s							
PPT2	**Papeete2**	**26.73**	**89**	*e*P	P	**07 04 59.4**	**-0.7**
36nm,0.8s							
PPT	**Papeete**	**26.73**	**89**	P	P	**07 04 59.2**	**-0.8**
58nm,0.8s,baz=67,slow=13,SNR=9.9							
PPT	**Papeete**	**26.73**	**89**	P	P	**07 04 59.2**	**-0.8**
TIAR	**Tiarei**	**26.95**	**89**	*e*P	P	**07 05 01.0**	**-1.0**
48nm,0.7s							
PMOR	**Pomariorio Ree**	**28.85**	**85**	*e*P	P	**07 05 17.5**	**-1.0**
181nm,1.2s							
EIDS	**Eidsvold**	**29.23**	**254**	*e*P	P	**07 05 21.5**	**-0.3**
66nm,1.3s							
EIDS	**Eidsvold**	**29.23**	**254**	P	P	**07 05 21.5**	**-0.3**
baz=29,SNR=8.5							
ARMA	**Armidale**	**29.52**	**243**	*e*P	P	**07 05 24.4**	**+0.1**
22nm,0.9s							
ARMA	**Armidale**	**29.52**	**243**	P	P	**07 05 25.0**	**+0.8**
baz=30,SNR=12							
MGCD	**Mangrove Creek**	**30.68**	**238**	P	P	**07 05 35.1**	**+1.0**
baz=31,SNR=4.7							
RMQ	**Roma**	**31.41**	**252**	P	P	**07 05 41.1**	**+0.7**
baz=31,SNR=9.4							
CNB	**Canberra Magne**	**32.71**	**235**	P	P	**07 05 52.1**	**+0.6**
baz=33,SNR=15							
CTA	**Charters Tower**	**33.81**	**264**	P	P	**07 06 00.3**	**-0.5**
62nm,0.5s,baz=90,slow=12,SNR=83							
CTA	**Charters Tower**	**33.81**	**264**	P	P	**07 06 00.3**	**-0.5**
CTAO	**Charters Tower**	**33.81**	**264**	*e*P	P	**07 06 00.7**	**-0.1**
121nm,1.0s							
CMSA	**Cobar Meteorol**	**34.73**	**243**	P	P	**07 06 08.4**	**0.0**
baz=35,SNR=34							
QLP	**Quilpie**	**35.46**	**252**	P	P	**07 06 14.4**	**-0.2**
baz=35,SNR=48							
PMG	**Port Moresby**	**35.51**	**282**	*e*P	P	**07 06 15.1**	**-0.1**
136nm,0.9s							
PMG	**Port Moresby**	**35.51**	**282**	P	P	**07 06 15.0**	**-0.1**
154nm,1.0s							
PMG	**Port Moresby**	**35.51**	**282**	P	P	**07 06 14.8**	**-0.3**
155nm,1.0s							
TOO	**Toolangi**	**36.39**	**233**	P	P	**07 06 22.4**	**+0.3**
baz=36,SNR=9.6							
COEN	**Coen**	**37.83**	**273**	*e*P	P	**07 06 34.3**	**+0.1**
545nm,0.9s							
COEN	**Coen**	**37.83**	**273**	P	P	**07 06 34.3**	**+0.1**
baz=38,SNR=55							
STKA	**Stephens Creek**	**38.24**	**244**	P	P	**07 06 37.0**	**-0.3**
23nm,0.6s,baz=82,slow=11,SNR=93							
STKA	**Stephens Creek**	**38.24**	**244**	*e*P	P	**07 06 37.5**	**+0.2**
12nm,1.2s							
STKA	**Stephens Creek**	**38.24**	**244**	P	P	**07 06 37.5**	**+0.2**
baz=38,SNR=52							
ARPS	**Mount Arapiles**	**38.97**	**236**	P	P	**07 06 43.1**	**0.0**
baz=39,SNR=10							
QIS	**Mount Isa**	**39.95**	**262**	P	P	**07 06 50.8**	**-0.5**
baz=40,SNR=6.5							
BBOO	**Buckleboo**	**43.00**	**243**	*e*P	P	**07 07 14.8**	**-0.4**
955nm,0.6s							
BBOO	**Buckleboo**	**43.00**	**243**	P	P	**07 07 14.9**	**-0.2**
baz=43,SNR=193							
BBOO				S	S	**07 13 00.1**	**-1.0**
baz=43,SNR=7.4							
JAY	**Jayapura**	**44.16**	**288**	P	P	**07 07 24.4**	**0.0**
baz=44,SNR=17							
JAY	**Jayapura**	**44.16**	**288**	P	P	**07 07 24.2**	**-0.2**
143nm,0.9s							
ASAR	**Alice Springs**	**44.89**	**256**	P	P	**07 07 29.6**	**-0.3**
89nm,0.8s,baz=87,slow=8.6,SNR=601							
ASAR	**Alice Springs**	**44.89**	**256**	P	P	**07 07 29.6**	**-0.3**
WRAB	**Tennant Creek**	**44.93**	**262**	*e*P	P	**07 07 29.2**	**-1.1**
81nm,0.9s							
WRA	**Warramunga Arr**	**44.94**	**262**	P	P	**07 07 29.3**	**-1.1**
54nm,0.8s,baz=97,slow=8.1,SNR=418							
WRA	**Warramunga Arr**	**44.94**	**262**	P	P	**07 07 29.3**	**-1.1**
KDU	**Kakadu**	**48.21**	**271**	P	P	**07 07 54.3**	**-0.8**
baz=48,SNR=30							
FORT	**Forrest**	**49.73**	**246**	*e*P	P	**07 08 05.1**	**-1.0**
86nm,0.7s							
FORT	**Forrest**	**49.73**	**246**	P	P	**07 08 05.4**	**-0.7**
baz=50,SNR=50							
TLE	**Tual**	**50.19**	**280**	P	P	**07 08 09.8**	**+0.1**
130nm,1.1s							
FAKI	**Fak Fak**	**51.66**	**283**	P	P	**07 08 19.6**	**-0.8**
38nm,1.2s							
FITZ	**Fitzroy Crossi**	**53.36**	**262**	P	P	**07 08 32.2**	**-0.3**
15nm,0.5s,baz=107,slow=8.3,SNR=112							
FITZ	**Fitzroy Crossi**	**53.36**	**262**	*e*P	P	**07 08 32.1**	**-0.3**
16nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.36**	**262**	P	P	**07 08 32.2**	**-0.3**
baz=53,SNR=34							
NLAI	**Namlea**	**56.29**	**280**	P	P	**07 08 52.4**	**-0.6**
54nm,1.3s,1μm55μm							
TNTI	**Ternate**	**57.61**	**284**	P	P	**07 09 01.2**	**-0.9**
175nm,1.0s,2μm							
MBWA	**Marble Bar**	**58.22**	**257**	*e*P	P	**07 09 05.0**	**-1.2**
MEEK	**Meekatharra**	**58.33**	**250**	P	P	**07 09 05.4**	**-1.5**
baz=58,SNR=19							
SBA	**Scott Base**	**58.35**	**184**	*e*P	P	**07 09 08.1**	**+2.1**
20nm,0.9s							
VNDA	**Vanda**	**58.39**	**185**	P	P	**07 09 07.5**	**+1.2**
4.4nm,0.8s,baz=357,slow=9.0,SNR=9.4							
VNDA	**Vanda**	**58.39**	**185**	*e*P	P	**07 09 07.6**	**+1.2**
90nm,2.6s							
KLBR	**Kellerberrin**	**58.50**	**245**	P	P	**07 09 07.3**	**-0.5**
baz=58,SNR=6.3							
NWAO	**Narrogin (SRO)**	**58.82**	**243**	*e*P	P	**07 09 10.2**	**+0.2**
18nm,1.1s							
MMRI	**Maumere**	**59.01**	**272**	P	P	**07 09 10.6**	**-0.9**
108nm,1.0s,2μm							
BLDU	**Ballidu**	**59.49**	**246**	P	P	**07 09 13.7**	**-0.8**
baz=59,SNR=7.0							
KDI	**Kendari**	**60.20**	**277**	P	P	**07 09 18.2**	**-1.2**
31nm,1.1s							
MORW	**Morawa**	**60.26**	**247**	P	P	**07 09 18.9**	**-0.7**
baz=60,SNR=7.1							
BKSI	**Bulukumba**	**62.06**	**275**	P	P	**07 09 30.8**	**-0.9**
16nm,1.1s							
KAPI	**Kappang**	**62.52**	**275**	*e*P	P	**07 09 33.1**	**-1.5**
12nm,0.8s							
KAPI	**Kappang**	**62.52**	**275**	P	P	**07 09 33.3**	**-1.3**
21nm,1.5s							
KAPI	**Kappang**	**62.52**	**275**	P	P	**07 09 33.4**	**-1.2**
21nm,1.5s							
SPSI	**Sidrap Palu**	**62.86**	**276**	P	P	**07 09 35.2**	**-1.6**
32nm,0.9s							
GIRL	**Giralia**	**62.94**	**254**	P	P	**07 09 38.0**	**+0.9**
baz=63,SNR=4.7							
PCI	**Palu**	**63.89**	**279**	S	S	07 17 25.6	-11
baz=64,SNR=5.6							
SRBI	**Singaraja**	**65.78**	**270**	P	P	**07 09 54.7**	**-0.6**
64nm,1.0s							
KMMI	**Kalianget**	**67.28**	**271**	P	P	**07 10 04.7**	**+0.1**
72nm,1.0s							
GMJI	**Gumukmas**	**67.39**	**269**	P	P	**07 10 04.3**	**-0.9**
45nm,0.9s							
BLJI	**Banyuglugur**	**67.41**	**270**	P	P	**07 10 04.7**	**-0.7**
81nm,0.9s,3μm							
MYLDM	**Lahad Datu**	**67.48**	**285**	P	P	**07 10 06.2**	**+0.5**
BBKI	**Banjar Baru**	**67.64**	**275**	P	P	**07 10 07.6**	**+0.8**
71nm,1.2s,3μm							
TSM	**Tawau**	**67.69**	**284**	P	P	**07 10 07.8**	**+0.7**
SDKM	**Sandakan**	**68.85**	**285**	P	P	**07 10 14.7**	**+0.5**
PWJI	**Pagerwojo**	**69.01**	**269**	P	P	**07 10 14.5**	**-0.6**
64nm,1.0s							
SJI	**Sawahan**	**69.13**	**269**	P	P	**07 10 16.1**	**+0.2**
53nm,0.9s,2μm							
PCJI	**Pacitan**	**69.54**	**269**	P	P	**07 10 18.3**	**0.0**
KDM	**Kudat**	**69.70**	**286**	P	P	**07 10 19.7**	**+0.5**
KKM	**Kota Kinabalu**	**69.91**	**285**	*e*P	P	**07 10 20.1**	**-0.5**
45nm,0.7s							
KKM	**Kota Kinabalu**	**69.91**	**285**	P	P	**07 10 20.7**	**+0.1**
baz=70,SNR=7.0							
KKM	**Kota Kinabalu**	**69.91**	**285**	P	P	**07 10 20.9**	**+0.4**
MJAR	**Matsushiro Arr**	**70.00**	**323**	P	P	**07 10 19.3**	**-1.2**
19nm,0.7s,baz=165,slow=6.6,SNR=39							
MJAR	**Matsushiro Arr**	**70.00**	**323**	P	P	**07 10 19.3**	**-1.2**
MAJO	**Matsushiro**	**70.00**	**323**	*e*P	P	**07 10 19.9**	**-0.6**
MAT	**Matsushiro**	**70.00**	**323**	P	P	**07 10 19.5**	**-1.0**
QSPA	**South Pole Qui**	**70.03**	**180**	P	P	**07 10 21.0**	**+0.6**
27nm,0.8s,baz=31,slow=1.4,SNR=124							
QSPA	**South Pole Qui**	**70.03**	**180**	*e*P	P	**07 10 20.9**	**+0.4**
36nm,0.9s							
BTM	**Bintulu**	**71.68**	**280**	P	P	**07 10 32.0**	**+1.1**
SBUM	**Sibu**	**72.20**	**279**	P	P	**07 10 34.4**	**+0.4**
SBUM	**Sibu**	**72.20**	**279**	P	P	**07 10 34.3**	**+0.4**
21nm,1.1s							
ASAJ	**Asahikawa**	**73.45**	**331**	*e*P	P	**07 10 41.3**	**+0.9**
21nm,0.9s							
KSM	**Kuching**	**73.62**	**278**	*e*P	P	**07 10 42.0**	**0.0**
58nm,1.0s							
KSM	**Kuching**	**73.62**	**278**	P	P	**07 10 42.4**	**+0.4**
baz=74,SNR=10							
KSM	**Kuching**	**73.62**	**278**	P	P	**07 10 42.4**	**+0.4**
NACB	**Ninganchiao**	**73.64**	**304**	*e*P	P	**07 10 40.7**	**-1.2**
133nm,1.2s							
SSLB	**Suanglung**	**73.95**	**303**	*e*P	P	**07 10 42.1**	**-1.6**
31nm,0.7s							
TPUB	**Ta-pu**	**73.95**	**303**	*e*P	P	**07 10 42.3**	**-1.5**
93nm,0.8s							
YSS	**Yuzh-Sakhalins**	**75.60**	**333**	*e*P	P	**07 10 53.0**	**+0.6**
38nm,0.9s							
PETK	**Petropavlovsk-**	**75.89**	**345**	P	P	**07 10 52.9**	**-1.0**
11nm,0.9s,baz=134,slow=8.3,SNR=11							
PETK	**Petropavlovsk-**	**75.89**	**345**	P	P	**07 10 52.9**	**-1.0**
KSRS	**Korea Array**	**76.72**	**318**	P	P	**07 10 58.7**	**-0.1**
5.6nm,0.9s,baz=136,slow=6.4,SNR=9.1							
KSAR	**Wonju Array Be**	**76.74**	**318**	P	P	**07 10 58.7**	**-0.2**
PKM	**Peak Mountain**	**77.48**	**45**	↑P	P	**07 11 03.8**	**+0.6**
baz=78							
SAO	**San Andreas Ge**	**77.50**	**43**	*e*P	P	**07 11 04.0**	**+0.9**
18nm,0.8s							
PTRM	**Twissleman Ran**	**77.66**	**45**	*e*P	P	**07 11 04.5**	**+0.5**
PASC	**Pasadena Art C**	**78.17**	**47**	*e*P	P	**07 11 06.6**	**-0.2**

12nm,0.8s
109C Camp Elliot, M 78.22 48 ⇓P P 07 11 07.2 +0.2
baz=78
ARVC Arvin 78.27 46 ⇓P P 07 11 07.7 +0.4
baz=78
MWC Mount Wilson 78.29 47 eP P 07 11 07.7 +0.1
18nm,0.8s
VES Vestal, Richgr 78.51 45 ⇓P P 07 11 08.9 +0.4
baz=79
MURC Murrieta 78.54 48 ⇑P P 07 11 09.2 +0.4
baz=79
BFSC Mount Baldy Ra 78.57 47 ⇓P P 07 11 09.4 +0.3
baz=79
RCTC Rector, Farmer 78.68 45 ⇑P P 07 11 09.9 +0.5
baz=79
MONP Monument Peak 78.70 49 ⇑P P 07 11 10.6 +0.7
baz=79
EDW2 Edwards Air Fo 78.70 46 ⇑P P 07 11 10.4 +0.8
baz=79
USRK Ussuriysk Arra 78.73 326 P P 07 11 10.1 +0.6
23nm,0.9s,baz=139,slow=3.5,SNR=33
ISA Isabella 78.82 46 eP P 07 11 10.4 +0.2
34nm,1.5s
ISA Isabella 78.82 46 ⇓P P 07 11 10.9 +0.6
baz=79
CMB Columbia Colle 78.94 43 eP P 07 11 10.9 0.0
15nm,0.9s
OHCM Honcut 79.03 41 eP P 07 11 11.7 +0.5
PFO Pinyon Flat Ob 79.06 48 ⇓P P 07 11 12.0 +0.3
baz=79
LRMC Laurel Mountai 79.24 46 ⇓P P 07 11 13.0 +0.4
baz=79
CWC Cottonwood Cre 79.52 45 ⇓P P 07 11 14.5 +0.5
baz=80
BELC Belle Mtn. Jos 79.59 48 ⇓P P 07 11 15.2 +0.7
baz=80
MLAC Mammoth Lakes 79.70 44 ⇓P P 07 11 15.5 +0.4
baz=80
MPMC Manual Prospec 79.70 46 ⇑P P 07 11 15.6 +0.5
baz=80
MTUM Tungsten Hills 79.72 44 eP P 07 11 15.7 +0.6
GSC Goldstone 79.75 47 eP P 07 11 14.5 -0.7
19nm,1.6s
GSC Goldstone 79.75 47 ⇑P P 07 11 15.6 +0.4
baz=80
YBH Yreka Blue Hor 79.76 39 P P 07 11 15.8 +0.6
13nm,0.8s,baz=234,slow=3.9,SNR=24
YBH Yreka Blue Hor 79.76 39 eP P 07 11 15.5 +0.4
9.6nm,0.8s
MYKOM Kota Tinggi 79.76 276 P P 07 11 16.0 +0.4
MYKOM Kota Tinggi 79.76 276 P P 07 11 15.7 +0.1
33nm,1.2s
TIN Tinemaha 79.77 44 ⇑P P 07 11 15.9 +0.6
baz=80
BC3 Big Chuckawall 79.79 49 ⇑P P 07 11 16.2 +0.7
baz=80
HEC Hector,Ludlow 79.81 47 ⇑P P 07 11 16.1 +0.6
baz=80
GLA Glamis 79.92 49 eP P 07 11 16.9 +0.8
33nm,1.3s
GLA Glamis 79.92 49 ⇑P P 07 11 17.1 +1.0
baz=80
HUMO Hull Mountain 80.16 38 eP P 07 11 17.2 +0.1
20nm,1.3s
GMRC Granite Mounta 80.25 48 ⇑P P 07 11 18.4 +0.5
baz=80
IRM Iron Mountain 80.28 48 ⇓P P 07 11 18.7 +0.8
baz=80
MDJ Mudanjiang 80.30 325 P P 07 11 18.7 +1.0
MDJ pmax pmax
comp=Z,33nm,1.1s
MDJ pmax pmax
comp=Z,150nm,3.8s
MDJ Mudanjiang 80.30 325 eP P 07 11 18.0 +0.3
comp=Z,30nm,1.0s
GRAC Grapevine Rang 80.31 45 ⇓P P 07 11 18.7 +0.7
baz=80
KGM Kluang 80.34 276 P P 07 11 19.0 +0.3
FURC Furnace Creek, 80.35 46 ⇑P P 07 11 18.7 +0.5
baz=80
TUQ Turquoise Moun 80.42 47 ⇑P P 07 11 19.3 +0.5
baz=81
SHOC Shoshone 80.43 46 ⇓P P 07 11 19.1 +0.4
baz=81
Y12C Blythe 80.50 49 ⇓P P 07 11 19.9 +0.8
baz=81
NVAR Mina Array Bea 80.50 43 P P 07 11 19.4 +0.1
comp=Z,11nm,0.9s,baz=226,slow=8.4,SNR=46
NVAR Mina Array Bea 80.50 43 P P 07 11 19.4 +0.1
113A Mohawk Valley, 80.53 50 ⇑P P 07 11 20.0 +0.8
baz=81
LDFC Landfair 80.79 48 eP P 07 11 21.9 +1.2
comp=Z,31nm,0.8s
214A Organ Pipe Nat 80.81 51 ⇓P P 07 11 21.8 +1.1
baz=81
PDMCI Parker Dam,Lak 81.06 49 ⇑P P 07 11 22.9 +0.9
baz=81
MOD Modoc 81.29 40 eP P 07 11 23.5 +0.4
comp=Z,21nm,1.0s
Z14A Wintersburg 81.43 50 ⇓P P 07 11 25.0 +1.1
baz=82
PMSA Palmer Station 81.60 157 P P 07 11 24.7 +0.6
comp=Z,37nm,0.8s,baz=112,slow=3.6,SNR=4.4
PMSA Palmer Station 81.60 157 P P 07 11 24.7 +0.6
W13A Hualapai Mount 81.66 48 ⇑P P 07 11 25.9 +0.6
baz=82
Y14A Wickenburg 81.68 49 ⇑P P 07 11 25.9 +0.7
baz=82
CN2 Changchun 82.10 322 eP P 07 11 27.3 +0.3
CN2 epP pP 07 13 24.5 -0.6
CN2 eS S 07 20 57.5 +1.1
CN2 pmax pmax
comp=Z,20nm,1.0s
R11A Troy Canyon, C 82.23 45 ⇑P P 07 11 28.3 +0.2
baz=82
BMN Battle Mountai 82.33 42 eP P 07 11 28.7 +0.3
FRIM Kepong 82.35 276 P P 07 11 29.5 +0.5
WHN Wuhan 82.39 306 ⇑P P 07 11 29.3 +0.5
TUC Tucson 82.48 52 eP P 07 11 30.1 +0.7
comp=Z,25nm,1.0s
LVP Lakeview Peak 82.64 35 P P 07 11 30.2 +0.4
VIPM Ingram Point 82.67 37 P P 07 11 30.5 +0.4
TDL Tradedollar La 82.92 35 P P 07 11 31.8 +0.5
X16A Lo Mia Camp, P 83.04 50 ⇓P P 07 11 33.2 +1.0
baz=83
319A Douglas 83.15 53 ⇑P P 07 11 34.0 +1.2
baz=83,SNR=24
R13A O'Grain Ranch, 83.21 45 ⇑P P 07 11 33.5 +0.5
baz=83
CCUT Cedar City 83.29 46 eP P 07 11 34.0 +0.6
comp=Z,11nm,0.9s
IPM Ipoh 83.34 277 eP P 07 11 34.2 +0.2
comp=Z,53nm,1.3s
IPM Ipoh 83.34 277 P P 07 11 34.4 +0.4
IPM Ipoh 83.34 277 P P 07 11 33.9 -0.1
comp=Z,36nm,1.0s
ARUT Antelope Range 83.36 46 eP P 07 11 33.9 +0.1
comp=Z,4.1nm,1.0s
U15A North Rim 83.45 48 ⇓P P 07 11 35.2 +0.9
baz=84
WUAZ Wupatki 83.63 49 ⇑P P 07 11 36.0 +0.8
baz=84
320A Kipp Ranch, An 83.70 54 ⇑P P 07 11 37.0 +1.4
baz=84,SNR=19
ELK Elko 83.76 43 eP P 07 11 35.6 -0.1
220A Playas Peak, P 83.97 53 ⇓P P 07 11 38.0 +1.1
baz=84,SNR=19
KULM Kulim 83.98 278 P P 07 11 37.9 +0.8
KULM Kulim 83.98 278 P P 07 11 37.1 0.0
comp=Z,27nm,1.1s
X18A Snowflake 84.17 50 ⇓P P 07 11 38.6 +0.7
baz=84
120A U Bar Ranch, L 84.19 52 ⇓P P 07 11 38.9 +0.9
baz=84,SNR=11
R15A Junction 84.37 46 ⇑P P 07 11 39.5 +0.7
baz=84
HAWA Hanford 84.42 36 eP P 07 11 38.4 -0.1
comp=Z,28nm,1.4s
Z20A Nine Sixteen R 84.49 52 ⇓P P 07 11 40.3 +0.9
baz=85,SNR=13
221A Mesquite Ranch 84.58 53 ⇑P P 07 11 41.2 +1.4
baz=85,SNR=5.3
S16A Weppner Ranch, 84.58 47 ⇑P P 07 11 40.1 +0.3
baz=85,SNR=5.1
MSU Marysvale 84.59 46 eP P 07 11 40.2 +0.4
PSI Prapat 84.72 275 P P 07 11 40.2 -0.8
baz=85,SNR=8.3

PSI Prapat 84.72 275 P P 07 11 40.0 -0.9
comp=Z,21nm,1.2s
BMO Blue Mountains 84.78 38 eP P 07 11 40.3 -0.1
comp=Z,4.7nm,0.8s
121A Cookes Peak, D 84.82 53 ⇓P P 07 11 42.1 +1.1
baz=85,SNR=11
MFID Camas Ranch 84.86 40 eP P 07 11 41.2 +0.3
comp=Z,11nm,1.2s
MFID Camas Ranch 84.86 40 ⇑P P 07 11 41.1 +0.2
baz=85,SNR=6.7
R16A Teasdale 84.94 46 ⇓P P 07 11 42.2 +0.6
baz=85,SNR=7.3
Y20A Horse Springs, 85.02 51 ⇓P P 07 11 43.0 +0.9
baz=85,SNR=8.9
DUG Dugway 85.03 44 ⇑P P 07 11 41.8 -0.1
baz=85
S17A Black Ridge (B 85.09 47 ⇓P P 07 11 41.7 -0.4
baz=85,SNR=6.5
X20A Quemado 85.23 51 ⇓P P 07 11 43.7 +0.6
baz=85,SNR=5.9
Z21A St. Cloud Mine 85.26 52 ⇓P P 07 11 44.3 +1.1
baz=85,SNR=16
Q16A Castle Valley 85.47 46 ⇓P P 07 11 44.8 +0.7
baz=86
122A Conniff Cattle 85.48 53 ⇑P P 07 11 44.6 +0.4
baz=86
I12A Atlanta 85.49 40 ⇓P P 07 11 44.5 +0.5
baz=86
W20A Ramah 85.50 50 ⇑P P 07 11 45.1 +0.7
baz=86,SNR=9.9
R17A Hanksville Air 85.54 46 ⇓P P 07 11 44.5 +0.2
baz=86,SNR=13
U19A Dine' College, 85.55 49 ⇓P P 07 11 44.9 +0.4
baz=86,SNR=7.3
Y21A Point of Rocks 85.58 52 ⇑P P 07 11 45.7 +1.0
baz=86,SNR=13
TMUT Trail Mountain 85.64 46 eP P 07 11 45.3 +0.3
S18A Hurst Farm, Bl 85.67 47 ⇑P P 07 11 45.3 +0.1
baz=86
X21A Alamocita Cree 85.70 51 ⇓P P 07 11 46.2 +0.9
baz=86,SNR=5.3
L14A Malta 85.72 42 ⇑P P 07 11 45.4 +0.3
baz=86
BJI Beijing 85.75 315 P P 07 11 45.5 +0.4
BJI pmax pmax
comp=Z,13nm,0.8s
BJI pmax pmax
comp=Z,130nm,3.7s
Z22A Elephant Butte 85.76 52 ⇑P P 07 11 45.9 +0.4
baz=86,SNR=9.3
HLID Hailey 85.80 41 eP P 07 11 45.9 +0.4
comp=Z,8.0nm,1.0s
HLID Hailey 85.80 41 ⇓P P 07 11 45.7 +0.2
baz=86,SNR=11
V20A Brimhall 85.84 50 ⇓P P 07 11 46.0 +0.1
baz=86
J13A Cove Ranch, Pi 85.86 41 ⇑P P 07 11 46.3 +0.6
baz=86,SNR=16
M15A Larsen Ranch, 85.93 43 ⇑P P 07 11 46.0 -0.1
baz=86
SRU San Rafael 86.01 46 eP P 07 11 46.5 -0.1
comp=Z,20nm,1.2s
SRU San Rafael 86.01 46 ⇓P P 07 11 46.6 -0.1
baz=86,SNR=14
K14A Jones Ranch, D 86.03 42 ⇑P P 07 11 46.8 +0.2
baz=86
P17A Butcher Ranch, 86.04 46 ⇓P P 07 11 47.4 +0.6
baz=86
H12A Diamond D Ranc 86.07 40 ⇓P P 07 11 47.0 +0.2
baz=86
324A Moseley Ranch, 86.07 55 ⇓P P 07 11 47.6 +0.5
baz=86,SNR=15
U20A Newcomb 86.07 49 ⇑P P 07 11 47.1 +0.1
baz=86
R18A Canyonlands Na 86.08 47 ⇓P P 07 11 46.9 -0.1
baz=86,SNR=14
G12A Big Creek, Yel 86.10 39 ⇓P P 07 11 47.1 +0.2
baz=86
W21A San Fidel 86.11 51 ⇓P P 07 11 48.1 +0.8
baz=86
425A Indio Mountain 86.17 55 ⇑P P 07 11 48.0 +0.5
baz=86,SNR=26
I13A Wildhorse Cree 86.17 40 ⇑P P 07 11 47.9 +0.6
baz=86
LENM Lemitar 86.17 52 eP P 07 11 47.9 +0.4
comp=Z,2.5nm,0.7s
J14A Carey 86.22 41 ⇑P P 07 11 48.2 +0.7
baz=86
L15A Malad City 86.24 43 ⇑P P 07 11 47.4 -0.2
baz=86
Q18A Rafter H Ranch 86.27 46 ⇓P P 07 11 47.9 +0.1
baz=86,SNR=9
N16A Rees Ranch, Co 86.29 44 ⇑P P 07 11 48.2 +0.2
baz=86
S19A Harvey Farm, M 86.29 48 ⇓P P 07 11 48.2 +0.1
baz=86
X22A Bernardo 86.30 51 ⇑P P 07 11 48.8 +0.8
baz=86
626A Big Bend Ranch 86.30 57 ⇓P P 07 11 48.8 +0.7
baz=86,SNR=20
Z23A Rita Site, Whi 86.31 53 ⇑P P 07 11 48.4 +0.3
baz=86
O17A Robinson Place 86.40 45 ⇓P P 07 11 49.0 +0.5
baz=87,SNR=14
325A Bean Ranch, Si 86.43 55 ⇑P P 07 11 49.2 +0.4
baz=87,SNR=28
H13A Challis 86.44 40 ⇑P P 07 11 48.8 +0.3
baz=87
V21A Milan 86.44 50 ⇑P P 07 11 48.9 +0.1
baz=87
P18A Preston Nutter 86.45 46 ⇓P P 07 11 49.0 +0.2
baz=87
R19A Curley Farm, L 86.47 47 ⇑P P 07 11 48.8 0.0
baz=87,SNR=9.0
LPM Los Pinos Moun 86.49 52 eP P 07 11 49.5 +0.6
F12A Elk City 86.49 38 ⇑P P 07 11 48.9 +0.2
baz=87
K15A Arbon 86.50 42 ⇓P P 07 11 49.3 +0.5
baz=87
526A Mary Lane Ranc 86.55 56 ⇓P P 07 11 50.0 +0.6
baz=87,SNR=18
HWUT Hardware Ranch 86.57 43 eP P 07 11 48.4 -0.8
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 86.58 57 P P 07 11 50.1 +0.7
comp=Z,9.7nm,0.8s,baz=217,slow=6.8,SNR=101
TXAR Lajitas Array 86.58 57 P P 07 11 50.1 +0.7
124A Stringfield Ra 86.65 54 ⇑P P 07 11 50.1 +0.2
baz=87,SNR=11
GYA Guiyang 86.66 300 eP P 07 11 50.2 +0.3
GYA pP pP 07 13 52.0 +2.4
GYA sP sP 07 14 42.5 -2.7
GYA PP PP 07 15 24.1 +1.5
GYA SKS SKSac 07 21 22.0 -2.7
GYA S S 07 21 40.9 -0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,60nm,4.0s
W22A Albuquerque 86.66 51 ⇓P P 07 11 50.4 +0.6
baz=87
PV10 Paradox Valley 86.66 47 eP P 07 11 49.2 -0.6
comp=Z,70nm,0.8s
E12A Beaver Dam Sad 86.67 38 ⇓P P 07 11 49.2 -0.3
baz=87
N17A Moffit Pass 86.71 44 ⇓P P 07 11 50.2 +0.2
baz=87
U21A Nageezi 86.71 49 ⇑P P 07 11 50.5 +0.4
baz=87,SNR=15
G13A Cobalt 86.73 39 ⇓P P 07 11 50.0 +0.2
baz=87
Y23A Lovelace Mesa, 86.74 52 ⇑P P 07 11 50.3 +0.1
baz=87
PV04 Paradox Valley 86.76 47 eP P 07 11 50.0 -0.2
Q19A Hogan Spring (86.79 47 ⇑P P 07 11 50.4 +0.2
baz=87,SNR=11
627A Terlingua Ranc 86.85 57 ⇓P P 07 11 51.4 +0.7
baz=87,SNR=22
426A McDonald Obser 86.86 56 ⇑P P 07 11 51.4 +0.6
baz=87,SNR=32
L16A Fish Haven 86.86 43 ⇓P P 07 11 50.7 +0.1
baz=87
225A Deer Hill, Car 86.87 54 ⇓P P 07 11 51.3 +0.5
baz=87,SNR=15
S20A Disappointment 86.87 48 ⇑P P 07 11 50.9 +0.1
baz=87
ANMO Albuquerque 86.90 51 P P 07 11 51.1 +0.2
comp=Z,5.6nm,0.8s,baz=240,slow=7.7,SNR=28
ANMO Albuquerque 86.90 51 eP P 07 11 51.0 0.0

comp=Z,6.4nm,0.9s
O18A Roosevelt 86.92 45 ⇓P P 07 11 51.0 +0.2
baz=87
J15A Blackfoot 86.94 42 ⇑P P 07 11 51.8 +0.9
baz=87,SNR=14
527A Woodward Ranch 86.96 57 ⇑P P 07 11 51.6 +0.4
baz=87,SNR=13
Z24A Sheeppen Canyo 86.99 53 ⇓P P 07 11 51.7 +0.3
baz=87
H14A Leadore 87.00 40 ⇑P P 07 11 51.8 +0.6
baz=87,SNR=13
R20A Redvale 87.03 48 ⇑P P 07 11 51.5 0.0
baz=87
F13A Darby 87.05 39 ⇓P P 07 11 51.5 +0.2
baz=87
T21A Navajo Lake 87.06 49 ⇑P P 07 11 52.1 +0.4
baz=87
C11A Tepee Creek (N 87.08 36 ⇑P P 07 11 51.7 +0.4
baz=87
326A Caldwell Ranch 87.18 55 ⇑P P 07 11 52.7 +0.6
baz=87
K16A Soda Springs 87.18 42 ⇓P P 07 11 52.6 +0.6
baz=87
S21A Coal Bank Pass 87.19 48 ⇑P P 07 11 52.7 +0.3
baz=87,SNR=7.6
Y24A Capitan 87.20 52 ⇓P P 07 11 52.8 +0.4
baz=87,SNR=21
I15A Monteview 87.22 41 ⇓P P 07 11 53.0 +0.9
baz=87
W23A Werner Place, 87.22 51 ⇑P P 07 11 53.4 +1.0
baz=87
125A Gardner Draw, 87.23 54 ⇑P P 07 11 53.1 +0.7
baz=87,SNR=9.3
SYO Syowa Base 87.24 193⇑eP P 07 11 49.5 -2.1
628A Black Gap, Mar 87.26 57 ⇑P P 07 11 53.0 +0.5
baz=87,SNR=9.8
GDL2 Guadalupe Moun 87.26 54 eP P 07 11 53.1 +0.5
L17A Cokeville 87.26 43 ⇓P P 07 11 52.2 -0.3
baz=87
U22A Llaves 87.26 50 ⇑P P 07 11 53.1 +0.4
baz=87
G14A Jackson 87.28 40 ⇓P P 07 11 53.0 +0.5
baz=87
P19A Cripple Cowboy 87.30 46 ⇓P P 07 11 52.9 +0.2
baz=88
J16A Bone 87.39 42 ⇓P P 07 11 53.8 +0.7
baz=88,SNR=14
MCMT McKenzie Canyo 87.42 40 eP P 07 11 53.3 +0.1
comp=Z,5.9nm,0.8s
427A Hayter Ranch, 87.43 56 ⇓P P 07 11 53.9 +0.5
baz=88,SNR=46
H15A Lima 87.44 40 ⇑P P 07 11 53.9 +0.7
baz=88,SNR=14
C12B Naegeli Ranch, 87.44 37 ⇓P P 07 11 53.1 +0.2
baz=88,SNR=6.0
Q20A Ridgley Place, 87.45 47 ⇑P P 07 11 53.1 -0.2
baz=88,SNR=7.5
M18A Lyman 87.45 44 ⇓P P 07 11 53.2 -0.2
baz=88,SNR=6.1
Z25A Roswell 87.46 53 ⇓P P 07 11 53.9 +0.4
baz=88,SNR=10
E13A Victor 87.49 38 ⇑P P 07 11 52.7 -0.6
baz=88,SNR=5.9
N18A Larsen Ranch, 87.49 45 ⇓P P 07 11 53.4 -0.1
baz=88
DLBC Dease Lake 87.52 23 P P 07 11 52.2 -0.8
comp=Z,1.6nm,0.9s,baz=248,slow=7.7,SNR=3.4
DLBC Dease Lake 87.52 23 P P 07 11 52.2 -0.8
T22A Edith 87.52 49 ⇑P P 07 11 54.0 +0.2
baz=88
O19A Miners Draw (B 87.53 45 ⇑P P 07 11 53.8 +0.1
baz=88,SNR=6.4
RRI2 Red Ridge 87.61 42 eP P 07 11 54.4 +0.2
comp=Z,11nm,0.8s
528A Cox Ranch, San 87.62 57 ⇓P P 07 11 54.7 +0.4
baz=88,SNR=11
F14A Wisdom 87.63 39 ⇑P P 07 11 54.3 +0.2
baz=88
P20A De Beque 87.64 46 ⇑P P 07 11 54.4 +0.1
baz=88,SNR=8.5
D13A Huson 87.68 38 ⇓P P 07 11 54.2 0.0
baz=88
R21A Cimarron 87.69 48 ⇑P P 07 11 54.8 +0.2
baz=88,SNR=6.6
126A Clayton Basin, 87.71 54 ⇓P P 07 11 54.8 +0.1
baz=88
L18A Fontenelle, Gr 87.72 44 ⇑P P 07 11 54.6 0.0
baz=88
U23A El Rito 87.72 50 ⇑P P 07 11 55.2 +0.4
baz=88
Y25A Mesa, Roswell 87.75 53 ⇑P P 07 11 55.1 +0.2
baz=88,SNR=14
I16A Newdale 87.77 41 ⇓P P 07 11 55.6 +0.8
baz=88,SNR=13
N19A John Jarvie Ra 87.78 45 ⇓P P 07 11 54.5 -0.4
baz=88
W24A Lazy 6 Ranch, 87.79 51 ⇑P P 07 11 55.0 -0.1
baz=88,SNR=5.4
B12A Libby 87.80 36 ⇑P P 07 11 55.2 +0.5
baz=88,SNR=5.1
ILAR Eielson Array 87.80 13 P P 07 11 52.9 -1.3
comp=Z,0.4nm,0.6s,baz=218,slow=5.3,SNR=12
ILAR Eielson Array 87.80 13 P P 07 11 52.9 -1.3
DCID1 Drake Creek 87.82 42 eP P 07 11 56.2 +1.2
comp=Z,14nm,1.3s
G15A Dillon 87.82 40 ⇓P P 07 11 55.4 +0.4
baz=88,SNR=21
MSO Missoula 87.84 38 eP P 07 11 54.3 -0.6
comp=Z,9.7nm,1.4s
MSO Missoula 87.84 38 ⇑P P 07 11 54.5 -0.4
baz=88
DLMT Dillon 87.86 40 eP P 07 11 55.8 +0.7
comp=Z,11nm,0.9s
E14A Clinton 87.88 39 ⇑P P 07 11 55.4 +0.2
baz=88
Q21A Lamborn Mesa, 87.89 47 ⇑P P 07 11 55.8 +0.3
baz=88
BSMT Bassoo Peak 87.91 37 P P 07 11 55.0 -0.3
S22A 4UR Ranch, Cre 87.91 49 ⇑P P 07 11 56.0 +0.3
baz=88,SNR=6.0
REDW Red Top Meadow 87.91 42 eP P 07 11 55.7 +0.2
comp=Z,19nm,1.2s
TPAW Teton Pass 87.91 42 eP P 07 11 56.1 +0.6
comp=Z,5.5nm,0.8s
428A Kincaid Ranch, 87.93 56 ⇓P P 07 11 56.1 +0.3
baz=88,SNR=5.7
C13A Hot Springs 87.93 37 ⇑P P 07 11 54.9 -0.4
baz=88
CPRX Cap Rock 87.99 54 eP P 07 11 56.6 +0.6
comp=Z,0.5nm,0.4s
J17A Brown Place, J 88.00 42 ⇑P P 07 11 56.3 +0.4
baz=88,SNR=14
227A Bennet, Jal 88.00 55 ⇓P P 07 11 56.3 +0.3
baz=88
Z26A Caprock 88.01 54 ⇑P P 07 11 56.2 +0.1
baz=88,SNR=17
SNOW Snow King Moun 88.02 42 eP P 07 11 56.4 +0.3
comp=Z,14nm,0.9s
A12A Yaak River Ran 88.02 36 ⇑P P 07 11 56.3 +0.6
baz=88
X25A Clemmons Ranch 88.04 52 ⇑P P 07 11 56.1 -0.2
baz=88
O20A White River Ci 88.04 46 ⇓P P 07 11 56.3 +0.1
baz=88,SNR=5.6
529A Stev Forest Ra 88.05 57 ⇓P P 07 11 56.5 +0.3
baz=88,SNR=13
K18A Toltan Ranch, 88.06 43 ⇓P P 07 11 56.8 +0.6
baz=88,SNR=18
XAN Xi'an 88.07 307 P P 07 11 56.7 +0.5
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN pmax pmax
comp=Z,42nm,6.0s
M19A Rock Springs 88.09 44 ⇑P P 07 11 56.5 +0.1
baz=88
328A Wristen Ranch, 88.11 56 ⇓P P 07 11 56.6 +0.1
baz=88,SNR=8.5
IMW Indian Meadow 88.12 42 eP P 07 11 57.3 +0.7
comp=Z,16nm,1.0s
F15A Butte 88.17 39 ⇑P P 07 11 56.9 +0.2
baz=88,SNR=8.4
MOOW Moose Ponds 88.17 42 eP P 07 11 56.7 0.0
comp=Z,3.3nm,1.0s
R22A Saguache, Gunn 88.18 48 ⇑P P 07 11 57.5 +0.4
baz=88
LRM Limekiln Ridge 88.18 39 eP P 07 11 56.9 +0.1
comp=Z,43nm,0.9s
LOHW Long Hollow 88.19 42 eP P 07 11 56.9 +0.1

comp=Z,18nm,1.5s
D14A Greenough 88.22 38 ⇓P P 07 11 56.3 -0.4
baz=88,SNR=5.4
127A Arkansas Junct 88.23 54 ⇑P P 07 11 57.1 0.0
baz=88
L19A Farson 88.25 44 ⇑P P 07 11 57.3 +0.2
baz=88,SNR=9.4
G16A Moss Hill, Enn 88.27 40 ⇓P P 07 11 57.3 +0.3
baz=88,SNR=6.6
CHMT Chamberlain Mo 88.28 38 eP P 07 11 57.0 -0.2
QLMT Earthquake Lak 88.29 41 eP P 07 11 58.4 +1.1
P21A Newcastle 88.30 47 ⇓P P 07 11 57.5 +0.1
baz=88
SLMT Seeley Lake 88.32 38 eP P 07 11 56.4 -0.8
comp=Z,4.7nm,1.2s
H16A Russell Place, 88.34 41 ⇑P P 07 11 58.5 +1.0
baz=88,SNR=15
N20A Spence Gulch, 88.36 45 ⇑P P 07 11 57.9 +0.2
baz=88,SNR=11
J18A Kendall Valley 88.36 43 ⇑P P 07 11 57.9 +0.3
baz=88,SNR=39
I17A Pilgrim Ck. 88.36 42 ⇓P P 07 11 58.5 +0.9
baz=88,SNR=8.7
Q22A Crested Butte, 88.36 48 ⇑P P 07 11 57.9 +0.1
baz=88,SNR=6.8
FLWY Flagg Ranch 88.37 42 eP P 07 11 58.6 +1.0
comp=Z,19nm,0.9s
B13A Whitefish 88.37 37 ⇓P P 07 11 57.0 -0.3
baz=88
E15A Deer Lodge 88.38 39 ⇑P P 07 11 57.8 +0.2
baz=88
Y26A Elida 88.41 53 ⇑P P 07 11 57.8 -0.1
baz=88,SNR=5.4
BW06 Boulder Array 88.44 43 eP P 07 11 57.5 -0.5
comp=Z,11nm,1.1s
BW06 Boulder Array 88.44 43 ⇑P P 07 11 57.8 -0.2
baz=89,SNR=12
PDAR Pinedale Array 88.44 43 P P 07 11 57.5 -0.5
comp=Z,7.2nm,0.9s,baz=212,slow=3.2,SNR=44
PDAR Pinedale Array 88.44 43 P P 07 11 57.5 -0.5
C14A Swan Lake 88.45 37 ⇓P P 07 11 57.7 0.0
baz=89
W25A X Bar L Ranch, 88.49 52 ⇓P P 07 11 58.3 0.0
baz=89,SNR=12
429A Davenport Ranc 88.51 57 ⇑P P 07 11 58.7 +0.3
baz=89,SNR=32
VNA3 Neumayer Olymp 88.58 176 eP P 07 11 57.7 -0.3
228A UT Block 9, Go 88.58 55 ⇑P P 07 11 58.8 +0.1
baz=89,SNR=5.4
BOZ Bozeman (W) 88.58 40 eP P 07 11 58.6 +0.1
comp=Z,17nm,1.3s
BOZ Bozeman (W) 88.58 40 ⇓P P 07 11 59.0 +0.5
baz=89,SNR=12
H17A Grant Village 88.60 41 ⇓P P 07 12 00.3 +1.6
baz=89,SNR=7.7
Z27A Tatum 88.61 54 ⇓P P 07 11 58.6 -0.3
baz=89,SNR=5.6
V25A Rancho No Teng 88.64 51 ⇓P P 07 11 59.1 +0.1
baz=89,SNR=8.2
F16A Kennard Place, 88.66 40 ⇑P P 07 11 59.3 +0.5
baz=89,SNR=8.1
X26A CR and CF Fran 88.69 52 ⇑P P 07 11 59.0 -0.2
baz=89
M20A Sweetwater, Wa 88.72 45 ⇑P P 07 11 59.8 +0.4
baz=89,SNR=5.5
I18A Diamond G Ranc 88.73 42 ⇑P P 07 11 59.7 +0.3
baz=89,SNR=5.7
530A J-C Ranch, Com 88.76 57 ⇑P P 07 11 59.5 0.0
baz=89
D15A Lincoln 88.78 38 ⇓P P 07 11 59.4 +0.1
baz=89,SNR=5.5
329A Wagon Wheel Ra 88.80 56 ⇓P P 07 12 00.0 +0.3
baz=89,SNR=12
P22A Eagle 88.80 47 ⇓P P 07 11 59.7 -0.1
baz=89
R23A Moffat 88.81 49 ⇓P P 07 11 59.9 0.0
baz=89
N21A Black Mountain 88.82 46 ⇑P P 07 12 00.3 +0.4
baz=89
L20A Wamsutter 88.86 44 ⇓P P 07 12 00.7 +0.8
baz=89,SNR=11
128A Castleberry Fa 88.88 55 ⇓P P 07 12 00.4 +0.3
baz=89,SNR=12
Y27A Causey 88.89 53 ⇓P P 07 12 00.3 +0.1
baz=89,SNR=9.7
W26A Owens Ranch, T 88.95 52 ⇑P P 07 12 00.5 +0.1
baz=89
G17A Pierce Place, 88.96 40 ⇑P P 07 12 01.3 +1.0
baz=89
J19A Crowheart 89.00 43 ⇑P P 07 12 00.7 +0.2
baz=89,SNR=12
S24A Houchin Ranch, 89.01 49 ⇑P P 07 12 01.0 +0.1
baz=89
E16A East Helena 89.01 39 ⇑P P 07 12 00.8 +0.3
baz=89
VNA2 Neumayer--Watz 89.03 177 eP P 07 12 00.1 +0.1
baz=203,slow=3.9
B14A Marquette Ranc 89.04 37 ⇓P P 07 12 00.3 -0.3
baz=89
U25A Circle Dot Ran 89.04 51 ⇑P P 07 12 01.0 +0.1
baz=89
WALA Waterton Lakes 89.05 36 eP P 07 12 00.5 -0.1
comp=Z,0.3nm,1.3s
631A Perdido Creek 89.07 58 ⇓P P 07 12 01.4 +0.5
baz=89
430A Baggett Ranch, 89.09 57 ⇑P P 07 12 01.2 +0.1
baz=89
C15A Salmond Ranch, 89.11 38 ⇓P P 07 12 00.7 -0.2
baz=89
229A Bryant Ranch, 89.13 56 ⇓P P 07 12 01.1 -0.2
baz=89
K20A Yellowstone Ra 89.17 44 ⇑P P 07 12 01.0 -0.4
baz=89,SNR=8.5
O22A Kremmling 89.21 47 ⇑P P 07 12 01.9 +0.2
baz=89,SNR=9.4
MSTX Muleshoe 89.22 53 ⇑P P 07 12 01.0 -0.6
baz=89
HHC Hu-ho-hao-te 89.22 314 eP P 07 12 03.1 +1.6
HHC pP pP 07 14 03.2 +1.1
HHC sP sP 07 14 56.8 -0.6
HHC PP PP 07 15 46.7 +4.2
HHC SKS SKSac 07 21 39.9 +0.7
HHC S S 07 22 04.9 +0.2
HHC SS SS 07 28 19.5 +3.2
HHC pmax pmax
comp=Z,88nm,1.5s
HHC pmax pmax
comp=Z,790nm,4.2s
Z28A Tucker Farm, M 89.23 54 ⇓P P 07 12 01.2 -0.5
baz=89
V26A Tequesquite Ra 89.24 51 ⇑P P 07 12 01.7 -0.1
baz=89
VNA1 Neumayer--Stat 89.25 176 eP P 07 12 01.1 +0.1
X27A F and S Farms, 89.26 53 ⇓P P 07 12 01.8 -0.1
baz=89
CMIG Matias Romero 89.27 72 P P 07 12 01.8 -0.3
comp=Z,8.3nm,1.0s,baz=252,slow=6.4,SNR=7.6
CMIG Matias Romero 89.27 72 P P 07 12 01.8 -0.3
A14A Double T Ranch 89.28 36 ⇑P P 07 12 01.7 +0.1
baz=89
732A Laxson Ranch, 89.28 59 ⇓P P 07 12 02.1 +0.2
baz=89
F17A Fitzpatrick Pl 89.30 40 ⇓P P 07 12 02.8 +1.0
baz=90,SNR=9.1
H18A Shoshone NF, C 89.31 41 ⇑P P 07 12 02.3 +0.3
baz=90
M21A Separation Pea 89.32 45 ⇓P P 07 12 01.8 -0.3
baz=90,SNR=10
D16A Dana Ranch, Ca 89.34 39 ⇑P P 07 12 02.3 +0.3
baz=90,SNR=6.8
R24A Sanders Place, 89.34 49 ⇑P P 07 12 02.5 +0.2
baz=90
T25A Trinidad 89.36 50 ⇓P P 07 12 03.0 +0.6
baz=90
KMI Kunming 89.38 297 P P 07 12 03.6 +0.8
KMI pmax pmax
comp=Z,17nm,1.1s
531A Rocksprings 89.39 58 ⇓P P 07 12 02.9 +0.4
baz=90
PLCA Paso Flores 89.39 133 P P 07 12 03.0 +0.5
comp=Z,5.4nm,1.0s,baz=228,slow=5.9,SNR=8.2
PLCA Paso Flores 89.39 133 eP P 07 12 03.3 +0.8
I19A Meeteetse 89.41 42 ⇑P P 07 12 02.6 +0.2
baz=90
B15A Bradely Ranch, 89.42 37 ⇑P P 07 12 01.5 -0.7
baz=90
W27A Bowe Ranch, En 89.46 52 ⇓P P 07 12 02.4 -0.3
baz=90,SNR=5.6
E17A Martinsdale 89.46 39 ⇑P P 07 12 02.6 0.0
baz=90
L21A Rawlins 89.48 45 ⇓P P 07 12 02.7 -0.2
baz=90
U26A Atchley Ranch, 89.52 51 ⇓P P 07 12 03.1 0.0
baz=90
431A Sonora 89.55 57 ⇑P P 07 12 02.9 -0.3
baz=90
N22A Wattenberg Ran 89.56 46 ⇓P P 07 12 03.9 +0.6
baz=90,SNR=11
S25A Robets Cordova 89.57 49 ⇑P P 07 12 03.1 -0.2
baz=90,SNR=6.8
Y28A McKinney Farm, 89.59 54 ⇑P P 07 12 03.2 -0.2
baz=90
C16A Fuhringer Ranc 89.62 38 ⇓P P 07 12 02.8 -0.3
baz=90
O23A Lake Granby, G 89.66 47 ⇑P P 07 12 04.3 +0.5
baz=90,SNR=5.2
A15A Johnson Ranch, 89.67 37 ⇑P P 07 12 03.2 -0.2
baz=90
J20A Shoshoni 89.67 43 ⇑P P 07 12 04.2 +0.6
baz=90,SNR=17
G18A Lazy EL Ranch, 89.68 41 ⇑P P 07 12 03.9 +0.3
baz=90
ISCO Idaho Springs 89.68 47 ⇑P P 07 12 04.2 +0.3
baz=90
H19A Powell 89.72 42 ⇓P P 07 12 04.5 +0.7
baz=90,SNR=8.7
Z29A Hungry Hill Ra 89.73 54 ⇓P P 07 12 04.2 +0.2
baz=90
632A Uvalde 89.74 58 ⇓P P 07 12 04.5 +0.4
baz=90
M22A Cedar Creek Ra 89.74 45 ⇑P P 07 12 04.2 +0.1
baz=90,SNR=6.5
RLMT Red Lodge 89.77 41 eP P 07 12 04.6 +0.6
comp=Z,12nm,1.1s
RLMT Red Lodge 89.77 41 ⇓P P 07 12 04.5 +0.4
baz=90
GCMT Greycliff 89.85 40 eP P 07 12 05.0 +0.7
comp=Z,1.4nm,0.7s
K21A Alcova 89.87 44 ⇓P P 07 12 04.5 -0.1
baz=90
F18A Big Timber 89.87 40 ⇓P P 07 12 04.9 +0.5
baz=90
X28A Dimmitt 89.88 53 ⇑P P 07 12 04.6 -0.2
baz=90
532A Rocksprings 89.89 58 ⇓P P 07 12 04.9 +0.1
baz=90
R25A Fountain Ranch 89.89 49 ⇑P P 07 12 05.1 +0.3
baz=90
D17A Six Diamond Ra 89.91 39 ⇓P P 07 12 05.0 +0.4
baz=90
I20A Worland 89.92 43 ⇑P P 07 12 04.7 0.0
baz=90,SNR=8.3
N23A Red Feather La 89.95 46 ⇓P P 07 12 05.4 +0.3
baz=90,SNR=5.7
B16A M & M Farms, S 89.95 37 ⇓P P 07 12 04.3 -0.4
baz=90
T26A Comanche Natio 89.97 50 ⇓P P 07 12 05.6 +0.4
baz=90
Y29A Porterfield Fa 90.01 54 ⇑P P 07 12 05.4 +0.1
baz=90,SNR=14
J21A Lysite 90.08 43 ⇑P P 07 12 05.9 +0.4
baz=90,SNR=11
E18A Harlowton 90.08 40 ⇓P P 07 12 06.0 +0.6
baz=90
C17A Wharram Farm, 90.11 38 ⇓P P 07 12 05.2 -0.2
baz=90
JCT Junction City 90.11 58 eP P 07 12 05.5 -0.2
comp=Z,6.4nm,0.8s
JCT Junction City 90.11 58 ⇑P P 07 12 05.6 -0.2
baz=90
L22A Ellis Ranch, M 90.13 45 ⇑P P 07 12 06.0 +0.2
baz=90,SNR=6.4
CM31 Chiang Mai Arr 90.22 289 eP P 07 12 07.8 +1.3
comp=Z,3.3nm,0.4s
CMAR Chiang Mai Arr 90.22 289 P P 07 12 07.3 +0.9
comp=Z,12nm,1.0s,baz=118,slow=2.8,SNR=41
CMAR Chiang Mai Arr 90.22 289 P P 07 12 07.3 +0.9
S26A Kim 90.24 50 ⇓P P 07 12 06.2 -0.1
baz=90,SNR=7.4
H20A Greybull 90.26 42 ⇓P P 07 12 06.0 -0.2
baz=90,SNR=7.7
432A Menard 90.27 57 ⇓P P 07 12 06.3 -0.2
baz=90
A16A West Butte Ran 90.29 37 ⇑P P 07 12 06.7 +0.4
baz=90
F19A Roth Farm, Mol 90.32 41 ⇓P P 07 12 06.6 +0.1
baz=90
CHTO Chiang Mai 90.34 290 eP P 07 12 07.8 +0.7
comp=Z,24nm,1.4s
CHTO Chiang Mai 90.34 290 P P 07 12 07.8 +0.7
M23A Laramie 90.35 46 ⇑P P 07 12 06.9 0.0
baz=90,SNR=5.6
K22A Casper 90.36 44 ⇓P P 07 12 06.5 -0.3
baz=90
I21A Big Trails, Te 90.39 43 ⇓P P 07 12 06.8 -0.1
baz=90,SNR=14
B17A L&G Farms, Che 90.42 38 ⇓P P 07 12 06.8 0.0
baz=91
AMTX Amarillo 90.42 53 ⇑P P 07 12 06.9 -0.2
baz=91
PHWY Pilot Hill 90.46 46 eP P 07 12 07.3 -0.2
comp=Z,2.6nm,0.6s
G20A Bridger 90.47 41 ⇑P P 07 12 07.1 -0.1
baz=91
W29A Amraillo 90.54 53 ⇑P P 07 12 07.4 -0.3
baz=91
T27A Campo 90.55 51 ⇑P P 07 12 07.2 -0.6
baz=91
R26A Arlington 90.55 49 ⇑P P 07 12 07.6 -0.1
baz=91,SNR=8.1
P25A Willow Gulch B 90.56 48 ⇑P P 07 12 07.8 -0.1
baz=91
N24A Carr 90.64 46 ⇑P P 07 12 08.8 +0.6
baz=91
L23A Garrett 90.66 45 ⇓P P 07 12 08.2 -0.1
baz=91,SNR=8.5
E19A Rath Farm, Rou 90.71 40 ⇑P P 07 12 08.3 +0.1
baz=91
J22A Midwest 90.73 44 ⇑P P 07 12 08.6 +0.1
baz=91,SNR=9.3
CD2 Chengdu 90.77 303 P P 07 12 08.5 -0.3
CD2 pP pP 07 14 11.7 +2.1
CD2 sP sP 07 15 06.6 +1.8
CD2 PP PP 07 15 56.7 +2.0
CD2 SKS SKSac 07 21 46.5 -1.8
CD2 S S 07 22 15.7 -3.1
CD2 sS sS 07 25 53.9 -0.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.2s
F20A Billings 90.78 41 ⇓P P 07 12 08.6 -0.1
baz=91
A17A Triple J Farms 90.80 37 ⇑P P 07 12 09.0 +0.4
baz=91
EGMT Eagleton 90.89 38 ⇓P P 07 12 09.2 +0.2
baz=91
H21A Big Horn, Sher 90.93 42 ⇑P P 07 12 09.6 +0.2
baz=91
I22A 9 Mile Ranch, 90.95 43 ⇓P P 07 12 09.7 +0.2
baz=91,SNR=5.5
M24A Cheyenne 90.96 46 ⇓P P 07 12 09.9 +0.3
baz=91
D19A Cripps Ranch, 90.99 40 ⇑P P 07 12 10.0 +0.4
baz=91
K23A Bowen Ranch, D 90.99 45 ⇑P P 07 12 09.7 0.0
baz=91
R27A Eads 91.00 49 ⇑P P 07 12 09.7 -0.1
baz=91
T28A Walsh 91.02 51 ⇑P P 07 12 09.6 -0.3
baz=91
B18A Beardsley Farm 91.06 38 ⇓P P 07 12 09.8 0.0
baz=91
ABTX Abilene, Hawle 91.07 56 ⇑P P 07 12 10.2 0.0
baz=91
E20A Meyer Farm, Mu 91.13 40 ⇑P P 07 12 10.9 +0.7
baz=91
P26A Davis Ranch, A 91.15 48 ⇑P P 07 12 11.0 +0.4
baz=91
C19A Slack Wire Ran 91.16 39 ⇑P P 07 12 10.8 +0.5
baz=91
A18A Metzger Ranch, 91.28 38 ⇑P P 07 12 11.0 +0.2
baz=91
H22A Clearmont 91.35 43 ⇑P P 07 12 11.6 +0.3
baz=92
D20A Manuel Ranch, 91.40 40 ⇓P P 07 12 11.7 +0.3
baz=92
G22A Birney 91.67 42 ⇑P P 07 12 13.3 +0.6
baz=92
L25A Engebretsen Ra 91.83 46 ⇓P P 07 12 13.7 +0.1
baz=92
A19A Klindworth Far 91.92 38 ⇑P P 07 12 13.7 0.0
baz=92
F22A Rosebud 91.95 42 ⇑P P 07 12 14.2 +0.3
baz=92
D21A La Casta Ranch 92.08 40 ⇑P P 07 12 14.5 0.0
baz=92
K25A Mack Ranch, Ha 92.09 45 ⇓P P 07 12 15.3 +0.5
baz=92
B20A Solberg Farm, 92.11 39 ⇑P P 07 12 14.2 -0.4
baz=92
G23A Biddle 92.23 42 ⇑P P 07 12 14.9 -0.4
baz=92
A20A Cobblestone Ra 92.37 38 ⇑P P 07 12 15.7 -0.1
baz=92
C21A Desert Coulee 92.37 40 ⇑P P 07 12 16.1 +0.3
baz=92
F23A Volborg 92.45 42 ⇑P P 07 12 16.3 0.0
baz=93
H24A Dirks Ranch, A 92.57 43 ⇓P P 07 12 16.7 -0.2
baz=93
K26A Motz Farm, Whi 92.59 45 ⇑P P 07 12 17.2 +0.2
baz=93
D22A Cohagen 92.61 40 ⇓P P 07 12 17.4 +0.4
baz=93
RSSD Black Hills 92.63 44 eP P 07 12 17.0 -0.3
comp=Z,10nm,1.2s
LZH Lanzhou 92.70 307 eP P 07 12 18.2 +0.4
LZH pP pP 07 14 20.1 +1.4
LZH sP sP 07 15 15.5 +1.7
LZH pmax pmax
comp=Z,25nm,1.6s
A21A Bergtoll Ranch 93.00 39 ⇓P P 07 12 19.0 +0.4
baz=93
F24A Ekalaka 93.11 42 ⇓P P 07 12 19.7 +0.4
baz=93
D23A Lindsay 93.22 41 ⇑P P 07 12 20.4 +0.6
baz=93
K27A Flueckinger Fa 93.23 46 ⇓P P 07 12 20.1 +0.2
baz=93
B22A Reddig Ranch S 93.24 39 ⇓P P 07 12 20.3 +0.5
baz=93
C23A Lambert 93.51 40 ⇓P P 07 12 21.5 +0.5
baz=94
B23A Brockton 93.92 40 ⇓P P 07 12 23.5 +0.7
baz=94
DGMT Dagmar 94.39 40 eP P 07 12 24.8 -0.2
comp=Z,15nm,1.1s
DGMT Dagmar 94.39 40 ⇑P P 07 12 25.4 +0.4
baz=94
BGNE Belgrade 95.52 48 ⇑P P 07 12 30.7 +0.4
baz=96
SONM Songino Array 95.58 319 P P 07 12 30.2 -0.3
comp=Z,0.9nm,1.0s,baz=130,slow=2.3,SNR=4.5
SONM Songino Array 95.58 319 P P 07 12 30.2 -0.3
YKA Yellowknife Ar 95.98 25 P P 07 12 30.3 -1.4
comp=Z,0.3nm,0.8s,baz=246,slow=4.5,SNR=7.1
YKA Yellowknife Ar 95.98 25 P P 07 12 30.3 -1.4
GTA Gaotai 96.89 309 eP P 07 12 36.1 -0.5
GTA pmax pmax
comp=Z,2.0nm,1.3s
ZALV Zalesovo Beam 110.30 321 PP PP 07 18 13.1 -6.2
comp=Z,0.3nm,0.3s,baz=80,slow=8.9,SNR=2.6
MKAR Makanchi Array 111.08 314 PKiKP PKiKP 07 17 33.4 -1.6
comp=Z,0.6nm,0.7s,baz=85,slow=1.3,SNR=5.6
MKAR Makanchi Array 111.08 314 PKiKP PKiKP 07 17 33.4 -1.6
KSH Kashi 114.84 305 ePKP PKPdf 07 17 41.2 -1.4
KSH ePP PP 07 18 57.1 +5.4
KSH PKS PKSdf 07 21 16.9 -2.5
KSH SKS SKSdf 07 23 59.6 -3.3
KSH SKKS SKKSac 07 24 49.2 -6.4
KSH AMB AMB
comp=Z,120nm,4.9s
ARCES ARCESS Array B 128.51 350 PKP PKPdf 07 18 07.6 -0.2
comp=Z,3.4nm,0.9s,baz=48,slow=1.3,SNR=5.9
ARCES ARCESS Array B 128.51 350 PKP PKPdf 07 18 07.6 -0.2
FINES FINESS Array B 135.40 344 PKP PKPdf 07 18 21.4 +0.5
comp=Z,0.7nm,0.4s,baz=96,slow=1.4,SNR=5.4
FINES FINESS Array B 135.40 344 PKP PKPdf 07 18 21.4 +0.5
AKASG Malin Array Be 142.74 332 PKhKP PKPpre 07 18 30.3
comp=Z,3.3nm,0.4s,baz=43,slow=4.4,SNR=23
AKASG Malin Array Be 142.74 332 PKPpre PKPpre 07 18 30.3
AK02 Malin Array Si 142.78 332 ePKPdf PKPpre 07 18 30.6
BSEG Bad Segeberg 145.60 352 ePKPbc PKPdf 07 18 40.6 +1.2
BR131 Keskin Array S 146.73 313 ePKPbc PKPdf 07 18 44.0 +2.0
BRTR Keskin Array B 146.73 313 PKPbc PKPdf 07 18 43.8 +1.8
comp=Z,4.2nm,0.7s,baz=107,slow=1.5,SNR=16
BRTR Keskin Array B 146.73 313 PKPbc PKPdf 07 18 43.8 +1.8
BUR08 Bucovina Ar. S 146.78 331 ePKPbc PKPbc 07 18 44.8 +0.3
NRDL Niedersach Rie 147.04 351 ePKPbc PKPdf 07 18 44.4 +2.6
CLZ Clausthal 147.63 351 ePKPbc PKPdf 07 18 45.8 +2.8
CLL Collm 147.67 347 ⇓iP PKPbc 07 18 46.3 -0.3
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 147.67 347 ePKPbc PKPdf 07 18 45.5 +2.5
CLL Collm 147.67 347 ⇓iPKPbc PKPbc 07 18 46.3 -0.3
comp=Z,15nm,0.9s
CLL ⇓iPKPab PKiKP 07 18 50.5 +2.4
UPC Upice 147.71 344 ⇑ePKP PKPbc 07 18 46.7 0.0
UPC ePKPAB PKiKP 07 18 50.5 +2.3
DPC Dobruska-Polom 147.76 343 ⇑ePKP PKPbc 07 18 46.8 -0.1
DPC ePKPAB PKPab 07 18 51.4 +0.1
MMAI Mount Meron Ar 147.82 300 PKPbc PKPbc 07 18 47.2 -0.5
comp=Z,13nm,0.9s,baz=48,slow=2.1,SNR=5.7
MMAI Mount Meron Ar 147.82 300 PKPbc PKPbc 07 18 47.2 -0.5
BRG Berggiesshubel 147.88 346 ePKPbc PKPdf 07 18 46.2 +2.9
BRG Berggiesshubel 147.88 346 eP PKPdf 07 18 46.1 +2.8
MLR Muntele Rosu 147.98 328 PKPbc PKPbc 07 18 47.9 +0.2
comp=Z,1.4nm,0.8s,baz=323,slow=5.1,SNR=6.6
MLR Muntele Rosu 147.98 328 PKPbc PKPbc 07 18 47.9 +0.2
PVCC Panska Ves 148.05 345 ⇑ePKP PKPbc 07 18 47.7 +0.1
PVCC ePKPAB PKPab 07 18 52.5 +0.1
PRU Pruhonice 148.56 345 ⇑ePKP PKPbc 07 18 48.7 -0.2
MOX Moxa 148.57 349 ePKPbc PKPdf 07 18 47.9 +3.4
TANN Tannenbergstha 148.63 347 ePKPbc PKPbc 07 18 48.2 -0.9
UBBA Unterbreizbach 148.68 351 ePKPbc PKPdf 07 18 47.6 +3.1
ROTZ Rotzenmuhle 149.30 347 ePKPbc PKPbc 07 18 49.9 -0.8
TNS Taunus Mts 149.48 352 ePKPbc PKPbc 07 18 51.0 -0.2
GRF Grafenberg Arr 149.56 349 ePKPbc PKPbc 07 18 51.0 -0.3
KHC Kasperske Hory 149.59 345 ePKPbc PKPbc 07 18 51.4 -0.1
KHC Kasperske Hory 149.59 345 ⇑ePKP PKPbc 07 18 51.4 -0.1
KHC ePKPAB PKPab 07 18 58.7 -0.2
WET Wettzell 149.74 346 ePKPbc PKPbc 07 18 50.4 -1.4
GEC2 GERESS Array S 149.83 345 ePKPbc PKPbc 07 18 51.0 -1.1
GERES GERESS Array B 149.83 345 PKPbc PKPbc 07 18 51.8 -0.3
comp=Z,3.9nm,0.8s,baz=29,slow=2.2,SNR=24
GERES GERESS Array B 149.83 345 PKPbc PKPbc 07 18 51.8 -0.3
CONA Conrad Observa 150.08 342 ⇑iPKPdf PKPdf 07 18 47.6 +0.5
comp=Z,1.1nm,0.5s
CONA ⇑iPKiKP PKPbc 07 18 52.8 +0.1
comp=Z,7.9nm,0.8s
WLF Walferdange 150.28 355 ePKPbc PKPbc 07 18 52.6 -0.4
BFO Black Forest 151.35 352 ePKPbc PKPbc 07 18 54.6 -0.9
ABTA Abfaltersbach 152.07 345 ⇑iPKPdf PKPdf 07 18 48.9 -1.2
comp=Z,2.8nm,0.7s
ABTA ⇑iPKPbc PKPbc 07 18 56.2 -1.1
comp=Z,5.1nm,0.6s
TORD Torodi Ar. Bea 173.13 175 PKP PKPdf 07 19 08.7 -2.2
comp=Z,2.8nm,0.9s,baz=181,slow=0.8,SNR=9.2
TORD PKPab PKPab 07 20 41.5 -0.6
comp=Z,1.1nm,0.7s,baz=193,slow=3.6,SNR=5.4
TORD Torodi Ar. Bea 173.13 175 PKP PKPdf 07 19 08.8 -2.2
TORD PKPab PKPab 07 20 41.5 -0.6

SZGRF ***06*** *07:01:46.4, 15.˙90S×173.˙42W, h33km, mb5.4, Tonga Islands*
IDC ***06*** *07:01:47.8±0.4, 15.˙18S×173.˙33W, h0km, mb4.9/28, mb1 5.0/28,mb1mx5.0/31,mbtmp4.9/28,MS5.3/35, Ms1 5.3/35,ms1mx5.2/45,Error ellipse: s-maj=16.9km s-min=11.9km az=145.0*
BJI ***06*** *07:01:47.2, 14.˙89S×173.˙12W, h5km, mB5.8/36, mb5.4/36, Ms5.5/41,Ms7 5.3/40*
ISCJB ***06*** *07:01:48.5±0.2, 15.˙28S±0.˙04×173.˙31W±0.˙03, h16km, mb5.3/177,MS5.3/201,Error ellipse: s-maj=6.5km s-min=3.8km az=159.2*
NEIC ***06*** *07:01:48.0±0.2, 15.˙16S×173.˙31W, h3km, mb5.5/126, MS5.4/136,MW5.8,MW5.8,Error ellipse: s-maj=7.8km s-min=4.1km az=144.0,Moment Tensor Solution. s58*

Moment tensor: Scale 10^{17}Nm; M_{rr}-1.19; $M_{\theta\theta}$2.53; $M_{\phi\phi}$-1.34; $M_{r\theta}$2.87; $M_{\theta\phi}$1.06; $M_{\phi r}$6.04; Best double couple: $M_0$7.10000×10^{17} NP1:ϕ_s210.00000°,δ86.00000°, λ-108.00000°. NP2:ϕ_s108.00000°,δ19.00000°, λ-12.00000°. Principal axes: T 6.6900, Plg38.0000°, Azm316.0000°; N 0.7800, Plg18.0000°, Azm211.0000°; P -7.4800, Plg45.0000°, Azm101.0000°;

*MOS **06** 07:01:52.8±1.0, 14.82S×173.16W, h33km, mb5.6/53, MS5.3/40 Error ellipse: s-maj=10.2km s-min=7.6km az=54.2*

*GCMT **06** 07:01:56.0±0.1, 15.04S×172.95W, h15km, MW5.7, Moment Tensor Solution. s84,c157; s46,c53; Moment tensor: Scale 10^{17}Nm; M_{rr}1.13±.04; $M_{\theta\theta}$1.57±.04; $M_{\phi\phi}$-2.70±.04; $M_{r\theta}$1.09±.12; $M_{\theta\phi}$2.42±.03; $M_{\phi r}$3.65±.11; Best double couple: $M_0$5.10000×10^{17} NP1:ϕ_s114.00000°, δ39.00000°,λ13.00000°. NP2:ϕ_s14.00000°,δ82.00000°, λ128.00000°. Principal axes: T 4.8900, Plg41.0000°, Azm319.0000°; N 0.3800, Plg38.0000°, Azm188.0000°; P -5.2700, Plg27.0000°, Azm75.0000°; Data Used: II IU IC G. Surface waves: sta=106, comp=219, per= 50.*

*NEIC **06** 07:02:18.2±0.0, 14.91S×173.59W, h10km, Moment Tensor Solution. s147 Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$1.33; $M_{\phi\phi}$-2.50; $M_{r\theta}$1.76; $M_{\theta\phi}$1.78; $M_{\phi r}$6.19; Best double couple: $M_0$7.00000×10^{17} NP1:ϕ_s15.00000°, δ85.00000°,λ111.00000°. NP2:ϕ_s119.00000°,δ21.00000°, λ15.00000°. Principal axes: T 6.9000, Plg46.0000°, Azm306.0000°; N 0.2500, Plg20.0000°, Azm192.0000°; P -7.1400, Plg36.0000°, Azm86.0000°;*

ISC 06 07:01:50.3±0.4**, 15.18S**±0.06×**173.30W**±0.05**, h19**km±1km**, h20**km**:pP-P, n1033, σ1.21**/974**, mb5.4**/176**, MS5.4**/203**, 247C-219D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.94	50	Pn	Pn	07 02 15.3	-7.0
	238nm,0.3s,baz=243,slow=18,SNR=210						
AFI				Sn	Sn	07 02 32.7	-14
	1μm,0.3s,baz=71,slow=18,SNR=20						
AFI	Afiamalu	1.94	50	ePn	Pn	07 02 15.0	-7.3
AFI				Sn	Sn	07 02 32.7	-14
MSVF	Nonsavu	8.68	252	eP	Pn	07 04 02.9	+7.8
MSVF	Nonsavu	8.68	252	ePn	Pn	07 04 02.9	+7.8
MSVF	Nonsavu	8.68	252	Pn	Pn	07 04 04.3	+9.2
	5μm,1.3s,SNR=25						
RAR	Rarotonga	14.18	117	Pn	Pn	07 05 03.7	-6.5
	3.6nm,0.3s,baz=261,slow=11,SNR=6.7						
RAR				Sn	Sn	07 07 31.1	-16
	1.0nm,0.3s,baz=345,slow=19,SNR=1.9						
RAR				LR	LR	07 09 00.3	
	comp=Z,16μm,20.3s,baz=312,slow=30						
RAR				T	T	07 19 40.5	
	27nm,0.3s,baz=113,slow=15,SNR=6.0						
RAR	Rarotonga	14.18	117	ePn	Pn	07 05 03.2	-7.0
	75nm,0.9s						
RAR				Sn	Sn	07 07 31.1	-16
RAR				TT		07 19 40.5	
DZM	Mont Dzumac	20.38	247	eP	Pn	07 06 31.4	+3.1
	798nm,1.6s						
DZM				eLQ	LQ	07 10 31.2	
	8μm,29.0s						
DZM				eLR	LR	07 11 23.8	
	25μm,25.2s						
DZM	Mont Dzumac	20.38	247	P	P	07 06 26.1	-0.1
	12nm,0.6s,baz=90,slow=6.1,SNR=11						
DZM				LR	LR	07 11 30.7	
	comp=Z,2μm,18.3s,baz=77,slow=29						
DZM	Mont Dzumac	20.38	247	eP	Pn	07 06 27.5	-0.8
	863nm,1.7s						
NOUC	Port Laguerre	20.51	247	eP	P	07 06 26.8	-0.7
TARA	Tarawa	21.35	319	eP	P	07 06 37.5	+1.0
	628nm,1.2s						
TARA				LR	LR		
	comp=Z,13μm,21.0s						
PAE	Paea	22.88	99	eP	P	07 06 50.7	-2.2
	comp=Z,42nm,1.4s						
PPT	Papeete	22.88	99	P	P	07 06 52.2	-0.7
	comp=Z,54nm,1.0s,baz=252,slow=7.4,SNR=5.5						
PPT				LR	LR	07 13 09.3	
	comp=Z,8μm,21.4s,baz=268,slow=30						
PPT	Papeete	22.88	99	P	P	07 06 52.2	-0.7
PPT2	Papeete2	22.88	99	eP	P	07 06 51.4	-1.6
	comp=Z,171nm,1.4s						
PPT2				eLQ	LQ	07 11 15.2	
	comp=Z,32μm,28.2s						
PPT2				eLR	LR	07 12 16.3	
	comp=Z,21μm,25.0s,baz=264						
TIAR	Tiarei	23.10	99	eP	P	07 06 53.4	-1.8
	comp=Z,107nm,1.0s						
OUZ	Omahuta	23.17	208	eP	P	07 06 57.2	+1.4
	comp=Z,92nm,1.3s						
TVO	Taravao	23.20	100	eP	P	07 06 54.5	-1.8
	comp=Z,248nm,1.2s						
XMAS	Kiritimati	23.21	44	eP	P	07 06 56.5	+0.1
	comp=Z,605nm,1.6s						
TBI	Tubuai	23.90	114	eP	P	07 07 01.0	-2.0
	comp=Z,198nm,1.1s						
TBI				eLQ	LQ	07 11 43.1	
	comp=Z,23μm,28.8s						
TBI				eLR	LR	07 12 39.4	
	comp=Z,23μm,26.0s,baz=288						
MEH	Mehetia	24.33	100	eP	P	07 07 05.4	-1.7
	comp=Z,201nm,1.3s						
URZ	Urewera	24.50	198	eP	P	07 07 11.5	+3.0
	comp=Z,29nm,0.7s						
PMOR	Pomariorio Ree	24.52	93	eP	P	07 07 07.6	-1.3
	comp=Z,556nm,1.3s						
HNR	Honiara	26.75	279	PFAKE		07 07 40.0	+11
HNR				LR	LR		
	comp=Z,9μm,20.0s						
SNZO	South Karori	28.04	199	eP	P	07 07 42.0	+1.7
	comp=Z,37nm,0.9s						
SNZO				LR	LR		
	comp=Z,6μm,21.0s						
KHZ	Kahutara	29.42	200	eP	P	07 07 50.8	-1.8
	comp=Z,15nm,0.3s						
JOHN	Johnston Islan	31.93	7	PFAKE		07 08 30.0	+15
JOHN				LR	LR		
	comp=Z,24nm,20.0s						
EIDS	Eidsvold	34.82	247	eP	P	07 08 39.0	-1.3
	comp=Z,6.1nm,0.8s						
ARMA	Armidale	35.54	239	eP	P	07 08 45.0	-1.5
	comp=Z,17nm,0.8s						
RKT	Rikitea	36.97	108	eS	S	07 14 35.9	-7.3
	comp=Z,1μm,30.5s						
RKT				eLQ	LQ	07 17 23.5	
	comp=Z,5μm,28.2s						
RKT				eLR	LR	07 18 52.6	
	comp=Z,11μm,24.2s,baz=282						
CTA	Charters Tower	38.79	257	P	P	07 09 13.2	-0.9
	comp=Z,9.4nm,0.8s,baz=85,slow=12,SNR=3.4						
CTA				LR	LR	07 22 45.3	
	comp=Z,4μm,21.4s,baz=79,slow=32						
CTA	Charters Tower	38.79	257	P	P	07 09 13.2	-0.9
CTAO	Charters Tower	38.79	257	eP	P	07 09 16.4	+2.2
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,6μm,22.0s						
CTAO	Charters Tower	38.79	257	eP	P	07 09 16.4	+2.2
	comp=Z,13nm,0.8s						
CTAO				LR	LR		
	comp=Z,6μm,22.0s						
PMG	Port Moresby	39.02	274	eP	P	07 09 19.6	+3.5
	comp=Z,40nm,1.2s						
PMG				LR	LR		
	comp=Z,3μm,21.0s						
CAN	Canberra	39.24	232	eP	P	07 09 16.1	-1.7
CAN				pmax	pmax		
	comp=Z,89nm,1.5s						
CAN				MLR	MLR		
	comp=Z,3μm,21.0s						
CAN	Canberra	39.24	232	eP	P	07 09 16.1	-1.7
	comp=Z,89nm,1.5s						
CAN				LR	LR		
	comp=Z,3μm,21.0s						
COEN	Coen	42.10	266	eP	P	07 09 41.2	-0.3
	comp=Z,1μm,1.8s						
MIDW	Midway	43.32	355	PFAKE		07 10 00.0	+8.9
MIDW				LR	LR		
	comp=Z,4μm,21.0s						
STKA	Stephens Creek	44.23	240	P	P	07 09 57.1	-1.5
	comp=Z,28nm,0.9s,baz=81,slow=9.0,SNR=23						
STKA				LR	LR	07 26 14.4	
	comp=Z,3μm,21.1s,baz=70,slow=33						
STKA	Stephens Creek	44.23	240	eP	P	07 09 57.0	-1.7
	comp=Z,13nm,1.3s						
BBOO	Buckleboo	49.01	240	eP	P	07 10 34.4	-1.7
	comp=Z,2μm,1.9s						
WRAB	Tennant Creek	49.98	257	eP	P	07 10 41.6	-2.1
WRAB				pmax	pmax		
	comp=Z,44nm,1.2s						
WRAB	Tennant Creek	49.98	257	eP	P	07 10 41.6	-2.1
	comp=Z,44nm,1.2s						
WRAB	Tennant Creek	49.98	257	P	P	07 10 42.0	-1.7
	comp=Z,128nm,1.1s,SNR=5.8						
WRA	Warramunga Arr	49.99	257	P	P	07 10 42.1	-1.6
	comp=Z,13nm,0.9s,baz=91,slow=7.1,SNR=16						
WRA				LR	LR	07 29 45.6	
	comp=Z,4μm,21.0s,baz=90,slow=34						
WRA	Warramunga Arr	49.99	257	P	P	07 10 42.1	-1.6
ASAR	Alice Springs	50.27	252	P	P	07 10 44.5	-1.4
	comp=Z,38nm,0.7s,baz=87,slow=8.3,SNR=38						
ASAR				LR	LR	07 30 16.6	
	comp=Z,9μm,20.9s,baz=90,slow=34						
ASAR	Alice Springs	50.27	252	P	P	07 10 44.5	-1.4
GUMO	Guam	50.30	303	PFAKE		07 11 00.0	+14
GUMO				LR	LR		
	comp=Z,2μm,22.0s						
FORT	Forrest	55.61	243	eP	P	07 11 23.6	-1.6
	comp=Z,43nm,0.9s						
FITZ	Fitzroy Crossi	58.35	258	P	P	07 11 45.9	+1.1
	comp=Z,1.8nm,0.6s,baz=101,slow=5.2,SNR=3.7						
FITZ				LR	LR	07 34 51.3	
	comp=Z,5μm,20.6s,baz=95,slow=34						
FITZ	Fitzroy Crossi	58.35	258	eP	P	07 11 45.0	+0.3
	comp=Z,13nm,1.2s						
DRV	Dumont d'Urvil	59.84	200	P	P	07 11 56.0	+1.8
DRV				S	S	07 20 01.0	-3.6
DRV				L	L	07 26 00.0	
DRV				R		07 29 00.0	
CBIJ	Chichi jima	60.27	314	LR	LR	07 33 13.6	
	comp=Z,3μm,20.8s,baz=124,slow=31						
RPN	Rapa Nui	60.28	113	PFAKE		07 12 10.0	+12
RPN				LR	LR		
	comp=Z,3μm,21.0s						
SBA	Scott Base	63.48	185	eP	P	07 12 21.3	+2.7
SBA				pmax	pmax		
	comp=Z,184nm,1.8s						
SBA				MLR	MLR		
	comp=Z,1μm,20.0s						
SBA	Scott Base	63.48	185	eP	P	07 12 21.3	+2.7
	comp=Z,184nm,1.8s						
SBA				LR	LR		
	comp=Z,1μm,20.0s						
MBWA	Marble Bar	63.52	254	eP	P	07 12 18.5	-1.4
	comp=Z,13nm,1.1s						
MBWA				LR	LR		
	comp=Z,3μm,19.0s						
VNDA	Vanda	63.60	186	P	P	07 12 21.4	+1.9
	comp=Z,10nm,0.9s,baz=14,slow=6.4,SNR=15						
VNDA				LR	LR	07 36 54.4	
	comp=Z,737nm,18.2s,baz=21,slow=33						
VNDA	Vanda	63.60	186	P	P	07 12 21.4	+1.9
DAV	Davao City (W)	64.47	286	PFAKE		07 12 40.0	+14
DAV				LR	LR		
	comp=Z,2μm,20.0s						
NWAO	Narrogin (SRO)	64.81	240	P	P	07 12 28.1	-0.1
	comp=Z,16nm,1.0s,baz=87,slow=7.0,SNR=3.3						
NWAO				LR	LR	07 38 42.8	
	comp=Z,2μm,19.2s,baz=175,slow=34						
NWAO	Narrogin (SRO)	64.81	240	P	P	07 12 28.1	-0.1
KAPI	Kappang	66.47	271	PFAKE		07 12 50.0	+11
KAPI				LR	LR		
	comp=Z,1μm,21.0s						
MJAR	Matsushiro Arr	68.84	320	P	P	07 12 53.6	-0.1
	comp=Z,20nm,1.1s,baz=111,slow=7.8,SNR=20						
MJAR				LR	LR	07 37 21.4	
	comp=Z,3μm,21.7s,baz=130,slow=31						
MJAR	Matsushiro Arr	68.84	320	P	P	07 12 53.6	-0.1
MAJO	Matsushiro	68.84	320	eP	P	07 12 54.0	+0.3
MAJO				pmax	pmax		
	comp=Z,74nm,1.4s						
MAJO				MLR	MLR		
	comp=Z,4μm,22.0s						
MAJO	Matsushiro	68.84	320	eP	P	07 12 54.0	+0.3
	comp=Z,74nm,1.4s						
MAJO				LR	LR		
	comp=Z,4μm,22.0s						
MAT	Matsushiro	68.84	320	P	P	07 12 54.0	+0.3
MAT				S	S	07 22 01.0	+4.2
ERM	Erimo	69.64	327	PFAKE		07 13 10.0	+12
ERM				LR	LR		
	comp=Z,3μm,20.0s						
YUK	Yuzh-Kuril'sk	69.72	330	c iP	P	07 12 53.2	-5.7
YUK				iPPP	PPP	07 17 11.3	
YUK				iS	S	07 22 01.1	-5.7
YUK				pmax	pmax		
	comp=Z,284nm,7.2s						
JOW	Kunigami	70.44	306	LR	LR	07 38 00.5	
	comp=Z,2μm,21.3s,baz=113,slow=31						
CASY	Casey	70.65	205	PFAKE		07 13 20.0	+16
CASY				LR	LR		
	comp=Z,1μm,20.0s						
SAO	San Andreas Ge	71.10	42	eP	P	07 13 08.1	+0.6
SAO				pmax	pmax		
	comp=Z,31nm,1.2s						
SAO	San Andreas Ge	71.10	42	eP	P	07 13 08.1	+0.6
	comp=Z,31nm,1.2s						
TGY	Tagaytay City	71.25	291	LR	LR	07 39 50.0	
	comp=Z,13nm,18.2s,baz=93,slow=32						
ASAJ	Asahikawa	71.41	328	LR	LR	07 45 35.1	
	comp=Z,1μm,18.2s,baz=261,slow=37						
ASAJ	Asahikawa	71.41	328	eP	P	07 13 10.3	+1.1
	comp=Z,23nm,1.1s						
KIPM	Iron Peak	71.70	38	eP	P	07 13 10.3	-0.9
	comp=Z,34nm,1.4s						
JNU	Nakatsue	71.72	313	eP	P	07 13 12.0	+0.6
	comp=Z,50nm,1.6s						
109C	Camp Elliot, M	71.86	47	⇑P	P	07 13 12.0	-0.2
	baz=72						
ARVC	Arvin	71.88	45	⇑P	P	07 13 13.0	+0.7
	baz=72						
PET	Petropavlovsk	72.10	343	eP	P	07 13 13.0	-0.1
PET				eS	S	07 22 36.7	+2.6
PET				ePS	PnS	07 23 11.0	+5.6
PET				pmax	pmax		
	comp=Z,53nm,1.5s						
PET				pmax	pmax		
	comp=Z,400nm,13.5s						
PET				pmax	pmax		
	comp=Z,700nm,11.3s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET				MLR	MLR		
	comp=Z,2μm,21.0s						
PET	Petropavlovsk	72.10	343	eP	P	07 13 13.7	+0.5
	comp=Z,108nm,1.5s						
PET				LR	LR		
	comp=Z,1μm,19.0s						
VES	Vestal, Richgr	72.11	44	⇑P	P	07 13 14.4	+0.7
	baz=72						
MURC	Murrieta	72.17	47	⇓P	P	07 13 14.7	+0.5
	baz=72						
BFSC	Mount Baldy Ra	72.19	46	⇓P	P	07 13 14.8	+0.4
	baz=72						
EDW2	Edwards Air Fo	72.32	45	⇑P	P	07 13 15.4	+0.4
	baz=72						
MONP	Monument Peak	72.34	48	⇓P	P	07 13 15.8	+0.4
	baz=72						
ISA	Isabella	72.42	44	eP	P	07 13 15.5	-0.1
ISA				pmax	pmax		
	comp=Z,76nm,1.8s						
ISA	Isabella	72.42	44	eP	P	07 13 15.5	-0.1
	comp=Z,76nm,1.8s						
ISA	Isabella	72.42	44	⇓P	P	07 13 16.1	+0.5
	baz=73						
PEA0B	Petropavlovsk-	72.45	342	eP	P	07 13 15.7	+0.4
PETK	Petropavlovsk-	72.45	342	P	P	07 13 15.4	+0.1
	comp=Z,20nm,0.8s,baz=142,slow=6.5,SNR=22						
PETK				LR	LR	07 42 52.8	
	comp=Z,737nm,18.1s,baz=158,slow=34						
PETK	Petropavlovsk-	72.45	342	P	P	07 13 15.4	+0.1
PETK	Petropavlovsk-	72.45	342	P	P	07 13 15.4	+0.1
CMB	Columbia Colle	72.53	41	eP	P	07 13 15.8	-0.4
CMB				pmax	pmax		
	comp=Z,21nm,1.2s						
CMB	Columbia Colle	72.53	41	eP	P	07 13 15.8	-0.4
	comp=Z,20nm,1.2s						
PFO	Pinyon Flat Ob	72.70	47	eP	P	07 13 15.9	-1.4
	comp=Z,27nm,1.4s						
PFO				LR	LR		
	comp=Z,5μm,21.0s						
PFO	Pinyon Flat Ob	72.70	47	⇓P	P	07 13 17.0	-0.4
	baz=73						
BBRC	Big Bear Solar	72.72	46	⇑P	P	07 13 17.8	+0.2
	baz=73						
WDC	Whiskeytown Da	72.74	38	eP	P	07 13 18.0	+0.7
WDC				pmax	pmax		
	comp=Z,39nm,1.4s						
WDC	Whiskeytown Da	72.74	38	eP	P	07 13 18.0	+0.7
	comp=Z,39nm,1.4s						
SWSC	Sam W. Stewart	72.82	48	⇑P	P	07 13 18.2	+0.3
	baz=73						
LPIG	La Paz	72.84	58	LR	LR	07 41 12.5	
	comp=Z,143nm,18.2s,baz=309,slow=32						
LRMC	Laurel Mountai	72.85	45	⇑P	P	07 13 18.7	+0.4
	baz=73						
KKM	Kota Kinabalu	72.93	281	PFAKE		07 13 30.0	+11
KKM				LR	LR		
	comp=Z,786nm,21.0s						
RRX	Edison Barstow	73.00	46	⇓P	P	07 13 19.4	+0.3
	baz=73						
CWC	Cottonwood Cre	73.12	44	⇑P	P	07 13 19.5	-0.4
	baz=73						
BELC	Belle Mtn. Jos	73.23	47	⇓P	P	07 13 20.5	0.0
	baz=73						
MLAC	Mammoth Lakes	73.30	42	⇑P	P	07 13 21.3	+0.3
	baz=74						
MPMC	Manual Prospec	73.31	44	⇑P	P	07 13 21.6	+0.5
	baz=74,SNR=14						
YSS	Yuzh-Sakhalins	73.34	330	⇑eP	P	07 13 22.3	+1.6
YSS				e		07 13 43.0	
YSS				eS	SKiKP	07 22 52.0	+0.7
YSS				e		07 23 34.0	
YSS				pmax	pmax		
	comp=E,130nm,1.4s						
YSS				pmax	pmax		
	comp=Z,180nm,1.4s						
YSS				MLR	MLR		
	comp=Z,600nm,18.0s						
YSS				MLR	MLR		
	comp=E,500nm,19.0s						
YSS	Yuzh-Sakhalins	73.34	330	eP	P	07 13 22.3	+1.6
	comp=E,111nm,1.4s						
DAC	Darwin (Calif)	73.36	44	PFAKE		07 13 30.0	+8.7
DAC				LR	LR		
	comp=Z,4μm,22.0s						
GSC	Goldstone	73.36	45	⇓P	P	07 13 21.2	0.0
	baz=74						
YBH	Yreka Blue Hor	73.36	37	P	P	07 13 22.3	+1.2
	comp=Z,11nm,0.8s,baz=250,slow=2.6,SNR=15						
YBH	Yreka Blue Hor	73.36	37	eP	P	07 13 21.2	+0.1
	comp=Z,41nm,1.4s						
TIN	Tinemaha	73.37	43	⇓P	P	07 13 21.5	+0.2
	baz=74						
BC3	Big Chuckawall	73.43	47	⇑P	P	07 13 22.0	+0.3
	baz=74						
HEC	Hector,Ludlow	73.44	46	⇓P	P	07 13 21.9	+0.2
	baz=74						
GLA	Glamis	73.57	48	eP	P	07 13 23.2	+0.7
GLA				pmax	pmax		
	comp=Z,32nm,1.4s						
GLA	Glamis	73.57	48	eP	P	07 13 23.2	+0.7
	comp=Z,32nm,1.4s						
GLA	Glamis	73.57	48	⇓P	P	07 13 22.6	+0.2
	baz=74						
HUMO	Hull Mountain	73.77	36	eP	P	07 13 24.2	+0.8
	comp=Z,111nm,1.8s						
GMRC	Granite Mounta	73.88	46	⇑P	P	07 13 24.5	+0.2
	baz=74						
GRAC	Grapevine Rang	73.91	44	⇓P	P	07 13 24.6	+0.3
	baz=74						
IRM	Iron Mountain	73.91	47	⇓P	P	07 13 24.7	+0.2
	baz=74						
FURC	Furnace Creek,	73.96	44	⇓P	P	07 13 25.1	+0.6
	baz=74						
TUQ	Turquoise Moun	74.04	46	⇓P	P	07 13 25.6	+0.3
	baz=74						
SHOC	Shoshone	74.05	45	⇓P	P	07 13 25.5	+0.4
	baz=74						
NVAR	Mina Array Bea	74.10	42	P	P	07 13 26.9	+1.2
	comp=Z,4.8nm,0.7s,baz=224,slow=6.3,SNR=14						
NVAR				LR	LR	07 38 22.1	
	comp=Z,2μm,21.3s,baz=125,slow=30						
NVAR	Mina Array Bea	74.10	42	P	P	07 13 26.9	+1.2
Y12C	Blythe	74.14	48	⇑P	P	07 13 26.4	+0.6
	baz=74						
113A	Mohawk Valley,	74.19	49	⇑P	P	07 13 26.3	+0.2
	baz=74						
214A	Organ Pipe Nat	74.50	50	⇓P	P	07 13 28.1	+0.2
	baz=75						
TPH	Tonopah	74.60	43	PFAKE		07 13 40.0	+11
TPH				LR	LR		
	comp=Z,3μm,22.0s						
KDAK	Kodiak Island	74.69	11	P	P	07 13 29.4	+1.1
	comp=Z,29nm,1.1s,baz=208,slow=9.3,SNR=3.6						
KDAK	Kodiak Island	74.69	11	P	P	07 13 29.4	+1.1
KDAK				LR	LR		
	comp=Z,2μm,19.0s						
PDMCI	Parker Dam,Lak	74.70	47	⇑P	P	07 13 29.2	+0.3
	baz=75						
QSPA	South Pole Qui	74.86	180	P	P	07 13 31.0	+1.4
	comp=Z,31nm,0.9s,baz=36,slow=4.7,SNR=21						
QSPA				LR	LR	07 45 27.2	
	comp=Z,986nm,18.2s,baz=232,slow=35						
QSPA	South Pole Qui	74.86	180	eP	P	07 13 30.6	+1.0
	comp=Z,36nm,0.9s						
MOD	Modoc	74.89	38	eP	P	07 13 29.9	-0.1
	comp=Z,56nm,1.3s						
Z14A	Wintersburg	75.09	49	⇑P	P	07 13 31.6	+0.3
	baz=75						
W13A	Hualapai Mount	75.29	47	⇓P	P	07 13 32.9	+0.3
	baz=75						
Y14A	Wickenburg	75.33	48	⇓P	P	07 13 32.7	0.0
	baz=76						
R11A	Troy Canyon, C	75.83	43	⇓P	P	07 13 35.7	+0.1
	baz=76						
BMN	Battle Mountai	75.92	41	eP	P	07 13 36.4	+0.4
BMN				pmax	pmax		
	comp=Z,60nm,1.5s						
BMN				MLR	MLR		
	comp=Z,1μm,20.0s						
BMN	Battle Mountai	75.92	41	eP	P	07 13 36.4	+0.4
	comp=Z,60nm,1.5s						
BMN				LR	LR		
	comp=Z,1μm,20.0s						
KSRS	Korea Array	76.07	315	P	P	07 13 38.4	+1.7
	comp=Z,18nm,1.1s,baz=127,slow=6.2,SNR=18						
KSRS				LR	LR	07 41 07.2	
	comp=Z,996nm,21.7s,baz=113,slow=31						
KSAR	Wonju Array Be	76.09	315	P	P	07 13 38.4	+1.5
TUC	Tucson	76.17	51	eP	P	07 13 37.9	+0.3
TUC				pmax	pmax		
	comp=Z,50nm,1.5s						
TUC	Tucson	76.17	51	eP	P	07 13 37.9	+0.3
	comp=Z,50nm,1.5s						
NLWA	Neilton Lookou	76.36	32	PFAKE		07 13 50.0	+12
NLWA				LR	LR		
	comp=Z,887nm,21.0s						
X16A	Lo Mia Camp, P	76.69	49	⇓P	P	07 13 41.0	+0.3
	baz=77,SNR=18						
R13A	O'Grain Ranch,	76.82	44	⇓P	P	07 13 41.8	+0.5
	baz=77						
319A	Douglas	76.88	52	⇑P	P	07 13 42.0	+0.4
	baz=77,SNR=18						
CCUT	Cedar City	76.90	45	eP	P	07 13 42.5	+0.7
	comp=Z,67nm,1.7s						
INCN	Inchon	76.97	315	PFAKE		07 13 50.0	+8.1
INCN				LR	LR		
	comp=Z,1μm,20.0s						
ARUT	Antelope Range	76.97	45	eP	P	07 13 42.6	+0.5
ARUT				pmax	pmax		
	comp=Z,49nm,1.6s						
ARUT	Antelope Range	76.97	45	eP	P	07 13 42.6	+0.5
	comp=Z,49nm,1.6s						
LON	Longmire	77.03	34	eP	P	07 13 44.5	+2.5
LON				pmax	pmax		
	comp=Z,41nm,1.5s						
LON	Longmire	77.03	34	eP	P	07 13 44.5	+2.5
	comp=Z,41nm,1.5s						
U15A	North Rim	77.08	46	⇑P	P	07 13 43.3	+0.4
	baz=77						
RSO	Redoubt South	77.17	10	eP	P	07 13 42.2	-0.5
	comp=Z,42nm,1.0s						
USRK	Ussuriysk Arra	77.26	323	P	P	07 13 45.2	+1.9
	comp=Z,27nm,1.2s,baz=93,slow=3.8,SNR=12						
USRK				LR	LR	07 41 35.2	

comp=Z,3µm,21.6s,baz=297,slow=31
KSM Kuching 77.27 275 *eP* **P 07 13 44.1 0.0**
comp=Z,373nm,1.1s
KSM LR LR
comp=Z,385nm,20.0s
WUAZ Wupatki 77.28 48 ⇓P **P 07 13 44.6 +0.8**
baz=77
ELK Elko 77.35 41 *eP* **P 07 13 44.5 +0.3**
320A Kipp Ranch, An 77.44 52 ⇑P **P 07 13 45.2 +0.4**
baz=78,SNR=13
220A Playas Peak, P 77.69 52 ⇑P **P 07 13 46.8 +0.6**
baz=78,SNR=36
X18A Snowflake 77.83 49 ⇑P **P 07 13 47.7 +0.7**
baz=78
120A U Bar Ranch, L 77.90 51 ⇓P **P 07 13 47.8 +0.5**
baz=78,SNR=8.5
SSE Sheshan 77.91 307 P **P 07 13 46.1 -1.1**
SSE S **S 07 23 41.8 +2.1**
SSE SS **SS 07 28 38.3 -2.8**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,470nm,4.7s
SSE LR LR
comp=N,750nm,34.8s
SSE LR LR
comp=E,800nm,34.8s
SSE LR LR
comp=Z,1µm,31.9s
R15A Junction 77.98 45 ⇓P **P 07 13 48.6 +0.8**
baz=78,SNR=6.3
HAWA Hanford 78.04 35 *eP* **P 07 13 48.3 +0.7**
comp=Z,91nm,1.5s
HAWA LR LR
comp=Z,1µm,20.0s
Z20A Nine Sixteen R 78.18 51 ⇑P **P 07 13 50.3 +1.3**
baz=78,SNR=18
MSU Marysvale 78.20 45 *eP* **P 07 13 50.0 +1.0**
MSU pmax pmax
comp=Z,68nm,1.5s
MSU Marysvale 78.20 45 *eP* **P 07 13 50.0 +1.0**
comp=Z,68nm,1.5s
S16A Weppner Ranch, 78.20 46 ⇓P **P 07 13 49.8 +0.8**
baz=78,SNR=16
HABR Khabarovsk 78.20 328 *deP* **P 07 13 48.0 -0.5**
HABR *e* 07 13 56.8
HABR 07 14 02.2
HABR *eS* **S 07 23 40.4 -1.8**
HABR *e* 07 23 53.1
HABR *e* 07 24 04.4
HABR *eSS* **SS 07 28 42.6 -2.3**
HABR pmax pmax
comp=E,127nm,2.4s
HABR pmax pmax
comp=Z,380nm,2.4s
HABR pmax pmax
comp=N,146nm,2.4s
HABR MLR MLR
comp=Z,997nm,18.0s
W18A Petrified Fore 78.26 49 ⇑P **P 07 13 49.8 +0.4**
baz=78
221A Mesquite Ranch 78.31 52 ⇑P **P 07 13 50.3 +0.7**
baz=78
BMO Blue Mountains 78.39 37 *eP* **P 07 13 49.8 0.0**
comp=Z,46nm,1.5s
BMO LR LR
comp=Z,1µm,20.0s
MFID Camas Ranch 78.45 39 *eP* **P 07 13 50.3 +0.2**
comp=Z,79nm,1.6s
MFID Camas Ranch 78.45 39 ⇑P **P 07 13 50.7 +0.6**
baz=79,SNR=11
121A Cookes Peak, D 78.53 52 ⇑P **P 07 13 51.2 +0.3**
baz=79,SNR=9.7
R16A Teasdale 78.56 45 ⇑P **P 07 13 51.5 +0.5**
baz=79,SNR=12
DUG Dugway 78.63 43 *eP* **P 07 13 51.0 -0.3**
DUG pmax pmax
comp=Z,42nm,1.4s
DUG MLR MLR
comp=Z,2µm,21.0s
DUG Dugway 78.63 43 *eP* **P 07 13 51.0 -0.3**
comp=Z,42nm,1.4s
DUG LR LR
comp=Z,2µm,21.0s
DUG Dugway 78.63 43 ⇑P **P 07 13 52.2 +1.0**
baz=79,SNR=10
P15A Leamington 78.67 44 ⇓P **P 07 13 52.2 +0.7**
baz=79
Y20A Horse Springs, 78.70 50 ⇑P **P 07 13 52.6 +0.6**
baz=79,SNR=9.0
S17A Black Ridge (B 78.71 46 ⇓P **P 07 13 52.5 +0.7**
baz=79,SNR=14
222A Williams Famil 78.86 52 ⇑P **P 07 13 53.1 +0.4**
baz=79
PMR Palmer 78.89 12 *eP* **P 07 13 51.0 -0.9**
PMR pmax pmax
comp=Z,66nm,1.4s
PMR Palmer 78.89 12 *eP* **P 07 13 51.0 -0.9**
comp=Z,66nm,1.4s
X20A Quemado 78.90 50 ⇑P **P 07 13 53.8 +0.8**
baz=79,SNR=13
MDJ Mudanjiang 78.91 322 P **P 07 13 53.1 +0.6**
MDJ PP **PP 07 16 52.8 +1.2**
MDJ S **S 07 23 55.4 +5.4**
MDJ pmax pmax
comp=Z,35nm,1.7s
MDJ pmax pmax
comp=Z,590nm,6.5s
MDJ LR LR
comp=N,920nm,24.4s
MDJ LR LR
comp=E,1µm,25.2s
MDJ LR LR
comp=Z,2µm,23.6s
MDJ Mudanjiang 78.91 322 *eP* **P 07 13 53.4 +0.9**
comp=Z,116nm,1.8s
MDJ LR LR
comp=Z,3µm,22.0s
Z21A St. Cloud Mine 78.96 51 ⇑P **P 07 13 54.2 +0.9**
baz=79,SNR=22
I12A Atlanta 79.08 39 ⇑P **P 07 13 54.6 +0.8**
baz=79
Q16A Castle Valley 79.08 45 ⇓P **P 07 13 54.8 +0.9**
baz=79
P16A Fountain Green 79.10 44 ⇓P **P 07 13 54.9 +1.0**
baz=79
R17A Hanksville Air 79.15 45 ⇓P **P 07 13 54.9 +0.8**
baz=79,SNR=16
DIV Divide 79.16 13 *eP* **P 07 13 53.4 -0.2**
comp=Z,45nm,1.0s
W20A Ramah 79.16 49 ⇑P **P 07 13 55.4 +0.9**
baz=79,SNR=18
N15A Stansbury Isla 79.18 42 ⇑P **P 07 13 54.5 +0.3**
baz=79
U19A Dine' College, 79.19 48 ⇓P **P 07 13 55.4 +0.9**
baz=79,SNR=11
122A Conniff Cattle 79.20 52 ⇓P **P 07 13 55.2 +0.7**
baz=79
TMUT Trail Mountain 79.25 44 *eP* **P 07 13 55.7 +0.8**
comp=Z,609nm,1.4s
Y21A Point of Rocks 79.27 50 ⇑P **P 07 13 55.8 +0.8**
baz=79,SNR=8.5
S18A Hurst Farm, BI 79.30 46 ⇑P **P 07 13 55.5 +0.4**
baz=79
L14A Malta 79.31 41 ⇓P **P 07 13 55.7 +0.8**
baz=80,SNR=7.9
MPU Maple Canyon 79.32 43 *eP* **P 07 13 55.8 +0.7**
comp=Z,46nm,1.5s
223A Chaparral, Ant 79.34 53 ⇓P **P 07 13 55.7 +0.4**
baz=80
X21A Alamocita Cree 79.38 50 ⇓P **P 07 13 56.3 +0.6**
baz=80,SNR=12
HLID Hailey 79.39 39 *eP* **P 07 13 56.1 +0.7**
comp=Z,102nm,1.6s
HLID LR LR
comp=Z,916nm,20.0s
HLID Hailey 79.39 39 ⇓P **P 07 13 56.2 +0.8**
baz=80,SNR=17
J13A Cove Ranch, Pi 79.45 40 ⇓P **P 07 13 56.7 +1.0**
baz=80,SNR=13
Z22A Elephant Butte 79.47 51 ⇑P **P 07 13 57.0 +0.9**
baz=80,SNR=17
HVU Hansel Valley 79.47 41 *eP* **P 07 13 56.3 +0.4**
HVU pmax pmax
comp=Z,66nm,1.4s
HVU Hansel Valley 79.47 41 *eP* **P 07 13 56.3 +0.4**
comp=Z,66nm,1.4s
PNL Peninsula 79.48 17 *eP* **P 07 13 54.4 -0.9**
comp=Z,37nm,1.0s
V20A Brimhall 79.50 48 ⇓P **P 07 13 56.7 +0.5**
baz=80
M15A Larsen Ranch, 79.52 42 ⇓P **P 07 13 56.7 +0.6**
baz=80
SRU San Rafael 79.62 45 *eP* **P 07 13 57.0 +0.2**
SRU pmax pmax
comp=Z,79nm,1.4s
SRU San Rafael 79.62 45 *eP* **P 07 13 57.0 +0.2**
comp=Z,79nm,1.4s
SRU San Rafael 79.62 45 ⇓P **P 07 13 57.4 +0.7**
baz=80,SNR=25
K14A Jones Ranch, D 79.62 41 ⇓P **P 07 13 57.3 +0.7**
baz=80,SNR=17
P17A Butcher Ranch, 79.65 44 ⇓P **P 07 13 57.5 +0.6**
baz=80,SNR=10
H12A Diamond D Ranc 79.66 38 ⇑P **P 07 13 57.3 +0.5**
baz=80
R18A Canyonlands Na 79.70 46 ⇑P **P 07 13 57.7 +0.5**
baz=80,SNR=19
G12A Big Creek, Yel 79.70 38 ⇓P **P 07 13 57.6 +0.5**
baz=80
U20A Newcomb 79.72 48 ⇑P **P 07 13 57.8 +0.4**
baz=80
123A Bell Site, Whi 79.73 52 ⇑P **P 07 13 57.9 +0.4**
baz=80
JLU Jordanelle 79.73 43 *eP* **P 07 13 57.5 +0.1**
comp=Z,58nm,1.4s
I13A Wildhorse Cree 79.77 39 ⇑P **P 07 13 58.0 +0.5**
baz=80
Y22A Socorro 79.77 51 ⇓P **P 07 13 57.8 +0.2**
baz=80
DAU Daniels Canyon 79.77 43 *eP* **P 07 13 58.5 +0.8**
DAU pmax pmax
comp=Z,67nm,1.6s
DAU Daniels Canyon 79.77 43 *eP* **P 07 13 58.5 +0.8**
comp=Z,67nm,1.6s
W21A San Fidel 79.78 49 ⇑P **P 07 13 57.8 +0.1**
baz=80
J14A Carey 79.82 40 ⇓P **P 07 13 58.1 +0.4**
baz=80
324A Moseley Ranch, 79.83 54 ⇑P **P 07 13 57.6 -0.4**
baz=80,SNR=12
L15A Malad City 79.84 41 ⇓P **P 07 13 58.2 +0.4**
baz=80,SNR=11
LAZ Ladron 79.84 50 *eP* **P 07 13 58.8 +0.7**
comp=Z,22nm,1.4s
Y22D IRIS PASSCAL I 79.86 51 ⇓P **P 07 13 58.8 +0.7**
baz=80
LENM Lemitar 79.86 50 *eP* **P 07 13 59.1 +1.0**
comp=Z,4.6nm,1.0s
Q18A Rafter H Ranch 79.88 45 ⇓P **P 07 13 58.0 -0.1**
baz=80,SNR=12
N16A Rees Ranch, Co 79.89 43 ⇑P **P 07 13 58.8 +0.6**
baz=80,SNR=7.9
S19A Harvey Farm, M 79.92 46 ⇓P **P 07 13 59.0 +0.6**
baz=80,SNR=6.8
425A Indio Mountain 79.94 54 ⇑P **P 07 13 58.6 -0.1**
baz=80,SNR=15
X22A Bernardo 79.98 50 ⇑P **P 07 13 59.3 +0.5**
baz=80
O17A Robinson Place 80.00 44 ⇓P **P 07 13 59.4 +0.6**
baz=80,SNR=10
Z23A Rita Site, Whi 80.02 52 ⇓P **P 07 13 59.1 +0.1**
baz=80
H13A Challis 80.03 38 ⇑P **P 07 13 59.4 +0.6**
baz=80
P18A Preston Nutter 80.06 44 ⇓P **P 07 13 59.4 +0.2**
baz=80
R19A Curley Farm, L 80.09 46 ⇑P **P 07 13 59.8 +0.5**
baz=80,SNR=14
F12A Elk City 80.09 37 ⇑P **P 07 13 59.2 +0.1**
baz=80
V21A Milan 80.10 49 ⇑P **P 07 13 59.7 +0.2**
baz=80
K15A Arbon 80.10 41 ⇓P **P 07 13 59.5 +0.3**
baz=80,SNR=10
BNM Barren Site 80.11 51 *eP* **P 07 13 59.9 +0.3**
comp=Z,26nm,1.4s
NJ2 Nanjing 80.11 307 *eP* **P 07 14 00.3 +1.0**
NJ2 pP **pP 07 14 02.6 -3.0**
NJ2 sP **sP 07 14 04.5 -3.4**
NJ2 PP **PP 07 17 02.5 +0.7**
NJ2 S **S 07 24 06.0 +2.8**
NJ2 sS **SKKSac 07 24 18.0 0.0**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,540nm,4.8s
NJ2 LR LR
comp=N,2µm,16.6s
NJ2 LR LR
comp=E,5µm,26.4s
NJ2 LR LR
comp=Z,2µm,22.6s
626A Big Bend Ranch 80.12 56 ⇑P **P 07 13 59.7 +0.2**
baz=80,SNR=14
MVCO Mesa Verde 80.12 47 *eP* **P 07 14 00.2 +0.6**
comp=Z,77nm,1.8s
MVCO LR LR
comp=Z,3µm,21.0s
MVCO Mesa Verde 80.12 47 ⇑P **P 07 13 60.0 +0.4**
baz=80
HWUT Hardware Ranch 80.16 42 *eP* **P 07 13 59.8 +0.1**
comp=Z,6.1nm,0.6s
HWUT LR LR
comp=Z,3µm,22.0s
LPM Los Pinos Moun 80.18 50 *eP* **P 07 14 00.2 +0.3**
comp=Z,50nm,1.4s
325A Bean Ranch, Si 80.20 54 ⇓P **P 07 14 00.1 0.0**
baz=80,SNR=10
E12A Beaver Dam Sad 80.28 36 ⇑P **P 07 13 59.9 -0.2**
baz=80
PV10 Paradox Valley 80.28 46 *eP* **P 07 14 00.6 +0.1**
comp=Z,469nm,1.0s
N17A Moffit Pass 80.31 43 ⇑P **P 07 14 01.1 +0.5**
baz=80,SNR=9.4
G13A Cobalt 80.33 38 ⇓P **P 07 14 01.2 +0.8**
baz=80
W22A Albuquerque 80.33 50 ⇑P **P 07 14 01.4 +0.7**
baz=80
526A Mary Lane Ranc 80.36 55 ⇑P **P 07 14 01.4 +0.5**
baz=80,SNR=12
U21A Nageezi 80.36 48 ⇑P **P 07 14 01.7 +0.8**
baz=80,SNR=19
124A Stringfield Ra 80.38 52 ⇓P **P 07 14 01.6 +0.5**
baz=80,SNR=8.1
PV04 Paradox Valley 80.39 46 *eP* **P 07 14 01.4 +0.5**
KLR Kul'dur 80.39 327 *eP* **P 07 13 58.1 -2.3**
KLR *eS* **S 07 24 04.5 -0.9**
KLR pmax pmax
comp=Z,120nm,1.8s
TRF Thorofare Moun 80.39 10 *eP* **P 07 13 59.1 -1.2**
comp=Z,117nm,1.4s
Q19A Hogan Spring (80.40 45 ⇑P **P 07 14 01.5 +0.6**
baz=81,SNR=17
TXAR Lajitas Array 80.41 56 P **P 07 14 01.4 +0.3**
comp=Z,21nm,1.3s,baz=230,slow=5.6,SNR=7.0
TXAR LR LR 07 41 47.0
comp=Z,2µm,21.0s,baz=70,slow=30
TXAR Lajitas Array 80.41 56 P **P 07 14 01.4 +0.3**
Y23A Lovelace Mesa, 80.44 51 ⇓P **P 07 14 01.7 +0.4**
baz=81,SNR=8.2
L16A Fish Haven 80.46 42 ⇓P **P 07 14 01.9 +0.6**
baz=81,SNR=11
NEW Newport 80.47 34 *eP* **P 07 14 00.6 -0.3**
comp=Z,2.0nm,0.7s
NEW LR LR
comp=Z,1µm,20.0s
NEW Newport 80.47 34 ⇓P **P 07 14 02.5 +1.5**
baz=81
SKAG Skagway 80.50 19 *eP* **P 07 14 01.8 +1.0**
comp=Z,13nm,1.0s
S20A Disappointment 80.50 47 ⇓P **P 07 14 02.2 +0.5**
baz=81,SNR=8.3
O18A Roosevelt 80.53 44 ⇑P **P 07 14 02.3 +0.7**
baz=81,SNR=7.0
J15A Blackfoot 80.53 40 ⇓P **P 07 14 02.7 +1.2**
baz=81,SNR=16
ANMO Albuquerque 80.58 50 P **P 07 14 02.4 +0.3**
comp=Z,7.7nm,1.1s,baz=227,slow=5.5,SNR=25
ANMO LR LR 07 41 34.8
comp=Z,2µm,21.6s,baz=320,slow=30
ANMO Albuquerque 80.58 50 P **P 07 14 02.4 +0.3**
H14A Leadore 80.59 39 ⇑P **P 07 14 02.6 +0.7**
baz=81,SNR=12
TNA Tin City 80.60 2 *eP* **P 07 14 02.9 +1.8**
comp=Z,95nm,1.3s
225A Deer Hill, Car 80.62 53 ⇓P **P 07 14 02.2 -0.1**
baz=81,SNR=8.8
X23A Hourglass Bar 80.62 50 ⇑P **P 07 14 02.3 0.0**
baz=81
426A McDonald Obser 80.65 55 ⇑P **P 07 14 03.1 +0.6**
baz=81,SNR=26
F13A Darby 80.65 37 ⇑P **P 07 14 02.5 +0.4**
baz=81
R20A Redvale 80.66 46 ⇑P **P 07 14 02.7 +0.3**
baz=81,SNR=6.0
627A Terlingua Ranc 80.68 56 ⇑P **P 07 14 02.8 +0.2**
baz=81,SNR=17
V22A San Miguel Ran 80.68 49 ⇑P **P 07 14 02.9 +0.3**
baz=81
M17A Scullys Gap (B 80.68 43 ⇓P **P 07 14 02.8 +0.3**
baz=81
C11A Tepee Creek (N 80.70 35 ⇓P **P 07 14 03.1 +0.9**
baz=81
T21A Navajo Lake 80.71 48 ⇓P **P 07 14 02.8 +0.1**
baz=81,SNR=8.3
Z24A Sheeppen Canyo 80.71 52 ⇓P **P 07 14 03.0 +0.2**
baz=81,SNR=7.6
K16A Soda Springs 80.77 41 ⇓P **P 07 14 03.7 +0.8**
baz=81
527A Woodward Ranch 80.77 55 ⇑P **P 07 14 03.0 -0.1**
baz=81,SNR=15
I15A Monteview 80.81 40 ⇑P **P 07 14 03.3 +0.3**
baz=81
S21A Coal Bank Pass 80.83 47 ⇑P **P 07 14 04.2 +0.8**
baz=81,SNR=17
L17A Cokeville 80.86 42 ⇑P **P 07 14 03.5 +0.1**
baz=81
PAX Paxson 80.87 12 *eP* **P 07 14 02.2 -0.6**
PAX pmax pmax
comp=Z,38nm,1.3s
PAX Paxson 80.87 12 *eP* **P 07 14 02.2 -0.6**
comp=Z,38nm,1.3s
G14A Jackson 80.87 38 ⇓P **P 07 14 04.2 +0.8**
baz=81
MCK McKinley 80.89 11 *eP* **P 07 14 02.8 0.0**
MCK pmax pmax
comp=Z,114nm,1.4s
MCK McKinley 80.89 11 *eP* **P 07 14 02.8 0.0**
comp=Z,114nm,1.4s
W23A Werner Place, 80.90 50 ⇑P **P 07 14 04.3 +0.5**
baz=81
Y24A Capitan 80.91 51 ⇓P **P 07 14 04.2 +0.4**
baz=81,SNR=15
P19A Cripple Cowboy 80.92 45 ⇓P **P 07 14 04.3 +0.5**
baz=81,SNR=11
U22A Llaves 80.92 49 ⇑P **P 07 14 03.7 -0.2**
baz=81
326A Caldwell Ranch 80.95 54 ⇓P **P 07 14 03.7 -0.3**
baz=81
125A Gardner Draw, 80.97 53 ⇑P **P 07 14 04.2 +0.1**
baz=81,SNR=11
J16A Bone 80.98 41 ⇓P **P 07 14 04.9 +0.9**
baz=81,SNR=12
CN2 Changchun 80.98 320 *eP* **P 07 14 04.7 +1.0**
CN2 *esP* **sP 07 14 11.9 -0.4**
CN2 *eS* **SKSac 07 24 18.1 -3.5**
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2µm,20.0s
CN2 LR LR
comp=E,2µm,20.0s
CN2 LR LR
comp=Z,1µm,18.0s
GDL2 Guadalupe Moun 81.01 53 *eP* **P 07 14 05.0 +0.7**
comp=Z,39nm,0.6s
MCMT McKenzie Canyo 81.02 39 *eP* **P 07 14 04.9 +0.7**
comp=Z,15nm,1.1s
H15A Lima 81.03 39 ⇑P **P 07 14 05.1 +0.9**
baz=81,SNR=14
AHID Auburn Hatcher 81.05 41 PFAKE 07 14 20.0 +16
AHID LR LR
comp=Z,1µm,22.0s
M18A Lyman 81.05 43 ⇑P **P 07 14 05.2 +0.7**
baz=81,SNR=12
C12B Negeli Ranch, 81.06 35 ⇑P **P 07 14 04.7 +0.6**
baz=81
Q20A Ridgley Place, 81.07 46 ⇑P **P 07 14 05.2 +0.6**
baz=81,SNR=18
628A Black Gap, Mar 81.09 56 ⇓P **P 07 14 05.0 +0.3**
baz=81,SNR=15
E13A Victor 81.09 37 ⇓P **P 07 14 04.9 +0.5**
baz=81,SNR=11
N18A Larsen Ranch, 81.09 43 ⇓P **P 07 14 05.0 +0.3**
baz=81
V23A Ortiz Mt. (NFS 81.13 49 ⇓P **P 07 14 05.2 +0.2**
baz=81
O19A Miners Draw (B 81.14 44 ⇑P **P 07 14 05.3 +0.5**
baz=81,SNR=13
K17A Gardner Place, 81.15 41 ⇓P **P 07 14 05.4 +0.4**
baz=81
T22A Edith 81.17 48 ⇓P **P 07 14 05.7 +0.4**
baz=81,SNR=9.5
X24A Lazy VL Ranch, 81.18 51 ⇓P **P 07 14 05.0 -0.3**
baz=81
SNY Shenyang 81.18 318 ⇓P **P 07 14 06.2 +1.4**
SNY S S 07 24 21.7 +7.7
SNY pmax pmax
comp=Z,74nm,1.4s
SNY pmax pmax
comp=Z,710nm,3.5s
SNY LR LR
comp=N,770nm,13.3s
SNY LR LR
comp=E,740nm,16.3s
SNY LR LR
comp=Z,870nm,16.7s
Z25A Roswell 81.18 52 ⇑P **P 07 14 05.4 +0.2**
baz=81,SNR=11
RRI2 Red Ridge 81.20 41 *eP* **P 07 14 05.2 -0.1**
comp=Z,48nm,1.2s
427A Hayter Ranch, 81.22 55 ⇑P **P 07 14 05.5 +0.1**
baz=81,SNR=15
MENT Mentasta 81.22 13 *eP* **P 07 14 05.0 +0.4**
F14A Wisdom 81.23 38 ⇓P **P 07 14 05.7 +0.5**
baz=81
P20A De Beque 81.26 45 ⇓P **P 07 14 06.3 +0.8**
baz=81,SNR=10
D13A Huson 81.29 36 ⇑P **P 07 14 05.7 +0.3**
baz=82
L18A Fontenelle, Gr 81.31 42 ⇑P **P 07 14 05.7 -0.2**
baz=82
R21A Cimarron 81.32 46 ⇓P **P 07 14 06.6 +0.6**
baz=82,SNR=8.8
327A Balmorhea Ranc 81.35 54 ⇓P **P 07 14 06.3 +0.3**
baz=82
I16A Newdale 81.36 40 ⇓P **P 07 14 06.9 +0.9**
baz=82,SNR=16
U23A El Rito 81.38 49 ⇑P **P 07 14 07.0 +0.7**
baz=82,SNR=12
N19A John Jarvie Ra 81.38 44 ⇓P **P 07 14 06.5 +0.3**
baz=82
CLNB Carlsbad 81.41 53 *eP* **P 07 14 07.1 +0.7**
comp=Z,2.1nm,0.3s
DCID1 Drake Creek 81.41 40 *eP* **P 07 14 07.2 +0.9**
comp=Z,59nm,1.1s
G15A Dillon 81.42 39 ⇑P **P 07 14 06.9 +0.7**
baz=82,SNR=15
B12A Libby 81.42 35 ⇓P **P 07 14 06.8 +0.8**
baz=82
528A Cox Ranch, San 81.43 56 ⇓P **P 07 14 07.5 +0.9**
baz=82,SNR=16
MSO Missoula 81.44 37 *eP* **P 07 14 05.9 -0.4**
comp=Z,60nm,1.6s
MSO LR LR
comp=Z,986nm,21.0s
MSO Missoula 81.44 37 ⇑P **P 07 14 06.4 +0.1**
baz=82,SNR=20
DLMT Dillon 81.45 38 *eP* **P 07 14 06.9 +0.5**
comp=Z,96nm,1.7s
126A Clayton Basin, 81.45 53 ⇑P **P 07 14 06.8 +0.2**
baz=82,SNR=7.7
DLBC Dease Lake 81.46 21 P **P 07 14 06.6 +0.6**
comp=Z,5.5nm,1.0s,baz=197,slow=6.0,SNR=8.1
DLBC Dease Lake 81.46 21 *eP* **P 07 14 06.3 +0.3**
Y25A Mesa, Roswell 81.47 52 ⇑P **P 07 14 06.9 +0.2**
baz=82,SNR=11
W24A Lazy 6 Ranch, 81.47 50 ⇑P **P 07 14 07.1 +0.3**
baz=82,SNR=7.7
E14A Clinton 81.48 37 ⇓P **P 07 14 07.0 +0.5**

baz=82
REDW Red Top Meadow 81.50 41 eP P 07 14 07.1 +0.2
comp=Z,111nm,1.6s
TPAW Teton Pass 81.50 41 eP P 07 14 07.1 +0.2
comp=Z,43nm,1.1s
Q21A Lamborn Mesa, 81.51 46 ⇑P P 07 14 07.4 +0.5
baz=82,SNR=7.3
BSMT Bassoo Peak 81.52 35 eP P 07 14 06.5 -0.3
comp=Z,42nm,1.2s
S22A 4UR Ranch, Cre 81.55 47 ⇓P P 07 14 07.8 +0.5
baz=82,SNR=11
C13A Hot Springs 81.55 36 ⇓P P 07 14 06.9 +0.2
baz=82
J17A Brown Place, J 81.59 41 ⇓P P 07 14 07.7 +0.4
baz=82,SNR=8.5
SNOW Snow King Moun 81.61 41 eP P 07 14 07.8 +0.4
comp=Z,88nm,1.5s
A12A Yaak River Ran 81.65 34 ⇑P P 07 14 07.9 +0.6
baz=82
O20A White River Ci 81.65 45 ⇑P P 07 14 07.5 -0.1
baz=82
K18A Toltan Ranch, 81.66 42 ⇓P P 07 14 08.3 +0.6
baz=82,SNR=16
M19A Rock Springs 81.69 43 ⇓P P 07 14 07.9 0.0
baz=82
IMW Indian Meadow 81.72 40 eP P 07 14 08.9 +0.9
comp=Z,85nm,1.5s
428A Kincaid Ranch, 81.73 55 ⇓P P 07 14 08.3 +0.2
baz=82,SNR=15
X25A Clemmons Ranch 81.74 51 ⇑P P 07 14 08.4 +0.2
baz=82,SNR=5.4
Z26A Caprock 81.74 52 ⇓P P 07 14 08.2 0.0
baz=82,SNR=20
MOOW Moose Ponds 81.76 41 eP P 07 14 08.5 +0.3
comp=Z,76nm,1.8s
227A Bennet, Jal 81.76 54 ⇓P P 07 14 08.2 -0.1
baz=82
F15A Butte 81.77 38 ⇓P P 07 14 08.4 +0.3
baz=82
DOT Dot Lake 81.77 13 eP P 07 14 07.6 +0.1
comp=Z,16nm,1.1s
LRM Limekiln Ridge 81.78 38 eP P 07 14 08.6 +0.3
comp=Z,413nm,1.4s
SWMT Swartz Lake 81.78 36 eP P 07 14 07.2 -0.9
comp=Z,30nm,1.6s
LOHW Long Hollow 81.78 41 eP P 07 14 08.5 +0.2
comp=Z,53nm,1.4s
V24A Rampart Ranch, 81.79 50 ⇓P P 07 14 08.5 0.0
baz=82
T23A Casias Ranch, 81.80 48 ⇑P P 07 14 08.7 +0.1
baz=82,SNR=7.2
R22A Saguache, Gunn 81.81 47 ⇓P P 07 14 09.3 +0.6
baz=82,SNR=12
D14A Greenough 81.83 37 ⇓P P 07 14 08.3 -0.1
baz=82,SNR=12
L19A Farson 81.84 42 ⇓P P 07 14 08.8 +0.2
baz=82,SNR=8.6
G16A Moss Hill, Enn 81.86 39 ⇑P P 07 14 09.0 +0.4
baz=82
529A Stev Forest Ra 81.87 56 ⇓P P 07 14 09.3 +0.4
baz=82,SNR=12
QLMT Earthquake Lak 81.89 39 eP P 07 14 09.7 +0.9
comp=Z,9.6nm,1.4s
CHMT Chamberlain Mo 81.89 37 eP P 07 14 08.5 -0.2
comp=Z,17nm,1.1s
328A Wristen Ranch, 81.89 55 ⇓P P 07 14 08.9 0.0
baz=82,SNR=6.6
P21A Newcastle 81.91 45 ⇑P P 07 14 09.4 +0.3
baz=82,SNR=9.1
SLMT Seeley Lake 81.92 36 eP P 07 14 08.1 -0.8
comp=Z,18nm,1.3s
H16A Russell Place, 81.93 40 ⇑P P 07 14 09.7 +0.7
baz=82,SNR=13
I17A Pilgrim Ck. 81.95 40 ⇓P P 07 14 09.7 +0.5
baz=82,SNR=10
J18A Kendall Valley 81.95 41 ⇓P P 07 14 09.8 +0.6
baz=82,SNR=20
FLWY Flagg Ranch 81.96 40 eP P 07 14 10.1 +0.9
comp=Z,129nm,1.5s
N20A Spence Gulch, 81.97 44 ⇓P P 07 14 09.9 +0.6
baz=82,SNR=12
127A Arkansas Junct 81.98 53 ⇓P P 07 14 09.3 -0.1
baz=82
E15A Deer Lodge 81.98 38 ⇑P P 07 14 09.3 +0.1
baz=82,SNR=9.9
Q22A Crested Butte, 81.99 46 ⇓P P 07 14 10.1 +0.5
baz=82,SNR=20
B13A Whitefish 81.99 35 ⇓P P 07 14 09.3 +0.2
baz=82
BW06 Boulder Array 82.03 42 eP P 07 14 09.4 -0.2
comp=Z,70nm,1.5s
BW06 LR LR
comp=Z,2µm,21.0s
BW06 Boulder Array 82.03 42 ⇓P P 07 14 09.7 +0.1
baz=82,SNR=18
PDAR Pinedale Array 82.03 42 P P 07 14 09.8 +0.1
comp=Z,2.6nm,0.7s,baz=198,slow=2.6,SNR=14
PDAR LR LR 07 43 23.1
comp=Z,1µm,20.7s,baz=248,slow=30
PDAR Pinedale Array 82.03 42 P P 07 14 09.8 +0.1
YFT Old Faithful 82.06 40 eP P 07 14 13.1 +3.3
comp=Z,76nm,1.6s
C14A Swan Lake 82.06 36 ⇑P P 07 14 10.0 +0.5
baz=82
U24A Moreno Valley 82.08 49 ⇑P P 07 14 10.5 +0.4
baz=82
YMR Madison River 82.09 40 eP P 07 14 11.4 +1.5
comp=Z,148nm,1.5s
S23A Nye Farm, Mont 82.12 48 ⇓P P 07 14 11.0 +0.8
baz=82
Y26A Elida 82.12 52 ⇑P P 07 14 10.2 0.0
baz=82,SNR=6.4
COLA College 82.13 11 eP P 07 14 08.9 -0.4
COLA pmax pmax
comp=Z,62nm,1.0s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 82.13 11 eP P 07 14 08.9 -0.4
COLA LR LR
comp=Z,62nm,1.0s
COLA
comp=Z,2µm,20.0s
W25A X Bar L Ranch, 82.18 50 ⇓P P 07 14 10.4 -0.1
baz=82,SNR=11
BOZ Bozeman (W) 82.18 39 eP P 07 14 10.5 +0.3
BOZ pmax pmax
comp=Z,66nm,1.5s
BOZ MLR MLR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 82.18 39 eP P 07 14 10.5 +0.3
comp=Z,66nm,1.5s
BOZ LR LR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 82.18 39 ⇑P P 07 14 10.8 +0.6
baz=82
H17A Grant Village 82.19 40 ⇓P P 07 14 11.4 +1.0
baz=82
ILAR Eielson Array 82.21 11 P P 07 14 09.1 -0.7
comp=Z,17nm,1.1s,baz=226,slow=5.8,SNR=39
ILAR Eielson Array 82.21 11 P P 07 14 09.1 -0.7
F16A Kennard Place, 82.25 38 ⇓P P 07 14 11.3 +0.7
baz=82
YNR Norris Junctio 82.29 40 eP P 07 14 12.7 +1.7
comp=Z,112nm,1.6s
M20A Sweetwater, Wa 82.32 43 ⇓P P 07 14 11.7 +0.5
baz=82,SNR=10
V25A Rancho No Teng 82.32 50 ⇑P P 07 14 11.4 +0.1
baz=82,SNR=21
429A Davenport Ranc 82.32 56 ⇓P P 07 14 11.0 -0.2
baz=82,SNR=14
I18A Diamond G Ranc 82.32 41 ⇓P P 07 14 11.4 +0.2
baz=82,SNR=13
A13A Flathead Natio 82.33 35 ⇓P P 07 14 11.3 +0.4
baz=82
SEY Seymchan 82.33 345 ⇑/P P 07 14 10.0 -0.4
Z27A Tatum 82.34 53 ⇑P P 07 14 11.2 -0.1
baz=82,SNR=7.3
228A UT Block 9, Go 82.35 54 ⇓P P 07 14 11.2 -0.1
baz=82
D15A Lincoln 82.38 37 ⇓P P 07 14 11.9 +0.6
baz=82,SNR=23
LKWY Lake 82.39 40 PFAKE 07 14 20.0 +8.5
LKWY LR LR
comp=Z,1µm,20.0s
X26A CR and CF Fran 82.39 51 ⇑P P 07 14 11.4 -0.2
baz=82,SNR=12
P22A Eagle 82.42 46 ⇑P P 07 14 11.8 0.0
baz=83,SNR=9.9
N21A Black Mountain 82.43 44 ⇑P P 07 14 12.4 +0.6
baz=83,SNR=10
R23A Moffat 82.45 47 ⇓P P 07 14 12.2 +0.1
baz=83,SNR=7.3
L20A Wamsutter 82.46 43 ⇑P P 07 14 12.2 +0.3
baz=83,SNR=17
T24A Torres, Weston 82.53 49 ⇓P P 07 14 12.6 +0.2
baz=83
G17A Pierce Place, 82.56 39 ⇑P P 07 14 12.9 +0.7
baz=83
329A Wagon Wheel Ra 82.59 55 ⇓P P 07 14 12.4 -0.2
baz=83,SNR=11
530A J-C Ranch, Com 82.59 56 ⇑P P 07 14 12.4 -0.2
baz=83,SNR=12
J19A Crowheart 82.60 42 ⇓P P 07 14 12.8 +0.3
baz=83,SNR=16
E16A East Helena 82.61 38 ⇑P P 07 14 12.9 +0.5
baz=83,SNR=17
HRY Holter Researc 82.61 38 eP P 07 14 12.6 +0.2
comp=Z,73nm,1.0s
Y27A Causey 82.61 52 ⇑P P 07 14 12.9 +0.1
baz=83,SNR=13
128A Castleberry Fa 82.63 53 ⇑P P 07 14 12.9 +0.1
baz=83,SNR=14
W26A Owens Ranch, T 82.64 51 ⇑P P 07 14 12.8 -0.1
baz=83
B14A Marquette Ranc 82.65 36 ⇓P P 07 14 12.7 +0.1
baz=83,SNR=12
S24A Houchin Ranch, 82.65 48 ⇓P P 07 14 13.5 +0.5
baz=83,SNR=12
WALA Waterton Lakes 82.67 35 eP P 07 14 12.3 -0.4
comp=Z,1.4nm,1.5s
U25A Circle Dot Ran 82.71 49 ⇑P P 07 14 13.4 +0.2
baz=83,SNR=16
C15A Salmond Ranch, 82.72 36 ⇓P P 07 14 13.3 +0.3
baz=83,SNR=13
Q23A Hartsel 82.76 47 ⇑P P 07 14 13.9 +0.2
baz=83
K20A Yellowstone Ra 82.77 42 ⇑P P 07 14 12.9 -0.5
baz=83,SNR=13
O22A Kremmling 82.82 45 ⇓P P 07 14 14.4 +0.4
baz=83,SNR=36
H18A Shoshone NF, C 82.90 40 ⇓P P 07 14 14.4 +0.2
baz=83
F17A Fitzpatrick Pl 82.90 39 ⇑P P 07 14 14.5 +0.5
baz=83,SNR=15
A14A Double T Ranch 82.90 35 ⇑P P 07 14 14.2 +0.3
baz=83,SNR=7.2
229A Bryant Ranch, 82.91 54 ⇑P P 07 14 14.0 -0.3
baz=83
430A Baggett Ranch, 82.91 56 ⇓P P 07 14 14.2 -0.1
baz=83,SNR=7.6
QIZ Qiongzhong 82.92 292 P P 07 14 14.6 +0.1
QIZ PP PP 07 17 24.5 -0.8
QIZ S S 07 24 34.7 +1.9
QIZ sS SKKSac 07 24 40.1 +0.4
QIZ pmax pmax
comp=Z,680nm,3.3s
QIZ LR LR
comp=E,470nm,22.5s
QIZ LR LR
comp=Z,1µm,24.9s
QIZ Qiongzhong 82.92 292 PFAKE 07 14 30.0 +16
QIZ LR LR
comp=Z,827nm,20.0s
V26A Tequesquite Ra 82.92 50 ⇓P P 07 14 14.0 -0.3
baz=83,SNR=9.2
M21A Separation Pea 82.92 44 ⇓P P 07 14 14.4 +0.1
baz=83,SNR=17
631A Perdido Creek 82.93 57 ⇑P P 07 14 14.1 -0.2
baz=83,SNR=14
D16A Dana Ranch, Ca 82.94 37 ⇑P P 07 14 14.9 +0.7
baz=83,SNR=15
MSTX Muleshoe 82.94 52 ⇓P P 07 14 14.1 -0.4
baz=83,SNR=9.2
P23A Jefferson 82.96 46 ⇑P P 07 14 15.3 +0.6
baz=83,SNR=15
X27A F and S Farms, 82.97 51 ⇓P P 07 14 14.5 -0.1
baz=83,SNR=10
Z28A Tucker Farm, M 82.97 53 ⇑P P 07 14 14.6 0.0
baz=83,SNR=10
R24A Sanders Place, 82.98 47 ⇑P P 07 14 15.1 +0.5
baz=83,SNR=13
I19A Meeteetse 83.01 41 ⇓P P 07 14 14.9 +0.2
baz=83
T25A Trinidad 83.02 49 ⇑P P 07 14 15.0 +0.2
baz=83,SNR=7.2
B15A Bradely Ranch, 83.03 36 ⇓P P 07 14 14.2 -0.3
baz=83,SNR=11
WHN Wuhan 83.05 304 P P 07 14 15.1 +0.2
WHN S S 07 24 34.3 +0.6
WHN LR LR
comp=Z,2µm,21.3s
E17A Martindale 83.06 38 ⇑P P 07 14 15.0 +0.1
baz=83,SNR=10.0
PAYG Puerto Ayora 83.08 89 PFAKE 07 14 30.0 +15
PAYG LR LR
comp=Z,1µm,19.0s
L21A Rawlins 83.08 43 ⇓P P 07 14 15.0 -0.1
baz=83,SNR=12
129A Stewart Farms, 83.12 54 ⇑P P 07 14 15.2 -0.1
baz=83
W27A Bowe Ranch, En 83.16 51 ⇓P P 07 14 15.5 -0.1
baz=83,SNR=14
732A Lason Ranch, 83.17 58 ⇑P P 07 14 15.7 +0.2
baz=83,SNR=7.5
N22A Wattenberg Ran 83.17 45 ⇑P P 07 14 16.3 +0.6
baz=83,SNR=25
DAWY Dawson 83.18 14 eP P 07 14 15.4 +0.5
U26A Atchley Ranch, 83.20 50 ⇓P P 07 14 15.6 -0.2
baz=83,SNR=7.6
S25A Robets Cordova 83.22 48 ⇑P P 07 14 16.2 +0.3
baz=83,SNR=19
C16A Fuhringer Ranc 83.23 37 ⇑P P 07 14 15.9 +0.3
baz=83,SNR=17
531A Rocksprings 83.23 56 ⇑P P 07 14 16.1 +0.1
baz=83,SNR=14
J20A Shoshoni 83.26 42 ⇑P P 07 14 16.3 +0.4
baz=83,SNR=19
Q24A Divide 83.27 47 ⇓P P 07 14 16.1 -0.1
baz=83,SNR=8.8
G18A Lazy EL Ranch, 83.27 40 ⇓P P 07 14 16.5 +0.6
baz=83,SNR=14
O23A Lake Granby, G 83.28 45 ⇑P P 07 14 16.2 -0.1
baz=83,SNR=6.8
A15A Johnson Ranch, 83.29 35 ⇑P P 07 14 16.1 +0.2
baz=84,SNR=8.9
ISCO Idaho Springs 83.31 46 eP P 07 14 16.8 +0.4
ISCO pmax pmax
comp=Z,42nm,1.4s
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO Idaho Springs 83.31 46 eP P 07 14 16.8 +0.4
comp=Z,42nm,1.4s
ISCO LR LR
comp=Z,1µm,20.0s
ISCO Idaho Springs 83.31 46 ⇓P P 07 14 16.5 0.0
baz=83,SNR=12
H19A Powell 83.32 40 ⇓P P 07 14 16.5 +0.3
baz=84,SNR=34
Y28A McKinney Farm, 83.32 52 ⇑P P 07 14 16.1 -0.2
baz=83
M22A Cedar Creek Ra 83.34 44 ⇓P P 07 14 16.7 +0.2
baz=84,SNR=12
RLMT Red Lodge 83.36 40 PFAKE 07 14 30.0 +14
RLMT LR LR
comp=Z,766nm,20.0s
RLMT Red Lodge 83.36 40 ⇑P P 07 14 16.7 +0.3
baz=84
431A Sonora 83.37 56 ⇑P P 07 14 16.1 -0.6
baz=84
EGAK Eagle 83.38 13 eP P 07 14 15.5 -0.3
comp=Z,38nm,1.4s
EGAK LR LR
comp=Z,1µm,19.0s
GCMT Greycliff 83.44 39 eP P 07 14 17.5 +0.8
comp=Z,63nm,1.4s
F18A Big Timber 83.47 39 ⇓P P 07 14 17.6 +0.7
baz=84,SNR=16
K21A Alcova 83.47 43 ⇓P P 07 14 17.2 +0.2
baz=84
Z29A Hungry Hill Ra 83.48 53 ⇑P P 07 14 16.7 -0.5
baz=84,SNR=9.6
D17A Six Diamond Ra 83.51 38 ⇑P P 07 14 17.9 +0.8
baz=84,SNR=25
I20A Worland 83.52 41 ⇑P P 07 14 17.6 +0.4
baz=84,SNR=22
R25A Fountain Ranch 83.53 48 ⇑P P 07 14 17.5 0.0
baz=84,SNR=8.1
N23A Red Feather La 83.56 45 ⇓P P 07 14 18.1 +0.5
baz=84,SNR=12
B16A M & M Farms, S 83.57 36 ⇑P P 07 14 16.9 -0.4
baz=84,SNR=11
X28A Dimmitt 83.60 52 ⇑P P 07 14 17.6 -0.2
baz=84,SNR=11
632A Uvalde 83.60 57 ⇓P P 07 14 17.6 -0.2
baz=84
T26A Comanche Natio 83.63 49 ⇑P P 07 14 17.3 -0.7
baz=84,SNR=7.4
J21A Lysite 83.67 42 ⇑P P 07 14 18.6 +0.6
baz=84,SNR=24
P24A Kohler Place, 83.67 46 ⇓P P 07 14 18.4 +0.3
baz=84
E18A Harlowton 83.68 38 ⇓P P 07 14 18.9 +0.9
baz=84,SNR=11
C17A Wharram Farm, 83.71 37 ⇑P P 07 14 18.7 +0.7
baz=84,SNR=33
CMIG Matias Romero 83.71 70 LR LR 07 43 18.9
comp=Z,2µm,20.5s,baz=230,slow=30
532A Rocksprings 83.73 57 ⇑P P 07 14 18.6 +0.1
baz=84,SNR=11
L22A Ellis Ranch, M 83.74 44 ⇓P P 07 14 18.9 +0.5
baz=84,SNR=8.8
Y29A Porterfield Fa 83.74 53 ⇑P P 07 14 18.5 0.0
baz=84,SNR=17
O24A Longmont 83.82 46 ⇓P P 07 14 19.6 +0.7
baz=84,SNR=9.7
H20A Greybull 83.85 41 ⇓P P 07 14 19.1 +0.2
baz=84,SNR=17
Q25A Bedland, Calha 83.88 47 ⇓P P 07 14 19.1 -0.2
baz=84,SNR=6.1
W28A Vega 83.88 51 ⇓P P 07 14 19.0 -0.2
baz=84
S26A Kim 83.90 49 ⇑P P 07 14 19.1 -0.3
baz=84,SNR=15
A16A West Butte Ran 83.91 36 ⇑P P 07 14 18.8 -0.2
baz=84
COLD Coldfoot 83.91 9 eP P 07 14 19.2 +0.7
comp=Z,58nm,1.3s
F19A Roth Farm, Mol 83.92 39 ⇑P P 07 14 19.3 +0.2
baz=84,SNR=15
JCT Junction City 83.94 56 eP P 07 14 18.8 -0.8
JCT pmax pmax
comp=Z,27nm,1.2s
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 83.94 56 eP P 07 14 18.8 -0.8
comp=Z,27nm,1.2s
JCT LR LR
comp=Z,2µm,20.0s
JCT Junction City 83.94 56 ⇑P P 07 14 18.8 -0.8
baz=84
X29A Tulia 83.95 52 ⇑P P 07 14 19.1 -0.5
baz=84
K22A Casper 83.95 43 ⇓P P 07 14 19.3 -0.2
baz=84,SNR=9.5
M23A Laramie 83.96 44 ⇑P P 07 14 19.6 -0.1
baz=84,SNR=22
I21A Big Trails, Te 83.99 42 ⇓P P 07 14 19.6 0.0
baz=84,SNR=29
B17A L&G Farms, Che 84.02 37 ⇓P P 07 14 19.7 +0.1
baz=84,SNR=13
D18A Linhart Farms, 84.06 38 ⇓P P 07 14 19.9 +0.1
baz=84
G20A Bridger 84.06 40 ⇑P P 07 14 19.9 0.0
baz=84,SNR=7.3
V28A Channing 84.06 51 ⇑P P 07 14 19.6 -0.6
baz=84
PHWY Pilot Hill 84.07 45 eP P 07 14 19.9 -0.4
comp=Z,78nm,1.5s
432A Menard 84.09 56 ⇓P P 07 14 19.7 -0.6
baz=84
AMTX Amarillo 84.13 52 eP P 07 14 20.0 -0.5
comp=Z,122nm,1.4s
AMTX LR LR
comp=Z,2µm,20.0s
AMTX Amarillo 84.13 52 ⇓P P 07 14 19.9 -0.6
baz=84,SNR=11
P25A Willow Gulch B 84.19 47 ⇓P P 07 14 20.7 -0.1
baz=84,SNR=18
R26A Arlington 84.20 48 ⇓P P 07 14 20.7 -0.1
baz=84,SNR=24
T27A Campo 84.22 49 ⇑P P 07 14 20.5 -0.4
baz=84,SNR=8.0
W29A Amraillo 84.25 51 ⇓P P 07 14 20.9 -0.2
baz=84,SNR=7.7
N24A Carr 84.25 45 ⇓P P 07 14 21.3 +0.2
baz=84,SNR=18
L23A Garrett 84.26 44 ⇓P P 07 14 21.0 -0.2
baz=84,SNR=14
E19A Rath Farm, Rou 84.31 39 ⇑P P 07 14 21.2 +0.1
baz=84,SNR=15
J22A Midwest 84.33 42 ⇓P P 07 14 21.4 0.0
baz=84,SNR=21
PMSA Palmer Station 84.33 156 PFAKE 07 14 30.0 +9.1
PMSA LR LR
comp=Z,3µm,21.0s
S27A Las Animas 84.34 49 ⇓P P 07 14 21.5 0.0
baz=84
F20A Billings 84.38 40 ⇓P P 07 14 21.9 +0.4
baz=84,SNR=11
Q26A Hugo 84.40 47 ⇑P P 07 14 21.6 -0.2
baz=84,SNR=6.8
A17A Triple J Farms 84.41 36 ⇑P P 07 14 21.6 +0.1
baz=85,SNR=16
KVTX Kingsville 84.47 60 PFAKE 07 14 30.0 +7.8
KVTX LR LR
comp=Z,2µm,19.0s
O25A Wiggins 84.48 46 ⇓P P 07 14 22.1 -0.1
baz=85
EGMT Eagleton 84.49 37 eP P 07 14 22.1 0.0
comp=Z,76nm,1.4s
EGMT LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 84.49 37 ⇓P P 07 14 22.0 0.0
baz=85
H21A Big Horn, Sher 84.52 41 ⇓P P 07 14 22.3 0.0
baz=85,SNR=9.3
I22A 9 Mile Ranch, 84.54 42 ⇓P P 07 14 22.9 +0.5
baz=85,SNR=14
M24A Cheyenne 84.57 45 ⇑P P 07 14 22.6 -0.1
baz=85,SNR=6.7
D19A Cripps Ranch, 84.59 38 ⇑P P 07 14 23.0 +0.5
baz=85,SNR=18
K23A Bowen Ranch, D 84.59 43 ⇑P P 07 14 22.7 -0.1
baz=85,SNR=9.3
V29A Stinnett 84.64 51 ⇑P P 07 14 23.0 -0.1
baz=85
R27A Eads 84.66 48 ⇑P P 07 14 22.8 -0.4
baz=85,SNR=9.9
B18A Beardsley Farm 84.67 37 ⇓P P 07 14 23.3 +0.4
baz=85,SNR=10.0
T28A Walsh 84.69 49 ⇓P P 07 14 23.1 -0.2
baz=85,SNR=6.9
G21A Lodge Grass 84.69 40 ⇑P P 07 14 23.2 +0.1
baz=85
E20A Meyer Farm, Mu 84.72 39 ⇓P P 07 14 24.0 +0.8
baz=85,SNR=13
C19A Slack Wire Ran 84.77 38 ⇑P P 07 14 24.4 +1.0
baz=85,SNR=22
P26A Davis Ranch, A 84.79 47 ⇑P P 07 14 24.2 +0.4
baz=85,SNR=8.0
N25A Grover 84.79 45 ⇓P P 07 14 23.7 -0.1
baz=85
ABTX Abilene, Hawle 84.85 54 ⇓P P 07 14 24.2 +0.1
baz=85,SNR=16
A18A Metzger Ranch, 84.89 36 ⇓P P 07 14 24.3 +0.3
baz=85,SNR=16
J23A Dilts Ranch, B 84.93 43 ⇑P P 07 14 24.2 -0.2
baz=85
H22A Clearmont 84.94 41 ⇑P P 07 14 25.2 +0.8
baz=85
D20A Manuel Ranch, 85.00 38 ⇓P P 07 14 25.0 +0.5
baz=85
F21A Absaloka Mine, 85.02 40 ⇓P P 07 14 25.7 +1.0
baz=85
KSCO Kaye Shedlock' 85.07 48 ⇓P P 07 14 25.5 +0.3
baz=85
M25A Palm-Egli Farm 85.08 45 ⇑P P 07 14 25.9 +0.7
baz=85
O26A Horse Wrangler 85.09 46 ⇑P P 07 14 26.0 +0.7
baz=85
K24A Anderson Ranch 85.12 43 ⇑P P 07 14 25.9 +0.5
baz=85
B19A Brinkman Farms 85.18 37 ⇑P P 07 14 26.4 +1.0
baz=85
I23A Meade Ranch, G 85.23 42 ⇓P P 07 14 26.1 +0.2

baz=85
G22A Birney 85.27 41 ⇓P P 07 14 26.6 +0.6
baz=85
P27A Ficken Ranch, 85.33 47 ⇓P P 07 14 26.7 +0.3
baz=86
C20A Veseth Ranch, 85.37 38 ⇑P P 07 14 27.4 +1.0
baz=86
E21A Keefer Ranch, 85.38 39 ⇑P P 07 14 27.3 +0.8
baz=86
BJT Baijiatuau 85.39 313 *e*P P 07 14 28.2 +1.7
BJT LR LR
comp=Z,1μm,22.0s
BJI Beijing 85.39 313 P P 07 14 27.6 +1.0
BJI S **S** 07 24 51.0 -5.8
BJI SS **SS** 07 30 36.7 +4.4
BJI pmax pmax
comp=Z,58nm,2.0s
BJI pmax pmax
comp=Z,1μm,4.8s
BJI LR LR
comp=N,660nm,20.8s
BJI LR LR
comp=E,760nm,24.2s
BJI LR LR
comp=Z,1μm,27.1s
N26A Koester Ranch, 85.40 46 ⇓P P 07 14 26.6 -0.2
baz=86
L25A Engebretsen Ra 85.44 44 ⇓P P 07 14 28.0 +1.0
baz=86
J24A Dixon Ranch, L 85.48 43 ⇑P P 07 14 27.7 +0.6
baz=86
A19A Klindworth Far 85.53 37 ⇓P P 07 14 27.8 +0.6
baz=86,SNR=16
F22A Rosebud 85.54 40 ⇑P P 07 14 27.9 +0.6
baz=86
O27A Beecher Island 85.65 47 ⇓P P 07 14 28.1 +0.1
baz=86
D21A La Casta Ranch 85.68 39 ⇑P P 07 14 28.6 +0.7
baz=86
K25A Mack Ranch, Ha 85.70 44 ⇑P P 07 14 28.6 +0.4
baz=86
B20A Solberg Farm, 85.71 37 ⇓P P 07 14 28.7 +0.6
baz=86,SNR=12
M26A McRoberts Ranc 85.71 45 ⇓P P 07 14 28.2 -0.2
baz=86
I24A Kuemmerle Ranc 85.73 43 ⇓P P 07 14 28.6 +0.2
baz=86
G23A Biddle 85.83 41 ⇑P P 07 14 29.2 +0.4
baz=86
N27A Anderson Farm, 85.86 46 ⇑P P 07 14 29.3 +0.2
baz=86
C21A Desert Coulee 85.97 38 ⇑P P 07 14 29.9 +0.6
baz=86
A20A Cobblestone Ra 85.97 37 ⇑P P 07 14 30.0 +0.6
baz=86,SNR=14
L26A Underwood Farm 85.99 45 ⇓P P 07 14 29.7 0.0
baz=86
E22A Miles City 86.03 40 ⇑P P 07 14 30.3 +0.7
baz=86
F23A Volborg 86.05 41 ⇓P P 07 14 30.3 +0.5
baz=86
H24A Dirks Ranch, A 86.16 42 ⇓P P 07 14 30.6 +0.1
baz=86,SNR=16
K26A Motz Farm, Whi 86.20 44 ⇓P P 07 14 30.7 0.0
baz=86
D22A Cohagen 86.21 39 ⇓P P 07 14 31.2 +0.7
baz=86
RSSD Black Hills 86.23 42 *e*P P 07 14 30.4 -0.5
RSSD pmax pmax
comp=Z,69nm,1.5s
RSSD Black Hills 86.23 42 *e*P P 07 14 30.4 -0.5
comp=Z,69nm,1.5s
M27A Reverse DX Ran 86.26 45 ⇓P P 07 14 30.6 -0.4
baz=86
OGNE Ogallala 86.27 46 PFAKE 07 14 40.0 +8.9
OGNE LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 86.27 46 ⇑P P 07 14 31.5 +0.5
baz=86
WMOK Wichita Mounta 86.29 53 *e*P P 07 14 30.1 -1.1
WMOK pmax pmax
comp=Z,30nm,1.3s
WMOK Wichita Mounta 86.29 53 *e*P P 07 14 30.1 -1.1
comp=Z,30nm,1.3s
B21A Ellsworth Farm 86.29 38 ⇑P P 07 14 31.7 +0.8
baz=86,SNR=9.8
WHTX Lake Whitney 86.36 56 ⇑P P 07 14 31.4 -0.2
baz=86
E23A Ismay 86.45 40 ⇑P P 07 14 31.9 +0.1
baz=87
G24A Alzada 86.50 41 ⇓P P 07 14 32.5 +0.4
baz=87,SNR=5.9
L27A T5 Ranch, Ells 86.53 45 ⇑P P 07 14 32.7 +0.4
baz=87
A21A Bergtoll Ranch 86.61 37 ⇑P P 07 14 33.2 +0.7
baz=87
C22A Vida 86.66 39 ⇑P P 07 14 33.3 +0.6
baz=87
F24A Ekalaka 86.71 41 ⇑P P 07 14 33.4 +0.3
baz=87
COCO West Island 86.75 258 PFAKE 07 14 50.0 +16
COCO LR LR
comp=Z,2μm,21.0s
D23A Lindsay 86.81 39 ⇓P P 07 14 34.1 +0.5
baz=87,SNR=6.3
K27A Flueckinger Fa 86.83 44 ⇓P P 07 14 33.9 +0.1
baz=87
B22A Reddig Ranch S 86.84 38 ⇑P P 07 14 34.3 +0.7
baz=87
HKT Hockley 86.98 58 *e*P P 07 14 35.0 +0.4
HKT pmax pmax
comp=Z,70nm,1.5s
HKT Hockley 86.98 58 *e*P P 07 14 35.0 +0.4
comp=Z,70nm,1.5s
IPM Ipoh 87.00 275 *e*P P 07 14 37.9 +2.7
comp=Z,8.9nm,0.6s
HIA Hailar 87.08 323 *e*P P 07 14 36.1 +1.3
HIA LR LR
comp=Z,2μm,21.0s
E24A Baker 87.10 40 ⇑P P 07 14 35.2 +0.2
baz=87
C23A Lambert 87.11 39 ⇑P P 07 14 35.5 +0.5
baz=87
A22A Carney Farms, 87.20 37 ⇑P P 07 14 35.8 +0.4
baz=87
D24A Glendive 87.33 40 ⇓P P 07 14 36.5 +0.5
baz=88
C24A Savage 87.45 39 ⇑P P 07 14 37.3 +0.8
baz=88
B23A Brockton 87.51 38 ⇑P P 07 14 37.7 +0.8
baz=88
KULM Kulim 87.57 276 PFAKE 07 14 50.0 +12
KULM LR LR
comp=Z,511nm,20.0s
A23A Redstone 87.80 38 ⇓P P 07 14 39.3 +1.1
baz=88
DGMT Dagmar 87.99 38 *e*P P 07 14 39.5 +0.3
comp=Z,117nm,1.4s
DGMT LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 87.99 38 ⇑P P 07 14 39.9 +0.8
baz=88
GYA Guiyang 88.03 298 P P 07 14 41.2 +1.2
GYA PP **PP** 07 18 10.0 +3.2
GYA SKS **SKSac** 07 25 07.4 -0.6
GYA S **S** 07 25 24.2 +1.0
GYA SS **SS** 07 31 16.0 +4.2
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.6s
GYA LR LR
comp=N,720nm,18.6s
GYA LR LR
comp=E,620nm,19.0s
GYA LR LR
comp=Z,840nm,18.8s
INK Inuvik 88.03 14 *e*P P 07 14 38.9 +0.1
comp=Z,31nm,1.3s
MAW Mawson 88.03 199 LR LR 07 54 22.3
comp=Z,2μm,18.4s,baz=118,slow=36
CLNS Chul'man 88.09 331 *e*P P 07 14 39.3 -0.1
CLNS *e**PP **pP** 07 14 49.6 +3.8
CLNS *e* 07 18 04.1
CLNS *e*PPP PPP 07 19 59.8
CLNS *e*S **SKSac** 07 25 03.6 -3.3
CLNS pmax pmax
comp=Z,25nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.4s
CLNS pmax pmax
comp=N,13nm,1.3s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,1.4s
CLNS smax smax
comp=E,398nm,13.3s
CLNS smax smax
comp=N,298nm,13.3s
CLNS MLR MLR
comp=Z,2μm,23.0s
CLNS MLR MLR
comp=E,697nm,17.0s
CLNS MLR MLR
comp=N,714nm,15.0s
A24A Westby 88.30 38 ⇑P P 07 14 41.4 +0.8
baz=88
NATX Nacogdoches 88.52 57 *e*P P 07 14 42.8 +0.8
comp=N,178nm,1.4s
NATX LR LR
comp=Z,1μm,20.0s
XAN Xi'an 88.58 306 P P 07 14 44.3 +2.0
XAN pP **pP** 07 14 53.4 +4.7
XAN PP PP 07 18 16.4 +5.4
XAN SKS **SKSac** 07 25 08.9 -2.0
XAN S **S** 07 25 29.9 +1.8
XAN SS **SS** 07 31 25.6 +6.1
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN pmax pmax
comp=Z,130nm,7.1s
XAN LR LR
comp=N,560nm,20.4s
XAN LR LR
comp=E,200nm,18.3s
XAN LR LR
comp=Z,260nm,20.4s
HHC Hu-ho-hao-te 88.95 313 *e*P P 07 14 40.8 -3.2
HHC PP **PP** 07 18 13.0 -0.9
HHC SKS **SKSac** 07 25 08.0 -4.9
HHC S **SKSac** 07 25 27.1 +2.6
HHC SS **SS** 07 31 25.4 +0.7
HHC LR LR
comp=N,340nm,16.6s
HHC LR LR
comp=E,480nm,17.8s
HHC LR LR
comp=Z,1μm,20.2s
YAK Yakutsk 88.95 337 *e*P P 07 14 42.1 -1.2
YAK *e**PP **pP** 07 14 52.5 +2.9
YAK *e* 07 18 08.0
YAK *e*S **SKSac** 07 25 09.1 -2.5
YAK *e* 07 25 26.5
YAK *e*SS SS 07 31 14.8 -8.6
YAK pmax pmax
comp=Z,21nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.8s
YAK pmax pmax
comp=E,10.0nm,1.9s
YAK pmax pmax
comp=Z,422nm,4.9s
YAK pmax pmax
comp=N,298nm,5.9s
YAK smax smax
comp=N,712nm,10.7s
YAK smax smax
comp=E,267nm,6.4s
YAK MLR MLR
comp=E,415nm,20.0s
YAK MLR MLR
comp=N,267nm,17.0s
YAK MLR MLR
comp=Z,363nm,18.0s
TUL1 Tulsa 88.99 52 ⇓P P 07 14 44.4 +0.2
baz=89
BGNE Belgrade 89.16 47 ⇑P P 07 14 45.2 +0.4
baz=89
KSU1 Kansas State U 89.45 49 PFAKE 07 15 00.0 +14
KSU1 LR LR
comp=Z,2μm,21.0s
PLCA Paso Flores 89.58 132 P P 07 14 49.0 +2.0
comp=Z,4.6nm,1.1s,baz=260,slow=6.1,SNR=4.3
PLCA LR LR 07 47 33.0
comp=Z,1μm,18.7s,baz=258,slow=31
PLCA Paso Flores 89.58 132 P P 07 14 49.0 +2.0
YKA Yellowknife Ar 89.86 23 P P 07 14 47.5 0.0
comp=Z,6.7nm,1.0s,baz=236,slow=4.7,SNR=34
YKA Yellowknife Ar 89.86 23 P P 07 14 47.5 0.0
YKW3 Yellowknife Ar 89.89 23 *e*P P 07 14 47.2 -0.5
comp=Z,0.4nm,1.3s
BTO Baotou 89.96 312 *e*P P 07 14 50.2 +1.5
MIAR Mount Ida 90.27 54 *e*P P 07 14 49.5 -0.7
MIAR pmax pmax
comp=Z,115nm,2.4s
MIAR MLR MLR
comp=Z,2μm,21.0s
MIAR Mount Ida 90.27 54 *e*P P 07 14 49.5 -0.7
comp=Z,115nm,2.4s
MIAR LR LR
comp=Z,2μm,21.0s
TEIG Tepich 90.61 69 LR LR 07 47 25.3
comp=Z,541nm,21.0s,baz=47,slow=30
KMI Kunming 91.02 296 P P 07 14 55.2 +1.0
KMI pP **pP** 07 14 58.6 -1.9
KMI sP **sP** 07 14 59.8 -3.0
KMI PP **PP** 07 18 30.6 -0.3
KMI SKS **SKSac** 07 25 27.0 +1.1
KMI S **S** 07 25 52.4 +1.0
KMI SS **SS** 07 31 58.8 +3.3
KMI pmax pmax
comp=Z,8.0nm,1.6s
KMI pmax pmax
comp=Z,270nm,6.0s
KMI LR LR
comp=N,530nm,20.2s
KMI LR LR
comp=E,710nm,18.4s
KMI LR LR
comp=Z,810nm,18.9s
ECSD EROS Data Cent 91.03 45 *e*P P 07 14 52.3 -1.2
comp=Z,28nm,1.4s
ECSD LR LR
comp=Z,3μm,22.0s
JTS JuntasAbangare 91.07 80 LR LR 07 46 28.2
comp=Z,2μm,20.3s,baz=241,slow=29
UALR University of 91.30 54 *e*P P 07 14 56.0 +1.1
comp=Z,48nm,1.4s
CD2 Chengdu 91.78 301 P P 07 14 54.1 -3.2
CD2 pP **PcP** 07 14 58.9 +0.7
CD2 sP sP 07 15 01.1 -4.8
CD2 PP **PP** 07 18 35.3 -1.3
CD2 SKS **SKSac** 07 25 25.1 -4.5
CD2 S **S** 07 25 52.2 -5.5
CD2 SS **SS** 07 32 02.8 -3.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,350nm,6.5s
CD2 LR LR
comp=N,960nm,23.8s
CD2 LR LR
comp=Z,1μm,21.4s
CIT Chita 91.81 324 *e*P P 07 14 58.1 +1.1
CIT *e* 07 25 29.9
CIT pmax pmax
comp=Z,162nm,2.0s
FFC Flin Flon 91.86 33 *e*P P 07 14 56.5 -0.6
FFC pmax pmax
comp=Z,34nm,1.5s
FFC MLR MLR
comp=Z,804nm,21.0s
FFC Flin Flon 91.86 33 *e*P P 07 14 56.5 -0.6
comp=Z,34nm,1.5s
FFC LR LR
comp=Z,804nm,21.0s
FFC Flin Flon 91.86 33 P P 07 14 56.7 -0.4
comp=Z,57nm,1.3s,SNR=5.7
VBMS Vicksburg 92.02 57 *e*P P 07 15 00.1 +1.8
comp=Z,140nm,1.4s
VBMS LR LR
comp=Z,1μm,21.0s
CMAR Chiang Mai Arr 92.64 288 P P 07 15 03.6 +2.1
comp=Z,1.0nm,0.3s,baz=102,slow=3.1,SNR=5.6
CMAR LR LR 07 51 12.7
comp=Z,814nm,20.8s,baz=274,slow=32
CMAR Chiang Mai Arr 92.64 288 P P 07 15 03.6 +2.1
CHTO Chiang Mai 92.73 289 PFAKE 07 15 10.0 +8.1
CHTO LR LR
comp=Z,910nm,22.0s
SCIA State Center 92.81 47 PFAKE 07 15 10.0 +8.2
SCIA LR LR
comp=Z,2μm,21.0s
HBAR Harrisburg 92.85 54 *e*P P 07 15 03.6 +1.5
ATAH Atahualpa 92.85 98 LR LR 07 47 19.7
comp=Z,4μm,20.1s,baz=217,slow=29
NNA Nana 93.01 103 LR LR 07 47 16.5
comp=Z,1μm,20.2s,baz=252,slow=29
EFI East Falkland 93.02 146 PFAKE 07 15 10.0 +7.4
EFI LR LR
comp=Z,3μm,21.0s
AGMN Agassiz Nation 93.06 41 *e*P P 07 15 02.1 -0.7
comp=Z,42nm,1.5s
AGMN LR LR
comp=Z,1μm,20.0s
VNA3 Neumayer Olymp 93.07 175 *e*P P 07 15 03.8 +1.3
LZH Lanzhou 93.17 306 *e*P P 07 15 05.5 +1.7
LZH pP **pP** 07 15 10.0 -0.2
LZH sP **sP** 07 15 11.7 -0.7
LZH SKS **SKSac** 07 25 38.0 +0.6
LZH S **S** 07 26 09.0 -1.2
LZH sS **sS** 07 26 17.1 -3.7
LZH SS **SS** 07 32 27.3 +1.3
LZH pmax pmax
comp=Z,42nm,1.6s
LZH pmax pmax
comp=Z,190nm,4.9s
LZH LR LR
comp=N,650nm,17.9s
LZH LR LR
comp=E,720nm,16.9s
LZH LR LR
comp=Z,1μm,17.8s
LCO Las Campanas 93.38 121 PFAKE 07 15 20.0 +15
LCO LR LR
comp=Z,3μm,22.0s
OXF Oxford 93.55 55 *e*P P 07 15 05.7 +0.4
OXF pmax pmax
comp=Z,99nm,1.3s
OXF MLR MLR
comp=Z,2μm,21.0s
OXF Oxford 93.55 55 *e*P P 07 15 05.7 +0.4
comp=Z,99nm,1.3s
OXF LR LR
comp=Z,2μm,21.0s
VNA2 Neumayer--Watz 93.56 175 *e*P P 07 15 06.3 +1.5
baz=181,slow=2.8
ULM Lac du Bonnet 93.70 39 P P 07 15 04.6 -1.0
comp=Z,8.1nm,1.1s,baz=237,slow=6.4,SNR=10.0
ULM LR LR 07 52 32.7
comp=Z,1μm,19.2s,baz=261,slow=32
ULM Lac du Bonnet 93.70 39 P P 07 15 04.6 -1.0
FVM French Village 93.71 52 *e*P P 07 15 05.7 -0.3
FVM pmax pmax
comp=Z,62nm,1.5s
FVM French Village 93.71 52 *e*P P 07 15 05.7 -0.3
comp=Z,62nm,1.5s
BOD Bodaibo 93.79 329 *e*P P 07 14 54.3 -12
BOD pmax pmax
comp=Z,10.0nm,1.8s
SPMN St. Paul 94.09 44 ⇑P P 07 15 07.5 0.0
baz=94
ULN Ulaanbaatar 94.33 318 *e*P P 07 15 09.3 +0.5
comp=Z,41nm,1.5s
BRAL Brewton 94.53 59 PFAKE 07 15 20.0 +10
BRAL LR LR
comp=Z,957nm,22.0s
SIUC Southern Illin 94.56 52 *e*P P 07 15 10.1 +0.2
comp=Z,42nm,1.3s
PLAL Pickwick Lake 94.73 55 PFAKE 07 15 20.0 +9.3
PLAL LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 94.74 91 PFAKE 07 15 20.0 +8.1
OTAV LR LR
comp=Z,975nm,21.0s
SONM Songino Array 94.75 318 P P 07 15 11.4 +0.7
comp=Z,3.1nm,1.1s,baz=116,slow=3.4,SNR=16
SONM PP **PP** 07 18 58.3 -1.2
comp=Z,2.2nm,1.1s,baz=111,slow=8.1,SNR=7.2
SONM LR LR 07 53 00.2
comp=Z,927nm,21.2s,baz=131,slow=32
SONM Songino Array 94.75 318 P P 07 15 11.4 +0.7
SONM PP **PP** 07 18 58.3 -1.2
PAF Port-aux-Franc 94.86 216 PFAKE 07 15 20.0 +8.9
PAF LR LR
comp=Z,3μm,20.0s
LRAL Lakeview Retre 95.09 57 PFAKE 07 15 20.0 +7.5
LRAL LR LR
comp=Z,706nm,21.0s
WVT Waverly 95.22 54 *e*P P 07 15 12.3 -0.6
WVT pmax pmax
comp=Z,32nm,1.5s
WVT Waverly 95.22 54 *e*P P 07 15 12.3 -0.6
comp=Z,32nm,1.5s
HDIL Hopedale 95.26 50 *e*P P 07 15 12.5 -0.5
comp=Z,48nm,1.3s
HDIL LR LR
comp=Z,2μm,20.0s
BCIP Isla Barro Col 95.66 82 PFAKE 07 15 30.0 +15
BCIP LR LR
comp=Z,873nm,20.0s
EYMN Ely 95.74 42 PFAKE 07 15 30.0 +15
EYMN LR LR
comp=Z,2μm,21.0s
TRQA Tornquist 96.74 132 PFAKE 07 15 30.0 +10
TRQA LR LR
comp=Z,1μm,19.0s
SFIN Scholer Farm 96.83 50 ⇓P P 07 15 19.6 -0.6
baz=97
GTA Gaotai 97.12 309 ⇓*e*P Pdif 07 15 23.4 +1.6
GTA pP pP 07 15 28.4 +0.3
GTA sP sP 07 15 30.4 +0.1
GTA PP **PP** 07 19 23.2 +5.1
GTA SKS **SKSac** 07 25 58.9 +0.7
GTA S **S** 07 26 44.3 0.0
GTA sS sS 07 26 52.1 -2.8
GTA SS **SS** 07 33 25.5 +3.6
GTA pmax pmax
comp=Z,8.0nm,2.0s
GTA pmax pmax
comp=Z,150nm,7.8s
GTA LR LR
comp=N,510nm,19.5s
GTA LR LR
comp=E,1μm,21.4s
GTA LR LR
comp=Z,2μm,21.9s
ZAK Zakamensk 97.42 320 *e*P P 07 15 22.7 -0.1
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 97.53 321 *e*P P 07 15 22.2 -0.9
TLY *e*S S 07 26 32.2 -15
TLY *e*PPS PPS 07 28 48.0
TLY pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 97.53 321 PFAKE 07 15 30.0 +6.8
TLY LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 98.06 58 PFAKE 07 15 40.0 +14
GOGA LR LR
comp=Z,1μm,21.0s
TKL Tuckaleechee C 98.31 55 P Pdif 07 15 27.6 +0.6
comp=Z,4.0nm,0.9s,baz=311,slow=19,SNR=3.4
TKL LR LR 07 52 51.5
comp=Z,2μm,21.6s,baz=263,slow=31
TKL Tuckaleechee C 98.31 55 P Pdif 07 15 27.6 +0.5
GLMI Grayling 99.61 46 PFAKE 07 15 40.0 +7.4
GLMI LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 99.78 49 PFAKE 07 15 50.0 +17
AAM LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 99.79 110 LR LR 07 55 04.4
comp=Z,680nm,18.4s,baz=259,slow=32
ACSO Alum Creek Sta 99.87 51 PFAKE 07 15 50.0 +16

ACSO LR LR
comp=Z,2µm,22.0s
ROSC El Rosal 99.89 88 LR LR 07 51 20.0
comp=Z,929nm,20.9s,baz=206,slow=30
MTDJ Mount Denham 99.96 74 PFAKE 07 15 50.0 +15
MTDJ LR LR
comp=Z,1µm,20.0s
NHSC New Hope 100.69 59 PFAKE 07 15 50.0 +12
NHSC LR LR
comp=Z,1µm,19.0s
BLA Blacksburg 101.27 54 PFAKE 07 15 50.0 +10
BLA LR LR
comp=Z,2µm,21.0s
RES Resolute Bay 101.49 15 *e*Pdif **Pdif 07 15 39.5 -0.8**
comp=Z,6.5nm,1.3s
LSA Lhasa 102.10 298 PFAKE 07 16 00.0 +15
LSA LR LR
comp=Z,471nm,22.0s
ERPA Erie 102.43 50 PFAKE 07 16 00.0 +15
ERPA LR LR
comp=Z,2µm,20.0s
CNNC Cliffs of the 102.94 57 PFAKE 07 16 00.0 +12
CNNC LR LR
comp=Z,1µm,20.0s
CBN Corbin 103.81 54 PFAKE 07 16 00.0 +8.6
CBN LR LR
comp=Z,2µm,22.0s
SDV Santo Domingo 104.42 85 PFAKE 07 16 10.0 +15
SDV LR LR
comp=Z,359nm,21.0s
BINY Binghamton 105.39 50 PFAKE 07 20 20.0
BINY LR LR
comp=Z,2µm,20.0s
SDDR Presa de Saban 105.92 74 PFAKE 07 20 30.0
SDDR LR LR
comp=Z,3µm,20.0s
LONY Lake Ozonia 106.65 47 PFAKE 07 20 30.0
LONY LR LR
comp=Z,2µm,21.0s
SAML Samuel 106.73 104 PFAKE 07 20 30.0
SAML LR LR
comp=Z,1µm,20.0s
WMQ Urumqi 106.80 312 *e*Pdif **Pdif 07 16 00.3 -4.4**
WMQ PP **PP 07 20 28.5 -2.2**
WMQ S **Sdif 07 27 57.7 -7.4**
WMQ SS **SS 07 35 29.7 -5.8**
WMQ LR LR
comp=N,290nm,23.0s
WMQ LR LR
comp=E,310nm,29.0s
WMQ LR LR
comp=Z,490nm,25.0s
LBNH Lisbon 108.53 48 PFAKE 07 20 30.0
LBNH LR LR
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 109.11 322 Pdiff **Pdif 07 16 14.7 +0.1**
comp=Z,1.2nm,1.0s,baz=66,slow=3.6,SNR=5.3
ZALV PP **PP 07 20 44.8 -2.4**
comp=Z,1.2nm,0.9s,baz=90,slow=5.8,SNR=3.5
ZALV Zalesovo Beam 109.11 322 P **Pdif 07 16 14.7 +0.1**
ZALV 07 20 44.8
ZALV Zalesovo Beam 109.11 322 Pdif **Pdif 07 16 14.7 +0.1**
ZALV PP **PP 07 20 44.8 -2.4**
SJG San Juan 110.56 76 PFAKE 07 20 30.0
SJG LR LR
comp=Z,1µm,20.0s
MKAR Makanchi Array 110.74 315 Pdiff **Pdif 07 16 22.5 +0.4**
comp=Z,0.2nm,0.7s,baz=93,slow=7.2,SNR=3.1
MKAR PKiKP **PKiKP 07 20 21.1 -1.0**
comp=Z,1.2nm,0.7s,baz=56,slow=2.8,SNR=4.6
MKAR Makanchi Array 110.74 315 P **Pdif 07 16 22.5 +0.4**
MKAR *i* 07 20 21.1
MKAR Makanchi Array 110.74 315 Pdif **Pdif 07 16 22.5 +0.4**
MKAR PKiKP **PKiKP 07 20 21.1 -1.0**
DGAR Diego Garcia 111.10 256 PFAKE 07 20 40.0
DGAR LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 113.04 319*c i*PKIKP **PKiKP 07 20 23.1 -3.1**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 113.04 319 *e*P **PKiKP 07 20 22.9 -3.3**
KURK LR LR
comp=Z,1µm,20.0s
GRGR Grenville 113.74 83 PFAKE 07 20 40.0
GRGR LR LR
comp=Z,617nm,20.0s
SPB Sao Paulo 114.54 125 PFAKE 07 20 40.0 +10
SPB LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 114.58 77 PFAKE 07 20 40.0 +10
ANWB LR LR
comp=Z,787nm,19.0s
FDF Fort de France 114.70 81 PFAKE 07 20 40.0 +10
FDF LR LR
comp=Z,851nm,20.0s
KSH Kashi 115.42 307 *e*PKP **PKPdf 07 20 29.5 -1.9**
KSH *e*PP **PP 07 21 35.7 +2.7**
KSH PKS **PKSdf 07 24 03.8 -4.3**
KSH SKS **SKSdf 07 27 39.2 -3.6**
KSH SKKS **SKKSac 07 28 28.8 -4.8**
KSH SS **SS 07 37 33.3 +2.2**
KSH AMB AMB
comp=Z,120nm,5.2s
KSH LR LR
comp=N,150nm,8.2s
KSH LR LR
comp=E,180nm,7.8s
KSH LR LR
comp=Z,560nm,17.9s
TKM2 Tokmak 2 115.59 311 PFAKE 07 20 40.0 +8.3
TKM2 LR LR
comp=Z,728nm,21.0s
BBGH Gun Hill 115.94 83 PFAKE 07 20 50.0 +17
BBGH LR LR
comp=Z,3µm,21.0s
KBS Kingsbay 116.18 359 PFAKE 07 20 40.0 +8.5
KBS LR LR
comp=Z,573nm,22.0s
AAK Ala-Archa 116.42 310 PFAKE 07 20 50.0 +17
AAK LR LR
comp=Z,811nm,19.0s
EKS2 Erkin-Say 116.95 310 PFAKE 07 20 50.0 +16
EKS2 LR LR
comp=Z,838nm,21.0s
BRVK Borovoye 117.83 322*c i*PKIKP **PKPdf 07 20 33.9 -1.5**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 117.83 322 *e*PKPdf **PKPdf 07 20 34.1 -1.2**
BRVK LR LR
comp=Z,1µm,20.0s
ARU Arti 123.20 329 *e*PKIKP **PKPdf 07 20 45.7 +0.1**
ARU MLR MLR
comp=Z,2µm,21.0s
ARU Arti 123.20 329 *e*PKPdf **PKPdf 07 20 45.7 +0.1**
ARU LR LR
comp=Z,2µm,21.0s
LVZ Lovozero 124.31 348 PFAKE 07 21 00.0 +13
LVZ LR LR
comp=Z,1µm,21.0s
ARCES ARCESS Array B 124.41 352 PKP **PKPdf 07 20 48.7 +1.1**
comp=Z,4.1nm,0.7s,baz=58,slow=2.4,SNR=8.1
ARCES ARCESS Array B 124.41 352 PKP **PKPdf 07 20 48.7 +1.1**
APA Apatity 124.84 348↓ *i*PKIKP **PKPdf 07 20 48.4 0.0**
APA *i* 07 27 44.0
APA *i* PS **PS 07 32 38.0 +1.6**
AKTO Aktyubinsk 125.87 322 PKP **PKPdf 07 20 51.1 +0.2**
comp=Z,2.9nm,0.9s,baz=358,slow=5.5,SNR=3.9
AKTO Aktyubinsk 125.87 322 PKIKP **PKPdf 07 20 51.1 +0.2**
AKTO Aktyubinsk 125.87 322 PKP **PKPdf 07 20 51.1 +0.2**
ABPO Ambohimpanom 127.60 231 PFAKE 07 21 10.0 +15
ABPO LR LR
comp=Z,2µm,21.0s
MSEY Mahe Island 127.82 252 PFAKE 07 21 10.0 +14
MSEY LR LR
comp=Z,686nm,19.0s
KLMR Klimovskoe 128.62 340 *e*PKIKP PKPdf 07 20 46.4 -9.4
KLMR pmax pmax
comp=Z,37nm,1.5s
SUR Sutherland 130.82 196 PFAKE 07 21 10.0 +8.7
SUR LR LR
comp=Z,1µm,19.0s
FINES FINESS Array B 131.75 348 PKP **PKPdf 07 21 00.7 -1.1**
comp=Z,3.5nm,0.7s,baz=48,slow=2.1,SNR=4.9
FINES FINESS Array B 131.75 348 PKP **PKPdf 07 21 00.7 -1.1**
RCBR Riachuelo 132.91 113 PFAKE 07 21 20.0 +15

RCBR LR LR
comp=Z,1µm,21.0s
OBN Obninsk 133.95 337↑ *i*PKIKP **PKPdf 07 21 04.7 -1.3**
OBN *e* 07 21 11.6
OBN *e*SSS SSS 07 46 19.6
OBN pmax pmax
comp=Z,54nm,1.7s
OBN MLR MLR
comp=Z,600nm,20.0s
OBN Obninsk 133.95 337 PFAKE 07 21 20.0 +14
OBN LR LR
comp=Z,736nm,20.0s
NOA NORSAR Array B 134.09 357 PKP **PKPdf 07 21 05.6 -0.7**
comp=Z,0.5nm,0.7s,baz=6.9,slow=3.7,SNR=3.5
NOA NORSAR Array B 134.09 357 PKP **PKPdf 07 21 05.6 -0.7**
VRHR Novokhopersk 134.52 330 *e*PKIKP PKPdf 07 21 16.2 +8.9
VRHR pmax pmax
comp=Z,2.0nm,0.9s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,1.2s
HFS Hagfors 134.82 355 PKP **PKPdf 07 21 09.5 +2.0**
comp=E,2.3nm,0.8s,baz=108,slow=3.2,SNR=3.0
HFS Hagfors 134.82 355 PKP **PKPdf 07 21 09.5 +2.0**
KONO Kongsberg 135.55 358 PFAKE 07 21 20.0 +11
KONO LR LR
comp=Z,783nm,21.0s
VSR Storozhevoye 135.62 331 *e*PKIKP **PKPdf 07 21 07.8 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.1s
ZEI Tsey 137.94 318 *i* PKIKP **PKPdf 07 21 13.1 -1.1**
ZEI pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 138.09 321 *i* PKIKP **PKPdf 07 21 13.0 -1.3**
KIV 07 24 09.0
KIV *e*PS PS 07 34 26.4 -5.4
KIV *e* 07 36 22.0
KIV MLR MLR
comp=Z,800nm,21.0s
KIV Kislovodsk 138.09 321 PFAKE 07 21 30.0 +16
KIV LR LR
comp=Z,785nm,20.0s
GNI Garni 138.59 314 PFAKE 07 21 30.0 +15
GNI LR LR
comp=Z,519nm,20.0s
ESK Eskdalemuir 139.22 9 PFAKE 07 21 30.0 +14
ESK LR LR
comp=Z,918nm,19.0s
SOC Sochi 140.10 322 *i* PKIKP PKPdf 07 21 29.4 +12
SOC *e* 07 24 17.1
SOC MLR MLR
comp=Z,1µm,18.0s
AKASG Malin Array Be 140.18 338 PKP **PKPdf 07 21 18.5 +0.8**
comp=Z,3.9nm,0.7s,baz=38,slow=3.4,SNR=9.0
AKASG Malin Array Be 140.18 338*c i*PKIKP **PKPdf 07 21 17.7 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 140.18 338 PKP **PKPdf 07 21 18.5 +0.8**
KIEV Kiev 140.19 338↑ *i*PKIKP **PKPdf 07 21 18.9 +1.2**
KIEV Kiev 140.19 338 *e*PKPdf **PKPdf 07 21 18.5 +0.8**
KIEV LR LR
comp=Z,1µm,21.0s
AK02 Malin Array Si 140.22 338 *e*PKPdf **PKPdf 07 21 18.2 +0.4**
HAKT HAKKARI 140.42 311 *i* P **PKPdf 07 21 15.5 -3.4**
BHD Baghdad 141.47 305 *e*PKP PKPpre 07 21 08.0
BHD *i* SKKS **SKKSac 07 31 17.0 +0.5**
BAYT Ayd¨–ntepe-Bay 141.57 317 *e*P **PKPdf 07 21 20.7 -0.2**
ERZN Erzincan 142.26 317 *e*P **PKPdf 07 21 20.9 -1.1**
SIM Simferopol' 142.36 328 *e*PKIKP **PKPdf 07 21 25.3 +3.4**
SIM *e*PPP PPP 07 28 30.0
SIM pmax pmax
comp=Z,18nm,1.0s
SIM MLR MLR
comp=Z,800nm,21.0s
LVV L'vov 142.68 341 *e*P **Pdif 07 18 40.6 -3.4**
LVV MLR MLR
comp=Z,900nm,22.0s
LVV MLR MLR
comp=N,600nm,21.0s
LVV MLR MLR
comp=E,600nm,20.0s
ILIC ilic-Erzincan 143.09 317 *e*P PKPbc 07 21 21.2 +0.8
KWP Kalwaria Pacla 143.24 343 PFAKE 07 21 40.0 +17
KWP LR LR
comp=Z,1µm,20.0s
OJC Ojcow 143.47 346 *e*PKIKP PKPbc 07 21 20.6 -0.3
OJC Ojcow 143.47 346 *e*PKP PKPbc 07 21 20.6 -0.3
ERBA Erbaa 143.57 320 *i* P PKPbc 07 21 22.4 +0.9
KSP Ksiaz 143.59 350 *e*P **Pdif 07 18 45.5 -2.6**
KSP *e* 07 21 21.5
KSP *e*SS SS 07 43 08.0 -7.4
KSP MLR MLR
comp=Z,2µm,22.3s
CLL Collm 143.61 353↓ *i*PKiKP **PKiKP 07 21 28.6 +1.4**
comp=Z,10.0nm,0.8s
CLL *e*PKSdf **PKSdf 07 25 00.0 +0.7**
CLL *e*PPS PPS 07 37 12.0
CLL *e* 07 41 42.0
CLL *e*SS SS 07 43 18.0 +2.6
CLL *e* 07 47 36.0
CLL *e*SSS SSS 07 48 48.0
CLL Lm MLR 08 32 00.0
comp=N,200nm,20.1s
CLL Lm MLR 08 32 00.0
comp=E,600nm,19.5s
CLL Lm MLR 08 32 00.0
comp=Z,600nm,19.5s
BRG Berggiesshubel 143.92 352 *e* **Pdif 07 18 51.1 +1.6**
comp=Z,10.0nm,1.1s
BRG *e* 07 21 23.8
comp=Z,27nm,1.8s
BRG *i* 07 21 38.0
BRG PP PP 07 23 10.9 -86
comp=Z,30nm,1.8s
BRG SS SS 07 43 21.0 +1.9
BRG
comp=N,742nm,19.5s
BRG
comp=E,433nm,17.9s
BRG
comp=Z,890nm,22.1s
BRG Berggiesshubel 143.92 352 *e* **PKPdf 07 21 23.8 -0.6**
BRG *i* 07 21 38.0
BRG SS SS 07 43 21.0 +1.9
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,27nm,1.8s
BRG MLR MLR
comp=N,742nm,19.5s
BRG MLR MLR
comp=E,433nm,17.9s
BRG MLR MLR
comp=Z,890nm,22.1s
UPC Upice 143.97 350 *e*PKP PKPbc 07 21 23.3 +1.0
UPC *e*pPKP pPKPdf 07 21 32.8 +1.7
KOLS Kolonicke sedl 144.00 342 *e*PKIKP **PKPdf 07 21 23.8 -0.9**
KOLS Kolonicke sedl 144.00 342 *e*PKP **PKPdf 07 21 23.8 -0.9**
DPC Dobruska-Polom 144.06 349 *e*PKP PKPbc 07 21 23.6 +0.9
DPC AMS AMS 08 23 50.0
comp=Z,1µm,19.8s
AKCD Akcadag 144.13 316 *i* P PKPbc 07 21 24.2 +0.8
PVCC Panska Ves 144.17 351 *e*PKP **PKPdf 07 21 24.0 -0.9**
PVCC AMS AMS 08 23 20.0
comp=Z,1µm,18.0s
BUR08 Bucovina Ar. S 144.18 338 *e*PKPdf PKPbc 07 21 24.0 +0.8
OKC Ostrava-Krasne 144.20 347 *e*PKIKP PKPbc 07 21 23.9 +0.8
OKC *e* 07 21 32.7
OKC MLR MLR
comp=Z,900nm,25.0s
OKC Ostrava-Krasne 144.20 347 *e*PKP PKPbc 07 21 23.9 +0.8
OKC *e*pPKP pPKPdf 07 21 32.7 +1.2
OKC AMS AMS 08 25 00.0
comp=Z,900nm,25.0s
BURAR Bucovina Array 144.20 338↓ *i*P **PKPab 07 21 22.8 -0.1**
CRVS Cervenica-Dubn 144.25 343 *e*PKIKP PKPbc 07 21 23.8 +0.5
CRVS Cervenica-Dubn 144.25 343 *e*PKP PKPbc 07 21 23.8 +0.5
UZH Uzhgorod 144.26 342↑ *i*PKIKP PKPbc 07 21 24.0 +0.7
UZH *i* 07 21 40.2

UZH *e* 07 24 47.0
UZH *e*PPP PPP 07 27 56.5
UZH *e* 07 28 22.3
MORC Moravsky Berou 144.38 348 *e*PKIKP **PKPdf 07 21 24.6 -0.8**
MORC Moravsky Berou 144.38 348 *e*PKPdf **PKPdf 07 21 24.6 -0.8**
MORC Moravsky Berou 144.38 348↑ *i*P **PKPdf 07 21 25.1 -0.2**
MOX Moxa 144.40 355 *e*PKPbc **PKPab 07 21 23.0 -0.4**
MOX *e*SS SS 07 43 13.9 -11
MOX *e*L L 08 19 20.3
comp=Z,544nm,22.0s
BEBN Eben Emael 144.46 1 PKP PKPbc 07 21 24.3 +0.5
TANN Tannenbergstha 144.55 354 *e*PKPbc **PKPab 07 21 24.0 0.0**
TRPA Tarpa 144.63 342↑ *i*P PKPbc 07 21 24.8 +0.3
TRPA Tarpa 144.63 342↑ *e*PKPbc PKPbc 07 21 24.7 +0.2
PRA Prague 144.64 351 PKP **PKPab 07 21 23.0 -1.3**
MEM Membach 144.66 1 PKP PKPbc 07 21 24.9 +0.5
PRU Pruhonice 144.70 351 *e*PKIKP **PKPdf 07 21 25.3 -0.5**
PRU *e* 07 21 33.6
PRU MLR MLR
comp=Z,1µm,18.6s
PRU Pruhonice 144.70 351 *e*PKP **PKPdf 07 21 25.3 -0.5**
PRU *e*pPKP **pPKPdf 07 21 33.6 +1.3**
PRU AMS AMS 08 24 00.0
comp=Z,1µm,18.6s
SNF Seneffe 144.71 3 PKP PKPbc 07 21 25.1 +0.5
NKC Novy Kostel 144.73 354 *e*PKIKP **PKPdf 07 21 25.8 -0.1**
NKC Novy Kostel 144.73 354 *e*PKP **PKPdf 07 21 25.8 -0.1**
CTKT Corum 144.80 322 *i* P **PKPdf 07 21 26.7 +0.2**
BCLA Clavier 144.83 2 PKP PKPbc 07 21 25.1 +0.1
PINB Pinarbasi 144.93 318 *i* P **PKPdf 07 21 27.1 +0.2**
VRAC Vranov 145.01 349 PKPbc **PKPab 07 21 26.0 +0.3**
comp=Z,13nm,0.9s,baz=36,slow=3.7,SNR=20
VRAC Vranov 145.01 349 PKPbc **PKPab 07 21 26.0 +0.3**
VRAC Vranov 145.01 349↓ *i*P **PKPdf 07 21 26.3 -0.1**
TNS Taunus Mts 145.02 358 *e*PKPbc **PKPab 07 21 25.8 0.0**
BALT Daday 145.04 324 *e*P **PKPdf 07 21 28.1 +1.1**
CFR Carcaliu 145.05 333↑↑ *e*PKIKP **PKPdf 07 21 26.5 0.0**
CFR Carcaliu 145.05 333↑ *i*P **PKPdf 07 21 26.5 0.0**
VRI Vrincioaia 145.09 335↑↑ *e*PKIKP **PKPdf 07 21 26.4 -0.2**
VRI Vrincioaia 145.09 335↑ *i*P **PKPdf 07 21 26.4 -0.2**
VRI Vrincioaia 145.09 335 *e*P **PKPbc 07 21 24.9 -1.2**
PLOR Plostina 145.13 335 PKIKP **PKPdf 07 21 27.2 +0.4**
DOU Dourbes 145.13 2 PKP **PKPdf 07 21 26.4 -0.2**
DOU E 07 21 37.3
GAZ Gaziantep 145.19 315 *e*P **PKPbc 07 21 26.5 -0.3**
BNN Bunyan 145.19 318 *e*P **PKPbc 07 21 24.9 -1.9**
ROTZ Rotzenmuhle 145.21 354 *e*PKPbc **PKPdf 07 21 26.7 0.0**
TREC Trest 145.23 350 *e*PKIKP **PKPdf 07 21 27.2 +0.4**
TREC *e* 07 21 35.0
TREC MLR MLR
comp=Z,1µm,22.8s
TREC Trest 145.23 350 *e*PKP **PKPdf 07 21 27.2 +0.4**
TREC *e*pPKP **pPKPdf 07 21 35.0 +1.7**
TREC AMS AMS 08 30 10.0
comp=Z,1µm,22.8s
VYHS Vyhne 145.31 346 *e*PKIKP **PKPdf 07 21 27.4 +0.5**
VYHS Vyhne 145.31 346 *e*PKP **PKPdf 07 21 27.4 +0.5**
ABH Alteburg 145.38 359 PKP **PKPbc 07 21 26.9 0.0**
GRF Grafenberg Arr 145.38 355 *e*PKPbc **PKPab 07 21 27.2 +0.1**
GRF *e*SS SS 07 43 28.7 -7.1
GRF *e*L L 08 32 38.5
comp=Z,808nm,20.3s
GRFO Grafenberg 145.38 355 *e*PKIKP **PKPab 07 21 27.5 +0.5**
GRFO Grafenberg 145.38 355 *e*PKPdf **PKPab 07 21 27.5 +0.5**
KUZU Kuzuini 145.49 314 *i* P **PKPab 07 21 28.9 +0.9**
TIRR Tirgusor 145.49 332↓↓ PKP2 **PKPdf 07 21 26.8 -0.5**
TIRR Tirgusor 145.49 332↓↓ *i*P **PKPdf 07 21 26.8 -0.5**
TIRR Tirgusor 145.49 332 *i* P **PKPab 07 21 27.8 +0.2**
ANDN Andirin 145.56 316 *i* P **PKPab 07 21 32.8 +4.5**
RUP Ruppelstein 145.57 360 PKIKP **PKPab 07 21 28.0 +0.2**
RUP Ruppelstein 145.57 360 PKP **PKPab 07 21 28.0 +0.2**
PSZ Piszkesteto 145.58 344↑ PKP2 **PKPdf 07 21 26.8 -0.7**
PSZ Piszkesteto 145.58 344 *e*PKPdf **PKPab 07 21 28.3 +0.4**
PSZ LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 145.58 344↑↑ *i*P **PKPdf 07 21 26.8 -0.7**
PSZ Piszkesteto 145.58 344↑↑ *e*PKPbc **PKPab 07 21 28.2 +0.3**
WLF Walferdange 145.60 1 PKP **PKPab 07 21 28.6 +0.7**
WLF Walferdange 145.60 1 *e*PKIKP **PKPab 07 21 28.1 +0.3**
WLF Walferdange 145.60 1 *e*PKPbc **PKPab 07 21 28.5 +0.7**
WLF Walferdange 145.60 1 *e*PKPdf **PKPab 07 21 28.1 +0.3**
SMOL Smolenice 145.60 347 *e*PKIKP **PKPab 07 21 29.3 +1.4**
SMOL Smolenice 145.60 347 *e*PKP **PKPab 07 21 29.3 +1.4**
TOD Tromm 145.62 358 PKIKP **PKPbc 07 21 27.8 +0.1**
TOD Tromm 145.62 358 PKP **PKPbc 07 21 27.8 +0.1**
CDAG Cicekdag 145.66 321 *i* P **PKPab 07 21 29.0 +0.5**
KHC Kasperske Hory 145.68 352 *e*PKIKP **PKPab 07 21 28.5 +0.3**
KHC *e* 07 21 35.8
KHC MLR MLR
comp=Z,1µm,17.2s
KHC Kasperske Hory 145.68 352 *e*PKPdf **PKPab 07 21 28.2 0.0**
KHC Kasperske Hory 145.68 352 *e*PKP **PKPab 07 21 28.5 +0.3**
KHC *e*pPKP **pPKPdf 07 21 35.8 +1.7**
KHC AMS AMS 08 24 20.0
comp=Z,1µm,17.2s
MLR Muntele Rosu 145.71 336 PKPbc **PKPab 07 21 28.8 +0.2**
comp=Z,1.1nm,1.1s,baz=143,slow=1.3,SNR=24
MLR Muntele Rosu 145.71 336 PKPbc **PKPab 07 21 28.8 +0.2**
MLR Muntele Rosu 145.71 336↑ *i*P **PKPab 07 21 28.6 0.0**
KMBO Kilima Mbogo 145.72 244 *e*PKPdf **PKPab 07 21 30.4 +0.7**
KMBO LR LR
comp=Z,764nm,20.0s
WET Wettzell 145.75 353 *e*PKPbc **PKPbc 07 21 28.1 0.0**
DRGR 145.77 340↑↑ *e*PKIKP **PKPab 07 21 28.9 +0.2**
DRGR 145.77 340↑ *i*P **PKPab 07 21 28.9 +0.2**
DRGR 145.77 340 *i* P **PKPdf 07 21 27.6 -0.3**
ISR Istrita 145.77 335↑↑ *e*PKIKP **PKPab 07 21 29.0 +0.3**
ISR Istrita 145.77 335↑ *i*P **PKPab 07 21 29.0 +0.3**
KTD Kalmit 145.93 358 PKP2 **PKPbc 07 21 28.9 +0.2**
KTD Kalmit 145.93 358 PKP **PKPbc 07 21 28.9 +0.2**
GEC2 GERESS Array S 145.94 352 *e*PKPbc **PKPbc 07 21 28.9 +0.1**
GERES GERESS Array B 145.94 352 PKPbc **PKPab 07 21 29.2 -0.1**
comp=Z,6.9nm,0.9s,baz=29,slow=2.2,SNR=29
GERES GERESS Array B 145.94 352 PKPbc **PKPab 07 21 29.2 -0.1**
BR131 Keskin Array S 146.05 321 *e*PKPbc **PKPab 07 21 30.2 +0.2**
BRTR Keskin Array B 146.05 321 PKPbc **PKPab 07 21 30.5 +0.4**
comp=Z,47nm,1.0s,baz=83,slow=0.9,SNR=65
BRTR Keskin Array B 146.05 321 PKPbc **PKPab 07 21 30.5 +0.4**
VOIR 146.10 337 PKP2 **PKPab 07 21 30.2 +0.3**
VOIR 146.10 337↑ *i*P **PKPab 07 21 30.3 +0.3**
PSN Preselentsi 146.19 331 *i* P **PKPdf 07 21 23.8 -4.8**
BUD Budapest 146.20 345↑↑ *e*PKPdf **PKPab 07 21 30.9 +0.8**
LANF Langenberg 146.28 359 PKP2 **PKPab 07 21 30.1 -0.3**
LANF Langenberg 146.28 359 PKP **PKPab 07 21 30.1 -0.3**
LANF Langenberg 146.28 359 PKP **PKPab 07 21 30.1 -0.3**
STU Stuttgart 146.44 357 *e*PKP2 **PKPbc 07 21 30.0 -0.1**
STU Stuttgart 146.44 357 *e*PKPbc **PKPbc 07 21 30.5 +0.3**
STU Stuttgart 146.44 357 *e*PKPdf **PKPbc 07 21 30.0 -0.1**
BBAL Bala 146.47 321 *i* P **PKPab 07 21 31.6 0.0**
CONA Conrad Observa 146.48 349↑ *i*pPKPbc **PKPbc 07 21 30.4 0.0**
comp=Z,73nm,1.6s,SNR=9.6
YAYL Yayladag 146.53 314 *i* P **PKPab 07 21 31.9 -0.1**
SOP Sopron 146.57 348↑↑ *e*PKPdf **PKPab 07 21 31.3 -0.3**
GULE Gulek 146.77 317 *i* P **PKPab 07 21 33.0 0.0**
MOA Molln 146.83 351↑ *i*sPKPbc **PKPab 07 21 31.9 -0.7**
comp=Z,45nm,1.3s,SNR=11
BFO Black Forest 146.92 358 *e*PKP2 **PKPbc 07 21 31.8 +0.2**
BFO MLR MLR
comp=Z,620nm,19.0s
BFO Black Forest 146.92 358 *e*PKPbc **PKPbc 07 21 31.6 0.0**
BFO Black Forest 146.92 358 *e*PKPbc **PKPbc 07 21 31.8 +0.2**
BFO LR LR
comp=Z,620nm,19.0s
PRD Provadia 146.93 332 *i* P **PKPbc 07 21 31.8 +0.1**
NEF NEVSHA 146.94 332 *i* P **PKPbc 07 21 32.3 +0.5**
THEF They Montfort 147.04 1 PKP2 **PKPbc 07 21 32.5 +0.6**
THEF They Montfort 147.04 1 PKP **PKPbc 07 21 32.5 +0.6**
THEF They Montfort 147.04 1 PKP **PKPbc 07 21 32.5 +0.6**
ECH Echery 147.06 359 *e*PKP2 **PKPbc 07 21 31.7 -0.3**
ECH MLR MLR
comp=Z,677nm,19.0s
ECH Echery 147.06 359 *e*PKPbc **PKPbc 07 21 31.7 -0.3**
ECH LR LR
comp=Z,677nm,19.0s
ECH Echery 147.06 359 PKP **PKPab 07 21 33.4 -0.1**
SPAK Spaichingen-Ko 147.13 357 PKP **PKPbc 07 21 32.5 +0.2**
BZS Buzias 147.16 341↑↑ PKIKP **PKPdf 07 21 30.9 +0.8**
BZS Buzias 147.16 341↑ *i*P **PKPdf 07 21 30.9 +0.8**
ARSA Arzberg 147.19 349↑ *i*sPKPbc **PKPbc 07 21 32.8 +0.4**
comp=Z,51nm,1.2s,SNR=14
FELD Feldberg im Sc 147.38 358 PKP **PKPdf 07 21 31.7 +1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOF	Molkenrain	147.42	359	PKP2	PKPbc	07 21 33.4	+0.3
MOF	Molkenrain	147.42	359	PKP	PKPbc	07 21 33.4	+0.3
MOF	Molkenrain	147.42	359	PKP	PKPbc	07 21 33.4	+0.3
PKSM	Moragy	147.48	345	⇓PKP2	PKPbc	07 21 33.4	+0.2
PKSM	Moragy	147.48	345	⇓iP	PKPbc	07 21 33.3	+0.1
PKSM	Moragy	147.48	345	⇑ePKPdf	PKPdf	07 21 30.8	+0.2
SZH	Strazhica	147.53	333	iP	PKPbc	07 21 33.7	+0.3
RETA	Reutte	147.61	355	⇑ipPKPbc	PKPbc	07 21 33.8	+0.2
	comp=Z,77nm,1.4s,SNR=9.6						
BEHE	Becsehely	147.68	347	⇓ePKPdf	PKPab	07 21 34.9	-1.1
MOTA	Moosalm	147.72	354	⇓ipPKPbc	PKPbc	07 21 34.0	0.0
	comp=Z,61nm,1.1s						
ASF	Jabal al Asfar	147.74	307	PKPbc	PKPbc	07 21 34.9	+0.4
	comp=Z,13nm,1.1s,baz=198,slow=3.2,SNR=8.7						
ASF	Jabal al Asfar	147.74	307	PKPbc	PKPbc	07 21 34.9	+0.4
WTTA	Wattenberg	147.75	354	⇑isPKPbc	PKPbc	07 21 34.4	+0.3
	comp=Z,82nm,1.4s						
BORA	Eskisehir	147.81	324	iP	PKPbc	07 21 35.1	+0.7
PVL	Pavlikeni	147.83	334	iP	PKPbc	07 21 34.7	+0.5
SOKA	Soboth	147.83	349	⇑ipPKPbc	PKPbc	07 21 34.1	-0.2
	comp=Z,53nm,1.5s						
PERS	Pernice	147.86	349	iPKPbc	PKPbc	07 21 34.5	+0.2
JMB	Yambol	147.88	332	iP	PKPbc	07 21 34.9	+0.5
DAVA	Damuels	147.88	356	⇑isPKPbc	PKPbc	07 21 34.9	+0.4
	comp=Z,81nm,1.4s,SNR=6.9						
LOMF	Lomont	147.92	360	PKP2	PKPbc	07 21 34.7	+0.2
LOMF	Lomont	147.92	360	PKP	PKPbc	07 21 34.7	+0.2
LOMF	Lomont	147.92	360	PKP	PKPbc	07 21 34.7	+0.2
FETA	Feichten	148.08	355	⇑ipPKPbc	PKPbc	07 21 34.6	-0.4
	comp=Z,38nm,1.3s,SNR=8.5						
ABTA	Abfaltersbach	148.16	352	⇑isPKPdf	PKPbc	07 21 33.0	-2.1
	comp=Z,56nm,1.5s,SNR=10						
MPEP	Malo Peshtene	148.36	336	iP	PKPbc	07 21 34.3	-1.4
AYKD	Aykdinkavak	148.37	316	iP	PKPdf	07 21 28.1	-4.3
DAVOX	Davos/Dischmat	148.38	356	PKPbc	PKPbc	07 21 36.0	+0.2
	comp=Z,12nm,0.9s,baz=45,slow=4.3,SNR=7.9						
DAVOX	Davos/Dischmat	148.38	356	PKPbc	PKPbc	07 21 36.0	+0.2
MMAI	Mount Meron Ar	148.51	309	PKPbc	PKPbc	07 21 37.6	+1.1
	comp=Z,33nm,1.1s,baz=81,slow=1.9,SNR=14						
MMAI	Mount Meron Ar	148.51	309	PKPbc	PKPbc	07 21 37.6	+1.1
LJU	Ljubljana	148.54	350	iPKPbc	PKPab	07 21 38.8	-0.6
VOY	Vojsko	148.66	350	ePKPbc	PKPab	07 21 38.5	-1.5
VOY				e		07 21 42.7	
VOY				e		07 21 53.4	
TUE	Stuetta	148.72	356	ePKPdf	PKPdf	07 21 34.1	+1.1
TUE				LR	LR		
	comp=Z,808nm,20.0s						
JAVS	Javornik	148.76	350	iPKPbc	PKPbc	07 21 36.3	-0.4
PGB	Panagyurishte	148.86	335	iP	PKPbc	07 21 36.7	-0.3
BOJS	Bojanci	148.92	348	iPKPbc	PKPbc	07 21 37.6	+0.6
CSS	Prodhromos	149.02	314	ePKPbc	PKPbc	07 21 38.4	+0.8
CSS				LR	LR		
	comp=Z,609nm,22.0s						
DURS	Dursunbey	149.09	326	iP	PKPbc	07 21 38.2	+0.5
ISP	Isparta	149.14	321	PFAKE		07 21 50.0	+7.7
ISP				LR	LR		
	comp=Z,990nm,22.0s						
PLDF	La Plantade	149.19	4	PKP	PKPbc	07 21 39.4	+1.6
VTS	Vitosha	149.22	336	⇑PKP2	PKPbc	07 21 38.8	+0.7
VTS	Vitosha	149.22	336	⇑iP	PKPbc	07 21 38.8	+0.7
VTS	Vitosha	149.22	336	iP	PKPbc	07 21 37.9	-0.2
RZN	Rozhen	149.33	333	iP	PKPbc	07 21 37.9	-0.5
MMB	Musomiste	149.84	334	iP	PKPbc	07 21 38.0	-1.5
KKB	Krupnik	149.88	335	iP	PKPbc	07 21 39.5	0.0
LBL	Lubilhac	149.90	5	PKP	PKPbc	07 21 40.9	+1.3
BNI	Bardonecchia	150.22	0	ePKP2	PKPbc	07 21 42.0	+1.6
BNI				MLR	MLR		
	comp=Z,965nm,21.0s						
BNI	Bardonecchia	150.22	0	ePKPbc	PKPbc	07 21 42.0	+1.6
BNI				LR	LR		
	comp=Z,965nm,21.0s						
AYVA	Ayvalik	150.25	328	iP	PKPbc	07 21 40.5	0.0
EIL	Elat	150.28	304	PKPbc	PKPbc	07 21 41.6	+0.8
	comp=Z,57nm,1.2s,baz=62,slow=3.0,SNR=25						
EIL	Elat	150.28	304	PKPbc	PKPbc	07 21 41.6	+0.8
PGAV	Gavieira, Arco	150.34	23	eLR	LR	08 19 19.5	
	comp=Z,1μm,20.0s						
SKO	Skopje	150.42	337	ePKP	PKPbc	07 21 40.2	-0.6
VAY	Valandovo	150.54	335	ePKP	PKPbc	07 21 40.1	-1.0
PCAB	Cabril	150.65	23	ePKPbc	PKPab	07 21 47.1	-1.1
SACV	Santiago Islan	150.74	86	PFAKE		07 21 50.0	+0.6
SACV				LR	LR		
	comp=Z,785nm,20.0s						
POLO	Lamas de Olo	151.03	23	ePKPbc	PKPbc	07 21 43.3	+0.9
PBRG	Braganca	151.03	21	ePKPbc	PKPbc	07 21 45.8	+3.5
BIA	Bitola	151.29	337	ePKP	PKPbc	07 21 42.7	-0.3
MVO	Moncorvo	151.50	22	ePKPbc	PKPbc	07 21 44.1	+0.6
MVO				eLR	LR	08 23 30.8	
	comp=Z,705nm,20.0s						
TIR	Tirane	151.54	339	PFAKE		07 21 50.0	-1.8
TIR				LR	LR		
	comp=Z,2μm,22.0s						
PVIS	Viseu	151.56	24	ePKPbc	PKPab	07 21 53.6	+1.6
MTE	Manteigas	151.97	24	eLR	LR	08 21 33.0	
	comp=Z,814nm,20.0s						
MTE	Manteigas	151.97	24	PFAKE		07 21 50.0	-3.8
MTE				LR	LR		
	comp=Z,1μm,20.0s						
AQU	L'Aquila	152.31	349	PFAKE		07 21 50.0	+4.7
AQU				LR	LR		
	comp=Z,2μm,20.0s						
PMRV	Marv??o	152.86	24	ePKPbc	PKPbc	07 21 47.0	+0.5
PMRV				eLR	LR	08 22 04.3	
	comp=Z,880nm,20.0s						
ESDC	Sonseca Array	153.87	19	PKPbc	PKPbc	07 21 51.2	+2.5
	comp=Z,1.0nm,0.6s,baz=329,slow=1.3,SNR=4.7						
ESDC	Sonseca Array	153.87	19	PKPbc	PKPbc	07 21 51.2	+2.5
CUC	Castrocucco	154.03	344	PFAKE		07 21 50.0	+0.9
CUC				LR	LR		
	comp=Z,1μm,21.0s						
PBAR	Barrancos	154.07	25	ePKPbc	PKPbc	07 21 54.9	+5.7
PVAQ	Vaqueiros	154.43	27	eLR	LR	08 16 20.4	
	comp=Z,1μm,22.0s						
TIP	Timpagrande	154.51	342	PFAKE		07 21 50.0	-0.2
TIP				LR	LR		
	comp=Z,1μm,21.0s						
CEL	Celeste	155.62	342	PFAKE		07 21 50.0	+6.7
CEL				LR	LR		
	comp=Z,972nm,21.0s						
TAM	Tamanrasset	172.34	8	PFAKE		07 22 10.0	+11
TAM				LR	LR		
	comp=Z,1μm,20.0s						
TORD	Torodi Ar. Bea	174.74	112	PKP	PKPdf	07 21 58.3	-1.6
	comp=Z,6.9nm,1.3s,baz=7.3,slow=0.8,SNR=9.5						
TORD				PKPab	PKPab	07 23 32.8	-1.2
	comp=Z,1.6nm,1.1s,baz=254,slow=3.4,SNR=2.4						
TORD	Torodi Ar. Bea	174.74	112	PKP	PKPdf	07 21 58.3	-1.6
TORD				PKPab	PKPab	07 23 32.8	-1.2

*CSEM **06** 07:11:42.6, 43°.78N×11°.95E, h8km, MD1.4/6, After ROM*

ROM 06 07:11:42.6±0.1**, 43°.78N×11°.95E, h8km**±1km**, Md1.4**/6**, Ml1.2**/4**, Error ellipse: s-maj=1.7km s-min=1.0km az=6.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASQU	Asqua	0.12	281	Pg	Pg	07 11 45.7	+0.3
ASQU				Sg	Sg	07 11 47.8	+0.5
	113nm,0.2s						
ASQU	Asqua	0.12	281	Pg	Pg	07 11 45.7	+0.3
ASQU				Sg	Sg	07 11 47.8	+0.5
	113nm,0.2s						
SFI	Santa Sofia	0.15	330	Pg	Pg	07 11 46.4	+0.5
SFI				Sg	Sg	07 11 49.2	+1.1
	32nm,0.1s						
SFI	Santa Sofia	0.15	330	Pg	Pg	07 11 46.4	+0.5
SFI				Sg	Sg	07 11 49.2	+1.1
	32nm,0.1s						
CRE	Caprese Michel	0.15	180	Pg	Pg	07 11 46.6	+0.6
CRE				Sg	Sg	07 11 49.4	+1.0
	99nm,0.2s						
CRE	Caprese Michel	0.15	180	Pg	Pg	07 11 46.6	+0.6
CRE				Sg	Sg	07 11 49.4	+1.0
	99nm,0.2s						
PARC	Parchiule	0.24	121	Pg	Pg	07 11 48.2	+0.7
PARC				Sg	Sg	07 11 52.7	+1.8
	104nm,1.7s						
PARC	Parchiule	0.24	121	Pg	Pg	07 11 48.2	+0.7
PARC				Sg	Sg	07 11 52.7	+1.8
	104nm,1.7s						
VMG	Vicchio	0.35	303	Pg	Pg	07 11 50.3	+0.8
VMG				Sg	Sb	07 11 56.6	-0.3
VMG	Vicchio	0.35	303	Pg	Pg	07 11 50.3	+0.8
VMG				Sg	Sb	07 11 56.6	-0.3
PIEI	Pieia	0.49	119	Pg	Pg	07 11 52.5	+0.4
PIEI				Sg	Sb	07 12 00.6	-0.3
PIEI	Pieia	0.49	119	Pg	Pg	07 11 52.5	+0.4
PIEI				Sg	Sb	07 12 00.6	-0.3

ROM 06 07:16:16.3±0.0**, 43°.78N×11°.94E, h7km, Md1.3**/3**, Ml1.0**/3**, Error ellipse: s-maj=0.4km s-min=0.3km az=8.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASQU	Asqua	0.11	281	Pg	Pg	07 16 19.2	+0.3
ASQU				Sg	Sg	07 16 21.2	+0.6
	94nm,0.2s						
SFI	Santa Sofia	0.15	333	Pg	Pg	07 16 19.9	+0.5
SFI				Sg	Sg	07 16 22.5	+0.9
	945nm,4.9s						
CRE	Caprese Michel	0.16	177	Pg	Pg	07 16 20.1	+0.4
CRE				Sg	Sg	07 16 22.9	+0.9
	24nm,0.3s						

*IDC **06** 07:24:02.4±0.6, 15°.11S×173°.41W, h0km, mb4.4/16, mb1 4.6/16, mb1mx4.5/21, mbtmp4.4/16, MS4.6/15, Ms1 4.6/15, ms1mx4.4/35, Error ellipse: s-maj=24.2km s-min=16.6km az=130.0*

*NEIC **06** 07:24:04.1±0.3, 15°.08S×173°.45W, h10km, mb4.8/39, Error ellipse: s-maj=14.1km s-min=7.2km az=146.0*

*ISCJB **06** 07:24:05.9±0.4, 15°.17S±0°.09×173°.33W±0°.06, h29km, mb4.7/63, MS4.7/21, Error ellipse: s-maj=13.6km s-min=7.5km az=169.4*

*MOS **06** 07:24:06.4±1.4, 15°.12S×173°.41W, h33km, mb5.0/13, Error ellipse: s-maj=16.4km s-min=11.5km az=55.1*

*BJI **06** 07:24:06.9, 14°.30S×173°.68W, h7km, mB5.5/16, mb5.0/20, Ms5.3/13, Ms7 5.0/13*

*GCMT **06** 07:24:09.9±0.4, 15°.06S×172°.92W, h15km±2km, MW5.1, Moment Tensor Solution. s17,c18; s72,c105; Moment tensor: Scale 10[16]Nm; M_{rr}-0.25±.17; $M_{\theta\theta}$3.36±.19; $M_{\phi\phi}$-3.11±.17; $M_{r\theta}$1.92±.49; $M_{\theta\phi}$2.29±.16; $M_{\phi r}$3.11±.61; Best double couple: $M_0$5.40000×10[16] NP1:ϕ_s118.00000°, δ47.00000°, λ-1.00000°. NP2:ϕ_s209.00000°, δ89.00000°, λ-137.00000°. Principal axes: T 5.5700, Plg28.0000°, Azm335.0000°; N -0.3500, Plg47.0000°, Azm210.0000°; P -5.2100, Plg30.0000°, Azm82.0000°; Data Used: II G IC IU.*

ISC 06 07:24:06.6±0.5**, 15°.3S**±0°.1×**173°.29W**±0°.10**, h29km, n436, σ0s.99**/412**, mb4.7**/63**, MS4.8**/21**, 152C-125D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.99	48	Pn	Pn	07 24 29.7	-8.7
	72nm,0.3s,baz=26,slow=4.6,SNR=28						
AFI				Sn	Sn	07 24 47.9	-15
	612nm,0.3s,baz=198,slow=20,SNR=28						
AFI	Afiamalu	1.99	48	ePn	Pn	07 24 29.6	-8.7
AFI				Sn	Sn	07 24 47.9	-15
MSVF	Nonsavu	8.66	252	eP	Pn	07 26 19.0	+8.8
MSVF	Nonsavu	8.66	252	ePn	Pn	07 26 19.0	+8.8
RAR	Rarotonga	14.14	117	Pn	Pn	07 27 18.8	-6.2
	2.9nm,0.3s,baz=274,slow=15,SNR=8.1						
RAR				T	T	07 41 52.6	
	6.9nm,0.3s,baz=104,slow=22,SNR=4.0						
RAR	Rarotonga	14.14	117	Pn	Pn	07 27 18.8	-6.2
RAR				TT		07 41 52.6	
DZM	Mont Dzumac	20.35	248	eP	Pn	07 28 48.0	+4.9
	150nm,1.6s						
DZM				eLR	LR	07 33 42.0	
	3μm,25.2s						
DZM	Mont Dzumac	20.35	248	P	Pn	07 28 44.8	+1.7
	30nm,1.1s,baz=68,slow=17,SNR=18						
DZM				LR	LR	07 35 17.3	
	comp=Z,2μm,18.8s,baz=50,slow=33						
DZM	Mont Dzumac	20.35	248	eP	Pn	07 28 44.9	+1.8
	80nm,1.4s						
PPT	Papeete	22.86	99	LR	LR	07 34 48.8	
	comp=Z,1μm,20.2s,baz=278,slow=28						
PPT2	Papeete2	22.86	99	eLQ	LQ	07 33 31.2	
	3μm,28.0s						
PPT2				eLR	LR	07 34 33.3	
	3μm,24.5s,baz=261						
TBI	Tubuai	23.86	113	eLQ	LQ	07 33 58.0	
	2μm,30.0s						
TBI				eLR	LR	07 34 54.9	
	3μm,25.8s,baz=291						
PMOR	Pomariorio Ree	24.52	93	eP	P	07 29 23.8	0.0
	179nm,1.1s						
RKT	Rikitea	36.94	108	eLR	LR	07 41 07.2	
	2μm,24.8s,baz=284						
CTA	Charters Tower	38.77	257	LR	LR	07 45 21.0	
	comp=Z,622nm,20.4s,baz=60,slow=33						
STKA	Stephens Creek	44.20	240	P	P	07 32 12.2	-1.1
	2.2nm,0.6s,baz=80,slow=7.3,SNR=8.0						
STKA	Stephens Creek	44.20	240	eP	P	07 32 12.4	-0.9
	1.1nm,1.0s						
WRAB	Tennant Creek	49.97	257	eP	P	07 32 56.9	-1.6
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRAB	Tennant Creek	49.97	257	eP	P	07 32 56.9	-1.6
	comp=Z,7.2nm,1.1s						
WRA	Warramunga Arr	49.98	257	P	P	07 32 57.0	-1.7
	comp=Z,2.4nm,0.7s,baz=89,slow=7.3,SNR=23						
WRA				LR	LR	07 51 27.0	
	comp=Z,787nm,18.3s,baz=100,slow=33						
WRA	Warramunga Arr	49.98	257	P	P	07 32 57.0	-1.7
ASAR	Alice Springs	50.25	252	P	P	07 32 59.2	-1.5
	comp=Z,11nm,0.8s,baz=87,slow=8.3,SNR=68						
ASAR				LR	LR	07 52 08.8	
	comp=Z,1μm,20.5s,baz=85,slow=34						
ASAR	Alice Springs	50.25	252	P	P	07 32 59.2	-1.5
GUMO	Guam	50.34	303	LR	LR	07 49 28.1	
	comp=Z,370nm,19.9s,baz=28,slow=30						
VNDA	Vanda	63.53	186	P	P	07 34 36.4	+2.5
	comp=Z,1.7nm,0.8s,baz=25,slow=8.0,SNR=4.8						
VNDA	Vanda	63.53	186	P	P	07 34 36.4	+2.5
FX1	Attu Island--F	68.86	351	LR	LR	07 57 34.9	
	comp=Z,562nm,20.8s,baz=203,slow=29						
MJAR	Matsushiro Arr	68.90	320	P	P	07 35 07.0	-1.9
	comp=Z,2.5nm,0.6s,baz=163,slow=5.4,SNR=4.3						
MJAR				LR	LR	07 57 51.3	
	comp=Z,581nm,21.1s,baz=130,slow=30						
MJAR	Matsushiro Arr	68.90	320	P	P	07 35 07.0	-1.9
PETK	Petropavlovsk-	72.53	342	P	P	07 35 29.8	-0.8
	comp=Z,5.4nm,0.7s,baz=145,slow=8.6,SNR=8.6						
PETK	Petropavlovsk-	72.53	342	P	P	07 35 29.8	-0.8
PETK	Petropavlovsk-	72.53	342	P	P	07 35 29.8	-0.8
CMB	Columbia Colle	72.59	41	eP	P	07 35 31.1	-0.3
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMB	Columbia Colle	72.59	41	eP	P	07 35 31.1	-0.3
	comp=Z,4.0nm,0.9s						
LPIG	La Paz	72.88	58	LR	LR	07 59 21.2	
	comp=Z,73nm,18.3s,baz=226,slow=29						
YSS	Yuzh-Sakhalins	73.41	330	eP	P	07 35 37.8	+1.8
GMRC	Granite Mounta	73.93	46	⇑P	P	07 35 40.6	+1.0
	baz=74						
IRM	Iron Mountain	73.96	47	⇑P	P	07 35 40.0	+0.4
	baz=74						
GRAC	Grapevine Rang	73.97	44	⇓P	P	07 35 40.8	+1.3
	baz=74						
NVAR	Mina Array Bea	74.16	42	P	P	07 35 40.7	-0.1
	comp=Z,1.0nm,1.0s,baz=230,slow=8.1,SNR=6.4						
NVAR	Mina Array Bea	74.16	42	P	P	07 35 40.7	-0.1
Y12C	Blythe	74.20	48	⇓P	P	07 35 41.2	+0.2
	baz=74						
113A	Mohawk Valley,	74.25	49	⇑P	P	07 35 41.6	+0.4
	baz=74						
214A	Organ Pipe Nat	74.55	50	⇑P	P	07 35 43.5	+0.5
	baz=75						
PDMCI	Parker Dam,Lak	74.75	47	⇑P	P	07 35 44.8	+0.6
	baz=75						
QSPA	South Pole Qui	74.79	180	P	P	07 35 45.2	+1.2
	comp=Z,9.8nm,0.9s,baz=46,slow=3.9,SNR=15						
QSPA	South Pole Qui	74.79	180	eP	P	07 35 45.5	+1.5
	comp=Z,12nm,1.0s						
MOD	Modoc	74.95	38	eP	P	07 35 45.5	+0.2
	comp=Z,7.8nm,0.9s						
Z14A	Wintersburg	75.14	49	⇑P	P	07 35 47.0	+0.6
	baz=75						
W13A	Hualapai Mount	75.34	47	⇓P	P	07 35 48.7	+0.9
	baz=76						
Y14A	Wickenburg	75.38	48	⇓P	P	07 35 48.1	+0.2
	baz=76						
R11A	Troy Canyon, C	75.89	43	⇑P	P	07 35 51.1	+0.3
	baz=76						
KSRS	Korea Array	76.13	315	P	P	07 35 53.2	+1.3
	comp=Z,4.6nm,1.0s,baz=120,slow=7.2,SNR=6.0						
KSRS				LR	LR	08 04 46.4	
	comp=Z,346nm,18.4s,baz=184,slow=32						
KSAR	Wonju Array Be	76.15	315	P	P	07 35 53.2	+1.2
TUC	Tucson	76.22	51	eP	P	07 35 52.6	-0.1
TUC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TUC	Tucson	76.22	51	eP	P	07 35 52.6	-0.1
	comp=Z,5.7nm,1.1s						
X16A	Lo Mia Camp, P	76.75	48	⇓P	P	07 35 56.6	+0.8
	baz=77						
319A	Douglas	76.92	52	⇑P	P	07 35 56.9	+0.1
	baz=77						
U15A	North Rim	77.13	46	⇑P	P	07 35 58.8	+0.7
	baz=77						
USRK	Ussuriysk Arra	77.33	323	P	P	07 35 58.5	0.0
	comp=Z,3.6nm,1.0s,baz=149,slow=22,SNR=2.8						
220A	Playas Peak, P	77.74	52	⇓P	P	07 36 01.8	+0.5
	baz=78						
120A	U Bar Ranch, L	77.94	51	⇓P	P	07 36 03.2	+0.7
	baz=78						
R15A	Junction	78.03	45	⇑P	P	07 36 03.4	+0.5
	baz=78						
Z20A	Nine Sixteen R	78.23	51	⇓P	P	07 36 04.9	+0.8
	baz=78						
MSU	Marysvale	78.25	45	eP	P	07 36 05.2	+1.0
MSU	Marysvale	78.25	45	eP	P	07 36 05.2	+1.0
S16A	Weppner Ranch,	78.26	45	⇑P	P	07 36 05.2	+1.0
	baz=78						
BMO	Blue Mountains	78.45	37	eP	P	07 36 04.4	-0.6
BMO				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BMO	Blue Mountains	78.45	37	eP	P	07 36 04.4	-0.6
	comp=Z,5.4nm,1.4s						
MFID	Camas Ranch	78.51	39	⇑P	P	07 36 05.6	+0.3
	baz=79						
121A	Cookes Peak, D	78.58	52	⇓P	P	07 36 06.7	+0.7
	baz=79						
R16A	Teasdale	78.61	45	⇑P	P	07 36 06.8	+0.6
	baz=79						
DUG	Dugway	78.69	43	eP	P	07 36 05.6	-0.8
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DUG	Dugway	78.69	43	eP	P	07 36 05.6	-0.8
	comp=Z,5.2nm,1.1s						
DUG	Dugway	78.69	43	⇑P	P	07 36 07.0	+0.6
	baz=79						
P15A	Leamington	78.72	44	⇑P	P	07 36 07.5	+0.8
	baz=79						
Y20A	Horse Springs,	78.75	50	⇑P	P	07 36 07.7	+0.6
	baz=79						
S17A	Black Ridge (B	78.76	46	⇓P	P	07 36 07.7	+0.9
	baz=79						
X20A	Quemado	78.95	50	⇑P	P	07 36 09.2	+1.1
	baz=79						
Z21A	St. Cloud Mine	79.01	51	⇑P	P	07 36 09.2	+0.8
	baz=79						
Q16A	Castle Valley	79.14	45	⇑P	P	07 36 10.2	+1.2
	baz=79						
I12A	Atlanta	79.14	39	⇑P	P	07 36 09.4	+0.4
	baz=79						
P16A	Fountain Green	79.15	44	⇓P	P	07 36 09.2	+0.2
	baz=79						
R17A	Hanksville Air	79.21	45	⇓P	P	07 36 09.9	+0.6
	baz=79						
W20A	Ramah	79.21	49	⇑P	P	07 36 10.3	+0.7
	baz=79						
U19A	Dine' College,	79.24	48	⇓P	P	07 36 10.6	+0.9
	baz=79						
TMUT	Trail Mountain	79.30	44	eP	P	07 36 10.9	+0.9
	comp=Z,8.0nm,1.0s						
Y21A	Point of Rocks	79.32	50	⇑P	P	07 36 11.0	+0.9
	baz=80						
S18A	Hurst Farm, Bl	79.35	46	⇑P	P	07 36 10.7	+0.5
	baz=80						
L14A	Malta	79.37	41	⇓P	P	07 36 10.8	+0.6
	baz=80						
X21A	Alamocita Cree	79.43	50	⇓P	P	07 36 11.8	+1.0
	baz=80						
HLID	Hailey	79.45	39	eP	P	07 36 10.9	+0.3
	comp=Z,7.2nm,0.9s						
HLID	Hailey	79.45	39	⇓P	P	07 36 11.3	+0.7
	baz=80						
J13A	Cove Ranch, Pi	79.51	40	⇑P	P	07 36 11.6	+0.8
	baz=80						
Z22A	Elephant Butte	79.52	51	⇑P	P	07 36 11.9	+0.7
	baz=80						
M15A	Larsen Ranch,	79.58	42	⇑P	P	07 36 11.9	+0.6
	baz=80						
SRU	San Rafael	79.67	45	eP	P	07 36 12.0	+0.1
SRU				pmax	pmax		
	comp=Z,11nm,1.3s						
SRU	San Rafael	79.67	45	eP	P	07 36 12.0	+0.1
	comp=Z,11nm,1.3s						
SRU	San Rafael	79.67	45	⇓P	P	07 36 12.5	+0.6
	baz=80						
K14A	Jones Ranch, D	79.68	41	⇓P	P	07 36 12.7	+0.9
	baz=80						
P17A	Butcher Ranch,	79.70	44	⇓P	P	07 36 13.0	+1.0
	baz=80						
H12A	Diamond D Ranc	79.72	38	⇑P	P	07 36 12.5	+0.5
	baz=80						
R18A	Canyonlands Na	79.75	46	⇑P	P	07 36 12.8	+0.4
	baz=80						
G12A	Big Creek, Yel	79.77	38	⇓P	P	07 36 12.5	+0.2
	baz=80						
Y22A	Socorro	79.81	51	⇑P	P	07 36 13.6	+0.8
	baz=80						
I13A	Wildhorse Cree	79.83	39	⇓P	P	07 36 13.5	+0.8
	baz=80						
324A	Moseley Ranch,	79.88	54	⇓P	P	07 36 13.8	+0.7
	baz=80						
J14A	Carey	79.88	40	⇑P	P	07 36 13.3	+0.4
	baz=80						
LAZ	Ladron	79.89	50	eP	P	07 36 13.5	+0.3
	comp=Z,2.4nm,1.1s						
L15A	Malad City	79.90	41	⇓P	P	07 36 13.6	+0.6
	baz=80						
Q18A	Rafter H Ranch	79.93	45	⇑P	P	07 36 13.8	+0.5
	baz=80						
N16A	Rees Ranch, Co	79.94	43	⇓P	P	07 36 14.2	+0.8
	baz=80						
425A	Indio Mountain	79.99	54	⇓P	P	07 36 14.2	+0.4
	baz=80,SNR=8.3						
X22A	Bernardo	80.03	50	⇑P	P	07 36 14.7	+0.7
	baz=80						
O17A	Robinson Place	80.06	44	⇑P	P	07 36 15.1	+1.0
	baz=80						
H13A	Challis	80.09	38	⇓P	P	07 36 14.4	+0.4
	baz=80						
P18A	Preston Nutter	80.11	44	⇓P	P	07 36 14.4	-0.1
	baz=80						
R19A	Curley Farm, L	80.14	46	⇓P	P	07 36 14.9	+0.4
	baz=80						
F12A	Elk City	80.16	37	⇓P	P	07 36 14.9	+0.6
	baz=80						
K15A	Arbon	80.16	41	⇓P	P	07 36 14.9	+0.5
	baz=80						
NJ2	Nanjing	80.16	307	eP	P	07 36 14.6	+0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
626A	Big Bend Ranch	80.16	56	⇓P	P	07 36 15.0	+0.4
	baz=80						
MVCO	Mesa Verde	80.17	47	⇑P	P	07 36 15.0	+0.3
	baz=80						
325A	Bean Ranch, Si	80.24	54	⇓P	P	07 36 15.7	+0.5
	baz=80						
PV10	Paradox Valley	80.34	46	eP	P	07 36 17.0	+1.4
	comp=Z,135nm,0.5s						
E12A	Beaver Dam Sad	80.34	36	⇑P	P	07 36 16.1	+0.8
	baz=80						
N17A	Moffit Pass	80.37	43	⇑P	P	07 36 16.5	+0.7
	baz=80						
G13A	Cobalt	80.39	38	⇑P	P	07 36 16.0	+0.4
	baz=80						
526A	Mary Lane Ranc	80.40	55	⇓P	P	07 36 16.4	+0.4
	baz=80,SNR=7.1						
U21A	Nageezi	80.42	48	⇑P	P	07 36 16.8	+0.8
	baz=81						
124A	Stringfield Ra	80.42	52	⇓P	P	07 36 16.6	+0.4
	baz=81						
TXAR	Lajitas Array	80.45	56	P	P	07 36 16.2	0.0
	comp=Z,3.3nm,1.2s,baz=217,slow=4.4,SNR=15						

TXAR LR LR 08 05 38.6
comp=Z,439nm,19.1s,baz=0.0,slow=31
TXAR Lajitas Array 80.45 56 P **P 07 36 16.2 0.0**
Q19A Hogan Spring (80.46 45 ⇓P **P 07 36 16.7 +0.7**
baz=81
TRF Thorofare Moun 80.47 10 *e*P **P 07 36 13.5 -2.1**
comp=Z,150nm,2.4s
Y23A Lovelace Mesa, 80.49 51 ⇓P **P 07 36 17.2 +0.7**
baz=81
L16A Fish Haven 80.51 42 ⇑P **P 07 36 17.0 +0.6**
baz=81
S20A Disappointment 80.56 47 ⇑P **P 07 36 17.4 +0.6**
baz=81
J15A Blackfoot 80.59 40 ⇑P **P 07 36 17.6 +0.9**
baz=81
ANMO Albuquerque 80.63 50 LR LR 08 05 57.3
comp=Z,307nm,19.4s,baz=332,slow=31
ANMO Albuquerque 80.63 50 *e*P **P 07 36 17.8 +0.6**
H14A Leadore 80.66 39 ⇑P **P 07 36 17.9 +0.9**
baz=81
225A Deer Hill, Car 80.66 53 ⇓P **P 07 36 17.9 +0.5**
baz=81
426A McDonald Obser 80.69 55 ⇑P **P 07 36 18.0 +0.4**
baz=81,SNR=6.7
R20A Redvale 80.71 46 ⇓P **P 07 36 18.2 +0.7**
baz=81
F13A Darby 80.71 37 ⇓P **P 07 36 18.0 +0.7**
baz=81
627A Terlingua Ranc 80.72 56 ⇓P **P 07 36 18.2 +0.5**
baz=81,SNR=8.5
V22A San Miguel Ran 80.73 49 ⇑P **P 07 36 18.1 +0.4**
baz=81
Z24A Sheeppen Canyo 80.76 52 ⇓P **P 07 36 18.5 +0.6**
baz=81
T21A Navajo Lake 80.76 48 ⇑P **P 07 36 18.0 +0.2**
baz=81
C11A Tepee Creek (N 80.76 35 ⇑P **P 07 36 17.9 +0.4**
baz=81
527A Woodward Ranch 80.81 55 ⇓P **P 07 36 18.8 +0.6**
baz=81,SNR=7.6
K16A Soda Springs 80.83 41 ⇓P **P 07 36 18.7 +0.6**
baz=81
S21A Coal Bank Pass 80.88 47 ⇑P **P 07 36 18.9 +0.3**
baz=81
G14A Jackson 80.93 38 ⇓P **P 07 36 19.3 +0.7**
baz=81
PAX Paxson 80.95 12 *e*P **P 07 36 16.5 -1.6**
PAX pmax pmax
comp=Z,30nm,1.6s
PAX Paxson 80.95 12 *e*P **P 07 36 16.5 -1.6**
comp=Z,30nm,1.6s
W23A Werner Place, 80.95 50 ⇑P **P 07 36 19.5 +0.6**
baz=81
Y24A Capitan 80.95 51 ⇑P **P 07 36 19.2 +0.2**
baz=81,SNR=8.0
MCK McKinley 80.97 11 *e*P **P 07 36 17.5 -0.6**
MCK McKinley 80.97 11 *e*P **P 07 36 17.5 -0.6**
comp=Z,287nm,2.8s
P19A Cripple Cowboy 80.97 45 ⇑P **P 07 36 19.5 +0.6**
baz=81
U22A Llaves 80.97 49 ⇓P **P 07 36 19.0 -0.1**
baz=81
125A Gardner Draw, 81.02 53 ⇑P **P 07 36 19.6 +0.3**
baz=81
J16A Bone 81.04 41 ⇑P **P 07 36 19.9 +0.7**
baz=81
CN2 Changchun 81.04 320 *e*P **P 07 36 19.8 +0.9**
CN2 *es*P **sP 07 36 27.0 -4.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
GDL2 Guadalupe Moun 81.06 53 *e*P **P 07 36 17.4 -2.0**
MCMT McKenzie Canyo 81.08 39 *e*P **P 07 36 19.7 +0.3**
comp=Z,2.5nm,1.0s
H15A Lima 81.09 39 ⇑P **P 07 36 20.1 +0.6**
baz=81
M18A Lyman 81.11 43 ⇑P **P 07 36 19.9 +0.3**
baz=81
Q20A Ridgley Place, 81.12 46 ⇓P **P 07 36 20.0 +0.3**
baz=81
628A Black Gap, Mar 81.13 56 ⇓P **P 07 36 20.5 +0.7**
baz=81,SNR=6.6
E13A Victor 81.15 37 ⇓P **P 07 36 19.5 -0.1**
baz=81
O19A Miners Draw (B 81.19 44 ⇑P **P 07 36 20.5 +0.5**
baz=81
K17A Gardner Place, 81.21 41 ⇑P **P 07 36 20.0 -0.1**
baz=81
T22A Edith 81.22 48 ⇑P **P 07 36 20.8 +0.4**
baz=81
X24A Lazy VL Ranch, 81.23 51 ⇓P **P 07 36 20.7 +0.4**
baz=81
Z25A Roswell 81.23 52 ⇓P **P 07 36 20.9 +0.6**
baz=81
RRI2 Red Ridge 81.26 41 *e*P **P 07 36 20.6 +0.2**
comp=Z,7.0nm,0.9s
427A Hayter Ranch, 81.26 55 ⇓P **P 07 36 20.8 +0.3**
baz=81,SNR=11
F14A Wisdom 81.29 38 ⇓P **P 07 36 20.7 +0.3**
baz=81
MENT Mentasta 81.29 13 *e*P **P 07 36 19.8 0.0**
P20A De Beque 81.31 45 ⇑P **P 07 36 21.1 +0.4**
baz=81
D13A Huson 81.36 36 ⇑P **P 07 36 20.8 +0.2**
baz=82
R21A Cimarron 81.37 46 ⇑P **P 07 36 21.3 +0.2**
baz=82
I16A Newdale 81.42 40 ⇑P **P 07 36 21.8 +0.7**
baz=82
U23A El Rito 81.43 49 ⇓P **P 07 36 21.7 +0.2**
baz=82
528A Cox Ranch, San 81.48 56 ⇑P **P 07 36 22.1 +0.4**
baz=82,SNR=7.8
G15A Dillon 81.48 39 ⇑P **P 07 36 21.5 0.0**
baz=82
126A Clayton Basin, 81.50 53 ⇑P **P 07 36 22.0 +0.3**
baz=82
MSO Missoula 81.51 37 *e*P **P 07 36 18.4 -3.1**
comp=Z,4.6nm,1.3s
MSO Missoula 81.51 37 ⇑P **P 07 36 21.4 -0.1**
baz=82
DLMT Dillon 81.51 38 *e*P P 07 36 22.7 +1.1
comp=Z,7.5nm,1.3s
Y25A Mesa, Roswell 81.52 52 ⇑P **P 07 36 22.1 +0.2**
baz=82
W24A Lazy 6 Ranch, 81.52 50 ⇓P **P 07 36 21.9 0.0**
baz=82
E14A Clinton 81.54 37 ⇑P **P 07 36 22.3 +0.6**
baz=82
REDW Red Top Meadow 81.56 41 *e*P **P 07 36 22.5 +0.5**
comp=Z,8.9nm,1.1s
TPAW Teton Pass 81.56 41 *e*P **P 07 36 22.5 +0.5**
comp=Z,7.6nm,0.9s
Q21A Lamborn Mesa, 81.57 46 ⇓P **P 07 36 21.6 -0.5**
baz=82
S22A 4UR Ranch, Cre 81.60 47 ⇓P **P 07 36 23.1 +0.7**
baz=82
J17A Brown Place, J 81.65 41 ⇓P **P 07 36 22.8 +0.4**
baz=82
SNOW Snow King Moun 81.67 41 *e*P **P 07 36 23.1 +0.5**
comp=Z,7.4nm,0.9s
O20A White River Ci 81.71 45 ⇓P **P 07 36 23.3 +0.5**
baz=82
K18A Toltan Ranch, 81.72 42 ⇑P **P 07 36 23.3 +0.5**
baz=82
IMW Indian Meadow 81.78 40 *e*P **P 07 36 24.1 +0.9**
comp=Z,5.3nm,0.9s
428A Kincaid Ranch, 81.78 55 ⇑P **P 07 36 23.8 +0.6**
baz=82,SNR=5.2
Z26A Caprock 81.79 52 ⇓P **P 07 36 23.4 +0.1**
baz=82,SNR=7.6
MOOW Moose Ponds 81.82 41 *e*P **P 07 36 23.3 -0.1**
comp=Z,3.2nm,1.2s
LOHW Long Hollow 81.84 41 *e*P **P 07 36 23.6 +0.1**
comp=Z,6.6nm,1.3s
V24A Rampart Ranch, 81.84 50 ⇓P **P 07 36 23.7 +0.1**
baz=82
DOT Dot Lake 81.84 13 *e*P **P 07 36 22.5 -0.2**
comp=Z,6.6nm,1.2s
R22A Saguache, Gunn 81.87 47 ⇑P **P 07 36 23.9 +0.1**
baz=82
D14A Greenough 81.89 37 ⇑P **P 07 36 23.4 -0.1**
baz=82
L19A Farson 81.90 42 ⇓P **P 07 36 23.6 -0.1**
baz=82
529A Stev Forest Ra 81.92 56 ⇑P **P 07 36 23.7 -0.3**
baz=82,SNR=6.7
G16A Moss Hill, Enn 81.92 39 ⇓P **P 07 36 24.2 +0.4**
baz=82
328A Wristen Ranch, 81.94 55 ⇑P **P 07 36 24.2 +0.2**
baz=82
CHMT Chamberlain Mo 81.95 37 *e*P **P 07 36 24.2 +0.3**
P21A Newcastle 81.97 45 ⇑P **P 07 36 24.1 -0.2**
baz=82
H16A Russell Place, 81.99 40 ⇑P **P 07 36 24.8 +0.6**
baz=82,SNR=8.5
J18A Kendall Valley 82.01 41 ⇓P **P 07 36 24.8 +0.4**
baz=82,SNR=12
I17A Pilgrim Ck. 82.01 40 ⇓P **P 07 36 24.8 +0.5**
baz=82
FLWY Flagg Ranch 82.02 40 *e*P P 07 36 25.5 +1.1
comp=Z,59nm,2.1s
N20A Spence Gulch, 82.02 44 ⇓P **P 07 36 24.7 +0.2**
baz=82
Q22A Crested Butte, 82.04 46 ⇓P **P 07 36 25.2 +0.5**
baz=82,SNR=9.9
E15A Deer Lodge 82.05 38 ⇑P **P 07 36 24.6 +0.2**
baz=82
B13A Whitefish 82.06 35 ⇓P **P 07 36 24.5 +0.2**
baz=82
BW06 Boulder Array 82.09 42 *e*P **P 07 36 24.3 -0.5**
comp=Z,5.3nm,1.0s
BW06 Boulder Array 82.09 42 ⇑P **P 07 36 25.3 +0.5**
baz=82
PDAR Pinedale Array 82.09 42 P **P 07 36 24.9 0.0**
comp=Z,6.6nm,0.8s,baz=210,slow=3.1,SNR=8.6
PDAR Pinedale Array 82.09 42 P **P 07 36 24.9 0.0**
COLA College 82.20 11 *e*P **P 07 36 23.6 -0.9**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 82.20 11 *e*P **P 07 36 23.6 -0.9**
comp=Z,23nm,1.0s
W25A X Bar L Ranch, 82.23 50 ⇓P **P 07 36 25.9 +0.3**
baz=82
BOZ Bozeman (W) 82.24 39 ⇑P **P 07 36 26.0 +0.6**
baz=82
ILAR Eielson Array 82.29 11 P **P 07 36 24.1 -1.0**
comp=Z,4.5nm,1.1s,baz=221,slow=4.9,SNR=20
ILAR LR LR 08 07 01.8
comp=Z,324nm,19.5s,baz=122,slow=31
ILAR Eielson Array 82.29 11 P **P 07 36 24.1 -1.0**
F16A Kennard Place, 82.32 38 ⇓P **P 07 36 26.4 +0.6**
baz=82
YNR Norris Junctio 82.35 40 *e*P P 07 36 27.3 +1.1
comp=Z,12nm,1.2s
429A Davport Ranc 82.37 56 ⇑P **P 07 36 26.2 -0.1**
baz=82,SNR=8.5
V25A Rancho No Teng 82.37 50 ⇓P **P 07 36 27.2 +0.8**
baz=82,SNR=7.8
M20A Sweetwater, Wa 82.38 43 ⇓P **P 07 36 26.6 +0.2**
baz=82
I18A Diamond G Ranc 82.38 41 ⇑P **P 07 36 26.5 +0.2**
baz=82
A13A Flathead Natio 82.39 35 ⇑P **P 07 36 26.6 +0.6**
baz=82
228A UT Block 9, Go 82.40 54 ⇓P **P 07 36 26.7 +0.2**
baz=82
SEY Seymchan 82.41 345 *i* P **P 07 36 24.9 -0.8**
X26A CR and CF Fran 82.44 51 ⇑P **P 07 36 27.1 +0.4**
baz=83
D15A Lincoln 82.44 37 ⇓P **P 07 36 26.8 +0.4**
baz=83
P22A Eagle 82.48 46 ⇑P **P 07 36 27.1 +0.2**
baz=83
N21A Black Mountain 82.49 44 ⇓P **P 07 36 27.1 +0.2**
baz=83
L20A Wamsutter 82.52 43 ⇓P **P 07 36 27.4 +0.4**
baz=83,SNR=10
530A J-C Ranch, Com 82.63 56 ⇓P **P 07 36 27.9 +0.3**
baz=83
329A Wagon Wheel Ra 82.63 55 ⇓P **P 07 36 27.8 +0.1**
baz=83
J19A Crowheart 82.66 42 ⇑P **P 07 36 27.7 +0.1**
baz=83
Y27A Causey 82.66 52 ⇑P **P 07 36 27.6 -0.2**
baz=83
E16A East Helena 82.67 38 ⇑P **P 07 36 27.9 +0.3**
baz=83
HRY Holter Researc 82.67 38 *e*P **P 07 36 27.7 +0.1**
comp=Z,6.1nm,0.7s
128A Castleberry Fa 82.68 53 ⇓P **P 07 36 27.9 -0.1**
baz=83
S24A Houchin Ranch, 82.70 48 ⇓P **P 07 36 27.9 -0.3**
baz=83
B14A Marquette Ranc 82.72 36 ⇑P **P 07 36 27.6 -0.2**
baz=83
U25A Circle Dot Ran 82.76 49 ⇓P **P 07 36 28.6 +0.2**
baz=83,SNR=6.1
C15A Salmond Ranch, 82.78 36 ⇑P **P 07 36 27.9 -0.2**
baz=83,SNR=8.2
K20A Yellowstone Ra 82.83 42 ⇓P **P 07 36 28.4 -0.2**
baz=83,SNR=6.6
O22A Kremmling 82.88 45 ⇑P **P 07 36 28.8 -0.2**
baz=83,SNR=12
430A Baggett Ranch, 82.95 56 ⇑P **P 07 36 29.7 +0.4**
baz=83
F17A Fitzpatrick Pl 82.96 39 ⇑P **P 07 36 29.5 +0.4**
baz=83
631A Perdido Creek 82.97 57 ⇓P **P 07 36 29.9 +0.5**
baz=83
V26A Tequesquite Ra 82.97 50 ⇑P **P 07 36 29.2 -0.2**
baz=83
M21A Separation Pea 82.98 44 ⇓P **P 07 36 29.5 0.0**
baz=83,SNR=5.5
MSTX Muleshoe 82.99 52 ⇓P **P 07 36 30.1 +0.5**
baz=83
D16A Dana Ranch, Ca 83.00 37 ⇑P **P 07 36 29.9 +0.5**
baz=83
P23A Jefferson 83.02 46 ⇑P **P 07 36 29.9 +0.1**
baz=83
X27A F and S Farms, 83.02 51 ⇑P **P 07 36 30.3 +0.6**
baz=83
Z28A Tucker Farm, M 83.02 53 ⇓P **P 07 36 29.9 +0.2**
baz=83
R24A Sanders Place, 83.03 47 ⇑P **P 07 36 29.9 +0.1**
baz=83,SNR=6.8
I19A Meeteetse 83.07 41 ⇑P **P 07 36 30.5 +0.7**
baz=83
T25A Trinidad 83.07 49 ⇑P **P 07 36 30.4 +0.4**
baz=83
B15A Bradely Ranch, 83.09 36 ⇓P **P 07 36 29.9 +0.2**
baz=83
E17A Martinsdale 83.12 38 ⇓P **P 07 36 30.3 +0.3**
baz=83
L21A Rawlins 83.14 43 ⇓P **P 07 36 30.2 -0.1**
baz=83
129A Stewart Farms, 83.16 54 ⇑P **P 07 36 30.8 +0.3**
baz=83
W27A Bone Ranch, En 83.21 51 ⇑P **P 07 36 31.1 +0.4**
baz=83
732A Laxson Ranch, 83.21 58 ⇑P **P 07 36 30.6 0.0**
baz=83
N22A Wattenberg Ran 83.23 45 ⇑P **P 07 36 31.4 +0.6**
baz=83,SNR=8.9
U26A Atchley Ranch, 83.25 50 ⇑P **P 07 36 31.0 +0.1**
baz=83
DAWY Dawson 83.26 14 *e*P **P 07 36 29.9 -0.3**
531A Rocksprings 83.27 56 ⇑P **P 07 36 31.0 0.0**
baz=83
S25A Robets Cordova 83.27 48 ⇓P **P 07 36 31.1 +0.1**
baz=83,SNR=8.6
C16A Fuhringer Ranc 83.29 37 ⇓P **P 07 36 30.6 -0.2**
baz=83
Q24A Divide 83.32 47 ⇑P **P 07 36 31.4 0.0**
baz=84
J20A Shoshoni 83.32 42 ⇑P **P 07 36 31.3 +0.3**
baz=83,SNR=8.4
O23A Lake Granby, G 83.33 45 ⇑P **P 07 36 31.4 +0.1**
baz=84
G18A Lazy EL Ranch, 83.33 40 ⇓P **P 07 36 31.2 +0.1**
baz=84
A15A Johnson Ranch, 83.35 35 ⇑P **P 07 36 31.0 0.0**
baz=84
ISCO Idaho Springs 83.36 46 *e*P **P 07 36 32.2 +0.7**
ISCO pmax pmax
comp=Z,32nm,2.0s
ISCO Idaho Springs 83.36 46 *e*P **P 07 36 32.2 +0.7**
comp=Z,32nm,2.0s
ISCO Idaho Springs 83.36 46 ⇓P **P 07 36 31.8 +0.3**
baz=84
H19A Powell 83.38 40 ⇑P **P 07 36 32.1 +0.8**
baz=84
M22A Cedar Creek Ra 83.40 44 ⇑P **P 07 36 31.8 +0.1**
baz=84
RLMT Red Lodge 83.42 40 ⇓P **P 07 36 32.2 +0.5**
baz=84
EGAK Eagle 83.46 13 *e*P **P 07 36 31.2 +0.1**
comp=Z,15nm,1.4s
K21A Alcova 83.53 43 ⇓P **P 07 36 32.1 -0.1**
baz=84
F18A Big Timber 83.53 39 ⇑P **P 07 36 32.3 +0.3**
baz=84,SNR=6.0
Z29A Hungry Hill Ra 83.53 53 ⇓P **P 07 36 32.9 +0.6**
baz=84
D17A Six Diamond Ra 83.57 38 ⇑P **P 07 36 32.7 +0.4**
baz=84,SNR=9.0
I20A Worland 83.57 41 ⇓P **P 07 36 32.7 +0.4**
baz=84,SNR=8.2
N23A Red Feather La 83.61 45 ⇑P **P 07 36 33.3 +0.5**
baz=84
632A Uvalde 83.64 57 ⇑P **P 07 36 33.4 +0.5**
baz=84
X28A Dimmitt 83.65 52 ⇓P **P 07 36 33.1 +0.2**
baz=84
J21A Lysite 83.73 42 ⇓P **P 07 36 33.4 +0.2**
baz=84,SNR=11
E18A Harlowton 83.74 38 ⇓P **P 07 36 33.8 +0.7**
baz=84,SNR=5.6
C17A Wharram Farm, 83.77 37 ⇑P **P 07 36 33.7 +0.5**
baz=84,SNR=13
532A Rocksprings 83.77 57 ⇓P **P 07 36 34.1 +0.5**
baz=84
Y29A Porterfield Fa 83.79 53 ⇓P **P 07 36 34.0 +0.3**
baz=84,SNR=6.5
L22A Ellis Ranch, M 83.79 44 ⇑P **P 07 36 34.2 +0.5**
baz=84
O24A Longmont 83.87 46 ⇑P **P 07 36 34.7 +0.7**
baz=84
H20A Greybull 83.91 41 ⇑P **P 07 36 34.2 +0.2**
baz=84
Q25A Bedland, Calha 83.94 47 ⇑P **P 07 36 34.8 +0.4**
baz=84
S26A Kim 83.95 49 ⇓P **P 07 36 34.1 -0.3**
baz=84,SNR=5.0
F19A Roth Farm, Mol 83.97 39 ⇑P **P 07 36 34.5 +0.2**
baz=84,SNR=5.6
COLD Coldfoot 83.99 9 *e*P P 07 36 35.1 +1.3
comp=Z,15nm,1.2s
X29A Tulia 83.99 52 ⇑P **P 07 36 34.8 +0.1**
baz=84
K22A Casper 84.01 43 ⇑P **P 07 36 35.0 +0.4**
baz=84
M23A Laramie 84.02 44 ⇓P **P 07 36 34.8 0.0**
baz=84,SNR=7.3
I21A Big Trails, Te 84.04 42 ⇑P **P 07 36 34.4 -0.4**
baz=84,SNR=9.5
B17A L&G Farms, Che 84.09 37 ⇓P **P 07 36 35.0 +0.3**
baz=84
PHWY Pilot Hill 84.12 45 *e*P **P 07 36 34.7 -0.7**
comp=Z,19nm,1.6s
432A Menard 84.14 56 ⇓P **P 07 36 35.1 -0.3**
baz=84
AMTX Amarillo 84.18 52 ⇑P **P 07 36 35.4 -0.1**
baz=84
R26A Arlington 84.25 48 ⇑P **P 07 36 35.6 -0.3**
baz=84,SNR=8.8
T27A Campo 84.27 49 ⇑P **P 07 36 36.1 0.0**
baz=84
W29A Amraillo 84.30 51 ⇓P **P 07 36 36.3 +0.1**
baz=84
N24A Carr 84.31 45 ⇑P **P 07 36 36.3 +0.1**
baz=84
L23A Garrett 84.32 44 ⇑P **P 07 36 36.3 0.0**
baz=84
E19A Rath Farm, Rou 84.36 39 ⇓P **P 07 36 36.3 0.0**
baz=84
J22A Midwest 84.39 42 ⇑P **P 07 36 36.4 -0.1**
baz=84,SNR=5.5
A17A Triple J Farms 84.48 36 ⇑P **P 07 36 36.9 +0.2**
baz=85,SNR=5.2
EGMT Eagleton 84.56 37 ⇓P **P 07 36 37.1 -0.1**
baz=85
H21A Big Horn, Sher 84.58 41 ⇑P **P 07 36 37.8 +0.3**
baz=85
I22A 9 Mile Ranch, 84.60 42 ⇑P **P 07 36 37.5 -0.1**
baz=85,SNR=6.3
M24A Cheyenne 84.62 45 ⇑P **P 07 36 38.3 +0.5**
baz=85
D19A Cripps Ranch, 84.65 38 ⇓P **P 07 36 38.1 +0.4**
baz=85,SNR=6.1
K23A Bowen Ranch, D 84.65 43 ⇑P **P 07 36 38.3 +0.4**
baz=85
R27A Eads 84.71 48 ⇓P **P 07 36 38.5 +0.3**
baz=85
B18A Beardsley Farm 84.73 37 ⇑P **P 07 36 38.4 +0.4**
baz=85
T28A Walsh 84.74 49 ⇓P **P 07 36 38.4 0.0**
baz=85
G21A Lodge Grass 84.75 40 ⇑P **P 07 36 38.5 +0.2**
baz=85
C19A Slack Wire Ran 84.83 38 ⇓P **P 07 36 39.1 +0.5**
baz=85
ABTX Abilene, Hawle 84.90 54 ⇑P **P 07 36 39.4 +0.2**
baz=85
A18A Metzger Ranch, 84.95 36 ⇑P **P 07 36 39.3 +0.2**
baz=85
D20A Manuel Ranch, 85.06 38 ⇓P **P 07 36 39.9 +0.2**
baz=85
B19A Brinkman Farms 85.24 37 ⇓P **P 07 36 41.0 +0.5**
baz=85
C20A Veseth Ranch, 85.44 38 ⇑P **P 07 36 42.1 +0.6**
baz=86
A19A Klindworth Far 85.59 37 ⇓P **P 07 36 42.8 +0.4**
baz=86
D21A La Casta Ranch 85.74 39 ⇑P **P 07 36 43.7 +0.6**
baz=86
B20A Solberg Farm, 85.77 37 ⇑P **P 07 36 43.9 +0.7**
baz=86
G23A Biddle 85.89 41 ⇓P **P 07 36 44.3 +0.4**
baz=86
C21A Desert Coulee 86.03 38 ⇑P **P 07 36 45.0 +0.5**
baz=86
A20A Cobblestone Ra 86.04 37 ⇑P **P 07 36 44.9 +0.3**
baz=86
E22A Miles City 86.09 40 ⇑P **P 07 36 45.5 +0.7**
baz=86
F23A Volborg 86.11 41 ⇓P **P 07 36 44.9 -0.1**
baz=86
H24A Dirks Ranch, A 86.22 42 ⇑P **P 07 36 45.4 -0.2**
baz=86
D22A Cohagen 86.27 39 ⇑P **P 07 36 46.4 +0.7**
baz=86
RSSD Black Hills 86.29 42 *e*P **P 07 36 45.9 -0.2**
RSSD pmax pmax
comp=Z,16nm,1.5s
RSSD Black Hills 86.29 42 *e*P **P 07 36 45.9 -0.2**
comp=Z,16nm,1.5s
B21A Ellsworth Farm 86.36 38 ⇓P **P 07 36 47.1 +1.0**
baz=86
A21A Bergtoll Ranch 86.67 37 ⇓P **P 07 36 48.0 +0.4**
baz=87
F24A Ekalaka 86.77 41 ⇑P **P 07 36 48.7 +0.4**
baz=87
B22A Reddig Ranch S 86.90 38 ⇓P **P 07 36 49.5 +0.7**
baz=87
HKT Hockley 87.02 58 *e*P **P 07 36 50.7 +1.1**
HKT pmax pmax
comp=Z,11nm,1.4s
HKT Hockley 87.02 58 *e*P **P 07 36 50.7 +1.1**
comp=Z,11nm,1.4s
D24A Glendive 87.39 40 ⇑P **P 07 36 51.8 +0.6**
baz=88
B23A Brockton 87.58 38 ⇑P **P 07 36 52.9 +0.9**
baz=88
DGMT Dagmar 88.05 38 ⇑P **P 07 36 55.0 +0.7**
baz=88
GYA Guiyang 88.07 298 P **P 07 36 55.0 0.0**
GYA PP **PP 07 40 22.6 +0.5**
GYA SKS **SKSac 07 47 21.0 -1.0**
GYA S **S 07 47 35.8 -1.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,5.2s
GYA LR LR
comp=N,430nm,18.6s
GYA LR LR
comp=E,410nm,19.3s
GYA LR LR
comp=Z,460nm,18.2s
INK Inuvik 88.11 14 *e*P **P 07 36 54.1 +0.1**
comp=Z,8.2nm,1.1s
HHC Hu-ho-hao-te 89.00 313 *e*P **P 07 36 59.2 +0.1**
HHC sP sP 07 37 05.2 -6.6
HHC PP **PP 07 40 32.1 +2.8**

HHC SKS SKSac 07 47 27.1 +0.1
HHC S S 07 47 45.0 -0.7
HHC sS ScS 07 47 52.1 +1.3
HHC pmax pmax
comp=Z,48nm,0.7s
HHC pmax pmax
comp=Z,270nm,3.7s
HHC LR LR
comp=N,260nm,15.5s
HHC LR LR
comp=E,470nm,15.5s
HHC LR LR
comp=Z,490nm,17.8s
YAK Yakutsk 89.02 337 *i* P **P 07 36 58.3 -0.2**
PLCA Paso Flores 89.53 132 LR LR 08 08 44.9
comp=Z,487nm,18.8s,baz=66,slow=30
YKA Yellowknife Ar 89.93 23 P **P 07 37 02.3 -0.4**
comp=Z,2.1nm,0.9s,baz=242,slow=4.7,SNR=27
YKA Yellowknife Ar 89.93 23 P **P 07 37 02.3 -0.4**
KMI Kunming 91.06 296 P **P 07 37 11.2 +2.0**
KMI pmax pmax
comp=Z,8.0nm,0.6s
CD2 Chengdu 91.82 301 P **P 07 37 13.4 +1.0**
CD2 pP **pP 07 37 18.2 -3.5**
CD2 sP **sP 07 37 20.4 -4.7**
CD2 PP **PP 07 40 54.8 +3.0**
CD2 SKS **SKSac 07 47 44.5 +0.9**
CD2 S **S 07 48 11.8 -0.1**
CD2 sS **ScS 07 48 19.3 +4.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,70nm,5.7s
CD2 LR LR
comp=N,310nm,8.3s
CD2 LR LR
comp=Z,360nm,11.9s
FFC Flin Flon 91.93 33 *e*P **P 07 37 11.5 -0.7**
FFC pmax pmax
comp=Z,25nm,2.0s
FFC Flin Flon 91.93 33 *e*P **P 07 37 11.5 -0.7**
comp=Z,25nm,2.0s
CMAR Chiang Mai Arr 92.67 288 LR LR 08 13 35.8
comp=Z,143nm,18.8s,baz=155,slow=32
LZH Lanzhou 93.22 306 *e*P P 07 37 21.5 +2.6
LZH pP pP 07 37 26.0 -2.2
LZH sP sP 07 37 28.5 -3.1
LZH pmax pmax
comp=Z,18nm,1.0s
ULM Lac du Bonnet 93.76 39 P **P 07 37 19.5 -1.2**
comp=Z,1.3nm,0.5s,baz=255,slow=3.9,SNR=4.0
ULM Lac du Bonnet 93.76 39 *e*P **P 07 37 20.0 -0.8**
comp=Z,14nm,1.5s
SONM Songino Array 94.81 318 P **P 07 37 26.5 +0.7**
comp=Z,0.7nm,0.9s,baz=104,slow=6.1,SNR=3.8
SONM Songino Array 94.81 318 P **P 07 37 26.5 +0.7**
GTA Gaotai 97.17 309⇓*e*P Pdif 07 37 42.0 +5.1
GTA pP pP 07 37 46.8 +0.6
GTA sP sP 07 37 49.0 -0.5
GTA SKS **SKSac 07 48 18.2 +6.0**
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA pmax pmax
comp=Z,87nm,5.7s
GTA LR LR
comp=N,240nm,17.6s
GTA LR LR
comp=E,360nm,16.2s
GTA LR LR
comp=Z,340nm,19.5s
TLY Talaya 97.59 321 *i* P Pdif 07 37 39.7 +1.4
KSH Kashi 115.47 307 *e*PKP PKPdf 07 42 51.1 +4.9
KSH PKS PKSdf 07 46 28.4 +5.4
KSH SKS **SKSdf 07 50 02.3 +5.7**
KSH AMB AMB
comp=Z,130nm,4.6s
KSH LR LR
comp=N,94nm,5.1s
KSH LR LR
comp=E,76nm,8.3s
KSH LR LR
comp=Z,290nm,17.4s
BVAR Borovoye Array 117.83 322 PKP **PKPdf 07 42 50.5 +0.3**
comp=Z,0.7nm,0.8s,baz=90,slow=1.4,SNR=3.4
BVAR Borovoye Array 117.83 322 PKIKP **PKPdf 07 42 50.5 +0.3**
BVAR Borovoye Array 117.83 322 PKP **PKPdf 07 42 50.5 +0.3**
BRVK Borovoye 117.89 322 *i* PKIKP **PKPdf 07 42 53.5 +3.2**
ARU Arti 123.27 328 PKIKP **PKPdf 07 43 00.4 -0.1**
SOC Sochi 140.16 322 *e*P **Pdif 07 40 52.5 +4.7**
SOC MLR MLR
comp=Z,588nm,20.0s
CLL Collm 143.69 353 *e*PKPdf **PKPdf 07 43 38.0 -0.8**
BRG Berggiesshubel 144.00 352 *e*PKP PKPdf 07 43 47.7 +8.3
comp=Z,2.7nm,0.7s
BRG Berggiesshubel 144.00 352 *e*PKIKP PKPdf 07 43 47.7 +8.3
BRG pmax pmax
comp=Z,30nm,0.7s
UPC Upice 144.04 350 *e*PKIKP PKPbc 07 43 37.0 -0.4
UPC Upice 144.04 350 *e*PKP PKPbc 07 43 37.0 -0.4
KOLS Kolonicke sedl 144.07 342 *e*PKIKP **PKPdf 07 43 42.9 +3.3**
KOLS Kolonicke sedl 144.07 342 *e*PKP **PKPdf 07 43 42.9 +3.3**
DPC Dobruska-Polom 144.14 349 *e*PKIKP **PKPdf 07 43 39.1 -0.6**
DPC *e* 07 43 44.5
DPC Dobruska-Polom 144.14 349 *e*PKP **PKPdf 07 43 39.1 -0.6**
DPC *e*pPKP **PKiKP 07 43 44.5 +1.3**
CRVS Cervenica-Dubn 144.33 343 *e*PKIKP PKPdf 07 43 46.1 +6.1
CRVS Cervenica-Dubn 144.33 343 *e*PKP PKPdf 07 43 46.1 +6.1
UZH Uzhgorod 144.34 342⇓*i*PKIKP **PKPdf 07 43 39.0 -1.0**
UZH *e* 07 43 45.8
TRPA Tarpa 144.71 342⇓*e*PKPdf **PKPdf 07 43 39.9 -0.7**
PRU Pruhonice 144.78 351 *e*PKIKP **PKPdf 07 43 40.7 0.0**
PRU Pruhonice 144.78 351 *e*PKP **PKPdf 07 43 40.7 0.0**
VYHS Vyhne 145.38 346 *e*PKIKP **PKPdf 07 43 42.1 +0.2**
VYHS Vyhne 145.38 346 *e*PKP **PKPdf 07 43 42.1 +0.2**
PSZ Piszkesteto 145.65 344 *e*PKIKP **PKPab 07 43 43.5 +0.5**
PSZ Piszkesteto 145.65 344 *e*PKPdf **PKPab 07 43 43.5 +0.5**
PSZ Piszkesteto 145.65 344⇓*e*PKPbc **PKPab 07 43 43.6 +0.6**
KMBO Kilima Mbogo 145.69 244 *e*PKPdf **PKPab 07 43 44.5 +0.1**
KHC Kasperske Hory 145.75 352 *e*PKP2 **PKPab 07 43 43.4 +0.1**
KHC Kasperske Hory 145.75 352 *e*PKPdf **PKPab 07 43 43.4 +0.1**
KHC Kasperske Hory 145.75 352 *e*PKP **PKPab 07 43 43.6 +0.3**
KHC *e*pPKP **PKiKP 07 43 47.2 +0.6**
KHC *e*x x 07 43 59.3
GERES GERESS Array B 146.02 352 PKPbc **PKPab 07 43 43.8 -0.6**
comp=Z,1.8nm,0.7s,baz=20,slow=3.1,SNR=14
GERES GERESS Array B 146.02 352 PKPbc **PKPab 07 43 43.8 -0.6**
BR131 Keskin Array S 146.11 321 *e*PKPdf **PKPab 07 43 45.3 +0.2**
BRTR Keskin Array B 146.11 321 PKPbc **PKPab 07 43 45.2 +0.1**
comp=Z,10.0nm,0.9s,baz=124,slow=1.8,SNR=24
BRTR Keskin Array B 146.11 321 PKPbc **PKPab 07 43 45.2 +0.1**
CONA Conrad Observa 146.55 349⇑*i*pPKPdf **PKPab 07 43 46.7 +0.3**
comp=Z,18nm,1.2s
BFO Black Forest 146.99 358 *e*PKP2 **PKPab 07 43 46.6 -1.5**
BFO Black Forest 146.99 358 *e*PKPbc **PKPab 07 43 46.6 -1.5**
PKSM Moragy 147.56 344⇓*e*PKPdf **PKPbc 07 43 47.4 -0.8**
FETA Feichten 148.15 355⇑*i*PKPbc **PKPbc 07 43 47.7 -2.3**
comp=Z,10nm,1.4s
TUE Stuetta 148.80 356 *e*PKPbc **PKPbc 07 43 52.0 +0.2**
CSS Prodhromos 149.08 314 *e*PKPbc **PKPbc 07 43 53.7 +1.1**

CASC ***06*** *07:38:31.3±2.3, 12.°59N×89.°01W, h10km±18km, MD4.4, mb4.4(NEIC)*
ISCJB ***06*** *07:38:33.4±0.5, 12.°99N±0.°06×88.°61W±0.°05, h89km±4km, mb4.2/40, Error ellipse: s-maj=12.6km s-min=4.4km az=37.0*
NEIC ***06*** *07:38:35.8±0.9, 13.°00N×88.°54W, h98km±9km, mb4.4/30, MD4.6(SNET), Error ellipse: s-maj=12.3km s-min=6.7km az=60.0*
NEIC Felt [II] at San Salvador.
IDC ***06*** *07:38:37.0±2.4, 13.°17N×88.°33W, h105km±21km, mb3.9/13, mb1 4.1/15, mb1mx3.8/29, mbtmp3.9/15, MS4.4/1, Ms1 4.4/1, ms1mx3.4/41, Error ellipse: s-maj=30.3km s-min=11.9km az=57.0*
ISC 06 07:38:34.0±0.9**, 12.°90N**±0.°06×**88.°69W**±0.°05**, h86**km±8km**, n341,** σ0.°84/357**, mb4.3**/40**, 123C-130D, Off coast of central America**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NBG Las Nubes 2.33 316 *e*P **Pn 07 39 09.8 -0.9**
NBG *e*S **Sn 07 39 41.0 +2.3**
MRL Marmol 2.36 336 *e*P **Pn 07 39 10.3 -0.8**
MRL *e*S Sn 07 39 46.2 +6.8
PCG Pacaya 2.38 309 *e*P **Pn 07 39 10.6 -0.8**
PCG *e*S **Sn 07 39 40.6 +0.5**
FUG Fuego 3 2.60 307 *e*P **Pn 07 39 13.3 -0.9**
FUG *e*S **Sn 07 39 44.8 -0.2**
FG6 2.69 308 *e*P **Pn 07 39 15.0 -0.7**
FG6 *e*S **Sn 07 39 48.3 +0.7**
TP2 Tecpan 2 2.94 310 *e*P **Pn 07 39 18.8 -0.2**
TP2 *e*S **Sn 07 39 55.5 +2.0**
JAT Jato 3.19 297 *e*P **Pn 07 39 20.4 -1.6**
JAT *e*S **Sn 07 39 56.4 -2.8**
JTS JuntasAbangare 4.49 125 P **Pn 07 39 40.0 +0.3**
6.2nm,0.3s,baz=314,slow=19,SNR=17
JTS S Sn 07 40 43.4 +13
12nm,0.3s,baz=180,slow=19,SNR=6.1
JTS JuntasAbangare 4.49 125 *e*Pn **Pn 07 39 40.1 +0.3**
JTS *e*Sn Sn 07 40 43.1 +12
JTS S 07 40 43.4
CGA2 Cerro Gallo 2 5.04 124 *e*P **Pn 07 39 49.2 +1.9**
SJS Escuela Geolog 5.41 122 *e*P Pn 07 39 55.8 +3.4
QCR Quepos 5.62 127 *e*P **Pn 07 39 56.5 +1.3**
QCR *e*S **Sn 07 40 54.9 -3.6**
ACR Cerro Adams 6.87 127 *e*P **Pn 07 40 13.4 +1.1**
ACR *e*S **Sn 07 41 26.4 -2.7**
CMIG Matias Romero 7.29 306 P **Pn 07 40 17.1 -0.8**
1.5nm,0.3s,baz=127,slow=9.2,SNR=23
CMIG S **Sn 07 41 41.8 +2.7**
2.8nm,0.3s,baz=288,slow=19,SNR=5.8
CMIG Matias Romero 7.29 306 P **Pn 07 40 17.1 -0.8**
CMIG S **Sn 07 41 41.8 +2.7**
TEIG Tepich 7.29 3 P **Pn 07 40 17.9 0.0**
5.5nm,0.3s,baz=180,slow=17,SNR=41
TEIG Tepich 7.29 3 *e*Pn **Pn 07 40 17.9 0.0**
PAYG Puerto Ayora 13.58 187 *e*Pn **P 07 41 48.4 -0.7**
SDV Santo Domingo 18.17 101 *e*P **P 07 42 40.1 -0.1**
18nm,1.3s
732A Laxson Ranch, 18.93 328 ⇓P **P 07 42 48.3 +0.1**
baz=19
VBMS Vicksburg 19.30 355 *e*P **Pn 07 42 55.0 +1.0**
34nm,0.8s
632A Uvalde 19.47 330 ⇓P **P 07 42 54.0 -0.1**
baz=20
631A Perdido Creek 19.79 328 ⇓P **P 07 42 57.2 -0.4**
baz=20
532A Rocksprings 20.04 331 ⇓P **P 07 43 00.0 -0.3**
baz=20
LRAL Lakeview Retre 20.10 4 *e*P Pn 07 43 02.8 -0.6
6.3nm,0.8s
JCT Junction City 20.29 331 ⇑P **P 07 43 02.4 -0.5**
baz=20
531A Rocksprings 20.39 329 ⇓P **P 07 43 03.7 -0.3**
baz=20
432A Menard 20.62 332 ⇓P **P 07 43 06.3 -0.2**
baz=21
530A J-C Ranch, Com 20.78 328 ⇓P **P 07 43 08.9 +0.6**
baz=21,SNR=6.2
431A Sonora 20.84 330 ⇑P **P 07 43 09.7 +0.8**
baz=21,SNR=6.3
628A Black Gap, Mar 21.12 324 ⇓P **P 07 43 13.3 +1.4**
baz=21,SNR=6.3
529A Stev Forest Ra 21.23 326 ⇓P **P 07 43 13.1 0.0**
baz=21
430A Baggett Ranch, 21.24 329 ⇑P **P 07 43 13.3 +0.1**
baz=21,SNR=7.3
627A Terlingua Ranc 21.39 323 ⇓P **P 07 43 15.6 +0.8**
baz=21,SNR=11
429A Davenport Ranc 21.45 327 ⇓P **P 07 43 15.3 -0.1**
baz=22
TXAR Lajitas Array 21.47 322 P **P 07 43 17.1 +1.4**
2.9nm,0.6s,baz=138,slow=11,SNR=43
TXAR PcP **PcP 07 47 17.6 +1.9**
0.3nm,0.9s,baz=142,slow=3.4,SNR=3.9
TXAR Lajitas Array 21.47 322 P **P 07 43 17.1 +1.4**
TXAR PcP **PcP 07 47 17.6 +1.9**
528A Cox Ranch, San 21.57 325 ⇑P **P 07 43 17.0 +0.2**
baz=22
626A Big Bend Ranch 21.91 322 ⇓P **P 07 43 21.1 +0.8**
baz=22
428A Kincaid Ranch, 21.95 326 ⇑P **P 07 43 21.1 +0.4**
baz=22
MIAR Mount Ida 22.00 349 *e*P **P 07 43 21.9 +0.7**
13nm,1.2s
UALR University of 22.03 352 *e*P **P 07 43 22.4 +0.9**
7.8nm,0.8s
527A Woodward Ranch 22.03 324 ⇓P **P 07 43 22.0 +0.3**
baz=22
ABTX Abilene, Hawle 22.05 335 ⇓P **P 07 43 21.8 0.0**
baz=22
329A Wagon Wheel Ra 22.18 329 ⇓P **P 07 43 23.8 +0.6**
baz=22,SNR=11
526A Mary Lane Ranc 22.25 323 ⇓P **P 07 43 24.3 +0.2**
baz=22
JSC Jenkinsville 22.33 16 *e*P **P 07 43 25.8 +1.1**
SWET Sewanee 22.36 6 *e*P **P 07 43 25.5 +0.4**
3.2nm,0.5s
427A Hayter Ranch, 22.44 325 ⇑P **P 07 43 25.7 -0.3**
baz=22
229A Bryant Ranch, 22.48 330 ⇓P **P 07 43 25.9 -0.5**
baz=22
328A Wristen Ranch, 22.52 327 ⇓P **P 07 43 27.1 +0.2**
baz=23,SNR=15
426A McDonald Obser 22.66 324 ⇑P **P 07 43 28.4 -0.1**
baz=23
CPCT Cooper Cave 22.77 9 *e*P **P 07 43 29.0 -0.3**
CPCT *e* 07 43 51.2
228A UT Block 9, Go 22.99 329 ⇓P **P 07 43 31.2 -0.4**
baz=23
129A Stewart Farms, 23.05 331 ⇓P **P 07 43 31.7 -0.5**
baz=23
TKL Tuckaleechee C 23.09 10 P **P 07 43 32.4 -0.1**
5.6nm,0.7s,baz=187,slow=14,SNR=11
TKL Tuckaleechee C 23.09 10 P **P 07 43 32.4 -0.1**
326A Caldwell Ranch 23.11 325 ⇓P **P 07 43 32.8 0.0**
baz=23
KMSC Kings Mountain 23.12 15 ⇑P **P 07 43 31.4 -1.4**
baz=23
227A Bennet, Jal 23.27 327 ⇑P **P 07 43 33.9 -0.4**
baz=23
425A Indio Mountain 23.30 322 ⇓P **P 07 43 34.9 +0.2**
baz=23
128A Castleberry Fa 23.34 329 ⇑P **P 07 43 34.5 -0.5**
baz=23
Z29A Hungry Hill Ra 23.49 332 ⇓P **P 07 43 35.8 -0.5**
baz=24,SNR=13
WMOK Wichita Mounta 23.59 339 *e*P **P 07 43 37.6 +0.5**
4.0nm,0.9s
325A Bean Ranch, Si 23.72 323 ⇑P **P 07 43 38.4 -0.1**
baz=24
TUL1 Tulsa 23.79 346 ⇓P **P 07 43 38.2 -0.6**
baz=24
127A Arkansas Junct 23.83 328 ⇑P **P 07 43 38.5 -0.8**
baz=24
Z28A Tucker Farm, M 23.84 331 ⇓P **P 07 43 38.7 -0.7**
baz=24,SNR=5.7
Y29A Porterfield Fa 23.98 333 ⇓P **P 07 43 39.2 -1.5**
baz=24
324A Moseley Ranch, 24.07 323 ⇓P **P 07 43 41.3 -0.3**
baz=24
126A Clayton Basin, 24.15 327 ⇑P **P 07 43 41.7 -0.6**
baz=24
225A Deer Hill, Car 24.18 325 ⇑P **P 07 43 43.5 +0.9**
baz=24,SNR=6.6
Z27A Tatum 24.26 329 ⇑P **P 07 43 42.9 -0.4**
baz=24,SNR=10
Y28A McKinney Farm, 24.28 332 ⇑P **P 07 43 42.2 -1.2**
baz=24
X29A Tulia 24.49 333 ⇑P **P 07 43 45.1 -0.1**
baz=24,SNR=11
125A Gardner Draw, 24.50 326 ⇑P **P 07 43 45.1 -0.4**
baz=25,SNR=5.1
224A Cornudas Mount 24.55 324 ⇓P **P 07 43 45.9 -0.1**
baz=25
MSTX Muleshoe 24.58 331 ⇑P **P 07 43 45.2 -0.9**
baz=25,SNR=9.0
Z26A Caprock 24.62 328 ⇓P **P 07 43 46.2 -0.3**
baz=25
Y27A Causey 24.70 330 ⇑P **P 07 43 46.7 -0.5**
baz=25,SNR=12
X28A Dimmitt 24.77 333 ⇓P **P 07 43 46.9 -0.9**
baz=25
124A Stringfield Ra 24.98 325 ⇑P **P 07 43 49.8 -0.1**
baz=25
Z25A Roswell 25.01 327 ⇓P **P 07 43 50.4 +0.3**
baz=25,SNR=5.8
Y26A Elida 25.05 329 ⇓P **P 07 43 50.6 +0.1**
baz=25
WCI Wyandotte Cave 25.32 4 *e*P **P 07 43 51.7 -1.0**
5.6nm,0.6s
Z24A Sheeppen Canyo 25.40 326 ⇓P **P 07 43 54.7 +1.0**
baz=26,SNR=8.9
Y25A Mesa, Roswell 25.50 328 ⇑P **P 07 43 55.0 +0.4**
baz=26,SNR=14
X26A CR and CF Fran 25.55 330 ⇑P **P 07 43 55.1 +0.1**
baz=26,SNR=6.2
W27A Bowe Ranch, En 25.61 332 ⇓P **P 07 43 54.9 -0.6**
baz=26,SNR=7.3
V28A Channing 25.82 334 ⇑P **P 07 43 56.7 -0.6**
baz=26
Z23A Rita Site, Whi 25.83 325 ⇓P **P 07 43 57.1 -0.5**
baz=26
Y24A Capitan 25.89 327 ⇓P **P 07 43 57.7 -0.4**
baz=26,SNR=5.1
121A Cookes Peak, D 26.22 321 ⇓P **P 07 44 02.0 +0.9**
baz=26
Y23A Lovelace Mesa, 26.23 326 ⇓P **P 07 44 01.9 +0.7**
baz=26,SNR=6.0
Z22A Elephant Butte 26.25 324 ⇑P **P 07 44 01.4 +0.1**
baz=26
220A Playas Peak, P 26.26 319 ⇑P **P 07 44 02.4 +0.9**
baz=26
X24A Lazy VL Ranch, 26.38 328 ⇑P **P 07 44 03.1 +0.5**
baz=26
W25A X Bar L Ranch, 26.40 330 ⇑P **P 07 44 03.0 +0.3**
baz=26
V26A Tequesquite Ra 26.55 332 ⇓P **P 07 44 04.0 0.0**
baz=27,SNR=9.8
Y22A Socorro 26.74 325 ⇑P **P 07 44 06.3 +0.5**
baz=27
W24A Lazy 6 Ranch, 26.87 329 ⇓P **P 07 44 07.1 +0.1**
baz=27
T28A Walsh 26.95 336 ⇑P **P 07 44 07.9 +0.4**
baz=27
V25A Rancho No Teng 26.98 331 ⇑P **P 07 44 08.2 +0.3**
baz=27,SNR=10.0
U26A Atchley Ranch, 27.03 333 ⇓P **P 07 44 08.3 -0.1**
baz=27,SNR=5.8
ANMO Albuquerque 27.21 327 P **P 07 44 11.6 +1.5**
0.9nm,0.7s,baz=140,slow=11,SNR=6.0
ANMO Albuquerque 27.21 327 P **P 07 44 11.6 +1.5**
W23A Werner Place, 27.21 327 ⇑P **P 07 44 10.3 +0.2**
baz=27
U25A Circle Dot Ran 27.33 332 ⇑P **P 07 44 11.2 +0.1**
baz=27
X21A Alamocita Cree 27.58 324 ⇑P **P 07 44 14.0 +0.6**
baz=28
S26A Kim 27.93 334 ⇑P **P 07 44 16.1 -0.3**
baz=28
T25A Trinidad 27.94 332 ⇓P **P 07 44 16.3 -0.3**
baz=28
U23A El Rito 28.14 329 ⇓P **P 07 44 18.3 0.0**
baz=28,SNR=7.0
R27A Eads 28.23 336 ⇑P **P 07 44 19.0 +0.1**
baz=28
S25A Robets Cordova 28.38 333 ⇓P **P 07 44 20.6 +0.1**
baz=28
R26A Arlington 28.50 335 ⇓P **P 07 44 21.4 0.0**
baz=29
V20A Brimhall 28.94 325 ⇑P **P 07 44 26.7 +1.2**
baz=29
R24A Sanders Place, 29.15 333 ⇑P **P 07 44 26.8 -0.5**
baz=29
Q25A Bedland, Calha 29.35 335 ⇓P **P 07 44 29.1 0.0**
baz=29
R23A Moffat 29.45 332 ⇓P **P 07 44 30.5 +0.5**
baz=30
P26A Davis Ranch, A 29.54 337 ⇓P **P 07 44 30.3 -0.4**
baz=30
S22A 4UR Ranch, Cre 29.57 330 ⇓P **P 07 44 31.5 +0.5**
baz=30
BGNE Belgrade 29.58 345 ⇓P **P 07 44 30.4 -0.4**
baz=30
X16A Lo Mia Camp, P 29.75 320 ⇑P **P 07 44 33.6 +1.0**
baz=30
S21A Coal Bank Pass 29.98 329 ⇑P **P 07 44 35.0 +0.3**
baz=30
MVCO Mesa Verde 30.00 327 ⇑P **P 07 44 35.3 +0.4**
baz=30
P23A Jefferson 30.42 333 ⇓P **P 07 44 38.5 -0.1**
baz=30,SNR=5.2
Q22A Crested Butte, 30.49 331 ⇑P **P 07 44 40.3 +1.0**
baz=30,SNR=5.1
ISCO Idaho Springs 30.67 334 *e*P **P 07 44 41.5 +0.7**
2.1nm,0.8s
ISCO Idaho Springs 30.67 334 ⇑P **P 07 44 41.3 +0.5**
baz=31
P22A Eagle 31.01 332 ⇓P **P 07 44 44.2 +0.5**
baz=31
PV04 Paradox Valley 31.11 328 *e*P **P 07 44 43.9 -0.6**
O23A Lake Granby, G 31.14 334 ⇑P **P 07 44 45.3 +0.4**
baz=31,SNR=5.6
P21A Newcastle 31.27 331 ⇑P **P 07 44 46.2 +0.2**
baz=31
O22A Kremmling 31.38 333 ⇓P **P 07 44 47.4 +0.4**
baz=31
R18A Canyonlands Na 31.61 327 ⇑P **P 07 44 49.6 +0.6**
baz=32
Q19A Hogan Spring (31.71 329 ⇑P **P 07 44 50.5 +0.7**
baz=32
N23A Red Feather La 31.72 335 ⇓P **P 07 44 50.0 0.0**
baz=32
N22A Wattenberg Ran 31.86 334 ⇓P **P 07 44 52.3 +1.1**
baz=32
S16A Weppner Ranch, 32.07 324 ⇓P **P 07 44 54.0 +1.0**
baz=32
R17A Hanksville Air 32.08 326 ⇓P **P 07 44 53.6 +0.6**
baz=32
M23A Laramie 32.11 336 ⇑P **P 07 44 53.7 +0.3**
baz=32
O20A White River Ci 32.12 331 ⇓P **P 07 44 54.7 +1.2**
baz=32,SNR=8.2
Q18A Rafter H Ranch 32.27 328 ⇓P **P 07 44 55.1 +0.4**
baz=32
SPMN St. Paul 32.41 355 ⇓P **P 07 44 54.2 -1.4**
baz=32,SNR=8.0
M22A Cedar Creek Ra 32.42 334 ⇑P **P 07 44 56.1 0.0**
baz=32
SRU San Rafael 32.48 327 ⇑P **P 07 44 56.4 -0.2**
baz=32
L23A Garrett 32.65 336 ⇑P **P 07 44 57.7 -0.3**
baz=33
O19A Miners Draw (B 32.67 330 ⇓P **P 07 44 58.4 +0.2**
baz=33
N20A Spence Gulch, 32.69 332 ⇑P **P 07 44 58.1 -0.3**
baz=33
P18A Preston Nutter 32.72 328 ⇑P **P 07 44 59.6 +0.8**
baz=33
SADO Sadowa 32.79 13 P **P 07 44 57.2 -1.8**
4.5nm,0.6s,baz=230,slow=4.0,SNR=8.0
SADO Sadowa 32.79 13 P **P 07 44 57.2 -1.8**
P17A Butcher Ranch, 32.86 328 ⇓P **P 07 45 00.1 +0.2**
baz=33
M21A Separation Pea 32.91 334 ⇓P **P 07 44 59.9 -0.4**
baz=33
O18A Roosevelt 33.08 329 ⇓P **P 07 45 02.0 +0.3**
baz=33
N19A John Jarvie Ra 33.16 331 ⇓P **P 07 45 02.4 -0.1**
baz=33
K23A Bowen Ranch, D 33.17 337 ⇑P **P 07 45 02.3 -0.1**
baz=33
L21A Rawlins 33.21 334 ⇑P **P 07 45 02.6 -0.3**
baz=33
SAML Samuel 33.36 129 *e*P **P 07 45 04.5 +0.2**
5.0nm,0.9s
K22A Casper 33.43 336 ⇑P **P 07 45 04.1 -0.7**
baz=34
P16A Fountain Green 33.45 327 ⇑P **P 07 45 05.4 +0.4**
baz=34
N18A Larsen Ranch, 33.46 331 ⇑P **P 07 45 05.4 +0.3**
baz=34
K21A Alcova 33.71 335 ⇑P **P 07 45 07.3 0.0**
baz=34
I24A Kuemmerle Ranc 33.76 339 ⇑P **P 07 45 07.0 -0.6**
baz=34
SHOC Shoshone 33.78 317 ⇓P **P 07 45 09.2 +1.4**
baz=34
RSSD Black Hills 33.79 340 *e*P **P 07 45 08.6 +0.7**
2.8nm,0.7s
FMP Fort Macarthur 33.98 313 ⇓P **P 07 45 10.7 +1.3**
baz=34
N17A Moffit Pass 34.00 329 ⇑P **P 07 45 10.4 +0.5**
baz=34
J22A Midwest 34.05 337 ⇓P **P 07 45 09.9 -0.2**
baz=34
K20A Yellowstone Ra 34.19 334 ⇓P **P 07 45 11.6 +0.2**

baz=34
L19A **Farson** 34.20 332 ⇓P P 07 45 11.6 +0.2
baz=34
M17A **Scullys Gap (B** 34.32 330 ⇑P P 07 45 13.0 +0.4
baz=34
J21A **Lysite** 34.38 335 ⇓P P 07 45 13.6 +0.5
baz=34,SNR=8.7
I22A **9 Mile Ranch,** 34.46 337 ⇑P P 07 45 13.8 +0.1
baz=34,SNR=5.6
H24A **Dirks Ranch, A** 34.51 340 ⇓P P 07 45 14.0 -0.1
baz=35
J20A **Shoshoni** 34.65 335 ⇑P P 07 45 16.1 +0.8
baz=35,SNR=6.2
I21A **Big Trails, Te** 34.71 336 ⇑P P 07 45 15.9 0.0
baz=35
BW06 **Boulder Array** 34.81 333 ⇓P P 07 45 16.6 -0.3
baz=35
PDAR **Pinedale Array** 34.81 333 P P 07 45 17.2 +0.3
1.2nm,0.5s,baz=131,slow=9.7,SNR=12
PDAR PcP PcP 07 47 48.0 -0.4
0.3nm,0.7s,baz=152,slow=5.9,SNR=3.8
PDAR **Pinedale Array** 34.81 333 P P 07 45 17.2 +0.3
PDAR PcP PcP 07 47 48.0 -0.4
L17A **Cokeville** 34.90 331 ⇓P P 07 45 17.6 0.0
baz=35
K18A **Toltan Ranch,** 34.93 332 ⇓P P 07 45 19.0 +1.2
baz=35,SNR=5.6
G24A **Alzada** 34.98 341 ⇓P P 07 45 18.0 -0.1
baz=35
J19A **Crowheart** 34.99 334 ⇑P P 07 45 19.1 +0.8
baz=35,SNR=7.1
EYMN **Ely** 35.02 357 *eP* P 07 45 16.8 -1.5
2.8nm,0.7s
ARVC **Arvin** 35.09 314 ⇓P P 07 45 20.6 +1.6
baz=35
L16A **Fish Haven** 35.11 330 ⇓P P 07 45 19.4 +0.1
baz=35
I20A **Worland** 35.16 335 ⇑P P 07 45 20.4 +0.8
baz=35,SNR=13
G23A **Biddle** 35.20 339 ⇓P P 07 45 20.1 +0.2
baz=35
M15A **Larsen Ranch,** 35.21 328 ⇓P P 07 45 20.3 +0.2
baz=35
H21A **Big Horn, Sher** 35.30 337 ⇓P P 07 45 21.0 +0.1
baz=35,SNR=5.9
J18A **Kendall Valley** 35.37 333 ⇓P P 07 45 22.0 +0.4
baz=35,SNR=8.5
F24A **Ekalaka** 35.45 341 ⇑P P 07 45 21.3 -0.7
baz=36
G22A **Birney** 35.53 338 ⇑P P 07 45 22.3 -0.5
baz=36
H20A **Greybull** 35.55 336 ⇓P P 07 45 23.1 +0.2
baz=36,SNR=8.8
L15A **Malad City** 35.57 329 ⇑P P 07 45 23.5 +0.2
baz=36,SNR=5.6
I19A **Meeteetse** 35.59 335 ⇓P P 07 45 23.1 -0.3
baz=36
F23A **Volborg** 35.66 340 ⇑P P 07 45 23.5 -0.3
baz=36
I18A **Diamond G Ranc** 35.67 333 ⇓P P 07 45 24.8 +0.6
baz=36,SNR=8.6
AGMN **Agassiz Nation** 35.79 352 *eP* P 07 45 24.1 -0.7
6.1nm,0.6s
J17A **Brown Place, J** 35.80 332 ⇑P P 07 45 26.2 +1.0
baz=36,SNR=8.6
REDW **Red Top Meadow** 35.87 332 *eP* P 07 45 26.4 +0.6
7.6nm,0.6s
G21A **Lodge Grass** 35.87 337 ⇑P P 07 45 25.4 -0.2
baz=36,SNR=5.5
SNOW **Snow King Moun** 35.90 332 *eP* P 07 45 27.4 +1.3
11nm,0.6s
LOHW **Long Hollow** 35.95 332 *eP* P 07 45 27.5 +1.0
1.8nm,0.6s
F22A **Rosebud** 36.00 339 ⇑P P 07 45 26.6 -0.1
baz=36
TPAW **Teton Pass** 36.01 332 *eP* P 07 45 27.8 +0.7
4.7nm,0.8s
MDND **Maddock** 36.01 347 ⇑P P 07 45 26.4 -0.4
baz=36
L14A **Malta** 36.03 328 ⇑P P 07 45 27.5 +0.4
baz=36
E24A **Baker** 36.05 342 ⇓P P 07 45 27.4 +0.3
baz=36
RRI2 **Red Ridge** 36.07 332 *eP* P 07 45 28.3 +0.6
3.5nm,0.7s
H19A **Powell** 36.10 335 ⇓P P 07 45 28.2 +0.5
baz=36,SNR=5.9
MOOW **Moose Ponds** 36.12 333 *eP* P 07 45 28.8 +0.8
2.4nm,0.7s
K15A **Arbon** 36.15 330 ⇑P P 07 45 28.6 +0.5
baz=36,SNR=5.0
J16A **Bone** 36.15 331 ⇑P P 07 45 28.1 -0.1
baz=36
I17A **Pilgrim Ck.** 36.18 333 ⇓P P 07 45 29.1 +0.6
baz=36
G20A **Bridger** 36.25 336 ⇑P P 07 45 28.6 -0.3
baz=36
IMW **Indian Meadow** 36.32 332 *eP* P 07 45 31.1 +1.3
3.1nm,0.6s
FLWY **Flagg Ranch** 36.36 333 *eP* P 07 45 31.5 +1.4
32nm,2.1s
K14A **Jones Ranch, D** 36.37 329 ⇑P P 07 45 30.6 +0.6
baz=36,SNR=11
H18A **Shoshone NF, C** 36.39 335 ⇑P P 07 45 30.8 +0.5
baz=36
E22A **Miles City** 36.47 340 ⇑P P 07 45 31.0 +0.3
baz=36
D24A **Glendive** 36.55 342 ⇓P P 07 45 31.4 0.0
baz=37
H17A **Grant Village** 36.55 333 ⇓P P 07 45 31.9 +0.2
baz=37
NVAR **Mina Array Bea** 36.57 319 P P 07 45 33.9 +2.0
1.3nm,0.7s,baz=129,slow=7.1,SNR=16
NVAR PcP PcP 07 47 55.2 +1.5
1.6nm,0.6s,baz=123,slow=3.3,SNR=15
NVAR LR LR 08 01 23.6
comp=Z,463nm,18.1s,baz=132,slow=37
NVAR **Mina Array Bea** 36.57 319 P P 07 45 33.9 +2.0
NVAR PcP PcP 07 47 55.2 +1.5
RLMT **Red Lodge** 36.59 335 ⇓P P 07 45 32.1 +0.1
baz=37
J15A **Blackfoot** 36.64 331 ⇓P P 07 45 32.4 +0.1
baz=37
F20A **Billings** 36.71 337 ⇑P P 07 45 33.3 +0.5
baz=37
G18A **Lazy EL Ranch,** 36.87 335 ⇑P P 07 45 34.6 +0.3
baz=37,SNR=12
D23A **Lindsay** 36.87 341 ⇓P P 07 45 34.6 +0.4
baz=37
F19A **Roth Farm, Mol** 37.06 336 ⇑P P 07 45 35.9 +0.1
baz=37
H16A **Russell Place,** 37.09 333 ⇓P P 07 45 36.4 +0.1
baz=37
J14A **Carey** 37.11 329 ⇑P P 07 45 36.6 +0.3
baz=37
D22A **Cohagen** 37.16 340 ⇓P P 07 45 37.0 +0.4
baz=37
E20A **Meyer Farm, Mu** 37.29 338 ⇑P P 07 45 38.4 +0.6
baz=37,SNR=9.8
G17A **Pierce Place,** 37.36 334 ⇑P P 07 45 40.7 +2.2
baz=37,SNR=6.2
D21A **La Casta Ranch** 37.37 339 ⇑P P 07 45 39.0 +0.6
baz=37
F18A **Big Timber** 37.41 336 ⇑P P 07 45 39.1 +0.3
baz=38,SNR=15
C23A **Lambert** 37.42 342 ⇑P P 07 45 39.2 +0.5
baz=38
J13A **Cove Ranch, Pi** 37.49 329 ⇑P P 07 45 39.9 +0.3
baz=38
E19A **Rath Farm, Rou** 37.50 337 ⇓P P 07 45 39.8 +0.2
baz=38
C22A **Vida** 37.59 341 ⇑P P 07 45 40.2 0.0
baz=38
H15A **Lima** 37.66 332 ⇓P P 07 45 42.7 +1.7
baz=38,SNR=5.1
ULM **Lac du Bonnet** 37.71 352 P P 07 45 39.2 -1.9
4.3nm,0.6s,baz=167,slow=8.9,SNR=14
ULM **Lac du Bonnet** 37.71 352 *eP* P 07 45 39.8 -1.3
4.3nm,0.6s
HLID **Hailey** 37.73 329 *eP* P 07 45 42.6 +1.0
1.2nm,0.6s
HLID **Hailey** 37.73 329 ⇓P P 07 45 42.1 +0.5
baz=38
DGMT **Dagmar** 37.73 343 *eP* P 07 45 41.9 +0.6
15nm,0.6s
DGMT **Dagmar** 37.73 343 ⇑P P 07 45 41.1 -0.2
baz=38
G16A **Moss Hill, Enn** 37.75 333 ⇓P P 07 45 42.4 +0.7
baz=38
D20A **Manuel Ranch,** 37.79 338 ⇓P P 07 45 42.4 +0.5
baz=38
F17A **Fitzpatrick Pl** 37.79 335 ⇓P P 07 45 43.3 +1.3
baz=38,SNR=7.8
I13A **Wildhorse Cree** 37.84 330 ⇑P P 07 45 43.5 +0.9
baz=38
MCMT **McKenzie Canyo** 37.91 332 *eP* P 07 45 44.5 +1.3
3.0nm,0.6s
B23A **Brockton** 37.96 342 ⇑P P 07 45 43.3 +0.1
baz=38
H14A **Leadore** 37.99 331 ⇓P P 07 45 42.1 +1.3
baz=38,SNR=6.2
BOZ **Bozeman (W)** 38.00 334 ⇑P P 07 45 43.9 +0.1
baz=38
G15A **Dillon** 38.01 332 ⇑P P 07 45 44.5 +0.6
baz=38
E18A **Harlowton** 38.03 336 ⇓P P 07 45 44.8 +0.8
baz=38,SNR=5.3
A24A **Westby** 38.09 344 ⇑P P 07 45 44.1 -0.2
baz=38
F16A **Kennard Place,** 38.11 334 ⇑P P 07 45 45.7 +1.0
baz=38,SNR=8.6
D19A **Cripps Ranch,** 38.13 338 ⇑P P 07 45 45.7 +0.9
baz=38,SNR=14
I12A **Atlanta** 38.26 329 ⇓P P 07 45 46.6 +0.5
baz=38
E17A **Martinsdale** 38.32 335 ⇑P P 07 45 46.9 +0.3
baz=38
A23A **Redstone** 38.37 343 ⇑P P 07 45 47.0 +0.3
baz=38
H13A **Challis** 38.38 330 ⇓P P 07 45 47.7 +0.6
baz=38
LRM **Limekiln Ridge** 38.50 333 *eP* P 07 45 48.8 +0.7
26nm,0.6s
D18A **Linhart Farms,** 38.50 337 ⇓P P 07 45 48.2 +0.2
baz=38
G14A **Jackson** 38.51 332 ⇓P P 07 45 48.4 +0.2
baz=39
F15A **Butte** 38.53 333 ⇓P P 07 45 48.7 +0.4
baz=39
H12A **Diamond D Ranc** 38.66 330 ⇑P P 07 45 50.2 +0.7
baz=39
C19A **Slack Wire Ran** 38.67 338 ⇓P P 07 45 50.1 +0.8
baz=39,SNR=23
A22A **Carney Farms,** 38.71 342 ⇓P P 07 45 49.9 +0.3
baz=39
E16A **East Helena** 38.72 334 ⇑P P 07 45 50.6 +0.8
baz=39,SNR=5.3
G13A **Cobalt** 38.76 331 ⇑P P 07 45 50.3 +0.1
baz=39
D17A **Six Diamond Ra** 38.81 336 ⇑P P 07 45 51.2 +0.6
baz=39,SNR=14
F14A **Wisdom** 38.90 332 ⇑P P 07 45 51.6 +0.2
baz=39
B20A **Solberg Farm,** 38.90 339 ⇓P P 07 45 51.4 +0.2
baz=39
A21A **Bergtoll Ranch** 39.02 341 ⇓P P 07 45 52.2 0.0
baz=39
E15A **Deer Lodge** 39.05 334 ⇑P P 07 45 53.3 +0.8
baz=39,SNR=5.8
D16A **Dana Ranch, Ca** 39.06 335 ⇑P P 07 45 53.2 +0.6
baz=39,SNR=7.4
EGMT **Eagleton** 39.17 338 *eP* P 07 45 54.2 +0.7
16nm,0.6s
EGMT **Eagleton** 39.17 338 ⇓P P 07 45 53.8 +0.3
baz=39,SNR=11
C17A **Wharram Farm,** 39.23 336 ⇓P P 07 45 54.4 +0.4
baz=39,SNR=7.8
B19A **Brinkman Farms** 39.24 339 ⇓P P 07 45 54.8 +0.8
baz=39,SNR=5.5
A20A **Cobblestone Ra** 39.25 340 ⇑P P 07 45 55.0 +0.9
baz=39,SNR=7.7
G12A **Big Creek, Yel** 39.31 330 ⇓P P 07 45 55.0 +0.1
baz=39
F13A **Darby** 39.33 331 ⇑P P 07 45 54.7 -0.2
baz=39
E14A **Clinton** 39.42 333 ⇓P P 07 45 56.3 +0.6
baz=40
D15A **Lincoln** 39.48 334 ⇓P P 07 45 56.8 +0.6
baz=40,SNR=7.2
B18A **Beardsley Farm** 39.49 338 ⇓P P 07 45 56.8 +0.6
baz=40,SNR=6.2
A19A **Klindworth Far** 39.57 339 ⇓P P 07 45 57.1 +0.3
baz=40
SIV **San Ignacio** 39.62 136 P P 07 45 58.6 +1.0
2.1nm,0.6s,baz=320,slow=10,SNR=13
SIV PcP PcP 07 48 04.8 +1.6
2.0nm,0.7s,baz=320,slow=4.8,SNR=7.7
SIV **San Ignacio** 39.62 136 P P 07 45 58.6 +1.0
SIV PcP PcP 07 48 04.8 +1.6
CHMT **Chamberlain Mo** 39.69 334 *eP* P 07 45 58.4 +0.3
F12A **Elk City** 39.74 331 ⇓P P 07 45 58.6 +0.3
baz=40
E13A **Victor** 39.75 332 ⇓P P 07 45 58.0 -0.4
baz=40,SNR=5.4
C16A **Fuhringer Ranc** 39.76 336 ⇑P P 07 45 58.9 +0.4
baz=40,SNR=7.2
B17A **L&G Farms, Che** 39.79 337 ⇓P P 07 45 58.6 0.0
baz=40,SNR=5.7
MSO **Missoula** 39.93 333 ⇑P P 07 45 59.6 -0.3
baz=40
A18A **Metzger Ranch,** 39.95 338 ⇑P P 07 46 00.3 +0.4
baz=40,SNR=10
C15A **Salmond Ranch,** 40.09 335 ⇑P P 07 46 01.7 +0.4
baz=40,SNR=5.6
B16A **M & M Farms, S** 40.24 336 ⇓P P 07 46 02.2 -0.2
baz=40
A17A **Triple J Farms** 40.29 338 ⇑P P 07 46 02.8 0.0
baz=40,SNR=9.3
D13A **Huson** 40.36 333 ⇑P P 07 46 03.1 -0.3
baz=40
E12A **Beaver Dam Sad** 40.37 331 ⇓P P 07 46 03.5 0.0
baz=40
B15A **Bradely Ranch,** 40.50 335 ⇑P P 07 46 04.8 +0.3
baz=40,SNR=5.5
C14A **Swan Lake** 40.57 334 ⇓P P 07 46 05.6 +0.5
baz=41
D12A **Red Ives Fores** 40.74 332 ⇓P P 07 46 06.5 0.0
baz=41
B14A **Marquette Ranc** 40.83 335 ⇑P P 07 46 07.5 +0.2
baz=41
A15A **Johnson Ranch,** 41.10 336 ⇓P P 07 46 10.0 +0.5
baz=41,SNR=8.6
B13A **Whitefish** 41.34 334 ⇑P P 07 46 11.6 +0.2
baz=41
WALA **Waterton Lakes** 41.64 335 *eP* P 07 46 14.5 +0.6
0.6nm,1.7s
C11A **Te-Moak Creek (N** 41.73 332 ⇑P P 07 46 15.0 +0.4
baz=42
A13A **Flathead Natio** 41.75 335 ⇑P P 07 46 15.0 +0.3
baz=42
B12A **Libby** 41.90 333 ⇓P P 07 46 16.3 +0.4
baz=42
A12A **Yaak River Ran** 42.28 334 ⇓P P 07 46 19.5 +0.5
baz=42
FFC **Flin Flon** 43.01 349 *eP* P 07 46 24.5 -0.3
4.3nm,0.6s
SCHQ **Schefferville** 45.21 18 P P 07 46 40.6 -1.7
3.5nm,0.7s,baz=226,slow=10,SNR=8.4
SCHQ **Schefferville** 45.21 18 P P 07 46 40.6 -1.7
BDFB **Brasilia** 49.23 124 P P 07 47 13.7 -0.6
1.9nm,0.6s,baz=294,slow=10.0,SNR=4.3
BDFB **Brasilia** 49.23 124 P P 07 47 13.7 -0.6
YKA **Yellowknife Ar** 52.87 345 P P 07 47 40.0 -0.6
4.5nm,0.7s,baz=140,slow=7.7,SNR=115
YKA **Yellowknife Ar** 52.87 345 P P 07 47 40.0 -0.6
YKW3 **Yellowknife Ar** 52.93 345 *eP* P 07 47 40.1 -1.0
0.1nm,0.6s
DLBC **Dease Lake** 54.99 335 *eP* P 07 47 57.4 +1.1
RES **Resolute Bay** 61.87 358 *eP* P 07 48 42.2 -1.6
1.9nm,0.6s
INK **Inuvik** 62.42 343 P P 07 48 47.3 -0.2
5.0nm,0.7s,baz=127,slow=6.3,SNR=29
INK **Inuvik** 62.42 343 *eP* P 07 48 47.5 -0.1
6.0nm,0.8s
ILAR **Eielson Array** 65.12 336 P P 07 49 04.8 -0.6
1.7nm,0.7s,baz=148,slow=4.6,SNR=34
ILAR **Eielson Array** 65.12 336 P P 07 49 04.8 -0.6
MKAR **Makanchi Array** 120.03 7 PKP PKPdf 07 57 12.9 -2.0
0.4nm,0.9s,baz=299,slow=3.0,SNR=2.8
MKAR **Makanchi Array** 120.03 7 PKP PKPdf 07 57 12.9 -2.0
WRA **Warramunga Arr** 138.23 254 PKP PKPdf 07 57 52.1 +2.1
1.0nm,0.7s,baz=87,slow=2.4,SNR=16
WRA **Warramunga Arr** 138.23 254 PKP PKPdf 07 57 52.1 +2.1
ASAR **Alice Springs** 138.31 249 PKhKP PKPpre 07 57 47.2
0.5nm,0.9s,baz=102,slow=2.8,SNR=3.6
ASAR PKP PKiKP 07 57 51.7 -0.6
0.4nm,0.8s,baz=83,slow=1.1,SNR=5.9
ASAR **Alice Springs** 138.31 249 PKPpre PKPpre 07 57 47.2
ASAR PKP PKiKP 07 57 51.7 -0.6
FITZ **Fitzroy Crossi** 146.55 257 *e*PKPbc PKPab 07 58 07.7 +0.1
CMAR **Chiang Mai Arr** 147.94 346 PKPbc PKPdf 07 58 08.1 +0.9
1.2nm,0.7s,baz=336,slow=3.1,SNR=6.4
CMAR **Chiang Mai Arr** 147.94 346 PKPbc PKPdf 07 58 08.1 +0.9

IDC ***06*** *08:01:44.4±1.4, 6.°22S×130.°28E, h0km, mb4.2/3, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, ML3.9/3, Error ellipse: s-maj=76.8km s-min=21.1km az=72.0*

ISCJB ***06*** *08:01:60.0±0.9, 6.°93S±0.°06×129.°42E±0.°10, h146km, mb3.9/3, Error ellipse: s-maj=13.6km s-min=8.3km az=178.5*

AUST ***06*** *08:02:03.6±3.5, 6.°94S×129.°66E, h156km±1km, Error ellipse: s-maj=3.7km s-min=1.5km az=311.0*

ISC 06 08:02:00.8±1.0, 6.°92S±0.°08×129.°5E±0.°1, h146km, n11, σ1°67/14, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TLE	**Tual**	**3.48**	**69**	P		**Pn**	**08 02 54.4**	**+0.2**
	baz=3.3,SNR=23							
MTN	**Manton Dam**	**6.10**	**165**	P		Pn	08 03 32.7	+3.9
	baz=6.1,SNR=3.7							
MTN				S		**Sn**	**08 04 38.2**	**+0.5**
	baz=6.1,SNR=8.5							
KDU	**Kakadu**	**6.44**	**153**	P		**Pn**	**08 03 35.1**	**+1.8**
	baz=6.4,SNR=119							
KDU				S		**Sn**	**08 04 44.5**	**-1.3**
	baz=6.4,SNR=10.0							
FITZ	**Fitzroy Crossi**	**11.73**	**198**	Pn		**Pn**	**08 04 45.3**	**+1.7**
	0.4nm,0.3s,baz=32,slow=12,SNR=16							
FITZ				Sn		**Sn**	**08 06 51.0**	**-2.2**
	0.7nm,0.3s,baz=133,slow=20,SNR=7.5							
FITZ	**Fitzroy Crossi**	**11.73**	**198**	P		**P**	**08 04 48.1**	**-2.8**
	baz=12,SNR=5.6							
WRA	**Warramunga Arr**	**13.77**	**160**	Pn		**Pn**	**08 05 09.0**	**-1.1**
	0.5nm,0.3s,baz=347,slow=13,SNR=29							
WRA				Sn		Sn	08 07 33.6	-9.0
	0.5nm,0.3s,baz=341,slow=21,SNR=6.4							
COEN	**Coen**	**15.16**	**119**	P		**P**	**08 05 29.9**	**+0.7**
	baz=15,SNR=6.5							
ASAR	**Alice Springs**	**17.18**	**166**	P		**Pn**	**08 05 54.5**	**+2.3**
	0.8nm,0.3s,baz=345,slow=9.3,SNR=67							
ASAR				S		**S**	**08 09 02.1**	**-1.1**
	0.2nm,0.3s,baz=348,slow=22,SNR=4.3							
STKA	**Stephens Creek**	**27.28**	**157**	P		**P**	**08 07 32.6**	**+1.0**
	1.0nm,0.5s,baz=336,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**67.88**	**327**	P		**P**	**08 12 44.3**	**+0.8**
	1.1nm,0.4s,baz=116,slow=7.8,SNR=22							
KURBB	**Kurchatov Arra**	**72.18**	**329**	P		**P**	**08 13 09.6**	**0.0**
	0.8nm,0.3s,baz=132,slow=5.4,SNR=5.4							

ISCJB ***06*** *08:03:46.1±1.5, 52.°5N±0.°2×169.°4W±0.°1, h50km±11km, mb3.3/5, Error ellipse: s-maj=26.8km s-min=10.8km az=157.8*

NEIC ***06*** *08:03:48.7, 52.°49N×168.°98W, h6km, ML2.9(AEIC), After AEIC.*

IDC ***06*** *08:03:48.9±3.5, 52.°64N×169.°31W, h50km±33km, mb3.1/5, mb1 3.5/9, mb1mx3.3/33, mbtmp3.4/9, ML3.1/3, Error ellipse: s-maj=46.6km s-min=19.4km az=178.0*

ISC 06 08:03:47.1±1.6, 52.°5N±0.°2×169.°5W±0.°1, h41km±12km, n17, σ0°96/23, mb3.2/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.58**	**41**	P		**Pn**	**08 03 58.0**	**-0.9**
NIKO				S		**Sn**	**08 04 06.5**	**-0.8**
OKSO	**Okmok South**	**1.14**	**44**	P		**Pn**	**08 04 06.5**	**-0.1**
OKSO				S		**Sn**	**08 04 22.6**	**+1.5**
OKCE	**Okmok Cone E**	**1.19**	**41**	P		**Pn**	**08 04 07.7**	**+0.4**
OKCE				S		**Sn**	**08 04 24.0**	**+1.7**
OKAK	**Okmok**	**1.24**	**33**	P		**Pn**	**08 04 07.2**	**-0.8**
OKFG	**Magazine Ridge**	**1.29**	**47**	P		**Pn**	**08 04 08.7**	**+0.1**
OKFG				S		**Sn**	**08 04 25.5**	**+0.9**
MREP	**Makushin Rep't**	**2.08**	**51**	P		**Pn**	**08 04 20.3**	**+0.8**
MSW	**Makushin Switc**	**2.12**	**49**	P		**Pn**	**08 04 20.7**	**+0.5**
MSW				S		**Sn**	**08 04 46.3**	**+1.0**
UNV	**Unalaska Valle**	**2.22**	**53**	P		**Pn**	**08 04 21.4**	**0.0**
UNV				S		**Sn**	**08 04 47.1**	**-0.4**
FX1	**Attu Island--F**	**10.54**	**279**	P		Pn	08 06 20.2	+4.7
	0.7nm,0.3s,baz=11,slow=5.2,SNR=3.9							
KDAK	**Kodiak Island**	**10.98**	**55**	P		**Pn**	**08 06 19.8**	**-1.7**
	0.3nm,0.3s,baz=209,slow=10,SNR=2.7							
ILAR	**Eielson Array**	**16.85**	**35**	P		**Pn**	**08 07 38.0**	**-1.6**
	0.0nm,0.3s,baz=227,slow=9.8,SNR=2.5							
PETK	**Petropavlovsk-**	**19.75**	**285**	P		**P**	**08 08 14.0**	**+0.6**
	0.3nm,0.3s,baz=95,slow=11,SNR=4.2							
INK	**Inuvik**	**23.24**	**34**	P		**P**	**08 08 49.7**	**-0.6**
	0.7nm,0.7s,baz=221,slow=8.9,SNR=3.6							
YKA	**Yellowknife Ar**	**30.18**	**49**	P		**P**	**08 09 53.5**	**+0.5**
	0.2nm,0.4s,baz=272,slow=7.6,SNR=9.7							
PDAR	**Pinedale Array**	**40.44**	**79**	P		**P**	**08 11 21.9**	**+0.3**
	0.3nm,0.5s,baz=287,slow=2.9,SNR=5.7							
TXAR	**Lajitas Array**	**52.81**	**89**	P		**P**	**08 12 57.8**	**-0.6**
	0.1nm,0.6s,baz=300,slow=7.1,SNR=3.3							
TXAR				pP		**pP**	**08 13 10.6**	**+0.5**
	0.4nm,0.7s,baz=305,slow=6.1,SNR=5.4							
BVAR	**Borovoye Array**	**63.52**	**324**	P		**P**	**08 14 13.1**	**+0.3**
	0.5nm,0.5s,baz=41,slow=8.0,SNR=4.5							

ISCJB ***06*** *08:06:44.9±0.5, 24.°46N±0.°04×122.°43E±0.°02, h50km±10km, Error ellipse: s-maj=6.1km s-min=2.8km az=174.7*

TAP ***06*** *08:06:44.7, 24.°50N×122.°43E, h46km, ML3.3, D*

JMA ***06*** *08:06:44.7±0.2, 24.°68N×122.°49E, h58km, M2.9*

ISC 06 08:06:45.4±1.3, 24.°47N±0.°04×122.°43E±0.°02, h44km±18km, n35, σ0°61/65, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**91**	P		**Pn**	**08 06 56.8**	**+0.1**
YOJ				S		**Sn**	**08 07 05.4**	**+0.7**
TWC	**Suao**	**0.55**	**285**	*i* P		**Pn**	**08 06 56.5**	**-0.4**
	baz=281							
TWC				*i* S		**Sn**	**08 07 05.4**	**+0.3**
	baz=281							
ENA	**Nanau**	**0.63**	**266**	*e*P		**Pn**	**08 06 58.2**	**+0.2**
	baz=263							
ENA				S		**Sn**	**08 07 07.5**	**+0.5**
	baz=263							
TWB1	**Santiao Chiao**	**0.67**	**323**	P		**Pn**	**08 06 58.0**	**-0.5**
	baz=322							
TWB1				*e*S		**Sn**	**08 07 07.5**	**-0.5**
	baz=322							
ILA	**Ilan**	**0.69**	**295**	*e*P		**Pn**	**08 06 58.5**	**-0.2**
	baz=293							
ILA				*e*S		**Sn**	**08 07 08.5**	**+0.1**
	baz=293							
TWE	**Neicheng**	**0.74**	**290**	*i* P		**Pn**	**08 06 59.1**	**-0.2**
	baz=287							
TWE				S		**Sn**	**08 07 09.6**	**0.0**
	baz=287							
ENTT	**Nioudou**	**0.80**	**282**	*i* P		**Pn**	**08 07 00.6**	**+0.3**
	baz=279							
ENTT				*e*S		**Sn**	**08 07 11.3**	**+0.1**
	baz=279							
NWF	**Wu-fen Shan**	**0.84**	**315**	*e*P		**Pn**	**08 06 59.9**	**-1.0**
	baz=313							
NWF				*e*S		**Sn**	**08 07 12.1**	**0.0**
	baz=313							
TWD	**Chiawan**	**0.85**	**243**	*e*P		**Pn**	**08 07 00.6**	**-0.4**
	baz=240							
TWD				*e*S		**Sn**	**08 07 11.8**	**-0.6**
	baz=240							
NNS	**Nan Shan**	**0.96**	**268**	*e*P		**Pn**	**08 07 02.5**	**-0.1**
	baz=266							
NNS				*e*S		**Sn**	**08 07 15.5**	**+0.3**
	baz=266							
NSK	**Sanguang**	**1.00**	**282**	*i* P		**Pn**	**08 07 03.0**	**0.0**
	baz=280							
NSK				S		**Sn**	**08 07 16.2**	**+0.3**
	baz=280							
TWS1	**Kuangyinshan**	**1.11**	**304**	P		**Pn**	**08 07 04.3**	**-0.2**
	baz=303							
TWS1				*e*S		**Sn**	**08 07 18.9**	**+0.3**
	baz=303							
ESL	**Shilin**	**1.12**	**234**	*e*P		**Pn**	**08 07 04.9**	**+0.3**
	baz=232							
ESL				*e*S		**Sn**	**08 07 17.9**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=232						
TWT	Tachien	1.16	259	P	Pn	08 07 05.6	+0.2
	baz=257						
TWT				S	Sn	08 07 20.5	+0.3
	baz=257						
IRIF	Iriomote-Funau	1.19	96	P	Pn	08 07 05.0	-0.6
IRIF				S	Sn	08 07 20.5	-0.2
NSTT	Nanjuang	1.31	277	*e*P	Pn	08 07 07.4	+0.1
	baz=275						
NSTT				*e*S	Sn	08 07 23.9	+0.4
	baz=275						
HATJ	Hateruma jima	1.32	108	*e*S	Sn	08 07 25.6	+1.8
EHY	Hungye	1.40	227	*e*P	Pn	08 07 08.2	-0.2
	baz=225						
JKRS	Kuro-shima	1.46	99	P	Pn	08 07 09.1	-0.2
JKRS				*e*S	Sn	08 07 27.7	+0.5
SMLT	Sun Moon Lake	1.52	248	*e*P	Pn	08 07 10.6	+0.5
	baz=246						
SMLT				*e*S	Sn	08 07 28.5	-0.2
	baz=246						
TWQ1	Liyutan	1.52	266	*e*P	Pn	08 07 10.6	+0.5
	baz=264						
TWQ1				*e*S	Sn	08 07 29.0	+0.5
	baz=264						
TWF1	Yuli	1.52	223	*e*P	Pn	08 07 09.7	-0.5
	baz=221						
TYC	Yuchr	1.54	249	P	Pn	08 07 10.7	+0.3
	baz=247						
TYC				*e*S	Sn	08 07 29.5	+0.3
	baz=247						
JIJ	Ishigaki jima	1.57	94	P	Pn	08 07 09.9	-0.8
JIJ				*e*S	Sn	08 07 29.0	-0.8
YUS	Yu-Shan	1.67	234	*e*S	Sn	08 07 31.7	-1.3
	baz=233						
WNT	Mingjian	1.70	250	*e*S	Sn	08 07 33.5	+0.4
	baz=248						
ALS	Alishan	1.77	238	*e*P	Pn	08 07 14.2	+0.4
	baz=236						
ALS				*e*S	Sn	08 07 34.5	-0.7
	baz=236						
ELDTW	Lidau	1.82	226	*e*P	Pn	08 07 13.7	-0.6
	baz=224						
ELDTW				*e*S	Sn	08 07 34.4	-1.8
	baz=224						
CHN5	Tsauling	1.82	242	*e*P	Pn	08 07 14.9	+0.6
	baz=240						
CHN5				*e*S	Sn	08 07 36.6	+0.4
	baz=240						
CHN4	Tsaushan	2.02	237	*e*P	Pn	08 07 17.7	+0.8
	baz=235						
CHN4				*e*S	Sn	08 07 41.5	+0.6
	baz=235						
TWG	Pinlang	2.06	217	*e*P	Pn	08 07 16.6	-0.9
	baz=216						
TWG				*e*S	Sn	08 07 42.0	0.0
	baz=216						
WTP	Ta-pu	2.06	234	*e*P	Pn	08 07 18.9	+1.3
	baz=232						
WTP				*e*S	Sn	08 07 41.9	-0.3
	baz=232						
JTJ	Tarama	2.08	85	P	Pn	08 07 17.8	+0.1
JTJ				*e*S	Sn	08 07 42.8	+0.4
TWK	Hsinying	2.14	236	*e*P	Pn	08 07 19.3	+0.6
	baz=235						
TWK				*e*S	Sn	08 07 44.5	+0.4
	baz=235						
CHN1	Nanshi	2.16	234	*e*P	Pn	08 07 19.5	+0.6
	baz=233						
CHN1				*e*S	Sn	08 07 44.7	+0.2
	baz=233						

ISK ***06*** *08:11:54.8, 40°.64N×37°.04E, h8km, MD3.0*
ISCJB ***06*** *08:11:55.3±0.7, 40°.63N±0°.04×37°.01E±0°.04, h1km±7km, Error ellipse: s-maj=7.9km s-min=4.1km az=23.0*
CSEM ***06*** *08:11:55.4±0.1, 40°.63N×37°.01E, h5km, MD2.9, Error ellipse: s-maj=5.3km s-min=2.7km az=16.0*
DDA ***06*** *08:11:55.1, 40°.61N×37°.00E, h7km, MD2.9*
ISC 06 08:11:55.6±0.9**, 40°.62N**±0°.04×**37°.02E**±0°.02**, h11**km±8km**, n29,** σ**0s.75**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBA	Erbaa	0.21	286	*i* P	Pg	08 11 59.6	-0.5
ERBA				*i* S	Sg	08 12 03.4	+0.3
ERBA	Erbaa	0.21	286	*i* P	Pg	08 11 59.6	-0.5
ERBA				*i* S	Sg	08 12 03.4	+0.3
RSDY	Resadiye-TOKAT	0.33	134	*e*PG	Pg	08 12 01.6	-0.5
RSDY				*e*SG	Sg	08 12 06.5	0.0
RSDY	Resadiye-TOKAT	0.33	134	*e*Pg	Pg	08 12 01.6	-0.5
RSDY				*e*Sg	Sg	08 12 06.5	0.0
TOKA	Tokat	0.51	234	*i* P	Pg	08 12 04.2	-1.3
TOKA				*i* S	Sg	08 12 12.5	+0.2
TOKA	Tokat	0.51	234	*i* P	Pg	08 12 04.2	-1.3
TOKA				*i* S	Sg	08 12 12.5	+0.2
KVT	Kavak	0.87	302	*e*PG	Pg	08 12 12.0	-0.3
KVT				*e*SG	Sb	08 12 24.7	+0.3
KVT	Kavak	0.87	302	*e*Pg	Pg	08 12 12.0	-0.3
KVT				*e*Sg	Sb	08 12 24.7	+0.3
SUSE	Susehri	0.99	114	*i* P	Pb	08 12 15.0	+0.1
SUSE				*i* S	Sb	08 12 29.1	+1.1
SUSE	Susehri	0.99	114	*i* P	Pb	08 12 15.0	+0.1
SUSE				*i* S	Sb	08 12 29.1	+1.1
ESPY	Espiye-Giresun	1.33	77	*e*PN	Pn	08 12 19.9	-0.2
ESPY				*e*SN	Sb	08 12 38.3	+0.7
ESPY	Espiye-Giresun	1.33	77	*e*Pn	Pn	08 12 19.9	-0.2
ESPY				*e*Sn	Sb	08 12 38.3	+0.7
ILIC	ilic-Erzincan	1.67	134	*e*PN	Pn	08 12 25.3	+0.4
ILIC	ilic-Erzincan	1.67	134	*e*Pn	Pn	08 12 25.3	+0.4
DIKM	Dikmen	1.68	308	*e*PN	Pn	08 12 25.2	+0.3
DIKM	Dikmen	1.68	308	*e*Pn	Pn	08 12 25.2	+0.3
KEMA	Kemaliye	1.76	140	*i* P	Pb	08 12 28.0	0.0
KEMA				*i* S	Sg	08 12 52.6	+0.3
KEMA	Kemaliye	1.76	140	*i* P	Pb	08 12 28.0	0.0
KELT	Kelkit	1.77	105	*i* P	Pn	08 12 27.4	+1.0
KELT				*i* S	Sn	08 12 47.0	-2.0
KELT	Kelkit	1.77	105	*i* P	Pn	08 12 27.4	+1.0
CORM	Corum	1.88	257	*e*PN	Pn	08 12 28.4	+0.6
CORM	Corum	1.88	257	*e*Pn	Pn	08 12 28.4	+0.6
GUMT	Gumushane	1.88	94	*e*PN	Pn	08 12 28.7	+0.9
GUMT	Gumushane	1.88	94	*e*Pn	Pn	08 12 28.7	+0.9
BNN	Bunyan	1.99	207	*e*PN	Pn	08 12 29.9	+0.6
BNN	Bunyan	1.99	207	*e*Pn	Pn	08 12 29.9	+0.6
EZC	Erzincan	1.99	115	*e*PN	Pn	08 12 30.3	+1.0
EZC	Erzincan	1.99	115	*e*Pn	Pn	08 12 30.3	+1.0
MACK	Trabzon	2.11	80	*i* P	Pb	08 12 34.3	+0.4
MACK				*i* S	Sg	08 13 02.2	-1.3

IDC ***06*** *08:21:24.1±0.5, 15°.36S×173°.28W, h0km, mb4.4/17, mb1 4.7/17, mb1mx4.6/23, mbtmp4.4/17, MS4.8/24, Ms1 4.8/24, ms1mx4.7/35, Error ellipse: s-maj=20.9km s-min=14.7km az=132.0*
NEIC ***06*** *08:21:25.8±0.2, 15°.26S×173°.35W, h10km, mb5.0/61, Error ellipse: s-maj=12.3km s-min=4.8km az=142.0*
ISCJB ***06*** *08:21:27.0±0.2, 15°.34S±0°.07×173°.33W±0°.05, h29km, mb4.9/86, MS4.9/33, Error ellipse: s-maj=10.8km s-min=5.1km az=154.0*
BJI ***06*** *08:21:27.0, 15°.09S×174°.05W, h7km, mB5.5/23, mb4.9/22, Ms5.3/21, Ms7 4.9/22*
MOS ***06*** *08:21:28.5±1.6, 15°.24S×173°.35W, h33km, mb5.2/17, Error ellipse: s-maj=16.8km s-min=11.0km az=54.8*
GCMT ***06*** *08:21:32.6±0.1, 15°.05S×172°.95W, h14km, MW5.3, Moment Tensor Solution. s70,c113; s95,c189; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.30000×10^{17} NP1:ϕ_s115.00000°, δ49.00000°, λ16.00000°. NP2:ϕ_s14.00000°, δ78.00000°, λ138.00000°. Principal axes: T 1.2100, Plg38.0000°, Azm325.0000°; N 0.2600, Plg46.0000°, Azm181.0000°; P -1.4700, Plg19.0000°, Azm70.0000°; Data Used: II IU IC G.*
ISC 06 08:21:28.7±0.4**, 15°.35S**±0°.08×**173°.24W**±0°.07**, h29**km**, n560,** σ**0s.91**/566**, mb4.9**/86**, MS4.9**/33**, 200C-138D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.01	45	Pn	Pn	08 21 51.4	-9.5
	162nm,0.3s,baz=32,slow=3.1,SNR=146						
AFI				Sn	Sn	08 22 11.3	-14
	1μm,0.3s,baz=52,slow=19,SNR=20						
AFI	Afiamalu	2.01	45	*e*Pn	Pn	08 21 51.2	-10
AFI				Sn	Sn	08 22 11.3	-14
MSVF	Nonsavu	8.68	253	*e*P	Pn	08 23 41.3	+8.8
MSVF	Nonsavu	8.68	253	*e*Pn	Pn	08 23 41.3	+8.8
MSVF	Nonsavu	8.68	253	Pn	Pn	08 23 41.3	+8.8
	1μm,1.5s,SNR=28						
RAR	Rarotonga	14.05	117	Pn	Pn	08 24 39.9	-6.1
	7.6nm,0.3s,baz=254,slow=8.5,SNR=12						
RAR				LR	LR	08 28 35.7	
	comp=Z,5μm,20.0s,baz=309,slow=31						
RAR	Rarotonga	14.05	117	*e*Pn	Pn	08 24 41.0	-5.0
DZM	Mont Dzumac	20.36	248	*e*P	P	08 26 03.7	+0.5
	136nm,1.4s						
DZM				*e*LQ	LQ	08 30 06.8	
	3μm,29.4s						
DZM				*e*LR	LR	08 30 53.8	
	8μm,25.4s						
DZM	Mont Dzumac	20.36	248	P	P	08 26 02.5	-0.7
	26nm,0.9s,baz=70,slow=19,SNR=19						
DZM	Mont Dzumac	20.36	248	*e*P	P	08 26 02.5	-0.7
	118nm,1.4s						
PPT	Papeete	22.80	99	LR	LR	08 32 33.1	
	comp=Z,3μm,21.0s,baz=271,slow=29						
PPT2	Papeete2	22.80	99	*e*LQ	LQ	08 30 50.8	
	12μm,28.2s						
PPT2				*e*LR	LR	08 31 53.7	
	7μm,25.2s,baz=264						
OUZ	Omahuta	23.05	208	*e*P	P	08 26 33.4	+1.7
	39nm,1.2s						
TBI	Tubuai	23.78	113	*e*LQ	LQ	08 31 19.7	
	9μm,29.0s						
TBI				*e*LR	LR	08 32 15.2	
	8μm,26.2s,baz=286						
URZ	Urewera	24.36	199	*e*P	P	08 26 45.2	+0.9
	130nm,1.7s						
PMOR	Pomariorio Ree	24.46	93	*e*P	P	08 26 45.3	-0.1
	217nm,1.2s						
ARMA	Armidale	35.50	239	*e*P	P	08 28 22.5	-0.8
	227nm,2.9s						
RKT	Rikitea	36.87	108	*e*LQ	LQ	08 36 59.4	
	2μm,29.8s						
RKT				*e*LR	LR	08 38 29.3	
	4μm,24.5s,baz=282						
COEN	Coen	42.14	266	*e*P	P	08 29 17.8	-1.2
	259nm,1.6s						
STKA	Stephens Creek	44.20	240	P	P	08 29 33.4	-2.0
	11nm,0.8s,baz=91,slow=10,SNR=25						
STKA				LR	LR	08 45 41.0	
	comp=Z,1μm,21.5s,baz=64,slow=33						
STKA	Stephens Creek	44.20	240	*e*P	P	08 29 34.5	-0.9
	4.2nm,1.2s						
BBOO	Buckleboo	48.97	240	*e*P	P	08 30 12.1	-0.8
	2μm,2.4s						
WRAB	Tennant Creek	49.99	257	*e*P	P	08 30 19.1	-1.8
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	Tennant Creek	49.99	257	*e*P	P	08 30 19.1	-1.8
	comp=Z,5.1nm,0.6s						
WRAB	Tennant Creek	49.99	257	P	P	08 30 19.0	-1.8
	comp=Z,59nm,0.9s,SNR=18						
WRA	Warramunga Arr	50.01	257	P	P	08 30 19.0	-1.9
	comp=Z,4.9nm,0.5s,baz=90,slow=6.9,SNR=88						
WRA				LR	LR	08 49 33.7	
	comp=Z,1μm,21.0s,baz=90,slow=34						
WRA	Warramunga Arr	50.01	257	P	P	08 30 19.0	-1.9
ASAR	Alice Springs	50.27	252	P	P	08 30 21.4	-1.6
	comp=Z,17nm,0.6s,baz=86,slow=8.6,SNR=212						
ASAR				LR	LR	08 49 53.9	
	comp=Z,3μm,20.8s,baz=91,slow=34						
ASAR	Alice Springs	50.27	252	P	P	08 30 21.4	-1.6
GUMO	Guam	50.44	303	LR	LR	08 49 38.1	
	comp=Z,655nm,19.1s,baz=263,slow=34						
FORT	Forrest	55.58	243	*e*P	P	08 31 00.5	-1.4
	comp=Z,18nm,0.6s						
FITZ	Fitzroy Crossi	58.37	258	LR	LR	08 54 28.8	
	comp=Z,2μm,20.3s,baz=96,slow=34						
FITZ	Fitzroy Crossi	58.37	258	*e*P	P	08 31 21.0	-0.9
	comp=Z,7.9nm,1.2s						
CBIJ	Chichi jima	60.43	314	LR	LR	08 52 60.0	
	comp=Z,916nm,19.2s,baz=112,slow=31						
VNDA	Vanda	63.44	186	P	P	08 31 54.2	-1.2
	comp=Z,1.3nm,0.4s,baz=276,slow=23,SNR=12						
VNDA				LR	LR	08 54 46.6	
	comp=Z,269nm,19.0s,baz=25,slow=32						
VNDA	Vanda	63.44	186	*e*P	P	08 31 54.2	-1.2
	comp=Z,40nm,1.8s						
NWAO	Narrogin (SRO)	64.78	241	LR	LR	08 58 20.0	
	comp=Z,741nm,18.4s,baz=76,slow=34						
MJAR	Matsushiro Arr	69.00	320	P	P	08 32 30.2	-1.5
	comp=Z,2.4nm,0.8s,baz=163,slow=9.6,SNR=4.9						
MJAR				LR	LR	08 56 58.8	
	comp=Z,999nm,21.4s,baz=105,slow=31						
MJAR	Matsushiro Arr	69.00	320	P	P	08 32 30.2	-1.5
ASAJ	Asahikawa	71.58	328	LR	LR	08 58 11.5	
	comp=Z,445nm,20.8s,baz=153,slow=31						
VES	Vestal, Richgr	72.20	44	⇑P	P	08 32 51.4	+0.3
	baz=72						
MURC	Murrieta	72.25	47	⇑P	P	08 32 51.8	+0.2
	baz=72						
BFSC	Mount Baldy Ra	72.27	46	⇑P	P	08 32 51.5	-0.4
	baz=72						
EDW2	Edwards Air Fo	72.40	45	⇑P	P	08 32 52.3	-0.1
	baz=73						
ISA	Isabella	72.51	44	⇑P	P	08 32 53.1	0.0
	baz=73						
CMB	Columbia Colle	72.62	41	*e*P	P	08 32 53.2	-0.5
CMB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CMB	Columbia Colle	72.62	41	*e*P	P	08 32 53.2	-0.5
	comp=Z,10nm,1.3s						
PETK	Petropavlovsk-	72.63	342	P	P	08 32 52.5	-0.8
	comp=Z,9.4nm,0.7s,baz=147,slow=9.6,SNR=16						
PETK				LR	LR	09 00 22.2	
	comp=Z,218nm,21.1s,baz=154,slow=32						
PETK	Petropavlovsk-	72.63	342	P	P	08 32 52.5	-0.8
PETK	Petropavlovsk-	72.63	342	P	P	08 32 52.5	-0.8
BELC	Belle Mtn. Jos	73.31	47	⇓P	P	08 32 58.0	+0.1
	baz=74						
MPMC	Manual Prospec	73.39	44	⇓P	P	08 32 58.6	+0.1
	baz=74						
MTUM	Tungsten Hills	73.41	43	*e*P	P	08 32 59.3	+0.7
GSC	Goldstone	73.44	45	⇑P	P	08 32 58.6	-0.1
	baz=74						
BC3	Big Chuckawall	73.51	47	⇓P	P	08 32 58.4	-0.8
	baz=74						
HEC	Hector,Ludlow	73.52	46	⇑P	P	08 32 58.7	-0.5
	baz=74						
YSS	Yuzh-Sakhalins	73.52	330	*e*P	P	08 32 58.7	0.0
YSS				*e*		08 33 08.2	
YSS				*e*S	S	08 42 26.0	-0.5
GMRC	Granite Mounta	73.95	46	⇑P	P	08 33 01.3	-0.5
	baz=74						
IRM	Iron Mountain	73.99	47	⇑P	P	08 33 01.7	-0.2
	baz=74						
GRAC	Grapevine Rang	73.99	44	⇓P	P	08 33 01.6	-0.2
	baz=74						
FURC	Furnace Creek,	74.04	44	⇓P	P	08 33 01.9	-0.1
	baz=74						
NVAR	Mina Array Bea	74.19	42	P	P	08 33 03.0	-0.2
	comp=Z,2.3nm,0.7s,baz=231,slow=9.4,SNR=12						
NVAR	Mina Array Bea	74.19	42	P	P	08 33 03.0	-0.2
Y12C	Blythe	74.22	48	⇓P	P	08 33 03.0	-0.1
	baz=74						
113A	Mohawk Valley,	74.27	49	⇓P	P	08 33 03.5	+0.1
	baz=74						
214A	Organ Pipe Nat	74.56	50	⇑P	P	08 33 05.2	0.0
	baz=75						
QSPA	South Pole Qui	74.70	180	P	P	08 33 07.1	+1.6
	comp=Z,9.9nm,0.8s,baz=44,slow=1.2,SNR=28						
QSPA	South Pole Qui	74.70	180	*e*P	P	08 33 08.5	+2.9
	comp=Z,16nm,0.9s						
PDMCI	Parker Dam,Lak	74.78	47	⇑P	P	08 33 06.1	-0.2
	baz=75						
MOD	Modoc	74.99	38	*e*P	P	08 33 07.9	+0.2
	comp=Z,17nm,1.2s						
Z14A	Wintersburg	75.16	49	⇓P	P	08 33 08.7	+0.1
	baz=75						
W13A	Hualapai Mount	75.36	47	⇓P	P	08 33 09.1	-0.9
	baz=76						
Y14A	Wickenburg	75.40	48	⇑P	P	08 33 09.8	-0.2
	baz=76						
R11A	Troy Canyon, C	75.92	43	⇑P	P	08 33 12.3	-0.7
	baz=76						
KSRS	Korea Array	76.23	315	P	P	08 33 15.8	+1.2
	comp=Z,1.7nm,0.8s,baz=135,slow=6.9,SNR=4.6						
KSRS				LR	LR	09 00 44.9	
	comp=Z,346nm,20.8s,baz=115,slow=31						
TUC	Tucson	76.24	51	*e*P	P	08 33 14.9	0.0
TUC				pmax	pmax		
	comp=Z,16nm,1.5s						
TUC	Tucson	76.24	51	*e*P	P	08 33 14.8	0.0
	comp=Z,16nm,1.5s						
KSAR	Wonju Array Be	76.25	315	P	P	08 33 15.8	+1.1
X16A	Lo Mia Camp, P	76.77	48	⇓P	P	08 33 17.8	-0.2
	baz=77,SNR=6.2						
R13A	O'Grain Ranch,	76.90	44	⇓P	P	08 33 18.5	-0.2
	baz=77						
319A	Douglas	76.94	52	⇑P	P	08 33 18.9	-0.1
	baz=77						
CCUT	Cedar City	76.99	45	*e*P	P	08 33 19.3	0.0
	comp=Z,23nm,1.7s						
ARUT	Antelope Range	77.06	45	*e*P	P	08 33 20.1	+0.5
ARUT				pmax	pmax		
	comp=Z,13nm,1.3s						
ARUT	Antelope Range	77.06	45	*e*P	P	08 33 20.1	+0.5
	comp=Z,13nm,1.3s						
U15A	North Rim	77.15	46	⇓P	P	08 33 20.2	-0.1
	baz=77						
USRK	Ussuriysk Arra	77.43	323	P	P	08 33 22.9	+1.7
	comp=Z,1.8nm,0.8s,baz=127,slow=5.0,SNR=4.6						
USRK				LR	LR	09 01 34.4	
	comp=Z,852nm,20.9s,baz=115,slow=31						
ELK	Elko	77.44	41	*e*P	P	08 33 21.1	-0.7
320A	Kipp Ranch, An	77.50	52	⇑P	P	08 33 21.9	-0.2
	baz=78						
220A	Playas Peak, P	77.75	52	⇑P	P	08 33 23.8	+0.3
	baz=78,SNR=6.1						
120A	U Bar Ranch, L	77.96	51	⇑P	P	08 33 24.7	0.0
	baz=78						
R15A	Junction	78.06	45	⇓P	P	08 33 25.6	+0.4
	baz=78						
HAWA	Hanford	78.15	35	*e*P	P	08 33 26.2	+1.0
	comp=Z,24nm,1.5s						
Z20A	Nine Sixteen R	78.25	51	⇑P	P	08 33 26.7	+0.4
	baz=78						
MSU	Marysvale	78.28	45	*e*P	P	08 33 26.2	-0.2
MSU	Marysvale	78.28	45	*e*P	P	08 33 26.2	-0.2
S16A	Weppner Ranch,	78.28	45	⇑P	P	08 33 26.6	+0.2
	baz=78						
221A	Mesquite Ranch	78.37	52	⇑P	P	08 33 27.1	+0.1
	baz=78						
BMO	Blue Mountains	78.49	37	*e*P	P	08 33 26.3	-1.0
BMO				pmax	pmax		
	comp=Z,14nm,1.5s						
BMO	Blue Mountains	78.49	37	*e*P	P	08 33 26.3	-1.0
	comp=Z,14nm,1.5s						
MFID	Camas Ranch	78.55	39	*e*P	P	08 33 28.0	+0.3
	comp=Z,13nm,1.4s						
MFID	Camas Ranch	78.55	39	⇓P	P	08 33 27.7	+0.1
	baz=79						
121A	Cookes Peak, D	78.59	52	⇑P	P	08 33 28.5	+0.2
	baz=79						
R16A	Teasdale	78.64	45	⇑P	P	08 33 28.9	+0.5
	baz=79						
DUG	Dugway	78.72	43	*e*P	P	08 33 28.5	-0.2
DUG				pmax	pmax		
	comp=Z,15nm,1.4s						
DUG	Dugway	78.72	43	*e*P	P	08 33 28.5	-0.2
	comp=Z,15nm,1.4s						
DUG	Dugway	78.72	43	⇑P	P	08 33 29.1	+0.4
	baz=79						
Y20A	Horse Springs,	78.77	50	⇑P	P	08 33 29.2	-0.1
	baz=79						
S17A	Black Ridge (B	78.79	46	⇑P	P	08 33 29.2	+0.1
	baz=79						
X20A	Quemado	78.97	50	⇓P	P	08 33 30.6	+0.3
	baz=79						
Z21A	St. Cloud Mine	79.03	51	⇑P	P	08 33 30.7	+0.1
	baz=79,SNR=7.0						
MDJ	Mudanjiang	79.08	322	P	P	08 33 30.0	-0.4
MDJ				pP	PcP	08 33 33.3	-5.4
MDJ				sP	sP	08 33 34.7	-8.3
MDJ				PcP	pP	08 33 38.5	-1.1
MDJ				PP	PP	08 36 28.4	-1.6
MDJ				S	S	08 43 29.7	+1.9
MDJ				ScS	ScS	08 43 52.1	+1.4
MDJ				pmax	pmax		
	comp=Z,210nm,4.3s						
MDJ				LR	LR		
	comp=N,370nm,24.2s						
MDJ				LR	LR		
	comp=E,450nm,24.2s						
MDJ				LR	LR		
	comp=Z,620nm,24.2s						
Q16A	Castle Valley	79.17	45	⇓P	P	08 33 31.3	0.0
	baz=79						
I12A	Atlanta	79.18	39	⇑P	P	08 33 31.2	0.0
	baz=79						
P16A	Fountain Green	79.18	44	⇓P	P	08 33 31.9	+0.6
	baz=79						
R17A	Hanksville Air	79.23	45	⇑P	P	08 33 31.3	-0.3
	baz=79,SNR=6.9						
W20A	Ramah	79.23	49	⇓P	P	08 33 32.1	+0.3
	baz=79,SNR=7.4						
TMUT	Trail Mountain	79.33	44	*e*P	P	08 33 33.6	+1.3
	comp=Z,36nm,1.5s						
Y21A	Point of Rocks	79.33	50	⇑P	P	08 33 33.0	+0.7
	baz=80						
S18A	Hurst Farm, Bl	79.37	46	⇑P	P	08 33 32.6	+0.1
	baz=80						
L14A	Malta	79.40	41	⇑P	P	08 33 33.0	+0.6
	baz=80						
MPU	Maple Canyon	79.41	43	*e*P	P	08 33 32.9	+0.3
	comp=Z,5.4nm,0.9s						
X21A	Alamocita Cree	79.45	50	⇑P	P	08 33 33.0	+0.1
	baz=80						
HLID	Hailey	79.49	39	*e*P	P	08 33 32.8	-0.1
	comp=Z,16nm,1.3s						
HLID	Hailey	79.49	39	⇓P	P	08 33 33.1	+0.2
	baz=80,SNR=13						
Z22A	Elephant Butte	79.53	51	⇓P	P	08 33 33.5	+0.1
	baz=80						
J13A	Cove Ranch, Pi	79.55	39	⇑P	P	08 33 33.3	+0.1
	baz=80,SNR=7.7						
HVU	Hansel Valley	79.56	41	*e*P	P	08 33 33.8	+0.5
HVU				pmax	pmax		
	comp=Z,46nm,1.7s						
HVU	Hansel Valley	79.56	41	*e*P	P	08 33 33.8	+0.5
	comp=Z,46nm,1.7s						
V20A	Brimhall	79.57	48	⇑P	P	08 33 34.2	+0.6
	baz=80						
M15A	Larsen Ranch,	79.61	42	⇑P	P	08 33 33.5	-0.1
	baz=80						
SRU	San Rafael	79.70	45	*e*P	P	08 33 34.0	-0.2
SRU				pmax	pmax		
	comp=Z,20nm,1.5s						
SRU	San Rafael	79.70	45	*e*P	P	08 33 34.0	-0.2
	comp=Z,20nm,1.5s						
SRU	San Rafael	79.70	45	⇓P	P	08 33 34.2	0.0
	baz=80						
K14A	Jones Ranch, D	79.71	41	⇓P	P	08 33 34.0	0.0
	baz=80						
P17A	Butcher Ranch,	79.73	44	⇑P	P	08 33 34.4	+0.1
	baz=80						
H12A	Diamond D Ranc	79.76	38	⇓P	P	08 33 34.6	+0.2
	baz=80						
R18A	Canyonlands Na	79.78	46	⇑P	P	08 33 34.6	0.0
	baz=80,SNR=5.6						
G12A	Big Creek, Yel	79.81	38	⇑P	P	08 33 34.2	-0.4
	baz=80,SNR=11						
JLU	Jordanelle	79.82	43	*e*P	P	08 33 35.3	+0.5
	comp=Z,19nm,1.5s						
Y22A	Socorro	79.83	51	⇑P	P	08 33 34.7	-0.3
	baz=80						
DAU	Daniels Canyon	79.85	43	*e*P	P	08 33 36.2	+1.1
DAU				pmax	pmax		
	comp=Z,13nm,1.3s						
DAU	Daniels Canyon	79.85	43	*e*P	P	08 33 36.2	+1.1
	comp=Z,13nm,1.3s						
I13A	Wildhorse Cree	79.86	39	⇑P	P	08 33 35.1	+0.2
	baz=80						
324A	Moseley Ranch,	79.89	53	⇑P	P	08 33 34.8	-0.4
	baz=80,SNR=5.9						
LAZ	Ladron	79.91	50	*e*P	P	08 33 35.8	+0.4
	comp=Z,31nm,2.2s						
J14A	Carey	79.91	40	⇑P	P	08 33 35.1	0.0
	baz=80						
L15A	Malad City	79.93	41	⇓P	P	08 33 34.8	-0.5
	baz=80						
Q18A	Rafter H Ranch	79.96	45	⇑P	P	08 33 35.1	-0.4
	baz=80,SNR=5.3						
S19A	Harvey Farm, M	80.00	46	⇓P	P	08 33 35.8	-0.1
	baz=80						
425A	Indio Mountain	80.00	54	⇓P	P	08 33 35.8	-0.1

baz=80,SNR=8.8
O17A **Robinson Place** 80.09 44 ⇑P P 08 33 36.3 0.0
baz=80,SNR=5.9
H13A **Challis** 80.13 38 ⇑P P 08 33 36.3 0.0
baz=80
P18A **Preston Nutter** 80.14 44 ⇑P P 08 33 35.9 -0.7
baz=80
R19A **Curley Farm, L** 80.17 46 ⇓P P 08 33 36.5 -0.3
baz=80,SNR=5.6
626A **Big Bend Ranch** 80.17 56 ⇑P P 08 33 37.1 +0.3
baz=80,SNR=5.2
BNM **Barren Site** 80.18 51 *e*P P 08 33 37.2 +0.3
comp=Z,6.0nm,1.2s
K15A **Arbon** 80.19 41 ⇓P P 08 33 36.9 +0.2
baz=80
MVCO **Mesa Verde** 80.20 47 ⇓P P 08 33 36.3 -0.6
baz=80
F12A **Elk City** 80.20 37 ⇑P P 08 33 35.8 -0.8
baz=80,SNR=10
LPM **Los Pinos Moun** 80.24 50 *e*P P 08 33 37.7 +0.5
325A **Bean Ranch, Si** 80.25 54 ⇑P P 08 33 36.6 -0.7
baz=80
HWUT **Hardware Ranch** 80.25 42 *e*P P 08 33 37.4 +0.3
comp=Z,42nm,2.2s
NJ2 **Nanjing** 80.26 307 *e*P P 08 33 36.7 -0.3
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
PV10 **Paradox Valley** 80.36 46 *e*P P 08 33 33.8 -4.1
comp=Z,348nm,0.5s
E12A **Beaver Dam Sad** 80.38 36 ⇓P P 08 33 37.8 +0.2
baz=81
N17A **Moffit Pass** 80.40 43 ⇑P P 08 33 37.9 0.0
baz=81
W22A **Albuquerque** 80.40 50 ⇑P P 08 33 37.9 -0.1
baz=81
526A **Mary Lane Ranc** 80.41 55 ⇑P P 08 33 38.0 -0.1
baz=81,SNR=5.3
G13A **Cobalt** 80.43 38 ⇑P P 08 33 38.2 +0.3
baz=81
U21A **Nageezi** 80.44 48 ⇓P P 08 33 37.7 -0.5
baz=81
124A **Stringfield Ra** 80.44 52 ⇑P P 08 33 37.9 -0.4
baz=81
TXAR **Lajitas Array** 80.46 56 P P 08 33 38.1 -0.2
comp=Z,0.9nm,0.7s,baz=218,slow=7.9,SNR=14
TXAR LR LR 09 01 23.0
comp=Z,578nm,21.1s,baz=340,slow=30
TXAR **Lajitas Array** 80.46 56 P P 08 33 38.1 -0.2
Q19A **Hogan Spring (** 80.48 45 ⇑P P 08 33 38.3 0.0
baz=81
Y23A **Lovelace Mesa,** 80.51 51 ⇑P P 08 33 38.3 -0.3
baz=81
TRF **Thorofare Moun** 80.55 10 *e*P P 08 33 36.1 -2.0
comp=Z,16nm,0.8s
S20A **Disappointment** 80.58 47 ⇓P P 08 33 38.9 -0.1
baz=81
J15A **Blackfoot** 80.62 40 ⇓P P 08 33 38.9 0.0
baz=81,SNR=9.0
ANMO **Albuquerque** 80.65 50 *e*P P 08 33 38.7 -0.7
comp=Z,9.5nm,1.3s
225A **Deer Hill, Car** 80.68 53 ⇑P P 08 33 39.6 0.0
baz=81,SNR=7.0
X23A **Hourglass Bar** 80.69 50 ⇑P P 08 33 39.3 -0.3
baz=81
H14A **Leadore** 80.69 39 ⇑P P 08 33 39.6 +0.2
baz=81
426A **McDonald Obser** 80.70 55 ⇑P P 08 33 40.0 +0.2
baz=81,SNR=8.7
627A **Terlingua Ranc** 80.73 56 ⇑P P 08 33 39.7 -0.1
baz=81,SNR=7.6
R20A **Redvale** 80.73 46 ⇑P P 08 33 40.0 +0.2
baz=81
F13A **Darby** 80.75 37 ⇑P P 08 33 39.4 -0.2
baz=81
T21A **Navajo Lake** 80.78 48 ⇓P P 08 33 40.3 +0.3
baz=81
C11A **Tepee Creek (N** 80.81 35 ⇑P P 08 33 39.8 +0.1
baz=81
527A **Woodward Ranch** 80.82 55 ⇑P P 08 33 40.0 -0.4
baz=81
K16A **Soda Springs** 80.86 41 ⇓P P 08 33 40.3 0.0
baz=81
S21A **Coal Bank Pass** 80.90 47 ⇑P P 08 33 40.9 0.0
baz=81,SNR=7.8
I15A **Monteview** 80.91 40 ⇑P P 08 33 40.9 +0.5
baz=81
W23A **Werner Place,** 80.97 50 ⇑P P 08 33 41.4 +0.3
baz=81
Y24A **Capitan** 80.97 51 ⇓P P 08 33 40.9 -0.2
baz=81,SNR=6.9
G14A **Jackson** 80.97 38 ⇑P P 08 33 41.3 +0.4
baz=81
P19A **Cripple Cowboy** 81.00 45 ⇑P P 08 33 41.3 +0.1
baz=81
125A **Gardner Draw,** 81.03 53 ⇓P P 08 33 41.1 -0.3
baz=81
MCK **McKinley** 81.04 11 *e*P P 08 33 39.7 -0.9
MCK pmax pmax
comp=Z,23nm,0.8s
MCK **McKinley** 81.04 11 *e*P P 08 33 39.7 -0.9
comp=Z,23nm,0.8s
GDL2 **Guadalupe Moun** 81.07 53 *e*P P 08 33 42.3 +0.7
J16A **Bone** 81.07 41 ⇑P P 08 33 41.3 -0.1
baz=81,SNR=6.9
MCMT **McKenzie Canyo** 81.12 39 *e*P P 08 33 41.5 -0.3
comp=Z,7.9nm,1.4s
H15A **Lima** 81.13 39 ⇓P P 08 33 42.0 +0.3
baz=81
M18A **Lyman** 81.14 43 ⇑P P 08 33 41.5 -0.4
baz=81
628A **Black Gap, Mar** 81.14 56 ⇑P P 08 33 42.1 +0.2
baz=81,SNR=6.0
Q20A **Ridgley Place,** 81.15 46 ⇑P P 08 33 41.7 -0.3
baz=81
N18A **Larsen Ranch,** 81.18 43 ⇑P P 08 33 42.0 -0.1
baz=81
E13A **Victor** 81.19 37 ⇑P P 08 33 41.4 -0.5
baz=81
V23A **Ortiz Mt. (NFS** 81.20 49 ⇑P P 08 33 41.9 -0.4
baz=81
O19A **Miners Draw (B** 81.22 44 ⇑P P 08 33 42.2 -0.1
baz=81
T22A **Edith** 81.24 48 ⇑P P 08 33 42.3 -0.3
baz=81
Z25A **Roswell** 81.24 52 ⇓P P 08 33 42.4 -0.1
baz=81
K17A **Gardner Place,** 81.25 41 ⇓P P 08 33 42.5 +0.1
baz=81
427A **Hayter Ranch,** 81.27 55 ⇓P P 08 33 42.7 +0.1
baz=81,SNR=12
RRI2 **Red Ridge** 81.29 41 *e*P P 08 33 43.2 +0.5
comp=Z,9.7nm,1.0s
F14A **Wisdom** 81.33 38 ⇑P P 08 33 42.3 -0.4
baz=82
P20A **De Beque** 81.34 45 ⇑P P 08 33 42.8 -0.1
baz=82
MENT **Mentasta** 81.37 13 *e*P P 08 33 42.3 -0.1
R21A **Cimarron** 81.40 46 ⇑P P 08 33 43.1 -0.2
baz=82
D13A **Huson** 81.40 36 ⇓P P 08 33 41.8 -1.1
baz=82,SNR=5.7
U23A **El Rito** 81.45 49 ⇑P P 08 33 42.9 -0.8
baz=82
I16A **Newdale** 81.46 40 ⇑P P 08 33 43.9 +0.4
baz=82,SNR=7.2
N19A **John Jarvie Ra** 81.47 44 ⇑P P 08 33 43.4 -0.2
baz=82
528A **Cox Ranch, San** 81.48 56 ⇓P P 08 33 43.8 0.0
baz=82,SNR=9.4
DCID1 **Drake Creek** 81.50 40 *e*P P 08 33 43.8 +0.1
comp=Z,23nm,1.2s
G15A **Dillon** 81.51 39 ⇑P P 08 33 43.9 +0.2
baz=82,SNR=7.9
126A **Clayton Basin,** 81.52 53 ⇑P P 08 33 43.9 0.0
baz=82
Y25A **Mesa, Roswell** 81.53 51 ⇑P P 08 33 44.0 0.0
baz=82,SNR=5.7
W24A **Lazy 6 Ranch,** 81.54 50 ⇓P P 08 33 44.2 +0.1
baz=82
MSO **Missoula** 81.55 37 *e*P P 08 33 42.7 -1.1
comp=Z,15nm,1.5s
MSO **Missoula** 81.55 37 ⇓P P 08 33 43.9 +0.1
baz=82
DLMT **Dillon** 81.55 38 *e*P P 08 33 43.8 -0.1
comp=Z,59nm,2.0s
E14A **Clinton** 81.58 37 ⇑P P 08 33 43.7 -0.4
baz=82,SNR=9.8
Q21A **Lamborn Mesa,** 81.59 46 ⇑P P 08 33 44.0 -0.3
baz=82
REDW **Red Top Meadow** 81.59 41 *e*P P 08 33 44.7 +0.5
comp=Z,32nm,1.6s
TPAW **Teton Pass** 81.60 41 *e*P P 08 33 44.3 0.0
comp=Z,72nm,2.1s
S22A **4UR Ranch, Cre** 81.62 47 ⇓P P 08 33 44.3 -0.3
baz=82
BSMT **Bassoo Peak** 81.63 35 *e*P P 08 33 43.6 -0.7
C13A **Hot Springs** 81.66 36 ⇑P P 08 33 44.3 0.0
baz=82
J17A **Brown Place, J** 81.68 41 ⇑P P 08 33 44.8 +0.1
baz=82
SNOW **Snow King Moun** 81.71 41 *e*P P 08 33 44.7 -0.1
comp=Z,94nm,2.1s
O20A **White River Ci** 81.74 45 ⇑P P 08 33 45.0 0.0
baz=82
K18A **Toltan Ranch,** 81.75 42 ⇓P P 08 33 45.2 +0.2
baz=82
A12A **Yaak River Ran** 81.76 34 ⇑P P 08 33 45.4 +0.6
baz=82
M19A **Rock Springs** 81.77 43 ⇓P P 08 33 45.1 -0.1
baz=82
428A **Kincaid Ranch,** 81.79 55 ⇓P P 08 33 45.3 -0.1
baz=82
Z26A **Caprock** 81.80 52 ⇑P P 08 33 45.3 -0.1
baz=82,SNR=7.5
X25A **Clemmons Ranch** 81.81 51 ⇓P P 08 33 45.6 +0.1
baz=82
IMW **Indian Meadow** 81.81 40 *e*P P 08 33 45.4 0.0
comp=Z,43nm,1.7s
MOOW **Moose Ponds** 81.86 40 *e*P P 08 33 46.2 +0.5
comp=Z,16nm,1.6s
F15A **Butte** 81.87 38 ⇓P P 08 33 45.8 +0.2
baz=82
T23A **Casias Ranch,** 81.87 48 ⇓P P 08 33 45.5 -0.5
baz=82
LOHW **Long Hollow** 81.88 41 *e*P P 08 33 46.3 +0.6
comp=Z,20nm,1.6s
LRM **Limekiln Ridge** 81.88 38 *e*P P 08 33 49.0 +3.2
comp=Z,113nm,1.5s
R22A **Saguache, Gunn** 81.89 47 ⇓P P 08 33 45.9 -0.1
baz=82
DOT **Dot Lake** 81.92 13 *e*P P 08 33 45.0 -0.3
comp=Z,9.1nm,0.8s
529A **Stev Forest Ra** 81.92 56 ⇑P P 08 33 46.1 +0.1
baz=82
L19A **Farson** 81.93 42 ⇑P P 08 33 46.1 0.0
baz=82
D14A **Greenough** 81.94 37 ⇑P P 08 33 45.6 -0.2
baz=82
328A **Wristen Ranch,** 81.95 54 ⇑P P 08 33 46.0 -0.1
baz=82
G16A **Moss Hill, Enn** 81.96 39 ⇑P P 08 33 46.4 +0.3
baz=82
QLMT **Earthquake Lak** 81.98 39 *e*P P 08 33 46.4 +0.2
CHMT **Chamberlain Mo** 81.99 37 *e*P P 08 33 45.5 -0.8
P21A **Newcastle** 81.99 45 ⇑P P 08 33 46.4 -0.1
baz=82
H16A **Russell Place,** 82.03 39 ⇓P P 08 33 47.3 +0.8
baz=82,SNR=12
127A **Arkansas Junct** 82.04 53 ⇑P P 08 33 46.4 -0.3
baz=82
J18A **Kendall Valley** 82.05 41 ⇓P P 08 33 46.4 -0.2
baz=82,SNR=11
I17A **Pilgrim Ck.** 82.05 40 ⇑P P 08 33 46.4 -0.2
baz=82
N20A **Spence Gulch,** 82.05 44 ⇓P P 08 33 46.7 0.0
baz=82,SNR=5.3
FLWY **Flagg Ranch** 82.05 40 *e*P P 08 33 47.6 +1.0
comp=Z,14nm,1.0s
Q22A **Crested Butte,** 82.07 46 ⇓P P 08 33 47.2 +0.3
baz=82,SNR=7.9
E15A **Deer Lodge** 82.09 37 ⇑P P 08 33 46.4 -0.2
baz=82
B13A **Whitefish** 82.10 35 ⇓P P 08 33 46.0 -0.6
baz=82
BW06 **Boulder Array** 82.12 42 *e*P P 08 33 46.4 -0.6
comp=Z,71nm,2.1s
BW06 **Boulder Array** 82.12 42 ⇑P P 08 33 46.6 -0.5
baz=82
PDAR **Pinedale Array** 82.12 42 P P 08 33 46.2 -0.9
comp=Z,1.7nm,0.7s,baz=218,slow=3.6,SNR=16
PDAR LR LR 09 02 59.8
comp=Z,456nm,20.3s,baz=253,slow=30
PDAR **Pinedale Array** 82.12 42 P P 08 33 46.2 -0.9
W25A **X Bar L Ranch,** 82.25 50 ⇑P P 08 33 47.5 -0.3
baz=82
COLA **College** 82.28 11 *e*P P 08 33 46.0 -1.0
COLA pmax pmax
comp=Z,19nm,0.8s
COLA **College** 82.28 11 *e*P P 08 33 46.0 -1.0
comp=Z,19nm,0.8s
F16A **Kennard Place,** 82.35 38 ⇑P P 08 33 48.3 +0.3
baz=82
ILAR **Eielson Array** 82.36 11 P P 08 33 46.0 -1.5
comp=Z,2.3nm,0.7s,baz=233,slow=6.7,SNR=37
ILAR **Eielson Array** 82.36 11 P P 08 33 46.0 -1.5
429A **Davenport Ranc** 82.38 55 ⇑P P 08 33 48.3 -0.2
baz=82,SNR=7.5
V25A **Rancho No Teng** 82.39 50 ⇓P P 08 33 48.3 -0.3
baz=83
Z27A **Tatum** 82.41 53 ⇑P P 08 33 48.3 -0.3
baz=83
228A **UT Block 9, Go** 82.41 54 ⇑P P 08 33 48.2 -0.4
baz=83
M20A **Sweetwater, Wa** 82.41 43 ⇓P P 08 33 48.9 +0.3
baz=83
I18A **Diamond G Ranc** 82.42 41 ⇓P P 08 33 48.9 +0.3
baz=83
A13A **Flathead Natio** 82.44 35 ⇑P P 08 33 48.5 +0.1
baz=83
X26A **CR and CF Fran** 82.46 51 ⇑P P 08 33 48.7 -0.1
baz=83
D15A **Lincoln** 82.48 37 ⇓P P 08 33 48.6 -0.1
baz=83,SNR=9.8
P22A **Eagle** 82.50 46 ⇓P P 08 33 48.9 -0.2
baz=83
SEY **Seymchan** 82.51 345 *c* *i*P P 08 33 46.8 -1.5
R23A **Moffat** 82.53 47 ⇓P P 08 33 48.9 -0.5
baz=83
L20A **Wamsutter** 82.55 43 ⇓P P 08 33 49.4 +0.1
baz=83,SNR=6.3
530A **J-C Ranch, Com** 82.64 56 ⇓P P 08 33 49.6 -0.2
baz=83
329A **Wagon Wheel Ra** 82.64 55 ⇑P P 08 33 49.2 -0.7
baz=83
G17A **Pierce Place,** 82.65 39 ⇑P P 08 33 49.7 +0.1
baz=83
Y27A **Causey** 82.67 52 ⇑P P 08 33 49.5 -0.5
baz=83
128A **Castleberry Fa** 82.69 53 ⇓P P 08 33 49.7 -0.4
baz=83
J19A **Crowheart** 82.69 42 ⇓P P 08 33 49.9 0.0
baz=83
E16A **East Helena** 82.71 38 ⇑P P 08 33 49.8 -0.1
baz=83
HRY **Holter Researc** 82.71 38 *e*P P 08 33 50.5 +0.6
S24A **Houchin Ranch,** 82.73 48 ⇑P P 08 33 50.3 -0.1
baz=83
B14A **Marquette Ranc** 82.76 36 ⇑P P 08 33 49.4 -0.7
baz=83
U25A **Circle Dot Ran** 82.78 49 ⇓P P 08 33 49.9 -0.7
baz=83
WALA **Waterton Lakes** 82.78 35 *e*P P 08 33 49.2 -1.0
comp=Z,0.8nm,1.4s
C15A **Salmond Ranch,** 82.82 36 ⇑P P 08 33 49.6 -0.8
baz=83,SNR=7.0
K20A **Yellowstone Ra** 82.86 42 ⇑P P 08 33 50.0 -0.8
baz=83
O22A **Kremmling** 82.90 45 ⇑P P 08 33 51.0 -0.3
baz=83,SNR=11
430A **Baggett Ranch,** 82.96 56 ⇑P P 08 33 50.4 -1.1
baz=83
631A **Perdido Creek** 82.97 57 ⇓P P 08 33 51.1 -0.4
baz=83
V26A **Tequesquite Ra** 82.99 50 ⇑P P 08 33 51.0 -0.6
baz=83
H18A **Shoshone NF, C** 82.99 40 ⇑P P 08 33 52.2 +0.7
baz=83
F17A **Fitzpatrick Pl** 83.00 39 ⇓P P 08 33 51.1 -0.3
baz=83
MSTX **Muleshoe** 83.00 52 ⇓P P 08 33 51.4 -0.3
baz=83
M21A **Separation Pea** 83.01 44 ⇓P P 08 33 51.0 -0.7
baz=83,SNR=7.6
QIZ **Qiongzhong** 83.03 292 P P 08 33 50.8 -1.2
QIZ S S 08 44 11.0 +1.1
QIZ LR LR
comp=Z,510nm,23.6s
Z28A **Tucker Farm, M** 83.03 53 ⇓P P 08 33 51.6 -0.3
baz=83
X27A **F and S Farms,** 83.03 51 ⇑P P 08 33 51.9 +0.1
baz=83
P23A **Jefferson** 83.04 46 ⇓P P 08 33 51.9 -0.1
baz=83
D16A **Dana Ranch, Ca** 83.04 37 ⇑P P 08 33 51.6 0.0
baz=83
R24A **Sanders Place,** 83.06 47 ⇑P P 08 33 51.7 -0.3
baz=83,SNR=8.3
T25A **Trinidad** 83.09 49 ⇓P P 08 33 52.3 +0.1
baz=83
I19A **Meeteetse** 83.10 41 ⇑P P 08 33 52.0 -0.1
baz=83
B15A **Bradely Ranch,** 83.13 36 ⇓P P 08 33 51.7 -0.3
baz=83
E17A **Martinsdale** 83.16 38 ⇓P P 08 33 52.3 0.0
baz=83
L21A **Rawlins** 83.17 43 ⇓P P 08 33 52.6 +0.1
baz=83
129A **Stewart Farms,** 83.17 54 ⇓P P 08 33 52.0 -0.5
baz=83
732A **Laxson Ranch,** 83.22 58 ⇓P P 08 33 52.3 -0.4
baz=83
W27A **Bowe Ranch, En** 83.23 51 ⇓P P 08 33 52.6 -0.3
baz=83,SNR=5.6
N22A **Wattenberg Ran** 83.25 45 ⇑P P 08 33 53.3 +0.2
baz=83,SNR=8.7
U26A **Atchley Ranch,** 83.27 50 ⇓P P 08 33 52.4 -0.7
baz=83,SNR=7.9
531A **Rocksprings** 83.28 56 ⇓P P 08 33 52.5 -0.6
baz=83
S25A **Robets Cordova** 83.29 48 ⇓P P 08 33 53.1 -0.1
baz=84,SNR=6.0
C16A **Fuhringer Ranc** 83.33 37 ⇓P P 08 33 53.0 -0.1
baz=84,SNR=9.0
DAWY **Dawson** 83.33 14 *e*P P 08 33 52.2 -0.4
Q24A **Divide** 83.34 47 ⇑P P 08 33 53.5 -0.1
baz=84,SNR=5.9
J20A **Shoshoni** 83.35 42 ⇑P P 08 33 53.2 -0.1
baz=84,SNR=9.8
G18A **Lazy EL Ranch,** 83.37 40 ⇓P P 08 33 53.2 -0.2
baz=84
ISCO **Idaho Springs** 83.38 46 *e*P P 08 33 53.4 -0.4
ISCO pmax pmax
comp=Z,33nm,1.9s
ISCO **Idaho Springs** 83.38 46 *e*P P 08 33 53.4 -0.4
comp=Z,33nm,1.9s
ISCO **Idaho Springs** 83.38 46 ⇓P P 08 33 53.3 -0.4
baz=84
A15A **Johnson Ranch,** 83.39 35 ⇓P P 08 33 52.9 -0.4
baz=84
H19A **Powell** 83.41 40 ⇑P P 08 33 53.6 0.0
baz=84,SNR=8.2
431A **Sonora** 83.42 56 ⇓P P 08 33 53.7 -0.2
baz=84
M22A **Cedar Creek Ra** 83.43 44 ⇑P P 08 33 53.6 -0.3
baz=84
RLMT **Red Lodge** 83.46 40 *e*P P 08 33 53.7 -0.2
comp=Z,35nm,1.6s
RLMT **Red Lodge** 83.46 40 ⇑P P 08 33 53.5 -0.4
baz=84,SNR=5.8
EGAK **Eagle** 83.53 13 *e*P P 08 33 53.6 0.0
comp=Z,7.6nm,1.0s
GCMT **Greycliff** 83.54 39 *e*P P 08 33 54.7 +0.5
comp=Z,14nm,1.4s
Z29A **Hungry Hill Ra** 83.54 53 ⇑P P 08 33 54.1 -0.4
baz=84
K21A **Alcova** 83.56 43 ⇑P P 08 33 53.7 -0.7
baz=84,SNR=7.8
F18A **Big Timber** 83.57 39 ⇓P P 08 33 53.9 -0.4
baz=84
I20A **Worland** 83.61 41 ⇑P P 08 33 54.2 -0.4
baz=84,SNR=8.2
R25A **Fountain Ranch** 83.61 48 ⇓P P 08 33 54.1 -0.7
baz=84
D17A **Six Diamond Ra** 83.61 38 ⇑P P 08 33 54.3 -0.3
baz=84,SNR=9.3
N23A **Red Feather La** 83.64 45 ⇑P P 08 33 54.4 -0.6
baz=84
632A **Uvalde** 83.65 57 ⇑P P 08 33 54.3 -0.7
baz=84
X28A **Dimmitt** 83.66 52 ⇑P P 08 33 54.3 -0.8
baz=84
B16A **M & M Farms, S** 83.67 36 ⇑P P 08 33 54.3 -0.4
baz=84
T26A **Comanche Natio** 83.70 49 ⇑P P 08 33 54.6 -0.7
baz=84
J21A **Lysite** 83.76 42 ⇑P P 08 33 55.4 -0.1
baz=84,SNR=18
E18A **Harlowton** 83.78 38 ⇑P P 08 33 55.5 +0.1
baz=84
532A **Rocksprings** 83.78 57 ⇑P P 08 33 55.1 -0.6
baz=84
Y29A **Porterfield Fa** 83.80 53 ⇓P P 08 33 55.4 -0.4
baz=84
C17A **Wharram Farm,** 83.81 37 ⇑P P 08 33 55.4 -0.1
baz=84,SNR=22
L22A **Ellis Ranch, M** 83.82 44 ⇑P P 08 33 55.8 0.0
baz=84
O24A **Longmont** 83.90 46 ⇓P P 08 33 56.4 +0.2
baz=84
H20A **Greybull** 83.94 41 ⇓P P 08 33 55.6 -0.7
baz=84,SNR=5.9
Q25A **Bedland, Calha** 83.96 47 ⇓P P 08 33 56.1 -0.5
baz=84
S26A **Kim** 83.97 49 ⇓P P 08 33 55.8 -0.8
baz=84
X29A **Tulia** 84.01 52 ⇓P P 08 33 56.6 -0.3
baz=84
F19A **Roth Farm, Mol** 84.01 39 ⇑P P 08 33 56.1 -0.5
baz=84,SNR=6.9
K22A **Casper** 84.04 43 ⇑P P 08 33 56.9 0.0
baz=84
M23A **Laramie** 84.05 44 ⇓P P 08 33 56.7 -0.3
baz=84
COLD **Coldfoot** 84.07 9 *e*P P 08 33 56.6 +0.4
comp=Z,103nm,2.8s
I21A **Big Trails, Te** 84.08 42 ⇓P P 08 33 56.2 -0.8
baz=84,SNR=10
B17A **L&G Farms, Che** 84.13 37 ⇓P P 08 33 56.8 -0.3
baz=84
V28A **Channing** 84.13 51 ⇑P P 08 33 57.1 -0.4
baz=84
432A **Menard** 84.14 56 ⇑P P 08 33 57.2 -0.3
baz=84
PHWY **Pilot Hill** 84.15 45 *e*P P 08 33 57.2 -0.4
comp=Z,22nm,1.7s
D18A **Linhart Farms,** 84.16 38 ⇑P P 08 33 56.9 -0.4
baz=84
G20A **Bridger** 84.16 40 ⇓P P 08 33 57.5 +0.1
baz=84
AMTX **Amarillo** 84.19 52 *e*P P 08 33 57.3 -0.5
comp=Z,9.9nm,0.8s
AMTX **Amarillo** 84.19 52 ⇓P P 08 33 57.3 -0.5
baz=84
P25A **Willow Gulch B** 84.27 47 ⇓P P 08 33 57.8 -0.3
baz=84,SNR=5.8
R26A **Arlington** 84.27 48 ⇓P P 08 33 57.9 -0.2
baz=84,SNR=5.1
T27A **Campo** 84.29 49 ⇑P P 08 33 57.8 -0.5
baz=84
W29A **Amraillo** 84.31 51 ⇓P P 08 33 57.6 -0.8
baz=84
N24A **Carr** 84.33 45 ⇑P P 08 33 57.8 -0.7
baz=84
L23A **Garrett** 84.35 44 ⇑P P 08 33 57.7 -0.8
baz=84
E19A **Rath Farm, Rou** 84.40 39 ⇑P P 08 33 59.0 +0.5
baz=85
J22A **Midwest** 84.42 42 ⇑P P 08 33 58.5 -0.3
baz=85
F20A **Billings** 84.47 40 ⇑P P 08 33 58.8 -0.2
baz=85
Q26A **Hugo** 84.48 47 ⇑P P 08 33 58.5 -0.7
baz=85
A17A **Triple J Farms** 84.52 36 ⇑P P 08 33 58.9 -0.2
baz=85
EGMT **Eagleton** 84.60 37 *e*P P 08 33 59.8 +0.3
comp=Z,50nm,1.9s
EGMT **Eagleton** 84.60 37 ⇓P P 08 33 59.3 -0.2
baz=85
H21A **Big Horn, Sher** 84.61 41 ⇓P P 08 33 59.7 0.0
baz=85
I22A **9 Mile Ranch,** 84.63 42 ⇓P P 08 33 59.4 -0.4
baz=85,SNR=7.1
M24A **Cheyenne** 84.65 45 ⇓P P 08 33 60.0 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=85						
K23A	Bowen Ranch, D	84.68	43	⇑P	P	08 34 00.3	+0.1
	baz=85						
D19A	Cripps Ranch,	84.69	38	⇑P	P	08 34 00.2	+0.3
	baz=85						
R27A	Eads	84.73	48	⇓P	P	08 33 60.0	-0.4
	baz=85						
T28A	Walsh	84.76	49	⇑P	P	08 34 00.4	-0.2
	baz=85						
B18A	Beardsley Farm	84.77	37	⇑P	P	08 34 00.6	+0.3
	baz=85						
E20A	Meyer Farm, Mu	84.82	39	⇓P	P	08 34 01.2	+0.6
	baz=85						
P26A	Davis Ranch, A	84.86	47	⇓P	P	08 34 01.0	-0.1
	baz=85						
C19A	Slack Wire Ran	84.87	38	⇓P	P	08 34 00.6	-0.2
	baz=85,SNR=9.7						
ABTX	Abilene, Hawle	84.91	54	⇓P	P	08 34 01.1	-0.3
	baz=85						
A18A	Metzger Ranch,	84.99	36	⇓P	P	08 34 01.2	-0.2
	baz=85						
H22A	Clearmont	85.04	41	⇓P	P	08 34 01.8	0.0
	baz=85						
D20A	Manuel Ranch,	85.10	38	⇑P	P	08 34 02.1	+0.1
	baz=85,SNR=7.9						
B19A	Brinkman Farms	85.28	37	⇑P	P	08 34 03.2	+0.3
	baz=85						
C20A	Veseth Ranch,	85.47	38	⇓P	P	08 34 04.4	+0.5
	baz=86						
BJI	Beijing	85.55	313	P	P	08 34 04.6	+0.3
BJI				S	S	08 44 36.8	+2.6
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
BJI				pmax	pmax		
	comp=Z,160nm,4.0s						
BJI				LR	LR		
	comp=N,300nm,18.2s						
BJI				LR	LR		
	comp=E,300nm,13.4s						
BJI				LR	LR		
	comp=Z,350nm,28.7s						
A19A	Klindworth Far	85.63	37	⇓P	P	08 34 04.6	0.0
	baz=86						
D21A	La Casta Ranch	85.77	39	⇑P	P	08 34 05.7	+0.4
	baz=86						
G23A	Biddle	85.92	41	⇑P	P	08 34 06.4	+0.3
	baz=86						
C21A	Desert Coulee	86.07	38	⇑P	P	08 34 06.9	+0.1
	baz=86						
A20A	Cobblestone Ra	86.08	37	⇑P	P	08 34 07.1	+0.3
	baz=86						
F23A	Volborg	86.14	41	⇓P	P	08 34 07.4	+0.2
	baz=86						
H24A	Dirks Ranch, A	86.25	42	⇓P	P	08 34 07.7	-0.1
	baz=86						
K26A	Motz Farm, Whi	86.28	44	⇑P	P	08 34 08.1	0.0
	baz=86						
D22A	Cohagen	86.31	39	⇑P	P	08 34 08.2	+0.2
	baz=86						
RSSD	Black Hills	86.32	42	*e*P	P	08 34 07.2	-1.1
RSSD				pmax	pmax		
	comp=Z,42nm,2.1s						
RSSD	Black Hills	86.32	42	*e*P	P	08 34 07.2	-1.1
	comp=Z,42nm,2.1s						
B21A	Ellsworth Farm	86.39	38	⇓P	P	08 34 09.0	+0.7
	baz=87						
WHTX	Lake Whitney	86.41	56	⇑P	P	08 34 09.0	+0.2
	baz=87						
G24A	Alzada	86.59	41	⇑P	P	08 34 09.4	-0.1
	baz=87						
A21A	Bergtoll Ranch	86.71	37	⇑P	P	08 34 10.4	+0.5
	baz=87						
D23A	Lindsay	86.91	39	⇑P	P	08 34 11.2	+0.2
	baz=87						
C23A	Lambert	87.20	39	⇑P	P	08 34 12.6	+0.2
	baz=87						
A22A	Carney Farms,	87.30	37	⇓P	P	08 34 13.1	+0.2
	baz=88						
D24A	Glendive	87.42	40	⇓P	P	08 34 14.1	+0.7
	baz=88						
B23A	Brockton	87.61	38	⇓P	P	08 34 15.1	+0.9
	baz=88						
MAW	Mawson	87.89	199	LR	LR	09 13 31.8	
	comp=Z,597nm,19.5s,baz=122,slow=36						
DGMT	Dagmar	88.09	38	*e*P	P	08 34 17.3	+0.8
	comp=Z,25nm,1.1s						
DGMT	Dagmar	88.09	38	⇓P	P	08 34 17.2	+0.6
	baz=88						
GYA	Guiyang	88.15	298	P	P	08 34 17.0	-0.5
GYA				PP	PP	08 37 46.5	+1.6
GYA				SKS	SKSac	08 44 42.3	-2.3
GYA				S	S	08 44 59.2	-1.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,530nm,18.6s						
GYA				LR	LR		
	comp=E,470nm,19.3s						
GYA				LR	LR		
	comp=Z,560nm,18.2s						
INK	Inuvik	88.18	14	*e*P	P	08 34 16.2	-0.3
	comp=Z,17nm,1.4s						
HHC	Hu-ho-hao-te	89.10	313	*e*P	P	08 34 21.3	-0.3
HHC				sP	sP	08 34 27.2	-7.1
HHC				PP	PP	08 37 53.5	+1.3
HHC				SKS	SKSac	08 44 48.5	-1.2
HHC				S	S	08 45 07.6	-1.1
HHC				sS	ScS	08 45 14.7	+1.0
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,350nm,4.9s						
HHC				LR	LR		
	comp=N,210nm,17.8s						
HHC				LR	LR		
	comp=E,360nm,16.7s						
HHC				LR	LR		
	comp=Z,380nm,20.2s						
PLCA	Paso Flores	89.43	132	LR	LR	09 04 10.3	
	comp=Z,480nm,21.6s,baz=70,slow=29						
YKA	Yellowknife Ar	89.99	23	P	P	08 34 24.3	-0.8
	comp=Z,2.2nm,0.8s,baz=241,slow=4.5,SNR=23						
YKA	Yellowknife Ar	89.99	23	P	P	08 34 24.3	-0.8
YKW3	Yellowknife Ar	90.02	23	*e*P	P	08 34 25.3	+0.1
	comp=Z,0.2nm,1.4s						
KMI	Kunming	91.14	296	P	P	08 34 31.6	0.0
KMI				pP	PcP	08 34 35.4	+2.8
KMI				sP	sP	08 34 36.9	-7.5
KMI				SKS	SKSac	08 45 03.9	+1.5
KMI				S	S	08 45 29.2	+0.7
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
KMI				pmax	pmax		
	comp=Z,110nm,3.9s						
KMI				LR	LR		
	comp=N,230nm,19.0s						
KMI				LR	LR		
	comp=E,280nm,18.2s						
KMI				LR	LR		
	comp=Z,320nm,17.5s						
CD2	Chengdu	91.91	301	P	P	08 34 35.0	+0.1
CD2				pP	PcP	08 34 39.8	+4.1
CD2				sP	sP	08 34 42.0	-5.6
CD2				PP	PP	08 38 16.9	+2.2
CD2				SKS	SKSac	08 45 06.5	+0.3
CD2				S	S	08 45 34.0	-0.9
CD2				sS	ScS	08 45 41.4	+4.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.9s						
CD2				LR	LR		
	comp=N,490nm,8.9s						
CD2				LR	LR		
	comp=Z,360nm,7.7s						
SYO	Syowa Base	92.68	191	⇑*e*P	P	08 34 38.4	+0.8
CMAR	Chiang Mai Arr	92.74	288	LR	LR	09 11 23.4	
	comp=Z,359nm,20.9s,baz=271,slow=32						
VNA3	Neumayer Olymp	92.89	175	*e*P	P	08 34 44.5	+5.9
AGMN	Agassiz Nation	93.15	41	*e*P	P	08 34 39.7	-0.4
	comp=Z,2.4nm,0.7s						
LZH	Lanzhou	93.32	306	*e*P	P	08 34 40.0	-1.4
LZH				pP	PcP	08 34 44.5	+2.5
LZH				sP	sP	08 34 47.0	-7.1
LZH				SKS	SKSac	08 45 12.3	-1.7
LZH				S	S	08 45 43.1	-4.3
LZH				sS	ScS	08 45 52.0	+2.9
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				pmax	pmax		
	comp=Z,59nm,4.0s						
LZH				LR	LR		
	comp=N,220nm,16.4s						
LZH				LR	LR		
	comp=E,350nm,14.2s						
LZH				LR	LR		
	comp=Z,320nm,15.4s						
VNA2	Neumayer--Watz	93.39	175	*e*P	P	08 34 44.7	+3.8
ULM	Lac du Bonnet	93.80	39	P	P	08 34 42.4	-0.6
	comp=Z,0.9nm,0.5s,baz=314,slow=4.6,SNR=3.3						
ULM				LR	LR	09 12 28.8	
	comp=Z,485nm,18.9s,baz=122,slow=33						
ULM	Lac du Bonnet	93.80	39	P	P	08 34 42.4	-0.6
SPMN	St. Paul	94.18	44	⇑P	P	08 34 45.3	+0.4
	baz=94						
SONM	Songino Array	94.91	318	P	P	08 34 47.6	-0.7
	comp=Z,0.5nm,0.8s,baz=100,slow=3.3,SNR=4.0						
SONM				PP	PP	08 38 35.0	-2.8
	comp=Z,0.1nm,0.3s,baz=101,slow=6.2,SNR=3.9						
SONM				LR	LR	09 12 38.4	
	comp=Z,388nm,20.9s,baz=277,slow=32						
SONM	Songino Array	94.91	318	P	P	08 34 47.6	-0.7
SONM				PP	PP	08 38 35.0	-2.8
GTA	Gaotai	97.27	309	*e*P	Pdif	08 35 00.0	+0.6
GTA				pP	pP	08 35 04.8	-3.9
GTA				sP	sP	08 35 07.0	-5.0
GTA				SKS	SKSac	08 45 35.8	+1.0
GTA				S	S	08 46 18.5	-3.0
GTA				sS	ScS	08 46 26.9	+5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,120nm,5.5s						
GTA				LR	LR		
	comp=N,230nm,19.5s						
GTA				LR	LR		
	comp=E,510nm,19.0s						
GTA				LR	LR		
	comp=Z,690nm,20.4s						
LPAZ	La Paz	99.68	110	LR	LR	09 14 30.8	
	comp=Z,293nm,18.8s,baz=310,slow=32						
ROSC	El Rosal	99.85	88	LR	LR	09 11 16.1	
	comp=Z,310nm,19.8s,baz=353,slow=30						
KSH	Kashi	115.56	307	*e*PKP	PKPdf	08 40 11.4	+2.9
KSH				*e*PP	PP	08 41 16.6	+5.6
KSH				PKS	PKSdf	08 43 45.3	0.0
KSH				SKS	SKSdf	08 47 22.0	+3.1
KSH				SKKS	SKKSac	08 48 11.1	+0.7
KSH				AMB	AMB		
	comp=Z,78nm,5.1s						
KSH				LR	LR		
	comp=N,100nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,5.1s						
KSH				LR	LR		
	comp=Z,290nm,17.7s						
BVAR	Borovoye Array	117.94	322	PKP	PKPdf	08 40 12.0	-0.5
	comp=Z,1.1nm,0.7s,baz=77,slow=3.3,SNR=6.2						
BVAR	Borovoye Array	117.94	322	PKIKP	PKPdf	08 40 12.0	-0.5
BVAR	Borovoye Array	117.94	322	PKP	PKPdf	08 40 12.0	-0.5
ARCES	ARCESS Array B	124.58	352	PKP	PKPdf	08 40 24.3	-0.5
	comp=Z,2.8nm,0.9s,baz=29,slow=2.8,SNR=3.6						
ARCES	ARCESS Array B	124.58	352	PKP	PKPdf	08 40 24.3	-0.5
APA	Apatity	125.02	348	⇑*i*PKIKP	PKPdf	08 40 25.6	0.0
AKTO	Aktyubinsk	126.04	322	PKP	PKPdf	08 40 28.1	0.0
	comp=Z,0.5nm,0.4s,baz=32,slow=3.0,SNR=4.5						
AKTO	Aktyubinsk	126.04	322	PKIKP	PKPdf	08 40 28.1	0.0
AKTO	Aktyubinsk	126.04	322	PKP	PKPdf	08 40 28.1	0.0
FINES	FINESS Array B	131.93	348	PKP	PKPdf	08 40 39.3	+0.3
	comp=Z,1.7nm,0.9s,baz=122,slow=5.1,SNR=3.2						
FINES	FINESS Array B	131.93	348	PKP	PKPdf	08 40 39.3	+0.3
BOSA	Boshof	132.78	202	PKP	PKPdf	08 40 39.5	-2.4
	comp=Z,6.3nm,1.2s,baz=112,slow=3.3,SNR=3.2						
BOSA	Boshof	132.78	202	PKP	PKPdf	08 40 39.5	-2.4
KIV	Kislovodsk	138.26	320	PKIKP	PKPdf	08 40 47.0	-4.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AKASG	Malin Array Be	140.35	338	PKP	PKPdf	08 40 55.6	+0.7
	comp=Z,0.4nm,0.3s,baz=25,slow=1.4,SNR=4.1						
AKASG	Malin Array Be	140.35	338	*i* PKIKP	PKPdf	08 40 57.7	+2.8
AKASG	Malin Array Be	140.35	338	PKP	PKPdf	08 40 55.6	+0.7
CLL	Collm	143.78	353	*e*PKIKP	PKPdf	08 41 06.0	+5.0
CLL				MLR	MLR		
	comp=Z,200nm,19.1s						
CLL	Collm	143.78	353	*e*PKiKP	PKiKP	08 41 05.0	+0.5
CLL				Lm	MLR	09 52 00.0	
	comp=N,100nm,19.3s						
CLL				Lm	MLR	09 52 00.0	
	comp=E,200nm,21.8s						
CLL				Lm	MLR	09 52 00.0	
	comp=Z,200nm,19.1s						
TSUM	Tsumeb	144.05	198	*e*PKPdf	PKPdf	08 41 02.0	-0.7
KOLS	Kolonicke sedl	144.17	342	*e*PKIKP	PKPdf	08 41 03.9	+2.1
KOLS	Kolonicke sedl	144.17	342	*e*PKP	PKPdf	08 41 03.9	+2.1
DPC	Dobruska-Polom	144.24	350	*e*PKIKP	PKPbc	08 41 00.7	+0.5
DPC				*e*		08 41 11.0	
DPC	Dobruska-Polom	144.24	350	*e*PKIKP	PKPdf	08 41 03.8	+1.8
DPC	Dobruska-Polom	144.24	350	*e*PKPdf	PKPdf	08 41 03.8	+1.8
DPC	Dobruska-Polom	144.24	350	*e*PKP	PKPbc	08 41 00.7	+0.5
DPC				*e*pPKP	pPKPdf	08 41 11.0	-0.6
BUR08	Bucovina Ar. S	144.36	338	*e*PKPdf	PKPab	08 40 54.0	-6.4
BURAR	Bucovina Array	144.38	338	⇓*i*P	PKPdf	08 41 02.9	+0.5
CRVS	Cervenica-Dubn	144.43	343	*e*PKIKP	PKPab	08 40 59.8	-0.7
CRVS	Cervenica-Dubn	144.43	343	*e*PKP	PKPab	08 40 59.8	-0.7
UZH	Uzhgorod	144.44	342	⇑*i*PKIKP	PKPab	08 41 00.3	-0.2
UZH				*i*		08 41 10.8	
UZH				*e*		08 41 16.6	
TRPA	Tarpa	144.81	342	⇑*i*P	PKPbc	08 41 02.4	+0.5
TRPA	Tarpa	144.81	342	⇓*e*PKPbc	PKPbc	08 41 02.0	+0.1
VRAC	Vranov	145.19	349	PKPbc	PKPdf	08 41 04.0	+0.4
	comp=Z,2.6nm,0.4s,baz=349,slow=12,SNR=4.6						
VRAC	Vranov	145.19	349	PKPbc	PKPdf	08 41 04.0	+0.4
CFR	Carcaliu	145.22	333	⇑PKIKP	PKPdf	08 41 04.2	+0.5
CFR	Carcaliu	145.22	333	⇑*i*P	PKPdf	08 41 04.2	+0.5
VRI	Vrincioaia	145.26	335	⇑PKIKP	PKPbc	08 41 03.0	-0.5
VRI	Vrincioaia	145.26	335	⇑*i*P	PKPbc	08 41 03.0	-0.5
PLOR	Plostina	145.31	335	⇑PKIKP	PKPdf	08 41 04.0	+0.1
PLOR	Plostina	145.31	335	⇑*i*P	PKPdf	08 41 04.0	+0.1
VYHS	Vyhne	145.48	346	*e*PKIKP	PKPdf	08 41 03.9	-0.2
VYHS	Vyhne	145.48	346	*e*PKP	PKPdf	08 41 03.9	-0.2
GRFO	Grafenberg	145.56	355	*e*PKIKP	PKPab	08 41 07.2	+2.6
GRFO	Grafenberg	145.56	355	*e*PKPdf	PKPab	08 41 07.2	+2.6
KMBO	Kilima Mbogo	145.69	244	*e*PKPdf	PKPab	08 41 07.5	+1.0
PSZ	Piszkesteto	145.75	344	*e*PKP2	PKPbc	08 41 05.1	0.0
PSZ	Piszkesteto	145.75	344	*e*PKPdf	PKPbc	08 41 05.1	0.0
PSZ	Piszkesteto	145.75	344	⇓*i*P	PKPab	08 41 06.9	+1.4
PSZ	Piszkesteto	145.75	344	⇑*e*PKPdf	PKPbc	08 41 05.0	-0.1
KHC	Kasperske Hory	145.85	352	*e*PKP2	PKPdf	08 41 04.9	+0.1
KHC	Kasperske Hory	145.85	352	*e*PKPdf	PKPdf	08 41 04.9	+0.1
KHC	Kasperske Hory	145.85	352	*e*PKP	PKPbc	08 41 05.1	-0.2
KHC				*e*pPKP	PKiKP	08 41 10.9	+2.0
MLR	Muntele Rosu	145.88	336	PKPbc	PKPbc	08 41 05.9	+0.3
	comp=Z,2.6nm,0.7s,baz=131,slow=5.4,SNR=10						
MLR	Muntele Rosu	145.88	336	PKPbc	PKPbc	08 41 05.9	+0.3
MLR	Muntele Rosu	145.88	336	⇑*i*P	PKPab	08 41 06.1	0.0
DRGR		145.94	340	⇑PKP2	PKPbc	08 41 05.8	+0.1
DRGR		145.94	340	⇑*i*P	PKPbc	08 41 05.8	+0.1
ISR	Istrita	145.95	335	⇑PKP2	PKPbc	08 41 05.9	+0.1
ISR	Istrita	145.95	335	⇑*i*P	PKPbc	08 41 05.9	+0.1
GERES	GERESS Array B	146.11	352	PKPbc	PKPbc	08 41 06.1	-0.1
	comp=Z,4.0nm,0.8s,baz=25,slow=3.4,SNR=20						
GERES	GERESS Array B	146.11	352	PKPbc	PKPbc	08 41 06.1	-0.1
BR131	Keskin Array S	146.21	321	*e*PKPdf	PKPbc	08 41 07.2	+0.4
BRTR	Keskin Array B	146.21	321	PKPbc	PKPab	08 41 07.3	-0.2
	comp=Z,13nm,0.8s,baz=105,slow=2.4,SNR=30						
BRTR	Keskin Array B	146.21	321	PKPbc	PKPab	08 41 07.3	-0.2
VOIR		146.28	337	⇓PKP2	PKPab	08 41 07.5	-0.1
VOIR		146.28	337	⇓*i*P	PKPab	08 41 07.5	-0.1
ARR	Arges	146.50	337	⇑*i*P	PKPab	08 41 08.7	+0.3
CONA	Conrad Observa	146.65	349	⇓*i*PKPbc	PKPdf	08 41 05.9	-0.3
	comp=Z,14nm,1.0s						
SOP	Sopron	146.75	348	⇓*e*PKPdf	PKPab	08 41 10.8	+1.6
BFO	Black Forest	147.09	358	*e*PKP2	PKPbc	08 41 08.2	-0.8
BFO	Black Forest	147.09	358	*e*PKPbc	PKPbc	08 41 08.2	-0.8
BZS	Buzias	147.34	341	⇓PKIKP	PKPdf	08 41 07.5	+0.1
BZS	Buzias	147.34	341	⇓*i*P	PKPdf	08 41 07.4	+0.1
ARSA	Arzberg	147.37	349	⇓*i*PKPab	PKPbc	08 41 10.4	+0.6
	comp=Z,11nm,1.1s						
PKSM	Moragy	147.66	344	⇑PKIKP	PKPdf	08 41 07.1	-0.7
PKSM	Moragy	147.66	344	⇑*i*P	PKPdf	08 41 07.1	-0.7
PKSM	Moragy	147.66	344	⇓*e*PKPdf	PKPdf	08 41 08.1	+0.3
ASF	Jabal al Asfar	147.88	307	PKPbc	PKPbc	08 41 11.6	-0.2
	comp=Z,1.2nm,0.6s,baz=164,slow=3.1,SNR=3.5						
ASF	Jabal al Asfar	147.88	307	PKPbc	PKPbc	08 41 11.6	-0.2
WTTA	Wattenberg	147.92	354	⇑*i*pPKPdf	PKPbc	08 41 11.2	-0.3
	comp=Z,17nm,1.5s						
PERS	Pernice	148.03	349	*i* PKPdf	PKPbc	08 41 11.4	-0.2
ABTA	Abfaltersbach	148.33	352	⇓*i*pPKPdf	PKPbc	08 41 11.9	-0.6
	comp=Z,17nm,1.0s						
DAVOX	Davos/Dischmat	148.55	356	PKPbc	PKPbc	08 41 14.0	+0.8
	comp=Z,8.0nm,0.7s,baz=355,slow=8.4,SNR=7.5						
DAVOX	Davos/Dischmat	148.55	356	PKPbc	PKPbc	08 41 14.0	+0.8
VISS	Visnje	148.89	349	*i* PKPdf	PKPbc	08 41 12.5	-1.3
TUE	Stuetta	148.89	357	*e*PKPbc	PKPab	08 41 16.8	-1.2
JAVS	Javornik	148.94	350	*i* PKPdf	PKPbc	08 41 13.0	-1.0
BOJS	Bojanci	149.10	348	*i* PKPdf	PKPbc	08 41 14.4	0.0
EIL	Elat	150.41	304	PKPbc	PKPbc	08 41 19.0	+0.9
	comp=Z,5.1nm,0.7s,baz=59,slow=4.3,SNR=8.6						
EIL	Elat	150.41	304	PKPbc	PKPbc	08 41 19.0	+0.9
ESDC	Sonseca Array	154.01	19	PKPab	PKPab	08 41 39.4	+0.2
	comp=Z,0.7nm,0.5s,baz=324,slow=3.5,SNR=3.9						
ESDC	Sonseca Array	154.01	19	PKPab	PKPab	08 41 39.4	+0.2
TORD	Torodi Ar. Bea	174.62	113	PKP	PKPdf	08 41 38.2	+1.4
	comp=Z,1.6nm,1.1s,baz=256,slow=1.1,SNR=4.4						
TORD				PKPab	PKPab	08 43 09.9	-0.4
	comp=Z,0.9nm,0.9s,baz=259,slow=4.3,SNR=3.3						
TORD	Torodi Ar. Bea	174.62	113	PKP	PKPdf	08 41 38.2	+1.4
TORD				PKPab	PKPab	08 43 09.9	-0.4

---

*CSEM **06** 08:24:22.5, 43°.77N×11°.93E, h11km, MD1.7/4, After ROM*

ROM 06 08:24:22.5±0.1**, 43°.77N×11°.93E, h11**km±1km**, Md1.7**/4**, Ml1.2**/3**, Error ellipse: s-maj=2.3km s-min=0.8km az=44.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASQU	Asqua	0.11	282	Pg	Pg	08 24 25.8	+0.4
ASQU				Sg	Sg	08 24 27.9	+0.4
ASQU	Asqua	0.11	282	Pg	Pg	08 24 25.8	+0.4
ASQU				Sg	Sg	08 24 27.9	+0.4
SFI	Santa Sofia	0.14	334	Pg	Pg	08 24 26.5	+0.6
SFI				Sg	Sg	08 24 29.1	+0.8
	65nm,0.5s						
SFI	Santa Sofia	0.14	334	Pg	Pg	08 24 26.5	+0.6
SFI				Sg	Sg	08 24 29.1	+0.8
	65nm,0.5s						
CRE	Caprese Michel	0.15	175	Pg	Pg	08 24 26.6	+0.5
CRE				Sg	Sg	08 24 29.5	+0.8
	63nm,0.3s						
CRE	Caprese Michel	0.15	175	Pg	Pg	08 24 26.6	+0.5
CRE				Sg	Sg	08 24 29.5	+0.8
	63nm,0.3s						
PARC	Parchiule	0.25	119	Pg	Pg	08 24 28.3	+0.5
PARC				Sg	Sb	08 24 32.6	-1.1
	729nm,4.3s						
PARC	Parchiule	0.25	119	Pg	Pg	08 24 28.3	+0.5
PARC				Sg	Sb	08 24 32.6	-1.1
	729nm,4.3s						

IDC 06 08:29:28.0±3.5**, 14°.53S×173°.88W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.7**/19**, mbtmp3.7**/4**, Error ellipse: s-maj=185.2km s-min=36.9km az=141.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.13	73	Pn	Pn	08 29 53.9	-11
	34nm,0.3s,baz=57,slow=6.4,SNR=12						
AFI				Sn	Sn	08 30 11.3	-21
	141nm,0.3s,baz=72,slow=20,SNR=12						
STKA	Stephens Creek	44.07	239	P	P	08 37 37.2	-0.8
	0.6nm,0.3s,baz=70,slow=12,SNR=2.9						
WRA	Warramunga Arr	49.59	256	P	P	08 38 21.2	-0.2
	0.3nm,0.4s,baz=90,slow=7.6,SNR=12						
ASAR	Alice Springs	49.94	251	P	P	08 38 24.6	+0.5
	1.5nm,0.6s,baz=88,slow=7.8,SNR=33						
YKA	Yellowknife Ar	89.49	24	P	P	08 42 26.5	-0.1
	0.1nm,0.6s,baz=245,slow=5.6,SNR=3.6						

IDC 06 08:33:38.9±1.4**, 21°.60S×69°.02E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/24**, mbtmp3.6**/4**, Error ellipse: s-maj=69.3km s-min=28.4km az=23.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	59.45	105	P	P	08 43 43.7	-0.3
	0.5nm,0.9s,baz=263,slow=6.2,SNR=5.4						
WRA	Warramunga Arr	60.68	101	P	P	08 43 52.6	+0.1
	0.7nm,0.9s,baz=259,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	69.12	10	P	P	08 44 46.8	0.0
	0.3nm,0.6s,baz=182,slow=5.6,SNR=3.8						
TORD	Torodi Ar. Bea	74.53	291	P	P	08 45 20.1	+0.1
	1.1nm,1.2s,baz=118,slow=6.2,SNR=3.0						

---

*FUNV **06** 08:37:40.5, 6°.70N×73°.18W, h180km, MW3.7*

*ISCJB **06** 08:37:41.8±0.6, 6°.91N±0°.07×72°.94W±0°.06, h183km±7km, mb3.1/3, Error ellipse: s-maj=13.4km s-min=6.9km az=137.7*

*IDC **06** 08:37:45.1±4.0, 6°.78N×73°.29W, h189km±29km, mb2.8/3, mb1 3.3/4, mb1mx3.0/23, mbtmp2.9/4, Error ellipse: s-maj=74.4km s-min=32.8km az=78.0*

ISC 06 08:37:42.6±0.9**, 6°.91N**±0°.07×**72°.95W**±0°.07**, h177**km±8km**, n16, σ0s.98**/23**, mb3.0**/3**, 3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.14	34	⇓*i*P	Pn	08 38 11.9	+0.5
CAPV				*e*S	Sn	08 38 33.7	-0.1
ROSC	El Rosal	2.46	214	P	Pn	08 38 25.1	+0.1
	11nm,0.3s,baz=277,slow=22,SNR=44						
ROSC				S	Sn	08 38 56.7	-1.3
	29nm,0.3s,baz=88,slow=19,SNR=19						
SOCV	Socops	2.49	57	⇓*i*P	Pn	08 38 26.0	+0.9
SOCV				*e*S	Sn	08 38 58.4	+0.4
ELOV	Elorza	3.45	88	⇓*i*P	Pn	08 38 37.0	+0.4
VIRV	Villa del Rosa	3.61	9	*e*P	Pn	08 38 37.8	-1.0
VIRV				*e*S	Sn	08 39 22.1	-0.6
QARV	Quebrada Arrib	4.06	36	*e*P	Pn	08 38 44.9	+0.4
CURV	Curarigua	4.27	44	*e*P	Pn	08 38 48.2	+0.9
TEPV	Terepaima	4.80	51	*e*P	Pn	08 38 54.5	+0.5
TEPV				*e*S	Sn	08 39 49.6	-0.4
SIQV	Siquisique	4.84	40	*e*P	Pn	08 38 54.0	-0.6
BAUV	El Baul	5.27	67	*e*P	Pn	08 38 59.3	-0.7
BAUV				*e*S	Sn	08 39 59.0	-1.8
MAPV	Macapo	5.31	57	*e*P	Pn	08 39 00.8	+0.2
MAPV				*e*S	Sn	08 39 59.9	-2.0
MONV	Montecano	5.81	30	*e*P	Pn	08 39 06.8	-0.4
TXAR	Lajitas Array	36.53	311	P	P	08 44 30.3	-1.1
	0.2nm,0.5s,baz=122,slow=9.1,SNR=6.4						
NVAR	Mina Array Bea	51.54	314	P	P	08 46 32.0	+1.2
	0.2nm,0.5s,baz=112,slow=6.9,SNR=2.6						
YKA	Yellowknife Ar	63.24	340	P	P	08 47 53.0	+1.1
	0.3nm,0.5s,baz=134,slow=6.7,SNR=6.2						
WRA	Warramunga Arr	150.53	241	PKPbc	PKPbc	08 57 14.0	-0.3
	0.6nm,0.8s,baz=103,slow=2.7,SNR=4.1						

---

*IDC **06** 08:44:11.5±5.6, 6°.84S×130°.29E, h71km±51km, mb3.8/5, mb1 4.3/8, mb1mx4.0/19, mbtmp4.2/8, ML5.1/3, Error ellipse: s-maj=72.9km s-min=19.1km az=61.0*

*NEIC **06** 08:44:12.6±2.0, 6°.90S×130°.22E, h83km±21km, mb4.0/4, Error ellipse: s-maj=16.9km s-min=10.9km az=222.0*

*AUST **06** 08:44:13.0, 6°.98S×130°.04E, h60km*

*DJA **06** 08:44:22.5±0.5, 6°S±5°×13°1E±°, h132km±7km, M4.5/10, mB5.3/4, mb4.7/10, MLv4.4/8, Mw(mB)4.7/4*

ISC 06 08:44:12.2±0.5**, 7°.00S**±0°.04×**130°.43E**±0°.05**, h78**km**, n70, σ2s.73**/72**, mb4.6**/13**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.52	348	P	Pn	08 44 55.7	+4.7
TLE	Tual	2.66	59	P	Pn	08 45 00.7	+7.7
	baz=3.0,SNR=73						
TLE				S	Sn	08 45 29.4	+5.0
	baz=3.0,SNR=16						
TLE	Tual	2.66	59	P	Pn	08 45 00.5	+7.5
TLE				S	Sn	08 45 29.2	+4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	3.93	338	P	Pn	08 45 14.6	+4.4
AAI	Ambon	3.98	326	P	Pn	08 45 15.3	+4.5
FAKI	Fak Fak	4.44	24	P	Pn	08 45 19.5	+2.3
FAKI				S	Sn	08 46 03.3	-4.4
NLAI	Namlea	5.00	318	P	Pn	08 45 30.7	+5.9
MTN	Manton Dam	5.84	173	P	Pn	08 45 42.3	+6.0
	baz=6.0,SNR=864						
MTN				S	Sn	08 46 47.3	+5.4
	baz=6.0,SNR=6.3						
KDU	Kakadu	6.00	161	P	Pn	08 45 44.4	+6.0
	baz=6.2,SNR=56						
KDU				S	Sn	08 46 49.6	+4.0
	baz=6.2,SNR=5.8						
LBMI	Labuha	6.97	335	P	Pn	08 45 54.4	+2.8
	107nm,0.8s,1μm0.4nm						
LBMI				S	Sn	08 47 07.4	-2.0
	107nm,0.8s,1μm0.4nm						
BBSI	Bau Bau	7.96	280	P	Pn	08 46 14.7	+10
	40nm,1.0s						
BAKI	Biak	8.09	45	P	Pn	08 46 11.8	+4.9
	217nm,0.6s,3μm						
BAKI				S	Sn	08 47 35.8	-1.0
	217nm,0.6s,3μm						
TNTI	Ternate	8.31	338	P	Pn	08 46 12.0	+2.0
	121nm,0.8s						
KDI	Kendari	8.34	291	P	Pn	08 46 17.3	+6.8
	22nm,0.8s						
WSI	Waingapu	10.37	255	S	Sn	08 48 36.6	+3.9
	baz=10.0,SNR=3.5						
BKSI	Bulukumba	10.38	279	P	Pn	08 46 49.1	+11
	11nm,0.8s						
SPSI	Sidrap Palu	11.03	285	P	Pn	08 46 57.9	+11
	39nm,0.6s						
MRSI	Marisa	11.27	311	P	Pn	08 46 55.1	+4.7
	30nm,0.9s,1μm						
FITZ	Fitzroy Crossi	11.98	203	P	Pn	08 47 00.5	+0.5
	13nm,0.3s,baz=37,slow=12,SNR=88						
FITZ				S	Sn	08 49 06.1	-5.8
	8.0nm,0.3s,baz=89,slow=21,SNR=5.5						
FITZ	Fitzroy Crossi	11.98	203	ePn	Pn	08 47 00.3	+0.3
FITZ				eSn	Sn	08 49 08.3	-3.6
FITZ	Fitzroy Crossi	11.98	203	P	Pn	08 47 00.5	+0.5
	baz=12,SNR=251						
FITZ				S	Sn	08 49 04.0	-7.9
	baz=12,SNR=4.5						
PCI	Palu	12.18	299	P	P	08 47 18.4	+6.1
	baz=12,SNR=3.4						
WRAB	Tennant Creek	13.40	164	ePn	Pn	08 47 19.9	+0.7
	39nm,0.7s						
WRAB				eSn	Sn	08 49 42.4	-4.1
WRA	Warramunga Arr	13.41	164	P	Pn	08 47 20.2	+0.9
	11nm,0.3s,baz=335,slow=13,SNR=144						
WRA				S	Sn	08 49 42.2	-4.5
	9.3nm,0.3s,baz=334,slow=23,SNR=10						
WRA	Warramunga Arr	13.41	164	P	Pn	08 47 20.2	+0.9
WRA				S	Sn	08 49 42.2	-4.5
COEN	Coen	14.30	120	ePn	P	08 47 35.9	0.0
COEN				eSn	Sn	08 50 05.4	-3.1
COEN	Coen	14.30	120	P	P	08 47 36.7	+0.8
	baz=15,SNR=28						
COEN				S	Sn	08 50 05.5	-3.0
	baz=15,SNR=9.2						
NBBI	Negara	15.73	264	P	P	08 48 00.8	+9.1
BBKI	Banjar Baru	15.92	282	P	P	08 47 55.3	+1.5
	92nm,0.8s						
QIS	Mount Isa	16.14	147	P	P	08 47 59.7	+3.5
	baz=16,SNR=5.4						
QIS				S	Sn	08 50 47.1	-5.9
	baz=16,SNR=5.6						
AS31	Alice Springs	16.90	169	eP	P	08 48 06.1	+1.4
AS31				eS	Sn	08 51 08.6	-2.6
ASAR	Alice Springs	16.90	169	P	P	08 48 05.8	+1.2
	3.2nm,0.3s,baz=346,slow=14,SNR=172						
ASAR				S	Sn	08 51 07.4	-3.8
	1.9nm,0.3s,baz=350,slow=27,SNR=7.3						
ASAR	Alice Springs	16.90	169	P	P	08 48 05.8	+1.2
ASAR				S	Sn	08 51 07.5	-3.8
MBWA	Marble Bar	17.47	215	eP	P	08 48 12.9	+2.0
	7.9nm,0.7s						
MBWA				eS	Sn	08 51 20.0	-4.9
SJI	Sawahan	18.52	267	P	Pn	08 48 27.8	+4.1
MEEK	Meekatharra	22.53	209	P	P	08 49 08.3	+2.5
	baz=22,SNR=7.1						
MEEK				S	Sn	08 53 21.9	-4.5
	baz=22,SNR=3.6						
QLP	Quilpie	23.49	148	P	P	08 49 23.3	+8.1
	baz=24,SNR=5.0						
KMBL	Kambalda	25.52	197	P	P	08 49 35.6	+2.1
	baz=26,SNR=6.5						
STKA	Stephens Creek	26.85	159	P	P	08 49 47.9	+2.4
	0.9nm,0.4s,baz=341,slow=14,SNR=8.3						
STKA	Stephens Creek	26.85	159	eP	P	08 49 47.3	+1.7
	1.1nm,1.1s						
STKA	Stephens Creek	26.85	159	P	P	08 49 47.9	+2.4
	baz=27,SNR=6.2						
CMAR	Chiang Mai Arr	40.06	310	P	P	08 51 38.9	-1.3
	1.9nm,0.5s,baz=143,slow=7.7,SNR=9.1						
CMAR	Chiang Mai Arr	40.06	310	P	P	08 51 38.9	-1.3
ODAN	Odare	53.58	311	eP	P	08 53 23.8	-2.0
	18nm,0.6s						
ODAN	Odare	53.58	311	eP	P	08 53 23.8	-2.0
	18nm,0.6s						
TAPN	Taplejung	53.61	311	eP	P	08 53 24.2	-1.9
	13nm,0.5s						
TAPN	Taplejung	53.61	311	eP	P	08 53 24.2	-1.9
	13nm,0.5s						
RAMN	Ramite	54.23	310	eP	P	08 53 28.8	-1.8
	31nm,0.6s						
RAMN	Ramite	54.23	310	eP	P	08 53 28.8	-1.8
	31nm,0.6s						
GUN	Gumba	55.28	311	eP	P	08 53 36.3	-2.0
	20nm,0.5s						
GUN	Gumba	55.28	311	eP	P	08 53 36.3	-2.0
	20nm,0.5s						
KKN	Kakani	55.66	310	eP	P	08 53 38.8	-2.1
	11nm,0.5s						
KKN	Kakani	55.66	310	eP	P	08 53 38.8	-2.1
	11nm,0.5s						
GKN	Gorkha	56.26	310	eP	P	08 53 43.2	-1.9
	22nm,0.3s						
GKN	Gorkha	56.26	310	eP	P	08 53 43.2	-1.9
	22nm,0.3s						
KOLN	Koldanda	56.93	310	eP	P	08 53 47.9	-2.0
PYUN	Piuthan	57.56	310	eP	P	08 53 52.6	-1.7
ULN	Ulaanbaatar	58.40	342	eP	P	08 53 59.0	-0.8
	2.4nm,0.5s						
SONM	Songino Array	58.58	341	P	P	08 54 00.1	-0.9
	0.7nm,0.5s,baz=160,slow=7.2,SNR=10						
SONM	Songino Array	58.58	341	P	P	08 54 00.1	-0.9
MK31	Makanchi Array	68.46	327	eP	P	08 55 04.5	-1.5
MKAR	Makanchi Array	68.46	327	P	P	08 55 04.9	-1.1
	3.5nm,0.5s,baz=119,slow=8.2,SNR=34						
MKAR	Makanchi Array	68.46	327	P	P	08 55 04.9	-1.1
ZALV	Zalesovo Beam	71.78	334	P	P	08 55 23.9	-2.2
	0.5nm,0.5s,baz=134,slow=10,SNR=3.4						
ZALV	Zalesovo Beam	71.78	334	P	P	08 55 23.9	-2.2
KURK	Kurchatov	72.74	328	eP	P	08 55 30.5	-1.4
	0.7nm,0.4s						
TORD	Torodi Ar. Bea	129.23	281	PKP	PKPdf	09 03 11.3	-1.2
	1.0nm,0.5s,baz=38,slow=2.2,SNR=13						
TORD	Torodi Ar. Bea	129.23	281	PKP	PKPdf	09 03 11.3	-1.2
LPAZ	La Paz	150.45	142	PKPbc	PKPbc	09 03 57.3	+0.6
	0.9nm,0.4s,baz=66,slow=2.6,SNR=5.8						
LPAZ	La Paz	150.45	142	ePKPbc	PKPbc	09 03 57.6	+0.9

*NEIC **06** 08:49:36.4, 17.°07N×94.°28W, h167^{km}, MD4.0(MEX), After MEX.*

MEX 06 08:49:36.4±0.6**, 17.°07N×94.°28W, h167**^{km}±8^{km}**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.58	272	iP	Pn	08 49 58.9	-1.2
CMIG				eS	Sn	08 50 15.7	-2.5
CMIG	Matias Romero	0.58	272	iP	Pn	08 49 58.9	-1.2
CMIG				eS	Sn	08 50 15.7	-2.5
PCIG		1.69	143	eP	Pn	08 50 08.3	-0.9
PCIG				eS	Sn	08 50 32.1	-2.5
PCIG		1.69	143	eP	Pn	08 50 08.3	-0.9
PCIG				eS	Sn	08 50 32.1	-2.5
HUIG	Huatulco	2.18	234	iP	Pn	08 50 12.5	-2.1
HUIG				eS	Sn	08 50 43.1	-1.2
HUIG	Huatulco	2.18	234	iP	Pn	08 50 12.5	-2.1
HUIG				eS	Sn	08 50 43.1	-1.2
CCIG	Comitan	2.19	111	eP	Pn	08 50 13.1	-2.0
CCIG				eS	Sn	08 50 43.5	-1.4
CCIG	Comitan	2.19	111	eP	Pn	08 50 13.1	-2.0
CCIG				eS	Sn	08 50 43.5	-1.4
VHO	Vista Hermosa	2.35	270	eP	Pn	08 50 15.8	-1.0
VHO				iS	Sn	08 50 46.1	-2.0
VHO	Vista Hermosa	2.35	270	eP	Pn	08 50 15.8	-1.0
VHO				iS	Sn	08 50 46.1	-2.0
THIG		2.89	138	iP	Pn	08 50 22.7	-0.4
THIG				iS	Sn	08 50 57.6	-1.9
THIG		2.89	138	iP	Pn	08 50 22.7	-0.4
THIG				iS	Sn	08 50 57.6	-1.9
TPIG	Tehuac#an	3.23	295	iP	Pn	08 50 26.1	-1.4
TPIG				iS	Sn	08 51 05.0	-2.4
TPIG	Tehuac#an	3.23	295	iP	Pn	08 50 26.1	-1.4
TPIG				iS	Sn	08 51 05.0	-2.4
UTMO	Huajuapan	3.45	283	eP	Pn	08 50 29.9	-0.5
UTMO				iS	Sn	08 51 11.1	-1.3
UTMO	Huajuapan	3.45	283	eP	Pn	08 50 29.9	-0.5
UTMO				iS	Sn	08 51 11.1	-1.3
PNIG	Pinotepa	3.75	260	eP	Pn	08 50 32.9	-1.0
PNIG				eS	Sn	08 51 17.1	-1.7
PNIG	Pinotepa	3.75	260	eP	Pn	08 50 32.9	-1.0
PNIG				eS	Sn	08 51 17.1	-1.7
YAIG	Yautepec	4.90	292	iP	Pn	08 50 48.4	-0.6
YAIG				iS	Sn	08 51 44.0	-1.8
YAIG	Yautepec	4.90	292	iP	Pn	08 50 48.4	-0.6
YAIG				iS	Sn	08 51 44.0	-1.8

*ISCJB **06** 08:56:42.7±0.7, 38.°35N±0.°05×38.°81E±0.°04, h2^{km}±8^{km}, Error ellipse: s-maj=7.9km s-min=4.9km az=16.3*
*DDA **06** 08:56:42.6, 38.°34N×38.°77E, h27^{km}, MD2.7*
*ISK **06** 08:56:42.7, 38.°33N×38.°85E, h6^{km}, MD2.7*
*CSEM **06** 08:56:43.0±0.2, 38.°34N×38.°83E, h10^{km}, MD2.7, Error ellipse: s-maj=5.6km s-min=4.0km az=6.0*

ISC 06 08:56:43.2±1.0**, 38.°35N**±0.°03×**38.°84E**±0.°03**, h12**^{km}±9^{km}**, n17, σ0s95**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MYA	Malataya	0.33	266	ePG	Pg	08 56 49.9	0.0
MYA	Malataya	0.33	266	ePg	Pg	08 56 49.9	0.0
SVRC	Sivrice-ELAZID	0.37	85	ePG	Pg	08 56 50.0	-0.7
SVRC				eSG	Sg	08 56 56.1	+0.4
SVRC	Sivrice-ELAZID	0.37	85	ePg	Pg	08 56 50.0	-0.7
SVRC				eSg	Sg	08 56 56.1	+0.4
AKCD	Akcadag	0.72	266	iP	Pg	08 56 56.6	-0.7
AKCD				iS	Sb	08 57 07.0	-0.8
AKCD	Akcadag	0.72	266	iP	Pg	08 56 56.6	-0.7
AKCD				iS	Sb	08 57 07.0	-0.8
URFA	Urfa	0.91	181	ePG	Pg	08 57 00.1	-0.6
URFA	Urfa	0.91	181	ePg	Pg	08 57 00.1	-0.6
KEMA	Kemaliye	0.96	344	iP	Pg	08 57 00.4	-1.3
KEMA				iS	Sb	08 57 14.9	+0.4
DIYA	Diyarbakir	1.09	112	iP	Pn	08 57 04.5	+0.1
DIYA				iS	Sn	08 57 20.5	+1.0
DIYA	Diyarbakir	1.09	112	iP	Pn	08 57 04.5	+0.1
DIYA				iS	Sn	08 57 20.5	+1.0
ILIC	ilic-Erzincan	1.12	349	ePN	Pb	08 57 04.7	+0.1
ILIC	ilic-Erzincan	1.12	349	ePn	Pb	08 57 04.7	+0.1
ERZN	Erzincan	1.42	29	ePN	Pb	08 57 09.8	+0.2
GZT	Gaziantep	1.42	226	iP	Pn	08 57 07.3	-1.6
GZT				iS	Sg	08 57 31.7	+2.9
EZC	Erzincan	1.46	16	ePn	Pn	08 57 09.8	+0.3
BEST	Besiri	1.97	103	iP	Pb	08 57 18.2	-0.9
BEST				iS	Sb	08 57 43.8	+0.3

*IDC **06** 09:09:11.6±0.8, 1.°72S×99.°53E, h0^{km}, mb4.0/14, mb1 4.1/15, mb1mx4.0/27, mbtmp3.9/15, ML3.0/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/41, Error ellipse: s-maj=38.4km s-min=14.6km az=61.0*
*ISCJB **06** 09:09:14.3±0.6, 1.°72S±0.°06×99.°48E±0.°06, h30^{km}, mb4.1/13, MS3.1/1, Error ellipse: s-maj=9.3km s-min=8.1km az=138.0*
*DJA **06** 09:09:18.3±0.5, 1°S±4°×10°0E±°, h10^{km}, M4.5/9, MLv4.5/9*

ISC 06 09:09:16.1±0.7**, 1.°68S**±0.°06×**99.°55E**±0.°05**, h30**^{km}**, n28, σ1s08**/29**, mb4.0**/13**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.58	307	P	Pb	09 09 26.9	-0.9
PDSI	Padang	1.19	50	P	Pn	09 09 36.3	-0.4
PDSI				S	Sb	09 09 52.4	-0.7
PPI	Padang Panjang	1.48	35	P	Pn	09 09 40.1	-0.6
PPI				S	Sb	09 10 00.7	-0.7
KRJI	Kerinci	1.96	102	P	Pb	09 09 50.2	-0.9
MNSI	Mandailing Nat	2.46	1	P	Pn	09 09 54.3	+0.1
BKNI	Bangkinang	2.49	37	P	Pb	09 10 00.1	0.0
RGRI	Rengat	3.08	65	P	Pb	09 10 09.1	-1.2
GSI	Gunungsitoli	3.56	326	P	Pb	09 10 15.3	-3.1
KSI	Kapahiang	3.62	123	P	Pb	09 10 17.5	-1.9
PSI	Prapat	4.49	352	Pn	Pn	09 10 20.9	-1.4
	0.8nm,0.3s,baz=351,slow=13,SNR=2.6						
PSI	Prapat	4.49	352	P	Pn	09 10 24.4	+2.1
IPM	Ipoh	6.29	14	P	Pn	09 10 54.8	+7.9
CMAR	Chiang Mai Arr	20.02	358	P	P	09 13 46.9	+0.3
	0.5nm,0.3s,baz=195,slow=9.9,SNR=2.9						
CMAR				LR	LR	09 22 15.7	
	comp=Z,78nm,18.0s,baz=270,slow=39						
WRA	Warramunga Arr	38.54	121	P	P	09 16 35.5	-0.9
	1.3nm,0.5s,baz=303,slow=9.1,SNR=12						
WRA				PcP	PcP	09 18 49.8	+0.9
	0.6nm,0.6s,baz=308,slow=2.6,SNR=7.1						
ASAR	Alice Springs	39.80	126	P	P	09 16 46.8	-0.1
	0.7nm,0.5s,baz=300,slow=7.8,SNR=12						
SONM	Songino Array	49.67	6	P	P	09 18 06.0	+0.7
	0.7nm,0.8s,baz=180,slow=8.7,SNR=6.0						
STKA	Stephens Creek	49.70	132	P	P	09 18 06.2	+0.5
	0.7nm,0.5s,baz=319,slow=8.8,SNR=3.9						
MKAR	Makanchi Array	50.60	345	P	P	09 18 12.9	+0.7
	0.7nm,0.3s,baz=159,slow=8.7,SNR=13						
USRK	Ussuriysk Arra	54.09	28	P	P	09 18 38.2	+0.1
	1.8nm,0.7s,baz=205,slow=3.2,SNR=4.9						
KURBB	Kurchatov Arra	55.12	344	P	P	09 18 44.9	-0.6
	1.2nm,0.8s,baz=161,slow=7.2,SNR=4.8						
ZALV	Zalesovo Beam	56.77	350	P	P	09 18 57.4	+0.2
	1.4nm,0.4s,baz=159,slow=6.8,SNR=7.9						
BVAR	Borovoye Array	59.73	340	P	P	09 19 17.5	-0.4
	0.7nm,0.7s,baz=157,slow=8.0,SNR=4.2						
KBZ	Khabaz	67.77	319	P	P	09 20 12.0	+0.9
	1.7nm,0.2s,baz=208,slow=3.9,SNR=4.1						
FINES	FINESS Array B	83.62	332	P	P	09 21 41.4	0.0
	0.6nm,0.5s,baz=106,slow=4.2,SNR=4.5						
ARCES	ARCESS Array B	86.02	340	P	P	09 21 54.6	+1.2
	1.8nm,0.8s,baz=116,slow=5.5,SNR=3.6						
QSPA	South Pole Qui	88.28	180	P	P	09 22 04.7	+0.2
	1.5nm,0.9s,baz=298,slow=1.3,SNR=9.0						
CPUP	Villa Florida	144.31	217	PKP	PKPbc	09 28 48.8	+0.5
	0.4nm,0.4s,baz=135,slow=4.6,SNR=5.9						
TXAR	Lajitas Array	144.72	37	PKP	PKPdf	09 28 50.8	-0.1
	1.0nm,0.4s,baz=220,slow=0.6,SNR=40						

IDC 06 09:09:23.2±5.2**, 7.°57S**×**126.°88E, h340**^{km}±71^{km}**, mb3.3**/1**, mb1 3.1**/4**, mb1mx2.8**/19**, mbtmp3.0**/4**, Error ellipse: s-maj=84.0km s-min=54.4km az=84.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.54	186	P	Pn	09 11 47.8	+0.1
	0.2nm,0.3s,baz=2.2,slow=7.2,SNR=8.4						
WRA	Warramunga Arr	14.27	150	P	P	09 12 29.5	-0.8
	0.2nm,0.3s,baz=325,slow=12,SNR=18						
WRA				S	S	09 15 05.2	-0.4
	0.1nm,0.3s,baz=327,slow=21,SNR=4.0						
ASAR	Alice Springs	17.37	158	P	P	09 13 04.0	0.0
	1.0nm,0.3s,baz=335,slow=12,SNR=54						
ASAR				S	S	09 16 09.1	+2.0
	0.1nm,0.3s,baz=340,slow=24,SNR=5.6						
STKA	Stephens Creek	27.80	152	P	P	09 14 41.9	-0.2
	1.2nm,0.5s,baz=324,slow=12,SNR=5.6						

IDC 06 09:31:32.2±2.4**, 6.°18S**×**130.°22E, h0**^{km}**, mb3.9**/1**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, ML3.8**/3**, Error ellipse: s-maj=94.2km s-min=29.1km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.67	200	Pn	Pn	09 34 33.7	-0.1
	0.4nm,0.3s,baz=33,slow=12,SNR=12						
FITZ				Sn	Sn	09 36 39.0	-17
	0.6nm,0.3s,baz=104,slow=20,SNR=8.0						
WRA	Warramunga Arr	14.25	164	Pn	Pn	09 34 55.6	+0.1
	0.5nm,0.3s,baz=347,slow=13,SNR=13						
WRA				Sn	Sn	09 37 22.9	-12
	0.6nm,0.3s,baz=331,slow=22,SNR=7.7						
ASAR	Alice Springs	17.74	169	P	Pn	09 35 40.9	0.0
	0.3nm,0.3s,baz=358,slow=12,SNR=15						
ASAR				S	Sn	09 38 46.7	-13
	0.1nm,0.3s,baz=348,slow=24,SNR=5.3						
MKAR	Makanchi Array	67.67	327	P	P	09 42 31.3	0.0
	0.6nm,0.5s,baz=120,slow=8.3,SNR=4.3						

NNC 06 09:35:44.0±3.7**, 53.°64N**×**87.°46E, h30**^{km}±34^{km}**, mb3.7, mpv3.5, 6C-7D, Error ellipse: s-maj=27.7km s-min=17.4km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	6.27	245	⇓Pn	Pn	09 37 15.7	+1.3
	1.6nm,0.5s						
KURBB				⇑Sn	Sn	09 38 27.3	+2.4
	4.2nm,0.6s						
KURBB				⇓Lg	Lg	09 39 03.3	
	7.5nm,0.8s						
MK31	Makanchi Array	7.61	208	⇑Pn	Pn	09 37 33.1	+0.3
	2.4nm,0.7s,baz=28,slow=13,SNR=48						
MK31				⇓Sn	Sn	09 38 56.8	-1.1
	2.0nm,0.6s,baz=32,slow=26,SNR=4.2						
MK31				⇓Lg	Lg	09 39 41.5	
	12nm,0.8s,baz=35,slow=32,SNR=6.7						
VOSK	Vostochnaya	9.94	271	⇑Pn	Pn	09 38 04.2	-0.4
	3.6nm,1.3s						
VOSK				⇓Sn	Sn	09 39 54.7	-0.4
	10nm,0.8s						
BVA0	Borovoye Array	10.23	273	⇑Pn	Pn	09 38 08.9	+0.3
	0.3nm,0.7s,baz=80,slow=14,SNR=7.4						
BVA0				⇑Sn	Sn	09 40 02.5	+0.3
	2.5nm,0.9s,baz=80,slow=22,SNR=7.1						
ZRNK	Zerenda	11.07	274	⇑Pn	Pn	09 38 18.3	-1.8
	1.2nm,0.8s						
ZRNK				⇓Sn	Sn	09 40 20.5	-2.2
	8.2nm,0.8s						
TKM2	Tokmak 2	13.29	221	⇓Lg	Lg	09 42 44.8	
	7.7nm,1.4s						

IDC 06 09:48:37.9±6.1**, 8.°15S**×**128.°09E, h230**^{km}±66^{km}**, mb3.4**/1**, mb1 3.2**/4**, mb1mx3.0**/19**, mbtmp3.1**/4**, Error ellipse: s-maj=65.5km s-min=31.2km az=61.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.18	193	P	Pn	09 50 59.2	+0.2
	1.0nm,0.3s,baz=13,slow=12,SNR=10						
FITZ				S	S	09 52 54.3	+0.9
	1.2nm,0.3s,baz=280,slow=23,SNR=5.3						
WRA	Warramunga Arr	13.20	153	P	Pn	09 51 35.0	-2.0
	0.3nm,0.3s,baz=330,slow=13,SNR=13						
WRA				S	S	09 53 56.2	-7.0
	1.4nm,0.3s,baz=333,slow=22,SNR=9.1						
ASAR	Alice Springs	16.41	161	P	Pn	09 52 16.1	+0.2
	0.2nm,0.3s,baz=335,slow=10,SNR=17						
ASAR				S	S	09 55 13.6	-1.2
	0.2nm,0.3s,baz=331,slow=17,SNR=3.8						
MKAR	Makanchi Array	68.16	328	P	P	09 59 13.3	0.0
	0.7nm,0.5s,baz=119,slow=7.7,SNR=19						

*ISCJB **06** 09:55:35.2±1.4, 38.°42S±0.°05×145.°79E±0.°07, h2^{km}±8^{km}, mb4.6/17, MS4.1/6, Error ellipse: s-maj=9.1km s-min=7.6km az=144.7*
*NEIC **06** 09:55:36.0, 38.°45S×145.°84E, h14^{km}, mb4.5/9, ML4.6(AUST), After AUST.*
NEIC Felt [IV] at Moe-Yallourn, Pakenham, Warragul and Wonthaggi; [III] at Ararat, Benalla, Bendigo, Craigieburn, Cranbourne, Crib Point, Hastings, Healesville, Melbourne, Morwell, Somerville, Sunbury and Traralgon; [II] at Bacchus Marsh, Ballarat, Castlemaine, Geelong, Lara, Leopold, Melton, Ocean Grove-Barwon Heads and Shepparton-Mooroopna. Also felt at Bridgewater-Gagebrook, Canberra, Clifton Springs, Colac, Horsham, Kyabram, Maryborough, Mildura, Sale, Sydney and Wodonga.
*AUST **06** 09:55:37.9±0.7, 38.°39S×145.°79E, h8^{km}, Error ellipse: s-maj=1.0km s-min=0.8km az=355.0*
*IDC **06** 09:55:37.0±1.0, 38.°29S×145.°78E, h0^{km}, mb4.4/7, mb1 4.6/9, mb1mx4.4/16, mbtmp4.4/9, ML4.6/2, MS3.9/6, Ms1 3.9/6, ms1mx3.5/22, Error ellipse: s-maj=53.4km s-min=15.6km az=64.0*
*BJI **06** 09:55:38.2, 38.°40S×145.°70E, h5^{km}, mB5.3/7, mb5.0/13, Ms5.0/4, Ms7 4.8/5*

ISC 06 09:55:39.2±0.6**, 38.°35S**±0.°05×**145.°62E**±0.°05**, h12**^{km}±2^{km}**, h11**^{km}**:pP-P, n72, σ2s00**/101**, mb4.6**/17**, MS4.0**/6**, 4C-2D, Near southeast coast of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOO	Toolangi	0.79	353	P	Pg	09 55 53.9	-0.5
	baz=0.9,SNR=1000						
TOO				S	Sb	09 56 06.1	+0.7
	baz=0.9,SNR=21						
MILA	Mila	3.09	66	P	Pn	09 56 24.9	-2.9
	baz=3.0,SNR=1000						
ARPS	Mount Arapiles	3.39	297	P	Pn	09 56 33.2	+1.3
	baz=3.5,SNR=484						
CAN	Canberra	4.06	43	ePn	Pn	09 56 39.5	-1.7
CAN				eSg	Sb	09 57 41.7	+1.9
MOO	Moorlands	4.26	164	P	Pn	09 56 41.4	-2.4
	baz=4.2,SNR=12						
CNB	Canberra Magne	4.27	46	P	Pn	09 56 42.1	-1.9
	baz=4.2,SNR=84						
CNB				S	Sb	09 57 47.2	+1.5
	baz=4.2,SNR=10						
YNG	Young	4.63	30	P	Pn	09 56 47.9	-1.0
	baz=4.6,SNR=61						
YNG				S	Sb	09 57 58.9	+2.9
	baz=4.6,SNR=6.0						
MGCD	Mangrove Creek	6.80	43	P	Pn	09 57 17.3	-1.4
	baz=6.7,SNR=14						
STKA	Stephens Creek	7.25	332	Pn	Pn	09 57 24.9	0.0
	10nm,0.3s,baz=146,slow=15,SNR=69						
STKA				Sn	Sn	09 58 44.5	-2.7
	28nm,0.3s,baz=64,slow=23,SNR=4.4						
STKA				Lg	Lg	09 59 31.8	
	34nm,0.3s,baz=45,slow=16,SNR=3.5						
STKA				LR	LR	10 00 20.4	
	comp=Z,1μm,18.6s,baz=150,slow=39						
STKA	Stephens Creek	7.25	332	ePn	Pn	09 57 25.6	+0.6
STKA				eSn	Sn	09 58 43.5	-3.8
STKA				Sn	Sn	09 58 44.5	-2.7
STKA				Lg	Lg	09 59 31.8	
STKA	Stephens Creek	7.25	332	P	Pn	09 57 25.7	+0.7
	baz=7.4,SNR=36						
ARMA	Armidale	9.34	34	ePn	Pn	09 57 53.7	0.0
ARMA	Armidale	9.34	34	P	Pn	09 57 54.1	+0.3
	baz=9.3,SNR=4.8						
BBOO	Buckleboo	9.55	303	ePn	Pn	09 57 56.8	+0.4
BBOO				eSn	Sn	09 59 42.3	-1.3
BBOO	Buckleboo	9.55	303	P	Pn	09 57 56.9	+0.4
	baz=9.7,SNR=24						
QLP	Quilpie	11.79	354	P	Pn	09 58 26.8	-0.4
	baz=12,SNR=31						
RMQ	Roma	12.12	14	P	Pn	09 58 30.2	-1.5
	baz=12,SNR=4.8						
EIDS	Eidsvold	13.75	21	ePn	Pn	09 58 51.8	-2.1
EIDS				eSn	Sn	10 01 22.0	-4.5
FORT	Forrest	16.30	292	ePn	Pn	09 59 28.5	+0.6
	28nm,0.8s						
FORT	Forrest	16.30	292	P	P	09 59 29.6	-1.3
	baz=16,SNR=6.7						
ASAR	Alice Springs	17.73	322	P	Pn	09 59 44.1	-1.8
	0.4nm,0.3s,baz=154,slow=10,SNR=18						
ASAR				S	Sn	10 02 59.6	-3.8
	0.7nm,0.3s,baz=151,slow=21,SNR=4.0						
ASAR				LR	LR	10 05 57.0	
	comp=Z,254nm,19.0s,baz=148,slow=35						
ASAR	Alice Springs	17.73	322	P	Pn	09 59 44.1	-1.8
ASAR				S	Sn	10 02 59.6	-3.8
CTAO	Charters Tower	18.21	2	eP	P	09 59 53.0	+1.0
	41nm,1.4s						
WRA	Warramunga Arr	20.79	329	P	P	10 00 21.1	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	25nm,0.8s,baz=159,slow=8.9,SNR=69						
WRA				S	S	10 04 12.2	+0.1
	1.6nm,0.6s,baz=155,slow=24,SNR=3.6						
WRA				LR	LR	10 08 46.4	
	comp=Z,216nm,21.9s,baz=175,slow=38						
WRA	Warramunga Arr	20.79	329	P	P	10 00 21.1	+0.9
WRA				S	S	10 04 12.2	+0.1
WRAB	Tennant Creek	20.79	329	eP	P	10 00 21.2	+0.9
	41nm,1.0s						
WRAB				eS	S	10 04 10.9	-1.3
FITZ	Fitzroy Crossi	26.67	314	P	P	10 01 19.3	+1.3
	6.8nm,1.0s,baz=158,slow=12,SNR=7.4						
FITZ				LR	LR	10 12 32.6	
	comp=Z,374nm,18.7s,baz=153,slow=38						
FITZ	Fitzroy Crossi	26.67	314	eP	P	10 01 19.1	+1.1
	4.6nm,0.8s						
FITZ	Fitzroy Crossi	26.67	314	P	P	10 01 19.6	+1.6
	baz=27,SNR=3.8						
KDU	Kakadu	28.11	332	P	P	10 01 32.1	+1.1
	baz=28,SNR=6.8						
MBWA	Marble Bar	28.12	300	eP	P	10 01 29.3	-1.8
	5.9nm,1.0s						
MTN	Manton Dam	28.49	329	P	P	10 01 35.2	+0.9
	baz=29,SNR=3.5						
WSI	Waingapu	36.50	315	S	S	10 08 47.5	+21
	baz=37,SNR=3.8						
PCI	Palu	44.15	321	S	S	10 10 13.2	-7.5
	baz=44,SNR=6.5						
KSM	Kuching	51.27	312	eP	P	10 04 41.2	-1.8
	3.7nm,0.2s						
KSM				epP	pP	10 04 44.6	-2.3
QSPA	South Pole Qui	51.76	180	P	P	10 04 45.4	-0.9
	12nm,0.9s,baz=346,slow=3.5,SNR=24						
QSPA	South Pole Qui	51.76	180	eP	P	10 04 45.6	-0.7
	13nm,0.9s						
JOW	Kunigami	66.85	343	LR	LR	10 33 31.2	
	comp=Z,122nm,20.0s,baz=280,slow=34						
VNA3	Neumayer Olymp	69.29	188	eP	P	10 06 44.5	-1.2
VNA2	Neumayer--Watz	69.31	189	eP	P	10 06 44.8	-1.1
	baz=157,slow=6.1						
CMAR	Chiang Mai Arr	71.48	313	P	P	10 07 01.5	+1.7
	3.5nm,0.8s,baz=162,slow=6.1,SNR=15						
CMAR				LR	LR	10 46 09.9	
	comp=Z,38nm,18.4s,baz=284,slow=42						
CMAR	Chiang Mai Arr	71.48	313	P	P	10 07 01.5	+1.7
CHTO	Chiang Mai	71.77	313	eP	P	10 06 59.6	-1.9
	1.0nm,0.3s						
CHTO				epP	pP	10 07 02.9	-2.5
GYA	Guiyang	74.08	324	eP	P	10 07 17.8	+2.6
GYA				PP	PP	10 10 05.6	+4.6
GYA				S	S	10 16 51.0	+3.0
GYA				SKS	SKSac	10 17 20.9	-1.6
GYA				SS	SS	10 21 39.4	+5.8
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,430nm,18.8s						
GYA				LR	LR		
	comp=E,370nm,19.0s						
GYA				LR	LR		
	comp=Z,460nm,18.7s						
NJ2	Nanjing	74.35	337	eP	P	10 07 17.6	+1.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
MJAR	Matsushiro Arr	74.84	354	P	P	10 07 18.6	-0.6
	comp=Z,2.9nm,0.8s,baz=177,slow=6.4,SNR=9.9						
MJAR	Matsushiro Arr	74.84	354	P	P	10 07 18.6	-0.6
KMI	Kunming	74.85	320	P	P	10 07 25.8	+6.0
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSAR	Wonju Array Be	77.18	346	P	P	10 07 33.0	+0.5
KSRS	Korea Array	77.18	346	P	P	10 07 33.0	+0.5
	comp=Z,2.5nm,0.8s,baz=162,slow=6.6,SNR=4.5						
LZH	Lanzhou	83.54	327	eP	P	10 08 07.0	0.0
LZH				pP	pP	10 08 11.1	+0.1
LZH				sP	sP	10 08 13.0	+0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
CN2	Changchun	83.79	345	eP	P	10 08 10.0	+2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	84.75	335	eP	P	10 08 14.5	+1.5
HHC				sP	sP	10 08 20.5	+2.1
HHC				PP	PP	10 11 33.2	+3.6
HHC				SKS	SKSac	10 18 35.2	-1.6
HHC				S	SKKSac	10 18 41.7	-1.0
HHC				sS	ScS	10 18 49.7	-1.8
HHC				SS	SS	10 24 17.7	+4.4
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,5.4s						
HHC				LR	LR		
	comp=N,190nm,17.8s						
HHC				LR	LR		
	comp=E,150nm,15.5s						
HHC				LR	LR		
	comp=Z,93nm,14.9s						
GTA	Gaotai	88.06	326	eP	P	10 08 30.4	+1.1
GTA				pP	pP	10 08 34.9	+1.6
GTA				sP	sP	10 08 37.5	+2.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ULN	Ulaanbaatar	92.46	335	eP	P	10 08 46.9	-2.8
	comp=Z,0.7nm,0.3s						
ULN				epP	PcP	10 08 50.1	-0.3
SONM	Songino Array	92.65	335	P	P	10 08 50.5	-0.1
	comp=Z,0.5nm,0.8s,baz=159,slow=3.8,SNR=4.1						
SONM	Songino Array	92.65	335	P	P	10 08 50.5	-0.1
WMQ	Urumqi	97.13	322	eP	Pdif	10 09 11.9	+0.7
KSH	Kashi	100.37	312	eP	Pdif	10 09 27.4	+1.6
KSH				pP	pP	10 09 31.8	+2.0
KSH				esP	sP	10 09 36.0	+4.7
KSH				ePP	PP	10 13 35.9	+3.2
KSH				SKS	SKSac	10 20 04.3	-0.1
KSH				S	Sdif	10 20 58.9	-2.7
KSH				sS	sS	10 21 07.2	-1.1
KSH				SS	SS	10 28 01.6	+3.8
KSH				pmax	pmax		
	comp=Z,230nm,5.1s						
KSH				LR	LR		
	comp=N,61nm,5.7s						
KSH				LR	LR		
	comp=E,81nm,4.9s						
KSH				LR	LR		
	comp=Z,260nm,6.0s						
YKA	Yellowknife Ar	127.54	35	PKP	PKPdf	10 14 41.8	-1.3
	comp=Z,0.4nm,0.7s,baz=256,slow=1.6,SNR=12						
YKA	Yellowknife Ar	127.54	35	PKP	PKPdf	10 14 41.8	-1.3
CRVS	Cervenica-Dubn	139.08	304	ePKP	PKPdf	10 15 09.2	+4.0
TORD	Torodi Ar. Bea	139.35	242	PKhKP	PKPpre	10 14 58.4	
	comp=Z,0.6nm,0.8s,baz=122,slow=2.2,SNR=3.8						
TORD				PKP	PKPdf	10 15 06.1	-0.7
	comp=Z,1.2nm,0.7s,baz=131,slow=1.6,SNR=5.4						
TORD	Torodi Ar. Bea	139.35	242	PKPpre	PKPpre	10 14 58.4	
TORD				PKP	PKPdf	10 15 06.1	-0.7
GERES	GERESS Array B	144.18	303	PKP	PKPbc	10 15 13.0	+0.3
	comp=Z,2.9nm,0.8s,baz=106,slow=2.9,SNR=16						
GERES	GERESS Array B	144.18	303	PKP	PKPbc	10 15 13.0	+0.3
WTTA	Wattenberg	145.52	300⇑	iPKPab	PKPdf	10 15 15.7	-1.2
	comp=Z,20nm,1.0s						
SQTA	Sankt Quirin	145.81	300⇑	ipPKPdf	PKPab	10 15 18.2	-0.2
MOTA	Moosalm	145.88	300⇓	ipPKPdf	PKPdf	10 15 17.9	+0.3
	comp=Z,23nm,0.9s						
RETA	Reutte	146.12	300⇓	iPKPab	PKPdf	10 15 18.0	+0.2
	comp=Z,11nm,1.1s						
FETA	Feichten	146.13	300⇑	ipPKPdf	PKPdf	10 15 18.5	+0.5
	comp=Z,18nm,1.0s						
DAVA	Damuels	146.72	300⇑	ipPKPdf	PKPbc	10 15 20.4	-0.3
	comp=Z,19nm,1.2s						

*ISK **06** 09:57:54.9, 40°.66N×37°.05E, h5km, MD3.2*
*DDA **06** 09:57:55.4, 40°.60N×37°.02E, h6km, MD3.2*
*CSEM **06** 09:57:56.2±0.1, 40°.63N×37°.03E, h2km, MD3.2, Error ellipse: s-maj=4.9km s-min=3.0km az=17.0*

ISC 06 09:57:56.0±1.1**, 40°.62N**±0°.03×**37°.04E**±0°.02**, h4**km±11km**, n46, σ0s.76**/64**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERBA	Erbaa	0.22	285	iP	Pg	09 58 00.2	-0.1
ERBA				iS	Sg	09 58 03.8	+0.6
ERBA	Erbaa	0.22	285	iP	Pg	09 58 00.2	-0.1
ERBA				iS	Sg	09 58 03.8	+0.6
RSDY	Resadiye-TOKAT	0.32	135	PG	Pg	09 58 02.5	+0.4
RSDY	Resadiye-TOKAT	0.32	135	iPg	Pg	09 58 02.5	+0.4
SCER	sogukcermik	0.77	175	iP	Pg	09 58 09.3	-1.4
SCER				iS	Sg	09 58 20.4	-0.2
SCER	sogukcermik	0.77	175	iP	Pg	09 58 09.3	-1.4
SCER				iS	Sg	09 58 20.4	-0.2
KVT	Kavak	0.88	302	ePG	Pg	09 58 12.6	-0.2
KVT				eSG	Sb	09 58 25.9	0.0
KVT	Kavak	0.88	302	ePg	Pg	09 58 12.6	-0.2
KVT				eSg	Sb	09 58 25.9	0.0
GRSN	GIRESUNGRSN	0.98	72	iP	Pg	09 58 14.4	-0.4
GRSN				iS	Sb	09 58 28.1	-0.8
GRSN	GIRESUNGRSN	0.98	72	iP	Pg	09 58 14.4	-0.4
GRSN				iS	Sb	09 58 28.1	-0.8
SUSE	Susehri	0.98	115	iP	Pb	09 58 15.7	+0.1
SUSE				iS	Sb	09 58 29.3	+0.3
SUSE	Susehri	0.98	115	iP	Pb	09 58 15.7	+0.1
SUSE				iS	Sb	09 58 29.3	+0.3
ESPY	Espiye-Giresun	1.32	77	ePN	Pn	09 58 20.6	-0.6
ESPY				eSN	Sn	09 58 39.4	+0.2
ESPY	Espiye-Giresun	1.32	77	ePn	Pn	09 58 20.6	-0.6
YOZ	Yozgat	1.64	234	ePN	Pb	09 58 26.3	-0.6
YOZ	Yozgat	1.64	234	ePn	Pb	09 58 26.3	-0.6
ILIC	ilic-Erzincan	1.66	134	ePN	Pb	09 58 26.7	-0.5
ILIC	ilic-Erzincan	1.66	134	ePn	Pb	09 58 26.7	-0.5
DIKM	Dikmen	1.69	308	ePN	Pb	09 58 26.9	-0.6
DIKM	Dikmen	1.69	308	ePn	Pb	09 58 27.0	-0.6
KEMA	Kemaliye	1.76	140	iP	Pb	09 58 28.1	-0.7
KEMA				iS	Sg	09 58 52.7	+0.2
KEMA	Kemaliye	1.76	140	iP	Pb	09 58 28.1	-0.7
KEMA				iS	Sg	09 58 52.7	+0.2
KELT	Kelkit	1.76	105	iP	Pn	09 58 28.0	+0.6
KELT				iS	Sb	09 58 51.1	-0.3
KELT	Kelkit	1.76	105	iP	Pn	09 58 28.0	+0.6
KELT				iS	Sb	09 58 51.1	-0.3
GUMT	Gumushane	1.87	94	ePN	Pn	09 58 29.5	+0.7
GUMT	Gumushane	1.87	94	ePn	Pn	09 58 29.5	+0.7
CORM	Corum	1.89	257	ePN	Pn	09 58 29.4	+0.3
CORM	Corum	1.89	257	ePn	Pn	09 58 29.5	+0.3
BYBT	Boyabat	1.91	297	ePN	Pn	09 58 29.8	+0.5
BYBT	Boyabat	1.91	297	ePn	Pn	09 58 29.8	+0.5
EZC	Erzincan	1.98	115	ePN	Pb	09 58 31.4	-1.2
EZC	Erzincan	1.98	115	ePn	Pb	09 58 31.4	-1.2
BNN	Bunyan	1.99	208	ePN	Pb	09 58 31.9	-1.0
BNN	Bunyan	1.99	208	ePn	Pb	09 58 31.9	-1.0
MACK	Trabzon	2.10	80	iP	Pn	09 58 31.9	0.0
MACK				iS	Sb	09 59 01.6	+0.5
MACK	Trabzon	2.10	80	iP	Pn	09 58 31.9	0.0
MACK				iS	Sb	09 59 01.6	+0.5
ERZN	Erzincan	2.31	116	ePN	Pn	09 58 35.9	+1.1
TOS	Tosya	2.32	281	ePN	Pn	09 58 36.0	+1.0
TOS	Tosya	2.32	281	ePn	Pn	09 58 36.0	+1.0
BAYT	Ayd˜–ntepe-Bay	2.38	95	ePN	Pn	09 58 36.5	+0.6
BAYT	Ayd˜–ntepe-Bay	2.38	95	ePn	Pn	09 58 36.5	+0.6
MYA	Malataya	2.54	154	ePN	Pn	09 58 39.2	+1.3
MYA	Malataya	2.54	154	ePn	Pn	09 58 39.3	+1.3
MALT	Malatya	2.55	155	ePN	Pn	09 58 40.0	+1.9
MALT	Malatya	2.55	155	ePn	Pn	09 58 40.0	+1.9
KOPT	Kop Dagi	2.71	102	iP	Pg	09 58 47.6	-0.5
KOPT				iS	Sg	09 59 24.7	+1.5

IDC 06 10:06:58.3±2.5**, 20°.66S**×**68°.40W, h135**km±21km**, mb3.3**/3**, mb1 3.4**/6**, mb1mx3.2**/19**, mbtmp3.2**/6**, Error ellipse: s-maj=34.7km s-min=19.2km az=77.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.35	3	P	Pn	10 08 02.9	-0.8
	2.2nm,0.3s,baz=184,slow=5.6,SNR=48						
LPAZ				S	Sn	10 08 55.1	+0.6
	0.4nm,0.3s,baz=226,slow=5.7,SNR=3.9						
SIV	San Ignacio	8.36	58	P	Pn	10 08 56.2	-0.5
	0.5nm,0.3s,baz=258,slow=10,SNR=9.3						
CPUP	Villa Florida	11.62	121	P	Pn	10 09 40.4	+0.3
	0.5nm,0.3s,baz=298,slow=12,SNR=4.3						
PLCA	Paso Flores	20.10	185	P	P	10 11 21.5	+0.1
	1.7nm,0.7s,baz=10,slow=13,SNR=3.3						
TORD	Torodi Ar. Bea	76.63	70	P	P	10 18 34.8	+0.1
	0.8nm,0.5s,baz=254,slow=5.6,SNR=17						
YKA	Yellowknife Ar	90.56	340	P	P	10 19 44.4	-0.2
	0.1nm,0.5s,baz=128,slow=4.9,SNR=4.3						
YKA				pP	pP	10 20 14.3	-4.8
	0.2nm,0.6s,baz=132,slow=4.7,SNR=6.6						

*ISCJB **06** 10:22:10.4±0.6, 59°.33N±0°.03×27°.05E±0°.09, h0km, Error ellipse: s-maj=6.3km s-min=3.9km az=9.3*
*NAO **06** 10:22:11.9±1.0, 59°.31N×26°.82E, ML2.2*
*HEL **06** 10:22:12.4±0.6, 59°.31N×27°.16E, h0km, ML1.9, ML1.4(UPP), Explosion*
*CSEM **06** 10:22:12.2±0.3, 59°.31N×27°.13E, h1km, ML2.2, Error ellipse: s-maj=8.7km s-min=5.4km az=101.0, Mining explosion.*
*BER **06** 10:22:12.9±2.6, 59°.33N×27°.01E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **06** 10:22:14.4±2.3, 59°.45N×26°.93E, h0km, mb1 3.2/3, mb1mx3.0/26, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=22.0km s-min=14.2km az=117.0*
*UPP **06** 10:22:15.3, 59°.29N×26°.64E, h0km, ML1.4, Suspected Mining explosion.*

ISC 06 10:22:11.0±0.9**, 59°.31N**±0°.03×**27°.10E**±0°.05**, h0**km**, n50,** σ**1s.44**/65**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.87	193	Pg	Pg	10 22 28.1	+0.6
VSU				Lg	Lg	10 22 39.8	
VSU	Vasula	0.87	193	Pg	Pg	10 22 28.1	+0.6
VSU				Lg	Lg	10 22 39.8	
VSU	Vasula	0.87	193	eP	Pg	10 22 28.2	+0.6
	SNR=68						
VSU				eS	Sg	10 22 38.8	0.0
	428nm,0.8s,SNR=68						
VSU				Lg	Lg	10 22 39.8	
VJF	Virojoki	1.26	10	PG	Pg	10 22 34.9	-0.2
VJF				SG	Sg	10 22 51.0	-0.5
VJF				MSG		10 22 51.0	
	comp=Z,9.0nm,0.4s						
VJF				RG	Rg	10 22 56.9	
VJF	Virojoki	1.26	10	Pg	Pg	10 22 34.9	-0.2
VJF				Sg	Sg	10 22 51.0	-0.5
PVF	Pernaja	1.39	334	PG	Pn	10 22 37.8	+0.1
PVF				SG	Sg	10 22 55.7	0.0
PVF				MSG		10 22 55.7	
	comp=Z,3.9nm,0.2s						
PVF	Pernaja	1.39	334	Pg	Pn	10 22 37.8	+0.1
PVF				Sg	Sg	10 22 55.7	0.0
MEF	Metsahovi	1.65	305	PG	Pb	10 22 42.5	+0.3
MEF				SG	Sg	10 23 04.3	+0.4
MEF				MSG		10 23 04.3	
	comp=Z,5.7nm,0.2s						
MEF	Metsahovi	1.65	305	eP	Pb	10 22 42.5	+0.3
	SNR=68						
MEF				Sg	Sg	10 23 04.3	+0.4
MTSE	Matsula	1.80	252	PN	Pb	10 22 44.8	0.0
MTSE				SG	Sb	10 23 07.8	-0.1
FIA0	FINESS Array S	2.21	347	Pn	Pn	10 22 49.8	+0.9
	baz=171,slow=16						
FIA0				Sn	Sn	10 23 16.9	+0.1
	baz=170,slow=16						
FIA0				Lg	Lg	10 23 20.4	
	baz=165,slow=37						
FIA0				Rg	Rg	10 23 31.3	
	baz=160,slow=37						
FIA0	FINESS Array S	2.21	347	Pn	Pn	10 22 49.8	+0.9
	baz=171,slow=16						
FIA0				Sn	Sn	10 23 16.9	+0.1
	baz=170,slow=16						
FIA0				Lg	Lg	10 23 20.4	
	baz=165,slow=37						
FIA0				Rg	Rg	10 23 31.3	
	baz=160,slow=37						
FIA0	FINESS Array S	2.21	347	PN	Pn	10 22 50.0	+1.1
	baz=163						
FIA0				SG	Sb	10 23 19.4	-0.2
FIA0				MSG		10 23 19.4	
	comp=Z,4.9nm,0.5s						
FIA0				RG	Rg	10 23 33.4	
FIA0	FINESS Array S	2.21	347	Pn	Pn	10 22 49.8	+0.9
	baz=171,slow=14,SNR=3.4						
FIA0				Sn	Sn	10 23 16.9	+0.1
	baz=170,slow=15						
FIA0				Sg	Sb	10 23 19.4	-0.2
FIA0				Lg	Lg	10 23 20.4	
	baz=165,slow=32						
FINES	FINESS Array B	2.21	347	Pn	Pn	10 22 49.9	+0.9
	comp=Z,1.4nm,0.3s,baz=165,slow=13,SNR=32						
FINES				Pg	Pb	10 22 51.2	-0.5
	comp=Z,1.4nm,0.3s,baz=164,slow=16,SNR=37						
FINES				Lg	Lg	10 23 18.9	
	comp=Z,3.2nm,0.3s,baz=169,slow=26,SNR=8.8						
FINES				Rg	Rg	10 23 31.4	
	comp=Z,57nm,0.9s,baz=162,slow=26,SNR=12						
KAF	Kangasniemi	2.84	352	PN	Pn	10 22 59.8	+2.2
KAF				SG	Sn	10 23 34.5	+1.9
KAF				MSG		10 23 34.5	
	comp=Z,1.6nm,0.2s						
KAF	Kangasniemi	2.84	352	Pn	Pn	10 22 59.8	+2.2
KAF				Sg	Sn	10 23 34.4	+1.9
SLIT	Slitere, Latvi	3.04	238	eP	Pb	10 23 05.0	-0.9
	SNR=50						
KEF	Keuruu	3.08	340	SG	Sb	10 23 46.1	+1.5
KEF				MSG		10 23 46.1	
	comp=Z,4.9nm,0.4s						
RAF	Rauma	3.18	305	PN	Pn	10 23 05.0	+2.8
	baz=120						
RAF				SG	Sg	10 23 50.9	-2.1
RAF				MSG		10 23 50.9	
	comp=Z,3.5nm,0.4s						
RAF	Rauma	3.18	305	Pn	Pn	10 23 05.0	+2.8
RAF	Rauma	3.18	305	eP	Pn	10 23 05.3	+3.1
	SNR=50						
RAF				eS	Sn	10 23 42.3	+1.6
	comp=Z,10nm,0.3s,SNR=50						
SUF	Sumiainen	3.46	353	PN	Pn	10 23 08.9	+2.8
SUF				SG	Sb	10 23 57.8	+2.2
SUF				MSG		10 23 57.8	
	comp=Z,3.7nm,0.4s						
SUF	Sumiainen	3.46	353	Pn	Pn	10 23 08.8	+2.8
JOF	Joensuu	4.16	28	PN	Pn	10 23 17.1	+1.4
JOF				SG	Sb	10 24 19.4	+3.6
JOF				MSG		10 24 19.4	
	comp=Z,4.1nm,0.4s						
JOF	Joensuu	4.16	28	Pn	Pn	10 23 17.1	+1.4
UMAU	Umeaa	5.52	329	P	Pn	10 23 36.5	+2.1
UMAU				S	Sn	10 24 38.0	-0.4
UMAU	Umeaa	5.52	329	P	Pn	10 23 36.5	+2.1
UMAU				S	Sn	10 24 38.0	-0.4
BURU	Burvik	5.95	335	P	Pn	10 23 41.4	+1.2
BURU	Burvik	5.95	335	P	Pn	10 23 41.4	+1.2
BREU	Bredtraesk	6.14	322	P	Pn	10 23 43.9	+1.1
BREU	Bredtraesk	6.14	322	P	Pn	10 23 43.9	+1.1
SVAU	Svanoeiden	6.30	329	P	Pn	10 23 46.2	+1.1
SVAU	Svanoeiden	6.30	329	P	Pn	10 23 46.2	+1.1
SJUU	Sjulsmark	6.73	340	P	Pn	10 23 53.0	+2.0
SJUU	Sjulsmark	6.73	340	P	Pn	10 23 52.9	+2.0
HFS	Hagfors	6.83	283	Lg	Lg	10 25 42.0	
	baz=81,slow=28						
HFS	Hagfors	6.83	283	Lg	Lg	10 25 42.1	
	comp=Z,0.5nm,0.3s,baz=91,slow=30,SNR=6.8						
HFS	Hagfors	6.83	283	Lg	Lg	10 25 42.0	
	baz=81,slow=28						
HFS	Hagfors	6.83	283	Lg	Lg	10 25 42.0	
	baz=81,slow=27,SNR=5.0						
LILU	Lilltraesk	6.88	334	P	Pn	10 23 54.0	+0.9
LILU	Lilltraesk	6.88	334	P	Pn	10 23 54.0	+0.9
NB2	NORSAR Subarra	8.11	289	Lg	Lg	10 26 21.1	
	baz=92,slow=37						
NB2	NORSAR Subarra	8.11	289	Lg	Lg	10 26 21.1	
	baz=92,slow=37						
NB2	NORSAR Subarra	8.11	289	Lg	Lg	10 26 21.1	
	baz=92,slow=33,SNR=2.9						
NOA	NORSAR Array B	8.11	289	Pn	Pn	10 24 08.4	-1.5
	comp=Z,0.1nm,0.3s,baz=100,slow=12,SNR=2.8						
NOA				Lg	Lg	10 26 23.1	
	comp=Z,0.4nm,0.3s,baz=127,slow=24,SNR=6.0						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	10 24 39.0	-0.8
	baz=174,slow=14						
ARA0				Sn	Sn	10 26 28.5	-7.3
	baz=172,slow=28						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	10 24 39.0	-0.8
	baz=174,slow=14						
ARA0				Sn	Sn	10 26 28.5	-7.3
	baz=172,slow=28						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	10 24 39.0	-0.8
	baz=174,slow=14,SNR=8.9						
ARCES	ARCESS Array B	10.30	357	Pn	Pn	10 24 38.9	-0.9
	comp=Z,0.1nm,0.3s,baz=169,slow=14,SNR=4.9						

*ISCJB **06** 10:32:51.8±1.4, 44°.45N±0°.06×129°.3W±0°.2, h10km, mb4.2/4, Error ellipse: s-maj=16.7km s-min=8.3km az=169.0*
*NEIC **06** 10:32:54.9±1.4, 44°.46N×129°.23W, h10km, mb3.8/5, Error ellipse: s-maj=19.5km s-min=11.5km az=75.0*
*IDC **06** 10:32:55.5±3.7, 44°.63N×128°.55W, h0km, mb3.2/2, mb1 3.4/6, mb1mx3.3/30, mbtmp3.0/6, ML2.7/4, MS3.1/3, Ms1 3.1/3, ms1mx2.9/16, Error ellipse: s-maj=100.9km s-min=19.9km az=55.0*

ISC 06 10:32:55.3±1.5**, 44°.45N**±0°.09×**129°.2W**±0°.2**, h10**km**, n36,** σ**1s.54**/33**, mb3.3**/3**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COR	Corvallis	4.22	86	ePn	Pn	10 33 58.8	-0.8
BMW	Boistfort Moun	4.67	62	P	Pn	10 34 04.4	-1.4
NLWA	Neilton Lookou	4.75	50	ePn	Pn	10 34 08.3	+1.5
BROR	Big Rock Looko	4.85	90	P	Pn	10 34 07.2	-1.0
HUMO	Hull Mountain	4.90	110	ePn	Pn	10 34 11.5	+2.5
HUMO				eSn	Sb	10 35 10.9	-9.4
TDL	Tradedollar La	5.28	66	P	Pn	10 34 12.9	-1.3
HDW	Hoodsport	5.34	51	P	Pn	10 34 13.8	-1.3
YBH	Yreka Blue Hor	5.48	117	Pn	Pn	10 34 14.9	-2.1
	0.2nm,0.3s,baz=301,slow=12,SNR=3.9						
YBH				LR	LR	10 35 22.2	
	comp=Z,139nm,21.1s,baz=258,slow=28						
YBH	Yreka Blue Hor	5.48	117	Pn	Pn	10 34 14.9	-2.1
VFP	Flag Point	5.57	78	P	Pn	10 34 18.0	-0.4
LON	Longmire	5.68	63	ePn	Pn	10 34 18.7	-1.0
	9.1nm,0.6s						
WDC	Whiskeytown Da	6.26	126	ePn	Pn	10 34 28.8	+1.1
WDC				eSn	Sn	10 35 40.0	+0.8
JCW	Jim Creek	6.28	51	P	Pn	10 34 26.8	-1.1
HOPS	Hopland	7.12	138	ePn	Pn	10 34 38.9	-0.6
BBB	Bella Bella	7.78	5	LR	LR	10 37 16.0	
	comp=Z,105nm,18.5s,baz=222,slow=34						
NVAR	Mina Array Bea	10.15	123	Pn	Pn	10 35 19.7	-1.5
	0.0nm,0.3s,baz=292,slow=12,SNR=2.2						
NVAR	Mina Array Bea	10.15	123	Pn	Pn	10 35 19.7	-1.5
HLID	Hailey	10.70	90	ePn	Pn	10 35 27.8	-0.8
	4.5nm,1.2s						
MCMT	McKenzie Canyo	11.66	82	ePn	Pn	10 35 43.1	+1.2
	7.2nm,1.9s						
TPAW	Teton Pass	13.19	88	ePn	Pn	10 36 03.2	+0.5
	11nm,1.4s						
ARUT	Antelope Range	13.61	114	ePn	Pn	10 36 10.6	+2.1
	9.2nm,1.2s						
DLBC	Dease Lake	14.02	358	LR	LR	10 41 05.0	
	comp=Z,128nm,18.6s,baz=94,slow=35						
ISCO	Idaho Springs	18.09	97	eP	P	10 37 08.8	+1.6
	12nm,1.6s						
LAZ	Ladron	19.73	113	eP	Pn	10 37 27.2	+0.6
	3.3nm,1.3s						
ANMO	Albuquerque	19.85	111	P	P	10 37 24.6	-1.9
	0.1nm,0.3s,baz=11,slow=10,SNR=2.0						
ANMO	Albuquerque	19.85	111	P	P	10 37 24.6	-1.9
YKA	Yellowknife Ar	19.97	20	P	P	10 37 25.3	-2.0
	0.0nm,0.3s,baz=211,slow=12,SNR=3.7						
YKA	Yellowknife Ar	19.97	20	P	P	10 37 25.3	-2.0
BNM	Barren Site	20.21	113	eP	P	10 37 28.8	-1.7
	5.4nm,1.2s						
FFC	Flin Flon	20.30	50	eP	Pn	10 37 32.0	-1.0
	4.9nm,1.1s						
ILAR	Eielson Array	22.63	340	P	P	10 37 57.4	+1.3
	0.9nm,1.1s,baz=164,slow=6.4,SNR=5.3						
ILAR	Eielson Array	22.63	340	P	P	10 37 57.4	+1.3
TXAR	Lajitas Array	25.25	118	P	P	10 38 21.4	-0.2
	0.5nm,0.8s,baz=300,slow=7.7,SNR=6.7						
TXAR	Lajitas Array	25.25	118	P	P	10 38 21.4	-0.2
EYMN	Ely	26.16	69	eP	P	10 38 31.5	+1.9
	2.2nm,0.8s						
PLCA	Paso Flores	99.82	139	ePdif	Pdif	10 46 36.6	-2.9
	689nm,1.5s						

CASC 06 10:34:22.9±2.4, 8.94N×82.87W, h13km±14km, MD3.5, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRU2	Volcan	0.23	129	eP	Pg	10 34 28.5	+0.6
BRU2				eS	Sb	10 34 33.2	0.0
TBS2		0.25	124	eP	Pb	10 34 29.8	+0.2
TBS2				eS	Sb	10 34 34.0	-0.1
ACR	Cerro Adams	0.41	227⇓	iP	Pg	10 34 31.1	0.0
ACR				eS	Sg	10 34 37.4	+0.7
BUS	Buena Vista	1.07	305	eP	Pb	10 34 43.1	-0.9
BUS				eS	Sb	10 34 56.7	-1.6
QCR	Quepos	1.37	291⇓	eP	Pn	10 34 47.1	-0.7
QCR				eS	Sn	10 35 04.1	-1.7
SJS	Escuela Geolog	1.54	311	eP	Pb	10 34 51.2	-0.2
SJS				eS	Sb	10 35 11.8	+0.8
CGA2	Cerro Gallo 2	1.91	304	eP	Pg	10 34 58.9	-0.8
CGA2				eS	Sb	10 35 21.0	-0.7

*BJI **06** 10:50:26.1, 80.30N×1.80W, h9km, mB6.6/49, mb6.1/66, Ms7.0/77, Ms7 6.7/69*

*MOS **06** 10:50:27.5±0.8, 80.27N×2.02W, h10km, mb6.7/89, MS6.3/68, Error ellipse: s-maj=25.9km s-min=2.9km az=92.9*

*ISCJB **06** 10:50:27.2±0.5, 80.31N±0.01×2.00W±0.06, h6km±2km, mb6.3/366, MS6.4/278, Error ellipse: s-maj=2.4km s-min=1.2km az=41.4*

*IDC **06** 10:50:27.8±0.3, 80.28N×2.01W, h0km, mb5.9/41, mb1 5.9/44, mb1mx5.9/44, mbtmp5.9/44, ML5.2/2, MS6.4/45, Ms1 6.4/45, ms1mx6.3/50, Error ellipse: s-maj=9.4km s-min=7.4km az=38.0*

*BER **06** 10:50:27.0±3.6, 80.59N×1.42W, h10km, MD3.6, ML5.3, ML5.9(NAO)*

*BGS **06** 10:50:27.8±1.5, 80.41N×2.48W, h10km, mb6.1, MS6.2*

*NAO **06** 10:50:28.0±7.5, 80.35N×0.90W, h6km±88km, ML5.9*

*CSEM **06** 10:50:29.1±0.0, 80.30N×2.09W, h10km, mb6.4/99, Ms6.3, Mw6.5, Error ellipse: s-maj=2.4km s-min=1.6km az=49.0*

*TEH **06** 10:50:29.0, 80.26N×1.80W, h10km, ML6.5*

*PDA **06** 10:50:29.4, 80.32N×1.85W, h9km, Mw6.5*

*NEIC **06** 10:50:29.4±0.1, 80.32N×1.85W, h9km, mb6.6/157, ME7.2, MS6.5/159, MW6.4, MW6.4, MW6.4(USGS), Error ellipse: s-maj=3.0km s-min=1.9km az=55.0 Broadband fault plane solution: P waves. NP1:φs135.00000°, δ75.00000°, λ-179.00000°. NP2:φs45.00000°, δ89.00000°, λ-15.00000°. Principal axes: T Plg10.0000°, Azm91.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm359.0000°; Moment Tensor Solution. s84 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.56; $M_{\theta\theta}$-4.03; $M_{\phi\phi}$4.59; $M_{r\theta}$-1.33; $M_{\theta\phi}$-1.45; $M_{\phi r}$-0.20; Best double couple: $M_0$4.80000×10^{18} NP1:φs127.00000°, δ78.00000°, λ-167.00000°. NP2:φs34.00000°, δ77.00000°, λ-13.00000°. Principal axes: T 4.8300, Plg0.0000°, Azm260.0000°; N -0.1300, Plg72.0000°, Azm170.0000°; P -4.7000, Plg17.0000°, Azm350.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*GCMT **06** 10:50:32.2±0.1, 80.33N×2.32W, h13km, MW6.5, Moment Tensor Solution. s112,c250; s99,c207; Moment tensor: Scale 10^{18}Nm; M_{rr}-1.16±.03; $M_{\theta\theta}$-4.63±.03; $M_{\phi\phi}$5.80±.03; $M_{r\theta}$-1.50±.09; $M_{\theta\phi}$-2.32±.03; $M_{\phi r}$-2.06±.10; Best double couple: $M_0$6.30000×10^{18} NP1:φs124.00000°, δ65.00000°, λ-173.00000°. NP2:φs31.00000°, δ83.00000°, λ-26.00000°. Principal axes: T 6.6800, Plg13.0000°, Azm80.0000°; N -0.7500, Plg64.0000°, Azm197.0000°; P -5.9200, Plg23.0000°, Azm345.0000°; Data Used: II IU IC G. Mantle waves from 100 sta. Surface waves: sta=118, comp=262, per= 50.*

*NEIC **06** 10:50:36.7±0.0, 80.09N×2.40W, h10km, Moment Tensor Solution. s160 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.35; $M_{\theta\theta}$-4.06; $M_{\phi\phi}$5.42; $M_{r\theta}$0.37; $M_{\theta\phi}$-2.26; $M_{\phi r}$-1.56; Best double couple: $M_0$5.40000×10^{18} NP1:φs213.00000°, δ81.00000°, λ8.00000°. NP2:φs122.00000°, δ82.00000°, λ171.00000°. Principal axes: T 6.2700, Plg11.0000°, Azm77.0000°; N -1.6900, Plg78.0000°, Azm259.0000°; P -4.5700, Plg0.0000°, Azm167.0000°;*

*SFS **06** 10:50:42.0, 79.06N×4.29W, h0km, ML6.4*

*SZGRF **06** 10:50:43.9, 79.04N×0.20W, h25km, mb6.6, MS6.1, Greenland Sea*

*DJA **06** 10:50:46.2±5.5, 80°N±11°×°±2°5, h131km±43km, M6.3/18, mb5.9/18, mB6.5/17, Mw(mB)6.3/17, Mwp6.2/4*

ISC 06 10:50:30.2±0.3, 80.31N±0.02×1.96W±0.02, h14km±1km, h14km:pP-P, n2802, σ1.19/2926, mb6.4/366, MS6.4/281, 541C-269D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.87	112	Pn	Pn	10 51 10.6	-4.8
KBS				Sn	Sn	10 51 41.7	-7.9
KBS	Kingsbay	2.87	112	Pn	Pn	10 51 10.6	-4.8
KBS				Sn	Sn	10 51 41.7	-7.9
KBS				AML	AML	10 51 57.1	
	comp=Z,9μm,0.7s						
KBS	Kingsbay	2.87	112c	iP	Pn	10 51 11.3	-4.1
KBS	Kingsbay	2.87	112	ePn	Pn	10 51 10.8	-4.6
KBS	Kingsbay	2.87	112	Pn	Pn	10 51 10.6	-4.8
KBS	Kingsbay	2.87	112⇑	iP	Pn	10 51 11.5	-3.9
	comp=Z,9μm,0.9s,SNR=46						
KBS				Sn	Sn	10 51 41.7	-7.9
SPA0	Spitsbergen Ar	4.03	113	Pn	Pn	10 51 27.3	-4.0
	baz=328,slow=8.6						
SPA0				Sn	Sn	10 52 11.8	-6.5
	baz=332,slow=111						
SPA0	Spitsbergen Ar	4.03	113	eP	Pn	10 51 27.6	-3.7
SPA0				Sn	Sn	10 52 11.8	-6.5
	baz=332,slow=111						
SPA0	Spitsbergen Ar	4.03	113	Pn	Pn	10 51 27.3	-4.0
	SNR=999						
SPA0	Spitsbergen Ar	4.03	113	eP	Pn	10 51 27.6	-3.7
	SNR=49						
SPA0				Sn	Sn	10 52 11.8	-6.5
	SNR=3.0						
SPITS	Spitsbergen Ar	4.03	113	Pn	Pn	10 51 27.3	-4.0
	baz=326,slow=7.1,SNR=5848						
SPITS				Sn	Sn	10 52 11.6	-6.7
	baz=86,slow=8.0,SNR=2.7						
SPITS				LR	LR	10 53 09.6	
	comp=Z,473μm,18.7s,baz=310,slow=40						
SPITS	Spitsbergen Ar	4.03	113	Pn	Pn	10 51 27.3	-4.0
SPITS				Sn	Sn	10 52 11.6	-6.7
SPITS	Spitsbergen Ar	4.03	113	Pn	Pn	10 51 27.3	-4.0
SPITS				Sn	Sn	10 52 11.6	-6.7
DAG	Danmarks Havn	4.85	231⇑	iP	Pn	10 51 38.6	-3.9
	comp=Z,25μm,0.7s						
DAG				i		10 52 31.5	
DAG	Danmarks Havn	4.85	231⇑	iP	Pn	10 51 38.6	-3.9
	comp=Z,4μm,0.7s						
HOPEN	Hopen	6.56	111⇑	iP	Pn	10 52 01.6	-4.4
HOPEN				eS	Sn	10 53 12.5	-8.0
BJO	Bjornoya	7.37	131	eP	Pn	10 52 13.2	-3.9
BJO				eS	Sn	10 53 34.1	-6.2
ALE	Alert	8.88	312	Pn	Pn	10 52 33.4	-4.3
	comp=Z,28μm,1.1s						
JNW	Jan Mayen West	9.46	193	eP	Pn	10 52 43.1	-2.6
JNW				eS	Sn	10 54 22.1	-10
JNW				AML	AML	10 54 29.9	
	comp=Z,3μm,0.6s						
JNE	Jan Mayen East	9.50	193	eP	Pn	10 52 43.2	-3.0
JNE				eS	Sn	10 54 23.7	-8.8
JNE				AML	AML	10 54 31.5	
	comp=Z,2μm,0.5s						
JMIC	Jan Mayen	9.51	193	Pn	Pn	10 52 43.3	-3.1
JMIC				Sn	Sn	10 54 22.5	-10
JMIC	Jan Mayen	9.51	193	Pn	Pn	10 52 43.5	-2.9
	comp=Z,810nm,0.3s,baz=24,slow=2.0,SNR=121						
JMIC				Sn	Sn	10 54 23.1	-10
	comp=Z,221nm,0.3s,baz=139,slow=18,SNR=16						
JMIC				LR	LR	10 55 35.8	
	comp=Z,128μm,21.0s,baz=4.8,slow=32						
JMIC	Jan Mayen	9.51	193	eP	Pn	10 52 43.4	-2.9
JMIC				eP		10 52 44.1	
JMIC				eS	Sn	10 54 22.9	-10
JMIC				AML	AML	10 54 28.7	
	comp=E,4μm,0.4s						
JMIC	Jan Mayen	9.51	193	Pn	Pn	10 52 43.5	-2.9
JMIC				Sn	Sn	10 54 23.1	-10
JMIC	Jan Mayen	9.51	193	Pn	Pn	10 52 43.3	-3.1
JMIC	Jan Mayen	9.51	193	eP	Pn	10 52 44.1	-2.3
	SNR=47						
JMI	Jan Mayen	9.58	193	eP	Pn	10 52 44.6	-2.7
JMI				eS	Sn	10 54 24.8	-10
JMI				AML	AML	10 54 32.5	
	comp=Z,2μm,0.6s						
SCO	Scoresbysund	10.97	217	iP	Pn	10 53 04.7	-1.7
	comp=Z,983nm,1.0s,SNR=46						
SUMG	Summit	11.25	247	eP	Pn	10 53 05.2	-5.3
SUMG				pmax	pmax		
	comp=Z,5μm,0.8s						
SUMG	Summit	11.25	247	ePn	Pn	10 53 05.2	-5.3
	comp=Z,5μm,0.8s						
SUMG				eSn	Sn	10 55 07.0	-9.0
SUMG	Summit	11.25	247	iP	Pn	10 53 04.6	-5.9
	comp=Z,4μm,0.7s						
TRO	Tromso	11.88	143	ePn	Pn	10 53 17.7	-1.1
TRO	Tromso	11.88	143	ePn	Pn	10 53 17.7	-1.1
	SNR=50						
KEV	Kevo	12.71	130	eP	Pn	10 53 27.8	-2.3
KEV				e		10 55 50.6	
KEV	Kevo	12.71	130	ePn	Pn	10 53 27.8	-2.3
KEV				eSn	Sn	10 55 50.6	-0.5
KEV	Kevo	12.71	130	ep	Pn	10 53 27.9	-2.2
	comp=Z,46nm,0.3s						
KEV	Kevo	12.71	130	ePn	Pn	10 53 27.8	-2.2
KEV				eSn	Sn	10 55 50.6	-0.5
ARA0	ARCESS Array S	12.73	133	Pn	Pn	10 53 27.5	-2.9
	baz=347,slow=12						
ARA0				Sn	Sn	10 55 42.6	-9.0
	baz=355,slow=22						
ARA0	ARCESS Array S	12.73	133	Pn	Pn	10 53 27.5	-2.9
	baz=347,slow=12						
ARA0				Sn	Sn	10 55 42.6	-9.0
	baz=355,slow=22						
ARA0	ARCESS Array S	12.73	133	Pn	Pn	10 53 27.5	-2.9
	SNR=313						
ARCES	ARCESS Array B	12.73	133	Pn	Pn	10 53 27.4	-3.0
	comp=Z,23nm,0.3s,baz=344,slow=11,SNR=209						
ARCES				Sn	Sn	10 55 42.0	-9.5
	comp=Z,9.1nm,0.3s,baz=348,slow=19,SNR=3.4						
ARCES				LR	LR	10 57 51.0	
	comp=Z,120μm,20.2s,baz=341,slow=35						
ARCES	ARCESS Array B	12.73	133	Pn	Pn	10 53 27.4	-3.0
ARCES				Sn	Sn	10 55 42.0	-9.5
ARCES	ARCESS Array B	12.73	133	Pn	Pn	10 53 27.4	-3.0
ARE0	ARCESS Array S	12.73	133⇑	iPn	Pn	10 53 28.4	-2.0
ARE0				eSn	Sn	10 55 42.6	-8.9
ARE0	ARCESS Array S	12.73	133	ePn	Pn	10 53 28.2	-2.2
ARE0	ARCESS Array S	12.73	133⇑	iPn	Pn	10 53 28.4	-2.0
	SNR=50						
LOF	Lofoten	12.86	153	ePn	Pn	10 53 25.2	-6.9
KTK1	Kautokeino	12.95	137⇑	iPn	Pn	10 53 32.4	-1.0
KTK1	Kautokeino	12.95	137⇑	iPn	Pn	10 53 32.3	-1.0
	SNR=50						
STEI	Steigen	13.19	151	ePn	Pn	10 53 38.0	+1.3
KONS	Konsvik	14.44	155	ePn	Pn	10 53 54.3	+0.6
STOK	Stokkvaagen	14.60	156	ePn	Pn	10 53 55.5	-0.3
FLOS	Flostrand	14.62	155	ePn	Pn	10 53 57.1	+1.0
MOR8	Moi Rana	14.86	153	ePn	Pn	10 53 59.2	-0.3
MOR8	Moi Rana	14.86	153	ePn	Pn	10 53 59.2	-0.3
	SNR=50						
LVZ	Lovozero	15.48	122c	iP	Pn	10 54 05.0	-2.7
LVZ				pmax	pmax		
	comp=Z,272nm,0.8s						
LVZ				MLR	MLR		
	comp=Z,83μm,17.0s						
LVZ	Lovozero	15.48	122	ePn	Pn	10 53 58.0	-10
	comp=Z,2μm,1.3s						
LVZ	Lovozero	15.48	122	Pn	Pn	10 54 01.8	-5.9
	comp=Z,6μm,1.2s,SNR=7.5						
APA0	Apatity Array	15.52	125	Pn	Pn	10 54 02.0	-6.1
	baz=342,slow=12						
APA0	Apatity Array	15.52	125	Pn	Pn	10 54 02.0	-6.1
	baz=342,slow=12						
APA	Apatity	15.62	124⇓	iP	Pn	10 54 02.0	-7.4
APA				pmax	pmax		
	comp=Z,20μm,6.5s						
APA				MLR	MLR		
	comp=Z,151μm,18.0s						
NSS	Namsos	16.32	158	ePn	Pn	10 54 16.8	-1.6
NSS	Namsos	16.32	158	ePn	Pn	10 54 16.8	-1.6
	SNR=50						
BORG	Borgarnes	16.50	210	Pn	P	10 54 23.3	-0.1
	comp=Z,2.0nm,0.3s,baz=16,slow=6.0,SNR=11						
BORG				LR	LR	11 01 22.2	
	comp=Z,107μm,18.6s,baz=6.9,slow=40						
BORG	Borgarnes	16.50	210	eP	P	10 54 23.0	-0.4
	comp=Z,1μm,1.4s						
BORG	Borgarnes	16.50	210	eP	P	10 54 23.0	-0.4
	comp=Z,1μm,1.4s						
MOL	Molde	18.04	166	ePn	Pn	10 54 38.6	-1.3
MOL				ePn	P	10 54 40.4	+0.1
MOL	Molde	18.04	166	ePn	P	10 54 40.4	+0.1
	SNR=50						
SFJD	Kangerlussuaq	18.16	251	P	Pn	10 54 32.9	-8.4
	comp=Z,59nm,0.3s,baz=19,slow=13,SNR=307						
SFJD				S	Sn	10 57 38.5	-25
	comp=Z,33nm,0.3s,baz=82,slow=19,SNR=3.7						
SFJD				LR	LR	11 01 46.6	
	comp=Z,278μm,21.6s,baz=23,slow=37						
SFJD	Kangerlussuaq	18.16	251	eP	P	10 54 44.4	+2.8
SFJD				S	Sn	10 57 38.5	-25
SFJD				eS	S	10 58 02.2	-6.5
SFJD	Kangerlussuaq	18.16	251⇑	iP	Pn	10 54 33.1	-8.2
	comp=Z,2μm,0.9s						
SFJD							
	comp=Z,316μm,12.0s						
SOFL	Sornfelli, Far	18.40	187	eP	P	10 54 44.2	-0.1
SOFL				AMB	AMB	10 54 51.9	
	comp=Z,950nm,1.9s						
SOFL				e		10 58 01.5	
SOFL				AMS	AMS	11 02 33.7	
	comp=Z,76μm,15.3s						
SOFL	Sornfelli, Far	18.40	187	P	P	10 54 44.2	-0.1
SOFL				AMB	AMB	10 54 51.9	
	comp=Z,950nm,1.9s						
SOFL						10 58 01.5	
SOFL				AMS	AMS	11 02 33.7	
	comp=Z,76μm,15.3s						
SOFL	Sornfelli, Far	18.40	187	eP	P	10 54 44.2	-0.1
RES	Resolute Bay	18.59	304	P	P	10 54 38.6	-7.7
	comp=Z,24nm,0.3s,baz=37,slow=12,SNR=364						
RES				S	Sn	10 57 50.2	-24
	comp=Z,5.3nm,0.3s,baz=344,slow=18,SNR=2.6						
RES				LR	LR	11 02 42.1	
	comp=Z,73μm,18.3s,baz=38,slow=40						
RES	Resolute Bay	18.59	304	eP	P	10 54 39.4	-6.9
	comp=Z,4μm,1.8s						
RES				S	Sn	10 57 50.2	-24
RES				eS	S	10 58 17.7	+0.2
FOO	Floro	18.92	170	ePn	Pn	10 55 00.2	+10
HYA	Hoyanger	19.39	168	eP	P	10 54 55.0	-0.2
NB2	NORSAR Subarra	19.75	161	P	P	10 54 59.0	-0.1
	baz=350,slow=11						
NB2	NORSAR Subarra	19.75	161	P	P	10 54 58.9	-0.1
	baz=354,slow=11						
NB2	NORSAR Subarra	19.75	161	P	P	10 54 58.9	-0.1
	comp=Z,4μm,2.0s,baz=354,slow=11						
NB2	NORSAR Subarra	19.75	161	P	P	10 54 59.0	-0.1
	SNR=3.3						
NOA	NORSAR Array B	19.75	161	Pn	P	10 54 58.6	-0.5
	comp=Z,2.7nm,0.3s,baz=229,slow=24,SNR=68						
NOA				LR	LR	11 01 19.6	
	comp=Z,93μm,20.0s,baz=345,slow=33						
NOA	NORSAR Array B	19.75	161	Pn	P	10 54 58.6	-0.5
NOA	NORSAR Array B	19.75	161	Pn	P	10 54 58.6	-0.5
JOF	Joensuu	19.77	132	eP	P	10 54 58.8	-0.5
JOF				pmax	pmax		
	comp=Z,31nm,0.5s						
JOF	Joensuu	19.77	132	ep	P	10 54 58.8	-0.5
	comp=Z,31nm,0.5s						
JOF	Joensuu	19.77	132	eP	P	10 54 58.8	-0.5
	comp=Z,31nm,0.5s						
NAO01	NORSAR Array S	19.92	161	eP	P	10 55 00.7	-0.3
	comp=Z,31nm,0.5s						
NAO01	NORSAR Array S	19.92	161	eP	P	10 55 00.7	-0.3
	comp=Z,31nm,0.5s						
KAF	Kangasniemi	19.96	139	eP	P	10 55 00.0	-1.3
KAF				pmax	pmax		
	comp=Z,19nm,0.4s						
KAF	Kangasniemi	19.96	139	ep	P	10 55 00.0	-1.3
	comp=Z,18nm,0.4s						
KAF	Kangasniemi	19.96	139	eP	P	10 55 00.0	-1.3
	comp=Z,18nm,0.4s						
ASK	Askoy	20.04	170	eP	P	10 55 00.8	-1.4
NC602	NORSAR Array S	20.07	160	eP	P	10 55 03.3	+0.7
NC602	NORSAR Array S	20.07	160	eP	P	10 55 03.3	+0.7
	SNR=47						
BER	Bergen	20.15	169	eP	P	10 55 02.6	-0.8
BER	Bergen	20.15	169	eP	P	10 55 02.6	-0.8
	SNR=47						
LRW	Lerwick	20.28	179	eP	P	10 55 04.1	-0.8
LRW				AMB	AMB	10 55 14.7	
	comp=Z,2μm,2.0s						
LRW				e		10 58 46.3	
LRW				AMS	AMS	11 00 39.4	
	comp=Z,100μm,16.7s						
LRW	Lerwick	20.28	179	P	P	10 55 04.1	-0.8
LRW				AMB	AMB	10 55 14.7	
	comp=Z,2μm,2.0s						
LRW						10 58 46.3	
LRW				AMS	AMS	11 00 39.4	
	comp=Z,100μm,16.7s						
LRW	Lerwick	20.28	179	eP	P	10 55 04.1	-0.8
FIA1	FINESS Array S	20.59	140	eP	P	10 55 06.9	-1.2
FIA1				eS	S	10 58 57.3	-0.2
FIA1	FINESS Array S	20.59	140	eP	P	10 55 06.9	-1.2
FIA1				eS	S	10 58 57.3	-0.2
FIA0	FINESS Array S	20.59	140	P	P	10 55 07.0	-1.1
	baz=347,slow=6.9						
FIA0	FINESS Array S	20.59	140	P	P	10 55 07.0	-1.1
	baz=347,slow=6.9						
FIA0	FINESS Array S	20.59	140	P	P	10 55 07.0	-1.1
	SNR=361						
FINES	FINESS Array B	20.59	140	P	P	10 55 07.3	-0.9
	comp=Z,163nm,0.7s,baz=346,slow=5.5,SNR=189						
FINES				LR	LR	11 02 37.0	
	comp=Z,128μm,20.0s,baz=351,slow=36						
FINES	FINESS Array B	20.59	140	P	P	10 55 07.3	-0.9
FINES	FINESS Array B	20.59	140	P	P	10 55 07.3	-0.9
ODD1	Odda	20.66	168	eP	P	10 55 07.2	-1.9
ODD1	Odda	20.66	168	eP	P	10 55 07.2	-1.9
	SNR=47						
HFS	Hagfors	20.80	158	P	P	10 55 09.4	-1.0
	baz=352,slow=9.3						
HFS	Hagfors	20.80	158	P	P	10 55 10.3	-0.1
	comp=Z,437nm,1.0s,baz=359,slow=7.9,SNR=183						
HFS				LR	LR	11 02 19.6	
	comp=Z,108μm,18.9s,baz=360,slow=34						
HFS	Hagfors	20.80	158	P	P	10 55 09.4	-1.0
	baz=352,slow=9.3						
HFS	Hagfors	20.80	158	P	P	10 55 10.3	-0.1
HFS	Hagfors	20.80	158	P	P	10 55 09.4	-1.0
	SNR=701						
KONO	Kongsberg	21.05	164	eP	P	10 55 12.4	-0.8
KONO	Kongsberg	21.05	164	eP	P	10 55 12.1	-1.1
KONO				pmax	pmax		
	comp=Z,4μm,1.4s						
KONO				MLR	MLR		
	comp=Z,76μm,22.0s						
KONO	Kongsberg	21.05	164	eP	P	10 55 12.1	-1.1
	comp=Z,4μm,1.4s						
KONO				LR	LR		
	comp=Z,76μm,22.0s						
KONO	Kongsberg	21.05	164	eP	P	10 55 12.4	-0.8
	SNR=47						
STAV	Stavanger	21.61	169	eP	P	10 55 15.4	-3.7
SNART	Snartemo	22.26	167	eP	P	10 55 24.6	-1.5
HOMB	Homborsund	22.38	165	eP	P	10 55 27.7	+0.3
HOMB				eSn	S	10 59 36.6	+4.2
HOMB	Homborsund	22.38	165	eP	P	10 55 27.7	+0.3
	SNR=47						
MVH1	Achvaich	22.51	183⇑	eP	P	10 55 27.9	-1.0
MVH1	Achvaich	22.51	183	P	P	10 55 27.9	-1.0
MVH1	Achvaich	22.51	183⇑	eP	P	10 55 27.9	-1.0
PUL	Pulkovo	22.71	136c	iP	P	10 55 29.6	-1.3
PUL				pmax	pmax		
	comp=Z,3μm,1.7s						
PUL				MLR	MLR		
	comp=Z,40μm,16.0s						
MCD	Coleburn Disti	22.84	182⇑	eP	P	10 55 31.3	-1.1
MCD	Coleburn Disti	22.84	182	P	P	10 55 31.3	-1.1
MCD	Coleburn Disti	22.84	182⇑	eP	P	10 55 31.3	-1.1
KLMR	Klimovskoe	22.85	123c	iP	P	10 55 31.0	-1.4
KLMR				eS	S	10 59 39.6	-1.5
KLMR				pmax	pmax		
	comp=Z,5μm,1.3s						
KLMR				MLR	MLR		
	comp=Z,88μm,18.0s						
KAC	Achnashellach	22.95	185⇑	eP	P	10 55 32.5	-0.9
KAC	Achnashellach	22.95	185	P	P	10 55 32.5	-0.9
KAC	Achnashellach	22.95	185⇑	eP	P	10 55 32.5	-0.9
MDO	Dochfour	23.00	183⇑	eP	P	10 55 32.8	-1.1
MDO	Dochfour	23.00	183	P	P	10 55 32.8	-1.1
MDO	Dochfour	23.00	183⇑	eP	P	10 55 32.8	-1.1
MME1	Meikle Cairn	23.11	181⇑	eP	P	10 55 33.9	-1.3
MME1	Meikle Cairn	23.11	181	P	P	10 55 33.9	-1.3
MME1	Meikle Cairn	23.11	181⇑	eP	P	10 55 33.9	-1.3
KPL	Plockton	23.11	185	eP	P	10 55 35.3	+0.2
KPL				AMB	AMB	10 55 50.0	
	comp=Z,895nm,1.3s						
KPL				AMS	AMS	11 05 53.1	
	comp=Z,73μm,15.1s						
KPL	Plockton	23.11	185	P	P	10 55 35.3	+0.2
KPL				AMB	AMB	10 55 50.0	
	comp=Z,895nm,1.3s						
KPL				AMS	AMS	11 05 53.1	
	comp=Z,73μm,15.1s						
KPL	Plockton	23.11	185	eP	P	10 55 35.3	+0.2
KSB	Sheil Bridge	23.24	185	eP	P	10 55 35.3	-1.1
KSB	Sheil Bridge	23.24	185	P	P	10 55 35.3	-1.1
KSB	Sheil Bridge	23.24	185	eP	P	10 55 35.3	-1.1
VSU	Vasula	23.58	141c	iP	P	10 55 38.2	-1.6
VSU				pmax	pmax		
	comp=Z,469nm,1.2s						
VSU				MLR	MLR		
	comp=Z,150μm,22.0s						
ELO	Logie Almond	23.96	182	eP	P	10 55 42.5	-1.0
ELO	Logie Almond	23.96	182	P	P	10 55 42.5	-1.0
ELO	Logie Almond	23.96	182	eP	P	10 55 42.5	-1.0
FRB	Frobisher Bay	24.12	267	P	P	10 55 43.3	-1.6
	comp=Z,2μm,0.9s,baz=20,slow=9.5,SNR=1472						
FRB				S	S	10 59 57.9	-3.8
	comp=Z,30nm,0.8s,baz=205,slow=17,SNR=1.7						
FRB				LR	LR	11 05 02.2	
	comp=Z,136μm,21.6s,baz=26,slow=36						
FRB	Frobisher Bay	24.12	267	P	P	10 55 43.3	-1.6
FRB				S	S	10 59 57.9	-3.8
FRB	Frobisher Bay	24.12	267	P	P	10 55 43.3	-1.6
MUD	Monsted U'grnd	24.22	165⇑	iP	P	10 55 46.0	+0.1
	comp=Z,232nm,1.3s						
MUD				iS	S	11 00 10.0	+6.6
MUD							
	comp=Z,102μm,23.0s						
MUD	Monsted U'grnd	24.22	165⇑	iP	P	10 55 46.0	+0.1
	comp=Z,232nm,1.3s						
EAB	Aberfoyle	24.25	183	eP	P	10 55 45.8	-0.4
EAB	Aberfoyle	24.25	183	P	P	10 55 45.8	-0.4
EAB	Aberfoyle	24.25	183	eP	P	10 55 45.8	-0.4
EDI	Edinburgh	24.51	182	eP	P	10 55 47.2	-1.3
EDI				AMB	AMB	10 55 55.6	
	comp=Z,1μm,2.0s						
EDI				e		10 59 59.8	
EDI				AMS	AMS	11 03 17.5	
	comp=Z,63μm,19.6s						
EDI	Edinburgh	24.51	182	P	P	10 55 47.2	-1.3
EDI				AMB	AMB	10 55 55.6	
	comp=Z,1μm,2.0s						
EDI						10 59 59.8	
EDI				AMS	AMS	11 03 17.5	
	comp=Z,63μm,19.6s						
EDI	Edinburgh	24.51	182	eP	P	10 55 47.2	-1.3
ESY	Stoneypath	24.51	181	eP	P	10 55 47.7	-0.8
ESY	Stoneypath	24.51	181	P	P	10 55 47.7	-0.8
ESY	Stoneypath	24.51	181	eP	P	10 55 47.7	-0.8
EAU	Auchinoon	24.59	182⇑	eP	P	10 55 48.6	-0.7
EAU	Auchinoon	24.59	182	P	P	10 55 48.6	-0.7
EAU	Auchinoon	24.59	182⇑	eP	P	10 55 48.6	-0.7
PMSU	Muirshiel	24.60	184⇑	eP	P	10 55 48.4	-1.0
PMSU	Muirshiel	24.60	184	P	P	10 55 48.4	-1.0
PMSU	Muirshiel	24.60	184⇑	eP	P	10 55 48.4	-1.0
PGBU	Glenifferbraes	24.63	183	eP	P	10 55 48.7	-0.9
PGBU				AMB	AMB	10 55 57.0	
	comp=Z,1μm,2.1s						
PGBU				AMS	AMS	11 02 37.4	
	comp=Z,52μm,23.4s						

PGBU Glenifferbraes 24.63 183 P P 10 55 48.7 -0.9
PGBU AMB AMB 10 55 57.0
comp=Z,1µm,2.1s
PGBU AMS AMS 11 02 37.4
comp=Z,52µm,23.4s
PGBU Glenifferbraes 24.63 183 eP P 10 55 48.7 -0.9
EBL Broad Law 24.66 181⇑eP P 10 55 49.2 -0.7
EBL Broad Law 24.66 181 P P 10 55 49.2 -0.7
EBL Broad Law 24.66 181⇑eP P 10 55 49.2 -0.7
ESK Eskdalemuir 25.12 182 eP P 10 55 53.1 -0.9
ESK AMB AMB 10 56 01.9
comp=Z,528nm,2.3s
ESK e 11 00 26.4
ESK AMS AMS 11 07 45.3
comp=Z,72µm,14.9s
ESK Eskdalemuir 25.12 182 P P 10 55 53.1 -0.9
ESK AMB AMB 10 56 01.9
comp=Z,528nm,2.3s
ESK 11 00 26.4
ESK AMS AMS 11 07 45.3
comp=Z,72µm,14.9s
ESK Eskdalemuir 25.12 182 eP P 10 55 53.1 -0.9
ESK pmax pmax
comp=Z,724nm,1.5s
ESK MLR MLR
comp=Z,79µm,21.0s
ESK Eskdalemuir 25.12 182 eP P 10 55 53.1 -0.9
comp=Z,724nm,1.5s
ESK LR LR
comp=Z,79µm,21.0s
ESK Eskdalemuir 25.12 182 eP P 10 55 53.1 -0.9
COP Copenhagen 25.15 161⇑iP P 10 55 53.2 -1.1
comp=Z,169nm,1.0s
COP i S S 11 00 22.0 +3.6
COP
comp=Z,29µm,18.0s
COP Copenhagen 25.15 161⇑iP P 10 55 53.2 -1.1
comp=Z,170nm,1.0s,SNR=28
ECK Cauldkaine Hil 25.25 182⇑eP P 10 55 54.6 -0.6
ECK Cauldkaine Hil 25.25 182 P P 10 55 54.6 -0.6
ECK Cauldkaine Hil 25.25 182⇑eP P 10 55 54.7 -0.6
LLD Lille Linde 25.49 161 i P P 10 55 57.5 +0.1
comp=Z,196nm,0.9s
LLD Lille Linde 25.49 161 i P P 10 55 57.5 +0.1
comp=Z,197nm,0.9s
XAL Allendale 25.57 180⇑eP P 10 55 57.6 -0.6
XAL Allendale 25.57 180 P P 10 55 57.6 -0.6
XAL Allendale 25.57 180⇑eP P 10 55 57.6 -0.6
GAL1 Galloway 25.58 184 AMB AMB 10 56 00.7
comp=Z,260nm,1.7s
GAL1 AMS AMS 11 06 48.6
comp=Z,72µm,15.9s
KESW Keswick, Cumbr 25.85 182 eP P 10 56 00.0 -0.6
KESW AMB AMB 10 56 09.8
comp=Z,1µm,1.4s
KESW e 10 59 34.5
KESW AMS AMS 11 03 57.7
comp=Z,64µm,20.8s
KESW Keswick, Cumbr 25.85 182 P P 10 56 00.0 -0.6
KESW AMB AMB 10 56 09.8
comp=Z,1µm,1.4s
KESW 10 59 34.5
KESW AMS AMS 11 03 57.7
comp=Z,64µm,20.8s
KESW Keswick, Cumbr 25.85 182 eP P 10 56 00.0 -0.6
BSD Bornholm Skovb 25.87 158⇑iP P 10 56 00.2 -0.6
comp=Z,688nm,1.1s
BSD i S S 11 00 29.2 -0.6
BSD
comp=Z,72µm,17.0s
BSD Bornholm Skovb 25.87 158⇑iP P 10 56 00.2 -0.6
comp=Z,688nm,1.1s,SNR=28
BSD i S S 11 00 29.2 -0.6
SNR=28
IZAR Zarasai 26.20 143 eP P 10 56 03.3 -0.5
IZAR AMB AMB 10 56 13.7
comp=Z,367nm,1.3s
IZAR Zarasai 26.20 143 eP P 10 56 03.3 -0.5
comp=Z,367nm,1.3s,SNR=28
RGN Rugen 26.34 160 eP P 10 56 05.5 +0.5
comp=Z,7µm,1.4s
RGN Rugen 26.34 160 eP P 10 56 05.5 +0.5
comp=Z,7µm,1.4s
ISAL Salakas 26.36 143 eP P 10 56 04.6 -0.7
ISAL AMB AMB 10 56 27.9
comp=Z,478nm,1.2s
ISAL Salakas 26.36 143 eP P 10 56 04.6 -0.7
comp=Z,478nm,1.2s,SNR=28
IIGN Ignalina 26.59 143 eP P 10 56 06.6 -0.7
IIGN AMB AMB 10 56 33.3
comp=Z,358nm,1.2s
IIGN Ignalina 26.59 143 eP P 10 56 06.6 -0.7
comp=Z,358nm,1.2s,SNR=28
SOKR Solikamsk 26.74 105c iP P 10 56 07.8 -0.8
SOKR S S 11 00 43.1 -0.3
SOKR pmax pmax
comp=Z,1µm,2.1s
SOKR MLR MLR
comp=Z,100µm,19.0s
BSEG Bad Segeberg 26.79 164 eP P 10 56 09.6 +0.5
comp=Z,5µm,1.6s
LHO Holmfirth 26.89 180⇑eP P 10 56 09.5 -0.6
LHO Holmfirth 26.89 180 P P 10 56 09.5 -0.6
LHO Holmfirth 26.89 180⇑eP P 10 56 09.5 -0.6
WME Myndd Eilian 27.05 183⇑eP P 10 56 10.3 -1.2
WME Myndd Eilian 27.05 183 P P 10 56 10.3 -1.2
WME Myndd Eilian 27.05 183⇑eP P 10 56 10.3 -1.2
NACGM Naroch 27.09 142 eP P 10 56 08.0 -3.8
WLF1 Llynfaes 27.16 183 eP P 10 56 10.9 -1.5
WLF1 AMB AMB 10 56 20.5
comp=Z,452nm,2.4s
WLF1 e 11 00 54.0
WLF1 AMS AMS 11 07 50.0
comp=Z,60µm,16.0s
WLF1 Llynfaes 27.16 183 P P 10 56 10.9 -1.5
WLF1 AMB AMB 10 56 20.5
comp=Z,452nm,2.4s
WLF1 11 00 54.0
WLF1 AMS AMS 11 07 50.0
comp=Z,60µm,16.0s
WLF1 Llynfaes 27.16 183 eP P 10 56 10.9 -1.5
KBI1 Birley Grange 27.18 179⇑eP P 10 56 12.1 -0.6
KBI1 Birley Grange 27.18 179 P P 10 56 12.1 -0.6
KBI1 Birley Grange 27.18 179⇑eP P 10 56 12.1 -0.6
WPM1 Penmaenmawr 27.18 183⇑eP P 10 56 11.5 -1.2
WPM1 Penmaenmawr 27.18 183 P P 10 56 11.5 -1.2
WPM1 Penmaenmawr 27.18 183⇑eP P 10 56 11.5 -1.2
YRC Rhoscolyn 27.20 183 eP P 10 56 11.7 -1.1
YRC Rhoscolyn 27.20 183 P P 10 56 11.7 -1.1
YRC Rhoscolyn 27.20 183 eP P 10 56 11.7 -1.1
STNC Stoke 27.34 180 eP P 10 56 13.2 -0.9
STNC AMB AMB 10 56 21.8
comp=Z,1µm,1.7s
STNC AMS AMS 11 07 51.1
comp=Z,69µm,14.8s
STNC Stoke 27.34 180 P P 10 56 13.2 -0.9
STNC AMB AMB 10 56 21.8
comp=Z,1µm,1.7s
STNC AMS AMS 11 07 51.1
comp=Z,69µm,14.8s
STNC Stoke 27.34 180 eP P 10 56 13.2 -0.9
YRE Yr Eifl 27.47 183 eP P 10 56 14.1 -1.1
YRE Yr Eifl 27.47 183 P P 10 56 14.1 -1.1
YRE Yr Eifl 27.47 183 eP P 10 56 14.1 -1.1
FOEL Foel Wylfa 27.55 182 eP P 10 56 14.7 -1.3
FOEL AMB AMB 10 56 23.2
comp=Z,659nm,1.7s
FOEL AMS AMS 11 04 59.5
comp=Z,58µm,21.8s
FOEL Foel Wylfa 27.55 182 P P 10 56 14.7 -1.3
FOEL AMB AMB 10 56 23.2
comp=Z,659nm,1.7s
FOEL AMS AMS 11 04 59.5
comp=Z,58µm,21.8s
FOEL Foel Wylfa 27.55 182 eP P 10 56 14.7 -1.3
MOS Moscow 27.55 129c iP P 10 56 14.7 -1.2
MOS e 10 57 11.7
MOS eS S 11 00 59.0 +2.8
MOS pmax pmax
comp=Z,4µm,4.4s
MOS pmax pmax
comp=N,5µm,4.5s
MOS pmax pmax
comp=E,2µm,4.4s
MOS pmax pmax
comp=Z,392nm,1.6s
MOS MLR MLR
comp=Z,39µm,12.0s
MNK Minsk 27.59 141⇑iP P 10 56 14.0 -2.4
MNK eS S 11 00 52.0 -4.9
MNK pmax pmax
comp=N,2µm,1.5s
MNK pmax pmax
comp=E,760nm,1.5s
MNK pmax pmax
comp=Z,2µm,1.4s
MNK smax smax
comp=E,34µm,16.0s
MNK MLR MLR
comp=E,118µm,20.0s
MNK MLR MLR
comp=N,182µm,20.0s
MNK MLR MLR
comp=Z,279µm,20.0s
MICGM Minsk 27.60 141⇑iP P 10 56 14.0 -2.4
SUW Suwalki 27.62 147 eP P 10 56 15.4 -1.2
comp=Z,1µm,1.9s
SUW eS S 11 00 58.8 +1.5
SUW LMZ LR 11 04 48.1
comp=Z,69µm,35.6s
SUW Suwalki 27.62 147⇑eP P 10 56 15.4 -1.2
comp=Z,0.7nm,1.9s
SUW eS S 11 00 58.8 +1.5
SUW Suwalki 27.62 147 eP P 10 56 15.3 -1.2
SUW eS S 11 00 58.7 +1.5
SUW LMZ LR 11 04 48.1
GKP Gorka Klasztor 27.87 155 eP P 10 56 18.8 0.0
comp=Z,800nm,1.3s
GKP e 11 01 14.0
GKP LMZ LR 11 05 37.4
comp=Z,103µm,24.3s
GKP Gorka Klasztor 27.87 155 eP P 10 56 18.8 0.0
comp=Z,0.4nm,1.3s
GKP Gorka Klasztor 27.87 155 eP P 10 56 18.7 0.0
GKP e 11 01 14.0
GKP LMZ LR 11 05 37.4
HLM1 Long Mynd 27.92 181 eP P 10 56 18.1 -1.2
HLM1 AMB AMB 10 56 26.8
comp=Z,442nm,1.9s
HLM1 Long Mynd 27.92 181 P P 10 56 18.1 -1.2
HLM1 AMB AMB 10 56 26.8
comp=Z,442nm,1.9s
HLM1 Long Mynd 27.92 181 eP P 10 56 18.1 -1.2
OBN Obninsk 28.02 130c iP P 10 56 18.9 -1.2
OBN e*PP pP 10 56 22.0 -2.4
OBN 10 57 07.0
OBN i S S 11 01 05.9 +2.3
OBN pmax pmax
comp=Z,458nm,1.2s
OBN MLR MLR
comp=Z,76µm,19.0s
OBN Obninsk 28.02 130 eP P 10 56 19.2 -0.9
comp=Z,637nm,1.1s
OBN LR LR
comp=Z,80µm,19.0s
OBN Obninsk 28.02 130 eP P 10 56 19.2 -0.9
comp=Z,637nm,1.1s
NRDL Niedersach Rie 28.22 164 eP P 10 56 22.1 +0.2
IBBN Ibbenburen 28.31 167 eP P 10 56 23.1 +0.3
RUE Ruedersdorf 28.43 160 eP P 10 56 24.7 +0.9
comp=Z,1µm,1.4s
RUE Ruedersdorf 28.43 160 eP P 10 56 24.7 +0.9
comp=Z,1µm,1.4s
MCH1 Michaelchurch 28.44 181 eP P 10 56 23.2 -0.8
MCH1 AMB AMB 10 56 36.2
comp=Z,590nm,1.6s
MCH1 e 11 00 53.7
MCH1 AMS AMS 11 05 26.0
comp=Z,54µm,21.3s
MCH1 Michaelchurch 28.44 181 P P 10 56 23.2 -0.8
MCH1 AMB AMB 10 56 36.2
comp=Z,590nm,1.6s
MCH1 11 00 53.7
MCH1 AMS AMS 11 05 26.0
comp=Z,54µm,21.3s
MCH1 Michaelchurch 28.44 181 eP P 10 56 23.2 -0.8
WTSB Winterswijk 28.62 169 eP P 10 56 25.9 +0.4
comp=Z,560nm,1.8s
WTSB epP pP 10 56 32.2 +2.4
comp=Z,2µm,1.6s
SKP1 Kophill 28.72 179 eP P 10 56 25.9 -0.5
SKP1 Kophill 28.72 179 P P 10 56 25.9 -0.5
SKP1 Kophill 28.72 179 eP P 10 56 25.9 -0.5
CLZ Clausthal 28.89 164 eP P 10 56 28.4 +0.5
comp=Z,2µm,1.9s
SWN1 Swindon 28.93 180 AMS AMS 11 07 10.5
comp=Z,53µm,16.3s
WOL Wolverton 29.13 179⇑eP P 10 56 30.4 +0.4
WOL AMB AMB 10 56 37.8
comp=Z,889nm,1.6s
WOL AMS AMS 11 09 05.8
comp=Z,49µm,15.6s
WOL Wolverton 29.13 179 P P 10 56 30.4 +0.4
WOL AMB AMB 10 56 37.8
comp=Z,889nm,1.6s
WOL AMS AMS 11 09 05.8
comp=Z,49µm,15.6s
WOL Wolverton 29.13 179⇑eP P 10 56 30.4 +0.4
BUG Bochum--Univer 29.16 168 eP P 10 56 30.7 +0.4
INK Inuvik 29.17 325 P P 10 56 29.5 -0.8
comp=Z,262nm,1.1s,baz=16,slow=12,SNR=383
INK S S 11 01 18.1 -3.5
comp=Z,27nm,1.1s,baz=331,slow=19,SNR=1.3
INK LR LR 11 08 48.8
comp=Z,30µm,20.6s,baz=26,slow=38
INK Inuvik 29.17 325 P P 10 56 29.5 -0.8
INK S S 11 01 18.1 -3.5
INK Inuvik 29.17 325 P P 10 56 29.5 -0.8
ELSH Elham, Standar 29.31 176 AMS AMS 11 09 37.0
comp=Z,54µm,16.0s
HTL Hartland 29.46 183 AMS AMS 11 10 35.6
comp=Z,60µm,15.4s
CLL Collm 29.55 161⇓iP P 10 56 34.4 +0.6
CLL e 10 56 40.0
CLL eS S 11 01 27.0 -0.8
CLL pmax pmax
comp=Z,575nm,1.4s
CLL MLR MLR
comp=Z,57µm,18.8s
CLL Collm 29.55 161 eP P 10 56 33.5 -0.3
comp=Z,2µm,1.5s
CLL Collm 29.55 161⇓iP P 10 56 34.4 +0.6
comp=Z,575nm,1.4s
CLL e(sP) sP 10 56 40.0 +0.1
comp=Z,2µm,1.5s
CLL ePP PnPn 10 57 33.0 +4.9
CLL ePPP PPP 10 57 39.0
CLL eS S 11 01 27.0 -0.8
CLL e 11 02 42.0
CLL LV 11 07 00.0
comp=Z,57µm,18.8s
BEL Belsk 29.56 151 eP P 10 56 34.1 +0.2
comp=Z,3µm,1.7s
BEL eS S 11 01 32.2 +4.3
BEL LMZ LR 11 06 55.2
comp=Z,81µm,22.4s
BEL Belsk 29.56 151 eP P 10 56 34.1 +0.2
comp=Z,1.3nm,1.7s
BEL Belsk 29.56 151 eP P 10 56 34.1 +0.2
BEL eS S 11 01 32.2 +4.3
BEL LMZ LR 11 06 55.2
UCC Uccle 29.72 172 P P 10 56 35.5 +0.3
UCC E 10 56 41.8
BEBN Eben Emael 29.75 170 P P 10 56 35.7 +0.2
BEBN E 10 56 42.1
HGN Heimansgroeve 29.79 170 eP P 10 56 35.9 0.0
comp=Z,270nm,1.5s
HGN epP pP 10 56 42.4 +2.2
comp=Z,1µm,1.9s
HGN eX 10 56 52.0
comp=Z,987nm,1.7s
HGN eS S 11 01 27.1 -4.4
HGN eL L 11 07 07.8
comp=Z,22µm,21.4s
HGN Heimansgroeve 29.79 170 eP P 10 56 35.9 0.0
comp=Z,270nm,1.5s
UBBA Unterbreizbach 29.89 165 eP P 10 56 37.5 +0.8
MEM Membach 29.95 170 P P 10 56 37.2 -0.1
MEM E 10 56 44.1
SVE Sverdlovsk 29.99 102d iP P 10 56 38.0 +0.4
SVE eS S 11 01 38.2 +3.6
SVE pmax pmax
comp=Z,1µm,1.5s
SVE pmax pmax
comp=Z,3µm,11.6s
SVE smax smax
comp=N,23µm,19.9s
SVE smax smax
comp=E,40µm,17.0s
SVE MLR MLR
comp=Z,150µm,15.0s
SVE MLR MLR
comp=N,62µm,16.0s
SNF Seneffe 30.00 172 P P 10 56 37.6 -0.2
SNF E 10 56 44.0
DYA Yadsworthy 30.01 183 eP P 10 56 36.8 -1.1
DYA AMB AMB 10 56 45.1
comp=Z,335nm,1.6s
DYA AMS AMS 11 06 14.2
comp=Z,41µm,22.2s
DYA Yadsworthy 30.01 183 P P 10 56 36.8 -1.1
DYA AMB AMB 10 56 45.1
comp=Z,335nm,1.6s
DYA AMS AMS 11 06 14.2
comp=Z,41µm,22.2s
DYA Yadsworthy 30.01 183 eP P 10 56 36.8 -1.1
ARU Arti 30.03 105c iP P 10 56 38.4 +0.4
ARU e 10 57 33.0
ARU 10 59 39.8
ARU S S 11 01 37.1 +1.9
ARU SS SnSn 11 03 06.7 -0.2
ARU pmax pmax
comp=Z,2µm,2.5s
ARU pmax pmax
comp=Z,4µm,8.2s
ARU smax smax
comp=N,9µm,7.7s
ARU MLR MLR
comp=Z,95µm,18.0s
ARU Arti 30.03 105 PFAKE 10 56 50.0 +12
ARU LR LR
comp=Z,91µm,19.0s
ARU Arti 30.03 105 P P 10 56 38.2 +0.2
comp=Z,3µm,1.1s
BRG Berggiesshubel 30.04 160 i P P 10 56 38.9 +0.8
comp=Z,519nm,1.3s
BRG i 10 56 44.9
comp=Z,2µm,1.5s
BRG S S 11 01 35.0 -0.4
BRG
comp=N,57µm,18.2s
BRG
comp=E,15µm,15.7s
BRG
comp=Z,80µm,17.1s
BRG Berggiesshubel 30.04 160 i P P 10 56 38.9 +0.8
BRG i 10 56 44.9
BRG S S 11 01 35.0 -0.4
BRG pmax pmax
comp=Z,519nm,1.3s
BRG MLR MLR
comp=N,57µm,18.2s
BRG MLR MLR
comp=E,15µm,15.7s
BRG MLR MLR
comp=Z,80µm,17.1s
BRG Berggiesshubel 30.04 160 eP P 10 56 38.0 -0.1
comp=Z,2µm,1.5s
BCLA Clavier 30.12 171 P P 10 56 39.1 +0.3
BCLA E 10 56 45.1
MOX Moxa 30.14 163 eP P 10 56 39.3 +0.3
comp=Z,2µm,1.5s
MOX epP pP 10 56 45.6 +2.2
MOX eS S 11 01 33.1 -4.0
MOX eL L 11 07 31.5
comp=Z,48µm,21.7s
KSP Ksiaz 30.22 157 eP P 10 56 39.6 -0.1
comp=Z,500nm,1.4s
KSP eS S 11 01 39.0 +0.7
KSP LMZ LR 11 07 49.7
comp=Z,81µm,19.5s
KSP Ksiaz 30.22 157⇑eP P 10 56 39.6 -0.1
KSP e*PP pP 10 56 46.3 +2.3
KSP eS S 11 01 35.0 -3.2
KSP MLR MLR
comp=Z,162µm,19.5s
KSP Ksiaz 30.22 157⇑eP P 10 56 39.6 -0.1
KSP Ksiaz 30.22 157 eP P 10 56 39.5 -0.1
KSP eS S 11 01 38.9 +0.7
KSP LMZ LR 11 07 49.6
TANN Tannenbergstha 30.41 162 eP P 10 56 41.9 +0.4
TNS Taunus Mts 30.42 167 eP P 10 56 41.7 +0.1
comp=Z,789nm,1.7s
PVCC Panska Ves 30.42 159 eP P 10 56 41.5 0.0
PVCC e 10 56 49.0
PVCC eS S 11 01 44.4 +3.0
PVCC MLR MLR
comp=Z,83µm,19.0s
PVCC Panska Ves 30.42 159⇑eP P 10 56 41.5 0.0
PVCC epP pP 10 56 49.0 +3.2
PVCC eS S 11 01 44.4 +3.0
PVCC AMS AMS 11 07 40.0
comp=Z,83µm,19.0s
PVCC Panska Ves 30.42 159 P P 10 56 41.5 0.0
GIVF Givet 30.42 171⇑iP P 10 56 41.5 0.0
comp=Z,1µm,1.7s
GIVF Givet 30.42 171⇑iP P 10 56 41.5 0.0
GIVF pmax pmax
comp=Z,1µm,1.7s
GIVF Givet 30.42 171⇑iP P 10 56 41.5 0.0
comp=Z,1µm,1.7s
GIVF Givet 30.42 171⇑iP P 10 56 41.5 0.0
comp=Z,746nm,1.7s
DOU Dourbes 30.43 172 P P 10 56 41.6 +0.1
DOU E 10 56 47.8
BAIF Baives 30.45 172⇑iP P 10 56 42.1 +0.3
comp=Z,3µm,1.6s
BAIF Baives 30.45 172⇑iP P 10 56 42.1 +0.3
BAIF pmax pmax
comp=Z,3µm,1.6s
BAIF Baives 30.45 172⇑iP P 10 56 42.1 +0.3
comp=Z,3µm,1.6s
BAIF Baives 30.45 172⇑iP P 10 56 42.1 +0.3
comp=Z,1µm,1.6s
UPC Upice 30.53 157 eP P 10 56 42.4 -0.1
UPC e 10 56 50.1
UPC Upice 30.53 157⇑eP P 10 56 42.4 -0.1
UPC epP pP 10 56 50.1 +3.3
UPC Upice 30.53 157 P P 10 56 42.4 -0.1
NKC Novy Kostel 30.59 162⇑iP P 10 56 43.4 +0.3
NKC e 10 56 49.8
NKC eS S 11 01 47.7 +3.5
NKC MLR MLR
comp=Z,50µm,14.2s
NKC Novy Kostel 30.59 162⇑iP P 10 56 43.4 +0.3
NKC epP pP 10 56 49.8 +2.4
NKC eS S 11 01 47.7 +3.5
NKC AMS AMS 11 08 50.0
comp=Z,50µm,14.2s
NKC Novy Kostel 30.59 162 P P 10 56 43.4 +0.3
DPC Dobruska-Polom 30.71 157⇑iP P 10 56 44.5 +0.4
DPC e 10 56 51.2
DPC eS S 11 01 39.0 -7.1
DPC MLR MLR
comp=Z,69µm,19.5s
DPC Dobruska-Polom 30.71 157⇑iP P 10 56 44.5 +0.4
DPC epP pP 10 56 51.2 +2.8
DPC ex x 11 01 39.0
DPC AMS AMS 11 08 00.0
comp=Z,69µm,19.5s
DPC Dobruska-Polom 30.71 157 P P 10 56 44.5 +0.4
ABH Alteburg 30.73 168 eP P 10 56 44.8 +0.5
ABH Alteburg 30.73 168 eP P 10 56 44.8 +0.5
PRA Prague 30.87 159 ⇑P P 10 56 46.0 +0.6
PRA pP pP 10 56 54.0 +4.2
PRA ex x 10 57 55.0
PRA AMS AMS 11 08 30.0
RUP Ruppelstein 30.89 169 eP P 10 56 46.1 +0.4
RUP Ruppelstein 30.89 169 eP P 10 56 46.1 +0.4
RUP Ruppelstein 30.89 169 eP P 10 56 46.1 +0.4
WLF Walferdange 30.90 170 P P 10 56 47.0 +1.3
WLF E 10 56 56.3
WLF Walferdange 30.90 170 eP P 10 56 46.0 +0.3
WLF pmax pmax

comp=Z,1µm,1.8s
WLF MLR MLR
comp=Z,32µm,22.0s
WLF Walferdange 30.90 170 *e*P **P 10 56 46.3 +0.6**
WLF Walferdange 30.90 170 *e*P **P 10 56 46.0 +0.3**
comp=Z,1µm,1.8s
WLF LR LR
comp=Z,32µm,22.0s
WLF Walferdange 30.90 170 *e*P **P 10 56 46.0 +0.3**
comp=Z,1µm,1.8s
PRU Pruhonice 30.96 159 *e*P **P 10 56 46.7 +0.5**
PRU *e* 10 56 53.3
PRU *e*S **S 11 01 45.6 -4.2**
PRU MLR MLR
comp=Z,76µm,17.5s
PRU Pruhonice 30.96 159⇑*e*P **P 10 56 46.7 +0.5**
PRU *e*pP **pP 10 56 53.3 +2.8**
PRU *e*S **S 11 01 45.6 -4.2**
PRU AMS AMS 11 08 00.0
comp=Z,76µm,17.5s
PRU Pruhonice 30.96 159 P **P 10 56 46.7 +0.5**
KRLC Kraliky 31.01 156⇑*e*P **P 10 56 47.0 +0.2**
KRLC *ex* x 10 56 54.3
KRLC Kraliky 31.01 156 P **P 10 56 47.0 +0.2**
ROTZ Rotzenmuhle 31.05 162 *e*P **P 10 56 47.5 +0.5**
TOD Tromm 31.05 166 *e*P **P 10 56 47.7 +0.6**
TOD Tromm 31.05 166 *e*P **P 10 56 47.7 +0.6**
TOD Tromm 31.05 166 *e*P **P 10 56 47.7 +0.6**
GRF Grafenberg Arr 31.07 163 *e*P **P 10 56 47.9 +0.6**
comp=Z,2µm,1.9s
GRF *e*pP **pP 10 56 54.2 +2.6**
GRF *e*S **S 11 01 48.1 -3.6**
GRF *e*L L 11 08 10.4
comp=Z,53µm,21.6s
OJC Ojcow 31.09 153 *e*P **P 10 56 47.6 +0.2**
OJC *e**SP **sP 10 56 52.8 -0.7**
OJC *e*S **S 11 01 52.1 +0.2**
OJC MLR MLR
comp=Z,70µm,23.1s
OJC Ojcow 31.09 153 *e*P **P 10 56 47.6 +0.2**
OJC *e*S **S 11 01 52.1 +0.2**
OJC Ojcow 31.09 153 *e*P **P 10 56 47.6 +0.2**
OJC *e*sP **sP 10 56 52.8 -0.7**
OJC *e*S **S 11 01 52.1 +0.2**
OJC L L 11 07 59.6
comp=Z,70µm,23.1s
RAC Raciborz 31.11 155 *e*P **P 10 56 47.9 +0.4**
RAC *e*S **S 11 01 52.3 +0.2**
RAC MLR MLR
comp=Z,57µm,18.0s
RAC MLR MLR
comp=N,54µm,17.0s
RAC MLR MLR
comp=E,33µm,12.0s
RAC Raciborz 31.11 155 *e*P **P 10 56 47.9 +0.4**
RAC *e*S **S 11 01 52.3 +0.2**
JSA Saint Aubin 31.25 180 *e*P **P 10 56 47.6 -1.2**
JSA AMB AMB 10 56 56.1
comp=Z,824nm,1.5s
JSA AMS AMS 11 10 23.3
comp=Z,61µm,15.9s
JSA Saint Aubin 31.25 180 P **P 10 56 47.6 -1.2**
JSA AMB AMB 10 56 56.1
comp=Z,824nm,1.5s
JSA AMS AMS 11 10 23.3
comp=Z,61µm,15.9s
JSA Saint Aubin 31.25 180 *e*P **P 10 56 47.6 -1.2**
KTD Kalmit 31.31 167 *e*P **P 10 56 49.8 +0.4**
KTD Kalmit 31.31 167 *e*P **P 10 56 49.8 +0.4**
KTD Kalmit 31.31 167 *e*P **P 10 56 49.8 +0.4**
OKC Ostrava-Krasne 31.35 155⇑*i*P **P 10 56 49.7 0.0**
OKC *e* 10 56 56.5
OKC *e*S **S 11 01 57.8 +1.9**
OKC MLR MLR
comp=Z,47µm,18.5s
OKC Ostrava-Krasne 31.35 155⇑*i*P **P 10 56 49.7 0.0**
OKC *e*pP **pP 10 56 56.5 +2.5**
OKC *e*S **S 11 01 57.8 +1.9**
OKC AMS AMS 11 08 10.0
comp=Z,47µm,18.5s
OKC Ostrava-Krasne 31.35 155 P **P 10 56 49.7 0.0**
OKC S **S 11 01 57.8 +1.9**
MORC Moravsky Berou 31.36 155⇑*i*P **P 10 56 49.9 0.0**
MORC Moravsky Berou 31.36 155⇑*i*P **P 10 56 49.9 0.0**
MORC Moravsky Berou 31.36 155⇑*i*P **P 10 56 49.9 0.0**
AKASG Malin Array Be 31.49 141 P **P 10 56 49.5 -1.4**
comp=Z,136nm,0.6s,baz=344,slow=9.1,SNR=41
AKASG PcP **PcP 10 59 43.9 +0.6**
comp=Z,47nm,1.1s,baz=302,slow=2.1,SNR=4.0
AKASG LR LR 11 08 56.4
comp=Z,114µm,21.3s,baz=350,slow=35
AKASG Malin Array Be 31.49 141 P **P 10 56 49.5 -1.4**
AKASG 10 59 43.9
AKASG Malin Array Be 31.49 141 P **P 10 56 49.5 -1.4**
AKASG PcP **PcP 10 59 43.9 +0.6**
AKASG Malin Array Be 31.49 141 P **P 10 56 49.5 -1.4**
KIEV Kiev 31.49 141*c i*P **P 10 56 49.5 -1.4**
KIEV Kiev 31.49 141 PFAKE 10 57 00.0 +9.1
KIEV LR LR
comp=Z,100µm,20.0s
LANF Langenberg 31.64 168 *e*P **P 10 56 52.6 +0.3**
LANF Langenberg 31.64 168 *e*P **P 10 56 52.6 +0.3**
LANF Langenberg 31.64 168 *e*P **P 10 56 52.6 +0.3**
LANF Langenberg 31.64 168 *e*P **P 10 56 52.6 +0.3**
VOR Voronezh 31.67 129 *e*P **P 10 56 51.0 -1.5**
VOR pmax pmax
comp=Z,700nm,2.0s
FLN La Foliniere 31.68 178 *e*P **P 10 56 51.5 -1.1**
comp=Z,1µm,1.8s
FLN *e*R
comp=Z,54µm,20.2s
FLN La Foliniere 31.68 178 *e*P **P 10 56 51.5 -1.1**
FLN pmax pmax
comp=Z,1µm,1.8s
FLN La Foliniere 31.68 178 *e*P **P 10 56 51.5 -1.1**
comp=Z,1µm,1.8s
FLN La Foliniere 31.68 178 *e*P **P 10 56 51.5 -1.1**
comp=Z,522nm,1.8s
WET Wettzell 31.70 161 *e*P **P 10 56 53.7 +0.8**
comp=Z,1µm,1.6s
TREC Trest 31.71 158 *e*P **P 10 56 53.4 +0.5**
TREC *e* 10 57 00.0
TREC MLR MLR
comp=Z,92µm,18.5s
TREC Trest 31.71 158⇑*e*P **P 10 56 53.4 +0.5**
TREC *e*pP **pP 10 57 00.0 +2.8**
TREC AMS AMS 11 08 30.0
comp=Z,92µm,18.5s
TREC Trest 31.71 158 P **P 10 56 53.4 +0.5**
KHC Kasperske Hory 31.76 160⇑*i*P **P 10 56 54.0 +0.7**
KHC *e* 10 57 00.8
KHC *e*S **S 11 01 59.5 -2.9**
KHC MLR MLR
comp=Z,53µm,16.3s
KHC Kasperske Hory 31.76 160⇑*i*P **P 10 56 54.0 +0.7**
KHC *ex* x 10 57 00.8
KHC *e*S **S 11 01 59.5 -2.9**
KHC AMS AMS 11 09 10.0
comp=Z,53µm,16.3s
KHC Kasperske Hory 31.76 160 P **P 10 56 54.0 +0.7**
VRAC Vranov 31.77 157⇑*i*P **P 10 56 54.0 +0.6**
VRAC Vranov 31.77 157⇑*i*P **P 10 56 53.8 +0.4**
LVV L'vov 31.85 147⇓*i*P **P 10 56 53.8 -0.3**
LVV *e* 10 59 06.4
LVV *e* 10 59 49.2
LVV *e*S **S 11 02 01.2 -2.5**
LVV *e* 11 03 51.2
LVV MLR MLR
comp=N,42µm,18.0s
LVV MLR MLR
comp=Z,52µm,18.0s
LVV MLR MLR
comp=E,21µm,16.0s
LDF La Druitiere 31.85 178*i*P **P 10 56 53.2 -0.9**
comp=E,1µm,1.5s
LDF La Druitiere 31.85 178⇑*i*P **P 10 56 53.2 -0.9**
LDF pmax pmax
comp=Z,1µm,1.5s
LDF La Druitiere 31.85 178⇑*i*P **P 10 56 53.2 -0.9**
comp=Z,1µm,1.5s
LDF La Druitiere 31.85 178⇑*i*P **P 10 56 53.2 -0.9**
comp=Z,717nm,1.5s
STU Stuttgart 31.90 166 *e*P **P 10 56 55.0 +0.5**
KWP Kalwaria Pacla 31.91 149 *e*P **P 10 56 54.9 +0.2**
comp=Z,3µm,2.0s
KWP *e*S S 11 02 14.5 +10
KWP LMZ LR 11 08 45.2
comp=Z,97µm,19.8s
KWP Kalwaria Pacla 31.91 149⇑P **P 10 56 54.9 +0.2**
KWP Kalwaria Pacla 31.91 149 *e*P **P 10 56 54.9 +0.2**
comp=Z,2µm,1.5s
KWP LR LR
comp=Z,91µm,19.0s
KWP Kalwaria Pacla 31.91 149⇑*i*P **P 10 56 54.9 +0.2**
KWP Kalwaria Pacla 31.91 149 *e*P **P 10 56 54.8 +0.2**
comp=Z,2µm,1.5s
KWP Kalwaria Pacla 31.91 149 *e*P **P 10 56 54.9 +0.2**
KWP *e*S S 11 02 14.5 +10
KWP LMZ LR 11 08 45.2
NIE Niedzica 31.93 152 *e*P **P 10 56 55.5 +0.7**
NIE *e* 10 57 02.9
NIE *e* 10 58 00.5
NIE Niedzica 31.93 152 *e*P **P 10 56 55.5 +0.7**
NIE Niedzica 31.93 152 *e*P **P 10 56 55.5 +0.7**
NIE *e* 10 57 02.9
NIE *e*PP **PnPn 10 58 00.5 +1.0**
PAGF Fort de Pagny 32.00 170⇑*i*P **P 10 56 56.1 +0.7**
comp=Z,742nm,1.6s,baz=352
PAGF Fort de Pagny 32.00 170⇑*i*P **P 10 56 56.1 +0.7**
comp=Z,742nm,1.6s
PAGF Fort de Pagny 32.00 170⇑*i*P **P 10 56 56.1 +0.7**
comp=Z,371nm,1.6s,baz=352
MEZF Maizieres J'vi 32.03 171⇑*i*P **P 10 56 56.4 +0.7**
comp=Z,3µm,1.6s,baz=353
MEZF Maizieres J'vi 32.03 171⇑*i*P **P 10 56 56.4 +0.7**
comp=Z,3µm,1.6s
MEZF Maizieres J'vi 32.03 171⇑*i*P **P 10 56 56.4 +0.7**
comp=Z,2µm,1.6s,baz=353
GEC2 GERESS Array S 32.05 160 *e*P **P 10 56 56.9 +0.9**
comp=Z,2µm,1.5s
GERES GERESS Array B 32.05 160 P **P 10 56 56.6 +0.7**
comp=Z,150nm,1.0s,baz=1.3,slow=5.9,SNR=361
GERES PcP **PcP 10 59 44.2 -0.8**
comp=Z,11nm,0.9s,baz=8.9,slow=7.0,SNR=2.6
GERES S **S 11 02 06.5 -0.6**
comp=Z,3.2nm,1.0s,baz=50,slow=32,SNR=2.5
GERES LR LR 11 09 24.6
comp=Z,44µm,18.1s,baz=359,slow=36
GERES GERESS Array B 32.05 160 P **P 10 56 56.6 +0.7**
GERES PcP **PcP 10 59 44.2 -0.8**
GERES S **S 11 02 06.5 -0.6**
GERES GERESS Array B 32.05 160 P **P 10 56 56.7 +0.7**
GRR Gorron 32.05 179⇑*i*P **P 10 56 55.1 -0.8**
comp=Z,2µm,1.5s
GRR Gorron 32.05 179⇑*i*P **P 10 56 55.1 -0.8**
GRR pmax pmax
comp=Z,2µm,1.5s
GRR Gorron 32.05 179⇑*i*P **P 10 56 55.1 -0.8**
comp=Z,2µm,1.5s
GRR Gorron 32.05 179⇑*i*P **P 10 56 55.1 -0.8**
comp=Z,1µm,1.5s
ROSF Rostrenen 32.11 182 *e*P **P 10 56 55.6 -0.8**
comp=Z,816nm,1.6s
ROSF Rostrenen 32.11 182 *e*P **P 10 56 55.6 -0.8**
ROSF pmax pmax
comp=Z,816nm,1.6s
ROSF Rostrenen 32.11 182 *e*P **P 10 56 55.6 -0.8**
comp=Z,816nm,1.6s
ROSF Rostrenen 32.11 182 *e*P **P 10 56 55.6 -0.8**
comp=Z,408nm,1.6s
BST Brest 32.15 183 *e*P **P 10 56 56.8 +0.1**
BST Brest 32.15 183 *e*P **P 10 56 56.8 +0.1**
BST Brest 32.15 183 *e*P **P 10 56 56.8 +0.1**
VSR Storozhevoye 32.17 129*c i*P **P 10 56 55.7 -1.2**
VSR *e* 10 56 55.9
VSR *e*S **S 11 02 06.6 -2.1**
VSR 11 07 19.7
VSR pmax pmax
comp=N,210nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,190nm,0.9s
VSR smax smax
comp=N,660nm,2.5s
VSR smax smax
comp=E,1µm,2.5s
VSR smax smax
comp=Z,250nm,2.5s
VSR MLR MLR
comp=N,39µm,19.0s
VSR MLR MLR
comp=E,29µm,19.0s
VSR MLR MLR
comp=Z,80µm,19.0s
CDF Champ du Feu 32.19 168⇑*i*P **P 10 56 57.7 +0.5**
comp=Z,2µm,1.6s
CDF Champ du Feu 32.19 168⇑*i*P **P 10 56 57.7 +0.5**
CDF pmax pmax
comp=Z,2µm,1.6s
CDF Champ du Feu 32.19 168⇑*i*P **P 10 56 57.7 +0.5**
comp=Z,2µm,1.6s
CDF Champ du Feu 32.19 168⇑*i*P **P 10 56 57.7 +0.5**
comp=Z,928nm,1.6s
SGMF Saint Gilles 32.19 181 *e*P **P 10 56 56.6 -0.5**
comp=Z,2µm,1.7s
SGMF Saint Gilles 32.19 181 *e*P **P 10 56 56.6 -0.5**
SGMF pmax pmax
comp=Z,2µm,1.7s
SGMF Saint Gilles 32.19 181 *e*P **P 10 56 56.6 -0.5**
comp=Z,2µm,1.7s
SGMF Saint Gilles 32.19 181 *e*P **P 10 56 56.6 -0.5**
comp=Z,874nm,1.7s
LIKS Likavka 32.20 154 *e*P **P 10 56 59.3 +2.1**
LIKS *e* 10 57 06.0
LIKS pmax pmax
comp=Z,153nm,1.1s
LIKS Likavka 32.20 154 *e*P **P 10 56 59.3 +2.1**
LIKS *e* 10 57 06.0
LIKS Likavka 32.20 154 *e*P **P 10 56 59.3 +2.1**
comp=Z,153nm,1.1s
SCHQ Schefferville 32.28 259 P **P 10 56 56.8 -1.1**
comp=Z,359nm,1.1s,baz=20,slow=7.8,SNR=260
SCHQ S **S 11 02 05.2 -5.2**
comp=Z,25nm,0.7s,baz=120,slow=16,SNR=2.0
SCHQ LR LR 11 11 04.5
comp=Z,102µm,18.4s,baz=26,slow=38
SCHQ Schefferville 32.28 259 *e*P **P 10 56 55.9 -1.9**
comp=Z,12nm,0.7s
SCHQ S **S 11 02 05.2 -5.2**
SCHQ Schefferville 32.28 259 *e*P **P 10 56 55.9 -1.9**
comp=Z,12nm,0.7s
BFO Black Forest 32.31 167 *e*P **P 10 56 58.6 +0.5**
comp=Z,852nm,1.7s
BFO Black Forest 32.31 167 PFAKE 10 57 10.0 +12
BFO LR LR
comp=Z,51µm,19.0s
SFTF Sexfontaines 32.33 171⇑*i*P **P 10 56 58.7 +0.4**
comp=Z,3µm,1.7s,baz=354
SFTF Sexfontaines 32.33 171⇑*i*P **P 10 56 58.7 +0.4**
comp=Z,3µm,1.7s
SFTF Sexfontaines 32.33 171⇑*i*P **P 10 56 58.7 +0.4**
comp=Z,1µm,1.7s,baz=354
THEF They Montfort 32.33 170 *e*P **P 10 56 59.0 +0.7**
THEF They Montfort 32.33 170 *e*P **P 10 56 59.0 +0.7**
THEF They Montfort 32.33 170 *e*P **P 10 56 59.0 +0.7**
THEF They Montfort 32.33 170 *e*P **P 10 56 59.0 +0.7**
ECH Echery 32.38 169 *e*P **P 10 56 59.4 +0.6**
ECH pmax pmax
comp=Z,657nm,1.3s
ECH MLR MLR
comp=Z,47µm,19.0s
ECH Echery 32.38 169 *e*P **P 10 56 59.4 +0.6**
comp=Z,657nm,1.3s
ECH LR LR
comp=Z,47µm,19.0s
ECH Echery 32.38 169 *e*P **P 10 56 59.5 +0.6**
ECH Echery 32.38 169 *e*P **P 10 56 59.4 +0.6**
comp=Z,657nm,1.3s
VORD Divnogorie 32.43 129*c i*P **P 10 56 58.0 -1.2**
VORD *e* 10 56 58.1
VORD *e*S **S 11 02 09.9 -2.9**
VORD *e*SS **SnSn 11 04 08.1 +2.7**
VORD 11 07 30.6
VORD pmax pmax
comp=Z,160nm,1.0s
VORD pmax pmax
comp=N,110nm,0.9s
VORD smax smax
comp=E,2µm,2.8s
VORD smax smax
comp=N,830nm,3.3s
VORD smax smax
comp=N,1µm,2.9s
VORD MLR MLR
comp=Z,55µm,17.0s
VORD MLR MLR
comp=N,38µm,14.0s
VORD MLR MLR
comp=E,17µm,14.0s
LIBD Limburg 32.46 168 *e*P **P 10 57 00.4 +1.0**
LIBD Limburg 32.46 168 *e*P **P 10 57 00.4 +1.0**
LIBD Limburg 32.46 168 *e*P **P 10 57 00.4 +1.0**
YKW3 Yellowknife Ar 32.52 307 *e*P **P 10 56 59.3 -0.5**
comp=E,7.2nm,5.1s
YKW3 Yellowknife Ar 32.52 307 *e*P **P 10 56 59.3 -0.5**
comp=E,7.2nm,5.1s
QUIF Quistinic 32.53 182 *e*P **P 10 56 59.7 -0.3**
comp=E,2µm,1.6s
QUIF Quistinic 32.53 182 *e*P **P 10 56 59.7 -0.3**
QUIF pmax pmax
comp=Z,2µm,1.6s
QUIF Quistinic 32.53 182 *e*P **P 10 56 59.7 -0.3**
comp=Z,2µm,1.6s
QUIF Quistinic 32.53 182 *e*P **P 10 56 59.7 -0.3**
comp=Z,839nm,1.6s
CRVS Cervenica-Dubn 32.53 151 *e*P **P 10 57 00.1 0.0**
CRVS *e* 10 57 07.4
CRVS pmax pmax
comp=Z,2µm,2.6s
CRVS Cervenica-Dubn 32.53 151 *e*P **P 10 57 00.1 0.0**
CRVS *e* 10 57 07.4
CRVS Cervenica-Dubn 32.53 151 *e*P **P 10 57 00.1 0.0**
comp=Z,2µm,2.6s
SPAK Spaichingen-Ko 32.55 167 *e*P **P 10 57 01.0 +0.6**
SPAK Spaichingen-Ko 32.55 167 *e*P **P 10 57 01.0 +0.6**
HAU Haudompre 32.56 170⇑*i*P **P 10 57 01.0 +0.6**
comp=Z,2µm,1.7s
HAU *e*R
comp=Z,47µm,19.0s
HAU Haudompre 32.56 170⇑*i*P **P 10 57 01.0 +0.6**
HAU pmax pmax
comp=Z,2µm,1.7s
HAU Haudompre 32.56 170⇑*i*P **P 10 57 01.0 +0.6**
comp=Z,2µm,1.7s
HAU Haudompre 32.56 170⇑*i*P **P 10 57 01.0 +0.6**
comp=Z,958nm,1.7s
KOLS Kolonicke sedl 32.57 150 *e*P **P 10 57 00.5 +0.1**
KOLS *e* 10 57 08.9
KOLS pmax pmax
comp=Z,393nm,1.4s
KOLS Kolonicke sedl 32.57 150 *e*P **P 10 57 00.5 +0.1**
KOLS *e* 10 57 08.9
KOLS Kolonicke sedl 32.57 150 *e*P **P 10 57 00.5 +0.1**
comp=Z,393nm,1.4s
YKA Yellowknife Ar 32.58 307 P **P 10 56 59.8 -0.5**
comp=Z,258nm,1.1s,baz=11,slow=8.4,SNR=945
YKA PcP **PcP 10 59 45.4 -0.7**
comp=Z,42nm,1.0s,baz=9.1,slow=2.0,SNR=3.7
YKA P3KPbc 11 28 24.1
comp=Z,0.3nm,0.9s,baz=206,slow=3.0,SNR=4.3
YKA PKPPKP P'P'df 11 30 01.9 -37
comp=Z,0.8nm,0.9s,baz=131,slow=2.4,SNR=5.9
YKA Yellowknife Ar 32.58 307 P **P 10 56 59.9 -0.5**
YKA PcP **PcP 10 59 45.4 -0.7**
YKA *e* 11 28 24.1
YKA P'P' 11 30 01.9
YKA Yellowknife Ar 32.58 307 P **P 10 56 59.8 -0.5**
YKA Yellowknife Ar 32.58 307 PcP **PcP 10 59 45.4 -0.7**
FUR Furstenfeldbru 32.60 163 *e*P **P 10 57 01.3 +0.6**
comp=Z,2µm,1.6s
SMOL Smolenice 32.61 156 *e*P **P 10 57 02.1 +1.3**
SMOL *e* 10 57 09.7
SMOL Smolenice 32.61 156 *e*P **P 10 57 02.1 +1.3**
SMOL *e* 10 57 09.6
SMOL Smolenice 32.61 156 *e*P **P 10 57 02.1 +1.3**
VRHR Novokhopersk 32.62 126*c i*P **P 10 56 59.2 -1.6**
VRHR *e*S **S 11 02 10.3 -5.4**
VRHR *e*SS **SnSn 11 04 13.1 +3.1**
VRHR pmax pmax
comp=Z,290nm,0.7s
VRHR pmax pmax
comp=N,180nm,1.1s
VRHR pmax pmax
comp=Z,2µm,2.8s
VRHR pmax pmax
comp=N,3µm,4.0s
VRHR pmax pmax
comp=E,520nm,2.4s
VRHR smax smax
comp=E,1µm,1.6s
VRHR smax smax
comp=Z,480nm,2.8s
VRHR smax smax
comp=N,690nm,1.8s
VRHR MLR MLR
comp=Z,35µm,17.0s
VRHR MLR MLR
comp=N,16µm,13.0s
VRHR MLR MLR
comp=E,22µm,10.0s
VYHS Vyhne 32.73 154 *e*P **P 10 57 02.2 +0.3**
VYHS *e* 10 57 09.6
VYHS pmax pmax
comp=Z,220nm,1.3s
VYHS Vyhne 32.73 154 *e*P **P 10 57 02.2 +0.3**
VYHS *e* 10 57 09.6
VYHS Vyhne 32.73 154 *e*P **P 10 57 02.2 +0.3**
comp=Z,220nm,1.3s
MOF Molkenrain 32.74 169 *e*P **P 10 57 02.5 +0.5**
MOF Molkenrain 32.74 169 *e*P **P 10 57 02.5 +0.5**
MOF Molkenrain 32.74 169 *e*P **P 10 57 02.5 +0.5**
MOF Molkenrain 32.74 169 *e*P **P 10 57 02.5 +0.5**
FELD Feldberg im Sc 32.75 168 *e*P **P 10 57 02.5 +0.3**
FELD Feldberg im Sc 32.75 168 *e*P **P 10 57 02.5 +0.3**
HINF Hinteralfeld 32.77 169⇑*i*P **P 10 57 02.6 +0.4**
comp=Z,972nm,1.5s
HINF Hinteralfeld 32.77 169⇑*i*P **P 10 57 02.6 +0.4**
HINF pmax pmax
comp=Z,972nm,1.5s
HINF Hinteralfeld 32.77 169⇑*i*P **P 10 57 02.6 +0.4**
comp=Z,972nm,1.5s
HINF Hinteralfeld 32.77 169⇑*i*P **P 10 57 02.6 +0.4**
comp=Z,486nm,1.5s
UZH Uzhgorod 32.87 150 *e*P **P 10 57 01.3 -1.7**
UZH *e* 10 57 06.1
UZH *e* 10 58 08.0
UZH *e*PPP PPP 10 58 31.5
UZH *e* 10 59 45.0
UZH *e*S **S 11 02 15.7 -4.0**
UZH *e*SS **SnSn 11 04 12.5 -3.7**
UZH MLR MLR
comp=N,20µm,17.0s
UZH MLR MLR
comp=E,20µm,17.0s
UZH MLR MLR
comp=Z,10µm,17.0s
MOA Molln 33.07 160⇑*i*P **P 10 57 05.3 +0.5**
comp=Z,2µm,1.7s,SNR=72
MOA Molln 33.07 160 P **P 10 57 05.3 +0.5**
comp=Z,2µm,1.7s,SNR=72
CONA Conrad Observa 33.09 158⇑*i*P **P 10 57 05.7 +0.6**
comp=Z,2µm,1.7s,SNR=96
CONA Conrad Observa 33.09 158 P **P 10 57 05.7 +0.6**
comp=Z,2µm,1.7s,SNR=96
BBS Basel-Blauen 33.14 168 *e*P **P 10 57 05.8 +0.3**
BBS Basel-Blauen 33.14 168 *e*P **P 10 57 05.8 +0.3**
BBS Basel-Blauen 33.14 168 *e*P **P 10 57 05.8 +0.3**
HYF Humbligny 33.21 174⇑*i*P **P 10 57 06.1 0.0**
HYF Humbligny 33.21 174⇑*i*P **P 10 57 06.1 0.0**
HYF Humbligny 33.21 174⇑*i*P **P 10 57 06.1 0.0**
LOMF Lomont 33.23 169 *e*P **P 10 57 06.8 +0.5**
LOMF Lomont 33.23 169 *e*P **P 10 57 06.8 +0.5**
LOMF Lomont 33.23 169 *e*P **P 10 57 06.8 +0.5**
LOMF Lomont 33.23 169 *e*P **P 10 57 06.8 +0.5**
LOR Lormes 33.24 173⇑*i*P **P 10 57 06.2 -0.1**
comp=Z,2µm,1.6s,baz=359
LOR *e*R
comp=Z,46µm,21.5s
LOR Lormes 33.24 173⇑*i*P **P 10 57 06.2 -0.1**
comp=Z,2µm,1.6s
LOR Lormes 33.24 173⇑*i*P **P 10 57 06.2 -0.1**
comp=Z,1µm,1.6s,baz=359
RETA Reutte 33.25 164⇑*i*P **P 10 57 07.1 +0.6**
comp=Z,2µm,2.0s,SNR=27

RETA Reutte 33.25 164 P P 10 57 07.1 +0.6
comp=Z,2µm,2.0s,SNR=27
EGAK Eagle 33.32 329 PFAKE 10 57 20.0 +13
EGAK LR LR
comp=Z,21µm,21.0s
SOP Sopron 33.38 157⇑eP P 10 57 08.1 +0.6
SOP Sopron 33.38 157⇑eP P 10 57 08.1 +0.6
PSZ Piszkesteto 33.39 153 ⇑P P 10 57 08.2 +0.6
PSZ Piszkesteto 33.39 153 PFAKE 10 57 20.0 +12
PSZ LR LR
comp=Z,64µm,19.0s
PSZ Piszkesteto 33.39 153⇑iP P 10 57 08.2 +0.6
PSZ Piszkesteto 33.39 153⇑iP P 10 57 08.2 +0.6
PSZ Piszkesteto 33.39 153⇑eP P 10 57 08.4 +0.8
TRPA Tarpa 33.39 150⇑iP P 10 57 07.8 +0.3
TRPA Tarpa 33.39 150⇑eP P 10 57 07.9 +0.4
TRPA Tarpa 33.39 150⇑eP P 10 57 07.9 +0.4
MOTA Moosalm 33.41 164⇓ipP P 10 57 08.8 +0.9
comp=Z,1µm,1.5s,SNR=22
MOTA Moosalm 33.41 164 P P 10 57 08.8 +0.9
comp=Z,1µm,1.5s,SNR=22
DAVA Damuels 33.41 165⇑iP P 10 57 08.5 +0.6
comp=Z,2µm,1.8s,SNR=34
DAVA Damuels 33.41 165 P P 10 57 08.5 +0.6
comp=Z,2µm,1.8s,SNR=34
SSF Saint Saulge 33.44 173⇑iP P 10 57 08.1 +0.1
comp=Z,3µm,1.5s
SSF Saint Saulge 33.44 173⇑iP P 10 57 08.1 +0.1
SSF pmax pmax
comp=Z,3µm,1.5s
SSF Saint Saulge 33.44 173⇑iP P 10 57 08.1 +0.1
comp=Z,3µm,1.5s
SSF Saint Saulge 33.44 173⇑iP P 10 57 08.1 +0.1
comp=Z,1µm,1.5s
WATA Walderalm 33.44 163⇓ipP P 10 57 09.4 +1.2
comp=Z,1µm,1.5s,SNR=24
WATA Walderalm 33.44 163 P P 10 57 09.4 +1.2
comp=Z,1µm,1.5s,SNR=24
WTTA Wattenberg 33.52 163⇑ipP P 10 57 10.0 +1.1
comp=Z,2µm,1.9s,SNR=23
WTTA Wattenberg 33.52 163 P P 10 57 10.0 +1.1
comp=Z,2µm,1.9s,SNR=23
SQTA Sankt Quirin 33.54 164⇑ipP P 10 57 10.4 +1.4
SQTA Sankt Quirin 33.54 164 P P 10 57 10.4 +1.4
AVF Avril sur Loir 33.70 173⇑iP P 10 57 10.3 0.0
comp=Z,3µm,1.5s
AVF Avril sur Loir 33.70 173⇑iP P 10 57 10.3 0.0
AVF pmax pmax
comp=Z,3µm,1.5s
AVF Avril sur Loir 33.70 173⇑iP P 10 57 10.3 0.0
comp=Z,3µm,1.5s
AVF Avril sur Loir 33.70 173⇑iP P 10 57 10.3 0.0
comp=Z,2µm,1.5s
FETA Feichten 33.72 164⇑ipP P 10 57 11.3 +0.7
comp=Z,2µm,2.6s,SNR=28
FETA Feichten 33.72 164 P P 10 57 11.3 +0.7
comp=Z,2µm,2.6s,SNR=28
ARSA Arzberg 33.75 158 ipP P 10 57 11.5 +0.8
comp=Z,1µm,1.8s,SNR=66
ARSA Arzberg 33.75 158 P P 10 57 11.5 +0.8
comp=Z,1µm,1.8s,SNR=66
BUD Budapest 33.75 154⇑eP P 10 57 11.5 +0.8
BUD Budapest 33.75 154⇑eP P 10 57 11.5 +0.8
COLA College 33.76 334 eP P 10 57 11.3 +0.7
COLA pmax pmax
comp=Z,2µm,1.4s
COLA MLR MLR
comp=Z,25µm,21.0s
COLA College 33.76 334 eP P 10 57 11.3 +0.7
comp=Z,2µm,1.4s
COLA LR LR
comp=Z,25µm,21.0s
COLA College 33.76 334 eP P 10 57 11.3 +0.7
comp=Z,2µm,1.4s
KBA Koelnbreinsper 33.79 161⇑ipP P 10 57 12.5 +1.2
comp=Z,2µm,1.8s,SNR=25
KBA Koelnbreinsper 33.79 161 P P 10 57 12.5 +1.2
comp=Z,2µm,1.8s,SNR=25
ILAR Eielson Array 33.79 334 P P 10 57 11.1 +0.2
comp=Z,208nm,1.0s,baz=6.4,slow=6.8,SNR=928
ILAR PcP PcP 10 59 50.0 +0.5
ILAR comp=Z,24nm,0.8s,baz=330,slow=1.8,SNR=4.6
S S 11 02 35.7 +2.0
ILAR comp=Z,1.6nm,0.9s,baz=60,slow=8.9,SNR=2.1
LR LR 11 10 15.6
ILAR comp=Z,29µm,19.9s,baz=32,slow=35
P3KPbc 11 28 19.4
ILAR comp=Z,1.3nm,0.9s,baz=204,slow=5.9,SNR=6.3
ILAR Eielson Array 33.79 334 P P 10 57 11.1 +0.2
ILAR PcP PcP 10 59 50.0 +0.5
ILAR S S 11 02 35.7 +2.0
ILAR e 11 28 19.4
ILAR Eielson Array 33.79 334 P P 10 57 11.1 +0.2
ILAR Eielson Array 33.79 334 PcP PcP 10 59 50.0 +0.5
PKSG 33.80 155⇓eP P 10 57 12.2 +1.1
PKSG 33.80 155⇓eP P 10 57 12.2 +1.1
MFF Saint Martin d 33.85 178⇑iP P 10 57 11.3 -0.3
comp=Z,2µm,1.6s
MFF Saint Martin d 33.85 178⇑iP P 10 57 11.3 -0.3
MFF pmax pmax
comp=Z,2µm,1.6s
MFF Saint Martin d 33.85 178⇑iP P 10 57 11.3 -0.3
comp=Z,2µm,1.6s
MFF Saint Martin d 33.85 178⇑iP P 10 57 11.3 -0.3
comp=Z,1µm,1.6s
DAWY Dawson 33.87 328 eP P 10 57 11.4 -0.3
DAWY Dawson 33.87 328 eP P 10 57 11.4 -0.3
PKST T"s 33.90 155⇓eP P 10 57 13.7 +1.6
PKST T"s 33.90 155⇓eP P 10 57 13.7 +1.6
BGF Bois d'Agland 33.93 174⇑iP P 10 57 12.4 +0.1
comp=Z,5µm,1.5s
BGF Bois d'Agland 33.93 174⇑iP P 10 57 12.4 +0.1
BGF pmax pmax
comp=Z,5µm,1.5s
BGF Bois d'Agland 33.93 174⇑iP P 10 57 12.4 +0.1
comp=Z,5µm,1.5s
BGF Bois d'Agland 33.93 174⇑iP P 10 57 12.4 +0.1
comp=Z,2µm,1.5s
BMR Baia Mare 33.93 149 ⇑P P 10 57 12.3 +0.1
BMR Baia Mare 33.93 149⇑iP P 10 57 12.3 +0.1
BMR Baia Mare 33.93 149⇑iP P 10 57 12.3 +0.1
CABF La Chapelle 33.95 170⇑iP P 10 57 12.9 +0.3
comp=Z,2µm,1.6s
CABF La Chapelle 33.95 170⇑iP P 10 57 12.9 +0.3
CABF pmax pmax
comp=Z,2µm,1.6s
CABF La Chapelle 33.95 170⇑iP P 10 57 12.9 +0.3
comp=Z,2µm,1.6s
CABF La Chapelle 33.95 170⇑iP P 10 57 12.9 +0.3
comp=Z,1µm,1.6s
ABTA Abfaltersbach 34.08 162⇓ipP P 10 57 14.7 +1.1
comp=Z,1µm,1.9s,SNR=28
ABTA Abfaltersbach 34.08 162 P P 10 57 14.7 +1.1
comp=Z,1µm,1.9s,SNR=28
BUR08 Bucovina Ar. S 34.11 147 eP P 10 57 13.6 -0.4
BUR08 Bucovina Ar. S 34.11 147 eP P 10 57 13.6 -0.4
TNA Tin City 34.12 350 eP P 10 57 14.6 +0.9
comp=Z,2µm,1.2s
TNA Tin City 34.12 350 eP P 10 57 14.6 +0.9
comp=Z,2µm,1.2s
BURAR Bucovina Array 34.14 147 P P 10 57 13.7 -0.5
BURAR Bucovina Array 34.14 147⇑iP P 10 57 14.1 -0.1
BURAR Bucovina Array 34.14 147⇑iP P 10 57 14.1 -0.1
TCF Toulx Ste Croi 34.19 175⇑iP P 10 57 14.5 -0.1
comp=Z,3µm,1.5s
TCF Toulx Ste Croi 34.19 175⇑iP P 10 57 14.5 -0.1
TCF pmax pmax
comp=Z,3µm,1.5s
TCF Toulx Ste Croi 34.19 175⇑iP P 10 57 14.5 -0.1
comp=Z,3µm,1.5s
TCF Toulx Ste Croi 34.19 175⇑iP P 10 57 14.5 -0.1
comp=Z,2µm,1.5s
TUE Stuetta 34.20 166 eP P 10 57 15.8 +0.9
comp=Z,800nm,1.3s
TUE LR LR
comp=Z,74µm,21.0s
TUE Stuetta 34.20 166 eP P 10 57 15.8 +0.9
comp=Z,800nm,1.3s
OG01 Vacheresse 34.25 169 eP P 10 57 15.6 +0.4
OG01 Vacheresse 34.25 169 eP P 10 57 15.6 +0.4
OG01 Vacheresse 34.25 169 eP P 10 57 15.6 +0.4
MYKA Terra Mystica 34.25 161⇑ipP P 10 57 16.2 +1.0
comp=Z,2µm,1.9s
MYKA Terra Mystica 34.25 161 P P 10 57 16.2 +1.0
comp=Z,2µm,1.9s
SOKA Soboth 34.29 159⇑ipP P 10 57 16.3 +0.8
comp=Z,2µm,1.7s
SOKA Soboth 34.29 159 P P 10 57 16.3 +0.8
comp=Z,2µm,1.7s
PERS Pernice 34.33 159 iP P 10 57 16.4 +0.6
PERS i 10 57 23.6
PERS eS S 11 02 44.0 +1.5
PERS Pernice 34.33 159 P P 10 57 16.4 +0.6
PERS eS S 11 02 44.0 +1.5
OBKA Obir 34.42 160 ipP P 10 57 17.7 +1.0
comp=Z,3µm,1.7s,SNR=151
OBKA Obir 34.42 160 P P 10 57 17.7 +1.0
comp=Z,3µm,1.7s,SNR=151
AGO Saint Agoulin 34.44 174 eP P 10 57 16.8 +0.1
AGO Saint Agoulin 34.44 174 eP P 10 57 16.8 +0.1
AGO Saint Agoulin 34.44 174 eP P 10 57 16.8 +0.1
PLDF La Plantade 34.53 173 eP P 10 57 17.4 -0.2
PLDF La Plantade 34.53 173 eP P 10 57 17.4 -0.2
PLDF La Plantade 34.53 173 eP P 10 57 17.4 -0.2
PLDF La Plantade 34.53 173 eP P 10 57 17.4 -0.2
PKS9 Tamasi 34.59 155⇓eP P 10 57 19.2 +1.2
PKS9 Tamasi 34.59 155⇓eP P 10 57 19.2 +1.2
BEHE Becsehely 34.60 157⇑eP P 10 57 19.4 +1.3
BEHE Becsehely 34.60 157⇑eP P 10 57 19.4 +1.3
PKS6 Bocsa 34.67 154⇓eP P 10 57 20.1 +1.4
PKS6 Bocsa 34.67 154⇓eP P 10 57 20.1 +1.4
VERF Verneugheol 34.73 175 eP P 10 57 19.6 +0.3
VERF Verneugheol 34.73 175 eP P 10 57 19.6 +0.3
VERF Verneugheol 34.73 175 eP P 10 57 19.6 +0.3
DRGR 34.73 150 P P 10 57 19.7 +0.4
DRGR 34.73 150⇓iP P 10 57 19.5 +0.2
DRGR 34.73 150⇓iP P 10 57 19.5 +0.2
PYM Petit Puy Mans 34.74 174 eP P 10 57 19.7 +0.3
PYM Petit Puy Mans 34.74 174 eP P 10 57 19.7 +0.3
PYM Petit Puy Mans 34.74 174 eP P 10 57 19.7 +0.3
PYM Petit Puy Mans 34.74 174 eP P 10 57 19.7 +0.3
PKS2 Kecel 34.75 154⇓eP P 10 57 21.0 +1.6
PKS2 Kecel 34.75 154⇓eP P 10 57 21.0 +1.6
VOY Vojsko 34.86 161 eP P 10 57 20.3 -0.2
VOY e 10 57 27.5
VOY e 10 57 51.8
VOY e 10 58 15.7
VOY e 10 58 32.5
VOY Vojsko 34.86 161 eP P 10 57 20.3 -0.2
LJU Ljubljana 34.89 160 iP P 10 57 21.2 +0.6
LJU i 10 57 27.9
LJU eS S 11 02 44.9 -6.1
LJU Ljubljana 34.89 160 iP P 10 57 21.2 +0.6
RSL Roselend 34.89 169 eP P 10 57 22.4 +1.6
RSL Roselend 34.89 169 eP P 10 57 22.4 +1.6
RSL Roselend 34.89 169 eP P 10 57 22.4 +1.6
RSL Roselend 34.89 169 eP P 10 57 22.4 +1.6
COLF Collangettes 34.98 173 eP P 10 57 22.2 +0.7
COLF Collangettes 34.98 173 eP P 10 57 22.2 +0.7
COLF Collangettes 34.98 173 eP P 10 57 22.2 +0.7
PKSM Moragy 34.99 155 ⇑P P 10 57 21.7 +0.3
PKSM Moragy 34.99 155⇑iP P 10 57 21.7 +0.3
PKSM Moragy 34.99 155⇑iP P 10 57 21.7 +0.3
PKSM Moragy 34.99 155⇑eP P 10 57 21.8 +0.3
JAVS Javornik 35.01 160 iP P 10 57 21.8 0.0
JAVS i 10 57 28.6
JAVS eS S 11 02 46.8 -6.2
JAVS Javornik 35.01 160 iP P 10 57 21.8 0.0
LPL La Plagne 35.06 169⇑iP P 10 57 23.4 +1.0
comp=Z,883nm,1.3s
LPL La Plagne 35.06 169⇑iP P 10 57 23.4 +1.0
LPL pmax pmax
comp=Z,883nm,1.3s
LPL La Plagne 35.06 169⇑iP P 10 57 23.4 +1.0
comp=Z,883nm,1.3s
LPL La Plagne 35.06 169⇑iP P 10 57 23.4 +1.0
comp=Z,441nm,1.3s
LPG La Plagne 35.08 169⇑iP P 10 57 23.7 +1.1
comp=Z,2µm,1.3s
LPG La Plagne 35.08 169⇑iP P 10 57 23.7 +1.1
LPG pmax pmax
comp=Z,2µm,1.3s
LPG La Plagne 35.08 169⇑iP P 10 57 23.7 +1.1
comp=Z,2µm,1.3s
LPG La Plagne 35.08 169⇑iP P 10 57 23.7 +1.1
comp=Z,773nm,1.3s
FRNF Fournols 35.09 174 eP P 10 57 22.0 -0.4
FRNF Fournols 35.09 174 eP P 10 57 22.0 -0.4
FRNF Fournols 35.09 174 eP P 10 57 22.0 -0.4
KIS Kishinev 35.11 142α iP P 10 57 20.0 -2.4
KIS i 10 58 46.0
KIS i S S 11 02 51.0 -3.2
KIS pmax pmax
comp=Z,1µm,1.6s
KIS pmax pmax
comp=N,1µm,1.8s
KIS pmax pmax
comp=Z,5µm,7.0s
KIS pmax pmax
comp=N,4µm,6.0s
KIS smax smax
comp=E,24µm,14.0s
KIS smax smax
comp=E,11µm,12.0s
KIS MLR MLR
comp=N,47µm,16.0s
KIS MLR MLR
comp=Z,53µm,16.0s
KIS MLR MLR
comp=E,19µm,17.0s
KIS MLR MLR
comp=Z,59µm,16.0s
KIS Kishinev 35.11 142⇑iP P 10 57 20.0 -2.4
comp=Z,1µm,1.6s
KIS i S S 11 02 51.0 -3.2
KIS comp=Z,11µm,12.0s i SS SnSn 11 04 48.0 -22
KIS i Li 11 06 30.0
KIS i LQ LQ 11 08 08.0
KIS LRM MLR 11 12 38.0
comp=Z,59µm,16.0s
RJF Les Rejaudoux 35.16 176⇑iP P 10 57 23.0 +0.1
comp=Z,5µm,1.5s
RJF eR
comp=Z,77µm,17.2s
RJF Les Rejaudoux 35.16 176⇑iP P 10 57 23.0 +0.1
RJF pmax pmax
comp=Z,5µm,1.5s
RJF Les Rejaudoux 35.16 176⇑iP P 10 57 23.0 +0.1
comp=Z,5µm,1.5s
RJF Les Rejaudoux 35.16 176⇑iP P 10 57 23.0 +0.1
comp=Z,2µm,1.5s
TRI Trieste 35.18 161 eP P 10 57 22.7 -0.4
TRI e 10 59 53.8
TRI pmax pmax
comp=Z,315nm,1.1s
TRI Trieste 35.18 161 eP P 10 57 22.6 -0.4
comp=Z,315nm,1.1s
TRI ePcP PcP 10 59 53.8 +0.1
TRI Trieste 35.18 161 eP P 10 57 22.6 -0.5
comp=Z,315nm,1.1s
BRVK Borovoye 35.22 95 eP P 10 57 23.3 0.0
BRVK e 10 58 43.4
BRVK pmax pmax
comp=Z,2µm,2.0s
BRVK MLR MLR
comp=Z,69µm,19.0s
BRVK Borovoye 35.22 95 eP P 10 57 23.3 0.0
comp=Z,2µm,2.0s
BRVK ePP PP 10 58 43.4 +0.4
BRVK LR LR
comp=Z,69µm,19.0s
BRVK Borovoye 35.22 95 P P 10 57 23.9 +0.5
SNR=284
BRVK Borovoye 35.22 95 P P 10 57 23.9 +0.5
SNR=284
SSB Saint Sauveur 35.24 172 eP P 10 57 23.9 +0.2
SSB Saint Sauveur 35.24 172 eP P 10 57 23.9 +0.2
SSB Saint Sauveur 35.24 172 eP P 10 57 23.9 +0.2
SSB Saint Sauveur 35.24 172 eP P 10 57 23.9 +0.2
LBL Lubilhac 35.26 174 eP P 10 57 23.5 -0.4
LBL Lubilhac 35.26 174 eP P 10 57 23.5 -0.4
LBL Lubilhac 35.26 174 eP P 10 57 23.5 -0.4
LBL Lubilhac 35.26 174 eP P 10 57 23.5 -0.4
BVA0 Borovoye Array 35.27 95 iP P 10 57 24.1 +0.3
BVA0 pmax pmax
comp=Z,70nm,1.4s
RHK3 Tenkes 35.28 155⇓eP P 10 57 25.3 +1.3
RHK3 Tenkes 35.28 155⇓eP P 10 57 25.3 +1.3
YAK Yakutsk 35.30 38 eP P 10 57 23.2 -0.8
YAK e 10 58 46.0
YAK eS S 11 02 55.3 -1.6
YAK eSS SnSn 11 05 13.4 -1.3
YAK pmax pmax
comp=Z,453nm,1.2s
YAK MLR MLR
comp=Z,27µm,18.1s
YAK MLR MLR
comp=N,13µm,13.1s
YAK MLR MLR
comp=E,12µm,13.1s
YAK Yakutsk 35.30 38 eP P 10 57 23.2 -0.8
comp=E,986nm,1.0s
YAK ePP PP 10 58 45.9 +2.1
YAK eS S 11 02 56.8 -0.2
YAK LR LR
comp=Z,25µm,20.0s
YAK Yakutsk 35.30 38 eP P 10 57 23.2 -0.8
comp=Z,986nm,1.0s
GRN Grenoble 35.31 171 eP P 10 57 25.1 +0.8
GRN Grenoble 35.31 171 eP P 10 57 25.1 +0.8
GRN Grenoble 35.31 171 eP P 10 57 25.1 +0.8
GRN Grenoble 35.31 171 eP P 10 57 25.1 +0.8
TRF Thorofare Moun 35.34 336 eP P 10 57 24.3 -0.3
comp=Z,171nm,0.3s
TRF Thorofare Moun 35.34 336 eP P 10 57 24.3 -0.3
comp=Z,171nm,0.3s
MENT Mentasta 35.35 331 eP P 10 57 25.4 +0.9
MENT Mentasta 35.35 331 eP P 10 57 25.4 +0.9
GDM Grand'Maison 35.36 170 eP P 10 57 25.3 +0.5
GDM Grand'Maison 35.36 170 eP P 10 57 25.3 +0.5
GDM Grand'Maison 35.36 170 eP P 10 57 25.3 +0.5
TESR 35.37 145⇑iP P 10 57 24.1 -0.6
TESR 35.37 145⇑iP P 10 57 24.1 -0.6
BOJS Bojanci 35.47 159 iP P 10 57 25.3 -0.3
BOJS e 10 57 31.9
BOJS eS S 11 02 52.1 -7.7
BOJS eSS SS 11 05 30.1 -3.6
BOJS Bojanci 35.47 159 iP P 10 57 25.3 -0.3
LFF La Frestale 35.52 177 eP P 10 57 26.1 +0.1
comp=Z,2µm,1.5s
LFF La Frestale 35.52 177 eP P 10 57 26.1 +0.1
LFF pmax pmax
comp=Z,2µm,1.5s
LFF La Frestale 35.52 177 eP P 10 57 26.1 +0.1
comp=Z,2µm,1.5s
LFF La Frestale 35.52 177 eP P 10 57 26.1 +0.1
comp=Z,786nm,1.5s
BNI Bardonecchia 35.52 169 eP P 10 57 27.6 +1.3
BNI pmax pmax
comp=Z,1µm,1.6s
BNI MLR MLR
comp=Z,61µm,19.0s
BNI Bardonecchia 35.52 169 eP P 10 57 27.6 +1.3
comp=Z,1µm,1.6s
BNI LR LR
comp=Z,61µm,19.0s
BNI Bardonecchia 35.52 169 eP P 10 57 27.5 +1.3
comp=Z,1µm,1.6s
CAF Calviac 35.55 175⇑iP P 10 57 26.4 +0.1
comp=Z,971nm,1.3s
CAF Calviac 35.55 175⇑iP P 10 57 26.4 +0.1
CAF pmax pmax
comp=Z,971nm,1.3s
CAF Calviac 35.55 175⇑iP P 10 57 26.4 +0.1
comp=Z,971nm,1.3s
CAF Calviac 35.55 175⇑iP P 10 57 26.4 +0.1
comp=Z,486nm,1.3s
LEOM Leova 35.57 143 ⇑P P 10 57 27.2 +0.8
LEOM Leova 35.57 143⇑iP P 10 57 27.2 +0.8
LEOM Leova 35.57 143⇑iP P 10 57 27.2 +0.8
SISC Sisak 35.57 158 P P 10 57 27.0 +0.6
SISC Sisak 35.57 158 iP P 10 57 27.0 +0.6
ORIF Oris-en-Rattie 35.63 170⇑iP P 10 57 27.8 +0.7
comp=Z,2µm,1.7s
ORIF eR
comp=Z,33µm,20.0s
ORIF Oris-en-Rattie 35.63 170⇑iP P 10 57 27.8 +0.7
ORIF pmax pmax
comp=Z,2µm,1.7s
ORIF Oris-en-Rattie 35.63 170⇑iP P 10 57 27.8 +0.7
comp=Z,2µm,1.7s
ORIF Oris-en-Rattie 35.63 170⇑iP P 10 57 27.8 +0.7
comp=Z,991nm,1.7s
DEV Deva 35.65 150 ⇓P P 10 57 27.6 +0.5
DEV Deva 35.65 150⇓iP P 10 57 27.6 +0.5
DEV Deva 35.65 150⇓iP P 10 57 27.6 +0.5
VIVF Saint-Julien-l 35.67 172⇑iP P 10 57 27.9 +0.6
comp=Z,3µm,1.7s
VIVF Saint-Julien-l 35.67 172⇑iP P 10 57 27.9 +0.6
VIVF pmax pmax
comp=Z,3µm,1.7s
VIVF Saint-Julien-l 35.67 172⇑iP P 10 57 27.9 +0.6
comp=Z,3µm,1.7s
VIVF Saint-Julien-l 35.67 172⇑iP P 10 57 27.9 +0.6
comp=Z,1µm,1.7s
NVS Novosibirsk 35.69 81⇑iP P 10 57 28.0 +0.6
NVS eS S 11 03 01.8 -1.3
NVS pmax pmax
comp=N,2µm,2.1s
NVS pmax pmax
comp=Z,4µm,2.1s
AKTO Aktyubinsk 35.72 108 P P 10 57 27.4 -0.3
comp=Z,400nm,1.0s,baz=349,slow=7.5,SNR=357
AKTO S S 11 03 01.9 -1.8
comp=Z,25nm,1.2s,baz=50,slow=11,SNR=2.8
AKTO Aktyubinsk 35.72 108 P P 10 57 27.4 -0.3
AKTO S S 11 03 01.9 -1.8
AKTO Aktyubinsk 35.72 108 P P 10 57 27.4 -0.3
AKTO S S 11 03 01.9 -1.8
AKTO Aktyubinsk 35.72 108 P P 10 57 27.4 -0.3
OG22 Abries 35.76 169 eP P 10 57 29.9 +1.6
OG22 Abries 35.76 169 eP P 10 57 29.9 +1.6
OG22 Abries 35.76 169 eP P 10 57 29.9 +1.6
DOPR Dopca 35.79 147⇓iP P 10 57 29.2 +0.8
DOPR Dopca 35.79 147⇓iP P 10 57 29.2 +0.8
BZS Buzias 35.81 151 ⇑P P 10 57 29.1 +0.6
BZS Buzias 35.81 151⇑iP P 10 57 29.1 +0.6
BZS Buzias 35.81 151 eP P 10 57 28.7 +0.2
MBDF Montbardon 35.85 169⇑iP P 10 57 30.3 +1.2
comp=Z,2µm,1.5s
MBDF Montbardon 35.85 169⇑iP P 10 57 30.3 +1.2
MBDF pmax pmax
comp=Z,2µm,1.5s
MBDF Montbardon 35.85 169⇑iP P 10 57 30.3 +1.2
comp=Z,2µm,1.5s
MBDF Montbardon 35.85 169⇑iP P 10 57 30.3 +1.2
comp=Z,752nm,1.5s
GHRR 35.89 144⇑iP P 10 57 29.6 +0.4
GHRR 35.89 144⇑iP P 10 57 29.6 +0.4
OCF Saint Nazaire 35.96 171 eP P 10 57 30.7 +0.8
OCF Saint Nazaire 35.96 171 eP P 10 57 30.7 +0.8
OG26 St.-Nazaire-De 35.96 171 eP P 10 57 30.7 +0.8
OG26 St.-Nazaire-De 35.96 171 eP P 10 57 30.7 +0.8
VRI Vrincioaia 36.02 145 P P 10 57 30.5 +0.1
VRI Vrincioaia 36.02 145⇓iP P 10 57 30.4 +0.1
VRI Vrincioaia 36.02 145⇓iP P 10 57 30.4 +0.1
PLOR Plostina 36.02 145 P P 10 57 30.6 +0.1
PLOR Plostina 36.02 145⇑iP P 10 57 30.5 +0.1
PLOR Plostina 36.02 145⇑iP P 10 57 30.5 +0.1
SURF Saint Ours 36.10 169 eP P 10 57 32.9 +1.7
SURF Saint Ours 36.10 169 eP P 10 57 32.9 +1.7
SURF Saint Ours 36.10 169 eP P 10 57 32.9 +1.7
FGSL Fruska Gora 36.12 154 eP P 10 57 31.8 +0.6
KRAR Krasnoyarsk 36.15 72c iP P 10 57 31.8 +0.5
KRAR pmax pmax
comp=Z,328nm,1.3s
KRAR MLR MLR
comp=Z,45µm,18.0s
LOT Lotru 36.16 149⇑iP P 10 57 31.8 +0.2
LOT Lotru 36.16 149⇑iP P 10 57 31.8 +0.2
OG25 Le Caire 36.19 170 eP P 10 57 32.4 +0.5
OG25 Le Caire 36.19 170 eP P 10 57 32.4 +0.5
OG25 Le Caire 36.19 170 eP P 10 57 32.4 +0.5
SEY Seymchan 36.24 20⇑iP P 10 57 31.2 -0.8
VOIR 36.28 147 P P 10 57 33.1 +0.4
VOIR 36.28 147⇓iP P 10 57 33.0 +0.4
VOIR 36.28 147⇓iP P 10 57 33.0 +0.4
MLR Muntele Rosu 36.31 146⇑iP P 10 57 33.6 +0.6
MLR Muntele Rosu 36.31 146⇑iP P 10 57 33.6 +0.6
ARR Arges 36.32 148⇓iP P 10 57 33.3 +0.4
ARR Arges 36.32 148⇓iP P 10 57 33.3 +0.4
NVLJ Novalja 36.38 160 P P 10 57 33.2 -0.2
NVLJ Novalja 36.38 160 iP P 10 57 33.2 -0.2

LASF	Ste Croix	36.43	173	⇑iP	P	10 57 35.1	+1.3
	comp=Z,3µm,1.6s						
LASF	Ste Croix	36.43	173	⇑iP	P	10 57 35.1	+1.3
	comp=Z,3µm,1.6s						
LASF	Ste Croix	36.43	173	⇑iP	P	10 57 35.1	+1.3
	comp=Z,2µm,1.6s						
GRER		36.52	145	⇓iP	P	10 57 35.9	+1.3
GRER		36.52	145	⇓iP	P	10 57 35.9	+1.3
VLC	Villacollemand	36.55	165	eP	P	10 57 36.4	+1.5
	comp=Z,2µm,1.5s						
VLC				LR	LR		
	comp=Z,87µm,22.0s						
VLC	Villacollemand	36.55	165	eP	P	10 57 36.4	+1.5
	comp=Z,2µm,1.5s						
SMRF	Simiane la Rot	36.57	171	⇑iP	P	10 57 35.7	+0.6
	comp=Z,2µm,1.6s						
SMRF	Simiane la Rot	36.57	171	⇑iP	P	10 57 35.7	+0.6
	comp=Z,2µm,1.6s						
SMRF	Simiane la Rot	36.57	171	⇑iP	P	10 57 35.7	+0.6
	comp=Z,974nm,1.6s						
TOUF	Mont Tournerai	36.58	169	eP	P	10 57 36.6	+1.3
TOUF	Mont Tournerai	36.58	169	eP	P	10 57 36.6	+1.3
TOUF	Mont Tournerai	36.58	169	eP	P	10 57 36.6	+1.3
TOUF	Mont Tournerai	36.58	169	eP	P	10 57 36.6	+1.3
AUTN	L'Aution	36.60	169	eP	P	10 57 35.7	+0.1
AUTN	L'Aution	36.60	169	eP	P	10 57 35.7	+0.1
AUTN	L'Aution	36.60	169	eP	P	10 57 35.7	+0.1
AUTN	L'Aution	36.60	169	eP	P	10 57 35.7	+0.1
SAOF	Saorge	36.62	168	eP	P	10 57 35.7	+0.2
SAOF	Saorge	36.62	168	eP	P	10 57 35.7	+0.2
SAOF	Saorge	36.62	168	eP	P	10 57 35.7	+0.2
SAOF	Saorge	36.62	168	eP	P	10 57 35.7	+0.2
MVIF	Mont Vial	36.70	169	eP	P	10 57 37.4	+1.1
MVIF	Mont Vial	36.70	169	eP	P	10 57 37.4	+1.1
MVIF	Mont Vial	36.70	169	eP	P	10 57 37.4	+1.1
MVIF	Mont Vial	36.70	169	eP	P	10 57 37.4	+1.1
TEKS	Tekeris	36.71	154	eP	P	10 57 37.7	+1.5
SBF	Sospel	36.74	169	⇑iP	P	10 57 37.3	+0.8
	comp=Z,5µm,1.6s						
SBF	Sospel	36.74	169	⇑iP	P	10 57 37.3	+0.8
SBF				pmax	pmax		
	comp=Z,5µm,1.6s						
SBF	Sospel	36.74	169	⇑iP	P	10 57 37.3	+0.8
	comp=Z,5µm,1.6s						
SBF	Sospel	36.74	169	⇑iP	P	10 57 37.3	+0.8
	comp=Z,3µm,1.6s						
ISR	Istrita	36.74	146	⇓P	P	10 57 36.6	+0.1
ISR	Istrita	36.74	146	⇓iP	P	10 57 36.6	+0.1
ISR	Istrita	36.74	146	⇓iP	P	10 57 36.6	+0.1
ZAA0	Zalesovo Array	36.82	80	eP	P	10 57 36.7	-0.3
ZAA0				ePP	PP	10 59 03.3	+2.7
ZAA0				ePcP	PcP	11 00 04.5	+6.0
ZAA0	Zalesovo Array	36.82	80	eP	P	10 57 36.7	-0.3
ZALV	Zalesovo Beam	36.82	80	P	P	10 57 37.2	+0.3
	comp=Z,211nm,1.0s,baz=345,slow=8.9,SNR=163						
ZALV				LR	LR	11 16 26.4	
	comp=Z,107µm,19.2s,baz=346,slow=42						
ZALV				PKPPKP	P'P'df	11 30 14.1	-20
	comp=Z,0.2nm,0.4s,baz=198,slow=0.5,SNR=4.7						
ZALV	Zalesovo Beam	36.82	80	P	P	10 57 37.3	+0.3
ZALV	Zalesovo Beam	36.82	80	P	P	10 57 37.2	+0.3
ZALV				P'P'		11 30 14.1	
ZALV	Zalesovo Beam	36.82	80	P	P	10 57 37.2	+0.3
CALN	Calern	36.83	169	eP	P	10 57 38.2	+0.8
CALN	Calern	36.83	169	eP	P	10 57 38.2	+0.8
CALN	Calern	36.83	169	eP	P	10 57 38.2	+0.8
CALN	Calern	36.83	169	eP	P	10 57 38.2	+0.8
CFR	Carcaliu	36.84	144	P	P	10 57 36.8	-0.4
CFR	Carcaliu	36.84	144	⇑iP	P	10 57 36.6	-0.6
CFR	Carcaliu	36.84	144	⇑iP	P	10 57 36.6	-0.6
REVF	Revere	36.86	169	eP	P	10 57 37.8	+0.3
REVF	Revere	36.86	169	eP	P	10 57 37.8	+0.3
REVF	Revere	36.86	169	eP	P	10 57 37.8	+0.3
REVF	Revere	36.86	169	eP	P	10 57 37.8	+0.3
TLCR		36.90	143	P	P	10 57 37.8	0.0
TLCR		36.90	143	⇑iP	P	10 57 37.0	-0.8
TLCR		36.90	143	⇑iP	P	10 57 37.0	-0.8
PGOR	Pogoanele	36.99	145	⇓iP	P	10 57 38.9	+0.3
PGOR	Pogoanele	36.99	145	⇓iP	P	10 57 38.9	+0.3
FRF	La Foret Royal	37.01	170	⇑iP	P	10 57 39.4	+0.6
	comp=Z,3µm,1.5s						
FRF	La Foret Royal	37.01	170	⇑iP	P	10 57 39.4	+0.6
FRF				pmax	pmax		
	comp=Z,3µm,1.5s						
FRF	La Foret Royal	37.01	170	⇑iP	P	10 57 39.4	+0.6
	comp=Z,3µm,1.5s						
FRF	La Foret Royal	37.01	170	⇑iP	P	10 57 39.4	+0.6
	comp=Z,1µm,1.5s						
TRUS	Trudelj	37.10	153	eP	P	10 57 39.0	-0.5
PMR	Palmer	37.11	335	eP	P	10 57 39.3	-0.1
PMR				pmax	pmax		
	comp=Z,1µm,1.2s						
PMR	Palmer	37.11	335	eP	P	10 57 39.2	-0.1
	comp=Z,1µm,1.2s						
PMR	Palmer	37.11	335	eP	P	10 57 39.2	-0.1
	comp=Z,1µm,1.2s						
MTLF	Montolieu	37.13	175	⇑iP	P	10 57 40.4	+0.6
	comp=Z,2µm,1.6s						
MTLF	Montolieu	37.13	175	⇑iP	P	10 57 40.4	+0.6
MTLF				pmax	pmax		
	comp=Z,2µm,1.6s						
MTLF	Montolieu	37.13	175	⇑iP	P	10 57 40.4	+0.6
	comp=Z,2µm,1.6s						
MTLF	Montolieu	37.13	175	⇑iP	P	10 57 40.4	+0.6
	comp=Z,977nm,1.6s						
SULR		37.15	146	⇓iP	P	10 57 37.9	-2.0
SULR		37.15	146	⇓iP	P	10 57 37.9	-2.0
AB31	Akbulak array	37.17	107	iP	P	10 57 39.7	-0.4
AB31				pmax	pmax		
	comp=Z,370nm,1.1s						
HUMR	Humele	37.18	148	⇑iP	P	10 57 40.3	+0.1
HUMR	Humele	37.18	148	⇑iP	P	10 57 40.3	+0.1
OSSF	Osses	37.19	179	eP	P	10 57 40.0	-0.3
OSSF	Osses	37.19	179	eP	P	10 57 40.0	-0.3
OSSF	Osses	37.19	179	eP	P	10 57 40.0	-0.3
DIVS	Divibare	37.19	154	P	P	10 57 40.1	-0.3
DIVS	Divibare	37.19	154	P	P	10 57 40.1	-0.3
ORDF	Ordiarp	37.23	179	eP	P	10 57 40.0	-0.6
ORDF	Ordiarp	37.23	179	eP	P	10 57 40.0	-0.6
ORDF	Ordiarp	37.23	179	eP	P	10 57 40.0	-0.6
LMR	La Mourre	37.24	170	⇑iP	P	10 57 41.3	+0.6
	comp=Z,2µm,1.7s						
LMR	La Mourre	37.24	170	⇑iP	P	10 57 41.3	+0.6
LMR				pmax	pmax		
	comp=Z,2µm,1.7s						
LMR	La Mourre	37.24	170	⇑iP	P	10 57 41.3	+0.6
	comp=Z,2µm,1.7s						
LMR	La Mourre	37.24	170	⇑iP	P	10 57 41.3	+0.6
	comp=Z,872nm,1.7s						
DIV	Divide	37.31	332	eP	P	10 57 40.5	-0.7
	comp=Z,768nm,1.3s						
DIV	Divide	37.31	332	eP	P	10 57 40.5	-0.7
	comp=Z,768nm,1.3s						
SJPF	Ste Jean	37.33	179	eP	P	10 57 41.4	-0.1
	comp=Z,1µm,1.6s						
SJPF	Ste Jean	37.33	179	eP	P	10 57 41.4	-0.1
SJPF				pmax	pmax		
	comp=Z,1µm,1.6s						
SJPF	Ste Jean	37.33	179	eP	P	10 57 41.4	-0.1
	comp=Z,1µm,1.6s						
SJPF	Ste Jean	37.33	179	eP	P	10 57 41.4	-0.1
	comp=Z,682nm,1.6s						
REYF	Montagne du Re	37.38	178	eP	P	10 57 41.7	-0.3
REYF	Montagne du Re	37.38	178	eP	P	10 57 41.7	-0.3
REYF	Montagne du Re	37.38	178	eP	P	10 57 41.7	-0.3
LABF	Labassere	37.40	178	eP	P	10 57 43.1	+0.9
LABF	Labassere	37.40	178	eP	P	10 57 43.1	+0.9
LABF	Labassere	37.40	178	eP	P	10 57 43.1	+0.9
LARF	Larrau	37.41	179	eP	P	10 57 42.0	-0.2
LARF	Larrau	37.41	179	eP	P	10 57 42.0	-0.2
LARF	Larrau	37.41	179	eP	P	10 57 42.0	-0.2
EPF	Esparros	37.42	177	⇑iP	P	10 57 42.2	-0.1
	comp=Z,3µm,1.5s						
EPF	Esparros	37.42	177	⇑iP	P	10 57 42.2	-0.1
EPF				pmax	pmax		
	comp=Z,3µm,1.5s						
EPF	Esparros	37.42	177	⇑iP	P	10 57 42.2	-0.1
	comp=Z,3µm,1.5s						
EPF	Esparros	37.42	177	⇑iP	P	10 57 42.2	-0.1
	comp=Z,2µm,1.5s						
GRUS	Gruza	37.45	153	eP	P	10 57 42.8	+0.3
MLS	Moulis	37.50	176	eP	P	10 57 43.3	+0.3
MLS	Moulis	37.50	176	eP	P	10 57 43.3	+0.3
MLS	Moulis	37.50	176	eP	P	10 57 43.3	+0.3
LRDF	Laroque-de-Fa	37.54	175	eP	P	10 57 44.3	+1.0
LRDF	Laroque-de-Fa	37.54	175	eP	P	10 57 44.3	+1.0
LRDF	Laroque-de-Fa	37.54	175	eP	P	10 57 44.3	+1.0
BOD	Bodaibo	37.55	52	eP	P	10 57 42.2	-0.9
BOD				pmax	pmax		
	comp=Z,539nm,1.7s						
ETSF	Etsaut	37.55	178	eP	P	10 57 44.5	+1.1
	comp=Z,3µm,1.7s						
ETSF	Etsaut	37.55	178	eP	P	10 57 44.5	+1.1
ETSF				pmax	pmax		
	comp=Z,3µm,1.7s						
ETSF	Etsaut	37.55	178	eP	P	10 57 44.5	+1.1
	comp=Z,3µm,1.7s						
ETSF	Etsaut	37.55	178	eP	P	10 57 44.5	+1.1
	comp=Z,1µm,1.7s						
VIEF	Viey	37.57	178	eP	P	10 57 44.7	+1.1
VIEF	Viey	37.57	178	eP	P	10 57 44.7	+1.1
VIEF	Viey	37.57	178	eP	P	10 57 44.7	+1.1
TIRR	Tirgusor	37.58	144	P	P	10 57 43.3	-0.2
TIRR	Tirgusor	37.58	144	iP	P	10 57 41.0	-2.5
MELF	Melles	37.58	177	eP	P	10 57 43.7	0.0
MELF	Melles	37.58	177	eP	P	10 57 43.7	0.0
MELF	Melles	37.58	177	eP	P	10 57 43.7	0.0
BOLS	Boljevac	37.61	151	eP	P	10 57 42.4	-1.5
RESF	Ens	37.64	177	eP	P	10 57 45.2	+0.9
RESF	Ens	37.64	177	eP	P	10 57 45.2	+0.9
RESF	Ens	37.64	177	eP	P	10 57 45.2	+0.9
SALF	Salau	37.70	176	eP	P	10 57 45.2	+0.5
SALF	Salau	37.70	176	eP	P	10 57 45.2	+0.5
SALF	Salau	37.70	176	eP	P	10 57 45.2	+0.5
SIM	Simferopol'	37.71	137c	iP	P	10 57 44.6	-0.1
SIM				eS	S	11 03 31.6	-2.4
SIM				pmax	pmax		
	comp=Z,116nm,1.0s						
SIM				MLR	MLR		
	comp=Z,34µm,13.0s						
IVAS	Ivanjica	37.72	153	eP	P	10 57 45.1	+0.2
CARF	Carcanieres	37.76	175	eP	P	10 57 45.9	+0.7
CARF	Carcanieres	37.76	175	eP	P	10 57 45.9	+0.7
CARF	Carcanieres	37.76	175	eP	P	10 57 45.9	+0.7
PLE	Pljevlja	37.91	154	⇑iP	P	10 57 46.5	0.0
PLE	Pljevlja	37.91	154	⇑iP	P	10 57 46.5	0.0
FILF	Fillols	37.92	175	eP	P	10 57 48.9	+2.4
FILF	Fillols	37.92	175	eP	P	10 57 48.9	+2.4
FILF	Fillols	37.92	175	eP	P	10 57 48.9	+2.4
SJAF	Saint Jean de	38.00	174	eP	P	10 57 47.8	+0.6
SJAF	Saint Jean de	38.00	174	eP	P	10 57 47.8	+0.6
SJAF	Saint Jean de	38.00	174	eP	P	10 57 47.8	+0.6
UPM	Unac-Piva	38.00	155	⇑iP	P	10 57 47.4	+0.1
UPM	Unac-Piva	38.00	155	⇑iP	P	10 57 47.5	+0.1
SJES	Sjenica	38.02	154	eP	P	10 57 47.2	-0.3
PGF	Pioggiola	38.11	167	⇑iP	P	10 57 48.7	+0.5
	comp=Z,2µm,1.7s						
PGF	Pioggiola	38.11	167	⇑iP	P	10 57 48.7	+0.5
PGF				pmax	pmax		
	comp=Z,2µm,1.7s						
PGF	Pioggiola	38.11	167	⇑iP	P	10 57 48.7	+0.5
	comp=Z,2µm,1.7s						
PGF	Pioggiola	38.11	167	⇑iP	P	10 57 48.7	+0.5
	comp=Z,1µm,1.7s						
PNL	Peninsula	38.20	326	eP	P	10 57 49.4	+0.7
	comp=Z,359nm,1.2s						
PNL	Peninsula	38.20	326	eP	P	10 57 49.4	+0.7
	comp=Z,359nm,1.2s						
FFC	Flin Flon	38.21	293	PFAKE		10 58 00.0	+11
FFC				LR	LR		
	comp=Z,185µm,19.0s						
MPEP	Malo Peshtene	38.23	149	iP	P	10 57 48.8	-0.3
STON	Ston	38.25	156	P	P	10 57 47.9	-1.3
STON	Ston	38.25	156	iP	P	10 57 47.8	-1.3
ANN	Anapa	38.25	133c	iP	P	10 57 48.4	-0.8
ANN				e		10 59 13.1	
ANN				eS	S	11 03 43.4	+1.2
ANN				pmax	pmax		
	comp=Z,450nm,1.3s						
ANN				pmax	pmax		
	comp=N,1µm,1.4s						
ANN				pmax	pmax		
	comp=E,400nm,1.4s						
ANN				MLR	MLR		
	comp=N,26µm,17.4s						
ANN				MLR	MLR		
	comp=E,27µm,17.4s						
ANN				MLR	MLR		
	comp=Z,29µm,17.4s						
BRY	Bratogost	38.28	155	⇑iP	P	10 57 49.5	-0.1
BRY	Bratogost	38.28	155	⇑iP	P	10 57 49.6	-0.1
PSN	Preselentsi	38.32	144	iP	P	10 57 47.0	-2.8
NKY	Niksic	38.40	155	⇑iP	P	10 57 50.5	-0.1
NKY	Niksic	38.40	155	⇑iP	P	10 57 50.5	-0.1
BEY	Berane	38.40	154	⇑iP	P	10 57 51.3	+0.6
IVA	Berane	38.40	154	⇑iP	P	10 57 51.2	+0.6
DLBC	Dease Lake	38.44	318	P	P	10 57 52.2	+1.4
	comp=Z,248nm,1.1s,baz=13,slow=7.2,SNR=144						
DLBC				S	S	11 03 45.8	+0.8
	comp=Z,14nm,1.1s,baz=225,slow=16,SNR=2.2						
DLBC				LR	LR	11 13 28.6	
	comp=Z,60µm,20.9s,baz=20,slow=36						
DLBC	Dease Lake	38.44	318	eP	P	10 57 52.2	+1.4
DLBC				S	S	11 03 45.8	+0.8
DLBC	Dease Lake	38.44	318	eP	P	10 57 52.2	+1.4
DLBC				S	S	11 03 45.8	+0.8
AQU	L'Aquila	38.50	162	eP	P	10 57 52.9	+1.4
	comp=Z,2µm,1.5s						
AQU				LR	LR		
	comp=Z,51µm,21.0s						
AQU	L'Aquila	38.50	162	⇑iP	P	10 57 52.3	+0.8
AQU	L'Aquila	38.50	162	⇑iP	P	10 57 52.3	+0.8
PVL	Pavlikeni	38.51	147	iP	P	10 57 49.4	-2.0
PVL	Pavlikeni	38.51	147	iP	P	10 57 49.4	-2.0
SZH	Strazhica	38.52	147	iP	P	10 57 48.6	-2.9
PGAV	Gavieira, Arco	38.55	188	eP	P	10 57 53.3	+1.4
	comp=Z,621nm,1.7s						
PGAV				eS	S	11 03 44.6	-2.3
PGAV				eLQ	LQ	11 06 36.8	
PGAV				eLR	LR	11 08 43.4	
	comp=Z,49µm,20.0s						
PGAV	Gavieira, Arco	38.55	188	eP	P	10 57 53.3	+1.4
	comp=Z,621nm,1.7s						
PGAV				eS	S	11 03 44.6	-2.3
BARS	Barje	38.61	152	eP	P	10 57 52.3	0.0
NEF	NEVSHA	38.65	145	iP	P	10 57 52.0	-0.6
NEF	NEVSHA	38.65	145	iP	P	10 57 52.0	-0.6
PBRG	Braganca	38.68	186	eP	P	10 57 54.2	+1.3
	comp=Z,855nm,1.6s						
PBRG	Braganca	38.68	186	eP	P	10 57 54.2	+1.3
	comp=Z,855nm,1.6s						
PVY	Plav	38.68	154	eP	P	10 57 53.1	0.0
PVY	Plav	38.68	154	eP	P	10 57 53.1	0.0
HCY	Herceg Novi	38.72	156	⇑iP	P	10 57 53.1	-0.1
HCY	Herceg Novi	38.72	156	⇑iP	P	10 57 53.1	-0.1
PRD	Provadia	38.72	145	iP	P	10 57 51.6	-1.6
PRD	Provadia	38.72	145	iP	P	10 57 51.6	-1.6
PCAB	Cabril	38.80	187	eP	P	10 57 55.0	+1.1
	comp=Z,603nm,1.6s						
PCAB	Cabril	38.80	187	eP	P	10 57 55.0	+1.1
	comp=Z,603nm,1.6s						
PDG	Podgorica	38.80	155	eP	P	10 57 53.8	0.0
TTG	Podgorica	38.80	155	eP	P	10 57 53.7	-0.1
BUM	Brajici-Budva	38.90	155	⇑iP	P	10 57 54.2	-0.6
BUM	Brajici-Budva	38.90	155	⇑iP	P	10 57 54.2	-0.6
VTS	Vitosha	38.95	150	⇑P	P	10 57 54.3	-1.0
VTS	Vitosha	38.95	150	P	P	10 57 54.2	-1.0
VTS	Vitosha	38.95	150	⇑iP	P	10 57 54.3	-1.0
VTS	Vitosha	38.95	150	iP	P	10 57 52.4	-2.9
VTS	Vitosha	38.95	150	eP	P	10 57 54.3	-1.0
KURBB	Kurchatov Arra	38.96	88	LR	LR	11 17 39.5	
	comp=Z,69µm,18.4s,baz=330,slow=42						
OSPF	L'Ospedale	39.00	167	eP	P	10 57 55.4	-0.2
OSPF	L'Ospedale	39.00	167	eP	P	10 57 55.4	-0.2
OSPF	L'Ospedale	39.00	167	eP	P	10 57 55.4	-0.2
PGB	Panagyurishte	39.07	149	iP	P	10 57 53.7	-2.5
POLO	Lamas de Olo	39.13	187	eP	P	10 57 57.5	+0.8
	comp=Z,462nm,1.6s						
POLO	Lamas de Olo	39.13	187	eP	P	10 57 57.5	+0.8
	comp=Z,462nm,1.6s						
ULC	Ulcinj	39.26	155	⇓iP	P	10 57 57.9	+0.2
ULC	Ulcinj	39.26	155	⇓iP	P	10 57 58.0	+0.2
MS1	Monte Sant'Ang	39.30	159	eP	P	10 57 58.6	+0.5
MVO	Moncorvo	39.32	186	eP	P	10 57 58.8	+0.5
	comp=Z,720nm,1.6s						
MVO				eS	S	11 03 57.7	-0.9
MVO				eLQ	LQ	11 06 49.1	
MVO				eLR	LR	11 09 07.1	
	comp=Z,49µm,18.0s						
MVO	Moncorvo	39.32	186	eP	P	10 57 58.8	+0.5
	comp=Z,720nm,1.6s						
MVO				eS	S	11 03 57.7	-0.9
JMB	Yambol	39.37	146	P	P	10 57 57.6	-1.0
JMB	Yambol	39.37	146	iP	P	10 57 56.3	-2.3
JMB	Yambol	39.37	146	P	P	10 57 57.6	-1.0
SKO	Skopje	39.42	152	P	P	10 57 59.3	+0.3
SKO	Skopje	39.42	152	iP	P	10 57 59.3	+0.3
SKO	Skopje	39.42	152	P	P	10 57 59.3	+0.3
PLD	Plovdiv	39.56	148	P	P	10 57 58.8	-1.4
PLD	Plovdiv	39.56	148	iP	P	10 57 56.9	-3.3
PLD	Plovdiv	39.56	148	P	P	10 57 58.8	-1.4
KKB	Krupnik	39.66	150	iP	P	10 58 00.1	-0.9
KKB	Krupnik	39.66	150	iP	P	10 58 00.1	-0.9
DIM	Dimitrovgrad	39.69	147	iP	P	10 57 59.9	-1.4
DIM	Dimitrovgrad	39.69	147	iP	P	10 57 59.9	-1.4
SOC	Sochi	39.74	131	⇑iP	P	10 58 01.4	-0.3
SOC				e		10 59 30.1	
SOC				eS	S	11 04 12.1	+7.5
SOC				eSS	SS	11 06 56.1	-3.8
SOC				pmax	pmax		
	comp=Z,396nm,4.0s						
SOC				pmax	pmax		
	comp=Z,2µm,1.1s						
SOC				MLR	MLR		
	comp=Z,46µm,13.0s						
KIV	Kislovodsk	39.76	127α	iP	P	10 58 01.8	-0.2
KIV				i*PP	pP	10 58 04.7	-1.7
KIV				i*SP	sP	10 58 06.4	-1.7
KIV				iS	S	11 04 07.8	+2.6
KIV				iSS	SS	11 06 54.4	-6.2
KIV				pmax	pmax		
	comp=Z,106nm,1.3s						
KIV				MLR	MLR		
	comp=Z,51µm,19.0s						
KIV	Kislovodsk	39.76	127	PFAKE		10 58 10.0	+8.0
KIV				LR	LR		
	comp=Z,52µm,21.0s						
KIV	Kislovodsk	39.76	127	P	P	10 58 02.0	0.0
	SNR=34						
KIV	Kislovodsk	39.76	127	P	P	10 58 02.5	+0.5
	comp=Z,626nm,0.9s,SNR=50						
KIV	Kislovodsk	39.76	127	P	P	10 58 02.0	0.0
	SNR=34						
PVIS	Viseu	39.79	187	eP	P	10 58 03.1	+0.9
	comp=Z,758nm,1.6s						
PVIS	Viseu	39.79	187	eP	P	10 58 03.1	+0.9
	comp=Z,758nm,1.6s						
CLNS	Chul'man	39.87	43	eP	P	10 58 02.8	+0.1
CLNS				e*PP	pP	10 58 11.8	+4.7
CLNS				e		10 59 32.8	
CLNS				e		11 00 10.7	
CLNS				eS	S	11 04 00.5	-5.9
CLNS				eSS	SS	11 06 49.5	-13
CLNS				pmax	pmax		
	comp=E,116nm,1.6s						
CLNS				pmax	pmax		
	comp=Z,670nm,1.4s						
CLNS				pmax	pmax		
	comp=N,431nm,1.5s						
CLNS				pmax	pmax		
	comp=N,381nm,1.5s						
CLNS				pmax	pmax		
	comp=Z,336nm,1.7s						
CLNS				pmax	pmax		
	comp=E,42nm,1.4s						
CLNS				smax	smax		
	comp=E,12µm,13.3s						
CLNS				smax	smax		
	comp=N,10µm,11.8s						
CLNS				MLR	MLR		
	comp=N,24µm,16.0s						
CLNS				MLR	MLR		
	comp=N,26µm,16.0s						
CLNS				MLR	MLR		
	comp=Z,33µm,17.0s						
TIR	Tirane	39.92	154	PFAKE		10 58 10.0	+6.8
TIR				LR	LR		
	comp=Z,34µm,21.0s						
CDT	Castel del Mon	39.94	158	eP	P	10 58 03.6	+0.2
BAI	Bari	39.95	158	eP	P	10 58 04.3	+0.9
MMB	Musomiste	39.98	150	iP	P	10 58 02.0	-1.8
MMB	Musomiste	39.98	150	iP	P	10 58 02.0	-1.8
EDRB	Edirne	40.00	146	eP	P	10 58 03.9	0.0
KBZ	Khabaz	40.01	127	P	P	10 58 04.8	+0.9
	comp=Z,135nm,0.8s,baz=332,slow=5.3,SNR=110						
KBZ				S	S	11 04 10.8	+2.1
	comp=Z,4.0nm,0.3s,baz=280,slow=18,SNR=2.3						
KBZ				LR	LR	11 14 36.2	
	comp=Z,58µm,19.9s,baz=345,slow=36						
KBZ	Khabaz	40.01	127	P	P	10 58 04.9	+0.9
KBZ				S	S	11 04 10.8	+2.1
KBZ	Khabaz	40.01	127	P	P	10 58 04.8	+0.9
KBZ				S	S	11 04 10.8	+2.1
KBZ	Khabaz	40.01	127	P	P	10 58 04.8	+0.9
KBZ				S	S	11 04 10.8	+2.1
KDZ	Kurdzhali	40.07	148	iP	P	10 58 01.9	-2.6
MTE	Manteigas	40.09	187	eP	P	10 58 05.4	+0.6
	comp=Z,674nm,1.5s						
MTE				eS	S	11 04 08.9	-1.3
MTE				eLQ	LQ	11 07 09.9	
MTE				eLR	LR	11 09 35.0	
	comp=Z,55µm,16.0s						
MTE	Manteigas	40.09	187	eP	P	10 58 05.8	+1.1
	comp=Z,468nm,1.4s						
MTE				LR	LR		
	comp=Z,37µm,20.0s						
MTE	Manteigas	40.09	187	eP	P	10 58 05.4	+0.6
	comp=Z,674nm,1.5s						
MTE				eS	S	11 04 08.9	-1.3
VAY	Valandovo	40.15	151	P	P	10 58 04.3	-0.9
VAY	Valandovo	40.15	151	iP	P	10 58 02.4	-2.8
VAY	Valandovo	40.15	151	iP	P	10 58 04.5	-0.6
VAY	Valandovo	40.15	151	eP	P	10 58 04.5	-0.6
SG1	Sgolgore (BA)	40.20	158	eP	P	10 58 05.8	+0.2
NVR	Nevrokopi	40.23	149	P	P	10 58 05.6	-0.3
NVR	Nevrokopi	40.23	149	eP	P	10 58 05.5	-0.3
NVR	Nevrokopi	40.23	149	P	P	10 58 05.6	-0.3
KNT	Kendrikon	40.34	151	P	P	10 58 05.6	-1.1
KNT	Kendrikon	40.34	151	P	P	10 58 05.6	-1.1
PQI	Presque Isle	40.36	256	eP	P	10 58 06.6	-0.2
	comp=Z,266nm,0.8s						
PQI				ePP	PP	10 59 40.7	+1.2
PQI	Presque Isle	40.36	256	eP	P	10 58 06.6	-0.2
	comp=Z,266nm,0.8s						
SRS	Serrai	40.44	150	P	P	10 58 06.7	-0.9
SRS	Serrai	40.44	150	P	P	10 58 06.7	-0.9
GRG	Griva	40.50	151	P	P	10 58 08.2	+0.1
GRG	Griva	40.50	151	P	P	10 58 08.2	+0.1
CTYL	Yal??k??y-??at	40.52	144	eP	P	10 58 07.6	-0.5
RDO	Rodhopi	40.59	148	eP	P	10 58 09.0	+0.3
FNA	Florina	40.59	152	P	P	10 58 08.2	-0.7
FNA	Florina	40.59	152	P	P	10 58 08.2	-0.7
KAVA	Kavala	40.64	149	P	P	10 58 08.1	-1.1
KAVA	Kavala	40.64	149	P	P	10 58 08.1	-1.1
PCBR	Castelo Branco	40.65	187	eP	P	10 58 10.4	+1.1
	comp=Z,973nm,1.6s						
PCBR	Castelo Branco	40.65	187	eP	P	10 58 10.4	+1.1
	comp=Z,973nm,1.6s						
WRAK	Wrangell Islan	40.68	320	eP	P	10 58 10.0	+0.7
	comp=Z,440nm,1.3s						
WRAK				LR	LR		
	comp=Z,44µm,22.0s						
WRAK	Wrangell Islan	40.68	320	eP	P	10 58 10.0	+0.7
	comp=Z,440nm,1.3s						
SOH	Sokhos	40.72	150	P	P	10 58 09.3	-0.6
SOH	Sokhos	40.72	150	eP	P	10 58 09.5	-0.4
SOH	Sokhos	40.72	150	P	P	10 58 09.3	-0.6
SLVT	Silivri	40.75	144	eP	P	10 58 09.8	-0.3
ESDC	Sonseca Array	40.77	182	P	P	10 58 10.3	0.0
	comp=Z,16nm,0.6s,baz=1.6,slow=8.3,SNR=42						
ESDC				LR	LR	11 13 49.7	
	comp=Z,17µm,18.3s,baz=350,slow=34						
ESDC	Sonseca Array	40.77	182	P	P	10 58 10.3	0.0
ESDC	Sonseca Array	40.77	182	P	P	10 58 10.4	0.0
ESLA	Sonseca Array	40.77	182	eP	P	10 58 10.6	+0.2
	comp=Z,218nm,1.5s						
ESLA	Sonseca Array	40.77	182	eP	P	10 58 10.6	+0.2
	comp=Z,218nm,1.5s						
CTKS	Kestanelik-??a	40.78	144	eP	P	10 58 07.6	-2.7
CRLT	Corlu	40.81	145	eP	P	10 58 09.8	-0.8
ELBA	Catalca	40.86	144	iP	P	10 58 11.3	+0.3

ELBA Catalca 40.86 144 *i* P P 10 58 11.3 +0.3
BGKT Bogazkoy 40.86 144 *e*P P 10 58 06.5 -4.4
THE Thessaloniki 40.87 151 P P 10 58 10.7 -0.4
THE Thessaloniki 40.87 151 P P 10 58 10.7 -0.4
ALN Alexandroupoli 40.88 147 P P 10 58 10.7 -0.4
ALN Alexandroupoli 40.88 147 *e*P P 10 58 11.0 -0.1
ALN Alexandroupoli 40.88 147 P P 10 58 10.7 -0.4
PTOM Tomar 40.89 188 *e*P P 10 58 12.3 +1.0
comp=Z,1μm,1.6s
PTOM Tomar 40.89 188 *e*P P 10 58 12.3 +1.0
comp=Z,1μm,1.6s
HORT Hortiatis 40.92 150 P P 10 58 11.5 -0.1
HORT Hortiatis 40.92 150 P P 10 58 11.5 -0.1
NEST Nestorio 40.93 153 P P 10 58 11.1 -0.6
NEST Nestorio 40.93 153 P P 10 58 11.1 -0.6
SILT Sile 40.97 143 *e*P P 10 58 09.8 -2.1
HVS Khovu-Aksy 40.99 73*c* *i*P P 10 58 12.9 +0.8
CUC Castrocucco 40.99 159 PFAKE 10 58 20.0 +7.8
CUC LR LR
comp=Z,45μm,19.0s
BALT Daday 41.00 139 *i* P P 10 58 12.0 -0.4
BALT Daday 41.00 139 *i* P P 10 58 12.0 -0.4
ISK Istanbul-Kandi 41.00 144 *e*P P 10 58 08.7 -3.5
KDZE Karadeniz Ereo 41.00 141 *e*P P 10 58 10.8 -1.4
PMRV Marv??o 41.06 186 *e*P P 10 58 12.8 +0.1
comp=Z,1μm,1.5s
PMRV *e*S S 11 04 24.0 -0.5
PMRV *e*LQ LQ 11 07 23.0
PMRV *e*LR LR 11 09 48.2
comp=Z,55μm,18.0s
PMRV Marv??o 41.06 186 *e*P P 10 58 12.8 +0.1
comp=Z,1μm,1.5s
PMRV *e*S S 11 04 24.0 -0.5
ZEI Tsey 41.09 126 *e*P P 10 58 13.4 +0.2
ZEI *e* 10 59 45.4
ZEI *e*S S 11 04 32.6 +7.3
ZEI pmax pmax
comp=Z,355nm,1.9s
ZEI pmax pmax
comp=Z,199nm,3.2s
ZEI pmax pmax
comp=N,196nm,1.2s
ZEI pmax pmax
comp=E,176nm,1.4s
KZN Kozani 41.10 152 P P 10 58 11.3 -1.8
KZN Kozani 41.10 152 *e*P P 10 58 12.5 -0.6
KZN Kozani 41.10 152 P P 10 58 11.3 -1.8
DIKM Dikmen 41.10 136 *e*P P 10 58 13.0 0.0
KAST KASTAMONU 41.10 138 *i*P P 10 58 13.3 +0.2
KAST KASTAMONU 41.10 138 *i*P P 10 58 13.3 +0.2
KDAK Kodiak Island 41.13 336 P P 10 58 13.2 +0.1
comp=E,442nm,0.8s,baz=27,slow=6.8,SNR=179
KDAK S S 11 04 25.1 0.0
comp=E,7.1nm,1.1s,baz=128,slow=12,SNR=1.9
KDAK LR LR 11 16 24.1
comp=E,31μm,18.4s,baz=31,slow=38
KDAK Kodiak Island 41.13 336 P P 10 58 13.2 +0.1
KDAK S S 11 04 25.1 0.0
KDAK Kodiak Island 41.13 336 P P 10 58 13.2 +0.1
VSL Villasalto 41.17 167 *e*P P 10 58 14.7 +1.1
comp=E,646nm,1.6s
VSL LR LR
comp=Z,20μm,21.0s
VSL Villasalto 41.17 167 *e*P P 10 58 14.7 +1.1
comp=Z,646nm,1.6s
PLG Polygyros 41.17 150 P P 10 58 13.4 -0.2
PLG Polygyros 41.17 150 *e*P P 10 58 13.5 -0.2
PLG Polygyros 41.17 150 P P 10 58 13.4 -0.2
SART Tekirdag 41.19 146 *i*P P 10 58 14.9 +1.1
SART Tekirdag 41.19 146 *i*P P 10 58 14.9 +1.1
RKY Sarkoy-Tekirda 41.19 146 *e*P P 10 58 11.9 -1.9
ONI Oni 41.21 127 P P 10 58 14.6 +0.7
ONI Oni 41.21 127 P P 10 58 14.6 +0.7
BUY Buyukada 41.22 144 *i*P P 10 58 14.1 +0.2
BUY Buyukada 41.22 144 *i*P P 10 58 14.1 +0.2
OUR Ouranopolis 41.25 150 P P 10 58 13.4 -0.8
OUR Ouranopolis 41.25 150 P P 10 58 13.4 -0.8
LIT Litokhoron 41.36 151 P P 10 58 14.4 -0.8
LIT Litokhoron 41.36 151 *e*P P 10 58 15.0 -0.2
LIT Litokhoron 41.36 151 P P 10 58 14.4 -0.8
MAK Makhachkala 41.41 122 *e*P P 10 58 15.3 -0.1
MAK *i* 10 59 49.4
MAK *i* 11 00 14.9
MAK *e*S S 11 04 30.1 +0.7
MAK *e*SS SS 11 07 26.6 -6.5
MAK pmax pmax
comp=Z,7μm,3.2s
MAK pmax pmax
comp=Z,643nm,1.1s
MAK pmax pmax
comp=E,699nm,1.5s
MAK pmax pmax
comp=N,1μm,1.4s
MAK smax smax
comp=E,25μm,13.7s
MAK smax smax
comp=N,23μm,13.9s
MAK MLR MLR
comp=Z,50μm,11.0s
HENT Hendek 41.43 142 *i* P P 10 58 15.8 0.0
HENT Hendek 41.43 142 *i* P P 10 58 15.8 0.0
PMTG Montargil 41.44 187 *e*P P 10 58 16.2 +0.4
comp=Z,881nm,1.6s
PMTG Montargil 41.44 187 *e*P P 10 58 16.2 +0.4
comp=Z,881nm,1.6s
YLV Yalova 41.53 143 *e*P P 10 58 11.7 -4.9
KEK Kerkira 41.54 154 P P 10 58 10.9 -5.7
KEK Kerkira 41.54 154 *e*P P 10 58 17.0 +0.4
ULM Lac du Bonnet 41.56 285 P P 10 58 16.4 -0.3
comp=Z,223nm,0.9s,baz=14,slow=8.3,SNR=199
ULM S S 11 04 28.6 -3.0
comp=Z,37nm,1.1s,baz=113,slow=15,SNR=2.6
ULM LR LR 11 15 26.5
comp=Z,135μm,19.9s,baz=15,slow=36
IRK Irkutsk 41.57 63‖ *i*P P 10 58 16.3 -0.5
IRK *e* 10 59 51.6
IRK pmax pmax
comp=Z,2μm,2.3s
PMAFR Mafra 41.58 189 *e*P P 10 58 17.7 +0.8
comp=Z,882nm,1.8s
PMAFR Mafra 41.58 189 *e*P P 10 58 17.7 +0.8
comp=Z,882nm,1.8s
PESTR Estremoz 41.63 187 *e*P P 10 58 18.2 +0.9
comp=Z,824nm,1.6s
PESTR Estremoz 41.63 187 *e*P P 10 58 18.2 +0.9
comp=Z,824nm,1.6s
MOY Mondy 41.63 66 *e*P P 10 58 18.3 +0.9
MOY pmax pmax
comp=Z,3μm,3.1s
PAIG Paliouri 41.63 150 P P 10 58 17.2 -0.1
PAIG Paliouri 41.63 150 P P 10 58 17.2 -0.1
JAN Janina 41.67 153 P P 10 58 17.5 -0.2
JAN Janina 41.67 153 *e*P P 10 58 18.0 +0.3
JAN Janina 41.67 153 P P 10 58 17.5 -0.2
CRAG Craig 41.70 320 *e*P P 10 58 18.7 +1.0
comp=Z,674nm,1.5s
CRAG Craig 41.70 320 *e*P P 10 58 18.7 +1.0
comp=Z,674nm,1.5s
KVT Kavak 41.75 136 *e*P P 10 58 19.2 +0.8
IGT Igoumenitsa 41.76 154 P P 10 58 17.6 -0.8
IGT Igoumenitsa 41.76 154 P P 10 58 17.6 -0.8
LIA Limnos Island 41.79 148 P P 10 58 18.7 +0.1
LIA Limnos Island 41.79 148 *e*P P 10 58 18.5 -0.1
LIA Limnos Island 41.79 148 P P 10 58 18.7 +0.1
LIS Lisbon 41.81 188 *e*P P 10 58 18.4 -0.4
LIS AMb AMB 10 58 28.6
comp=Z,968nm,1.7s
LIS *e*S S 11 04 35.8 +0.3
LIS Lisbon 41.81 188 *e*P P 10 58 18.4 -0.4
comp=Z,968nm,1.7s
LIS *e*S S 11 04 35.8 +0.3
LIS Lisbon 41.81 188 *e*P P 10 58 18.4 -0.4
LIS *e*S S 11 04 35.8 +0.3
LIS Lisbon 41.81 188 *e*P P 10 58 18.4 -0.4
comp=Z,968nm,1.7s
LIS *e*S S 11 04 35.8 +0.3
THL Klokotos Trika 41.85 152 P P 10 58 15.7 -3.5
THL Klokotos Trika 41.85 152 *e*P P 10 58 18.5 -0.7
TIP Timpagrande 41.86 158 PFAKE 10 58 30.0 +11
TIP LR LR
comp=Z,58μm,19.0s
GOR Gori 41.89 126 P P 10 58 20.5 +1.0
GOR Gori 41.89 126 P P 10 58 20.5 +1.0
ULDT Uludag 41.92 144 *i* P P 10 58 19.5 -0.4
ULDT Uludag 41.92 144 *i* P P 10 58 19.5 -0.4
BOZC Bozcaada 41.92 147 *i* P P 10 58 19.8 +0.1
RGA Parga 41.97 154 P P 10 58 19.8 -0.4
RGA Parga 41.97 154 P P 10 58 19.8 -0.4
EVO Evora 41.97 187 *e*P P 10 58 24.3 +4.2
comp=Z,768nm,1.8s
EVO *e*R
comp=Z,77μm,21.0s
EVO Evora 41.97 187 *e*P P 10 58 21.1 +1.0
comp=Z,302nm,1.7s
EVO Evora 41.97 187 *e*P P 10 58 21.1 +1.0
comp=Z,302nm,1.7s
EVOP Sao Brissos 41.98 187 *e*P P 10 58 24.3 +4.1
EVOP pmax pmax
comp=Z,768nm,1.8s
EVOP Sao Brissos 41.98 187 *e*P P 10 58 24.3 +4.1
comp=Z,768nm,1.8s
TLY Talaya 42.02 64*c* *i*P P 10 58 19.4 -1.1
TLY *e*PPP PPP 11 00 16.6
TLY *e*S S 11 04 39.1 +0.6
TLY *e*SS SS 11 07 37.9 -7.2
TLY pmax pmax
comp=Z,184nm,1.3s
TLY MLR MLR
comp=Z,93μm,19.0s
TLY Talaya 42.02 64 PFAKE 10 58 30.0 +10
TLY LR LR
comp=Z,111μm,19.0s
TLY Talaya 42.02 64 P P 10 58 20.3 -0.2
SNR=133
TLY Talaya 42.02 64 P P 10 58 20.3 -0.2
SNR=133
ELDT Eldivan 42.03 139 *i* P P 10 58 21.7 +0.8
ELDT Eldivan 42.03 139 *i* P P 10 58 21.7 +0.8
CTKT Corum 42.06 137 *i* P P 10 58 21.3 +0.3
CTKT Corum 42.06 137 *i* P P 10 58 21.3 +0.3
BCA Borcka 42.09 129 *e*P P 10 58 21.2 0.0
XOR Xorichti 42.15 151 P P 10 58 21.1 -0.5
XOR Xorichti 42.15 151 P P 10 58 21.1 -0.5
BALY Balya 42.17 145 *i* P P 10 58 22.4 +0.6
BALY Balya 42.17 145 *i* P P 10 58 22.4 +0.6
EMMW East Machias 42.18 255 *e*P P 10 58 21.4 -0.2
comp=Z,2μm,1.1s
EMMW East Machias 42.18 255 *e*P P 10 58 21.5 -0.2
comp=Z,2μm,1.1s
GRSN GIRESUNGRSN 42.18 133 *i* P P 10 58 21.3 -0.5
GRSN GIRESUNGRSN 42.18 133 *i* P P 10 58 21.3 -0.5
DBOC Borcka 42.19 129 *i* P P 10 58 21.9 -0.1
DBOC Borcka 42.19 129 *i* P P 10 58 21.9 -0.1
NEO Neokhori 42.21 151 *e*P P 10 58 22.0 -0.1
TBLG Delisi 42.23 126 *i* P P 10 58 22.8 +0.6
TBLG Delisi 42.23 126 P P 10 58 22.8 +0.6
TBLG Delisi 42.23 126 P P 10 58 22.8 +0.6
ERBA Erbaa 42.23 135 *i* P P 10 58 23.4 +1.1
ERBA Erbaa 42.23 135 *i* P P 10 58 23.4 +1.1
ESPY Espiye-Giresun 42.24 133 *e*P P 10 58 22.6 +0.3
PZAR Pazar-Rize 42.26 130 *e*P P 10 58 20.5 -1.9
PBAR Barrancos 42.31 186 *e*P P 10 58 23.3 +0.4
comp=Z,936nm,1.6s
PBAR Barrancos 42.31 186 *e*P P 10 58 23.3 +0.4
comp=Z,936nm,1.6s
BORA Eskisehir 42.32 142 *i* P P 10 58 23.2 +0.2
BORA Eskisehir 42.32 142 *i* P P 10 58 23.2 +0.2
MACK Trabzon 42.34 132 *i* P P 10 58 23.5 +0.3
MACK Trabzon 42.34 132 *i* P P 10 58 23.5 +0.3
SKIA Skiathos 42.37 150 P P 10 58 22.4 -1.0
SKIA Skiathos 42.37 150 P P 10 58 22.4 -1.0
AKH Akhalkalaki 42.37 127 P P 10 58 24.4 +0.8
AKH Akhalkalaki 42.37 127 P P 10 58 24.4 +0.8
DURS Dursunbey 42.39 145 *i* P P 10 58 24.3 +0.6
DURS Dursunbey 42.39 145 *i* P P 10 58 24.3 +0.6
AOS Alonnisos 42.40 150 P P 10 58 22.7 -0.9
AOS Alonnisos 42.40 150 P P 10 58 22.7 -0.9
PNCL Nicolau / Gran 42.40 188 *e*P P 10 58 24.9 +1.3
comp=Z,813nm,1.5s
PNCL Nicolau / Gran 42.40 188 *e*P P 10 58 24.9 +1.3
comp=Z,813nm,1.5s
MAKR Makrakomi, Fth 42.41 152 P P 10 58 24.6 +0.8
MAKR Makrakomi, Fth 42.41 152 P P 10 58 24.6 +0.8
PBEJ Beja 42.47 187 *e*P P 10 58 25.3 +1.1
comp=Z,1μm,1.6s
PBEJ Beja 42.47 187 *e*P P 10 58 25.3 +1.1
comp=Z,1μm,1.6s
EVR Evrytania 42.48 152 P P 10 58 24.9 +0.5
EVR Evrytania 42.48 152 *e*P P 10 58 26.0 +1.5
EVR Evrytania 42.48 152 P P 10 58 24.9 +0.5
DAGI Agillar 42.49 129 *i* P P 10 58 24.7 +0.2
AYVA Ayvalik 42.51 147 *i* P P 10 58 24.7 +0.2
AYVA Ayvalik 42.51 147 *i* P P 10 58 24.7 +0.2
LKD2 Lefkada island 42.52 154 P P 10 58 23.3 -1.3
LKD2 Lefkada island 42.52 154 *e*P P 10 58 24.5 -0.1
LKD2 Lefkada island 42.52 154 P P 10 58 23.3 -1.3
SIGR SIGRI 42.53 148 P P 10 58 25.1 +0.4
SIGR SIGRI 42.53 148 P P 10 58 25.1 +0.4
PRK Paraskevi 42.54 147 P P 10 58 24.9 +0.2
PRK Paraskevi 42.54 147 *e*P P 10 58 25.0 +0.2
PRK Paraskevi 42.54 147 P P 10 58 24.9 +0.2
TOKA Tokat 42.55 135 *i* P P 10 58 25.8 +0.9
TOKA Tokat 42.55 135 *i* P P 10 58 25.8 +0.9
RSDY Resadiye-TOKAT 42.58 134 *e*P P 10 58 26.7 +1.5
DGRG David-gareji 42.59 125 P P 10 58 25.9 +0.7
DGRG David-gareji 42.59 125 P P 10 58 25.9 +0.7
DDEM Demirkent 42.65 129 *i* P P 10 58 26.0 +0.2
DDEM Demirkent 42.65 129 *i* P P 10 58 26.0 +0.2
WVL Waterville 42.68 257 *e*P P 10 58 25.2 -0.6
comp=Z,2μm,1.2s
WVL Waterville 42.68 257 *e*P P 10 58 25.2 -0.6
comp=Z,2μm,1.2s
AXAR Agios Charalam 42.70 151 P P 10 58 25.8 -0.3
AXAR Agios Charalam 42.70 151 P P 10 58 25.8 -0.3
SEYT Eskypehyr 42.72 142 *i* P P 10 58 26.7 +0.4
SEYT Eskypehyr 42.72 142 *i* P P 10 58 26.7 +0.4
CEL Celeste 42.72 159 *e*P P 10 58 25.1 -1.2
comp=Z,320nm,1.3s
CEL LR LR
comp=Z,29μm,19.0s
CEL Celeste 42.72 159 *e*P P 10 58 25.1 -1.2
comp=Z,320nm,1.3s
GUMT Gumushane 42.78 132 *e*P P 10 58 27.6 +0.7
ATAL Atalanti 42.80 151 P P 10 58 26.3 -0.6
ATAL Atalanti 42.80 151 P P 10 58 26.3 -0.6
BR131 Keskin Array S 42.81 139 *e*P P 10 58 27.1 0.0
comp=Z,170nm,1.1s
BR131 *e*PP PP 11 00 06.1 -0.2
BR131 Keskin Array S 42.81 139 *e*P P 10 58 27.1 0.0
comp=Z,170nm,1.1s
BRTR Keskin Array B 42.81 139 P P 10 58 27.3 +0.1
comp=Z,92nm,0.9s,baz=346,slow=5.5,SNR=134
BRTR PP PP 11 00 11.1 +4.8
comp=Z,93nm,1.2s,baz=343,slow=6.6,SNR=3.7
BRTR LR LR 11 17 32.1
comp=Z,18μm,18.1s,baz=352,slow=38
BRTR Keskin Array B 42.81 139 P P 10 58 27.3 +0.1
BRTR PP PP 11 00 11.1 +4.8
BRTR Keskin Array B 42.81 139 P P 10 58 27.3 +0.1
MRKA Markates 42.84 150 P P 10 58 26.6 -0.6
MRKA Markates 42.84 150 P P 10 58 26.6 -0.6
LKR Lokris 42.84 151 P P 10 58 23.1 -4.1
LKR Lokris 42.84 151 *e*P P 10 58 26.5 -0.7
ADH Angra Heroismo 42.86 209 *e*P P 10 58 27.7 +0.3
comp=Z,428nm,1.6s
ADH Angra Heroismo 42.86 209 *e*P P 10 58 27.7 +0.3
comp=Z,428nm,1.6s
PCVE Castro Verde 42.87 187 *e*P P 10 58 27.4 0.0
comp=Z,679nm,1.4s
PCVE Castro Verde 42.87 187 *e*P P 10 58 27.4 0.0
comp=Z,679nm,1.4s
SUSE Susuhri 42.87 133 *i* P P 10 58 29.9 +2.2
SUSE Susehri 42.87 133 *i* P P 10 58 29.9 +2.2
ROSA Rosais 42.88 211 *e*P P 10 58 28.6 +1.0
comp=Z,450nm,1.4s
ROSA Rosais 42.88 211 *e*P P 10 58 28.6 +1.0
comp=Z,450nm,1.4s
BAYT Ayd˙–ntepe-Bay 42.93 131 *e*P P 10 58 29.1 +0.9
BBAL Bala 42.94 139 *i* P P 10 58 29.0 +0.9
BBAL Bala 42.94 139 *i* P P 10 58 29.0 +0.9
DEMI Demirci 42.97 144 *i* P P 10 58 28.8 +0.4
DEMI Demirci 42.97 144 *i* P P 10 58 28.8 +0.4
EFP Efpalio 42.98 152 P P 10 58 28.6 +0.3
EFP Efpalio 42.98 152 *e*P P 10 58 29.0 +0.7
EFP Efpalio 42.98 152 P P 10 58 28.6 +0.3
CDAG Cicekdag 43.00 138 *i* P P 10 58 29.0 +0.4
CDAG Cicekdag 43.00 138 *i* P P 10 58 29.0 +0.4
GDZ Gediz 43.00 143 *i* P P 10 58 29.0 +0.3
GDZ Gediz 43.00 143 *i* P P 10 58 29.0 +0.3
PCED Cedros 43.01 211 *e*P P 10 58 29.4 +0.8
comp=Z,591nm,1.4s
PCED Cedros 43.01 211 *e*P P 10 58 29.4 +0.8
comp=Z,591nm,1.4s
KALE Kalithea 43.03 152 P P 10 58 27.2 -1.6
KALE Kalithea 43.03 152 P P 10 58 27.2 -1.6
DSF Desfina 43.04 152 P P 10 58 27.8 -1.1
DSF Desfina 43.04 152 P P 10 58 27.8 -1.1
AKHS Akhisar 43.05 145 *i* P P 10 58 29.1 +0.2
AKHS Akhisar 43.05 145 *i* P P 10 58 29.1 +0.2
TRIZ Trizonia 43.05 152 P P 10 58 27.8 -1.1
TRIZ Trizonia 43.05 152 P P 10 58 27.8 -1.1
CALA Caldeira 43.06 211 *e*P P 10 58 30.7 +1.6
CALA Caldeira 43.06 211 *e*P P 10 58 30.7 +1.6
KELT Kelkit 43.06 132 *i* P P 10 58 29.0 -0.2
KELT Kelkit 43.06 132 *i* P P 10 58 29.0 -0.2
EYMN Ely 43.07 280 PFAKE 10 58 40.0 +11
EYMN LR LR
comp=Z,123μm,20.0s
SCER sogukcermik 43.09 135 *i* P P 10 58 30.6 +1.2
SCER sogukcermik 43.09 135 *i* P P 10 58 30.6 +1.2
KARS Kars 43.09 128 *e*P P 10 58 29.6 +0.3
PVAQ Vaqueiros 43.09 187 *e*P P 10 58 29.4 +0.2
comp=Z,720nm,1.6s
PVAQ *e*S S 11 04 57.5 +3.1
PVAQ *e*LQ LQ 11 08 09.3
PVAQ *e*LR LR 11 11 19.9
comp=Z,44μm,20.0s
PVAQ Vaqueiros 43.09 187 *e*P P 10 58 29.4 +0.2
comp=Z,720nm,1.6s
PVAQ *e*S S 11 04 57.5 +3.1
HOR Horta 43.11 211 *e*P P 10 58 27.8 -1.6
HOR Horta 43.11 211 *e*P P 10 58 27.8 -1.6
ERET Eretria 43.12 150 P P 10 58 28.6 -0.9
ERET Eretria 43.12 150 P P 10 58 28.6 -0.9
PICO Pico 43.12 211 *e*P P 10 58 31.3 +1.8
PICO Pico 43.12 211 *e*P P 10 58 31.3 +1.8
VLS Valsamata 43.12 154 P P 10 58 28.5 -1.0
VLS Valsamata 43.12 154 *e*P P 10 58 30.0 +0.5
VLS Valsamata 43.12 154 P P 10 58 28.5 -1.0
MSNY Massena 43.12 263 *e*P P 10 58 29.4 +0.1
comp=Z,1μm,0.5s
MSNY Massena 43.12 263 *e*P P 10 58 29.5 +0.1
comp=Z,1μm,0.5s
CIT Chita 43.13 55 *e*P P 10 58 30.6 +1.1
CIT *e* 10 58 35.4
CIT *e* 11 00 09.8
CIT *e* 11 04 56.7
CIT pmax pmax
comp=Z,1μm,2.6s
PCAN Candelaria 43.16 211 *e*P P 10 58 29.9 +0.1
comp=Z,385nm,1.7s
PCAN Candelaria 43.16 211 *e*P P 10 58 29.9 +0.1
comp=Z,385nm,1.7s
LAKA Lakka 43.17 152 P P 10 58 28.4 -1.5
LAKA Lakka 43.17 152 P P 10 58 28.4 -1.5
KFL Anninata 43.20 154 P P 10 58 30.3 +0.1
KFL Anninata 43.20 154 P P 10 58 30.3 +0.1
MORF Marmelete 43.21 188 *e*P P 10 58 30.6 +0.4
comp=Z,356nm,2.1s
MORF Marmelete 43.21 188 *e*P P 10 58 29.5 -0.7
MORF *e*S S 11 04 57.0 +0.8
MORF Marmelete 43.21 188 *e*P P 10 58 30.6 +0.4
comp=Z,356nm,2.1s
ZAK Zakamensk 43.23 64‖ *i*P P 10 58 30.4 0.0
ZAK *e* 11 00 11.1
ZAK pmax pmax
comp=Z,108nm,2.0s
PBDV Barranco-do-Ve 43.25 187 *e*P P 10 58 30.4 -0.2
comp=Z,851nm,1.5s
PBDV Barranco-do-Ve 43.25 187 *e*P P 10 58 30.4 -0.2
comp=Z,851nm,1.5s
MK31 Makanchi Array 43.30 85 *e*P P 10 58 30.7 -0.2
MK31 *e* 11 00 12.0
MK31 Makanchi Array 43.30 85 *e*P P 10 58 30.7 -0.2
MK31 *e*PP PP 11 00 11.9 +0.7
MK31 Makanchi Array 43.30 85 *e*P P 10 58 30.7 -0.2
MKAR Makanchi Array 43.30 85 P P 10 58 30.5 -0.4
comp=Z,186nm,0.7s,baz=344,slow=5.6,SNR=456
MKAR PP PP 11 00 12.0 +0.7
comp=Z,184nm,1.1s,baz=0.0,slow=4.9,SNR=7.2
MKAR S S 11 04 59.1 +1.7
comp=Z,7.0nm,1.1s,baz=334,slow=16,SNR=2.0
MKAR LR LR 11 19 36.7
comp=Z,52μm,18.7s,baz=323,slow=40
MKAR PKPPKP P'P'df 11 30 07.7 -18
comp=Z,1.5nm,1.1s,baz=197,slow=2.5,SNR=4.7
MKAR Makanchi Array 43.30 85 P P 10 58 30.5 -0.4
MKAR 11 00 12.0
MKAR S S 11 04 59.1 +1.7
MKAR Makanchi Array 43.30 85 P P 10 58 30.5 -0.4
MKAR PP PP 11 00 12.0 +0.7
MKAR S S 11 04 59.1 +1.7
MKAR P'P' 11 30 07.7
MKAR Makanchi Array 43.30 85 P P 10 58 30.5 -0.4
RLS Riolos of Patr 43.31 153 P P 10 58 29.6 -1.4
RLS Riolos of Patr 43.31 153 *e*P P 10 58 31.5 +0.5
RLS Riolos of Patr 43.31 153 P P 10 58 29.6 -1.4
KOPT Kop Dagi 43.35 131 *i* P P 10 58 32.8 +1.2
KOPT Kop Dagi 43.35 131 *i* P P 10 58 32.8 +1.2
CHOS Chios island 43.37 147 P P 10 58 30.9 -0.7
CHOS Chios island 43.37 147 *e*P P 10 58 31.5 -0.1
CHOS Chios island 43.37 147 P P 10 58 30.9 -0.7
LBNH Lisbon 43.37 260 *e*P P 10 58 31.6 +0.2
LBNH pmax pmax
comp=Z,702nm,0.7s
LBNH MLR MLR
comp=Z,87μm,19.0s
LBNH Lisbon 43.37 260 *e*P P 10 58 31.6 +0.2
comp=Z,702nm,0.7s
LBNH LR LR
comp=Z,87μm,19.0s
LBNH Lisbon 43.37 260 *e*P P 10 58 31.6 +0.2
comp=Z,702nm,0.7s
PFVI Vila Bisbo 43.38 188 *e*P P 10 58 32.0 +0.4
comp=Z,597nm,1.8s
PFVI Vila Bisbo 43.38 188 *e*P P 10 58 32.0 +0.4
comp=Z,597nm,1.8s
URLA Izmir 43.44 147 *i* P P 10 58 32.1 0.0
URLA Izmir 43.44 147 *i* P P 10 58 32.1 0.0
LONY Lake Ozonia 43.45 262 PFAKE 10 58 40.0 +7.9
LONY LR LR
comp=Z,143μm,20.0s
AGMN Agassiz Nation 43.45 284 PFAKE 10 58 40.0 +7.9
AGMN LR LR
comp=Z,136μm,19.0s
BLCB Balcova 43.46 146 *e*P P 10 58 32.6 +0.4
LTK Loutraki 43.46 151 P P 10 58 30.7 -1.6
LTK Loutraki 43.46 151 *e*P P 10 58 31.5 -0.8
LTK Loutraki 43.46 151 P P 10 58 30.7 -1.6
EZC Erzincan 43.47 132 *e*P P 10 58 33.7 +1.2
IZM Izmir 43.47 146 *e*P P 10 58 32.9 +0.6
GUR Goura 43.50 152 P P 10 58 32.2 -0.5
GUR Goura 43.50 152 P P 10 58 32.2 -0.5
HOMI Horasan 43.50 129 *i* P P 10 58 34.2 +1.3
PTL Penteli 43.51 150 P P 10 58 32.2 -0.5
PTL Penteli 43.51 150 *e*P P 10 58 33.0 +0.3
PTL Penteli 43.51 150 P P 10 58 32.2 -0.5
BOLV Bolvadin 43.52 142 *i* P P 10 58 33.3 +0.5
BOLV Bolvadin 43.52 142 *i* P P 10 58 33.3 +0.5
LIJA Lijar 43.55 184 *e*P P 10 58 35.1 +2.0
PSET Sete Cidades 43.57 208 *e*P P 10 58 32.8 -0.3
comp=Z,352nm,1.7s
PSET Sete Cidades 43.57 208 *e*P P 10 58 32.8 -0.3
comp=Z,352nm,1.7s
EZM Erzurum 43.57 130 *e*P P 10 58 34.3 +0.8
ERZM Erzurum 43.57 130 *i* P P 10 58 34.8 +1.4
ERZM Erzurum 43.57 130 *i* P P 10 58 34.8 +1.4
ATH Athens Observa 43.58 150 P P 10 58 33.2 +0.1
ATH Athens Observa 43.58 150 *e*P P 10 58 33.0 -0.1
ATH Athens Observa 43.58 150 P P 10 58 33.2 +0.1
ATHU Athens Univers 43.59 150 P P 10 58 32.1 -1.1
ATHU Athens Univers 43.59 150 P P 10 58 32.1 -1.1
CMLA Cha da Macela 43.61 207 *e*P P 10 58 33.4 -0.1
comp=Z,502nm,1.7s
CMLA Cha da Macela 43.61 207 *e*P P 10 58 33.6 +0.1
CMLA pmax pmax
comp=Z,894nm,1.4s
CMLA MLR MLR
comp=Z,19μm,20.0s
CMLA Cha da Macela 43.61 207 *e*P P 10 58 33.6 +0.1

comp=Z,894nm,1.4s
CMLA LR LR
comp=Z,19µm,20.0s
CMLA Cha da Macela 43.61 207 *e*P **P 10 58 33.6 +0.1**
comp=Z,894nm,1.4s
PDA Ponta Delgada 43.64 207 *e*P **P 10 58 34.5 +0.9**
comp=Z,950nm,1.4s
PDA Ponta Delgada 43.64 207 *e*P **P 10 58 34.5 +0.9**
comp=Z,950nm,1.4s
SHUT Suhut-Afyon 43.64 142 *e*P **P 10 58 34.6 +0.8**
ILIC ilic-Erzincan 43.66 133 *e*P **P 10 58 33.4 -0.7**
ABA Alger-Bouzarea 43.68 174 P P 10 58 41.3 +7.3
ERZN Erzincan 43.68 132 *e*P **P 10 58 34.4 +0.3**
EMAL Malaga-Limoner 43.68 183 *e*P P 10 58 37.3 +3.3
KHAL Karahalli 43.71 144 *i*P **P 10 58 34.8 +0.4**
KHAL Karahalli 43.71 144 *i*P **P 10 58 34.8 +0.4**
NAIG Nisos Aigina 43.77 151 *e*P **P 10 58 34.5 -0.2**
GNI Garni 43.78 126 *e*P **P 10 58 35.4 +0.4**
comp=Z,716nm,1.6s
GNI LR LR
comp=Z,31µm,21.0s
GNI Garni 43.78 126 P **P 10 58 36.2 +1.2**
SNR=40
GNI Garni 43.78 126 *e*P **P 10 58 35.4 +0.4**
comp=Z,716nm,1.6s
CAEH 'Ain El Ouahch 43.79 170 P **P 10 58 37.1 +2.2**
CAEH 'Ain El Ouahch 43.79 170 P **P 10 58 37.1 +2.2**
KEMA Kemaliye 43.84 133 *i*P **P 10 58 36.1 +0.8**
KEMA Kemaliye 43.84 133 *i*P **P 10 58 36.1 +0.8**
KDHN Kadinhani 43.84 141 *i*P **P 10 58 35.8 +0.4**
KDHN Kadinhani 43.84 141 *i*P **P 10 58 35.8 +0.4**
AMT Artemida-Makis 43.85 153 P **P 10 58 35.8 +0.4**
AMT Artemida-Makis 43.85 153 P **P 10 58 35.8 +0.4**
AVNT Avonos 43.89 137 *i*P **P 10 58 36.8 +0.9**
AVNT Avonos 43.89 137 *i*P **P 10 58 36.8 +0.9**
BNN Bunyan 43.93 136 *e*P **P 10 58 37.2 +1.0**
CMAH Djebel Manchou 43.96 169 P **P 10 58 36.7 +0.4**
CMAH Djebel Manchou 43.96 169 P **P 10 58 36.7 +0.4**
DID Didima 44.00 151 P **P 10 58 35.0 -1.6**
DID Didima 44.00 151 *e*P **P 10 58 35.0 -1.6**
DID Didima 44.00 151 P **P 10 58 35.0 -1.6**
SFS San Fernando 44.00 185 *e*P **P 10 58 38.8 +2.3**
VLX Vlachokerasia 44.06 152 P **P 10 58 35.7 -1.5**
VLX Vlachokerasia 44.06 152 *e*P **P 10 58 37.0 -0.2**
VLX Vlachokerasia 44.06 152 P **P 10 58 35.7 -1.5**
FFD Franklin Falls 44.08 259 *e*P **P 10 58 37.7 +0.6**
comp=Z,9µm,1.9s
FFD Franklin Falls 44.08 259 *e*P **P 10 58 37.7 +0.6**
comp=Z,9µm,1.9s
CNIL Conil 44.09 185 *e*P **P 10 58 38.5 +1.2**
AGRB Hanur-Agry 44.11 128 *e*P **P 10 58 38.1 +0.4**
A24A Westby 44.15 292 ⇓P **P 10 58 38.6 +0.9**
baz=44,SNR=142
A24A ⇑S **S 11 05 10.1 +0.3**
baz=44
A24A ⇑S **S 11 05 10.1 +0.3**
baz=44
A24A ⇑S **S 11 05 10.1 +0.3**
baz=44
GCAM G?zelcaml? 44.16 146 *i*P **P 10 58 37.3 -0.5**
GCAM G?zelcaml? 44.16 146 *i*P **P 10 58 37.3 -0.5**
CKFL Kef-Lekhel 44.16 170 P **P 10 58 39.1 +1.1**
CKFL Kef-Lekhel 44.16 170 P **P 10 58 39.1 +1.1**
EBNR Beni Rached 44.16 176 P **P 10 58 39.7 +1.7**
EBNR Beni Rached 44.16 176 P **P 10 58 39.7 +1.7**
PINB Pinarbasi 44.17 136 *i*P **P 10 58 38.6 +0.4**
PINB Pinarbasi 44.17 136 *i*P **P 10 58 38.6 +0.4**
ITM Ithomi 44.22 152 P **P 10 58 35.7 -2.6**
ITM Ithomi 44.22 152 *e*P **P 10 58 38.0 -0.3**
DYDN Diyadin 44.23 128 *i*P **P 10 58 39.3 +0.6**
DYDN Diyadin 44.23 128 *i*P **P 10 58 39.3 +0.6**
A23A Redstone 44.26 293 ⇓P **P 10 58 39.1 +0.5**
baz=44,SNR=69
A23A ⇑S **S 11 05 11.3 +0.1**
baz=44
A23A ⇑S **S 11 05 11.3 +0.1**
baz=44
A23A ⇑S **S 11 05 11.3 +0.1**
baz=44
AYDN Tasoluk 44.26 146 *i*P **P 10 58 38.7 0.0**
AYDN Tasoluk 44.26 146 *i*P **P 10 58 38.7 0.0**
EMHD Djebel Mahouad 44.27 174 P **P 10 58 37.0 -1.9**
EMHD Djebel Mahouad 44.27 174 P **P 10 58 37.0 -1.9**
CASM Ain Smara 44.30 170 P **P 10 58 39.8 +0.8**
CASM Ain Smara 44.30 170 P **P 10 58 39.8 +0.8**
ECHA Ech Chlef 44.30 176 P **P 10 58 40.0 +1.0**
ECHA Ech Chlef 44.30 176 P **P 10 58 40.0 +1.0**
SULT Sultanhani-AKS 44.31 139 *e*P **P 10 58 37.6 -1.5**
ABSA Djebel Ababsia 44.31 169 P **P 10 58 37.2 -2.0**
ABSA Djebel Ababsia 44.31 169 P **P 10 58 37.2 -2.0**
VRTB Varto-Mus 44.32 130 *e*P **P 10 58 41.0 +1.7**
ADJB Djebel Djouab 44.33 174 P P 10 58 45.2 +5.9
SET Setif 44.33 171 P **P 10 58 40.0 +0.7**
SET Setif 44.33 171 P **P 10 58 40.0 +0.7**
PSMN Pico do Norte, 44.33 207 *e*P **P 10 58 38.2 -1.0**
comp=Z,516nm,1.6s
PSMN Pico do Norte, 44.33 207 *e*P **P 10 58 38.2 -1.0**
comp=Z,516nm,1.6s
DNZL Cakiroluk 44.34 144 *i*P **P 10 58 39.6 0.0**
DNZL Cakiroluk 44.34 144 *i*P **P 10 58 39.6 0.0**
BBB Bella Bella 44.35 315 P **P 10 58 39.9 +0.7**
comp=Z,145nm,0.8s,baz=7.2,slow=5.4,SNR=30
BBB PP **PcP 11 00 26.0 +3.2**
comp=Z,167nm,1.3s,baz=14,slow=7.3,SNR=3.7
BBB S **S 11 05 16.1 +3.6**
comp=Z,17nm,1.1s,baz=131,slow=8.4,SNR=2.6
BBB LR LR 11 16 55.5
comp=Z,48µm,19.4s,baz=22,slow=36
BBB Bella Bella 44.35 315 P **P 10 58 39.9 +0.7**
BBB PP **PcP 11 00 26.0 +3.2**
BBB S **S 11 05 16.1 +3.6**
BBB Bella Bella 44.35 315 P **P 10 58 39.8 +0.7**
ISP Isparta 44.36 143 *e*P **P 10 58 39.8 +0.2**
ISP Isparta 44.36 143 P **P 10 58 39.6 -0.1**
ISP Isparta 44.36 143 P P 10 58 35.8 -3.8
ISP Isparta 44.36 143 PFAKE 10 58 50.0 +10
ISP LR LR
comp=Z,35µm,20.0s
ISP Isparta 44.36 143 ⇑*i*P **P 10 58 39.5 -0.1**
ISP Isparta 44.36 143 ⇑*i*P **P 10 58 39.5 -0.1**
A22A Carney Farms, 44.38 294 ⇑P **P 10 58 40.2 +0.6**
baz=44,SNR=579
A22A ⇑S **S 11 05 12.6 -0.6**
baz=44
A22A ⇑S **S 11 05 12.6 -0.6**
baz=44
A22A ⇑S **S 11 05 12.6 -0.6**
baz=44
BNGB Bing¶ll 44.38 131 *e*P **P 10 58 40.9 +1.1**
KONT Konya--Tatoy 44.43 140 *e*P **P 10 58 40.9 +0.8**
AKET Djebel Ketaf 44.45 173 P P 10 58 45.5 +5.2
BNGL BINGOL 44.48 130 *i*P **P 10 58 41.9 +1.3**
PYL PYLOS 44.48 153 P **P 10 58 38.9 -1.5**
PYL PYLOS 44.48 153 *e*P **P 10 58 40.0 -0.4**
PYL PYLOS 44.48 153 P **P 10 58 38.9 -1.5**
MDND Maddock 44.50 288 ⇑P **P 10 58 40.9 +0.4**
baz=44,SNR=94
EANR 'Ain N'Sour 44.50 176 P **P 10 58 41.0 +0.3**
EANR 'Ain N'Sour 44.50 176 P **P 10 58 41.0 +0.3**
NIG Nigde 44.52 138 *e*P **P 10 58 43.0 +2.0**
A21A Bergtoll Ranch 44.54 295 ⇑P **P 10 58 41.3 +0.5**
baz=44,SNR=531
MLSB Milas 44.61 146 *e*P **P 10 58 39.8 -1.7**
BSTP Nigde 44.62 138 *i*P **P 10 58 43.1 +1.4**
DGMT Dagmar 44.62 292 PFAKE 10 58 50.0 +8.5
DGMT LR LR
comp=Z,155µm,19.0s
DGMT Dagmar 44.62 292 ⇓P **P 10 58 42.4 +0.9**
baz=44,SNR=151
APE Apeiranthos 44.63 148 P **P 10 58 42.8 +1.1**
APE Apeiranthos 44.63 148 P **P 10 58 41.2 -0.5**
APE Apeiranthos 44.63 148 *e*P **P 10 58 41.0 -0.7**
APE Apeiranthos 44.63 148 ⇑*i*P **P 10 58 41.2 -0.5**
APE Apeiranthos 44.63 148 P **P 10 58 41.2 -0.5**
ELZG Elazig 44.66 133 *i*P **P 10 58 43.2 +1.2**
ELZG Elazig 44.66 133 *i*P **P 10 58 43.2 +1.2**
DYR Agios Nikonas 44.66 152 P **P 10 58 42.2 +0.3**
DYR Agios Nikonas 44.66 152 P **P 10 58 42.2 +0.3**
AKCD Akcadag 44.73 134 *i*P **P 10 58 43.3 +0.8**
AKCD Akcadag 44.73 134 *i*P **P 10 58 43.3 +0.8**
BCK Bucak 44.73 143 *e*P **P 10 58 43.1 +0.6**
B23A Brockton 44.75 293 ⇓P **P 10 58 43.2 +0.7**
baz=45,SNR=433

VLI Veliai 44.76 151 P **P 10 58 41.1 -1.5**
VLI Veliai 44.76 151 *e*P **P 10 58 41.5 -1.1**
VLI Veliai 44.76 151 P **P 10 58 41.1 -1.5**
MYA Malataya 44.76 134 *e*P **P 10 58 44.2 +1.5**
MALT Malataya 44.77 134 *e*P **P 10 58 43.9 +1.0**
MALT Malataya 44.77 134 *e*P **P 10 58 44.1 +1.2**
MALT Malataya 44.77 134 *e*P **P 10 58 44.1 +1.2**
MALT LR LR
comp=Z,410nm,20.0s
MALT Malataya 44.77 134 *e*P **P 10 58 44.1 +1.2**
BODT Bodrum 44.80 146 *e*P P 10 58 39.8 -3.2
A20A Cobblestone Ra 44.80 296 ⇓P **P 10 58 43.5 +0.6**
baz=45
SVRC Sivrice-ELAZID 44.81 133 *e*P **P 10 58 45.1 +1.8**
YER Yerkesik 44.82 145 *e*P **P 10 58 41.9 -1.3**
GOLH Golhisar 44.84 144 *i*P **P 10 58 44.1 +0.7**
GOLH Golhisar 44.84 144 *i*P **P 10 58 44.1 +0.7**
A19A Klindworth Far 44.88 297 ⇓P **P 10 58 44.3 +0.7**
baz=45,SNR=939
KK31 Karatay Array 44.90 98 *i*P **P 10 58 44.0 +0.3**
KK31 pmax pmax
comp=Z,861nm,1.5s
KEST Kesra 44.92 167 P **P 10 58 44.3 +0.3**
comp=Z,16nm,1.0s,baz=234,slow=2.4,SNR=14
KEST S **S 11 05 26.9 +5.6**
comp=Z,1.9nm,0.7s,baz=320,slow=7.9,SNR=1.7
KEST LR LR 11 16 43.4
comp=Z,6µm,18.5s,baz=307,slow=35
KEST Kesra 44.92 167 *e*P **P 10 58 44.2 +0.2**
KEST S **S 11 05 26.9 +5.6**
KEST Kesra 44.92 167 *e*P **P 10 58 44.2 +0.2**
GLMI Grayling 44.94 272 *e*P **P 10 58 43.6 -0.4**
comp=Z,31nm,0.6s
GLMI LR LR
comp=Z,100µm,19.0s
GLMI Grayling 44.94 272 *e*P **P 10 58 43.6 -0.4**
comp=Z,31nm,0.6s
WDD Wield Dalam 45.03 161 PFAKE 10 59 00.0 +15
WDD LR LR
comp=Z,18µm,19.0s
A18A Metzger Ranch, 45.05 298 ⇑P **P 10 58 44.8 -0.2**
baz=45,SNR=248
ETRT Tiaret 45.06 176 P **P 10 58 45.9 +0.7**
ETRT Tiaret 45.06 176 P **P 10 58 45.9 +0.7**
B22A Reddig Ranch S 45.07 294 ⇓P **P 10 58 45.6 +0.5**
baz=45,SNR=326
WES Weston 45.08 258 *e*P **P 10 58 45.2 +0.1**
WES *e* 11 00 31.9
WES pmax pmax
comp=Z,2µm,1.3s
WES Weston 45.08 258 *e*P **P 10 58 45.2 +0.1**
comp=Z,2µm,1.3s
WES *e*PP **PP 11 00 31.9 +1.7**
WES Weston 45.08 258 *e*P **P 10 58 45.2 +0.1**
comp=Z,2µm,1.3s
B21A Ellsworth Farm 45.10 295 ⇑P **P 10 58 45.4 +0.1**
baz=45,SNR=109
TURN Turunc 45.11 145 *i*P **P 10 58 45.7 +0.3**
TURN Turunc 45.11 145 *i*P **P 10 58 45.7 +0.3**
VANB Van 45.13 128 *e*P **P 10 58 47.8 +2.0**
TRY Troy 45.13 261 *e*P **P 10 58 46.0 +0.5**
comp=Z,2µm,1.4s
TRY Troy 45.13 261 *e*P **P 10 58 46.0 +0.5**
comp=Z,2µm,1.4s
MELI Melilla 45.14 181 *e*P **P 10 58 45.7 +0.1**
MELI *e*S **S 11 05 24.9 +0.7**
A17A Triple J Farms 45.16 298 ⇓P **P 10 58 45.5 -0.3**
baz=45,SNR=492
KORT Korkueli 45.16 143 *i*P **P 10 58 46.7 +0.7**
KORT Korkueli 45.16 143 *i*P **P 10 58 46.7 +0.7**
KYTH Kithira 45.20 151 *e*P P 10 58 41.0 -5.2
NIS1 Nisyros Isl. 45.24 147 P **P 10 58 44.7 -1.8**
NIS1 Nisyros Isl. 45.24 147 P **P 10 58 44.7 -1.8**
ANDN Andirin 45.24 136 *i*P P 10 58 50.7 +4.1
B20A Solberg Farm, 45.25 296 ⇑P **P 10 58 47.0 +0.5**
baz=45,SNR=596
KOZT Kozan 45.28 137 *e*P **P 10 58 48.4 +1.6**
A16A West Butte Ran 45.29 299 ⇓P **P 10 58 45.8 -1.1**
baz=45
IMRD Marand 45.33 126 *e*P P 10 58 38.1 -9.2
QUA2 Belchertown 45.35 259 *e*P **P 10 58 47.8 +0.5**
comp=Z,2µm,1.3s
QUA2 Belchertown 45.35 259 *e*P **P 10 58 47.8 +0.5**
comp=Z,2µm,1.3s
GULE Gulek 45.35 138 *i*P **P 10 58 48.4 +0.8**
GULE Gulek 45.35 138 *i*P **P 10 58 48.4 +0.8**
ELL Elmali 45.36 143 *e*P **P 10 58 48.9 +1.3**
DIYA Diyarbakir 45.37 132 *i*P **P 10 58 49.0 +1.5**
DIYA Diyarbakir 45.37 132 *i*P **P 10 58 49.0 +1.5**
B19A Brinkman Farms 45.37 297 ⇑P **P 10 58 47.9 +0.4**
baz=45,SNR=85
KMRS Kahramanmaras 45.38 135 *e*P **P 10 58 48.5 +0.9**
USP Osenovka 45.41 94 P **P 10 58 48.2 +0.4**
SNR=182
A15A Johnson Ranch, 45.42 300 ⇓P **P 10 58 46.9 -1.0**
baz=45,SNR=475
C23A Lambert 45.43 293 ⇓P **P 10 58 48.7 +0.8**
baz=45,SNR=743
WALA Waterton Lakes 45.52 301 *e*P **P 10 58 48.3 -0.4**
comp=Z,2.1nm,0.6s
WALA Waterton Lakes 45.52 301 *e*P **P 10 58 48.3 -0.4**
comp=Z,2.1nm,0.6s
A14A Double T Ranch 45.53 301 ⇓P **P 10 58 48.9 +0.1**
baz=45,SNR=569
BEST Besiri 45.54 131 *i*P **P 10 58 50.0 +1.0**
B18A Beardsley Farm 45.56 297 ⇓P **P 10 58 48.8 -0.1**
baz=45,SNR=178
BRYW Bryant College 45.57 258 *e*P **P 10 58 48.7 -0.3**
comp=Z,4µm,1.8s
BRYW *e*PP **PP 11 00 36.8 +1.4**
BRYW Bryant College 45.57 258 *e*P **P 10 58 48.7 -0.3**
comp=Z,4µm,1.8s
C24A Savage 45.57 292 ⇑P **P 10 58 50.1 +1.0**
baz=45,SNR=197
ATAB Bozova 45.59 134 *i*P **P 10 58 50.4 +1.1**
ATAB Bozova 45.59 134 *i*P **P 10 58 50.4 +1.1**
C22A Vida 45.59 294 ⇓P **P 10 58 49.6 +0.4**
baz=45,SNR=356
GZT Gaziantep 45.61 135 *i*P **P 10 58 50.6 +1.0**
URFA Urfa 45.68 133 *e*P **P 10 58 51.5 +1.5**
C21A Desert Coulee 45.70 295 ⇑P **P 10 58 50.3 +0.2**
baz=46,SNR=250
CHMS Chumysh 45.71 94 P **P 10 58 51.2 +1.0**
SNR=220
A13A Flathead Natio 45.71 302 ⇑P **P 10 58 50.4 +0.2**
baz=46
ARG Arkhangelos 45.71 146 *e*P **P 10 58 50.0 -0.2**
CEYT Ceyhan 45.74 137 *e*P **P 10 58 51.5 +1.1**
MERS Mersin 45.74 138 *e*P **P 10 58 50.3 -0.2**
GAZ Gaziantep 45.75 135 *e*P **P 10 58 51.9 +1.3**
ERMK Ermenek 45.78 140 *i*P **P 10 58 50.5 -0.5**
ERMK Ermenek 45.78 140 *i*P **P 10 58 50.5 -0.5**
B17A L&G Farms, Che 45.81 298 ⇓P **P 10 58 50.7 -0.2**
baz=46
AAA Alma-Ata 45.82 92 *i*P **P 10 58 52.8 +1.7**
AAA *e*S **S 11 05 37.9 +3.8**
AAA pmax pmax
comp=Z,13µm,4.4s
AAA smax smax
comp=N,26µm,19.9s
AAA MLR MLR
comp=Z,75µm,14.0s
B16A M & M Farms, S 45.83 299 ⇓P **P 10 58 51.0 -0.1**
baz=46,SNR=672
AKAS Kas 45.84 144 *i*P **P 10 58 51.2 -0.2**
AKAS Kas 45.84 144 *i*P **P 10 58 51.2 -0.2**
FRU Bishkek 45.85 94 ⇑*i*P **P 10 58 52.0 +0.7**
FRU *i* 11 00 40.0
FRU *i*S **S 11 05 39.0 +4.5**
FRU *e*SS **ScS 11 08 52.0 +5.9**
FRU pmax pmax
comp=Z,4µm,2.1s
FRU pmax pmax
comp=Z,11µm,5.0s
FRU MLR MLR
comp=Z,95µm,20.0s
ITBZ Tabriz 45.86 125 *e*P P 10 58 47.5 -4.1
EKS2 Erkin-Say 45.88 95 PFAKE 10 59 00.0 +8.4
EKS2 LR LR
comp=Z,95µm,19.0s
EKS2 Erkin-Say 45.88 95 P **P 10 58 53.9 +2.2**
SNR=7.8
A12A Yaak River Ran 45.89 303 ⇑P **P 10 58 52.1 +0.6**
baz=46,SNR=480
IHRS Heris 45.90 124 *e*P **P 10 58 52.2 +0.2**

IHRS Heris 45.90 124 *e*P **P 10 58 52.2 +0.2**
EGMT Eagleton 45.91 297 PFAKE 10 59 00.0 +8.2
EGMT LR LR
comp=Z,80µm,19.0s
EGMT Eagleton 45.91 297 ⇓P **P 10 58 51.5 -0.3**
baz=46,SNR=161
SPMN St. Paul 45.93 280 ⇑P **P 10 58 52.2 +0.3**
baz=46,SNR=196
TKM2 Tokmak 2 45.93 93 *i*P **P 10 58 52.9 +0.8**
TKM2 Tokmak 2 45.93 93 PFAKE 10 59 00.0 +7.8
TKM2 LR LR
comp=Z,76µm,19.0s
TKM2 Tokmak 2 45.93 93 P **P 10 58 53.0 +0.8**
SNR=312
C20A Veseth Ranch, 45.95 295 ⇑P **P 10 58 52.0 0.0**
baz=46,SNR=350
D24A Glendive 45.96 292 ⇓P **P 10 58 53.2 +1.0**
baz=46,SNR=237
AAK Ala-Archa 46.02 94 P **P 10 58 53.7 +0.9**
comp=Z,233nm,0.8s,baz=317,slow=2.4,SNR=344
AAK Ala-Archa 46.02 94*c* *i*P **P 10 58 54.4 +1.6**
AAK pmax pmax
comp=Z,1µm,1.3s
AAK MLR MLR
comp=Z,120µm,19.0s
AAK Ala-Archa 46.02 94 *e*P **P 10 58 53.7 +0.9**
comp=Z,1µm,0.8s
AAK LR LR
comp=Z,83µm,20.0s
AAK Ala-Archa 46.02 94 P **P 10 58 54.0 +1.2**
SNR=350
AAK Ala-Archa 46.02 94 P **P 10 58 55.5 +2.6**
SNR=11
AAK Ala-Archa 46.02 94 *e*P **P 10 58 53.7 +0.9**
comp=Z,1µm,0.8s
BINY Binghamton 46.04 263 PFAKE 10 59 00.0 +7.2
BINY LR LR
comp=Z,103µm,19.0s
D23A Lindsay 46.04 293 ⇓P **P 10 58 53.8 +1.0**
baz=46,SNR=369
B15A Bradely Ranch, 46.05 300 ⇑P **P 10 58 52.1 -0.8**
baz=46,SNR=402
MARD Mardin 46.05 131 *i*P **P 10 58 53.7 +0.6**
PNT Penticton 46.07 306 P **P 10 58 53.3 +0.4**
PNT Penticton 46.07 306 P **P 10 58 53.3 +0.4**
PNT Penticton 46.07 306 P **P 10 58 53.3 +0.4**
KBK Karagaybulak 46.08 94 P **P 10 58 54.7 +1.5**
SNR=141
SIRN S¯¬rnak 46.08 129 *i*P **P 10 58 54.5 +1.3**
SIRN S¯¬rnak 46.08 129 *i*P **P 10 58 54.5 +1.3**
C19A Slack Wire Ran 46.09 296 ⇑P **P 10 58 53.5 +0.3**
baz=46,SNR=564
B14A Marquette Ranc 46.11 300 ⇓P **P 10 58 52.8 -0.6**
baz=46,SNR=438
GAZI Gazipasa 46.12 141 *i*P **P 10 58 51.3 -2.2**
GAZI Gazipasa 46.12 141 *i*P **P 10 58 51.3 -2.2**
KUZU Kuzuini 46.13 135 *i*P **P 10 58 54.5 +0.9**
KUZU Kuzuini 46.13 135 *i*P **P 10 58 54.5 +0.9**
VAM Vamos 46.16 150 *e*P **P 10 58 53.0 -0.8**
SONM Songino Array 46.18 62 P **P 10 58 54.6 +0.6**
comp=Z,124nm,1.2s,baz=334,slow=6.4,SNR=218
SONM PP **PP 11 00 43.1 +1.1**
comp=Z,62nm,1.0s,baz=341,slow=6.8,SNR=4.3
SONM LR LR 11 19 44.7
comp=Z,252µm,19.8s,baz=352,slow=38
SONM Songino Array 46.18 62 P **P 10 58 54.6 +0.6**
SONM PP **PP 11 00 43.1 +1.1**
SONM Songino Array 46.18 62 P **P 10 58 54.6 +0.6**
HAKT HAKKARI 46.19 128 *i*P **P 10 58 55.3 +1.1**
HAKT HAKKARI 46.19 128 *i*P **P 10 58 55.3 +1.1**
D22A Cohagen 46.22 294 ⇑P **P 10 58 54.9 +0.8**
baz=46,SNR=258
ULN Ulaanbaatar 46.25 62 PFAKE 10 59 10.0 +15
ULN LR LR
comp=Z,219µm,20.0s
ULN Ulaanbaatar 46.25 62 P **P 10 58 55.4 +0.9**
SNR=451
ULN Ulaanbaatar 46.25 62 P **P 10 58 55.1 +0.6**
comp=Z,804nm,1.9s,comp=Z,15µmcomp=Z,18µm
ULN Ulaanbaatar 46.25 62 P **P 10 58 55.4 +0.9**
SNR=451
B13A Whitefish 46.27 302 ⇑P **P 10 58 54.8 +0.2**
baz=46,SNR=546
COBT Iskenderun 46.28 136 *i*P **P 10 58 55.9 +1.0**
COBT Iskenderun 46.28 136 *i*P **P 10 58 55.9 +1.0**
KARP Karpathos 46.29 147 *e*P **P 10 58 53.0 -1.8**
AYKD Aykdinkavak 46.31 140 *i*P P 10 58 49.1 -5.8
PEA0B Petropavlovsk- 46.32 17 *e*P **P 10 58 54.5 -0.4**
PEA0B Petropavlovsk- 46.32 17 *e*P **P 10 58 54.5 -0.4**
PETK Petropavlovsk- 46.32 17 P **P 10 58 54.5 -0.4**
comp=Z,228nm,1.0s,baz=53,slow=7.3,SNR=152
PETK LR LR 11 16 44.1
comp=Z,24µm,21.1s,baz=350,slow=34
PETK Petropavlovsk- 46.32 17 P **P 10 58 54.5 -0.4**
PETK Petropavlovsk- 46.32 17 P **P 10 58 54.5 -0.4**
PETK Petropavlovsk- 46.32 17 P **P 10 58 54.5 -0.4**
B12A Libby 46.34 303 ⇓P **P 10 58 55.3 +0.2**
baz=46,SNR=148
IDI Anoyia 46.34 149 P P 10 58 46.7 -8.5
AML Almayashu 46.38 95 P **P 10 58 58.0 +2.9**
SNR=22
AML Almayashu 46.38 95 P **P 10 58 58.0 +2.1**
SNR=453
IAZR Azarshahr 46.38 126 *e*P **P 10 58 53.0 -2.8**
IAZR Azarshahr 46.38 126 *e*P **P 10 58 53.0 -2.8**
YLE Yale 46.39 260 *e*P **P 10 58 55.9 +0.5**
comp=Z,2µm,1.2s
YLE Yale 46.39 260 *e*P **P 10 58 55.9 +0.5**
comp=Z,2µm,1.2s
UCH Uchtor 46.42 95 P **P 10 58 58.6 +2.3**
SNR=45
TAS Tashkent 46.42 100 *e*P **P 10 58 57.3 +1.5**
D21A La Casta Ranch 46.43 294 ⇑P **P 10 58 56.4 +0.6**
baz=46,SNR=380
NPS Neapolis 46.43 148 *e*P **P 10 58 53.0 -2.9**
C16A Fuhringer Ranc 46.43 299 ⇓P **P 10 58 55.8 -0.1**
baz=46,SNR=1000
C17A Wharram Farm, 46.45 298 ⇓P **P 10 58 55.5 -0.5**
baz=46,SNR=454
PET Petropavlovsk 46.45 16K *i*P **P 10 58 54.6 -1.2**
PET *e* 11 00 31.2
PET *e*S **S 11 05 38.0 -4.8**
PET *e*SS **ScS 11 08 54.7 +5.1**
PET *e*SSS SSS 11 10 07.7
PET pmax pmax
comp=Z,3µm,14.9s
PET pmax pmax
comp=Z,4µm,16.1s
PET pmax pmax
comp=Z,657nm,1.3s
PET MLR MLR
comp=Z,20µm,20.0s
PET MLR MLR
comp=Z,19µm,20.0s
PET Petropavlovsk 46.45 16 PFAKE 10 59 10.0 +14
PET LR LR
comp=Z,32µm,21.0s
ISRB Sarab 46.47 124 *e*P **P 10 58 57.3 +0.9**
ISRB Sarab 46.47 124 *e*P **P 10 58 57.3 +0.9**
CUKT Cukurca 46.48 128 *e*P **P 10 58 57.5 +1.0**
IBST Bostanabad 46.48 125 *e*P **P 10 58 57.4 +0.8**
IBST Bostanabad 46.48 125 *e*P **P 10 58 57.4 +0.8**
E24A Baker 46.50 292 ⇓P **P 10 58 57.3 +0.9**
baz=46,SNR=89
D20A Manuel Ranch, 46.58 295 ⇑P **P 10 58 57.7 +0.7**
baz=46,SNR=676
C15A Salmond Ranch, 46.58 300 ⇑P **P 10 58 56.9 -0.2**
baz=46,SNR=350
D19A Cripps Ranch, 46.62 296 ⇓P **P 10 58 57.9 +0.5**
baz=46,SNR=899
HIA Hailar 46.66 50 *e*P **P 10 58 58.3 +0.8**
comp=Z,689nm,1.4s
HIA Hailar 46.66 50 *e*P **P 10 58 58.3 +0.8**
comp=Z,689nm,1.4s
KZA Kyzart 46.69 94 P **P 10 59 01.0 +2.6**
SNR=5.6
ULHL Ulahol 46.70 93 P **P 10 59 00.5 +2.3**
SNR=9.3
YBMT Yellow Bay 46.70 301 *e*P **P 10 58 58.0 0.0**
comp=Z,456nm,1.1s
YBMT Yellow Bay 46.70 301 *e*P **P 10 58 58.0 0.0**
comp=Z,456nm,1.1s
GVD Gavdhos 46.72 150 *e*P **P 10 58 57.0 -1.1**
comp=Z,3µm,1.1s
GVD Gavdhos 46.72 150 *e*P **P 10 58 58.0 -0.1**
GVD Gavdhos 46.72 150 *e*P **P 10 58 57.0 -1.1**

comp=Z,3µm,1.1s
E23A Ismay 46.72 293 ⇓P P 10 58 59.0 +0.9
baz=46,SNR=68
D18A Linhart Farms, 46.73 297 ⇓P P 10 58 58.2 0.0
baz=46,SNR=105
YAYL Yayladag 46.74 137 *i* P P 10 58 58.8 +0.3
YAYL Yayladag 46.74 137 *i* P P 10 58 58.8 +0.3
NEW Newport 46.75 304 PFAKE 10 59 10.0 +12
NEW LR LR
comp=Z,91µm,19.0s
NEW Newport 46.75 304 ⇓P P 10 58 58.9 +0.6
baz=46,SNR=429
ERPA Erie 46.79 267 PFAKE 10 59 10.0 +11
ERPA LR LR
comp=Z,70µm,21.0s
XRY Khrisi 46.82 148 *e*P P 10 58 57.0 -1.9
E22A Miles City 46.88 293 ⇓P P 10 58 59.9 +0.6
baz=47,SNR=76
MBW Mount Baker 46.90 308 P P 10 58 58.8 -0.8
MBW Mount Baker 46.90 308 P P 10 58 58.8 -0.8
D17A Six Diamond Ra 46.90 298 ⇑P P 10 58 59.4 -0.3
baz=47,SNR=162
E21A Keefer Ranch, 46.95 294 ⇑P P 10 59 00.8 +0.8
baz=47,SNR=105
C13A Hot Springs 46.96 301 ⇓P P 10 59 00.4 +0.4
baz=47,SNR=631
EREN Erenkoy 47.02 139 *e*P P 10 59 00.7 +0.2
FX1 Attu Island--F 47.02 4 *e*P P 10 58 59.5 -0.8
FX1 Attu Island--F 47.02 4 *e*P P 10 58 59.5 -0.8
C11A Tepee Creek (N 47.05 303 ⇓P P 10 59 00.8 +0.1
baz=47
C12B Naegeli Ranch, 47.06 302 ⇓P P 10 59 01.3 +0.5
baz=47,SNR=398
WMQ Urumqi 47.10 81 P P 10 59 02.6 +1.5
WMQ PcP **PcP** 11 00 34.2 +1.5
WMQ PP PP 11 00 53.3 +1.8
WMQ S **S** 11 05 54.2 +1.8
WMQ sS **sS** 11 06 00.3 +0.6
WMQ ScS **ScS** 11 08 55.0 +0.7
WMQ SS **SS** 11 09 13.0 -5.8
WMQ pmax pmax
comp=Z,470nm,2.0s
WMQ pmax pmax
comp=Z,11µm,3.6s
WMQ LR LR
comp=N,67µm,22.0s
WMQ LR LR
comp=E,71µm,19.0s
WMQ LR LR
comp=Z,74µm,19.0s
E20A Meyer Farm, Mu 47.15 295 ⇓P P 10 59 02.0 +0.6
baz=47,SNR=366
D16A Dana Ranch, Ca 47.15 298 ⇓P P 10 59 01.4 -0.2
baz=47,SNR=763
LFK Lefkose 47.20 140 *e*P P 10 58 58.0 -3.9
ALFC Alevga 47.22 141 ⇑P P 10 59 00.0 -2.1
comp=Z,4.5nm,1.0s
ALFC Alevga 47.22 141⇑*e*P P 10 59 00.0 -2.1
comp=Z,4.5nm,1.0s
F24A Ekalaka 47.22 292 ⇓P P 10 59 03.0 +1.0
baz=47,SNR=209
AAM Ann Arbor 47.23 271 PFAKE 10 59 10.0 +7.9
AAM LR LR
comp=Z,61µm,20.0s
BRNJ Basking Ridge 47.27 261 *e*P P 10 59 02.8 +0.4
BRNJ Basking Ridge 47.27 261 *e*P P 10 59 02.8 +0.4
D15A Lincoln 47.28 299 ⇓P P 10 59 02.3 -0.3
baz=47,SNR=391
LEF Lefka 47.29 140 *e*P P 10 59 00.1 -2.4
E19A Rath Farm, Rou 47.29 296 ⇑P P 10 59 03.2 +0.5
baz=47,SNR=784
AKMC Akamas 47.32 141 P P 10 59 00.8 -2.0
AKMC Akamas 47.32 141 P P 10 59 00.8 -2.0
E18A Harlowton 47.36 297 ⇓P P 10 59 03.7 +0.5
baz=47,SNR=203
D14A Greenough 47.39 300 ⇓P P 10 59 03.4 0.0
baz=47,SNR=514
CZD Col de Zad 47.41 184 *i* P P 10 59 06.0 +2.1
PPCY Paphos 47.46 141 ⇑P P 10 59 02.1 -1.8
PPCY Paphos 47.46 141⇑*i*P P 10 59 02.1 -1.8
CSS Prodhromos 47.49 140 P P 10 59 03.9 -0.3
CSS Prodhromos 47.49 140 P P 10 59 01.6 -2.6
CSS Prodhromos 47.49 140 PFAKE 10 59 20.0 +16
CSS LR LR
comp=Z,21µm,21.0s
CSS Prodhromos 47.49 140 P P 10 59 03.9 -0.3
F23A Volborg 47.49 292 ⇑P P 10 59 04.8 +0.7
baz=47,SNR=444
D13A Huson 47.52 301 ⇓P P 10 59 04.6 +0.3
baz=47,SNR=186
PHNC Paralimni 47.52 139 P P 10 59 06.6 +2.2
PHNC Paralimni 47.52 139 P P 10 59 06.6 +2.2
F22A Rosebud 47.57 293 ⇓P P 10 59 05.6 +0.9
baz=47,SNR=261
E17A Martinsdale 47.60 298 ⇓P P 10 59 05.1 -0.1
baz=47,SNR=301
E16A East Helena 47.66 298 ⇑P P 10 59 05.5 0.0
baz=47,SNR=602
F21A Absaloka Mine, 47.66 294 ⇓P P 10 59 06.1 +0.6
baz=48,SNR=43
WTV Waterville 47.70 306 P P 10 59 05.2 -0.5
WTV Waterville 47.70 306 P P 10 59 05.2 -0.5
MSO Missoula 47.70 301 PFAKE 10 59 20.0 +14
MSO LR LR
comp=Z,43µm,20.0s
MSO Missoula 47.70 301 ⇓P P 10 59 06.1 +0.3
baz=48,SNR=1000
BRSD Miller 47.70 286 ⇓P P 10 59 06.2 +0.5
baz=48,SNR=94
PMPS Porto Santo 47.72 196 *e*P P 10 59 11.3 +5.4
comp=Z,969nm,1.9s
G24A Alzada 47.72 291 ⇑P P 10 59 06.3 +0.4
baz=48,SNR=296
GSTR Great Sitkin T 47.80 355 *e*P P 10 59 08.4 +2.0
GSTR Great Sitkin T 47.80 355 *e*P P 10 59 08.4 +2.0
F20A Billings 47.84 295 ⇑P P 10 59 07.2 +0.3
baz=48,SNR=95
ALAS Alassa 47.89 165 *i* P P 10 59 06.7 -0.6
comp=Z,2µm,1.7s,SNR=27
E15A Deer Lodge 47.91 299 ⇑P P 10 59 07.2 -0.2
baz=48,SNR=514
F19A Roth Farm, Mol 47.91 296 ⇓P P 10 59 08.1 +0.7
baz=48,SNR=955
ABKT Ailbek 47.93 113 P P 10 59 08.8 +1.2
comp=Z,2µm,1.0s
F18A Big Timber 47.98 296 ⇑P P 10 59 08.4 +0.4
baz=48,SNR=304
PMOZ Porto Moniz, M 47.99 197 *e*S S 11 06 15.1 +10
PMOZ *e*LR LR 11 12 50.1
comp=Z,23µm,20.0s
G23A Biddle 47.99 292 ⇓P P 10 59 08.4 +0.3
baz=48,SNR=181
ECSD EROS Data Cent 48.01 284 PFAKE 10 59 20.0 +12
ECSD LR LR
comp=Z,104µm,20.0s
E14A Clinton 48.04 300 ⇓P P 10 59 08.4 -0.1
baz=48,SNR=310
GCMT Greycliff 48.08 296 *e*P P 10 59 09.1 +0.3
comp=Z,1µm,0.6s
GCMT Greycliff 48.08 296 *e*P P 10 59 09.1 +0.3
comp=Z,1µm,0.6s
E13A Victor 48.12 301 ⇓P P 10 59 09.1 +0.1
baz=48,SNR=1000
F17A Fitzpatrick Pl 48.12 297 ⇓P P 10 59 09.4 +0.3
baz=48,SNR=267
G22A Birney 48.12 293 ⇑P P 10 59 09.2 +0.1
baz=48,SNR=157
KLR Kul'dur 48.12 40 *e*P P 10 59 05.0 -3.9
KLR *e*S **S** 11 06 03.0 -3.7
KLR pmax pmax
comp=N,85nm,1.6s
KLR pmax pmax
comp=Z,740nm,1.6s
KLR pmax pmax
comp=N,3µm,10.0s
KLR pmax pmax
comp=Z,9µm,10.0s
HDW Hoodsport 48.16 309 P P 10 59 10.2 +0.8
HDW Hoodsport 48.16 309 P P 10 59 10.2 +0.8
IMND Minoodasht 48.17 116 *e*P P 10 59 11.9 +2.5
IGZV Ghazvin 48.25 121 *e*P P 10 59 11.1 +0.8
IGZV Ghazvin 48.25 121 *e*P P 10 59 11.1 +0.8
G21A Lodge Grass 48.25 294 ⇑P P 10 59 10.4 +0.3
baz=48,SNR=63
H24A Dirks Ranch, A 48.30 291 ⇑P P 10 59 10.3 -0.2
baz=48,SNR=188
TZC Tazercounte 48.31 185 *i* P P 10 59 09.0 -1.8
F16A Kennard Place, 48.38 298 ⇓P P 10 59 10.8 -0.3
baz=48,SNR=223
G20A Bridger 48.41 295 ⇑P P 10 59 11.5 +0.2
baz=48,SNR=480
OSR Olympics--Salm 48.42 310 P P 10 59 12.4 +1.1
OSR Olympics--Salm 48.42 310 P P 10 59 12.4 +1.1
F15A Butte 48.45 299 ⇑P P 10 59 12.0 +0.2
baz=48,SNR=555
HWQ Hawqa 48.46 137 *e*P P 10 59 11.5 -0.3
HWQ Hawqa 48.46 137 *e*P P 10 59 11.5 -0.3
WRD Warden 48.47 305 P P 10 59 10.2 -1.4
WRD Warden 48.47 305 P P 10 59 10.2 -1.4
BOZ Bozeman (W) 48.52 298 PFAKE 10 59 20.0 +7.8
BOZ LR LR
comp=Z,36µm,19.0s
BOZ Bozeman (W) 48.52 298 ⇑P P 10 59 12.6 +0.5
baz=48,SNR=336
NLWA Neilton Lookou 48.52 310 *e*P P 10 59 12.9 +0.9
comp=Z,871nm,1.1s
NLWA LR LR
comp=Z,62µm,20.0s
NLWA Neilton Lookou 48.52 310 *e*P P 10 59 12.9 +0.9
comp=Z,871nm,1.1s
G18A Lazy EL Ranch, 48.53 296 ⇑P P 10 59 12.1 -0.1
baz=48,SNR=335
AMKA Amchitka 48.56 359 *e*P P 10 59 11.7 -0.5
comp=Z,1µm,1.2s
AMKA Amchitka 48.56 359 *e*P P 10 59 11.7 -0.5
comp=Z,1µm,1.2s
F14A Wisdom 48.61 300 ⇑P P 10 59 13.2 +0.3
baz=48,SNR=244
H23A Clabaugh Cattl 48.62 292 ⇑P P 10 59 13.2 +0.3
baz=48,SNR=27
SKR Severo-Kuril's 48.66 18 *e*P P 10 59 11.0 -2.0
SKR *e* 10 59 19.4
SKR *i* 11 01 05.0
SKR *e*S **S** 11 06 12.0 -2.2
SKR *e*SS **SS** 11 09 42.0 -1.6
SKR pmax pmax
comp=N,4µm,8.0s
SKR pmax pmax
comp=Z,5µm,8.0s
SKR pmax pmax
comp=E,5µm,6.0s
SKR pmax pmax
comp=N,680nm,1.5s
SKR pmax pmax
comp=E,720nm,1.5s
SKR pmax pmax
comp=Z,800nm,1.5s
SKR pmax pmax
comp=Z,6µm,10.0s
SKR pmax pmax
comp=E,3µm,12.0s
SKR smax smax
comp=N,11µm,16.0s
SKR smax smax
comp=E,10µm,16.0s
SKR MLR MLR
comp=N,28µm,16.0s
SKR MLR MLR
comp=E,22µm,16.0s
SKR MLR MLR
comp=Z,39µm,16.0s
RLMT Red Lodge 48.67 296 PFAKE 10 59 30.0 +17
RLMT LR LR
comp=Z,182µm,19.0s
RLMT Red Lodge 48.67 296 ⇑P P 10 59 13.8 +0.3
baz=48,SNR=624
GHAR Gharyan 48.68 163 *i* P P 10 59 13.0 -0.4
comp=Z,2µm,1.6s,SNR=26
G17A Pierce Place, 48.70 297 ⇓P P 10 59 14.1 +0.5
baz=48,SNR=104
IPRN Peran 48.70 119 *e*P P 10 59 14.9 +1.2
H22A Clearmont 48.74 293 ⇑P P 10 59 14.4 +0.5
baz=48,SNR=120
ISFR Sfrayin 48.77 113 *e*P P 10 59 15.8 +1.5
F13A Darby 48.77 301 ⇑P P 10 59 14.1 0.0
baz=49,SNR=718
JHA Jbel Lahdid 48.78 188 *i* P P 10 59 14.0 -0.2
BHL Bhannes 48.79 138 *e*P P 10 59 14.0 -0.3
BHL Bhannes 48.79 138 *e*P P 10 59 14.0 -0.3
H21A Big Horn, Sher 48.81 294 ⇑P P 10 59 14.7 +0.3
baz=49,SNR=189
HAWA Hanford 48.92 306 PFAKE 10 59 30.0 +15
HAWA LR LR
comp=Z,63µm,22.0s
IALA Alasht 48.93 119 *e*P P 10 59 15.0 -0.6
IALA Alasht 48.93 119 *e*P P 10 59 15.0 -0.6
CIA Chichaoua 48.93 188 *i* P P 10 59 17.0 +1.6
IKIA Kiasar 48.94 118 *e*P P 10 59 17.3 +1.7
IKIA Kiasar 48.94 118 *e*P P 10 59 17.3 +1.7
G16A Mcs Hill, Enn 48.95 298 ⇓P P 10 59 15.7 +0.2
baz=49,SNR=420
IMHD Mahdasht 49.00 121 *e*P P 10 59 16.2 +0.2
IMHD Mahdasht 49.00 121 *e*P P 10 59 16.2 +0.2
H19A Powell 49.07 295 ⇓P P 10 59 16.8 +0.4
baz=49,SNR=706
H20A Greybull 49.10 294 ⇓P P 10 59 17.0 +0.4
baz=49,SNR=698
G15A Dillon 49.11 299 ⇑P P 10 59 16.7 -0.1
baz=49,SNR=573
IKRD Kardeh 49.12 112 *e*P P 10 59 19.0 +2.0
IKRD Kardeh 49.12 112 *e*P P 10 59 19.0 +2.0
ACSO Alum Creek Sta 49.13 269 PFAKE 10 59 30.0 +13
ACSO LR LR
comp=Z,48µm,19.0s
H18A Shoshone NF, C 49.17 296 ⇓P P 10 59 17.3 0.0
baz=49,SNR=429
IRAZ Razeghan 49.17 122 *e*P P 10 59 18.9 +1.5
IRAZ Razeghan 49.17 122 *e*P P 10 59 18.9 +1.5
G14A Jackson 49.18 300 ⇑P P 10 59 17.6 +0.2
baz=49,SNR=447
I24A Kuemmerle Ranc 49.18 291 ⇓P P 10 59 17.4 +0.1
baz=49,SNR=63
HABR Khabarovsk 49.22 37*de*P P 10 59 16.1 -1.2
HABR *e**PP **pP** 10 59 19.1 -2.6
HABR *e* 10 59 20.3
HABR *e* 11 00 38.5
HABR *e* 11 01 10.1
HABR PPP PPP 11 02 01.4
HABR *e*S **S** 11 06 23.2 +1.2
HABR *e**SS **sS** 11 06 28.1 -1.3
HABR *e* 11 09 07.9
HABR *e*SS **SS** 11 09 55.9 +3.3
HABR *e*SSS SSS 11 11 13.2
HABR pmax pmax
comp=Z,2µm,4.3s
HABR pmax pmax
comp=Z,504nm,2.0s
HABR pmax pmax
comp=N,253nm,2.0s
HABR MLR MLR
comp=N,22µm,18.0s
HABR MLR MLR
comp=Z,19µm,17.0s
HABR MLR MLR
comp=E,26µm,17.0s
I23A Meade Ranch, G 49.22 292 ⇓P P 10 59 17.4 -0.2
baz=49
RCY Rachaya 49.22 137 *e*P P 10 59 17.6 0.0
RCY Rachaya 49.22 137 *e*P P 10 59 17.6 0.0
SCIA State Center 49.23 280 PFAKE 10 59 30.0 +13
SCIA LR LR
comp=Z,111µm,19.0s
ILIN Lien 49.23 125 *e*P P 10 59 17.6 -0.3
ILIN Lien 49.23 125 *e*P P 10 59 17.6 -0.3
ISHM Shahmirzad 49.27 118 *e*P P 10 59 19.8 +1.6
ISHM Shahmirzad 49.27 118 *e*P P 10 59 19.8 +1.6
YNR Norris Junctio 49.28 297 *e*P P 10 59 19.0 +0.8
comp=Z,609nm,1.4s
YNR Norris Junctio 49.28 297 *e*P P 10 59 19.0 +0.8
comp=Z,609nm,1.4s
IDMV Damavand 49.31 120 *e*P P 10 59 19.7 +1.2
IDMV Damavand 49.31 120 *e*P P 10 59 19.7 +1.2
KSH Kashi 49.31 94⇑*i*P P 10 59 21.8 +3.5
KSH sP sP 10 59 28.2 +3.7
KSH PcP **PcP** 11 00 44.4 +3.6
KSH PP **PP** 11 01 16.9 +5.0
KSH *e*ScP **ScP** 11 04 36.1 +1.1
KSH PcS **PcS** 11 04 38.0 +0.6
KSH S **S** 11 06 27.0 +3.1
KSH sS sS 11 06 33.6 +2.4
KSH ScS **ScS** 11 09 08.8 -0.5
KSH SS **SS** 11 09 54.0 -0.8
KSH pmax pmax
comp=Z,470nm,1.6s
KSH pmax pmax
comp=Z,7µm,3.9s
KSH LR LR
comp=N,51µm,14.3s
KSH LR LR
comp=E,111µm,17.3s
KSH LR LR
comp=Z,105µm,18.9s
IAKL Akhelmad 49.33 112 *e*P P 10 59 19.6 +0.9
TDL Tradedollar La 49.33 308 P P 10 59 18.5 +0.1
TDL Tradedollar La 49.33 308 P P 10 59 18.5 +0.1
BMW Boistfort Moun 49.34 309 P P 10 59 19.4 +1.0
BMW Boistfort Moun 49.34 309 P P 10 59 19.4 +1.0
BMW Boistfort Moun 49.34 309 P P 10 59 19.4 +1.0
IFIR Firoozkooh 49.35 119 *e*P P 10 59 20.1 +1.3
IFIR Firoozkooh 49.35 119 *e*P P 10 59 20.1 +1.3
IDHR Dehrash 49.37 126 *e*P P 10 59 18.5 -0.4
IDHR Dehrash 49.37 126 *e*P P 10 59 18.5 -0.4
YMR Madison River 49.37 297 *e*P P 10 59 19.4 +0.6
comp=Z,929nm,1.3s
YMR Madison River 49.37 297 *e*P P 10 59 19.4 +0.6
comp=Z,929nm,1.3s
H16A Russell Place, 49.38 298 ⇑P P 10 59 19.4 +0.5
baz=49,SNR=569
LKWY Lake 49.39 297 PFAKE 10 59 30.0 +11
LKWY LR LR
comp=Z,323µm,21.0s
STD Studebaker Rid 49.44 308 P P 10 59 19.6 +0.4
STD Studebaker Rid 49.44 308 P P 10 59 19.6 +0.4
G13A Cobalt 49.44 300 ⇓P P 10 59 19.6 +0.3
baz=49,SNR=838
I22A 9 Mile Ranch, 49.44 293 ⇓P P 10 59 19.6 +0.3
baz=49,SNR=353
IR5 Iran Long-Peri 49.45 121 *e*P P 10 59 20.6 +1.1
LTBQ Tobruq 49.46 151 *i* P P 10 59 18.1 -1.3
comp=Z,1µm,1.5s,SNR=26
MCMT McKenzie Canyo 49.50 299 P P 10 59 20.7 +0.9
MCMT McKenzie Canyo 49.50 299 P P 10 59 20.7 +0.9
IPAY Payeh 49.51 112 *e*P P 10 59 20.9 +0.9
IPAY Payeh 49.51 112 *e*P P 10 59 20.9 +0.9
YFT Old Faithful 49.56 297 *e*P P 10 59 21.8 +1.5
comp=Z,2µm,1.6s
YFT Old Faithful 49.56 297 *e*P P 10 59 21.8 +1.5
comp=Z,2µm,1.6s
G12A Big Creek, Yel 49.56 301 ⇑P P 10 59 19.9 -0.3
baz=49,SNR=359
H17A Grant Village 49.58 297 ⇓P P 10 59 21.5 +1.0
baz=49,SNR=456
ILAS Lasjerd 49.64 119 *e*P P 10 59 21.4 +0.4
ILAS Lasjerd 49.64 119 *e*P P 10 59 21.4 +0.4
I20A Worland 49.64 294 ⇑P P 10 59 21.4 +0.6
baz=49,SNR=199
MTMW Mount Mitchell 49.65 308 P P 10 59 21.4 +0.7
MTMW Mount Mitchell 49.65 308 P P 10 59 21.4 +0.7
I21A Big Trails, Te 49.65 294 ⇑P P 10 59 20.9 +0.1
baz=49,SNR=675
H15A Lima 49.67 299 ⇓P P 10 59 21.8 +0.7
baz=50,SNR=1000
SFIN Scholer Farm 49.69 273 ⇑P P 10 59 21.2 +0.2
baz=50,SNR=175
I19A Meeteetse 49.69 295 ⇓P P 10 59 21.6 +0.3
baz=50,SNR=672
IANJ Anjilo 49.70 118 *e*P P 10 59 22.6 +1.2
IANJ Anjilo 49.70 118 *e*P P 10 59 22.6 +1.2
J24A Dixon Ranch, L 49.70 291 ⇑P P 10 59 21.7 +0.5
baz=50,SNR=303
ISRO Mashad 49.73 112 *e*P P 10 59 22.5 +1.0
ISRO Mashad 49.73 112 *e*P P 10 59 22.5 +1.0
J23A Dilts Ranch, B 49.77 292 ⇓P P 10 59 22.0 +0.2
baz=50,SNR=29
H14A Leadore 49.78 299 ⇑P P 10 59 22.7 +0.8
baz=50,SNR=818
IMYA Miami 49.79 111 *e*P P 10 59 22.8 +0.7
IMYA Miami 49.79 111 *e*P P 10 59 22.8 +0.7
IVRN Varamin 49.83 120 *e*P P 10 59 23.4 +1.1
IVRN Varamin 49.83 120 *e*P P 10 59 23.4 +1.1
HDIL Hopedale 49.88 276 PFAKE 10 59 30.0 +7.5
HDIL LR LR
comp=Z,140µm,20.0s
IMOG Moghan 49.90 112 *e*P P 10 59 24.2 +1.2
IMOG Moghan 49.90 112 *e*P P 10 59 24.2 +1.2
J22A Midwest 49.91 293 ⇑P P 10 59 22.9 +0.1
baz=50,SNR=434
K27A Flueckinger Fa 49.93 289 ⇓P P 10 59 22.9 0.0
baz=50,SNR=175
H13A Challis 49.96 300 ⇓P P 10 59 23.6 +0.4
baz=50,SNR=994
IKOM Komasi 50.04 125 *e*P P 10 59 24.6 +0.7
IKOM Komasi 50.04 125 *e*P P 10 59 24.6 +0.7
I17A Pilgrim Ck. 50.05 297 ⇑P P 10 59 25.0 +1.1
baz=50,SNR=338
H12A Diamond D Ranc 50.06 301 ⇑P P 10 59 24.1 0.0
baz=50,SNR=681
K26A Motz Farm, Whi 50.08 289 ⇓P P 10 59 24.1 0.0
baz=50,SNR=61
BMO Blue Mountains 50.12 303 PFAKE 10 59 40.0 +16
BMO LR LR
comp=Z,51µm,19.0s
J21A Lysite 50.13 294 ⇓P P 10 59 24.7 +0.1
baz=50,SNR=371
VLL Laurance Lake 50.13 307 P P 10 59 25.0 +0.6
VLL Laurance Lake 50.13 307 P P 10 59 25.0 +0.6
I18A Diamond G Ranc 50.14 296 ⇑P P 10 59 25.4 +0.6
baz=50,SNR=401
CBN Corbin 50.16 263 PFAKE 10 59 40.0 +15
CBN LR LR
comp=Z,89µm,20.0s
J20A Shoshoni 50.22 294 ⇑P P 10 59 26.1 +0.9
baz=50,SNR=909
I16A Newdale 50.23 298 ⇓P P 10 59 26.3 +1.1
baz=50,SNR=652
VFP Flag Point 50.24 307 P P 10 59 25.8 +0.4
VFP Flag Point 50.24 307 P P 10 59 25.8 +0.4
I15A Monteview 50.25 298 ⇓P P 10 59 26.4 +0.9
baz=50,SNR=450
K25A Mack Ranch, Ha 50.28 290 ⇓P P 10 59 26.3 +0.6
baz=50,SNR=82
K24A Anderson Ranch 50.32 291 ⇑P P 10 59 25.8 -0.2
baz=50,SNR=21
K23A Bowen Ranch, D 50.42 292 ⇓P P 10 59 26.5 -0.3
baz=50,SNR=98
J19A Crowheart 50.45 295 ⇓P P 10 59 27.8 +0.8
baz=50,SNR=1000
BHD Baghdad 50.50 128 *i* P P 10 59 23.0 -4.2
BHD *i* PP **PP** 11 01 21.0 -1.7
BHD *i* PPP PPP 11 02 31.0
BHD *i* S **S** 11 06 40.0 -0.3
BHD *i* SS **SS** 11 10 09.0 -4.7
BHD *i* SSS SSS 11 11 50.0
BGNE Belgrade 50.53 284 ⇑P P 10 59 27.1 -0.3
baz=50,SNR=71
ISFB Sefidab 50.54 120 *e*P P 10 59 28.1 +0.5
ISFB Sefidab 50.54 120 *e*P P 10 59 28.1 +0.5
L27A T5 Ranch, Ells 50.55 288 ⇑P P 10 59 28.0 +0.3
baz=50,SNR=6.9
I13A Wildhorse Cree 50.58 300 ⇑P P 10 59 28.5 +0.5
baz=50,SNR=1000
J17A Brown Place, J 50.61 297 ⇑P P 10 59 29.3 +1.0
baz=50,SNR=397
LGHD Ghdames 50.62 167 *i* P P 10 59 27.8 -0.4
comp=Z,2µm,1.5s,SNR=26
J18A Kendall Valley 50.65 296 ⇓P P 10 59 29.2 +0.5
baz=50,SNR=966
K22A Casper 50.66 293 ⇓P P 10 59 28.3 -0.3
baz=50,SNR=441
L26A Underwood Farm 50.72 289 ⇑P P 10 59 29.2 +0.3
baz=50,SNR=32
L25A Engebretsen Ra 50.74 290 ⇓P P 10 59 29.6 +0.5
baz=50,SNR=26
K21A Alcova 50.79 293 ⇓P P 10 59 29.2 -0.4
baz=51,SNR=222
J15A Blackfoot 50.83 298 ⇓P P 10 59 30.7 +0.9
baz=51,SNR=490
J16A Bone 50.83 297 ⇑P P 10 59 30.7 +0.8
baz=51,SNR=411
I12A Atlanta 50.84 301 ⇓P P 10 59 29.7 -0.3
baz=51
LSHF Shwairf 50.86 162 *i* P P 10 59 29.5 -0.5
comp=Z,2µm,1.6s,SNR=26
VIPM Ingram Point 50.92 306 P P 10 59 31.5 +1.0
VIPM Ingram Point 50.92 306 P P 10 59 31.4 +1.0
VIPM Ingram Point 50.92 306 P P 10 59 31.5 +1.0

K20A Yellowstone Ra 50.94 294 ⇑P P 10 59 30.3 -0.4
baz=51,SNR=533
HLID Hailey 50.97 300 PFAKE 10 59 40.0 +9.1
HLID LR LR
comp=Z,68µm,19.0s
HLID Hailey 50.97 300 ⇓P P 10 59 31.1 +0.2
baz=51,SNR=704
BW06 Boulder Array 51.02 295 PFAKE 10 59 40.0 +8.6
BW06 LR LR
comp=Z,123µm,19.0s
BW06 Boulder Array 51.02 295 ⇑P P 10 59 31.2 -0.1
baz=51,SNR=502
PDAR Pinedale Array 51.02 295 P P 10 59 30.6 -0.7
comp=Z,249nm,1.2s,baz=24,slow=5.2,SNR=336
PDAR LR LR 11 21 31.6
comp=Z,105µm,18.2s,baz=22,slow=36
PDAR PKPPKP P'P'df 11 30 07.8 -9.5
comp=Z,2.0nm,1.1s,baz=201,slow=6.2,SNR=3.5
PDAR Pinedale Array 51.02 295 P P 10 59 30.6 -0.7
PDAR P'P' 11 30 07.8
PDAR Pinedale Array 51.02 295 P P 10 59 30.6 -0.7
L23A Garrett 51.06 292 ⇑P P 10 59 30.9 -0.8
baz=51,SNR=123
J13A Cove Ranch, Pi 51.09 300 ⇑P P 10 59 32.2 +0.4
baz=51,SNR=1000
M27A Reverse DX Ran 51.10 288 ⇓P P 10 59 32.2 +0.3
baz=51,SNR=24
K18A Toltan Ranch, 51.22 296 ⇑P P 10 59 33.3 +0.5
baz=51,SNR=633
K17A Gardner Place, 51.24 297 ⇓P P 10 59 33.2 +0.3
baz=51,SNR=92
AHID Auburn Hatcher 51.25 297 PFAKE 10 59 50.0 +17
AHID LR LR
comp=Z,86µm,21.0s
L22A Ellis Ranch, M 51.25 292 ⇓P P 10 59 33.4 +0.4
baz=51,SNR=215
K16A Soda Springs 51.26 297 ⇑P P 10 59 33.8 +0.7
baz=51,SNR=290
M26A McRoberts Ranc 51.28 289 ⇓P P 10 59 33.5 +0.3
baz=51,SNR=32
MFID Camas Ranch 51.32 301 ⇓P P 10 59 32.9 -0.6
baz=51,SNR=292
YSS Yuzh-Sakhalins 51.44 30 ⇓*i*P P 10 59 33.7 -0.4
YSS *e* 11 01 37.0
YSS *i* S S 11 06 52.0 -1.0
YSS *e* 11 09 26.0
YSS pmax pmax
comp=Z,260nm,1.4s
YSS pmax pmax
comp=E,40nm,1.2s
YSS pmax pmax
comp=Z,2µm,8.0s
YSS smax smax
comp=E,7µm,14.0s
YSS MLR MLR
comp=Z,14µm,19.0s
YSS MLR MLR
comp=E,11µm,18.0s
YSS Yuzh-Sakhalins 51.44 30 *e*P P 10 59 34.1 0.0
comp=E,207nm,1.2s
YSS LR LR
comp=Z,7µm,20.0s
YSS Yuzh-Sakhalins 51.44 30 *e*P P 10 59 34.2 0.0
comp=Z,207nm,1.2s
IKLH Kolahrood 51.46 121 *e*P P 10 59 34.7 -0.1
IKLH Kolahrood 51.46 121 *e*P P 10 59 34.7 -0.1
M25A Palm-Egli Farm 51.46 290 ⇓P P 10 59 35.0 +0.4
baz=51,SNR=149
L21A Rawlins 51.46 293 ⇓P P 10 59 34.6 -0.1
baz=51,SNR=241
K15A Arbon 51.55 298 ⇓P P 10 59 36.0 +0.8
baz=51,SNR=391
M24A Cheyenne 51.55 291 ⇑P P 10 59 35.8 +0.5
baz=51,SNR=235
L20A Wamsutter 51.57 294 ⇓P P 10 59 35.7 +0.2
baz=51,SNR=271
OGNE Ogallala 51.61 288 *e*P P 10 59 35.5 -0.2
comp=Z,1µm,1.2s
OGNE *e*PP PP 11 01 41.4 +8.7
OGNE LR LR
comp=Z,92µm,21.0s
OGNE Ogallala 51.61 288 ⇑P P 10 59 35.9 +0.3
baz=51,SNR=107
OGNE Ogallala 51.61 288 *e*P P 10 59 35.5 -0.2
comp=Z,1µm,1.2s
L19A Farson 51.64 295 ⇓P P 10 59 35.6 -0.4
baz=51,SNR=210
BLA Blacksburg 51.65 266 *e*P P 10 59 35.3 -0.6
BLA pmax pmax
comp=Z,1µm,1.1s
BLA MLR MLR
comp=Z,66µm,20.0s
BLA Blacksburg 51.65 266 *e*P P 10 59 35.3 -0.6
comp=Z,1µm,1.1s
BLA LR LR
comp=Z,66µm,20.0s
BLA Blacksburg 51.65 266 *e*P P 10 59 35.3 -0.6
comp=Z,1µm,1.1s
ELN Prospectdale 51.68 266 *e*P P 10 59 35.3 -0.8
ELN Prospectdale 51.68 266 *e*P P 10 59 35.3 -0.8
M23A Laramie 51.69 292 ⇓P P 10 59 36.5 +0.1
baz=52,SNR=55
K14A Jones Ranch, D 51.78 299 ⇑P P 10 59 37.5 +0.6
baz=52,SNR=345
M21A Separation Pea 51.81 293 ⇑P P 10 59 37.2 -0.1
baz=52,SNR=407
LJFR Jufra 51.83 160 *i*P P 10 59 36.2 -1.1
comp=Z,1µm,1.5s,SNR=26
N27A Anderson Farm, 51.83 288 ⇑P P 10 59 37.5 +0.3
baz=52,SNR=76
L17A Cokeville 51.87 296 ⇓P P 10 59 37.6 -0.1
baz=52,SNR=147
M22A Cedar Creek Ra 51.89 292 ⇑P P 10 59 37.6 -0.4
baz=52,SNR=187
L18A Fontenelle, Gr 51.91 296 ⇓P P 10 59 37.8 -0.2
baz=52,SNR=238
N26A Koester Ranch, 51.92 289 ⇓P P 10 59 38.2 +0.2
baz=52,SNR=37
IPIR Pirpir 51.98 121 *e*P P 10 59 40.3 +1.6
IPIR Pirpir 51.98 121 *e*P P 10 59 40.3 +1.6
IZEF Zefreh 51.98 120 *e*P P 10 59 39.5 +0.8
IZEF Zefreh 51.98 120 *e*P P 10 59 39.5 +0.8
L16A Fish Haven 52.04 297 ⇓P P 10 59 39.1 +0.1
baz=52,SNR=153
M20A Sweetwater, Wa 52.05 294 ⇓P P 10 59 39.4 +0.3
baz=52,SNR=206
N25A Grover 52.07 290 ⇓P P 10 59 39.8 +0.7
baz=52,SNR=33
LUJL Ujela 52.17 154 *i*P P 10 59 39.0 -0.8
comp=Z,2µm,1.6s,SNR=25
N24A Carr 52.18 291 ⇑P P 10 59 40.6 +0.6
baz=52,SNR=302
M19A Rock Springs 52.19 295 ⇓P P 10 59 39.8 -0.3
baz=52,SNR=95
L15A Malad City 52.19 298 ⇓P P 10 59 40.2 +0.2
baz=52,SNR=429
N23A Red Feather La 52.29 292 ⇓P P 10 59 41.1 +0.2
baz=52,SNR=615
L14A Malta 52.29 299 ⇑P P 10 59 41.3 +0.6
baz=52,SNR=638
M18A Lyman 52.41 296 ⇑P P 10 59 41.7 0.0
baz=52,SNR=161
O27A Beecher Island 52.42 288 ⇑P P 10 59 41.3 -0.4
baz=52,SNR=58
IGAR Gharneh 52.42 120 *e*P P 10 59 42.3 +0.4
MDJ Mudanjiang 52.44 42 P P 10 59 40.0 -1.6
MDJ pP **pP** 10 59 43.3 -2.8
MDJ PcP **PcP** 11 00 51.3 -0.8
MDJ PP **PP** 11 01 39.3 -0.7
MDJ ScP **ScP** 11 04 48.4 +0.2
MDJ PcS **PcS** 11 04 50.3 -0.1
MDJ S **S** 11 07 03.6 -3.2
MDJ ScS **ScS** 11 09 30.3 0.0
MDJ SS **SS** 11 10 44.6 +0.7
MDJ pmax pmax
comp=Z,190nm,1.1s
MDJ pmax pmax
comp=Z,2µm,6.7s
MDJ LR LR
comp=N,14µm,19.1s
MDJ LR LR
comp=E,31µm,17.3s
MDJ LR LR
comp=Z,26µm,14.9s
MDJ Mudanjiang 52.44 42 *e*P P 10 59 42.1 +0.6
comp=Z,391nm,1.1s
MDJ Mudanjiang 52.44 42 *e*P P 10 59 42.2 +0.6
comp=Z,391nm,1.1s
M17A Scullys Gap (B 52.45 296 ⇓P P 10 59 41.9 -0.1
baz=52,SNR=202
N22A Wattenberg Ran 52.46 292 ⇓P P 10 59 42.4 +0.2
baz=52,SNR=551
HWUT Hardware Ranch 52.46 297 PFAKE 10 59 50.0 +7.9
HWUT LR LR
comp=Z,111µm,21.0s
LZLA Zalla 52.48 158 *i*P P 10 59 42.5 +0.4
comp=Z,1µm,1.6s,SNR=25
O26A Horse Wrangler 52.51 289 ⇓P P 10 59 42.6 +0.2
baz=52,SNR=39
KSU1 Kansas State U 52.53 282 PFAKE 10 59 50.0 +7.6
KSU1 LR LR
comp=Z,113µm,19.0s
FVM French Village 52.58 276 *e*P P 10 59 41.0 -1.8
FVM pmax pmax
comp=Z,830nm,1.3s
FVM French Village 52.58 276 *e*P P 10 59 41.0 -1.8
comp=Z,830nm,1.3s
FVM French Village 52.58 276 *e*P P 10 59 41.0 -1.8
comp=Z,830nm,1.3s
N21A Black Mountain 52.66 293 ⇓P P 10 59 43.7 0.0
baz=52,SNR=202
N20A Spence Gulch, 52.71 294 ⇑P P 10 59 44.2 +0.3
baz=52,SNR=401
M15A Larsen Ranch, 52.73 298 ⇑P P 10 59 44.0 +0.1
baz=52,SNR=316
CN2 Changchun 52.75 46 *e*P P 10 59 43.8 -0.1
CN2 *es*P **sP** 10 59 49.1 -1.0
CN2 *e*S **S** 11 07 06.4 -4.7
CN2 *e*SS **SS** 11 10 46.5 -2.4
CN2 LR LR
comp=N,38µm,17.0s
CN2 LR LR
comp=E,30µm,17.0s
CN2 LR LR
comp=Z,44µm,16.0s
O25A Wiggins 52.76 290 ⇑P P 10 59 44.5 +0.2
baz=53,SNR=160
N18A Larsen Ranch, 52.79 295 ⇑P P 10 59 44.6 +0.1
baz=53,SNR=370
N19A John Jarvie Ra 52.79 295 ⇓P P 10 59 44.3 -0.2
baz=53,SNR=318
O24A Longmont 52.90 291 ⇓P P 10 59 45.9 +0.6
baz=53,SNR=140
ICHK Chekchek 52.93 118 *e*P P 10 59 46.9 +1.2
ICHK Chekchek 52.93 118 *e*P P 10 59 46.9 +1.2
O23A Lake Granby, G 52.95 291 ⇑P P 10 59 46.5 +0.6
baz=53,SNR=430
ITEG Tejag 52.95 113 *e*P P 10 59 47.2 +1.4
ITEG Tejag 52.95 113 *e*P P 10 59 47.2 +1.4
N17A Moffit Pass 53.00 296 ⇑P P 10 59 45.9 -0.2
baz=53,SNR=756
KBL Kabul 53.00 102 *e*P P 10 59 45.9 -0.3
KBL *e* 11 00 55.1
KBL pmax pmax
comp=Z,185nm,0.9s
KBL Kabul 53.00 102 *e*P P 10 59 45.9 -0.3
comp=Z,185nm,0.9s
KBL *e*PcP **PcP** 11 00 55.1 +0.4
KBL *e*ScP **ScP** 11 04 51.5 +0.4
KBL Kabul 53.00 102 *e*P P 10 59 45.9 -0.3
comp=Z,185nm,0.9s
P27A Ficken Ranch, 53.06 288 ⇓P P 10 59 46.0 -0.4
baz=53,SNR=62
O22A Kremmling 53.10 292 ⇑P P 10 59 47.5 +0.5
baz=53,SNR=763
USRK Ussuriysk Arra 53.12 40 P P 10 59 46.6 0.0
comp=Z,81nm,1.0s,baz=340,slow=6.1,SNR=80
USRK S S 11 07 17.4 +1.4
comp=Z,1.8nm,0.8s,baz=269,slow=37,SNR=2.6
USRK LR LR 11 25 08.7
comp=Z,21µm,19.1s,baz=340,slow=39
N16A Rees Ranch, Co 53.14 297 ⇓P P 10 59 47.2 0.0
baz=53,SNR=84
CNNC Cliffs of the 53.14 263 PFAKE 11 00 00.0 +13
CNNC LR LR
comp=Z,85µm,19.0s
P26A Davis Ranch, A 53.18 289 ⇑P P 10 59 47.4 +0.1
baz=53,SNR=114
O21A Pagoda 53.19 293 ⇓P P 10 59 48.0 +0.4
baz=53,SNR=164
IDAH Dahanechah 53.28 112 *e*P P 10 59 49.7 +1.4
IDAH Dahanechah 53.28 112 *e*P P 10 59 49.7 +1.4
N15A Stansbury Isla 53.30 298 ⇑P P 10 59 48.3 +0.1
baz=53,SNR=66
ISCO Idaho Springs 53.30 291 PFAKE 11 00 00.0 +12
ISCO LR LR
comp=Z,99µm,22.0s
ISCO Idaho Springs 53.30 291 ⇑P P 10 59 48.9 +0.5
baz=53,SNR=404
P25A Willow Gulch B 53.35 290 ⇓P P 10 59 49.1 +0.4
baz=53,SNR=207
O19A Miners Draw (B 53.37 294 ⇓P P 10 59 49.0 +0.3
baz=53,SNR=341
GTA Gaotai 53.39 71 ⇑P P 10 59 48.6 -0.2
GTA pP **pP** 10 59 53.2 -0.1
GTA sP **sP** 10 59 55.6 +0.5
GTA PP **PP** 11 01 50.8 +2.0
GTA S **S** 11 07 20.0 -0.1
GTA sS **sS** 11 07 27.7 +0.2
GTA SS **SS** 11 11 00.3 +0.9
GTA pmax pmax
comp=Z,410nm,2.5s
GTA pmax pmax
comp=Z,7µm,5.9s
GTA LR LR
comp=N,40µm,19.0s
GTA LR LR
comp=E,90µm,21.4s
GTA LR LR
comp=Z,92µm,18.5s
O20A White River Ci 53.39 294 ⇑P P 10 59 49.6 +0.7
baz=53,SNR=1000
IKOO Kooshah 53.46 113 *e*P P 10 59 50.7 +1.1
IKOO Kooshah 53.46 113 *e*P P 10 59 50.7 +1.1
P24A Kohler Place, 53.47 290 ⇓P P 10 59 50.2 +0.7
baz=53,SNR=118
O18A Roosevelt 53.53 295 ⇑P P 10 59 50.1 +0.1
baz=53,SNR=41
KSCO Kaye Shedlock' 53.60 288 ⇑P P 10 59 50.3 -0.1
baz=53,SNR=164
KBO Bosley Butte 53.66 309 *e*P P 10 59 52.2 +1.4
comp=Z,1µm,1.7s
KBO *e*PP **PP** 11 01 54.2 +3.1
KBO Bosley Butte 53.66 309 *e*P P 10 59 52.2 +1.4
comp=Z,1µm,1.7s
P22A Eagle 53.68 292 ⇑P P 10 59 51.9 +0.7
baz=54,SNR=300
O17A Robinson Place 53.71 296 ⇓P P 10 59 51.9 +0.6
baz=54,SNR=514
IBAF Bafgh 53.75 117 *e*P P 10 59 52.7 +1.1
IBAF Bafgh 53.75 117 *e*P P 10 59 52.7 +1.1
P23A Jefferson 53.76 291 ⇑P P 10 59 52.7 +0.8
baz=54,SNR=172
HHC Hu-ho-hao-te 53.78 60 *e*P P 10 59 52.2 +0.5
HHC sP **sP** 10 59 58.2 +0.3
HHC PP **PP** 11 01 54.2 +1.9
HHC S **S** 11 07 23.2 -2.2
HHC sS **sS** 11 07 30.3 -2.5
HHC ScS **ScS** 11 09 37.9 -2.3
HHC SS **SKiKP** 11 11 01.5 -2.8
HHC pmax pmax
comp=Z,330nm,1.8s
HHC pmax pmax
comp=Z,4µm,6.1s
HHC LR LR
comp=N,47µm,15.8s
HHC LR LR
comp=E,24µm,13.3s
HHC LR LR
comp=Z,51µm,13.2s
BBSR BB Station 53.79 249 *e*P P 10 59 51.6 0.0
comp=Z,372nm,1.3s
BBSR LR LR
comp=Z,40µm,22.0s
BBSR BB Station 53.79 249 *e*P P 10 59 51.6 0.0
comp=Z,372nm,1.3s
BTO Baotou 53.79 61 *e*P P 10 59 52.1 +0.3
BTO pmax pmax
comp=Z,160nm,2.2s
IMEH Mehriz 53.80 118 *e*P P 10 59 52.4 +0.3
IMEH Mehriz 53.80 118 *e*P P 10 59 52.4 +0.3
KMSC Kings Mountain 53.82 266 ⇓P P 10 59 51.6 -0.3
baz=54,SNR=362
Q26A Hugo 53.83 289 ⇑P P 10 59 52.3 +0.2
baz=54,SNR=110
P21A Newcastle 53.86 293 ⇑P P 10 59 53.1 +0.6
baz=54
YBH Yreka Blue Hor 53.93 307 *e*P P 10 59 52.3 -0.4
comp=Z,352nm,1.5s
YBH Yreka Blue Hor 53.93 307 *e*P P 10 59 52.3 -0.4
comp=Z,352nm,1.5s
Q25A Bedland, Calha 53.95 289 ⇓P P 10 59 53.3 +0.2
baz=54,SNR=226
WVT Waverly 53.95 273 *e*P P 10 59 51.6 -1.3
WVT pmax pmax
comp=Z,646nm,1.3s
WVT Waverly 53.95 273 *e*P P 10 59 51.6 -1.3
comp=Z,646nm,1.3s
WVT Waverly 53.95 273 *e*P P 10 59 51.6 -1.3
comp=Z,646nm,1.3s
P19A Cripple Cowboy 53.99 294 ⇓P P 10 59 53.9 +0.5
baz=54,SNR=514
DUG Dugway 54.03 298 PFAKE 11 00 10.0 +16
DUG LR LR
comp=Z,40µm,19.0s
DUG Dugway 54.03 298 ⇑P P 10 59 53.8 +0.2
baz=54,SNR=135
P20A De Beque 54.03 294 ⇓P P 10 59 54.0 +0.4
baz=54,SNR=692
Q24A Divide 54.05 290 ⇑P P 10 59 54.0 +0.1
baz=54,SNR=389
GLAT Glass 54.06 274 *e*P P 10 59 53.2 -0.4
GLAT Glass 54.06 274 *e*P P 10 59 53.2 -0.4
VLA Vladivostok 54.17 41 *d*/P P 10 59 54.8 +0.4
VLA pmax pmax
comp=Z,201nm,1.4s
VLA MLR MLR
comp=Z,22µm,17.0s
P18A Preston Nutter 54.19 295 ⇓P P 10 59 55.0 0.0
baz=54
Q23A Hartsel 54.21 291 ⇓P P 10 59 55.4 +0.3
baz=54,SNR=30
ASAJ Asahikawa 54.25 31 P P 10 59 53.3 -1.6
comp=Z,52nm,1.0s,baz=330,slow=9.9,SNR=9.6
ASAJ LR LR 11 22 27.2
comp=Z,18µm,20.5s,baz=13,slow=35
ASAJ Asahikawa 54.25 31 P P 10 59 53.3 -1.6
ASAJ Asahikawa 54.25 31 P P 10 59 53.3 -1.6
MIB Mutribah 54.31 126 *e*P P 10 59 55.6 +0.1
MIB AMb AMB 10 59 57.6
comp=Z,1µm,1.1s
MIB Mutribah 54.31 126 *e*P P 10 59 55.6 +0.1
comp=Z,1µm,1.1s
R27A Eads 54.33 288 ⇓P P 10 59 55.8 +0.1
baz=54,SNR=190
P17A Butcher Ranch, 54.42 296 ⇓P P 10 59 56.6 +0.1
baz=54,SNR=120
HALT Halls 54.42 274 *e*P P 10 59 56.1 -0.2
HALT Halls 54.42 274 *e*P P 10 59 56.1 -0.2
Q22A Crested Butte, 54.42 292 ⇑P P 10 59 57.4 +0.7
baz=54,SNR=464
R26A Arlington 54.42 289 ⇓P P 10 59 56.2 -0.2
baz=54,SNR=196
P16A Fountain Green 54.43 297 ⇓P P 10 59 57.5 +1.0
baz=54,SNR=339
BMN Battle Mountai 54.44 302 PFAKE 11 00 10.0 +13
BMN LR LR
comp=Z,3µm,19.0s
SNY Shenyang 54.46 48 ⇑P P 10 59 56.8 +0.3
SNY S **S** 11 07 35.1 +0.8
SNY pmax pmax
comp=Z,300nm,1.2s
SNY pmax pmax
comp=Z,7µm,5.6s
SNY LR LR
comp=N,34µm,15.7s
SNY LR LR
comp=E,34µm,17.4s
SNY LR LR
comp=Z,22µm,14.9s
Q20A Ridgley Place, 54.55 293 ⇓P P 10 59 57.5 0.0
baz=54,SNR=241
Q21A Lamborn Mesa, 54.56 293 ⇑P P 10 59 58.3 +0.9
baz=54,SNR=294
P15A Leamington 54.56 297 ⇓P P 10 59 57.7 +0.2
baz=54,SNR=264
NIL Nilore 54.58 98 PFAKE 11 00 10.0 +13
NIL LR LR
comp=Z,45nm,20.0s
YUK Yuzh-Kuril'sk 54.60 28 *i*P P 10 59 48.1 -9.3
YUK *i* 11 01 01.4
YUK *i* 11 01 58.8
YUK *i* 11 09 40.1
YUK pmax pmax
comp=E,304nm,1.1s
YUK pmax pmax
comp=Z,985nm,1.2s
YUK pmax pmax
comp=N,181nm,1.1s
YUK MLR MLR
comp=N,6µm,19.0s
YUK MLR MLR
comp=E,4µm,19.0s
YUK MLR MLR
comp=Z,15µm,19.0s
UMR Umm Al-Rimmam 54.61 125 *e*P P 10 59 57.5 -0.2
UMR AMb AMB 10 59 59.7
comp=Z,2µm,1.2s
UMR Umm Al-Rimmam 54.61 125 *e*P P 10 59 57.5 -0.2
comp=Z,2µm,1.2s
JSC Jenkinsville 54.65 266 *e*P P 10 59 57.5 -0.4
JSC Jenkinsville 54.65 266 *e*P P 10 59 57.5 -0.4
JSC Jenkinsville 54.65 266 *e*P P 10 59 57.5 -0.4
Q18A Rafter H Ranch 54.69 295 ⇑P P 10 59 58.3 -0.1
baz=54,SNR=498
Q19A Hogan Spring (54.70 294 ⇓P P 10 59 58.1 -0.3
baz=54,SNR=82
R25A Fountain Ranch 54.71 289 ⇓P P 10 59 58.4 -0.1
baz=54,SNR=170
LUMB Murzuk 54.72 162 *i*P P 10 59 58.2 -0.4
comp=Z,2µm,1.7s,SNR=25
SRU San Rafael 54.74 295 ⇓P P 10 59 58.6 -0.2
baz=54,SNR=189
R24A Sanders Place, 54.76 290 ⇓P P 10 59 59.1 +0.1
baz=55,SNR=203
NAY Al-Naaiem 54.85 126 *e*P P 10 59 59.1 -0.3
NAY AMb AMB 11 00 01.1
comp=Z,380nm,1.2s
NAY Al-Naaiem 54.85 126 *e*P P 10 59 59.1 -0.3
comp=Z,380nm,1.2s
R23A Moffat 54.91 291 ⇑P P 11 00 00.4 +0.3
baz=55,SNR=195
S27A Las Animas 54.94 288 ⇑P P 11 00 00.3 +0.1
baz=55,SNR=10
KBD Kabd 54.98 126 *e*P P 11 00 00.3 -0.1
KBD AMb AMB 11 00 02.4
comp=Z,769nm,1.2s
KBD Kabd 54.98 126 *e*P P 11 00 00.3 -0.1
comp=Z,769nm,1.2s
HBAR Harrisburg 54.99 276 *e*P P 10 59 59.3 -1.1
HBAR Harrisburg 54.99 276 *e*P P 10 59 59.3 -1.1
R21A Cimarron 55.01 292 ⇓P P 11 00 01.7 +0.9
baz=55,SNR=384
R22A Saguache, Gunn 55.02 292 ⇓P P 11 00 01.9 +0.9
baz=55,SNR=328
Q16A Castle Valley 55.03 296 ⇑P P 11 00 01.7 +0.8
baz=55,SNR=547
WDC Whiskeytown Da 55.04 307 *e*P P 10 59 59.9 -0.8
comp=Z,489nm,1.5s
WDC *e*PP **PP** 11 02 02.1 -1.3
WDC Whiskeytown Da 55.04 307 *e*P P 10 59 59.9 -0.8
comp=Z,489nm,1.5s
IPAR Pars 55.09 120 *e*P P 11 00 02.3 +0.8
IPAR Pars 55.09 120 *e*P P 11 00 02.3 +0.8
S26A Kim 55.09 288 ⇓P P 11 00 01.2 -0.1
baz=55,SNR=232
PLAL Pickwick Lake 55.12 273 PFAKE 11 00 10.0 +8.7
PLAL LR LR
comp=Z,78µm,20.0s
RDF Al-Radifah 55.21 126 *e*P P 11 00 02.0 0.0
RDF AMb AMB 11 00 04.3
comp=Z,982nm,1.3s
RDF Al-Radifah 55.21 126 *e*P P 11 00 02.0 0.0
comp=Z,982nm,1.3s
S25A Robets Cordova 55.21 289 ⇑P P 11 00 02.5 +0.3
baz=55,SNR=766
BJI Beijing 55.23 55 P P 11 00 02.8 +0.7
BJI S **S** 11 07 43.6 -1.1
BJI SS **SS** 11 11 29.0 +0.9

BJI pmax pmax
comp=Z,280nm,1.7s
BJI pmax pmax
comp=Z,4µm,3.2s
BJI LR LR
comp=N,61µm,18.8s
BJI LR LR
comp=E,86µm,16.0s
BJI LR LR
comp=Z,43µm,22.8s
BJT Baijiatuau 55.26 56 *e*P P 11 00 02.3 0.0
comp=Z,403nm,1.2s
BJT Baijiatuau 55.26 56 *e*P P 11 00 02.3 0.0
comp=Z,403nm,1.2s
MET Memphis--Engin 55.29 275 *e*P P 11 00 04.3 +1.7
comp=Z,3µm,1.5s
MET Memphis--Engin 55.29 275 *e*P P 11 00 04.3 +1.7
comp=Z,3µm,1.5s
R20A Redvale 55.31 293 ⇑P P 11 00 03.5 +0.5
baz=55,SNR=202
R19A Curley Farm, L 55.35 294 ⇓P P 11 00 03.9 +0.7
baz=55,SNR=622
S24A Houchin Ranch, 55.35 290 ⇑P P 11 00 03.2 -0.2
baz=55,SNR=113
R18A Canyonlands Na 55.35 295 ⇑P P 11 00 03.5 +0.2
baz=55,SNR=92
T28A Walsh 55.36 287 ⇑P P 11 00 03.3 +0.1
baz=55,SNR=173
PV01 Paradox Valley 55.40 293 *e*P P 11 00 03.9 +0.3
comp=Z,16µm,0.8s
PV01 Paradox Valley 55.40 293 *e*P P 11 00 03.9 +0.3
comp=Z,10µm,0.8s
S23A Nye Farm, Mont 55.41 291 ⇑P P 11 00 04.7 +0.9
baz=55,SNR=31
COW Cow Castle Cre 55.43 265 *e*P P 11 00 03.0 -0.6
COW *e*PP **PP** 11 02 05.9 -1.2
COW Cow Castle Cre 55.43 265 *e*P P 11 00 03.0 -0.6
QRN Al-Qurain 55.44 125 *e*P P 11 00 03.5 -0.2
QRN AMb AMB 11 00 06.5
comp=Z,1µm,2.1s
R17A Hanksville Air 55.45 295 ⇑P P 11 00 03.8 -0.1
baz=55,SNR=601
S22A 4UR Ranch, Cre 55.50 292 ⇑P P 11 00 05.3 +0.9
baz=55,SNR=284
TUL1 Tulsa 55.51 281 ⇑P P 11 00 03.5 -0.6
baz=55,SNR=134
T27A Campo 55.52 288 ⇓P P 11 00 04.3 0.0
baz=55,SNR=140
T26A Comanche Natio 55.55 288 ⇓P P 11 00 04.8 +0.1
baz=55,SNR=134
ISRV Sarvestan 55.55 120 *e*P P 11 00 05.3 +0.4
ISRV Sarvestan 55.55 120 *e*P P 11 00 05.3 +0.4
NHSC New Hope 55.61 265 PFAKE 11 00 20.0 +15
NHSC LR LR
comp=Z,77µm,20.0s
S20A Disappointment 55.66 293 ⇑P P 11 00 06.3 +0.7
baz=56,SNR=231
R16A Teasdale 55.70 296 ⇑P P 11 00 06.3 +0.5
baz=56,SNR=122
T25A Trinidad 55.71 289 ⇓P P 11 00 05.7 -0.2
baz=56,SNR=130
S21A Coal Bank Pass 55.74 293 ⇑P P 11 00 06.6 +0.4
baz=56,SNR=191
OXF Oxford 55.80 274 *e*P P 11 00 04.8 -1.4
OXF pmax pmax
comp=Z,2µm,1.1s
OXF MLR MLR
comp=Z,96µm,19.0s
OXF Oxford 55.80 274 *e*P P 11 00 04.8 -1.4
comp=Z,2µm,1.1s
OXF LR LR
comp=Z,96µm,19.0s
OXF Oxford 55.80 274 *e*P P 11 00 04.8 -1.4
comp=Z,2µm,1.1s
S19A Harvey Farm, M 55.87 294 ⇑P P 11 00 07.6 +0.6
baz=56,SNR=495
GOGA Godfrey 55.87 268 PFAKE 11 00 20.0 +13
GOGA LR LR
comp=Z,67µm,21.0s
T24A Torres, Weston 55.88 290 ⇑P P 11 00 07.4 +0.3
baz=56,SNR=154
R15A Junction 55.89 297 ⇑P P 11 00 08.2 +1.1
baz=56,SNR=206
KIPM Iron Peak 55.92 308 *e*P P 11 00 07.8 +0.6
comp=Z,1µm,1.6s
KIPM *e*PP **PP** 11 02 13.2 +1.7
KIPM Iron Peak 55.92 308 *e*P P 11 00 07.8 +0.6
comp=Z,1µm,1.6s
S18A Hurst Farm, Bl 56.05 295 ⇑P P 11 00 08.7 +0.3
baz=56,SNR=454
KCPM Cahto Peak 56.06 308 *e*P P 11 00 08.9 +0.7
comp=Z,343nm,1.3s
KCPM *e*PP **PP** 11 02 13.4 +0.7
KCPM Cahto Peak 56.06 308 *e*P P 11 00 08.9 +0.7
comp=Z,343nm,1.3s
T23A Casias Ranch, 56.07 291 ⇓P P 11 00 08.8 +0.3
baz=56,SNR=134
DLH Dalhousie 56.12 96 *e*P P 11 00 09.5 +0.7
R13A O'Grain Ranch, 56.17 298 ⇓P P 11 00 09.8 +0.7
baz=56,SNR=393
THN Thein Dam 56.18 96 *e*P P 11 00 08.9 0.0
S17A Black Ridge (B 56.23 295 ⇑P P 11 00 09.8 +0.3
baz=56,SNR=333
T22A Edith 56.23 292 ⇓P P 11 00 10.1 +0.5
baz=56,SNR=226
R11A Troy Canyon, C 56.25 300 ⇓P P 11 00 09.9 +0.2
baz=56,SNR=640
S16A Weppner Ranch, 56.27 296 ⇓P P 11 00 10.7 +0.9
baz=56,SNR=534
MVCO Mesa Verde 56.29 293 PFAKE 11 00 20.0 +10
MVCO LR LR
comp=Z,72µm,20.0s
MVCO Mesa Verde 56.29 293 ⇓P P 11 00 10.8 +0.8
baz=56,SNR=320
U26A Atchley Ranch, 56.34 288 ⇑P P 11 00 10.5 +0.2
baz=56,SNR=305
T21A Navajo Lake 56.35 292 ⇓P P 11 00 11.3 +0.9
baz=56,SNR=172
ERM Erimo 56.38 31*c i*P P 11 00 09.6 -0.7
ERM MLR MLR
comp=Z,18µm,20.0s
ERM Erimo 56.38 31 PFAKE 11 00 20.0 +10
ERM LR LR
comp=Z,19µm,20.0s
U25A Circle Dot Ran 56.44 289 ⇓P P 11 00 11.0 0.0
baz=56,SNR=272
MIAR Mount Ida 56.47 278 PFAKE 11 00 20.0 +9.0
MIAR LR LR
comp=Z,92µm,20.0s
ARUT Antelope Range 56.48 298 *e*P P 11 00 11.2 -0.1
ARUT pmax pmax
comp=Z,501nm,1.3s
ARUT Antelope Range 56.48 298 *e*P P 11 00 11.2 -0.1
comp=Z,501nm,1.3s
ARUT Antelope Range 56.48 298 *e*P P 11 00 11.2 -0.1
comp=Z,501nm,1.3s
V29A Stinnett 56.48 286 ⇓P P 11 00 11.1 -0.1
baz=56,SNR=20
NV11 Mina Array Sit 56.54 302 *e*P P 11 00 11.6 -0.1
NV11 *e*PP **PP** 11 02 16.9 -0.2
NV11 Mina Array Sit 56.54 302 *e*P P 11 00 11.6 -0.1
NVAR Mina Array Bea 56.56 302 P P 11 00 12.0 +0.1
comp=Z,208nm,1.1s,baz=18,slow=4.6,SNR=276
NVAR S **S** 11 08 03.3 +0.4
comp=Z,1.4nm,1.0s,baz=357,slow=1.8,SNR=2.8
NVAR LR LR 11 24 38.3
comp=Z,44µm,18.2s,baz=164,slow=36
NVAR PKPPKP P'P'df 11 29 42.2 -27
comp=Z,1.9nm,1.1s,baz=182,slow=4.5,SNR=4.0
NVAR Mina Array Bea 56.56 302 P P 11 00 12.0 +0.1
NVAR S **S** 11 08 03.3 +0.4
NVAR P'P' 11 29 42.2
NVAR Mina Array Bea 56.56 302 P P 11 00 12.0 +0.1
U24A Moreno Valley 56.57 290 ⇑P P 11 00 12.8 +0.7
baz=56,SNR=47
HOPS Hopland 56.67 307 *e*P P 11 00 13.0 +0.6
comp=Z,735nm,1.3s
HOPS Hopland 56.67 307 *e*P P 11 00 13.0 +0.6
comp=Z,735nm,1.3s
V28A Channing 56.72 287 ⇓P P 11 00 12.6 -0.3
baz=56,SNR=82
U23A El Rito 56.79 291 ⇑P P 11 00 13.9 +0.3
baz=57,SNR=382
LRAL Lakeview Retre 56.84 271 PFAKE 11 00 30.0 +16
LRAL LR LR
comp=Z,49µm,19.0s
U22A Llaves 56.85 291 ⇓P P 11 00 14.8 +0.8
baz=57,SNR=286
U21A Nageezi 56.92 292 ⇓P P 11 00 14.8 +0.3
baz=57,SNR=79
V26A Tequesquite Ra 56.93 288 ⇓P P 11 00 13.8 -0.7
baz=57,SNR=196
TIY Taiyuan 56.98 59 *e*P P 11 00 14.8 +0.1
TIY sP **sP** 11 00 22.5 +1.5
TIY S **S** 11 08 11.0 +2.8
TIY ScS **ScS** 11 10 01.4 -1.7
TIY LR LR
comp=N,66µm,14.7s
TIY LR LR
comp=E,29µm,13.5s
TIY LR LR
comp=Z,78µm,15.4s
V25A Rancho No Teng 57.02 289 ⇑P P 11 00 15.3 +0.2
baz=57,SNR=277
DL2 Dalian 57.09 51 P P 11 00 14.7 -0.6
DL2 S **S** 11 08 11.1 +1.8
DL2 pmax pmax
comp=Z,90nm,1.3s
DL2 pmax pmax
comp=Z,750nm,5.3s
DL2 LR LR
comp=E,26µm,21.7s
DL2 LR LR
comp=Z,15µm,17.3s
U20A Newcomb 57.11 293 ⇑P P 11 00 16.0 +0.2
baz=57,SNR=21
WMOK Wichita Mounta 57.15 283 *e*P P 11 00 15.5 -0.4
WMOK pmax pmax
comp=Z,440nm,0.8s
WMOK MLR MLR
comp=Z,50µm,19.0s
WMOK Wichita Mounta 57.15 283 *e*P P 11 00 15.5 -0.4
comp=Z,440nm,0.8s
WMOK LR LR
comp=Z,50µm,19.0s
WMOK Wichita Mounta 57.15 283 *e*P P 11 00 15.5 -0.4
comp=Z,440nm,0.8s
W28A Vega 57.20 287 ⇑P P 11 00 16.0 -0.3
baz=57,SNR=26
V24A Rampart Ranch, 57.23 290 ⇓P P 11 00 17.1 +0.4
baz=57,SNR=221
LKFR Kufra 57.24 152 *i* P P 11 00 16.3 -0.3
comp=Z,1µm,1.7s,SNR=24
W29A Amraillo 57.24 286 ⇓P P 11 00 16.6 0.0
baz=57,SNR=43
LZH Lanzhou 57.28 68 ⇑P P 11 00 17.7 +0.8
LZH pP **pP** 11 00 22.1 +0.6
LZH sP **sP** 11 00 25.0 +1.8
LZH S **S** 11 08 11.0 -1.2
LZH sS **sS** 11 08 17.1 -2.6
LZH SS **SS** 11 11 58.2 -2.6
LZH pmax pmax
comp=Z,850nm,1.5s
LZH pmax pmax
comp=Z,4µm,4.0s
LZH LR LR
comp=N,86µm,16.8s
LZH LR LR
comp=E,93µm,14.6s
LZH LR LR
comp=Z,85µm,18.2s
BHK Bhakra 57.29 96 *e*P P 11 00 18.0 +1.1
U19A Dine' College, 57.30 294 ⇑P P 11 00 16.7 -0.5
baz=57,SNR=15
SDNR Sundarnagar 57.30 95 *e*P P 11 00 17.0 0.0
V22A San Miguel Ran 57.31 291 ⇓P P 11 00 17.8 +0.5
baz=57,SNR=737
V23A Ortiz Mt. (NFS 57.36 291 ⇑P P 11 00 18.3 +0.7
baz=57,SNR=122
MLAC Mammoth Lakes 57.42 303 ⇑P P 11 00 19.4 +1.4
baz=57
AMTX Amarillo 57.48 286 PFAKE 11 00 30.0 +12
AMTX LR LR
comp=Z,82µm,19.0s
AMTX Amarillo 57.48 286 ⇑P P 11 00 18.3 0.0
baz=57,SNR=72
MCCM Marconi Confer 57.48 307 *e*P P 11 00 18.9 +0.8
comp=Z,633nm,1.2s
MCCM *e*PP **PP** 11 02 27.8 +2.6
MCCM Marconi Confer 57.48 307 *e*P P 11 00 18.9 +0.8
comp=Z,633nm,1.2s
W27A Bowe Ranch, En 57.53 287 ⇑P P 11 00 18.5 -0.2
baz=57,SNR=395
V21A Milan 57.53 292 ⇑P P 11 00 19.0 +0.2
baz=57
W25A X Bar L Ranch, 57.60 289 ⇑P P 11 00 18.6 -0.6
baz=57,SNR=69
W26A Owens Ranch, T 57.62 288 ⇑P P 11 00 18.7 -0.6
baz=57,SNR=32
U15A North Rim 57.64 296 ⇓P P 11 00 19.5 -0.1
baz=57,SNR=245
V20A Brimhall 57.67 293 ⇓P P 11 00 19.9 +0.2
baz=58,SNR=88
TAM Tamanrasset 57.69 172 *e*P P 11 00 20.2 +0.3
TAM pmax pmax
comp=Z,459nm,1.5s
TAM MLR MLR
comp=Z,14µm,22.0s
TAM Tamanrasset 57.69 172 *e*P P 11 00 20.2 +0.3
comp=Z,459nm,1.5s
TAM LR LR
comp=Z,14µm,22.0s
TAM Tamanrasset 57.69 172 *e*P P 11 00 20.2 +0.3
comp=Z,459nm,1.5s
SMLA Simla 57.70 95 *e*P P 11 00 20.0 +0.3
SMLA AMb AMB 11 00 21.2
comp=Z,8µm,2.3s
SMLA *i* S **S** 11 08 18.3 +0.8
W24A Lazy 6 Ranch, 57.76 290 ⇑P P 11 00 20.6 +0.2
baz=58,SNR=341
GRAC Grapevine Rang 57.83 301 ⇓P P 11 00 21.2 +0.5
baz=58,SNR=88
TIN Tinemaha 57.90 302 ⇓P P 11 00 22.5 +1.2
baz=58,SNR=104
X29A Tulia 57.91 286 ⇓P P 11 00 21.6 +0.3
baz=58,SNR=146
X28A Dimmitt 57.92 286 ⇑P P 11 00 21.7 +0.3
baz=58,SNR=303
W23A Werner Place, 57.93 290 ⇑P P 11 00 21.7 +0.1
baz=58,SNR=141
X27A F and S Farms, 57.94 287 ⇑P P 11 00 21.7 +0.1
baz=58,SNR=94
IBND Bandar-abas 57.96 117 *e*P P 11 00 21.4 -0.2
IBND Bandar-abas 57.96 117 *e*P P 11 00 21.4 -0.2
SAC San Andreas 57.97 306 *e*P P 11 00 22.4 +0.8
SAC pmax pmax
comp=Z,2µm,1.6s
SAC San Andreas 57.97 306 *e*P P 11 00 22.4 +0.8
comp=Z,2µm,1.6s
SAC San Andreas 57.97 306 *e*P P 11 00 22.4 +0.8
comp=Z,2µm,1.6s
W22A Albuquerque 58.13 291 ⇑P P 11 00 23.5 +0.5
baz=58,SNR=92
X26A CR and CF Fran 58.15 288 ⇓P P 11 00 23.2 +0.1
baz=58,SNR=110
ANMO Albuquerque 58.19 291 *e*P P 11 00 23.7 +0.3
comp=Z,384nm,1.3s
ANMO *e*PP **PP** 11 02 33.4 +1.6
ANMO LR LR
comp=Z,88µm,20.0s
ANMO Albuquerque 58.19 291 *e*P P 11 00 23.7 +0.3
comp=Z,384nm,1.3s
W21A San Fidel 58.21 292 ⇑P P 11 00 23.9 +0.3
baz=58,SNR=46
VBMS Vicksburg 58.23 275 PFAKE 11 00 40.0 +17
VBMS LR LR
comp=Z,83µm,20.0s
FURC Furnace Creek, 58.28 301 ⇓P P 11 00 24.1 +0.4
baz=58,SNR=70
X25A Clemmons Ranch 58.31 289 ⇓P P 11 00 24.4 +0.2
baz=58,SNR=18
W20A Ramah 58.33 293 ⇑P P 11 00 24.0 -0.4
baz=58,SNR=252
WUAZ Wupatki 58.39 295 *e*P P 11 00 25.3 +0.5
comp=Z,575nm,1.1s
WUAZ *e*PP **PP** 11 02 38.5 +4.9
WUAZ LR LR
comp=Z,70µm,20.0s
WUAZ Wupatki 58.39 295 ⇑P P 11 00 25.4 +0.5
baz=58,SNR=66
WUAZ Wupatki 58.39 295 *e*P P 11 00 25.3 +0.5
comp=Z,575nm,1.1s
X24A Lazy VL Ranch, 58.40 290 ⇓P P 11 00 25.0 +0.1
baz=58,SNR=22
Y29A Porterfield Fa 58.48 286 ⇑P P 11 00 25.6 +0.3
baz=58,SNR=155
X23A Hourglass Bar 58.50 290 ⇓P P 11 00 25.8 +0.2
baz=58,SNR=397
Y28A McKinney Farm, 58.52 286 ⇑P P 11 00 25.8 +0.2
baz=58,SNR=140
W18A Petrified Fore 58.53 294 ⇓P P 11 00 25.8 0.0
baz=58,SNR=103
MSTX Muleshoe 58.55 287 ⇑P P 11 00 26.0 +0.2
baz=58,SNR=102
DAC Darwin (Calif) 58.57 301 PFAKE 11 00 40.0 +14
DAC LR LR
comp=Z,70µm,20.0s
DDI Dehra Dun 58.64 94 *e*P P 11 00 26.0 -0.4
DDI *ex* x 11 02 52.5
Y27A Causey 58.70 287 ⇑P P 11 00 27.2 +0.3
baz=58,SNR=364
X22A Bernardo 58.70 291 ⇑P P 11 00 27.6 +0.7
baz=58,SNR=104
SHOC Shoshone 58.75 300 ⇓P P 11 00 28.0 +0.9
baz=59,SNR=142
Y26A Elida 58.77 288 ⇓P P 11 00 27.9 +0.6
baz=59,SNR=370
MPMC Manual Prospec 58.77 301 ⇓P P 11 00 28.2 +0.8
baz=59,SNR=1000
RCTC Rector, Farmer 58.78 303 ⇓P P 11 00 27.4 +0.2
baz=59,SNR=128
BRAL Brewton 58.82 271 PFAKE 11 00 40.0 +12
BRAL LR LR
comp=Z,65µm,19.0s
LAZ Ladron 58.83 291 *e*P P 11 00 27.7 -0.1
comp=Z,208nm,0.6s
LAZ *e*PP **PP** 11 02 35.2 -2.3
LAZ Ladron 58.83 291 *e*P P 11 00 27.7 -0.1
comp=Z,208nm,0.6s
X21A Alamocita Cree 58.88 292 ⇑P P 11 00 28.3 0.0
baz=59,SNR=142
X20A Quemado 58.90 292 ⇑P P 11 00 28.5 +0.1
baz=59,SNR=285
Y25A Mesa, Roswell 58.91 289 ⇓P P 11 00 28.4 +0.1
baz=59,SNR=344
BNM Barren Site 58.99 291 *e*P P 11 00 29.2 +0.2
comp=Z,265nm,1.3s
BNM Barren Site 58.99 291 *e*P P 11 00 29.2 +0.2
comp=Z,265nm,1.3s
Y24A Capitan 59.02 289 ⇓P P 11 00 29.7 +0.5
baz=59,SNR=435
Z29A Hungry Hill Ra 59.07 286 ⇓P P 11 00 29.7 +0.3
baz=59,SNR=362
Y22D IRIS PASSCAL I 59.11 291 ⇓P P 11 00 30.2 +0.4
baz=59,SNR=10.0
Y23A Lovelace Mesa, 59.12 290 ⇓P P 11 00 30.3 +0.4
baz=59,SNR=293
INCN Inchon 59.12 46 PFAKE 11 00 40.0 +10
INCN LR LR
comp=Z,19µm,20.0s
INCN Inchon 59.12 46 P P 11 00 30.0 +0.3
SNR=10
INCN Inchon 59.12 46 P P 11 00 30.0 +0.3
SNR=10
TIA Tai'an 59.13 55 ⇑P P 11 00 30.1 +0.4
TIA S **S** 11 08 37.3 +1.2
TIA pmax pmax
comp=Z,470nm,1.5s
TIA pmax pmax
comp=Z,4µm,10.4s
TIA LR LR
comp=N,17µm,34.4s
TIA LR LR
comp=E,52µm,21.4s
TIA LR LR
comp=Z,22µm,35.6s
X18A Snowflake 59.14 294 ⇓P P 11 00 29.6 -0.4
baz=59,SNR=60
Z28A Tucker Farm, M 59.15 286 ⇑P P 11 00 30.4 +0.4
baz=59,SNR=228
TUQ Turquoise Moun 59.16 300 ⇑P P 11 00 30.7 +0.7
baz=59,SNR=46
W13A Hualapai Mount 59.18 298 ⇓P P 11 00 31.0 +0.7
baz=59,SNR=231
VES Vestal, Richgr 59.22 303 ⇓P P 11 00 30.1 -0.1
baz=59,SNR=90
Y22A Socorro 59.25 291 ⇑P P 11 00 31.0 +0.2
baz=59,SNR=188
Z27A Tatum 59.26 287 ⇑P P 11 00 31.1 +0.3
baz=59
Y21A Point of Rocks 59.30 292 ⇓P P 11 00 31.7 +0.5
baz=59,SNR=88
ISA Isabella 59.30 302 ⇑P P 11 00 31.6 +0.6
baz=59,SNR=292
KSRS Korea Array 59.31 45 P P 11 00 31.1 +0.3
comp=Z,36nm,1.1s,baz=348,slow=6.1,SNR=40
KSRS LR LR 11 27 26.9
comp=Z,25µm,18.7s,baz=356,slow=37
KSAR Wonju Array Be 59.32 45 P P 11 00 31.1 +0.2
KSAR Wonju Array Be 59.32 45 P P 11 00 31.1 +0.2
ABTX Abilene, Hawle 59.36 284 ⇓P P 11 00 31.4 +0.1
baz=59,SNR=74
LRMC Laurel Mountai 59.37 301 ⇓P P 11 00 32.5 +0.9
baz=59,SNR=108
NATX Nacogdoches 59.37 279 PFAKE 11 00 40.0 +8.6
NATX LR LR
comp=Z,48µm,21.0s
GSC Goldstone 59.42 300 ⇑P P 11 00 32.7 +0.9
baz=59,SNR=238
BANOM Banah 59.42 117 P P 11 00 31.8 0.0
SNR=12
BANOM Banah 59.42 117 P P 11 00 31.8 0.0
SNR=12
Z26A Caprock 59.43 288 ⇑P P 11 00 32.2 +0.3
baz=59,SNR=553
X16A Lo Mia Camp, P 59.48 295 ⇓P P 11 00 32.9 +0.6
baz=59,SNR=276
Y20A Horse Springs, 59.50 292 ⇑P P 11 00 32.6 0.0
baz=59,SNR=47
Z25A Roswell 59.54 289 ⇑P P 11 00 33.0 +0.3
baz=59,SNR=329
Z24A Sheeppen Canyo 59.59 289 ⇓P P 11 00 33.6 +0.4
baz=59,SNR=248
WHTX Lake Whitney 59.61 281 ⇑P P 11 00 33.0 0.0
baz=59,SNR=19
CPRX Cap Rock 59.65 288 *e*P P 11 00 33.7 +0.2
comp=Z,208nm,0.6s
CPRX Cap Rock 59.65 288 *e*P P 11 00 33.7 +0.2
comp=Z,208nm,0.6s
129A Stewart Farms, 59.71 286 ⇓P P 11 00 34.1 +0.3
baz=60,SNR=132
PTH Pithoragarh 59.76 92 *e*P P 11 00 34.5 +0.2
GMRC Granite Mounta 59.76 299 ⇓P P 11 00 34.9 +0.7
baz=60
Z23A Rita Site, Whi 59.80 290 ⇓P P 11 00 34.8 +0.3
baz=60,SNR=79
HEC Hector,Ludlow 59.81 300 ⇑P P 11 00 35.3 +0.8
baz=60,SNR=57
128A Castleberry Fa 59.82 286 ⇓P P 11 00 35.1 +0.5
baz=60,SNR=176
RRX Edison Barstow 59.86 301 ⇑P P 11 00 36.1 +1.3
baz=60,SNR=22
SMMC Simmler 59.87 303 ⇓P P 11 00 35.2 +0.4
baz=60,SNR=30
ARVC Arvin 59.88 302 ⇑P P 11 00 34.5 -0.4
baz=60,SNR=17
127A Arkansas Junct 59.91 287 ⇓P P 11 00 35.7 +0.5
baz=60,SNR=206
Z22A Elephant Butte 59.92 291 ⇓P P 11 00 35.5 +0.1
baz=60,SNR=240
Z21A St. Cloud Mine 59.98 291 ⇓P P 11 00 36.1 +0.2
baz=60,SNR=32
EDW2 Edwards Air Fo 60.00 301 ⇑P P 11 00 36.6 +0.8
baz=60,SNR=159
PDMCI Parker Dam,Lak 60.01 298 ⇓P P 11 00 36.7 +1.0
baz=60,SNR=194
126A Clayton Basin, 60.05 288 ⇑P P 11 00 36.5 +0.3
baz=60,SNR=361
XAN Xi'an 60.07 64 P P 11 00 36.4 +0.2
XAN sP **sP** 11 00 43.7 +1.2
XAN PP **PP** 11 02 48.2 -0.1
XAN S **S** 11 08 48.9 +0.6
XAN SS **SS** 11 12 39.2 -5.2
XAN pmax pmax
comp=Z,110nm,1.5s
XAN pmax pmax
comp=Z,940nm,12.0s
XAN LR LR
comp=N,87µm,20.3s
XAN LR LR
comp=E,9µm,16.2s

XAN LR LR
comp=Z,37µm,20.0s
NDI **New Delhi** 60.10 95 *e*P **P** 11 00 36.0 -0.4
125A **Gardner Draw,** 60.14 288 ⇑P **P** 11 00 37.3 +0.5
baz=60,SNR=466
Y14A **Wickenburg** 60.19 297 ⇓P **P** 11 00 37.8 +0.7
baz=60,SNR=210
124A **Stringfield Ra** 60.23 289 ⇑P **P** 11 00 38.0 +0.5
baz=60,SNR=709
NAZ **Nazwa, Dubai** 60.24 118 P **P** 11 00 37.9 +0.4
SNR=19
NAZ **Nazwa, Dubai** 60.24 118 P **P** 11 00 37.6 +0.1
SNR=31
PKM **Peak Mountain** 60.25 303 ⇓P **P** 11 00 38.5 +0.9
baz=60,SNR=67
RAYN **Ar Rayn** 60.25 129 P **P** 11 00 38.5 +0.9
comp=Z,1µm,1.4s
IRM **Iron Mountain** 60.29 299 ⇓P **P** 11 00 38.4 +0.6
baz=60,SNR=166
Z20A **Nine Sixteen R** 60.32 292 ⇓P **P** 11 00 38.4 +0.3
baz=60,SNR=156
228A **UT Block 9, Go** 60.33 286 ⇑P **P** 11 00 38.1 0.0
baz=60,SNR=82
229A **Bryant Ranch,** 60.35 286 ⇑P **P** 11 00 38.4 +0.1
baz=60,SNR=108
OSI **Osito Adit** 60.37 302 *e*P **P** 11 00 40.0 +1.7
comp=Z,723nm,1.3s
OSI **Osito Adit** 60.37 302 ⇑P **P** 11 00 39.3 +1.0
baz=60
OSI **Osito Adit** 60.37 302 *e*P **P** 11 00 40.0 +1.7
comp=Z,723nm,1.3s
CLNB **Carlsbad** 60.40 288 *e*P **P** 11 00 38.7 +0.1
comp=Z,362nm,1.4s
CLNB **Carlsbad** 60.40 288 *e*P **P** 11 00 38.7 +0.1
comp=Z,362nm,1.4s
123A **Bell Site, Whi** 60.42 290 ⇓P **P** 11 00 39.5 +0.8
baz=60,SNR=36
BBRC **Big Bear Solar** 60.45 300 ⇑P **P** 11 00 39.9 +0.8
baz=60,SNR=21
FAQ **Al Faqa, Dubai** 60.47 118 P **P** 11 00 38.8 -0.2
SNR=19
122A **Conniff Cattle** 60.47 291 ⇑P **P** 11 00 39.6 +0.4
baz=60,SNR=40
HATD **Hatta, Dubai** 60.47 118 P **P** 11 00 39.6 +0.6
SNR=42
HATD **Hatta, Dubai** 60.47 118 P **P** 11 00 39.3 +0.2
SNR=68
ASUD **Al Ashush, Dub** 60.55 118 P **P** 11 00 39.7 +0.1
SNR=7.4
ASUD **Al Ashush, Dub** 60.55 118 P **P** 11 00 39.7 +0.1
SNR=7.4
227A **Bennet, Jal** 60.55 287 ⇑P **P** 11 00 40.1 +0.5
baz=60,SNR=90
BELC **Belle Mtn. Jos** 60.58 299 ⇑P **P** 11 00 40.7 +0.9
baz=60,SNR=221
BFSC **Mount Baldy Ra** 60.58 301 ⇓P **P** 11 00 40.5 +0.7
baz=60,SNR=164
ASHO **Ashiyiah** 60.60 118 P **P** 11 00 40.3 +0.3
SNR=42
ASHO **Ashiyiah** 60.60 118 P **P** 11 00 40.3 +0.3
SNR=42
Y12C **Blythe** 60.60 298 ⇓P **P** 11 00 40.6 +0.8
baz=60,SNR=128
DECC **Green Verdugo** 60.67 302 ⇓P **P** 11 00 41.0 +0.7
baz=60,SNR=18
SBC **Santa Barbara** 60.68 303 ⇑P **P** 11 00 41.4 +1.0
baz=60,SNR=10
225A **Deer Hill, Car** 60.70 288 ⇑P **P** 11 00 40.3 -0.5
baz=60,SNR=137
DWPF **Disney** 60.71 265 *e*P **P** 11 00 39.5 -1.1
comp=Z,571nm,1.3s
DWPF **Disney** 60.71 265 *e*P **P** 11 00 39.5 -1.1
comp=Z,570nm,1.3s
Z14A **Wintersburg** 60.74 296 ⇑P **P** 11 00 41.6 +0.8
baz=61,SNR=89
121A **Cookes Peak, D** 60.76 291 ⇑P **P** 11 00 41.4 +0.2
baz=61,SNR=53
BC3 **Big Chuckawall** 60.83 299 ⇑P **P** 11 00 42.2 +0.6
baz=61,SNR=102
329A **Wagon Wheel Ra** 60.85 286 ⇓P **P** 11 00 41.4 -0.3
baz=61,SNR=212
120A **U Bar Ranch, L** 60.88 292 ⇓P **P** 11 00 42.3 +0.4
baz=61,SNR=209
BLG **Laguna Peak** 60.91 302 ⇑P **P** 11 00 42.5 +0.5
baz=61,SNR=21
PFO **Pinyon Flat Ob** 61.03 300 PFAKE 11 01 00.0 +17
PFO LR LR
comp=Z,70µm,22.0s
PFO **Pinyon Flat Ob** 61.03 300 ⇑P **P** 11 00 43.4 +0.5
baz=61,SNR=53
223A **Chaparral, Ant** 61.06 290 ⇑P **P** 11 00 43.9 +0.8
baz=61,SNR=28
222A **Williams Famil** 61.07 291 ⇓P **P** 11 00 43.3 +0.1
baz=61,SNR=65
328A **Wristen Ranch,** 61.09 286 ⇑P **P** 11 00 43.3 +0.1
baz=61,SNR=393
432A **Menard** 61.09 283 ⇓P **P** 11 00 43.5 +0.3
baz=61,SNR=247
BSC **Santa Cruz Isl** 61.11 303 ⇓P **P** 11 00 43.7 +0.4
baz=61,SNR=9.1
MURC **Murrieta** 61.15 300 ⇓P **P** 11 00 43.7 +0.1
baz=61,SNR=62
FMP **Fort Macarthur** 61.19 302 ⇑P **P** 11 00 44.1 +0.3
baz=61
MNTX **Cornudas Mount** 61.19 289 *e*P **P** 11 00 43.1 -0.8
comp=Z,220nm,1.2s
MNTX *e*PP **PP** 11 02 54.3 -4.0
MNTX LR LR
comp=Z,38µm,19.0s
MNTX **Cornudas Mount** 61.19 289 *e*P **P** 11 00 43.1 -0.8
comp=Z,220nm,1.2s
327A **Balmorhea Ranc** 61.21 287 ⇓P **P** 11 00 44.8 +0.7
baz=61,SNR=12
221A **Mesquite Ranch** 61.27 291 ⇓P **P** 11 00 44.9 +0.4
baz=61,SNR=86
GLA **Glamis** 61.33 298 ⇓P **P** 11 00 45.5 +0.6
baz=61,SNR=50
326A **Caldwell Ranch** 61.34 287 ⇓P **P** 11 00 45.1 +0.1
baz=61,SNR=125
MAJO **Matsushiro** 61.34 36 PFAKE 11 01 00.0 +15
MAJO LR LR
comp=Z,15µm,20.0s
MAT **Matsushiro** 61.34 36 P **P** 11 00 44.4 -0.5
MAT S **S** 11 09 07.0 +2.5
MJAR **Matsushiro Arr** 61.34 36 P **P** 11 00 44.5 -0.4
comp=Z,106nm,1.1s,baz=344,slow=6.2,SNR=79
MJAR LR LR 11 28 17.0
comp=Z,14µm,19.2s,baz=320,slow=37
MJAR **Matsushiro Arr** 61.34 36 P **P** 11 00 44.5 -0.4
MJAR **Matsushiro Arr** 61.34 36 P **P** 11 00 44.5 -0.4
431A **Sonora** 61.41 284 ⇑P **P** 11 00 46.0 +0.5
baz=61,SNR=324
430A **Baggett Ranch,** 61.41 285 ⇑P **P** 11 00 45.7 +0.2
baz=61,SNR=219
TUC **Tucson** 61.45 294 PFAKE 11 01 00.0 +14
TUC LR LR
comp=Z,49µm,20.0s
325A **Bean Ranch, Si** 61.45 288 ⇑P **P** 11 00 45.1 -0.8
baz=61,SNR=114
113A **Mohawk Valley,** 61.45 297 ⇑P **P** 11 00 46.1 +0.6
baz=61,SNR=79
LSA **Lhasa** 61.46 81 P **P** 11 00 47.5 +1.3
LSA sP **sP** 11 00 57.5 +5.0
LSA PP **PP** 11 03 01.8 +0.7
LSA S **S** 11 09 05.6 -1.4
LSA pmax pmax
comp=Z,480nm,2.1s
LSA LR LR
comp=E,54µm,20.2s
LSA LR LR
comp=Z,58µm,21.0s
324A **Moseley Ranch,** 61.46 289 ⇓P **P** 11 00 45.5 -0.4
baz=61,SNR=150
JCT **Junction City** 61.48 283 PFAKE 11 01 00.0 +14
JCT LR LR
comp=Z,73µm,19.0s
JCT **Junction City** 61.48 283 ⇑P **P** 11 00 46.4 +0.5
baz=61,SNR=311
220A **Playas Peak, P** 61.49 292 ⇓P **P** 11 00 46.4 +0.4
baz=61,SNR=310
CIS **Catalina Islan** 61.51 302 ⇓P **P** 11 00 46.4 +0.3
baz=61,SNR=21
DANN **Dangsing** 61.53 89 *e*P **P** 11 00 47.0 +0.4
comp=Z,2µm,1.2s
DANN **Dangsing** 61.53 89 *e*P **P** 11 00 47.0 +0.4
comp=Z,2µm,1.2s
DANN **Dangsing** 61.53 89 *e*P **P** 11 00 47.0 +0.4
comp=Z,2µm,1.2s

SWSC **Sam W. Stewart** 61.59 299 ⇑P **P** 11 00 47.0 +0.5
baz=61,SNR=28
PYUN **Piuthan** 61.64 90 *e*P **P** 11 00 47.5 +0.3
comp=Z,2µm,1.2s
PYUN **Piuthan** 61.64 90 *e*P **P** 11 00 47.5 +0.3
comp=Z,2µm,1.2s
PYUN **Piuthan** 61.64 90 *e*P **P** 11 00 47.5 +0.3
comp=Z,2µm,1.2s
429A **Conveyport Ranc** 61.68 285 ⇓P **P** 11 00 46.8 -0.4
baz=62,SNR=170
427A **Hayter Ranch,** 61.71 287 ⇑P **P** 11 00 47.8 +0.3
baz=62,SNR=349
428A **Kincaid Ranch,** 61.71 286 ⇑P **P** 11 00 48.2 +0.7
baz=62,SNR=260
MONP **Monument Peak** 61.73 300 ⇑P **P** 11 00 48.4 +0.7
baz=62,SNR=50
AJM **Ajmer** 61.82 98 *i* P **P** 11 00 47.0 -1.2
109C **Camp Elliot, M** 61.83 300 ⇓P **P** 11 00 48.4 +0.3
baz=62,SNR=26
532A **Rocksprings** 61.84 283 ⇓P **P** 11 00 48.6 +0.3
baz=62,SNR=197
HOQ **Hoqain** 61.87 117 P **P** 11 00 47.9 -0.6
SNR=14
HOQ **Hoqain** 61.87 117 P **P** 11 00 47.9 -0.6
SNR=14
531A **Rocksprings** 61.91 284 ⇑P **P** 11 00 49.2 +0.4
baz=62,SNR=153
SCI **San Clemente I** 61.95 302 ⇓P **P** 11 00 49.6 +0.6
baz=62,SNR=11
426A **McDonald Obser** 61.98 287 ⇑P **P** 11 00 49.1 -0.4
baz=62,SNR=338
ARQ **Araqi** 61.99 117 P **P** 11 00 49.3 -0.1
SNR=69
ARQ **Araqi** 61.99 117 P **P** 11 00 49.3 -0.1
SNR=69
GKN **Gorkha** 62.02 88 *e*P **P** 11 00 49.9 +0.2
comp=Z,2µm,1.4s
GKN **Gorkha** 62.02 88 *e*P **P** 11 00 49.9 +0.2
comp=Z,2µm,1.4s
GKN **Gorkha** 62.02 88 *e*P **P** 11 00 49.9 +0.2
comp=Z,2µm,1.4s
425A **Indio Mountain** 62.02 288 ⇓P **P** 11 00 49.9 +0.2
baz=62,SNR=1000
320A **Kipp Ranch, An** 62.05 292 ⇑P **P** 11 00 50.3 +0.5
baz=62,SNR=129
530A **J-D Ranch, Com** 62.05 285 ⇑P **P** 11 00 50.2 +0.5
baz=62,SNR=446
KOLN **Koldanda** 62.07 89 *e*P **P** 11 00 50.1 0.0
comp=Z,692nm,1.3s
KOLN **Koldanda** 62.07 89 *e*P **P** 11 00 50.1 0.0
comp=Z,692nm,1.3s
KOLN **Koldanda** 62.07 89 *e*P **P** 11 00 50.1 0.0
comp=Z,692nm,1.3s
214A **Organ Pipe Nat** 62.10 296 ⇓P **P** 11 00 50.2 +0.2
baz=62,SNR=89
319A **Douglas** 62.13 293 ⇓P **P** 11 00 50.9 +0.6
baz=62,SNR=361
529A **Stev Forest Ra** 62.22 286 ⇑P **P** 11 00 50.6 -0.3
baz=62,SNR=172
528A **Cox Ranch, San** 62.28 286 ⇑P **P** 11 00 51.6 +0.2
baz=62
GUN **Gumba** 62.32 87 *e*P **P** 11 00 52.2 +0.3
comp=Z,2µm,1.3s
GUN **Gumba** 62.32 87 *e*P **P** 11 00 52.2 +0.3
comp=Z,2µm,1.3s
GUN **Gumba** 62.32 87 *e*P **P** 11 00 52.2 +0.3
comp=Z,2µm,1.3s
CD2 **Chengdu** 62.33 69 ⇑*i*P **P** 11 00 51.7 +0.1
CD2 pP **pP** 11 00 56.3 +0.1
CD2 sP **sP** 11 00 58.7 +0.8
CD2 PP **PP** 11 03 09.7 +1.4
CD2 S **S** 11 09 16.0 -1.2
CD2 sS **sS** 11 09 22.7 -2.0
CD2 SS **SS** 11 13 20.1 +0.1
CD2 pmax pmax
comp=Z,380nm,1.5s
CD2 pmax pmax
comp=Z,4µm,4.4s
CD2 LR LR
comp=N,98µm,17.8s
CD2 LR LR
comp=Z,58µm,22.6s
KKN **Kakani** 62.34 88 *e*P **P** 11 00 52.4 +0.5
comp=Z,3µm,1.2s
KKN **Kakani** 62.34 88 *e*P **P** 11 00 52.4 +0.5
KKN pmax pmax
comp=Z,3µm,1.2s
KKN **Kakani** 62.34 88 *e*P **P** 11 00 52.4 +0.5
comp=Z,3µm,1.2s
KKN **Kakani** 62.34 88 *e*P **P** 11 00 52.4 +0.5
comp=Z,3µm,1.2s
632A **Uvalde** 62.43 283 ⇑P **P** 11 00 52.2 0.0
baz=62,SNR=74
527A **Woodward Ranch** 62.43 287 ⇓P **P** 11 00 52.6 +0.2
baz=62,SNR=580
DMN **Daman** 62.48 88 *e*P **P** 11 00 53.4 +0.5
comp=Z,5µm,1.8s
DMN **Daman** 62.48 88 *e*P **P** 11 00 53.4 +0.5
comp=Z,5µm,1.8s
DMN **Daman** 62.48 88 *e*P **P** 11 00 53.4 +0.5
comp=Z,5µm,1.8s
SMDO **Samad** 62.50 116 P **P** 11 00 52.7 -0.2
SNR=58
SMDO **Samad** 62.50 116 P **P** 11 00 52.7 -0.2
SNR=58
PKI **Pulchoki** 62.57 88 *e*P **P** 11 00 53.6 0.0
comp=Z,2µm,1.4s
PKI **Pulchoki** 62.57 88 *e*P **P** 11 00 53.6 0.0
PKI pmax pmax
comp=Z,2µm,1.4s
PKI **Pulchoki** 62.57 88 *e*P **P** 11 00 53.6 0.0
comp=Z,2µm,1.4s
PKI **Pulchoki** 62.57 88 *e*P **P** 11 00 53.6 0.0
comp=Z,2µm,1.4s
526A **Mary Lane Ranc** 62.59 287 ⇑P **P** 11 00 53.6 +0.2
baz=62,SNR=434
JIRN **Jiri** 62.62 87 *e*P **P** 11 00 54.7 +0.8
comp=Z,645nm,1.3s
JIRN **Jiri** 62.62 87 *e*P **P** 11 00 54.7 +0.8
comp=Z,645nm,1.3s
JIRN **Jiri** 62.62 87 *e*P **P** 11 00 54.7 +0.8
comp=Z,645nm,1.3s
631A **Perdido Creek** 62.65 284 ⇑P **P** 11 00 53.1 -0.6
baz=62,SNR=9.0
BSY **Bisya** 62.68 117 P **P** 11 00 53.6 -0.4
SNR=36
BSYO **Bisya** 62.70 117 P **P** 11 00 53.6 -0.5
SNR=36
CGIG 62.91 291 P **P** 11 00 55.8 +0.1
CGIG 62.91 291 P **P** 11 00 55.8 +0.1
628A **Black Gap, Mar** 62.96 286 ⇓P **P** 11 00 55.7 -0.1
baz=63,SNR=217
627A **Terlingua Ranc** 63.07 286 ⇑P **P** 11 00 56.6 0.0
baz=63,SNR=392
WBK **Wadi Bani Khal** 63.08 115 P **P** 11 00 57.2 +0.6
SNR=18
WBK **Wadi Bani Khal** 63.08 115 P **P** 11 00 57.2 +0.6
SNR=18
626A **Big Bend Ranch** 63.09 287 ⇑P **P** 11 00 56.7 -0.1
baz=63,SNR=366
TAPN **Taplejung** 63.18 85 *e*P **P** 11 00 57.8 +0.2
comp=Z,3µm,1.7s
TAPN **Taplejung** 63.18 85 *e*P **P** 11 00 57.8 +0.2
comp=Z,3µm,1.7s
TAPN **Taplejung** 63.18 85 ⇑*e*P **P** 11 00 57.8 +0.2
comp=Z,3µm,1.7s
JMDO **Jabal Madar** 63.18 116 P **P** 11 00 57.0 -0.3
SNR=36
JMDO **Jabal Madar** 63.18 116 P **P** 11 00 57.0 -0.3
SNR=36
732A **Laxson Ranch,** 63.22 283 ⇑P **P** 11 00 57.5 +0.1
baz=63,SNR=200
TXAR **Lajitas Array** 63.23 287 P **P** 11 00 56.9 -0.8
comp=Z,297nm,1.1s,baz=45,slow=3.7,SNR=468
TXAR LR LR 11 29 25.8
comp=Z,73µm,18.1s,baz=5.0,slow=37
TXAR PKP2bc 11 30 03.1
comp=Z,2.4nm,1.0s,baz=179,slow=2.5,SNR=6.2
TXAR **Lajitas Array** 63.23 287 P **P** 11 00 56.9 -0.8
TXAR ⇑*e* 11 30 03.1
TXAR **Lajitas Array** 63.23 287 P **P** 11 00 56.9 -0.8
GTK **Gangtok** 63.34 84 *e*P **P** 11 00 57.0 -1.6
RAMN **Ramite** 63.38 87 *e*P **P** 11 00 59.0 +0.1
comp=Z,1µm,1.2s
RAMN **Ramite** 63.38 87 *e*P **P** 11 00 59.0 +0.1
comp=Z,1µm,1.2s
RAMN **Ramite** 63.38 87 *e*P **P** 11 00 59.0 +0.1
comp=Z,1µm,1.2s

NJ2 **Nanjing** 63.46 55 *e*P **P** 11 00 59.2 +0.2
NJ2 pP **pP** 11 01 00.6 -3.0
NJ2 PP **PP** 11 03 16.5 -1.6
NJ2 S **S** 11 09 31.0 -0.1
NJ2 sS **sS** 11 09 36.0 -2.7
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,2µm,3.8s
NJ2 LR LR
comp=N,5µm,13.2s
NJ2 LR LR
comp=E,10µm,16.2s
NJ2 LR LR
comp=Z,12µm,20.6s
ODAN **Odare** 63.60 86 *e*P **P** 11 01 00.6 +0.3
comp=Z,6µm,1.8s
ODAN **Odare** 63.60 86 *e*P **P** 11 01 00.6 +0.3
comp=Z,6µm,1.8s
ODAN **Odare** 63.60 86 *e*P **P** 11 01 00.6 +0.3
comp=Z,6µm,1.8s
JNU **Nakatsue** 63.94 43 P **P** 11 01 02.7 +0.5
comp=Z,98nm,1.0s,baz=32,slow=4.8,SNR=18
JNU **Nakatsue** 63.94 43 P **P** 11 01 02.7 +0.5
JNU **Nakatsue** 63.94 43 P **P** 11 01 02.7 +0.5
KVTX **Kingsville** 64.03 281 PFAKE 11 01 20.0 +17
KVTX LR LR
comp=Z,78µm,19.0s
WHN **Wuhan** 64.30 59 ⇑P **P** 11 01 04.5 -0.1
WHN S **S** 11 09 43.5 +1.8
WHN LR LR
comp=N,122µm,18.6s
WHN LR LR
comp=E,98µm,14.7s
WHN LR LR
comp=Z,140µm,19.5s
HSIG 64.70 294 P **P** 11 01 07.1 -0.1
HSIG 64.70 294 P **P** 11 01 07.1 -0.1
SSE **Sheshan** 64.72 53 P **P** 11 01 06.7 -0.6
SSE S **S** 11 09 45.9 -0.9
SSE SS **SS** 11 13 59.4 +2.4
SSE pmax pmax
comp=Z,240nm,1.2s
SSE pmax pmax
comp=Z,2µm,7.8s
SSE LR LR
comp=N,14µm,15.6s
SSE LR LR
comp=E,51µm,15.5s
SSE LR LR
comp=Z,24µm,15.4s
GRTK **Grand Turk** 65.46 253 PFAKE 11 01 20.0 +7.8
GRTK LR LR
comp=Z,35µm,21.0s
SHL **Shillong** 65.62 82 *e*P **P** 11 01 13.0 -0.5
SHL *e*PP **PP** 11 03 38.0 +0.5
SHL *ex* x 11 09 40.0
HPIG 65.91 288 P **P** 11 01 15.2 -0.1
HPIG 65.91 288 P **P** 11 01 15.2 -0.1
BBTS **Babate** 66.01 195 P **P** 11 01 16.1 +0.3
comp=Z,81nm,1.1s,baz=330,slow=2.1,SNR=3.9
BBTS **Babate** 66.01 195 P **P** 11 01 16.1 +0.3
BBTS **Babate** 66.01 195 P **P** 11 01 16.1 +0.3
SACV **Santiago Islan** 66.10 203 *e*P **P** 11 01 16.6 +0.2
comp=Z,117nm,1.3s
SACV LR LR
comp=Z,19µm,19.0s
SACV **Santiago Islan** 66.10 203 *e*P **P** 11 01 16.6 +0.2
comp=Z,117nm,1.3s
SRIG **Santa Rosalia** 66.56 295 P **P** 11 01 18.1 -1.1
SRIG **Santa Rosalia** 66.56 295 P **P** 11 01 18.1 -1.1
IMP **Imphal** 66.73 80 *i* P **P** 11 01 20.0 -0.5
IMP *ex* x 11 02 20.0
IMP *ex* x 11 05 26.0
LNIG **Linares** 66.89 282 P **P** 11 01 20.9 -0.5
LNIG **Linares** 66.89 282 P **P** 11 01 20.9 -0.5
GYA **Guiyang** 67.15 67 ⇑*i*P **P** 11 01 23.0 -0.2
GYA PP **PP** 11 03 52.9 +2.2
GYA ScP 11 05 53.2
GYA S **S** 11 10 17.1 +0.3
GYA SKS **SKSac** 11 11 17.7 -2.1
GYA pmax pmax
comp=Z,380nm,1.0s
GYA pmax pmax
comp=Z,2µm,4.0s
GYA LR LR
comp=N,77µm,18.9s
GYA LR LR
comp=E,59µm,18.5s
GYA LR LR
comp=Z,78µm,19.2s
AGT **Agartala** 67.16 83 *i* P **P** 11 01 24.0 +0.9
AGT *i* x x 11 02 27.0
TOA0 **Torodi Ar. Sit** 67.21 176 *e*P **P** 11 01 22.4 -1.1
TOA0 **Torodi Ar. Sit** 67.21 176 *e*P **P** 11 01 22.4 -1.1
TORD **Torodi Ar. Bea** 67.21 176 P **P** 11 01 22.4 -1.1
comp=Z,67nm,0.9s,baz=356,slow=3.8,SNR=117
TORD PKPPKP **P'P'df** 11 29 44.4 -3.3
comp=Z,5.4nm,1.4s,baz=189,slow=2.3,SNR=6.9
TORD LR LR 11 30 08.8
comp=Z,21µm,19.5s,baz=355,slow=35
TORD **Torodi Ar. Bea** 67.21 176 P **P** 11 01 22.4 -1.1
TORD P'P' 11 29 44.4
TORD **Torodi Ar. Bea** 67.21 176 P **P** 11 01 22.4 -1.1
RBK **Rabkut** 67.38 121 P **P** 11 01 22.9 -1.7
SNR=43
RBK **Rabkut** 67.38 121 P **P** 11 01 22.9 -1.7
SNR=43
ABTO **Aybut** 67.40 122 P **P** 11 01 23.9 -0.8
SNR=90
ABTO **Aybut** 67.40 122 P **P** 11 01 23.9 -0.8
SNR=90
GTBY **Guantanamo Bay** 67.66 257 *e*P **P** 11 01 26.3 0.0
comp=Z,296nm,1.0s
GTBY LR LR
comp=Z,37µm,22.0s
GTBY **Guantanamo Bay** 67.66 257 *e*P **P** 11 01 26.3 0.0
comp=Z,296nm,1.0s
ANWB **Willy Bob** 67.76 243 *e*P **P** 11 01 26.6 -0.4
comp=Z,553nm,1.3s
ANWB LR LR
comp=Z,25µm,21.0s
ANWB **Willy Bob** 67.76 243 *e*P **P** 11 01 26.5 -0.4
comp=Z,553nm,1.3s
NGP **Nagpur** 67.78 95 *i* P **P** 11 01 24.8 -2.3
NGP AMb AMB 11 01 28.1
comp=Z,872nm,2.1s
NGP *i* x x 11 10 19.6
KMI **Kunming** 67.84 71 P **P** 11 01 26.5 -1.2
KMI pP **pP** 11 01 32.5 +0.2
KMI sP **sP** 11 01 35.4 +1.4
KMI PP **PP** 11 03 55.7 -1.2
KMI S **S** 11 10 22.8 -2.5
KMI SS **SS** 11 14 46.2 0.0
KMI pmax pmax
comp=Z,160nm,1.9s
KMI pmax pmax
comp=Z,2µm,4.4s
KMI LR LR
comp=N,20µm,20.0s
KMI LR LR
comp=E,80µm,18.7s
KMI LR LR
comp=Z,84µm,18.0s
AKL **Akola** 67.87 97 ⇑*i*P **P** 11 01 27.4 -0.3
AKL AMP 11 01 30.6
comp=Z,760nm,1.7s
AKL *i* S **S** 11 10 27.0 +1.7
SDDR **Presa de Saban** 67.96 253 PFAKE 11 01 40.0 +12
SDDR LR LR
comp=Z,47µm,20.0s
CAL **Calcutta** 67.99 86 *e*P **P** 11 01 30.0 +1.7
CAL *ex* x 11 10 11.5
SJG **San Juan** 68.00 247 PFAKE 11 01 40.0 +12
SJG LR LR
comp=Z,19µm,19.0s
CDVI **St. Croix** 68.14 246 *e*P **P** 11 01 29.4 +0.2
comp=Z,406nm,1.3s
CDVI **St. Croix** 68.14 246 *e*P **P** 11 01 29.5 +0.2
comp=Z,406nm,1.3s
DHBB **Dhamar BB** 68.93 131 ⇑*e*P **P** 11 01 35.4 +0.8
DHBB **Dhamar BB** 68.93 131 ⇑*e*P **P** 11 01 35.4 +0.8
SEG **Port Louis** 68.96 242 *e*P **P** 11 01 33.8 -0.6
LZG **Guadaloupe-1** 69.26 243 *e*P **P** 11 01 36.0 -0.3
DOG **Dongo Capester** 69.34 242 *e*P **P** 11 01 36.5 -0.4

SCG	Saint Claude	69.36	243	eP	P	11 01 37.0	0.0
PHG	Guadaloupe-2	69.36	243	eP	P	11 01 34.0	-3.1
MGG	Marie-Galante	69.41	242	eP	P	11 01 36.7	-0.5
LPIG	La Paz	69.42	292	P	P	11 01 37.7	+0.5
	comp=Z,32nm,1.2s,baz=348,slow=0.9,SNR=48						
LPIG				LR	LR	11 32 57.1	
	comp=Z,8µm,18.9s,baz=324,slow=37						
LPIG	La Paz	69.42	292	P	P	11 01 37.7	+0.5
LPIG	La Paz	69.42	292	P	P	11 01 37.7	+0.5
POO	Poona	69.47	101	⇑iP	P	11 01 35.0	-2.7
	comp=Z,909nm,1.2s						
POO				ix	x	11 10 52.0	
ZAIG	Zacatecas	69.48	284	P	P	11 01 39.1	+1.1
ZAIG	Zacatecas	69.48	284	P	P	11 01 39.1	+1.1
TBG	Guadaloupe-3	69.52	242	eP	P	11 01 37.6	-0.3
BBJ	Bamboo Saint A	69.53	259	iP	P	11 01 38.9	+0.9
TEIG	Tepich	69.58	270	PFAKE		11 01 50.0	+12
TEIG				LR	LR		
	comp=Z,51µm,19.0s						
MAIG	Mazatlaan	69.70	288	P	P	11 01 39.5	+0.6
MAIG	Mazatlaan	69.70	288	P	P	11 01 39.5	+0.6
LBOS		69.73	131	⇑eP	P	11 01 40.3	+0.8
LBOS				AMb	AMB	11 01 42.2	
	comp=Z,3µm,2.3s						
MTDJ	Mount Denham	69.73	259	PFAKE		11 01 50.0	+11
MTDJ				LR	LR		
	comp=Z,29µm,21.0s						
STH	Stony Hill	69.75	258	iP	P	11 01 39.7	+0.4
HOJ	Hope	69.81	258	iP	P	11 01 39.8	+0.1
JOW	Kunigami	69.83	47	P	P	11 01 40.2	+0.4
	comp=Z,107nm,1.0s,baz=350,slow=8.8,SNR=7.2						
JOW				LR	LR	11 35 00.5	
	comp=Z,21µm,18.6s,baz=196,slow=38						
JOW	Kunigami	69.83	47	P	P	11 01 40.2	+0.4
JOW	Kunigami	69.83	47	P	P	11 01 40.2	+0.4
LATR	Latur	70.03	98	eP	P	11 01 40.2	-0.8
MCJ	Malvern	70.05	259	iP	P	11 01 41.0	-0.2
TRBA	At Turbah	70.21	132	⇑eP	P	11 01 43.2	+0.8
TRBA				AMb	AMB	11 01 45.1	
	comp=Z,605nm,1.9s						
QZH	Quanzhou	70.42	56	⇑iP	P	11 01 44.4	+1.1
QZH				S	S	11 10 58.0	+2.8
QZH				pmax	pmax		
	comp=Z,270nm,1.1s						
QZH				pmax	pmax		
	comp=Z,6µm,7.0s						
QZH				LR	LR		
	comp=N,24µm,14.7s						
QZH				LR	LR		
	comp=E,95µm,16.4s						
QZH				LR	LR		
	comp=Z,63µm,15.7s						
FDF	Fort de France	70.55	242	eP	P	11 01 43.8	-0.5
FDF				pmax	pmax		
	comp=Z,917nm,1.3s						
FDF				MLR	MLR		
	comp=Z,59µm,21.0s						
FDF	Fort de France	70.55	242	eP	P	11 01 43.8	-0.5
	comp=Z,917nm,1.3s						
FDF				LR	LR		
	comp=Z,59µm,21.0s						
FDF	Fort de France	70.55	242	eP	P	11 01 43.9	-0.3
FDF	Fort de France	70.55	242	eP	P	11 01 43.8	-0.5
	comp=Z,917nm,1.3s						
BIM	Bigot	70.75	242	eP	P	11 01 45.3	-0.2
TATO	Taipei	70.78	53	PFAKE		11 02 00.0	+14
TATO				LR	LR		
	comp=Z,15µm,20.0s						
YHNB	Yeheng	71.07	53	eP	P	11 01 48.1	+0.7
	comp=Z,225nm,1.1s						
YHNB				LR	LR		
	comp=Z,22µm,19.0s						
YHNB	Yeheng	71.07	53	eP	P	11 01 48.1	+0.7
	comp=Z,225nm,1.1s						
CBIJ	Chichi jima	71.09	34	P	P	11 01 47.0	-0.4
	comp=Z,143nm,1.0s,baz=310,slow=22,SNR=4.3						
CBIJ	Chichi jima	71.09	34	P	P	11 01 47.0	-0.4
CBIJ	Chichi jima	71.09	34	P	P	11 01 47.0	-0.4
DEIG	Demacu	71.31	280	P	P	11 01 50.1	+1.0
DEIG	Demacu	71.31	280	P	P	11 01 50.1	+1.0
HYB	Hyderabad	71.35	96	iP	P	11 01 48.0	-1.1
	comp=Z,300nm,1.0s						
HYB				epP	pP	11 01 52.0	-1.7
HYB				ePP	PP	11 04 28.0	+0.9
HYB				eS	S	11 11 08.0	+1.7
LVIG	Laguna Verde	71.44	278	P	P	11 01 49.2	-0.4
LVIG	Laguna Verde	71.44	278	P	P	11 01 49.2	-0.4
ANIG	Ahuacatlan	71.48	286	P	P	11 01 50.7	+0.7
ANIG	Ahuacatlan	71.48	286	P	P	11 01 50.7	+0.7
GZH	Guangzhou	71.48	61	P	P	11 01 47.0	-2.8
GZH				S	S	11 11 03.5	-4.1
GZH				LR	LR		
	comp=N,28µm,21.4s						
GZH				LR	LR		
	comp=E,39µm,17.5s						
GZH				LR	LR		
	comp=Z,64µm,14.6s						
MCLT	Moule a Chique	71.52	241	eP	P	11 01 53.7	+3.5
MIDW	Midway	71.67	356	PFAKE		11 02 00.0	+9.1
MIDW				LR	LR		
	comp=Z,10µm,19.0s						
DESE	Dese	71.75	137	eP	P	11 01 53.3	+1.4
VIS	Vishakhapatnam	71.86	92	iP	P	11 01 52.8	+0.6
VIS				ex	x	11 01 55.6	
	comp=Z,745nm,1.3s						
BBGH	Gun Hill	71.88	240	PFAKE		11 02 00.0	+7.7
BBGH				LR	LR		
	comp=Z,59µm,21.0s						
IIO	Organos	71.96	280	P	P	11 01 54.3	+1.1
IIO	Organos	71.96	280	P	P	11 01 54.3	+1.1
SVB	Belmont	72.00	242	eP	P	11 01 52.2	-0.8
PTVM	Pico Tres Padr	72.02	280	P	P	11 01 54.2	+0.8
PTVM	Pico Tres Padr	72.02	280	P	P	11 01 54.2	+0.8
UNM	Universidad Na	72.29	280	P	P	11 01 56.0	+0.9
UNM	Universidad Na	72.29	280	P	P	11 01 56.0	+0.9
UNM	Universidad Na	72.29	280	P	P	11 01 56.0	+0.9
YULB	Yu-li	72.32	54	eP	P	11 01 56.2	+1.3
	comp=Z,147nm,1.5s						
YULB	Yu-li	72.32	54	eP	P	11 01 56.2	+1.3
	comp=Z,147nm,1.5s						
SZVM	Salazar	72.33	281	P	P	11 01 56.2	+0.7
SZVM	Salazar	72.33	281	P	P	11 01 56.2	+0.7
HKC	Hong Kong Obse	72.38	61	⇑iP	P	11 01 55.0	-0.2
PPM	Popocatepetl	72.46	280	P	P	11 01 54.9	-1.4
PPM	Popocatepetl	72.46	280	P	P	11 01 54.9	-1.4
PPM	Popocatepetl	72.46	280	P	P	11 01 54.9	-1.4
YAIG	Yautepec	72.73	280	P	P	11 01 55.4	-2.1
YAIG	Yautepec	72.73	280	P	P	11 01 55.4	-2.1
TPIG	Tehuac#an	72.88	278	P	P	11 01 58.2	-0.3
TPIG	Tehuac#an	72.88	278	P	P	11 01 58.2	-0.3
CJM	Chamela	73.09	286	P	P	11 01 55.4	-4.1
GRGR	Grenville	73.18	242	eP	P	11 01 59.9	-0.1
	comp=Z,1µm,1.4s						
GRGR				LR	LR		
	comp=Z,46µm,21.0s						
GRGR	Grenville	73.18	242	eP	P	11 01 59.9	-0.1
	comp=Z,1µm,1.4s						
PLIG	Platanillo	73.26	281	P	P	11 01 58.9	-1.7
PLIG	Platanillo	73.26	281	P	P	11 01 58.9	-1.7
CHTO	Chiang Mai	73.41	76	PFAKE		11 02 10.0	+8.6
CHTO				LR	LR		
	comp=Z,40µm,21.0s						
CHTO	Chiang Mai	73.41	76	P	P	11 02 00.7	-0.7
	SNR=131						
CHTO	Chiang Mai	73.41	76	P	P	11 01 59.8	-1.6
	comp=Z,379nm,1.2s,comp=Z,5µm						
CHTO	Chiang Mai	73.41	76	P	P	11 02 00.7	-0.7
	SNR=131						
DBIC	Dimbokro	73.64	183	P	P	11 02 02.5	-0.3
	comp=Z,17nm,0.9s,baz=344,slow=6.0,SNR=16						
DBIC				LR	LR	11 32 37.8	
	comp=Z,16µm,21.3s,baz=346,slow=34						
DBIC	Dimbokro	73.64	183	eP	P	11 02 02.2	-0.5
	comp=Z,324nm,1.7s						
DBIC	Dimbokro	73.64	183	eP	P	11 02 02.2	-0.5
	comp=Z,324nm,1.7s						
MEIG	Mezcala	73.74	281	P	P	11 02 03.2	-0.2
MEIG	Mezcala	73.74	281	P	P	11 02 03.2	-0.2
CM31	Chiang Mai Arr	73.76	76	eP	P	11 02 03.1	-0.3
	comp=Z,485nm,1.4s						
CM31	Chiang Mai Arr	73.76	76	eP	P	11 02 03.1	-0.3
	comp=Z,485nm,1.4s						
CMAR	Chiang Mai Arr	73.76	76	P	P	11 02 02.8	-0.7
	comp=Z,124nm,1.1s,baz=341,slow=5.0,SNR=123						
CMAR				LR	LR	11 38 54.8	
	comp=Z,32µm,19.1s,baz=185,slow=39						
CMAR	Chiang Mai Arr	73.76	76	P	P	11 02 02.8	-0.7
CMAR	Chiang Mai Arr	73.76	76	P	P	11 02 02.8	-0.7
TGIG		73.77	274	P	P	11 02 03.8	+0.2
TGIG		73.77	274	P	P	11 02 03.8	+0.2
TOSP	Speyside	73.83	241	eP	P	11 02 04.9	+1.0
FURI	Furi	73.84	138	P	P	11 02 04.6	+0.3
FURI				S	S	11 11 41.2	+5.8
TPR	Prospect	73.98	241	e	P	11 02 05.6	+0.8
MMIG	Aquila	74.00	284	P	P	11 02 04.6	-0.2
MMIG	Aquila	74.00	284	P	P	11 02 04.6	-0.2
OXX	Oaxaca	74.08	278	P	P	11 02 06.5	+1.0
OXX	Oaxaca	74.08	278	P	P	11 02 06.6	+1.0
LIC	Lamto	74.08	183	⇑iP	P	11 02 04.4	-0.9
	comp=Z,500nm,1.2s,baz=357						
LIC				eR			
	comp=Z,22µm,21.8s						
LIC	Lamto	74.08	183	⇑iP	P	11 02 04.4	-0.9
	comp=Z,500nm,1.2s						
LIC	Lamto	74.08	183	⇑iP	P	11 02 04.4	-0.9
	comp=Z,250nm,1.2s,baz=357						
CCIG	Comitan	74.09	273	P	P	11 02 06.0	+0.4
CCIG	Comitan	74.09	273	P	P	11 02 06.0	+0.4
VHO	Vista Hermosa	74.09	278	P	P	11 02 06.7	+1.0
VHO	Vista Hermosa	74.09	278	P	P	11 02 06.7	+1.0
ZIIG	Zihuatanejo	74.36	282	P	P	11 02 07.1	+0.2
ZIIG	Zihuatanejo	74.36	282	P	P	11 02 07.1	+0.2
TRN	Trinidad (W)	74.60	241	e	P	11 02 09.5	+1.2
CAIG	El Cayaco	74.71	281	P	P	11 02 08.9	0.0
CAIG	El Cayaco	74.71	281	P	P	11 02 08.9	0.0
TBH	Brigand Hill	74.71	241	e	P	11 02 11.3	+2.3
ACX	Acapulco	74.81	281	P	P	11 02 07.4	-2.2
ACX	Acapulco	74.81	281	P	P	11 02 07.4	-2.2
PCIG		74.84	274	P	P	11 02 08.1	-1.6
PCIG		74.84	274	P	P	11 02 08.1	-1.6
QIZ	Qiongzhong	74.94	65	P	P	11 02 10.9	+0.6
QIZ				PP	PP	11 04 54.7	-2.8
QIZ				S	S	11 11 46.4	-0.5
QIZ				SS	SS	11 16 33.9	-0.7
QIZ				pmax	pmax		
	comp=Z,200nm,1.8s						
QIZ				LR	LR		
	comp=N,59µm,19.9s						
QIZ				LR	LR		
	comp=Z,96µm,20.4s						
QIZ	Qiongzhong	74.94	65	eP	P	11 02 11.1	+0.8
	comp=Z,514nm,1.5s						
QIZ	Qiongzhong	74.94	65	eP	P	11 02 11.1	+0.8
	comp=Z,514nm,1.5s						
PNIG	Pinotepa	74.99	279	P	P	11 02 11.3	+0.7
PNIG	Pinotepa	74.99	279	P	P	11 02 11.3	+0.7
HUIG	Huatulco	75.26	277	P	P	11 02 10.9	-1.3
HUIG	Huatulco	75.26	277	P	P	11 02 10.9	-1.3
TGUH	Tegucigalpa,Un	75.44	268	eP	P	11 02 13.6	+0.4
	comp=Z,674nm,1.3s						
TGUH				LR	LR		
	comp=Z,49µm,22.0s						
TGUH	Tegucigalpa,Un	75.44	268	eP	P	11 02 13.6	+0.4
	comp=Z,674nm,1.3s						
THIG		75.46	273	P	P	11 02 14.6	+1.3
THIG		75.46	273	P	P	11 02 14.6	+1.3
PIP	Pasuquin	77.21	55	⇑eP	P	11 02 20.4	-2.9
KIP	Kipapa	77.66	337	PFAKE		11 02 40.0	+14
KIP				LR	LR		
	comp=Z,14µm,19.0s						
SDV	Santo Domingo	77.75	250	PFAKE		11 02 40.0	+13
SDV				LR	LR		
	comp=Z,9µm,21.0s						
HON	Honolulu	77.76	337	eP	P	11 02 27.5	+1.2
HON	Honolulu	77.76	337	eP	P	11 02 27.5	+1.2
HON	Honolulu	77.76	337	eP	P	11 02 27.5	+1.2
ABRA	Dolores	77.89	55	eP	P	11 02 28.0	+1.0
CAUP	Cauayan	78.74	54	eP	P	11 02 33.0	+1.3
JTS	JuntasAbangare	78.74	265	PFAKE		11 02 40.0	+8.2
JTS				LR	LR		
	comp=Z,50µm,20.0s						
BCIP	Isla Barro Col	78.98	260	PFAKE		11 02 40.0	+6.9
BCIP				LR	LR		
	comp=Z,13µm,21.0s						
BOLP	Bolinao	79.02	56	eP	P	11 02 32.9	-0.4
STCH	Steam Cracks	79.48	334	eP	P	11 02 36.2	+0.3
STCH	Steam Cracks	79.48	334	eP	P	11 02 36.2	+0.3
PUH	Pauahi	79.50	334	eP	P	11 02 36.9	+0.9
PUH	Pauahi	79.50	334	eP	P	11 02 36.9	+0.9
BALP	Baler	79.89	55	eP	P	11 02 38.3	+0.3
WAKE	Wake Island	80.40	11	PFAKE		11 02 50.0	+9.3
WAKE				LR	LR		
	comp=Z,11µm,20.0s						
HMDM	Hanimaadhoo	80.88	104	P	P	11 02 45.2	+1.9
	comp=Z,555nm,1.8s,comp=Z,13µm						
TGY	Tagaytay City	81.41	55	P	P	11 02 47.2	+0.9
	comp=Z,196nm,0.5s,baz=162,slow=7.6,SNR=9.4						
TGY				LR	LR	11 41 35.9	
	comp=Z,101nm,18.5s,baz=332,slow=38						
TGY	Tagaytay City	81.41	55	P	P	11 02 47.2	+0.9
TGY	Tagaytay City	81.41	55	P	P	11 02 47.2	+0.9
ROSC	El Rosal	82.30	253	P	P	11 02 52.5	+1.2
	comp=Z,177nm,1.2s,baz=67,slow=2.9,SNR=61						
ROSC				LR	LR	11 39 13.6	
	comp=Z,13µm,21.1s,baz=8.3,slow=36						
ROSC	El Rosal	82.30	253	P	P	11 02 52.5	+1.2
ROSC	El Rosal	82.30	253	P	P	11 02 52.5	+1.2
JOHN	Johnston Islan	82.90	348	PFAKE		11 03 10.0	+16
JOHN				LR	LR		
	comp=Z,26nm,19.0s						
KMBO	Kilima Mbogo	83.57	140	PFAKE		11 03 10.0	+12
KMBO				LR	LR		
	comp=Z,10µm,22.0s						
KMBO	Kilima Mbogo	83.57	140	P	P	11 02 59.4	+1.7
	SNR=64						
KMBO	Kilima Mbogo	83.57	140	P	P	11 02 59.4	+1.7
	SNR=64						
GUMO	Guam	84.71	32	LR	LR	11 45 11.5	
	comp=Z,5µm,18.2s,baz=172,slow=39						
KULM	Kulim	86.94	77	PFAKE		11 03 30.0	+16
KULM				LR	LR		
	comp=Z,47µm,20.0s						
KULM	Kulim	86.94	77	P	P	11 03 13.1	-1.2
KULM	Kulim	86.94	77	P	P	11 03 13.1	-1.2
	comp=Z,152nm,1.6s,comp=Z,3µm						
OTAV	Otavalo	87.50	257	PFAKE		11 03 30.0	+12
OTAV				LR	LR		
	comp=Z,11µm,21.0s						
RCBR	Riachuelo	87.69	214	PFAKE		11 03 30.0	+12
RCBR				LR	LR		
	comp=Z,18µm,19.0s						
IPM	Ipoh	87.79	76	P	P	11 03 17.1	-1.3
IPM	Ipoh	87.79	76	P	P	11 03 16.7	-1.7
	comp=Z,236nm,1.2s,comp=Z,4µm						
KDM	Kudat	87.89	61	P	P	11 03 19.0	+0.2
KKM	Kota Kinabalu	88.65	61	eP	P	11 03 21.6	-1.0
	comp=Z,206nm,1.2s						
KKM				LR	LR		
	comp=Z,31µm,21.0s						
KKM	Kota Kinabalu	88.65	61	P	P	11 03 22.7	+0.1
KKM	Kota Kinabalu	88.65	61	P	P	11 03 22.9	+0.3
	comp=Z,162nm,1.4s,comp=Z,3µm						
KKM	Kota Kinabalu	88.65	61	eP	P	11 03 21.6	-1.0
	comp=Z,206nm,1.2s						
DAV	Davao City (W)	88.96	52	LR	LR	11 50 02.9	
	comp=Z,12µm,18.4s,baz=336,slow=40						
PSI	Prapat	89.09	79	LR	LR	11 48 58.0	
	comp=Z,36µm,20.0s,baz=211,slow=39						
PSI	Prapat	89.09	79	P	P	11 03 22.9	-1.8
	comp=Z,252nm,1.1s,comp=Z,4µm						
FRIM	Kepong	89.11	76	P	P	11 03 24.1	-0.5
SDKM	Sandakan	89.19	60	P	P	11 03 24.7	-0.4
MSEY	Mahe Island	89.37	123	eP	P	11 03 27.0	+1.2
	comp=Z,266nm,1.6s						
MSEY				LR	LR		
	comp=Z,12µm,20.0s						
MSEY	Mahe Island	89.37	123	P	P	11 03 27.4	+1.5
	SNR=26						
MSEY	Mahe Island	89.37	123	eP	P	11 03 27.0	+1.2
	comp=Z,266nm,1.6s						
MYLDM	Lahad Datu	89.83	59	P	P	11 03 29.6	+1.6
MYLDM	Lahad Datu	89.83	59	P	P	11 03 29.1	+1.1
	comp=Z,392nm,1.4s,comp=Z,7µm						
PAYG	Puerto Ayora	90.38	268	eP	P	11 03 31.2	+0.7
	comp=Z,120nm,1.4s						
PAYG				LR	LR		
	comp=Z,21µm,22.0s						
PAYG	Puerto Ayora	90.38	268	eP	P	11 03 31.2	+0.7
	comp=Z,120nm,1.4s						
KGM	Kluang	90.58	75	P	P	11 03 30.9	-0.6
TSM	Tawau	90.61	60	P	P	11 03 31.6	0.0
MYKOM	Kota Tinggi	90.89	74	P	P	11 03 32.5	-0.4
MYKOM	Kota Tinggi	90.89	74	P	P	11 03 32.7	-0.2
	comp=Z,57nm,2.1s,comp=Z,2µm						
BTM	Bintulu	90.97	65	P	P	11 03 33.9	+0.5
SBUM	Sibu	91.57	66	P	P	11 03 36.5	+0.4
SBUM	Sibu	91.57	66	P	P	11 03 36.2	+0.1
	comp=Z,101nm,1.5s,comp=Z,2µmcomp=Z,7µm						
KSM	Kuching	92.23	68	eP	P	11 03 38.3	-0.9
	comp=Z,148nm,1.5s						
KSM				LR	LR		
	comp=Z,30µm,20.0s						
KSM	Kuching	92.23	68	P	P	11 03 39.4	+0.2
KSM	Kuching	92.23	68	P	P	11 03 39.4	+0.2
	comp=Z,70nm,1.6s,comp=Z,2µm						
KSM	Kuching	92.23	68	eP	P	11 03 38.3	-0.9
	comp=Z,148nm,1.5s						
SAML	Samuel	94.11	240	eP	P	11 03 46.8	-0.9
	comp=Z,38nm,1.0s						
SAML				LR	LR		
	comp=Z,17µm,20.0s						
SAML	Samuel	94.11	240	eP	P	11 03 46.8	-0.9
	comp=Z,38nm,1.0s						
DGAR	Diego Garcia	94.66	107	PFAKE		11 04 00.0	+10
DGAR				LR	LR		
	comp=Z,14µm,20.0s						
ATAH	Atahualpa	94.71	255	P	P	11 03 52.0	+1.0
	comp=Z,79nm,1.2s,baz=8.4,slow=3.4,SNR=32						
ATAH	Atahualpa	94.71	255	P	P	11 03 52.0	+1.0
SHEL	Horse Pasture	96.13	184	PFAKE		11 04 10.0	+13
SHEL				LR	LR		
	comp=Z,11µm,21.0s						
LSZ	Lusaka	96.70	151	eP	P	11 03 59.9	+0.3
	comp=Z,41nm,1.3s						
LSZ				LR	LR		
	comp=Z,11µm,21.0s						
LSZ	Lusaka	96.70	151	eP	P	11 03 59.9	+0.3
	comp=Z,41nm,1.3s						
XMAS	Kiritimati	96.84	335	PFAKE		11 04 10.0	+10
XMAS				LR	LR		
	comp=Z,11µm,21.0s						
TARA	Tarawa	98.36	5	PFAKE		11 04 20.0	+13
TARA				LR	LR		
	comp=Z,8µm,22.0s						
BDFB	Brasilia	98.67	225	P	P	11 04 08.1	-0.4
	comp=Z,24nm,1.1s,baz=4.0,slow=7.9,SNR=14						
BDFB				LR	LR	11 47 30.0	
	comp=Z,14µm,18.3s,baz=339,slow=35						
BDFB	Brasilia	98.67	225	P	P	11 04 08.1	-0.4
BDFB	Brasilia	98.67	225	P	P	11 04 08.1	-0.4
NNA	Nana	99.22	253	PFAKE		11 04 20.0	+9.1
NNA				LR	LR		
	comp=Z,13µm,21.0s						
TSUM	Tsumeb	99.87	161	PFAKE		11 04 30.0	+16
TSUM				LR	LR		
	comp=Z,8µm,20.0s						
KAPI	Kappang	100.03	59	P	Pdif	11 04 13.4	-1.1
	comp=Z,8.0nm,0.5s,baz=358,slow=3.9,SNR=2.8						
KAPI	Kappang	100.03	59	ePdif	Pdif	11 04 13.6	-0.9
	comp=Z,136nm,1.4s						
KAPI				LR	LR		
	comp=Z,10µm,20.0s						
KAPI	Kappang	100.03	59	P	Pdif	11 04 13.2	-1.3
SIV	San Ignacio	100.73	237	P	Pdif	11 04 16.1	-1.5
	comp=Z,16nm,1.0s,baz=27,slow=3.7,SNR=31						
SIV	San Ignacio	100.73	237	P	Pdif	11 04 16.1	-1.5
LPAZ	La Paz	102.06	244	P	Pdif	11 04 23.2	-0.9
	comp=Z,5.2nm,1.2s,baz=352,slow=6.0,SNR=7.1						
LPAZ	La Paz	102.06	244	ePdif	Pdif	11 04 23.1	-1.1
	comp=Z,12nm,1.3s						
ABPO	Ambohimpanom	102.39	133	PFAKE		11 04 40.0	+15
ABPO				LR	LR		
	comp=Z,12µm,21.0s						
COCO	West Island	103.42	83	PFAKE		11 04 40.0	+11
COCO				LR	LR		
	comp=Z,21µm,22.0s						
RER	Riviere de l'E	105.62	125	PFAKE		11 09 00.0	
RER				LR	LR		
	comp=Z,12µm,20.0s						
SPB	Sao Paulo	106.45	223	PFAKE		11 09 10.0	
SPB				LR	LR		
	comp=Z,6µm,20.0s						
PMG	Port Moresby	107.66	32	PFAKE		11 09 10.0	
PMG				LR	LR		
	comp=Z,4µm,20.0s						
HNR	Honiara	108.62	19	PFAKE		11 09 10.0	
HNR				LR	LR		
	comp=Z,8µm,21.0s						
BOSA	Boshof	109.70	155	PP	PP	11 09 38.5	+6.8
	comp=Z,11nm,1.0s,baz=45,slow=6.1,SNR=4.4						
BOSA	Boshof	109.70	155	PP	PP	11 09 38.5	+6.8
COEN	Coen	111.78	37	ePKPdf	PKiKP	11 08 59.7	-4.1
SUR	Sutherland	113.15	159	PP	PP	11 10 03.7	+7.2
	comp=Z,19nm,1.2s,baz=34,slow=5.9,SNR=4.3						
SUR	Sutherland	113.15	159	PP	PP	11 10 03.7	+7.2
SUR				LR	LR		
	comp=Z,22µm,22.0s						
AFI	Afiamalu	113.41	349	PFAKE		11 09 20.0	
AFI				LR	LR		
	comp=Z,7µm,20.0s						
LCO	Las Campanas	114.94	244	PFAKE		11 09 20.0	+10
LCO				LR	LR		
	comp=Z,12µm,22.0s						
PPT2	Papeete2	115.62	325	ePP	PP	11 10 04.1	-10
	comp=Z,544nm,25.5s						
PPT2				eSdif	Sdif	11 17 53.7	-4.7
	comp=Z,1µm,26.0s						
PPT2	Papeete2	115.62	325	ePS	PS	11 19 57.0	+3.9
	comp=Z,3µm,25.8s						
PPT2				eSS	SS	11 26 17.0	+4.6
	comp=Z,19µm,27.8s						
PPT2				eLR	LR	11 43 58.9	
	comp=Z,11µm,25.0s						
MBWA	Marble Bar	115.89	62	ePKPdf	PKPdf	11 09 12.6	+1.1
MBWA				LR	LR		
	comp=Z,11µm,20.0s						
MBWA	Marble Bar	115.89	62	ePKIKP	PKPdf	11 09 12.6	+1.1
WRAB	Tennant Creek	116.69	47	ePKIKP	PKPdf	11 09 12.7	-0.4
WRAB				MLR	MLR		
	comp=Z,5µm,20.0s						
WRAB	Tennant Creek	116.69	47	ePKPdf	PKPdf	11 09 12.7	-0.4
WRAB				LR	LR		
	comp=Z,5µm,20.0s						
WRAB	Tennant Creek	116.69	47	ePKIKP	PKPdf	11 09 12.7	-0.4
WRA	Warramunga Arr	116.70	47	PKP	PKPdf	11 09 12.8	-0.4
	comp=Z,2.5nm,0.7s,baz=346,slow=2.4,SNR=22						
WRA				PP	PP	11 10 26.1	+4.9
	comp=Z,28nm,1.2s,baz=352,slow=7.7,SNR=7.5						
WRA				PKKPbc	PKKPbc	11 19 39.9	+2.9
	comp=Z,16nm,1.2s,baz=174,slow=3.1,SNR=15						
WRA				SKKPbc	SKKPbc	11 23 27.3	+7.0
	comp=Z,4.4nm,1.0s,baz=144,slow=2.2,SNR=5.0						
WRA	Warramunga Arr	116.70	47	PKP	PKPdf	11 09 12.8	-0.4
WRA				PP	PP	11 10 26.1	+4.9
WRA				PKKPbc	PKKPbc	11 19 39.9	+2.9
WRA				SKKPbc	SKKPbc	11 23 27.3	+7.0
WRA	Warramunga Arr	116.70	47	PKIKP	PKPdf	11 09 12.8	-0.4
CFAA	Coronel Fontan	117.12	241	PKP	PKPdf	11 09 13.5	-0.2
	comp=Z,0.2nm,0.5s,baz=337,slow=1.6,SNR=4.6						
CFAA	Coronel Fontan	117.12	241	PKP	PKPdf	11 09 13.5	-0.2
CFAA	Coronel Fontan	117.12	241	PKIKP	PKPdf	11 09 13.5	-0.2
TRIS	Tristan da Cun	117.28	189	PFAKE		11 09 30.0	+16
TRIS				LR	LR		
	comp=Z,7µm,19.0s						
MSVF	Nonsavu	117.37	360	ePKIKP	PKPdf	11 09 16.3	+1.7
MSVF				MLR	MLR		
	comp=Z,5µm,19.0s						
MSVF	Nonsavu	117.37	360	ePKPdf	PKPdf	11 09 16.3	+1.7
MSVF				LR	LR		
	comp=Z,5µm,19.0s						
MSVF	Nonsavu	117.37	360	ePKIKP	PKPdf	11 09 16.3	+1.7
CTAO	Charters Tower	118.15	34	PFAKE		11 09 30.0	+14
CTAO				LR	LR		
	comp=Z,5µm,22.0s						
RKT	Rikitea	119.42	309	ePP	PP	11 10 33.5	-6.5
	comp=Z,369nm,27.0s						
RKT				eSdif	Sdif	11 18 30.6	+0.9
	comp=Z,1µm,28.8s						
RKT				eSP	SP	11 20 26.8	+0.1
	comp=Z,1µm,24.2s						
RKT				eSS	SKKSdf	11 27 06.5	-0.7
	comp=Z,11µm,33.2s						
RKT				eLQ	LQ	11 40 43.3	
	comp=Z,15µm,41.0s						

RKT				eLR	LR	11 45 48.3	
	comp=Z,14µm,31.8s						
RPN	Rapa Nui	119.47	282	PFAKE		11 09 30.0	+12
RPN				LR	LR		
	comp=Z,11µm,20.0s						
RAR	Rarotonga	120.06	336	PFAKE		11 09 30.0	+10
RAR				LR	LR		
	comp=Z,9µm,19.0s						
AS31	Alice Springs	120.32	48	ePKPdf	PKPdf	11 09 19.0	-1.1
AS31	Alice Springs	120.32	48	ePKIKP	PKPdf	11 09 19.0	-1.1
ASAR	Alice Springs	120.32	48	PKP	PKPdf	11 09 18.5	-1.6
	comp=Z,6.8nm,0.7s,baz=351,slow=1.9,SNR=74						
ASAR				PP	PP	11 10 53.0	+6.7
	comp=Z,8.9nm,1.2s,baz=350,slow=5.4,SNR=4.9						
ASAR				PKKPbc	PKKPab	11 19 26.6	-1.4
	comp=Z,2.3nm,0.9s,baz=168,slow=3.7,SNR=10						
ASAR				SKKPbc	SKKPbc	11 23 07.6	-1.5
	comp=Z,4.4nm,1.1s,baz=158,slow=3.5,SNR=4.5						
ASAR	Alice Springs	120.32	48	PKP	PKPdf	11 09 18.5	-1.6
ASAR				PP	PP	11 10 53.0	+6.7
ASAR				PKKPbc	PKKPab	11 19 26.6	-1.4
ASAR				SKKPbc	SKKPbc	11 23 07.6	-1.5
ASAR	Alice Springs	120.32	48	PKIKP	PKPdf	11 09 18.5	-1.6
TBI	Tubuai	121.31	325	ePP	PP	11 10 33.1	-20
	comp=Z,478nm,28.8s						
TBI				eSdif	Sdif	11 18 48.5	+3.0
	comp=Z,692nm,28.5s						
TBI	Tubuai	121.31	325	ePS	PS	11 20 46.5	+2.4
	comp=Z,2µm,25.0s						
TBI				eSS	SS	11 27 30.0	+4.1
	comp=Z,13µm,31.8s						
TBI				eLQ	LQ	11 41 17.3	
	comp=Z,6µm,38.0s						
TBI				eLR	LR	11 46 40.6	
	comp=Z,14µm,24.0s						
DZM	Mont Dzumac	121.47	13	ePP	PP	11 10 45.7	-8.4
	comp=Z,458nm,27.1s						
DZM				eSS	SS	11 27 32.8	+4.7
	comp=Z,14µm,28.9s						
DZM				eLQ	LQ	11 41 21.9	
	comp=Z,18µm,35.3s						
DZM				eLR	LR	11 46 46.0	
	comp=Z,12µm,21.9s						
DZM	Mont Dzumac	121.47	13	PKP	PKPdf	11 09 23.8	+1.4
	comp=Z,10nm,1.1s,baz=74,slow=6.6,SNR=11						
DZM				PP	PP	11 10 59.1	+4.9
	comp=Z,16nm,1.2s,baz=199,slow=14,SNR=3.8						
DZM	Mont Dzumac	121.47	13	PKP	PKPdf	11 09 23.8	+1.4
DZM				PP	PP	11 10 59.1	+4.9
DZM	Mont Dzumac	121.47	13	PKIKP	PKPdf	11 09 23.8	+1.4
TRQA	Tornquist	122.56	234	ePKPdf	PKPdf	11 09 24.0	+0.1
TRQA				LR	LR		
	comp=Z,11µm,21.0s						
TRQA	Tornquist	122.56	234	ePKIKP	PKPdf	11 09 24.0	+0.1
EIDS	Eidsvold	123.81	30	ePKPdf	PKPdf	11 09 27.1	+0.4
EIDS	Eidsvold	123.81	30	ePKIKP	PKPdf	11 09 27.1	+0.4
PLCA	Paso Flores	126.42	242	PKP	PKPdf	11 09 30.5	-0.7
	comp=Z,17nm,1.2s,baz=92,slow=8.9,SNR=3.1						
PLCA	Paso Flores	126.42	242	PKP	PKPdf	11 09 30.5	-0.7
PLCA				ePKPdf	PKiKP	11 09 31.6	-0.1
PLCA	Paso Flores	126.42	242	PKIKP	PKPdf	11 09 30.5	-0.7
FORT	Forrest	126.55	55	ePKPdf	PKPdf	11 09 31.6	-0.1
FORT	Forrest	126.55	55	ePKIKP	PKPdf	11 09 31.6	-0.1
NWAO	Narrogin (SRO)	127.06	67	ePKPdf	PKPdf	11 09 32.8	+0.2
NWAO				LR	LR		
	comp=Z,13µm,20.0s						
NWAO	Narrogin (SRO)	127.06	67	ePKIKP	PKPdf	11 09 32.8	+0.2
ARMA	Armidale	128.87	30	ePKPdf	PKPdf	11 09 38.1	+1.8
ARMA	Armidale	128.87	30	ePKIKP	PKPdf	11 09 38.1	+1.8
STKA	Stephens Creek	129.34	41	PKP	PKPdf	11 09 37.1	+0.1
	comp=Z,14nm,1.2s,baz=7.5,slow=0.2,SNR=8.6						
STKA	Stephens Creek	129.34	41	PKP	PKPdf	11 09 37.1	+0.1
STKA				ePKPdf	PKiKP	11 09 37.5	-0.3
STKA	Stephens Creek	129.34	41	PKIKP	PKPdf	11 09 37.1	+0.1
BBOO	Buckleboo	129.61	47	ePKPdf	PKPdf	11 09 36.8	-0.7
BBOO	Buckleboo	129.61	47	ePKIKP	PKPdf	11 09 36.8	-0.7
CAN	Canberra	133.50	33	PFAKE		11 10 00.0	+15
CAN				LR	LR		
	comp=Z,6µm,20.0s						
PAF	Port-aux-Franc	135.38	118	PFAKE		11 10 00.0	+12
PAF				LR	LR		
	comp=Z,15µm,19.0s						
EFI	East Falkland	135.43	227	PFAKE		11 10 00.0	+12
EFI				LR	LR		
	comp=Z,15µm,22.0s						
USHA	Ushuaia	139.88	235	PKP	PKPdf	11 09 55.2	-0.7
	comp=Z,18nm,1.0s,baz=157,slow=4.9,SNR=3.4						
USHA	Ushuaia	139.88	235	PKP	PKPdf	11 09 55.2	-0.7
USHA	Ushuaia	139.88	235	PKIKP	PKPdf	11 09 55.2	-0.7
SNZO	South Karori	140.85	4	PFAKE		11 10 10.0	+12
SNZO				LR	LR		
	comp=Z,6µm,20.0s						
ODZ	Otahua Downs	144.50	9	ePKPdf	PKPdf	11 10 04.0	-0.5
ODZ	Otahua Downs	144.50	9	ePKIKP	PKPdf	11 10 04.0	-0.5
PMSA	Palmer Station	148.93	227	PKPbc	PKPbc	11 10 13.4	-1.9
	comp=Z,48nm,0.9s,baz=37,slow=4.8,SNR=4.2						
PMSA	Palmer Station	148.93	227	ePKPbc	PKPbc	11 10 16.3	+1.0
PMSA				LR	LR		
	comp=Z,8µm,20.0s						
PMSA	Palmer Station	148.93	227	ePKPbc	PKPbc	11 10 16.3	+1.0
VNA1	Neumayer--Stat	150.82	184	eP	PKPbc	11 10 21.0	+1.3
SYO	Syowa Base	150.89	151	⇑iP	PKPdf	11 10 16.8	+2.6
SYO	Syowa Base	150.89	151	⇓iP	PKPbc	11 10 20.0	+0.1
VNA2	Neumayer--Watz	151.09	184	ePKPdf	PKPdf	11 10 11.3	-3.2
	baz=346,slow=3.9						
VNA2	Neumayer--Watz	151.09	184	eP	PKPbc	11 10 21.3	+0.9
	baz=346,slow=3.9						
MAIT	Maitri	151.09	171	eP	PKPbc	11 10 21.9	+1.5
VNA3	Neumayer Olymp	151.44	185	ePKPdf	PKPdf	11 10 11.7	-3.4
VNA3	Neumayer Olymp	151.44	185	eP	PKPbc	11 10 22.1	+0.9
MAW	Mawson	151.97	132	PKPbc	PKPbc	11 10 23.6	+1.2
	comp=Z,71nm,1.0s,baz=306,slow=4.4,SNR=7.6						
MAW	Mawson	151.97	132	PKPbc	PKPbc	11 10 23.6	+1.2
MAW	Mawson	151.97	132	PKPbc	PKPbc	11 10 23.6	+1.2
CASY	Casey	158.05	90	PFAKE		11 10 40.0	+16
CASY				LR	LR		
	comp=Z,11µm,19.0s						
DRV	Dumont d'Urvil	163.16	58	Pdif	PKPdf	11 10 28.0	-1.8
DRV	Dumont d'Urvil	163.16	58	PP	PP	11 14 43.0	-23
DRV				SKKS		11 21 23.0	
QSPA	South Pole Qui	170.31	180	PKP	PKPdf	11 10 29.1	-6.2
	comp=Z,12nm,1.3s,baz=207,slow=2.8,SNR=5.6						
QSPA				PKPab	PKPab	11 11 51.2	-0.9
	comp=Z,65nm,1.0s,baz=243,slow=2.3,SNR=24						
QSPA	South Pole Qui	170.31	180	ePKPdf	PKPdf	11 10 28.8	-6.5
QSPA				PKP		11 10 29.1	
QSPA				PKPab	PKPab	11 11 51.2	-0.9
QSPA				LR	LR		
	comp=Z,13µm,21.0s						
VNDA	Vanda	175.81	56	PKP	PKPdf	11 10 30.1	-7.1
	comp=Z,5.6nm,1.3s,baz=278,slow=3.2,SNR=9.3						
VNDA				PKPab	PKPab	11 12 15.5	-0.7
	comp=Z,15nm,1.1s,baz=312,slow=4.7,SNR=8.9						
VNDA	Vanda	175.81	56	PKP	PKPdf	11 10 30.1	-7.1
VNDA				ePKPdf	PKPdf	11 10 33.2	-4.0
VNDA				PKPab	PKPab	11 12 15.5	-0.7
SBA	Scott Base	176.73	47	ePKIKP	PKPdf	11 10 34.4	-3.0
SBA				MLR	MLR		
	comp=Z,11µm,22.0s						
SBA	Scott Base	176.73	47	ePKPdf	PKPdf	11 10 34.4	-3.0
SBA				LR	LR		
	comp=Z,11µm,22.0s						

IDC 06 11:07:53.4±13.0,17.99S×177.86W,h601km±121km, mb3.2/4,mb1 3.4/4,mb1mx3.1/19,mbtmp3.2/4,Error ellipse: s-maj=141.7km s-min=29.2km az=125.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.13	260	P	P	11 15 17.6	-0.4
	1.4nm,0.4s,baz=95,slow=7.5,SNR=58						
WRA				PcP	PcP	11 16 44.4	-1.0
	0.8nm,0.9s,baz=90,slow=3.8,SNR=7.6						
ASAR	Alice Springs	45.27	254	P	P	11 15 19.4	+0.3
	3.4nm,0.6s,baz=90,slow=8.1,SNR=54						
ASAR				PcP	PcP	11 16 45.5	-0.4
	0.9nm,0.4s,baz=105,slow=3.9,SNR=12						
PETK	Petropavlovsk-	73.89	345	P	P	11 18 27.9	-0.1
	0.8nm,0.6s,baz=124,slow=10,SNR=5.1						
ILAR	Eielson Array	85.85	13	P	P	11 19 29.8	-0.3
	0.4nm,0.4s,baz=216,slow=4.8,SNR=12						
ARCES	ARCESS Array B	126.49	350	PKP	PKPdf	11 25 48.3	-0.2
	2.6nm,0.9s,baz=11,slow=1.2,SNR=6.3						
BRTR	Keskin Array B	145.21	315	PKPbc	PKPbc	11 26 24.8	-0.4
	1.1nm,0.6s,baz=150,slow=3.8,SNR=5.0						
GERES	GERESS Array B	147.82	346	PKPbc	PKPbc	11 26 31.7	-0.2
	0.2nm,0.3s,baz=18,slow=4.8,SNR=5.6						

BJI 06 11:29:50.3,45.00N×111.94W,h24km,mb4.8/3
ISCJB 06 11:29:53.4±0.3,45.722N±0.008×112.13W±0.01, h2km±2km,mb3.9/6,Error ellipse: s-maj=1.6km s-min=1.4km az=148.1
IDC 06 11:29:54.1±0.6,45.74N×112.12W,h0km,mb4.1/6, mb1 4.0/13,mb1mx3.9/34,mbtmp3.8/13,ML3.6/5,MS4.5/2, Ms1 4.5/2,ms1mx4.2/52,Error ellipse: s-maj=10.4km s-min=8.4km az=76.0
NEIC 06 11:29:54.5,45.70N×112.13W,h12km,mb4.0/1, ML4.2(BUT),After BUT.
NEIC Felt [IV] at Pony, [III] at Whitehall and [II] at Bozeman, Harrison, Helena and Sheridan. Also felt at Belgrade, Big Sky, Cardwell, Ennis, Livingston, Manhattan, McAllister, Norris, Silver Star and Twin Bridges.
ISC 06 11:29:54.0±0.9,45.71N±0.01×112.13W±0.01,h9km±6km, n218,σ1§22/307,mb4.1/6,78C-75D,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRM	Limekiln Ridge	0.25	296	ePg	Pg	11 29 59.5	+0.3
F15A	Butte	0.29	297	⇓P	Pg	11 30 00.1	+0.2
	baz=0.3,SNR=1000						
F15A				⇓S	Sg	11 30 04.3	+0.5
	baz=0.3						
BOZ	Bozeman (W)	0.35	100	ePg	Pg	11 30 01.2	+0.1
BOZ				eSg	Sg	11 30 06.5	+0.7
BOZ	Bozeman (W)	0.35	100	⇓P	Pg	11 30 01.2	+0.1
	baz=0.4,SNR=1000						
BOZ				⇓S	Sg	11 30 06.1	+0.2
	baz=0.4						
BOZ				⇓S	Sg	11 30 06.1	+0.2
	baz=0.4						
F16A	Kennard Place,	0.36	78	⇓P	Pg	11 30 01.3	+0.2
	baz=0.4,SNR=1000						
F16A				⇓S	Sg	11 30 06.2	+0.3
	baz=0.4						
DLMT	Dillon	0.48	224	ePg	Pg	11 30 03.5	+0.1
DLMT				eSg	Sg	11 30 10.2	+0.4
G16A	Moss Hill, Enn	0.53	155	⇓P	Pg	11 30 04.5	+0.1
	baz=0.5,SNR=1000						
G16A				⇑S	Sg	11 30 11.4	0.0
	baz=0.5						
G15A	Dillon	0.60	205	⇑P	Pg	11 30 05.5	-0.2
	baz=0.6,SNR=1000						
G15A				⇓S	Sg	11 30 13.4	-0.3
	baz=0.6						
E15A	Deer Lodge	0.80	334	⇑P	Pg	11 30 09.7	+0.2
	baz=0.8,SNR=1000						
E15A				⇓S	Sg	11 30 20.1	+0.2
	baz=0.8						
F14A	Wisdom	0.88	277	P	Pg	11 30 11.2	+0.3
	baz=0.9,SNR=1000						
F14A				⇑S	Sg	11 30 22.5	+0.2
	baz=0.9						
E16A	East Helena	0.88	21	⇑P	Pg	11 30 11.2	+0.2
	baz=0.9,SNR=1000						
E16A				⇑S	Sg	11 30 22.7	+0.2
	baz=0.9						
QLMT	Earthquake Lak	1.01	151	ePg	Pg	11 30 13.2	-0.3
QLMT				eSg	Sg	11 30 26.8	+0.3
MCMT	McKenzie Canyo	1.02	210	ePg	Pg	11 30 13.3	-0.3
MCMT				eSg	Sg	11 30 25.4	-1.5
HRY	Holter Researc	1.02	11	ePg	Pg	11 30 13.8	+0.1
F17A	Fitzpatrick Pl	1.04	79	⇑P	Pg	11 30 14.0	-0.1
	baz=1.0,SNR=1000						
F17A				⇓S	Sg	11 30 27.5	-0.2
	baz=1.0						
G14A	Jackson	1.05	244	P	Pg	11 30 14.3	+0.1
	baz=1.0,SNR=1000						
G17A	Pierce Place,	1.05	111	⇑P	Pg	11 30 14.0	-0.2
	baz=1.0,SNR=1000						
G17A				⇓S	Sg	11 30 28.3	+0.4
	baz=1.0						
H15A	Lima	1.15	199	P	Pg	11 30 15.7	-0.5
	baz=1.1,SNR=1000						
H15A				⇑S	Sg	11 30 30.9	-0.3
	baz=1.1						
E17A	Martinsdale	1.16	49	⇑P	Pg	11 30 16.3	-0.1
	baz=1.2,SNR=1000						
E17A				⇑S	Sg	11 30 31.7	+0.3
	baz=1.2						
H16A	Russell Place,	1.18	148	⇓P	Pg	11 30 16.5	-0.3
	baz=1.2,SNR=1000						
H16A				⇓S	Sg	11 30 32.0	-0.2
	baz=1.2						
E14A	Clinton	1.18	307	⇑P	Pg	11 30 16.8	0.0
	baz=1.2,SNR=1000						
E14A				⇓S	Sg	11 30 32.7	+0.6
	baz=1.2						
YMR	Madison River	1.33	141	ePn	Pb	11 30 19.3	+0.1
YMR				eSn	Sg	11 30 36.9	+0.2
D15A	Lincoln	1.36	349	P	Pn	11 30 19.9	+0.6
	baz=1.4,SNR=1000						
D15A				⇑S	Sn	11 30 38.3	+0.8
	baz=1.4						
D16A	Dana Ranch, Ca	1.38	17	⇓P	Pb	11 30 20.2	+0.1
	baz=1.4,SNR=1000						
D16A				⇓S	Sg	11 30 38.7	+0.3
	baz=1.4						
H14A	Leadore	1.40	219	⇑P	Pn	11 30 20.1	+0.2
	baz=1.4,SNR=1000						
H14A				⇑S	Sg	11 30 39.6	+0.4
	baz=1.4						
YNR	Norris Junctio	1.43	134	ePn	Pb	11 30 21.0	0.0
YNR				eSn	Sb	11 30 39.2	-0.1
CHMT	Chamberlain Mo	1.43	327	ePn	Pn	11 30 21.1	+0.7
CHMT				eSn	Sb	11 30 38.5	-1.0
F13A	Darby	1.55	274	⇑P	Pn	11 30 22.1	+0.3
	baz=1.5,SNR=1000						
F13A				⇓S	Sb	11 30 43.2	+0.6
	baz=1.5						
YFT	Old Faithful	1.56	144	ePg	Pb	11 30 23.6	+0.5
YFT				eSn	Sn	11 30 42.2	-0.3
G13A	Cobalt	1.61	248	⇓P	Pn	11 30 23.2	+0.5
	baz=1.6,SNR=1000						
G13A				⇑S	Sb	11 30 45.2	+0.8
	baz=1.6						
E13A	Victor	1.61	298	⇑P	Pn	11 30 23.2	+0.5
	baz=1.6,SNR=1000						
E13A				⇑S	Sb	11 30 45.2	+0.7
	baz=1.6						
D14A	Greenough	1.67	326	⇓P	Pn	11 30 24.0	+0.5
	baz=1.7,SNR=1000						
D14A				⇑S	Sb	11 30 46.9	+0.7
	baz=1.7						
LKWY	Lake	1.68	133	ePg	Pg	11 30 26.0	-0.2
LKWY				eSg	Sg	11 30 47.9	0.0
MSO	Missoula	1.68	312	ePn	Pn	11 30 24.5	+0.8
MSO				eSg	Sg	11 30 48.2	+0.1
MSO	Missoula	1.68	312	⇓P	Pn	11 30 24.3	+0.6
	baz=1.7,SNR=510						
MSO				⇓S	Sb	11 30 46.9	+0.3
	baz=1.7						
F18A	Big Timber	1.70	83	⇓P	Pn	11 30 24.8	+0.9
	baz=1.7,SNR=1000						
F18A				⇑S	Sb	11 30 47.0	0.0
	baz=1.7						
H17A	Grant Village	1.71	140	⇑Pb	Pg	11 30 26.6	-0.3
	baz=1.7						
GCMT	Greycliff	1.72	86	ePn	Pb	11 30 25.7	-0.2
GCMT				eSn	Sn	11 30 46.3	-0.2
I15A	Monteview	1.73	189	⇑P	Pn	11 30 25.2	+0.9
	baz=1.7,SNR=152						
I15A				⇑S	Sb	11 30 48.7	+0.8
	baz=1.7						
D17A	Six Diamond Ra	1.75	34	P	Pn	11 30 24.9	+0.2
	baz=1.8,SNR=669						
D17A				⇑S	Sb	11 30 48.6	+0.1
	baz=1.8						
E18A	Harlowton	1.76	60	⇑P	Pn	11 30 25.2	+0.4
	baz=1.8,SNR=981						
E18A				⇑S	Sb	11 30 48.7	-0.1
	baz=1.8						
SLMT	Seeley Lake	1.80	329	ePn	Pn	11 30 25.9	+0.5
G18A	Lazy EL Ranch,	1.84	101	P	Pn	11 30 27.1	+1.2
	baz=1.8,SNR=1000						
G18A				⇑S	Sn	11 30 50.4	+0.9
	baz=1.8						
I16A	Newdale	1.89	166	⇑Pb	Pb	11 30 29.1	+0.3
	baz=1.9,SNR=196						
I16A				⇑S	Sb	11 30 53.0	+0.4
	baz=1.9						
H13A	Challis	1.89	233	P	Pn	11 30 27.1	+0.5
	baz=1.9,SNR=1000						
H13A				⇓Sb	Sg	11 30 54.6	-0.3
	baz=1.9						
FLWY	Flagg Ranch	1.92	148	ePn	Pb	11 30 29.0	-0.3
FLWY				eSn	Sn	11 30 51.3	-0.1
H18A	Shoshone NF, C	2.02	120	⇓P	Pn	11 30 29.4	+0.8
	baz=2.0,SNR=1000						
H18A				⇑S	Sb	11 30 56.2	-0.3
	baz=2.0						
C15A	Salmond Ranch,	2.09	351	P	Pn	11 30 29.8	+0.4
	baz=2.1,SNR=720						
C15A				⇑S	Sn	11 30 57.5	+1.9
	baz=2.1						
RLMT	Red Lodge	2.10	105	ePn	Pb	11 30 31.7	-0.6
RLMT				eSg	Sb	11 31 00.1	+1.5
RLMT	Red Lodge	2.10	105	⇑P	Pn	11 30 30.8	+1.3
	baz=2.1,SNR=1000						
RLMT				⇑S	Sn	11 30 57.6	+1.7
	baz=2.1						
RLMT				⇑S	Sn	11 30 57.6	+1.7
	baz=2.1						
I17A	Pilgrim Ck.	2.10	148	⇑Pb	Pb	11 30 32.6	+0.2
	baz=2.1						
I17A				⇓Sb	Sg	11 31 01.4	-0.3
	baz=2.1						
C16A	Fuhringer Ranc	2.11	7	P	Pn	11 30 29.9	+0.4
	baz=2.1,SNR=557						
C16A				⇓S	Sn	11 30 56.9	+1.0
	baz=2.1						
D13A	Huson	2.13	311	⇑P	Pn	11 30 30.5	+0.7
	baz=2.1,SNR=103						
D13A				⇓Sb	Sg	11 31 02.0	-0.3
	baz=2.1						
C17A	Wharram Farm,	2.14	26	P	Pn	11 30 30.3	+0.3
	baz=2.1,SNR=380						
C17A				⇓S	Sn	11 30 57.7	+1.0
	baz=2.1						
D18A	Linhart Farms,	2.19	46	⇓P	Pn	11 30 31.4	+0.7
	baz=2.2,SNR=30						
D18A				⇑Sb	Sg	11 31 03.4	-0.9
	baz=2.2						
MOOW	Moose Ponds	2.19	153	ePn	Pn	11 30 31.5	+0.6
MOOW				eSg	Sb	11 31 02.7	+1.3
SWMT	Swartz Lake	2.21	325	ePn	Pn	11 30 31.7	+0.7
SWMT				eSg	Sg	11 31 04.7	-0.5
DCID1	Drake Creek	2.22	162	ePn	Pb	11 30 34.5	+0.1
DCID1				eSn	Sn	11 30 58.6	-0.2
F19A	Roth Farm, Mol	2.23	85	⇓P	Pn	11 30 32.3	+1.1
	baz=2.2,SNR=526						
F19A				⇓S	Sn	11 31 00.2	+1.2
	baz=2.2						
H12A	Diamond D Ranc	2.25	240	⇓P	Pn	11 30 32.2	+0.6
	baz=2.2,SNR=58						
H12A				⇓S	Sn	11 31 01.0	+1.4
	baz=2.2						
I13A	Wildhorse Cree	2.29	219	⇓P	Pn	11 30 32.7	+0.6
	baz=2.3,SNR=159						
I13A				⇓Sb	Sb	11 31 05.7	+1.7
	baz=2.3						
J15A	Blackfoot	2.32	186	⇓P	Pn	11 30 33.7	+1.2
	baz=2.3,SNR=431						
J15A				⇑Sb	Sg	11 31 07.1	-1.4
	baz=2.3						
G12A	Big Creek, Yel	2.33	257	P	Pn	11 30 33.4	+0.8
	baz=2.3,SNR=136						
G12A				⇑Sb	Sb	11 31 07.3	+2.2
	baz=2.3						
LOHW	Long Hollow	2.36	152	ePn	Pb	11 30 36.1	-0.8
LOHW				eSn	Sn	11 31 02.1	-0.3
TPAW	Teton Pass	2.37	159	ePn	Pb	11 30 36.5	-0.6
TPAW				eSg	Sg	11 31 10.2	-0.1
RRI2	Red Ridge	2.43	166	ePn	Pb	11 30 37.8	-0.3
RRI2				eSg	Sb	11 31 10.2	+1.9
E19A	Rath Farm, Rou	2.44	71	⇓P	Pn	11 30 35.5	+1.4
	baz=2.4,SNR=554						
E19A				⇓Sb	Sb	11 31 09.5	+1.1
	baz=2.4						
SNOW	Snow King Moun	2.45	156	ePn	Pb	11 30 37.8	-0.6
SNOW				eSg	Sg	11 31 12.5	-0.3
H19A	Powell	2.45	114	⇑P	Pn	11 30 36.1	+1.8
	baz=2.4,SNR=127						
H19A				⇑Sb	Sb	11 31 10.8	+2.1
	baz=2.4						
J16A	Bone	2.46	171	⇓P	Pb	11 30 36.9	-1.6
	baz=2.5						
J16A				⇑Sb	Sb	11 31 11.0	+1.9
	baz=2.5						
YBMT	Yellow Bay	2.51	330	ePn	Pn	11 30 36.5	+1.4
YBMT				eSn	Sn	11 31 06.4	+0.4
JTMT	Jette	2.52	325	ePn	Pn	11 30 36.3	+1.1
JTMT				eSg	Sg	11 31 14.8	-0.1
REDW	Red Top Meadow	2.52	158	ePn	Pb	11 30 39.1	-0.5
REDW				eSn	Sn	11 31 07.4	+1.2
J17A	Brown Place, J	2.56	156	⇑Pb	Pb	11 30 40.4	+0.3
	baz=2.5						
J17A				⇓Sb	Sb	11 31 14.3	+2.5
	baz=2.5						
C13A	Hot Springs	2.59	320	P	Pn	11 30 37.1	+1.0
	baz=2.6,SNR=68						
C13A				⇓Sb	Sb	11 31 15.2	+2.6
	baz=2.6						
I18A	Diamond G Ranc	2.60	140	⇑Pb	Pb	11 30 41.5	+0.6
	baz=2.6						
B15A	Bradely Ranch,	2.62	354	P	Pn	11 30 37.1	+0.5
	baz=2.6,SNR=1000						
B15A				⇓S	Sn	11 31 09.6	+1.0
	baz=2.6						
D19A	Cripps Ranch,	2.67	56	⇑P	Pn	11 30 38.4	+1.1
	baz=2.7,SNR=68						
D19A				⇓Sb	Sb	11 31 16.5	+1.5
	baz=2.7						
HLID	Hailey	2.70	218	P	Pn	11 30 38.8	+1.1
	baz=2.7,SNR=761						
HLID				⇓Sb	Sb	11 31 17.8	+2.0
	baz=2.7						
B16A	M & M Farms, S	2.72	6	⇓P	Pn	11 30 38.7	+0.7
	baz=2.7,SNR=271						
B16A				⇓Sb	Sb	11 31 19.0	+2.7
	baz=2.7						
J13A	Cove Ranch, Pi	2.74	213	⇑P	Pn	11 30 39.3	+1.1
	baz=2.7,SNR=14						
B17A	L&G Farms, Che	2.74	19	P	Pn	11 30 39.0	+0.8
	baz=2.7,SNR=169						
B17A				⇑Sb	Sb	11 31 19.7	+2.8
	baz=2.7						
B14A	Marquette Ranc	2.77	344	⇑P	Pn	11 30 39.4	+0.8
	baz=2.8,SNR=16						
BLMT	Blacktail Moun	2.77	327	ePn	Pn	11 30 39.2	+0.5
BLMT				eSg	Sg	11 31 21.3	-1.6
F20A	Billings	2.79	87	⇑Pb	Pb	11 30 44.1	+0.1
	baz=2.8						
I19A	Meeteetse	2.79	126	⇑Pb	Pb	11 30 44.5	+0.4
	baz=2.8						
G20A	Bridger	2.80	99	⇑P	Pn	11 30 40.8	+1.7
	baz=2.8,SNR=120						
BSMT	Bassoo Peak	2.81	320	ePn	Pn	11 30 39.6	+0.3
BSMT				eSg	Sb	11 31 22.4	+3.2
EGMT	Eagleton	2.83	34	ePn	Pn	11 30 40.4	+1.0
EGMT				eSn	Sn	11 31 14.8	+1.1
EGMT	Eagleton	2.83	34	⇑P	Pn	11 30 40.3	+0.8
	baz=2.8,SNR=38						
I12A	Atlanta	2.87	229	⇑P	Pn	11 30 40.8	+0.7
	baz=2.9						
E20A	Meyer Farm, Mu	2.89	73	P	Pn	11 30 41.6	+1.3
	baz=2.9,SNR=24						
E20A				⇑Pb	Pb	11 30 46.6	+0.8
	baz=2.9						
K16A	Soda Springs	2.90	172	⇓Pb	Pb	11 30 46.4	+0.3
	baz=2.9						
J18A	Kendall Valley	2.92	148	⇑Pb	Pb	11 30 46.7	+0.4
	baz=2.9						
C19A	Slack Wire Ran	2.93	45	⇑P	Pn	11 30 41.9	+1.1
	baz=2.9,SNR=84						
AHID	Auburn Hatcher	3.04	166	ePn	Pb	11 30 46.8	-1.6
AHID				eSg	Sg	11 31 32.7	+1.2
K15A	Arbon	3.04	186	⇓P	Pn	11 30 43.8	+1.4
	baz=3.0						
C12B	Naegeli Ranch,	3.05	312	⇓P	Pn	11 30 43.5	+1.0
	baz=3.0,SNR=84						
K17A	Gardner Place,	3.08	163	⇑Pb	Pb	11 30 49.2	+0.1
	baz=3.1						
D20A	Manuel Ranch,	3.09	62	⇑P	Pn	11 30 44.0	+1.0
	baz=3.1,SNR=22						

B13A	Whitefish	3.11	330	⇓P	Pn	11 30 44.0	+0.7
	baz=3.1,SNR=62						
B18A	Beardsley Farm	3.13	30	⇓P	Pn	11 30 44.3	+0.8
	baz=3.1,SNR=106						
H20A	Greybull	3.17	111	⇓P	Pn	11 30 46.0	+1.9
	baz=3.2						
K14A	Jones Ranch, D	3.25	194	⇓P	Pn	11 30 46.7	+1.4
	baz=3.2,SNR=16						
J19A	Crowheart	3.29	137	⇓Pb	Pb	11 30 52.1	-0.5
	baz=3.3						
A15A	Johnson Ranch,	3.29	353	⇓P	Pn	11 30 46.5	+0.6
	baz=3.3,SNR=30						
I20A	Worland	3.35	120	⇑Pb	Pb	11 30 54.0	+0.4
	baz=3.3						
A17A	Triple J Farms	3.38	16	P	Pn	11 30 47.5	+0.5
	baz=3.4,SNR=62						
A14A	Double T Ranch	3.38	345	⇓P	Pn	11 30 48.0	+1.0
	baz=3.4,SNR=36						
K18A	Toltan Ranch,	3.42	153	⇑Pb	Pb	11 30 55.2	+0.3
	baz=3.4						
C20A	Veseth Ranch,	3.47	53	⇓P	Pn	11 30 49.2	+0.9
	baz=3.5						
BW06	Boulder Array	3.47	147	Pn	Pn	11 30 47.5	-0.9
BW06				ePg	Pb	11 30 56.2	+0.4
BW06				eSg	Sg	11 31 43.6	-2.0
BW06	Boulder Array	3.47	147	⇓Pb	Pb	11 30 56.1	+0.3
	baz=3.5						
PDAR	Pinedale Array	3.47	147	Pn	Pb	11 30 54.4	-1.4
	6.7nm,0.3s,baz=350,slow=14,SNR=123						
PDAR				Lg	Lg	11 31 40.7	
	4.2nm,0.3s,baz=351,slow=29,SNR=8.5						
PDAR				LR	LR	11 32 30.9	
	comp=Z,6μm,19.6s,baz=172,slow=45						
PDAR	Pinedale Array	3.47	147	Pn	Pb	11 30 54.4	-1.4
PDAR				Lg	Lg	11 31 40.7	
G21A	Lodge Grass	3.50	96	⇑P	Pn	11 30 50.9	+2.2
	baz=3.5						
B19A	Brinkman Farms	3.50	37	⇑P	Pn	11 30 49.8	+1.1
	baz=3.5,SNR=20						
MFID	Camas Ranch	3.50	230	ePn	Pn	11 30 49.9	+1.1
MFID				eSg	Sg	11 31 43.9	-2.6
MFID	Camas Ranch	3.50	230	⇑P	Pn	11 30 49.8	+1.1
	baz=3.5,SNR=81						
F21A	Absaloka Mine,	3.50	86	⇓P	Pn	11 30 49.9	+1.2
	baz=3.5						
C11A	Tepee Creek (N	3.55	308	⇑P	Pn	11 30 50.2	+0.9
	baz=3.5						
WALA	Waterton Lakes	3.56	341	ePn	Pn	11 30 47.4	-2.2
WALA				eSg	Sg	11 31 46.5	-1.9
A18A	Metzger Ranch,	3.57	25	⇓P	Pn	11 30 49.9	+0.4
	baz=3.6,SNR=122						
A13A	Flathead Natio	3.58	335	⇑P	Pn	11 30 51.1	+1.3
	baz=3.6						
B12A	Libby	3.63	321	⇑P	Pn	11 30 51.5	+1.0
	baz=3.6						
L17A	Cokeville	3.72	165	⇓Pb	Pb	11 31 00.8	+0.8
	baz=3.7						
L16A	Fish Haven	3.73	172	⇓Pb	Pb	11 31 00.2	+0.1
	baz=3.7						
J20A	Shoshoni	3.73	128	⇑Pb	Pb	11 31 01.2	+1.1
	baz=3.7						
BMO	Blue Mountains	3.75	259	ePn	Pn	11 30 51.2	-1.0
BMO				eSg	Sg	11 31 55.7	+1.1
H21A	Big Horn, Sher	3.76	105	⇑P	Pn	11 30 53.9	+1.7
	baz=3.7						
L14A	Malta	3.76	193	⇓Pb	Pb	11 31 00.6	0.0
	baz=3.8						
D21A	La Casta Ranch	3.80	67	⇓P	Pn	11 30 54.7	+1.9
	baz=3.8						
B20A	Solberg Farm,	3.91	44	⇓P	Pn	11 30 55.4	+1.0
	baz=3.9,SNR=18						
I21A	Big Trails, Te	3.93	117	⇓Pb	Pb	11 31 03.9	+0.3
	baz=3.9						
A19A	Klindworth Far	3.96	34	⇑P	Pn	11 30 56.1	+1.2
	baz=4.0,SNR=83						
HVU	Hansel Valley	3.96	187	ePn	Pn	11 30 59.5	+4.5
A12A	Yaak River Ran	4.02	325	⇑P	Pn	11 30 56.6	+0.9
	baz=4.0,SNR=16						
C21A	Desert Coulee	4.05	57	⇑P	Pn	11 30 57.8	+1.5
	baz=4.0						
F22A	Rosebud	4.11	87	⇓P	Pn	11 30 58.0	+1.0
	baz=4.1						
HWUT	Hardware Ranch	4.12	174	ePn	Pn	11 30 56.5	-0.8
HWUT				eSn	Sn	11 31 46.0	+0.2
NEW	Newport	4.27	309	ePn	Pn	11 30 59.9	+0.7
NEW				eSg	Sg	11 32 07.3	-3.7
NEW	Newport	4.27	309	⇑P	Pn	11 30 59.6	+0.5
	baz=4.3,SNR=20						
A20A	Cobblestone Ra	4.27	41	⇑P	Pn	11 31 00.2	+1.0
	baz=4.3,SNR=6.0						
LNOR	Lincton Mounta	4.31	274	P	Pn	11 31 02.8	+3.0
B21A	Ellsworth Farm	4.42	50	⇑P	Pn	11 31 02.9	+1.6
	baz=4.4						
F23A	Volborg	4.71	87	⇓P	Pn	11 31 06.1	+0.9
	baz=4.7						
A21A	Bergtoll Ranch	4.82	45	⇓P	Pn	11 31 07.8	+1.0
	baz=4.8,SNR=28						
B22A	Reddig Ranch S	4.93	56	⇓P	Pn	11 31 10.0	+1.8
	baz=4.9						
WRD	Warden	4.99	285	P	Pn	11 31 10.6	+1.6
D23A	Lindsay	5.00	71	⇑P	Pn	11 31 10.8	+1.5
	baz=5.0						
CTU	Camp Tracy	5.02	177	ePn	Pn	11 31 13.4	+3.8
H2OWA	Water	5.12	280	P	Pn	11 31 12.4	+1.6
JLU	Jordanelle	5.13	174	ePn	Pb	11 31 18.1	-5.9
CRF	Corfu	5.16	285	P	Pn	11 31 12.9	+1.6
HAWA	Hanford	5.20	280	ePn	Pn	11 31 12.6	+0.6
HAWA				eSg	Sg	11 32 40.8	-0.2
C23A	Lambert	5.21	64	⇑P	Pn	11 31 13.1	+1.0
	baz=5.2						
GBB	Gable Butte	5.29	282	P	Pn	11 31 14.4	+1.3
SNIWA	Snively Ranch	5.29	281	P	Pn	11 31 14.5	+1.3
DAU	Daniels Canyon	5.33	173	ePn	Pn	11 31 19.8	+5.7
DAU				eSg	Sg	11 32 45.8	+0.6
A22A	Carney Farms,	5.35	50	⇑P	Pn	11 31 15.2	+1.2
	baz=5.3						
F24A	Ekalaka	5.38	86	⇓P	Pn	11 31 15.4	+1.0
	baz=5.4						
G24A	Alzada	5.43	91	⇓P	Pn	11 31 16.1	+0.8
	baz=5.4,SNR=18						
H24A	Dirks Ranch, A	5.44	98	⇓P	Pn	11 31 15.8	+0.5
	baz=5.4,SNR=17						
ELK	Elko	5.46	206	ePn	Pn	11 31 19.8	+4.0
ELK				eSn	Sn	11 32 19.3	+0.6
DUG	Dugway	5.54	185	ePn	Pn	11 31 17.2	+0.5
DUG				eSg	Sg	11 32 50.5	-1.3
BLTW	Bickleton	5.63	275	P	Pn	11 31 19.8	+1.9
MPU	Maple Canyon	5.70	176	ePn	Pn	11 31 25.5	+6.4
TRW	Toppenish Ridg	5.89	279	P	Pn	11 31 23.4	+1.9
A23A	Redstone	5.90	54	⇓P	Pn	11 31 22.6	+1.0
	baz=5.9						
ETW	Entiat	5.96	291	P	Pn	11 31 22.9	+0.4
RSSD	Black Hills	5.96	103	ePn	Pn	11 31 22.5	-0.1
RSSD				eSg	Sg	11 33 01.1	-4.2
EBG	Ellensburg	5.97	285	P	Pn	11 31 24.2	+1.6
DGMT	Dagmar	6.08	60	ePn	Pn	11 31 24.3	+0.3
DGMT				eSn	Sn	11 32 32.0	-1.6
GL2	New Goldendale	6.08	275	P	Pn	11 31 25.6	+1.5
TMUT	Trail Mountain	6.45	174	ePn	Pn	11 31 36.0	+6.6
BMN	Battle Mountai	6.46	217	ePn	Pn	11 31 29.7	+0.3
BMN				eSn	Sn	11 32 45.0	+1.7
PHWY	Pilot Hill	6.55	130	ePn	Pn	11 31 37.0	+6.3
PHWY				eSg	Sg	11 33 22.9	-1.4
SRU	San Rafael	6.70	169	ePn	Pn	11 31 39.4	+6.7
LON	Longmire	6.80	282	ePn	Pn	11 31 35.6	+1.7
MOD	Modoc	7.03	240	ePn	Pn	11 31 39.4	+2.2
ISCO	Idaho Springs	7.61	139	ePn	Pn	11 31 46.4	+1.1
PV04	Paradox Valley	7.69	161	ePn	Pn	11 31 52.5	+6.1
NVAR	Mina Array Bea	8.60	214	Pn	Pn	11 32 03.7	+4.9
	0.1nm,0.3s,baz=29,slow=12,SNR=10						
NVAR				Pg	Pg	11 32 38.6	0.0
	1.1nm,0.3s,baz=39,slow=17,SNR=11						
NVAR				Lg	Lg	11 34 22.6	
	0.4nm,0.3s,baz=37,slow=30,SNR=3.7						
NVAR	Mina Array Bea	8.60	214	Pn	Pn	11 32 03.7	+4.9
NVAR				Pg	Pg	11 32 38.6	0.0
NVAR				Lg	Lg	11 34 22.6	
YBH	Yreka Blue Hor	8.63	246	Pn	Pn	11 32 02.9	+3.8
	0.4nm,0.3s,baz=76,slow=12,SNR=4.8						
YBH				Pg	Pg	11 32 36.7	-2.5
	0.2nm,0.3s,baz=52,slow=12,SNR=4.0						
YBH	Yreka Blue Hor	8.63	246	Pn	Pn	11 32 02.9	+3.8
YBH				Pg	Pg	11 32 36.7	-2.5
MVCO	Mesa Verde	8.92	161	ePn	Pn	11 32 03.6	+0.4
FFC	Flin Flon	11.11	32	ePn	Pn	11 32 30.3	-2.6
FFC				eSn	Sn	11 34 31.8	-5.3
ECSD	EROS Data Cent	11.22	95	ePn	Pn	11 32 35.0	+0.5
ECSD				eSn	Sn	11 34 39.9	+0.1
AGMN	Agassiz Nation	11.40	71	ePn	Pn	11 32 35.9	-1.1
ULM	Lac du Bonnet	11.79	62	Pn	Pn	11 32 40.7	-1.6
	0.4nm,0.3s,baz=258,slow=13,SNR=5.3						
ULM				Pg		11 33 26.4	
	0.9nm,0.3s,baz=244,slow=16,SNR=5.0						
ULM				Lg	Lg	11 35 53.7	
	1.7nm,0.3s,baz=157,slow=22,SNR=3.3						
ULM	Lac du Bonnet	11.79	62	ePn	Pn	11 32 44.4	+2.1
ULM				Pg		11 33 26.4	
ULM				Lg	Lg	11 35 53.7	
BBB	Bella Bella	12.33	307	LR	LR	11 37 22.7	
	comp=Z,3μm,18.8s,baz=73,slow=36						
EYMN	Ely	14.30	74	ePn	Pn	11 33 14.6	-1.9
EYMN				eSn	Sn	11 35 54.1	-1.0
DLBC	Dease Lake	16.76	326	Pn	Pn	11 33 44.0	-4.8
	0.1nm,0.3s,baz=151,slow=19,SNR=3.0						
DLBC	Dease Lake	16.76	326	Pn	Pn	11 33 44.0	-4.8
YKA	Yellowknife Ar	16.88	356	Pn	Pn	11 33 46.4	-3.8
	0.4nm,0.3s,baz=177,slow=12,SNR=43						
YKA				Sn	Sn	11 36 56.7	-0.9
	0.1nm,0.3s,baz=163,slow=24,SNR=2.8						
YKA				Lg	Lg	11 38 38.2	
	0.1nm,0.3s,baz=168,slow=26,SNR=4.0						
YKA	Yellowknife Ar	16.88	356	Pn	Pn	11 33 46.4	-3.8
YKA				Sn	Sn	11 36 56.7	-0.9
YKA				Lg	Lg	11 38 38.2	
HDIL	Hopedale	17.42	99	ePn	P	11 33 58.3	-0.1
	8.4nm,0.6s						
TXAR	Lajitas Array	17.65	155	P	P	11 34 02.4	+1.2
	0.0nm,0.3s,baz=344,slow=9.6,SNR=2.9						
TXAR	Lajitas Array	17.65	155	P	P	11 34 02.4	+1.2
ILAR	Eielson Array	26.96	327	P	P	11 35 38.2	+2.8
	1.4nm,0.9s,baz=126,slow=8.9,SNR=14						
ILAR	Eielson Array	26.96	327	P	P	11 35 38.2	+2.8
SCHQ	Schefferville	29.87	56	P	P	11 36 02.0	+0.5
	2.8nm,0.5s,baz=278,slow=8.0,SNR=20						
SCHQ	Schefferville	29.87	56	P	P	11 36 02.0	+0.5
USRK	Ussuriysk Arra	73.99	318	P	P	11 41 30.9	+1.3
	2.0nm,0.8s,baz=46,slow=16,SNR=4.2						
CN2	Changchun	77.29	321	eP	P	11 41 49.0	+0.5
ZALV	Zalesovo Beam	79.67	350	P	P	11 42 02.0	+0.5
	1.1nm,0.5s,baz=20,slow=4.2,SNR=5.2						
ZALV	Zalesovo Beam	79.67	350	P	P	11 42 02.0	+0.5
SONM	Songino Array	80.92	335	P	P	11 42 10.1	+1.6
	0.8nm,0.9s,baz=22,slow=4.1,SNR=3.6						
SONM	Songino Array	80.92	335	P	P	11 42 10.1	+1.6
KURK	Kurchatov	83.50	353	P	P	11 42 22.5	+0.7
KURBB	Kurchatov Arra	83.60	353	P	P	11 42 22.5	+0.2
	0.5nm,0.4s,baz=10.0,slow=5.2,SNR=6.5						
HHC	Hu-ho-hao-te	85.38	328	eP	P	11 42 29.5	-2.2
WMQ	Urumqi	89.13	346	eP	P	11 42 50.7	+1.0
NJ2	Nanjing	89.87	319	eP	P	11 42 52.7	-0.6
WHN	Wuhan	93.18	321	P	P	11 43 06.9	-1.7
CD2	Chengdu	97.08	329	P	P	11 43 25.9	-0.6

*ISCJB **06** 11:30:18.4±0.5, 1°.53N±0°.04×127°.06E±0°.04, h103^{km}, mb3.9/6, Error ellipse: s-maj=6.9km s-min=4.6km az=136.0*

*IDC **06** 11:30:18.6±3.0, 1°.39N×127°.08E, h105^{km}±25^{km}, mb3.6/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, Error ellipse: s-maj=34.9km s-min=10.9km az=74.0*

*DJA **06** 11:30:25.7±0.4, 1°N±4°×12°7E±°, h92^{km}±6^{km}, M4.7/12, mb4.8/11, mB5.2/1, MLv4.6/12, Mw(mB)4.6/1*

*AUST **06** 11:30:48.8±2.6, 0°.75S×127°.85E, h209^{km}, Error ellipse: s-maj=3.6km s-min=1.1km az=30.0*

ISC 06 11:30:19.8±0.7**, 1°.46N**±0°.06×**126°.96E**±0°.06**, h103**^{km}**, n48,** σ**2s.03**/48**, mb4.1**/6**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.79	149	P	Pn	11 30 41.3	+2.9
TNTI				S	Sn	11 30 57.5	+5.2
MNI	Manado	2.12	270	P	Pn	11 30 56.2	+2.1
MNI				S	Sn	11 31 22.7	+2.4
LBMI	Labuha	2.15	165	P	Pn	11 30 56.3	+1.8
LBMI				S	Sn	11 31 22.5	+1.5
SGSI	Sangihe	2.63	327	S	Sn	11 31 33.5	+1.2
KMSI	Cibinong	3.11	254	P	Pn	11 31 09.2	+2.1
KMSI				S	Sn	11 31 45.4	+1.9
NLAI	Namlea	4.67	178	P	Pn	11 31 29.1	+1.0
LUWI	Luwuk	4.87	239	P	Pn	11 31 31.2	+0.4
MRSI	Marisa	5.11	259	P	Pn	11 31 35.4	+1.3
MSAI	Masohi	5.16	158	P	Pn	11 31 38.4	+3.6
AAI	Ambon	5.26	166	P	Pn	11 31 37.4	+1.3
	baz=3.0,SNR=10						
AAI	Ambon	5.26	166	P	Pn	11 31 37.6	+1.5
CTBH	Cotabato--PC H	6.33	335	⇑iP	Pn	11 31 50.3	-0.3
FAKI	Fak Fak	6.84	129	P	Pn	11 31 59.7	+2.0
	18nm,1.3s,0.1nm						
KDI	Kendari	6.91	219	P	Pn	11 31 59.1	+0.5
	43nm,0.7s,2μm0.3nm						
PCI	Palu	7.50	252	P	Pn	11 32 42.4	+36
	baz=8.0,SNR=9.0						
PCI				S	Sn	11 33 49.8	+20
	baz=8.0,SNR=5.4						
IPIL	Ipil	7.66	325	eP	Pn	11 32 08.7	0.0
TTSI	Tana Toraja	8.43	238	P	Pn	11 32 20.0	+0.9
	149nm,0.7s						
TTSI				S	Sn	11 33 50.0	-2.6
	149nm,0.7s						
TBP	Tagbilaran	8.74	339	eP	Pn	11 32 29.0	+5.6
SPSI	Sidrap Palu	8.98	233	P	Pn	11 32 27.8	+1.1
	236nm,0.6s						
SPSI				S	Sn	11 34 05.0	-1.2
	236nm,0.6s						
MYLDM	Lahad Datu	9.22	294	P	Pn	11 32 35.2	+5.3
	20nm,2.4s						
BKSI	Bulukumba	9.59	225	P	Pn	11 32 38.1	+3.1
	52nm,0.4s						
BKSI				S	Sn	11 34 20.6	-0.4
	52nm,0.4s						
KAPI	Kappang	9.65	228	P	Pn	11 32 37.1	+1.3
	15nm,0.3s,baz=86,slow=5.8,SNR=56						
KAPI				S	Sn	11 34 19.9	-2.6
	3.6nm,0.3s,baz=204,slow=20,SNR=4.9						
KAPI	Kappang	9.65	228	P	Pn	11 32 37.1	+1.3
	56nm,0.5s						
GUIM	Jordan	10.09	335	eP	Pn	11 32 49.3	+7.6
SBUM	Sibu	14.77	274	P	P	11 33 47.4	+0.6
	12nm,0.8s						
KHKI	Kahang-Kahang	14.94	229	P	P	11 33 53.8	+5.0
KDU	Kakadu	15.08	159	P	Pn	11 33 45.0	-2.5
	baz=13,SNR=18						
KMMI	Kalianget	15.48	237	P	P	11 33 58.0	+3.2
SJI	Sawahan	17.69	239	P	Pn	11 34 22.0	+2.1
	45nm,0.6s						
PWJI	Pagerwojo	17.81	238	P	Pn	11 34 21.8	+0.6
	54nm,0.9s						
PCJI	Pacitan	18.43	238	P	Pn	11 34 29.9	+1.3
FITZ	Fitzroy Crossi	19.48	184	P	P	11 34 38.0	-0.7
	0.5nm,0.3s,baz=11,slow=11,SNR=14						
FITZ	Fitzroy Crossi	19.48	184	P	P	11 34 38.0	-0.7
	baz=18,SNR=8.5						
COEN	Coen	22.20	134	P	P	11 35 06.6	-1.3
	baz=20,SNR=5.8						
WRA	Warramunga Arr	22.47	162	P	P	11 35 08.2	-2.5
	4.4nm,0.3s,baz=341,slow=11,SNR=73						
WRA				S	S	11 39 05.8	-4.4
	1.1nm,0.7s,baz=330,slow=21,SNR=4.9						
XMIS	Christmas Isla	24.30	240	S	S	11 40 08.6	+29
	baz=24,SNR=3.4						
QIS	Mount Isa	25.14	151	P	P	11 35 34.9	-0.6
	baz=23,SNR=12						
ASAR	Alice Springs	25.87	165	P	P	11 35 40.4	-1.7
	0.7nm,0.3s,baz=349,slow=13,SNR=28						
ASAR				S	S	11 40 03.8	-0.8
	0.6nm,0.9s,baz=341,slow=17,SNR=2.9						
MEEK	Meekatharra	29.07	196	P	P	11 36 14.4	+3.8
	baz=27,SNR=3.6						
GSI	Gunungsitoli	29.38	270	P	pP	11 36 41.0	+4.6
	baz=30,SNR=7.1						
EIDS	Eidsvold	35.45	140	P	P	11 36 55.8	-11
	baz=33,SNR=3.9						
STKA	Stephens Creek	35.94	159	P	P	11 37 07.7	-2.8
	2.0nm,0.7s,baz=331,slow=10,SNR=7.9						
STKA	Stephens Creek	35.94	159	P	P	11 37 08.7	-1.8
	baz=34,SNR=5.4						
ARMA	Armidale	39.47	145	P	P	11 37 39.7	-0.6
	baz=37,SNR=7.2						
TOO	Toolangi	42.46	158	S	S	11 44 22.9	+3.9
	baz=40,SNR=19						
SONM	Songino Array	49.51	342	P	P	11 38 59.3	-0.8
	0.1nm,0.3s,baz=137,slow=8.9,SNR=3.5						
MKAR	Makanchi Array	59.55	326	P	P	11 40 12.0	-0.6
	1.1nm,0.5s,baz=116,slow=8.0,SNR=13						
KURBB	Kurchatov Arra	63.77	328	P	P	11 40 39.7	-1.1
	1.2nm,0.5s,baz=128,slow=6.3,SNR=13						

*MAN **06** 11:31:43, 9°.70N×126°.79E, h19^{km}, mb4.9, ML3.9, MS4.0*

*IDC **06** 11:31:46.4±1.0, 9°.68N×126°.30E, h39^{km}±8^{km}, mb3.7/13, mb1 3.9/13, mb1mx3.7/25, mbtmp3.7/13, Error ellipse: s-maj=34.0km s-min=13.8km az=71.0*

ISC 06 11:31:45.7±0.9**, 9°.68N**±0°.04×**126°.51E**±0°.07**, h33**^{km}±4^{km}**, n28,** σ**1s.40**/33**, mb4.0**/14**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.12	231	eP	Pn	11 32 06.2	+1.0
MSLP	Maasin	1.69	286	eP	Pb	11 32 16.4	+0.1
PLP	Palo	2.11	315	⇓eP	Pn	11 32 20.7	+2.0
PLP				eS	Sb	11 32 49.7	+0.4
CGP	Cagayan de Oro	2.17	236	eP	Pn	11 32 21.8	+2.3
BESP	Borongan	2.19	331	eP	Pn	11 32 21.4	+1.6
BUKP	Musuan	2.29	219	eP	Pb	11 32 25.0	-1.4
LLP	Lapu-Lapu	2.59	284	eP	Pn	11 32 23.4	-1.9
LLP				eS	Sb	11 33 04.9	+2.0
TBP	Tagbilaran	2.61	271	eS	Sb	11 33 03.9	+0.3
MATI	Mati	2.72	185	eP	Pn	11 32 27.2	0.0
DAV	Davao City (W)	2.75	200	Pn	Pb	11 32 32.5	-1.7
	47nm,0.3s,baz=55,slow=9.5,SNR=6.1						
DMPH	Davao City--Mi	2.76	201	⇑eP	Pn	11 32 30.6	+2.9
DMPH				eS	Sb	11 33 08.4	+0.6
CNP	Catarman	3.35	327	eP	Pn	11 32 36.8	+1.0
PAGZ	Pagadian	3.59	240	eP	Pn	11 32 43.5	+4.5
FITZ	Fitzroy Crossi	27.61	182	P	P	11 37 28.8	-1.5
	4.3nm,0.8s,baz=346,slow=12,SNR=6.2						
FITZ	Fitzroy Crossi	27.61	182	S	P	11 37 31.3	+1.0
	baz=18,SNR=4.9						
CMAR	Chiang Mai Arr	28.10	291	P	P	11 37 34.1	-0.6
	1.3nm,0.7s,baz=102,slow=7.0,SNR=8.7						
CMAR				pP	pP	11 37 45.4	+1.1
	1.6nm,0.9s,baz=98,slow=7.0,SNR=3.9						
WRA	Warramunga Arr	30.42	165	P	P	11 37 55.8	+0.5
	0.2nm,0.5s,baz=351,slow=10,SNR=2.6						
ASAR	Alice Springs	33.92	168	P	P	11 38 26.6	+0.6
	0.4nm,0.4s,baz=350,slow=6.9,SNR=4.6						
GTA	Gaotai	38.00	326	eP	P	11 38 59.6	-1.3
GTA				pP	pP	11 39 03.6	-7.0
GTA				sP	sP	11 39 05.8	-8.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	Songino Array	41.66	340	P	P	11 39 31.1	-0.1
	comp=Z,1.3nm,0.8s,baz=155,slow=8.9,SNR=9.3						
STKA	Stephens Creek	43.77	161	P	P	11 39 49.6	+1.4
	comp=Z,0.7nm,0.5s,baz=358,slow=9.2,SNR=4.5						
MKAR	Makanchi Array	52.64	323	P	P	11 40 55.5	-1.2
	comp=Z,1.2nm,0.7s,baz=130,slow=7.7,SNR=5.5						
MKAR				pP	pP	11 41 06.5	-0.2
	comp=Z,2.3nm,0.7s,baz=121,slow=8.5,SNR=6.1						
ZALV	Zalesovo Beam	55.26	331	P	P	11 41 13.8	-1.8
	comp=Z,1.3nm,0.7s,baz=122,slow=4.6,SNR=4.0						
KURBB	Kurchatov Arra	56.70	326	P	P	11 41 24.6	-1.3
	comp=Z,1.4nm,0.6s,baz=129,slow=6.9,SNR=5.4						
KURBB				pP	pP	11 41 35.9	-0.2
	comp=Z,2.2nm,0.7s,baz=127,slow=6.6,SNR=5.5						
ILAR	Eielson Array	79.87	26	P	P	11 43 52.2	+1.4
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=3.2						
ARCES	ARCESS Array B	84.83	340	P	P	11 44 15.4	-1.3
	comp=Z,2.0nm,0.6s,baz=69,slow=6.2,SNR=7.3						
FINES	FINESS Array B	86.52	332	P	P	11 44 23.8	-1.4
	comp=Z,2.6nm,0.8s,baz=81,slow=9.0,SNR=5.4						
YKA	Yellowknife Ar	94.20	24	P	P	11 45 01.5	+0.4
	comp=Z,0.4nm,0.7s,baz=294,slow=4.6,SNR=4.2						

*NEIC **06** 11:33:05.0, 45°.70N×112°.13W, h10^{km}, ML3.4(BUT), After BUT.*

ISC 06 11:33:04.8±1.0**, 45°.71N**±0°.02×**112°.12W**±0°.02**, h6**^{km}±9^{km}**, n51,** σ**0s.53**/75**, 34C-29D, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRM	Limekiln Ridge	0.26	296	ePg	Pg	11 33 10.2	+0.2
LRM				eSg	Sg	11 33 14.1	+0.6
F15A	Butte	0.29	297	⇓P	Pg	11 33 10.4	-0.2
	baz=0.3						
F15A				⇓S	Sg	11 33 14.7	+0.1
	baz=0.3						
BOZ	Bozeman (W)	0.35	100	i Pg	Pg	11 33 11.8	+0.2
BOZ				eSg	Sg	11 33 16.7	+0.4
BOZ	Bozeman (W)	0.35	100	⇓P	Pg	11 33 11.7	0.0
	baz=0.4						
F16A	Kennard Place,	0.35	77	⇑P	Pg	11 33 11.8	+0.1
	baz=0.4						
F16A				⇑S	Sg	11 33 16.6	+0.2
	baz=0.4						
DLMT	Dillon	0.48	224	ePg	Pg	11 33 14.1	0.0
DLMT				eSg	Sg	11 33 20.6	+0.2
G16A	Moss Hill, Enn	0.53	155	⇓P	Pg	11 33 14.8	-0.2
	baz=0.5						
G16A				⇓S	Sg	11 33 21.7	-0.2
	baz=0.5						
G15A	Dillon	0.60	206	⇓P	Pg	11 33 16.0	-0.4
	baz=0.6						
G15A				⇑S	Sg	11 33 23.5	-0.7
	baz=0.6						
E15A	Deer Lodge	0.80	333	⇓P	Pg	11 33 20.1	-0.2
	baz=0.8						
E15A				⇑S	Sg	11 33 30.9	+0.1
	baz=0.8						
E16A	East Helena	0.88	20	⇓P	Pg	11 33 21.9	+0.1
	baz=0.9						
E16A				⇓S	Sg	11 33 33.2	0.0
	baz=0.9						
F14A	Wisdom	0.88	277	⇓P	Pg	11 33 21.6	-0.2
	baz=0.9						
F14A				⇑S	Sg	11 33 33.5	+0.3
	baz=0.9						
QLMT	Earthquake Lak	1.00	151	ePg	Pg	11 33 23.9	-0.2
QLMT				eSg	Sg	11 33 37.1	+0.1
HRY	Holter Researc	1.02	11	ePg	Pg	11 33 24.4	-0.1
HRY				eSg	Sg	11 33 37.5	-0.2
F17A	Fitzpatrick Pl	1.04	78	⇑P	Pg	11 33 24.4	-0.4
	baz=1.0						
F17A				⇑S	Sg	11 33 37.7	-0.5
	baz=1.0						
G17A	Pierce Place,	1.04	111	⇓P	Pg	11 33 24.4	-0.4
	baz=1.0						
G17A				⇑S	Sg	11 33 38.7	+0.4
	baz=1.0						
G14A	Jackson	1.05	244	⇓P	Pg	11 33 25.0	0.0
	baz=1.0						
H15A	Lima	1.15	199	⇑S	Sb	11 33 41.9	-0.6
	baz=1.1						
E17A	Martinsdale	1.16	49	⇑P	Pb	11 33 26.7	-0.6
	baz=1.2						
E14A	Clinton	1.19	307	⇑P	Pb	11 33 27.3	-0.6
	baz=1.2						
E14A				⇓S	Sb	11 33 43.1	-0.5
	baz=1.2						
D15A	Lincoln	1.36	348	⇑Pg	Pn	11 33 30.5	-0.1
	baz=1.4						
D15A				⇓S	Sb	11 33 48.7	+0.1
	baz=1.4						
D16A	Dana Ranch, Ca	1.38	16	⇓Pb	Pn	11 33 30.5	-0.2
	baz=1.4						
D16A				⇑S	Sb	11 33 48.6	-0.4
	baz=1.4						
H14A	Leadore	1.40	219	⇑S	Sn	11 33 49.8	-0.2
	baz=1.4						
YNR	Norris Junctio	1.42	134	ePn	Pn	11 33 31.5	+0.2
YNR				eSn	Sn	11 33 50.3	-0.3
F13A	Darby	1.55	274	⇓Sb	Sb	11 33 53.8	-0.2
	baz=1.5						
G13A	Cobalt	1.61	248	⇑Sb	Sb	11 33 55.2	-0.5
	baz=1.6						
E13A	Victor	1.62	298	⇓Pb	Pn	11 33 34.2	+0.2
	baz=1.6						
E13A				⇓Sb	Sb	11 33 56.0	+0.2
	baz=1.6						
D14A	Greenough	1.68	326	⇑P	Pn	11 33 34.5	-0.3
	baz=1.7						
D14A				⇑Sb	Sb	11 33 57.9	+0.4
	baz=1.7						
MSO	Missoula	1.69	312	⇑Sb	Sb	11 33 58.3	+0.4

	baz=1.7						
F18A	**Big Timber**	**1.69**	**82**	⇑Pb	**Pb**	**11 33 36.1**	**-0.3**
	baz=1.7						
F18A				⇓S	**Sn**	**11 33 57.1**	**0.0**
	baz=1.7						
I15A	**Monteview**	**1.73**	**189**	⇓Sb	**Sb**	**11 33 59.2**	**+0.2**
	baz=1.7						
D17A	**Six Diamond Ra**	**1.75**	**34**	⇑P	**Pn**	**11 33 35.3**	**-0.5**
	baz=1.8						
D17A				⇑S	**Sn**	**11 33 58.2**	**-0.4**
	baz=1.8						
E18A	**Harlowton**	**1.76**	**60**	⇓Pb	**Pb**	**11 33 37.2**	**-0.3**
	baz=1.8						
E18A				⇓Sn	**Sn**	**11 33 58.9**	**+0.3**
	baz=1.8						
G18A	**Lazy EL Ranch,**	**1.84**	**101**	⇑Pb	**Pb**	**11 33 38.6**	**-0.3**
	baz=1.8						
I16A	**Newdale**	**1.89**	**166**	⇓Pb	**Pb**	**11 33 39.5**	**-0.2**
	baz=1.9						
H13A	**Challis**	**1.90**	**234**	⇑Pg	**Pb**	**11 33 40.2**	**+0.3**
	baz=1.9						
H13A				⇓Sb	**Sb**	**11 34 03.9**	**+0.1**
	baz=1.9						
C16A	**Fuhringer Ranc**	**2.11**	**7**	⇓Sb	**Sb**	**11 34 11.0**	**+1.0**
	baz=2.1						
C17A	**Wharram Farm,**	**2.14**	**25**	⇑S	**Sn**	**11 34 08.2**	**+0.1**
	baz=2.1						
F12A	**Elk City**	**2.20**	**272**	⇑Sb	**Sb**	**11 34 13.4**	**+0.9**
	baz=2.2						
F19A	**Roth Farm, Mol**	**2.23**	**85**	⇓Sb	**Sb**	**11 34 13.4**	**+0.1**
	baz=2.2						
I13A	**Wildhorse Cree**	**2.29**	**219**	⇓Sb	**Sb**	**11 34 15.8**	**+0.6**
	baz=2.3						
C14A	**Swan Lake**	**2.35**	**332**	⇑Sb	**Sb**	**11 34 18.3**	**+1.6**
	baz=2.3						
E19A	**Rath Farm, Rou**	**2.44**	**71**	⇑Sb	**Sb**	**11 34 19.7**	**+0.3**
	baz=2.4						
H19A	**Powell**	**2.45**	**114**	⇑Sb	**Sb**	**11 34 21.1**	**+1.5**
	baz=2.4						
J14A	**Carey**	**2.58**	**203**	⇑Sb	**Sb**	**11 34 24.6**	**+0.9**
	baz=2.6						
B15A	**Bradely Ranch,**	**2.62**	**354**	⇑Sn	**Sn**	**11 34 20.2**	**+0.2**
	baz=2.6						
HLID	**Hailey**	**2.70**	**218**	⇑Sb	**Sb**	**11 34 28.1**	**+1.1**
	baz=2.7						
B16A	**M & M Farms, S**	**2.72**	**6**	⇓Sb	**Sb**	**11 34 29.1**	**+1.6**
	baz=2.7						
J13A	**Cove Ranch, Pi**	**2.74**	**213**	⇑Sb	**Sb**	**11 34 29.0**	**+0.9**
	baz=2.7						
I19A	**Meeteetse**	**2.78**	**126**	⇑Sb	**Sb**	**11 34 30.6**	**+1.2**
	baz=2.8						
F20A	**Billings**	**2.78**	**87**	⇓Sb	**Sb**	**11 34 29.6**	**+0.3**
	baz=2.8						
E20A	**Meyer Farm, Mu**	**2.89**	**73**	⇑Sb	**Sb**	**11 34 32.7**	**+0.4**
	baz=2.9						

IDC 06 11:39:07.6±7.6**, 3°.32N**×**127°.28E, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/22**, mbtmp3.6**/3**, Error ellipse: s-maj=133.8km s-min=121.4km az=83.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.14**	**164**	P	P	11 44 26.0	+0.5
	0.4nm,0.4s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.59**	**167**	P	P	11 44 57.2	+0.4
	0.2nm,0.3s,baz=343,slow=7.3,SNR=13						
STKA	**Stephens Creek**	**37.56**	**160**	P	P	11 46 22.8	-1.0
	0.9nm,0.4s,baz=349,slow=7.1,SNR=6.4						

*ISCJB **06** 12:09:13.3±1.0, 19°.23N±0°.07×155°.17W±0°.07, h10km, mb3.5/6, Error ellipse: s-maj=10.9km s-min=7.9km az=32.8*
*IDC **06** 12:09:14.4±3.5, 19°.44N×155°.28W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.6/6, Error ellipse: s-maj=85.1km s-min=37.6km az=6.0*
*NEIC **06** 12:09:15.0, 19°.32N×155°.12W, h9km, ML3.8(HVO), After HVO.*
NEIC Felt [II] at Hilo, Kea'au, Kurtistown, Pahoa and Volcano. Also felt at Hawaii National Park, Honomu, Mountain View, Pa'auilo and Pepeekeo.
ISC 06 12:09:15.4±1.6**, 19°.3N**±0°.2×**155°.17W**±0°.07**, h10km, n17, σ0s.98**/19**, mb3.6**/6**, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**313**	*e*Pg	**Pg**	**12 09 17.6**	**-0.1**
PUH				*e*Sg	**Sg**	**12 09 19.3**	**-0.1**
STCH	**Steam Cracks**	**0.07**	**37**	*i* Pg	**Pg**	**12 09 17.2**	**-0.5**
STCH				*e*Sg	**Sg**	**12 09 19.1**	**-0.3**
HON	**Honolulu**	**3.31**	**307**	*e*Pn	**Pn**	**12 10 05.4**	**-2.0**
HON				*e*Sn	**Sn**	**12 10 49.0**	**+2.2**
KIP	**Kipapa**	**3.38**	**308**	*e*Pn	Pn	12 10 04.2	-4.1
KIP				*e*Sn	**Sn**	**12 10 49.5**	**+1.0**
NVAR	**Mina Array Bea**	**37.15**	**51**	P	**P**	**12 16 27.3**	**+0.5**
	0.3nm,0.8s,baz=261,slow=9.9,SNR=2.7						
NVAR	**Mina Array Bea**	**37.15**	**51**	P	**P**	**12 16 27.3**	**+0.5**
DIB	**Dawson Inlet,**	**38.09**	**22**	T	T	12 56 44.4	
	SNR=100						
ILAR	**Eielson Array**	**45.75**	**5**	P	**P**	**12 17 36.8**	**+0.1**
	0.5nm,0.7s,baz=192,slow=7.6,SNR=5.8						
ILAR	**Eielson Array**	**45.75**	**5**	P	**P**	**12 17 36.8**	**+0.1**
TXAR	**Lajitas Array**	**47.65**	**68**	P	**P**	**12 17 53.6**	**+1.3**
	0.6nm,0.7s,baz=253,slow=8.8,SNR=7.3						
TXAR	**Lajitas Array**	**47.65**	**68**	P	**P**	**12 17 53.6**	**+1.3**
YKA	**Yellowknife Ar**	**51.35**	**23**	P	**P**	**12 18 19.9**	**0.0**
	0.5nm,0.8s,baz=233,slow=7.5,SNR=12						
YKA	**Yellowknife Ar**	**51.35**	**23**	P	**P**	**12 18 19.9**	**0.0**
ULM	**Lac du Bonnet**	**55.81**	**42**	P	**P**	**12 18 52.1**	**-0.8**
	0.6nm,0.3s,baz=278,slow=4.3,SNR=3.3						
ULM	**Lac du Bonnet**	**55.81**	**42**	P	**P**	**12 18 52.1**	**-0.8**
SONM	**Songino Array**	**81.38**	**318**	P	**P**	**12 21 32.5**	**-0.2**
	0.2nm,0.7s,baz=65,slow=3.7,SNR=4.6						
SONM	**Songino Array**	**81.38**	**318**	P	**P**	**12 21 32.5**	**-0.2**

*ISK **06** 12:09:24.6, 37°.49N×36°.37E, h5km, MD2.4*
*DDA **06** 12:09:24.6, 37°.51N×36°.38E, h7km, MD2.8*
*ISCJB **06** 12:09:25.9±1.0, 37°.48N±0°.08×36°.37E±0°.06, h3km±15km, Error ellipse: s-maj=14.5km s-min=5.8km az=22.0*
*CSEM **06** 12:09:25.5±0.3, 37°.48N×36°.33E, h5km, MD2.4, Error ellipse: s-maj=8.5km s-min=6.3km az=15.0*
ISC 06 12:09:25.3±1.2**, 37°.50N**±0°.06×**36°.36E**±0°.04**, h9km**±12km**, n13, σ0s.45**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.42**	**268**	*e*PG	**Pg**	**12 09 33.4**	**-0.2**
KOZT				*e*SG	**Sb**	**12 09 41.8**	**+0.3**
KOZT	**Kozan**	**0.42**	**268**	*e*Pg	**Pg**	**12 09 33.4**	**-0.2**
KOZT				*e*Sg	**Sb**	**12 09 41.8**	**+0.3**
GAZ	**Gaziantep**	**0.76**	**115**	*e*PG	**Pb**	**12 09 40.4**	**-0.3**
GAZ				*e*SG	**Sb**	**12 09 51.0**	**-0.1**
GAZ	**Gaziantep**	**0.76**	**115**	*e*Pg	**Pb**	**12 09 40.4**	**-0.3**
GAZ				*e*Sg	**Sb**	**12 09 51.0**	**-0.1**
KUZU	**Kuzuini**	**0.92**	**141**	*i* P	**Pg**	**12 09 43.0**	**-0.1**
KUZU				*i* S	**Sb**	**12 09 56.1**	**+0.2**
KUZU	**Kuzuini**	**0.92**	**141**	*i* P	**Pg**	**12 09 43.0**	**-0.1**
KUZU				*i* S	**Sb**	**12 09 56.1**	**+0.2**
GZT	**Gaziantep**	**0.97**	**98**	*i* P	**Pb**	**12 09 44.3**	**-0.1**
GZT				*i* S	**Sn**	**12 09 59.5**	**+0.2**
AKCD	**Akcadag**	**1.47**	**57**	*i* P	**Pn**	**12 09 52.2**	**0.0**
AKCD				*i* S	**Sg**	**12 10 13.3**	**+0.6**
AKCD	**Akcadag**	**1.47**	**57**	*i* P	**Pn**	**12 09 52.2**	**0.0**
AKCD				*i* S	**Sg**	**12 10 13.3**	**+0.6**
MALT	**Malatya**	**1.83**	**63**	*e*PN	**Pb**	**12 09 59.2**	**+0.2**
MALT	**Malatya**	**1.83**	**63**	*e*Pn	**Pb**	**12 09 59.2**	**+0.2**
MYA	**Malataya**	**1.83**	**63**	*e*PN	**Pb**	**12 09 58.0**	**-1.1**
MYA	**Malataya**	**1.83**	**63**	*e*Pn	**Pb**	**12 09 58.0**	**-1.1**

IDC 06 12:15:53.7±1.0**, 36°.01S**×**53°.93E, h0km, mb3.9**/7**, mb1 4.1**/7**, mb1mx3.9**/22**, mbtmp3.9**/7**, Error ellipse: s-maj=47.8km s-min=21.1km az=17.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**25.27**	**279**	P	P	12 21 21.3	-0.6
	2.5nm,0.8s,baz=109,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**68.71**	**104**	P	P	12 26 59.7	+0.2
	0.7nm,0.7s,baz=235,slow=6.1,SNR=11						
CMAR	**Chiang Mai Arr**	**68.90**	**46**	P	P	12 26 59.1	-1.4
	0.8nm,0.7s,baz=225,slow=7.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**69.43**	**305**	P	P	12 27 03.7	-0.1
	1.6nm,1.0s,baz=108,slow=4.8,SNR=6.3						
WRA	**Warramunga Arr**	**71.00**	**101**	P	P	12 27 13.2	-0.4
	2.0nm,0.8s,baz=236,slow=5.5,SNR=20						
BRTR	**Keskin Array B**	**77.65**	**344**	P	P	12 27 51.3	-0.5
	0.6nm,0.7s,baz=120,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**86.28**	**19**	P	P	12 28 37.9	+1.0
	0.4nm,0.7s,baz=202,slow=3.9,SNR=1.7						
INK	**Inuvik**	**147.38**	**5**	PKPbc	PKPab	12 35 39.3	-0.9
	2.4nm,0.8s,baz=40,slow=5.4,SNR=8.8						
ILAR	**Eielson Array**	**148.61**	**17**	PKP	PKPdf	12 35 36.8	-1.2
	0.4nm,0.9s,baz=302,slow=2.0,SNR=2.4						
ILAR				PKPbc	PKiKP	12 35 42.7	-0.5
	0.6nm,0.7s,baz=307,slow=3.2,SNR=6.5						
YKA	**Yellowknife Ar**	**152.54**	**348**	PKPbc	PKPbc	12 35 50.5	-0.6
	0.2nm,0.5s,baz=29,slow=1.8,SNR=6.1						

*ISK **06** 12:26:41.2, 37°.24N×36°.94E, h5km, MD2.2*
*ISCJB **06** 12:26:42.5±1.1, 37°.21N±0°.04×36°.89E±0°.07, h1km±11km, Error ellipse: s-maj=10.2km s-min=6.1km az=169.9*
*DDA **06** 12:26:42.4, 37°.23N×36°.89E, h6km, MD2.8*
*CSEM **06** 12:26:42.7±0.4, 37°.22N×36°.91E, h5km, MD2.2, Error ellipse: s-maj=10.3km s-min=4.8km az=79.0*
ISC 06 12:26:42.9±1.3**, 37°.23N**±0°.03×**36°.92E**±0°.05**, h3km**±11km**, n11, σ0s.60**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.24**	**104**	*e*PG	**Pg**	**12 26 46.9**	**-0.6**
GAZ				*e*SG	**Sg**	**12 26 51.0**	**+0.4**
GAZ	**Gaziantep**	**0.24**	**104**	*e*Pg	**Pg**	**12 26 46.9**	**-0.6**
GAZ				*e*Sg	**Sg**	**12 26 51.0**	**+0.4**
KMRS	**Kahramanmaras**	**0.28**	**356**	*e*PG	**Pg**	**12 26 47.6**	**-0.7**
KMRS				*e*SG	**Sg**	**12 26 52.7**	**+0.8**
KMRS	**Kahramanmaras**	**0.28**	**356**	*e*Pg	**Pg**	**12 26 47.6**	**-0.7**
KMRS				*e*Sg	**Sg**	**12 26 52.7**	**+0.8**
KUZU	**Kuzuini**	**0.47**	**165**	*i* P	**Pg**	**12 26 52.3**	**+0.4**
KUZU				*i* S	**Sg**	**12 26 57.5**	**-0.5**
KUZU	**Kuzuini**	**0.47**	**165**	*i* P	**Pg**	**12 26 52.3**	**+0.4**
KUZU				*i* S	**Sg**	**12 26 57.5**	**-0.5**
GZT	**Gaziantep**	**0.53**	**76**	*i* P	**Pb**	**12 26 55.4**	**+0.5**
GZT				*i* S	**Sg**	**12 27 00.6**	**+0.8**
AKCD	**Akcadag**	**1.33**	**36**	*i* P	**Pn**	**12 27 08.2**	**-0.3**
AKCD				*i* S	**Sn**	**12 27 26.9**	**+0.2**
AKCD	**Akcadag**	**1.33**	**36**	*i* P	**Pn**	**12 27 08.2**	**-0.3**
AKCD				*i* S	**Sn**	**12 27 26.9**	**+0.2**
URFA	**Urfa**	**1.53**	**81**	*e*PN	**Pn**	**12 27 10.6**	**-0.6**
URFA	**Urfa**	**1.53**	**81**	*e*Pn	**Pn**	**12 27 10.6**	**-0.6**

IDC 06 12:33:19.8±8.3**, 5°.54S**×**128°.78E, h291km**±94km**, mb2.9**/1**, mb1 3.2**/4**, mb1mx2.9**/20**, mbtmp3.0**/4**, Error ellipse: s-maj=66.1km s-min=34.1km az=59.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.85**	**194**	P	P	12 36 14.1	+0.4
	0.1nm,0.3s,baz=18,slow=13,SNR=2.9						
FITZ				S	S	12 38 35.7	+0.2
	0.1nm,0.3s,baz=253,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**15.30**	**160**	P	P	12 36 40.0	-0.8
	0.7nm,0.3s,baz=341,slow=11,SNR=45						
WRA				S	S	12 39 30.3	+2.7
	0.1nm,0.3s,baz=327,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**18.68**	**165**	P	P	12 37 17.2	-0.2
	0.9nm,0.3s,baz=346,slow=12,SNR=83						
MKAR	**Makanchi Array**	**66.35**	**327**	P	P	12 43 37.8	0.0
	0.2nm,0.4s,baz=115,slow=8.1,SNR=7.1						

*HEL **06** 12:36:15.0±0.5, 67°.64N×34°.15E, h0km, ML1.9, ML1.1(UPP), Explosion*
*NAO **06** 12:36:16.1±1.9, 67°.55N×33°.78E, ML2.5*
*UPP **06** 12:36:17.2, 67°.72N×33°.79E, h0km, ML1.1, Suspected Mining explosion.*
*CSEM **06** 12:36:17.5±0.4, 67°.66N×33°.58E, h2km, ML2.5, Error ellipse: s-maj=6.9km s-min=5.2km az=89.0, Mining explosion.*
ISC 06 12:36:18.4±2.6**, 67°.74N**±0°.05×**33°.5E**±0°.1**, h0km, n26, σ0s.80**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.24**	**236**	Pg	**Pg**	**12 36 22.7**	**-0.3**
	baz=98,slow=18						
APA0				Lg	Lg	12 36 26.2	
	baz=86,slow=37						
APA0				Rg	Rg	12 36 27.9	
	baz=101,slow=37						
APA0	**Apatity Array**	**0.24**	**236**	Pg	**Pg**	**12 36 22.7**	**-0.3**
	baz=98,slow=18						
APA0				Lg	Lg	12 36 26.2	
	baz=86,slow=37						
APA0				Rg	Rg	12 36 27.9	
	baz=101,slow=37						
APA0	**Apatity Array**	**0.24**	**236**	Pg	**Pg**	**12 36 22.7**	**-0.3**
	baz=98,slow=16,SNR=90						
APA0				Lg	Lg	12 36 26.2	
	baz=86,slow=31,SNR=166						
VRF	**Varrio**	**1.48**	**272**	*e*P	**Pn**	**12 36 45.7**	**-0.6**
VRF				MSG	**Sn**	**12 37 08.3**	**+1.9**
	comp=Z,6.5nm,0.1s						
VRF				*e*SG	**Sn**	**12 37 08.3**	**+1.9**
VRF	**Varrio**	**1.48**	**272**	P	**Pn**	**12 36 45.7**	**-0.6**
VRF				Sg	**Sn**	**12 37 08.3**	**+1.9**
KU6	**Riekki**	**2.24**	**221**	*e*PG	**Pn**	**12 36 56.6**	**-0.1**
KU6				*e*SG	**Sb**	**12 37 27.2**	**-0.6**
KU6				MSG		12 37 27.2	
	comp=Z,5.7nm,0.2s						
MSF	**Maaselka**	**2.55**	**226**	*e*PB	**Pn**	**12 37 01.8**	**+0.8**
MSF				*e*SG	**Sb**	**12 37 36.4**	**-0.4**
MSF				MSG		12 37 36.4	
	comp=Z,2.2nm,0.4s						
MSF	**Maaselka**	**2.55**	**226**	Pb	**Pn**	**12 37 01.8**	**+0.8**
MSF				Sg	**Sb**	**12 37 36.4**	**-0.4**
KEV	**Kevo**	**3.11**	**314**	*e*P	**Pn**	**12 37 09.5**	**+0.8**
KEV				*e*SG	**Sg**	**12 37 58.3**	**-0.1**
KEV				MSG		12 37 58.3	
	comp=Z,4.7nm,0.4s						
RNF	**Rovaniemi**	**3.13**	**252**	*e*P	**Pn**	**12 37 08.8**	**-0.2**
RNF	**Rovaniemi**	**3.13**	**252**	P	**Pn**	**12 37 08.8**	**-0.2**
ARA0	**ARCESS Array S**	**3.44**	**305**	Pn	**Pn**	**12 37 12.8**	**-0.4**
	baz=124,slow=16						
ARA0				Sn	**Sn**	**12 37 54.9**	**+0.3**
	baz=122,slow=28						
ARA0				Lg	Lg	12 38 05.0	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.44**	**305**	Pn	**Pn**	**12 37 12.8**	**-0.4**
	baz=124,slow=16						
ARA0				Sn	**Sn**	**12 37 54.9**	**+0.3**
	baz=122,slow=28						
ARA0				Lg	Lg	12 38 05.0	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.44**	**305**	Pn	**Pn**	**12 37 12.8**	**-0.4**
	baz=124,slow=15,SNR=50						
ARA0				Sn	**Sn**	**12 37 54.8**	**+0.3**
	baz=122,slow=26,SNR=50						
ARA0				Lg	Lg	12 38 05.0	
	baz=121,slow=35,SNR=90						
HEF	**Hetta**	**3.75**	**285**	*e*P	**Pn**	**12 37 18.2**	**+0.6**
HEF				*e*SG	**Sg**	**12 38 19.5**	**+0.6**
HEF				MSG		12 38 19.5	
	comp=Z,3.7nm,0.4s						
LANU	**Lannavaara**	**4.36**	**279**	*e*P	**Pn**	**12 37 25.1**	**-0.8**
LANU				*e*S	**Sn**	**12 38 17.2**	**-0.2**
LANU	**Lannavaara**	**4.36**	**279**	P	**Pn**	**12 37 25.1**	**-0.8**
LANU				S	**Sn**	**12 38 17.2**	**-0.2**
ERTU	**Ertsjaerv**	**4.57**	**260**	*e*P	**Pn**	**12 37 28.5**	**-0.3**
ERTU	**Ertsjaerv**	**4.57**	**260**	P	**Pn**	**12 37 28.4**	**-0.3**
SJUU	**Sjulsmark**	**5.24**	**250**	*e*P	**Pn**	**12 37 36.6**	**-1.3**
SJUU	**Sjulsmark**	**5.24**	**250**	P	**Pn**	**12 37 36.6**	**-1.3**
NIKU	**Nikkaluokta**	**5.49**	**278**	*e*P	**Pn**	**12 37 40.8**	**-0.5**
NIKU	**Nikkaluokta**	**5.49**	**278**	P	**Pn**	**12 37 40.8**	**-0.5**
FIA0	**FINESS Array S**	**7.08**	**210**	Lg	Lg	12 39 51.6	
	baz=20,slow=22						
FIA0	**FINESS Array S**	**7.08**	**210**	Lg	Lg	12 39 51.6	
	baz=20,slow=22						
FIA0	**FINESS Array S**	**7.08**	**210**	Lg	Lg	12 39 51.6	
	baz=20,slow=21						

*ISK **06** 13:00:14.0, 39°.08N×29°.38E, h5km, MD2.5*
*ISCJB **06** 13:00:16.1±0.7, 39°.15N±0°.04×29°.16E±0°.05, h6km±11km, Error ellipse: s-maj=8.0km s-min=5.8km az=41.2*
*CSEM **06** 13:00:16.3±0.3, 39°.16N×29°.15E, h15km, MD2.7, Error ellipse: s-maj=9.2km s-min=8.1km az=109.0*
*DDA **06** 13:00:17.2, 39°.09N×29°.08E, h7km, MD2.7*
ISC 06 13:00:15.9±0.9**, 39°.10N**±0°.03×**29°.19E**±0°.04**, h12km**±8km**, n22, σ1s.40**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.22**	**93**	*e*P	Pb	13 00 24.2	+2.3
GDZ				*i* S	**Sb**	**13 00 28.1**	**+4.0**
GDZ	**Gediz**	**0.22**	**93**	*e*P	Pb	13 00 24.2	+2.3
DEMI	**Demirci**	**0.38**	**261**	*i* P	**Pb**	**13 00 23.4**	**-1.1**
DEMI				*i* S	**Sg**	**13 00 27.4**	**-1.1**
DEMI	**Demirci**	**0.38**	**261**	*i* P	**Pb**	**13 00 23.4**	**-1.1**
DEMI				*i* S	**Sg**	**13 00 27.4**	**-1.1**
TVSB	**Tavsanli**	**0.41**	**31**	*e*PG	**Pg**	**13 00 22.4**	**-1.6**
TVSB	**Tavsanli**	**0.41**	**31**	*e*Pg	**Pg**	**13 00 22.4**	**-1.6**
ALT	**Altintas**	**0.71**	**93**	*e*PG	Pg	13 00 26.0	-3.8
KULA	**Kula-Manisa**	**0.72**	**216**	*e*PG	**Pb**	**13 00 30.4**	**+0.1**
KULA	**Kula-Manisa**	**0.72**	**216**	*e*Pg	**Pb**	**13 00 30.4**	**+0.1**
DURS	**Dursunbey**	**0.75**	**312**	*i* P	**Pb**	**13 00 31.2**	**+0.3**
DURS				*i* S	**Sg**	**13 00 39.6**	**-0.6**
DURS	**Dursunbey**	**0.75**	**312**	*i* P	**Pb**	**13 00 31.2**	**+0.3**
DURS				*i* S	**Sg**	**13 00 39.7**	**-0.6**
KHAL	**Karahalli**	**0.77**	**162**	*i* P	**Pn**	**13 00 32.9**	**+0.4**
KHAL				*i* S	**Sb**	**13 00 43.5**	**+2.0**
KHAL	**Karahalli**	**0.77**	**162**	*i* P	**Pn**	**13 00 32.9**	**+0.4**
KHAL				*i* S	**Sb**	**13 00 43.5**	**+2.0**
KHL	**Karahalli**	**0.82**	**162**	*e*PG	**Pg**	**13 00 30.2**	**-1.5**
KHL	**Karahalli**	**0.82**	**162**	*e*Pg	**Pg**	**13 00 30.2**	**-1.5**
CAVI	**Cavuskoy**	**1.21**	**24**	*e*PN	**Pg**	**13 00 38.0**	**-1.1**
CAVI	**Cavuskoy**	**1.21**	**24**	*e*Pn	**Pg**	**13 00 38.0**	**-1.1**
ARMT	**Armutlu**	**1.49**	**350**	*e*PN	**Pb**	**13 00 43.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.50**	**310**	*e*PN	**Pg**	**13 00 45.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.50**	**310**	*e*Pn	**Pg**	**13 00 45.2**	**+0.5**
GULT	**Gulveren**	**1.68**	**37**	*e*PN	**Pn**	**13 00 44.9**	**-0.1**
GULT	**Gulveren**	**1.68**	**37**	*e*Pn	**Pn**	**13 00 44.9**	**-0.1**

*ISCJB **06** 13:02:03.5±0.6, 45°.65N±0°.06×143°.5E±0°.1, h332km, mb2.6/3, Error ellipse: s-maj=11.9km s-min=6.7km az=22.3*
*JMA **06** 13:02:04.8±0.2, 45°.74N×143°.48E, h314km, M2.9*
*IDC **06** 13:02:04.6±1.1, 45°.84N×143°.34E, h324km±24km, mb2.6/3, mb1 2.9/6, mb1mx2.7/28, mbtmp2.7/6, Error ellipse: s-maj=52.2km s-min=26.8km az=142.0*
ISC 06 13:02:04.0±0.8**, 45°.63N**±0°.08×**143°.46E**±0°.09**, h332km, n18, σ1s.05**/22**, mb2.7**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.15**	**255**	P	**Pn**	**13 02 47.6**	**-0.9**
JMP	**Maruseppu**	**1.63**	**183**	P	**Pn**	**13 02 51.4**	**+0.1**
ASAJ	**Asahikawa**	**1.64**	**202**	P	**Pn**	**13 02 51.6**	**+0.4**
	3.2nm,0.3s,baz=37,slow=3.0,SNR=33						
JAR	**Ashorobuto**	**2.35**	**175**	P	**Pn**	**13 02 57.4**	**+1.0**
JAK	**Akkeshi**	**2.78**	**161**	*e*S	**S**	**13 03 44.3**	**-0.7**
NEM2	**Nemuro 2**	**2.79**	**143**	*e*S	**S**	**13 03 43.1**	**-2.1**
JCH	**Churui**	**3.02**	**181**	P	**Pn**	**13 03 02.1**	**-0.2**
JCH				*e*S	**S**	**13 03 47.4**	**-1.6**
JEW	**Eniwo**	**3.14**	**208**	P	**Pn**	**13 03 05.0**	**+1.5**
JNBK	**Urakawa-nobuka**	**3.39**	**189**	P	**Pn**	**13 03 07.1**	**+1.2**
JNBK				*e*S	**S**	**13 03 55.5**	**0.0**
JKB	**Kayabe**	**4.14**	**206**	P	**Pn**	**13 03 14.0**	**+0.5**
JKB				*e*S	**S**	**13 04 07.6**	**-1.7**
JOSM	**Okushiri--Mats**	**4.57**	**220**	P	**Pn**	**13 03 18.8**	**+0.7**
JOT	**Ohata**	**4.60**	**203**	P	**Pn**	**13 03 18.7**	**+0.3**
JOT				*e*S	**S**	**13 04 16.7**	**-1.7**
USRK	**Ussuriysk Arra**	**8.26**	**264**	P	**Pn**	**13 04 01.3**	**+0.3**
	0.4nm,0.3s,baz=72,slow=14,SNR=7.2						
MJAR	**Matsushiro Arr**	**9.91**	**205**	P	**P**	**13 04 23.8**	**+0.5**
	0.3nm,0.3s,baz=5.3,slow=12,SNR=7.8						
PETK	**Petropavlovsk-**	**11.90**	**46**	P	**P**	**13 04 45.3**	**+0.1**
	0.1nm,0.3s,baz=224,slow=8.8,SNR=5.0						
ILAR	**Eielson Array**	**41.55**	**37**	P	**P**	**13 09 20.2**	**+0.6**
	0.4nm,0.7s,baz=278,slow=8.8,SNR=5.0						
INK	**Inuvik**	**46.12**	**31**	P	**P**	**13 09 55.0**	**-0.5**
	0.3nm,0.3s,baz=250,slow=7.6,SNR=3.4						
YKA	**Yellowknife Ar**	**55.69**	**33**	P	**P**	**13 11 06.5**	**+0.3**
	0.1nm,0.6s,baz=303,slow=7.1,SNR=3.5						

IDC 06 13:28:33.1±1.1**, 5°.08S**×**79°.44W, h0km, mb3.6**/4**, mb1 3.9**/7**, mb1mx3.8**/23**, mbtmp3.8**/7**, ML3.6**/3**, MS3.9**/2**, Ms1 3.9**/2**, ms1mx3.4**/39**, Error ellipse: s-maj=61.3km s-min=18.8km az=55.0, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.29**	**153**	Pn	Pn	13 29 12.7	0.0
	2.3nm,0.3s,baz=287,slow=4.1,SNR=21						
ATAH				LR	LR	13 29 57.8	
	comp=Z,793nm,20.1s,baz=308,slow=37						
NNA	**Nana**	**7.32**	**160**	Pn	Pn	13 30 22.6	+1.0
	1.5nm,0.3s,baz=252,slow=8.4,SNR=3.6						
LPAZ	**La Paz**	**15.72**	**136**	Pn	Pn	13 32 16.2	-0.6
	0.2nm,0.3s,baz=319,slow=9.4,SNR=17						
SIV	**San Ignacio**	**21.04**	**122**	P	P	13 33 18.0	-0.8
	7.3nm,0.9s,baz=303,slow=12,SNR=18						
NVAR	**Mina Array Bea**	**56.31**	**324**	P	P	13 38 15.7	-0.4
	0.4nm,0.8s,baz=126,slow=4.7,SNR=2.9						
NVAR				PcP	PcP	13 39 12.2	-1.3
	0.5nm,0.6s,baz=126,slow=3.7,SNR=4.1						
YKA	**Yellowknife Ar**	**72.53**	**344**	P	P	13 40 02.4	+0.8
	0.1nm,0.4s,baz=139,slow=6.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**82.55**	**76**	P	P	13 40 59.0	+0.3
	1.3nm,1.0s,baz=278,slow=3.4,SNR=3.8						
AFI	**Afiamalu**	**91.06**	**256**	LR	LR	14 16 23.2	
	comp=Z,183nm,18.2s,baz=320,slow=32						
ZALV	**Zalesovo Beam**	**129.62**	**12**	PKP	PKPdf	13 47 43.8	-0.3
	0.6nm,0.6s,baz=346,slow=3.1,SNR=5.1						

*CASC **06** 13:34:48.9±1.7, 13°.26N×88°.47W, h186km±8km, MD3.7*
*ISCJB **06** 13:34:49.2±0.6, 13°.4N±0°.1×88°.38W±0°.07, h191km±4km, mb3.4/6, Error ellipse: s-maj=21.7km s-min=6.5km az=26.3*
*IDC **06** 13:34:51.6±1.9, 13°.68N×88°.39W, h179km±27km, mb3.1/6, mb1 3.4/8, mb1mx3.3/25, mbtmp3.2/8, Error ellipse: s-maj=43.7km s-min=22.1km az=34.0*
ISC 06 13:34:50.6±0.9**, 13°.5N**±0°.1×**88°.42W**±0°.08**, h183km**±6km**, n26, σ1s.18**/35**, mb3.4**/6**, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.14**	**97**	*e*P	**Pn**	**13 35 14.9**	**-0.2**
CAHU	**Cacacuatique**	**0.38**	**32**	*e*P	**Pn**	**13 35 15.4**	**-0.2**
CAHU				*e*S	**Sn**	**13 35 35.6**	**+0.8**
SNVI	**San Vicente**	**0.44**	**292**	*e*P	**Pn**	**13 35 14.5**	**-1.2**
SNVI				*e*S	**Sn**	**13 35 34.7**	**-0.2**
CNCH	**Conchagua**	**0.59**	**106**	*e*P	**Pn**	**13 35 16.7**	**+0.4**
CNCH				*e*S	**Sn**	**13 35 36.5**	**+0.5**
LFRS	**El Faro**	**0.65**	**286**	*e*P	**Pn**	**13 35 15.3**	**-1.3**
LBRS	**Las Brisas**	**0.67**	**296**	*e*P	**Pn**	**13 35 15.7**	**-0.9**
BOQS	**Boqueron**	**0.89**	**289**	*e*P	**Pn**	**13 35 17.0**	**-1.1**
SNJE	**San Jose**	**1.23**	**290**	*e*P	**Pn**	**13 35 19.6**	**-1.1**
SBLS	**San Blas**	**1.23**	**289**	*e*P	**Pn**	**13 35 19.6**	**-1.2**
RTR	**El Retiro**	**1.27**	**291**	*e*P	**Pn**	**13 35 19.9**	**-1.1**
MRL	**Marmol**	**2.03**	**323**	*e*P	**Pn**	**13 35 28.9**	**+0.5**
NBG	**Las Nubes**	**2.19**	**301**	*e*P	**Pn**	**13 35 30.6**	**+0.3**
NBG				*e*S	**Sn**	**13 36 03.3**	**+2.3**
PCG	**Pacaya**	**2.33**	**294**	*e*P	**Pn**	**13 35 32.1**	**+0.3**
PCG				*e*S	**Sn**	**13 36 05.2**	**+1.5**
FUG	**Fuego 3**	**2.56**	**293**	*e*P	**Pn**	**13 35 32.5**	**-1.8**
FUG				*e*S	**Sn**	**13 36 09.7**	**+1.5**
FG6		**2.63**	**295**	*e*P	**Pn**	**13 35 35.4**	**0.0**
FG6				*e*S	**Sn**	**13 36 11.8**	**+1.7**
TP2	**Tecpan 2**	**2.85**	**298**	*e*P	**Pn**	**13 35 38.6**	**+0.6**
TP2				*e*S	**Sn**	**13 36 16.1**	**+1.2**
JTS	**JuntasAbangare**	**4.62**	**132**	P	**Pn**	**13 36 02.6**	**+2.8**
	11nm,0.3s,baz=320,slow=18,SNR=23						
JTS				S	**Sn**	**13 36 53.8**	**-0.3**
	11nm,0.3s,baz=304,slow=23,SNR=8.5						
CMIG	**Matias Romero**	**7.21**	**301**	P	**Pn**	**13 36 32.5**	**-1.2**
	0.8nm,0.3s,baz=133,slow=10,SNR=7.6						
CMIG				S	Sn	13 37 44.0	-11
	0.8nm,0.3s,baz=57,slow=9.4,SNR=6.8						
TXAR	**Lajitas Array**	**21.21**	**321**	P	**P**	**13 39 22.2**	**-0.1**
	0.5nm,0.5s,baz=141,slow=11,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TKL	Tuckaleechee C	22.51	10	P	P	13 39 34.5	-0.6
	5.2nm,0.8s,baz=187,slow=13,SNR=6.1						
PDAR	Pinedale Array	34.45	332	P	P	13 41 21.8	+0.6
	0.3nm,0.6s,baz=126,slow=11,SNR=3.4						
SCHQ	Schefferville	44.61	18	P	P	13 42 43.5	-1.2
	0.7nm,0.4s,baz=17,slow=12,SNR=3.8						
YKA	Yellowknife Ar	52.41	345	P	P	13 43 43.4	-0.6
	0.6nm,0.7s,baz=134,slow=8.5,SNR=20						
ILAR	Eielson Array	64.73	336	P	P	13 45 08.4	-0.6
	0.3nm,0.7s,baz=162,slow=4.4,SNR=4.5						
WRA	Warramunga Arr	138.62	255	PKP	PKPdf	13 53 56.9	+1.3
	0.9nm,0.5s,baz=87,slow=2.2,SNR=20						
ASAR	Alice Springs	138.75	249	PKP	PKPdf	13 53 57.0	+1.2
	0.4nm,0.6s,baz=69,slow=1.6,SNR=6.0						

IDC 06 13:41:48.9±3.7, 22°.51N×45°.07W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/26, mbtmp3.5/4, Error ellipse: s-maj=165.3km s-min=31.3km az=24.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	45.32	94	P	P	13 50 08.9	-0.1
	1.3nm,1.0s,baz=280,slow=7.0,SNR=4.4						
PDAR	Pinedale Array	56.58	307	P	P	13 51 33.8	0.0
	0.4nm,0.8s,baz=83,slow=7.4,SNR=3.1						
YKA	Yellowknife Ar	60.84	330	P	P	13 52 02.4	-0.4
	0.2nm,0.7s,baz=99,slow=7.2,SNR=5.0						
ILAR	Eielson Array	74.77	334	P	P	13 53 30.8	+0.2
	0.7nm,0.8s,baz=73,slow=4.5,SNR=7.2						

ISK 06 14:02:23.5, 40°.19N×28°.41E, h8km, MD2.7
ISCJB 06 14:02:24.1±0.5, 40°.26N±0°.03×28°.37E±0°.04, h6km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=140.3
DDA 06 14:02:24.4, 40°.23N×28°.38E, h7km, MD2.6
CSEM 06 14:02:24.3±0.2, 40°.25N×28°.39E, h10km, MD2.7, Error ellipse: s-maj=5.3km s-min=3.8km az=156.0
ISC 06 14:02:24.5±1.1, 40°.24N±0°.02×28°.40E±0°.02, h12km±12km, n38, σ0s.69/48, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDNY	Mudanya-Bursa	0.40	70	ePG	Pg	14 02 32.3	-0.1
MDNY	Mudanya-Bursa	0.40	70	ePg	Pg	14 02 32.3	-0.1
EDC	Edincik	0.42	285	ePG	Pg	14 02 32.7	-0.2
EDC	Edincik	0.42	285	ePg	Pg	14 02 32.7	-0.2
ARMT	Armutlu	0.48	47	ePG	Pg	14 02 34.0	0.0
ARMT				eSG	Sb	14 02 41.9	-0.2
ARMT	Armutlu	0.48	47	ePg	Pg	14 02 34.0	0.0
ARMT				eSg	Sb	14 02 41.9	-0.2
GONE	Gonen-Balikesi	0.58	251	ePG	Pg	14 02 35.3	-0.4
GONE	Gonen-Balikesi	0.58	251	ePg	Pg	14 02 35.3	-0.4
DURS	Dursunbey	0.64	175	i P	Pg	14 02 36.9	0.0
DURS				i S	Sb	14 02 46.6	+0.1
DURS	Dursunbey	0.64	175	i P	Pg	14 02 36.9	0.0
DURS				i S	Sb	14 02 46.6	+0.1
BALY	Balya	0.78	231	i P	Pg	14 02 38.4	-1.1
BALY				i S	Sb	14 02 50.3	-0.2
BALY	Balya	0.78	231	i P	Pg	14 02 38.4	-1.1
BALY				i S	Sb	14 02 50.3	-0.2
YLV	Yalova	0.82	66	ePG	Pg	14 02 39.9	-0.4
YLV	Yalova	0.82	66	ePg	Pg	14 02 39.9	-0.4
BUY	Buyukada	0.83	42	i P	Pb	14 02 40.6	-0.2
BUY				i S	Sb	14 02 53.2	+1.3
BUY	Buyukada	0.83	42	i P	Pb	14 02 40.6	-0.2
BUY				i S	Sb	14 02 53.2	+1.3
KRBG	Karabiga-Canak	0.85	281	ePG	Pg	14 02 40.7	-0.3
KRBG	Karabiga-Canak	0.85	281	ePg	Pg	14 02 40.7	-0.3
ISK	Istanbul-Kandi	0.97	31	ePG	Pg	14 02 42.3	-0.9
ISK	Istanbul-Kandi	0.97	31	ePg	Pg	14 02 42.3	-0.9
CTKS	Kestanelik-??a	1.00	5	ePG	Pg	14 02 43.2	-0.6
CTKS	Kestanelik-??a	1.00	5	ePg	Pg	14 02 43.3	-0.6
RKY	Sarkoy-Tekirda	1.03	296	ePG	Pg	14 02 44.1	-0.3
RKY	Sarkoy-Tekirda	1.03	296	ePg	Pg	14 02 44.1	-0.3
CAVI	Cavuskoy	1.11	91	ePN	Pg	14 02 44.4	-1.4
CAVI	Cavuskoy	1.11	91	ePn	Pg	14 02 44.4	-1.4
HRT	Hereke	1.13	58	ePN	Pg	14 02 45.4	-0.9
HRT	Hereke	1.13	58	ePn	Pg	14 02 45.4	-0.9
TVSB	Tavsanli	1.14	133	ePN	Pg	14 02 45.0	-1.4
TVSB	Tavsanli	1.14	133	ePn	Pg	14 02 45.0	-1.4
LPK	Lapseki	1.26	277	ePN	Pn	14 02 48.0	+0.1
LPK	Lapseki	1.26	277	ePn	Pn	14 02 48.0	+0.1
GDZ	Gediz	1.42	143	i P	Pg	14 02 52.5	+0.7
GDZ				i S	Sg	14 03 10.9	+0.7
GDZ	Gediz	1.42	143	i P	Pg	14 02 52.5	+0.7
GDZ				i S	Sg	14 03 10.9	+0.7
GELI	Tayfur-Gelibol	1.48	277	ePN	Pb	14 02 51.8	-0.1
GELI	Tayfur-Gelibol	1.48	277	ePn	Pb	14 02 51.8	-0.1
ERIK	Erikli-Kesan	1.50	287	ePN	Pn	14 02 51.5	+0.3
ERIK	Erikli-Kesan	1.50	287	ePn	Pn	14 02 51.5	+0.3

ISCJB 06 14:18:47.4±0.9, 34°.74N±0°.09×6°.6E±0°.1, h10km, mb3.5/4, MS3.8/1, Error ellipse: s-maj=12.7km s-min=11.9km az=142.8
IDC 06 14:18:47.3±1.3, 34°.80N×6°.53E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/30, mbtmp3.4/6, ML2.8/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/35, Error ellipse: s-maj=38.1km s-min=24.8km az=125.0
CRAAG 06 14:19:07.5, 36°.20N×6°.30E, Ml3.5
CSEM 06 14:19:07.5, 36°.20N×6°.30E, h0km, ML3.5, After ALG
ISC 06 14:18:48.8±1.0, 34°.89N±0°.08×6°.57E±0°.05, h10km, n22, σ0s.91/21, mb3.6/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CASM	Ain Smara	1.37	357	P	Pb	14 19 14.0	-0.6
CASM	Ain Smara	1.37	357	P	Pb	14 19 14.0	-0.6
CKFL	Kef-Lekhel	1.52	5	P	Pb	14 19 17.3	+0.2
CKFL	Kef-Lekhel	1.52	5	P	Pb	14 19 17.3	+0.2
ABSA	Djebel Ababsia	1.57	28	P	Pg	14 19 19.2	+0.3
ABSA	Djebel Ababsia	1.57	28	P	Pg	14 19 19.2	+0.3
SET	Setif	1.62	324	P	Pg	14 19 19.0	-1.0
SET	Setif	1.62	324	P	Pg	14 19 19.0	-1.0
DFRA	Djebel Bou Aff	1.75	341	P	Pn	14 19 18.4	-0.9
DFRA	Djebel Bou Aff	1.75	341	P	Pn	14 19 18.4	-0.9
CMAH	Djebel Manchou	1.87	21	P	Pn	14 19 21.2	+0.3
CMAH	Djebel Manchou	1.87	21	P	Pn	14 19 21.2	+0.3
KEST	Kesra	2.42	69	Pn	Pb	14 19 31.2	-1.3
	2.3nm,0.3s,baz=278,slow=6.1,SNR=15						
KEST				Sn	Sg	14 20 07.3	+0.7
	2.7nm,0.3s,baz=176,slow=20,SNR=4.7						
EMHD	Djebel Mahouad	3.23	295	P	Pn	14 19 41.2	+1.5
EMHD	Djebel Mahouad	3.23	295	P	Pn	14 19 41.2	+1.5
GERES	GERESS Array B	14.91	19	LR	LR	14 28 32.1	
	comp=Z,343nm,18.4s,baz=329,slow=39						
MLR	Muntele Rosu	18.15	48	P	P	14 23 01.8	+0.4
	0.0nm,0.3s,baz=217,slow=10,SNR=2.7						
TORD	Torodi Ar. Bea	22.09	193	P	P	14 23 43.0	-1.2
	0.9nm,0.4s,baz=8.0,slow=11,SNR=10						
BBTS	Babate	28.95	232	LR	LR	14 36 59.1	
	comp=Z,220nm,19.2s,baz=359,slow=38						
FINES	FINESS Array B	29.35	19	P	P	14 24 51.6	+0.1
	0.8nm,0.7s,baz=239,slow=9.5,SNR=3.4						
MKAR	Makanchi Array	56.42	53	P	P	14 28 30.1	-0.5
	0.6nm,0.6s,baz=279,slow=6.5,SNR=7.9						
YKA	Yellowknife Ar	72.14	335	P	P	14 30 14.5	+1.3
	0.1nm,0.4s,baz=48,slow=5.1,SNR=2.9						

IDC 06 14:19:32.9±0.7, 15°.52N×96°.03E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/26, mbtmp4.1/12, ML4.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=26.9km s-min=16.7km az=58.0
ISCJB 06 14:19:35.2±0.6, 15°.65N±0°.07×96°.00E±0°.06, h28km, mb4.2/16, Error ellipse: s-maj=10.5km s-min=7.4km az=163.2
NEIC 06 14:19:36.8±0.7, 15°.66N×96°.02E, h25km, mb4.6/6, Error ellipse: s-maj=14.3km s-min=10.6km az=27.0
ISC 06 14:19:37.1±0.7, 15°.65N±0°.09×95°.99E±0°.07, h28km, n51, σ1s.25/56, mb4.2/16, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	3.97	45	ePn	Pn	14 20 35.0	-1.1
CM31				eSn	Sn	14 21 23.3	+1.6
CMAR	Chiang Mai Arr	3.97	45	Pn	Pn	14 20 36.0	-0.1
	10nm,0.3s,baz=232,slow=15,SNR=206						
CMAR				Sn	Sb	14 21 34.4	+0.5
	1.8nm,0.3s,baz=219,slow=29,SNR=4.4						
CMAR				Lg	Lg	14 21 51.0	
	3.8nm,0.3s,baz=225,slow=29,SNR=6.7						
CMAR	Chiang Mai Arr	3.97	45	Pn	Pn	14 20 36.0	-0.1
CMAR				Sn	Sb	14 21 34.4	+0.5
CMAR				Lg	Lg	14 21 51.0	
CHTO	Chiang Mai	4.22	41	ePn	Pn	14 20 39.0	-0.7
CHTO				eSn	Sn	14 21 25.7	-2.4
SHL	Shillong	10.59	339	eP	Pn	14 22 06.0	-1.2
PSI	Prapat	13.09	167	LR	LR	14 28 17.9	
	comp=Z,145nm,19.5s,baz=3.8,slow=40						
ODAN	Odare	13.73	326	eP	Pn	14 22 47.6	-2.6
ODAN	Odare	13.73	326	eP	Pn	14 22 47.6	-2.6
TAPN	Taplejung	13.96	328	eP	Pn	14 22 51.2	-2.1
	5.4nm,0.4s						
TAPN	Taplejung	13.96	328	eP	Pn	14 22 51.2	-2.1
	5.4nm,0.4s						
RAMN	Ramite	14.24	324	eP	Pn	14 22 55.2	-2.0
RAMN	Ramite	14.24	324	eP	Pn	14 22 55.2	-2.0
GUN	Gumba	15.38	324	eP	Pn	14 23 10.4	-2.2
GUN	Gumba	15.38	324	eP	Pn	14 23 10.4	-2.2
GKN	Gorkha	16.18	321	eP	Pn	14 23 22.8	+0.1
GKN	Gorkha	16.18	321	eP	Pn	14 23 22.8	+0.1
KOLN	Koldanda	16.66	318	eP	P	14 23 31.9	+0.9
	23nm,0.6s						
KOLN	Koldanda	16.66	318	eP	P	14 23 31.9	+0.9
	23nm,0.6s						
DANN	Dangsing	16.96	320	eP	P	14 23 34.7	+0.2
DANN	Dangsing	16.96	320	eP	P	14 23 34.7	+0.2
AAK	Ala-Archa	32.60	330	eP	P	14 26 07.4	+0.9
	33nm,1.1s						
EKS2	Erkin-Say	32.98	329	eP	P	14 26 08.5	-1.2
	2.6nm,0.8s						
MK31	Makanchi Array	33.08	343	eP	P	14 26 11.9	+1.5
MKAR	Makanchi Array	33.08	343	P	P	14 26 12.2	+1.8
	5.4nm,1.0s,baz=153,slow=9.9,SNR=35						
MKAR	Makanchi Array	33.08	343	P	P	14 26 12.2	+1.8
SONM	Songino Array	33.22	13	P	P	14 26 12.5	+0.7
	0.5nm,0.8s,baz=192,slow=10,SNR=4.4						
SONM	Songino Array	33.22	13	P	P	14 26 12.5	+0.7
KURK	Kurchatov	37.68	342	eP	P	14 26 50.3	+0.5
	10nm,0.8s						
ZAA0	Zalesovo Array	39.20	350	eP	P	14 27 03.3	+0.7
ZALV	Zalesovo Beam	39.20	350	P	P	14 27 04.5	+1.8
	15nm,0.8s,baz=173,slow=8.8,SNR=72						
ZALV	Zalesovo Beam	39.20	350	P	P	14 27 04.5	+1.8
ABKAR	Akbulak array	44.53	327	eP	P	14 27 45.5	-0.7
	2.1nm,0.7s						
WRA	Warramunga Arr	51.69	132	P	P	14 28 41.4	-0.6
	2.4nm,0.9s,baz=314,slow=7.6,SNR=16						
WRA				PcP	PcP	14 29 55.0	-0.3
	0.4nm,0.8s,baz=316,slow=3.3,SNR=4.5						
WRA	Warramunga Arr	51.69	132	P	P	14 28 41.4	-0.6
WRA				PcP	PcP	14 29 55.0	-0.3
KBZ	Khabaz	52.84	313	P	P	14 28 51.3	+1.1
	2.4nm,0.7s,baz=112,slow=7.3,SNR=6.1						
KBZ	Khabaz	52.84	313	P	P	14 28 51.3	+1.1
KIV	Kislovodsk	53.05	314	eP	P	14 28 51.4	-0.5
	30nm,1.1s						
ASAR	Alice Springs	53.85	136	P	P	14 28 57.4	-0.6
	0.5nm,0.6s,baz=314,slow=7.0,SNR=11						
ASAR	Alice Springs	53.85	136	P	P	14 28 57.4	-0.6
BRTR	Keskin Array B	58.98	307	P	P	14 29 34.6	+0.2
	2.5nm,0.9s,baz=108,slow=6.6,SNR=6.8						
BRTR	Keskin Array B	58.98	307	P	P	14 29 34.6	+0.2
FINES	FINESS Array B	66.79	331	P	P	14 30 26.8	+1.0
	1.1nm,0.5s,baz=92,slow=9.5,SNR=6.9						
FINES	FINESS Array B	66.79	331	P	P	14 30 26.8	+1.0
GERES	GERESS Array B	73.34	317	P	P	14 31 07.4	+0.9
	0.5nm,0.8s,baz=61,slow=6.3,SNR=5.5						
GERES	GERESS Array B	73.34	317	P	P	14 31 07.4	+0.9
BOSA	Boshof	81.28	237	P	P	14 31 50.9	-0.3
	3.0nm,1.0s,baz=155,slow=19,SNR=4.0						
BOSA	Boshof	81.28	237	P	P	14 31 50.9	-0.3
ILAR	Eielson Array	86.90	22	P	P	14 32 18.6	-0.6
	0.7nm,0.8s,baz=309,slow=4.4,SNR=8.9						
ILAR	Eielson Array	86.90	22	P	P	14 32 18.6	-0.6
BDFB	Brasilia	145.37	265	PKPbc	PKPab	14 39 13.8	+0.3
	5.1nm,0.8s,baz=332,slow=3.4,SNR=5.3						
BDFB	Brasilia	145.37	265	PKPbc	PKPab	14 39 13.8	+0.3

ISK 06 14:19:53.3, 40°.99N×39°.10E, h7km, MD2.7
CSEM 06 14:19:54.1±0.6, 41°.01N×39°.09E, h8km, MD2.7, Error ellipse: s-maj=13.8km s-min=5.8km az=173.0
DDA 06 14:19:54.6, 40°.97N×39°.09E, h7km, MD2.8
ISC 06 14:19:54.0±1.2, 41°.01N±0°.06×39°.09E±0°.03, h11km±9km, n20, σ0s.56/33, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESPY	Espiye-Giresun	0.29	251	ePG	Pg	14 19 59.6	-0.3
ESPY				eSG	Sg	14 20 03.8	0.0
ESPY	Espiye-Giresun	0.29	251	ePg	Pg	14 19 59.6	-0.3
ESPY				eSg	Sg	14 20 03.8	0.0
MACK	Trabzon	0.52	97	i P	Pg	14 20 04.4	+0.1
MACK				i S	Sb	14 20 13.0	+0.2
MACK	Trabzon	0.52	97	i P	Pg	14 20 04.4	+0.1
MACK				i S	Sb	14 20 13.0	+0.2
KELT	Kelkit	0.87	171	i P	Pg	14 20 10.2	-0.7
KELT				i S	Sg	14 20 22.7	+0.4
KELT	Kelkit	0.87	171	i P	Pg	14 20 10.2	-0.7
KELT				i S	Sg	14 20 22.7	+0.4
BAYT	Ayd˜–ntepe-Bay	1.01	127	ePG	Pg	14 20 12.6	-1.0
BAYT	Ayd˜–ntepe-Bay	1.01	127	ePg	Pg	14 20 12.6	-1.0
SUSE	Susehri	1.05	220	i P	Pg	14 20 14.3	+0.1
SUSE				i S	Sn	14 20 29.6	+0.1
SUSE	Susehri	1.05	220	i P	Pg	14 20 14.3	+0.1
SUSE				i S	Sn	14 20 29.6	+0.1
EZC	Erzincan	1.27	171	ePN	Pn	14 20 17.6	-0.3
EZC	Erzincan	1.27	171	ePn	Pn	14 20 17.7	-0.3
KOPT	Kop Dagi	1.47	132	i P	Pb	14 20 21.4	-0.1
KOPT				i S	Sg	14 20 42.2	+1.0
KOPT	Kop Dagi	1.47	132	i P	Pb	14 20 21.4	-0.1
KOPT				i S	Sg	14 20 42.2	+1.0
ERZN	Erzincan	1.50	161	ePN	Pn	14 20 20.9	-0.2
ILIC	ilic-Erzincan	1.61	194	ePN	Pn	14 20 22.5	0.0
ILIC	ilic-Erzincan	1.61	194	ePn	Pn	14 20 22.5	0.0
KEMA	Kemaliye	1.80	195	i P	Pb	14 20 26.9	-0.1
KEMA				i S	Sg	14 20 53.1	+1.2
KEMA	Kemaliye	1.80	195	i P	Pb	14 20 26.9	-0.1
KEMA				i S	Sg	14 20 53.1	+1.2
DAGI	Agillar	2.14	87	eP	Pn	14 20 30.0	+0.2
DAGI				i S	Sb	14 20 58.7	-0.8

IDC 06 14:22:29.9±1.6, 14°.58N×96°.46E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=58.0km s-min=27.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.53	31	Pn	Pn	14 23 40.5	+0.7
	7.0nm,0.3s,baz=234,slow=15,SNR=8.8						
MKAR	Makanchi Array	34.23	343	P	P	14 29 16.4	-1.0
	0.8nm,0.8s,baz=156,slow=9.7,SNR=4.8						
ZALV	Zalesovo Beam	40.33	349	P	P	14 30 08.6	-0.4
	3.6nm,0.5s,baz=175,slow=8.5,SNR=18						
ASAR	Alice Springs	52.78	136	P	P	14 31 46.9	-0.3
	0.2nm,0.7s,baz=317,slow=8.6,SNR=4.7						
FINES	FINESS Array B	67.94	331	P	P	14 33 31.0	+0.7
	1.7nm,0.9s,baz=145,slow=5.1,SNR=3.2						

DJA 06 14:26:29.5±0.9, 1°N±6°×12°3E±°, h86km±10km, M3.9/4, MLv3.9/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.58	256	P	Pn	14 26 46.2	+1.7
MRSI				S	Sn	14 26 58.3	+2.7
KMSI	Cibinong	1.48	92	P	Pn	14 26 54.6	-0.2
KMSI				S	Sn	14 27 15.3	+1.3
LUWI	Luwuk	1.67	171	P	Pn	14 26 57.7	+0.4
LUWI				S	Sn	14 27 19.3	+0.9
APSI	Ampana	1.74	209	P	Pn	14 26 58.1	-0.1

IDC 06 14:38:29.5±5.7, 29°.01S×178°.64W, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.4/16, mbtmp3.2/2, Error ellipse: s-maj=267.4km s-min=88.9km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.64	266	P	P	14 46 27.8	-0.2
	0.1nm,0.3s,baz=105,slow=6.8,SNR=5.7						
WRA	Warramunga Arr	43.50	271	P	P	14 46 34.9	-0.1
	0.3nm,0.4s,baz=111,slow=7.8,SNR=6.4						
FINES	FINESS Array B	143.66	340	PKP	PKPdf	14 58 05.1	-0.6
	0.9nm,0.4s,baz=60,slow=3.4,SNR=5.1						

MAN 06 15:12:10, 16°.42N×120°.79E, h21km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.21	261	⇑iP	Pb	15 12 14.7	-1.4
BOLP	Bolinao	0.84	268	eP	Pb	15 12 25.4	-0.6
BALP	Baler	1.01	132	eP	Pb	15 12 28.1	-0.7
CAUP	Cauayan	1.12	62	eP	Pb	15 12 31.2	+0.6
ABRA	Dolores	1.23	356	eP	Pn	15 12 32.2	+0.3
PALP	Palanan	1.69	67	eP	Pb	15 12 39.6	-0.9

MAN 06 15:36:21, 9°.04N×122°.65E, h31km, mb4.6, ML3.5, MS3.4, 2C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.83	123	⇑eP	Pn	15 36 33.7	-2.9
DCPH				eS	Sn	15 36 43.5	-4.3
IPIL	Ipil	1.25	183	eP	Pn	15 36 42.8	+0.5
IPIL				eS	Sn	15 36 56.1	-2.0
TBP	Tagbilaran	1.36	62	eP	Pn	15 36 43.2	-0.7
TBP				eS	Sn	15 36 58.9	-2.1
PAGZ	Pagadian	1.39	148	eP	Pn	15 36 44.3	0.0
GUIM	Jordan	1.58	358	eP	Pn	15 36 46.7	-0.2
LLP	Lapu-Lapu	1.82	46	⇑iP	Pn	15 36 49.3	-0.9
LLP				i S	Sn	15 37 10.6	-1.7
CGP	Cagayan de Oro	2.11	106	eP	Pn	15 36 52.0	-2.1
CGP				i S	Sn	15 37 17.1	-2.2
CUYO	Cuyo Island	2.41	318	eP	Pn	15 36 59.7	+1.3
MSLP	Maasin	2.44	63	eP	Pn	15 36 59.2	+0.5
BUKP	Musuan	2.65	116	eP	Pn	15 37 03.3	+1.5
ENPP	El Nido	3.83	304	eP	Pn	15 37 19.3	+1.4

IDC 06 15:43:12.6±8.2, 29°.60S×175°.20W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.5/18, mbtmp3.3/2, Error ellipse: s-maj=346.9km s-min=61.3km az=153.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.59	265	P	P	15 51 34.0	-0.7
	0.1nm,0.5s,baz=101,slow=7.1,SNR=5.2						
WRA	Warramunga Arr	46.51	270	P	P	15 51 42.4	+0.4
	0.3nm,0.5s,baz=110,slow=8.0,SNR=5.5						
FINES	FINESS Array B	145.18	342	PKPbc	PKPbc	16 02 50.1	-0.9
	4.7nm,1.1s,baz=14,slow=3.9,SNR=3.9						

ATH 06 15:45:13.9, 41°.19N×19°.47E, h7km, MD3.2/3
TIR 06 15:45:14.2±3.2, 41°.14N×19°.53E, h23km±14km, ML3.2
BEO 06 15:45:15.3±0.7, 41°.09N×19°.53E, h3km±2km, ML3.0/1
CSEM 06 15:45:15.5±0.2, 41°.14N×19°.55E, h2km, ML3.2, Error ellipse: s-maj=5.4km s-min=3.4km az=60.0
PDG 06 15:45:17.9±0.3, 41°.29N×19°.63E, h6km, ML3.0/9, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0
ISC 06 15:45:14.9±1.1, 41°.12N±0°.02×19°.50E±0°.03, h5km±9km, n65, σ1s.02/116, 6C-10D, Albania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.36	50	i PG	Pg	15 45 21.5	-0.4
TIR				i SG	Sg	15 45 26.3	-0.4
TIR	Tirane	0.36	50	ePg	Pg	15 45 21.6	-0.4
TIR				eSg	Sg	15 45 27.2	+0.5
TIR	Tirane	0.36	50	ePg	Pg	15 45 21.6	-0.4
TIR				i Sg	Sg	15 45 26.3	-0.4
	SNR=11						
ULC	Ulcinj	0.87	348	⇓iPg	Pg	15 45 31.7	+0.1
ULC				eSg	Sg	15 45 43.0	+0.1
ULC	Ulcinj	0.87	348	⇓iPg	Pg	15 45 31.7	+0.1
ULC				eSg	Sg	15 45 43.0	+0.1
PHP	Peshkopia	0.91	51	i PG	Pg	15 45 30.4	-2.0
PHP				i SG	Sb	15 45 46.5	+0.9
PHP	Peshkopia	0.91	51	i Pg	Pg	15 45 30.4	-2.0
	SNR=9.0						
PUK	Puka	0.97	18	i PG	Pg	15 45 32.9	-0.7
PUK	Puka	0.97	18	i Pg	Pg	15 45 32.9	-0.7
	SNR=9.0						
BUM	Brajici-Budva	1.27	339	⇓iPg	Pn	15 45 38.9	-0.4
BUM				eSg	Sn	15 45 57.3	+0.5
BUM	Brajici-Budva	1.27	339	⇓iPg	Pn	15 45 38.9	-0.4
BUM				eSg	Sn	15 45 57.3	+0.5
BCI	Bajram Curri	1.32	19	i PN	Pn	15 45 39.1	-0.9
BCI				i SN	Sb	15 45 57.5	+0.1
BCI	Bajram Curri	1.32	19	i Pn	Pn	15 45 39.1	-0.9
	SNR=6.0						
BCI				i Sn	Sb	15 45 57.5	+0.1
	SNR=6.0						
TTG	Podgorica	1.32	352	ePg	Pn	15 45 39.3	-0.7
TTG				eSg	Sn	15 45 58.4	+0.4
PDG	Podgorica	1.33	352	ePg	Pn	15 45 39.4	-0.7
PDG				eSg	Sg	15 45 59.1	+1.6
PDG	Podgorica	1.33	352	ePg	Pn	15 45 39.4	-0.7
PDG				eSg	Sn	15 45 58.4	+0.3
BIA	Bitola	1.39	93	ePn	Pn	15 45 40.0	-0.9
BIA				eSg	Sb	15 45 58.6	-0.8
BIA	Bitola	1.39	93	ePn	Pn	15 45 40.0	-0.9
BIA				eSg	Sb	15 45 58.5	-0.8
KEK	Kerkira	1.42	171	ePB	Pg	15 45 42.0	-0.1
KEK				eSB	Sg	15 46 02.5	+2.0
KEK	Kerkira	1.42	171	ePb	Pg	15 45 42.0	-0.1
KEK				eSb	Sg	15 46 02.5	+2.0
PVY	Plav	1.52	13	⇑iPg	Pn	15 45 42.9	+0.1
PVY				eSg	Sb	15 46 03.6	+0.4
PVY	Plav	1.52	13	⇑iPg	Pn	15 45 42.9	+0.1
PVY				eSg	Sb	15 46 03.6	+0.4
HCY	Herceg Novi	1.53	331	⇓iPg	Pn	15 45 43.6	+0.8
HCY				eSg	Sg	15 46 06.4	+2.4
HCY	Herceg Novi	1.53	331	⇓iPg	Pn	15 45 43.6	+0.8
HCY				eSg	Sg	15 46 06.4	+2.4
SKO	Skopje	1.69	59	ePn	Pn	15 45 45.4	+0.3
SKO				eSg	Sb	15 46 07.9	-0.1
SKO	Skopje	1.69	59	ePn	Pb	15 45 45.9	-0.6
SKO				eSg	Sb	15 46 08.2	+0.1
SKO	Skopje	1.69	59	ePn	Pb	15 45 45.9	-0.6
SKO				eSg	Sb	15 46 08.2	+0.1
NKY	Niksic	1.74	348	⇓iPn	Pn	15 45 46.4	+0.6
NKY				eSn	Sg	15 46 11.7	+0.9
NKY	Niksic	1.74	348	⇓iPn	Pn	15 45 46.4	+0.6
NKY				eSn	Sg	15 46 11.7	+0.9
BEY	Berane	1.78	9	ePn	Pn	15 45 47.0	+0.6
BEY				eSn	Sb	15 46 11.9	+1.2
IVA	Berane	1.78	10	ePn	Pn	15 45 47.0	+0.6
IVA				eSn	Sb	15 46 11.9	+1.2
JAN	Janina	1.79	144	ePN	Pb	15 45 48.2	+0.1
JAN	Janina	1.79	144	ePn	Pb	15 45 48.2	+0.1
KZN	Kozani	1.91	114	ePN	Pb	15 45 49.8	-0.4
KZN	Kozani	1.91	114	ePn	Pb	15 45 49.8	-0.4
BRY	Bratogost	1.92	339	⇓iPn	Pb	15 45 50.4	-0.1
BRY				eSn	Sg	15 46 16.7	0.0
BRY	Bratogost	1.92	339	⇓iPn	Pb	15 45 50.4	-0.1
BRY				eSn	Sg	15 46 16.7	0.0
UPM	Unac-Piva	2.13	348	⇑iPn	Pb	15 45 53.5	-0.6
UPM				eSn	Sb	15 46 21.4	+0.5
UPM	Unac-Piva	2.13	348	⇑iPn	Pb	15 45 53.5	-0.6
UPM				eSn	Sb	15 46 21.4	+0.5
SJES	Sjenica	2.17	9	ePn	Pn	15 45 51.9	+0.1
SJES				eSn	Sn	15 46 20.3	+1.1
SJES	Sjenica	2.17	9	ePn	Pn	15 45 51.9	+0.1
SJES				eSn	Sn	15 46 20.3	+1.1
STON	Ston	2.21	323	i Pn	Pn	15 45 51.0	-1.2
STON				Sn	Sn	15 46 17.6	-2.2
STON	Ston	2.21	323	i Pn	Pn	15 45 51.0	-1.2
STON				Sn	Sn	15 46 17.6	-2.2
PLE	Pljevlja	2.21	358	⇑iPn	Pn	15 45 53.9	+1.5
PLE				eSn	Sb	15 46 22.3	-0.9
PLE	Pljevlja	2.21	358	⇑iPn	Pn	15 45 53.9	+1.5
PLE				eSn	Sb	15 46 22.3	-0.9
VAY	Valandovo	2.33	84	ePn	Pb	15 45 56.8	-0.5

VAY				eSg	Sn	15 46 20.7	-2.1
VAY	Valandovo	2.33	84	ePn	Pn	15 45 54.7	+0.9
VAY	Valandovo	2.33	84	ePn	Pn	15 45 54.7	+0.9
BARS	Barje	2.42	45	ePn	Pn	15 45 56.4	+1.2
BARS				eSn	Sn	15 46 25.9	+0.7
SELS	Selova	2.42	29	ePn	Pn	15 45 55.8	+0.6
SELS				eSn	Sn	15 46 27.0	+1.8
IVAS	Ivanjica	2.51	11	ePn	Pn	15 45 57.3	+0.9
IVAS				eSn	Sn	15 46 28.0	+0.7
IVAS	Ivanjica	2.51	11	ePn	Pn	15 45 57.3	+0.9
IVAS				eSn	Sn	15 46 28.0	+0.7
GRUS	Gruza	2.91	18	ePn	Pn	15 46 01.9	0.0
GRUS				eSn	Sn	15 46 38.4	+1.1
GRUS	Gruza	2.91	18	ePn	Pn	15 46 01.9	0.0
GRUS				eSn	Sn	15 46 38.4	+1.1
DIVS	Divibare	3.00	7	ePn	Pn	15 46 03.9	+0.7
DIVS				eSn	Sn	15 46 40.7	+1.1
DIVS	Divibare	3.00	7	ePn	Pn	15 46 03.9	+0.7
DIVS				eSn	Sn	15 46 40.7	+1.1
VTS	Vitosha	3.14	61	ePn	Pn	15 46 05.5	+0.3
VTS				eSn	Sn	15 46 43.8	+0.7
VTS	Vitosha	3.14	61	ePn	Pn	15 46 05.5	+0.3
VTS				eSn	Sn	15 46 43.8	+0.7
ZAPS	Zavoj	3.17	46	ePn	Pn	15 46 06.2	+0.7
ZAPS				eSn	Sn	15 46 43.5	-0.3
TRUS	Trudelj	3.18	12	ePn	Pn	15 46 06.5	+1.0
TRUS	Trudelj	3.18	12	ePn	Pn	15 46 06.5	+1.0
BOLS	Boljevac	3.26	33	ePn	Pn	15 46 07.8	+1.1
BOLS	Boljevac	3.26	33	ePn	Pn	15 46 07.8	+1.1
NVLJ	Novalja	4.84	317	i Pn	Pn	15 46 27.7	-0.6
NVLJ				Sn	Sn	15 47 20.2	-4.5
NVLJ	Novalja	4.84	317	i Pn	Pn	15 46 27.7	-0.6

IDC 06 15:53:20.7±10.0**, 36°.99S**×**147°.20E, h0^{km}, mb3.1**/1**, mb1 3.4**/3**, mb1mx3.3**/14**, mbtmp3.2**/3**, ML3.2**/2**, Error ellipse: s-maj=353.3km s-min=96.6km az=40.0, Victoria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	6.88	316	Pn	Pn	15 55 02.9	0.0
	0.5nm,0.3s,baz=166,slow=9.0,SNR=15						
STKA				Sn	Sn	15 56 23.3	+1.4
	1.3nm,0.3s,baz=44,slow=17,SNR=4.6						
ASAR	Alice Springs	17.52	316	P	Pn	15 57 24.6	-1.8
	0.0nm,0.3s,baz=149,slow=11,SNR=3.1						
WRA	Warramunga Arr	20.36	323	P	P	15 57 59.8	+0.9
	0.7nm,0.7s,baz=141,slow=12,SNR=7.0						

KRSC 06 16:08:08.0±0.4**, 53°.19N**×**158°.15E, h171^{km}**±31^{km}**, ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOK	Koryaka	0.31	71	eP	Pn	16 08 32.8	+1.6
PET	Petropavlovsk	0.35	119	eP	Pn	16 08 32.1	+1.0
PET				eS	Sn	16 08 49.6	+0.8
AVH	Avacha	0.36	78	eP	Pn	16 08 32.9	+1.6
KRER	Koryakskii	0.38	72	eP	Pn	16 08 32.9	+1.4
SMAR	Somma	0.40	79	eP	Pn	16 08 33.2	+1.6
UGLR	Uglovaya	0.41	87	eP	Pn	16 08 33.2	+1.7
SDLR	Sedlovina	0.45	78	eP	Pn	16 08 33.0	+1.3
APC	Apacha	0.66	246	eP	Pn	16 08 33.5	+1.0
APC				eS	Sn	16 08 51.3	+0.1
MTVR	Mutnovka	0.71	178	eP	Pn	16 08 34.0	+1.0
MTVR				eS	Sn	16 08 53.3	+1.1
NLC	Nalytchevo	0.72	91	eP	Pn	16 08 33.8	+1.0
NLC				eS	Sn	16 08 52.7	+0.8
RUS	Russkaya	0.79	164	eP	Pn	16 08 33.4	+0.1
RUS				eS	Sn	16 08 52.2	-0.5
ASAK	Asacha	0.82	191	eP	Pn	16 08 34.5	+0.8
ASAK				eS	Sn	16 08 54.3	+1.0
SPN	Mys Shipunski	1.13	94	eP	Pn	16 08 36.6	+0.8
SPN				eS	Sn	16 08 56.9	-0.3
MIPR	Malaya Ipel'ka	1.25	223	eP	Pn	16 08 37.3	+0.5
MIPR				eS	Sn	16 08 58.7	-0.3
TUMR	Tumrok	2.40	28	eP	Pn	16 08 51.9	+2.8
MKZ	Mys Kozlova	2.52	56	eP	Pn	16 08 52.3	+2.0
MKZ				eS	Sn	16 09 23.7	+0.4
KBTR	Krutoberegovo	4.06	40	eP	Pn	16 09 11.6	+2.1
KBTR				eS	Sn	16 09 57.3	-0.2
BKI	Bering	5.02	63	eS	Sn	16 10 17.5	-2.2

IDC 06 16:13:50.1±2.0**, 7°.00S**×**128°.97E, h0^{km}, mb3.3**/1**, mb1 3.7**/4**, mb1mx3.4**/19**, mbtmp3.5**/4**, ML3.8**/2**, Error ellipse: s-maj=82.6km s-min=27.4km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.51	196	Pn	Pn	16 16 34.3	-1.5
	0.3nm,0.3s,baz=21,slow=12,SNR=20						
FITZ				Sn	Sn	16 18 29.8	-15
	0.4nm,0.3s,baz=34,slow=3.6,SNR=4.4						
WRA	Warramunga Arr	13.88	158	Pn	Pn	16 17 09.1	+0.8
	0.6nm,0.3s,baz=339,slow=10,SNR=36						
WRA				Sn	Sn	16 19 30.8	-13
	0.5nm,0.3s,baz=337,slow=22,SNR=9.3						
ASAR	Alice Springs	17.24	165	P	Pn	16 17 53.2	+0.7
	0.1nm,0.3s,baz=339,slow=9.0,SNR=14						
ASAR				S	Sn	16 20 55.9	-9.2
	0.1nm,0.3s,baz=347,slow=25,SNR=5.9						
MKAR	Makanchi Array	67.67	327	P	P	16 24 49.2	0.0
	0.2nm,0.8s,baz=121,slow=8.1,SNR=3.1						

ISCJB ***06*** *16:15:60.0±0.6, 37°.83N±0°.03×29°.05E±0°.06, h11^{km}±4^{km}, Error ellipse: s-maj=8.2km s-min=5.3km az=19.2*
CSEM ***06*** *16:15:59.9±0.2, 37°.82N×29°.05E, h10^{km}, MD2.3, Error ellipse: s-maj=5.6km s-min=3.7km az=98.0*
ISK ***06*** *16:16:00.0, 37°.85N×29°.09E, h3^{km}, MD2.5*
DDA ***06*** *16:16:00.2, 37°.82N×29°.09E, h7^{km}, MD2.3*
ISC 06 16:16:00.6±0.9**, 37°.82N**±0°.03×**29°.09E**±0°.04**, h8^{km}**±7^{km}**, n13, σ0^s.70**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.08	214	ePG	Pg	16 16 02.6	-0.1
DENT				eSG	Sg	16 16 04.3	+0.1
DENT	Denizli	0.08	214	ePg	Pg	16 16 02.6	-0.1
DENT				eSg	Sg	16 16 04.3	+0.1
DNZL	Cakiroluk	0.13	195	i P	Pg	16 16 03.1	-0.5
DNZL				i S	Sg	16 16 05.7	+0.1
DNZL	Cakiroluk	0.13	195	i P	Pg	16 16 03.1	-0.5
DNZL				i S	Sg	16 16 05.7	+0.1
KHL	Karahalli	0.61	34	ePG	Pb	16 16 12.9	-0.6
KHL				eSG	Sg	16 16 20.8	+0.5
KHL	Karahalli	0.61	34	ePg	Pb	16 16 12.9	-0.6
KHL				eSg	Sg	16 16 20.8	+0.5
KHAL	Karahalli	0.64	30	i P	Pg	16 16 12.1	-0.8
KHAL				i S	Sg	16 16 21.5	+0.3
KHAL	Karahalli	0.64	30	i P	Pg	16 16 12.1	-0.8
KHAL				i S	Sg	16 16 21.5	+0.3
GOLH	Golhisar	0.69	147	i P	Pg	16 16 13.8	-0.1
GOLH				i S	Sb	16 16 24.2	-0.5
GOLH	Golhisar	0.69	147	i P	Pg	16 16 13.8	-0.1
GOLH				i S	Sb	16 16 24.2	-0.5
KULA	Kula-Manisa	0.77	334	ePG	Pg	16 16 15.3	-0.1
KULA	Kula-Manisa	0.77	334	ePg	Pg	16 16 15.3	-0.1
AYDN	Tasoluk	0.97	261	i P	Pn	16 16 22.3	+1.7
AYDN				i S	Sg	16 16 30.1	-1.8

DDA ***06*** *17:00:10.2, 35°.45N×33°.47E, h8^{km}, MD3.2*
CSEM ***06*** *17:00:14.0±0.1, 35°.63N×33°.40E, h2^{km}, Mw3.2, Error ellipse: s-maj=3.8km s-min=3.6km az=111.0*
ISK ***06*** *17:00:14.4, 35°.57N×33°.42E, h21^{km}, MD3.7*
NIC ***06*** *17:00:16.1±0.4, 35°.60N×33°.30E, h28^{km}, ML3.5, MW3.2*
ISC 06 17:00:12.4±1.4**, 35°.56N**±0°.02×**33°.43E**±0°.03**, h1^{km}**±13^{km}**, n63, σ1^s.09**/74**, 6D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFK	Lefkose	0.29	164	PG	Pn	17 00 22.2	-1.7
LFK	Lefkose	0.29	164	i Pg	Pn	17 00 22.2	-1.7
MAMC	Mammari	0.43	204	⇓P	Pn	17 00 24.8	-0.8
MAMC	Mammari	0.43	204	⇓iP	Pn	17 00 24.8	-0.8
AYKD	Aykdinkavak	0.60	352	i P	x	17 01 05.4	
AYKD				i S	x	17 01 39.2	
EREN	Erenkoy	0.60	93	ePG	Pn	17 00 26.9	-1.1
EREN	Erenkoy	0.60	93	ePg	Pn	17 00 26.9	-1.1
CSS	Prodhromos	0.60	188	⇓P	Pb	17 00 26.7	+1.0
	7.2nm,0.3s						
CSS				S	Sb	17 00 36.0	+1.3
CSS	Prodhromos	0.60	188	⇓iP	Pb	17 00 26.7	+1.0
	7.2nm,0.3s						
CSS				S	Sb	17 00 36.0	+1.3
LEF	Lefka	0.62	225	ePG	Pn	17 00 27.4	-1.0
LEF	Lefka	0.62	225	ePg	Pn	17 00 27.4	-1.0
PHNC	Paralimni	0.74	138	P	Pn	17 00 29.8	-0.1
PHNC	Paralimni	0.74	138	P	Pn	17 00 29.8	-0.1
ALFC	Alevga	0.79	240	⇓P	Pg	17 00 28.3	+0.7
	25nm,0.3s						
ALFC				S	Sg	17 00 37.6	-0.2
ALFC	Alevga	0.79	240	⇓iP	Pg	17 00 28.3	+0.7
	25nm,0.3s						
ALFC				S	Sg	17 00 37.6	-0.2
AKMC	Akamas	1.05	240	P	Pg	17 00 32.2	-0.3
AKMC	Akamas	1.05	240	P	Pg	17 00 32.2	-0.3
PPCY	Paphos	1.12	233	P	Pb	17 00 34.1	-0.4
PPCY	Paphos	1.12	233	P	Pb	17 00 34.1	-0.4
GAZI	Gazipasa	1.13	307	i P	Pb	17 00 33.2	-1.5
GAZI				i S	Sb	17 00 48.4	-1.5
GAZI	Gazipasa	1.13	307	i P	Pb	17 00 33.2	-1.5
GAZI				i S	Sb	17 00 48.4	-1.5
ERMK	Ermenek	1.16	339	i P	Pb	17 00 34.7	-0.6
ERMK				i S	Sn	17 00 52.3	-0.2
ERMK	Ermenek	1.16	339	i P	Pb	17 00 34.7	-0.6
ERMK				i S	Sn	17 00 52.3	-0.2
MERS	Mersin	1.57	34	ePN	Pb	17 00 41.7	-0.6
MERS	Mersin	1.57	34	ePn	Pb	17 00 41.7	-0.6
KRTS	Karatas	1.87	57	ePN	Pn	17 00 46.0	+0.5
KRTS	Karatas	1.87	57	ePn	Pn	17 00 46.0	+0.5
GULE	Gulek	2.03	32	i P	Pb	17 00 48.9	-1.3
GULE				i S	Sb	17 01 15.3	-0.8
GULE	Gulek	2.03	32	i P	Pb	17 00 48.9	-1.3
GULE				i S	Sb	17 01 15.3	-0.8
YAYL	Yayladag	2.23	77	i P	Pn	17 00 51.3	+0.8
YAYL				i S	Sn	17 01 18.4	-0.3
YAYL	Yayladag	2.23	77	i P	Pn	17 00 51.3	+0.8
YAYL				i S	Sn	17 01 18.4	-0.3
HTY	Hatay	2.27	75	ePN	Pn	17 00 51.5	+0.5
HTY	Hatay	2.27	75	ePn	Pn	17 00 51.5	+0.5
CEYT	Ceyhan	2.37	52	ePN	Pn	17 00 53.1	+0.8
CEYT	Ceyhan	2.37	52	ePn	Pn	17 00 53.1	+0.8
KONT	Konya--Tatoy	2.53	340	ePN	Pn	17 00 55.9	+1.3
KONT	Konya--Tatoy	2.53	340	ePn	Pn	17 00 55.9	+1.3
ANTB	Antalya	2.62	302	ePN	Pn	17 00 56.7	+1.0
ANTB	Antalya	2.62	302	ePn	Pn	17 00 56.7	+1.0
SULT	Sultanhani-AKS	2.63	1	ePN	Pn	17 00 57.2	+1.1
SULT	Sultanhani-AKS	2.63	1	ePn	Pn	17 00 57.2	+1.1
NIG	Nigde	2.71	20	ePN	Pn	17 00 58.4	+1.0
NIG	Nigde	2.71	20	ePn	Pn	17 00 58.4	+1.0
LADK	Ladik-KONYA	2.77	342	ePN	Pn	17 00 59.2	+1.2
LADK	Ladik-KONYA	2.77	342	ePn	Pn	17 00 59.2	+1.2
BCK	Bucak	2.97	310	ePN	Pn	17 01 01.7	+0.9
BCK	Bucak	2.97	310	ePn	Pn	17 01 01.7	+0.9
ELL	Elmali	3.09	294	ePN	Pn	17 01 03.2	+0.8
ELL	Elmali	3.09	294	ePn	Pn	17 01 03.2	+0.8
KMRS	Kahramanmaras	3.40	54	ePN	Pn	17 01 08.0	+1.4
KMRS	Kahramanmaras	3.40	54	ePn	Pn	17 01 08.0	+1.4
GAZ	Gaziantep	3.45	61	ePN	Pn	17 01 08.6	+1.3
GAZ	Gaziantep	3.45	61	ePn	Pn	17 01 08.6	+1.3
FETY	Fethiye	3.68	288	ePN	Pn	17 01 11.6	+1.2
FETY	Fethiye	3.68	288	ePn	Pn	17 01 11.6	+1.2
SHUT	Suhut-Afyon	3.77	323	ePN	Pn	17 01 13.4	+1.6
SHUT	Suhut-Afyon	3.77	323	ePn	Pn	17 01 13.4	+1.6
BNN	Bunyan	3.81	30	ePN	Pn	17 01 14.0	+1.7
BNN	Bunyan	3.81	30	ePn	Pn	17 01 14.0	+1.7
AFSR	Af¯ar-Bala (A	3.89	356	ePN	Pn	17 01 14.9	+1.5
AFSR	Af¯ar-Bala (A	3.89	356	ePn	Pn	17 01 14.9	+1.5
KHL	Karahalli	4.17	313	ePN	Pn	17 01 18.6	+1.4
KHL	Karahalli	4.17	313	ePn	Pn	17 01 18.6	+1.4

DDA 06 17:01:12.5, 37°.83N×**29°.19E, h7^{km}, MD2.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.18	220	i P	Pg	17 01 16.8	+0.4
DNZL				i S	Sg	17 01 19.3	+0.2
DNZL	Cakiroluk	0.18	220	i P	Pg	17 01 16.8	+0.3
KHAL	Karahalli	0.59	24	i P	Pg	17 01 17.9	-6.2
KHAL				i S	Sg	17 01 32.7	+0.8
KHAL	Karahalli	0.59	24	i P	Pg	17 01 17.9	-6.2

IDC 06 17:12:03.1±56.0**, 15°.52S**×**175°.76W, h0^{km}, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/19**, mbtmp4.0**/3**, Error ellipse: s-maj=1054.0km s-min=159.1km az=77.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.01	239	P	P	17 19 56.4	0.0
	1.9nm,0.7s,baz=74,slow=8.3,SNR=10						
WRA	Warramunga Arr	47.60	257	P	P	17 20 40.9	-0.3
	0.2nm,0.3s,baz=91,slow=8.0,SNR=13						
ASAR	Alice Springs	47.91	252	P	P	17 20 43.4	-0.2
	3.2nm,0.5s,baz=90,slow=7.9,SNR=146						

ISK ***06*** *17:19:48.6, 37°.26N×26°.61E, h2^{km}, MD3.4*
CSEM ***06*** *17:19:50.7±0.2, 37°.27N×26°.70E, h2^{km}, MD3.2, Error ellipse: s-maj=4.3km s-min=3.6km az=70.0*
ISCJB ***06*** *17:19:51.2±0.8, 37°.27N±0°.02×26°.76E±0°.04, h11^{km}±6^{km}, Error ellipse: s-maj=5.4km s-min=4.0km az=170.1*
ATH ***06*** *17:19:51.6, 37°.30N×26°.86E, h38^{km}±3^{km}, MD3.0/6*
DDA ***06*** *17:19:52.5, 37°.31N×26°.86E, h7^{km}, MD3.2*
ISC 06 17:19:50.0±1.4**, 37°.25N**±0°.03×**26°.82E**±0°.03**, h4^{km}**±11^{km}**, n87, σ1^s.29**/104**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BODT	Bodrum	0.43	115	PG	Pb	17 20 01.0	+0.7
BODT	Bodrum	0.43	115	i Pg	Pb	17 20 01.0	+0.7
GCAM	G?zelcaml?	0.56	36	i P	Pb	17 20 02.2	-0.2
GCAM				i S	Sb	17 20 10.2	-0.5
GCAM	G?zelcaml?	0.56	36	i P	Pb	17 20 02.2	-0.2
GCAM				i S	Sb	17 20 10.2	-0.5
MLSB	Milas	0.77	86	PG	Pn	17 20 07.1	-0.5
MLSB	Milas	0.77	86	i Pg	Pn	17 20 07.1	-0.5
DAT	Datca	0.80	130	ePG	Pn	17 20 07.8	-0.4
DAT				eSG	Sn	17 20 21.0	+0.4
DAT	Datca	0.80	130	ePg	Pn	17 20 07.8	-0.4
DAT				eSg	Sn	17 20 21.0	+0.4
AYDN	Tasoluk	0.94	64	i P	Pb	17 20 08.7	-0.2
AYDN				i S	Sb	17 20 21.6	-0.1
AYDN	Tasoluk	0.94	64	i P	Pb	17 20 08.7	-0.2
AYDN				i S	Sb	17 20 21.6	-0.1
APE	Apeiranthos	1.04	261	ePN	Pn	17 20 11.9	+0.4
APE				eSN	Sn	17 20 27.3	+0.8
APE	Apeiranthos	1.04	261	ePn	Pn	17 20 11.9	+0.4
APE				eSn	Sn	17 20 27.3	+0.8
BLCB	Balcova	1.15	9	ePN	Pg	17 20 12.0	0.0
BLCB	Balcova	1.15	9	ePn	Pg	17 20 12.0	0.0
YER	Yerkesik	1.18	95	ePN	Pn	17 20 15.6	+2.3
YER	Yerkesik	1.18	95	ePn	Pn	17 20 15.6	+2.3
IZM	Izmir	1.20	17	ePN	Pb	17 20 13.2	-0.2
IZM	Izmir	1.20	17	ePn	Pb	17 20 13.2	-0.2
CHOS	Chios island	1.29	332	ePN	Pn	17 20 14.4	-0.5
CHOS				eSN	Sg	17 20 30.9	-0.5
CHOS	Chios island	1.29	332	ePn	Pn	17 20 14.4	-0.5
CHOS				eSn	Sg	17 20 30.9	-0.5
ARG	Arkhangelos	1.47	134	ePN	Pb	17 20 17.9	0.0
ARG				eSN	Sn	17 20 36.5	-0.5
ARG	Arkhangelos	1.47	134	ePn	Pb	17 20 17.9	0.0
ARG				eSn	Sn	17 20 36.5	-0.5
TURN	Turunc	1.48	104	i P	Pn	17 20 16.1	-1.3
TURN				i S	Sn	17 20 33.7	-3.4
KARP	Karpathos	1.72	171	ePN	Pn	17 20 21.4	+0.6
KARP				eSN	Sn	17 20 42.8	-0.4
KARP	Karpathos	1.72	171	ePn	Pn	17 20 21.4	+0.6
KARP				eSn	Sn	17 20 42.8	-0.4
AKHS	Akhisar	1.81	25	i P	Pg	17 20 25.1	+0.4
AKHS				i S	Sg	17 20 49.1	+1.0
AKHS	Akhisar	1.81	25	i P	Pg	17 20 25.1	+0.4
AKHS				i S	Sg	17 20 49.1	+1.0
AKS	Akhisar	1.81	25	ePN	Pb	17 20 22.9	-0.8
AKS	Akhisar	1.81	25	ePn	Pb	17 20 22.9	-0.8
DENT	Denizli	1.83	73	ePN	Pg	17 20 24.5	-0.6
DENT	Denizli	1.83	73	ePn	Pg	17 20 24.5	-0.6
FETY	Fethiye	1.92	108	ePN	Pb	17 20 25.6	+0.1
FETY	Fethiye	1.92	108	ePn	Pb	17 20 25.6	+0.1
KULA	Kula-Manisa	1.93	49	ePN	Pb	17 20 25.4	-0.4
KULA	Kula-Manisa	1.93	49	ePn	Pb	17 20 25.4	-0.4
PRK	Paraskevi	2.04	348	ePN	Pn	17 20 24.6	-0.5
PRK	Paraskevi	2.04	348	ePn	Pn	17 20 24.6	-0.5
NPS	Neapolis	2.21	207	ePN	Pn	17 20 27.9	+0.4
NPS	Neapolis	2.21	207	ePn	Pn	17 20 27.9	+0.4
KHL	Karahalli	2.40	63	ePN	Pb	17 20 32.5	-1.3
KHL	Karahalli	2.40	63	ePn	Pb	17 20 32.5	-1.3
ELL	Elmali	2.52	100	ePN	Pb	17 20 34.3	-1.7
ELL	Elmali	2.52	100	ePn	Pb	17 20 34.3	-1.7
BALB	Balikesir	2.53	19	ePN	Pn	17 20 32.8	+0.9
BALB	Balikesir	2.53	19	ePn	Pn	17 20 32.8	+0.9
EZN	Ezine	2.60	352	ePN	Pn	17 20 32.6	-0.3
EZN	Ezine	2.60	352	ePn	Pn	17 20 32.6	-0.3
DST	Dursunbey	2.75	30	ePN	Pn	17 20 36.7	+1.8
DST	Dursunbey	2.75	30	ePn	Pn	17 20 36.7	+1.8
VAM	Vamos	2.80	230	ePN	Pn	17 20 37.0	+1.4
VAM	Vamos	2.80	230	ePn	Pn	17 20 37.0	+1.4
GONE	Gonen-Balikesi	2.88	13	ePN	Pn	17 20 37.6	+1.1
GONE	Gonen-Balikesi	2.88	13	ePn	Pn	17 20 37.7	+1.1
BCK	Bucak	3.01	85	ePN	Pb	17 20 41.4	-2.9
BCK	Bucak	3.01	85	ePn	Pb	17 20 41.4	-2.9
TVSB	Tavsanli	3.02	43	ePN	Pn	17 20 40.8	+2.0
TVSB	Tavsanli	3.02	43	ePn	Pn	17 20 40.8	+2.0
GELI	Tayfur-Gelibol	3.16	355	ePN	Pn	17 20 40.7	+0.2
GELI	Tayfur-Gelibol	3.16	355	ePn	Pn	17 20 40.7	+0.2
ALT	Altintas	3.16	54	ePN	Pn	17 20 43.1	+2.5
ALT	Altintas	3.16	54	ePn	Pn	17 20 43.1	+2.5
KRBG	Karabiga-Canak	3.16	7	ePN	Pn	17 20 41.4	+0.9
KRBG	Karabiga-Canak	3.16	7	ePn	Pn	17 20 41.4	+0.9
EDC	Edincik	3.20	14	ePN	Pn	17 20 42.0	+0.9
EDC	Edincik	3.20	14	ePn	Pn	17 20 42.0	+0.9
BNT	Bandirma	3.22	15	ePN	Pn	17 20 42.4	+1.0
BNT	Bandirma	3.22	15	ePn	Pn	17 20 42.4	+1.0
SHUT	Suhut-Afyon	3.23	65	ePN	Pn	17 20 44.3	+2.7
SHUT	Suhut-Afyon	3.23	65	ePn	Pn	17 20 44.3	+2.7
ORLT	Orhaneli	3.23	30	ePN	Pn	17 20 43.6	+2.0
ORLT	Orhaneli	3.23	30	ePn	Pn	17 20 43.6	+2.0
ERIK	Erikli-Kesan	3.43	356	ePN	Pn	17 20 44.5	+0.3
ERIK	Erikli-Kesan	3.43	356	ePn	Pn	17 20 44.5	+0.3
RKY	Sarkoy-Tekirda	3.45	5	ePN	Pn	17 20 45.3	+0.8
RKY	Sarkoy-Tekirda	3.45	5	ePn	Pn	17 20 45.3	+0.8
ENEZ	Enez	3.52	352	ePN	Pn	17 20 45.8	+0.3
ENEZ	Enez	3.52	352	ePn	Pn	17 20 45.8	+0.3
MFT	Murefte	3.55	6	ePN	Pn	17 20 46.3	+0.3
MFT	Murefte	3.55	6	ePn	Pn	17 20 46.3	+0.3
ARMT	Armutlu	3.68	25	ePN	Pn	17 20 49.5	+1.8
ARMT	Armutlu	3.68	25	ePn	Pn	17 20 49.5	+1.8
CAVI	Cavuskoy	3.78	38	ePN	Pn	17 20 51.4	+2.3
CAVI	Cavuskoy	3.78	38	ePn	Pn	17 20 51.4	+2.3
YLV	Yalova	3.87	30	ePN	Pn	17 20 52.9	+2.6
YLV	Yalova	3.87	30	ePn	Pn	17 20 52.9	+2.6
ADVT	Abdulvahap	3.91	35	ePN	Pn	17 20 53.0	+2.1
ADVT	Abdulvahap	3.91	35	ePn	Pn	17 20 53.0	+2.1

IDC 06 17:40:07.0±76.0**, 15°.13S**×**173°.60W, h0^{km}, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.6**/19**, mbtmp4.0**/3**, Error ellipse: s-maj=1453.0km s-min=186.7km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.00	240	P	P	17 48 16.6	+0.1
	1.5nm,0.5s,baz=96,slow=9.2,SNR=4.7						
WRA	Warramunga Arr	49.71	257	P	P	17 49 01.1	-0.3
	0.2nm,0.3s,baz=86,slow=7.3,SNR=9.0						
ASAR	Alice Springs	50.01	252	P	P	17 49 03.5	-0.2
	3.6nm,0.5s,baz=90,slow=7.9,SNR=119						

IDC 06 17:44:54.0±1.9**, 9°.66S**×**78°.12W, h101^{km}**±18^{km}**, mb3.2**/5**, mb1 3.4**/8**, mb1mx3.3**/24**, mbtmp3.2**/8**, Error ellipse: s-maj=45.0km s-min=17.7km az=65.0, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.52	354	P	Pn	17 45 35.2	+1.2
	11nm,0.3s,baz=192,slow=5.0,SNR=23						
ATAH				S	Sn	17 45 57.2	-7.4
	60nm,0.3s,baz=180,slow=3.7,SNR=46						
NNA	Nana	2.63	152	P	Pn	17 45 34.2	-0.8
	14nm,0.3s,baz=322,slow=11,SNR=38						
NNA				S	Sn	17 45 55.5	-11
	98nm,0.3s,baz=332,slow=13,SNR=14						
SIV	San Ignacio	17.77	112	P	P	17 48 54.1	-0.4
	0.2nm,0.3s,baz=305,slow=13,SNR=5.4						
TXAR	Lajitas Array	45.93	328	P	P	17 53 04.9	-2.1
	0.7nm,0.9s,baz=153,slow=6.1,SNR=5.2						
NVAR	Mina Array Bea	60.76	324	P	P	17 54 56.4	+0.8
	0.2nm,0.5s,baz=114,slow=8.0,SNR=2.5						
YKA	Yellowknife Ar	77.26	344	P	P	17 56 36.8	-0.1
	0.2nm,0.7s,baz=143,slow=6.2,SNR=4.9						
QSPA	South Pole Qui	80.46	180	P	P	17 56 55.1	+0.4
	0.5nm,0.7s,baz=131,slow=20,SNR=4.3						
TORD	Torodi Ar. Bea	82.40	75	P	P	17 57 05.8	+0.1
	0.7nm,1.0s,baz=250,slow=2.9,SNR=2.7						
ASAR	Alice Springs	134.43	223	PKP	PKPdf	18 04 01.9	+0.7
	0.3nm,0.7s,baz=114,slow=1.4,SNR=7.0						
WRA	Warramunga Arr	136.57	227	PKP	PKPdf	18 04 05.9	+0.6
	0.5nm,0.5s,baz=121,slow=2.0,SNR=8.5						

IDC 06 17:48:12.1±2.5**, 2°.34S**×**133°.97E, h0^{km}, mb3.4**/2**, mb1 3.8**/4**, mb1mx3.5**/19**, mbtmp3.6**/4**, ML3.4**/2**, Error ellipse: s-maj=90.0km s-min=27.2km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.50	179	P	P	17 52 18.5	-0.5
	0.2nm,0.3s,baz=359,slow=12,SNR=25						
WRA				S	Sn	17 55 28.2	-5.1
	0.1nm,0.3s,baz=338,slow=23,SNR=3.7						
FITZ	Fitzroy Crossi	17.67	207	P	Pn	17 52 18.2	-1.6
	0.0nm,0.3s,baz=35,slow=16,SNR=2.6						
ASAR	Alice Springs	21.20	180	P	P	17 52 59.9	+0.3
	1.8nm,0.8s,baz=1.2,slow=10,SNR=25						
MKAR	Makanchi Array	66.66	324	P	P	17 59 04.9	+0.1
	0.1nm,0.4s,baz=114,slow=7.9,SNR=5.1						

IDC 06 17:59:09.5±4.1**, 30°.72S**×**177°.64W, h0^{km}, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/19**, mbtmp4.0**/4**, Error ellipse: s-maj=145.6km s-min=48.1km az=154.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	34.16	279	P	P	18 05 57.8	+1.1
	1.7nm,0.3s,baz=104,slow=8.3,SNR=4.2						
STKA	Stephens Creek	34.71	257	P	P	18 06 01.4	+0.1
	3.9nm,1.1s,baz=90,slow=12,SNR=4.9						
ASAR	Alice Springs	43.41	267	P	P	18 07 13.7	-0.6
	0.4nm,0.4s,baz=105,slow=7.7,SNR=24						
WRA	Warramunga Arr	44.42	272	P	P	18 07 21.6	-0.8
	1.3nm,0.3s,baz=110,slow=8.1,SNR=26						
FINES	FINESS Array B	145.55	340	PKPbc	PKPdf	18 18 48.3	-0.6
	0.9nm,0.4s,baz=33,slow=4.5,SNR=12						

IDC 06 18:04:44.2±2.1**, 46°.21N**×**152°.69E, h0^{km}, mb3.4**/7**, mb1 3.5**/8**, mb1mx3.4**/29**, mbtmp3.5**/8**, ML2.9**/1**, Error ellipse: s-maj=54.0km s-min=26.3km az=170.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.63	23	Pn	Pn	18 06 37.0	+0.4
	0.2nm,0.3s,baz=184,slow=11,SNR=7.0						
SONM	Songino Array	31.24	290	P	P	18 11 06.3	+0.8
	0.1nm,0.4s,baz=92,slow=9.4,SNR=2.0						
MKAR	Makanchi Array	46.93	298	P	P	18 13 17.0	+0.6
	0.4nm,1.0s,baz=70,slow=6.5,SNR=2.6						
KURBB	Kurchatov Arra	47.51	304	P	P	18 13 19.5	-1.3
	0.2nm,0.5s,baz=73,slow=8.7,SNR=2.8						
BVAR	Borovoye Array	50.98	310	P	P	18 13 46.9	-0.4
	0.3nm,0.4s,baz=53,slow=6.0,SNR=2.7						
YKA	Yellowknife Ar	51.53	36	P	P	18 13 51.4	0.0
	0.1nm,0.6s,baz=293,slow=6.2,SNR=3.3						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
FINES	FINESS Array B	64.40	335	P	P	18 15 21.2	-0.4
	2.0nm,0.9s,baz=46,slow=8.2,SNR=4.1						
HFS	Hagfors	68.86	339	P	P	18 15 50.4	+0.3
	1.7nm,0.6s,baz=36,slow=7.5,SNR=4.1						
PLCA	Paso Flores	148.45	96	PKPbc	PKPbc	18 24 31.6	-0.8
	1.3nm,0.8s,baz=202,slow=5.4,SNR=3.3						

---

*DDA **06** 18:12:41.6, 37°.18N×30°.85E, h6km, MD2.8*
*ISK **06** 18:12:42.9, 37°.23N×30°.40E, h28km, MD2.7*
*CSEM **06** 18:12:43.6±0.1, 37°.25N×30°.37E, h27km±1km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.1km az=122.0*
ISC 06 18:12:43.0±1.2**, 37°.20N**±0°.03×**30°.75E**±0°.05**, h13**km±10km**, n23,** σ**1s.79**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCK	Bucak	0.29	334	PG	Pb	18 12 50.5	+0.3
BCK				SG	Sb	18 12 55.5	+0.5
BCK	Bucak	0.29	334	*i* Pg	Pb	18 12 50.5	+0.3
BCK				*i* Sg	Sb	18 12 55.5	+0.5
ANTB	Antalya	0.30	195	*e*PG	Pn	18 12 51.9	-1.2
ANTB				*e*SG	Sb	18 12 58.6	+3.4
ANTB	Antalya	0.30	195	*e*Pg	Pn	18 12 51.9	-1.2
ANTB				*e*Sg	Sb	18 12 58.6	+3.4
KORT	Korkueli	0.37	239	*i* P	Pb	18 12 50.9	-0.7
KORT				*i* S	Sg	18 12 56.8	+1.2
KORT	Korkueli	0.37	239	*i* P	Pb	18 12 50.9	-0.7
KORT				*i* S	Sg	18 12 56.8	+1.2
ELL	Elmali	0.81	237	*e*PG	Pg	18 12 56.4	-2.2
ELL	Elmali	0.81	237	*e*Pg	Pg	18 12 56.4	-2.2
GOLH	Golhisar	0.95	273	*i* P	Pg	18 13 00.9	-0.4
GOLH				*i* S	Sn	18 13 16.5	+0.9
GOLH	Golhisar	0.95	273	*i* P	Pg	18 13 00.9	-0.4
SHUT	Suhut-Afyon	1.36	353	*e*PN	Pn	18 13 06.0	-1.9
SHUT	Suhut-Afyon	1.36	353	*e*Pn	Pn	18 13 06.0	-1.9
FETY	Fethiye	1.45	248	*e*PN	Pn	18 13 04.5	-4.4
FETY	Fethiye	1.45	248	*e*Pn	Pn	18 13 04.5	-4.4
KONT	Konya--Tatoy	1.48	59	*e*PN	Pg	18 13 12.4	+1.0
KONT	Konya--Tatoy	1.48	59	*e*Pn	Pg	18 13 12.4	+1.0
KHL	Karahalli	1.49	320	*e*PN	Pn	18 13 05.5	-4.1
KHL	Karahalli	1.49	320	*e*Pn	Pn	18 13 05.5	-4.1
KHAL	Karahalli	1.54	320	*i* P	Pg	18 13 14.1	+1.5
KHAL				*i* S	Sg	18 13 34.4	+1.8
LADK	Ladik-KONYA	1.63	51	*e*PN	Pg	18 13 13.8	-0.4
LADK	Ladik-KONYA	1.63	51	*e*Pn	Pg	18 13 13.8	-0.4
ALT	Altintas	1.92	345	*e*PN	Pn	18 13 13.1	-2.4
ALT	Altintas	1.92	345	*e*Pn	Pn	18 13 13.1	-2.4

SKHL 06 18:17:23.9±0.3**, 52°.28N**×**134°.81E, h10**km±10km**, mb3.5**/4**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.38	306	*e*Pg	Pn	18 17 48.4	-0.9
EKMR				AMB	AMB	18 17 53.0	
	8.0nm,0.4s						
EKMR				AMB	AMB	18 17 53.0	
	10.0nm,0.4s						
EKMR				AMB	AMB	18 17 53.0	
	25nm,0.4s						
EKMR				*e*Sg	Sb	18 18 06.4	-1.2
EKMR				A	A	18 18 09.5	
	130nm,0.3s						
GRNR	Gornyy	1.82	146	*e*Pg	Pb	18 17 57.3	0.0
GRNR				*e*Sg	Sb	18 18 21.0	+0.9
GRNR				A	A	18 18 22.7	
	126nm,0.2s						
KLR	Kul'dur	3.62	214	*e*Sg	Sg	18 19 16.8	-3.3
NKL	Nikolayevsk	3.67	74	*e*Pg	Pb	18 18 29.8	+1.0
NKL				AMB	AMB	18 18 30.3	
	9.0nm,0.3s						
NKL				*e*Sg	Sg	18 19 17.8	-4.0
NKL				A	A	18 19 22.8	
	14nm,0.4s						
YASR	Yasnyy	4.27	286	*e*Pg	Pb	18 18 40.5	+1.5
YASR				*e*Sg	Sg	18 19 36.0	-4.9
YASR				A	A	18 19 41.9	
	19nm,0.6s						
YASR				A	A	18 19 41.9	
	4.0nm,0.6s						
BMKR	Bomnak	4.32	307	*e*Pg	Pb	18 18 42.5	+2.7
BMKR				AMB	AMB	18 18 46.1	
	3.0nm,0.5s						
BMKR				*e*Sg	Sg	18 19 37.6	-4.9
BMKR				A	A	18 19 41.4	
	13nm,0.4s						
ZEA	Zeya	4.79	291	*e*Sg	Sg	18 19 53.0	-4.7
ZEA				A	A	18 19 59.3	
	31nm,0.8s						
KROS	Kirovskiy	5.17	298	*e*Pg	Pb	18 18 57.4	+3.1
KROS				AMB	AMB	18 18 59.6	
	2.0nm,0.6s						
KROS				*e*Sn	Sn	18 19 39.1	-1.8
KROS				*e*Sg	Sg	18 20 06.0	-3.8
KROS				A	A	18 20 10.2	
	7.0nm,0.6s						
KROS				A	A	18 20 10.2	
	9.0nm,0.6s						

---

*IDC **06** 18:31:11.1±4.1, 24°.67N×95°.48E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.0/26, mbtmp3.0/3, Error ellipse: s-maj=409.5km s-min=27.6km az=59.0*
*ISCJB **06** 18:31:19.3±1.0, 24°.1N±0°.2×94°.5E±0°.2, h96km, mb3.0/3, Error ellipse: s-maj=39.7km s-min=10.3km az=40.0*
ISC 06 18:31:20.9±1.3**, 24°.3N**±0°.3×**94°.6E**±0°.2**, h96**km**, n5,** σ**1s.32**/7**, mb3.2**/3**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	0.76	307	*e*P	Pn	18 31 37.0	-1.6
IMP				*e*S	Sn	18 31 53.0	+1.1
SHL	Shillong	2.76	297	*e*PN	Pn	18 32 04.5	+1.0
SHL				*e*SN	Sn	18 32 35.0	-1.3
MKAR	Makanchi Array	24.50	339	P	P	18 36 31.8	+0.7
	0.1nm,0.5s,baz=141,slow=10,SNR=3.7						
WRA	Warramunga Arr	58.59	135	P	P	18 41 07.8	-0.2
	0.1nm,0.3s,baz=325,slow=7.3,SNR=7.6						
ASAR	Alice Springs	61.07	138	P	P	18 41 25.2	+0.3
	0.2nm,0.8s,baz=314,slow=6.5,SNR=6.0						

---

*ISCJB **06** 18:34:52.4±0.5, 23°.33S±0°.04×66°.71W±0°.04, h196km, mb3.8/6, Error ellipse: s-maj=6.4km s-min=5.1km az=143.6*
*IDC **06** 18:34:53.7±1.6, 23°.21S×66°.69W, h192km±14km, mb3.7/6, mb1 3.8/11, mb1mx3.6/21, mbtmp3.6/11, Error ellipse: s-maj=17.7km s-min=13.9km az=73.0*
*GUC **06** 18:34:56.1±0.6, 23°.11S×67°.15W, h220km, ML4.7*
ISC 06 18:34:53.3±0.6**, 23°.34S**±0°.06×**66°.71W**±0°.06**, h196**km**, n23,** σ**1s.54**/32**, mb3.9**/6**, 2C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MACH	Maria Elena	3.04	291⇑	*e*P	Pn	18 35 44.2	+0.7
MACH				*e*S	Sn	18 36 20.6	-2.1
CEN1	Los Morros	3.21	268⇓	*e*P	Pn	18 35 47.2	+1.7
CEN1				*e*S	Sn	18 36 27.3	+1.2
CEN1				AML	AML	18 36 28.7	
	comp=N,524nm,0.7s						
ANCH	Antofagasta	3.42	264⇑	*i*P	Pn	18 35 49.2	+1.4
ANCH				*i* S	Sn	18 36 29.0	-1.4
ANCH				AML	AML	18 36 31.1	
	comp=N,1μm,0.4s						
MECH	Mejillones	3.45	273	*e*P	Pn	18 35 49.4	+1.2
MECH				*i* S	Sn	18 36 29.3	-1.8
MECH				AML	AML	18 36 36.1	
	comp=N,1μm,0.5s						
CPCH	Copiapo	5.18	219	*e*P	Pn	18 36 09.4	-0.6
CPCH				*i* S	Sn	18 37 09.6	-0.9
CDCH	Caldera	5.26	224	*e*P	Pn	18 36 10.1	-0.8
CDCH				*i* S	Sn	18 37 09.4	-2.7
LPAZ	La Paz	7.15	349	P	Pn	18 36 36.1	-0.1
	comp=N,1.6nm,0.3s,baz=163,slow=6.3,SNR=31						
LPAZ				S	Sn	18 37 53.8	-3.7
	comp=N,0.2nm,0.3s,baz=239,slow=16,SNR=4.5						
CFAA	Coronel Fontan	8.34	189	P	Pn	18 36 52.4	+1.3
	comp=N,0.2nm,0.3s,baz=7.0,slow=13,SNR=14						
CFAA				S	Sn	18 38 20.4	-4.4
	comp=N,0.5nm,0.3s,baz=24,slow=4.5,SNR=9.0						
CPUP	Villa Florida	9.02	111	P	Pn	18 37 00.7	+0.8
	comp=N,0.4nm,0.3s,baz=278,slow=11,SNR=8.9						
SIV	San Ignacio	9.03	37	P	Pn	18 36 59.0	-1.2
	comp=N,4.5nm,0.3s,baz=231,slow=11,SNR=53						
PLCA	Paso Flores	17.64	190	P	Pn	18 38 48.1	+0.8
	comp=N,0.2nm,0.3s,baz=60,slow=17,SNR=4.7						
BDFB	Brasilia	19.20	70	P	P	18 39 03.5	+0.9
	comp=N,2.3nm,0.3s,baz=236,slow=12,SNR=34						
RCBR	Riachuelo	34.40	64	P	P	18 41 22.2	0.0
	comp=N,6.0nm,0.7s,baz=210,slow=7.8,SNR=6.1						
TORD	Torodi Ar. Bea	76.08	69	P	P	18 46 19.5	-0.3
	comp=N,2.1nm,0.6s,baz=258,slow=5.8,SNR=32						
PDAR	Pinedale Array	76.72	329	P	P	18 46 23.2	+0.1
	comp=N,0.7nm,0.7s,baz=168,slow=7.6,SNR=4.0						
SCHQ	Schefferville	77.85	360	P	P	18 46 28.7	-0.1
	comp=N,2.2nm,0.7s,baz=139,slow=5.5,SNR=7.0						
NVAR	Mina Array Bea	78.20	321	P	P	18 46 32.1	+0.7
	comp=N,0.9nm,0.9s,baz=155,slow=4.1,SNR=3.8						
YKA	Yellowknife Ar	93.60	340	P	P	18 47 46.8	+0.1
	comp=N,0.5nm,0.6s,baz=130,slow=4.5,SNR=13						
ASAR	Alice Springs	129.16	205	PKP	PKPdf	18 53 39.4	+0.6
	comp=N,0.4nm,0.6s,baz=143,slow=1.9,SNR=5.6						
WRA	Warramunga Arr	132.33	207	PKP	PKPdf	18 53 45.9	+1.0
	comp=N,0.6nm,1.0s,baz=153,slow=1.9,SNR=12						
MKAR	Makanchi Array	145.85	39	PKPbc	PKPbc	18 54 09.8	+0.3
	comp=N,2.1nm,0.8s,baz=311,slow=3.3,SNR=24						
SONM	Songino Array	154.95	11	PKPbc	PKPbc	18 54 32.2	+0.5
	comp=N,0.1nm,0.4s,baz=295,slow=0.6,SNR=3.1						
SONM				PKPab	PKPab	18 54 47.9	+0.1
	comp=N,0.5nm,0.7s,baz=308,slow=5.2,SNR=4.9						
CMAR	Chiang Mai Arr	165.74	107	PKPab	PKPab	18 55 36.6	+0.9
	comp=N,0.8nm,0.8s,baz=246,slow=6.2,SNR=7.4						

IDC 06 18:36:33.4±2.1**, 3°.43N**×**126°.10E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/21**, mbtmp3.2**/3**, Error ellipse: s-maj=183.3km s-min=25.2km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.59	161	P	P	18 41 55.6	+0.2
	0.4nm,0.5s,baz=341,slow=9.8,SNR=11						
ASAR	Alice Springs	27.98	165	P	P	18 42 25.9	-0.1
	0.1nm,0.4s,baz=339,slow=7.4,SNR=4.1						
MKAR	Makanchi Array	57.45	326	P	P	18 46 24.0	-0.1
	0.1nm,0.5s,baz=127,slow=8.3,SNR=3.0						

---

*ISK **06** 18:52:40.9, 37°.83N×29°.06E, h5km, MD2.8*
*DDA **06** 18:52:40.6, 37°.82N×29°.10E, h7km, MD2.8*
*ISCJB **06** 18:52:41.2±0.4, 37°.82N±0°.02×29°.06E±0°.04, h7km±4km, Error ellipse: s-maj=5.2km s-min=3.6km az=4.4*
*CSEM **06** 18:52:41.0±0.1, 37°.82N×29°.06E, h8km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.7km az=94.0*
ISC 06 18:52:40.6±0.8**, 37°.81N**±0°.02×**29°.06E**±0°.03**, h14**km±6km**, n35,** σ**0s.61**/53**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.06	202	*i* Pg	Pg	18 52 43.4	+0.1
DNZL	Cakiroluk	0.12	186	*i* P	Pb	18 52 44.2	-0.6
DNZL				*i* S	Sg	18 52 46.5	0.0
DNZL	Cakiroluk	0.12	186	*i* P	Pb	18 52 44.2	-0.6
DNZL				*i* S	Sg	18 52 46.5	0.0
KHL	Karahalli	0.63	35	PG	Pb	18 52 53.4	-0.1
KHL				SG	Sb	18 53 02.4	+0.3
KHL	Karahalli	0.63	35	*i* Pg	Pb	18 52 53.4	-0.1
KHL				*i* Sg	Sb	18 53 02.4	+0.3
KHAL	Karahalli	0.65	31	*i* P	Pg	18 52 52.9	-0.5
KHAL				*i* S	Sb	18 53 02.5	-0.4
KHAL	Karahalli	0.65	31	*i* P	Pg	18 52 52.9	-0.5
KHAL				*i* S	Sb	18 53 02.5	-0.4
GOLH	Golhisar	0.70	145	*i* P	Pb	18 52 54.1	-0.5
GOLH				*i* S	Sn	18 53 06.3	-0.5
GOLH	Golhisar	0.70	145	*i* P	Pb	18 52 54.1	-0.5
GOLH				*i* S	Sn	18 53 06.3	-0.5
KULA	Kula-Manisa	0.77	336	PG	Pb	18 52 56.1	+0.3
KULA				SG	Sb	18 53 06.7	+0.4
KULA	Kula-Manisa	0.77	336	*i* Pg	Pb	18 52 56.2	+0.3
KULA				*i* Sg	Sb	18 53 06.7	+0.4
MANT	Manisa	0.79	330	*i* P	Pb	18 52 55.7	-0.5
MANT				*i* S	Sn	18 53 08.0	-1.2
MANT	Manisa	0.79	330	*i* P	Pb	18 52 55.7	-0.5
MANT				*i* S	Sn	18 53 08.0	-1.2
YER	Yerkesik	0.92	223	*e*PG	Pn	18 52 58.9	-0.2
YER	Yerkesik	0.92	223	*e*Pg	Pn	18 52 58.9	-0.2
AYDN	Tasoluk	0.95	261	*i* P	Pn	18 52 59.4	-0.2
AYDN				*i* S	Sn	18 53 12.4	-0.6
AYDN	Tasoluk	0.95	261	*i* P	Pn	18 52 59.4	-0.2
AYDN				*i* S	Sn	18 53 12.4	-0.6
MLSB	Milas	1.14	244	*e*PN	Pn	18 53 03.3	+1.1
MLSB	Milas	1.14	244	*e*Pn	Pn	18 53 03.3	+1.1
FETY	Fethiye	1.17	179	*e*PN	Pg	18 53 03.7	+0.5
FETY	Fethiye	1.17	179	*e*Pn	Pg	18 53 03.7	+0.5
ELL	Elmali	1.26	147	*e*PN	Pg	18 53 05.2	+0.4
ELL	Elmali	1.26	147	*e*Pn	Pg	18 53 05.2	+0.4
DEMI	Demirci	1.26	348	*i* P	Pb	18 53 03.9	-0.3
DEMI				*i* S	Sn	18 53 22.5	+1.8
DEMI	Demirci	1.26	348	*i* P	Pb	18 53 03.9	-0.3
DEMI				*i* S	Sn	18 53 22.5	+1.8
BCK	Bucak	1.26	106	*e*PN	Pg	18 53 05.3	+0.4
BCK	Bucak	1.26	106	*e*Pn	Pg	18 53 05.3	+0.4
GDZ	Gediz	1.32	14	*i* P	Pn	18 53 04.8	0.0
GDZ				*i* S	Sg	18 53 23.3	+0.2
GDZ	Gediz	1.32	14	*i* P	Pn	18 53 04.8	0.0
GDZ				*i* S	Sg	18 53 23.3	+0.2
SHUT	Suhut-Afyon	1.39	57	*e*PN	Pg	18 53 07.3	0.0
SHUT	Suhut-Afyon	1.39	57	*e*Pn	Pg	18 53 07.3	0.0
AKS	Akhisar	1.45	318	*e*PN	Pg	18 53 08.4	-0.1
AKS	Akhisar	1.45	318	*e*Pn	Pg	18 53 08.4	-0.1
ALT	Altintas	1.49	33	*e*PN	Pg	18 53 08.9	-0.3
ALT	Altintas	1.49	33	*e*Pn	Pg	18 53 08.9	-0.3

---

*IDC **06** 19:02:13.0±2.1, 5°.62S×103°.92E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.6/23, mbtmp3.6/9, Error ellipse: s-maj=108.1km s-min=17.2km az=54.0*
*ISCJB **06** 19:02:16.9±0.8, 5°.88S±0°.07×103°.64E±0°.06, h45km, mb3.7/9, Error ellipse: s-maj=9.5km s-min=8.6km az=4.9*
*DJA **06** 19:02:22.0±0.8, 6°S±6°×10°4E±°, h29km±7km, M3.9/6, MLv3.9/6*
ISC 06 19:02:18.8±0.9**, 5°.84S**±0°.09×**103°.73E**±0°.09**, h45**km**, n16,** σ**1s.18**/18**, mb3.7**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	0.82	68	P	Pn	19 02 35.0	+0.9
KASI				S	Sn	19 02 44.2	-1.0
LWLI	Liwa	0.88	22	P	Pn	19 02 36.8	+1.9
LWLI				S	Sn	19 02 47.5	+0.9
BLSI	Bandar Lampung	1.58	73	P	Pn	19 02 45.3	+0.9
BLSI				S	Sn	19 03 03.0	-0.7
MNAI	Manna	1.66	332	P	Pn	19 02 49.4	+3.9
KSI	Kapahiang	2.45	332	P	Pn	19 03 01.0	+4.6
DBJI	Dramaga	3.09	104	P	Pn	19 03 07.1	+2.0
CISI	Cisompet, Garu	4.40	113	P	Pn	19 03 24.4	+1.1
CMAR	Chiang Mai Arr	24.60	349	P	P	19 07 34.9	-0.1
	0.6nm,0.5s,baz=182,slow=8.9,SNR=7.4						
WRA	Warramunga Arr	32.88	118	P	P	19 08 48.2	-0.7
	0.2nm,0.8s,baz=299,slow=10,SNR=3.6						
ASAR	Alice Springs	34.01	125	P	P	19 08 58.8	0.0
	0.1nm,0.4s,baz=303,slow=8.1,SNR=6.2						
STKA	Stephens Creek	43.84	131	P	P	19 10 21.6	+0.8
	1.1nm,0.7s,baz=316,slow=7.8,SNR=5.0						
SONM	Songino Array	53.49	2	P	P	19 11 33.8	-1.0
	0.3nm,0.6s,baz=174,slow=7.8,SNR=3.6						
SONM				PcP	PcP	19 12 39.9	-1.4
	0.2nm,0.4s,baz=181,slow=4.2,SNR=3.4						
MKAR	Makanchi Array	55.74	342	P	P	19 11 50.4	-0.7
	1.1nm,0.4s,baz=150,slow=9.0,SNR=20						
KURBB	Kurchatov Arra	60.29	342	P	P	19 12 22.1	-0.6
	0.7nm,0.7s,baz=160,slow=6.4,SNR=8.3						
ZALV	Zalesovo Beam	61.65	347	P	P	19 12 30.4	-1.5
	0.7nm,0.3s,baz=162,slow=5.3,SNR=7.1						
FINES	FINESS Array B	89.22	332	P	P	19 15 10.8	+1.2
	1.3nm,0.9s,baz=141,slow=6.4,SNR=4.5						

KRSC 06 19:10:03.2±0.7**, 55°.73N**×**162°.45E, h23**km±22km**, ML3.5, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.52	23	P	Pn	19 10 14.8	-0.4
KBTR				*i* S	Sn	19 10 23.6	+0.2
KBG	Krutoberegovo	0.55	15	*e*P	Pn	19 10 15.4	-0.1
KBG				*i* S	Sn	19 10 24.1	+0.2
ZLN	Zelenaya	0.97	288	*e*P	Pn	19 10 22.3	+0.7
ZLN				*i* S	Sn	19 10 35.8	+1.1
BZGR	Bezymyannyi-Gr	1.01	283	*e*P	Pb	19 10 22.6	+0.4
BZGR				*i* S	Sn	19 10 36.7	+1.0
SMKR	Semkarok	1.02	328	*e*P	Pn	19 10 22.0	-0.1
SMKR				*i* S	Sn	19 10 35.9	+0.1
CIRR	Tsirk	1.03	293	*e*P	Pb	19 10 23.2	+0.6
CIRR				*i* S	Sn	19 10 37.4	+1.1
BDR	Baidarnaya	1.09	321	*e*P	Pn	19 10 22.8	-0.4
BDR				*i* S	Sb	19 10 37.2	-0.2
BZMR	Bezymyannaya	1.12	281	*e*P	Pn	19 10 23.8	+0.1
BZMR				*i* S	Sn	19 10 38.8	+0.2
BZWR	Bezymyannyi-We	1.13	283	*e*P	Pn	19 10 24.0	+0.2
BZWR				*i* S	Sn	19 10 39.7	+1.0
KLY	Klyuchi	1.17	301	*e*P	Pn	19 10 22.9	-1.2
KLY				*i* S	Sn	19 10 37.6	-1.7
KRSR	Krestovskiy	1.17	296	*e*P	Pn	19 10 24.4	+0.1
KRSR				*i* S	Sb	19 10 39.7	+0.1
SRKR	Sorokina	1.17	323	*e*P	Pb	19 10 25.1	+0.2
SRKR				*i* S	Sb	19 10 40.9	+1.2
KIRR	Kirishev	1.21	282	*e*P	Pb	19 10 25.8	+0.2
KIRR				*i* S	Sb	19 10 42.6	+1.6
MKZ	Mys Kozlova	1.25	200	*e*P	Pb	19 10 25.8	-0.2
MKZ				*i* S	Sb	19 10 42.4	+0.8
KMNR	Kamenistaya	1.25	272	P	Pb	19 10 27.1	+0.8
KMNR				*i* S	Sb	19 10 44.6	+2.5
KPT	Kopyto	1.28	282	*e*P	Pb	19 10 26.8	+0.1
KPT				*i* S	Sb	19 10 43.4	+0.6
TUMR	Tumrok	1.39	252	*e*P	Pb	19 10 29.1	+0.5
TUMR				*i* S	Sb	19 10 47.9	+2.0
KOZ	Kozyrevsk	1.49	284	*e*P	Pb	19 10 30.7	+0.5
KOZ				*i* S	Sb	19 10 51.1	+2.4
SRDR	Sredinnyy	1.64	292	*e*P	Pb	19 10 32.4	-0.5
SRDR				*i* S	Sb	19 10 53.7	+0.5
BKI	Bering	2.07	103	*e*P	Pb	19 10 38.3	-1.8
BKI				*i* S	Sn	19 11 03.4	+1.8
ESO	Esso	2.12	277	*e*P	Pn	19 10 38.2	+0.9
SPN	Mys Shipunski	3.00	209	*e*P	Pn	19 10 50.4	+1.2
SPN				*i* S	Sn	19 11 25.1	+0.8
NLC	Nalytchevo	3.14	217	*e*P	Pn	19 10 52.9	+1.7
NLC				*i* S	Sn	19 11 29.4	+1.5
SDLR	Sedlovina	3.22	222	*e*P	Pn	19 10 54.3	+1.8
SDLR				*i* S	Sn	19 11 31.5	+1.3
KRER	Koryakskii	3.25	223	*e*P	Pn	19 10 53.2	+0.2
KRER				*i* S	Sn	19 11 29.5	-1.6
SMAR	Somma	3.26	222	*e*P	Pn	19 10 55.8	+2.6
AVH	Avacha	3.28	223	*e*P	Pn	19 10 56.3	+3.0
AVH				*i* S	Sn	19 11 35.2	+3.5
UGLR	Uglovaya	3.29	221	*e*P	Pn	19 10 56.3	+2.8
UGLR				*i* S	Sn	19 11 35.0	+3.0
PET	Petropavlovsk	3.50	221	*e*P	Pn	19 10 58.1	+1.9
PET				*i* S	Sn	19 11 38.3	+1.4
RUS	Russkaya	4.04	217	*e*P	Pn	19 11 04.7	+1.2
RUS				*i* S	Sn	19 11 49.5	-0.5
MTVR	Mutnovka	4.11	219	*e*P	Pn	19 11 08.0	+3.3
MTVR				*i* S	Sn	19 11 55.2	+3.0
ASAK	Asacha	4.29	221	*e*P	Pn	19 11 09.6	+2.4

---

*DJA **06** 19:19:22.8±0.6, 12°S±7°×16°3E±°, h10km, M5.5/31, mB5.9/22, mb5.4/31, Mw(mB)5.5/22*
*IDC **06** 19:19:28.8±0.5, 10°.77S×162°.39E, h70km±4km, mb4.4/22, mb1 4.6/23, mb1mx4.6/26, mbtmp4.4/23, MS4.3/25, Ms1 4.3/25, ms1mx4.2/33, Error ellipse: s-maj=14.2km s-min=11.3km az=123.0*
*NEIC **06** 19:19:31.4±0.8, 10°.74S×162°.39E, h96km±7km, mb5.1/42, Error ellipse: s-maj=6.0km s-min=5.4km az=150.0*
*GCMT **06** 19:19:31.2±0.1, 10°.68S×162°.41E, h74km±1km, MW5.3, Moment Tensor Solution. s71,c124; s88,c163; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.02; $M_{\theta\theta}$-0.87±.02; $M_{\phi\phi}$1.05±.02; $M_{r\theta}$0.44±.02; $M_{\theta\phi}$-0.55±.02; $M_{\phi r}$-0.15±.02; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s209.00000°, δ67.00000°, λ-8.00000°. NP2:ϕ_s302.00000°, δ82.00000°, λ-157.00000°. Principal axes: T 1.2500, Plg11.0000°, Azm73.0000°; N -0.0800, Plg65.0000°, Azm319.0000°; P -1.1700, Plg22.0000°, Azm167.0000°; Data Used: II IU IC G.*
*ISCJB **06** 19:19:31.5±0.8, 10°.81S±0°.03×162°.36E±0°.03, h102km±7km, mb4.9/88 Error ellipse: s-maj=5.6km s-min=5.1km az=148.9*
*MOS **06** 19:19:31.7±1.0, 10°.78S×162°.37E, h109km, mb5.0/15, Error ellipse: s-maj=9.3km s-min=8.6km az=11.5*
*BJI **06** 19:19:32.3, 10°.50S×162°.36E, h98km, mB5.1/27, mb4.8/36*
*AUST **06** 19:19:38.8±1.9, 10°.68S×162°.42E, h169km, Error ellipse: s-maj=1.1km s-min=0.9km az=26.0*
ISC 06 19:19:31.8±0.3**, 10°.88S**±0°.04×**162°.46E**±0°.04**, h96**km±2km**, n348,** σ**1s.34**/350**, mb4.9**/79**, 44C-50D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.87	300	*e*Pn	Pn	19 20 14.4	-1.2
HNR				*e*Sn	Sn	19 20 48.8	-0.6
NOUC	Port Laguerre	11.75	162	*e*P	Pn	19 22 16.8	+0.6
DZM	Mont Dzumac	11.77	162	*e*Pn	Pn	19 22 17.6	+1.1
	26nm,0.2s						
DZM				*e*Sn	Sn	19 24 24.2	-1.7
	59nm,0.3s						
DZM	Mont Dzumac	11.77	162	P	Pn	19 22 17.4	+0.9
	11nm,0.3s,baz=344,slow=20,SNR=243						
DZM				S	Sn	19 24 21.6	-4.3
	6.3nm,0.3s,baz=288,slow=19,SNR=3.4						
DZM				LR	LR	19 26 03.0	
	comp=Z,944nm,20.0s,baz=192,slow=33						
DZM	Mont Dzumac	11.77	162	*e*P	Pn	19 22 16.1	-0.4
DZM				*e*S	Sn	19 24 23.4	-2.5
DZM	Mont Dzumac	11.77	162	P	Pn	19 22 17.4	+0.9
DZM				S	Sn	19 24 21.6	-4.3
PMG	Port Moresby	15.14	274	P	Pn	19 23 00.7	+0.2
	0.2nm,0.3s,baz=110,slow=3.6,SNR=6.5						
PMG	Port Moresby	15.14	274	*e*Pn	Pn	19 23 00.7	+0.2
	172nm,1.0s						
PMG	Port Moresby	15.14	274	P	P	19 23 03.1	-0.3
	179nm,1.0s,3μm						
TARA	Tarawa	16.00	41	*e*Pn	Pn	19 23 07.9	-3.4
	488nm,1.1s						
TARA				*e*Sn	Sn	19 25 47.9	-21
MSVF	Nonsavu	16.56	116	*e*P	P	19 23 18.9	-0.3
MSVF				pmax	pmax		
	comp=Z,92nm,1.1s						
MSVF	Nonsavu	16.56	116	*e*Pn	P	19 23 18.9	-0.3
	comp=Z,92nm,1.1s						
MSVF	Nonsavu	16.56	116	Pn	P	19 23 19.0	-0.3
	comp=Z,161nm,0.9s,SNR=8.7						
EIDS	Eidsvold	18.00	215⇓	*e*Pn	Pn	19 23 38.0	+2.2
	comp=Z,89nm,1.2s						
EIDS				*e*S	S	19 26 54.5	-1.9
EIDS	Eidsvold	18.00	215	P	Pn	19 23 38.7	+3.0
	baz=18,SNR=18						
EIDS				S	Sn	19 26 59.6	+2.9
	baz=18,SNR=3.2						
PATS	Pohnpei	18.08	347	P	Pn	19 23 37.5	+0.8
	baz=18,SNR=15						
CTA	Charters Tower	18.09	238	P	Pn	19 23 39.0	+2.0
	comp=Z,12nm,0.3s,baz=66,slow=11,SNR=173						
CTA				S	S	19 26 55.6	-2.8
	comp=Z,0.5nm,0.3s,baz=115,slow=2.1,SNR=2.7						
CTA				LR	LR	19 28 05.5	
	comp=Z,496nm,21.7s,baz=56,slow=29						
CTA	Charters Tower	18.09	238	P	Pn	19 23 39.0	+2.0
CTA				S	S	19 26 55.6	-2.8
CTAO	Charters Tower	18.09	238⇑	*i*P	Pn	19 23 38.2	+1.2
CTAO				pmax	pmax		
	comp=Z,469nm,0.9s						
CTAO	Charters Tower	18.09	238⇑	*i*P	Pn	19 23 38.2	+1.2
	comp=Z,469nm,0.9s						
COEN	Coen	19.08	259⇑	*e*P	Pn	19 23 49.2	+0.5
	comp=Z,2μm,1.2s						
COEN	Coen	19.08	259	P	Pn	19 23 49.6	+0.8
	baz=19,SNR=54						
RMQ	Roma	20.21	218	P	Pn	19 24 02.1	+0.3
	baz=20,SNR=23						
KWAJ	Kwajalein Atol	20.21	15	*e*P	Pn	19 24 04.4	+2.5
KWAJ				pmax	pmax		
	comp=Z,139nm,0.6s						
KWAJ	Kwajalein Atol	20.21	15	*e*P	Pn	19 24 04.4	+2.5
	comp=Z,139nm,0.6s						

ARMA Armidale 21.90 206 *e*P **P 19 24 18.6 +1.4**
comp=Z,86nm,1.0s
ARMA Armidale 21.90 206 P **P 19 24 19.3 +2.1**
baz=22,SNR=5.8
ARMA S S 19 28 21.7 +8.1
baz=22,SNR=5.7
QLP Quilpie 23.23 225 P **P 19 24 32.3 +1.6**
baz=23,SNR=12
QIS Mount Isa 23.99 244 P P 19 24 37.5 **-0.1**
baz=24,SNR=6.3
SMPI Sarmi 25.18 289 P P 19 24 56.3 +7.8
comp=Z,219nm,1.0s,comp=Z,25μm
AFI Afiamalu 25.33 100 P **P 19 24 50.3 +0.3**
comp=Z,32nm,0.9s,baz=257,slow=12,SNR=4.3
AFI LR LR 19 32 43.4
comp=Z,726nm,19.0s,baz=109,slow=31
AFI Afiamalu 25.33 100 P **P 19 24 50.3 +0.3**
CMSA Cobar Meteorol 25.76 215 P **P 19 24 54.7 +1.1**
baz=26,SNR=35
OUZ Omahuta 26.27 159 *e*P **P 19 24 59.9 +1.8**
comp=Z,169nm,1.0s
YNG Young 26.62 207 P **P 19 25 03.2 +1.8**
baz=27,SNR=11
CNB Canberra Magne 27.09 204 P **P 19 25 07.3 +1.7**
baz=27,SNR=8.3
CAN Canberra 27.24 205 P **P 19 25 06.4 -0.5**
CAN pmax pmax
comp=Z,29nm,1.2s
CAN Canberra 27.24 205 P **P 19 25 06.4 -0.5**
comp=Z,29nm,1.2s
BAKI Biak 27.89 288 P pP 19 25 34.2 -0.3
STKA Stephens Creek 28.43 220 P **P 19 25 18.4 +0.9**
comp=Z,9.6nm,0.8s,baz=32,slow=6.2,SNR=19
STKA LR LR 19 35 59.6
comp=Z,1μm,18.8s,baz=40,slow=35
STKA Stephens Creek 28.43 220 *e*P **P 19 25 17.6 +0.1**
comp=Z,6.6nm,0.9s
STKA Stephens Creek 28.43 220 P **P 19 25 18.4 +0.9**
baz=29,SNR=15
WRAB Tennant Creek 28.52 248 *e*P **P 19 25 17.3 -1.2**
WRAB pmax pmax
comp=Z,139nm,1.3s
WRAB Tennant Creek 28.52 248 *e*P **P 19 25 17.3 -1.2**
comp=Z,139nm,1.3s
WRAB *e* 19 25 30.6
WRAB Tennant Creek 28.52 248 P **P 19 25 17.2 -1.2**
comp=Z,163nm,0.8s,SNR=7.3
WRA Warramunga Arr 28.53 248 P **P 19 25 17.8 -0.8**
comp=Z,20nm,0.8s,baz=78,slow=9.2,SNR=116
WRA LR LR 19 36 06.2
comp=Z,1μm,20.1s,baz=70,slow=35
WRA Warramunga Arr 28.53 248 P **P 19 25 17.8 -0.8**
MILA Mila 28.69 203 P **P 19 25 22.0 +2.2**
baz=29,SNR=12
KDU Kakadu 29.41 263 P **P 19 25 24.9 -1.4**
baz=29,SNR=11
TLE Tual 29.86 278 P pP 19 25 48.3 -3.8
comp=Z,79nm,1.7s
GUMO Guam 29.93 324 LR LR 19 36 12.8
comp=Z,367nm,21.1s,baz=148,slow=34
GUMO Guam 29.93 324 P P 19 25 24.2 -6.7
comp=Z,96nm,0.8s
AS31 Alice Springs 30.02 241 *e*P **P 19 25 30.7 -1.0**
ASAR Alice Springs 30.02 241 P **P 19 25 30.9 -0.8**
comp=Z,16nm,0.8s,baz=67,slow=9.7,SNR=150
ASAR LR LR 19 36 47.9
comp=Z,1μm,21.3s,baz=167,slow=35
ASAR Alice Springs 30.02 241 P **P 19 25 30.9 -0.8**
TOO Toolangi 30.65 207 P **P 19 25 39.0 +1.9**
baz=31,SNR=40
MTN Manton Dam 30.71 263 P **P 19 25 38.4 +0.5**
baz=31,SNR=4.4
FAKI Fak Fak 31.00 283 P P 19 25 48.7 +8.3
comp=Z,26nm,1.2s
ARPS Mount Arapiles 31.80 212 P **P 19 25 49.0 +1.9**
baz=32,SNR=8.6
SWI Sorong 32.56 286 P P 19 26 03.6 +10
comp=Z,18nm,1.4s,comp=Z,693nm
BBOO Buckleboo 32.65 224 *e*P **P 19 25 55.0 +0.4**
comp=Z,764nm,1.1s
BBOO Buckleboo 32.65 224 P **P 19 25 55.1 +0.4**
baz=33,SNR=32
BNDI Bandanaira 32.86 279 P P 19 26 07.3 +11
comp=Z,592nm,1.6s,comp=Z,8μm
RPZ Rata Peaks 33.55 169 *e*P **P 19 26 02.8 +0.4**
comp=Z,135nm,0.9s
MOO Moorlands 34.16 200 P **P 19 26 10.1 +2.4**
baz=34,SNR=4.6
AAI Ambon 34.71 279 P P 19 26 23.9 +11
comp=Z,43nm,1.3s,comp=Z,2μm
LBMI Labuha 36.20 284 P **P 19 26 25.3 -0.2**
comp=Z,51nm,1.3s,comp=Z,2μm
FITZ Fitzroy Crossi 36.32 254 P **P 19 26 25.2 -1.3**
comp=Z,16nm,0.6s,baz=88,slow=6.6,SNR=56
FITZ LR LR 19 41 04.3
comp=Z,605nm,18.3s,baz=80,slow=36
FITZ Fitzroy Crossi 36.32 254 *e*P **P 19 26 25.0 -1.5**
comp=Z,35nm,0.8s
FITZ Fitzroy Crossi 36.32 254 P **P 19 26 25.3 -1.2**
baz=36,SNR=31
TNTI Ternate 36.77 286 P pP 19 26 45.7 -6.8
comp=Z,47nm,1.2s
FORT Forrest 37.54 233 *e*P **P 19 26 37.5 +0.8**
comp=Z,78nm,0.8s
FORT *e* 19 26 54.6
FORT Forrest 37.54 233 P **P 19 26 37.7 +1.0**
baz=38,SNR=13
RAR Rarotonga 37.63 111 LR LR 19 39 08.7
comp=Z,442nm,20.7s,baz=283,slow=31
MNI Manado 39.37 286 P pP 19 27 11.8 -2.8
comp=Z,60nm,1.0s,comp=Z,1μm
MMRI Maumere 39.69 270 P P 19 27 06.0 +11
comp=Z,140nm,0.9s,comp=Z,2μm
BBSI Bau Bau 39.82 274 P pP 19 27 14.7 -3.7
KMSI Cibinong 39.91 284 P pP 19 27 14.3 -4.9
comp=Z,307nm,1.2s,comp=Z,3μm
KDI Kendari 40.07 277 P pP 19 27 13.1 -7.4
comp=Z,21nm,1.9s
LUWI Luwuk 40.62 281 P pP 19 27 20.5 -4.5
comp=Z,180nm,1.3s,comp=Z,2μm
DAV Davao City (W) 40.81 294 LR LR 19 41 34.5
comp=Z,426nm,21.2s,baz=32,slow=33
WSI Waingapu 41.48 268 P sP 19 27 39.6 -3.6
MRSI Marisa 41.83 283 P pP 19 27 30.9 -4.2
comp=Z,56nm,1.2s
MBWA Marble Bar 42.21 251 *e*P **P 19 27 14.6 -0.9**
comp=Z,37nm,0.9s
MBWA *e* 19 27 33.1
BKSI Bulukumba 42.25 274 P P 19 27 20.1 +4.2
comp=Z,40nm,1.7s,comp=Z,638nm
KAPI Kappang 42.67 274 P **P 19 27 17.4 -1.9**
comp=Z,4.6nm,0.3s,baz=199,slow=22,SNR=14
KAPI pP pP 19 27 35.3 -6.6
comp=Z,20nm,0.7s,baz=118,slow=4.3,SNR=7.5
KAPI Kappang 42.67 274 *e*P P 19 27 16.1 -3.3
comp=Z,31nm,1.4s
KAPI pP pP 19 27 35.3 -6.6
KAPI *e* 19 27 35.6
KAPI Kappang 42.67 274 P **P 19 27 20.1 +0.8**
comp=Z,65nm,1.7s,comp=Z,1μm
KMBL Kambalda 42.67 235 P **P 19 27 20.0 +0.8**
baz=43,SNR=5.1
SPSI Sidrap Palu 42.85 276 P pP 19 27 37.9 -5.5
comp=Z,48nm,1.3s,comp=Z,651nm
TTSI Tana Toraja 43.00 277 P pP 19 27 39.2 -5.4
comp=Z,27nm,1.3s
PCI Palu 43.48 280 P P 19 27 21.6 -4.3
baz=43,SNR=3.0
PCI S S 19 33 37.5 -10
baz=43,SNR=8.7
MEEK Meekatharra 44.14 243 P **P 19 27 31.7 +0.7**
baz=44,SNR=23
KLBR Kellerberrin 46.09 236 P **P 19 27 46.9 +0.4**
baz=46,SNR=4.5
KHKI Kahang-Kahang 46.23 269 P P 19 27 56.1 +8.4
DNP Denpasar 46.58 268 P pP 19 28 10.2 -3.2
BLDU Ballidu 46.70 238 P **P 19 27 51.7 +0.6**
baz=47,SNR=5.6
PPT Papeete 46.86 104 LR LR 19 43 00.1
comp=Z,218nm,21.5s,baz=304,slow=30
PPT2 Papeete2 46.87 104 *e*LQ LQ 19 39 25.3
comp=Z,2μm,27.2s
PPT2 *e*LR LR 19 41 34.7
comp=Z,501nm,26.5s
MORW Morawa 46.89 240 P **P 19 27 53.2 +0.5**
baz=47,SNR=5.3
NWAO Narrogin (SRO) 46.90 235 P **P 19 27 51.8 -1.0**
comp=Z,19nm,0.9s,baz=72,slow=11,SNR=5.5
NWAO LR LR 19 46 39.6
comp=Z,605nm,18.0s,baz=75,slow=35
NWAO Narrogin (SRO) 46.90 235 *e*P **P 19 27 51.7 -1.0**
comp=Z,24nm,1.0s
NWAO *e* 19 28 09.4
NWAO *e* 19 28 24.3
TBI Tubuai 47.38 112 *e*S **S 19 34 44.1 +0.4**
comp=Z,498nm,26.8s
TBI *e*LQ LQ 19 39 34.8
comp=Z,2μm,33.2s
TBI *e*LR LR 19 41 34.9
comp=Z,410nm,24.8s
KKM Kota Kinabalu 49.01 288 *e*P P 19 28 04.9 -4.4
comp=Z,45nm,0.9s
KKM *e* 19 28 27.8
MJAR Matsushiro Arr 52.41 335 P **P 19 28 33.2 -1.1**
comp=Z,1.1nm,0.6s,baz=143,slow=1.4,SNR=5.1
MJAR LR LR 19 47 47.9
comp=Z,150nm,18.8s,baz=105,slow=32
MJAR Matsushiro Arr 52.41 335 P **P 19 28 33.2 -1.1**
MAJO Matsushiro 52.41 335 *e*P **P 19 28 33.2 -1.1**
MAJO Matsushiro 52.41 335 *e*P **P 19 28 33.2 -1.1**
MAT Matsushiro 52.41 335 P **P 19 28 32.8 -1.6**
NACB Ninganchiao 52.98 312 P **P 19 28 41.0 +2.2**
KSM Kuching 53.30 280 *e*P **P 19 28 39.9 -1.4**
comp=Z,18nm,1.0s
KSM *e* 19 28 59.2
SSE Sheshan 57.53 318 P **P 19 29 12.0 +0.7**
SSE pmax pmax
comp=Z,32nm,0.8s
SSE pmax pmax
comp=Z,95nm,4.0s
SSE LR LR
comp=N,180nm,24.2s
SSE LR LR
comp=E,180nm,24.2s
SSE LR LR
comp=Z,150nm,35.9s
KSRS Korea Array 57.97 328 P **P 19 29 13.3 -1.0**
comp=Z,5.6nm,1.0s,baz=131,slow=7.7,SNR=8.6
KSRS pP pP 19 29 31.6 -6.4
comp=Z,5.7nm,0.8s,baz=139,slow=5.5,SNR=7.6
KSRS LR LR 19 51 08.2
comp=Z,192nm,20.9s,baz=132,slow=33
KSAR Wonju Array Be 57.98 328 P **P 19 29 13.3 -1.1**
KSAR pP pP 19 29 31.6 -6.5
NJ2 Nanjing 59.67 317 *e*P **P 19 29 26.1 -0.1**
NJ2 pP **pP 19 29 51.4 +1.3**
NJ2 sP **sP 19 30 01.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
QIZ Qiongzhong 59.78 300 P **P 19 29 26.9 -0.3**
QIZ sP **sP 19 30 02.9 +1.2**
QIZ S **S 19 37 28.1 -3.2**
QIZ sS **sS 19 38 12.4 +0.2**
QIZ pmax pmax
comp=Z,210nm,3.7s
QIZ LR LR
comp=Z,350nm,12.1s
USRK Ussuriysk Arra 61.40 335 P **P 19 29 38.3 +0.7**
comp=Z,17nm,1.1s,baz=131,slow=8.1,SNR=10
USRK pP pP 19 29 54.9 -6.7
comp=Z,34nm,0.8s,baz=144,slow=6.5,SNR=19
USRK LR LR 19 54 28.6
comp=Z,152nm,19.3s,baz=34,slow=34
IPM Ipoh 63.02 281 *e*P **P 19 29 48.1 -1.1**
comp=Z,10nm,1.0s
IPM *e* 19 30 07.7
KULM Kulim 63.59 281 P P **19 29 54.1 +1.2**
PET Petropavlovsk 63.73 357 *e*P **P 19 29 54.5 +1.5**
PET *e*S **S 19 38 24.8 +4.9**
PET pmax pmax
comp=Z,20nm,1.3s
PETK Petropavlovsk- 63.86 357 P **P 19 29 53.0 -0.9**
comp=Z,4.5nm,0.8s,baz=131,slow=6.5,SNR=4.1
PETK pP pP 19 30 11.3 -6.7
comp=Z,14nm,1.0s,baz=108,slow=9.7,SNR=7.4
PETK LR LR 19 51 25.6
comp=Z,196nm,21.7s,baz=163,slow=30
PETK Petropavlovsk- 63.86 357 P **P 19 29 53.0 -0.9**
PETK Petropavlovsk- 63.86 357 P **P 19 29 53.0 -0.9**
PETK pP pP 19 30 11.3 -6.7
CN2 Changchun 63.99 331 *e*P **P 19 29 57.1 +2.2**
CN2 *e*S **S 19 38 24.9 +1.4**
CN2 pmax pmax
comp=Z,20nm,1.2s
KLR Kul'dur 65.67 338 *e*P P 19 30 02.0 -3.7
KLR pmax pmax
comp=Z,62nm,1.6s
GYA Guiyang 65.68 306 *e*P P 19 30 10.1 +3.7
GYA pP **PcP 19 30 34.2 -2.9**
GYA sP sP 19 30 46.0 +4.8
GYA PP **PP 19 32 35.4 +3.1**
GYA ScP 19 34 30.3
GYA PcS 19 34 41.0
GYA S **S 19 38 43.2 -2.0**
GYA SKS **SKSac 19 39 49.0 -4.6**
GYA SS **SS 19 43 01.7 +0.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,530nm,18.0s
GYA LR LR
comp=E,490nm,19.4s
GYA LR LR
comp=Z,560nm,18.5s
BJI Beijing 66.36 323 P **P 19 30 11.3 +1.0**
BJI S **S 19 38 54.1 +1.4**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,250nm,5.3s
BJI LR LR
comp=N,170nm,25.6s
BJI LR LR
comp=E,230nm,25.8s
BJI LR LR
comp=Z,220nm,28.8s
VNDA Vanda 66.63 180 P **P 19 30 12.9 +1.4**
comp=Z,29nm,0.8s,baz=352,slow=6.4,SNR=90
VNDA LR LR 19 53 12.2
comp=Z,275nm,21.4s,baz=9.5,slow=30
VNDA Vanda 66.63 180 *e*P **P 19 30 12.9 +1.4**
comp=Z,28nm,0.8s
SBA Scott Base 67.00 179 *e*P **P 19 30 16.2 +2.3**
SBA pmax pmax
comp=Z,52nm,1.2s
SBA Scott Base 67.00 179 *e*P **P 19 30 16.2 +2.3**
comp=Z,52nm,1.2s
XAN Xi'an 67.65 314 P **P 19 30 18.2 -0.5**
KMI Kunming 68.30 303 P **P 19 30 24.6 +1.4**
KMI pP **pP 19 30 44.0 -3.6**
KMI sP **sP 19 30 55.3 -2.8**
KMI S **S 19 39 13.4 -3.6**
KMI sS **sS 19 39 55.4 -3.4**
KMI SS **SS 19 43 42.0 -0.3**
KMI pmax pmax
comp=Z,11nm,1.4s
KMI pmax pmax
comp=Z,110nm,5.5s
KMI LR LR
comp=N,170nm,24.2s
KMI LR LR
comp=E,140nm,23.8s
KMI LR LR
comp=Z,160nm,27.3s
CM31 Chiang Mai Arr 69.10 295 *e*P **P 19 30 27.7 -0.4**
comp=Z,4.3nm,0.7s
CM31 *e* 19 30 47.0
CMAR Chiang Mai Arr 69.10 295 P **P 19 30 27.5 -0.5**
comp=Z,2.5nm,1.1s,baz=112,slow=4.6,SNR=15
CMAR LR LR 19 58 39.7
comp=Z,81nm,19.2s,baz=294,slow=34
CMAR Chiang Mai Arr 69.10 295 P **P 19 30 27.5 -0.5**
CHTO Chiang Mai 69.22 295 *e*P **P 19 30 26.4 -2.4**
CHTO pmax pmax
comp=Z,31nm,1.6s
CHTO Chiang Mai 69.22 295 *e*P **P 19 30 26.4 -2.4**
comp=Z,31nm,1.6s
HHC Hu-ho-hao-te 69.65 321 *e*P **P 19 30 33.3 +2.2**
HHC sP **sP 19 31 08.9 +2.8**
HHC PP **PP 19 33 10.4 +3.9**
HHC S **S 19 39 33.3 +1.2**
HHC sS **sS 19 40 16.3 +2.2**
HHC ScS **SKSac 19 40 22.5 -0.6**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.8s
HHC LR LR
comp=N,170nm,14.3s
HHC LR LR
comp=E,160nm,15.5s
HHC LR LR
comp=Z,89nm,15.5s
CD2 Chengdu 69.96 309 P **P 19 30 33.1 0.0**
CD2 pP **pP 19 30 57.9 +0.3**
CD2 sP **sP 19 31 08.8 +0.7**
CD2 PP **PP 19 33 11.0 +1.7**
CD2 S **S 19 39 34.4 -1.6**
CD2 sS **sS 19 40 17.2 -0.8**
CD2 SS **SS 19 44 07.0 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,210nm,6.5s
CD2 LR LR
comp=N,550nm,6.0s
CD2 LR LR
comp=Z,500nm,5.9s
LZH Lanzhou 72.28 313 *e*P **P 19 30 46.8 -0.4**
LZH *e*S **S 19 40 08.6 +5.7**
LZH SS **SS 19 44 44.3 +1.2**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.7s
LZH LR LR
comp=N,220nm,11.0s
LZH LR LR
comp=E,200nm,12.4s
LZH LR LR
comp=Z,310nm,13.8s
SEY Seymchan 74.00 355 ⇓*i*P **P 19 30 56.1 -0.4**
ULN Ulaanbaatar 76.30 325 *e*P **P 19 31 09.6 -0.7**
comp=Z,31nm,1.1s
ULN *e* 19 31 29.7
GTA Gaotai 76.64 315 ⇓P **P 19 31 13.5 +1.1**
GTA PP **PP 19 34 07.1 +1.0**
GTA S **S 19 40 51.7 +0.3**
GTA SS **SS 19 45 48.8 -0.3**
GTA pmax pmax
comp=Z,10.0nm,1.3s
GTA pmax pmax
comp=Z,70nm,5.2s
GTA LR LR
comp=N,170nm,15.9s
GTA LR LR
comp=E,140nm,17.1s
GTA LR LR
comp=Z,230nm,17.3s
SONM Songino Array 76.65 325 P **P 19 31 12.0 -0.2**
comp=Z,5.5nm,0.7s,baz=143,slow=5.3,SNR=49
SONM pP pP 19 31 30.9 -6.2
comp=Z,21nm,1.1s,baz=152,slow=6.6,SNR=9.6
SONM LR LR 20 02 59.9
comp=Z,213nm,19.8s,baz=353,slow=34
SONM Songino Array 76.65 325 P **P 19 31 12.0 -0.2**
SONM pP pP 19 31 30.9 -6.2
YAK Yakutsk 77.06 345 *e*P **P 19 31 12.9 -1.1**
YAK *e* 19 31 31.4
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK Yakutsk 77.06 345 *e*P **P 19 31 13.3 -0.7**
comp=N,18nm,0.9s
YAK *e* 19 31 31.6
SHL Shillong 77.61 299 *e*P **P 19 31 19.5 +1.3**
BOD Bodaibo 79.04 336 *e*P **P 19 31 23.5 -1.5**
BOD pmax pmax
comp=Z,7.0nm,1.4s
QSPA South Pole Qui 79.12 180 P **P 19 31 26.1 +0.4**
comp=Z,81nm,1.0s,baz=0.3,slow=1.3,SNR=105
QSPA South Pole Qui 79.12 180 *e*P **P 19 31 26.0 +0.4**
comp=Z,27nm,1.0s
ZAK Zakamensk 79.74 326 ⇓*i*P **P 19 31 28.9 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
IRK Irkutsk 80.19 328 *e*P pP 19 31 48.3 -8.2
IRK pmax pmax
comp=Z,28nm,1.5s
TLY Talaya 80.22 327 *e*P **P 19 31 30.1 -1.5**
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY Talaya 80.22 327 *e*P **P 19 31 30.1 -1.5**
comp=Z,7.4nm,0.7s
PMR Palmer 81.54 21 P **P 19 31 38.9 +0.6**
PMR Palmer 81.54 21 P **P 19 31 38.9 +0.6**
PMR *e* 19 31 58.5
TAPN Taplejung 81.72 300 *e*P **P 19 31 40.2 -0.3**
TAPN Taplejung 81.72 300 *e*P **P 19 31 40.2 -0.3**
ODAN Odare 81.85 299 *e*P **P 19 31 40.6 -0.5**
comp=Z,8.1nm,0.7s
ODAN Odare 81.85 299 *e*P **P 19 31 40.6 -0.5**
comp=Z,8.1nm,0.7s
RAMN Ramite 82.55 299 *e*P **P 19 31 43.7 -1.1**
RAMN Ramite 82.55 299 *e*P **P 19 31 43.7 -1.1**
GUN Gumba 83.43 300 *e*P **P 19 31 49.2 -0.2**
GUN Gumba 83.43 300 *e*P **P 19 31 49.2 -0.2**
MAW Mawson 83.66 202 LR LR 20 03 34.1
comp=Z,303nm,18.3s,baz=277,slow=32
PKI Pulchoki 83.74 300 *e*P **P 19 31 50.2 -0.8**
PKI Pulchoki 83.74 300 *e*P **P 19 31 50.2 -0.8**
PKI Pulchoki 83.74 300 *e*P **P 19 31 50.2 -0.8**
KKN Kakani 83.91 300 *e*P **P 19 31 51.2 -0.5**
KKN Kakani 83.91 300 *e*P **P 19 31 51.2 -0.5**
KKN Kakani 83.91 300 *e*P **P 19 31 51.2 -0.5**
DMN Daman 84.01 299 *e*P **P 19 31 52.0 -0.3**
DMN Daman 84.01 299 *e*P **P 19 31 52.0 -0.3**
COLA College 84.16 19 *e*P **P 19 31 51.0 -0.8**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 84.16 19 *e*P **P 19 31 51.0 -0.8**
comp=Z,14nm,0.9s
COLA *e* 19 32 11.1
DIB Dawson Inlet, 84.30 33 T T 21 05 14.6
SNR=24
ILAR Eielson Array 84.40 19 P **P 19 31 52.2 -0.9**
comp=Z,3.1nm,0.8s,baz=237,slow=4.7,SNR=19
ILAR pP pP 19 32 12.3 -6.1
comp=Z,7.9nm,1.0s,baz=247,slow=5.1,SNR=8.8
ILAR LR LR 20 02 25.1
comp=Z,187nm,21.0s,baz=257,slow=31
ILAR Eielson Array 84.40 19 P **P 19 31 52.2 -0.9**
ILAR pP pP 19 32 12.3 -6.1
GKN Gorkha 84.52 300 *e*P **P 19 31 53.8 -0.9**
comp=Z,27nm,1.0s
GKN Gorkha 84.52 300 *e*P **P 19 31 53.8 -0.9**
comp=Z,27nm,1.0s
KOLN Koldanda 85.34 299 *e*P **P 19 31 58.1 -0.8**
comp=Z,5.3nm,0.7s
KOLN Koldanda 85.34 299 *e*P **P 19 31 58.1 -0.8**
comp=Z,5.3nm,0.7s
DANN Dangsing 85.35 300 *e*P **P 19 31 57.9 -1.2**
DANN Dangsing 85.35 300 *e*P **P 19 31 57.9 -1.2**
PYUN Piuthan 85.95 299 *e*P **P 19 32 00.9 -1.0**
comp=Z,21nm,1.1s
PYUN Piuthan 85.95 299 *e*P **P 19 32 00.9 -1.0**
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 86.09 46 P **P 19 32 02.7 +0.5**
comp=Z,7.0nm,0.9s,baz=203,slow=3.1,SNR=10
YBH Yreka Blue Hor 86.09 46 P **P 19 32 02.7 +0.5**
PKM Peak Mountain 86.27 54 ⇑P **P 19 32 03.9 +0.6**
baz=86
EGAK Eagle 86.35 21 *e*P **P 19 32 03.3 +0.5**
comp=Z,34nm,1.2s
EGAK *e* 19 32 21.8
DAWY Dawson 86.59 22 *e*P **P 19 32 04.0 -0.1**
DAWY *e* 19 32 23.4
WMQ Urumqi 86.71 316 *e*P **P 19 32 05.7 +0.6**
WMQ pP **pP 19 32 30.2 -0.3**
WMQ PP **PP 19 35 30.8 +2.0**
WMQ SKS **SKSac 19 42 20.4 -2.9**
WMQ S **SKKSac 19 42 33.0 +1.1**
WMQ sS **sS 19 43 17.5 -0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				SS	**SS**	**19 48 18.4**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
WMQ				LR	LR		
	comp=N,74nm,28.0s						
WMQ				LR	LR		
	comp=E,120nm,25.5s						
WMQ				LR	LR		
	comp=Z,120nm,28.0s						
ISA	**Isabella**	**87.54**	**53**	⇑P	**P**	**19 32 09.4**	**0.0**
	baz=88						
BFSC	**Mount Baldy Ra**	**87.82**	**55**	⇑P	**P**	**19 32 11.2**	**+0.4**
	baz=88						
MOD	**Modoc**	**87.86**	**47**	*e*P	**P**	**19 32 10.4**	**-0.5**
	comp=Z,6.4nm,0.9s						
MOD				*e*		19 32 30.8	
LRMC	**Laurel Mountai**	**88.11**	**53**	⇑P	**P**	**19 32 13.0**	**+0.9**
	baz=88						
NVAR	**Mina Array Bea**	**88.39**	**51**	P	**P**	**19 32 14.2**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=234,slow=7.5,SNR=33						
NVAR	**Mina Array Bea**	**88.39**	**51**	P	**P**	**19 32 14.2**	**+0.7**
MPMC	**Manual Prospec**	**88.41**	**53**	⇑P	**P**	**19 32 14.0**	**+0.4**
	baz=88						
MONP	**Monument Peak**	**88.49**	**56**	⇑P	**P**	**19 32 14.3**	**+0.3**
	baz=89						
NV11	**Mina Array Sit**	**88.50**	**51**	*e*P	**P**	**19 32 14.2**	**+0.3**
GSC	**Goldstone**	**88.77**	**54**	⇑P	**P**	**19 32 15.8**	**+0.6**
	baz=89						
FURC	**Furnace Creek,**	**89.01**	**53**	⇓P	**P**	**19 32 17.0**	**+0.9**
	baz=89						
SWSC	**Sam W. Stewart**	**89.02**	**56**	⇑P	**P**	**19 32 17.0**	**+0.8**
	baz=89						
HEC	**Hector,Ludlow**	**89.03**	**54**	⇓P	**P**	**19 32 17.1**	**+0.7**
	baz=89						
BELC	**Belle Mtn. Jos**	**89.10**	**55**	⇓P	**P**	**19 32 17.4**	**+0.6**
	baz=89						
BC3	**Big Chuckawall**	**89.46**	**56**	⇑P	**P**	**19 32 19.0**	**+0.5**
	baz=90						
TUQ	**Turquoise Moun**	**89.50**	**54**	⇓P	**P**	**19 32 18.7**	**0.0**
	baz=90						
GMRC	**Granite Mounta**	**89.55**	**55**	⇓P	**P**	**19 32 19.1**	**+0.1**
	baz=90						
IRM	**Iron Mountain**	**89.82**	**55**	⇓P	**P**	**19 32 20.6**	**+0.5**
	baz=90						
GLA	**Glamis**	**89.83**	**56**	⇑P	**P**	**19 32 21.0**	**+0.8**
	baz=90						
Y12C	**Blythe**	**90.24**	**56**	⇓P	**P**	**19 32 22.7**	**+0.8**
	baz=90						
R11A	**Troy Canyon, C**	**90.44**	**51**	⇓P	**P**	**19 32 23.7**	**+0.6**
	baz=90						
PDMCI	**Parker Dam,Lak**	**90.67**	**55**	⇑P	**P**	**19 32 24.5**	**+0.5**
	baz=91						
INK	**Inuvik**	**90.81**	**20**	P	**P**	**19 32 23.7**	**0.0**
	comp=Z,1.4nm,0.8s,baz=189,slow=4.2,SNR=5.0						
INK	**Inuvik**	**90.81**	**20**	P	**P**	**19 32 23.7**	**0.0**
W13A	**Hualapai Mount**	**91.05**	**55**	⇓P	**P**	**19 32 26.1**	**+0.1**
	baz=91						
MK31	**Makanchi Array**	**91.21**	**317**	*e*P	**P**	**19 32 25.7**	**-0.5**
MK31	**Makanchi Array**	**91.21**	**317**	*e*P	**P**	**19 32 25.7**	**-0.5**
MK31				*e*		19 32 44.8	
MKAR	**Makanchi Array**	**91.21**	**317**	P	**P**	**19 32 26.1**	**0.0**
	comp=Z,2.2nm,0.6s,baz=96,slow=6.3,SNR=37						
MKAR				pP	pP	19 32 44.5	-7.3
	comp=Z,3.5nm,0.8s,baz=100,slow=5.3,SNR=10						
MKAR				LR	LR	20 09 45.1	
	comp=Z,62nm,19.6s,baz=280,slow=33						
MKAR	**Makanchi Array**	**91.21**	**317**	P	**P**	**19 32 26.2**	**0.0**
MKAR	**Makanchi Array**	**91.21**	**317**	P	**P**	**19 32 26.1**	**0.0**
MKAR				pP	pP	19 32 44.5	-7.3
ELK	**Elko**	**91.25**	**49**	*e*P	**P**	**19 32 27.2**	**+0.4**
ELK				*e*		19 32 47.0	
MFID	**Camas Ranch**	**91.44**	**46**	⇓P	**P**	**19 32 28.2**	**+0.7**
	baz=92,SNR=5.9						
ZAA0	**Zalesovo Array**	**91.55**	**325**	*e*P	**P**	**19 32 24.9**	**-2.6**
ZAA0				*e*		19 32 44.0	
ZALV	**Zalesovo Beam**	**91.55**	**325**	P	**P**	**19 32 26.6**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=117,slow=5.3,SNR=8.6						
ZALV				pP	pP	19 32 46.0	-7.1
	comp=Z,1.6nm,0.7s,baz=111,slow=3.7,SNR=4.8						
ZALV				LR	LR	20 11 16.6	
	comp=Z,116nm,20.0s,baz=254,slow=34						
ZALV	**Zalesovo Beam**	**91.55**	**325**	P	**P**	**19 32 26.6**	**-1.0**
ZALV	**Zalesovo Beam**	**91.55**	**325**	P	**P**	**19 32 26.6**	**-1.0**
ZALV				pP	pP	19 32 46.0	-7.1
NEW	**Newport**	**91.73**	**41**	*e*P	**P**	**19 32 28.0**	**-0.6**
	comp=Z,8.3nm,1.1s						
NEW				*e*		19 32 48.4	
NEW	**Newport**	**91.73**	**41**	⇑P	**P**	**19 32 29.0**	**+0.4**
	baz=92						
F12A	**Elk City**	**92.38**	**44**	⇓P	**P**	**19 32 32.1**	**+0.3**
	baz=92						
H12A	**Diamond D Ranc**	**92.39**	**45**	⇓P	**P**	**19 32 32.0**	**+0.1**
	baz=92,SNR=9.8						
HLID	**Hailey**	**92.48**	**46**	*e*P	**P**	**19 32 32.2**	**-0.2**
	comp=Z,6.3nm,1.1s						
HLID				*e*		19 32 52.5	
HLID	**Hailey**	**92.48**	**46**	⇓P	**P**	**19 32 33.1**	**+0.8**
	baz=92,SNR=6.2						
U15A	**North Rim**	**92.59**	**54**	⇑P	**P**	**19 32 33.0**	**-0.2**
	baz=93						
J13A	**Cove Ranch, Pi**	**92.61**	**46**	⇑P	**P**	**19 32 34.4**	**+1.5**
	baz=93,SNR=7.5						
C12B	**Naegeli Ranch,**	**92.67**	**42**	⇑P	**P**	**19 32 33.6**	**+0.6**
	baz=93						
NVS	**Novosibirsk**	**92.68**	**325**	*e*P	**P**	**19 32 30.7**	**-2.0**
NVS				pmax	pmax		
	comp=N,6.0nm,1.6s						
NVS				pmax	pmax		
	comp=Z,31nm,1.6s						
NVS				pmax	pmax		
	comp=E,12nm,1.4s						
I13A	**Wildhorse Cree**	**92.77**	**46**	⇑P	**P**	**19 32 34.3**	**+0.6**
	baz=93,SNR=16						
H13A	**Challis**	**92.81**	**45**	⇑P	**P**	**19 32 34.2**	**+0.4**
	baz=93,SNR=10						
G13A	**Cobalt**	**92.94**	**45**	⇑P	**P**	**19 32 34.8**	**+0.4**
	baz=93,SNR=18						
L14A	**Malta**	**93.00**	**48**	⇑P	**P**	**19 32 35.2**	**+0.5**
	baz=93						
F13A	**Darby**	**93.02**	**44**	⇓P	**P**	**19 32 34.7**	**0.0**
	baz=93,SNR=20						
MSU	**Marysvale**	**93.09**	**52**	*e*P	**P**	**19 32 35.7**	**+0.3**
MSU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MSU	**Marysvale**	**93.09**	**52**	*e*P	**P**	**19 32 35.7**	**+0.3**
	comp=Z,5.2nm,1.3s						
MSU				*e*		19 32 55.8	
K14A	**Jones Ranch, D**	**93.15**	**47**	⇓P	**P**	**19 32 36.2**	**+0.7**
	baz=93						
BSMT	**Bassoo Peak**	**93.16**	**42**	*e*P	**P**	**19 32 35.0**	**-0.4**
	comp=Z,2.5nm,1.1s						
BSMT				*e*		19 32 55.0	
E13A	**Victor**	**93.25**	**43**	⇑P	**P**	**19 32 36.3**	**+0.5**
	baz=93						
C13A	**Hot Springs**	**93.26**	**42**	⇑P	**P**	**19 32 36.2**	**+0.4**
	baz=93						
H14A	**Leadore**	**93.44**	**45**	⇑P	**P**	**19 32 37.6**	**+0.8**
	baz=94,SNR=9.5						
M15A	**Larsen Ranch,**	**93.47**	**49**	⇓P	**P**	**19 32 37.2**	**+0.3**
	baz=94						
B13A	**Whitefish**	**93.48**	**42**	⇓P	**P**	**19 32 37.5**	**+0.8**
	baz=94						
G14A	**Jackson**	**93.50**	**45**	⇓P	**P**	**19 32 37.5**	**+0.4**
	baz=94,SNR=5.7						
MSO	**Missoula**	**93.50**	**43**	⇓P	**P**	**19 32 37.0**	**+0.1**
	baz=94						
R16A	**Teasdale**	**93.58**	**52**	⇓P	**P**	**19 32 38.1**	**+0.5**
	baz=94						
A13A	**Flathead Natio**	**93.63**	**41**	⇑P	**P**	**19 32 38.5**	**+1.0**
	baz=94						
F14A	**Wisdom**	**93.68**	**44**	⇑P	**P**	**19 32 38.2**	**+0.3**
	baz=94						
E14A	**Clinton**	**93.72**	**44**	⇑P	**P**	**19 32 38.0**	**0.0**
	baz=94						
C14A	**Swan Lake**	**93.83**	**42**	⇑P	**P**	**19 32 38.5**	**+0.1**
	baz=94						
D14A	**Greenough**	**93.84**	**43**	⇓P	**P**	**19 32 39.0**	**+0.4**
	baz=94						
J15A	**Blackfoot**	**93.86**	**47**	⇑P	**P**	**19 32 39.1**	**+0.5**
	baz=94						
H15A	**Lima**	**93.94**	**45**	⇓P	**P**	**19 32 40.2**	**+1.1**
	baz=94,SNR=10						
DLMT	**Dillon**	**94.12**	**45**	*e*P	**P**	**19 32 40.3**	**+0.4**
	comp=Z,3.9nm,0.9s						
DLMT				*e*		19 32 59.5	
KSH	**Kashi**	**94.15**	**309**	*e*P	**P**	**19 32 42.6**	**+2.5**
KSH				pP	**pP**	**19 33 08.2**	**+2.6**
KSH				*e*sP	**sP**	**19 33 19.1**	**+3.2**
KSH				PP	PP	19 36 33.9	+5.9
KSH				SKS	**SKSac**	**19 43 07.2**	**+0.6**
KSH				S	**S**	**19 43 43.2**	**-0.1**
KSH				sS	**sS**	**19 44 28.1**	**+0.6**
KSH				SS	**SS**	**19 50 11.4**	**+5.1**
KSH				pmax	pmax		
	comp=Z,140nm,6.1s						
KSH				LR	LR		
	comp=N,120nm,5.5s						
KSH				LR	LR		
	comp=E,93nm,6.0s						
KSH				LR	LR		
	comp=Z,200nm,6.5s						
G15A	**Dillon**	**94.16**	**45**	⇑P	**P**	**19 32 40.6**	**+0.5**
	baz=94,SNR=5.3						
R17A	**Hanksville Air**	**94.20**	**52**	⇓P	**P**	**19 32 40.2**	**-0.2**
	baz=94						
B14A	**Marquette Ranc**	**94.26**	**42**	⇓P	**P**	**19 32 40.2**	**-0.2**
	baz=94						
A14A	**Double T Ranch**	**94.28**	**41**	⇓P	**P**	**19 32 41.2**	**+0.7**
	baz=94						
F15A	**Butte**	**94.29**	**44**	⇑P	**P**	**19 32 41.1**	**+0.4**
	baz=94						
E15A	**Deer Lodge**	**94.30**	**44**	⇓P	**P**	**19 32 40.9**	**+0.3**
	baz=94						
KURK	**Kurchatov**	**94.46**	**321**	⇓*e*P	**P**	**19 32 40.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KURK	**Kurchatov**	**94.46**	**321**	*e*P	P	19 32 35.7	-5.4
	comp=Z,11nm,1.4s						
C15A	**Salmond Ranch,**	**94.58**	**42**	⇓P	**P**	**19 32 42.0**	**+0.2**
	baz=95						
G16A	**Moss Hill, Enn**	**94.65**	**45**	⇑P	**P**	**19 32 42.6**	**+0.3**
	baz=95,SNR=5.7						
A15A	**Johnson Ranch,**	**94.73**	**41**	⇑P	**P**	**19 32 42.5**	**0.0**
	baz=95						
BOZ	**Bozeman (W)**	**94.84**	**45**	⇓P	**P**	**19 32 43.7**	**+0.6**
	baz=95						
H16A	**Russell Place,**	**94.94**	**46**	⇓P	**P**	**19 32 44.3**	**+0.6**
	baz=95						
E16A	**East Helena**	**94.97**	**44**	⇑P	**P**	**19 32 43.8**	**+0.1**
	baz=95,SNR=6.3						
Z20A	**Nine Sixteen R**	**94.98**	**57**	⇑P	**P**	**19 32 44.3**	**+0.3**
	baz=95						
U19A	**Dine' College,**	**95.01**	**54**	⇑P	**P**	**19 32 44.4**	**+0.1**
	baz=95						
D16A	**Dana Ranch, Ca**	**95.15**	**43**	⇓P	**P**	**19 32 45.0**	**+0.5**
	baz=95						
C16A	**Fuhringer Ranc**	**95.16**	**42**	⇓P	**P**	**19 32 44.8**	**+0.3**
	baz=95						
E17A	**Martinsdale**	**95.52**	**44**	⇓P	**P**	**19 32 46.7**	**+0.4**
	baz=96						
F17A	**Fitzpatrick Pl**	**95.56**	**44**	⇑P	**P**	**19 32 47.5**	**+1.1**
	baz=96,SNR=6.1						
D17A	**Six Diamond Ra**	**95.75**	**43**	⇓P	**P**	**19 32 47.0**	**-0.3**
	baz=96						
C17A	**Wharram Farm,**	**95.78**	**43**	⇓P	**P**	**19 32 47.1**	**-0.2**
	baz=96,SNR=5.9						
PDAR	**Pinedale Array**	**95.82**	**48**	P	**P**	**19 32 46.6**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=244,slow=2.7,SNR=6.1						
PDAR				LR	LR	20 09 49.5	
	comp=Z,65nm,20.6s,baz=5.8,slow=32						
PDAR	**Pinedale Array**	**95.82**	**48**	P	**P**	**19 32 46.6**	**-1.1**
B17A	**L&G Farms, Che**	**95.87**	**42**	⇓P	**P**	**19 32 47.7**	**+0.1**
	baz=96,SNR=5.7						
A17A	**Triple J Farms**	**96.04**	**41**	⇑P	**P**	**19 32 48.5**	**+0.1**
	baz=96						
E18A	**Harlowton**	**96.18**	**44**	⇓P	**P**	**19 32 49.4**	**+0.2**
	baz=96,SNR=6.1						
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**19 32 47.8**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=255,slow=4.5,SNR=22						
YKA				pP	pP	19 33 06.9	-7.8
	comp=Z,1.5nm,0.9s,baz=255,slow=4.6,SNR=7.1						
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**19 32 47.8**	**-1.4**
YKA				pP	pP	19 33 07.0	-7.8
EGMT	**Eagleton**	**96.51**	**42**	⇑P	**P**	**19 32 51.1**	**+0.5**
	baz=96						
B18A	**Beardsley Farm**	**96.56**	**42**	⇓P	**P**	**19 32 50.7**	**-0.1**
	baz=97						
A18A	**Metzger Ranch,**	**96.59**	**42**	⇓P	**P**	**19 32 51.2**	**+0.3**
	baz=97						
F19A	**Roth Farm, Mol**	**96.73**	**45**	⇑P	**P**	**19 32 51.7**	**+0.1**
	baz=97						
E19A	**Rath Farm, Rou**	**96.93**	**44**	⇓P	**P**	**19 32 52.9**	**+0.3**
	baz=97						
C19A	**Slack Wire Ran**	**96.94**	**43**	⇓P	**P**	**19 32 53.2**	**+0.6**
	baz=97						
D19A	**Cripps Ranch,**	**96.97**	**43**	⇓P	**P**	**19 32 53.4**	**+0.7**
	baz=97						
A19A	**Klindworth Far**	**97.31**	**42**	⇑P	Pdif	19 32 54.3	+0.1
	baz=97						
E20A	**Meyer Farm, Mu**	**97.39**	**44**	⇑P	Pdif	19 32 55.1	+0.5
	baz=97						
D20A	**Manuel Ranch,**	**97.46**	**44**	⇓P	Pdif	19 32 55.2	+0.3
	baz=98						
425A	**Indio Mountain**	**97.65**	**60**	⇑P	Pdif	19 32 56.0	-0.3
	baz=98						
A21A	**Bergtoll Ranch**	**98.51**	**42**	⇓Pdiff	Pdif	19 32 59.9	+0.3
	baz=98						
TXAR	**Lajitas Array**	**98.58**	**62**	LR	LR	20 09 01.3	
	comp=Z,132nm,20.1s,baz=5.0,slow=30						
R25A	**Fountain Ranch**	**99.17**	**53**	⇓Pdiff	**Pdif**	**19 33 03.2**	**+0.3**
	baz=99						
C23A	**Lambert**	**99.53**	**43**	⇓Pdiff	**Pdif**	**19 33 04.8**	**+0.7**
	baz=100						
ARCES	**ARCESS Array B**	**115.34**	**345**	PKP	**PKPdf**	**19 38 01.0**	**-0.7**
	comp=Z,5.4nm,1.1s,baz=49,slow=5.6,SNR=4.1						
ARCES	**ARCESS Array B**	**115.34**	**345**	PKP	**PKPdf**	**19 38 01.0**	**-0.7**
FINES	**FINESS Array B**	**120.41**	**337**	PKP	**PKPdf**	**19 38 10.9**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=66,slow=3.5,SNR=4.4						
FINES	**FINESS Array B**	**120.41**	**337**	PKP	**PKPdf**	**19 38 10.9**	**-0.6**
BOSA	**Boshof**	**122.98**	**225**	PKP	**PKPdf**	**19 38 17.2**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=74,slow=1.2,SNR=5.2						
BOSA	**Boshof**	**122.98**	**225**	PKP	**PKPdf**	**19 38 17.2**	**-0.5**
AKASG	**Malin Array Be**	**124.93**	**326**	PKP	**PKPdf**	**19 38 19.5**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=52,slow=1.9,SNR=4.5						
AKASG	**Malin Array Be**	**124.93**	**326**	PKIKP	**PKPdf**	**19 38 19.5**	**-1.1**
AKASG	**Malin Array Be**	**124.93**	**326**	PKP	**PKPdf**	**19 38 19.5**	**-1.1**
NB2	**NORSAR Subarra**	**125.66**	**343**	PKPdf	**PKPdf**	**19 38 20.7**	**-1.0**
	comp=Z,2.8nm,1.0s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**125.66**	**343**	PKP	**PKPdf**	**19 38 21.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=36,slow=2.1,SNR=4.9						
NOA	**NORSAR Array B**	**125.66**	**343**	PKP	**PKPdf**	**19 38 21.0**	**-0.7**
BRTR	**Keskin Array B**	**126.46**	**312**	pPKP	pPKPdf	19 38 44.5	-6.2
	comp=Z,2.2nm,1.1s,baz=150,slow=5.3,SNR=4.9						
KOLS	**Kolonicke sedl**	**129.68**	**327**	*e*PKIKP	**PKPdf**	**19 38 31.5**	**+1.8**
KOLS	**Kolonicke sedl**	**129.68**	**327**	*e*PKP	**PKPdf**	**19 38 31.5**	**+1.8**
KOLS				*e*		19 38 52.8	
VYHS	**Vyhne**	**131.77**	**328**	*e*PKIKP	**PKPdf**	**19 38 35.4**	**+1.7**
VYHS	**Vyhne**	**131.77**	**328**	*e*PKP	**PKPdf**	**19 38 35.4**	**+1.7**
CLL	**Collm**	**132.61**	**334**	*e*(pPKPdf)		19 38 58.0	
CLL				*e*		19 48 42.0	
CLL				*e*PPS	PPS	19 52 55.0	
CLL				*e*SS	SS	19 58 54.0	+22
CLL				*e*		20 00 06.0	
CLL				*e*SSS	SSS	20 03 42.0	
CLL				LmV		20 42 00.0	
	comp=Z,100nm,20.8s						
GERES	**GERESS Array B**	**134.07**	**332**	PKP	**PKPdf**	**19 38 37.1**	**-1.1**
	comp=Z,1.7nm,1.0s,baz=132,slow=2.0,SNR=8.0						
GERES	**GERESS Array B**	**134.07**	**332**	PKP	**PKPdf**	**19 38 37.1**	**-1.1**
TCF	**Toulx Ste Croi**	**140.91**	**338**	*e*PKIKP	**PKPdf**	**19 38 49.8**	**-1.0**
TCF	**Toulx Ste Croi**	**140.91**	**338**	*e*PKIKP	**PKPdf**	**19 38 49.8**	**-1.0**
TCF	**Toulx Ste Croi**	**140.91**	**338**	*e*PKPdf	**PKPdf**	**19 38 49.8**	**-1.0**
ETSF	**Etsaut**	**144.84**	**338**	*e*PKIKP	**PKPab**	**19 38 56.7**	**-0.3**
	comp=Z,65nm,1.4s						
ETSF	**Etsaut**	**144.84**	**338**	*e*PKIKP	**PKPab**	**19 38 56.7**	**-0.3**
ETSF	**Etsaut**	**144.84**	**338**	*e*PKPdf	**PKPab**	**19 38 56.7**	**-0.3**
KEST	**Kesra**	**145.27**	**320**	PKPbc	**PKPab**	**19 38 59.1**	**+0.2**
	comp=Z,6.6nm,0.9s,baz=339,slow=4.5,SNR=5.3						
KEST	**Kesra**	**145.27**	**320**	PKPbc	**PKPab**	**19 38 59.1**	**+0.2**
POLO	**Lamas de Olo**	**148.44**	**346**	*e*PKPab	PKPab	19 39 30.6	+20
ESDC	**Sonseca Array**	**148.89**	**339**	PKPbc	**PKPbc**	**19 39 08.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=16,slow=3.8,SNR=4.2						
ESDC	**Sonseca Array**	**148.89**	**339**	PKPbc	**PKPbc**	**19 39 08.8**	**+0.1**
PMRV	**Marv??o**	**150.17**	**344**	*e*PKPab	PKPab	19 39 33.4	+15
PMTG	**Montargil**	**150.72**	**345**	*e*PKPab	PKPab	19 39 35.0	+15
PBEJ	**Beja**	**151.61**	**344**	*e*PKPab	PKPab	19 39 37.4	+13
PCVE	**Castro Verde**	**152.03**	**344**	*e*PKPab	PKPab	19 39 42.2	+16
PVAQ	**Vaqueiros**	**152.15**	**343**	*e*PKPab	PKPab	19 39 43.5	+17
TORD	**Torodi Ar. Bea**	**161.06**	**279**	PKP	**PKPdf**	**19 39 20.8**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=35,slow=1.2,SNR=13						
TORD	**Torodi Ar. Bea**	**161.06**	**279**	PKP	**PKPdf**	**19 39 20.8**	**-1.0**

KRSC 06 19:23:25.2±0.6**, 52°.10N**×**162°.37E, h42**km±41km**, ML3.5,**
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.75**	**306**	P	Pn	19 23 53.8	+0.8
SPN				*e*S	Sn	19 24 15.1	+1.1
NLC	**Nalytchevo**	**2.13**	**301**	*e*P	Pn	19 24 00.0	+1.7
NLC				*e*S	Sn	19 24 25.1	+1.6
RUS	**Russkaya**	**2.39**	**280**	P	Pn	19 24 03.5	+1.7
RUS				*e*S	Sn	19 24 31.0	+1.1
SDLR	**Sedlovina**	**2.43**	**300**	*e*P	Pn	19 24 05.1	+2.6
SDLR				*e*S	Sn	19 24 34.4	+3.3
UGLR	**Uglovaya**	**2.43**	**299**	*e*P	Pn	19 24 05.7	+3.2
UGLR				*e*S	Sn	19 24 35.0	+3.9
PET	**Petropavlovsk**	**2.45**	**294**	*e*P	Pn	19 24 05.1	+2.5
PET				*e*S	Sn	19 24 33.5	+2.2
SMAR	**Somma**	**2.46**	**300**	*e*P	Pn	19 24 06.4	+3.3
SMAR				*e*S	Sn	19 24 36.6	+4.4
MKZ	**Mys Kozlova**	**2.49**	**351**	*e*P	Pn	19 24 04.9	+1.7
MKZ				*e*S	Sn	19 24 33.6	+1.3
AVH	**Avacha**	**2.50**	**299**	*e*P	Pn	19 24 06.0	+2.6
AVH				*e*S	Sn	19 24 35.6	+2.8
KRER	**Koryakskii**	**2.51**	**300**	*e*P	Pn	19 24 06.7	+2.9
KRER				*e*S	Sn	19 24 36.7	+3.4
KOK	**Koryaka**	**2.57**	**299**	*e*P	Pn	19 24 07.6	+3.2
KOK				*e*S	Sn	19 24 37.8	+3.4
MTVR	**Mutnovka**	**2.60**	**280**	*e*P	Pn	19 24 06.9	+2.0
MTVR				*e*S	Sn	19 24 37.5	+2.1
APC	**Apacha**	**3.29**	**287**	*e*P	Pn	19 24 17.3	+3.2
APC				*e*S	Sn	19 24 55.0	+3.0
TUMR	**Tumrok**	**3.45**	**338**	*e*P	Pn	19 24 19.9	+3.3
TUMR				*e*S	Sn	19 24 58.9	+2.6
MIPR	**Malaya Ipel'ka**	**3.46**	**275**	*e*P	Pn	19 24 18.7	+2.2
BKI	**Bering**	**3.78**	**33**	*e*S	Sn	19 25 02.8	-1.1
KMNR	**Kamenistaya**	**3.87**	**342**	*e*P	Pn	19 24 25.7	+3.4
KMNR				*e*S	Sn	19 25 09.9	+3.3
KIRR	**Kirishev**	**4.04**	**344**	*e*P	Pn	19 24 28.9	+4.2
KPT	**Kopyto**	**4.08**	**343**	*e*P	Pn	19 24 28.9	+3.8
KBTR	**Krutoberegovo**	**4.12**	**3**	*e*P	Pn	19 24 28.5	+2.9
KBTR				*e*S	Sn	19 25 14.7	+2.1
ESO	**Esso**	**4.40**	**332**	*e*P	Pn	19 24 33.4	+3.9
SRDR	**Sredinnyy**	**4.50**	**341**	*e*P	Pn	19 24 34.4	+3.5

---

*DDA **06** 19:30:49.6, 35°.07N×33°.29E, h25km, MD2.8*
*ISK **06** 19:30:54.6, 35°.60N×33°.19E, h4km, MD2.5*
*ISCJB **06** 19:30:55.7±1.4, 35°.48N±0°.08×33°.32E±0°.06, h45km±18km, Error ellipse: s-maj=12.6km s-min=8.7km az=1.4*
*CSEM **06** 19:30:55.8±0.3, 35°.57N×33°.24E, h20km, MD2.5, Error ellipse: s-maj=8.8km s-min=6.9km az=85.0*
ISC 06 19:30:55.7±1.0**, 35°.54N**±0°.03×**33°.26E**±0°.04**, h32**km±10km**, n14, σ0s.82**/24**, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LFK	**Lefkose**	**0.34**	**139**	*e*PG	**Pb**	**19 31 03.3**	**-0.7**
LFK				*e*SG	**Sn**	**19 31 10.2**	**0.0**
LFK	**Lefkose**	**0.34**	**139**	*e*Pg	**Pb**	**19 31 03.3**	**-0.7**
LFK				*e*Sg	**Sn**	**19 31 10.2**	**0.0**
LEF	**Lefka**	**0.51**	**216**	*e*PG	**Pn**	**19 31 06.5**	**-0.3**
LEF				*e*SG	**Sn**	**19 31 14.5**	**0.0**
LEF	**Lefka**	**0.51**	**216**	*e*Pg	**Pn**	**19 31 06.5**	**-0.3**
LEF				*e*Sg	**Sn**	**19 31 14.5**	**0.0**
EREN	**Erenkoy**	**0.74**	**90**	*e*PG	**Pn**	**19 31 10.6**	**+0.7**
EREN	**Erenkoy**	**0.74**	**90**	*e*Pg	**Pn**	**19 31 10.6**	**+0.7**
GAZI	**Gazipasa**	**1.04**	**313**	*i* P	**Pn**	**19 31 13.8**	**-0.2**
GAZI				*i* S	**Sb**	**19 31 30.7**	**+2.2**
GAZI	**Gazipasa**	**1.04**	**313**	*i* P	**Pn**	**19 31 13.8**	**-0.2**
GAZI				*i* S	**Sb**	**19 31 30.7**	**+2.2**
ERMK	**Ermenek**	**1.14**	**346**	*i* P	**Pb**	**19 31 16.4**	**-0.6**
ERMK				*i* S	**Sb**	**19 31 31.3**	**-0.3**
ERMK	**Ermenek**	**1.14**	**346**	*i* P	**Pb**	**19 31 16.4**	**-0.6**
ERMK				*i* S	**Sb**	**19 31 31.3**	**-0.3**
MERS	**Mersin**	**1.68**	**37**	*e*PN	**Pb**	**19 31 25.4**	**-0.5**
MERS	**Mersin**	**1.68**	**37**	*e*Pn	**Pb**	**19 31 25.5**	**-0.5**
GULE	**Gulek**	**2.13**	**35**	*i* P	**Pn**	**19 31 29.2**	**0.0**
GULE				*i* S	**Sn**	**19 31 54.3**	**-0.3**
GULE	**Gulek**	**2.13**	**35**	*i* P	**Pn**	**19 31 29.2**	**0.0**
GULE				*i* S	**Sn**	**19 31 54.3**	**-0.3**

---

*IDC **06** 19:33:31.1±3.4, 6°.96S×129°.35E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=106.6km s-min=27.8km az=67.0*
*ISCJB **06** 19:33:38.7±0.8, 7°.35S±0°.05×128°.85E±0°.10, h131km, mb3.2/1, Error ellipse: s-maj=13.5km s-min=7.3km az=176.3*
*AUST **06** 19:33:39.6±0.0, 7°.19S×128°.83E, h119km, Error ellipse: s-maj=2.0km s-min=0.9km az=254.0*
ISC 06 19:33:37.3±0.9**, 7°.32S**±0°.06×**128°.88E**±0°.08**, h131**km**, n10, σ2s.79**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.19**	**67**	P	**Pn**	**19 34 41.6**	**+2.1**
	baz=4.2,SNR=19						
MTN	**Manton Dam**	**5.92**	**158**	P	Pn	19 35 08.4	+5.6
	baz=6.1,SNR=29						
MTN				S	**Sn**	**19 36 09.9**	**+0.3**
	baz=6.1,SNR=8.0						
KDU	**Kakadu**	**6.40**	**147**	P	Pn	19 35 12.9	+3.7
	baz=6.6,SNR=47						
KDU				S	**Sn**	**19 36 18.4**	**-2.7**
	baz=6.6,SNR=13						
SWI	**Sorong**	**6.84**	**20**	P	Pn	19 35 18.9	+3.8
	baz=6.8,SNR=6.2						
SWI				S	**Sn**	**19 36 30.4**	**-1.2**
	baz=6.8,SNR=3.6						
PCI	**Palu**	**11.04**	**305**	P	**Pn**	**19 36 12.6**	**+1.1**
	baz=11,SNR=3.9						
PCI				S	**Sn**	**19 38 10.4**	**-2.9**
	baz=11,SNR=3.3						
FITZ	**Fitzroy Crossi**	**11.17**	**196**	Pn	P	19 36 19.4	-2.8
	0.7nm,0.3s,baz=26,slow=13,SNR=19						
FITZ				Sn	**Sn**	**19 38 16.9**	**+0.4**
	0.5nm,0.3s,baz=61,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.17**	**196**	P	**P**	**19 36 20.8**	**-1.4**
	baz=11,SNR=5.3						
FITZ				S	**Sn**	**19 38 19.8**	**+3.3**
	baz=11,SNR=3.5						
WRA	**Warramunga Arr**	**13.62**	**158**	Pn	**Pn**	**19 36 47.3**	**+2.1**
	0.3nm,0.3s,baz=334,slow=13,SNR=18						
WRA				Sn	Sn	19 39 07.5	-8.2
	0.8nm,0.3s,baz=333,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**16.96**	**164**	P	Pn	19 37 32.7	+5.9
	0.2nm,0.3s,baz=338,slow=9.6,SNR=28						
ASAR				S	**Sn**	**19 40 31.2**	**-4.7**
	0.2nm,0.3s,baz=327,slow=24,SNR=6.6						
CMAR	**Chiang Mai Arr**	**39.09**	**311**	P	P	19 41 01.2	+9.3
	0.6nm,0.8s,baz=141,slow=6.5,SNR=6.1						

---

*ISCJB **06** 19:36:11.1±0.7, 80°.01N±0°.07×2°.5W±0°.2, h10km, mb3.4/4, Error ellipse: s-maj=9.7km s-min=6.1km az=179.9*
*CSEM **06** 19:36:13.6±1.2, 80°.02N×1°.95W, h10km, ML3.5, Error ellipse: s-maj=62.3km s-min=8.0km az=172.0*
*IDC **06** 19:36:13.2±1.0, 80°.21N×2°.46W, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.4/29, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=31.0km s-min=16.2km az=32.0*
*NAO **06** 19:36:17.5±5.2, 80°.67N×2°.28E, ML3.5*
*BER **06** 19:36:18.5±3.5, 80°.57N×0°.82E, h10km, MD2.6, ML2.9, ML3.5(NAO)*
ISC 06 19:36:12.4±0.8**, 79°.97N**±0°.09×**1°.71W**±0°.05**, h10**km**, n28, σ2s.04**/32**, mb3.5**/4**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.72**	**106**	Pn	**Pn**	**19 36 57.5**	**+1.5**
KBS				Sn	**Sn**	**19 37 27.2**	**-1.7**
KBS	**Kingsbay**	**2.72**	**106**	*e*P	**Pn**	**19 36 57.5**	**+1.5**
KBS				*e*S	**Sn**	**19 37 27.4**	**-1.5**
KBS				AML	AML	19 37 36.5	
	comp=Z,85nm,0.5s						
KBS	**Kingsbay**	**2.72**	**106**	*e*P	**Pn**	**19 36 57.5**	**+1.5**
	SNR=50						
KBS				*e*S	**Sn**	**19 37 27.4**	**-1.5**
	comp=Z,85nm,0.5s,SNR=50						
SPA0	**Spitsbergen Ar**	**3.87**	**109**	Pn	**Pn**	**19 37 14.3**	**+2.4**
	baz=330,slow=9.3						
SPA0				Sn	**Sn**	**19 37 55.2**	**-2.1**

SPA0	Spitsbergen Ar	3.87	109	Pn	Pn	19 37 14.3	+2.4
	baz=330,slow=9.3						
SPA0				Sn	Sn	19 37 55.2	-2.1
SPA0	Spitsbergen Ar	3.87	109	Pn	Pn	19 37 14.3	+2.4
	baz=330,slow=9.3,SNR=364						
SPA0				Sn	Sn	19 37 55.2	-2.1
	SNR=50						
SPITS	Spitsbergen Ar	3.87	109	Pn	Pn	19 37 14.4	+2.6
	baz=312,slow=13,SNR=656						
SPITS				Sn	Sn	19 37 57.5	+0.2
	baz=326,slow=17,SNR=10						
HSP	Hornsund	4.54	122	eP	Pn	19 37 24.7	+3.7
HSP				eS	Sn	19 38 14.3	+0.6
DAG	Danmarks Havn	4.68	235	i P	Pn	19 37 25.8	+2.9
DAG				i S	Sn	19 38 16.9	-0.2
HOPEN	Hopen	6.40	109	eP	Pn	19 37 48.9	+2.3
HOPEN				eS	Sn	19 38 56.9	-2.7
HOPEN				AML	AML	19 38 59.9	
	comp=Z,31nm,0.5s						
HOPEN	Hopen	6.40	109	eP	Pn	19 37 48.9	+2.3
	SNR=49						
BJO	Bjornoya	7.12	129	eP	Pn	19 38 02.0	+5.7
JMIC	Jan Mayen	9.18	194	Pn	Pn	19 38 28.6	+4.0
	comp=Z,43nm,0.3s,baz=67,slow=1.8,SNR=14						
JMIC				Sn	Sn	19 40 08.3	+0.6
	comp=Z,18nm,0.3s,baz=312,slow=10,SNR=3.3						
SUMG	Summit	11.16	249	i P	Pn	19 38 52.7	+0.7
SUMG				i S	Sn	19 40 52.3	-4.5
SUMG	Summit	11.16	249	i P	Pn	19 38 52.8	+0.7
	SNR=46						
ARA0	ARCESS Array S	12.46	132	Pn	Pn	19 39 14.2	+4.7
	baz=349,slow=14						
ARA0				Sn	Sn	19 41 26.7	-1.4
	baz=346,slow=22						
ARA0	ARCESS Array S	12.46	132	Pn	Pn	19 39 14.2	+4.7
	baz=349,slow=14						
ARA0				Sn	Sn	19 41 26.7	-1.4
	baz=346,slow=22						
ARA0	ARCESS Array S	12.46	132	Sn	Sn	19 41 26.7	-1.4
	baz=346,slow=21,SNR=6.6						
ARCES	ARCESS Array B	12.46	132	Pn	Pn	19 39 14.3	+4.8
	comp=Z,0.4nm,0.3s,baz=339,slow=14,SNR=13						
ARCES				Sn	Sn	19 41 26.0	-2.1
	comp=Z,0.1nm,0.3s,baz=356,slow=22,SNR=2.7						
SFJD	Kangerlussuaq	18.09	253	P	Pn	19 40 21.0	-2.3
	comp=Z,1.8nm,0.3s,baz=7.2,slow=9.2,SNR=9.2						
RES	Resolute Bay	18.82	305	P	P	19 40 27.8	-3.9
	comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=9.7						
RES				S	Sn	19 43 42.8	-20
	comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=4.8						
FIA0	FINESS Array S	20.29	140	P	Pn	19 40 54.0	+4.2
	baz=21,slow=12						
FIA0	FINESS Array S	20.29	140	P	Pn	19 40 54.0	+4.2
	baz=21,slow=12						
FINES	FINESS Array B	20.29	140	P	Pn	19 40 53.1	+3.4
	comp=Z,1.5nm,0.8s,baz=343,slow=10,SNR=3.4						
FRB	Frobisher Bay	24.15	268	P	P	19 41 30.1	+2.1
	comp=Z,4.0nm,0.8s,baz=33,slow=9.8,SNR=9.5						
YKA	Yellowknife Ar	32.83	308	P	P	19 42 45.3	-0.1
	comp=Z,0.1nm,0.5s,baz=26,slow=7.5,SNR=2.5						
ILAR	Eielson Array	34.12	334	P	P	19 42 55.8	-0.9
	comp=Z,0.6nm,0.9s,baz=4.8,slow=7.9,SNR=5.1						
MKAR	Makanchi Array	43.29	85	P	P	19 44 17.5	+3.8
	comp=Z,0.5nm,0.7s,baz=346,slow=6.6,SNR=5.1						

*TIR **06** 19:57:42.3±4.3, 41°.08N×19°.52E, h2km±13km, ML3.0*
*CSEM **06** 19:57:44.8±0.3, 41°.05N×19°.48E, h2km, ML3.0, Error ellipse: s-maj=5.1km s-min=3.7km az=13.0*
*BEO **06** 19:57:45.1±0.7, 41°.04N×19°.46E, h4km±2km, ML2.9/8*
*PDG **06** 19:57:48.4±0.3, 41°.25N×19°.59E, h10km±1km, ML2.9/10, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0*
ISC 06 19:57:44.6±1.4, **41°.05N**±0°.04×**19°.47E**±0°.02, **h5**km±9km, **n62**, σ0s.98/121, **8C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.42	45	i PG	Pg	19 57 52.8	+0.1
TIR				i SG	Sg	19 57 58.9	+0.7
TIR	Tirane	0.42	45	ePg	Pg	19 57 52.7	+0.1
TIR				eSg	Sb	19 58 00.6	-0.5
TIR	Tirane	0.42	45	i Pg	Pg	19 57 52.8	+0.1
	SNR=90						
TIR				i Sg	Sg	19 57 58.9	+0.7
	SNR=90						
ULC	Ulcinj	0.93	350⇑	i Pg	Pg	19 58 02.9	+0.5
ULC				eSg	Sg	19 58 14.2	-0.2
ULC	Ulcinj	0.93	350⇑	i Pg	Pg	19 58 02.9	+0.5
ULC				eSg	Sg	19 58 14.2	-0.2
PHP	Peshkopia	0.97	49	i PG	Pg	19 58 01.5	-1.6
PHP				i SG	Sn	19 58 17.8	-1.2
PHP	Peshkopia	0.97	49	i Pg	Pg	19 58 01.5	-1.6
	SNR=91						
PHP				i Sg	Sn	19 58 17.8	-1.2
	SNR=91						
PUK	Puka	1.04	18	i PG	Pg	19 58 03.6	-0.9
PUK				i SG	Sn	19 58 21.4	+0.6
PUK	Puka	1.04	18	i Pg	Pg	19 58 03.6	-0.9
	SNR=90						
BUM	Brajici-Budva	1.32	341⇑	i Pg	Pg	19 58 10.1	+0.2
BUM				eSg	Sn	19 58 29.0	+1.3
BUM	Brajici-Budva	1.32	341⇑	i Pg	Pg	19 58 10.1	+0.2
BUM				eSg	Sn	19 58 29.0	+1.3
TTG	Podgorica	1.39	354⇓	i Pg	Pn	19 58 10.2	-0.3
TTG				eSg	Sb	19 58 29.3	+0.4
PDG	Podgorica	1.39	353	ePg	Pn	19 58 10.7	+0.2
PDG				eSg	Sn	19 58 29.5	+0.3
PDG	Podgorica	1.39	353	ePg	Pn	19 58 10.7	+0.2
PDG				eSg	Sn	19 58 29.5	+0.3
BCI	Bajram Curri	1.39	19	i PN	Pn	19 58 09.8	-0.8
BCI				i SN	Sn	19 58 31.6	+2.3
BCI	Bajram Curri	1.39	19	i Pn	Pn	19 58 09.8	-0.8
	SNR=40						
BCI				i Sn	Sn	19 58 31.6	+2.3
	SNR=40						
BIA	Bitola	1.40	91	ePn	Pg	19 58 11.7	+0.2
BIA				eSg	Sb	19 58 29.7	+0.2
BIA	Bitola	1.40	91	ePn	Pg	19 58 11.6	+0.2
BIA				eSg	Sb	19 58 29.6	+0.2
HCY	Herceg Novi	1.57	333⇓	i Pg	Pb	19 58 14.5	+0.3
HCY				eSg	Sg	19 58 36.6	+1.4
HCY	Herceg Novi	1.57	333⇓	i Pg	Pb	19 58 14.5	+0.3
HCY				eSg	Sg	19 58 36.6	+1.4
PVY	Plav	1.58	13⇓	i Pg	Pn	19 58 13.8	+0.4
PVY				eSg	Sg	19 58 35.7	+0.2
PVY	Plav	1.58	13⇓	i Pg	Pn	19 58 13.8	+0.4
PVY				eSg	Sg	19 58 35.7	+0.2
SKO	Skopje	1.74	57	ePn	Pn	19 58 16.3	+0.9
SKO				eSg	Sb	19 58 38.8	-0.3
SKO	Skopje	1.74	57	ePn	Pb	19 58 16.6	-0.4
SKO				eSg	Sg	19 58 39.4	-1.1
SKO	Skopje	1.74	57	ePn	Pb	19 58 16.6	-0.4
SKO				eSg	Sg	19 58 39.4	-1.1
NKY	Niksic	1.80	349⇑	i Pn	Pn	19 58 17.4	+1.1
NKY				eSn	Sb	19 58 40.7	-0.1
NKY	Niksic	1.80	349⇑	i Pn	Pn	19 58 17.4	+1.1
NKY				eSn	Sb	19 58 40.7	-0.1
BEY	Berane	1.85	10⇓	i Pn	Pb	19 58 18.5	-0.3
BEY				eSn	Sb	19 58 42.0	-0.3
IVA	Berane	1.85	10⇓	i Pn	Pb	19 58 18.5	-0.3
IVA				eSn	Sb	19 58 42.0	-0.3
BAI	Bari	1.96	272	ePn	Pn	19 58 19.4	+1.0
BAI				eSn	Sn	19 58 43.1	-0.2
BRY	Bratogost	1.98	340⇑	i Pn	Pn	19 58 20.2	+1.4
BRY				eSn	Sb	19 58 46.3	+0.3
BRY	Bratogost	1.98	340⇑	i Pn	Pn	19 58 20.2	+1.4
BRY				eSn	Sb	19 58 46.3	+0.3
UPM	Unac-Piva	2.19	349	ePn	Pb	19 58 24.0	-0.8
UPM				eSn	Sb	19 58 51.8	-0.5
UPM	Unac-Piva	2.19	349	ePn	Pb	19 58 24.0	-0.8
UPM				eSn	Sb	19 58 51.8	-0.5
SJES	Sjenica	2.24	9	ePn	Pn	19 58 23.0	+0.6
SJES				eSn	Sn	19 58 50.7	+0.2
SJES	Sjenica	2.24	9	ePn	Pn	19 58 23.0	+0.6
SJES				eSn	Sn	19 58 50.7	+0.2
STON	Ston	2.25	325	i Pn	Pn	19 58 22.1	-0.2
STON				Sn	Sn	19 58 48.5	-2.0
STON	Ston	2.25	325	i Pn	Pn	19 58 22.1	-0.2
STON				Sn	Sn	19 58 48.4	-2.0
PLE	Pljevlja	2.28	359	ePn	Pn	19 58 24.8	+1.9
PLE				eSn	Sb	19 58 53.3	-1.4
PLE	Pljevlja	2.28	359	ePn	Pn	19 58 24.8	+1.9
PLE				eSn	Sb	19 58 53.3	-1.4
VAY	Valandovo	2.35	82	ePn	Pn	19 58 24.4	+0.6
VAY				eSg	Sn	19 58 52.6	-0.4
VAY	Valandovo	2.35	82	ePn	Pn	19 58 24.4	+0.6
VAY	Valandovo	2.35	82	ePn	Pn	19 58 24.4	+0.6
BARS	Barje	2.48	44	ePn	Pn	19 58 27.1	+1.5
BARS				eSn	Sn	19 58 58.0	+1.7
BARS	Barje	2.48	44	ePn	Pn	19 58 27.1	+1.5
BARS				eSn	Sn	19 58 58.0	+1.7
SELS	Selova	2.49	29	ePn	Pn	19 58 26.4	+0.7
SELS				eSg	Sg	19 59 04.4	-0.1
IVAS	Ivanjica	2.57	11	ePn	Pn	19 58 28.0	+1.1
IVAS				eSn	Sn	19 58 59.8	+1.2
IVAS	Ivanjica	2.57	11	ePn	Pn	19 58 28.0	+1.1
IVAS				eSn	Sn	19 58 59.8	+1.2
GRUS	Gruza	2.98	18	ePn	Pn	19 58 32.7	+0.2
GRUS				eSn	Sn	19 59 10.0	+1.4
GRUS	Gruza	2.98	18	ePn	Pn	19 58 32.7	+0.2
GRUS				eSn	Sn	19 59 10.0	+1.4
DIVS	Divibare	3.07	7	ePn	Pn	19 58 33.7	-0.1
DIVS				eSg	Sg	19 59 23.0	-0.2
DIVS	Divibare	3.07	7	ePn	Pn	19 58 33.7	-0.1
DIVS				eSg	Sg	19 59 23.0	-0.2
VTS	Vitosha	3.19	60	ePn	Pn	19 58 36.4	+0.9
VTS				eSn	Sn	19 59 14.0	+0.1
VTS	Vitosha	3.19	60	ePn	Pn	19 58 36.4	+0.9
VTS				eSn	Sn	19 59 14.0	+0.1
ZAPS	Zavoj	3.23	46	ePn	Pn	19 58 37.7	+1.7
ZAPS				eSn	Sn	19 59 15.7	+0.8
ZAPS	Zavoj	3.23	46	ePn	Pn	19 58 37.7	+1.7
ZAPS				eSn	Sn	19 59 15.7	+0.8
TRUS	Trudelj	3.25	12	ePn	Pn	19 58 36.8	+0.7
TRUS				eSn	Sn	19 59 16.1	+1.0
TRUS	Trudelj	3.25	12	ePn	Pn	19 58 36.8	+0.7
TRUS				eSn	Sn	19 59 16.1	+1.0
BZS	Buzias	4.83	18	ePn	Pn	19 58 57.4	-0.4
BZS				eSn	Sn	19 59 53.2	-0.8
BZS	Buzias	4.83	18	ePn	Pn	19 58 57.4	-0.4
BZS				eSn	Sn	19 59 53.2	-0.8
NVLJ	Novalja	4.88	318	ePn	Pn	19 58 58.9	+0.4
NVLJ				Sn	Sn	19 59 52.8	-2.5
NVLJ	Novalja	4.88	318	ePn	Pn	19 58 58.8	+0.4
NVLJ				Sn	Sn	19 59 52.7	-2.5

*SZGRF **06** 20:03:53.7, 17°.89S×179°.97E, h33km, Fiji Islands*
*BGS **06** 20:04:22.9±3.4, 17°.21S×178°.99E, h260km, mb4.4(NEIC)*
*AUST **06** 20:04:24.9±21.0, 16°.86S×179°.66E, h276km±1km, Error ellipse: s-maj=2.7km s-min=2.2km az=21.0*
*NEIC **06** 20:04:26.8±1.2, 17°.22S×178°.99E, h260km±11km, mb4.4/20, Error ellipse: s-maj=24.5km s-min=15.1km az=127.0*
*ISCJB **06** 20:04:52.3±0.3, 17°.73S±0°.07×178°.76E±0°.07, h550km, mb4.2/47, Error ellipse: s-maj=10.9km s-min=6.8km az=143.4*
*IDC **06** 20:04:53.4±1.5, 17°.68S×178°.78E, h553km±16km, mb3.7/20, mb1 3.8/21, mb1mx3.8/25, mbtmp3.7/21, Error ellipse: s-maj=14.0km s-min=11.2km az=109.0*
ISC 06 20:04:52.8±0.4, **17°.73S**±0°.09×**178°.80E**±0°.08, **h550**km, **n170**, σ1s.18/149, **mb4.2**/47, **25C-7D, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.40	248	P	P	20 07 37.0	+1.5
	1.3nm,0.3s,baz=64,slow=19,SNR=21						
SNZO	South Karori	23.77	188	eP	P	20 09 20.9	-1.5
	22nm,0.5s						
KHZ	Kahutara	25.02	189	eP	P	20 09 31.6	-1.8
	28nm,0.7s						
CTA	Charters Tower	30.85	260	P	P	20 10 24.4	-0.3
	4.7nm,0.8s,baz=129,slow=6.5,SNR=3.7						
CNB	Canberra Magne	31.46	230	P	P	20 10 31.3	+1.5
	baz=33,SNR=11						
CMSA	Cobar Meteorol	32.94	239	P	P	20 10 43.4	+1.1
	baz=34,SNR=16						
COEN	Coen	34.44	271	P	P	20 10 56.3	+1.1
	baz=35,SNR=6.0						
TOO	Toolangi	35.25	229	P	P	20 11 02.7	+1.1
	baz=36,SNR=8.9						
STKA	Stephens Creek	36.40	240	P	P	20 11 12.3	+1.1
	7.3nm,0.9s,baz=85,slow=8.0,SNR=25						
STKA	Stephens Creek	36.40	240	eP	P	20 11 12.1	+0.9
	1.6nm,0.9s						
STKA				epP	P	20 11 12.3	+1.1
STKA	Stephens Creek	36.40	240	P	P	20 11 12.4	+1.1
	baz=38,SNR=19						
BBOO	Buckleboo	41.17	240	P	P	20 11 50.1	+0.3
	baz=42,SNR=11						
WRAB	Tennant Creek	42.04	260	eP	P	20 11 55.4	-1.4
	2.5nm,0.8s						
WRA	Warramunga Arr	42.05	260	P	P	20 11 56.0	-0.8
	0.6nm,0.3s,baz=95,slow=8.3,SNR=41						
WRA				ScP	ScP	20 16 37.7	+0.4
	0.3nm,0.5s,baz=89,slow=3.9,SNR=4.3						
WRA				S	S	20 17 30.5	-6.3
	0.3nm,0.8s,baz=99,slow=14,SNR=3.6						
ASAR	Alice Springs	42.28	254	P	P	20 11 58.5	-0.2
	6.7nm,0.4s,baz=86,slow=8.7,SNR=252						
ASAR				S	S	20 17 36.3	-3.8
	2.9nm,0.8s,baz=86,slow=16,SNR=21						
KDU	Kakadu	44.90	270	P	P	20 12 19.1	0.0
	baz=46,SNR=10						
MTN	Manton Dam	46.14	269	P	P	20 12 28.1	-0.4
	baz=47,SNR=11						
TLE	Tual	46.55	279	P	P	20 12 26.8	-4.9
	baz=47,SNR=4.0						
SWI	Sorong	49.62	284	P	P	20 12 55.0	+0.6
	baz=50,SNR=4.3						
FITZ	Fitzroy Crossi	50.43	261	P	P	20 13 01.1	+0.7
	0.6nm,0.4s,baz=112,slow=5.4,SNR=5.8						
FITZ	Fitzroy Crossi	50.43	261	P	P	20 13 01.4	+1.1
	baz=51,SNR=3.3						
BLDU	Ballidu	57.45	245	S	S	20 21 34.0	+29
	baz=58,SNR=5.1						
PCI	Palu	60.26	279	S	S	20 22 06.5	+25
	baz=61,SNR=9.0						
VNDA	Vanda	60.41	184	P	P	20 14 09.8	+1.1
	3.7nm,0.6s,baz=11,slow=6.7,SNR=18						
SBA	Scott Base	60.45	183	eP	P	20 14 11.2	+2.2
	17nm,0.8s						
KKM	Kota Kinabalu	66.12	285	eP	P	20 14 46.6	+0.1
	5.2nm,0.6s						
KKM	Kota Kinabalu	66.12	285	P	P	20 14 47.2	+0.7
	baz=67,SNR=3.5						
MJAR	Matsushiro Arr	66.20	325	P	P	20 14 46.0	-0.4
	12nm,0.7s,baz=162,slow=6.5,SNR=26						
MAJO	Matsushiro	66.21	325	eP	P	20 14 46.2	-0.2
	14nm,0.7s						
MAT	Matsushiro	66.21	325	P	P	20 14 46.4	-0.1
UGM	Wanagama	66.99	269	P	P	20 14 51.7	-0.1
	baz=68,SNR=3.6						
JNU	Nakatsue	68.20	318	P	P	20 14 58.8	0.0
	4.9nm,0.5s,baz=46,slow=8.8,SNR=9.3						
ASAJ	Asahikawa	69.88	333	P	P	20 15 10.1	+1.5
	14nm,0.7s,baz=267,slow=9.1,SNR=6.5						
YSS	Yuzh-Sakhalins	72.09	335	eP	P	20 15 22.4	+0.9
QSPA	South Pole Qui	72.32	180	P	P	20 15 23.4	+0.7
	19nm,0.5s,baz=7.5,slow=0.9,SNR=55						
KSRS	Korea Array	72.82	320	P	P	20 15 26.4	+0.5
	2.1nm,0.6s,baz=129,slow=6.6,SNR=8.5						
PETK	Petropavlovsk-	72.86	347	P	P	20 15 25.9	0.0
	7.6nm,0.8s,baz=148,slow=8.7,SNR=9.0						
USRK	Ussuriysk Arra	74.99	327	P	P	20 15 39.7	+1.7
	5.2nm,0.8s,baz=123,slow=3.0,SNR=9.0						
MDJ	Mudanjiang	76.53	326	P	P	20 15 47.4	+0.8
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,80nm,3.6s						
CMB	Columbia Colle	79.56	45	eP	P	20 16 03.4	+0.3
	comp=Z,6.9nm,0.8s						
ISA	Isabella	79.63	47	eP	P	20 16 04.6	+1.1
	comp=Z,5.1nm,0.9s						
YBH	Yreka Blue Hor	80.09	40	P	P	20 16 06.6	+0.8
	comp=Z,4.6nm,0.8s,baz=282,slow=1.2,SNR=12						
HUMO	Hull Mountain	80.43	40	eP	P	20 16 08.8	+1.3
	comp=Z,13nm,1.2s						
MOD	Modoc	81.68	41	eP	P	20 16 14.5	+0.4
	comp=Z,6.9nm,0.8s						
BJI	Beijing	81.81	316	P	P	20 16 16.7	+2.2
BJI				S	S	20 26 07.6	+25
BJI				SS	SS	20 31 32.7	+15
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,120nm,4.0s						
BJI				LR	LR		
	comp=N,300nm,26.0s						
BJI				LR	LR		
	comp=E,280nm,25.0s						
BJI				LR	LR		
	comp=Z,38nm,24.8s						
GYA	Guiyang	82.64	301	eP	P	20 16 22.0	+2.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TUC	Tucson	83.71	53	eP	P	20 16 25.2	+0.8
	comp=Z,2.7nm,0.8s						
HHC	Hu-ho-hao-te	85.26	315	eP	P	20 16 34.9	+3.0
HHC				pP	pP	20 17 36.2	-55
HHC				sP	sP	20 18 02.7	-84
HHC				PP	PP	20 19 57.0	-3.1
HHC				SKS	ScS	20 26 31.8	+8.1
HHC				S	S	20 26 41.4	+25
HHC				sS	sS	20 28 28.8	-80
HHC				SS	SS	20 32 25.0	+17
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,6.9s						
KMI	Kunming	85.39	298	P	P	20 16 33.9	+0.9
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HLID	Hailey	86.26	42	eP	P	20 16 37.1	+0.5
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	86.32	291	P	P	20 16 38.3	+1.0
	comp=Z,1.2nm,0.9s,baz=112,slow=3.3,SNR=10						
ILAR	Eielson Array	86.33	14	P	P	20 16 34.9	-1.4
	comp=Z,4.3nm,0.8s,baz=238,slow=5.9,SNR=36						
HVU	Hansel Valley	86.49	44	eP	P	20 16 38.8	+1.1
	comp=Z,5.0nm,0.7s						
CD2	Chengdu	86.75	304	P	P	20 16 41.7	+2.6
CD2				pP	pP	20 17 44.3	-55
CD2				sP	sP	20 18 11.4	-83
CD2				PP	PP	20 20 10.3	-1.7
CD2				S	ScS	20 26 54.9	+19
CD2				sS	sS	20 28 44.7	-80
CD2				SS	SS	20 32 46.2	+16
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,4.2s						
HWUT	Hardware Ranch	87.22	45	eP	P	20 16 41.7	+0.5
	comp=Z,2.9nm,0.7s						
EGAK	Eagle	87.75	16	eP	P	20 16 42.0	-1.0
	comp=Z,9.1nm,1.0s						
RRI2	Red Ridge	88.16	43	eP	P	20 16 46.7	+1.0
	comp=Z,7.2nm,0.8s						
TXAR	Lajitas Array	88.16	59	P	P	20 16 47.0	+1.2
	comp=Z,2.2nm,0.8s,baz=224,slow=5.2,SNR=8.8						
IMW	Indian Meadow	88.65	43	eP	P	20 16 48.1	+0.1
	comp=Z,5.2nm,1.0s						
LZH	Lanzhou	88.69	309	eP	P	20 16 49.5	+1.3
LZH				pP	pP	20 17 58.0	-51
LZH				sP	sP	20 18 16.2	-88
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
MOOW	Moose Ponds	88.71	43	eP	P	20 16 48.9	+0.7
	comp=Z,2.0nm,0.9s						
SYO	Syowa Base	88.72	194⇑	eX	P	20 16 45.8	-1.7
PDAR	Pinedale Array	89.07	44	P	P	20 16 50.0	+0.2
	comp=Z,1.5nm,0.7s,baz=227,slow=3.3,SNR=11						
WALA	Waterton Lakes	89.19	37	eP	P	20 16 49.0	-1.1
PHWY	Pilot Hill	91.27	47	epP	pP	20 18 03.6	-57
ULN	Ulaanbaatar	91.30	320	eP	P	20 16 59.9	-0.1
	comp=Z,3.7nm,0.8s						
SONM	Songino Array	91.69	320	P	P	20 17 01.3	-0.4
	comp=Z,1.3nm,0.6s,baz=128,slow=3.2,SNR=13						
INK	Inuvik	92.43	16	P	P	20 17 00.3	-4.1
GTA	Gaotai	92.88	310	eP	P	20 17 08.4	+1.0
GTA				pP	pP	20 18 10.3	-58
GTA				sP	sP	20 18 36.7	-87
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YKA	Yellowknife Ar	95.30	25	P	P	20 17 17.2	-0.4
	comp=Z,0.6nm,0.7s,baz=248,slow=4.5,SNR=13						
WMQ	Urumqi	102.83	312	eP	Pdif	20 17 54.7	+2.9
MKAR	Makanchi Array	107.10	314	Pdiff	Pdif	20 18 12.2	+1.5
	comp=Z,0.2nm,0.8s,baz=86,slow=5.9,SNR=2.9						
MKAR				PKKPbc	PKKPbc	20 33 34.5	-1.5
	comp=Z,0.1nm,0.4s,baz=294,slow=1.9,SNR=5.3						
KSH	Kashi	110.82	306	ePKP	PKiKP	20 22 24.6	+0.7
KSH				ePP	PP	20 23 12.8	+0.3
KSH				esPKP		20 24 04.4	
KSH				PKS	PKSdf	20 26 01.1	+0.5
KSH				SS	SS	20 38 17.5	+15
KSH				AMB	AMB		
	comp=Z,54nm,6.0s						
KSH				LR	LR		
	comp=N,56nm,4.1s						
KSH				LR	LR		
	comp=E,50nm,4.9s						
KSH				LR	LR		
	comp=Z,200nm,6.1s						
BVAR	Borovoye Array	115.02	321	PKP	PKPdf	20 22 30.4	-0.9
	comp=Z,0.8nm,0.4s,baz=125,slow=3.1,SNR=8.0						
SCHQ	Schefferville	118.32	37	PKP	PKPdf	20 22 36.4	-1.3
	comp=Z,1.5nm,0.8s,baz=297,slow=4.5,SNR=3.4						
KEV	Kevo	125.17	348	ep	PKPdf	20 22 49.4	-0.9
	comp=Z,0.4nm,0.3s						
ARCES	ARCESS Array B	125.64	349	PKP	PKPdf	20 22 51.0	-0.3
	comp=Z,2.1nm,0.5s,baz=79,slow=1.6,SNR=20						
JOF	Joensuu	129.56	341	ep	PKPdf	20 22 57.1	-1.8
	comp=Z,0.7nm,0.3s						
KAF	Kangasniemi	131.65	343	ep	PKPdf	20 23 01.3	-1.6
	comp=Z,0.6nm,0.3s						
FINES	FINESS Array B	132.26	343	PKhKP	PKPpre	20 22 57.5	
	comp=Z,1.7nm,0.9s,baz=243,slow=1.7,SNR=3.8						
FINES				PKP	PKPdf	20 23 03.0	-1.0
	comp=Z,0.5nm,0.3s,baz=70,slow=2.0,SNR=11						
FINES				SKPbc	SKPbc	20 25 38.8	-0.7
	comp=Z,2.6nm,0.9s,baz=355,slow=2.3,SNR=6.4						
RDF	Al-Radifah	134.15	293	eP	PP	20 25 46.6	-1.3
RDF				AMb	AMB	20 25 47.6	
	comp=Z,14nm,1.6s						
MIB	Mutribah	134.28	295	eP	PP	20 25 46.5	-2.3
MIB				AMb	AMB	20 25 47.3	
	comp=Z,8.4nm,0.6s						
NB2	NORSAR Subarra	135.84	351	PKP	PKPdf	20 23 11.3	+0.4
	comp=Z,0.4nm,0.4s,baz=17,slow=2.6						
NOA	NORSAR Array B	135.84	351	PKP	PKPdf	20 23 11.2	+0.4
	comp=Z,0.5nm,0.4s,baz=14,slow=3.8,SNR=2.8						
BHD	Baghdad	136.39	300	i P	PKPdf	20 23 55.0	+42
BHD				e		20 43 20.0	
BRTR	Keskin Array B	142.74	313	PKP	PKPdf	20 23 21.6	-2.6
	comp=Z,1.9nm,0.6s,baz=148,slow=7.2,SNR=12						
BRTR				SKPbc	SKPbc	20 26 09.8	-0.7
	comp=Z,1.4nm,0.9s,baz=140,slow=6.0,SNR=5.4						
KWP	Kalwaria Pacla	142.79	334⇑	i P	PKPdf	20 23 21.2	-2.5
TLCR		142.90	324⇑	i P	PKPdf	20 23 21.9	-2.1
GHRR		143.12	326⇑	i P	PKPdf	20 23 23.6	-0.8
BURAR	Bucovina Array	143.16	330⇑	i P	PKPbc	20 23 23.3	+0.5
TESR		143.21	327⇑	i P	PKPbc	20 23 22.8	-0.1
CFR	Carcaliu	143.28	325⇑	i P	PKPab	20 23 22.8	0.0
OJC	Ojcow	143.47	337	ePKP	PKPab	20 23 23.0	-0.4
VRI	Vrincioaia	143.60	327⇑	i P	PKPbc	20 23 24.4	+0.3
PLOR	Plostina	143.65	327⇓	i P	PKPab	20 23 24.3	0.0
NIE	Niedzica	143.93	336	ePKP	PKPab	20 23 25.4	+0.2
BMR	Baia Mare	143.93	331⇑	i P	PKPbc	20 23 25.1	+0.1
TRPA	Tarpa	144.01	333⇑	i P	PKPbc	20 23 25.1	-0.2
NRDL	Niedersach Rie	144.19	348	ePKPbc	PKPbc	20 23 25.3	-0.3
DOPR	Dopca	144.23	328⇓	i P	PKPdf	20 23 26.5	+0.1
LHO	Holmfirth	144.25	1	eP	PKPbc	20 23 25.1	-0.8
LHO	Holmfirth	144.25	1	P	PKPbc	20 23 25.1	-0.8
MLR	Muntele Rosu	144.26	327⇓	i P	PKPbc	20 23 26.3	0.0
OKC	Ostrava-Krasne	144.38	338	ePKP	PKPbc	20 23 25.8	-0.6
WLF1	Llynfaes	144.42	3	eP	PKPbc	20 23 25.3	-1.1
WLF1	Llynfaes	144.42	3	P	PKPbc	20 23 25.3	-1.1
YRC	Rhoscolyn	144.45	3	eP	PKPbc	20 23 25.5	-0.9
YRC	Rhoscolyn	144.45	3	P	PKPbc	20 23 25.5	-0.9
WPM1	Penmaenmawr	144.48	3	eP	PKPbc	20 23 25.8	-0.8
WPM1	Penmaenmawr	144.48	3	P	PKPbc	20 23 25.8	-0.8
UPC	Upice	144.51	341	ePKP	PKPbc	20 23 27.0	+0.2
UPC				ex	x	20 23 32.6	
KBI1	Birley Grange	144.55	0	eP	PKPdf	20 23 25.4	-1.2
KBI1	Birley Grange	144.55	0	P	PKPdf	20 23 25.4	-1.2
DPC	Dobruska-Polom	144.55	341	ePKP	PKPab	20 23 27.4	-0.1
MORC	Moravsky Berou	144.64	339⇑	i P	PKPdf	20 23 27.1	+0.1
CLL	Collm	144.64	345	ePKPbc	PKPdf	20 23 27.0	+0.1

CLL	Collm	144.64	345	⇑iPKPbc	PKPbc	20 23 27.2	+0.1
	comp=Z,19nm,0.6s						
CLL				iSKPbc	SKPbc	20 26 14.5	+0.1
	comp=Z,6.0nm,1.0s						
CLZ	Clausthal	144.75	348	ePKPbc	PKPdf	20 23 27.3	+0.2
VOIR		144.76	327	⇓iP	PKPbc	20 23 28.2	+0.4
IBBN	Ibbenburen	144.78	350	ePKPbc	PKPdf	20 23 27.3	+0.3
BRG	Berggiesshubel	144.79	343	eP	PKPbc	20 23 27.7	+0.1
	comp=Z,8.5nm,0.8s						
BRG	Berggiesshubel	144.79	343	ePKPbc	PKPbc	20 23 27.5	-0.1
FOEL	Foel Wylfa	144.88	2	eP	PKPdf	20 23 27.4	+0.2
FOEL	Foel Wylfa	144.88	2	P	PKPdf	20 23 27.4	+0.2
PVCC	Panska Ves	144.92	342	ePKP	PKPab	20 23 28.6	-0.3
DRGR		144.94	331	⇑iP	PKPbc	20 23 28.3	0.0
DRGR		144.94	331	⇑iP	PKPbc	20 23 28.5	+0.2
DRGR		144.94	331	⇑iP	PKPab	20 23 28.9	-0.3
BUC1	Bucharest	144.97	325	⇑iP	PKPdf	20 23 24.1	-3.5
HLM1	Long Mynd	145.26	2	eP	PKPdf	20 23 26.0	-1.9
HLM1	Long Mynd	145.26	2	P	PKPdf	20 23 26.0	-1.9
VRAC	Vranov	145.36	339	⇑iP	PKPbc	20 23 29.8	+0.4
PRU	Pruhonice	145.41	342	ePKP	PKPbc	20 23 29.5	0.0
MOX	Moxa	145.60	346	ePKPbc	PKPbc	20 23 29.5	-0.5
TANN	Tannenbergstha	145.60	344	ePKPbc	PKPbc	20 23 29.8	-0.3
BUG	Bochum--Univer	145.70	351	ePKPbc	PKPbc	20 23 29.7	-0.5
NKC	Novy Kostel	145.77	344	ePKP	PKPab	20 23 32.2	0.0
NKC				ex	x	20 23 36.0	
MCH1	Michaelchurch	145.78	2	eP	PKPbc	20 23 29.8	-0.7
MCH1	Michaelchurch	145.78	2	P	PKPbc	20 23 29.8	-0.7
SSW	Stow on the Wo	145.83	1	eP	PKPbc	20 23 30.5	-0.1
SSW	Stow on the Wo	145.83	1	P	PKPbc	20 23 30.5	-0.1
ROTZ	Rotzenmuhle	146.26	344	ePKPbc	PKPbc	20 23 32.1	+0.2
BZS	Buzias	146.32	331	⇑iP	PKPbc	20 23 31.9	-0.3
KHC	Kasperske Hory	146.46	342	ePKP	PKPbc	20 23 32.8	+0.3
KHC				ex	x	20 23 35.5	
GRF	Grafenberg Arr	146.57	345	ePKPbc	PKPbc	20 23 32.8	0.0
GRF				ePKPab	PKPab	20 23 35.8	+0.4
WET	Wettzell	146.65	343	ePKPab	PKPab	20 23 36.5	+0.7
TNS	Taunus Mts	146.67	349	ePKPbc	PKPbc	20 23 32.9	-0.2
GEC2	GERESS Array S	146.68	342	ePKPbc	PKPbc	20 23 33.0	-0.2
GERES	GERESS Array B	146.68	342	PKPbc	PKPbc	20 23 33.1	-0.2
	comp=Z,3.3nm,0.5s,baz=19,slow=3.1,SNR=31						
CONA	Conrad Observa	146.80	339	⇑iPKPdf	PKPbc	20 23 33.7	+0.1
	comp=Z,6.8nm,0.7s						
PKSM	Moragy	147.17	334	⇓iP	PKPbc	20 23 34.0	-0.4
DOU	Dourbes	147.38	353	PKP	PKPbc	20 23 34.8	0.0
DOU				PKPbc	PKPab	20 23 38.5	0.0
WLF	Walferdange	147.59	351	PKP	PKPbc	20 23 36.2	+0.8
WLF	Walferdange	147.59	351	ePKPbc	PKPbc	20 23 36.2	+0.8
VTS	Vitosha	147.67	325	⇑iP	PKPbc	20 23 35.8	-0.3
FUR	Furstenfeldbru	147.97	344	ePKPab	PKPab	20 23 41.6	+0.4
SOKA	Soboth	148.16	339	⇑iPKPdf	PKPbc	20 23 36.4	-0.7
	comp=Z,3.3nm,0.6s						
KBA	Koelnbreinsper	148.37	341	⇓iPKPdf	PKPbc	20 23 36.8	-0.9
	comp=Z,3.5nm,0.5s						
BFO	Black Forest	148.50	348	ePKPbc	PKPbc	20 23 37.6	-0.2
BFO				ePKPab	PKPab	20 23 43.1	-0.2
JSA	Saint Aubin	148.61	1	eP	PKPdf	20 23 35.5	+2.0
JSA	Saint Aubin	148.61	1	P	PKPdf	20 23 35.5	+2.0
MYKA	Terra Mystica	148.67	340	⇑iPKPdf	PKPbc	20 23 37.3	-1.1
	comp=Z,4.4nm,0.5s						
WTTA	Wattenberg	148.71	343	⇑iPKPdf	PKPbc	20 23 38.2	-0.3
	comp=Z,11nm,0.6s						
MOTA	Moosalm	148.78	344	⇑iPKPdf	PKPbc	20 23 38.1	-0.6
	comp=Z,3.5nm,0.5s						
ABTA	Abfaltersbach	148.92	342	⇓iPKPdf	PKPbc	20 23 38.1	-0.9
	comp=Z,5.0nm,0.7s						
CRNS	Crni Vrh	148.95	339	iPKPbc	PKPbc	20 23 38.3	-0.7
FETA	Feichten	149.17	344	⇑iPKPdf	PKPbc	20 23 39.6	-0.1
	comp=Z,4.4nm,0.7s						
ESDC	Sonseca Array	158.00	6	PKPab	PKPab	20 24 23.8	-0.2
	comp=Z,0.1nm,0.3s,baz=341,slow=5.6,SNR=5.0						
DBIC	Dimbokro	168.44	162	PKPab	PKPab	20 25 10.8	+0.3
	comp=Z,2.2nm,0.8s,baz=135,slow=2.9,SNR=3.5						
TORD	Torodi Ar. Bea	174.66	212	PP	PP	20 29 31.3	+1.3
	comp=Z,0.3nm,0.8s,baz=188,slow=4.5,SNR=4.2						

IDC 06 20:11:10.6±56.0, 19°.74S×179°.09E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=996.7km s-min=147.1km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.68	243	P	P	20 18 10.8	-0.1
	0.8nm,0.5s,baz=79,slow=10,SNR=4.8						
WRA	Warramunga Arr	42.00	262	P	P	20 19 03.9	-0.1
	0.2nm,0.3s,baz=97,slow=7.6,SNR=15						
ASAR	Alice Springs	42.04	256	P	P	20 19 04.1	-0.2
	0.6nm,0.5s,baz=93,slow=8.0,SNR=11						

*IDC **06** 20:19:02.8±0.6, 15°.01S×173°.44W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.4/24, mbtmp4.4/14, MS4.3/28, Ms1 4.3/28, ms1mx4.2/43, Error ellipse: s-maj=27.6km s-min=14.5km az=133.0*

*ISCJB **06** 20:19:04.3±0.3, 15°.05S±0°.07×173°.37W±0°.07, h16km, mb4.7/43, MS4.4/31, Error ellipse: s-maj=12.7km s-min=7.3km az=136.2*

*NEIC **06** 20:19:04.5±0.3, 14°.98S×173°.43W, h10km, mb4.9/23, Error ellipse: s-maj=20.9km s-min=9.5km az=135.0*

*BJI **06** 20:19:06.7, 14°.37S×173°.57W, h7km, mB5.4/16, mb4.8/18, Ms5.1/13, Ms7 4.8/14*

*GCMT **06** 20:19:11.4±0.2, 14°.90S×173°.04W, h21km±1km, MW5.1, Moment Tensor Solution. s41,c58; s80,c129; Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.17; $M_{\theta\theta}$3.33±.16; $M_{\phi\phi}$-3.43±.15; $M_{r\theta}$-0.54±.26; $M_{\theta\phi}$4.19±.13; $M_{\phi r}$2.74±.30; Best double couple: $M_0$6.00000×10^{16} NP1:ϕ_s107.00000°, δ68.00000°, λ-10.00000°. NP2:ϕ_s201.00000°, δ81.00000°, λ-158.00000°. Principal axes: T 5.4400, Plg8.0000°, Azm332.0000°; N 1.1000, Plg66.0000°, Azm223.0000°; P -6.5400, Plg22.0000°, Azm66.0000°; Data Used: II IU IC G.*

ISC 06 20:19:05.6±0.6**, 15°.16S**±0°.09×**173°.19W**±0°.10**, h14**km±2km**, h14**km**:pP-P, n410,** σ0s.**98**/398**, mb4.7**/43**, MS4.4**/31**, 153C-110D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.85	48	Pn	Pn	20 19 30.3	-6.7
	138nm,0.3s,baz=110,slow=0.6,SNR=89						
AFI				Sn	Sn	20 19 48.8	-12
	1μm,0.3s,baz=180,slow=19,SNR=18						
AFI	Afiamalu	1.85	48	eP	Pn	20 19 29.4	-7.6
AFI				Sn	Sn	20 19 48.8	-12
MSVF	Nonsavu	8.78	252	ePn	Pn	20 21 18.2	+5.8
RAR	Rarotonga	14.10	117	Pn	Pn	20 22 19.5	-5.5
	1.8nm,0.3s,baz=105,slow=9.4,SNR=3.0						
RAR				LR	LR	20 26 16.8	
	comp=Z,1μm,21.1s,baz=288,slow=30						
RAR				T	T	20 36 57.8	
	20nm,0.3s,baz=149,slow=11,SNR=5.6						
RAR	Rarotonga	14.10	117	Pn	Pn	20 22 19.5	-5.5
RAR				TT		20 36 57.9	
DZM	Mont Dzumac	20.47	247	eP	Pn	20 23 47.8	+2.4
	46nm,1.2s						
DZM				eLR	LR	20 28 42.2	
	3μm,25.6s						
DZM	Mont Dzumac	20.47	247	P	P	20 23 40.7	-2.5
	1.9nm,0.7s,baz=52,slow=19,SNR=3.1						
DZM				LR	LR	20 28 47.0	
	comp=Z,204nm,21.0s,baz=50,slow=29						
DZM	Mont Dzumac	20.47	247	P	P	20 23 40.7	-2.5
PPT	Papeete	22.78	99	LR	LR	20 30 14.3	
	comp=Z,1μm,20.2s,baz=310,slow=29						
PPT2	Papeete2	22.79	99	eLQ	LQ	20 28 32.5	
	3μm,27.5s						
PPT2				eLR	LR	20 29 34.9	
	2μm,25.0s,baz=272						
TBI	Tubuai	23.82	114	eLQ	LQ	20 29 00.3	
	3μm,28.0s						
TBI				eLR	LR	20 29 56.2	
	2μm,26.0s,baz=290						
URZ	Urewera	24.56	199	eP	P	20 24 24.3	-0.6
	56nm,1.3s						
SNZO	South Karori	28.09	200	P	P	20 24 58.4	+1.5
RKT	Rikitea	36.88	108	eLQ	LQ	20 34 38.7	
	755nm,28.2s						
RKT				eLR	LR	20 36 07.6	
	1μm,25.2s						
CTA	Charters Tower	38.89	257	LR	LR	20 40 09.0	
	comp=Z,318nm,18.4s,baz=79,slow=33						
STKA	Stephens Creek	44.33	240	P	P	20 27 12.9	-2.6
	3.0nm,0.7s,baz=89,slow=11,SNR=14						
STKA				LR	LR	20 43 17.5	
	comp=Z,480nm,21.0s,baz=286,slow=33						
STKA	Stephens Creek	44.33	240	P	P	20 27 12.9	-2.6
STKA				eP	pP	20 27 13.9	-6.1
WRAB	Tennant Creek	50.08	257	eP	P	20 27 56.0	-4.5
	6.7nm,1.0s						
WRA	Warramunga Arr	50.09	257	P	P	20 27 58.1	-2.5
	1.0nm,0.5s,baz=89,slow=7.2,SNR=25						
WRA				LR	LR	20 46 49.6	
	comp=Z,474nm,21.8s,baz=105,slow=33						
WRA	Warramunga Arr	50.09	257	P	P	20 27 58.1	-2.5
GUMO	Guam	50.37	302	LR	LR	20 45 58.2	
	comp=Z,142nm,19.1s,baz=72,slow=32						
ASAR	Alice Springs	50.38	252	P	P	20 27 59.5	-3.3
	5.8nm,0.6s,baz=88,slow=8.1,SNR=86						
ASAR				LR	LR	20 47 20.3	
	comp=Z,1μm,21.5s,baz=87,slow=34						
ASAR	Alice Springs	50.38	252	P	P	20 27 59.5	-3.3
FITZ	Fitzroy Crossi	58.45	258	LR	LR	20 51 54.8	
	comp=Z,563nm,21.1s,baz=96,slow=34						
SBA	Scott Base	63.51	185	eP	P	20 29 36.4	+1.5
MBWA	Marble Bar	63.62	254	P	P	20 29 30.7	-5.9
VNDA	Vanda	63.64	186	P	P	20 29 36.6	+0.9
	4.6nm,1.1s,baz=37,slow=7.0,SNR=8.7						
VNDA				LR	LR	20 53 31.4	
	comp=Z,188nm,19.1s,baz=20,slow=32						
VNDA	Vanda	63.64	186	P	P	20 29 36.6	+0.9
VNDA				eP	pP	20 29 37.5	-3.0
MJAR	Matsushiro Arr	68.88	320	LR	LR	20 53 36.9	
	comp=Z,230nm,21.5s,baz=120,slow=30						
ISA	Isabella	72.34	44	eP	P	20 30 31.2	-0.1
	12nm,1.5s						
ISA	Isabella	72.34	44	⇑P	P	20 30 29.7	-1.5
	baz=72						
CMB	Columbia Colle	72.45	41	eP	P	20 30 33.3	+1.4
	4.8nm,1.0s						
PETK	Petropavlovsk-	72.46	342	P	P	20 30 30.9	-0.6
	6.5nm,0.7s,baz=142,slow=9.4,SNR=9.3						
PETK				LR	LR	20 56 21.1	
	comp=Z,70nm,20.3s,baz=238,slow=31						
PETK	Petropavlovsk-	72.46	342	P	P	20 30 30.9	-0.6
LPIG	La Paz	72.74	58	LR	LR	20 54 13.3	
	comp=Z,30nm,19.4s,baz=229,slow=29						
BELC	Belle Mtn. Jos	73.14	47	⇑P	P	20 30 35.9	-0.3
	baz=73						
GSC	Goldstone	73.28	45	⇑P	P	20 30 37.0	+0.2
	baz=74						
YBH	Yreka Blue Hor	73.29	37	P	P	20 30 35.7	-1.1
	3.8nm,0.8s,baz=247,slow=1.1,SNR=7.4						
YBH				LR	LR	20 57 18.5	
	comp=Z,338nm,18.0s,baz=238,slow=31						
YBH	Yreka Blue Hor	73.29	37	P	P	20 30 35.7	-1.1
BC3	Big Chuckawall	73.35	47	⇓P	P	20 30 37.1	-0.2
	baz=74						
HEC	Hector,Ludlow	73.35	46	⇓P	P	20 30 37.0	-0.3
	baz=74						
YSS	Yuzh-Sakhalins	73.37	330	eP	P	20 30 37.0	0.0
	33nm,1.1s						
GMRC	Granite Mounta	73.79	46	⇑P	P	20 30 39.8	-0.1
	baz=74						
IRM	Iron Mountain	73.82	47	⇑P	P	20 30 39.0	-1.1
	baz=74						
NVAR	Mina Array Bea	74.02	42	P	P	20 30 40.9	-0.4
	2.5nm,0.8s,baz=229,slow=10,SNR=9.3						
NVAR				LR	LR	20 56 18.5	
	comp=Z,401nm,18.3s,baz=49,slow=30						
NVAR	Mina Array Bea	74.02	42	P	P	20 30 40.9	-0.4
LDFC	Landfair	74.33	46	eP	P	20 30 43.2	+0.2
	20nm,0.4s						
214A	Organ Pipe Nat	74.41	50	⇑P	P	20 30 43.8	+0.3
	baz=75						
PDMCI	Parker Dam,Lak	74.61	47	⇑P	P	20 30 44.6	+0.1
	baz=75						
KDAK	Kodiak Island	74.65	11	eP	P	20 30 47.7	+3.5
	203nm,1.7s						
MOD	Modoc	74.81	38	eP	P	20 30 45.9	+0.2
	14nm,1.3s						
QSPA	South Pole Qui	74.89	180	P	P	20 30 46.2	+0.4
	6.6nm,0.8s,baz=43,slow=1.5,SNR=16						
QSPA	South Pole Qui	74.89	180	P	P	20 30 46.2	+0.4
Z14A	Wintersburg	75.00	49	⇓P	P	20 30 47.3	+0.4
	baz=75						
W13A	Hualapai Mount	75.20	47	⇑P	P	20 30 48.0	-0.2
	baz=75						
Y14A	Wickenburg	75.24	48	⇑P	P	20 30 48.4	+0.1
	baz=75						
R11A	Troy Canyon, C	75.75	43	⇑P	P	20 30 50.9	-0.4
	baz=76						
TUC	Tucson	76.08	51	eP	P	20 30 53.8	+0.6
KSRS	Korea Array	76.13	315	LR	LR	21 04 30.8	
	comp=Z,87nm,18.2s,baz=287,slow=36						
R13A	O'Grain Ranch,	76.73	44	⇓P	P	20 30 57.0	+0.1
	baz=77						
CCUT	Cedar City	76.82	45	eP	P	20 30 58.9	+1.5
ARUT	Antelope Range	76.89	45	eP	P	20 30 57.2	-0.5
	7.1nm,1.0s						
U15A	North Rim	76.99	46	⇓P	P	20 30 57.3	-1.2
	baz=77						
ELK	Elko	77.27	41	eP	P	20 31 00.8	+0.9
USRK	Ussuriysk Arra	77.31	323	LR	LR	20 59 41.1	
	comp=Z,134nm,21.1s,baz=134,slow=32						
220A	Playas Peak, P	77.60	52	⇓P	P	20 31 02.3	+0.5
	baz=78						
Z20A	Nine Sixteen R	78.09	51	⇑P	P	20 31 05.1	+0.5
	baz=78						
MSU	Marysvale	78.11	45	eP	P	20 31 05.8	+1.2
BMO	Blue Mountains	78.31	37	eP	P	20 31 03.2	-2.2
	8.3nm,1.4s						
MFID	Camas Ranch	78.37	39	eP	P	20 31 06.4	+0.5
MFID	Camas Ranch	78.37	39	⇑P	P	20 31 05.4	-0.4
	baz=79						
121A	Cookes Peak, D	78.44	52	⇓P	P	20 31 06.5	0.0
	baz=79						
DUG	Dugway	78.55	43	eP	P	20 31 07.8	+0.8
DUG	Dugway	78.55	43	⇓P	P	20 31 06.2	-0.7
	baz=79						
P15A	Leamington	78.58	44	⇓P	P	20 31 06.6	-0.5
	baz=79						
Y20A	Horse Springs,	78.61	50	⇑P	P	20 31 07.5	0.0
	baz=79						
S17A	Black Ridge (B	78.62	46	⇓P	P	20 31 07.0	-0.3
	baz=79						
MDJ	Mudanjiang	78.96	322	P	P	20 31 09.5	+0.7
MDJ				pP	pP	20 31 13.2	-0.4
MDJ				S	S	20 41 08.4	+1.3
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,91nm,4.9s						
MDJ				LR	LR		
	comp=N,58nm,35.4s						
MDJ				LR	LR		
	comp=E,84nm,41.3s						
MDJ				LR	LR		
	comp=Z,150nm,33.9s						
I12A	Atlanta	79.00	39	⇑P	P	20 31 10.6	+1.2
	baz=79						
R17A	Hanksville Air	79.07	45	⇓P	P	20 31 09.6	-0.2
	baz=79						
W20A	Ramah	79.08	49	⇑P	P	20 31 10.2	+0.2
	baz=79						
U19A	Dine' College,	79.10	48	⇑P	P	20 31 11.8	+1.6
	baz=79						
TMUT	Trail Mountain	79.16	44	eP	P	20 31 12.2	+1.7
S18A	Hurst Farm, Bl	79.21	46	⇓P	P	20 31 11.1	+0.3
	baz=79						
L14A	Malta	79.23	41	⇑P	P	20 31 10.6	0.0
	baz=79						
X21A	Alamocita Cree	79.29	50	⇓P	P	20 31 11.3	0.0
	baz=80						
HLID	Hailey	79.31	39	eP	P	20 31 10.6	-0.5
HLID	Hailey	79.31	39	⇓P	P	20 31 11.9	+0.8
	baz=80						
J13A	Cove Ranch, Pi	79.37	39	⇑P	P	20 31 09.9	-1.5
	baz=80						
Z22A	Elephant Butte	79.38	51	⇑P	P	20 31 11.8	+0.1
	baz=80						
M15A	Larsen Ranch,	79.44	42	⇑P	P	20 31 11.6	-0.2
	baz=80						
SRU	San Rafael	79.53	45	eP	P	20 31 13.4	+1.0
SRU	San Rafael	79.53	45	⇑P	P	20 31 12.1	-0.3
	baz=80						
K14A	Jones Ranch, D	79.54	41	⇑P	P	20 31 11.9	-0.3
	baz=80						
H12A	Diamond D Ranc	79.59	38	⇓P	P	20 31 11.4	-1.2
	baz=80,SNR=7.5						
R18A	Canyonlands Na	79.61	46	⇑P	P	20 31 12.2	-0.6
	baz=80						
G12A	Big Creek, Yel	79.63	38	⇓P	P	20 31 11.3	-1.4
	baz=80						
U20A	Newcomb	79.63	48	⇑P	P	20 31 12.3	-0.7
	baz=80						
JLU	Jordanelle	79.65	43	eP	P	20 31 13.8	+0.8
Y22A	Socorro	79.67	51	⇓P	P	20 31 12.8	-0.4
	baz=80						
DAU	Daniels Canyon	79.68	43	eP	P	20 31 13.9	+0.6
	comp=Z,3.0nm,0.6s						
I13A	Wildhorse Cree	79.69	39	⇑P	P	20 31 12.4	-0.7
	baz=80						
324A	Moseley Ranch,	79.74	53	⇑P	P	20 31 13.0	-0.6
	baz=80						
J14A	Carey	79.74	40	⇓P	P	20 31 14.2	+0.8
	baz=80						
L15A	Malad City	79.76	41	⇓P	P	20 31 12.7	-0.8
	baz=80						
Q18A	Rafter H Ranch	79.79	45	⇑P	P	20 31 12.9	-0.8
	baz=80						
N16A	Rees Ranch, Co	79.80	43	⇓P	P	20 31 14.1	+0.3
	baz=80						
425A	Indio Mountain	79.85	54	⇓P	P	20 31 14.5	+0.3
	baz=80,SNR=8.3						
M16A	Huntsville	79.89	42	⇓P	P	20 31 13.9	-0.4
	baz=80						
O17A	Robinson Place	79.92	44	⇓P	P	20 31 13.6	-0.9
	baz=80						
H13A	Challis	79.95	38	⇓P	P	20 31 13.5	-1.0
	baz=80						
224A	Cornudas Mount	79.97	53	⇓P	P	20 31 15.3	+0.4
	baz=80						
P18A	Preston Nutter	79.97	44	⇑P	P	20 31 14.0	-0.9
	baz=80						
V21A	Milan	80.01	49	⇓P	P	20 31 14.6	-0.5
	baz=80						
F12A	Elk City	80.02	37	⇑P	P	20 31 14.0	-0.8
	baz=80,SNR=18						
K15A	Arbon	80.02	41	⇑P	P	20 31 14.3	-0.6
	baz=80						
626A	Big Bend Ranch	80.03	56	⇓P	P	20 31 15.6	+0.4
	baz=80,SNR=6.7						
MVCO	Mesa Verde	80.03	47	eP	P	20 31 23.6	+8.4
HWUT	Hardware Ranch	80.08	42	eP	P	20 31 14.6	-0.8
	comp=Z,4.2nm,1.0s						
LPM	Los Pinos Moun	80.09	50	eP	P	20 31 17.0	+1.5
325A	Bean Ranch, Si	80.11	54	⇓P	P	20 31 15.7	+0.1
	baz=80						
NJ2	Nanjing	80.18	307	eP	P	20 31 15.4	-0.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
E12A	Beaver Dam Sad	80.20	36	⇑P	P	20 31 15.2	-0.6
	baz=80						
G13A	Cobalt	80.25	38	⇑P	P	20 31 15.3	-0.8
	baz=80,SNR=7.5						
526A	Mary Lane Ranc	80.27	55	⇓P	P	20 31 16.4	-0.1
	baz=80						
124A	Stringfield Ra	80.29	52	⇓P	P	20 31 17.1	+0.5
	baz=80						
TXAR	Lajitas Array	80.31	56	P	P	20 31 17.4	+0.6
	comp=Z,3.2nm,1.1s,baz=235,slow=4.4,SNR=13						
TXAR				LR	LR	20 58 52.4	
	comp=Z,268nm,21.1s,baz=180,slow=30						
TXAR	Lajitas Array	80.31	56	P	P	20 31 17.4	+0.6
L16A	Fish Haven	80.37	42	⇓P	P	20 31 15.9	-1.0
	baz=81						
NEW	Newport	80.40	34	⇑P	P	20 31 15.8	-0.9
	baz=81						
PV01	Paradox Valley	80.41	46	P	P	20 31 17.1	-0.2
S20A	Disappointment	80.42	47	⇑P	P	20 31 17.2	-0.1
	baz=81						
J15A	Blackfoot	80.45	40	⇑P	P	20 31 17.0	-0.2
	baz=81,SNR=11						
ANMO	Albuquerque	80.49	50	LR	LR	21 00 24.4	
	comp=Z,248nm,18.8s,baz=260,slow=31						
H14A	Leadore	80.52	39	⇓P	P	20 31 16.6	-1.0
	baz=81,SNR=7.2						
225A	Deer Hill, Car	80.53	53	⇓P	P	20 31 18.2	+0.3
	baz=81						
426A	McDonald Obser	80.56	55	⇑P	P	20 31 17.9	-0.2
	baz=81						
F13A	Darby	80.58	37	⇑P	P	20 31 17.0	-0.8
	baz=81						
627A	Terlingua Ranc	80.58	56	⇑P	P	20 31 18.4	+0.3
	baz=81,SNR=11						
T21A	Navajo Lake	80.62	48	⇓P	P	20 31 18.1	-0.3
	baz=81						
C11A	Tepee Creek (N	80.63	35	⇓P	P	20 31 17.9	0.0
	baz=81						
527A	Woodward Ranch	80.68	55	⇑P	P	20 31 18.8	+0.1
	baz=81						
D12A	Red Ives Fores	80.69	36	⇑P	P	20 31 17.9	-0.4
	baz=81						
K16A	Soda Springs	80.69	41	⇓P	P	20 31 18.2	-0.3
	baz=81,SNR=6.0						
S21A	Coal Bank Pass	80.74	47	⇑P	P	20 31 19.0	-0.1
	baz=81,SNR=11						
L17A	Cokeville	80.78	42	⇓P	P	20 31 18.1	-0.9
	baz=81						
G14A	Jackson	80.80	38	⇑P	P	20 31 18.5	-0.6
	baz=81						
W23A	Werner Place,	80.81	50	⇑P	P	20 31 19.0	-0.5
	baz=81						
Y24A	Capitan	80.82	51	⇑P	P	20 31 19.4	-0.1
	baz=81						
P19A	Cripple Cowboy	80.83	45	⇑P	P	20 31 19.0	-0.4
	baz=81						
326A	Caldwell Ranch	80.86	54	⇑P	P	20 31 20.2	+0.6
	baz=81						
125A	Gardner Draw,	80.88	53	⇑P	P	20 31 20.3	+0.6
	baz=81						
J16A	Bone	80.90	41	⇓P	P	20 31 19.2	-0.5
	baz=81,SNR=10						
H15A	Lima	80.96	39	⇓P	P	20 31 19.9	0.0
	baz=81,SNR=10						
M18A	Lyman	80.97	43	⇓P	P	20 31 20.0	-0.1
	baz=81						
Q20A	Ridgley Place,	80.98	46	⇓P	P	20 31 20.0	-0.2
	baz=81						
628A	Black Gap, Mar	81.00	56	⇑P	P	20 31 20.5	+0.2
	baz=81						
N18A	Larsen Ranch,	81.01	43	⇑P	P	20 31 19.7	-0.6
	baz=81						
E13A	Victor	81.02	37	⇓P	P	20 31 19.3	-0.8
	baz=81						
K17A	Gardner Place,	81.07	41	⇓P	P	20 31 20.5	-0.2
	baz=81						
T22A	Edith	81.08	48	⇑P	P	20 31 20.5	-0.4
	baz=81						
Z25A	Roswell	81.09	52	⇓P	P	20 31 20.7	-0.1
	baz=81						
RRI2	Red Ridge	81.12	41	eP	P	20 31 18.1	-2.9
	comp=Z,6.9nm,0.9s						
427A	Hayter Ranch,	81.12	55	⇓P	P	20 31 21.9	+0.8
	baz=81,SNR=9.7						
F14A	Wisdom	81.15	38	⇑P	P	20 31 20.3	-0.7
	baz=81						
P20A	De Beque	81.17	45	⇑P	P	20 31 20.2	-1.0
	baz=81						
D13A	Huson	81.22	36	⇑P	P	20 31 19.7	-1.4
	baz=81						
R21A	Cimarron	81.23	46	⇓P	P	20 31 20.6	-1.0
	baz=81						
I16A	Newdale	81.28	40	⇑P	P	20 31 21.1	-0.6
	baz=82						
N19A	John Jarvie Ra	81.30	44	⇑P	P	20 31 21.1	-0.8
	baz=82						
G15A	Dillon	81.34	39	⇑P	P	20 31 21.5	-0.4
	baz=82,SNR=9.8						
528A	Cox Ranch, San	81.34	56	⇓P	P	20 31 22.3	+0.1
	baz=82,SNR=8.8						
126A	Clayton Basin,	81.36	53	⇓P	P	20 31 22.5	+0.3
	baz=82						
MSO	Missoula	81.37	37	⇑P	P	20 31 21.4	-0.5
	baz=82						
E14A	Clinton	81.41	37	⇑P	P	20 31 21.1	-1.1
	baz=82						
REDW	Red Top Meadow	81.42	41	eP	P	20 31 22.8	+0.3
TPAW	Teton Pass	81.42	41	eP	P	20 31 22.5	-0.1
	comp=Z,11nm,1.1s						
BSMT	Bassoo Peak	81.45	35	eP	P	20 31 21.9	-0.6
S22A	4UR Ranch, Cre	81.46	47	⇓P	P	20 31 23.2	+0.3
	baz=82,SNR=8.3						
C13A	Hot Springs	81.47	36	⇑P	P	20 31 21.1	-1.3
	baz=82						
K18A	Toltan Ranch,	81.58	42	⇑P	P	20 31 22.9	-0.4

baz=82
IMW Indian Meadow 81.64 40 eP P 20 31 22.6 -1.1
comp=Z,17nm,1.4s
428A Kincaid Ranch, 81.64 55 ⇓P P 20 31 24.3 +0.6
baz=82
Z26A Caprock 81.65 52 ⇑P P 20 31 24.8 +1.1
baz=82,SNR=6.6
F15A Butte 81.69 38 ⇓P P 20 31 22.5 -1.3
baz=82
LOHW Long Hollow 81.70 41 eP P 20 31 23.4 -0.6
comp=Z,11nm,1.4s
LRM Limekiln Ridge 81.70 38 eP P 20 31 23.8 -0.2
R22A Saguache, Gunn 81.73 47 ⇑P P 20 31 24.7 +0.4
baz=82
D14A Greenough 81.76 37 ⇓P P 20 31 22.9 -1.2
baz=82
529A Stev Forest Ra 81.78 56 ⇑P P 20 31 24.4 0.0
baz=82
G16A Moss Hill, Enn 81.78 39 ⇑P P 20 31 24.0 -0.3
baz=82,SNR=5.4
328A Wristen Ranch, 81.80 54 ⇑P P 20 31 25.1 +0.5
baz=82
QLMT Earthquake Lak 81.81 39 eP P 20 31 26.0 +1.5
CHMT Chamberlain Mo 81.81 37 eP P 20 31 23.9 -0.6
H16A Russell Place, 81.85 39 ⇓P P 20 31 25.3 +0.6
baz=82,SNR=12
J18A Kendall Valley 81.87 41 ⇑P P 20 31 24.7 -0.3
baz=82,SNR=14
FLWY Flagg Ranch 81.88 40 eP P 20 31 26.0 +1.1
N20A Spence Gulch, 81.88 44 ⇓P P 20 31 24.9 -0.1
baz=82,SNR=8.8
Q22A Crested Butte, 81.90 46 ⇑P P 20 31 25.4 +0.1
baz=82,SNR=11
E15A Deer Lodge 81.91 37 ⇑P P 20 31 24.6 -0.3
baz=82,SNR=6.2
B13A Whitefish 81.92 35 ⇓P P 20 31 24.6 -0.2
baz=82
BW06 Boulder Array 81.95 42 ⇓P P 20 31 24.1 -1.2
baz=82
PDAR Pinedale Array 81.95 42 P P 20 31 24.8 -0.6
comp=Z,2.1nm,0.9s,baz=222,slow=2.0,SNR=16
PDAR LR LR 21 03 06.4
comp=Z,302nm,18.1s,baz=245,slow=32
PDAR Pinedale Array 81.95 42 P P 20 31 24.8 -0.6
C14A Swan Lake 81.99 36 ⇓P P 20 31 24.8 -0.5
baz=82
YMR Madison River 82.01 40 eP P 20 31 26.3 +0.8
comp=Z,62nm,1.7s
COLA College 82.09 11 eP P 20 31 23.9 -1.3
comp=Z,23nm,0.8s
W25A X Bar L Ranch, 82.09 50 ⇑P P 20 31 25.8 -0.3
baz=82,SNR=6.2
BOZ Bozeman (W) 82.10 39 eP P 20 31 25.5 -0.5
comp=Z,13nm,1.4s
BOZ Bozeman (W) 82.10 39 ⇓P P 20 31 25.4 -0.5
baz=82
H17A Grant Village 82.11 40 ⇑P P 20 31 26.0 -0.2
baz=82
ILAR Eielson Array 82.17 11 P P 20 31 24.5 -1.1
comp=Z,4.8nm,0.9s,baz=219,slow=6.0,SNR=26
ILAR LR LR 21 00 40.7
comp=Z,119nm,20.8s,baz=197,slow=30
ILAR Eielson Array 82.17 11 P P 20 31 24.5 -1.1
YNR Norris Junctio 82.21 40 eP P 20 31 28.4 +1.8
comp=Z,25nm,1.4s
429A Davenport Ranc 82.23 55 ⇓P P 20 31 26.8 -0.1
baz=82
M20A Sweetwater, Wa 82.24 43 ⇓P P 20 31 26.5 -0.4
baz=82
Z27A Tatum 82.25 53 ⇓P P 20 31 27.5 +0.5
baz=82
X26A CR and CF Fran 82.30 51 ⇑P P 20 31 27.5 +0.2
baz=82
D15A Lincoln 82.31 37 ⇓P P 20 31 26.6 -0.4
baz=82
N21A Black Mountain 82.35 44 ⇑P P 20 31 27.5 0.0
baz=82,SNR=13
R23A Moffat 82.37 47 ⇑P P 20 31 27.9 +0.2
baz=83
L20A Wamsutter 82.38 43 ⇑P P 20 31 27.4 -0.1
baz=83,SNR=9.1
T24A Torres, Weston 82.44 48 ⇓P P 20 31 28.0 0.0
baz=83
329A Wagon Wheel Ra 82.49 55 ⇑P P 20 31 28.4 +0.2
baz=83
530A J-C Ranch, Com 82.49 56 ⇑P P 20 31 28.4 +0.2
baz=83
J19A Crowheart 82.52 42 ⇑P P 20 31 27.7 -0.5
baz=83
Y27A Causey 82.52 52 ⇓P P 20 31 28.0 -0.4
baz=83
E16A East Helena 82.53 38 ⇑P P 20 31 27.6 -0.5
baz=83,SNR=9.5
HRY Holter Researc 82.53 38 eP P 20 31 28.0 -0.1
128A Castleberry Fa 82.54 53 ⇓P P 20 31 28.5 +0.1
baz=83
S24A Houchin Ranch, 82.57 48 ⇑P P 20 31 29.0 +0.2
baz=83,SNR=6.5
B14A Marquette Ranc 82.58 36 ⇑P P 20 31 27.9 -0.5
baz=83
WALA Waterton Lakes 82.60 35 eP P 20 31 25.5 -2.9
comp=Z,0.6nm,1.8s
U25A Circle Dot Ran 82.62 49 ⇑P P 20 31 29.0 0.0
baz=83
C15A Salmond Ranch, 82.64 36 ⇑P P 20 31 27.8 -0.8
baz=83
K20A Yellowstone Ra 82.69 42 ⇓P P 20 31 28.9 -0.2
baz=83,SNR=5.3
O22A Kremmling 82.74 45 ⇑P P 20 31 29.7 +0.1
baz=83,SNR=17
229A Bryant Ranch, 82.81 54 ⇓P P 20 31 30.5 +0.7
baz=83
H18A Shoshone NF, C 82.82 40 ⇑P P 20 31 30.1 +0.3
baz=83
F17A Fitzpatrick Pl 82.82 39 ⇓P P 20 31 29.7 0.0
baz=83,SNR=8.7
A14A Double T Ranch 82.83 35 ⇓P P 20 31 29.1 -0.5
baz=83
V26A Tequesquite Ra 82.83 50 ⇑P P 20 31 30.1 +0.2
baz=83
631A Perdido Creek 82.83 57 ⇓P P 20 31 30.4 +0.5
baz=83
M21A Separation Pea 82.84 44 ⇑P P 20 31 29.7 -0.3
baz=83,SNR=12
MSTX Muleshoe 82.85 52 ⇑P P 20 31 30.2 +0.2
baz=83
D16A Dana Ranch, Ca 82.87 37 ⇓P P 20 31 29.6 -0.3
baz=83,SNR=8.5
X27A F and S Farms, 82.88 51 ⇑P P 20 31 30.3 +0.1
baz=83
R24A Sanders Place, 82.89 47 ⇑P P 20 31 30.9 +0.6
baz=83,SNR=8.3
I19A Meeteetse 82.93 41 ⇑P P 20 31 30.3 -0.1
baz=83,SNR=5.8
T25A Trinidad 82.93 49 ⇓P P 20 31 30.0 -0.5
baz=83
B15A Bradely Ranch, 82.95 36 ⇑P P 20 31 29.4 -0.9
baz=83
E17A Martinsdale 82.98 38 ⇓P P 20 31 30.2 -0.4
baz=83
L21A Rawlins 83.00 43 ⇓P P 20 31 30.3 -0.5
baz=83,SNR=7.8
129A Stewart Farms, 83.03 54 ⇑P P 20 31 31.3 +0.4
baz=83
W27A Bowe Ranch, En 83.07 51 ⇑P P 20 31 30.9 -0.3
baz=83
N22A Wattenberg Ran 83.09 45 ⇑P P 20 31 31.7 +0.4
baz=83,SNR=18
S25A Robets Cordova 83.13 48 ⇑P P 20 31 31.5 0.0
baz=83
531A Rocksprings 83.14 56 ⇓P P 20 31 31.9 +0.4
baz=83
DAWY Dawson 83.14 14 eP P 20 31 30.0 -0.7
C16A Fuhringer Ranc 83.15 37 ⇑P P 20 31 30.8 -0.5
baz=83
Q24A Divide 83.18 47 ⇓P P 20 31 31.8 -0.1
baz=83,SNR=6.1
J20A Shoshoni 83.18 42 ⇓P P 20 31 31.5 -0.1
baz=83,SNR=11
O23A Lake Granby, G 83.19 45 ⇑P P 20 31 31.6 -0.3
baz=83
G18A Lazy EL Ranch, 83.19 40 ⇓P P 20 31 31.6 -0.1
baz=83,SNR=8.9
A15A Johnson Ranch, 83.21 35 ⇓P P 20 31 30.9 -0.7
baz=83,SNR=9.0
ISCO Idaho Springs 83.22 46 eP P 20 31 32.4 +0.3
ISCO Idaho Springs 83.22 46 ⇑P P 20 31 31.8 -0.3
baz=83
H19A Powell 83.24 40 ⇑P P 20 31 32.1 +0.2
baz=83,SNR=8.5
M22A Cedar Creek Ra 83.26 44 ⇓P P 20 31 31.5 -0.7
baz=83
RLMT Red Lodge 83.28 40 ⇑P P 20 31 31.5 -0.6
baz=84
EGAK Eagle 83.34 13 eP P 20 31 31.4 -0.3
K21A Alcova 83.39 43 ⇑P P 20 31 32.7 0.0
baz=84
F18A Big Timber 83.39 39 ⇓P P 20 31 32.4 -0.2
baz=84,SNR=6.4
D17A Six Diamond Ra 83.43 38 ⇓P P 20 31 32.4 -0.4
baz=84,SNR=14
I20A Worland 83.43 41 ⇓P P 20 31 32.6 -0.2
baz=84,SNR=10
N23A Red Feather La 83.47 45 ⇑P P 20 31 33.4 +0.1
baz=84,SNR=7.0
B16A M & M Farms, S 83.49 36 ⇑P P 20 31 32.3 -0.7
baz=84
632A Uvalde 83.51 57 ⇓P P 20 31 33.9 +0.4
baz=84
J21A Lysite 83.59 42 ⇓P P 20 31 33.6 -0.1
baz=84,SNR=17
E18A Harlowton 83.60 38 ⇓P P 20 31 33.6 -0.1
baz=84,SNR=14
C17A Wharram Farm, 83.63 37 ⇑P P 20 31 33.5 -0.2
baz=84,SNR=24
532A Rocksprings 83.64 57 ⇓P P 20 31 34.6 +0.5
baz=84
L22A Ellis Ranch, M 83.65 44 ⇑P P 20 31 34.0 -0.1
baz=84
H20A Greybull 83.77 41 ⇑P P 20 31 34.2 -0.3
baz=84
S26A Kim 83.81 49 ⇑P P 20 31 34.6 -0.3
baz=84
A16A West Butte Ran 83.83 36 ⇑P P 20 31 34.3 -0.5
baz=84
F19A Roth Farm, Mol 83.84 39 ⇓P P 20 31 34.3 -0.6
baz=84
JCT Junction City 83.85 56 ⇑P P 20 31 35.8 +0.6
baz=84
K22A Casper 83.87 43 ⇓P P 20 31 35.1 -0.1
baz=84
M23A Laramie 83.88 44 ⇑P P 20 31 34.9 -0.5
baz=84
I21A Big Trails, Te 83.91 42 ⇓P P 20 31 34.6 -0.7
baz=84
B17A L&G Farms, Che 83.95 37 ⇑P P 20 31 34.7 -0.6
baz=84
231A Bronte 83.98 55 ⇑P P 20 31 35.1 -0.7
baz=84
D18A Linhart Farms, 83.98 38 ⇑P P 20 31 35.2 -0.3
baz=84
G20A Bridger 83.98 40 ⇓P P 20 31 35.1 -0.6
baz=84
432A Menard 84.00 56 ⇑P P 20 31 36.1 +0.2
baz=84
P25A Willow Gulch B 84.10 47 ⇑P P 20 31 36.0 -0.5
baz=84
W29A Amraillo 84.16 51 ⇑P P 20 31 36.8 +0.1
baz=84
N24A Carr 84.17 45 ⇑P P 20 31 36.7 -0.1
baz=84
L23A Garrett 84.18 44 ⇑P P 20 31 36.5 -0.4
baz=84,SNR=7.8
E19A Rath Farm, Rou 84.23 39 ⇑P P 20 31 36.3 -0.5
baz=84
J22A Midwest 84.25 42 ⇑P P 20 31 36.7 -0.4
baz=84
F20A Billings 84.30 40 ⇓P P 20 31 38.1 +0.9
baz=84
PMSA Palmer Station 84.31 156 eP P 20 31 39.5 +2.7
A17A Triple J Farms 84.34 36 ⇑P P 20 31 36.8 -0.5
baz=84
EGMT Eagleton 84.42 37 ⇓P P 20 31 37.3 -0.5
baz=85
H21A Big Horn, Sher 84.44 41 ⇑P P 20 31 37.6 -0.4
baz=85
I22A 9 Mile Ranch, 84.46 42 ⇓P P 20 31 37.9 -0.2
baz=85,SNR=10
M24A Cheyenne 84.48 45 ⇓P P 20 31 37.9 -0.5
baz=85
D19A Cripps Ranch, 84.51 38 ⇓P P 20 31 37.8 -0.5
baz=85
K23A Bowen Ranch, D 84.51 43 ⇑P P 20 31 37.8 -0.6
baz=85
B18A Beardsley Farm 84.59 37 ⇓P P 20 31 38.2 -0.3
baz=85,SNR=5.6
E20A Meyer Farm, Mu 84.64 39 ⇑P P 20 31 38.3 -0.6
baz=85
C19A Slack Wire Ran 84.69 38 ⇑P P 20 31 39.0 0.0
baz=85,SNR=14
ABTX Abilene, Hawle 84.76 54 ⇓P P 20 31 40.3 +0.6
baz=85
A18A Metzger Ranch, 84.81 36 ⇓P P 20 31 39.4 -0.3
baz=85
D20A Manuel Ranch, 84.92 38 ⇑P P 20 31 40.3 0.0
baz=85,SNR=9.0
B19A Brinkman Farms 85.10 37 ⇑P P 20 31 41.8 +0.6
baz=85
G22A Birney 85.19 41 ⇓P P 20 31 42.1 +0.4
baz=85
C20A Veseth Ranch, 85.30 38 ⇓P P 20 31 42.0 -0.1
baz=86,SNR=8.5
J24A Dixon Ranch, L 85.40 43 ⇑P P 20 31 42.5 -0.3
baz=86
BJI Beijing 85.45 313 P P 20 31 43.4 +0.5
BJI S S 20 42 15.9 +2.0
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI pmax pmax
comp=Z,230nm,4.6s
BJI LR LR
comp=N,260nm,25.9s
BJI LR LR
comp=E,240nm,24.1s
BJI LR LR
comp=Z,86nm,24.8s
A19A Klindworth Far 85.45 37 ⇓P P 20 31 42.4 -0.5
baz=86
D21A La Casta Ranch 85.60 39 ⇑P P 20 31 43.5 -0.1
baz=86,SNR=6.3
K25A Mack Ranch, Ha 85.62 44 ⇑P P 20 31 43.9 -0.1
baz=86
B20A Solberg Farm, 85.63 37 ⇑P P 20 31 44.0 +0.2
baz=86
G23A Biddle 85.75 41 ⇓P P 20 31 44.4 -0.1
baz=86
C21A Desert Coulee 85.89 38 ⇓P P 20 31 44.8 -0.3
baz=86
A20A Cobblestone Ra 85.90 37 ⇓P P 20 31 44.7 -0.4
baz=86
F23A Volborg 85.97 41 ⇓P P 20 31 45.1 -0.4
baz=86
H24A Dirks Ranch, A 86.08 42 ⇑P P 20 31 45.8 -0.4
baz=86
K26A Motz Farm, Whi 86.12 44 ⇑P P 20 31 46.2 -0.2
baz=86
D22A Cohagen 86.13 39 ⇑P P 20 31 46.0 -0.3
baz=86
RSSD Black Hills 86.15 42 eP P 20 31 44.6 -2.1
comp=Z,16nm,1.4s
WHTX Lake Whitney 86.26 56 ⇑P P 20 31 47.3 +0.1
baz=86
A21A Bergtoll Ranch 86.53 37 ⇓P P 20 31 48.1 -0.1
baz=87
D23A Lindsay 86.73 39 ⇓P P 20 31 49.4 +0.2
baz=87
C23A Lambert 87.03 39 ⇑P P 20 31 50.1 -0.5
baz=87
B23A Brockton 87.44 38 ⇑P P 20 31 52.3 -0.4
baz=88
DGMT Dagmar 87.92 38 eP P 20 31 54.2 -0.7
comp=Z,25nm,1.2s
DGMT Dagmar 87.92 38 ⇑P P 20 31 55.2 +0.3
baz=88
INK Inuvik 87.99 14 P P 20 31 51.8 -2.9
comp=Z,4.5nm,0.9s,baz=244,slow=6.0,SNR=6.5
INK Inuvik 87.99 14 eP P 20 31 50.1 -4.6
comp=Z,12nm,1.3s
MAW Mawson 88.08 199 LR LR 21 07 54.6
comp=Z,273nm,18.8s,baz=315,slow=33
GYA Guiyang 88.11 298 P P 20 31 57.5 +1.1
GYA SKS SKSac 20 42 23.4 -1.7
GYA S S 20 42 39.6 -1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.0s
GYA LR LR
comp=N,510nm,18.3s
GYA LR LR
comp=E,480nm,19.0s
GYA LR LR
comp=Z,520nm,18.8s
YAK Yakutsk 88.97 337 P P 20 31 54.6 -4.9
HHC Hu-ho-hao-te 89.01 313 eP P 20 32 01.8 +1.4
HHC pP pP 20 32 08.9 +3.7
HHC PP PP 20 35 34.0 +3.6
HHC SKS SKSac 20 42 28.9 -1.0
HHC S S 20 42 50.0 +1.5
HHC sS sS 20 42 55.6 -0.9
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.0s
HHC LR LR
comp=N,100nm,14.3s
HHC LR LR
comp=E,200nm,16.7s
HHC LR LR
comp=Z,140nm,15.5s
PLCA Paso Flores 89.53 132 LR LR 21 04 33.2
comp=Z,132nm,19.4s,baz=319,slow=30
YKA Yellowknife Ar 89.80 23 P P 20 32 02.5 -0.8
comp=Z,2.0nm,0.8s,baz=239,slow=4.3,SNR=25
YKA Yellowknife Ar 89.80 23 P P 20 32 02.5 -0.8
KMI Kunming 91.10 296 P P 20 32 13.0 +2.4
KMI pmax pmax
comp=Z,5.0nm,1.5s
CD2 Chengdu 91.86 301 P P 20 32 14.8 +1.0
CD2 pP pP 20 32 19.6 +1.0
CD2 sP sP 20 32 21.8 +1.5
CD2 PP PP 20 35 56.8 +3.6
CD2 SKS SKSac 20 42 45.9 -0.7
CD2 S S 20 43 13.7 -1.3
CD2 sS sS 20 43 21.3 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.2s
CD2 LR LR
comp=N,430nm,6.5s
CD2 LR LR
comp=Z,300nm,4.8s
CMAR Chiang Mai Arr 92.73 288 LR LR 21 13 27.7
comp=Z,60nm,20.4s,baz=268,slow=35
ULM Lac du Bonnet 93.62 39 LR LR 21 09 38.0
comp=Z,425nm,19.3s,baz=268,slow=32
CFAA Coronel Fontan 94.42 124 LR LR 21 05 24.6
comp=Z,85nm,18.9s,baz=187,slow=29
SONM Songino Array 94.80 318 LR LR 21 08 29.8
comp=Z,153nm,21.4s,baz=164,slow=31
TKL Tuckaleechee C 98.21 55 LR LR 21 09 55.8
comp=Z,239nm,19.5s,baz=286,slow=31
MKAR Makanchi Array 110.80 315 PKiKP PKiKP 20 37 38.0 -0.3
comp=Z,0.2nm,0.7s,baz=114,slow=0.6,SNR=2.8
MKAR Makanchi Array 110.80 315 PKiKP PKiKP 20 37 38.0 -0.3
KSH Kashi 115.49 307 ePKP PKPdf 20 37 51.0 +3.4
KSH ePP PP 20 38 56.2 +6.7
KSH PKS PKSdf 20 41 22.1 -2.3
KSH SKS SKSdf 20 45 00.0 +0.4
KSH SKKS SKKSac 20 45 50.0 -0.6
KSH AMB AMB
comp=Z,110nm,6.6s
KSH LR LR
comp=N,66nm,7.9s
KSH LR LR
comp=E,87nm,9.0s
KSH LR LR
comp=Z,280nm,5.6s
ARU Arti 123.24 329 ePKPdf PKPdf 20 37 56.4 -5.4
ARCES ARCESS Array B 124.40 352 PKP PKPdf 20 38 03.0 -0.7
comp=Z,3.5nm,0.8s,baz=354,slow=2.4,SNR=5.9
ARCES ARCESS Array B 124.40 352 PKP PKPdf 20 38 03.0 -0.7
FINES FINESS Array B 131.75 348 PKP PKPdf 20 38 18.8 +0.9
comp=Z,1.1nm,0.7s,baz=217,slow=1.9,SNR=3.7
FINES FINESS Array B 131.75 348 PKP PKPdf 20 38 18.8 +0.9
CLL Collm 143.60 353 ePKPdf PKPdf 20 38 41.0 +1.0
KOLS Kolonicke sedl 144.00 343 ePKP PKPdf 20 38 40.1 -0.7
DPC Dobruska-Polom 144.06 350 ePKPdf PKPdf 20 38 40.4 -0.5
DPC epPKP PKiKP 20 38 43.2 -1.2
BUR08 Bucovina Ar. S 144.20 339 ePKPdf PKPab 20 38 39.1 +0.1
BURAR Bucovina Array 144.22 339 ⇑iP PKPab 20 38 38.4 -0.7
MORC Moravsky Berou 144.38 348 ⇑iP PKPdf 20 38 40.8 -0.7
TESR 144.61 336 ⇑iP PKPbc 20 38 40.8 +0.2
TRPA Tarpa 144.65 342 ⇑iP PKPab 20 38 40.3 -0.2
PRU Pruhonice 144.70 351 ePKP PKPdf 20 38 41.5 -0.4
PRU epPKP PKiKP 20 38 44.1 -1.6
NKC Novy Kostel 144.72 354 ePKP PKPdf 20 38 44.9 +2.9
CFR Carcaliu 145.07 333 ⇑iP PKPbc 20 38 40.2 -1.9
DOU Dourbes 145.11 2 PKP PKPbc 20 38 41.4 -0.6
DOU APKP PKiKP 20 38 46.3 -0.2
VRI Vrincioaia 145.11 335 ⇓iP PKPbc 20 38 40.9 -1.4
PLOR Plostina 145.15 335 ⇑iP PKPdf 20 38 43.5 +0.6
VYHS Vyhne 145.31 346 ePKP PKPbc 20 38 41.2 -1.6
GRFO Grafenberg 145.37 355 ePKPdf PKPbc 20 38 41.6 -1.4
RUP Ruppelstein 145.55 360 PKP PKPdf 20 38 43.4 -0.1
WLF Walferdange 145.58 1 PKP PKPab 20 38 45.0 +1.2
WLF Walferdange 145.58 1 ePKPdf PKPdf 20 38 40.5 -3.0
PSZ Piszkesteto 145.58 344 ePKPdf PKPdf 20 38 41.0 -2.6
PSZ Piszkesteto 145.58 344 ⇑iP PKPab 20 38 44.3 +0.3
KHC Kasperske Hory 145.67 352 ePKPdf PKPdf 20 38 42.3 -1.4
KHC Kasperske Hory 145.67 352 ePKP PKPdf 20 38 43.2 -0.5
KHC epPKP PKiKP 20 38 47.5 -0.2
MLR Muntele Rosu 145.73 336 ⇑iP PKPbc 20 38 44.7 +0.3
DRGR 145.78 340 ⇑iP PKPdf 20 38 43.7 -0.3
GERES GERESS Array B 145.93 352 PKPbc PKPdf 20 38 44.3 +0.1
comp=Z,8.1nm,1.1s,baz=27,slow=3.3,SNR=15
GERES GERESS Array B 145.93 352 PKPbc PKPdf 20 38 44.3 +0.1
BR131 Keskin Array S 146.09 321 ePKPbc PKPdf 20 38 45.0 +0.1
BRTR Keskin Array B 146.09 321 PKPbc PKPbc 20 38 45.8 +0.1
comp=Z,5.8nm,0.7s,baz=100,slow=2.6,SNR=29
BRTR Keskin Array B 146.09 321 PKPbc PKPbc 20 38 45.8 +0.1
VOIR 146.12 337 ⇑iP PKPbc 20 38 45.5 -0.1
CONA Conrad Observa 146.47 349 ⇑iPKPdf PKPdf 20 38 43.0 -2.2
comp=Z,21nm,2.1s
BFO Black Forest 146.90 358 ePKPdf PKPdf 20 38 43.6 -2.2
ECH Echery 147.03 360 ePKPdf PKPdf 20 38 43.8 -2.2
ECH PKP PKiKP 20 38 50.3 -0.3
SPAK Spaichingen-Ko 147.11 358 PKP PKPbc 20 38 48.4 +0.1
BZS Buzias 147.17 341 ⇑iP PKPdf 20 38 47.0 +0.7
ARSA Arzberg 147.19 349 ⇑ipPKPbc PKPab 20 38 49.5 -0.6
comp=Z,12nm,1.4s
FELD Feldberg im Sc 147.36 359 PKP PKPbc 20 38 49.9 +0.8
PKSM Moragy 147.49 345 ⇑iP PKPbc 20 38 48.3 -1.0
SOKA Soboth 147.83 349 ⇑ipPKPdf PKPbc 20 38 49.4 -1.0
comp=Z,9.3nm,1.2s
PLDF La Plantade 149.17 4 PKP PKPab 20 39 02.4 +4.3
VTS Vitosha 149.24 336 ⇓iP PKPdf 20 38 49.0 -1.0
LBL Lubilhac 149.87 5 PKP PKPab 20 39 00.4 -0.6
ESDC Sonseca Array 153.81 19 PKPab PKPab 20 39 15.2 -2.4
comp=Z,1.3nm,0.8s,baz=324,slow=3.4,SNR=4.7
ESDC Sonseca Array 153.81 19 PKPab PKPab 20 39 15.2 -2.4

*IDC **06** 20:58:16.7±5.2,23.32N×94.96E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/25,mbtmp3.4/3,MS3.3/1,Ms1 3.3/1, ms1mx2.5/33,Error ellipse: s-maj=465.8km s-min=26.1km az=60.0*

ISC 06 20:58:17.3±1.4,23.1N±0.2×94.5E±0.2,h10km,n6,σ0.9 45/6, mb3.4/3,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.74	343	eP	Pg	20 58 56.0	+5.4
IMP				eS	Sg	20 59 13.0	-0.2
SHL	Shillong	3.40	316	ePN	Pb	20 59 17.5	-0.3
SHL				eSN	Sn	20 59 51.5	+0.3
MKAR	Makanchi Array	25.59	340	P	P	21 03 47.1	+0.5
	0.9nm,0.6s,baz=145,slow=10.0,SNR=13						
KAPI	Kappang	37.29	135	LR	LR	21 21 27.2	
	comp=Z,44nm,19.2s,baz=202,slow=37						
WRA	Warramunga Arr	57.82	135	P	P	21 08 09.0	-0.3
	0.2nm,0.5s,baz=322,slow=7.6,SNR=4.6						
ASAR	Alice Springs	60.24	138	P	P	21 08 26.1	+0.1
	0.2nm,0.6s,baz=317,slow=8.1,SNR=3.0						

*IDC **06** 21:02:22.9±1.8,43.66N×105.37W,h0km,mb3.7/5, mb1 3.8/9,mb1mx3.6/31,mbtmp3.6/9,ML3.1/3,Error*

ellipse: s-maj=50.5km s-min=8.3km az=149.0

*ISCJB **06** 21:02:23.5±0.2, 43°.79N±0°.01×105°.28W±0°.02, h0km, mb3.8/5, Error ellipse: s-maj=2.2km s-min=1.6km az=155.6*

*NEIC **06** 21:02:24.4±0.5, 43°.82N×105°.14W, h0km, ML3.4, Error ellipse: s-maj=7.8km s-min=6.4km az=175.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] SSE of Gillette.

ISC 06 21:02:23.8±0.5**, 43°.76N**±0°.02×**105°.23W**±0°.02**, h0km, n204, σ1s.15**/228**, mb3.7**/5**, 78C-73D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.26**	**320**	⇑P	**Pg**	**21 02 30.1**	**+1.4**
	baz=0.3,SNR=133						
I23A				⇑S	**Sg**	**21 02 32.9**	**+0.8**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.43**	**213**	P	**Pg**	**21 02 32.4**	**+0.5**
	baz=0.5,SNR=59						
J23A				⇑S	**Sg**	**21 02 37.5**	**0.0**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.45**	**77**	P	**Pb**	**21 02 34.4**	**-0.3**
	baz=0.4,SNR=198						
I24A				⇑S	**Sb**	**21 02 41.4**	**-0.6**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.60**	**136**	⇓P	**Pg**	**21 02 36.5**	**+1.2**
	baz=0.6,SNR=57						
H23A	**Clabaugh Cattl**	**0.81**	**352**	P	**Pg**	**21 02 40.1**	**+0.8**
	baz=0.8,SNR=42						
I22A	**9 Mile Ranch,**	**0.91**	**279**	P	**Pg**	**21 02 41.2**	**0.0**
	baz=1.0,SNR=754						
J22A	**Midwest**	**0.97**	**249**	P	**Pg**	**21 02 41.6**	**-0.7**
	baz=1.1,SNR=91						
K23A	**Bowen Ranch, D**	**1.05**	**196**	⇑P	**Pg**	**21 02 44.1**	**+0.2**
	baz=1.1						
K24A	**Anderson Ranch**	**1.08**	**163**	⇓P	**Pg**	**21 02 45.1**	**+0.6**
	baz=1.1,SNR=17						
K24A				⇑S	**Sb**	**21 03 00.6**	**+0.4**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.10**	**26**	⇑P	**Pg**	**21 02 45.4**	**+0.6**
	baz=1.0						
H22A	**Clearmont**	**1.16**	**316**	⇑P	**Pg**	**21 02 46.0**	**+0.1**
	baz=1.2,SNR=78						
G23A	**Biddle**	**1.44**	**356**	⇑P	**Pn**	**21 02 51.1**	**-0.1**
	baz=1.4,SNR=246						
K22A	**Casper**	**1.46**	**221**	⇓P	**Pn**	**21 02 50.5**	**-1.0**
	baz=1.5,SNR=116						
I21A	**Big Trails, Te**	**1.49**	**273**	⇓P	**Pn**	**21 02 50.3**	**-1.7**
	baz=1.6						
I21A				⇓S	**Sg**	**21 03 11.0**	**-0.7**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.52**	**139**	⇑P	**Pg**	**21 02 53.3**	**+0.4**
	baz=1.5,SNR=84						
K25A				⇓S	**Sn**	**21 03 14.7**	**+1.7**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.56**	**304**	⇑P	**Pn**	**21 02 53.0**	**+0.1**
	baz=1.6,SNR=109						
H21A				⇑S	**Sn**	**21 03 13.9**	**0.0**
	baz=1.6						
G22A	**Birney**	**1.64**	**333**	⇑P	**Pn**	**21 02 54.7**	**+0.8**
	baz=1.6,SNR=43						
J21A	**Lysite**	**1.66**	**256**	⇑P	**Pn**	**21 02 53.4**	**-0.9**
	baz=1.7,SNR=44						
J21A				⇓S	**Sn**	**21 03 16.0**	**-0.5**
	baz=1.7						
G24A	**Alzada**	**1.67**	**20**	⇑P	**Pb**	**21 02 55.7**	**+0.2**
	baz=1.6,SNR=25						
L23A	**Garrett**	**1.68**	**192**	⇓P	**Pn**	**21 02 54.4**	**-0.2**
	baz=1.8,SNR=283						
L23A				⇑S	**Sg**	**21 03 17.8**	**0.0**
	baz=1.8						
L24A	**Wheatland**	**1.73**	**173**	⇑P	**Pn**	**21 02 55.8**	**+0.5**
	baz=1.8,SNR=14						
K26A	**Motz Farm, Whi**	**1.84**	**125**	⇑P	**Pb**	**21 02 58.0**	**-0.3**
	baz=1.8,SNR=25						
K21A	**Alcova**	**1.86**	**233**	P	**Pn**	**21 02 57.4**	**+0.3**
	baz=1.9,SNR=70						
K21A				⇑S	**Sn**	**21 03 21.3**	**0.0**
	baz=1.9						
L25A	**Engebretsen Ra**	**1.86**	**149**	⇓P	**Pb**	**21 02 58.7**	**0.0**
	baz=1.9,SNR=38						
L25A				⇓S	**Sg**	**21 03 23.3**	**-0.1**
	baz=1.9						
L22A	**Ellis Ranch, M**	**1.94**	**207**	⇓P	**Pn**	**21 02 58.6**	**+0.4**
	baz=2.0,SNR=39						
L22A				⇑S	**Sn**	**21 03 23.9**	**+0.5**
	baz=2.0						
F23A	**Volborg**	**1.96**	**356**	⇓P	**Pn**	**21 02 59.4**	**+1.0**
	baz=1.9,SNR=70						
F23A				⇑Sb	**Sg**	**21 03 27.8**	**+1.0**
	baz=1.9						
G21A	**Lodge Grass**	**2.03**	**317**	P	**Pn**	**21 03 00.1**	**+0.7**
	baz=2.0,SNR=167						
I20A	**Worland**	**2.10**	**276**	P	**Pn**	**21 03 01.0**	**+0.7**
	baz=2.2,SNR=183						
I20A				⇓Sb	**Sb**	**21 03 29.5**	**0.0**
	baz=2.2						
J20A	**Shoshoni**	**2.11**	**260**	⇑Pb	**Pb**	**21 03 02.4**	**-0.6**
	baz=2.2,SNR=87						
J20A				⇑Sb	**Sb**	**21 03 30.4**	**+0.6**
	baz=2.2						
H20A	**Greybull**	**2.12**	**291**	⇓P	**Pn**	**21 03 00.7**	**+0.2**
	baz=2.2,SNR=44						
F22A	**Rosebud**	**2.14**	**340**	⇓P	**Pn**	**21 03 01.1**	**+0.2**
	baz=2.1,SNR=48						
F22A				⇓Sb	**Sg**	**21 03 32.5**	**-0.1**
	baz=2.1						
M24A	**Cheyenne**	**2.31**	**172**	⇓P	**Pn**	**21 03 04.8**	**+1.5**
	baz=2.4,SNR=48						
M24A				⇓Sb	**Sg**	**21 03 38.2**	**+0.1**
	baz=2.4						
M23A	**Laramie**	**2.32**	**189**	⇓P	**Pn**	**21 03 04.2**	**+0.8**
	baz=2.4,SNR=39						
L21A	**Rawlins**	**2.39**	**222**	⇓P	**Pn**	**21 03 05.0**	**+0.7**
	baz=2.5,SNR=36						
K27A	**Flueckinger Fa**	**2.43**	**115**	⇑P	**Pb**	**21 03 07.4**	**-1.0**
	baz=2.4,SNR=8.7						
F21A	**Absaloka Mine,**	**2.46**	**328**	⇓P	**Pn**	**21 03 05.6**	**+0.3**
	baz=2.4,SNR=9.2						
M25A	**Palm-Egli Farm**	**2.48**	**159**	⇓P	**Pn**	**21 03 07.6**	**+2.0**
	baz=2.5,SNR=20						
K20A	**Yellowstone Ra**	**2.53**	**245**	⇑P	**Pn**	**21 03 07.8**	**+1.6**
	baz=2.6,SNR=14						
M22A	**Cedar Creek Ra**	**2.56**	**204**	⇓P	**Pn**	**21 03 08.4**	**+1.6**
	baz=2.6,SNR=118						
G20A	**Bridger**	**2.58**	**305**	P	**Pn**	**21 03 06.9**	**-0.1**
	baz=2.6,SNR=203						
M21A	**Separation Pea**	**2.67**	**217**	⇑P	**Pn**	**21 03 09.9**	**+1.7**
	baz=2.8,SNR=273						
E22A	**Miles City**	**2.72**	**350**	⇓P	**Pn**	**21 03 09.1**	**+0.3**
	baz=2.7,SNR=29						
I19A	**Meeteetse**	**2.73**	**277**	⇓P	**Pn**	**21 03 09.9**	**+0.8**
	baz=2.8,SNR=58						
J19A	**Crowheart**	**2.82**	**261**	⇑P	**Pn**	**21 03 11.9**	**+1.6**
	baz=2.9,SNR=57						
J19A				⇑Sb	**Sb**	**21 03 50.4**	**+0.1**
	baz=2.9						
H19A	**Powell**	**2.85**	**290**	⇓P	**Pn**	**21 03 11.3**	**+0.7**
	baz=2.9,SNR=20						
E24A	**Baker**	**2.87**	**13**	⇑P	**Pn**	**21 03 12.3**	**+1.4**
	baz=2.8,SNR=20						
L20A	**Wamsutter**	**2.88**	**234**	⇑P	**Pn**	**21 03 12.3**	**+1.3**
	baz=3.0,SNR=22						
N23A	**Red Feather La**	**2.91**	**191**	⇑P	**Pn**	**21 03 13.0**	**+1.3**
	baz=3.0,SNR=31						
E21A	**Keefer Ranch,**	**3.07**	**336**	⇑Pb	**Pb**	**21 03 19.2**	**-0.1**
	baz=3.0						
N25A	**Grover**	**3.07**	**164**	⇓Pb	**Pb**	**21 03 19.9**	**+0.6**
	baz=3.1						
N25A				⇓Sb	**Sg**	**21 04 00.4**	**-1.9**
	baz=3.1						
N22A	**Wattenberg Ran**	**3.09**	**197**	⇑Pb	**Pb**	**21 03 19.2**	**-0.7**
	baz=3.2						
RLMT	**Red Lodge**	**3.19**	**297**	*e*Pn	**Pn**	**21 03 15.9**	**+0.5**
RLMT				*e*Sn	**Sn**	**21 03 54.4**	**+0.1**
RLMT	**Red Lodge**	**3.19**	**297**	⇓P	**Pn**	**21 03 15.9**	**+0.5**
	baz=3.2,SNR=45						
N26A	**Koester Ranch,**	**3.29**	**152**	⇑P	**Pn**	**21 03 17.8**	**+1.2**
	baz=3.3						
BW06	**Boulder Array**	**3.31**	**254**	*e*Pn	**Pn**	**21 03 18.0**	**+1.0**
BW06				*e*Sn	**Sn**	**21 04 00.5**	**+3.3**
BW06	**Boulder Array**	**3.31**	**254**	⇑P	**Pn**	**21 03 17.9**	**+0.9**
	baz=3.4,SNR=31						
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**21 03 17.6**	**+0.5**
	6.7nm,0.3s,baz=68,slow=16,SNR=100						
PDAR				Lg	Lg	21 04 02.7	
	27nm,0.3s,baz=66,slow=28,SNR=7.2						
H18A	**Shoshone NF, C**	**3.31**	**288**	⇓P	**Pn**	**21 03 16.8**	**-0.3**
	baz=3.4,SNR=20						
I18A	**Diamond G Ranc**	**3.32**	**271**	⇓P	**Pn**	**21 03 17.7**	**+0.5**
	baz=3.4,SNR=28						
F19A	**Roth Farm, Mol**	**3.37**	**310**	⇑P	**Pn**	**21 03 18.3**	**+0.6**
	baz=3.4,SNR=77						
D23A	**Lindsay**	**3.41**	**0**	⇓P	**Pn**	**21 03 19.5**	**+1.2**
	baz=3.4,SNR=16						
E20A	**Meyer Farm, Mu**	**3.42**	**324**	⇓P	**Pn**	**21 03 17.9**	**-0.5**
	baz=3.4,SNR=8.0						
N21A	**Black Mountain**	**3.45**	**210**	⇓P	**Pn**	**21 03 20.4**	**+1.4**
	baz=3.5,SNR=14						
D22A	**Cohagen**	**3.45**	**349**	⇑P	**Pn**	**21 03 19.5**	**+0.7**
	baz=3.4,SNR=29						
G18A	**Lazy EL Ranch,**	**3.46**	**298**	⇑P	**Pn**	**21 03 19.7**	**+0.6**
	baz=3.5,SNR=119						
J18A	**Kendall Valley**	**3.53**	**263**	⇓P	**Pn**	**21 03 21.1**	**+1.0**
	baz=3.6						
D21A	**La Casta Ranch**	**3.53**	**340**	⇓P	**Pn**	**21 03 20.4**	**+0.6**
	baz=3.5						
N27A	**Anderson Farm,**	**3.57**	**145**	⇓P	**Pn**	**21 03 21.8**	**+1.3**
	baz=3.6,SNR=8.5						
O24A	**Longmont**	**3.64**	**178**	⇓P	**Pn**	**21 03 22.6**	**+1.1**
	baz=3.7						
OGNE	**Ogallala**	**3.68**	**139**	*e*Pn	**Pn**	**21 03 24.0**	**+2.0**
OGNE				*e*Pg	**Pg**	**21 03 33.2**	**-1.1**
OGNE				*e*Sn	**Sn**	**21 04 08.4**	**+2.3**
OGNE	**Ogallala**	**3.68**	**139**	⇑P	**Pn**	**21 03 23.1**	**+1.1**
	baz=3.7,SNR=12						
E19A	**Rath Farm, Rou**	**3.69**	**318**	⇓P	**Pn**	**21 03 21.6**	**-0.5**
	baz=3.7						
N20A	**Spence Gulch,**	**3.69**	**219**	⇓P	**Pn**	**21 03 23.3**	**+1.0**
	baz=3.8,SNR=26						
K18A	**Toltan Ranch,**	**3.69**	**254**	⇓P	**Pn**	**21 03 23.7**	**+1.5**
	baz=3.8,SNR=7.9						
O22A	**Kremmling**	**3.73**	**196**	⇑P	**Pn**	**21 03 24.0**	**+1.2**
	baz=3.8						
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**21 03 23.9**	**+0.8**
GCMT				*e*Sn	**Sn**	**21 04 09.6**	**+1.6**
O26A	**Horse Wrangler**	**3.80**	**157**	⇓P	**Pn**	**21 03 24.7**	**+1.0**
	baz=3.8						
C24A	**Savage**	**3.81**	**8**	⇑P	**Pn**	**21 03 24.4**	**+0.7**
	baz=3.7,SNR=13						
F18A	**Big Timber**	**3.84**	**305**	⇓P	**Pn**	**21 03 24.8**	**+0.6**
	baz=3.9,SNR=42						
LOHW	**Long Hollow**	**3.90**	**270**	*e*Pn	**Pn**	**21 03 26.1**	**+1.0**
LOHW				*e*Sn	**Sn**	**21 04 14.0**	**+2.3**
D20A	**Manuel Ranch,**	**3.91**	**329**	P	**Pn**	**21 03 25.4**	**+0.3**
	baz=3.9,SNR=26						
FLWY	**Flagg Ranch**	**3.96**	**277**	*e*Pn	**Pn**	**21 03 26.9**	**+0.9**
FLWY				*e*Sg	**Sg**	**21 04 32.9**	**+1.9**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**21 03 27.4**	**+1.3**
ISCO				*e*Sn	**Sb**	**21 04 19.4**	**-4.0**
ISCO	**Idaho Springs**	**3.97**	**184**	⇑P	**Pn**	**21 03 27.3**	**+1.1**
	baz=4.0,SNR=12						
MOOW	**Moose Ponds**	**3.99**	**272**	*e*Pn	**Pn**	**21 03 28.6**	**+2.2**
C22A	**Vida**	**4.01**	**354**	⇑P	**Pn**	**21 03 28.0**	**+1.6**
	baz=4.0,SNR=18						
SNOW	**Snow King Moun**	**4.02**	**268**	*e*Pn	Pb	21 03 31.6	-4.0
YNR	**Norris Junctio**	**4.03**	**286**	*e*Pn	Pn	21 03 30.8	+3.9
C23A	**Lambert**	**4.04**	**0**	⇓P	**Pn**	**21 03 28.5**	**+1.6**
	baz=4.0,SNR=32						
YFT	**Old Faithful**	**4.09**	**282**	*e*Pn	**Pn**	**21 03 29.9**	**+2.1**
N19A	**John Jarvie Ra**	**4.09**	**227**	⇑P	**Pn**	**21 03 27.7**	**0.0**
	baz=4.2,SNR=12						
REDW	**Red Top Meadow**	**4.10**	**266**	*e*Pn	**Pn**	**21 03 30.8**	**+2.8**
O27A	**Beecher Island**	**4.12**	**149**	⇓P	**Pn**	**21 03 29.8**	**+1.8**
	baz=4.1						
IMW	**Indian Meadow**	**4.13**	**274**	*e*Pn	**Pn**	**21 03 30.3**	**+1.9**
TPAW	**Teton Pass**	**4.16**	**268**	*e*Pn	**Pn**	**21 03 29.8**	**+1.1**
YMR	**Madison River**	**4.22**	**284**	Pn	Pn	21 03 33.6	+4.1
D19A	**Cripps Ranch,**	**4.26**	**324**	⇓P	**Pn**	**21 03 31.0**	**+1.1**
	baz=4.2						
O20A	**White River Ci**	**4.26**	**213**	⇑P	**Pn**	**21 03 31.1**	**+1.0**
	baz=4.3						
C21A	**Desert Coulee**	**4.27**	**343**	⇓P	**Pn**	**21 03 30.6**	**+0.5**
	baz=4.2						
N18A	**Larsen Ranch,**	**4.31**	**231**	⇑P	**Pn**	**21 03 31.1**	**+0.4**
	baz=4.4						
DCID1	**Drake Creek**	**4.32**	**270**	*e*Pn	**Pn**	**21 03 33.4**	**+2.5**
P25A	**Willow Gulch B**	**4.32**	**169**	⇑P	**Pn**	**21 03 32.1**	**+1.3**
	baz=4.4						
E18A	**Harlowton**	**4.34**	**312**	⇓P	**Pn**	**21 03 31.7**	**+0.7**
	baz=4.3,SNR=55						
F17A	**Fitzpatrick Pl**	**4.41**	**301**	⇑P	**Pn**	**21 03 32.9**	**+0.7**
	baz=4.4,SNR=15						
H16A	**Russell Place,**	**4.42**	**284**	⇓P	**Pn**	**21 03 33.0**	**+0.6**
	baz=4.5						
P26A	**Davis Ranch, A**	**4.43**	**161**	⇓P	**Pn**	**21 03 33.8**	**+1.4**
	baz=4.5						
RRI2	**Red Ridge**	**4.44**	**267**	*e*Pn	**Pn**	**21 03 33.6**	**+1.0**
QLMT	**Earthquake Lak**	**4.57**	**286**	*e*Pn	**Pn**	**21 03 36.9**	**+2.5**
P27A	**Ficken Ranch,**	**4.65**	**154**	⇓P	**Pn**	**21 03 36.4**	**+1.1**
	baz=4.7						
D18A	**Linhart Farms,**	**4.70**	**318**	⇑P	**Pn**	**21 03 37.0**	**+1.0**
	baz=4.7						
B23A	**Brockton**	**4.71**	**2**	⇑P	**Pn**	**21 03 37.8**	**+1.8**
	baz=4.6						
DGMT	**Dagmar**	**4.76**	**8**	*e*Pn	**Pn**	**21 03 38.8**	**+2.0**
DGMT	**Dagmar**	**4.76**	**8**	⇓P	**Pn**	**21 03 38.3**	**+1.5**
	baz=4.7,SNR=7.1						
SMCO	**Snowmass**	**4.76**	**197**	*e*Pn	Pn	21 03 40.8	+3.7
C19A	**Slack Wire Ran**	**4.79**	**327**	⇓P	**Pn**	**21 03 37.8**	**+0.7**
	baz=4.8,SNR=23						
E17A	**Martinsdale**	**4.81**	**306**	⇓P	**Pn**	**21 03 38.4**	**+0.8**
	baz=4.8,SNR=28						
G16A	**Moss Hill, Enn**	**4.92**	**290**	⇓P	**Pn**	**21 03 39.0**	**-0.1**
	baz=5.0						
BOZ	**Bozeman (W)**	**4.93**	**295**	*e*Pn	**Pn**	**21 03 38.5**	**-0.7**
BOZ	**Bozeman (W)**	**4.93**	**295**	⇓P	**Pn**	**21 03 39.1**	**-0.2**
	baz=5.0						
O18A	**Roosevelt**	**4.99**	**227**	⇑P	**Pn**	**21 03 41.3**	**+1.3**
	baz=5.1						
P19A	**Cripple Cowboy**	**4.99**	**215**	⇑P	**Pn**	**21 03 41.2**	**+1.1**
	baz=5.1						
B20A	**Solberg Farm,**	**5.06**	**338**	⇓P	**Pn**	**21 03 41.9**	**+1.0**
	baz=5.0						
D17A	**Six Diamond Ra**	**5.12**	**313**	⇓P	**Pn**	**21 03 42.1**	**+0.3**
	baz=5.1,SNR=58						
HWUT	**Hardware Ranch**	**5.14**	**247**	*e*Pn	**Pn**	**21 03 42.7**	**+0.6**
	9.0nm,0.4s						
HWUT				*e*Sn	**Sn**	**21 04 47.5**	**+5.2**
A23A	**Redstone**	**5.20**	**3**	⇑P	**Pn**	**21 03 44.7**	**+1.8**
	baz=5.1						
A22A	**Carney Farms,**	**5.25**	**355**	⇑P	**Pn**	**21 03 44.6**	**+1.1**
	baz=5.2						
EGMT	**Eagleton**	**5.30**	**325**	*e*Pn	**Pn**	**21 03 44.1**	**-0.2**
	33nm,0.5s						
EGMT				*e*Sn	**Sn**	**21 04 41.0**	**-5.0**
EGMT	**Eagleton**	**5.30**	**325**	⇓P	**Pn**	**21 03 44.6**	**+0.3**
	baz=5.3,SNR=6.0						
E16A	**East Helena**	**5.33**	**304**	⇓P	**Pn**	**21 03 44.7**	**0.0**
	baz=5.3,SNR=7.0						
A21A	**Bergtoll Ranch**	**5.36**	**348**	⇑P	**Pn**	**21 03 45.6**	**+0.6**
	baz=5.3						
C17A	**Wharram Farm,**	**5.47**	**317**	⇓P	**Pn**	**21 03 46.8**	**+0.1**
	baz=5.5,SNR=20						
HRY	**Holter Researc**	**5.51**	**305**	*e*Pn	**Pn**	**21 03 47.8**	**+0.6**
	21nm,0.4s						
D16A	**Dana Ranch, Ca**	**5.52**	**309**	⇑P	**Pn**	**21 03 47.4**	**+0.2**
	baz=5.5,SNR=5.7						
R24A	**Sanders Place,**	**5.53**	**179**	⇑P	**Pn**	**21 03 49.0**	**+1.5**
	baz=5.6						
LRM	**Limekiln Ridge**	**5.53**	**294**	*e*Pn	**Pn**	**21 03 48.1**	**+0.5**
	55nm,0.5s						
L15A	**Malad City**	**5.54**	**254**	⇑P	**Pn**	**21 03 47.9**	**+0.3**
	baz=5.6,SNR=7.3						
F15A	**Butte**	**5.57**	**294**	⇑P	**Pn**	**21 03 48.0**	**0.0**
	baz=5.6						
MCMT	**McKenzie Canyo**	**5.57**	**284**	*e*Pn	Pn	21 03 53.0	+4.9
	3.6nm,0.4s						
P18A	**Preston Nutter**	**5.58**	**224**	⇓P	**Pn**	**21 03 48.8**	**+0.5**
	baz=5.7,SNR=18						
DAU	**Daniels Canyon**	**5.59**	**235**	*e*Pn	**Pn**	**21 03 49.1**	**+0.6**
	21nm,0.4s						
B18A	**Beardsley Farm**	**5.61**	**327**	⇑P	**Pn**	**21 03 49.4**	**+1.0**
	baz=5.6						
A19A	**Klindworth Far**	**5.71**	**336**	⇑P	**Pn**	**21 03 49.5**	**-0.3**
	baz=5.7						
R27A	**Eads**	**5.77**	**161**	⇓P	**Pn**	**21 03 51.8**	**+1.1**
	baz=5.8						
M15A	**Larsen Ranch,**	**5.80**	**249**	⇑P	**Pn**	**21 03 52.5**	**+1.4**
	baz=5.9,SNR=6.1						
E15A	**Deer Lodge**	**5.88**	**299**	⇓P	**Pn**	**21 03 52.1**	**-0.2**
	baz=5.9,SNR=8.3						
HVU	**Hansel Valley**	**5.89**	**253**	*e*Pn	**Pn**	**21 03 53.0**	**+0.6**
	134nm,1.2s						
Q18A	**Rafter H Ranch**	**5.94**	**220**	⇑P	**Pn**	**21 03 53.1**	**+0.1**
	baz=6.0						
P17A	**Butcher Ranch,**	**5.95**	**226**	⇓P	**Pn**	**21 03 54.8**	**+1.5**
	baz=6.0,SNR=6.2						
B17A	**L&G Farms, Che**	**5.96**	**321**	⇑P	**Pn**	**21 03 54.1**	**+0.9**
	baz=5.9						
MPU	**Maple Canyon**	**6.07**	**234**	*e*Pn	**Pn**	**21 03 55.6**	**+0.7**
	7.9nm,0.4s						
C16A	**Fuhringer Ranc**	**6.08**	**314**	⇑P	**Pn**	**21 03 54.9**	**-0.2**
	baz=6.1						
D15A	**Lincoln**	**6.09**	**305**	⇑P	**Pn**	**21 03 55.1**	**0.0**
	baz=6.1,SNR=6.7						
SRU	**San Rafael**	**6.12**	**222**	*e*Pn	**Pn**	**21 03 55.5**	**0.0**
	80nm,0.5s						
SRU	**San Rafael**	**6.12**	**222**	⇓P	**Pn**	**21 03 55.7**	**+0.1**
	baz=6.2,SNR=12						
S25A	**Robets Cordova**	**6.13**	**174**	⇓P	**Pn**	**21 03 56.3**	**+0.6**
	baz=6.2						
ECSD	**EROS Data Cent**	**6.24**	**87**	*e*Pn	**Pn**	**21 03 57.6**	**+0.4**
	8.5nm,0.6s						
S26A	**Kim**	**6.28**	**167**	⇑P	**Pn**	**21 03 58.4**	**+0.6**
	baz=6.3						
TMUT	**Trail Mountain**	**6.32**	**227**	*e*Pn	**Pn**	**21 03 59.7**	**+1.2**
E14A	**Clinton**	**6.42**	**297**	⇓P	**Pn**	**21 03 59.3**	**-0.4**
	baz=6.4						
R18A	**Canyonlands Na**	**6.42**	**215**	⇑P	**Pn**	**21 03 59.7**	**-0.1**
	baz=6.5						
CHMT	**Chamberlain Mo**	**6.47**	**302**	*e*Pn	**Pn**	**21 04 00.9**	**+0.5**
	4.0nm,0.5s						
B16A	**M & M Farms, S**	**6.47**	**318**	⇓P	**Pn**	**21 04 00.1**	**-0.2**
	baz=6.5						
C15A	**Salmond Ranch,**	**6.53**	**310**	⇑P	**Pn**	**21 04 01.3**	**+0.1**
	baz=6.5						
HLID	**Hailey**	**6.66**	**271**	*e*Pn	**Pn**	**21 04 04.1**	**+1.0**
	2.5nm,0.5s						
DUG	**Dugway**	**6.68**	**240**	*e*Pn	**Pn**	**21 04 03.4**	**+0.2**
DUG	**Dugway**	**6.68**	**240**	⇑P	**Pn**	**21 04 02.9**	**-0.4**
	baz=6.8,SNR=14						
D14A	**Greenough**	**6.70**	**303**	⇑P	**Pn**	**21 04 03.4**	**0.0**
	baz=6.7,SNR=13						
R17A	**Hanksville Air**	**6.75**	**220**	⇑P	**Pn**	**21 04 03.9**	**-0.3**
	baz=6.8						
B15A	**Bradely Ranch,**	**6.83**	**314**	⇑P	**Pn**	**21 04 05.3**	**0.0**
	baz=6.8						
MSO	**Missoula**	**6.86**	**300**	*e*Pn	**Pn**	**21 04 05.6**	**-0.1**
	3.0nm,0.4s						
MSO	**Missoula**	**6.86**	**300**	⇑P	**Pn**	**21 04 05.8**	**+0.1**
	baz=6.9						
MVCO	**Mesa Verde**	**7.00**	**202**	*e*Pn	**Pn**	**21 04 10.8**	**+3.0**
	6.7nm,0.5s						
S18A	**Hurst Farm, Bl**	**7.06**	**212**	⇑P	**Pn**	**21 04 08.6**	**0.0**
	baz=7.1,SNR=6.2						
C14A	**Swan Lake**	**7.17**	**307**	⇑P	**Pn**	**21 04 10.3**	**+0.4**
	baz=7.2						
SWMT	**Swartz Lake**	**7.20**	**304**	*e*Pn	**Pn**	**21 04 10.5**	**+0.2**
	3.9nm,0.5s						
R16A	**Teasdale**	**7.23**	**223**	⇑P	**Pn**	**21 04 11.3**	**+0.4**
	baz=7.3						
B14A	**Marquette Ranc**	**7.24**	**312**	⇓P	**Pn**	**21 04 10.6**	**-0.3**
	baz=7.2						
A15A	**Johnson Ranch,**	**7.35**	**318**	⇓P	**Pn**	**21 04 11.8**	**-0.7**
	baz=7.3						
YBMT	**Yellow Bay**	**7.38**	**307**	*e*Pn	**Pn**	**21 04 14.1**	**+1.4**
	5.3nm,0.4s						
MSU	**Marysvale**	**7.41**	**227**	*e*Pn	**Pn**	**21 04 12.3**	**-1.1**
	8.3nm,0.6s						
S17A	**Black Ridge (B**	**7.44**	**217**	⇓P	**Pn**	**21 04 13.6**	**0.0**
	baz=7.5						
JTMT	**Jette**	**7.48**	**305**	*e*Pn	**Pn**	**21 04 15.2**	**+1.0**
	3.9nm,0.4s						
A14A	**Double T Ranch**	**7.69**	**315**	⇑P	**Pn**	**21 04 16.4**	**-0.7**
	baz=7.7						
BSMT	**Bassoo Peak**	**7.83**	**305**	*e*Pn	**Pn**	**21 04 19.6**	**+0.6**
	2.1nm,0.5s						
ARUT	**Antelope Range**	**8.62**	**229**	*e*Pn	**Pn**	**21 04 31.0**	**+1.1**
	6.2nm,0.4s						
CCUT	**Cedar City**	**8.75**	**228**	*e*Pn	**Pn**	**21 04 32.7**	**+1.0**
	3.6nm,0.5s						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**21 04 36.0**	**-0.4**
	1.3nm,0.3s,baz=230,slow=11,SNR=8.1						
ULM				Pg		21 05 05.2	
	0.4nm,0.3s,baz=218,slow=19,SNR=2.2						
ULM				Lg	Lg	21 07 05.9	
	0.5nm,0.3s,baz=311,slow=20,SNR=2.6						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**21 04 36.0**	**-0.4**
ULM				Pg		21 05 05.2	
ULM				Lg	Lg	21 07 05.9	
FFC	**Flin Flon**	**11.18**	**10**	*e*Pn	**Pn**	**21 05 02.7**	**-1.9**
	4.3nm,0.6s						
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**21 05 05.0**	**-0.4**
	0.2nm,0.3s,baz=53,slow=13,SNR=3.9						
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**21 05 05.0**	**-0.4**
626A	**Big Bend Ranch**	**14.21**	**176**	⇓P	**Pn**	**21 05 47.8**	**+1.5**
	baz=14,SNR=12						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**21 06 52.1**	**-0.5**
	0.1nm,0.3s,baz=159,slow=13,SNR=8.0						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**21 06 52.1**	**-0.5**
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**21 12 40.5**	**-0.5**
	1.4nm,0.7s,baz=340,slow=5.8,SNR=7.1						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**21 12 40.5**	**-0.5**
ZALV	**Zalesovo Beam**	**82.28**	**354**	P	**P**	**21 14 45.6**	**-1.2**
	0.3nm,0.4s,baz=1.4,slow=5.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**82.28**	**354**	P	**P**	**21 14 45.6**	**-1.2**
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**21 14 59.6**	**+0.5**
	0.2nm,0.5s,baz=26,slow=4.2,SNR=3.8						
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**21 14 59.6**	**+0.5**
KURK	**Kurchatov**	**85.84**	**358**	P	**P**	**21 15 04.7**	**-0.2**
KURBB	**Kurchatov Arra**	**85.94**	**358**	P	**P**	**21 15 04.7**	**-0.7**
	0.3nm,0.5s,baz=9.5,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**89.58**	**355**	P	**P**	**21 15 22.6**	**-0.4**
	0.3nm,0.6s,baz=19,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**89.58**	**355**	P	**P**	**21 15 22.6**	**-0.4**

---

*IDC **06** 21:03:56.4±0.7, 31°.30S×72°.05W, h0km, mb4.5/9, mb1 4.5/13, mb1mx4.4/21, mbtmp4.4/13, ML4.4/4, MS4.1/4, Ms1 4.0/4, ms1mx3.4/31, Error ellipse: s-maj=24.4km s-min=19.5km az=79.0*

*ISCJB **06** 21:03:57.7±1.2, 31°.26S±0°.03×72°.21W±0°.07, h21km±7km, mb4.3/10, MS4.5/2, Error ellipse: s-maj=9.7km s-min=4.4km az=177.1*

*NEIC **06** 21:03:57.4±1.4, 31°.27S×72°.17W, h8km±7km, mb4.4/3, ML4.7(GUC), Error ellipse: s-maj=10.7km s-min=5.1km az=93.0*

*GUC **06** 21:03:58.6±0.8, 31°.29S×72°.14W, h37km±3km, ML4.7*

ISC 06 21:03:57.3±1.7**, 31°.27S**±0°.03×**72°.15W**±0°.06**, h8km**±10km**, n66, σ0s.83**/84**, mb4.4**/9**, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.83**	**138**	*e*P	**Pb**	**21 04 13.8**	**-0.2**
CHNG				*e*S	**Sb**	**21 04 25.1**	**-0.2**
CHNG	**Los Chungos**	**0.83**	**138**	*e*P	**Pb**	**21 04 13.8**	**-0.2**
CHNG				*e*S	**Sb**	**21 04 25.1**	**-0.2**
CMCH	**Combarbala**	**0.99**	**85**	⇑*e*P	**Pg**	**21 04 16.3**	**-0.1**
CMCH				*i* S	**Sb**	**21 04 30.1**	**-0.1**
CMCH	**Combarbala**	**0.99**	**85**	⇑*e*P	**Pg**	**21 04 16.3**	**-0.1**
CMCH				*i* S	**Sb**	**21 04 30.1**	**-0.1**
CMCH				AML	AML	21 04 32.3	
	comp=N,184μm,0.7s						
OVCH	**Ovalle**	**1.05**	**51**	*e*P	**Pg**	**21 04 17.5**	**-0.1**
OVCH				*i* S	**Sb**	**21 04 31.9**	**+0.1**
OVCH	**Ovalle**	**1.05**	**51**	*e*P	**Pg**	**21 04 17.5**	**-0.1**
OVCH				*i* S	**Sb**	**21 04 31.9**	**+0.1**
OVCH				AML	AML	21 04 38.0	
	comp=N,18μm,0.6s						
PTCH	**Petorca**	**1.44**	**134**	*e*P	**Pn**	**21 04 23.1**	**-0.7**
PTCH				*e*S	**Sn**	**21 04 41.8**	**-1.2**
PTCH	**Petorca**	**1.44**	**134**	*e*P	**Pn**	**21 04 23.1**	**-0.7**
PTCH				*e*S	**Sn**	**21 04 41.8**	**-1.2**
PTCH				AML	AML	21 04 44.5	
	comp=N,12μm,0.6s						
TLL	**Tololo Astrono**	**1.60**	**47**	*e*P	**Pn**	**21 04 26.3**	**+0.1**
TLL				*e*S	**Sn**	**21 04 47.7**	**+0.4**
TLL	**Tololo Astrono**	**1.60**	**47**	*e*P	**Pn**	**21 04 26.3**	**+0.1**
TLL				*e*S	**Sn**	**21 04 47.7**	**+0.4**
TLL				AML	AML	21 04 56.3	
	comp=N,18μm,0.7s						
IHA	**Instituto Hidr**	**1.80**	**166**	*e*P	**Pn**	**21 04 28.3**	**-0.5**
IHA	**Instituto Hidr**	**1.80**	**166**	*e*P	**Pn**	**21 04 28.3**	**-0.5**
ROCH	**El Roble**	**1.95**	**151**	*e*P	**Pn**	**21 04 30.7**	**-0.4**
ROCH				*e*S	**Sn**	**21 04 55.5**	**-0.4**
ROCH				AML	AML	21 05 09.2	
	comp=E,10μm,0.7s						
PEL	**Peldehue**	**2.25**	**147**	*e*P	**Pn**	**21 04 35.2**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL				*e*S	Sn	21 05 02.2	-0.6
PEL				AML	AML	21 05 11.9	
	comp=N,9µm,0.5s						
LCO	**Las Campanas**	**2.58**	**30**	*e*Pn	**Pn**	**21 04 39.7**	**0.0**
LCO				*e*Sn	**Sn**	**21 05 10.2**	**-1.2**
LCO				*e*Sg	**Sg**	**21 05 19.3**	**-0.9**
LCO	**Las Campanas**	**2.58**	**30**	*e*P	**Pn**	**21 04 39.7**	**0.0**
LCO				*e*S	**Sn**	**21 05 10.5**	**-1.0**
LCO				AML	AML	21 05 24.6	
	comp=E,3µm,0.6s						
FCH	**Farellones**	**2.59**	**143**	*e*P	**Pn**	**21 04 41.5**	**+1.6**
FCH				*e*S	**Sn**	**21 05 12.2**	**+0.4**
FCH				AML	AML	21 05 23.8	
	comp=N,3µm,0.5s						
CFAA	**Coronel Fontan**	**3.36**	**97**	Pn	**Pn**	**21 04 53.2**	**+2.9**
	comp=N,2.5nm,0.3s,baz=272,slow=12,SNR=81						
CFAA				Lg	Lg	21 05 38.7	
	comp=N,16nm,0.3s,baz=14,slow=17,SNR=6.2						
CFAA	**Coronel Fontan**	**3.36**	**97**	Pn	**Pn**	**21 04 53.2**	**+2.9**
CFAA				Lg	Lg	21 05 38.7	
LVC	**Limon Verde**	**9.10**	**19**	*e*Pn	Pn	21 06 02.8	-6.5
	comp=N,2.2nm,0.6s						
LVC				*e*Sn	**Sn**	**21 07 51.6**	**-0.4**
PLCA	**Paso Flores**	**9.53**	**173**	Pn	**Pn**	**21 06 15.2**	**+0.1**
	comp=N,0.6nm,0.3s,baz=331,slow=10,SNR=2.1						
PLCA	**Paso Flores**	**9.53**	**173**	Pn	**Pn**	**21 06 15.2**	**+0.1**
TRQA	**Tornquist**	**10.77**	**132**	*e*Pn	**Pn**	**21 06 32.6**	**+0.7**
	comp=N,28nm,0.8s						
CPUP	**Villa Florida**	**13.90**	**73**	Pn	**Pn**	**21 07 15.3**	**+0.7**
	comp=N,1.7nm,0.3s,baz=221,slow=13,SNR=10.0						
CPUP				LR	LR	21 11 56.1	
	comp=N,160nm,19.1s,baz=206,slow=35						
CPUP	**Villa Florida**	**13.90**	**73**	Pn	**Pn**	**21 07 15.3**	**+0.7**
LPAZ	**La Paz**	**15.36**	**15**	Pn	**Pn**	**21 07 36.6**	**+1.4**
	comp=N,0.4nm,0.3s,baz=188,slow=7.7,SNR=18						
LPAZ	**La Paz**	**15.36**	**15**	*e*Pn	**Pn**	**21 07 34.8**	**-0.4**
	comp=N,8.5nm,0.8s						
SIV	**San Ignacio**	**18.27**	**36**	P	**Pn**	**21 08 11.3**	**-0.1**
	comp=N,0.6nm,0.3s,baz=225,slow=11,SNR=13						
SIV				LR	LR	21 16 15.0	
	comp=N,367nm,19.3s,slow=40						
SIV	**San Ignacio**	**18.27**	**36**	P	**Pn**	**21 08 11.3**	**-0.1**
USHA	**Ushuaia**	**23.70**	**175**	P	**P**	**21 09 10.4**	**+0.9**
	comp=N,8.5nm,0.8s,baz=345,slow=12,SNR=4.0						
USHA	**Ushuaia**	**23.70**	**175**	P	**P**	**21 09 10.4**	**+0.9**
SAML	**Samuel**	**23.73**	**23**	*e*P	**P**	**21 09 10.3**	**+0.2**
	comp=N,8.5nm,1.0s						
BDFB	**Brasilia**	**26.97**	**60**	P	**P**	**21 09 39.1**	**-0.7**
	comp=N,19nm,0.9s,baz=230,slow=8.0,SNR=17						
BDFB	**Brasilia**	**26.97**	**60**	P	**P**	**21 09 39.1**	**-0.7**
TEIG	**Tepich**	**53.49**	**341**	P	**P**	**21 13 18.9**	**+0.6**
	comp=N,12nm,0.5s,baz=135,slow=4.3,SNR=12						
TEIG	**Tepich**	**53.49**	**341**	*e*P	**P**	**21 13 19.0**	**+0.7**
	comp=N,12nm,0.5s						
TXAR	**Lajitas Array**	**67.32**	**330**	P	**P**	**21 14 53.9**	**+0.9**
	comp=N,0.8nm,0.7s,baz=133,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**67.32**	**330**	P	**P**	**21 14 53.9**	**+0.9**
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**21 15 36.2**	**-0.2**
	comp=N,5.3nm,0.8s,baz=217,slow=4.4,SNR=7.7						
DBIC				LR	LR	21 45 01.8	
	comp=N,226nm,19.3s,baz=185,slow=33						
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**21 15 36.2**	**-0.2**
BOSA	**Boshof**	**81.43**	**118**	P	**P**	**21 16 14.4**	**-1.1**
	comp=N,3.3nm,1.0s,baz=225,slow=7.7,SNR=4.0						
BOSA	**Boshof**	**81.43**	**118**	P	**P**	**21 16 14.4**	**-1.1**
NVAR	**Mina Array Bea**	**81.59**	**325**	P	**P**	**21 16 17.4**	**+1.4**
	comp=N,0.9nm,0.7s,baz=156,slow=5.6,SNR=5.6						
NVAR	**Mina Array Bea**	**81.59**	**325**	P	**P**	**21 16 17.4**	**+1.4**
TOA0	**Torodi Ar. Sit**	**83.38**	**70**	*e*P	**P**	**21 16 25.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**21 16 25.5**	**-0.1**
	comp=N,5.9nm,0.7s,baz=284,slow=5.7,SNR=34						
TORD				LR	LR	21 51 27.7	
	comp=N,252nm,20.6s,baz=250,slow=34						
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**21 16 25.5**	**-0.1**
YKA	**Yellowknife Ar**	**99.45**	**341**	P	**Pdif**	**21 17 39.5**	**-0.5**
	comp=N,0.2nm,0.6s,baz=141,slow=4.7,SNR=5.3						
YKA	**Yellowknife Ar**	**99.45**	**341**	P	**Pdif**	**21 17 39.5**	**-0.5**
WRA	**Warramunga Arr**	**123.08**	**210**	PKP	**PKPdf**	**21 22 53.9**	**-1.3**
	comp=N,0.2nm,0.5s,baz=151,slow=1.7,SNR=8.7						
WRA	**Warramunga Arr**	**123.08**	**210**	PKP	**PKPdf**	**21 22 53.9**	**-1.3**
BVAR	**Borovoye Array**	**145.31**	**40**	PKPbc	**PKPdf**	**21 23 36.0**	**+0.6**
	comp=N,2.7nm,0.6s,baz=307,slow=3.4,SNR=17						
BVAR	**Borovoye Array**	**145.31**	**40**	PKPbc	**PKPdf**	**21 23 36.0**	**+0.6**
KKAR	**Karatay Array**	**148.25**	**58**	*e*PKPbc	**PKPbc**	**21 23 43.7**	**-0.3**
EKS2	**Erkin-Say**	**150.69**	**58**	*e*PKPbc	**PKPbc**	**21 23 50.6**	**+0.4**
KURBB	**Kurchatov Arra**	**150.90**	**40**	PKPbc	**PKPbc**	**21 23 50.6**	**+0.3**
	comp=N,1.5nm,0.6s,baz=302,slow=2.8,SNR=27						
KURK	**Kurchatov**	**150.90**	**40**	*e*PKPbc	**PKPbc**	**21 23 50.3**	**+0.1**
AAK	**Ala-Archa**	**151.21**	**57**	PKPbc	**PKPbc**	**21 23 52.4**	**+0.9**
	comp=N,4.1nm,0.8s,baz=174,slow=3.2,SNR=24						
AAK	**Ala-Archa**	**151.21**	**57**	*e*PKPbc	**PKPbc**	**21 23 51.6**	**+0.1**
TKM2	**Tokmak 2**	**151.94**	**56**	*e*PKPbc	**PKPbc**	**21 23 52.3**	**-0.9**
ZAA0	**Zalesovo Array**	**151.94**	**29**	*e*PKPbc	**PKPbc**	**21 23 52.1**	**-0.4**
ZALV	**Zalesovo Beam**	**151.94**	**29**	PKPbc	**PKPbc**	**21 23 52.6**	**+0.1**
	comp=N,3.8nm,0.5s,baz=304,slow=3.3,SNR=30						
ZALV				PKPab	**PKPab**	**21 24 00.4**	**-1.4**
	comp=N,3.9nm,0.6s,baz=294,slow=3.2,SNR=12						
ZALV	**Zalesovo Beam**	**151.94**	**29**	PKPbc	**PKPbc**	**21 23 52.6**	**+0.1**
ZALV				PKPab	**PKPab**	**21 24 00.4**	**-1.4**
MK31	**Makanchi Array**	**154.97**	**44**	*e*PKPbc	**PKPbc**	**21 23 59.0**	**-0.4**
MKAR	**Makanchi Array**	**154.97**	**44**	PKPbc	**PKPbc**	**21 23 59.1**	**-0.3**
	comp=N,0.9nm,0.8s,baz=309,slow=1.8,SNR=8.7						
MKAR	**Makanchi Array**	**154.97**	**44**	PKPbc	**PKPbc**	**21 23 59.1**	**-0.3**

IDC 06 21:06:54.0±4.2**, 15°.39N×96°.09E, h0km, mb3.6**/3**, mb1 3.6**/4**, mb1mx3.3**/28**, mbtmp3.5**/4**, ML3.9**/1**, Error ellipse: s-maj=79.3km s-min=35.2km az=27.0, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.09**	**41**	Pn	Pn	21 07 58.0	0.0
	1.7nm,0.3s,baz=234,slow=15,SNR=41						
MKAR	**Makanchi Array**	**33.36**	**343**	P	P	21 13 33.8	-0.2
	0.2nm,0.7s,baz=148,slow=10,SNR=3.3						
KURBB	**Kurchatov Arra**	**37.90**	**342**	P	P	21 14 12.7	-0.1
	0.6nm,0.5s,baz=153,slow=8.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**39.48**	**350**	P	P	21 14 26.1	0.0
	1.1nm,0.5s,baz=176,slow=8.4,SNR=7.9						

*WAR **06** 21:08:00.1, 51°.54N×16°.07E*
*CSEM **06** 21:08:01.1±0.8, 51°.44N×16°.08E, h2km, ML3.1/4, Error ellipse: s-maj=12.8km s-min=6.7km az=21.0*
*PRU **06** 21:08:02.1, 51°.43N×16°.10E, h0km*
ISC 06 21:08:01.4±1.7**, 51°.43N**±0°.08×**16°.09E**±0°.05**, h0km, n22, σ0s.90**/40**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**167**	*e*Pg	**Pg**	**21 08 13.4**	**+0.4**
KSP				*e*Sg	**Sb**	**21 08 22.5**	**-1.4**
KSP	**Ksiaz**	**0.60**	**167**	*e*Pg	**Pg**	**21 08 13.3**	**+0.4**
KSP				*e*Sg	**Sg**	**21 08 22.2**	**+1.5**
KSP	**Ksiaz**	**0.60**	**167**	*e*Pg	**Pg**	**21 08 13.3**	**+0.4**
KSP				*e*Sg	**Sb**	**21 08 22.4**	**-1.4**
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pg**	**21 08 19.5**	**+0.4**
UPC	**Upice**	**0.93**	**183**	Pg	**Pg**	**21 08 19.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG	**Pg**	**21 08 22.2**	**-0.1**
DPC				*e*SG	**Sg**	**21 08 36.3**	**-0.1**
	comp=Z,14nm,0.3s						
DPC	**Dobruska-Polom**	**1.09**	**172**	Pg	**Pg**	**21 08 22.2**	**-0.1**
DPC				Sg	**Sg**	**21 08 36.3**	**-0.1**
	14nm,0.3s						
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG	**Pg**	**21 08 26.6**	**0.0**
PVCC				*e*SG	**Sn**	**21 08 45.1**	**-0.2**
	comp=Z,43nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**227**	Pg	**Pg**	**21 08 26.6**	**0.0**
PVCC				Sg	**Sn**	**21 08 45.1**	**-0.2**
	43nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**248**	PG	**Pg**	**21 08 29.2**	**-0.2**
BRG				SG	**Sn**	**21 08 49.8**	**+0.9**
	20nm,0.3s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pb**	**21 08 34.3**	**0.0**
PRU				*e*SG	**Sg**	**21 08 58.3**	**+0.8**
	comp=Z,9.4nm,0.3s						
PRU	**Pruhonice**	**1.75**	**215**	Pg	**Pb**	**21 08 34.3**	**0.0**
PRU				Sg	**Sg**	**21 08 58.3**	**+0.8**
	9.4nm,0.3s						
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**21 08 33.9**	**-1.2**
MORC				*e*Sg	**Sg**	**21 09 02.0**	**-0.3**
CLL	**Collm**	**1.94**	**268**	*e*Pg	**Pb**	**21 08 37.0**	**-0.6**
CLL				*e*		21 08 41.0	
CLL				*e*Sg	**Sg**	**21 09 04.0**	**+0.4**
VRAC	**Vranov**	**2.15**	**171**	*e*Pn	**Pn**	**21 08 38.2**	**-0.3**
VRAC				*e*Sg	**Sg**	**21 09 09.6**	**-0.8**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**21 08 46.0**	**+1.3**
NKC				*e*PG	**Pg**	**21 08 50.3**	**-0.9**
NKC				*e*SG	**Sg**	**21 09 25.9**	**+1.0**
	comp=Z,13nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**244**	Pn	**Pn**	**21 08 46.0**	**+1.3**
NKC	**Novy Kostel**	**2.60**	**244**	Pg	**Pg**	**21 08 50.3**	**-0.9**
NKC				Sg	**Sg**	**21 09 25.9**	**+1.0**
	13nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**21 08 47.6**	**0.0**
KHC				*e*PG	**Pb**	**21 08 52.9**	**+0.5**
KHC				*e*SG	**Sg**	**21 09 31.0**	**-0.6**
KHC	**Kasperske Hory**	**2.81**	**216**	Pn	**Pn**	**21 08 47.6**	**0.0**
VYHS	**Vyhne**	**3.43**	**148**	*e*SG	**Sg**	**21 09 53.9**	**+2.2**
VYHS	**Vyhne**	**3.43**	**148**	*e*Sg	**Sg**	**21 09 53.9**	**+2.2**

*IDC **06** 21:08:06.6±0.8, 10°.77S×162°.43E, h66km±5km, mb4.0/15, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, MS3.5/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=21.6km s-min=13.3km az=114.0*
*NEIC **06** 21:08:06.8±0.6, 10°.69S×162°.57E, mb4.5/5, Error ellipse: s-maj=16.0km s-min=12.7km az=95.0*
*AUST **06** 21:09:05.6±3.2, 12°.69S×159°.80E, h442km, Error ellipse: s-maj=2.4km s-min=1.6km az=3.0*
ISC 06 21:08:05.8±0.6**, 10°.81S**±0°.07×**162°.70E**±0°.10**, h63km**±4km**, h63km:pP-P, n49, σ1s.38**/59**, mb4.4**/17**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.04**	**297**	*e*Pn	**Pn**	**21 08 52.2**	**+0.7**
DZM	**Mont Dzumac**	**11.76**	**163**	P	Pn	21 10 55.2	+4.4
	0.7nm,0.3s,baz=150,slow=20,SNR=6.5						
DZM				S	**Sn**	**21 12 58.2**	**-2.2**
	0.6nm,0.3s,baz=156,slow=20,SNR=2.7						
DZM				LR	LR	21 14 12.8	
	comp=Z,156nm,18.9s,baz=262,slow=31						
DZM	**Mont Dzumac**	**11.76**	**163**	*e*Pn	Pn	21 10 55.3	+4.5
PMG	**Port Moresby**	**15.36**	**274**	*e*P	**P**	**21 11 43.2**	**+0.9**
	34nm,1.1s						
EIDS	**Eidsvold**	**18.19**	**216**	P	**Pn**	**21 12 16.7**	**+2.8**
	baz=15,SNR=3.4						
CTA	**Charters Tower**	**18.32**	**238**	P	**Pn**	**21 12 17.2**	**+1.6**
	1.6nm,0.3s,baz=63,slow=11,SNR=19						
CTA				LR	LR	21 18 30.7	
	comp=Z,77nm,18.9s,baz=56,slow=34						
CTA	**Charters Tower**	**18.32**	**238**	P	**Pn**	**21 12 17.2**	**+1.6**
CTAO	**Charters Tower**	**18.32**	**238**	*e*P	**Pn**	**21 12 16.9**	**+1.2**
	14nm,0.6s						
COEN	**Coen**	**19.32**	**259**	P	**Pn**	**21 12 29.2**	**+1.5**
	baz=16,SNR=4.6						
ARMA	**Armidale**	**22.06**	**206**	P	**P**	**21 12 58.3**	**+2.8**
	baz=19,SNR=3.8						
QLP	**Quilpie**	**23.44**	**225**	P	**P**	**21 13 12.0**	**+2.4**
	baz=20,SNR=4.9						
STKA	**Stephens Creek**	**28.63**	**220**	P	**P**	**21 13 56.5**	**+0.2**
	1.3nm,0.5s,baz=56,slow=15,SNR=7.7						
STKA				LR	LR	21 24 38.0	
	comp=Z,136nm,18.8s,baz=27,slow=35						
STKA	**Stephens Creek**	**28.63**	**220**	P	**P**	**21 13 56.5**	**+0.2**
STKA	**Stephens Creek**	**28.63**	**220**	P	**P**	**21 13 56.4**	**0.0**
	baz=25,SNR=5.5						
WRA	**Warramunga Arr**	**28.77**	**248**	P	**P**	**21 13 56.0**	**-1.8**
	2.3nm,0.9s,baz=76,slow=8.9,SNR=14						
WRA				pP	**pP**	**21 14 12.3**	**-0.9**
	1.9nm,0.7s,baz=77,slow=9.3,SNR=6.1						
WRA	**Warramunga Arr**	**28.77**	**248**	P	**P**	**21 13 56.0**	**-1.8**
WRA				pP	**pP**	**21 14 12.3**	**-0.9**
TLE	**Tual**	**30.08**	**277**	S	S	21 18 53.9	-10
	baz=28,SNR=4.0						
ASAR	**Alice Springs**	**30.25**	**241**	P	**P**	**21 14 08.9**	**-2.0**
	1.9nm,0.6s,baz=64,slow=10,SNR=26						
ASAR				pP	**pP**	**21 14 25.1**	**-1.4**
	0.8nm,0.5s,baz=71,slow=9.4,SNR=3.1						
ASAR				LR	LR	21 25 36.0	
	comp=Z,110nm,21.2s,baz=65,slow=35						
ASAR	**Alice Springs**	**30.25**	**241**	P	**P**	**21 14 08.9**	**-2.0**
ASAR				pP	**pP**	**21 14 25.1**	**-1.4**
BBOO	**Buckleboo**	**32.85**	**224**	P	**P**	**21 14 33.1**	**-0.6**
	baz=30,SNR=13						
FITZ	**Fitzroy Crossi**	**36.56**	**254**	P	**P**	**21 15 03.4**	**-2.3**
	4.0nm,0.6s,baz=85,slow=6.3,SNR=18						
FITZ				pP	**pP**	**21 15 21.5**	**0.0**
	3.1nm,0.6s,baz=101,slow=7.2,SNR=5.4						
FITZ	**Fitzroy Crossi**	**36.56**	**254**	*e*P	**P**	**21 15 03.1**	**-2.7**
	2.8nm,0.5s						
FITZ				*e*pP	**pP**	**21 15 21.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**36.56**	**254**	P	**P**	**21 15 03.5**	**-2.3**
	baz=33,SNR=6.9						
WSI	**Waingapu**	**41.72**	**268**	S	ScP	21 21 21.8	-7.8
	baz=39,SNR=3.5						
PCI	**Palu**	**43.70**	**280**	P	P	21 16 10.1	+5.1
	baz=41,SNR=11						
PCI				S	**ScP**	**21 21 37.8**	**+0.2**
	baz=41,SNR=6.8						
MEEK	**Meekatharra**	**44.37**	**243**	P	**P**	**21 16 09.6**	**-0.7**
	baz=41,SNR=13						
ASAJ	**Asahikawa**	**57.64**	**343**	P	**P**	**21 17 50.0**	**+0.6**
	7.6nm,0.6s,baz=153,slow=17,SNR=6.7						
ASAJ	**Asahikawa**	**57.64**	**343**	P	**P**	**21 17 50.0**	**+0.6**
KSRS	**Korea Array**	**58.04**	**328**	P	**P**	**21 17 52.2**	**-0.1**
	1.1nm,0.8s,baz=125,slow=6.7,SNR=3.8						
KSAR	**Wonju Array Be**	**58.05**	**328**	P	**P**	**21 17 52.2**	**-0.2**
USRK	**Ussuriysk Arra**	**61.44**	**335**	P	**P**	**21 18 16.5**	**+1.0**
	4.4nm,0.9s,baz=120,slow=11,SNR=5.3						
USRK				pP	**pP**	**21 18 33.0**	**+0.7**
	3.7nm,0.9s,baz=126,slow=6.6,SNR=4.0						
VNDA	**Vanda**	**66.69**	**180**	P	**P**	**21 18 50.6**	**+1.1**
	4.7nm,0.7s,baz=347,slow=5.8,SNR=17						
VNDA	**Vanda**	**66.69**	**180**	P	**P**	**21 18 50.6**	**+1.1**
ULN	**Ulaanbaatar**	**76.38**	**325**	*e*P	**P**	**21 19 48.5**	**+0.1**
	4.5nm,0.7s						
SONM	**Songino Array**	**76.73**	**325**	P	**P**	**21 19 50.5**	**0.0**
	5.4nm,0.9s,baz=141,slow=5.9,SNR=36						
SONM	**Songino Array**	**76.73**	**325**	P	**P**	**21 19 50.5**	**0.0**
QSPA	**South Pole Qui**	**79.19**	**180**	*e*P	**P**	**21 20 04.3**	**+0.5**
	8.9nm,0.7s						
ILAR	**Eielson Array**	**84.27**	**19**	P	**P**	**21 20 29.9**	**-0.3**
	0.8nm,0.7s,baz=228,slow=5.2,SNR=6.4						
ILAR				pP	**pP**	**21 20 49.5**	**+1.6**
	0.9nm,0.8s,baz=243,slow=3.6,SNR=5.1						
ILAR	**Eielson Array**	**84.27**	**19**	P	**P**	**21 20 29.9**	**-0.3**
ILAR				pP	**pP**	**21 20 49.5**	**+1.6**
NVAR	**Mina Array Bea**	**88.17**	**50**	P	**P**	**21 20 51.6**	**+1.3**
	1.2nm,0.7s,baz=232,slow=8.7,SNR=6.2						
NVAR	**Mina Array Bea**	**88.17**	**50**	P	**P**	**21 20 51.6**	**+1.3**
MKAR	**Makanchi Array**	**91.32**	**317**	P	**P**	**21 21 03.7**	**-0.9**
	1.1nm,0.7s,baz=96,slow=6.1,SNR=16						
MKAR				pP	**pP**	**21 21 22.5**	**+0.1**
	0.4nm,0.7s,baz=98,slow=5.9,SNR=2.7						
MKAR				sP	**sP**	**21 21 28.3**	**-1.0**
	0.7nm,0.8s,baz=109,slow=5.2,SNR=4.1						
MKAR	**Makanchi Array**	**91.32**	**317**	P	**P**	**21 21 03.7**	**-0.9**
MKAR				pP	**pP**	**21 21 22.5**	**+0.1**
MKAR				sP	**sP**	**21 21 28.3**	**-1.0**
ZALV	**Zalesovo Beam**	**91.63**	**325**	P	**P**	**21 21 04.0**	**-1.8**
	0.6nm,0.4s,baz=99,slow=4.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**91.63**	**325**	P	**P**	**21 21 04.0**	**-1.8**
KURK	**Kurchatov**	**94.56**	**321**	P	**P**	**21 21 17.8**	**-1.5**
KURBB	**Kurchatov Arra**	**94.59**	**321**	P	**P**	**21 21 17.8**	**-1.7**
	0.3nm,0.7s,baz=90,slow=3.8,SNR=4.7						
YKA	**Yellowknife Ar**	**96.15**	**28**	P	**P**	**21 21 25.5**	**-0.8**
	0.5nm,0.9s,baz=257,slow=4.8,SNR=7.4						
YKA	**Yellowknife Ar**	**96.15**	**28**	P	**P**	**21 21 25.6**	**-0.8**

IDC 06 21:18:23.9±9.6**, 21°.20S×178°.14W, h384km**±97km**, mb3.2**/5**, mb1 3.5**/5**, mb1mx3.2**/18**, mbtmp3.2**/5**, Error ellipse: s-maj=104.0km s-min=33.2km az=151.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.37**	**245**	P	P	21 25 01.2	-0.5
	2.0nm,0.4s,baz=100,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**44.23**	**257**	P	P	21 25 57.5	+0.3
	2.5nm,0.8s,baz=90,slow=8.1,SNR=23						
WRA	**Warramunga Arr**	**44.38**	**263**	P	P	21 25 58.2	-0.2
	0.2nm,0.3s,baz=96,slow=8.4,SNR=13						
NVAR	**Mina Array Bea**	**81.62**	**43**	P	P	21 30 00.8	+0.3
	0.7nm,0.6s,baz=233,slow=4.4,SNR=2.0						
ILAR	**Eielson Array**	**89.02**	**13**	P	P	21 30 35.3	-0.5
	0.3nm,0.5s,baz=217,slow=5.3,SNR=5.3						
BVAR	**Borovoye Array**	**119.53**	**320**	PKP	PKPdf	21 36 30.3	+2.0
	0.4nm,0.3s,baz=138,slow=2.6,SNR=4.2						
ARCES	**ARCESS Array B**	**129.58**	**349**	PKP	PKPdf	21 36 46.8	-0.3
	1.8nm,0.9s,baz=52,slow=1.5,SNR=3.2						
AKASG	**Malin Array Be**	**143.56**	**331**	PKP	PKPab	21 37 11.3	+0.1
	0.8nm,0.4s,baz=40,slow=4.7,SNR=5.0						
GERES	**GERESS Array B**	**150.84**	**344**	PKPbc	PKPbc	21 37 30.4	-1.3
	0.2nm,0.5s,baz=12,slow=6.8,SNR=4.9						

*ISCJB **06** 21:24:39.5±0.9, 15°.4S±0°.3×175°.0W±0°.2, h33km, mb4.0/6, MS4.0/18, Error ellipse: s-maj=46.7km s-min=13.5km az=155.6*
*IDC **06** 21:24:39.7±1.0, 15°.78S×175°.44W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/19, mbtmp4.0/6, MS4.0/20, Ms1 4.0/20, ms1mx3.8/34, Error ellipse: s-maj=50.9km s-min=21.8km az=145.0*
ISC 06 21:24:42.6±0.9**, 15°.6S**±0°.3×**175°.0W**±0°.2**, h35km, n29, σ2s.28**/9**, mb4.0**/6**, MS4.2**/18**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.50**	**62**	Pn	**Pn**	**21 25 32.7**	**-1.9**
	8.3nm,0.3s,baz=70,slow=10,SNR=11						
AFI				LR	LR	21 27 11.4	
	comp=Z,347nm,19.6s,baz=84,slow=38						
AFI				T	T	21 29 10.4	
	8.4nm,0.3s,baz=189,slow=23,SNR=3.8						
RAR	**Rarotonga**	**15.45**	**113**	LR	LR	21 33 06.8	
	comp=Z,475nm,21.7s,baz=156,slow=32						
DZM	**Mont Dzumac**	**18.74**	**247**	*e*P	**Pn**	**21 29 01.5**	**+2.3**
	39nm,1.1s						
DZM				*e*LR	LR	21 33 26.2	
	448nm,24.4s						
DZM	**Mont Dzumac**	**18.74**	**247**	P	**Pn**	**21 28 59.8**	**+0.6**
	0.2nm,0.3s,baz=60,slow=18,SNR=7.2						
DZM				LR	LR	21 34 19.9	
	comp=Z,222nm,18.6s,baz=354,slow=32						
PPT2	**Papeete2**	**24.40**	**98**	*e*LR	LR	21 35 54.8	
	617nm,26.2s						
TBI	**Tubuai**	**25.22**	**112**	*e*LR	LR	21 36 23.6	
	672nm,27.5s						
CTA	**Charters Tower**	**37.14**	**257**	LR	LR	21 44 06.9	
	comp=Z,151nm,19.6s,baz=54,slow=32						
STKA	**Stephens Creek**	**42.64**	**240**	P	**P**	**21 32 33.1**	**-2.7**
	2.4nm,1.0s,baz=61,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**48.34**	**257**	P	**P**	**21 33 19.6**	**-1.6**
	2.9nm,1.1s,baz=90,slow=7.8,SNR=13						
WRA				LR	LR	21 50 58.0	
	comp=Z,200nm,21.4s,baz=105,slow=33						
ASAR	**Alice Springs**	**48.62**	**252**	P	**P**	**21 33 22.7**	**-0.7**
	2.0nm,0.8s,baz=86,slow=8.3,SNR=18						
ASAR				LR	LR	21 52 08.4	
	comp=Z,274nm,18.9s,baz=95,slow=34						
FITZ	**Fitzroy Crossi**	**56.70**	**258**	LR	LR	21 56 45.5	
	comp=Z,130nm,20.2s,baz=108,slow=34						
VNDA	**Vanda**	**63.04**	**186**	P	**P**	**21 35 06.9**	**+1.2**
	1.1nm,0.9s,baz=70,slow=3.7,SNR=3.6						
MJAR	**Matsushiro Arr**	**68.12**	**321**	LR	LR	22 02 44.2	
	comp=Z,38nm,18.2s,baz=110,slow=34						
FX1	**Attu Island--F**	**68.96**	**352**	LR	LR	21 58 25.3	
	comp=Z,150nm,20.6s,baz=238,slow=29						
PETK	**Petropavlovsk-**	**72.36**	**343**	LR	LR	22 00 23.8	
	comp=Z,103nm,21.1s,baz=331,slow=30						
LPIG	**La Paz**	**74.42**	**59**	LR	LR	22 01 34.8	
	comp=Z,5.9nm,20.1s,baz=63,slow=30						
YBH	**Yreka Blue Hor**	**74.66**	**38**	LR	LR	21 59 44.2	
	comp=Z,118nm,20.9s,baz=234,slow=28						
KDAK	**Kodiak Island**	**75.41**	**12**	LR	LR	22 01 48.1	
	comp=Z,151nm,21.3s,baz=283,slow=29						
NVAR	**Mina Array Bea**	**75.48**	**43**	P	P	21 36 30.5	+6.9
	1.1nm,0.6s,baz=234,slow=7.7,SNR=4.7						
USRK	**Ussuriysk Arra**	**76.63**	**324**	LR	LR	22 02 58.4	
	comp=Z,131nm,20.8s,baz=272,slow=30						
BBB	**Bella Bella**	**78.73**	**27**	LR	LR	22 01 40.1	
	comp=Z,111nm,21.0s,baz=260,slow=28						
ANMO	**Albuquerque**	**82.08**	**51**	LR	LR	22 07 09.8	
	comp=Z,81nm,20.6s,baz=150,slow=31						
DLBC	**Dease Lake**	**82.43**	**22**	LR	LR	22 05 09.0	
	comp=Z,162nm,21.5s,baz=206,slow=29						
ILAR	**Eielson Array**	**82.93**	**12**	LR	LR	22 06 31.4	
	comp=Z,101nm,21.0s,baz=199,slow=30						
PDAR	**Pinedale Array**	**83.41**	**42**	P	**P**	**21 37 09.8**	**+3.1**
	0.8nm,0.9s,baz=212,slow=3.2,SNR=4.2						
MAW	**Mawson**	**87.13**	**199**	LR	LR	22 14 12.8	
	comp=Z,215nm,18.1s,baz=22,slow=34						
CMAR	**Chiang Mai Arr**	**91.25**	**289**	LR	LR	22 18 40.7	
	comp=Z,26nm,18.6s,baz=235,slow=36						
ULM	**Lac du Bonnet**	**95.03**	**39**	LR	LR	22 15 30.0	
	comp=Z,73nm,19.2s,baz=43,slow=32						
BRTR	**Keskin Array B**	**145.34**	**320**	PKPbc	**PKPab**	**21 44 18.1**	**+0.9**
	4.6nm,1.0s,baz=101,slow=1.3,SNR=9.4						

*BER **06** 21:40:01.3±1.9, 80°.93N×1°.93E, h15km±999km, MD2.1, ML2.0, ML3.2(NAO)*
*NAO **06** 21:40:02.9±7.8, 80°.58N×2°.37E, ML3.2*
CSEM 06 21:39:59.5±1.1**, 79°.86N×1°.53W, h15km, ML3.2, Error ellipse: s-maj=57.3km s-min=7.9km az=174.0, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.66**	**104**	Pn	Pn	21 40 41.7	0.0
KBS				Sn	Sn	21 41 11.3	-2.2
KBS	**Kingsbay**	**2.66**	**104**	*e*P	Pn	21 40 41.7	0.0
KBS				*e*S	Sn	21 41 11.4	-2.1
KBS				AML	AML	21 41 12.6	
	comp=Z,14nm,0.3s						
KBS	**Kingsbay**	**2.66**	**104**	*e*P	Pn	21 40 41.7	0.0
	SNR=55						
KBS				*i* S	Sn	21 41 11.6	-2.0
	comp=Z,8.5nm,0.5s,SNR=49						
SPA0	**Spitsbergen Ar**	**3.80**	**107**	Pn	Pn	21 40 58.3	+0.8
	baz=324,slow=7.9						
SPA0				Sn	Sn	21 41 40.3	-1.5
	baz=327,slow=16						
SPA0	**Spitsbergen Ar**	**3.80**	**107**	Pn	Pn	21 40 58.3	+0.8
	baz=324,slow=7.9						
SPA0				Sn	Sn	21 41 40.3	-1.5
	baz=327,slow=16						
SPA0	**Spitsbergen Ar**	**3.80**	**107**	Pn	Pn	21 40 58.3	+0.8
	baz=324,slow=7.8,SNR=51						
SPA0				Sn	Sn	21 41 40.3	-1.5
	baz=327,slow=15,SNR=3.9						
SUMG	**Summit**	**11.15**	**249**	*i* P	Pn	21 42 37.4	-1.2
SUMG				*i* S	Sn	21 44 35.7	-7.3
SUMG	**Summit**	**11.15**	**249**	*i* P	Pn	21 42 37.5	-1.1
	SNR=46						

*IDC **06** 21:42:00.4±2.1, 6°.71S×129°.36E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/15, Error ellipse: s-maj=88.2km s-min=27.4km az=76.0*
*ISCJB **06** 21:42:13.6±1.1, 7°.31S±0°.09×129°.0E±0°.1, h131km, mb3.2/1, Error ellipse: s-maj=18.9km s-min=7.8km az=147.0*
*AUST **06** 21:42:15.1, 7°.48S×129°.04E, h200km*
ISC 06 21:42:13.8±1.3**, 7°.37S**±0°.08×**129°.1E**±0°.1**, h131km, n10, σ2s.78**/13**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.78**	**160**	P	Pn	21 43 41.5	+4.1
	baz=5.7,SNR=23						
MTN				S	**Sn**	**21 44 44.4**	**+1.7**
	baz=5.7,SNR=10.0						
KDU	**Kakadu**	**6.22**	**148**	P	Pn	21 43 46.9	+3.6
	baz=6.2,SNR=17						
KDU				S	**Sn**	**21 44 52.2**	**-1.0**
	baz=6.2,SNR=8.7						
WSI	**Waingapu**	**9.04**	**255**	P	**Pn**	**21 44 21.8**	**+0.6**
	baz=8.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.20**	**197**	Pn	**Pn**	**21 44 50.7**	**+0.5**
	0.3nm,0.3s,baz=17,slow=13,SNR=10						
FITZ				Sn	**Sn**	**21 46 49.0**	**-4.7**
	1.2nm,0.3s,baz=100,slow=17,SNR=12						
FITZ	**Fitzroy Crossi**	**11.20**	**197**	P	**Pn**	**21 44 52.2**	**+2.1**
	baz=11,SNR=5.0						
FITZ				S	**Sn**	**21 46 52.7**	**-0.9**
	baz=11,SNR=4.1						
PCI	**Palu**	**11.28**	**304**	P	**Pn**	**21 44 49.6**	**-1.6**
	baz=11,SNR=5.5						
WRA	**Warramunga Arr**	**13.48**	**159**	Pn	**Pn**	**21 45 20.4**	**+0.6**

	0.3nm,0.3s,baz=344,slow=13,SNR=17						
WRA				Sn	Sn	21 47 44.4	-4.4
	1.1nm,0.3s,baz=330,slow=23,SNR=15						
ASAR	Alice Springs	16.84	165	P	Pn	21 46 05.5	+3.7
	0.5nm,0.3s,baz=342,slow=9.9,SNR=39						
ASAR				S	Sn	21 49 06.6	-3.0
	0.3nm,0.3s,baz=327,slow=18,SNR=5.3						
NWAO	Narrogin (SRO)	27.73	202	LR	LR	22 00 21.4	
	comp=Z,109nm,20.9s,baz=163,slow=39						
MKAR	Makanchi Array	68.07	327	P	P	21 52 59.2	0.0
	0.2nm,0.4s,baz=121,slow=7.7,SNR=7.9						

IDC 06 22:04:57.4±3.5, 17°.78S×175°.59W, h322km±35km, mb3.4/4, mb1 3.4/5, mb1mx3.1/21, mbtmp3.3/5, Error ellipse: s-maj=92.3km s-min=28.7km az=18.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	17.42	253	P	P	22 08 40.0	+0.2
	0.1nm,0.3s,baz=70,slow=18,SNR=5.0						
STKA	Stephens Creek	41.05	242	P	P	22 12 10.1	-0.4
	0.4nm,0.4s,baz=90,slow=10,SNR=2.2						
WRA	Warramunga Arr	47.30	259	P	P	22 12 59.4	-0.4
	0.4nm,0.3s,baz=96,slow=7.2,SNR=26						
ASAR	Alice Springs	47.41	254	P	P	22 13 00.8	+0.2
	4.3nm,0.8s,baz=89,slow=8.3,SNR=54						
ASAR				S	S	22 19 30.5	+0.5
	0.5nm,0.8s,baz=86,slow=14,SNR=4.2						
QSPA	South Pole Qui	72.28	180	P	P	22 15 48.2	+0.1
	1.6nm,0.6s,baz=304,slow=2.9,SNR=5.0						

IDC 06 22:12:59.8±7.7, 16°.56S×172°.87W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.5/2, Error ellipse: s-maj=364.2km s-min=59.9km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.09	258	P	P	22 21 56.5	-0.5
	0.2nm,0.6s,baz=97,slow=7.9,SNR=3.1						
ASAR	Alice Springs	50.25	253	P	P	22 21 58.6	+0.4
	0.8nm,0.7s,baz=86,slow=8.4,SNR=10						
BRTR	Keskin Array B	147.38	320	PKPbc	PKPbc	22 32 45.1	-0.9
	0.6nm,0.8s,baz=67,slow=4.2,SNR=3.1						

IDC 06 22:17:27.3±22.0, 33°.19S×179°.06W, h220km±189km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/39, Error ellipse: s-maj=104.7km s-min=27.5km az=56.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.94	307	LR	LR	22 26 05.5	
	comp=Z,55nm,19.4s,baz=206,slow=31						
CTA	Charters Tower	33.48	284	P	P	22 23 46.2	+0.3
	7.7nm,0.9s,baz=112,slow=11,SNR=4.2						
ASAR	Alice Springs	42.14	270	P	P	22 24 58.2	-0.1
	1.2nm,0.6s,baz=112,slow=7.7,SNR=11						
WRA	Warramunga Arr	43.39	276	P	P	22 25 07.7	-0.5
	2.4nm,0.4s,baz=115,slow=7.8,SNR=55						
QSPA	South Pole Qui	56.93	180	P	P	22 26 49.2	0.0
	2.5nm,0.9s,baz=314,slow=1.0,SNR=4.8						
MKAR	Makanchi Array	118.85	309	PKP	PKPdf	22 35 48.7	-0.3
	0.1nm,0.5s,baz=99,slow=1.7,SNR=2.7						
KEV	Kevo	140.62	346	ep	PKPdf	22 36 28.7	-0.6
	0.3nm,0.4s						
ARCES	ARCESS Array B	141.10	347	PKP	PKPdf	22 36 30.1	-0.1
	1.7nm,0.8s,baz=40,slow=1.5,SNR=3.4						
JOF	Joensuu	144.64	336	ep	PKPab	22 36 34.7	-1.3
	0.4nm,0.3s						
KAF	Kangasniemi	146.84	338	ep	PKPdf	22 36 40.3	-0.1
	0.8nm,0.4s						
FINES	FINESS Array B	147.41	338	PKPbc	PKPbc	22 36 43.5	-0.7
	3.0nm,0.5s,baz=38,slow=5.3,SNR=30						
NB2	NORSAR Subarra	151.34	350	PKP	PKPbc	22 36 52.9	-1.1
	comp=Z,3.8nm,1.1s,baz=17,slow=4.1						
NOA	NORSAR Array B	151.34	350	PKPbc	PKPbc	22 36 53.3	-0.7
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=4.4						
BRTR	Keskin Array B	153.00	293	PKPbc	PKPbc	22 36 58.9	+0.4
	comp=Z,0.5nm,0.6s,baz=115,slow=3.4,SNR=3.5						

IDC 06 22:45:08.2±0.6, 4°.02N×126°.60E, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.3/26, mbtmp4.2/21, MS3.4/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=27.9km s-min=12.6km az=75.0
ISCJB 06 22:45:11.8±0.3, 4°.15N±0°.04×126°.83E±0°.05, h36km, mb4.4/33, MS4.1/3, Error ellipse: s-maj=7.7km s-min=5.0km az=164.7
NEIC 06 22:45:13.0±0.3, 3°.98N×126°.68E, h35km, mb4.3/8, Error ellipse: s-maj=11.0km s-min=5.4km az=66.0
AUST 06 22:45:18.6±1.2, 3°.98N×127°.02E, h95km, Error ellipse: s-maj=2.1km s-min=1.2km az=227.0
DJA 06 22:45:19.0±0.9, 4°N±8°×12°7E±°, h87km±9km, M4.5/10, mB4.8/1, mb4.4/10, MLv4.5/6, Mw(mB)4.1/1
ISC 06 22:45:13.9±0.4, 4°.16N±0°.06×126°.87E±0°.07, h36km, n94, σ1s.36/95, mb4.4/32, MS3.6/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.17	336	Pn	Pn	22 46 07.5	+6.3
	38nm,0.3s,baz=270,slow=7.1,SNR=2.1						
DAV				Sn	Sn	22 46 54.9	+17
	56nm,0.3s,baz=20,slow=20,SNR=2.7						
DAV	Davao City (W)	3.17	336	Pn	Pn	22 46 07.5	+6.3
DAV				Sn	Sn	22 46 54.9	+17
DMPH	Davao City--Mi	3.21	335⇑	eP	Pn	22 46 10.7	+8.9
MNI	Manado	3.38	217	P	Pn	22 46 04.7	+0.6
TNTI	Ternate	3.40	172	P	Pn	22 46 05.1	+0.7
KMSI	Cibinong	4.58	219	P	Pn	22 46 35.9	+15
LBMI	Labuha	4.80	172	P	Pn	22 46 25.8	+2.1
MRSI	Marisa	6.14	234	P	Pn	22 46 41.9	-0.1
	88nm,0.5s,966nm0.3nm						
LUWI	Luwuk	6.59	219	P	Pn	22 46 52.3	+4.0
	156nm,0.9s,0.5nm						
SWI	Sorong	6.64	139	P	Pn	22 46 50.5	+1.6
	baz=6.4,SNR=4.8						
SWI	Sorong	6.64	139	P	Pn	22 46 50.6	+1.6
	32nm,0.8s,0.2nm						
MYLDM	Lahad Datu	8.41	277	P	Pn	22 47 19.0	+5.8
	36nm,1.3s						
PCI	Palu	8.64	235	P	Pn	22 47 21.3	+4.8
	baz=8.7,SNR=3.7						
PCI				S	Sn	22 48 54.8	+2.0
	baz=8.7,SNR=16						
FAKI	Fak Fak	8.85	143	P	Pn	22 47 21.3	+2.0
	22nm,1.0s						
SBUM	Sibu	14.73	264	P	Pn	22 48 41.8	+2.1
	8.9nm,1.1s						
WSI	Waingapu	15.22	205	S	Sn	22 51 38.9	+5.2
	baz=15,SNR=3.8						
MTN	Manton Dam	17.41	166	P	Pn	22 49 12.2	-1.9
	baz=17,SNR=10						
KDU	Kakadu	17.64	162	P	Pn	22 49 15.2	-1.6
	baz=18,SNR=6.9						
FITZ	Fitzroy Crossi	22.15	183	P	P	22 50 04.5	-2.2
	1.0nm,0.3s,baz=12,slow=12,SNR=7.2						
FITZ	Fitzroy Crossi	22.15	183	eP	P	22 50 04.3	-2.4
	9.8nm,1.2s						
FITZ	Fitzroy Crossi	22.15	183	P	P	22 50 06.8	+0.1
	baz=22,SNR=3.3						
WRAB	Tennant Creek	25.04	163	eP	P	22 50 33.3	-1.6
	16nm,0.9s						
WRA	Warramunga Arr	25.05	163	P	P	22 50 33.4	-1.5
	4.9nm,0.7s,baz=343,slow=10,SNR=40						
WRA	Warramunga Arr	25.05	163	P	P	22 50 33.4	-1.5
AS31	Alice Springs	28.49	166	eP	P	22 51 01.7	-4.3
ASAR	Alice Springs	28.49	166	P	P	22 51 04.8	-1.2
	0.8nm,0.6s,baz=346,slow=7.1,SNR=13						
ASAR	Alice Springs	28.49	166	P	P	22 51 04.8	-1.2
CMAR	Chiang Mai Arr	30.78	300	P	P	22 51 25.9	-0.5
	2.0nm,0.7s,baz=117,slow=6.9,SNR=15						
CMAR	Chiang Mai Arr	30.78	300	P	P	22 51 25.9	-0.5
CHTO	Chiang Mai	30.93	300	eP	P	22 51 27.1	-0.5
	5.2nm,0.8s						
CHTO	Chiang Mai	30.93	300	P	P	22 51 26.8	-0.8
MEEK	Meekatharra	31.64	194	P	P	22 51 32.4	-1.3
	baz=32,SNR=3.8						
KSAR	Wonju Array Be	33.14	1	P	P	22 51 49.0	+2.2
KSRS	Korea Array	33.15	2	P	P	22 51 49.0	+2.1
	1.6nm,0.7s,baz=182,slow=11,SNR=5.0						
BBOO	Buckleboo	37.78	167	P	P	22 52 26.0	-0.7
	baz=38,SNR=7.6						
STKA	Stephens Creek	38.48	160	P	P	22 52 32.4	-0.2
	4.8nm,0.8s,baz=338,slow=11,SNR=12						
STKA	Stephens Creek	38.48	160	eP	P	22 52 32.2	-0.4
	1.9nm,1.0s						
STKA	Stephens Creek	38.48	160	P	P	22 52 32.6	0.0
	baz=38,SNR=6.3						
SHL	Shillong	39.74	306	eP	P	22 52 44.0	+0.5
USRK	Ussuriysk Arra	40.13	6	P	P	22 52 48.2	+2.0
	1.0nm,0.5s,baz=181,slow=9.1,SNR=3.4						
ASAJ	Asahikawa	42.14	17	P	P	22 53 03.5	+0.7
	19nm,1.1s,baz=167,slow=15,SNR=2.5						
ASAJ	Asahikawa	42.14	17	P	P	22 53 03.5	+0.7
TAPN	Taplejung	43.88	306	eP	P	22 53 16.3	-1.2
	11nm,0.6s						
TAPN	Taplejung	43.88	306	eP	P	22 53 16.3	-1.2
	11nm,0.6s						
ODAN	Odare	43.94	305	eP	P	22 53 16.7	-1.2
	15nm,0.7s						
ODAN	Odare	43.94	305	eP	P	22 53 16.7	-1.2
	15nm,0.7s						
RAMN	Ramite	44.62	305	eP	P	22 53 22.2	-1.2
	12nm,0.9s						
RAMN	Ramite	44.62	305	eP	P	22 53 22.2	-1.2
	12nm,0.9s						
GUN	Gumba	45.59	306	eP	P	22 53 30.3	-0.9
	15nm,0.8s						
GUN	Gumba	45.59	306	eP	P	22 53 30.3	-0.9
	15nm,0.8s						
KKN	Kakani	46.03	305	eP	P	22 53 33.2	-1.3
	3.3nm,0.2s						
DMN	Daman	46.10	305	eP	P	22 53 34.6	-0.5
DMN	Daman	46.10	305	eP	P	22 53 34.6	-0.5
GKN	Gorkha	46.64	305	eP	P	22 53 37.8	-1.4
GKN	Gorkha	46.64	305	eP	P	22 53 37.8	-1.4
ULN	Ulaanbaatar	46.76	342	eP	P	22 53 40.1	+0.3
	2.5nm,0.8s						
ULN				ePcP	PcP	22 55 12.9	+0.2
SONM	Songino Array	46.94	341	P	P	22 53 41.3	+0.1
	0.9nm,0.6s,baz=154,slow=8.5,SNR=11						
SONM				PcP	PcP	22 55 14.0	+0.6
	0.8nm,0.6s,baz=155,slow=3.7,SNR=4.8						
SONM				LR	LR	23 15 08.4	
	comp=Z,40nm,21.5s,baz=237,slow=38						
SONM	Songino Array	46.94	341	P	P	22 53 41.3	+0.1
SONM				PcP	PcP	22 55 14.0	+0.6
KOLN	Koldanda	47.40	304	eP	P	22 53 44.1	-1.1
KOLN	Koldanda	47.40	304	eP	P	22 53 44.1	-1.1
DANN	Dangsing	47.49	305	eP	P	22 53 44.9	-1.1
	17nm,0.6s						
DANN	Dangsing	47.49	305	eP	P	22 53 44.9	-1.1
	17nm,0.6s						
PYUN	Piuthan	48.02	305	eP	P	22 53 48.9	-1.1
	16nm,0.8s						
PYUN	Piuthan	48.02	305	eP	P	22 53 48.9	-1.1
	16nm,0.8s						
PETK	Petropavlovsk-	54.98	22	P	P	22 54 42.7	+1.3
	0.9nm,0.4s,baz=193,slow=6.1,SNR=4.1						
PETK	Petropavlovsk-	54.98	22	P	P	22 54 42.7	+1.3
MK31	Makanchi Array	57.29	325	eP	P	22 54 57.5	-0.5
MK31				ePcP	PcP	22 55 52.0	-0.1
MK31				eScP	ScP	22 59 51.8	+2.6
MKAR	Makanchi Array	57.29	325	P	P	22 54 57.6	-0.4
	1.7nm,0.4s,baz=121,slow=8.4,SNR=42						
MKAR				PcP	PcP	22 55 52.6	+0.6
	1.9nm,0.7s,baz=118,slow=4.7,SNR=7.6						
MKAR				ScP	ScP	22 59 52.4	+3.1
	0.8nm,0.7s,baz=111,slow=5.0,SNR=9.4						
MKAR	Makanchi Array	57.29	325	P	P	22 54 57.6	-0.4
MKAR				PcP	PcP	22 55 52.6	+0.6
MKAR				ScP	ScP	22 59 52.4	+3.1
ZALV	Zalesovo Beam	60.27	333	P	P	22 55 17.5	-1.1
	1.7nm,0.6s,baz=132,slow=7.0,SNR=9.9						
ZALV	Zalesovo Beam	60.27	333	P	P	22 55 17.5	-1.1
KURBB	Kurchatov Arra	61.46	327	P	P	22 55 26.0	-0.7
	3.5nm,0.6s,baz=124,slow=6.5,SNR=27						
KURK	Kurchatov	61.46	327	eP	P	22 55 26.0	-0.8
	4.9nm,0.6s						
BVAR	Borovoye Array	67.04	327	P	P	22 56 01.9	-1.4
	1.7nm,0.6s,baz=133,slow=9.7,SNR=13						
BVAR	Borovoye Array	67.04	327	P	P	22 56 01.9	-1.4
ABKAR	Akbulak array	71.91	321	eP	P	22 56 32.2	-1.2
	1.3nm,0.6s						
ARU	Arti	74.65	328	eP	P	22 56 48.3	-1.1
	3.9nm,0.6s						
RAR	Rarotonga	76.07	113	LR	LR	23 24 46.5	
	comp=Z,2µm,18.7s,baz=104,slow=31						
ILAR	Eielson Array	84.66	25	P	P	22 57 44.1	+0.5
	1.2nm,0.9s,baz=253,slow=6.1,SNR=8.7						
ILAR	Eielson Array	84.66	25	P	P	22 57 44.1	+0.5
BRTR	Keskin Array B	89.86	310	P	P	22 58 08.3	-1.2
	1.2nm,0.8s,baz=72,slow=4.7,SNR=5.8						
BRTR	Keskin Array B	89.86	310	P	P	22 58 08.3	-1.2
ARCES	ARCESS Array B	90.10	340	P	P	22 58 09.4	-0.4
	3.1nm,0.9s,baz=56,slow=3.1,SNR=6.7						
ARCES	ARCESS Array B	90.10	340	P	P	22 58 09.4	-0.4
FINES	FINESS Array B	91.53	332	P	P	22 58 16.3	-0.2
	2.1nm,0.7s,baz=0.0,slow=1.4,SNR=13						
FINES	FINESS Array B	91.53	332	P	P	22 58 16.3	-0.2
AKASG	Malin Array Be	91.65	321	P	P	22 58 16.5	-0.9
	2.7nm,0.7s,baz=66,slow=5.2,SNR=5.3						
AKASG	Malin Array Be	91.65	321	P	P	22 58 16.5	-0.9
NOA	NORSAR Array B	98.47	334	P	P	22 58 47.5	-0.8
	0.7nm,0.7s,baz=66,slow=4.6,SNR=3.1						
NOA				LR	LR	23 44 10.8	
	comp=Z,21nm,18.8s,baz=275,slow=36						
NOA	NORSAR Array B	98.47	334	P	P	22 58 47.5	-0.8
YKA	Yellowknife Ar	99.05	24	P	Pdif	22 58 52.1	+1.3
	0.1nm,0.5s,baz=304,slow=5.6,SNR=4.1						
YKA	Yellowknife Ar	99.05	24	P	Pdif	22 58 52.1	+1.3
TORD	Torodi Ar. Bea	122.92	288	PKP	PKPdf	23 04 06.6	-0.7
	0.3nm,0.4s,baz=84,slow=1.7,SNR=5.5						
TORD	Torodi Ar. Bea	122.92	288	PKP	PKPdf	23 04 06.6	-0.7

IDC 06 22:53:15.5±2.8, 6°.94S×126°.43E, h438km±35km, mb3.0/5, mb1 3.1/8, mb1mx3.0/21, mbtmp3.0/8, Error ellipse: s-maj=78.7km s-min=12.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.12	184	P	P	22 55 45.4	+0.5
	0.6nm,0.3s,baz=5.6,slow=11,SNR=11						
WRA	Warramunga Arr	15.04	150	P	P	22 56 26.7	-0.7
	0.9nm,0.3s,baz=325,slow=11,SNR=47						
WRA				S	S	22 59 03.8	-2.2
	0.1nm,0.3s,baz=318,slow=20,SNR=3.7						
ASAR	Alice Springs	18.12	157	P	P	22 56 59.5	-0.5
	1.2nm,0.3s,baz=342,slow=9.0,SNR=39						
ASAR				S	S	23 00 05.2	+0.8
	0.1nm,0.3s,baz=351,slow=24,SNR=4.3						
STKA	Stephens Creek	28.57	152	P	P	22 58 34.6	+0.4
	0.7nm,0.4s,baz=336,slow=9.9,SNR=4.2						
SONM	Songino Array	57.34	344	P	P	23 02 21.0	+0.7
	0.2nm,0.4s,baz=170,slow=6.8,SNR=3.3						
MKAR	Makanchi Array	66.28	328	P	P	23 03 19.3	+0.3
	0.3nm,0.5s,baz=126,slow=7.2,SNR=9.1						
ZALV	Zalesovo Beam	70.00	335	P	P	23 03 40.7	-0.9
	0.9nm,0.5s,baz=133,slow=6.5,SNR=7.4						
KURBB	Kurchatov Arra	70.64	330	P	P	23 03 45.1	-0.3
	0.5nm,0.4s,baz=128,slow=4.6,SNR=7.7						

IDC 06 22:59:22.0±5.0, 41°.00N×19°.49E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=93.9km s-min=17.5km az=40.0
BEO 06 22:59:25.9±0.8, 41°.09N×19°.44E, h8km±2km, ML3.1/6
CSEM 06 22:59:25.0±0.3, 41°.06N×19°.49E, h2km, ML3.1, Error ellipse: s-maj=6.3km s-min=4.3km az=9.0
PDG 06 22:59:28.7±0.3, 41°.28N×19°.60E, h8km±1km, ML3.3/9, Error ellipse: s-maj=1.6km s-min=1.6km az=0.0
ISC 06 22:59:24.4±1.3, 41°.05N±0°.04×19°.45E±0°.02, h8km±9km, n70, σ0s.98/113, mb3.6/3, 17C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.43	46	ePg	Pg	22 59 32.8	-0.1
TIR				eSg	Sb	22 59 40.4	-0.6
TIR	Tirane	0.43	46	ePg	Pg	22 59 32.8	-0.1
TIR				eSg	Sb	22 59 40.4	-0.6
ULC	Ulcinj	0.93	351⇑	iPg	Pb	22 59 42.6	-0.2
ULC				eSg	Sg	22 59 53.6	-0.7
ULC	Ulcinj	0.93	351⇑	iPg	Pb	22 59 42.6	-0.2
ULC				eSg	Sg	22 59 53.6	-0.7
BUM	Brajici-Budva	1.32	342⇓	iPg	Pg	22 59 49.8	+0.1
BUM				eSg	Sn	23 00 08.2	+1.2
BUM	Brajici-Budva	1.32	342⇓	iPg	Pg	22 59 49.8	+0.1
BUM				eSg	Sn	23 00 08.2	+1.2
TTG	Podgorica	1.39	354⇑	iPg	Pn	22 59 50.2	+0.2
TTG				eSg	Sb	23 00 08.8	+0.4
PDG	Podgorica	1.39	354	ePg	Pn	22 59 50.3	+0.2
PDG				eSg	Sg	23 00 09.4	+0.3
PDG	Podgorica	1.39	354	ePg	Pn	22 59 50.3	+0.2
PDG				eSg	Sb	23 00 08.8	+0.3
BIA	Bitola	1.42	90	ePn	Pn	22 59 50.7	+0.1
BIA				eSg	Sg	23 00 10.2	+0.1
BIA	Bitola	1.42	90	ePn	Pn	22 59 50.6	+0.1
BIA				eSg	Sg	23 00 10.1	+0.1
HCY	Herceg Novi	1.57	333⇑	iPg	Pb	22 59 53.5	-0.2
HCY				eSg	Sg	23 00 15.4	+0.5
HCY	Herceg Novi	1.57	333⇑	iPg	Pb	22 59 53.5	-0.2
HCY				eSg	Sg	23 00 15.4	+0.5
PVY	Plav	1.59	14⇓	iPg	Pn	22 59 53.5	+0.5
PVY				eSg	Sn	23 00 14.4	+0.6
PVY	Plav	1.59	14⇓	iPg	Pn	22 59 53.5	+0.5
PVY				eSg	Sn	23 00 14.4	+0.6
SKO	Skopje	1.76	58	ePn	Pb	22 59 56.6	-0.3
SKO				eSg	Sn	23 00 17.9	+0.2
SKO	Skopje	1.76	58	ePn	Pb	22 59 56.6	-0.3
SKO				eSn	Sn	23 00 18.7	+1.0
SKO	Skopje	1.76	58	ePn	Pb	22 59 56.6	-0.3
SKO				eSg	Sn	23 00 18.4	+0.7
SKO				eSn	Sn	23 00 18.7	+1.0
NKY	Niksic	1.80	349⇑	iPn	Pb	22 59 57.0	-0.6
NKY				eSn	Sb	23 00 21.3	+1.0
NKY	Niksic	1.80	349⇑	iPn	Pb	22 59 57.0	-0.6
NKY				eSn	Sb	23 00 21.3	+1.0
BEY	Berane	1.85	10⇑	iPn	Pb	22 59 58.1	-0.5
BEY				eSn	Sb	23 00 22.3	+0.4
IVA	Berane	1.85	10⇑	iPn	Pb	22 59 58.1	-0.5
IVA				eSn	Sb	23 00 22.3	+0.4
BAI	Bari	1.94	273	ePn	Pb	22 59 59.3	-0.7
BRY	Bratogost	1.97	340⇓	iPn	Pb	23 00 00.9	+0.3
BRY				eSn	Sg	23 00 27.2	-0.6
BRY	Bratogost	1.97	340⇓	iPn	Pb	23 00 00.9	+0.3
BRY				eSn	Sg	23 00 27.2	-0.6
UPM	Unac-Piva	2.19	350⇓	iPn	Pb	23 00 03.7	-0.7
UPM				eSn	Sb	23 00 32.7	+0.9
UPM	Unac-Piva	2.19	350⇓	iPn	Pb	23 00 03.7	-0.7
UPM				eSn	Sb	23 00 32.7	+0.9
STON	Ston	2.24	325	ePn	Pn	23 00 02.1	+0.3
STON				Sn	Sn	23 00 28.4	-1.2
STON	Ston	2.24	325	ePn	Pn	23 00 02.0	+0.3
STON				Sn	Sn	23 00 28.4	-1.2
SJES	Sjenica	2.25	10	ePn	Pn	23 00 03.1	+1.1
SJES				eSn	Sn	23 00 29.6	-0.3
SJES	Sjenica	2.25	10	ePn	Pn	23 00 03.1	+1.1
SJES				eSn	Sn	23 00 29.6	-0.3
PLE	Pljevlja	2.28	359⇑	iPn	Pb	23 00 05.4	-0.5
PLE				eSn	Sb	23 00 34.2	-0.1
PLE	Pljevlja	2.28	359⇑	iPn	Pb	23 00 05.4	-0.5
PLE				eSn	Sb	23 00 34.2	-0.1
VAY	Valandovo	2.37	82	ePn	Pb	23 00 06.6	-0.7
VAY				eSg	Sg	23 00 39.5	-1.1
VAY	Valandovo	2.37	82	ePn	Pn	23 00 01.1	-2.4
VAY				eSg	Sg	23 00 39.9	-0.7
CDT	Castel del Mon	2.40	272	ePn	Pn	23 00 05.8	+1.8
CDT				eSn	Sn	23 00 35.4	+1.8
BARS	Barje	2.50	44	ePn	Pn	23 00 07.3	+2.0
BARS				eSn	Sn	23 00 37.5	+1.5
SELS	Selova	2.50	29	ePn	Pn	23 00 06.5	+1.1
IVAS	Ivanjica	2.58	11	ePn	Pn	23 00 07.0	+0.5
IVAS				eSn	Sn	23 00 38.7	+0.6
IVAS	Ivanjica	2.58	11	ePn	Pn	23 00 07.0	+0.5
IVAS				eSn	Sn	23 00 38.7	+0.6
KKB	Krupnik	2.85	72	i P	Pg	23 00 20.3	+1.3
GRUS	Gruza	2.99	18	ePn	Pn	23 00 12.7	+0.6
GRUS	Gruza	2.99	18	ePn	Pn	23 00 12.7	+0.6
DIVS	Divibare	3.08	7	ePn	Pn	23 00 13.8	+0.5
DIVS	Divibare	3.08	7	ePn	Pn	23 00 13.8	+0.5
VTS	Vitosha	3.21	60⇑	iP	Pn	23 00 16.8	+1.6
VTS	Vitosha	3.21	60	i P	Pn	23 00 16.0	+0.8
VTS	Vitosha	3.21	60	ePn	Pn	23 00 16.5	+1.3
VTS				eSn	Sn	23 00 54.8	+1.2
VTS	Vitosha	3.21	60	i P	Pn	23 00 16.0	+0.8
VTS	Vitosha	3.21	60	ePn	Pn	23 00 16.5	+1.3
VTS				eSn	Sn	23 00 54.8	+1.2
ZAPS	Zavoj	3.25	46	ePn	Pn	23 00 17.2	+1.5
ZAPS				eSn	Sn	23 00 54.1	-0.4
ZAPS	Zavoj	3.25	46	ePn	Pn	23 00 17.2	+1.5
ZAPS				eSn	Sn	23 00 54.1	-0.4
TRUS	Trudelj	3.25	12	ePn	Pn	23 00 16.7	+1.0
TRUS	Trudelj	3.25	12	ePn	Pn	23 00 16.7	+1.0
MMB	Musomiste	3.27	79	i P	Pn	23 00 12.3	-3.6
MMB	Musomiste	3.27	79	i P	Pn	23 00 12.3	-3.6
MPEP	Malo Peshtene	3.94	53	i P	Pn	23 00 25.9	+0.8
BZS	Buzias	4.83	18⇑	iP	Pn	23 00 36.8	-0.6
BZS	Buzias	4.83	18⇑	iP	Pn	23 00 36.8	-0.6
NVLJ	Novalja	4.87	318	ePn	Pn	23 00 38.7	+0.8
NVLJ				Sn	Sn	23 01 32.4	-2.0
NVLJ	Novalja	4.87	318	ePn	Pn	23 00 38.6	+0.8
NVLJ				Sn	Sn	23 01 32.3	-2.0
PKSM	Moragy	5.20	354⇓	iP	Pn	23 00 45.4	+3.0
PKSM	Moragy	5.20	354⇓	iP	Pn	23 00 45.4	+3.0
LOT	Lotru	5.41	34⇑	iP	Pn	23 00 46.3	+0.8
LOT	Lotru	5.41	34⇑	iP	Pn	23 00 46.3	+0.8
DRGR		6.21	21⇑	iP	Pn	23 00 51.8	-4.5
GERES	GERESS Array B	8.80	334	Pn	Pn	23 01 32.9	+1.1
	0.1nm,0.3s,baz=162,slow=13,SNR=4.7						
GERES				Sn	Sn	23 03 10.9	-0.2
	0.3nm,0.3s,baz=154,slow=24,SNR=4.9						
KURBB	Kurchatov Arra	41.25	56	P	P	23 07 08.0	-1.7
	0.6nm,0.5s,baz=276,slow=10,SNR=7.3						
ZALV	Zalesovo Beam	44.44	50	P	P	23 07 34.3	-1.2
	0.7nm,0.4s,baz=286,slow=7.9,SNR=6.1						
MKAR	Makanchi Array	44.56	61	P	P	23 07 35.7	-0.9
	0.2nm,0.4s,baz=281,slow=7.9,SNR=8.9						

IDC 06 23:01:48.1±14.0, 17°.29S×178°.38W, h523km±119km, mb2.6/4, mb1 3.0/4, mb1mx2.8/19, mbtmp2.6/4, Error ellipse: s-maj=279.6km s-min=42.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.77	259	P	P	23 09 15.0	-0.2
	0.1nm,0.4s,baz=94,slow=7.6,SNR=5.4						
ASAR	Alice Springs	44.99	254	P	P	23 09 16.7	-0.1
	0.2nm,0.3s,baz=85,slow=7.8,SNR=4.3						
ILAR	Eielson Array	85.28	13	P	P	23 13 28.9	-0.2
	0.3nm,0.4s,baz=222,slow=5.3,SNR=5.4						
YKA	Yellowknife Ar	93.76	25	P	P	23 14 08.5	0.0
	0.1nm,0.4s,baz=225,slow=6.0,SNR=3.2						
BRTR	Keskin Array B	144.37	315	PKP	PKPbc	23 20 24.1	-0.7
	0.6nm,0.6s,baz=171,slow=1.3,SNR=3.6						
MMAI	Mount Meron Ar	145.83	304	PKPbc	PKPbc	23 20 28.7	-0.6
	0.6nm,0.5s,baz=68,slow=5.0,SNR=5.1						
GERES	GERESS Array B	147.02	345	PKPbc	PKPbc	23 20 31.2	-0.9
	0.5nm,0.5s,baz=5.7,slow=4.0,SNR=4.5						

IDC 06 23:03:37.3±0.5, 55°.78S×27°.00W, h0km, mb4.5/11, mb1 4.6/11, mb1mx4.4/18, mbtmp4.5/11, Error ellipse: s-maj=18.5km s-min=16.7km az=72.0
ISCJB 06 23:03:43.4±0.5, 55°.82S±0°.09×27°.1W±0°.2, h63km, mb4.4/12, Error ellipse: s-maj=13.5km s-min=11.4km az=44.8
NEIC 06 23:03:43.4±3.2, 55°.81S×27°.07W, h47km±29km, mb4.7/4, Error ellipse: s-maj=12.3km s-min=9.2km az=222.0
ISC 06 23:03:45.4±0.5, 55°.8S±0°.1×27°.1W±0°.1, h63km, n46, σ1s.22/52, mb4.6/11, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	20.08	229	P	P	23 08 13.2	0.0
	24nm,1.0s,baz=163,slow=11,SNR=2.6						
PMSA	Palmer Station	20.08	229	eP	P	23 08 13.2	0.0
TRQA	Tornquist	29.25	293	eP	P	23 09 40.7	-0.6
SYO	Syowa Base	31.75	141⇓	eP	P	23 10 02.0	-0.9
QSPA	South Pole Qui	34.44	180	P	P	23 10 27.3	+0.7
	13nm,0.6s,baz=199,slow=2.6,SNR=46						
QSPA	South Pole Qui	34.44	180	eP	P	23 10 26.8	+0.2
	13nm,0.6s						
CPUP	Villa Florida	36.67	311	P	P	23 10 45.9	0.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	1.8nm,0.5s,baz=137,slow=8.6,SNR=6.2						
CPUP	Villa Florida	36.67	311	P	P	23 10 45.9	0.0
CFAA	Coronel Fontan	37.49	293	P	P	23 10 53.2	+0.4
	0.3nm,0.6s,baz=143,slow=11,SNR=5.4						
CFAA	Coronel Fontan	37.49	293	P	P	23 10 53.2	+0.4
MAW	Mawson	40.33	144	P	P	23 11 15.2	-0.8
	18nm,0.7s,baz=244,slow=23,SNR=3.7						
MAW	Mawson	40.33	144	P	P	23 11 15.2	-0.8
BOSA	Boshof	45.89	76	P	P	23 12 00.0	-1.5
	1.7nm,0.5s,baz=198,slow=8.5,SNR=6.4						
BOSA	Boshof	45.89	76	P	P	23 12 00.0	-1.5
VNDA	Vanda	46.81	183	P	P	23 12 08.4	+0.4
	4.1nm,0.6s,baz=198,slow=7.1,SNR=13						
VNDA	Vanda	46.81	183	*e*P	P	23 12 07.5	-0.5
	7.3nm,0.6s						
LBTB	Lobatse	48.91	73	P	P	23 12 25.6	+0.6
	3.4nm,0.8s,baz=205,slow=7.1,SNR=4.8						
LBTB	Lobatse	48.91	73	*e*P	P	23 12 24.1	-0.9
LPAZ	La Paz	50.26	305	P	P	23 12 36.3	+0.4
	2.9nm,0.5s,baz=114,slow=5.2,SNR=12						
LPAZ	La Paz	50.26	305	*e*P	P	23 12 36.1	+0.2
	4.0nm,0.6s						
SAML	Samuel	54.65	315	*e*P	P	23 13 06.1	-1.6
	3.5nm,0.6s						
DBIC	Dimbokro	64.94	25	P	P	23 14 17.9	-0.3
	1.0nm,0.6s,baz=181,slow=8.7,SNR=3.2						
TOA0	Torodi Ar. Sit	72.83	29	*e*P	P	23 15 08.1	+0.9
TORD	Torodi Ar. Bea	72.83	29	P	P	23 15 08.2	+1.0
	4.5nm,0.6s,baz=198,slow=6.6,SNR=36						
TORD	Torodi Ar. Bea	72.83	29	P	P	23 15 08.2	+1.0
ASAR	Alice Springs	99.21	162	P	Pdif	23 17 19.3	-0.7
	0.8nm,0.6s,baz=182,slow=4.2,SNR=8.4						
ASAR	Alice Springs	99.21	162	P	Pdif	23 17 19.3	-0.7
WRA	Warramunga Arr	102.92	162	P	Pdif	23 17 36.5	-0.1
	0.2nm,0.4s,baz=195,slow=4.4,SNR=3.1						
WRA	Warramunga Arr	102.92	162	P	Pdif	23 17 36.5	-0.1
FINES	FINESS Array B	124.16	28	PKP	PKPdf	23 22 35.3	+0.1
	1.3nm,0.5s,baz=172,slow=1.0,SNR=18						
FINES	FINESS Array B	124.16	28	PKP	PKPdf	23 22 35.3	+0.1
KAF	Kangasniemi	124.78	27	*e*p	PKPdf	23 22 35.9	-0.4
	0.5nm,0.3s						
JOF	Joensuu	126.78	29	*e*p	PKPdf	23 22 40.6	+0.5
	0.4nm,0.4s						
ARCES	ARCESS Array B	130.71	22	PKP	PKPdf	23 22 48.2	+0.7
	2.2nm,0.9s,baz=191,slow=1.4,SNR=11						
ARCES	ARCESS Array B	130.71	22	PKP	PKPdf	23 22 48.2	+0.7
YKA	Yellowknife Ar	136.01	318	PKP	PKPdf	23 22 57.2	-0.5
	0.6nm,0.4s,baz=125,slow=2.1,SNR=12						
YKA				SKPbc	SKPab	23 26 26.8	-2.3
	0.3nm,0.5s,baz=131,slow=3.4,SNR=7.3						
YKA	Yellowknife Ar	136.01	318	PKP	PKPdf	23 22 57.2	-0.5
YKA				SKPbc	SKPab	23 26 26.8	-2.3
MKAR	Makanchi Array	136.79	71	PKhKP	PKPpre	23 22 52.0	
	0.1nm,0.7s,baz=178,slow=4.2,SNR=3.3						
MKAR				PKP	PKPdf	23 22 59.9	+0.3
	0.3nm,0.7s,baz=226,slow=2.1,SNR=4.0						
MKAR				SKPbc	SKPab	23 26 32.6	-0.5
	0.1nm,0.4s,baz=222,slow=3.3,SNR=4.0						
MKAR	Makanchi Array	136.79	71	PKPpre	PKPpre	23 22 52.0	
MKAR				PKP	PKPdf	23 22 59.9	+0.3
MKAR				SKPbc	SKPab	23 26 32.6	-0.5
ZALV	Zalesovo Beam	142.24	64	PKhKP	PKPpre	23 23 05.3	
	0.8nm,0.5s,baz=221,slow=3.8,SNR=5.9						
ZALV				PKP	PKPdf	23 23 09.4	+0.2
	0.6nm,0.4s,baz=248,slow=4.5,SNR=3.9						
ZALV				SKPbc	SKiKP	23 26 47.2	+4.6
	0.4nm,0.4s,baz=218,slow=3.7,SNR=2.8						
ZALV	Zalesovo Beam	142.24	64	PKPpre	PKPpre	23 23 05.3	
ZALV				PKP	PKPdf	23 23 09.4	+0.2
ZALV				SKPbc	SKiKP	23 26 47.2	+4.6
DAWY	Dawson	146.65	312	*e*PKPbc	PKPbc	23 23 17.9	-0.5
ILAR	Eielson Array	149.98	312	PKPbc	PKPbc	23 23 27.1	0.0
	2.4nm,0.6s,baz=358,slow=0.4,SNR=29						
ILAR	Eielson Array	149.98	312	PKPbc	PKPbc	23 23 27.1	0.0
SONM	Songino Array	150.69	86	PKPbc	PKPbc	23 23 30.1	+0.6
	4.2nm,0.6s,baz=220,slow=3.7,SNR=46						
SONM	Songino Array	150.69	86	PKPbc	PKPbc	23 23 30.1	+0.6

---

*IDC **06** 23:06:40.1±0.7, 41°04N×19°35E, h0^{km}, mb3.9/17, mb1 4.0/25, mb1mx4.0/38, mbtmp3.9/25, ML3.6/7, MS3.2/7, Ms1 3.3/7, ms1mx2.9/39, Error ellipse: s-maj=13.0km s-min=10.9km az=19.0*

*TIR **06** 23:06:41.2±4.6, 41°09N×19°57E, h9^{km}±11^{km}, ML3.6*

*MOS **06** 23:06:42.7±1.1, 41°02N×19°32E, h33^{km}, mb4.4/12, Error ellipse: s-maj=5.6km s-min=3.8km az=82.3*

*LDG **06** 23:06:43.9±0.1, 41°24N×19°56E, h10^{km}, Ml4.0/7, Error ellipse: s-maj=3.2km s-min=2.1km az=24.0*

*PRU **06** 23:06:43.5, 41°07N×19°57E, h0^{km}, M4.2*

*CSEM **06** 23:06:44.8±0.1, 41°16N×19°49E, h15^{km}, mb4.2/6, Ms3.7, Error ellipse: s-maj=2.4km s-min=2.0km az=22.0*

*PDG **06** 23:06:44.3±0.7, 41°19N×19°55E, h13^{km}±1^{km}, MD3.9/8, ML3.9/8, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*ROM **06** 23:06:44.1±0.1, 41°17N×19°51E, h8^{km}, Ml3.9/14, Error ellipse: s-maj=3.0km s-min=1.9km az=138.0*

*NEIC **06** 23:06:44.3±0.9, 41°11N×19°47E, h26^{km}±7^{km}, mb4.2/6, ML4.1(THE), ML4.0(PDG), Error ellipse: s-maj=6.9km s-min=4.0km az=193.0*

*BEO **06** 23:06:44.0±0.8, 41°10N×19°50E, h9^{km}±2^{km}, ML4.0/6*

*SOF **06** 23:06:45.6, 41°23N×19°73E, h10^{km}, MD3.6*

*THE **06** 23:06:46.3, 41°16N×19°63E, h16^{km}±3^{km}, ML4.1/8, Error ellipse: s-maj=4.1km s-min=1.0km az=299.0*

*VIE **06** 23:06:47.4±0.3, 41°48N×19°52E, h10^{km}, mb3.2/11, Ms3.7/11, Error ellipse: s-maj=4.0km s-min=2.3km az=37.0*

21 km NNE of Durres

ISC 06 23:06:44.6±0.8**, 41°15N**±0°01×**19°53E**±0°01**, h24**^{km}±6^{km}**, n551, **σ1^{s}**54**/645**, mb4.2**/35**, MS3.6**/6**, 68C-32D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.32	52	*i* PG	Pb	23 06 50.8	-0.9
TIR	Tirane	0.32	52	Pg	Pb	23 06 50.8	-0.9
TIR				Sg	Sb	23 06 56.9	+0.3
	20µm,0.7s						
TIR	Tirane	0.32	52	*e*P	Pb	23 06 50.8	-0.9
TIR	Tirane	0.32	52	*e*Pg	Pb	23 06 50.8	-0.9
TIR				*e*Sg	Sb	23 06 57.8	+1.1
TIR	Tirane	0.32	52	*e*Pg	Pb	23 06 50.8	-0.9
TIR				*e*Sg	Sb	23 06 57.1	+0.5
TIR	Tirane	0.32	52	Pg	Pb	23 06 50.8	-0.9
TIR				Sg	Sb	23 06 56.9	+0.3
	20µm,0.7s						
ULC	Ulcinj	0.84	345	⇓*i*Pg	Pb	23 06 59.9	-0.6
ULC				*e*Sg	Sb	23 07 11.8	+0.5
ULC	Ulcinj	0.84	345	P	Pb	23 07 00.4	-0.1
ULC				S	Sn	23 07 13.6	+1.0
ULC	Ulcinj	0.84	345	P	Pb	23 07 00.3	-0.1
ULC				S	Sn	23 07 13.6	+1.0
ULC	Ulcinj	0.84	345	⇓*i*Pg	Pb	23 06 59.9	-0.6
ULC	Ulcinj	0.84	345	P	Pb	23 07 00.3	-0.2
ULC				*e*Sg	Sb	23 07 11.8	+0.5
ULC				S	Sn	23 07 13.6	+1.0
PHP	Peshkopia	0.86	52	*i* PG	Pb	23 06 59.3	-1.7
PHP				*i* SG	Sn	23 07 16.6	+3.4
PHP	Peshkopia	0.86	52	*i* Pg	Pb	23 06 59.3	-1.7
	SNR=91						
PHP				*i* Sg	Sn	23 07 16.6	+3.4
	SNR=91						
PUK	Puka	0.93	17	*i* PG	Pn	23 07 02.1	-0.1
PUK				*i* SG	Sn	23 07 19.9	+5.1
PUK	Puka	0.93	17	*i* Pg	Pn	23 07 02.2	-0.1
	SNR=90						
BUM	Brajici-Budva	1.24	338	⇑*i*Pg	Pb	23 07 07.2	-0.2
BUM				*e*Sg	Sb	23 07 25.6	+2.6
BUM	Brajici-Budva	1.24	338	P	Pb	23 07 07.8	+0.5
BUM				S	Sb	23 07 26.5	+3.5
BUM	Brajici-Budva	1.24	338	⇑*i*Pg	Pb	23 07 07.2	-0.2
BUM	Brajici-Budva	1.24	338	P	Pb	23 07 07.8	+0.5
BUM				*e*Sg	Sb	23 07 25.6	+2.6
BUM				S	Sb	23 07 26.5	+3.5
BCI	Bajram Curri	1.28	18	*i* PN	Pb	23 07 08.1	+0.2
BCI				*i* SN	Sb	23 07 29.9	+6.0
BCI	Bajram Curri	1.28	18	*i* Pn	Pb	23 07 08.1	+0.2
	SNR=40						
BCI				*i* Sn	Sb	23 07 29.9	+6.0
	SNR=40						
LSK	Leskovik	1.29	141	*i* PG	Pb	23 07 08.2	-0.1
LSK				*i* SG	Sb	23 07 29.6	+5.1
LSK	Leskovik	1.29	141	*i* Pg	Pb	23 07 08.1	-0.1
	SNR=90						
LSK				*i* Sg	Sb	23 07 29.5	+5.1
	SNR=90						
TTG	Podgorica	1.29	351	⇑*i*Pg	Pb	23 07 08.1	0.0
TTG				*e*Sg	Sb	23 07 27.1	+2.8
TTG	Podgorica	1.29	351	P	Pb	23 07 08.2	0.0
TTG				S	Sb	23 07 28.4	+4.1
TTG	Podgorica	1.29	351	P	Pb	23 07 08.2	0.0
TTG				S	Sb	23 07 28.4	+4.1
TTG	Podgorica	1.29	351	P	Pb	23 07 08.2	0.0
TTG				S	Sb	23 07 28.4	+4.1
PDG	Podgorica	1.29	351	Pg	Pb	23 07 08.5	+0.3
PDG				Sg	Sb	23 07 27.5	+3.2
	2µm,0.7s						
PDG	Podgorica	1.29	351	*e*Pg	Pb	23 07 08.5	+0.3
PDG				*e*Sg	Sb	23 07 27.2	+2.9
PDG	Podgorica	1.29	351	Pg	Pb	23 07 08.5	+0.3
PDG				*e*Sg	Sb	23 07 27.1	+2.8
SCTE	Santa Cesarea	1.35	217	Pg	Pb	23 07 10.1	+0.9
SCTE				Sg	Sb	23 07 28.9	+2.9
	2µm,0.6s						
SCTE	Santa Cesarea	1.35	217	Pg	Pb	23 07 10.1	+0.9
SCTE				Sg	Sb	23 07 28.9	+2.9
	2µm,0.6s						
BIA	Bitola	1.36	95	P	Pn	23 07 07.9	-0.2
BIA				S	Sb	23 07 26.7	+0.3
BIA	Bitola	1.36	95	P	Pn	23 07 07.5	-0.7
BIA				S	Sb	23 07 27.5	+1.1
BIA	Bitola	1.36	95	*i* Pn	Pn	23 07 07.9	-0.2
BIA				*e*Sg	Sb	23 07 27.9	+1.5
BIA	Bitola	1.36	95	P	Pn	23 07 07.9	-0.2
BIA				S	Sb	23 07 27.5	+1.1
BIA				*e*Sg	Sb	23 07 27.9	+1.5
NEST	Nestorio	1.37	122	P	Pb	23 07 09.1	-0.4
NEST				S	Sb	23 07 26.6	0.0
NEST	Nestorio	1.37	122	P	Pb	23 07 09.1	-0.4
NEST				S	Sb	23 07 26.6	0.0
FNA	Florina	1.44	104	P	Pn	23 07 09.6	+0.3
FNA				S	Sn	23 07 27.3	-0.3
FNA	Florina	1.44	104	P	Pn	23 07 09.6	+0.3
FNA				S	Sb	23 07 28.2	-0.6
FNA	Florina	1.44	104	P	Pn	23 07 09.6	+0.3
FNA				S	Sn	23 07 27.3	-0.3
FNA	Florina	1.44	104	P	Pn	23 07 09.6	+0.3
FNA				S	Sb	23 07 28.2	-0.6
KEK	Kerkira	1.45	172	Pg	Pb	23 07 11.3	+0.4
KEK				Sg	Sb	23 07 30.8	+1.8
	2µm,0.8s						
KEK	Kerkira	1.45	172	P	Pb	23 07 10.8	-0.1
KEK				S	Sb	23 07 31.6	+2.6
KEK	Kerkira	1.45	172	P	Pb	23 07 10.8	-0.1
KEK				S	Sb	23 07 31.6	+2.6
KEK	Kerkira	1.45	172	*e*P	Pb	23 07 11.3	+0.4
KEK	Kerkira	1.45	172	P	Pb	23 07 10.8	-0.1
KEK	Kerkira	1.45	172	Pg	Pb	23 07 11.3	+0.4
KEK				Sg	Sb	23 07 30.8	+1.8
	2µm,0.8s						
KEK				S	Sb	23 07 31.6	+2.6
PVY	Plav	1.47	12	⇑*i*Pg	Pb	23 07 10.8	-0.6
PVY				*e*Sg	Sb	23 07 33.2	+3.5
PVY	Plav	1.47	12	⇑*i*Pg	Pb	23 07 10.8	-0.6
PVY				*e*Sg	Sb	23 07 33.2	+3.5
HCY	Herceg Novi	1.51	329	⇑*i*Pg	Pb	23 07 11.0	-0.9
HCY				*e*Sg	Sb	23 07 33.5	+2.9
HCY	Herceg Novi	1.51	329	⇑*i*Pg	Pb	23 07 11.0	-0.9
HCY				*e*Sg	Sb	23 07 33.5	+2.9
PE1	Pezze di Greco	1.64	258	*e*Pn	Pn	23 07 12.5	+0.7
SKO	Skopje	1.65	60	P	Pb	23 07 13.4	-0.9
SKO				S	Sb	23 07 33.8	-0.8
SKO	Skopje	1.65	60	P	Pb	23 07 13.4	-0.9
SKO				S	Sb	23 07 36.0	+1.4
SKO	Skopje	1.65	60	P	Pb	23 07 13.4	-0.9
SKO				S	Sb	23 07 33.8	-0.8
SKO	Skopje	1.65	60	*i* Pn	Pb	23 07 14.8	+0.5
SKO				*e*Sg	Sb	23 07 37.7	+3.1
SKO	Skopje	1.65	60	*e*Pn	Pb	23 07 14.6	+0.3
SKO				*e*Sn	Sb	23 07 36.4	+1.8
SKO	Skopje	1.65	60	P	Pb	23 07 13.4	-0.9
SKO	Skopje	1.65	60	*e*Pn	Pb	23 07 14.6	+0.3
SKO				S	Sb	23 07 33.8	-0.8
SKO				*e*Sn	Sb	23 07 36.4	+1.8
SKO				*e*Sg		23 07 38.2	
NKY	Niksic	1.71	347	⇑*i*Pn	Pb	23 07 14.7	-0.6
NKY				*e*Sn	Sb	23 07 38.6	+2.2
NKY	Niksic	1.71	347	⇑*i*Pn	Pb	23 07 14.7	-0.6
NKY				*e*Sn	Sb	23 07 38.6	+2.2
IGT	Igoumenitsa	1.73	159	P	Pb	23 07 14.9	-0.8
IGT				S	Sb	23 07 37.0	0.0
IGT	Igoumenitsa	1.73	159	P	Pb	23 07 14.9	-0.8
IGT				S	Sb	23 07 37.0	0.0
BEY	Berane	1.74	9	⇑*i*Pn	Pb	23 07 15.6	-0.2
BEY				*e*Sn	Sb	23 07 38.7	+1.4
IVA	Berane	1.74	9	⇑*i*Pn	Pb	23 07 15.6	-0.2
IVA				*e*Sn	Sb	23 07 38.7	+1.4
JAN	Janina	1.80	146	P	Pb	23 07 16.7	-0.2
JAN				S	Sb	23 07 38.2	-0.9
JAN	Janina	1.80	146	*e*P	Pb	23 07 17.5	+0.6
JAN	Janina	1.80	146	P	Pb	23 07 16.7	-0.2
JAN				S	Sb	23 07 38.2	-0.9
MEV	Metsovon	1.88	136	P	Pb	23 07 18.6	+0.3
MEV	Metsovon	1.88	136	P	Pb	23 07 18.6	+0.3
BRY	Bratogost	1.90	337	⇑*i*Pn	Pn	23 07 16.8	+1.2
BRY				*e*Sn	Sb	23 07 43.0	+1.1
BRY	Bratogost	1.90	337	⇑*i*Pn	Pn	23 07 16.8	+1.2
BRY				*e*Sn	Sb	23 07 43.0	+1.1
KZN	Kozani	1.90	116	P	Pb	23 07 17.6	-1.0
KZN				S	Sb	23 07 41.4	-0.5
KZN	Kozani	1.90	116	*e*P	Pb	23 07 18.2	-0.4
KZN	Kozani	1.90	116	P	Pb	23 07 17.6	-1.0
KZN				S	Sb	23 07 41.4	-0.5
NOCI	Noci	1.90	260	Pg	Pn	23 07 16.3	+0.7
	1µm,0.8s						
RGA	Parga	1.94	161	P	Pn	23 07 17.5	+1.4
RGA				S	Sb	23 07 42.8	-0.1
RGA	Parga	1.94	161	P	Pn	23 07 17.5	+1.4
RGA				S	Sb	23 07 42.8	-0.1
BAI	Bari	2.00	270	*e*Pn	Pn	23 07 17.5	+0.6
BAI				*e*Sn	Sn	23 07 41.5	+0.3
UPM	Unac-Piva	2.10	347	⇑*i*Pn	Pb	23 07 20.7	-1.4
UPM				*e*Sn	Sb	23 07 47.9	+0.1
UPM	Unac-Piva	2.10	347	⇑*i*Pn	Pb	23 07 20.7	-1.4
UPM				*e*Sn	Sb	23 07 47.9	+0.1
SJES	Sjenica	2.13	9	*e*Pn	Pb	23 07 21.2	-1.4
SJES				*e*Sn	Sb	23 07 48.1	-0.5
SJES	Sjenica	2.13	9	*e*Pn	Pb	23 07 21.2	-1.4
SJES				*e*Sn	Sb	23 07 48.1	-0.5
PLE	Pljevlja	2.18	357	⇑*i*Pn	Pn	23 07 21.4	+2.0
PLE				*e*Sn	Sb	23 07 49.9	0.0
PLE	Pljevlja	2.18	357	⇑*i*Pn	Pn	23 07 21.4	+2.0
PLE				*e*Sn	Sb	23 07 49.9	0.0
GRG	Griva	2.18	94	P	Pn	23 07 20.9	+1.5
GRG				S	Sn	23 07 46.6	+1.0
GRG	Griva	2.18	94	P	Pn	23 07 20.9	+1.5
GRG				S	Sn	23 07 46.6	+1.0
STON	Ston	2.19	322	*e*Pn	Pn	23 07 20.4	+0.9
STON				Sn	Sn	23 07 47.2	+1.3
STON	Ston	2.19	322	*e*Pn	Pn	23 07 20.4	+0.9
STON				Sn	Sn	23 07 47.2	+1.3
MATE	Matera	2.20	258	Pg	Pn	23 07 20.4	+0.8
AMUR	Altamura	2.23	265	Pn	Pn	23 07 21.0	+0.9
AMUR	Altamura	2.23	265	Pn	Pn	23 07 21.0	+0.9
VAY	Valandovo	2.30	85	P	Pn	23 07 21.8	+0.8
VAY	Valandovo	2.30	85	*i* Pn	Pn	23 07 21.8	+0.8
VAY				*e*Sg	Sb	23 07 51.1	-2.1
VAY	Valandovo	2.30	85	P	Pn	23 07 21.8	+0.8
VAY	Valandovo	2.30	85	*i* Pn	Pn	23 07 22.3	+1.3
SELS	Selova	2.38	29	*e*Pn	Pn	23 07 23.3	+1.2
BARS	Barje	2.38	45	*e*Pn	Pn	23 07 24.3	+2.2
BARS				*e*Sn	Sb	23 07 53.5	-2.1
BARS	Barje	2.38	45	*e*Pn	Pn	23 07 24.3	+2.2
BARS				*e*Sn	Sb	23 07 53.5	-2.1
CDT	Castel del Mon	2.46	269	*e*Pn	Pn	23 07 24.5	+1.2
CDT				*e*Sn	Sn	23 07 54.8	+2.2
IVAS	Ivanjica	2.46	11	*e*Pn	Pn	23 07 25.3	+2.0
IVAS				*e*Sn	Sb	23 07 56.6	-1.5
IVAS	Ivanjica	2.46	11	*e*Pn	Pn	23 07 25.3	+2.0
IVAS				*e*Sn	Sb	23 07 56.6	-1.5
THL	Klokotos Trika	2.47	129	P	Pn	23 07 25.3	+1.9
THL				S	Sn	23 07 55.3	+2.5
THL	Klokotos Trika	2.47	129	*e*P	Pn	23 07 25.5	+2.1
THL	Klokotos Trika	2.47	129	P	Pn	23 07 25.3	+1.9
THL				S	Sn	23 07 55.3	+2.5
CRAC	Craco	2.48	252	Pn	Pn	23 07 24.7	+1.2
CRAC	Craco	2.48	252	Pn	Pn	23 07 24.7	+1.2
LIT	Litokhoron	2.48	114	P	Pn	23 07 25.0	+1.4
LIT				S	Sn	23 07 54.3	+1.1
LIT	Litokhoron	2.48	114	*e*P	Pn	23 07 25.4	+1.8
LIT	Litokhoron	2.48	114	P	Pn	23 07 25.0	+1.4
LIT				S	Sn	23 07 54.3	+1.1
LKD2	Lefkada island	2.52	160	P	Pn	23 07 25.3	+1.3
LKD2	Lefkada island	2.52	160	*e*P	Pn	23 07 25.4	+1.4
LKD2	Lefkada island	2.52	160	P	Pn	23 07 25.3	+1.3
MRVN	Minervino Murg	2.52	269	Pn	Pn	23 07 25.5	+1.4
MRVN	Minervino Murg	2.52	269	Pn	Pn	23 07 25.5	+1.4
KNT	Kendrikon	2.54	89	P	Pn	23 07 25.8	+1.5
KNT	Kendrikon	2.54	89	P	Pn	23 07 25.8	+1.5
ORI	Oriolo Calabro	2.59	246	Pn	Pn	23 07 26.6	+1.6
	1µm,0.7s						
ORI	Oriolo Calabro	2.59	246	Pn	Pn	23 07 26.6	+1.6
	1µm,0.7s						
THE	Thessaloniki	2.65	100	P	Pn	23 07 27.2	+1.3
THE				S	Sn	23 07 59.1	+1.8
THE	Thessaloniki	2.65	100	P	Pn	23 07 27.2	+1.3
THE				S	Sn	23 07 59.1	+1.8
PIPA	Pietrapaola	2.66	232	Pn	Pn	23 07 26.8	+0.8
	727nm,0.7s						
PIPA	Pietrapaola	2.66	232	Pn	Pn	23 07 26.8	+0.8
	727nm,0.7s						
PTRP	Pietrapertosa	2.71	258	Pn	Pn	23 07 28.9	+2.2
PTRP	Pietrapertosa	2.71	258	Pn	Pn	23 07 28.9	+2.2
PALZ	Palazzo San Ge	2.71	267	Pn	Pn	23 07 28.7	+2.0
PALZ	Palazzo San Ge	2.71	267	Pn	Pn	23 07 28.7	+2.0
MS1	Monte Sant'Ang	2.75	283	*e*Pn	Pn	23 07 28.2	+0.9
KKB	Krupnik	2.76	74	*i* P	Pn	23 07 29.9	+2.5
KKB				*i* S	Sn	23 08 02.7	+2.7
KKB	Krupnik	2.76	74	*i* P	Pn	23 07 29.9	+2.5
KKB				*i* S	Sn	23 08 02.7	+2.7
MSAG	Monte S. Angel	2.78	283	Pn	Pn	23 07 28.5	+0.8
MSAG	Monte S. Angel	2.78	283	Pn	Pn	23 07 28.5	+0.8
EVR	Evrytania	2.84	141	P	Pb	23 07 31.7	-2.9
EVR	Evrytania	2.84	141	*e*P	Pb	23 07 31.6	-3.0
EVR	Evrytania	2.84	141	P	Pb	23 07 31.7	-2.9
GRUS	Gruza	2.87	17	*e*Pn	Pn	23 07 30.7	+1.9
GRUS	Gruza	2.87	17	*e*Pn	Pn	23 07 30.7	+1.9
SGRT	San Giovanni R	2.91	283	Pn	Pn	23 07 30.5	+1.0
SGRT	San Giovanni R	2.91	283	Pn	Pn	23 07 30.5	+1.0
SOH	Sokhos	2.91	95	P	Pn	23 07 31.1	+1.6
SOH	Sokhos	2.91	95	*e*P	Pn	23 07 31.0	+1.6
SOH	Sokhos	2.91	95	P	Pn	23 07 31.1	+1.6
SIRI	Monte Sirino -	2.95	252	Pn	Pn	23 07 31.0	+0.9
	457nm,0.8s						
SIRI	Monte Sirino -	2.95	252	Pn	Pn	23 07 31.0	+0.9
	457nm,0.8s						
MCEL	Monticello	2.95	255	Pn	Pn	23 07 31.6	+1.5
	504nm,0.7s						
MCEL	Monticello	2.95	255	Pn	Pn	23 07 31.6	+1.5
	504nm,0.7s						
DIVS	Divibare	2.96	6	P	Pn	23 07 31.5	+1.3
DIVS	Divibare	2.96	6	*e*Pn	Pn	23 07 31.5	+1.3
DIVS	Divibare	2.96	6	P	Pn	23 07 31.5	+1.3
CUC	Castrocucco	3.06	249	*e*Pn	Pn	23 07 32.4	+0.9
CUC				*e*Sn	Sn	23 08 09.8	+2.4
CUC	Castrocucco	3.06	249	*e*Pn	Pn	23 07 32.4	+0.9
CUC				*e*Sn	Sn	23 08 09.8	+2.4
SRS	Serrai	3.07	89	P	Pn	23 07 32.7	+1.1
SRS				S	Sn	23 08 09.1	+1.6
SRS	Serrai	3.07	89	P	Pn	23 07 32.7	+1.1
SRS				S	Sn	23 08 09.1	+1.6
PLG	Polygyros	3.07	103	P	Pn	23 07 33.3	+1.6
PLG	Polygyros	3.07	103	*e*P	Pn	23 07 33.3	+1.6
PLG	Polygyros	3.07	103	P	Pn	23 07 33.3	+1.6
VLS	Valsamata	3.08	164	*e*P	Pn	23 07 32.1	+0.3
MRLC	Muro Lucano	3.09	264	Pn	Pn	23 07 34.2	+2.3
MRLC	Muro Lucano	3.09	264	Pn	Pn	23 07 34.2	+2.3
VTS	Vitosha	3.10	61	⇓P	Pn	23 07 34.7	+2.6
VTS	Vitosha	3.10	61	P	Pn	23 07 34.6	+2.5
VTS	Vitosha	3.10	61	⇓*i*P	Pn	23 07 34.7	+2.6
VTS	Vitosha	3.10	61	*i* P	Pn	23 07 34.4	+2.3
VTS				*i* S	Sn	23 08 10.1	+1.6
VTS	Vitosha	3.10	61	*e*Pn	Pn	23 07 34.4	+2.3
VTS				*e*Sn	Sn	23 08 11.1	+2.6
VTS	Vitosha	3.10	61	*i* P	Pn	23 07 34.4	+2.3
VTS				*i* S	Sn	23 08 10.1	+1.6
VTS				*e*Sn	Sn	23 08 11.1	+2.6
ZAPS	Zavoj	3.13	46	*e*Pn	Pn	23 07 34.9	+2.4
ZAPS				*e*Sn	Sn	23 08 11.2	+2.1
ZAPS	Zavoj	3.13	46	*e*Pn	Pn	23 07 34.9	+2.4
ZAPS				*e*Sn	Sn	23 08 11.2	+2.1
TRUS	Trudelj	3.13	12	*e*Pn	Pn	23 07 33.6	+1.1
TRUS	Trudelj	3.13	12	*e*Pn	Pn	23 07 33.6	+1.1
CARO	Carolei	3.17	234	Pn	Pn	23 07 35.1	+2.1
	419nm,0.7s						
CARO	Carolei	3.17	234	Pn	Pn	23 07 35.1	+2.1
	419nm,0.7s						
MMB	Musomiste	3.19	81	*i* P	Pn	23 07 35.3	+2.1
MMB				*i* S	Sn	23 08 12.7	+2.2
MMB	Musomiste	3.19	81	*i* P	Pn	23 07 35.3	+2.1
MMB				*i* S	Sn	23 08 12.7	+2.2
BOLS	Boljevac	3.22	33	*e*Pn	Pn	23 07 34.8	+1.2
BOLS	Boljevac	3.22	33	*e*Pn	Pn	23 07 34.8	+1.2
FG5	Orsara di Pugl	3.22	274	Pn	Pn	23 07 36.0	+2.3
	389nm,0.7s						
FG5	Orsara di Pugl	3.22	274	Pn	Pn	23 07 36.0	+2.3
	389nm,0.7s						
SGO	Sicignano	3.26	261	Pn	Pn	23 07 36.5	+2.3
	154nm,0.6s						
SGO	Sicignano	3.26	261	Pn	Pn	23 07 36.5	+2.3
	154nm,0.6s						
NVR	Nevrokopi	3.27	85	P	Pn	23 07 36.2	+1.8
NVR	Nevrokopi	3.27	85	*e*P	Pn	23 07 36.2	+1.8
NVR	Nevrokopi	3.27	85	P	Pn	23 07 36.2	+1.8
CDRU	Civita di Ruta	3.28	260	Pn	Pn	23 07 35.6	+1.1
	147nm,0.8s						
CDRU	Civita di Ruta	3.28	260	Pn	Pn	23 07 35.6	+1.1
	147nm,0.8s						
EFP	Efpalio	3.28	145	*e*P	Pn	23 07 37.1	+2.6
XOR	Xorichti	3.32	121	P	Pn	23 07 36.4	+1.3
XOR	Xorichti	3.32	121	P	Pn	23 07 36.4	+1.3
MCRV	Calabrutti - M	3.33	265	Pn	Pn	23 07 36.8	+1.6
	208nm,0.7s						
MCRV	Calabrutti - M	3.33	265	Pn	Pn	23 07 36.8	+1.6
	208nm,0.7s						
GRI	Girifalco	3.34	227	Pn	Pn	23 07 36.4	+1.1
	205nm,0.7s						
GRI	Girifalco	3.34	227	Pn	Pn	23 07 36.4	+1.1
	205nm,0.7s						
SVIS	Svilajnac	3.35	21	*e*Pn	Pn	23 07 37.2	+1.8
NEO	Neokhori	3.38	122	*e*P	Pn	23 07 37.1	+1.3
TEKS	Tekeris	3.39	360	*e*Pn	Pn	23 07 38.4	+2.3
TEKS	Tekeris	3.39	360	*e*Pn	Pn	23 07 38.4	+2.3
RLS	Riolos of Patr	3.43	154	*e*P	Pn	23 07 38.1	+1.5
LKR	Lokris	3.66	132	*e*P	Pn	23 07 41.7	+2.1
KAVA	Kavala	3.77	91	P	Pn	23 07 42.5	+1.3
KAVA	Kavala	3.77	91	P	Pn	23 07 42.5	+1.3
MPEP	Malo Peshtene	3.82	53	*i* P	Pn	23 07 43.9	+2.0
MPEP				*i* S	Sn	23 08 27.4	+1.3
MPEP	Malo Peshtene	3.82	53	*i* P	Pn	23 07 43.9	+2.0
MPEP				*i* S	Sn	23 08 27.4	+1.3
GUR	Goura	3.88	145	*e*P	Pn	23 07 44.7	+1.9
RZN	Rozhen	3.93	81	*i* P	Pn	23 07 45.6	+1.9
RZN				*i* S	Sn	23 08 31.5	+2.3
RZN	Rozhen	3.93	81	*i* P	Pn	23 07 45.6	+1.9
RZN				*i* S	Sn	23 08 31.5	+2.3
PLD	Plovdiv	3.99	75	P	Pn	23 07 46.9	+2.7
PLD	Plovdiv	3.99	75	P	Pn	23 07 46.9	+2.7
FGSL	Fruska Gora	4.01	3	*e*Pn	Pn	23 07 45.4	+0.9
FRGS	Fruska Gora	4.01	3	*e*Pn	Pn	23 07 45.4	+0.9
CEL	Celeste	4.03	225	*e*Pn	Pn	23 07 45.0	+0.2
CEL				*e*Sn	Sn	23 08 30.4	-0.9
CEL	Celeste	4.03	225	*e*Pn	Pn	23 07 45.0	+0.2
CEL				*e*Sn	Sn	23 08 30.4	-0.9
LPEL	Lama dei Pelig	4.11	284	Pn	Pn	23 07 48.0	+2.1
LPEL	Lama dei Pelig	4.11	284	Pn	Pn	23 07 48.0	+2.1
CERA	Filignano	4.17	278	Pn	Pn	23 07 49.7	+2.9
	519nm,1.0s						
CERA	Filignano	4.17	278	Pn	Pn	23 07 49.7	+2.9
	519nm,1.0s						
ITM	Ithomi	4.38	154	*e*P	Pn	23 07 51.3	+1.6
KDZ	Kurdzhali	4.45	82	*i* P	Pn	23 07 51.7	+1.1
KDZ				*i* Sg	Sb	23 09 05.5	+10
KDZ	Kurdzhali	4.45	82	*i* P	Pn	23 07 51.7	+1.1
KDZ				*i* Sg	Sb	23 09 05.5	+10
ATH	Athens Observa	4.53	133	*e*P	Pn	23 07 53.4	+1.7
PYL	PYLOS	4.59	157	*e*P	Pn	23 07 52.7	+0.2

DID	Didima	4.64	141	eP	Pn	23 07 54.1	+0.9
BZS	Buzias	4.71	18	⇑P	Pn	23 07 55.4	+1.2
BZS	Buzias	4.71	18	⇑iP	Pn	23 07 55.3	+1.1
BZS	Buzias	4.71	18	ePn	Pn	23 07 54.9	+0.7
BZS	Buzias	4.71	18	ePn	Pn	23 07 54.9	+0.7
BZS	Buzias	4.71	18	⇑iP	Pn	23 07 55.3	+1.1
AQU	L'Aquila	4.74	287	ePn	Pn	23 07 56.2	+1.6
AQU	L'Aquila	4.74	287	ePn	Pn	23 07 56.2	+1.6
PVL	Pavlikeni	4.78	63	iP	Pn	23 07 54.8	-0.2
PVL				iSg	Sb	23 09 13.4	+8.8
PVL	Pavlikeni	4.78	63	iP	Pn	23 07 54.8	-0.2
NVLJ	Novalja	4.83	316	ePn	Pn	23 07 56.8	+1.0
NVLJ				Sn	Sn	23 08 50.4	-0.5
NVLJ	Novalja	4.83	316	ePn	Pn	23 07 56.7	+1.0
NVLJ				Sn	Sn	23 08 50.4	-0.5
ALN	Alexandroupoli	4.93	91	eP	Pn	23 07 58.8	+1.6
PKSM	Moragy	5.10	353	⇑P	Pn	23 08 00.4	+1.0
PKSM	Moragy	5.10	353	⇑iP	Pn	23 08 00.4	+1.0
PKSM	Moragy	5.10	353	⇑iP	Pn	23 08 00.4	+1.0
PKSM	Moragy	5.10	353	⇑ePn	Pn	23 08 05.1	+5.7
VLI	Veliai	5.16	148	eP	Pn	23 08 01.1	+0.7
SZH	Strazhica	5.20	64	iP	Pn	23 08 03.9	+3.0
SZH				iSg	Sb	23 09 33.4	+17
SZH	Strazhica	5.20	64	iP	Pn	23 08 03.9	+3.0
SZH				iSg	Sb	23 09 33.4	+17
HUMR	Humele	5.24	48	⇓iP	Pn	23 08 03.5	+2.2
HUMR	Humele	5.24	48	⇓iP	Pn	23 08 03.5	+2.2
LOT	Lotru	5.29	34	⇑iP	Pn	23 08 04.5	+2.3
LOT	Lotru	5.29	34	⇑iP	Pn	23 08 04.5	+2.3
PKS2	Kecel	5.34	358	⇓eP	Pn	23 08 08.8	+6.0
PKS2	Kecel	5.34	358	⇓epPn	Pn	23 08 08.8	+6.0
BOJS	Bojanci	5.35	326	iPn	Pn	23 08 04.0	+1.0
BOJS				iSn	Sn	23 09 04.1	+0.3
BOJS	Bojanci	5.35	326	iPn	Pn	23 08 04.0	+1.0
BOJS				iSn	Sn	23 09 04.1	+0.3
PKS6	Bocsa	5.44	0	⇑eP	Pn	23 08 05.6	+1.4
PKS6	Bocsa	5.44	0	⇑ePn	Pn	23 08 05.6	+1.4
PKS9	Tamasi	5.51	351	⇓eP	Pn	23 08 05.1	0.0
PKS9	Tamasi	5.51	351	⇓ePn	Pn	23 08 05.1	0.0
KYTH	Kithira	5.58	150	eP	Pn	23 08 08.6	+2.4
BEHE	Becsehely	5.68	340	⇓epPn	Pb	23 08 16.2	-6.6
CHOS	Chios island	5.74	117	eP	Pn	23 08 10.2	+1.9
VOIR		5.88	41	P	Pn	23 08 13.9	+3.7
VOIR		5.88	41	⇑iP	Pn	23 08 13.7	+3.5
VOIR		5.88	41	⇑iP	Pn	23 08 13.7	+3.5
SKDS	Skadanscina	5.95	319	iPn	Pn	23 08 11.2	0.0
SKDS				iSn	Sn	23 09 16.9	-1.7
SKDS	Skadanscina	5.95	319	iPn	Pn	23 08 11.2	0.0
DRGR		6.08	21	⇓P	Pn	23 08 14.5	+1.4
DRGR		6.08	21	⇓iP	Pn	23 08 14.5	+1.4
DRGR		6.08	21	⇓iP	Pn	23 08 14.5	+1.4
LJU	Ljubljana	6.09	325	iPn	Pn	23 08 13.8	+0.8
LJU	Ljubljana	6.09	325	iPn	Pn	23 08 13.9	+0.8
LJU				iSn	Sn	23 09 23.0	+1.0
NEF	NEVSHA	6.12	67	iP	Pn	23 08 16.0	+2.4
NEF	NEVSHA	6.12	67	iP	Pn	23 08 16.0	+2.4
JAVS	Javornik	6.18	322	iPn	Pn	23 08 15.5	+1.0
JAVS				iSn	Sn	23 09 22.9	-1.5
JAVS	Javornik	6.18	322	iPn	Pn	23 08 15.5	+1.0
APE	Apeiranthos	6.20	129	eP	Pn	23 08 15.3	+0.7
PKST	T^'s	6.20	351	eSn	Sn	23 09 28.4	+3.7
PKST	T^'s	6.20	351	epPn	Pn	23 08 20.6	+6.0
PKST				eSn	Sn	23 09 28.4	+3.7
PKSG		6.29	353	eP	Pn	23 08 19.0	+3.2
PKSG				eSn	Sn	23 09 30.3	+3.4
PKSG		6.29	353	ePn	Pn	23 08 19.0	+3.2
PKSG				eSKSac	Sn	23 09 30.3	+3.4
BUD	Budapest	6.34	357	⇑epPn	Pn	23 08 22.9	+6.4
PERS	Pernice	6.34	331	iPn	Pn	23 08 17.2	+0.7
PERS				iSn	Sn	23 09 25.6	-2.6
PERS	Pernice	6.34	331	iPn	Pn	23 08 17.2	+0.7
VOY	Vojsko	6.37	322	ePn	Pn	23 08 17.7	+0.8
VOY				eSn	Sn	23 09 27.3	-1.6
VOY	Vojsko	6.37	322	ePn	Pn	23 08 17.7	+0.8
MLR	Muntele Rosu	6.38	45	Pn	Pn	23 08 20.4	+3.3
	0.9nm,0.3s,baz=141,slow=13,SNR=18						
MLR				Sn	Sn	23 09 35.2	+6.0
	0.3nm,0.3s,baz=258,slow=18,SNR=3.2						
MLR	Muntele Rosu	6.38	45	Pn	Pn	23 08 20.4	+3.3
MLR				Sn	Sn	23 09 35.2	+6.0
MLR	Muntele Rosu	6.38	45	⇑iP	Pn	23 08 20.4	+3.3
MLR	Muntele Rosu	6.38	45	⇑iP	Pn	23 08 20.4	+3.3
SOKA	Soboth	6.41	331	⇓iPn	Pn	23 08 18.3	+0.8
SOKA				⇓iSn	Sn	23 09 29.1	-0.8
SOKA	Soboth	6.41	331	Pn	Pn	23 08 18.3	+0.8
SOKA				Sn	Sn	23 09 29.1	-0.8
DOPR	Dopca	6.42	40	⇑iP	Pn	23 08 20.6	+3.0
DOPR	Dopca	6.42	40	⇑iP	Pn	23 08 20.6	+3.0
OBKA	Obir	6.45	328	⇑iPn	Pn	23 08 19.1	+0.9
	SNR=13						
OBKA				⇑iSn	Sn	23 09 30.7	-0.4
OBKA	Obir	6.45	328	Pn	Pn	23 08 19.0	+0.9
	SNR=13						
OBKA				Sn	Sn	23 09 30.7	-0.4
PGOR	Pogoanele	6.62	53	⇑iP	Pn	23 08 24.1	+3.7
PGOR	Pogoanele	6.62	53	⇑iP	Pn	23 08 24.1	+3.7
ARSA	Arzberg	6.74	336	⇑iPn	Pn	23 08 23.2	+1.2
ARSA	Arzberg	6.74	336	Pn	Pn	23 08 23.2	+1.2
PSZ	Piszkesteto	6.77	2	⇑P	Pn	23 08 24.0	+1.5
PSZ	Piszkesteto	6.77	2	ePn	Pn	23 08 23.4	+1.0
	41nm,1.1s						
PSZ	Piszkesteto	6.77	2	⇑iP	Pn	23 08 24.0	+1.5
PSZ	Piszkesteto	6.77	2	⇑eP	Pn	23 08 23.6	+1.1
PSZ	Piszkesteto	6.77	2	⇑ePn	Pn	23 08 23.6	+1.1
SOP	Sopron	6.87	343	epPn	Pb	23 08 33.4	-10
GRER		6.88	50	⇑iP	Pn	23 08 28.9	+5.0
MYKA	Terra Mystica	6.93	324	⇓iPn	Pn	23 08 25.4	+0.7
MYKA				⇑iSn	Sn	23 09 42.6	-0.2
MYKA	Terra Mystica	6.93	324	Pn	Pn	23 08 25.4	+0.7
MYKA				Sn	Sn	23 09 42.6	-0.2
PLOR	Plostina	6.99	45	⇓P	Pn	23 08 28.5	+3.1
PLOR	Plostina	6.99	45	⇓iP	Pn	23 08 28.5	+3.1
PLOR	Plostina	6.99	45	⇓iP	Pn	23 08 28.5	+3.1
VRI	Vrincioaia	7.04	46	⇑P	Pn	23 08 29.7	+3.6
VRI	Vrincioaia	7.04	46	⇑iP	Pn	23 08 29.6	+3.5
VRI	Vrincioaia	7.04	46	⇑iP	Pn	23 08 29.6	+3.5
TRPA	Tarpa	7.30	16	⇑iP	Pn	23 08 31.5	+1.9
TRPA	Tarpa	7.30	16	⇑eP	Pn	23 08 31.5	+1.9
TRPA	Tarpa	7.30	16	⇑ePn	Pn	23 08 31.5	+1.9
VYHS	Vyhne	7.36	356	eP	Pn	23 08 33.2	+2.7
VYHS				e		23 09 55.0	
VYHS	Vyhne	7.36	356	ePN	Pn	23 08 33.2	+2.7
VYHS				e		23 08 37.2	
VYHS	Vyhne	7.36	356	ePn	Pn	23 08 33.2	+2.7
VYHS				eSn	Sn	23 09 55.0	+1.8
KBA	Koelnbreinsper	7.41	325	⇑iPn	Pn	23 08 31.5	+0.2
KBA				⇑iSn	Sn	23 09 54.0	-0.6
KBA	Koelnbreinsper	7.41	325	Pn	Pn	23 08 31.5	+0.2
KBA				Sn	Sn	23 09 54.0	-0.6
CFR	Carcaliu	7.46	55	⇑P	Pn	23 08 34.3	+2.4
CFR	Carcaliu	7.46	55	⇑iP	Pn	23 08 34.3	+2.4
CFR	Carcaliu	7.46	55	⇑iP	Pn	23 08 34.3	+2.4
SMOL	Smolenice	7.51	349	eP	Pn	23 08 36.6	+4.0
SMOL	Smolenice	7.51	349	ePN	Pn	23 08 36.6	+4.0
ABTA	Abfaltersbach	7.54	320	⇓iPn	Pn	23 08 33.5	+0.4
ABTA				⇓iSn	Sn	23 09 57.7	-0.2
ABTA	Abfaltersbach	7.54	320	Pn	Pn	23 08 33.5	+0.4
ABTA				Sn	Sn	23 09 57.7	-0.2
BUR08	Bucovina Ar. S	7.65	30	ePn	Pn	23 08 38.3	+3.7
BUR08	Bucovina Ar. S	7.65	30	ePn	Pn	23 08 38.3	+3.7
MOA	Molln	7.68	332	⇑iPn	Pn	23 08 35.9	+1.0
	SNR=8.9						
MOA				⇑iSn	Sn	23 09 59.8	-1.3
MOA	Molln	7.68	332	Pn	Pn	23 08 35.9	+1.0
	SNR=8.9						
UZH	Uzhgorod	7.73	14	eP	Pn	23 08 37.1	+1.6
CRVS	Cervenica-Dubn	7.87	9	eP	Pn	23 08 39.8	+2.3
CRVS	Cervenica-Dubn	7.87	9	ePN	Pn	23 08 39.8	+2.3
CRVS	Cervenica-Dubn	7.87	9	ePn	Pn	23 08 39.8	+2.3
TLCR		7.89	56	⇓P	Pn	23 08 41.0	+3.2
TLCR		7.89	56	⇓iP	Pn	23 08 41.0	+3.2
TLCR		7.89	56	⇓iP	Pn	23 08 41.0	+3.2
PGF	Pioggiola	7.99	284	ePn	Pn	23 08 37.3	-1.9
PGF	Pioggiola	7.99	284	eP	Pn	23 08 37.3	-1.9
PGF	Pioggiola	7.99	284	ePn	Pn	23 08 37.3	-1.9
KOLS	Kolonicke sedl	8.02	13	eP	Pn	23 08 42.5	+3.0
KOLS				e		23 10 06.2	
KOLS	Kolonicke sedl	8.02	13	ePN	Pn	23 08 42.5	+3.0
KOLS				eSN	Sn	23 10 06.2	-3.2
KOLS	Kolonicke sedl	8.02	13	ePn	Pn	23 08 42.5	+3.0

NIE	Niedzica	8.28	4	eP	Pn	23 08 46.6	+3.4
NIE	Niedzica	8.28	4	eP	Pn	23 08 46.6	+3.4
NIE	Niedzica	8.28	4	eP	Pn	23 08 46.6	+3.4
WTTA	Wattenberg	8.33	320	⇑iPn	Pn	23 08 45.0	+1.0
	SNR=12						
WTTA				⇑iSn	Sn	23 10 16.7	-0.7
WTTA	Wattenberg	8.33	320	Pn	Pn	23 08 45.0	+1.0
	SNR=12						
WTTA				Sn	Sn	23 10 16.7	-0.7
WATA	Walderalm	8.41	320	⇑iPn	Pn	23 08 45.9	+0.9
	SNR=17						
WATA				⇓iSn	Sn	23 10 18.7	-0.6
WATA	Walderalm	8.41	320	Pn	Pn	23 08 45.9	+0.9
	SNR=17						
WATA				Sn	Sn	23 10 18.7	-0.6
VRAC	Vranov	8.41	347	Pn	Pn	23 08 50.3	+5.4
	0.2nm,0.3s,baz=192,slow=14,SNR=3.6						
VRAC	Vranov	8.41	347	Pn	Pn	23 08 50.4	+5.4
FETA	Feichten	8.63	316	⇓iPn	Pn	23 08 49.5	+1.4
FETA	Feichten	8.63	316	Pn	Pn	23 08 49.5	+1.4
MOTA	Moosalm	8.65	318	⇓iPn	Pn	23 08 49.4	+1.1
MOTA				⇑iSn	Sn	23 10 25.3	+0.1
MOTA	Moosalm	8.65	318	Pn	Pn	23 08 49.4	+1.1
MOTA				Sn	Sn	23 10 25.3	+0.1
GERES	GERESS Array B	8.73	334	Pn	Pn	23 08 49.4	+0.1
	0.4nm,0.3s,baz=159,slow=15,SNR=14						
GERES				Sn	Sn	23 10 25.4	-1.6
	0.7nm,0.3s,baz=144,slow=22,SNR=5.4						
GERES	GERESS Array B	8.73	334	Pn	Pn	23 08 49.4	+0.1
GERES				Sn	Sn	23 10 25.4	-1.6
GERES	GERESS Array B	8.73	334	Pn	Pn	23 08 49.4	+0.1
KWP	Kalwaria Pacla	8.77	14	ePn	Pn	23 08 54.0	+4.2
KWP	Kalwaria Pacla	8.77	14	⇓P	Pn	23 08 53.3	+3.5
KWP	Kalwaria Pacla	8.77	14	ePn	Pn	23 08 53.8	+4.0
	7.3nm,0.6s						
KWP	Kalwaria Pacla	8.77	14	⇓iP	Pn	23 08 53.3	+3.5
KWP	Kalwaria Pacla	8.77	14	⇓iP	Pn	23 08 53.3	+3.5
KWP	Kalwaria Pacla	8.77	14	ePn	Pn	23 08 54.0	+4.2
DAVOX	Davos/Dischmat	8.95	312	Pn	Pn	23 08 54.0	+1.6
	baz=142,slow=19						
DAVOX				Sn	Sn	23 10 30.8	-1.7
	0.5nm,0.3s,baz=270,slow=20,SNR=3.6						
DAVOX				LR	LR	23 11 48.1	
	comp=Z,49nm,21.7s,baz=102,slow=34						
DAVOX	Davos/Dischmat	8.95	312	Pn	Pn	23 08 54.0	+1.6
DAVOX				Sn	Sn	23 10 30.8	-1.7
DAVOX	Davos/Dischmat	8.95	312	Pn	Pn	23 08 54.0	+1.6
KHC	Kasperske Hory	9.02	334	eP	Pn	23 08 55.5	+2.3
KHC				e		23 10 34.5	
KHC	Kasperske Hory	9.02	334	ePn	Pn	23 08 54.2	+1.0
	6.6nm,0.9s						
KHC				eSn	Sn	23 10 31.9	-2.1
KHC	Kasperske Hory	9.02	334	ePN	Pn	23 08 55.5	+2.3
KHC				eSN	Sn	23 10 34.5	+0.5
KHC	Kasperske Hory	9.02	334	ePn	Pn	23 08 54.2	+1.0
	6.6nm,0.9s						
KHC				Sn	Sn	23 10 34.5	+0.5
OJC	Ojcow	9.07	1	eP	Pn	23 08 56.7	+2.8
OJC	Ojcow	9.07	1	eP	Pn	23 08 56.7	+2.8
OJC	Ojcow	9.07	1	eP	Pn	23 08 56.7	+2.8
TUE	Stuetta	9.08	309	ePn	Pn	23 08 55.8	+1.6
	9.1nm,0.7s						
TUE				eSn	Sn	23 10 28.8	-7.0
TUE	Stuetta	9.08	309	ePn	Pn	23 08 55.8	+1.6
	9.1nm,0.7s						
SBF	Sospel	9.34	291	ePn	Pn	23 08 56.0	-1.7
SBF	Sospel	9.34	291	eP	Pn	23 08 56.0	-1.7
SBF	Sospel	9.34	291	ePn	Pn	23 08 56.0	-1.7
FRF	La Foret Royal	9.84	288	eP	Pn	23 09 08.7	+4.2
FRF	La Foret Royal	9.84	288	eP	Pn	23 09 08.7	+4.2
FRF	La Foret Royal	9.84	288	eP	Pn	23 09 08.7	+4.2
MBDF	Montbardon	10.02	295	ePn	Pn	23 09 05.5	-1.5
MBDF				eSn	Sn	23 10 50.1	-8.6
	3.8nm,0.4s						
MBDF	Montbardon	10.02	295	eP	Pn	23 09 05.5	-1.5
MBDF				e		23 10 50.1	
MBDF	Montbardon	10.02	295	ePn	Pn	23 09 05.5	-1.5
MBDF				eSn	Sn	23 10 50.1	-8.6
LPG	La Plagne	10.27	299	ePn	Pn	23 09 09.0	-1.7
LPG				eSn	Sn	23 10 56.6	-8.6
	10nm,0.5s						
LPG	La Plagne	10.27	299	eP	Pn	23 09 09.0	-1.7
LPG				e		23 10 56.6	
LPG	La Plagne	10.27	299	ePn	Pn	23 09 09.0	-1.7
LPG				eSn	Sn	23 10 56.6	-8.6
LPL	La Plagne	10.29	299	ePn	Pn	23 09 09.0	-1.9
LPL				eSn	Sn	23 10 56.9	-8.7
	7.5nm,0.3s						
LPL	La Plagne	10.29	299	eP	Pn	23 09 09.0	-1.9
LPL				e		23 10 56.9	
LPL	La Plagne	10.29	299	ePn	Pn	23 09 09.0	-1.9
LPL				eSn	Sn	23 10 56.9	-8.7
SMRF	Simiane la Rot	10.68	290	ePn	Pn	23 09 14.1	-1.9
SMRF	Simiane la Rot	10.68	290	ePn	Pn	23 09 14.1	-1.9
BFO	Black Forest	10.71	316	eP	Pn	23 09 15.0	-1.5
BFO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BFO	Black Forest	10.71	316	ePn	Pn	23 09 15.0	-1.5
	comp=Z,5.3nm,0.8s						
BRTR	Keskin Array B	10.85	93	Pn	Pn	23 09 21.1	+2.6
	comp=Z,0.2nm,0.3s,baz=277,slow=12,SNR=6.7						
BRTR	Keskin Array B	10.85	93	Pn	Pn	23 09 21.1	+2.6
BRTR	Keskin Array B	10.85	93	Pn	Pn	23 09 21.1	+2.6
CABF	La Chapelle	11.13	304	ePn	Pn	23 09 20.8	-1.4
CABF	La Chapelle	11.13	304	eP	Pn	23 09 20.8	-1.4
CABF	La Chapelle	11.13	304	ePn	Pn	23 09 20.8	-1.4
CABF	La Chapelle	11.13	304	ePn	Pn	23 09 20.8	-1.4
HINF	Hinteralfeld	11.23	311	ePn	Pn	23 09 22.5	-1.1
HINF				eSn	Sn	23 11 20.6	-7.8
	comp=Z,3.1nm,0.3s						
HINF	Hinteralfeld	11.23	311	eP	Pn	23 09 22.5	-1.1
HINF				e		23 11 20.6	
HINF	Hinteralfeld	11.23	311	ePn	Pn	23 09 22.5	-1.1
HINF				eSn	Sn	23 11 20.6	-7.8
CDF	Champ du Feu	11.33	314	ePn	Pn	23 09 24.6	-0.3
CDF	Champ du Feu	11.33	314	eP	Pn	23 09 24.6	-0.3
CDF	Champ du Feu	11.33	314	ePn	Pn	23 09 24.6	-0.3
CDF	Champ du Feu	11.33	314	ePn	Pn	23 09 24.6	-0.3
HAU	Haudompre	11.62	311	ePn	Pn	23 09 27.6	-1.3
HAU				eSn	Sn	23 11 28.9	-9.0
	comp=Z,5.5nm,0.4s						
HAU	Haudompre	11.62	311	eP	Pn	23 09 27.6	-1.3
HAU				e		23 11 28.9	
HAU	Haudompre	11.62	311	ePn	Pn	23 09 27.6	-1.3
HAU				eSn	Sn	23 11 28.9	-9.0
HAU	Haudompre	11.62	311	ePn	Pn	23 09 27.6	-1.3
KIEV	Kiev	11.67	32	eP	Pn	23 09 30.4	+0.9
AKASG	Malin Array Be	11.68	32	Pn	Pn	23 09 29.3	-0.4
	comp=Z,0.4nm,0.3s,baz=223,slow=14,SNR=3.4						
AKASG	Malin Array Be	11.68	32	P	Pn	23 09 29.3	-0.4
AKASG	Malin Array Be	11.68	32	Pn	Pn	23 09 29.3	-0.4
AKASG	Malin Array Be	11.68	32	Pn	Pn	23 09 29.3	-0.4
SMF	Signal de Mont	12.57	301	ePn	Pn	23 09 40.0	-1.9
SMF				eSn	Sn	23 11 51.1	-10
	comp=Z,2.0nm,0.3s						
SMF	Signal de Mont	12.57	301	eP	Pn	23 09 40.0	-1.9
SMF				e		23 11 51.1	
SMF	Signal de Mont	12.57	301	ePn	Pn	23 09 40.0	-1.9
SMF				eSn	Sn	23 11 51.1	-10
LOR	Lormes	12.79	304	ePn	Pn	23 09 44.1	-0.7
LOR				eSn	Sn	23 11 56.7	-10
	comp=Z,6.5nm,0.4s						
LOR	Lormes	12.79	304	ePn	Pn	23 09 44.1	-0.7
LOR				eSn	Sn	23 11 56.7	-10
LOR	Lormes	12.79	304	ePn	Pn	23 09 44.1	-0.7
BGF	Bois d'Agland	13.19	300	ePn	Pn	23 09 47.8	-2.5
BGF	Bois d'Agland	13.19	300	eP	Pn	23 09 47.8	-2.5
BGF	Bois d'Agland	13.19	300	ePn	Pn	23 09 47.8	-2.5
HYF	Humbligny	13.56	302	ePn	Pn	23 09 52.4	-3.0
HYF	Humbligny	13.56	302	ePn	Pn	23 09 52.4	-3.0
MMAI	Mount Meron Ar	15.03	118	Pn	Pn	23 10 14.2	-1.4
	comp=Z,0.4nm,0.3s,baz=318,slow=12,SNR=5.7						
MMAI	Mount Meron Ar	15.03	118	Pn	Pn	23 10 14.2	-1.4
ASF	Jabal al Asfar	16.55	117	LR	LR	23 17 27.4	
	comp=Z,46nm,18.8s,baz=332,slow=39						
VORD	Divnogorie	16.81	48	eP	P	23 10 40.8	+0.6
VORD				pmax	pmax		
	comp=N,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.1s						
VSR	Storozhevoye	16.86	47	eP	P	23 10 41.3	+0.5

VSR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
EIL	Elat	16.98	128	P	Pn	23 10 39.1	-1.4
	comp=E,0.2nm,0.3s,baz=335,slow=14,SNR=2.8						
EIL	Elat	16.98	128	P	Pn	23 10 39.1	-1.4
KBZ	Khabaz	17.43	74	P	P	23 10 48.4	+1.3
	comp=E,0.1nm,0.3s,baz=62,slow=15,SNR=3.1						
KBZ	Khabaz	17.43	74	P	P	23 10 48.4	+1.3
KBZ	Khabaz	17.43	74	P	P	23 10 48.4	+1.3
KBZ	Khabaz	17.43	74	P	P	23 10 48.4	+1.3
VSU	Vasula	17.92	12	eP	Pn	23 10 52.0	+0.1
VSU				pmax	pmax		
	comp=Z,22nm,1.4s						
OBN	Obninsk	17.94	33α	iP	P	23 10 53.1	+0.5
OBN				S	S	23 14 15.0	-2.3
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZEI	Tsey	18.18	77	eP	Pn	23 10 49.8	-5.7
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI	Garni	19.14	85	P	Pn	23 11 07.2	+0.1
	comp=Z,0.3nm,0.3s,baz=291,slow=4.7,SNR=13						
GNI	Garni	19.14	85	P	Pn	23 11 07.2	+0.1
GNI	Garni	19.14	85	P	Pn	23 11 07.2	+0.1
HFS	Hagfors	19.34	351	P	P	23 11 08.0	-0.1
	comp=Z,0.1nm,0.3s,baz=140,slow=11,SNR=3.7						
HFS				LR	LR	23 19 58.9	
	comp=Z,91nm,19.1s,baz=72,slow=41						
HFS	Hagfors	19.34	351	P	P	23 11 08.0	-0.1
HFS	Hagfors	19.34	351	P	P	23 11 08.0	-0.1
NB2	NORSAR Subarra	20.55	348	P	P	23 11 21.4	+0.1
	comp=Z,3.4nm,1.1s,baz=164,slow=11						
NB2	NORSAR Subarra	20.55	348	P	P	23 11 21.4	+0.1
	comp=Z,3.4nm,1.1s,baz=164,slow=10,SNR=3.8						
NOA	NORSAR Array B	20.55	348	P	P	23 11 21.3	+0.1
	comp=Z,0.9nm,0.7s,baz=153,slow=9.7,SNR=3.2						
NOA				LR	LR	23 20 42.3	
	comp=Z,74nm,19.1s,baz=180,slow=41						
NOA	NORSAR Array B	20.55	348	P	P	23 11 21.3	+0.1
NOA	NORSAR Array B	20.55	348	P	P	23 11 21.3	+0.1
FINES	FINESS Array B	20.70	9	P	P	23 11 21.6	-1.2
	comp=Z,2.5nm,0.7s,baz=171,slow=11,SNR=8.9						
FINES				LR	LR	23 20 28.2	
	comp=Z,162nm,18.4s,baz=310,slow=40						
FINES	FINESS Array B	20.70	9	P	P	23 11 21.6	-1.2
KAF	Kangasniemi	21.38	9	eP	P	23 11 29.3	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	21.38	9	ep	P	23 11 29.3	-0.8
	comp=Z,0.7nm,0.3s						
KAF	Kangasniemi	21.38	9	eP	P	23 11 29.3	-0.8
	comp=Z,0.7nm,0.3s						
JOF	Joensuu	22.89	14	eP	P	23 11 44.4	-1.9
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	Joensuu	22.89	14	ep	P	23 11 44.4	-1.9
	comp=Z,0.5nm,0.3s						
KLMR	Klimovskoe	23.21	25	eP	P	23 11 47.7	-1.8
KLMR				pmax	pmax		
	comp=Z,27nm,1.4s						
AKTO	Aktyubinsk	28.11	58	P	P	23 12 34.1	-0.4
	comp=Z,0.7nm,0.4s,baz=267,slow=16,SNR=5.5						
AKTO	Aktyubinsk	28.11	58	P	P	23 12 34.1	-0.4
AKTO	Aktyubinsk	28.11	58	P	P	23 12 34.1	-0.4
AKTO	Aktyubinsk	28.11	58	P	P	23 12 34.1	-0.4
ARCES	ARCESS Array B	28.62	4	LR	LR	23 23 25.3	
	comp=Z,40nm,19.9s,baz=214,slow=35						
AB31	Akbulak array	29.31	60c	eP	P	23 12 45.0	-0.1
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	Akbulak array	29.31	60	eP	P	23 12 44.7	-0.4
	comp=Z,2.4nm,0.4s						
ABKAR	Akbulak array	29.31	60	eP	P	23 12 44.7	-0.4
	comp=Z,2.4nm,0.4s						
ARU	Arti	29.43	45d	iP	P	23 12 45.5	-0.5
ARU						23 13 36.9	
ARU				S	S	23 17 40.9	+2.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	Arti	29.43	45	eP	P	23 12 44.9	-1.1
	comp=Z,5.4nm,1.0s						
SVE	Sverdlovsk	30.64	45	eP	P	23 12 56.4	-0.3
SVE				pmax	pmax		
	comp=Z,12nm,0.9s						
SVE				MLR	MLR		
	comp=Z,217nm,18.0s						
TORD	Torodi Ar. Bea	31.96	214	P	P	23 13 06.1	-2.6
	comp=Z,0.3nm,0.5s,baz=13,slow=9.2,SNR=3.0						
TORD	Torodi Ar. Bea	31.96	214	P	P	23 13 06.1	-2.6
BRVK	Borovoye	35.80	53	eP	P	23 13 41.5	-0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	Borovoye Array	35.87	53	P	P	23 13 42.9	+0.6
	comp=Z,1.9nm,0.8s,baz=256,slow=12,SNR=7.3						
BVAR	Borovoye Array	35.87	53	P	P	23 13 42.9	+0.6
BVAR	Borovoye Array	35.87	53	P	P	23 13 42.9	+0.6
BVAR	Borovoye Array	35.87	53	P	P	23 13 42.9	+0.6
AAK	Ala-Archa	40.33	69	P	P	23 14 20.4	+0.1
	comp=Z,0.7nm,0.5s,baz=225,slow=4.3,SNR=7.0						
AAK	Ala-Archa	40.33	69	P	P	23 14 20.5	+0.1
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	40.33	69	eP	P	23 14 20.4	+0.1
	comp=Z,2.9nm,0.5s						
AAK	Ala-Archa	40.33	69	eP	P	23 14 20.4	+0.1
	comp=Z,2.9nm,0.5s						
KURBB	Kurchatov Arra	41.14	56	P	P	23 14 26.7	+0.1
	comp=Z,3.9nm,0.8s,baz=288,slow=9.7,SNR=26						
KURK	Kurchatov	41.18	56	eP	P	23 14 26.9	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	41.18	56	eP	P	23 14 26.9	0.0
	comp=Z,3.6nm,0.8s						
KURK	Kurchatov	41.18	56	eP	P	23 14 26.9	0.0
	comp=Z,3.5nm,0.8s						
NVS	Novosibirsk	43.26	49	iP	P	23 14 44.2	+0.4
NVS				pmax	pmax		
	comp=N,5.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,12nm,1.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
ZAA0	Zalesovo Array	44.32	50	eP	P	23 14 52.1	-0.3
ZAA0	Zalesovo Array	44.32	50	eP	P	23 14 52.1	-0.3
ZALV	Zalesovo Beam	44.32	50	P	P	23 14 52.2	-0.2
	comp=E,6.1nm,0.5s,baz=283,slow=8.5,SNR=46						
ZALV	Zalesovo Beam	44.32	50	P	P	23 14 52.2	-0.2
ZALV	Zalesovo Beam	44.32	50	P	P	23 14 52.2	-0.2
ZALV	Zalesovo Beam	44.32	50	P	P	23 14 52.2	-0.2
MK31	Makanchi Array	44.45	61c	eP	P	23 14 53.8	+0.2
MK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MK31	Makanchi Array	44.45	61	eP	P	23 14 53.5	-0.1
MK31	Makanchi Array	44.45	61	eP	P	23 14 53.5	-0.1
MKAR	Makanchi Array	44.45	61	P	P	23 14 53.6	+0.1
	comp=Z,1.5nm,0.4s,baz=282,slow=7.7,SNR=56						
MKAR	Makanchi Array	44.45	61c	eP	P	23 14 53.7	+0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	44.45	61	P	P	23 14 53.6	+0.1
MKAR	Makanchi Array	44.45	61	P	P	23 14 53.7	+0.1
DANN	Dangsing	53.20	82	eP	P	23 16 00.3	-1.0
	comp=Z,28nm,0.7s						
DANN	Dangsing	53.20	82	eP	P	23 16 00.3	-1.0
	comp=Z,28nm,0.7s						
KOLN	Koldanda	53.38	83	eP	P	23 16 01.2	-1.4
	comp=Z,7.0nm,0.7s						
KOLN	Koldanda	53.38	83	eP	P	23 16 01.2	-1.4
	comp=Z,7.0nm,0.7s						
GKN	Gorkha	54.04	82	eP	P	23 16 05.9	-1.4
GKN	Gorkha	54.04	82	eP	P	23 16 05.9	-1.4
KKN	Kakani	54.63	82	eP	P	23 16 10.5	-1.2
KKN	Kakani	54.63	82	eP	P	23 16 10.5	-1.2
KKN	Kakani	54.63	82	eP	P	23 16 10.5	-1.2
PKI	Pulchoki	54.84	82	eP	P	23 16 12.0	-1.4
PKI	Pulchoki	54.84	82	eP	P	23 16 12.0	-1.4
PKI	Pulchoki	54.84	82	eP	P	23 16 12.0	-1.4
GUN	Gumba	55.02	82	eP	P	23 16 13.3	-1.3
	comp=Z,29nm,0.9s						
GUN	Gumba	55.02	82	eP	P	23 16 13.3	-1.3
	comp=Z,29nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIRN	Jiri	55.38	82	eP	P	23 16 16.3	-1.0
	comp=Z,4.0nm,0.7s						
JIRN	Jiri	55.38	82	eP	P	23 16 16.3	-1.0
	comp=Z,4.0nm,0.7s						
SCHQ	Schefferville	55.78	316	P	P	23 16 18.9	-0.4
	comp=Z,1.6nm,0.7s,baz=70,slow=3.8,SNR=6.9						
SCHQ	Schefferville	55.78	316	eP	P	23 16 19.4	+0.1
SCHQ	Schefferville	55.78	316	eP	P	23 16 19.4	+0.1
TLY	Talaya	55.86	48	eP	P	23 16 26.9	+6.9
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,50nm,15.0s						
RAMN	Ramite	56.07	82	eP	P	23 16 20.7	-1.4
	comp=Z,29nm,0.8s						
RAMN	Ramite	56.07	82	eP	P	23 16 20.7	-1.4
	comp=Z,29nm,0.8s						
ZAK	Zakamensk	56.20	50	eP	P	23 16 23.0	+0.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TAPN	Taplejung	56.68	81	eP	P	23 16 25.2	-1.3
	comp=Z,19nm,1.0s						
TAPN	Taplejung	56.68	81	eP	P	23 16 25.2	-1.3
	comp=Z,19nm,1.0s						
RES	Resolute Bay	56.70	343	P	P	23 16 25.9	+0.3
	comp=Z,0.7nm,0.9s,baz=11,slow=11,SNR=3.8						
RES	Resolute Bay	56.70	343	eP	P	23 16 25.7	+0.1
	comp=Z,1.0nm,0.8s						
RES	Resolute Bay	56.70	343	eP	P	23 16 25.7	+0.1
	comp=Z,1.0nm,0.8s						
ODAN	Odare	56.71	82	eP	P	23 16 25.2	-1.5
ODAN	Odare	56.71	82	eP	P	23 16 25.2	-1.5
SONM	Songino Array	59.18	52	P	P	23 16 44.1	+0.5
	comp=Z,2.9nm,0.9s,baz=289,slow=8.8,SNR=23						
SONM	Songino Array	59.18	52	P	P	23 16 44.1	+0.5
SONM	Songino Array	59.18	52	P	P	23 16 44.1	+0.5
ULN	Ulaanbaatar	59.56	51	eP	P	23 16 46.4	+0.1
	comp=Z,1.2nm,1.0s						
ULN	Ulaanbaatar	59.56	51	eP	P	23 16 46.3	+0.1
	comp=Z,1.2nm,1.0s						
CMAR	Chiang Mai Arr	70.24	82	P	P	23 17 54.9	-1.1
	comp=Z,0.5nm,0.3s,baz=309,slow=7.5,SNR=7.0						
CMAR	Chiang Mai Arr	70.24	82	P	P	23 17 54.9	-1.1
YKA	Yellowknife Ar	70.34	339	P	P	23 17 56.5	+0.7
	comp=Z,1.4nm,0.8s,baz=36,slow=5.2,SNR=21						
YKA	Yellowknife Ar	70.34	339	P	P	23 17 56.5	+0.7
YKA	Yellowknife Ar	70.34	339	P	P	23 17 56.5	+0.7
ILAR	Eielson Array	73.88	354	P	P	23 18 18.0	+1.0
	comp=Z,0.7nm,0.7s,baz=3.6,slow=4.9,SNR=9.6						
ILAR	Eielson Array	73.88	354	P	P	23 18 18.0	+1.0
ILAR	Eielson Array	73.88	354	P	P	23 18 18.0	+1.0
PDAR	Pinedale Array	84.67	325	P	P	23 19 15.6	-1.0
	comp=Z,0.5nm,0.8s,baz=60,slow=4.3,SNR=3.2						
PDAR				LR	LR	23 59 22.3	
	comp=Z,38nm,20.0s,baz=267,slow=37						
PDAR	Pinedale Array	84.67	325	P	P	23 19 15.6	-1.0
TXAR	Lajitas Array	92.38	313	P	P	23 19 53.7	+0.3
	comp=Z,0.7nm,0.7s,baz=50,slow=6.3,SNR=4.4						
TXAR	Lajitas Array	92.38	313	P	P	23 19 53.7	+0.3
TXAR	Lajitas Array	92.38	313	P	P	23 19 53.7	+0.3
ASAR	Alice Springs	123.19	94	PKP	PKPdf	23 25 39.0	-0.5
	comp=Z,0.3nm,0.5s,baz=17,slow=1.0,SNR=4.1						
ASAR	Alice Springs	123.19	94	PKP	PKPdf	23 25 39.0	-0.5
ASAR	Alice Springs	123.19	94	PKIKP	PKPdf	23 25 39.0	-0.5

*IDC **06** 23:11:23.0±17.0, 40.°37N×19.°04E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.2/26, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=342.1km s-min=26.2km az=35.0*
*BEO **06** 23:11:30.3±0.9, 41.°00N×19.°45E, h3km±2km, ML3.2/5*
*CSEM **06** 23:11:30.4±0.2, 41.°04N×19.°46E, h2km, ML3.2, Error ellipse: s-maj=4.7km s-min=3.3km az=14.0*
*PDG **06** 23:11:34.0±0.3, 41.°25N×19.°58E, h11km, ML3.1/10, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*
*ATH **06** 23:11:52.2, 39.°73N×20.°01E, h37km±3km, MD2.9/3*
ISC 06 23:11:31.6±1.1, **41.°11N**±0.°02×**19.°47E**±0.°02, **h11**km±8km, **n67**, σ1**.°00**/111, **11C-8D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.38	51	ePg	Pg	23 11 38.4	-0.8
TIR				eSg	Sb	23 11 46.1	-0.3
TIR	Tirane	0.38	51	ePg	Pg	23 11 38.4	-0.8
TIR				eSg	Sb	23 11 46.1	-0.3
ULC	Ulcinj	0.87	349	⇓iPg	Pg	23 11 48.5	+0.1
ULC				eSg	Sg	23 12 00.3	+0.5
ULC	Ulcinj	0.87	349	⇓iPg	Pg	23 11 48.5	+0.1
ULC				eSg	Sg	23 12 00.3	+0.5
BUM	Brajici-Budva	1.27	340	ePg	Pn	23 11 55.3	-0.1
BUM				eSg	Sg	23 12 13.6	+1.1
BUM	Brajici-Budva	1.27	340	ePg	Pn	23 11 55.3	-0.1
BUM				eSg	Sg	23 12 13.6	+1.1
PDG	Podgorica	1.33	353	ePg	Pn	23 11 56.1	-0.1
PDG				eSg	Sg	23 12 15.9	+1.4
PDG	Podgorica	1.33	353	⇓iPg	Pn	23 11 56.2	0.0
PDG				eSg	Sg	23 12 15.3	+0.8
TTG	Podgorica	1.33	353	⇓iPg	Pn	23 11 56.2	0.0
TTG				eSg	Sg	23 12 15.3	+0.8
BIA	Bitola	1.41	93	ePn	Pn	23 11 56.1	-1.1
BIA				eSg	Sg	23 12 16.0	-0.8
BIA	Bitola	1.41	93	ePn	Pn	23 11 56.1	-1.1
BIA				eSg	Sg	23 12 16.0	-0.8
KEK	Kerkira	1.42	170	ePB	Pg	23 11 59.1	+0.3
KEK				eSB	Sb	23 12 04.3	-12
KEK	Kerkira	1.42	170	ePb	Pg	23 11 59.1	+0.3
KEK				eSb	Sb	23 12 04.3	-12
HCY	Herceg Novi	1.52	332	⇑iPg	Pg	23 12 00.5	-0.4
HCY				eSg	Sg	23 12 22.1	+1.4
HCY	Herceg Novi	1.52	332	⇑iPg	Pg	23 12 00.5	-0.4
HCY				eSg	Sg	23 12 22.1	+1.4
PVY	Plav	1.53	14	⇑iPg	Pb	23 11 59.8	-0.3
PVY				eSg	Sg	23 12 21.7	+0.8
PVY	Plav	1.53	14	⇑iPg	Pb	23 11 59.8	-0.3
PVY				eSg	Sg	23 12 21.7	+0.8
PE1	Pezze di Greco	1.58	260	ePn	Pg	23 12 03.4	+1.5
SKO	Skopje	1.71	59	ePn	Pn	23 12 01.9	+0.5
SKO				eSg	Sb	23 12 24.4	-0.4
SKO	Skopje	1.71	59	ePn	Pb	23 12 02.3	-0.8
SKO				eSg	Sb	23 12 25.7	+1.0
SKO	Skopje	1.71	59	ePn	Pb	23 12 02.3	-0.8
SKO				eSg	Sb	23 12 25.7	+1.0
NKY	Niksic	1.74	348	⇑iPn	Pb	23 12 03.0	-0.7
NKY				eSn	Sb	23 12 26.5	+0.9
NKY	Niksic	1.74	348	⇑iPn	Pb	23 12 03.0	-0.7
NKY				eSn	Sb	23 12 26.5	+0.9
BEY	Berane	1.79	10	⇓iPn	Pb	23 12 04.2	-0.3
BEY				eSn	Sb	23 12 27.9	+0.9
IVA	Berane	1.79	10	⇓iPn	Pb	23 12 04.2	-0.3
IVA				eSn	Sb	23 12 27.9	+0.9
JAN	Janina	1.79	143	ePN	Pg	23 12 05.4	-0.6
JAN	Janina	1.79	143	ePn	Pg	23 12 05.4	-0.6
BRY	Bratogost	1.92	339	⇑iPn	Pb	23 12 06.5	-0.3
BRY				eSn	Sb	23 12 31.2	+0.3
BRY	Bratogost	1.92	339	⇑iPn	Pb	23 12 06.5	-0.3
BRY				eSn	Sb	23 12 31.2	+0.3
BAI	Bari	1.96	271	ePn	Pn	23 12 05.1	+0.3
BAI				eSn	Sn	23 12 28.9	-0.4
SG1	Sgolgore (BA)	2.13	264	eSn	Sg	23 12 38.1	-1.9
UPM	Unac-Piva	2.14	349	⇑iPn	Pb	23 12 09.6	-0.9
UPM				eSn	Sb	23 12 36.6	-0.5
UPM	Unac-Piva	2.14	349	⇑iPn	Pb	23 12 09.6	-0.9
UPM				eSn	Sb	23 12 36.6	-0.5
SJES	Sjenica	2.19	10	ePn	Pn	23 12 08.6	+0.6
SJES				eSn	Sb	23 12 37.9	-0.5
SJES	Sjenica	2.19	10	ePn	Pn	23 12 08.6	+0.6
SJES				eSn	Sb	23 12 37.9	-0.5
STON	Ston	2.20	324	ePn	Pn	23 12 07.5	-0.6
STON				Sn	Sn	23 12 34.3	-1.1
STON	Ston	2.20	324	ePn	Pn	23 12 07.5	-0.6
STON				Sn	Sn	23 12 34.2	-1.1
PLE	Pljevlja	2.22	358	⇓iPn	Pn	23 12 09.9	+1.4
PLE				eSn	Sn	23 12 38.3	+2.2
PLE	Pljevlja	2.22	358	⇓iPn	Pn	23 12 09.9	+1.4
PLE				eSn	Sn	23 12 38.3	+2.2
VAY	Valandovo	2.35	84	ePn	Pn	23 12 09.9	-0.3
VAY				eSg	Sn	23 12 38.8	-0.2
VAY	Valandovo	2.35	84	ePn	Pn	23 12 10.3	+0.1
CDT	Castel del Mon	2.42	270	ePn	Pb	23 12 15.2	+0.1
CDT				eSn	Sn	23 12 41.2	+0.5
SELS	Selova	2.44	30	ePn	Pn	23 12 11.8	+0.3
BARS	Barje	2.44	45	ePn	Pn	23 12 12.7	+1.2
BARS				eSn	Sn	23 12 43.0	+1.6
BARS	Barje	2.44	45	ePn	Pn	23 12 12.7	+1.2
BARS				eSn	Sn	23 12 43.0	+1.6
LKD2	Lefkada island	2.49	158	ePN	Pn	23 12 12.4	+0.3
LKD2	Lefkada island	2.49	158	ePn	Pn	23 12 12.4	+0.3
IVAS	Ivanjica	2.52	11	ePn	Pn	23 12 12.9	+0.3
IVAS				eSn	Sb	23 12 46.3	-1.7
IVAS	Ivanjica	2.52	11	ePn	Pn	23 12 12.9	+0.3
IVAS				eSn	Sb	23 12 46.3	-1.7
GRUS	Gruza	2.93	18	ePn	Pn	23 12 18.8	+0.7
GRUS	Gruza	2.93	18	ePn	Pn	23 12 18.8	+0.7
DIVS	Divibare	3.01	7	ePn	Pn	23 12 19.7	+0.3
DIVS	Divibare	3.01	7	ePn	Pn	23 12 19.7	+0.3
VLS	Valsamata	3.05	163	ePB	Pn	23 12 20.0	+0.1
VLS	Valsamata	3.05	163	ePb	Pn	23 12 20.0	+0.1
VTS	Vitosha	3.16	61	ePn	Pn	23 12 22.1	+0.6
VTS				eSn	Sn	23 13 01.1	+1.8
VTS	Vitosha	3.16	61	ePn	Pn	23 12 22.1	+0.6
VTS				eSn	Sn	23 13 01.1	+1.8
ZAPS	Zavoj	3.20	46	ePn	Pn	23 12 23.4	+1.5
ZAPS				eSn	Sn	23 13 01.5	+1.5
ZAPS	Zavoj	3.20	46	ePn	Pn	23 12 23.4	+1.5
ZAPS				eSn	Sn	23 13 01.5	+1.5
EFP	Efpalio	3.27	144	ePN	Pn	23 12 25.2	+2.4
EFP	Efpalio	3.27	144	ePn	Pn	23 12 25.3	+2.4
BZS	Buzias	4.77	18	⇑iP	Pn	23 12 42.7	-0.8
BZS				S	Pg	23 12 59.3	-3.7
NVLJ	Novalja	4.83	317	ePn	Pn	23 12 44.4	+0.1
NVLJ				Sn	Sn	23 13 38.7	-1.6
NVLJ	Novalja	4.83	317	ePn	Pn	23 12 44.4	+0.1
GERES	GERESS Array B	8.75	334	Pn	Pn	23 13 39.5	+1.4
	0.1nm,0.3s,baz=164,slow=14,SNR=3.7						
ZALV	Zalesovo Beam	44.39	50	P	P	23 19 40.2	-1.7
	0.6nm,0.4s,baz=277,slow=9.2,SNR=4.6						
MKAR	Makanchi Array	44.52	61	P	P	23 19 41.6	-1.5
	0.1nm,0.4s,baz=285,slow=8.2,SNR=6.9						

*ISCJB **06** 23:37:41.9±0.5, 24.°19N±0.°06×122.°83E±0.°02, h55km±12km, Error ellipse: s-maj=9.5km s-min=3.4km az=0.4*
*JMA **06** 23:37:41.3±0.2, 24.°26N×122.°81E, h63km±3km, M2.1*
*TAP **06** 23:37:42.8, 24.°12N×122.°72E, h37km±2km, ML2.9, D*
ISC 06 23:37:42.6±1.2, **24.°13N**±0.°06×**122.°83E**±0.°03, **h42**km±20km, **n32**, σ1**.°14**/53, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.37	26	P	Pn	23 37 51.6	-0.2
YOJ				S	Sn	23 37 58.9	+0.7
IRIF	Iriomote-Funau	0.84	76	P	Pn	23 37 57.5	-0.5
IRIF				S	Sn	23 38 09.5	+0.2
HATJ	Hateruma jima	0.89	94	P	Pn	23 37 58.5	-0.1
HATJ				S	Sn	23 38 12.0	+1.6
TWC	Suao	1.02	298	eP	Pn	23 37 59.8	-0.6
	baz=301						
TWC				eS	Sn	23 38 12.4	-1.0
	baz=301						
ENA	Nanau	1.04	287	P	Pn	23 38 00.1	-0.6
	baz=288						
ENA				eS	Sn	23 38 13.7	-0.3
	baz=288						
JKRS	Kuro-shima	1.08	84	P	Pn	23 38 01.2	0.0
JKRS				S	Sn	23 38 16.4	+1.4
TWD	Chiawan	1.13	268	P	Pn	23 38 01.0	-0.9
	baz=267						
TWE	Neicheng	1.22	299	eP	Pn	23 38 03.2	+0.1
	baz=301						
TWE				eS	Sn	23 38 17.3	-1.0
	baz=301						
JIJ	Ishigaki jima	1.22	79	P	Pn	23 38 02.4	-0.7
JIJ				S	Sn	23 38 18.2	-0.2
ENTT	Nioudou	1.26	294	eP	Pn	23 38 03.9	+0.1
	baz=295						
ESL	Shilin	1.32	257	eP	Pn	23 38 02.8	-1.7
	baz=245						
NNS	Nan Shan	1.37	283	eP	Pn	23 38 05.2	-0.1
	baz=284						
WHF	Hehuan Shan	1.43	271	P	Pn	23 38 05.6	-0.9
	baz=271						
WHF				eS	Sn	23 38 23.5	-0.8
	baz=271						
NSK	Sanguang	1.45	292	eP	Pn	23 38 06.1	-0.3
	baz=280						
NSK				eS	Sn	23 38 23.4	-0.8
	baz=280						
EHY	Hungye	1.52	246	P	Pn	23 38 05.9	-1.3
	baz=244						
TWT	Tachien	1.52	275	eP	Pn	23 38 07.6	+0.2
	baz=265						
TWF1	Yuli	1.60	242	P	Pn	23 38 07.6	-0.9
	baz=231						
CHKT	Chengkung	1.69	233	eP	Pn	23 38 07.6	-2.0
	baz=221						
CHKT				eS	Sn	23 38 26.9	-3.2
	baz=221						
NSTT	Nanjuang	1.74	287	eP	Pn	23 38 10.4	+0.1
	baz=288						
NSTT				eS	Sn	23 38 30.9	-0.5
	baz=288						
JTJ	Tarama	1.78	73	P	Pn	23 38 10.5	-0.3
JTJ				S	Sn	23 38 30.3	-1.9
SMLT	Sun Moon Lake	1.78	263	P	Pn	23 38 10.8	-0.2
	baz=261						
TYC	Yuchr	1.82	263	P	Pn	23 38 11.4	0.0
	baz=262						
TWQ1	Liyutan	1.89	277	eP	Pn	23 38 14.0	+1.6
	baz=277						
TWQ1				eS	Sn	23 38 35.7	+0.7
	baz=277						
ELDTW	Lidau	1.91	241	P	Pn	23 38 11.4	-1.3
	baz=239						
WNT	Mingjian	1.98	263	eP	Pn	23 38 14.9	+1.3
	baz=262						
WNT				eS	Sn	23 38 37.7	+0.5
	baz=262						
CHN5	Tsauling	2.04	255	P	Pn	23 38 15.4	+0.9
	baz=254						
CHN5				eS	Sn	23 38 39.8	+1.0
	baz=254						
TWG	Pinlang	2.08	232	eP	Pn	23 38 13.7	-1.3
	baz=238						
CHN4	Tsaushan	2.19	250	eP	Pn	23 38 17.6	+1.1
	baz=248						
CHN4				eS	Sn	23 38 43.8	+1.3
	baz=248						
WTP	Ta-pu	2.21	247	eP	Pn	23 38 17.8	+1.0
	baz=245						
WTP				eS	Sn	23 38 44.4	+1.3
	baz=245						
SGST	Jiashian	2.31	244	eP	Pn	23 38 19.7	+1.6
	baz=235						
SGST				eS	Sn	23 38 46.7	+1.4
	baz=235						
CHN1	Nanshi	2.31	247	P	Pn	23 38 19.8	+1.6
	baz=245						
CHN1				eS	Sn	23 38 46.5	+1.1
	baz=245						
TWK	Hsinying	2.31	249	eP	Pn	23 38 19.7	+1.5
	baz=247						
TWK				eS	Sn	23 38 47.0	+1.5
	baz=247						

MEX 06 23:43:14.9±0.9, **18.°34N**×**102.°00W**, **h52**km±47km, **MD3.8**, **Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.88	145	iP	Pn	23 43 29.5	-1.6
ZIIG				iS	Sn	23 43 41.6	-1.4
MMIG	Aquila	1.28	268	eP	Pn	23 43 34.6	-1.8
MMIG				iS	Sn	23 43 49.8	-2.8
ARIG	Puente Sto Nin	1.57	92	eP	Pn	23 43 38.3	-2.1
ARIG				iS	Sn	23 43 56.7	-2.9
EZ5V		1.90	307	iP	Pn	23 43 44.3	-1.0
EZ5V				iS	Sn	23 44 06.7	-1.6
R15V		2.06	294	eP	Pn	23 43 45.9	-1.2
R15V				iS	Sn	23 44 10.2	-1.5

*GUC **07** 00:00:26.4±1.6, 27.°27S×70.°08W, h103km±14km, ML4.5*
*IDC **07** 00:00:26.6±0.6, 27.°14S×69.°86W, h94km±4km, mb3.7/5, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, MS2.6/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=30.5km s-min=12.3km az=78.0*
ISC 07 00:00:26.1±0.6, **27.°15S**±0.°04×**69.°91W**±0.°10, **h95**km±4km, **n21**, σ1**.°57**/33, **mb3.8**/5, **1C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.45	243	⇓eP	Pn	00 00 41.5	+0.6
CPCH				eS	Sn	00 00 52.5	+0.4
CPCH				AML	AML	00 00 54.2	
	comp=E,92μm,0.1s						
CDCH	Caldera	0.82	276	eP	Pn	00 00 44.2	0.0
CDCH				eS	Sn	00 00 57.5	-0.2
LCO	Las Campanas	1.98	201	⇑iP	Pn	00 00 57.4	-1.1
LCO				iS	Sn	00 01 21.8	-1.3
LCO				AML	AML	00 01 23.6	
	comp=N,2μm,0.4s						
ANCH	Antofagasta	3.49	352	eP	Pn	00 01 16.9	-1.4
ANCH				eS	Sn	00 01 57.2	-1.4
ANCH				AML	AML	00 02 22.8	
	comp=E,504nm,0.3s						
CEN1	Los Morros	3.76	356	eP	Pn	00 01 18.5	-3.6
CEN1				eS	Sn	00 02 01.7	-3.7
CMCH	Combarbala	4.12	193	eP	Pn	00 01 24.1	-2.8
CMCH				eS	Sn	00 02 09.2	-4.8
CFAA	Coronel Fontan	4.67	162	P	Pn	00 01 33.9	-0.4
	comp=E,2.3nm,0.3s,baz=336,slow=14,SNR=118						
CFAA				S	Sn	00 02 28.2	+0.9
	comp=E,1.9nm,0.3s,baz=207,slow=17,SNR=4.0						
CHNG	Los Chungos	4.91	196	eP	Pn	00 01 34.0	-3.6
LPAZ	La Paz	10.94	9	P	Pn	00 02 58.8	-1.4
	comp=E,0.6nm,0.3s,baz=190,slow=6.6,SNR=15						
LPAZ				LR	LR	00 07 47.7	
	comp=E,32nm,20.4s,baz=75,slow=40						
PLCA	Paso Flores	13.55	182	P	Pn	00 03 34.4	-0.1
	comp=E,0.1nm,0.3s,baz=40,slow=6.0,SNR=2.6						
SIV	San Ignacio	13.81	38	P	Pn	00 03 34.1	-3.8
	comp=E,1.2nm,0.3s,baz=238,slow=10,SNR=20						
SIV				S	Sn	00 06 02.2	-7.7
	comp=E,0.1nm,0.3s,baz=322,slow=22,SNR=2.1						
USHA	Ushuaia	27.67	178	P	P	00 06 07.5	+2.6
	comp=E,7.8nm,0.8s,baz=313,slow=12,SNR=4.3						
TXAR	Lajitas Array	64.81	328	P	P	00 10 57.0	+2.0
	comp=E,0.3nm,0.7s,baz=152,slow=8.5,SNR=3.9						
TXAR				sP	sP	00 11 29.8	+0.7
	comp=E,0.5nm,0.8s,baz=163,slow=8.9,SNR=3.4						
PDAR	Pinedale Array	78.58	331	P	P	00 12 18.4	+0.9
	comp=E,0.2nm,0.4s,baz=104,slow=41,SNR=3.5						
TORD	Torodi Ar. Bea	80.13	70	P	P	00 12 26.4	+0.1
	comp=E,2.2nm,0.6s,baz=270,slow=5.7,SNR=46						
TORD				pP	pP	00 12 51.8	+1.0
	comp=E,0.6nm,0.5s,baz=276,slow=5.7,SNR=3.3						
YKA	Yellowknife Ar	96.20	341	P	P	00 13 42.8	-0.1
	comp=E,0.1nm,0.3s,baz=138,slow=4.6,SNR=5.0						
YKA				pP	pP	00 14 07.1	-0.9
	comp=E,0.1nm,0.4s,baz=144,slow=4.8,SNR=2.1						
YKA				sP	sP	00 14 17.9	-0.2
	comp=E,0.2nm,0.7s,baz=134,slow=4.8,SNR=3.3						
ASAR	Alice Springs	124.49	207	PKP	PKPdf	00 19 14.4	-0.6
	comp=E,0.3nm,0.4s,baz=149,slow=1.9,SNR=5.0						
ASAR				pPKP	pPKPdf	00 19 40.2	-0.9
	comp=E,0.2nm,0.5s,baz=140,slow=1.7,SNR=1.6						
WRA	Warramunga Arr	127.62	209	PKP	PKPdf	00 19 20.4	-0.6
	comp=E,0.3nm,0.7s,baz=163,slow=1.8,SNR=9.6						
WRA				pPKP	pPKPdf	00 19 46.2	-1.0
	comp=E,0.6nm,0.7s,baz=178,slow=1.8,SNR=3.5						
ZALV	Zalesovo Beam	147.40	28	PKPbc	PKPbc	00 19 58.8	+0.3
	comp=E,3.0nm,0.7s,baz=299,slow=3.5,SNR=16						
ZALV				pPKPbc	pPKPbc	00 20 25.0	+0.5
	comp=E,1.0nm,0.5s,baz=316,slow=4.1,SNR=3.9						
MKAR	Makanchi Array	150.62	41	PKPbc	PKPbc	00 20 07.1	+0.1
	comp=E,1.9nm,0.7s,baz=318,slow=2.2,SNR=23						
MKAR				pPKPbc	pPKPbc	00 20 33.3	+0.4
	comp=E,1.2nm,0.7s,baz=319,slow=1.8,SNR=7.1						
SONM	Songino Array	159.15	7	PKPab	PKPab	00 20 50.3	-0.2
	comp=E,0.2nm,0.5s,baz=353,slow=3.6,SNR=2.9						

*TIR **07** 00:11:00.6±3.0, 41.°12N×19.°50E, h18km±13km, ML2.9*
*BEO **07** 00:11:01.4±0.8, 41.°04N×19.°51E, h5km±2km, ML2.8/7*
*CSEM **07** 00:11:01.1±0.3, 41.°08N×19.°50E, h2km, ML2.9, Error ellipse: s-maj=5.7km s-min=4.3km az=29.0*
*PDG **07** 00:11:05.6±0.5, 41.°31N×19.°63E, h11km±1km, ML2.5/9, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*
ISC 07 00:11:02.0±1.2, **41.°13N**±0.°03×**19.°50E**±0.°02, **h11**km±8km, **n55**, σ1**.°07**/105, **4C-14D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.35	52	i PG	Pg	00 11 08.8	-0.2
TIR				i SG	Sg	00 11 14.6	+0.9
TIR	Tirane	0.35	52	ePg	Pg	00 11 08.8	-0.2
TIR				eSg	Sb	00 11 14.9	-0.9
TIR	Tirane	0.35	52	i Pg	Pg	00 11 08.8	-0.2
	SNR=106						
TIR				i Sg	Sg	00 11 14.6	+0.9
	SNR=106						
ULC	Ulcinj	0.85	347	⇓iPg	Pn	00 11 19.5	-0.4
ULC				eSg	Sg	00 11 29.5	-0.1
ULC	Ulcinj	0.85	347	⇓iPg	Pn	00 11 19.5	-0.4
ULC				eSg	Sg	00 11 29.5	-0.1
PHP	Peshkopia	0.90	52	i PG	Pg	00 11 19.0	-0.3
PHP				i SG	Sn	00 11 35.5	+1.9
PHP	Peshkopia	0.90	52	i Pg	Pg	00 11 19.0	-0.3
	SNR=94						
BUM	Brajici-Budva	1.25	339	⇑iPg	Pg	00 11 26.4	+0.4
BUM				eSg	Sn	00 11 43.6	+1.3
BUM	Brajici-Budva	1.25	339	⇑iPg	Pg	00 11 26.4	+0.4
BUM				eSg	Sn	00 11 43.6	+1.3
LSK	Leskovik	1.29	139	i PN	Pg	00 11 26.6	-0.2
LSK				i SN	Sn	00 11 47.5	+4.2
LSK	Leskovik	1.29	139	i Pn	Pg	00 11 26.6	-0.2
	SNR=58						
BCI	Bajram Curri	1.30	19	i PN	Pn	00 11 26.2	0.0
BCI				i SN	Sg	00 11 46.5	+2.5
BCI	Bajram Curri	1.30	19	i Pn	Pn	00 11 26.2	0.0
	SNR=58						
BCI				i Sn	Sg	00 11 46.5	+2.5
	SNR=58						
TTG	Podgorica	1.31	352	⇓iPg	Pg	00 11 27.1	0.0
TTG				eSg	Sg	00 11 45.0	+0.9
PDG	Podgorica	1.31	352	ePg	Pg	00 11 26.9	-0.2
PDG				eSg	Sg	00 11 46.0	+1.9
PDG	Podgorica	1.31	352	⇓iPg	Pg	00 11 27.1	0.0
PDG				eSg	Sg	00 11 45.0	+0.9
BIA	Bitola	1.39	94	ePn	Pn	00 11 26.6	-0.8
BIA				eSg	Sb	00 11 45.1	-0.5
BIA	Bitola	1.39	94	ePn	Pn	00 11 26.5	-0.8
BIA				eSg	Sb	00 11 45.1	-0.5
PVY	Plav	1.50	13	⇓iPg	Pg	00 11 30.5	-0.3
PVY				eSg	Sg	00 11 50.3	0.0
PVY	Plav	1.50	13	⇓iPg	Pg	00 11 30.5	-0.3
PVY				eSg	Sg	00 11 50.3	0.0
HCY	Herceg Novi	1.51	331	⇓iPg	Pg	00 11 30.9	-0.1
HCY				eSg	Sg	00 11 52.4	+1.8
HCY	Herceg Novi	1.51	331	⇓iPg	Pg	00 11 30.9	-0.1
HCY				eSg	Sg	00 11 52.4	+1.8
SKO	Skopje	1.68	59	ePn	Pn	00 11 30.5	-0.8
SKO				eSg	Sg	00 11 56.1	0.0
SKO	Skopje	1.68	59	ePn	Pn	00 11 31.0	-0.3
SKO				eSg	Sg	00 11 56.6	+0.5
NKY	Niksic	1.72	348	ePn	Pg	00 11 34.5	-0.5
NKY				eSn	Sg	00 11 57.2	-0.1
NKY	Niksic	1.72	348	ePn	Pg	00 11 34.5	-0.5
NKY				eSn	Sg	00 11 57.2	-0.1
BEY	Berane	1.76	10	⇓iPg	Pb	00 11 34.7	+0.3
BEY				eSg	Sg	00 11 58.2	-0.5
IVA	Berane	1.76	10	⇓iPg	Pb	00 11 34.7	+0.3
IVA				eSg	Sg	00 11 58.2	-0.5
BRY	Bratogost	1.91	338	⇓iPn	Pg	00 11 38.1	-0.4
BRY				eSn	Sb	00 12 02.1	+1.4
BRY	Bratogost	1.91	338	⇓iPn	Pg	00 11 38.1	-0.4
BRY				eSn	Sb	00 12 02.1	+1.4
BAI	Bari	1.98	270	ePn	Pn	00 11 35.7	+0.4
BAI				eSn	Sn	00 11 59.3	-0.8
UPM	Unac-Piva	2.12	348	⇓iPn	Pb	00 11 40.4	0.0
UPM				eSn	Sb	00 12 07.3	+0.6
UPM	Unac-Piva	2.12	348	⇓iPn	Pb	00 11 40.4	0.0
UPM				eSn	Sb	00 12 07.3	+0.6
SJES	Sjenica	2.16	9	ePn	Pb	00 11 39.8	-1.3
SJES				eSn	Sb	00 12 06.8	-1.1
SJES	Sjenica	2.16	9	ePn	Pb	00 11 39.8	-1.3
SJES				eSn	Sb	00 12 06.8	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STON	Ston	2.19	323	ePn	Pn	00 11 37.4	-0.9
STON				Sn	Sn	00 12 05.0	-0.4
PLE	Pljevlja	2.20	358⇑	iPn	Pb	00 11 41.2	-0.6
PLE				eSn	Sb	00 12 08.3	-0.7
PLE	Pljevlja	2.20	358⇑	iPn	Pb	00 11 41.2	-0.6
PLE				eSn	Sb	00 12 08.3	-0.7
SELS	Selova	2.41	30	ePn	Pn	00 11 42.6	+1.3
BARS	Barje	2.41	45	ePn	Pb	00 11 43.4	-2.0
BARS				eSn	Sb	00 12 13.6	-1.5
BARS	Barje	2.41	45	ePn	Pb	00 11 43.4	-2.0
BARS				eSn	Sb	00 12 13.6	-1.5
IVAS	Ivanjica	2.49	11	ePn	Pn	00 11 43.1	+0.6
IVAS				eSn	Sb	00 12 16.4	-1.0
IVAS	Ivanjica	2.49	11	ePn	Pn	00 11 43.1	+0.6
IVAS				eSn	Sb	00 12 16.4	-1.0
GRUS	Gruza	2.90	18	ePn	Pn	00 11 48.8	+0.8
GRUS	Gruza	2.90	18	ePn	Pn	00 11 48.8	+0.8
DIVS	Divibare	2.99	7	ePn	Pn	00 11 49.6	+0.3
DIVS				eSn	Sn	00 12 27.9	+2.8
DIVS	Divibare	2.99	7	ePn	Pn	00 11 49.6	+0.3
DIVS				eSn	Sn	00 12 27.9	+2.8
VTS	Vitosha	3.13	61	ePn	Pn	00 11 52.7	+1.3
VTS				eSn	Sn	00 12 29.5	+0.7
VTS	Vitosha	3.13	61	ePn	Pn	00 11 52.7	+1.3
VTS				eSn	Sn	00 12 29.5	+0.7
ZAPS	Zavoj	3.16	46	ePn	Pn	00 11 52.8	+1.1
ZAPS				eSn	Sn	00 12 30.2	+0.7
ZAPS	Zavoj	3.16	46	ePn	Pn	00 11 52.8	+1.1
ZAPS				eSn	Sn	00 12 30.2	+0.7
BZS	Buzias	4.74	18	ePn	Pn	00 12 13.2	-0.1
BZS				eSn	Sn	00 13 08.2	-0.1
BZS	Buzias	4.74	18	ePn	Pn	00 12 13.2	-0.1
BZS				eSn	Sn	00 13 08.2	-0.1
NVLJ	Novalja	4.83	317	ePn	Pn	00 12 13.7	-0.9
NVLJ				Sn	Sn	00 13 09.2	-1.1
NVLJ	Novalja	4.83	317	ePn	Pn	00 12 13.6	-0.9
NVLJ				Sn	Sn	00 13 09.2	-1.1

IDC 07 00:18:48.3±1.7, 6°.84S×129°.49E, h0^{km}, mb3.5/2, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=123.4km s-min=28.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.85	161	Pn	Pn	00 22 06.0	0.0
	0.5nm,0.3s,baz=345,slow=13,SNR=18						
WRA				Sn	Sn	00 24 27.4	-13
	1.2nm,0.3s,baz=332,slow=23,SNR=11						
ASAR	Alice Springs	17.26	166	P	Pn	00 22 51.2	+0.3
	0.3nm,0.3s,baz=345,slow=13,SNR=9.6						
ASAR				S	Sn	00 25 49.7	-14
	0.3nm,0.3s,baz=345,slow=25,SNR=4.8						
SONM	Songino Array	58.13	342	P	P	00 28 45.1	+1.2
	0.3nm,0.7s,baz=153,slow=5.1,SNR=3.2						
MKAR	Makanchi Array	67.82	327	P	P	00 29 47.2	-1.1
	0.6nm,0.7s,baz=127,slow=7.6,SNR=11						

*BJI **07** 00:36:08.7, 10°.02S×125°.35E, h35^{km}, mB5.1/24, mb4.8/35, Ms4.8/26, Ms7 4.5/26*

*IDC **07** 00:36:10.4±0.6, 9°.21S×124°.69E, h0^{km}, mb4.4/13, mb1 4.5/14, mb1mx4.4/21, mbtmp4.4/14, MS4.1/19, Ms1 4.1/19, ms1mx3.9/36, Error ellipse: s-maj=27.0km s-min=13.4km az=68.0*

*ISCJB **07** 00:36:12.2±0.2, 9°.54S±0°.03×124°.89E±0°.03, h35^{km}, mb4.8/54, MS4.2/25, Error ellipse: s-maj=4.9km s-min=3.6km az=156.5*

*MOS **07** 00:36:12.0±1.6, 9°.32S×124°.97E, h33^{km}, mb5.1/17, Error ellipse: s-maj=19.5km s-min=7.7km az=117.0*

*NEIC **07** 00:36:14.5±0.7, 9°.33S×124°.85E, h33^{km}±5^{km}, mb5.0/13, Error ellipse: s-maj=11.5km s-min=6.3km az=53.0*

NEIC Felt [III] in Timor Tengah Utara.

*GCMT **07** 00:36:15.7±0.3, 9°.27S×124°.90E, h21^{km}±2^{km}, MW5.0, Moment Tensor Solution. s18,c26; s76,c107; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.54±.16; $M_{\theta\theta}$-2.77±.13; $M_{\phi\phi}$3.31±.14; $M_{r\theta}$0.04±.22; $M_{\theta\phi}$-1.30±.11; $M_{\phi r}$-1.63±.30; Best double couple: $M_0$3.60000×10^{16} NP1:ϕ_s121.00000°, δ71.00000°, λ172.00000°. NP2:ϕ_s214.00000°, δ82.00000°, λ19.00000°. Principal axes: T 4.1300, Plg19.0000°, Azm79.0000°; N -1.0500, Plg69.0000°, Azm236.0000°; P -3.0700, Plg8.0000°, Azm347.0000°; Data Used: IC IU G II CN.*

*DJA **07** 00:36:18.8±0.3, 10°S±2°×12°5E±°, h41^{km}±5^{km}, M4.8/43, mB5.3/20, mb4.9/43, MLv5.0/11, Mw(mB)4.8/20*

ISC 07 00:36:14.7±0.4, 9°.45S±0°.04×124°.81E±0°.04, h32^{km}±2^{km}, n194, σ2^s.04/180, mb4.8/54, MS4.2/25, 5C-2D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	2.67	287	P	Pn	00 36 55.8	+0.3
MMRI				S	Sb	00 37 36.6	+2.4
WSI	Waingapu	4.46	267	P	Pb	00 37 28.2	-4.1
WSI				S	Sb	00 38 29.1	+3.4
BBSI	Bau Bau	4.52	330	P	Pn	00 37 23.1	+2.1
KDI	Kendari	5.88	338	P	Pn	00 37 40.9	+1.2
	167nm,1.1s,2µm0.5nm						
BKSI	Bulukumba	6.20	311	P	Pn	00 37 44.4	+0.3
	115nm,0.9s,1µm0.4nm						
NLAI	Namlea	6.58	20	P	Pn	00 37 55.0	+5.7
	261nm,0.8s,4µm0.8nm						
AAI	Ambon	6.64	31	P	Pn	00 37 52.9	+2.8
	134nm,1.3s,0.6nm						
KAPI	Kappang	6.68	311	Pn	Pn	00 37 53.9	+3.1
	2.4nm,0.3s,baz=159,slow=9.7,SNR=16						
KAPI				LR	LR	00 40 26.1	
	comp=Z,3µm,20.1s,baz=142,slow=40						
KAPI	Kappang	6.68	311	ePn	Pn	00 37 50.8	+0.1
KAPI	Kappang	6.68	311	Pn	Pn	00 37 51.4	+0.7
	373nm,0.7s,SNR=6.8						
KAPI	Kappang	6.68	311	P	Pn	00 37 51.1	+0.4
	76nm,1.1s,722nm0.3nm						
MSAI	Masohi	7.31	34	P	Pn	00 38 04.9	+5.5
	42nm,1.4s,0.2nm						
SPSI	Sidrap Palu	7.40	317	P	Pn	00 38 05.3	+4.7
	97nm,1.3s,1µm0.3nm						
TTSI	Tana Toraja	8.07	322	P	Pn	00 38 13.1	+3.3
	91nm,1.1s,1µm						
MJSI	Majene	8.24	315	P	Pn	00 38 19.5	+7.3
	57nm,1.5s,5µm						
LUWI	Luwuk	8.60	346	P	Pn	00 38 19.5	+2.5
	694nm,1.1s,8µm						
FITZ	Fitzroy Crossi	8.64	175	Pn	Pn	00 38 18.8	+1.2
	5.5nm,0.3s,baz=12,slow=11,SNR=106						
FITZ				Sn	Sn	00 39 52.5	-1.4
	8.5nm,0.3s,baz=136,slow=19,SNR=6.0						
FITZ				LR	LR	00 42 16.5	
	comp=Z,789nm,19.0s,baz=357,slow=41						
FITZ	Fitzroy Crossi	8.64	175	ePn	Pn	00 38 17.8	+0.2
FITZ				eSn	Sn	00 39 52.7	-1.2
TLE	Tual	8.72	65	P	Pn	00 38 19.3	+0.6
	149nm,0.8s						
TLE				S	Sn	00 39 57.3	+1.3
	149nm,0.8s						
LBMI	Labuha	9.15	17	P	Pn	00 38 30.8	+6.1
	156nm,1.4s,2µm						
KHKI	Kahang-Kahang	9.16	276	P	Pn	00 38 28.5	+3.8
	42nm,1.7s,673nm						
SRBI	Singaraja	9.59	277	P	Pn	00 38 37.2	+6.6
	31nm,1.2s,1µm						
FAKI	Fak Fak	9.83	49	P	Pn	00 38 35.0	+1.0
	82nm,0.7s,954nm						
KMSI	Cibinong	9.99	355	P	Pn	00 38 43.1	+6.9
	354nm,1.0s						
MRSI	Marisa	10.27	344	P	Pn	00 38 41.6	+1.6
	72nm,0.9s,926nm						
TNTI	Ternate	10.47	14	P	Pn	00 38 50.8	+8.1
	128nm,1.2s,4µm						
SWI	Sorong	10.67	37	P	Pn	00 38 49.5	+4.0
	64nm,1.3s						
MNI	Manado	10.82	0	P	Pn	00 38 58.3	+11
KMMI	Kalianget	11.00	282	P	Pn	00 39 00.4	+10
BBKI	Banjar Baru	11.55	300	P	Pn	00 39 05.5	+7.9
	87nm,1.4s						
MBWA	Marble Bar	12.63	202	ePn	Pn	00 39 13.3	+1.1
MBWA				eSn	Sn	00 41 31.0	-0.8
PWJI	Pagerwojo	12.94	275	P	P	00 39 25.1	-1.6
	29nm,1.0s						
SJI	Sawahan	13.01	277	P	P	00 39 25.9	-1.7
	54nm,1.0s						
PCJI	Pacitan	13.53	274	P	Pn	00 39 27.8	+3.2
	78nm,0.9s						
WRA	Warramunga Arr	13.91	140	Pn	Pn	00 39 26.8	-3.0
	4.7nm,0.3s,baz=316,slow=15,SNR=126						
WRA				Sn	Sn	00 41 53.2	-10
	4.0nm,0.3s,baz=309,slow=24,SNR=4.5						
WRA				LR	LR	00 45 42.0	
	comp=Z,843nm,18.4s,baz=320,slow=40						
WRA	Warramunga Arr	13.91	140	Pn	Pn	00 39 26.8	-3.0
WRA				Sn	Sn	00 41 53.2	-10
WRAB	Tennant Creek	13.91	140	eP	Pn	00 39 26.5	-3.3
WRAB				pmax	pmax		
	comp=Z,86nm,0.8s						
WRAB	Tennant Creek	13.91	140	ePn	Pn	00 39 26.5	-3.3
	comp=Z,86nm,0.8s						
WRAB				eSn	Sn	00 41 53.0	-10
WRAB	Tennant Creek	13.91	140	Pn	Pn	00 39 26.1	-3.7
	comp=Z,356nm,1.0s,SNR=36						
UGM	Wanagama	14.21	275	ePn	Pn	00 39 33.9	0.0
SMRI	Semarang	14.42	278	P	P	00 39 43.0	-0.3
	comp=Z,132nm,1.0s						
BJII	Banjamegara	15.09	277	P	P	00 39 58.9	+8.2
TGJI	Tegal	15.74	278	P	P	00 40 02.4	+4.5
	comp=Z,57nm,1.1s						
MYLDM	Lahad Datu	15.84	336	P	P	00 40 08.8	+10
STKI	Sintang	16.30	305	P	P	00 40 08.7	+4.6
	comp=Z,56nm,0.6s						
DAV	Davao City (W)	16.43	3	LR	LR	00 47 43.8	
	comp=Z,380nm,18.1s,baz=181,slow=43						
DAV	Davao City (W)	16.43	3	P	P	00 40 14.7	+9.2
ASAR	Alice Springs	16.59	150	Pn	Pn	00 40 03.1	-2.0
	comp=Z,2.2nm,0.3s,baz=317,slow=10,SNR=93						
ASAR				Sn	Sn	00 43 02.5	-6.0
	comp=Z,2.0nm,0.3s,baz=317,slow=21,SNR=9.5						
ASAR				LR	LR	00 47 31.0	
	comp=Z,877nm,18.1s,baz=321,slow=40						
ASAR	Alice Springs	16.59	150	Pn	Pn	00 40 03.1	-2.0
ASAR				Sn	Sn	00 43 02.5	-6.0
LEM	Lembang	17.22	277	P	P	00 40 17.7	+3.2
	comp=Z,90nm,0.9s						
SBUM	Sibu	17.24	313	P	P	00 40 16.8	+2.3
	comp=Z,31nm,0.9s,comp=Z,399nm						
KKM	Kota Kinabalu	17.62	331	ePn	P	00 40 18.8	0.0
	comp=Z,748nm,2.7s						
KKM	Kota Kinabalu	17.62	331	P	P	00 40 20.2	+1.4
	comp=Z,69nm,2.2s,comp=Z,1µm						
CNJI	Cibinong	17.62	276	P	P	00 40 31.7	+13
CBJI	Citeko	18.04	278	P	P	00 40 24.7	+1.3
	comp=Z,325nm,0.8s,comp=Z,20µm						
KSM	Kuching	18.07	306	ePn	P	00 40 23.9	+0.2
	comp=Z,23nm,0.9s						
KSM	Kuching	18.07	306	P	P	00 40 26.2	+2.5
	comp=Z,31nm,1.0s,comp=Z,581nm						
COEN	Coen	18.53	106	ePn	P	00 40 27.4	-1.3
	comp=Z,170nm,0.8s						
COEN				eSn	Sn	00 43 40.6	-15
CGJI	Cibinong	19.14	277	P	P	00 40 35.2	-0.3
	comp=Z,75nm,1.1s						
FORT	Forrest	21.44	172	eP	P	00 41 00.7	+0.4
	comp=Z,72nm,0.8s						
FORT				eS	S	00 44 46.3	-10
PMG	Port Moresby	22.04	92	eP	P	00 41 04.0	-3.0
	comp=Z,80nm,1.1s						
PMG	Port Moresby	22.04	92	P	P	00 41 21.1	+14
CTA	Charters Tower	23.24	119	P	P	00 41 21.3	+1.7
	comp=Z,16nm,1.0s,baz=285,slow=22,SNR=3.2						
CTA				LR	LR	00 51 34.0	
	comp=Z,484nm,19.6s,baz=297,slow=39						
CTA	Charters Tower	23.24	119	P	P	00 41 21.3	+1.7
MYKOM	Kota Tinggi	23.68	297	P	P	00 41 27.3	+3.5
	comp=Z,26nm,0.9s						
RGRI	Rengat	24.13	291	P	P	00 41 35.2	+7.2
NWAO	Narrogin (SRO)	24.39	196	P	P	00 41 31.9	+1.7
	comp=Z,12nm,0.8s,baz=28,slow=11,SNR=2.9						
NWAO				LR	LR	00 52 44.3	
	comp=Z,787nm,18.8s,baz=17,slow=40						
NWAO	Narrogin (SRO)	24.39	196	P	P	00 41 31.9	+1.7
BBOO	Buckleboo	25.46	158	eP	P	00 41 40.7	+0.7
	comp=Z,490nm,0.9s						
BBOO				ePcP	PcP	00 45 12.6	+1.1
STKA	Stephens Creek	27.21	148	P	P	00 41 58.1	+2.4
	comp=Z,10nm,0.8s,baz=327,slow=9.8,SNR=9.8						
STKA				LR	LR	00 54 26.8	
	comp=Z,934nm,18.7s,baz=323,slow=40						
STKA	Stephens Creek	27.21	148	P	P	00 41 58.1	+2.4
QIZ	Qiongzhong	31.92	332	P	P	00 42 36.1	-1.5
QIZ				S	S	00 47 50.0	+3.2
QIZ				LR	LR		
	comp=N,260nm,7.9s						
QIZ				LR	LR		
	comp=Z,340nm,15.3s						
ARMA	Armidale	32.56	134	eP	P	00 42 43.9	+0.5
	comp=Z,186nm,2.3s						
CMAR	Chiang Mai Arr	37.69	317	P	P	00 43 26.5	-1.0
	comp=Z,1.8nm,0.6s,baz=138,slow=6.2,SNR=12						
CMAR				LR	LR	00 58 30.5	
	comp=Z,304nm,20.9s,baz=148,slow=36						
CMAR	Chiang Mai Arr	37.69	317	P	P	00 43 26.5	-1.0
CHTO	Chiang Mai	37.95	318	eP	P	00 43 29.5	-0.1
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHTO	Chiang Mai	37.95	318	eP	P	00 43 29.5	-0.1
	comp=Z,2.6nm,0.5s						
CHTO	Chiang Mai	37.95	318	P	P	00 43 34.1	+4.5
GYA	Guiyang	39.81	334	P	P	00 43 44.6	-0.7
GYA				pP	pP	00 43 56.8	+2.1
GYA				PP	PnPn	00 45 23.0	+2.4
GYA				S	S	00 49 47.4	-0.5
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,3.9s						
GYA				LR	LR		
	comp=N,530nm,16.6s						
GYA				LR	LR		
	comp=E,480nm,17.3s						
GYA				LR	LR		
	comp=Z,570nm,17.1s						
KMI	Kunming	40.54	328	P	P	00 43 52.3	+0.8
KMI				S	S	00 50 03.8	+4.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				LR	LR		
	comp=N,250nm,10.0s						
KMI				LR	LR		
	comp=E,250nm,13.6s						
KMI				LR	LR		
	comp=Z,260nm,18.1s						
WHN	Wuhan	41.02	346	P	P	00 44 01.2	+6.2
NJ2	Nanjing	41.66	352	eP	P	00 44 04.5	+4.2
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
DZM	Mont Dzumac	41.84	113	eLR	LR	00 55 38.5	
	comp=Z,650nm,22.6s						
DZM	Mont Dzumac	41.84	113	P	P	00 44 04.1	+2.0
	comp=Z,6.3nm,1.1s,baz=310,slow=8.9,SNR=3.6						
DZM	Mont Dzumac	41.84	113	P	P	00 44 04.1	+2.0
CD2	Chengdu	44.93	334	P	P	00 44 28.6	+1.8
CD2				pP	pP	00 44 39.0	+2.7
CD2				sP	sP	00 44 43.2	+3.1
CD2				PP	PP	00 46 14.9	+2.6
CD2				sS	sS	00 51 22.1	+3.4
CD2				SS	ScS	00 54 18.6	-3.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,3.7s						
CD2				LR	LR		
	comp=E,400nm,6.0s						
CD2				LR	LR		
	comp=Z,260nm,6.5s						
KSAR	Wonju Array Be	46.73	3	P	P	00 44 39.6	-1.3
KSRS	Korea Array	46.75	3	P	P	00 44 39.6	-1.4
	comp=Z,3.1nm,0.9s,baz=179,slow=10,SNR=7.5						
KSRS				LR	LR	01 03 32.8	
	comp=Z,88nm,20.7s,baz=185,slow=35						
MJAR	Matsushiro Arr	47.45	15	P	P	00 44 44.8	-1.7
	comp=Z,3.3nm,0.5s,baz=198,slow=9.9,SNR=6.8						
MJAR	Matsushiro Arr	47.45	15	P	P	00 44 44.8	-1.7
LZH	Lanzhou	49.42	338	eP	P	00 45 01.5	-0.4
LZH				pP	pP	00 45 12.5	+1.0
LZH				sP	sP	00 45 15.0	-0.3
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
BJI	Beijing	49.89	351	P	P	00 45 05.8	+0.7
BJI				S	S	00 52 15.6	+2.5
BJI				SS	SS	00 55 50.5	+4.0
BJI				pmax	pmax		
	comp=Z,18nm,0.5s						
BJI				pmax	pmax		
	comp=Z,190nm,3.9s						
BJI				LR	LR		
	comp=N,220nm,15.9s						
BJI				LR	LR		
	comp=E,340nm,15.6s						
BJI				LR	LR		
	comp=Z,69nm,23.8s						
LSA	Lhasa	50.65	321	P	P	00 45 11.1	-0.6
ODAN	Odare	51.20	316	eP	P	00 45 14.1	-1.5
	comp=Z,20nm,0.6s						
ODAN	Odare	51.20	316	eP	P	00 45 14.1	-1.5
	comp=Z,20nm,0.6s						
TAPN	Taplejung	51.29	317	eP	P	00 45 14.9	-1.5
	comp=Z,28nm,0.8s						
TAPN	Taplejung	51.29	317	eP	P	00 45 14.9	-1.5
	comp=Z,28nm,0.8s						
HHC	Hu-ho-hao-te	51.52	347	eP	P	00 45 22.6	+5.0
HHC				pP	pP	00 45 32.6	+5.3
HHC				sP	sP	00 45 36.5	+5.5
HHC				PP	PP	00 47 21.1	+5.8
HHC				S	S	00 52 43.7	+7.6
HHC				sS	sS	00 52 57.8	+5.9
HHC				ScS	ScS	00 55 07.0	+1.2
HHC				SS	SS	00 56 15.8	+3.1
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,210nm,14.3s						
HHC				LR	LR		
	comp=E,190nm,15.5s						
HHC				LR	LR		
	comp=Z,150nm,14.3s						
RAMN	Ramite	51.80	315	eP	P	00 45 18.9	-1.2
	comp=Z,56nm,0.6s						
RAMN	Ramite	51.80	315	eP	P	00 45 18.9	-1.2
	comp=Z,56nm,0.6s						
GUN	Gumba	52.90	316	eP	P	00 45 26.6	-1.8
	comp=Z,36nm,0.7s						
GUN	Gumba	52.90	316	eP	P	00 45 26.6	-1.8
	comp=Z,36nm,0.7s						
HYB	Hyderabad	52.94	300	iP	P	00 45 27.0	-1.5
CN2	Changchun	53.00	1	eP	P	00 45 31.2	+2.8
CN2				epP	pP	00 45 41.0	+2.9
CN2				eS	S	00 52 58.2	+2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
PKI	Pulchoki	53.01	315	eP	P	00 45 27.7	-1.5
	comp=Z,18nm,0.5s						
PKI	Pulchoki	53.01	315	eP	P	00 45 27.7	-1.5
PKI				pmax	pmax		
	comp=Z,18nm,0.5s						
PKI	Pulchoki	53.01	315	eP	P	00 45 27.7	-1.5
	comp=Z,18nm,0.5s						
KKN	Kakani	53.24	315	eP	P	00 45 29.5	-1.3
KKN	Kakani	53.24	315	eP	P	00 45 29.5	-1.3
KKN	Kakani	53.24	315	eP	P	00 45 29.5	-1.3
USRK	Ussuriysk Arra	53.79	6	P	P	00 45 33.7	-0.5
	comp=Z,6.0nm,0.9s,baz=188,slow=7.7,SNR=4.0						
GKN	Gorkha	53.82	315	eP	P	00 45 33.1	-1.8
GKN	Gorkha	53.82	315	eP	P	00 45 33.1	-1.8
GTA	Gaotai	53.87	336	eP	P	00 45 34.1	-1.0
GTA				pP	pP	00 45 44.3	-0.5
GTA				sP	sP	00 45 48.1	-0.4
GTA				S	S	00 53 06.4	-1.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,53nm,5.0s						
GTA				LR	LR		
	comp=N,170nm,15.7s						
GTA				LR	LR		
	comp=E,150nm,16.6s						
GTA				LR	LR		
	comp=Z,190nm,15.4s						
MDJ	Mudanjiang	53.99	4	P	P	00 45 34.8	-0.8
MDJ				pP	pP	00 45 43.8	-1.5
MDJ				sP	sP	00 45 47.4	-1.7
MDJ				ScP	ScP	00 50 35.3	-1.2
MDJ				PcS	PcS	00 50 39.1	-0.6
MDJ				S	S	00 53 09.0	-0.3
MDJ				sS	sS	00 53 24.6	-0.7
MDJ				ScS	ScS	00 55 21.8	-0.8
MDJ				pmax	pmax		
	comp=Z,12nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.2s						
MDJ				LR	LR		
	comp=N,110nm,44.9s						
MDJ				LR	LR		
	comp=E,76nm,49.1s						
MDJ				LR	LR		
	comp=Z,120nm,25.3s						
KOLN	Koldanda	54.41	314	eP	P	00 45 37.3	-2.0
	comp=Z,20nm,0.8s						
KOLN	Koldanda	54.41	314	eP	P	00 45 37.3	-2.0
	comp=Z,20nm,0.8s						
DANN	Dangsing	54.64	315	eP	P	00 45 39.3	-1.8
	comp=Z,74nm,1.1s						
DANN	Dangsing	54.64	315	eP	P	00 45 39.3	-1.8
	comp=Z,74nm,1.1s						
PYUN	Piuthan	55.03	314	eP	P	00 45 42.7	-1.1
PYUN	Piuthan	55.03	314	eP	P	00 45 42.7	-1.1
ULN	Ulaanbaatar	59.20	346	eP	P	00 46 10.9	-1.9
	comp=Z,15nm,1.0s						
ULN	Ulaanbaatar	59.20	346	P	P	00 46 16.8	+3.9
	comp=Z,14nm,1.1s						
SONM	Songino Array	59.33	346	P	P	00 46 12.2	-1.5
	comp=Z,2.2nm,0.8s,baz=161,slow=8.2,SNR=18						
SONM	Songino Array	59.33	346	P	P	00 46 12.2	-1.5
ZAK	Zakamensk	62.47	345⇓	iP	P	00 46 33.1	-1.9
WMQ	Urumqi	62.81	331	eP	P	00 46 39.0	+1.6
WMQ				LR	LR		
	comp=N,81nm,24.0s						
WMQ				LR	LR		
	comp=E,230nm,25.0s						
WMQ				LR	LR		
	comp=Z,120nm,22.0s						
TLY	Talaya	63.57	345	eP	P	00 46 40.0	-2.1
TLY				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TLY				MLR	MLR		
	comp=Z,67nm,20.0s						
IRK	Irkutsk	63.93	346	eP	P	00 46 48.9	+4.4
IRK				pmax	pmax		
	comp=Z,62nm,2.1s						
MOY	Mondy	64.25	344	eP	P	00 46 45.9	-0.8
HVS	Khovu-Aksy	66.08	339⇑	iP	P	00 46 57.3	-1.3
HVS				pmax	pmax		
	comp=Z,40nm,1.0s						
KSH	Kashi	66.49	321	eP	P	00 47 03.9	+2.3
KSH				pP	pP	00 47 14.3	+2.9
KSH				sP	sP	00 47 17.2	+2.0
KSH				PcP	PcP	00 47 32.7	+1.8
KSH				PP	PP	00 49 31.8	+3.4
KSH				ScP		00 51 32.6	
KSH				PcS		00 51 35.0	
KSH				S	S	00 55 50.8	+0.5
KSH				sS	sS	00 56 07.1	+0.5
KSH				ScS	SKSac	00 56 54.2	-1.8
KSH				SS	SS	01 00 10.8	+2.9
KSH				pmax	pmax		
	comp=Z,220nm,6.1s						
KSH				LR	LR		
	comp=N,88nm,5.4s						
KSH				LR	LR		
	comp=E,150nm,5.5s						
KSH				LR	LR		
	comp=Z,280nm,7.3s						
MK31	Makanchi Array	67.60	330c	eP	P	00 47 06.5	-1.8
MK31				pmax	pmax		
	comp=Z,15nm,0.8s						
MK31	Makanchi Array	67.60	330	eP	P	00 47 06.5	-1.8

MKAR	Makanchi Array	67.60	330	P	P	00 47 06.8	-1.5
	comp=Z,3.6nm,0.8s,baz=134,slow=8.0,SNR=39						
MKAR	Makanchi Array	67.60	330c	eP	P	00 47 06.9	-1.5
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	67.60	330	P	P	00 47 06.8	-1.5
BOD	Bodaibo	67.61	354	eP	P	00 47 05.6	-2.5
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PETK	Petropavlovsk-	68.33	21	P	P	00 47 13.2	+0.5
	comp=Z,4.8nm,0.9s,baz=169,slow=8.3,SNR=3.1						
PETK				LR	LR	01 11 40.6	
	comp=Z,83nm,20.7s,baz=213,slow=31						
PETK	Petropavlovsk-	68.33	21	P	P	00 47 13.2	+0.5
PETK	Petropavlovsk-	68.33	21	P	P	00 47 13.2	+0.5
AAK	Ala-Archa	69.22	323	P	P	00 47 17.7	-1.0
	comp=Z,1.5nm,0.8s,baz=150,slow=4.3,SNR=7.3						
AAK	Ala-Archa	69.22	323	eP	P	00 47 17.4	-1.3
AAK				pmax	pmax		
	comp=Z,30nm,0.9s						
AAK	Ala-Archa	69.22	323	eP	P	00 47 17.4	-1.3
	comp=Z,30nm,0.9s						
KRAR	Krasnoyarsk	70.41	342	eP	P	00 47 23.8	-1.7
KRAR				pmax	pmax		
	comp=Z,11nm,1.0s						
VNDA	Vanda	70.70	172	LR	LR	01 18 05.2	
	comp=Z,307nm,18.8s,baz=325,slow=35						
MAW	Mawson	70.82	201	LR	LR	01 13 24.5	
	comp=Z,336nm,18.5s,baz=164,slow=32						
YAK	Yakutsk	71.36	2	eP	P	00 47 31.9	+0.8
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
ZAA0	Zalesovo Array	71.63	336	eP	P	00 47 30.4	-2.6
ZALV	Zalesovo Beam	71.63	336	P	P	00 47 30.6	-2.3
	comp=N,6.9nm,0.8s,baz=126,slow=4.2,SNR=40						
ZALV	Zalesovo Beam	71.63	336	P	P	00 47 30.6	-2.3
ZALV	Zalesovo Beam	71.63	336	P	P	00 47 30.6	-2.3
KKAR	Karatay Array	71.91	321	eP	P	00 47 35.5	+0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	Karatay Array	71.91	321	eP	P	00 47 35.5	+0.6
	comp=Z,0.6nm,0.3s						
KURBB	Kurchatov Arra	72.03	331	LR	LR	01 19 22.2	
	comp=Z,51nm,20.5s,baz=120,slow=36						
KURK	Kurchatov	72.05	331	eP	P	00 47 33.6	-1.9
KURK				pmax	pmax		
	comp=Z,18nm,0.9s						
KURK	Kurchatov	72.05	331	eP	P	00 47 33.6	-1.9
	comp=Z,18nm,0.9s						
KURK	Kurchatov	72.05	331	P	P	00 47 33.6	-1.9
	comp=Z,102nm,1.1s,SNR=6.9						
NVS	Novosibirsk	72.91	336	iP	P	00 47 37.8	-2.8
NVS				e		00 48 03.3	
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,21nm,1.5s						
SEY	Seymchan	75.22	13c	iP	P	00 47 56.5	+2.6
BRVK	Borovoye	77.56	330	eP	P	00 48 11.4	+4.0
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRVK	Borovoye	77.56	330	eP	P	00 48 11.4	+4.0
	comp=Z,9.4nm,1.1s						
AB31	Akbulak array	81.30	323c	eP	P	00 48 26.6	-1.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ABKAR	Akbulak array	81.30	323	eP	P	00 48 25.7	-2.1
	comp=Z,6.3nm,1.1s						
TBI	Tubuai	82.42	112	eLR	LR	01 14 26.0	
	comp=Z,170nm,28.2s						
AKTO	Aktyubinsk	82.92	324	LR	LR	01 29 12.7	
	comp=Z,96nm,21.1s,baz=131,slow=38						
PPT2	Papeete2	83.05	107	eLR	LR	01 14 40.6	
	comp=Z,229nm,27.8s						
PPT	Papeete	83.05	107	LR	LR	01 21 52.4	
	comp=Z,129nm,21.3s,baz=230,slow=33						
RAYN	Ar Rayn	84.07	295	P	P	00 48 42.9	-0.1
	comp=Z,41nm,0.9s,SNR=7.1						
SVE	Sverdlovsk	84.26	330	eP	P	00 48 48.2	+5.1
ARU	Arti	85.12	329d	iP	P	00 48 52.2	+4.8
ARU				S	S	00 59 15.3	+0.5
ARU				pmax	pmax		
	comp=Z,18nm,2.5s						
BHD	Baghdad	87.23	304	iP	P	00 48 56.0	-2.4
BHD				iPcP	PcP	00 48 58.0	-2.4
BHD				iPP	PP	00 52 20.0	-2.7
BHD				iS	S	00 59 31.0	-5.4
BHD				iSS	SS	01 05 17.0	-4.1
KBZ	Khabaz	90.67	314	LR	LR	01 35 22.2	
	comp=Z,66nm,19.2s,baz=330,slow=39						
KIV	Kislovodsk	90.87	314	eP	P	00 49 06.7	-8.7
KIV				e*PP	PcP	00 49 18.9	+2.4
KIV				eS	SKSac	00 59 38.1	-7.1
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
OBN	Obninsk	96.67	325	eP	P	00 49 35.8	-5.8
OBN				e*PP	pP	00 49 46.1	-5.8
OBN				e		00 53 33.2	
OBN				eS	SKSac	01 00 11.7	-4.3
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	96.86	309	LR	LR	01 38 45.7	
	comp=Z,95nm,21.9s,baz=101,slow=39						
ILAR	Eielson Array	97.75	26	LR	LR	01 28 50.9	
	comp=Z,65nm,20.2s,baz=270,slow=32						
VYHS	Vyhne	107.61	318	eP	Pdif	00 50 35.2	+4.6
VYHS	Vyhne	107.61	318	PDIF	Pdif	00 50 35.2	+4.6
YKA	Yellowknife Ar	112.18	26	PKiKP	PKiKP	00 54 48.3	+1.6
	comp=Z,0.1nm,0.4s,baz=295,slow=1.7,SNR=3.9						
YKA	Yellowknife Ar	112.18	26	PKiKP	PKiKP	00 54 48.4	+1.6
TORD	Torodi Ar. Bea	124.19	279	PKP	PKPdf	00 55 12.0	+0.8
	comp=Z,2.5nm,1.1s,baz=72,slow=1.5,SNR=7.0						
TORD	Torodi Ar. Bea	124.19	279	PKP	PKPdf	00 55 12.0	+0.8
TXAR	Lajitas Array	130.59	59	PKP	PKPdf	00 55 23.5	+0.3
	comp=Z,0.6nm,1.0s,baz=284,slow=7.3,SNR=3.3						
TXAR				SKPbc	SKPbc	00 58 47.8	+3.1
	comp=Z,1.1nm,1.0s,baz=264,slow=2.5,SNR=6.5						
TXAR	Lajitas Array	130.59	59	PKP	PKPdf	00 55 23.5	+0.3
TXAR				SKPbc	SKPbc	00 58 47.8	+3.1
CPUP	Villa Florida	144.37	177	PKP	PKPdf	00 55 53.0	+4.5
	comp=Z,4.0nm,0.8s,baz=250,slow=2.6,SNR=6.6						
CPUP	Villa Florida	144.37	177	PKP	PKPdf	00 55 53.0	+4.5
GOGA	Godfrey	144.70	43	ePKIKP	PKPdf	00 55 48.3	-0.6
GOGA	Godfrey	144.70	43	ePKPdf	PKPdf	00 55 48.2	-0.6
JTS	JuntasAbangare	150.67	86	esPKPdf	sPKPdf	00 56 13.7	+0.3
LPAZ	La Paz	151.40	153	PKP	PKPbc	00 56 03.5	-3.6
	comp=Z,1.2nm,1.0s,baz=349,slow=3.1,SNR=3.1						
LPAZ				PKPbc	PKiKP	00 56 09.7	+2.1
	comp=Z,9.3nm,1.3s,baz=109,slow=2.9,SNR=5.7						
LPAZ				PKPab	PKPab	00 56 16.5	+1.3
	comp=Z,1.9nm,0.6s,baz=310,slow=1.0,SNR=8.7						
LPAZ	La Paz	151.40	153	PKP	PKPbc	00 56 03.5	-3.6
LPAZ				PKPbc	PKiKP	00 56 09.7	+2.1
LPAZ				PKPab	PKPab	00 56 16.5	+1.3
SIV	San Ignacio	154.06	167	PKPbc	PKPbc	00 56 15.2	+2.9
	comp=Z,1.5nm,1.0s,baz=188,slow=20,SNR=3.3						
SIV	San Ignacio	154.06	167	PKPbc	PKPbc	00 56 15.2	+2.9

ISCJB 07 00:37:40.4±0.5, 67°.85N±0°.04×20°.21E±0°.08, h0km, Error ellipse: s-maj=5.7km s-min=4.1km az=148.0
CSEM 07 00:37:40.9±0.1, 67°.85N×20°.19E, h2km, ML1.3, Error ellipse: s-maj=3.2km s-min=2.6km az=138.0, Mining explosion.
UPP 07 00:37:40.7, 67°.84N×20°.19E, h0km, ML1.3, Mining explosion.
HEL 07 00:37:41.5±0.1, 67°.85N×20°.20E, h0km, ML1.3(UPP), Explosion
NAO 07 00:37:41.1±2.6, 67°.74N×20°.63E, ML2.1
BER 07 00:37:42.7±2.1, 67°.77N×20°.25E, h0km, ML1.9, ML2.1(NAO), Suspected explosion
ISC 07 00:37:40.8±0.9, 67°.83N±0°.03×20°.21E±0°.03, h0km, n32, σ1.03s/37, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKU	Nikkaluokta	0.45	275	iP	Pg	00 37 49.1	-0.1
NIKU				iS	Sg	00 37 55.4	+0.4
NIKU	Nikkaluokta	0.45	275	P	Pg	00 37 49.2	-0.1
	baz=86						
NIKU				S	Sg	00 37 55.4	+0.4
LANU	Lannavaara	0.71	71	eP	Pg	00 37 54.0	-0.3
LANU				eS	Sg	00 38 03.5	0.0
LANU	Lannavaara	0.71	71	P	Pg	00 37 54.1	-0.3
LANU				S	Sg	00 38 03.5	0.0
MASU	Masugnsbyn	0.78	118	iP	Pg	00 37 55.6	-0.2
MASU	Masugnsbyn	0.78	118	P	Pg	00 37 55.6	-0.2
SALU	Saltoluokta	0.79	236	iP	Pg	00 37 55.7	-0.3
SALU	Saltoluokta	0.79	236	P	Pg	00 37 55.7	-0.3
KIF	Kilpisjarvi	1.20	10	eP	Pg	00 38 03.4	-0.3
KIF				eS	Sg	00 38 19.2	0.0
KIF	Kilpisjarvi	1.20	10	P	Pg	00 38 03.4	-0.3
KIF				S	Sg	00 38 19.2	0.0
ERTU	Ertsjaerv	1.50	148	eP	Pn	00 38 08.3	-0.7
ERTU	Ertsjaerv	1.50	148	P	Pn	00 38 08.2	-0.7
KTK1	Kautokeino	1.63	42	eP	Pn	00 38 10.2	-0.5
KTK1				eS	Sn	00 38 31.8	-0.6
KTK1				AML	AML	00 38 35.5	
	comp=Z,20nm,0.3s						
KTK1	Kautokeino	1.63	42	eP	Pn	00 38 10.2	-0.5
	SNR=50						
KTK1				eS	Sn	00 38 31.8	-0.6
	comp=Z,20nm,0.3s,SNR=50						
HARU	Harads	1.70	169	eP	Pn	00 38 12.0	+0.3
HARU	Harads	1.70	169	P	Pn	00 38 12.0	+0.3
KALU	Kalix	2.34	146	eP	Pn	00 38 21.6	+1.2
KALU	Kalix	2.34	146	P	Pn	00 38 21.6	+1.2
SJUU	Sjulsmark	2.40	166	eP	Pn	00 38 22.5	+1.2
SJUU	Sjulsmark	2.40	166	P	Pn	00 38 22.4	+1.2
ARA0	ARCESS Array S	2.58	46	Pn	Pn	00 38 24.0	+0.2
	baz=227,slow=14						
ARA0				Sn	Sn	00 38 56.5	+0.7
	baz=226,slow=22						
ARA0	ARCESS Array S	2.58	46	Pn	Pn	00 38 24.0	+0.2
	baz=227,slow=14						
ARA0				Sn	Sn	00 38 56.5	+0.7
	baz=226,slow=22						
ARA0	ARCESS Array S	2.58	46	Pn	Pn	00 38 24.0	+0.2
	baz=227,slow=13,SNR=50						
ARA0				Sn	Sn	00 38 56.5	+0.7
	baz=226,slow=21,SNR=50						
MOR8	Moi Rana	2.81	236	eSg	Sn	00 39 04.3	+2.8
MOR8				AML	AML	00 39 07.1	
	comp=Z,16nm,0.4s						
NSS	Namsos	4.71	229	eSg	Sg	00 40 08.7	-3.0
NSS	Namsos	4.71	229	eSg	Sg	00 40 08.7	-3.0
	SNR=90						
FIA0	FINESS Array S	6.89	156	Lg	Lg	00 41 13.2	
	baz=349,slow=37						
FIA0	FINESS Array S	6.89	156	Lg	Lg	00 41 13.2	
	baz=349,slow=37						
FIA0	FINESS Array S	6.89	156	Lg	Lg	00 41 13.1	
	baz=349,slow=28						
NB2	NORSAR Subarra	7.84	214	Lg	Lg	00 41 50.6	
NB2	NORSAR Subarra	7.84	214	Lg	Lg	00 41 50.6	
NB2	NORSAR Subarra	7.84	214	Lg	Lg	00 41 50.6	
	SNR=50						

BUC 07 00:51:50.6±0.7, 45°.54N×23°.27E, h12km±9km, MD2.5/3, Error ellipse: s-maj=12.5km s-min=6.0km az=19.0
CSEM 07 00:51:51.9±0.2, 45°.63N×23°.31E, h2km, MD2.5/3, Error ellipse: s-maj=5.4km s-min=4.5km az=171.0
BEO 07 00:51:53.4±0.5, 45°.62N×23°.21E, h0km, ML2.3/4
ISC 07 00:51:50.6±1.0, 45°.55N±0°.02×23°.28E±0°.02, h15km±9km, n46, σ1.14s/75, 18C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOT	Lotru	0.36	106	⇑iP	Pb	00 51 58.5	-0.2
LOT				iS	Sb	00 52 04.0	-0.2
LOT	Lotru	0.36	106	⇑iP	Pb	00 51 58.5	-0.2
LOT	Lotru	0.36	106	S	Sb	00 52 04.0	-0.2
LOT	Lotru	0.36	106	⇑iP	Pb	00 51 58.5	-0.2
LOT				iS	Sb	00 52 04.0	-0.2
DEV	Deva	0.43	322	⇑iP	Pb	00 51 59.9	0.0
DEV				iS	Sb	00 52 05.6	-0.6
DEV	Deva	0.43	322	⇑iP	Pb	00 51 59.9	0.0
DEV	Deva	0.43	322	S	Sb	00 52 05.6	-0.6
DEV	Deva	0.43	322	⇑iP	Pb	00 51 59.9	0.0
DEV				iS	Sb	00 52 05.6	-0.6
MDB	Medias	0.97	52	⇑iP	Pn	00 52 09.6	-0.1
MDB				iS	Sn	00 52 23.8	+0.5
MDB	Medias	0.97	52	⇑iP	Pn	00 52 09.6	-0.1
MDB	Medias	0.97	52	S	Sn	00 52 23.8	+0.5
MDB	Medias	0.97	52	⇑iP	Pn	00 52 09.6	-0.1
MDB				iS	Sn	00 52 23.8	+0.5
BZS	Buzias	1.17	274	⇑iP	Pg	00 52 12.8	-0.4
BZS				iS	Sn	00 52 27.8	-0.3
BZS	Buzias	1.17	274	⇑iP	Pg	00 52 12.8	-0.4
BZS	Buzias	1.17	274	S	Sn	00 52 27.8	-0.3
BZS	Buzias	1.17	274	ePg	Pg	00 52 12.8	-0.4
BZS				eSg	Sn	00 52 28.7	+0.6
BZS	Buzias	1.17	274	⇑iP	Pg	00 52 12.8	-0.4
BZS				iS	Sn	00 52 27.8	-0.3
BZS				eSg	Sn	00 52 28.7	+0.6
VOIR		1.25	94	⇑iP	Pn	00 52 13.5	-0.1
VOIR				iS	Sg	00 52 32.8	+1.9
VOIR		1.25	94	⇑iP	Pn	00 52 13.5	-0.1
VOIR		1.25	94	S	Sg	00 52 32.8	+1.9
VOIR		1.25	94	⇑iP	Pn	00 52 13.5	-0.1
VOIR				iS	Sg	00 52 32.8	+1.9
DRGR		1.31	343	⇑iP	Pb	00 52 14.8	-0.1
DRGR				iS	Sg	00 52 32.8	0.0
DRGR		1.31	343	⇑iP	Pb	00 52 14.8	-0.1
DRGR		1.31	343	S	Sg	00 52 32.8	0.0
DRGR		1.31	343	ePg	Pg	00 52 15.6	-0.2
DRGR				eSg	Sb	00 52 31.7	+0.2
DRGR		1.31	343	⇑iP	Pb	00 52 14.8	-0.1
DRGR		1.31	343	ePg	Pg	00 52 15.6	-0.2
DRGR				eSg	Sb	00 52 31.7	+0.2
DRGR				iS	Sg	00 52 32.8	0.0
DOPR	Dopca	1.53	73	⇓iP	Pb	00 52 18.8	+0.1
DOPR				iS	Sg	00 52 39.4	-0.6
DOPR	Dopca	1.53	73	⇓iP	Pb	00 52 18.8	+0.1
DOPR	Dopca	1.53	73	S	Sg	00 52 39.4	-0.6
DOPR	Dopca	1.53	73	⇓iP	Pb	00 52 18.8	+0.1
DOPR				iS	Sg	00 52 39.4	-0.6
MLR	Muntele Rosu	1.87	91	⇓iP	Pb	00 52 24.2	-0.4
MLR				iS	Sb	00 52 48.6	+0.7
MLR	Muntele Rosu	1.87	91	⇓iP	Pb	00 52 24.2	-0.4
MLR	Muntele Rosu	1.87	91	S	Sb	00 52 48.6	+0.7
MLR	Muntele Rosu	1.87	91	⇓iP	Pb	00 52 24.2	-0.4
MLR				iS	Sb	00 52 48.6	+0.7
ZAPS	Zavoj	2.32	192	ePn	Pg	00 52 34.5	-0.6
ZAPS				eSn	Sg	00 53 03.3	-1.8
BURAR	Bucovina Array	2.46	32	⇓iP	Pn	00 52 31.9	+1.6
BURAR				iS	Sb	00 53 02.9	-1.9
BURAR	Bucovina Array	2.46	32	⇓iP	Pn	00 52 31.9	+1.6
BURAR	Bucovina Array	2.46	32	S	Sb	00 53 02.9	-1.9
BURAR	Bucovina Array	2.46	32	⇓iP	Pn	00 52 31.9	+1.6
BURAR				iS	Sb	00 53 02.9	-1.9
GRUS	Gruza	2.47	229	ePn	Pg	00 52 35.7	-2.2
GRUS				eSg	Sg	00 53 12.6	+2.7
GRUS	Gruza	2.47	229	ePn	Pg	00 52 35.7	-2.2
GRUS				eSg	Sg	00 53 12.6	+2.7
DIVS	Divibare	2.75	239	ePn	Pb	00 52 38.4	-1.1
DIVS				eSg	Sg	00 53 20.9	+1.9
DIVS	Divibare	2.75	239	ePn	Pb	00 52 38.4	-1.1
DIVS				eSg	Sg	00 53 20.9	+1.9
BARS	Barje	2.93	202	ePn	Pb	00 52 41.3	-1.2
BARS				eSg	Sg	00 53 27.4	+2.8
BARS	Barje	2.93	202	ePn	Pb	00 52 41.3	-1.2
BARS				eSg	Sg	00 53 27.4	+2.8

ISCJB 07 00:54:34.8±0.7, 34°.42N±0°.02×32°.15E±0°.04, h28km±6km, Error ellipse: s-maj=5.9km s-min=3.2km az=153.9
NIC 07 00:54:34.7±0.3, 34°.50N×32°.03E, h21km, ML3.1, MW3.1
ISK 07 00:54:35.0, 34°.42N×32°.17E, h34km, MD3.3
CSEM 07 00:54:35.1±0.1, 34°.47N×32°.19E, h15km, Mw3.1, Error ellipse: s-maj=3.6km s-min=2.0km az=75.0
DDA 07 00:54:44.6, 35°.46N×31°.59E, h5km, MD3.2
ISC 07 00:54:32.3±1.3, 34°.47N±0°.03×31°.94E±0°.03, h17km±10km, n59, σ1.26s/80, 6C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPCY	Paphos	0.53	39	⇑P	Pb	00 54 44.1	+1.0
PPCY	Paphos	0.53	39	⇑iP	Pb	00 54 44.1	+1.0
AKMC	Akamas	0.64	30	⇑P	Pb	00 54 46.2	+1.2
AKMC	Akamas	0.64	30	⇑iP	Pb	00 54 46.2	+1.2
SZAC	Souni-Zanaja	0.82	70	P	Pg	00 54 48.7	+0.3
SZAC				S	Sg	00 54 59.1	-0.2
SZAC	Souni-Zanaja	0.82	70	P	Pg	00 54 48.7	+0.3
ALFC	Alevga	0.87	38	⇑P	Pg	00 54 49.3	+0.1
	23nm,0.2s						
ALFC				S	Sb	00 55 01.3	+0.9
ALFC	Alevga	0.87	38	⇑iP	Pg	00 54 49.3	+0.1
	23nm,0.2s						
ALFC				S	Sb	00 55 01.3	+0.9
LEF	Lefka	1.01	50	ePG	Pb	00 54 51.4	0.0
LEF				eSG	Sb	00 55 03.5	-0.9
LEF	Lefka	1.01	50	ePg	Pb	00 54 51.4	0.0
LEF				eSg	Sb	00 55 03.5	-0.9
CSS	Prodhromos	1.24	66	P	Pn	00 54 54.6	-0.3
	4.9nm,0.2s						
CSS				S	Sb	00 55 09.9	-1.2
CSS	Prodhromos	1.24	66	ePN	Pn	00 54 54.4	-0.5
CSS				eSN	Sb	00 55 09.5	-1.5
CSS	Prodhromos	1.24	66	P	Pn	00 54 54.6	-0.3
	4.9nm,0.2s						
CSS				eSn	Sb	00 55 09.5	-1.5
CSS				S	Sb	00 55 09.9	-1.2
MAMC	Mammari	1.26	56	P	Pn	00 54 55.4	+0.3
MAMC	Mammari	1.26	56	P	Pn	00 54 55.4	+0.3
LFK	Lefkose	1.53	58	ePN	Pn	00 54 59.1	+0.2
LFK	Lefkose	1.53	58	ePn	Pn	00 54 59.1	+0.2
GAZI	Gazipasa	1.79	10	iP	Pn	00 55 03.4	+1.0
GAZI				iS	Sn	00 55 24.7	0.0
GAZI	Gazipasa	1.79	10	iP	Pn	00 55 03.4	+1.0
GAZI				iS	Sn	00 55 24.7	0.0
PHNC	Paralimni	1.80	72	P	Pg	00 55 06.3	-0.6
EREN	Erenkoy	2.11	59	ePN	Pn	00 55 07.0	+0.2
EREN	Erenkoy	2.11	59	ePn	Pn	00 55 07.0	+0.2
ERMK	Ermenek	2.30	20	iP	Pb	00 55 13.9	+0.4
ERMK				iS	Sn	00 55 39.1	+1.3
ERMK	Ermenek	2.30	20	iP	Pb	00 55 13.9	+0.4
ERMK				iS	Sn	00 55 39.1	+1.3
AKAS	Kas	2.60	313	iP	Pb	00 55 18.4	-0.1
AKAS				iS	Pb	00 55 25.7	+7.3
AKAS	Kas	2.60	313	iP	Pb	00 55 18.4	-0.1
ANTB	Antalya	2.64	337	ePN	Pb	00 55 18.3	-0.8
ANTB	Antalya	2.64	337	ePn	Pb	00 55 18.3	-0.8
ELL	Elmali	2.81	324	ePN	Pb	00 55 21.3	-0.8
ELL	Elmali	2.81	324	ePn	Pb	00 55 21.3	-0.8
OFRI	‘Ofer	3.14	125	Pn	Pn	00 55 21.7	+0.7
BCK	Bucak	3.18	340	ePN	Pb	00 55 25.9	-2.5
BCK	Bucak	3.18	340	ePn	Pb	00 55 25.9	-2.5
MERS	Mersin	3.18	41	ePN	Pn	00 55 23.0	+1.4
MERS	Mersin	3.18	41	ePn	Pn	00 55 23.0	+1.4
BLGI	Bet Lehem HaGe	3.22	122	Pn	Pn	00 55 22.9	+0.9
MMC7	Mount Meron ar	3.22	116	Pn	Pn	00 55 22.5	+0.4
MMA0	Mount Meron ar	3.23	116	Pn	Pn	00 55 22.7	+0.4
KSDI	Kefar Szold	3.34	111	Pn	Pn	00 55 24.2	+0.4
KSDI				Sn	Sn	00 56 00.7	-2.4
GOLH	Golhisar	3.37	326	iP	Pb	00 55 30.0	-1.6
GOLH				iS	Sb	00 56 10.3	-2.1
GOLH	Golhisar	3.37	326	iP	Pb	00 55 30.0	-1.6
GOLH				iS	Sb	00 56 10.3	-2.1
KONT	Konya--Tatoy	3.48	5	ePN	Pn	00 55 29.0	+3.3
KONT	Konya--Tatoy	3.48	5	ePn	Pn	00 55 29.0	+3.3
MMLI	Mount Malkishu	3.54	124	Pn	Pn	00 55 27.4	+0.8
MMLI				Sn	Sn	00 56 07.1	-1.0
TURN	Turunc	3.62	312	iP	Sn	00 56 13.2	+3.2
TURN				iS	Sb	00 56 17.5	-2.1
HMDT	Nahal Hemdat	3.73	125	Pn	Pn	00 55 30.1	+1.1
HMDT				Sn	Sn	00 56 12.2	-0.3
AMAG	Maghara	3.96	164	S	Sn	00 56 16.9	-1.6
DSI	Dead Sea	4.09	134	Pn	Pn	00 55 35.4	+1.4
DSI				Sn	Sn	00 56 20.1	-1.4
KZIT	Kziot	4.11	149	Pn	Pn	00 55 35.8	+1.4
KZIT				Sn	Sn	00 56 22.3	+0.2
RTMI	Retamim	4.12	145	Pn	Pn	00 55 36.3	+1.8
RTMI				Sn	Sn	00 56 22.0	-0.3
MZDA	Masada	4.27	137	Pn	Pn	00 55 37.6	+1.2
MZDA				Sn	Sn	00 56 25.4	-0.4
PRNI	Paran	4.86	147	Pn	Pn	00 55 46.4	+1.8
GLL	Jalalah	4.88	182	P	Pn	00 55 46.7	+1.7
KRMI	Paran Flat	4.94	151	Pn	Pn	00 55 47.5	+1.7
HRFI	Mount Harif	5.14	149	Pn	Pn	00 55 50.3	+1.8
HRFI				Sn	Sn	00 56 47.2	-0.3
MBRI	Mt Berech	5.30	151	Pn	Pn	00 55 53.1	+2.3
EIL	Elat	5.43	151	Pn	Pn	00 55 54.3	+1.9
EIL				Sn	Sn	00 56 54.4	-0.1
HBST	Basata	5.75	155	P	Pn	00 55 59.0	+2.1
HDHB	Dhahab	6.17	158	P	Pn	00 56 05.1	+2.5

IDC 07 01:05:51.6±4.2, 20°.10S×68°.80W, h123km±30km, mb3.6/2, mb1 3.7/5, mb1mx3.3/20, mbtmp3.5/5, Error ellipse: s-maj=41.4km s-min=21.6km az=47.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.84	10	P	Pn	01 06 48.9	-1.1
	2.2nm,0.3s,baz=197,slow=6.2,SNR=51						
LPAZ				S	Sn	01 07 36.2	+1.1
	0.6nm,0.3s,baz=271,slow=12,SNR=5.0						
SIV	San Ignacio	8.41	62	P	Pn	01 07 49.5	-1.3
	2.8nm,0.3s,baz=267,slow=10.0,SNR=74						
SIV				S	Sn	01 09 22.8	-1.3
	baz=340,slow=21,SNR=2.5						
CPUP	Villa Florida	12.23	123	P	Pn	01 08 43.0	+1.2
	0.3nm,0.3s,baz=309,slow=8.5,SNR=4.7						
TORD	Torodi Ar. Bea	76.79	71	P	P	01 17 30.8	+0.5
	0.4nm,0.4s,baz=251,slow=5.4,SNR=14						
YKA	Yellowknife Ar	89.90	341	P	P	01 18 35.3	-1.0
	0.6nm,0.7s,baz=134,slow=4.7,SNR=17						
SONM	Songino Array	152.06	7	PKPbc	PKPbc	01 25 32.9	+0.3
	0.2nm,0.3s,baz=323,slow=3.1,SNR=3.9						

NEIC 07 01:36:04.7±0.7, 3°.62S×100°.54E, mb4.3/9, Error ellipse: s-maj=25.0km s-min=7.8km az=50.0
IDC 07 01:36:05.8±1.6, 3°.54S×100°.64E, h30km±4km, mb3.8/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, ML3.9/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/35, Error ellipse: s-maj=59.2km s-min=13.8km az=56.0
ISC 07 01:36:04.6±1.1, 3°.6S±0°.2×100°.5E±0°.2, h28km±4km, h27km:pP-P, n33, σ0.82s/41, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	6.57	346	LR	LR	01 40 45.7	
	comp=Z,220nm,18.6s,baz=170,slow=44						
KAPI	Kappang	19.21	95	P	P	01 40 24.9	-1.8
	0.4nm,0.3s,baz=62,slow=20,SNR=3.1						
KAPI	Kappang	19.21	95	P	P	01 40 24.9	-1.8
CMAR	Chiang Mai Arr	21.98	356	P	P	01 40 57.8	+1.2
	1.9nm,0.4s,baz=184,slow=9.5,SNR=16						
CMAR				LR	LR	01 50 17.9	
	comp=Z,50nm,19.3s,baz=195,slow=39						
CMAR	Chiang Mai Arr	21.98	356	P	P	01 40 57.8	+1.2
CHTO	Chiang Mai	22.34	356	eP	P	01 41 01.0	+0.6
	7.4nm,1.1s						
WRA	Warramunga Arr	36.73	119	P	P	01 43 09.5	-0.4
	0.4nm,0.5s,baz=308,slow=9.0,SNR=12						
WRA				pP	pP	01 43 19.3	+1.1
	1.3nm,0.6s,baz=306,slow=8.8,SNR=7.5						
WRA	Warramunga Arr	36.73	119	P	P	01 43 09.5	-0.4
WRA				pP	pP	01 43 19.3	+1.1
WRAB	Tennant Creek	36.74	119	eP	P	01 43 10.7	+0.8
	6.2nm,1.0s						
ASAR	Alice Springs	37.89	125	P	P	01 43 19.9	+0.3
	0.8nm,0.5s,baz=291,slow=7.9,SNR=6.6						
ASAR	Alice Springs	37.89	125	P	P	01 43 19.9	+0.3
STKA	Stephens Creek	47.69	131	P	P	01 44 39.3	+0.3
	2.3nm,0.9s,baz=264,slow=10,SNR=3.9						
STKA	Stephens Creek	47.69	131	P	P	01 44 39.3	+0.3
SONM	Songino Array	51.48	5	P	P	01 45 08.6	+0.8
	2.7nm,0.7s,baz=186,slow=9.5,SNR=28						
SONM				pP	pP	01 45 16.7	+0.4
	2.1nm,0.7s,baz=186,slow=8.4,SNR=10.0						
SONM	Songino Array	51.48	5	P	P	01 45 08.6	+0.8
SONM				pP	pP	01 45 16.7	+0.4
TKM2	Tokmak 2	51.51	337	eP	P	01 45 08.4	+0.2
	2.2nm,0.7s						
ULN	Ulaanbaatar	51.58	6	eP	P	01 45 09.0	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	6.9nm,1.2s						
EKS2	Erkin-Say	52.04	335	eP	P	01 45 12.7	+0.6
	2.3nm,0.7s						
MK31	Makanchi Array	52.71	344	eP	P	01 45 16.4	-0.4
MKAR	Makanchi Array	52.71	344	P	P	01 45 16.8	-0.1
	1.4nm,0.6s,baz=148,slow=8.2,SNR=22						
MKAR				pP	pP	01 45 25.2	-0.2
	1.7nm,0.5s,baz=156,slow=8.9,SNR=10						
MKAR	Makanchi Array	52.71	344	P	P	01 45 16.8	-0.1
MKAR				pP	pP	01 45 25.2	-0.2
USRK	Ussuriysk Arra	55.33	27	P	P	01 45 35.6	-0.3
	1.5nm,0.7s,baz=243,slow=6.8,SNR=4.1						
KURK	Kurchatov	57.29	344	eP	P	01 45 49.0	-0.8
	2.6nm,0.8s						
KURK				epP	pP	01 45 57.2	-1.2
ZAA0	Zalesovo Array	58.84	349	eP	P	01 46 00.1	-0.5
ZAA0				epP	pP	01 46 08.6	-0.5
ZALV	Zalesovo Beam	58.84	349	P	P	01 46 00.2	-0.4
	1.8nm,0.7s,baz=179,slow=5.9,SNR=13						
ZALV				pP	pP	01 46 09.8	+0.6
	2.2nm,0.8s,baz=192,slow=4.1,SNR=8.5						
ZALV	Zalesovo Beam	58.84	349	P	P	01 46 00.2	-0.4
ZALV				pP	pP	01 46 09.8	+0.6
BRVK	Borovoye	61.93	340	eP	P	01 46 21.6	-0.2
	2.2nm,0.9s						
ABKAR	Akbulak array	63.30	331	eP	P	01 46 29.6	-1.3
	2.4nm,0.6s						
ABKAR				epP	pP	01 46 38.0	-1.6
BR131	Keskin Array S	74.80	313	eP	P	01 47 42.8	0.0
	4.6nm,1.1s						
BRTR	Keskin Array B	74.80	313	P	P	01 47 47.9	+5.1
	0.6nm,0.7s,baz=152,slow=8.0,SNR=4.1						
BRTR	Keskin Array B	74.80	313	P	P	01 47 47.9	+5.1
TXAR	Lajitas Array	145.62	39	PKPbc	PKPab	01 55 42.5	+0.7
	1.1nm,0.6s,baz=254,slow=0.9,SNR=16						
TXAR				pPKPbc	pPKPbc	01 55 52.2	+1.5
	2.6nm,0.8s,baz=270,slow=1.2,SNR=17						
TXAR	Lajitas Array	145.62	39	PKPbc	PKPab	01 55 42.5	+0.7
TXAR				pPKPbc	pPKPbc	01 55 52.2	+1.5

ISCJB 07 01:48:57.7±1.5, 5°.81S±0°.07×146°.57E±0°.08, h97km±15km, mb4.3/22, Error ellipse: s-maj=13.1km s-min=10.8km az=170.6

IDC 07 01:49:01.8±0.6, 5°.94S×146°.59E, h119km±5km, mb4.0/14, mb1 4.3/16, mb1mx4.2/20, mbtmp4.1/16, MS3.1/4, Ms1 3.1/4, ms1mx2.8/24, Error ellipse: s-maj=14.5km s-min=7.3km az=91.0

NEIC 07 01:49:02.1±0.3, 5°.85S×146°.53E, mb4.5/14, Error ellipse: s-maj=10.7km s-min=6.4km az=91.0

DJA 07 01:49:03.1±1.8, 6°S±15°×14°7E±1°1, h110km±10km, M4.9/7, mb4.9/7, MLv4.9/1

ISC 07 01:49:01.7±0.5, 5°.93S±0°.05×146°.58E±0°.08, h120km±4km, h119km:pP-P, n66, σ1s.04/81, mb4.3/21, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.50	171	P	Pn	01 49 53.8	-0.8
	151nm,0.3s,baz=11,slow=4.7,SNR=119						
PMG				S	Sn	01 50 33.6	-2.0
	137nm,0.3s,baz=176,slow=20,SNR=12						
PMG	Port Moresby	3.50	171	P	Pn	01 49 53.8	-0.8
PMG				S	Sn	01 50 33.6	-2.0
PMG	Port Moresby	3.50	171	P	Pn	01 49 53.8	-0.8
COEN	Coen	8.66	203	ePn	Pn	01 51 04.3	+0.2
	363nm,0.4s						
COEN				eSn	Sn	01 52 36.9	-3.2
CTA	Charters Tower	14.08	181	P	P	01 52 20.4	+0.5
	5.0nm,0.3s,baz=2.0,slow=14,SNR=28						
CTA	Charters Tower	14.08	181	P	P	01 52 20.4	+0.5
CTAO	Charters Tower	14.08	181	eP	P	01 52 19.8	-0.1
	16nm,0.5s						
WRAB	Tennant Creek	18.31	219	eP	P	01 53 05.7	-1.0
	16nm,0.5s						
WRA	Warramunga Arr	18.32	219	P	P	01 53 06.3	-0.5
	4.6nm,0.3s,baz=41,slow=12,SNR=153						
WRA				S	S	01 56 30.0	-0.3
	baz=34,slow=22,SNR=4.9						
WRA	Warramunga Arr	18.32	219	P	P	01 53 06.3	-0.5
WRA				S	S	01 56 30.0	-0.3
AAI	Ambon	18.46	276	P	Pn	01 53 09.7	-0.1
	66nm,0.7s						
EIDS	Eidsvold	19.81	168	eP	Pn	01 53 24.5	-1.0
	15nm,0.7s						
AS31	Alice Springs	21.45	213	eP	P	01 53 40.7	+0.1
ASAR	Alice Springs	21.45	213	P	P	01 53 40.6	+0.1
	16nm,0.4s,baz=44,slow=8.6,SNR=265						
ASAR				S	S	01 57 33.4	+1.7
	3.9nm,0.8s,baz=28,slow=22,SNR=6.5						
ASAR				LR	LR	02 01 12.1	
	comp=Z,71nm,20.5s,baz=87,slow=34						
ASAR	Alice Springs	21.45	213	P	P	01 53 40.6	+0.1
ASAR				S	S	01 57 33.4	+1.7
FITZ	Fitzroy Crossi	23.76	238	P	P	01 54 02.8	-0.4
	45nm,0.7s,baz=65,slow=10,SNR=89						
FITZ				LR	LR	02 04 58.8	
	comp=Z,36nm,18.1s,baz=244,slow=40						
FITZ	Fitzroy Crossi	23.76	238	P	P	01 54 02.8	-0.4
DZM	Mont Dzumac	25.02	132	P	P	01 54 16.1	+1.3
	6.7nm,0.6s,baz=339,slow=23,SNR=16						
DZM	Mont Dzumac	25.02	132	P	P	01 54 16.1	+1.3
STKA	Stephens Creek	26.24	190	P	P	01 54 26.1	+0.5
	5.9nm,0.6s,baz=354,slow=8.1,SNR=14						
STKA	Stephens Creek	26.24	190	eP	P	01 54 25.8	+0.2
	6.7nm,1.5s						
KAPI	Kappang	26.72	271	P	P	01 54 32.1	+1.9
	3.4nm,0.5s,baz=107,slow=14,SNR=3.6						
KAPI	Kappang	26.72	271	eP	P	01 54 31.2	+1.1
	4.3nm,0.6s						
MBWA	Marble Bar	30.10	237	eP	P	01 54 59.8	-0.3
	16nm,0.7s						
FORT	Forrest	30.23	213	eP	P	01 55 01.2	0.0
	14nm,0.6s						
MJAR	Matsushiro Arr	42.97	350	P	P	01 56 47.0	-2.0
	1.4nm,0.7s,baz=163,slow=8.8,SNR=3.4						
MJAR				pP	pP	01 57 17.4	+1.1
	0.9nm,0.3s,baz=166,slow=11,SNR=2.0						
MJAR	Matsushiro Arr	42.97	350	P	P	01 56 47.0	-2.0
MJAR				pP	pP	01 57 17.4	+1.1
RPZ	Rata Peaks	43.35	154	eP	P	01 56 54.1	+2.1
	40nm,1.1s						
KSRS	Korea Array	46.54	339	P	P	01 57 16.6	-0.6
	5.1nm,0.9s,baz=155,slow=7.8,SNR=11						
KSRS				pP	pP	01 57 45.5	+0.6
	5.0nm,0.9s,baz=155,slow=9.3,SNR=5.5						
KSRS				LR	LR	02 14 10.0	
	comp=Z,5.6nm,21.9s,baz=115,slow=32						
KSAR	Wonju Array Be	46.54	339	P	P	01 57 16.6	-0.6
KSAR				pP	pP	01 57 45.5	+0.6
KULM	Kulim	47.19	283	eP	P	01 57 22.6	-0.2
	4.7nm,0.6s						
USRK	Ussuriysk Arra	51.60	347	P	P	01 57 55.3	-0.3
	2.6nm,0.6s,baz=174,slow=7.3,SNR=9.9						
USRK				pP	pP	01 58 24.3	+0.4
	2.9nm,0.6s,baz=173,slow=7.0,SNR=4.4						
YSS	Yuzh-Sakhalins	52.76	357	eP	P	01 58 03.3	-0.9
	11nm,0.6s						
CMAR	Chiang Mai Arr	52.85	298	P	P	01 58 06.1	+0.6
	1.5nm,0.4s,baz=123,slow=5.3,SNR=9.2						
CMAR	Chiang Mai Arr	52.85	298	P	P	01 58 06.1	+0.6
CHTO	Chiang Mai	52.99	299	eP	P	01 58 06.2	-0.3
	1.6nm,0.4s						
PETK	Petropavlovsk-	59.56	8	LR	LR	02 21 57.6	
	comp=Z,54nm,20.5s,baz=192,slow=33						
ULN	Ulaanbaatar	63.85	331	eP	P	01 59 21.0	-0.6
	3.3nm,0.8s						
SONM	Songino Array	64.14	331	P	P	01 59 23.5	+0.1
	0.9nm,0.7s,baz=130,slow=5.1,SNR=8.2						
SONM				pP	pP	01 59 53.8	+1.1
	0.9nm,0.7s,baz=145,slow=5.4,SNR=4.1						
SONM	Songino Array	64.14	331	P	P	01 59 23.5	+0.1
SONM				pP	pP	01 59 53.8	+1.1
VNDA	Vanda	72.01	177	P	P	02 00 13.8	+1.8
	5.8nm,0.6s,baz=329,slow=6.1,SNR=42						
VNDA	Vanda	72.01	177	eP	P	02 00 13.4	+1.4
	5.7nm,0.9s						
MK31	Makanchi Array	77.18	321	eP	P	02 00 41.3	-1.1
MKAR	Makanchi Array	77.18	321	P	P	02 00 41.4	-1.0
	0.5nm,0.5s,baz=103,slow=7.5,SNR=5.6						
MKAR	Makanchi Array	77.18	321	P	P	02 00 41.4	-1.0
ZALV	Zalesovo Beam	78.73	328	pP	pP	02 01 20.6	-0.4
	2.8nm,0.8s,baz=115,slow=6.3,SNR=4.9						
ZALV	Zalesovo Beam	78.73	328	pP	pP	02 01 20.6	-0.4
COLA	College	85.24	23	eP	P	02 01 23.6	-0.9
	4.3nm,0.7s						
ILAR	Eielson Array	85.58	23	P	P	02 01 25.0	-1.2
	3.5nm,0.7s,baz=253,slow=5.0,SNR=32						
ILAR				pP	pP	02 01 55.6	-1.3
	1.5nm,0.7s,baz=257,slow=5.1,SNR=3.7						
ILAR	Eielson Array	85.58	23	P	P	02 01 25.0	-1.2
ILAR				pP	pP	02 01 55.6	-1.3
YKA	Yellowknife Ar	99.30	28	P	Pdif	02 02 30.1	+0.2
	0.1nm,0.7s,baz=274,slow=4.6,SNR=3.9						
YKA				pP	pP	02 03 01.9	+0.9
	0.3nm,0.8s,baz=286,slow=5.0,SNR=3.7						
YKA	Yellowknife Ar	99.30	28	P	Pdif	02 02 30.1	+0.2
YKA				pP	pP	02 03 01.9	+0.9
ARCES	ARCESS Array B	106.06	342	PKKPbc	PKKPbc	02 18 33.5	-3.1
	3.4nm,1.1s,baz=241,slow=2.5,SNR=9.5						
ARCES	ARCESS Array B	106.06	342	PKKPbc	PKKPbc	02 18 33.5	-3.1
PSZ	Piszkesteto	118.40	322	ePKPdf	PKPdf	02 07 34.8	-0.6
WVT	Waverly	121.93	51	ePKPdf	PKPdf	02 07 41.9	-0.4
WCI	Wyandotte Cave	122.41	48	ePKPdf	PKPdf	02 07 41.5	-1.8
TAM	Tamanrasset	138.90	298	ePKPdf	PKPdf	02 08 15.7	+0.7
TOA0	Torodi Ar. Sit	144.67	284	ePKPdf	PKPbc	02 08 24.4	0.0
TORD	Torodi Ar. Bea	144.67	284	PKP	PKPab	02 08 24.2	-0.1
	2.3nm,0.6s,baz=71,slow=3.3,SNR=30						
TORD				pPKP	pPKPdf	02 08 58.0	+0.3
	1.3nm,0.5s,baz=56,slow=3.1,SNR=2.9						
TORD	Torodi Ar. Bea	144.67	284	PKP	PKPab	02 08 24.2	-0.1
TORD				pPKP	pPKPdf	02 08 58.0	+0.3
SAML	Samuel	146.85	116	ePKPbc	PKPbc	02 08 31.5	+0.4
DBIC	Dimbokro	151.60	273	PKPbc	PKPbc	02 08 43.3	+0.3
	1.7nm,0.4s,baz=218,slow=24,SNR=13						
DBIC	Dimbokro	151.60	273	ePKPbc	PKPbc	02 08 43.2	+0.3
DBIC				ePKPab	PKPab	02 08 51.5	-0.5
BDFB	Brasilia	154.15	146	PKPbc	PKPbc	02 08 49.7	+1.0
	5.6nm,1.0s,baz=295,slow=2.0,SNR=7.2						
BDFB	Brasilia	154.15	146	PKPbc	PKPbc	02 08 49.7	+1.0

ATH 07 02:01:22.7, 39°.97N×23°.76E, h26km, MD2.9/7

CSEM 07 02:01:22.7±0.1, 39°.96N×23°.76E, h10km, ML2.2/11, Error ellipse: s-maj=3.3km s-min=2.0km az=93.0

ISCJB 07 02:01:23.3±0.4, 39°.95N±0°.02×23°.77E±0°.04, h16km±4km, Error ellipse: s-maj=5.2km s-min=3.0km az=7.9

THE 07 02:01:23.1, 39°.97N×23°.76E, h9km, ML2.2/11, Error ellipse: s-maj=1.1km s-min=0.4km az=255.0

ISC 07 02:01:22.9±0.8, 39°.97N±0°.02×23°.74E±0°.03, h12km±5km, n46, σ0s.32/82, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.07	228	P	Pg	02 01 25.5	+0.1
PAIG				S	Sg	02 01 26.8	-0.4
PAIG	Paliouri	0.07	228	P	Pg	02 01 25.5	+0.1
PAIG				S	Sg	02 01 26.8	-0.4
OUR	Ouranopolis	0.41	27	P	Pb	02 01 31.4	-0.6
OUR				S	Sg	02 01 36.8	+0.4
OUR	Ouranopolis	0.41	27	P	Pb	02 01 31.4	-0.6
OUR				S	Sg	02 01 36.8	+0.4
PLG	Polygyros	0.46	330	P	Pg	02 01 32.0	+0.1
PLG				S	Sg	02 01 38.4	+0.2
PLG	Polygyros	0.46	330	⇑iPB	Pg	02 01 32.1	+0.1
PLG				eSB	Sg	02 01 38.7	+0.5
PLG	Polygyros	0.46	330	⇑iPb	Pg	02 01 32.1	+0.1
PLG				S	Sg	02 01 38.4	+0.2
PLG				eSb	Sg	02 01 38.7	+0.5
XOR	Xorichti	0.74	215	P	Pb	02 01 37.4	-0.3
XOR				S	Sb	02 01 47.8	+0.1
XOR	Xorichti	0.74	215	P	Pb	02 01 37.4	-0.3
XOR				S	Sb	02 01 47.8	+0.1
NEO	Neokhori	0.78	211	ePN	Pb	02 01 38.3	0.0
NEO				eSN	Sb	02 01 49.2	+0.4
NEO	Neokhori	0.78	211	ePn	Pb	02 01 38.3	0.0
NEO				eSn	Sb	02 01 49.2	+0.4
HORT	Hortiatis	0.80	322	P	Pg	02 01 38.1	-0.2
HORT				S	Sb	02 01 49.5	+0.1
HORT	Hortiatis	0.80	322	P	Pg	02 01 38.1	-0.2
HORT				S	Sb	02 01 49.5	+0.1
AOS	Alonnisos	0.81	172	P	Pg	02 01 38.2	-0.3
AOS				S	Sb	02 01 50.0	+0.4
AOS	Alonnisos	0.81	172	P	Pg	02 01 38.2	-0.3
AOS				S	Sb	02 01 50.0	+0.4
SKIA	Skiathos	0.83	195	P	Pb	02 01 39.0	-0.2
SKIA				S	Sb	02 01 50.4	0.0
SKIA	Skiathos	0.83	195	P	Pb	02 01 39.0	-0.2
SKIA				S	Sb	02 01 50.4	0.0
THE	Thessaloniki	0.89	318	P	Pb	02 01 40.0	-0.2
THE				S	Sn	02 01 53.6	-0.3
THE	Thessaloniki	0.89	318	P	Pb	02 01 40.0	-0.2
THE				S	Sn	02 01 53.6	-0.3
SOH	Sokhos	0.90	341	P	Pg	02 01 39.9	-0.4
SOH				S	Sb	02 01 52.8	+0.4
SOH	Sokhos	0.90	341	ePN	Pb	02 01 40.4	0.0
SOH				eSN	Sb	02 01 52.9	+0.5
SOH	Sokhos	0.90	341	P	Pg	02 01 39.9	-0.4
SOH	Sokhos	0.90	341	ePn	Pb	02 01 40.4	0.0
SOH				S	Sb	02 01 52.8	+0.4
LIT	Litokhoron	0.97	278	P	Pb	02 01 41.5	-0.1
LIT				S	Sn	02 01 55.8	-0.2
LIT	Litokhoron	0.97	278	ePN	Pn	02 01 42.2	-0.1
LIT				eSN	Sn	02 01 56.0	0.0
LIT	Litokhoron	0.97	278	P	Pb	02 01 41.5	-0.1
LIT	Litokhoron	0.97	278	ePn	Pn	02 01 42.2	-0.1
LIT				eSn	Sn	02 01 56.0	0.0
LIA	Limnos Island	1.11	93	ePN	Pb	02 01 43.6	-0.3
LIA	Limnos Island	1.11	93	ePn	Pb	02 01 43.6	-0.3
SRS	Serrai	1.15	354	P	Pg	02 01 44.8	-0.2
SRS				S	Sn	02 02 00.8	+0.4
SRS	Serrai	1.15	354	P	Pg	02 01 44.8	-0.2
SRS				S	Sn	02 02 00.8	+0.4
KAVA	Kavala	1.18	30	P	Pb	02 01 44.6	-0.6
KAVA				S	Sn	02 02 01.4	+0.3
KAVA	Kavala	1.18	30	P	Pb	02 01 44.6	-0.6
KAVA				S	Sn	02 02 01.4	+0.3
KNT	Kendrikon	1.35	332	P	Pg	02 01 48.6	-0.3
KNT				S	Sg	02 02 06.7	+0.3
KNT	Kendrikon	1.35	332	P	Pg	02 01 48.6	-0.3
KNT				S	Sg	02 02 06.7	+0.3
NVR	Nevrokopi	1.38	4	P	Pn	02 01 48.0	+0.1
NVR				S	Sg	02 02 06.7	-0.6
NVR	Nevrokopi	1.38	4	ePN	Pn	02 01 48.1	+0.1
NVR				eSN	Sg	02 02 07.1	-0.2
NVR	Nevrokopi	1.38	4	ePn	Pn	02 01 48.1	+0.1
NVR				S	Sg	02 02 06.7	-0.6
NVR				eSn	Sg	02 02 07.1	-0.2
LKR	Lokris	1.44	204	ePN	Pn	02 01 48.8	+0.1
LKR	Lokris	1.44	204	ePn	Pn	02 01 48.8	+0.1
KZN	Kozani	1.55	283	ePN	Pb	02 01 51.0	-0.5
KZN	Kozani	1.55	283	ePn	Pb	02 01 51.0	-0.5
EVR	Evrytania	1.83	236	ePB	Pn	02 01 54.5	+0.3
EVR	Evrytania	1.83	236	ePb	Pn	02 01 54.5	+0.3
ALN	Alexandroupoli	1.98	62	ePN	Pn	02 01 56.7	+0.5
ALN	Alexandroupoli	1.98	62	ePn	Pn	02 01 56.7	+0.5

IDC 07 02:11:34.7±15.0, 24°.53S×179°.72E, h578km±151km, mb3.3/6, mb1 3.4/6, mb1mx3.1/20, mbtmp3.3/6, Error ellipse: s-maj=109.7km s-min=23.9km az=57.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.23	271	P	P	02 17 08.3	0.0
	7.1nm,0.3s,baz=89,slow=9.0,SNR=13						
STKA	Stephens Creek	34.26	249	P	P	02 17 34.0	+0.3
	2.4nm,0.5s,baz=99,slow=9.6,SNR=14						
ASAR	Alice Springs	41.69	261	P	P	02 18 33.7	-0.4
	0.9nm,0.6s,baz=95,slow=7.3,SNR=9.2						
WRA	Warramunga Arr	42.12	267	P	P	02 18 36.5	-0.9
	1.9nm,0.3s,baz=98,slow=8.3,SNR=58						
FITZ	Fitzroy Crossi	50.53	266	P	P	02 19 41.3	+0.3
	1.8nm,0.6s,baz=133,slow=10,SNR=7.7						
QSPA	South Pole Qui	65.56	180	P	P	02 21 21.7	-0.1
	1.9nm,0.6s,baz=15,slow=1.9,SNR=8.8						
MKAR	Makanchi Array	112.39	313	PKiKP	PKiKP	02 29 03.6	-1.9
	0.1nm,0.4s,baz=155,slow=0.9,SNR=2.9						
FINES	FINESS Array B	138.96	341	PKhKP	PKPpre	02 29 47.2	
	0.9nm,0.9s,baz=39,slow=3.7,SNR=4.2						
FINES				SKPbc	SKPab	02 32 43.8	-3.7
	1.6nm,1.0s,baz=45,slow=3.5,SNR=4.4						
AKASG	Malin Array Be	145.35	327	PKPbc	PKPbc	02 30 08.1	-0.2
	0.3nm,0.4s,baz=45,slow=3.7,SNR=4.3						
BRTR	Keskin Array B	147.75	306	PKPbc	PKPbc	02 30 14.9	-0.5
	0.5nm,0.4s,baz=144,slow=5.4,SNR=6.6						
BRTR				PKPab	PKPab	02 30 19.9	-0.1
	0.7nm,0.6s,baz=44,slow=3.6,SNR=5.3						
TORD	Torodi Ar. Bea	168.53	190	PKPab	PKPab	02 31 49.8	-0.2
	0.4nm,0.6s,baz=178,slow=3.5,SNR=3.5						

IDC 07 02:26:12.4±2.0, 2°.56S×128°.95E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=56.8km s-min=27.3km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.50	255	Pn	Pn	02 28 32.2	+1.6
	0.4nm,0.3s,baz=109,slow=8.1,SNR=7.1						
WRA	Warramunga Arr	18.07	163	P	Pn	02 30 25.2	+0.1
	0.2nm,0.3s,baz=341,slow=13,SNR=9.0						
ASAR	Alice Springs	21.53	168	P	P	02 31 03.4	0.0
	3.8nm,0.7s,baz=346,slow=11,SNR=38						
MKAR	Makanchi Array	63.97	326	P	P	02 36 47.1	-0.5
	0.2nm,0.7s,baz=130,slow=5.9,SNR=4.2						

CASC 07 02:28:43.1±2.2, 8°.74N×83°.59W, h17km±15km, MD3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.43	101	eP	Pg	02 28 51.0	-0.9
ACR				eS	Sb	02 28 58.4	-0.2
BUS	Buena Vista	0.83	349	eP	Pb	02 28 58.2	-1.5
QCR	Quepos	0.89	321	eP	Pb	02 28 58.3	-1.7
QCR				eS	Sg	02 29 12.4	+0.3
BRU2	Volcan	0.89	86	eP	Pb	02 28 59.9	-0.5
BRU2				eS	Sn	02 29 13.7	-0.1
TBS2		0.93	86	eP	Pb	02 29 00.3	-0.7
TBS2				eS	Sn	02 29 14.3	-0.4
LAJ	Bijagual	1.23	335	eP	Pg	02 29 06.8	-0.5
SJS	Escuela Geolog	1.28	339	eP	Pn	02 29 06.5	+0.1
CGA2	Cerro Gallo 2	1.54	326	eP	Pn	02 29 09.7	-0.3
CGA2				eS	Sb	02 29 30.6	-0.1

NEIC 07 02:45:10.0, 41°.67N×109°.92W, h4km, ML3.5(SLC), After SLC.

IDC 07 02:45:10.0±1.9, 41°.76N×109°.85W, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.1/28, mbtmp3.0/2, ML2.7/1, Error ellipse: s-maj=28.3km s-min=11.1km az=126.0

ISC 07 02:45:10.1±1.1, 41°.70N±0°.01×109°.89W±0°.02, h3km±9km, n97, σ1s.32/171, 20C-24D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L18A	Fontenelle, Gr	0.25	334	P	Pg	02 45 15.9	+1.0
	baz=0.3,SNR=496						
L18A				⇑S	Sg	02 45 21.4	+3.3
	baz=0.3						
M18A	Lyman	0.30	206	P	Pg	02 45 15.9	-0.1
	baz=0.3,SNR=535						
M18A				⇑S	Sg	02 45 20.9	+0.9
	baz=0.3						
L19A	Farson	0.56	45	P	Pb	02 45 22.2	-0.6
	baz=0.6,SNR=134						
L19A				⇑S	Sb	02 45 31.8	+0.4
	baz=0.6						
M19A	Rock Springs	0.59	109	P	Pg	02 45 21.6	+0.2
	baz=0.6,SNR=17						
M19A				⇓S	Sb	02 45 30.4	-1.6
	baz=0.6						
M17A	Scullys Gap (B	0.62	249	⇓P	Pg	02 45 21.9	-0.2
	baz=0.6,SNR=506						
M17A				⇓S	Sg	02 45 31.0	+0.8
	baz=0.6						
N18A	Larsen Ranch,	0.74	167	P	Pg	02 45 24.2	-0.1
	baz=0.7,SNR=123						
L17A	Cokeville	0.83	299	⇓P	Pg	02 45 26.0	-0.1
	baz=0.8						
K18A	Toltan Ranch,	0.94	353	P	Pb	02 45 29.1	-0.1
	baz=1.0,SNR=204						
N19A	John Jarvie Ra	0.97	146	⇑P	Pg	02 45 28.1	-0.6
	baz=1.0,SNR=226						
N17A	Moffit Pass	1.04	223	⇑Pb	Pg	02 45 29.3	-0.7
	baz=1.0,SNR=218						
BW06	Boulder Array	1.09	13	ePg	Pb	02 45 31.4	-0.5
BW06				eSn	Sn	02 45 48.5	+0.2
BW06	Boulder Array	1.09	13	⇑Pb	Pb	02 45 31.2	-0.6
	baz=1.1,SNR=292						
BW06				⇓Sb	Sb	02 45 46.5	-0.1
	baz=1.1						
BW06				⇓Sb	Sb	02 45 46.5	-0.1
	baz=1.1						
PDAR	Pinedale Array	1.09	13	Pg	Pb	02 45 31.1	-0.7
	12nm,0.3s,baz=181,slow=17,SNR=181						
PDAR				Lg	Lg	02 45 48.4	
	32nm,0.3s,baz=192,slow=25,SNR=29						
PDAR	Pinedale Array	1.09	13	Pg	Pb	02 45 31.1	-0.7
PDAR				Lg	Lg	02 45 48.4	
L16A	Fish Haven	1.19	286	⇑Pb	Pg	02 45 32.0	-1.0
	baz=1.2						
L20A	Wamsutter	1.20	75	⇑Pg	Pb	02 45 33.5	-0.1
	baz=1.2,SNR=73						
HWUT	Hardware Ranch	1.26	266	ePg	Pg	02 45 32.9	-1.3
HWUT				eSn	Sn	02 45 54.5	+2.2
K17A	Gardner Place,	1.30	324	⇓Pb	Pg	02 45 34.3	-0.7
	baz=1.3						
M20A	Sweetwater, Wa	1.30	99	⇑Pg	Pb	02 45 35.1	-0.2
	baz=1.3,SNR=49						
AHID	Auburn Hatcher	1.39	320	ePn	Pg	02 45 36.7	-0.1
AHID				eSg	Sg	02 45 54.6	-0.1
N16A	Rees Ranch, Co	1.42	236	⇓Pg	Pn	02 45 36.5	-0.5
	baz=1.4,SNR=52						
O18A	Roosevelt	1.44	184	⇑Pg	Pn	02 45 37.0	-0.2
	baz=1.4,SNR=22						
K20A	Yellowstone Ra	1.50	50	⇑Pg	Pg	02 45 38.7	-0.1
	baz=1.5,SNR=190						
N20A	Spence Gulch,	1.50	125	⇓Pg	Pb	02 45 38.8	0.0
	baz=1.5,SNR=88						
J18A	Kendall Valley	1.51	356	⇑Pb	Pn	02 45 38.4	+0.1
	baz=1.5,SNR=101						
O19A	Miners Draw (B	1.52	157	Pg	Pn	02 45 38.1	-0.2
	baz=1.5,SNR=130						
JLU	Jordanelle	1.61	227	ePn	Pn	02 45 39.3	-0.4
JLU				eSg	Sn	02 46 01.3	+0.3
DAU	Daniels Canyon	1.65	219	ePn	Pn	02 45 40.1	-0.2
DAU				eSg	Sn	02 46 02.2	0.0
J19A	Crowheart	1.68	21	⇑Pb	Pb	02 45 41.3	-0.5
	baz=1.7,SNR=121						
K16A	Soda Springs	1.69	312	⇑Pb	Pn	02 45 40.9	+0.2
	baz=1.7,SNR=170						
CTU	Camp Tracy	1.73	235	ePn	Pn	02 45 41.2	0.0
CTU				eSg	Sb	02 46 05.1	+0.4
J17A	Brown Place, J	1.77	340	⇓Pb	Pb	02 45 43.0	-0.3
	baz=1.8,SNR=248						
REDW	Red Top Meadow	1.80	337	ePn	Pn	02 45 43.0	+0.7
REDW				eSg	Sg	02 46 11.5	+3.4
SNOW	Snow King Moun	1.87	340	ePn	Pb	02 45 44.7	-0.3
SNOW				eSg	Sg	02 46 10.9	+0.7
L15A	Malad City	1.89	280	⇓Pb	Pn	02 45 43.6	+0.2
	baz=1.9,SNR=291						
M21A	Separation Pea	1.90	92	⇓Pb	Pb	02 45 44.7	-0.9
	baz=1.9,SNR=39						
L21A	Rawlins	1.90	81	⇓Pb	Pb	02 45 44.7	-0.9
	baz=1.9						
M15A	Larsen Ranch,	1.93	264	⇑Pb	Pn	02 45 44.4	+0.4
	baz=1.9,SNR=165						
TPAW	Teton Pass	1.95	337	ePn	Pn	02 45 45.4	+1.0
TPAW				eSg	Sb	02 46 10.8	-0.5
RRI2	Red Ridge	1.95	328	ePn	Pn	02 45 44.7	+0.3
RRI2				eSg	Sg	02 46 13.0	+0.2
LOHW	Long Hollow	1.98	345	ePn	Pb	02 45 46.3	-0.7
LOHW				eSn	Sn	02 46 09.2	-1.0
LOHW				eSg	Sg	02 46 14.3	+0.6
I18A	Diamond G Ranc	2.00	2	Pb	Pb	02 45 46.3	-0.9
	baz=2.0,SNR=59						
J16A	Bone	2.02	322	Pb	Pn	02 45 46.1	+0.8
	baz=2.0,SNR=19						
DCID1	Drake Creek	2.12	334	ePn	Pn	02 45 47.5	+0.9
DCID1				eSg	Sg	02 46 18.5	+0.3
J20A	Shoshoni	2.12	38	⇓Pb	Pb	02 45 48.8	-0.5
	baz=2.2,SNR=19						
MOOW	Moose Ponds	2.14	343	ePn	Pb	02 45 48.5	-1.2
MOOW				eSn	Sn	02 46 13.8	-0.4
MOOW				eSg	Sg	02 46 18.8	-0.1
MPU	Maple Canyon	2.14	219	ePn	Pn	02 45 48.3	+1.4
MPU				eSg	Sb	02 46 17.7	+1.1

HVU	Hansel Valley	2.16	273	ePn	Pn	02 45 47.8	+0.6
HVU				eSg	Sb	02 46 18.1	+1.0
K21A	Alcova	2.17	64	⇓Pb	Pb	02 45 49.1	-1.1
	baz=2.2,SNR=32						
K21A				⇓Sb	Sb	02 46 17.7	0.0
	baz=2.2						
K15A	Arbon	2.19	298	⇑Pb	Pn	02 45 49.0	+1.4
	baz=2.2,SNR=12						
K15A				⇑Sb	Sb	02 46 17.7	-0.5
	baz=2.2						
I17A	Pilgrim Ck.	2.27	347	⇓Pb	Pb	02 45 51.2	-0.7
	baz=2.3,SNR=8.5						
P17A	Butcher Ranch,	2.32	196	⇓Pb	Pn	02 45 50.8	+1.4
	baz=2.3,SNR=22						
IMW	Indian Meadow	2.33	341	ePn	Pn	02 45 49.7	+0.2
IMW				ePg	Pb	02 45 53.4	+0.5
IMW				eSg	Sg	02 46 24.0	-0.8
J21A	Lysite	2.44	47	⇓Pb	Pb	02 45 53.7	-1.1
	baz=2.5,SNR=13						
FLWY	Flagg Ranch	2.45	346	ePn	Pn	02 45 51.9	+0.6
FLWY				ePg	Pb	02 45 54.8	-0.2
FLWY				eSg	Sg	02 46 27.4	-1.5
L14A	Malta	2.52	279	⇓Pb	Pb	02 45 54.5	-1.6
	baz=2.5,SNR=11						
J15A	Blackfoot	2.53	313	⇓Pb	Pb	02 45 55.2	-1.1
	baz=2.5,SNR=64						
K14A	Jones Ranch, D	2.58	290	⇑Pb	Pb	02 45 55.2	-2.0
	baz=2.6,SNR=14						
Q18A	Rafter H Ranch	2.60	184	⇓Pb	Pb	02 45 55.9	-1.6
	baz=2.6,SNR=45						
TMUT	Trail Mountain	2.60	203	ePn	Pn	02 45 53.4	0.0
TMUT				ePg	Pb	02 45 57.1	-0.5
TMUT				eSg	Sb	02 46 31.0	+0.9
L22A	Ellis Ranch, M	2.60	82	⇑Pb	Pb	02 45 55.7	-1.8
	baz=2.6,SNR=12						
SRU	San Rafael	2.63	191	ePn	Pn	02 45 54.1	+0.4
SRU				ePg	Pb	02 45 56.9	-1.1
SRU				eSg	Sb	02 46 31.7	+0.9
SRU	San Rafael	2.63	191	⇓Pb	Pn	02 45 55.6	+1.9
	baz=2.6,SNR=241						
DUG	Dugway	2.67	237	ePn	Pn	02 45 53.5	-0.7
DUG				ePg	Pb	02 45 58.7	0.0
DUG				eSg	Sg	02 46 34.3	-1.7
H17A	Grant Village	2.74	350	⇑Pb	Pb	02 45 59.6	-0.3
	baz=2.8						
YFT	Old Faithful	2.83	346	ePn	Pn	02 45 57.6	+1.1
YFT				ePg	Pg	02 46 03.2	-1.2
P21A	Newcastle	2.86	139	⇓Pb	Pb	02 46 00.4	-1.6
	baz=2.9						
YMR	Madison River	3.07	346	ePn	Pn	02 46 00.0	+0.3
YMR				ePg	Pg	02 46 08.8	-0.1
YMR				eSg	Sg	02 46 47.7	-0.9
YNR	Norris Junctio	3.07	349	ePg	Pg	02 46 07.5	-1.3
QLMT	Earthquake Lak	3.32	341	ePn	Pn	02 46 02.2	-1.0
QLMT				ePg	Pb	02 46 11.4	+1.7
PHWY	Pilot Hill	3.35	95	ePn	Pn	02 46 05.1	+1.4
PHWY				eSn	Sn	02 46 43.4	-0.8
PHWY				eSg	Sb	02 46 48.4	-3.3
SMCO	Snowmass	3.37	138	ePg	Pb	02 46 11.1	+0.5
SMCO				eSn	Sn	02 46 44.6	0.0
SMCO				eSg	Sb	02 46 54.1	+2.0
PV04	Paradox Valley	3.39	167	ePn	Pn	02 46 04.6	+0.5
PV04				ePg	Pb	02 46 11.2	+0.3
PV04				eSn	Sn	02 46 43.0	-1.9
PV04				eSg	Sb	02 46 54.5	+1.9
RLMT	Red Lodge	3.45	7	ePn	Pn	02 46 05.8	+0.9
RLMT				ePg	Pb	02 46 12.2	+0.2
RLMT				eSg	Sb	02 46 57.2	+2.8
MSU	Marysvale	3.63	210	ePn	Pn	02 46 08.5	+1.0
MSU				ePg	Pb	02 46 15.6	+0.4
MSU				eSn	Sn	02 46 48.8	-2.2
MSU				eSg	Sb	02 47 01.7	+1.9
PV01	Paradox Valley	3.71	164	ePn	Pn	02 46 08.8	+0.3
PV01				ePg	Pb	02 46 18.8	+2.4
PV01				eSn	Sn	02 46 51.2	-1.6
PV01				eSg	Sb	02 47 02.6	+0.9
ISCO	Idaho Springs	3.77	119	ePg	Pb	02 46 17.3	-0.1
ISCO				eSg	Sb	02 47 06.3	+2.8
MCMT	McKenzie Canyo	3.80	326	ePn	Pn	02 46 10.5	+0.8
MCMT				ePg	Pg	02 46 21.3	-1.5
HLID	Hailey	3.82	301	ePn	Pn	02 46 09.8	-0.2
HLID				ePg	Pb	02 46 18.1	-0.1
HLID				eSg	Sb	02 47 07.9	+3.0
GCMT	Greycliff	4.09	2	ePg	Pb	02 46 22.8	-0.1
GCMT				eSg	Sg	02 47 19.7	-1.8
BOZ	Bozeman (W)	4.14	343	ePg	Pb	02 46 24.3	+0.6
BOZ				eSg	Sb	02 47 15.0	+0.8
ELK	Elko	4.14	258	ePn	Pn	02 46 14.6	+0.1
ELK				ePg	Pb	02 46 26.3	+2.5
ELK				eSg	Sb	02 47 12.5	-1.9
DLMT	Dillon	4.15	333	ePn	Pn	02 46 15.4	+0.9
DLMT				ePg	Pb	02 46 23.1	-0.8
MVCO	Mesa Verde	4.61	166	ePn	Pn	02 46 21.7	+0.7
MVCO				ePg	Pb	02 46 34.4	+2.6
MVCO				eSg	Sg	02 47 34.6	-3.7
MFID	Camas Ranch	4.71	293	ePn	Pn	02 46 22.3	+0.2
MFID				ePg	Pb	02 46 32.3	-1.0
MFID				eSg	Sg	02 47 39.0	-2.2
ARUT	Antelope Range	4.77	216	ePn	Pn	02 46 21.2	-1.9
ARUT				ePg	Pb	02 46 36.0	+1.6
RSSD	Black Hills	4.93	59	ePn	Pn	02 46 25.6	+0.3
RSSD				ePg	Pb	02 46 37.6	+0.3
RSSD				eSn	Sn	02 47 22.4	-0.7
RSSD				eSg	Sb	02 47 41.9	+4.8
CCUT	Cedar City	4.94	214	ePn	Pn	02 46 28.1	+2.7
CCUT				ePg	Pb	02 46 40.9	+3.6
CCUT				eSg	Sg	02 47 46.3	-2.3
MSO	Missoula	5.89	332	ePg	Pg	02 47 00.5	-2.4
	2.7nm,0.9s						
MSO				eSg	Sg	02 48 19.1	-0.2
SLMT	Seeley Lake	6.11	336	ePn	Pn	02 46 42.6	+1.2
	4.1nm,1.1s						
SLMT				ePg	Pg	02 47 06.3	-0.7
SLMT				eSg	Sg	02 48 23.8	-2.4
WUAZ	Wupatki	6.28	191	ePn	Pn	02 46 42.1	-1.7
	12nm,0.8s						
WUAZ				ePg	Pg	02 47 05.7	-4.8
WUAZ				eSg	Sg	02 48 24.4	-7.4
NVAR	Mina Array Bea	7.23	246	Pn	Pn	02 46 59.6	+2.7
	0.1nm,0.3s,baz=58,slow=13,SNR=4.5						
NVAR				Lg	Lg	02 48 58.6	
	0.2nm,0.3s,baz=62,slow=38,SNR=5.4						
NVAR	Mina Array Bea	7.23	246	Pn	Pn	02 46 59.6	+2.7
NVAR				Lg	Lg	02 48 58.6	
ANMO	Albuquerque	7.26	157	Pg	Pg	02 47 23.9	-5.3
	0.1nm,0.3s,baz=341,slow=14,SNR=4.2						
ANMO				Lg	Lg	02 48 56.0	
	0.1nm,0.3s,baz=256,slow=23,SNR=4.1						
ANMO	Albuquerque	7.26	157	Pg	Pg	02 47 23.9	-5.3
ANMO				Lg	Lg	02 48 56.0	
YKA	Yellowknife Ar	21.01	354	P	P	02 49 54.2	-0.3
	0.5nm,0.9s,baz=161,slow=11,SNR=7.8						
YKA	Yellowknife Ar	21.01	354	P	P	02 49 54.2	-0.3

ROM 07 02:45:56.1±0.2, 43.31N×12.56E, h12km±7km, Md1.3/3, Ml1.6/2, Error ellipse: s-maj=8.0km s-min=0.8km az=127.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MURB	Monte Urbino	0.05	207	Pg	Pg	02 45 58.8	+0.3
MURB				Sg	Sg	02 46 00.5	+0.2
	385nm,0.2s						
PIEI	Pieia	0.23	356	Pg	Pg	02 46 01.4	+0.3
PIEI				Sg	Sg	02 46 05.5	+1.0
	456nm,2.9s						
SNTG	Esanatoglia	0.29	100	Pg	Pg	02 46 02.4	+0.3
SNTG				Sg	Sg	02 46 07.0	+0.9
	27nm,0.1s						

MEX 07 02:57:23.6±1.1, 16.16N×96.05W, h56km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.39	188	eP	Pn	02 57 32.6	-1.5
HUIG				i S	Sn	02 57 40.1	-1.6
VHO	Vista Hermosa	1.12	324	eP	Pn	02 57 42.1	-1.2
VHO				i S	Sn	02 57 56.1	-1.8
CMIG	Matias Romero	1.45	50	eP	Pn	02 57 46.0	-1.6
CMIG				i S	Sn	02 58 02.7	-2.9
PNIG	Pinotepa	2.00	277	eP	Pn	02 57 53.5	-1.6
PNIG				eS	Sn	02 58 15.9	-3.2
UTMO	Huajuapan	2.36	315	eP	Pn	02 57 58.8	-1.4
UTMO				i S	Sn	02 58 27.1	-1.1
PCIG		2.77	99	eP	Pn	02 58 05.1	-0.4
PCIG				i S	Sn	02 58 35.6	-2.0
CCIG	Comitan	3.77	88	i P	Pn	02 58 18.0	-1.4
CCIG				eS	Sn	02 59 00.4	-2.3

CSEM 07 03:01:47.7±0.2, 44.02N×20.62E, h2km, ML2.3, Error ellipse: s-maj=3.7km s-min=2.8km az=53.0

BEO 07 03:01:48.6±0.2, 44.01N×20.60E, h2km±2km, ML2.3/1, 10C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRUS	Gruza	0.15	146	ePg	Pg	03 01 51.5	0.0
GRUS				eSg	Sg	03 01 54.3	+0.9
GRUS	Gruza	0.15	146	ePg	Pg	03 01 51.5	0.0
GRUS				eSg	Sg	03 01 54.3	+0.9
TRUS	Trudelj	0.26	327	ePg	Pg	03 01 52.2	-1.4
TRUS				eSg	Sg	03 01 57.7	+0.8
TRUS	Trudelj	0.26	327	ePg	Pg	03 01 52.2	-1.4
TRUS				eSg	Sg	03 01 57.7	+0.8
DIVS	Divibare	0.45	282	ePg	Pg	03 01 56.1	-1.3
DIVS				eSg	Sg	03 02 02.6	-0.7
DIVS	Divibare	0.45	282	ePg	Pg	03 01 56.1	-1.3
DIVS				eSg	Sg	03 02 02.6	-0.7
SVIS	Svilajnac	0.51	60	ePg	Pg	03 01 58.2	-0.2
SVIS				eSg	Sg	03 02 05.9	+0.8
IVAS	Ivanjica	0.54	217	ePg	Pg	03 01 57.5	-1.6
IVAS				eSg	Sg	03 02 05.3	-0.9
IVAS	Ivanjica	0.54	217	ePg	Pg	03 01 57.5	-1.6
IVAS				eSg	Sg	03 02 05.3	-0.9
BEO	Beograd	0.80	353	ePg	Pg	03 02 02.9	-1.1
BEO				eSg	Sg	03 02 14.0	-0.5
SELS	Selova	0.88	154	ePg	Pg	03 02 03.7	-1.8
SELS				eSg	Sg	03 02 15.9	-1.0
SJES	Sjenica	0.88	212	ePg	Pg	03 02 05.1	-0.5
SJES				eSg	Sg	03 02 17.0	-0.1
SJES	Sjenica	0.88	212	ePg	Pg	03 02 05.1	-0.5
SJES				eSg	Sg	03 02 17.0	-0.1
TEKS	Tekeris	0.94	305	ePg	Pg	03 02 06.3	-0.4
TEKS				eSg	Sg	03 02 19.2	+0.3
TEKS	Tekeris	0.94	305	ePg	Pg	03 02 06.3	-0.4
TEKS				eSg	Sg	03 02 19.2	+0.3
BOLS	Boljevac	0.99	100	ePg	Pg	03 02 05.6	-2.1
BOLS				eSg	Sg	03 02 19.3	-1.3
BOLS	Boljevac	0.99	100	ePg	Pg	03 02 05.6	-2.1
BOLS				eSg	Sg	03 02 19.3	-1.3
FGSL	Fruska Gora	1.28	334	ePg	Pg	03 02 12.2	-1.0
FGSL				eSg	Sg	03 02 29.1	-0.7
FRGS	Fruska Gora	1.28	334	ePg	Pg	03 02 12.2	-1.0
FRGS				eSg	Sg	03 02 29.1	-0.7
BARS	Barje	1.49	143	ePg	Pn	03 02 15.5	-0.8
BARS				eSg	Sg	03 02 36.5	+0.1
BARS	Barje	1.49	143	ePg	Pn	03 02 15.5	-0.8
BARS				eSg	Sg	03 02 36.5	+0.1
ZAPS	Zavoj	1.65	116	ePg	Pn	03 02 18.2	-0.4
ZAPS				eSg	Sb	03 02 41.3	+0.3
BZS	Buzias	1.76	24	⇑iP	Pn	03 02 18.5	-1.6
BZS	Buzias	1.76	24	ePn	Pn	03 02 19.8	-0.3
BZS	Buzias	1.76	24	⇑iP	Pn	03 02 18.5	-1.6
BZS	Buzias	1.76	24	ePn	Pn	03 02 19.8	-0.3
BZS				S	Sn	03 02 39.8	-3.3
VTS	Vitosha	2.37	126	⇑iP	Pb	03 02 32.9	+0.6
VTS	Vitosha	2.37	126	S	Sb	03 03 03.3	+1.2
VTS	Vitosha	2.37	126	ePn	Pn	03 02 28.5	-0.2
VTS	Vitosha	2.37	126	ePn	Pn	03 02 28.5	-0.2
VTS	Vitosha	2.37	126	⇑iP	Pb	03 02 32.9	+0.6
BLY	Banja Luka	2.56	288	ePn	Pn	03 02 31.9	+0.9
BLY				eSn	Sn	03 03 03.4	+0.7
BLY	Banja Luka	2.56	288	ePn	Pn	03 02 31.9	+0.9
BLY				eSn	Sn	03 03 03.4	+0.7
PKSM	Moragy	2.60	328	⇑iP	Pn	03 02 29.3	-2.3
PKSM	Moragy	2.60	328	S	Sb	03 03 08.0	-0.3
PKSM	Moragy	2.60	328	ePn	Pn	03 02 31.5	-0.1
PKSM	Moragy	2.60	328	⇑iP	Pn	03 02 29.3	-2.3
PKSM	Moragy	2.60	328	ePn	Pn	03 02 31.5	-0.1
LOT	Lotru	2.68	56	⇓iP	Pn	03 02 33.6	+0.8
LOT	Lotru	2.68	56	⇓iP	Pn	03 02 33.6	+0.8
LOT				S	Sn	03 03 05.4	-0.6
DRGR		3.15	27	⇑iP	Pn	03 02 38.2	-1.1
DRGR		3.15	27	⇑iP	Pn	03 02 38.2	-1.1
DRGR				S	Sn	03 03 14.4	-3.2
PSZ	Piszkesteto	3.94	353	⇑iP	Pn	03 02 48.2	-1.9
PSZ	Piszkesteto	3.94	353	⇑iP	Pn	03 02 48.2	-1.9
PSZ				S	Sn	03 03 31.8	-5.2
VYHS	Vyhne	4.65	345	ePN	Pn	03 02 58.5	-1.3
VYHS	Vyhne	4.65	345	ePn	Pn	03 02 58.5	-1.3

NSSP 07 03:09:53.4, 38.60N×45.22E, h10km, Ms3.0
ISK 07 03:09:59.4, 38.83N×44.61E, h5km, MD3.5
CSEM 07 03:10:00.2±0.4, 38.80N×44.62E, h5km, MD3.5, Error ellipse: s-maj=9.8km s-min=6.7km az=119.0
DDA 07 03:10:03.1, 38.83N×44.57E, h4km, MD3.2

ISC 07 03:10:01.0±1.2, 38.81N±0.03×44.60E±0.04, h6km±10km, n44, σ1s21/61, 2C-3D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLDR	Caldiran	0.62	302	ePG	Pg	03 10 12.1	-1.0
CLDR				eSG	Sb	03 10 22.3	-1.3
CLDR	Caldiran	0.62	302	ePg	Pg	03 10 12.1	-1.0
CLDR				eSg	Sb	03 10 22.3	-1.3
VANB	Van	0.97	257	ePG	Pg	03 10 19.3	-0.3
VANB				eSG	Sn	03 10 34.6	-0.9
VANB	Van	0.97	257	ePg	Pg	03 10 19.3	-0.3
VANB				eSg	Sn	03 10 34.6	-0.9
DYDN	Diyadin	1.01	316	i P	Pg	03 10 19.5	-1.0
DYDN				i S	Sn	03 10 36.5	-0.3
DYDN	Diyadin	1.01	316	i P	Pg	03 10 19.5	-1.0
DYDN				i S	Sn	03 10 36.5	-0.3
VANT	Van	1.11	250	ePN	Pg	03 10 22.2	-0.1
VANT	Van	1.11	250	ePn	Pg	03 10 22.3	-0.1
GNI	Garni	1.34	5	ePN	Pb	03 10 26.2	-0.5
GNI	Garni	1.34	5	⇓iP	Pn	03 10 25.5	-0.9
GNI				⇓iS	Sn	03 10 47.9	+3.2
GNI	Garni	1.34	5	⇓P	Pn	03 10 25.5	-0.9
GNI	Garni	1.34	5	ePn	Pb	03 10 26.2	-0.5
GNI				S	Sn	03 10 47.9	+3.2
ERE	Yerevan	1.36	356	eP	Pn	03 10 21.0	-5.7
ERE				⇑S	Sb	03 10 44.0	-0.6
HAKT	HAKKARI	1.44	210	i P	Pn	03 10 27.2	-0.6
HAKT				i S	Sg	03 10 49.2	+2.0
HAKT	HAKKARI	1.44	210	i P	Pn	03 10 27.2	-0.6
HAKT				i S	Sg	03 10 49.2	+2.0
AGRB	Hanur-Agry	1.46	302	ePN	Pn	03 10 28.0	-0.1
AGRB	Hanur-Agry	1.46	302	ePn	Pn	03 10 28.0	-0.1
VADZ	Vardenis	1.62	33	eP	Pn	03 10 30.0	-0.4
VADZ				⇑S	Sb	03 10 52.0	-0.3
VADZ	Vardenis	1.62	33	P	Pn	03 10 30.0	-0.4
VADZ				S	Sb	03 10 52.0	-0.3
CUKT	Cukurca	1.75	207	ePN	Pn	03 10 31.9	-0.1
CUKT	Cukurca	1.75	207	ePn	Pn	03 10 31.9	-0.1
KARS	Kars	2.16	328	ePN	Pn	03 10 37.4	-0.3
KARS	Kars	2.16	328	ePn	Pn	03 10 37.4	-0.3
SIRN	S˜–rnak	2.17	233	i P	Pg	03 10 41.9	-0.6
SIRN				i S	Sg	03 11 10.4	-0.1
VRTB	Varto-Mus	2.47	279	ePN	Pn	03 10 42.6	+0.6
VRTB	Varto-Mus	2.47	279	ePn	Pn	03 10 42.6	+0.6
BTMT	Batman	2.52	257	ePN	Pb	03 10 46.4	-0.3
BNGL	BINGOL	2.69	274	i P	Pb	03 10 50.2	+0.5
DGRG	David-gareji	2.70	12	P	Pg	03 10 51.1	-1.7
DGRG				S	Sg	03 11 28.6	+0.8
DGRG	David-gareji	2.70	12	P	Pg	03 10 50.9	-1.8
DGRG				S	Sg	03 11 29.1	+1.3
AKH	Akhalkalaki	2.73	342	P	Pb	03 10 50.8	+0.5
AKH				S	Sg	03 11 30.5	+1.8
EZM	Erzurum	2.73	295	ePN	Pn	03 10 46.4	+0.7
BEST	Besiri	2.77	252	i P	Pg	03 10 53.1	-1.0
TBLG	Delisi	2.92	2	P	Pg	03 10 55.8	-1.1
TBLG				S	Sg	03 11 36.9	+2.2
DAGI	Agillar	3.06	319	i P	Pg	03 10 58.3	-1.4
BNGB	Bingˆ¶l	3.06	275	ePN	Pn	03 10 50.7	+0.6
BINT	Bingol	3.21	272	ePn	Pn	03 10 50.7	-1.4
BCA	Borcka	3.48	320	ePN	Pn	03 10 56.9	+1.2
BCA	Borcka	3.48	320	ePn	Pn	03 10 56.9	+1.2
BAYT	Ayd˜–ntepe-Bay	3.79	296	ePN	Pn	03 11 01.3	+1.2
BAYT	Ayd˜–ntepe-Bay	3.79	296	ePn	Pn	03 11 01.3	+1.2
ERZN	Erzincan	3.87	283	ePN	Pn	03 11 02.5	+1.4
ONI	Oni	3.87	347	P	Pb	03 11 09.7	0.0
EZC	Erzincan	4.18	285	ePn	Pn	03 11 02.6	-2.8

IDC 07 03:19:18.7±1.2, 25.11N×98.06E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, Error ellipse: s-maj=62.3km s-min=16.7km az=74.0

ISC 07 03:19:18.5±1.2, 24.90N±0.10×98.02E±0.10, h10km, n7, σ1s51/7, mb3.6/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	4.29	86	Pn	Pb	03 20 32.3	-1.9
KMI				Pg	Pg	03 20 46.6	+5.9
KMI				Sn	Sb	03 21 27.8	+1.7
KMI				smax	smax		
	comp=N,55nm,0.8s						
KMI				smax	smax		
	comp=E,82nm,1.1s						
KMI				LR	LR		
	comp=N,350nm,4.6s						
KMI				LR	LR		
	comp=E,270nm,5.5s						
KMI				LR	LR		
	comp=Z,190nm,9.3s						
CMAR	Chiang Mai Arr	6.47	172	Pg	Pg	03 21 22.1	-0.3
	comp=Z,0.7nm,0.3s,baz=350,slow=18,SNR=21						
CMAR				Lg	Lg	03 22 51.0	
	comp=Z,1.2nm,0.3s,baz=346,slow=29,SNR=6.2						
SONM	Songino Array	23.83	14	P	P	03 24 32.5	+0.6
	comp=Z,0.8nm,0.6s,baz=195,slow=11,SNR=6.4						
MKAR	Makanchi Array	25.20	334	P	P	03 24 44.7	+0.4
	comp=Z,1.4nm,0.8s,baz=138,slow=10.0,SNR=13						
ZALV	Zalesovo Beam	30.65	345	P	P	03 25 32.3	-0.7
	comp=Z,1.4nm,0.6s,baz=169,slow=9.8,SNR=8.3						
WRA	Warramunga Arr	56.88	138	P	P	03 29 05.1	+1.3
	comp=Z,0.3nm,0.6s,baz=327,slow=7.4,SNR=5.3						
ASAR	Alice Springs	59.50	141	P	P	03 29 25.8	+3.6
	comp=Z,0.2nm,0.4s,baz=338,slow=7.0,SNR=2.5						

IDC 07 03:24:40.5±1.3, 42.92S×72.46W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=44.6km s-min=18.9km az=129.0
NEIC 07 03:24:46.3±5.4, 42.82S×72.39W, h36km±35km, mb4.3/5, Error ellipse: s-maj=50.0km s-min=25.2km az=205.0

ISC 07 03:24:41.2±1.3, 43.0S±0.2×72.2W±0.2, h10km, n26, σ1s06/24, mb4.1/9, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.60	29	Pn	Pn	03 25 24.6	+1.2
	7.1nm,0.3s,baz=214,slow=16,SNR=110						
PLCA				Pg	Pb	03 25 27.1	-0.8
	14nm,0.3s,baz=220,slow=17,SNR=130						
PLCA				Lg	Lg	03 26 03.1	
	25nm,0.3s,baz=303,slow=20,SNR=13						
PLCA	Paso Flores	2.60	29	Pn	Pn	03 25 24.6	+1.2
PLCA				Pg	Pb	03 25 27.1	-0.8
PLCA				Lg	Lg	03 26 03.1	
CFAA	Coronel Fontan	11.82	17	Pn	Pn	03 27 30.1	+0.3
	0.0nm,0.3s,baz=238,slow=6.6,SNR=3.6						
CFAA	Coronel Fontan	11.82	17	Pn	Pn	03 27 30.1	+0.3
CPUP	Villa Florida	20.61	41	P	Pn	03 29 21.4	-1.4
	1.2nm,0.7s,baz=214,slow=11,SNR=4.4						
CPUP	Villa Florida	20.61	41	P	Pn	03 29 21.4	-1.4
LPAZ	La Paz	26.86	9	P	P	03 30 24.8	+2.0
	0.8nm,0.8s,baz=206,slow=13,SNR=3.9						
LPAZ	La Paz	26.86	9	eP	P	03 30 25.2	+2.5
	1.2nm,0.8s						
SIV	San Ignacio	28.57	23	P	P	03 30 35.7	-1.7
	0.9nm,0.7s,baz=225,slow=9.0,SNR=4.9						
SIV	San Ignacio	28.57	23	P	P	03 30 35.7	-1.7
NNA	Nana	31.17	351	eP	P	03 30 59.8	-0.6
	7.7nm,0.8s						
JCT	Junction City	77.39	336	eP	P	03 36 36.5	+0.3
	5.5nm,1.0s						
TXAR	Lajitas Array	77.58	332	P	P	03 36 37.1	-0.2
	0.6nm,0.8s,baz=152,slow=8.2,SNR=7.1						
TXAR	Lajitas Array	77.58	332	P	P	03 36 37.1	-0.2
WVT	Waverly	80.04	347	eP	P	03 36 49.8	-0.8
	2.5nm,0.9s						
WMOK	Wichita Mounta	81.09	338	eP	P	03 36 56.1	-0.3
	2.8nm,1.1s						
TORD	Torodi Ar. Bea	87.46	70	P	P	03 37 31.9	+2.8
	0.3nm,0.8s,baz=229,slow=4.3,SNR=2.6						
TORD	Torodi Ar. Bea	87.46	70	P	P	03 37 31.9	+2.8
PDAR	Pinedale Array	91.74	333	P	P	03 37 48.5	-0.4
	0.9nm,0.9s,baz=134,slow=6.4,SNR=6.1						
PDAR	Pinedale Array	91.74	333	P	P	03 37 48.5	-0.4
GERES	GERESS Array B	118.41	49	PKP	PKPdf	03 43 29.1	+0.7
	0.2nm,0.5s,baz=263,slow=2.2,SNR=3.6						
GERES	GERESS Array B	118.41	49	PKP	PKPdf	03 43 29.1	+0.7
MKAR	Makanchi Array	161.58	69	PKPab	PKPab	03 45 27.2	+0.5
	0.4nm,0.8s,baz=273,slow=4.6,SNR=4.3						
MKAR	Makanchi Array	161.58	69	PKPab	PKPab	03 45 27.2	+0.5
SONM	Songino Array	175.08	11	PKPab	PKPab	03 46 26.7	+0.4
	0.4nm,0.8s,baz=5.7,slow=2.9,SNR=3.3						
SONM	Songino Array	175.08	11	PKPab	PKPab	03 46 26.7	+0.4

MEX 07 03:42:47.4±1.0, 14.70N×94.38W, h16km±62km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.50	48	eP	Pn	03 43 09.3	-4.4
PCIG				i S	Sn	03 43 27.1	-5.8
HUIG	Huatulco	1.98	303	i P	Pn	03 43 17.6	-2.7
HUIG				i S	Sn	03 43 39.5	-5.3
THIG		2.05	84	i P	Pn	03 43 18.9	-2.4
THIG				i S	Sn	03 43 42.3	-4.2
TGIG		2.39	30	eP	Pn	03 43 23.7	-2.4
TGIG				i S	Sn	03 43 51.4	-3.8
CMIG	Matias Romero	2.43	348	eP	Pn	03 43 23.4	-3.0
CMIG				i S	Sn	03 43 51.8	-4.1
CCIG	Comitan	2.67	54	eP	Pn	03 43 27.6	-2.4
CCIG				i S	Sn	03 43 58.1	-4.1
PNIG	Pinotepa	3.99	295	eP	Pn	03 43 46.0	-2.0
PNIG				i S	Sn	03 44 29.9	-4.5
UTMO	Huajuapan	4.53	314	i P	Pn	03 43 53.6	-2.1
UTMO				i S	Sn	03 44 43.9	-4.3

ISCJB 07 03:53:53.6±0.6, 79.82N±0.08×1.8W±0.2, h10km, mb3.5/9, MS3.2/5, Error ellipse: s-maj=11.8km s-min=5.4km az=5.6
IDC 07 03:53:54.9±0.8, 80.15N×1.47W, h0km, mb3.5/11, mb1 3.7/13, mb1mx3.6/30, mbtmp3.6/13, ML3.5/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/47, Error ellipse: s-maj=25.2km s-min=13.2km az=27.0

ISC 07 03:53:55.3±0.7, 79.8N±0.1×1.53W±0.05, h10km, n20, σ1s53/17, mb3.6/9, MS3.2/5, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	3.79	106	Pn	Pn	03 54 53.1	-0.5
	baz=317,slow=7.2,SNR=379						
SPITS				Sn	Sn	03 55 37.4	-0.7
	baz=333,slow=45,SNR=13						
HSP	Hornsund	4.43	121	eP	Pn	03 55 03.3	+1.0
HSP				eS	Sn	03 55 55.3	+1.5
DAG	Danmarks Havn	4.61	238	⇑iP	Pn	03 55 05.5	+0.7
DAG				i S	Sn	03 55 57.7	-0.6
SUMG	Summit	11.13	250	i P	Pn	03 56 32.9	-1.6
SUMG				eS	Sn	03 58 29.4	-10
ARCES	ARCESS Array B	12.32	132	Pn	Pn	03 56 54.0	+3.5
	0.2nm,0.3s,baz=328,slow=12,SNR=9.5						
ARCES				Sn	Sn	03 59 05.0	-2.7
	0.1nm,0.3s,baz=27,slow=9.5,SNR=2.4						
ARCES				LR	LR	04 01 44.5	
	comp=Z,22nm,21.5s,baz=259,slow=37						
SFJD	Kangerlussuaq	18.07	253	P	Pn	03 58 03.0	-2.9
	1.1nm,0.3s,baz=41,slow=13,SNR=7.9						
SFJD				LR	LR	04 06 22.6	
	comp=Z,74nm,20.0s,baz=273,slow=41						
RES	Resolute Bay	18.95	305	P	P	03 58 09.2	-6.7
	0.2nm,0.3s,baz=44,slow=9.0,SNR=8.2						
RES				S	Sn	04 01 24.8	-23
	0.2nm,0.3s,baz=330,slow=22,SNR=6.0						
FINES	FINESS Array B	20.14	140	P	Pn	03 58 33.8	+2.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.7nm,0.7s,baz=0.0,slow=5.9,SNR=4.0						
FINES				LR	LR	04 07 44.3	
	comp=Z,31nm,19.6s,baz=69,slow=41						
HFS	**Hagfors**	**20.29**	**158**	P	Pn	03 58 35.4	+2.8
	1.6nm,0.8s,baz=75,slow=20,SNR=3.6						
HFS				LR	LR	04 04 46.9	
	comp=Z,45nm,20.9s,baz=161,slow=32						
FRB	**Frobisher Bay**	**24.18**	**268**	P	**P**	**03 59 11.5**	**+0.3**
	2.2nm,1.0s,baz=3.4,slow=11,SNR=6.2						
GERES	**GERESS Array B**	**31.54**	**161**	P	P	04 00 22.7	+5.5
	0.8nm,0.7s,baz=0.9,slow=8.1,SNR=6.8						
SCHQ	**Schefferville**	**32.26**	**260**	P	**P**	**04 00 25.1**	**+1.7**
	1.3nm,0.9s,baz=352,slow=2.7,SNR=2.7						
SCHQ				LR	LR	04 13 19.8	
	comp=Z,55nm,20.2s,baz=32,slow=36						
YKA	**Yellowknife Ar**	**32.96**	**308**	P	**P**	**04 00 29.6**	**+0.2**
	0.3nm,0.8s,baz=7.4,slow=8.5,SNR=6.1						
ILAR	**Eielson Array**	**34.29**	**334**	P	**P**	**04 00 40.6**	**-0.4**
	0.3nm,0.9s,baz=20,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**36.83**	**80**	P	**P**	**04 01 03.0**	**+0.1**
	0.2nm,0.3s,baz=355,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**43.27**	**85**	P	**P**	**04 01 57.1**	**+0.7**
	0.9nm,0.8s,baz=341,slow=7.7,SNR=12						
SONM	**Songino Array**	**46.35**	**62**	LR	LR	04 23 12.2	
	comp=Z,52nm,18.0s,baz=26,slow=38						
ANMO	**Albuquerque**	**58.44**	**291**	LR	LR	04 28 15.6	
	comp=Z,43nm,20.7s,baz=309,slow=35						
TXAR	**Lajitas Array**	**63.46**	**287**	P	**P**	**04 04 24.3**	**-0.6**
	0.1nm,0.6s,baz=41,slow=6.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**66.69**	**177**	P	**P**	**04 04 48.3**	**+2.4**
	1.1nm,1.1s,baz=351,slow=7.6,SNR=2.7						

IDC 07 03:54:51.2±1.5**,2.°67S**×**128.°99E,h0km,mb3.5**/3**, mb1 3.8**/5**,mb1mx3.6**/22**,mbtmp3.6**/5**,ML3.6**/2**,MS2.7**/1**, Ms1 2.7**/1**,ms1mx2.1**/29**,Error ellipse: s-maj=53.5km s-min=15.4km az=70.0,Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.51**	**256**	Pn	Pn	03 57 10.9	+1.3
	1.0nm,0.3s,baz=110,slow=7.9,SNR=14						
FITZ	**Fitzroy Crossi**	**15.69**	**192**	LR	LR	04 03 51.1	
	comp=Z,29nm,21.6s,baz=272,slow=34						
WRA	**Warramunga Arr**	**17.95**	**163**	P	Pn	03 59 02.7	+0.2
	0.2nm,0.3s,baz=342,slow=13,SNR=15						
ASAR	**Alice Springs**	**21.41**	**168**	P	P	03 59 41.9	+1.0
	3.6nm,0.7s,baz=346,slow=11,SNR=34						
ASAR				S	S	04 03 40.2	+0.6
	0.5nm,0.8s,baz=346,slow=18,SNR=4.2						
MKAR	**Makanchi Array**	**64.08**	**326**	P	P	04 05 26.7	-0.5
	0.1nm,0.4s,baz=142,slow=5.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**68.32**	**328**	P	P	04 05 54.1	-0.1
	0.1nm,0.3s,baz=131,slow=6.3,SNR=3.6						

IDC 07 03:55:09.8±6.8**,18.°24S**×**178.°09W,h587km**±76km**, mb3.1**/7**,mb1 3.3**/7**,mb1mx3.1**/22**,mbtmp3.1**/7**,Error ellipse: s-maj=42.9km s-min=33.8km az=27.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.69**	**261**	P	P	04 01 03.4	-0.3
	4.5nm,0.8s,baz=63,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**38.74**	**242**	P	P	04 01 45.6	+0.6
	1.7nm,0.6s,baz=85,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**44.87**	**260**	P	P	04 02 32.7	-0.6
	1.1nm,0.3s,baz=95,slow=7.4,SNR=37						
WRA				PcP	PcP	04 04 01.5	-0.6
	0.2nm,0.3s,baz=90,slow=3.6,SNR=3.4						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	04 02 34.0	-0.2
	5.2nm,0.6s,baz=86,slow=8.6,SNR=48						
ASAR				PcP	PcP	04 04 02.2	-0.3
	0.3nm,0.4s,baz=102,slow=3.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**53.27**	**261**	P	P	04 03 35.6	+0.5
	0.4nm,0.3s,baz=98,slow=7.1,SNR=3.7						
QSPA	**South Pole Qui**	**71.81**	**180**	P	P	04 05 33.5	-0.3
	0.7nm,0.9s,baz=152,slow=11,SNR=6.5						
TXAR	**Lajitas Array**	**85.92**	**57**	P	P	04 06 49.2	+0.3
	0.1nm,0.6s,baz=224,slow=5.2,SNR=3.4						

WEL 07 04:04:22.3±0.2**,37.°19S**×**176.°56E,h232km**±3km**,ML3.6**/9**, Error ellipse: s-maj=6.5km s-min=4.4km az=0.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.16**	**158**	PN	Pn	04 04 56.4	+0.1
URZ				SN	S	04 05 22.8	-0.3
MWZ	**Matawai**	**1.38**	**146**	PN	Pn	04 04 58.1	+0.1
MWZ				SN	S	04 05 25.7	-0.3
PUZ	**Puketiti**	**1.61**	**124**	PN	Pn	04 04 59.8	0.0
PUZ				SN	S	04 05 28.3	-0.9
CNGZ	**Carnagh Statio**	**1.84**	**135**	PN	Pn	04 05 02.0	+0.2
NMHZ	**Naumai**	**1.92**	**174**	PN	Pn	04 05 03.1	+0.5
BKZ	**Black Stump Fm**	**1.98**	**181**	PN	Pn	04 05 02.7	-0.4
BKZ				SN	S	04 05 34.4	-0.8
KNZ	**Kokohu**	**2.03**	**155**	PN	Pn	04 05 02.9	-0.6
BHHZ	**Black Hill Sta**	**2.33**	**189**	PN	Pn	04 05 05.9	-0.7
KAHZ	**Kahuranaki**	**2.62**	**175**	PN	Pn	04 05 08.6	-0.9
PXZ	**Pawanui**	**2.85**	**175**	PN	Pn	04 05 11.1	-0.8
PXZ				SN	S	04 05 49.8	-1.3

*IDC **07** 04:10:40.8±4.1, 17.°97S×174.°15W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, Error ellipse: s-maj=177.6km s-min=32.2km az=141.0*
*NEIC **07** 04:10:53.1±9.5, 18.°33S×173.°98W, h105km±72km, mb4.5/6, Error ellipse: s-maj=76.9km s-min=27.0km az=135.0*
ISC 07 04:10:54.6±1.9**,17.°5S**±0.°3×**174.°3W**±0.°3**,h108km,n26, σ1s.85**/26**,mb4.4**/9**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.29**	**34**	Sn	**Sn**	**04 12 43.1**	**-4.0**
	4.8nm,0.3s,baz=212,slow=22,SNR=3.6						
DZM	**Mont Dzumac**	**18.72**	**253**	P	**Pn**	**04 15 05.5**	**-1.1**
	0.2nm,0.3s,baz=74,slow=17,SNR=4.9						
DZM	**Mont Dzumac**	**18.72**	**253**	*e*P	**Pn**	**04 15 05.2**	**-1.4**
	8.5nm,0.9s						
CTA	**Charters Tower**	**37.42**	**260**	P	**P**	**04 17 56.8**	**-0.8**
	7.6nm,0.9s,baz=82,slow=7.1,SNR=2.6						
CTA	**Charters Tower**	**37.42**	**260**	P	**P**	**04 17 56.8**	**-0.8**
CTAO	**Charters Tower**	**37.42**	**260**	*e*P	**P**	**04 17 58.3**	**+0.8**
	20nm,1.1s						
PMG	**Port Moresby**	**38.32**	**277**	*e*P	**P**	**04 18 07.1**	**+2.0**
	13nm,0.9s						
STKA	**Stephens Creek**	**42.30**	**242**	P	**P**	**04 18 36.0**	**-1.8**
	2.1nm,0.9s,baz=96,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**42.30**	**242**	P	**P**	**04 18 36.0**	**-1.8**
WRAB	**Tennant Creek**	**48.59**	**259**	*e*P	**P**	**04 19 25.7**	**-1.9**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**48.60**	**259**	P	**P**	**04 19 26.1**	**-1.5**
	0.8nm,0.4s,baz=97,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**48.60**	**259**	P	**P**	**04 19 26.1**	**-1.5**
AS31	**Alice Springs**	**48.71**	**254**	*e*P	**P**	**04 19 26.3**	**-2.3**
ASAR	**Alice Springs**	**48.71**	**254**	P	**P**	**04 19 26.4**	**-2.1**
	4.3nm,0.7s,baz=93,slow=7.8,SNR=54						
ASAR	**Alice Springs**	**48.71**	**254**	P	**P**	**04 19 26.4**	**-2.1**
COLA	**College**	**84.56**	**11**	*e*P	**P**	**04 23 17.4**	**+2.1**
	4.3nm,0.9s						
ILAR	**Eielson Array**	**84.65**	**11**	P	**P**	**04 23 17.8**	**+2.0**
	0.5nm,0.9s,baz=236,slow=6.4,SNR=5.1						
ILAR	**Eielson Array**	**84.65**	**11**	P	**P**	**04 23 17.8**	**+2.0**
KULM	**Kulim**	**86.91**	**276**	*e*P	**P**	**04 23 30.4**	**+2.3**
	6.6nm,0.9s						
TKM2	**Tokmak 2**	**116.37**	**310**	*e*PKPdf	**PKPdf**	**04 29 26.0**	**0.0**
EKS2	**Erkin-Say**	**117.72**	**309**	*e*PKPdf	**PKPdf**	**04 29 29.3**	**+0.9**
KBL	**Kabul**	**121.51**	**300**	*e*PKPdf	**PKPdf**	**04 29 36.1**	**0.0**
CLL	**Collm**	**145.77**	**352**	*e*PKPbc	**PKPab**	**04 30 24.0**	**+2.5**
BR131	**Keskin Array S**	**147.21**	**318**	*e*PKPbc	**PKPab**	**04 30 27.4**	**-0.3**
BRTR	**Keskin Array B**	**147.21**	**318**	PKPbc	**PKPab**	**04 30 27.7**	**0.0**
	1.0nm,0.9s,baz=138,slow=5.9,SNR=4.5						
BRTR	**Keskin Array B**	**147.21**	**318**	PKPbc	**PKPab**	**04 30 27.7**	**0.0**

*ISCJB **07** 04:22:29.7±0.5, 21.°62N±0.°06×142.°9E±0.°1, h311km, mb3.8/22, Error ellipse: s-maj=16.4km s-min=7.6km az=172.1*
*IDC **07** 04:22:30.2±1.4, 21.°63N×143.°01E, h304km±13km, mb3.5/21, mb1 3.7/25, mb1mx3.6/33, mbtmp3.5/25, Error ellipse: s-maj=15.1km s-min=8.8km az=82.0*
ISC 07 04:22:30.9±0.6**,21.°65N**±0.°07×**143.°0E**±0.°1**,h311km,n33, σ0s.83**/35**,mb3.8**/22**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.47**	**352**	P	**Pn**	**04 23 54.1**	**-0.2**
	53nm,0.3s,baz=107,slow=23,SNR=16						
CBIJ				S	**S**	**04 24 59.4**	**-2.1**
	46nm,0.3s,baz=299,slow=23,SNR=7.0						
GUMO	**Guam**	**8.21**	**167**	P	**Pn**	**04 24 27.2**	**-0.1**
	6.2nm,0.3s,baz=159,slow=8.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**04 25 52.1**	**+0.3**
	1.6nm,0.3s,baz=159,slow=5.5,SNR=9.1						
MAT	**Matsushiro**	**15.41**	**345**	P	**P**	**04 25 52.4**	**+0.5**
JNU	**Nakatsue**	**15.68**	**319**	P	**Pn**	**04 25 56.3**	**-0.6**
	0.5nm,0.3s,baz=146,slow=7.3,SNR=3.6						
KSRS	**Korea Array**	**20.45**	**324**	P	**P**	**04 26 46.6**	**+1.0**
	4.5nm,0.6s,baz=145,slow=9.1,SNR=15						
USRK	**Ussuriysk Arra**	**24.26**	**341**	P	**P**	**04 27 21.4**	**+1.0**
	1.7nm,0.6s,baz=177,slow=9.6,SNR=4.1						
PETK	**Petropavlovsk-**	**33.37**	**16**	P	P	04 28 43.3	+2.8
	3.0nm,0.8s,baz=200,slow=8.2,SNR=2.7						
SONM	**Songino Array**	**39.26**	**321**	P	**P**	**04 29 30.7**	**+0.4**
	0.4nm,0.4s,baz=128,slow=6.2,SNR=6.8						
CMAR	**Chiang Mai Arr**	**41.40**	**274**	P	**P**	**04 29 48.7**	**+0.8**
	1.9nm,0.6s,baz=80,slow=6.3,SNR=7.7						
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**04 29 53.4**	**-0.8**
	3.0nm,0.4s,baz=16,slow=9.8,SNR=88						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**04 30 22.6**	**-0.8**
	0.9nm,0.5s,baz=16,slow=12,SNR=29						
STKA	**Stephens Creek**	**53.24**	**181**	P	**P**	**04 31 17.8**	**-0.3**
	1.0nm,0.5s,baz=14,slow=4.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**04 31 24.4**	**-0.1**
	2.1nm,0.7s,baz=98,slow=7.6,SNR=12						
ZALV				PcP	**PcP**	**04 32 24.3**	**-0.4**
	1.2nm,0.4s,baz=121,slow=4.3,SNR=7.4						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**04 31 28.4**	**+0.5**
	1.4nm,0.7s,baz=89,slow=9.3,SNR=14						
MKAR				PcP	**PcP**	**04 32 26.8**	**+0.1**
	0.4nm,0.4s,baz=79,slow=4.4,SNR=6.5						
ILAR	**Eielson Array**	**62.16**	**27**	P	**P**	**04 32 18.8**	**-0.7**
	1.4nm,0.6s,baz=261,slow=5.4,SNR=14						
AKTO	**Aktyubinsk**	**70.48**	**317**	P	**P**	**04 33 12.0**	**-0.2**
	1.3nm,0.6s,baz=90,slow=8.1,SNR=5.3						
SPITS	**Spitsbergen Ar**	**75.85**	**350**	P	**P**	**04 33 43.2**	**+0.3**
	2.2nm,0.9s,baz=108,slow=8.0,SNR=5.9						
YKA	**Yellowknife Ar**	**76.58**	**28**	P	**P**	**04 33 47.3**	**+0.1**
	1.7nm,0.7s,baz=290,slow=5.5,SNR=35						
RES	**Resolute Bay**	**77.16**	**13**	P	**P**	**04 33 51.1**	**+0.9**
	1.6nm,0.8s,baz=14,slow=4.0,SNR=8.4						
KEV	**Kevo**	**78.35**	**341**	*e*p	**P**	**04 33 57.7**	**+0.9**
ARCES	**ARCESS Array B**	**78.91**	**341**	P	**P**	**04 33 59.9**	**0.0**
	4.2nm,0.8s,baz=74,slow=8.2,SNR=16						
JOF	**Joensuu**	**80.28**	**334**	*e*p	**P**	**04 34 07.0**	**-0.3**
	2.5nm,0.3s						
KBZ	**Khabaz**	**82.27**	**314**	P	**P**	**04 34 19.3**	**+1.2**
	4.8nm,0.9s,baz=70,slow=6.7,SNR=6.2						
KAF	**Kangasniemi**	**82.69**	**335**	*e*p	**P**	**04 34 19.2**	**-0.6**
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**04 34 21.3**	**-0.9**
	2.5nm,0.5s,baz=63,slow=5.3,SNR=44						
NVAR	**Mina Array Bea**	**83.31**	**51**	P	**P**	**04 34 24.6**	**+0.7**
	3.5nm,1.1s,baz=272,slow=6.2,SNR=7.4						
PDAR	**Pinedale Array**	**87.55**	**45**	P	**P**	**04 34 45.4**	**+0.8**
	0.2nm,0.4s,baz=146,slow=3.4,SNR=3.6						
HFS	**Hagfors**	**88.70**	**337**	P	**P**	**04 34 47.7**	**-1.5**
	1.6nm,0.6s,baz=106,slow=3.0,SNR=11						
BRTR	**Keskin Array B**	**90.25**	**313**	P	**P**	**04 34 55.5**	**-1.6**
	1.1nm,1.1s,baz=64,slow=3.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.63**	**309**	PKP	**PKPdf**	**04 41 02.1**	**0.0**
	0.6nm,1.0s,baz=137,slow=1.5,SNR=6.5						
PLCA	**Paso Flores**	**145.86**	**132**	PKPbc	**PKPbc**	**04 41 33.7**	**-0.5**
	2.2nm,0.6s,baz=248,slow=3.1,SNR=12						
LPAZ	**La Paz**	**150.12**	**85**	PKPbc	**PKPbc**	**04 41 47.7**	**+1.0**
	2.0nm,0.5s,baz=313,slow=2.0,SNR=17						

*IPEC **07** 04:27:37.9±0.3, 51.°55N×16.°20E, h0km, ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.5km az=30.0*
*ISCJB **07** 04:27:38.7±0.9, 51.°38N±0.°04×16.°09E±0.°04, h0km, Error ellipse: s-maj=6.6km s-min=3.5km az=9.9*
*WAR **07** 04:27:38.3, 51.°54N×16.°03E*
*CSEM **07** 04:27:39.1±0.4, 51.°44N×16.°09E, h2km, ML2.9/6, Error ellipse: s-maj=6.9km s-min=3.5km az=18.0*
*PRU **07** 04:27:40.1, 51.°42N×16.°10E, h0km*
ISC 07 04:27:39.7±1.4**,51.°45N**±0.°07×**16.°06E**±0.°03**,h0km,n25, σ0s.66**/45**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**04 27 51.7**	**0.0**
KSP				*e*Sg	**Sg**	**04 28 00.4**	**+0.6**
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**04 27 51.6**	**-0.1**
	baz=355						
KSP				*e*Sg	**Sg**	**04 28 00.2**	**+0.4**
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**04 27 51.7**	**0.0**
KSP				*e*Sg	**Sg**	**04 28 00.4**	**+0.6**
UPC	**Upice**	**0.95**	**182**	*e*PG	**Pg**	**04 27 57.7**	**-0.1**
UPC	**Upice**	**0.95**	**182**	Pg	**Pg**	**04 27 57.7**	**-0.1**
DPC	**Dobruska-Polom**	**1.12**	**171**	*e*PG	**Pg**	**04 28 00.6**	**-0.4**
DPC				*e*SG	**Sg**	**04 28 13.6**	**-1.9**
	comp=Z,8.4nm,0.5s						
DPC	**Dobruska-Polom**	**1.12**	**171**	*e*Pg	**Pg**	**04 28 00.4**	**-0.6**
	baz=356						
DPC				*e*Sg	**Sg**	**04 28 15.6**	**+0.1**
	baz=356						
PVCC	**Panska Ves**	**1.32**	**226**	*e*PG	**Pg**	**04 28 04.9**	**-0.1**
PVCC				*e*SG	**Sg**	**04 28 22.5**	**+0.4**
	comp=Z,39nm,0.3s						
PVCC	**Panska Ves**	**1.32**	**226**	Pg	**Pg**	**04 28 04.9**	**-0.1**
PVCC				Sg	**Sg**	**04 28 22.5**	**+0.4**
	39nm,0.3s						
BRG	**Berggiesshubel**	**1.46**	**247**	PG	**Pn**	**04 28 07.4**	**+0.2**
BRG				SG		04 50 49.5	
	1.2nm,0.5s						
PRU	**Pruhonice**	**1.76**	**214**	*e*PN	**Pn**	**04 28 10.6**	**-0.8**
PRU				*e*PG	**Pb**	**04 28 12.2**	**-0.6**
PRU				*e*SG	**Sb**	**04 28 35.3**	**0.0**
	comp=Z,6.8nm,0.6s						
PRU	**Pruhonice**	**1.76**	**214**	Pn	**Pn**	**04 28 10.6**	**-0.8**
MORC	**Moravsky Berou**	**1.93**	**150**	*e*Pn	**Pn**	**04 28 12.5**	**-1.2**
	baz=335						
MORC				*e*Sg	**Sn**	**04 28 39.6**	**+1.0**
	5.1nm,0.2s,baz=335						
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*PG	**Pb**	**04 28 18.0**	**-0.5**
OKC				*e*SG	**Sn**	**04 28 43.9**	**+1.2**
OKC	**Ostrava-Krasne**	**2.09**	**140**	Pg	**Pb**	**04 28 18.0**	**-0.5**
OKC				Sg	**Sn**	**04 28 43.9**	**+1.2**
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**04 28 17.2**	**+0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**04 28 48.4**	**+1.0**
	4.0nm,0.2s,baz=354						
KRUC	**Moravsky**	**2.40**	**175**	*e*Sg	**Sg**	**04 28 56.0**	**-0.8**
	2.9nm,0.2s,baz=357						
NKC	**Novy Kostel**	**2.60**	**243**	*e*PN	**Pn**	**04 28 22.9**	**0.0**
NKC				*e*PG	**Pg**	**04 28 28.9**	**-0.5**
NKC				*e*SG	**Sg**	**04 29 03.4**	**+0.4**
	comp=Z,6.7nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**243**	Pn	**Pn**	**04 28 22.9**	**0.0**
NKC	**Novy Kostel**	**2.60**	**243**	Pg	**Pg**	**04 28 28.9**	**-0.5**
NKC				Sg	**Sg**	**04 29 03.4**	**+0.4**
	6.7nm,0.3s						
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**04 28 30.5**	**-0.3**
OJC				*e*Sg	**Sg**	**04 29 05.4**	**0.0**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*PN	**Pn**	**04 28 25.9**	**-0.1**
KHC				*e*PG	**Pb**	**04 28 31.7**	**+0.8**
KHC				*e*SN	**Sn**	**04 29 00.0**	**-0.7**
KHC				*e*SG	**Sg**	**04 29 09.2**	**-1.0**
KHC	**Kasperske Hory**	**2.82**	**215**	Pn	**Pn**	**04 28 25.9**	**-0.1**
VYHS	**Vyhne**	**3.46**	**148**	*e*SG	**Sg**	**04 29 31.4**	**+0.6**
VYHS	**Vyhne**	**3.46**	**148**	*e*Sg	**Sg**	**04 29 31.4**	**+0.6**

IDC 07 04:50:25.6±1.0**,3.°96N**×**126.°87E,h0km,mb3.6**/7**, mb1 3.8**/7**,mb1mx3.7**/24**,mbtmp3.6**/7**,Error ellipse: s-maj=85.6km s-min=15.7km az=70.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	04 55 21.8	+0.7
	0.9nm,0.4s,baz=4.4,slow=13,SNR=6.7						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	04 55 49.0	-1.2
	5.1nm,0.8s,baz=343,slow=10,SNR=23						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	04 56 22.3	+1.1
	0.1nm,0.3s,baz=343,slow=8.7,SNR=2.7						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	04 57 47.9	-0.2
	3.5nm,0.7s,baz=331,slow=10.0,SNR=10						
SONM	**Songino Array**	**47.12**	**341**	P	P	04 59 00.3	+0.5
	0.2nm,0.6s,baz=138,slow=8.9,SNR=2.3						
SONM				PcP	PcP	05 00 32.0	+0.4
	0.3nm,0.5s,baz=144,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	05 00 15.2	-1.1
	0.4nm,0.5s,baz=117,slow=8.4,SNR=10						
KURBB	**Kurchatov Arra**	**61.62**	**327**	P	P	05 00 45.2	+0.1
	1.0nm,0.3s,baz=119,slow=6.3,SNR=3.8						
BVAR	**Borovoye Array**	**67.20**	**327**	P	P	05 01 21.8	+0.2
	0.3nm,0.6s,baz=133,slow=6.3,SNR=2.3						

*SZGRF **07** 05:08:34.5, 18.°39S×178.°40W, h33km, Fiji Islands region*
*PRU **07** 05:08:43.7, 16.°70S×175.°75W, h30km*
*ISCJB **07** 05:09:41.4±1.1, 17.°6S±0.°3×178.°7W±0.°2, h579km, mb3.9/12, Error ellipse: s-maj=44.5km s-min=16.4km az=156.8*
*IDC **07** 05:09:42.4±4.2, 17.°81S×178.°60W, h585km±46km, mb3.5/12, mb1 3.8/12, mb1mx3.6/19, mbtmp3.5/12, Error ellipse: s-maj=41.0km s-min=17.2km az=150.0*
ISC 07 05:09:41.7±1.1**,17.°8S**±0.°3×**178.°6W**±0.°2**,h579km,n43, σ0s.72**/44**,mb3.9**/12**,1C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**05 17 02.6**	**-0.1**
	0.9nm,0.4s,baz=96,slow=7.2,SNR=45						
WRA				PcP	**PcP**	**05 18 32.8**	**-0.7**
	0.4nm,0.4s,baz=90,slow=3.7,SNR=7.2						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**05 17 04.3**	**+0.3**
	3.6nm,0.5s,baz=87,slow=8.7,SNR=80						
ASAR				PcP	**PcP**	**05 18 33.4**	**-0.6**
	0.9nm,0.4s,baz=103,slow=4.0,SNR=11						
MJAR	**Matsushiro Arr**	**67.71**	**323**	P	**P**	**05 19 42.3**	**+0.1**
	2.2nm,0.7s,baz=172,slow=7.6,SNR=4.4						
PETK	**Petropavlovsk-**	**73.53**	**345**	P	**P**	**05 20 15.7**	**-0.4**
	3.2nm,0.7s,baz=126,slow=7.4,SNR=3.2						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**05 20 49.9**	**+0.7**
	2.4nm,0.7s,baz=220,slow=8.5,SNR=12						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**05 21 19.3**	**-0.8**
	1.1nm,0.4s,baz=220,slow=4.8,SNR=39						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**05 21 23.2**	**+0.8**
	2.8nm,0.8s,baz=220,slow=6.1,SNR=34						
PDAR	**Pinedale Array**	**87.40**	**44**	P	**P**	**05 21 28.3**	**-0.1**
	1.8nm,0.6s,baz=221,slow=3.1,SNR=16						
CMAR	**Chiang Mai Arr**	**88.67**	**290**	P	**P**	**05 21 36.2**	**+1.6**
	0.6nm,0.3s,baz=108,slow=2.9,SNR=5.0						
SONM	**Songino Array**	**93.34**	**319**	P	**P**	**05 21 56.6**	**+1.0**
	0.2nm,0.5s,baz=139,slow=6.8,SNR=2.6						
YKA	**Yellowknife Ar**	**94.31**	**25**	P	**P**	**05 21 58.5**	**-1.0**
	0.3nm,0.5s,baz=241,slow=4.5,SNR=9.6						
ULM	**Lac du Bonnet**	**98.95**	**40**	P	**P**	**05 22 22.1**	**+1.4**
	1.7nm,0.5s,baz=236,slow=3.6,SNR=2.7						
MKAR	**Makanchi Array**	**108.92**	**314**	PKiKP	**PKiKP**	**05 27 04.3**	**-1.6**
	0.3nm,0.5s,baz=149,slow=1.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**111.67**	**318**	PKiKP	**PKiKP**	**05 27 09.2**	**-1.7**
	0.1nm,0.2s,baz=77,slow=2.0,SNR=5.0						
BVAR	**Borovoye Array**	**116.64**	**321**	PKP	**PKPdf**	**05 27 19.3**	**-1.2**
	0.7nm,0.5s,baz=116,slow=3.4,SNR=4.6						
ARCES	**ARCESS Array B**	**126.17**	**350**	PKP	**PKPdf**	**05 27 37.6**	**-0.7**
	1.1nm,0.7s,baz=45,slow=2.1,SNR=4.8						
BRTR	**Keskin Array B**	**144.57**	**315**	PKP	PKPbc	05 28 13.6	0.0
	1.2nm,0.6s,baz=70,slow=1.2,SNR=5.7						
IBBN	**Ibbenburen**	**145.20**	**353**	*e*PKPbc	**PKPdf**	**05 28 14.2**	**+0.4**
CLZ	**Clausthal**	**145.29**	**350**	*e*PKPbc	**PKPbc**	**05 28 15.2**	**0.0**
CLL	**Collm**	**145.31**	**347**	*e*PKPbc	**PKPbc**	**05 28 14.8**	**-0.4**
CLL	**Collm**	**145.31**	**347**	⇑*i*PKP	**PKPbc**	**05 28 15.1**	**-0.1**
	comp=Z,11nm,0.7s						
UPC	**Upice**	**145.33**	**344**	*e*PKP	**PKPbc**	**05 28 15.4**	**+0.1**
DPC	**Dobruska-Polom**	**145.39**	**343**	*e*PKP	**PKPbc**	**05 28 16.0**	**+0.4**
DPC				*e*x	x	05 28 18.0	
BRG	**Berggiesshubel**	**145.51**	**346**	*e*PKP	**PKPbc**	**05 28 15.9**	**+0.1**
	comp=Z,5.5nm,0.7s						
BRG	**Berggiesshubel**	**145.51**	**346**	*e*PKPbc	**PKPbc**	**05 28 15.6**	**-0.2**
MLR	**Muntele Rosu**	**145.64**	**329**	PKPbc	**PKPbc**	**05 28 16.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=12,slow=9.3,SNR=3.1						
PVCC	**Panska Ves**	**145.68**	**345**	*e*PKP	**PKPbc**	**05 28 16.9**	**+0.6**
MMAI	**Mount Meron Ar**	**145.93**	**303**	PKPbc	**PKPbc**	**05 28 18.4**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=54,slow=4.2,SNR=4.1						
PRU	**Pruhonice**	**146.19**	**345**	*e*PKP	**PKPbc**	**05 28 18.0**	**+0.2**
MOX	**Moxa**	**146.22**	**348**	*e*PKPbc	**PKPbc**	**05 28 17.4**	**-0.5**
VRAC	**Vranov**	**146.25**	**342**	PKPbc	**PKPab**	**05 28 19.7**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=333,slow=4.5,SNR=3.0						
TANN	**Tannenbergstha**	**146.27**	**347**	*e*PKPbc	**PKPbc**	**05 28 17.8**	**-0.3**
ROTZ	**Rotzenmuhle**	**146.94**	**347**	*e*PKPbc	**PKPbc**	**05 28 19.9**	**+0.1**
TNS	**Taunus Mts**	**147.16**	**352**	*e*PKPbc	**PKPbc**	**05 28 20.4**	**0.0**
GRF	**Grafenberg Arr**	**147.21**	**348**	*e*PKPbc	**PKPbc**	**05 28 20.3**	**-0.2**
KHC	**Kasperske Hory**	**147.22**	**345**	*e*PKP	**PKPbc**	**05 28 20.5**	**-0.1**
KHC				*e*x	x	05 28 24.7	
GEC2	**GERESS Array S**	**147.46**	**345**	*e*PKPbc	**PKPbc**	**05 28 20.9**	**-0.4**
GERES	**GERESS Array B**	**147.46**	**345**	PKPbc	**PKPbc**	**05 28 21.3**	**0.0**
	comp=Z,2.7nm,0.6s,baz=23,slow=2.9,SNR=24						
WLF	**Walferdange**	**147.98**	**354**	*e*PKPbc	**PKPbc**	**05 28 22.8**	**+0.3**
STU	**Stuttgart**	**148.46**	**350**	*e*PKPbc	**PKPbc**	**05 28 24.3**	**+0.6**
FUR	**Furstenfeldbru**	**148.65**	**347**	*e*PKPbc	**PKPbc**	**05 28 24.7**	**+0.5**
BFO	**Black Forest**	**149.03**	**351**	*e*PKPbc	**PKPbc**	**05 28 24.6**	**-0.5**
DAVOX	**Davos/Dischmat**	**150.26**	**348**	PKPbc	**PKPbc**	**05 28 27.5**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=36,slow=2.8,SNR=12						

*ISCJB **07** 05:21:30.2±0.5, 53.°22N±0.°06×167.°08W±0.°05, h58km±3km, mb4.1/32, MS3.5/12, Error ellipse: s-maj=9.5km s-min=4.0km az=165.5*
*NEIC **07** 05:21:30.8±0.5, 53.°20N×167.°09W, h48km±3km, mb4.4/7, ML4.1(AEIC), Error ellipse: s-maj=7.8km s-min=3.3km az=170.0*
*IDC **07** 05:21:30.7±3.5, 53.°23N×167.°09W, h45km±31km, mb3.7/24, mb1 3.9/26, mb1mx3.8/36, mbtmp3.8/26, ML3.8/2, MS3.6/13, Ms1 3.6/13, ms1mx3.3/45, Error ellipse: s-maj=22.1km s-min=13.9km az=7.0*
ISC 07 05:21:30.5±1.1**,53.°16N**±0.°08×**167.°07W**±0.°04**,h47km**±9km**, n133,σ0s.68**/151**,mb4.1**/33**,MS3.6**/12**,20C-24D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.56**	**296**	P	**Pn**	**05 21 42.4**	**-0.1**
OKFG				S	**Sn**	**05 21 52.1**	**+1.1**
MREP	**Makushin Rep't**	**0.68**	**16**	P	**Pn**	**05 21 44.0**	**0.0**
OKSO	**Okmok South**	**0.69**	**287**	P	**Pn**	**05 21 43.8**	**-0.2**
OKSO				S	**Sn**	**05 21 54.4**	**+0.7**
OKCE	**Okmok Cone E**	**0.71**	**292**	P	**Pn**	**05 21 44.7**	**+0.3**
OKCE				S	**Sn**	**05 21 56.3**	**+2.0**
UNV	**Unalaska Valle**	**0.76**	**26**	P	**Pn**	**05 21 43.8**	**-1.2**
UNV				S	**Sn**	**05 21 54.4**	**-1.1**
MCIR	**Makushin Cirqu**	**0.80**	**7**	P	**Pn**	**05 21 45.9**	**+0.4**
NIKO	**Nikolski**	**1.09**	**261**	P	**Pn**	**05 21 48.9**	**-0.5**
NIKO				S	**Sn**	**05 22 03.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.14**	**31**	P	**Pn**	**05 21 49.9**	**-0.2**
AKRB				S	**Sn**	**05 22 05.2**	**+0.7**
AKLV	**Akutan Long Va**	**1.20**	**33**	P	**Pn**	**05 21 50.2**	**-0.7**
AKLV				S	**Sn**	**05 22 05.9**	**-0.2**
AKGG	**Akutan Green G**	**1.22**	**31**	P	**Pn**	**05 21 51.2**	**0.0**
AKUT	**Akutan**	**1.24**	**38**	P	**Pn**	**05 21 50.6**	**-0.8**
WESE	**West Dahl East**	**1.97**	**47**	P	**Pn**	**05 22 01.5**	**0.0**
BRPK	**Brown Peak**	**2.46**	**52**	P	**Pn**	**05 22 09.2**	**+1.0**
FALS	**False Pass**	**2.74**	**50**	P	**Pn**	**05 22 12.5**	**+0.6**
FALS				S	**Sn**	**05 22 46.6**	**+2.8**
DRIA	**Deer Island**	**3.36**	**56**	P	**Pn**	**05 22 21.1**	**+0.7**
DT1	**Dutton Round H**	**3.42**	**53**	P	**Pn**	**05 22 21.6**	**+0.3**
DTNA	**Dutton South F**	**3.46**	**53**	P	**Pn**	**05 22 22.1**	**+0.2**
SPIA	**Saint Paul Isl**	**4.42**	**337**	P	**Pn**	**05 22 34.8**	**-0.2**
SDPT	**Sand Point**	**4.44**	**58**	*e*Pn	**Pn**	**05 22 35.2**	**-0.1**
SDPT				*e*S	Sn	05 23 34.9	+9.3
CHGN	**Chignik**	**5.92**	**54**	*e*Pn	**Pn**	**05 22 56.8**	**+1.3**
CHGN				*e*Sn	**Sn**	**05 24 00.7**	**-1.1**
KDAK	**Kodiak Island**	**9.43**	**55**	P	**Pn**	**05 23 42.9**	**-0.7**
	1.1nm,0.3s,baz=241,slow=13,SNR=13						
KDAK				S	Sn	05 25 21.9	-6.1
	0.4nm,0.3s,baz=338,slow=19,SNR=4.7						
KDAK	**Kodiak Island**	**9.43**	**55**	P	**Pn**	**05 23 42.9**	**-0.7**
KDAK				S	Sn	05 25 21.9	-6.1
ILAR	**Eielson Array**	**15.51**	**34**	P	**Pn**	**05 25 04.7**	**-1.1**
	0.1nm,0.3s,baz=231,slow=10,SNR=16						
ILAR				PcP	**PcP**	**05 30 05.8**	**+0.2**
	0.1nm,0.3s,baz=290,slow=3.3,SNR=4.6						
ILAR				LR	LR	05 31 43.2	
	comp=Z,264nm,18.1s,baz=296,slow=40						
ILAR	**Eielson Array**	**15.51**	**34**	P	**Pn**	**05 25 04.7**	**-1.1**
ILAR				PcP	**PcP**	**05 30 05.8**	**+0.2**
DAWY	**Dawson**	**17.91**	**42**	*e*P	**P**	**05 25 36.3**	**+0.3**
PETK	**Petropavlovsk-**	**21.01**	**284**	P	**P**	**05 26 09.5**	**-0.4**

	2.4nm,0.3s,baz=84,slow=13,SNR=7.0						
PETK				LR	LR	05 33 02.8	
	comp=Z,77nm,21.0s,baz=85,slow=33						
PETK	Petropavlovsk-	21.01	284	P	P	05 26 09.5	-0.4
DLBC	Dease Lake	21.28	61	P	P	05 26 13.4	+0.7
	7.3nm,1.0s,baz=282,slow=9.3,SNR=3.1						
DLBC	Dease Lake	21.28	61	P	P	05 26 13.4	+0.7
BBB	Bella Bella	23.45	77	LR	LR	05 33 21.3	
	comp=Z,100nm,20.3s,baz=347,slow=30						
YKA	Yellowknife Ar	28.66	50	P	P	05 27 22.9	+0.5
	1.0nm,0.6s,baz=278,slow=7.9,SNR=25						
YKA				PcP	PcP	05 30 32.1	+0.4
	0.5nm,0.7s,baz=281,slow=2.4,SNR=7.8						
YKA	Yellowknife Ar	28.66	50	P	P	05 27 22.9	+0.5
YKA				PcP	PcP	05 30 32.1	+0.4
NEW	Newport	31.47	78	eP	P	05 27 48.4	+1.0
	2.7nm,0.8s						
YBH	Yreka Blue Hor	31.60	93	LR	LR	05 36 57.1	
	comp=Z,129nm,21.7s,baz=302,slow=29						
A13A	Flathead Natio	32.75	76	⇑P	P	05 27 58.9	+0.2
	baz=33						
B13A	Whitefish	32.98	77	⇓P	P	05 28 01.1	+0.4
	baz=33						
C13A	Hot Springs	33.25	78	⇑P	P	05 28 02.9	-0.2
	baz=33						
A14A	Double T Ranch	33.30	75	⇓P	P	05 28 04.0	+0.4
	baz=33						
D13A	Huson	33.61	79	⇓P	P	05 28 05.7	-0.5
	baz=34						
A15A	Johnson Ranch,	33.70	75	⇓P	P	05 28 06.6	-0.4
	baz=34						
D14A	Greenough	34.18	78	⇑P	P	05 28 11.4	+0.3
	baz=34						
C15A	Salmond Ranch,	34.36	77	⇓P	P	05 28 13.5	+0.8
	baz=34,SNR=5.8						
D15A	Lincoln	34.78	78	⇑P	P	05 28 16.5	+0.1
	baz=35						
C16A	Fuhringer Ranc	34.85	76	⇑P	P	05 28 17.3	+0.4
	baz=35,SNR=8.9						
A17A	Triple J Farms	34.90	74	⇓P	P	05 28 17.3	0.0
	baz=35						
RES	Resolute Bay	35.05	26	eP	P	05 28 17.5	-0.6
	5.1nm,1.4s						
A18A	Metzger Ranch,	35.40	73	⇓P	P	05 28 21.4	-0.2
	baz=35						
B18A	Beardsley Farm	35.70	74	⇑P	P	05 28 24.3	+0.1
	baz=36						
MCMT	McKenzie Canyo	35.76	81	eP	P	05 28 25.2	+0.2
	0.6nm,0.5s						
EGMT	Eagleton	35.90	74	eP	P	05 28 26.1	+0.2
	8.9nm,0.9s						
EGMT	Eagleton	35.90	74	⇑P	P	05 28 26.1	+0.2
	baz=36,SNR=7.1						
A19A	Klindworth Far	36.03	73	⇓P	P	05 28 27.1	+0.1
	baz=36						
BOZ	Bozeman (W)	36.04	79	⇑P	P	05 28 27.0	-0.2
	baz=36						
E17A	Martinsdale	36.06	77	⇓P	P	05 28 27.4	0.0
	baz=36						
B19A	Brinkman Farms	36.15	73	⇓P	P	05 28 28.5	+0.4
	baz=36,SNR=7.1						
NVAR	Mina Array Bea	36.30	94	P	P	05 28 29.9	+0.3
	0.3nm,0.5s,baz=303,slow=8.4,SNR=3.0						
NVAR	Mina Array Bea	36.30	94	P	P	05 28 29.9	+0.3
C19A	Slack Wire Ran	36.45	75	⇓P	P	05 28 31.7	+1.1
	baz=36,SNR=5.3						
C20A	Veseth Ranch,	37.07	74	⇓P	P	05 28 36.5	+0.7
	baz=37,SNR=5.8						
D20A	Manuel Ranch,	37.32	75	⇓P	P	05 28 38.8	+0.9
	baz=37						
RLMT	Red Lodge	37.72	78	⇓P	P	05 28 42.2	+0.7
	baz=38						
M15A	Larsen Ranch,	37.94	85	⇓P	P	05 28 44.4	+1.1
	baz=38						
H19A	Powell	38.14	79	⇑P	P	05 28 45.7	+0.7
	baz=38						
G20A	Bridger	38.28	78	⇓P	P	05 28 46.4	+0.2
	baz=38						
B23A	Brockton	38.41	71	⇓P	P	05 28 47.5	+0.3
	baz=38,SNR=6.5						
D22A	Cohagen	38.42	74	⇑P	P	05 28 48.1	+0.8
	baz=38,SNR=6.5						
C23A	Lambert	38.65	72	⇑P	P	05 28 49.8	+0.7
	baz=38,SNR=12						
A24A	Westby	38.74	70	⇑P	P	05 28 50.3	+0.5
	baz=39,SNR=5.3						
PDAR	Pinedale Array	38.89	82	P	P	05 28 52.0	+0.6
	0.5nm,0.5s,baz=282,slow=3.1,SNR=6.8						
PDAR	Pinedale Array	38.89	82	P	P	05 28 52.0	+0.6
D23A	Lindsay	38.97	73	⇓P	P	05 28 52.0	+0.2
	baz=39						
M17A	Scullys Gap (B	39.00	84	⇑P	P	05 28 52.4	0.0
	baz=39						
C24A	Savage	39.23	72	⇑P	P	05 28 55.2	+1.3
	baz=39,SNR=5.7						
D24A	Glendive	39.51	73	⇓P	P	05 28 57.6	+1.3
	baz=39,SNR=8.4						
I21A	Big Trails, Te	39.62	79	⇑P	P	05 28 58.3	+0.8
	baz=40						
F23A	Volborg	39.65	75	⇑P	P	05 28 57.9	+0.4
	baz=40						
J22A	Midwest	40.34	79	⇓P	P	05 29 03.1	-0.3
	baz=40						
L21A	Rawlins	40.67	81	⇓P	P	05 29 05.8	-0.4
	baz=40						
MJAR	Matsushiro Arr	41.12	269	LR	LR	05 44 18.2	
	comp=Z,71nm,19.1s,baz=115,slow=33						
P19A	Cripple Cowboy	41.14	85	⇑P	P	05 29 10.0	-0.1
	baz=41						
O20A	White River Ci	41.27	84	⇓P	P	05 29 10.8	-0.4
	baz=41						
N21A	Black Mountain	41.32	83	⇑P	P	05 29 11.1	-0.4
	baz=41						
L23A	Garrett	41.57	80	⇑P	P	05 29 12.9	-0.7
	baz=41						
PV01	Paradox Valley	42.35	86	eP	P	05 29 20.3	+0.3
	253nm,0.6s						
R26A	Arlington	45.31	83	⇓P	P	05 29 43.6	0.0
	baz=45						
S26A	Kim	45.74	83	⇑P	P	05 29 46.9	-0.2
	baz=46						
EYMN	Ely	46.22	64	eP	P	05 29 49.8	-0.8
	3.6nm,0.9s						
KSRS	Korea Array	46.69	278	LR	LR	05 47 09.3	
	comp=Z,48nm,19.5s,baz=345,slow=33						
SPITS	Spitsbergen Ar	48.90	359	P	P	05 30 10.5	-0.5
	1.9nm,0.6s,baz=26,slow=6.7,SNR=4.7						
SPITS	Spitsbergen Ar	48.90	359	P	P	05 30 10.5	-0.5
TXAR	Lajitas Array	51.35	91	P	P	05 30 30.3	+0.1
	0.8nm,0.5s,baz=299,slow=5.5,SNR=14						
TXAR	Lajitas Array	51.35	91	P	P	05 30 30.3	+0.1
628A	Black Gap, Mar	51.71	91	⇓P	P	05 30 32.8	-0.1
	baz=52						
SONM	Songino Array	52.09	302	P	P	05 30 36.2	+0.7
	0.3nm,0.5s,baz=81,slow=6.0,SNR=4.1						
SONM				PcP	PcP	05 31 47.3	+0.3
	1.0nm,0.5s,baz=76,slow=2.2,SNR=8.7						
SONM	Songino Array	52.09	302	P	P	05 30 36.2	+0.7
SONM				PcP	PcP	05 31 47.3	+0.3
SCHQ	Schefferville	53.89	45	P	P	05 30 48.8	+0.2
	5.9nm,0.8s,baz=318,slow=7.7,SNR=11						
SCHQ				LR	LR	05 53 51.6	
	comp=Z,60nm,19.3s,baz=223,slow=36						
SCHQ	Schefferville	53.89	45	eP	P	05 30 48.0	-0.5
	5.8nm,0.7s						
ARCES	ARCESS Array B	57.27	355	P	P	05 31 13.9	+1.4
	1.6nm,0.9s,baz=14,slow=8.4,SNR=3.6						
ARCES				PcP	PcP	05 32 06.7	+0.4
	4.1nm,0.7s,baz=34,slow=4.5,SNR=9.3						
ARCES				LR	LR	05 58 59.1	
	comp=Z,50nm,18.2s,baz=9.1,slow=39						
ARCES	ARCESS Array B	57.27	355	P	P	05 31 13.9	+1.4
ARCES				PcP	PcP	05 32 06.7	+0.4
ZALV	Zalesovo Beam	57.77	318	P	P	05 31 17.3	+1.0
	0.3nm,0.4s,baz=46,slow=6.2,SNR=2.6						
ZALV				PcP	PcP	05 32 09.2	+0.7
	1.3nm,0.8s,baz=44,slow=4.5,SNR=5.0						
ZALV				LR	LR	05 56 43.8	
	comp=Z,48nm,18.3s,baz=156,slow=37						
ZALV	Zalesovo Beam	57.77	318	P	P	05 31 17.3	+1.0
ZALV				PcP	PcP	05 32 09.2	+0.7
KURK	Kurchatov	62.70	319	P	P	05 31 51.1	+1.1
KURK				PcP	PcP	05 32 28.7	+0.3
KURBB	Kurchatov Arra	62.80	319	P	P	05 31 51.1	+0.4
	0.4nm,0.6s,baz=47,slow=7.5,SNR=3.7						
KURBB				PcP	PcP	05 32 28.7	-0.1
	0.4nm,0.5s,baz=42,slow=4.3,SNR=3.9						
JOF	Joensuu	63.36	351	ep	P	05 31 54.1	-0.1
	0.5nm,0.3s						
BVAR	Borovoye Array	63.86	325	P	P	05 31 58.0	+0.3
	1.1nm,0.4s,baz=59,slow=6.1,SNR=8.0						
BVAR				PcP	PcP	05 32 33.0	0.0
	1.1nm,0.5s,baz=31,slow=3.7,SNR=6.3						
BVAR	Borovoye Array	63.86	325	P	P	05 31 58.0	+0.3
BVAR				PcP	PcP	05 32 33.0	0.0
MKAR	Makanchi Array	64.26	314	P	P	05 32 00.1	-0.4
	0.4nm,0.6s,baz=48,slow=5.6,SNR=6.0						
MKAR	Makanchi Array	64.26	314	P	P	05 32 00.1	-0.4
ARU	Arti	64.53	334	eP	P	05 32 02.3	+0.2
	3.2nm,0.6s						
KAF	Kangasniemi	64.58	353	ep	P	05 32 02.0	-0.2
	1.0nm,0.4s						
FINES	FINESS Array B	65.26	353	P	P	05 32 05.8	-0.9
	0.9nm,0.4s,baz=21,slow=7.5,SNR=11						
FINES	FINESS Array B	65.26	353	P	P	05 32 05.8	-0.9
NOA	NORSAR Array B	66.14	1	P	P	05 32 12.5	+0.1
	1.0nm,0.9s,baz=356,slow=5.8,SNR=2.5						
NOA				LR	LR	06 02 17.3	
	comp=Z,14nm,21.5s,baz=95,slow=37						
NOA	NORSAR Array B	66.14	1	P	P	05 32 12.5	+0.1
HFS	Hagfors	67.05	360	P	P	05 32 16.7	-1.5
	1.8nm,0.7s,baz=10,slow=3.3,SNR=15						
HFS	Hagfors	67.05	360	P	P	05 32 16.7	-1.5
AKTO	Aktyubinsk	70.00	331	P	P	05 32 36.0	-0.8
	1.4nm,0.6s,baz=55,slow=6.7,SNR=6.0						
AKTO	Aktyubinsk	70.00	331	P	P	05 32 36.0	-0.8
AKASG	Malin Array Be	75.60	349	P	P	05 33 09.1	-0.8
	0.9nm,0.5s,baz=11,slow=5.5,SNR=3.2						
AKASG	Malin Array Be	75.60	349	P	P	05 33 09.1	-0.8
CMAR	Chiang Mai Arr	77.79	284	P	P	05 33 23.4	+0.6
	2.0nm,0.5s,baz=23,slow=5.7,SNR=12						
CMAR				LR	LR	06 08 58.8	
	comp=Z,25nm,21.6s,baz=90,slow=37						
CMAR	Chiang Mai Arr	77.79	284	P	P	05 33 23.4	+0.6
KBZ	Khabaz	80.11	338	LR	LR	06 12 33.9	
	comp=Z,64nm,18.9s,baz=225,slow=38						
BRTR	Keskin Array B	85.76	344	P	P	05 34 05.1	+0.5
	3.2nm,0.9s,baz=47,slow=2.7,SNR=13						
BRTR	Keskin Array B	85.76	344	P	P	05 34 05.1	+0.5
ESDC	Sonseca Array	86.39	13	P	P	05 34 07.6	0.0
	0.8nm,0.6s,baz=345,slow=4.4,SNR=6.4						
ESDC	Sonseca Array	86.39	13	P	P	05 34 07.6	0.0
WRA	Warramunga Arr	88.60	233	P	P	05 34 18.2	0.0
	1.8nm,0.9s,baz=39,slow=5.2,SNR=9.3						
WRA	Warramunga Arr	88.60	233	P	P	05 34 18.2	0.0
ASAR	Alice Springs	91.98	232	P	P	05 34 34.1	+0.2
	0.7nm,0.7s,baz=44,slow=4.2,SNR=7.0						
ASAR				LR	LR	06 16 14.3	
	comp=Z,62nm,18.4s,baz=352,slow=36						
ASAR	Alice Springs	91.98	232	P	P	05 34 34.1	+0.2
TORD	Torodi Ar. Bea	113.25	12	PKiKP	PKiKP	05 40 01.9	-1.0
	0.2nm,0.6s,baz=331,slow=3.0,SNR=4.7						
TORD	Torodi Ar. Bea	113.25	12	PKiKP	PKiKP	05 40 01.9	-1.0

IDC 07 05:23:19.4±2.0**, 30°.92N**×**41°.43W, h0**km**, mb3.7**/8**, mb1 3.9**/8**, mb1mx3.6**/30**, mbtmp3.7**/8**, MS3.7**/14**, Ms1 3.8**/14**, ms1mx3.4**/46**, Error ellipse: s-maj=60.4km s-min=23.5km az=18.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	25.78	246	LR	LR	05 36 31.9	
	comp=Z,89nm,21.5s,baz=180,slow=31						
BBTS	Babate	27.98	120	LR	LR	05 37 33.5	
	comp=Z,174nm,20.8s,baz=359,slow=30						
SCHQ	Schefferville	29.99	330	LR	LR	05 40 25.3	
	comp=Z,186nm,18.5s,baz=140,slow=34						
MDT	Midelt	31.23	77	LR	LR	05 39 29.5	
	comp=Z,110nm,20.6s,baz=45,slow=31						
DBIC	Dimbokro	41.88	118	LR	LR	05 46 18.2	
	comp=Z,110nm,19.8s,baz=360,slow=33						
DAVOX	Davos/Dischmat	42.22	53	LR	LR	05 46 17.3	
	comp=Z,69nm,20.0s,baz=79,slow=33						
TORD	Torodi Ar. Bea	43.40	104	P	P	05 31 24.1	0.0
	0.7nm,0.7s,baz=310,slow=8.1,SNR=9.1						
TORD				LR	LR	05 48 38.5	
	comp=Z,45nm,19.6s,baz=220,slow=35						
GERES	GERESS Array B	44.90	50	P	P	05 31 34.2	-1.6
	0.5nm,0.8s,baz=270,slow=6.7,SNR=4.3						
NOA	NORSAR Array B	45.54	33	LR	LR	05 46 32.4	
	comp=Z,28nm,19.1s,baz=280,slow=31						
TXAR	Lajitas Array	53.22	285	LR	LR	05 52 56.4	
	comp=Z,67nm,19.6s,baz=270,slow=33						
LPAZ	La Paz	53.50	212	LR	LR	05 54 04.9	
	comp=Z,49nm,19.2s,baz=79,slow=34						
PDAR	Pinedale Array	54.43	303	P	P	05 32 48.2	-0.6
	1.0nm,0.9s,baz=81,slow=9.2,SNR=6.0						
PDAR				LR	LR	05 54 54.5	
	comp=Z,154nm,18.2s,baz=113,slow=35						
AKASG	Malin Array Be	54.86	47	P	P	05 32 52.9	+1.5
	0.4nm,0.3s,baz=282,slow=6.2,SNR=5.2						
YKA	Yellowknife Ar	55.37	327	P	P	05 32 54.4	-0.5
	0.3nm,0.8s,baz=89,slow=7.2,SNR=4.8						
NVAR	Mina Array Bea	61.98	300	LR	LR	05 58 51.8	
	comp=Z,158nm,19.2s,baz=166,slow=34						
ILAR	Eielson Array	68.67	334	P	P	05 34 25.5	+1.2
	0.7nm,0.8s,baz=48,slow=3.4,SNR=6.3						
ILAR				LR	LR	06 04 28.9	
	comp=Z,107nm,19.6s,baz=67,slow=36						
KDAK	Kodiak Island	74.60	329	LR	LR	06 08 15.3	
	comp=Z,130nm,20.1s,baz=262,slow=36						
BVAR	Borovoye Array	77.61	35	P	P	05 35 16.8	-0.6
	0.8nm,0.9s,baz=276,slow=4.0,SNR=3.6						
KURBB	Kurchatov Arra	83.07	34	P	P	05 35 46.6	-0.2
	0.5nm,0.7s,baz=314,slow=6.4,SNR=5.9						
PPT2	Papeete2	114.13	263	eLR	LR	05 53 30.4	
	78nm,25.0s						

*ISK **07** 05:25:00.6, 35°.43N×28°.15E, h32km, MD3.7*
*ISCJB **07** 05:25:03.6±0.8, 35°.67N±0°.03×28°.37E±0°.04, h26km±8km, Error ellipse: s-maj=5.5km s-min=4.2km az=139.7*
*CSEM **07** 05:25:05.1±0.3, 35°.71N×28°.32E, h30km, Mw3.5, Error ellipse: s-maj=7.6km s-min=4.2km az=55.0*
*DDA **07** 05:25:06.0, 35°.98N×28°.47E, h36km, MD3.6*
*ATH **07** 05:25:06.3, 36°.51N×27°.69E, h10km*
*NIC **07** 05:25:07.5±0.3, 36°.08N×28°.63E, h36km, ML3.3, MW3.5*
*HLW **07** 05:25:09.1, 35°.58N×28°.61E, h28km±11km, Md0.0, Ml3.6*
ISC 07 05:25:02.8±1.6**, 35°.60N**±0°.05×**28°.22E**±0°.04**, h29**km±14km**, n91, σ1§22**/96**, 2C-2D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.62	353	eP	Pb	05 25 15.6	+0.3
ARG				eS	Sb	05 25 22.7	-1.0
KARP	Karpathos	0.86	267	ePB	Pn	05 25 26.2	+7.1
KARP				eSB	Sn	05 25 40.8	+10
KARP	Karpathos	0.86	267	eP	Pn	05 25 26.2	+7.1
DAT	Datca	1.25	335	ePN	Pn	05 25 24.6	+0.1
DAT				eSN	Sn	05 25 40.9	+0.6
DAT	Datca	1.25	335	ePn	Pn	05 25 24.6	+0.1
DAT				eSn	Sn	05 25 40.9	+0.6
FETY	Fethiye	1.25	34	ePN	Pn	05 25 24.6	+0.2
FETY	Fethiye	1.25	34	ePn	Pn	05 25 24.6	+0.2
AKAS	Kas	1.29	60	iP	Pn	05 25 24.7	-0.4
AKAS				iS	Sn	05 25 37.4	-4.2
AKAS	Kas	1.29	60	iP	Pn	05 25 24.7	-0.4
TURN	Turunc	1.31	13	iP	Pn	05 25 22.7	-2.5
TURN				iS	Sn	05 25 34.3	-7.5
YER	Yerkesik	1.54	2	ePN	Pn	05 25 28.9	+0.5
YER	Yerkesik	1.54	2	ePn	Pn	05 25 28.9	+0.5
BODT	Bodrum	1.64	334	ePN	Pn	05 25 29.5	-0.3
BODT	Bodrum	1.64	334	ePn	Pn	05 25 29.5	-0.3
MLSB	Milas	1.73	348	ePN	Pn	05 25 31.4	+0.4
MLSB	Milas	1.73	348	ePn	Pn	05 25 31.5	+0.4
ELL	Elmali	1.79	49	ePN	Pn	05 25 32.0	+0.1
ELL	Elmali	1.79	49	ePn	Pn	05 25 32.0	+0.1
GOLH	Golhisar	1.96	33	iP	Pn	05 25 34.3	0.0
GOLH				iS	Sn	05 25 55.7	-2.3
GOLH	Golhisar	1.96	33	iP	Pn	05 25 34.3	0.0
GOLH				iS	Sn	05 25 55.7	-2.3
AYDN	Tasoluk	2.08	352	iP	Pn	05 25 36.1	+0.2
AYDN				iS	Sn	05 25 56.6	-4.2
AYDN	Tasoluk	2.08	352	iP	Pn	05 25 36.1	+0.2
NPS	Neapolis	2.16	262	ePN	Pb	05 25 43.3	+2.1
NPS	Neapolis	2.16	262	eP	Pb	05 25 43.3	+2.1
DNZL	Cakiroluk	2.19	17	iP	Pn	05 25 35.8	-1.7
DNZL				eS	Sn	05 25 59.4	-4.4
DNZL	Cakiroluk	2.19	17	iP	Pn	05 25 35.8	-1.7
KORT	Korkueli	2.22	50	iP	Pn	05 25 38.3	+0.4
KORT				iS	Sn	05 26 02.8	-1.6
KORT	Korkueli	2.22	50	iP	Pn	05 25 38.3	+0.4
KORT				iS	Sn	05 26 02.8	-1.6
DENT	Denizli	2.25	17	ePN	Pn	05 25 38.7	+0.5
DENT	Denizli	2.25	17	ePn	Pn	05 25 38.7	+0.5
ANTB	Antalya	2.36	56	ePN	Pn	05 25 40.2	+0.6
ANTB				eSN	Sn	05 26 08.9	+1.3
ANTB	Antalya	2.36	56	ePn	Pn	05 25 40.2	+0.6
ANTB				eSn	Sn	05 26 08.9	+1.3
APE	Apeiranthos	2.62	305	ePN	Pn	05 25 42.5	-0.8
APE	Apeiranthos	2.62	305	ePn	Pn	05 25 42.5	-0.8
BCK	Bucak	2.67	45	ePN	Pn	05 25 44.8	+0.9
BCK	Bucak	2.67	45	ePn	Pn	05 25 44.8	+0.9
ISP	Isparta	2.89	39	ePN	Pn	05 25 48.1	+1.0
ISP	Isparta	2.89	39	ePn	Pn	05 25 48.1	+1.0
IZM	Izmir	2.90	345	ePN	Pn	05 25 48.0	+0.8
IZM	Izmir	2.90	345	ePn	Pn	05 25 48.0	+0.8
KHL	Karahalli	2.92	21	ePN	Pn	05 25 48.7	+1.3
KHL	Karahalli	2.92	21	ePn	Pn	05 25 48.7	+1.3
KULA	Kula-Manisa	2.94	7	ePN	Pn	05 25 48.9	+1.3
KULA	Kula-Manisa	2.94	7	ePn	Pn	05 25 48.9	+1.3
BLCB	Balcova	2.94	342	ePN	Pn	05 25 48.2	+0.6
BLCB	Balcova	2.94	342	ePn	Pn	05 25 48.2	+0.6
AKS	Akhisar	3.29	354	ePN	Pn	05 25 53.9	+1.4
AKS	Akhisar	3.29	354	ePn	Pn	05 25 53.9	+1.4
GAZI	Gazipasa	3.38	78	iP	Pn	05 25 53.2	-0.6
GAZI				iS	Sn	05 26 28.0	-4.9
GAZI	Gazipasa	3.38	78	iP	Pn	05 25 53.2	-0.6
AKMC	Akamas	3.41	98	⇑P	Pn	05 25 55.2	+1.1
AKMC	Akamas	3.41	98	⇑P	Pn	05 25 55.2	+1.1
PPCY	Paphos	3.45	101	P	Pn	05 25 56.1	+1.5
PPCY	Paphos	3.45	101	P	Pn	05 25 56.1	+1.5
SHUT	Suhut-Afyon	3.49	32	ePN	Pn	05 25 57.0	+1.7
SHUT	Suhut-Afyon	3.49	32	ePn	Pn	05 25 57.0	+1.7
ALFC	Alevga	3.60	96	P	Pn	05 25 57.4	+0.6
	4.8nm,0.2s						
ALFC				S	Sn	05 26 36.3	-2.1
ALFC	Alevga	3.60	96	P	Pn	05 25 57.4	+0.6
	4.8nm,0.2s						
ALFC				S	Sn	05 26 36.3	-2.1
ALT	Altintas	3.77	23	ePN	Pn	05 26 01.0	+1.9
ALT	Altintas	3.77	23	ePn	Pn	05 26 01.0	+1.9
LEF	Lefka	3.85	96	ePN	Pn	05 25 59.1	-1.0
LEF	Lefka	3.85	96	ePn	Pn	05 25 59.1	-1.0
SZAC	Souni-Zanaja	3.91	101	P	Pn	05 26 02.4	+1.4
SZAC				S	Sn	05 26 46.0	0.0
SZAC	Souni-Zanaja	3.91	101	P	Pn	05 26 02.4	+1.4
SZAC				S	Sn	05 26 46.0	0.0
ERMK	Ermenek	3.94	73	iP	Pn	05 26 03.1	+1.5
ERMK				iS	Sn	05 26 47.1	+0.2
ERMK	Ermenek	3.94	73	iP	Pn	05 26 03.1	+1.5
ERMK				iS	Sn	05 26 47.1	+0.2
TVSB	Tavsanli	3.97	14	ePN	Pn	05 26 03.6	+1.7
TVSB	Tavsanli	3.97	14	ePn	Pn	05 26 03.6	+1.7
KONT	Konya--Tatoy	4.07	54	ePN	Pn	05 26 04.8	+1.6
KONT	Konya--Tatoy	4.07	54	ePn	Pn	05 26 04.8	+1.6
MAMC	Mammari	4.11	94	P	Pn	05 26 04.8	+1.1
MAMC	Mammari	4.11	94	P	Pn	05 26 04.8	+1.1
LADK	Ladik-KONYA	4.22	51	ePN	Pn	05 26 06.9	+1.6
LADK	Ladik-KONYA	4.22	51	ePn	Pn	05 26 06.9	+1.6
CSS	Prodhromos	4.23	97	⇓P	Pn	05 26 05.9	+0.5
CSS				S	Sn	05 26 52.8	-1.0
CSS	Prodhromos	4.23	97	ePN	Pn	05 26 05.5	+0.1
CSS	Prodhromos	4.23	97	ePn	Pn	05 26 05.5	+0.1
CSS	Prodhromos	4.23	97	⇓P	Pn	05 26 05.9	+0.5
CSS				S	Sn	05 26 52.8	-1.0
LFK	Lefkose	4.35	93	ePN	Pn	05 26 07.3	+0.2
LFK	Lefkose	4.35	93	ePn	Pn	05 26 07.3	+0.2
HMAT	Matruh	4.59	192	S	Sb	05 27 08.8	-8.6
SVRH	Sivrihisar-ESK	4.66	33	ePN	Pn	05 26 13.5	+2.2
SVRH	Sivrihisar-ESK	4.66	33	ePn	Pn	05 26 13.5	+2.2
KOT	Kottamia	6.42	151	P	Pn	05 26 39.2	+3.7
	baz=153						
KOT				AMP		05 27 00.0	
	comp=E,40μm,0.3s,logA/T=5.2,baz=153						
KOT				S	Sn	05 27 48.2	+0.4
	baz=153						
KOT	Kottamia	6.42	151	P	Pn	05 26 39.2	+3.7
AMAG	Maghara	6.47	138	P	Pn	05 26 39.2	+3.0
	baz=140						
AMAG	Maghara	6.47	138	P	Pn	05 26 39.2	+3.0
GLL	Jalalah	6.68	153	P	Pn	05 26 43.8	+4.7
	baz=155						
GLL	Jalalah	6.68	153	P	Pn	05 26 43.8	+4.7
HNKL	Nakhl	7.45	138	P	Pn	05 26 53.0	+3.4
	baz=139						
HNKL	Nakhl	7.45	138	P	Pn	05 26 53.0	+3.4

*ISCJB **07** 06:03:14.1±0.3, 61°.91N±0°.03×147°.18W±0°.05, h66km±6km, mb3.5/2, Error ellipse: s-maj=4.8km s-min=4.0km az=21.5*
*IDC **07** 06:03:15.9±2.4, 61°.97N×147°.24W, h74km±19km, mb3.3/2, mb1 3.2/5, mb1mx3.0/28, mbtmp3.0/5, Error ellipse: s-maj=38.9km s-min=17.6km az=103.0*
*NEIC **07** 06:03:16.2, 61°.89N×147°.18W, h40km, ML3.2(AEIC), After AEIC.*
ISC 07 06:03:14.3±0.9**, 61°.88N**±0°.03×**147°.20W**±0°.03**, h55**km±8km**, n56, σ1§17**/63**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCM	Sheep Creek Mo	0.08	231	P	Pn	06 03 22.6	-0.2
SML	Sawmill	0.54	263	P	Pn	06 03 26.4	0.0
SML				S	Sn	06 03 35.7	+0.5
VLZ	Valdez	0.86	151	P	Pn	06 03 30.5	+0.2
PMR	Palmer	0.96	253	P	Pn	06 03 32.1	+0.5
PMR				S	Sn	06 03 45.7	+1.2
DIV	Divide	1.02	137	P	Pn	06 03 32.7	+0.2
DIV				S	Sn	06 03 46.4	+0.5
HARP	HAARP	1.10	60	P	Pn	06 03 34.2	+0.8
PAX	Paxson	1.36	36	P	Pn	06 03 37.6	+0.6
PAX				S	Sn	06 03 55.3	+1.3
TRAP	Trapper Creek	1.50	289	P	Pn	06 03 40.1	+1.2
EYAK	Cordova Ski Ar	1.51	152	P	Pn	06 03 40.6	+1.6
BMRM	Bremner River	1.55	125	P	Pn	06 03 40.3	+0.7
FIB	Fire Island	1.60	245	P	Pn	06 03 42.5	+2.4
RND	Reindeer	1.71	334	P	Pn	06 03 42.9	+1.0
SUA	Susitna One	1.74	258	P	Pn	06 03 43.6	+1.3
GOAT	Goat Mountain	1.77	136	P	Pn	06 03 43.1	+0.5
VRDI	Verde Repeater	1.91	108	P	Pn	06 03 46.0	+1.4
MENT	Mentasta	1.94	55	ePn	Pn	06 03 45.7	+0.9
DDM	Donnelly Dome	2.01	17	P	Pn	06 03 47.2	+1.4
SEW	Seward	2.09	213	P	Pn	06 03 48.8	+1.9
TRF	Thorofare Moun	2.12	319	P	Pn	06 03 48.1	+0.5
STLK	Strandline Lak	2.24	262	P	Pn	06 03 50.6	+1.6
BERG	Berg Lake	2.26	130	P	Pn	06 03 50.5	+1.2
NICHA	Nichawak Mount	2.28	135	P	Pn	06 03 51.1	+1.6
DOT	Dot Lake	2.29	38	P	Pn	06 03 50.9	+1.2
CGLM	Capps Glacier	2.37	258	P	Pn	06 03 52.4	+1.6
KHIT	Khitrov Hills	2.40	125	P	Pn	06 03 51.9	+0.7
NCG	North Capps Gl	2.41	261	P	Pn	06 03 53.0	+1.6
GRIN	Grindle Hills	2.48	129	P	Pn	06 03 53.4	+1.2
KIAG	Kiagna River	2.52	110	P	Pn	06 03 53.3	+0.4
PPLA	Purkeypile	2.54	296	P	Pn	06 03 54.2	+1.1
BGL	Barrier Glacie	2.56	258	P	Pn	06 03 55.0	+1.5
ISLE	Juniper Island	2.68	116	P	Pn	06 03 55.4	+0.4
KULT	Kultieth River	2.73	125	P	Pn	06 03 56.2	+0.6
BARN	Barnard Glacie	2.78	105	P	Pn	06 03 57.7	+1.1
BRLK	Bradley Lake	2.79	222	P	Pn	06 03 57.6	+1.2
BAGL	Bagley Icefiel	2.84	117	P	Pn	06 03 58.1	+0.9
IL1	Eielson Array	2.91	3	P	Pn	06 03 58.1	+0.1
ILAR	Eielson Array	2.91	3	P	Pn	06 03 58.1	+0.1
	1.4nm,0.3s,baz=184,slow=13,SNR=38						
ILAR				S	Sn	06 04 32.0	+0.3
	3.7nm,0.3s,baz=182,slow=20,SNR=8.7						
ILAR	Eielson Array	2.91	3	P	Pn	06 03 58.1	+0.1
ILAR				S	Sn	06 04 32.0	+0.3
COLA	College	3.02	355	ePn	Pn	06 03 59.8	+0.3
RSO	Redoubt South	3.04	245	ePn	Pn	06 04 04.9	+4.8
MESA	MESA	3.07	121	P	Pn	06 04 01.2	+0.7
TABL	Table Mountain	3.27	114	P	Pn	06 04 04.1	+0.9
MLY	Manley	3.54	335	P	Pn	06 04 07.5	+0.8
EGAK	Eagle	3.98	40	ePn	Pn	06 04 13.6	+0.8
DAWY	Dawson	4.18	55	ePn	Pn	06 04 16.6	+1.1
TT01	Tatalina	4.23	288	P	Pn	06 04 16.1	-0.1
KDAK	Kodiak Island	4.93	216	P	Pn	06 04 27.9	+2.2
	0.4nm,0.3s,baz=18,slow=9.6,SNR=4.4						
KDAK				S	Sn	06 05 19.0	-2.3
	0.7nm,0.3s,baz=150,slow=20,SNR=5.9						
KDAK	Kodiak Island	4.93	216	P	Pn	06 04 27.9	+2.2
KDAK				S	Sn	06 05 19.0	-2.3

IM3	**Indian Mountai**	**5.03**	**328**	P		**Pn**	**06 04 28.0**	**+0.9**
BM3	**Burnt Mountain**	**5.67**	**10**	P		**Pn**	**06 04 37.0**	**+1.0**
YKA	**Yellowknife Ar**	**15.14**	**73**	P		**Pn**	**06 06 45.0**	**+0.6**
	0.0nm,0.3s,baz=283,slow=10,SNR=5.1							
YKA	**Yellowknife Ar**	**15.14**	**73**	P		**Pn**	**06 06 45.0**	**+0.6**
ARCES	**ARCESS Array B**	**48.77**	**3**	P		**P**	**06 11 51.8**	**-1.1**
	1.9nm,0.8s,baz=344,slow=8.8,SNR=2.6							
ARCES	**ARCESS Array B**	**48.77**	**3**	P		**P**	**06 11 51.9**	**-1.1**
MKAR	**Makanchi Array**	**64.63**	**325**	P		**P**	**06 13 44.8**	**-0.9**
	0.1nm,0.4s,baz=26,slow=7.6,SNR=3.1							
MKAR	**Makanchi Array**	**64.63**	**325**	P		**P**	**06 13 44.8**	**-0.9**

*ISCJB **07** 06:09:28.8±0.6, 31˚.29N±0˚.05×104˚.37E±0˚.06, h14km, mb3.5/7, Error ellipse: s-maj=7.8km s-min=6.7km az=23.6*
*IDC **07** 06:09:29.2±0.9, 31˚.63N×104˚.66E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=50.2km s-min=17.3km az=62.0*
*BJI **07** 06:09:32.6, 31˚.36N×104˚.00E, h20km, ML3.6/13*
ISC 07 06:09:29.7±0.7, 31˚.44N±0˚.04×104˚.22E±0˚.06, h14km, n13, σ2s 46/20, mb3.7/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**0.66**	**217**	Pg		**Pg**	**06 09 41.6**	**-1.0**
CD2				Sg		**Sg**	**06 09 51.0**	**-0.4**
CD2				smax		smax		
	comp=N,5μm,0.7s							
CD2				smax		smax		
	comp=E,5μm,0.6s							
LZH	**Lanzhou**	**4.65**	**356**	Pg		**Pg**	**06 10 56.1**	**-2.6**
LZH				Sg		**Sg**	**06 11 57.0**	**-1.9**
LZH				smax		smax		
	comp=N,78nm,0.8s							
LZH				smax		smax		
	comp=E,59nm,0.6s							
XAN	**Xi'an**	**4.73**	**56**	Pn		**Pn**	**06 10 42.5**	**+1.8**
XAN				Pg		Pb	06 10 55.7	+3.2
XAN				Sn		**Sn**	**06 11 37.8**	**+2.3**
XAN				Sg		**Sg**	**06 11 59.4**	**-2.3**
XAN				smax		smax		
	comp=N,110nm,0.6s							
XAN				smax		smax		
	comp=E,67nm,0.7s							
GYA	**Guiyang**	**5.40**	**156**	*e*Pn		**Pn**	**06 10 49.5**	**-0.5**
GYA				Pg		**Pg**	**06 11 11.1**	**-2.2**
GYA				Sn		**Sn**	**06 11 48.6**	**-3.5**
GYA				Sg		**Sb**	**06 12 13.2**	**+4.4**
GYA				smax		smax		
	comp=N,50nm,0.7s							
GYA				smax		smax		
	comp=E,70nm,0.8s							
CMAR	**Chiang Mai Arr**	**13.78**	**202**	Pn		**P**	**06 12 51.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=9.1,slow=9.6,SNR=4.2							
SONM	**Songino Array**	**16.46**	**5**	Pn		**Pn**	**06 13 16.8**	**-3.5**
	comp=E,0.0nm,0.3s,baz=181,slow=9.5,SNR=3.1							
MKAR	**Makanchi Array**	**22.79**	**319**	P		**P**	**06 14 34.4**	**+2.5**
	comp=E,0.4nm,0.6s,baz=116,slow=12,SNR=5.3							
ZALV	**Zalesovo Beam**	**26.46**	**334**	P		**P**	**06 15 09.4**	**+3.2**
	comp=E,1.4nm,0.8s,baz=128,slow=9.6,SNR=7.1							
KURBB	**Kurchatov Arra**	**27.03**	**323**	P		**P**	**06 15 11.8**	**+0.5**
	comp=E,0.9nm,0.8s,baz=128,slow=9.3,SNR=7.2							
WRA	**Warramunga Arr**	**58.70**	**146**	P		**P**	**06 19 28.5**	**+1.5**
	comp=E,1.4nm,0.5s,baz=339,slow=7.9,SNR=20							
ASAR	**Alice Springs**	**61.73**	**149**	P		**P**	**06 19 48.5**	**+0.7**
	comp=E,0.3nm,0.5s,baz=335,slow=6.5,SNR=6.5							
NOA	**NORSAR Array B**	**64.43**	**327**	P		**P**	**06 20 07.6**	**+2.3**
	comp=E,1.3nm,0.9s,baz=73,slow=6.8,SNR=3.4							
YKA	**Yellowknife Ar**	**81.34**	**17**	P		**P**	**06 21 46.6**	**+1.1**
	comp=E,0.1nm,0.4s,baz=327,slow=4.4,SNR=3.2							

IDC 07 06:21:39.8±4.4, 7˚.99S×124˚.01E, h115km±42km, mb2.7/1, mb1 3.4/4, mb1mx3.2/20, mbtmp3.2/4, Error ellipse: s-maj=109.8km s-min=15.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.17**	**171**	P		Pn	06 24 02.1	-0.7
	0.2nm,0.3s,baz=356,slow=12,SNR=13							
FITZ				S		Sn	06 25 48.8	-6.2
	1.5nm,0.3s,baz=312,slow=22,SNR=14							
WRA	**Warramunga Arr**	**15.53**	**141**	P		Pn	06 25 12.3	-0.3
	0.5nm,0.3s,baz=316,slow=12,SNR=30							
WRA				S		Sn	06 27 55.5	-9.2
	0.3nm,0.3s,baz=319,slow=24,SNR=6.9							
ASAR	**Alice Springs**	**18.24**	**150**	P		Pn	06 25 45.5	-0.2
	0.4nm,0.3s,baz=328,slow=12,SNR=27							
ASAR				S		S	06 29 08.2	+0.7
	0.1nm,0.3s,baz=322,slow=19,SNR=4.5							
MKAR	**Makanchi Array**	**65.95**	**330**	P		P	06 32 13.6	0.0
	0.1nm,0.4s,baz=124,slow=7.4,SNR=3.3							

*IDC **07** 06:37:08.3±0.5, 4˚.71N×96˚.54E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, ML4.0/1, MS3.6/16, Ms1 3.6/16, ms1mx3.3/51, Error ellipse: s-maj=22.9km s-min=11.9km az=50.0*
*ISCJB **07** 06:37:11.6±1.0, 4˚.63N±0˚.04×96˚.55E±0˚.04, h30km±7km, mb4.4/35, MS3.7/19, Error ellipse: s-maj=7.5km s-min=6.1km az=156.3*
*DJA **07** 06:37:12.5±1.1, 5˚N±4˚×9˚7E±˚, h6km±9km, M4.7/10, MLv4.7/10*
*NEIC **07** 06:37:13.6±0.3, 4˚.67N×96˚.63E, h35km, mb4.9/6, Error ellipse: s-maj=11.2km s-min=7.2km az=217.0*
*BJI **07** 06:37:13.0, 4˚.75N×96˚.95E, h24km, mB5.0/20, mb4.7/26, Ms4.5/16, Ms7 4.0/17*
ISC 07 06:37:14.0±0.4, 4˚.69N±0˚.04×96˚.57E±0˚.05, h32km±2km, n97, σ1s 94/134, mb4.4/35, MS3.6/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.66**	**35**	P		**Pn**	**06 37 25.0**	**-2.1**
BSI	**Banda Aceh**	**1.50**	**303**	P		**Pn**	**06 37 39.5**	**+0.8**
BSI				S		**Sb**	**06 38 01.2**	**+1.2**
TPTI		**1.54**	**157**	P		**Pn**	**06 37 36.8**	**-2.5**
TPTI				S		**Sb**	**06 37 59.9**	**-1.4**
TSI	**Tuntungan**	**2.32**	**121**	P		**Pn**	**06 37 52.2**	**+2.3**
PSI	**Prapat**	**3.01**	**128**	Pn		**Pn**	**06 37 58.8**	**-0.7**
	19nm,0.3s,baz=326,slow=13,SNR=28							
PSI				Sn		**Sn**	**06 38 38.1**	**+3.6**
	28nm,0.3s,baz=336,slow=19,SNR=5.4							
PSI				LR		LR	06 39 28.8	
	comp=Z,961nm,20.8s,baz=289,slow=45							
PSI	**Prapat**	**3.01**	**128**	Pn		**Pn**	**06 37 58.8**	**-0.7**
PSI				Sn		**Sn**	**06 38 38.1**	**+3.6**
PSI	**Prapat**	**3.01**	**128**	P		**Pn**	**06 37 59.8**	**+0.2**
GSI	**Gunungsitoli**	**3.51**	**163**	P		**Pn**	**06 38 07.1**	**+0.7**
KULM	**Kulim**	**4.11**	**81**	*e*Pn		**Pn**	**06 38 13.1**	**-1.6**
KULM	**Kulim**	**4.11**	**81**	P		**Pn**	**06 38 15.0**	**+0.4**
KULM	**Kulim**	**4.11**	**81**	P		**Pn**	**06 38 13.9**	**-0.8**
IPM	**Ipoh**	**4.45**	**92**	*e*Pn		**Pn**	**06 38 17.0**	**-2.3**
IPM	**Ipoh**	**4.45**	**92**	P		**Pn**	**06 38 16.7**	**-2.6**
IPM	**Ipoh**	**4.45**	**92**	P		**Pn**	**06 38 18.7**	**-0.6**
MNSI	**Mandailing Nat**	**4.90**	**142**	P		**Pn**	**06 38 26.8**	**+1.3**
PBSI	**Pulau Batu**	**5.01**	**160**	P		**Pn**	**06 38 27.0**	**0.0**
FRIM	**Kepong**	**5.25**	**106**	P		**Pn**	**06 38 28.1**	**-2.2**
PPI	**Padang Panjang**	**6.38**	**143**	P		Pn	06 38 51.9	+6.0
KGM	**Kluang**	**7.25**	**111**	P		**Pn**	**06 38 57.5**	**-0.2**
MYKOM	**Kota Tinggi**	**7.82**	**111**	P		**Pn**	**06 39 06.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**13.88**	**9**	Pn		**Pn**	**06 40 30.9**	**+2.2**
	0.7nm,0.3s,baz=195,slow=14,SNR=11							
CMAR				LR		LR	06 46 04.2	
	comp=Z,141nm,18.3s,baz=129,slow=39							
CMAR	**Chiang Mai Arr**	**13.88**	**9**	Pn		**Pn**	**06 40 30.9**	**+2.2**
QIZ	**Qiongzhong**	**19.27**	**41**	P		P	06 41 31.0	-5.1
QIZ				S		**Sn**	**06 45 09.8**	**-2.6**
QIZ				pmax		pmax		
	comp=Z,39nm,1.9s							
QIZ				LR		LR		
	comp=N,430nm,18.4s							
QIZ				LR		LR		
	comp=Z,190nm,11.5s							
KMI	**Kunming**	**21.17**	**16**	P		P	06 42 01.8	+4.9
KMI				pmax		pmax		
	comp=Z,21nm,1.3s							
HYB	**Hyderabad**	**21.71**	**307**	*i* P		**P**	**06 42 02.5**	**-0.1**
GYA	**Guiyang**	**23.71**	**23**	P		**P**	**06 42 24.1**	**+0.8**
GYA				pP		**pP**	**06 42 33.0**	**+0.5**
GYA				sP		**sP**	**06 42 37.5**	**+1.0**
GYA				PP		**PnPn**	**06 42 57.2**	**+5.7**
GYA				S		**S**	**06 46 33.0**	**-3.5**
GYA				SS		**SnSn**	**06 47 22.4**	**+6.4**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,200nm,4.4s							
GYA				LR		LR		
	comp=N,520nm,16.7s							
GYA				LR		LR		
	comp=E,500nm,17.0s							
GYA				LR		LR		
	comp=Z,550nm,17.4s							
KAPI	**Kappang**	**25.08**	**112**	P		**P**	**06 42 36.8**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=342,slow=6.4,SNR=5.0							
KAPI				LR		LR	06 53 03.0	
	comp=Z,93nm,18.8s,baz=65,slow=38							
KAPI	**Kappang**	**25.08**	**112**	P		**P**	**06 42 36.8**	**+0.9**
LSA	**Lhasa**	**25.40**	**349**	P		**P**	**06 42 39.7**	**+0.5**
CD2	**Chengdu**	**26.95**	**14**	P		**P**	**06 42 53.6**	**+0.9**
CD2				pP		**pP**	**06 43 03.4**	**+1.3**
CD2				sP		**sP**	**06 43 07.6**	**+1.6**
CD2				PP		**PnPn**	**06 43 39.9**	**+4.2**
CD2				S		**S**	**06 47 26.9**	**-1.0**
CD2				sS		**sS**	**06 47 43.2**	**-0.2**
CD2				SS		**SnSn**	**06 48 41.9**	**+6.8**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,100nm,5.1s							
CD2				LR		LR		
	comp=N,390nm,7.1s							
CD2				LR		LR		
	comp=Z,460nm,5.5s							
LZH	**Lanzhou**	**31.96**	**11**	*e*P		**P**	**06 43 40.0**	**+2.8**
LZH				pP		**pP**	**06 43 45.0**	**-1.7**
LZH				sP		**sP**	**06 43 47.5**	**-3.1**
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
LZH				LR		LR		
	comp=N,480nm,13.2s							
LZH				LR		LR		
	comp=E,340nm,10.5s							
LZH				LR		LR		
	comp=Z,560nm,14.1s							
NJ2	**Nanjing**	**34.31**	**35**	*e*P		**P**	**06 43 58.3**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
GTA	**Gaotai**	**34.69**	**4**	*e*P		P	06 44 04.7	+3.7
GTA				pP		pP	06 44 14.5	+4.0
GTA				sP		sP	06 44 19.0	+4.6
GTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**36.54**	**129**	LR		LR	07 00 28.1	
	comp=Z,74nm,19.2s,baz=308,slow=38							
FITZ	**Fitzroy Crossi**	**36.54**	**129**	*e*P		**P**	**06 44 14.5**	**-2.4**
	comp=Z,54nm,2.1s							
HHC	**Hu-ho-hao-te**	**38.44**	**18**	*e*P		**P**	**06 44 33.3**	**+0.4**
HHC				PP		**PnPn**	**06 46 05.2**	**+1.9**
HHC				S		**S**	**06 50 26.4**	**+0.2**
HHC				sS		**sS**	**06 50 41.8**	**-0.1**
HHC				SS		**SnSn**	**06 53 06.2**	**-7.8**
HHC				ScS		**ScS**	**06 54 39.7**	**-2.0**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,240nm,4.4s							
HHC				LR		LR		
	comp=N,330nm,16.5s							
HHC				LR		LR		
	comp=E,180nm,16.4s							
HHC				LR		LR		
	comp=Z,130nm,14.4s							
KSH	**Kashi**	**39.36**	**335**	*e*P		**P**	**06 44 41.8**	**+1.1**
KSH				pP		**pP**	**06 44 50.3**	**0.0**
KSH				sP		**sP**	**06 44 55.4**	**+1.2**
KSH				PP		**PnPn**	**06 46 16.6**	**+2.3**
KSH				*e*PcP		**PcP**	**06 46 51.0**	**+2.2**
KSH				*e*ScP		**ScP**	**06 50 33.6**	**-1.6**
KSH				PcS		**PcS**	**06 50 38.3**	**-0.4**
KSH				S		**S**	**06 50 39.9**	**-0.2**
KSH				sS		**sS**	**06 50 56.6**	**+0.8**
KSH				SS		**SS**	**06 53 29.4**	**-5.3**
KSH				ScS		**ScS**	**06 54 45.6**	**-1.6**
KSH				pmax		pmax		
	comp=Z,110nm,5.2s							
KSH				LR		LR		
	comp=N,140nm,5.5s							
KSH				LR		LR		
	comp=E,120nm,5.3s							
KSH				LR		LR		
	comp=Z,250nm,6.3s							
BJI	**Beijing**	**39.39**	**24**	P		**P**	**06 44 41.2**	**+0.5**
BJI				S		**S**	**06 50 41.7**	**+1.5**
BJI				pmax		pmax		
	comp=Z,39nm,0.8s							
BJI				pmax		pmax		
	comp=Z,150nm,6.3s							
BJI				LR		LR		
	comp=N,230nm,25.6s							
BJI				LR		LR		
	comp=E,290nm,25.4s							
BJI				LR		LR		
	comp=Z,32nm,21.1s							
WMQ	**Urumqi**	**39.75**	**350**	*e*P		**P**	**06 44 43.0**	**-0.8**
WMQ				LR		LR		
	comp=N,79nm,23.0s							
WMQ				LR		LR		
	comp=E,15nm,24.0s							
WMQ				LR		LR		
	comp=Z,57nm,20.0s							
NWAO	**Narrogin (SRO)**	**42.24**	**154**	LR		LR	07 03 05.5	
	comp=Z,54nm,19.3s,baz=344,slow=37							
AAK	**Ala-Archa**	**42.57**	**336**	LR		LR	07 03 44.2	
	comp=Z,96nm,21.4s,baz=240,slow=38							
KSAR	**Wonju Array Be**	**43.38**	**37**	P		**P**	**06 45 12.7**	**-0.8**
KSRS	**Korea Array**	**43.41**	**37**	P		**P**	**06 45 12.7**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=218,slow=8.0,SNR=2.6							
KSRS				LR		LR	07 03 53.9	
	comp=Z,56nm,18.8s,baz=218,slow=37							
MK31	**Makanchi Array**	**43.73**	**346**	P		**P**	**06 45 15.3**	**-1.0**
MKAR	**Makanchi Array**	**43.73**	**346**	P		**P**	**06 45 15.1**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=154,slow=9.0,SNR=42							
MKAR				LR		LR	07 04 13.2	
	comp=Z,45nm,19.9s,baz=167,slow=37							
MKAR	**Makanchi Array**	**43.73**	**346**	*e*P		**P**	**06 45 15.4**	**-0.8**
SONM	**Songino Array**	**43.81**	**10**	P		**P**	**06 45 17.7**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=189,slow=8.9,SNR=16							
SONM				LR		LR	07 05 06.6	
	comp=Z,98nm,19.8s,baz=181,slow=38							
SONM	**Songino Array**	**43.81**	**10**	P		**P**	**06 45 17.7**	**+0.7**
WRA	**Warramunga Arr**	**44.47**	**125**	P		**P**	**06 45 20.7**	**-1.9**
	comp=Z,5.8nm,0.5s,baz=302,slow=9.2,SNR=29							
WRA				PcP		**PcP**	**06 47 04.9**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=318,slow=2.8,SNR=6.2							
WRA	**Warramunga Arr**	**44.47**	**125**	P		**P**	**06 45 20.7**	**-1.9**
WRA				PcP		**PcP**	**06 47 04.9**	**-0.9**
WRAB	**Tennant Creek**	**44.47**	**125**	*e*P		**P**	**06 45 19.9**	**-2.6**
	comp=Z,16nm,1.0s							
ASAR	**Alice Springs**	**46.04**	**129**	P		**P**	**06 45 33.5**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=300,slow=7.5,SNR=38							
ASAR				PcP		**PcP**	**06 47 10.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=315,slow=3.1,SNR=6.3							
ASAR				LR		LR	07 04 56.3	
	comp=Z,51nm,18.2s,baz=72,slow=36							
ASAR	**Alice Springs**	**46.04**	**129**	P		**P**	**06 45 33.5**	**-1.6**
ASAR				PcP		**PcP**	**06 47 10.6**	**-0.6**
CN2	**Changchun**	**46.54**	**29**	*e*P		**P**	**06 45 40.7**	**+2.1**
CN2				*e*pP		**pP**	**06 45 50.6**	**+2.3**
CN2				*e*S		**S**	**06 52 26.5**	**+1.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KURBB	**Kurchatov Arra**	**48.22**	**345**	LR		LR	07 08 43.1	
	comp=Z,47nm,18.9s,baz=50,slow=39							
MDJ	**Mudanjiang**	**49.19**	**31**	P		**P**	**06 45 58.7**	**-0.4**
MDJ				pP		**pP**	**06 46 07.6**	**-1.2**
MDJ				sP		**sP**	**06 46 11.5**	**-1.2**
MDJ				ScP		**ScP**	**06 51 14.6**	**-0.4**
MDJ				PcS		**PcS**	**06 51 18.2**	**-0.1**
MDJ				S		**S**	**06 53 02.6**	**0.0**
MDJ				sS		**sS**	**06 53 17.9**	**-0.7**
MDJ				ScS		**ScS**	**06 55 48.4**	**-0.4**
MDJ				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MDJ				pmax		pmax		
	comp=Z,51nm,3.5s							
MDJ				LR		LR		
	comp=N,140nm,28.5s							
MDJ				LR		LR		
	comp=E,62nm,23.1s							
MDJ				LR		LR		
	comp=Z,25nm,22.1s							
ZALV	**Zalesovo Beam**	**50.04**	**351**	P		**P**	**06 46 04.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=162,slow=7.0,SNR=5.8							
ZALV				LR		LR	07 09 37.3	
	comp=Z,30nm,18.8s,baz=283,slow=39							
ZALV	**Zalesovo Beam**	**50.04**	**351**	P		**P**	**06 46 04.4**	**-1.0**
RAYN	**Ar Rayn**	**52.62**	**296**	*e*P		**P**	**06 46 25.7**	**+0.4**
	comp=Z,16nm,0.8s							
BVAR	**Borovoye Array**	**52.77**	**340**	P		**P**	**06 46 23.8**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=134,slow=6.4,SNR=8.0							
BVAR	**Borovoye Array**	**52.77**	**340**	P		**P**	**06 46 23.8**	**-2.1**
ABKAR	**Akbulak array**	**54.17**	**331**	*e*P		**P**	**06 46 34.7**	**-1.5**
	comp=Z,1.6nm,0.6s							
ABKAR				*e*ScP		ScP	06 51 28.1	-8.4
CTA	**Charters Tower**	**54.67**	**119**	LR		LR	07 12 38.8	
	comp=Z,98nm,18.0s,baz=53,slow=39							
AKTO	**Aktyubinsk**	**55.88**	**331**	P		**P**	**06 46 46.5**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=111,slow=9.4,SNR=5.2							
AKTO	**Aktyubinsk**	**55.88**	**331**	P		**P**	**06 46 46.5**	**-2.1**
STKA	**Stephens Creek**	**56.18**	**134**	P		**P**	**06 46 50.2**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=295,slow=7.0,SNR=4.8							
STKA				LR		LR	07 11 35.8	
	comp=Z,72nm,18.3s,baz=193,slow=37							
STKA	**Stephens Creek**	**56.18**	**134**	P		**P**	**06 46 50.2**	**-0.8**
KMBO	**Kilima Mbogo**	**59.54**	**266**	*e*P		**P**	**06 47 15.2**	**-0.1**
	comp=Z,5.9nm,1.0s							
KBZ	**Khabaz**	**61.05**	**318**	P		**P**	**06 47 24.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=92,slow=6.9,SNR=3.6							
KBZ	**Khabaz**	**61.05**	**318**	P		**P**	**06 47 24.1**	**-0.7**
BRTR	**Keskin Array B**	**66.33**	**311**	P		**P**	**06 47 58.1**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=136,slow=6.7,SNR=6.8							
BRTR	**Keskin Array B**	**66.33**	**311**	P		**P**	**06 47 58.1**	**-1.7**
MLR	**Muntele Rosu**	**73.12**	**316**	P		**P**	**06 48 40.7**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=183,slow=5.5,SNR=4.1							
MLR	**Muntele Rosu**	**73.12**	**316**	P		**P**	**06 48 40.7**	**-0.9**
LBTB	**Lobatse**	**74.89**	**243**	*e*P		**P**	**06 48 54.0**	**+1.7**
	comp=Z,75nm,2.3s							
BOSA	**Boshof**	**75.99**	**239**	P		**P**	**06 48 58.9**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=79,slow=5.2,SNR=14							
BOSA	**Boshof**	**75.99**	**239**	P		**P**	**06 48 58.9**	**+0.4**
KOLS	**Kolonicke sedl**	**76.17**	**319**	*e*P		**P**	**06 49 02.1**	**+3.0**
FINES	**FINESS Array B**	**76.64**	**332**	P		**P**	**06 49 01.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=127,slow=5.9,SNR=4.9							
FINES	**FINESS Array B**	**76.64**	**332**	P		**P**	**06 49 01.0**	**-0.3**
ARCES	**ARCESS Array B**	**79.06**	**340**	P		**P**	**06 49 13.0**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=98,slow=6.6,SNR=11							
ARCES				LR		LR	07 25 20.3	
	comp=Z,65nm,18.9s,baz=114,slow=37							
ARCES	**ARCESS Array B**	**79.06**	**340**	P		**P**	**06 49 13.0**	**-1.7**
GERES	**GERESS Array B**	**81.79**	**319**	P		**P**	**06 49 28.8**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=55,slow=5.6,SNR=6.6							
GERES	**GERESS Array B**	**81.79**	**319**	P		**P**	**06 49 28.8**	**-1.2**
NOA	**NORSAR Array B**	**83.67**	**331**	LR		LR	07 31 04.9	
	comp=Z,25nm,18.7s,baz=25,slow=39							
DAVOX	**Davos/Dischmat**	**84.34**	**316**	P		**P**	**06 49 42.6**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=63,slow=2.3,SNR=6.6							
DAVOX	**Davos/Dischmat**	**84.34**	**316**	P		**P**	**06 49 42.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**93.67**	**283**	P		**P**	**06 50 28.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=88,slow=4.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**93.67**	**283**	P		**P**	**06 50 28.3**	**+0.1**
NVAR	**Mina Array Bea**	**126.30**	**34**	PKP		**PKPdf**	**06 56 14.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=247,slow=3.1,SNR=3.6							
NVAR	**Mina Array Bea**	**126.30**	**34**	PKP		**PKPdf**	**06 56 14.2**	**0.0**
TXAR	**Lajitas Array**	**140.99**	**29**	PKP		**PKPdf**	**06 56 42.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=352,slow=4.6,SNR=4.9							
TXAR	**Lajitas Array**	**140.99**	**29**	PKP		**PKPdf**	**06 56 42.2**	**+0.4**
CPUP	**Villa Florida**	**147.04**	**227**	PKPbc		**PKPbc**	**06 56 53.3**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=48,slow=3.4,SNR=3.8							
CPUP	**Villa Florida**	**147.04**	**227**	PKPbc		**PKPbc**	**06 56 53.3**	**-1.0**
LPAZ	**La Paz**	**161.06**	**231**	PKPab		**PKPab**	**06 57 55.3**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=153,slow=4.5,SNR=2.4							
LPAZ	**La Paz**	**161.06**	**231**	PKPab		**PKPab**	**06 57 55.3**	**-0.7**

WEL 07 06:46:43.4±0.2, 45˚.47S×167˚.42E, h12km±1km, ML3.7/8, 2D, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.19**	**266**	PG		Pg	06 46 48.2	+0.6
DCZ				SG		Sg	06 46 51.3	+0.9
MLZ	**Mavora Lakes**	**0.54**	**78**	||P*		Pg	06 46 53.1	-0.9
MLZ				S*		Sg	06 47 00.3	-0.9
WHZ	**Wether Hill Ro**	**0.56**	**140**	P*		Pg	06 46 53.7	-0.8
WHZ				S*		Sg	06 47 01.5	-0.5
MSZ	**Milford Sound**	**0.87**	**24**	P*		Pg	06 46 58.9	-1.3
MSZ				S*		Sg	06 47 10.4	-1.1
PYZ	**Puysegur Point**	**0.87**	**216**	P*		Pg	06 46 59.3	-1.0
PYZ				S*		Sg	06 47 10.9	-0.9
WKZ	**Wanaka**	**1.29**	**61**	PN		Pn	06

comp=Z,14µm,0.2s
ITEG Tejag 2.68 38 *e*Pn **Pn** 06 47 52.2 -0.2
TABS Tabas 2.85 6 *e*Pn **Pn** 06 47 55.2 +0.5
TABS AML AML 06 48 48.7
comp=N,1µm,0.4s
TABS Tabas 2.85 6 *e*Pn **Pn** 06 47 55.2 +0.5
IDAH Dahanechah 3.27 53 *e*Pn **Pn** 06 48 01.2 +0.6
IDAH *e* 06 48 58.9
comp=Z,6µm,0.4s
IDAH Dahanechah 3.27 53 *e*Pn **Pn** 06 48 01.2 +0.6
IBND Bandar-abas 3.35 184 *e*Pn **Pn** 06 48 02.8 +1.3
IBND *e*Sg **Sg** 06 48 58.5 +1.0
IBND *e* 06 49 13.6
comp=Z,11µm,0.2s
IBND Bandar-abas 3.35 184 *e*Pn **Pn** 06 48 02.8 +1.3
IBND *e*Sg **Sg** 06 48 58.5 +1.0
IPAR Pars 3.36 254 Pn **Pn** 06 48 02.5 +0.6
IPAR Sg **Sg** 06 48 56.6 -1.3
IPAR Pars 3.36 254 *e*Pn **Pn** 06 48 02.7 +0.8
IPAR *e*Sg **Sg** 06 48 56.7 -1.2
IPAR *e* 06 49 04.0
comp=Z,4µm,0.3s
IPAR Pars 3.36 254 Pn **Pn** 06 48 02.5 +0.6
IPAR *e*Sg **Sg** 06 48 56.7 -1.2
IMON Monand 3.42 45 *e* 06 48 13.6
comp=Z,8µm,0.1s
IMON *e*Pn **Pn** 06 48 03.2 +0.5
ISRV Sarvestan 3.48 247 Pn **Pn** 06 48 04.9 +1.4
ISRV Sarvestan 3.48 247 *e*Pn **Pn** 06 48 04.3 +0.8
ISRV *e* 06 49 16.4
comp=Z,6µm,0.6s
ISRV Sarvestan 3.48 247 *e*Pn **Pn** 06 48 04.3 +0.8
NASN Na'in 3.92 302 Pn **Pn** 06 48 10.0 +0.4
NASN Na'in 3.92 302 *e*Pn **Pn** 06 48 10.6 +1.0
NASN Na'in 3.92 302 Pn **Pn** 06 48 10.0 +0.4
SHRT Shahrakht 4.11 46 *e*Pn **Pn** 06 48 13.1 +1.1
SHRT Shahrakht 4.11 46 *e*Pn **Pn** 06 48 13.1 +1.1
GHIR Ghir-Karzin 4.15 234 Pn **Pn** 06 48 13.0 +0.4
GHIR Ghir-Karzin 4.15 234 *e*Pn **Pn** 06 48 13.3 +0.7
GHIR AML AML 06 49 30.9
comp=E,142nm,0.4s
GHIR Ghir-Karzin 4.15 234 Pn **Pn** 06 48 13.0 +0.4
IZEF Zefreh 4.32 300 Pn **Pn** 06 48 15.2 +0.1
IZEF Zefreh 4.32 300 *e*Pn **Pn** 06 48 15.0 -0.1
IZEF *e* 06 49 26.7
comp=Z,2µm,0.2s
IZEF Zefreh 4.32 300 *e*Pn **Pn** 06 48 15.0 -0.1
IGAR Gharneh 4.34 293 *e*Pn **Pn** 06 48 15.2 -0.1
IGAR *e* 06 49 35.3
comp=Z,2µm,0.2s
BANOM Banah 4.88 185 P **Pn** 06 48 24.0 +1.4
IKLH Kolahrood 5.07 301 Pn **Pn** 06 48 28.2 +2.8
IKLH Kolahrood 5.07 301 *e*Pn **Pn** 06 48 25.3 -0.1
IKLH *e* 06 50 03.9
comp=Z,2µm,0.3s
IKLH Kolahrood 5.07 301 *e*Pn **Pn** 06 48 25.3 -0.1
ISFB Sefidab 5.21 314 Pn **Pn** 06 48 26.9 -0.2
ISFB Sefidab 5.21 314 *e*Pn **Pn** 06 48 26.7 -0.4
ISFB *e* 06 49 53.5
comp=Z,1µm,0.3s
ISFB Sefidab 5.21 314 Pn **Pn** 06 48 26.9 -0.2
IANJ Anjilo 5.23 333 Pn **Pn** 06 48 27.5 -0.1
IANJ Anjilo 5.23 333 *e*Pn **Pn** 06 48 27.2 -0.4
IANJ *e* 06 50 12.4
comp=Z,2µm,0.3s
IANJ Anjilo 5.23 333 *e*Pn **Pn** 06 48 27.2 -0.4
IPIR Pirpir 5.35 292 *e*Pn **Pn** 06 48 29.2 -0.1
IPIR *e* 06 48 57.6
comp=Z,1µm,0.2s
IPIR Pirpir 5.35 292 *e*Pn **Pn** 06 48 29.2 -0.1
ILAS Lasjerd 5.58 326 *e*Pn **Pn** 06 48 31.9 -0.4
ILAS *e* 06 50 28.1
comp=Z,2µm,0.4s
ILAS Lasjerd 5.58 326 *e*Pn **Pn** 06 48 31.9 -0.4
IMOG Moghan 5.71 21 Pn **Pn** 06 48 35.1 +0.9
IMOG Moghan 5.71 21 *e*Pn **Pn** 06 48 34.9 +0.7
IMOG *e* 06 50 36.6
comp=Z,1µm,0.4s
IMOG Moghan 5.71 21 *e*Pn **Pn** 06 48 34.9 +0.7
ISHM Shahmirzad 5.78 331 *e*Pn **Pn** 06 48 34.7 -0.4
ISHM *e* 06 49 03.4
comp=Z,2µm,0.3s
ISHM Shahmirzad 5.78 331 *e*Pn **Pn** 06 48 34.7 -0.4
IFIR Firoozkooh 5.88 326 Pn **Pn** 06 48 35.8 -0.8
IFIR Firoozkooh 5.88 326 *e*Pn **Pn** 06 48 36.2 -0.4
IFIR *e* 06 49 06.8
comp=Z,786nm,0.2s
IFIR Firoozkooh 5.88 326 *e*Pn **Pn** 06 48 36.2 -0.4
IPAY Payeh 5.93 18 Pn **Pn** 06 48 36.6 -0.5
IPAY Payeh 5.93 18 *e*Pn **Pn** 06 48 37.0 -0.1
IPAY *e* 06 50 33.2
comp=Z,966nm,0.3s
IPAY Payeh 5.93 18 Pn **Pn** 06 48 36.6 -0.5
IVRN Varamin 5.96 316 Pn **Pn** 06 48 36.9 -0.5
IVRN Varamin 5.96 316 *e*Pn **Pn** 06 48 36.8 -0.6
IVRN *e*Pn **Pn** 06 48 37.3 -0.1
IVRN *e* 06 49 10.7
comp=Z,1µm,0.3s
IVRN Varamin 5.96 316 Pn **Pn** 06 48 36.9 -0.5
IKIA Kiasar 5.97 335 Pn **Pn** 06 48 37.2 -0.5
IKIA Kiasar 5.97 335 *e*Pn **Pn** 06 48 37.3 -0.5
IKIA *e* 06 49 10.2
comp=Z,1µm,0.3s
IKIA *e*Sg **Sg** 06 50 20.3 -1.3
IKIA Kiasar 5.97 335 *e*Pn **Pn** 06 48 37.3 -0.5
IKIA *e*Sg **Sg** 06 50 20.3 -1.3
HATD Hatta, Dubai 5.98 186 P **Pn** 06 48 40.0 +2.3
IAKL Akhelmad 6.01 15 *e*Pn **Pn** 06 48 38.4 0.0
IAKL *e* 06 48 48.2
comp=Z,1µm,0.2s
FAQ Al Faqa, Dubai 6.13 190 P **Pn** 06 48 40.9 +1.2
IKRD Kardeh 6.13 13 *e*Pn Pn 06 48 43.3 +3.4
IKRD *e* 06 50 51.6
comp=Z,974nm,0.6s
ASHO Ashiyiah 6.13 186 P **Pn** 06 48 41.2 +1.4
IMYA Miami 6.18 26 Pn **Pn** 06 48 40.7 +0.1
IMYA Miami 6.18 26 *e*Pn **Pn** 06 48 40.5 -0.1
IMYA *e* 06 50 40.5
comp=Z,820nm,0.4s
IMYA Miami 6.18 26 *e*Pn **Pn** 06 48 40.5 -0.1
IDMV Damavand 6.20 321 Pn **Pn** 06 48 40.8 -0.1
IDMV Damavand 6.20 321 *e*Pn **Pn** 06 48 40.4 -0.5
IDMV *e* 06 51 03.0
comp=Z,2µm,0.7s
IDMV Damavand 6.20 321 *e*Pn **Pn** 06 48 40.4 -0.5
IALA Alasht 6.22 329 Pn **Pn** 06 48 40.9 -0.3
IALA Alasht 6.22 329 *e*Pn **Pn** 06 48 40.9 -0.3
IALA *e* 06 50 50.4
comp=Z,2µm,0.5s
IALA Alasht 6.22 329 *e*Pn **Pn** 06 48 40.9 -0.3
ISFR Sfrayin 6.32 9 Pn **Pn** 06 48 41.9 -0.6
ISFR Sfrayin 6.32 9 *e*Pn **Pn** 06 48 42.3 -0.2
ISFR *e* 06 50 40.8
comp=Z,2µm,0.3s
ISFR Sfrayin 6.32 9 Pn **Pn** 06 48 41.9 -0.6
IMND Minoodasht 6.54 350 *e*Pn Pn 06 48 52.7 +7.5
IMND *e*Sg Sg 06 50 48.1 +8.6
IPRN Peran 6.57 327 Pn **Pn** 06 48 45.2 -0.6
IPRN Peran 6.57 327 *e*Pn **Pn** 06 48 45.3 -0.6
IPRN *e* 06 49 28.2
comp=Z,2µm,0.3s
MRVT Maraveh tapeh 6.86 355 Pn **Pn** 06 48 51.0 +1.2
MRVT Maraveh tapeh 6.86 355 *e*Pn **Pn** 06 48 51.1 +1.3
MRVT Maraveh tapeh 6.86 355 Pn **Pn** 06 48 51.0 +1.2
BJRD Bojnurd 6.90 4 *e*Pn **Pn** 06 48 52.5 +2.1
CHTH Charan 6.94 319 *e*Pn **Pn** 06 48 53.4 +2.2
CHTH Charan 6.94 319 *e*Pn **Pn** 06 48 53.3 +2.2
IRAZ Razeghan 7.35 310 Pn **Pn** 06 48 56.4 -0.2
IRAZ Razeghan 7.35 310 *e*Pn **Pn** 06 48 56.5 -0.2
IRAZ *e* 06 49 44.9
comp=Z,585nm,0.3s
IRAZ Razeghan 7.35 310 Pn **Pn** 06 48 56.4 -0.2
WSAR Wadi Sarin 7.72 167 Pn **Pn** 06 49 01.1 -0.4
comp=Z,2.4nm,0.3s,baz=345,slow=12,SNR=9.7
WSAR Sn **Sn** 06 50 27.2 -1.3
comp=Z,1.0nm,0.3s,baz=74,slow=20,SNR=3.0
WSAR LR LR 06 52 29.5
comp=Z,109nm,18.8s,baz=357,slow=43
WSAR Wadi Sarin 7.72 167 Pn **Pn** 06 49 01.1 -0.4
WSAR Sn **Sn** 06 50 27.2 -1.3
WSAR Wadi Sarin 7.72 167 Pn **Pn** 06 49 01.1 -0.4
IGZV Ghazvin 7.80 317 Pn **Pn** 06 49 02.3 -0.6
IGZV Ghazvin 7.80 317 *e*Pn **Pn** 06 49 02.5 -0.4
IGZV *e* 06 49 46.2
comp=Z,502nm,0.3s
IGZV Ghazvin 7.80 317 *e*Pn **Pn** 06 49 02.5 -0.4
QRN Al-Qurain 7.97 257 *e*P **Pn** 06 49 04.9 0.0
QRN AML AML 06 50 33.5
comp=Z,26nm,0.4s
KBD Kabd 8.04 261 *e*P **Pn** 06 49 06.0 +0.1
KBD Kabd 8.04 261 *e*P **Pn** 06 49 06.0 +0.1
MIB Mutribah 8.22 265 *e*P **Pn** 06 49 08.6 +0.2
MIB Mutribah 8.22 265 *e*P **Pn** 06 49 08.6 +0.2
RDF Al-Radifah 8.22 259 *e*P **Pn** 06 49 09.1 +0.6
RDF Al-Radifah 8.22 259 *e*P **Pn** 06 49 09.1 +0.6
NAY Al-Naaiem 8.41 262 *e*P **Pn** 06 49 11.2 +0.2
NAY AML AML 06 50 45.3
comp=Z,6.4nm,0.6s
NAY Al-Naaiem 8.41 262 *e*P **Pn** 06 49 11.2 +0.2
BHD Baghdad 10.80 286 *e*Pn Px 06 50 34.0
BHD *e*Pg **Pn** 06 49 43.0 -0.8
BHD *e*Sn **Sn** 06 51 46.0 +1.7
BHD *e*Sg 06 53 05.0
GNI Garni 13.52 317 LR LR 06 57 13.9
comp=Z,19nm,22.0s,baz=79,slow=44
ASF Jabal al Asfar 17.01 280 P **Pn** 06 51 05.6 -1.5
comp=Z,0.4nm,0.3s,baz=117,slow=4.5,SNR=3.7
ASF LR LR 06 59 24.7
comp=Z,34nm,18.3s,baz=177,slow=43
ASF Jabal al Asfar 17.01 280 P **Pn** 06 51 05.6 -1.5
KIV Kislovodsk 17.22 324[1] *e*P **P** 06 51 12.0 +0.8
KIV pmax pmax
comp=Z,15nm,1.0s
MMAI Mount Meron Ar 18.28 283 P **Pn** 06 51 22.5 -0.3
comp=Z,2.1nm,0.3s,baz=341,slow=17,SNR=8.9
MMAI Mount Meron Ar 18.28 283 P **Pn** 06 51 22.5 -0.3
MMAI Mount Meron Ar 18.28 283 P **Pn** 06 51 22.5 -0.3
AAK Ala-Archa 18.43 45 P **P** 06 51 23.5 -1.1
comp=Z,0.1nm,0.3s,baz=232,slow=14,SNR=4.8
AAK Ala-Archa 18.43 45 *i* P **Pn** 06 51 27.3 +2.6
AAK pmax pmax
comp=Z,20nm,2.0s
AAK Ala-Archa 18.43 45 *e*P **P** 06 51 23.8 -0.8
comp=Z,15nm,0.7s
AAK Ala-Archa 18.43 45 *e*P **P** 06 51 23.8 -0.8
comp=Z,15nm,0.7s
EIL Elat 18.89 272 LR LR 07 00 11.2
comp=Z,67nm,19.5s,baz=178,slow=41
AKTO Aktyubinsk 19.63 2 P **P** 06 51 37.8 +0.2
comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=10
AKTO LR LR 06 59 38.8
comp=Z,37nm,21.6s,baz=354,slow=38
AKTO Aktyubinsk 19.63 2 P **P** 06 51 37.8 +0.2
AKTO Aktyubinsk 19.63 2 P **P** 06 51 37.8 +0.2
AKTO Aktyubinsk 19.63 2 P **P** 06 51 37.8 +0.2
BR131 Keskin Array S 20.84 302 *e*P **P** 06 51 51.0 +0.2
comp=Z,1.9nm,0.6s
BR131 Keskin Array S 20.84 302 *e*P **P** 06 51 51.0 +0.2
comp=Z,1.9nm,0.6s
BTRK Keskin Array B 20.84 302 P **P** 06 51 51.1 +0.2
comp=Z,1.2nm,0.7s,baz=110,slow=12,SNR=6.3
BTRK Keskin Array B 20.84 302 P **P** 06 51 51.1 +0.2
BTRK Keskin Array B 20.84 302 P **P** 06 51 51.1 +0.2
VRHR Novokhopersk 23.19 335 *e*P **P** 06 52 17.4 +1.8
VRHR pmax pmax
comp=Z,7.0nm,0.7s
VRHR pmax pmax
comp=N,8.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VORD Divnogorie 23.98 332 *e*P **P** 06 52 24.3 +1.0
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=E,8.0nm,1.0s
VSR Storozhevoye 24.22 332 *e*P **P** 06 52 26.5 +0.9
VSR pmax pmax
comp=Z,3.0nm,0.8s
VSR pmax pmax
comp=N,9.0nm,1.3s
VSR pmax pmax
comp=E,5.0nm,1.1s
BRVK Borovoye 24.32 20 *ce*P **P** 06 52 26.8 +0.3
BRVK pmax pmax
comp=Z,3.0nm,1.2s
BRVK Borovoye 24.32 20 *e*P **P** 06 52 26.2 -0.3
comp=Z,3.0nm,0.8s
BRVK Borovoye 24.32 20 *e*P **P** 06 52 26.2 -0.3
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 24.32 20 P **P** 06 52 26.9 +0.4
comp=Z,2.2nm,0.5s,baz=200,slow=7.5,SNR=20
BVAR PcP **PcP** 06 56 05.3 -0.6
comp=Z,0.4nm,0.6s,baz=249,slow=2.5,SNR=3.0
BVAR Borovoye Array 24.32 20 P **P** 06 52 26.9 +0.4
BVAR 06 56 05.3
BVAR Borovoye Array 24.32 20 P **P** 06 52 26.9 +0.4
BVAR PcP **PcP** 06 56 05.3 -0.6
BVAR Borovoye Array 24.32 20 P **P** 06 52 26.9 +0.4
BVAR Borovoye Array 24.32 20 PcP **PcP** 06 56 05.3 -0.6
MK31 Makanchi Array 25.34 44 *e*P **P** 06 52 36.0 +0.1
MK31 Makanchi Array 25.34 44 *e*P **P** 06 52 36.0 +0.1
MK31 Makanchi Array 25.34 44 *e*P **P** 06 52 36.0 +0.1
MKAR Makanchi Array 25.34 44 P **P** 06 52 36.2 +0.3
comp=Z,1.7nm,0.6s,baz=229,slow=8.7,SNR=22
MKAR Makanchi Array 25.34 44 *ce*P **P** 06 52 36.2 +0.3
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 25.34 44 P **P** 06 52 36.2 +0.3
MKAR Makanchi Array 25.34 44 P **P** 06 52 36.2 +0.3
KURBB Kurchatov Arra 25.60 33 P **P** 06 52 38.6 +0.5
comp=Z,3.7nm,0.8s,baz=232,slow=9.3,SNR=22
ARU Arti 25.65 2 P **P** 06 52 40.5 +2.0
ARU 06 53 13.6
ARU S **S** 06 57 09.9 +3.9
KURK Kurchatov 25.70 33[1] *e*P **P** 06 52 39.5 +0.4
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURK Kurchatov 25.70 33 *e*P **P** 06 52 39.4 +0.4
comp=Z,3.2nm,0.8s
KURK Kurchatov 25.70 33 *e*P **P** 06 52 39.4 +0.4
comp=Z,3.2nm,0.8s
OBN Obninsk 28.24 335 *e*P **P** 06 53 04.8 +3.0
OBN pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 28.55 322 P **P** 06 53 06.3 +1.7
comp=Z,0.3nm,0.3s,baz=128,slow=8.4,SNR=3.1
AKASG Malin Array Be 28.55 322 P **P** 06 53 06.3 +1.7
AKASG Malin Array Be 28.55 322 P **P** 06 53 06.3 +1.7
AKASG Malin Array Be 28.55 322 P **P** 06 53 06.3 +1.7
KIEV Kiev 28.56 322 *i* P **P** 06 53 04.0 -0.7
ZAA0 Zalesovo Array 30.69 33 *e*P **P** 06 53 23.3 -0.3
ZAA0 Zalesovo Array 30.69 33 *e*P **P** 06 53 23.3 -0.3
ZALV Zalesovo Beam 30.69 33 P **P** 06 53 23.4 -0.2
comp=Z,3.6nm,0.6s,baz=239,slow=8.8,SNR=21
ZALV Zalesovo Beam 30.69 33 P **P** 06 53 23.4 -0.2
ZALV Zalesovo Beam 30.69 33 P **P** 06 53 23.4 -0.2
ZALV Zalesovo Beam 30.69 33 P **P** 06 53 23.4 -0.2
KOLS Kolonicke sedl 31.71 315 *e*P **P** 06 53 35.3 +2.6
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 31.71 315 *e*P **P** 06 53 35.3 +2.6
KOLS Kolonicke sedl 31.71 315 *e*P **P** 06 53 35.3 +2.6
comp=Z,3.8nm,1.0s
CRVS Cervenica-Dubn 32.20 314 *e*P **P** 06 53 38.2 +1.2
CRVS Cervenica-Dubn 32.20 314 *e*P **P** 06 53 38.2 +1.2
CRVS Cervenica-Dubn 32.20 314 *e*P **P** 06 53 38.2 +1.2
GTA Gaotai 35.96 64 *e*P **P** 06 54 11.0 +1.1
GTA pP **pP** 06 54 16.6 +1.6
GTA sP **sP** 06 54 19.8 +2.8
GTA pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 36.64 336 P **P** 06 54 15.4 +0.3
comp=Z,1.4nm,0.8s,baz=140,slow=8.9,SNR=5.3
FINES FINESS Array B 36.64 336 P **P** 06 54 15.4 +0.3
FINES FINESS Array B 36.64 336 P **P** 06 54 15.4 +0.3
GERES GERESS Array B 37.08 312 P **P** 06 54 18.9 -0.4
comp=Z,1.1nm,0.7s,baz=106,slow=7.3,SNR=6.8
GERES GERESS Array B 37.08 312 P **P** 06 54 18.9 -0.4
GERES GERESS Array B 37.08 312 P **P** 06 54 18.9 -0.4
CLL Collm 38.12 315 *e*P **P** 06 54 29.0 +1.1
CLL Collm 38.12 315 *e*P **P** 06 54 29.0 +1.1
DAVOX Davos/Dischmat 39.26 308 P **P** 06 54 37.8 0.0
comp=Z,2.0nm,0.6s,baz=113,slow=7.7,SNR=5.4
DAVOX Davos/Dischmat 39.26 308 P **P** 06 54 37.8 0.0
DAVOX Davos/Dischmat 39.26 308 P **P** 06 54 37.8 0.0
CMAR Chiang Mai Arr 40.03 98 P **P** 06 54 43.7 -0.6
comp=Z,0.5nm,0.4s,baz=296,slow=9.0,SNR=4.1
CMAR Chiang Mai Arr 40.03 98 P **P** 06 54 43.7 -0.6
CMAR Chiang Mai Arr 40.03 98 P **P** 06 54 43.7 -0.6
SONM Songino Array 41.23 51 P **P** 06 54 54.3 +0.3
comp=Z,1.3nm,1.0s,baz=254,slow=8.9,SNR=6.8
SONM Songino Array 41.23 51 P **P** 06 54 54.3 +0.3
SONM Songino Array 41.23 51 P **P** 06 54 54.3 +0.3
NOA NORSAR Array B 42.41 329 P **P** 06 55 04.2 +0.9
comp=Z,1.8nm,1.0s,baz=111,slow=8.0,SNR=2.5
NOA NORSAR Array B 42.41 329 P **P** 06 55 04.2 +0.9
NOA NORSAR Array B 42.41 329 P **P** 06 55 04.2 +0.9
ARCES ARCESS Array B 42.63 344 P **P** 06 55 06.5 +1.5
comp=Z,3.4nm,0.9s,baz=139,slow=9.4,SNR=6.4
ARCES ARCESS Array B 42.63 344 P **P** 06 55 06.5 +1.5
ARCES ARCESS Array B 42.63 344 P **P** 06 55 06.5 +1.5
BOD Bodaibo 47.18 38 *e*P **P** 06 55 40.3 -1.0
ESDC Sonseca Array 49.56 298 P **P** 06 56 01.7 +1.6
comp=Z,0.1nm,0.3s,baz=110,slow=7.4,SNR=3.2
ESDC Sonseca Array 49.56 298 P **P** 06 56 01.7 +1.6
ESDC Sonseca Array 49.56 298 P **P** 06 56 01.7 +1.6
TOA0 Torodi Ar. Sit 53.49 264 *e*P **P** 06 56 28.6 -1.1
TOA0 Torodi Ar. Sit 53.49 264 *e*P **P** 06 56 28.6 -1.1
TORD Torodi Ar. Bea 53.49 264 P **P** 06 56 28.7 -1.0
comp=Z,4.7nm,0.7s,baz=58,slow=6.9,SNR=32
TORD PcP **PcP** 06 57 36.2 -0.4
comp=Z,0.5nm,0.7s,baz=9.5,slow=4.4,SNR=2.0
TORD Torodi Ar. Bea 53.49 264 P **P** 06 56 28.7 -1.0
TORD PcP **PcP** 06 57 36.2 -0.4
TORD Torodi Ar. Bea 53.49 264 P **P** 06 56 28.7 -1.0
TORD Torodi Ar. Bea 53.49 264 PcP **PcP** 06 57 36.2 -0.4
KSAR Wonju Array Be 57.98 63 P **P** 06 57 01.3 -0.3
KSAR Wonju Array Be 57.98 63 P **P** 06 57 01.3 -0.3
KSRS Korea Array 58.01 63 P **P** 06 57 01.3 -0.5
comp=Z,1.0nm,0.6s,baz=282,slow=6.1,SNR=5.0
TSUM Tsumeb 62.38 222 *e*P **P** 06 57 31.7 -0.4
comp=Z,2.4nm,0.7s
TSUM Tsumeb 62.38 222 *e*P **P** 06 57 31.7 -0.4
comp=Z,2.4nm,0.7s
SEY Seymchan 65.50 30[1] *e*P **P** 06 57 52.2 +0.3
BOSA Boshof 66.29 210 P **P** 06 57 57.2 -0.3
comp=Z,1.6nm,0.9s,baz=34,slow=8.6,SNR=3.6
BOSA Boshof 66.29 210 P **P** 06 57 57.2 -0.3
BOSA Boshof 66.29 210 P **P** 06 57 57.2 -0.3
CBIJ Chichi jima 73.01 68 LR LR 07 32 18.2
comp=Z,176nm,21.8s,baz=139,slow=37
ILAR Eielson Array 82.95 10 P **P** 06 59 32.7 -0.9
comp=Z,0.6nm,0.7s,baz=325,slow=4.4,SNR=9.8
ILAR Eielson Array 82.95 10 P **P** 06 59 32.7 -0.9
ILAR Eielson Array 82.95 10 P **P** 06 59 32.7 -0.9
YKA Yellowknife Ar 86.77 356 P **P** 06 59 52.5 -0.3
comp=Z,0.7nm,0.6s,baz=1.9,slow=5.3,SNR=16
YKA Yellowknife Ar 86.77 356 P **P** 06 59 52.5 -0.3
YKA Yellowknife Ar 86.77 356 P **P** 06 59 52.5 -0.3
WRA Warramunga Arr 89.91 113 P **P** 07 00 06.9 -1.6
comp=Z,0.3nm,0.5s,baz=311,slow=4.1,SNR=4.9
WRA Warramunga Arr 89.91 113 P **P** 07 00 06.9 -1.6
WRA Warramunga Arr 89.91 113 P **P** 07 00 06.9 -1.6
ASAR Alice Springs 91.59 117 P **P** 07 00 15.1 -1.2
comp=Z,1.1nm,0.7s,baz=301,slow=5.2,SNR=12
ASAR Alice Springs 91.59 117 P **P** 07 00 15.1 -1.2
ASAR Alice Springs 91.59 117 P **P** 07 00 15.1 -1.2

*ISCJB **07** 06:53:48.2±1.0, 31.3°N±0.1°×104.1°E±0.2, h14km, mb3.4/4, Error ellipse: s-maj=25.0km s-min=8.5km az=17.5*
*IDC **07** 06:53:48.2±1.4, 31.5°N×104.2°E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, Error ellipse: s-maj=86.2km s-min=26.1km az=54.0*
ISC 07 06:53:49.3±1.0, 31.3°N±0.1°×104.1°E±0.1, h14km, n6, σ1§44/7, mb3.4/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.48**	**214**	Pg	**Pg**	**06 53 57.7**	**-1.2**
CD2				Sg	**Sg**	**06 54 04.6**	**-0.8**
CD2				smax	smax		
	comp=N,1µm,0.7s						
CD2				smax	smax		
	comp=E,3µm,0.6s						
XAN	**Xi'an**	**4.91**	**55**	Pg	Pg	06 55 36.0	+13
XAN				Sg	**Sg**	**06 56 25.2**	**-1.7**
XAN				smax	smax		
	comp=N,20nm,0.8s						
XAN				smax	smax		
	comp=E,9.0nm,0.8s						
MKAR	**Makanchi Array**	**22.80**	**319**	P	**P**	**06 58 51.4**	**-0.2**
	comp=E,0.4nm,0.7s,baz=109,slow=12,SNR=4.2						
BVAR	**Borovoye Array**	**32.61**	**322**	P	**P**	**07 00 20.7**	**+0.4**
	comp=E,0.6nm,0.5s,baz=101,slow=4.7,SNR=3.9						
WRA	**Warramunga Arr**	**58.66**	**146**	P	**P**	**07 03 48.1**	**+1.8**
	comp=E,0.4nm,0.6s,baz=339,slow=7.7,SNR=7.3						
YKA	**Yellowknife Ar**	**81.50**	**17**	P	**P**	**07 06 06.0**	**+0.2**
	comp=E,0.2nm,1.0s,baz=329,slow=5.0,SNR=3.6						

*IDC **07** 07:06:53.4±3.3, 6.7°S×105.4°E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=217.1km s-min=24.7km az=49.0*
*DJA **07** 07:06:57.9±0.5, 7.7°S±4.1°×105.1°E±1.1°, h23km, M4.1/9, MLv4.1/9*
*ISCJB **07** 07:06:59.2±0.9, 7.7°S±0.8°×105.2°E±0.8°, h56km, mb3.7/4, Error ellipse: s-maj=12.9km s-min=10.0km az=43.4*
ISC 07 07:07:00.7±1.1, 7.7°S±0.1°×105.3°E±0.8, h56km, n14, σ1§24/14, mb3.6/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.53**	**47**	P	**Pn**	**07 07 12.0**	**-0.7**
CGJI				S	**Sn**	**07 07 21.0**	**-0.4**
SBJI	**Serang**	**1.18**	**44**	P	**Pn**	**07 07 22.3**	**+1.2**
DBJI	**Dramaga**	**1.50**	**74**	P	**Pn**	**07 07 26.9**	**+1.6**
CBJI	**Citeko**	**1.63**	**70**	P	**Pn**	**07 07 26.8**	**-0.3**
KASI	**Kota Agung**	**1.65**	**331**	P	**Pn**	**07 07 28.1**	**+0.7**
LEM	**Lembang**	**2.30**	**86**	P	**Pn**	**07 07 39.2**	**+2.8**
LWLI	**Liwa**	**2.31**	**327**	P	**Pn**	**07 07 38.0**	**+1.6**
CISI	**Cisompet, Garu**	**2.56**	**103**	P	**Pn**	**07 07 40.3**	**+0.5**
MNAI	**Manna**	**3.49**	**318**	P	Pn	07 08 03.9	+11
WRA	**Warramunga Arr**	**30.97**	**117**	P	**P**	**07 13 12.3**	**-0.6**
	0.8nm,0.5s,baz=304,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**32.08**	**124**	P	**P**	**07 13 22.3**	**-0.4**
	0.3nm,0.8s,baz=300,slow=8.1,SNR=3.5						
STKA	**Stephens Creek**	**41.92**	**131**	P	**P**	**07 14 46.1**	**+0.1**
	4.0nm,0.7s,baz=318,slow=8.8,SNR=8.7						
BVAR	**Borovoye Array**	**66.70**	**338**	P	**P**	**07 17 45.0**	**-0.7**
	0.3nm,0.5s,baz=130,slow=7.8,SNR=2.9						
TXAR	**Lajitas Array**	**144.80**	**47**	PKP	**PKPdf**	**07 26 32.0**	**-0.2**
	0.3nm,0.5s,baz=354,slow=0.5,SNR=6.5						

*IDC **07** 07:26:10.6±1.0, 18.6°N×147.0°E±0.2, h52km, mb4.8/11, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, MS3.4/4, Ms1 3.4/4, ms1mx2.9/36, Error ellipse: s-maj=37.7km s-min=19.6km az=89.0*
*ISCJB **07** 07:26:16.1±0.8, 18.6°N±0.0°×147.0°E±0.2, h52km, mb4.0/15, MS3.5/3, Error ellipse: s-maj=29.7km s-min=12.9km az=178.1*
*NEIC **07** 07:26:21.0±4.4, 18.6°N×146.9°E, h81km±40km, mb4.5/3, Error ellipse: s-maj=24.3km s-min=10.0km az=88.0*
ISC 07 07:26:17.8±0.9, 18.7°N±0.1°×147.0°E±0.2, h52km, n31, σ0§60/29, mb4.0/15, MS3.6/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**19.03**	**299**	LR	LR	07 36 15.9	
	comp=Z,86nm,19.4s,baz=13,slow=32						
MJAR	**Matsushiro Arr**	**19.39**	**338**	P	**Pn**	**07 30 40.9**	**-0.2**
	0.6nm,0.3s,baz=160,slow=10,SNR=4.0						
MJAR	**Matsushiro Arr**	**19.39**	**338**	P	**Pn**	**07 30 40.9**	**-0.2**
WRAB	**Tennant Creek**	**40.32**	**199**	*e*P	**P**	**07 33 51.1**	**+0.7**
	34nm,1.8s						
WRA	**Warramunga Arr**	**40.34**	**199**	P	**P**	**07 33 50.3**	**-0.3**
	0.4nm,0.6s,baz=18,slow=8.2,SNR=6.9						
WRA				PcP	**PcP**	**07 35 53.8**	**+0.6**
	0.2nm,0.7s,baz=23,slow=3.7,SNR=3.6						
WRA	**Warramunga Arr**	**40.34**	**199**	P	**P**	**07 33 50.3**	**-0.3**
WRA				PcP	**PcP**	**07 35 53.8**	**+0.6**
SONM	**Songino Array**	**43.91**	**321**	P	**P**	**07 34 20.0**	**+0.4**
	0.6nm,0.3s,baz=128,slow=7.3,SNR=12						
SONM	**Songino Array**	**43.91**	**321**	P	**P**	**07 34 20.0**	**+0.4**
ASAR	**Alice Springs**	**43.98**	**197**	P	**P**	**07 34 19.8**	**-0.5**

0.3nm,0.4s,baz=14,slow=6.7,SNR=6.8
ASAR Alice Springs 43.98 197 P **P** 07 34 19.8 -0.5
CMAR Chiang Mai Arr 45.41 278 LR LR 07 53 43.4
comp=Z,20nm,19.1s,baz=229,slow=36
STKA Stephens Creek 50.54 186 LR LR 07 56 32.1
comp=Z,55nm,19.0s,baz=26,slow=36
ZALV Zalesovo Beam 58.76 322 P **P** **07 36 10.2 -0.2**
0.6nm,0.3s,baz=91,slow=6.1,SNR=4.0
ZALV Zalesovo Beam 58.76 322 P **P** **07 36 10.2 -0.2**
MKAR Makanchi Array 59.34 314 P **P** **07 36 14.2 -0.4**
0.3nm,0.6s,baz=87,slow=8.2,SNR=3.4
MKAR Makanchi Array 59.34 314 P **P** **07 36 14.2 -0.4**
KURK Kurchatov 62.08 318 *eP* **P** **07 36 33.1 -0.1**
4.7nm,1.2s
KURBB Kurchatov Arra 62.13 318 P **P** **07 36 33.6 +0.1**
1.1nm,0.2s,baz=98,slow=7.0,SNR=7.5
ILAR Eielson Array 63.13 26 P **P** **07 36 39.3 -0.6**
0.1nm,0.4s,baz=248,slow=6.3,SNR=4.9
ILAR Eielson Array 63.13 26 P **P** **07 36 39.3 -0.6**
BVAR Borovoye Array 67.25 320 P **P** **07 37 07.1 +0.2**
2.1nm,0.4s,baz=93,slow=7.3,SNR=22
BVAR Borovoye Array 67.25 320 P **P** **07 37 07.1 +0.2**
BRVK Borovoye 67.31 320 *eP* **P** **07 37 07.4 +0.2**
2.6nm,0.7s
AKTO Aktyubinsk 75.17 319 LR LR 08 12 26.2
comp=Z,41nm,18.5s,baz=345,slow=37
YKA Yellowknife Ar 77.44 28 P **P** **07 38 07.6 +0.3**
0.3nm,1.0s,baz=289,slow=5.9,SNR=3.0
YKA Yellowknife Ar 77.44 28 P **P** **07 38 07.6 +0.3**
ARCES ARCESS Array B 82.87 342 P **P** **07 38 37.8 +1.3**
1.0nm,0.7s,baz=46,slow=6.6,SNR=5.6
ARCES ARCESS Array B 82.87 342 P **P** **07 38 37.8 +1.3**
JOF Joensuu 84.53 336 *ep* **P** **07 38 44.2 -0.9**
0.7nm,0.3s
FINES FINESS Array B 87.40 336 P **P** **07 38 58.4 -0.9**
0.4nm,0.3s,baz=72,slow=4.5,SNR=8.7
FINES FINESS Array B 87.40 336 P **P** **07 38 58.4 -0.9**

*PLV **07** 07:28:03.2±3.0,23.03N×104.30E,h17km±38km,MD2.9*
*IDC **07** 07:28:06.8±1.0,22.94N×104.22E,h0km,mb3.5/6,*
mb1 3.7/7,mb1mx3.5/26,mbtmp3.5/7,ML4.2/1,MS2.5/2,
Ms1 2.5/2,ms1mx2.2/30,Error ellipse: s-maj=25.6km
s-min=18.4km az=88.0
*BJI **07** 07:28:06.6,22.94N×104.07E,h5km,ML4.1/5,Ms3.8/1,*
Ms7 3.6/1

ISC 07 07:28:08.0±1.5,22.92N±0.03×104.17E±0.07,h11km±11km,
n16,σ1§27/23,mb3.4/6,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCVN	**Lai Chau**	**1.28**	**227**	*e*Pg		**Pn**	**07 28 31.6**	**-0.4**
LCVN				*e*Sg		**Sg**	**07 28 49.7**	**+0.4**
TTVN	**Tram Tau**	**1.45**	**173**	*e*Pn		Pn	07 28 29.4	-4.8
TTVN				*e*Sg		**Sn**	**07 28 50.8**	**-2.3**
TGV	**Tuan Giao**	**1.49**	**208**	*e*Pg		**Pn**	**07 28 34.9**	**+0.2**
TGV				*e*Sg		**Sg**	**07 28 56.9**	**+0.8**
SLVN	**Son La**	**1.59**	**189**	*e*Pg		**Pg**	**07 28 38.1**	**-0.5**
SLVN				*e*Sg		**Sg**	**07 29 00.6**	**+1.3**
DBV	**Dienbien**	**1.85**	**215**	*e*Pg		**Pb**	**07 28 42.1**	**+0.2**
DBV				*e*Sg		**Sg**	**07 29 07.2**	**-0.4**
MCVV	**Moc Chau**	**2.15**	**168**	*e*Pg		**Pb**	**07 28 45.8**	**-1.3**
MCVV				*e*Sg		**Sb**	**07 29 14.9**	**+1.1**
KMI	**Kunming**	**2.56**	**330**	Pn		**Pn**	**07 28 49.9**	**+0.3**
KMI				Sg		**Sg**	**07 29 28.6**	**-1.6**
KMI				smax		smax		
	comp=N,150nm,0.7s							
KMI				smax		smax		
	comp=E,190nm,0.7s							
GYA	**Guiyang**	**4.19**	**32**	Pn		**Pn**	**07 29 11.9**	**-0.1**
GYA				Sn		**Sn**	**07 29 59.0**	**-2.1**
GYA				Sg		**Sb**	**07 30 15.2**	**+2.6**
GYA				smax		smax		
	comp=N,350nm,0.9s							
GYA				smax		smax		
	comp=E,400nm,0.8s							
CMAR	**Chiang Mai Arr**	**6.60**	**229**	Pn		**Pn**	**07 29 45.5**	**+0.4**
	comp=E,1.4nm,0.3s,baz=41,slow=12,SNR=7.6							
CMAR				Pg		Pg	07 30 10.0	-4.5
	comp=E,2.2nm,0.3s,baz=43,slow=18,SNR=33							
CMAR				Lg		Lg	07 31 38.0	
	comp=E,1.1nm,0.3s,baz=49,slow=29,SNR=5.5							
PSI	**Prapat**	**20.63**	**195**	LR		LR	07 40 08.6	
	comp=E,14nm,21.8s,baz=184,slow=35							
SONM	**Songino Array**	**24.93**	**4**	P		**P**	**07 33 32.3**	**+1.1**
	comp=E,0.4nm,0.5s,baz=185,slow=8.4,SNR=6.0							
MKAR	**Makanchi Array**	**29.64**	**329**	P		**P**	**07 34 15.1**	**+1.7**
	comp=E,0.2nm,0.5s,baz=134,slow=8.2,SNR=4.9							
MKAR				LR		LR	07 46 32.3	
	comp=E,11nm,20.4s,baz=168,slow=37							
ZALV	**Zalesovo Beam**	**34.26**	**340**	P		**P**	**07 34 53.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=161,slow=9.2,SNR=2.8							
BVAR	**Borovoye Array**	**39.51**	**328**	P		**P**	**07 35 37.5**	**-1.1**
	comp=E,0.4nm,0.6s,baz=152,slow=9.8,SNR=3.8							
WRA	**Warramunga Arr**	**51.78**	**143**	P		**P**	**07 37 16.5**	**+0.4**
	comp=E,1.1nm,0.8s,baz=330,slow=8.5,SNR=9.6							
ASAR	**Alice Springs**	**54.58**	**146**	P		**P**	**07 37 36.7**	**+0.1**
	comp=E,0.3nm,0.5s,baz=329,slow=7.8,SNR=3.0							

ISC 07 07:32:09.9±3.8,39.0N±0.3×73.4E±0.1,h38km,n9,σ1§53/9,
4C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.08**	**74**	Pg		**Pn**	**07 32 42.4**	**0.0**
KSH				Sg		**Sn**	**07 33 06.5**	**-0.7**
AML	**Almayashu**	**3.18**	**4**	P		**Pn**	**07 32 55.3**	**-2.4**
	SNR=30							
KZA	**Kyzart**	**3.43**	**24**	P		**Pn**	**07 33 02.3**	**+1.2**
	SNR=5.5							
EKS2	**Erkin-Say**	**3.71**	**4**	P		**Pn**	**07 33 04.8**	**0.0**
	SNR=10							
AAK	**Ala-Archa**	**3.77**	**13**	P		**Pn**	**07 33 05.7**	**+0.1**
	SNR=6.1							
KBK	**Karagaybulak**	**3.88**	**17**	P		**Pn**	**07 33 09.6**	**+2.4**
	SNR=14							
ULHL	**Ulahol**	**3.94**	**33**	P		Pn	07 33 12.3	+4.3
	SNR=7.7							
TKM2	**Tokmak 2**	**4.30**	**22**	⇑Pn		**Pn**	**07 33 12.6**	**-0.3**
	5.1nm,0.7s							
TKM2				⇑Lg		Lg	07 34 07.8	
	14nm,0.6s							
KK31	**Karatay Array**	**4.68**	**333**	⇑Pn		**Pn**	**07 33 18.6**	**+0.6**
	0.5nm,0.3s,baz=149,slow=16,SNR=9.6							
KK31				⇑Lg		Lg	07 34 20.1	
	3.5nm,0.3s,baz=142,slow=31,SNR=7.6							

MAN 07 08:07:48,18.87N×121.50E,h70km,mb4.2,ML3.0,MS2.8,
2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**0.99**	**237**	⇑*i*P		Pn	08 08 07.4	+1.0
PIP				*i*S		Sn	08 08 22.0	+1.9
CVP	**Callao Caves**	**1.20**	**165**	⇑*i*P		Pn	08 08 10.0	+1.0
ABRA	**Dolores**	**1.42**	**212**	*e*P		Pn	08 08 12.5	+0.5
CAUP	**Cauayan**	**1.94**	**171**	*e*P		Pn	08 08 21.1	+2.3
PALP	**Palanan**	**2.00**	**154**	*e*P		Pn	08 08 20.9	+1.3
BOLP	**Bolinao**	**2.90**	**212**	*e*P		Pn	08 08 33.8	+1.9

*IDC **07** 08:11:02.8±2.4,12.08S×167.15E,h265km±21km,*
mb3.9/21,mb1 4.0/23,mb1mx4.0/25,mbtmp3.9/23,Error
ellipse: s-maj=14.8km s-min=11.6km az=118.0
*NEIC **07** 08:11:06.3±1.1,12.09S×167.06E,h299km±11km,*
mb4.6/25,Error ellipse: s-maj=8.9km s-min=5.4km
az=166.0
*BJI **07** 08:11:06.8,11.91S×166.70E,h293km,mB5.1/9,mb4.7/15*
*ISCJB **07** 08:11:07.0±0.2,12.15S±0.06×167.02E±0.05,h317km,*
mb4.4/50,Error ellipse: s-maj=8.8km s-min=5.6km
az=158.0

ISC 07 08:11:07.9±0.4,12.23S±0.07×167.15E±0.09,h317km,
n185,σ0§81/206,mb4.5/50,40C-42D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.81**	**184**	P		**Pn**	**08 13 22.5**	**-1.2**
	0.7nm,0.3s,baz=58,slow=19,SNR=9.0							
DZM	**Mont Dzumac**	**9.81**	**184**	P		**Pn**	**08 13 22.5**	**-1.2**
MSVF	**Nonsavu**	**11.87**	**119**	*e*Pn		P	08 13 50.6	+0.9
PMG	**Port Moresby**	**19.83**	**276**	P		**P**	**08 15 14.7**	**-1.6**
	0.8nm,0.3s,baz=70,slow=2.9,SNR=5.7							
PMG	**Port Moresby**	**19.83**	**276**	P		**P**	**08 15 14.7**	**-1.6**
EIDS	**Eidsvold**	**20.02**	**227**	*e*P		**P**	**08 15 18.1**	**0.0**
	36nm,0.8s							
CTA	**Charters Tower**	**21.52**	**246**	P		**P**	**08 15 32.3**	**-0.1**
	5.4nm,0.7s,baz=79,slow=9.0,SNR=6.8							
CTA	**Charters Tower**	**21.52**	**246**	P		**P**	**08 15 32.3**	**-0.1**
CTAO	**Charters Tower**	**21.52**	**246**	*e*P		**P**	**08 15 33.0**	**+0.6**
	13nm,0.7s							
ARMA	**Armidale**	**23.11**	**216**	*e*P		**P**	**08 15 47.5**	**+0.6**
	5.9nm,0.6s							
COEN	**Coen**	**23.41**	**263**	*e*P		**P**	**08 15 49.7**	**+0.1**
	82nm,0.8s							
OUZ	**Omahuta**	**23.62**	**167**	*e*P		P	08 15 57.8	+6.6
	120nm,1.8s							
STKA	**Stephens Creek**	**30.57**	**226**	P		**P**	**08 16 53.3**	**+0.2**
	6.0nm,0.7s,baz=38,slow=11,SNR=11							
STKA	**Stephens Creek**	**30.57**	**226**	*e*P		**P**	**08 16 54.0**	**+1.0**
	1.2nm,0.8s							
WRAB	**Tennant Creek**	**32.38**	**252**	*e*P		**P**	**08 17 07.2**	**-1.8**
	3.5nm,0.8s							
WRA	**Warramunga Arr**	**32.40**	**252**	P		**P**	**08 17 07.6**	**-1.5**
	0.9nm,0.4s,baz=82,slow=8.9,SNR=30							
WRA				PcP		**PcP**	**08 19 49.6**	**+1.2**
	0.4nm,0.6s,baz=62,slow=3.3,SNR=3.1							
WRA	**Warramunga Arr**	**32.40**	**252**	P		**P**	**08 17 07.6**	**-1.5**
WRA				PcP		**PcP**	**08 19 49.6**	**+1.2**
ASAR	**Alice Springs**	**33.52**	**246**	P		**P**	**08 17 17.4**	**-1.4**
	1.4nm,0.6s,baz=68,slow=9.9,SNR=28							
ASAR				PcP		**PcP**	**08 19 51.9**	**+0.4**
	0.3nm,0.5s,baz=78,slow=2.2,SNR=3.2							
ASAR				ScP		ScP	08 23 12.5	+7.0
	0.5nm,0.8s,baz=95,slow=3.3,SNR=4.0							
ASAR	**Alice Springs**	**33.52**	**246**	P		**P**	**08 17 17.4**	**-1.4**
ASAR				PcP		**PcP**	**08 19 51.9**	**+0.4**
ASAR				ScP		ScP	08 23 12.5	+7.0
FITZ	**Fitzroy Crossi**	**40.42**	**256**	P		**P**	**08 18 16.0**	**-0.5**
	2.6nm,0.3s,baz=72,slow=7.6,SNR=21							
FITZ	**Fitzroy Crossi**	**40.42**	**256**	*e*P		**P**	**08 18 15.9**	**-0.6**
	2.9nm,0.4s							
MJAR	**Matsushiro Arr**	**55.65**	**332**	P		**P**	**08 20 09.9**	**-2.0**
	6.4nm,0.8s,baz=168,slow=8.7,SNR=13							
MJAR	**Matsushiro Arr**	**55.65**	**332**	P		**P**	**08 20 09.9**	**-2.0**
JNU	**Nakatsue**	**56.84**	**324**	P		**P**	**08 20 19.0**	**-1.3**
	7.4nm,0.6s,baz=180,slow=13,SNR=6.7							
JNU	**Nakatsue**	**56.84**	**324**	P		**P**	**08 20 19.0**	**-1.3**
ASAJ	**Asahikawa**	**60.37**	**340**	P		**P**	**08 20 43.8**	**-0.4**
	14nm,0.8s,baz=177,slow=13,SNR=5.8							
ASAJ	**Asahikawa**	**60.37**	**340**	P		**P**	**08 20 43.8**	**-0.4**
KSRS	**Korea Array**	**61.63**	**325**	P		**P**	**08 20 52.4**	**-0.3**
	2.1nm,0.8s,baz=132,slow=6.5,SNR=5.8							
KSAR	**Wonju Array Be**	**61.64**	**325**	P		**P**	**08 20 52.4**	**-0.4**
NJ2	**Nanjing**	**63.82**	**315**	*e*P		**P**	**08 21 08.1**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,20nm,1.0s							
USRK	**Ussuriysk Arra**	**64.62**	**333**	P		**P**	**08 21 12.1**	**0.0**
	comp=Z,4.3nm,0.8s,baz=155,slow=8.1,SNR=5.6							
VNDA	**Vanda**	**65.34**	**181**	P		**P**	**08 21 17.4**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=342,slow=6.2,SNR=9.2							
VNDA	**Vanda**	**65.34**	**181**	P		**P**	**08 21 17.4**	**+1.2**
PETK	**Petropavlovsk-**	**65.58**	**354**	P		**P**	**08 21 17.2**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=144,slow=6.4,SNR=4.2							
PETK	**Petropavlovsk-**	**65.58**	**354**	P		**P**	**08 21 17.2**	**-0.9**
MDJ	**Mudanjiang**	**66.04**	**332**	P		**P**	**08 21 21.0**	**-0.2**
MDJ				pmax		pmax		
	comp=Z,7.0nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,150nm,3.9s							
CN2	**Changchun**	**67.46**	**329**	*e*P		**P**	**08 21 29.7**	**-0.4**
CN2				*e*pP		**pP**	**08 22 41.5**	**+0.6**
CN2				*e*S		**S**	**08 29 58.8**	**-1.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**70.22**	**304**	*e*P		**P**	**08 21 48.0**	**+0.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**73.62**	**319**	*e*P		**P**	**08 22 07.8**	**+0.5**
HHC				pP		**pP**	**08 23 20.6**	**+1.2**
HHC				PP		**PP**	**08 24 58.3**	**+1.7**
HHC				S		**S**	**08 31 10.7**	**-0.5**
HHC				ScS		**SKKSac**	**08 31 43.3**	**-0.2**
HHC				SS		**SS**	**08 36 03.5**	**+1.2**
HHC				pmax		pmax		
	comp=Z,17nm,0.5s							
HHC				pmax		pmax		
	comp=Z,200nm,5.7s							
CMAR	**Chiang Mai Arr**	**73.84**	**293**	P		**P**	**08 22 09.8**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=126,slow=4.5,SNR=14							
CMAR	**Chiang Mai Arr**	**73.84**	**293**	P		**P**	**08 22 09.8**	**+0.9**
LZH	**Lanzhou**	**76.57**	**312**	*e*P		**P**	**08 22 23.8**	**-0.4**
LZH				pP		**pP**	**08 23 34.0**	**-2.9**
LZH				sP		**sP**	**08 24 08.2**	**-2.3**
LZH				pmax		pmax		
	comp=Z,28nm,1.6s							
LZH				pmax		pmax		
	comp=Z,160nm,4.4s							
QSPA	**South Pole Qui**	**77.78**	**180**	*e*P		**P**	**08 22 31.4**	**+1.0**
	comp=Z,10nm,1.0s							
ULN	**Ulaanbaatar**	**80.06**	**324**	*e*P		**P**	**08 22 43.0**	**+0.1**
SONM	**Songino Array**	**80.43**	**323**	P		**P**	**08 22 44.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=140,slow=4.9,SNR=13							
SONM	**Songino Array**	**80.43**	**323**	P		**P**	**08 22 44.4**	**-0.5**
GTA	**Gaotai**	**80.86**	**314**	*e*P		**P**	**08 22 48.4**	**+1.0**
GTA				pP		**pP**	**08 24 01.6**	**+0.7**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TRF	**Thorofare Moun**	**82.21**	**18**	*e*P		**P**	**08 22 52.4**	**-1.5**
	comp=Z,12nm,0.9s							
YBH	**Yreka Blue Hor**	**83.75**	**45**	P		**P**	**08 23 02.5**	**+0.4**
	comp=Z,10nm,0.8s,baz=225,slow=2.1,SNR=19							
YBH	**Yreka Blue Hor**	**83.75**	**45**	*e*P		**P**	**08 23 02.2**	**+0.1**
	comp=Z,10nm,0.9s							
HUMO	**Hull Mountain**	**83.91**	**44**	*e*P		**P**	**08 23 03.1**	**+0.3**
	comp=Z,11nm,0.9s							
COLA	**College**	**83.99**	**18**	*e*P		**P**	**08 23 01.4**	**-1.2**
	comp=Z,20nm,0.9s							
CMB	**Columbia Colle**	**84.07**	**49**	*e*P		**P**	**08 23 03.9**	**+0.2**
	comp=Z,6.1nm,0.9s							
ILAR	**Eielson Array**	**84.20**	**18**	P		**P**	**08 23 02.5**	**-1.2**
	comp=Z,16nm,0.6s,baz=246,slow=5.2,SNR=364							
ILAR	**Eielson Array**	**84.20**	**18**	P		**P**	**08 23 02.5**	**-1.2**
ISA	**Isabella**	**84.71**	**52**	*e*P		**P**	**08 23 07.2**	**+0.1**
	comp=Z,3.1nm,0.8s							
ISA	**Isabella**	**84.71**	**52**	⇑P		**P**	**08 23 07.2**	**+0.1**
	baz=85							
EDW2	**Edwards Air Fo**	**84.83**	**53**	⇑P		**P**	**08 23 07.8**	**+0.2**
	baz=85							
COLD	**Coldfoot**	**85.07**	**15**	*e*P		**P**	**08 23 08.8**	**+0.8**
	comp=Z,8.7nm,0.9s							
LRMC	**Laurel Mountai**	**85.26**	**52**	⇑P		**P**	**08 23 10.1**	**+0.3**
	baz=85							
MONP	**Monument Peak**	**85.46**	**55**	⇓P		**P**	**08 23 11.3**	**+0.3**
	baz=86							
MPMC	**Manual Prospec**	**85.60**	**52**	⇑P		**P**	**08 23 11.4**	**-0.1**
	baz=86							
NVAR	**Mina Array Bea**	**85.74**	**49**	P		**P**	**08 23 12.2**	**0.0**
	comp=Z,4.0nm,0.7s,baz=234,slow=7.7,SNR=29							
NVAR	**Mina Array Bea**	**85.74**	**49**	P		**P**	**08 23 12.2**	**0.0**
EGAK	**Eagle**	**86.02**	**20**	*e*P		**P**	**08 23 12.2**	**-0.5**
	comp=Z,11nm,0.8s							
HEC	**Hector,Ludlow**	**86.12**	**53**	⇓P		**P**	**08 23 13.8**	**-0.1**
	baz=86							
BELC	**Belle Mtn. Jos**	**86.13**	**54**	⇓P		**P**	**08 23 14.3**	**+0.2**
	baz=86							
FURC	**Furnace Creek,**	**86.21**	**52**	⇑P		**P**	**08 23 14.9**	**+0.7**
	baz=86							
BC3	**Big Chuckawall**	**86.46**	**55**	⇓P		**P**	**08 23 16.1**	**+0.5**
	baz=86							
TUQ	**Turquoise Moun**	**86.62**	**53**	⇓P		**P**	**08 23 16.6**	**+0.1**
	baz=87							
GMRC	**Granite Mounta**	**86.63**	**54**	⇓P		**P**	**08 23 16.6**	**+0.1**
	baz=87							
Y12C	**Blythe**	**87.23**	**55**	⇓P		**P**	**08 23 19.9**	**+0.7**
	baz=87							
113A	**Mohawk Valley,**	**87.56**	**56**	⇓P		**P**	**08 23 21.2**	**+0.5**
	baz=88							
HAWA	**Hanford**	**87.58**	**42**	*e*P		**P**	**08 23 20.7**	**+0.2**
	comp=Z,7.2nm,0.9s							
R11A	**Troy Canyon, C**	**87.75**	**50**	⇓P		**P**	**08 23 22.3**	**+0.5**
	baz=88							
W13A	**Hualapai Mount**	**88.11**	**54**	⇑P		**P**	**08 23 24.0**	**+0.4**
	baz=88							
BMO	**Blue Mountains**	**88.53**	**44**	*e*P		**P**	**08 23 24.8**	**-0.4**
	comp=Z,5.7nm,1.4s							
ELK	**Elko**	**88.71**	**48**	*e*P		**P**	**08 23 26.4**	**+0.1**
R13A	**O'Grain Ranch,**	**88.92**	**51**	⇑P		**P**	**08 23 28.1**	**+0.8**
	baz=89							
MFID	**Camas Ranch**	**89.10**	**45**	*e*P		**P**	**08 23 28.1**	**+0.2**
	comp=Z,6.0nm,0.8s							
MFID	**Camas Ranch**	**89.10**	**45**	⇓P		**P**	**08 23 28.1**	**+0.2**
	baz=89,SNR=8.1							
I12A	**Atlanta**	**89.69**	**45**	⇑P		**P**	**08 23 31.0**	**+0.3**
	baz=90							
U15A	**North Rim**	**89.72**	**53**	⇓P		**P**	**08 23 32.0**	**+0.8**
	baz=90,SNR=12							
NEW	**Newport**	**89.75**	**40**	*e*P		**P**	**08 23 30.4**	**-0.3**
	comp=Z,7.1nm,1.0s							
NEW	**Newport**	**89.75**	**40**	⇓P		**P**	**08 23 30.4**	**-0.3**
	baz=90,SNR=6.4							
X16A	**Lo Mia Camp, P**	**89.87**	**55**	⇓P		**P**	**08 23 32.6**	**+0.8**
	baz=90,SNR=9.2							
G12A	**Big Creek, Yel**	**89.96**	**44**	⇑P		**P**	**08 23 32.0**	**0.0**
	baz=90							
H12A	**Diamond D Ranc**	**90.11**	**44**	⇓P		**P**	**08 23 32.5**	**-0.1**
	baz=90,SNR=8.6							
HLID	**Hailey**	**90.12**	**45**	*e*P		**P**	**08 23 33.3**	**+0.5**
	comp=Z,4.8nm,0.7s							
HLID	**Hailey**	**90.12**	**45**	⇓P		**P**	**08 23 33.2**	**+0.4**
	baz=90,SNR=13							
C11A	**Tepee Creek (N**	**90.17**	**41**	⇓P		**P**	**08 23 32.9**	**+0.2**
	baz=90							
E12A	**Beaver Dam Sad**	**90.18**	**42**	⇑P		**P**	**08 23 32.3**	**-0.6**
	baz=90,SNR=6.7							
F12A	**Elk City**	**90.19**	**43**	⇑P		**P**	**08 23 32.6**	**-0.3**
	baz=90,SNR=12							
WUAZ	**Wupatki**	**90.21**	**54**	⇑P		**P**	**08 23 33.9**	**+0.6**
	baz=90							
J13A	**Cove Ranch, Pi**	**90.24**	**46**	⇓P		**P**	**08 23 33.8**	**+0.5**
	baz=90,SNR=10							
DUG	**Dugway**	**90.33**	**49**	*e*P		**P**	**08 23 33.8**	**0.0**
	comp=Z,9.7nm,1.5s							
DUG	**Dugway**	**90.33**	**49**	⇓P		**P**	**08 23 34.0**	**+0.2**
	baz=90							
MSU	**Marysvale**	**90.36**	**51**	*e*P		P	08 23 35.4	+1.4
I13A	**Wildhorse Cree**	**90.43**	**45**	⇑P		**P**	**08 23 34.7**	**+0.5**
	baz=90,SNR=17							
D12A	**Red Ives Fores**	**90.51**	**42**	⇓P		**P**	**08 23 34.2**	**-0.2**
	baz=91							
H13A	**Challis**	**90.52**	**44**	⇓P		**P**	**08 23 34.9**	**+0.3**
	baz=91,SNR=10							
L14A	**Malta**	**90.52**	**47**	⇑P		**P**	**08 23 35.1**	**+0.5**
	baz=91,SNR=13							
P15A	**Leamington**	**90.56**	**50**	⇑P		**P**	**08 23 35.0**	**+0.1**
	baz=91							
S16A	**Weppner Ranch,**	**90.60**	**52**	⇑P		**P**	**08 23 35.3**	**+0.2**
	baz=91							
C12B	**Naegeli Ranch,**	**90.63**	**41**	⇑P		**P**	**08 23 35.0**	**+0.1**
	baz=91							
J14A	**Carey**	**90.68**	**46**	⇑P		**P**	**08 23 35.9**	**+0.6**
	baz=91							
G13A	**Cobalt**	**90.69**	**44**	⇑P		**P**	**08 23 35.2**	**-0.1**
	baz=91,SNR=12							
K14A	**Jones Ranch, D**	**90.71**	**47**	⇑P		**P**	**08 23 35.9**	**+0.5**
	baz=91,SNR=9.0							
HVU	**Hansel Valley**	**90.79**	**47**	*e*P		**P**	**08 23 36.6**	**+0.7**
	comp=Z,7.4nm,1.0s							
F13A	**Darby**	**90.82**	**43**	⇑P		**P**	**08 23 35.6**	**-0.3**
	baz=91,SNR=13							
R16A	**Teasdale**	**90.83**	**51**	⇑P		**P**	**08 23 37.2**	**+0.9**
	baz=91							
A12A	**Yaak River Ran**	**90.89**	**40**	⇑P		**P**	**08 23 36.4**	**+0.4**
	baz=91							
319A	**Douglas**	**90.89**	**58**	⇓P		**P**	**08 23 37.4**	**+0.9**
	baz=91							
I14A	**Mackay**	**90.89**	**45**	P		**P**	**08 23 36.8**	**+0.4**
	baz=91							
E13A	**Victor**	**91.10**	**43**	⇓P		**P**	**08 23 36.6**	**-0.5**
	baz=91							
D13A	**Huson**	**91.11**	**42**	⇓P		**P**	**08 23 36.6**	**-0.5**
	baz=91							
BSMT	**Bassoo Peak**	**91.11**	**41**	*e*P		**P**	**08 23 37.3**	**0.0**
H14A	**Leadore**	**91.14**	**45**	⇓P		**P**	**08 23 37.9**	**+0.4**
	baz=91,SNR=7.0							
G14A	**Jackson**	**91.25**	**44**	⇑P		**P**	**08 23 38.3**	**+0.3**
	baz=91,SNR=7.7							
R17A	**Hanksville Air**	**91.45**	**51**	⇓P		**P**	**08 23 39.3**	**+0.3**
	baz=92,SNR=5.3							
J15A	**Blackfoot**	**91.46**	**46**	⇑P		**P**	**08 23 39.7**	**+0.8**
	baz=92							
F14A	**Wisdom**	**91.47**	**43**	⇑P		**P**	**08 23 38.5**	**-0.4**
	baz=92							
E14A	**Clinton**	**91.56**	**43**	⇑P		**P**	**08 23 39.2**	**-0.1**
	baz=92,SNR=5.4							
MCMT	**McKenzie Canyo**	**91.56**	**45**	*e*P		**P**	**08 23 39.7**	**+0.2**
H15A	**Lima**	**91.64**	**45**	⇓P		**P**	**08 23 40.2**	**+0.4**
	baz=92,SNR=10							
A13A	**Flathead Natio**	**91.67**	**40**	⇑

YKA	**Yellowknife Ar**	**95.39**	**27**	P		**P**	**08 23 54.6**	**-1.7**
YKA				PKiKP		PKiKP	08 28 39.4	+4.6
KSH	**Kashi**	**98.56**	**309**	*e*P		**P**	**08 24 12.6**	**+1.3**
KSH				*e*pP		**pP**	**08 25 27.4**	**+0.6**
KSH				sP		**sP**	**08 25 58.6**	**-1.1**
KSH				*e*PP		**PP**	**08 28 19.9**	**+3.2**
KSH				SKS		**SKSac**	**08 34 17.6**	**-0.8**
KSH				S		**ScS**	**08 35 09.8**	**-2.3**
KSH				SS		**SS**	**08 42 08.5**	**+2.7**
KSH				pmax		pmax		
	comp=Z,120nm,4.3s							
KSH				LR		LR		
	comp=N,120nm,6.8s							
KSH				LR		LR		
	comp=E,79nm,5.7s							
KSH				LR		LR		
	comp=Z,260nm,5.8s							
ARCES	**ARCESS Array B**	**117.82**	**346**	PKP		**PKPdf**	**08 29 16.2**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=63,slow=2.2,SNR=37							
ARCES	**ARCESS Array B**	**117.82**	**346**	PKP		**PKPdf**	**08 29 16.2**	**-0.1**
SCHQ	**Schefferville**	**120.29**	**33**	PKP		**PKPdf**	**08 29 20.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=256,slow=2.7,SNR=7.5							
SCHQ	**Schefferville**	**120.29**	**33**	PKP		**PKPdf**	**08 29 20.8**	**-0.6**
FINES	**FINESS Array B**	**123.37**	**339**	PKP		**PKPdf**	**08 29 27.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=48,slow=4.1,SNR=4.9							
FINES	**FINESS Array B**	**123.37**	**339**	PKP		**PKPdf**	**08 29 27.2**	**+0.2**
NB2	**NORSAR Subarra**	**128.19**	**345**	PKP		**PKPdf**	**08 29 36.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=31,slow=2.1							
NOA	**NORSAR Array B**	**128.19**	**345**	PKP		**PKPdf**	**08 29 36.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=30,slow=2.0,SNR=5.0							
NOA	**NORSAR Array B**	**128.19**	**345**	PKP		**PKPdf**	**08 29 36.8**	**+0.3**
GERES	**GERESS Array B**	**137.37**	**334**	PKP		**PKPdf**	**08 29 54.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=58,slow=3.3,SNR=6.6							
GERES	**GERESS Array B**	**137.37**	**334**	PKP		**PKPdf**	**08 29 54.8**	**+0.7**
KEST	**Kesra**	**149.18**	**323**	PKPbc		**PKPbc**	**08 30 20.5**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=301,slow=2.7,SNR=5.4							
KEST	**Kesra**	**149.18**	**323**	PKPbc		**PKPbc**	**08 30 20.5**	**+0.8**
ESDC	**Sonseca Array**	**151.56**	**345**	PKPbc		**PKPbc**	**08 30 25.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=29,slow=1.8,SNR=7.3							
ESDC				PKPab		**PKPab**	**08 30 34.9**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=16,slow=4.1,SNR=9.4							
ESDC	**Sonseca Array**	**151.56**	**345**	PKPbc		**PKPbc**	**08 30 25.7**	**+0.6**
ESDC				PKPab		**PKPab**	**08 30 34.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.78**	**275**	PKP		**PKPdf**	**08 30 36.3**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=352,slow=1.7,SNR=9.8							
TORD				PKPab		**PKPab**	**08 31 36.8**	**-0.5**
	comp=Z,0.6nm,1.1s,baz=90,slow=4.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.78**	**275**	PKP		**PKPdf**	**08 30 36.3**	**+0.4**
TORD				PKPab		**PKPab**	**08 31 36.8**	**-0.5**

IDC 07 08:14:09.6±0.7, 27.25N×140.51E, h463km±23km, mb2.9/5, mb1 3.0/5, mb1mx2.6/25, mbtmp2.9/5, Error ellipse: s-maj=77.7km s-min=20.4km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.50**	**95**	P	P	08 15 09.1	+0.2
	4.5nm,0.3s,baz=290,slow=16,SNR=9.0						
CBIJ				S	S	08 15 57.2	+0.2
	3.7nm,0.3s,baz=315,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**47.29**	**188**	P	P	08 21 59.9	-0.2
	0.3nm,0.7s,baz=5.7,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**49.23**	**310**	P	P	08 22 14.7	+0.3
	0.1nm,0.4s,baz=89,slow=9.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**51.87**	**314**	P	P	08 22 33.3	-0.4
	0.3nm,0.3s,baz=91,slow=8.0,SNR=7.7						
BVAR	**Borovoye Array**	**56.92**	**317**	P	P	08 23 09.2	-0.1
	0.6nm,0.4s,baz=84,slow=7.3,SNR=6.0						
FINES	**FINESS Array B**	**77.15**	**333**	P	P	08 25 14.2	+0.1
	0.9nm,0.4s,baz=68,slow=5.6,SNR=9.0						

*ISCJB **07** 08:22:47.4±0.4, 32.45N×0.03×105.50E±0.06, h11km, mb3.7/10, Error ellipse: s-maj=7.2km s-min=4.7km az=17.2*
*IDC **07** 08:22:47.6±0.8, 32.42N×105.33E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/29, mbtmp3.7/12, ML3.9/2, MS2.6/1, Ms1 2.6/1, ms1mx1.8/33, Error ellipse: s-maj=49.8km s-min=15.0km az=61.0*
*BJI **07** 08:22:49.8, 32.60N×105.36E, h19km, ML3.8/13, Ms3.8/5, Ms7 3.7/4*
ISC 07 08:22:49.3±0.6, 32.50N±0.04×105.50E±0.05, h11km, n17, σ1§03/26, mb4.0/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.17**	**224**	Pn	**Pn**	**08 23 26.4**	**+1.0**
CD2				Pg	**Pb**	**08 23 28.6**	**0.0**
CD2				Sn	**Sb**	**08 23 55.1**	**-0.4**
CD2				Sg	**Sg**	**08 23 58.2**	**-0.8**
CD2				smax	smax		
	comp=N,2μm,0.5s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
XAN	**Xi'an**	**3.25**	**61**	Pn	**Pn**	**08 23 40.9**	**+0.6**
XAN				Pg	**Pb**	**08 23 47.4**	**+0.3**
XAN				Sn	**Sn**	**08 24 17.5**	**-1.6**
XAN				Sg	**Sb**	**08 24 26.7**	**-0.1**
XAN				smax	smax		
	comp=N,320nm,0.7s						
XAN				smax	smax		
	comp=E,150nm,0.8s						
XAN				LR	LR		
	comp=N,240nm,11.8s						
XAN				LR	LR		
	comp=E,53nm,11.6s						
LZH	**Lanzhou**	**3.83**	**340**	Pn	**Pn**	**08 23 49.0**	**+0.6**
LZH				Pg	**Pb**	**08 23 55.1**	**-2.0**
LZH				Sn	**Sn**	**08 24 35.3**	**+1.7**
LZH				Sg	**Sb**	**08 24 45.1**	**+1.5**
LZH				smax	smax		
	comp=N,430nm,0.6s						
LZH				smax	smax		
	comp=E,640nm,0.6s						
LZH				LR	LR		
	comp=N,540nm,5.6s						
LZH				LR	LR		
	comp=E,530nm,4.2s						
LZH				LR	LR		
	comp=Z,800nm,7.4s						
GYA	**Guiyang**	**6.10**	**170**	Pn	**Pn**	**08 24 20.8**	**+1.2**
GYA				Sn	**Sn**	**08 25 29.6**	**+0.1**
GYA				smax	smax		
	comp=N,70nm,0.7s						
GYA				smax	smax		
	comp=E,50nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.17**	**204**	Pn	**Pn**	**08 26 21.9**	**-1.7**
	comp=E,0.6nm,0.3s,baz=23,slow=12,SNR=2.9						
SONM	**Songino Array**	**15.34**	**2**	Pn	**Pn**	**08 26 26.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=180,slow=9.7,SNR=2.5						
KSRS	**Korea Array**	**19.02**	**69**	LR	LR	08 35 27.2	
	comp=E,19nm,20.3s,baz=70,slow=40						
MKAR	**Makanchi Array**	**22.76**	**316**	P	**P**	**08 27 50.6**	**-1.0**
	comp=E,0.6nm,0.5s,baz=118,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**26.02**	**332**	P	**P**	**08 28 23.4**	**+1.1**
	comp=E,0.6nm,0.5s,baz=139,slow=10.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**26.88**	**320**	P	**P**	**08 28 30.2**	**+0.2**
	comp=E,0.7nm,0.5s,baz=129,slow=9.6,SNR=5.5						
FITZ	**Fitzroy Crossi**	**53.88**	**156**	P	**P**	**08 32 12.3**	**-0.3**
	comp=E,1.2nm,0.7s,baz=347,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**56.48**	**335**	P	**P**	**08 32 30.4**	**-0.5**
	comp=E,1.2nm,0.8s,baz=88,slow=9.1,SNR=2.8						
FINES	**FINESS Array B**	**57.08**	**326**	P	**P**	**08 32 36.1**	**+0.9**
	comp=E,0.7nm,0.4s,baz=69,slow=7.6,SNR=4.1						
WRA	**Warramunga Arr**	**59.00**	**148**	P	**P**	**08 32 49.1**	**0.0**
	comp=E,1.3nm,0.5s,baz=340,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**62.09**	**150**	P	**P**	**08 33 10.5**	**+0.3**
	comp=E,0.6nm,0.5s,baz=330,slow=6.5,SNR=12						
NOA	**NORSAR Array B**	**64.13**	**327**	P	**P**	**08 33 22.5**	**-0.9**
	comp=E,0.7nm,0.6s,baz=70,slow=6.5,SNR=2.6						
YKA	**Yellowknife Ar**	**80.01**	**18**	P	**P**	**08 34 59.4**	**+1.0**
	comp=E,0.1nm,0.5s,baz=329,slow=5.3,SNR=3.5						

*CSEM **07** 08:27:48.6±0.2, 36.57N×7.02W, h40km, mb3.8/4, Error ellipse: s-maj=5.1km s-min=2.4km az=8.0*
*MDD **07** 08:27:48.8±1.3, 36.53N×7.02W, h44km±53km, mb3.8/4, Error ellipse: s-maj=14.6km s-min=6.7km az=8.0, PRXIMO*
*INMG **07** 08:27:49.3±0.9, 36.53N×7.02W, h31km, ML1.8, Error ellipse: s-maj=5.4km s-min=2.7km az=179.0*
ISC 07 08:27:47.2±1.8, 36.55N±0.08×7.01W±0.03, h29km±15km, n27, σ0§65/50, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.98**	**71**	P	**Pn**	**08 28 05.5**	**+0.5**
	4.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**08 28 18.4**	**+0.5**
	22nm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.98**	**71**	P	**Pn**	**08 28 05.5**	**+0.5**
	4.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**08 28 18.4**	**+0.5**
	22nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**1.01**	**313**	*e*P	**Pb**	**08 28 06.3**	**+0.1**
PBDV				*e*S	**Sn**	**08 28 18.8**	**0.0**
PBDV				A	A	08 28 19.5	
	6.5nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.01**	**313**	P	**Pb**	**08 28 06.3**	**+0.1**
PBDV				S	**Sn**	**08 28 18.8**	**0.0**
	6.5nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.01**	**313**	P	**Pb**	**08 28 06.3**	**+0.1**
PBDV				*e*S	**Sn**	**08 28 18.8**	**0.0**
	6.5nm,0.1s						
PVAQ	**Vaqueiros**	**1.02**	**327**	*e*P	**Pb**	**08 28 06.4**	**+0.1**
PVAQ				*e*S	**Sn**	**08 28 19.4**	**+0.4**
PVAQ				A	A	08 28 19.9	
	23nm,0.1s						
PVAQ	**Vaqueiros**	**1.02**	**327**	P	**Pb**	**08 28 06.4**	**+0.1**
PVAQ				S	**Sn**	**08 28 19.4**	**+0.4**
	23nm,0.1s						
PVAQ	**Vaqueiros**	**1.02**	**327**	P	**Pb**	**08 28 06.4**	**+0.1**
PVAQ				*e*S	**Sn**	**08 28 19.4**	**+0.4**
	23nm,0.1s						
EGRO	**El Granado**	**1.05**	**339**	⇓P	**Pb**	**08 28 06.9**	**+0.1**
	3.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**08 28 19.9**	**+0.2**
	8.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.05**	**339**	P	**Pb**	**08 28 06.9**	**+0.1**
	3.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**08 28 19.9**	**+0.2**
	8.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.25**	**12**	P	**Pb**	**08 28 09.3**	**-0.8**
	1.0nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**08 28 24.0**	**-0.5**
	3.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.25**	**12**	P	**Pb**	**08 28 09.3**	**-0.8**
	1.0nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**08 28 24.0**	**-0.5**
	3.4nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**1.36**	**323**	*e*P	**Pb**	**08 28 11.1**	**-0.9**
PCVE				*e*S	**Sn**	**08 28 27.2**	**0.0**
PCVE				A	A	08 28 28.7	
	2.1nm,0.3s						
PCVE	**Castro Verde**	**1.36**	**323**	P	**Pb**	**08 28 11.1**	**-0.9**
PCVE				S	**Sn**	**08 28 27.2**	**0.0**
	2.1nm,0.3s						
PCVE	**Castro Verde**	**1.36**	**323**	P	**Pb**	**08 28 11.1**	**-0.9**
PCVE				*e*S	**Sn**	**08 28 27.2**	**0.0**
	2.1nm,0.3s						
MORF	**Marmelete**	**1.52**	**300**	*e*S	**Sn**	**08 28 30.8**	**-0.4**
MORF				A	A	08 28 32.0	
	6.4nm,0.1s						
MORF	**Marmelete**	**1.52**	**300**	S	**Sn**	**08 28 30.8**	**-0.4**
	6.4nm,0.1s						
MORF	**Marmelete**	**1.52**	**300**	*e*S	**Sn**	**08 28 30.8**	**-0.4**
	6.4nm,0.1s						
PFVI	**Vila Bisbo**	**1.57**	**292**	*e*P	**Pn**	**08 28 13.5**	**+0.4**
PFVI				*e*S	**Sn**	**08 28 31.6**	**-0.9**
PFVI				A	A	08 28 33.5	
	5.7nm,0.2s						
PFVI	**Vila Bisbo**	**1.57**	**292**	P	**Pn**	**08 28 13.3**	**+0.2**
	0.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**08 28 31.5**	**-0.9**
	5.2nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.57**	**292**	*e*P	**Pn**	**08 28 13.5**	**+0.4**
PFVI				*e*S	**Sn**	**08 28 31.6**	**-0.9**
	5.7nm,0.2s						
PNCL	**Nicolau / Gran**	**1.97**	**323**	*e*Pn	**Pn**	**08 28 19.4**	**+0.7**
PNCL				*e*Sn	**Sn**	**08 28 41.7**	**-0.7**
PNCL				A	A	08 28 45.6	
	1.7nm,0.3s						
PNCL	**Nicolau / Gran**	**1.97**	**323**	*e*Pn	**Pn**	**08 28 19.4**	**+0.7**
PNCL				*e*Sn	**Sn**	**08 28 41.7**	**-0.7**
	1.7nm,0.3s						
EBAD	**Badajoz**	**2.20**	**360**	P	**Pn**	**08 28 22.6**	**+0.8**
	2.1nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**08 28 47.4**	**-0.7**
	1.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.20**	**360**	P	**Pn**	**08 28 22.6**	**+0.8**
	2.1nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**08 28 47.4**	**-0.7**
	1.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.52**	**49**	P	**Pn**	**08 28 27.1**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 28 53.9**	**-2.2**
	1.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.52**	**49**	P	**Pn**	**08 28 27.1**	**+0.9**
	0.1nm,0.1s,SNR=7.9						

IDC 07 09:12:56.0±3.3, 59.66S×25.21W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=118.1km s-min=42.8km az=172.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**33.78**	**284**	P	P	09 19 41.2	+1.8
	1.5nm,0.8s,baz=137,slow=9.4,SNR=4.1						
LPAZ	**La Paz**	**53.33**	**305**	P	P	09 22 16.2	-1.4
	0.8nm,0.4s,baz=162,slow=4.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**75.74**	**27**	P	P	09 24 44.2	+1.0
	0.2nm,0.3s,baz=194,slow=5.3,SNR=3.2						
YKA	**Yellowknife Ar**	**139.51**	**314**	PKP	PKPdf	09 32 23.8	+0.1
	0.2nm,0.7s,baz=113,slow=2.7,SNR=4.0						
ILAR	**Eielson Array**	**153.21**	**306**	PKPbc	PKPbc	09 32 53.0	-1.1
	0.3nm,0.6s,baz=153,slow=2.9,SNR=6.1						

*IDC **07** 09:16:27.5±1.1, 54.29N×86.11E, h0km, mb3.4/2, mb1 3.8/7, mb1mx3.5/32, mbtmp3.7/7, ML3.4/5, MS4.1/1, Ms1 4.1/1, ms1mx2.3/35, Error ellipse: s-maj=11.3km s-min=9.3km az=127.0*
*ISCJB **07** 09:16:29.3±0.9, 54.27N±0.06×86.1E±0.2, h33km, mb3.5/2, MS4.0/1, Error ellipse: s-maj=13.5km s-min=7.8km az=22.4*
*NNC **07** 09:16:29.9±4.6, 54.12N×86.24E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=38.0km s-min=30.2km az=172.0*
ISC 07 09:16:32.1±1.2, 54.36N±0.09×86.0E±0.1, h35km, n13, σ1§37/15, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**0.78**	**239**	Pg	Pn	09 16 41.6	-5.0
	4.5nm,0.3s,baz=66,slow=16,SNR=83						
ZALV				Lg	Lg	09 16 55.6	
	35nm,0.3s,baz=70,slow=28,SNR=64						
KURK	**Kurchatov**	**5.77**	**234**	⇓Pn	**Pn**	**09 17 56.9**	**+1.7**
	11nm,0.7s						
KURK				⇓Sn	**Sn**	**09 19 02.3**	**+2.2**
	3.9nm,0.7s						
KURK				⇑Lg	Lg	09 19 33.5	
	19nm,0.8s						
KURBB	**Kurchatov Arra**	**5.88**	**233**	Pn	**Pn**	**09 17 57.5**	**+0.9**
	0.7nm,0.3s,baz=52,slow=14,SNR=192						
KURBB				Sn	**Sn**	**09 19 03.3**	**+0.6**
	baz=43,slow=16,SNR=1.2						
KURBB				Lg	Lg	09 19 34.2	
	0.1nm,0.3s,baz=50,slow=34,SNR=6.2						
KURBB	**Kurchatov Arra**	**5.88**	**233**	⇑Pn	**Pn**	**09 17 57.8**	**+1.2**
	3.7nm,0.8s						
KURBB				⇑Sn	Sn	09 19 09.8	+7.1
	0.5nm,0.6s						
KURBB				⇑Lg	Lg	09 19 39.3	
	2.9nm,0.8s						
MK31	**Makanchi Array**	**7.92**	**199**	Pn	**Pn**	**09 18 24.6**	**-0.2**
	12nm,0.8s,baz=22,slow=11,SNR=151						
MK31				⇓Sn	**Sn**	**09 19 53.4**	**+0.2**
	1.3nm,0.6s,baz=23,slow=26,SNR=5.3						
MK31				⇓Lg	Lg	09 20 36.3	
	7.9nm,0.8s,baz=37,slow=32,SNR=6.5						
MKAR	**Makanchi Array**	**7.92**	**199**	Pn	**Pn**	**09 18 23.9**	**-0.9**
	1.5nm,0.3s,baz=23,slow=11,SNR=150						
MKAR				Sn	**Sn**	**09 19 52.8**	**-0.4**
	0.4nm,0.3s,baz=24,slow=28,SNR=6.8						
MKAR				Lg	Lg	09 20 37.1	
	0.3nm,0.3s,baz=33,slow=29,SNR=9.2						

BVAR	**Borovoye Array**	**9.33**	**268**	Pn		**Pn**	**09 18 45.2**	**+1.2**
	0.5nm,0.3s,baz=69,slow=13,SNR=7.3							
BVAR				Sn		**Sn**	**09 20 24.6**	**-3.0**
	0.9nm,0.3s,baz=70,slow=26,SNR=8.9							
AAK	**Ala-Archa**	**13.95**	**217**	Pn		**Pn**	**09 19 46.6**	**-0.7**
	0.1nm,0.3s,baz=44,slow=5.5,SNR=8.2							
AAK				Lg		Lg	09 23 52.2	
	0.1nm,0.3s,baz=67,slow=19,SNR=3.5							
SONM	**Songino Array**	**14.38**	**109**	Lg		Lg	09 23 54.9	
	0.1nm,0.3s,baz=308,slow=31,SNR=2.9							
AKTO	**Aktyubinsk**	**17.44**	**268**	P		**Pn**	**09 20 32.1**	**-0.3**
	0.1nm,0.3s,baz=70,slow=16,SNR=4.8							
ASAJ	**Asahikawa**	**37.42**	**82**	LR		LR	09 41 01.6	
	comp=Z,229nm,18.2s,baz=14,slow=40							
ILAR	**Eielson Array**	**54.47**	**25**	P		**P**	**09 25 55.8**	**+0.3**
	0.8nm,0.8s,baz=327,slow=3.9,SNR=8.1							
YKA	**Yellowknife Ar**	**62.37**	**11**	P		**P**	**09 26 50.7**	**+0.1**
	0.2nm,0.9s,baz=349,slow=8.4,SNR=4.1							

*NIED **07** 09:20:00, 31.80N×142.50E, h8km, Mw3.9 Best double couple: M0 7.40000×10^14 NP1:φs 143.00000°, δ 79.00000°, λ -98.00000°. NP2:φs 1.00000°, δ 13.00000°, λ -52.00000°.*
*JMA **07** 09:20:40.4±0.3, 31.81N×142.45E, h0km, M4.4*
*ISCJB **07** 09:20:44.3±0.6, 31.71N±0.06×142.36E±0.09, h49km, mb3.8/13, MS2.9/1, Error ellipse: s-maj=12.7km s-min=5.3km az=147.2*
*IDC **07** 09:20:44.8±0.8, 31.60N×142.46E, h37km±6km, mb3.5/12, mb1 3.8/15, mb1mx3.7/28, mbtmp3.6/15, ML3.7/2, MS2.9/1, Ms1 3.1/1, ms1mx2.0/36, Error ellipse: s-maj=20.6km s-min=14.8km az=70.0*
ISC 07 09:20:45.5±0.6, 31.60N±0.06×142.36E±0.10, h49km, n36, σ1§75/47, mb3.8/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.66**	**305**	Pn	**Pn**	**09 21 24.1**	**-1.7**
	19nm,0.3s,baz=263,slow=23,SNR=5.4						
JHJ				Sn	**Sn**	**09 21 54.8**	**-2.0**
	38nm,0.3s,baz=74,slow=21,SNR=2.2						
BSO1	**Boso 1**	**3.26**	**340**	P	**Pn**	**09 21 31.8**	**-1.8**
BSO1				*e*S	**Sn**	**09 22 09.6**	**-1.3**
BSO3	**Boso 3**	**3.55**	**335**	P	**Pn**	**09 21 36.5**	**-1.3**
BSO3				*e*S	**Sn**	**09 22 19.3**	**+0.9**
BSO4	**Boso 4**	**3.78**	**334**	P	**Pn**	**09 21 40.0**	**-1.2**
CBIJ	**Chichi jima**	**4.49**	**182**	Pn	Pn	09 21 46.9	-4.2
	7.1nm,0.3s,baz=276,slow=23,SNR=11						
CBIJ				Sn	**Sn**	**09 22 36.9**	**-5.0**
	15nm,0.3s,baz=258,slow=19,SNR=2.7						
CBIJ	**Chichi jima**	**4.49**	**182**	*e*S	**Sn**	**09 22 38.5**	**-3.5**
JOD2	**Odawara 2**	**4.56**	**324**	P	**Pn**	**09 21 50.4**	**-1.6**
JOD2				*e*S	**Sn**	**09 22 44.5**	**+0.7**
JYT	**Yasato**	**4.96**	**339**	*e*S	**Sn**	**09 22 52.4**	**-0.9**
JHU	**Hanno**	**4.96**	**330**	*e*S	**Sn**	**09 22 49.8**	**-3.6**
JHO	**Hitachi**	**5.22**	**344**	P	**Pn**	**09 21 58.3**	**-2.6**
JRY	**Ryogami san**	**5.26**	**328**	P	**Pn**	**09 22 00.3**	**-1.3**
JRY				*e*S	**Sn**	**09 23 00.5**	**-0.5**
JNY	**Yasuok**	**5.31**	**316**	P	**Pn**	**09 22 04.3**	**+2.0**
JAG	**Ashikaga**	**5.38**	**334**	P	**Pn**	**09 22 01.3**	**-2.0**
JAG				*e*S	**Sn**	**09 23 00.7**	**-3.2**
MJAR	**Matsushiro Arr**	**6.01**	**326**	Pn	**Pn**	**09 22 10.9**	**-1.0**
	3.1nm,0.3s,baz=150,slow=12,SNR=16						
MJAR				Sn	**Sn**	**09 23 18.1**	**-1.3**
	2.5nm,0.3s,baz=141,slow=4.8,SNR=4.1						
MAT	**Matsushiro**	**6.02**	**326**	P	**Pn**	**09 22 10.8**	**-1.1**
MAT				S	**Sn**	**09 23 19.8**	**+0.3**
MAT	**Matsushiro**	**6.02**	**326**	P	**Pn**	**09 22 11.4**	**-0.5**
MAT				*e*S	**Sn**	**09 23 20.0**	**+0.5**
KSRS	**Korea Array**	**13.25**	**300**	Pn	Pn	09 23 52.9	+2.0
	baz=110,slow=12,SNR=3.6						
SONM	**Songino Array**	**31.72**	**311**	P	**P**	**09 27 05.3**	**+0.6**
	0.5nm,0.5s,baz=121,slow=8.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**41.20**	**262**	LR	LR	09 47 35.3	
	comp=Z,15nm,20.2s,baz=180,slow=39						
ZALV	**Zalesovo Beam**	**46.27**	**316**	P	**P**	**09 29 08.1**	**+2.2**
	0.5nm,0.6s,baz=103,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.83**	**307**	P	**P**	**09 29 18.2**	**0.0**
	0.3nm,0.5s,baz=88,slow=8.9,SNR=7.4						
MKAR				pP	**pP**	**09 29 30.8**	**-0.6**
	0.5nm,0.7s,baz=86,slow=9.8,SNR=3.3						
MKAR				PcP	**PcP**	**09 30 48.0**	**+1.6**
	0.2nm,0.6s,baz=69,slow=7.9,SNR=2.1						
WRA	**Warramunga Arr**	**51.82**	**190**	P	**P**	**09 29 48.5**	**-0.2**
	0.7nm,0.6s,baz=8.7,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**53.73**	**30**	P	**P**	**09 30 01.8**	**-0.5**
	0.8nm,0.7s,baz=254,slow=6.1,SNR=8.8						
ASAR	**Alice Springs**	**55.55**	**189**	P	**P**	**09 30 15.7**	**-0.3**
	0.3nm,0.5s,baz=359,slow=5.6,SNR=7.5						
ASAR				pP	**pP**	**09 30 28.3**	**-1.2**
	0.3nm,0.5s,baz=14,slow=15,SNR=3.3						
AKTO	**Aktyubinsk**	**62.96**	**314**	P	**P**	**09 31 09.0**	**+2.1**
	0.6nm,0.6s,baz=90,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**68.13**	**29**	P	**P**	**09 31 40.0**	**-0.1**
	0.3nm,

BALB	**Balikesir**	**1.23 269**	*e*Pn	**Pb**	**09 35 42.3**	**-0.5**
MANT	**Manisa**	**1.38 211**	*i* P	**Pn**	**09 35 45.5**	**+0.1**
MANT			*i* S	**Sn**	**09 36 04.7**	**+0.2**
MANT	**Manisa**	**1.38 211**	*i* P	**Pn**	**09 35 45.5**	**+0.1**
MANT			*i* S	**Sn**	**09 36 04.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.42 286**	*e*PN	**Pn**	**09 35 44.4**	**-1.4**
GONE	**Gonen-Balikesi**	**1.42 286**	*e*Pn	**Pn**	**09 35 44.4**	**-1.4**
ISK	**Istanbul-Kandi**	**1.42 347**	*e*PN	**Pn**	**09 35 45.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.42 347**	*e*Pn	**Pn**	**09 35 45.6**	**-0.2**
BALY	**Balya**	**1.43 273**	*i* P	**Pn**	**09 35 45.5**	**-0.5**
BALY			*i* S	**Sn**	**09 36 06.1**	**+0.7**
BALY	**Balya**	**1.43 273**	*i* P	**Pn**	**09 35 45.5**	**-0.5**
BALY			*i* S	**Sn**	**09 36 06.1**	**+0.7**
MDUB	**Mudurnu**	**1.55 59**	*e*PN	**Pn**	**09 35 47.9**	**-0.4**
MDUB	**Mudurnu**	**1.55 59**	*e*Pn	**Pb**	**09 35 47.9**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.60 98**	*e*PN	**Pn**	**09 35 48.7**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.60 98**	*e*Pn	**Pn**	**09 35 48.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.81 294**	*e*PN	**Pn**	**09 35 50.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.81 294**	*e*Pn	**Pn**	**09 35 50.8**	**-0.4**
MFT	**Murefte**	**2.01 304**	*e*PN	**Pn**	**09 35 53.8**	**-0.2**
MFT	**Murefte**	**2.01 304**	*e*Pn	**Pn**	**09 35 53.8**	**-0.2**

IDC 07 09:40:52.6±1.1, 15°52S×174°93W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/19, mbtmp3.8/5, ML1.9/1, MS4.2/23, Ms1 4.2/23, ms1mx4.0/41, Error ellipse: s-maj=52.2km s-min=24.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.45**	**63**	Pn	Pn	09 41 46.1	-1.6
	7.1nm,0.3s,baz=68,slow=9.0,SNR=12						
AFI				Sn	Sn	09 42 24.3	-5.0
	6.5nm,0.3s,baz=231,slow=22,SNR=1.8						
AFI				T	T	09 45 18.1	
	9.5nm,0.3s,baz=279,slow=24,SNR=4.0						
RAR	**Rarotonga**	**15.46**	**114**	LR	LR	09 48 45.9	
	comp=Z,1µm,21.0s,baz=271,slow=31						
DZM	**Mont Dzumac**	**18.79**	**247**	*e*LQ	LQ	09 49 22.4	
	2µm,26.4s						
DZM				*e*LR	LR	09 50 21.9	
	2µm,24.6s						
DZM	**Mont Dzumac**	**18.79**	**247**	LR	LR	09 50 37.4	
	comp=Z,519nm,20.4s,baz=69,slow=31						
PPT	**Papeete**	**24.38**	**98**	LR	LR	09 53 33.6	
	comp=Z,485nm,20.9s,baz=188,slow=31						
PPT2	**Papeete2**	**24.38**	**98**	*e*LQ	LQ	09 51 08.3	
	652nm,29.0s						
PPT2				*e*LR	LR	09 52 10.7	
	1µm,25.8s,baz=262						
TBI	**Tubuai**	**25.22**	**112**	*e*LQ	LQ	09 51 31.0	
	1µm,26.8s						
TBI				*e*LR	LR	09 52 38.3	
	2µm,26.8s,baz=283						
CTA	**Charters Tower**	**37.18**	**257**	LR	LR	10 00 33.7	
	comp=Z,348nm,20.9s,baz=71,slow=32						
RKT	**Rikitea**	**38.36**	**108**	*e*LQ	LQ	09 56 59.3	
	259nm,26.8s						
RKT				*e*LR	LR	09 58 40.7	
	888nm,27.5s						
STKA	**Stephens Creek**	**42.70**	**240**	LR	LR	10 04 35.8	
	comp=Z,261nm,19.9s,baz=56,slow=33						
WRA	**Warramunga Arr**	**48.38**	**257**	P	P	09 49 35.6	-1.2
	1.4nm,0.8s,baz=90,slow=7.1,SNR=9.6						
WRA				LR	LR	10 07 35.2	
	comp=Z,391nm,21.3s,baz=95,slow=33						
ASAR	**Alice Springs**	**48.67**	**252**	P	P	09 49 38.6	-0.4
	1.2nm,0.8s,baz=81,slow=8.4,SNR=10.0						
ASAR				LR	LR	10 08 34.5	
	comp=Z,592nm,19.3s,baz=94,slow=34						
FITZ	**Fitzroy Crossi**	**56.74**	**258**	LR	LR	10 12 27.6	
	comp=Z,381nm,21.4s,baz=107,slow=33						
RPN	**Rapa Nui**	**61.60**	**113**	LR	LR	10 10 55.5	
	comp=Z,218nm,21.8s,baz=184,slow=29						
VNDA	**Vanda**	**63.11**	**186**	P	P	09 51 21.9	+0.3
	1.7nm,1.0s,baz=25,slow=5.7,SNR=2.6						
VNDA				LR	LR	10 12 45.8	
	comp=Z,134nm,18.3s,baz=35,slow=30						
MJAR	**Matsushiro Arr**	**68.09**	**321**	LR	LR	10 15 31.9	
	comp=Z,120nm,21.5s,baz=145,slow=31						
PETK	**Petropavlovsk-**	**72.31**	**343**	LR	LR	10 16 50.1	
	comp=Z,184nm,21.0s,baz=202,slow=30						
QSPA	**South Pole Qui**	**74.52**	**180**	LR	LR	10 19 30.6	
	comp=Z,101nm,19.7s,baz=209,slow=31						
YBH	**Yreka Blue Hor**	**74.59**	**38**	LR	LR	10 19 06.1	
	comp=Z,166nm,18.2s,baz=238,slow=31						
KSRS	**Korea Array**	**75.22**	**316**	LR	LR	10 22 33.0	
	comp=Z,52nm,18.6s,baz=106,slow=33						
KDAK	**Kodiak Island**	**75.34**	**12**	LR	LR	10 22 24.5	
	comp=Z,207nm,18.6s,baz=255,slow=33						
NVAR	**Mina Array Bea**	**75.41**	**43**	P	P	09 52 42.6	+3.8
	0.1nm,0.3s,baz=220,slow=8.3,SNR=2.7						
USRK	**Uesuriysk Arra**	**76.60**	**324**	LR	LR	10 20 08.9	
	comp=Z,249nm,19.9s,baz=292,slow=31						
ILAR	**Eielson Array**	**82.86**	**12**	LR	LR	10 22 34.7	
	comp=Z,241nm,21.8s,baz=228,slow=30						
PDAR	**Pinedale Array**	**83.34**	**42**	P	P	09 53 21.7	-0.3
	0.4nm,0.8s,baz=200,slow=4.5,SNR=2.7						
PSI	**Prapat**	**87.03**	**274**	LR	LR	10 29 27.5	
	comp=Z,103nm,19.5s,baz=27,slow=34						
MAW	**Mawson**	**87.20**	**199**	LR	LR	10 29 09.5	
	comp=Z,237nm,19.5s,baz=320,slow=33						
PLCA	**Paso Flores**	**90.52**	**133**	LR	LR	10 25 27.7	
	comp=Z,131nm,18.6s,baz=256,slow=30						
CMAR	**Chiang Mai Arr**	**91.25**	**289**	LR	LR	10 35 20.7	
	comp=Z,42nm,18.1s,baz=241,slow=36						
SONM	**Songino Array**	**93.96**	**319**	LR	LR	10 33 09.9	
	comp=Z,65nm,20.3s,baz=73,slow=33						
CFAA	**Coronel Fontan**	**95.60**	**125**	LR	LR	10 24 53.5	
	comp=Z,6.5nm,21.8s,baz=68,slow=28						
BRTR	**Keskin Array B**	**145.31**	**320**	PKPbc	PKPdf	10 00 33.9	+0.9
	2.1nm,0.9s,baz=66,slow=3.6,SNR=8.7						

IDC 07 09:41:37.3±2.6, 19°02N×145°47E, h252km±26km, mb3.4/6, mb1 3.5/8, mb1mx3.2/28, mbtmp3.4/8, Error ellipse: s-maj=48.4km s-min=14.2km az=98.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.43**	**186**	P	Pn	09 42 57.9	-0.6
	6.9nm,0.3s,baz=6.0,slow=19,SNR=3.0						
GUMO				S	S	09 43 59.5	-3.9
	9.9nm,0.3s,baz=278,slow=18,SNR=2.6						
MJAR	**Matsushiro Arr**	**18.59**	**341**	P	P	09 45 36.3	+0.2
	0.2nm,0.3s,baz=140,slow=9.6,SNR=3.5						
WRA	**Warramunga Arr**	**40.23**	**196**	P	P	09 48 50.1	+0.2
	2.6nm,0.6s,baz=15,slow=8.9,SNR=60						
FITZ	**Fitzroy Crossi**	**41.72**	**209**	P	P	09 49 02.3	+0.2
	2.4nm,0.3s,baz=28,slow=13,SNR=17						
ASAR	**Alice Springs**	**43.90**	**195**	P	P	09 49 19.4	-0.1
	0.9nm,0.5s,baz=15,slow=6.9,SNR=23						
STKA	**Stephens Creek**	**50.74**	**184**	P	P	09 50 11.1	-0.8
	0.5nm,0.4s,baz=29,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**77.81**	**28**	P	P	09 53 07.1	+0.5
	0.1nm,0.5s,baz=288,slow=5.6,SNR=3.7						
FINES	**FINESS Array B**	**86.50**	**335**	P	P	09 53 49.7	-1.9
	1.5nm,0.9s,baz=54,slow=7.1,SNR=3.5						

IDC 07 10:05:40.6±2.1, 8°21N×103°96W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.6/6, ML3.3/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/23, Error ellipse: s-maj=64.5km s-min=27.0km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.50**	**44**	Pn	Pn	10 08 39.5	-0.3
	0.2nm,0.3s,baz=201,slow=17,SNR=3.0						
CMIG				LR	LR	10 12 08.1	
	comp=Z,430nm,21.0s,baz=238,slow=31						
JTS	**JuntasAbangare**	**18.87**	**82**	LR	LR	10 15 10.5	
	comp=Z,100nm,19.1s,baz=132,slow=30						
TEIG	**Tepich**	**19.31**	**50**	LR	LR	10 16 22.3	
	comp=Z,183nm,21.9s,baz=330,slow=33						
TXAR	**Lajitas Array**	**21.02**	**1**	P	P	10 10 26.4	+0.3
	1.6nm,1.0s,baz=182,slow=14,SNR=10						
TXAR				LR	LR	10 17 56.7	
	comp=Z,290nm,18.1s,baz=120,slow=35						
PDAR	**Pinedale Array**	**34.77**	**353**	P	P	10 12 33.5	+0.3
	1.3nm,0.8s,baz=163,slow=9.8,SNR=11						
LPAZ	**La Paz**	**43.01**	**125**	P	P	10 13 42.9	-0.1
	1.3nm,0.7s,baz=302,slow=8.8,SNR=5.3						
LPAZ				LR	LR	10 30 19.9	
	comp=Z,80nm,19.4s,baz=254,slow=34						
SIV	**San Ignacio**	**48.79**	**120**	LR	LR	10 32 35.3	
	comp=Z,83nm,19.1s,slow=33						
PPT	**Papeete**	**51.84**	**240**	LR	LR	10 30 21.3	
	comp=Z,229nm,21.5s,baz=1.3,slow=29						
YKA	**Yellowknife Ar**	**54.74**	**354**	P	P	10 15 11.0	-0.6
	0.1nm,0.5s,baz=166,slow=8.2,SNR=4.0						
SCHQ	**Schefferville**	**55.09**	**25**	LR	LR	10 40 26.2	
	comp=Z,109nm,20.7s,baz=247,slow=38						
CPUP	**Villa Florida**	**56.80**	**129**	LR	LR	10 39 33.0	
	comp=Z,84nm,19.6s,baz=82,slow=36						
BDFB	**Brasilia**	**60.26**	**113**	LR	LR	10 41 13.4	
	comp=Z,90nm,19.8s,baz=335,slow=35						
ILAR	**Eielson Array**	**63.98**	**341**	P	P	10 16 15.5	0.0
	0.6nm,0.8s,baz=154,slow=5.1,SNR=4.1						

IDC 07 10:06:24.1±11.0, 56°42S×26°51W, h122km±107km, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=39.9km s-min=24.1km az=75.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**33.83**	**180**	P	P	10 12 53.8	-0.5
	2.2nm,0.6s,baz=187,slow=3.6,SNR=40						
VNDA	**Vanda**	**46.22**	**183**	P	P	10 14 36.6	+0.6
	0.9nm,0.6s,baz=191,slow=6.3,SNR=4.4						
LPAZ	**La Paz**	**50.90**	**305**	P	P	10 15 13.2	-0.1
	0.7nm,0.3s,baz=101,slow=5.5,SNR=7.9						
TORD	**Toyodi Ar. Bea**	**73.19**	**29**	P	P	10 17 41.4	+0.1
	2.5nm,0.7s,baz=201,slow=6.1,SNR=16						
TORD				pP	pP	10 18 07.6	-4.2
	0.7nm,0.5s,baz=193,slow=6.6,SNR=4.5						
YKA	**Yellowknife Ar**	**136.70**	**317**	PKP	PKPdf	10 25 29.7	-0.6
	0.1nm,0.6s,baz=125,slow=2.5,SNR=4.8						
SONM	**Songino Array**	**150.37**	**87**	PKPbc	PKPbc	10 25 59.8	-0.3
	0.5nm,0.7s,baz=239,slow=3.9,SNR=3.6						
ILAR	**Eielson Array**	**150.65**	**311**	PKPbc	PKPbc	10 25 59.5	-0.6
	0.4nm,0.9s,baz=177,slow=3.6,SNR=4.0						

MAN 07 10:09:01, 6°70N×124°14E, h29km, mb3.6, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.53**	**11↑**	*e*P	Pn	10 09 13.0	+0.4
CTBH				*i* S	Sn	10 09 29.3	+8.6
PAGZ	**Pagadian**	**1.37**	**327**	*e*P	Pn	10 09 25.0	+0.9
PAGZ				*e*S	Sn	10 09 41.0	-0.3
BUKP	**Musuan**	**1.49**	**38**	*e*P	Pn	10 09 24.9	-1.0
BUKP				*e*S	Sn	10 09 45.4	+1.0

*SZGRF **07** 10:19:05.5, 19°.36S×176°.08W, h33km, Fiji Islands region*
*ISCJB **07** 10:20:03.6±0.4, 19°.31S±0°.08×177°.64W±0°.07, h550km, mb4.3/45, Error ellipse: s-maj=11.7km s-min=6.3km az=144.3*
*NEIC **07** 10:20:05.7±0.9, 19°.42S×177°.53W, h571km±10km, mb4.8/14, Error ellipse: s-maj=19.4km s-min=10.6km az=149.0*
*BJI **07** 10:20:05.1, 18°.61S×177°.62W, h539km, mB4.8/13, mb4.5/20*
*IDC **07** 10:20:08.5±1.6, 19°.26S×177°.75W, h593km±18km, mb3.6/23, mb1 3.7/24, mb1mx3.7/28, mbtmp3.6/24, Error ellipse: s-maj=14.1km s-min=9.6km az=147.0*

ISC 07 10:20:04.7±0.5, 19°36S±0°08×177°52W±0°07, h550km, n108, σ1°86/126, mb4.5/45, 10C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.50**	**290**	*e*P	P	10 21 34.7	+4.1
MSVF				*e*S	**S**	**10 22 45.1**	**+4.6**
AFI	**Afiamalu**	**7.73**	**46**	P	**P**	**10 22 00.2**	**+0.3**
	18nm,0.3s,baz=94,slow=1.5,SNR=36						
AFI				S	**S**	**10 23 31.0**	**-3.2**
	3.8nm,0.3s,baz=50,slow=22,SNR=8.1						
AFI	**Afiamalu**	**7.73**	**46**	*e*P	**P**	**10 22 00.1**	**+0.3**
	60nm,0.5s						
DZM	**Mont Dzumac**	**15.24**	**257**	P	**P**	**10 23 17.0**	**+0.2**
	1.5nm,0.3s,baz=74,slow=15,SNR=20						
DZM	**Mont Dzumac**	**15.24**	**257**	*e*P	**P**	**10 23 16.4**	**-0.4**
OUZ	**Omahuta**	**17.64**	**205**	*e*P	**P**	**10 23 42.1**	**+3.0**
	80nm,1.3s						
URZ	**Urewera**	**19.40**	**193**	*e*P	**P**	**10 23 53.6**	**-1.6**
	63nm,0.6s						
RPZ	**Rata Peaks**	**26.11**	**199**	*e*P	**P**	**10 24 54.8**	**-0.3**
	8.3nm,0.6s						
EIDS	**Eidsvold**	**29.60**	**253**	P	P	10 25 23.5	-2.3
ARMA	**Armidale**	**29.98**	**242**	*e*P	**P**	**10 25 29.8**	**+0.7**
	2.8nm,0.8s						
CTAO	**Charters Tower**	**34.06**	**263**	*e*P	**P**	**10 26 03.6**	**-0.3**
	21nm,0.8s						
PMG	**Port Moresby**	**35.55**	**281**	*e*P	**P**	**10 26 16.1**	**-0.1**
	68nm,0.9s						
COEN	**Coen**	**37.98**	**272**	*e*P	**P**	**10 26 36.2**	**-0.1**
	290nm,0.9s						
STKA	**Stephens Creek**	**38.70**	**243**	P	**P**	**10 26 42.5**	**+0.7**
	3.2nm,0.3s,baz=78,slow=7.6,SNR=11						
STKA	**Stephens Creek**	**38.70**	**243**	*e*P	**P**	**10 26 41.7**	**-0.2**
	1.0nm,0.6s						
WRAB	**Tennant Creek**	**45.20**	**261**	*e*P	**P**	**10 27 32.2**	**-1.1**
	15nm,0.6s						
WRA	**Warramunga Arr**	**45.21**	**261**	P	**P**	**10 27 32.2**	**-1.1**
	12nm,0.3s,baz=98,slow=7.6,SNR=313						
WRA				PcP	**PcP**	**10 29 01.1**	**-0.7**
	1.4nm,0.4s,baz=92,slow=3.1,SNR=5.8						
WRA				S	S	10 33 28.0	-5.7
	1.2nm,0.7s,baz=96,slow=13,SNR=7.4						
AS31	**Alice Springs**	**45.23**	**256**	*e*P	**P**	**10 27 33.0**	**-0.5**
ASAR	**Alice Springs**	**45.23**	**256**	P	**P**	**10 27 32.8**	**-0.7**
	13nm,0.4s,baz=86,slow=8.2,SNR=217						
ASAR				PcP	**PcP**	**10 29 00.7**	**-1.1**
	2.4nm,0.5s,baz=102,slow=3.7,SNR=7.4						
ASAR				S	**S**	**10 33 29.7**	**-4.1**
	2.6nm,0.8s,baz=89,slow=16,SNR=14						
FORT	**Forrest**	**50.16**	**246**	*e*P	**P**	**10 28 09.5**	**-0.7**
	36nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.63**	**261**	P	**P**	**10 28 34.8**	**-0.5**
	13nm,0.5s,baz=109,slow=3.3,SNR=75						
FITZ	**Fitzroy Crossi**	**53.63**	**261**	*e*P	**P**	**10 28 34.8**	**-0.5**
	13nm,0.6s						
MBWA	**Marble Bar**	**58.55**	**257**	*e*P	**P**	**10 29 08.3**	**-0.9**
VNDA	**Vanda**	**59.08**	**185**	P	**P**	**10 29 13.6**	**+1.8**
	0.7nm,0.5s,baz=338,slow=4.8,SNR=4.7						
NWAO	**Narrogin (SRO)**	**59.28**	**243**	P	**P**	**10 29 13.3**	**-0.7**
	6.0nm,0.7s,baz=54,slow=7.9,SNR=5.4						
KAPI	**Kappang**	**62.64**	**274**	P	**P**	**10 29 34.5**	**-1.7**
	4.3nm,0.6s,baz=155,slow=21,SNR=3.7						
MJAR	**Matsushiro Arr**	**69.57**	**323**	P	**P**	**10 30 17.6**	**-1.2**
	8.3nm,0.7s,baz=159,slow=6.1,SNR=26						
MAT	**Matsushiro**	**69.57**	**323**	P	**P**	**10 30 17.5**	**-1.3**
KKM	**Kota Kinabalu**	**69.91**	**284**	*e*P	**P**	**10 30 19.7**	**-1.8**
	18nm,0.6s						
QSPA	**South Pole Qui**	**70.70**	**180**	P	**P**	**10 30 26.0**	**+0.7**
	4.2nm,0.9s,baz=6.4,slow=1.0,SNR=16						
JNU	**Nakatsue**	**71.76**	**316**	P	**P**	**10 30 30.7**	**-1.2**
	3.9nm,0.7s,baz=216,slow=12,SNR=4.5						
ASAJ	**Asahikawa**	**72.95**	**331**	P	**P**	**10 30 38.8**	**+0.4**
	20nm,1.1s,baz=314,slow=27,SNR=8.2						
YULB	**Yu-li**	**73.26**	**303**	*e*P	P	10 30 38.3	-2.3
	10nm,0.7s						
KSM	**Kuching**	**73.70**	**277**	*e*P	**P**	**10 30 43.1**	**-0.3**
	20nm,1.0s						
SSLB	**Suanglung**	**73.73**	**303**	*e*P	P	10 30 41.2	-2.1
	12nm,0.4s						
PETK	**Petropavlovsk-**	**75.29**	**345**	P	**P**	**10 30 49.8**	**-1.6**
	2.4nm,0.6s,baz=134,slow=8.1,SNR=6.5						
KSRS	**Korea Array**	**76.34**	**318**	P	**P**	**10 30 57.5**	**0.0**
	2.5nm,1.0s,baz=148,slow=6.3,SNR=5.5						
USRK	**Uesuriysk Arra**	**78.29**	**325**	P	**P**	**10 31 08.1**	**+0.2**
	5.0nm,0.9s,baz=140,slow=3.9,SNR=9.8						
NJ2	**Nanjing**	**79.51**	**309**	*e*P	**P**	**10 31 14.7**	**0.0**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**79.85**	**325**	P	**P**	**10 31 16.5**	**+0.2**
MDJ				pP	**pP**	**10 33 17.0**	**+3.5**
MDJ				S	**S**	**10 40 33.8**	**-0.8**
MDJ				ScS	**ScS**	**10 40 48.8**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.9s						
NVAR	**Mina Array Bea**	**79.89**	**43**	P	**P**	**10 31 17.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=224,slow=8.8,SNR=9.8						
MOD	**Modoc**	**80.66**	**39**	*e*P	**P**	**10 31 21.1**	**+0.4**
CN2	**Changchun**	**81.68**	**322**	*e*P	**P**	**10 31 24.9**	**-0.8**
CN2				*e*S	**S**	**10 40 49.3**	**-3.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
TUC	**Tucson**	**81.93**	**52**	*e*P	**P**	**10 31 28.8**	**+1.4**
IPM	**Ipoh**	**83.43**	**277**	*e*P	**P**	**10 31 34.3**	**-1.0**
PSI	**Prapat**	**84.84**	**275**	P	P	10 31 40.3	-2.1
	comp=Z,5.2nm,0.8s,baz=252,slow=7.6,SNR=4.7						
BJI	**Beijing**	**85.40**	**315**	P	**P**	**10 31 44.7**	**+0.4**
BJI				S	**S**	**10 41 29.7**	**0.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TXAR	**Lajitas Array**	**86.07**	**57**	P	**P**	**10 31 48.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=218,slow=6.4,SNR=18						
ANMO	**Albuquerque**	**86.34**	**51**	P	**P**	**10 31 49.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=244,slow=3.0,SNR=6.8						
GYA	**Guiyang**	**86.48**	**299**	*e*P	**P**	**10 31 50.0**	**+0.1**
GYA				PP	**PP**	**10 35 25.0**	**+3.0**
GYA				S	**S**	**10 41 38.8**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.4s						
MCMT	**McKenzie Canyo**	**86.80**	**40**	*e*P	**P**	**10 31 51.3**	**+0.1**
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**10 31 50.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=236,slow=4.9,SNR=8.4						
CLNB	**Carlsbad**	**87.12**	**54**	*e*P	P	10 31 50.0	-2.8
IMW	**Indian Meadow**	**87.50**	**42**	*e*P	**P**	**10 31 55.6**	**+1.0**
XAN	**Xi'an**	**87.80**	**307**	P	**P**	**10 31 55.6**	**-0.3**
XAN				pP	**pP**	**10 33 54.0**	**-2.0**
XAN				sP	**sP**	**10 34 48.2**	**-3.3**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,30nm,6.3s						
PDAR	**Pinedale Array**	**87.83**	**43**	P	**P**	**10 31 55.3**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=224,slow=3.1,SNR=7.5						
HHC	**Hu-ho-hao-te**	**88.88**	**314**	*e*P	**P**	**10 32 03.8**	**+3.0**
HHC				pP	**pP**	**10 34 03.2**	**+1.9**
HHC				sP	**sP**	**10 34 56.4**	**-0.2**
HHC				SKS	**SKSac**	**10 41 41.3**	**+3.2**
HHC				S	**SKSac**	**10 41 57.7**	**+5.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
KMI	**Kunming**	**89.24**	**297**	P	P	10 32 00.1	-2.9
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**90.16**	**289**	P	**P**	**10 32 07.6**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=120,slow=3.1,SNR=26						
CHTO	**Chiang Mai**	**90.28**	**290**	*e*P	**P**	**10 32 07.8**	**+0.2**
CD2	**Chengdu**	**90.56**	**303**	P	**P**	**10 32 08.8**	**+0.1**
CD2				pP	**pP**	**10 34 13.7**	**+4.2**
CD2				PP	**PP**	**10 35 57.3**	**+3.4**
CD2				SKS	**SKSac**	**10 41 46.0**	**-2.0**
CD2				S	**S**	**10 42 15.3**	**-2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,5.1s						
LZH	**Lanzhou**	**92.44**	**307**	*e*P	**P**	**10 32 19.0**	**+1.6**
LZH				pP	**pP**	**10 34 21.2**	**+2.9**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**95.19**	**319**	P	**P**	**10 32 28.4**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=142,slow=3.6,SNR=3.7						
YKA	**Yellowknife Ar**	**95.30**	**25**	P	**P**	**10 32 28.4**	**-1.1**
	comp=Z,0.3nm,1.0s,baz=240,slow=4.9,SNR=4.0						
GTA	**Gaotai**	**96.60**	**309**	P	P	10 32 42.4	+6.2
GTA				pP	pP	10 34 48.8	+11
GTA				sP	sP	10 35 36.5	+4.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**109.89**	**321**	PKiKP	**PKiKP**	**10 37 30.8**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=38,slow=2.6,SNR=3.9						
MKAR	**Makanchi Array**	**110.74**	**314**	PKiKP	**PKiKP**	**10 37 32.9**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=110,slow=0.9,SNR=17						
KURBB	**Kurchatov Arra**	**113.52**	**318**	PKiKP	**PKiKP**	**10 37 38.1**	**-2.3**
	comp=Z,1.1nm,0.6s,baz=95,slow=1.7,SNR=16						
KSH	**Kashi**	**114.60**	**305**	*e*PKP	PKPdf	10 37 44.6	+1.6
KSH				*e*PP	PP	10 38 58.8	+7.9
KSH				*es*PKP		10 40 42.6	
KSH				PKS	**PKSdf**	**10 41 19.7**	**-0.1**
KSH				SKS	**SKSdf**	**10 44 05.5**	**+2.2**
KSH				SKKS	**SKKSac**	**10 44 55.1**	**+0.2**
KSH				AMB	AMB		
	comp=Z,74n

FITZ	**Fitzroy Crossi**	**29.19**	**240**	P	P	10 51 47.6	+0.9		
	1.7nm,1.0s,baz=107,slow=11,SNR=2.8								
FITZ				pP	pP	10 52 11.7	-0.1		
	1.0nm,0.5s,baz=82,slow=8.7,SNR=2.6								
SONM	**Songino Array**	**65.70**	**328**	P	P	10 56 28.3	+0.1		
	0.2nm,0.7s,baz=172,slow=2.9,SNR=2.8								
MKAR	**Makanchi Array**	**79.64**	**319**	P	P	10 57 51.2	+0.5		
	0.3nm,0.5s,baz=98,slow=7.7,SNR=6.0								
ZALV	**Zalesovo Beam**	**80.52**	**326**	P	P	10 57 54.8	-0.3		
	0.5nm,0.4s,baz=106,slow=5.9,SNR=4.8								
ILAR	**Eielson Array**	**82.15**	**22**	P	P	10 58 02.3	-1.2		
	0.3nm,0.6s,baz=252,slow=5.1,SNR=7.1								
NVAR	**Mina Array Bea**	**92.45**	**52**	P	P	10 58 55.6	+1.2		
	0.8nm,0.6s,baz=257,slow=6.5,SNR=7.8								
YKA	**Yellowknife Ar**	**95.49**	**28**	P	P	10 59 07.9	+0.4		
	0.2nm,0.8s,baz=271,slow=5.2,SNR=3.7								
PDAR	**Pinedale Array**	**99.17**	**48**	P	Pdif	10 59 24.5	-0.4		
	0.3nm,0.5s,baz=237,slow=2.7,SNR=4.0								
TXAR	**Lajitas Array**	**104.60**	**61**	Pdiff	Pdif	10 59 52.7	+3.5		
	0.3nm,1.0s,baz=216,slow=4.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**149.54**	**288**	PKPbc	PKPbc	11 05 32.3	-0.6		
	1.7nm,0.6s,baz=83,slow=2.4,SNR=24								
TORD				PKPab	PKPab	11 05 37.7	-0.5		
	0.6nm,0.4s,baz=63,slow=3.0,SNR=11								

IDC 07 10:52:12.4±1.0, 32°.34S×13°.46W, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.1/5, MS3.8/7, Ms1 3.8/7, ms1mx3.5/23, Error ellipse: s-maj=30.4km s-min=27.6km az=131.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**28.92**	**100**	LR	LR	11 06 46.8	
	comp=Z,246nm,19.7s,baz=88,slow=30						
BOSA	**Boshof**	**33.47**	**94**	LR	LR	11 09 27.4	
	comp=Z,192nm,19.6s,baz=344,slow=31						
BDFB	**Brasilia**	**35.41**	**289**	P	P	10 59 09.4	-1.0
	1.4nm,0.5s,baz=112,slow=11,SNR=2.9						
BDFB				LR	LR	11 10 55.1	
	comp=Z,162nm,19.8s,baz=235,slow=32						
CPUP	**Villa Florida**	**38.51**	**267**	LR	LR	11 12 53.6	
	comp=Z,138nm,18.5s,baz=8.0,slow=32						
SIV	**San Ignacio**	**45.97**	**279**	P	P	11 00 38.6	+1.0
	0.5nm,0.5s,baz=111,slow=18,SNR=2.8						
SIV				LR	LR	11 17 36.0	
	comp=Z,146nm,20.6s,slow=33						
PLCA	**Paso Flores**	**46.02**	**242**	LR	LR	11 15 27.8	
	comp=Z,71nm,20.8s,baz=80,slow=30						
TORD	**Torodi Ar. Bea**	**47.31**	**20**	P	P	11 00 47.8	-0.1
	5.3nm,1.1s,baz=199,slow=6.4,SNR=12						
LPAZ	**La Paz**	**51.77**	**274**	LR	LR	11 20 58.8	
	comp=Z,78nm,20.2s,baz=187,slow=33						
QSPA	**South Pole Qui**	**58.10**	**180**	P	P	11 02 07.4	-0.1
	8.2nm,1.0s,baz=216,slow=6.2,SNR=10						
LPG	**La Plagne**	**79.42**	**14**	*e*P	P	11 04 21.3	+0.8
LPL	**La Plagne**	**79.44**	**14**	*e*P	P	11 04 21.0	+0.5
SMF	**Signal de Mont**	**79.96**	**12**	*e*P	P	11 04 23.6	+0.5
AVF	**Avril sur Loir**	**80.02**	**12**	*e*P	P	11 04 21.1	-2.2
	28nm,1.3s						
SSF	**Saint Saulge**	**80.31**	**12**	*e*P	P	11 04 24.2	-0.7
	15nm,1.1s						
BRTR	**Keskin Array B**	**83.78**	**35**	P	P	11 04 44.2	+0.6
	0.9nm,0.8s,baz=224,slow=6.0,SNR=4.1						
YKA	**Yellowknife Ar**	**123.02**	**327**	PKP	PKPdf	11 11 09.1	-0.9
	0.5nm,0.9s,baz=99,slow=2.2,SNR=6.4						
KSRS	**Korea Array**	**148.01**	**70**	PKPbc	PKPbc	11 11 58.8	-1.0
	1.3nm,0.8s,baz=252,slow=3.6,SNR=4.6						

IDC 07 10:53:16.4±2.2, 3°.41N×125°.79E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, Error ellipse: s-maj=196.7km s-min=27.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.68**	**160**	P	P	10 58 37.9	-1.5
	0.6nm,0.7s,baz=339,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**28.05**	**164**	P	P	10 59 11.1	+1.3
	0.1nm,0.5s,baz=345,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**57.28**	**326**	P	P	11 03 05.8	-0.2
	0.1nm,0.3s,baz=115,slow=7.8,SNR=5.2						

ISCJB ***07*** *10:55:47.3±0.8, 6°.71N±0°.08×73°.0W±0°.1, h190km±8km, mb3.2/1, Error ellipse: s-maj=20.3km s-min=7.4km az=36.9*

IDC ***07*** *10:55:47.4±7.3, 6°.45N×76°.24W, h119km±78km, mb2.9/1, mb1 3.1/2, mb1mx2.9/22, mbtmp2.9/2, Error ellipse: s-maj=124.0km s-min=35.1km az=78.0*

FUNV ***07*** *10:55:49.0, 6°.63N×73°.02W, h197km, MW3.1*

ISC 07 10:55:47.6±1.1, 6°.64N±0°.08×73°.0W±0°.1, h188km±9km, n13, σ1°58/19, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.39**	**29**	*ie*P	**Pn**	**10 56 20.9**	**+1.4**
CAPV				*e*S	**Sn**	**10 56 44.8**	**+0.4**
ROSC	**El Rosal**	**2.22**	**217**	P	**Pn**	**10 56 27.5**	**-0.5**
	3.7nm,0.3s,baz=282,slow=23,SNR=9.5						
ROSC				S	**Sn**	**10 56 58.6**	**-0.9**
	26nm,0.3s,baz=92,slow=17,SNR=15						
SOCV	**Socops**	**2.67**	**52**	*e*P	**Pn**	**10 56 34.4**	**+1.6**
SOCV				*e*S	**Sn**	**10 57 07.2**	**-0.8**
VIGV	**El Vigia**	**2.71**	**36**	*e*P	**Pn**	**10 56 34.5**	**+1.2**
VIGV				*e*S	**Sn**	**10 57 08.5**	**-0.6**
VIRV	**Villa del Rosa**	**3.88**	**8**	*e*P	**Pn**	**10 56 48.1**	**+0.6**
VIRV				*e*S	**Sn**	**10 57 31.7**	**-2.9**
QARV	**Quebrada Arrib**	**4.30**	**34**	*e*S	**Sn**	**10 57 41.6**	**-2.6**
CURV	**Curarigua**	**4.50**	**42**	*e*P	**Pn**	**10 56 56.5**	**+1.2**
CURV				*e*S	**Sn**	**10 57 45.3**	**-3.3**
BAUV	**El Baul**	**5.41**	**65**	*e*P	**Pn**	**10 57 06.9**	**-0.1**
MAPV	**Macapo**	**5.49**	**54**	*e*P	**Pn**	**10 57 08.5**	**+0.3**
MONV	**Montecano**	**6.06**	**29**	*e*P	**Pn**	**10 57 15.8**	**+0.2**
YKA	**Yellowknife Ar**	**63.48**	**340**	P	**P**	**11 05 58.5**	**+1.2**
	0.2nm,0.5s,baz=134,slow=6.6,SNR=6.6						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**11 15 14.4**	**-0.2**
	0.4nm,0.4s,baz=118,slow=3.5,SNR=12						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**11 15 17.8**	**+0.1**
	0.4nm,0.4s,baz=106,slow=3.0,SNR=16						

IDC 07 11:09:00.6±2.3, 32°.38S×179°.71W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=66.4km s-min=33.1km az=44.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.59**	**270**	P	P	11 16 50.3	-0.2
	0.5nm,0.3s,baz=111,slow=7.8,SNR=21						
WRA	**Warramunga Arr**	**42.76**	**275**	P	P	11 16 59.9	-0.1
	1.1nm,0.4s,baz=116,slow=8.1,SNR=27						
QSPA	**South Pole Qui**	**57.73**	**180**	P	P	11 18 53.0	-0.1
	1.6nm,0.8s,baz=290,slow=10.0,SNR=12						
FINES	**FINESS Array B**	**146.46**	**338**	PKPbc	PKPbc	11 28 42.3	-0.6
	1.4nm,0.9s,baz=132,slow=2.1,SNR=2.7						

ISCJB ***07*** *11:11:44.9±0.4, 51°.45N±0°.02×6°.48E±0°.04, h0km, Error ellipse: s-maj=4.4km s-min=2.4km az=34.9*

BGR ***07*** *11:11:46.0±0.6, 51°.48N×6°.57E, h1km, ML2.3/6, Error ellipse: s-maj=8.9km s-min=4.4km az=124.0*

CSEM ***07*** *11:11:45.2±0.3, 51°.52N×6°.50E, h1km, ML2.7/7, Error ellipse: s-maj=6.3km s-min=4.2km az=140.0*

LDG ***07*** *11:11:45.3±0.2, 51°.59N×6°.57E, h1km, Ml2.6/7, Error ellipse: s-maj=3.1km s-min=1.9km az=4.0, Suspected Mining induced.*

BNS ***07*** *11:11:46.4±0.7, 51°.52N×6°.58E, h1km, ML2.1*

BUG ***07*** *11:11:46.0, 51°.48N×6°.60E, h1km, ML2.2*

ISC 07 11:11:44.7±0.8, 51°.55N±0°.03×6°.47E±0°.03, h0km, n73, σ0°70/98, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.07**	**117**	Pg	**Pg**	**11 11 46.6**	**+0.6**
BRHE				Sg	**Sg**	**11 11 47.3**	**+0.4**
BRHE	**Rheinberg**	**0.07**	**117**	Pg	**Pg**	**11 11 46.6**	**+0.6**
LAUG	**Laupendahl**	**0.35**	**123**	*e*Pg	**Pg**	**11 11 51.7**	**+0.3**
LAUG	**Laupendahl**	**0.35**	**123**	Pg	**Pg**	**11 11 51.7**	**+0.3**
RODG	**Roetgen-Dahlhe**	**0.44**	**205**	*e*Sg	**Sb**	**11 12 01.6**	**-0.9**
RODG	**Roetgen-Dahlhe**	**0.44**	**205**	Sg	**Sb**	**11 12 01.6**	**-0.9**
WTSB	**Winterswijk**	**0.47**	**26**	*e*Pg	**Pb**	**11 11 57.1**	**+1.3**
	8.7nm,0.2s						
WTSB				*e*Sg	**Sb**	**11 12 02.8**	**-0.4**
WTSB				*e*Sg	**Sb**	**11 12 02.8**	**-0.4**
BUG	**Bochum--Univer**	**0.51**	**102**	*e*Pg	**Pg**	**11 11 54.9**	**+0.5**
BUG				Sg	**Sg**	**11 12 01.4**	**+0.4**
BNS	**Bensberg**	**0.73**	**143**	*e*Pg	**Pg**	**11 11 59.3**	**+0.6**
BNS	**Bensberg**	**0.73**	**143**	Pg	**Pg**	**11 11 59.3**	**+0.6**
HOBG	**Hohbusch**	**0.78**	**136**	*e*Pg	**Pg**	**11 12 00.2**	**+0.6**
HOBG	**Hohbusch**	**0.78**	**136**	Pg	**Pg**	**11 12 00.2**	**+0.6**
HGN	**Heimansgroeve**	**0.85**	**204**	*e*Pn	**Pb**	**11 12 02.4**	**0.0**
	1.7nm,0.1s						
HGN				*e*Pg	**Pn**	**11 12 03.9**	**-0.1**
	39nm,0.2s						
HGN				*e*Sn	**Sb**	**11 12 14.7**	**+0.3**
HGN				*e*Sg	**Sn**	**11 12 15.9**	**-1.2**
HGN	**Heimansgroeve**	**0.85**	**204**	*e*Pn	**Pb**	**11 12 02.4**	**0.0**
	1.7nm,0.1s						
DREG	**Dreilaegerbach**	**0.90**	**190**	*e*Pg	**Pg**	**11 12 02.8**	**+0.9**
DREG				*e*Sg	**Sb**	**11 12 15.5**	**-0.1**
DREG	**Dreilaegerbach**	**0.90**	**190**	Pg	**Pg**	**11 12 02.8**	**+0.9**
DREG				Sg	**Sb**	**11 12 15.5**	**-0.1**
BEBN	**Eben Emael**	**0.90**	**214**	P	**Pb**	**11 12 04.1**	**+0.8**
BEBN	**Eben Emael**	**0.90**	**214**	P	**Pb**	**11 12 04.0**	**+0.8**
KLL	**Kalltalsperre**	**0.91**	**187**	*e*Pg	**Pb**	**11 12 03.5**	**+0.2**
KLL	**Kalltalsperre**	**0.91**	**187**	Pg	**Pb**	**11 12 03.5**	**+0.2**
STB	**Steinbach**	**0.98**	**166**	*e*Pg	**Pb**	**11 12 04.7**	**+0.2**
STB				*e*Sg	**Sg**	**11 12 17.4**	**+1.2**
	57nm,0.3s						
STB	**Steinbach**	**0.98**	**166**	Pg	**Pb**	**11 12 04.7**	**+0.2**
STB				Sg	**Sg**	**11 12 17.4**	**+1.2**
	57nm,0.3s						
MEM	**Membach**	**0.98**	**198**	P	**Pg**	**11 12 04.2**	**+0.7**
MEM	**Membach**	**0.98**	**198**	P	**Pg**	**11 12 04.2**	**+0.7**
IBBN	**Ibbenburen**	**1.10**	**46**	*e*Pg	**Pn**	**11 12 07.4**	**+0.1**
IBBN				*e*Sg	**Sn**	**11 12 22.7**	**-0.6**
IBBN	**Ibbenburen**	**1.10**	**46**	Pg	**Pn**	**11 12 07.4**	**+0.1**
IBBN				Sg	**Sn**	**11 12 22.7**	**-0.6**
HILG	**Hillesheim**	**1.26**	**174**	*e*Pg	**Pg**	**11 12 09.3**	**+0.4**
HILG	**Hillesheim**	**1.26**	**174**	Pg	**Pg**	**11 12 09.3**	**+0.4**
BCLA	**Clavier**	**1.35**	**214**	P	**Pb**	**11 12 11.4**	**+0.5**
BCLA	**Clavier**	**1.35**	**214**	P	**Pb**	**11 12 11.3**	**+0.5**
KOE	**Koeppel**	**1.38**	**144**	*e*Pg	**Pg**	**11 12 10.5**	**-0.5**
KOE	**Koeppel**	**1.38**	**144**	Pg	**Pg**	**11 12 10.5**	**-0.5**
SNF	**Seneffe**	**1.73**	**234**	P	**Pn**	**11 12 15.8**	**-0.2**
SNF	**Seneffe**	**1.73**	**234**	P	**Pn**	**11 12 15.8**	**-0.2**
GIVF	**Givet**	**1.79**	**217**	*e*Pn	**Pn**	**11 12 16.2**	**-0.6**
GIVF	**Givet**	**1.79**	**217**	*e*Pg	**Pg**	**11 12 19.3**	**+0.4**
GIVF				*e*Sn	**Sn**	**11 12 39.5**	**-0.6**
	32nm,0.3s						
GIVF	**Givet**	**1.79**	**217**	*e*Pn	**Pn**	**11 12 16.2**	**-0.6**
GIVF	**Givet**	**1.79**	**217**	*e*Pg	**Pg**	**11 12 19.3**	**+0.4**
GIVF				*e*Sn	**Sn**	**11 12 39.5**	**-0.6**
	16nm,0.3s						
TNS	**Taunus Mts**	**1.82**	**136**	*e*Pg	**Pn**	**11 12 18.1**	**+0.8**
TNS				*e*Sg	**Sb**	**11 12 42.6**	**+0.3**
TNS	**Taunus Mts**	**1.82**	**136**	Pg	**Pn**	**11 12 18.1**	**+0.8**
TNS				Sg	**Sb**	**11 12 42.6**	**+0.3**
DOU	**Dourbes**	**1.88**	**220**	P	**Pn**	**11 12 19.2**	**+1.2**
DOU	**Dourbes**	**1.88**	**220**	P	**Pn**	**11 12 19.2**	**+1.2**
WLF	**Walferdange**	**1.90**	**186**	P	**Pb**	**11 12 20.9**	**+0.8**
WLF	**Walferdange**	**1.90**	**186**	*e*Pg	**Pb**	**11 12 20.9**	**+0.8**
WLF				*e*Sg	**Sn**	**11 12 43.9**	**+1.1**
WLF	**Walferdange**	**1.90**	**186**	Pg	**Pb**	**11 12 20.9**	**+0.8**
WLF				Sg	**Sn**	**11 12 43.9**	**+1.1**
BAIF	**Baives**	**2.07**	**225**	*e*Pn	**Pn**	**11 12 20.4**	**-0.3**
BAIF	**Baives**	**2.07**	**225**	*e*Pg	**Pg**	**11 12 24.9**	**+0.6**
BAIF				*e*Sn	**Sn**	**11 12 46.2**	**-0.9**
	12nm,0.5s						
BAIF	**Baives**	**2.07**	**225**	*e*Pn	**Pn**	**11 12 20.4**	**-0.3**
BAIF	**Baives**	**2.07**	**225**	*e*Pg	**Pg**	**11 12 24.9**	**+0.6**
BAIF				*e*Sn	**Sn**	**11 12 46.2**	**-0.9**
	6.2nm,0.5s						
CLZ	**Clausthal**	**2.44**	**82**	*e*Sg	**Sg**	**11 13 01.6**	**-1.6**
CLZ	**Clausthal**	**2.44**	**82**	Sg	**Sg**	**11 13 01.6**	**-1.6**
PAGF	**Fort de Pagny**	**3.03**	**189**	*e*Pn	**Pn**	**11 12 33.2**	**-0.7**
PAGF	**Fort de Pagny**	**3.03**	**189**	*e*Pg	**Pg**	**11 12 42.5**	**-0.3**
PAGF				*e*Sg	**Sg**	**11 13 22.4**	**+0.3**
	1.5nm,0.4s						
PAGF	**Fort de Pagny**	**3.03**	**189**	*e*Pn	**Pn**	**11 12 33.2**	**-0.7**
PAGF	**Fort de Pagny**	**3.03**	**189**	*e*Pg	**Pg**	**11 12 42.5**	**-0.3**
PAGF				*e*Sg	**Sg**	**11 13 22.4**	**+0.3**
	0.8nm,0.4s						
CDF	**Champ du Feu**	**3.18**	**170**	*e*Pn	**Pn**	**11 12 35.5**	**-0.5**
CDF				*e*Sg	**Sg**	**11 13 25.9**	**-0.9**
	1.9nm,0.3s						
CDF	**Champ du Feu**	**3.18**	**170**	*e*Pn	**Pn**	**11 12 35.5**	**-0.5**
CDF				*e*Sg	**Sg**	**11 13 25.9**	**-0.9**
	0.9nm,0.3s						
MEZF	**Maizieres J'vi**	**3.18**	**197**	*e*Sg	**Sg**	**11 13 27.2**	**+0.3**
	9.8nm,0.5s						
MEZF	**Maizieres J'vi**	**3.18**	**197**	*e*Sg	**Sg**	**11 13 27.2**	**+0.3**
	4.9nm,0.5s						
SFTF	**Sexfontaines**	**3.47**	**196**	*e*Sg	**Sg**	**11 13 36.0**	**-0.2**
	4.0nm,0.3s						
SFTF	**Sexfontaines**	**3.47**	**196**	*e*Sg	**Sg**	**11 13 36.0**	**-0.2**
	2.0nm,0.3s						
LOR	**Lormes**	**4.61**	**203**	*e*Pn	**Pn**	**11 12 55.0**	**-0.6**
LOR	**Lormes**	**4.61**	**203**	*e*Pn	**Pn**	**11 12 55.0**	**-0.6**
SSF	**Saint Saulge**	**4.89**	**205**	*e*Pn	**Pn**	**11 12 58.8**	**-0.6**
SSF	**Saint Saulge**	**4.89**	**205**	*e*Pn	**Pn**	**11 12 58.8**	**-0.6**
CABF	**La Chapelle**	**4.95**	**183**	*e*Pn	**Pn**	**11 12 59.4**	**-0.9**
CABF	**La Chapelle**	**4.95**	**183**	*e*Pn	**Pn**	**11 12 59.4**	**-0.9**
AVF	**Avril sur Loir**	**5.18**	**204**	*e*Pn	**Pn**	**11 13 02.3**	**-1.1**
AVF	**Avril sur Loir**	**5.18**	**204**	*e*Pn	**Pn**	**11 13 02.3**	**-1.1**
SMF	**Signal de Mont**	**5.20**	**200**	*e*Pn	**Pn**	**11 13 03.0**	**-0.7**
SMF	**Signal de Mont**	**5.20**	**200**	*e*Pn	**Pn**	**11 13 03.0**	**-0.7**
BGF	**Bois d'Agland**	**5.53**	**207**	*e*Pn	**Pn**	**11 13 07.7**	**-0.6**
BGF	**Bois d'Agland**	**5.53**	**207**	*e*Pn	**Pn**	**11 13 07.7**	**-0.6**

IDC 07 11:26:32.3±2.3, 4°.05N×127°.50E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=168.8km s-min=27.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**165**	P	P	11 31 55.3	-0.7
	0.6nm,0.7s,baz=344,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**28.25**	**168**	P	P	11 32 28.3	+0.9
	0.2nm,0.8s,baz=336,slow=8.4,SNR=2.7						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	11 36 25.0	-0.1
	0.2nm,0.4s,baz=118,slow=7.4,SNR=5.3						

IDC 07 11:34:58.7±2.4, 4°.14N×126°.63E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=190.3km s-min=28.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.10**	**163**	P	P	11 40 23.7	-1.7
	0.4nm,0.5s,baz=342,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**28.54**	**166**	P	P	11 40 58.2	+1.9
	0.2nm,0.4s,baz=340,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	11 44 47.4	-0.1
	0.3nm,0.7s,baz=137,slow=6.9,SNR=3.7						

NIED ***07*** *11:53:00, 26°.90N×126°.70E, h101km, Mw4.3 Best double couple: M0 2.89000×10^15 NP1:φ=221.00000°, δ90.00000°, λ.64.00000°. NP2:φ=130.00000°, δ26.00000°, λ.179.00000°.*

BJI ***07*** *11:53:33.9, 26°.60N×126°.88E, h151km, mB4.8/10, mb4.5/23*

ISCJB ***07*** *11:53:33.5±0.2, 26°.70N±0°.03×126°.77E±0°.03, h125km±3km, mb4.4/39, Error ellipse: s-maj=6.7km s-min=2.9km az=139.4*

JMA ***07*** *11:53:34.9±0.2, 26°.85N×126°.70E, h112km±2km, M4.2*

IDC ***07*** *11:53:35.0±0.6, 26°.83N×126°.81E, h121km±5km, mb3.9/18, mb1 4.0/20, mb1mx3.9/29, mbtmp3.9/20, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=13.1km s-min=8.8km az=31.0*

NEIC ***07*** *11:53:35.6±0.3, 26°.76N×126°.72E, mb4.2/8, Error ellipse: s-maj=6.8km s-min=5.3km az=132.0*

MOS ***07*** *11:53:36.7±0.9, 26°.82N×126°.77E, h153km, mb4.3/14, Error ellipse: s-maj=14.5km s-min=7.6km az=112.7*

ISC 07 11:53:35.3±0.4, 26°.71N±0°.04×126°.79E±0°.03, h127km±3km, h127km?pP-P, n131, σ1°65/196, mb4.4/39, 8C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.38**	**180**	P	**Pn**	**11 53 52.3**	**-1.1**
JKE				S	**Sn**	**11 54 05.5**	**-1.6**
JAGN	**Aguni-jima**	**0.43**	**107**	P	**Pn**	**11 53 52.6**	**-1.0**
JAGN				S	**Sn**	**11 54 05.3**	**-2.1**
JJT2	**Tamagusuku 2**	**1.03**	**123**	P	**Pn**	**11 53 58.6**	**+0.4**
JJT2				*e*S	**Sn**	**11 54 16.0**	**+0.3**
JIH	**Iheya**	**1.10**	**73**	P	**Pn**	**11 53 58.3**	**-0.6**
JIH				S	**Sn**	**11 54 14.6**	**-2.2**
JOW	**Kunigami**	**1.34**	**85**	P	**Pn**	**11 54 00.8**	**-0.4**
	319nm,0.3s,baz=195,slow=8.5,SNR=754						
JOW				S	**Sn**	**11 54 19.1**	**-2.1**
	917nm,0.3s,baz=147,slow=27,SNR=17						
JOW	**Kunigami**	**1.34**	**85**	*e*Pn	**Pn**	**11 54 01.0**	**-0.4**
JOW				*e*Sn	**Sn**	**11 54 19.1**	**-2.1**
JOW	**Kunigami**	**1.34**	**85**	P	**Pn**	**11 54 00.9**	**-0.4**
JOW				S	**Sn**	**11 54 19.3**	**-1.9**
JTK	**Tokunoshima**	**2.20**	**60**	P	**Pn**	**11 54 10.4**	**-1.2**
JTK				S	**Sn**	**11 54 36.9**	**-2.6**
JOGS	**Gusukube**	**2.31**	**213**	P	**Pn**	**11 54 13.0**	**+0.1**
JOGS				S	**Sn**	**11 54 41.4**	**-0.4**
JMJ	**Miyako jima 2**	**2.32**	**216**	P	**Pn**	**11 54 13.1**	**0.0**
JMJ				S	**Sn**	**11 54 40.6**	**-1.4**
JTJ	**Tarama**	**2.79**	**223**	P	**Pn**	**11 54 18.5**	**-0.6**
JTJ				S	**Sn**	**11 54 50.3**	**-2.5**
JAM	**Amami Oshima**	**3.02**	**55**	P	**Pn**	**11 54 20.5**	**-1.5**
JAM				S	**Sn**	**11 54 55.2**	**-2.9**
JZK	**Kikaishima**	**3.25**	**60**	P	**Pn**	**11 54 24.2**	**-0.8**
JZK				S	**Sn**	**11 55 02.3**	**-1.2**
JIJ	**Ishigaki jima**	**3.34**	**226**	P	**Pn**	**11 54 24.8**	**-1.5**
JIJ				S	**Sn**	**11 55 01.5**	**-4.2**
JKRS	**Kuro-shima**	**3.52**	**226**	P	**Pn**	**11 54 27.4**	**-1.2**
JKRS				S	**Sn**	**11 55 06.5**	**-3.3**
IRIF	**Iriomote-Funau**	**3.64**	**230**	P	**Pn**	**11 54 28.9**	**-1.2**
IRIF				*e*S	**Sn**	**11 55 09.5**	**-3.1**
HATJ	**Hateruma jima**	**3.78**	**226**	P	**Pn**	**11 54 30.9**	**-1.1**
HATJ				*e*S	**Sn**	**11 55 14.5**	**-1.4**
YOJ	**Yonaguni jima**	**4.08**	**238**	P	**Pn**	**11 54 35.7**	**-0.3**
JMZ	**Minamidaito 2**	**4.08**	**102**	P	**Pn**	**11 54 34.3**	**-1.7**
JMZ				S	**Sn**	**11 55 18.2**	**-4.9**
JNN	**Nakanoshima**	**4.14**	**40**	P	**Pn**	**11 54 35.9**	**-0.9**
JNN				*e*S	**Sn**	**11 55 24.2**	**-0.4**
TATO	**Taipei**	**5.08**	**251**	*e*Pn	**Pn**	**11 54 50.9**	**+1.5**
YHNB	**Yeheng**	**5.29**	**249**	*e*Pn	**Pn**	**11 54 53.5**	**+1.2**
YHNB				*e*Sn	**Sn**	**11 55 51.6**	**-0.6**
NACB	**Ninganchiao**	**5.33**	**243**	*e*Pn	**Pn**	**11 54 51.3**	**-1.5**
YULB	**Yu-li**	**5.97**	**238**	*e*Pn	**Pn**	**11 54 58.4**	**-3.0**
YULB				*e*Sn	**Sn**	**11 56 02.9**	**-5.8**
SSLB	**Suanglung**	**6.03**	**242**	*e*Pn	**Pn**	**11 55 00.5**	**-1.7**
SSLB				*e*Sn	**Sn**	**11 56 06.6**	**-3.4**
TWG	**Pinlang**	**6.48**	**235**	*e*Pn	Pn	11 55 04.7	-3.6
TWG				*e*Sn	**Sn**	**11 56 15.1**	**-5.8**
TPUB	**Ta-pu**	**6.54**	**240**	*e*Pn	**Pn**	**11 55 07.7**	**-1.3**
JNU	**Nakatsue**	**7.31**	**28**	P	**Pn**	**11 55 19.4**	**0.0**
	1.8nm,0.3s,baz=190,slow=4.8,SNR=18						
JNU	**Nakatsue**	**7.31**	**28**	*e*Pn	**Pn**	**11 55 19.6**	**+0.3**
NJ2	**Nanjing**	**8.73**	**309**	*e*P	**Pn**	**11 55 39.1**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KSAR	**Wonju Array Be**	**10.74**	**5**	P	**Pn**	**11 56 06.3**	**+0.8**
KSRS	**Korea Array**	**10.75**	**5**	P	**Pn**	**11 56 06.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=21						
MJAR	**Matsushiro Arr**	**13.80**	**42**	P	**Pn**	**11 56 46.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=269,slow=16,SNR=3.1						
MJAR	**Matsushiro Arr**	**13

KKN				pmax	pmax		
	comp=Z,12nm,0.4s						
KKN	**Kakani**	**36.79**	**281**	*eP*	**P**	**12 00 31.8**	**+0.7**
	comp=Z,12nm,0.4s						
GKN	**Gorkha**	**37.32**	**282**	*eP*	**P**	**12 00 35.5**	**0.0**
	comp=Z,24nm,0.7s						
GKN	**Gorkha**	**37.32**	**282**	*eP*	**P**	**12 00 35.5**	**0.0**
	comp=Z,24nm,0.7s						
DANN	**Dangsing**	**38.04**	**283**	*eP*	**P**	**12 00 42.5**	**+0.8**
	comp=Z,25nm,0.6s						
DANN	**Dangsing**	**38.04**	**283**	*eP*	**P**	**12 00 42.5**	**+0.8**
	comp=Z,25nm,0.6s						
KOLN	**Koldanda**	**38.27**	**282**	*eP*	**P**	**12 00 42.6**	**-0.9**
KOLN	**Koldanda**	**38.27**	**282**	*eP*	**P**	**12 00 42.6**	**-0.9**
MK31	**Makanchi Array**	**40.25**	**312**	*ceP*	**P**	**12 00 58.6**	**-0.9**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MK31	**Makanchi Array**	**40.25**	**312**	*eP*	**P**	**12 00 58.7**	**-0.8**
MK31				*ePcP*	**PcP**	**12 02 59.9**	**-1.0**
MKAR	**Makanchi Array**	**40.25**	**312**	P	**P**	**12 00 58.6**	**-0.9**
	comp=Z,6.7nm,0.5s,baz=97,slow=11,SNR=111						
MKAR				pP	**pP**	**12 01 26.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=110,slow=8.5,SNR=1.6						
MKAR				PcP	**PcP**	**12 03 01.7**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=66,slow=3.0,SNR=8.4						
MKAR				ScP	**ScP**	**12 06 40.2**	**+1.9**
	comp=Z,0.8nm,1.0s,baz=102,slow=4.2,SNR=5.4						
MKAR	**Makanchi Array**	**40.25**	**312**	*ceP*	**P**	**12 00 58.7**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR	**Makanchi Array**	**40.25**	**312**	*eP*	**P**	**12 00 58.8**	**-0.7**
MKAR				pP	**pP**	**12 01 26.9**	**-1.2**
MKAR				PcP	**PcP**	**12 03 01.7**	**+0.8**
MKAR				ScP	**ScP**	**12 06 40.2**	**+1.9**
ZAA0	**Zalesovo Array**	**41.08**	**323**	*eP*	**P**	**12 01 04.8**	**-1.4**
ZAA0				*epP*	**pP**	**12 01 34.6**	**-0.2**
ZALV	**Zalesovo Beam**	**41.08**	**323**	P	**P**	**12 01 04.9**	**-1.3**
	comp=Z,6.2nm,0.5s,baz=113,slow=8.4,SNR=29						
ZALV				pP	**pP**	**12 01 34.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=110,slow=8.6,SNR=2.8						
ZALV				PcP	**PcP**	**12 03 03.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=106,slow=3.7,SNR=3.8						
ZALV				ScP	**ScP**	**12 06 41.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=135,slow=4.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.08**	**323**	P	**P**	**12 01 04.9**	**-1.3**
ZALV				*PP	**pP**	**12 01 34.5**	**-0.3**
ZALV						12 03 03.8	
ZALV	**Zalesovo Beam**	**41.08**	**323**	P	**P**	**12 01 04.9**	**-1.3**
ZALV				pP	**pP**	**12 01 34.5**	**-0.3**
ZALV				PcP	**PcP**	**12 03 03.8**	**+0.4**
ZALV				ScP	**ScP**	**12 06 41.9**	**+0.5**
KURK	**Kurchatov**	**43.58**	**317**	*c iP*	**P**	**12 01 26.1**	**-0.4**
KURK	**Kurchatov**	**43.58**	**317**	*eP*	**P**	**12 01 25.7**	**-0.8**
KURK				pP	**pP**	**12 01 54.8**	**-0.6**
KURK				PcP	**PcP**	**12 03 11.1**	**-0.7**
KURBB	**Kurchatov Arra**	**43.61**	**316**	P	**P**	**12 01 25.5**	**-1.2**
	comp=Z,3.8nm,0.4s,baz=104,slow=8.9,SNR=24						
KURBB				pP	**pP**	**12 01 54.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=106,slow=8.3,SNR=2.6						
KURBB				PcP	**PP**	**12 03 11.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=112,slow=3.2,SNR=5.5						
TKM2	**Tokmak 2**	**44.34**	**305**	*eP*	**P**	**12 01 33.3**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TKM2	**Tokmak 2**	**44.34**	**305**	*eP*	**P**	**12 01 33.3**	**+0.3**
	comp=Z,3.4nm,1.0s						
TKM2				*epP*	**pP**	**12 02 02.5**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=352,slow=8.2,SNR=3.9						
AAK	**Ala-Archa**	**45.13**	**305**	PcP	**PcP**	**12 03 18.1**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=170,slow=4.8,SNR=3.8						
AAK	**Ala-Archa**	**45.13**	**305**	PcP	**PcP**	**12 03 18.1**	**+0.6**
WRAB	**Tennant Creek**	**46.95**	**170**	*eP*	**P**	**12 01 54.6**	**+1.3**
WRAB	**Tennant Creek**	**46.95**	**170**	*eP*	**P**	**12 01 54.6**	**+1.3**
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**46.95**	**170**	P	**P**	**12 01 54.6**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=352,slow=8.5,SNR=51						
WRA				pP	**pP**	**12 02 22.0**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=352,slow=8.2,SNR=3.9						
WRA	**Warramunga Arr**	**46.95**	**170**	P	**P**	**12 01 54.6**	**+1.2**
WRA				pP	**pP**	**12 02 22.0**	**-0.6**
BVAR	**Borovoye Array**	**49.05**	**318**	P	**P**	**12 02 09.2**	**0.0**
	comp=Z,1.6nm,0.4s,baz=91,slow=9.0,SNR=13						
BVAR				PcP	**PcP**	**12 03 31.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=97,slow=3.6,SNR=6.5						
BVAR	**Borovoye Array**	**49.05**	**318**	P	**P**	**12 02 09.2**	**0.0**
BVAR						12 03 31.4	
BVAR	**Borovoye Array**	**49.05**	**318**	P	**P**	**12 02 09.2**	**0.0**
BVAR				PcP	**PcP**	**12 03 31.4**	**+0.4**
BRVK	**Borovoye**	**49.12**	**318**	*eP*	**P**	**12 02 10.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BRVK	**Borovoye**	**49.12**	**318**	*eP*	**P**	**12 02 10.2**	**+0.5**
	comp=Z,9.2nm,1.1s						
KBL	**Kabul**	**49.73**	**294**	*eP*	**P**	**12 02 15.3**	**+0.4**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**49.73**	**294**	*eP*	**P**	**12 02 15.3**	**+0.4**
	comp=Z,8.1nm,0.8s						
AS31	**Alice Springs**	**50.55**	**172**	*eP*	**P**	**12 02 21.9**	**+1.1**
ASAR	**Alice Springs**	**50.55**	**172**	P	**P**	**12 02 22.6**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=358,slow=14,SNR=50						
ASAR	**Alice Springs**	**50.55**	**172**	P	**P**	**12 02 22.6**	**+1.7**
AB31	**Akbulak array**	**55.37**	**313**	*ceP*	**P**	**12 02 55.8**	**-0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ABKAR	**Akbulak array**	**55.37**	**313**	*eP*	**P**	**12 02 55.7**	**-0.3**
	comp=Z,2.3nm,0.4s						
ABKAR				*epP*	**pP**	**12 03 26.9**	**+0.9**
ARU	**Arti**	**56.21**	**322**	*c iP*	**P**	**12 03 01.2**	**-0.6**
ARU						12 05 06.1	
ARU				S	**S**	**12 10 45.4**	**+4.1**
ARU				SS	**SS**	**12 14 31.1**	**+1.7**
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s						
AKTO	**Aktyubinsk**	**56.57**	**314**	P	**P**	**12 03 05.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=71,slow=13,SNR=4.6						
AKTO	**Aktyubinsk**	**56.57**	**314**	P	**P**	**12 03 05.0**	**+0.5**
AKTO	**Aktyubinsk**	**56.57**	**314**	P	**P**	**12 03 05.0**	**+0.5**
STKA	**Stephens Creek**	**59.95**	**165**	P	**P**	**12 03 28.8**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=343,slow=8.9,SNR=4.8						
STKA	**Stephens Creek**	**59.95**	**165**	P	**P**	**12 03 28.8**	**+0.7**
ILAR	**Eielson Array**	**64.63**	**28**	P	**P**	**12 03 58.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=287,slow=9.6,SNR=17						
ILAR	**Eielson Array**	**64.63**	**28**	P	**P**	**12 03 58.5**	**-0.4**
ZEI	**Tsey**	**67.42**	**308**	*eP*	**P**	**12 04 16.8**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**67.85**	**309**	P	**P**	**12 04 19.6**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=88,slow=4.4,SNR=12						
KBZ	**Khabaz**	**67.85**	**309**	P	**P**	**12 04 19.6**	**-0.2**
KBZ	**Khabaz**	**67.85**	**309**	P	**P**	**12 04 19.6**	**-0.2**
KIV	**Kislovodsk**	**67.94**	**309**	*eP*	**P**	**12 04 21.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,21nm,1.7s						
OBN	**Obninsk**	**68.65**	**322**	*eP*	**P**	**12 04 27.0**	**+2.5**
OBN				*e*		12 04 49.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARCES	**ARCESS Array B**	**69.08**	**338**	P	**P**	**12 04 27.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=72,slow=8.6,SNR=3.5						
ARCES	**ARCESS Array B**	**69.08**	**338**	P	**P**	**12 04 27.1**	**+0.1**
FINES	**FINESS Array B**	**71.81**	**330**	P	**P**	**12 04 43.0**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=61,slow=5.5,SNR=8.1						
FINES	**FINESS Array B**	**71.81**	**330**	P	**P**	**12 04 43.0**	**-0.6**
AKASG	**Malin Array Be**	**74.32**	**319**	P	**P**	**12 04 57.9**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=58,slow=6.4,SNR=5.7						
AKASG	**Malin Array Be**	**74.32**	**319**	*ceP*	**P**	**12 04 58.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**74.32**	**319**	P	**P**	**12 04 57.9**	**-0.8**
AK01	**Malin Array Si**	**74.33**	**319**	*eP*	**P**	**12 04 57.9**	**-0.8**
AK02	**Malin Array Si**	**74.35**	**319**	*eP*	**P**	**12 04 57.1**	**-1.7**
BR131	**Keskin Array S**	**75.72**	**307**	*eP*	**P**	**12 05 07.2**	**+0.2**
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**75.72**	**307**	P	**P**	**12 05 07.0**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=106,slow=4.0,SNR=9.9						
BRTR	**Keskin Array B**	**75.72**	**307**	P	**P**	**12 05 07.0**	**-0.1**
NB2	**NORSAR Subarra**	**78.31**	**333**	P	**P**	**12 05 19.9**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**78.31**	**333**	P	**P**	**12 05 19.7**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=53,slow=5.6,SNR=6.9						
NOA	**NORSAR Array B**	**78.31**	**333**	P	**P**	**12 05 19.8**	**-1.3**
YKA	**Yellowknife Ar**	**78.63**	**25**	P	**P**	**12 05 23.2**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=306,slow=5.6,SNR=31						
YKA	**Yellowknife Ar**	**78.63**	**25**	P	**P**	**12 05 23.2**	**+0.5**
OJC	**Ojcow**	**79.94**	**321**	*eP*	**P**	**12 05 30.1**	**0.0**
OJC	**Ojcow**	**79.94**	**321**	*eP*	**P**	**12 05 30.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=46,slow=3.9,SNR=5.7						
GERES	**GERESS Array B**	**84.03**	**322**	P	**P**	**12 05 51.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=46,slow=3.9,SNR=5.7						
GERES	**GERESS Array B**	**84.03**	**322**	P	**P**	**12 05 51.7**	**+0.1**

*ISK **07** 12:05:48.8, 40.66N×35.43E, h12km, MD2.5*
*ISCJB **07** 12:05:49.4±0.7, 40.65N±0.04°×35.45E±0.03°, h4km±7km, Error ellipse: s-maj=7.2km s-min=4.4km az=175.8*
*DDA **07** 12:05:49.3, 40.70N×35.45E, h7km, MD2.9*
*CSEM **07** 12:05:49.3±0.3, 40.65N×35.43E, h2km, MD2.9, Error ellipse: s-maj=7.8km s-min=5.1km az=175.0*

ISC 07 12:05:49.7±1.1, 40.67N±0.03°×35.44E±0.02, h13km±12km, n22, σ0.963/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAVZ	**Havza**	**0.46**	**28**	*i* P		**Pg**		**12 05 58.5**	**-0.3**
HAVZ				*i* S		**Sb**		**12 06 06.1**	**-0.4**
HAVZ	**Havza**	**0.46**	**28**	*i* P		**Pg**		**12 05 58.5**	**-0.3**
HAVZ				*i* S		**Sb**		**12 06 06.1**	**-0.4**
CTKT	**Corum**	**0.49**	**265**	*i* P		**Pg**		**12 05 59.3**	**-0.1**
CTKT				*i* S		**Sb**		**12 06 07.6**	**+0.1**
CTKT	**Corum**	**0.49**	**265**	*i* P		**Pg**		**12 05 59.3**	**-0.1**
CTKT				*i* S		**Sb**		**12 06 07.6**	**+0.1**
KVT	**Kavak**	**0.62**	**48**	*e*PG		**Pg**		**12 06 01.7**	**-0.1**
KVT				*e*SG		**Sg**		**12 06 10.7**	**+0.6**
KVT	**Kavak**	**0.62**	**48**	*e*Pg		**Pg**		**12 06 01.7**	**-0.1**
KVT				*e*Sg		**Sg**		**12 06 10.7**	**+0.6**
CORM	**Corum**	**0.78**	**232**	*e*PG		**Pg**		**12 06 04.1**	**-0.8**
CORM	**Corum**	**0.78**	**232**	*e*Pg		**Pg**		**12 06 04.1**	**-0.8**
TOKA	**Tokat**	**0.86**	**113**	*i* P		**Pg**		**12 06 06.2**	**-0.2**
TOKA				*i* S		**Sb**		**12 06 19.3**	**+1.2**
TOKA	**Tokat**	**0.86**	**113**	*i* P		**Pg**		**12 06 06.2**	**-0.2**
TOKA				*i* S		**Sb**		**12 06 19.3**	**+1.2**
BYBT	**Boyabat**	**0.95**	**328**	*e*PG		**Pg**		**12 06 07.8**	**-0.2**
BYBT	**Boyabat**	**0.95**	**328**	*e*Pg		**Pg**		**12 06 07.8**	**-0.2**
DIKM	**Dikmen**	**0.99**	**352**	*e*PG		**Pg**		**12 06 08.1**	**-0.7**
DIKM	**Dikmen**	**0.99**	**352**	*e*Pg		**Pg**		**12 06 08.1**	**-0.7**
ERBA	**Erbaa**	**1.00**	**89**	*i* P		**Pg**		**12 06 07.6**	**-1.4**
ERBA				*i* S		**Sb**		**12 06 22.1**	**0.0**
ERBA	**Erbaa**	**1.00**	**89**	*i* P		**Pg**		**12 06 07.6**	**-1.4**
ERBA				*i* S		**Sb**		**12 06 22.1**	**0.0**
TOS	**Tosya**	**1.13**	**290**	*e*PN		**Pb**		**12 06 10.6**	**-0.6**
TOS	**Tosya**	**1.13**	**290**	*e*Pn		**Pb**		**12 06 10.6**	**-0.6**
BZK	**Bozkurt**	**1.68**	**321**	*e*PN		**Pn**		**12 06 18.9**	**+0.1**
BZK	**Bozkurt**	**1.68**	**321**	*e*Pn		**Pn**		**12 06 18.9**	**+0.1**
BALT	**Daday**	**1.78**	**300**	*i* P		**Pb**		**12 06 22.6**	**+0.4**
BALT				*i* S		**Sg**		**12 06 47.3**	**+0.5**
BALT	**Daday**	**1.78**	**300**	*i* P		**Pb**		**12 06 22.6**	**+0.4**
BALT				*i* S		**Sg**		**12 06 47.3**	**+0.5**

IDC 07 12:06:01.5±1.2, 0.43S×20.04W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/24, Error ellipse: s-maj=72.9km s-min=26.0km az=158.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**16.71**	**65**	Pn		Pn	Pn	12 09 58.3	+1.1
	0.4nm,0.3s,baz=233,slow=15,SNR=5.1								
DBIC				LR		LR		12 14 33.6	
	comp=Z,44nm,21.9s,baz=237,slow=31								
TORD	**Torodi Ar. Bea**	**25.42**	**57**	P		P		12 11 31.3	+0.2
	1.5nm,0.7s,baz=234,slow=11,SNR=7.2								
LPAZ	**La Paz**	**49.94**	**249**	P		P		12 14 58.9	+0.5
	0.4nm,0.4s,baz=91,slow=4.1,SNR=3.1								
TXAR	**Lajitas Array**	**84.64**	**299**	P		P		12 18 37.1	-0.7
	0.1nm,0.6s,baz=108,slow=5.8,SNR=2.7								
ASAR	**Alice Springs**	**145.16**	**135**	PKPbc		PKPbc		12 25 40.2	-1.4
	0.5nm,0.6s,baz=221,slow=3.0,SNR=9.1								

IDC 07 13:03:30.6±2.3, 6.51S×129.64E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=145.7km s-min=31.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**162**	Pn		Pn	Pn	13 06 50.9	-1.0
	0.5nm,0.3s,baz=344,slow=14,SNR=26								
WRA				Sn		Sn	Sn	13 09 16.0	-13
	0.3nm,0.3s,baz=338,slow=22,SNR=5.7								
ASAR	**Alice Springs**	**17.54**	**167**	P		P		13 07 37.4	-0.5
	0.2nm,0.3s,baz=342,slow=9.8,SNR=23								
MKAR	**Makanchi Array**	**67.63**	**327**	P		P		13 14 29.3	0.0
	0.2nm,0.4s,baz=118,slow=6.9,SNR=5.0								

*NEIC **07** 13:10:05.5, 18.17N×68.61W, h149km, MD3.1(RSPR), After RSPR.*

RSPR 07 13:10:05.5, 18.17N×68.61W, h149km±4km, MD3.1/5, 14C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.95**	**310**	*e*P		Pn		13 10 29.5	-0.4
DR12	**Loma Pena Alta**	**0.95**	**310**	*e*P		Pn		13 10 29.5	-0.4
SMN1	**Samana, DR**	**1.19**	**328**	*e*P		Pn		13 10 31.8	-0.1
SMN1				*e*S		Sn		13 10 52.1	-0.1
CRPR	**Cabo Rojo, PR**	**1.44**	**96**	*e*P		Pn		13 10 34.5	+0.2
CRPR	**Cabo Rojo, PR**	**1.44**	**96**	*e*P		Pn		13 10 34.5	+0.2
LSP	**Las Mesas**	**1.45**	**90**	*e*P		Pn		13 10 34.0	-0.5
LSP	**Las Mesas**	**1.45**	**90**	*e*P		Pn		13 10 34.0	-0.5
AGPR	**Aguadilla, PR**	**1.45**	**78**	*e*P		Pn		13 10 34.2	-0.3
AGPR	**Aguadilla, PR**	**1.45**	**78**	*e*P		Pn		13 10 34.2	-0.3
LRS	**Lares**	**1.68**	**86**	*e*P		Pn		13 10 37.0	0.0
LRS				*e*S		Sn		13 11 01.4	+0.3
LRS	**Lares**	**1.68**	**86**	*e*P		Pn		13 10 37.0	0.0
LRS				*e*S		Sn		13 11 01.4	+0.3
AOPR	**Arecibo Observ**	**1.77**	**84**	*e*P		Pn		13 10 38.2	+0.2
AOPR	**Arecibo Observ**	**1.77**	**84**	*e*S		Sn		13 11 03.0	+0.1
AOPR	**Arecibo Observ**	**1.77**	**84**	*e*P		Pn		13 10 38.2	+0.2
AOPR				*e*S		Sn		13 11 03.0	+0.1
CELP	**Cerrillos**	**1.93**	**93**	*e*P		Pn		13 10 39.5	-0.4
CELP				*e*S		Sn		13 11 06.6	+0.4
CELP	**Cerrillos**	**1.93**	**93**	*e*P		Pn		13 10 39.5	-0.4
CELP				*e*S		Sn		13 11 06.6	+0.4
SDDR	**Presa de Saban**	**2.67**	**288**	*e*Pn		Pn		13 10 48.0	-0.7
SDDR				*e*Sn		Sn		13 11 20.4	-1.7

*DDA **07** 13:29:44.2, 37.80N×27.51E, h41km, MD2.8*
*ISK **07** 13:29:47.1, 37.88N×27.53E, h4km, MD2.8*
*CSEM **07** 13:29:47.0±0.2, 37.87N×27.55E, h2km, MD2.8, Error ellipse: s-maj=4.2km s-min=3.2km az=69.0*

ISC 07 13:29:47.6±1.1, 37.88N±0.03°×27.55E±0.03, h2km±11km, n39, σ0.952/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.31**	**235**	*i* P		**Pg**		**13 29 53.4**	**-0.1**
GCAM	**G?zelcaml?**	**0.31**	**235**	*i* P		**Pg**		**13 29 53.4**	**-0.1**
AYDN	**Tasoluk**	**0.34**	**129**	*i* P		**Pg**		**13 29 54.3**	**+0.2**
AYDN				*i* S		**Sg**		**13 29 58.5**	**0.0**
AYDN	**Tasoluk**	**0.34**	**129**	*i* P		**Pg**		**13 29 54.3**	**+0.2**
AYDN				*i* S		**Sg**		**13 29 58.5**	**0.0**
IZM	**Izmir**	**0.57**	**336**	*e*PG		**Pg**		**13 29 58.5**	**-0.1**
IZM	**Izmir**	**0.57**	**336**	*e*Pg		**Pg**		**13 29 58.5**	**-0.1**
MLSB	**Milas**	**0.60**	**163**	*e*PG		**Pg**		**13 29 58.9**	**-0.4**
MLSB	**Milas**	**0.60**	**163**	*e*Pg		**Pg**		**13 29 58.9**	**-0.4**
BLCB	**Balcova**	**0.65**	**322**	*e*PG		**Pg**		**13 30 00.4**	**+0.3**
BLCB				*e*SG		**Sg**		**13 30 09.2**	**+0.7**
BLCB	**Balcova**	**0.65**	**322**	*e*Pg		**Pg**		**13 30 00.4**	**+0.3**
BLCB				*e*Sg		**Sg**		**13 30 09.2**	**+0.7**
BODT	**Bodrum**	**0.83**	**193**	*e*PG		**Pg**		**13 30 04.0**	**+0.4**
BODT	**Bodrum**	**0.83**	**193**	*e*Pg		**Pg**		**13 30 04.0**	**+0.4**
URLA	**Izmir**	**0.90**	**303**	*i* P		Pg		13 30 00.1	-4.8
URLA				*i* S		**Sb**		**13 30 18.3**	**-0.1**
YER	**Yerkesik**	**0.94**	**142**	*e*PG		**Pg**		**13 30 06.0**	**+0.4**
YER	**Yerkesik**	**0.94**	**142**	*e*Pg		**Pg**		**13 30 06.1**	**+0.4**
MANT	**Manisa**	**1.00**	**52**	*i* P		Pg		13 30 01.1	-6.8
MANT				*i* S		**Sg**		**13 30 19.8**	**-0.1**
AKHS	**Akhisar**	**1.02**	**12**	*i* P		Pg		13 30 00.2	-7.1
AKHS				*i* S		**Sn**		**13 30 23.3**	**-0.6**
AKS	**Akhisar**	**1.02**	**11**	*e*PG		**Pb**		**13 30 07.5**	**-0.5**
AKS	**Akhisar**	**1.02**	**11**	*e*Pg		**Pb**		**13 30 07.6**	**-0.5**
KULA	**Kula-Manisa**	**1.08**	**53**	*e*PN		**Pg**		**13 30 08.4**	**+0.1**
KULA	**Kula-Manisa**	**1.08**	**53**	*e*Pn		**Pg**		**13 30 08.5**	**+0.1**
DENT	**Denizli**	**1.18**	**95**	*e*PN		**Pn**		**13 30 11.5**	**+0.3**
DENT	**Denizli**	**1.18**	**95**	*e*Pn		**Pn**		**13 30 11.5**	**+0.3**
DNZL	**Cakiroluk**	**1.20**	**98**	*i* P		Pg		13 30 00.1	-11
DNZL				*i* S		**Sn**		**13 30 29.2**	**+0.7**
KHL	**Karahalli**	**1.62**	**73**	*e*PN		**Pb**		**13 30 18.1**	**-0.1**
KHL	**Karahalli**	**1.62**	**73**	*e*Pn		**Pb**		**13 30 18.1**	**-0.1**
APE	**Apeiranthos**	**1.80**	**244**	*e*PN		**Pb**		**13 30 20.4**	**-0.8**
APE	**Apeiranthos**	**1.80**	**244**	*e*Pn		**Pb**		**13 30 20.5**	**-0.8**
DURS	**Dursunbey**	**1.87**	**22**	*i* S		**Sn**		**13 30 44.9**	**0.0**
DST	**Dursunbey**	**1.92**	**25**	*e*PN		**Pn**		**13 30 21.6**	**+0.3**
DST	**Dursunbey**	**1.92**	**25**	*e*Pn		**Pn**		**13 30 21.6**	**+0.3**
TVSB	**Tavsanli**	**2.17**	**43**	*e*PN		**Pb**		**13 30 26.2**	**-1.4**
TVSB	**Tavsanli**	**2.17**	**43**	*e*Pn		**Pb**		**13 30 26.3**	**-1.4**
EZN	**Ezine**	**2.17**	**334**	*e*PN		**Pn**		**13 30 25.3**	**+0.6**
EZN	**Ezine**	**2.17**	**334**	*e*Pn		**Pn**		**13 30 25.3**	**+0.6**
GONE	**Gonen-Balikesi**	**2.17**	**3**	*e*PN		**Pn**		**13 30 25.2**	**+0.5**
GONE	**Gonen-Balikesi**	**2.17**	**3**	*e*Pn		**Pn**		**13 30 25.2**	**+0.5**
KRBG	**Karabiga-Canak**	**2.52**	**356**	*e*PN		**Pn**		**13 30 30.1**	**+0.5**
KRBG	**Karabiga-Canak**	**2.52**	**356**	*e*Pn		**Pn**		**13 30 30.1**	**+0.5**

IDC 07 13:43:57.5±4.7, 7.67S×123.49E, h270km±56km, mb3.0/4, mb1 3.3/7, mb1mx3.1/21, mbtmp3.1/7, Error ellipse: s-maj=51.4km s-min=21.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.57**	**169**	P		Pn		13 46 24.0	+0.9
	1.6nm,0.3s,baz=8.7,slow=7.0,SNR=27								
FITZ				S		S		13 48 18.0	-3.8
	0.6nm,0.3s,baz=176,slow=3.0,SNR=8.6								
WRA	**Warramunga Arr**	**16.10**	**140**	P		P		13 47 28.0	-0.4
	0.7nm,0.3s,baz=316,slow=13,SNR=25								
WRA				S		S		13 50 24.2	+0.6
	0.1nm,0.3s,baz=318,slow=24,SNR=4.5								
ASAR	**Alice Springs**	**18.78**	**149**	P		P		13 47 58.0	+0.5
	0.3nm,0.3s,baz=338,slow=14,SNR=38								
STKA	**Stephens Creek**	**29.40**	**147**	P		P		13 49 36.5	+0.2
	0.7nm,0.3s,baz=325,slow=9.0,SNR=5.2								
MJAR	**Matsushiro Arr**	**46.10**	**16**	P		P		13 51 54.3	-0.9
	0.8nm,0.5s,baz=194,slow=9.1,SNR=5.8								
SONM	**Songino Array**	**57.30**	**346**	P		P		13 53 18.4	+0.9
	0.3nm,0.7s,baz=156,slow=7.6,SNR=2.8								
MKAR	**Makanchi Array**	**65.42**	**330**	P		P		13 54 11.0	-0.6
	0.2nm,0.6s,baz=116,slow=6.6,SNR=3.5								

**IDC 07 14:02:09.4±1.8, 3.83N×127.15E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3

λ106.00000°. NP2:φs159.00000°,δ26.00000°,λ54.00000°. Principal axes: T 1.2900, Plg62.0000°, Azm313.0000°; N 0.0400, Plg14.0000°, Azm192.0000°; P -1.3300, Plg22.0000°, Azm96.0000°;

NEIC Recorded [3 JMA] in southern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.

IDC **07** 14:33:05.0±0.3, 41°.83N×143°.69E, h32km±2km, mb5.0/36, mb1 5.1/42, mb1mx5.1/43, mbtmp5.0/42, ML4.2/6, MS5.0/40, Ms1 5.0/40, ms1mx4.8/57 Error ellipse: s-maj=9.1km s-min=7.9km az=114.0

ISCJB **07** 14:33:04.1±0.3, 41°.75N±0°.02×143°.64E±0°.02, h37km±2km, mb5.5/285, MS5.1/198, Error ellipse: s-maj=2.8km s-min=1.9km az=143.3

JMA **07** 14:33:04.7±0.1, 41°.80N×143°.82E, h39km±3km, M5.4 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ88.00000°, λ103.00000°. NP2: φs126.00000°, δ13.00000°, λ7.00000°. Principal axes: T Plg45.0000°, Azm312.0000°; N Plg13.0000°, Azm209.0000°; P Plg42.0000°, Azm107.0000°;

JMA Felt III J1.

TEH **07** 14:33:04.0, 41°.77N×143°.73E, h28km, ML5.5

GCMT **07** 14:33:07.6±0.2, 41°.64N×144°.05E, h40km, MW5.3, Moment Tensor Solution. s73,c126; s5,c5; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; Best double couple: M_o1.20000×10^{17} NP1:φs218.00000°,δ24.00000°, λ99.00000°. NP2:φs28.00000°,δ66.00000°,λ86.00000°. Principal axes: T 1.1600, Plg69.0000°, Azm291.0000°; N 0.1600, Plg4.0000°, Azm30.0000°; P -1.3200, Plg21.0000°, Azm121.0000°; Data Used: ll IU IC G CN. Surface waves: sta= 82, comp=152, per= 50.

SZGRF **07** 14:33:08.2, 42°.90N×143°.18E, h34km, mb5.6, MS5.4, Hokkaido, Japan, region

BGS **07** 14:33:12.2±1.7, 42°.72N×141°.84E, h33km, mb5.4

ISC 07 14:33:04.7±0.2, 41°.79N±0°.03×143°.71E±0°.03, h31km±1km, h31km:pP-P,n1432,σ0s99/1510, mb5.6/285, MS5.2/203, 378C-196D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.47**	**299**	*c* i	P	**Pn**	**14 33 15.5**	**+0.2**
ERM	**Erimo**	**0.47**	**299**		Pn	**Pn**	**14 33 15.9**	**+0.6**
	798μm,1.2s							
JEM	**Erimo**	**0.47**	**299**		P	**Pn**	**14 33 15.5**	**+0.2**
JEM					*e*S	**Sn**	**14 33 23.4**	**+0.8**
JCH	**Churui**	**0.86**	**343**	↑	P	**Pn**	**14 33 20.9**	**+0.2**
JCH					*e*S	**Sb**	**14 33 34.5**	**+2.0**
JNBK	**Urakawa-nobuka**	**0.87**	**305**	↓	P	**Pb**	**14 33 22.3**	**+1.0**
JOB	**Onbets**	**1.12**	**5**	↑	P	**Pn**	**14 33 24.6**	**+0.4**
JOB					*e*S	**Sn**	**14 33 38.9**	**+0.4**
JBT2	**Biratori 2**	**1.41**	**315**	↑	P	**Pn**	**14 33 28.8**	**+0.6**
JAK	**Akkeshi**	**1.41**	**31**		P	**Pn**	**14 33 27.5**	**-0.7**
JAR	**Ashorobuto**	**1.51**	**2**	↑	P	**Pn**	**14 33 29.3**	**-0.3**
JAR					*e*S	**Sn**	**14 33 48.5**	**+0.3**
JFR	**Furan**	**1.60**	**329**		P	**Pn**	**14 33 30.5**	**-0.4**
JFR					*e*S	**Sn**	**14 33 50.9**	**+0.3**
JNK	**Nakash**	**1.94**	**22**	↑	P	**Pn**	**14 33 34.4**	**-1.2**
JEW	**Eniwo**	**1.98**	**303**	↑	P	**Pb**	**14 33 38.2**	**-1.9**
JKB	**Kayabe**	**2.00**	**274**	↑	P	**Pn**	**14 33 37.3**	**+0.9**
JOT	**Ohata**	**2.04**	**259**	↑	P	**Pn**	**14 33 37.8**	**+0.9**
JNB	**Noboribetsu**	**2.10**	**290**	↑	P	**Pn**	**14 33 38.7**	**+1.0**
JANG	**Nango**	**2.18**	**230**	↑	P	**Pn**	**14 33 38.0**	**-0.8**
JKK2	**Kamakawa 2**	**2.20**	**342**		P	**Pn**	**14 33 39.7**	**+0.6**
JTM	**Tenmabayashi**	**2.23**	**244**	↑	P	**Pn**	**14 33 40.2**	**+0.7**
ASAJ	**Asahikawa**	**2.47**	**341**		Pn	**Pn**	**14 33 42.5**	**-0.3**
	27nm,0.3s,baz=198,slow=13,SNR=199							
ASAJ					Sn	**Sb**	**14 34 19.5**	**+1.2**
	270nm,0.3s,baz=341,slow=29,SNR=6.3							
ASAJ					LR	LR	14 35 05.2	
	comp=Z,44μm,20.1s,baz=26,slow=50							
ASAJ	**Asahikawa**	**2.47**	**341**		Pn	**Pn**	**14 33 42.5**	**-0.3**
ASAJ					Sn	**Sb**	**14 34 19.5**	**+1.2**
JYM2	**Yakumo 2**	**2.51**	**279**	↑	P	**Pn**	**14 33 43.9**	**+0.5**
JKZ	**Kuzumaki**	**2.55**	**226**	↑	P	**Pn**	**14 33 43.3**	**-0.7**
JSI2	**Shiura 2**	**2.59**	**255**	↑	P	**Pn**	**14 33 45.6**	**+1.2**
MIYJ	**Miyakonagasawa**	**2.64**	**214**	↑	P	**Pn**	**14 33 43.9**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**2.75**	**34**	*c* i	P	**Pn**	**14 33 46.7**	**+0.1**
YUK				*i*	S	**Sn**	**14 34 17.7**	**-0.9**
YUK					pmax	pmax		
	comp=N,136nm,0.3s							
YUK					pmax	pmax		
	comp=Z,838nm,0.3s							
YUK					pmax	pmax		
	comp=E,431nm,0.3s							
YUK					smax	smax		
	comp=E,6μm,0.6s							
YUK					smax	smax		
	comp=N,8μm,0.6s							
JAH	**Hinai**	**2.82**	**237**	↑	P	**Pn**	**14 33 48.1**	**+0.4**
JOM	**Ohasama**	**2.96**	**219**	↑	P	**Pn**	**14 33 48.8**	**-0.7**
JIW	**Iwasaki**	**3.04**	**248**	↑	P	**Pn**	**14 33 51.7**	**+1.0**
OFUJ	**Ofunato**	**3.12**	**211**		P	**Pn**	**14 33 50.6**	**-1.2**
JMK	**Ichinoseki**	**3.41**	**215**	↑	P	**Pn**	**14 33 54.9**	**-0.9**
JYW	**Yuwa**	**3.48**	**231**		P	**Pn**	**14 33 57.5**	**+0.8**
JIO	**Ouri**	**3.79**	**209**		P	**Pn**	**14 33 59.4**	**-1.6**
JOU	**Okura**	**4.14**	**215**		P	**Pn**	**14 34 05.0**	**-0.8**
JYS	**Shirataka**	**4.53**	**219**		P	**Pn**	**14 34 11.2**	**0.0**
KUR	**Kuril'sk**	**4.58**	**40**	↑	*i* P	**Pn**	**14 34 12.3**	**+0.5**
KUR					*e*S	**Sn**	**14 35 03.8**	**-0.1**
KUR					pmax	pmax		
	comp=Z,2μm,0.8s							
KUR					pmax	pmax		
	comp=N,430nm,0.7s							
KUR					pmax	pmax		
	comp=E,170nm,0.7s							
KUR					smax	smax		
	comp=N,3μm,0.8s							
KUR					smax	smax		
	comp=E,2μm,0.8s							
KUR					smax	smax		
	comp=N,18μm,1.4s							
KUR					smax	smax		
	comp=E,12μm,1.4s							
KUR					smax	smax		
	comp=Z,10μm,1.4s							
KUR					smax	smax		
	comp=N,30μm,2.8s							
KUR					smax	smax		
	comp=E,15μm,2.0s							
JAW	**Awa shima**	**4.77**	**227**		P	**Pn**	**14 34 15.1**	**+0.7**
JFT	**Otama**	**5.00**	**213**	↓	P	**Pn**	**14 34 17.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.21**	**353**	↓	*i* P	**Pn**	**14 34 21.8**	**+1.4**
YSS					*e*S	**Sn**	**14 35 21.0**	**+1.6**
YSS					pmax	pmax		
	comp=Z,150nm,1.0s							
YSS					smax	smax		
	comp=N,470nm,1.0s							
YSS					smax	smax		
	comp=E,470nm,1.0s							
YSS					MLR	MLR		
	comp=N,16μm,15.0s							
YSS					MLR	MLR		
	comp=E,12μm,15.0s							
YSS					MLR	MLR		
	comp=Z,18μm,15.0s							
YSS	**Yuzh-Sakhalins**	**5.21**	**353**	*e*	Pn	**Pn**	**14 34 19.0**	**-1.4**
	comp=Z,506nm,1.0s							
JNS	**Sasagawa**	**5.21**	**222**		P	**Pn**	**14 34 20.9**	**+0.4**
JFY	**Yanaizu**	**5.36**	**217**		P	**Pn**	**14 34 22.5**	**-0.1**
JSD	**Sado**	**5.62**	**230**		P	**Pn**	**14 34 27.1**	**+1.0**
JHO	**Hitachi**	**5.72**	**206**		P	**Pn**	**14 34 25.0**	**-2.5**
JHK	**Hiroka**	**5.81**	**220**		P	**Pn**	**14 34 29.0**	**+0.3**
JAG	**Ashikaga**	**6.30**	**213**		P	**Pn**	**14 34 34.5**	**-0.9**
JJN	**Nakama**	**6.35**	**224**		P	**Pn**	**14 34 38.2**	**+2.1**
JSZ	**Suzu**	**6.54**	**231**		P	**Pn**	**14 34 39.3**	**+0.6**
MAT	**Matsushiro**	**6.76**	**221**		P	**Pn**	**14 34 41.6**	**-0.2**
MAT					*e*S	**Sn**	**14 35 56.8**	**-0.9**
MAT	**Matsushiro**	**6.76**	**221**		P	**Pn**	**14 34 42.1**	**+0.3**
MJAR	**Matsushiro Arr**	**6.76**	**221**		Pn	**Pn**	**14 34 42.1**	**+0.3**
	comp=Z,12nm,0.3s,baz=30,slow=13,SNR=454							
MJAR					LR	LR	14 37 58.7	
	comp=Z,6μm,18.4s,baz=45,slow=43							
MJAR	**Matsushiro Arr**	**6.76**	**221**		Pn	**Pn**	**14 34 42.1**	**+0.3**
JNG	**Nsakai**	**6.92**	**221**		P	**Pn**	**14 34 44.3**	**+0.2**
JTT	**Ttatey**	**7.16**	**226**		P	**Pn**	**14 34 48.3**	**+1.0**
JJH	**Hakui**	**7.24**	**230**		P	**Pn**	**14 34 50.0**	**+1.7**
UGL	**Uglegorsk**	**7.38**	**352**	*e*	P	**Pn**	**14 34 50.0**	**-0.2**
UGL				*e*			14 36 24.5	
UGL					pmax	pmax		
	comp=Z,310nm,1.0s							
UGL					MLR	MLR		
	comp=N,11μm,16.0s							
UGL					MLR	MLR		
	comp=E,8μm,16.0s							
JGN	**Niukaw**	**7.46**	**224**		P	**Pn**	**14 34 52.2**	**+0.8**
JNY	**Yasuok**	**7.88**	**217**		P	**Pn**	**14 34 57.6**	**+0.3**
JGM	**Miyama**	**8.17**	**224**		P	**Pn**	**14 35 03.8**	**+2.6**
JFM	**Mihama**	**8.69**	**227**		P	**Pn**	**14 35 09.8**	**+1.5**
VLA	**Vladivostok**	**8.84**	**283**	*c* i	P	**Pn**	**14 35 12.9**	**+2.7**
VLA					pmax	pmax		
	comp=Z,467nm,1.0s							
USRK	**Ussuriysk Arra**	**8.91**	**290**		Pn	**Pn**	**14 35 13.0**	**+1.7**
	comp=Z,3.2nm,0.3s,baz=89,slow=11,SNR=82							
USRK					Sn	Sn	14 37 00.4	+10
	baz=94,slow=26,SNR=1.6							
USRK					LR	LR	14 38 53.6	
	comp=Z,18μm,19.1s,baz=92,slow=39							
HABR	**Khabarovsk**	**9.06**	**320**	*de*	P	**Pn**	**14 35 11.3**	**-1.9**
HABR				*e*			14 36 52.6	
HABR					pmax	pmax		
	comp=Z,386nm,2.2s							
HABR					MLR	MLR		
	comp=Z,11μm,18.0s							
TSUJ	**Tsu 2**	**9.10**	**221**		P	**Pn**	**14 35 14.7**	**+0.9**
JHJ	**Hachijo jima 2**	**9.20**	**201**		Pn	Pn	14 35 11.0	-4.2
	comp=Z,33nm,0.3s,baz=80,slow=19,SNR=4.9							
JHJ					Sn	Sn	14 36 47.8	-10
	comp=Z,47nm,0.3s,baz=59,slow=23,SNR=8.2							
JHJ					LR	LR	14 39 47.7	
	comp=Z,3μm,18.4s,baz=79,slow=44							
JKN2	**Miekihoku**	**9.55**	**220**		P	**Pn**	**14 35 19.9**	**-0.1**
MDJ	**Mudanjiang**	**10.69**	**290**		P	**Pn**	**14 35 37.3**	**+1.7**
MDJ					pP		14 35 44.9	
MDJ					sP		14 35 49.4	
MDJ					S	**Sn**	**14 37 37.0**	**+2.9**
MDJ					ScP	**ScP**	**14 45 07.9**	**+1.4**
MDJ					PcS	**PcS**	**14 45 11.6**	**+1.6**
MDJ					pmax	pmax		
	comp=Z,160nm,1.1s							
MDJ					pmax	pmax		
	comp=Z,1μm,5.3s							
KLR	**Kul'dur**	**11.21**	**316**	*e*	P	**Pn**	**14 35 41.0**	**-1.6**
KLR					pmax	pmax		
	comp=E,1μm,8.0s							
KLR					pmax	pmax		
	comp=Z,3μm,8.0s							
KLR					MLR	MLR		
	comp=Z,21μm,13.0s							
OKH	**Okha**	**11.78**	**358**	*e*	P	**Pn**	**14 35 53.2**	**+2.8**
OKH					pmax	pmax		
	comp=Z,2μm,5.0s							
SKR	**Severo-Kuril's**	**12.35**	**40**	*e*	P	**Pn**	**14 36 01.2**	**+3.0**
KSRS	**Korea Array**	**12.92**	**256**		Pn	**Pn**	**14 36 07.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=69,slow=13,SNR=127							
KSRS					Sn	Sn	14 38 43.9	+15
	comp=Z,1.4nm,0.3s,baz=67,slow=24,SNR=5.6							
KSRS					LR	LR	14 40 56.0	
	comp=Z,8μm,19.5s,baz=66,slow=36							
KSAR	**Wonju Array Be**	**12.95**	**256**		Pn	**Pn**	**14 36 07.2**	**+0.6**
KSAR					Sn	Sn	14 38 43.9	+14
JNU	**Nakatsue**	**13.36**	**234**		Pn	**Pn**	**14 36 11.1**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=56,slow=7.7,SNR=23							
JNU					LR	LR	14 41 50.4	
	comp=Z,6μm,20.4s,baz=43,slow=39							
JNU	**Nakatsue**	**13.36**	**234**		Pn	**Pn**	**14 36 11.1**	**-1.1**
CN2	**Changchun**	**13.56**	**285**	*e*	P	**Pn**	**14 36 15.0**	**+0.1**
CN2				*es*	P		14 36 30.1	
CN2				*e*	S	**Sn**	**14 38 43.4**	**-1.0**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CN2					pmax	pmax		
	comp=Z,200nm,7.0s							
CN2					LR	LR		
	comp=N,6μm,14.0s							
CN2					LR	LR		
	comp=E,16μm,14.0s							
CN2					LR	LR		
	comp=Z,18μm,17.0s							
CBIJ	**Chichi jima**	**14.71**	**185**		Pn	Pn	14 36 24.9	-5.7
	comp=Z,4.1nm,0.3s,baz=302,slow=18,SNR=3.0							
CBIJ					Sn	Sn	14 38 57.5	-15
	comp=Z,10nm,0.3s,baz=296,slow=22,SNR=7.1							
CBIJ					LR	LR	14 41 32.5	
	comp=Z,1μm,19.6s,baz=179,slow=34							
CBIJ	**Chichi jima**	**14.71**	**185**		Pn	Pn	14 36 24.9	-5.7
PEA0B	**Petropavlovsk-**	**14.72**	**35**	*e*	Pn	**Pn**	**14 36 29.9**	**-0.7**
PETK	**Petropavlovsk-**	**14.72**	**35**		Pn	Pn	14 36 27.1	-3.5
	comp=Z,0.7nm,0.3s,baz=185,slow=16,SNR=17							
PETK					LR	LR	14 42 30.4	
	comp=Z,3μm,18.3s,baz=63,slow=38							
PETK	**Petropavlovsk-**	**14.72**	**35**		P	Pn	14 36 27.2	-3.5
PETK	**Petropavlovsk-**	**14.72**	**35**		Pn	Pn	14 36 27.1	-3.5
SNY	**Shenyang**	**15.02**	**277**	↑	P	**Pn**	**14 36 34.5**	**-0.1**
SNY					pmax	pmax		
	comp=Z,77nm,1.0s							
SNY					LR	LR		
	comp=N,3μm,13.8s							
SNY					LR	LR		
	comp=E,7μm,15.0s							
SNY					LR	LR		
	comp=Z,8μm,16.2s							
PET	**Petropavlovsk**	**15.09**	**37**	*e*	P	**P**	**14 36 41.2**	**+0.9**
PET				*e*	S	Sn	14 39 28.9	+7.6
PET					pmax	pmax		
	comp=Z,42nm,0.9s							
PET					MLR	MLR		
	comp=Z,3μm,16.0s							
PET					MLR	MLR		
	comp=Z,3μm,17.0s							
DL2	**Dalian**	**17.07**	**268**		P	**Pn**	**14 36 59.7**	**-1.2**
DL2					S	**Sn**	**14 40 07.7**	**-2.0**
DL2					pmax	pmax		
	comp=Z,220nm,0.9s							
DL2					pmax	pmax		
	comp=Z,510nm,4.0s							
DL2					LR	LR		
	comp=N,1μm,16.9s							
DL2					LR	LR		
	comp=E,2μm,15.1s							
DL2					LR	LR		
	comp=Z,2μm,19.3s							
CLNS	**Chul'man**	**19.32**	**328**	*c* i	P	**P**	**14 37 25.5**	**-1.7**
CLNS				*e*	S	**Sn**	**14 41 08.1**	**+4.1**
CLNS					pmax	pmax		
	comp=Z,173nm,0.9s							
CLNS					pmax	pmax		
	comp=N,116nm,1.0s							
CLNS					pmax	pmax		
	comp=E,49nm,0.9s							
CLNS					smax	smax		
	comp=N,218nm,14.4s							
CLNS					smax	smax		
	comp=E,551nm,12.0s							
CLNS					MLR	MLR		
	comp=Z,2μm,15.0s							
CLNS					MLR	MLR		
	comp=N,1μm,12.0s							
CLNS					MLR	MLR		
	comp=E,2μm,15.0s							
JOW	**Kunigami**	**19.58**	**225**		P	**P**	**14 37 29.5**	**-0.6**
	comp=E,2.4nm,0.3s,baz=22,slow=9.8,SNR=12							
JOW					LR	LR	14 46 17.5	
	comp=E,3μm,18.8s,baz=212,slow=40							
JOW	**Kunigami**	**19.58**	**225**		P	**P**	**14 37 29.5**	**-0.6**
BJI	**Beijing**	**20.85**	**274**		P	**P**	**14 37 41.4**	**-2.5**
BJI					S	**S**	**14 41 34.0**	**-0.7**
BJI					pmax	pmax		
	comp=Z,230nm,0.8s							
BJI					pmax	pmax		
	comp=Z,570nm,3.5s							
BJI					LR	LR		
	comp=N,3μm,14.6s							
BJI					LR	LR		
	comp=E,12μm,14.3s							
BJI					LR	LR		
	comp=Z,5μm,16.3s							
SSE	**Sheshan**	**20.97**	**247**		P	**P**	**14 37 43.5**	**-1.7**
SSE					pP	**pP**	**14 37 53.1**	**-0.4**
SSE					S	**S**	**14 41 34.8**	**-2.3**
SSE					pmax	pmax		
	comp=Z,24nm,0.7s							
SSE					pmax	pmax		
	comp=Z,100nm,3.5s							
SSE					LR	LR		
	comp=N,4μm,19.8s							
SSE					LR	LR		
	comp=E,1μm,19.7s							
SSE					LR	LR		
	comp=Z,3μm,20.7s							
TIA	**Tai'an**	**21.36**	**264**		P	**P**	**14 37 46.4**	**-2.9**
TIA					pmax	pmax		
	comp=Z,100nm,0.7s							
TIA					LR	LR		
	comp=N,2μm,14.7s							
TIA					LR	LR		
	comp=E,4μm,14.2s							
TIA					LR	LR		
	comp=Z,4μm,16.7s							
SEY	**Seymchan**	**21.79**	**11**	↓	*e*P	**P**	**14 37 50.6**	**-3.1**
YAK	**Yakutsk**	**21.95**	**342**	*c* i	P	P	14 37 50.6	-4.8
YAK				*e*			14 38 06.5	
YAK				*e*S		S	14 41 45.0	-11
YAK				*e*			14 41 55.2	
YAK				*e*			14 49 08.7	
YAK					pmax	pmax		
	comp=Z,303nm,0.9s							
YAK					pmax	pmax		
	comp=N,90nm,0.9s							
YAK					smax	smax		
	comp=E,799nm,1.8s							
YAK					smax	smax		
	comp=N,931nm,2.1s							
YAK					MLR	MLR		
	comp=Z,5μm,18.0s							
YAK					MLR	MLR		
	comp=N,5μm,18.0s							
YAK					MLR	MLR		
	comp=E,2μm,18.0s							
YAK	**Yakutsk**	**21.95**	**342**	*e*P		**P**	**14 37 51.1**	**-4.2**
	comp=E,305nm,0.8s							
NJ2	**Nanjing**	**22.06**	**252**	*e*P		**P**	**14 37 54.3**	**-2.5**
NJ2					pP	**pP**	**14 38 02.0**	**-3.2**
NJ2					sP	**sP**	**14 38 06.1**	**-3.0**
NJ2					pmax	pmax		
	comp=Z,120nm,0.8s							
NJ2					pmax	pmax		
	comp=Z,440nm,10.3s							
NJ2					LR	LR		
	comp=N,4μm,16.2s							
NJ2					LR	LR		
	comp=E,5μm,16.7s							
NJ2					LR	LR		
	comp=Z,6μm,17.9s							
HHC	**Hu-ho-hao-te**	**24.09**	**279**	*e*P		**P**	**14 38 15.0**	**-2.5**
HHC					pP	**pP**	**14 38 26.4**	**-0.1**
HHC					PP	**PnPn**	**14 38 49.4**	**+2.3**
HHC					S	S	14 42 24.2	-8.9
HHC					sS	**sS**	**14 42 44.0**	**-3.8**
HHC					SS	**SnSn**	**14 43 16.1**	**+0.8**
HHC					pmax	pmax		
	comp=Z,25nm,1.0s							
HHC					pmax	pmax		
	comp=Z,740nm,5.5s							
HHC					LR	LR		
	comp=N,3μm,14.5s							
HHC					LR	LR		
	comp=E,5μm,19.2s							
HHC					LR	LR		
	comp=Z,6μm,20.2s							
BOD	**Bodaibo**	**24.71**	**321**	↓	*i* P	**P**	**14 38 19.2**	**-3.6**
BOD					pmax	pmax		
	comp=Z,78nm,1.0s							
TATO	**Taipei**	**24.90**	**235**		PFAKE		14 38 40.0	+15
TATO					LR	LR		
	comp=Z,3μm,20.0s							
YHNB	**Yeheng**	**25.19**	**234**	*e*P		**P**	**14 38 25.8**	**-1.8**
	comp=Z,79nm,0.8s							
YHNB					LR	LR		
	comp=Z,4μm,19.0s							
BTO	**Baotou**	**25.29**	**279**	*e*P		**P**	**14 38 26.0**	**-2.4**
WHN	**Wuhan**	**26.10**	**254**		P	**P**	**14 38 35.6**	**-0.1**
WHN					S	S	14 42 55.1	-10
WHN					LR	LR		
	comp=N,2μm,13.0s							
WHN					LR	LR		
	comp=E,10μm,18.8s							
WHN					LR	LR		
	comp=Z,11μm,18.2s							
YULB	**Yu-li**	**26.20**	**233**	*e*P		**P**	**14 38 34.5**	**-2.1**
	comp=Z,18nm,0.6s							
YULB				*e*pP		**pP**	**14 38 45.6**	**0.0**
ULN	**Ulaanbaatar**	**26.52**	**296**		PFAKE		14 38 50.0	+10
ULN					LR	LR		
	comp=Z,8μm,20.0s							
ULN	**Ulaanbaatar**	**26.52**	**296**		P	**P**	**14 38 39.8**	**+0.3**
	SNR=84							
ULN	**Ulaanbaatar**	**26.52**	**296**		P	**P**	**14 38 39.3**	**-0.2**
	comp=Z,261nm,1.2s,comp=Z,3μm							
QZH	**Quanzhou**	**26.73**	**239**	↑	*i* P	**P**	**14 38 42.8**	**+1.4**
QZH					S	**S**	**14 43 18.0**	**+2.9**
QZH					pmax	pmax		
	comp=Z,1μm,10.7s							
QZH					LR	LR		
	comp=N,3μm,13.2s							
QZH					LR	LR		
	comp=E,2μm,12.0s							
QZH					LR	LR		
	comp=Z,5μm,20.2s							
TWG	**Pinlang**	**26.77**	**232**	*e*P		**P**	**14 38 41.0**	**-0.7**
	comp=Z,194nm,0.9s							
TWG				*e*pP		**pP**	**14 38 50.3**	**-0.4**
SONM	**Songino Array**	**26.96**	**296**		P	**P**	**14 38 43.4**	**-0.1**
	comp=Z,72nm,0.8s,baz=81,slow=6.3,SNR=218							
SONM					LR	LR	14 50 27.5	
	comp=Z,10μm,18.3s,baz=77,slow=39							
SONM	**Songino Array**	**26.96**	**296**		P	**P**	**14 38 43.4**	**-0.1**
GUMO	**Guam**	**28.11**	**178**		LR	LR	14 48 31.6	
	comp=Z,1μm,21.2s,baz=255,slow=33							
XAN	**Xi'an**	**28.37**	**266**		P	**P**	**14 38 55.8**	**-0.3**
XAN					pP	**pP**	**14 39 05.0**	**-0.1**
XAN					sP	**sP**	**14 39 09.8**	**+0.9**
XAN					PcP	**PcP**	**14 42 09.1**	**+1.0**
XAN					pmax	pmax		
	comp=Z,8.0nm,0.7s							
XAN					pmax	pmax		
	comp=Z,110nm,9.3s							
XAN					LR	LR		
	comp=N,1μm,16.2s							
XAN					LR	LR		
	comp=E,560nm,15.5s							
XAN					LR	LR		
	comp=Z,940nm,15.1s							
IRK	**Irkutsk**	**28.52**	**305**	*e*P		**P**	**14 38 56.9**	**-0.3**
IRK					pmax	pmax		
	comp=Z,35nm,1.2s							
TLY	**Talaya**	**28.86**	**304**	*c* i	P	**P**	**14 39 00.5**	**+0.3**
TLY				*e*			14 40 03.1	
TLY				*e*S		S	14 43 55.2	+7.0
TLY					pmax	pmax		
	comp=Z,125nm,0.8s							
TLY					MLR	MLR		
	comp=Z,6μm,19.0s							
TLY	**Talaya**	**28.86**	**304**	*e*P		**P**	**14 38 59.8**	**-0.4**
	comp=Z,114nm,0.8s							
TLY					LR	LR		
	comp=Z,7μm,19.0s							
TLY	**Talaya**	**28.86**	**304**		P	**P**	**14 39 00.8**	**+0.6**
	SNR=76							
TLY	**Talaya**	**28.86**	**304**		P	**P**	**14 39 00.2**	**0.0**
	comp=Z,921nm,0.8s,SNR=33							
ZAK	**Zakamensk**	**29.02**	**301**	↓	*i* P	**P**	**14 39 01.0**	**-0.8**
ZAK					pmax	pmax		
	comp=Z,85nm,1.2s							
WAKE	**Wake Island**	**29.72**	**132**		PFAKE		14 39 20.0	+12
WAKE					LR	LR		
	comp=Z,2μm,19.0s							
MOY	**Mondy**	**30.50**	**304**	*e*P		**P**	**14 39 14.7**	**-0.2**
MOY					pmax	pmax		
	comp=Z,319nm,2.1s							
LZH	**Lanzhou**	**31.32**	**273**	*e*P		**P**	**14 39 22.2**	**-0.2**
LZH					pP	**pP**	**14 39 34.0

LZH LR LR
comp=E,4µm,15.0s
LZH LR LR
comp=Z,5µm,15.9s
GTA Gaotai 33.15 281 ⇑P **P** **14 39 38.9 +0.6**
GTA pP **pP** **14 39 47.0 -0.3**
GTA sP **sP** **14 39 50.9 -0.2**
GTA PP **PP** **14 40 51.8 -1.6**
GTA PcP **PcP** **14 42 22.3 +1.5**
GTA S **S** **14 44 59.5 +3.7**
GTA sS **sS** **14 45 12.1 +1.4**
GTA ScP **ScP** **14 46 03.8 +1.2**
GTA PcS **PcS** **14 46 07.1 +0.7**
GTA ScS **ScS** **14 50 02.7 -0.5**
GTA pmax pmax
comp=Z,110nm,1.0s
GTA pmax pmax
comp=Z,430nm,7.1s
GTA LR LR
comp=N,3µm,17.1s
GTA LR LR
comp=E,6µm,16.6s
GTA LR LR
comp=Z,7µm,17.6s
CD2 Chengdu 33.69 264 ⇓*i*P **P** **14 39 43.0 0.0**
CD2 pP **pP** **14 39 53.9 +1.9**
CD2 sP **sP** **14 39 58.6 +2.8**
CD2 PP **PnPn** **14 40 56.0 +0.6**
CD2 S **S** **14 45 01.2 -2.9**
CD2 sS **sS** **14 45 19.6 +0.5**
CD2 SS **SnSn** **14 47 06.5 -2.8**
CD2 pmax pmax
comp=Z,110nm,0.9s
CD2 pmax pmax
comp=Z,370nm,5.3s
CD2 LR LR
comp=N,3µm,15.5s
CD2 LR LR
comp=Z,3µm,16.6s
TGY Tagaytay City 33.93 222 P **P** **14 39 46.5 +1.4**
comp=Z,74nm,0.3s,baz=314,slow=14,SNR=6.3
TGY Tagaytay City 33.93 222 P **P** **14 39 46.5 +1.4**
GYA Guiyang 33.98 255 ⇑*i*P **P** **14 39 44.5 -1.1**
GYA pP **pP** **14 39 57.6 +2.9**
GYA PP **PP** **14 41 01.0 -1.7**
GYA PcP **PcP** **14 42 25.8 +2.5**
GYA S **S** **14 45 06.4 -2.4**
GYA sS **sS** **14 45 25.2 +1.5**
GYA ScP **ScP** **14 46 04.0 -1.7**
GYA SS **SnSn** **14 47 14.6 -1.8**
GYA ScS **ScS** **14 50 07.0 -0.9**
GYA pmax pmax
comp=Z,90nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=N,720nm,18.7s
GYA LR LR
comp=E,550nm,17.9s
GYA LR LR
comp=Z,580nm,17.6s
HVS Khovu-Aksy 35.08 303*c i*P **P** **14 39 55.0 +0.1**
HVS pmax pmax
comp=Z,2µm,1.4s
HVS MLR MLR
comp=Z,20µm,20.0s
KRAR Krasnoyarsk 35.46 311*c i*P **P** **14 39 58.0 +0.1**
KRAR pmax pmax
comp=Z,352nm,1.2s
KRAR MLR MLR
comp=Z,2µm,19.0s
QIZ Qiongzhong 36.62 242 P **P** **14 40 09.7 +1.4**
QIZ sP **sP** **14 40 21.9 +0.8**
QIZ S **S** **14 45 48.8 -0.5**
QIZ pmax pmax
comp=Z,40nm,1.7s
QIZ LR LR
comp=N,2µm,16.3s
QIZ LR LR
comp=Z,2µm,16.8s
KMI Kunming 37.61 257 ⇑P **P** **14 40 17.1 +0.2**
KMI pP **pP** **14 40 29.0 +3.0**
KMI PP **PnPn** **14 41 48.1 +4.1**
KMI S **S** **14 46 05.9 +1.2**
KMI pmax pmax
comp=Z,87nm,1.0s
KMI pmax pmax
comp=Z,610nm,4.5s
KMI LR LR
comp=N,3µm,17.7s
KMI LR LR
comp=E,2µm,17.2s
KMI LR LR
comp=Z,3µm,20.2s
DAV Davao City (W) 38.14 210 P **P** **14 40 22.9 +1.8**
comp=Z,46nm,0.3s,baz=244,slow=4.5,SNR=5.4
DAV LR LR 14 56 17.3
comp=Z,1µm,20.0s,baz=155,slow=36
DAV Davao City (W) 38.14 210 P **P** **14 40 22.9 +1.8**
CTBH Cotabato--PC H 38.51 212 ⇑*e*P **P** **14 40 25.1 +0.9**
ZAA0 Zalesovo Array 40.19 308 *e*P **P** **14 40 37.5 -0.4**
ZAA0 *ep*P **pP** **14 40 47.2 +0.1**
ZALV Zalesovo Beam 40.19 308 P **P** **14 40 37.7 -0.2**
comp=Z,126nm,0.9s,baz=87,slow=7.7,SNR=447
ZALV pP **pP** **14 40 47.0 -0.1**
comp=Z,133nm,0.8s,baz=88,slow=7.4,SNR=18
ZALV PcP **PcP** **14 42 41.8 +0.3**
comp=Z,32nm,0.8s,baz=100,slow=4.1,SNR=6.0
ZALV LR LR 14 58 27.9
comp=Z,4µm,19.0s,baz=90,slow=38
ZALV Zalesovo Beam 40.19 308 P **P** **14 40 37.7 -0.2**
ZALV *PP **pP** **14 40 47.0 -0.1**
ZALV 14 42 41.8
ZALV Zalesovo Beam 40.19 308 P **P** **14 40 37.7 -0.2**
ZALV pP **pP** **14 40 47.0 -0.1**
ZALV PcP **PcP** **14 42 41.8 +0.3**
WMQ Urumqi 40.48 292 P **P** **14 40 40.8 +0.3**
WMQ pP **pP** **14 40 51.0 +1.3**
WMQ PP **PnPn** **14 42 18.8 +1.0**
WMQ S **S** **14 46 48.3 +1.1**
WMQ sS sS 14 47 08.5 +6.1
WMQ ScS **ScS** **14 50 38.4 -5.5**
WMQ pmax pmax
comp=Z,18nm,1.2s
WMQ pmax pmax
comp=Z,220nm,3.5s
WMQ LR LR
comp=N,2µm,18.0s
WMQ LR LR
comp=E,10µm,17.0s
WMQ LR LR
comp=Z,7µm,18.0s
NVS Novosibirsk 41.00 310 ⇑*i*P **P** **14 40 43.8 -0.7**
NVS *e* 14 42 19.0
NVS *e*S **S** **14 46 55.7 +1.2**
NVS *e* 14 50 37.5
NVS pmax pmax
comp=E,85nm,1.4s
NVS pmax pmax
comp=Z,124nm,1.4s
NVS pmax pmax
comp=Z,137nm,2.3s
NVS pmax pmax
comp=N,26nm,1.4s
NVS pmax pmax
comp=E,41nm,1.6s
NVS smax smax
comp=E,71nm,2.2s
KDM Kudat 42.13 222 P **P** **14 40 55.0 +0.8**
KDAK Kodiak Island 42.43 45 P **P** **14 40 56.1 -0.1**
comp=E,38nm,1.0s,baz=311,slow=4.2,SNR=7.5
KDAK pP **pP** **14 41 06.0 +0.6**
comp=E,89nm,1.0s,baz=312,slow=3.8,SNR=12
KDAK LR LR 14 59 43.5
comp=E,1µm,19.9s,baz=254,slow=38
KDAK Kodiak Island 42.43 45 P **P** **14 40 56.1 -0.1**
KDAK pP **pP** **14 41 06.0 +0.6**
MYLDM Lahad Datu 42.83 219 P **P** **14 41 00.7 +0.8**
MYLDM Lahad Datu 42.83 219 P **P** **14 41 01.5 +1.6**
comp=E,46nm,1.5s
MYLDM Lahad Datu 42.83 219 P **P** **14 41 02.2 +2.3**
comp=E,46nm,1.5s
SDKM Sandakan 43.05 221 P **P** **14 41 02.5 +0.8**
TRF Thorofare Moun 43.13 37 *e*P **P** **14 41 01.9 -0.2**
comp=E,30nm,1.0s

KKM Kota Kinabalu 43.18 222 PFAKE 14 41 10.0 +7.1
KKM LR LR
comp=Z,607nm,22.0s
KKM Kota Kinabalu 43.18 222 P **P** **14 41 03.6 +0.7**
KKM Kota Kinabalu 43.18 222 P **P** **14 41 03.9 +1.0**
comp=Z,44nm,1.3s,comp=Z,693nm
KKM Kota Kinabalu 43.18 222 P **P** **14 41 04.3 +1.4**
comp=Z,44nm,1.3s,comp=Z,694nm
MK31 Makanchi Array 43.27 298 *i*P **P** **14 41 02.9 -0.3**
MK31 pmax pmax
comp=Z,197nm,0.9s
MK31 Makanchi Array 43.27 298 *e*P **P** **14 41 02.9 -0.3**
MK31 *ep*P **pP** **14 41 12.3 -0.1**
MKAR Makanchi Array 43.27 298 P **P** **14 41 03.0 -0.2**
comp=Z,66nm,0.8s,baz=81,slow=9.3,SNR=525
MKAR pP **pP** **14 41 12.0 -0.4**
comp=Z,104nm,0.8s,baz=81,slow=8.3,SNR=24
MKAR PcP **PcP** **14 42 52.7 +0.9**
comp=Z,17nm,0.9s,baz=67,slow=3.7,SNR=3.4
MKAR LR LR 15 00 03.2
comp=Z,2µm,20.1s,baz=105,slow=37
MKAR Makanchi Array 43.27 298 *i*P **P** **14 41 03.0 -0.2**
MKAR pmax pmax
comp=Z,66nm,0.8s
MKAR Makanchi Array 43.27 298 pP **pP** **14 41 12.0 -0.4**
MKAR PcP **PcP** **14 42 52.7 +0.9**
TNTI Ternate 43.41 204 P **P** **14 41 04.7 +0.1**
comp=Z,63nm,1.1s
RC01 Rabbit Creek A 43.54 40 *e*P **P** **14 41 03.9 -1.3**
comp=Z,40nm,0.9s
MNI Manado 43.61 208 P **P** **14 41 05.2 -1.0**
comp=Z,95nm,0.8s
LSA Lhasa 43.71 271 P **P** **14 41 08.8 +1.3**
LSA pmax pmax
comp=Z,120nm,1.0s
LSA LR LR
comp=E,4µm,18.2s
LSA LR LR
comp=Z,3µm,19.9s
TSM Tawau 43.90 219 P **P** **14 41 09.3 +0.8**
SWI Sorong 43.93 198 P **P** **14 41 08.6 -0.1**
comp=Z,38nm,0.9s
COLA College 44.14 35 PFAKE 14 41 20.0 +10
COLA LR LR
comp=Z,867nm,19.0s
SML Sawmill 44.15 39 *e*P **P** **14 41 10.6 +0.5**
SML pmax pmax
comp=Z,33nm,1.2s
SML Sawmill 44.15 39 *e*P **P** **14 41 10.6 +0.5**
comp=Z,33nm,1.2s
CHTO Chiang Mai 44.30 253 PFAKE 14 41 20.0 +8.3
CHTO LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 44.30 253 P **P** **14 41 12.5 +0.8**
SNR=16
CHTO Chiang Mai 44.30 253 P **P** **14 41 11.8 +0.1**
comp=Z,66nm,1.3s,comp=Z,999nm
IMP Imphal 44.30 264 *ex* **P** **14 41 09.0 -2.8**
CM31 Chiang Mai Arr 44.53 252 *e*P **P** **14 41 13.8 +0.1**
comp=Z,7.6nm,0.6s
CMAR Chiang Mai Arr 44.53 252 P **P** **14 41 14.1 +0.5**
comp=Z,13nm,0.7s,baz=44,slow=7.3,SNR=17
CMAR PcP **PcP** **14 42 57.1 +0.6**
comp=Z,6.0nm,0.8s,baz=19,slow=2.3,SNR=5.3
CMAR LR LR 15 00 54.2
comp=Z,1µm,19.8s,baz=55,slow=38
CMAR Chiang Mai Arr 44.53 252 P **P** **14 41 14.1 +0.5**
CMAR PcP **PcP** **14 42 57.1 +0.6**
KURK Kurchatov 44.55 305 ⇓*e*P **P** **14 41 11.6 -1.7**
KURK pmax pmax
comp=Z,97nm,0.7s
KURK MLR MLR
comp=Z,2µm,19.0s
KURK Kurchatov 44.55 305 P **P** **14 41 13.7 +0.3**
KURK S S 14 47 53.6 +6.9
KURK Kurchatov 44.55 305 P **P** **14 41 13.3 0.0**
SNR=80
KURK Kurchatov 44.55 305 P **P** **14 41 13.1 -0.2**
comp=Z,953nm,0.8s
ILAR Eielson Array 44.55 35 P **P** **14 41 12.8 -0.5**
comp=Z,36nm,0.9s,baz=259,slow=5.5,SNR=234
ILAR S **S** **14 47 46.0 -0.5**
comp=Z,0.4nm,0.9s,baz=203,slow=8.8,SNR=2.6
ILAR LR LR 15 03 13.6
comp=Z,851nm,18.1s,baz=185,slow=41
ILAR Eielson Array 44.55 35 P **P** **14 41 12.8 -0.5**
ILAR S **S** **14 47 46.0 -0.5**
KURBB Kurchatov Arra 44.62 305 P **P** **14 41 13.7 -0.3**
comp=Z,106nm,0.7s,baz=76,slow=8.7,SNR=404
KURBB S **S** **14 47 53.6 +5.8**
comp=Z,1.2nm,0.5s,baz=185,slow=30,SNR=4.4
KURBB LR LR 15 00 54.6
comp=Z,2µm,19.8s,baz=50,slow=37
LBMI Labuha 44.71 203 P **P** **14 41 15.1 +0.1**
comp=Z,62nm,1.0s
KMSI Cibinong 44.72 209 P **P** **14 41 13.0 -2.1**
comp=Z,167nm,0.8s
PAX Paxson 45.35 37 *e*P **P** **14 41 20.5 +0.8**
PAX pmax pmax
comp=Z,35nm,1.1s
PAX Paxson 45.35 37 *e*P **P** **14 41 20.5 +0.8**
comp=Z,35nm,1.1s
MRSI Marisa 45.58 211 P **P** **14 41 20.3 -1.6**
MRSI Marisa 45.58 211 P **P** **14 41 21.7 -0.2**
comp=Z,106nm,1.2s,comp=Z,924nm
FAKI Fak Fak 45.70 196 P **P** **14 41 22.5 -0.4**
comp=Z,42nm,1.2s
BMRM Bremner River 46.04 40 *e*P **P** **14 41 26.1 +1.0**
comp=Z,59nm,1.0s
MENT Mentasta 46.15 37 *e*P **P** **14 41 26.7 +0.8**
LUWI Luwuk 46.66 209 P **P** **14 41 30.2 -0.2**
comp=Z,88nm,1.0s,comp=Z,1µm
AGT Agartala 46.81 265 *i*P **P** **14 41 33.0 +1.4**
AGT *i*x x 14 42 08.0
APSI Ampana 46.96 211 P **P** **14 41 32.8 +0.1**
comp=Z,372nm,0.8s,comp=Z,27µm
EGAK Eagle 46.99 34 PFAKE 14 41 40.0 +7.5
EGAK LR LR
comp=Z,882nm,21.0s
JOHN Johnston Islan 47.09 108 PFAKE 14 41 50.0 +16
JOHN LR LR
comp=Z,20nm,21.0s
BTM Bintulu 47.21 224 P **P** **14 41 35.6 +0.9**
AAI Ambon 47.41 201 P **P** **14 41 36.9 +0.6**
comp=Z,61nm,0.8s,comp=Z,2µm
TAPN Taplejung 47.52 271 *e*P **P** **14 41 38.1 +0.7**
comp=Z,269nm,0.8s
TAPN Taplejung 47.52 271 *e*P **P** **14 41 38.1 +0.7**
comp=Z,269nm,0.8s
DAWY Dawson 47.87 35 *e*P **P** **14 41 39.4 0.0**
DAWY *ep*P **pP** **14 41 48.5 -0.2**
DAWY *es*P **sP** **14 41 52.9 +0.5**
ODAN Odare 48.02 271 *e*P **P** **14 41 41.6 +0.3**
comp=Z,258nm,0.8s
ODAN Odare 48.02 271 *e*P **P** **14 41 41.6 +0.3**
comp=Z,258nm,0.8s
TARA Tarawa 48.08 139 PFAKE 14 41 50.0 +8.6
TARA LR LR
comp=Z,1µm,22.0s
SBUM Sibu 48.30 224 P **P** **14 41 44.1 +1.0**
SBUM Sibu 48.30 224 P **P** **14 41 43.2 +0.1**
comp=Z,26nm,1.3s,comp=Z,373nm
SBUM Sibu 48.30 224 P **P** **14 41 43.1 0.0**
comp=Z,26nm,1.3s,comp=Z,373nm
JIRN Jiri 48.49 272 *e*P **P** **14 41 45.6 +0.6**
comp=Z,71nm,0.9s
JIRN Jiri 48.49 272 *e*P **P** **14 41 45.6 +0.6**
comp=Z,71nm,0.9s
RAMN Ramite 48.57 271 *e*P **P** **14 41 45.7 +0.2**
comp=Z,620nm,0.8s
RAMN Ramite 48.57 271 *e*P **P** **14 41 45.7 +0.2**
comp=Z,620nm,0.8s
GUN Gumba 48.59 273 *e*P **P** **14 41 46.2 +0.4**
comp=Z,1µm,0.7s
GUN Gumba 48.59 273 *e*P **P** **14 41 46.2 +0.4**
comp=Z,1µm,0.7s
BVA0 Borovoye Array 48.80 310 *i*P **P** **14 41 46.4 -0.2**
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 48.80 310 P **P** **14 41 46.7 +0.1**
comp=Z,19nm,0.4s,baz=75,slow=8.8,SNR=187
BVAR PcP **PcP** **14 43 11.9 +0.9**
comp=Z,13nm,0.8s,baz=101,slow=2.9,SNR=2.8
BVAR S **S** **14 48 46.8 -0.7**
comp=Z,0.7nm,0.8s,baz=107,slow=2.0,SNR=2.4
BVAR LR LR 15 03 54.1
comp=Z,3µm,19.0s,baz=74,slow=38
BVAR Borovoye Array 48.80 310 P **P** **14 41 46.7 +0.1**
BVAR 14 43 11.9
BVAR S **S** **14 48 46.8 -0.7**
BVAR Borovoye Array 48.80 310 P **P** **14 41 46.7 +0.1**
BVAR PcP **PcP** **14 43 11.9 +0.9**
BVAR S **S** **14 48 46.8 -0.7**
BRVK Borovoye 48.85 310*c i*P **P** **14 41 47.0 0.0**
BRVK pmax pmax
comp=Z,146nm,1.2s
BRVK MLR MLR
comp=Z,3µm,19.0s
BRVK Borovoye 48.85 310 PFAKE 14 42 00.0 +13
BRVK LR LR
comp=Z,3µm,20.0s
BRVK Borovoye 48.85 310 P **P** **14 41 47.6 +0.6**
comp=Z,609nm,1.2s,SNR=94
BRVK Borovoye 48.85 310 P **P** **14 41 47.5 +0.6**
SNR=61
TKM2 Tokmak 2 49.06 296 *i*P **P** **14 41 49.5 +0.5**
TKM2 Tokmak 2 49.06 296 *e*P **P** **14 41 49.2 +0.2**
comp=Z,166nm,0.8s
TKM2 LR LR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 49.06 296 P **P** **14 41 49.5 +0.5**
SNR=187
KKN Kakani 49.10 273 *e*P **P** **14 41 49.9 +0.4**
comp=Z,622nm,0.9s
KKN Kakani 49.10 273 *e*P **P** **14 41 49.9 +0.4**
KKN Kakani 49.10 273 *e*P **P** **14 41 49.9 +0.4**
comp=Z,622nm,0.9s
PKI Pulchoki 49.12 273 *e*P **P** **14 41 50.0 +0.2**
comp=Z,507nm,1.1s
PKI Pulchoki 49.12 273 *e*P **P** **14 41 50.0 +0.2**
PKI Pulchoki 49.12 273 *e*P **P** **14 41 50.0 +0.2**
comp=Z,507nm,1.1s
DMN Daman 49.33 273 *e*P **P** **14 41 51.7 +0.4**
comp=Z,447nm,0.8s
DMN Daman 49.33 273 *e*P **P** **14 41 51.7 +0.4**
comp=Z,447nm,0.8s
KDI Kendari 49.41 208 P **P** **14 41 52.2 +0.5**
comp=Z,24nm,1.4s,comp=Z,572nm
GKN Gorkha 49.47 274 *e*P **P** **14 41 52.3 0.0**
GKN Gorkha 49.47 274 *e*P **P** **14 41 52.3 0.0**
CHMS Chumysh 49.60 296 P **P** **14 41 52.9 -0.1**
SNR=23
KBK Karagaybulak 49.61 295 P **P** **14 41 53.5 +0.3**
SNR=120
KZA Kyzart 49.64 295 P **P** **14 41 54.7 +1.0**
SNR=43
USP Ospenovka 49.66 296 P **P** **14 41 53.3 -0.1**
SNR=61
FRU Bishkek 49.76 296 ⇑*i*P **P** **14 41 54.0 -0.2**
FRU pmax pmax
comp=Z,160nm,2.0s
AAK Ala-Archa 49.92 296 P **P** **14 41 55.5 -0.1**
comp=Z,28nm,0.8s,baz=100,slow=5.3,SNR=107
AAK LR LR 15 05 14.7
comp=Z,5µm,18.1s,baz=67,slow=39
AAK Ala-Archa 49.92 296*c i*P **P** **14 41 55.2 -0.4**
AAK pmax pmax
comp=Z,140nm,1.2s
AAK MLR MLR
comp=Z,12µm,18.0s
AAK Ala-Archa 49.92 296 P **P** **14 41 55.5 -0.1**
AAK Ala-Archa 49.92 296 P **P** **14 41 55.0 -0.6**
comp=Z,279nm,0.9s,SNR=34
AAK Ala-Archa 49.92 296 P **P** **14 41 55.8 +0.3**
SNR=30
AAK Ala-Archa 49.92 296 P **P** **14 41 55.4 -0.1**
SNR=44
DANN Dangsing 49.93 275 *e*P **P** **14 41 56.6 +0.6**
comp=Z,2µm,0.8s
DANN Dangsing 49.93 275 *e*P **P** **14 41 56.6 +0.6**
comp=Z,2µm,0.8s
KSM Kuching 50.13 226 PFAKE 14 42 10.0 +13
KSM LR LR
comp=Z,507nm,22.0s
KSM Kuching 50.13 226 P **P** **14 41 58.2 +1.0**
KSM Kuching 50.13 226 P **P** **14 41 58.1 +1.0**
comp=Z,60nm,1.3s,comp=Z,924nm
KSM Kuching 50.13 226 P **P** **14 41 57.7 +0.5**
comp=Z,60nm,1.3s,comp=Z,924nm
KSH Kashi 50.22 291 ⇑*i*P P 14 42 01.6 +3.8
KSH pP pP 14 42 12.2 +5.0
KSH *es*P sP 14 42 15.7 +4.8
KSH *e*PcP **PcP** **14 43 19.1 +2.5**
KSH PP PP 14 43 59.8 +6.8
KSH ScP **ScP** **14 47 12.6 +2.5**
KSH PcS **PcS** **14 47 16.2 +2.4**
KSH S **S** **14 49 11.7 +3.8**
KSH sS sS 14 49 28.5 +5.1
KSH ScS **ScS** **14 51 47.9 +1.2**
KSH SS **SS** **14 52 42.6 +1.4**
KSH pmax pmax
comp=Z,46nm,0.9s
KSH pmax pmax
comp=Z,430nm,4.0s
KSH LR LR
comp=N,1µm,19.3s
KSH LR LR
comp=E,1µm,13.6s
KSH LR LR
comp=Z,5µm,16.9s
KOLN Koldanda 50.36 274 *e*P **P** **14 41 59.4 +0.3**
comp=Z,400nm,0.8s
KOLN Koldanda 50.36 274 *e*P **P** **14 41 59.4 +0.3**
comp=Z,400nm,0.8s
EKS2 Erkin-Say 50.39 296 PFAKE 14 42 10.0 +11
EKS2 LR LR
comp=Z,5µm,19.0s
EKS2 Erkin-Say 50.39 296 P **P** **14 41 59.1 0.0**
SNR=78
PYUN Piuthan 50.64 275 *e*P **P** **14 42 01.6 +0.4**
comp=Z,1µm,1.0s
PYUN Piuthan 50.64 275 *e*P **P** **14 42 01.6 +0.4**
comp=Z,1µm,1.0s
AML Almayashu 50.67 295 P **P** **14 42 01.9 +0.4**
SNR=75
STKI Sintang 50.70 224 P **P** **14 42 02.3 +0.8**
comp=Z,46nm,1.1s,comp=Z,9µm
BBSI Bau Bau 50.86 208 P **P** **14 42 02.2 -0.4**
comp=Z,64nm,1.0s
PMG Port Moresby 51.04 176 PFAKE 14 42 20.0 +16
PMG LR LR
comp=Z,457nm,20.0s
KAPI Kappang 51.45 211 P **P** **14 42 05.9 -1.1**
comp=Z,6.3nm,0.6s,baz=283,slow=3.6,SNR=8.8
KAPI Kappang 51.45 211 P **P** **14 42 05.9 -1.1**
KAPI LR LR
comp=Z,417nm,22.0s
KAPI Kappang 51.45 211 P **P** **14 42 06.2 -1.0**
SNR=6.0
KAPI Kappang 51.45 211 P **P** **14 42 06.1 -1.0**
comp=Z,32nm,1.6s
KAPI Kappang 51.45 211 P **P** **14 42 05.6 -1.5**
comp=Z,32nm,1.6s
KAPI Kappang 51.45 211 P **P** **14 42 06.1 -1.0**
comp=Z,32nm,1.6s
PTH Pithoragarh 51.94 278 *e*P **P** **14 42 10.5 -0.4**
LGTI Lohaghat 51.97 278 *ex* pP 14 42 22.2 +1.9
KK31 Karatay Array 52.39 298 *i*P **P** **14 42 13.2 -0.7**
KK31 pmax pmax
comp=Z,73nm,0.7s
KULM Kulim 52.78 239 PFAKE 14 42 30.0 +13
KULM LR LR
comp=Z,450nm,20.0s
KULM Kulim 52.78 239 P **P** **14 42 18.1 +1.0**
KULM Kulim 52.78 239 P **P** **14 42 17.1 +0.1**
comp=Z,89nm,1.2s,comp=Z,1µm
KULM Kulim 52.78 239 P **P** **14 42 17.1 +0.1**
comp=Z,89nm,1.2s,comp=Z,1µm
SVE Sverdlovsk 52.83 317*d i*P **P** **14 42 17.2 +0.3**
SVE *e* 14 44 16.4
SVE *e*PPP PPP 14 45 31.6
SVE *es* S 14 49 49.9 +6.7
SVE pmax pmax
comp=Z,306nm,0.9s
SVE MLR MLR
comp=Z,2µm,17.0s
PBKI Pangkalan Bun 52.98 222 P **P** **14 42 18.9 +0.4**
comp=Z,62nm,0.9s
HNR Honiara 53.11 160 PFAKE 14 42 30.0 +11
HNR LR LR
comp=Z,1µm,22.0s
DDI Dehra Dun 53.13 280 ⇑*i*P **P** **14 42 19.0 -0.6**

DDI ex x 14 50 07.7
IPM Ipoh 53.16 238 P **P** **14 42 20.8 +1.0**
IPM Ipoh 53.16 238 P **P** **14 42 19.5 -0.4**
comp=Z,52nm,1.4s,comp=Z,866nm
IPM Ipoh 53.16 238 P **P** **14 42 19.4 -0.4**
comp=Z,52nm,1.4s,comp=Z,868nm
SDNR Sundarnagar 53.31 282 *eP* **P** **14 42 21.0 +0.1**
SMLA Simla 53.36 281 *i* P **P** **14 42 21.7 +0.6**
SMLA *i* P **P** **14 42 21.7 +0.6**
SMLA *i* S **S** **14 49 50.2 -0.8**
SMLA *i* S S 14 49 50.5 -0.5
MYKOM Kota Tinggi 53.53 233 P **P** **14 42 23.6 +1.1**
MYKOM Kota Tinggi 53.53 233 P **P** **14 42 23.5 +0.9**
comp=Z,57nm,1.3s,comp=Z,908nm
MYKOM Kota Tinggi 53.53 233 P **P** **14 42 23.6 +1.1**
comp=Z,57nm,1.3s,comp=Z,908nm
KGM Kluang 53.67 234 P **P** **14 42 24.6 +1.0**
SOKR Solikamsk 53.71 321*c i*P **P** **14 42 23.1 -0.1**
SOKR S **S** **14 49 55.7 +0.8**
SOKR pmax pmax
comp=Z,190nm,1.1s
SOKR MLR MLR
comp=Z,1µm,16.0s
FRIM Kepong 53.75 236 P **P** **14 42 25.2 +1.0**
THN Thein Dam 53.75 284 *eP* **P** **14 42 23.0 -1.0**
THN *eP* **P** **14 42 23.0 -1.0**
MMRI Maumere 53.91 207 P **P** **14 42 25.1 -0.1**
comp=Z,78nm,1.6s,comp=Z,930nm
ARU Arti 54.04 317*c i*P **P** **14 42 25.5 -0.3**
ARU *e* 14 43 27.8
ARU S **S** **14 50 02.9 +3.2**
ARU 14 52 09.0
ARU SSS SSS 14 55 37.5
ARU pmax pmax
comp=Z,239nm,1.0s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 54.04 317 PFAKE 14 42 40.0 +14
ARU LR LR
comp=Z,3µm,22.0s
ARU Arti 54.04 317 P **P** **14 42 25.9 +0.1**
comp=Z,1µm,0.9s
NDI New Delhi 54.62 279 *eP* **P** **14 42 31.0 +0.6**
NIL Nilore 54.91 286 PFAKE 14 42 40.0 +7.5
NIL LR LR
comp=Z,23nm,22.0s
ALE Alert 55.26 4 P **P** **14 42 33.0 -1.3**
comp=Z,212nm,1.3s,SNR=19
PPBI Pangkal Pinang 55.43 228 P **P** **14 42 37.1 +0.8**
PPBI Pangkal Pinang 55.43 228 P **P** **14 42 37.6 +1.3**
comp=Z,86nm,1.0s,comp=Z,1µm
TSI Tuntungan 55.48 239 P **P** **14 42 37.8 +1.1**
comp=Z,80nm,1.0s,comp=Z,3µm
KMMI Kalianget 55.70 217 P P 14 42 31.9 -6.3
KMMI Kalianget 55.70 217 P **P** **14 42 37.6 -0.6**
comp=Z,37nm,1.3s
KMMI Kalianget 55.70 217 P **P** **14 42 38.4 +0.2**
PSI Prapat 55.78 238 P **P** **14 42 39.2 +0.2**
comp=Z,40nm,0.8s,baz=19,slow=5.0,SNR=30
PSI LR LR 15 09 23.1
comp=Z,717nm,18.3s,baz=32,slow=39
PSI Prapat 55.78 238 P **P** **14 42 39.2 +0.2**
PSI Prapat 55.78 238 P **P** **14 42 39.5 +0.5**
comp=Z,60nm,1.0s,comp=Z,651nm
PSI Prapat 55.78 238 P **P** **14 42 39.3 +0.2**
comp=Z,60nm,1.0s,comp=Z,651nm
SRBI Singaraja 56.08 215 P **P** **14 42 40.2 -0.7**
SRBI Singaraja 56.08 215 P **P** **14 42 40.1 -0.8**
comp=Z,50nm,1.5s,comp=Z,1µm
KHKI Kahang-Kahang 56.17 214 P **P** **14 42 40.8 -0.7**
comp=Z,70nm,1.5s,comp=Z,826nm
KHKI Kahang-Kahang 56.17 214 P **P** **14 42 40.3 -1.2**
comp=Z,69nm,1.5s,comp=Z,833nm
SPA0 Spitsbergen Ar 56.21 349 *eP* **P** **14 42 40.7 -0.5**
GRJI Gresik 56.26 218 P **P** **14 42 41.0 -1.2**
KBS Kingsbay 56.28 350 *eP* **P** **14 42 40.0 -1.6**
KBS AMS AMS 15 07 54.3
comp=Z,1µm,20.2s
KBS Kingsbay 56.28 350⇑ *e*P **P** **14 42 41.4 -0.3**
KBS pmax pmax
comp=Z,66nm,1.2s
KBS Kingsbay 56.28 350 PFAKE 14 42 50.0 +8.3
KBS LR LR
comp=Z,1µm,20.0s
AB31 Akbulak array 56.31 308 *i* P **P** **14 42 42.1 -0.1**
AB31 pmax pmax
comp=Z,83nm,0.8s
BKNI Bangkinang 56.39 234 P **P** **14 42 43.9 +0.7**
comp=Z,293nm,1.0s,comp=Z,2µm
BYJI Banyuwangi 56.57 216 P **P** **14 42 43.9 -0.5**
comp=Z,95nm,1.0s,comp=Z,31µm
NBBI Negara 56.59 215 P **P** **14 42 42.3 -2.3**
comp=Z,86nm,1.0s
AKTO Aktyubinsk 56.89 310 P **P** **14 42 46.1 -0.2**
comp=Z,55nm,1.1s,baz=70,slow=7.5,SNR=56
AKTO Aktyubinsk 56.89 310 *i* P **P** **14 42 45.8 -0.6**
AKTO Aktyubinsk 56.89 310 P **P** **14 42 46.1 -0.2**
MNSI Mandailing Nat 56.92 236 P **P** **14 42 46.6 -0.4**
SJI Sawahan 57.31 219 P **P** **14 42 49.0 -0.8**
SJI Sawahan 57.31 219 P **P** **14 42 48.9 -0.8**
comp=Z,48nm,1.0s
SMRI Semarang 57.34 220 P **P** **14 42 50.5 +0.6**
comp=Z,87nm,1.5s
KRKI Karangkates 57.37 218 P **P** **14 42 49.8 -0.2**
KRKI Karangkates 57.37 218 P **P** **14 42 49.6 -0.5**
comp=Z,153nm,0.3s,comp=Z,23µm
PPI Padang Panjang 57.40 235 P **P** **14 42 50.6 +0.3**
comp=Z,20nm,1.3s
PWJI Pagerwojo 57.54 218 P **P** **14 42 50.0 -1.3**
PWJI Pagerwojo 57.54 218 P **P** **14 42 50.2 -1.1**
AJM Ajmer 57.73 278 *i* P **P** **14 42 52.0 -0.7**
GSI Gunungsitoli 57.79 238 P **P** **14 42 53.6 +0.5**
comp=Z,101nm,1.5s
TGJI Tegal 57.83 222 P **P** **14 42 53.6 +0.2**
TGJI Tegal 57.83 222 P **P** **14 42 54.0 +0.6**
comp=Z,88nm,1.4s
BJII Banjamegara 57.94 221 P **P** **14 42 52.8 -1.4**
comp=Z,31nm,1.4s
BJII Banjamegara 57.94 221 P **P** **14 42 53.0 -1.2**
comp=Z,31nm,1.4s
UGM Wanagama 58.05 220 P **P** **14 42 53.6 -1.4**
UGM Wanagama 58.05 220 P **P** **14 42 53.5 -1.4**
comp=Z,133nm,1.3s
BJO Bjornoya 58.30 345 *eP* P 14 42 52.0 -3.8
LEM Lembang 58.56 223 P **P** **14 42 58.4 -0.2**
comp=Z,76nm,1.1s
KSI Kapahiang 58.65 230 P **P** **14 42 57.8 -1.4**
YKW3 Yellowknife Ar 58.78 32 *eP* **P** **14 42 59.1 -0.3**
comp=Z,0.5nm,1.0s
YKA Yellowknife Ar 58.82 32 P **P** **14 42 59.5 -0.2**
comp=Z,5.4nm,0.8s,baz=299,slow=6.6,SNR=86
YKA PKPPKP P'P'df 15 12 23.6 -18
comp=Z,0.1nm,0.6s,baz=99,slow=3.8,SNR=3.0
YKA Yellowknife Ar 58.82 32 P **P** **14 42 59.5 -0.2**
YKA P'P' 15 12 23.6
APA Apatity 59.10 335⇑ *i*P **P** **14 43 02.0 +0.4**
APA *i* S **S** **14 51 04.0 -2.3**
APA *i* PS **PnS** **14 51 20.0 -0.7**
APA *i* 14 52 48.0
APA pmax pmax
comp=Z,57nm,1.1s
APA MLR MLR
comp=Z,2µm,22.0s
KEV Kevo 59.64 339 *eP* **P** **14 43 04.9 -0.4**
KEV pmax pmax
comp=Z,61nm,0.6s
KEV Kevo 59.64 339 PFAKE 14 43 20.0 +15
KEV LR LR
comp=Z,2µm,20.0s
KEV Kevo 59.64 339 *ep* **P** **14 43 04.9 -0.4**
comp=Z,61nm,0.6s
HYB Hyderabad 60.17 267 *i* P **P** **14 43 09.0 -0.7**
ARCES ARCESS Array B 60.19 339 P **P** **14 43 08.6 -0.5**
comp=Z,34nm,0.9s,baz=57,slow=6.3,SNR=65
ARCES LR LR 15 14 35.5
comp=Z,2µm,18.9s,baz=37,slow=41
ARCES ARCESS Array B 60.19 339 P **P** **14 43 08.6 -0.5**
ARE0 ARCESS Array S 60.19 339 *eP* **P** **14 43 08.6 -0.5**
ARE0 ARCESS Array S 60.19 339 *eP* **P** **14 43 07.9 -1.1**
ARE0 *ep*P **pP** **14 43 18.2 -0.4**
ARE0 *es*P **sP** **14 43 22.3 0.0**
KLMR Klimovskoe 60.72 327*c i*P **P** **14 43 12.0 -0.7**
KLMR pmax pmax
comp=Z,180nm,1.0s
KLMR pmax pmax
comp=Z,43nm,3.5s
KLMR MLR MLR
comp=Z,2µm,17.0s
LATR Latur 61.04 269 *eP* **P** **14 43 16.0 +0.4**
KTK1 Kautokeino 61.14 339⇑ *i*P **P** **14 43 14.6 -0.9**
KTK1 AMS AMS 15 13 21.8
comp=Z,3µm,18.5s
DAG Danmarks Havn 61.19 355 *i* P **P** **14 43 14.8 -0.9**
comp=Z,326nm,0.9s
CTA Charters Tower 61.61 177 P **P** **14 43 19.8 +0.6**
comp=Z,6.1nm,1.1s,baz=331,slow=13,SNR=3.1
CTA Charters Tower 61.61 177 P **P** **14 43 19.8 +0.6**
TRO Tromso 61.80 341 *eP* **P** **14 43 19.7 -0.2**
TRO AMS AMS 15 16 04.4
comp=Z,1µm,16.8s
FITZ Fitzroy Crossi 61.89 200 P **P** **14 43 21.3 +0.2**
comp=Z,14nm,1.0s,baz=23,slow=7.1,SNR=13
FITZ Fitzroy Crossi 61.89 200 P **P** **14 43 21.3 +0.2**
WRAB Tennant Creek 62.02 190 *eP* **P** **14 43 19.8 -2.2**
WRAB pmax pmax
comp=Z,29nm,1.1s
WRAB MLR MLR
comp=Z,586nm,21.0s
WRAB Tennant Creek 62.02 190 *eP* **P** **14 43 19.8 -2.2**
comp=Z,29nm,1.1s
WRAB LR LR
comp=Z,586nm,21.0s
WRAB Tennant Creek 62.02 190 P **P** **14 43 21.0 -1.0**
comp=Z,93nm,1.2s,SNR=5.7
WRA Warramunga Arr 62.03 190 P **P** **14 43 21.1 -0.9**
comp=Z,9.2nm,0.9s,baz=7.5,slow=6.8,SNR=48
WRA LR LR 15 10 38.5
comp=Z,427nm,20.3s,baz=5.0,slow=36
WRA PKP2bc 15 12 36.0
comp=Z,2.4nm,1.0s,baz=205,slow=2.3,SNR=7.3
WRA Warramunga Arr 62.03 190 P **P** **14 43 21.1 -0.9**
WRA ⇑*e* 15 12 36.0
NLWA Neilton Lookou 62.25 50 PFAKE 14 43 40.0 +17
NLWA LR LR
comp=Z,803nm,19.0s
JOF Joensuu 62.62 332 *eP* **P** **14 43 24.9 -0.7**
JOF pmax pmax
comp=Z,77nm,0.7s
JOF Joensuu 62.62 332 *ep* **P** **14 43 24.9 -0.7**
comp=Z,77nm,0.7s
POO Poona 63.00 271⇑ *i*P **P** **14 43 27.0 -1.8**
comp=Z,120nm,1.0s
ABKT Ailbek 63.14 298 P **P** **14 43 29.2 -0.3**
comp=Z,536nm,0.8s,SNR=34
IAKL Akhelmad 63.45 296 *eP* **P** **14 43 31.9 0.0**
KAD Karad 63.50 270 *i* P **P** **14 43 32.0 -0.2**
ISFR Sfrayin 63.70 297 *eP* **P** **14 43 33.8 +0.3**
LOF Lofoten 64.23 341 *eP* P 14 43 27.3 -8.8
MOS Moscow 64.51 323 *eP* **P** **14 43 36.7 -1.4**
MOS *e* 14 43 45.9
MOS *e* 14 44 19.3
MOS *es* **S** **14 52 11.3 -3.6**
MOS *e* 14 52 31.5
MOS pmax pmax
comp=Z,400nm,1.7s
MOS pmax pmax
comp=Z,180nm,1.4s
MOS MLR MLR
comp=Z,2µm,18.0s
IDAH Dahanechah 64.85 292 *eP* **P** **14 43 41.2 +0.1**
KAF Kangasniemi 64.91 333 *eP* **P** **14 43 40.1 -0.5**
KAF pmax pmax
comp=Z,71nm,0.7s
KAF Kangasniemi 64.91 333 *ep* **P** **14 43 40.1 -0.5**
comp=Z,71nm,0.7s,baz=46,slow=6.2
PUL Pulkovo 65.02 329 *i* P **P** **14 43 41.6 +0.2**
PUL pmax pmax
comp=Z,191nm,1.0s
PUL MLR MLR
comp=Z,2µm,19.0s
HAWA Hanford 65.27 49 PFAKE 14 44 00.0 +17
HAWA LR LR
comp=Z,634nm,19.0s
OBN Obninsk 65.37 323*c i*P **P** **14 43 43.2 -0.5**
OBN *e**PP **pP** **14 43 53.8 +0.5**
OBN *e* 14 44 13.3
OBN *es*S SS 14 56 39.3 +1.3
OBN pmax pmax
comp=Z,223nm,1.3s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 65.37 323 PFAKE 14 44 00.0 +16
OBN LR LR
comp=Z,2µm,20.0s
OBN Obninsk 65.37 323 P **P** **14 43 43.0 -0.7**
comp=Z,799nm,0.9s,SNR=9.8
VRHR Novokhopersk 65.39 317*c i*P **P** **14 43 42.5 -1.4**
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,110nm,0.9s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR MLR MLR
comp=E,3µm,17.0s
VRHR MLR MLR
comp=Z,3µm,17.0s
VRHR MLR MLR
comp=N,440nm,13.0s
FIA1 FINESS Array S 65.44 332 *eP* **P** **14 43 43.5 -0.7**
FINES FINESS Array B 65.44 332 P **P** **14 43 43.5 -0.6**
comp=N,186nm,0.8s,baz=47,slow=7.7,SNR=427
FINES LR LR 15 14 57.9
comp=N,3µm,20.1s,baz=52,slow=38
FINES FINESS Array B 65.44 332 P **P** **14 43 43.5 -0.6**
NEW Newport 65.52 46 *eP* **P** **14 43 45.5 +0.5**
comp=N,14nm,0.9s
NEW LR LR
comp=Z,822nm,19.0s
NEW Newport 65.52 46⇑P **P** **14 43 45.4 +0.4**
baz=65,SNR=15
MOR8 Moi Rana 65.52 340⇑ *i*P **P** **14 43 42.7 -1.9**
MOR8 AMB AMB 14 43 43.6
comp=Z,131nm,0.9s
ITEG Tejag 65.54 293 *eP* **P** **14 43 45.6 +0.1**
AS31 Alice Springs 65.75 190 *eP* **P** **14 43 45.7 -0.9**
ASAR Alice Springs 65.75 190 P **P** **14 43 46.0 -0.5**
comp=Z,5.3nm,0.9s,baz=11,slow=5.1,SNR=23
ASAR PKP2ab 15 12 27.4
comp=Z,1.1nm,0.9s,baz=186,slow=6.1,SNR=7.5
ASAR LR LR 15 13 02.0
comp=Z,526nm,18.9s,baz=0.7,slow=36
ASAR Alice Springs 65.75 190 P **P** **14 43 46.0 -0.5**
ASAR P'P'ab **P'P'ab** **15 12 27.4 +2.0**
STOK Stokkvaagen 65.76 340 *eP* **P** **14 43 45.5 -0.5**
A12A Yaak River Ran 65.92 45⇓P **P** **14 43 48.3 +0.8**
baz=66
SUMG Summit 65.93 1⇑ *i*P **P** **14 43 47.9 +0.3**
comp=Z,107nm,0.9s
YBH Yreka Blue Hor 66.09 55 *eP* **P** **14 43 48.6 -0.2**
comp=Z,15nm,1.0s
VOR Voronezh 66.21 319 P **P** **14 43 49.0 -0.2**
VOR pmax pmax
comp=Z,250nm,1.2s
C11A Tepee Creek (N 66.24 46⇓P **P** **14 43 50.2 +0.6**
baz=66,SNR=13
MBWA Marble Bar 66.45 204 PFAKE 14 44 00.0 +9.0
MBWA LR LR
comp=Z,238nm,22.0s
VSR Storozhevoye 66.55 318*c i*P **P** **14 43 51.1 -0.3**
VSR pmax pmax
comp=Z,90nm,0.7s
VSR pmax pmax
comp=N,50nm,1.0s
VSR pmax pmax
comp=E,60nm,0.9s
VSR MLR MLR
comp=N,600nm,16.0s
VSR MLR MLR
comp=Z,1µm,16.0s
VSR MLR MLR
comp=E,890nm,19.0s
A13A Flathead Natio 66.57 45⇑P **P** **14 43 52.4 +0.6**
baz=66
VORD Divnogorie 66.64 318 *eP* **P** **14 43 51.6 -0.3**
VORD pmax pmax
comp=Z,110nm,1.0s
VORD pmax pmax
comp=N,60nm,1.2s
VORD pmax pmax
comp=E,100nm,1.3s
VORD MLR MLR
comp=Z,1µm,22.0s
VORD MLR MLR
comp=N,350nm,10.0s
VORD MLR MLR
comp=E,950nm,19.0s
C12B Naegeli Ranch, 66.74 46⇑P **P** **14 43 53.8 +1.0**
baz=66
WDC Whiskeytown Da 66.86 56 *eP* **P** **14 43 52.8 -0.8**
WDC pmax pmax
comp=Z,22nm,1.1s
WDC Whiskeytown Da 66.86 56 *eP* **P** **14 43 52.8 -0.8**
comp=Z,22nm,1.1s
B13A Whitefish 66.88 45⇓P **P** **14 43 54.4 +0.7**
baz=67,SNR=22
DZM Mont Dzumac 66.94 157 *eP* **P** **14 43 56.8 +2.6**
comp=Z,47nm,1.4s
DZM *e*S **S** **14 52 44.0 -1.3**
comp=Z,554nm,27.4s
DZM *e*SS **SS** **14 57 08.2 +3.5**
comp=Z,314nm,26.2s
DZM *e*LQ LQ 15 01 02.4
comp=Z,1µm,28.9s
DZM *e*LR LR 15 04 11.3
comp=Z,988nm,25.1s
DZM Mont Dzumac 66.94 157 P **P** **14 43 55.1 +0.9**
comp=Z,6.6nm,1.1s,baz=81,slow=18,SNR=2.5
DZM Mont Dzumac 66.94 157 P **P** **14 43 55.1 +0.9**
MAK Makhachkala 66.95 308*c i*P **P** **14 43 53.0 -1.1**
MAK *e* 14 44 16.9
MAK *e* 14 46 19.6
MAK *es* **S** **14 52 43.2 -1.9**
MAK *e* 14 53 44.1
MAK pmax pmax
comp=Z,179nm,1.2s
BSMT Bassoo Peak 67.03 46 *eP* **P** **14 43 55.8 +1.1**
IKIA Kiasar 67.04 299 *eP* **P** **14 43 54.8 -0.3**
A14A Double T Ranch 67.07 44⇑P **P** **14 43 54.7 -0.2**
baz=67
BLMT Blacktail Moun 67.16 45 *eP* **P** **14 43 56.9 +1.3**
MSVF Nonsavu 67.20 144 PFAKE 14 44 10.0 +14
MSVF LR LR
comp=Z,1µm,21.0s
C13A Hot Springs 67.25 46⇓P **P** **14 43 56.8 +0.8**
baz=67,SNR=10
VSU Vasula 67.26 329*c i*P **P** **14 43 55.4 -0.4**
VSU pmax pmax
comp=Z,224nm,1.1s
IANJ Anjilo 67.31 298 *eP* **P** **14 43 55.8 -1.1**
JTMT Jette 67.36 46 *eP* **P** **14 43 57.5 +0.7**
A15A Johnson Ranch, 67.42 44⇓P **P** **14 43 56.8 -0.4**
baz=67
BMO Blue Mountains 67.44 50 PFAKE 14 44 10.0 +13
BMO LR LR
comp=Z,585nm,19.0s
NSS Namsos 67.46 340 *eP* P 14 43 52.7 -4.2
E12A Beaver Dam Sad 67.47 47⇑P **P** **14 43 58.2 +0.6**
baz=67
B14A Marquette Ranc 67.52 45⇓P **P** **14 43 58.5 +0.6**
baz=67,SNR=7.0
C14A Swan Lake 67.63 45⇑P **P** **14 43 59.3 +0.8**
baz=67
SWMT Swartz Lake 67.66 46 *eP* **P** **14 43 59.2 +0.6**
D13A Huson 67.67 46⇑P **P** **14 43 59.1 +0.4**
baz=67,SNR=15
IALA Alasht 67.68 299 *eP* **P** **14 43 57.0 -2.2**
B15A Bradely Ranch, 67.92 44⇓P **P** **14 44 00.6 +0.2**
baz=68,SNR=21
IFIR Firoozkooh 67.98 299 *eP* **P** **14 44 01.1 0.0**
ILAS Lasjerd 68.00 298 *eP* **P** **14 44 00.3 -0.9**
A16A West Butte Ran 68.03 43⇓P **P** **14 44 00.6 -0.4**
baz=68
F12A Elk City 68.05 48⇓P **P** **14 44 01.7 +0.5**
baz=68
SLMT Seeley Lake 68.09 46 *eP* **P** **14 44 01.8 +0.3**
MSO Missoula 68.11 46 *eP* **P** **14 43 59.2 -2.3**
comp=Z,12nm,1.0s
MSO LR LR
comp=Z,444nm,19.0s
MSO Missoula 68.11 46⇓P **P** **14 44 01.7 +0.2**
baz=68,SNR=13
D14A Greenough 68.19 46⇓P **P** **14 44 02.1 0.0**
baz=68
E13A Victor 68.21 47⇓P **P** **14 44 01.9 -0.2**
baz=68
C15A Salmond Ranch, 68.23 45⇓P **P** **14 44 02.7 +0.3**
baz=68
B16A M & M Farms, S 68.31 44⇓P **P** **14 44 02.7 0.0**
baz=68,SNR=10
G12A Big Creek, Yel 68.39 48⇑P **P** **14 44 03.4 0.0**
baz=68
CHMT Chamberlain Mo 68.43 46 *eP* **P** **14 44 03.9 +0.2**
IBAF Bafgh 68.48 294 *eP* **P** **14 44 03.9 -0.3**
A17A Triple J Farms 68.49 43⇓P **P** **14 44 03.8 0.0**
baz=68,SNR=14
IDMV Damavand 68.49 299 *eP* **P** **14 44 04.3 0.0**
F13A Darby 68.54 47⇑P **P** **14 44 04.0 -0.3**
baz=68
E14A Clinton 68.61 46⇓P **P** **14 44 04.8 +0.1**
baz=68,SNR=8.8
C16A Fuhringer Ranc 68.67 44⇑P **P** **14 44 04.0 -1.0**
baz=68,SNR=6.0
D15A Lincoln 68.74 45⇓P **P** **14 44 05.5 0.0**
baz=68
FFC Flin Flon 68.77 35 P **P** **14 44 05.3 0.0**
comp=Z,221nm,0.9s,SNR=18
A18A Metzger Ranch, 68.94 43⇓P **P** **14 44 06.5 -0.1**
baz=69,SNR=15
H12A Diamond D Ranc 69.01 49⇓P **P** **14 44 07.4 +0.1**
baz=69,SNR=11
G13A Cobalt 69.02 48⇓P **P** **14 44 07.2 -0.1**
baz=69,SNR=16
F14A Wisdom 69.05 47⇓P **P** **14 44 07.5 0.0**
baz=69
E15A Deer Lodge 69.06 46⇑P **P** **14 44 07.9 +0.4**
baz=69,SNR=26
ISFB Sefidab 69.08 298 *eP* **P** **14 44 06.9 -0.9**
DGRG David-gareji 69.13 307 P **P** **14 44 08.3 +0.4**
KIV Kislovodsk 69.15 311*c i*P **P** **14 44 08.5 +0.5**
KIV *e* 14 44 18.9
KIV *e* 14 44 30.9
KIV *e* 14 46 38.2
KIV *es*S SS 14 57 35.5 -1.8
KIV pmax pmax
comp=Z,390nm,1.2s
KIV Kislovodsk 69.15 311 PFAKE 14 44 20.0 +12
KIV LR LR
comp=Z,1µm,19.0s
KIV Kislovodsk 69.15 311 P **P** **14 44 09.0 +0.9**
SNR=55
KIV Kislovodsk 69.15 311 P **P** **14 44 08.9 +0.9**
comp=Z,2µm,0.8s,SNR=33
MFID Camas Ranch 69.16 50⇑P **P** **14 44 08.8 +0.6**
baz=69,SNR=8.5
KBZ Khabaz 69.17 310 P **P** **14 44 08.7 +0.7**
comp=Z,84nm,0.8s,baz=58,slow=4.1,SNR=105
KBZ LR LR 15 19 50.0
comp=Z,2µm,18.8s,baz=134,slow=41
KBZ Khabaz 69.17 310 P **P** **14 44 08.7 +0.7**
KBZ Khabaz 69.17 310 P **P** **14 44 08.7 +0.7**
ZEI Tsey 69.19 309 *eP* **P** **14 44 07.6 -0.9**
ZEI *e* 14 44 18.0
ZEI pmax pmax
comp=Z,84nm,0.9s
IR3 Iran Long-Peri 69.21 299 *eP* **P** **14 44 08.4 -0.1**
C17A Wharram Farm, 69.29 44⇓P **P** **14 44 08.9 0.0**
baz=69,SNR=11
B18A Beardsley Farm 69.31 43⇓P **P** **14 44 09.1 +0.2**
baz=69,SNR=12
HRY Holter Researc 69.31 45 *eP* **P** **14 44 09.7 +0.6**
I12A Atlanta 69.32 49⇓P **P** **14 44 09.7 +0.5**
baz=69
TBLG Delisi 69.33 308 *eP* **P** **14 44 09.9 +0.8**
TBLG Delisi 69.33 308 P **P** **14 44 09.9 +0.8**
H13A Challis 69.34 48⇓P **P** **14 44 09.6 +0.3**
baz=69,SNR=29
A19A Klindworth Far 69.49 42⇑P **P** **14 44 10.4 +0.3**
baz=69,SNR=14
E16A East Helena 69.51 45⇑P **P** **14 44 10.7 +0.5**
baz=69,SNR=20
F15A Butte 69.51 46⇓P **P** **14 44 10.8 +0.4**
baz=69,SNR=25
LRM Limekiln Ridge 69.54 46 *eP* **P** **14 44 11.0 +0.4**
GOR Gori 69.55 308 P **P** **14 44 11.5 +1.0**
ONI Oni 69.56 309 P **P** **14 44 11.5 +1.0**
EGMT Eagleton 69.56 43 PFAKE 14 44 20.0 +9.5

EGMT LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 69.56 43 ⇑P P 14 44 10.8 +0.3
baz=69,SNR=16
MICGM Minsk 69.56 326⇑ eP P 14 43 57.0 -13
MNK Minsk 69.58 326⇑ eP P 14 43 57.0 -13
MNK e 14 44 15.0
MNK pmax pmax
comp=Z,390nm,1.0s
D17A Six Diamond Ra 69.64 45 ⇑P P 14 44 11.4 +0.3
baz=69,SNR=5.6
B19A Brinkman Farms 69.70 43 ⇓P P 14 44 11.6 +0.3
baz=69
NACGM Naroch 69.74 327 eP P 14 44 09.0 -2.3
H14A Leadore 69.80 48 ⇓P P 14 44 12.3 +0.1
baz=70
I13A Wildhorse Cree 69.82 49 ⇓P P 14 44 13.3 +0.9
baz=70,SNR=19
HLID Hailey 69.88 49 PFAKE 14 44 20.0 +7.3
HLID LR LR
comp=Z,612nm,20.0s
HLID Hailey 69.88 49 ⇑P P 14 44 13.3 +0.7
baz=70,SNR=14
A20A Cobblestone Ra 69.93 42 ⇓P P 14 44 13.3 +0.5
baz=70
G15A Dillon 69.94 47 ⇓P P 14 44 13.5 +0.5
baz=70,SNR=26
MCMT McKenzie Canyo 69.95 47 eP P 14 44 13.6 +0.4
comp=Z,2.9nm,0.8s
IRAZ Razeghan 69.96 300 eP P 14 44 13.0 -0.4
E17A Martinsdale 69.99 45 ⇑P P 14 44 13.4 +0.1
baz=70,SNR=15
F16A Kennard Place, 70.01 46 ⇑P P 14 44 13.7 +0.4
baz=70,SNR=8.5
D18A Linhart Farms, 70.07 44 ⇑P P 14 44 14.4 +0.7
baz=70
BOZ Bozeman (W) 70.10 46 eP P 14 44 12.0 -1.9
BOZ pmax pmax
comp=Z,16nm,0.8s
BOZ MLR MLR
comp=Z,579nm,19.0s
BOZ Bozeman (W) 70.10 46 eP P 14 44 12.0 -1.9
comp=Z,16nm,0.8s
BOZ LR LR
comp=Z,579nm,19.0s
BOZ Bozeman (W) 70.10 46 ⇓P P 14 44 14.7 +0.8
baz=70,SNR=8.9
C19A Slack Wire Ran 70.11 43 ⇑P P 14 44 14.5 +0.6
baz=70,SNR=37
J13A Cove Ranch, Pi 70.12 49 ⇑P P 14 44 15.2 +1.1
baz=70,SNR=17
B20A Solberg Farm, 70.17 42 ⇓P P 14 44 14.1 -0.1
baz=70,SNR=8.0
BMN Battle Mountai 70.19 53 PFAKE 14 44 30.0 +15
BMN LR LR
comp=Z,683nm,21.0s
H15A Lima 70.20 48 ⇓P P 14 44 14.9 +0.3
baz=70
AKH Akhalkalaki 70.27 308 P P 14 44 16.2 +1.1
G16A Moss Hill, Enn 70.27 47 ⇓P P 14 44 15.5 +0.5
baz=70,SNR=7.8
GNI Garni 70.31 306 eP P 14 44 15.3 0.0
comp=Z,156nm,1.3s
GNI LR LR
comp=Z,782nm,19.0s
GNI Garni 70.31 306 P P 14 44 17.1 +1.8
SNR=11
A21A Bergtoll Ranch 70.35 41 ⇓P P 14 44 15.5 +0.2
baz=70,SNR=9.8
F17A Fitzpatrick Pl 70.45 46 ⇑P P 14 44 16.7 +0.6
baz=70,SNR=9.8
NB2 NORSAR Subarra 70.48 338 P P 14 44 15.5 -0.4
baz=36,slow=6.2
NB2 NORSAR Subarra 70.48 338 P P 14 44 15.5 -0.4
comp=Z,88nm,1.1s,baz=36,slow=6.2
NOA NORSAR Array B 70.48 338 P P 14 44 15.2 -0.6
comp=Z,39nm,0.9s,baz=36,slow=6.2,SNR=99
NOA LR LR 15 19 04.4
comp=Z,2µm,20.2s,baz=20,slow=39
NOA NORSAR Array B 70.48 338 P P 14 44 15.2 -0.6
J14A Carey 70.53 49 ⇑P P 14 44 18.0 +1.3
baz=70
D19A Cripps Ranch, 70.57 44 ⇑P P 14 44 17.2 +0.5
baz=70,SNR=8.7
NC602 NORSAR Array S 70.64 337 eP P 14 44 16.0 -0.8
C20A Veseth Ranch, 70.66 43 ⇓P P 14 44 17.6 +0.4
baz=70,SNR=18
NAO01 NORSAR Array S 70.74 338 eP P 14 44 15.0 -2.4
comp=Z,36nm,0.9s
NVAR Mina Array Bea 70.77 55 P P 14 44 19.3 +1.1
comp=Z,14nm,0.8s,baz=287,slow=6.4,SNR=78
NVAR LR LR 15 14 01.4
comp=Z,278nm,19.8s,baz=241,slow=35
NVAR Mina Array Bea 70.77 55 P P 14 44 19.3 +1.1
G17A Pierce Place, 70.79 46 ⇑P P 14 44 19.0 +0.8
baz=70,SNR=11
A22A Carney Farms, 70.85 41 ⇓P P 14 44 18.2 -0.1
baz=71,SNR=29
NV11 Mina Array Sit 70.86 55 eP P 14 44 19.3 +0.6
H16A Russell Place, 70.91 47 ⇑P P 14 44 19.5 +0.5
baz=71,SNR=13
F18A Big Timber 70.96 45 ⇓P P 14 44 19.7 +0.6
baz=71,SNR=11
SFJD Kangerlussuaq 70.99 6 *i* P P 14 44 18.2 -0.6
comp=Z,31nm,0.9s
D20A Manuel Ranch, 71.00 43 ⇑P P 14 44 20.1 +0.8
baz=71,SNR=15
C21A Desert Coulee 71.04 42 ⇓P P 14 44 19.6 +0.1
baz=71,SNR=7.6
SOC Sochi 71.06 312*c i*P P 14 44 19.4 -0.2
SOC *e**PP **pP 14 44 29.2 -0.1**
SOC *e* 14 46 57.0
SOC *e*S **S 14 53 34.0 +0.4**
SOC *e* 14 54 17.1
SOC *e*SS **SS 14 58 04.9 -1.4**
SOC pmax pmax
comp=Z,80nm,0.8s
E19A Rath Farm, Rou 71.08 44 ⇑P P 14 44 20.3 +0.5
baz=71,SNR=9.6
YMR Madison River 71.09 47 eP P 14 44 19.7 -0.4
comp=Z,24nm,0.9s
J15A Blackfoot 71.09 48 ⇓P P 14 44 21.2 +1.2
baz=71,SNR=18
K14A Jones Ranch, D 71.22 49 ⇓P P 14 44 22.0 +1.2
baz=71,SNR=7.6
IPAR Pars 71.27 293 eP P 14 44 22.6 +1.1
YFT Old Faithful 71.30 47 eP P 14 44 21.9 +0.5
comp=Z,27nm,1.0s
I16A Newdale 71.31 48 ⇑P P 14 44 22.8 +1.4
baz=71
WSAR Wadi Sarin 71.37 285 LR LR 15 21 39.9
comp=Z,913nm,19.1s,baz=134,slow=41
E20A Meyer Farm, Mu 71.39 44 ⇑P P 14 44 22.5 +0.8
baz=71
BANOM Banah 71.39 288 P P 14 44 22.5 +0.5
SNR=6.0
F19A Roth Farm, Mol 71.40 45 ⇑P P 14 44 22.2 +0.4
baz=71,SNR=13
CLDR Caldiran 71.43 306 eP P 14 44 23.1 +0.9
H17A Grant Village 71.48 47 ⇑P P 14 44 24.6 +2.1
baz=71,SNR=25
K15A Arbon 71.50 49 ⇑P P 14 44 23.7 +1.2
baz=71,SNR=15
ISRV Sarvestan 71.50 293 eP P 14 44 22.8 -0.1
WBK Wadi Bani Khal 71.51 284 P P 14 44 24.4 +1.7
SNR=12
ANN Anapa 71.52 314 eP P 14 44 21.3 -1.0
ANN *e**PP **pP 14 44 31.9 -0.2**
ANN *e* 14 44 40.5
ANN *e* 14 47 04.2
ANN *e*S **S 14 53 41.4 +2.5**
ANN *e*SS SS 14 58 21.0 +7.7
ANN pmax pmax
comp=Z,143nm,1.5s
D21A La Casta Ranch 71.60 43 ⇓P P 14 44 23.3 +0.3
baz=71,SNR=6.7
AKASG Malin Array Be 71.62 322 P P 14 44 22.3 -0.6
comp=Z,81nm,0.8s,baz=43,slow=6.0,SNR=156
AKASG PP **PP 14 46 59.5 -1.9**
comp=Z,6.8nm,0.8s,baz=41,slow=8.6,SNR=5.1
AKASG Malin Array Be 71.62 322 *i* P P 14 44 22.2 -0.7
AKASG pmax pmax
comp=Z,81nm,0.8s
AKASG Malin Array Be 71.62 322 P P 14 44 22.3 -0.6
AKASG PP **PP 14 46 59.5 -1.9**
J16A Bone 71.63 48 ⇑P P 14 44 24.5 +1.1
baz=71,SNR=22

AK01 Malin Array Si 71.64 322 eP P 14 44 22.2 -0.7
KIEV Kiev 71.64 322*c i*P P 14 44 22.3 -0.6
KIEV Kiev 71.64 322 PFAKE 14 44 30.0 +7.1
KIEV LR LR
comp=Z,2µm,19.0s
TPH Tonopah 71.66 55 PFAKE 14 44 40.0 +16
TPH LR LR
comp=Z,597nm,19.0s
B23A Brockton 71.66 41 ⇑P P 14 44 23.1 -0.1
baz=71,SNR=16
AK02 Malin Array Si 71.66 322 eP P 14 44 22.5 -0.7
C22A Vida 71.70 42 ⇓P P 14 44 23.6 +0.1
baz=71
RLMT Red Lodge 71.71 45 eP P 14 44 24.5 +0.7
comp=Z,32nm,1.6s
RLMT Red Lodge 71.71 45 ⇓P P 14 44 24.3 +0.5
baz=72,SNR=6.7
AGRB Hanur-Agry 71.71 307 eP P 14 44 22.0 -1.9
H18A Shoshone NF, C 71.79 46 ⇓P P 14 44 25.0 +0.6
baz=72
I17A Pilgrim Ck. 71.79 47 ⇓P P 14 44 26.0 +1.7
baz=72,SNR=19
A24A Westby 71.82 40 ⇓P P 14 44 24.4 +0.2
baz=72
SUW Suwalki 71.84 328 eP P 14 44 23.4 -0.7
comp=Z,200nm,1.2s
SUW epP pP 14 44 27.2 -6.6
SUW *e*sP **sP 14 44 33.2 -4.2**
SUW *e*PcP **PcP 14 44 38.6 -4.2**
SUW LMZ LR 15 17 09.4
comp=Z,1µm,22.9s
SUW Suwalki 71.84 328 eP P 14 44 22.5 -1.6
SUW pmax pmax
comp=Z,73nm,1.0s
SUW Suwalki 71.84 328 eP P 14 44 22.5 -1.6
comp=Z,73nm,1.0s
SUW Suwalki 71.84 328 eP P 14 44 23.4 -0.7
SUW epP pP 14 44 27.2 -6.6
SUW *e*sP **sP 14 44 33.2 -4.2**
SUW *e*PcP **PcP 14 44 38.6 -4.2**
SUW LMZ LR 15 17 09.3
SMDO Samad 71.90 285 P P 14 44 26.2 +1.1
SNR=12
K16A Soda Springs 71.93 48 ⇓P P 14 44 26.5 +1.3
baz=72,SNR=20
D22A Cohagen 71.96 42 ⇑P P 14 44 25.3 +0.3
baz=72,SNR=10
C23A Lambert 72.01 41 ⇓P P 14 44 25.5 +0.1
baz=72,SNR=6.9
PKM Peak Mountain 72.01 59 ⇑P P 14 44 27.4 +1.7
baz=72
L15A Malad City 72.02 50 ⇓P P 14 44 26.4 +0.7
baz=72
DGMT Dagmar 72.04 40 PFAKE 14 44 40.0 +14
DGMT LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 72.04 40 ⇓P P 14 44 25.5 0.0
baz=72,SNR=7.0
J17A Brown Place, J 72.08 48 ⇑P P 14 44 27.0 +1.0
baz=72,SNR=19
KONO Kongsberg 72.09 337 eP P 14 44 25.4 -0.1
KONO AMS AMS 15 19 43.9
comp=Z,2µm,19.2s
KONO Kongsberg 72.09 337 PFAKE 14 44 40.0 +14
KONO LR LR
comp=Z,3µm,21.0s
VANB Van 72.09 306 eP P 14 44 28.6 +2.5
HOQ Hoqain 72.11 286 P P 14 44 27.1 +0.9
SNR=13
H19A Powell 72.16 46 ⇓P P 14 44 27.2 +0.8
baz=72,SNR=6.4
HATD Hatta, Dubai 72.19 288 P P 14 44 27.2 +0.5
SNR=13
G20A Bridger 72.20 45 ⇓P P 14 44 26.7 0.0
baz=72
AHID Auburn Hatcher 72.25 48 PFAKE 14 44 40.0 +13
AHID LR LR
comp=Z,498nm,20.0s
JMDO Jabal Madar 72.29 284 P P 14 44 28.0 +0.6
SNR=12
ASHO Ashiyiah 72.33 287 P P 14 44 28.0 +0.4
SNR=14
M15A Larsen Ranch, 72.33 50 ⇑P P 14 44 28.1 +0.6
baz=72
I18A Diamond G Ranc 72.34 47 ⇑P P 14 44 28.8 +1.1
baz=72,SNR=11
K17A Gardner Place, 72.36 48 ⇑P P 14 44 28.1 +0.3
baz=72
ISA Isabella 72.39 58 ⇑P P 14 44 28.1 +0.2
baz=72
D23A Lindsay 72.43 42 ⇓P P 14 44 28.4 +0.5
baz=72,SNR=14
EZM Erzurum 72.47 308 eP P 14 44 27.3 -1.2
R11A Troy Canyon, C 72.48 54 ⇑P P 14 44 28.9 +0.4
baz=72,SNR=30
L16A Fish Haven 72.55 49 ⇓P P 14 44 28.8 -0.1
baz=72,SNR=9.2
E22A Miles City 72.56 43 ⇑P P 14 44 28.9 +0.2
baz=72,SNR=6.5
J18A Kendall Valley 72.56 47 ⇑P P 14 44 29.6 +0.6
baz=72,SNR=12
DAC Darwin (Calif) 72.56 57 eP P 14 44 29.7 +0.7
DAC *e**PP **pP 14 44 39.4 +0.7**
DAC *e**SP **sP 14 44 43.6 +1.2**
DAC pmax pmax
comp=Z,23nm,1.3s
DAC MLR MLR
comp=Z,487nm,21.0s
DAC Darwin (Calif) 72.56 57 eP P 14 44 29.7 +0.7
comp=Z,23nm,1.3s
DAC epP **pP 14 44 39.4 +0.7**
DAC *e*sP **sP 14 44 43.6 +1.2**
DAC LR LR
comp=Z,487nm,21.0s
I19A Meeteetse 72.57 46 ⇓P P 14 44 29.7 +0.7
baz=72,SNR=5.8
C24A Savage 72.57 41 ⇑P P 14 44 28.8 +0.1
baz=72,SNR=5.3
RUND Rundenannen 72.60 340 eP P 14 44 27.5 -1.1
BER Bergen 72.63 340 AMS AMS 15 20 52.9
comp=Z,2µm,19.6s
BSY Bisya 72.71 285 P P 14 44 30.4 +0.5
SNR=22
BSY P pP 14 44 30.6 -9.0
SNR=24
G21A Lodge Grass 72.73 44 ⇓P P 14 44 29.7 0.0
baz=72,SNR=7.2
HWUT Hardware Ranch 72.74 49 PFAKE 14 44 40.0 +10
HWUT LR LR
comp=Z,481nm,19.0s
MPMC Manual Prospec 72.76 57 ⇑P P 14 44 31.3 +1.1
baz=72,SNR=19
H20A Greybull 72.80 45 ⇓P P 14 44 30.1 -0.1
baz=72
L17A Cokeville 72.81 49 ⇓P P 14 44 30.8 +0.3
baz=73,SNR=13
CUKT Cukurca 72.82 305 eP P 14 44 31.2 +0.8
ARQ Araqi 72.83 286 P P 14 44 31.2 +0.6
SNR=19
E23A Ismay 72.84 42 ⇑P P 14 44 30.7 +0.4
baz=73
F22A Rosebud 72.84 43 ⇑P P 14 44 30.4 0.0
baz=73
BAYT Ayd¨-ntepe-Bay 72.87 309 eP P 14 44 27.9 -2.8
ASUD Al Ashush, Dub 72.88 288 P P 14 44 31.6 +0.8
SNR=9.3
FURC Furnace Creek, 72.89 56 ⇓P P 14 44 32.1 +1.4
baz=73,SNR=13
VRTB Varto-Mus 72.89 307 eP P 14 44 29.9 -1.0
M16A Huntsville 72.90 50 ⇓P P 14 44 31.6 +0.7
baz=73
D24A Glendive 72.91 42 ⇑P P 14 44 31.1 +0.4
baz=73,SNR=9.5
K18A Toltan Ranch, 72.92 48 ⇑P P 14 44 32.0 +0.9
baz=73,SNR=14
DUG Dugway 72.94 51 PFAKE 14 44 40.0 +8.8
DUG LR LR
comp=Z,433nm,19.0s
DUG Dugway 72.94 51 ⇑P P 14 44 32.0 +0.8
baz=73,SNR=16
LRMC Laurel Mountai 73.00 58 ⇓P P 14 44 32.3 +0.8
baz=73
J19A Crowheart 73.05 47 ⇑P P 14 44 32.8 +1.0
baz=73,SNR=25
I20A Worland 73.09 46 ⇓P P 14 44 33.0 +1.0
baz=73,SNR=10
BW06 Boulder Array 73.10 47 ⇑P P 14 44 32.3 +0.1
baz=73,SNR=17
PDAR Pinedale Array 73.10 47 P P 14 44 32.3 +0.1
comp=Z,11nm,0.7s,baz=270,slow=2.3,SNR=80
PDAR Pinedale Array 73.10 47 P P 14 44 32.3 +0.1
SIM Simferopol' 73.18 316*ce*P P 14 44 32.4 +0.1
SIM 14 44 42.4
SIM S **SKiKP 14 54 01.7 +0.1**
SIM pmax pmax
comp=Z,62nm,0.7s
SIM MLR MLR
comp=Z,1µm,16.0s
EDW2 Edwards Air Fo 73.19 58 ⇑P P 14 44 33.7 +1.1
baz=73,SNR=19
G22A Birney 73.21 44 ⇓P P 14 44 32.6 0.0
baz=73
H21A Big Horn, Sher 73.22 45 ⇓P P 14 44 33.0 +0.3
baz=73,SNR=9.7
N16A Rees Ranch, Co 73.29 50 ⇓P P 14 44 33.9 +0.6
baz=73
E24A Baker 73.30 42 ⇓P P 14 44 33.1 +0.1
baz=73
F23A Volborg 73.32 43 ⇓P P 14 44 33.3 +0.1
baz=73,SNR=18
STKA Stephens Creek 73.33 182 P P 14 44 33.5 +0.4
comp=Z,4.4nm,0.9s,baz=46,slow=6.5,SNR=3.8
STKA pP **pP 14 44 43.3 +0.5**
comp=Z,7.8nm,0.9s,baz=331,slow=9.0,SNR=7.0
STKA Stephens Creek 73.33 182 P P 14 44 33.5 +0.4
STKA pP **pP 14 44 43.3 +0.5**
M17A Scullys Gap (B 73.34 49 ⇑P P 14 44 33.8 +0.2
baz=73,SNR=7.5
ESPY Espiye-Giresun 73.34 310 eP P 14 44 29.9 -3.5
L18A Fontenelle, Gr 73.40 48 ⇑P P 14 44 34.5 +0.6
baz=73,SNR=16
J20A Shoshoni 73.52 46 ⇓P P 14 44 34.8 +0.3
baz=73,SNR=20
R13A O'Grain Ranch, 73.56 53 ⇑P P 14 44 35.9 +0.9
baz=73,SNR=8.3
N17A Moffit Pass 73.60 50 ⇑P P 14 44 35.7 +0.5
baz=73,SNR=24
I21A Big Trails, Te 73.63 46 ⇓P P 14 44 35.7 +0.5
baz=73,SNR=30
L19A Farson 73.66 48 ⇓P P 14 44 35.6 +0.1
baz=73,SNR=7.0
GSC Goldstone 73.67 57 ⇑P P 14 44 36.2 +0.8
baz=74,SNR=6.6
G23A Biddle 73.69 43 ⇑P P 14 44 35.2 -0.2
baz=73,SNR=5.9
F24A Ekalaka 73.72 43 ⇑P P 14 44 35.5 -0.1
baz=74,SNR=11
BFSC Mount Baldy Ra 73.81 59 ⇑P P 14 44 37.1 +0.8
baz=74,SNR=5.6
K20A Yellowstone Ra 73.84 47 ⇑P P 14 44 36.0 -0.5
baz=74,SNR=11
J21A Lysite 73.87 46 ⇑P P 14 44 36.9 +0.3
baz=74,SNR=8.2
I22A 9 Mile Ranch, 74.01 45 ⇓P P 14 44 37.7 +0.3
baz=74,SNR=10
BSD Bornholm Skovb 74.09 332⇑ *i*P P 14 44 36.9 -0.5
comp=Z,60nm,1.0s
BSD *i* S **SKiKP 14 54 03.4 +0.7**
BSD
comp=Z,2µm,19.0s
G24A Alzada 74.10 43 ⇑P P 14 44 37.6 -0.2
baz=74
ARUT Antelope Range 74.14 53 eP P 14 44 39.2 +1.0
ARUT pmax pmax
comp=Z,28nm,1.0s
ARUT Antelope Range 74.14 53 eP P 14 44 39.2 +1.0
comp=Z,28nm,1.0s
O17A Robinson Place 74.14 50 ⇑P P 14 44 39.3 +1.0
baz=74,SNR=12
N18A Larsen Ranch, 74.23 49 ⇓P P 14 44 39.1 +0.3
baz=74
HEC Hector,Ludlow 74.27 57 ⇓P P 14 44 40.1 +1.1
baz=74,SNR=11
L20A Wamsutter 74.28 47 ⇑P P 14 44 39.3 +0.3
baz=74,SNR=5.6
J22A Midwest 74.34 45 ⇑P P 14 44 39.4 +0.1
baz=74,SNR=20
KIS Kishinev 74.42 320⇑ *i*P P 14 44 38.0 -1.5
KIS *e* 14 47 32.0
KIS *e* 14 49 12.0
KIS *e* 14 54 15.0
KIS pmax pmax
comp=Z,400nm,1.2s
KIS MLR MLR
comp=N,1µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS Kishinev 74.42 320⇑ *i*P P 14 44 38.0 -1.5
comp=Z,400nm,1.2s
BEL Belsk 74.43 327 eP P 14 44 40.1 +0.7
comp=Z,200nm,0.9s
BEL ePcP **pP 14 44 50.0 +0.8**
BEL LMZ LR 15 20 18.6
comp=Z,2µm,19.6s
BEL Belsk 74.43 327 eP P 14 44 40.1 +0.7
BEL ePcP **pP 14 44 50.0 +0.8**
BEL LMZ LR 15 20 18.5
H24A Dirks Ranch, A 74.43 43 ⇓P P 14 44 39.3 -0.4
baz=74,SNR=6.2
K21A Alcova 74.45 46 ⇑P P 14 44 40.0 -0.1
baz=74,SNR=9.5
COP Copenhagen 74.47 334⇑ *i*P P 14 44 39.7 +0.1
comp=Z,42nm,0.9s
COP
comp=Z,1µm,20.0s
O18A Roosevelt 74.51 50 ⇑P P 14 44 41.4 +1.0
baz=74,SNR=18
R15A Junction 74.56 52 ⇑P P 14 44 41.9 +1.2
baz=74,SNR=11
N19A John Jarvie Ra 74.56 49 ⇑P P 14 44 40.8 +0.1
baz=74,SNR=9.6
ULM Lac du Bonnet 74.58 35 P P 14 44 39.5 -0.9
comp=Z,6.8nm,0.8s,baz=307,slow=8.1,SNR=9.2
ULM pP **pP 14 44 49.9 -0.2**
comp=Z,6.2nm,0.6s,baz=347,slow=5.7,SNR=5.0
ULM LR LR 15 19 53.3
comp=Z,333nm,18.0s,baz=330,slow=38
ULM Lac du Bonnet 74.58 35 pP pP 14 44 49.9 -0.2
LVV L'vov 74.58 324⇓ *i*P P 14 44 40.2 -0.2
LVV MLR MLR
comp=E,900nm,18.0s
LVV MLR MLR
comp=Z,800nm,18.0s
LVV MLR MLR
comp=N,300nm,16.0s
P17A Butcher Ranch, 74.62 51 ⇓P P 14 44 41.7 +0.7
baz=74,SNR=10
MDND Maddock 74.66 39 ⇓P P 14 44 41.0 +0.1
baz=74
SVRC Sivrice-ELAZID 74.68 308 eP P 14 44 43.6 +2.2
GKP Gorka Klasztor 74.70 330 eP P 14 44 40.9 -0.2
GKP ePcP **pP 14 44 50.5 -0.3**
GKP LMZ LR 15 20 20.9
comp=N,3µm,21.0s
GKP Gorka Klasztor 74.70 330 eP P 14 44 40.8 -0.2
GKP ePcP **pP 14 44 50.4 -0.3**
GKP LMZ LR 15 20 20.8
M20A Sweetwater, Wa 74.72 48 ⇑P P 14 44 42.2 +0.6
baz=74
GMRC Granite Mounta 74.72 57 ⇑P P 14 44 42.8 +1.1
baz=74,SNR=9.8
Q16A Castle Valley 74.74 51 ⇑P P 14 44 42.4 +0.6
baz=74,SNR=12
P18A Preston Nutter 74.80 50 ⇓P P 14 44 43.0 +0.7
baz=75,SNR=10
LLD Lille Linde 74.83 334 *i* P P 14 44 41.4 -0.3
comp=N,4.9nm,0.8s
K22A Casper 74.83 46 ⇓P P 14 44 42.2 -0.1
baz=75,SNR=12
L21A Rawlins 74.84 47 ⇑P P 14 44 42.4 +0.1
baz=75,SNR=12
MUD Monsted U'grnd 74.87 336⇑ *i*P P 14 44 41.9 0.0
comp=N,24nm,0.9s
BHD Baghdad 74.88 301 *i* P P 14 44 46.0 +3.6
BHD *i* S **S 14 54 16.0 -1.4**
IAS Iasi 74.88 321 ⇓P P 14 44 42.6 +0.4
IAS Iasi 74.88 321⇓ *i*P P 14 44 42.6 +0.4
R16A Teasdale 74.98 52 ⇑P P 14 44 44.4 +1.2
baz=75,SNR=26
PFO Pinyon Flat Ob 74.98 58 PFAKE 14 44 50.0 +6.8

PFO LR LR
comp=Z,985nm,20.0s
PFO Pinyon Flat Ob 74.98 58 ⇑P P 14 44 44.0 +0.9
baz=75,SNR=7.8
SRU San Rafael 74.99 51 ⇑P P 14 44 43.6 +0.4
baz=75,SNR=39
O19A Miners Draw (B 75.00 49 ⇓P P 14 44 43.4 +0.2
baz=75,SNR=8.5
I24A Kuemmerle Ranc 75.01 44 ⇑P P 14 44 42.5 -0.7
baz=75
UMR Umm Al-Rimmam 75.06 296 *eP* **P 14 44 42.6 -0.9**
UMR AMb AMB 14 44 43.8
comp=Z,130nm,0.7s
M21A Separation Pea 75.09 47 ⇑P P 14 44 43.8 0.0
baz=75,SNR=13
N20A Spence Gulch, 75.12 48 ⇓P P 14 44 44.7 +0.7
baz=75,SNR=21
RSSD Black Hills 75.13 44 *eP* **P 14 44 43.9 -0.1**
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 75.13 44 *eP* **P 14 44 43.9 -0.1**
comp=Z,12nm,0.8s
MIB Mutribah 75.16 297 *eP* **P 14 44 43.3 -0.8**
MIB AMb AMB 14 44 44.7
comp=Z,175nm,0.9s
MALT Malatya 75.24 308 *eP* P 14 44 50.5 +6.0
S16A Weppner Ranch, 75.28 52 ⇓P P 14 44 45.8 +0.9
baz=75,SNR=25
KWP Kalwaria Pacla 75.29 325 *eP* **P 14 44 45.3 +0.8**
comp=Z,200nm,1.0s
KWP *ePcP* **pP 14 44 54.4 +0.1**
KWP LMZ LR 15 20 45.2
comp=Z,2μm,19.8s
KWP Kalwaria Pacla 75.29 325 PFAKE 14 45 00.0 +15
KWP LR LR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 75.29 325 *eP* **P 14 44 45.3 +0.8**
KWP *ePcP* **pP 14 44 54.4 +0.1**
KWP LMZ LR 15 20 45.2
L22A Ellis Ranch, M 75.31 46 ⇑P P 14 44 45.5 +0.5
baz=75,SNR=16
KBD Kabd 75.32 296 *eP* **P 14 44 44.2 -0.8**
KBD AMb AMB 14 44 45.4
comp=Z,66nm,0.8s
R17A Hanksville Air 75.34 51 ⇓P P 14 44 45.6 +0.4
baz=75,SNR=19
QRN Al-Qurain 75.44 295 *eP* **P 14 44 45.0 -0.8**
QRN AMb AMB 14 44 46.1
comp=Z,187nm,0.7s
IRM Iron Mountain 75.45 57 ⇑P P 14 44 46.9 +1.2
baz=75,SNR=10
P19A Cripple Cowboy 75.52 50 ⇑P P 14 44 46.5 +0.2
baz=75,SNR=30
NAY Al-Naaiem 75.58 296 *eP* **P 14 44 45.6 -0.9**
NAY AMb AMB 14 44 46.7
comp=Z,74nm,0.7s
RDF Al-Radifah 75.58 296 *eP* **P 14 44 45.9 -0.6**
RDF AMb AMB 14 44 47.1
comp=Z,197nm,0.8s
N21A Black Mountain 75.58 48 ⇓P P 14 44 46.8 +0.2
baz=75,SNR=16
BC3 Big Chuckawall 75.58 58 ⇓P P 14 44 47.6 +1.0
baz=75,SNR=8.8
URFA Urfa 75.58 307 *eP* P 14 44 50.2 +3.7
O20A White River Ci 75.60 49 ⇑P P 14 44 46.8 0.0
baz=75,SNR=15
W13A Hualapai Mount 75.62 56 ⇑P P 14 44 47.7 +0.8
baz=75,SNR=14
L23A Garrett 75.65 46 ⇓P P 14 44 46.7 -0.3
baz=75,SNR=10
M22A Cedar Creek Ra 75.65 47 ⇑P P 14 44 47.3 +0.2
baz=75,SNR=16
BURAR Bucovina Array 75.67 322 *i*⇓*iP* **P 14 44 47.5 +0.6**
TLCR 75.71 319 P **P 14 44 47.4 +0.4**
TLCR 75.71 319 *i*⇓*iP* **P 14 44 47.4 +0.4**
U15A North Rim 75.72 54 ⇑P P 14 44 48.7 +1.1
baz=76,SNR=26
GHRR 75.77 320 *i*⇓*iP* **P 14 44 48.8 +1.5**
S17A Black Ridge (B 75.81 52 ⇑P P 14 44 48.3 +0.4
baz=76,SNR=19
TESR 75.81 321 *i*⇓*iP* **P 14 44 47.9 +0.4**
Q19A Hogan Spring (75.82 50 ⇑P P 14 44 48.0 +0.2
baz=76,SNR=21
R18A Canyonlands Na 75.84 51 ⇑P P 14 44 48.0 -0.1
baz=76,SNR=14
P20A De Beque 75.95 49 ⇑P P 14 44 48.7 0.0
baz=76
O21A Pagoda 75.98 48 ⇓P P 14 44 49.2 +0.3
baz=76
PDMCI Parker Dam,Lak 75.99 57 ⇓P P 14 44 49.8 +1.1
baz=76,SNR=5.2
AGMN Agassiz Nation 76.04 36 PFAKE 14 45 00.0 +11
AGMN LR LR
comp=Z,712nm,21.0s
CFR Carcaliu 76.06 319 P **P 14 44 49.4 +0.5**
CFR Carcaliu 76.06 319 *i*⇑*iP* **P 14 44 49.1 +0.2**
OJC Ojcow 76.07 327 *eP* **P 14 44 49.1 +0.2**
OJC *e**PP **pP 14 44 58.8 +0.1**
OJC *e* 14 45 01.3
OJC *eS* **S 14 54 28.3 -1.8**
OJC *e**SS **sS 14 54 46.5 +0.3**
OJC Ojcow 76.07 327 *eP* **P 14 44 49.1 +0.2**
OJC *epP* **pP 14 44 58.8 +0.1**
OJC *ePcP* **PcP 14 45 01.3 +0.2**
OJC *eS* **S 14 54 28.3 -1.8**
OJC *es*S **sS 14 54 46.5 +0.3**
OJC L L 15 26 45.2
comp=Z,1μm,19.5s
M23A Laramie 76.08 46 ⇓P P 14 44 49.6 +0.1
baz=76,SNR=8.5
PETR 76.10 320 *i*⇑*iP* **P 14 44 50.3 +1.1**
Y12C Blythe 76.11 57 ⇓P P 14 44 50.7 +1.3
baz=76,SNR=8.6
N22A Wattenberg Ran 76.14 47 ⇑P P 14 44 50.6 +0.7
baz=76,SNR=9.3
UZH Uzhgorod 76.22 324 *eP* **P 14 44 50.0 +0.2**
UZH *e* 14 44 55.8
UZH *eS* **S 14 54 28.9 -2.9**
UZH *eSP* **SKSac 14 54 55.0 -3.5**
UZH *eSS* **SS 14 59 26.0 +1.4**
UZH MLR MLR
comp=N,830nm,18.5s
UZH MLR MLR
comp=E,2μm,18.5s
UZH MLR MLR
comp=Z,840nm,18.5s
VRI Vrincioaia 76.24 320 P **P 14 44 51.9 +1.9**
VRI Vrincioaia 76.24 320 *i*⇓*iP* **P 14 44 50.9 +0.9**
S18A Hurst Farm, Bl 76.25 52 ⇑P P 14 44 50.6 +0.1
baz=76,SNR=27
K25A Mack Ranch, Ha 76.27 45 ⇓P P 14 44 50.4 0.0
baz=76
PLOR Plostina 76.29 320 P **P 14 44 50.6 +0.3**
PLOR Plostina 76.29 320 *i*⇑*iP* **P 14 44 50.8 +0.5**
N23A Red Feather La 76.36 47 ⇓P P 14 44 51.8 +0.7
baz=76,SNR=15
BNN Bunyan 76.37 310 *eP* **P 14 44 49.9 -1.1**
GLA Glamis 76.37 58 ⇑P P 14 44 52.3 +1.2
baz=76,SNR=6.9
Q20A Ridgley Place, 76.37 50 ⇓P P 14 44 51.2 +0.1
baz=76,SNR=14
BMR Baia Mare 76.41 323 ⇑P P 14 44 52.5 +1.6
BMR Baia Mare 76.41 323 *i*⇑*iP* **P 14 44 52.5 +1.6**
P21A Newcastle 76.47 49 ⇑P P 14 44 52.3 +0.6
baz=76,SNR=19
NIE Niedzica 76.47 326 *eP* **P 14 44 52.0 +0.7**
NIE Niedzica 76.47 326 *eP* **P 14 44 52.0 +0.7**
TRPA Tarpa 76.49 324 *i*⇓*iP* **P 14 44 52.3 +1.0**
O22A Kremmling 76.53 48 ⇑P P 14 44 52.5 +0.3
baz=76,SNR=16
M24A Cheyenne 76.57 46 ⇓P P 14 44 53.1 +0.9
baz=76,SNR=14
K26A Motz Farm, Whi 76.57 44 ⇓P P 14 44 51.7 -0.4
baz=76,SNR=5.6
EFOR EFORIE 76.60 318 *i*⇑*iP* **P 14 44 53.1 +1.1**
RUE Ruedersdorf 76.61 331 *eP* **P 14 44 51.5 -0.4**
comp=Z,44nm,1.0s
RUE *epP* **pP 14 45 01.8 +0.1**
BSEG Bad Segeberg 76.61 334 *eP* **P 14 44 52.1 +0.2**
comp=Z,105nm,0.9s
KMRS Kahramanmaras 76.67 309 *eP* **P 14 44 53.1 +0.4**
GAZ Gaziantep 76.72 308 *eP* **P 14 44 52.6 -0.4**
PV01 Paradox Valley 76.78 50 *eP* **P 14 44 54.0 +0.5**
comp=Z,1μm,0.9s
DOPR Dopca 76.80 321 *i*⇓*iP* **P 14 44 54.2 +1.0**

P22A Eagle 76.80 48 ⇑P P 14 44 54.3 +0.7
baz=77,SNR=18
RAC Raciborz 76.83 327 *eP* **P 14 44 54.1 +0.9**
RAC *e* 14 45 04.2
O23A Lake Granby, G 76.84 47 ⇓P P 14 44 54.9 +1.0
baz=77,SNR=34
R20A Redvale 76.85 50 ⇓P P 14 44 54.4 +0.5
baz=77,SNR=13
Q21A Lamborn Mesa, 76.87 49 ⇑P P 14 44 54.6 +0.7
baz=77
ISR Istrita 76.88 320 ⇓P P 14 44 55.0 +1.3
ISR Istrita 76.88 320 *i*⇓*iP* **P 14 44 55.0 +1.3**
WUAZ Wupatki 76.88 54 *eP* **P 14 44 55.2 +1.2**
comp=Z,54nm,1.0s
WUAZ LR LR
comp=Z,500nm,19.0s
WUAZ Wupatki 76.88 54 ⇓P P 14 44 55.1 +1.1
baz=77,SNR=30
MLR Muntele Rosu 76.89 320 *i*⇑*iP* **P 14 44 54.2 +0.4**
Y14A Wickenburg 76.93 56 ⇑P P 14 44 55.5 +1.3
baz=77,SNR=8.0
KSP Ksiaz 76.98 329 *eP* **P 14 44 54.4 +0.3**
KSP *ePcP* **pP 14 45 04.1 +0.2**
KSP LMZ LR 15 21 43.5
comp=Z,2μm,22.0s
KSP Ksiaz 76.98 329 *eP* **P 14 44 54.0 -0.1**
KSP *e**PP **pP 14 45 04.2 +0.3**
KSP *e* 14 47 44.4
KSP *eS* **S 14 54 43.3 +3.3**
KSP MLR MLR
comp=Z,4μm,22.0s
KSP Ksiaz 76.98 329 *eP* **P 14 44 54.3 +0.3**
KSP *ePcP* **pP 14 45 04.0 +0.2**
KSP LMZ LR 15 21 43.5
N24A Carr 76.98 46 ⇑P P 14 44 55.1 +0.6
baz=77
BR131 Keskin Array S 77.02 312 *eP* **P 14 44 54.9 +0.2**
comp=Z,17nm,0.8s
BR131 *epP* **PcP 14 45 05.1 -0.5**
BR131 *es*P **sP 14 45 08.4 +0.3**
BRTR Keskin Array B 77.02 312 P **P 14 44 54.9 +0.2**
comp=Z,16nm,0.8s,baz=69,slow=3.7,SNR=64
BRTR *pP* **pP 14 45 04.7 +0.2**
comp=Z,19nm,0.8s,baz=100,slow=3.2,SNR=15
BRTR PP **PP 14 47 47.6 0.0**
comp=Z,7.9nm,0.9s,baz=69,slow=6.1,SNR=5.8
BRTR LR LR 15 25 56.3
comp=Z,699nm,18.5s,baz=204,slow=41
BRTR Keskin Array B 77.02 312 P **P 14 44 54.9 +0.2**
BRTR *pP* **pP 14 45 04.7 +0.2**
BRTR PP **PP 14 47 47.6 0.0**
OKC Ostrava-Krasne 77.04 327 *i*⇑*iP* **P 14 44 54.9 +0.5**
OKC MLR MLR
comp=Z,1μm,15.7s
OKC Ostrava-Krasne 77.04 327 *i*⇑*iP* **P 14 44 54.9 +0.5**
OKC AMS AMS 15 28 10.0
comp=Z,1μm,15.7s
S20A Disappointment 77.10 51 ⇑P P 14 44 55.9 +0.5
baz=77,SNR=17
R21A Cimarron 77.20 50 ⇓P P 14 44 56.7 +0.8
baz=77,SNR=13
Q22A Crested Butte, 77.22 49 ⇓P P 14 44 56.7 +0.7
baz=77,SNR=16
ISCO Idaho Springs 77.30 48 PFAKE 14 45 10.0 +13
ISCO LR LR
comp=Z,995nm,19.0s
ISCO Idaho Springs 77.30 48 ⇓P P 14 44 57.2 +0.7
baz=77,SNR=20
MORC Moravsky Berou 77.33 328 P **P 14 44 56.7 +0.6**
MORC Moravsky Berou 77.33 328 *i*⇓*iP* **P 14 44 56.6 +0.5**
Z14A Wintersburg 77.35 57 ⇑P P 14 44 57.9 +1.4
baz=77
UPC Upice 77.35 329 *i*⇑*iP* **P 14 44 56.7 +0.5**
UPC *e* 14 45 06.5
UPC Upice 77.35 329 *i*⇑*iP* **P 14 44 56.7 +0.5**
UPC *epP* **PcP 14 45 06.5 -0.2**
VOIR 77.36 321 P **P 14 44 57.0 +0.7**
VOIR 77.36 321 *i*⇑*iP* **P 14 44 57.1 +0.7**
DPC Dobruska-Polom 77.36 329 *i*⇑*iP* **P 14 44 57.1 +0.8**
DPC *e* 14 45 06.9
DPC MLR MLR
comp=Z,2μm,16.5s
DPC Dobruska-Polom 77.36 329 *i*⇑*iP* **P 14 44 57.1 +0.8**
DPC *epP* **PcP 14 45 06.9 +0.2**
DPC AMS AMS 15 22 50.0
comp=Z,2μm,16.5s
O24A Longmont 77.37 47 ⇓P P 14 44 57.6 +1.0
baz=77,SNR=5.1
MME1 Meikle Cairn 77.37 342 *eP* **P 14 44 55.6 -0.6**
MME1 Meikle Cairn 77.37 342 P **P 14 44 55.6 -0.6**
KRLC Kraliky 77.40 328 *i*⇑*eP* **P 14 44 57.1 +0.6**
DRGR 77.42 323 P **P 14 44 57.1 +0.3**
DRGR 77.42 323 *i*⇑*iP* **P 14 44 57.0 +0.3**
MVCO Mesa Verde 77.45 51 PFAKE 14 45 10.0 +13
MVCO LR LR
comp=Z,354nm,20.0s
MVCO Mesa Verde 77.45 51 ⇓P P 14 44 57.7 +0.5
baz=77,SNR=9.2
M26A McRoberts Ranc 77.47 45 ⇓P P 14 44 57.1 -0.1
baz=77
P23A Jefferson 77.47 48 ⇓P P 14 44 58.7 +1.2
baz=77,SNR=10
S21A Coal Bank Pass 77.55 50 ⇓P P 14 44 58.9 +1.0
baz=77,SNR=36
MDO Dochfour 77.57 343 *eP* **P 14 44 56.9 -0.4**
MDO Dochfour 77.57 343 P **P 14 44 56.9 -0.4**
X16A Lo Mia Camp, P 77.58 55 ⇓P P 14 44 59.2 +1.3
baz=77,SNR=25
ARR Arges 77.60 321 *i*⇓*iP* **P 14 44 58.9 +1.1**
U19A Dine' College, 77.66 52 ⇑P P 14 44 59.2 +0.8
baz=77,SNR=9.6
KAC Achnashellach 77.72 343 *eP* **P 14 44 57.9 -0.2**
KAC Achnashellach 77.72 343 P **P 14 44 57.9 -0.2**
R22A Saguache, Gunn 77.75 49 ⇑P P 14 45 00.2 +1.1
baz=78,SNR=8.4
PSZ Piszkesteto 77.80 325 P **P 14 44 59.4 +0.6**
PSZ Piszkesteto 77.80 325 PFAKE 14 45 10.0 +11
PSZ LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 77.80 325 *i*⇑*iP* **P 14 44 59.4 +0.6**
VYHS Vyhne 77.80 326 *eP* **P 14 44 59.4 +0.6**
VYHS pmax pmax
comp=Z,94nm,2.3s
VYHS Vyhne 77.80 326 *eP* **P 14 44 59.4 +0.6**
VYHS *epP* **PcP 14 45 09.2 +0.5**
VYHS *ePP* **PP 14 47 53.8 0.0**
CLL Collm 77.84 331 *i*⇑*iP* **P 14 44 58.6 -0.3**
CLL *i* 14 45 08.3
CLL *eS* **S 14 54 53.0 +3.7**
CLL pmax pmax
comp=Z,71nm,0.8s
CLL MLR MLR
comp=Z,3μm,20.6s
CLL Collm 77.84 331 *eP* **P 14 44 58.4 -0.5**
comp=Z,71nm,0.8s
CLL Collm 77.84 331 *i*⇑*iP* **P 14 44 58.6 -0.3**
comp=Z,71nm,0.8s
CLL *e* 14 45 03.0
CLL *i* (PcP) **pP 14 45 08.3 -0.4**
comp=Z,76nm,1.0s
CLL *es*P **sP 14 45 14.0 +1.7**
CLL *e* 14 47 37.0
CLL *ePP* **PP 14 47 55.0 +1.0**
CLL *eS* **S 14 54 53.0 +3.7**
CLL *ePS* **PnS 14 55 33.0 +1.3**
CLL *e* 15 00 54.0
CLL *e* 15 04 18.0
CLL Lm MLR 15 22 00.0
comp=Z,3μm,20.6s
BRG Berggiesshubel 77.85 330 *i* P **P 14 44 58.9 0.0**
comp=Z,34nm,1.1s
BRG *i* PCP **pP 14 45 08.6 -0.2**
comp=Z,27nm,1.1s
BRG *ePP* **PP 14 47 53.5 -0.6**
comp=Z,22nm,1.4s
BRG
comp=N,2μm,17.9s
BRG
comp=E,1μm,15.8s
BRG
comp=Z,2μm,18.2s
BRG Berggiesshubel 77.85 330 *i* P **P 14 44 58.9 0.0**
BRG *i* 14 45 08.6
BRG *e* 14 47 53.5
BRG pmax pmax
comp=Z,34nm,1.1s
BRG pmax pmax
comp=Z,22nm,1.4s
BRG MLR MLR
comp=N,2μm,17.9s
BRG MLR MLR
comp=E,1μm,15.8s
BRG MLR MLR
comp=Z,2μm,18.2s
BRG Berggiesshubel 77.85 330 *eP* **P 14 44 58.8 -0.1**
comp=Z,34nm,1.1s
PRD Provadia 77.85 318 *eP* **P 14 44 59.3 +0.2**
N26A Koester Ranch, 77.88 46 ⇑P P 14 44 59.9 +0.5
baz=78,SNR=11
NRDL Niedersach Rie 77.88 333 *eP* **P 14 44 58.8 -0.2**
P24A Kohler Place, 77.89 47 ⇑P P 14 45 00.7 +1.0
baz=78,SNR=6.5
PVCC Panska Ves 77.89 330 *i*⇑*iP* **P 14 44 59.9 +0.7**
PVCC *e* 14 45 09.4
PVCC MLR MLR
comp=Z,2μm,21.1s
PVCC Panska Ves 77.89 330 *i*⇑*iP* **P 14 44 59.9 +0.7**
PVCC *epP* **pP 14 45 09.4 +0.4**
PVCC AMS AMS 15 22 00.0
comp=Z,2μm,21.1s
O25A Wiggins 77.90 47 ⇓P P 14 45 00.1 +0.5
baz=78
KPL Plockton 77.94 344 *i*⇑*eP* **P 14 44 58.8 -0.4**
KPL AMB AMB 14 45 00.7
comp=Z,109nm,2.2s
KPL Plockton 77.94 344 P **P 14 44 58.8 -0.4**
KPL AMB AMB 14 45 00.7
comp=Z,109nm,2.2s
LOT Lotru 77.95 321 *i*⇓*iP* **P 14 45 00.3 +0.5**
KSB Sheil Bridge 78.01 343 *i*⇑*eP* **P 14 44 59.7 0.0**
KSB Sheil Bridge 78.01 343 P **P 14 44 59.7 0.0**
S22A 4UR Ranch, Cre 78.04 50 ⇑P P 14 45 01.8 +1.1
baz=78,SNR=13
VRAC Vranov 78.08 328 *i*⇑*iP* **P 14 45 01.0 +0.7**
Q24A Divide 78.14 48 ⇓P P 14 45 01.6 +0.4
baz=78,SNR=10
RBK Rabkut 78.19 283 P **P 14 45 01.0 -0.4**
SNR=9.2
RBK P **P 14 45 01.2 -0.2**
SNR=11
EYMN Ely 78.20 34 PFAKE 14 45 10.0 +9.1
EYMN LR LR
comp=Z,683nm,20.0s
NWAO Narrogin (SRO) 78.24 203 P **P 14 45 01.6 +0.5**
comp=Z,31nm,1.0s,baz=24,slow=6.2,SNR=7.7
O26A Horse Wrangler 78.24 46 ⇑P P 14 45 01.5 0.0
baz=78,SNR=8.8
N27A Anderson Farm, 78.26 45 ⇓P P 14 45 01.7 +0.2
baz=78,SNR=15
P25A Willow Gulch B 78.30 47 ⇑P P 14 45 02.4 +0.5
baz=78,SNR=21
R23A Moffat 78.30 49 ⇓P P 14 45 03.0 +0.9
baz=78,SNR=19
CLZ Clausthal 78.33 333 *eP* **P 14 45 01.8 +0.2**
comp=Z,76nm,0.9s
PRU Pruhonice 78.33 329 *i*⇑*iP* **P 14 45 02.3 +0.7**
PRU *e* 14 45 11.9
PRU *eS* **S 14 54 54.5 -0.2**
PRU MLR MLR
comp=Z,2μm,18.1s
PRU Pruhonice 78.33 329 *i*⇑*iP* **P 14 45 02.3 +0.7**
PRU *epP* **pP 14 45 11.9 +0.4**
PRU *eS* **S 14 54 54.5 -0.2**
PRU AMS AMS 15 23 00.0
comp=Z,2μm,18.1s
X18A Snowflake 78.41 54 ⇑P P 14 45 03.5 +0.9
baz=78,SNR=10
OGNE Ogallala 78.42 45 *eP* **P 14 45 01.4 -1.1**
comp=Z,62nm,0.8s
OGNE LR LR
comp=Z,648nm,20.0s
OGNE Ogallala 78.42 45 ⇓P P 14 45 02.6 +0.1
baz=78,SNR=7.1
V20A Brimhall 78.43 52 ⇑P P 14 45 03.1 +0.4
baz=78,SNR=8.2
U21A Nageezi 78.47 51 ⇑P P 14 45 03.8 +0.8
baz=78,SNR=6.1
T22A Edith 78.51 50 ⇑P P 14 45 03.9 +0.8
baz=78,SNR=6.7
TREC Trest 78.53 328 *eP* **P 14 45 03.3 +0.5**
TREC *e* 14 45 13.1
TREC MLR MLR
comp=Z,2μm,18.7s
TREC Trest 78.53 328 *i*⇑*eP* **P 14 45 03.3 +0.5**
TREC *epP* **pP 14 45 13.1 +0.5**
TREC AMS AMS 15 23 00.0
comp=Z,2μm,18.7s
SZH Strazhica 78.53 319 *eP* **P 14 45 02.6 -0.3**
S23A Nye Farm, Mont 78.54 49 ⇑P P 14 45 04.5 +1.2
baz=78
Q25A Bedland, Calha 78.67 48 ⇑P P 14 45 04.2 +0.2
baz=78,SNR=14
R24A Sanders Place, 78.68 48 ⇑P P 14 45 04.6 +0.5
baz=78,SNR=11
P26A Davis Ranch, A 78.71 47 ⇑P P 14 45 04.1 0.0
baz=78,SNR=14
EAB Aberfoyle 78.71 342 *i*⇑*eP* **P 14 45 03.6 0.0**
EAB Aberfoyle 78.71 342 P **P 14 45 03.6 0.0**
O27A Beecher Island 78.73 46 ⇑P P 14 45 03.9 -0.3
baz=78
TANN Tannenbergstha 78.77 331 *eP* **P 14 45 04.0 -0.1**
JMB Yambol 78.80 318 P **P 14 45 05.3 +1.0**
BZS Buzias 78.81 323 P **P 14 45 04.4 0.0**
BZS Buzias 78.81 323 *i*⇓*iP* **P 14 45 04.3 -0.1**
IBBN Ibbenburen 78.81 334 *eP* **P 14 45 04.0 -0.2**
W20A Ramah 78.87 53 ⇑P P 14 45 05.6 +0.4
baz=79,SNR=8.0
MOX Moxa 78.89 331 *eP* **P 14 45 04.6 -0.1**
comp=Z,32nm,0.9s
MOX *epP* **pP 14 45 14.2 -0.3**
MOX *eL* L 15 23 01.7
comp=Z,2μm,20.1s
NKC Novy Kostel 78.92 331 *eP* **P 14 45 04.8 -0.1**
NKC MLR MLR
comp=Z,2μm,20.8s
NKC Novy Kostel 78.92 331 *i*⇑*eP* **P 14 45 04.8 -0.1**
NKC AMS AMS 15 22 50.0
comp=Z,2μm,20.8s
ABTO Aybut 78.95 283 P **P 14 45 05.0 -0.6**
SNR=15
ABTO P **P 14 45 05.6 0.0**
SNR=14
U22A Llaves 78.97 51 ⇓P P 14 45 06.6 +0.9
baz=79
T23A Casias Ranch, 78.99 50 ⇓P P 14 45 06.9 +1.0
baz=79
S24A Houchin Ranch, 79.03 49 ⇓P P 14 45 06.8 +0.7
baz=79,SNR=6.7
Q26A Hugo 79.07 47 ⇓P P 14 45 06.2 +0.1
baz=79,SNR=18
PGBU Glenifferbraes 79.09 342 *i*⇑*eP* **P 14 45 05.5 -0.2**
PGBU AMB AMB 14 45 07.3
comp=Z,144nm,2.7s
PGBU Glenifferbraes 79.09 342 P **P 14 45 05.5 -0.2**
PGBU AMB AMB 14 45 07.3
comp=Z,144nm,2.7s
ECSD EROS Data Cent 79.11 40 PFAKE 14 45 20.0 +14
ECSD LR LR
comp=Z,995nm,20.0s
P27A Ficken Ranch, 79.13 46 ⇑P P 14 45 05.9 -0.4
baz=79
R25A Fountain Ranch 79.20 48 ⇑P P 14 45 06.7 -0.1
baz=79,SNR=6.7
ESK Eskdalemuir 79.25 341 PFAKE 14 45 20.0 +13
ESK LR LR
comp=Z,948nm,20.0s
V22A San Miguel Ran 79.27 51 ⇑P P 14 45 08.1 +0.8
baz=79,SNR=9.6
X20A Quemado 79.27 53 ⇓P P 14 45 08.5 +1.1
baz=79,SNR=12
UBBA Unterbreizbach 79.31 332 *eP* **P 14 45 07.1 +0.2**
ECK Cauldkaine Hil 79.35 341 *i*⇑*eP* **P 14 45 07.0 -0.1**
ECK Cauldkaine Hil 79.35 341 P **P 14 45 07.0 -0.1**
U23A El Rito 79.39 50 ⇑P P 14 45 09.0 +1.0
baz=79,SNR=20
ROTZ Rotzenmuhle 79.39 330 *eP* **P 14 45 07.9 +0.4**
KHC Kasperske Hory 79.40 329 *i*⇑*iP* **P 14 45 08.0 +0.4**
KHC *e* 14 45 17.8
KHC MLR MLR
comp=Z,2μm,18.1s
KHC Kasperske Hory 79.40 329 *i*⇑*iP* **P 14 45 08.0 +0.4**

KHC epP pP 14 45 17.8 +0.4
KHC AMS AMS 15 23 00.0
comp=Z,2µm,18.1s
TUC Tucson 79.40 56 PFAKE 14 45 20.0 +12
TUC LR LR
comp=Z,486nm,21.0s
WTSB Winterswijk 79.42 335 *i* P P 14 45 07.3 -0.2
comp=Z,55nm,0.8s
WTSB epP pP 14 45 17.0 -0.4
S25A Robets Cordova 79.46 49 ⇑P P 14 45 08.1 -0.1
baz=79,SNR=9.3
CONA Conrad Observa 79.47 327⇑ *i*P P 14 45 08.9 +0.8
comp=Z,27nm,0.9s,SNR=13
KSCO Kaye Shedlock' 79.49 47 ⇑P P 14 45 08.4 0.0
baz=79
T24A Torres, Weston 79.52 49 ⇓P P 14 45 09.6 +0.8
baz=79,SNR=8.3
MPEP Malo Peshtene 79.53 320 P P 14 45 08.6 +0.2
R26A Arlington 79.55 48 ⇑P P 14 45 08.8 +0.1
baz=79,SNR=31
GEC2 GERESS Array S 79.58 329 *e*P P 14 45 08.5 -0.2
comp=Z,22nm,0.9s
GERES GERESS Array B 79.58 329 P P 14 45 08.7 +0.1
comp=Z,11nm,0.8s,baz=33,slow=5.1,SNR=63
GERES pP pP 14 45 18.5 0.0
comp=Z,9.7nm,0.9s,baz=28,slow=6.0,SNR=10.0
GERES LR LR 15 24 10.6
comp=Z,2µm,18.8s,baz=24,slow=38
GERES GERESS Array B 79.58 329 P P 14 45 08.7 +0.1
GERES pP pP 14 45 18.5 0.0
DIM Dimitrovgrad 79.63 318 *e*P P 14 45 09.9 +1.0
WET Wettzell 79.65 330 *e*P P 14 45 09.3 +0.4
comp=Z,50nm,1.0s
PKSM Moragy 79.67 325 ⇓P P 14 45 09.1 +0.1
PKSM Moragy 79.67 325⇓ *i*P P 14 45 09.1 +0.1
BUG Bochum--Univer 79.71 334 *e*P P 14 45 08.8 -0.3
X21A Alamocita Cree 79.77 53 ⇓P P 14 45 11.4 +1.3
baz=80,SNR=12
Y20A Horse Springs, 79.78 54 ⇑P P 14 45 11.5 +1.3
baz=80,SNR=15
V23A Ortiz Mt. (NFS 79.81 51 ⇑P P 14 45 11.7 +1.5
baz=80
GRF Grafenberg Arr 79.82 331 *e*P P 14 45 10.1 +0.3
comp=Z,92nm,0.9s
GRF *e*pP pP 14 45 19.9 +0.3
GRF *e*L L 15 23 40.1
comp=Z,2µm,20.1s
GRFO Grafenberg 79.82 331 *e*P P 14 45 10.5 +0.7
GRFO pmax pmax
comp=Z,71nm,0.9s
GRFO Grafenberg 79.82 331 *e*P P 14 45 10.5 +0.7
comp=Z,71nm,0.9s
T25A Trinidad 79.84 49 ⇑P P 14 45 10.9 +0.5
baz=80,SNR=17
KESW Keswick, Cumbr 79.89 341⇑ *e*P P 14 45 08.9 -1.1
KESW AMB AMB 14 45 13.7
comp=Z,115nm,2.4s
KESW Keswick, Cumbr 79.89 341 P P 14 45 08.9 -1.1
KESW AMB AMB 14 45 13.7
comp=Z,115nm,2.4s
R27A Eads 79.92 47 ⇑P P 14 45 10.4 -0.3
baz=80,SNR=12
PGB Panagyurishte 79.93 319 P P 14 45 11.0 +0.4
PLD Plovdiv 80.00 319 P P 14 45 11.3 +0.4
GAL1 Galloway 80.01 342 AMB AMB 14 45 07.4
comp=Z,102nm,1.1s
S26A Kim 80.02 48 ⇓P P 14 45 10.8 -0.5
baz=80,SNR=10
ISP Isparta 80.08 312 PFAKE 14 45 20.0 +8.4
ISP LR LR
comp=Z,1µm,21.0s
BGNE Belgrade 80.09 42 ⇑P P 14 45 10.9 -0.6
baz=80,SNR=11
Y21A Point of Rocks 80.14 53 ⇓P P 14 45 13.5 +1.4
baz=80
ARSA Arzberg 80.15 327 *i* P P 14 45 12.2 +0.5
comp=Z,17nm,0.9s,SNR=9.5
MOA Molln 80.17 328⇑ *i*P P 14 45 12.2 +0.4
comp=Z,13nm,0.8s,SNR=8.9
LAZ Ladron 80.18 52 *e*P P 14 45 12.3 0.0
comp=Z,17nm,1.2s
X22A Bernardo 80.19 52 ⇑P P 14 45 13.5 +1.2
baz=80
Z20A Nine Sixteen R 80.20 54 ⇑P P 14 45 13.5 +1.1
baz=80,SNR=21
ANMO Albuquerque 80.20 52 PFAKE 14 45 20.0 +7.6
ANMO LR LR
comp=Z,436nm,20.0s
ALN Alexandroupoli 80.23 317 P P 14 45 12.0 -0.1
W23A Werner Place, 80.23 51 ⇑P P 14 45 13.4 +0.8
baz=80,SNR=8.6
T26A Comanche Natio 80.27 48 ⇑P P 14 45 12.6 -0.1
baz=80,SNR=20
SCHQ Schefferville 80.28 17 P P 14 45 12.0 -0.2
comp=Z,30nm,0.8s,baz=356,slow=5.9,SNR=50
SCHQ LR LR 15 26 19.4
comp=Z,527nm,19.9s,baz=191,slow=40
TNS Taunus Mts 80.35 333 *e*P P 14 45 12.6 -0.1
comp=Z,38nm,1.0s
U25A Circle Dot Ran 80.36 49 ⇓P P 14 45 13.7 +0.5
baz=80,SNR=8.9
VTS Vitosha 80.37 320 ⇑P P 14 45 13.6 +0.5
VTS Vitosha 80.37 320⇑ *i*P P 14 45 13.6 +0.5
VTS Vitosha 80.37 320 P P 14 45 13.5 +0.5
CSS Prodhromos 80.51 309 P P 14 45 13.6 -0.2
CSS Prodhromos 80.51 309 PFAKE 14 45 30.0 +16
CSS LR LR
comp=Z,1µm,21.0s
120A U Bar Ranch, L 80.57 55 ⇓P P 14 45 15.4 +1.1
baz=80,SNR=7.8
Y22A Socorro 80.61 53 ⇑P P 14 45 15.6 +1.1
baz=80,SNR=7.3
Z21A St. Cloud Mine 80.62 54 ⇑P P 14 45 15.8 +1.1
baz=80,SNR=5.4
W24A Lazy 6 Ranch, 80.63 51 ⇑P P 14 45 16.0 +1.3
baz=80,SNR=19
MMAI Mount Meron Ar 80.64 306 LR LR 15 24 47.2
comp=Z,802nm,21.7s,baz=35,slow=38
V25A Rancho No Teng 80.64 50 ⇓P P 14 45 15.3 +0.6
baz=80
COWI Conover 80.64 34 *e*P P 14 45 13.3 -1.1
comp=Z,38nm,1.4s
COWI LR LR
comp=Z,992nm,20.0s
BNM Barren Site 80.66 52 *e*P P 14 45 15.7 +0.8
comp=Z,20nm,1.0s
KBI1 Birley Grange 80.70 340 *e*P P 14 45 14.4 0.0
KBI1 Birley Grange 80.70 340 P P 14 45 14.4 0.0
HGN Heimansgroeve 80.73 334 *i* P P 14 45 14.4 -0.2
comp=Z,51nm,0.9s
HGN *e*pP pP 14 45 23.9 -0.5
HGN Heimansgroeve 80.73 334 *e*S SKSac 14 55 41.2 +11
HGN *e*SS SS 15 01 46.6 +75
U26A Atchley Ranch, 80.74 49 ⇑P P 14 45 15.7 +0.4
baz=80,SNR=9.8
TOD Tromm 80.75 332 *e*P P 14 45 14.8 0.0
TOD Tromm 80.75 332 *e*P P 14 45 14.8 0.0
BEBN Eben Emael 80.78 335 P P 14 45 14.7 -0.2
comp=Z,21nm,1.0s
PERS Pernice 80.81 327 *i* P P 14 45 15.5 +0.2
PERS *e* 14 45 25.7
SOKA Soboth 80.81 327⇑ *i*P P 14 45 15.5 +0.2
comp=Z,51nm,0.8s
MEM Membach 80.84 334 P P 14 45 15.2 -0.1
MEM AP pP 14 45 23.8 -1.3
comp=Z,29nm,1.1s
T27A Campo 80.84 48 ⇓P P 14 45 16.0 +0.3
baz=81
MMB Musomiste 80.87 319 P P 14 45 16.4 +0.8
KAVA Kavala 80.92 318 P P 14 45 16.0 +0.1
ABH Alteburg 80.95 333 *e*P P 14 45 15.9 0.0
319A Douglas 80.97 56 ⇑P P 14 45 17.2 +0.7
baz=81,SNR=8.9
KKB Krupnik 80.97 319 *e*P P 14 45 16.9 +0.7
NVR Nevrokopi 80.98 319 P P 14 45 16.3 +0.1
FUR Furstenfeldbru 81.06 330 *e*P P 14 45 16.7 +0.2
comp=Z,78nm,0.8s
X24A Lazy VL Ranch, 81.07 51 ⇓P P 14 45 18.1 +1.1
baz=81,SNR=5.5
220A Playas Peak, P 81.08 55 ⇓P P 14 45 17.9 +0.8
baz=81,SNR=10
Z22A Elephant Butte 81.08 53 ⇓P P 14 45 17.9 +0.8
baz=81,SNR=5.6
121A Cookes Peak, D 81.09 54 ⇓P P 14 45 18.3 +1.1
baz=81,SNR=14
T28A Walsh 81.13 48 ⇓P P 14 45 16.9 -0.3
baz=81
OBKA Obir 81.14 327 *i* P P 14 45 17.1 0.0
comp=Z,25nm,0.8s,SNR=21
V26A Tequesquite Ra 81.15 49 ⇑P P 14 45 17.6 +0.3
baz=81,SNR=6.9
Y23A Lovelace Mesa, 81.15 52 ⇓P P 14 45 18.4 +0.9
baz=81,SNR=13
KBA Koelnbreinsper 81.16 328⇑ *i*P P 14 45 17.4 +0.1
comp=Z,28nm,0.8s,SNR=31
W25A X Bar L Ranch, 81.17 50 ⇓P P 14 45 18.3 +0.7
baz=81,SNR=15
BCLA Clavier 81.23 335 P P 14 45 16.9 -0.4
comp=Z,22nm,1.3s
BCLA AP pP 14 45 26.6 -0.5
RUP Ruppelstein 81.27 333 *e*P P 14 45 17.4 -0.2
RUP Ruppelstein 81.27 333 *e*P P 14 45 17.4 -0.2
SRS Serrai 81.29 319 P P 14 45 18.2 +0.3
WPM1 Penmaenmawr 81.30 341 *e*P P 14 45 17.2 -0.4
WPM1 Penmaenmawr 81.30 341 P P 14 45 17.2 -0.4
STU Stuttgart 81.32 331 *e*P P 14 45 18.0 +0.2
STU pmax pmax
comp=Z,53nm,0.8s
STU Stuttgart 81.32 331 *e*P P 14 45 17.7 -0.1
comp=Z,62nm,0.9s
STU Stuttgart 81.32 331 *e*P P 14 45 18.0 +0.2
comp=Z,53nm,0.8s
MYKA Terra Mystica 81.41 328⇑ *i*P P 14 45 18.2 -0.3
comp=Z,18nm,0.8s
FOEL Foel Wylfa 81.46 340⇑ *e*P P 14 45 18.2 -0.3
FOEL AMB AMB 14 45 19.5
comp=Z,108nm,1.0s
FOEL Foel Wylfa 81.46 340 P P 14 45 18.2 -0.3
FOEL AMB AMB 14 45 19.5
comp=Z,108nm,1.0s
320A Kipp Ranch, An 81.47 55 ⇑P P 14 45 19.2 +0.1
baz=81,SNR=5.6
SNF Seneffe 81.47 335 P P 14 45 18.4 -0.2
SNF AP pP 14 45 28.3 -0.2
comp=Z,27nm,1.4s
Y24A Capitan 81.52 52 ⇓P P 14 45 19.9 +0.5
baz=81
LJU Ljubljana 81.53 327 *i* P P 14 45 18.3 -0.8
SIGR SIGRI 81.57 316 P P 14 45 29.4 +10
PLE Pljevlja 81.59 322⇑ *i*P P 14 45 20.1 +0.6
KNT Kendrikon 81.60 319 P P 14 45 19.6 +0.1
WLF Walferdange 81.60 334 P P 14 45 19.6 +0.3
WLF XP sP 14 45 29.5 -3.3
comp=Z,34nm,1.9s
WLF Walferdange 81.60 334 *e*P P 14 45 18.9 -0.4
WLF pmax pmax
comp=Z,44nm,1.3s
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 81.60 334 *e*P P 14 45 20.7 +1.4
WLF Walferdange 81.60 334 *e*P P 14 45 18.9 -0.4
comp=Z,44nm,1.3s
WLF LR LR
comp=Z,2µm,20.0s
LANF Langenberg 81.63 332 *e*P P 14 45 19.5 0.0
LANF Langenberg 81.63 332 *e*P P 14 45 19.5 0.0
LANF Langenberg 81.63 332 *e*P P 14 45 19.5 0.0
SOH Sokhos 81.63 319 P P 14 45 19.6 -0.1
WATA Walderalm 81.64 329⇑ *i*P P 14 45 19.8 0.0
comp=Z,40nm,1.0s,SNR=15
VAY Valandovo 81.64 319 P P 14 45 19.4 -0.3
VAY Valandovo 81.64 319 *e*P P 14 45 19.6 0.0
GIVF Givet 81.66 335⇑ *i*P P 14 45 19.2 -0.4
comp=Z,70nm,1.1s
GIVF Givet 81.66 335⇑ *i*P P 14 45 19.2 -0.4
GIVF pmax pmax
comp=Z,70nm,1.1s
GIVF Givet 81.66 335⇑ *i*P P 14 45 19.2 -0.4
comp=Z,70nm,1.1s
BOJS Bojanci 81.67 326 *i* P P 14 45 19.5 -0.2
WTTA Wattenberg 81.67 329⇓ *i*P P 14 45 20.2 +0.2
comp=Z,45nm,0.8s,SNR=14
SKO Skopje 81.69 320 P P 14 45 21.3 +1.4
SKO Skopje 81.69 320 *e*P P 14 45 21.3 +1.4
OUR Ouranopolis 81.69 318 P P 14 45 19.7 -0.2
CADS Cadrg 81.70 327 *i* P P 14 45 18.7 -1.2
IVA Berane 81.71 322 *e*P P 14 45 20.3 +0.2
DOU Dourbes 81.73 335 P P 14 45 19.6 -0.4
comp=Z,15nm,1.5s
DOU AP pP 14 45 28.5 -1.4
ABTA Abfaltersbach 81.76 328⇑ *i*P P 14 45 19.7 -0.7
comp=Z,18nm,1.1s
VOY Vojsko 81.80 327 *e*P P 14 45 19.2 -1.4
VOY *e* 14 45 26.7
VOY *e* 14 45 46.7
MOTA Moosalm 81.81 330⇑ *i*P P 14 45 20.7 0.0
comp=Z,81nm,0.9s,SNR=48
RETA Reutte 81.82 330⇓ *i*P P 14 45 20.9 +0.3
comp=Z,51nm,0.9s,SNR=13
BAIF Baives 81.89 335⇑ *i*P P 14 45 20.5 -0.3
comp=Z,55nm,1.1s
BAIF Baives 81.89 335⇑ *i*P P 14 45 20.5 -0.3
BAIF pmax pmax
comp=Z,55nm,1.1s
BAIF Baives 81.89 335⇑ *i*P P 14 45 20.5 -0.3
comp=Z,55nm,1.1s
PVY Plav 81.90 322⇑ *i*P P 14 45 21.3 +0.1
UPM Unac-Piva 81.91 323⇑ *i*P P 14 45 20.9 -0.4
PLG Polygyros 81.93 318 P P 14 45 21.2 -0.1
HORT Hortiatis 81.93 319 P P 14 45 21.0 -0.3
Y25A Mesa, Roswell 81.96 51 ⇑P P 14 45 22.1 +0.4
baz=82,SNR=6.6
BFO Black Forest 82.00 332 *e*P P 14 45 21.3 -0.2
BFO pmax pmax
comp=Z,60nm,1.3s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 82.00 332 *e*P P 14 45 21.2 -0.2
comp=Z,139nm,1.9s
BFO Black Forest 82.00 332 *e*P P 14 45 21.3 -0.2
comp=Z,60nm,1.3s
BFO LR LR
comp=Z,1µm,19.0s
BFO Black Forest 82.00 332 P P 14 45 21.2 -0.2
comp=Z,162nm,0.9s,SNR=12
GRG Griva 82.00 319 P P 14 45 21.5 -0.1
X26A CR and CF Fran 82.02 50 ⇑P P 14 45 22.4 +0.4
baz=82,SNR=6.5
SPAK Spaichingen-Ko 82.03 331 *e*P P 14 45 21.5 -0.2
CHOS Chios island 82.08 315 P P 14 45 22.2 0.0
W27A Bowe Ranch, En 82.08 50 ⇓P P 14 45 23.2 +1.0
baz=82,SNR=8.8
SCIA State Center 82.12 39 PFAKE 14 45 30.0 +7.8
SCIA LR LR
comp=Z,875nm,20.0s
SKDS Skadanscina 82.14 327 *i* P P 14 45 21.4 -0.9
PAIG Palioúri 82.15 318 P P 14 45 22.2 -0.2
NKY Niksic 82.17 322⇓ *i*P P 14 45 22.5 -0.1
FETA Feichten 82.22 330 *i* P P 14 45 23.0 +0.1
comp=Z,38nm,0.9s,SNR=34
MCH1 Michaelchurch 82.22 340 *e*P P 14 45 22.5 0.0
MCH1 AMB AMB 14 45 26.4
comp=Z,55nm,1.2s
MCH1 Michaelchurch 82.22 340 P P 14 45 22.5 0.0
MCH1 AMB AMB 14 45 26.4
comp=Z,55nm,1.2s
CDF Champ du Feu 82.30 332⇑ *i*P P 14 45 23.0 -0.1
comp=Z,82nm,1.1s
CDF Champ du Feu 82.30 332⇑ *i*P P 14 45 23.0 -0.1
CDF pmax pmax
comp=Z,82nm,1.0s
CDF Champ du Feu 82.30 332⇑ *i*P P 14 45 23.0 -0.1
comp=Z,82nm,1.0s
BRY Bratogost 82.31 323⇓ *i*P P 14 45 23.1 -0.3
DAVA Damuels 82.32 330 *i* P P 14 45 23.5 +0.2
comp=Z,49nm,0.8s,SNR=13
SWN1 Swindon 82.35 339 *e*P P 14 45 22.9 -0.2
SWN1 AMB AMB 14 45 24.7
comp=Z,212nm,1.4s
SWN1 Swindon 82.35 339 P P 14 45 22.9 -0.2
SWN1 AMB AMB 14 45 24.7
comp=Z,212nm,1.4s
TTG Podgorica 82.35 322⇑ *i*P P 14 45 23.7 +0.3
124A Stringfield Ra 82.37 53 ⇓P P 14 45 24.5 +0.5
baz=82,SNR=6.9
WOL Wolverton 82.38 339 *e*P P 14 45 23.0 -0.3
WOL AMB AMB 14 45 30.9
comp=Z,91nm,3.4s
WOL Wolverton 82.38 339 P P 14 45 23.0 -0.3
WOL AMB AMB 14 45 30.9
comp=Z,91nm,3.4s
PHP Peshkopia 82.38 321 P P 14 45 23.4 -0.2
LIBD Limburg 82.41 332 *e*P P 14 45 23.4 -0.1
LIBD Limburg 82.41 332 *e*P P 14 45 23.4 -0.1
Y26A Elida 82.46 51 ⇑P P 14 45 24.8 +0.5
baz=82
FELD Feldberg im Sc 82.50 332 *e*P P 14 45 24.1 -0.1
ECH Echery 82.50 332 *e*P P 14 45 23.0 -1.1
ECH *e*PP pP 14 45 33.8 -0.2
ECH *e*SP sP 14 45 38.0 +0.4
ECH pmax pmax
comp=Z,48nm,1.1s
ECH MLR MLR
comp=Z,1µm,20.0s
ECH Echery 82.50 332 *e*P P 14 45 23.0 -1.1
comp=Z,48nm,1.1s
ECH *e*pP pP 14 45 33.8 -0.2
ECH *e*sP sP 14 45 38.0 +0.4
ECH LR LR
comp=Z,1µm,20.0s
ECH Echery 82.50 332 *e*P P 14 45 23.9 -0.2
KSU1 Kansas State U 82.59 43 *e*P P 14 45 24.1 -0.6
comp=Z,39nm,0.8s
KSU1 LR LR
comp=Z,1µm,21.0s
LIT Litokhoron 82.61 319 P P 14 45 24.5 -0.3
AOS Alonnisos 82.62 317 P P 14 45 21.3 -3.5
BUM Brajici-Budva 82.62 322⇑ *i*P P 14 45 25.8 +0.9
FNA Florina 82.63 320 P P 14 45 24.4 -0.6
HCY Herceg Novi 82.69 322⇓ *i*P P 14 45 25.0 -0.2
PAGF Fort de Pagny 82.70 333⇑ *i*P P 14 45 25.3 +0.2
comp=Z,38nm,0.9s
PAGF Fort de Pagny 82.70 333⇑ *i*P P 14 45 25.3 +0.2
comp=Z,38nm,0.9s
ULC Ulcinj 82.72 322⇑ *i*P P 14 45 26.0 +0.6
DAVOX Davos/Dischmat 82.74 330 LR LR 15 25 45.8
comp=Z,2µm,20.4s,baz=66,slow=38
224A Cornudas Mount 82.78 53 ⇓P P 14 45 26.3 +0.3
baz=82,SNR=7.9
KZN Kozani 82.81 319 P P 14 45 24.7 -1.2
XOR Xorichti 82.82 318 P P 14 45 25.5 -0.4
MOF Molkenrain 82.83 332 *e*P P 14 45 25.4 -0.5
MOF Molkenrain 82.83 332 *e*P P 14 45 25.4 -0.5
MOF Molkenrain 82.83 332 *e*P P 14 45 25.4 -0.5
Z26A Caprock 82.84 51 ⇑P P 14 45 26.4 +0.2
baz=83,SNR=18
Y27A Causey 82.87 50 ⇓P P 14 45 26.8 +0.3
baz=83
125A Gardner Draw, 82.88 52 ⇑P P 14 45 27.3 +0.9
baz=83,SNR=9.7
THEF They Montfort 82.90 333 *e*P P 14 45 25.8 -0.3
THEF They Montfort 82.90 333 *e*P P 14 45 25.8 -0.3
THEF They Montfort 82.90 333 *e*P P 14 45 25.8 -0.3
TIR Tirane 82.92 321 PFAKE 14 45 40.0 +14
TIR LR LR
comp=Z,1µm,22.0s
HINF Hinteralfeld 82.95 332⇑ *i*P P 14 45 25.9 -0.6
comp=Z,24nm,0.9s
HINF Hinteralfeld 82.95 332⇑ *i*P P 14 45 25.9 -0.6
HINF pmax pmax
comp=Z,24nm,0.9s
HINF Hinteralfeld 82.95 332⇑ *i*P P 14 45 25.9 -0.6
comp=Z,24nm,0.9s
HAU Haudompre 82.97 333⇑ *i*P P 14 45 26.1 -0.4
comp=Z,41nm,0.9s
HAU *e*R
comp=Z,2µm,22.2s
HAU Haudompre 82.97 333⇑ *i*P P 14 45 26.1 -0.4
HAU pmax pmax
comp=Z,41nm,0.9s
HAU Haudompre 82.97 333⇑ *i*P P 14 45 26.1 -0.4
comp=Z,41nm,0.9s
MEZF Maizieres J'vi 82.97 334⇑ *i*P P 14 45 26.6 +0.1
comp=Z,86nm,1.0s
MEZF Maizieres J'vi 82.97 334⇑ *i*P P 14 45 26.6 +0.1
comp=Z,86nm,1.0s
AMTX Amarillo 82.99 49 PFAKE 14 45 40.0 +13
AMTX LR LR
comp=Z,441nm,19.0s
AMTX Amarillo 82.99 49 ⇑P P 14 45 27.2 +0.2
baz=83
BBS Basel-Blauen 83.02 332 *e*P P 14 45 26.9 0.0
BBS Basel-Blauen 83.02 332 *e*P P 14 45 26.9 0.0
MSTX Muleshoe 83.03 50 ⇑P P 14 45 27.4 +0.1
baz=83
NEST Nestorio 83.07 320 P P 14 45 26.6 -0.7
MRKA Markates 83.12 317 P P 14 45 27.0 -0.5
TUE Stuetta 83.20 330 PFAKE 14 45 40.0 +12
TUE LR LR
comp=Z,2µm,21.0s
SFTF Sexfontaines 83.23 334⇑ *i*P P 14 45 27.8 -0.1
comp=Z,86nm,1.0s
SFTF Sexfontaines 83.23 334⇑ *i*P P 14 45 27.8 -0.1
comp=Z,86nm,1.0s
EIL Elat 83.24 304 LR LR 15 28 57.6
comp=Z,908nm,18.7s,baz=192,slow=40
324A Moseley Ranch, 83.25 54 ⇑P P 14 45 28.4 0.0
baz=83,SNR=6.6
Z27A Tatum 83.25 51 ⇑P P 14 45 28.6 +0.2
baz=83,SNR=20
126A Clayton Basin, 83.26 52 ⇑P P 14 45 28.3 -0.2
baz=83,SNR=5.6
HEX Exmoor 83.28 340 *e*P P 14 45 27.9 -0.1
HEX Exmoor 83.28 340 P P 14 45 27.9 -0.1
APE Apeiranthos 83.34 315 ⇓P P 14 45 27.6 -1.1
APE Apeiranthos 83.34 315 P P 14 45 24.1 -4.6
APE Apeiranthos 83.34 315⇓ *i*P P 14 45 27.6 -1.1
LOMF Lomont 83.36 332 *e*P P 14 45 28.4 -0.3
LOMF Lomont 83.36 332 *e*P P 14 45 28.4 -0.3
LOMF Lomont 83.36 332 *e*P P 14 45 28.4 -0.3
Y28A McKinney Farm, 83.38 50 ⇓P P 14 45 29.2 +0.2
baz=83
ATAL Atalanti 83.42 317 P P 14 45 28.2 -0.8
LKR Lokris 83.46 317 P P 14 45 28.1 -1.1
PTL Penteli 83.47 316 P P 14 45 28.4 -0.9
GLMI Grayling 83.53 32 *e*P P 14 45 29.2 -0.3
comp=Z,50nm,0.8s
GLMI LR LR
comp=Z,884nm,21.0s
AXAR Agios Charalam 83.54 318 P P 14 45 29.0 -0.7
325A Bean Ranch, Si 83.61 53 ⇓P P 14 45 30.6 +0.3
baz=83,SNR=7.2
MAKR Makrakomi, Fth 83.62 318 P P 14 45 29.6 -0.5
Z28A Tucker Farm, M 83.75 50 ⇑P P 14 45 31.0 +0.1
baz=84
DSF Desfina 83.88 317 P P 14 45 30.0 -1.5
MUKL Al Mukalla 83.92 284 *e*P P 14 45 32.5 +0.6
LTK Loutraki 83.95 317 P P 14 45 30.0 -1.8
425A Indio Mountain 84.01 54 ⇓P P 14 45 32.9 +0.6
baz=84,SNR=6.2
SENIN Lac Senin/Sane 84.04 331 *e*P P 14 45 32.6 +0.3
comp=Z,206nm,2.1s
Z29A Hungry Hill Ra 84.16 50 ⇓P P 14 45 33.5 +0.5
baz=84,SNR=25
128A Castleberry Fa 84.18 51 ⇑P P 14 45 33.2 +0.1
baz=84,SNR=14
KEK Kerkira 84.22 320 P P 14 45 29.7 -3.4
326A Caldwell Ranch 84.24 53 ⇑P P 14 45 33.7 +0.2
baz=84,SNR=12
CABF La Chapelle 84.26 332⇑ *i*P P 14 45 33.1 -0.2
comp=Z,77nm,1.3s
CABF La Chapelle 84.26 332⇑ *i*P P 14 45 33.1 -0.2
CABF pmax pmax
comp=Z,77nm,1.3s
CABF La Chapelle 84.26 332⇑ *i*P P 14 45 33.1 -0.2
comp=Z,77nm,1.3s
RGA Parga 84.26 319 P P 14 45 36.0 +2.7
LOR Lormes 84.44 334⇑ *i*P P 14 45 33.8 -0.3
comp=Z,98nm,0.9s
LOR *e*R
comp=Z,1µm,20.8s
LOR Lormes 84.44 334⇑ *i*P P 14 45 33.8 -0.3
comp=Z,98nm,0.9s
FLN La Foliniere 84.46 337⇑ *i*P P 14 45 33.8 -0.3
comp=Z,33nm,0.8s
FLN *e*R
comp=Z,1µm,22.8s
FLN La Foliniere 84.46 337⇑ *i*P P 14 45 33.8 -0.3
FLN pmax pmax
comp=Z,33nm,0.8s
FLN La Foliniere 84.46 337⇑ *i*P P 14 45 33.8 -0.3
comp=Z,33nm,0.8s
228A UT Block 9, Go 84.48 51 ⇑P P 14 45 34.8 +0.2
baz=84,SNR=8.6
LDF La Druitiere 84.51 337⇑ *i*P P 14 45 34.0 -0.4
comp=Z,33nm,0.7s

LDF La Druitiere 84.51 337⇑ iP P 14 45 34.0 -0.4
LDF pmax pmax
comp=Z,33nm,0.7s
LDF La Druitiere 84.51 337⇑ iP P 14 45 34.0 -0.4
comp=Z,33nm,0.7s
129A Stewart Farms, 84.53 51 ⇑P P 14 45 34.8 0.0
baz=84,SNR=5.4
426A McDonald Obser 84.67 53 ⇓P P 14 45 35.8 0.0
baz=84,SNR=7.9
RLS Riolos of Patr 84.69 318 P P 14 45 35.5 +0.1
WMOK Wichita Mounta 84.71 47 eP P 14 45 35.3 -0.4
WMOK pmax pmax
comp=Z,36nm,1.1s
WMOK MLR MLR
comp=Z,601nm,19.0s
WMOK Wichita Mounta 84.71 47 eP P 14 45 35.3 -0.4
comp=Z,36nm,1.1s
WMOK LR LR
comp=Z,601nm,19.0s
SSF Saint Saulge 84.74 334⇑ iP P 14 45 35.4 -0.2
comp=Z,50nm,0.9s
SSF Saint Saulge 84.74 334⇑ iP P 14 45 35.4 -0.2
SSF pmax pmax
comp=Z,50nm,0.9s
SSF Saint Saulge 84.74 334⇑ iP P 14 45 35.4 -0.2
comp=Z,50nm,0.9s
HYF Humbligny 84.84 335 eP P 14 45 36.2 +0.1
HYF Humbligny 84.84 335 eP P 14 45 36.2 +0.1
RSL Roselend 84.86 331 eP P 14 45 37.2 +0.8
RSL Roselend 84.86 331 eP P 14 45 37.2 +0.8
RSL Roselend 84.86 331 eP P 14 45 37.2 +0.8
328A Wristen Ranch, 84.88 52 ⇓P P 14 45 37.2 +0.6
baz=85,SNR=23
GRR Gorron 84.91 337⇑ iP P 14 45 36.3 -0.1
comp=Z,55nm,1.0s
GRR Gorron 84.91 337⇑ iP P 14 45 36.3 -0.1
GRR pmax pmax
comp=Z,55nm,1.0s
GRR Gorron 84.91 337⇑ iP P 14 45 36.3 -0.1
comp=Z,55nm,1.0s
427A Hayter Ranch, 84.92 53 ⇑P P 14 45 37.3 +0.4
baz=85,SNR=15
AMT Artemida-Makis 84.97 317 P P 14 45 36.2 -0.7
LPL La Plagne 84.97 331⇑ iP P 14 45 37.3 +0.3
comp=Z,94nm,0.9s
LPL La Plagne 84.97 331⇑ iP P 14 45 37.3 +0.3
LPL pmax pmax
comp=Z,94nm,0.9s
LPL La Plagne 84.97 331⇑ iP P 14 45 37.3 +0.3
comp=Z,94nm,0.9s
LPG La Plagne 84.98 331⇑ iP P 14 45 37.5 +0.3
comp=Z,122nm,0.9s
LPG La Plagne 84.98 331⇑ iP P 14 45 37.5 +0.3
LPG pmax pmax
comp=Z,122nm,0.9s
LPG La Plagne 84.98 331⇑ iP P 14 45 37.5 +0.3
comp=Z,122nm,0.9s
SMF Signal de Mont 84.99 334⇑ iP P 14 45 36.8 -0.1
comp=Z,108nm,1.0s
SMF Signal de Mont 84.99 334⇑ iP P 14 45 36.8 -0.1
SMF pmax pmax
comp=Z,109nm,1.0s
SMF Signal de Mont 84.99 334⇑ iP P 14 45 36.8 -0.1
comp=Z,108nm,1.0s
HDIL Hopedale 85.00 38 PFAKE 14 45 50.0 +13
HDIL LR LR
comp=Z,1μm,21.0s
AQU L'Aquila 85.01 325 PFAKE 14 45 50.0 +13
AQU LR LR
comp=Z,2μm,19.0s
AQU L'Aquila 85.01 325⇑ iP P 14 45 37.3 +0.2
IDI Anoyia 85.02 314 P P 14 45 36.2 -1.1
AVF Avril sur Loir 85.03 334⇑ iP P 14 45 37.0 0.0
comp=Z,93nm,0.8s
AVF Avril sur Loir 85.03 334⇑ iP P 14 45 37.0 0.0
AVF pmax pmax
comp=Z,93nm,0.8s
AVF Avril sur Loir 85.03 334⇑ iP P 14 45 37.0 0.0
comp=Z,93nm,0.8s
VLS Valsamata 85.03 319 P P 14 45 36.9 -0.3
229A Bryant Ranch, 85.04 51 ⇑P P 14 45 37.8 +0.4
baz=85,SNR=6.9
526A Mary Lane Ranc 85.07 54 ⇑P P 14 45 38.3 +0.5
baz=85,SNR=24
ITM Ithomi 85.13 317 P P 14 45 36.7 -1.0
PPT Papeete 85.25 118 LR LR 15 23 18.6
comp=Z,921nm,18.6s,baz=309,slow=35
PPT2 Papeete2 85.26 118 eS S 14 56 07.4 +0.5
comp=Z,245nm,25.0s
PPT2 eSS SS 15 01 47.0 +4.8
comp=Z,221nm,25.0s
PPT2 eLR LR 15 12 36.0
comp=Z,1μm,24.2s,baz=309
329A Wagon Wheel Ra 85.29 51 ⇑P P 14 45 39.1 +0.4
baz=85,SNR=18
VAM Vamos 85.30 314 P P 14 45 39.0 +0.4
527A Woodward Ranch 85.30 53 ⇓P P 14 45 39.0 +0.1
baz=85,SNR=13
BNI Bardonecchia 85.39 331 PFAKE 14 45 50.0 +11
BNI LR LR
comp=Z,2μm,22.0s
BGF Bois d'Agland 85.40 334 eP P 14 45 39.4 +0.5
BGF Bois d'Agland 85.40 334 eP P 14 45 39.4 +0.5
BGF Bois d'Agland 85.40 334 eP P 14 45 39.4 +0.5
626A Big Bend Ranch 85.41 54 ⇑P P 14 45 39.7 +0.4
baz=85,SNR=11
428A Kincaid Ranch, 85.43 52 ⇓P P 14 45 40.4 +0.9
baz=85,SNR=14
TUL1 Tulsa 85.44 45 ⇓P P 14 45 39.4 +0.1
baz=85,SNR=6.6
PYL PYLOS 85.44 317 P P 14 45 38.1 -1.2
230A Sterling City 85.50 51 ⇓P P 14 45 40.1 +0.4
baz=85
SGMF Saint Gilles 85.51 338⇑ iP P 14 45 39.6 +0.2
comp=Z,113nm,1.1s
SGMF Saint Gilles 85.51 338⇑ iP P 14 45 39.6 +0.2
SGMF pmax pmax
comp=Z,113nm,1.0s
SGMF Saint Gilles 85.51 338⇑ iP P 14 45 39.6 +0.2
comp=Z,113nm,1.0s
MBDF Montbardon 85.63 331⇑ iP P 14 45 39.8 -0.5
comp=Z,49nm,0.8s
MBDF Montbardon 85.63 331⇑ iP P 14 45 39.8 -0.5
MBDF pmax pmax
comp=Z,49nm,0.8s
MBDF Montbardon 85.63 331⇑ iP P 14 45 39.8 -0.5
comp=Z,49nm,0.8s
ROSF Rostrenen 85.64 339 eP P 14 45 40.3 +0.3
comp=Z,220nm,1.2s
ROSF Rostrenen 85.64 339 eP P 14 45 40.3 +0.3
ROSF pmax pmax
comp=Z,220nm,1.2s
ROSF Rostrenen 85.64 339 eP P 14 45 40.3 +0.3
comp=Z,220nm,1.2s
PLDF La Plantade 85.66 333 eP P 14 45 40.6 +0.3
PLDF La Plantade 85.66 333 eP P 14 45 40.6 +0.3
PLDF La Plantade 85.66 333 eP P 14 45 40.6 +0.3
AGO Saint Agoulin 85.75 334 eP P 14 45 41.0 +0.3
AGO Saint Agoulin 85.75 334 eP P 14 45 41.0 +0.3
528A Cox Ranch, San 85.78 53 ⇓P P 14 45 41.8 +0.6
baz=86,SNR=14
ORIF Oris-en-Rattie 85.79 331⇑ iP P 14 45 41.2 +0.2
comp=Z,67nm,0.8s
ORIF eR
comp=Z,1μm,21.2s
ORIF Oris-en-Rattie 85.79 331⇑ iP P 14 45 41.2 +0.2
ORIF pmax pmax
comp=Z,67nm,0.8s
ORIF Oris-en-Rattie 85.79 331⇑ iP P 14 45 41.2 +0.2
comp=Z,67nm,0.8s
ABTX Abilene, Hawle 85.80 49 ⇑P P 14 45 41.4 +0.2
baz=86,SNR=7.1
330A Mertzon 85.82 51 ⇑P P 14 45 41.3 -0.1
baz=86
TCF Toulx Ste Croi 85.84 334⇑ iP P 14 45 41.4 +0.3
comp=Z,116nm,1.3s
TCF Toulx Ste Croi 85.84 334⇑ iP P 14 45 41.4 +0.3
TCF pmax pmax
comp=Z,116nm,1.3s
TCF Toulx Ste Croi 85.84 334⇑ iP P 14 45 41.4 +0.3
comp=Z,116nm,1.3s
TXAR Lajitas Array 85.85 54 P P 14 45 42.2 +0.7
comp=Z,12nm,0.7s,baz=294,slow=3.7,SNR=65
TXAR pP pP 14 45 52.0 +0.5
comp=Z,34nm,1.0s,baz=285,slow=3.2,SNR=22
TXAR Lajitas Array 85.85 54 P P 14 45 42.2 +0.7
TXAR pP pP 14 45 52.0 +0.5
CUC Castrocucco 85.86 323 PFAKE 14 45 50.0 +8.6
CUC LR LR
comp=Z,934nm,19.0s
BST Brest 85.88 339 eP P 14 45 41.2 0.0
BST Brest 85.88 339 eP P 14 45 41.2 0.0
231A Bronte 85.93 50 ⇓P P 14 45 41.8 0.0
baz=86
627A Terlingua Ranc 85.93 54 ⇑P P 14 45 42.3 +0.3
baz=86,SNR=11
SSB Saint Sauveur 85.95 332 eP P 14 45 41.8 +0.1
SSB Saint Sauveur 85.95 332 eP P 14 45 41.8 +0.1
SSB Saint Sauveur 85.95 332 eP P 14 45 41.8 +0.1
429A Davenport Ranc 85.97 52 ⇑P P 14 45 42.2 +0.1
baz=86
SAOF Saorge 85.98 330 eP P 14 45 41.0 -0.9
SAOF Saorge 85.98 330 eP P 14 45 41.0 -0.9
SAOF Saorge 85.98 330 eP P 14 45 41.0 -0.9
QUIF Quistinic 85.99 338 eP P 14 45 41.8 0.0
comp=Z,55nm,0.9s
QUIF Quistinic 85.99 338 eP P 14 45 41.8 0.0
QUIF pmax pmax
comp=Z,55nm,0.9s
QUIF Quistinic 85.99 338 eP P 14 45 41.8 0.0
comp=Z,55nm,0.9s
AUTN L'Aution 86.02 330 eP P 14 45 43.3 +1.0
AUTN L'Aution 86.02 330 eP P 14 45 43.3 +1.0
AUTN L'Aution 86.02 330 eP P 14 45 43.3 +1.0
PYM Petit Puy Mans 86.06 334 eP P 14 45 42.4 +0.1
PYM Petit Puy Mans 86.06 334 eP P 14 45 42.4 +0.1
PYM Petit Puy Mans 86.06 334 eP P 14 45 42.4 +0.1
TIP Timpagrande 86.08 321 PFAKE 14 45 50.0 +7.5
TIP LR LR
comp=Z,1μm,22.0s
SLM Saint Louis 86.09 39 eP P 14 45 41.1 -1.4
SLM pmax pmax
comp=Z,49nm,0.9s
SLM Saint Louis 86.09 39 eP P 14 45 41.1 -1.4
comp=Z,49nm,0.9s
SBF Sospel 86.13 330⇑ iP P 14 45 41.9 -0.7
comp=Z,162nm,1.1s
SBF Sospel 86.13 330⇑ iP P 14 45 41.9 -0.7
SBF pmax pmax
comp=Z,162nm,1.1s
SBF Sospel 86.13 330⇑ iP P 14 45 41.9 -0.7
comp=Z,162nm,1.1s
SFIN Scholer Farm 86.13 36 ⇓P P 14 45 42.2 -0.4
baz=86
529A Stev Forest Ra 86.14 52 ⇑P P 14 45 43.3 +0.3
baz=86,SNR=14
628A Black Gap, Mar 86.21 53 ⇓P P 14 45 43.4 +0.2
baz=86
MVIF Mont Vial 86.21 330 eP P 14 45 42.0 -1.1
MVIF Mont Vial 86.21 330 eP P 14 45 42.0 -1.1
MVIF Mont Vial 86.21 330 eP P 14 45 42.0 -1.1
430A Baggett Ranch, 86.24 51 ⇓P P 14 45 43.2 -0.2
baz=86,SNR=13
REVF Revere 86.26 330 eP P 14 45 41.6 -1.7
REVF Revere 86.26 330 eP P 14 45 41.6 -1.7
REVF Revere 86.26 330 eP P 14 45 41.6 -1.7
VIVF Saint-Julien-l 86.27 332⇑ iP P 14 45 43.5 +0.2
comp=Z,96nm,0.8s
VIVF Saint-Julien-l 86.27 332⇑ iP P 14 45 43.5 +0.2
VIVF pmax pmax
comp=Z,96nm,0.8s
VIVF Saint-Julien-l 86.27 332⇑ iP P 14 45 43.5 +0.2
comp=Z,96nm,0.8s
MFF Saint Martin d 86.30 336⇑ iP P 14 45 43.7 +0.3
comp=Z,143nm,1.0s
MFF Saint Martin d 86.30 336⇑ iP P 14 45 43.7 +0.3
MFF pmax pmax
comp=Z,143nm,1.0s
MFF Saint Martin d 86.30 336⇑ iP P 14 45 43.7 +0.3
comp=Z,143nm,1.0s
331A San Angelo 86.33 51 ⇑P P 14 45 43.9 +0.1
baz=86
LBL Lubilhac 86.43 333 eP P 14 45 44.9 +0.8
LBL Lubilhac 86.43 333 eP P 14 45 44.9 +0.8
LBL Lubilhac 86.43 333 eP P 14 45 44.9 +0.8
FVM French Village 86.52 40 eP P 14 45 43.7 -0.9
FVM pmax pmax
comp=Z,26nm,1.1s
FVM French Village 86.52 40 eP P 14 45 43.7 -0.9
comp=Z,26nm,1.1s
FRNF Fournols 86.53 334 eP P 14 45 45.2 +0.7
FRNF Fournols 86.53 334 eP P 14 45 45.2 +0.7
530A J-C Ranch, Com 86.64 52 ⇓P P 14 45 46.0 +0.6
baz=86,SNR=5.2
PGF Pioggiola 86.65 328 eP P 14 45 46.0 +0.7
PGF Pioggiola 86.65 328 eP P 14 45 46.0 +0.7
PGF Pioggiola 86.65 328 eP P 14 45 46.0 +0.7
332A Millersview 86.66 50 ⇓P P 14 45 45.7 +0.2
baz=86
431A Sonora 86.68 51 ⇓P P 14 45 45.6 0.0
baz=86,SNR=5.5
FRF La Foret Royal 86.68 330 eP P 14 45 44.7 -0.6
FRF La Foret Royal 86.68 330 eP P 14 45 44.7 -0.6
FRF La Foret Royal 86.68 330 eP P 14 45 44.7 -0.6
SMRF Simiane la Rot 86.72 331 eP P 14 45 45.6 +0.1
SMRF Simiane la Rot 86.72 331 eP P 14 45 45.6 +0.1
BDHA Al Bayda' 86.76 286 eP P 14 45 46.9 +0.5
BDHA AMb AMB 14 45 48.1
comp=Z,126nm,1.0s
SANA San'a 86.79 288 eP P 14 45 47.1 +0.5
LMR La Mourre 86.93 330 eP P 14 45 46.1 -0.4
comp=Z,172nm,1.1s
LMR La Mourre 86.93 330 eP P 14 45 46.1 -0.4
LMR pmax pmax
comp=Z,172nm,1.1s
LMR La Mourre 86.93 330 eP P 14 45 46.1 -0.4
comp=Z,172nm,1.1s
RJF Les Rejaudoux 86.94 334⇑ iP P 14 45 46.9 +0.4
comp=Z,109nm,1.1s
RJF eR
comp=Z,2μm,23.0s
RJF Les Rejaudoux 86.94 334⇑ iP P 14 45 46.9 +0.4
RJF pmax pmax
comp=Z,109nm,1.1s
RJF Les Rejaudoux 86.94 334⇑ iP P 14 45 46.9 +0.4
comp=Z,109nm,1.1s
432A Menard 87.01 50 ⇓P P 14 45 47.1 -0.1
baz=87,SNR=6.3
LBOS 87.06 286 eP P 14 45 48.4 +0.5
CAF Calviac 87.10 334⇑ iP P 14 45 48.2 +0.9
comp=Z,127nm,0.8s
CAF Calviac 87.10 334⇑ iP P 14 45 48.2 +0.9
CAF pmax pmax
comp=Z,127nm,0.8s
CAF Calviac 87.10 334⇑ iP P 14 45 48.2 +0.9
comp=Z,127nm,0.8s
531A Rocksprings 87.10 51 ⇓P P 14 45 47.8 +0.2
baz=87,SNR=7.5
DHBB Dhamar BB 87.21 287 eP P 14 45 49.2 +0.5
LASF Ste Croix 87.24 332 eP P 14 45 48.5 +0.5
comp=Z,98nm,1.1s
LASF Ste Croix 87.24 332 eP P 14 45 48.5 +0.5
comp=Z,98nm,1.1s
JCT Junction City 87.30 51 PFAKE 14 46 00.0 +11
JCT LR LR
comp=Z,473nm,21.0s
JCT Junction City 87.30 51 ⇓P P 14 45 48.8 +0.2
baz=87
SIUC Southern Illin 87.31 39 eP P 14 45 48.7 +0.2
comp=Z,101nm,0.8s
SNZO South Karori 87.34 157 PFAKE 14 46 00.0 +12
SNZO LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 87.39 26 PFAKE 14 46 00.0 +11
LONY LR LR
comp=Z,921nm,20.0s
532A Rocksprings 87.50 51 ⇓P P 14 45 49.5 -0.1
baz=87,SNR=8.8
WHTX Lake Whitney 87.50 48 ⇓P P 14 45 49.8 +0.3
baz=87,SNR=5.4
LFF La Frestale 87.52 335⇑ iP P 14 45 50.0 +0.7
comp=Z,191nm,1.1s
LFF La Frestale 87.52 335⇑ iP P 14 45 50.0 +0.7
LFF pmax pmax
comp=Z,191nm,1.1s
LFF La Frestale 87.52 335⇑ iP P 14 45 50.0 +0.7
comp=Z,191nm,1.1s
ERPA Erie 87.63 31 PFAKE 14 46 00.0 +10
ERPA LR LR
comp=Z,774nm,21.0s
631A Perdido Creek 87.63 52 ⇓P P 14 45 50.1 -0.1
baz=87,SNR=11
MIAR Mount Ida 87.64 44 PFAKE 14 46 00.0 +10
MIAR LR LR
comp=Z,885nm,22.0s
PARMO Parma 87.89 40 eP P 14 45 51.7 +0.4
UDYN Al 'Udayn 87.92 287 eP P 14 45 52.3 +0.5
632A Uvalde 88.03 51 ⇑P P 14 45 52.0 0.0
baz=88
ACSO Alum Creek Sta 88.03 34 PFAKE 14 46 00.0 +8.2
ACSO LR LR
comp=Z,728nm,21.0s
MTLF Montolieu 88.45 333⇑ iP P 14 45 54.4 +0.6
comp=Z,79nm,1.3s
MTLF Montolieu 88.45 333⇑ iP P 14 45 54.4 +0.6
MTLF pmax pmax
comp=Z,79nm,1.3s
MTLF Montolieu 88.45 333⇑ iP P 14 45 54.4 +0.6
comp=Z,79nm,1.3s
732A Laxson Ranch, 88.49 52 ⇑P P 14 45 54.4 +0.2
baz=88
LBNH Lisbon 88.58 25 PFAKE 14 46 10.0 +16
LBNH LR LR
comp=Z,1μm,19.0s
BINY Binghamton 89.04 28 PFAKE 14 46 10.0 +13
BINY LR LR
comp=Z,906nm,20.0s
NATX Nacogdoches 89.22 47 PFAKE 14 46 10.0 +12
NATX LR LR
comp=Z,607nm,20.0s
WVT Waverly 89.24 39 eP P 14 45 57.2 -0.4
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 89.24 39 eP P 14 45 57.2 -0.4
comp=Z,12nm,0.8s
EPF Esparros 89.35 334 eP P 14 45 58.1 0.0
comp=Z,24nm,1.0s
EPF Esparros 89.35 334 eP P 14 45 58.1 0.0
EPF pmax pmax
comp=Z,24nm,1.0s
EPF Esparros 89.35 334 eP P 14 45 58.1 0.0
comp=Z,24nm,1.0s
TBI Tubuai 89.50 122 eS S 14 56 47.0 -0.2
comp=Z,303nm,27.0s
TBI eLR LR 15 14 34.5
comp=Z,1μm,22.2s,baz=316
ETSF Etsaut 89.76 335⇑ iP P 14 46 00.8 +0.8
comp=Z,48nm,0.8s
ETSF Etsaut 89.76 335⇑ iP P 14 46 00.8 +0.8
ETSF pmax pmax
comp=Z,48nm,0.8s
ETSF Etsaut 89.76 335⇑ iP P 14 46 00.8 +0.8
comp=Z,48nm,0.8s
SJPF Ste Jean 89.78 335 eP P 14 46 00.7 +0.7
comp=Z,50nm,1.2s
SJPF Ste Jean 89.78 335 eP P 14 46 00.7 +0.7
SJPF pmax pmax
comp=Z,50nm,1.2s
SJPF Ste Jean 89.78 335 eP P 14 46 00.7 +0.7
comp=Z,50nm,1.2s
OXF Oxford 89.78 41 eP P 14 45 59.6 -0.6
OXF pmax pmax
comp=Z,67nm,1.0s
OXF MLR MLR
comp=Z,694nm,21.0s
OXF Oxford 89.78 41 eP P 14 45 59.5 -0.6
comp=Z,66nm,1.0s
OXF LR LR
comp=Z,694nm,21.0s
PLAL Pickwick Lake 90.05 40 PFAKE 14 46 10.0 +8.6
PLAL LR LR
comp=Z,924nm,19.0s
ATD Arta Tunnel 90.36 286 LR LR 15 33 19.8
comp=Z,1μm,18.1s,baz=45,slow=40
KVTX Kingsville 90.59 51 PFAKE 14 46 20.0 +16
KVTX LR LR
comp=Z,562nm,22.0s
SWET Sewanee 90.88 39 eP P 14 46 05.2 -0.1
comp=Z,21nm,0.9s
VBMS Vicksburg 91.05 43 PFAKE 14 46 20.0 +14
VBMS LR LR
comp=Z,676nm,20.0s
CPCT Cooper Cave 91.34 38 eP P 14 46 07.6 +0.2
TKL Tuckaleechee C 91.50 37 eP P 14 46 08.1 -0.1
BLA Blacksburg 91.65 34 eP P 14 46 08.5 -0.4
BLA pmax pmax
comp=Z,14nm,0.9s
BLA MLR MLR
comp=Z,587nm,20.0s
BLA Blacksburg 91.65 34 eP P 14 46 08.5 -0.4
comp=Z,14nm,0.9s
BLA LR LR
comp=Z,587nm,20.0s
MSEY Mahe Island 91.76 265 PFAKE 14 46 20.0 +10
MSEY LR LR
comp=Z,927nm,22.0s
CBN Corbin 92.02 31 PFAKE 14 46 20.0 +10
CBN LR LR
comp=Z,903nm,22.0s
LRAL Lakeview Retre 92.15 41 PFAKE 14 46 20.0 +8.8
LRAL LR LR
comp=Z,495nm,19.0s
KEST Kesra 92.26 324 P P 14 46 12.0 +0.2
comp=Z,4.6nm,0.9s,baz=341,slow=5.9,SNR=3.5
KEST LR LR 15 32 34.1
comp=Z,853nm,20.2s,baz=346,slow=39
KEST Kesra 92.26 324 P P 14 46 12.0 +0.2
GOGA Godfrey 93.52 38 PFAKE 14 46 30.0 +13
GOGA LR LR
comp=Z,951nm,19.0s
ESDC Sonseca Array 93.76 336 P P 14 46 18.1 -0.5
comp=Z,3.6nm,0.9s,baz=26,slow=2.5,SNR=14
ESDC LR LR 15 32 44.0
comp=Z,1μm,20.9s,baz=5.0,slow=38
ESDC Sonseca Array 93.76 336 P P 14 46 18.1 -0.5
BRAL Brewton 93.77 42 PFAKE 14 46 30.0 +11
BRAL LR LR
comp=Z,428nm,19.0s
PAB San Pablo 94.00 336 PFAKE 14 46 30.0 +10
PAB LR LR
comp=Z,2μm,20.0s
MTE Manteigas 94.14 338 PFAKE 14 46 30.0 +10
MTE LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 94.38 33 PFAKE 14 46 30.0 +8.6
CNNC LR LR
comp=Z,818nm,22.0s
NHSC New Hope 95.25 36 PFAKE 14 46 40.0 +15
NHSC LR LR
comp=Z,1μm,22.0s
RKT Rikitea 98.93 113 eLR LR 15 18 59.0
comp=Z,1μm,24.5s
RTC Rabat Centre 99.89 336 PFAKE 14 47 00.0 +14
RTC LR LR
comp=Z,1μm,20.0s
BBSR BB Station 101.70 24 PFAKE 14 47 10.0 +16
BBSR LR LR
comp=Z,303nm,22.0s
TEIG Tepich 101.79 49 PFAKE 14 47 10.0 +15
TEIG LR LR
comp=Z,332nm,20.0s
KMBO Kilima Mbogo 102.99 280 PFAKE 14 47 10.0 +9.3
KMBO LR LR
comp=Z,541nm,21.0s
TAM Tamanrasset 104.99 320 PFAKE 14 47 20.0 +11
TAM LR LR
comp=Z,573nm,19.0s
ABPO Ambohimpanom 107.15 260 PFAKE 14 51 40.0
ABPO LR LR
comp=Z,637nm,21.0s
TGUH Tegucigalpa,Un 107.25 52 PFAKE 14 51 40.0
TGUH LR LR
comp=Z,433nm,20.0s
MBAR Mbarara 107.39 285 PFAKE 14 51 40.0
MBAR LR LR
comp=Z,751nm,19.0s
GTBY Guantanamo Bay 108.86 39 PFAKE 14 51 40.0
GTBY LR LR
comp=Z,644nm,22.0s
SDDR Presa de Saban 111.41 36 PFAKE 14 51 50.0
SDDR LR LR
comp=Z,711nm,20.0s
JTS JuntasAbangare 111.61 53 PFAKE 14 51 50.0
JTS LR LR
comp=Z,362nm,19.0s
TORD Torodi Ar. Bea 115.09 319 PKP PKPdf 14 51 42.1 -1.0
comp=Z,1.7nm,0.9s,baz=352,slow=1.5,SNR=6.3

TORD				PP	**PP**	14 52 38.6	-3.5	
	comp=Z,28nm,1.1s,baz=21,slow=6.0,SNR=30							
TORD	**Torodi Ar. Bea**	**115.09**	**319**	PKP	**PKPdf**	14 51 42.1	-1.0	
TORD				PP	**PP**	14 52 38.6	-3.5	
LSZ	**Lusaka**	**119.00**	**275**	PFAKE		14 52 00.0	+9.3	
LSZ				LR	LR			
	comp=Z,894nm,19.0s							
SDV	**Santo Domingo**	**120.55**	**40**	PFAKE		14 52 10.0	+16	
SDV				LR	LR			
	comp=Z,211nm,19.0s							
GRGR	**Grenville**	**121.48**	**29**	PFAKE		14 52 10.0	+15	
GRGR				LR	LR			
	comp=Z,481nm,19.0s							
OTAV	**Otavalo**	**123.48**	**54**	PFAKE		14 52 10.0	+10	
OTAV				LR	LR			
	comp=Z,275nm,21.0s							
DBIC	**Dimbokro**	**123.86**	**321**	PKP	**PKPdf**	14 51 59.5	-0.5	
	comp=Z,5.0nm,0.7s,baz=60,slow=2.5,SNR=7.1							
DBIC				pPKP	**pPKPdf**	14 52 08.8	-1.5	
	comp=Z,4.3nm,0.7s,baz=58,slow=2.4,SNR=4.3							
DBIC				PP	**PP**	14 53 40.1	-2.4	
	comp=Z,9.0nm,0.9s,baz=350,slow=9.2,SNR=6.3							
DBIC	**Dimbokro**	**123.86**	**321**	PKP	**PKPdf**	14 51 59.5	-0.5	
DBIC				pPKP	**pPKPdf**	14 52 08.8	-1.5	
DBIC				PP	**PP**	14 53 40.1	-2.4	
LIC	**Lamto**	**124.33**	**321**	*e*PKIKP	**PKPdf**	14 51 59.8	-1.1	
	comp=Z,26nm,1.1s							
LIC				*e*R				
	comp=Z,900nm,21.5s							
LIC	**Lamto**	**124.33**	**321**	*e*PKPdf	**PKPdf**	14 51 59.8	-1.1	
LBTB	**Lobatse**	**126.79**	**268**	*e*PKPdf	**PKPdf**	14 52 05.7	+0.3	
BOSA	**Boshof**	**129.02**	**264**	PKP	**PKPdf**	14 52 09.4	-0.1	
	comp=Z,7.3nm,1.0s,baz=18,slow=3.6,SNR=5.9							
BOSA	**Boshof**	**129.02**	**264**	PKP	**PKPdf**	14 52 09.4	-0.1	
ATAH	**Atahualpa**	**129.24**	**59**	PKP	**PKPdf**	14 52 11.9	+1.1	
	comp=Z,2.4nm,0.3s,baz=47,slow=5.2,SNR=4.3							
ATAH	**Atahualpa**	**129.24**	**59**	PKP	**PKPdf**	14 52 11.9	+1.1	
TSUM	**Tsumeb**	**129.33**	**279**	PFAKE		14 52 20.0	+10	
TSUM				LR	LR			
	comp=Z,507nm,19.0s							
QSPA	**South Pole Qui**	**131.53**	**180**	PKP	**PKPdf**	14 52 12.8	-0.2	
	comp=Z,1.3nm,0.6s,baz=0.6,slow=3.1,SNR=18							
QSPA	**South Pole Qui**	**131.53**	**180**	PKP	**PKPdf**	14 52 12.8	-0.2	
NNA	**Nana**	**133.87**	**62**	PFAKE		14 52 30.0	+11	
NNA				LR	LR			
	comp=Z,413nm,21.0s							
SAML	**Samuel**	**139.60**	**44**	PFAKE		14 52 40.0	+10	
SAML				LR	LR			
	comp=Z,326nm,20.0s							
LPAZ	**La Paz**	**142.67**	**57**	PKP	**PKPdf**	14 52 35.7	-0.1	
	comp=Z,2.0nm,0.8s,baz=268,slow=4.3,SNR=5.9							
LPAZ	**La Paz**	**142.67**	**57**	PKP	**PKPdf**	14 52 35.7	-0.1	
LPAZ				*e*PKPdf	**PKiKP**	14 52 36.4	-2.5	
RCBR	**Riachuelo**	**144.19**	**359**	PFAKE		14 52 50.0	+12	
RCBR				LR	LR			
	comp=Z,307nm,21.0s							
SIV	**San Ignacio**	**146.59**	**47**	PKPbc	**PKPbc**	14 52 43.0	-0.4	
	comp=Z,24nm,0.9s,baz=330,slow=3.0,SNR=63							
SIV				pPKPbc	pPKPbc	14 52 53.3	-0.3	
	comp=Z,52nm,0.9s,baz=315,slow=3.4,SNR=22							
SIV	**San Ignacio**	**146.59**	**47**	PKPbc	**PKPbc**	14 52 43.0	-0.4	
SIV				pPKPbc	pPKPbc	14 52 53.3	-0.3	
LCO	**Las Campanas**	**149.40**	**76**	*e*PKPdf	**PKPdf**	14 52 45.6	-0.9	
LCO				LR	LR			
	comp=Z,413nm,20.0s							
BDFB	**Brasilia**	**152.05**	**25**	PKPbc	**PKPbc**	14 52 57.7	+0.4	
	comp=Z,11nm,0.9s,baz=320,slow=2.7,SNR=12							
BDFB				pPKPbc	**pPKPbc**	14 53 07.5	-0.1	
	comp=Z,25nm,1.1s,baz=332,slow=2.9,SNR=7.8							
BDFB	**Brasilia**	**152.05**	**25**	PKPbc	**PKPbc**	14 52 57.7	+0.4	
BDFB				pPKPbc	**pPKPbc**	14 53 07.5	-0.1	
CFAA	**Coronel Fontan**	**152.58**	**79**	PKPbc	**PKPbc**	14 52 57.5	-0.5	
	comp=Z,0.4nm,0.7s,baz=287,slow=3.1,SNR=6.1							
CFAA				pPKPbc	**pPKPbc**	14 53 08.3	+0.1	
	comp=Z,0.8nm,0.7s,baz=271,slow=3.9,SNR=4.2							
CFAA	**Coronel Fontan**	**152.58**	**79**	PKPbc	**PKPbc**	14 52 57.5	-0.5	
CFAA				pPKPbc	**pPKPbc**	14 53 08.3	+0.1	
PLCA	**Paso Flores**	**154.32**	**99**	PKPbc	**PKPbc**	14 53 01.5	-0.1	
	comp=Z,2.7nm,0.8s,baz=229,slow=4.9,SNR=10							
PLCA				pPKPbc	**pPKPbc**	14 53 12.5	+0.7	
	comp=Z,6.0nm,0.8s,baz=301,slow=2.5,SNR=8.8							
PLCA	**Paso Flores**	**154.32**	**99**	PKPbc	**PKPbc**	14 53 01.5	-0.1	
PLCA				pPKPbc	**pPKPbc**	14 53 12.5	+0.7	
SPB	**Sao Paulo**	**159.61**	**31**	PFAKE		14 53 10.0	+10	
SPB				LR	LR			
	comp=Z,519nm,19.0s							
TRQA	**Tornquist**	**159.97**	**88**	PFAKE		14 53 10.0	+10	
TRQA				LR	LR			
	comp=Z,443nm,20.0s							
EFI	**East Falkland**	**162.16**	**131**	PFAKE		14 53 10.0	+7.8	
EFI				LR	LR			
	comp=Z,841nm,21.0s							

*ISK **07** 14:52:08.9, 40˚.16N×30˚.00E, h15km, MD2.5*
*ISCJB **07** 14:52:09.1±0.5, 40˚.18N±0˚.05×30˚.01E±0˚.05, h13km±6km, Error ellipse: s-maj=8.3km s-min=6.0km az=3.5*
*CSEM **07** 14:52:09.3±0.1, 40˚.16N×30˚.00E, h13km±1km, MD2.5, Error ellipse: s-maj=2.3km s-min=1.8km az=15.0*
*DDA **07** 14:52:09.0, 40˚.22N×30˚.06E, h7km, MD2.6*
ISC 07 14:52:10.2±1.1, **40˚.16N**±0˚.03×**30˚.00E**±0˚.02, **h7**km±8km, **n32**, σ1**800**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	**Cavuskoy**	**0.13**	**290**	PG	**Pg**	14 52 12.7	-0.3
CAVI				SG	**Sg**	14 52 15.7	+0.7
CAVI	**Cavuskoy**	**0.13**	**290**	*i* Pg	**Pg**	14 52 12.7	-0.3
CAVI				*i* Sg	**Sg**	14 52 15.7	+0.7
GPA	**Golpazari**	**0.27**	**61**	*e*PG	**Pg**	14 52 14.8	-0.8
GPA	**Golpazari**	**0.27**	**61**	*e*Pg	**Pg**	14 52 14.8	-0.8
ADVT	**Abdulvahap**	**0.34**	**324**	*e*PG	**Pg**	14 52 16.4	-0.5
ADVT	**Abdulvahap**	**0.34**	**324**	*e*Pg	**Pg**	14 52 16.4	-0.5
BORA	**Eskisehir**	**0.44**	**128**	*i* P	**Pg**	14 52 18.0	-0.8
BORA				*i* S	**Sg**	14 52 25.2	+0.6
BORA	**Eskisehir**	**0.44**	**128**	*i* P	**Pg**	14 52 18.0	-0.8
BORA				*i* S	**Sg**	14 52 25.2	+0.6
GULT	**Gulveren**	**0.48**	**55**	*e*PG	**Pg**	14 52 18.9	-0.6
GULT	**Gulveren**	**0.48**	**55**	*e*Pg	**Pg**	14 52 18.9	-0.6
GEMT	**Gemlik**	**0.68**	**294**	*e*PG	**Pg**	14 52 22.5	-0.8
GEMT	**Gemlik**	**0.68**	**294**	*e*Pg	**Pg**	14 52 22.5	-0.8
HRT	**Hereke**	**0.71**	**339**	*e*PG	**Pg**	14 52 23.1	-0.8
HRT	**Hereke**	**0.71**	**339**	*e*Pg	**Pg**	14 52 23.1	-0.8
TVSB	**Tavsanli**	**0.82**	**211**	*e*PG	**Pg**	14 52 25.5	-0.5
TVSB	**Tavsanli**	**0.82**	**211**	*e*Pg	**Pg**	14 52 25.5	-0.5
ORLT	**Orhaneli**	**0.85**	**263**	*e*PG	**Pg**	14 52 25.5	-1.1
ORLT	**Orhaneli**	**0.85**	**263**	*e*Pg	**Pg**	14 52 25.5	-1.1
ARMT	**Armutlu**	**0.96**	**295**	*e*PG	**Pg**	14 52 27.9	-0.8
ARMT	**Armutlu**	**0.96**	**295**	*e*Pg	**Pg**	14 52 27.9	-0.8
MDUB	**Mudurnu**	**0.97**	**71**	*e*PG	**Pg**	14 52 28.1	-0.7
MDUB	**Mudurnu**	**0.97**	**71**	*e*Pg	**Pg**	14 52 28.1	-0.7
SILT	**Sile**	**1.03**	**345**	*e*PG	**Pg**	14 52 29.2	-0.8
SILT	**Sile**	**1.03**	**345**	*e*Pg	**Pg**	14 52 29.2	-0.8
ALT	**Altintas**	**1.10**	**176**	*e*PN	**Pg**	14 52 30.6	-0.8
ALT	**Altintas**	**1.10**	**176**	*e*Pn	**Pg**	14 52 30.6	-0.8
ISK	**Istanbul-Kandi**	**1.16**	**322**	*e*PN	**Pg**	14 52 31.0	-1.4
ISK	**Istanbul-Kandi**	**1.16**	**322**	*e*Pn	**Pg**	14 52 31.0	-1.4
DST	**Dursunbey**	**1.20**	**243**	*e*PN	**Pg**	14 52 31.6	-1.6
DST	**Dursunbey**	**1.20**	**243**	*e*Pn	**Pg**	14 52 31.6	-1.6
DURS	**Dursunbey**	**1.30**	**245**	*i* P	**Pn**	14 52 34.1	-0.7
DURS				*i* S	**Sn**	14 52 54.5	+2.1
DURS	**Dursunbey**	**1.30**	**245**	*i* P	**Pn**	14 52 34.1	-0.7
DURS				*i* S	**Sn**	14 52 54.5	+2.1

*IDC **07** 15:19:57.4±1.6, 31˚.74N×49˚.39E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=31.3km s-min=29.0km az=29.0*
*KISR **07** 15:19:59.6±0.8, 31˚.42N×49˚.59E, h34km±136km, ML3.0*
*CSEM **07** 15:20:00.5±0.2, 31˚.74N×49˚.54E, h2km, ML3.2, Error ellipse: s-maj=7.7km s-min=4.7km az=112.0*
ISC 07 15:20:00.3±1.1, **31˚.58N**±0˚.04×**49˚.47E**±0˚.08, **h22**km±11km, **n22**, σ1**819**/29, **mb3.8**/6, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.78**	**313**	*e*Pg	**Pb**	15 20 14.1	-1.0
SHGR				*e*Sg	**Sb**	15 20 25.8	+0.6
KHMZ	**Khomeyn**	**2.19**	**11**	*e*Pn	**Pn**	15 20 36.9	+1.3
MIB	**Mutribah**	**2.55**	**227**	*e*P	**Pb**	15 20 45.6	+0.3
MIB	**Mutribah**	**2.55**	**227**	*e*P	**Pb**	15 20 45.6	+0.3
KBD	**Kabd**	**2.84**	**213**	*e*P	**Pb**	15 20 49.4	-0.9
KBD				*e*S	**Sb**	15 21 26.0	+1.3
KBD				AML	AML	15 21 27.3		
	comp=Z,34nm,0.4s							
KBD	**Kabd**	**2.84**	**213**	*e*P	**Pb**	15 20 49.4	-0.9
KBD				*e*S	**Sb**	15 21 26.0	+1.3
NAY	**Al-Naaiem**	**3.01**	**220**	*e*P	**Pb**	15 20 51.6	-1.6
NAY				*e*S	**Sb**	15 21 31.0	+1.4
NAY				AML	AML	15 21 32.4		
	comp=Z,30nm,0.4s							
NAY	**Al-Naaiem**	**3.01**	**220**	*e*P	**Pb**	15 20 51.7	-1.6
NAY				*e*S	**Sb**	15 21 31.0	+1.4
NASN	**Na'in**	**3.08**	**66**	*e*Pn	**Pn**	15 20 48.3	+0.4
RDF	**Al-Radifah**	**3.12**	**213**	*e*P	**Pb**	15 20 53.2	-1.9
RDF				*e*S	**Sb**	15 21 32.8	+0.1
RDF				AML	AML	15 21 34.9		
	comp=Z,76nm,0.5s							
RDF	**Al-Radifah**	**3.12**	**213**	*e*P	**Pb**	15 20 53.2	-1.9
RDF				*e*S	**Sb**	15 21 32.8	+0.1
	comp=Z,76nm,0.5s							
QRN	**Al-Qurain**	**3.13**	**206**	*e*P	Pb	15 20 52.3	-2.9
QRN				*e*S	**Sb**	15 21 33.0	+0.1
QRN				AML	AML	15 21 36.0		
	comp=Z,64nm,0.3s							
GHVR	**GHOM**	**3.28**	**27**	*e*Pn	**Pn**	15 20 51.5	+1.1
SNGE	**Sanandaj**	**3.93**	**334**	*e*Pn	**Pn**	15 20 59.6	+0.1
WSAR	**Wadi Sarin**	**11.62**	**133**	Pn	**Pn**	15 22 45.0	+0.1
	comp=Z,0.5nm,0.3s,baz=265,slow=21,SNR=4.9							
BRTR	**Keskin Array B**	**15.21**	**307**	Pn	**P**	15 23 39.5	+0.9
	comp=Z,0.2nm,0.3s,baz=125,slow=12,SNR=6.8							
AKASG	**Malin Array Be**	**24.30**	**328**	P	**P**	15 25 14.8	-1.2
	comp=Z,0.4nm,0.3s,baz=122,slow=6.7,SNR=3.8							
KURBB	**Kurchatov Arra**	**28.73**	**40**	P	**P**	15 25 56.6	+0.7
	comp=Z,0.2nm,0.3s,baz=240,slow=9.5,SNR=4.3							
FINES	**FINESS Array B**	**33.55**	**340**	P	**P**	15 26 36.9	-1.3
	comp=Z,0.8nm,0.4s,baz=147,slow=10.0,SNR=20							
HFS	**Hagfors**	**37.09**	**331**	P	**P**	15 27 07.4	-1.2
	comp=Z,1.1nm,0.3s,baz=128,slow=9.6,SNR=14							
NOA	**NORSAR Array B**	**38.61**	**331**	P	**P**	15 27 19.8	-1.7
	comp=Z,0.6nm,0.6s,baz=130,slow=7.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**47.43**	**258**	P	**P**	15 28 34.4	+1.0
	comp=Z,1.2nm,0.8s,baz=54,slow=8.3,SNR=7.6							

*ISCJB **07** 15:51:35.5±0.4, 39˚.43N±0˚.03×28˚.15E±0˚.04, h9km±5km, Error ellipse: s-maj=4.6km s-min=4.6km az=33.8*
*ISK **07** 15:51:35.2, 39˚.41N×28˚.09E, h18km, MD2.8*
*DDA **07** 15:51:35.4, 39˚.44N×28˚.17E, h7km, MD2.8*
*CSEM **07** 15:51:35.5±0.2, 39˚.42N×28˚.14E, h10km, MD2.8, Error ellipse: s-maj=4.0km s-min=3.9km az=55.0*
ISC 07 15:51:35.1±1.2, **39˚.42N**±0˚.02×**28˚.13E**±0˚.02, **h2**km±11km, **n50**, σ0**979**/64, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.29**	**319**	PG	**Pg**	15 51 41.6	+0.8
BALB				*e*SG	**Sb**	15 51 47.3	-1.1
BALB	**Balikesir**	**0.29**	**319**	*i* Pg	**Pg**	15 51 41.6	+0.8
BALB				*e*Sg	**Sb**	15 51 47.3	-1.1
DURS	**Dursunbey**	**0.32**	**56**	*i* P	**Pg**	15 51 41.3	-0.1
DURS				*i* S	**Sg**	15 51 45.9	+0.3
DURS	**Dursunbey**	**0.32**	**56**	*i* P	**Pg**	15 51 41.3	-0.1
DURS				*i* S	**Sg**	15 51 45.9	+0.3
BALY	**Balya**	**0.51**	**309**	*i* P	**Pg**	15 51 45.1	+0.2
BALY				*i* S	**Sb**	15 51 53.8	-0.9
BALY	**Balya**	**0.51**	**309**	*i* P	**Pg**	15 51 45.1	+0.2
BALY				*i* S	**Sb**	15 51 53.8	-0.9
AKHS	**Akhisar**	**0.59**	**205**	*i* P	**Pg**	15 51 47.3	+0.8
AKHS				*i* S	**Sb**	15 51 57.0	-0.1
AKHS	**Akhisar**	**0.59**	**205**	*i* P	**Pg**	15 51 47.3	+0.8
AKHS				*i* S	**Sb**	15 51 57.0	-0.1
AKS	**Akhisar**	**0.59**	**205**	*e*PG	**Pg**	15 51 47.3	+0.8
AKS	**Akhisar**	**0.59**	**205**	*e*Pg	**Pg**	15 51 47.3	+0.8
GONE	**Gonen-Balikesi**	**0.71**	**331**	*e*PG	**Pg**	15 51 49.0	+0.1
GONE	**Gonen-Balikesi**	**0.71**	**331**	*e*Pg	**Pg**	15 51 49.0	+0.2
EDC	**Edincik**	**0.95**	**348**	*e*PG	**Pb**	15 51 54.1	-0.2
EDC	**Edincik**	**0.95**	**348**	*e*Pg	**Pb**	15 51 54.1	-0.2
BNT	**Bandirma**	**0.95**	**350**	*e*PG	**Pb**	15 51 54.3	0.0
BNT	**Bandirma**	**0.95**	**350**	*e*Pg	**Pb**	15 51 54.3	0.0
KULA	**Kula-Manisa**	**0.99**	**155**	*e*PG	**Pb**	15 51 55.1	0.0
KULA	**Kula-Manisa**	**0.99**	**155**	*e*Pg	**Pb**	15 51 55.1	0.0
TVSB	**Tavsanli**	**1.03**	**88**	*e*PG	**Pb**	15 51 55.8	0.0
TVSB	**Tavsanli**	**1.03**	**88**	*e*Pg	**Pb**	15 51 55.8	0.0
GDZ	**Gediz**	**1.10**	**107**	*e*P	**Pg**	15 51 55.9	-0.3
GDZ				*e*S	**Sb**	15 52 11.8	0.0
GDZ	**Gediz**	**1.10**	**107**	*e*P	**Pg**	15 51 55.9	-0.3
GDZ				*e*S	**Sb**	15 52 11.8	0.0
MDNY	**Mudanya-Bursa**	**1.11**	**31**	*e*PN	**Pb**	15 51 56.9	-0.2
MDNY	**Mudanya-Bursa**	**1.11**	**31**	*e*Pn	**Pb**	15 51 56.9	-0.2
AYVA	**Ayvalik**	**1.12**	**265**	*i* P	**Pn**	15 51 58.6	+0.8
AYVA				*i* S	**Sn**	15 52 15.8	+2.0
AYVA	**Ayvalik**	**1.12**	**265**	*i* P	**Pn**	15 51 58.6	+0.8
AYVA				*i* S	**Sn**	15 52 15.8	+2.0
KRBG	**Karabiga-Canak**	**1.16**	**327**	*e*PN	**Pg**	15 51 57.4	-0.1
KRBG	**Karabiga-Canak**	**1.16**	**327**	*e*Pn	**Pg**	15 51 57.4	-0.1
IZM	**Izmir**	**1.23**	**214**	*e*PN	**Pb**	15 51 57.3	-1.7
IZM	**Izmir**	**1.23**	**214**	*e*Pn	**Pb**	15 51 57.3	-1.7
ARMT	**Armutlu**	**1.27**	**26**	*e*PN	**Pn**	15 51 59.4	-0.6
ARMT	**Armutlu**	**1.27**	**26**	*e*Pn	**Pn**	15 51 59.4	-0.6
GEMT	**Gemlik**	**1.30**	**38**	*e*PN	**Pn**	15 51 59.5	-0.8
GEMT	**Gemlik**	**1.30**	**38**	*e*Pn	**Pn**	15 51 59.5	-0.8
BLCB	**Balcova**	**1.34**	**220**	*e*PN	**Pn**	15 51 59.0	-1.8
BLCB	**Balcova**	**1.34**	**220**	*e*Pn	**Pn**	15 51 59.0	-1.8
RKY	**Sarkoy-Tekirda**	**1.46**	**330**	*e*PN	**Pn**	15 52 01.4	-1.2
RKY	**Sarkoy-Tekirda**	**1.46**	**330**	*e*Pn	**Pn**	15 52 01.4	-1.2
CAVI	**Cavuskoy**	**1.53**	**59**	*e*PN	**Pn**	15 52 03.0	-0.5
CAVI	**Cavuskoy**	**1.53**	**59**	*e*Pn	**Pn**	15 52 03.0	-0.5
ALT	**Altintas**	**1.58**	**103**	*e*PN	**Pn**	15 52 03.4	-0.8
ALT	**Altintas**	**1.58**	**103**	*e*Pn	**Pn**	15 52 03.4	-0.8
ADVT	**Abdulvahap**	**1.60**	**50**	*e*PN	**Pn**	15 52 03.9	-0.5
ADVT	**Abdulvahap**	**1.60**	**50**	*e*Pn	**Pn**	15 52 03.9	-0.5
HRT	**Hereke**	**1.83**	**40**	*e*PN	**Pn**	15 52 07.3	-0.3
HRT	**Hereke**	**1.83**	**40**	*e*Pn	**Pn**	15 52 07.3	-0.3
BORA	**Eskisehir**	**1.85**	**75**	*e*P	**Pb**	15 52 09.7	0.0
BORA				*e*S	**Sg**	15 52 35.1	+0.4
BORA	**Eskisehir**	**1.85**	**75**	*e*P	**Pb**	15 52 09.7	0.0
BORA				*e*S	**Sg**	15 52 35.1	+0.4
GULT	**Gulveren**	**2.09**	**60**	*e*PN	**Pn**	15 52 11.1	-0.2
GULT	**Gulveren**	**2.09**	**60**	*e*Pn	**Pn**	15 52 11.1	-0.2

*ISCJB **07** 16:09:55.6±0.5, 38˚.35N±0˚.03×28˚.15E±0˚.03, h4km±6km, Error ellipse: s-maj=4.6km s-min=4.4km az=153.6*
*ISK **07** 16:09:55.1, 38˚.36N×28˚.17E, h10km, MD2.7*
*CSEM **07** 16:09:55.8±0.2, 38˚.34N×28˚.16E, h10km, MD2.8, Error ellipse: s-maj=3.6km s-min=3.2km az=10.0*
*DDA **07** 16:09:56.0, 38˚.35N×28˚.17E, h7km, MD2.8*
ISC 07 16:09:55.8±1.0, **38˚.34N**±0˚.03×**28˚.16E**±0˚.02, **h10**km±11km, **n31**, σ0**957**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.35**	**63**	*i* P	**Pb**	16 10 03.4	-0.8
MANT				*i* S	**Sg**	16 10 07.9	+0.5
MANT	**Manisa**	**0.35**	**63**	*i* P	**Pb**	16 10 03.4	-0.8
MANT				*i* S	**Sg**	16 10 07.9	+0.5
KULA	**Kula-Manisa**	**0.43**	**65**	PG	**Pg**	16 10 04.3	0.0
KULA				SG	**Sg**	16 10 10.1	+0.1
KULA	**Kula-Manisa**	**0.43**	**65**	*i* Pg	**Pg**	16 10 04.3	0.0
KULA				*i* Sg	**Sg**	16 10 10.1	+0.1
AKHS	**Akhisar**	**0.61**	**333**	*i* P	Pg	16 10 02.1	-5.5
AKHS				*i* S	**Sg**	16 10 15.6	0.0
AKS	**Akhisar**	**0.61**	**333**	*e*PG	**Pg**	16 10 07.6	0.0
AKS				*e*SG	**Sg**	16 10 15.5	-0.1
AKS	**Akhisar**	**0.61**	**333**	*e*Pg	**Pg**	16 10 07.6	0.0
AKS				*e*Sg	**Sg**	16 10 15.5	-0.1
AYDN	**Tasoluk**	**0.71**	**198**	*i* P	**Pg**	16 10 09.7	+0.2
AYDN				*i* S	**Sb**	16 10 20.2	+0.2
AYDN	**Tasoluk**	**0.71**	**198**	*i* P	**Pg**	16 10 09.7	+0.2
AYDN				*i* S	**Sb**	16 10 20.2	+0.2
IZM	**Izmir**	**0.71**	**275**	*e*PG	**Pg**	16 10 09.3	-0.2
IZM	**Izmir**	**0.71**	**275**	*e*Pg	**Pg**	16 10 09.3	-0.2
DEMI	**Demirci**	**0.83**	**31**	*i* P	**Pb**	16 10 12.0	-0.3
DEMI				*i* S	**Sg**	16 10 22.4	-0.2
DEMI	**Demirci**	**0.83**	**31**	*i* P	**Pb**	16 10 12.0	-0.3
DEMI				*i* S	**Sg**	16 10 22.4	-0.2
BLCB	**Balcova**	**0.88**	**274**	*e*PG	**Pg**	16 10 12.6	-0.2
BLCB	**Balcova**	**0.88**	**274**	*e*Pg	**Pg**	16 10 12.6	-0.2
DNZL	**Cakiroluk**	**0.95**	**132**	*i* P	**Pg**	16 10 13.9	-0.2
DNZL				*i* S	**Sb**	16 10 28.1	+1.0
DNZL	**Cakiroluk**	**0.95**	**132**	*i* P	**Pg**	16 10 13.9	-0.2
DNZL				*i* S	**Sb**	16 10 28.1	+1.0
KHAL	**Karahalli**	**1.05**	**88**	*i* P	**Pn**	16 10 17.4	+0.8
KHAL				*i* S	**Sb**	16 10 29.7	-0.1
KHAL	**Karahalli**	**1.05**	**88**	*i* P	**Pn**	16 10 17.4	+0.8
KHAL				*i* S	**Sb**	16 10 29.7	-0.1
KHL	**Karahalli**	**1.07**	**90**	*e*PG	**Pg**	16 10 15.4	-0.9
KHL	**Karahalli**	**1.07**	**90**	*e*Pg	**Pg**	16 10 15.4	-0.9
DURS	**Dursunbey**	**1.29**	**11**	*i* P	**Pg**	16 10 21.3	+0.8
DURS				*i* S	**Sg**	16 10 39.2	+2.0
DURS	**Dursunbey**	**1.29**	**11**	*i* P	**Pg**	16 10 21.3	+0.8
DST	**Dursunbey**	**1.32**	**16**	*e*PN	**Pn**	16 10 19.7	-0.5
DST	**Dursunbey**	**1.32**	**16**	*e*Pn	**Pn**	16 10 19.7	-0.5
BALB	**Balikesir**	**1.32**	**350**	*e*PN	**Pn**	16 10 20.1	-0.1
BALB	**Balikesir**	**1.32**	**350**	*e*Pn	**Pn**	16 10 20.1	-0.1
TVSB	**Tavsanli**	**1.50**	**42**	*e*PN	**Pn**	16 10 22.4	-0.5
TVSB	**Tavsanli**	**1.50**	**42**	*e*Pn	**Pn**	16 10 22.4	-0.5
GONE	**Gonen-Balikesi**	**1.75**	**348**	*e*PN	**Pn**	16 10 26.0	-0.1
GONE	**Gonen-Balikesi**	**1.75**	**348**	*e*Pn	**Pn**	16 10 26.0	-0.1

*ISK **07** 16:22:43.3, 38˚.63N×31˚.32E, h5km, MD3.0*
*DDA **07** 16:22:43.6, 38˚.68N×31˚.32E, h7km, MD3.2*
*CSEM **07** 16:22:43.5±0.1, 38˚.63N×31˚.33E, h0km±1km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.7km az=12.0*
ISC 07 16:22:43.8±1.1, **38˚.64N**±0˚.03×**31˚.33E**±0˚.02, **h6**km±10km, **n65**, σ0**960**/78, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.31**	**285**	*i* Pg	**Pg**	16 22 50.1	+0.2
BOLV				*i* Sg	**Sg**	16 22 54.1	+0.1
SHUT	**Suhut-Afyon**	**0.62**	**262**	PG	**Pg**	16 22 55.9	+0.2
SHUT				SG	**Sg**	16 23 04.3	+0.5
SHUT	**Suhut-Afyon**	**0.62**	**262**	*i* Pg	**Pg**	16 22 55.9	+0.2
SHUT				*i* Sg	**Sg**	16 23 04.3	+0.5
KDHN	**Kadinhani**	**0.63**	**101**	*e*P	**Pg**	16 22 56.2	+0.4
KDHN				*e*S	**Sg**	16 23 04.4	+0.4
KDHN	**Kadinhani**	**0.63**	**101**	*e*P	**Pg**	16 22 56.2	+0.4
KDHN				*e*S	**Sg**	16 23 04.4	+0.4
SVRH	**Sivrihisar-ESK**	**0.82**	**10**	*e*PG	**Pg**	16 22 59.2	-0.3
SVRH	**Sivrihisar-ESK**	**0.82**	**10**	*e*Pg	**Pg**	16

374nm,0.8s,9µm1.1nm
TTSI Tana Toraja 6.54 326 P **Pn** **16 28 56.6 +2.0**
365nm,1.0s,4µm1.4nm
MJSI Majene 6.66 317 P **Pn** **16 28 58.3 +2.1**
214nm,0.9s,4µm0.7nm
AAI Ambon 6.68 45 P **Pn** **16 28 57.2 +0.7**
279nm,0.8s,3µm0.9nm
MSAI Masohi 7.44 47 P **Pn** **16 29 09.0 +2.5**
76nm,1.0s,2µm0.6nm
LUWI Luwuk 7.45 354 P **Pn** **16 29 08.0 +1.5**
396nm,1.1s,6µm2.2nm
BNDI Bandanaira 7.49 59 P Pn 16 29 19.7 +13
KHKI Kahang-Kahang 7.81 270 P **Pn** **16 29 08.7 -2.6**
95nm,0.7s,2µm1.8nm
DNP Denpasar 8.20 268 P **Pn** **16 29 15.6 -0.8**
486nm,0.7s,15µm
SRBI Singaraja 8.21 272 P **Pn** **16 29 14.7 -1.9**
139nm,0.7s,1µm1.2nm
IGBI Denpasar 8.27 267 P **Pn** **16 29 14.6 -2.7**
137nm,0.8s,22µm
LBMI Labuha 8.77 27 P **Pn** **16 29 24.3 +0.3**
215nm,1.1s,3µm
KMSI Cibinong 9.03 3 P **Pn** **16 29 28.7 +1.3**
648nm,0.8s,8µm
BYJI Banyuwangi 9.05 271 P Pn 16 29 39.5 +12
MRSI Marisa 9.05 350 P **Pn** **16 29 27.5 -0.2**
208nm,1.1s,2µm
JAGI Jajag, Banyuwa 9.25 270 P **Pn** **16 29 27.7 -2.5**
147nm,1.0s,2µm
KMMI Kalianget 9.56 278 P **Pn** **16 29 34.9 +0.6**
228nm,0.8s,2µm
TLE Tual 9.60 73 P **Pn** **16 29 32.7 -2.2**
435nm,0.9s
FITZ Fitzroy Crossi 9.77 168 P Pn 16 29 32.6 -4.4
29nm,0.3s,baz=356,slow=9.5,SNR=673
FITZ S Sn 16 31 14.5 -11
124nm,0.3s,baz=154,slow=8.4,SNR=17
FITZ LR LR 16 34 13.8
comp=Z,518nm,18.8s,baz=352,slow=42
FITZ Fitzroy Crossi 9.77 168 *e*Pn Pn 16 29 32.2 -4.8
192nm,0.6s
FITZ *e*Sn Sn 16 31 14.3 -12
FITZ S 16 31 14.5
BLJI Banyuglugur 9.84 274 P **Pn** **16 29 36.9 -1.1**
225nm,0.6s,2µm
GMJI Gumukmas 9.95 271 P **Pn** **16 29 37.0 -2.5**
106nm,0.9s,2µm
BBKI Banjar Baru 9.96 300 P **Pn** **16 29 41.9 +2.3**
505nm,1.2s,6µm
MNI Manado 9.97 8 P **Pn** **16 29 41.0 +1.3**
267nm,0.8s,4µm
TNTI Ternate 9.99 23 P **Pn** **16 29 39.9 0.0**
704nm,1.2s,7µm
SMKI Samarinda 10.16 322 P **Pn** **16 29 44.8 +2.5**
231nm,1.0s,3µm
FAKI Fak Fak 10.32 58 P Pn 16 29 40.8 -3.5
173nm,0.7s,2µm
SWI Sorong 10.83 46 P **Pn** **16 29 49.2 -1.8**
403nm,0.9s,4µm
KRKI Karangkates 10.94 271 P **Pn** **16 29 53.1 +0.8**
504nm,0.6s,15µm
PWJI Pagerwojo 11.59 272 P **Pn** **16 29 58.9 -1.8**
393nm,0.8s
SJI Sawahan 11.64 273 P **Pn** **16 30 02.0 +0.5**
592nm,0.7s,7µm
PCJI Pacitan 12.20 271 P **Pn** **16 30 06.6 -2.0**
728nm,0.6s,9µm
UGM Wanagama 12.86 272 P **P** **16 30 19.3 -1.9**
346nm,1.2s,4µm
SMRI Semarang 13.02 275 P **Pn** **16 30 18.7 -0.4**
269nm,0.8s
YOGI Yogyakarta 13.09 272 P **P** **16 30 23.7 0.0**
657nm,0.9s,7µm
MBWA Marble Bar 13.10 196 *e*Pn **Pn** **16 30 17.1 -2.8**
302nm,0.7s
MBWA *e* 16 30 23.9
MBWA *e*Sn Sn 16 32 32.1 -14
MBWA Marble Bar 13.10 196 P **Pn** **16 30 17.8 -2.2**
SNR=22
PBKI Pangkalan Bun 13.10 295 P **Pn** **16 30 21.7 +1.6**
334nm,1.0s,3µm
BJII Banjamegara 13.71 274 P **Pn** **16 30 26.5 -1.3**
179nm,0.9s,2µm
TSM Tawau 13.89 336 P **P** **16 30 32.8 +0.2**
TGJI Tegal 14.34 276 P **Pn** **16 30 33.6 -2.1**
170nm,0.9s
CLJI Cilicap 14.36 272 P **Pn** **16 30 33.4 -2.5**
198nm,0.9s,2µm
MYLDM Lahad Datu 14.48 340 P **P** **16 30 41.2 +2.1**
MYLDM Lahad Datu 14.48 340 P **P** **16 30 41.3 +2.2**
552nm,1.2s,7µm
BAKI Biak 14.50 61 P **P** **16 30 39.4 0.0**
258nm,1.2s,2µm
STKI Sintang 14.70 305 P **P** **16 30 41.7 +0.1**
261nm,1.1s
SDKM Sandakan 15.39 336 P **P** **16 30 51.3 +1.9**
WRA Warramunga Arr 15.47 138 P **Pn** **16 30 45.6 -3.9**
14nm,0.3s,baz=316,slow=12,SNR=168
WRA S Sn 16 33 25.7 -17
56nm,0.3s,baz=311,slow=24,SNR=12
WRA LR LR 16 37 52.7
comp=Z,782nm,18.4s,baz=330,slow=41
WRA P3KPbc 17 06 11.7
0.0nm,0.3s,baz=138,slow=4.4,SNR=8.4
WRA Warramunga Arr 15.47 138 P **Pn** **16 30 45.6 -3.9**
WRA S Sn 16 33 25.7 -17
WRA *e* 17 06 11.7
WRAB Tennant Creek 15.47 138 *e*P **Pn** **16 30 45.7 -3.9**
WRAB pmax pmax
comp=Z,1µm,0.9s
WRAB Tennant Creek 15.47 138 *e*Pn **Pn** **16 30 45.6 -3.9**
comp=Z,1µm,0.9s
WRAB *e*Sn Sn 16 33 25.3 -17
WRAB Tennant Creek 15.47 138 Pn **Pn** **16 30 45.0 -4.5**
comp=Z,7µm,0.7s
CISI Cisompet, Garu 15.56 272 P **Pn** **16 30 49.8 -0.9**
comp=Z,581nm,0.8s,comp=Z,5µm
BTM Bintulu 15.59 318 P **P** **16 30 54.0 +2.5**
MATI Mati 15.59 10 *e*P **Pn** **16 30 50.2 -0.8**
MATI *e*S Px 16 31 13.0
DAV Davao City (W) 15.61 8 P **Pn** **16 30 50.1 -1.1**
comp=Z,21nm,0.3s,baz=45,slow=5.1,SNR=12
DAV Davao City (W) 15.61 8 P **Pn** **16 30 50.1 -1.1**
DAV Davao City (W) 15.61 8 P **P** **16 30 51.9 +0.2**
comp=Z,583nm,0.9s,comp=Z,6µm
DMPH Davao City--Mi 15.61 7⇑ *e*P **Pn** **16 30 51.3 +0.1**
DMPH *e*S Px 16 31 08.3
DMPH Davao City--Mi 15.61 7 *e*P P 16 31 26.7 +35
SBUM Sibu 15.65 314 P **P** **16 30 54.4 +2.3**
SBUM Sibu 15.65 314 P **P** **16 30 53.8 +1.7**
comp=Z,720nm,0.9s,comp=Z,7µm
WAMI Wamena 15.80 74 P **P** **16 30 57.4 +3.6**
comp=Z,256nm,0.8s,comp=Z,3µm
LEM Lembang 15.83 275 P **Pn** **16 30 53.7 -0.4**
comp=Z,587nm,0.8s,comp=Z,4µm
KKM Kota Kinabalu 16.17 333⇑ *i*Pn **Pn** **16 30 59.9 +1.7**
comp=Z,542nm,1.1s
KKM Kota Kinabalu 16.17 333 P **Pn** **16 31 00.5 +2.3**
KKM Kota Kinabalu 16.17 333 P **Pn** **16 31 00.2 +2.0**
comp=Z,513nm,1.1s,comp=Z,7µm
PAGZ Pagadian 16.24 360 *e*P **Pn** **16 31 01.0 +2.1**
BUKP Musuan 16.35 6 *e*P **Pn** **16 31 01.0 +0.8**
SMPI Sarmi 16.46 68 P **Pn** **16 31 04.9 +3.3**
comp=Z,100nm,1.1s,comp=Z,3µm
KSM Kuching 16.47 306⇑ *e*P **Pn** **16 31 02.5 +0.9**
comp=Z,104nm,0.6s
KSM Kuching 16.47 306 P **Pn** **16 31 03.0 +1.3**
KSM Kuching 16.47 306 P **Pn** **16 31 02.5 +0.9**
comp=Z,326nm,0.8s,comp=Z,4µm
CBJI Citeko 16.64 276 P **P** **16 31 01.9 -1.1**
comp=Z,3µm,0.8s,comp=Z,19µm
KDM Kudat 16.70 336 P **Pn** **16 31 05.8 +1.5**
MMPI Merauke 16.70 91 P **Pn** **16 31 08.6 +4.2**
comp=Z,687nm,1.0s,comp=Z,7µm
DBJI Dramaga 16.72 276 P **P** **16 31 04.0 0.0**
comp=Z,685nm,1.1s,comp=Z,6µm
CGP Cagayan de Oro 16.89 4 *e*P **Pn** **16 31 07.3 +0.6**
SBJI Serang 17.39 277 P **P** **16 31 11.4 +0.1**
comp=Z,275nm,1.0s,comp=Z,4µm
BUTP Butuan 17.48 7 *e*P **Pn** **16 31 14.4 +0.7**
ASAR Alice Springs 18.07 148 P **P** **16 31 19.1 +0.3**
comp=Z,49nm,0.3s,baz=328,slow=11,SNR=2097
ASAR S **S** 16 34 31.2 -5.6
comp=Z,17nm,0.3s,baz=326,slow=25,SNR=12
ASAR ScP **ScP** 16 39 03.5 -0.1
comp=Z,2.3nm,0.3s,baz=314,slow=1.3,SNR=5.0
ASAR ScS **ScS** 16 42 43.8 -0.9
baz=344,slow=4.3,SNR=5.1
ASAR P3KPbc 17 05 58.5
comp=Z,0.0nm,0.3s,baz=139,slow=3.4,SNR=8.3
ASAR Alice Springs 18.07 148 P **P** **16 31 19.1 +0.3**
ASAR S **S** **16 34 31.2 -5.6**
ASAR ScP **ScP** **16 39 03.5 -0.1**
ASAR ScS **ScS** **16 42 43.8 -0.9**
ASAR *e* 17 05 58.5
TBP Tagbilaran 18.08 1 *e*P **Pn** **16 31 21.5 +0.7**
BATP Bataraza 18.10 342 *e*P **Pn** **16 31 20.6 -0.4**
JAY Jayapura 18.12 72 P Pn 16 31 30.5 +9.2
BLSI Bandar Lampung 18.39 279 P **Pn** **16 31 26.3 +1.9**
comp=Z,110nm,0.8s
PPBI Pangkal Pinang 18.39 289 P **P** **16 31 22.3 0.0**
comp=Z,292nm,0.8s,comp=Z,2µm
MSLP Maasin 18.56 4 *e*P **Pn** **16 31 25.5 -0.9**
GUIM Jordan 19.02 357 *e*P **P** **16 31 30.3 +1.2**
KASI Kota Agung 19.09 278 P **P** **16 31 27.2 -2.6**
comp=Z,254nm,0.7s,comp=Z,2µm
CUYO Cuyo Island 19.38 353 *e*P **Pn** **16 31 35.2 -0.9**
PMBI Palembang 19.43 285 P **Pn** **16 31 39.2 +2.5**
comp=Z,499nm,1.1s
OCLP Ormoc 19.46 3 *e*P **Pn** **16 31 35.7 -1.3**
PLP Palo 19.59 4⇓ *e*P **P** **16 31 36.6 +1.4**
ENPP El Nido 19.99 348 *e*P **P** **16 31 41.3 +1.8**
COEN Coen 20.04 107⇓ *i*P **P** **16 31 39.3 -0.7**
comp=Z,3µm,0.7s
COEN *e*S S 16 35 02.2 -14
CNP Catarman 20.91 3 *e*P **P** **16 31 50.8 +1.6**
KSI Kapahiang 21.34 282 P **P** **16 31 55.7 +1.8**
comp=Z,95nm,0.7s
AUQP San Andres 21.70 358 *e*P **P** **16 32 00.4 +2.8**
MYKOM Kota Tinggi 22.10 297 P **P** **16 32 02.9 +1.2**
LUBP Lubang 22.33 352 *e*P **P** **16 32 05.2 +1.4**
FORT Forrest 22.57 170⇓ *i*P **P** **16 32 05.2 -0.7**
comp=Z,451nm,0.6s
FORT *e*S S 16 36 14.8 +15
TGY Tagaytay City 22.60 354 P **P** **16 32 06.5 +0.2**
comp=Z,698nm,0.5s,baz=189,slow=1.1,SNR=44
TGY Tagaytay City 22.60 354 P **P** **16 32 06.5 +0.2**
KGM Kluang 22.67 297 P **P** **16 32 08.1 +1.1**
PMG Port Moresby 23.39 94 P **P** **16 32 12.5 -1.0**
comp=Z,108nm,0.6s,baz=270,slow=1.2,SNR=74
PMG Port Moresby 23.39 94 *e*P **P** **16 32 11.8 -1.7**
comp=Z,103nm,0.6s
PMG LR LR
comp=Z,670nm,19.0s
PMG Port Moresby 23.39 94 P **P** **16 32 13.5 0.0**
comp=Z,160nm,0.8s,comp=Z,2µm
BKNI Bangkinang 24.04 290 P **P** **16 32 19.5 0.0**
comp=Z,241nm,0.9s,comp=Z,2µm
BALP Baler 24.16 355 *e*P **P** **16 32 21.2 +0.8**
PPI Padang Panjang 24.36 288 P **P** **16 32 21.2 -1.2**
SCZP Santa Cruz 24.38 352 *e*P **P** **16 32 21.1 -1.3**
CTA Charters Tower 24.84 120 P **P** **16 32 27.6 +0.9**
comp=Z,130nm,0.9s,baz=297,slow=10.0,SNR=87
CTA Charters Tower 24.84 120 P **P** **16 32 27.6 +0.9**
CTAO Charters Tower 24.84 120⇓ *e*P **P** **16 32 27.0 +0.3**
CTAO pmax pmax
comp=Z,194nm,1.0s
CTAO MLR MLR
comp=Z,1µm,21.0s
CTAO Charters Tower 24.84 120⇓ *e*P **P** **16 32 27.0 +0.3**
comp=Z,194nm,1.0s
CTAO LR LR
comp=Z,1µm,21.0s
NWAO Narrogin (SRO) 24.99 193 P **P** **16 32 28.2 +0.4**
comp=Z,188nm,0.5s,baz=22,slow=9.2,SNR=144
NWAO Narrogin (SRO) 24.99 193⇓ *i*P **P** **16 32 27.8 -0.1**
comp=Z,280nm,0.9s
NWAO Narrogin (SRO) 24.99 193 P **P** **16 32 28.3 +0.5**
SNR=12
CAUP Cauayan 25.34 356 *e*P **P** **16 32 32.2 +1.1**
PALP Palanan 25.42 358 *e*P **P** **16 32 32.0 +0.1**
PALP Palanan 25.42 358⇑ *e*P **P** **16 32 32.7 +0.9**
IPM Ipoh 25.86 299⇑ *i*P **P** **16 32 35.4 -0.6**
comp=Z,88nm,1.1s
IPM Ipoh 25.86 299 P **P** **16 32 36.4 +0.4**
ABRA Dolores 26.13 354 *e*P **P** **16 32 36.5 -1.8**
KULM Kulim 26.59 300⇑ *i*P **P** **16 32 41.4 -1.1**
comp=Z,55nm,0.8s
KULM LR LR
comp=Z,274nm,19.0s
KULM Kulim 26.59 300 P **P** **16 32 42.7 +0.2**
BBOO Buckleboo 26.84 156⇓ *i*P **P** **16 32 44.5 0.0**
comp=Z,3µm,0.6s
PSI Prapat 26.96 294 P **P** **16 32 45.4 -0.5**
comp=Z,83nm,0.9s,baz=142,slow=6.8,SNR=56
PSI Prapat 26.96 294 P **P** **16 32 45.4 -0.5**
STKA Stephens Creek 28.70 147 P **P** **16 33 01.8 +0.7**
comp=Z,222nm,0.7s,baz=315,slow=9.1,SNR=381
STKA Stephens Creek 28.70 147⇓ *i*P **P** **16 33 01.5 +0.4**
comp=Z,0.8nm,0.5s
QIZ Qiongzhong 30.49 334 P **P** **16 33 17.1 +0.1**
QIZ sP **sP** 16 34 13.5 -0.7
QIZ S **S** 16 38 05.3 0.0
QIZ sS **sS** 16 39 12.4 +2.0
QIZ pmax pmax
comp=Z,33nm,1.3s
QIZ pmax pmax
comp=Z,260nm,5.2s
EIDS Eidsvold 31.16 126 *e*P **P** **16 33 22.6 -0.3**
comp=Z,20nm,0.8s
EIDS *e*PP **PnPn** 16 34 28.8 -3.8
TPUB Ta-pu 31.73 355 *e*P **P** **16 33 27.7 -0.1**
comp=Z,105nm,0.9s
YULB Yu-li 31.77 356 *e*P **P** **16 33 26.2 -1.9**
comp=Z,55nm,0.8s
SSLB Sunglung 32.19 356 *e*P **P** **16 33 30.1 -1.7**
comp=Z,110nm,0.9s
NACB Ninganchiao 32.53 357 *e*P **P** **16 33 33.6 -1.1**
comp=Z,127nm,1.3s
YHNB Yeheng 33.03 356 *e*P **P** **16 33 37.5 -1.7**
comp=Z,143nm,1.0s
QZH Quanzhou 33.59 352⇑ *i*P **P** **16 33 45.7 +1.8**
QZH pmax pmax
comp=Z,160nm,0.8s
ARMA Armidale 34.15 133 *e*P **P** **16 33 50.7 +1.7**
comp=Z,96nm,0.8s
ARMA *e*PP **PnPn** 16 35 09.3 -0.4
ARMA *e*ScP **ScP** 16 39 52.5 +2.0
CAN Canberra 35.45 143 *e*P **P** 16 34 01.2 +1.3
CAN *e* 16 35 20.8
CAN pmax pmax
comp=Z,109nm,0.9s
CAN Canberra 35.45 143 *e*P **P** **16 34 01.2 +1.3**
comp=Z,109nm,0.9s
CAN *e*PP **PP** 16 35 20.8 -3.4
CAN *e*ScP **ScP** 16 39 55.5 +0.6
HNR Honiara 36.00 94⇓ *e*P **P** 16 34 03.6 -1.2
comp=Z,123nm,0.8s
HNR *e*ScP **ScP** 16 39 58.9 +1.7
HNR LR LR
comp=Z,188nm,20.0s
CM31 Chiang Mai Arr 36.12 318⇑ *e*P **P** **16 34 06.0 +0.3**
comp=Z,51nm,0.7s
CM31 *e*ScP **ScP** 16 39 59.2 +1.6
CMAR Chiang Mai Arr 36.12 318 P **P** **16 34 06.2 +0.5**
comp=Z,55nm,0.7s,baz=148,slow=6.6,SNR=266
CMAR PcP **PcP** 16 36 29.1 +1.3
comp=Z,6.1nm,0.8s,baz=181,slow=2.5,SNR=5.5
CMAR ScP **ScP** 16 39 58.6 +1.0
comp=Z,4.8nm,0.8s,baz=166,slow=3.2,SNR=10
CMAR LR LR 16 49 12.1
comp=Z,196nm,18.6s,baz=147,slow=36
CMAR Chiang Mai Arr 36.12 318 P **P** **16 34 06.2 +0.5**
CMAR PcP **PcP** 16 36 29.1 +1.3
CMAR ScP **ScP** 16 39 58.6 +1.0
CHTO Chiang Mai 36.38 318 *e*P **P** **16 34 08.0 +0.1**
CHTO pmax pmax
comp=Z,63nm,0.8s
CHTO MLR MLR
comp=Z,246nm,20.0s
CHTO Chiang Mai 36.38 318 *e*P **P** **16 34 08.0 +0.1**
comp=Z,63nm,0.8s
CHTO *e*ScP **ScP** 16 39 59.3 +0.8
CHTO LR LR
comp=Z,246nm,20.0s
CHTO Chiang Mai 36.38 318 P **P** **16 34 08.8 +0.9**
SNR=32
GYA Guiyang 38.41 335⇑ *i*P **P** **16 34 25.2 +0.2**
GYA pP **pP** 16 35 05.4 +2.5
GYA sP **sP** 16 35 25.8 +2.8
GYA PP **PnPn** 16 36 02.1 +1.4
GYA PcP **PcP** 16 36 36.0 +1.2
GYA S **S** **16 40 08.4 +1.5**
GYA sS **sS** **16 41 16.8 +3.5**
GYA SS **SS** **16 42 58.9 -4.9**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,180nm,4.9s
GYA LR LR
comp=N,680nm,17.7s
GYA LR LR
comp=E,540nm,18.9s
GYA LR LR
comp=Z,610nm,16.6s
KMI Kunming 39.07 329⇑ P **P** **16 34 32.1 +1.5**
KMI pP **pP** **16 35 11.1 +2.5**
KMI PP **PnPn** **16 36 09.9 +1.3**
KMI S **S** **16 40 19.8 +2.8**
KMI sS **sS** **16 41 26.2 +2.6**
KMI pmax pmax
comp=Z,55nm,1.1s
KMI pmax pmax
comp=Z,180nm,4.3s
SSE Sheshan 39.43 357 P **P** **16 34 33.8 +0.5**
SSE pmax pmax
comp=Z,50nm,0.7s
SSE pmax pmax
comp=Z,260nm,5.0s
SSE LR LR
comp=N,84nm,23.4s
SSE LR LR
comp=E,57nm,23.4s
SSE LR LR
comp=Z,120nm,25.5s
CBIJ Chichi jima 39.75 27 P **P** **16 34 35.2 -0.8**
comp=Z,467nm,0.7s,baz=209,slow=2.8,SNR=18
CBIJ Chichi jima 39.75 27 P **P** **16 34 35.2 -0.8**
WHN Wuhan 39.80 348⇑ P **P** **16 34 37.0 +0.6**
TAU Tasmania Unive 40.14 153 *e*P **P** **16 34 41.0 +2.0**
TAU pmax pmax
comp=Z,271nm,1.4s
TAU Tasmania Unive 40.14 153 *e*P **P** **16 34 41.0 +2.0**
comp=Z,271nm,1.4s
TAU Tasmania Unive 40.14 153 P **P** **16 34 41.0 +2.0**
comp=Z,770nm,0.8s,SNR=8.2
NJ2 Nanjing 40.57 354 *e*P **P** **16 34 43.1 +0.5**
NJ2 pP **pP** **16 35 21.5 +0.7**
NJ2 sP **sP** **16 35 41.8 +0.9**
NJ2 PP **PP** **16 36 20.6 +0.6**
NJ2 S **S** **16 40 41.5 +2.8**
NJ2 pmax pmax
comp=Z,80nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,7.2s
NJ2 LR LR
comp=N,200nm,15.2s
NJ2 LR LR
comp=E,160nm,17.4s
NJ2 LR LR
comp=Z,150nm,17.2s
JNU Nakatsue 41.98 9⇑ *i*P **P** **16 34 52.7 -1.5**
comp=Z,15nm,1.0s
NOUC Port Laguerre 43.28 113 *e*P **P** **16 35 04.0 -0.9**
DZM Mont Dzumac 43.40 113 P **P** **16 35 06.5 +0.6**
comp=Z,56nm,0.9s,baz=268,slow=7.6,SNR=29
DZM ScP **ScP** **16 40 27.4 +1.3**
comp=Z,9.6nm,0.9s,baz=270,slow=8.1,SNR=4.7
DZM Mont Dzumac 43.40 113 *e*P **P** **16 35 04.7 -1.2**
DZM Mont Dzumac 43.40 113 P **P** **16 35 06.5 +0.6**
DZM ScP **ScP** **16 40 27.4 +1.3**
CD2 Chengdu 43.52 335⇑ *i*P **P** **16 35 06.3 -0.3**
CD2 PP **PP** **16 36 51.8 +0.1**
CD2 S **S** **16 41 25.0 +2.8**
CD2 SS **SS** **16 44 37.3 -6.7**
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.5s
CD2 LR LR
comp=N,350nm,6.5s
CD2 LR LR
comp=Z,360nm,7.7s
IMP Imphal 43.88 320 *e*P **P** **16 35 09.0 -0.6**
XAN Xi'an 44.51 343 P **P** **16 35 13.6 -0.9**
XAN pP **pP** **16 35 52.1 -1.2**
XAN sP **sP** **16 36 11.5 -1.7**
XAN pmax pmax
comp=Z,22nm,0.8s
XAN pmax pmax
comp=Z,68nm,8.0s
INCN Inchon 45.84 3 PFAKE 16 35 40.0 +15
INCN LR LR
comp=Z,74nm,19.0s
KSAR Wonju Array Be 45.89 5 P **P** **16 35 24.9 -0.3**
KSAR PcP **PcP** **16 36 59.8 +0.5**
KSAR ScP **ScP** **16 40 34.8 -0.9**
KSRS Korea Array 45.90 5 P **P** **16 35 24.9 -0.4**
comp=Z,9.1nm,0.7s,baz=179,slow=9.4,SNR=33
KSRS PcP **PcP** **16 36 59.8 +0.4**
comp=Z,6.4nm,0.6s,baz=180,slow=2.9,SNR=10
KSRS ScP **ScP** **16 40 34.8 -1.0**
comp=Z,2.1nm,1.0s,baz=169,slow=5.3,SNR=4.0
MJAR Matsushiro Arr 46.89 16 P **P** **16 35 32.0 -1.0**
comp=Z,138nm,0.7s,baz=193,slow=9.7,SNR=557
MJAR ScP **ScP** **16 40 38.5 -1.4**
comp=Z,3.0nm,0.7s,baz=192,slow=5.0,SNR=5.5
MJAR S **S** **16 42 08.5 -1.8**
comp=Z,0.3nm,0.5s,baz=244,slow=18,SNR=3.0
MJAR Matsushiro Arr 46.89 16 P **P** **16 35 32.0 -1.0**
MJAR ScP **ScP** **16 40 38.5 -1.4**
MJAR S **S** **16 42 08.5 -1.8**
MAJO Matsushiro 46.89 16⇑ *i*P **P** **16 35 31.9 -1.1**
MAJO pmax pmax
comp=Z,132nm,0.7s
MAJO Matsushiro 46.89 16⇑ *i*P **P** **16 35 31.9 -1.1**
comp=Z,132nm,0.7s
MAT Matsushiro 46.89 16 P **P** **16 35 31.9 -1.1**
MAT S **S** **16 42 08.0 -2.3**
DL2 Dalian 47.20 358 P **P** **16 35 34.6 -0.7**
DL2 pmax pmax
comp=Z,40nm,1.1s
MDRS Chennai 48.01 296 *ex* **P** **16 35 44.6 +2.6**
MDRS AMb AMB 16 35 48.7
comp=Z,13nm,0.1s
LZH Lanzhou 48.06 339⇑ P **P** **16 35 42.9 +0.7**
LZH pP **pP** **16 36 24.6 +3.0**
LZH sP **sP** **16 36 38.2 -3.1**
LZH *e*S S 16 42 33.2 +6.1
LZH sS sS 16 43 44.1 +8.3
LZH SS **SS** **16 45 54.0 -4.8**
LZH pmax pmax
comp=Z,60nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.2s
BJI Beijing 48.77 353 P **P** **16 35 46.4 -1.0**
BJI S **S** **16 42 38.3 +1.7**
BJI pmax pmax
comp=Z,84nm,0.6s
BJI LR LR
comp=N,250nm,25.3s
BJI LR LR
comp=E,380nm,25.0s
BJI LR LR
comp=Z,160nm,28.9s
LSA Lhasa 49.11 322 P **P** **16 35 51.4 +0.7**
ODAN Odare 49.62 316 *e*P **P** **16 35 54.3 -0.1**
comp=Z,467nm,0.8s
ODAN Odare 49.62 316 *e*P **P** **16 35 54.3 -0.1**
comp=Z,467nm,0.8s
TAPN Taplejung 49.72 317 *e*P **P** **16 35 55.2 0.0**
comp=Z,366nm,0.5s
TAPN Taplejung 49.72 317 *e*P **P** **16 35 55.2 0.0**
comp=Z,366nm,0.5s
SNY Shenyang 50.08 0⇑ P **P** **16 35 55.8 -1.5**
SNY pmax pmax
comp=Z,24nm,0.7s
RAMN Ramite 50.22 316 *e*P **P** **16 35 59.4 +0.5**
comp=Z,1µm,0.6s
RAMN Ramite 50.22 316 *e*P **P** **16 35 59.4 +0.5**
comp=Z,1µm,0.6s
HHC Hu-ho-hao-te 50.32 348 *e*P **P** **16 35 58.6 -0.7**
HHC pP **pP** **16 36 38.0 -1.0**
HHC sP **sP** **16 36 57.7 -0.9**
HHC PP **PP** **16 37 57.4 +0.7**
HHC S **S** **16 42 56.7 -1.8**
HHC sS **sS** **16 44 06.1 -1.6**

HHC ScS **ScS** **16 45 28.3 -3.8**
HHC SS **SS** **16 46 30.8 -3.9**
HHC pmax pmax
comp=Z,58nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.0s
DGAR Diego Garcia 50.54 267 *e*P **P** **16 36 00.7 -0.6**
DGAR Diego Garcia 50.54 267 *e*P **P** **16 36 00.7 -0.6**
JIRN Jiri 50.95 316 *e*P **P** **16 36 04.6 +0.1**
comp=Z,151nm,0.8s
JIRN Jiri 50.95 316 *e*P **P** **16 36 04.6 +0.1**
comp=Z,151nm,0.8s
GUN Gumba 51.32 316 *e*P **P** **16 36 07.1 -0.2**
comp=Z,1µm,0.8s
GUN Gumba 51.32 316 *e*P **P** **16 36 07.1 -0.2**
comp=Z,1µm,0.8s
HYB Hyderabad 51.34 300 *i* P **P** **16 36 05.0 -2.2**
comp=Z,100nm,1.0s
PKI Pulchoki 51.43 316 *e*P **P** **16 36 07.7 -0.4**
comp=Z,683nm,0.6s
PKI Pulchoki 51.43 316 *e*P **P** **16 36 07.7 -0.4**
PKI Pulchoki 51.43 316 *e*P **P** **16 36 07.7 -0.4**
comp=Z,683nm,0.6s
KKN Kakani 51.66 316 *e*P **P** **16 36 09.4 -0.2**
comp=Z,612nm,0.9s
KKN Kakani 51.66 316 *e*P **P** **16 36 09.4 -0.2**
KKN Kakani 51.66 316 *e*P **P** **16 36 09.4 -0.2**
comp=Z,612nm,0.9s
DMN Daman 51.66 315 *e*P **P** **16 36 09.6 -0.1**
comp=Z,948nm,0.9s
DMN Daman 51.66 315 *e*P **P** **16 36 09.6 -0.1**
comp=Z,948nm,0.9s
VLA Vladivostok 51.94 8*c i*P **P** **16 36 10.9 -0.2**
VLA pmax pmax
comp=Z,182nm,1.7s
CN2 Changchun 52.09 2 *e*P **P** **16 36 10.8 -1.4**
CN2 *e*pP **pP** **16 36 50.4 -1.7**
CN2 PcP **PcP** **16 37 20.0 -1.7**
CN2 *e*S **S** **16 43 20.1 -2.2**
CN2 *e*SS **SS** **16 46 58.8 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,500nm,20.0s
CN2 LR LR
comp=E,500nm,20.0s
CN2 LR LR
comp=Z,400nm,22.0s
GKN Gorkha 52.23 315 *e*P **P** **16 36 13.6 -0.2**
comp=Z,868nm,0.7s
GKN Gorkha 52.23 315 *e*P **P** **16 36 13.6 -0.2**
comp=Z,868nm,0.7s
GTA Gaotai 52.49 337⇑ *i*P **P** **16 36 15.9 +0.5**
GTA PcP **PcP** **16 37 24.5 +1.0**
GTA S **S** **16 43 30.3 +2.0**
GTA SS **SS** **16 47 09.0 -0.1**
GTA pmax pmax
comp=Z,32nm,0.7s
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=N,180nm,15.2s
GTA LR LR
comp=E,120nm,19.5s
GTA LR LR
comp=Z,160nm,19.0s
KOLN Koldanda 52.82 314 *e*P **P** **16 36 18.3 +0.2**
comp=Z,883nm,0.7s
KOLN Koldanda 52.82 314 *e*P **P** **16 36 18.3 +0.2**
comp=Z,883nm,0.7s
OUZ Omahuta 52.85 128 *e*P **P** **16 36 20.2 +2.2**
comp=Z,26nm,0.8s
USRK Ussuriysk Arra 53.02 8 P **P** **16 36 18.8 -0.2**
comp=Z,37nm,0.6s,baz=190,slow=6.3,SNR=89
DANN Dangsing 53.06 315 *e*P **P** **16 36 19.8 -0.2**
DANN Dangsing 53.06 315 *e*P **P** **16 36 19.8 -0.2**
MDJ Mudanjiang 53.16 5 P **P** **16 36 19.8 -0.2**
MDJ pP **pP** **16 37 00.4 +0.3**
MDJ sP **sP** **16 37 20.6 +0.9**
MDJ ScP **ScP** **16 41 05.6 -1.0**
MDJ PcS **PcS** **16 41 24.6 -0.1**
MDJ S **S** **16 43 36.0 -0.8**
MDJ sS **sS** **16 44 48.0 +1.3**
MDJ ScS **ScS** **16 45 50.7 -0.7**
MDJ SS **SS** **16 47 20.0 +0.9**
MDJ pmax pmax
comp=Z,80nm,1.1s
PYUN Piuthan 53.45 314 *e*P **P** **16 36 22.7 0.0**
comp=Z,1µm,0.7s
PYUN Piuthan 53.45 314 *e*P **P** **16 36 22.7 0.0**
comp=Z,1µm,0.7s
MSVF Nonsavu 53.75 106 *e*P **P** **16 36 27.0 +2.0**
MSVF pmax pmax
comp=Z,32nm,0.6s
MSVF Nonsavu 53.75 106 *e*P **P** **16 36 27.0 +2.0**
comp=Z,32nm,0.6s
MSVF Nonsavu 53.75 106 P **P** **16 36 26.5 +1.5**
comp=Z,445nm,0.7s,SNR=17
RPZ Rata Peaks 54.18 139⇓ *i*P **P** **16 36 28.5 +0.8**
comp=Z,315nm,0.9s
RPZ *e*ScP **ScP** **16 41 12.6 +1.2**
ODZ Otahua Downs 54.51 140 *e*P **P** **16 36 30.5 +0.5**
comp=Z,305nm,1.2s
KAD Karad 55.07 298 *i* P **P** **16 36 32.0 -2.5**
ASAJ Asahikawa 55.16 17 *e*P **P** **16 36 34.1 -0.3**
comp=Z,22nm,0.7s
KHZ Kahutara 55.31 136⇑ *i*P **P** **16 36 36.4 +0.7**
comp=Z,98nm,0.8s
SNZO South Karori 55.70 135 *e*P **P** **16 36 38.2 -0.3**
comp=Z,146nm,0.9s
POO Poona 55.86 299 *e*P **P** **16 36 38.5 -1.6**
POO AMb AMB 16 36 42.2
comp=Z,36nm,1.0s
LGTI Lohaghat 56.19 314 *ex* x 16 36 52.3
PTH Pithoragarh 56.26 314 *e*P **P** **16 36 40.5 -2.4**
URZ Urewera 56.46 131 *e*P **P** **16 36 43.8 -0.1**
comp=Z,72nm,0.9s
HABR Khabarovsk 57.64 9*de*P **P** **16 36 50.7 -1.2**
HABR *e* 16 37 40.6
HABR *e* 16 38 59.0
HABR *e*S **S** **16 44 38.5 +2.4**
HABR *e* 16 46 23.6
HABR *e*SS **SS** **16 48 30.5 +1.0**
HABR pmax pmax
comp=N,108nm,2.3s
HABR pmax pmax
comp=Z,154nm,1.5s
HABR pmax pmax
comp=E,61nm,1.5s
YSS Yuzh-Sakhalins 57.81 15⇑ *e*P **P** **16 36 54.0 +0.8**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 57.81 15 *e*P **P** **16 36 52.7 -0.4**
comp=Z,131nm,1.4s
KLR Kul'dur 57.94 6 *e*P P 16 36 49.8 -4.2
KLR pmax pmax
comp=Z,57nm,1.6s
NDI New Delhi 57.96 311 *e*P **P** **16 36 53.0 -1.6**
ULN Ulaanbaatar 57.98 347⇑ *i*P **P** **16 36 54.1 -0.4**
comp=Z,71nm,0.9s
ULN LR LR
comp=Z,184nm,22.0s
ULN Ulaanbaatar 57.98 347 P **P** **16 36 54.2 -0.4**
SNR=26
SONM Songino Array 58.10 347 P **P** **16 36 55.1 -0.2**
comp=Z,41nm,0.6s,baz=164,slow=7.9,SNR=58
SONM Songino Array 58.10 347 P **P** **16 36 55.1 -0.2**
CASY Casey 58.38 186 *e*P **P** **16 36 57.3 +0.4**
comp=Z,36nm,0.7s
AJM Ajmer 58.79 308 *e*P **P** **16 36 59.8 -0.6**
AJM AMb AMB 16 37 00.1
comp=Z,170nm,0.6s
SMLA Simla 59.33 314 *i* P **P** **16 37 04.3 +0.3**
SMLA *i* P **P** **16 37 04.3 +0.3**
SMLA AMb AMB 16 37 04.6
comp=Z,4µm,0.4s
SDNR Sundarnagar 59.67 314 *e*P **P** **16 37 07.0 +0.6**
BHK Bhakra 60.02 314 *e*P **P** **16 37 09.0 +0.2**
DLH Dalhousie 60.96 315 *e*P **P** **16 37 14.0 -1.4**
THN Thein Dam 61.08 314 *e*P **P** **16 37 14.8 -1.0**
ZAK Zakamensk 61.22 345 *e*P **P** **16 37 15.1 -1.5**
WMQ Urumqi 61.36 331 P **P** **16 37 17.9 +0.3**
WMQ pmax pmax
comp=Z,100nm,1.0s
WMQ LR LR
comp=N,72nm,27.0s
WMQ LR LR
comp=E,130nm,32.0s
WMQ LR LR
comp=Z,130nm,25.0s
BHJ Bhuj 61.38 302 *ex* P 16 38 16.6 +59
BHJ AMb AMB 16 38 18.4
comp=Z,51nm,1.1s
TLY Talaya 62.34 346 *e*P P 16 37 29.1 +5.2
TLY pmax pmax
comp=Z,19nm,0.8s
TLY Talaya 62.34 346⇑ *i*P **P** **16 37 23.8 -0.1**
comp=Z,19nm,0.8s
TLY LR LR
comp=Z,164nm,22.0s
TLY Talaya 62.34 346 P **P** **16 37 24.4 +0.4**
SNR=6.4
IRK Irkutsk 62.71 347 *e*P **P** **16 37 25.5 -0.9**
IRK pmax pmax
comp=Z,37nm,2.3s
MOY Mondy 62.99 344 *e*P **P** **16 37 28.1 -0.2**
MOY pmax pmax
comp=Z,45nm,3.0s
NIL Nilore 63.47 314 PFAKE 16 37 40.0 +8.2
NIL LR LR
comp=Z,144nm,22.0s
MRIV Mauritius Mete 64.64 252 *e*P **P** **16 37 41.2 +1.5**
HVS Khovu-Aksy 64.74 340 *i* P **P** **16 37 39.2 -0.6**
HVS pmax pmax
comp=Z,188nm,0.7s
KSH Kashi 64.94 321⇑ *i*P **P** **16 37 42.6 +1.2**
KSH *e*PcP **PcP** **16 38 13.6 +0.6**
KSH PP PP 16 40 13.1 +6.4
KSH PcS 16 42 17.2
KSH S **S** **16 46 11.8 +2.8**
KSH SS **SS** **16 50 30.6 +6.1**
KSH pmax pmax
comp=Z,200nm,0.9s
KSH LR LR
comp=N,120nm,5.9s
KSH LR LR
comp=E,230nm,5.3s
KSH LR LR
comp=Z,320nm,6.2s
CLNS Chul'man 65.12 1 *e*P **P** **16 37 41.2 -0.8**
CLNS *e* 16 38 18.3
CLNS *e**SS S 16 46 29.9 +20
CLNS pmax pmax
comp=Z,63nm,1.1s
CLNS pmax pmax
comp=N,30nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.8s
MK31 Makanchi Array 66.14 330 *i* P **P** **16 37 48.7 -0.1**
MK31 pmax pmax
comp=Z,167nm,0.6s
MK31 Makanchi Array 66.14 330⇑ *e*P **P** **16 37 48.4 -0.4**
MK31 *e*S **S** **16 46 22.9 -0.2**
MKAR Makanchi Array 66.14 330 P **P** **16 37 48.7 0.0**
comp=Z,192nm,0.6s,baz=132,slow=7.6,SNR=1677
MKAR S **S** **16 46 22.4 -0.6**
comp=Z,1.0nm,0.8s,baz=137,slow=11,SNR=3.6
MKAR PKPbc 17 06 26.1
comp=Z,0.4nm,0.8s,baz=316,slow=4.0,SNR=3.8
MKAR Makanchi Array 66.14 330 *i* P **P** **16 37 48.7 0.0**
MKAR pmax pmax
comp=Z,192nm,0.6s
MKAR Makanchi Array 66.14 330 P **P** **16 37 48.7 0.0**
MKAR S **S** **16 46 22.4 -0.6**
MKAR ⇑ *e* 17 06 26.1
RER Riviere de l'E 66.28 251 *e*P **P** **16 37 52.3 +2.0**
comp=Z,148nm,0.8s
ULHL Ulahol 66.42 323 P **P** **16 37 51.9 +1.0**
SNR=5.9
BOD Bodaibo 66.55 354⇓ *i*P **P** **16 37 50.5 -0.5**
BOD pmax pmax
comp=Z,69nm,0.8s
KZA Kyzart 66.90 323 P **P** **16 37 55.1 +0.9**
SNR=49
TKM2 Tokmak 2 67.20 324 *i* P **P** **16 37 55.9 +0.1**
TKM2 Tokmak 2 67.20 324 PFAKE 16 38 10.0 +14
TKM2 LR LR
comp=Z,115nm,19.0s
TKM2 Tokmak 2 67.20 324 P **P** **16 37 56.0 +0.1**
SNR=63
KBK Karagaybulak 67.43 323 P **P** **16 37 57.9 +0.7**
SNR=45
UCH Uchtor 67.43 323 P **P** **16 37 58.8 +1.2**
SNR=12
AAK Ala-Archa 67.68 323 P **P** **16 37 59.4 +0.7**
comp=Z,141nm,0.5s,baz=117,slow=4.9,SNR=710
AAK Ala-Archa 67.68 323*c i*P **P** **16 37 59.3 +0.5**
AAK pmax pmax
comp=Z,485nm,1.0s
AAK Ala-Archa 67.68 323⇑ *i*P **P** **16 37 59.2 +0.5**
comp=Z,745nm,0.6s
AAK LR LR
comp=Z,117nm,19.0s
AAK Ala-Archa 67.68 323 P **P** **16 37 59.3 +0.5**
comp=Z,2µm,0.5s
AAK Ala-Archa 67.68 323 P **P** **16 37 59.8 +1.0**
SNR=51
AAK Ala-Archa 67.68 323 P **P** **16 37 59.5 +0.7**
SNR=249
FRU Bishkek 67.73 323 *i* P **P** **16 37 58.0 -0.9**
FRU *e* 16 38 22.0
FRU pmax pmax
comp=Z,120nm,2.0s
CHMS Chumysh 67.75 323 P **P** **16 37 59.6 +0.6**
SNR=5.8
AML Almayashu 67.87 322 P **P** **16 38 01.3 +1.0**
SNR=21
PEA0B Petropavlovsk- 67.91 21 *e*P **P** **16 38 00.1 +0.3**
PETK Petropavlovsk- 67.91 21 P **P** **16 38 00.2 +0.4**
comp=Z,52nm,0.6s,baz=204,slow=5.9,SNR=58
PETK Petropavlovsk- 67.91 21 P **P** **16 38 00.2 +0.4**
PETK Petropavlovsk- 67.91 21 P **P** **16 38 00.2 +0.4**
USP Ospenovka 68.06 324 P **P** **16 38 01.2 +0.2**
SNR=174
EKS2 Erkin-Say 68.13 323⇑ *i*P **P** **16 38 01.9 +0.4**
EKS2 pmax pmax
comp=Z,161nm,1.0s
EKS2 MLR MLR
comp=Z,184nm,19.0s
EKS2 Erkin-Say 68.13 323⇑ *i*P **P** **16 38 01.9 +0.4**
comp=Z,161nm,1.0s
EKS2 LR LR
comp=Z,184nm,19.0s
EKS2 Erkin-Say 68.13 323 P **P** **16 38 02.6 +1.1**
SNR=22
PET Petropavlovsk 68.19 22⇓ *i*P **P** **16 38 02.0 +0.5**
PET pmax pmax
comp=Z,84nm,1.1s
KRAR Krasnoyarsk 69.11 342 *i* P **P** **16 38 07.3 +0.2**
KRAR pmax pmax
comp=Z,55nm,0.6s
ZAA0 Zalesovo Array 70.25 337⇑ *i*P **P** **16 38 12.8 -1.4**
ZALV Zalesovo Beam 70.25 337 P **P** **16 38 12.9 -1.1**
comp=Z,102nm,0.6s,baz=138,slow=5.0,SNR=405
ZALV S **S** **16 47 06.8 -4.5**
comp=Z,1.6nm,0.9s,baz=131,slow=16,SNR=4.8
ZALV PKPPKP **P'P'df** **17 06 16.1 +2.3**
comp=Z,1.3nm,0.9s,baz=338,slow=3.4,SNR=4.9
ZALV Zalesovo Beam 70.25 337 P **P** **16 38 13.0 -1.1**
ZALV S **S** **16 47 06.8 -4.5**
ZALV Zalesovo Beam 70.25 337 P **P** **16 38 12.9 -1.1**
ZALV S **S** **16 47 06.8 -4.5**
ZALV P'P' 17 06 16.1
KK31 Karatay Array 70.36 322 *i* P **P** **16 38 14.9 -0.2**
KK31 pmax pmax
comp=Z,24nm,0.5s
KKAR Karatay Array 70.36 322⇑ *i*P **P** **16 38 14.4 -0.7**
KKAR pmax pmax
comp=Z,22nm,0.5s
KKAR Karatay Array 70.36 322⇑ *i*P **P** **16 38 14.4 -0.7**
comp=Z,22nm,0.5s
YAK Yakutsk 70.48 3*c i*P **P** **16 38 15.1 -0.3**
YAK *e* 16 38 37.8
YAK *e* 16 40 51.8
YAK *e*S **S** **16 47 12.6 -1.1**
YAK *e**SS **SKSac** **16 47 56.8 -3.0**
YAK *e* 16 48 09.0
YAK *e*SS **SS** **16 51 47.9 -0.9**
YAK pmax pmax
comp=Z,193nm,0.9s
YAK pmax pmax
comp=N,77nm,1.1s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,18nm,1.4s
YAK smax smax
comp=N,117nm,2.0s
YAK smax smax
comp=E,97nm,1.9s
YAK Yakutsk 70.48 3⇑ *i*P **P** **16 38 15.0 -0.3**
comp=E,259nm,0.8s
KURBB Kurchatov Arra 70.58 331 P **P** **16 38 15.9 -0.2**
comp=E,95nm,0.6s,baz=145,slow=5.3,SNR=516
KURK Kurchatov 70.60 332*c i*P **P** **16 38 15.9 -0.4**
KURK pmax pmax
comp=Z,216nm,0.8s
KURK Kurchatov 70.60 332⇑ *i*P **P** **16 38 15.7 -0.6**
comp=Z,150nm,0.6s
KURK *e*S **S** **16 47 09.9 -5.6**
KURK LR LR
comp=Z,95nm,20.0s
KURK Kurchatov 70.60 332 P **P** **16 38 16.4 +0.1**
SNR=48
KURK Kurchatov 70.60 332 P **P** **16 38 16.9 +0.6**
comp=Z,2µm,0.5s
WSAR Wadi Sarin 70.81 298 P **P** **16 38 18.2 0.0**
comp=Z,70nm,0.7s,baz=120,slow=6.9,SNR=51
WSAR Wadi Sarin 70.81 298 P **P** **16 38 18.2 0.0**
JOHN Johnston Islan 70.81 69 PFAKE 16 38 30.0 +12
JOHN LR LR
comp=Z,14nm,22.0s
JMDO Jabal Madar 71.00 297 P **P** **16 38 19.4 0.0**
SNR=9.7
MAW Mawson 71.24 201 LR LR 17 06 15.5
comp=Z,291nm,19.0s,baz=239,slow=33
SMDO Samad 71.26 298 P **P** **16 38 21.3 +0.3**
SNR=11
NVS Novosibirsk 71.53 337⇑ *i*P **P** **16 38 20.1 -1.7**
NVS *e*S S 16 47 17.6 -8.5
NVS pmax pmax
comp=E,44nm,1.3s
NVS pmax pmax
comp=Z,91nm,1.3s
NVS pmax pmax
comp=N,48nm,1.4s
NVS smax smax
comp=N,18nm,2.1s
NVS smax smax
comp=E,15nm,1.5s
VNDA Vanda 71.81 172 P **P** **16 38 24.6 +1.3**
comp=E,25nm,0.6s,baz=316,slow=6.5,SNR=230
VNDA LR LR 17 09 52.8
comp=E,197nm,19.7s,baz=310,slow=36
VNDA Vanda 71.81 172 P **P** **16 38 24.6 +1.3**
HOQ Hoqain 72.06 298 P **P** **16 38 26.3 +0.6**
SNR=8.4
ARQ Araqi 72.68 298 P **P** **16 38 29.6 +0.2**
SNR=7.7
SBA Scott Base 72.77 171 *e*P **P** **16 38 31.1 +2.2**
SBA pmax pmax
comp=Z,23nm,0.7s
SBA Scott Base 72.77 171 *e*P **P** **16 38 31.1 +2.2**
comp=Z,23nm,0.7s
IDAH Dahanechah 73.07 308 *e*P **P** **16 38 31.7 -0.1**
RBK Rabkut 73.15 291 P **P** **16 38 31.9 -0.4**
SNR=12
HATD Hatta, Dubai 73.47 299 P **P** **16 38 34.3 +0.3**
SNR=7.4
ASHO Ashiyiah 73.49 299 P **P** **16 38 34.3 +0.1**
SNR=9.1
IKOO Kooshah 73.63 307 *e*P **P** **16 38 34.1 -1.0**
NAZ Nazwa, Dubai 73.92 299 P **P** **16 38 36.4 -0.2**
SNR=9.9
ABTO Aybut 73.95 291 P **P** **16 38 36.6 -0.4**
SNR=22
ITEG Tejag 74.00 308 *e*P **P** **16 38 36.5 -0.7**
IMYA Miami 74.28 311 *e*P **P** **16 38 38.1 -0.6**
ABPO Ambohimpanom 74.36 253 *e*P **P** **16 38 40.4 +0.9**
ABPO pmax pmax
comp=Z,16nm,0.5s
ABPO Ambohimpanom 74.36 253 *e*P **P** **16 38 40.4 +0.9**
comp=Z,16nm,0.5s
SEY Seymchan 74.60 13⇑ *e*P **P** **16 38 40.2 +0.5**
ISRO Mashad 74.73 311 *e*P **P** **16 38 41.1 -0.1**
IMOG Moghan 74.76 311 *e*P **P** **16 38 41.8 +0.2**
IPAY Payeh 75.14 311 *e*P **P** **16 38 44.0 +0.3**
IKRD Kardeh 75.62 311 *e*P P 16 38 42.5 -4.0
BVA0 Borovoye Array 76.02 330 *i* P **P** **16 38 47.7 -0.3**
BVAR Borovoye Array 76.02 330 P **P** **16 38 47.8 -0.2**
comp=Z,22nm,0.8s,baz=132,slow=8.2,SNR=111
BVAR Borovoye Array 76.02 330 P **P** **16 38 47.8 -0.2**
BVAR Borovoye Array 76.02 330 P **P** **16 38 47.8 -0.2**
IBAF Bafgh 76.08 305 *e*P **P** **16 38 48.3 -0.7**
BRVK Borovoye 76.09 330*c i*P **P** **16 38 48.1 -0.3**
BRVK pmax pmax
comp=Z,79nm,1.2s
BRVK Borovoye 76.09 330⇑ *i*P **P** **16 38 47.8 -0.6**
comp=Z,91nm,1.3s
BRVK LR LR
comp=Z,111nm,19.0s
BRVK Borovoye 76.09 330 P **P** **16 38 48.8 +0.4**
comp=Z,287nm,1.0s,SNR=32
ABKT Ailbek 76.35 312 P **P** **16 38 51.5 +1.2**
comp=Z,325nm,0.6s,SNR=30
IMEH Mehriz 76.79 305 *e*P **P** **16 38 51.6 -1.5**
ICHK Chekchek 77.22 306 *e*P **P** **16 38 54.7 -0.8**
MUKL Al Mukalla 77.28 287⇓ *e*P **P** **16 38 56.8 +0.9**
MUKL AMb AMB 16 38 57.4
comp=Z,253nm,1.1s
ISRV Sarvestan 77.40 303 *e*P **P** **16 38 56.2 -0.5**
IPAR Pars 77.59 303 *e*P **P** **16 38 57.4 -0.3**
IANJ Anjilo 78.65 309 *e*P **P** **16 39 01.8 -1.6**
IKIA Kiasar 79.07 309 *e*P **P** **16 39 04.5 -1.1**
ISHM Shahmirzad 79.24 309 *e*P **P** **16 39 06.8 +0.2**
ILAS Lasjerd 79.36 308 *e*P **P** **16 39 06.9 -0.3**
IFIR Firoozkooh 79.60 309 *e*P **P** **16 39 07.8 -0.8**
ISFB Sefidab 79.61 307 *e*P **P** **16 39 08.2 -0.2**
IALA Alasht 79.70 309 *e*P **P** **16 39 07.8 -1.3**
AB31 Akbulak array 79.77 323 *i* P **P** **16 39 08.2 -0.6**
AB31 pmax pmax
comp=Z,62nm,0.8s
ABKAR Akbulak array 79.77 323⇑ *i*P **P** **16 39 07.9 -0.8**
comp=Z,38nm,0.6s
SYO Syowa Base 79.93 201⇑ *e*P **P** **16 39 09.4 +0.1**
IPRN Peran 80.11 309 *e*P **P** **16 39 09.9 -1.2**
IDMV Damavand 80.14 308 *e*P **P** **16 39 10.3 -1.2**
IVRN Varamin 80.20 308 *e*P **P** **16 39 11.0 -0.6**
BDHA Al Bayda' 80.47 286 *e*P **P** **16 39 14.4 +0.9**
BDHA AMb AMB 16 39 15.3
comp=Z,28nm,0.7s
LBOS 80.76 286 *e*P **P** **16 39 16.0 +0.9**
IR5 Iran Long-Peri 81.17 308 *e*P **P** **16 39 16.2 -0.5**
IMHD Mahdasht 81.23 308 *e*P **P** **16 39 17.5 +0.4**
AKTO Aktyubinsk 81.40 324 P **P** **16 39 17.4 0.0**
comp=Z,107nm,0.8s,baz=109,slow=6.4,SNR=315
AKTO PKKPbc **PKKPbc** **16 57 53.1 0.0**
comp=Z,1.1nm,0.8s,baz=102,slow=1.4,SNR=6.1
AKTO Aktyubinsk 81.40 324 P **P** **16 39 17.4 0.0**
AKTO 16 57 53.1
AKTO Aktyubinsk 81.40 324 P **P** **16 39 17.4 0.0**
AKTO PKKPbc **PKKPbc** **16 57 53.1 0.0**
QSPA South Pole Qui 81.49 180 P **P** **16 39 19.1 +1.3**
comp=Z,55nm,0.6s,baz=310,slow=1.3,SNR=499
QSPA PKKPbc **PKKPbc** **16 57 49.9 -3.8**
comp=Z,3.1nm,0.9s,baz=276,slow=5.7,SNR=8.3
QSPA South Pole Qui 81.49 180 *e*P **P** **16 39 18.6 +0.8**
comp=Z,56nm,0.6s
QSPA *e*pP pP 16 39 54.0 -7.3
QSPA PKKPbc **PKKPbc** **16 57 49.9 -3.8**
QRN Al-Qurain 81.61 301 *e*P **P** **16 39 19.0 0.0**
QRN AMb AMB 16 39 19.9
comp=Z,412nm,0.7s
DHBB Dhamar BB 81.71 286 *e*P **P** **16 39 21.0 +0.9**
TRBA At Turbah 81.72 285 *e*P **P** **16 39 21.0 +0.9**
IRAZ Razeghan 81.73 308 *e*P **P** **16 39 19.5 -0.3**
IGZV Ghazvin 81.79 309 *e*P **P** **16 39 18.4 -1.7**
KBD Kabd 81.90 301 *e*P **P** **16 39 20.6 +0.1**
KBD AMb AMB 16 39 21.9
comp=Z,106nm,1.0s
RDF Al-Radifah 81.96 301 *e*P **P** **16 39 21.1 +0.2**
RDF AMb AMB 16 39 22.3
comp=Z,267nm,1.3s
UMR Umm Al-Rimmam 81.98 301 *e*P **P** **16 39 21.0 +0.1**
UMR AMb AMB 16 39 22.3
comp=Z,191nm,0.9s

UDYN Al 'Udayn 82.00 285 *e*P **P** **16 39 22.2 +0.7**
SANA San'a 82.04 287 *e*P **P** **16 39 22.7 +0.8**
NAY Al-Naaiem 82.30 301 *e*P **P** **16 39 22.5 -0.1**
NAY AMb AMB 16 39 23.7
comp=Z,157nm,0.9s
MIB Mutribah 82.36 302 *e*P **P** **16 39 23.0 +0.1**
MIB AMb AMB 16 39 24.7
comp=Z,261nm,0.9s
ATD Arta Tunnel 82.63 283 P **P** **16 39 25.1 +0.4**
comp=Z,32nm,0.9s,baz=149,slow=23,SNR=5.7
ATD Arta Tunnel 82.63 283 P **P** **16 39 25.1 +0.4**
HAJJ Hajjah 82.67 287 *e*P **P** **16 39 25.9 +0.8**
SVE Sverdlovsk 82.80 330*d* *i*P **P** **16 39 24.5 -0.1**
SVE pmax pmax
comp=Z,269nm,1.3s
IKOM Komasi 83.31 306 *e*P **P** **16 39 26.3 -1.7**
ARU Arti 83.65 330*c* *i*P **P** **16 39 28.4 -0.5**
ARU *PP pP 16 40 04.0 -8.6
ARU 16 42 41.0
ARU S **S** **16 49 35.9 -0.3**
ARU SS **SS** **16 55 07.6 +0.4**
ARU pmax pmax
comp=Z,108nm,1.0s
ARU Arti 83.65 330⇑ *i*P **P** **16 39 28.2 -0.7**
comp=Z,201nm,1.0s
ARU Arti 83.65 330 P **P** **16 39 28.2 -0.7**
comp=Z,1μm,0.8s,SNR=87
IVIS Veis 83.93 306 *e*P **P** **16 39 29.5 -1.5**
ILIN Lien 83.94 307 *e*P **P** **16 39 28.4 -2.8**
IGHG Ghaleghazi 84.11 306 *e*P **P** **16 39 30.6 -1.5**
ISRB Sarab 84.14 309 *e*P **P** **16 39 32.1 -0.1**
IDHR Dehrash 84.35 306 *e*P **P** **16 39 31.4 -1.8**
PPT Papeete 84.57 107 P **P** **16 39 35.7 +1.3**
comp=Z,36nm,0.8s,baz=87,slow=19,SNR=2.0
PPT Papeete 84.57 107 P **P** **16 39 35.7 +1.3**
IBST Bostanabad 84.70 309 *e*P **P** **16 39 33.4 -1.6**
IHRS Heris 84.75 310 *e*P **P** **16 39 34.2 -1.0**
BHD Baghdad 85.63 304 *i* P **P** **16 39 38.0 -1.4**
BHD *i* PcP **PcP** **16 39 41.0 -1.0**
BHD *i* pP **pP** **16 40 23.0 -0.2**
BHD *i* sP **S** **16 49 55.0 -1.8**
BHD *i* S **SKKSac** **16 49 55.5 -0.2**
BHD *i* SS **SS** **16 55 36.0 -1.4**
SOKR Solikamsk 85.83 332*c* *i*P **P** **16 39 39.6 -0.1**
SOKR pmax pmax
comp=Z,130nm,1.2s
IMRD Marand 85.87 310 *e*P **P** **16 39 41.0 +0.3**
KMBO Kilima Mbogo 86.12 269⇑ *i*P **P** **16 39 43.0 +0.5**
comp=Z,26nm,1.0s
DGRG David-gareji 86.78 313 P **P** **16 39 46.7 +1.8**
GNI Garni 86.94 311 P **P** **16 39 46.8 +1.0**
comp=Z,21nm,0.7s,baz=199,slow=4.7,SNR=10
GNI Garni 86.94 311 *e*P **P** **16 39 46.3 +0.5**
comp=Z,21nm,0.6s
TBLG Delisi 87.31 313 *e*P P 16 39 53.2 +5.8
TBLG Delisi 87.31 313 P P 16 39 53.3 +5.8
GOR Gori 87.83 313 P **P** **16 39 51.4 +1.5**
AKH Akhalkalaki 88.15 312 P **P** **16 39 53.8 +2.2**
ZEI Tsey 88.16 314 *e*P **P** **16 39 52.2 +0.5**
ZEI pmax pmax
comp=Z,69nm,1.3s
ONI Oni 88.44 313 P **P** **16 39 53.6 +0.8**
KBZ Khabaz 89.09 314 P **P** **16 39 55.9 +0.3**
comp=Z,13nm,0.8s,baz=130,slow=3.3,SNR=37
KBZ Khabaz 89.09 314 P **P** **16 39 55.9 +0.3**
KBZ Khabaz 89.09 314 P **P** **16 39 55.9 +0.3**
SDPT Sand Point 89.09 34 *e*P **P** **16 39 53.6 -1.8**
comp=Z,102nm,0.9s
KIV Kislovodsk 89.29 315*c* *i*P **P** **16 39 56.6 -0.2**
KIV *e* 16 43 30.6
KIV pmax pmax
comp=Z,12nm,0.6s
KIV Kislovodsk 89.29 315 P **P** **16 39 56.0 -0.7**
comp=Z,14nm,0.6s
VRHR Novokhopersk 91.48 321 *e*P **P** **16 40 05.7 -0.9**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,80nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.1s
ASF Jabal al Asfar 91.61 302 P **P** **16 40 08.9 +1.0**
comp=E,8.4nm,0.8s,baz=312,slow=1.2,SNR=9.0
ASF Jabal al Asfar 91.61 302 P **P** **16 40 08.9 +1.0**
MBAR Mbarara 92.64 269 PFAKE 16 40 20.0 +6.9
MBAR LR LR
comp=Z,403nm,19.0s
MBAR Mbarara 92.64 269 P **P** **16 40 13.3 +0.2**
comp=Z,48nm,1.0s,SNR=6.0
EIL Elat 92.90 299 P **P** **16 40 13.3 -0.4**
comp=Z,4.2nm,0.7s,baz=98,slow=3.2,SNR=4.2
EIL Elat 92.90 299 P **P** **16 40 13.3 -0.4**
VORD Divnogorie 92.90 321 *e*P **P** **16 40 12.2 -1.0**
VORD pmax pmax
comp=Z,30nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,20nm,1.5s
MMAI Mount Meron Ar 92.98 303 P **P** **16 40 14.5 +0.3**
comp=E,12nm,0.8s,baz=75,slow=9.7,SNR=12
MMAI Mount Meron Ar 92.98 303 P **P** **16 40 14.5 +0.3**
VSR Storozhevoye 93.03 321 *e*P **P** **16 40 13.0 -0.8**
VSR pmax pmax
comp=Z,40nm,0.5s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
BOSA Boshof 93.14 241 P **P** **16 40 16.5 +1.4**
comp=E,10nm,0.6s,baz=119,slow=4.7,SNR=25
BOSA Boshof 93.14 241 P **P** **16 40 16.5 +1.4**
ANN Anapa 93.14 315 *e*P **P** **16 40 16.7 +2.3**
ANN *e*PP **pP** **16 40 55.7 -3.1**
ANN *e* 16 44 08.1
ANN *e* 16 50 36.9
ANN *e*SS SS 16 57 42.2 +17
ANN pmax pmax
comp=Z,95nm,1.6s
LBTB Lobatse 93.53 244 P **P** **16 40 18.3 +1.3**
comp=Z,12nm,0.8s,baz=130,slow=5.5,SNR=18
LBTB Lobatse 93.53 244 P **P** **16 40 18.3 +1.3**
RSO Redoubt South 94.25 30 *e*P **P** **16 40 17.4 -2.1**
comp=Z,22nm,0.8s
KLMR Klimovskoe 94.43 331 *e*P **P** **16 40 16.9 -3.1**
KLMR *i* 16 44 05.2
KLMR pmax pmax
comp=Z,59nm,1.3s
MOS Moscow 94.64 326 *e*P **P** **16 40 19.4 -1.7**
MOS pmax pmax
comp=Z,83nm,0.8s
OBN Obninsk 95.15 325*c* *i*P **P** **16 40 23.0 -0.4**
OBN *e* 16 44 12.5
OBN pmax pmax
comp=Z,198nm,1.7s
OBN Obninsk 95.15 325 *e*P **P** **16 40 22.2 -1.2**
comp=Z,177nm,1.4s
OBN LR LR
comp=Z,96nm,21.0s
BR131 Keskin Array S 95.26 309 *e*P **P** **16 40 23.1 -1.4**
comp=Z,6.1nm,0.8s
BRTR Keskin Array B 95.26 309 P **P** **16 40 23.6 -0.9**
comp=Z,7.3nm,0.8s,baz=124,slow=5.0,SNR=25
BRTR PP PP 16 44 07.4 -10
comp=Z,2.1nm,0.9s,baz=123,slow=4.6,SNR=4.2
BRTR Keskin Array B 95.26 309 P **P** **16 40 23.6 -0.9**
BRTR PP PP 16 44 07.4 -10
SUR Sutherland 96.06 236 P P 16 40 31.7 +3.3
comp=Z,17nm,0.9s,baz=167,slow=9.9,SNR=4.0
SUR Sutherland 96.06 236 P **P** **16 40 30.8 +2.4**
comp=Z,274nm,2.3s
PMR Palmer 96.16 29 *e*P **P** **16 40 25.7 -2.1**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 96.16 29 *e*P **P** **16 40 25.7 -2.1**
comp=Z,7.8nm,0.8s
COLA College 97.06 25 *e*P **P** **16 40 29.0 -2.8**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 97.06 25 *e*P **P** **16 40 29.0 -2.8**
comp=Z,4.9nm,0.8s
LVZ Lovozero 97.38 338 *i* P **P** **16 40 31.3 -2.0**
LVZ pmax pmax
comp=Z,22nm,1.1s
LVZ Lovozero 97.38 338 PFAKE 16 40 40.0 +6.6
LVZ LR LR
comp=Z,79nm,20.0s
ILAR Eielson Array 97.46 26 P **P** **16 40 30.8 -3.0**
comp=Z,2.6nm,0.8s,baz=294,slow=4.6,SNR=34
ILAR PP PP 16 44 20.1 -13
comp=Z,0.6nm,1.0s,baz=232,slow=6.7,SNR=2.6
ILAR PKKPbc PKKPbc 16 57 07.2 -6.2
comp=Z,0.3nm,0.9s,baz=129,slow=1.3,SNR=4.1
ILAR Eielson Array 97.46 26 P **P** **16 40 30.8 -3.0**
ILAR PP PP 16 44 20.1 -13
ILAR PKKPbc PKKPbc 16 57 07.2 -6.2
APA Apatity 97.83 337⇑ *e*P **P** **16 40 35.0 -0.3**
APA *e**PP pP 16 41 12.0 -7.7
APA MLR MLR
comp=Z,200nm,16.0s
JOF Joensuu 98.50 332 *e*P **P** **16 40 37.0 -1.4**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 98.50 332 *ep* **P** **16 40 37.0 -1.4**
comp=Z,4.5nm,0.6s
AKASG Malin Array Be 99.22 320 P **Pdif** **16 40 40.6 -1.2**
comp=Z,6.3nm,0.5s,baz=75,slow=4.6,SNR=26
AKASG PP **PP** **16 44 48.9 +2.0**
comp=Z,14nm,0.9s,baz=79,slow=6.6,SNR=17
AKASG Malin Array Be 99.22 320 P **Pdif** **16 40 40.7 -1.2**
AKASG 16 44 48.9
AKASG Malin Array Be 99.22 320 *i* P **Pdif** **16 40 41.0 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 99.22 320 P **Pdif** **16 40 40.6 -1.2**
AKASG PP **PP** **16 44 48.9 +2.0**
AK01 Malin Array Si 99.23 320 *i* Pdif **Pdif** **16 40 40.9 -1.0**
AK01 *e*PP PP 16 44 39.5 -7.5
KIEV Kiev 99.23 320*c* *i*P **Pdif** **16 40 40.9 -1.0**
KIEV Kiev 99.23 320 *e*Pdif **Pdif** **16 40 40.5 -1.4**
comp=Z,5.2nm,0.4s
KIEV *e*PP **PP** **16 44 48.6 +1.6**
AK02 Malin Array Si 99.23 320 *e*P **Pdif** **16 40 40.6 -1.3**
KEV Kevo 100.17 339 *e*P **Pdif** **16 40 44.6 -1.1**
KEV pmax pmax
comp=Z,3.0nm,0.5s
KEV Kevo 100.17 339 *ep* **Pdif** **16 40 44.6 -1.1**
comp=Z,2.9nm,0.5s
ARCES ARCESS Array B 100.71 339 P **Pdif** **16 40 47.7 -0.4**
comp=Z,11nm,0.9s,baz=91,slow=6.2,SNR=17
ARCES ARCESS Array B 100.71 339 P **Pdif** **16 40 47.7 -0.4**
ARE0 ARCESS Array S 100.71 339 *e*Pdif **Pdif** **16 40 47.1 -1.1**
VSU Vasula 100.73 328 *i* P **Pdif** **16 40 48.3 -0.1**
VSU pmax pmax
comp=Z,39nm,1.2s
VRI Vrincioaia 100.75 315⇑ P **Pdif** **16 40 49.2 +0.3**
VRI Vrincioaia 100.75 315⇑ *i*P **Pdif** **16 40 48.9 0.0**
NACGM Naroch 100.76 324 *e* **Pdif** **16 40 46.0 -2.6**
PLOR Plostina 100.81 315⇑ P **Pdif** **16 40 49.4 +0.3**
PLOR Plostina 100.81 315⇑ *i*P **Pdif** **16 40 49.4 +0.3**
KAF Kangasniemi 100.83 332 *e*P **Pdif** **16 40 47.5 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 100.83 332 *ep* **Pdif** **16 40 47.5 -1.2**
comp=Z,3.6nm,0.7s
FINES FINESS Array B 100.97 331 P **Pdif** **16 40 48.6 -0.8**
comp=Z,3.3nm,0.7s,baz=74,slow=4.9,SNR=19
FINES FINESS Array B 100.97 331 P **Pdif** **16 40 48.6 -0.8**
MLR Muntele Rosu 101.30 315 P **Pdif** **16 40 50.1 -1.4**
comp=Z,0.5nm,0.4s,baz=164,slow=4.8,SNR=5.7
MLR PP **PP** **16 45 02.0 -1.0**
comp=Z,3.4nm,0.9s,baz=112,slow=9.2,SNR=4.1
MLR Muntele Rosu 101.30 315 P **Pdif** **16 40 50.1 -1.4**
MLR PP **PP** **16 45 02.0 -1.0**
MLR Muntele Rosu 101.30 315⇓ *i*P **Pdif** **16 40 51.2 -0.2**
SPITS Spitsbergen Ar 101.76 348 P **Pdif** **16 40 52.0 -0.7**
comp=Z,5.1nm,0.4s,baz=101,slow=7.7,SNR=41
SPITS Spitsbergen Ar 101.76 348 P **Pdif** **16 40 52.0 -0.7**
BURAR Bucovina Array 101.80 317⇓ *i*P **Pdif** **16 40 54.0 +0.4**
BUR08 Bucovina Ar. S 101.82 317 *e*Pdif **Pdif** **16 40 53.7 0.0**
BUR08 *e*PP PP 16 45 01.0 -5.8
VOIR 101.93 315⇑ P **Pdif** **16 40 53.7 -0.5**
VOIR 101.93 315⇑ *i*P **Pdif** **16 40 53.7 -0.5**
SUW Suwalki 102.89 323 *e*P **Pdif** **16 40 57.8 -0.4**
SUW Suwalki 102.89 323 *e*P **Pdif** **16 40 57.2 -0.9**
SUW pmax pmax
comp=Z,44nm,1.0s
SUW Suwalki 102.89 323 *e*Pdif **Pdif** **16 40 57.2 -0.9**
comp=Z,44nm,1.0s
SUW Suwalki 102.89 323 *e*P **Pdif** **16 40 57.7 -0.4**
VTS Vitosha 103.27 312⇓ *i*P **Pdif** **16 40 55.2 -5.1**
KWP Kalwaria Pacla 103.42 319 PFAKE 16 41 10.0 +9.4
KWP LR LR
comp=Z,614nm,21.0s
PSZ Piszkesteto 105.38 317⇓ P **Pdif** **16 41 00.2 -9.2**
PSZ Piszkesteto 105.38 317⇓ *i*P **Pdif** **16 41 00.9 -8.5**
VYHS Vyhne 106.04 318 *e*P **Pdif** **16 41 12.7 +0.4**
VYHS Vyhne 106.04 318 PDIF **Pdif** **16 41 12.7 +0.4**
OKC Ostrava-Krasne 106.35 319 *e*PP PP 16 45 35.7 -4.4
OKC *ex* x 16 45 42.8
HFS Hagfors 107.15 330 Pdiff **Pdif** **16 41 16.2 -0.7**
comp=Z,3.2nm,0.8s,baz=134,slow=6.4,SNR=8.0
HFS Hagfors 107.15 330 Pdif **Pdif** **16 41 16.2 -0.7**
DPC Dobruska-Polom 107.45 320 *e*PP PP 16 45 46.0 -2.3
DPC *ex* x 16 45 50.9
UPC Upice 107.63 320 *e*PP PP 16 45 45.6 -3.9
UPC *ex* x 16 45 51.7
NB2 NORSAR Subarra108.11 332 P **Pdif** **16 41 20.6 -0.7**
comp=Z,2.5nm,1.1s,baz=42,slow=4.6
NOA NORSAR Array B108.11 332 Pdiff **Pdif** **16 41 20.2 -1.1**
comp=Z,0.9nm,0.7s,baz=77,slow=4.5,SNR=3.8
NOA PKiKP **PKiKP** **16 45 28.0 +1.0**
comp=Z,2.1nm,0.9s,baz=33,slow=5.3,SNR=4.0
NOA NORSAR Array B108.11 332 Pdif **Pdif** **16 41 20.2 -1.1**
NOA PKiKP **PKiKP** **16 45 28.0 +1.0**
PRU Pruhonice 108.64 320 *e*PP PP 16 45 54.5 -2.3
PRU *ex* x 16 46 00.6
GERES GERESS Array B 109.37 319 Pdiff **Pdif** **16 41 27.9 +0.7**
comp=Z,0.3nm,0.6s,baz=68,slow=8.6,SNR=3.4
GERES PKiKP **PKiKP** **16 45 32.0 +2.2**
comp=Z,0.4nm,0.5s,baz=35,slow=3.3,SNR=5.7
GERES PP **PP** **16 46 03.9 +1.7**
comp=Z,2.1nm,0.7s,baz=90,slow=6.7,SNR=8.2
GERES SKP 16 48 50.0
comp=Z,0.9nm,0.7s,baz=5.2,slow=2.2,SNR=5.3
GERES GERESS Array B 109.37 319 Pdif **Pdif** **16 41 27.9 +0.7**
GERES PKiKP **PKiKP** **16 45 32.0 +2.2**
GERES PP **PP** **16 46 03.9 +1.7**
GERES SKP 16 48 50.0
CLL Collm 109.38 321 *e*PP PP 16 45 59.0 -3.1
CLL *es*PKiKP sPKiKP 16 46 34.0 0.0
CLL *es*SKKSac 16 54 00.0
CLL *es*PPS 16 57 28.0
KHC Kasperske Hory 109.40 319 *e*PP PP 16 45 59.4 -3.0
KHC *ex* x 16 46 07.4
NLWA Neilton Lookou 111.49 42 PFAKE 16 45 50.0
NLWA LR LR
comp=Z,399nm,19.0s
YKA Yellowknife Ar 111.88 25 Pdiff **Pdif** **16 41 36.5 -1.4**
comp=Z,0.2nm,0.6s,baz=297,slow=4.9,SNR=3.5
YKA PKiKP **PKiKP** **16 45 33.5 -0.5**
comp=Z,3.2nm,0.6s,baz=307,slow=2.0,SNR=24
YKA SKP 16 48 52.5
comp=Z,1.2nm,0.7s,baz=302,slow=1.8,SNR=9.1
YKA PKKPbc **PKKPbc** **16 56 28.0 -1.6**
comp=Z,0.8nm,0.7s,baz=106,slow=3.2,SNR=13
YKA Yellowknife Ar 111.88 25 Pdif **Pdif** **16 41 36.5 -1.4**
YKA PKiKP **PKiKP** **16 45 33.5 -0.5**
YKA SKP 16 48 52.5
YKA PKKPbc **PKKPbc** **16 56 28.1 -1.6**
CDF Champ du Feu 113.62 319 *e*PKiKP **PKiKP** **16 45 39.7 +1.8**
CDF Champ du Feu 113.62 319 *e*PKiKP **PKiKP** **16 45 39.7 +1.8**
CDF Champ du Feu 113.62 319 *e*PKPdf **PKiKP** **16 45 39.7 +1.8**
HINF Hinteralfeld 114.05 319 *e*PKiKP PKPdf 16 45 40.4 +1.7
comp=Z,4.9nm,0.5s
HINF Hinteralfeld 114.05 319 *e*PKiKP PKPdf 16 45 40.4 +1.7
HINF Hinteralfeld 114.05 319 *e*PKPdf PKPdf 16 45 40.4 +1.7
HAU Haudompre 114.33 319 *e*PKiKP PKPdf 16 45 41.0 +1.8
HAU Haudompre 114.33 319 *e*PKiKP PKPdf 16 45 41.0 +1.8
HAU Haudompre 114.33 319 *e*PKPdf PKPdf 16 45 41.0 +1.8
GIVF Givet 114.71 322 *e*PKiKP PKPdf 16 45 41.7 +1.9
GIVF Givet 114.71 322 *e*PKiKP PKPdf 16 45 41.7 +1.9
GIVF Givet 114.71 322 *e*PKPdf PKPdf 16 45 41.7 +1.9
CABF La Chapelle 114.86 318 *e*PKiKP PKPdf 16 45 41.4 +1.1
comp=Z,4.6nm,0.6s
CABF La Chapelle 114.86 318 *e*PKiKP PKPdf 16 45 41.4 +1.1
CABF La Chapelle 114.86 318 *e*PKPdf PKPdf 16 45 41.4 +1.1
BAIF Baives 115.10 322 *e*PKiKP **PKPdf** **16 45 42.3 +1.8**
BAIF Baives 115.10 322 *e*PKPdf **PKPdf** **16 45 42.3 +1.8**
NEW Newport 115.69 40 ⇓P **PKPdf** **16 45 41.4 -0.4**
baz=116
LOR Lormes 116.15 319 *e*PKiKP **PKPdf** **16 45 43.9 +1.2**
LOR Lormes 116.15 319 *e*PKPdf **PKPdf** **16 45 43.9 +1.2**
SMF Signal de Mont 116.34 318 *e*PKiKP **PKPdf** **16 45 44.9 +1.8**
SMF Signal de Mont 116.34 318 *e*PKiKP **PKPdf** **16 45 44.9 +1.8**
SMF Signal de Mont 116.34 318 *e*PKPdf **PKPdf** **16 45 44.9 +1.8**
C11A Tepee Creek (N 116.37 41⇑P **PKPdf** **16 45 42.9 -0.2**
baz=116
SSF Saint Saulge 116.44 319 *e*PKiKP **PKPdf** **16 45 44.3 +1.1**
comp=Z,5.9nm,0.7s
SSF Saint Saulge 116.44 319 *e*PKiKP **PKPdf** **16 45 44.3 +1.1**
SSF Saint Saulge 116.44 319 *e*PKPdf **PKPdf** **16 45 44.3 +1.1**
BMO Blue Mountains 116.51 44 PFAKE 16 46 00.0 +16
BMO LR LR
comp=Z,131nm,22.0s
PKM Peak Mountain 116.66 55⇑P **PKPdf** **16 45 44.2 -0.1**
baz=116
BGF Bois d'Agland 117.02 318 *e*PKiKP **PKPdf** **16 45 45.6 +1.2**
comp=Z,13nm,0.6s
BGF Bois d'Agland 117.02 318 *e*PKiKP **PKPdf** **16 45 45.6 +1.2**
BGF Bois d'Agland 117.02 318 *e*PKPdf **PKPdf** **16 45 45.6 +1.2**
A13A Flathead Natio 117.19 39 ⇓P **PKPdf** **16 45 45.0 +0.2**
baz=117
D12A Red Ives Fores 117.19 41 ⇓P **PKPdf** **16 45 43.9 -0.9**
baz=117
NVAR Mina Array Bea 117.26 51 PKP **PKPdf** **16 45 46.4 +1.0**
comp=Z,1.6nm,0.6s,baz=236,slow=2.8,SNR=12
NVAR SKP 16 49 05.3
comp=Z,2.0nm,0.8s,baz=263,slow=2.3,SNR=7.7
NVAR PKKPbc **PKKPbc** **16 56 11.9 +1.1**
comp=Z,0.7nm,0.7s,baz=137,slow=3.1,SNR=5.9
NVAR Mina Array Bea 117.26 51 PKP **PKPdf** **16 45 46.4 +1.0**
NVAR SKP 16 49 05.3
NVAR PKKPbc **PKKPbc** **16 56 11.9 +1.1**
B13A Whitefish 117.34 40⇑P **PKPdf** **16 45 44.7 -0.4**
baz=117
BLG Laguna Peak 117.39 56⇑P **PKPdf** **16 45 44.3 -1.2**
baz=117
C13A Hot Springs 117.50 40⇑P **PKPdf** **16 45 44.7 -0.6**
baz=117
TCF Toulx Ste Croi 117.52 318 *e*PKiKP **PKPdf** **16 45 47.0 +1.6**
comp=Z,7.4nm,0.7s
TCF Toulx Ste Croi 117.52 318 *e*PKiKP **PKPdf** **16 45 47.0 +1.6**
TCF Toulx Ste Croi 117.52 318 *e*PKPdf **PKPdf** **16 45 47.0 +1.6**
TIN Tinemaha 117.58 53 ⇓P **PKPdf** **16 45 44.8 -1.1**
baz=117
ISA Isabella 117.63 54 ⇓P **PKPdf** **16 45 44.6 -1.4**
baz=118
F12A Elk City 117.65 43 ⇓P **PKPdf** **16 45 44.8 -1.0**
baz=116
BMN Battle Mountai 117.65 49 PFAKE 16 46 00.0 +14
BMN LR LR
comp=Z,369nm,19.0s
D13A Huson 117.76 41⇑P **PKPdf** **16 45 45.1 -0.7**
baz=118
G12A Big Creek, Yel 117.79 43⇑P **PKPdf** **16 45 43.6 -2.6**
baz=118
MFID Camas Ranch 117.92 45 *e*PKPdf **PKPdf** **16 45 47.1 +0.7**
SWMT Swartz Lake 117.92 40 PKPdf **PKPdf** **16 45 45.7 -0.6**
C14A Swan Lake 118.00 40 ⇓P **PKPdf** **16 45 45.7 -0.7**
baz=118
E13A Victor 118.15 42⇑P **PKPdf** **16 45 46.7 0.0**
baz=118
EDW2 Edwards Air Fo 118.15 55 ⇓P **PKPdf** **16 45 47.1 +0.1**
baz=118
TPH Tonopah 118.16 51 PFAKE 16 46 00.0 +13
TPH LR LR
comp=Z,246nm,19.0s
MSO Missoula 118.18 41 ⇓P **PKPdf** **16 45 46.5 -0.3**
baz=118
DAC Darwin (Calif) 118.22 53 PFAKE 16 46 00.0 +13
DAC LR LR
comp=Z,208nm,19.0s
F13A Darby 118.26 42⇑P **PKPdf** **16 45 47.5 +0.5**
baz=118
H12A Diamond D Ranc 118.28 44⇑P **PKPdf** **16 45 47.1 0.0**
baz=118
LRMC Laurel Mountai 118.29 54 ⇓P **PKPdf** **16 45 47.5 +0.1**
baz=118
I12A Atlanta 118.30 45 ⇓P **PKPdf** **16 45 47.8 +0.6**
baz=118
SLMT Seeley Lake 118.34 40 *e*PKPdf **PKPdf** **16 45 46.4 -0.7**
MPMC Manual Prospec 118.34 54⇑P **PKPdf** **16 45 48.3 +0.8**
baz=118
D14A Greenough 118.38 41⇑P **PKPdf** **16 45 46.7 -0.5**
baz=118
B15A Bradely Ranch, 118.56 39⇑P **PKPdf** **16 45 47.0 -0.4**
baz=118
CHMT Chamberlain Mo 118.60 41 *e*PKPdf **PKPdf** **16 45 47.2 -0.5**
H13A Challis 118.68 44 ⇓P **PKPdf** **16 45 48.4 +0.5**
baz=118
C15A Salmond Ranch, 118.72 40⇑P **PKPdf** **16 45 47.6 -0.2**
baz=118
HLID Hailey 118.87 45 *e*PKPdf **PKPdf** **16 45 49.0 +0.8**
HLID *e*SKP 16 49 05.4
HLID Hailey 118.87 45⇑P **PKPdf** **16 45 49.2 +1.0**
baz=119
A16A West Butte Ran 118.92 38⇑P **PKPdf** **16 45 47.8 -0.3**
baz=119
MFF Saint Martin d 118.96 319 *e*PKiKP **PKPdf** **16 45 49.3 +1.2**
comp=Z,6.7nm,0.6s
MFF Saint Martin d 118.96 319 *e*PKiKP **PKPdf** **16 45 49.3 +1.2**
MFF Saint Martin d 118.96 319 *e*PKPdf **PKPdf** **16 45 49.3 +1.2**
I13A Wildhorse Cree 118.97 44⇑P **PKPdf** **16 45 49.2 +0.7**
baz=119
TAM Tamanrasset 119.00 291 PKiKP **PKPdf** **16 45 49.2 +0.1**
TAM Tamanrasset 119.00 291 PKPdf **PKPdf** **16 45 49.2 +0.1**
GSC Goldstone 119.03 54 *e*PKiKP **PKPdf** **16 45 49.1 +0.4**
GSC Goldstone 119.03 54 *e*PKPdf **PKPdf** **16 45 49.1 +0.4**
GSC Goldstone 119.03 54⇑P **PKPdf** **16 45 49.3 +0.6**
baz=119
J13A Cove Ranch, Pi 119.08 45 ⇓P **PKPdf** **16 45 49.6 +0.9**
baz=119
H14A Leadore 119.27 43 ⇓P **PKPdf** **16 45 49.1 +0.1**
baz=119
R11A Troy Canyon, C 119.36 51⇑P **PKPdf** **16 45 49.6 +0.2**
baz=119
F15A Butte 119.46 42⇑P **PKPdf** **16 45 49.4 0.0**
baz=119
A17A Triple J Farms 119.47 38⇑P **PKPdf** **16 45 49.2 +0.1**
baz=119
J14A Carey 119.56 45⇑P **PKPdf** **16 45 49.8 +0.3**
baz=119
PFO Pinyon Flat Ob 119.62 56 PFAKE 16 46 00.0 +10
PFO LR LR
comp=Z,170nm,20.0s
PFO Pinyon Flat Ob 119.62 56⇑P **PKPdf** **16 45 50.8 +0.8**
baz=120
G15A Dillon 119.68 42⇑P **PKPdf** **16 45 50.6 +0.8**
baz=120
H15A Lima 119.76 43⇑P **PKPdf** **16 45 50.8 +0.8**
baz=120
MONP Monument Peak 119.77 57 ⇓P **PKPdf** **16 45 50.6 +0.2**
baz=120
BELC Belle Mtn. Jos 119.92 56⇑P **PKPdf** **16 45 51.2 +0.6**
baz=120
C17A Wharram Farm, 119.93 39 ⇓P **PKPdf** **16 45 49.9 -0.2**
baz=120
F16A Kennard Place, 120.05 42 ⇓P **PKPdf** **16 45 50.9 +0.5**
baz=120
GMRC Granite Mounta 120.05 55 ⇓P **PKPdf** **16 45 52.1 +1.4**
baz=120
BOZ Bozeman (W) 120.09 42 PFAKE 16 46 00.0 +9.5
BOZ LR LR
comp=Z,537nm,19.0s
D17A Six Diamond Ra 120.16 40 ⇓P **PKPdf** **16 45 50.4 -0.2**
baz=120
B18A Beardsley Farm 120.25 38 ⇓P **PKPdf** **16 45 50.7 +0.1**
baz=120
J15A Blackfoot 120.29 44 ⇓P **PKPdf** **16 45 52.1 +1.2**
baz=120
E17A Martinsdale 120.30 41⇑P **PKPdf** **16 45 51.1 +0.2**
baz=120
EGMT Eagleton 120.41 39 *e*PKPdf **PKPdf** **16 45 50.7 -0.3**
EGMT *e*SKP 16 49 09.1
EGMT Eagleton 120.41 39 ⇓P **PKPdf** **16 45 51.0 +0.1**
baz=120
BC3 Big Chuckawall 120.43 56⇑P **PKPdf** **16 45 52.3 +0.9**
baz=120
K15A Arbon 120.45 45 ⇓P **PKPdf** **16 45 52.4 +1.2**
baz=120
IRM Iron Mountain 120.58 55 ⇓P **PKPdf** **16 45 52.8 +1.1**
baz=120

F17A Fitzpatrick Pl 120.63 41 ⇓P PKPdf 16 45 51.9 +0.4
baz=120
A19A Klindworth Far 120.65 37 ⇓P PKPdf 16 45 51.2 -0.2
baz=120
L15A Malad City 120.76 46 ⇑P PKPdf 16 45 51.7 -0.2
baz=121
J16A Bone 120.90 44 ⇓P PKPdf 16 45 52.7 +0.5
baz=121
C19A Slack Wire Ran 120.96 39 ⇓P PKPdf 16 45 52.1 +0.1
baz=121
DUG Dugway 120.97 48 ePKIKP PKPdf 16 45 52.8 +0.5
DUG Dugway 120.97 48 ePKPdf PKPdf 16 45 52.8 +0.5
DUG eSKP 16 49 11.2
DUG Dugway 120.97 48 ⇓P PKPdf 16 45 52.9 +0.5
baz=121
K16A Soda Springs 121.06 45 ⇓P PKPdf 16 45 53.1 +0.6
baz=121
O15A The Old Anders 121.20 48 ⇓P PKPdf 16 45 52.9 +0.1
baz=121
F18A Big Timber 121.25 41 ⇑P PKPdf 16 45 53.0 +0.4
baz=121
D19A Cripps Ranch, 121.29 39 ⇑P PKPdf 16 45 52.6 -0.1
baz=121
B20A Solberg Farm, 121.29 38 ⇑P PKPdf 16 45 52.7 +0.1
baz=121
REDW Red Top Meadow 121.39 44 ePKPdf PKPdf 16 45 53.5 +0.3
SNOW Snow King Moun 121.43 44 PKPdf PKPdf 16 45 52.7 -0.6
L16A Fish Haven 121.43 46 ⇓P PKPdf 16 45 53.5 +0.3
baz=121
HWUT Hardware Ranch 121.46 46 ePKPdf PKPdf 16 45 53.3 0.0
LOHW Long Hollow 121.48 44 ePKPdf PKPdf 16 45 53.5 +0.1
J17A Brown Place, J 121.49 44 ⇑P PKPdf 16 45 54.1 +0.8
baz=121
M16A Huntsville 121.51 46 ⇓P PKPdf 16 45 52.9 -0.5
baz=121
P15A Leamington 121.55 49 ⇓P PKPdf 16 45 54.2 +0.7
baz=121
C20A Veseth Ranch, 121.61 38 ⇑P PKPdf 16 45 53.3 0.0
baz=121
E19A Rath Farm, Rou 121.63 40 ⇑P PKPdf 16 45 53.2 -0.1
baz=121
A21A Bergtoll Ranch 121.71 37 ⇓P PKPdf 16 45 53.1 -0.3
baz=122
L17A Cokeville 121.80 45 ⇓P PKPdf 16 45 54.0 0.0
baz=122
B21A Ellsworth Farm 121.90 37 ⇑P PKPdf 16 45 54.3 +0.5
baz=122
MSU Marysvale 121.91 50 ePKIKP PKPdf 16 45 54.6 +0.3
MSU Marysvale 121.91 50 ePKPdf PKPdf 16 45 54.6 +0.3
E20A Meyer Farm, Mu 122.03 40 ⇓P PKPdf 16 45 54.3 +0.2
baz=122
C21A Desert Coulee 122.12 38 ⇓P PKPdf 16 45 54.2 0.0
baz=122
M17A Scullys Gap (B 122.14 46 ⇓P PKPdf 16 45 54.8 +0.1
baz=122
N17A Moffit Pass 122.19 47 ⇑P PKPdf 16 45 55.3 +0.4
baz=122
K18A Toltan Ranch, 122.20 45 ⇑P PKPdf 16 45 55.5 +0.8
baz=122
A22A Carney Farms, 122.30 36 ⇑P PKPdf 16 45 54.7 +0.2
baz=122
U15A North Rim 122.37 52 ⇑P PKPdf 16 45 56.4 +1.1
baz=122
L18A Fontenelle, Gr 122.44 45 ⇑P PKPdf 16 45 55.7 +0.5
baz=122
G20A Bridger 122.48 41 ⇑P PKPdf 16 45 55.0 -0.1
baz=122
BW06 Boulder Array 122.49 44 ⇑P PKPdf 16 45 55.6 +0.3
baz=122
PDAR Pinedale Array 122.49 44 PKP PKPdf 16 45 54.9 -0.4
comp=Z,2.8nm,0.7s,baz=323,slow=0.3,SNR=12
PDAR PKKPbc PKKPbc 16 55 52.6 +0.9
comp=Z,0.7nm,0.6s,baz=120,slow=5.2,SNR=5.6
PDAR Pinedale Array 122.49 44 PKP PKPdf 16 45 54.9 -0.4
PDAR PKKPbc PKKPbc 16 55 52.6 +0.9
O17A Robinson Place 122.50 47 ⇓P PKPdf 16 45 56.2 +0.8
baz=122
B22A Reddig Ranch S 122.57 37 ⇓P PKPdf 16 45 55.7 +0.7
baz=122
S16A Weppner Ranch, 122.57 51 ⇓P PKPdf 16 45 56.2 +0.6
baz=122
M18A Lyman 122.59 46 ⇑P PKPdf 16 45 55.8 +0.3
baz=122
J19A Crowheart 122.66 44 ⇑P PKPdf 16 45 56.3 +0.8
baz=122
TOA0 Torodi Ar. Sit 122.75 280 ePKPdf PKPdf 16 45 56.0 -0.3
TORD Torodi Ar. Bea 122.75 280 PKP PKPdf 16 45 56.2 -0.1
comp=Z,12nm,0.8s,baz=69,slow=1.6,SNR=64
TORD SKP 16 49 15.8
comp=Z,1.7nm,0.7s,baz=113,slow=2.1,SNR=4.4
TORD Torodi Ar. Bea 122.75 280 PKP PKPdf 16 45 56.2 -0.1
TORD SKP 16 49 15.8
L19A Farson 122.86 45 ⇑P PKPdf 16 45 56.3 +0.3
baz=123
C22A Vida 122.89 38 ⇓P PKPdf 16 45 56.0 +0.3
baz=123
H20A Greybull 122.91 42 ⇑P PKPdf 16 45 55.8 -0.1
baz=123
214A Organ Pipe Nat 122.94 57 ⇑P PKPdf 16 45 56.8 +0.6
baz=123
D22A Cohagen 122.97 38 ⇑P PKPdf 16 45 56.4 +0.5
baz=123
SRU San Rafael 122.98 49 ePKIKP PKPdf 16 45 56.3 0.0
SRU San Rafael 122.98 49 ePKPdf PKPdf 16 45 56.3 0.0
SRU San Rafael 122.98 49 ⇓P PKPdf 16 45 56.6 +0.3
baz=123
O18A Roosevelt 123.00 47 ⇓P PKPdf 16 45 57.1 +0.8
baz=123
P18A Preston Nutter 123.03 48 ⇑P PKPdf 16 45 57.1 +0.6
baz=123
I20A Worland 123.03 42 ⇑P PKPdf 16 45 56.4 +0.3
baz=123
R17A Hanksville Air 123.04 49 ⇓P PKPdf 16 45 56.7 +0.3
baz=123
G21A Lodge Grass 123.13 41 ⇓P PKPdf 16 45 56.8 +0.5
baz=123
S17A Black Ridge (B 123.20 50 ⇑P PKPdf 16 45 57.1 +0.3
baz=123
Q18A Rafter H Ranch 123.27 49 ⇑P PKPdf 16 45 57.1 +0.3
baz=123
C23A Lambert 123.28 37 ⇑P PKPdf 16 45 57.0 +0.6
baz=123
J20A Shoshoni 123.28 43 ⇓P PKPdf 16 45 57.1 +0.3
baz=123
WUAZ Wupatki 123.31 53 ⇓P PKPdf 16 45 57.8 +0.8
baz=123
K20A Yellowstone Ra 123.37 44 ⇑P PKPdf 16 45 56.7 -0.2
baz=123
E22A Miles City 123.42 39 ⇓P PKPdf 16 45 57.2 +0.4
baz=123
A24A Westby 123.44 36 ⇓P PKPdf 16 45 57.0 +0.3
baz=123
X16A Lo Mia Camp, P 123.53 54 ⇑P PKPdf 16 45 58.1 +0.6
baz=123
D23A Lindsay 123.55 38 ⇓P PKPdf 16 45 57.6 +0.6
baz=123
L20A Wamsutter 123.60 45 ⇓P PKPdf 16 45 57.9 +0.4
baz=123
O19A Miners Draw (B 123.63 47 ⇑P PKPdf 16 45 58.1 +0.6
baz=123
I21A Big Trails, Te 123.64 42 ⇓P PKPdf 16 45 57.4 0.0
baz=123
R18A Canyonlands Na 123.67 49 ⇓P PKPdf 16 45 57.8 +0.1
baz=124
J21A Lysite 123.72 43 ⇑P PKPdf 16 45 57.7 +0.1
baz=124
E23A Ismay 123.80 39 ⇑P PKPdf 16 45 57.9 +0.4
baz=124
S18A Hurst Farm, Bl 123.80 50 ⇓P PKPdf 16 45 58.0 0.0
baz=124
C24A Savage 123.86 37 ⇑P PKPdf 16 45 57.9 +0.4
baz=124
ESDC Sonseca Array 123.90 312 PKP PKPdf 16 45 58.3 +0.4
comp=Z,1.8nm,0.8s,baz=360,slow=2.8,SNR=4.7
ESDC PP PP 16 47 39.1 -4.4
comp=Z,2.9nm,0.8s,baz=64,slow=7.0,SNR=7.3
ESDC Sonseca Array 123.90 312 PKP PKPdf 16 45 58.3 +0.4
ESDC PP PP 16 47 39.1 -4.4
Q19A Hogan Spring (123.96 48 ⇑P PKPdf 16 45 58.9 +0.8
baz=124
N20A Spence Gulch, 124.07 46 ⇓P PKPdf 16 45 59.0 +0.6
baz=124
D24A Glendive 124.11 38 ⇓P PKPdf 16 45 58.7 +0.7
baz=124
K21A Alcova 124.12 44 ⇓P PKPdf 16 45 58.6 +0.2
baz=124
I22A 9 Mile Ranch, 124.14 42 ⇓P PKPdf 16 45 58.2 -0.2
baz=124
L21A Rawlins 124.29 44 ⇓P PKPdf 16 45 58.9 +0.1
baz=124
O20A White River Ci 124.32 47 ⇓P PKPdf 16 45 59.6 +0.7
baz=124
J22A Midwest 124.34 43 ⇓P PKPdf 16 45 58.5 -0.2
baz=124
E24A Baker 124.38 38 ⇑P PKPdf 16 45 58.7 0.0
baz=124
PV04 Paradox Valley 124.40 49 ePKPdf PKPdf 16 45 59.4 +0.3
M21A Separation Pea 124.43 45 ⇑P PKPdf 16 45 59.0 -0.1
baz=124
P20A De Beque 124.43 48 ⇑P PKPdf 16 45 59.8 +0.7
baz=124
TUC Tucson 124.55 57 ePKIKP PKPdf 16 46 00.2 +0.8
TUC Tucson 124.55 57 ePKPdf PKPdf 16 46 00.2 +0.8
K22A Casper 124.61 43 ⇑P PKPdf 16 45 59.7 +0.4
baz=124
F24A Ekalaka 124.62 39 ⇓P PKPdf 16 45 59.2 +0.1
baz=124
N21A Black Mountain 124.62 46 ⇓P PKPdf 16 46 00.7 +1.2
baz=124
Q20A Ridgley Place, 124.68 48 ⇓P PKPdf 16 46 00.4 +0.9
baz=124
PV01 Paradox Valley 124.74 49 ePKPdf PKPdf 16 46 00.3 +0.5
G24A Alzada 124.87 40 ⇑P PKPdf 16 45 59.5 -0.2
baz=125
S20A Disappointment 124.99 49 ⇓P PKPdf 16 46 01.1 +0.8
baz=125
H24A Dirks Ranch, A 125.04 40 ⇓P PKPdf 16 45 60.0 0.0
baz=125
MVCO Mesa Verde 125.08 50 ePKPdf PKPdf 16 46 01.0 +0.5
MVCO LR LR
comp=Z,187nm,20.0s
MVCO Mesa Verde 125.08 50 ⇑P PKPdf 16 46 01.5 +1.0
baz=125
N22A Wattenberg Ran 125.36 45 ⇑P PKPdf 16 46 01.9 +0.9
baz=125
S21A Coal Bank Pass 125.47 49 ⇑P PKPdf 16 46 02.6 +1.3
baz=125
V20A Brimhall 125.52 52 ⇓P PKPdf 16 46 01.8 +0.5
baz=125
P22A Eagle 125.58 47 ⇑P PKPdf 16 46 02.0 +0.6
baz=125
RSSD Black Hills 125.65 41 ePKIKP PKPdf 16 46 00.3 -1.0
RSSD Black Hills 125.65 41 ePKPdf PKPdf 16 46 00.3 -1.0
W20A Ramah 125.68 53 ⇑P PKPdf 16 46 02.6 +1.0
baz=126
N23A Red Feather La 125.69 45 ⇑P PKPdf 16 46 02.5 +1.0
baz=126
Q22A Crested Butte, 125.73 48 ⇑P PKPdf 16 46 02.4 +0.7
baz=126
T21A Navajo Lake 125.88 50 ⇓P PKPdf 16 46 03.1 +1.1
baz=126
O23A Lake Granby, G 125.96 46 ⇑P PKPdf 16 46 02.7 +0.6
baz=126
319A Douglas 126.00 57 ⇓P PKPdf 16 46 02.4 +0.2
baz=126
R22A Saguache, Gunn 126.06 49 ⇑P PKPdf 16 46 03.1 +0.7
baz=126
Z20A Nine Sixteen R 126.15 55 ⇑P PKPdf 16 46 03.7 +1.2
baz=126
S22A 4UR Ranch, Cre 126.16 49 ⇓P PKPdf 16 46 03.5 +0.9
baz=126
ISCO Idaho Springs 126.33 46 ⇑P PKPdf 16 46 03.2 +0.3
baz=126
X21A Alamocita Cree 126.44 53 ⇑P PKPdf 16 46 04.1 +1.0
baz=126
MDND Maddock 126.51 35 ⇓P PKPdf 16 46 02.9 +0.3
baz=126
L25A Engebretsen Ra 126.54 43 ⇓P PKPdf 16 46 03.5 +0.5
baz=126
320A Kipp Ranch, An 126.64 57 ⇑P PKPdf 16 46 04.9 +1.4
baz=126
R23A Moffat 126.76 48 ⇑P PKPdf 16 46 05.0 +1.3
baz=127
121A Cookes Peak, D 126.96 56 ⇓P PKPdf 16 46 04.8 +0.7
baz=127
ULM Lac du Bonnet 127.12 31 PKP PKPdf 16 46 03.5 -0.1
comp=Z,5.7nm,0.6s,baz=286,slow=2.3,SNR=7.8
ULM SKPbc SKiKP 16 49 05.8 -18
comp=Z,3.4nm,0.6s,baz=293,slow=5.8,SNR=3.6
ULM Lac du Bonnet 127.12 31 PKP PKPdf 16 46 03.5 -0.1
ULM SKPbc SKiKP 16 49 05.8 -18
Y22A Socorro 127.23 54 ⇓P PKPdf 16 46 05.6 +1.0
baz=127
R24A Sanders Place, 127.27 48 ⇓P PKPdf 16 46 05.5 +0.9
baz=127
ANMO Albuquerque 127.34 52 PKP PKPdf 16 46 05.6 +0.8
comp=Z,3.3nm,0.9s,baz=266,slow=3.9,SNR=6.2
ANMO SKPbc SKiKP 16 49 08.1 -17
comp=Z,4.2nm,0.9s,baz=266,slow=3.8,SNR=7.0
ANMO Albuquerque 127.34 52 PKP PKPdf 16 46 05.6 +0.8
ANMO SKPbc SKiKP 16 49 08.1 -17
Z22A Elephant Butte 127.43 54 ⇓P PKPdf 16 46 05.3 +0.3
baz=127
P25A Willow Gulch B 127.47 46 ⇓P PKPdf 16 46 05.2 +0.3
baz=127
Q25A Bedland, Calha 127.64 47 ⇑P PKPdf 16 46 06.2 +0.9
baz=127
R25A Fountain Ranch 127.91 48 ⇓P PKPdf 16 46 06.4 +0.7
baz=128
V24A Rampart Ranch, 128.01 51 ⇓P PKPdf 16 46 06.8 +0.7
baz=128
P26A Davis Ranch, A 128.04 46 ⇓P PKPdf 16 46 06.7 +0.7
baz=128
W24A Lazy 6 Ranch, 128.07 52 ⇓P PKPdf 16 46 06.4 +0.2
baz=128
N27A Anderson Farm, 128.09 44 ⇓P PKPdf 16 46 06.5 +0.6
baz=128
Q26A Hugo 128.16 47 ⇓P PKPdf 16 46 07.1 +0.9
baz=128
T25A Trinidad 128.18 49 ⇓P PKPdf 16 46 06.6 +0.3
baz=128
AGMN Agassiz Nation 128.32 33 PFAKE 16 46 20.0 +14
AGMN LR LR
comp=Z,500nm,19.0s
Y24A Capitan 128.45 53 ⇓P PKPdf 16 46 07.8 +0.9
baz=128
V25A Rancho No Teng 128.48 51 ⇑P PKPdf 16 46 07.7 +0.7
baz=128
S26A Kim 128.70 48 ⇑P PKPdf 16 46 08.1 +0.9
baz=128
T26A Comanche Natio 128.78 49 ⇓P PKPdf 16 46 08.3 +0.8
baz=129
124A Stringfield Ra 128.80 55 ⇑P PKPdf 16 46 08.6 +0.9
baz=129
DBIC Dimbokro 128.81 272 PKP PKPdf 16 46 08.3 +0.4
comp=Z,7.2nm,0.8s,baz=4.3,slow=3.7,SNR=7.8
DBIC SKPbc SKiKP 16 49 13.1 -15
comp=Z,4.7nm,0.6s,baz=95,slow=2.6,SNR=5.7
DBIC Dimbokro 128.81 272 PKP PKPdf 16 46 08.3 +0.4
DBIC SKPbc SKiKP 16 49 13.1 -15
LIC Lamto 128.93 271 ePKIKP PKPdf 16 46 08.9 +0.8
LIC Lamto 128.93 271 ePKPdf PKPdf 16 46 08.9 +0.8
R27A Eads 128.94 47 ⇑P PKPdf 16 46 08.3 +0.7
baz=129
324A Moseley Ranch, 129.13 56 ⇓P PKPdf 16 46 08.5 +0.3
baz=129
PLCA Paso Flores 129.32 166 PKP PKPdf 16 46 08.3 0.0
comp=Z,3.8nm,0.8s,baz=202,slow=4.4,SNR=10
PLCA SKPbc SKPbc 16 49 16.1 +2.8
comp=Z,6.3nm,0.8s,baz=202,slow=5.6,SNR=14
PLCA Paso Flores 129.32 166 PKP PKPdf 16 46 08.3 0.0
PLCA SKPbc SKPbc 16 49 16.1 +2.8
X26A CR and CF Fran 129.53 52 ⇓P PKPdf 16 46 07.9 -1.0
baz=129
425A Indio Mountain 129.72 57 ⇓P PKPdf 16 46 09.9 +0.5
baz=130
T28A Walsh 129.89 48 ⇑P PKPdf 16 46 10.0 +0.6
baz=130
ECSD EROS Data Cent 130.51 38 ePKPdf PKPdf 16 46 09.5 -0.8
ECSD eSKP 16 49 16.7
526A Mary Lane Ranc 130.66 58 ⇓P PKPdf 16 46 11.4 +0.2
baz=130
427A Hayter Ranch, 131.01 56 ⇑P PKPdf 16 46 12.3 +0.5
baz=131
527A Woodward Ranch 131.03 57 ⇓P PKPdf 16 46 12.9 +1.0
baz=131
X29A Tulia 131.20 51 ⇑P PKPdf 16 46 12.8 +0.8
baz=131
TXAR Lajitas Array 131.21 58 PKP PKPdf 16 46 11.7 -0.5
comp=Z,1.5nm,0.8s,baz=321,slow=1.8,SNR=6.1
TXAR SKPbc SKPab 16 49 21.2 +0.1
comp=Z,10nm,0.9s,baz=264,slow=2.5,SNR=26
TXAR Lajitas Array 131.21 58 PKP PKPdf 16 46 11.7 -0.5
TXAR SKPbc SKPab 16 49 21.2 +0.1
328A Wristen Ranch, 131.34 55 ⇓P PKPdf 16 46 13.5 +1.1
baz=131
627A Terlingua Ranc 131.41 58 ⇓P PKPdf 16 46 13.5 +1.0
baz=131
SCHQ Schefferville 133.06 8 PKP PKPdf 16 46 15.3 +0.6
comp=Z,3.9nm,0.5s,baz=19,slow=1.4,SNR=18
SCHQ SKPbc SKPbc 16 49 26.0 -0.1
comp=Z,6.6nm,0.8s,baz=9.2,slow=4.8,SNR=7.9
SCHQ Schefferville 133.06 8 PKP PKPdf 16 46 15.3 +0.6
SCHQ SKPbc SKPbc 16 49 26.0 -0.1
COWI Conover 133.24 31 ePKPdf PKPdf 16 46 15.5 0.0
COWI eSKP 16 49 25.8
431A Sonora 133.35 56 ⇓P PKPdf 16 46 16.6 +0.5
baz=133
TRQA Tornquist 133.40 174 ePKPdf PKPdf 16 46 17.5 +1.4
TRQA eSKP 16 49 29.4
631A Perdido Creek 133.77 57 ⇓P PKPdf 16 46 17.8 +0.9
baz=134
JCT Junction City 134.07 55 ePKHKP PKPpre 16 46 07.0
JCT e 16 46 18.5
JCT Junction City 134.07 55 ePKPpre PKPpre 16 46 07.0
JCT ePKPdf PKPdf 16 46 18.5 +1.1
JCT eSKP 16 49 29.2
JCT Junction City 134.07 55 ⇑P PKPdf 16 46 18.6 +1.1
baz=134
632A Uvalde 134.40 57 ⇓P PKPdf 16 46 18.9 +0.8
baz=134
KVTX Kingsville 136.59 59 PFAKE 16 46 30.0 +7.8
KVTX LR LR
comp=Z,500nm,19.0s
HDIL Hopedale 136.78 37 ePKPdf PKPdf 16 46 22.9 +0.7
HDIL eSKP 16 49 37.1
MIAR Mount Ida 137.25 47 ePKIKP PKPpre 16 46 17.8
MIAR Mount Ida 137.25 47 ePKPpre PKPpre 16 46 17.8
MIAR ePKPdf PKiKP 16 46 24.8 -0.3
MIAR eSKP 16 49 39.4
NATX Nacogdoches 137.68 51 PFAKE 16 46 40.0 +16
NATX LR LR
comp=Z,599nm,20.0s
CFAA Coronel Fontan 138.57 165 PKhKP PKPpre 16 46 21.2
comp=Z,0.4nm,0.6s,baz=266,slow=2.5,SNR=3.9
CFAA PKP PKPdf 16 46 26.8 +1.0
comp=Z,1.1nm,0.7s,baz=201,slow=2.7,SNR=3.8
CFAA SKP 16 49 46.0
comp=Z,4.9nm,0.8s,baz=213,slow=2.7,SNR=30
CFAA Coronel Fontan 138.57 165 PKPpre PKPpre 16 46 21.2
CFAA PKP PKPdf 16 46 26.8 +1.0
CFAA SKP 16 49 46.0
OLIL Olney 138.63 38 ePKPdf PKPdf 16 46 25.5 -0.1
OLIL eSKP 16 49 43.5
SADO Sadowa 138.88 25 SKP 16 49 44.1
comp=Z,7.1nm,0.7s,baz=310,slow=2.6,SNR=8.6
WCI Wyandotte Cave 140.04 38 ePKHKP PKPpre 16 46 17.7
WCI Wyandotte Cave 140.04 38 ePKPpre PKPpre 16 46 17.6
WCI eSKP 16 49 46.3
OXF Oxford 140.23 45 PFAKE 16 46 40.0 +11
OXF LR LR
comp=Z,614nm,19.0s
LCO Las Campanas 140.27 160 ePKPdf PKPdf 16 46 23.2 -6.1
LCO eSKP 16 49 50.7
WVT Waverly 140.38 41 ePKHKP PKPpre 16 46 19.6
WVT Waverly 140.38 41 ePKPdf PKPpre 16 46 19.6
ACSO Alum Creek Sta 140.56 33 ePKPpre PKPpre 16 46 21.0
ACSO eSKP 16 49 41.0
ACSO LR LR
comp=Z,91nm,19.0s
CMIG Matias Romero 141.67 73 SKPbc SKPbc 16 49 53.1 +0.7
comp=Z,4.8nm,0.6s,baz=246,slow=2.4,SNR=3.9
CMIG Matias Romero 141.67 73 SKPbc SKPbc 16 49 53.1 +0.7
LRAL Lakeview Retre 142.72 45 ePKPpre PKPpre 16 46 28.8
LRAL eSKP 16 49 53.8
SSPA Standing Stone 142.77 27 ePKPpre PKPpre 16 46 27.2
SSPA epPKPdf pPKPdf 16 47 14.8 -4.7
SSPA eSKP 16 49 53.8
TZTN Tazewell 142.80 37 ePKPdf PKPdf 16 46 28.1 -5.2
TZTN eSKP 16 49 47.0
TKL Tuckaleechee C 143.25 39 SKPbc SKPbc 16 49 55.8 -0.1
comp=Z,5.6nm,0.6s,baz=164,slow=1.0,SNR=4.8
TKL Tuckaleechee C 143.25 39 SKPbc SKPbc 16 49 55.8 -0.1
BRAL Brewton 143.77 48 ePKPdf PKPbc 16 46 32.9 -0.3
BLA Blacksburg 144.13 34 ePKIKP PKPab 16 46 32.9 -0.7
BLA Blacksburg 144.13 34 ePKPdf PKPab 16 46 32.9 -0.7
PAL Palisades 144.13 23 ePKIKP PKPab 16 46 33.5 +0.1
PAL Palisades 144.13 23 ePKPdf PKPab 16 46 33.5 +0.1
PAL epPKPdf pPKPdf 16 47 19.2 -2.6
SDMD Soldier's Deli 144.23 27 ePKPdf PKPab 16 46 32.9 -1.0
VWCC Virginia Weste 144.34 33 ePKPdf PKPab 16 46 32.8 -1.6
GOGA Godfrey 144.88 41 ePKIKP PKPbc 16 46 35.7 -0.7
GOGA Godfrey 144.88 41 ePKPdf PKPbc 16 46 35.7 -0.8
CBN Corbin 144.94 29 ePKPdf PKPbc 16 46 35.7 -0.8
KMSC Kings Mountain 145.07 37 ⇑P PKPbc 16 46 36.5 -0.6
baz=145
JSRW J. Sargeant Re 145.09 30 ePKPdf PKPbc 16 46 35.9 -1.1
JSRW eSKP 16 49 58.7
PAYG Puerto Ayora 145.12 104 ePKPdf PKPbc 16 46 37.6 -0.2
CPUP Villa Florida 145.37 179 PKPbc PKPab 16 46 39.6 +1.2
comp=Z,24nm,0.7s,baz=183,slow=1.4,SNR=47
CPUP SKPbc SKiKP 16 50 02.4 +0.7
comp=Z,10.0nm,0.8s,baz=126,slow=1.3,SNR=6.2
CPUP Villa Florida 145.37 179 PKPbc PKPab 16 46 39.6 +1.2
CPUP SKPbc SKiKP 16 50 02.4 +0.7
JSC Jenkinsville 145.70 38 ePKP2 PKPdf 16 46 38.5 +0.2
JSC Jenkinsville 145.70 38 ePKPdf PKPdf 16 46 38.5 +0.2
CAM4 Nova Friburgo 146.43 204 ⇓P PKPab 16 46 43.8 +0.8
CAM4 i 16 46 48.9
CAM4 i 16 46 55.1
CAM4 i 16 46 57.3
CAM4 i 16 47 03.1
LVC Limon Verde 146.77 159 ePKPdf PKPdf 16 46 38.9 -1.9
LVC eSKP 16 50 03.1
CNNC Cliffs of the 146.96 33 ePKPbc PKPbc 16 46 42.1 -0.4
TEIG Tepich 147.16 66 ePKPdf PKPdf 16 46 40.3 -0.8
NHSC New Hope 147.16 38 ePKPdf PKPdf 16 46 41.0 +0.3
DWPF Disney 149.45 47 ePKPdf PKPbc 16 46 47.9 -1.4
NNA Nana 151.31 135 PKP PKPdf 16 46 50.1 +2.1
comp=Z,47nm,0.9s,baz=157,slow=7.7,SNR=3.7
NNA PKPbc PKiKP 16 46 55.3 +0.7
comp=Z,39nm,0.8s,baz=253,slow=4.6,SNR=19
NNA Nana 151.31 135 PKP PKPdf 16 46 50.1 +2.1
NNA ePKPbc PKiKP 16 46 55.3 +0.7
JTS JuntasAbangare 151.88 84 ePKPdf PKPdf 16 46 46.4 -2.5
JTS ePKPbc PKPbc 16 46 55.5 +0.1
JTS LR LR
comp=Z,262nm,22.0s
LPAZ La Paz 152.81 155 PKP PKPdf 16 46 53.1 +2.2
comp=Z,3.1nm,0.8s,baz=192,slow=1.8,SNR=12
LPAZ PKPbc PKiKP 16 47 00.1 +1.7
comp=Z,11nm,0.8s,baz=199,slow=2.6,SNR=23
LPAZ PKPab PKPab 16 47 10.7 +1.1
comp=Z,23nm,0.7s,baz=192,slow=2.2,SNR=22
LPAZ La Paz 152.81 155 PKP PKPdf 16 46 53.1 +2.2
LPAZ PKPbc PKiKP 16 47 00.1 +1.7
LPAZ PKPab PKPab 16 47 10.7 +1.1
ATAH Atahualpa 153.21 125 PKP PKPdf 16 46 54.0 +2.7
comp=Z,2.9nm,0.2s,baz=344,slow=9.1,SNR=4.0
ATAH PKPbc PKiKP 16 47 01.1 +2.0
comp=Z,21nm,0.7s,baz=162,slow=3.0,SNR=13
ATAH Atahualpa 153.21 125 PKP PKPdf 16 46 54.0 +2.7
ATAH PKPbc PKiKP 16 47 01.1 +2.0
BDFB Brasilia 154.58 199 PKP PKPdf 16 46 53.9 +1.1
comp=Z,2.5nm,0.5s,baz=241,slow=3.2,SNR=4.2
BDFB Brasilia 154.58 199 PKP PKPdf 16 46 53.9 +1.1
SIV San Ignacio 155.25 169 PKP PKPdf 16 46 55.7 +2.1
comp=Z,6.1nm,1.1s,baz=197,slow=1.1,SNR=13
SIV PKPab PKPab 16 47 20.9 +1.7
comp=Z,17nm,0.7s,baz=198,slow=3.6,SNR=31
SIV PP PP 16 50 54.4 0.0
comp=Z,3.7nm,0.8s,baz=223,slow=7.7,SNR=3.0
SIV San Ignacio 155.25 169 PKP PKPdf 16 46 55.7 +2.1
SIV PKPab PKPab 16 47 20.9 +1.7
SIV PP PP 16 50 54.4 0.0
OTAV Otavalo 156.64 109 ePKPdf PKPdf 16 46 57.7 +1.6
SAML Samuel 161.43 159 ePKPdf PKPdf 16 47 02.1 +1.1
SAML ePKPab PKPab 16 47 45.9 -0.1
SAML LR LR
comp=Z,277nm,22.0s
ROSC El Rosal 161.93 100 PKP PKPdf 16 47 03.1 +1.0
comp=Z,14nm,0.8s,baz=90,slow=20,SNR=4.2
ROSC El Rosal 161.93 100 PKP PKPdf 16 47 03.1 +1.0
SDV Santo Domingo 166.02 87 ePKPdf PKPdf 16 47 04.7 -0.9

JMA 07 16:35:15.1±0.3, 31°58N×142°58E, h46km, M4.0,

Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**3.65**	**332**	P	Pn	16 36 11.5	+2.8
CBIJ	**Chichi jima**	**4.48**	**185**	P	Pn	16 36 22.3	+1.8
JOD2	**Odawara 2**	**4.69**	**322**	P	Pn	16 36 25.9	+2.5
JOD2				*e*S	Sn	16 37 18.0	+1.4
JYT	**Yasato**	**5.04**	**337**	P	Pn	16 36 30.7	+2.6
JYT				*e*S	Sn	16 37 27.6	+2.5
JHU	**Hanno**	**5.07**	**328**	P	Pn	16 36 30.7	+2.1
JHU				*e*S	Sn	16 37 26.1	+0.3
JHO	**Hitachi**	**5.29**	**342**	P	Pn	16 36 32.4	+0.9
JHO				*e*S	Sn	16 37 30.0	-1.2
JRY	**Ryogami san**	**5.38**	**326**	P	Pn	16 36 35.0	+2.1
JAG	**Ashikaga**	**5.49**	**333**	P	Pn	16 36 36.3	+2.0
JAG				*e*S	Sn	16 37 36.4	+0.3
JFK	**Kawauchi**	**5.94**	**347**	*e*S	Sn	16 37 42.0	-5.4

CSEM ***07*** *16:44:27.7, 42°.84N×1°.42W, h0km, ML1.3, After MDD*
MDD 07 16:44:27.7±0.1, 42°.84N×1°.42W, h0km, mbLg1.3/5, Error ellipse: s-maj=1.6km s-min=1.1km az=34.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZUN	**Zunzarren**	**0.04**	**310**	Pg	Pg	16 44 28.4	-0.2
	20nm,0.2s,SNR=103						
IZUN				Lg	Lg	16 44 29.2	
	47nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.04**	**310**	Pg	Pg	16 44 28.4	-0.2
	20nm,0.2s,SNR=103						
IZUN				Lg	Lg	16 44 29.2	
	47nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.05**	**124**	Pg	Pg	16 44 28.5	-0.3
	20nm,0.3s,SNR=21						
IPRE				Lg	Lg	16 44 29.4	
	7.4nm,0.3s,SNR=5.1						
IPRE	**Itoiz**	**0.05**	**124**	Pg	Pg	16 44 28.5	-0.3
	20nm,0.3s,SNR=21						
IPRE				Lg	Lg	16 44 29.5	
	7.4nm,0.3s,SNR=5.1						
EORO	**Oroz-Betelu**	**0.10**	**54**	Pg	Pg	16 44 29.8	+0.2
	6.4nm,0.1s,SNR=7.9						
EORO				Lg	Lg	16 44 31.6	
	17nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.10**	**54**	Pg	Pg	16 44 29.8	+0.1
	6.4nm,0.1s,SNR=7.9						
EORO				Lg	Lg	16 44 31.6	
	17nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.10**	**218**	Pg	Pg	16 44 29.6	-0.1
	24nm,0.3s,SNR=39						
IUNC				Lg	Lg	16 44 31.3	
	22nm,0.3s,SNR=10						
IUNC	**Unciti**	**0.10**	**218**	Pg	Pg	16 44 29.6	-0.1
	24nm,0.3s,SNR=39						
IUNC				Lg	Lg	16 44 31.3	
	22nm,0.3s,SNR=10						
IEPA	**Eparoz**	**0.12**	**117**	Pg	Pg	16 44 30.8	+0.7
	1.5nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	16 44 32.5	
	12nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.12**	**117**	Pg	Pg	16 44 30.8	+0.7
	1.5nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	16 44 32.5	
	12nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.14**	**243**	Pg	Pg	16 44 29.9	-0.5
	4.9nm,0.1s,SNR=7.9						
EARA				Lg	Lg	16 44 32.5	
	55nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.14**	**243**	Pg	Pg	16 44 29.9	-0.4
	4.9nm,0.1s,SNR=7.9						
EARA				Lg	Lg	16 44 32.5	
	55nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.34**	**346**	Pg	Pg	16 44 34.4	+0.1
	0.7nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	16 44 38.0	
	0.8nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.34**	**346**	Pg	Pg	16 44 34.4	+0.1
	0.7nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	16 44 38.0	
	0.8nm,0.1s,SNR=7.9						

ISCJB ***07*** *16:53:47.8±0.7, 51°.51N±0°.03×16°.10E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.1km az=20.9*
IPEC ***07*** *16:53:48.8±0.3, 51°.60N×16°.18E, h0km, ML1.9/3, Error ellipse: s-maj=2.0km s-min=1.6km az=36.0*
CSEM ***07*** *16:53:49.0±0.2, 51°.55N×16°.08E, h2km, ML3.2/7, Error ellipse: s-maj=3.9km s-min=3.1km az=18.0*
PRU ***07*** *16:53:50.5, 51°.50N×16°.10E, h0km*
WAR ***07*** *16:53:50.3, 51°.53N×16°.04E*
ISC 07 16:53:48.4±0.9, 51°.59N±0°.04×16°.11E±0°.03, h0km, n29, σ0s84/55, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**171**	*e*Pg	**Pg**	**16 54 03.6**	**+0.7**
KSP				*e*Sg	**Sg**	**16 54 12.9**	**+0.2**
KSP	**Ksiaz**	**0.76**	**171**	*e*Pg	**Pg**	**16 54 03.4**	**+0.5**
	baz=355						
KSP				*e*Sg	**Sg**	**16 54 12.9**	**+0.2**
KSP	**Ksiaz**	**0.76**	**171**	*e*Pg	**Pg**	**16 54 03.6**	**+0.7**
KSP				*e*Sg	**Sg**	**16 54 12.9**	**+0.2**
UPC	**Upice**	**1.09**	**183**	*e*PG	**Pg**	**16 54 09.5**	**+0.3**
UPC	**Upice**	**1.09**	**183**	Pg	**Pg**	**16 54 09.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*PG	**Pg**	**16 54 12.3**	**0.0**
DPC				*e*Sg	**Sg**	**16 54 26.7**	**-1.8**
	comp=Z,17nm,0.3s						
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*Pg	**Pg**	**16 54 12.3**	**0.0**
	baz=356						
DPC				*e*Sg	**Sg**	**16 54 27.6**	**-0.9**
	baz=356						
PVCC	**Panska Ves**	**1.44**	**223**	*e*PG	**Pn**	**16 54 16.3**	**+0.6**
PVCC				*e*SG	**Sg**	**16 54 34.5**	**-0.2**
	comp=Z,78nm,0.1s						
PVCC	**Panska Ves**	**1.44**	**223**	Pg	**Pn**	**16 54 16.3**	**+0.6**
PVCC				Sg	**Sg**	**16 54 34.5**	**-0.2**
	78nm,0.1s						
BRG	**Berggiesshubel**	**1.54**	**243**	PG	**Pb**	**16 54 18.2**	**+0.4**
BRG				SG	**Sb**	**16 54 38.3**	**+0.5**
	39nm,0.3s						
PRU	**Pruhonice**	**1.89**	**212**	*e*PG	**Pb**	**16 54 23.7**	**0.0**
PRU				*e*SG	**Sb**	**16 54 47.8**	**0.0**
	comp=Z,9.4nm,0.2s						
PRU	**Pruhonice**	**1.89**	**212**	Pg	**Pb**	**16 54 23.7**	**0.0**
PRU				Sg	**Sb**	**16 54 47.8**	**0.0**
	9.4nm,0.2s						
CLL	**Collm**	**1.97**	**263**	*e*Pn	**Pn**	**16 54 23.0**	**+0.1**
CLL				*e*Pg	**Pb**	**16 54 26.0**	**+1.0**
CLL				*e*Sg	**Sg**	**16 54 52.0**	**+0.5**
	comp=Z,10.0nm,0.6s						
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn	**Pn**	**16 54 24.0**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**16 54 52.1**	**+0.1**
	comp=Z,8.6nm,0.3s,baz=335						
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*SG	**Sg**	**16 54 57.9**	**-0.5**
OKC	**Ostrava-Krasne**	**2.18**	**143**	Sg	**Sg**	**16 54 57.9**	**-0.5**
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**16 54 28.7**	**+1.1**
	baz=354						
VRAC				*e*Sg	**Sg**	**16 55 01.4**	**-1.0**
	comp=Z,5.7nm,0.2s,baz=354						
KRUC	**Moravsky**	**2.54**	**176**	*e*Pn	**Pn**	**16 54 31.9**	**+1.1**
	baz=357						
KRUC				*e*Sg	**Sg**	**16 55 09.0**	**-0.9**
	comp=Z,5.0nm,0.3s,baz=357						
NKC	**Novy Kostel**	**2.69**	**241**	*e*PN	**Pn**	**16 54 33.4**	**+0.5**
NKC				*e*PG	**Pg**	**16 54 39.4**	**-0.4**
NKC				*e*SG	**Sg**	**16 55 15.3**	**+0.6**
	comp=Z,33nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**241**	Pn	**Pn**	**16 54 33.4**	**+0.5**
NKC	**Novy Kostel**	**2.69**	**241**	Pg	**Pg**	**16 54 39.4**	**-0.4**
NKC				Sg	**Sg**	**16 55 15.3**	**+0.6**
	comp=Z,33nm,0.3s						
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**16 54 40.6**	**+0.4**
OJC				*e*Sg	**Sg**	**16 55 15.5**	**+0.2**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**16 54 40.6**	**+0.4**
OJC				*e*Sg	**Sg**	**16 55 15.5**	**+0.2**
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**16 54 36.7**	**+0.2**
KHC				*e*PG	**Pb**	**16 54 43.4**	**+1.6**
KHC				*e*SN	**Sn**	**16 55 11.0**	**-1.6**
KHC				*e*SG	**Sg**	**16 55 22.2**	**-0.9**
	comp=Z,3.4nm,0.4s						
KHC	**Kasperske Hory**	**2.95**	**214**	Pn	**Pn**	**16 54 36.7**	**+0.2**
KHC				Pg	**Pb**	**16 54 43.4**	**+1.6**
KHC				Sn	**Sn**	**16 55 11.0**	**-1.6**
KHC				Sg	**Sg**	**16 55 22.2**	**-0.9**
	comp=Z,3.4nm,0.4s						
VYHS	**Vyhne**	**3.56**	**149**	*e*SG	**Sg**	**16 55 41.7**	**-1.1**
VYHS	**Vyhne**	**3.56**	**149**	*e*Sg	**Sg**	**16 55 41.7**	**-1.1**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**16 54 45.8**	**+0.5**
BSD				*i* S	**Sn**	**16 55 25.9**	**-2.6**

MEX 07 17:00:10.5±0.8, 16°.06N×98°.28W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**25**	*e*P	Pg	17 00 16.2	-1.3
PNIG				*i* S	Sg	17 00 22.4	0.0
VHO	**Vista Hermosa**	**1.79**	**56**	*i* P	Pn	17 00 39.1	-3.4
VHO				*i* S	Sn	17 01 01.4	-4.4
UTMO	**Huajuapan**	**1.81**	**15**	*e*P	Pn	17 00 39.7	-3.0
UTMO				*i* S	Sn	17 01 02.1	-4.2
HUIG	**Huatulco**	**2.11**	**98**	*i* P	Pn	17 00 43.4	-3.2
HUIG				*i* S	Sn	17 01 08.9	-4.3
YAIG	**Yautepec**	**2.88**	**345**	*i* P	Pn	17 00 54.6	-2.7
YAIG				*i* S	Sn	17 01 29.2	-3.4
ARIG	**Puente Sto Nin**	**2.96**	**318**	*i* P	Pn	17 00 55.6	-2.6
ARIG				*i* S	Sn	17 01 30.3	-3.9

ISCJB ***07*** *17:02:21.6±0.6, 23°.55S±0°.05×66°.56W±0°.07, h198km±9km, mb3.7/4, Error ellipse: s-maj=11.0km s-min=8.9km az=3.2*
IDC ***07*** *17:02:23.0±1.5, 23°.49S×66°.48W, h200km±15km, mb3.6/4, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=17.9km s-min=12.4km az=96.0*
GUC ***07*** *17:02:24.7±0.5, 23°.24S×67°.14W, h250km, ML4.5*
ISC 07 17:02:21.9±0.9, 23°.50S±0°.07×66°.52W±0°.08, h188km±10km, n20, σ1s51/27, mb3.9/4, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**291**	*e*P	**Pn**	**17 03 01.7**	**-2.3**
LVC				*i* S	**Sn**	**17 03 33.9**	**-2.8**
PB06	**Plate Boundary**	**2.92**	**285**	↑*i* P	**Pn**	**17 03 12.0**	**+1.8**
PB06				*i* S	**Sn**	**17 03 47.6**	**-0.2**
PB06				AML	AML	17 03 48.9	
	comp=N,994nm,0.1s						
MACH	**Maria Elena**	**3.26**	**293**	*e*P	**Pn**	**17 03 15.8**	**+1.4**
MACH				*i* S	**Sn**	**17 03 54.7**	**-0.6**
CEN1	**Los Morros**	**3.38**	**271**	↓*e*P	**Pn**	**17 03 18.7**	**+2.9**
CEN1				*e*S	**Sn**	**17 04 00.3**	**+2.5**
CEN1				AML	AML	17 04 02.7	
	comp=N,260nm,0.4s						
PB07	**Plate Boundary**	**3.58**	**299**	↑*i* P	**Pn**	**17 03 19.4**	**+1.1**
PB07				*i* S	**Sn**	**17 04 00.5**	**-1.8**
PB07				AML	AML	17 04 02.3	
	comp=E,1μm,0.1s						
MECH	**Mejillones**	**3.64**	**275**	↑*i* P	**Pn**	**17 03 20.0**	**+1.3**
MECH				*i* S	**Sn**	**17 04 02.7**	**-0.5**
MECH				AML	AML	17 04 05.1	
	comp=N,485nm,0.4s						
CDCH	**Caldera**	**5.27**	**227**	*e*P	**Pn**	**17 03 38.0**	**-1.6**
LPAZ	**La Paz**	**7.33**	**348**	P	**Pn**	**17 04 08.8**	**+1.6**
	comp=N,0.7nm,0.3s,baz=146,slow=9.6,SNR=15						
LPAZ				S	**Sn**	**17 05 31.1**	**+0.8**
	comp=N,0.2nm,0.3s,baz=257,slow=18,SNR=5.1						
CFAA	**Coronel Fontan**	**8.22**	**190**	P	**Pn**	**17 04 18.8**	**+0.8**
	comp=N,0.1nm,0.3s,baz=354,slow=10,SNR=7.2						
CFAA				S	Sn	17 05 42.8	-7.5
	comp=N,0.5nm,0.3s,baz=285,slow=19,SNR=13						
CPUP	**Villa Florida**	**8.80**	**111**	P	**Pn**	**17 04 26.6**	**+1.0**
	comp=N,0.1nm,0.3s,baz=256,slow=11,SNR=7.8						
SIV	**San Ignacio**	**9.06**	**35**	P	**Pn**	**17 04 29.6**	**+0.5**
	comp=N,1.0nm,0.3s,baz=230,slow=13,SNR=17						
SIV				S	Sn	17 06 00.2	-10
	comp=N,0.1nm,0.3s,baz=225,slow=14,SNR=3.3						
PLCA	**Paso Flores**	**17.52**	**190**	P	**P**	**17 06 13.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=5.8,slow=13,SNR=7.6						
BDFB	**Brasilia**	**19.09**	**69**	P	**P**	**17 06 31.2**	**+0.6**
	comp=N,1.2nm,0.3s,baz=234,slow=12,SNR=17						
QSPA	**South Pole Qui**	**66.70**	**180**	P	**P**	**17 12 52.8**	**+0.4**
	comp=N,2.0nm,0.5s,baz=2.8,slow=0.3,SNR=24						
TORD	**Torodi Ar. Bea**	**75.98**	**69**	P	**P**	**17 13 47.2**	**-1.4**
	comp=N,1.1nm,0.5s,baz=254,slow=5.8,SNR=19						
PDAR	**Pinedale Array**	**76.95**	**329**	P	**P**	**17 13 53.7**	**-0.1**
	comp=N,0.3nm,0.5s,baz=127,slow=10,SNR=3.7						
FRB	**Frobisher Bay**	**86.97**	**359**	P	**P**	**17 14 45.6**	**+0.6**
	comp=N,1.3nm,0.5s,baz=18,slow=7.7,SNR=5.7						
ASAR	**Alice Springs**	**129.09**	**204**	PKP	**PKPdf**	**17 21 06.8**	**-1.4**
	comp=N,0.3nm,0.9s,baz=123,slow=1.7,SNR=3.5						
WRA	**Warramunga Arr**	**132.27**	**207**	PKP	**PKPdf**	**17 21 13.5**	**-0.7**
	comp=N,0.1nm,0.4s,baz=150,slow=1.8,SNR=3.4						
MKAR	**Makanchi Array**	**145.86**	**39**	PKPbc	**PKPbc**	**17 21 38.4**	**-0.6**
	comp=N,0.4nm,0.5s,baz=348,slow=2.5,SNR=9.4						

IDC ***07*** *17:29:42.3±1.2, 4°.18N×127°.17E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, MS3.7/2, Ms1 3.7/2, ms1mx2.8/39, Error ellipse: s-maj=72.1km s-min=14.8km az=66.0*
ISCJB ***07*** *17:29:45.6±0.6, 4°.10N±0°.08×127°.0E±0°.1, h36km, mb4.2/17, MS4.3/1, Error ellipse: s-maj=18.4km s-min=8.3km az=152.9*
NEIC ***07*** *17:29:47.5±0.5, 4°.09N×127°.05E, h35km, mb4.1/10, Error ellipse: s-maj=15.3km s-min=7.5km az=63.0*
ISC 07 17:29:47.4±0.8, 4°.1N±0°.1×127°.1E±0°.1, h36km, n32, σ1s23/28, mb4.1/17, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.24**	**318**	↑*e*P	**Pn**	**17 30 50.4**	**+1.0**
KKM	**Kota Kinabalu**	**11.01**	**281**	P	**Pn**	**17 32 21.1**	**-1.4**
KAPI	**Kappang**	**11.61**	**219**	LR	LR	17 37 37.0	
	comp=Z,89nm,18.8s,baz=300,slow=40						
KSM	**Kuching**	**16.95**	**262**	*e*Pn	**P**	**17 33 43.2**	**-0.4**
	5.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.06**	**184**	P	**P**	**17 34 41.2**	**+2.0**
	2.1nm,0.7s,baz=3.9,slow=12,SNR=4.2						
FITZ	**Fitzroy Crossi**	**22.06**	**184**	P	**P**	**17 34 41.2**	**+2.0**
PMG	**Port Moresby**	**24.06**	**124**	P	**P**	**17 34 55.4**	**-4.0**
	18nm,1.2s						
WRAB	**Tennant Creek**	**24.88**	**164**	*e*P	**P**	**17 35 06.6**	**-0.3**
	13nm,0.8s						
WRA	**Warramunga Arr**	**24.88**	**164**	P	**P**	**17 35 07.3**	**+0.3**
	11nm,0.7s,baz=344,slow=10,SNR=102						
WRA	**Warramunga Arr**	**24.88**	**164**	P	**P**	**17 35 07.3**	**+0.3**
MBWA	**Marble Bar**	**26.07**	**196**	*e*P	**P**	**17 35 18.2**	**+0.6**
	5.8nm,0.9s						
ASAR	**Alice Springs**	**28.34**	**167**	P	**P**	**17 35 38.4**	**+0.3**
	0.5nm,0.7s,baz=341,slow=6.6,SNR=14						
ASAR	**Alice Springs**	**28.34**	**167**	P	**P**	**17 35 38.4**	**+0.3**
CM31	**Chiang Mai Arr**	**31.02**	**300**	P	**P**	**17 36 01.1**	**-0.8**
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.02**	**300**	P	**P**	**17 36 01.6**	**-0.3**
	1.1nm,0.8s,baz=124,slow=7.7,SNR=10						
CMAR	**Chiang Mai Arr**	**31.02**	**300**	P	**P**	**17 36 01.6**	**-0.3**
CHTO	**Chiang Mai**	**31.17**	**300**	*e*P	**P**	**17 36 01.5**	**-1.8**
	1.9nm,0.6s						
STKA	**Stephens Creek**	**38.30**	**160**	P	**P**	**17 37 05.9**	**+1.3**
	6.2nm,0.7s,baz=336,slow=9.1,SNR=20						
STKA	**Stephens Creek**	**38.30**	**160**	*e*P	**P**	**17 37 05.3**	**+0.7**
	1.6nm,0.7s						
ASAJ	**Asahikawa**	**42.19**	**17**	LR	LR	17 52 40.9	
	comp=Z,440nm,21.8s,baz=125,slow=33						
ULN	**Ulaanbaatar**	**46.93**	**342**	P	**P**	**17 38 15.8**	**+1.1**
	2.0nm,1.0s						
TLY	**Talaya**	**51.34**	**342**	P	**P**	**17 38 48.9**	**+0.7**
DGAR	**Diego Garcia**	**55.70**	**258**	P	**P**	17 39 17.0	-3.8
	120nm,0.9s						
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**17 39 32.4**	**-0.7**
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**17 39 33.1**	**0.0**
	0.8nm,0.5s,baz=123,slow=7.4,SNR=17						
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**17 39 33.1**	**0.0**
ZALV	**Zalesovo Beam**	**60.47**	**333**	P	**P**	**17 39 53.0**	**-0.4**
	0.9nm,0.6s,baz=137,slow=6.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**60.47**	**333**	P	**P**	**17 39 53.0**	**-0.4**
KURBB	**Kurchatov Arra**	**61.67**	**327**	P	**P**	**17 40 01.8**	**+0.1**
	1.8nm,0.6s,baz=123,slow=6.5,SNR=16						
KURK	**Kurchatov**	**61.67**	**327**	*e*P	**P**	**17 40 01.2**	**-0.4**
	2.5nm,0.6s						
BRVK	**Borovoye**	**67.32**	**327**	P	P	17 40 34.6	-4.0
ABKAR	**Akbulak array**	**72.13**	**321**	*e*P	**P**	**17 41 08.9**	**+0.6**
	0.8nm,0.6s						

IDC 07 17:33:09.1±1.4, 4°.04N×126°.98E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=92.5km s-min=18.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	P	17 38 05.5	-0.1
	0.8nm,0.4s,baz=16,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**24.91**	**163**	P	P	17 38 33.8	-0.3
	4.8nm,0.7s,baz=344,slow=11,SNR=22						
ASAR	**Alice Springs**	**28.36**	**167**	P	P	17 39 04.8	-0.4
	0.2nm,0.3s,baz=339,slow=8.7,SNR=4.2						
STKA	**Stephens Creek**	**38.33**	**160**	P	P	17 40 32.3	+0.4
	2.3nm,0.6s,baz=352,slow=9.2,SNR=9.1						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	17 42 59.8	0.0
	0.3nm,0.4s,baz=116,slow=8.3,SNR=7.8						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	P	17 43 28.5	-0.1
	0.5nm,0.8s,baz=123,slow=7.2,SNR=3.8						

IDC ***07*** *17:34:24.9±0.6, 15°.24S×173°.20W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.2/23, mbtmp4.1/10, MS3.8/10, Ms1 3.9/10, ms1mx3.6/30, Error ellipse: s-maj=33.2km s-min=16.9km az=143.0*
NEIC ***07*** *17:34:25.5±0.3, 15°.55S×173°.03W, h10km, mb4.7/9, Error ellipse: s-maj=14.2km s-min=8.8km az=158.0*
ISCJB ***07*** *17:34:26.6±0.4, 15°.6S±0°.1×173°.04W±0°.09, h29km, mb4.4/17, MS3.9/10, Error ellipse: s-maj=20.2km s-min=10.4km az=155.2*
ISC 07 17:34:28.8±0.6, 15°.4S±0°.2×173°.1W±0°.1, h29km, n63, σ0s99/46, mb4.5/17, MS3.9/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**40**	Pn	Pn	17 34 52.2	-7.8
	244nm,0.3s,baz=72,slow=1.5,SNR=179						
AFI				Sn	Sn	17 35 09.7	-14
	406nm,0.3s,baz=79,slow=18,SNR=15						
AFI	**Afiamalu**	**1.94**	**40**	*e*Pn	Pn	17 34 51.6	-8.4
AFI				Sn	Sn	17 35 09.7	-14
MSVF	**Nonsavu**	**8.83**	**254**	*e*Pn	Pn	17 36 41.9	+7.3
	49nm,1.0s						
RAR	**Rarotonga**	**13.88**	**117**	Pn	Pn	17 37 40.3	-3.3
	0.9nm,0.3s,baz=270,slow=7.7,SNR=4.9						
RAR	**Rarotonga**	**13.88**	**117**	Pn	Pn	17 37 40.3	-3.3
DZM	**Mont Dzumac**	**20.49**	**248**	*e*P	Pn	17 39 11.1	+4.1
	67nm,1.4s						
DZM				*e*LR	LR	17 44 15.9	
	474nm,23.6s						
DZM	**Mont Dzumac**	**20.49**	**248**	P	**P**	**17 39 04.8**	**+0.1**
	9.2nm,0.7s,baz=80,slow=18,SNR=5.3						
DZM				LR	LR	17 44 36.4	
	comp=Z,167nm,18.2s,baz=26,slow=30						
DZM	**Mont Dzumac**	**20.49**	**248**	P	**P**	**17 39 04.8**	**+0.1**
PPT	**Papeete**	**22.62**	**99**	LR	LR	17 46 45.3	
	comp=Z,89nm,19.1s,baz=168,slow=32						
PPT2	**Papeete2**	**22.62**	**99**	*e*LR	LR	17 44 53.7	
	344nm,24.5s						
TBI	**Tubuai**	**23.60**	**113**	*e*LR	LR	17 45 28.1	
	352nm,25.8s						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**17 42 35.6**	**-0.7**
	3.8nm,0.7s,baz=84,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**17 42 35.6**	**-0.7**
WRAB	**Tennant Creek**	**50.15**	**257**	*e*P	**P**	**17 43 21.0**	**-1.0**
	7.0nm,1.1s						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**17 43 21.3**	**-0.8**
	1.5nm,0.6s,baz=91,slow=6.9,SNR=40						
WRA				LR	LR	18 04 03.9	
	comp=Z,75nm,18.1s,baz=315,slow=36						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**17 43 21.3**	**-0.8**
AS31	**Alice Springs**	**50.41**	**252**	*e*P	**P**	**17 43 22.4**	**-1.7**
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**17 43 23.0**	**-1.1**
	3.7nm,0.6s,baz=88,slow=8.2,SNR=60						
ASAR				LR	LR	18 02 55.4	
	comp=Z,247nm,19.0s,baz=89,slow=34						
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**17 43 23.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**58.52**	**258**	LR	LR	18 07 17.1	
	comp=Z,143nm,19.0s,baz=110,slow=34						
VNDA	**Vanda**	**63.40**	**186**	LR	LR	18 05 53.9	
	comp=Z,116nm,19.0s,baz=17,slow=30						
VNDA	**Vanda**	**63.40**	**186**	P	P	17 44 46.0	-9.2
	7.5nm,1.4s						
MBWA	**Marble Bar**	**63.67**	**254**	P	**P**	**17 45 00.1**	**+2.2**
	6.4nm,1.1s						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**17 46 02.9**	**+0.1**
	0.8nm,0.8s,baz=226,slow=8.6,SNR=3.6						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**17 46 02.9**	**+0.1**
QSPA	**South Pole Qui**	**74.64**	**180**	P	**P**	**17 46 08.0**	**+2.7**
	2.8nm,0.7s,baz=16,slow=6.6,SNR=12						
QSPA	**South Pole Qui**	**74.64**	**180**	*e*P	**P**	**17 46 05.0**	**-0.2**
	4.9nm,0.9s						
KSRS	**Korea Array**	**76.39**	**315**	LR	LR	18 18 57.4	
	comp=Z,25nm,18

σ1$95/75, **mb3.6**/5, **MS3.2**/3, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.42**	**82**	*eP*	**Pn**	**17 35 32.0**	**+1.8**
BJO1				*eS*	**Sn**	**17 36 00.7**	**+0.9**
BJO1	**Bjornoya**	**2.42**	**82**	P	**Pn**	**17 35 32.0**	**+1.8**
BJO1				S	**Sn**	**17 36 00.7**	**+0.9**
BJO	**Bjornoya**	**2.47**	**82**	*eP*	**Pn**	**17 35 32.0**	**+1.1**
BJO				*eS*	**Sn**	**17 36 00.7**	**-0.3**
BJO	**Bjornoya** SNR=50	**2.47**	**82**	*eP*	**Pn**	**17 35 32.0**	**+1.1**
BJO	SNR=50			*eS*	**Sn**	**17 36 00.7**	**-0.3**
HSP	**Hornsund**	**2.99**	**25**	*eP*	**Pn**	**17 35 38.5**	**+0.5**
HSP				*eS*	**Sn**	**17 36 12.3**	**-1.6**
SPA0	**Spitsbergen Ar** baz=198,slow=16	**4.12**	**18**	Pn	**Pn**	**17 35 54.8**	**+1.2**
SPA0	baz=197,slow=22			Sn	**Sn**	**17 36 41.1**	**-0.6**
SPA0	**Spitsbergen Ar**	**4.12**	**18**	*eP*	**Pn**	**17 35 54.8**	**+1.2**
SPA0				*eS*	**Sn**	**17 36 41.2**	**-0.5**
SPA0	**Spitsbergen Ar**	**4.12**	**18**	*eP*	**Pn**	**17 35 54.8**	**+1.2**
SPA0				*eS*	**Sn**	**17 36 41.2**	**-0.5**
SPA0	**Spitsbergen Ar** SNR=49	**4.12**	**18**	*eP*	**Pn**	**17 35 54.8**	**+1.2**
SPA0				Sn	**Sn**	**17 36 41.1**	**-0.6**
SPITS	**Spitsbergen Ar** baz=192,slow=16,SNR=1031	**4.12**	**18**	Pn	**Pn**	**17 35 55.0**	**+1.5**
SPITS	baz=173,slow=18,SNR=1.3			Sn	**Sn**	**17 36 41.0**	**-0.6**
HOPEN	**Hopen**	**4.34**	**53**	*eP*	**Pn**	**17 35 59.1**	**+2.5**
HOPEN				*eS*	**Sn**	**17 36 46.0**	**-1.1**
HOPEN	comp=Z,31nm,0.2s			AML	AML	17 36 50.5	
HOPEN	**Hopen** SNR=49	**4.34**	**53**	*eP*	**Pn**	**17 35 59.1**	**+2.5**
HOPEN	comp=Z,31nm,0.2s,SNR=49			*eS*	**Sn**	**17 36 46.0**	**-1.1**
KBS	**Kingsbay**	**4.61**	**5**	Pn	**Pn**	**17 35 59.5**	**-0.8**
KBS				Sn	**Sn**	**17 36 51.1**	**-2.7**
KBS	**Kingsbay**	**4.61**	**5**	*eP*	**Pn**	**17 35 59.5**	**-0.8**
KBS				*eS*	**Sn**	**17 36 50.2**	**-3.6**
KBS	comp=Z,16nm,0.3s			AML	AML	17 36 54.8	
KIF	**Kilpisjarvi**	**6.35**	**143**	*eP*	**Pn**	**17 36 26.9**	**+2.8**
KIF				*eS*	**Sn**	**17 37 34.2**	**-2.3**
KIF	comp=Z,5.2nm,0.3s			MSN		17 37 39.7	
KIF	**Kilpisjarvi**	**6.35**	**143**	P	**Pn**	**17 36 26.9**	**+2.8**
KIF				S	**Sn**	**17 37 34.2**	**-2.3**
KTK1	**Kautokeino**	**6.77**	**136**	*ePn*	Pn	17 36 33.8	+3.7
KTK1	**Kautokeino**	**6.77**	**136**	*eP*	Pn	17 36 33.8	+3.7
KTK1	**Kautokeino**	**6.77**	**136**	P	Pn	17 36 33.7	+3.7
ARA0	**ARCESS Array S** baz=329,slow=10	**6.80**	**128**	Pn	**Pn**	**17 36 31.8**	**+1.4**
ARA0	baz=322,slow=22			Sn	**Sn**	**17 37 43.6**	**-4.1**
ARA0	**ARCESS Array S** baz=329,slow=10	**6.80**	**128**	Pn	**Pn**	**17 36 31.8**	**+1.4**
ARA0	baz=322,slow=22			Sn	**Sn**	**17 37 43.6**	**-4.1**
ARA0	**ARCESS Array S**	**6.80**	**128**	*eP*	**Pn**	**17 36 31.8**	**+1.4**
ARA0				*eS*	**Sn**	**17 37 43.6**	**-4.1**
ARA0	**ARCESS Array S**	**6.80**	**128**	P	**Pn**	**17 36 31.7**	**+1.4**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=322,slow=11,SNR=26	**6.80**	**128**	Pn	**Pn**	**17 36 33.4**	**+3.1**
ARCES	comp=Z,1.8nm,0.3s,baz=320,slow=20,SNR=9.9			Sn	**Sn**	**17 37 45.2**	**-2.5**
ARCES	comp=Z,89nm,20.4s,baz=33,slow=42			LR	LR	17 39 42.0	
KEV	**Kevo** comp=Z,7.0nm,0.4s	**6.96**	**123**	*ep*	Pn	17 36 35.9	+3.4
KEV	**Kevo**	**6.96**	**123**	*eP*	**Pn**	**17 36 35.7**	**+3.2**
KEV				*eS*	Sn	17 37 46.6	-5.0
KEV	comp=Z,4.8nm,0.3s			MSN		17 37 52.0	
KEV	**Kevo**	**6.96**	**123**	P	**Pn**	**17 36 35.7**	**+3.2**
HEF	**Hetta**	**7.37**	**137**	*eP*	**Pn**	**17 36 40.7**	**+2.4**
HEF				*eS*	**Sn**	**17 37 57.3**	**-4.5**
HEF	comp=Z,1.0nm,0.2s			MSN		17 38 09.6	
HEF	**Hetta**	**7.37**	**137**	P	**Pn**	**17 36 40.6**	**+2.4**
LANU	**Lannavaara**	**7.40**	**143**	*eP*	Pn	17 36 43.6	+5.0
LANU				*eS*	**Sn**	**17 38 00.4**	**-2.1**
LANU	**Lannavaara**	**7.40**	**143**	P	Pn	17 36 43.6	+5.0
VRF	**Varrio**	**9.14**	**127**	*eP*	**Pn**	**17 37 04.0**	**+1.6**
VRF				*eS*	Sn	17 38 39.2	-5.9
VRF	**Varrio**	**9.14**	**127**	P	**Pn**	**17 37 03.9**	**+1.6**
RNF	**Rovaniemi**	**9.39**	**138**	*eP*	**Pn**	**17 37 07.4**	**+1.5**
RNF				*eS*	Sn	17 38 46.1	-5.3
RNF	**Rovaniemi**	**9.39**	**138**	P	**Pn**	**17 37 07.4**	**+1.5**
MSF	**Maaselka**	**10.59**	**133**	*eP*	**Pn**	**17 37 24.6**	**+2.4**
MSF				*eS*	Sn	17 39 15.0	-5.7
MSF	**Maaselka**	**10.59**	**133**	P	**Pn**	**17 37 24.6**	**+2.4**
KU6	**Riekki**	**10.66**	**131**	*eP*	**Pn**	**17 37 24.2**	**+1.0**
KU6				*eS*	Sn	17 39 14.5	-7.8
KU6	comp=Z,1.3nm,0.4s			MSN		17 39 27.3	
KU6	**Riekki**	**10.66**	**131**	P	**Pn**	**17 37 24.2**	**+1.0**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=340,slow=14,SNR=2.3	**13.39**	**178**	Pn	**Pn**	**17 38 00.7**	**+0.1**
JOF	**Joensuu** comp=Z,1.4nm,0.5s	**13.72**	**136**	*ep*	**Pn**	**17 38 04.5**	**-0.4**
FIA0	**FINESS Array S** baz=345,slow=12	**14.21**	**147**	Pn	**Pn**	**17 38 13.6**	**+1.9**
FIA0	**FINESS Array S** baz=345,slow=12	**14.21**	**147**	Pn	**Pn**	**17 38 13.6**	**+1.9**
FIA0	**FINESS Array S**	**14.21**	**147**	*eP*	**Pn**	**17 38 13.6**	**+1.9**
FIA0	**FINESS Array S** SNR=50	**14.21**	**147**	Pn	**Pn**	**17 38 13.6**	**+1.9**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=347,slow=11,SNR=10.0	**14.21**	**147**	Pn	**Pn**	**17 38 13.3**	**+1.6**
HFS	**Hagfors** baz=358,slow=14	**14.36**	**173**	Pn	**P**	**17 38 19.9**	**-0.9**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=22,slow=12,SNR=4.7	**14.36**	**173**	Pn	**Pn**	**17 38 15.0**	**+1.3**
HFS	**Hagfors** baz=358,slow=14	**14.36**	**173**	*eP*	**P**	**17 38 19.9**	**-0.9**
HFS	**Hagfors**	**14.36**	**173**	*eP*	**P**	**17 38 19.9**	**-0.9**
HFS	**Hagfors** SNR=50	**14.36**	**173**	Pn	**P**	**17 38 19.9**	**-0.9**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.5s,baz=348,slow=10,SNR=2.9	**25.08**	**150**	P	**P**	**17 40 15.4**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,28nm,19.4s,baz=172,slow=37	**31.12**	**113**	LR	LR	17 54 00.9	
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.5s,baz=338,slow=7.3,SNR=2.5	**36.35**	**92**	P	P	17 41 58.3	+4.0
GNI	**Garni** comp=Z,38nm,19.5s,baz=180,slow=38	**37.90**	**135**	LR	LR	17 58 45.0	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.6s,baz=13,slow=8.0,SNR=3.4	**38.66**	**322**	P	**P**	**17 42 12.4**	**-1.3**
YKA	comp=Z,0.4nm,0.7s,baz=15,slow=2.6,SNR=5.5			PcP	**PcP**	**17 44 25.2**	**-0.1**
ILAR	**Eielson Array** comp=Z,1.4nm,0.8s,baz=9.6,slow=6.3,SNR=17	**40.30**	**345**	P	**P**	**17 42 28.7**	**+1.3**
MKAR	**Makanchi Array** comp=Z,32nm,19.5s,baz=356,slow=39	**40.87**	**90**	LR	LR	18 01 23.0	
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.9s,baz=1.8,slow=6.8,SNR=8.6	**61.38**	**189**	P	**P**	**17 45 07.1**	**+0.5**
ASAR	**Alice Springs** comp=Z,0.2nm,0.8s,baz=352,slow=1.3,SNR=4.3	**121.52**	**63**	PKP	**PKPdf**	**17 53 44.3**	**+0.6**

*IDC **07** 17:45:26.0±1.3, 37.71N×21.03E, h0km, mb3.7/10, mb1 3.7/11, mb1mx3.6/29, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=26.7km s-min=25.4km az=70.0*

*ISCJB **07** 17:45:27.2±0.6, 37.59N±0.02×20.81E±0.03, h5km±3km, mb3.7/10, Error ellipse: s-maj=4.6km s-min=3.1km az=146.1*

*CSEM **07** 17:45:28.4±0.2, 37.61N×20.88E, h2km, ML3.5, Error ellipse: s-maj=4.7km s-min=2.8km az=53.0*

*THE **07** 17:45:29.6, 37.67N×20.93E, h0km±1km, ML3.4/8, Error ellipse: s-maj=1.9km s-min=0.9km az=228.0*

*ATH **07** 17:45:29.3, 37.65N×20.89E, h16km, ML3.3*

ISC 07 17:45:28.4±1.2, **37.65N**±0.02×**20.90E**±0.02, **h7**km±8km, **n110**, σ1$15/177, **mb3.8**/10, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.46**	**349**	P	**Pb**	**17 45 38.8**	**-0.2**
KFL				S	**Sb**	**17 45 45.9**	**-0.1**
VLS	**Valsamata**	**0.58**	**335**	*eP*	**Pg**	**17 45 40.4**	**+0.8**
VLS				S	**Sb**	**17 45 49.5**	**+0.1**
VLS	**Valsamata**	**0.58**	**335**	*ePN*	**Pb**	**17 45 40.7**	**-0.2**
VLS				*eSN*	**Sb**	**17 45 49.8**	**+0.5**
VLS	**Valsamata**	**0.58**	**335**	P	**Pg**	**17 45 40.4**	**+0.8**
VLS	**Valsamata**	**0.58**	**335**	*ePn*	**Pb**	**17 45 40.7**	**-0.2**
VLS				S	**Sb**	**17 45 49.5**	**+0.1**
VLS				*eSn*	**Sb**	**17 45 49.8**	**+0.5**
RLS	**Riolos of Patr**	**0.60**	**48**	P	**Pg**	**17 45 40.0**	**0.0**
RLS				S	**Sg**	**17 45 48.3**	**+0.4**
RLS	**Riolos of Patr**	**0.60**	**48**	*ePB*	**Pb**	**17 45 40.8**	**-0.5**
RLS				*eSN*	**Sb**	**17 45 49.6**	**-0.4**
RLS	**Riolos of Patr**	**0.60**	**48**	P	**Pg**	**17 45 40.0**	**0.0**
RLS	**Riolos of Patr**	**0.60**	**48**	*ePb*	**Pb**	**17 45 40.8**	**-0.5**
RLS				S	**Sg**	**17 45 48.3**	**+0.4**
RLS				*eSn*	**Sb**	**17 45 49.6**	**-0.4**
AMT	**Artemida-Makis**	**0.65**	**100**	P	**Pg**	**17 45 40.7**	**-0.3**
AMT				S	**Sg**	**17 45 49.8**	**+0.3**
UPR	**University Cam**	**0.94**	**48**	*ePN*	**Pb**	**17 45 47.6**	**+0.6**
UPR				*eSN*	**Sb**	**17 46 01.1**	**+1.4**
UPR	**University Cam**	**0.94**	**48**	P	**Pb**	**17 45 46.8**	**-0.2**
UPR	**University Cam**	**0.94**	**48**	*ePn*	**Pb**	**17 45 47.6**	**+0.6**
UPR				S	**Sb**	**17 46 00.2**	**+0.5**
UPR				*eSn*	**Sb**	**17 46 01.1**	**+1.4**
ITM	**Ithomi**	**0.94**	**120**	P	**Pg**	**17 45 46.1**	**-0.4**
ITM	**Ithomi**	**0.94**	**120**	*ePN*	**Pb**	**17 45 47.3**	**+0.2**
ITM				*eSN*	**Sb**	**17 46 00.7**	**+0.9**
ITM	**Ithomi**	**0.94**	**120**	P	**Pg**	**17 45 46.1**	**-0.4**
ITM	**Ithomi**	**0.94**	**120**	*ePn*	**Pb**	**17 45 47.3**	**+0.2**
ITM				S	**Sb**	**17 46 00.7**	**+0.9**
ITM				*eSn*	**Sb**	**17 46 00.7**	**+0.9**
PYL	**PYLOS**	**1.01**	**138**	*ePN*	**Pb**	**17 45 48.4**	**+0.2**
PYL				*eSN*	**Sb**	**17 46 03.0**	**+1.3**
PYL	**PYLOS**	**1.01**	**138**	P	**Pg**	**17 45 46.8**	**-1.0**
PYL	**PYLOS**	**1.01**	**138**	*ePn*	**Pb**	**17 45 48.4**	**+0.2**
PYL				*eSn*	**Sb**	**17 46 03.0**	**+1.3**
LAKA	**Lakka**	**1.03**	**55**	P	**Pg**	**17 45 47.8**	**-0.5**
LAKA				S	**Sb**	**17 46 03.4**	**+1.0**
LAKA	**Lakka**	**1.03**	**55**	P	**Pg**	**17 45 48.1**	**-0.2**
LAKA				S	**Sb**	**17 46 03.4**	**+1.0**
EFP	**Efpalio**	**1.11**	**45**	*ePN*	**Pn**	**17 45 51.0**	**+0.7**
EFP				*eSN*	**Sn**	**17 46 06.1**	**+0.3**
EFP	**Efpalio**	**1.11**	**45**	P	**Pg**	**17 45 49.4**	**-0.3**
EFP	**Efpalio**	**1.11**	**45**	*ePn*	**Pn**	**17 45 51.0**	**+0.7**
EFP				S	**Sb**	**17 46 05.4**	**+0.9**
EFP				*eSn*	**Sn**	**17 46 06.1**	**+0.3**
LKD2	**Lefkada island**	**1.15**	**350**	P	**Pg**	**17 45 50.6**	**+0.1**
LKD2				S	**Sn**	**17 46 08.2**	**+1.2**
LKD2	**Lefkada island**	**1.15**	**350**	P	**Pg**	**17 45 50.6**	**+0.1**
LKD2				S	**Sn**	**17 46 08.2**	**+1.2**
TRIZ	**Trizonia**	**1.17**	**52**	P	**Pg**	**17 45 50.1**	**-0.7**
TRIZ	**Trizonia**	**1.17**	**52**	P	**Pg**	**17 45 50.1**	**-0.7**
TRIZ				S	**Sn**	**17 46 08.4**	**+1.1**
GUR	**Goura**	**1.17**	**76**	*ePN*	**Pb**	**17 45 51.3**	**+0.2**
GUR				*eSN*	**Sn**	**17 46 08.4**	**+0.7**
GUR	**Goura**	**1.17**	**76**	P	**Pg**	**17 45 50.2**	**-0.8**
GUR	**Goura**	**1.17**	**76**	*ePn*	**Pb**	**17 45 51.3**	**+0.2**
GUR				S	**Sn**	**17 46 08.1**	**+0.4**
GUR				*eSn*	**Sn**	**17 46 08.4**	**+0.7**
VLX	**Vlachokerasia**	**1.21**	**103**	*ePN*	**Pb**	**17 45 51.8**	**+0.1**
VLX				*eSN*	**Sb**	**17 46 08.7**	**+1.2**
VLX	**Vlachokerasia**	**1.21**	**103**	P	**Pg**	**17 45 50.5**	**-1.1**
VLX	**Vlachokerasia**	**1.21**	**103**	*ePn*	**Pb**	**17 45 51.8**	**+0.1**
VLX				S	**Sb**	**17 46 08.1**	**+0.6**
VLX				*eSn*	**Sb**	**17 46 08.7**	**+1.2**
KALE	**Kalithea**	**1.22**	**53**	P	**Pg**	**17 45 51.3**	**-0.6**
KALE				S	**Sn**	**17 46 09.8**	**+1.0**
KALE	**Kalithea**	**1.22**	**53**	P	**Pb**	**17 45 52.2**	**+0.3**
KALE				S	**Sn**	**17 46 09.8**	**+1.0**
EVR	**Evrytania**	**1.45**	**29**	P	**Pn**	**17 45 56.0**	**+0.9**
EVR				S	**Sn**	**17 46 16.5**	**+2.0**
EVR	**Evrytania**	**1.45**	**29**	*ePN*	**Pb**	**17 45 57.2**	**+1.4**
EVR				*eSN*	**Sn**	**17 46 16.5**	**+2.0**
EVR	**Evrytania**	**1.45**	**29**	P	**Pb**	**17 45 56.5**	**+0.7**
EVR	**Evrytania**	**1.45**	**29**	*ePn*	**Pb**	**17 45 57.2**	**+1.4**
EVR				S	**Sn**	**17 46 16.5**	**+2.0**
DSF	**Desfina**	**1.49**	**59**	P	**Pb**	**17 45 57.0**	**+0.6**
DSF				S	**Sn**	**17 46 18.0**	**+2.6**
DESF	**Desfina**	**1.49**	**59**	P	**Pn**	**17 45 56.6**	**+0.9**
DESF				S	**Sn**	**17 46 17.9**	**+2.4**
DESF	**Desfina**	**1.49**	**59**	P	**Pn**	**17 45 56.6**	**+0.9**
DESF				S	**Sn**	**17 46 17.9**	**+2.4**
MAKR	**Makrakomi, Fth**	**1.67**	**35**	P	**Pg**	**17 45 58.2**	**+0.6**
MAKR				S	**Sg**	**17 46 22.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.67**	**35**	P	**Pn**	**17 45 58.7**	**+0.6**
MAKR				S	**Sg**	**17 46 22.6**	**+0.6**
LTK	**Loutraki**	**1.68**	**77**	*ePN*	**Pb**	**17 45 59.9**	**+0.3**
LTK				*eSN*	**Sg**	**17 46 23.4**	**+1.1**
LTK	**Loutraki**	**1.68**	**77**	P	**Pb**	**17 45 59.5**	**-0.1**
LTK	**Loutraki**	**1.68**	**77**	*ePn*	**Pb**	**17 45 59.9**	**+0.3**
LTK				*eSn*	**Sg**	**17 46 23.4**	**+1.1**
AXAR	**Agios Charalam**	**1.77**	**51**	P	**Pb**	**17 46 01.1**	**-0.2**
AXAR				S	**Sb**	**17 46 24.3**	**+0.6**
AXAR	**Agios Charalam**	**1.77**	**51**	P	**Pb**	**17 46 01.1**	**-0.2**
AXAR				S	**Sb**	**17 46 24.3**	**+0.6**
DID	**Didima**	**1.86**	**94**	*ePN*	**Pb**	**17 46 02.7**	**-0.1**
DID				*eSN*	**Sg**	**17 46 27.7**	**-0.5**
DID	**Didima**	**1.86**	**94**	P	**Pn**	**17 46 01.2**	**+0.5**
DID	**Didima**	**1.86**	**94**	*ePn*	**Pb**	**17 46 02.7**	**-0.1**
DID				*eSn*	**Sg**	**17 46 27.7**	**-0.5**
VLI	**Veliai**	**1.87**	**119**	P	**Pb**	**17 46 02.8**	**-0.2**
VLI				S	**Sb**	**17 46 27.6**	**+1.0**
VLI	**Veliai**	**1.87**	**119**	*ePN*	**Pb**	**17 46 03.4**	**+0.4**
VLI				*eSN*	**Sg**	**17 46 27.8**	**-0.8**
VLI	**Veliai**	**1.87**	**119**	P	**Pb**	**17 46 02.8**	**-0.2**
VLI	**Veliai**	**1.87**	**119**	*ePn*	**Pb**	**17 46 03.4**	**+0.4**
VLI				S	**Sb**	**17 46 27.6**	**+1.0**
IGT	**Igoumenitsa**	**1.93**	**347**	P	**Pn**	**17 46 03.0**	**+1.3**
IGT				S	**Sn**	**17 46 28.2**	**+2.0**
IGT	**Igoumenitsa**	**1.93**	**347**	P	**Pn**	**17 46 03.0**	**+1.3**
IGT				S	**Sn**	**17 46 28.2**	**+2.0**
LKR	**Lokris**	**1.93**	**58**	P	**Pn**	**17 46 02.1**	**+0.5**
LKR				S	**Sb**	**17 46 29.0**	**+0.8**
LKR	**Lokris**	**1.93**	**58**	*ePN*	**Pb**	**17 46 03.7**	**-0.2**
LKR				*eSN*	**Sg**	**17 46 29.3**	**-1.1**
LKR	**Lokris**	**1.93**	**58**	P	**Pn**	**17 46 02.1**	**+0.5**
LKR	**Lokris**	**1.93**	**58**	*ePn*	**Pb**	**17 46 03.7**	**-0.2**
LKR				S	**Sb**	**17 46 29.0**	**+0.8**
LKR				*eSn*	**Sg**	**17 46 29.3**	**-1.1**
ATAL	**Atalanti**	**1.96**	**57**	P	**Pn**	**17 46 03.0**	**+0.8**
ATAL				S	**Sb**	**17 46 29.5**	**+0.3**
ATAL	**Atalanti**	**1.96**	**57**	P	**Pn**	**17 46 03.0**	**+0.8**
ATAL				S	**Sb**	**17 46 29.5**	**+0.3**
JAN	**Janina**	**2.00**	**359**	*ePN*	**Pn**	**17 46 04.5**	**+1.8**
JAN	**Janina**	**2.00**	**359**	*ePn*	**Pn**	**17 46 04.5**	**+1.8**
NAIG	**Nisos Aigina**	**2.05**	**86**	*ePN*	**Pb**	**17 46 06.1**	**+0.1**
NAIG	**Nisos Aigina**	**2.05**	**86**	*ePn*	**Pb**	**17 46 06.1**	**+0.1**
THL	**Klokotos Trika**	**2.10**	**24**	P	**Pn**	**17 46 05.9**	**+1.9**
THL				S	**Sb**	**17 46 33.2**	**+0.2**
THL	**Klokotos Trika**	**2.10**	**24**	*ePN*	**Pb**	**17 46 06.6**	**-0.2**
THL	**Klokotos Trika**	**2.10**	**24**	P	**Pn**	**17 46 05.9**	**+1.9**
THL	**Klokotos Trika**	**2.10**	**24**	*ePn*	**Pb**	**17 46 06.6**	**-0.2**
THL				S	**Sb**	**17 46 33.2**	**+0.2**
KYTH	**Kithira**	**2.19**	**128**	P	**Pn**	**17 46 07.3**	**+2.0**
KYTH	**Kithira**	**2.19**	**128**	*ePN*	**Pn**	**17 46 07.4**	**+2.1**
KYTH	**Kithira**	**2.19**	**128**	P	**Pn**	**17 46 07.3**	**+2.0**
ATH	**Athens Observa**	**2.25**	**81**	*ePN*	**Pb**	**17 46 08.4**	**-1.0**
ATH	**Athens Observa**	**2.25**	**81**	*ePn*	**Pb**	**17 46 08.4**	**-1.0**
MRKA	**Markates**	**2.36**	**63**	P	**Pn**	**17 46 08.9**	**+1.3**
MRKA				S	**Sb**	**17 46 40.0**	**-0.7**
MRKA	**Markates**	**2.36**	**63**	P	**Pn**	**17 46 08.9**	**+1.3**
MRKA				S	**Sb**	**17 46 40.0**	**-0.7**
PTL	**Penteli**	**2.38**	**80**	P	**Pn**	**17 46 08.7**	**+0.9**
PTL				S	**Sn**	**17 46 39.6**	**+2.3**
PTL	**Penteli**	**2.38**	**80**	*ePN*	**Pn**	**17 46 09.4**	**+1.6**
PTL				*eSN*	**Sn**	**17 46 39.2**	**+1.9**
PTL	**Penteli**	**2.38**	**80**	P	**Pn**	**17 46 08.7**	**+0.9**
PTL	**Penteli**	**2.38**	**80**	*ePn*	**Pn**	**17 46 09.4**	**+1.6**
PTL				*eSn*	**Sn**	**17 46 39.2**	**+1.9**
PTL				S	**Sn**	**17 46 39.6**	**+2.3**
ERET	**Eretria**	**2.42**	**70**	P	**Pn**	**17 46 10.1**	**+1.6**
ERET				S	**Sn**	**17 46 41.1**	**+2.6**
ERET	**Eretria**	**2.42**	**70**	P	**Pn**	**17 46 10.1**	**+1.6**
ERET				S	**Sn**	**17 46 41.1**	**+2.6**
NEO	**Neokhori**	**2.46**	**47**	*ePB*	**Pn**	**17 46 11.0**	**+2.0**
NEO	**Neokhori**	**2.46**	**47**	*ePb*	**Pn**	**17 46 11.0**	**+2.0**
XOR	**Xorichti**	**2.48**	**46**	P	**Pn**	**17 46 10.9**	**+1.6**
XOR				S	**Sn**	**17 46 41.8**	**+2.0**
XOR	**Xorichti**	**2.48**	**46**	P	**Pn**	**17 46 10.9**	**+1.6**
XOR				S	**Sn**	**17 46 41.8**	**+2.0**
AOS	**Alonnisos**	**2.79**	**56**	P	**Pn**	**17 46 13.8**	**+0.4**
AOS				S	**Sn**	**17 46 49.0**	**+1.7**
AOS	**Alonnisos**	**2.79**	**56**	P	**Pn**	**17 46 13.8**	**+0.4**
AOS				S	**Sn**	**17 46 49.0**	**+1.7**
PLG	**Polygyros**	**3.36**	**35**	*ePN*	**Pn**	**17 46 23.2**	**+1.8**
PLG	**Polygyros**	**3.36**	**35**	*ePn*	**Pn**	**17 46 23.2**	**+1.8**
VTS	**Vitosha**	**5.24**	**19**	*ePn*	**Pn**	**17 46 47.2**	**-0.1**
GRUS	**Gruza**	**6.23**	**359**	*ePn*	**Pn**	**17 47 00.4**	**-0.4**
DIVS	**Divibare**	**6.47**	**354**	*ePn*	**Pn**	**17 47 03.8**	**-0.4**
MLR	**Muntele Rosu** 0.0nm,0.3s,baz=232,slow=12,SNR=3.0	**8.69**	**24**	Pn	Pn	17 47 38.0	+3.3
MMAI	**Mount Meron Ar** 0.3nm,0.3s,baz=316,slow=12,SNR=2.5	**12.71**	**107**	Pn	Pn	17 48 26.4	-3.2
HFS	**Hagfors** 3.5nm,1.0s,baz=156,slow=11,SNR=7.0	**22.96**	**351**	P	**P**	**17 50 31.3**	**-1.9**
FINES	**FINESS Array B** 2.0nm,0.9s,baz=156,slow=11,SNR=3.6	**24.03**	**6**	P	**P**	**17 50 40.7**	**-3.0**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=158,slow=10,SNR=2.7	**24.19**	**348**	P	**P**	**17 50 43.6**	**-1.7**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=17,slow=8.3,SNR=2.1	**29.82**	**220**	P	**P**	**17 51 35.9**	**-0.3**
ARCES	**ARCESS Array B** 3.7nm,1.1s,baz=199,slow=11,SNR=2.9	**32.04**	**3**	P	**P**	**17 51 54.1**	**-1.1**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=266,slow=5.1,SNR=6.9	**37.23**	**49**	P	**P**	**17 52 38.4**	**-1.9**
KURBB	**Kurchatov Arra** 1.0nm,0.6s,baz=281,slow=9.2,SNR=9.3	**42.30**	**53**	P	P	17 53 20.2	-2.3
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=270,slow=7.6,SNR=19	**45.32**	**58**	P	P	17 53 44.7	-2.2
ZALV	**Zalesovo Beam** 1.6nm,0.5s,baz=273,slow=8.1,SNR=11	**45.82**	**48**	P	P	17 53 48.5	-2.2
CMAR	**Chiang Mai Arr** 0.6nm,0.8s,baz=299,slow=8.2,SNR=6.3	**69.66**	**82**	P	P	17 56 36.8	-2.2

IDC 07 18:02:23.9±2.1, **3.92N**×**126.58E**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.4**/22, **mbtmp3.5**/4, **Error ellipse: s-maj=191.4km s-min=24.9km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=341,slow=11,SNR=16	**24.91**	**162**	P	P	18 07 48.0	-0.8
ASAR	**Alice Springs** 0.1nm,0.3s,baz=344,slow=11,SNR=8.1	**28.33**	**166**	P	P	18 08 20.7	+1.0
STKA	**Stephens Creek** 2.4nm,0.9s,baz=324,slow=8.7,SNR=3.4	**38.36**	**159**	P	P	18 09 46.4	-0.4
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=126,slow=7.5,SNR=6.0	**57.31**	**325**	P	P	18 12 13.7	0.0

*ISCJB **07** 18:05:48.0±0.6, 39.91N±0.03×42.14E±0.03, h2km±6km, Error ellipse: s-maj=5.1km s-min=4.3km az=21.5*

*ISK **07** 18:05:47.9, 39.88N×42.13E, h8km, MD2.9*

*DDA **07** 18:05:47.8, 39.91N×42.17E, h7km, MD3.1*

*CSEM **07** 18:05:48.0±0.3, 39.84N×42.12E, h12km, MD2.9, Error ellipse: s-maj=9.4km s-min=7.0km az=10.0*

ISC 07 18:05:47.3±1.1, **39.85N**±0.03×**42.13E**±0.02, **h11**km±9km, **n32**, σ0$90/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.26**	**319**	*i* Pg	**Pg**	**18 05 53.0**	**+0.2**
HOMI				*i* Sg	**Sg**	**18 05 55.7**	**-0.8**
ERZM	**Erzurum**	**0.59**	**276**	*i* P	**Pb**	**18 05 59.9**	**+0.1**
ERZM				*i* S	**Sb**	**18 06 08.1**	**-0.2**
ERZM	**Erzurum**	**0.59**	**276**	*i* P	**Pb**	**18 05 59.9**	**+0.1**
ERZM				*i* S	**Sb**	**18 06 08.1**	**-0.2**
EZM	**Erzurum**	**0.59**	**276**	PG	**Pg**	**18 05 59.7**	**+0.8**
EZM				SG	**Sb**	**18 06 08.1**	**-0.3**

CRE	**Caprese Michel**	**0.16**	**178**	Pg	Pg	18 20 52.1	+0.5
CRE				Sg	Sg	18 20 54.9	+0.9
	44nm,0.3s						
PARC	**Parchiule**	**0.25**	**121**	Pg	Pg	18 20 53.8	+0.6
PARC				Sg	Sg	18 20 58.2	+1.6
	48nm,1.2s						
PARC	**Parchiule**	**0.25**	**121**	Pg	Pg	18 20 53.8	+0.6
PARC				Sg	Sg	18 20 58.2	+1.6
	48nm,1.2s						
VMG	**Vicchio**	**0.34**	**303**	Pg	Pg	18 20 55.7	+0.8
	3.0nm,0.2s						
VMG	**Vicchio**	**0.34**	**303**	Pg	Pg	18 20 55.7	+0.8
	3.0nm,0.2s						

*ISCJB **07** 18:24:27.7±0.5,49°.86N±0°.04×18°.43E±0°.03,h0km, Error ellipse: s-maj=5.5km s-min=2.8km az=8.3*
*CSEM **07** 18:24:28.8±0.3,49°.83N×18°.46E,h2km, ML2.6/7, Error ellipse: s-maj=8.0km s-min=3.6km az=1.0*
*IPEC **07** 18:24:28.9±0.2,49°.81N×18°.55E,h0km, ML1.9/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*PRU **07** 18:24:29.8, 49°.87N×18°.47E,h0km*

ISC 07 18:24:29.3±0.8, 49°.81N±0°.04×18°.50E±0°.02, h0km, n23, σ0.68/41, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**277**	*e*Pg	**Pg**	**18 24 34.6**	**+0.9**
OKC				*e*SG	**Sg**	**18 24 36.8**	**+0.1**
	comp=Z,57nm,0.4s						
OKC	**Ostrava-Krasne**	**0.23**	**277**	Pg	**Pg**	**18 24 34.6**	**+0.9**
OKC				Sg	**Sg**	**18 24 36.8**	**+0.1**
	57nm,0.4s						
MORC	**Moravsky Berou**	**0.62**	**267**	*e*Pg	**Pg**	**18 24 41.3**	**+0.1**
	baz=87						
MORC				*e*Sg	**Sg**	**18 24 49.5**	**+0.3**
	13nm,0.1s,baz=87						
OJC	**Ojcow**	**0.93**	**63**	*e*Pg	**Pg**	**18 24 46.6**	**-0.6**
OJC				*e*SG	**Sg**	**18 24 59.7**	**+0.5**
OJC	**Ojcow**	**0.93**	**63**	*e*Pg	**Pg**	**18 24 46.5**	**-0.6**
OJC				*e*SG	**Sg**	**18 24 59.7**	**+0.5**
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	**Pg**	**18 24 53.1**	**+0.1**
NIE				*e*SG	**Sn**	**18 25 11.3**	**-0.1**
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	**Pg**	**18 24 53.1**	**+0.1**
NIE				*e*SG	**Sn**	**18 25 11.3**	**-0.1**
VYHS	**Vyhne**	**1.33**	**170**	*e*PN	**Pg**	**18 24 54.7**	**-0.1**
VYHS				*e*SN	**Sn**	**18 25 13.4**	**-0.2**
VYHS	**Vyhne**	**1.33**	**170**	*e*Pn	**Pg**	**18 24 54.7**	**-0.1**
VRAC	**Vranov**	**1.34**	**249**	*e*Pg	**Pg**	**18 24 54.2**	**-0.7**
	baz=68						
VRAC				*e*Sg	**Sg**	**18 25 11.8**	**-0.5**
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*PG	**Pn**	**18 24 56.9**	**-0.7**
DPC				*e*SG	**Sg**	**18 25 16.6**	**-1.0**
	comp=Z,6.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.50**	**292**	Pg	**Pn**	**18 24 56.9**	**-0.7**
DPC				Sg	**Sg**	**18 25 16.6**	**-1.0**
	6.3nm,0.3s						
KRUC	**Moravsky**	**1.56**	**242**	*e*Pg	**Pn**	**18 24 57.9**	**-0.4**
	baz=61						
KRUC				*e*Sg	**Sn**	**18 25 18.8**	**-0.5**
	19nm,0.2s,baz=61						
UPC	**Upice**	**1.75**	**295**	*e*PG	**Pn**	**18 25 01.1**	**+0.3**
UPC				*e*SG	**Sg**	**18 25 24.5**	**-0.9**
UPC	**Upice**	**1.75**	**295**	Pg	**Pn**	**18 25 01.1**	**+0.3**
UPC				Sg	**Sg**	**18 25 24.5**	**-0.9**
PRU	**Pruhonice**	**2.57**	**276**	*e*PG	**Pb**	**18 25 16.0**	**-0.2**
PRU				*e*SG	**Sb**	**18 25 49.1**	**+0.9**
	comp=Z,6.3nm,0.8s						
PRU	**Pruhonice**	**2.57**	**276**	Pg	**Pb**	**18 25 16.0**	**-0.2**
PRU				Sg	**Sb**	**18 25 49.1**	**+0.9**
	6.3nm,0.8s						
PVCC	**Panska Ves**	**2.63**	**287**	*e*SG	**Sg**	**18 25 53.0**	**-0.7**
	comp=Z,11nm,0.5s						
PVCC	**Panska Ves**	**2.63**	**287**	Sg	**Sg**	**18 25 53.0**	**-0.7**
	11nm,0.5s						
BRG	**Berggiesshubel**	**3.11**	**292**	SG	**Sg**	**18 26 08.4**	**-0.7**
	2.9nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN	**Pn**	**18 25 22.5**	**+0.5**
KHC				*e*PG	**Pb**	**18 25 29.5**	**+1.1**
KHC				*e*SG	**Sg**	**18 26 12.8**	**-1.9**
	comp=Z,5.1nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**260**	Pn	**Pn**	**18 25 22.5**	**+0.5**
CLL	**Collm**	**3.81**	**295**	*e*Sg	**Sg**	**18 26 31.0**	**-0.7**

JMA 07 18:25:04.9±0.3, 31°.80N×142°.49E, h77km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.12**	**336**	P	Pn	18 25 52.7	+1.7
BSO1				*e*S	Sn	18 26 29.3	+2.6
BSO2	**Boso 2**	**3.28**	**334**	*e*S	Sn	18 26 36.9	+5.6
BSO3	**Boso 3**	**3.42**	**332**	P	Pn	18 25 57.6	+2.0
BSO3				*e*S	Sn	18 26 36.3	+1.5
BSO4	**Boso 4**	**3.66**	**331**	P	Pn	18 26 01.1	+2.2
BSO4				*e*S	Sn	18 26 45.9	+5.1
JYT	**Yasato**	**4.81**	**337**	P	Pn	18 26 17.1	+2.3
JYT				*e*S	Sn	18 27 11.4	+2.2
JHU	**Hanno**	**4.84**	**327**	P	Pn	18 26 16.7	+1.4
JHU				*e*S	Sn	18 27 11.7	+1.6
JHO	**Hitachi**	**5.06**	**342**	P	Pn	18 26 18.8	+0.6
JHO				*e*S	Sn	18 27 15.0	-0.3
JRY	**Ryogami san**	**5.16**	**326**	P	Pn	18 26 21.3	+1.7
JRY				*e*S	Sn	18 27 20.1	+2.3
JAG	**Ashikaga**	**5.26**	**332**	P	Pn	18 26 22.3	+1.4
JAG				*e*S	Sn	18 27 21.6	+1.4
JFK	**Kawauchi**	**5.71**	**347**	*e*S	Sn	18 27 28.9	-2.5

*ISCJB **07** 18:43:10.4±1.6,48°.4N±0°.2×154°.5E±0°.3,h51km, mb3.7/10, MS3.3/1, Error ellipse: s-maj=36.4km s-min=8.3km az=43.9*
*MOS **07** 18:43:12.4±1.1,48°.54N×154°.56E,h67km, mb4.1/6, Error ellipse: s-maj=25.5km s-min=13.8km az=86.7*
*IDC **07** 18:43:13.2±3.9,48°.56N×154°.41E,h50km±32km, mb3.4/8, mb1 3.5/10,mb1mx3.3/28,mbtmp3.4/10,ML2.9/2,MS3.1/2, Ms1 3.1/2,ms1mx2.4/22, Error ellipse: s-maj=58.9km s-min=20.4km az=142.0*

ISC 07 18:43:12.5±2.0, 48°.5N±0°.3×154°.5E±0°.2, h51km, n18, σ0.94/18, mb3.8/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.47**	**25**	*e*PN	**Pn**	**18 43 49.5**	**-0.7**
SKR				*e*S	**Sn**	**18 44 20.0**	**+1.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,150nm,0.5s						
SKR				smax	smax		
	comp=E,170nm,0.5s						
PETK	**Petropavlovsk-**	**5.08**	**23**	P	**Pn**	**18 44 26.5**	**+0.5**
	comp=E,2.1nm,0.3s,baz=182,slow=14,SNR=16						
PETK				LR	LR	18 46 06.6	
	comp=E,92nm,21.8s,baz=14,slow=35						
PETK	**Petropavlovsk-**	**5.08**	**23**	*e*PN	**Pn**	**18 44 26.7**	**+0.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
USRK	**Ussuriysk Arra**	**16.08**	**263**	P	**Pn**	**18 46 54.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=2.6						
KSRS	**Korea Array**	**22.22**	**250**	P	**P**	**18 48 05.2**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=46,slow=10,SNR=6.7						
JOW	**Kunigami**	**29.69**	**233**	LR	LR	19 01 36.8	
	comp=Z,69nm,18.1s,baz=116,slow=37						
ZALV	**Zalesovo Beam**	**42.37**	**305**	P	**P**	**18 51 00.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=60,slow=6.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.37**	**305**	*e*P	**P**	**18 51 02.5**	**+1.2**
MKAR	**Makanchi Array**	**46.98**	**297**	P	**P**	**18 51 38.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=69,slow=8.2,SNR=9.8						
MKAR	**Makanchi Array**	**46.98**	**297**	*e*P	**P**	**18 51 38.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.19**	**303**	*e*P	**P**	**18 51 40.2**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.00**	**38**	P	**P**	**18 51 53.1**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=296,slow=7.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**53.67**	**256**	P	**P**	**18 52 30.6**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=31,slow=7.6,SNR=4.1						
FINES	**FINESS Array B**	**62.88**	**335**	P	**P**	**18 53 33.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.3,SNR=5.6						
NOA	**NORSAR Array B**	**66.90**	**342**	P	**P**	**18 53 58.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=24,slow=6.6,SNR=2.6						
HFS	**Hagfors**	**67.17**	**340**	P	**P**	**18 54 01.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=67,slow=4.8,SNR=8.5						
KIV	**Kislovodsk**	**70.25**	**315**	*e*P	**P**	**18 54 18.2**	**-1.9**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**70.62**	**327**	*i* P	**P**	**18 54 21.3**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **07** 18:45:45.2±0.4,6°.39S±0°.05×128°.50E±0°.08,h334km, mb3.6/10, Error ellipse: s-maj=12.2km s-min=5.9km az=157.4*
*IDC **07** 18:45:47.5±4.2,6°.39S×128°.49E,h343km±51km, mb3.5/10, mb1 3.6/13,mb1mx3.6/20,mbtmp3.5/13, Error ellipse: s-maj=26.0km s-min=15.5km az=65.0*

ISC 07 18:45:46.3±0.6, 6°.48S±0°.07×128°.5E±0°.1, h334km, n31, σ1.901/31, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.79**	**355**	P	**Pn**	**18 46 44.6**	**+1.9**
MSAI	**Masohi**	**3.15**	**9**	P	Px	18 47 31.7	
	32nm,0.5s,670nm0.2nm						
MSAI	**Masohi**	**3.15**	**9**	P	Pn	18 46 41.9	-4.1
FAKI	**Fak Fak**	**5.17**	**47**	P	Px	18 48 09.2	
FAKI	**Fak Fak**	**5.17**	**47**	P	**Pn**	**18 47 07.0**	**-0.3**
LBMI	**Labuha**	**5.89**	**351**	P	**Pn**	**18 47 16.6**	**+1.2**
BKSI	**Bulukumba**	**8.38**	**277**	P	**P**	**18 47 46.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.87**	**193**	P	**P**	**18 48 27.8**	**+0.6**
	0.3nm,0.3s,baz=26,slow=14,SNR=7.6						
FITZ				S	S	18 50 49.9	+11
	0.4nm,0.3s,baz=300,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**14.54**	**157**	P	**Pn**	**18 48 57.8**	**-0.6**
	5.4nm,0.3s,baz=339,slow=12,SNR=296						
WRA				S	**S**	**18 51 32.4**	**-2.5**
	0.5nm,0.3s,baz=336,slow=19,SNR=8.6						
ASAR	**Alice Springs**	**17.87**	**164**	P	**P**	**18 49 34.7**	**+1.9**
	5.9nm,0.3s,baz=345,slow=11,SNR=841						
ASAR				S	**S**	**18 52 40.3**	**-0.3**
	0.4nm,0.3s,baz=344,slow=20,SNR=36						
CTA	**Charters Tower**	**21.94**	**130**	P	**P**	**18 50 15.0**	**+1.7**
	6.9nm,0.9s,baz=319,slow=8.8,SNR=5.3						
STKA	**Stephens Creek**	**28.09**	**156**	P	**P**	**18 51 09.0**	**+0.7**
	2.9nm,0.5s,baz=333,slow=10,SNR=21						
CMAR	**Chiang Mai Arr**	**38.24**	**311**	P	**P**	**18 52 35.8**	**+0.2**
	0.6nm,0.6s,baz=139,slow=6.6,SNR=3.8						
KSRS	**Korea Array**	**43.71**	**359**	P	**P**	**18 53 19.8**	**+0.3**
	1.7nm,0.5s,baz=178,slow=9.1,SNR=15						
MJAR	**Matsushiro Arr**	**43.76**	**11**	P	**P**	**18 53 17.9**	**-2.0**
	2.2nm,0.8s,baz=192,slow=9.9,SNR=7.4						
USRK	**Ussuriysk Arra**	**50.55**	**3**	P	**P**	**18 54 11.2**	**-0.5**
	2.4nm,0.6s,baz=182,slow=6.7,SNR=8.9						
ODAN	**Odare**	**51.77**	**312**	*e*P	**P**	**18 54 21.3**	**0.0**
	7.0nm,0.5s						
TAPN	**Taplejung**	**51.81**	**312**	*e*P	**P**	**18 54 21.7**	**0.0**
	7.8nm,0.4s						
RAMN	**Ramite**	**52.41**	**311**	*e*P	**P**	**18 54 26.4**	**+0.4**
	17nm,0.6s						
JIRN	**Jiri**	**53.10**	**312**	*e*P	**P**	**18 54 31.1**	**-0.1**
GUN	**Gumba**	**53.47**	**312**	*e*P	**P**	**18 54 33.6**	**-0.2**
	17nm,0.7s						
PKI	**Pulchoki**	**53.63**	**311**	*e*P	**P**	**18 54 34.6**	**-0.4**
KKN	**Kakani**	**53.85**	**311**	*e*P	**P**	**18 54 36.3**	**-0.1**
GKN	**Gorkha**	**54.44**	**311**	*e*P	**P**	**18 54 40.5**	**0.0**
	8.2nm,0.2s						
KOLN	**Koldanda**	**55.10**	**310**	*e*P	**P**	**18 54 44.6**	**-0.7**
	7.8nm,0.4s						
DANN	**Dangsing**	**55.28**	**311**	*e*P	**P**	**18 54 46.4**	**-0.3**
PYUN	**Piuthan**	**55.73**	**310**	*e*P	**P**	**18 54 49.8**	**+0.1**
SONM	**Songino Array**	**57.48**	**343**	P	**P**	**18 55 01.2**	**-0.3**
	0.6nm,0.5s,baz=158,slow=5.6,SNR=3.6						
PETK	**Petropavlovsk-**	**64.33**	**19**	P	**P**	**18 55 47.1**	**+0.2**
	2.1nm,0.7s,baz=201,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**18 56 04.1**	**+0.3**
	3.6nm,0.6s,baz=120,slow=7.6,SNR=59						
MKAR				PcP	**PcP**	**18 56 29.2**	**-0.3**
	0.6nm,0.6s,baz=121,slow=4.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.45**	**334**	P	**P**	**18 56 24.0**	**-1.0**
	1.7nm,0.6s,baz=129,slow=5.5,SNR=10.0						

DJA 07 18:45:56.5±0.8, 0°.S±7°×122°.3E±°, h149km±9km, M4.1/5, mb4.8/2, mB4.9/2, MLv3.7/5, Mw(mB)4.2/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.99**	**200**	P	Pn	18 46 21.7	+0.5
LUWI				S	Sn	18 46 40.7	+0.7
LUWI	**Luwuk**	**0.99**	**200**	P	Pn	18 46 21.4	+0.2
KMSI	**Cibinong**	**1.10**	**52**	P	Pn	18 46 22.7	+0.7
KMSI	**Cibinong**	**1.10**	**52**	P	Pn	18 46 22.4	+0.4
MRSI	**Marisa**	**1.30**	**296**	P	Pn	18 46 24.4	+0.4
MRSI	**Marisa**	**1.30**	**296**	P	Pn	18 46 24.7	+0.7
APSI	**Ampana**	**1.67**	**241**	P	Pn	18 46 28.7	+0.9
APSI				S	Sn	18 46 53.2	+1.4

*ATH **07** 18:51:16.8,41°.39N×19°.18E,h30km±6km, ML4.3*
*BJI **07** 18:51:16.5,41°.55N×18°.55E,h35km, mB5.2/7, mb4.6/6, Ms4.9/3, Ms7 4.6/3*
*PRU **07** 18:51:17.7,40°.68N×19°.32E,h29km, M4.1*
*SZGRF **07** 18:51:17.6,40°.82N×19°.24E,h10km, Albania*
*BEO **07** 18:51:18.2±0.6,41°.03N×19°.42E,h4km±2km, ML4.3/1*
*LDG **07** 18:51:19.3±0.1,41°.23N×19°.52E,h10km, Ml4.2/9, Error ellipse: s-maj=2.8km s-min=1.9km az=16.0*
*TIR **07** 18:51:19.0±4.2,41°.15N×19°.53E,h25km±72km, ML4.4*
*MOS **07** 18:51:19.1±1.1,41°.12N×19°.32E,h33km, mb4.4/16, Error ellipse: s-maj=5.3km s-min=3.6km az=89.3*
*NEIC **07** 18:51:19.7±1.1,41°.21N×19°.50E,h19km±7km, mb4.1/13, ML4.2(THE), ML4.1(PDG), Error ellipse: s-maj=6.5km s-min=4.2km az=188.0*
NEIC Felt [II] at Tirana, Albania.
*ROM **07** 18:51:20.1±0.1,41°.18N×19°.50E,h10km, Ml4.1/15, Error ellipse: s-maj=2.7km s-min=1.8km az=135.0*
*PDG **07** 18:51:20.6±0.9,41°.20N×19°.52E,h20km±2km, MD4.0/10, ML3.9/9, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*
*CSEM **07** 18:51:21.3±0.1,41°.18N×19°.48E,h20km, mb4.1/13, mb4.4/8, Error ellipse: s-maj=2.3km s-min=1.7km az=42.0*
*IDC **07** 18:51:21.9±2.5,41°.19N×19°.51E,h33km±18km, mb3.9/19, mb1 4.0/29,mb1mx3.9/36,mbtmp3.8/29, ML3.9/7, MS3.6/7, Ms1 3.6/7,ms1mx3.1/42, Error ellipse: s-maj=14.2km s-min=9.9km az=25.0*
*THE **07** 18:51:21.0,41°.23N×19°.43E,h24km±4km, ML4.2/10, Error ellipse: s-maj=5.5km s-min=0.8km az=298.0*

ISC 07 18:51:20.4±0.8, 41°.18N±0°.01×19°.56E±0°.02, h23km±5km, n637, σ1.962/737, mb4.2/35, MS3.8/7, 43C-60D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**53**	*i* PG	**Pb**	**18 51 26.5**	**-0.6**
TIR				*i* SG	**Sb**	**18 51 31.4**	**-0.4**
TIR	**Tirane**	**0.29**	**53**	Pg	**Pb**	**18 51 26.7**	**-0.5**
TIR				Sg	**Sb**	**18 51 32.8**	**+1.0**
	24µm,0.5s						
TIR	**Tirane**	**0.29**	**53**	*e*P	**Pb**	**18 51 26.4**	**-0.8**
TIR	**Tirane**	**0.29**	**53**	*e*Pg	**Pb**	**18 51 26.4**	**-0.8**
TIR				*e*Sg	**Sn**	**18 51 33.9**	**-1.0**
TIR	**Tirane**	**0.29**	**53**	*e*Pg	**Pb**	**18 51 26.7**	**-0.5**
TIR				*e*Sg	**Sb**	**18 51 32.7**	**+1.0**
TIR	**Tirane**	**0.29**	**53**	Pg	**Pb**	**18 51 26.7**	**-0.5**
TIR				*e*Sg	**Sn**	**18 51 33.9**	**-1.0**
ULC	**Ulcinj**	**0.82**	**344**	*i* Pg	**Pn**	**18 51 36.5**	**-0.1**
ULC				*e*Sg	**Sn**	**18 51 48.4**	**+0.3**
ULC	**Ulcinj**	**0.82**	**344**	P	**Pn**	**18 51 36.3**	**-0.4**
ULC				S	**Sn**	**18 51 48.6**	**+0.5**
ULC	**Ulcinj**	**0.82**	**344**	P	**Pn**	**18 51 36.3**	**-0.4**
ULC				S	**Sn**	**18 51 48.6**	**+0.5**
ULC	**Ulcinj**	**0.82**	**344**	*i* Pg	**Pn**	**18 51 36.5**	**-0.1**
ULC				*e*Sg	**Sn**	**18 51 48.4**	**+0.3**
PHP	**Peshkopia**	**0.84**	**52**	*i* PG	**Pb**	**18 51 35.1**	**-1.3**
PHP				*i* SG	**Sb**	**18 51 47.0**	**-0.2**
PHP	**Peshkopia**	**0.84**	**52**	*i* Pg	**Pb**	**18 51 35.1**	**-1.3**
	SNR=91						
PHP				*i* Sg	**Sb**	**18 51 47.0**	**-0.2**
	SNR=91						
PUK	**Puka**	**0.90**	**16**	*i* PG	**Pn**	**18 51 38.1**	**+0.3**
PUK	**Puka**	**0.90**	**16**	*i* Pg	**Pn**	**18 51 38.1**	**+0.3**
	SNR=90						

BUM	**Brajici-Budva**	**1.23**	**336**	*i* Pg	**Pb**	**18 51 43.8**	**+0.8**
BUM				*e*Sg	**Sn**	**18 52 01.8**	**+3.6**
BUM	**Brajici-Budva**	**1.23**	**336**	P	**Pb**	**18 51 43.6**	**+0.5**
BUM				S	**Sn**	**18 52 02.0**	**+3.8**
BUM	**Brajici-Budva**	**1.23**	**336**	P	**Pb**	**18 51 43.6**	**+0.5**
BUM				*e*Sg	**Sn**	**18 52 01.8**	**+3.6**
BCI	**Bajram Curri**	**1.25**	**18**	*i* PN	**Pb**	**18 51 44.9**	**+1.5**
BCI				*i* SN	**Sb**	**18 52 02.9**	**+3.8**
BCI	**Bajram Curri**	**1.25**	**18**	*i* Pn	**Pb**	**18 51 44.9**	**+1.5**
BCI				*i* Sn	**Sb**	**18 52 02.9**	**+3.8**
TTG	**Podgorica**	**1.27**	**350**	*i* Pg	**Pb**	**18 51 44.4**	**+0.7**
TTG				*e*Sg	**Sb**	**18 52 03.2**	**+3.5**
PDG	**Podgorica**	**1.27**	**350**	Pg	**Pb**	**18 51 44.0**	**+0.3**
PDG	**Podgorica**	**1.27**	**350**	*e*Pg	**Pb**	**18 51 44.3**	**+0.6**
PDG				*e*Sg	**Sb**	**18 52 03.5**	**+3.8**
PDG	**Podgorica**	**1.27**	**350**	Pg	**Pb**	**18 51 44.0**	**+0.3**
PDG				*e*Sg	**Sb**	**18 52 03.2**	**+3.5**
SRN	**Sarande**	**1.34**	**165**	*i* PN	**Pb**	**18 51 44.8**	**0.0**
SRN				*i* SN	**Sb**	**18 52 02.4**	**+0.9**
SRN	**Sarande**	**1.34**	**165**	*i* Pn	**Pb**	**18 51 44.8**	**0.0**
SRN				*i* Sn	**Sb**	**18 52 02.4**	**+0.9**
BIA	**Bitola**	**1.34**	**96**	P	**Pb**	**18 51 44.5**	**-0.5**
BIA				S	**Sb**	**18 52 03.9**	**+2.1**
BIA	**Bitola**	**1.34**	**96**	P	**Pb**	**18 51 44.5**	**-0.5**
BIA				S	**Sb**	**18 52 03.9**	**+2.1**
BIA	**Bitola**	**1.34**	**96**	*e*Pn	**Pn**	**18 51 43.8**	**-0.1**
BIA				*e*Sg	**Sb**	**18 52 04.4**	**+2.6**
BIA	**Bitola**	**1.34**	**96**	*e*Pn	**Pn**	**18 51 43.7**	**-0.1**
BIA	**Bitola**	**1.34**	**96**	P	**Pb**	**18 51 44.5**	**-0.5**
BIA				S	**Sb**	**18 52 03.9**	**+2.1**
BIA				*e*Sg	**Sb**	**18 52 04.4**	**+2.6**
NEST	**Nestorio**	**1.36**	**123**	P	**Pb**	**18 51 45.6**	**+0.3**
NEST				S	**Sb**	**18 52 04.2**	**+1.8**
NEST	**Nestorio**	**1.36**	**123**	P	**Pb**	**18 51 45.6**	**+0.3**
NEST				S	**Sb**	**18 52 04.2**	**+1.8**
SCTE	**Santa Cesarea**	**1.38**	**217**	Pg	**Pb**	**18 51 45.7**	**+0.2**
SCTE				Sg	**Sb**	**18 52 04.7**	**+2.0**
	3µm,0.5s						
SCTE	**Santa Cesarea**	**1.38**	**217**	Pg	**Pb**	**18 51 45.7**	**+0.2**
SCTE				Sg	**Sb**	**18 52 04.7**	**+2.0**
	3µm,0.5s						
FNA	**Florina**	**1.43**	**105**	P	**Pb**	**18 51 46.7**	**+0.2**
FNA				S	**Sb**	**18 52 06.9**	**+2.6**
FNA	**Florina**	**1.43**	**105**	P	**Pb**	**18 51 46.7**	**+0.2**
FNA				S	**Sb**	**18 52 06.9**	**+2.6**
PVY	**Plav**	**1.45**	**12**	*i* Pg	**Pb**	**18 51 46.8**	**0.0**
PVY				*e*Sg	**Sb**	**18 52 08.0**	**+3.1**
PVY	**Plav**	**1.45**	**12**	*i* Pg	**Pb**	**18 51 46.8**	**0.0**
PVY				*e*Sg	**Sb**	**18 52 08.0**	**+3.1**
KEK	**Kerkira**	**1.47**	**173**	Pg	**Pb**	**18 51 46.6**	**-0.6**
KEK				Sg	**Sb**	**18 52 06.9**	**+1.5**
	3µm,0.7s						
KEK	**Kerkira**	**1.47**	**173**	P	**Pb**	**18 51 46.5**	**-0.6**
KEK				S	**Sb**	**18 52 05.5**	**+0.1**
KEK	**Kerkira**	**1.47**	**173**	P	**Pb**	**18 51 46.5**	**-0.6**
KEK				S	**Sb**	**18 52 05.5**	**+0.1**
KEK	**Kerkira**	**1.47**	**173**	*e*PN	**Pb**	**18 51 47.0**	**-0.1**
KEK				*e*SN	**Sb**	**18 52 08.7**	**+3.3**
KEK	**Kerkira**	**1.47**	**173**	Pg	**Pb**	**18 51 46.6**	**-0.6**
KEK	**Kerkira**	**1.47**	**173**	*e*Pn	**Pb**	**18 51 47.0**	**-0.1**
KEK				S	**Sb**	**18 52 05.5**	**+0.1**
KEK				Sg	**Sb**	**18 52 06.9**	**+1.5**
	3µm,0.7s						
KEK				*e*Sn	Sn	18 52 08.7	+4.7
HCY	**Herceg Novi**	**1.50**	**328**	*i* PG	**Pb**	**18 51 47.0**	**-0.6**
HCY				*e*SG	**Sb**	**18 52 08.0**	**+1.8**
HCY	**Herceg Novi**	**1.50**	**328**	*i* PG	**Pb**	**18 51 47.0**	**-0.6**
HCY				*e*SG	**Sb**	**18 52 08.0**	**+1.8**
SKO	**Skopje**	**1.62**	**60**	P	**Pb**	**18 51 50.1**	**+0.4**
SKO				S	**Sb**	**18 52 11.2**	**+1.5**
SKO	**Skopje**	**1.62**	**60**	*e*Pn	**Pb**	**18 51 48.9**	**-0.8**
SKO				*e*Sg	**Sb**	**18 52 12.2**	**+2.5**
SKO	**Skopje**	**1.62**	**60**	*e*Pn	**Pb**	**18 51 50.3**	**+0.6**
SKO				*e*Sn	**Sb**	**18 52 13.3**	**+3.6**
SKO	**Skopje**	**1.62**	**60**	P	**Pb**	**18 51 50.1**	**+0.4**
SKO				S	**Sb**	**18 52 11.2**	**+1.5**
SKO				*e*Sg	**Sn**	**18 52 12.7**	**+4.9**
SKO				*e*Sn	Sn	18 52 13.3	+5.6
NKY	**Niksic**	**1.69**	**346**	*i* Pn	**Pb**	**18 51 50.6**	**-0.3**
NKY				*e*Sn	**Sb**	**18 52 13.3**	**+1.5**
NKY	**Niksic**	**1.69**	**346**	*i* Pn	**Pb**	**18 51 50.6**	**-0.3**
NKY				*e*Sn	**Sb**

THL S Sb 18 52 31.7 -2.5
THL Klokotos Trika 2.47 130 ePN Pb 18 52 02.5 -1.7
THL eSN Sb 18 52 34.8 +0.6
THL Klokotos Trika 2.47 130 P Pn 18 52 01.1 +1.8
THL Klokotos Trika 2.47 130 ePn Pb 18 52 02.5 -1.7
THL S Sb 18 52 31.7 -2.5
THL eSn Sb 18 52 34.8 +0.6
LIT Litokhoron 2.48 115 P Pn 18 52 00.9 +1.5
LIT Litokhoron 2.48 115 P Pn 18 52 00.9 +1.5
CDT Castel del Mon 2.48 269 ePn Pn 18 52 00.2 +0.8
KNT Kendrikon 2.52 89 P Pn 18 52 01.7 +1.7
KNT S Sb 18 52 32.9 -2.7
KNT Kendrikon 2.52 89 P Pn 18 52 01.7 +1.7
KNT S Sb 18 52 32.9 -2.7
LKD2 Lefkada island 2.53 160 P Pn 18 52 01.1 +1.0
LKD2 S Sn 18 52 32.6 +2.4
LKD2 Lefkada island 2.53 160 P Pn 18 52 01.1 +1.0
LKD2 S Sn 18 52 32.6 +2.4
MRVN Minervino Murg 2.54 269 Pn Pn 18 52 01.1 +0.8
MRVN Minervino Murg 2.54 269 Pn Pn 18 52 01.1 +0.8
ORI Oriolo Calabro 2.61 246 Pg Pn 18 52 02.5 +1.3
2µm,0.5s
ORI Oriolo Calabro 2.61 246 Pg Pn 18 52 02.5 +1.3
2µm,0.5s
THE Thessaloniki 2.64 101 P Pn 18 52 02.8 +1.2
THE Thessaloniki 2.64 101 P Pn 18 52 02.8 +1.2
PIPA Pietrapaola 2.69 232 Pg Pn 18 52 02.7 +0.4
2µm,1.1s
PIPA Pietrapaola 2.69 232 Pg Pn 18 52 02.7 +0.4
2µm,1.1s
PALZ Palazzo San Ge 2.73 266 Pn Pn 18 52 04.6 +1.8
PALZ Palazzo San Ge 2.73 266 Pn Pn 18 52 04.6 +1.8
HORT Hortiatis 2.75 101 P Pn 18 52 04.2 +1.1
HORT Hortiatis 2.75 101 P Pn 18 52 04.2 +1.1
ACER Acerenza 2.76 263 Pg Pn 18 52 05.2 +1.9
3µm,0.8s
ACER Acerenza 2.76 263 Pg Pn 18 52 05.2 +1.9
3µm,0.8s
MS1 Monte Sant'Ang 2.77 282 ⇑iPn Pn 18 52 03.6 +0.2
MSAG Monte S. Angel 2.79 282 Pg Pn 18 52 04.2 +0.4
783nm,0.6s
MSAG Monte S. Angel 2.79 282 Pg Pn 18 52 04.2 +0.4
783nm,0.6s
SCHR S. Chirico Rap 2.82 251 Pg Pn 18 52 04.9 +0.7
584nm,0.7s
SCHR S. Chirico Rap 2.82 251 Pg Pn 18 52 04.9 +0.7
584nm,0.7s
EVR Evrytania 2.84 142 P Pn 18 52 06.4 +1.9
EVR S Sb 18 52 42.0 -2.9
EVR Evrytania 2.84 142 ePN Pb 18 52 07.8 -2.7
EVR Evrytania 2.84 142 P Pn 18 52 06.4 +1.9
EVR Evrytania 2.84 142 ePn Pb 18 52 07.8 -2.7
EVR S Sb 18 52 42.0 -2.9
GRUS Gruza 2.84 17 ePn Pn 18 52 06.8 +2.4
GRUS eSn Sb 18 52 43.5 -1.3
GRUS Gruza 2.84 17 ePn Pn 18 52 06.8 +2.4
GRUS eSn Sb 18 52 43.5 -1.3
SOH Sokhos 2.90 96 P Pn 18 52 06.9 +1.7
SOH Sokhos 2.90 96 P Pn 18 52 06.9 +1.7
SGRT San Giovanni R 2.92 283 Pn Pn 18 52 05.8 +0.2
429nm,0.6s
SGRT San Giovanni R 2.92 283 Pn Pn 18 52 05.8 +0.2
429nm,0.6s
MAKR Makrakomi, Fth 2.93 137 P Pn 18 52 08.0 +2.4
MAKR Makrakomi, Fth 2.93 137 P Pn 18 52 08.0 +2.4
TIP Timpagrande 2.93 228 Pg Pn 18 52 06.3 +0.7
TIP Timpagrande 2.93 228 ePn Pn 18 52 05.2 -0.4
TIP ePg Pb 18 52 15.2 +3.2
TIP Timpagrande 2.93 228 ePn Pn 18 52 05.2 -0.4
TIP Timpagrande 2.93 228 Pg Pn 18 52 06.3 +0.7
DIVS Divibare 2.94 6 ePn Pn 18 52 07.5 +1.7
DIVS eSn Sb 18 52 45.4 -2.3
DIVS Divibare 2.94 6 ePn Pn 18 52 07.5 +1.7
DIVS eSn Sb 18 52 45.4 -2.3
MCEL Monticello 2.98 255 Pn Pn 18 52 07.4 +1.1
721nm,0.6s
MCEL Monticello 2.98 255 Pn Pn 18 52 07.4 +1.1
721nm,0.6s
SIRI Monte Sirino - 2.98 252 Pn Pn 18 52 06.9 +0.6
279nm,0.6s
SIRI Monte Sirino - 2.98 252 Pn Pn 18 52 06.9 +0.6
279nm,0.6s
SRS Serrai 3.05 90 P Pn 18 52 08.7 +1.5
SRS Serrai 3.05 90 P Pn 18 52 08.7 +1.5
PLG Polygyros 3.06 104 P Pn 18 52 09.3 +1.9
PLG S Sn 18 52 46.9 +3.6
PLG Polygyros 3.06 104 ePN Pn 18 52 09.2 +1.9
PLG eSN Sb 18 52 48.6 -2.5
PLG Polygyros 3.06 104 P Pn 18 52 09.3 +1.9
PLG S Sn 18 52 46.9 +3.6
PLG eSn Sb 18 52 48.6 -2.5
SERS Sersale 3.07 227 Pn Pn 18 52 07.6 0.0
379nm,0.9s
SERS Sersale 3.07 227 Pn Pn 18 52 07.6 0.0
379nm,0.9s
VTS Vitosha 3.07 61 ⇓⇓P Pn 18 52 10.1 +2.4
VTS Vitosha 3.07 61 ⇓⇓*i*P Pn 18 52 10.1 +2.4
VTS Vitosha 3.07 61 ePn Pn 18 52 10.2 +2.5
VTS eSn Sb 18 52 48.4 -3.2
VTS Vitosha 3.07 61 ⇓⇓*i*P Pn 18 52 10.1 +2.4
VTS eSn Sb 18 52 48.4 -3.2
CUC Castrocucco 3.08 249 ePn Pn 18 52 08.2 +0.5
CUC ePg Pb 18 52 17.1 +2.5
CUC eSn Sn 18 52 44.1 +0.2
CUC Castrocucco 3.08 249 ePn Pn 18 52 08.2 +0.5
VLS Valsamata 3.10 165 P Pn 18 52 09.2 +1.3
VLS Valsamata 3.10 165 ePN Pn 18 52 10.0 +2.1
VLS Valsamata 3.10 165 P Pn 18 52 09.2 +1.3
VLS Valsamata 3.10 165 ePn Pn 18 52 10.0 +2.1
ZAPS Zavoj 3.10 46 ePn Pn 18 52 11.1 +3.1
ZAPS eSn Sb 18 52 48.8 -3.5
ZAPS Zavoj 3.10 46 ePn Pn 18 52 11.1 +3.1
ZAPS eSn Sb 18 52 48.8 -3.5
MRLC Muro Lucano 3.11 264 Pn Pn 18 52 09.8 +1.7
456nm,0.6s
MRLC Muro Lucano 3.11 264 Pn Pn 18 52 09.8 +1.7
456nm,0.6s
TRUS Trudelj 3.11 11 ePn Pn 18 52 09.0 +0.9
TRUS eSn Sn 18 52 48.0 +3.5
TRUS Trudelj 3.11 11 ePn Pn 18 52 09.0 +0.9
TRUS eSn Sn 18 52 48.0 +3.5
BOLS Boljevac 3.19 33 ePn Pn 18 52 09.7 +0.6
BOLS eSn Sb 18 52 51.7 -3.1
BOLS Boljevac 3.19 33 ePn Pn 18 52 09.7 +0.6
BOLS eSn Sb 18 52 51.7 -3.1
NVR Nevrokopi 3.25 86 P Pn 18 52 12.0 +2.0
NVR S Sn 18 52 51.3 +3.3
NVR Nevrokopi 3.25 86 ePN Pn 18 52 12.2 +2.2
NVR eSN Sn 18 52 52.0 +4.0
NVR Nevrokopi 3.25 86 ePn Pn 18 52 12.2 +2.2
NVR S Sn 18 52 51.3 +3.3
NVR eSn Sn 18 52 52.0 +4.0
XOR Xorichti 3.32 122 P Pn 18 52 12.0 +1.1
XOR Xorichti 3.32 122 P Pn 18 52 12.0 +1.1
SVIS Svilajnac 3.32 21 ePn Pn 18 52 12.5 +1.6
SVIS eSn Sn 18 52 53.8 +4.1
NEO Neokhori 3.37 122 ePN Pn 18 52 14.3 +2.6
NEO Neokhori 3.37 122 ePn Pn 18 52 14.3 +2.6
PAIG Paliouri 3.38 110 P Pn 18 52 13.0 +1.2
PAIG Paliouri 3.38 110 P Pn 18 52 13.0 +1.2
AXAR Agios Charalam 3.39 134 P Pn 18 52 14.0 +2.1
AXAR Agios Charalam 3.39 134 P Pn 18 52 14.0 +2.1
TRIZ Trizonia 3.41 145 P Pn 18 52 14.7 +2.5
TRIZ Trizonia 3.41 145 P Pn 18 52 14.7 +2.5
KALE Kalithea 3.42 144 P Pn 18 52 14.5 +2.1
KALE Kalithea 3.42 144 P Pn 18 52 14.5 +2.1
RLS Riolos of Patr 3.44 154 P Pn 18 52 14.5 +1.8
RLS Riolos of Patr 3.44 154 ePN Pn 18 52 15.8 +3.1
RLS Riolos of Patr 3.44 154 P Pn 18 52 14.5 +1.8
RLS Riolos of Patr 3.44 154 ePn Pn 18 52 15.8 +3.1
OUR Ouranopolis 3.46 103 P Pn 18 52 14.7 +1.8
OUR Ouranopolis 3.46 103 P Pn 18 52 14.7 +1.8
LAKA Lakka 3.48 147 P Pn 18 52 15.3 +2.2
LAKA Lakka 3.48 147 P Pn 18 52 15.3 +2.2
DESF Desfina 3.59 139 P Pn 18 52 16.9 +2.2
DESF Desfina 3.59 139 P Pn 18 52 16.9 +2.2
SKIA Skiathos 3.60 123 P Pn 18 52 16.1 +1.2
SKIA Skiathos 3.60 123 P Pn 18 52 16.1 +1.2
ATAL Atalanti 3.64 132 P Pn 18 52 17.1 +1.8
ATAL Atalanti 3.64 132 P Pn 18 52 17.1 +1.8
LKR Lokris 3.66 132 P Pn 18 52 17.5 +1.9

LKR Lokris 3.66 132 *e*PN Pn 18 52 18.7 +3.1
LKR Lokris 3.66 132 P Pn 18 52 17.5 +1.9
LKR Lokris 3.66 132 *e*Pn Pn 18 52 18.7 +3.1
BEO Beograd 3.69 10 *e*Pn Pn 18 52 17.1 +1.0
KAVA Kavala 3.75 91 P Pn 18 52 18.1 +1.2
KAVA Kavala 3.75 91 P Pn 18 52 18.1 +1.2
AOS Alonnisos 3.87 120 P Pn 18 52 19.4 +0.9
AOS Alonnisos 3.87 120 P Pn 18 52 19.4 +0.9
MRKA Markates 3.96 127 P Pn 18 52 21.6 +1.8
MRKA Markates 3.96 127 P Pn 18 52 21.6 +1.8
PLD Plovdiv 3.97 75 P Pn 18 52 22.5 +2.7
PLD Plovdiv 3.97 75 P Pn 18 52 22.5 +2.7
FGSL Fruska Gora 3.98 3 *e*Pn Pn 18 52 21.1 +1.0
FRGS Fruska Gora 3.98 3 *e*Pn Pn 18 52 21.1 +1.0
PTL Penteli 4.56 132 *e*PN Pn 18 52 24.5 +2.7
PTL Penteli 4.56 132 *e*Pn Pn 18 52 31.3 +3.2
DJES Djerdap 4.11 31 *e*PN Pn 18 52 24.5 +2.7
DJES eSn Sn 18 53 13.9 +4.7
LIA Limnos Island 4.47 105 P Pn 18 52 29.2 +2.4
LIA Limnos Island 4.47 105 P Pn 18 52 29.2 +2.4
ATH Athens Observa 4.53 134 *e*PN Pn 18 52 30.8 +3.2
ATH Athens Observa 4.53 134 *e*Pn Pn 18 52 30.8 +3.2
PTL Penteli 4.56 132 *e*PN Pn 18 52 31.3 +3.2
PTL Penteli 4.56 132 *e*Pn Pn 18 52 31.3 +3.2
BZS Buzias 4.69 18 *e*Pn Pn 18 52 30.9 +1.2
BZS eSn Sn 18 53 26.1 +2.8
BZS Buzias 4.69 18 *e*Pn Pn 18 52 30.9 +1.2
BZS eSn Sn 18 53 26.1 +2.8
AQU L'Aquila 4.75 286 *e*Pn Pn 18 52 30.9 +0.2
AQU L'Aquila 4.75 286 ⇓*i*Pn Pn 18 52 32.1 +1.4
AQU L'Aquila 4.75 286 *e*Pn Pn 18 52 30.9 +0.2
AQU L'Aquila 4.75 286 ⇓*i*P Pn 18 52 32.1 +1.4
RHK3 Tenkes 4.81 349 ⇓*e*Pn Pn 18 52 32.1 +0.7
RHK3 Tenkes 4.81 349 ⇓*e*PN Pn 18 52 32.1 +0.7
NVLJ Novalja 4.83 316 *i*Pn Pn 18 52 32.7 +1.0
NVLJ Sn Sn 18 53 25.8 -1.0
NVLJ Novalja 4.83 316 *i*Pn Pn 18 52 32.6 +1.0
NVLJ Sn Sn 18 53 25.8 -1.0
ALN Alexandroupoli 4.92 91 P Pn 18 52 34.7 +1.9
ALN Alexandroupoli 4.92 91 P Pn 18 52 34.7 +1.9
PKSM Moragy 5.08 353 ⇓⇓P Pn 18 52 36.5 +1.4
PKSM Moragy 5.08 353 ⇓⇓*i*P Pn 18 52 36.5 +1.4
PKSM Moragy 5.08 353 *e*Pn Pn 18 52 36.5 +1.4
PKSM Moragy 5.08 353 ⇓⇓*i*P Pn 18 52 36.5 +1.4
PKSM Moragy 5.08 353 ⇓⇓*e*Pn Pn 18 52 40.6 +5.5
HUMR Humele 5.21 48 ⇑⇑*i*P Pn 18 52 39.8 +2.9
HUMR Humele 5.21 48 ⇑⇑*i*P Pn 18 52 39.8 +2.9
DEV Deva 5.30 26 ⇑⇑P Pn 18 52 40.0 +1.9
DEV Deva 5.30 26 ⇑⇑*i*P Pn 18 52 40.0 +1.9
DEV Deva 5.30 26 ⇑⇑*i*P Pn 18 52 40.0 +1.9
PKS2 Kecel 5.32 357 ⇓⇓*e*PPn Pb 18 52 45.7 -7.3
BOJS Bojanci 5.34 325 *i*Pn Pn 18 52 39.7 +1.0
BOJS eSn Sn 18 53 39.4 -0.1
BOJS Bojanci 5.34 325 *i*Pn Pn 18 52 39.7 +1.0
BOJS eSn Sn 18 53 39.4 -0.1
JMB Yambol 5.41 74 P Pn 18 52 42.0 +2.4
JMB Yambol 5.41 74 P Pn 18 52 42.0 +2.4
PKS6 Bocsa 5.42 0 *e*Pn Pn 18 52 41.0 +1.2
PKS6 Bocsa 5.42 0 *e*Pn Pn 18 52 41.0 +1.2
PKS9 Tamasi 5.49 351 *e*Pn Pn 18 52 43.7 +3.0
PKS9 Tamasi 5.49 351 *e*Pn Pn 18 52 43.7 +3.0
GBRS Gornja Briga 5.56 323 *e*Pn Pn 18 52 43.1 +1.3
GBRS eSn Sn 18 53 45.3 +0.4
KYTH Kithira 5.59 150 P Pn 18 52 44.2 +2.0
KYTH Kithira 5.59 150 *e*PN Pn 18 52 45.2 +3.0
KYTH Kithira 5.59 150 P Pn 18 52 44.2 +2.0
KYTH Kithira 5.59 150 *e*Pn Pn 18 52 45.2 +3.0
BEHE Becsehely 5.66 340 ⇓⇓*e*PPn Pb 18 52 52.0 -6.5
VISN Visnje 5.76 325 *e*Pn Pn 18 52 45.5 +1.0
VISS eSn Sn 18 53 50.5 +0.7
VISS Visnje 5.76 325 *e*Pn Pn 18 52 45.5 +1.0
VISS eSn Sn 18 53 50.5 +0.7
VOIR 5.85 41 ⇓⇓P Pn 18 52 48.5 +2.8
VOIR 5.85 41 ⇓⇓*i*P Pn 18 52 48.5 +2.8
VOIR 5.85 41 ⇓⇓*i*P Pn 18 52 48.5 +2.8
DRGR 6.06 21 P Pn 18 52 50.3 +1.7
DRGR 6.06 21 ⇓⇓*i*P Pn 18 52 50.7 +2.1
DRGR 6.06 21 ⇓⇓*i*P Pn 18 52 50.7 +2.1
LJU Ljubljana 6.08 325 *e*Pn Pn 18 52 50.0 +1.1
LJU eSn Sn 18 54 00.0 +2.3
LJU Ljubljana 6.08 325 *e*Pn Pn 18 52 50.0 +1.1
LJU eSn Sn 18 54 00.0 +2.3
TRI Trieste 6.19 319 *e*P Pn 18 52 47.7 -2.6
TRI *e* 18 53 58.4
TRI pmax pmax
comp=Z,25nm,0.5s
TRI Trieste 6.19 319 *e*Pn Pn 18 52 47.7 -2.6
comp=Z,25nm,0.5s
TRI eSn Sn 18 53 58.4 -1.9
APE Apeiranthos 6.20 130 ⇓⇓P Pn 18 52 52.4 +1.9
APE Apeiranthos 6.20 130 ⇓⇓*i*P Pn 18 52 52.4 +1.9
APE Apeiranthos 6.20 130 ⇓⇓*i*P Pn 18 52 52.4 +1.9
PKSG 6.27 353 ⇓⇓*e*PPn Pn 18 52 58.4 +6.9
BUD Budapest 6.32 357 ⇓⇓*e*PPn Pn 18 52 58.1 +6.0
MLR Muntele Rosu 6.35 45 Pn Pn 18 52 56.4 +3.8
comp=Z,1.1nm,0.3s,baz=157,slow=14,SNR=34
MLR Muntele Rosu 6.35 45 Pn Pn 18 52 56.4 +3.8
MLR Muntele Rosu 6.35 45 ⇓⇓P Pn 18 52 56.3 +3.7
MLR Muntele Rosu 6.35 45 ⇓⇓P Pn 18 52 56.3 +3.7
VOY Vojsko 6.36 322 *e*Pn Pn 18 52 53.3 +0.5
VOY eSn Sn 18 54 03.5 -1.2
VOY Vojsko 6.36 322 *e*Pn Pn 18 52 53.3 +0.5
VOY eSn Sn 18 54 03.5 -1.2
SOKA Soboth 6.40 331 ⇓⇓*i*Pn Pn 18 52 53.5 +0.2
SOKA Soboth 6.40 331 Pn Pn 18 52 53.5 +0.2
OBKA Obir 6.44 328 ⇑⇑*i*Pn Pn 18 52 54.4 +0.5
SNR=33
OBKA ⇓⇓*i*Sn Sn 18 54 08.0 +1.2
OBKA Obir 6.44 328 Pn Pn 18 52 54.4 +0.5
SNR=33
OBKA Sn Sn 18 54 08.0 +1.2
ISR Istrita 6.45 50 ⇑⇑P Pn 18 52 57.4 +3.4
ISR Istrita 6.45 50 ⇑⇑*i*P Pn 18 52 57.4 +3.4
ISR Istrita 6.45 50 ⇑⇑*i*P Pn 18 52 57.4 +3.4
ARSA Arzberg 6.73 336 ⇑⇑*i*Pn Pn 18 52 58.4 +0.6
SNR=24
ARSA ⇑⇑*i*Sn Sn 18 54 14.4 +0.7
ARSA Arzberg 6.73 336 Pn Pn 18 52 58.4 +0.6
SNR=24
ARSA Sn Sn 18 54 14.4 +0.7
PSZ Piszkesteto 6.75 2 *e*P Pn 18 52 59.2 +1.2
PSZ pmax pmax
comp=Z,35nm,0.8s
PSZ Piszkesteto 6.75 2 *e*Pn Pn 18 52 59.2 +1.2
comp=Z,35nm,0.8s
PSZ Piszkesteto 6.75 2 ⇑⇑*i*P Pn 18 52 59.8 +1.7
PSZ Piszkesteto 6.75 2 *e*Pn Pn 18 52 59.2 +1.2
comp=Z,35nm,0.8s
PSZ Piszkesteto 6.75 2 ⇑⇑*i*P Pn 18 52 59.8 +1.7
PSZ Piszkesteto 6.75 2 ⇓⇓*e*Pn Pn 18 52 59.3 +1.2
SOP Sopron 6.85 343 *e*pPn Pn 18 53 07.9 +8.5
MYKA Terra Mystica 6.92 324 ⇑⇑*i*Pn Pn 18 53 00.8 +0.3
MYKA ⇓⇓*i*Sn Sn 18 54 18.7 +0.1
MYKA Terra Mystica 6.92 324 Pn Pn 18 53 00.8 +0.3
MYKA Sn Sn 18 54 18.7 +0.1
PLOR Plostina 6.96 45 P Pn 18 53 04.4 +3.5
PLOR Plostina 6.96 45 ⇓⇓P Pn 18 53 04.6 +3.7
PLOR Plostina 6.96 45 ⇓⇓P Pn 18 53 04.6 +3.7
VRI Vrincioaia 7.01 46 ⇓⇓P Pn 18 53 05.3 +3.7
VRI Vrincioaia 7.01 46 ⇓⇓*i*P Pn 18 53 05.3 +3.7
VRI Vrincioaia 7.01 46 ⇓⇓*i*P Pn 18 53 05.3 +3.7
CONA Conrad Observa 7.25 340 ⇑⇑*i*Pn Pn 18 53 06.0 +1.0
CONA Conrad Observa 7.25 340 Pn Pn 18 53 06.0 +1.0
TRPA Tarpa 7.27 16 ⇑⇑*i*P Pn 18 53 07.3 +2.1
TRPA Tarpa 7.27 16 ⇓⇓*e*Pn Pn 18 53 06.9 +1.7
TRPA Tarpa 7.27 16 ⇑⇑*i*P Pn 18 53 07.3 +2.1
TRPA Tarpa 7.27 16 ⇓⇓*e*Pn Pn 18 53 06.9 +1.7
TIRR Tirgusor 7.29 60 ⇓⇓P Pn 18 53 07.7 +2.3
TIRR Tirgusor 7.29 60 *e*Pn Pn 18 53 03.3 -2.1
TIRR Tirgusor 7.29 60 ⇓⇓*i*P Pn 18 53 07.7 +2.3
TIRR Tirgusor 7.29 60 ⇓⇓*i*P Pn 18 53 07.7 +2.3
VYHS Vyhne 7.34 356 *e*P Pn 18 53 09.4 +3.3
VYHS *e* 18 54 30.0
VYHS Vyhne 7.34 356 *e*PN Pn 18 53 09.4 +3.3
VYHS eSN Sn 18 54 30.0 +1.4
VYHS Vyhne 7.34 356 *e*Pn Pn 18 53 09.4 +3.3
VYHS eSn Sn 18 54 30.0 +1.4
KBA Koelnbreinsper 7.40 325 ⇑⇑*i*Pn Pn 18 53 07.8 +0.6
KBA Koelnbreinsper 7.40 325 Pn Pn 18 53 07.8 +0.6
CFR Carcaliu 7.44 55 ⇓⇓P Pn 18 53 10.0 +2.6
CFR Carcaliu 7.44 55 ⇓⇓*i*P Pn 18 53 10.0 +2.6
CFR Carcaliu 7.44 55 ⇓⇓*i*P Pn 18 53 10.0 +2.6

ABTA Abfaltersbach 7.54 320 ⇑*i*Pn Pn 18 53 08.9 -0.1
SNR=7.7
ABTA Abfaltersbach 7.54 320 Pn Pn 18 53 08.9 -0.1
SNR=7.7
BURAR Bucovina Array 7.61 30 ⇓⇓*i*P Pn 18 53 13.3 +3.4
BURAR Bucovina Array 7.61 30 ⇓⇓*i*P Pn 18 53 13.3 +3.4
BUR08 Bucovina Ar. S 7.62 30 *e*Pn Pn 18 53 13.6 +3.5
BUR08 Bucovina Ar. S 7.62 30 *e*Pn Pn 18 53 13.6 +3.5
MOA Molln 7.67 332 ⇑⇑*i*Pn Pn 18 53 11.2 +0.6
SNR=40
MOA ⇓⇓*i*Sn Sn 18 54 37.0 +0.3
MOA Molln 7.67 332 Pn Pn 18 53 11.2 +0.6
SNR=40
MOA Sn Sn 18 54 37.0 +0.3
UZH Uzhgorod 7.70 14 *e*P Pn 18 53 12.7 +1.6
UZH *e*S Sn 18 54 39.9 +2.3
TLCR 7.86 56 ⇑⇑P Pn 18 53 16.1 +2.8
TLCR 7.86 56 ⇑⇑*i*P Pn 18 53 16.1 +2.8
TLCR 7.86 56 ⇑⇑*i*P Pn 18 53 16.1 +2.8
PGF Pioggiola 8.00 283 *e*P Pn 18 53 17.1 +1.8
PGF Pioggiola 8.00 283 *e*P Pn 18 53 17.1 +1.8
PGF Pioggiola 8.00 283 *e*P Pn 18 53 17.1 +1.8
PGF Pioggiola 8.00 283 *e*P Pn 18 53 17.1 +1.8
WTTA Wattenberg 8.33 320 ⇑⇑*i*Pn Pn 18 53 19.8 0.0
SNR=41
WTTA ⇓⇓*i*Sn Sn 18 54 52.4 -0.8
WTTA Wattenberg 8.33 320 Pn Pn 18 53 19.8 0.0
SNR=41
WTTA Sn Sn 18 54 52.4 -0.8
VRAC Vranov 8.40 347 Pn Pn 18 53 22.1 +1.5
baz=192,slow=12,SNR=3.0
VRAC Sn Sn 18 54 53.2 -1.4
comp=Z,2.2nm,0.3s,baz=81,slow=19,SNR=5.5
VRAC Vranov 8.40 347 Pn Pn 18 53 22.1 +1.5
VRAC Sn Sn 18 54 53.2 -1.4
VRAC Vranov 8.40 347 Pn Pn 18 53 22.1 +1.5
VRAC eSn Sn 18 54 54.0 -0.7
WATA Walderalm 8.41 320 ⇓⇓*i*Pn Pn 18 53 21.1 +0.2
SNR=40
WATA ⇑⇑*i*Sn Sn 18 54 55.7 +0.6
WATA Walderalm 8.41 320 Pn Pn 18 53 21.1 +0.2
SNR=40
WATA Sn Sn 18 54 55.7 +0.6
FETA Feichten 8.63 316 ⇑⇑*i*Pn Pn 18 53 24.2 +0.2
FETA ⇑⇑*i*Sn Sn 18 55 00.9 +0.3
FETA Feichten 8.63 316 Pn Pn 18 53 24.2 +0.2
FETA Sn Sn 18 55 00.9 +0.3
MOTA Moosalm 8.65 318 ⇓⇓*i*Pn Pn 18 53 24.9 +0.7
SNR=30
MOTA ⇓⇓*i*Sn Sn 18 55 01.6 +0.6
MOTA Moosalm 8.65 318 Pn Pn 18 53 24.9 +0.7
SNR=30
MOTA Sn Sn 18 55 01.6 +0.6
GEC2 GERESS Array S 8.72 334 *e*Pn Pn 18 53 25.4 +0.3
GERES GERESS Array B 8.72 334 Pn Pn 18 53 25.1 -0.1
comp=Z,1.6nm,0.3s,baz=158,slow=12,SNR=26
GERES Sn Sn 18 55 02.1 -0.5
comp=Z,1.5nm,0.3s,baz=164,slow=25,SNR=5.3
GERES GERESS Array B 8.72 334 Pn Pn 18 53 25.1 -0.1
GERES Sn Sn 18 55 02.1 -0.5
GERES GERESS Array B 8.72 334 Pn Pn 18 53 25.0 -0.1
GERES Sn Sn 18 55 02.1 -0.5
MORC Moravsky Berou 8.72 351 ⇑⇑P Pn 18 53 27.5 +2.4
MORC Moravsky Berou 8.72 351 *e*Pn Pn 18 53 24.3 -0.8
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 8.72 351 ⇑⇑*i*P Pn 18 53 27.5 +2.4
MORC Moravsky Berou 8.72 351 *e*Pn Pn 18 53 24.3 -0.8
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 8.72 351 ⇑⇑*i*P Pn 18 53 27.5 +2.4
OKC Ostrava-Krasne 8.72 354 *e*P Pn 18 53 28.1 +3.1
OKC Ostrava-Krasne 8.72 354 *e*PN Pn 18 53 28.1 +3.1
OKC Ostrava-Krasne 8.72 354 Pn Pn 18 53 28.1 +3.1
KWP Kalwaria Pacla 8.74 14 *e*Pn Pn 18 53 30.1 +4.8
KWP *e* 18 53 32.0
KWP Kalwaria Pacla 8.74 14 ⇑⇑P Pn 18 53 28.4 +3.0
KWP Kalwaria Pacla 8.74 14 *e*Pn Pn 18 53 29.7 +4.4
comp=Z,8.5nm,0.6s
KWP Kalwaria Pacla 8.74 14 ⇑⇑*i*P Pn 18 53 28.4 +3.0
KWP Kalwaria Pacla 8.74 14 ⇑⇑*i*P Pn 18 53 28.4 +3.0
KWP Kalwaria Pacla 8.74 14 *e*Pn Pn 18 53 30.1 +4.8
KWP *e* 18 53 31.9
DAVOX Davos/Dischmat 8.95 312 Pn Pn 18 53 29.5 +1.2
comp=Z,2.2nm,0.3s,baz=125,slow=13,SNR=17
DAVOX LR LR 18 57 24.4
comp=Z,110nm,18.1s,baz=262,slow=41
DAVOX Davos/Dischmat 8.95 312 Pn Pn 18 53 29.5 +1.2
DAVOX Davos/Dischmat 8.95 312 Pn Pn 18 53 29.5 +1.2
KHC Kasperske Hory 9.00 334 *e*P Pn 18 53 29.4 +0.4
KHC *e* 18 55 09.3
KHC MLR MLR
comp=Z,500nm,20.7s
KHC Kasperske Hory 9.00 334 *e*Pn Pn 18 53 28.9 -0.1
comp=Z,7.5nm,0.8s
KHC *e*Sn Sn 18 55 07.8 -1.8
KHC Kasperske Hory 9.00 334 *e*PN Pn 18 53 29.4 +0.4
KHC *ex* x 18 53 38.7
KHC *e*SN Sn 18 55 09.3 -0.3
KHC AMS AMS 18 57 10.0
comp=Z,500nm,20.7s
KHC Kasperske Hory 9.00 334 Pn Pn 18 53 29.4 +0.4
KHC Sn Sn 18 55 09.3 -0.3
OJC Ojcow 9.05 1 *e*P Pn 18 53 31.0 +1.5
OJC Ojcow 9.05 1 *e*P Pn 18 53 31.0 +1.5
OJC Ojcow 9.05 1 *e*P Pn 18 53 31.0 +1.5
TUE Stuetta 9.08 309 *e*Pn Pn 18 53 29.5 -0.7
comp=Z,18nm,0.5s
TUE *e*Sn Sn 18 54 59.6 -12
TUE Stuetta 9.08 309 *e*Pn Pn 18 53 29.5 -0.7
comp=Z,18nm,0.5s
FUR Furstenfeldbru 9.14 323 *e*Pn Pn 18 53 30.5 -0.4
DAVA Damuels 9.25 315 ⇑⇑*i*Pn Pn 18 53 32.6 +0.2
DAVA ⇓⇓*i*Sn Sn 18 55 14.4 -1.3
DAVA Damuels 9.25 315 Pn Pn 18 53 32.6 +0.2
DAVA Sn Sn 18 55 14.4 -1.3
WET Wettzell 9.26 332 *e*Pn Pn 18 53 32.8 +0.4
SBF Sospel 9.35 291 *e*Pn Pn 18 53 30.8 -2.9
SBF Sospel 9.35 291 *e*P Pn 18 53 30.8 -2.9
SBF Sospel 9.35 291 *e*Pn Pn 18 53 30.8 -2.9
DPC Dobruska-Polom 9.45 347 *e*P Pn 18 53 37.7 +2.6
DPC MLR MLR
comp=Z,700nm,16.8s
DPC Dobruska-Polom 9.45 347 *e*PN Pn 18 53 37.7 +2.6
DPC AMS AMS 18 58 00.0
comp=Z,700nm,16.8s
DPC Dobruska-Polom 9.45 347 Pn Pn 18 53 37.7 +2.6
PRU Pruhonice 9.49 340 *e*P Pn 18 53 36.5 +1.0
PRU MLR MLR
comp=Z,400nm,9.6s
PRU Pruhonice 9.49 340 *e*PN Pn 18 53 36.5 +1.0
PRU AMS AMS 18 57 40.0
comp=Z,400nm,9.6s
PRU Pruhonice 9.49 340 Pn Pn 18 53 36.5 +1.0
FRF La Foret Royal 9.85 288 *e*P Pn 18 53 42.9 +2.4
FRF La Foret Royal 9.85 288 *e*P Pn 18 53 42.9 +2.4
FRF La Foret Royal 9.85 288 *e*P Pn 18 53 42.9 +2.4
FRF La Foret Royal 9.85 288 *e*P Pn 18 53 42.9 +2.4
LMR La Mourre 9.91 287 *e*Pn Pn 18 53 38.3 -3.1
LMR La Mourre 9.91 287 *e*P Pn 18 53 43.8 +2.4
LMR La Mourre 9.91 287 *e*P Pn 18 53 38.3 -3.1
LMR La Mourre 9.91 287 *e*Pn Pn 18 53 38.3 -3.1
LMR La Mourre 9.91 287 *e*P Pn 18 53 43.8 +2.4
MBDF Montbardon 10.02 295 *e*Pn Pn 18 53 40.4 -2.7
MBDF *e*Sn Sn 18 55 25.7 -9.1
comp=Z,14nm,0.6s
MBDF Montbardon 10.02 295 *e*P Pn 18 53 40.4 -2.7
MBDF *e* 18 55 25.7
MBDF Montbardon 10.02 295 *e*Pn Pn 18 53 40.4 -2.7
MBDF *e*Sn Sn 18 55 25.7 -9.1
BNI Bardonecchia 10.18 297 *e*P Pn 18 53 39.8 -5.4
BNI Bardonecchia 10.18 297 *e*Pn Pn 18 53 39.8 -5.4
LPG La Plagne 10.28 299 *e*Pn Pn 18 53 44.4 -2.3
LPG *e*Sn Sn 18 55 32.1 -9.2
comp=Z,25nm,0.6s
LPG La Plagne 10.28 299 *e*P Pn 18 53 44.4 -2.3
LPG *e* 18 55 32.1
LPG La Plagne 10.28 299 *e*Pn Pn 18 53 44.4 -2.3
LPG *e*Sn Sn 18 55 32.1 -9.2
LPL La Plagne 10.30 299 *e*Sn Sn 18 55 32.3 -9.3
comp=Z,21nm,0.6s
SPAK Spaichingen-Ko 10.33 316 *e*P Pn 18 53 46.4 -0.8
RSL Roselend 10.43 300 *e*P Pn 18 53 49.8 +1.2
RSL Roselend 10.43 300 *e*P Pn 18 53 49.8 +1.2
BRG Berggiesshubel 10.45 340 *e*P Pn 18 53 49.7 +0.9

	comp=Z,3.9nm,0.9s								
BRG	**Berggiesshubel**	**10.45**	**340**	SG	Sn	18 56 35.8	+51		
	comp=Z,3.7nm,0.7s								
BRG	**Berggiesshubel**	**10.45**	**340**	*e*P	**Pn**	**18 53 49.7**	**+0.9**		
BRG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
STU	**Stuttgart**	**10.55**	**319**	P	**Pn**	**18 53 48.7**	**-1.5**		
STU	**Stuttgart**	**10.55**	**319**	Pn	**Pn**	**18 53 48.6**	**-1.5**		
STU	**Stuttgart**	**10.55**	**319**	Pn	**Pn**	**18 53 48.7**	**-1.5**		
FELD	**Feldberg im Sc**	**10.62**	**313**	*e*P	**Pn**	**18 53 50.8**	**-0.4**		
BBS	**Basel-Blauen**	**10.67**	**310**	*e*P	**Pn**	**18 53 51.4**	**-0.4**		
BFO	**Black Forest**	**10.71**	**316**	*e*P	**Pn**	**18 53 50.9**	**-1.5**		
BFO				pmax	pmax				
	comp=Z,10.0nm,0.6s								
BFO	**Black Forest**	**10.71**	**316**	*e*Pn	**Pn**	**18 53 51.1**	**-1.3**		
BFO	**Black Forest**	**10.71**	**316**	*e*Pn	**Pn**	**18 53 50.9**	**-1.5**		
	comp=Z,10nm,0.6s								
BFO	**Black Forest**	**10.71**	**316**	*e*Pn	**Pn**	**18 53 50.9**	**-1.5**		
	comp=Z,10nm,0.6s								
BR131	**Keskin Array S**	**10.83**	**93**	*e*Pn	**Pn**	**18 53 53.9**	**-0.2**		
BR131	**Keskin Array S**	**10.83**	**93**	*e*Pn	**Pn**	**18 53 53.9**	**-0.2**		
BRTR	**Keskin Array B**	**10.83**	**93**	Pn	**Pn**	**18 53 56.9**	**+2.7**		
	comp=Z,0.1nm,0.3s,baz=271,slow=10,SNR=4.8								
BRTR	**Keskin Array B**	**10.83**	**93**	Pn	**Pn**	**18 53 56.9**	**+2.7**		
BRTR	**Keskin Array B**	**10.83**	**93**	Pn	**Pn**	**18 53 56.9**	**+2.7**		
MOX	**Moxa**	**10.96**	**332**	*e*Pn	**Pn**	**18 53 56.5**	**+0.8**		
CLL	**Collm**	**11.10**	**338**	*e*P	Pn	18 54 07.0	+9.4		
CLL	**Collm**	**11.10**	**338**	*e*Pn	Pn	18 54 07.0	+9.4		
CLL				*e*Sn	Sn	18 55 33.0	-28		
CLL				*e*		18 56 48.0			
CLL				*e*Sg		18 57 31.0			
CABF	**La Chapelle**	**11.13**	**304**	*e*Pn	**Pn**	**18 53 55.9**	**-2.3**		
CABF	**La Chapelle**	**11.13**	**304**	*e*P	**Pn**	**18 53 55.9**	**-2.3**		
CABF	**La Chapelle**	**11.13**	**304**	*e*Pn	**Pn**	**18 53 55.9**	**-2.3**		
HINF	**Hinteralfeld**	**11.23**	**310**	*e*Pn	**Pn**	**18 53 56.7**	**-2.8**		
HINF				*e*Sn	Sn	18 55 54.1	-10		
	comp=Z,6.3nm,0.4s								
HINF	**Hinteralfeld**	**11.23**	**310**	*e*P	**Pn**	**18 53 56.7**	**-2.8**		
HINF				*e*		18 55 54.1			
HINF	**Hinteralfeld**	**11.23**	**310**	*e*Pn	**Pn**	**18 53 56.7**	**-2.8**		
HINF				*e*Sn	Sn	18 55 54.1	-10		
ECH	**Echery**	**11.28**	**313**	*e*P	**Pn**	**18 53 58.8**	**-1.3**		
ECH				*e*		18 55 58.9			
ECH				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ECH	**Echery**	**11.28**	**313**	*e*Pn	**Pn**	**18 53 58.8**	**-1.3**		
	comp=Z,3.0nm,0.5s								
ECH				*e*Sn	Sn	18 55 58.9	-6.5		
ECH	**Echery**	**11.28**	**313**	*e*P	**Pn**	**18 54 00.8**	**+0.7**		
ECH	**Echery**	**11.28**	**313**	*e*Pn	**Pn**	**18 53 58.8**	**-1.3**		
	comp=Z,3.0nm,0.5s								
ECH	**Echery**	**11.28**	**313**	*e*P	**Pn**	**18 54 00.8**	**+0.7**		
CDF	**Champ du Feu**	**11.33**	**314**	*e*Pn	**Pn**	**18 53 58.8**	**-2.0**		
CDF	**Champ du Feu**	**11.33**	**314**	*e*P	**Pn**	**18 53 58.8**	**-2.0**		
CDF	**Champ du Feu**	**11.33**	**314**	*e*Pn	**Pn**	**18 53 58.8**	**-2.0**		
VIVF	**Saint-Julien-l**	**11.50**	**294**	*e*P	Pn	18 54 05.9	+2.7		
VIVF	**Saint-Julien-l**	**11.50**	**294**	*e*P	Pn	18 54 05.9	+2.7		
VIVF	**Saint-Julien-l**	**11.50**	**294**	*e*P	Pn	18 54 05.9	+2.7		
VIVF	**Saint-Julien-l**	**11.50**	**294**	*e*P	Pn	18 54 05.9	+2.7		
HAU	**Haudompre**	**11.62**	**310**	*e*Sn	Sn	18 56 03.8	-10		
	comp=Z,7.8nm,0.4s								
KIEV	**Kiev**	**11.64**	**32**	*i* P	**Pn**	**18 54 06.7**	**+1.7**		
AKASG	**Malin Array Be**	**11.65**	**32**	Pn	**Pn**	**18 54 05.6**	**+0.4**		
	baz=224,slow=12,SNR=2.2								
AKASG	**Malin Array Be**	**11.65**	**32**	P	**Pn**	**18 54 05.6**	**+0.4**		
AKASG	**Malin Array Be**	**11.65**	**32**	Pn	**Pn**	**18 54 05.6**	**+0.4**		
AKASG	**Malin Array Be**	**11.65**	**32**	Pn	**Pn**	**18 54 05.6**	**+0.4**		
TNS	**Taunus Mts**	**11.91**	**323**	*e*Pn	**Pn**	**18 54 08.1**	**-0.7**		
THEF	**They Montfort**	**11.95**	**311**	*e*P	**Pn**	**18 54 08.6**	**-0.6**		
THEF	**They Montfort**	**11.95**	**311**	*e*P	**Pn**	**18 54 08.6**	**-0.6**		
PAGF	**Fort de Pagny**	**12.27**	**312**	*e*Pn	Pn	18 54 10.3	-3.3		
	baz=128								
PAGF	**Fort de Pagny**	**12.27**	**312**	*e*Pn	Pn	18 54 10.3	-3.3		
SFTF	**Sexfontaines**	**12.48**	**309**	*e*Pn	**Pn**	**18 54 13.4**	**-3.2**		
	baz=127								
SFTF	**Sexfontaines**	**12.48**	**309**	*e*Pn	**Pn**	**18 54 13.4**	**-3.2**		
PLDF	**La Plantade**	**12.51**	**298**	*e*P	**Pn**	**18 54 14.3**	**-2.7**		
SMF	**Signal de Mont**	**12.58**	**301**	*e*Pn	**Pn**	**18 54 15.4**	**-2.4**		
SMF				*e*Sn	Sn	18 56 26.4	-11		
	comp=Z,5.8nm,0.4s								
SMF	**Signal de Mont**	**12.58**	**301**	*e*P	**Pn**	**18 54 15.4**	**-2.4**		
SMF				*e*		18 56 26.4			
SMF	**Signal de Mont**	**12.58**	**301**	*e*Pn	**Pn**	**18 54 15.4**	**-2.4**		
SMF				*e*Sn	Sn	18 56 26.4	-11		
MEZF	**Maizieres J'vi**	**12.62**	**310**	*e*Pn	Pn	18 54 14.9	-3.5		
MEZF	**Maizieres J'vi**	**12.62**	**310**	*e*Pn	Pn	18 54 14.9	-3.5		
LOR	**Lormes**	**12.79**	**304**	*e*Pn	**Pn**	**18 54 18.9**	**-1.9**		
	baz=120								
LOR				*e*Sn	Sn	18 56 32.0	-10		
	comp=Z,8.7nm,0.4s								
LOR	**Lormes**	**12.79**	**304**	*e*Pn	**Pn**	**18 54 18.9**	**-1.9**		
LOR				*e*Sn	Sn	18 56 32.0	-10		
LOR	**Lormes**	**12.79**	**304**	*e*Pn	**Pn**	**18 54 18.9**	**-1.9**		
	baz=120								
SSF	**Saint Saulge**	**12.94**	**302**	*e*Pn	**Pn**	**18 54 21.3**	**-1.5**		
SSF				*e*Sn	Sn	18 56 35.0	-11		
	comp=Z,2.6nm,0.3s								
SSF	**Saint Saulge**	**12.94**	**302**	*e*P	**Pn**	**18 54 21.3**	**-1.5**		
SSF				*e*		18 56 35.0			
SSF	**Saint Saulge**	**12.94**	**302**	*e*Pn	**Pn**	**18 54 21.3**	**-1.5**		
SSF				*e*Sn	Sn	18 56 35.0	-11		
SSF	**Saint Saulge**	**12.94**	**302**	*e*Pn	**Pn**	**18 54 21.3**	**-1.5**		
SUW	**Suwalki**	**13.07**	**9**	Pn	Pn	18 54 18.8	-5.8		
BGF	**Bois d'Agland**	**13.20**	**300**	*e*Pn	**Pn**	**18 54 24.1**	**-2.2**		
BGF				*e*Sn	Sn	18 56 41.1	-11		
	comp=Z,6.0nm,0.4s								
BGF	**Bois d'Agland**	**13.20**	**300**	*e*P	**Pn**	**18 54 24.1**	**-2.2**		
BGF				*e*		18 56 41.1			
BGF	**Bois d'Agland**	**13.20**	**300**	*e*Pn	**Pn**	**18 54 24.1**	**-2.2**		
BGF				*e*Sn	Sn	18 56 41.1	-11		
KIV	**Kislovodsk**	**17.25**	**73**	*i* P	**P**	**18 55 22.1**	**+0.9**		
KIV				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**17.40**	**74**	Pn	**P**	**18 55 24.1**	**+1.4**		
	comp=Z,2nm,0.3s,baz=25,slow=6.9,SNR=5.1								
KBZ	**Khabaz**	**17.40**	**74**	P	**P**	**18 55 24.1**	**+1.4**		
KBZ	**Khabaz**	**17.40**	**74**	Pn	**P**	**18 55 24.1**	**+1.4**		
KBZ	**Khabaz**	**17.40**	**74**	Pn	**P**	**18 55 24.1**	**+1.4**		
VSU	**Vasula**	**17.89**	**12**	*i* P	**P**	**18 55 28.1**	**+0.1**		
VSU				pmax	pmax				
	comp=Z,17nm,0.7s								
VSU				MLR	MLR				
	comp=Z,121nm,16.0s								
OBN	**Obninsk**	**17.91**	**33**	*e*P	**P**	**18 55 29.1**	**+0.9**		
OBN				pmax	pmax				
	comp=Z,24nm,1.7s								
OBN				MLR	MLR				
	comp=Z,100nm,16.0s								
OBN	**Obninsk**	**17.91**	**33**	*e*Pn	**Pn**	**18 55 27.2**	**-0.6**		
OBN	**Obninsk**	**17.91**	**33**	*e*Pn	**Pn**	**18 55 27.2**	**-0.6**		
ESDC	**Sonseca Array**	**17.96**	**273**	P	**P**	**18 55 29.5**	**+0.5**		
	comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=4.7								
ESDC	**Sonseca Array**	**17.96**	**273**	P	**P**	**18 55 29.6**	**+0.5**		
ESDC	**Sonseca Array**	**17.96**	**273**	P	**P**	**18 55 29.5**	**+0.5**		
MOS	**Moscow**	**18.78**	**33**	*e*P	**P**	**18 55 35.6**	**-2.2**		
GNI	**Garni**	**19.12**	**85**	P	**Pn**	**18 55 42.8**	**0.0**		
	comp=Z,0.3nm,0.3s,baz=11,slow=3.4,SNR=5.9								
GNI	**Garni**	**19.12**	**85**	*e*P	**Pn**	**18 55 42.8**	**0.0**		
	comp=Z,11nm,0.9s								
GNI	**Garni**	**19.12**	**85**	*e*P	**Pn**	**18 55 42.8**	**0.0**		
	comp=Z,11nm,0.9s								
HFS	**Hagfors**	**19.33**	**351**	P	**P**	**18 55 43.5**	**-0.3**		
	comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=8.6								
HFS				LR	LR	19 03 39.0			
	comp=Z,75nm,18.6s,baz=6.2,slow=38								
HFS	**Hagfors**	**19.33**	**351**	P	**P**	**18 55 43.5**	**-0.3**		
HFS	**Hagfors**	**19.33**	**351**	P	**P**	**18 55 43.5**	**-0.3**		
NAO01	**NORSAR Array S**	**20.40**	**348**	*e*P	**P**	**18 55 53.9**	**-1.6**		
	comp=Z,4.8nm,0.8s								
NB2	**NORSAR Subarra**	**20.54**	**348**	P	**P**	**18 55 55.2**	**-1.8**		
	comp=Z,4.7nm,1.2s,baz=162,slow=11								
NOA	**NORSAR Array B**	**20.54**	**348**	P	**P**	**18 55 57.0**	**0.0**		
	comp=Z,1.3nm,0.8s,baz=152,slow=9.6,SNR=5.5								
NOA	**NORSAR Array B**	**20.54**	**348**	P	**P**	**18 55 57.0**	**0.0**		
NOA	**NORSAR Array B**	**20.54**	**348**	P	**P**	**18 55 57.0**	**0.0**		
ESK	**Eskdalemuir**	**20.60**	**321**	P	**P**	**18 55 55.7**	**-2.0**		
ESK				pmax	pmax				
	comp=Z,11nm,0.7s								
ESK	**Eskdalemuir**	**20.60**	**321**	P	**P**	**18 55 55.7**	**-2.0**		
	comp=Z,11nm,0.7s								
FINES	**FINESS Array B**	**20.68**	**9**	P	**P**	**18 55 57.6**	**-0.9**		
	comp=Z,2.0nm,0.4s,baz=198,slow=11,SNR=18								
FINES				PcP	**PcP**	**19 00 07.0**	**-0.7**		
	comp=Z,1.8nm,1.0s,baz=161,slow=5.5,SNR=3.8								
FINES	**FINESS Array B**	**20.68**	**9**	P	**P**	**18 55 57.6**	**-0.9**		
FINES				PcP	**PcP**	**19 00 07.0**	**-0.7**		
KAF	**Kangasniemi**	**21.36**	**9**	*e*P	**P**	**18 56 04.4**	**-1.4**		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KAF	**Kangasniemi**	**21.36**	**9**	*e*p	**P**	**18 56 04.4**	**-1.4**		
	comp=Z,2.7nm,0.6s								
TAM	**Tamanrasset**	**21.80**	**217**	*e*P	P	18 56 20.1	+9.1		
TAM				pmax	pmax				
	comp=Z,6.0nm,1.1s								
TAM	**Tamanrasset**	**21.80**	**217**	*e*P	P	18 56 20.1	+9.1		
	comp=Z,6.1nm,1.1s								
JOF	**Joensuu**	**22.87**	**14**	*e*P	**P**	**18 56 22.1**	**+0.2**		
JOF				pmax	pmax				
	comp=Z,7.0nm,0.6s								
JOF	**Joensuu**	**22.87**	**14**	*e*p	**P**	**18 56 22.1**	**+0.2**		
	comp=Z,6.5nm,0.6s								
JOF	**Joensuu**	**22.87**	**14**	*e*P	**P**	**18 56 22.1**	**+0.2**		
	comp=Z,6.5nm,0.6s								
KLMR	**Klimovskoe**	**23.18**	**25**	*e*P	**P**	**18 56 25.5**	**+0.4**		
KLMR				pmax	pmax				
	comp=Z,21nm,1.5s								
AKTO	**Aktyubinsk**	**28.09**	**58**	P	**P**	**18 57 10.2**	**+0.1**		
	comp=Z,1.0nm,0.4s,baz=270,slow=8.2,SNR=8.1								
AKTO				LR	LR	19 10 54.6			
	comp=Z,36nm,18.0s,baz=122,slow=42								
AKTO	**Aktyubinsk**	**28.09**	**58**	P	**P**	**18 57 10.2**	**+0.1**		
AKTO	**Aktyubinsk**	**28.09**	**58**	P	**P**	**18 57 10.2**	**+0.1**		
AKTO	**Aktyubinsk**	**28.09**	**58**	P	**P**	**18 57 10.2**	**+0.1**		
ARCES	**ARCESS Array B**	**28.59**	**4**	P	**P**	**18 57 12.8**	**-1.6**		
	comp=Z,1.5nm,0.9s,baz=197,slow=12,SNR=4.1								
ARCES	**ARCESS Array B**	**28.59**	**4**	P	**P**	**18 57 12.8**	**-1.6**		
ABKAR	**Akbulak array**	**29.28**	**60**	*e*P	**P**	**18 57 20.3**	**-0.4**		
	comp=Z,3.9nm,0.5s								
ABKAR				*e*		18 57 27.1			
ABKAR	**Akbulak array**	**29.28**	**60**	*e*P	**P**	**18 57 20.3**	**-0.4**		
	comp=Z,3.9nm,0.5s								
ARU	**Arti**	**29.40**	**45**	*d i*P	**P**	**18 57 21.6**	**-0.1**		
ARU						18 58 16.8			
ARU				S	**S**	**19 02 16.6**	**+2.6**		
ARU				SS	**SnSn**	**19 03 47.4**	**+6.3**		
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
ARU	**Arti**	**29.40**	**45**	*e*P	**P**	**18 57 21.1**	**-0.6**		
	comp=Z,2.8nm,0.8s								
SVE	**Sverdlovsk**	**30.61**	**45**	*e*P	**P**	**18 57 32.7**	**+0.3**		
SVE				pmax	pmax				
	comp=Z,13nm,0.9s								
TOA0	**Torodi Ar. Sit**	**31.99**	**214**	*e*P	**P**	**18 57 44.8**	**-0.1**		
TOA0	**Torodi Ar. Sit**	**31.99**	**214**	*e*P	**P**	**18 57 44.8**	**-0.1**		
TORD	**Torodi Ar. Bea**	**31.99**	**214**	P	**P**	**18 57 45.5**	**+0.6**		
	comp=Z,0.7nm,0.7s,baz=16,slow=9.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**31.99**	**214**	P	**P**	**18 57 45.5**	**+0.6**		
TORD	**Torodi Ar. Bea**	**31.99**	**214**	P	**P**	**18 57 45.5**	**+0.6**		
BRVK	**Borovoye**	**35.77**	**53**	*e*P	**P**	**18 58 17.8**	**+0.4**		
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
BRVK				MLR	MLR				
	comp=Z,56nm,16.0s								
BRVK	**Borovoye**	**35.77**	**53**	*e*P	**P**	**18 58 18.0**	**+0.5**		
	comp=Z,3.5nm,0.6s								
BRVK	**Borovoye**	**35.77**	**53**	*e*P	**P**	**18 58 18.0**	**+0.5**		
	comp=Z,3.5nm,0.6s								
KKAR	**Karatay Array**	**37.36**	**70**	*e*P	**P**	**18 58 30.6**	**-0.5**		
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**37.36**	**70**	*e*P	**P**	**18 58 30.6**	**-0.5**		
	comp=Z,1.1nm,0.4s								
EKS2	**Erkin-Say**	**39.79**	**69**	*e*P	**P**	**18 58 51.8**	**+0.1**		
EKS2	**Erkin-Say**	**39.79**	**69**	*e*P	**P**	**18 58 51.8**	**+0.1**		
EKS2	**Erkin-Say**	**39.79**	**69**	*e*P	**P**	**18 58 51.8**	**+0.1**		
AAK	**Ala-Archa**	**40.30**	**69**	*e*P	**P**	**18 58 55.9**	**-0.1**		
AAK				pmax	pmax				
	comp=Z,9.0nm,0.6s								
AAK	**Ala-Archa**	**40.30**	**69**	*e*P	**P**	**18 58 55.9**	**-0.1**		
	comp=Z,8.7nm,0.6s								
AAK	**Ala-Archa**	**40.30**	**69**	*e*P	**P**	**18 58 55.9**	**-0.1**		
	comp=Z,8.7nm,0.6s								
DBIC	**Dimbokro**	**40.67**	**219**	P	**P**	**18 58 58.9**	**-0.1**		
	comp=Z,1.2nm,0.5s,baz=22,slow=11,SNR=3.6								
DBIC	**Dimbokro**	**40.67**	**219**	P	**P**	**18 58 58.9**	**-0.1**		
DBIC	**Dimbokro**	**40.67**	**219**	P	**P**	**18 58 58.9**	**-0.1**		
KURK	**Kurchatov**	**41.15**	**56**	*e*P	**P**	**18 59 02.4**	**-0.3**		
KURK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**41.15**	**56**	*e*P	**P**	**18 59 02.4**	**-0.3**		
	comp=Z,2.2nm,0.6s								
KURK	**Kurchatov**	**41.15**	**56**	*e*P	**P**	**18 59 02.4**	**-0.3**		
	comp=Z,2.2nm,0.6s								
SUMG	**Summit**	**41.77**	**337**	P	**P**	**18 59 08.1**	**+0.2**		
SUMG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SUMG	**Summit**	**41.77**	**337**	P	**P**	**18 59 08.1**	**+0.2**		
	comp=Z,2.4nm,0.7s								
SUMG	**Summit**	**41.77**	**337**	P	**P**	**18 59 08.1**	**+0.2**		
	comp=Z,2.4nm,0.7s								
NVS	**Novosibirsk**	**43.23**	**49**	*e*P	**P**	**18 59 18.6**	**-0.9**		
ZAA0	**Zalesovo Array**	**44.30**	**50**	*e*P	**P**	**18 59 28.0**	**-0.1**		
ZAA0	**Zalesovo Array**	**44.30**	**50**	*e*P	**P**	**18 59 28.0**	**-0.1**		
ZALV	**Zalesovo Beam**	**44.30**	**50**	P	**P**	**18 59 28.3**	**+0.2**		
	comp=Z,8.0nm,0.5s,baz=283,slow=8.6,SNR=61								
ZALV				LR	LR	19 20 29.3			
	comp=Z,81nm,18.6s,baz=201,slow=39								
ZALV	**Zalesovo Beam**	**44.30**	**50**	P	**P**	**18 59 28.3**	**+0.2**		
ZALV	**Zalesovo Beam**	**44.30**	**50**	P	**P**	**18 59 28.3**	**+0.2**		
ZALV	**Zalesovo Beam**	**44.30**	**50**	P	**P**	**18 59 28.3**	**+0.2**		
MK31	**Makanchi Array**	**44.43**	**61**	*e*P	**P**	**18 59 29.2**	**-0.1**		
MK31	**Makanchi Array**	**44.43**	**61**	*e*P	**P**	**18 59 29.2**	**-0.1**		
MK31	**Makanchi Array**	**44.43**	**61**	*e*P	**P**	**18 59 29.2**	**-0.1**		
MKAR	**Makanchi Array**	**44.43**	**61**	P	**P**	**18 59 29.3**	**-0.1**		
	comp=Z,1.4nm,0.4s,baz=281,slow=7.8,SNR=47								
MKAR				PcP	**PcP**	**19 01 12.3**	**-0.4**		
	comp=Z,0.6nm,0.7s,baz=281,slow=4.7,SNR=3.5								
MKAR	**Makanchi Array**	**44.43**	**61**	*i* P	**P**	**18 59 29.2**	**-0.1**		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**44.43**	**61**	P	**P**	**18 59 29.2**	**-0.1**		
MKAR				PcP	**PcP**	**19 01 12.3**	**-0.4**		
MKAR	**Makanchi Array**	**44.43**	**61**	P	**P**	**18 59 29.2**	**-0.1**		
MKAR	**Makanchi Array**	**44.43**	**61**	PcP	**PcP**	**19 01 12.3**	**-0.4**		
WMQ	**Urumqi**	**49.01**	**63**	*e*P	**P**	**19 00 06.7**	**+0.8**		
HVS	**Khovu-Aksy**	**50.26**	**52**	*e*P	**P**	**19 00 15.6**	**+0.8**		
PYUN	**Piuthan**	**52.73**	**83**	*e*P	**P**	**19 00 32.7**	**-1.0**		
	comp=Z,17nm,0.6s								
DANN	**Dangsing**	**53.18**	**82**	*e*P	**P**	**19 00 36.3**	**-0.8**		
	comp=Z,25nm,0.7s								
KOLN	**Koldanda**	**53.36**	**83**	*e*P	**P**	**19 00 37.1**	**-1.2**		
	comp=Z,4.9nm,0.6s								
GKN	**Gorkha**	**54.02**	**82**	*e*P	**P**	**19 00 41.9**	**-1.2**		
	comp=Z,18nm,0.7s								
DMN	**Daman**	**54.58**	**82**	*e*P	**P**	**19 00 46.2**	**-1.1**		
KKN	**Kakani**	**54.61**	**82**	*e*P	**P**	**19 00 46.3**	**-1.2**		
	comp=Z,12nm,0.7s								
PKI	**Pulchoki**	**54.82**	**82**	*e*P	**P**	**19 00 47.8**	**-1.3**		
GUN	**Gumba**	**54.99**	**82**	*e*P	**P**	**19 00 49.4**	**-1.0**		
	comp=Z,24nm,0.8s								
JIRN	**Jiri**	**55.36**	**82**	*e*P	**P**	**19 00 52.1**	**-1.0**		
	comp=Z,4.1nm,0.8s								
SCHQ	**Schefferville**	**55.77**	**316**	P	**P**	**19 00 55.2**	**0.0**		
	comp=Z,2.5nm,0.7s,baz=68,slow=7.6,SNR=9.6								
SCHQ	**Schefferville**	**55.77**	**316**	P	**P**	**19 00 55.2**	**0.0**		
SCHQ	**Schefferville**	**55.77**	**316**	P	**P**	**19 00 55.2**	**0.0**		
RAMN	**Ramite**	**56.05**	**82**	*e*P	**P**	**19 00 56.4**	**-1.5**		
	comp=Z,26nm,0.7s								
ZAK	**Zakamensk**	**56.17**	**50**	*e*P	**P**	**19 00 55.7**	**-2.6**		
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.3s								
TAPN	**Taplejung**	**56.66**	**81**	*e*P	**P**	**19 01 00.9**	**-1.4**		
	comp=Z,14nm,1.0s								
ODAN	**Odare**	**56.69**	**82**	*e*P	**P**	**19 01 01.3**	**-1.1**		
GTA	**Gaotai**	**59.09**	**63**	*e*P	**P**	**19 01 19.3**	**+0.3**		
GTA				pmax	pmax				
	comp=Z,3.0nm,0.4s								
SONM	**Songino Array**	**59.16**	**52**	P	**P**	**19 01 19.8**	**+0.6**		
	comp=Z,2.6nm,0.8s,baz=293,slow=9.6,SNR=11								
SONM	**Songino Array**	**59.16**	**52**	P	**P**	**19 01 19.9**	**+0.6**		
SONM	**Songino Array**	**59.16**	**52**	P	**P**	**19 01 19.9**	**+0.6**		
ULN	**Ulaanbaatar**	**59.53**	**51**	*e*P	**P**	**19 01 22.1**	**+0.1**		
	comp=Z,1.8nm,0.8s								
ULN	**Ulaanbaatar**	**59.53**	**51**	*e*P	**P**	**19 01 22.0**	**+0.1**		
	comp=Z,1.8nm,0.8s								
HHC	**Hu-ho-hao-te**	**65.97**	**56**	*e*P	**P**	**19 02 05.0**	**+0.1**		
HHC				PcP	**PcP**	**19 02 35.8**	**+0.3**		
HHC				PP	**PP**	**19 04 32.1**	**+2.3**		
HHC				S	**S**	**19 10 53.3**	**+2.2**		
HHC				ScS	**SKSac**	**19 11 56.1**	**-3.3**		
HHC				SS	**SS**	**19 15 05.0**	**-0.7**		
HHC				pmax	pmax				
	comp=Z,220nm,5.2s								
HHC				LR	LR				
	comp=N,230nm,14.0s								
HHC				LR	LR				
	comp=E,290nm,15.7s								
HHC				LR	LR				
	comp=Z,120nm,12.3s								
CD2	**Chengdu**	**66.37**	**69**	P	**P**	**19 02 07.6**	**+0.1**		
CHTO	**Chiang Mai**	**70.00**	**82**	*e*P	**P**	**19 02 28.6**	**-1.8**		
CHTO				pmax	pmax				
	comp=Z,2.0nm,0.9s								
CHTO	**Chiang Mai**	**70.00**	**82**	*e*P	**P**	**19 02 28.6**	**-1.8**		
	comp=Z,1.6nm,0.9s								
CMAR	**Chiang Mai Arr**	**70.22**	**82**	P	**P**	**19 02 30.4**	**-1.4**		
	comp=Z,0.8nm,0.5s,baz=302,slow=7.6,SNR=11								
CMAR	**Chiang Mai Arr**	**70.22**	**82**	P	**P**	**19 02 30.4**	**-1.4**		
YKA	**Yellowknife Ar**	**70.32**	**339**	P	**P**	**19 02 32.1**	**+0.5**		
	comp=Z,1.5nm,0.6s,baz=37,slow=5.3,SNR=33								
YKA	**Yellowknife Ar**	**70.32**	**339**	P	**P**	**19 02 32.1**	**+0.5**		
YKA	**Yellowknife Ar**	**70.32**	**339**	P	**P**	**19 02 32.2**	**+0.5**		
CN2	**Changchun**	**72.38**	**47**	*e*P	**P**	**19 02 41.6**	**-2.8**		
ULM	**Lac du Bonnet**	**72.86**	**323**	P	**P**	**19 02 46.7**	**-0.5**		
	comp=Z,2.1nm,0.6s,baz=97,slow=7.8,SNR=4.4								
ULM	**Lac du Bonnet**	**72.86**	**323**	P	**P**	**19 02 46.7**	**-0.5**		
ULM	**Lac du Bonnet**	**72.86**	**323**	P	**P**	**19 02 46.7**	**-0.5**		
ILAR	**Eielson Array**	**73.86**	**354**	P	**P**	**19 02 53.7**	**+0.9**		
	comp=Z,0.9nm,0.6s,baz=1.5,slow=4.8,SNR=19								
ILAR	**Eielson Array**	**73.86**	**354**	P	**P**	**19 02 53.7**	**+0.9**		
ILAR	**Eielson Array**	**73.86**	**354**	P	**P**	**19 02 53.7**	**+0.9**		
MDJ	**Mudanjiang**	**74.08**	**44**	P	**P**	**19 02 52.9**	**-1.5**		
MDJ				pmax	pmax	

*ISCJB **07** 19:11:32.2±0.4,38°.36N±0°.03×21°.92E±0°.03,h9km,3km, Error ellipse: s-maj=4.6km s-min=3.8km az=151.6*
*THE **07** 19:11:32.5,38°.35N×21°.90E,h9km±2km,ML1.8/3,Error ellipse: s-maj=2.5km s-min=0.4km az=133.0*
*ATH **07** 19:11:32.2,38°.36N×21°.92E,h7km±2km,MD2.6/6*
*CSEM **07** 19:11:32.0±0.1,38°.35N×21°.92E,h8km,MD2.6,Error ellipse: s-maj=3.0km s-min=2.4km az=146.0*

ISC 07 19:11:32.3±1.0,38°.36N±0°.02×21°.91E±0°.02,h8km±5km, n23,σ0°52/46,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.07**	**358**	*e*PG	**Pg**	**19 11 34.0**	**-0.3**
EFP				*e*SG	**Sg**	**19 11 35.5**	**-0.2**
EFP	**Efpalio**	**0.07**	**358**	*e*Pg	**Pg**	**19 11 34.0**	**-0.3**
EFP				S	**Sg**	**19 11 35.2**	**-0.5**
EFP				*e*Sg	Sg	19 11 35.5	-0.2
UPR	**University Cam**	**0.12**	**232**	*e*PG	**Pg**	**19 11 34.9**	**-0.2**
UPR				*e*SG	**Sg**	**19 11 37.4**	**+0.4**
UPR	**University Cam**	**0.12**	**232**	*e*Pg	**Pg**	**19 11 34.9**	**-0.2**
UPR				*e*Sg	**Sg**	**19 11 37.4**	**+0.4**
TRIZ	**Trizonia**	**0.13**	**88**	P	**Pg**	**19 11 35.2**	**0.0**
TRIZ				S	**Sg**	**19 11 37.9**	**+0.8**
TRIZ	**Trizonia**	**0.13**	**88**	P	**Pg**	**19 11 35.2**	**0.0**
TRIZ				S	**Sg**	**19 11 37.9**	**+0.8**
LAKA	**Lakka**	**0.13**	**155**	P	**Pg**	**19 11 35.1**	**-0.1**
LAKA				S	**Sg**	**19 11 37.6**	**+0.4**
LAKA	**Lakka**	**0.13**	**155**	P	**Pg**	**19 11 35.1**	**-0.1**
LAKA				S	**Sg**	**19 11 37.6**	**+0.4**
KALE	**Kalithea**	**0.18**	**80**	P	**Pg**	**19 11 36.1**	**-0.1**
KALE				S	**Sg**	**19 11 39.6**	**+0.8**
KALE	**Kalithea**	**0.18**	**80**	P	**Pg**	**19 11 36.1**	**-0.1**
KALE				S	**Sg**	**19 11 39.6**	**+0.8**
RLS	**Riolos of Patr**	**0.46**	**229**	P	**Pg**	**19 11 41.3**	**0.0**
RLS				S	**Sg**	**19 11 48.0**	**+0.7**
RLS	**Riolos of Patr**	**0.46**	**229**	*e*PB	**Pg**	**19 11 41.3**	**0.0**
RLS	**Riolos of Patr**	**0.46**	**229**	P	**Pg**	**19 11 41.3**	**0.0**
RLS				S	**Sg**	**19 11 48.0**	**+0.7**
DSF	**Desfina**	**0.49**	**84**	P	**Pg**	**19 11 41.0**	**-0.8**
DSF				S	**Sg**	**19 11 48.3**	**+0.1**
GUR	**Goura**	**0.54**	**141**	*e*PB	**Pg**	**19 11 42.2**	**-0.7**
GUR				*e*SB	**Sg**	**19 11 50.7**	**+0.7**
GUR	**Goura**	**0.54**	**141**	P	**Pg**	**19 11 42.2**	**-0.7**
GUR				*e*Sb	**Sg**	**19 11 50.7**	**+0.7**
EVR	**Evrytania**	**0.56**	**352**	P	**Pg**	**19 11 42.9**	**-0.3**
EVR				S	**Sg**	**19 11 51.8**	**+1.2**
EVR	**Evrytania**	**0.56**	**352**	*e*PG	**Pg**	**19 11 42.9**	**-0.3**
EVR				*e*SB	**Sg**	**19 11 51.2**	**+0.6**
EVR	**Evrytania**	**0.56**	**352**	P	**Pg**	**19 11 42.9**	**-0.3**
EVR				*e*Sb	**Sg**	**19 11 51.2**	**+0.6**
EVR				S	**Sg**	**19 11 51.8**	**+1.2**
AXAR	**Agios Charalam**	**0.71**	**55**	P	**Pg**	**19 11 46.1**	**0.0**
AXAR				S	**Sb**	**19 11 56.9**	**-0.1**
AXAR	**Agios Charalam**	**0.71**	**55**	P	**Pg**	**19 11 46.1**	**0.0**
AXAR				S	**Sb**	**19 11 56.9**	**-0.1**
VLS	**Valsamata**	**1.05**	**260**	*e*PN	**Pg**	**19 11 52.4**	**-0.2**
VLS				*e*SB	**Sn**	**19 12 07.8**	**-0.5**
VLS	**Valsamata**	**1.05**	**260**	*e*Pn	**Pg**	**19 11 52.4**	**-0.2**
VLS				*e*Sb	**Sn**	**19 12 07.8**	**-0.5**

IDC 07 19:18:38.1±1.9,4°.13N×127°.05E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/22,mbtmp3.6/4,Error ellipse: s-maj=143.2km s-min=23.9km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.97**	**164**	P	P	19 24 03.9	+0.4
	2.2nm,0.7s,baz=343,slow=11,SNR=23						
ASAR	**Alice Springs**	**28.42**	**167**	P	P	19 24 34.5	-0.1
	0.2nm,0.3s,baz=346,slow=11,SNR=8.7						
STKA	**Stephens Creek**	**38.39**	**160**	P	P	19 26 00.7	-0.6
	1.2nm,0.7s,baz=328,slow=9.5,SNR=3.5						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	19 28 28.6	0.0
	0.2nm,0.4s,baz=121,slow=8.4,SNR=8.2						

*IDC **07** 19:26:45.2±8.4,35°.26N×81°.91E,h0km,mb3.7/2, mb1 3.5/4,mb1mx3.2/27,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=200.5km s-min=35.4km az=108.0*
*ISCJB **07** 19:26:48.1±0.5,35°.55N±0°.05×81°.7E±0°.1,h10km,mb3.5/2, Error ellipse: s-maj=16.2km s-min=5.0km az=158.4*

ISC 07 19:26:50.7±1.1,35°.50N±0°.08×81°.5E±0°.1,h10km,n17, σ1°.26/15,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.97**	**314**	*e*Pn	Pn	19 28 25.1	+5.8
KSH				Sn	**Sn**	**19 29 30.2**	**+2.3**
KSH				smax	smax		
	comp=N,46nm,0.7s						
KSH				smax	smax		
	comp=E,50nm,0.8s						
DANN	**Dangsing**	**7.37**	**165**	*e*P	**Pn**	**19 28 38.0**	**-0.7**
PYUN	**Piuthan**	**7.48**	**170**	*e*P	**Pn**	**19 28 38.5**	**-1.6**
	comp=E,11nm,0.7s						
KOLN	**Koldanda**	**7.90**	**167**	*e*P	**Pn**	**19 28 44.8**	**-1.1**
	comp=E,7.7nm,0.5s						
GKN	**Gorkha**	**7.92**	**160**	*e*P	**Pn**	**19 28 46.1**	**0.0**
	comp=E,7.7nm,0.5s						
KKN	**Kakani**	**8.32**	**156**	*e*P	**Pn**	**19 28 52.9**	**+1.3**
	comp=E,8.1nm,0.5s						
GUN	**Gumba**	**8.42**	**153**	*e*P	**Pn**	**19 28 54.4**	**+1.3**
	comp=E,7.7nm,0.5s						
PKI	**Pulchoki**	**8.56**	**156**	*e*P	**Pn**	**19 28 56.3**	**+1.2**
	comp=E,17nm,0.6s						
JIRN	**Jiri**	**8.76**	**152**	*e*P	**Pn**	**19 28 59.4**	**+1.6**
	comp=E,5.2nm,0.4s						
AAK	**Ala-Archa**	**8.99**	**325**	Pn	Pn	19 29 07.3	+6.7
	comp=E,0.1nm,0.3s,baz=37,slow=5.1,SNR=2.3						
AAK				Pg	Pg	19 29 36.3	-6.6
	comp=E,0.3nm,0.3s,baz=126,slow=8.7,SNR=5.6						
RAMN	**Ramite**	**9.56**	**152**	*e*P	**Pn**	**19 29 08.7**	**+0.1**
TAPN	**Taplejung**	**9.68**	**145**	*e*P	**Pn**	**19 29 11.3**	**+0.9**
ODAN	**Odare**	**9.96**	**148**	*e*P	**Pn**	**19 29 14.3**	**+0.2**
	comp=E,5.4nm,0.4s						
MKAR	**Makanchi Array**	**11.30**	**3**	Pn	**Pn**	**19 29 31.7**	**-0.5**
	comp=E,0.2nm,0.3s,baz=179,slow=12,SNR=12						
MKAR				Sn	**Sn**	**19 31 37.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=184,slow=20,SNR=3.0						
BVAR	**Borovoye Array**	**19.22**	**339**	P	**P**	**19 31 14.0**	**-0.7**
	comp=E,0.1nm,0.3s,baz=150,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**43.18**	**325**	P	P	19 34 50.6	-0.7
	comp=E,1.2nm,0.9s,baz=77,slow=8.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**74.29**	**275**	P	P	19 38 26.4	-2.2
	comp=E,0.4nm,0.8s,baz=38,slow=6.3,SNR=4.6						

MAN 07 19:37:30,9°.25N×125°.79E,h0km,mb4.2,ML3.0,MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.32**	**211**	*e*P	Pg	19 37 36.6	+0.3
MSLP	**Maasin**	**1.27**	**314**	*e*P	Pg	19 37 54.0	-0.4
CGP	**Cagayan de Oro**	**1.34**	**234**	*e*P	Pg	19 37 53.5	-2.2
BUKP	**Musuan**	**1.54**	**208**	*e*P	Pn	19 37 58.3	-0.5
BUKP				*e*S	Sg	19 38 20.2	+0.6
PAGZ	**Pagadian**	**2.76**	**240**	*e*P	Pn	19 38 16.4	+0.9

*ISK **07** 19:44:10.6,37°.93N×27°.40E,h5km,MD2.7*
*DDA **07** 19:44:10.6,37°.92N×27°.45E,h7km,MD2.8*
*CSEM **07** 19:44:11.2±0.1,37°.93N×27°.44E,h2km,MD2.8,Error ellipse: s-maj=2.8km s-min=2.1km az=70.0*

ISC 07 19:44:10.8±1.0,37°.94N±0°.02×27°.44E±0°.03,h6km±12km, n30,σ0°.54/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.29**	**215**	*i* P	**Pg**	**19 44 16.4**	**0.0**
GCAM				*i* S	**Sg**	**19 44 20.1**	**-0.1**
GCAM	**G?zelcaml?**	**0.29**	**215**	*i* P	**Pg**	**19 44 16.4**	**0.0**
GCAM				*i* S	**Sg**	**19 44 20.1**	**-0.1**
AYDN	**Tasoluk**	**0.44**	**128**	*i* P	**Pg**	**19 44 19.6**	**+0.2**
AYDN				*i* S	**Sg**	**19 44 24.9**	**-0.3**
AYDN	**Tasoluk**	**0.44**	**128**	*i* P	**Pg**	**19 44 19.6**	**+0.2**
AYDN				*i* S	**Sg**	**19 44 24.9**	**-0.3**
IZM	**Izmir**	**0.48**	**343**	PG	**Pg**	**19 44 20.3**	**+0.2**
IZM	**Izmir**	**0.48**	**343**	*i* Pg	**Pg**	**19 44 20.3**	**+0.2**
BLCB	**Balcova**	**0.55**	**325**	*e*PG	**Pg**	**19 44 21.8**	**+0.4**
BLCB				*e*SG	**Sg**	**19 44 29.4**	**+0.8**
BLCB	**Balcova**	**0.55**	**325**	*e*Pg	**Pg**	**19 44 21.8**	**+0.4**
BLCB				*e*Sg	**Sg**	**19 44 29.4**	**+0.8**
MLSB	**Milas**	**0.69**	**157**	*e*PG	**Pg**	**19 44 24.6**	**+0.4**
MLSB	**Milas**	**0.69**	**157**	*e*Pg	**Pg**	**19 44 24.6**	**+0.4**
URLA	**Izmir**	**0.79**	**303**	*e*P	**Pg**	**19 44 26.4**	**+0.4**
URLA				*e*S	**Sb**	**19 44 37.5**	**-0.4**
URLA	**Izmir**	**0.79**	**303**	*e*P	**Pg**	**19 44 26.4**	**+0.4**
URLA				*e*S	**Sb**	**19 44 37.5**	**-0.4**
BODT	**Bodrum**	**0.88**	**187**	*e*PG	**Pg**	**19 44 27.9**	**+0.2**
BODT	**Bodrum**	**0.88**	**187**	*e*Pg	**Pg**	**19 44 27.9**	**+0.2**
AKHS	**Akhisar**	**0.99**	**17**	*e*P	**Pg**	**19 44 29.9**	**+0.1**
AKHS				*e*S	**Sb**	**19 44 43.9**	**+0.3**
AKHS	**Akhisar**	**0.99**	**17**	*e*P	**Pg**	**19 44 29.9**	**+0.1**
AKHS				*e*S	**Sb**	**19 44 43.9**	**+0.3**
AKS	**Akhisar**	**0.99**	**17**	*e*PG	**Pg**	**19 44 30.0**	**+0.2**
AKS	**Akhisar**	**0.99**	**17**	*e*Pg	**Pg**	**19 44 30.0**	**+0.2**
MANT	**Manisa**	**1.04**	**57**	*e*P	**Pb**	**19 44 31.6**	**+0.2**
MANT				*e*S	**Sg**	**19 44 43.3**	**-1.0**
MANT	**Manisa**	**1.04**	**57**	*e*P	**Pb**	**19 44 31.6**	**+0.2**
MANT				*e*S	**Sg**	**19 44 43.3**	**-1.0**
YER	**Yerkesik**	**1.04**	**140**	*e*PG	**Pb**	**19 44 31.1**	**-0.2**
YER	**Yerkesik**	**1.04**	**140**	*e*Pg	**Pb**	**19 44 31.1**	**-0.2**
KULA	**Kula-Manisa**	**1.12**	**59**	*e*PN	**Pn**	**19 44 33.5**	**+0.4**
KULA	**Kula-Manisa**	**1.12**	**59**	*e*Pn	**Pn**	**19 44 33.5**	**+0.4**
DENT	**Denizli**	**1.27**	**98**	*e*PN	**Pg**	**19 44 36.2**	**+1.0**
DENT	**Denizli**	**1.27**	**98**	*e*Pn	**Pg**	**19 44 36.2**	**+1.0**
DST	**Dursunbey**	**1.90**	**29**	*e*PN	**Pb**	**19 44 45.1**	**-0.9**
DST	**Dursunbey**	**1.90**	**29**	*e*Pn	**Pb**	**19 44 45.1**	**-0.9**
TVSB	**Tavsanli**	**2.19**	**46**	*e*PN	**Pb**	**19 44 49.9**	**-1.0**
TVSB	**Tavsanli**	**2.19**	**46**	*e*Pn	**Pb**	**19 44 49.9**	**-1.0**

*ISK **07** 19:46:13.4,39°.82N×39°.08E,h10km,MD2.8*
*DDA **07** 19:46:13.4,39°.77N×39°.18E,h7km,MD2.8*
*ISCJB **07** 19:46:14.3±0.5,39°.82N±0°.03×39°.12E±0°.04,h5km±7km, Error ellipse: s-maj=5.3km s-min=4.8km az=7.7*
*CSEM **07** 19:46:14.1±0.2,39°.81N×39°.12E,h12km,MD2.8,Error ellipse: s-maj=5.8km s-min=4.6km az=131.0*

ISC 07 19:46:14.0±0.9,39°.83N±0°.03×39°.09E±0°.03,h12km±9km, n23,σ0°.38/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZC	**Erzincan**	**0.21**	**110**	PG	**Pg**	**19 46 18.2**	**-0.5**
EZC				SG	**Sg**	**19 46 22.4**	**+0.4**
EZC	**Erzincan**	**0.21**	**110**	*i* Pg	**Pg**	**19 46 18.2**	**-0.5**
EZC				*i* Sg	**Sg**	**19 46 22.4**	**+0.4**
KELT	**Kelkit**	**0.35**	**21**	*e*P	**Pg**	**19 46 21.4**	**+0.3**
KELT				*e*S	**Sg**	**19 46 26.4**	**+0.5**
KELT	**Kelkit**	**0.35**	**21**	*e*P	**Pg**	**19 46 21.4**	**+0.3**
KELT				*e*S	**Sg**	**19 46 26.4**	**+0.5**
ERZN	**Erzincan**	**0.54**	**116**	*e*PG	**Pg**	**19 46 24.5**	**-0.1**
ERZN				*e*SG	**Sg**	**19 46 32.0**	**+0.2**
ILIC	**ilic-Erzincan**	**0.55**	**227**	*e*PG	**Pg**	**19 46 24.5**	**-0.3**
ILIC	**ilic-Erzincan**	**0.55**	**227**	*e*Pg	**Pg**	**19 46 24.5**	**-0.3**
GUMT	**Gumushane**	**0.70**	**25**	*e*PG	**Pb**	**19 46 28.3**	**+0.1**
GUMT	**Gumushane**	**0.70**	**25**	*e*Pg	**Pb**	**19 46 28.3**	**+0.1**
KEMA	**Kemaliye**	**0.72**	**220**	*e*P	**Pg**	**19 46 27.8**	**-0.2**
KEMA				*e*S	**Sg**	**19 46 37.9**	**+0.4**
KEMA	**Kemaliye**	**0.72**	**220**	*e*P	**Pg**	**19 46 27.8**	**-0.2**
KEMA				*e*S	**Sg**	**19 46 37.9**	**+0.4**
SUSE	**Susehri**	**0.78**	**300**	*e*P	**Pn**	**19 46 30.9**	**-0.1**
SUSE				*e*S	**Sn**	**19 46 42.6**	**-0.2**
SUSE	**Susehri**	**0.78**	**300**	*e*P	**Pn**	**19 46 30.9**	**-0.1**
SUSE				*e*S	**Sn**	**19 46 42.6**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.98**	**54**	*e*PG	**Pb**	**19 46 32.6**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**0.98**	**54**	*e*Pg	**Pb**	**19 46 32.7**	**-0.5**
ESPY	**Espiye-Giresun**	**1.12**	**346**	*e*PN	**Pb**	**19 46 34.8**	**-0.6**
ESPY	**Espiye-Giresun**	**1.12**	**346**	*e*Pn	**Pb**	**19 46 34.8**	**-0.6**
BINT	**Bingol**	**1.44**	**131**	*e*Pn	**Pb**	**19 46 40.8**	**-0.1**
BNGB	**Bing¯¶l**	**1.49**	**124**	*e*PN	**Pn**	**19 46 40.8**	**+0.1**
MALT	**Malatya**	**1.60**	**199**	*e*PN	**Pn**	**19 46 42.4**	**+0.2**
MALT	**Malatya**	**1.60**	**199**	*e*Pn	**Pn**	**19 46 42.4**	**+0.2**
AKCD	**Akcadag**	**1.78**	**211**	*e*P	**Pg**	**19 46 48.6**	**+0.5**
AKCD				*e*S	**Sg**	**19 47 11.5**	**+0.3**
AKCD	**Akcadag**	**1.78**	**211**	*e*P	**Pg**	**19 46 48.7**	**+0.5**
AKCD				*e*S	**Sg**	**19 47 11.5**	**+0.3**

IDC 07 19:46:31.4±7.0,21°.33S×177°.90W,h394km±69km, mb3.3/10,mb1 3.6/10,mb1mx3.4/21,mbtmp3.3/10,Error ellipse: s-maj=29.1km s-min=25.7km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.51**	**266**	P	P	19 52 36.5	+0.5
	5.7nm,1.0s,baz=78,slow=13,SNR=1.5						
STKA	**Stephens Creek**	**37.52**	**245**	P	P	19 53 09.7	+0.1
	2.3nm,0.5s,baz=102,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**44.42**	**258**	P	P	19 54 05.0	-0.4
	2.7nm,0.6s,baz=98,slow=7.9,SNR=54						
ASAR				PcP	PcP	19 55 39.7	-1.5
	0.5nm,0.8s,baz=101,slow=4.5,SNR=4.5						
WRA	**Warramunga Arr**	**44.58**	**263**	P	P	19 54 05.8	-0.7
	0.6nm,0.3s,baz=95,slow=7.6,SNR=25						
FITZ	**Fitzroy Crossi**	**53.01**	**263**	P	P	19 55 09.8	0.0
	0.7nm,0.4s,baz=87,slow=7.9,SNR=9.4						
QSPA	**South Pole Qui**	**68.74**	**180**	P	P	19 56 54.0	+0.2
	1.5nm,0.9s,baz=168,slow=12,SNR=6.8						
NVAR	**Mina Array Bea**	**81.56**	**43**	P	P	19 58 07.3	+0.7
	0.9nm,0.6s,baz=226,slow=9.3,SNR=6.1						
ILAR	**Eielson Array**	**89.10**	**13**	P	P	19 58 41.3	-1.2
	0.3nm,0.5s,baz=213,slow=5.5,SNR=8.1						
PDAR	**Pinedale Array**	**89.50**	**43**	P	P	19 58 45.0	-0.2
	0.6nm,0.7s,baz=173,slow=3.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.48**	**290**	P	P	19 58 51.5	+1.4
	0.8nm,0.8s,baz=132,slow=2.9,SNR=7.6						
ARCES	**ARCESS Array B**	**129.75**	**350**	PKP	PKPdf	20 04 52.6	-1.1
	1.8nm,0.8s,baz=48,slow=1.8,SNR=6.9						
FINES	**FINESS Array B**	**136.59**	**343**	PKP	PKPdf	20 05 05.4	-1.3
	0.8nm,0.9s,baz=34,slow=0.7,SNR=5.3						
HFS	**Hagfors**	**140.37**	**351**	PKhKP	PKPpre	20 05 06.6	
	1.4nm,0.6s,baz=60,slow=3.6,SNR=8.5						
AKASG	**Malin Array Be**	**143.78**	**331**	PKP	PKPab	20 05 18.5	0.0
	3.3nm,0.4s,baz=42,slow=4.2,SNR=18						
BRTR	**Keskin Array B**	**147.46**	**311**	PKPbc	PKPbc	20 05 30.8	+0.7
	1.8nm,0.7s,baz=131,slow=4.7,SNR=7.5						
KHC	**Kasperske Hory**	**150.79**	**344**	*e*P	PKPbc	20 05 37.0	-0.7
KHC				*ex*	x	20 05 46.5	
GERES	**GERESS Array B**	**151.02**	**344**	PKPbc	PKPbc	20 05 37.7	-0.7
	0.6nm,0.5s,baz=35,slow=4.9,SNR=5.6						

IDC 07 20:07:51.4±1.9,3°.03N×127°.84E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/22,mbtmp3.5/4,MS3.1/1,Ms1 3.1/1, ms1mx2.7/22,Error ellipse: s-maj=131.1km s-min=24.4km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**165**	P	P	20 13 05.1	0.0
	0.5nm,0.3s,baz=344,slow=10,SNR=23						
ASAR	**Alice Springs**	**27.18**	**168**	P	P	20 13 36.9	+0.1
	0.2nm,0.6s,baz=348,slow=7.2,SNR=5.3						
KSRS	**Korea Array**	**34.26**	**0**	LR	LR	20 27 40.9	
	comp=Z,30nm,18.9s,baz=341,slow=35						
STKA	**Stephens Creek**	**37.09**	**160**	P	P	20 15 03.2	-0.4
	1.6nm,0.9s,baz=331,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**58.77**	**325**	P	P	20 17 51.5	+0.1
	0.2nm,0.4s,baz=113,slow=8.3,SNR=5.5						

IDC 07 20:13:01.8±4.0,7°.98S×158°.36E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/18,mbtmp3.8/4,Error ellipse: s-maj=106.2km s-min=41.7km az=105.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.13**	**240**	P	P	20 18 38.5	+0.7
	0.9nm,0.5s,baz=66,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**28.15**	**234**	P	P	20 18 55.7	-0.4
	0.7nm,0.8s,baz=61,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**28.44**	**211**	P	P	20 18 57.8	-0.6
	0.8nm,0.4s,baz=51,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**86.36**	**318**	P	P	20 25 46.1	+0.1
	0.2nm,0.6s,baz=96,slow=6.4,SNR=3.7						

SKHL 07 20:17:53.7±0.8,51°.55N×135°.42E,h20km±12km,mb3.9/6,

Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRNR	**Gornyy**	**1.00**	**141**	*e*Pg	Pn	20 18 12.8	+0.1
GRNR				AMB	AMB	20 18 13.2	
	57nm,0.2s						
GRNR				*e*Sg	Sb	20 18 25.5	+0.2
EKMR	**Ekimchan**	**2.15**	**316**	*e*Pn	Pn	20 18 28.9	+0.5
EKMR				*e*Pg	Pb	20 18 32.9	+0.9
EKMR				AMB	AMB	20 18 35.8	
	18nm,0.3s						
EKMR				AMB	AMB	20 18 35.8	
	8.0nm,0.3s						
EKMR				AMB	AMB	20 18 35.8	
	26nm,0.3s						
EKMR				*e*Sn	Sb	20 18 57.1	-1.1
EKMR				*e*Sg	Sn	20 19 00.5	+6.0
EKMR				A	A	20 19 03.5	
	170nm,0.5s						
EKMR				A	A	20 19 03.5	
	110nm,0.5s						
EKMR				A	A	20 19 03.5	
	130nm,0.5s						
KHBR	**Khabarovsk**	**3.09**	**184**	*e*Sg	Sb	20 19 30.6	+5.5
KLR	**Kul'dur**	**3.30**	**227**	*e*Pg	Pb	20 18 52.4	+0.8
KLR				*e*Sg	Sb	20 19 36.7	+5.4
NKL	**Nikolayevsk**	**3.60**	**62**	*e*Pg	Pb	20 18 58.5	+1.9
NKL				AMB	AMB	20 18 59.0	
	15nm,0.2s						
NKL				*e*Sg	Sb	20 19 45.0	+5.2
NKL				A	A	20 19 50.7	
	54nm,0.6s						
NKL				A	A	20 19 50.7	
	50nm,0.6s						
YASR	**Yasnyy**	**4.88**	**294**	*e*Pn	Pn	20 19 05.8	0.0
YASR				*e*Pg	Pb	20 19 20.8	+2.4
YASR				AMB	AMB	20 19 23.8	
	7.0nm,0.5s						
YASR				*e*Sg	Sb	20 20 23.4	+6.8
YASR				A	A	20 20 32.4	
	30nm,0.7s						
YASR				A	A	20 20 32.4	
	19nm,0.7s						
BMKR	**Bomnak**	**5.07**	**311**	*e*Pg	Pb	20 19 25.5	+3.8
BMKR				AMB	AMB	20 19 32.0	
	4.0nm,0.5s						
BMKR				*e*Sg	Sb	20 20 32.0	+10
BMKR				A	A	20 20 39.4	
	16nm,0.5s						
BMKR				A	A	20 20 39.4	
	20nm,0.5s						
ZEA	**Zeya**	**5.43**	**297**	*e*Sg	Sb	20 20 42.5	+10
ZEA				A	A	20 20 48.2	
	24nm,0.7s						
ZEA				A	A	20 20 48.2	
	20nm,0.7s						
KROS	**Kirovskiy**	**5.86**	**303**	*e*Pg	Pb	20 19 38.5	+3.3
KROS				AMB	AMB	20 19 39.2	
	3.0nm,0.5s						
KROS				*e*Sg	Sb	20 20 57.5	+13
KROS				A	A	20 21 03.5	
	6.0nm,0.5s						
KROS				A	A	20 21 03.5	
	13nm,0.5s						

MEX 07 20:20:24.3±1.0,17°.71N×104°.12W,h20km±19km,MD3.6, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.94**	**52**	*i* P	Pb	20 20 39.0	-2.9
MMIG				*i* S	Sb	20 20 50.1	-3.8
R15V		**1.46**	**5**	*i* P	Pn	20 20 41.1	-3.5
R15V				*i* S	Sn	20 21 03.2	-4.9
EZ5V		**1.82**	**16**	*e*P	Pn	20 20 52.8	-2.1
EZ5V				*i* S	Sn	20 21 14.0	-3.7
CJM	**Chamela**	**1.98**	**334**	*i* P	Pn	20 20 53.6	-3.1
CJM				*i* S	Sn	20 21 15.8	-5.1
ZIIG	**Zihuatanejo**	**2.54**	**92**	*i* P	Pn	20 21 01.5	-2.9
ZIIG				*i* S	Sn	20 21 31.1	-3.6

IDC 07 20:53:09.2±8.2,17°.54S×178°.84W,h634km±112km, mb3.2/9,mb1 3.4/10,mb1mx3.2/22,mbtmp3.2/10,Error ellipse: s-maj=83.6km s-min=35.7km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.56**	**250**	P	P	20 56 12.6	+0.4
	0.2nm,0.3s,baz=132,slow=20,SNR=1.5						
CTA	**Charters Tower**	**33.10**	**260**	P	P	20 58 55.8	+0.2
	18nm,1.3s,baz=120,slow=6.8,SNR=5.7						
STKA	**Stephens Creek**	**38.45**	**241**	P	P	20 59 39.0	-0.2
	3.0nm,0.7s,baz=93,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**44.30**	**259**	P	P	21 00 25.3	0.0
	2.5nm,0.5s,baz=95,slow=7.

MLSB	**Milas**	**1.62**	**11**	*e*Pn	**Pg**	**21 02 12.4**	**-1.2**
FETY	**Fethiye**	**1.65**	**55**	*e*PN	**Pg**	**21 02 13.8**	**-0.3**
FETY	**Fethiye**	**1.65**	**55**	*e*Pn	**Pg**	**21 02 13.9**	**-0.3**
THR2	**Thira island,**	**1.76**	**296**	P	**Pn**	**21 02 12.0**	**-0.8**
THR2	**Thira island,**	**1.76**	**296**	P	**Pn**	**21 02 12.0**	**-0.8**
AKAS	**Kas**	**1.87**	**73**	*e*P	**Pb**	**21 02 16.5**	**-0.1**
AKAS				*e*S	**Sb**	**21 02 39.9**	**-0.1**
AKAS	**Kas**	**1.87**	**73**	*e*P	**Pb**	**21 02 16.5**	**-0.1**
AKAS				*e*S	**Sb**	**21 02 39.9**	**-0.1**
AYDN	**Tasoluk**	**2.00**	**11**	*e*P	**Pb**	**21 02 18.3**	**-0.4**
AYDN				*e*S	**Sb**	**21 02 43.1**	**-0.5**
AYDN	**Tasoluk**	**2.00**	**11**	*e*P	**Pb**	**21 02 18.3**	**-0.4**
AYDN				*e*S	**Sb**	**21 02 43.1**	**-0.5**
APE	**Apeiranthos**	**2.04**	**313**	*e*PN	**Pn**	**21 02 16.9**	**+0.3**
APE	**Apeiranthos**	**2.04**	**313**	*e*PN	**Pb**	**21 02 17.2**	**+0.6**
APE	**Apeiranthos**	**2.04**	**313**	*e*Pn	**Pn**	**21 02 17.2**	**+0.6**
IDI	**Anoyia**	**2.09**	**259**	P	**Pn**	**21 02 17.9**	**+0.5**
IDI				S	**Sn**	**21 02 43.2**	**-0.2**
IDI	**Anoyia**	**2.09**	**259**	P	**Pn**	**21 02 17.9**	**+0.5**
IDI				S	**Sn**	**21 02 43.2**	**-0.2**
ELL	**Elmali**	**2.28**	**62**	*e*PN	**Pb**	**21 02 22.6**	**-1.1**
ELL	**Elmali**	**2.28**	**62**	*e*Pn	**Pb**	**21 02 22.6**	**-1.1**
GOLH	**Golhisar**	**2.32**	**48**	*e*P	**Pb**	**21 02 24.2**	**-0.1**
GOLH				*e*S	**Sg**	**21 02 55.6**	**-1.5**
GOLH	**Golhisar**	**2.32**	**48**	*e*P	**Pb**	**21 02 24.2**	**-0.1**
GOLH				*e*S	**Sg**	**21 02 55.6**	**-1.5**
DENT	**Denizli**	**2.44**	**32**	*e*PN	**Pn**	**21 02 24.1**	**+1.9**
DENT	**Denizli**	**2.44**	**32**	*e*Pn	**Pn**	**21 02 24.1**	**+1.9**
KULA	**Kula-Manisa**	**2.99**	**19**	*e*PN	**Pb**	**21 02 32.7**	**-2.9**
KULA	**Kula-Manisa**	**2.99**	**19**	*e*Pn	**Pb**	**21 02 32.7**	**-2.9**
BCK	**Bucak**	**3.11**	**55**	*e*PN	**Pn**	**21 02 33.9**	**+2.4**
BCK	**Bucak**	**3.11**	**55**	*e*Pn	**Pn**	**21 02 33.9**	**+2.4**
KHL	**Karahalli**	**3.12**	**32**	*e*PN	**Pn**	**21 02 34.1**	**+2.5**
KHL	**Karahalli**	**3.12**	**32**	*e*Pn	**Pn**	**21 02 34.1**	**+2.5**
AKS	**Akhisar**	**3.19**	**6**	*e*PN	**Pn**	**21 02 34.7**	**+2.2**
AKS	**Akhisar**	**3.19**	**6**	*e*Pn	**Pn**	**21 02 34.7**	**+2.2**
SHUT	**Suhut-Afyon**	**3.80**	**41**	*e*PN	Pn	21 02 44.1	+3.1
SHUT	**Suhut-Afyon**	**3.80**	**41**	*e*Pn	Pn	21 02 44.1	+3.1

NIED ***07*** *21:02:00.0, 34.90N× 135.60E, h17km, Mw3.5 Best double couple: M0 2.15000× 10^14 NP1:φ=154.00000°, δ=86.00000°, λ=22.00000°. NP2:φ=63.00000°, δ=68.00000°, λ=176.00000°.*
JMA 07 21:02:19.7, 34.93N× 135.57E, h15km±1km, M3.8, 4C-6D Broadband fault plane solution: P waves. NP1: φ=154.00000°, δ=82.00000°, λ=26.00000°. **NP2:**φ=60.00000°, δ=64.00000°, λ=171.00000°. **Principal axes:** T Plg24.0000°, Azm20.0000°; N Plg63.0000°, Azm170.0000°; P Plg12.0000°, Azm284.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.29**	**161**	↑P	Pg	21 02 25.7	-0.2
JHE				S	Sg	21 02 30.0	-0.1
JWT	**Wachi**	**0.38**	**339**	↑P	Pg	21 02 27.5	+0.1
JWT				S	Sg	21 02 32.6	-0.1
JMIK	**Miki**	**0.44**	**254**	↓P	Pg	21 02 28.4	-0.2
JMIK				S	Sg	21 02 34.7	+0.1
JKS	**Kasai**	**0.60**	**275**	↓P	Pg	21 02 31.1	-0.4
JKS				S	Sg	21 02 39.2	-0.3
JWY	**Kouya**	**0.71**	**178**	↑P	Pg	21 02 32.9	-0.8
JWY				S	Sg	21 02 42.2	-1.0
TSUJ	**Tsu 2**	**0.73**	**107**	↓P	Pg	21 02 33.3	-0.7
TSUJ				S	Sg	21 02 43.1	-0.6
JAJ2	**Tsuna**	**0.76**	**228**	↑P	Pg	21 02 33.7	-0.8
JAJ2				S	Sg	21 02 44.0	-0.5
JKY	**Yasaka**	**0.79**	**331**	↓P	Pg	21 02 34.9	-0.3
JKY				S	Sg	21 02 45.3	-0.4
JKN2	**Miekihoku**	**0.90**	**140**	↓P	Pb	21 02 36.2	-0.8
JKN2				S	Sb	21 02 47.9	-0.9
JKSM	**Kasumi**	**0.99**	**312**	↓P	Pb	21 02 38.0	-0.6
JKSM				S	Sb	21 02 51.1	-0.3
MAT	**Matsushiro**	**2.68**	**52**	P	Pn	21 03 02.9	+0.5
MAT				S	Sn	21 03 35.1	+0.5

IDC 07 21:03:47.4±1.7, **0.56S**×**132.61E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/34 Error ellipse: s-maj=82.6km s-min=19.6km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.58**	**251**	LR	LR	21 12 40.1	
	comp=Z,36nm,18.1s,baz=32,slow=39						
FITZ	**Fitzroy Crossi**	**18.73**	**201**	P	P	21 08 07.8	0.0
	0.3nm,0.3s,baz=24,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**19.34**	**175**	P	P	21 08 15.0	+0.5
	0.3nm,0.3s,baz=354,slow=12,SNR=23						
WRA				S	Sn	21 11 42.4	-11
	0.1nm,0.3s,baz=360,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**23.00**	**177**	P	P	21 08 54.1	0.0
	2.3nm,0.6s,baz=353,slow=8.0,SNR=46						
ASAR				LR	LR	21 17 01.1	
	comp=Z,64nm,18.1s,baz=154,slow=34						
STKA	**Stephens Creek**	**32.28**	**166**	P	P	21 10 17.3	-0.8
	2.1nm,0.7s,baz=347,slow=16,SNR=1.3						
DZM	**Mont Dzumac**	**39.28**	**125**	LR	LR	21 24 51.2	
	comp=Z,206nm,19.9s,baz=65,slow=32						
MKAR	**Makanchi Array**	**64.43**	**324**	P	P	21 14 24.5	-1.2
	0.2nm,0.5s,baz=114,slow=8.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**68.52**	**326**	P	P	21 14 52.9	+1.2
	0.5nm,0.4s,baz=111,slow=5.2,SNR=4.1						

IDC ***07*** *21:13:17.3±1.2, 26.54N× 97.49E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=63.3km s-min=17.7km az=68.0*
ISCJB ***07*** *21:13:18.8±0.9, 26.4N±0.1× 96.8E±0.1, h33km, mb3.4/4, Error ellipse: s-maj=22.8km s-min=9.6km az=29.5*
ISC 07 21:13:21.7±1.2, **26.5N**±0.2× **96.9E**±0.2, **h35km, n15,** σ1°**83/14, mb3.4/4, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.18**	**166**	Pn	**Pn**	**21 15 19.2**	**+1.2**
	0.1nm,0.3s,baz=339,slow=13,SNR=3.0						
CMAR				Lg	Lg	21 17 35.2	
	0.0nm,0.3s,baz=348,slow=29,SNR=2.9						
TAPN	**Taplejung**	**8.23**	**278**	*e*P	**Pn**	**21 15 20.3**	**+1.4**
	12nm,0.5s						
ODAN	**Odare**	**8.49**	**275**	*e*P	**Pn**	**21 15 23.9**	**+1.4**
	8.7nm,0.6s						
JIRN	**Jiri**	**9.60**	**280**	*e*P	**Pn**	**21 15 38.7**	**+0.9**
	1.5nm,0.3s						
GUN	**Gumba**	**9.89**	**281**	*e*P	**Pn**	**21 15 41.9**	**+0.1**
PKI	**Pulchoki**	**10.28**	**279**	*e*P	**Pn**	**21 15 46.3**	**-0.8**
KKN	**Kakani**	**10.41**	**280**	*e*P	**Pn**	**21 15 47.5**	**-1.3**
	6.4nm,0.4s						
GKN	**Gorkha**	**11.00**	**281**	*e*P	**Pn**	**21 15 54.4**	**-2.3**
	5.2nm,0.5s						
DANN	**Dangsing**	**11.80**	**282**	*e*P	**Pn**	**21 16 05.0**	**-2.9**
KOLN	**Koldanda**	**11.90**	**279**	*e*P	**Pn**	**21 16 07.0**	**-2.1**
PYUN	**Piuthan**	**12.46**	**281**	*e*P	Pn	21 16 13.2	-3.5
MKAR	**Makanchi Array**	**23.36**	**334**	P	**P**	**21 18 29.4**	**+2.4**
	0.4nm,0.5s,baz=140,slow=9.0,SNR=13						
ZALV	**Zalesovo Beam**	**28.89**	**345**	P	**P**	**21 19 17.8**	**+0.8**
	0.2nm,0.3s,baz=167,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**58.72**	**138**	P	**P**	**21 23 14.6**	**-1.7**
	0.2nm,0.5s,baz=327,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**61.36**	**141**	P	**P**	**21 23 33.1**	**-1.1**
	0.4nm,0.6s,baz=325,slow=6.4,SNR=8.6						

IDC ***07*** *21:19:45.0±0.4, 3.85N× 126.57E, h0km, mb4.4/26, mb1 4.5/26, mb1mx4.5/29, mbtmp4.4/26, MS3.9/12, Ms1 4.0/12, ms1mx3.6/38, Error ellipse: s-maj=25.2km s-min=9.5km az=75.0*
BJI ***07*** *21:19:46.6, 3.56N× 126.83E, h43km, mB5.0/29, mb4.8/37, Ms4.5/26, Ms7 4.2/27*
ISCJB ***07*** *21:19:48.0±0.2, 3.97N±0.02× 126.93E±0.03, h34km, mb4.7/82, MS4.1/27, Error ellipse: s-maj=4.9km s-min=3.1km az=175.5*
MOS ***07*** *21:19:49.6±0.9, 4.19N× 126.62E, h33km, mb5.0/18, Error ellipse: s-maj=17.2km s-min=6.8km az=118.9*
NEIC ***07*** *21:19:50.0±0.2, 3.93N× 126.71E, h35km, mb4.9/32, Error ellipse: s-maj=9.6km s-min=5.0km az=68.0*
DJA ***07*** *21:19:55.6±0.4, 4°N±3°× 12°7E±°, h82km±5km, M4.7/34, mB5.2/12, mb4.6/34, MLv4.9/8, Mw(mB)4.5/12*

ISC 07 21:19:50.0±0.4, **3.87N**±0.03× **126.80E**±0.05, **h34km**±1km, **h34km:pP-P, n249,** σ1°**56/316, mb4.7/81, MS4.1/28, 4C-11D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.87**	**320**	↑*i*P	**Pn**	**21 20 33.9**	**+0.4**
GSPH				*i* S	**Sn**	**21 21 08.5**	**+1.6**
MATI	**Mati**	**3.10**	**350**	*e*P	Pn	21 20 40.3	+3.7
MNI	**Manado**	**3.11**	**219**	P	**Pn**	**21 20 39.3**	**+2.6**
TNTI	**Ternate**	**3.13**	**170**	P	**Pn**	**21 20 38.6**	**+1.6**
TNTI				S	**Sn**	**21 21 12.2**	**-1.1**
DAV	**Davao City (W)**	**3.40**	**339**	Pn	**Pb**	**21 20 48.1**	**-1.4**
	61nm,0.3s,baz=53,slow=4.2,SNR=5.7						
DAV	**Davao City (W)**	**3.40**	**339**	*e*Pn	Pn	21 20 44.4	+3.7
DAV	**Davao City (W)**	**3.40**	**339**	P	**Pb**	**21 20 50.2**	**+0.6**
KCP	**Kidapawan**	**3.55**	**331**	↓*e*P	Pn	21 20 46.5	+3.7
KCP				*i* S	**Sb**	**21 21 33.7**	**-1.2**
CTBH	**Cotabato--PC H**	**4.18**	**323**	↓*e*P	**Pn**	**21 20 51.7**	**+0.2**
KMSI	**Cibinong**	**4.32**	**221**	P	Pn	21 20 57.9	+4.5
BUKP	**Musuan**	**4.34**	**337**	*e*P	Pn	21 20 57.6	+4.0
LBMI	**Labuha**	**4.54**	**171**	P	**Pn**	**21 20 59.1**	**+2.8**
CGP	**Cagayan de Oro**	**5.01**	**335**	*e*P	**Pn**	**21 21 05.5**	**+2.7**
BUTP	**Butuan**	**5.20**	**347**	*e*P	Pn	21 21 12.1	+6.7
PAGZ	**Pagadian**	**5.21**	**319**	*e*P	**Pn**	**21 21 07.4**	**+1.8**
IPIL	**Ipil**	**5.73**	**313**	*e*P	**Pn**	**21 21 15.1**	**+2.4**
MRSI	**Marisa**	**5.91**	**235**	P	Pn	21 21 18.9	+3.7
	160nm,0.8s,2μm0.6nm						
LUWI	**Luwuk**	**6.33**	**220**	P	Pn	21 21 26.2	+5.2
	459nm,1.2s,4μm2.1nm						
SWI	**Sorong**	**6.48**	**136**	P	**Pn**	**21 21 24.4**	**+1.3**
	56nm,1.0s,1μm0.2nm						
MSLP	**Maasin**	**6.51**	**343**	*e*P	Pn	21 21 28.7	+5.2
MYLDM	**Lahad Datu**	**8.37**	**279**	P	Pn	21 21 54.7	+5.7
MYLDM	**Lahad Datu**	**8.37**	**279**	P	Pn	21 21 55.5	+6.4
	99nm,1.1s						
FAKI	**Fak Fak**	**8.67**	**141**	P	**Pn**	**21 21 54.4**	**+1.2**
	49nm,1.1s						
KDI	**Kendari**	**8.83**	**208**	P	**Pn**	**21 21 55.4**	**+0.1**
	31nm,0.7s,590nm						
TSM	**Tawau**	**8.91**	**273**	P	Pn	21 22 00.4	+3.9
SDKM	**Sandakan**	**9.73**	**281**	P	Pn	21 22 13.5	+5.8
TTSI	**Tana Toraja**	**9.79**	**226**	P	**Pn**	**21 22 11.3**	**+2.8**
	63nm,1.3s,651nm						
KDM	**Kudat**	**10.37**	**287**	P	Pn	21 22 22.4	+6.0
KKM	**Kota Kinabalu**	**10.76**	**282**	P	Pn	21 22 27.5	+5.6
KAPI	**Kappang**	**11.29**	**219**	Pn	Pn	21 22 32.9	+3.8
	0.3nm,0.3s,baz=20,slow=4.4,SNR=4.5						
KAPI				LR	LR	21 27 30.7	
	comp=Z,563nm,18.6s,baz=55,slow=42						
KAPI	**Kappang**	**11.29**	**219**	Pn	Pn	21 22 32.9	+3.8
KBKI	**Kotabaru**	**12.79**	**236**	P	P	21 22 54.9	-5.3
	25nm,1.4s						
MMRI	**Maumere**	**13.23**	**200**	P	P	21 23 09.7	+4.6
SMPI	**Sarmi**	**13.25**	**116**	P	**Pn**	**21 22 57.4**	**+1.5**
	59nm,1.2s,3μm						
BBKI	**Banjar Baru**	**14.00**	**239**	P	**P**	**21 23 12.4**	**-1.2**
	76nm,2.1s,3μm						
SBUM	**Sibu**	**14.62**	**265**	P	**P**	**21 23 18.1**	**-2.4**
SBUM	**Sibu**	**14.62**	**265**	P	**P**	**21 23 17.9**	**-2.7**
	39nm,1.0s,582nm						
PBKI	**Pangkalan Bun**	**16.47**	**247**	P	**P**	**21 23 41.1**	**0.0**
	73nm,1.1s						
KHKI	**Kahang-Kahang**	**16.50**	**223**	P	**P**	**21 23 42.4**	**+1.0**
	42nm,1.3s						
SRBI	**Singaraja**	**16.57**	**224**	P	**P**	**21 23 42.9**	**+0.7**
	66nm,1.3s,802nm						
KSM	**Kuching**	**16.64**	**262**	*e*Pn	**P**	**21 23 44.6**	**+1.7**
	39nm,1.0s						
KSM	**Kuching**	**16.64**	**262**	P	**P**	**21 23 42.6**	**-0.4**
KSM	**Kuching**	**16.64**	**262**	P	**P**	**21 23 44.9**	**+1.9**
	42nm,0.9s,466nm						
KMMI	**Kalianget**	**16.79**	**230**	P	**P**	**21 23 45.1**	**+0.5**
	32nm,1.1s,2μm						
IGBI	**Denpasar**	**17.14**	**223**	P	**P**	**21 23 49.7**	**+1.2**
	26nm,1.0s,24μm						
JAGI	**Jajag, Banyuwa**	**17.59**	**226**	P	**P**	**21 23 54.9**	**+1.4**
	47nm,0.9s						
GMJI	**Gumukmas**	**17.97**	**228**	P	**P**	**21 23 59.1**	**+1.4**
	45nm,1.0s						
SJI	**Sawahan**	**18.92**	**232**	P	**P**	**21 24 06.6**	**-1.6**
	26nm,1.2s						
PWJI	**Pagerwojo**	**19.06**	**232**	P	**P**	**21 24 07.8**	**-1.9**
	30nm,1.0s						
PCJI	**Pacitan**	**19.66**	**232**	P	**Pn**	**21 24 17.4**	**-0.4**
	42nm,1.3s						
YULB	**Yu-li**	**20.12**	**345**	*e*P	**P**	**21 24 18.5**	**-2.7**
	18nm,0.8s						
TPUB	**Ta-pu**	**20.21**	**343**	*e*P	**P**	**21 24 20.7**	**-1.5**
	547nm,2.7s						
GUMO	**Guam**	**20.28**	**60**	LR	LR	21 30 49.6	
	comp=Z,192nm,20.7s,baz=238,slow=32						
BJII	**Banjamegara**	**20.37**	**237**	P	**P**	**21 24 25.1**	**+1.1**
	22nm,1.7s						
SSLB	**Suanglung**	**20.59**	**345**	*e*P	**P**	**21 24 24.3**	**-1.9**
	63nm,1.3s						
PPBI	**Pangkal Pinang**	**21.50**	**254**	P	**P**	**21 24 37.2**	**+1.0**
	12nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.87**	**183**	P	**P**	**21 24 38.5**	**-1.5**
	4.9nm,0.5s,baz=15,slow=9.5,SNR=17						
FITZ				S	**S**	**21 28 34.9**	**-5.1**
	5.8nm,0.9s,baz=130,slow=16,SNR=7.7						
FITZ	**Fitzroy Crossi**	**21.87**	**183**	*e*P	**P**	**21 24 38.3**	**-1.7**
	9.5nm,0.8s						
FITZ				S	**S**	**21 28 34.9**	**-5.1**
FITZ				*e*PcP	**PcP**	**21 28 36.6**	**-2.5**
LEM	**Lembang**	**21.90**	**241**	P	**P**	**21 24 41.0**	**+0.4**
	33nm,1.1s						
QIZ	**Qiongzhong**	**22.39**	**314**	P	**P**	**21 24 43.6**	**-2.1**
QIZ				S	**S**	**21 28 49.0**	**-0.9**
QIZ				LR	LR		
	comp=Z,330nm,21.3s						
DBJI	**Dramaga**	**22.54**	**243**	P	**P**	**21 24 47.6**	**+0.3**
	comp=Z,36nm,2.2s						
JOW	**Kunigami**	**22.87**	**3**	P	**P**	**21 24 51.0**	**+0.3**
	comp=Z,18nm,0.8s,baz=147,slow=26,SNR=1.8						
JOW	**Kunigami**	**22.87**	**3**	P	**P**	**21 24 51.0**	**+0.3**
MYKOM	**Kota Tinggi**	**23.01**	**265**	P	**P**	**21 24 51.6**	**-0.7**
MYKOM	**Kota Tinggi**	**23.01**	**265**	P	**P**	**21 24 53.0**	**+0.7**
	comp=Z,21nm,0.8s						
CGJI	**Cibinong**	**23.50**	**244**	P	**P**	**21 24 56.1**	**-1.1**
	comp=Z,51nm,1.0s						
KGM	**Kluang**	**23.52**	**266**	P	**P**	**21 24 56.2**	**-1.1**
WRAB	**Tennant Creek**	**24.80**	**163**	*e*P	**P**	**21 25 07.9**	**-1.1**
WRAB				*e*S	**S**	**21 29 27.6**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,29nm,0.9s						
WRAB	**Tennant Creek**	**24.80**	**163**	*e*P	**P**	**21 25 07.9**	**-1.1**
	comp=Z,29nm,0.9s						
WRAB				*e*S	**S**	**21 29 27.6**	**-2.0**
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**21 25 08.4**	**-0.7**
	comp=Z,28nm,0.9s,baz=344,slow=10,SNR=146						
WRA				S	**S**	**21 29 31.7**	**+2.0**
	comp=Z,6.8nm,1.0s,baz=344,slow=17,SNR=8.8						
WRA				ScP	**ScP**	**21 32 22.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=339,slow=3.1,SNR=9.9						
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**21 25 08.4**	**-0.7**
WRA				S	**S**	**21 29 31.7**	**+2.0**
WRA				ScP	**ScP**	**21 32 22.3**	**+0.5**
IPM	**Ipoh**	**25.71**	**272**	*e*P	**P**	**21 25 18.5**	**+1.0**
	comp=Z,23nm,1.2s						
IPM	**Ipoh**	**25.71**	**272**	P	**P**	**21 25 17.3**	**-0.2**
IPM	**Ipoh**	**25.71**	**272**	P	**P**	**21 25 18.8**	**+1.3**
	comp=Z,16nm,1.3s						
KULM	**Kulim**	**26.10**	**274**	P	**P**	**21 25 20.7**	**-0.3**
PPI	**Padang Panjang**	**26.73**	**261**	P	**P**	**21 25 27.8**	**+1.1**
	comp=Z,14nm,1.4s						
PSI	**Prapat**	**27.85**	**269**	P	**P**	**21 25 33.1**	**-3.8**
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**21 25 39.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=346,slow=8.2,SNR=26						
ASAR				PcP	**PcP**	**21 28 53.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=332,slow=2.6,SNR=5.6						
ASAR				S	**S**	**21 30 28.4**	**+4.4**
	comp=Z,2.8nm,0.9s,baz=348,slow=17,SNR=4.2						
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**21 25 39.4**	**-0.7**
ASAR				PcP	**PcP**	**21 28 53.5**	**+0.3**
ASAR				S	**S**	**21 30 28.4**	**+4.4**
NJ2	**Nanjing**	**29.01**	**346**	*e*P	**P**	**21 25 48.1**	**+1.3**
NJ2				pP	**pP**	**21 25 56.1**	**-0.4**
NJ2				sP	**sP**	**21 26 00.1**	**-0.5**
NJ2				S	**S**	**21 30 36.0**	**+0.2**
NJ2				sS	**sS**	**21 30 52.5**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,8.7s						
NJ2				LR	LR		
	comp=N,240nm,22.6s						
NJ2				LR	LR		
	comp=E,280nm,22.2s						
NJ2				LR	LR		
	comp=Z,160nm,21.8s						
JNU	**Nakatsue**	**29.35**	**7**	P	**P**	**21 25 49.3**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=48,slow=16,SNR=6.4						
JNU	**Nakatsue**	**29.35**	**7**	P	**P**	**21 25 49.3**	**-0.5**
GYA	**Guiyang**	**29.60**	**321**	P	**P**	**21 25 53.4**	**+1.1**
GYA				pP	**pP**	**21 26 02.6**	**+0.6**
GYA				S	**S**	**21 30 45.0**	**-0.6**
GYA				SS	**SnSn**	**21 32 21.8**	**+6.2**
GYA				ScP	**ScP**	**21 32 35.0**	**-1.3**
GYA				ScS	**ScS**	**21 36 29.4**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.5s						
GYA				LR	LR		
	comp=N,480nm,17.7s						
GYA				LR	LR		
	comp=E,440nm,18.9s						
GYA				LR	LR		
	comp=Z,360nm,16.6s						
CM31	**Chiang Mai Arr**	**30.86**	**300**	*e*P	**P**	**21 26 03.2**	**-0.2**
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**21 26 03.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=123,slow=7.8,SNR=22						
CMAR				PcP	**PcP**	**21 29 01.0**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=125,slow=0.9,SNR=4.6						
CMAR				ScP	**ScP**	**21 32 42.5**	**+2.0**
	comp=Z,1.6nm,0.9s,baz=159,slow=1.7,SNR=11						
CMAR				LR	LR	21 40 46.9	
	comp=Z,147nm,18.2s,baz=239,slow=41						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**21 26 03.1**	**-0.3**
CMAR				PcP	**PcP**	**21 29 01.0**	**+1.0**
CMAR				ScP	**ScP**	**21 32 42.5**	**+2.0**
CHTO	**Chiang Mai**	**31.01**	**301**	*e*P	**P**	**21 26 03.9**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**31.01**	**301**	*e*P	**P**	**21 26 03.9**	**-0.8**
	comp=Z,5.4nm,0.7s						
CHTO	**Chiang Mai**	**31.01**	**301**	P	**P**	**21 26 03.8**	**-0.9**
	comp=Z,9.5nm,0.9s						
KMI	**Kunming**	**31.33**	**315**	P	**P**	**21 26 08.4**	**+0.7**
KMI				S	**S**	**21 31 12.8**	**-0.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				LR	LR		
	comp=N,160nm,16.3s						
KMI				LR	LR		
	comp=E,250nm,22.4s						
KMI				LR	LR		
	comp=Z,350nm,22.3s						
KSAR	**Wonju Array Be**	**33.42**	**2**	P	**P**	**21 26 25.9**	**+0.3**
KSAR				PcP	**PcP**	**21 29 08.2**	**+1.7**
KSRS	**Korea Array**	**33.44**	**2**	P	**P**	**21 26 25.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=182,slow=9.8,SNR=8.8						
KSRS				PcP	**PcP**	**21 29 08.2**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=185,slow=3.2,SNR=6.2						
MJAR	**Matsushiro Arr**	**34.17**	**16**	P	**P**	**21 26 30.2**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=184,slow=10,SNR=7.4						
MJAR				LR	LR	21 37 42.8	
	comp=Z,177nm,21.2s,baz=190,slow=32						
MJAR	**Matsushiro Arr**	**34.17**	**16**	P	**P**	**21 26 30.2**	**-2.0**
XAN	**Xi'an**	**34.32**	**333**	P	**P**	**21 26 32.0**	**-1.6**
XAN				pP	**pP**	**21 26 41.1**	**-2.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,27nm,9.4s						
FORT	**Forrest**	**34.48**	**178**	*e*P	**P**	**21 26 36.5**	**+1.6**
	comp=Z,49nm,1.1s						
CD2	**Chengdu**	**34.57**	**324**	P	**P**	**21 26 37.2**	**+1.4**
CD2				pP	**pP**	**21 26 47.3**	**+1.8**
CD2				sP	**sP**	**21 26 51.5**	**+1.9**
CD2				PP	**PP**	**21 27 54.5**	**0.0**
CD2				S	**S**	**21 32 03.6**	**+0.8**
CD2				sS	**sS**	**21 32 20.3**	**+1.3**
CD2				SS	**SnSn**	**21 34 17.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,190nm,4.9s						
CD2				LR	LR		
	comp=N,360nm,5.9s						
CD2				LR	LR		
	comp=Z,320nm,13.1s						
BJI	**Beijing**	**37.26**

comp=Z,15nm,0.8s
LSA Lhasa 42.40 311 P **P** **21 27 41.4 -0.7**
GTA Gaotai 43.01 329 *e*P **P** **21 27 45.8 -0.7**
GTA pP **pP** **21 27 54.7 -1.7**
GTA sP **sP** **21 27 58.1 -2.4**
GTA PP **PP** **21 29 29.7 +2.9**
GTA S **S** **21 34 08.1 -1.9**
GTA SS SS 21 37 14.3 -8.6
GTA pmax pmax
comp=Z,7.0nm,0.5s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,180nm,20.4s
GTA LR LR
comp=E,230nm,16.6s
GTA LR LR
comp=Z,310nm,20.0s
TAPN Taplejung 43.99 306 *e*P **P** **21 27 53.4 -1.4**
comp=Z,20nm,0.8s
TAPN Taplejung 43.99 306 *e*P **P** **21 27 53.4 -1.4**
comp=Z,20nm,0.8s
ODAN Odare 44.04 305 *e*P **P** **21 27 53.7 -1.4**
comp=Z,22nm,0.6s
ODAN Odare 44.04 305 *e*P **P** **21 27 53.7 -1.4**
comp=Z,22nm,0.6s
RAMN Ramite 44.72 305 *e*P **P** **21 27 59.5 -1.1**
comp=Z,24nm,0.7s
RAMN Ramite 44.72 305 *e*P **P** **21 27 59.5 -1.1**
comp=Z,24nm,0.7s
HABR Khabarovsk 44.99 8 *e*P **P** **21 28 01.0 -1.0**
HABR *e* 21 29 41.0
HABR *e*SS **S** **21 34 39.0 +0.7**
HABR *e**SS **sS** **21 34 55.4 +0.7**
HABR *e* 21 37 55.3
HABR pmax pmax
comp=Z,100nm,1.7s
HABR pmax pmax
comp=N,95nm,2.6s
HABR pmax pmax
comp=E,113nm,1.7s
HABR MLR MLR
comp=Z,243nm,16.0s
JIRN Jiri 45.34 306 *e*P **P** **21 28 04.4 -1.3**
comp=Z,4.4nm,0.7s
JIRN Jiri 45.34 306 *e*P **P** **21 28 04.4 -1.3**
comp=Z,4.4nm,0.7s
GUN Gumba 45.70 306 *e*P **P** **21 28 07.1 -1.3**
comp=Z,31nm,0.7s
GUN Gumba 45.70 306 *e*P **P** **21 28 07.1 -1.3**
comp=Z,31nm,0.7s
PKI Pulchoki 45.94 305 *e*P **P** **21 28 08.6 -1.8**
PKI Pulchoki 45.94 305 *e*P **P** **21 28 08.6 -1.8**
PKI Pulchoki 45.94 305 *e*P **P** **21 28 08.6 -1.8**
KKN Kakani 46.13 305 *e*P **P** **21 28 10.1 -1.6**
KKN Kakani 46.13 305 *e*P **P** **21 28 10.1 -1.6**
KKN Kakani 46.13 305 *e*P **P** **21 28 10.1 -1.6**
GKN Gorkha 46.74 305 *e*P **P** **21 28 14.6 -1.8**
GKN Gorkha 46.74 305 *e*P **P** **21 28 14.6 -1.8**
ULN Ulaanbaatar 47.00 342 *e*P **P** **21 28 18.1 -0.1**
comp=Z,9.3nm,1.2s
ULN *e*PcP **PcP** **21 29 49.6 -0.5**
SONM Songino Array 47.19 341 P **P** **21 28 19.4 -0.1**
comp=Z,2.6nm,0.7s,baz=156,slow=8.5,SNR=7.6
SONM PcP **PcP** **21 29 51.4 +0.7**
comp=Z,2.4nm,0.8s,baz=158,slow=5.8,SNR=4.0
SONM LR LR 21 48 31.5
comp=Z,126nm,19.2s,baz=180,slow=37
SONM Songino Array 47.19 341 P **P** **21 28 19.4 -0.1**
SONM PcP **PcP** **21 29 51.4 +0.7**
KOLN Koldanda 47.50 305 *e*P **P** **21 28 21.1 -1.3**
comp=Z,28nm,0.5s
KOLN Koldanda 47.50 305 *e*P **P** **21 28 21.1 -1.3**
comp=Z,28nm,0.5s
DANN Dangsing 47.59 305 *e*P **P** **21 28 21.7 -1.5**
comp=Z,32nm,0.5s
DANN Dangsing 47.59 305 *e*P **P** **21 28 21.7 -1.5**
comp=Z,32nm,0.5s
PYUN Piuthan 48.12 305 *e*P **P** **21 28 25.9 -1.3**
comp=Z,30nm,0.7s
PYUN Piuthan 48.12 305 *e*P **P** **21 28 25.9 -1.3**
comp=Z,30nm,0.7s
HYB Hyderabad 49.13 290 *i*P **P** **21 28 34.0 -0.9**
ZAK Zakamensk 50.41 341 *e*P **P** **21 28 42.4 -1.8**
ZAK *e* 21 30 02.6
TLY Talaya 51.41 342 *e*P **P** **21 28 51.1 -0.6**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,85nm,18.0s
MOY Mondy 52.27 340 *e*P **P** **21 28 58.6 +0.5**
WMQ Urumqi 52.65 325 *e*P **P** **21 29 00.5 -0.5**
WMQ LR LR
comp=N,320nm,29.0s
WMQ LR LR
comp=E,130nm,29.0s
WMQ LR LR
comp=Z,170nm,24.0s
HVS Khovu-Aksy 54.64 335*d i*P **P** **21 29 15.5 0.0**
HVS pmax pmax
comp=Z,18nm,0.6s
HVS MLR MLR
comp=Z,4μm,19.0s
BOD Bodaibo 54.73 352 *e*P **P** **21 29 15.1 -0.8**
BOD pmax pmax
comp=Z,8.0nm,1.4s
PETK Petropavlovsk- 55.27 22 P **P** **21 29 20.4 +0.5**
comp=Z,4.0nm,0.6s,baz=202,slow=5.1,SNR=5.8
PETK Petropavlovsk- 55.27 22 P **P** **21 29 20.4 +0.5**
PETK Petropavlovsk- 55.27 22 P **P** **21 29 20.4 +0.5**
DGAR Diego Garcia 55.38 258 *i*P **P** **21 29 18.7 -2.6**
MK31 Makanchi Array 57.48 325 *e*P **P** **21 29 34.8 -1.0**
MK31 Makanchi Array 57.48 325 *e*P **P** **21 29 34.8 -1.0**
MKAR Makanchi Array 57.48 325 P **P** **21 29 35.0 -0.8**
comp=Z,6.1nm,0.6s,baz=116,slow=8.2,SNR=93
MKAR PcP **PcP** **21 30 29.2 0.0**
comp=Z,2.3nm,0.6s,baz=111,slow=5.5,SNR=3.8
MKAR ScP **ScP** **21 34 27.4 +0.6**
comp=Z,0.4nm,0.8s,baz=99,slow=3.8,SNR=3.6
MKAR LR LR 21 55 02.1
comp=Z,159nm,20.2s,baz=236,slow=37
MKAR Makanchi Array 57.48 325 P **P** **21 29 35.0 -0.8**
MKAR 21 30 29.2
MKAR Makanchi Array 57.48 325 P **P** **21 29 35.0 -0.8**
MKAR PcP **PcP** **21 30 29.2 0.0**
MKAR ScP **ScP** **21 34 27.4 +0.6**
KSH Kashi 57.99 315 P **P** **21 29 41.3 +1.6**
KSH *e*pP **pP** **21 29 52.7 +2.8**
KSH sP **sP** **21 29 55.0 +1.1**
KSH *e*PP **PP** **21 31 53.0 +4.6**
KSH *e*ScP **ScP** **21 34 29.6 +0.2**
KSH PcS **PcS** **21 34 33.6 +0.6**
KSH S **S** **21 37 40.6 +2.5**
KSH ScS **ScS** **21 39 25.1 -2.0**
KSH SS **SS** **21 41 34.4 +4.7**
KSH pmax pmax
comp=Z,15nm,1.6s
KSH pmax pmax
comp=Z,100nm,5.3s
KSH LR LR
comp=N,140nm,5.5s
KSH LR LR
comp=E,79nm,6.3s
KSH LR LR
comp=Z,270nm,5.9s
YAK Yakutsk 58.06 2 *e*P **P** **21 29 38.5 -1.1**
YAK *e* 21 29 49.9
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 58.06 2 *e*P **P** **21 29 39.9 +0.3**
comp=N,25nm,0.6s
TKM2 Tokmak 2 59.69 318 *e*P **P** **21 29 50.9 -0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 59.69 318 *e*P **P** **21 29 50.9 -0.6**
comp=Z,4.5nm,0.8s
AAK Ala-Archa 60.30 318 P **P** **21 29 55.5 -0.2**
comp=Z,1.7nm,0.7s,baz=156,slow=12,SNR=8.0
AAK LR LR 21 58 01.2
comp=Z,178nm,20.6s,baz=95,slow=38
AAK Ala-Archa 60.30 318‖ *e*P **P** **21 29 56.0 +0.3**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK MLR MLR
comp=Z,389nm,21.0s
AAK Ala-Archa 60.30 318 *e*P **P** **21 29 55.7 +0.1**
comp=Z,13nm,0.8s
ZAA0 Zalesovo Array 60.49 333 *e*P **P** **21 29 55.0 -1.5**
ZALV Zalesovo Beam 60.49 333 P **P** **21 29 55.2 -1.3**
comp=Z,3.0nm,0.4s,baz=129,slow=6.4,SNR=30
ZALV LR LR 21 57 46.7
comp=Z,126nm,21.0s,baz=147,slow=38
ZALV Zalesovo Beam 60.49 333 P **P** **21 29 55.3 -1.3**
ZALV Zalesovo Beam 60.49 333 P **P** **21 29 55.2 -1.3**
EKS2 Erkin-Say 60.79 318 *e*P **P** **21 29 58.5 -0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 60.79 318 *e*P **P** **21 29 58.5 -0.5**
comp=Z,6.9nm,0.8s
KBL Kabul 61.49 307 *e*P **P** **21 30 02.8 -1.2**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 61.49 307 *e*P **P** **21 30 02.8 -1.2**
comp=Z,8.2nm,0.8s
KURBB Kurchatov Arra 61.66 327 P **P** **21 30 03.6 -0.8**
comp=Z,3.6nm,0.5s,baz=126,slow=6.4,SNR=33
KURK Kurchatov 61.66 327*c i*P **P** **21 30 03.3 -1.2**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK MLR MLR
comp=Z,65nm,20.0s
KURK Kurchatov 61.66 327 *e*P **P** **21 30 03.5 -1.0**
comp=Z,10nm,0.7s
NVS Novosibirsk 61.77 333 *e*P **P** **21 30 03.2 -2.0**
SEY Seymchan 61.88 13 *i*P **P** **21 30 05.8 +0.1**
KKAR Karatay Array 63.17 317 *e*P **P** **21 30 14.2 -0.6**
KKAR Karatay Array 63.17 317 *e*P **P** **21 30 14.2 -0.6**
BVAR Borovoye Array 67.24 327 P **P** **21 30 40.6 -0.4**
comp=Z,3.8nm,0.8s,baz=131,slow=6.2,SNR=22
BVAR Borovoye Array 67.24 327 P **P** **21 30 40.6 -0.4**
BVAR Borovoye Array 67.24 327 P **P** **21 30 40.6 -0.4**
BRVK Borovoye 67.31 327‖ *e*P **P** **21 30 40.7 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK MLR MLR
comp=Z,137nm,26.0s
BRVK Borovoye 67.31 327 *e*P **P** **21 30 40.3 -1.2**
comp=Z,7.8nm,0.7s
ABKAR Akbulak array 72.08 321 *e*P **P** **21 31 09.8 -1.1**
AKTO Aktyubinsk 73.59 322 P **P** **21 31 18.9 -1.0**
comp=Z,5.7nm,0.9s,baz=106,slow=6.8,SNR=23
AKTO LR LR 22 06 20.5
comp=Z,157nm,19.5s,baz=289,slow=38
AKTO Aktyubinsk 73.59 322 P **P** **21 31 18.9 -1.0**
AKTO Aktyubinsk 73.59 322 P **P** **21 31 18.9 -1.0**
ARU Arti 74.85 328*d i*P **P** **21 31 26.5 -0.6**
ARU 21 34 10.3
ARU S **S** **21 41 01.0 -0.7**
ARU SS SS 21 45 41.8 -8.3
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 74.85 328 *e*P **P** **21 31 25.9 -1.1**
RDF Al-Radifah 78.73 299 *e*P **P** **21 31 48.5 -1.0**
RDF AMb AMB 21 31 50.3
comp=Z,16nm,1.3s
MIB Mutribah 78.94 299 *e*P **P** **21 31 49.4 -1.2**
MIB AMb AMB 21 31 50.5
comp=Z,21nm,0.9s
NAY Al-Naaiem 79.01 299 *e*P **P** **21 31 49.5 -1.6**
NAY AMb AMB 21 31 50.7
comp=Z,10nm,0.9s
ZEI Tsey 82.17 312 *e*P **P** **21 32 08.0 0.0**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 83.09 314 *e*P **P** **21 32 13.0 +0.4**
KIV *e*SS SS 21 47 51.2 -3.3
KIV pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 83.56 173 P **P** **21 32 15.1 +0.9**
comp=Z,2.4nm,0.9s,baz=331,slow=6.0,SNR=6.3
VNDA Vanda 83.56 173 P **P** **21 32 15.1 +0.9**
COLD Coldfoot 83.73 23 *e*P **P** **21 32 12.6 -2.7**
comp=Z,7.2nm,1.0s
ILAR Eielson Array 84.94 25 P **P** **21 32 22.6 +1.1**
comp=Z,0.9nm,0.9s,baz=246,slow=5.1,SNR=13
ILAR Eielson Array 84.94 25 P **P** **21 32 22.6 +1.1**
KLMR Klimovskoe 85.31 331 *e*P **P** **21 32 21.2 -2.2**
KLMR pmax pmax
comp=Z,45nm,1.3s
ANN Anapa 86.85 315 *e*P **P** **21 32 30.0 -1.3**
ANN *e**PP **pP** **21 32 41.1 -0.9**
ANN *e*S **SKSac** **21 42 55.1 -0.9**
ANN pmax pmax
comp=Z,41nm,0.8s
OBN Obninsk 86.98 325‖ *e*P **P** **21 32 31.2 -0.5**
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 86.98 325 *e*P **P** **21 32 30.9 -0.9**
comp=Z,26nm,1.2s
JOF Joensuu 89.08 333 *e*P **P** **21 32 41.2 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 89.08 333 *e*p **P** **21 32 41.2 -0.4**
comp=Z,3.1nm,0.6s
BR131 Keskin Array S 89.98 310 *e*P **P** **21 32 45.5 -1.0**
comp=Z,3.4nm,1.0s
BRTR Keskin Array B 89.98 310 P **P** **21 32 45.5 -1.0**
comp=Z,2.6nm,0.9s,baz=107,slow=5.9,SNR=11
BRTR LR LR 22 19 33.7
comp=Z,60nm,19.9s,baz=280,slow=40
BRTR Keskin Array B 89.98 310 P **P** **21 32 45.5 -1.0**
ARCES ARCESS Array B 90.34 340 P **P** **21 32 46.8 -0.5**
comp=Z,3.0nm,0.6s,baz=89,slow=7.6,SNR=13
ARCES ARCESS Array B 90.34 340 P **P** **21 32 46.8 -0.5**
KAF Kangasniemi 91.50 332 *e*P **P** **21 32 51.8 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 91.50 332 *e*p **P** **21 32 51.8 -1.1**
comp=Z,2.2nm,0.7s
FINES FINESS Array B 91.74 332 P **P** **21 32 54.0 0.0**
comp=Z,1.5nm,0.8s,baz=339,slow=4.7,SNR=9.3
FINES LR LR 22 18 29.3
comp=Z,76nm,19.1s,baz=141,slow=38
FINES FINESS Array B 91.74 332 P **P** **21 32 54.0 0.0**
AKASG Malin Array Be 91.83 321 P **P** **21 32 53.9 -0.7**
comp=Z,0.4nm,0.3s,baz=75,slow=4.0,SNR=7.2
AKASG Malin Array Be 91.83 321 P **P** **21 32 53.9 -0.7**
AKASG Malin Array Be 91.83 321 P **P** **21 32 53.9 -0.7**
KIEV Kiev 91.84 321 *i*P **P** **21 32 53.0 -1.7**
QSPA South Pole Qui 93.78 180 P **P** **21 33 05.0 +1.6**
comp=Z,1.9nm,0.8s,baz=279,slow=3.1,SNR=5.6
QSPA South Pole Qui 93.78 180 P **P** **21 33 05.0 +1.6**
PLOR Plostina 94.30 316‖ P **P** **21 33 05.9 -0.3**
SUW Suwalki 94.85 325 *e*P **P** **21 33 07.3 -1.1**
SUW Suwalki 94.85 325 *e*P **P** **21 33 07.2 -1.3**
SUW pmax pmax
comp=Z,33nm,1.2s
SUW Suwalki 94.85 325 *e*P **P** **21 33 07.2 -1.3**
comp=Z,33nm,1.2s
SUW Suwalki 94.85 325 *e*P **P** **21 33 07.3 -1.1**
BUR08 Bucovina Ar. S 94.95 318 *e*P **P** **21 33 08.6 -0.7**
VOIR 95.47 316‖ P **P** **21 33 12.3 +0.6**
KWP Kalwaria Pacla 96.14 321‖ P **P** **21 33 14.3 -0.2**
UZH Uzhgorod 96.64 320*d i*P **P** **21 33 17.0 +0.2**
UZH *e* 21 33 30.7
DRGR 96.78 318‖ P **P** **21 33 17.3 -0.3**
BZS Buzias 97.79 317‖ P **P** **21 33 20.2 -1.9**
NOA NORSAR Array B 98.69 334 P **P** **21 33 24.9 -0.9**
comp=Z,1.0nm,0.7s,baz=67,slow=4.5,SNR=3.7
NOA LR LR 22 22 20.7
comp=Z,62nm,21.7s,baz=100,slow=38
NOA NORSAR Array B 98.69 334 P **P** **21 33 24.9 -0.9**
YKA Yellowknife Ar 99.34 24 P **Pdif** **21 33 29.7 +1.1**
comp=Z,0.1nm,0.6s,baz=296,slow=4.3,SNR=4.0
YKA Yellowknife Ar 99.34 24 P **Pdif** **21 33 29.8 +1.1**
GERES GERESS Array B 102.02 322 Pdiff **Pdif** **21 33 41.4 +0.5**
comp=Z,0.7nm,0.9s,baz=18,slow=1.7,SNR=5.0
GERES GERESS Array B 102.02 322 Pdif **Pdif** **21 33 41.4 +0.5**
PDAR Pinedale Array 111.20 41 PKKPbc PKKPbc 21 49 26.4 +8.0
comp=Z,1.1nm,0.9s,baz=131,slow=6.8,SNR=6.3
PDAR Pinedale Array 111.20 41 PKKPbc PKKPbc 21 49 26.4 +8.0
SCHQ Schefferville 120.42 9 PKP **PKPdf** **21 38 38.8 +0.9**
comp=Z,1.8nm,0.9s,baz=81,slow=6.6,SNR=4.9
SCHQ Schefferville 120.42 9 PKP **PKPdf** **21 38 38.8 +0.9**
TORD Torodi Ar. Bea 122.94 288 PKP **PKPdf** **21 38 43.6 -0.2**
comp=Z,3.0nm,0.8s,baz=81,slow=1.6,SNR=25
TORD Torodi Ar. Bea 122.94 288 PKP **PKPdf** **21 38 43.6 -0.2**
DBIC Dimbokro 130.62 282 PKP **PKPdf** **21 38 59.1 +0.6**
comp=Z,2.0nm,0.9s,baz=253,slow=15,SNR=4.5
DBIC SKPbc **SKPbc** **21 42 19.9 -0.1**
comp=Z,4.3nm,0.9s,baz=109,slow=3.3,SNR=4.4
DBIC Dimbokro 130.62 282 PKP **PKPdf** **21 38 59.1 +0.6**
DBIC SKPbc **SKPbc** **21 42 19.9 -0.1**
PLCA Paso Flores 140.12 159 PKP **PKPdf** **21 39 16.8 +1.1**
comp=Z,1.2nm,0.8s,baz=198,slow=4.9,SNR=3.9
PLCA Paso Flores 140.12 159 PKP **PKPdf** **21 39 16.8 +1.1**
TRQA Tornquist 145.04 168 *e*PKPbc **PKPdf** **21 39 24.2 -0.2**
CFAA Coronel Fontan 149.00 155 PKPbc **PKPbc** **21 39 36.5 +1.2**
comp=Z,0.5nm,0.7s,baz=241,slow=5.3,SNR=8.9
CFAA Coronel Fontan 149.00 155 PKPbc **PKPbc** **21 39 36.5 +1.2**
CPUP Villa Florida 157.32 170 PKPab **PKPab** **21 40 15.3 +1.0**
comp=Z,0.8nm,0.5s,baz=168,slow=6.8,SNR=5.3
CPUP Villa Florida 157.32 170 PKPab **PKPab** **21 40 15.3 +1.0**

*ISCJB **07** 21:24:28.6±0.4, 38°.36N±0°.02×21°.91E±0°.03, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=149.2*
*THE **07** 21:24:28.8, 38°.36N×21°.91E, h7km±2km, ML2.1/4, Error ellipse: s-maj=2.8km s-min=0.6km az=143.0*
*ATH **07** 21:24:28.9, 38°.35N×21°.92E, h5km±1km, MD2.7/8*
*CSEM **07** 21:24:28.9±0.1, 38°.36N×21°.92E, h2km, MD2.7, Error ellipse: s-maj=2.3km s-min=1.9km az=145.0*
ISC 07 21:24:29.1±0.9, **38°.36N**±0°.02×**21°.92E**±0°.02, **h5**km±7km, **n33**, σ**0°53**/63, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**351**	*e*PG		**Pg**		**21 24 30.5**	**-0.2**
EFP				*e*SG		**Sg**		**21 24 32.0**	**+0.1**
EFP	**Efpalio**	**0.07**	**351**	*e*Pg		**Pg**		**21 24 30.5**	**-0.2**
EFP				*e*Sg		**Sg**		**21 24 32.0**	**+0.1**
TRIZ	**Trizonia**	**0.12**	**85**	P		**Pg**		**21 24 31.6**	**0.0**
TRIZ				S		**Sg**		**21 24 33.6**	**+0.4**
TRIZ	**Trizonia**	**0.12**	**85**	P		**Pg**		**21 24 31.6**	**0.0**
TRIZ				S		**Sg**		**21 24 33.6**	**+0.4**
LAKA	**Lakka**	**0.12**	**158**	P		**Pg**		**21 24 31.4**	**-0.2**
LAKA				S		**Sg**		**21 24 33.6**	**+0.2**
LAKA	**Lakka**	**0.12**	**158**	P		**Pg**		**21 24 31.4**	**-0.2**
LAKA				S		**Sg**		**21 24 33.6**	**+0.2**
UPR	**University Cam**	**0.13**	**235**	*e*PG		**Pg**		**21 24 31.3**	**-0.4**
UPR				*e*SG		**Sg**		**21 24 33.8**	**+0.4**
UPR	**University Cam**	**0.13**	**235**	*e*Pg		**Pg**		**21 24 31.3**	**-0.4**
UPR				*e*Sg		**Sg**		**21 24 33.8**	**+0.4**
KALE	**Kalithea**	**0.18**	**78**	P		**Pg**		**21 24 32.4**	**-0.2**
KALE				S		**Sg**		**21 24 35.1**	**+0.1**
KALE	**Kalithea**	**0.18**	**78**	P		**Pg**		**21 24 32.4**	**-0.2**
KALE				S		**Sg**		**21 24 35.1**	**+0.1**
RLS	**Riolos of Patr**	**0.47**	**230**	P		**Pg**		**21 24 37.8**	**-0.2**
RLS				S		**Sg**		**21 24 44.4**	**+0.3**
RLS	**Riolos of Patr**	**0.47**	**230**	*e*PG		**Pg**		**21 24 37.8**	**-0.2**
RLS				*e*SB		**Sg**		**21 24 44.7**	**+0.6**
RLS	**Riolos of Patr**	**0.47**	**230**	P		**Pg**		**21 24 37.8**	**-0.2**
RLS				S		**Sg**		**21 24 44.4**	**+0.3**
RLS				*e*Sg		**Sg**		**21 24 44.7**	**+0.6**
DESF	**Desfina**	**0.48**	**83**	P		**Pg**		**21 24 38.5**	**+0.1**
DESF				S		**Sg**		**21 24 45.6**	**+0.9**
DESF	**Desfina**	**0.48**	**83**	P		**Pg**		**21 24 38.5**	**+0.1**
DESF				S		**Sg**		**21 24 45.6**	**+0.9**
GUR	**Goura**	**0.54**	**141**	*e*PB		**Pg**		**21 24 38.8**	**-0.6**
GUR				*e*SB		**Sg**		**21 24 46.8**	**+0.4**
GUR	**Goura**	**0.54**	**141**	*e*Pg		**Pg**		**21 24 38.8**	**-0.6**
GUR				*e*Sg		**Sg**		**21 24 46.8**	**+0.4**
EVR	**Evrytania**	**0.57**	**351**	P		**Pg**		**21 24 39.2**	**-0.8**
EVR				S		**Sg**		**21 24 47.9**	**+0.5**
EVR	**Evrytania**	**0.57**	**351**	*e*PB		**Pg**		**21 24 39.6**	**-0.4**
EVR				*e*SB		**Sg**		**21 24 48.4**	**+1.0**
EVR	**Evrytania**	**0.57**	**351**	P		**Pg**		**21 24 39.2**	**-0.8**
EVR	**Evrytania**	**0.57**	**351**	*e*Pg		**Pg**		**21 24 39.6**	**-0.4**
EVR				S		**Sg**		**21 24 47.9**	**+0.5**
EVR				*e*Sg		**Sg**		**21 24 48.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.68**	**14**	P		**Pg**		**21 24 41.8**	**-0.3**
MAKR				S		**Sg**		**21 24 51.9**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.68**	**14**	P		**Pg**		**21 24 41.8**	**-0.3**
MAKR				S		**Sg**		**21 24 51.9**	**+1.0**
AXAR	**Agios Charalam**	**0.71**	**55**	P		**Pg**		**21 24 41.8**	**-0.9**
AXAR				S		**Sg**		**21 24 52.5**	**+0.5**
AXAR	**Agios Charalam**	**0.71**	**55**	P		**Pg**		**21 24 41.8**	**-0.9**
AXAR				S		**Sg**		**21 24 52.5**	**+0.5**
LTK	**Loutraki**	**0.89**	**112**	*e*PB		**Pg**		**21 24 46.1**	**-0.1**
LTK	**Loutraki**	**0.89**	**112**	*e*Pg		**Pg**		**21 24 46.1**	**-0.1**
LKR	**Lokris**	**0.90**	**71**	P		**Pg**		**21 24 45.4**	**-0.9**
LKR				S		**Sb**		**21 24 59.2**	**-0.2**
LKR	**Lokris**	**0.90**	**71**	P		**Pg**		**21 24 45.4**	**-0.9**
LKR				S		**Sb**		**21 24 59.2**	**-0.2**
VLS	**Valsamata**	**1.06**	**261**	*e*PG		**Pg**		**21 24 48.9**	**-0.6**
VLS				*e*SB		**Sb**		**21 25 04.7**	**+0.5**
VLS	**Valsamata**	**1.06**	**261**	*e*Pg		**Pg**		**21 24 48.9**	**-0.6**
VLS				*e*Sg		**Sb**		**21 25 04.7**	**+0.5**
DID	**Didima**	**1.34**	**129**	*e*PB		**Pb**		**21 24 54.5**	**-0.3**
DID	**Didima**	**1.34**	**129**	*e*Pn		**Pb**		**21 24 54.5**	**-0.3**

*DJA **07** 21:33:14.9±0.7, 1°.5S×12°.7E±°, h10km, M3.3/3, MLv3.3/3*
*IDC **07** 21:33:14.2±1.9, 1°.53N×125°.97E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=180.3km s-min=24.0km az=65.0*
*ISCJB **07** 21:33:18.1±1.4, 1°.9N±0°.1×126°.67E±0°.08, h47km, mb3.5/3, Error ellipse: s-maj=19.6km s-min=8.3km az=25.3*
ISC 07 21:33:19.7±1.5, **1°.8N**±0°.2×**126°.66E**±0°.09, **h47**km, **n6**, σ**1s07/8**, **mb3.6**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**146**	P		**Pn**		**21 33 41.1**	**+0.2**
TNTI				S		**Sn**		**21 33 56.4**	**-0.2**
MNI	**Manado**	**1.85**	**259**	P		**Pn**		**21 33 49.2**	**+0.1**
MNI				S		**Sn**		**21 34 10.0**	**-1.4**
KMSI	**Cibinong**	**2.94**	**245**	P		**Pn**		**21 34 05.5**	**+1.4**
WRA	**Warramunga Arr**	**22.90**	**161**	P		**P**		**21 38 18.6**	**-1.1**
	1.2nm,0.5s,baz=338,slow=11,SNR=18								
ASAR	**Alice Springs**	**26.29**	**165**	P		**P**		**21 38 51.7**	**+0.6**
	0.5nm,0.3s,baz=346,slow=12,SNR=12								
MKAR	**Makanchi Array**	**59.09**	**326**	P		**P**		**21 43 15.4**	**0.0**
	0.2nm,0.4s,baz=120,slow=7.9,SNR=8.8								

*ISK **07** 21:37:06.7, 39°.11N×29°.07E, h5km, MD2.8*
*ISCJB **07** 21:37:07.2±0.5, 39°.12N±0°.03×29°.08E±0°.03, h3km±6km, Error ellipse: s-maj=5.3km s-min=3.6km az=149.1*
*DDA **07** 21:37:07.2, 39°.12N×29°.07E, h7km, MD2.8*
*CSEM **07** 21:37:07.4±0.1, 39°.11N×29°.08E, h5km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.8km az=144.0*
ISC 07 21:37:07.7±0.9, **39°.11N**±0°.03×**29°.08E**±0°.02, **h11**km±9km, **n44**, σ**0°47**/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**257**	*i*P		**Pg**		**21 37 13.8**	**+0.1**
DEMI				*i*S		**Sg**		**21 37 17.9**	**+0.2**
DEMI	**Demirci**	**0.29**	**257**	*i*P		**Pg**		**21 37 13.8**	**+0.1**
DEMI				*i*S		**Sg**		**21 37 17.9**	**+0.2**
GDZ	**Gediz**	**0.31**	**94**	*e*P		**Pg**		**21 37 14.1**	**+0.1**
GDZ				*e*S		**Sg**		**21 37 18.5**	**+0.3**
GDZ	**Gediz**	**0.31**	**94**	*e*P		**Pg**		**21 37 14.1**	**+0.1**
GDZ				*e*S		**Sg**		**21 37 18.5**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**41**	PG		**Pg**		**21 37 16.1**	**-0.4**
TVSB				SG		**Sg**		**21 37 21.9**	**-0.5**
TVSB	**Tavsanli**	**0.45**	**41**	*i*Pg		**Pg**		**21 37 16.1**	**-0.4**
TVSB				*i*Sg		**Sg**		**21 37 22.0**	**-0.5**
DST	**Dursunbey**	**0.61**	**324**	*e*PG		**Pg**		**21 37 19.1**	**-0.5**
DST	**Dursunbey**	**0.61**	**324**	*e*Pg		**Pg**		**21 37 19.1**	**-0.5**
DURS	**Dursunbey**	**0.68**	**316**	*e*P		**Pg**		**21 37 20.9**	**0.0**
DURS				*e*S		**Sg**		**21 37 29.8**	**0.0**
DURS	**Dursunbey**	**0.68**	**316**	*e*P		**Pg**		**21 37 20.9**	**0.0**
DURS				*e*S		**Sg**		**21 37 29.8**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG		**Pg**		**21 37 20.1**	**-0.8**
KULA				*e*SG		**Sg**		**21 37 29.6**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg		**Pg**		**21 37 20.1**	**-0.8**
KULA				*e*Sg		**Sg**		**21 37 29.6**	**-0.3**
MANT	**Manisa**	**0.74**	**214**	*i*P		**Pg**		**21 37 22.1**	**0.0**
MANT				*i*S		**Sg**		**21 37 31.8**	**-0.1**
MANT	**Manisa**	**0.74**	**214**	*i*P		**Pg**		**21 37 22.1**	**0.0**
MANT				*i*S		**Sg**		**21 37 31.8**	**-0.1**
ALT	**Altintas**	**0.80**	**94**	*e*PG		**Pb**		**21 37 23.5**	**-0.2**
ALT	**Altintas**	**0.80**	**94**	*e*Pg		**Pb**		**21 37 23.5**	**-0.2**
ORLT	**Orhaneli**	**0.94**	**351**	*e*PG		**Pg**		**21 37 25.6**	**-0.3**

ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg	**Pg**	**21 37 25.6**	**-0.3**
AKHS	**Akhisar**	**1.02**	**257**	*e*P	**Pb**	**21 37 27.1**	**-0.2**
AKHS				*e*S	**Sb**	**21 37 40.8**	**+0.1**
AKHS	**Akhisar**	**1.02**	**257**	*e*P	**Pb**	**21 37 27.1**	**-0.2**
AKHS				*e*S	**Sb**	**21 37 40.8**	**+0.1**
AKS	**Akhisar**	**1.02**	**257**	*e*PG	**Pg**	**21 37 26.2**	**-1.0**
AKS	**Akhisar**	**1.02**	**257**	*e*Pg	**Pg**	**21 37 26.3**	**-1.0**
BALB	**Balikesir**	**1.07**	**300**	*e*PG	**Pg**	**21 37 27.4**	**-0.9**
BALB	**Balikesir**	**1.07**	**300**	*e*Pg	**Pg**	**21 37 27.4**	**-0.9**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*PN	**Pg**	**21 37 30.8**	**-0.7**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*Pn	**Pg**	**21 37 30.8**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pn**	**21 37 31.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pn**	**21 37 31.3**	**0.0**
BALY	**Balya**	**1.30**	**299**	*e*P	**Pg**	**21 37 33.2**	**+0.6**
BALY				*e*S	**Sb**	**21 37 49.0**	**+0.2**
BALY	**Balya**	**1.30**	**299**	*e*P	**Pg**	**21 37 33.2**	**+0.6**
BALY				*e*S	**Sb**	**21 37 49.0**	**+0.2**
GEMT	**Gemlik**	**1.32**	**3**	*e*PN	**Pn**	**21 37 32.4**	**+0.3**
GEMT	**Gemlik**	**1.32**	**3**	*e*Pn	**Pn**	**21 37 32.4**	**+0.3**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	**Pn**	**21 37 33.8**	**+0.5**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pn**	**21 37 33.8**	**+0.5**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN	**Pn**	**21 37 33.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn	**Pn**	**21 37 33.8**	**+0.3**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pn**	**21 37 34.5**	**+0.5**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**21 37 34.5**	**+0.5**
GULT	**Gulveren**	**1.72**	**39**	*e*PN	**Pn**	**21 37 38.2**	**+0.6**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn	**Pn**	**21 37 38.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.88**	**313**	*e*PN	**Pn**	**21 37 40.2**	**+0.5**
KRBG	**Karabiga-Canak**	**1.88**	**313**	*e*Pn	**Pn**	**21 37 40.2**	**+0.5**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*PN	**Pn**	**21 37 44.5**	**+0.8**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pn**	**21 37 44.5**	**+0.8**

ATH ***07*** *21:40:07.9, 39°.88N×24°.28E, h30km±1km, MD2.8/5*
ISCJB ***07*** *21:40:08.9±0.5, 39°.91N±0°.03×24°.29E±0°.04, h27km±5km, Error ellipse: s-maj=5.4km s-min=4.6km az=155.9*
THE ***07*** *21:40:08.9, 39°.90N×24°.28E, h19km±2km, ML2.2/5, Error ellipse: s-maj=2.1km s-min=0.7km az=31.0*
CSEM ***07*** *21:40:08.6±0.1, 39°.90N×24°.29E, h18km±1km, ML2.2/5, Error ellipse: s-maj=2.3km s-min=2.1km az=162.0*

ISC 07 21:40:08.5±1.1, 39°.89N±0°.03×24°.28E±0°.02, h18km±3km, n28, σ0s38/47, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.46**	**274**	P	**Pb**	**21 40 18.0**	**-0.1**
PAIG				S	**Sb**	**21 40 25.2**	**+0.6**
PAIG	**Paliouri**	**0.46**	**274**	P	**Pb**	**21 40 18.0**	**-0.1**
PAIG				S	**Sb**	**21 40 25.2**	**+0.6**
OUR	**Ouranopolis**	**0.50**	**333**	P	**Pg**	**21 40 18.6**	**+0.1**
OUR				S	**Sb**	**21 40 25.9**	**+0.4**
OUR	**Ouranopolis**	**0.50**	**333**	P	**Pg**	**21 40 18.6**	**+0.1**
OUR				S	**Sb**	**21 40 25.9**	**+0.4**
LIA	**Limnos Island**	**0.69**	**89**	P	**Pb**	**21 40 21.6**	**-0.4**
LIA				S	**Sg**	**21 40 31.9**	**+0.5**
LIA	**Limnos Island**	**0.69**	**89**	*e*PN	**Pb**	**21 40 21.6**	**-0.4**
LIA				*e*SN	**Sn**	**21 40 32.5**	**-1.1**
LIA	**Limnos Island**	**0.69**	**89**	P	**Pb**	**21 40 21.6**	**-0.4**
LIA				S	**Sg**	**21 40 31.9**	**+0.5**
LIA				*e*Sn	**Sn**	**21 40 32.5**	**-1.1**
AOS	**Alonnisos**	**0.79**	**203**	P	**Pb**	**21 40 23.5**	**-0.1**
AOS				S	**Sn**	**21 40 35.6**	**-0.3**
AOS	**Alonnisos**	**0.79**	**203**	P	**Pb**	**21 40 23.5**	**-0.1**
AOS				S	**Sn**	**21 40 35.6**	**-0.3**
PLG	**Polygyros**	**0.80**	**307**	P	**Pb**	**21 40 23.6**	**-0.2**
PLG				S	**Sg**	**21 40 34.7**	**-0.1**
PLG	**Polygyros**	**0.80**	**307**	*e*PN	**Pb**	**21 40 23.7**	**-0.1**
PLG				*e*SN	**Sg**	**21 40 34.7**	**-0.1**
PLG	**Polygyros**	**0.80**	**307**	P	**Pb**	**21 40 23.6**	**-0.2**
PLG				S	**Sg**	**21 40 34.7**	**-0.1**
SKIA	**Skiathos**	**0.96**	**221**	P	**Pb**	**21 40 26.7**	**+0.1**
SKIA				S	**Sn**	**21 40 40.3**	**+0.1**
SKIA	**Skiathos**	**0.96**	**221**	P	**Pb**	**21 40 26.7**	**+0.1**
SKIA				S	**Sn**	**21 40 40.3**	**+0.1**
XOR	**Xorichti**	**0.99**	**238**	P	**Pn**	**21 40 27.4**	**-0.1**
XOR				S	**Sg**	**21 40 40.6**	**-0.2**
XOR	**Xorichti**	**0.99**	**238**	P	**Pn**	**21 40 27.4**	**-0.1**
XOR				S	**Sg**	**21 40 40.6**	**-0.2**
NEO	**Neokhori**	**1.00**	**235**	*e*PN	**Pn**	**21 40 27.5**	**-0.2**
NEO				*e*SN	**Sn**	**21 40 40.7**	**-0.6**
NEO	**Neokhori**	**1.00**	**235**	*e*Pn	**Pn**	**21 40 27.5**	**-0.2**
NEO				*e*Sn	**Sn**	**21 40 40.7**	**-0.6**
SOH	**Sokhos**	**1.17**	**323**	*e*PN	**Pb**	**21 40 30.2**	**+0.1**
SOH	**Sokhos**	**1.17**	**323**	*e*Pn	**Pb**	**21 40 30.2**	**+0.1**
SRS	**Serrai**	**1.33**	**337**	P	**Pn**	**21 40 32.1**	**0.0**
SRS	**Serrai**	**1.33**	**337**	P	**Pn**	**21 40 32.1**	**0.0**
NVR	**Nevrokopi**	**1.49**	**348**	*e*PN	**Pn**	**21 40 34.5**	**+0.2**
NVR	**Nevrokopi**	**1.49**	**348**	*e*Pn	**Pn**	**21 40 34.5**	**+0.2**
PRK	**Paraskevi**	**1.67**	**112**	*e*PN	**Pn**	**21 40 37.1**	**+0.4**
PRK	**Paraskevi**	**1.67**	**112**	*e*Pn	**Pn**	**21 40 37.1**	**+0.4**
ALN	**Alexandroupoli**	**1.68**	**53**	*e*PN	**Pn**	**21 40 37.3**	**+0.4**
ALN	**Alexandroupoli**	**1.68**	**53**	*e*Pn	**Pn**	**21 40 37.3**	**+0.4**

GUC 07 21:59:49.4±0.7, 31°.61S×71°.74W, h30km±3km, MD3.9, ML3.2, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.35**	**143**	⇓*i*P	Pb	21 59 57.5	0.0
CHNG				*e*S	Sb	22 00 03.1	+0.1
CMCH	**Combarbala**	**0.77**	**56**	⇑*i*P	Pn	22 00 03.8	-0.5
CMCH				*i* S	Sb	22 00 14.5	-0.1
CMCH				AML	AML	22 00 20.1	
	comp=E,2μm,0.7s						
PTCH	**Petorca**	**0.95**	**134**	*e*P	Pn	22 00 06.8	0.0
PTCH				*i* S	Sb	22 00 19.7	0.0
OVCH	**Ovalle**	**1.10**	**25**	*e*P	Pn	22 00 09.0	+0.2
OVCH				*e*S	Sb	22 00 23.8	0.0
ROCH	**El Roble**	**1.50**	**156**	*e*P	Pn	22 00 15.4	+0.8
ROCH				*e*S	Sb	22 00 35.2	-0.5
ROCH				AML	AML	22 00 40.4	
	comp=N,531nm,0.7s						
TLL	**Tololo Astrono**	**1.65**	**30**	*e*P	Pn	22 00 17.8	+1.2
TLL				*e*S	Sb	22 00 39.6	-0.4
PEL	**Peldehue**	**1.78**	**150**	*e*P	Pn	22 00 19.5	+1.3
PEL				*e*S	Sb	22 00 42.5	-0.8
PEL				AML	AML	22 00 47.2	
	comp=E,480nm,0.3s						
CLCH	**Cerro Calan**	**2.06**	**151**	*e*P	Pn	22 00 22.1	+0.1
FCH	**Farellones**	**2.11**	**145**	*e*P	Pb	22 00 25.5	-2.0
FCH				*e*S	Sb	22 00 52.3	-1.3
LMEL	**Las Melosas**	**2.58**	**150**	*e*P	Pn	22 00 31.1	+1.6
LMEL				AML	AML	22 01 13.2	
	comp=N,116nm,0.3s						

ISCJB ***07*** *22:14:55.3±0.4, 39°.55N±0°.02×29°.37E±0°.03, h0km, Error ellipse: s-maj=3.7km s-min=3.4km az=37.8*
ISK ***07*** *22:14:55.6, 39°.55N×29°.46E, h14km, MD2.8*
DDA ***07*** *22:14:55.7, 39°.52N×29°.33E, h7km, MD2.8*
CSEM ***07*** *22:14:55.5±0.2, 39°.54N×29°.40E, h1km, MD2.8, Error ellipse: s-maj=4.9km s-min=4.2km az=90.0*

ISC 07 22:14:55.3±0.8, 39°.55N±0°.02×29°.38E±0°.02, h0km, n42, σ0s85/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.12**	**148**	*e*PG	**Pg**	**22 14 58.9**	**+1.3**
TVSB				*e*SG	**Sg**	**22 15 01.2**	**+2.1**
TVSB	**Tavsanli**	**0.12**	**148**	*e*Pg	**Pg**	**22 14 58.9**	**+1.3**
TVSB				*e*Sg	**Sg**	**22 15 01.2**	**+2.1**
GDZ	**Gediz**	**0.47**	**170**	*e*P	**Pg**	**22 15 04.9**	**+0.6**
GDZ				*e*S	**Sg**	**22 15 11.1**	**+0.8**
GDZ	**Gediz**	**0.47**	**170**	*e*P	**Pg**	**22 15 04.9**	**+0.6**
GDZ				*e*S	**Sg**	**22 15 11.1**	**+0.8**
DST	**Dursunbey**	**0.59**	**275**	*e*PG	**Pb**	**22 15 09.1**	**+0.6**
DST	**Dursunbey**	**0.59**	**275**	*e*Pg	**Pb**	**22 15 09.1**	**+0.6**
ORLT	**Orhaneli**	**0.62**	**323**	*e*PG	**Pb**	**22 15 09.2**	**+0.2**
ORLT	**Orhaneli**	**0.62**	**323**	*e*Pg	**Pb**	**22 15 09.3**	**+0.2**
DEMI	**Demirci**	**0.72**	**226**	*i* P	**Pg**	**22 15 09.3**	**+0.2**
DEMI				*i* S	**Sg**	**22 15 18.4**	**-0.1**
DEMI	**Demirci**	**0.72**	**226**	*i* P	**Pg**	**22 15 09.3**	**+0.2**
DEMI				*i* S	**Sg**	**22 15 18.4**	**-0.1**
CAVI	**Cavuskoy**	**0.74**	**29**	*e*PG	**Pg**	**22 15 10.0**	**+0.4**
CAVI	**Cavuskoy**	**0.74**	**29**	*e*Pg	**Pg**	**22 15 10.0**	**+0.4**
ALT	**Altintas**	**0.75**	**131**	*e*PG	**Pg**	**22 15 10.0**	**+0.3**
ALT	**Altintas**	**0.75**	**131**	*e*Pg	**Pg**	**22 15 10.0**	**+0.3**
BORA	**Eskisehir**	**0.89**	**68**	*e*P	**Pg**	**22 15 13.1**	**+0.7**
BORA				*e*S	**Sb**	**22 15 25.7**	**-0.5**
BORA	**Eskisehir**	**0.89**	**68**	*e*P	**Pg**	**22 15 13.1**	**+0.7**
BORA				*e*S	**Sb**	**22 15 25.7**	**-0.5**
GEMT	**Gemlik**	**0.90**	**351**	*e*PG	**Pg**	**22 15 12.9**	**+0.4**
GEMT	**Gemlik**	**0.90**	**351**	*e*Pg	**Pg**	**22 15 12.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.90**	**335**	*e*PG	**Pg**	**22 15 14.0**	**+1.4**
MDNY	**Mudanya-Bursa**	**0.90**	**335**	*e*Pg	**Pg**	**22 15 14.0**	**+1.4**
YLV	**Yalova**	**1.01**	**360**	*e*PG	**Pg**	**22 15 15.7**	**+1.0**
YLV	**Yalova**	**1.01**	**360**	*e*Pg	**Pg**	**22 15 15.7**	**+1.0**
ARMT	**Armutlu**	**1.09**	**339**	*e*PN	**Pg**	**22 15 16.6**	**+0.4**
ARMT	**Armutlu**	**1.09**	**339**	*e*Pn	**Pg**	**22 15 16.6**	**+0.4**
BALB	**Balikesir**	**1.16**	**275**	*e*PN	**Pb**	**22 15 18.9**	**+0.7**
BALB	**Balikesir**	**1.16**	**275**	*e*Pn	**Pb**	**22 15 18.9**	**+0.7**
KULA	**Kula-Manisa**	**1.18**	**209**	*e*PN	**Pg**	**22 15 17.9**	**+0.1**
KULA	**Kula-Manisa**	**1.18**	**209**	*e*Pn	**Pg**	**22 15 17.9**	**+0.1**
KHL	**Karahalli**	**1.23**	**175**	*e*PN	**Pb**	**22 15 19.7**	**+0.2**
KHL	**Karahalli**	**1.23**	**175**	*e*Pn	**Pb**	**22 15 19.7**	**+0.2**
MANT	**Manisa**	**1.24**	**211**	*e*P	**Pg**	**22 15 18.9**	**-0.1**
MANT				*e*S	**Sg**	**22 15 34.1**	**-1.0**
MANT	**Manisa**	**1.24**	**211**	*e*P	**Pg**	**22 15 18.9**	**-0.1**
MANT				*e*S	**Sg**	**22 15 34.1**	**-1.0**
GULT	**Gulveren**	**1.24**	**44**	*e*PN	**Pg**	**22 15 19.1**	**0.0**
GULT	**Gulveren**	**1.24**	**44**	*e*Pn	**Pg**	**22 15 19.1**	**0.0**
BALY	**Balya**	**1.37**	**278**	*e*P	**Pn**	**22 15 21.1**	**-0.7**
BALY				*e*S	**Sg**	**22 15 39.7**	**+0.3**
BALY	**Balya**	**1.37**	**278**	*e*P	**Pn**	**22 15 21.1**	**-0.7**
BALY				*e*S	**Sg**	**22 15 39.7**	**+0.3**
AKHS	**Akhisar**	**1.39**	**242**	*e*P	**Pn**	**22 15 21.9**	**-0.1**
AKHS				*e*S	**Sg**	**22 15 39.7**	**-0.3**
AKHS	**Akhisar**	**1.39**	**242**	*e*P	**Pn**	**22 15 21.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**291**	*e*PN	**Pn**	**22 15 21.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.40**	**291**	*e*Pn	**Pn**	**22 15 21.5**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.66**	**93**	*e*PN	**Pn**	**22 15 23.6**	**-2.2**
SVRH	**Sivrihisar-ESK**	**1.66**	**93**	*e*Pn	**Pn**	**22 15 23.6**	**-2.2**

IDC 07 22:19:10.2±1.6, 2°.88S×128°.47E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=53.8km s-min=23.6km az=60.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.95**	**256**	Pn	Pn	22 21 21.2	+0.4
	0.7nm,0.3s,baz=96,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**17.91**	**162**	P	Pn	22 23 20.3	-0.6
	0.3nm,0.3s,baz=340,slow=13,SNR=13						
ASAR	**Alice Springs**	**21.33**	**166**	P	P	22 24 00.8	+1.8
	4.7nm,0.6s,baz=348,slow=12,SNR=60						
GUMO	**Guam**	**23.08**	**44**	LR	LR	22 31 30.9	
	comp=Z,76nm,19.3s,baz=166,slow=32						
STKA	**Stephens Creek**	**31.38**	**158**	P	P	22 25 32.4	-0.5
	0.6nm,0.4s,baz=318,slow=14,SNR=1.8						
MKAR	**Makanchi Array**	**63.96**	**327**	P	P	22 29 44.8	-0.5
	0.4nm,0.7s,baz=128,slow=6.4,SNR=5.4						

ISCJB ***07*** *22:26:06.9±0.7, 40°.47N±0°.03×26°.12E±0°.04, h9km±4km, Error ellipse: s-maj=5.3km s-min=4.5km az=168.8*
ISK ***07*** *22:26:06.9, 40°.46N×26°.15E, h12km, MD3.0*
ATH ***07*** *22:26:07.6, 40°.46N×26°.13E, h21km±1km, MD3.0/4*
DDA ***07*** *22:26:07.9, 40°.43N×26°.20E, h7km, MD2.8*
CSEM ***07*** *22:26:07.3±0.1, 40°.45N×26°.14E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.3km az=90.0*

ISC 07 22:26:07.8±0.9, 40°.46N±0°.02×26°.16E±0°.03, h13km±7km, n53, σ0s46/68, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.25**	**104**	PG	**Pg**	**22 26 12.8**	**-0.3**
GELI				SG	**Sg**	**22 26 17.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.25**	**104**	*i* Pg	**Pg**	**22 26 12.8**	**-0.3**
GELI				*i* Sg	**Sg**	**22 26 17.2**	**+0.5**
ENEZ	**Enez**	**0.28**	**359**	PG	**Pg**	**22 26 13.3**	**-0.3**
ENEZ	**Enez**	**0.28**	**359**	*i* Pg	**Pg**	**22 26 13.3**	**-0.3**
ERIK	**Erikli-Kesan**	**0.34**	**52**	PG	**Pg**	**22 26 14.4**	**-0.4**
ERIK				SG	**Sg**	**22 26 19.6**	**+0.1**
ERIK	**Erikli-Kesan**	**0.34**	**52**	*i* Pg	**Pg**	**22 26 14.4**	**-0.4**
ERIK				*i* Sg	**Sg**	**22 26 19.6**	**+0.1**
ALN	**Alexandroupoli**	**0.45**	**349**	*e*PB	**Pg**	**22 26 16.4**	**-0.3**
ALN				*e*SB	**Sg**	**22 26 22.9**	**+0.2**
ALN	**Alexandroupoli**	**0.45**	**349**	*e*Pb	**Pg**	**22 26 16.4**	**-0.3**
ALN				*e*Sb	**Sg**	**22 26 22.9**	**+0.2**
LPK	**Lapseki**	**0.47**	**100**	*e*PG	**Pg**	**22 26 17.1**	**+0.1**
LPK	**Lapseki**	**0.47**	**100**	*e*Pg	**Pg**	**22 26 17.1**	**+0.1**
EZN	**Ezine**	**0.65**	**169**	*e*PG	**Pg**	**22 26 19.6**	**-0.8**
EZN	**Ezine**	**0.65**	**169**	*e*Pg	**Pg**	**22 26 19.6**	**-0.8**
RKY	**Sarkoy-Tekirda**	**0.81**	**73**	*e*PG	**Pg**	**22 26 23.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.81**	**73**	*e*Pg	**Pg**	**22 26 23.2**	**-0.3**
SART	**Tekirdag**	**0.81**	**73**	*e*P	**Pg**	**22 26 23.0**	**-0.5**
SART				*e*S	**Sb**	**22 26 34.7**	**+0.1**
KRBG	**Karabiga-Canak**	**0.87**	**94**	*e*PG	**Pg**	**22 26 23.6**	**-1.1**
KRBG	**Karabiga-Canak**	**0.87**	**94**	*e*Pg	**Pg**	**22 26 23.6**	**-1.1**
MFT	**Murefte**	**0.91**	**69**	*e*PG	**Pg**	**22 26 25.3**	**-0.2**
MFT	**Murefte**	**0.91**	**69**	*e*Pg	**Pg**	**22 26 25.3**	**-0.2**
LIA	**Limnos Island**	**0.94**	**234**	*e*PN	**Pb**	**22 26 25.4**	**-0.4**
LIA				*e*SN	**Sg**	**22 26 38.1**	**0.0**
LIA	**Limnos Island**	**0.94**	**234**	*e*Pn	**Pb**	**22 26 25.4**	**-0.4**
LIA				*e*Sn	**Sg**	**22 26 38.1**	**0.0**
TKR	**Tekirdag**	**1.17**	**63**	*e*PN	**Pg**	**22 26 30.2**	**-0.2**
TKR	**Tekirdag**	**1.17**	**63**	*e*Pn	**Pg**	**22 26 30.2**	**-0.2**
PRK	**Paraskevi**	**1.21**	**176**	*e*PN	**Pn**	**22 26 30.4**	**0.0**
PRK				*e*SN	**Sg**	**22 26 47.8**	**+0.8**
PRK	**Paraskevi**	**1.21**	**176**	*e*Pn	**Pn**	**22 26 30.4**	**0.0**
PRK				*e*Sn	**Sg**	**22 26 47.8**	**+0.8**
AYVA	**Ayvalik**	**1.22**	**160**	*e*P	**Pb**	**22 26 30.7**	**0.0**
AYVA				*e*S	**Sn**	**22 26 46.8**	**0.0**
AYVA	**Ayvalik**	**1.22**	**160**	*e*P	**Pn**	**22 26 30.7**	**0.0**
AYVA				*e*S	**Sn**	**22 26 46.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.24**	**109**	*e*PN	**Pn**	**22 26 30.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.24**	**109**	*e*Pn	**Pn**	**22 26 30.9**	**+0.1**
BALY	**Balya**	**1.33**	**122**	*e*P	**Pg**	**22 26 33.1**	**-0.3**
BALY				*e*S	**Sg**	**22 26 50.3**	**-0.4**
BNT	**Bandirma**	**1.35**	**94**	*e*PN	**Pn**	**22 26 31.9**	**-0.4**
BNT	**Bandirma**	**1.35**	**94**	*e*Pn	**Pn**	**22 26 31.9**	**-0.4**
CRLT	**Corlu**	**1.37**	**60**	*e*PN	**Pn**	**22 26 32.6**	**0.0**
CRLT	**Corlu**	**1.37**	**60**	*e*Pn	**Pn**	**22 26 32.6**	**0.0**
EDRB	**Edirne**	**1.46**	**17**	*e*PN	**Pn**	**22 26 33.5**	**-0.3**
EDRB	**Edirne**	**1.46**	**17**	*e*Pn	**Pn**	**22 26 33.5**	**-0.3**
BALB	**Balikesir**	**1.55**	**121**	*e*PN	**Pn**	**22 26 35.1**	**0.0**
BALB	**Balikesir**	**1.55**	**121**	*e*Pn	**Pn**	**22 26 35.1**	**0.0**
SLVT	**Silivri**	**1.74**	**63**	*e*PN	**Pn**	**22 26 37.9**	**+0.3**
SLVT	**Silivri**	**1.74**	**63**	*e*Pn	**Pn**	**22 26 37.9**	**+0.3**
CTYL	**Yal??k??y-??at**	**1.91**	**57**	*e*PN	**Pn**	**22 26 39.5**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.91**	**57**	*e*Pn	**Pn**	**22 26 39.5**	**-0.5**
CTKS	**Kestanelik-??a**	**1.94**	**66**	*e*PN	**Pn**	**22 26 40.1**	**-0.4**
CTKS	**Kestanelik-??a**	**1.94**	**66**	*e*Pn	**Pn**	**22 26 40.1**	**-0.4**
NVR	**Nevrokopi**	**1.96**	**298**	*e*PN	**Pn**	**22 26 41.5**	**+0.8**
NVR	**Nevrokopi**	**1.96**	**298**	*e*Pn	**Pn**	**22 26 41.5**	**+0.8**
DURS	**Dursunbey**	**1.97**	**115**	*e*P	**Pn**	**22 26 40.8**	**-0.2**
DURS				*e*S	**Sn**	**22 27 06.2**	**+0.6**
BGKT	**Bogazkoy**	**2.11**	**69**	*e*PN	**Pn**	**22 26 43.2**	**+0.4**
BGKT	**Bogazkoy**	**2.11**	**69**	*e*Pn	**Pn**	**22 26 43.2**	**+0.4**
TVSB	**Tavsanli**	**2.73**	**111**	*e*PN	**Pn**	**22 26 51.9**	**+0.5**
TVSB	**Tavsanli**	**2.73**	**111**	*e*Pn	**Pn**	**22 26 51.9**	**+0.5**
ALT	**Altintas**	**3.35**	**113**	*e*PN	**Pn**	**22 27 00.9**	**+1.0**
ALT	**Altintas**	**3.35**	**113**	*e*Pn	**Pn**	**22 27 00.9**	**+1.0**

IDC 07 22:36:34.3±2.1, 7°.48S×74°.76W, h145km±23km, mb3.5/11, mb1 3.7/15, mb1mx3.6/25, mbtmp3.5/15, Error ellipse: s-maj=27.8km s-min=11.1km az=45.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.62**	**275**	P	Pn	22 37 30.4	+0.4
	23nm,0.3s,baz=105,slow=5.7,SNR=297						
ATAH				S	Sn	22 38 12.5	-0.8
	30nm,0.3s,baz=59,slow=7.4,SNR=8.4						
NNA	**Nana**	**4.93**	**204**	P	Pn	22 37 48.7	+1.8
	4.6nm,0.3s,baz=33,slow=13,SNR=9.7						
NNA				S	Sn	22 38 42.8	-0.6
	14nm,0.3s,baz=286,slow=18,SNR=5.7						
LPAZ	**La Paz**	**10.89**	**144**	P	Pn	22 39 08.6	+1.4
	0.8nm,0.3s,baz=328,slow=11,SNR=14						
SIV	**San Ignacio**	**15.84**	**124**	P	P	22 40 10.8	+0.4
	1.3nm,0.3s,baz=318,slow=12,SNR=26						
CPUP	**Villa Florida**	**25.03**	**141**	P	P	22 41 44.7	-0.4
	0.8nm,0.5s,baz=308,slow=5.1,SNR=3.8						
CMIG	**Matias Romero**	**31.49**	**321**	P	P	22 42 44.2	+1.6
	0.7nm,0.4s,baz=62,slow=15,SNR=2.7						

TXAR	**Lajitas Array**	**45.98**	**324**	P	P	22 44 44.8	+1.5
	0.3nm,0.4s,baz=164,slow=10,SNR=5.0							
PDAR	**Pinedale Array**	**59.19**	**331**	P	P	22 46 19.9	-0.5
	0.4nm,0.7s,baz=143,slow=7.7,SNR=3.1							
PDAR				PcP	PcP	22 47 05.8	-1.6	
	0.4nm,0.5s,baz=134,slow=6.4,SNR=4.7							
ULM	**Lac du Bonnet**	**60.35**	**345**	P	P	22 46 25.9	-1.9	
	2.1nm,0.5s,baz=135,slow=6.3,SNR=4.2							
NVAR	**Mina Array Bea**	**61.02**	**322**	P	P	22 46 33.6	+0.6	
	0.3nm,0.4s,baz=128,slow=8.2,SNR=3.0							
SCHQ	**Schefferville**	**62.43**	**5**	P	P	22 46 41.6	-0.2	
	1.5nm,0.8s,baz=192,slow=5.1,SNR=4.8							
SCHQ				PcP	PcP	22 47 20.2	+0.3	
	1.8nm,0.6s,baz=190,slow=8.5,SNR=5.1							
DBIC	**Dimbokro**	**71.12**	**80**	P	P	22 47 37.4	-0.3	
	1.9nm,0.4s,baz=234,slow=5.0,SNR=6.8							
YKA	**Yellowknife Ar**	**76.17**	**342**	P	P	22 48 06.5	+0.3	
	0.2nm,0.5s,baz=145,slow=5.6,SNR=4.5							
YKA				pP	pP	22 48 43.0	+1.0	
	0.3nm,0.5s,baz=142,slow=6.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**78.64**	**75**	P	P	22 48 20.1	-0.7	
	0.7nm,0.4s,baz=264,slow=5.3,SNR=14							
TORD				pP	pP	22 48 56.5	-0.4	
	0.4nm,0.5s,baz=270,slow=4.2,SNR=2.1							
ILAR	**Eielson Array**	**89.22**	**336**	P	P	22 49 14.1	+0.7	
	0.5nm,0.6s,baz=135,slow=3.1,SNR=7.2							
ZALV	**Zalesovo Beam**	**130.81**	**16**	PKP	PKPdf	22 55 29.2	+0.9	
	0.4nm,0.4s,baz=11,slow=3.0,SNR=3.6							
MKAR	**Makanchi Array**	**136.16**	**23**	PKP	PKPdf	22 55 38.9	+0.2	
	0.1nm,0.4s,baz=298,slow=1.4,SNR=4.4							
ASAR	**Alice Springs**	**138.26**	**221**	PKP	PKPdf	22 55 43.2	-0.1	
	0.3nm,0.5s,baz=129,slow=1.9,SNR=4.4							
SONM	**Songino Array**	**139.77**	**359**	PKP	PKPdf	22 55 44.1	-1.3	
	0.9nm,1.2s,baz=68,slow=8.0,SNR=2.3							
WRA	**Warramunga Arr**	**140.47**	**226**	PKhKP	PKPpre

TRWZ	**Traveller**	**4.40 198**	PN	Pn	23 00 11.3 -4.0
PAWZ	**Paruwai Farm**	**4.45 200**	PN	Pn	23 00 11.6 -4.3
TUWZ	**Tuamarina**	**5.02 212**	PN	Pn	23 00 19.4 -4.2

IDC 07 22:59:59.0±2.3, 7.04S×129.92E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.5/17, Error ellipse: s-maj=85.9km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.31**	**281**	LR	LR	23 07 22.8	
	comp=Z,31nm,18.5s,baz=292,slow=43						
FITZ	**Fitzroy Crossi**	**11.77**	**200**	Pn	Pn	23 02 48.5	+0.4
	0.2nm,0.3s,baz=29,slow=12,SNR=9.0						
FITZ				Sn	Sn	23 04 46.8	-14
	0.6nm,0.3s,baz=115,slow=17,SNR=9.6						
WRA	**Warramunga Arr**	**13.53**	**162**	Pn	Pn	23 03 11.2	-1.1
	0.3nm,0.3s,baz=344,slow=13,SNR=28						
WRA				Sn	Sn	23 05 33.2	-10
	0.5nm,0.3s,baz=330,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.97**	**167**	Pn	Pn	23 03 58.6	+0.6
	0.2nm,0.3s,baz=342,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**68.21**	**327**	P	P	23 11 01.4	0.0
	0.1nm,0.4s,baz=120,slow=7.5,SNR=4.2						

*ISCJB **07** 23:07:47.5±0.5, 21.65N×143.1E±0.1, h311km,*
mb3.8/19, Error ellipse: s-maj=17.6km s-min=9.0km
az=177.5
*IDC **07** 23:07:47.8±1.8, 21.66N×143.13E, h297km±17km,*
mb3.4/17, mb1 3.6/19, mb1mx3.5/30, mbtmp3.4/19, Error
ellipse: s-maj=16.1km s-min=11.5km az=92.0

ISC 07 23:07:49.1±0.6, 21.69N±0.09×143.1E±0.1, h311km, n27, σ0°70/30, mb3.9/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.44**	**352**	P	**Pn**	**23 09 11.9**	**-0.2**
	6.8nm,0.3s,baz=164,slow=18,SNR=3.7						
CBIJ				S	**S**	**23 10 17.0**	**-2.0**
	1.7nm,0.3s,baz=294,slow=19,SNR=2.7						
MJAR	**Matsushiro Arr**	**15.39**	**345**	P	**P**	**23 11 10.1**	**+0.2**
	0.2nm,0.3s,baz=163,slow=9.0,SNR=3.9						
KSRS	**Korea Array**	**20.45**	**323**	P	**P**	**23 12 04.9**	**+1.1**
	2.0nm,0.5s,baz=146,slow=9.1,SNR=10						
USRK	**Ussuriysk Arra**	**24.25**	**340**	P	**P**	**23 12 39.3**	**+0.8**
	1.6nm,0.7s,baz=168,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**39.27**	**321**	P	**P**	**23 14 48.9**	**+0.3**
	0.5nm,0.6s,baz=130,slow=5.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**41.47**	**274**	P	**P**	**23 15 06.8**	**+0.1**
	0.4nm,0.8s,baz=46,slow=8.2,SNR=4.5						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**23 15 11.5**	**-1.3**
	0.6nm,0.4s,baz=17,slow=8.4,SNR=6.6						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**23 15 41.8**	**-0.3**
	0.4nm,0.6s,baz=12,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**53.28**	**182**	P	**P**	**23 16 36.2**	**-0.5**
	1.3nm,0.5s,baz=81,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**54.15**	**322**	P	**P**	**23 16 42.9**	**+0.2**
	1.2nm,0.6s,baz=100,slow=7.8,SNR=7.9						
ZALV				PcP	**PcP**	**23 17 42.5**	**-0.5**
	1.0nm,0.5s,baz=121,slow=3.8,SNR=5.7						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**23 16 46.8**	**+0.5**
	1.0nm,0.6s,baz=90,slow=9.0,SNR=17						
MKAR				PcP	**PcP**	**23 17 44.9**	**-0.1**
	0.6nm,0.6s,baz=77,slow=3.9,SNR=7.8						
KDAK	**Kodiak Island**	**58.27**	**35**	P	**P**	**23 17 11.7**	**+0.2**
	8.0nm,1.0s,baz=293,slow=7.7,SNR=2.8						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**23 17 36.4**	**-0.9**
	1.5nm,0.6s,baz=254,slow=5.5,SNR=21						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**23 19 05.0**	**0.0**
	2.3nm,0.6s,baz=291,slow=5.6,SNR=36						
RES	**Resolute Bay**	**77.11**	**13**	P	**P**	**23 19 08.4**	**+0.3**
	1.9nm,0.7s,baz=286,slow=7.4,SNR=8.4						
KEV	**Kevo**	**78.33**	**341**	*ep*	**P**	**23 19 15.1**	**+0.2**
ARCES	**ARCESS Array B**	**78.89**	**341**	P	**P**	**23 19 18.4**	**+0.4**
	5.3nm,0.7s,baz=75,slow=8.4,SNR=20						
JOF	**Joensuu**	**80.27**	**334**	*ep*	**P**	**23 19 24.6**	**-0.8**
	2.9nm,0.4s						
KBZ	**Khabaz**	**82.30**	**314**	P	**P**	**23 19 37.2**	**+0.8**
	1.7nm,0.9s,baz=69,slow=3.3,SNR=4.7						
KAF	**Kangasniemi**	**82.68**	**33**	*ep*	**P**	**23 19 37.5**	**-0.5**
FINES	**FINESS Array B**	**83.14**	**334**	P	**P**	**23 19 39.6**	**-0.8**
	2.4nm,0.5s,baz=64,slow=5.0,SNR=50						
NVAR	**Mina Array Bea**	**83.23**	**51**	P	**P**	**23 19 42.4**	**+0.7**
	1.6nm,0.7s,baz=280,slow=5.0,SNR=9.0						
MIB	**Mutribah**	**84.20**	**300**	*eP*	**P**	**23 19 46.5**	**+0.1**
MIB				AMb	AMB	23 19 47.5	
	comp=Z,10nm,0.6s						
RDF	**Al-Radifah**	**84.35**	**299**	*eP*	**P**	**23 19 46.6**	**-0.5**
NAY	**Al-Naaiem**	**84.48**	**299**	*eP*	**P**	**23 19 47.5**	**-0.3**
NAY				AMb	AMB	23 19 48.5	
	comp=Z,5.4nm,0.7s						
PLCA	**Paso Flores**	**145.83**	**131**	PKPbc	**PKPbc**	**23 26 52.7**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=180,slow=2.7,SNR=4.5						
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	**PKPbc**	**23 27 05.2**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=324,slow=1.1,SNR=9.4						

IDC 07 23:09:30.4±2.1, 7.57S×129.81E, h0km, mb3.0/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=81.6km s-min=28.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.23**	**201**	Pn	Pn	23 12 10.9	-1.4
	0.2nm,0.3s,baz=46,slow=15,SNR=6.6						
FITZ				Sn	Sn	23 14 05.7	-13
	0.3nm,0.3s,baz=267,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**13.06**	**161**	Pn	Pn	23 12 38.0	+0.6
	0.3nm,0.3s,baz=346,slow=13,SNR=9.5						
WRA				Sn	Sn	23 14 55.9	-7.8
	0.6nm,0.3s,baz=332,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**16.48**	**167**	Pn	Pn	23 13 23.9	+0.7
	0.1nm,0.3s,baz=341,slow=9.5,SNR=7.0						
ASAR				Sn	Sn	23 16 19.4	-7.7
	0.2nm,0.3s,baz=351,slow=22,SNR=5.7						
MKAR	**Makanchi Array**	**68.59**	**327**	P	P	23 20 35.3	+0.1
	0.1nm,0.5s,baz=111,slow=8.1,SNR=2.6						

IDC 07 23:26:50.6±1.5, 11.06N×140.27E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=82.7km s-min=23.8km az=114.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.15**	**60**	Pn	Pn	23 28 08.6	-0.4
	5.6nm,0.3s,baz=196,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**31.36**	**191**	P	P	23 33 12.3	-0.9
	0.5nm,0.7s,baz=11,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**35.07**	**190**	P	P	23 33 46.1	+0.5
	0.3nm,0.5s,baz=18,slow=13,SNR=5.6						
ILAR	**Eielson Array**	**72.76**	**25**	P	P	23 38 19.8	-0.7
	0.3nm,0.8s,baz=270,slow=5.4,SNR=4.0						
YKA	**Yellowknife Ar**	**87.14**	**27**	P	P	23 39 39.4	+1.1
	0.2nm,0.4s,baz=281,slow=5.4,SNR=4.2						

IDC 07 23:32:26.8±9.1, 19.13S×177.78W, h555km±101km, mb3.0/5, mb1 3.3/5, mb1mx3.0/20, mbtmp3.0/5, Error ellipse: s-maj=39.5km s-min=33.0km az=60.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.01**	**261**	P	P	23 39 53.5	-0.1
	0.7nm,0.4s,baz=97,slow=7.6,SNR=30						
ASAR	**Alice Springs**	**45.05**	**255**	P	P	23 39 53.6	-0.2
	1.2nm,0.7s,baz=87,slow=8.4,SNR=13						
QSPA	**South Pole Qui**	**70.93**	**180**	P	P	23 42 48.1	-0.2
	1.5nm,0.8s,baz=87,slow=1.9,SNR=5.8						
TXAR	**Lajitas Array**	**86.14**	**57**	P	P	23 44 10.6	+0.8
	0.6nm,0.8s,baz=218,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	**86.94**	**13**	P	P	23 44 11.5	-1.1
	0.4nm,0.8s,baz=212,slow=5.0,SNR=6.2						
BVAR	**Borovoye Array**	**118.17**	**321**	PKP	PKPdf	23 50 09.8	-1.0
	0.1nm,0.3s,baz=230,slow=0.5,SNR=4.3						
BRTR	**Keskin Array B**	**146.06**	**314**	PKPbc	PKPbc	23 51 05.2	-0.2
	0.9nm,1.0s,baz=33,slow=3.4,SNR=2.9						
GERES	**GERESS Array B**	**148.94**	**345**	PKPbc	PKPbc	23 51 12.4	0.0
	0.6nm,0.7s,baz=56,slow=3.7,SNR=4.1						

IDC 08 00:09:24.0±5.3, 23.63S×176.46W, h48km±39km, mb4.1/8, mb1 4.3/10, mb1mx4.0/22, mbtmp4.1/10, ML2.8/2, Error ellipse: s-maj=72.3km s-min=18.7km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.64**	**25**	P	Pn	00 11 53.0	-0.9
	2.0nm,0.3s,baz=222,slow=14,SNR=2.7						
DZM	**Mont Dzumac**	**15.83**	**272**	P	Pn	00 13 04.4	+0.6
	0.1nm,0.3s,baz=104,slow=12,SNR=2.1						
CTA	**Charters Tower**	**34.72**	**268**	P	P	00 16 10.6	+1.0
	4.2nm,0.3s,baz=97,slow=13,SNR=5.9						
PMG	**Port Moresby**	**37.50**	**286**	P	P	00 16 33.4	+0.1
	17nm,0.8s,baz=133,slow=4.0,SNR=5.4						
STKA	**Stephens Creek**	**37.83**	**248**	P	P	00 16 35.5	-0.5
	2.2nm,0.7s,baz=135,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**45.27**	**260**	P	P	00 17 37.2	+0.1
	1.0nm,0.3s,baz=94,slow=7.7,SNR=21						
ASAR				PcP	PcP	00 19 16.2	-0.3
	0.5nm,0.5s,baz=111,slow=3.8,SNR=6.6						
WRA	**Warramunga Arr**	**45.66**	**265**	P	P	00 17 39.1	-1.0
	1.1nm,0.3s,baz=92,slow=8.5,SNR=75						
WRA				PcP	PcP	00 19 17.1	-0.7
	0.5nm,0.5s,baz=101,slow=3.0,SNR=4.4						
NVAR	**Mina Array Bea**	**82.34**	**42**	P	P	00 21 44.7	+3.7
	0.4nm,0.7s,baz=221,slow=6.8,SNR=3.2						
PDAR	**Pinedale Array**	**90.27**	**43**	P	P	00 22 21.7	+1.9
	0.3nm,0.6s,baz=240,slow=4.8,SNR=2.5						
ILAR	**Eielson Array**	**91.05**	**12**	P	P	00 22 22.1	-0.5
	0.6nm,0.8s,baz=225,slow=4.9,SNR=7.7						
CMAR	**Chiang Mai Arr**	**92.49**	**289**	P	P	00 22 31.4	+1.1
	0.8nm,0.3s,baz=123,slow=2.4,SNR=6.2						
MKAR	**Makanchi Array**	**114.36**	**312**	PKP	PKPdf	00 27 57.6	-0.7
	0.2nm,0.6s,baz=90,slow=3.3,SNR=3.5						
ARCES	**ARCESS Array B**	**132.24**	**350**	PKP	PKPdf	00 28 31.1	-0.7
	1.7nm,0.8s,baz=356,slow=1.3,SNR=8.2						
FINES	**FINESS Array B**	**139.16**	**344**	PKhKP	PKPpre	00 28 34.9	
	3.9nm,1.1s,baz=14,slow=0.6,SNR=4.4						
FINES				PKP	PKPdf	00 28 45.0	+0.1
	0.7nm,0.6s,baz=64,slow=4.4,SNR=4.9						
AKASG	**Malin Array Be**	**146.43**	**330**	PKPbc	PKPbc	00 28 58.8	-0.6
	6.7nm,0.5s,baz=43,slow=4.1,SNR=29						
BRTR	**Keskin Array B**	**149.96**	**309**	PKPbc	PKPbc	00 29 09.3	0.0
	1.4nm,0.6s,baz=140,slow=3.8,SNR=9.1						
BRG	**Berggiesshubel**	**151.63**	**346**	*eP*	PKPbc	00 29 13.5	+0.8
	4.3nm,0.6s						
BRG				*e*		00 29 21.2	
	3.6nm,0.7s						
KHC	**Kasperske Hory**	**153.34**	**345**	*eP*	PKPab	00 29 29.0	+0.3
GERES	**GERESS Array B**	**153.58**	**345**	PKPbc	PKPbc	00 29 15.6	-1.6
	0.4nm,0.6s,baz=27,slow=4.5,SNR=3.0						
GERES				PKPab	PKPab	00 29 28.7	-1.1
	0.4nm,0.5s,baz=24,slow=4.7,SNR=7.1						

*DMN **08** 00:50:41.5±4.4, 32.45N×85.06E, h10km, Mb4.3/1, Error*
ellipse: s-maj=102.9km s-min=12.9km az=179.0
*ISCJB **08** 00:50:42.5±0.7, 32.44N±0.05×84.9E±0.2, h16km, mb3.1/4,*
MS2.8/2, Error ellipse: s-maj=19.1km s-min=7.5km
az=178.2
*IDC **08** 00:50:50.5±15.0, 32.30N×85.03E, h90km±148km, mb2.9/4,*
mb1 3.0/6, mb1mx2.9/27, mbtmp2.9/6, ML3.0/2, MS2.9/2,
Ms1 2.9/2, ms1mx2.5/13, Error ellipse: s-maj=72.2km
s-min=31.5km az=19.0

ISC 08 00:50:45.5±1.1, 32.33N±0.09×85.0E±0.1, h16km, n20, σ1°23/16, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**4.12**	**196**	*eP*	**Pn**	**00 51 48.6**	**+0.5**
	22nm,0.3s						
GKN	**Gorkha**	**4.33**	**185**	*eP*	**Pn**	**00 51 50.8**	**0.0**
GUN	**Gumba**	**4.47**	**170**	*eP*	**Pn**	**00 51 53.0**	**+0.1**
	15nm,0.4s						
KKN	**Kakani**	**4.53**	**177**	*eP*	**Pn**	**00 51 54.1**	**+0.4**
PYUN	**Piuthan**	**4.58**	**203**	*eP*	**Pn**	**00 51 54.0**	**-0.3**
	16nm,0.4s						
DMN	**Daman**	**4.71**	**179**	*eP*	**Pn**	**00 51 56.7**	**+0.6**
	7.6nm,0.4s						
KOLN	**Koldanda**	**4.71**	**196**	*eP*	**Pn**	**00 51 56.6**	**+0.4**
	15nm,0.4s						
PKI	**Pulchoki**	**4.76**	**176**	*eP*	**Pn**	**00 51 56.5**	**-0.4**
	9.2nm,0.3s						
JIRN	**Jiri**	**4.76**	**168**	*eP*	**Pn**	**00 51 57.6**	**+0.6**
	2.9nm,0.3s						
TAPN	**Taplejung**	**5.48**	**154**	*eP*	**Pn**	**00 52 07.6**	**+0.8**
	4.3nm,0.4s						
RAMN	**Ramite**	**5.54**	**165**	*eP*	**Pn**	**00 52 07.3**	**-0.2**
ODAN	**Odare**	**5.83**	**159**	*eP*	**Pn**	**00 52 11.4**	**-0.1**
MKAR	**Makanchi Array**	**14.59**	**353**	P	**Pn**	**00 54 13.7**	**+2.4**
	0.1nm,0.3s,baz=176,slow=12,SNR=3.5						
KURBB	**Kurchatov Arra**	**18.90**	**347**	P	**P**	**00 55 02.0**	**-3.2**
	0.0nm,0.3s,baz=165,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**21.61**	**360**	P	**P**	**00 55 33.9**	**-0.7**
	0.2nm,0.4s,baz=185,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**22.40**	**40**	P	**P**	**00 55 42.3**	**-1.1**
	0.6nm,0.6s,baz=242,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**23.23**	**337**	LR	LR	01 06 55.1	
	comp=Z,20nm,19.0s,baz=77,slow=42						
KSRS	**Korea Array**	**35.32**	**70**	LR	LR	01 14 39.4	
	comp=Z,26nm,19.7s,baz=176,slow=40						
WRA	**Warramunga Arr**	**70.20**	**131**	P	P	01 01 53.4	-4.4
	0.2nm,0.6s,baz=326,slow=6.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.53**	**278**	P	P	01 02 37.1	-3.8
	0.3nm,0.7s,baz=55,slow=5.4,SNR=5.0						

*CSEM **08** 01:24:32.3±0.2, 76.94N×18.17E, h2km, ML2.9, Error*
ellipse: s-maj=9.9km s-min=3.0km az=68.0
*NAO **08** 01:24:34.3±1.8, 77.03N×18.76E, h17km±15km, ML2.9*
*BER **08** 01:24:36.1±4.1, 76.97N×18.71E, h15km±30km, MD2.4,*
ML2.8, ML2.9(NAO)

ISC 08 01:24:33.5±1.6, 77.02N±0.04×18.82E±0.06, h8km±15km, n16, σ0°98/26, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.74**	**270**	*eP*	**Pg**	**01 24 47.8**	**+0.1**
HSP				*eS*	**Sg**	**01 24 56.6**	**-0.7**
SPA0	**Spitsbergen Ar**	**1.28**	**337**	Pg	**Pb**	**01 24 57.5**	**-0.3**
	baz=150,slow=22						
SPA0				Lg	Lg	01 25 14.1	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.28**	**337**	*eP*	**Pb**	**01 24 57.6**	**-0.1**
SPA0				*eSg*	**Sg**	**01 25 16.2**	**+1.7**
SPA0	**Spitsbergen Ar**	**1.28**	**337**	Pg	**Pb**	**01 24 57.5**	**-0.3**
	baz=150,slow=22,SNR=20						
SPA0				Lg	Lg	01 25 14.1	
	baz=153,slow=34,SNR=3.4						
SPA0				*eSg*	**Sg**	**01 25 16.2**	**+1.7**
	SNR=92						
HOPEN	**Hopen**	**1.52**	**107**	*eP*	**Pb**	**01 25 01.6**	**-0.2**
HOPEN				*eS*	**Sn**	**01 25 20.3**	**-0.4**
HOPEN				AML	AML	01 25 26.0	
	comp=Z,176nm,0.3s						
HOPEN	**Hopen**	**1.52**	**107**	*eP*	**Pb**	**01 25 01.6**	**-0.2**
	SNR=55						
HOPEN				*eS*	**Sn**	**01 25 20.3**	**-0.4**
	comp=Z,176nm,0.3s,SNR=55						
KBS	**Kingsbay**	**2.39**	**326**	Pn	**Pn**	**01 25 12.3**	**-0.6**
KBS				Pg	**Pb**	**01 25 17.5**	**+0.8**
KBS				Lg	Lg	01 25 47.9	
KBS	**Kingsbay**	**2.39**	**326**	*eP*	**Pn**	**01 25 12.5**	**-0.4**
KBS				*eSg*	**Sg**	**01 25 48.2**	**-2.1**
KBS				AML	AML	01 25 53.6	
	comp=Z,137nm,0.4s						
KBS	**Kingsbay**	**2.39**	**326**	*eP*	**Pn**	**01 25 12.5**	**-0.4**
	SNR=55						
KBS	**Kingsbay**	**2.39**	**326**	Pg	**Pb**	**01 25 17.5**	**+0.8**
KBS				Lg	Lg	01 25 47.9	
KBS				*eSg*	**Sg**	**01 25 48.2**	**-2.1**
	comp=Z,137nm,0.4s,SNR=91						
BJO	**Bjornoya**	**2.53**	**178**	*ePg*	**Pb**	**01 25 18.9**	**-0.2**
BJO				*eSg*	**Sb**	**01 25 51.6**	**+1.3**
BJO	**Bjornoya**	**2.53**	**178**	*ePg*	**Pb**	**01 25 18.9**	**-0.2**
	SNR=91						
BJO				*eSg*	**Sb**	**01 25 51.6**	**+1.3**
	SNR=91						
KEV	**Kevo**	**7.66**	**158**	*ep*	**Pn**	**01 26 24.7**	**-0.4**
	comp=Z,0.5nm,0.2s						
ARA0	**ARCESS Array S**	**7.76**	**162**	Pn	**Pn**	**01 26 26.9**	**+0.3**
	baz=356,slow=10						
ARA0				Sn	Sn	01 27 45.5	-8.9
	baz=4.1,slow=14						
ARA0	**ARCESS Array S**	**7.76**	**162**	Pn	**Pn**	**01 26 26.9**	**+0.3**
	baz=356,slow=9.3,SNR=1.9						

IDC 08 01:26:32.6±2.1, 4.00N×126.92E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, Error ellipse: s-maj=148.0km s-min=27.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	01 31 57.4	+0.1
	2.3nm,0.7s,baz=343,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.33**	**166**	P	P	01 32 28.2	-0.2
	0.2nm,0.7s,baz=349,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	01 36 23.2	0.0
	0.2nm,0.5s,baz=129,slow=7.5,SNR=4.3						

*IDC **08** 01:34:28.9±1.9, 1.31N×126.92E, h53km±15km, mb3.9/11,*
mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, ML4.2/2, MS3.3/4,
Ms1 3.3/4, ms1mx2.8/36, Error ellipse: s-maj=24.6km
s-min=9.0km az=77.0
*NEIC **08** 01:34:31.3±1.7, 1.24N×127.00E, h78km±15km, mb4.4/14,*
Error ellipse: s-maj=17.3km s-min=6.0km az=66.0
*ISCJB **08** 01:34:32.7±0.3, 1.17N±0.03×126.74E±0.03, h103km,*
mb4.3/26, Error ellipse: s-maj=4.7km s-min=3.9km
az=166.3
*DJA **08** 01:34:33.3±0.6, 1.1N±3°×12.7E±°, h14km±6km, M4.5/11,*
mb4.8/7, mb5.0/5, MLv4.4/11, Mw(mB)4.4/5

ISC 08 01:34:34.8±0.5, 1.16N±0.05×126.73E±0.05, h103km, n64, σ1°50/80, mb4.3/26, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.74**	**121**	P	Pn	01 34 46.2	-6.7
TNTI				S	Sn	01 34 57.2	-9.3
MNI	**Manado**	**1.91**	**278**	P	**Pn**	**01 35 04.6**	**-1.9**
MNI				S	**Sn**	**01 35 30.6**	**0.0**
LBMI	**Labuha**	**1.94**	**157**	P	**Pn**	**01 35 04.9**	**-2.0**
LBMI				S	**Sn**	**01 35 30.9**	**-0.4**
KMSI	**Cibinong**	**2.81**	**258**	P	**Pn**	**01 35 17.0**	**-1.2**
NLAI	**Namlea**	**4.38**	**175**	P	**Pn**	**01 35 38.3**	**-1.0**
NLAI				S	**Sn**	**01 36 28.0**	**-1.4**
MRSI	**Marisa**	**4.84**	**262**	P	**Pn**	**01 35 45.5**	**0.0**
MSAI	**Masohi**	**4.99**	**154**	P	**Pn**	**01 35 48.7**	**+1.3**
AAI	**Ambon**	**5.03**	**163**	P	**Pn**	**01 35 45.5**	**-2.6**
AAI				S	**Sn**	**01 36 46.6**	**+1.6**
KDI	**Kendari**	**6.54**	**219**	P	**Pn**	**01 36 08.3**	**-0.2**
	33nm,0.8s,865nm0.2nm						
KDI				S	**Sn**	**01 37 22.2**	**+0.5**
	33nm,0.8s,865nm0.2nm						
FAKI	**Fak Fak**	**6.84**	**126**	P	**Pn**	**01 36 11.6**	**-1.1**
	76nm,1.2s,931nm0.3nm						
TTSI	**Tana Toraja**	**8.08**	**239**	P	**Pn**	**01 36 28.6**	**-0.8**
	23nm,1.2s,1µm0.1nm						
TTSI				S	**Sn**	**01 38 00.0**	**+0.9**
	23nm,1.2s,1µm0.1nm						
SPSI	**Sidrap Palu**	**8.62**	**234**	P	**Pn**	**01 36 36.4**	**-0.5**
	31nm,0.5s						
SPSI				S	**Sn**	**01 38 12.2**	**-0.3**
	31nm,0.5s						
MYLDM	**Lahad Datu**	**9.14**	**296**	P	**Pn**	**01 36 42.9**	**-1.0**
	90nm,1.1s						
MYLDM				S	**Sn**	**01 38 29.3**	**+4.3**
	90nm,1.1s						
BKSI	**Bulukumba**	**9.22**	**226**	P	**Pn**	**01 36 43.9**	**-1.1**
	29nm,0.5s,574nm						
BKSI				S	**Sn**	**01 38 26.6**	**-0.5**
	29nm,0.5s,574nm						
KAPI	**Kappang**	**9.29**	**229**	P	**Pn**	**01 36 44.7**	**-1.2**
	4.4nm,0.3s,baz=58,slow=7.3,SNR=17						
KAPI				S	**Sn**	**01 38 26.8**	**-1.9**
	2.7nm,0.3s,baz=6.4,slow=22,SNR=10.0						
KAPI	**Kappang**	**9.29**	**229**	P	**Pn**	**01 36 44.7**	**-1.2**
KAPI				S	**Sn**	**01 38 26.8**	**-1.9**
BAKI	**Biak**	**9.66**	**104**	P	**Pn**	**01 36 51.5**	**+0.5**
KKM	**Kota Kinabalu**	**11.56**	**295**	*eP*	**Pn**	**01 37 18.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.17**	**183**	P	**P**	**01 38 49.0**	**-1.4**
	0.3nm,0.3s,baz=6.5,slow=11,SNR=8.6						
FITZ				LR	LR	01 45 13.0	
	comp=Z,73nm,21.8s,baz=11,slow=33						
FITZ	**Fitzroy Crossi**	**19.17**	**183**	*eP*	**P**	**01 38 50.2**	**-0.2**
	5.7nm,0.8s						
WRAB	**Tennant Creek**	**22.25**	**161**	*eP*	**P**	**01 39 21.7**	**-1.8**
	24nm,1.0s						
WRA	**Warramunga Arr**	**22.26**	**161**	P	**P**	**01 39 21.5**	**-2.1**
	13nm,0.9s,baz=329,slow=11,SNR=46						
WRA				S	**S**	**01 43 25.7**	**+3.9**
	1.4nm,1.0s,baz=342,slow=17,SNR=5.2						
WRA				ScP	**ScP**	**01 46 47.5**	**+3.1**
	0.6nm,0.8s,baz=337,

AKTO	Aktyubinsk	75.67	322	P	P	01 46 08.9	+0.1
RDF	Al-Radifah	79.97	299	*e*P	P	01 46 34.5	+1.3
RDF				AMb	AMB	01 46 37.3	
	comp=Z,18nm,1.3s						
MIB	Mutribah	80.22	300	*e*P	P	01 46 35.4	+0.9
MIB				AMb	AMB	01 46 36.6	
	comp=Z,19nm,0.9s						
NAY	Al-Naaiem	80.26	299	*e*P	P	01 46 35.5	+0.7
NAY				AMb	AMB	01 46 36.7	
	comp=Z,8.8nm,1.1s						
VNDA	Vanda	80.89	173	P	P	01 46 37.5	+0.4
	comp=Z,2.6nm,0.9s,baz=314,slow=5.6,SNR=7.5						
VNDA	Vanda	80.89	173	*e*P	P	01 46 37.2	+0.1
	comp=Z,3.3nm,0.9s						
TXAR	Lajitas Array	123.14	53	PKP	PKPdf	01 53 20.5	+0.2
	comp=Z,0.4nm,0.8s,baz=279,slow=2.4,SNR=4.0						
TXAR	Lajitas Array	123.14	53	PKP	PKPdf	01 53 20.5	+0.2
TORD	Torodi Ar. Bea	123.69	287	PKP	PKPdf	01 53 21.1	-0.4
	comp=Z,0.4nm,0.8s,baz=51,slow=0.9,SNR=2.5						
TORD	Torodi Ar. Bea	123.69	287	PKP	PKPdf	01 53 21.1	-0.4

NEIC ***08*** *02:50:59.7, 42°.84S×72°.60W, h0km, mb4.5/9, After GUC.*
GUC ***08*** *02:50:59.7±0.5, 42°.84S×72°.60W, h0km±3km, ML3.4*
IDC ***08*** *02:50:59.1±1.0, 43°.17S×72°.18W, h0km, mb3.7/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=39.6km s-min=18.0km az=121.0*
ISCJB ***08*** *02:51:01.0±1.3, 42°.82S±0°.04×72°.5W±0°.1, h8km±8km, mb4.2/14, Error ellipse: s-maj=15.5km s-min=5.2km az=165.3*

ISC 08 02:51:01.5±1.5, 42°.82S±0°.04×72°.50W±0°.08, h8km±9km, n46, σ1°35/54, mb4.3/14, 4C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	Huinay	0.44	81	*e*P	Pg	02 51 09.0	-1.1
HUNY				*e*S	Sg	02 51 16.7	+0.8
HUNY	Huinay	0.44	81	*e*P	Pg	02 51 09.0	-1.1
HUNY				*e*S	Sg	02 51 16.7	+0.8
HUNY				AML	AML	02 51 20.5	
	comp=E,2µm,0.5s						
FUTA	Futaleufœ	0.60	128	*i*P	Pg	02 51 12.4	-0.7
FUTA				*i* S	Sb	02 51 22.3	-0.6
FUTA	Futaleufœ	0.60	128	*i*P	Pg	02 51 12.4	-0.7
FUTA				*i* S	Sb	02 51 22.3	-0.6
FUTA				AML	AML	02 51 23.9	
	comp=N,1µm,0.7s						
HOCH	HornopirØn	0.91	4	*e*S	Sg	02 51 31.2	+0.3
HOCH				AML	AML	02 51 34.2	
	comp=N,1µm,0.4s						
PMCH	Puerto Montt	1.36	347	*e*P	Pn	02 51 25.2	-1.5
PMCH				*e*S	Sb	02 51 45.0	+0.4
PMCH	Puerto Montt	1.36	347	*e*P	Pn	02 51 25.2	-1.5
PMCH				*e*S	Sb	02 51 45.0	+0.4
PMCH				AML	AML	02 51 55.5	
	comp=N,1µm,0.5s						
PLCA	Paso Flores	2.54	36	Pn	Pn	02 51 44.1	+1.1
	comp=N,9.0nm,0.3s,baz=208,slow=14,SNR=203						
PLCA				Pg	Pb	02 51 47.6	+0.2
	comp=N,13nm,0.3s,baz=221,slow=17,SNR=204						
PLCA				Lg	Lg	02 52 24.7	
	comp=N,20nm,0.3s,baz=126,slow=17,SNR=11						
PLCA	Paso Flores	2.54	36	Pn	Pn	02 51 44.1	+1.1
PLCA				Pg	Pb	02 51 47.6	+0.2
PLCA				Lg	Lg	02 52 24.7	
COYC	Coyhaique	2.77	174	*e*P	Pn	02 51 46.1	0.0
COYC				*e*S	Sb	02 52 23.9	-1.3
COYC	Coyhaique	2.77	174	*e*P	Pn	02 51 46.1	0.0
COYC				*e*S	Sb	02 52 23.9	-1.3
COYC				AML	AML	02 52 27.9	
	comp=E,117nm,0.6s						
TRQA	Tornquist	9.32	63	*e*Pn	Pn	02 53 17.7	+1.5
CFAA	Coronel Fontan	11.70	18	Pn	Pn	02 53 52.6	+3.9
	comp=E,0.0nm,0.3s,baz=197,slow=18,SNR=2.0						
CFAA	Coronel Fontan	11.70	18	Pn	Pn	02 53 52.6	+3.9
CPUP	Villa Florida	20.60	42	P	P	02 55 41.4	+0.4
	comp=E,0.3nm,0.3s,baz=204,slow=10.0,SNR=3.2						
CPUP	Villa Florida	20.60	42	P	P	02 55 41.4	+0.4
PMSA	Palmer Station	22.52	171	*e*P	P	02 56 05.4	+4.2
	comp=E,48nm,0.6s						
LPAZ	La Paz	26.71	9	P	P	02 56 45.1	+3.2
	comp=E,0.8nm,0.8s,baz=192,slow=5.4,SNR=3.7						
LPAZ	La Paz	26.71	9	*e*P	P	02 56 41.0	-0.9
	comp=E,8.1nm,1.6s						
SIV	San Ignacio	28.47	24	P	P	02 56 55.4	-1.7
	comp=E,1.1nm,0.8s,baz=221,slow=12,SNR=4.1						
SIV	San Ignacio	28.47	24	P	P	02 56 55.4	-1.7
TXAR	Lajitas Array	77.31	332	P	P	03 02 57.4	+0.9
	comp=E,1.0nm,1.0s,baz=145,slow=4.6,SNR=5.6						
TXAR	Lajitas Array	77.31	332	P	P	03 02 57.4	+0.9
WVT	Waverly	79.81	347	*e*P	P	03 03 10.6	+0.7
	comp=E,3.9nm,1.1s						
WMOK	Wichita Mounta	80.84	338	*e*P	P	03 03 16.4	+0.8
	comp=E,5.8nm,1.3s						
ANMO	Albuquerque	83.39	332	*e*P	P	03 03 30.9	+1.8
	comp=E,3.1nm,1.2s						
TORD	Torodi Ar. Bea	87.58	70	P	P	03 03 49.3	-1.0
	comp=E,0.6nm,0.9s,baz=225,slow=3.5,SNR=3.3						
TORD	Torodi Ar. Bea	87.58	70	P	P	03 03 49.3	-1.0
ECSD	EROS Data Cent	88.84	343	*e*P	P	03 03 55.6	0.0
	comp=E,4.1nm,1.0s						
NVAR	Mina Array Bea	90.94	326	P	P	03 04 07.6	+1.9
	comp=E,0.2nm,0.5s,baz=156,slow=4.9,SNR=3.4						
NVAR	Mina Array Bea	90.94	326	P	P	03 04 07.6	+1.9
HWUT	Hardware Ranch	91.12	332	*e*P	P	03 04 07.3	+0.8
	comp=E,3.6nm,1.1s						
BW06	Boulder Array	91.48	334	*e*P	P	03 04 09.1	+0.9
	comp=E,4.5nm,1.4s						
PDAR	Pinedale Array	91.48	334	P	P	03 04 08.1	-0.1
	comp=E,0.9nm,0.9s,baz=130,slow=6.0,SNR=4.8						
PDAR	Pinedale Array	91.48	334	P	P	03 04 08.1	-0.1
TPAW	Teton Pass	92.58	333	*e*P	P	03 04 13.9	+0.6
	comp=E,2.9nm,1.1s						
GERES	GERESS Array B	118.44	49	PKP	PKPdf	03 09 47.2	-1.8
	comp=E,0.2nm,0.4s,baz=242,slow=2.1,SNR=4.9						
GERES	GERESS Array B	118.44	49	PKP	PKPdf	03 09 47.2	-1.8
ILAR	Eielson Array	121.80	331	PKP	PKPdf	03 09 54.8	-0.1
	comp=E,0.5nm,0.9s,baz=143,slow=2.5,SNR=4.8						
ILAR	Eielson Array	121.80	331	PKP	PKPdf	03 09 54.8	-0.1
NOA	NORSAR Array B	123.53	35	PKP	PKPdf	03 09 55.8	-2.5
	comp=E,1.1nm,0.8s,baz=251,slow=1.6,SNR=3.4						
NOA	NORSAR Array B	123.53	35	PKP	PKPdf	03 09 55.8	-2.5
MKAR	Makanchi Array	161.70	69	PKPab	PKPab	03 11 46.6	-1.2
	comp=E,0.3nm,0.9s,baz=263,slow=4.8,SNR=4.9						
MKAR	Makanchi Array	161.70	69	PKPab	PKPab	03 11 46.6	-1.2
SONM	Songino Array	174.92	8	PKPab	PKPab	03 12 46.2	0.0
	comp=E,0.6nm,0.9s,baz=328,slow=5.3,SNR=3.7						
SONM	Songino Array	174.92	8	PKPab	PKPab	03 12 46.2	0.0

WEL 08 03:03:56.6±0.4, 38°.56S×175°.80E, h159km±3km, ML3.6/9, Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.58	209	PN	Pn	03 04 19.5	0.0
WPVZ	Whakapapa	0.67	197	PN	Pn	03 04 20.2	+0.1
TUVZ	Tukino	0.71	189	PN	Pn	03 04 20.5	+0.2
TUVZ				SN	Sn	03 04 38.2	-0.5
FWVZ	Far West T-bar	0.72	196	PN	Pn	03 04 20.3	-0.2
HIZ	Hauiti	0.74	273	PN	Pn	03 04 20.2	-0.1
TRVZ	Turoa	0.76	195	PN	Pn	03 04 20.8	0.0
WNVZ	Wahianoa	0.78	192	PN	Pn	03 04 20.9	+0.1
BKZ	Black Stump Fm	0.81	138	PN	Pn	03 04 21.0	+0.1
BKZ				SN	Sn	03 04 38.6	-1.0
BKZ				SN		03 04 38.7	
PKVZ	Pokaka	0.81	206	PN	Pn	03 04 20.8	-0.1
MOVZ	Moawhango	0.84	183	PN	Pn	03 04 20.9	-0.2
MTVZ	Mangateitei	0.86	197	PN	Pn	03 04 21.3	+0.1
BHHZ	Black Hill Sta	0.95	168	PN	Pn	03 04 21.8	-0.2
BHHZ				SN	Sn	03 04 39.7	-1.7
VRZ	Vera Road	0.99	235	PN	Pn	03 04 21.9	-0.3
MCHZ	McNeill Hill	1.12	142	PN	Pn	03 04 24.2	+0.9
MCHZ				SN	Sn	03 04 44.5	+0.7
WAZ	Wanganui	1.35	208	PN	Pn	03 04 25.1	-0.3
MWZ	Matawai	1.37	81	PN	Pn	03 04 24.9	-0.8
PNHZ	Pukenui	1.39	167	PN	Pn	03 04 25.6	-0.2
KAHZ	Kahuranaki	1.49	146	PN	Pn	03 04 27.2	+0.4
TSZ	Takapari Road	1.50	175	PN	Pn	03 04 26.6	-0.3
KNZ	Kokohu	1.53	108	PN	Pn	03 04 27.3	+0.1
WPHZ	Waipukurau	1.58	162	PN	Pn	03 04 27.5	-0.2
WPHZ				SN	Sn	03 04 50.1	-1.7
PRGZ	Paritu Road	1.67	103	PN	Pn	03 04 28.7	+0.1
MHGZ	Mahia Peninsul	1.75	110	PN	Pn	03 04 29.7	+0.3
DVHZ	Dannevirke	1.76	171	PN	Pn	03 04 28.9	-0.7
PRHZ	Porangahau	1.82	159	PN	Pn	03 04 30.1	-0.2
POWZ	Post Office Ro	1.83	181	PN	Pn	03 04 29.5	-0.9
PUZ	Puketiti	1.99	77	PN	Pn	03 04 31.6	-0.7
PUZ				SN	Sn	03 04 57.3	-2.4
MRZ	Mangatainoka R	2.10	185	PN	Pn	03 04 32.1	-1.4
MRZ				SN	Sn	03 04 58.5	-3.5
OGWZ	Otaki Gorge	2.30	192	PN	Pn	03 04 34.4	-1.4
HOWZ	Holdsworth Sta	2.34	185	PN	Pn	03 04 35.0	-1.3
KIW	Kapiti Island	2.40	196	PN	Pn	03 04 35.1	-1.8
TMWZ	Te Maipa	2.54	178	PN	Pn	03 04 37.0	-1.7
MTW	Mount Morrison	2.60	185	PN	Pn	03 04 37.3	-2.1
CAW	Cannon Point	2.60	192	PN	Pn	03 04 37.6	-1.9
DUWZ	D'Urville Isla	2.67	212	PN	Pn	03 04 38.0	-2.2
TRWZ	Traveller	2.83	182	PN	Pn	03 04 40.3	-2.0
SNZO	South Karori	2.87	197	PN	Pn	03 04 40.3	-2.4
MSWZ	Moikau Station	2.88	188	PN	Pn	03 04 40.4	-2.4
TCW	Tory Channel	2.90	203	PN	Pn	03 04 40.7	-2.3
BHW	Baring Head	2.93	194	PN	Pn	03 04 40.9	-2.5
PLWZ	Palliser	3.03	188	PN	Pn	03 04 42.1	-2.7
TUWZ	Tuamarina	3.20	206	PN	Pn	03 04 44.4	-2.4
NNZ	Nelson	3.24	214	PN	Pn	03 04 44.4	-3.0
QRZ	Quartz Range	3.39	227	PN	Pn	03 04 45.9	-3.4
THZ	Tophouse	3.89	214	PN	Pn	03 04 52.6	-3.2
KHZ	Kahutara	4.22	203	PN	Pn	03 04 56.9	-3.0
MQZ	McQueen's Vall	5.66	204	*e*PN	Pn	03 05 13.7	-5.1

ISK ***08*** *03:04:44.2, 39°.65N×33°.91E, h9km, MD2.8*
ISCJB ***08*** *03:04:45.3±0.6, 39°.68N±0°.04×33°.85E±0°.03, h9km±5km, Error ellipse: s-maj=7.0km s-min=4.5km az=5.0*
CSEM ***08*** *03:04:45.0±0.3, 39°.69N×33°.87E, h10km, MD2.8, Error ellipse: s-maj=6.4km s-min=4.9km az=1.0*
DDA ***08*** *03:04:46.3, 39°.56N×33°.81E, h7km, MD2.6*

ISC 08 03:04:45.0±1.2, 39°.68N±0°.03×33°.87E±0°.02, h5km±11km, n26, σ0°58/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	Kaman	0.33	202	*e*PG	Pg	03 04 51.5	+0.1
KAMT				*e*SG	Sg	03 04 55.6	-0.1
KAMT	Kaman	0.33	202	*e*Pg	Pg	03 04 51.5	+0.1
KAMT				*e*Sg	Sg	03 04 55.6	-0.1
CDAG	Cicekdag	0.39	97	*i* P	Pb	03 04 55.2	+0.8
CDAG				*i* S	Sb	03 05 01.2	+0.5
CDAG	Cicekdag	0.39	97	*i* P	Pb	03 04 55.2	+0.8
CDAG				*i* S	Sb	03 05 01.2	+0.5
BBAL	Bala	0.59	257	*e*P	Pb	03 04 57.5	-0.4
BBAL				*e*S	Sg	03 05 04.9	+0.8
BBAL	Bala	0.59	257	*e*P	Pb	03 04 57.5	-0.4
BBAL				*e*S	Sg	03 05 04.9	+0.8
AFSR	Af ar-Bala (A	0.66	250	*e*PG	Pg	03 04 57.7	0.0
AFSR	Af ar-Bala (A	0.66	250	*e*Pg	Pg	03 04 57.7	0.0
CORM	Corum	0.77	49	*e*PG	Pg	03 04 59.2	-0.5
CORM	Corum	0.77	49	*e*Pg	Pg	03 04 59.2	-0.5
LOD	Lodumlu	0.88	284	*e*PG	Pg	03 05 02.1	+0.3
LOD				*e*SG	Sb	03 05 15.3	+0.5
LOD	Lodumlu	0.88	284	*e*Pg	Pg	03 05 02.2	+0.3
LOD				*e*Sg	Sb	03 05 15.3	+0.5
ELDT	Eldivan	0.88	337	*e*P	Pg	03 05 01.2	-0.7
ELDT				*e*S	Sn	03 05 18.4	+0.9
ELDT	Eldivan	0.88	337	*e*P	Pg	03 05 01.2	-0.7
AVNT	Avonos	1.18	139	*e*P	Pn	03 05 08.1	-0.1
AVNT				*e*S	Sb	03 05 23.2	-0.2
AVNT	Avonos	1.18	139	*e*P	Pn	03 05 08.1	-0.1
AVNT				*e*S	Sb	03 05 23.2	-0.2
SULT	Sultanhani-AKS	1.50	191	*e*PN	Pn	03 05 11.7	-0.9
SULT	Sultanhani-AKS	1.50	191	*e*Pn	Pn	03 05 11.7	-0.9
BNN	Bunyan	1.74	118	*e*PN	Pn	03 05 14.8	-1.1
BNN	Bunyan	1.74	118	*e*Pn	Pn	03 05 14.8	-1.1
KDHN	Kadinhani	1.79	230	*e*P	Pg	03 05 19.1	-0.1
KDHN				*e*S	Sb	03 05 40.4	-0.6
KDHN	Kadinhani	1.79	230	*e*P	Pg	03 05 19.1	-0.1
KDHN				*e*S	Sb	03 05 40.4	-0.6
SVRH	Sivrihisar-ESK	1.83	264	*e*PN	Pn	03 05 17.0	-0.1
SVRH	Sivrihisar-ESK	1.83	264	*e*Pn	Pn	03 05 17.0	-0.1
LADK	Ladik-KONYA	1.89	219	*e*PN	Pn	03 05 17.4	-0.5
LADK	Ladik-KONYA	1.89	219	*e*Pn	Pn	03 05 17.4	-0.5

IDC 08 03:09:20.8±1.6, 15°.48N×95°.90E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/27, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=28.5km s-min=21.6km az=62.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.15	44	Pn	Pn	03 10 24.8	-0.7
	1.7nm,0.3s,baz=235,slow=15,SNR=18						
CMAR				Lg	Lg	03 11 32.8	
	0.5nm,0.3s,baz=233,slow=32,SNR=5.5						
MKAR	Makanchi Array	33.22	343	P	P	03 15 59.9	+0.3
	1.1nm,0.6s,baz=174,slow=9.0,SNR=7.2						
ZALV	Zalesovo Beam	39.35	350	P	P	03 16 52.0	+0.2
	1.1nm,0.6s,baz=174,slow=9.0,SNR=7.2						
WRA	Warramunga Arr	51.64	132	P	P	03 18 29.2	-0.5
	0.4nm,1.0s,baz=316,slow=7.4,SNR=2.7						

ISCJB ***08*** *03:56:54.9±1.2, 51°.5N±0°.2×92°.9E±0°.1, h10km, Error ellipse: s-maj=24.3km s-min=12.8km az=11.0*
IDC ***08*** *03:56:56.7±2.5, 51°.31N×92°.85E, h0km, mb1 3.0/4, mb1mx2.9/31, mbtmp3.0/4, ML2.8/3, Error ellipse: s-maj=33.1km s-min=22.6km az=34.0*

ISC 08 03:56:59.9±1.1, 51°.5N±0°.1×92°.77E±0°.08, h10km, n5, σ3°32/6, 1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	5.44	300	Pn	Pn	03 58 19.0	-1.9
	baz=102,slow=12,SNR=3.2						
ZALV				Pg	Pb	03 58 37.2	+2.4
	0.0nm,0.3s,baz=113,slow=16,SNR=6.8						
ZALV				Lg	Lg	03 59 55.0	
	0.4nm,0.3s,baz=113,slow=28,SNR=3.8						
MK31	Makanchi Array	8.30	240	P	Pn	03 59 00.6	+0.3
	0.7nm,0.6s,baz=73,slow=12,SNR=6.9						
MK31				S	Sg	04 01 35.3	+9.1
	3.4nm,1.4s,baz=73,slow=22						
MKAR	Makanchi Array	8.30	240	Pn	Pn	03 58 58.5	-1.8
	0.1nm,0.3s,baz=54,slow=13,SNR=7.4						
SONM	Songino Array	9.55	107	Pn	Pn	03 59 14.9	-2.6
	0.1nm,0.3s,baz=296,slow=15,SNR=3.9						
SONM				Sn	Sn	04 01 08.7	+3.7
	0.1nm,0.3s,baz=295,slow=27,SNR=17						
BVAR	Borovoye Array	13.79	285	Pn	Pn	04 00 12.5	-2.8
	0.1nm,0.3s,baz=84,slow=13,SNR=4.2						

WEL 08 04:05:34.3±0.2, 38°.62S×175°.73E, h135km±1km, ML4.2/22, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.09	176	PN	Pn	04 05 52.6	0.0
WHTZ	Whakaora	0.19	105	PN	Pn	04 05 52.9	+0.1
RATZ	Rangitukua	0.25	172	PN	Pn	04 05 52.7	-0.2
KATZ	Kakaramea	0.36	184	PN	Pn	04 05 53.3	-0.1
RITZ	Rihia Road	0.37	164	PN	Pn	04 05 53.6	+0.3
HATZ	Hinemaiaia	0.40	134	PN	Pn	04 05 53.2	-0.2
HATZ				SN	Sn	04 06 08.0	0.0
KRVZ	Karewarewa	0.48	188	PN	Pn	04 05 53.7	-0.2
ALRZ	Allen Road	0.49	84	PN	Pn	04 05 53.9	+0.1
TWVZ	Taurewa	0.51	206	PN	Pn	04 05 53.8	-0.2
TWVZ				SN	Sn	04 06 09.2	+0.1
WTVZ	West Tongariro	0.51	192	PN	Pn	04 05 53.9	-0.2
WTVZ				SN	Sn	04 06 09.1	-0.1
OTVZ	Oturere	0.55	185	PN	Pn	04 05 54.4	0.0
NGZ	Ngauruhoe	0.56	190	PN	Pn	04 05 54.3	-0.2
WPVZ	Whakapapa	0.60	193	PN	Pn	04 05 54.5	-0.2
FWVZ	Far West T-bar	0.65	192	PN	Pn	04 05 54.6	-0.5
TUVZ	Tukino	0.65	185	PN	Pn	04 05 55.0	0.0
DRZ	Dome Shelter	0.67	191	PN	Pn	04 05 55.5	+0.1
RRRZ	Republican Roa	0.68	66	PN	Pn	04 05 55.3	+0.2
HIZ	Hauiti	0.69	278	PN	Pn	04 05 54.7	-0.4
TRVZ	Turoa	0.69	191	PN	Pn	04 05 55.2	-0.2
WNVZ	Wahianoa	0.71	188	PN	Pn	04 05 55.5	0.0
PKVZ	Pokaka	0.73	204	PN	Pn	04 05 55.3	-0.2
MOVZ	Moawhango	0.79	178	PN	Pn	04 05 55.5	-0.4
MTVZ	Mangateitei	0.79	194	PN	Pn	04 05 55.9	-0.1
BKZ	Black Stump Fm	0.81	133	PN	Pn	04 05 56.0	-0.1
TOZ	Tahuroa Road	0.91	349	PN	Pn	04 05 56.9	+0.1
TOZ				*e*SN	Sn	04 06 13.6	-0.2
BHHZ	Black Hill Sta	0.91	163	PN	Pn	04 05 56.6	-0.3
VRZ	Vera Road	0.91	236	PN	Pn	04 05 56.3	-0.5
NMHZ	Naumai	0.97	120	PN	Pn	04 05 58.4	+1.0
RAHZ	Arahi	1.10	106	PN	Pn	04 05 59.5	+0.9
MCHZ	McNeill Hill	1.12	138	PN	Pn	04 05 59.8	+1.1
URZ	Urewera	1.15	72	PN	Pn	04 05 58.7	-0.3
URZ				*e*SN	Sn	04 06 17.4	-0.4
RAEZ	Rainy Point	1.23	237	PN	Pn	04 06 00.1	+0.2
WAZ	Wanganui	1.27	207	PN	Pn	04 06 00.3	0.0
PNHZ	Pukenui	1.34	164	PN	Pn	04 06 01.1	0.0
NEZ	North Egmont	1.43	242	PN	Pn	04 06 02.1	+0.1
MWZ	Matawai	1.44	79	PN	Pn	04 06 02.2	+0.1
DFE	Dawson Falls	1.45	240	PN	Pn	04 06 02.4	+0.2
TSZ	Takapari Road	1.45	173	PN	Pn	04 06 02.1	-0.1
PKE	Pukeiti	1.47	246	PN	Pn	04 06 02.1	-0.3
KAHZ	Kahuranaki	1.48	143	PN	Pn	04 06 03.1	+0.6
CKHZ	Cape Kidnapper	1.48	135	PN	Pn	04 06 03.3	+0.8
WPHZ	Waipukurau	1.55	159	PN	Pn	04 06 03.3	+0.1
WPHZ				*e*SN	Sn	04 06 24.0	-1.4
MKAZ	Moumakai	1.57	343	PN	Pn	04 06 03.2	-0.3
NRZ	Ngariki Road	1.57	242	*e*PN	Pn	04 06 03.4	-0.1
KNZ	Kokohu	1.57	105	PN	Pn	04 06 03.9	+0.4
PXZ	Pawanui	1.66	148	PN	Pn	04 06 04.6	+0.1
DVHZ	Dannevirke	1.71	169	PN	Pn	04 06 04.6	-0.5
PRGZ	Paritu Road	1.71	101	PN	Pn	04 06 05.5	+0.3
POWZ	Post Office Ro	1.77	179	PN	Pn	04 06 05.1	-0.7
MHGZ	Mahia Peninsul	1.79	108	PN	Pn	04 06 06.5	+0.5
PRHZ	Porangahau	1.79	157	PN	Pn	04 06 06.0	0.0
CNGZ	Carnagh Statio	1.95	87	PN	Pn	04 06 08.6	+0.6
MRZ	Mangatainoka R	2.04	183	PN	Pn	04 06 07.9	-1.1
PUZ	Puketiti	2.06	75	PN	Pn	04 06 09.2	-0.2
BFZ	Birch Farm	2.10	169	PN	Pn	04 06 08.9	-0.8
TIWZ	Tintock	2.16	177	PN	Pn	04 06 09.5	-1.0
OGWZ	Otaki Gorge	2.24	191	PN	Pn	04 06 10.1	-1.3
HOWZ	Holdsworth Sta	2.28	184	PN	Pn	04 06 10.5	-1.5
MXZ	Matakaoa Point	2.29	63	PN	Pn	04 06 12.5	+0.4
KIW	Kapiti Island	2.33	195	PN	Pn	04 06 10.8	-1.7
TMWZ	Te Maipa	2.49	177	PN	Pn	04 06 12.9	-1.6
CAW	Cannon Point	2.54	191	PN	Pn	04 06 13.4	-1.8
MTW	Mount Morrison	2.54	184	PN	Pn	04 06 13.3	-1.9
DUWZ	D'Urville Isla	2.59	212	PN	Pn	04 06 13.9	-1.9
WEL	Wellington	2.76	195	PN	Pn	04 06 16.2	-1.7
PAWZ	Paruwai Farm	2.77	185	PN	Pn	04 06 15.7	-2.4
TRWZ	Traveller	2.78	181	PN	Pn	04 06 16.2	-2.0
SNZO	South Karori	2.80	196	PN	Pn	04 06 16.1	-2.4
MSWZ	Moikau Station	2.82	187	PN	Pn	04 06 16.3	-2.4
TCW	Tory Channel	2.82	203	PN	Pn	04 06 16.4	-2.3
BHW	Baring Head	2.86	193	PN	Pn	04 06 16.8	-2.4
PLWZ	Palliser	2.97	187	PN	Pn	04 06 18.2	-2.6
TUWZ	Tuamarina	3.12	205	PN	Pn	04 06 20.1	-2.5
NNZ	Nelson	3.16	214	PN	Pn	04 06 20.7	-2.4
QRZ	Quartz Range	3.31	227	PN	Pn	04 06 22.4	-2.7
BSWZ	Blackbirch Sta	3.40	204	PN	Pn	04 06 23.6	-2.7
THZ	Tophouse	3.81	214	PN	Pn	04 06 29.5	-2.2
KHZ	Kahutara	4.14	203	PN	Pn	04 06 32.8	-3.2
DSZ	Denniston Nort	4.33	223	PN	Pn	04 06 35.2	-3.4
LTZ	Lake Taylor	4.92	211	PN	Pn	04 06 42.5	-3.8
MQZ	McQueen's Vall	5.59	204	PN	Pn	04 06 50.1	-5.1
ODZ	Otahua Downs	7.46	209	PN	Pn	04 07 15.6	-4.7
CTZ	Chatham Island	7.71	134	*e*PN	Pn	04 07 22.9	-0.8

MAN 08 04:19:53, 17°.57N×120°.23E, h58km, mb4.5, ML3.4, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.41	31	*e*P	Sn	04 20 15

	SNR=92							
BCI	**Bajram Curri**	**1.26**	**20**	*i* PN	**Pg**	**04 57 04.4**	**+0.4**
BCI				*i* SN	**Sn**	**04 57 24.9**	**+4.2**
BCI	**Bajram Curri**	**1.26**	**20**	*i* Pn	**Pg**	**04 57 04.4**	**+0.4**
	SNR=58						
SRN	**Sarande**	**1.35**	**163**	*i* PN	**Pg**	**04 57 06.3**	**+0.6**
SRN	**Sarande**	**1.35**	**163**	*i* Pn	**Pg**	**04 57 06.3**	**+0.6**
	SNR=58						
BIA	**Bitola**	**1.39**	**96**	*e*Pn	**Pn**	**04 57 04.5**	**-0.8**
BIA				*e*Sg	**Sg**	**04 57 24.1**	**-0.3**
BIA	**Bitola**	**1.39**	**96**	*e*Pn	**Pn**	**04 57 04.5**	**-0.8**
BIA				*e*Sg	**Sg**	**04 57 24.1**	**-0.3**
SKO	**Skopje**	**1.66**	**61**	*e*Pn	**Pn**	**04 57 08.9**	**-0.1**
SKO				*e*Sg	**Sg**	**04 57 34.0**	**+0.8**
SKO	**Skopje**	**1.66**	**61**	*e*Sg	**Sg**	**04 57 34.4**	**+1.3**
STON	**Ston**	**2.16**	**322**	*i* Pn	**Pn**	**04 57 15.6**	**-0.2**
STON					**Sn**	**04 57 42.3**	**-0.4**
STON	**Ston**	**2.16**	**322**	*i* Pn	**Pn**	**04 57 15.6**	**-0.2**
STON					**Sn**	**04 57 42.3**	**-0.4**
NVLJ	**Novalja**	**4.80**	**316**	*i* Pn	**Pn**	**04 57 52.4**	**+0.2**
NVLJ					**Sn**	**04 58 46.5**	**-1.3**
NVLJ	**Novalja**	**4.80**	**316**	*i* Pn	**Pn**	**04 57 52.3**	**+0.2**
NVLJ					**Sn**	**04 58 46.4**	**-1.3**

*ISCJB **08** 04:57:00.8±1.0, 6.60N±0.04×127.05E±0.07, h77km±9km, mb4.2/26, Error ellipse: s-maj=12.8km s-min=6.6km az=162.5*

*IDC **08** 04:57:00.3±2.3, 6.60N×127.18E, h57km±20km, mb3.8/14, mb1 4.0/15, mb1mx3.8/25, mbtmp3.8/15, ML3.8/1, MS3.5/7, Ms1 3.6/7, ms1mx3.2/40, Error ellipse: s-maj=21.0km s-min=10.6km az=63.0*

*NEIC **08** 04:57:01.1±1.2, 6.59N×126.99E, h65km±11km, mb4.3/12, Error ellipse: s-maj=13.5km s-min=5.6km az=67.0*

*AUST **08** 04:57:02.5, 6.50N×127.01E, h60km*

*MAN **08** 04:57:07, 6.75N×126.53E, h16km, mb5.0, ML3.9, MS4.0*

ISC 08 04:57:00.2±1.3, 6.55N±0.05×127.12E±0.08, h52km±12km, n75, σ1961/75, mb4.3/26, MS3.4/6, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.94**	**295**	*e*P	**Pn**	**04 57 15.2**	**-1.9**
MATI				*e*S	Sn	04 57 23.5	-6.1
DAV	**Davao City (W)**	**1.61**	**289**	P	**Pn**	**04 57 26.3**	**+0.1**
	256nm,0.3s,baz=230,slow=1.7,SNR=28						
DAV				S	**Sn**	**04 57 47.8**	**+1.9**
	287nm,0.3s,baz=72,slow=20,SNR=42						
DAV				LR	LR	04 58 15.8	
	comp=Z,3μm,18.4s,baz=108,slow=46						
DAV	**Davao City (W)**	**1.61**	**289**	P	**Pn**	**04 57 26.3**	**+0.1**
DAV				S	**Sn**	**04 57 47.8**	**+1.9**
DMPH	**Davao City--Mi**	**1.68**	**288**	↓*e*P	**Pn**	**04 57 27.9**	**+0.7**
DMPH				*e*S	**Sn**	**04 57 42.8**	**-4.9**
KCP	**Kidapawan**	**2.06**	**283**	↑*e*P	**Pn**	**04 57 34.8**	**+2.3**
KCP				*i* S	**Sn**	**04 58 00.8**	**+3.7**
GSPH	**General Santos**	**2.21**	**258**	↑*i*P	**Pn**	**04 57 31.8**	**-2.7**
GSPH				*i* S	**Sn**	**04 57 56.1**	**-4.5**
BUKP	**Musuan**	**2.43**	**303**	*e*P	**Pn**	**04 57 38.7**	**+1.3**
CTBH	**Cotabato--PC H**	**2.93**	**283**	↓*i*P	**Pn**	**04 57 44.2**	**-0.1**
CGP	**Cagayan de Oro**	**3.06**	**308**	↓*i*P	**Pn**	**04 57 47.3**	**+1.2**
CGP				*i* S	**Sn**	**04 58 22.9**	**+1.5**
PAGZ	**Pagadian**	**3.92**	**289**	*e*P	**Pn**	**04 57 59.0**	**+1.1**
TBP	**Tagbilaran**	**4.48**	**314**	*e*P	Sn	04 58 45.0	-12
PCI	**Palu**	**10.38**	**225**	S	**Sn**	**05 01 23.6**	**+2.1**
	baz=10,SNR=5.6						
KAPI	**Kappang**	**13.64**	**213**	P	**Pn**	**05 00 10.2**	**-0.9**
	0.5nm,0.3s,baz=44,slow=9.7,SNR=5.0						
KAPI	**Kappang**	**13.64**	**213**	*e*P	**Pn**	**05 00 09.9**	**-1.2**
	24nm,1.0s						
WSI	**Waingapu**	**17.49**	**203**	S	**S**	**05 04 20.9**	**+0.7**
	baz=18,SNR=6.0						
GUMO	**Guam**	**18.81**	**67**	LR	LR	05 07 18.7	
	comp=Z,129nm,21.5s,baz=213,slow=33						
MTN	**Manton Dam**	**19.68**	**168**	P	**Pn**	**05 01 27.8**	**+0.9**
	baz=20,SNR=4.1						
KDU	**Kakadu**	**19.84**	**164**	P	**Pn**	**05 01 28.7**	**-0.2**
	baz=20,SNR=5.8						
JOW	**Kunigami**	**20.20**	**3**	LR	LR	05 09 18.7	
	comp=Z,80nm,18.5s,baz=197,slow=37						
FITZ	**Fitzroy Crossi**	**24.54**	**183**	P	**P**	**05 02 15.3**	**+0.2**
	7.4nm,0.7s,baz=30,slow=7.0,SNR=12						
FITZ	**Fitzroy Crossi**	**24.54**	**183**	*e*P	**P**	**05 02 15.7**	**+0.6**
	5.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.54**	**183**	P	**P**	**05 02 15.8**	**+0.6**
	baz=25,SNR=11						
CBIJ	**Chichi jima**	**24.95**	**33**	LR	LR	05 12 03.1	
	comp=Z,98nm,18.9s,baz=119,slow=36						
PMG	**Port Moresby**	**25.50**	**128**	*e*P	**P**	**05 02 24.4**	**+0.5**
	17nm,1.1s						
COEN	**Coen**	**25.87**	**142**	*e*P	**P**	**05 02 27.9**	**+0.6**
IPM	**Ipoh**	**26.05**	**267**	*e*P	**P**	**05 02 32.2**	**+3.2**
	13nm,1.0s						
KULM	**Kulim**	**26.36**	**269**	*e*P	**P**	**05 02 36.2**	**+4.5**
	10.0nm,1.1s						
WRAB	**Tennant Creek**	**27.27**	**165**	*e*P	**P**	**05 02 42.8**	**+3.0**
	3.6nm,0.4s						
WRA	**Warramunga Arr**	**27.27**	**165**	P	**P**	**05 02 39.4**	**-0.5**
	3.0nm,0.4s,baz=344,slow=11,SNR=54						
WRA				ScP	**ScP**	**05 09 35.2**	**+0.1**
	0.8nm,0.9s,baz=350,slow=3.4,SNR=4.9						
WRA	**Warramunga Arr**	**27.27**	**165**	P	**P**	**05 02 39.4**	**-0.5**
WRA				ScP	**ScP**	**05 09 35.2**	**+0.1**
PPI	**Padang Panjang**	**27.56**	**256**	P	P	05 02 54.5	+12
	baz=28,SNR=4.4						
PSI	**Prapat**	**28.34**	**264**	LR	LR	05 14 16.8	
	comp=Z,101nm,21.1s,baz=238,slow=36						
QIS	**Mount Isa**	**29.61**	**156**	P	**P**	**05 03 03.0**	**+2.3**
	baz=30,SNR=4.6						
CMAR	**Chiang Mai Arr**	**29.89**	**296**	LR	LR	05 15 28.3	
	comp=Z,117nm,19.1s,baz=137,slow=37						
ASAR	**Alice Springs**	**30.76**	**168**	P	**P**	**05 03 10.4**	**-0.4**
	0.5nm,0.4s,baz=350,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**30.76**	**168**	P	**P**	**05 03 10.4**	**-0.4**
MJAR	**Matsushiro Arr**	**31.52**	**17**	P	**P**	**05 03 17.0**	**-0.5**
	1.8nm,0.9s,baz=145,slow=8.9,SNR=4.6						
MJAR	**Matsushiro Arr**	**31.52**	**17**	P	**P**	**05 03 17.0**	**-0.5**
MEEK	**Meekatharra**	**34.01**	**194**	P	**P**	**05 03 39.4**	**+0.1**
	baz=34,SNR=4.7						
HNR	**Honiara**	**36.36**	**116**	P	**P**	**05 03 60.0**	**+0.3**
	197nm,0.8s,baz=152,slow=4.6,SNR=3.5						
HNR	**Honiara**	**36.36**	**116**	P	**P**	**05 04 00.0**	**+0.3**
FORT	**Forrest**	**37.13**	**179**	*e*P	**P**	**05 04 06.0**	**+0.1**
	19nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**05 04 33.7**	**+0.6**
	7.1nm,0.6s,baz=356,slow=8.8,SNR=7.8						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**05 04 33.7**	**+0.6**
STKA	**Stephens Creek**	**40.64**	**161**	P	**P**	**05 04 35.0**	**-0.3**
	3.1nm,0.8s,baz=334,slow=9.1,SNR=8.4						
STKA	**Stephens Creek**	**40.64**	**161**	P	**P**	**05 04 35.0**	**-0.3**
ULN	**Ulaanbaatar**	**44.58**	**341**	*e*P	**P**	**05 05 07.4**	**+0.1**
	2.9nm,1.0s						
SONM	**Songino Array**	**44.77**	**340**	P	**P**	**05 05 08.4**	**-0.4**
	0.3nm,0.7s,baz=145,slow=5.3,SNR=2.6						
SONM				LR	LR	05 25 02.0	
	comp=Z,54nm,19.4s,baz=27,slow=38						
SONM	**Songino Array**	**44.77**	**340**	P	**P**	**05 05 08.4**	**-0.4**
YNG	**Young**	**45.34**	**155**	P	**P**	**05 05 16.3**	**+2.9**
	baz=46,SNR=6.5						
DZM	**Mont Dzumac**	**47.89**	**128**	LR	LR	05 25 40.2	
	comp=Z,153nm,18.0s,baz=50,slow=36						
MK31	**Makanchi Array**	**55.49**	**324**	*e*P	**P**	**05 06 29.0**	**-0.9**
MKAR	**Makanchi Array**	**55.49**	**324**	P	**P**	**05 06 29.1**	**-0.7**
	0.9nm,0.5s,baz=120,slow=8.0,SNR=25						
MKAR	**Makanchi Array**	**55.49**	**324**	P	**P**	**05 06 29.1**	**-0.7**
TKM2	**Tokmak 2**	**57.92**	**317**	*e*P	**P**	**05 06 45.5**	**-1.9**
	4.1nm,1.3s						
ZALV	**Zalesovo Beam**	**58.27**	**332**	P	**P**	**05 06 47.8**	**-1.6**
	0.4nm,0.3s,baz=101,slow=4.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.27**	**332**	P	**P**	**05 06 47.8**	**-1.6**
EKS2	**Erkin-Say**	**59.06**	**316**	*e*P	**P**	**05 06 54.2**	**-1.1**
	2.0nm,0.9s						
KURK	**Kurchatov**	**59.60**	**326**	*e*P	**P**	**05 06 56.9**	**-1.7**
	7.6nm,1.4s						
BRVK	**Borovoye**	**65.26**	**326**	*e*P	**P**	**05 07 35.0**	**-1.5**
	4.1nm,1.3s						
ABKAR	**Akbulak array**	**70.23**	**320**	*e*P	**P**	**05 08 05.9**	**-1.9**
ILAR	**Eielson Array**	**82.41**	**26**	P	**P**	**05 09 16.3**	**-0.2**
	0.5nm,0.9s,baz=258,slow=5.0,SNR=4.2						
ILAR	**Eielson Array**	**82.41**	**26**	P	**P**	**05 09 16.3**	**-0.2**
VNDA	**Vanda**	**86.16**	**173**	P	**P**	**05 09 35.3**	**+0.1**
	1.6nm,1.0s,baz=306,slow=4.3,SNR=4.1						
VNDA	**Vanda**	**86.16**	**173**	*e*P	**P**	**05 09 35.5**	**+0.2**
	2.8nm,1.1s						

ARCES	**ARCESS Array B**	**87.95**	**340**	P		**P**	**05 09 42.7**	**-1.5**
	1.8nm,0.8s,baz=66,slow=11,SNR=2.5							
ARCES	**ARCESS Array B**	**87.95**	**340**	P		**P**	**05 09 42.7**	**-1.5**
FINES	**FINESS Array B**	**89.54**	**332**	P		**P**	**05 09 51.1**	**-0.7**
	2.1nm,0.9s,baz=35,slow=7.0,SNR=7.4							
FINES	**FINESS Array B**	**89.54**	**332**	P		**P**	**05 09 51.1**	**-0.7**
MLR	**Muntele Rosu**	**93.14**	**316**	P		**P**	**05 10 08.4**	**-0.6**
	0.5nm,0.9s,baz=219,slow=14,SNR=3.1							
MLR	**Muntele Rosu**	**93.14**	**316**	P		**P**	**05 10 08.4**	**-0.6**
YKA	**Yellowknife Ar**	**96.78**	**24**	P		**P**	**05 10 24.7**	**-0.3**
	0.1nm,0.6s,baz=292,slow=5.1,SNR=3.6							
YKA	**Yellowknife Ar**	**96.78**	**24**	P		**P**	**05 10 24.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.37**	**290**	PKP		**PKPdf**	**05 15 49.8**	**-0.9**
	0.2nm,0.4s,baz=66,slow=1.5,SNR=12							
TORD	**Torodi Ar. Bea**	**122.37**	**290**	PKP		**PKPdf**	**05 15 49.8**	**-0.9**

*IDC **08** 05:01:17.4±1.7, 6.86N×127.34E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=42.2km s-min=20.0km az=48.0*

ISC 08 05:01:23.2±1.5, 7.0N±0.1×127.2E±0.1, h60km, n11, σ2982/8, mb3.5/4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.59**	**271**	Pn	**Pn**	**05 01 49.7**	**+0.6**
	146nm,0.3s,baz=259,slow=9.9,SNR=5.0						
DAV				Sn	**Sn**	**05 02 13.3**	**+4.6**
	64nm,0.3s,baz=68,slow=24,SNR=5.8						
DMPH	**Davao City--Mi**	**1.66**	**272**	↓*e*P	Pn	05 01 52.1	+2.0
DMPH				*e*S	**Sn**	**05 02 07.1**	**-3.4**
KCP	**Kidapawan**	**2.08**	**269**	↓*e*P	Pn	05 01 59.0	+3.2
KCP				*i* S	Sn	05 02 26.1	+5.5
BUKP	**Musuan**	**2.26**	**292**	*e*P	Pn	05 02 02.4	+4.1
BUKP				*e*S	**Sn**	**05 02 22.8**	**-2.3**
PAGZ	**Pagadian**	**3.85**	**282**	*e*P	Pn	05 02 23.4	+3.4
PAGZ				*e*S	Sn	05 02 43.6	-20
CNP	**Catarman**	**5.98**	**336**	*e*S	**Sn**	**05 03 56.9**	**+0.6**
CNP	**Catarman**	**5.98**	**336**	*e*P	Sn	05 03 50.7	-5.6
FITZ	**Fitzroy Crossi**	**25.02**	**183**	P	**P**	**05 06 41.1**	**-0.7**
	0.9nm,0.5s,baz=11,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**27.72**	**165**	P	**P**	**05 07 06.8**	**+0.7**
	0.4nm,0.3s,baz=346,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**31.21**	**168**	P	**P**	**05 07 36.7**	**-0.3**
	0.2nm,0.6s,baz=347,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**55.14**	**324**	P	P	05 10 53.1	+3.6
	0.2nm,0.4s,baz=121,slow=7.7,SNR=8.4						

IDC 08 05:12:57.8±1.0, 13.61N×146.32E, h44km±9km, mb3.3/6, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, Error ellipse: s-maj=17.9km s-min=10.4km az=5.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.41**	**270**	P	Pn	05 13 19.0	-2.0
	23nm,0.3s,baz=159,slow=4.5,SNR=8.1						
GUMO				S	Sn	05 13 38.4	+0.1
	34nm,0.3s,baz=333,slow=21,SNR=7.4						
KSRS	**Korea Array**	**28.86**	**329**	P	P	05 18 54.0	+1.7
	0.4nm,0.3s,baz=125,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**35.36**	**200**	P	P	05 19 48.4	-1.0
	0.7nm,0.7s,baz=21,slow=9.4,SNR=9.2						
WRA				pP	pP	05 20 02.2	+1.0
	0.5nm,0.6s,baz=20,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**38.98**	**198**	P	P	05 20 20.1	-0.1
	0.2nm,0.5s,baz=17,slow=12,SNR=6.3						
ASAR				pP	pP	05 20 32.8	+0.8
	0.2nm,0.5s,baz=14,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**62.46**	**316**	P	P	05 23 16.8	+0.1
	0.2nm,0.3s,baz=91,slow=9.1,SNR=5.8						
MKAR				pP	pP	05 23 28.1	-1.1
	0.2nm,0.5s,baz=98,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**67.95**	**25**	P	P	05 23 50.9	-1.1
	0.5nm,1.1s,baz=254,slow=5.9,SNR=5.7						
NVAR	**Mina Array Bea**	**85.81**	**52**	P	P	05 25 33.8	+0.5
	0.3nm,0.6s,baz=274,slow=5.2,SNR=3.2						

*ISCJB **08** 05:18:38.7±0.6, 28.69S±0.03×67.17W±0.05, h119km±5km, mb4.5/26, Error ellipse: s-maj=7.2km s-min=5.3km az=167.4*

*NEIC **08** 05:18:41.5±0.3, 28.75S×67.20W, mb4.7/19, Error ellipse: s-maj=7.2km s-min=6.2km az=101.0*

*IDC **08** 05:18:41.1±0.5, 28.79S×67.14W, h132km±4km, mb4.0/11, mb1 4.1/16, mb1mx4.0/21, mbtmp3.9/16, MS3.2/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=15.7km s-min=8.7km az=108.0*

*GUC **08** 05:18:42.2±1.1, 28.64S×67.56W, h169km±81km, ML5.1*

*BJI **08** 05:18:42.7, 28.80S×67.10W, h139km, mB4.9/3*

ISC 08 05:18:41.2±0.4, 28.71S±0.04×67.22W±0.05, h135km±3km, h135km:pP-P, n235, σ1940/273, mb4.5/25, 72C-75D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.02**	**197**	P	**Pn**	**05 19 28.1**	**-0.2**
	25nm,0.3s,baz=13,slow=12,SNR=2328						
CFAA				S	**Sn**	**05 20 02.4**	**-2.3**
	88nm,0.3s,baz=52,slow=23,SNR=25						
CFAA	**Coronel Fontan**	**3.02**	**197**	P	**Pn**	**05 19 28.1**	**-0.2**
CFAA				S	**Sn**	**05 20 02.4**	**-2.3**
LCO	**Las Campanas**	**3.07**	**264**	*e*Pn	**Pn**	**05 19 29.0**	**-0.1**
LCO				*e*Sn	**Sn**	**05 20 05.3**	**-0.8**
LCO	**Las Campanas**	**3.07**	**264**	↓*i*P	**Pn**	**05 19 29.0**	**-0.1**
LCO				*i* S	**Sn**	**05 20 04.6**	**-1.5**
LCO				AML	AML	05 20 07.8	
	comp=E,3μm,0.6s						
CPCH	**Copiapo**	**3.08**	**295**	*e*P	**Pn**	**05 19 28.6**	**-0.4**
CPCH				*i* S	**Sn**	**05 20 03.1**	**-2.9**
CPCH	**Copiapo**	**3.08**	**295**	*e*P	**Pn**	**05 19 28.6**	**-0.4**
CPCH				*i* S	**Sn**	**05 20 03.1**	**-2.9**
CPCH				AML	AML	05 20 08.1	
	comp=N,15μm,0.1s						
TLL	**Tololo Astrono**	**3.45**	**244**	*e*P	**Pn**	**05 19 34.0**	**0.0**
TLL				*e*S	**Sn**	**05 20 13.6**	**-1.3**
TLL	**Tololo Astrono**	**3.45**	**244**	*e*P	**Pn**	**05 19 34.0**	**0.0**
TLL				*e*S	**Sn**	**05 20 13.6**	**-1.3**
TLL				AML	AML	05 20 19.2	
	comp=N,2μm,0.3s						
CDCH	**Caldera**	**3.58**	**296**	↓*e*P	**Pn**	**05 19 35.0**	**-0.5**
CDCH				*i* S	**Sn**	**05 20 14.3**	**-3.3**
CDCH	**Caldera**	**3.58**	**296**	↓*e*P	**Pn**	**05 19 35.0**	**-0.5**
CDCH				*i* S	**Sn**	**05 20 14.3**	**-3.3**
CDCH				AML	AML	05 20 18.7	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**4.10**	**232**	↓*e*P	**Pn**	**05 19 40.5**	**-1.9**
CMCH				*e*S	**Sn**	**05 20 26.9**	**-3.1**
CMCH	**Combarbala**	**4.10**	**232**	↓*e*P	**Pn**	**05 19 40.5**	**-1.9**
CMCH				*e*S	**Sn**	**05 20 26.9**	**-3.1**
FCH	**Farellones**	**5.30**	**209**	↑*e*P	**Pn**	**05 19 58.5**	**-0.2**
FCH				*e*S	**Sn**	**05 20 58.7**	**-0.5**
PEL	**Peldehue**	**5.33**	**213**	↓*e*P	**Pn**	**05 19 57.2**	**-1.6**
ROCH	**El Roble**	**5.36**	**217**	↓*e*P	**Pn**	**05 19 57.0**	**-2.3**
CLCH	**Cerro Calan**	**5.47**	**210**	↓*e*P	**Pn**	**05 19 59.7**	**-1.0**
LMEL	**Las Melosas**	**5.72**	**206**	↓*e*P	**Pn**	**05 20 03.7**	**-0.5**
CPUP	**Villa Florida**	**9.10**	**77**	P	**Pn**	**05 20 46.8**	**-2.6**
	comp=N,1.2nm,0.3s,baz=242,slow=11,SNR=14						
CPUP	**Villa Florida**	**9.10**	**77**	*e*Pn	**Pn**	**05 20 47.3**	**-2.0**
TRQA	**Tornquist**	**10.30**	**156**	*e*Pn	**Pn**	**05 21 04.5**	**-0.9**
PLCA	**Paso Flores**	**12.30**	**192**	P	**Pn**	**05 21 29.4**	**-2.5**
	comp=N,0.4nm,0.3s,baz=0.6,slow=14,SNR=22						
PLCA	**Paso Flores**	**12.30**	**192**	P	**Pn**	**05 21 29.4**	**-2.5**
	comp=N,4.7nm,0.9s						
LPAZ	**La Paz**	**12.39**	**356**	P	**Pn**	**05 21 33.0**	**-0.7**
	comp=N,1.8nm,0.3s,baz=143,slow=4.9,SNR=22						
LPAZ	**La Paz**	**12.39**	**356**	P	**Pn**	**05 21 33.0**	**-0.7**
	comp=N,30nm,1.0s						
LPAZ				*e*Sn	**Sn**	**05 23 49.2**	**-1.5**
SIV	**San Ignacio**	**13.87**	**25**	P	**Pn**	**05 21 50.9**	**-1.3**
	comp=N,1.0nm,0.3s,baz=224,slow=14,SNR=61						
SIV	**San Ignacio**	**13.87**	**25**	P	**Pn**	**05 21 50.9**	**-1.3**
NNA	**Nana**	**18.91**	**330**	*e*P	**P**	**05 22 51.1**	**-0.5**
	comp=N,8.1nm,0.8s						
SAML	**Samuel**	**20.02**	**12**	*e*P	**P**	**05 23 04.1**	**+0.5**
	comp=N,88nm,1.0s						
BDFB	**Brasilia**	**21.99**	**58**	P	**P**	**05 23 23.2**	**-1.5**
	comp=N,6.5nm,0.4s,baz=220,slow=9.0,SNR=22						
BDFB				LR	LR	05 33 29.6	
	comp=N,59nm,19.9s,baz=185,slow=40						
BDFB	**Brasilia**	**21.99**	**58**	P	**P**	**05 23 23.2**	**-1.5**
EFI	**East Falkland**	**23.95**	**166**	*e*P	**P**	**05 23 43.1**	**+0.4**

USHA	**Ushuaia**	**26.12**	**182**	pP	pP	05 24 32.2	+1.2	
	comp=N,16nm,1.0s,baz=0.8,slow=5.4,SNR=4.8							
OTAV	**Otavalo**	**30.72**	**338**	*e*P	P	05 24 48.6	+4.5	
SDV	**Santo Domingo**	**37.52**	**354**	*e*P	**P**	**05 25 41.5**	**-0.9**	
	comp=N,17nm,1.1s							
GRGR	**Grenville**	**40.95**	**8**	*e*P	**P**	**05 26 10.7**	**-0.1**	
	comp=N,48nm,0.5s							
CELP	**Cerrillos**	**46.51**	**1**	*e*P	**P**	**05 26 54.1**	**-0.9**	
TGUH	**Tegucigalpa,Un**	**46.73**	**333**	*e*P	**P**	**05 26 57.9**	**+1.1**	
	comp=N,48nm,1.1s							
732A	**Laxson Ranch,**	**65.14**	**328**	↑P	**P**	**05 29 08.8**	**+1.1**	
	baz=66,SNR=8.3							
632A	**Uvalde**	**65.72**	**329**	↑P	**P**	**05 29 12.7**	**+1.3**	
	baz=66,SNR=6.1							
SWET	**Sewanee**	**65.99**	**343**	*e*P	**P**	**05 29 13.3**	**+0.3**	
	comp=N,13nm,1.2s							
631A	**Perdido Creek**	**66.00**	**328**	↑P	**P**	**05 29 14.0**	**+0.7**	
	baz=66							
532A	**Rocksprings**	**66.30**	**329**	↑P	**P**	**05 29 16.4**	**+1.2**	
	baz=67,SNR=11							
JCT	**Junction City**	**66.56**	**330**	*e*P	**P**	**05 29 17.8**	**+0.9**	
	comp=N,30nm,1.5s							
JCT	**Junction City**	**66.56**	**330**	↓P	**P**	**05 29 17.7**	**+0.9**	
	baz=67,SNR=5.7							
531A	**Rocksprings**	**66.62**	**329**	↑P	**P**	**05 29 18.5**	**+1.2**	
	baz=67,SNR=6.5							
432A	**Menard**	**66.89**	**330**	↑P	**P**	**05 29 19.5**	**+0.6**	
	baz=67							
530A	**J-C Ranch, Com**	**66.97**	**328**	↑P	**P**	**05 29 20.6**	**+1.1**	
	baz=67,SNR=7.1							
431A	**Sonora**	**67.09**	**329**	↑P	**P**	**05 29 20.8**	**+0.6**	
	baz=67							
628A	**Black Gap, Mar**	**67.16**	**327**	↓P	**P**	**05 29 22.0**	**+1.4**	
	baz=68							
332A	**Millersview**	**67.30**	**330**	↓P	**P**	**05 29 22.1**	**+0.6**	
	baz=68							
WVT	**Waverly**	**67.35**	**342**	*e*P	**P**	**05 29 21.3**	**-0.3**	
	comp=N,16nm,1.2s							
WVT				*e*pP	**pP**	**05 29 55.5**	**+1.1**	
WVT				*e*sP	**sP**	**05 30 09.2**	**+0.1**	
529A	**Stev Forest Ra**	**67.37**	**327**	↑P	**P**	**05 29 23.2**	**+1.2**	
	baz=68							
627A	**Terlingua Ranc**	**67.37**	**326**	↑P	**P**	**05 29 23.0**	**+0.9**	
	baz=68							
TXAR	**Lajitas Array**	**67.41**	**326**	P	**P**	**05 29 23.3**	**+1.0**	
	comp=N,0.9nm,0.6s,baz=141,slow=7.3,SNR=24							
TXAR	**Lajitas Array**	**67.41**	**326**	P	**P**	**05 29 23.3**	**+1.0**	
430A	**Baggett Ranch,**	**67.47**	**329**	↑P	**P**	**05 29 23.4**	**+0.8**	
	baz=68,SNR=7.7							
331A	**San Angelo**	**67.54**	**330**	↓P	**P**	**05 29 23.5**	**+0.5**	
	baz=68							
429A	**Davenport Ranc**	**67.63**	**328**	↑P	**P**	**05 29 24.8**	**+1.2**	
	baz=68,SNR=9.0							
528A	**Cox Ranch, San**	**67.67**	**327**	↑P	**P**	**05 29 24.7**	**+0.7**	
	baz=68,SNR=5.9							
626A	**Big Bend Ranch**	**67.82**	**326**	↑P	**P**	**05 29 26.4**	**+1.6**	
	baz=68,SNR=13							
330A	**Mertzon**	**67.96**	**329**	↑P	**P**	**05 29 26.2**	**+0.6**	
	baz=68							
527A	**Woodward Ranch**	**68.05**	**326**	↓P	**P**	**05 29 27.3**	**+1.0**	
	baz=68,SNR=6.0							
428A	**Kincaid Ranch,**	**68.09**	**327**	↑P	**P**	**05 29 27.6**	**+1.1**	
	baz=68							
526A	**Mary Lane Ranc**	**68.22**	**326**	↓P	**P**	**05 29 28.8**	**+1.4**	
	baz=68,SNR=8.0							
329A	**Wagon Wheel Ra**	**68.40**	**328**	↓P	**P**	**05 29 29.1**	**+0.7**	
	baz=69,SNR=5.3						

comp=N,20nm,1.8s
WUAZ Wupatki 76.24 324 *e*P P 05 30 16.9 +1.9
comp=N,14nm,1.3s
WUAZ Wupatki 76.24 324 ⇓P P 05 30 16.8 +1.9
baz=77
Y12C Blythe 76.58 321 ⇓P P 05 30 18.5 +1.8
baz=77
R20A Redvale 76.88 328 ⇑P P 05 30 20.6 +2.0
baz=77
ECSD EROS Data Cent 76.96 339 *e*P P 05 30 19.0 +0.3
comp=N,8.2nm,1.1s
SMCO Snowmass 77.04 329 *e*P P 05 30 21.8 +2.1
comp=N,13nm,1.5s
IRM Iron Mountain 77.23 321 ⇑P P 05 30 22.1 +1.7
baz=78
W13A Hualapai Mount 77.24 322 ⇓P P 05 30 22.4 +1.7
baz=78
S18A Hurst Farm, Bl 77.25 326 ⇓P P 05 30 22.5 +1.8
baz=78,SNR=8.6
GMRC Granite Mounta 77.97 321 ⇑P P 05 30 26.3 +1.7
baz=78
S16A Weppner Ranch, 78.07 325 ⇓P P 05 30 26.4 +1.2
baz=78
R17A Hanksville Air 78.18 326 ⇓P P 05 30 27.1 +1.4
baz=78,SNR=5.3
P19A Cripple Cowboy 78.32 328 ⇓P P 05 30 28.2 +1.6
baz=79,SNR=6.0
O20A White River Ci 78.39 329 ⇓P P 05 30 28.6 +1.7
baz=79,SNR=5.0
TOA0 Torodi Ar. Sit 78.47 68 *e*P P 05 30 28.0 +0.4
TORD Torodi Ar. Bea 78.47 68 P P 05 30 27.9 +0.3
comp=N,4.8nm,0.5s,baz=272,slow=6.1,SNR=106
TORD pP pP 05 30 59.5 -1.9
comp=N,3.4nm,0.8s,baz=255,slow=5.4,SNR=6.1
TORD Torodi Ar. Bea 78.47 68 P P 05 30 27.9 +0.3
TORD pP pP 05 30 59.5 -1.9
TUQ Turquoise Moun 78.60 321 ⇓P P 05 30 29.7 +1.6
baz=79
SRU San Rafael 78.63 327 ⇑P P 05 30 29.5 +1.2
baz=79
BOSA Boshof 78.80 116 P P 05 30 30.1 +0.6
comp=N,7.3nm,0.7s,baz=250,slow=6.4,SNR=14
BOSA Boshof 78.80 116 P P 05 30 30.1 +0.6
P18A Preston Nutter 78.91 328 ⇓P P 05 30 31.4 +1.6
baz=79
O19A Miners Draw (B 78.92 329 ⇑P P 05 30 31.1 +1.4
baz=79
N20A Spence Gulch, 78.96 329 ⇓P P 05 30 31.3 +1.2
baz=79
P17A Butcher Ranch, 79.02 327 ⇑P P 05 30 31.6 +1.3
baz=79
N19A John Jarvie Ra 79.42 329 ⇓P P 05 30 33.7 +1.2
baz=80,SNR=6.5
L21A Rawlins 79.49 331 ⇑P P 05 30 33.9 +1.1
baz=80
O17A Robinson Place 79.59 328 ⇑P P 05 30 35.2 +1.7
baz=80
K21A Alcova 79.98 331 ⇓P P 05 30 36.9 +1.4
baz=80
N17A Moffit Pass 80.22 328 ⇓P P 05 30 38.4 +1.5
baz=81,SNR=5.1
L19A Farson 80.47 330 ⇓P P 05 30 39.5 +1.4
baz=81
K20A Yellowstone Ra 80.47 331 ⇑P P 05 30 39.0 +0.9
baz=81
R11A Troy Canyon, C 80.58 323 ⇑P P 05 30 40.2 +1.4
baz=81
L18A Fontenelle, Gr 80.63 329 ⇓P P 05 30 40.1 +1.1
baz=81,SNR=6.6
H24A Dirks Ranch, A 80.65 334 ⇓P P 05 30 39.4 +0.5
baz=81
K19A Absolon Red Bu 80.83 330 ⇓P P 05 30 40.6 +0.7
baz=81,SNR=6.2
I21A Big Trails, Te 80.97 332 ⇓P P 05 30 41.5 +0.8
baz=81
HWUT Hardware Ranch 81.08 328 *e*P P 05 30 42.2 +0.8
comp=N,26nm,1.9s
HWUT *e*sP sP 05 31 17.5 -12
G24A Alzada 81.09 334 ⇑P P 05 30 41.8 +0.6
baz=81
BW06 Boulder Array 81.09 330 *e*P P 05 30 42.3 +0.9
BW06 Boulder Array 81.09 330 ⇓P P 05 30 42.0 +0.5
baz=81
PDAR Pinedale Array 81.09 330 P P 05 30 42.0 +0.6
comp=N,1.6nm,0.5s,baz=130,slow=8.3,SNR=28
PDAR pP pP 05 31 16.4 +0.9
comp=N,1.2nm,0.8s,baz=132,slow=2.2,SNR=4.9
PDAR Pinedale Array 81.09 330 P P 05 30 42.0 +0.6
PDAR pP pP 05 31 16.4 +0.9
K18A Toltan Ranch, 81.20 330 ⇑P P 05 30 43.3 +1.2
baz=82,SNR=6.5
G23A Biddle 81.35 334 ⇑P P 05 30 43.2 +0.6
baz=82
F24A Ekalaka 81.53 335 ⇑P P 05 30 44.4 +0.8
baz=82
H21A Big Horn, Sher 81.53 332 ⇓P P 05 30 44.0 +0.4
baz=82
J18A Kendall Valley 81.65 330 ⇑P P 05 30 45.2 +0.8
baz=82,SNR=6.3
K17A Gardner Place, 81.69 329 ⇓P P 05 30 45.5 +1.0
baz=82
L15A Malad City 81.78 328 ⇑P P 05 30 45.6 +0.6
baz=82
F23A Volborg 81.80 334 ⇓P P 05 30 45.6 +0.7
baz=82
H20A Greybull 81.81 332 ⇓P P 05 30 45.6 +0.5
baz=82,SNR=5.4
NVAR Mina Array Bea 82.09 322 P P 05 30 47.5 +0.7
comp=N,1.1nm,1.0s,baz=152,slow=4.7,SNR=4.8
NVAR Mina Array Bea 82.09 322 P P 05 30 47.5 +0.7
G21A Lodge Grass 82.09 333 ⇑P P 05 30 47.2 +0.7
baz=82
REDW Red Top Meadow 82.14 329 *e*P P 05 30 49.2 +2.2
comp=N,28nm,2.1s
F22A Rosebud 82.17 334 ⇑P P 05 30 47.5 +0.7
baz=82
G20A Bridger 82.50 332 ⇑P P 05 30 49.0 +0.4
baz=83
ULM Lac du Bonnet 82.62 342 P P 05 30 48.8 -0.1
comp=N,2.2nm,0.5s,baz=172,slow=3.4,SNR=4.7
ULM Lac du Bonnet 82.62 342 P P 05 30 48.8 -0.1
FLWY Flagg Ranch 82.64 330 *e*P P 05 30 50.8 +1.3
comp=N,2.5nm,0.6s
H18A Shoshone NF, C 82.67 331 ⇓P P 05 30 50.4 +0.8
baz=83
J15A Blackfoot 82.88 329 ⇑P P 05 30 51.9 +1.2
baz=83
C24A Savage 82.95 336 ⇓P P 05 30 51.8 +1.0
baz=83
SCHQ Schefferville 83.20 0 P P 05 30 51.8 -0.1
comp=N,0.7nm,0.5s,baz=224,slow=6.3,SNR=6.2
SCHQ Schefferville 83.20 0 P P 05 30 51.8 -0.1
F19A Roth Farm, Mol 83.31 332 ⇓P P 05 30 53.0 +0.2
baz=84
C23A Lambert 83.46 335 ⇓P P 05 30 54.2 +0.9
baz=84
G17A Pierce Place, 83.64 331 ⇑P P 05 30 55.7 +1.2
baz=84
DGMT Dagmar 83.66 336 ⇑P P 05 30 55.4 +1.0
baz=84
F18A Big Timber 83.67 332 ⇓P P 05 30 55.5 +0.9
baz=84
E19A Rath Farm, Rou 83.74 333 ⇓P P 05 30 55.6 +0.7
baz=84,SNR=5.5
HLID Hailey 83.93 328 *e*P P 05 30 57.4 +1.3
HLID *e*pP pP 05 31 32.8 +2.6
HLID Hailey 83.93 328 ⇓P P 05 30 57.4 +1.3
baz=84
D20A Manuel Ranch, 83.99 333 ⇓P P 05 30 56.8 +0.6
baz=84
MCMT McKenzie Canyo 84.18 329 *e*P P 05 30 59.1 +1.7
MCMT *e*pP pP 05 31 34.2 +2.6
C21A Desert Coulee 84.19 334 ⇓P P 05 30 57.6 +0.5
baz=84,SNR=6.1
D19A Cripps Ranch, 84.35 333 ⇓P P 05 30 58.4 +0.5
baz=85
C20A Veseth Ranch, 84.45 334 ⇓P P 05 30 58.5 +0.1
baz=85
B21A Ellsworth Farm 84.66 335 ⇑P P 05 31 00.1 +0.6
baz=85
A22A Carney Farms, 84.72 336 ⇑P P 05 31 00.4 +0.6
baz=85
D17A Six Diamond Ra 85.07 332 ⇓P P 05 31 02.3 +0.6
baz=85
A20A Cobblestone Ra 85.37 334 ⇑P P 05 31 03.4 +0.4
baz=86
C17A Wharram Farm, 85.49 332 ⇓P P 05 31 04.1 +0.4
baz=86
B18A Beardsley Farm 85.70 333 ⇑P P 05 31 05.0 +0.3
baz=86
C15A Salmond Ranch, 86.37 331 ⇓P P 05 31 09.2 +1.1
baz=87
E12A Beaver Dam Sad 86.62 329 ⇓P P 05 31 09.9 +0.5
baz=87
B15A Bradely Ranch, 86.77 332 ⇑P P 05 31 10.0 0.0
baz=87
A16A West Butte Ran 86.87 333 ⇓P P 05 31 10.9 +0.4
baz=87
D12A Red Ives Fores 87.01 329 ⇑P P 05 31 11.9 +0.8
baz=87
A13A Flathead Natio 88.03 331 ⇑P P 05 31 17.0 +1.0
baz=88
FFC Flin Flon 88.31 341 *e*P P 05 31 17.6 +0.6
YKA Yellowknife Ar 98.46 340 P Pdif 05 32 03.7 +0.3
comp=N,0.4nm,0.5s,baz=137,slow=4.8,SNR=16
YKA pP pP 05 32 37.3 -0.8
comp=N,0.3nm,0.7s,baz=142,slow=4.6,SNR=3.3
YKA Yellowknife Ar 98.46 340 P Pdif 05 32 03.8 +0.3
YKA pP pP 05 32 37.4 -0.8
ASAR Alice Springs 124.09 204 PKP **PKPdf 05 37 23.9 -0.5**
comp=N,1.6nm,0.6s,baz=132,slow=1.7,SNR=20
ASAR Alice Springs 124.09 204 PKP **PKPdf 05 37 23.9 -0.5**
WRA Warramunga Arr 127.34 206 PKP **PKPdf 05 37 30.2 -0.4**
comp=N,2.1nm,0.4s,baz=159,slow=1.8,SNR=66
WRA pPKP **pPKPdf 05 38 06.2 -0.5**
comp=N,1.0nm,0.7s,baz=160,slow=1.5,SNR=4.1
WRA Warramunga Arr 127.34 206 PKP **PKPdf 05 37 30.2 -0.4**
WRA pPKP **pPKPdf 05 38 06.2 -0.5**
POO Poona 143.06 97 *ex* x 05 38 33.0
KURK Kurchatov 146.20 40 *e*PKPbc **PKPab 05 38 06.1 -0.2**
AAK Ala-Archa 146.24 55 *e*PKPdf **PKPab 05 38 06.7 -0.3**
HYB Hyderabad 146.68 102 *i* PKP **PKPbc 05 38 08.0 +0.2**
ZAA0 Zalesovo Array 147.57 31 *e*PKPdf **PKPdf 05 38 06.7 +0.4**
ZAA0 *e*PKPbc **PKPbc 05 38 10.2 +1.0**
ZAA0 *e*PKPab **PKPab 05 38 13.0 +1.4**
ZALV Zalesovo Beam 147.57 31 PKPbc **PKPbc 05 38 10.1 +1.0**
comp=N,5.9nm,0.4s,baz=312,slow=3.5,SNR=43
ZALV pPKPbc **pPKPbc 05 38 45.3 +0.3**
comp=N,5.8nm,0.7s,baz=305,slow=3.6,SNR=7.3
ZALV Zalesovo Beam 147.57 31 PKPbc **PKPbc 05 38 10.1 +1.0**
ZALV pPKPbc **pPKPbc 05 38 45.3 +0.3**
KSH Kashi 147.88 61 *e*PKPbc **PKPdf 05 38 08.2 +0.7**
KSH pPKP **pPKPdf 05 38 50.4 +6.7**
KSH PKS **PKSdf 05 41 42.9 +0.2**
KSH *e*PP **PP 05 41 44.2 +4.7**
KSH SKS **SKSdf 05 44 59.2 -4.3**
KSH SKKS **SKKSac 05 48 15.2 -2.6**
KSH SS **SS 06 00 31.9 -2.4**
KSH AMB AMB
comp=Z,59nm,5.5s
KSH LR LR
comp=N,100nm,5.6s
KSH LR LR
comp=E,73nm,4.9s
KSH LR LR
comp=Z,220nm,5.9s
MK31 Makanchi Array 150.15 44 *e*PKPbc **PKPbc 05 38 16.5 +0.6**
MK31 *e*PKPab **PKPab 05 38 23.7 +1.3**
MKAR Makanchi Array 150.15 44 PKPbc **PKPbc 05 38 16.5 +0.6**
comp=Z,3.3nm,0.8s,baz=305,slow=2.4,SNR=33
MKAR pPKPbc **pPKPbc 05 38 51.6 -0.3**
comp=Z,2.5nm,0.8s,baz=300,slow=2.7,SNR=5.6
MKAR Makanchi Array 150.15 44 PKPbc **PKPbc 05 38 16.5 +0.6**
MKAR pPKPbc **pPKPbc 05 38 51.6 -0.3**
WMQ Urumqi 154.90 46 *e*PKPbc **PKPdf 05 38 16.3 -1.6**
MDJ Mudanjiang 159.23 324 PKP **PKPdf 05 38 24.1 +0.9**
MDJ pPKP **pPKPdf 05 38 58.9 -0.7**
MDJ PP **PP 05 42 45.6 +3.2**
SONM Songino Array 160.27 13 PKPab **PKPab 05 39 06.4 +0.8**
comp=Z,0.4nm,0.5s,baz=332,slow=4.5,SNR=5.1
SONM Songino Array 160.27 13 PKPab **PKPab 05 39 06.4 +0.8**
CN2 Changchun 161.83 329 *e*PKP **PKPdf 05 38 30.3 +4.2**
HHC Hu-ho-hao-te 167.85 4 *e*PKP PKPdf 05 38 26.0 -5.5
HHC pPKP pPKPdf 05 39 08.8 +0.9
HHC sPKP 05 39 25.8
HHC PP **PP 05 43 26.4 -0.7**
HHC AMB AMB
comp=Z,110nm,6.1s
CD2 Chengdu 171.86 72 PKP **PKPdf 05 38 32.4 -1.7**
NJ2 Nanjing 173.78 304 *e*PKP **PKPdf 05 38 34.8 0.0**
GYA Guiyang 174.13 111 *e*PKP **PKPdf 05 38 33.8 -1.4**
GYA pPKP **pPKPdf 05 39 12.6 +0.9**
GYA sPKP 05 39 26.0
GYA PKPab **PKPab 05 40 08.4 +0.8**
GYA PKS **PKSdf 05 42 03.2 -4.5**
GYA PP **PP 05 44 01.3 +1.1**
GYA AMB AMB
comp=Z,80nm,8.0s

IDC 08 05:22:50.4±5.9, 5.08S×151.76E, h91km±44km, mb3.8/5, mb1 4.0/6, mb1mx3.5/20, mbtmp3.8/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=55.2km s-min=26.8km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.27**	**226**	P	Pn	05 24 18.8	-1.6
	5.1nm,0.3s,baz=34,slow=5.7,SNR=12						
PMG				S	Sn	05 25 33.1	+2.5
	2.5nm,0.3s,baz=144,slow=19,SNR=3.9						
CTA	**Charters Tower**	**15.85**	**199**	LR	LR	05 31 29.2	
	comp=Z,48nm,19.6s,baz=53,slow=33						
WRA	**Warramunga Arr**	**22.49**	**227**	P	P	05 27 41.9	-0.7
	6.5nm,0.5s,baz=52,slow=10,SNR=64						
ASAR	**Alice Springs**	**25.25**	**221**	P	P	05 28 08.2	-0.1
	7.7nm,0.7s,baz=56,slow=9.0,SNR=45						
STKA	**Stephens Creek**	**28.31**	**198**	P	P	05 28 35.9	+0.3
	4.1nm,1.2s,baz=31,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**28.62**	**241**	P	P	05 28 38.4	-0.1
	3.6nm,0.8s,baz=74,slow=4.8,SNR=8.5						
SONM	**Songino Array**	**66.01**	**328**	P	P	05 33 28.1	+0.6
	0.2nm,0.5s,baz=154,slow=3.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**80.81**	**327**	LR	LR	06 12 35.4	
	comp=Z,33nm,19.3s,baz=46,slow=37						
TORD	**Torodi Ar. Bea**	**149.40**	**287**	PKPbc	PKPbc	05 42 29.1	-0.9
	0.5nm,0.8s,baz=72,slow=3.1,SNR=5.4						

*ISCJB **08** 05:25:48.8±0.7, 22.60N±0.03×122.59E±0.02, h15km±6km, Error ellipse: s-maj=5.5km s-min=3.3km az=154.9*
*TAP **08** 05:25:50.6, 22.51N×122.53E, h49km±1km, ML3.7, D*
*JMA **08** 05:25:51.9±0.2, 22.63N×122.75E, h79km, M3.0*

ISC 08 05:25:48.0±3.0, 22.53N±0.04×122.60E±0.04, h17km±22km, n39, σ1928/74, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.09**	**243**	*i* P	**Pb**	**05 26 08.4**	**0.0**
	baz=242						
LAY				*e*S	**Sb**	**05 26 20.5**	**-1.8**
	baz=242						
CHKT	**Chengkung**	**1.27**	**296**	P	**Pn**	**05 26 10.9**	**0.0**
	baz=298						
CHKT				*e*S	**Sb**	**05 26 24.9**	**-2.7**
	baz=298						
TWG	**Pinlang**	**1.44**	**282**	*e*P	**Pn**	**05 26 14.0**	**+0.7**
	baz=288						
TWG				S	**Sn**	**05 26 30.6**	**-1.3**
	baz=288						
TWF1	**Yuli**	**1.45**	**304**	P	**Pn**	**05 26 13.9**	**+0.5**
	baz=315						
TWF1				*e*S	**Sn**	**05 26 30.9**	**-1.2**
	baz=315						
ECL	**Taimali**	**1.53**	**273**	*e*P	**Pn**	**05 26 14.9**	**+0.5**
	baz=285						
EHY	**Hungye**	**1.53**	**310**	P	**Pn**	**05 26 14.8**	**+0.4**
	baz=318						
EHY				*e*S	**Sn**	**05 26 33.0**	**-0.9**
	baz=318						
ELDTW	**Lidau**	**1.60**	**294**	P	**Pn**	**05 26 16.0**	**+0.4**
	baz=295						
ELDTW				*e*S	**Sn**	**05 26 34.3**	**-1.6**
	baz=295						
EAST	**Anshuo**	**1.63**	**265**	*e*P	**Pn**	**05 26 16.6**	**+0.6**
	baz=254						
EAST				*e*S	**Sn**	**05 26 35.5**	**-1.0**
	baz=254						
ESL	**Shilin**	**1.67**	**320**	*e*P	**Pn**	**05 26 17.2**	**+0.8**
	baz=331						
ESL				*e*S	**Sn**	**05 26 36.0**	**-1.4**
	baz=331						
TWK1	**Hengchun**	**1.77**	**251**	*e*P	**Pn**	**05 26 18.9**	**+1.2**
	baz=258						
TWK1				*e*S	**Sn**	**05 26 39.9**	**+0.1**
	baz=258						
TWD	**Chiawan**	**1.80**	**329**	*e*P	**Pn**	**05 26 18.5**	**+0.3**
	baz=331						
TWD				*e*S	**Sn**	**05 26 39.1**	**-1.4**
	baz=331						
HEN	**Hengchun**	**1.81**	**253**	*e*P	**Pb**	**05 26 20.1**	**-0.4**
	baz=259						
HEN				*e*S	**Sn**	**05 26 40.4**	**-0.4**
	baz=259						
SCZT	**Fangliau**	**1.84**	**265**	*e*P	**Pn**	**05 26 20.2**	**+1.4**
	baz=255						
SCZT				*e*S	**Sn**	**05 26 41.7**	**0.0**
	baz=255						
HATJ	**Hateruma jima**	**1.88**	**36**	P	**Pn**	**05 26 20.5**	**+1.3**
HATJ				*e*S	**Sn**	**05 26 42.1**	**-0.4**
SGST	**Jiashian**	**1.94**	**287**	*e*P	**Pb**	**05 26 22.1**	**-0.8**
	baz=287						
SGST				*e*S	**Sn**	**05 26 45.5**	**+1.3**
	baz=287						
YOJ	**Yonaguni jima**	**1.96**	**11**	P	**Pn**	**05 26 22.2**	**+1.9**
YOJ				*e*S	**Sn**	**05 26 45.0**	**+0.5**
WTP	**Ta-pu**	**1.97**	**292**	⇓*i* P	**Pb**	**05 26 23.2**	**-0.2**
	baz=293						
WTP				*e*S	**Sn**	**05 26 47.0**	**+2.1**
	baz=293						
CHN1	**Nanshi**	**2.02**	**289**	*e*P	**Pb**	**05 26 24.1**	**-0.1**
	baz=289						
CHN1				*e*S	**Sb**	**05 26 48.9**	**-0.3**
	baz=289						
WHF	**Hehuan Shan**	**2.02**	**323**	*e*P	**Pn**	**05 26 22.6**	**+1.0**
	baz=324						
WHF				*e*S	**Sn**	**05 26 45.3**	**-1.4**
	baz=324						
CHN4	**Tsaushan**	**2.02**	**294**	*e*P	**Pb**	**05 26 24.3**	**0.0**
	baz=294						
CHN4				*e*S	**Sb**	**05 26 48.9**	**-0.3**
	baz=294						
TWM1	**Shoushan**	**2.03**	**279**	*e*P	**Pn**	**05 26 22.5**	**+1.1**
	baz=279						
ENA	**Nanau**	**2.04**	**337**	*e*P	**Pn**	**05 26 22.9**	**+1.3**
	baz=339						
ENA				*e*S	**Sn**	**05 26 46.2**	**-0.5**
	baz=339						
SMLT	**Sun Moon Lake**	**2.06**	**311**	*e*P	**Pn**	**05 26 23.7**	**+1.8**
	baz=318						
SMLT				*e*S	**Sn**	**05 26 46.8**	**-0.5**
	baz=318						
CHN5	**Tsauling**	**2.06**	**301**	*e*P	**Pb**	**05 26 24.8**	**-0.3**
	baz=295						
CHN5				*e*S	**Sb**	**05 26 50.4**	**-0.1**
	baz=295						
IRIF	**Iriomote-Funau**	**2.07**	**30**	P	**Pn**	**05 26 23.3**	**+1.4**
IRIF				*e*S	**Sn**	**05 26 47.0**	**-0.3**
TWK	**Hsinying**	**2.08**	**291**	*e*P	**Pn**	**05 26 23.8**	**+1.7**
	baz=291						
TWK				*e*S	**Sn**	**05 26 50.2**	**+2.5**
	baz=291						
TYC	**Yuchr**	**2.11**	**311**	*e*P	**Pn**	**05 26 24.4**	**+2.0**
	baz=318						
TYC				*e*S	**Sn**	**05 26 49.2**	**+1.0**
	baz=318						
JKRS	**Kuro-shima**	**2.13**	**37**	P	**Pn**	**05 26 24.3**	**+1.5**
JKRS				S	**Sn**	**05 26 48.4**	**-0.4**
TWT	**Tachien**	**2.16**	**323**	*e*P	**Pn**	**05 26 25.1**	**+1.8**
	baz=324						
TWT				*e*S	**Sn**	**05 26 49.2**	**-0.5**
	baz=324						
TWC	**Suao**	**2.18**	**342**	*e*P	**Pn**	**05 26 24.9**	**+1.5**
	baz=344						
TWC				*e*S	**Sn**	**05 26 49.5**	**-0.5**
	baz=344						
NNS	**Nan Shan**	**2.21**	**329**	*e*P	**Pn**	**05 26 25.5**	**+1.6**
	baz=331						
NNS				*e*S	**Sn**	**05 26 50.7**	**-0.2**
	baz=331						
JIJ	**Ishigaki jima**	**2.31**	**38**	P	**Pn**	**05 26 26.2**	**+1.0**
JIJ				S	**Sn**	**05 26 51.9**	**-1.2**
TWE	**Neicheng**	**2.34**	**339**	*e*P	**Pn**	**05 26 27.4**	**+1.7**
	baz=341						
TWE				*e*S	**Sn**	**05 26 53.5**	**-0.5**
	baz=341						
TCU	**Taichung**	**2.39**	**313**	*e*P	**Pb**	**05 26 30.7**	**+0.2**
	baz=324						
NSK	**Sanguang**	**2.42**	**332**	*e*P	**Pn**	**05 26 28.5**	**+1.7**
	baz=334						
NSK				*e*S	**Sn**	**05 26 55.9**	**-0.2**
	baz=334						
TWQ1	**Liyutan**	**2.47**	**317**	*e*P	**Pn**	**05 26 30.1**	**+2.7**
	baz=325						
TWQ1				*e*S	**Sn**	**05 27 00.1**	**+2.9**
	baz=325						
NSTT	**Nanjuang**	**2.55**	**325**	*e*P	**Pn**	**05 26 31.2**	**+2.6**
	baz=334						
NSTT				*e*S	**Sn**	**05 26 59.5**	**+0.2**
	baz=334						
NWF	**Wu-fen Shan**	**2.64**	**344**	*e*P	**Pb**	**05 26 33.0**	**-1.7**
	baz=357						
JTJ	**Tarama**	**2.85**	**42**	P	**Pn**	**05 26 34.0**	**+1.4**
JTJ				*e*S	**Sn**	**05 27 05.7**	**-0.8**

*DDA **08** 05:39:17.0, 37.19N×43.78E, h1km, MD3.3*
*ISK **08** 05:39:20.3, 37.21N×43.65E, h7km, MD3.6*
*CSEM **08** 05:39:20.1±1.4, 37.24N×43.78E, h2km, MD3.6, Error ellipse: s-maj=30.8km s-min=15.7km az=143.0*

ISC 08 05:39:16.2±3.0, 37.1N±0.1×43.75E±0.09, h3km±14km, n17, σ1955/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAKT	**HAKKARI**	**0.42**	**355**	*i* P	**Pb**	**05 39 25.1**	**-1.3**
HAKT				*i* S	**Sb**	**05 39 30.6**	**-2.7**
HAKT	**HAKKARI**	**0.42**	**355**	*i* P	**Pb**	**05 39 25.1**	**-1.3**
HAKT				*i* S	**Sb**	**05 39 30.6**	**-2.7**
VANB	**Van**	**1.48**	**349**	*e*PN	**Pg**	**05 39 46.7**	**+2.1**
VANB				*e*SN	**Sn**	**05 40 06.0**	**+2.2**
VANB	**Van**	**1.48**	**349**	*e*Pn	**Pg**	**05 39 46.7**	**+2.1**
VANB				*e*Sn	**Sn**	**05 40 06.0**	**+2.2**
CLDR	**Caldiran**	**2.01**	**4**	*e*PN	**Pg**	**05 39 55.0**	**+0.3**
CLDR	**Caldiran**	**2.01**	**4**	*e*Pn	**Pg**	**05 39 55.0**	**+0.3**
BTMT	**Batman**	**2.08**	**301**	*e*PN	**Pg**	**05 39 55.8**	**-0.3**
BTMT				*e*SN	**Sg**	**05 40 23.4**	**+0.4**
BTMT	**Batman**	**2.08**	**301**	*e*Pn	**Pg**	**05 39 55.8**	**-0.3**
BTMT				*e*Sn	**Sg**	**05 40 23.4**	**+0.4**
BEST	**Besiri**	**2.11**	**292**	*e*P	**Pg**	**05 39 56.2**	**-0.4**
BEST				*e*S	**Sg**	**05 40 24.8**	**+0.8**
MARD	**Mardin**	**2.38**	**275**	*e*P	**Pb**	**05 40 00.3**	**+0.7**
MARD				*e*S	**Sg**	**05 40 32.9**	**+0.4**
AGRB	**Hanur-Agry**	**2.51**	**347**	*e*PN	**Pb**	**05 40 01.4**	**-0.5**
AGRB	**Hanur-Agry**	**2.51**	**347**	*e*Pn	**Pb**	**05 40 01.4**	**-0.5**
VRTB	**Varto-Mus**	**2.71**	**319**	*e*PN	**Pb**	**05 40 04.1**	**-1.3**
VRTB	**Varto-Mus**	**2.71**	**319**	*e*Pn	**Pb**	**05 40 04.1**	**-1.3**
BNGL	**BINGOL**	**2.74**	**312**	*e*P	**Pb**	**05 40 05.7**	**-0.1**
BNGL				*e*S	**Sb**	**05 40 40.8**	**+0.9**
BNGB	**Bing¯¶l**	**3.05**	**308**	*e*PN	**Pb**	**05 40 09.4**	**-1.7**
BINT	**Bingol**	**3.11**	**305**	*e*Pn	**Pb**	**05 40 09.4**	**-2.7**

*IDC **08** 05:45:55.0±0.6, 28.21N×130.19E, h0km, mb3.8/17, mb1 3.9/20, mb1mx3.9/30, mbtmp3.8/20, ML3.6/3, MS3.5/5, Ms1 3.5/5, ms1mx3.0/42, Error ellipse: s-maj=21.9km s-min=12.3km az=84.0*
*JMA **08** 05:45:56.2±0.1, 28.09N×130.37E, h25km±1km, M4.4*
JMA Felt I J1.
*NEIC **08** 05:45:56.5±3.6, 28.20N×130.20E, h10km±22km, MG4.4(JMA), Error ellipse: s-maj=14.1km s-min=7.2km az=91.0*
NEIC Recorded [1 JMA] on Kikaiga-shima.
*ISCJB **08** 05:45:57.2±0.8, 28.15N±0.03×130.31E±0.05, h30km±5km, mb3.8/19, MS3.7/3, Error ellipse: s-maj=8.3km s-min=4.9km az=13.8*
*NIED **08** 05:46:00, 28.10N×130.30E, h8km, Mw4.3 Best double couple: M0 3.20000×10^15 NP1:φ 69.00000°, δ 86.00000°, λ 138.00000°. NP2:φ 163.00000°, δ 48.00000°, λ 5.00000°.*

ISC 08 05:45:56.7±3.4, 28.13N±0.04×130.30E±0.05, h13km±21km, n57, σ0985/61, mb4.0/19, MS3.7/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.34**	**302**	P	**Pb**	**05 46 04.9**	**+0.3**
JZK				S	**Sb**	**05 46 11.3**	**+1.3**

JAM	**Amami Oshima**	**0.67 294**	P	**Pb**	**05 46 10.3**	**0.0**
JAM			S	**Sb**	**05 46 19.4**	**-0.1**
JTK	**Tokunoshima**	**1.24 254**	P	**Pn**	**05 46 19.3**	**-0.5**
JTK			S	**Sb**	**05 46 34.9**	**-1.1**
JNN	**Nakanoshima**	**1.74 348**	P	**Pn**	**05 46 27.4**	**+0.7**
JOW	**Kunigami**	**2.22 235**	Pn	**Pn**	**05 46 32.9**	**-0.3**
	85nm,0.3s,baz=81,slow=12,SNR=173					
JOW			Sn	**Sn**	**05 47 00.5**	**-0.1**
	55nm,0.3s,baz=109,slow=25,SNR=7.2					
JOW	**Kunigami**	**2.22 235**	Pn	**Pn**	**05 46 32.9**	**-0.3**
JOW			Sn	**Sn**	**05 47 00.5**	**-0.1**
JOW	**Kunigami**	**2.22 235**	P	**Pn**	**05 46 32.9**	**-0.3**
JOW			S	**Sn**	**05 46 59.5**	**-1.0**
JKC	**Kuchinoerabu**	**2.32 358**	P	**Pn**	**05 46 35.2**	**+0.6**
JKC			S	**Sn**	**05 47 03.2**	**+0.1**
JIH	**Iheya**	**2.34 243**	P	**Pn**	**05 46 34.5**	**-0.4**
JMZ	**Minamidaito 2**	**2.45 160**	P	**Pn**	**05 46 35.7**	**-0.7**
JMZ			*e*S	**Sn**	**05 47 05.0**	**-1.2**
JTN	**Tanegashima 3**	**2.58 13**	P	**Pn**	**05 46 38.4**	**+0.2**
JTN			S	**Sn**	**05 47 09.4**	**-0.1**
JNU	**Nakatsue**	**5.00 6**	Pn	**Pn**	**05 47 10.5**	**-1.0**
	2.3nm,0.3s,baz=172,slow=6.0,SNR=18					
JNU			Sn	**Sn**	**05 48 08.1**	**-1.0**
	0.9nm,0.3s,baz=74,slow=19,SNR=3.2					
JNU	**Nakatsue**	**5.00 6**	Pn	**Pn**	**05 47 10.5**	**-1.0**
JNU			Sn	**Sn**	**05 48 08.1**	**-1.0**
KSAR	**Wonju Array Be**	**9.50 348**	Pn	**Pn**	**05 48 12.9**	**-0.4**
KSRS	**Korea Array**	**9.51 348**	Pn	**Pn**	**05 48 12.9**	**-0.4**
	0.1nm,0.3s,baz=167,slow=14,SNR=2.6					
JHJ	**Hachijo jima 2**	**9.56 56**	LR	LR	05 51 37.7	
	comp=Z,158nm,20.3s,baz=35,slow=36					
CBIJ	**Chichi jima**	**10.59 93**	LR	LR	05 52 09.4	
	comp=Z,138nm,20.7s,baz=307,slow=35					
SONM	**Songino Array**	**27.05 323**	P	**P**	**05 51 37.8**	**-1.1**
	0.3nm,0.8s,baz=130,slow=10,SNR=2.2					
SONM	**Songino Array**	**27.05 323**	P	**P**	**05 51 37.8**	**-1.1**
PETK	**Petropavlovsk-**	**32.12 31**	LR	LR	06 04 16.2	
	comp=Z,92nm,19.8s,baz=217,slow=34					
MKAR	**Makanchi Array**	**41.69 310**	P	**P**	**05 53 44.3**	**-0.8**
	0.5nm,0.5s,baz=95,slow=12,SNR=4.2					
MKAR	**Makanchi Array**	**41.69 310**	P	**P**	**05 53 44.3**	**-0.8**
ZALV	**Zalesovo Beam**	**41.89 321**	P	**P**	**05 53 46.0**	**-0.6**
	0.2nm,0.4s,baz=95,slow=6.1,SNR=2.5					
ZALV	**Zalesovo Beam**	**41.89 321**	P	**P**	**05 53 46.0**	**-0.6**
KURK	**Kurchatov**	**44.75 315**	P	**P**	**05 54 08.9**	**-0.8**
KURBB	**Kurchatov Arra**	**44.79 315**	P	**P**	**05 54 08.9**	**-1.1**
	0.7nm,0.3s,baz=100,slow=8.1,SNR=3.2					
FITZ	**Fitzroy Crossi**	**46.18 186**	P	**P**	**05 54 21.9**	**+0.5**
	2.1nm,0.8s,baz=1.1,slow=7.3,SNR=6.7					
FITZ	**Fitzroy Crossi**	**46.18 186**	P	**P**	**05 54 21.9**	**+0.5**
WRA	**Warramunga Arr**	**47.95 175**	P	**P**	**05 54 36.0**	**+0.8**
	2.0nm,0.7s,baz=355,slow=8.4,SNR=29					
WRA	**Warramunga Arr**	**47.95 175**	P	**P**	**05 54 36.0**	**+0.8**
BVAR	**Borovoye Array**	**50.11 317**	P	**P**	**05 54 51.7**	**+0.3**
	0.4nm,0.5s,baz=90,slow=10,SNR=3.2					
BVAR	**Borovoye Array**	**50.11 317**	P	**P**	**05 54 51.7**	**+0.3**
ASAR	**Alice Springs**	**51.62 176**	P	**P**	**05 55 03.8**	**+0.7**
	1.1nm,0.7s,baz=7.4,slow=13,SNR=11					
ASAR	**Alice Springs**	**51.62 176**	P	**P**	**05 55 03.8**	**+0.7**
AKTO	**Aktyubinsk**	**57.83 314**	LR	LR	06 22 31.6	
	comp=Z,78nm,18.1s,baz=277,slow=38					
STKA	**Stephens Creek**	**60.64 169**	P	**P**	**05 56 08.4**	**+1.0**
	2.7nm,1.1s,baz=320,slow=7.9,SNR=2.0					
STKA	**Stephens Creek**	**60.64 169**	P	**P**	**05 56 08.4**	**+1.0**
ILAR	**Eielson Array**	**61.89 29**	P	**P**	**05 56 15.7**	**+0.1**
	0.5nm,0.7s,baz=271,slow=5.2,SNR=9.0					
ILAR	**Eielson Array**	**61.89 29**	P	**P**	**05 56 15.7**	**+0.1**
ARCES	**ARCESS Array B**	**91.39 339**	LR	LR	06 31 50.8	
	comp=Z,46nm,18.8s,baz=42,slow=40					
JOF	**Joensuu**	**69.27 331**	*ep*	P	05 57 09.7	+6.4
	3.8nm,0.7s					
KAF	**Kangasniemi**	**71.72 331**	*ep*	P	05 57 23.6	+5.3
	3.2nm,0.9s					
FINES	**FINESS Array B**	**72.11 331**	P	**P**	**05 57 19.9**	**-0.6**
	0.8nm,0.5s,baz=53,slow=6.0,SNR=10					
FINES	**FINESS Array B**	**72.11 331**	P	**P**	**05 57 19.9**	**-0.6**
AKASG	**Malin Array Be**	**75.28 320**	P	**P**	**05 57 39.0**	**-0.4**
	1.2nm,0.5s,baz=60,slow=5.1,SNR=3.9					
AKASG	**Malin Array Be**	**75.28 320**	P	**P**	**05 57 39.0**	**-0.4**
YKA	**Yellowknife Ar**	**76.02 26**	P	**P**	**05 57 44.2**	**+0.8**
	0.5nm,0.7s,baz=301,slow=5.6,SNR=14					
YKA	**Yellowknife Ar**	**76.02 26**	P	**P**	**05 57 44.2**	**+0.8**
BRTR	**Keskin Array B**	**77.31 308**	P	**P**	**05 57 51.7**	**+0.3**
	0.4nm,0.6s,baz=104,slow=4.6,SNR=3.0					
BRTR	**Keskin Array B**	**77.31 308**	P	**P**	**05 57 51.7**	**+0.3**
HFS	**Hagfors**	**77.99 333**	P	**P**	**05 57 52.5**	**-2.0**
	2.6nm,0.8s,baz=121,slow=10,SNR=2.6					
HFS	**Hagfors**	**77.99 333**	P	**P**	**05 57 52.5**	**-2.0**
NB2	**NORSAR Subarra**	**78.41 334**	P	**P**	**05 57 55.8**	**-1.2**
	comp=Z,3.7nm,1.0s,baz=53,slow=5.6					
NOA	**NORSAR Array B**	**78.41 334**	P	**P**	**05 57 56.0**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=50,slow=5.6,SNR=3.1					
NOA	**NORSAR Array B**	**78.41 334**	P	**P**	**05 57 56.0**	**-0.9**
GERES	**GERESS Array B**	**84.78 324**	P	**P**	**05 58 32.4**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=46,slow=2.8,SNR=3.0					
GERES	**GERESS Array B**	**84.78 324**	P	**P**	**05 58 32.4**	**+1.4**

*ISCJB **08** 05:47:48.8±0.6,24.2°1S±0.1°×179.87°E±0.1°,0,h526km, mb3.9/18, Error ellipse: s-maj=19.7km s-min=10.8km az=165.3*

*IDC **08** 05:47:49.2±1.8,24.2°18S×179.92°E,h522km±18km, mb3.5/18,mb1 3.7/19,mb1mx3.7/24,mbtmp3.5/19, Error ellipse: s-maj=17.1km s-min=11.5km az=159.0*

ISC 08 05:47:49.5±0.6,24°2S±0.1°×179°94E±0.1°,0,h526km,n55, σ1s25/61,mb3.9/17,5C-7D,South of Fiji Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.59 277**	P	**P**	**05 50 35.0**	**+0.6**
	0.8nm,0.3s,baz=86,slow=16,SNR=12					
CTA	**Charters Tower**	**31.42 271**	P	**P**	**05 53 28.2**	**+0.6**
	11nm,0.3s,baz=94,slow=11,SNR=33					
PMG	**Port Moresby**	**34.53 290**	P	**P**	**05 53 54.4**	**+0.4**
	10nm,0.7s,baz=107,slow=5.2,SNR=4.5					
STKA	**Stephens Creek**	**34.57 248**	P	**P**	**05 53 54.2**	**+0.1**
	1.0nm,0.3s,baz=97,slow=7.4,SNR=7.8					
ASAR	**Alice Springs**	**41.94 261**	P	**P**	**05 54 53.9**	**-0.3**
	1.1nm,0.3s,baz=97,slow=7.4,SNR=32					
ASAR			PcP	**PcP**	**05 56 37.8**	**+0.2**
	0.6nm,0.5s,baz=99,slow=5.4,SNR=4.3					
ASAR			ScP	**ScP**	**05 59 38.8**	**+0.9**
	0.7nm,0.9s,baz=93,slow=4.3,SNR=4.9					
ASAR			S	**S**	**06 00 33.4**	**-1.3**
	0.5nm,0.8s,baz=101,slow=13,SNR=4.8					
WRA	**Warramunga Arr**	**42.33 266**	P	**P**	**05 54 55.9**	**-1.5**
	2.8nm,0.3s,baz=97,slow=8.4,SNR=50					
WRA			ScP	**ScP**	**05 59 41.6**	**+2.2**
	2.0nm,1.0s,baz=94,slow=4.3,SNR=6.9					
FITZ	**Fitzroy Crossi**	**50.75 266**	P	**P**	**05 56 01.0**	**-0.1**
	1.7nm,0.3s,baz=119,slow=6.9,SNR=21					
QSPA	**South Pole Qui**	**65.91 180**	P	**P**	**05 57 43.1**	**+0.1**
	2.6nm,1.0s,baz=224,slow=8.2,SNR=8.6					
MJAR	**Matsushiro Arr**	**72.09 326**	P	**P**	**05 58 20.1**	**-0.3**
	0.5nm,0.5s,baz=172,slow=5.8,SNR=5.1					
KSRS	**Korea Array**	**78.42 320**	P	**P**	**05 58 56.6**	**+1.0**
	0.4nm,0.4s,baz=138,slow=5.6,SNR=4.1					
PETK	**Petropavlovsk-**	**79.35 347**	P	**P**	**05 58 59.5**	**-0.7**
	6.7nm,0.8s,baz=107,slow=8.8,SNR=6.1					
NVAR	**Mina Array Bea**	**84.99 44**	P	**P**	**05 59 29.9**	**+0.4**
	1.5nm,0.8s,baz=225,slow=7.9,SNR=11					
PLCA	**Paso Flores**	**88.12 134**	P	**P**	**05 59 45.1**	**+0.8**
	1.7nm,1.0s,baz=223,slow=5.6,SNR=3.0					
CMAR	**Chiang Mai Arr**	**89.57 290**	P	**P**	**05 59 52.8**	**+1.5**
	1.1nm,0.7s,baz=146,slow=2.8,SNR=6.8					
TXAR	**Lajitas Array**	**90.62 58**	P	**P**	**05 59 57.2**	**+1.2**
	2.4nm,0.7s,baz=213,slow=6.5,SNR=28					
ANMO	**Albuquerque**	**91.17 52**	P	**P**	**05 59 58.8**	**+0.2**
	0.9nm,0.8s,baz=205,slow=5.6,SNR=5.2					
ILAR	**Eielson Array**	**92.31 14**	P	**P**	**06 00 01.6**	**-1.2**
	0.6nm,0.7s,baz=215,slow=5.7,SNR=7.4					
PDAR	**Pinedale Array**	**92.92 44**	P	**P**	**06 00 05.5**	**-0.9**
	0.9nm,0.8s,baz=225,slow=2.5,SNR=6.4					
INK	**Inuvik**	**98.31 16**	P	Pdif	06 00 29.4	-0.3
	0.5nm,0.3s,baz=138,slow=15					
ZALV	**Zalesovo Beam**	**112.12 321**	PKiKP	**PKiKP**	**06 05 22.6**	**-2.1**
	0.4nm,0.4s,baz=164,slow=3.1,SNR=4.1					
MKAR	**Makanchi Array**	**112.30 313**	PKiKP	**PKiKP**	**06 05 24.2**	**-1.1**
	0.3nm,0.4s,baz=112,slow=0.7,SNR=13					
BVAR	**Borovoye Array**	**120.61 319**	PKP	**PKPdf**	**06 05 40.5**	**-0.6**
	1.5nm,0.4s,baz=113,slow=2.2,SNR=9.7					
AKTO	**Aktyubinsk**	**128.45 316**	PKP	**PKPdf**	**06 05 55.1**	**-1.0**
	1.4nm,0.6s,baz=61,slow=3.2,SNR=6.2					
ARCES	**ARCESS Array B**	**132.14 348**	PKP	**PKPdf**	**06 06 02.0**	**-0.6**
	1.3nm,0.4s,baz=70,slow=2.1,SNR=22					
FINES	**FINESS Array B**	**138.68 341**	PKhKP	PKPpre	06 06 04.2	
	0.6nm,0.3s,baz=37,slow=4.6,SNR=12					
FINES			SKPbc	**SKiKP**	**06 09 01.7**	**-1.6**
	1.0nm,0.8s,baz=60,slow=5.5,SNR=4.8					
NB2	**NORSAR Subarra**	**142.34 351**	PKP	PKPpre	06 06 17.6	
	comp=Z,1.7nm,0.9s,baz=16,slow=3.8					
NOA	**NORSAR Array B**	**142.34 351**	PKhKP	PKPpre	06 06 17.4	
	comp=Z,2.4nm,0.9s,baz=16,slow=4.5,SNR=4.8					
HFS	**Hagfors**	**142.80 349**	PKhKP	PKPpre	06 06 19.0	
	comp=Z,10nm,0.4s,baz=64,slow=3.4,SNR=135					
AKASG	**Malin Array Be**	**145.17 327**	PKPbc	**PKPdf**	**06 06 26.9**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=45,slow=4.2,SNR=16					
BRTR	**Keskin Array B**	**147.69 307**	PKPbc	**PKPbc**	**06 06 34.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=144,slow=4.4,SNR=12					
BRTR			PKPab	**PKPab**	**06 06 39.5**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=122,slow=2.1,SNR=7.7					
MMAI	**Mount Meron Ar**	**147.76 294**	PKPbc	**PKPbc**	**06 06 36.5**	**+1.1**
	comp=Z,7.0nm,0.5s,baz=58,slow=6.2,SNR=11					
EIL	**Elat**	**148.38 288**	PKPbc	**PKPbc**	**06 06 37.4**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=15,slow=7.7,SNR=3.7					
TLCR		**148.59 319**⇑	*i*P	**PKPbc**	**06 06 37.2**	**+0.2**
CFR	**Carcaliu**	**149.00 320**⇓	*i*P	**PKPbc**	**06 06 38.3**	**+0.3**
TESR		**149.09 323**⇑	*i*P	**PKPbc**	**06 06 38.2**	**0.0**
BURAR	**Bucovina Array**	**149.16 326**⇓	*i*P	**PKPbc**	**06 06 40.0**	**+1.5**
TIRR	**Tirgusor**	**149.22 318**⇓	*i*P	**PKPbc**	**06 06 39.0**	**+0.4**
VRI	**Vrincioaia**	**149.43 322**⇓	*i*P	**PKPdf**	**06 06 30.6**	**-3.4**
MLR	**Muntele Rosu**	**150.09 322**⇓	*i*P	**PKPbc**	**06 06 40.5**	**-0.3**
VOIR		**150.63 322**⇓	*i*P	**PKPbc**	**06 06 41.9**	**-0.1**
OKC	**Ostrava-Krasne**	**150.70 336**	*e*PKPdf	**PKPbc**	**06 06 41.9**	**0.0**
UPC	**Upice**	**150.90 339**	*e*PKPdf	**PKPbc**	**06 06 42.7**	**+0.4**
ARR	**Arges**	**150.90 323**	*i*P	**PKPbc**	**06 06 43.6**	**+1.0**
DPC	**Dobruska-Polom**	**150.93 338**	*e*PKPdf	**PKPbc**	**06 06 42.8**	**+0.3**
DPC			*ep*PKP	**PKPab**	**06 06 53.0**	**+0.7**
DRGR		**150.98 327**⇑	*i*P	**PKPbc**	**06 06 42.7**	**-0.1**
CLL	**Collm**	**151.10 343**⇑	*i*PKPbc	**PKPbc**	**06 06 42.8**	**+0.1**
	comp=Z,12nm,0.8s					
CLL			*ep*PKP	**pPKPdf**	**06 08 47.0**	**+6.3**
BRG	**Berggiesshubel**	**151.22 341**	*i* PKP	**PKPbc**	**06 06 43.3**	**+0.3**
	comp=Z,8.7nm,0.5s					
PVCC	**Panska Ves**	**151.34 340**	*e*PKPdf	**PKPbc**	**06 06 43.7**	**+0.4**
PRU	**Pruhonice**	**151.82 340**	*e*PKPdf	**PKPbc**	**06 06 44.5**	**+0.1**
BZS	**Buzias**	**152.34 326**	*i*P	**PKPbc**	**06 06 45.7**	**0.0**
KHC	**Kasperske Hory**	**152.88 340**	*e*PKPdf	**PKPbc**	**06 06 46.7**	**-0.1**
KHC			*ep*PKP	**PKPab**	**06 07 01.2**	**+0.7**
GERES	**GERESS Array B**	**153.09 340**	PKPbc	**PKPbc**	**06 06 46.6**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=152,slow=6.0,SNR=3.8					
GERES			PKPab	**PKPab**	**06 07 01.3**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=7.7,slow=31,SNR=3.9					
DAVOX	**Davos/Dischmat**	**156.07 343**	PKPab	**PKPab**	**06 07 15.0**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=16,slow=4.9,SNR=6.7					
ESDC	**Sonseca Array**	**164.20 11**	PKPab	**PKPab**	**06 07 49.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=4.1,SNR=4.3					
TORD	**Torodi Ar. Bea**	**168.91 189**	PKP	**PKPdf**	**06 06 55.5**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=262,slow=0.6,SNR=3.5					
TORD			PKPab	**PKPab**	**06 08 10.2**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=174,slow=2.4,SNR=4.8					

IDC 08 06:02:37.7±9.4,20.88S×175.85W,h170km±85km, mb3.5/9,mb1 3.8/10,mb1mx3.6/22,mbtmp3.5/10,Error ellipse: s-maj=28.7km s-min=24.1km az=118.0,Tonga Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.53 263**	P	P	06 06 21.2	+1.2
	0.5nm,0.3s,baz=81,slow=19,SNR=9.6					
CTA	**Charters Tower**	**35.46 264**	P	P	06 09 18.7	+0.7
	5.9nm,0.7s,baz=112,slow=12,SNR=4.5					
STKA	**Stephens Creek**	**39.45 245**	P	P	06 09 51.7	+0.3
	3.0nm,0.6s,baz=89,slow=10,SNR=9.4					
ASAR	**Alice Springs**	**46.39 257**	P	P	06 10 46.5	-0.8
	0.5nm,0.7s,baz=91,slow=7.6,SNR=4.2					
WRA	**Warramunga Arr**	**46.54 262**	P	P	06 10 47.4	-1.2
	2.3nm,0.7s,baz=93,slow=5.6,SNR=36					
QSPA	**South Pole Qui**	**69.20 180**	P	P	06 13 25.7	0.0
	2.0nm,0.6s,baz=75,slow=2.9,SNR=18					
NVAR	**Mina Array Bea**	**79.93 42**	P	P	06 14 27.8	-0.2
	0.3nm,0.6s,baz=226,slow=2.4,SNR=3.2					
TXAR	**Lajitas Array**	**85.57 56**	P	P	06 14 57.6	+0.4
	0.3nm,0.8s,baz=205,slow=5.5,SNR=4.1					
ILAR	**Eielson Array**	**88.25 12**	P	P	06 15 08.4	-0.7
	0.2nm,0.6s,baz=224,slow=4.7,SNR=4.7					
YKA	**Yellowknife Ar**	**96.02 24**	P	P	06 15 44.9	-0.1
	0.1nm,0.6s,baz=240,slow=4.9,SNR=2.8					
AKASG	**Malin Array Be**	**144.29 332**	PKP	PKPab	06 21 50.5	-1.1
	0.7nm,0.3s,baz=38,slow=4.0,SNR=5.1					
BRTR	**Keskin Array B**	**148.57 313**	PKPbc	PKPbc	06 22 05.4	+0.5
	0.5nm,0.5s,baz=104,slow=4.6,SNR=3.2					
GERES	**GERESS Array B**	**151.06 347**	PKPbc	PKPbc	06 22 11.1	+0.5
	0.6nm,0.8s,baz=98,slow=4.0,SNR=3.7					

*IDC **08** 06:05:49.5±0.8,3.84N×126.78E,h0km,mb4.3/12, mb1 4.4/12,mb1mx4.2/24,mbtmp4.3/12,Error ellipse: s-maj=60.1km s-min=13.9km az=69.0*

*ISCJB **08** 06:05:53.6±1.7,3.92N±0.09×127.0E±0.2,h47km±14km, mb4.3/18,Error ellipse: s-maj=33.0km s-min=10.4km az=157.8*

*NEIC **08** 06:05:54.1±0.5,3.95N×127.11E,h35km,mb4.3/7,Error ellipse: s-maj=20.1km s-min=8.0km az=68.0*

ISC 08 06:05:54.8±1.0,3.9N±0.1×126.9E±0.2,h37km±3km,n36, σ0s96/41,mb4.2/18,1C,Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.45 337**	Pn	**Pn**	**06 06 46.0**	**-0.1**
CTBH	**Cotabato--PC H**	**4.27 321**⇑	*e*P	**Pn**	**06 06 57.5**	**+0.2**
KSM	**Kuching**	**16.77 262**	*e*Pn	**P**	**06 09 50.4**	**+1.5**
	5.8nm,0.6s					
FITZ	**Fitzroy Crossi**	**21.87 183**	P	**P**	**06 10 43.4**	**-1.1**
	3.2nm,0.4s,baz=7.7,slow=9.7,SNR=19					
FITZ	**Fitzroy Crossi**	**21.87 183**	P	**P**	**06 10 43.4**	**-1.1**
WRAB	**Tennant Creek**	**24.75 163**	*e*P	**P**	**06 11 13.9**	**+0.8**
	29nm,0.9s					
WRA	**Warramunga Arr**	**24.76 163**	P	**P**	**06 11 12.3**	**-0.9**
	23nm,0.9s,baz=343,slow=10,SNR=37					
WRA	**Warramunga Arr**	**24.76 163**	P	**P**	**06 11 12.3**	**-0.9**
ASAR	**Alice Springs**	**28.20 166**	P	**P**	**06 11 43.8**	**-0.5**
	0.8nm,0.7s,baz=342,slow=6.9,SNR=7.1					
ASAR	**Alice Springs**	**28.20 166**	P	**P**	**06 11 43.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.97 300**	P	**P**	**06 12 08.3**	**-0.5**
	0.9nm,0.3s,baz=112,slow=7.7,SNR=7.9					
CMAR	**Chiang Mai Arr**	**30.97 300**	P	**P**	**06 12 08.3**	**-0.5**
CHTO	**Chiang Mai**	**31.12 301**	*e*P	**P**	**06 12 10.2**	**0.0**
	4.2nm,0.9s					
STKA	**Stephens Creek**	**38.19 160**	P	**P**	**06 13 12.2**	**+1.2**
	11nm,0.9s,baz=339,slow=7.6,SNR=18					
STKA	**Stephens Creek**	**38.19 160**	P	**P**	**06 13 12.2**	**+1.2**
SONM	**Songino Array**	**47.23 341**	P	**P**	**06 14 25.1**	**+0.8**
	0.9nm,0.6s,baz=156,slow=9.6,SNR=10					
SONM			PcP	**PcP**	**06 15 56.7**	**+1.5**
	1.0nm,0.8s,baz=166,slow=5.6,SNR=5.1					
SONM	**Songino Array**	**47.23 341**	P	**P**	**06 14 25.1**	**+0.8**
SONM			PcP	**PcP**	**06 15 56.7**	**+1.5**
MK31	**Makanchi Array**	**57.55 325**	*e*P	**P**	**06 15 40.2**	**-0.6**
MK31			*e*PcP	**PcP**	**06 16 34.8**	**+0.9**
MKAR	**Makanchi Array**	**57.55 325**	P	**P**	**06 15 40.4**	**-0.4**
	1.3nm,0.5s,baz=121,slow=8.1,SNR=32					
MKAR			PcP	**PcP**	**06 16 34.8**	**+0.9**
	1.3nm,0.8s,baz=131,slow=5.5,SNR=4.8					
MKAR	**Makanchi Array**	**57.55 325**	P	**P**	**06 15 40.4**	**-0.4**
MKAR			PcP	**PcP**	**06 16 34.8**	**+0.9**
ZALV	**Zalesovo Beam**	**60.55 333**	P	**P**	**06 16 00.2**	**-1.1**
	0.8nm,0.4s,baz=144,slow=6.7,SNR=6.1					
ZALV	**Zalesovo Beam**	**60.55 333**	P	**P**	**06 16 00.2**	**-1.1**
KURK	**Kurchatov**	**61.73 327**	*e*P	**P**	**06 16 09.0**	**-0.4**
	3.1nm,0.6s					
KKAR	**Karatay Array**	**63.26 317**	*e*P	**P**	**06 16 20.1**	**+0.2**
	2.2nm,0.9s					
ABKAR	**Akbulak array**	**72.17 321**	*e*P	**P**	**06 17 14.5**	**-1.3**
	1.0nm,0.6s					
AKTO	**Aktyubinsk**	**73.67 322**	P	**P**	**06 17 25.7**	**+1.0**
	1.3nm,0.4s,baz=106,slow=9.1,SNR=8.4					
AKTO	**Aktyubinsk**	**73.67 322**	P	**P**	**06 17 25.7**	**+1.0**
ARU	**Arti**	**74.92 328**	*e*P	**P**	**06 17 32.4**	**+0.5**
	2.4nm,0.5s					
ARCES	**ARCESS Array B**	**90.39 340**	P	**P**	**06 18 51.3**	**-0.7**
	1.9nm,0.8s,baz=72,slow=12,SNR=5.7					
ARCES	**ARCESS Array B**	**90.39 340**	P	**P**	**06 18 51.3**	**-0.7**
FINES	**FINESS Array B**	**91.80 332**	P	**P**	**06 18 58.2**	**-0.5**
	2.0nm,0.9s,baz=30,slow=8.8,SNR=4.8					
FINES	**FINESS Array B**	**91.80 332**	P	**P**	**06 18 58.2**	**-0.5**
AKASG	**Malin Array Be**	**91.91 321**	P	**P**	**06 18 57.6**	**-1.8**
	1.7nm,0.7s,baz=69,slow=5.3,SNR=4.1					
AKASG	**Malin Array Be**	**91.91 321**	P	**P**	**06 18 57.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**123.06 288**	PKP	**PKPdf**	**06 24 48.9**	**+0.4**
	0.5nm,0.7s,baz=61,slow=1.9,SNR=3.6					
TORD	**Torodi Ar. Bea**	**123.06 288**	PKP	**PKPdf**	**06 24 48.9**	**+0.4**

IDC 08 06:20:48.6±14.0,21.94S×179.96W,h669km±124km, mb2.5/3,mb1 2.8/4,mb1mx2.7/20,mbtmp2.7/4,Error ellipse: s-maj=249.7km s-min=76.7km az=144.0,Fiji Islands region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.61 267**	P	P	06 23 33.5	+0.7
	0.5nm,0.3s,baz=64,slow=19,SNR=6.3					
CTA	**Charters Tower**	**31.55 267**	P	P	06 26 20.4	0.0
	baz=77,slow=9.6					
ASAR	**Alice Springs**	**42.42 258**	P	P	06 27 48.6	+0.4
	0.3nm,0.3s,baz=83,slow=7.9,SNR=7.1					
WRA	**Warramunga Arr**	**42.61 264**	P	P	06 27 49.0	-0.7
	0.3nm,0.3s,baz=94,slow=8.0,SNR=31					
FITZ	**Fitzroy Crossi**	**51.04 264**	P	P	06 28 53.0	+0.5
	0.7nm,0.5s,baz=98,slow=7.1,SNR=3.5					
BVAR	**Borovoye Array**	**118.99 319**	PKP	PKPdf	06 38 22.2	-0.9
	0.5nm,0.4s,baz=114,slow=4.3,SNR=6.6					
FINES	**FINESS Array B**	**136.61 342**	PKP	PKPdf	06 38 57.6	+1.3
	1.0nm,0.9s,baz=322,slow=5.8,SNR=3.4					
AKASG	**Malin Array Be**	**143.34 329**	PKP	PKPab	06 39 07.5	-0.1
	0.7nm,0.3s,baz=43,slow=4.7,SNR=6.1					
BRTR	**Keskin Array B**	**146.40 310**	PKPbc	PKPbc	06 39 17.2	0.0
	0.5nm,0.6s,baz=103,slow=2.6,SNR=3.0					
GERES	**GERESS Array B**	**151.03 341**	PKPbc	PKPbc	06 39 27.8	-0.2
	0.3nm,0.5s,baz=336,slow=2.2,SNR=3.3					

MEX 08 06:24:21.1±1.0,18.62N×106.23W,h4km±52km,MD4.0, Off coast of Jalisco

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
CJM	**Chamela**	**1.42 52**	*e*P	Pn	06 24 43.5	-4.3
CJM			*i* S	Sb	06 25 02.0	-4.7
R15V		**2.19 75**	*e*P	Pn	06 24 54.8	-3.6
R15V			*i* S	Sn	06 25 21.2	-4.9
EZ5V		**2.62 71**	*e*P	Pn	06 25 02.5	-2.2
EZ5V			*i* S	Sn	06 25 33.2	-4.0
ANIG	**Ahuacatlan**	**2.91 33**	*e*P	Pn	06 25 05.8	-2.5
ANIG			*i* S	Sn	06 25 40.6	-3.2
ZAIG	**Zacatecas**	**5.36 39**	*i* P	Pn	06 25

ERZM				*i* S		**Sg**	07 06 50.9	+0.2
EZM	**Erzurum**	**1.04**	**318**	*e*PG		**Pg**	07 06 36.7	-0.6
EZM				*e*SG		**Sg**	07 06 51.3	+0.5
VANT	**Van**	**1.05**	**132**	*e*PG		**Pg**	07 06 37.5	0.0
VANT	**Van**	**1.05**	**132**	*e*Pg		**Pg**	07 06 37.5	0.0
BNGB	**Bing¶‖**	**1.25**	**264**	*e*PN		**Pg**	07 06 40.5	-0.6
CLDR	**Caldiran**	**1.28**	**89**	*e*PN		**Pg**	07 06 41.0	-0.8
CLDR	**Caldiran**	**1.28**	**89**	*e*Pn		**Pg**	07 06 41.0	-0.8
BINT	**Bingol**	**1.41**	**260**	*e*Pn		**Pn**	07 06 40.6	-2.4
DDEM	**Demirkent**	**1.80**	**347**	*i* P		**Pg**	07 06 51.5	-0.2
DDEM	**Demirkent**	**1.80**	**347**	*i* P		**Pg**	07 06 51.5	-0.2
DAGI	**Agillar**	**1.96**	**352**	*i* P		**Pb**	07 06 53.6	+0.6

IDC 08 07:11:56.1±0.9, 37°99S×94°16W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.5/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/23, Error ellipse: s-maj=25.5km s-min=23.2km az=19.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**18.45**	**106**	P	P	07 16 14.4	+1.1
	0.0nm,0.3s,baz=263,slow=7.7,SNR=4.2						
PLCA				LR	LR	07 21 00.3	
	comp=Z,138nm,19.7s,baz=307,slow=30						
CFAA	**Coronel Fontan**	**22.18**	**81**	P	P	07 16 53.3	-0.6
	0.3nm,0.7s,baz=251,slow=10.0,SNR=4.9						
CFAA				LR	LR	07 23 18.4	
	comp=Z,32nm,20.8s,baz=225,slow=31						
NNA	**Nana**	**30.17**	**35**	LR	LR	07 26 59.3	
	comp=Z,170nm,21.2s,baz=132,slow=30						
LPAZ	**La Paz**	**31.49**	**54**	P	P	07 18 20.6	+0.1
	2.5nm,0.8s,baz=202,slow=8.3,SNR=5.7						
LPAZ				LR	LR	07 28 00.7	
	comp=Z,140nm,20.9s,baz=254,slow=31						
CPUP	**Villa Florida**	**33.07**	**80**	LR	LR	07 30 38.6	
	comp=Z,129nm,19.1s,baz=188,slow=34						
ATAH	**Atahualpa**	**33.88**	**29**	P	P	07 18 42.3	+1.2
	4.7nm,0.9s,baz=125,slow=2.3,SNR=4.3						
SIV	**San Ignacio**	**36.44**	**62**	P	P	07 19 01.9	-0.8
	1.3nm,0.9s,baz=265,slow=18,SNR=4.3						
BDFB	**Brasilia**	**46.24**	**74**	LR	LR	07 38 33.9	
	comp=Z,119nm,20.9s,baz=249,slow=35						
QSPA	**South Pole Qui**	**52.24**	**180**	P	P	07 21 08.5	-0.2
	1.1nm,0.7s,baz=345,slow=8.7,SNR=7.2						
PPT	**Papeete**	**52.29**	**277**	LR	LR	07 37 21.6	
	comp=Z,13nm,19.5s,baz=181,slow=29						
TXAR	**Lajitas Array**	**67.56**	**351**	P	P	07 22 53.2	-1.0
	0.8nm,0.7s,baz=169,slow=8.5,SNR=15						
NVAR	**Mina Array Bea**	**79.23**	**341**	P	P	07 24 03.9	+0.8
	0.6nm,0.6s,baz=173,slow=6.5,SNR=6.6						
PDAR	**Pinedale Array**	**81.59**	**349**	P	P	07 24 16.2	+0.6
	0.9nm,0.7s,baz=167,slow=5.6,SNR=8.6						
ULM	**Lac du Bonnet**	**87.87**	**359**	P	P	07 24 46.5	-0.4
	1.2nm,0.4s,baz=172,slow=2.4,SNR=2.8						
STKA	**Stephens Creek**	**93.22**	**225**	LR	LR	08 02 19.6	
	comp=Z,56nm,18.1s,baz=204,slow=32						
DBIC	**Dimbokro**	**93.51**	**84**	LR	LR	08 02 19.7	
	comp=Z,48nm,19.1s,baz=2.0,slow=32						
USRK	**Ussuriysk Arra**	**145.03**	**295**	PKPbc	PKPbc	07 31 33.2	-1.1
	2.0nm,0.7s,baz=136,slow=4.1,SNR=4.8						
SONM	**Songino Array**	**162.06**	**310**	PKPab	PKPab	07 32 46.0	+0.4
	0.5nm,0.8s,baz=46,slow=4.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**164.02**	**2**	PKPab	PKPab	07 32 52.4	-1.2
	0.2nm,0.3s,baz=335,slow=5.4,SNR=2.9						

*ISCJB **08** 07:12:48.8±0.9, 24°14S±0°08×66°9W±0°1, h187km±14km, mb3.5/3, Error ellipse: s-maj=16.5km s-min=12.3km az=22.3*
*IDC **08** 07:12:49.6±2.0, 24°12S×66°74W, h179km±19km, mb3.4/3, mb1 3.4/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=32.2km s-min=16.5km az=107.0*
*GUC **08** 07:12:51.6±0.6, 23°90S×67°60W, h250km±20km, ML4.4*
ISC 08 07:12:49.0±1.2, 24°15S±0°10×66°9W±0°1, h174km±14km, n17, σ1°34/19, mb3.6/3, 2C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.43**	**309**	*e*P	Px	07 13 52.6	
LVC				*e*S	Sx	07 14 24.7	
PB04	**Plate Boundary**	**3.06**	**307**	*e*P	Pn	07 13 44.6	+6.5
PB04				*e*S	Sn	07 14 24.6	+8.4
PB04				AML	AML	07 14 28.5	
	comp=N,384nm,0.4s						
CEN1	**Los Morros**	**3.15**	**283**	*e*P	**Pn**	**07 13 40.8**	**+1.5**
CEN1				*i* S	**Sn**	**07 14 16.1**	**-2.4**
CEN1				AML	AML	07 14 18.4	
	comp=N,496nm,0.6s						
PB09	**Plate Boundary**	**3.21**	**316**	*e*P	**Pn**	**07 13 42.1**	**+2.0**
PB09				*e*S	**Sn**	**07 14 20.3**	**+0.3**
PB09				AML	AML	07 14 25.8	
	comp=E,650nm,0.1s						
ANCH	**Antofagasta**	**3.28**	**278**	*e*P	**Pn**	**07 13 42.1**	**+1.3**
ANCH				*e*S	**Sn**	**07 14 19.5**	**-1.6**
ANCH				AML	AML	07 14 22.4	
	comp=E,704nm,0.6s						
MACH	**Maria Elena**	**3.30**	**306**	*e*P	**Pn**	**07 13 42.6**	**+1.3**
MACH				*e*S	**Sn**	**07 14 20.6**	**-1.4**
MECH	**Mejillones**	**3.45**	**287**	*e*P	**Pn**	**07 13 44.3**	**+1.4**
MECH				*e*S	**Sn**	**07 14 23.8**	**-1.2**
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**07 14 36.6**	**+0.6**
	comp=E,0.0nm,0.3s,baz=26,slow=11,SNR=13						
LPAZ	**La Paz**	**7.92**	**351**	P	**Pn**	**07 14 42.7**	**+0.9**
	comp=E,0.5nm,0.3s,baz=156,slow=8.9,SNR=9.0						
SIV	**San Ignacio**	**9.77**	**35**	P	**Pn**	**07 15 05.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=216,slow=9.3,SNR=4.7						
BDFB	**Brasilia**	**19.63**	**68**	P	**P**	**07 17 03.5**	**-0.9**
	comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=5.7						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**07 23 17.5**	**+0.7**
	comp=E,1.0nm,0.5s,baz=221,slow=4.6,SNR=22						
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P	**P**	**07 24 19.7**	**-0.5**
	comp=E,0.3nm,0.5s,baz=263,slow=4.9,SNR=5.1						
YKA	**Yellowknife Ar**	**94.31**	**340**	P	**P**	**07 25 47.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=131,slow=4.6,SNR=11						
WRA	**Warramunga Arr**	**131.55**	**207**	PKP	**PKPdf**	**07 31 41.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=154,slow=1.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**143.47**	**28**	PKP	PKPbc	07 32 00.1	-0.1
	comp=E,0.8nm,0.6s,baz=302,slow=4.2,SNR=5.8						
MKAR	**Makanchi Array**	**146.56**	**40**	PKPbc	**PKPdf**	**07 32 08.6**	**+0.6**
	comp=E,0.8nm,0.6s,baz=259,slow=1.2,SNR=12						

*ISCJB **08** 07:15:06.0±0.4, 47°69N±0°04×147°0E±0°1, h403km, mb3.6/18, Error ellipse: s-maj=10.5km s-min=5.5km az=16.5*
*MOS **08** 07:15:09.4±1.3, 47°63N×146°82E, h444km, mb4.0/10, Error ellipse: s-maj=18.0km s-min=10.1km az=73.0*
*IDC **08** 07:15:09.5±1.4, 47°62N×147°00E, h432km±18km, mb3.1/11, mb1 3.2/17, mb1mx3.1/30, mbtmp3.0/17, Error ellipse: s-maj=16.0km s-min=10.9km az=146.0*
*BJI **08** 07:15:09.3, 48°10N×146°94E, h438km, mB4.8/2, mb4.4/3*
ISC 08 07:15:07.1±0.6, 47°60N±0°07×146°83E±0°08, h403km, n45, σ2°06/43, mb3.7/18, 4C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**2.85**	**258**	*i*P	P	07 16 16.4	+7.2
YSS				pmax	pmax		
	comp=Z,80nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**191**	*i* PN	P	07 16 24.7	+8.9
YUK				*i* S	S	07 17 21.1	+9.4
YUK				pmax	pmax		
	comp=N,47nm,0.4s						
YUK				pmax	pmax		
	comp=E,60nm,0.4s						
YUK				pmax	pmax		
	comp=Z,81nm,0.4s						
YUK				smax	smax		
	comp=E,136nm,0.5s						
YUK				smax	smax		
	comp=N,148nm,0.5s						
JSE	**Soyaes**	**3.95**	**230**	P	P	07 16 24.2	+5.5
JWK2	**Keihoku**	**4.16**	**238**	P	P	07 16 26.5	+6.4
JTKR	**Abashiri--Toko**	**4.16**	**211**	P	P	07 16 24.9	+4.2
NEM2	**Nemuro 2**	**4.30**	**191**	P	**P**	**07 16 23.1**	**+1.0**
NEM2				*e*S	**S**	**07 17 21.9**	**-1.3**
ASAJ	**Asahikawa**	**4.57**	**222**	P	P	07 16 29.4	+4.7
	comp=N,1.9nm,0.3s,baz=73,slow=28,SNR=8.5						
JAR	**Ashorobuto**	**4.81**	**208**	P	**P**	**07 16 30.3**	**+3.2**
JAK	**Akkeshi**	**4.84**	**199**	P	**P**	**07 16 28.8**	**+1.4**
JAK				*e*S	**S**	**07 17 31.9**	**-1.1**
JHR	**Hokuryu**	**5.26**	**225**	P	P	07 16 36.4	+4.7
JCH	**Churui**	**5.55**	**208**	P	**P**	**07 16 36.2**	**+1.4**
JCH				*e*S	**S**	**07 17 44.4**	**-2.2**
JNBK	**Urakawa-nobuka**	**6.05**	**210**	P	**P**	**07 16 41.3**	**+1.2**
JEW	**Eniwo**	**6.09**	**221**	P	P	07 16 44.2	+3.7
ERM	**Erimo**	**6.16**	**206**	*ce*PN	P	07 16 46.2	+4.9
JKB	**Kayabe**	**7.04**	**218**	P	**P**	**07 16 52.9**	**+1.1**
JKB				*e*S	**S**	**07 18 13.2**	**-3.2**
JOT	**Ohata**	**7.46**	**216**	P	**P**	**07 16 56.7**	**+0.2**
JOT				*e*S	**S**	**07 18 21.3**	**-3.8**
JOSM	**Okushiri--Mats**	**7.59**	**226**	P	**P**	**07 17 01.1**	**+3.2**
PETK	**Petropavlovsk-**	**8.87**	**47**	P	**P**	**07 17 13.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=220,slow=7.6,SNR=5.8						
PETK	**Petropavlovsk-**	**8.87**	**47**	*e*PN	**P**	**07 17 14.1**	**+2.3**
USRK	**Ussuriysk Arra**	**10.88**	**257**	P	**P**	**07 17 37.3**	**+3.1**
	comp=N,0.4nm,0.3s,baz=63,slow=11,SNR=7.5						
MJA0	**Matsu Arr-Jizo**	**12.74**	**213**	*e*PN	**P**	**07 17 57.9**	**+3.0**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**12.76**	**213**	P	**P**	**07 17 57.2**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=20,slow=11,SNR=4.7						
KSRS	**Korea Array**	**17.19**	**241**	P	**P**	**07 18 46.6**	**+3.8**
	comp=Z,0.5nm,0.3s,baz=47,slow=10.0,SNR=11						
JNU	**Nakatsue**	**18.84**	**226**	P	**P**	**07 19 01.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=247,slow=2.3,SNR=6.5						
SONM	**Songino Array**	**26.99**	**286**	P	**P**	**07 20 17.4**	**+3.2**
	comp=Z,1.1nm,0.5s,baz=78,slow=8.8,SNR=10						
ZAK	**Zakamensk**	**28.41**	**292**	*e*P	**P**	**07 20 27.7**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ILAR	**Eielson Array**	**38.58**	**39**	P	**P**	**07 21 51.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=251,slow=5.9,SNR=14						
ZALV	**Zalesovo Beam**	**38.60**	**303**	P	**P**	**07 21 52.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=88,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**38.60**	**303**	*e*P	**P**	**07 21 55.8**	**+2.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**42.71**	**294**	P	**P**	**07 22 27.1**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=70,slow=7.8,SNR=20						
MKAR	**Makanchi Array**	**42.71**	**294**	*i* P	**P**	**07 22 27.1**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**43.29**	**301**	*e*P	**P**	**07 22 31.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SVE	**Sverdlovsk**	**50.24**	**314**	*e*P	**P**	**07 23 24.1**	**+0.4**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**51.43**	**315**	*d* iP	**P**	**07 23 32.2**	**-0.3**
ARU						07 25 31.5	
ARU				S	**S**	**07 30 20.4**	**-0.1**
ARU				SS	**SS**	**07 33 56.1**	**-5.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**52.76**	**35**	P	**P**	**07 23 40.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=302,slow=7.1,SNR=12						
JOF	**Joensuu**	**58.60**	**331**	*e*P	**P**	**07 24 22.9**	**0.0**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOF	**Joensuu**	**58.60**	**331**	*e*p	**P**	**07 24 22.9**	**0.0**
	comp=Z,1.5nm,0.3s						
FINES	**FINESS Array B**	**61.36**	**332**	P	**P**	**07 24 40.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=34,slow=8.8,SNR=22						
OBN	**Obninsk**	**62.11**	**322**	*e*P	**P**	**07 24 45.6**	**-0.8**
OBN				*e*		07 27 08.0	
OBN				*e*S	S	07 32 30.9	-7.7
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NVAR	**Mina Array Bea**	**65.76**	**59**	P	**P**	**07 25 10.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=289,slow=6.5,SNR=5.6						
KIV	**Kislovodsk**	**67.06**	**310**	*e*P	**P**	**07 25 16.9**	**-1.6**
KIV				*e**PP	pP	07 26 53.5	+8.3
KIV				*e*		07 27 52.0	
KIV				*e*S	S	07 33 32.9	-6.3
KIV				pmax	pmax		
	comp=Z,14nm,2.0s						
PDAR	**Pinedale Array**	**67.62**	**51**	P	**P**	**07 25 21.8**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=35,slow=0.7,SNR=14						
WRA	**Warramunga Arr**	**68.16**	**193**	P	**P**	**07 25 24.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=7.4,slow=6.5,SNR=11						
STKA	**Stephens Creek**	**79.25**	**185**	P	**P**	**07 26 28.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=140,slow=24,SNR=3.1						
TXAR	**Lajitas Array**	**80.70**	**57**	P	**P**	**07 26 36.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=291,slow=3.7,SNR=21						

IDC 08 07:29:17.1±2.0, 3°29N×126°54E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, MS2.9/1, Ms1 3.1/1, ms1mx2.2/40, Error ellipse: s-maj=182.1km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.32**	**162**	P	P	07 34 36.1	-0.6
	2.8nm,0.5s,baz=342,slow=10.0,SNR=29						
ASAR	**Alice Springs**	**27.73**	**165**	P	P	07 35 07.3	-0.3
	0.2nm,0.3s,baz=348,slow=8.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.93**	**301**	LR	LR	07 48 19.8	
	comp=Z,21nm,18.8s,baz=195,slow=37						
STKA	**Stephens Creek**	**37.79**	**159**	P	P	07 36 36.0	+0.8
	0.7nm,0.4s,baz=346,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**57.81**	**325**	P	P	07 39 10.2	-0.2
	0.1nm,0.3s,baz=119,slow=7.6,SNR=6.6						

*ISCJB **08** 07:32:59.1±0.5, 7°53S±0°05×128°00E±0°06, h142km, mb3.8/8, Error ellipse: s-maj=9.5km s-min=6.5km az=153.8*
*AUST **08** 07:32:59.1, 7°49S×128°03E, h100km*
*IDC **08** 07:33:00.0±4.8, 7°54S×127°98E, h138km±46km, mb3.7/8, mb1 4.0/11, mb1mx3.8/23, mbtmp3.9/11, Error ellipse: s-maj=46.0km s-min=16.3km az=59.0*
ISC 08 07:33:00.7±0.7, 7°67S±0°06×127°99E±0°08, h142km, n23, σ2°10/25, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**5.13**	**67**	P	**Pn**	**07 34 17.2**	**+1.4**
	baz=5.0,SNR=8.7						
TLE				S	**Sn**	**07 35 10.8**	**-3.5**
	baz=5.0,SNR=4.1						
MTN	**Manton Dam**	**6.00**	**149**	P	**Pn**	**07 34 30.0**	**+2.6**
	baz=6.2,SNR=69						
MTN				S	**Sn**	**07 35 34.7**	**-0.5**
	baz=6.2,SNR=4.6						
KDU	**Kakadu**	**6.66**	**139**	P	**Pn**	**07 34 38.5**	**+2.2**
	baz=6.8,SNR=67						
KDU				S	**Sn**	**07 35 48.0**	**-2.9**
	baz=6.8,SNR=15						
FITZ	**Fitzroy Crossi**	**10.62**	**192**	P	**Pn**	**07 35 29.9**	**+0.8**
	3.2nm,0.3s,baz=26,slow=10.0,SNR=49						
FITZ				S	**Sn**	**07 37 23.9**	**-2.6**
	4.5nm,0.3s,baz=97,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**10.62**	**192**	P	**Pn**	**07 35 30.1**	**+1.0**
	baz=11,SNR=65						
WRA	**Warramunga Arr**	**13.67**	**154**	P	**Pn**	**07 36 08.7**	**-0.2**
	2.5nm,0.3s,baz=324,slow=14,SNR=92						
WRA				S	Sn	07 38 32.8	-7.2
	6.6nm,0.3s,baz=330,slow=22,SNR=13						
COEN	**Coen**	**16.17**	**114**	P	**Pn**	**07 36 40.1**	**+0.1**
	baz=16,SNR=9.8						
COEN				S	Sn	07 39 29.1	-11
	baz=16,SNR=5.6						
ASAR	**Alice Springs**	**16.89**	**161**	P	**Pn**	**07 36 50.9**	**+2.1**
	4.5nm,0.3s,baz=341,slow=11,SNR=397						
ASAR				S	**S**	**07 39 52.0**	**-5.3**
	1.7nm,0.3s,baz=344,slow=26,SNR=6.6						
QIS	**Mount Isa**	**17.05**	**140**	P	**Pn**	**07 36 52.5**	**+1.8**
	baz=17,SNR=6.3						
MEEK	**Meekatharra**	**20.86**	**204**	P	Pn	07 37 40.0	+4.2
	baz=21,SNR=9.1						
MEEK				S	Sn	07 41 31.0	-1.4
	baz=21,SNR=4.4						
XMIS	**Christmas Isla**	**22.23**	**261**	P	P	07 38 05.4	+19
	baz=22,SNR=3.7						
QLP	**Quilpie**	**24.34**	**143**	P	**P**	**07 38 07.6**	**+2.2**
	baz=24,SNR=4.1						
STKA	**Stephens Creek**	**27.22**	**154**	P	**P**	**07 38 32.3**	**+0.9**
	1.5nm,0.5s,baz=320,slow=2.4,SNR=5.8						
CMSA	**Cobar Meteorol**	**28.93**	**148**	P	**P**	**07 38 48.9**	**+2.4**
	baz=29,SNR=11						
PSI	**Prapat**	**30.80**	**289**	P	**P**	**07 39 03.0**	**-0.4**
	10.0nm,0.8s,baz=86,slow=7.8,SNR=8.0						
PSI	**Prapat**	**30.80**	**289**	P	P	**07 39 04.2**	**+0.7**
	baz=31,SNR=4.5						
GSI	**Gunungsitoli**	**31.61**	**285**	P	P	07 38 59.6	-11
	baz=32,SNR=4.0						
GSI				S	S	07 44 42.5	+33
	baz=32,SNR=9.3						
CMAR	**Chiang Mai Arr**	**38.66**	**312**	P	**P**	**07 40 09.2**	**-1.6**
	1.8nm,0.8s,baz=139,slow=8.4,SNR=6.5						
SONM	**Songino Array**	**58.47**	**343**	P	**P**	**07 42 42.2**	**+0.3**
	0.5nm,0.7s,baz=151,slow=6.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**71.31**	**335**	P	**P**	**07 44 03.0**	**-1.6**
	1.3nm,0.5s,baz=147,slow=5.4,SNR=9.0						
KURBB	**Kurchatov Arra**	**72.05**	**329**	P	**P**	**07 44 08.3**	**-0.8**
	1.0nm,0.5s,baz=129,slow=5.0,SNR=20						
BVAR	**Borovoye Array**	**77.57**	**329**	P	**P**	**07 44 40.0**	**-0.9**
	0.5nm,0.4s,baz=119,slow=8.1,SNR=8.1						
QSPA	**South Pole Qui**	**82.31**	**180**	P	**P**	**07 45 06.8**	**+0.4**
	1.3nm,0.9s,baz=104,slow=11,SNR=9.4						

*ISCJB **08** 07:45:17.7±0.8, 30°08S±0°04×71°5W±0°1, h68km±20km, Error ellipse: s-maj=15.9km s-min=5.9km az=3.3*
*GUC **08** 07:45:18.6±1.1, 30°08S×71°44W, h56km±72km, ML4.1*
*IDC **08** 07:45:20.0±4.1, 30°17S×71°48W, h71km±35km, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=37.4km s-min=32.9km az=55.0*
ISC 08 07:45:18.5±1.2, 30°07S±0°04×71°6W±0°1, h59km±15km, n14, σ0°84/20, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.22**	**154**	*i*P	**Pn**	**07 45 39.3**	**-0.2**
CMCH				*e*S	**Sn**	**07 45 54.5**	**-0.7**
CMCH				AML	AML	07 45 56.3	
	comp=E,7μm,0.8s						
CHNG	**Los Chungos**	**1.81**	**177**	*i*P	**Pn**	**07 45 47.8**	**+0.5**
CHNG				*e*S	**Sn**	**07 46 08.5**	**-0.8**
PTCH	**Petorca**	**2.27**	**165**	*i* P	**Pn**	**07 45 54.1**	**+0.5**
PTCH				*i* S	**Sn**	**07 46 19.7**	**-0.7**
PTCH				AML	AML	07 46 28.3	
	comp=N,702nm,0.2s						
CPCH	**Copiapo**	**2.92**	**23**	*i*P	**Pn**	**07 46 02.8**	**+0.3**
CPCH				*i* S	**Sn**	**07 46 35.7**	**-0.7**
CPCH				AML	AML	07 46 36.9	
	comp=N,1μm,0.1s						
ROCH	**El Roble**	**2.94**	**170**	*e*P	**Pn**	**07 46 03.3**	**+0.3**
ROCH				*e*S	**Sn**	**07 46 37.1**	**-0.1**
CDCH	**Caldera**	**3.07**	**13**	*e*P	**Pn**	**07 46 03.2**	**-1.3**
PEL	**Peldehue**	**3.17**	**166**	*e*P	**Pn**	**07 46 06.2**	**+0.2**
PEL				*e*S	**Sn**	**07 46 42.3**	**-0.3**
PEL				AML	AML	07 46 59.4	
	comp=E,542nm,0.3s						
CFAA	**Coronel Fontan**	**3.29**	**119**	P	**Pn**	**07 46 08.2**	**+0.6**
	comp=E,0.8nm,0.3s,baz=321,slow=8.1,SNR=198						
CFAA				S	**Sn**	**07 46 43.6**	**-1.8**
	comp=E,0.9nm,0.3s,baz=285,slow=11,SNR=4.4						
FCH	**Farellones**	**3.44**	**161**	*i*P	Pn	07 46 14.4	+4.5
PLCA	**Paso Flores**	**10.68**	**176**	P	**Pn**	**07 47 47.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=14,slow=12,SNR=4.2						
LPAZ	**La Paz**	**14.08**	**14**	P	**Pn**	**07 48 37.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=172,slow=7.1,SNR=6.1						
WRA	**Warramunga Arr**	**124.35**	**210**	PKP	**PKPdf**	**08 04 10.9**	**-0.5**
	comp=E,0.1nm,0.4s,baz=150,slow=1.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**149.68**	**39**	PKPbc	**PKPbc**	**08 05 01.0**	**-0.1**
	comp=E,0.1nm,0.4s,baz=304,slow=3.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**150.67**	**29**	PKPbc	**PKPbc**	**08 05 03.5**	**+0.1**
	comp=E,0.9nm,0.5s,baz=286,slow=2.5,SNR=7.9						

*ISK **08** 07:45:34.7, 40°56N×35°75E, h8km, MD2.8*
*DDA **08** 07:45:34.7, 40°70N×35°75E, h7km, MD2.8*
*ISCJB **08** 07:45:35.0±0.5, 40°56N±0°03×35°76E±0°03, h7km±6km, Error ellipse: s-maj=5.7km s-min=4.0km az=165.0*
*CSEM **08** 07:45:35.2±0.1, 40°57N×35°75E, h8km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.3km az=172.0*
ISC 08 07:45:34.8±1.2, 40°57N±0°03×35°75E±0°02, h8km±11km, n22, σ0°45/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.56**	**23**	*e*PG	**Pg**	**07 45 46.1**	**+0.5**
KVT				*e*SG	**Sb**	**07 45 54.5**	**-0.5**
KVT	**Kavak**	**0.56**	**23**	*e*Pg	**Pg**	**07 45 46.1**	**+0.5**
KVT				*e*Sg	**Sb**	**07 45 54.5**	**-0.5**
TOKA	**Tokat**	**0.61**	**114**	*i* P	**Pb**	**07 45 47.5**	**-0.2**
TOKA				*i* S	**Sb**	**07 45 55.5**	**-0.9**
TOKA	**Tokat**	**0.61**	**114**	*i* P	**Pb**	**07 45 47.5**	**-0.2**
TOKA				*i* S	**Sb**	**07 45 55.5**	**-0.9**
CTKT	**Corum**	**0.74**	**274**	*i* P	**Pg**	**07 45 48.9**	**-0.1**
CTKT				*i* S	**Sb**	**07 45 59.8**	**-0.5**
CTKT	**Corum**	**0

LMN				SG	Sg	08 16 44.5	-1.4	
LMN				Trac		08 16 45.3		
	comp=Z,236nm,0.2s							
GGN	**Saint George**	**1.52 194**		Pn	Pn	08 16 31.7	-0.8	
GGN				Sg	Sg	08 16 53.6	+0.1	
GGN	**Saint George**	**1.52 194**		PN	Pn	08 16 31.7	-0.8	
GGN				SG	Sg	08 16 53.6	+0.1	
GGN				Trac		08 16 55.0		
	comp=Z,449nm,0.1s							
EMMW	**East Machias**	**2.05 204**	*e*Pn		Pn	08 16 38.7	-1.0	
EMMW			*e*Sn		Sb	08 17 08.2	+0.1	
EMMW	**East Machias**	**2.05 204**	PN		Pn	08 16 39.0	-0.7	
EMMW			SN		Sn	08 17 05.2	-0.4	
EMMW			SG		Sg	08 17 09.9	-0.6	
GSQ	**Grosses Roches**	**2.38 347**	Pn		Pn	08 16 44.7	+0.4	
GSQ			Sn		Sn	08 17 13.1	-0.7	
GSQ	**Grosses Roches**	**2.38 347**	PN		Pn	08 16 44.7	+0.4	
GSQ			SN		Sn	08 17 13.1	-0.7	
GSQ			Trac			08 17 25.1		
	comp=Z,72nm,0.3s							
A21	**Saint Andre**	**2.56 297**	Pn		Pn	08 16 46.5	-0.2	
A21			Sn		Sn	08 17 17.5	-0.7	
A21			Lg		Lg	08 17 26.5		
A21	**Saint Andre**	**2.56 297**	PN		Pn	08 16 46.5	-0.2	
A21			SN		Sn	08 17 17.5	-0.7	
A21			LG		Lg	08 17 26.5		
A21			Trac			08 17 34.4		
	comp=Z,81nm,0.2s							
A16	**Riviere Ouelle**	**2.67 290**	Pn		Pn	08 16 48.0	-0.3	
A16			Sn		Sn	08 17 19.7	-1.3	
A16			Lg		Lg	08 17 30.3		
A16	**Riviere Ouelle**	**2.67 290**	PN		Pn	08 16 48.0	-0.3	
A16			SN		Sn	08 17 19.7	-1.3	
A16			LG		Lg	08 17 30.3		
A16			Trac			08 17 36.5		
	comp=Z,68nm,0.2s							
A64	**Saint Simeon**	**2.73 298**	Pn		Pn	08 16 48.3	-0.8	
A64			Lg		Lg	08 17 30.8		
A64	**Saint Simeon**	**2.73 298**	PN		Pn	08 16 48.3	-0.8	
A64			SN		Sn	08 17 20.6	-1.9	
A64			Trac			08 17 24.8		
	comp=Z,20nm,0.1s							
A64			LG		Lg	08 17 30.8		
A11	**Saint Roch-des**	**2.74 285**	Pn		Pn	08 16 48.9	-0.3	
A11			Sn		Sn	08 17 21.8	-0.9	
A11			Lg		Lg	08 17 31.4		
A11	**Saint Roch-des**	**2.74 285**	PN		Pn	08 16 48.9	-0.3	
A11			SN		Sn	08 17 21.8	-0.9	
A11			Trac			08 17 23.6		
	comp=Z,58nm,0.2s							
A11			LG		Lg	08 17 31.4		
A61	**Sainte Mathild**	**2.80 294**	Pn		Pn	08 16 49.5	-0.7	
A61			Sn		Sn	08 17 23.1	-1.2	
A61			Lg		Lg	08 17 32.4		
A61	**Sainte Mathild**	**2.80 294**	PN		Pn	08 16 49.5	-0.7	
A61			SN		Sn	08 17 23.1	-1.2	
A61			LG		Lg	08 17 32.4		
A61			Trac			08 17 43.3		
	comp=Z,51nm,0.2s							
LMQ	**La Malbaie**	**2.91 291**	Pn		Pn	08 16 50.5	-1.0	
LMQ			Sn		Sn	08 17 25.4	-1.4	
LMQ			Lg		Lg	08 17 36.2		
LMQ	**La Malbaie**	**2.91 291**	PN		Pn	08 16 50.5	-1.0	
LMQ			SN		Sn	08 17 25.4	-1.4	
LMQ			LG		Lg	08 17 36.2		
LMQ			Trac			08 17 41.3		
	comp=Z,82nm,0.2s							
A54	**Misere**	**2.93 289**	Pn		Pn	08 16 51.2	-0.7	
A54			Sn		Sn	08 17 26.5	-1.0	
A54			Lg		Lg	08 17 36.0		
A54	**Misere**	**2.93 289**	PN		Pn	08 16 51.2	-0.7	
A54			SN		Sn	08 17 26.5	-1.0	
A54			Trac			08 17 29.4		
	comp=Z,31nm,0.1s							
A54			LG		Lg	08 17 36.0		
CNQ	**Baie Comeau**	**2.96 337**	Pn		Pn	08 16 51.4	-0.8	
CNQ			Sn		Sn	08 17 25.4	-2.6	
CNQ	**Baie Comeau**	**2.96 337**	PN		Pn	08 16 51.4	-0.8	
CNQ			SN		Sn	08 17 25.4	-2.6	
CNQ			Trac			08 17 43.9		
	comp=Z,56nm,0.2s							
ICQ	**Pointe Anglais**	**3.00 348**	Pn		Pn	08 16 52.3	-0.5	
ICQ			Sn		Sn	08 17 27.2	-1.8	
ICQ	**Pointe Anglais**	**3.00 348**	PN		Pn	08 16 52.3	-0.4	
ICQ			SN		Sn	08 17 27.2	-1.8	
ICQ			Trac			08 17 31.5		
	comp=Z,20nm,0.1s							
QCQ	**Quebec**	**3.42 275**	Pn		Pn	08 16 58.3	-0.3	
QCQ			Sn		Sn	08 17 38.0	-1.5	
QCQ			Lg		Lg	08 17 57.1		
QCQ	**Quebec**	**3.42 275**	PN		Pn	08 16 58.3	-0.3	
QCQ			SN		Sn	08 17 38.0	-1.5	
QCQ			Trac			08 17 42.2		
	comp=Z,21nm,0.1s							
QCQ			LG		Lg	08 17 57.1		
GBN	**Guysborough**	**3.55 108**	Pn		Pn	08 16 59.4	-1.0	
GBN			Sn		Sn	08 17 40.8	-1.8	
GBN			Lg		Lg	08 17 54.7		
GBN	**Guysborough**	**3.55 108**	PN		Pn	08 16 59.4	-1.0	
GBN			SN		Sn	08 17 40.8	-1.8	
GBN			LG		Lg	08 17 54.7		
GBN			Trac			08 17 56.8		
	comp=Z,82nm,0.3s							
SMQ	**Clarke City**	**3.64 356**	Pn		Pn	08 17 00.6	-1.0	
SMQ			Sn		Sn	08 17 42.6	-2.3	
SMQ			Lg		Lg	08 17 58.2		
SMQ	**Clarke City**	**3.64 356**	PN		Pn	08 17 00.6	-1.0	
SMQ			SN		Sn	08 17 42.6	-2.3	
SMQ			Trac			08 17 44.4		
	comp=Z,16nm,0.1s							
SMQ			LG		Lg	08 17 58.2		
CHEG	**Cheticamp, Nov**	**3.88 85**	Pn		Pn	08 17 03.5	-1.5	
CHEG			Sn		Sn	08 17 47.5	-3.5	
CHEG	**Cheticamp, Nov**	**3.88 85**	PN		Pn	08 17 03.5	-1.5	
CHEG			SN		Sn	08 17 47.5	-3.5	
CHEG			Trac			08 17 50.7		
	comp=Z,24nm,0.1s							
MNQ	**Manicouagan**	**4.27 338**	Pn		Pn	08 17 08.4	-1.8	
MNQ			Sn		Sn	08 17 57.1	-3.3	
MNQ			Lg		Lg	08 18 15.7		
MNQ	**Manicouagan**	**4.27 338**	PN		Pn	08 17 08.4	-1.8	
MNQ			SN		Sn	08 17 57.1	-3.3	
MNQ			LG		Lg	08 18 15.7		
MNQ			Trac			08 18 20.6		
	comp=Z,17nm,0.2s							
MOQ	**Mont Orford**	**4.34 255**	Pn		Pn	08 17 10.5	-0.8	
MOQ			Sn		Sn	08 18 00.0	-2.3	
MOQ	**Mont Orford**	**4.34 255**	PN		Pn	08 17 10.5	-0.8	
MOQ			SN		Sn	08 18 00.0	-2.3	
MOQ			Trac			08 18 27.7		
	comp=Z,41nm,0.3s							
NATG	**Natashquan Que**	**4.37 31**	Pn		Pn	08 17 10.3	-1.2	
NATG			Sn		Sn	08 17 59.3	-3.5	
NATG			Lg		Lg	08 18 18.2		
NATG	**Natashquan Que**	**4.37 31**	PN		Pn	08 17 10.3	-1.2	
NATG			SN		Sn	08 17 59.3	-3.5	
NATG			Trac			08 18 02.8		
	comp=Z,23nm,0.2s							
NATG			LG		Lg	08 18 18.2		
DPQ	**Saint Jean**	**4.46 273**	Pn		Pn	08 17 11.9	-0.9	
DPQ			Sn		Sn	08 18 02.4	-2.6	
DPQ			Lg		Lg	08 18 24.9		
DPQ	**Saint Jean**	**4.46 273**	PN		Pn	08 17 11.9	-0.9	
DPQ			SN		Sn	08 18 02.4	-2.6	
DPQ			Trac			08 18 05.9		
	comp=Z,25nm,0.1s							
DPQ			LG		Lg	08 18 24.9		
LATQ	**La Tuque**	**4.50 282**	Pn		Pn	08 17 12.4	-1.0	
LATQ			Sn		Sn	08 18 03.5	-2.5	
LATQ	**La Tuque**	**4.50 282**	PN		Pn	08 17 12.4	-1.0	
LATQ			SN		Sn	08 18 03.5	-2.5	
LATQ			Trac			08 18 06.9		
	comp=Z,38nm,0.1s							
LBNH	**Lisbon**	**4.60 241**	*e*Pn		Pn	08 17 13.2	-1.6	
LBNH			*e*Sn		Sn	08 18 06.8	-1.9	
LBNH	**Lisbon**	**4.60 241**	PN		Pn	08 17 14.2	-0.6	
LBNH			SN		Sn	08 18 07.0	-1.6	
LBNH			LG		Lg	08 18 30.3		
LBNH			Trac			08 18 42.9		
	comp=Z,77nm,0.4s							
FFD	**Franklin Falls**	**4.91 232**	*e*Pn		Pn	08 17 17.9	-1.2	
FFD			*e*Sn		Sn	08 18 18.3	+2.1	
HNH	**Hanover**	**5.12 238**	*e*Pn		Pn	08 17 21.0	-0.9	
HNH			*e*Sg		Sg	08 18 46.3	-2.7	
MNT	**Montreal**	**5.21 261**	Pn		Pn	08 17 22.5	-0.6	
MNT			Sn		Sn	08 18 19.9	-3.5	
MNT			Lg		Lg	08 18 48.7		
MNT	**Montreal**	**5.21 261**	PN		Pn	08 17 22.5	-0.6	
MNT			SN		Sn	08 18 19.9	-3.5	
MNT			LG		Lg	08 18 48.7		
MNT			Trac			08 18 50.5		
	comp=Z,32nm,0.5s							
FRNY	**Flat Rock**	**5.39 254**	*e*Pn		Pn	08 17 25.0	-0.7	
FRNY			*e*Sn		Sn	08 18 26.2	-1.9	
FRNY	**Flat Rock**	**5.39 254**	PN		Pn	08 17 24.6	-1.0	
FRNY			SN		Sn	08 18 25.4	-2.7	
MDV	**Middlebury**	**5.50 244**	Pn		Pn	08 17 26.7	-0.4	
	7μm,0.3s							
MDV			*e*Sg		Sg	08 18 55.4	-5.7	
WES	**Weston**	**5.53 222**	*e*Pn		Pn	08 17 26.1	-1.4	
WES			*e*Sn		Sn	08 18 26.1	-5.3	
HRV	**Adam Dziewonsk**	**5.55 224**	Pn		Pn	08 17 26.6	-1.2	
HRV			Sn		Sn	08 18 27.8	-4.2	
HRV			Lg		Lg	08 18 55.6		
HRV	**Adam Dziewonsk**	**5.55 224**	PN		Pn	08 17 26.6	-1.2	
HRV			SN		Sn	08 18 27.8	-4.2	
HRV			LG		Lg	08 18 55.6		
HRV			Trac			08 19 10.4		
	comp=Z,311nm,0.8s							
TRQ	**Mont Tremblant**	**5.71 269**	Pn		Pn	08 17 28.9	-1.3	
TRQ			Sn		Sn	08 18 32.2	-4.0	
TRQ	**Mont Tremblant**	**5.71 269**	PN		Pn	08 17 28.9	-1.3	
TRQ			SN		Sn	08 18 32.2	-4.0	
TRQ			Trac			08 18 34.7		
	comp=Z,7.9nm,0.1s							
ALFO	**Alfred**	**6.04 264**	Pn		Pn	08 17 33.1	-1.4	
ALFO			Sn		Sn	08 18 39.8	-4.1	
ALFO	**Alfred**	**6.04 264**	PN		Pn	08 17 33.1	-1.4	
ALFO			SN		Sn	08 18 39.8	-4.1	
ALFO			Trac			08 19 23.4		
	comp=Z,14nm,0.3s							
ACCN	**Adirondack Com**	**6.12 241**	*e*Sn		Sn	08 18 47.5	+1.3	
ACCN			*e*Sg		Sg	08 19 15.3	-6.0	
LONY	**Lake Ozonia**	**6.13 254**	Pn		Pn	08 17 34.9	-0.9	
LONY			Sn		Sn	08 18 40.8	-5.6	
LONY	**Lake Ozonia**	**6.13 254**	PN		Pn	08 17 34.9	-0.9	
LONY			SN		Sn	08 18 40.8	-5.6	
CHGQ	**Chibougamau**	**6.32 305**	Pn		Pn	08 17 36.3	-2.1	
CHGQ			Sn		Sn	08 18 46.1	-4.9	
CHGQ			Lg		Lg	08 19 28.2		
CHGQ	**Chibougamau**	**6.32 305**	PN		Pn	08 17 36.3	-2.1	
CHGQ			SN		Sn	08 18 46.1	-4.9	
CHGQ			Trac			08 18 46.7		
	comp=Z,8.4nm,0.1s							
CHGQ			LG		Lg	08 19 28.2		
PTN	**Potsdam (NY)**	**6.41 255**	Pn		Pn	08 17 38.8	-0.9	
PTN			Sn		Sn	08 18 49.6	-3.6	
PTN	**Potsdam (NY)**	**6.41 255**	PN		Pn	08 17 38.8	-0.9	
PTN			SN		Sn	08 18 49.6	-3.6	
GAC	**Glen Almond**	**6.43 265**	Pn		Pn	08 17 38.6	-1.3	
GAC			Sn		Sn	08 18 48.6	-5.0	
GAC	**Glen Almond**	**6.43 265**	PN		Pn	08 17 38.6	-1.3	
GAC			SN		Sn	08 18 48.6	-5.0	
GAC			Trac			08 18 52.7		
	comp=Z,12nm,0.2s							
WBO	**Williamsburg**	**6.47 259**	Pn		Pn	08 17 39.5	-0.9	
WBO			Sn		Sn	08 18 50.0	-4.5	
WBO			Lg		Lg	08 19 29.9		
WBO	**Williamsburg**	**6.47 259**	PN		Pn	08 17 39.5	-0.9	
WBO			SN		Sn	08 18 50.0	-4.5	
WBO			LG		Lg	08 19 29.9		
WBO			Trac			08 19 37.6		
	comp=Z,11nm,0.3s							
DRLN	**Deer Lake**	**6.49 63**	Pn		Pn	08 17 39.0	-1.6	
DRLN			Sn		Sn	08 18 48.2	-6.8	
DRLN	**Deer Lake**	**6.49 63**	PN		Pn	08 17 39.0	-1.6	
DRLN			SN		Sn	08 18 48.2	-6.8	
DRLN			Trac			08 19 21.2		
	comp=Z,86nm,0.8s							
ORIO	**Orleans, Innes**	**6.51 263**	PN		Pn	08 17 39.8	-1.2	
ORIO			SN		Sn	08 18 50.9	-4.6	
ORIO			Trac			08 19 41.3		
	comp=Z,14nm,0.3s							
GRQ	**Grand Remous**	**6.58 274**	Pn		Pn	08 17 39.6	-2.4	
GRQ			Sn		Sn	08 18 52.7	-4.7	
GRQ			Lg		Lg	08 19 31.9		
GRQ	**Grand Remous**	**6.58 274**	PN		Pn	08 17 39.6	-2.4	
GRQ			SN		Sn	08 18 52.7	-4.7	
GRQ			LG		Lg	08 19 31.9		
GRQ			Trac			08 19 41.1		
	comp=Z,11nm,0.2s							
OTT	**Ottawa**	**6.66 263**	Pn		Pn	08 17 42.0	-1.1	
OTT			Sn		Sn	08 18 51.3	-8.0	
OTT	**Ottawa**	**6.66 263**	PN		Pn	08 17 42.0	-1.1	
OTT			SN		Sn	08 18 51.3	-8.0	
OTT			Trac			08 19 39.6		
	comp=Z,2.1nm,0.0s							
YOSQ	**Ashton Mining**	**7.34 331**	Pn		Pn	08 17 50.2	-2.2	
YOSQ			Sn		Sn	08 19 09.2	-7.0	
YOSQ	**Ashton Mining**	**7.34 331**	PN		Pn	08 17 50.2	-2.2	
YOSQ			SN		Sn	08 19 09.2	-7.0	
YOSQ			Trac			08 19 12.3		
	comp=Z,5.0nm,0.2s							
KGNO	**Kingston**	**7.55 255**	Pn		Pn	08 17 53.6	-1.6	
KGNO			Sn		Sn	08 19 15.5	-5.6	
KGNO			Lg		Lg	08 19 59.8		
KGNO	**Kingston**	**7.55 255**	PN		Pn	08 17 53.6	-1.6	
KGNO			SN		Sn	08 19 15.5	-5.6	
KGNO			LG		Lg	08 19 59.8		
KGNO			Trac			08 20 13.7		
	comp=Z,4.7nm,0.2s							
PEMO	**Pembroke**	**7.65 267**	Pn		Pn	08 17 55.0	-1.7	
PEMO			Sn		Sn	08 19 17.3	-6.4	
PEMO	**Pembroke**	**7.65 267**	PN		Pn	08 17 55.0	-1.7	
PEMO			SN		Sn	08 19 17.3	-6.4	
PEMO			Trac			08 19 21.5		
	comp=Z,11nm,0.4s							
PLVO	**Plevna**	**7.68 262**	Pn		Pn	08 17 55.6	-1.5	
PLVO			Sn		Sn	08 19 19.0	-5.5	
PLVO			Lg		Lg	08 20 09.4		
PLVO	**Plevna**	**7.68 262**	PN		Pn	08 17 55.6	-1.5	
PLVO			SN		Sn	08 19 19.0	-5.5	
PLVO			Trac			08 19 38.7		
	comp=Z,4.8nm,0.2s							
PLVO			LG		Lg	08 20 09.4		
CRLO	**Chalk River**	**7.69 270**	Pn		Pn	08 17 54.3	-2.8	
CRLO			Sn		Sn	08 19 18.2	-6.3	
CRLO	**Chalk River**	**7.69 270**	PN		Pn	08 17 54.3	-2.8	
CRLO			SN		Sn	08 19 18.2	-6.3	
CRLO			Trac			08 20 09.9		
	comp=Z,7.9nm,0.3s							
VLDQ	**Val d'Or**	**7.72 285**	Pn		Pn	08 17 57.0	-0.6	
VLDQ			Sn		Sn	08 19 22.9	-2.5	
VLDQ			Lg		Lg	08 20 12.8		
VLDQ	**Val d'Or**	**7.72 285**	PN		Pn	08 17 57.0	-0.6	
VLDQ			SN		Sn	08 19 22.9	-2.5	
VLDQ			LG		Lg	08 20 12.8		
VLDQ			Trac			08 20 23.9		
	comp=Z,21nm,0.7s							
ALGO	**Algonquin Park**	**8.16 270**	Pn		Pn	08 18 01.1	-2.6	
ALGO			Sn		Sn	08 19 30.1	-6.2	
ALGO	**Algonquin Park**	**8.16 270**	PN		Pn	08 18 01.1	-2.6	
ALGO			SN		Sn	08 19 30.1	-6.2	
BINY	**Binghamton**	**8.20 241**	Pn		Pn	08 18 04.3	0.0	
BINY			Sn		Sn	08 19 33.8	-3.5	
BINY			Lg		Lg	08 20 21.6		
BINY	**Binghamton**	**8.20 241**	PN		Pn	08 18 04.3	0.0	
BINY			SN		Sn	08 19 33.8	-3.5	
BINY			Trac			08 20 06.3		
	comp=Z,213nm,2.5s							
BINY			LG		Lg	08 20 21.6		
DELO	**Deloro Mine**	**8.20 259**	Pn		Pn	08 18 01.3	-3.0	
DELO			Sn		Sn	08 19 32.3	-5.0	
DELO	**Deloro Mine**	**8.20 259**	PN		Pn	08 18 01.3	-3.0	
DELO			SN		Sn	08 19 32.3	-5.0	
MATQ	**Matagami**	**8.20 297**	Pn		Pn	08 18 01.1	-3.1	
MATQ			Sn		Sn	08 19 28.8	-8.4	
MATQ	**Matagami**	**8.20 297**	PN		Pn	08 18 01.1	-3.1	
MATQ			SN		Sn	08 19 28.8	-8.4	
MATQ			Trac			08 19 32.2		
	comp=Z,3.3nm,0.2s							
SCHQ	**Schefferville**	**8.25 358**	Pn		Pn	08 18 02.8	-2.1	
SCHQ			Sn		Sn	08 19 29.2	-9.3	
SCHQ			Lg		Lg	08 20 23.4		
SCHQ	**Schefferville**	**8.25 358**	PN		Pn	08 18 02.8	-2.1	
SCHQ			SN		Sn	08 19 29.2	-9.3	
SCHQ			Trac			08 20 19.0		
	comp=Z,378nm,3.0s							
SCHQ			LG		Lg	08 20 23.4		
BANO	**Bancroft**	**8.27 263**	Pn		Pn	08 18 03.6	-1.6	
BANO			Sn		Sn	08 19 32.6	-6.3	
BANO	**Bancroft**	**8.27 263**	PN		Pn	08 18 03.6	-1.6	
BANO			SN		Sn	08 19 32.6	-6.3	
BANO			Trac			08 19 36.2		
	comp=Z,1.8nm,0.1s							
BELQ	**Belleterre**	**8.50 280**	Pn		Pn	08 18 04.9	-3.4	
BELQ			Sn		Sn	08 19 36.8	-7.8	
BELQ			Lg		Lg	08 20 36.1		
BELQ	**Belleterre**	**8.50 280**	PN		Pn	08 18 04.9	-3.4	
BELQ			SN		Sn	08 19 36.8	-7.8	
BELQ			Trac			08 19 39.4		
	comp=Z,4.1nm,0.2s							
BELQ			LG		Lg	08 20 36.1		
LG4Q	**La Grande 4**	**8.63 327**	Pn		Pn	08 18 08.8	-1.3	
LG4Q			Sn		Sn	08 19 41.2	-6.5	
LG4Q			Lg		Lg	08 20 31.4		
LG4Q	**La Grande 4**	**8.63 327**	PN		Pn	08 18 08.8	-1.3	
LG4Q			SN		Sn	08 19 41.2	-6.5	
LG4Q			LG		Lg	08 20 31.4		
LG4Q			Trac			08 20 40.3		
	comp=Z,7.6nm,0.3s							
EEO	**Eldee**	**8.79 275**	Pn		Pn	08 18 09.0	-3.2	
EEO			Sn		Sn	08 19 44.5	-7.1	
EEO			Lg		Lg	08 20 39.0		
EEO	**Eldee**	**8.79 275**	PN		Pn	08 18 09.0	-3.2	
EEO			SN		Sn	08 19 44.5	-7.1	
EEO			LG		Lg	08 20 39.0		
EEO			Trac			08 20 45.2		
	comp=Z,13nm,0.4s							
WLVO	**Wesleyville**	**8.93 257**	Pn		Pn	08 18 13.4	-0.8	
WLVO			Sn		Sn	08 19 46.0	-9.2	
WLVO			Lg		Lg	08 30 46.5		
WLVO	**Wesleyville**	**8.93 257**	PN		Pn	08 18 13.4	-0.8	
WLVO			SN		Sn	08 19 46.0	-9.2	
WLVO			LG		Lg	08 20 46.5		
WLVO			Trac			08 20 56.2		
	comp=Z,6.9nm,0.3s							
SADO	**Sadowa**	**9.17 263**	Pn		Pn	08 18 15.6	-1.8	
SADO			Sn		Sn	08 19 55.9	-5.1	
SADO			Lg		Lg	08 20 51.1		
SADO	**Sadowa**	**9.17 263**	PN		Pn	08 18 15.6	-1.8	
SADO			SN		Sn	08 19 55.9	-5.1	
SADO			LG		Lg	08 20 51.1		
SADO			Trac			08 21 25.7		
	comp=Z,84nm,1.7s							
BUKO	**Buck Lake**	**9.18 268**	Pn		Pn	08 18 15.2	-2.5	
BUKO			Sn		Sn	08 19 54.7	-6.7	
BUKO	**Buck Lake**	**9.18 268**	PN		Pn	08 18 15.2	-2.5	
BUKO			SN		Sn	08 19 54.7	-6.7	
BUKO			Trac			08 20 45.9		
	comp=Z,43nm,1.1s							
KILO	**Kirkland Lake**	**9.27 287**	Pn		Pn	08 18 16.2	-2.7	
KILO			Sn		Sn	08 19 54.5	-9.0	
KILO	**Kirkland Lake**	**9.27 287**	PN		Pn	08 18 16.2	-2.7	
KILO			SN		Sn	08 19 54.5	-9.0	
KILO			Trac			08 19 59.4		
	comp=Z,1.8nm,0.1s							
RSPO	**Restoule Provi**	**9.32 272**	Pn		Pn	08 18 16.6	-3.0	
RSPO			Sn		Sn	08 20 00.3	-4.4	
RSPO	**Restoule Provi**	**9.32 272**	PN		Pn	08 18 16.6	-3.0	
RSPO			SN		Sn	08 20 00.3	-4.4	
RSPO			Trac			08 20 42.2		
	comp=Z,38nm,1.1s							
MALO	**McAlpine Lake**	**9.60 296**	Pn		Pn	08 18 19.6	-3.7	
MALO			Sn		Sn	08 20 03.0	-8.5	
MALO	**McAlpine Lake**	**9.60 296**	PN		Pn	08 18 19.6	-3.7	
MALO			SN		Sn	08 20 03.0	-8.5	
MALO			Trac			08 20 49.5		
	comp=Z,22nm,0.9s							
KLBO	**Killbear Provi**	**9.76 268**	Pn		Pn	08 18 23.4	-2.2	
KLBO			Sn		Sn	08 20 07.0	-8.5	
KLBO	**Killbear Provi**	**9.76 268**	PN		Pn	08 18 23.4	-2.2	
KLBO			SN		Sn	08 20 07.0	-8.5	
KLBO			Trac			08 21 48.2		
	comp=Z,39nm,1.0s							
WEMQ	**Wemindji, Queb**	**9.92 315**	Pn		Pn	08 18 24.3	-3.4	
WEMQ			Sn		Sn	08 20 09.7	-10	
WEMQ	**Wemindji, Queb**	**9.92 315**	PN		Pn	08 18 24.3	-3.4	
WEMQ			SN		Sn	08 20 09.7	-10	
WEMQ			Trac			08 20 52.5		
	comp=Z,288nm,3.4s							
CLWO	**Collingwood**	**10.05 263**	Pn		Pn	08 18 27.5	-2.1	
CLWO			Sn		Sn	08 20 15.1	-7.7	
CLWO			Lg		Lg	08 21 24.6		
CLWO	**Collingwood**	**10.05 263**	PN		Pn	08 18 27.5	-2.1	
CLWO			SN		Sn	08 20 15.1	-7.7	
CLWO			LG		Lg	08 21 24.6		
CLWO			Trac			08 21 42.2		
	comp=Z,12nm,0.3s							
SUNO	**Sudbury Onapin**	**10.35 276**	Pn		Pn	08 18 30.2	-3.4	
SUNO	**Sudbury Onapin**	**10.35 276**	PN		Pn	08 18 30.2	-3.4	
SUNO			Trac			08 20 23.3		
	comp=Z,2.1nm,0.1s							
BMRO	**Meriville Lake**	**10.64 265**	PN		Pn	08 18 35.7	-1.9	
BMRO			SN		Sn	08 20 28.2	-8.8	
BMRO			Trac			08 21 19.8		
	comp=Z,207nm,2.6s							
TOBO	**Tobermory, Bru**	**10.69 268**	Pn		Pn	08 18 36.2	-2.1	
TOBO	**Tobermory, Bru**	**10.69 268**	PN		Pn	08 18 36.2	-2.1	
TOBO			Trac			08 21 37.2		
	comp=Z,21nm,0.6s							
BASO	**Ashfield**	**11.12 262**	PN		Pn	08 18 42.1	-2.1	
BASO			SN		Sn	08 20 40.2	-8.6	
BASO			Trac			08 21 10.4		
	comp=Z,27nm,0.9s							
KAPO	**Kapuskasing**	**11.22 291**	Pn		Pn	08 18 41.8	-3.7

CAUP **Cauayan** **1.52** **107** *e*P Pn 08 18 01.2 +0.7

IDC 08 08:30:33.7±0.8, 3°52'N×126°72'E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/24, mbtmp4.1/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/40, Error ellipse: s-maj=61.8km s-min=15.9km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.71**	**342**	LR	LR	08 32 24.4	
	comp=Z,168nm,21.2s,baz=133,slow=30						
KAPI	**Kappang**	**10.97**	**219**	LR	LR	08 37 58.0	
	comp=Z,63nm,19.5s,baz=73,slow=40						
FITZ	**Fitzroy Crossi**	**21.51**	**183**	P	P	08 35 25.4	+1.0
	2.6nm,0.9s,baz=356,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**24.48**	**162**	P	P	08 35 54.0	-0.9
	9.6nm,0.8s,baz=341,slow=10,SNR=55						
WRA				PcP	PcP	08 39 33.9	+0.1
	0.2nm,0.4s,baz=338,slow=2.4,SNR=5.8						
ASAR	**Alice Springs**	**27.91**	**166**	P	P	08 36 25.5	-0.3
	1.0nm,0.6s,baz=344,slow=6.7,SNR=20						
ASAR				PcP	PcP	08 39 41.5	-0.2
	0.5nm,0.5s,baz=349,slow=2.1,SNR=7.9						
JNU	**Nakatsue**	**29.71**	**7**	P	P	08 36 42.2	+0.5
	4.4nm,0.9s,baz=181,slow=18,SNR=2.2						
KSRS	**Korea Array**	**33.79**	**2**	P	P	08 37 16.8	-0.7
	0.9nm,0.5s,baz=180,slow=9.3,SNR=5.7						
STKA	**Stephens Creek**	**37.93**	**159**	P	P	08 37 53.2	+0.1
	3.4nm,0.7s,baz=320,slow=7.4,SNR=11						
STKA				PcP	PcP	08 40 09.0	-0.3
	1.4nm,0.5s,baz=312,slow=2.0,SNR=4.5						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	08 40 25.7	-0.8
	0.4nm,0.4s,baz=124,slow=7.7,SNR=10.0						
MKAR				PcP	PcP	08 41 20.0	+0.7
	0.3nm,0.7s,baz=134,slow=3.7,SNR=2.6						

IDC 08 08:42:07.5±6.4, 2°25N×94°77W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/21, mbtmp3.8/7, MS3.3/8, Ms1 3.3/8, ms1mx3.2/26, Error ellipse: s-maj=141.6km s-min=97.2km az=25.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**12.60**	**50**	LR	LR	08 48 48.4	
	comp=Z,234nm,19.8s,baz=62,slow=32						
CMIG	**Matias Romero**	**14.75**	**360**	LR	LR	08 49 57.5	
	comp=Z,152nm,20.7s,baz=158,slow=32						
ATAH	**Atahualpa**	**18.81**	**120**	LR	LR	08 52 04.1	
	comp=Z,64nm,20.4s,baz=146,slow=32						
LPIG	**La Paz**	**26.41**	**327**	LR	LR	08 55 44.9	
	comp=Z,8.7nm,21.1s,baz=351,slow=31						
TXAR	**Lajitas Array**	**28.23**	**343**	P	P	08 48 02.2	-0.2
	1.0nm,0.7s,baz=161,slow=10,SNR=12						
TXAR				LR	LR	08 58 01.6	
	comp=Z,97nm,21.3s,baz=185,slow=34						
NVAR	**Mina Array Bea**	**41.96**	**332**	P	P	08 50 00.7	+0.1
	0.8nm,0.7s,baz=155,slow=8.2,SNR=9.5						
PDAR	**Pinedale Array**	**42.45**	**344**	P	P	08 50 04.4	-0.1
	2.1nm,0.9s,baz=155,slow=8.5,SNR=13						
CPUP	**Villa Florida**	**45.99**	**131**	LR	LR	09 09 55.8	
	comp=Z,51nm,19.9s,baz=213,slow=36						
ULM	**Lac du Bonnet**	**47.83**	**359**	P	P	08 50 47.0	+0.2
	2.4nm,0.7s,baz=189,slow=5.1,SNR=4.2						
PLCA	**Paso Flores**	**48.11**	**155**	LR	LR	09 05 54.7	
	comp=Z,132nm,18.4s,baz=277,slow=30						
BDFB	**Brasilia**	**49.52**	**113**	LR	LR	09 09 11.4	
	comp=Z,40nm,21.1s,baz=123,slow=33						
YKA	**Yellowknife Ar**	**61.90**	**350**	P	P	08 52 28.0	-0.6
	0.6nm,1.0s,baz=160,slow=6.4,SNR=6.0						
RES	**Resolute Bay**	**72.35**	**360**	P	P	08 53 35.1	+0.3
	0.2nm,0.4s,baz=233,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**72.65**	**339**	P	P	08 53 36.8	0.0
	0.4nm,0.9s,baz=149,slow=3.6,SNR=4.7						

*ISCJB **08** 08:47:35.6±0.6, 37°.81N±0°.07×96°.04E±0°.06, h12km, mb3.7/10, MS3.7/1, Error ellipse: s-maj=10.3km s-min=6.3km az=163.6*
*BJI **08** 08:47:38.4, 37°.65N×95°.98E, h9km, ML3.6/7, Ms3.4/2, Ms7 3.3/2*
*IDC **08** 08:47:42.2±3.6, 37°.76N×95°.97E, h51km±34km, mb3.5/10, mb1 3.6/15, mb1mx3.5/32, mbtmp3.5/15, ML3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=21.4km s-min=15.6km az=32.0*
ISC 08 08:47:36.8±0.8, 37°74N±0°.08×96°03E±0°.05, h12km, n19, σ1°33/22, mb3.7/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.40**	**59**	Pn	**Pb**	**08 48 34.8**	**-2.3**
GTA				Pg	**Pg**	**08 48 42.5**	**+0.5**
GTA				Sn	**Sb**	**08 49 19.4**	**+0.9**
GTA				Sg	**Sg**	**08 49 28.0**	**+1.9**
GTA				smax	smax		
	comp=N,39nm,0.6s						
GTA				smax	smax		
	comp=E,39nm,1.0s						
GTA				LR	LR		
	comp=N,200nm,7.1s						
GTA				LR	LR		
	comp=E,240nm,8.6s						
GTA				LR	LR		
	comp=Z,310nm,9.5s						
LZH	**Lanzhou**	**6.47**	**102**	*e*Pg	Pg	08 49 36.2	-4.5
LZH				Sg	**Sg**	**08 51 01.7**	**-2.8**
LZH				smax	smax		
	comp=N,39nm,0.6s						
LZH				smax	smax		
	comp=E,50nm,0.8s						
LZH				LR	LR		
	comp=N,180nm,4.9s						
LZH				LR	LR		
	comp=E,170nm,4.1s						
LZH				LR	LR		
	comp=Z,200nm,5.4s						
SONM	**Songino Array**	**12.63**	**34**	P	Pn	08 50 40.8	+4.5
	comp=Z,0.5nm,0.3s,baz=219,slow=15,SNR=13						
SONM				S	**Sn**	**08 52 56.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=21,SNR=2.2						
SONM				LR	LR	08 55 50.1	
	comp=Z,125nm,18.2s,baz=162,slow=39						
MKAR	**Makanchi Array**	**13.60**	**316**	P	**Pn**	**08 50 48.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=124,slow=14,SNR=11						
MKAR				S	**Sn**	**08 53 17.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=129,slow=26,SNR=5.2						
AAK	**Ala-Archa**	**17.16**	**293**	P	**Pn**	**08 51 36.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=119,slow=11,SNR=2.8						
KURBB	**Kurchatov Arra**	**17.93**	**322**	P	**Pn**	**08 51 46.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=136,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**17.96**	**338**	P	**P**	**08 51 47.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=6.6						
CMAR	**Chiang Mai Arr**	**19.38**	**172**	P	**Pn**	**08 52 04.7**	**+1.1**
	baz=357,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**23.45**	**319**	P	**P**	**08 52 46.8**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=110,slow=9.3,SNR=16						
KSRS	**Korea Array**	**25.21**	**81**	P	**P**	**08 53 04.0**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=274,slow=9.4,SNR=6.5						
AKTO	**Aktyubinsk**	**29.77**	**308**	P	**P**	**08 53 44.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=102,slow=13,SNR=4.6						
JHJ	**Hachijo jima 2**	**35.70**	**84**	LR	LR	09 11 45.0	
	comp=Z,119nm,18.4s,baz=164,slow=40						
PETK	**Petropavlovsk-**	**44.51**	**49**	P	**P**	**08 55 48.2**	**+0.3**
	comp=Z,7.5nm,1.0s,baz=283,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**48.31**	**323**	P	**P**	**08 56 17.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=9.7,SNR=4.5						
NOA	**NORSAR Array B**	**55.44**	**324**	P	**P**	**08 57 10.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=75,slow=7.6,SNR=2.9						
GERES	**GERESS Array B**	**58.17**	**310**	P	**P**	**08 57 31.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=15,slow=8.1,SNR=2.0						
ILAR	**Eielson Array**	**66.67**	**25**	P	**P**	**08 58 27.8**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=299,slow=5.9,SNR=6.7						
ASAR	**Alice Springs**	**70.70**	**143**	P	**P**	**08 58 52.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=329,slow=6.0,SNR=7.4						
YKA	**Yellowknife Ar**	**77.11**	**14**	P	**P**	**08 59 29.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=334,slow=4.9,SNR=5.2						

IDC 08 08:53:28.6±3.7, 17°90S×177°65W, h316km±26km, mb3.1/4, mb1 3.5/5, mb1mx3.1/20, mbtmp3.2/5, Error ellipse: s-maj=183.8km s-min=16.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.91**	**56**	P	Pn	08 55 10.9	+1.5
	3.0nm,0.3s,baz=300,slow=14,SNR=5.7						
AFI				S	S	08 56 29.5	-1.4
	1.3nm,0.3s,baz=23,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**45.34**	**259**	P	P	09 01 16.1	-0.3
	0.4nm,0.5s,baz=96,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**45.48**	**254**	P	P	09 01 17.3	-0.2
	3.0nm,0.5s,baz=90,slow=8.3,SNR=75						
NVAR	**Mina Array Bea**	**78.92**	**44**	P	P	09 04 57.9	0.0
	0.3nm,0.6s,baz=213,slow=6.1,SNR=3.6						
TXAR	**Lajitas Array**	**85.39**	**57**	P	P	09 05 31.3	+0.1
	0.5nm,0.9s,baz=226,slow=6.7,SNR=4.9						

IDC 08 08:56:06.7±38.0, 33°21S×179°71W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=684.1km s-min=90.9km az=103.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.52**	**262**	P	P	09 02 40.5	+1.2
	1.3nm,0.8s,baz=99,slow=19,SNR=1.5						
PMG	**Port Moresby**	**38.62**	**300**	P	P	09 03 32.5	+0.7
	2.9nm,0.4s,baz=165,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**41.59**	**271**	P	P	09 03 55.6	-1.0
	0.5nm,0.9s,baz=108,slow=7.9,SNR=4.6						
WRA	**Warramunga Arr**	**42.84**	**276**	P	P	09 04 06.0	-0.7
	0.1nm,0.4s,baz=117,slow=8.2,SNR=5.3						

IDC 08 08:56:10.6±27.0, 33°79S×176°61W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=506.8km s-min=91.2km az=102.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.00**	**261**	P	P	09 03 05.1	+0.3
	0.9nm,0.6s,baz=102,slow=19,SNR=2.7						
PMG	**Port Moresby**	**41.17**	**298**	P	P	09 03 57.1	+0.2
	5.0nm,0.7s,baz=149,slow=5.9,SNR=1.3						
ASAR	**Alice Springs**	**44.19**	**270**	P	P	09 04 20.6	-0.9
	0.2nm,0.4s,baz=116,slow=7.5,SNR=5.4						
WRA	**Warramunga Arr**	**45.48**	**275**	P	P	09 04 31.7	-0.1
	0.2nm,0.3s,baz=117,slow=8.0,SNR=7.1						

*NNC **08** 09:21:28.7±1.5, 38°.96N×70°.03E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=11.2km s-min=9.4km az=6.0*
ISC 08 09:21:32.2±2.8, 39°1N±0°2×70°11E±0°10, h13km, n9, σ1°82/13, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.06**	**4**	⇓Pn	**Pn**	**09 22 36.1**	**+2.1**
	2.1nm,0.5s						
KK31				⇑Sn	**Sb**	**09 23 29.1**	**-3.4**
	2.9nm,0.3s						
KK31				⇓Lg	Lg	09 23 39.6	
	5.4nm,0.5s						
AML	**Almayashu**	**4.11**	**40**	P	**Pn**	**09 22 34.7**	**-0.4**
	SNR=8.8						
AAK	**Ala-Archa**	**4.88**	**41**	P	**Pn**	**09 22 45.8**	**+0.3**
	SNR=6.8						
KBK	**Karagaybulak**	**5.14**	**44**	P	**Pn**	**09 22 49.8**	**+0.8**
	SNR=9.8						
USP	**Ospenovka**	**5.36**	**37**	P	**Pn**	**09 22 51.9**	**0.0**
	SNR=5.7						
TKM2	**Tokmak 2**	**5.67**	**45**	⇑Pn	**Pn**	**09 22 55.8**	**-0.5**
	4.1nm,0.4s						
TKM2				⇑Sn	**Sn**	**09 24 04.3**	**+3.0**
	2.3nm,0.5s						
TKM2				⇑Lg	Lg	09 24 31.4	
	3.6nm,0.8s						
TKM2	**Tokmak 2**	**5.67**	**45**	P	**Pn**	**09 22 56.2**	**-0.1**
	SNR=11						
AB31	**Akbulak array**	**12.53**	**328**	⇓Pn	**Pn**	**09 24 29.2**	**-0.9**
	0.6nm,0.4s,baz=160,slow=11,SNR=5.0						
AB31				⇑Sn	**Sn**	**09 26 50.9**	**+1.5**
	0.8nm,0.6s,baz=150,slow=23,SNR=4.7						
AKTO	**Aktyubinsk**	**14.24**	**327**	⇓Pn	**Pn**	**09 24 51.8**	**-1.6**
	0.6nm,1.3s						
AKTO				⇓Sn	**Sn**	**09 27 32.5**	**+1.4**
	0.4nm,1.3s						

IDC 08 09:28:31.6±2.9, 2°43S×133°38E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/18, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=136.8km s-min=29.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.43**	**177**	P	Pn	09 32 36.9	+0.5
	0.0nm,0.3s,baz=356,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**21.12**	**179**	P	P	09 33 17.8	-0.4
	0.2nm,0.3s,baz=350,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**66.38**	**324**	P	P	09 39 22.6	+0.1
	0.1nm,0.4s,baz=118,slow=7.0,SNR=4.5						

IDC 08 09:36:50.2±8.8, 19°03S×178°09W, h556km±97km, mb2.7/5, mb1 3.1/5, mb1mx2.8/20, mbtmp2.7/5, Error ellipse: s-maj=92.7km s-min=33.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.74**	**261**	P	P	09 44 15.2	+0.3
	0.4nm,0.3s,baz=96,slow=7.7,SNR=31						
ASAR	**Alice Springs**	**44.79**	**255**	P	P	09 44 15.2	-0.1
	1.6nm,0.8s,baz=90,slow=8.2,SNR=16						
ASAR				PcP	PcP	09 45 44.2	-1.1
	0.2nm,0.4s,baz=101,slow=4.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**53.15**	**261**	P	P	09 45 15.9	-1.1
	0.6nm,0.4s,baz=231,slow=20,SNR=1.5						
TXAR	**Lajitas Array**	**86.34**	**57**	P	P	09 48 34.3	+0.1
	0.2nm,0.6s,baz=208,slow=7.1,SNR=2.9						
ILAR	**Eielson Array**	**86.91**	**13**	P	P	09 48 35.8	-0.2
	0.2nm,0.6s,baz=221,slow=6.5,SNR=4.4						
INK	**Inuvik**	**92.88**	**15**	P	P	09 49 02.6	-0.9
	3.0nm,0.7s,baz=166,slow=13,SNR=4.2						
GERES	**GERESS Array B**	**148.77**	**345**	PKPbc	PKPbc	09 55 35.6	+0.1
	0.3nm,0.5s,baz=14,slow=4.4,SNR=2.9						

IDC 08 09:42:38.8±0.6, 5°34S×76°78W, h121km±5km, mb3.7/13, mb1 3.8/16, mb1mx3.7/26, mbtmp3.6/16, Error ellipse: s-maj=13.9km s-min=9.9km az=108.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.40**	**222**	P	Pn	09 43 18.0	+0.1
	90nm,0.3s,baz=25,slow=10.0,SNR=662						
ATAH				S	Sn	09 43 47.6	-0.1
	32nm,0.3s,baz=43,slow=18,SNR=4.0						
NNA	**Nana**	**6.60**	**181**	P	Pn	09 44 13.1	-0.3
	4.6nm,0.3s,baz=341,slow=12,SNR=11						
NNA				S	Sn	09 45 25.1	-2.3
	15nm,0.3s,baz=259,slow=20,SNR=15						
ROSC	**El Rosal**	**10.42**	**14**	P	Pn	09 45 08.7	+3.2
	0.8nm,0.3s,baz=92,slow=19,SNR=3.6						
LPAZ	**La Paz**	**13.79**	**143**	P	Pn	09 45 44.4	-5.7
	0.1nm,0.3s,baz=265,slow=8.8,SNR=2.2						
SIV	**San Ignacio**	**18.70**	**126**	P	P	09 46 48.1	+0.1
	0.2nm,0.3s,baz=318,slow=9.4,SNR=5.5						
SJG	**San Juan**	**25.56**	**24**	P	P	09 47 57.8	+1.2
	5.9nm,0.6s,baz=270,slow=7.7,SNR=2.4						
PLCA	**Paso Flores**	**35.67**	**172**	P	P	09 49 25.6	+0.1
	0.6nm,0.6s,baz=294,slow=4.1,SNR=2.6						
TXAR	**Lajitas Array**	**43.08**	**325**	P	P	09 50 27.8	+0.6
	0.7nm,0.7s,baz=145,slow=9.2,SNR=7.3						
USHA	**Ushuaia**	**49.80**	**174**	P	P	09 51 19.8	+0.8
	3.3nm,0.8s,baz=343,slow=5.9,SNR=2.8						
PDAR	**Pinedale Array**	**56.37**	**331**	P	P	09 52 07.7	0.0
	0.4nm,0.8s,baz=129,slow=7.1,SNR=3.4						
PDAR				PcP	PcP	09 53 03.4	-0.1
	0.4nm,0.7s,baz=157,slow=5.5,SNR=4.1						
ULM	**Lac du Bonnet**	**57.78**	**346**	P	P	09 52 16.3	-0.9
	2.8nm,0.6s,baz=156,slow=7.0,SNR=6.8						
NVAR	**Mina Array Bea**	**58.11**	**322**	P	P	09 52 21.0	+0.9
	0.7nm,0.7s,baz=129,slow=7.6,SNR=5.7						
SCHQ	**Schefferville**	**60.53**	**7**	P	P	09 52 35.5	-0.6
	1.3nm,0.7s,baz=198,slow=12,SNR=4.1						
DBIC	**Dimbokro**	**72.77**	**81**	P	P	09 53 54.4	-0.2
	1.6nm,0.5s,baz=242,slow=5.3,SNR=3.3						
DBIC				pP	pP	09 54 24.7	-0.1
	4.2nm,1.0s,baz=195,slow=2.4,SNR=2.7						
YKA	**Yellowknife Ar**	**73.55**	**343**	P	P	09 53 57.6	-0.6
	1.1nm,0.5s,baz=140,slow=6.3,SNR=34						
YKA				pP	pP	09 54 28.6	+0.2
	0.3nm,0.4s,baz=140,slow=6.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**80.05**	**76**	P	P	09 54 35.2	-0.5
	1.3nm,0.7s,baz=277,slow=5.9,SNR=12						
TORD				pP	pP	09 55 06.7	+0.3
	0.4nm,0.3s,baz=274,slow=5.7,SNR=3.0						
INK	**Inuvik**	**83.27**	**342**	P	P	09 54 51.5	0.0
	3.7nm,1.0s,baz=94,slow=6.2,SNR=7.3						
ILAR	**Eielson Array**	**86.47**	**336**	P	P	09 55 07.2	-0.5
	1.0nm,0.9s,baz=109,slow=2.2,SNR=8.5						
ILAR				pP	pP	09 55 38.6	-0.1
	0.1nm,0.6s,baz=135,slow=4.3,SNR=1.6						
ZALV	**Zalesovo Beam**	**129.28**	**14**	PKP	PKPdf	10 01 32.5	-0.3
	0.6nm,0.6s,baz=313,slow=3.3,SNR=6.1						
MKAR	**Makanchi Array**	**134.93**	**20**	PKP	PKPdf	10 01 43.7	-0.1
	0.3nm,0.8s,baz=318,slow=1.9,SNR=3.4						
ASAR	**Alice Springs**	**138.43**	**225**	PKP	PKPdf	10 01 49.9	-1.1
	0.2nm,0.7s,baz=110,slow=1.8,SNR=3.5						
WRA	**Warramunga Arr**	**140.40**	**230**	PKhKP	PKPpre	10 01 47.1	
	0.3nm,0.8s,baz=123,slow=2.7,SNR=2.9						
KSRS	**Korea Array**	**140.89**	**328**	PKP	PKPdf	10 01 54.8	-0.2
	0.8nm,0.8s,baz=20,slow=3.9,SNR=3.6						
FITZ	**Fitzroy Crossi**	**147.87**	**223**	PKPbc	PKPbc	10 02 10.2	-0.5
	0.7nm,0.4s,baz=246,slow=8.3,SNR=4.4						

IDC 08 09:56:50.7±60.0, 23°71S×177°87E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=1051.0km s-min=151.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.99**	**248**	P	P	10 03 25.7	-1.7
	1.0nm,0.5s,baz=86,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**40.14**	**261**	P	P	10 04 28.7	0.0
	0.5nm,0.4s,baz=92,slow=7.8,SNR=24						
WRA	**Warramunga Arr**	**40.47**	**267**	P	P	10 04 32.2	+0.8
	0.3nm,0.3s,baz=100,slow=7.8,SNR=10.0						

*ISCJB **08** 10:00:36.3±0.7, 5°.84N±0°.08×126°.1E±0°.1, h128km±8km, mb3.7/7, Error ellipse: s-maj=21.7km s-min=12.9km az=164.9*
*IDC **08** 10:00:37.9±2.4, 5°.97N×126°.52E, h132km±16km, mb3.5/7, mb1 3.6/7, mb1mx3.3/23, mbtmp3.5/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/31, Error ellipse: s-maj=99.2km s-min=12.0km az=67.0*
*AUST **08** 10:00:51.7±0.0, 5°.59N×125°.62E, h267km, Error ellipse: s-maj=4.8km s-min=1.3km az=243.0*
*MAN **08** 10:01:34.7°.01N×126°.51E, h58km, mb4.4, ML3.3, MS3.2*
ISC 08 10:00:36.8±0.9, 5°.83N±0°.08×126°28E±0°.10, h114km±9km, n23, σ2°04/28, mb3.7/7, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.11**	**359**	*e*P	**Pn**	**10 00 59.5**	**0.0**
MATI				*e*S	**Sn**	**10 01 12.6**	**-4.0**
GSPH	**General Santos**	**1.34**	**281**	⇑*i*P	**Pn**	**10 01 00.1**	**-2.0**
GSPH				*i* S	**Sn**	**10 01 19.0**	**-2.4**
DAV	**Davao City (W)**	**1.42**	**331**	P	**Pn**	**10 01 03.5**	**+0.7**
	80nm,0.3s,baz=336,slow=2.9,SNR=9.5						
DAV				S	**Sn**	**10 01 26.9**	**+4.3**
	120nm,0.3s,baz=291,slow=18,SNR=7.7						
DMPH	**Davao City--Mi**	**1.46**	**329**	⇑*e*P	**Pn**	**10 01 03.6**	**+0.2**
DMPH				*e*S	**Sn**	**10 01 22.4**	**-1.2**
KCP	**Kidapawan**	**1.66**	**315**	⇑*e*P	Pn	10 01 09.9	+4.0
KCP				*i* S	**Sn**	**10 01 32.7**	**+4.8**
BUKP	**Musuan**	**2.37**	**329**	*e*P	**Pn**	**10 01 15.9**	**+1.2**
CTBH	**Cotabato--PC H**	**2.45**	**305**	⇑*i*P	**Pn**	**10 01 16.2**	**+0.6**
PAGZ	**Pagadian**	**3.50**	**305**	*e*P	**Pn**	**10 01 30.4**	**+0.8**
SWI	**Sorong**	**8.30**	**143**	P	Pn	10 02 52.8	+18
	baz=8.6,SNR=5.3						
MTN	**Manton Dam**	**19.17**	**165**	P	**Pn**	**10 04 57.3**	**+3.7**
	baz=19,SNR=3.1						
KDU	**Kakadu**	**19.40**	**162**	P	**Pn**	**10 04 58.8**	**+2.5**
	baz=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**23.79**	**182**	P	**P**	**10 05 39.3**	**+0.1**
	0.8nm,0.3s,baz=10,slow=11,SNR=6.4						
FITZ				LR	LR	10 16 09.3	
	comp=Z,38nm,19.0s,baz=232,slow=39						
FITZ	**Fitzroy Crossi**	**23.79**	**182**	P	**P**	**10 05 39.4**	**+0.3**
	baz=24,SNR=5.2						
WRA	**Warramunga Arr**	**26.81**	**163**	P	**P**	**10 06 05.6**	**-1.0**
	0.6nm,0.3s,baz=342,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**30.25**	**166**	P	**P**	**10 06 37.0**	**-0.1**
	0.8nm,0.5s,baz=344,slow=6.9,SNR=25						
MEEK	**Meekatharra**	**33.12**	**193**	P	**P**	**10 07 01.6**	**-0.6**
	baz=33,SNR=3.5						
BBOO	**Buckleboo**	**39.53**	**167**	P	**P**	**10 07 57.1**	**+0.5**
	baz=40,SNR=12						
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**10 08 03.2**	**+0.7**
	2.6nm,0.4s,baz=351,slow=7.5,SNR=13						
STKA				PcP	**PcP**	**10 10 04.4**	**+0.1**
	1.8nm,0.8s,baz=339,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**10 08 03.0**	**+0.5**
	baz=40,SNR=10						
MKAR	**Makanchi Array**	**55.59**	**325**	P	**P**	**10 09 60.0**	**-0.7**
	0.7nm,0.4s,baz=119,slow=7.1,SNR=24						
MKAR				PcP	**PcP**	**10 10 58.3**	**-0.8**
	0.3nm,0.6s,baz=134,slow=3.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**58.53**	**333**	P	**P**	**10 10 19.6**	**-1.5**
	0.4nm,0.6s,baz=140,slow=7.5,SNR=2.5						
FINES	**FINESS Array

LKD2				S	**Sb**	**10 30 31.3**	**+0.7**		
LKD2	**Lefkada island**	**0.68**	**265**	P	**Pb**	**10 30 21.3**	**-0.1**		
LKD2				S	**Sb**	**10 30 31.3**	**+0.7**		
RLS	**Riolos of Patr**	**0.80**	**183**	*e*PB	**Pb**	**10 30 23.4**	**0.0**		
RLS	**Riolos of Patr**	**0.80**	**183**	*e*Pb	**Pb**	**10 30 23.4**	**0.0**		
THL	**Klokotos Trika**	**0.81**	**28**	P	**Pg**	**10 30 23.6**	**-0.1**		
THL				S	**Sn**	**10 30 36.1**	**-0.3**		
THL	**Klokotos Trika**	**0.81**	**28**	*e*PB	**Pg**	**10 30 23.4**	**-0.3**		
THL				*e*SB	**Sb**	**10 30 34.9**	**+0.6**		
THL	**Klokotos Trika**	**0.81**	**28**	P	**Pg**	**10 30 23.6**	**-0.1**		
THL				*e*Sb	**Sb**	**10 30 34.9**	**+0.6**		
THL				S	**Sn**	**10 30 36.1**	**-0.3**		
DSF	**Desfina**	**0.90**	**119**	P	**Pb**	**10 30 24.4**	**-0.9**		
DSF				S	**Sn**	**10 30 38.4**	**-0.5**		
DSF	**Desfina**	**0.90**	**119**	P	**Pb**	**10 30 24.4**	**-0.9**		
DSF				S	**Sn**	**10 30 38.4**	**-0.5**		
VLS	**Valsamata**	**0.99**	**228**	*e*PG	**Pb**	**10 30 26.1**	**-0.7**		
VLS				*e*SB	**Sn**	**10 30 40.9**	**-0.1**		
VLS	**Valsamata**	**0.99**	**228**	*e*Pg	**Pb**	**10 30 26.1**	**-0.7**		
VLS				*e*Sb	**Sn**	**10 30 40.9**	**-0.1**		
GUR	**Goura**	**1.12**	**145**	*e*PG	**Pg**	**10 30 29.8**	**+0.2**		
GUR	**Goura**	**1.12**	**145**	*e*Pg	**Pg**	**10 30 29.8**	**+0.2**		
LKR	**Lokris**	**1.17**	**99**	*e*PB	**Pg**	**10 30 31.4**	**+0.8**		
LKR	**Lokris**	**1.17**	**99**	*e*Pb	**Pg**	**10 30 31.4**	**+0.8**		
DID	**Didima**	**1.91**	**134**	*e*PG	**Pg**	**10 30 44.2**	**-0.4**		
DID	**Didima**	**1.91**	**134**	*e*Pg	**Pg**	**10 30 44.2**	**-0.4**		

NEIC 08 10:39:16.2,51.41N×178.27W,h12km,ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.37**	**294**	P	Pg	10 39 23.7	0.0
TASE	**Tanaga Southea**	**0.45**	**19**	P	Pg	10 39 25.2	-0.1
GALAA	**Gareloi Lava P**	**0.47**	**319**	P	Pg	10 39 25.7	+0.1
GAEA	**Gareloi East**	**0.48**	**322**	P	Pg	10 39 25.8	+0.1
TANO	**Tanaga North**	**0.52**	**10**	P	Pg	10 39 26.2	-0.2
GANE	**Gareloi Northe**	**0.52**	**323**	P	Pg	10 39 26.3	-0.2
TAFP	**Tanaga Falls P**	**0.52**	**20**	P	Pg	10 39 26.1	-0.5
TAFP				S	Sg	10 39 33.4	-0.1
KIKV	**Kanaga Island**	**0.83**	**55**	P	Pg	10 39 30.8	-1.6
KIKV				S	Sg	10 39 42.0	-1.3
KIRH	**Kanaga Island**	**0.88**	**56**	P	Pg	10 39 31.6	-1.7
ETKA	**Kagalaska Isla**	**1.25**	**68**	P	Pn	10 39 37.4	-2.0
CERAA	**Semis' Rag'd T**	**1.37**	**292**	P	Pn	10 39 39.4	-1.7
CERB	**Semis' Cerberu**	**1.41**	**293**	P	Pn	10 39 40.0	-1.7
CERB				S	Sn	10 39 57.9	-2.2
CESW	**Semis' Southwe**	**1.44**	**291**	P	Pn	10 39 40.2	-1.9
GSTD	**Great Sitkin T**	**1.47**	**63**	P	Pn	10 39 40.8	-1.8
GSTD				S	Sn	10 40 00.1	-1.8
GSMY	**Great Sitkin M**	**1.52**	**64**	P	Pn	10 39 41.6	-1.6
AMKA	**Amchitka**	**1.52**	**270**	P	Pn	10 39 40.6	-2.5
AMKA				S	Sn	10 40 00.1	-2.8
LSSE	**Little Sitkin**	**2.04**	**286**	P	Pn	10 39 49.4	-0.9
LSNW	**Little Sitkin**	**2.08**	**287**	P	Pn	10 39 50.8	0.0
KOKL	**Mount Kliuchef**	**2.68**	**68**	P	Pn	10 39 58.5	-0.8
KOFP	**Korovin Flat P**	**2.73**	**70**	P	Pn	10 39 59.5	-0.3

*ISCJB **08** 10:48:59.6±0.6,30.80N±0.06×56.81E±0.04,h10km, Error ellipse: s-maj=8.0km s-min=5.0km az=176.5*
*CSEM **08** 10:48:59.5±0.3,30.79N×56.87E,h2km,ML3.6, Error ellipse: s-maj=10.3km s-min=6.9km az=163.0*
*TEH **08** 10:49:00.7,30.88N×56.90E,h5km,ML3.6*
ISC 08 10:48:59.7±1.0,30.84N±0.05×56.88E±0.04,h10km,n23,σ1s64/33,2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.86**	**187**	*e*Pg	**Pg**	**10 49 14.7**	**-1.7**
IBAF	**Bafgh**	**1.35**	**304**	⇓*e*Pg	**Pn**	**10 49 24.7**	**0.0**
IBAF				*e*Sg	**Sn**	**10 49 43.5**	**+0.8**
IBAF				*e*		10 49 49.6	
	comp=Z,11μm,0.1s						
IBAF	**Bafgh**	**1.35**	**304**	⇓*e*Pg	**Pn**	**10 49 24.7**	**0.0**
IBAF				*e*Sg	**Sn**	**10 49 43.5**	**+0.8**
IMEH	**Mehriz**	**2.02**	**286**	*e*Pn	**Pn**	**10 49 35.1**	**+1.1**
IMEH				*e*Sg	**Sb**	**10 50 03.8**	**+1.9**
IMEH				*e*		10 50 05.9	
	comp=Z,7μm,0.2s						
IMEH	**Mehriz**	**2.02**	**286**	*e*Pn	**Pn**	**10 49 35.1**	**+1.1**
IMEH				*e*Sg	**Sb**	**10 50 03.8**	**+1.9**
IKOO	**Kooshah**	**2.40**	**48**	*e*Pn	**Pn**	**10 49 40.2**	**+0.9**
IKOO				*e*Sg	**Sb**	**10 50 14.2**	**+1.3**
IKOO				*e*		10 50 17.4	
	comp=Z,4μm,0.1s						
IKOO	**Kooshah**	**2.40**	**48**	*e*Pn	**Pn**	**10 49 40.2**	**+0.9**
IKOO				*e*Sg	**Sb**	**10 50 14.2**	**+1.3**
ICHK	**Chekchek**	**2.53**	**304**	*e*Pn	**Pn**	**10 49 42.9**	**+1.9**
ICHK				*e*		10 50 28.3	
	comp=Z,3μm,0.2s						
ICHK	**Chekchek**	**2.53**	**304**	*e*Pn	**Pn**	**10 49 42.9**	**+1.9**
ITEG	**Tejag**	**2.59**	**37**	*e*Pn	**Pn**	**10 49 42.5**	**+0.7**
ITEG				*e*		10 50 21.9	
	comp=Z,1μm,0.2s						
ITEG	**Tejag**	**2.59**	**37**	*e*Pn	**Pn**	**10 49 42.5**	**+0.7**
IDAH	**Dahanechah**	**3.17**	**53**	*e*Pn	**Pn**	**10 49 50.6**	**+0.7**
IDAH				*e*		10 50 06.2	
	comp=Z,663nm,0.2s						
IDAH	**Dahanechah**	**3.17**	**53**	*e*Pn	**Pn**	**10 49 50.6**	**+0.7**
IMON	**Monand**	**3.33**	**45**	*e*Pn	**Pn**	**10 49 52.9**	**+0.9**
IMON				*e*		10 50 06.0	
	comp=Z,2μm,0.1s						
IMON	**Monand**	**3.33**	**45**	*e*Pn	**Pn**	**10 49 52.9**	**+0.9**
IPAR	**Pars**	**3.46**	**254**	*e*Pn	**Pn**	**10 49 54.8**	**+0.9**
IPAR				*e*Sg	**Sg**	**10 50 50.0**	**-0.8**
IPAR				*e*		10 51 04.1	
	comp=Z,587nm,0.4s						
IPAR	**Pars**	**3.46**	**254**	*e*Pn	**Pn**	**10 49 54.8**	**+0.9**
IPAR				*e*Sg	**Sg**	**10 50 50.0**	**-0.8**
ISRV	**Sarvestan**	**3.57**	**247**	*e*Pn	**Pn**	**10 49 56.8**	**+1.4**
ISRV				*e*		10 51 12.1	
	comp=Z,889nm,0.6s						
ISRV	**Sarvestan**	**3.57**	**247**	*e*Pn	**Pn**	**10 49 56.8**	**+1.4**
NASN	**Na'in**	**3.98**	**300**	*e*Pn	**Pn**	**10 50 03.8**	**+2.8**
NASN				*e*Sg	**Sg**	**10 51 05.0**	**-2.4**
SHRT	**Shahrakht**	**4.02**	**45**	*e*Pn	Pn	10 50 05.2	+3.8
IZEF	**Zefreh**	**4.38**	**299**	*e*Pn	**Pn**	**10 50 07.6**	**+1.1**
IZEF				*e*Sg	**Sg**	**10 51 16.5**	**-3.8**
IZEF	**Zefreh**	**4.38**	**299**	*e*Pn	**Pn**	**10 50 07.6**	**+1.1**
IZEF				*e*Sg	**Sg**	**10 51 16.5**	**-3.8**

*ISCJB **08** 10:51:12.8±0.4,2.73N±0.05×128.62E±0.09,h200km, mb3.8/17, Error ellipse: s-maj=12.9km s-min=6.5km az=164.4*
*AUST **08** 10:51:13.8,2.50N×128.50E,h200km*
*IDC **08** 10:51:17.8±2.5,2.67N×128.60E,h237km±25km,mb3.6/18, mb1 3.7/18,mb1mx3.6/27,mbtmp3.6/18, Error ellipse: s-maj=21.5km s-min=8.6km az=81.0*
ISC 08 10:51:14.4±0.6,2.66N±0.08×128.5E±0.1,h200km,n38,σ1s21/35,mb3.9/17,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**9.26**	**153**	S	Sn	10 54 58.6	-9.4
	baz=9.2,SNR=3.9						
PCI	**Palu**	**9.36**	**248**	P	**Pn**	**10 53 26.5**	**+1.1**
	baz=9.3,SNR=4.9						
MTN	**Manton Dam**	**15.62**	**170**	P	**P**	**10 54 44.8**	**+0.6**
	baz=16,SNR=9.2						
MTN				S	S	10 57 16.5	-21
	baz=16,SNR=5.2						
KDU	**Kakadu**	**15.75**	**166**	P	**P**	**10 54 46.5**	**+0.9**
	baz=16,SNR=8.5						
FITZ	**Fitzroy Crossi**	**20.82**	**188**	P	**P**	**10 55 41.9**	**+1.3**
	1.2nm,0.4s,baz=0.6,slow=6.1,SNR=7.2						
FITZ	**Fitzroy Crossi**	**20.82**	**188**	P	**P**	**10 55 42.2**	**+1.6**
	baz=21,SNR=3.7						
WRA	**Warramunga Arr**	**23.18**	**166**	P	**P**	**10 56 04.0**	**+0.5**
	1.8nm,0.4s,baz=344,slow=11,SNR=33						
WRA				ScP	**ScP**	**11 03 00.7**	**-4.2**
	0.2nm,0.5s,baz=344,slow=3.0,SNR=4.6						
QIS	**Mount Isa**	**25.51**	**155**	P	**P**	**10 56 24.9**	**+0.2**
	baz=26,SNR=4.6						
ASAR	**Alice Springs**	**26.69**	**169**	P	**P**	**10 56 35.3**	**+0.1**
	3.1nm,0.5s,baz=352,slow=7.7,SNR=163						
PPI	**Padang Panjang**	**28.26**	**264**	S	**S**	**11 01 17.2**	**-3.5**
	baz=28,SNR=3.7						
JNU	**Nakatsue**	**30.39**	**4**	P	**P**	**10 57 07.6**	**-0.3**
	4.4nm,0.8s,baz=198,slow=8.8,SNR=3.2						
MEEK	**Meekatharra**	**30.65**	**198**	P	**P**	**10 57 09.8**	**-0.4**
	baz=31,SNR=3.5						
GSI	**Gununguistoi**	**30.93**	**268**	S	S	11 02 19.6	+17
	baz=31,SNR=6.6						
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**10 57 32.0**	**+1.7**
	1.1nm,0.6s,baz=122,slow=8.1,SNR=8.3						
KSRS	**Korea Array**	**34.63**	**359**	P	**P**	**10 57 44.8**	**+0.1**
	1.1nm,0.4s,baz=176,slow=10.0,SNR=8.6						
MJAR	**Matsushiro Arr**	**34.89**	**14**	P	P	10 57 45.2	-1.7
	1.6nm,0.7s,baz=185,slow=9.8,SNR=7.1						
BBOO	**Buckleboo**	**35.99**	**169**	P	**P**	**10 57 56.5**	**+0.2**
	baz=36,SNR=17						
STKA	**Stephens Creek**	**36.53**	**161**	P	**P**	**10 58 00.1**	**-0.7**
	2.1nm,0.4s,baz=343,slow=8.9,SNR=10.0						
STKA	**Stephens Creek**	**36.53**	**161**	P	**P**	**10 58 00.5**	**-0.3**
	baz=37,SNR=8.4						
USRK	**Ussuriysk Arra**	**41.48**	**4**	P	**P**	**10 58 42.2**	**+0.5**
	0.8nm,0.5s,baz=185,slow=9.3,SNR=4.1						
ASAJ	**Asahikawa**	**43.13**	**15**	P	**P**	**10 58 55.5**	**+0.4**
	6.5nm,0.8s,baz=359,slow=22,SNR=3.2						
TAPN	**Taplejung**	**46.07**	**306**	*e*P	**P**	**10 59 19.0**	**0.0**
	4.0nm,0.6s						
ODAN	**Odare**	**46.13**	**305**	*e*P	**P**	**10 59 19.8**	**+0.5**
RAMN	**Ramite**	**46.81**	**305**	*e*P	**P**	**10 59 25.5**	**+0.9**
	14nm,0.4s						
JIRN	**Jiri**	**47.43**	**306**	*e*P	**P**	**10 59 29.7**	**+0.1**
	1.4nm,0.2s						
GUN	**Gumba**	**47.78**	**306**	*e*P	**P**	**10 59 32.6**	**+0.4**
	9.2nm,0.4s						
KKN	**Kakani**	**48.22**	**306**	*e*P	**P**	**10 59 35.5**	**+0.1**
SONM	**Songino Array**	**48.88**	**340**	P	**P**	**10 59 40.2**	**+0.1**
	0.5nm,0.6s,baz=141,slow=6.6,SNR=5.2						
KOLN	**Koldanda**	**49.58**	**305**	*e*P	**P**	**10 59 46.5**	**+0.7**
DANN	**Dangsing**	**49.67**	**306**	*e*P	**P**	**10 59 47.0**	**+0.4**
	15nm,0.5s						
PYUN	**Piuthan**	**50.21**	**305**	*e*P	**P**	**10 59 51.2**	**+0.7**
	11nm,0.5s						
PETK	**Petropavlovsk-**	**55.77**	**21**	P	**P**	**11 00 30.6**	**+0.2**
	6.7nm,1.1s,baz=263,slow=7.0,SNR=1.9						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**11 00 56.0**	**-0.2**
	1.1nm,0.4s,baz=114,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**62.34**	**333**	P	**P**	**11 01 14.0**	**-1.5**
	0.5nm,0.3s,baz=121,slow=5.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**63.59**	**327**	P	**P**	**11 01 23.4**	**-0.4**
	3.2nm,0.5s,baz=126,slow=6.2,SNR=40						
BVAR	**Borovoye Array**	**69.18**	**327**	P	**P**	**11 01 58.6**	**-0.7**
	1.2nm,0.7s,baz=111,slow=8.1,SNR=9.1						
ARCES	**ARCESS Array B**	**92.06**	**340**	P	P	11 03 58.7	-1.7
	2.8nm,0.9s,baz=76,slow=5.4,SNR=6.5						
QSPA	**South Pole Qui**	**92.57**	**180**	P	**P**	**11 04 02.6**	**-0.3**
	0.9nm,1.0s,baz=230,slow=7.1,SNR=6.3						

*ISCJB **08** 11:07:30.8±0.4,37.63N±0.03×72.46E±0.07,h119km, mb3.7/14, Error ellipse: s-maj=7.6km s-min=3.0km az=163.7*
*IDC **08** 11:07:34.6±2.5,37.84N×72.58E,h122km±22km,mb3.5/14, mb1 3.7/20,mb1mx3.6/32,mbtmp3.6/20, Error ellipse: s-maj=17.5km s-min=12.7km az=179.0*
*NNC **08** 11:07:39.1±1.2,38.31N×72.19E,h158km±13km,mb3.3, mpv4.3, Error ellipse: s-maj=9.8km s-min=5.0km az=177.0*
ISC 08 11:07:32.8±0.5,37.80N±0.05×72.52E±0.07,h119km,n65,σ2s33/65,mb3.8/14,10C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.00**	**187**	P	Pn	11 08 36.6	+4.1
CHCP	**Chirah Chowk**	**4.18**	**171**	P	Pn	11 08 39.7	+4.9
AML	**Almayashu**	**4.42**	**11**	P	**Pn**	**11 08 40.0**	**+1.8**
	SNR=80						
UCH	**Uchtor**	**4.68**	**18**	P	**Pn**	**11 08 44.1**	**+2.3**
	SNR=6.9						
KZA	**Kyzart**	**4.76**	**25**	P	**Pn**	**11 08 44.6**	**+1.7**
	SNR=20						
EKS2	**Erkin-Say**	**4.95**	**11**	P	**Pn**	**11 08 47.4**	**+2.3**
	SNR=49						
AAK	**Ala-Archa**	**5.06**	**17**	P	**Pn**	**11 08 49.3**	**+2.7**
	14nm,0.3s,baz=173,slow=6.1,SNR=271						
AAK				S	**Sn**	**11 09 43.4**	**-0.6**
	4.3nm,0.3s,baz=325,slow=22,SNR=27						
AAK	**Ala-Archa**	**5.06**	**17**	P	**Pn**	**11 08 49.2**	**+2.7**
	SNR=40						
KBK	**Karagaybulak**	**5.19**	**20**	P	Pn	11 08 52.0	+3.5
	SNR=22						
ULHL	**Uzhol**	**5.28**	**32**	P	**Pn**	**11 08 51.5**	**+1.8**
	SNR=39						
CHMS	**Chumysh**	**5.46**	**17**	P	**Pn**	**11 08 54.5**	**+2.6**
	SNR=9.2						
KK31	**Karatay Array**	**5.51**	**345**	Pn	**Pn**	**11 08 53.5**	**+0.9**
	66nm,0.4s,baz=176,slow=15,SNR=947						
KK31				Sn	**Sn**	**11 09 51.2**	**-3.5**
	44nm,0.4s,baz=175,slow=26,SNR=17						
TKM2	**Tokmak 2**	**5.63**	**24**	⇑Pn	**Pn**	**11 08 56.9**	**+2.6**
	7.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**11 09 57.9**	**+0.1**
	32nm,0.8s						
TKM2	**Tokmak 2**	**5.63**	**24**	P	**Pn**	**11 08 56.3**	**+1.9**
	SNR=18						
USP	**Ospenovka**	**5.66**	**15**	P	**Pn**	**11 08 56.5**	**+1.9**
	SNR=22						
DLH	**Dalhousie**	**5.96**	**151**	*ex*	**Pn**	**11 09 00.0**	**+1.1**
DLH				*e*S	**Sn**	**11 10 03.0**	**-3.0**
THN	**Thein Dam**	**5.96**	**153**	*ex*	**Pn**	**11 09 00.0**	**+1.3**
THN				*e*S	Sn	11 10 01.2	-4.5
SDNR	**Sundarnagar**	**7.28**	**148**	*ex*	**Pn**	**11 09 17.5**	**+0.9**
SDNR				*e*S	Sn	11 10 32.5	-5.2
SMLA	**Simla**	**7.68**	**149**	*ex*	**Pn**	**11 09 22.2**	**+0.3**
SMLA				*e*S	Sn	11 10 41.8	-5.6
DDI	**Dehra Dun**	**8.76**	**147**	*e*P	**Pn**	**11 09 35.0**	**-1.6**
DDI				*e*S	**Sn**	**11 11 10.0**	**-3.7**
NDI	**New Delhi**	**9.91**	**155**	*ex*	**Pn**	**11 09 53.0**	**+0.9**
NDI				*e*S	Sn	11 11 36.0	-5.4
AYAN	**Aya Nagar**	**10.06**	**156**	*e*P	Pn	11 09 49.9	-4.3
AYAN				*e*S	Sn	11 11 36.8	-8.4
AYAN				AML	AML	11 11 41.1	
	comp=Z,52nm,0.5s						
KHET	**Khetri**	**10.09**	**163**	*e*P	Pn	11 09 51.3	-3.2
KHET				*e*S	Sn	11 11 38.7	-7.1
KHET				AML	AML	11 11 43.0	
	comp=E,43nm,0.6s						
KHET				AML	AML	11 11 45.9	
	comp=N,24nm,0.3s						
SONA	**Sohna**	**10.27**	**157**	*e*P	Pn	11 09 53.3	-3.6
SONA				*e*S	Sn	11 11 41.0	-9.1
SONA				AML	AML	11 11 46.3	
	comp=E,56nm,0.4s						
SONA				AML	AML	11 11 48.7	
	comp=N,55nm,0.3s						
AGRA	**Agra**	**11.49**	**155**	*e*P	Pn	11 10 09.4	-3.8
AGRA				*e*S	Sn	11 12 10.3	-9.5
MK31	**Makanchi Array**	**11.53**	**36**	Pn	**Pn**	**11 10 15.7**	**+2.0**
	comp=N,2.3nm,0.7s,baz=221,slow=11,SNR=9.0						
MK31				⇑Sn	**Sn**	**11 12 23.5**	**+3.1**
	comp=N,2.1nm,0.9s						
MKAR	**Makanchi Array**	**11.53**	**36**	P	**Pn**	**11 10 15.0**	**+1.3**
	comp=N,0.2nm,0.3s,baz=216,slow=16,SNR=12						
PYUN	**Piuthan**	**13.06**	**135**	*e*P	Pn	11 10 31.6	-2.5
	comp=N,75nm,0.4s						
DANN	**Dangsing**	**13.32**	**132**	*e*P	**Pn**	**11 10 35.7**	**-1.8**
	comp=N,54nm,0.4s						
KURBB	**Kurchatov Arra**	**13.52**	**17**	P	**Pn**	**11 10 37.8**	**-1.8**
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=11						
KURBB	**Kurchatov Arra**	**13.52**	**17**	Pn	**Pn**	**11 10 39.5**	**-0.1**
	comp=N,0.6nm,0.7s						
KURBB				⇓Lg	Lg	11 14 36.8	
	comp=N,1.5nm,0.8s						
KURK	**Kurchatov**	**13.62**	**17**	⇑Pn	**Pn**	**11 10 40.4**	**-0.6**
	comp=N,5.1nm,1.0s						
KURK				⇑Lg	Lg	11 14 41.4	
	comp=N,10nm,1.1s						
KOLN	**Koldanda**	**13.66**	**134**	*e*P	Pn	11 10 39.7	-2.2
	comp=N,28nm,0.3s						
GKN	**Gorkha**	**14.10**	**130**	*e*P	**Pn**	**11 10 46.0**	**-1.4**
	comp=N,76nm,0.4s						
AB31	**Akbulak array**	**14.61**	**326**	Pn	**Pn**	**11 10 51.7**	**-1.9**
	comp=N,9.3nm,0.5s,baz=135,slow=12,SNR=258						
AB31				Sn	Sn	11 13 27.0	-7.9
	comp=N,2.9nm,0.5s,baz=135,slow=24,SNR=6.0						
KKN	**Kani**	**14.64**	**129**	*e*P	**Pn**	**11 10 52.3**	**-2.1**
	comp=N,26nm,0.5s						
DMN	**Daman**	**14.67**	**130**	*e*P	**Pn**	**11 10 53.7**	**-1.1**
	comp=N,29nm,0.4s						
PKI	**Pulchoki**	**14.88**	**130**	*e*P	**Pn**	**11 10 55.6**	**-1.9**
	comp=N,21nm,0.3s						
GUN	**Gumba**	**14.93**	**127**	*e*P	**Pn**	**11 10 55.6**	**-2.5**
	comp=N,32nm,0.4s						
VOSK	**Vostochnaya**	**14.96**	**356**	⇓Pn	**Pn**	**11 10 55.9**	**-2.0**
	comp=N,1.8nm,0.7s						
VOSK				⇑Sn	Sn	11 13 36.5	-6.7
	comp=N,5.4nm,1.2s						
VOSK				⇓Lg	Lg	11 15 19.6	
	comp=N,6.8nm,1.5s						
BVA0	**Borovoye Array**	**15.29**	**355**	Pn	**Pn**	**11 11 00.8**	**-1.3**
	comp=N,0.4nm,0.7s,baz=157,slow=12,SNR=26						
BVA0				Sn	**Sn**	**11 13 45.4**	**-5.9**
	comp=N,0.7nm,1.1s,baz=168,slow=26,SNR=4.9						
BVA0				⇓Lg	Lg	11 15 30.0	
	comp=N,0.6nm,0.8s						
BVAR	**Borovoye Array**	**15.29**	**355**	P	**Pn**	**11 11 02.0**	**-0.1**
	comp=N,0.5nm,0.3s,baz=154,slow=13,SNR=13						
BVAR				S	**Sn**	**11 13 45.6**	**-5.8**
	comp=N,0.3nm,0.3s,baz=166,slow=26,SNR=6.3						
JIRN	**Jiri**	**15.30**	**127**	*e*P	**Pn**	**11 11 00.8**	**-2.0**
	comp=N,19nm,0.4s						
BRVK	**Borovoye**	**15.34**	**355**	⇑Pn	**Pn**	**11 11 01.1**	**-1.6**
	comp=N,5.6nm,0.7s						
BRVK				⇑Sn	**Sn**	**11 13 46.6**	**-5.7**
	comp=N,5.2nm,1.1s						
BRVK				⇑Lg	Lg	11 15 32.9	
	comp=N,8.2nm,1.2s						
ZRNK	**Zerenda**	**15.35**	**352**	⇓Pn	**Pn**	**11 11 00.9**	**-1.8**
	comp=N,6.0nm,0.8s						
ZRNK				⇑Sn	Sn	11 13 44.7	-7.8
	comp=N,2.8nm,0.7s						
ZRNK				⇓Lg	Lg	11 15 31.9	
	comp=N,3.3nm,1.1s						
AKTO	**Aktyubinsk**	**16.33**	**325**	P	**P**	**11 11 15.6**	**-0.1**
	comp=N,1.2nm,0.3s,baz=133,slow=11,SNR=66						
AKTO				S	Sn	11 14 07.0	-9.2
	comp=N,0.2nm,0.3s,baz=346,slow=20,SNR=4.6						
AKTO	**Aktyubinsk**	**16.33**	**325**	⇓Pn	**Pn**	**11 11 13.3**	**-1.7**
	comp=N,1.8nm,0.6s						
AKTO				⇑Sn	**Sn**	**11 14 09.7**	**-6.5**
	comp=N,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**18.23**	**24**	P	**Pn**	**11 11 37.5**	**-0.4**
	comp=N,0.7nm,0.3s,baz=214,slow=11,SNR=20						
WSAR	**Wadi Sarin**	**18.78**	**223**	P	**Pn**	**11 11 46.0**	**+1.3**
	comp=N,0.3nm,0.3s,baz=11,slow=10.0,SNR=2.8						
SONM	**Songino Array**	**26.60**	**57**	P	**P**	**11 13 01.9**	**+1.8**
	comp=N,1.6nm,0.9s,baz=255,slow=9.4,SNR=13						
BRTR	**Keskin Array B**	**30.22**	**286**	P	P	11 13 35.4	+3.2
	comp=N,0.8nm,0.5s,baz=108,slow=7.5,SNR=5.1						
FINES	**FINESS Array B**	**37.10**	**325**	P	**P**	**11 14 33.2**	**+1.9**
	comp=N,0.7nm,0.4s,baz=114,slow=9.3,SNR=9.4						
ARCES	**ARCESS Array B**	**40.42**	**337**	P	**P**	**11 15 00.6**	**+1.7**
	comp=N,1.2nm,0.5s,baz=111,slow=9.1,SNR=8.2						
KSRS	**Korea Array**	**43.32**	**73**	P	**P**	**11 15 25.3**	**+2.5**
	comp=N,0.5nm,0.4s,baz=289,slow=5.1,SNR=3.8						
NB2	**NORSAR Subarra**	**44.08**	**322**	P	**P**	**11 15 30.0**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**44.08**	**322**	P	**P**	**11 15 30.0**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=121,slow=5.6,SNR=3.7						
MJAR	**Matsushiro Arr**	**51.36**	**70**	P	**P**	**11 16 25.6**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=287,slow=9.5,SNR=5.3						
ESDC	**Sonseca Array**	**57.92**	**298**	P	**P**	**11 17 14.3**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=58,slow=7.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**66.96**	**269**	P	**P**	**11 18 13.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=46,slow=5.1,SNR=23						
ILAR	**Eielson Array**	**73.19**	**17**	P	**P**	**11 18 51.0**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=322,slow=4.6,SNR=7.3						
YKA	**Yellowknife Ar**	**79.88**	**3**	P	**P**	**11 19 29.3**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=349,slow=5.5,SNR=32						
SCHQ	**Schefferville**	**81.37**	**338**	P	**P**	**11 19 37.5**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=69,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**81.67**	**123**	P	**P**	**11 19 38.5**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=323,slow=4.8,SNR=22						
ASAR	**Alice Springs**	**84.02**	**126**	P	**P**	**11 19 51.0**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=318,sl

THIG			*i* S	Sn	11 47 45.7	-1.1
PNIG	**Pinotepa**	**3.37 256**	*e*P	Pn	11 47 05.3	-2.9
PNIG			*i* S	Sn	11 47 45.3	-3.1
PNIG	**Pinotepa**	**3.37 256**	*e*P	Pn	11 47 05.8	-2.4
PNIG			*i* S	Sn	11 47 46.4	-2.1

AUST ***08*** *12:21:28.5, 15˙.995S×168˙.45E, h200km*
IDC ***08*** *12:21:28.9±2.1, 16˙.30S×168˙.01E, h178km±17km, mb3.5/10, mb1 3.6/12, mb1mx3.5/22, mbtmp3.5/12, Error ellipse: s-maj=24.3km s-min=17.5km az=142.0*
ISCJB ***08*** *12:21:29.8±0.8, 16˙.33S±0˙.10×168˙.0E±0˙.1, h200km, mb3.6/10, Error ellipse: s-maj=17.1km s-min=12.2km az=30.1*

ISC 08 12:21:30.6±1.1, 16˙.3S±0˙.1×168˙.1E±0˙.2, h200km, n24, σ1$43/22, mb3.7/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.92**	**195**	P	**Pn**	**12 22 55.6**	**-1.4**
	0.5nm,0.3s,baz=17,slow=12,SNR=7.3						
HNR	**Honiara**	**10.47**	**310**	P	**Pn**	**12 23 53.9**	**-2.1**
	2.6nm,0.3s,baz=218,slow=18,SNR=2.8						
RMQ	**Roma**	**20.61**	**237**	P	**P**	**12 25 55.2**	**+0.7**
	baz=21,SNR=5.2						
CTA	**Charters Tower**	**21.07**	**256**	P	**P**	**12 25 59.1**	**-0.3**
	6.7nm,0.8s,baz=96,slow=9.5,SNR=5.5						
PMG	**Port Moresby**	**21.51**	**286**	P	**P**	**12 26 03.9**	**-0.2**
	19nm,0.8s,baz=114,slow=7.7,SNR=8.9						
COEN	**Coen**	**24.15**	**272**	P	**P**	**12 26 28.6**	**0.0**
	baz=24,SNR=12						
QLP	**Quilpie**	**24.39**	**241**	P	**P**	**12 26 31.0**	**+0.4**
	baz=25,SNR=5.6						
QIS	**Mount Isa**	**27.32**	**257**	P	P	12 27 02.1	+5.0
	baz=28,SNR=4.9						
STKA	**Stephens Creek**	**28.60**	**232**	P	**P**	**12 27 08.3**	**0.0**
	1.6nm,0.4s,baz=80,slow=12,SNR=8.6						
STKA	**Stephens Creek**	**28.60**	**232**	P	**P**	**12 27 09.2**	**+0.9**
	baz=29,SNR=5.9						
WRA	**Warramunga Arr**	**32.23**	**258**	P	**P**	**12 27 38.8**	**-1.6**
	0.7nm,0.4s,baz=82,slow=8.0,SNR=25						
WRA				PcP	**PcP**	**12 30 25.1**	**+1.0**
	0.3nm,0.4s,baz=87,slow=3.6,SNR=2.9						
WRA				ScP	**ScP**	**12 33 52.3**	**+3.4**
	0.5nm,0.8s,baz=78,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**32.88**	**252**	P	**P**	**12 27 45.5**	**-0.5**
	14nm,0.5s,baz=77,slow=9.0,SNR=303						
ASAR				ScP	**ScP**	**12 33 52.6**	**+1.6**
	0.7nm,0.9s,baz=76,slow=4.1,SNR=5.4						
BBOO	**Buckleboo**	**33.26**	**235**	P	**P**	**12 27 49.6**	**+0.5**
	baz=34,SNR=7.3						
FITZ	**Fitzroy Crossi**	**40.52**	**261**	P	**P**	**12 28 50.5**	**+0.1**
	baz=41,SNR=10						
MEEK	**Meekatharra**	**46.91**	**249**	P	**P**	**12 29 41.5**	**+0.1**
	baz=47,SNR=4.6						
PCI	**Palu**	**49.92**	**283**	P	P	12 30 22.2	+18
	baz=50,SNR=5.7						
PCI				S	**S**	**12 37 02.7**	**+3.1**
	baz=50,SNR=5.2						
CMAR	**Chiang Mai Arr**	**76.31**	**294**	P	P	12 32 59.8	+1.8
	0.8nm,0.7s,baz=133,slow=4.2,SNR=4.8						
SONM	**Songino Array**	**84.23**	**323**	P	**P**	**12 33 40.2**	**+0.4**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=3.8						
NVAR	**Mina Array Bea**	**87.72**	**49**	P	P	12 33 58.4	+1.3
	0.4nm,0.8s,baz=286,slow=4.3,SNR=3.2						
ILAR	**Eielson Array**	**87.79**	**18**	P	**P**	**12 33 55.6**	**-1.0**
	0.1nm,0.6s,baz=239,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**98.59**	**27**	P	Pdif	12 34 46.8	+0.6
	0.1nm,0.5s,baz=261,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**98.89**	**316**	P	Pdif	12 34 48.0	+0.1
	0.1nm,0.6s,baz=75,slow=5.3,SNR=4.6						
ARCES	**ARCESS Array B**	**121.98**	**345**	PKP	**PKPdf**	**12 40 00.8**	**+0.3**
	8.2nm,1.2s,baz=64,slow=2.8,SNR=11						
FINES	**FINESS Array B**	**127.48**	**338**	PKP	**PKPdf**	**12 40 12.4**	**+1.2**
	1.8nm,1.0s,baz=318,slow=2.6,SNR=7.0						

DDA ***08*** *12:25:16.0, 39˙.48N×28˙.11E, h7km, MD2.9*
ISCJB ***08*** *12:25:16.7±0.5, 39˙.46N±0˙.03×28˙.15E±0˙.03, h6km±4km, Error ellipse: s-maj=5.5km s-min=3.1km az=40.1*
CSEM ***08*** *12:25:16.8±0.1, 39˙.45N×28˙.15E, h8km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=39.0*
ISK ***08*** *12:25:16.4, 39˙.46N×28˙.16E, h8km, MD2.8*

ISC 08 12:25:17.1±0.9, 39˙.45N±0˙.02×28˙.15E±0˙.02, h12km±8km, n53, σ0$59/73, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**312**	*e*PG	**Pg**	**12 25 22.5**	**-0.3**
BALB				*e*SG	**Sg**	**12 25 27.5**	**+0.9**
BALB	**Balikesir**	**0.28**	**312**	*e*Pg	**Pg**	**12 25 22.5**	**-0.3**
BALB				*e*Sg	**Sg**	**12 25 27.5**	**+0.9**
DURS	**Dursunbey**	**0.29**	**60**	*i* P	**Pg**	**12 25 22.2**	**-0.8**
DURS				*i* S	**Sg**	**12 25 27.6**	**+0.5**
DURS	**Dursunbey**	**0.29**	**60**	*i* P	**Pg**	**12 25 22.3**	**-0.8**
DURS				*i* S	**Sg**	**12 25 27.7**	**+0.6**
DURS	**Dursunbey**	**0.29**	**60**	*i* P	**Pg**	**12 25 22.3**	**-0.8**
DURS				*i* S	**Sg**	**12 25 27.6**	**+0.5**
BALY	**Balya**	**0.50**	**305**	*i* P	**Pg**	**12 25 25.9**	**-1.0**
BALY				*i* S	**Sb**	**12 25 34.9**	**-0.3**
BALY	**Balya**	**0.50**	**305**	*i* P	**Pg**	**12 25 25.9**	**-1.0**
BALY				*i* S	**Sb**	**12 25 34.9**	**-0.3**
DEMI	**Demirci**	**0.60**	**133**	*i* P	**Pg**	**12 25 28.2**	**-0.6**
DEMI				*i* S	**Sb**	**12 25 38.1**	**0.0**
DEMI	**Demirci**	**0.60**	**133**	*i* P	**Pg**	**12 25 28.6**	**-0.2**
DEMI	**Demirci**	**0.60**	**133**	*i* P	**Pg**	**12 25 28.2**	**-0.6**
DEMI				*i* S	**Sb**	**12 25 38.1**	**0.0**
GONE	**Gonen-Balikesi**	**0.69**	**329**	*e*PG	**Pg**	**12 25 29.8**	**-0.7**
GONE				*e*SG	**Sg**	**12 25 40.2**	**+0.6**
GONE	**Gonen-Balikesi**	**0.69**	**329**	*e*Pg	**Pg**	**12 25 29.8**	**-0.7**
GONE				*e*Sg	**Sg**	**12 25 40.2**	**+0.6**
ORLT	**Orhaneli**	**0.82**	**44**	*e*PG	**Pg**	**12 25 32.5**	**-0.6**
ORLT	**Orhaneli**	**0.82**	**44**	*e*Pg	**Pg**	**12 25 32.5**	**-0.6**
MANT	**Manisa**	**1.01**	**162**	*i* P	**Pg**	**12 25 36.1**	**-0.6**
MANT				*i* S	**Sg**	**12 25 50.1**	**+0.2**
MANT	**Manisa**	**1.01**	**162**	*i* P	**Pg**	**12 25 36.2**	**-0.4**
MANT				*i* S	**Sg**	**12 25 50.1**	**+0.3**
MANT	**Manisa**	**1.01**	**162**	*i* P	**Pg**	**12 25 36.2**	**-0.4**
MANT				*i* S	**Sg**	**12 25 50.1**	**+0.3**
TVSB	**Tavsanli**	**1.02**	**90**	*e*PG	**Pg**	**12 25 36.0**	**-0.7**
TVSB				*e*SG	**Sg**	**12 25 50.4**	**+0.4**
TVSB	**Tavsanli**	**1.02**	**90**	*e*Pg	**Pg**	**12 25 36.0**	**-0.7**
TVSB				*e*Sg	**Sb**	**12 25 50.4**	**+0.3**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*PG	**Pg**	**12 25 36.0**	**-0.7**
KULA				*e*SG	**Sb**	**12 25 50.9**	**+0.8**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*Pg	**Pg**	**12 25 36.0**	**-0.7**
KULA				*e*Sg	**Sb**	**12 25 50.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*PG	**Pb**	**12 25 37.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*Pg	**Pb**	**12 25 37.4**	**-0.3**
GDZ	**Gediz**	**1.10**	**109**	*i* P	**Pb**	**12 25 37.6**	**-0.5**
GDZ				*i* S	**Sn**	**12 25 53.5**	**-0.1**
GDZ	**Gediz**	**1.10**	**109**	*i* P	**Pb**	**12 25 37.6**	**-0.5**
GDZ				*i* S	**Sn**	**12 25 53.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.14**	**325**	*e*PN	**Pb**	**12 25 38.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.14**	**325**	*e*Pn	**Pb**	**12 25 38.3**	**-0.5**
ARMT	**Armutlu**	**1.24**	**26**	*e*PN	**Pn**	**12 25 40.2**	**0.0**
ARMT	**Armutlu**	**1.24**	**26**	*e*Pn	**Pn**	**12 25 40.3**	**0.0**
LPK	**Lapseki**	**1.41**	**311**	*e*PN	**Pn**	**12 25 42.9**	**+0.3**
LPK	**Lapseki**	**1.41**	**311**	*e*Pn	**Pn**	**12 25 42.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**329**	*e*PN	**Pn**	**12 25 43.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.44**	**329**	*e*Pn	**Pn**	**12 25 43.3**	**+0.2**
EZN	**Ezine**	**1.46**	**285**	*e*PN	**Pn**	**12 25 43.8**	**+0.5**
EZN	**Ezine**	**1.46**	**285**	*e*Pn	**Pn**	**12 25 43.8**	**+0.5**
CAVI	**Cavuskoy**	**1.50**	**60**	*e*PN	**Pn**	**12 25 44.3**	**+0.4**
CAVI	**Cavuskoy**	**1.50**	**60**	*e*Pn	**Pn**	**12 25 44.3**	**+0.4**
ALT	**Altintas**	**1.57**	**104**	*e*PN	**Pn**	**12 25 45.3**	**+0.3**
ALT	**Altintas**	**1.57**	**104**	*e*Pn	**Pn**	**12 25 45.3**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*PN	**Pn**	**12 25 45.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*Pn	**Pn**	**12 25 45.6**	**+0.4**
ERIK	**Erikli-Kesan**	**1.75**	**315**	*e*PN	**Pn**	**12 25 47.8**	**+0.6**
ERIK	**Erikli-Kesan**	**1.75**	**315**	*e*Pn	**Pn**	**12 25 47.8**	**+0.6**
HRT	**Hereke**	**1.79**	**40**	*e*PN	**Pn**	**12 25 48.5**	**+0.5**
HRT	**Hereke**	**1.79**	**40**	*e*Pn	**Pn**	**12 25 48.5**	**+0.5**
CTKS	**Kestanelik-??a**	**1.80**	**9**	*e*PN	**Pn**	**12 25 48.6**	**+0.6**
CTKS	**Kestanelik-??a**	**1.80**	**9**	*e*Pn	**Pn**	**12 25 48.6**	**+0.6**
ENEZ	**Enez**	**2.00**	**311**	*e*PN	**Pn**	**12 25 51.1**	**+0.4**
ENEZ	**Enez**	**2.00**	**311**	*e*Pn	**Pn**	**12 25 51.1**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.02**	**3**	*e*PN	**Pn**	**12 25 52.3**	**+1.3**
CTYL	**Yal??k??y-??at**	**2.02**	**3**	*e*Pn	**Pn**	**12 25 52.3**	**+1.3**
GULT	**Gulveren**	**2.06**	**61**	*e*PN	**Pn**	**12 25 52.5**	**+0.9**
GULT	**Gulveren**	**2.06**	**61**	*e*Pn	**Pn**	**12 25 52.6**	**+0.9**

IDC 08 12:27:29.9±4.1, 33˙.44N×81˙.68E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.2/28, mbtmp3.2/6, ML2.8/2, Error ellipse: s-maj=155.6km s-min=22.5km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.34**	**2**	P	Pn	12 30 40.0	-0.6
	0.0nm,0.3s,baz=178,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**17.32**	**353**	Pn	Pn	12 31 31.7	-1.3
	0.0nm,0.3s,baz=170,slow=11,SNR=2.9						
ZALV	**Zalesovo Beam**	**20.62**	**5**	P	P	12 32 10.0	-0.6
	0.4nm,0.6s,baz=190,slow=7.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**21.49**	**130**	P	P	12 32 20.9	+0.6
	1.5nm,0.9s,baz=310,slow=11,SNR=8.8						
WRA	**Warramunga Arr**	**73.08**	**129**	P	P	12 39 01.6	-0.5
	0.3nm,0.8s,baz=323,slow=6.4,SNR=3.2						
ASAR	**Alice Springs**	**75.48**	**132**	P	P	12 39 16.4	+0.3
	0.3nm,1.0s,baz=334,slow=6.2,SNR=2.6						

CSEM ***08*** *12:43:58.9, 45˙.78N×14˙.07E, h0km, ML0.4, After LJU*
LJU 08 12:43:58.9, 45˙.78N×14˙.07E, h11km, ML0.4, 4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.12**	**358**	⇓*i*Pg	Pg	12 44 02.1	+0.1
JAVS				*i* Sg	Sg	12 44 04.3	+0.1
JAVS							
	comp=Z,3.0nm,0.1s						
JAVS	**Javornik**	**0.12**	**358**	⇓*i*Pg	Pg	12 44 02.1	+0.1
JAVS				*i* Sg	Sg	12 44 04.3	0.0
	comp=Z,3.0nm,0.1s						
SKDS	**Skadanscina**	**0.23**	**189**	⇓*i*Pg	Pg	12 44 03.7	-0.1
SKDS				*i* Sg	Sg	12 44 07.6	+0.5
SKDS							
	comp=Z,4.0nm,0.1s						
SKDS	**Skadanscina**	**0.23**	**189**	⇓*i*Pg	Pg	12 44 03.7	-0.1
SKDS				*i* Sg	Sg	12 44 07.6	+0.4
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.25**	**99**	*i* Sg	Sg	12 44 08.0	+0.2
CEY	**Cerknica**	**0.25**	**99**	*i* Sg	Sg	12 44 08.0	+0.2
CRNS	**Crni Vrh**	**0.33**	**24**	*i* Pg	Pg	12 44 05.7	0.0
CRNS				*i* Sg	Sg	12 44 10.8	+0.6
CRNS							
	comp=Z,1.0nm,0.1s						
GBRS	**Gornja Briga**	**0.57**	**115**	*i* Sg	Sb	12 44 18.8	-0.5

CSEM ***08*** *12:45:33.7, 45˙.78N×14˙.07E, h0km, ML0.6, After LJU*
LJU 08 12:45:33.7, 45˙.78N×14˙.07E, h13km, ML0.6, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.11**	**358**	*i* Pg	Pg	12 45 37.1	+0.1
JAVS				*i* Sg	Sg	12 45 39.3	-0.1
JAVS							
	comp=Z,6.0nm,0.1s						
JAVS	**Javornik**	**0.11**	**358**	*i* Pg	Pg	12 45 37.1	+0.1
JAVS				*i* Sg	Sg	12 45 39.3	-0.1
	comp=Z,6.0nm,0.1s						
SKDS	**Skadanscina**	**0.24**	**189**	⇓*i*Pg	Pg	12 45 38.7	-0.1
SKDS	**Skadanscina**	**0.24**	**189**	⇓*i*Pg	Pg	12 45 38.7	-0.1
CEY	**Cerknica**	**0.25**	**99**	*i* Pg	Pg	12 45 38.9	-0.3
CEY				*i* Sg	Sg	12 45 43.0	+0.2
CEY							
	comp=Z,1.0nm,0.1s						
CEY	**Cerknica**	**0.25**	**99**	*i* Pg	Pg	12 45 38.9	-0.2
CEY				*i* Sg	Sg	12 45 43.0	+0.2
	comp=Z,1.0nm,0.1s						
CRNS	**Crni Vrh**	**0.33**	**24**	*i* Pg	Pg	12 45 40.7	+0.1
CRNS				*i* Sg	Sg	12 45 45.9	+0.8
CRNS							
	comp=Z,2.0nm,0.1s						
KNDS	**Knezji Dol**	**0.33**	**139**	*i* Sg	Sg	12 45 45.9	+0.7
KNDS							
	comp=Z,4.0nm,0.1s						
KNDS	**Knezji Dol**	**0.33**	**139**	*i* Sg	Sg	12 45 45.9	+0.7
	comp=Z,4.0nm,0.1s						
GBRS	**Gornja Briga**	**0.58**	**115**	*i* Pg	Pg	12 45 44.7	-0.3
GBRS				*i* Sg	Sb	12 45 53.8	-0.1
	comp=Z,1.0nm,0.1s						

CSEM ***08*** *12:46:41.1, 45˙.40N×24˙.34E, h10km, MD2.7/3, After BUC*
BUC 08 12:46:41.1±0.9, 45˙.40N×24˙.34E, h10km±11km, MD2.7/3, 15C-9D, Error ellipse: s-maj=16.1km s-min=6.0km az=10.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARR	**Arges**	**0.21**	**99**	⇑*i*P	Pg	12 46 45.9	+0.4
ARR				*i* S	Sg	12 46 48.9	+0.3
ARR	**Arges**	**0.21**	**99**	⇑*i*P	Pg	12 46 45.9	+0.4
ARR				S	Sg	12 46 48.9	+0.3
ARR	**Arges**	**0.21**	**99**	⇑*i*P	Pg	12 46 45.9	+0.4
ARR				*i* S	Sg	12 46 48.9	+0.3
LOT	**Lotru**	**0.41**	**277**	⇓*i*P	Pg	12 46 49.7	+0.4
LOT				*i* S	Sg	12 46 55.8	+1.0
LOT	**Lotru**	**0.41**	**277**	⇓*i*P	Pg	12 46 49.7	+0.4
LOT	**Lotru**	**0.41**	**277**	S	Sg	12 46 55.8	+1.0
LOT	**Lotru**	**0.41**	**277**	⇓*i*P	Pg	12 46 49.7	+0.4
LOT				*i* S	Sg	12 46 55.8	+1.0
VOIR		**0.50**	**85**	⇓*i*P	Pg	12 46 50.9	-0.1
VOIR		**0.50**	**85**	⇓*i*P	Pg	12 46 50.9	-0.1
VOIR		**0.50**	**85**	⇓*i*P	Pg	12 46 50.9	-0.1
MDB	**Medias**	**0.74**	**2**	⇑*i*P	Pb	12 46 56.2	0.0
MDB				*i* S	Sb	12 47 07.6	+1.2
MDB	**Medias**	**0.74**	**2**	⇑*i*P	Pb	12 46 56.2	0.0
MDB	**Medias**	**0.74**	**2**	S	Sb	12 47 07.6	+1.2
MDB	**Medias**	**0.74**	**2**	⇑*i*P	Pb	12 46 56.2	0.0
MDB				*i* S	Sb	12 47 07.6	+1.2
DOPR	**Dopca**	**0.93**	**52**	⇑*i*P	Pg	12 46 58.9	-0.1
DOPR	**Dopca**	**0.93**	**52**	⇑*i*P	Pg	12 46 58.9	-0.1
DOPR	**Dopca**	**0.93**	**52**	⇑*i*P	Pg	12 46 58.9	-0.1
MLR	**Muntele Rosu**	**1.13**	**85**	⇑*i*P	Pn	12 47 03.2	0.0
MLR				*i* S	Sn	12 47 19.8	+0.8
MLR	**Muntele Rosu**	**1.13**	**85**	⇑*i*P	Pn	12 47 03.2	0.0
MLR	**Muntele Rosu**	**1.13**	**85**	S	Sn	12 47 19.8	+0.8
MLR	**Muntele Rosu**	**1.13**	**85**	⇑*i*P	Pn	12 47 03.2	0.0
MLR				*i* S	Sn	12 47 19.8	+0.8
DRGR		**1.80**	**321**	⇑*i*P	Pb	12 47 13.3	-0.9
DRGR				*i* S	Sb	12 47 36.7	-0.2
DRGR		**1.80**	**321**	⇑*i*P	Pb	12 47 13.3	-0.9
DRGR		**1.80**	**321**	S	Sb	12 47 36.7	-0.2
DRGR		**1.80**	**321**	⇑*i*P	Pb	12 47 13.3	-0.9
DRGR				*i* S	Sb	12 47 36.7	-0.2
BZS	**Buzias**	**1.93**	**277**	⇓*i*P	Pn	12 47 14.7	+0.7
BZS				*i* S	Sn	12 47 39.1	+0.8
BZS	**Buzias**	**1.93**	**277**	⇓*i*P	Pn	12 47 14.7	+0.7
BZS	**Buzias**	**1.93**	**277**	S	Sn	12 47 39.1	+0.8
BZS	**Buzias**	**1.93**	**277**	⇓*i*P	Pn	12 47 14.7	+0.7
BZS				*i* S	Sn	12 47 39.1	+0.8

IDC ***08*** *13:09:38.4±0.7, 3˙.61N×126˙.82E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/37, Error ellipse: s-maj=46.5km s-min=11.9km az=70.0*
ISCJB ***08*** *13:09:44.0±0.6, 3˙.5N±0˙.1×126˙.7E±0˙.2, h53km, mb3.9/10, Error ellipse: s-maj=31.6km s-min=8.5km az=155.6*
MAN ***08*** *13:10:34, 7˙.18N×124˙.72E, h96km, mb4.1, ML3.0, MS2.7*

ISC 08 13:09:46.1±0.7, 3˙.6N±0˙.1×126˙.7E±0˙.2, h53km, n15, σ1$40/17, mb3.8/10, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.65**	**343**	LR	LR	13 12 20.1	
	comp=Z,149nm,20.7s,baz=253,slow=44						
CTBH	**Cotabato--PC H**	**4.36**	**326**	⇑*i*P	**Pn**	**13 10 51.8**	**+1.9**
BUKP	**Musuan**	**4.58**	**339**	*e*P	**Pn**	**13 10 53.9**	**+1.1**
BUKP				*e*S	Px	13 11 07.9	
PAGZ	**Pagadian**	**5.37**	**322**	*e*P	**Pn**	**13 11 03.7**	**0.0**
IPIL	**Ipil**	**5.86**	**316**	*e*P	**Pn**	**13 11 10.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	**P**	**13 14 29.5**	**-1.7**
	1.3nm,0.5s,baz=24,slow=10,SNR=9.5						
WRA	**Warramunga Arr**	**24.55**	**162**	P	**P**	**13 15 00.1**	**-0.9**
	17nm,0.7s,baz=344,slow=10,SNR=122						
WRA				PcP	**PcP**	**13 18 38.5**	**+0.2**
	0.2nm,0.4s,baz=335,slow=2.1,SNR=3.7						
WRA				S	**S**	**13 19 22.1**	**+3.8**
	0.3nm,0.7s,baz=336,slow=24,SNR=4.4						
ASAR	**Alice Springs**	**27.97**	**166**	P	**P**	**13 15 31.4**	**-0.5**
	0.9nm,0.4s,baz=341,slow=8.1,SNR=51						
ASAR				PcP	**PcP**	**13 18 47.0**	**+0.8**
	0.4nm,0.4s,baz=352,slow=2.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.91**	**301**	P	**P**	**13 15 58.2**	**+0.2**
	0.4nm,0.4s,baz=114,slow=9.0,SNR=3.3						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**13 16 59.1**	**0.0**
	2.6nm,0.4s,baz=326,slow=8.6,SNR=17						
SONM	**Songino Array**	**47.43**	**342**	P	**P**	**13 18 16.0**	**+0.5**
	0.2nm,0.4s,baz=152,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**13 19 31.1**	**0.0**
	0.5nm,0.4s,baz=120,slow=7.2,SNR=16						
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**13 19 51.1**	**-0.9**
	0.3nm,0.4s,baz=129,slow=8.0,SNR=2.7						
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**	**13 22 16.0**	**-0.9**
	0.6nm,1.0s,baz=260,slow=3.6,SNR=3.2						
ARCES	**ARCESS Array B**	**90.58**	**340**	P	**P**	**13 22 41.3**	**-1.0**
	1.4nm,0.7s,baz=70,slow=7.8,SNR=3.1						

NIED ***08*** *13:34:00, 38˙.30N×141˙.00E, h89km, Mw3.8 Best double couple: M0:5.52000×1014 NP1:φs325.00000°, δ69.00000°, λ-62.00000°. NP2:φs89.00000°, δ34.00000°, λ-141.00000°.*
ISCJB ***08*** *13:34:20.7±0.4, 38˙.32N±0˙.03×141˙.05E±0˙.06, h97km±3km, mb3.8/9, Error ellipse: s-maj=8.4km s-min=4.9km az=21.9*
IDC ***08*** *13:34:22.3±1.6, 38˙.33N×140˙.99E, h96km±15km, mb3.5/9, mb1 3.6/13, mb1mx3.4/29, mbtmp3.6/13, MS3.3/1, Ms1 3.3/1, ms1mx2.1/39, Error ellipse: s-maj=21.6km s-min=11.6km az=93.0*
JMA ***08*** *13:34:22.2, 38˙.31N×140˙.99E, h86km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs324.00000°, δ70.00000°, λ-52.00000°. NP2:φs77.00000°, δ42.00000°, λ-150.00000°. Principal axes: T Plg17.0000°, Azm27.0000°; N Plg35.0000°, Azm129.0000°; P Plg50.0000°, Azm276.0000°;*
JMA Felt I J1.

ISC 08 13:34:21.5±0.8, 38˙.29N±0˙.04×141˙.04E±0˙.06, h88km±6km, n28, σ1$11/41, mb3.9/9, 9C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.30**	**56**	⇓P	**Pn**	**13 34 35.4**	**+0.7**
JIO				S	**Sn**	**13 34 44.9**	**+0.4**
JOU	**Okura**	**0.30**	**285**	⇓P	**Pn**	**13 34 35.2**	**+0.4**
JOU				S	**Sn**	**13 34 44.8**	**+0.2**
JMM	**Marumori**	**0.47**	**204**	⇑P	**Pn**	**13 34 36.4**	**+0.6**
JMM				S	**Sn**	**13 34 47.0**	**+0.6**
JMK	**Ichinoseki**	**0.68**	**12**	⇓P	**Pn**	**13 34 38.1**	**+0.5**
JMK				S	**Sn**	**13 34 49.9**	**+0.3**
JYS	**Shirataka**	**0.77**	**265**	⇑P	**Pn**	**13 34 38.8**	**+0.3**
JYS				S	**Sn**	**13 34 51.6**	**+0.3**
JYK	**Kaneyama**	**0.82**	**320**	⇑P	**Pn**	**13 34 39.3**	**+0.2**
JYK				eS	**Sn**	**13 34 52.1**	**-0.2**
JFK	**Kawauchi**	**0.93**	**188**	⇑P	**Pn**	**13 34 41.2**	**+0.8**
JFK				S	**Sn**	**13 34 55.1**	**+0.7**
JFT	**Otama**	**0.95**	**216**	⇑P	**Pn**	**13 34 41.5**	**+1.0**
JFT				eS	**Sn**	**13 34 55.9**	**+1.2**
JYA	**Atsumi**	**1.08**	**287**	P	**Pn**	**13 34 42.1**	**+0.1**
JYA				S	**Sn**	**13 34 57.5**	**+0.1**
JRG	**Rokugo**	**1.15**	**344**	⇑P	**Pn**	**13 34 43.4**	**+0.6**
JOM	**Ohasama**	**1.20**	**10**	⇑P	**Pn**	**13 34 44.2**	**+0.8**
JOM				S	**Sn**	**13 35 00.3**	**+0.4**
JAW	**Awa shima**	**1.42**	**277**	⇑P	**Pn**	**13 34 46.3**	**+0.2**
JNS	**Sasagawa**	**1.44**	**251**

FITZ **Fitzroy Crossi 41.72 268** P **P** **13 54 26.9 +0.3**
1.5nm,0.7s,baz=130,slow=13,SNR=5.6
NWAO **Narrogin (SRO) 47.30 246** LR LR 14 14 16.8
comp=Z,113nm,18.1s,baz=203,slow=35
VNDA **Vanda 54.90 182** LR LR 14 16 31.6
comp=Z,100nm,20.0s,baz=18,slow=33
MJAR **Matsushiro Arr 66.24 332** P **P** **13 57 27.5 +2.2**
1.6nm,0.8s,baz=172,slow=6.8,SNR=4.7
PETK **Petropavlovsk- 76.36 352** P **P** **13 58 26.6 +0.5**
2.2nm,0.8s,baz=119,slow=7.0,SNR=4.0
CMAR **Chiang Mai Arr 80.63 294** P **P** **13 58 51.5 +1.0**
1.0nm,0.8s,baz=131,slow=3.7,SNR=7.0
SONM **Songino Array 90.50 323** P **P** **13 59 40.6 +1.5**
1.1nm,1.0s,baz=130,slow=5.2,SNR=7.0
NVAR **Mina Array Bea 90.63 48** P **P** **13 59 38.5 -1.6**
1.2nm,0.8s,baz=224,slow=8.9,SNR=6.9
ILAR **Eielson Array 93.42 17** P **P** **13 59 49.6 -2.4**
1.1nm,0.9s,baz=241,slow=6.9,SNR=7.9
BRG **Berggiesshubel 146.37 332** *eP* **PKPab** **14 06 19.1 +0.3**
7.3nm,1.1s
CLL **Collm 146.44 334** *e*PKP **PKPab** **14 06 19.0 0.0**
comp=Z,6.0nm,1.0s
CONA **Conrad Observa 147.54 327**↑ *i*PKPbc **PKPbc** **14 06 22.3 +0.8**
comp=Z,3.8nm,0.9s
KHC **Kasperske Hory 147.81 330** *eP* **PKPbc** **14 06 22.0 0.0**
GERES **GERESS Array B 147.95 330** PKPbc **PKPbc** **14 06 22.8 +0.2**
comp=Z,2.7nm,0.8s,baz=100,slow=1.6,SNR=14
KBA **Koelnbreinsper 149.37 328**↑ *i*PKPbc **PKPbc** **14 06 25.7 -0.6**
comp=Z,8.2nm,1.0s
ABTA **Abfaltersbach 150.01 328**↑ *i*PKPbc **PKPbc** **14 06 27.2 -0.5**
comp=Z,6.8nm,1.0s
WTTA **Wattenberg 150.06 330**↓ *i*PKPbc **PKPbc** **14 06 28.0 0.0**
comp=Z,10nm,1.0s
MOTA **Moosalm 150.24 330**↑ *i*PKPbc **PKPbc** **14 06 28.0 -0.4**
comp=Z,9.3nm,0.8s
FETA **Feichten 150.65 330**↑ *i*PKPbc **PKPbc** **14 06 29.4 -0.1**
comp=Z,8.1nm,0.9s

IDC 08 13:54:06.2±1.3,1°.68N×123°.87E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.5/23,mbtmp3.6/5,ML4.1/1,MS4.0/1, Ms1 4.0/1,ms1mx2.5/36,Error ellipse: s-maj=125.5km s-min=20.0km az=69.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.73**	**175**	P	Pn	13 58 39.2	+0.3
	0.4nm,0.3s,baz=359,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**23.81**	**155**	P	P	13 59 20.6	-0.4
	1.0nm,0.5s,baz=336,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**27.01**	**159**	P	P	13 59 49.2	-1.0
	0.3nm,0.3s,baz=328,slow=8.9,SNR=21						
SONM	**Songino Array**	**48.41**	**344**	P	P	14 02 52.0	+1.8
	0.4nm,0.7s,baz=153,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**57.67**	**327**	P	P	14 03 57.2	-1.3
	0.4nm,0.6s,baz=124,slow=7.8,SNR=3.5						
PETK	**Petropavlovsk-**	**58.41**	**23**	LR	LR	14 27 00.4	
	comp=Z,121nm,18.6s,baz=236,slow=34						

*NNC **08** 13:54:41.2±1.8,39°.78N×73°.84E,h0km,mb3.3,mpv3.1, Error ellipse: s-maj=14.7km s-min=8.7km az=1.0*
ISC 08 13:54:40.4±2.0,39°.7N±0°.1×73°.87E±0°.09,h10km,n13, σ1°88/15,7C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.64**	**97**	Pg	**Pn**	**13 55 08.7**	**-0.7**
KSH				Sg	**Sn**	**13 55 29.6**	**-0.9**
KSH				smax	smax		
	comp=N,62nm,0.5s						
KSH				smax	smax		
	comp=E,78nm,0.4s						
AML	**Almayashu**	**2.41**	**357**	P	**Pg**	**13 55 26.8**	**+0.2**
	SNR=19						
KZA	**Kyzart**	**2.57**	**23**	P	**Pb**	**13 55 28.2**	**+1.3**
	SNR=27						
EKS2	**Erkin-Say**	**2.94**	**359**	P	**Pg**	**13 55 35.7**	**-1.0**
	SNR=7.0						
AAK	**Ala-Archa**	**2.95**	**9**	P	**Pb**	**13 55 33.7**	**+0.6**
	SNR=25						
KBK	**Karagaybulak**	**3.04**	**15**	P	**Pb**	**13 55 36.5**	**+1.8**
	SNR=12						
ULHL	**Ulahol**	**3.09**	**35**	P	**Pg**	**13 55 40.4**	**+0.7**
	SNR=9.8						
TKM2	**Tokmak 2**	**3.45**	**22**	↑Pg	**Pb**	**13 55 43.1**	**+1.4**
	comp=E,4.3nm,0.5s						
TKM2				↑Lg	Lg	13 56 30.5	
	comp=E,16nm,0.6s						
TKM2	**Tokmak 2**	**3.45**	**22**	P	**Pb**	**13 55 40.9**	**-0.8**
	SNR=7.2						
USP	**Ospenovka**	**3.57**	**7**	P	**Pg**	**13 55 47.4**	**-1.4**
	SNR=11						
KK31	**Karatay Array**	**4.22**	**324**	Pn	Pn	13 55 48.9	+4.2
	comp=E,1.1nm,0.5s,baz=128,slow=12,SNR=34						
KK31				↑Sn	**Sb**	**13 56 41.8**	**-3.9**
	comp=E,2.6nm,0.3s						
KK31				↑Lg	Lg	13 56 52.2	
	comp=E,15nm,0.7s,baz=141,slow=28,SNR=7.8						
AB31	**Akbulak array**	**13.75**	**318**	↑Pn	**Pn**	**13 57 55.8**	**+0.5**
	comp=E,0.2nm,0.5s,baz=125,slow=15,SNR=10.0						
AB31				↑Sn	**Sn**	**14 00 30.3**	**+2.3**
	comp=E,0.6nm,0.6s,baz=125,slow=14,SNR=9.0						
AKTO	**Aktyubinsk**	**15.46**	**319**	↑Sn	**Sn**	**14 01 12.7**	**+3.0**
	comp=E,0.5nm,1.1s						

*IDC **08** 13:57:35.5±2.6,39°.34N×73°.78E,h0km,mb3.8/3, mb1 3.5/8,mb1mx3.3/31,mbtmp3.5/8,ML3.2/5,Error ellipse: s-maj=47.6km s-min=19.5km az=124.0*
*NNC **08** 13:57:39.6±1.4,39°.61N×73°.52E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=14.1km s-min=5.9km az=16.0*
ISC 08 13:57:39.8±1.6,39.7N±0°.1×73°.53E±0°.08,h10km,n24, σ1°84/22,mb3.8/3,3C-8D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.89**	**93**	Pg	Pn	13 58 06.4	-5.8
KSH				Sg	Sn	13 58 26.7	-9.5
KSH				smax	smax		
	comp=N,99nm,0.4s						
KSH				smax	smax		
	comp=E,130nm,0.6s						
AML	**Almayashu**	**2.48**	**3**	P	**Pb**	**13 58 23.6**	**-1.1**
	SNR=13						
UCH	**Uchtor**	**2.68**	**16**	P	**Pb**	**13 58 30.0**	**+1.8**
	SNR=8.0						
KZA	**Kyzart**	**2.75**	**28**	P	**Pn**	**13 58 26.8**	**+2.4**
	SNR=31						
EKS2	**Erkin-Say**	**3.02**	**3**	P	**Pb**	**13 58 32.6**	**-1.1**
	SNR=9.9						
AAK	**Ala-Archa**	**3.07**	**13**	Pn	**Pb**	**13 58 32.0**	**-2.6**
	comp=E,5.8nm,0.3s,baz=162,slow=10,SNR=13						
AAK				Lg	Lg	13 59 14.2	
	comp=E,6.1nm,0.3s,baz=214,slow=18,SNR=10						
AAK	**Ala-Archa**	**3.07**	**13**	P	**Pn**	**13 58 31.3**	**+2.8**
	SNR=25						
KBK	**Karagaybulak**	**3.19**	**19**	P	**Pb**	**13 58 34.6**	**-2.1**
	SNR=12						
ULHL	**Ulahol**	**3.31**	**37**	P	**Pb**	**13 58 38.4**	**-0.3**
	SNR=22						
TKM2	**Tokmak 2**	**3.62**	**25**	↓Pn	**Pn**	**13 58 38.2**	**+2.1**
	comp=E,3.9nm,0.5s						
TKM2				↓Pg	**Pb**	**13 58 46.4**	**+2.4**
	comp=E,4.8nm,0.3s						
TKM2				↓Lg	Lg	13 59 35.6	
	comp=E,25nm,0.5s						
TKM2	**Tokmak 2**	**3.62**	**25**	P	Pn	13 58 40.0	+3.9
	SNR=7.6						
USP	**Ospenovka**	**3.69**	**11**	P	**Pb**	**13 58 45.4**	**+0.4**
	SNR=10						
KK31	**Karatay Array**	**4.13**	**328**	Pn	Pn	13 58 46.8	+3.8
	comp=E,0.8nm,0.3s,baz=133,slow=11,SNR=19						
KK31				Pg	**Pb**	**13 58 55.3**	**+2.6**
	comp=E,1.9nm,0.3s,baz=150,slow=14,SNR=7.2						
KK31				↓Sn	**Sb**	**13 59 40.5**	**-2.1**
	comp=E,4.5nm,0.3s,baz=135,slow=26,SNR=4.0						
KK31				↓Lg	Lg	13 59 50.6	
	comp=E,33nm,0.7s,baz=149,slow=29,SNR=7.5						
MK31	**Makanchi Array**	**9.58**	**39**	↓Pn	Pn	14 00 01.8	+4.1
	comp=E,0.8nm,0.7s,baz=40,slow=9.7,SNR=4.2						
MK31				↓Lg	Lg	14 02 40.4	
	comp=E,1.9nm,0.8s,baz=224,slow=32,SNR=3.5						
MKAR	**Makanchi Array**	**9.58**	**39**	Lg	Lg	14 02 40.8	
	comp=E,0.1nm,0.3s,baz=223,slow=27,SNR=3.4						
KURBB	**Kurchatov Arra**	**11.52**	**16**	Pn	**Pn**	**14 00 24.1**	**-0.1**
	comp=E,0.0nm,0.3s,baz=195,slow=29,SNR=3.0						
KURBB				Lg	Lg	14 03 45.5	
	comp=E,0.0nm,0.3s,baz=211,slow=30,SNR=6.5						
KURBB	**Kurchatov Arra**	**11.52**	**16**	↓Pn	**Pn**	**14 00 25.8**	**+1.5**
	comp=E,0.8nm,1.3s						
KURBB				↑Lg	Lg	14 03 46.5	
	comp=E,1.7nm,0.9s						
KURK	**Kurchatov**	**11.63**	**16**	↑Pn	**Pn**	**14 00 27.6**	**+1.9**
	comp=E,5.7nm,1.4s						
KURK				↑Lg	Lg	14 03 49.8	
	comp=E,6.7nm,1.1s						
BVAR	**Borovoye Array**	**13.55**	**352**	Pn	**Pn**	**14 00 52.2**	**+0.3**
	comp=E,0.1nm,0.3s,baz=168,slow=15,SNR=3.7						
BVAR				Lg	Lg	14 04 53.6	
	comp=E,0.0nm,0.3s,baz=149,slow=29,SNR=3.6						
AKTO	**Aktyubinsk**	**15.35**	**320**	Pn	**Pn**	**14 01 15.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=142,slow=19,SNR=4.3						
ZALV	**Zalesovo Beam**	**16.23**	**24**	Pn	**Pn**	**14 01 26.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=207,slow=9.2,SNR=2.3						
FINES	**FINESS Array B**	**36.08**	**323**	P	**P**	**14 04 41.2**	**-0.1**
	comp=E,0.8nm,0.6s,baz=99,slow=9.8,SNR=5.4						
ARCES	**ARCESS Array B**	**39.06**	**335**	P	**P**	**14 05 07.2**	**+0.8**
	comp=E,2.5nm,1.0s,baz=104,slow=8.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**67.79**	**269**	P	**P**	**14 08 36.1**	**-2.0**
	comp=E,0.2nm,0.5s,baz=52,slow=5.1,SNR=7.3						

*IDC **08** 14:02:36.7±0.9,0°.91N×127°.12E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.8/24,mbtmp3.8/10,ML3.7/1,Error ellipse: s-maj=54.0km s-min=16.0km az=75.0*
*ISCJB **08** 14:02:42.8±0.5,0°.79N±0°.06×126°.96E±0°.05,h72km, mb3.8/9,Error ellipse: s-maj=8.6km s-min=6.8km az=2.8*
*DJA **08** 14:02:42.5±0.5,1°.N±8°×12°.7E±°,h34km±10km,M4.4/7, mb4.6/3,mB4.5/1,MLv4.3/7,Mw(mB)3.7/1*
ISC 08 14:02:44.9±0.8,0°.81N±0°.07×127°.00E±0°.06,h72km,n19, σ2°20/22,mb3.9/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.37**	**96**	P	Pn	14 02 53.2	-3.6
TNTI				S	**Sn**	**14 03 01.4**	**-4.1**
LBMI	**Labuha**	**1.52**	**161**	P	**Pn**	**14 03 08.9**	**-1.4**
MNI	**Manado**	**2.25**	**286**	P	Pn	14 03 15.9	-4.1
KMSI	**Cibinong**	**3.03**	**266**	P	**Pn**	**14 03 28.2**	**-2.3**
KMSI				S	**Sn**	**14 04 02.9**	**-2.8**
LUWI	**Luwuk**	**4.61**	**246**	P	**Pn**	**14 03 52.4**	**+0.3**
LUWI				S	**Sn**	**14 04 45.6**	**+1.2**
AAI	**Ambon**	**4.62**	**165**	P	**Pn**	**14 03 51.5**	**-0.8**
MRSI	**Marisa**	**5.07**	**266**	P	**Pn**	**14 03 56.7**	**-1.7**
	34nm,0.6s,526nm0.1nm						
KDI	**Kendari**	**6.45**	**223**	P	**Pn**	**14 04 14.3**	**-3.0**
	31nm,1.0s,0.1nm						
SPSI	**Sidrap Palu**	**8.64**	**237**	P	**Pn**	**14 04 45.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**18.84**	**184**	P	**Pn**	**14 06 59.4**	**-1.1**
	0.2nm,0.3s,baz=9.5,slow=10.0,SNR=4.6						
WRA	**Warramunga Arr**	**21.84**	**161**	P	**P**	**14 07 31.9**	**+0.3**
	1.7nm,0.3s,baz=338,slow=11,SNR=51						
WRA				S	**S**	**14 11 29.3**	**0.0**
	1.2nm,1.0s,baz=329,slow=21,SNR=5.8						
ASAR	**Alice Springs**	**25.24**	**165**	P	**P**	**14 08 05.2**	**+0.8**
	2.1nm,0.3s,baz=342,slow=10,SNR=116						
ASAR				S	**S**	**14 12 30.1**	**+5.2**
	0.8nm,0.7s,baz=346,slow=20,SNR=6.8						
MJAR	**Matsushiro Arr**	**37.04**	**15**	P	**P**	**14 09 46.8**	**-1.1**
	0.7nm,0.4s,baz=194,slow=9.4,SNR=7.7						
SONM	**Songino Array**	**50.14**	**342**	P	**P**	**14 11 34.5**	**+1.4**
	0.5nm,0.6s,baz=160,slow=8.4,SNR=8.6						
MKAR	**Makanchi Array**	**60.10**	**326**	P	**P**	**14 12 45.9**	**+1.1**
	0.6nm,0.3s,baz=116,slow=8.2,SNR=24						
ZALV	**Zalesovo Beam**	**63.30**	**334**	P	**P**	**14 13 08.3**	**+2.3**
	0.3nm,0.3s,baz=121,slow=6.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	**P**	**14 13 13.0**	**+0.1**
	1.7nm,0.6s,baz=129,slow=6.1,SNR=4.2						
BVAR	**Borovoye Array**	**69.90**	**328**	P	**P**	**14 13 48.1**	**-0.1**
	0.2nm,0.3s,baz=134,slow=8.3,SNR=3.4						
AKTO	**Aktyubinsk**	**76.11**	**322**	P	**P**	**14 14 26.6**	**+1.7**
	0.7nm,0.5s,baz=115,slow=7.5,SNR=4.3						

IDC 08 14:08:39.1±5.3,5°.31S×151°.52E,h95km±42km,mb3.5/6, mb1 3.7/7,mb1mx3.4/19,mbtmp3.5/7,Error ellipse: s-maj=73.9km s-min=29.0km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.94**	**226**	P	Pn	14 10 05.9	+1.3
	4.2nm,0.3s,baz=38,slow=6.6,SNR=19						
PMG				S	Sn	14 11 11.6	+0.3
	10nm,0.3s,baz=5.9,slow=23,SNR=20						
WRA	**Warramunga Arr**	**22.16**	**227**	P	P	14 13 26.9	-0.5
	1.8nm,0.3s,baz=52,slow=9.7,SNR=39						
ASAR	**Alice Springs**	**24.92**	**221**	P	P	14 13 53.9	+0.2
	0.8nm,0.5s,baz=56,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**28.30**	**241**	P	P	14 14 23.4	-0.5
	2.5nm,0.3s,baz=68,slow=9.0,SNR=23						
MKAR	**Makanchi Array**	**79.87**	**319**	P	P	14 20 38.4	+0.9
	0.2nm,0.8s,baz=108,slow=4.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**80.87**	**327**	P	P	14 20 41.8	-0.7
	0.3nm,0.5s,baz=120,slow=5.8,SNR=2.9						
ILAR	**Eielson Array**	**83.11**	**22**	P	P	14 20 53.3	-0.8
	0.6nm,1.2s,baz=246,slow=5.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.24**	**287**	PKPbc	PKPbc	14 28 18.3	+0.5
	0.4nm,0.5s,baz=80,slow=1.9,SNR=8.1						

*IDC **08** 14:26:46.7±2.9,34°.45N×70°.88E,h0km,mb3.6/3, mb1 3.6/7,mb1mx3.4/30,mbtmp3.6/7,ML3.3/3,Error ellipse: s-maj=73.7km s-min=25.7km az=133.0*
*ISCJB **08** 14:26:48.1±1.0,34°.46N±0°.06×70°.5E±0°.1,h33km,mb3.6/3, Error ellipse: s-maj=16.3km s-min=5.7km az=154.3*
*NNC **08** 14:26:53.3±1.7,35°.10N×69°.77E,h0km,mb3.7,mpv3.6, Error ellipse: s-maj=13.3km s-min=9.9km az=0.0*
ISC 08 14:26:51.8±1.1,34°.55N±0°.08×70.7E±0°.1,h35km,n23, σ1°97/25,mb3.5/3,5C-3D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.73**	**115**	*eP*	Pn	14 28 04.8	+4.3
THN				*eS*	Sn	14 29 18.6	+24
DDI	**Dehra Dun**	**7.54**	**122**	*ex*	x	14 30 17.0	
KK31	**Karatay Array**	**8.54**	**359**	Pn	**Pn**	**14 28 54.1**	**+1.2**
	1.1nm,0.3s,baz=196,slow=16,SNR=42						
KK31				↓Sn	**Sn**	**14 30 28.5**	**+0.3**
	2.5nm,0.6s,baz=191,slow=28,SNR=4.0						
AAK	**Ala-Archa**	**8.62**	**19**	Pn	**Pn**	**14 28 56.3**	**+2.2**
	0.9nm,0.3s,baz=187,slow=6.1,SNR=18						
AAK				Sn	**Sn**	**14 30 28.8**	**-1.3**
	baz=289,slow=18,SNR=2.2						
TKM2	**Tokmak 2**	**9.21**	**23**	↑Pn	Pn	14 29 05.0	+2.8
	2.4nm,0.8s						
TKM2				↑Sn	**Sn**	**14 30 48.0**	**+3.3**
	1.5nm,0.8s						
PYUN	**Piuthan**	**12.35**	**118**	*eP*	**Pn**	**14 29 45.2**	**-0.1**
	6.7nm,0.3s						
DANN	**Dangsing**	**12.78**	**115**	*eP*	**Pn**	**14 29 51.4**	**+0.2**
KOLN	**Koldanda**	**12.98**	**118**	*eP*	**Pn**	**14 29 53.4**	**-0.5**
	5.8nm,0.5s						
GKN	**Gorkha**	**13.62**	**115**	*eP*	**Pn**	**14 30 02.4**	**-0.2**
	8.0nm,0.5s						
KKN	**Kakani**	**14.21**	**114**	*eP*	**Pn**	**14 30 09.5**	**-1.2**
	13nm,0.6s						
PKI	**Pulchoki**	**14.43**	**115**	*eP*	**Pn**	**14 30 12.8**	**-1.0**
GUN	**Gumba**	**14.60**	**113**	*eP*	**Pn**	**14 30 15.4**	**-0.8**
JIRN	**Jiri**	**14.97**	**113**	*eP*	**Pn**	**14 30 19.4**	**-1.7**
	1.8nm,0.4s						
MK31	**Makanchi Array**	**15.06**	**32**	↑Pn	**P**	**14 30 28.0**	**+1.1**
	0.4nm,0.5s,baz=204,slow=11,SNR=14						
MK31				↑Sn	**S**	**14 33 20.1**	**-4.1**
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**15.06**	**32**	Pn	**Pn**	**14 30 22.9**	**+1.0**
	0.0nm,0.3s,baz=215,slow=12,SNR=5.1						
MKAR				Lg	Lg	14 34 33.9	
	0.1nm,0.3s,baz=198,slow=30,SNR=4.7						
TAPN	**Taplejung**	**16.29**	**112**	*eP*	**Pn**	**14 30 36.2**	**-1.9**
	3.7nm,0.6s						
AB31	**Akbulak array**	**16.69**	**335**	Pn	**Pn**	**14 30 39.0**	**-3.8**
	1.3nm,0.5s,baz=155,slow=13,SNR=53						
AB31				↓Sn	Sn	14 33 36.3	-11
	1.2nm,0.8s,baz=156,slow=23,SNR=3.5						
AKTO	**Aktyubinsk**	**18.37**	**334**	P	**Pn**	**14 31 04.7**	**+1.1**
	0.1nm,0.3s,baz=146,slow=14,SNR=7.7						
AKTO	**Aktyubinsk**	**18.37**	**334**	↑Pn	**P**	**14 31 00.1**	**-3.2**
	0.8nm,1.1s						
AKTO				↓Sn	Sn	14 34 16.4	-11
	0.4nm,1.2s						
BVAR	**Borovoye Array**	**18.47**	**359**	P	**Pn**	**14 31 04.7**	**-0.1**
	0.1nm,0.3s,baz=166,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**21.81**	**23**	P	**P**	**14 31 40.0**	**-0.7**
	1.2nm,0.5s,baz=223,slow=12,SNR=9.4						
TORD	**Torodi Ar. Bea**	**65.40**	**269**	P	**P**	**14 37 33.0**	**+1.8**
	0.8nm,0.6s,baz=45,slow=5.5,SNR=7.7						
YKA	**Yellowknife Ar**	**83.20**	**2**	P	**P**	**14 39 14.3**	**+0.3**
	0.2nm,0.4s,baz=347,slow=5.5,SNR=5.7						

MEX 08 14:36:53.2±1.1,16°.69N×100°.49W,h27km±11km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.41**	**30**	*eP*	Pb	14 37 00.0	-2.1
CAIG				*i* S	Sb	14 37 05.6	-2.5
ACX	**Acapulco**	**0.63**	**73**	*i* P	Pb	14 37 03.3	-2.4
ACX				*i* S	Sb	14 37 10.7	-3.4
ZIIG	**Zihuatanejo**	**1.31**	**314**	*i* P	Pn	14 37 13.7	-2.0
ZIIG				*i* S	Sn	14 37 28.4	-3.9
MEIG	**Mezcala**	**1.48**	**34**	*i* P	Pn	14 37 16.0	-2.2
MEIG				*i* S	Sn	14 37 34.0	-2.9
PLIG	**Platanillo**	**1.94**	**29**	*i* P	Pn	14 37 22.9	-1.6
PLIG				*i* S	Sn	14 37 45.2	-2.9
PNIG	**Pinotepa**	**2.28**	**97**	*eP*	Pn	14 37 26.3	-2.9
PNIG				*i* S	Sn	14 37 53.4	-3.1
UTMO	**Huajuapan**	**2.80**	**66**	*i* P	Pn	14 37 34.7	-1.9
UTMO				*i* S	Sn	14 38 06.6	-3.2
PPM	**Popocatepetl**	**2.95**	**37**	*i* P	Pn	14 37 36.0	-3.1
PPM				*i* S	Sn	14 38 10.2	-3.9

*IDC **08** 14:37:58.4±3.0,27°.45N×87°.64E,h0km,mb3.1/3, mb1 3.1/4,mb1mx3.0/26,mbtmp2.9/4,ML2.9/1,Error ellipse: s-maj=104.3km s-min=26.9km az=76.0*
*ISCJB **08** 14:37:59.1±0.8,27°.60N±0°.05×87°.61E±0°.03,h6km±5km, mb3.0/3,Error ellipse: s-maj=8.0km s-min=4.8km az=10.2*
*DMN **08** 14:38:01.7±0.4,27°.41N×87°.80E,h30km,Ml4.6/10,Error ellipse: s-maj=9.5km s-min=5.5km az=50.0*
ISC 08 14:38:01.9±1.0,27°.50N±0°.07×87°.62E±0°.04,h23km±8km, n19,σ1°15/31,mb3.1/3,1D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**0.17**	**151**	*e*Pg	**Pb**	**14 38 07.1**	**-0.2**
TAPN				*e*Sg	**Sb**	**14 38 11.5**	**+0.6**
	5µm,0.2s						
ODAN	**Odare**	**0.67**	**198**	*e*Pg	**Pb**	**14 38 14.8**	**-0.2**
ODAN				*e*Sg	**Sb**	**14 38 24.0**	**+0.1**
	2µm,0.2s						
GTK	**Gangtok**	**0.90**	**100**	*e*PG	Pb	14 38 15.0	-4.0
GTK				*e*SG	**Sb**	**14 38 26.5**	**-4.2**
RAMN	**Ramite**	**1.06**	**239**	*e*Pg	**Pn**	**14 38 20.4**	**-1.1**
RAMN				*e*Sg	**Sb**	**14 38 34.7**	**-0.5**
	2µm,0.3s						
JIRN	**Jiri**	**1.28**	**278**	*e*Pg	**Pn**	**14 38 24.4**	**-0.3**
JIRN				*e*Sg	**Sn**	**14 38 41.6**	**+0.3**
	495nm,0.2s						
GUN	**Gumba**	**1.60**	**285**	*e*Pg	Pn	**14 38 29.8**	**+0.8**
GUN				*e*Sg	**Sn**	**14 38 49.9**	**+0.8**
	2µm,0.4s						
PKI	**Pulchoki**	**1.96**	**273**	*e*Pn	Pn	**14 38 34.7**	**+0.7**
PKI				*e*Sn	**Sn**	**14 38 58.8**	**+0.7**
	466nm,0.3s						
KKN	**Kakani**	**2.10**	**279**	*e*Pn	**Pn**	**14 38 36.7**	**+0.9**
KKN				*e*Sn	**Sn**	**14 39 01.6**	**+0.4**
	309nm,0.2s						
DMN	**Daman**	**2.23**	**273**	*e*Pn	Pn	**14 38 38.7**	**+1.0**
DMN				*e*Sn	**Sn**	**14 39 05.1**	**+0.4**
	414nm,0.3s						
GKN	**Gorkha**	**2.69**	**281**	*e*Pn	Pn	**14 38 44.9**	**+1.0**
GKN				*e*Sn	**Sn**	**14 39 16.3**	**+0.5**
	508nm,0.3s						
DANN	**Dangsing**	**3.52**	**285**	*e*Pn	**Pn**	**14 38 55.7**	**+0.3**
DANN				*e*Sn	**Sn**	**14 39 36.3**	**-0.2**
	224nm,0.3s						
KOLN	**Koldanda**	**3.58**	**275**	*e*Pn	Pn	**14 38 55.9**	**-0.2**
KOLN				*e*Sn	**Sn**	**14 39 36.3**	**-1.5**
	288nm,0.2s						
PYUN	**Piuthan**	**4.14**	**279**	*e*Pn	**Pn**	**14 39 03.4**	**-0.5**
PYUN				*e*Sn	**Sn**	**14 39 50.2**	**-1.6**
	488nm,0.5s						
SHL	**Shillong**	**4.28**	**116**	*e*P	**Pn**	**14 39 08.0**	**+2.3**
SHL				*i* S	Sb	14 40 16.0	+8.2
MK31	**Makanchi Array**	**19.71**	**349**	↓Pn	**Pn**	**14 42 31.6**	**+0.4**
	0.2nm,0.5s,baz=196,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**19.71**	**349**	P	**P**	**14 42 30.0**	**+0.4**
	0.0nm,0.3s,baz=176,slow=10,SNR=3.2						
SONM	**Songino Array**	**25.04**	**31**	P	**P**	**14 43 24.5**	**+0.2**
	0.2nm,0.5s,baz=225,slow=9.6,SNR=5.0						
WRA	**Warramunga Arr**	**65.34**	**131**	P	**P**	**14 48 42.9**	**+0.4**
	2.0nm,0.8s,baz=322,slow=6.9,SNR=3.2						
ASAR	**Alice Springs**	**67.69**	**134**	P	**P**	**14 48 57.0**	**-0.6**
	0.1nm,0.7s,baz=317,slow=6.

WRA	**Warramunga Arr**	**25.56**	**154**	P	P	14 57 47.1	-0.7	
	1.7nm,0.3s,baz=337,slow=9.5,SNR=25							
ASAR	**Alice Springs**	**28.72**	**158**	P	P	14 58 15.6	0.0	
	0.8nm,0.3s,baz=335,slow=8.0,SNR=68							
KSRS	**Korea Array**	**34.57**	**7**	P	P	14 59 04.7	-0.4	
	0.7nm,0.6s,baz=190,slow=10,SNR=3.8							
STKA	**Stephens Creek**	**39.11**	**154**	P	P	14 59 43.6	+1.1	
	2.6nm,0.7s,baz=352,slow=9.8,SNR=5.7							
SONM	**Songino Array**	**46.77**	**345**	P	P	15 00 41.8	-0.4	
	0.3nm,0.7s,baz=162,slow=9.1,SNR=3.9							
MKAR	**Makanchi Array**	**55.88**	**327**	P	P	15 01 48.3	+0.4	
	0.2nm,0.3s,baz=128,slow=7.9,SNR=10							
MKAR				PcP	PcP	15 02 37.1	-1.4	
	0.3nm,0.7s,baz=123,slow=4.5,SNR=3.9							

IDC 08 14:57:42.5±0.8, 14°71'S×73°70'W, h100km±6km, mb3.7/7, mb1 3.9/10, mb1mx3.7/22, mbtmp3.7/10, MS3.2/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=26.6km s-min=15.2km az=47.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.08**	**311**	P	Pn	14 58 39.5	-3.4
	24nm,0.3s,baz=153,slow=11,SNR=35						
NNA				S	Sn	14 59 26.7	-3.0
	26nm,0.3s,baz=198,slow=20,SNR=5.7						
LPAZ	**La Paz**	**5.59**	**107**	P	Pn	14 59 05.7	+1.6
	9.1nm,0.3s,baz=281,slow=10,SNR=118						
ATAH	**Atahualpa**	**8.82**	**328**	P	Pn	14 59 48.3	+0.5
	0.6nm,0.3s,baz=180,slow=8.1,SNR=7.2						
SIV	**San Ignacio**	**12.25**	**98**	P	Pn	15 00 30.2	-3.3
	2.9nm,0.3s,baz=287,slow=11,SNR=48						
CFAA	**Coronel Fontan**	**17.55**	**164**	P	P	15 01 40.1	-0.3
	0.1nm,0.3s,baz=347,slow=9.6,SNR=4.8						
CPUP	**Villa Florida**	**19.18**	**130**	P	P	15 01 57.9	-0.3
	0.4nm,0.3s,baz=303,slow=11,SNR=4.9						
JTS	**JuntasAbangare**	**27.23**	**335**	LR	LR	15 13 09.4	
	comp=Z,48nm,18.4s,baz=75,slow=34						
TXAR	**Lajitas Array**	**52.48**	**327**	P	P	15 06 45.3	-0.1
	0.7nm,0.7s,baz=149,slow=7.5,SNR=7.9						
NVAR	**Mina Array Bea**	**67.36**	**323**	P	P	15 08 27.5	+0.3
	0.6nm,0.8s,baz=141,slow=6.4,SNR=5.0						
DBIC	**Dimbokro**	**71.47**	**78**	P	P	15 08 52.5	-0.2
	1.3nm,0.5s,baz=259,slow=16,SNR=3.5						
QSPA	**South Pole Qui**	**75.44**	**180**	P	P	15 09 15.5	+0.2
	2.5nm,0.7s,baz=184,slow=4.0,SNR=11						
TORD	**Torodi Ar. Bea**	**79.59**	**73**	P	P	15 09 38.8	-0.4
	1.3nm,0.7s,baz=264,slow=6.2,SNR=7.8						
TORD				pP	pP	15 10 04.7	-0.5
	2.6nm,0.9s,baz=261,slow=5.5,SNR=7.3						
YKA	**Yellowknife Ar**	**83.33**	**342**	P	P	15 09 57.4	-0.4
	2.7nm,0.9s,baz=137,slow=5.4,SNR=39						
YKA				pP	pP	15 10 23.6	-0.4
	0.8nm,0.8s,baz=138,slow=5.3,SNR=3.7						
ESDC	**Sonseca Array**	**84.36**	**47**	P	P	15 10 04.3	+0.6
	1.1nm,0.8s,baz=261,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**133.28**	**216**	PKP	PKPdf	15 16 46.8	-0.8
	0.5nm,0.8s,baz=125,slow=1.9,SNR=9.5						
WRA	**Warramunga Arr**	**135.88**	**219**	PKP	PKPdf	15 16 52.1	-0.4
	0.7nm,0.8s,baz=146,slow=1.7,SNR=12						
ZALV	**Zalesovo Beam**	**137.37**	**19**	PKP	PKPdf	15 16 54.7	+0.6
	1.4nm,0.6s,baz=305,slow=2.8,SNR=12						
KURBB	**Kurchatov Arra**	**137.72**	**26**	PKP	PKPdf	15 16 56.1	+1.3
	0.6nm,0.5s,baz=312,slow=2.7,SNR=7.2						
MKAR	**Makanchi Array**	**142.25**	**27**	PKhKP	PKPpre	15 16 58.8	
	0.2nm,0.6s,baz=318,slow=1.9,SNR=2.5						
MJAR	**Matsushiro Arr**	**144.20**	**313**	PKP	PKPab	15 17 04.1	-0.8
	1.2nm,0.6s,baz=108,slow=1.8,SNR=7.4						
SONM	**Songino Array**	**146.97**	**360**	PKPbc	PKPbc	15 17 12.8	-0.8
	2.4nm,0.7s,baz=334,slow=1.8,SNR=25						
SONM				pPKPbc	pPKPbc	15 17 40.6	-0.3
	0.8nm,0.8s,baz=4.0,slow=4.2,SNR=2.5						
KSRS	**Korea Array**	**150.30**	**324**	PKPbc	PKPbc	15 17 22.6	+0.2
	3.4nm,0.9s,baz=343,slow=1.8,SNR=10.0						

*NEIC **08** 15:08:21.1, 19°.05N×64°.76W, h77km, MD3.0(RSPR), After RSPR.*

RSPR 08 15:08:21.1, 19°.05N×64°.76W, h77km±5km, MD3.0/3, 13C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABVI	**Anegada Island**	**0.51**	**129**	*eP*	Pn	15 08 34.2	-0.5
ABVI				*eS*	Sn	15 08 44.0	-0.7
ABV	**Anegada**	**0.52**	**128**	*eP*	Pn	15 08 34.2	-0.5
ABV				*eS*	Sn	15 08 44.0	-0.7
ABV	**Anegada**	**0.52**	**128**	*eS*	Sn	15 08 44.1	-0.6
ABV	**Anegada**	**0.52**	**128**	*eP*	Pn	15 08 34.2	-0.5
ABV				*eS*	Sn	15 08 44.0	-0.7
TBVI	**Tortola**	**0.65**	**168**	*eP*	Pn	15 08 35.3	-0.7
TBVI				*eS*	Sn	15 08 47.0	+0.1
TBVI	**Tortola**	**0.65**	**168**	*eP*	Pn	15 08 35.7	-0.3
TBVI				*eS*	Sn	15 08 46.9	0.0
TBVI	**Tortola**	**0.65**	**168**	*eP*	Pn	15 08 35.7	-0.3
TBVI				*eS*	Sn	15 08 46.9	0.0
TBVI				*eS*		15 08 47.0	
TBVI	**Tortola**	**0.65**	**168**	*eP*	Pn	15 08 35.3	-0.7
TBVI				*eS*	Sn	15 08 47.0	+0.1
STVI	**Saint Thomas**	**0.72**	**195**	*eP*	Pn	15 08 35.8	-0.9
STVI	**Saint Thomas**	**0.72**	**195**	*eP*	Pn	15 08 35.9	-0.8
STVI	**Saint Thomas**	**0.72**	**195**	*eP*	Pn	15 08 35.8	-0.9
STVI				*eS*	Sn	15 08 47.4	-0.9
STVI	**Saint Thomas**	**0.72**	**195**	*eP*	Pn	15 08 35.8	-0.9
STVI				*eS*	Sn	15 08 47.5	-0.9
HUMP	**Col San Antoni**	**1.38**	**229**	*eP*	Pn	15 08 44.0	-0.6
HUMP	**Col San Antoni**	**1.38**	**229**	*eP*	Pn	15 08 45.0	+0.3
HUMP	**Col San Antoni**	**1.38**	**229**	*eP*	Pn	15 08 45.0	+0.3
HUMP				*eS*	Sn	15 09 02.1	-0.4
HUMP	**Col San Antoni**	**1.38**	**229**	*eP*	Pn	15 08 44.5	-0.2
HUMP				*eS*	Sn	15 09 02.9	+0.5
SJG	**San Juan**	**1.62**	**235**	*eP*	Pn	15 08 47.6	-0.2
SJG	**San Juan**	**1.62**	**235**	*eP*	Pn	15 08 47.6	-0.2
SJG				*eS*	Sn	15 09 07.7	-0.4
SJG	**San Juan**	**1.62**	**235**	*eP*	Pn	15 08 47.6	-0.2
SJG				*eS*	Sn	15 09 07.7	-0.4

*IDC **08** 15:25:32.5±1.0, 6°.81S×130°.50E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML4.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/39, Error ellipse: s-maj=59.7km s-min=18.7km az=74.0*

*ISCJB **08** 15:25:37.0±0.5, 6°.81S±0°.04×130°.27E±0°.07, h104km, mb3.5/6, Error ellipse: s-maj=9.3km s-min=4.9km az=173.4*

*AUST **08** 15:25:38.3±0.0, 6°.91S×130°.20E, h38km, Error ellipse: s-maj=0.9km s-min=0.8km az=268.0*

*DJA **08** 15:25:39.6±0.5, 7°.5S±.5°×13°.0E±°, h58km±31km, M4.3/9, mb4.5/3, mB5.2/2, MLv4.2/9, Mw(mB)4.5/2*

ISC 08 15:25:38.5±0.9, 6.74S±0°.05×130°.28E±0°.06, h104km, n27, σ1s74/21, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.23**	**350**	P	**Pn**	**15 26 13.9**	**-0.4**
BNDI				S	**Sn**	**15 26 41.3**	**-0.4**
TLE	**Tual**	**2.68**	**66**	P	**Pn**	**15 26 21.3**	**+1.2**
	baz=2.8,SNR=22						
TLE				S	**Sn**	**15 26 54.2**	**+2.2**
	baz=2.8,SNR=6.2						
TLE	**Tual**	**2.68**	**66**	P	**Pn**	**15 26 19.4**	**-0.7**
TLE				S	**Sn**	**15 26 51.8**	**-0.2**
MSAI	**Masohi**	**3.63**	**338**	P	**Pn**	**15 26 34.2**	**+1.4**
AAI	**Ambon**	**3.68**	**325**	P	**Pn**	**15 26 35.6**	**+2.2**
	baz=3.8,SNR=3.4						
AAI	**Ambon**	**3.68**	**325**	P	**Pn**	**15 26 34.7**	**+1.3**
FAKI	**Fak Fak**	**4.27**	**27**	P	**Pn**	**15 26 40.8**	**-0.7**
SWI	**Sorong**	**5.92**	**10**	P	**Pn**	**15 27 03.7**	**-0.1**
	baz=6.1,SNR=22						
SWI				S	**Sn**	**15 28 07.2**	**-3.1**
	baz=6.1,SNR=4.3						
SWI	**Sorong**	**5.92**	**10**	P	**Pn**	**15 27 03.6**	**-0.1**
	52nm,0.7s,2µm0.4nm						
MTN	**Manton Dam**	**6.12**	**172**	P	**Pn**	**15 27 07.0**	**+0.5**
	baz=6.0,SNR=11						
MTN				S	**Sn**	**15 28 13.9**	**-1.4**
	baz=6.0,SNR=5.6						
KDU	**Kakadu**	**6.29**	**160**	P	**Pn**	**15 27 07.3**	**-1.5**
	baz=6.2,SNR=60						
LBMI	**Labuha**	**6.67**	**335**	P	**Pn**	**15 27 15.0**	**+1.1**
PCI	**Palu**	**11.92**	**299**	S	Sn	15 30 23.2	-13
	baz=12,SNR=5.4						
FITZ	**Fitzroy Crossi**	**12.17**	**201**	Pn	**Pn**	**15 28 26.6**	**-1.8**
	3.1nm,0.3s,baz=36,slow=11,SNR=54						
FITZ				Sn	Sn	15 30 35.6	-6.7
	1.0nm,0.3s,baz=5.7,slow=10,SNR=5.6						
FITZ				LR	LR	15 33 35.8	
	comp=Z,53nm,18.2s,baz=196,slow=40						
FITZ	**Fitzroy Crossi**	**12.17**	**201**	P	Pn	15 28 26.1	-2.2
	baz=12,SNR=52						
WRA	**Warramunga Arr**	**13.70**	**164**	Pn	Pn	15 28 44.9	-3.7
	0.9nm,0.3s,baz=345,slow=13,SNR=40						
WRA				Sn	Sn	15 31 10.1	-9.4
	1.5nm,0.3s,baz=333,slow=22,SNR=11						
COEN	**Coen**	**14.56**	**121**	P	**Pn**	**15 28 58.9**	**-0.8**
	baz=15,SNR=4.7						
QIS	**Mount Isa**	**16.44**	**148**	P	**P**	**15 29 28.5**	**+4.5**
	baz=16,SNR=6.7						
QIS				S	Sn	15 32 14.9	-11
	baz=16,SNR=6.4						
ASAR	**Alice Springs**	**17.19**	**169**	P	**Pn**	**15 29 31.9**	**-0.4**
	0.6nm,0.3s,baz=338,slow=8.5,SNR=45						
ASAR				S	Sn	15 32 31.8	-12
	0.2nm,0.3s,baz=355,slow=28,SNR=5.1						
ASAR				LR	LR	15 36 49.6	
	comp=Z,71nm,18.3s,baz=224,slow=40						
STKA	**Stephens Creek**	**27.15**	**159**	P	P	15 31 17.6	+5.6
	1.1nm,0.4s,baz=345,slow=13,SNR=6.7						
STKA				LR	LR	15 43 21.4	
	comp=Z,80nm,18.3s,baz=206,slow=40						
STKA	**Stephens Creek**	**27.15**	**159**	P	P	15 31 18.2	+6.1
	baz=27,SNR=4.9						
LHI	**Lord Howe Isla**	**36.48**	**136**	S	S	15 38 16.0	+7.8
	baz=36,SNR=4.6						
SONM	**Songino Array**	**58.29**	**341**	P	P	15 35 30.7	+8.3
	0.2nm,0.7s,baz=154,slow=4.1,SNR=3.1						
MKAR	**Makanchi Array**	**68.16**	**327**	P	P	15 36 35.2	+7.6
	0.5nm,0.5s,baz=111,slow=8.7,SNR=12						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	P	15 36 56.1	+8.5
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**72.44**	**328**	P	P	15 37 01.7	+8.3
	0.3nm,0.4s,baz=125,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**92.99**	**25**	P	P	15 38 46.1	+6.2
	0.6nm,1.1s,baz=280,slow=5.1,SNR=3.5						

*CSEM **08** 15:25:55.6±2.3, 33°.56N×2°.96E, h300km, mb1.8/4, Error ellipse: s-maj=110.5km s-min=49.1km az=19.0*

*MDD **08** 15:25:57.0±7.8, 33°.71N×3°.07E, h294km±47km, mb1.8/4, Error ellipse: s-maj=132.0km s-min=56.5km az=20.0, PRXIMO*

CRAAG 08 15:26:39.4, 36°.60N×1°.15E, MI2.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EANR	**'Ain N'Sour**	**0.65**	**184**	P	Pg	15 26 48.5	-3.4
EANR	**'Ain N'Sour**	**0.65**	**184**	P	Pg	15 26 48.5	-3.4
EANR	**'Ain N'Sour**	**0.65**	**184**	P	Pg	15 26 48.5	-3.4
OKGL	**Djebel Kef Gue**	**0.69**	**217**	P	Pg	15 26 52.0	-0.8
OKGL	**Djebel Kef Gue**	**0.69**	**217**	P	Pg	15 26 49.5	-3.2
OKGL	**Djebel Kef Gue**	**0.69**	**217**	P	Pg	15 26 52.0	-0.7
OJGS	**Djebel Guires**	**1.14**	**197**	P	Pg	15 26 48.0	-13
OJGS	**Djebel Guires**	**1.14**	**197**	P	Pg	15 26 48.0	-13
OJGS	**Djebel Guires**	**1.14**	**197**	P	Pg	15 26 48.0	-13
ETRT	**Tiaret**	**1.21**	**174**	P	Pg	15 26 46.0	-17
ETRT	**Tiaret**	**1.21**	**174**	P	Pg	15 26 46.0	-17
ETRT	**Tiaret**	**1.21**	**174**	P	Pg	15 26 46.0	-17
EMUR	**La Murta**	**2.28**	**304**	P	Pn	15 27 17.7	-0.6
	0.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.28**	**304**	P	Pn	15 27 17.7	-0.7
	0.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.96**	**314**	P	Pn	15 27 29.5	+1.7
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.96**	**314**	P	Pn	15 27 29.5	+1.7
	0.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.26**	**277**	P	Pn	15 27 23.1	-8.9
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sg	15 28 32.9	+8.3
	SNR=7.9						
EBER	**Berja**	**3.26**	**277**	P	Pn	15 27 23.1	-8.9
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sg	15 28 32.9	+8.3
	SNR=7.9						
EQES	**Quesada**	**3.58**	**291**	P	Pn	15 27 31.3	-5.1
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.58**	**291**	P	Pn	15 27 31.3	-5.1
	0.3nm,0.1s,SNR=7.9						

MAN 08 15:31:28, 7°.76N×125°.46E, h20km, mb4.3, ML3.1, MS2.9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.41**	**287**	*eP*	Pb	15 31 37.2	+0.6
BUKP				*eS*	Sb	15 31 43.4	+1.0
DMPH	**Davao City--Mi**	**0.68**	**176**	*eP*	Pb	15 31 41.5	+0.4
DMPH				*eS*	Sn	15 31 56.3	+3.9
CGP	**Cagayan de Oro**	**1.02**	**312**	*eP*	Pn	15 31 47.2	-0.1
CGP				*i* S	Sn	15 32 01.4	+0.4
MATI	**Mati**	**1.13**	**136**	*eP*	Pn	15 31 48.0	-0.7
MATI				*eS*	Sn	15 32 06.6	+2.8
CTBH	**Cotabato--PC H**	**1.31**	**246**	*i* P	Pn	15 31 51.2	-0.1
CTBH				*i* S	Sb	15 32 09.0	+0.5

IDC 08 15:43:49.1±1.9, 3°.81N×126°.11E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/22, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/25, Error ellipse: s-maj=176.0km s-min=23.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.95**	**161**	P	P	15 49 14.1	-0.3
	0.5nm,0.5s,baz=340,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**28.35**	**165**	P	P	15 49 46.0	+1.0
	0.2nm,0.7s,baz=346,slow=7.6,SNR=7.1						
JNU	**Nakatsue**	**29.50**	**8**	LR	LR	16 01 08.7	
	comp=Z,32nm,18.4s,baz=112,slow=35						
STKA	**Stephens Creek**	**38.43**	**159**	P	P	15 51 11.9	-0.7
	0.9nm,0.4s,baz=340,slow=8.1,SNR=7.2						
MKAR	**Makanchi Array**	**57.13**	**326**	P	P	15 53 37.5	-0.1
	0.1nm,0.5s,baz=112,slow=6.4,SNR=3.2						

*AUST **08** 15:56:31.7±6.0, 4°.54N×124°.96E, h0km, Error ellipse: s-maj=1.7km s-min=1.3km az=279.0*

*ISCJB **08** 15:56:37.5±0.6, 5°.86N±0°.10×127°.3E±0°.1, h150km, mb3.7/10, Error ellipse: s-maj=24.6km s-min=5.1km az=146.9*

*MAN **08** 15:56:39, 5°.72N×127°.05E, h115km, mb4.6, ML3.5, MS3.4*

*IDC **08** 15:56:39.8±2.2, 5°.86N×127°.21E, h159km±18km, mb3.4/10, mb1 3.5/11, mb1mx3.3/26, mbtmp3.4/11, Error ellipse: s-maj=52.6km s-min=10.6km az=68.0*

ISC 08 15:56:39.4±0.7, 5°.8N±0°.1×127°.1E±0°.2, h150km, n22, σ1s21/26, mb3.8/10, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.39**	**324**	*eP*	**Pn**	**15 57 07.9**	**0.0**
MATI				*eS*	**Sn**	**15 57 27.1**	**-2.6**
DAV	**Davao City (W)**	**1.95**	**310**	P	**Pn**	**15 57 15.6**	**+1.7**
	68nm,0.3s,baz=198,slow=6.4,SNR=7.2						
DMPH	**Davao City--Mi**	**2.01**	**309**	*eP*	**Pn**	**15 57 15.7**	**+1.1**
DMPH				*eS*	Sn	15 57 30.3	-11
BUKP	**Musuan**	**2.87**	**316**	*eP*	**Pn**	**15 57 25.3**	**+0.1**
BUKP				*eS*	**Sn**	**15 58 01.2**	**+0.7**
CTBH	**Cotabato--PC H**	**3.15**	**296**	*i* P	**Pn**	**15 57 28.6**	**-0.1**
BUTP	**Butuan**	**3.45**	**335**	*eP*	**Pn**	**15 57 34.0**	**+1.5**
SWI	**Sorong**	**7.83**	**148**	P	**Pn**	**15 58 32.6**	**+2.0**
	baz=8.3,SNR=9.4						
SWI				S	**Sn**	**15 59 55.6**	**-2.4**
	baz=8.3,SNR=9.8						
MTN	**Manton Dam**	**18.97**	**168**	P	**P**	**16 00 50.2**	**+0.9**
	baz=18,SNR=32						
KDU	**Kakadu**	**19.15**	**164**	P	**P**	**16 00 52.0**	**+0.8**
	baz=19,SNR=32						
FITZ	**Fitzroy Crossi**	**23.81**	**183**	P	**P**	**16 01 38.9**	**+0.3**
	1.5nm,0.3s,baz=26,slow=8.1,SNR=15						
FITZ	**Fitzroy Crossi**	**23.81**	**183**	P	**P**	**16 01 38.9**	**+0.3**
	baz=23,SNR=9.2						
WRA	**Warramunga Arr**	**26.57**	**165**	P	**P**	**16 02 03.0**	**-0.7**
	1.3nm,0.4s,baz=343,slow=10,SNR=18						
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**16 02 34.2**	**-0.3**
	1.2nm,0.3s,baz=342,slow=7.2,SNR=70						
ASAR				ScP	**ScP**	**16 08 59.3**	**-2.0**
	0.1nm,0.5s,baz=334,slow=2.7,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.19**	**297**	P	**P**	**16 02 36.0**	**+0.2**
	0.7nm,0.6s,baz=110,slow=7.4,SNR=7.8						
MEEK	**Meekatharra**	**33.29**	**194**	P	**P**	**16 03 02.8**	**-0.1**
	baz=32,SNR=5.1						
BBOO	**Buckleboo**	**39.35**	**168**	P	**P**	**16 03 54.3**	**+0.2**
	baz=39,SNR=6.4						
STKA	**Stephens Creek**	**39.95**	**161**	P	**P**	**16 03 59.1**	**-0.1**
	0.6nm,0.3s,baz=334,slow=9.4,SNR=3.6						
SONM	**Songino Array**	**45.45**	**340**	P	**P**	**16 04 43.6**	**+0.1**
	0.1nm,0.4s,baz=161,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**56.07**	**324**	P	**P**	**16 06 03.1**	**+0.2**
	0.7nm,0.3s,baz=114,slow=7.3,SNR=32						
ZALV	**Zalesovo Beam**	**58.91**	**332**	P	**P**	**16 06 20.5**	**-2.0**
	0.3nm,0.3s,baz=140,slow=7.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**60.19**	**327**	P	**P**	**16 06 31.1**	**-0.3**
	1.1nm,0.6s,baz=125,slow=6.2,SNR=23						
BVAR	**Borovoye Array**	**65.78**	**326**	P	**P**	**16 07 08.4**	**+0.1**
	0.8nm,0.8s,baz=115,slow=7.0,SNR=7.6						

IDC 08 16:03:50.6±2.0, 5°.42N×127°.08E, h0km, mb3.6/1, Error ellipse: s-maj=117.4km s-min=24.1km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.42**	**183**	P	P	16 09 01.4	-0.1
	baz=21,slow=8.6						
WRA	**Warramunga Arr**	**26.20**	**164**	P	P	16 09 27.2	-0.1
	0.5nm,0.4s,baz=345,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**29.67**	**167**	P	P	16 09 58.4	+0.1
	baz=341,slow=9.2						
MKAR	**Makanchi Array**	**56.38**	**324**	P	P	16 13 33.7	-0.1
	baz=115,slow=7.5						

IDC 08 16:06:53.0±1.9, 4°.20N×127°.28E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=144.9km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.97**	**164**	P	P	16 12 17.1	-1.4
	1.5nm,0.7s,baz=344,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.44**	**167**	P	P	16 12 51.1	+1.3
	0.3nm,0.9s,baz=350,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	16 14 16.2	+0.1
	2.3nm,0.9s,baz=349,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	16 16 44.0	0.0
	0.1nm,0.5s,baz=120,slow=8.8,SNR=3.7						

*ISCJB **08** 16:10:18.5±0.5, 38°.93N±0°.03×27°.89E±0°.04, h7km±5km, Error ellipse: s-maj=6.4km s-min=4.6km az=136.0*

*ISK **08** 16:10:18.1, 38°.93N×27°.89E, h5km, MD2.6*

*DDA **08** 16:10:18.2, 38°.93N×27°.92E, h3km, MD2.6*

*CSEM **08** 16:10:18.6±0.1, 38°.92N×27°.88E, h8km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.4km az=118.0*

ISC 08 16:10:18.5±0.9, 38°.92N±0°.03×27°.87E±0°.03, h9km±6km, n25, σ0s29/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.06**	**227**	*i* P	**Pg**	**16 10 20.4**	**-0.1**
AKHS				*i* S	**Sg**	**16 10 22.3**	**+0.4**
AKS	**Akhisar**	**0.06**	**227**	PG	**Pg**	**16 10 20.2**	**-0.3**
AKS	**Akhisar**	**0.06**	**227**	*i* Pg	**Pg**	**16 10 20.2**	**-0.3**
DEMI	**Demirci**	**0.67**	**79**	*i* P	**Pg**	**16 10 31.4**	**-0.1**
DEMI				*i* S	**Sg**	**16 10 40.2**	**0.0**
DEMI	**Demirci**	**0.67**	**79**	*i* P	**Pg**	**16 10 31.4**	**-0.1**
DEMI				*i* S	**Sg**	**16 10 40.2**	**0.0**
IZM	**Izmir**	**0.71**	**223**	*e*PG	**Pg**	**16 10 32.5**	**+0.3**
IZM				*e*SG	**Sb**	**16 10 43.1**	**+0.1**
IZM	**Izmir**	**0.71**	**223**	*e*Pg	**Pg**	**16 10 32.5**	**+0.3**
IZM				*e*Sg	**Sb**	**16 10 43.1**	**+0.1**
BALB	**Balikesir**	**0.72**	**0**	*e*PG	**Pg**	**16 10 32.2**	**-0.2**
BALB				*e*SG	**Sg**	**16 10 42.5**	**+0.7**
BALB	**Balikesir**	**0.72**	**0**	*e*Pg	**Pg**	**16 10 32.2**	**-0.2**
BALB				*e*Sg	**Sg**	**16 10 42.5**	**+0.7**
KULA	**Kula-Manisa**	**0.74**	**123**	*e*PG	**Pg**	**16 10 32.6**	**-0.2**
KULA	**Kula-Manisa**	**0.74**	**123**	*e*Pg	**Pg**	**16 10 32.6**	**-0.2**
BALY	**Balya**	**0.84**	**347**	*i* P	**Pg**	**16 10 34.6**	**-0.2**
BALY				*i* S	**Sb**	**16 10 46.8**	**0.0**
BALY	**Balya**	**0.84**	**347**	*i* P	**Pg**	**16 10 34.6**	**-0.2**
BALY				*i* S	**Sb**	**16 10 46.8**	**0.0**
BLCB	**Balcova**	**0.84**	**231**	*e*PG	**Pb**	**16 10 35.1**	**-0.3**
BLCB	**Balcova**	**0.84**	**231**	*e*Pg	**Pb**	**16 10 35.1**	**-0.3**
DST	**Dursunbey**	**0.90**	**40**	*e*PG	**Pb**	**16 10 36.4

1.2nm,0.5s,baz=98,slow=6.8,SNR=11
ZALV PcP **PcP** **16 20 34.0 -0.1**
0.4nm,0.4s,baz=128,slow=2.4,SNR=3.5
MKAR Makanchi Array 52.33 311 P **P** **16 19 26.0 -0.5**
0.6nm,0.6s,baz=90,slow=9.2,SNR=8.4
MKAR PcP **PcP** **16 20 37.8 +0.5**
0.6nm,0.6s,baz=91,slow=4.6,SNR=5.5
KURBB Kurchatov Arra 55.00 316 P **P** **16 19 45.0 -0.9**
3.4nm,0.6s,baz=91,slow=8.2,SNR=51
STKA Stephens Creek 56.37 181 P **P** **16 19 58.6 +2.7**
1.0nm,0.5s,baz=343,slow=11,SNR=1.7
ILAR Eielson Array 59.49 28 P **P** **16 20 17.1 -0.3**
0.4nm,0.7s,baz=261,slow=5.9,SNR=4.1
BVAR Borovoye Array 60.07 318 P **P** **16 20 21.2 -0.4**
1.6nm,0.5s,baz=91,slow=8.1,SNR=20
AKTO Aktyubinsk 68.02 317 P **P** **16 21 13.6 -0.3**
1.4nm,0.7s,baz=80,slow=13,SNR=7.4
YKA Yellowknife Ar 73.92 28 P **P** **16 21 49.5 +0.1**
0.6nm,0.6s,baz=292,slow=5.6,SNR=14
ARCES ARCESS Array B 75.86 341 P **P** **16 22 01.6 +1.1**
3.9nm,1.0s,baz=70,slow=5.9,SNR=3.0
KBZ Khabaz 79.93 313 P **P** **16 22 24.9 +1.4**
3.1nm,0.9s,baz=48,slow=6.3,SNR=3.1
FINES FINESS Array B 80.22 334 P **P** **16 22 24.9 +0.1**
2.9nm,0.5s,baz=68,slow=4.9,SNR=29
NVAR Mina Array Bea 81.55 52 P **P** **16 22 32.7 0.0**
0.5nm,0.7s,baz=269,slow=7.2,SNR=3.6
MIB Mutribah 82.41 299 *eP* **P** **16 22 37.2 +0.1**
MIB AMb AMB 16 22 37.8
comp=Z,7.6nm,0.8s
NAY Al-Naaiem 82.72 299 *eP* **P** **16 22 38.5 -0.1**
NAY AMb AMB 16 22 40.0
comp=Z,4.3nm,0.5s
AKASG Malin Array Be 84.75 324 P **P** **16 22 48.4 -0.3**
comp=Z,0.8nm,0.6s,baz=57,slow=5.1,SNR=3.7
HFS Hagfors 85.72 337 P **P** **16 22 52.7 -0.6**
comp=Z,4.6nm,0.9s,baz=52,slow=5.8,SNR=10
NB2 NORSAR Subarra 85.92 339 P **P** **16 22 53.9 -0.4**
comp=Z,1.4nm,0.6s,baz=45,slow=4.8
NOA NORSAR Array B 85.92 339 P **P** **16 22 53.9 -0.4**
comp=Z,1.8nm,0.6s,baz=45,slow=4.9,SNR=6.3
BRTR Keskin Array B 87.92 313 P **P** **16 23 04.5 -0.2**
comp=Z,0.5nm,0.7s,baz=92,slow=3.9,SNR=3.4
GERES GERESS Array B 93.72 329 LR LR 17 07 24.8
comp=Z,58nm,18.6s,baz=296,slow=37
PLCA Paso Flores 148.05 128 PKPbc **PKPab** **16 30 01.6 -1.4**
comp=Z,0.9nm,0.7s,baz=258,slow=1.5,SNR=5.7
LPAZ La Paz 149.94 80 PKPbc **PKPbc** **16 30 05.4 -1.0**
comp=Z,0.8nm,0.5s,baz=331,slow=5.2,SNR=2.5

FUNV 08 16:20:58.8, 8.76N×61.46W, h11km, MW3.5, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIOV	**Rio Grande**	**0.77**	**207**	*eP*		16 21 13.9	+0.1
RIOV				*eS*		16 21 23.9	0.0
GURV	**El Guri**	**1.89**	**238**	*eP*		16 21 31.0	0.0
GURV				*eS*		16 21 54.6	-0.2
ORIV	**Oritupano**	**1.95**	**279**	*eP*		16 21 31.2	-0.6
ORIV				*eS*		16 21 54.9	-1.3
GUNV	**Guanoco**	**2.02**	**314**	*eP*		16 21 31.4	-1.4
GUNV				*eS*		16 21 56.6	-1.4
GUIV	**Guiria**	**2.02**	**338**	*eP*		16 21 32.0	-0.8
GUIV				*eS*		16 21 57.5	-0.6
CRUV	**Carupano**	**2.58**	**318**	*eP*		16 21 38.5	-2.1
LUEV	**Luepa**	**2.90**	**180**	*eP*		16 21 43.5	-1.7
PRGV	**PARIAGUAN**	**3.15**	**270**	*eS*		16 22 22.9	-3.0
PCRV	**Puerto La Cruz**	**3.43**	**294**	*eP*		16 21 50.8	-1.5
PCRV				*eS*		16 22 28.9	-4.1
CUPV	**Cœpira**	**4.46**	**287**	*eP*		16 22 05.0	-1.4
CUPV				*eS*		16 22 53.0	-5.4
BIRV	**Birongo**	**5.04**	**290**	*eP*		16 22 12.9	-1.5
BIRV				*eS*		16 23 07.9	-4.7
BAUV	**El Baul**	**6.50**	**272**	*eP*		16 22 31.8	-2.7
MAPV	**Macapo**	**6.98**	**279**	*eP*		16 22 38.9	-2.3
TEPV	**Terepaima**	**7.72**	**280**	*eP*		16 22 48.6	-2.7

IDC 08 16:22:26.0±1.5, 12.62S×166.12E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.9/2, Error ellipse: s-maj=32.9km s-min=29.6km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.83**	**297**	Pn	Pn	16 24 08.8	+1.2
	15nm,0.3s,baz=117,slow=4.5,SNR=16						
HNR				Sn	Sn	16 25 26.2	0.0
	baz=30,slow=20,SNR=2.4						
DZM	**Mont Dzumac**	**9.41**	**178**	Pn	Pn	16 24 44.5	+1.5
	0.2nm,0.3s,baz=329,slow=19,SNR=5.4						
DZM				Sn	Sn	16 26 25.2	-4.5
	0.1nm,0.3s,baz=161,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**31.32**	**252**	P	P	16 28 47.6	-0.8
	0.5nm,0.9s,baz=84,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**32.45**	**246**	P	P	16 28 57.5	-0.8
	0.4nm,0.6s,baz=68,slow=9.5,SNR=10.0						
CMAR	**Chiang Mai Arr**	**73.07**	**294**	P	P	16 33 59.2	+0.6
	0.4nm,0.7s,baz=112,slow=3.6,SNR=4.2						
ILAR	**Eielson Array**	**84.88**	**18**	P	P	16 35 01.3	-1.1
	1.5nm,1.4s,baz=220,slow=5.6,SNR=2.8						
MKAR	**Makanchi Array**	**94.91**	**317**	P	P	16 35 52.1	+1.8
	0.3nm,0.7s,baz=96,slow=6.4,SNR=4.8						

*IDC **08** 16:26:57.1±0.9, 0.88S×132.80E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML3.9/2, MS3.4/1, Ms1 3.3/1, ms1mx2.3/41, Error ellipse: s-maj=55.8km s-min=12.3km az=80.0*
*ISCJB **08** 16:26:59.6±0.6, 0.76S±0.06×133.31E±0.05, h33km, mb4.0/7, MS3.3/1, Error ellipse: s-maj=8.5km s-min=7.2km az=42.1*
*DJA **08** 16:27:00.3±0.7, 1.1S±11×13.3E±, h102km±16km, M4.3/7, mb4.4/4, mB5.1/2, MLv4.3/7, Mw(mB)4.4/2*
*AUST **08** 16:27:04.8, 0.98S×133.00E, h60km*
ISC 08 16:27:02.0±0.8, 0.81S±0.06×133.24E±0.06, h35km, n27, σ1§95/29, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.98**	**268**	P	**Pn**	**16 27 31.3**	**-1.8**
	baz=1.7,SNR=332						
SWI				S	**Sn**	**16 27 58.1**	**+1.4**
	baz=1.7,SNR=5.5						
SWI	**Sorong**	**1.98**	**268**	P	**Pn**	**16 27 32.4**	**-0.7**
FAKI	**Fak Fak**	**2.32**	**205**	P	**Pn**	**16 27 38.7**	**+0.9**
BAKI	**Biak**	**2.89**	**98**	P	**Pn**	**16 27 45.2**	**-0.4**
TLE	**Tual**	**4.83**	**186**	P	**Pn**	**16 28 14.6**	**+2.4**
	baz=4.7,SNR=18						
TLE				S	**Sn**	**16 29 09.3**	**+2.4**
	baz=4.7,SNR=4.8						
MSAI	**Masohi**	**4.99**	**240**	P	**Pn**	**16 28 16.3**	**+1.8**
	30nm,0.7s,0.1nm						
LBMI	**Labuha**	**5.74**	**272**	P	**Pn**	**16 28 25.7**	**+0.9**
	41nm,0.9s,0.2nm						
AAI	**Ambon**	**5.80**	**240**	P	**Pn**	**16 28 26.6**	**+1.1**
	baz=5.5,SNR=17						
AAI	**Ambon**	**5.80**	**240**	P	Pn	**16 28 26.7**	**+1.1**
	105nm,0.5s,1μm0.4nm						
JAY	**Jayapura**	**7.65**	**103**	P	Pn	16 28 44.2	-6.9
KDU	**Kakadu**	**11.83**	**184**	P	**Pn**	**16 29 47.1**	**-1.2**
	baz=12,SNR=44						
KDU				S	**Sn**	**16 31 55.5**	**-3.7**
	baz=12,SNR=8.0						
MTN	**Manton Dam**	**12.14**	**190**	P	**Pn**	**16 29 51.3**	**-1.3**
	baz=12,SNR=35						
MTN				S	**Sn**	**16 32 01.3**	**-5.5**
	baz=12,SNR=6.9						
PCI	**Palu**	**13.40**	**269**	P	Pn	16 30 06.0	-3.8
	baz=13,SNR=38						
PCI				S	Sn	16 32 12.8	-25
	baz=13,SNR=8.4						
WSI	**Waingapu**	**15.60**	**235**	P	**Pn**	**16 30 40.1**	**+0.7**
	baz=15,SNR=4.5						
FITZ	**Fitzroy Crossi**	**18.74**	**203**	P	**P**	**16 31 15.5**	**-2.5**
	0.2nm,0.3s,baz=35,slow=12,SNR=5.4						
FITZ				S	Sn	16 34 32.9	-14
	0.4nm,0.3s,baz=146,slow=13,SNR=3.7						
FITZ	**Fitzroy Crossi**	**18.74**	**203**	P	**Pn**	**16 31 19.9**	**+1.4**
	baz=19,SNR=4.2						
FITZ				S	Sn	16 34 31.8	-16
	baz=19,SNR=3.8						
WRA	**Warramunga Arr**	**19.05**	**177**	P	**P**	**16 31 20.7**	**-0.7**
	0.5nm,0.3s,baz=357,slow=12,SNR=38						
WRA				S	Sn	16 34 44.4	-10
	0.3nm,0.3s,baz=357,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**22.73**	**178**	P	**P**	**16 32 00.8**	**-0.3**
	2.8nm,0.4s,baz=356,slow=11,SNR=66						
ASAR				S	**S**	**16 36 10.7**	**+3.0**
	0.9nm,0.7s,baz=356,slow=27,SNR=4.1						
XMIS	**Christmas Isla**	**29.06**	**250**	P	P	16 33 14.7	+15
	baz=29,SNR=4.1						
STKA	**Stephens Creek**	**31.90**	**166**	P	**P**	**16 33 24.4**	**+0.2**
	2.3nm,0.5s,baz=353,slow=9.5,SNR=5.1						
STKA				LR	LR	16 47 12.1	
	comp=Z,66nm,19.1s,baz=188,slow=38						
ARPS	**Mount Arapiles**	**36.66**	**168**	P	**P**	**16 34 06.5**	**+1.1**
	baz=37,SNR=9.4						
MKAR	**Makanchi Array**	**65.00**	**324**	P	**P**	**16 37 38.3**	**-0.3**
	1.2nm,0.6s,baz=113,slow=7.8,SNR=19						
ZALV	**Zalesovo Beam**	**67.61**	**331**	P	**P**	**16 37 54.0**	**-1.0**
	0.4nm,0.4s,baz=116,slow=6.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**69.07**	**326**	P	**P**	**16 38 03.5**	**-0.8**
	2.2nm,0.7s,baz=121,slow=5.7,SNR=32						
BVAR	**Borovoye Array**	**74.67**	**326**	P	**P**	**16 38 37.4**	**-0.4**
	0.5nm,0.5s,baz=125,slow=7.4,SNR=5.2						
ILAR	**Eielson Array**	**86.40**	**25**	P	**P**	**16 39 42.8**	**+2.2**
	0.3nm,0.6s,baz=251,slow=4.8,SNR=7.1						
TORD	**Torodi Ar. Bea**	**130.48**	**287**	PKP	**PKPdf**	**16 46 09.0**	**-1.0**
	0.4nm,0.8s,baz=43,slow=0.7,SNR=2.4						

IDC 08 16:34:34.9±2.8, 51.73N×157.45E, h124km±31km, mb2.9/4, mb1 3.3/4, mb1mx2.8/26, mbtmp2.9/4, Error ellipse: s-maj=85.3km s-min=23.6km az=128.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**1.38**	**6**	P	Pn	16 35 01.4	+0.2
	3.1nm,0.3s,baz=187,slow=14,SNR=86						
PETK				S	Sn	16 35 21.2	-0.1
	0.9nm,0.3s,baz=148,slow=17,SNR=4.6						
ILAR	**Eielson Array**	**30.92**	**44**	P	P	16 40 39.2	-0.2
	0.3nm,0.8s,baz=266,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**45.26**	**41**	P	P	16 42 39.3	-0.1
	0.2nm,0.5s,baz=296,slow=8.4,SNR=4.2						
TXAR	**Lajitas Array**	**72.67**	**65**	P	P	16 45 49.5	+0.3
	0.3nm,0.5s,baz=317,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**77.87**	**202**	P	P	16 46 18.5	-0.1
	0.6nm,1.2s,baz=19,slow=5.9,SNR=3.2						

IDC 08 16:35:02.7±1.6, 7.58S×127.12E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=99.3km s-min=25.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.56**	**188**	Pn	Pn	16 37 35.9	+0.5
	0.2nm,0.3s,baz=15,slow=14,SNR=3.9						
FITZ				Sn	Sn	16 39 28.6	-5.9
	0.5nm,0.3s,baz=275,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**14.14**	**151**	Pn	Pn	16 38 22.9	-1.6
	0.2nm,0.3s,baz=329,slow=13,SNR=9.7						
WRA				Sn	Sn	16 40 55.0	-7.3
	0.3nm,0.3s,baz=328,slow=24,SNR=6.6						
ASAR	**Alice Springs**	**17.27**	**159**	Pn	Pn	16 39 06.2	+0.7
	0.1nm,0.3s,baz=332,slow=10,SNR=6.5						
ASAR				Sn	Sn	16 42 10.6	-7.8
	0.1nm,0.3s,baz=338,slow=22,SNR=5.2						
MKAR	**Makanchi Array**	**67.18**	**328**	P	P	16 45 58.6	0.0
	0.1nm,0.5s,baz=132,slow=7.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**70.87**	**335**	P	P	16 46 21.4	0.0
	0.3nm,0.5s,baz=152,slow=6.4,SNR=2.7						

IDC 08 16:46:43.3±4.0, 6.54N×74.23W, h34km±33km, mb3.5/4, mb1 3.7/4, mb1mx3.3/23, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=61.8km s-min=22.7km az=77.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.68**	**183**	Pg	Pb	16 47 12.8	-1.3
	19nm,0.3s,baz=5.9,slow=1.1,SNR=21						
ROSC				Lg	Lg	16 47 40.8	
	44nm,0.3s,baz=85,slow=20,SNR=6.0						
JTS	**JuntasAbangare**	**11.24**	**290**	LR	LR	16 53 04.9	
	comp=Z,60nm,18.8s,baz=29,slow=34						
LPAZ	**La Paz**	**23.47**	**165**	P	P	16 51 50.7	-0.1
	1.2nm,0.4s,baz=328,slow=10,SNR=3.6						
SIV	**San Ignacio**	**25.90**	**150**	P	P	16 52 11.9	-0.5
	0.9nm,0.6s,baz=346,slow=11,SNR=4.7						
SCHQ	**Schefferville**	**48.52**	**6**	P	P	16 55 24.2	+1.4
	1.9nm,0.9s,baz=204,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**63.15**	**340**	P	P	16 57 07.3	-0.2
	0.2nm,0.5s,baz=130,slow=6.5,SNR=3.4						
WRA	**Warramunga Arr**	**149.23**	**242**	PKPbc	PKPbc	17 06 28.2	-1.2
	0.2nm,0.6s,baz=104,slow=2.8,SNR=3.9						

IDC 08 16:56:21.1±4.5, 22.23N×93.81E, h77km±38km, mb3.1/5, mb1 3.3/6, mb1mx3.0/27, mbtmp3.1/6, ML3.4/1, Error ellipse: s-maj=75.6km s-min=18.3km az=61.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.10**	**127**	P	Pn	16 57 48.6	-0.1
	0.3nm,0.3s,baz=303,slow=13,SNR=15						
CMAR				S	Sn	16 59 03.4	+6.2
	baz=308,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**26.23**	**342**	P	P	17 01 48.7	0.0
	0.2nm,0.5s,baz=148,slow=9.5,SNR=4.7						
MKAR				pP	pP	17 02 02.4	-4.3
	0.6nm,0.8s,baz=156,slow=9.1,SNR=5.3						
KURBB	**Kurchatov Arra**	**30.77**	**341**	P	P	17 02 29.1	+0.1
	0.1nm,0.3s,baz=158,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**57.65**	**134**	P	P	17 06 03.5	-0.2
	0.3nm,0.3s,baz=320,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**60.01**	**137**	P	P	17 06 20.1	+0.1
	0.4nm,0.5s,baz=317,slow=6.4,SNR=11						
ILAR	**Eielson Array**	**81.64**	**22**	P	P	17 08 30.3	-0.2
	0.6nm,1.1s,baz=289,slow=5.4,SNR=4.3						

*MOS **08** 17:02:06.6±0.8, 36.11N×77.93E, h111km, mb4.6/20, Error ellipse: s-maj=10.8km s-min=5.2km az=111.3*
*NEIC **08** 17:02:07.5±0.4, 36.10N×78.02E, h107km±5km, mb4.6/17, Error ellipse: s-maj=7.9km s-min=3.4km az=57.0*
*ISCJB **08** 17:02:07.1±0.3, 36.10N±0.02×77.98E±0.04, h118km±4km, mb4.1/32, Error ellipse: s-maj=5.1km s-min=3.1km az=171.2*
*NNC **08** 17:02:09.1±1.6, 36.85N×77.73E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=12.6km s-min=7.7km az=167.0*
*IDC **08** 17:02:10.1±0.8, 36.09N×77.90E, h126km±5km, mb3.7/21, mb1 3.9/24, mb1mx3.8/33, mbtmp3.8/24, Error ellipse: s-maj=15.3km s-min=9.8km az=30.0*
*BJI **08** 17:02:10.8, 36.41N×78.13E, h126km, mb4.0/3*
ISC 08 17:02:08.8±0.5, 36.02N±0.04×78.17E±0.05, h125km±4km, n188, σ2§00/218, mb4.1/32, 4C-11D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.91**	**334**	P	Pn	17 03 03.5	-3.8
KSH				S	Sn	17 03 43.1	-9.5
KSH				smax	smax		
	comp=N,830nm,0.6s						
KSH				smax	smax		
	comp=E,780nm,0.4s						
DLH	**Dalhousie**	**3.92**	**208**	*eP*	**Pn**	**17 03 09.0**	**+1.4**
DLH				*eS*	**Sn**	**17 03 52.0**	**-1.1**
THN	**Thein Dam**	**4.11**	**210**	*i P*	**Pn**	**17 03 11.5**	**+1.6**
THN				*eS*	**Sn**	**17 03 56.5**	**-0.8**
JMU	**Jammu**	**4.26**	**220**	*eP*	**Pn**	**17 03 12.0**	**+0.1**
JMU				*eS*	**Sn**	**17 03 58.0**	**-2.9**
SDNR	**Sundarnagar**	**4.61**	**193**	*eP*	**Pn**	**17 03 19.5**	**+2.8**
SDNR				*eS*	**Sn**	**17 04 10.0**	**+0.5**
CHCP	**Chirah Chowk**	**4.67**	**241**	P	**Pn**	**17 03 17.7**	**+0.2**
BHK	**Bhakra**	**4.81**	**198**	*eP*	Pn	17 03 22.6	+3.2
BHK				*ex*	**Sn**	**17 04 17.0**	**+2.7**
SMLA	**Simla**	**4.95**	**190**	*i* P	**Pn**	**17 03 23.6**	**+2.5**
SMLA				*i* S	**Sn**	**17 04 16.8**	**-0.6**
SMLA				⇓AML	AML	17 04 18.1	
	comp=N,10μm,0.2s						
SMLA				⇓AML	AML	17 04 19.1	
	comp=E,8μm,0.2s						
CEP	**Cherat**	**5.59**	**249**	P	**Pn**	**17 03 27.8**	**-2.1**
CEP				S	Sn	17 04 27.0	-6.1
DDI	**Dehra Dun**	**5.68**	**181**	*i*P	**Pn**	**17 03 33.5**	**+2.4**
DDI				*ex*	**Sn**	**17 04 31.0**	**-4.1**
SARP	**Sargodha**	**6.13**	**230**	P	**Pn**	**17 03 35.7**	**-1.3**
KKR	**Kurukshetra**	**6.14**	**191**	*eP*	**Pn**	**17 03 40.1**	**+2.9**
KKR				*eS*	**Sn**	**17 04 44.1**	**-2.2**
ULHL	**Ulahol**	**6.40**	**347**	P	**Pn**	**17 03 40.1**	**-0.7**
	SNR=69						
KZA	**Kyzart**	**6.47**	**340**	P	**Pn**	**17 03 40.2**	**-1.7**
	SNR=42						
PTH	**Pithoragarh**	**6.67**	**164**	*eS*	**Sn**	**17 04 56.7**	**-2.7**
LGTI	**Lohaghat**	**6.78**	**164**	*eP*	Pn	17 04 00.0	+14
LGTI				*eS*	Sn	17 05 12.2	+11
UCH	**Uchtor**	**6.82**	**336**	P	**Pn**	**17 03 45.1**	**-1.7**
	SNR=14						
AML	**Almayashu**	**7.03**	**332**	P	**Pn**	**17 03 47.3**	**-2.1**
	SNR=10						
KBK	**Karagaybulak**	**7.09**	**340**	P	**Pn**	**17 03 49.4**	**-0.6**
	SNR=46						
TKM2	**Tokmak 2**	**7.18**	**345**	⇓Pn	Pn	17 03 43.3	-8.0
	comp=E,14nm,0.7s						
TKM2				⇓Sn	Sn	17 04 56.4	-15
TKM2	**Tokmak 2**	**7.18**	**345**	*eP*	**Pn**	**17 03 49.8**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,61nm,0.9s						
TKM2	**Tokmak 2**	**7.18**	**345**	*eP*	**Pn**	**17 03 49.8**	**-1.5**
	comp=Z,61nm,0.9s						
TKM2	**Tokmak 2**	**7.18**	**345**	P	**Pn**	**17 03 50.0**	**-1.3**
	SNR=23						
AAK	**Ala-Archa**	**7.20**	**338**	P	**Pn**	**17 03 50.4**	**-1.1**
	comp=Z,14nm,0.3s,baz=147,slow=8.7,SNR=190						
AAK				S	**Sn**	**17 05 06.3**	**-5.5**
	comp=Z,8.7nm,0.3s,baz=38,slow=20,SNR=7.8						
AAK	**Ala-Archa**	**7.20**	**338**	*eP*	**Pn**	**17 03 50.1**	**-1.4**
AAK				pmax	pmax		
	comp=Z,128nm,0.3s						
AAK	**Ala-Archa**	**7.20**	**338**	*eP*	**Pn**	**17 03 50.1**	**-1.4**
	comp=Z,128nm,0.3s						
AAK	**Ala-Archa**	**7.20**	**338**	P	**Pn**	**17 03 50.2**	**-1.3**
	SNR=66						
KNDC	**Almaty**	**7.25**	**353**	⇓Pn	Pn	17 03 45.4	-6.8
	comp=Z,29nm,0.5s						
KNDC				⇓Sn	Sn	17 04 58.6	-14
	comp=Z,104nm,1.1s						
FRU	**Bishkek**	**7.34**	**339**	*i* P	**Pn**	**17 03 52.0**	**-1.4**
FRU				*e*		17 05 12.0	
FRU				pmax	pmax		
	comp=Z,30nm,1.4s						
FRU				smax	smax		
	comp=N,130nm,1.8s						
NDI	**New Delhi**	**7.36**	**187**	*eP*	**Pn**	**17 03 54.0**	**+0.4**
NDI				*eS*	Sn	17 05 10.0	-5.6
CHMS	**Chumysh**	**7.46**	**340**	P	**Pn**	**17 03 53.5**	**-1.4**
	SNR=15						
EKS2	**Erkin-Say**	**7.46**	**334**	*eP*	**Pn**	**17 03 52.6**	**-2.4**
EKS2				pmax	pmax		
	comp=Z,11nm,0.6s						
EKS2	**Erkin-Say**	**7.46**	**334**	*eP*	**Pn**	**17 03 52.6**	**-2.4**
	comp=Z,11nm,0.6s						
EKS2	**Erkin-Say**	**7.46**	**334**	P	**Pn**	**17 03 54.0**	**-1.0**
	SNR=7.5						
AYAN	**Aya Nagar**	**7.56**	**187**	*eP*	**Pn**	**17 03 57.6**	**+1.2**
AYAN				*eS*	**Sn**	**17 05 18.1**	**-2.5**
KBL	**Kabul**	**7.61**	**262**	*eP*	Pn	17 03 53.4	-3.8
KBL				pmax	pmax		
	comp=Z,13nm,0.4s						
KBL	**Kabul**	**7.61**	**262**	*eP*	Pn	17 03 53.4	-3.8
	comp=Z,13nm,0.4s						
USP	**Ospenovka**	**7.78**	**340**	P	**Pn**	**17 03 58.0**	**-1.2**
	SNR=11						
SONA	**Sohna**	**7.80**	**187**	*eP*	**Pn**	**17 04 00.8**	**+1.2**
SONA				*eS*	**Sn**	**17 05 21.2**	**-5.1**
SONA				AML	AML	17 05 27.0	
	comp=N,136nm,0.2s						
SONA				AML	AML	17 05 27.6	
	comp=E,161nm,0.2s						
KHET	**Khetri**	**8.17**	**195**	*eP*	**Pn**	**17 04 04.7**	**+0.1**
KHET				*eS*	Sn	17 05 28.7	-6.7
AGRA	**Agra**	**8.76**	**181**	*eP*	**Pn**	**17 04 13.4**	**+0.9**
AGRA				*eS*	Sn	17 05 44.0	-5.6
AGRA				AML	AML	17 05 49.4	
	comp=E,154nm,0.3s						
AGRA				AML	AML	17 05 50.5	
	comp=N,114nm,0.4s						
PYUN	**Piuthan**	**8.89**	**151**	*ePn*	**Pn**	**17 04 15.5**	**+1.0**
PYUN				*eSn*	**Sn**	**17 05 50.7**	**-2.3**
	comp=N,437nm,0.7s						
PYUN	**Piuthan**	**8.89**	**151**	*ePn*	**Pn**	**17 04 15.5**	**+1.0**
PYUN				*eSn*	**Sn**	**17 05 50.7**	**-2.3**
DANN	**Dangsing**	**8.99**	**147**	*ePn*	**Pn**	**17 04 16.2**	**+0.3**
DANN				*eSn*	**Sn**	**17 05 52.6**	**-3.0**
	comp=N,121nm,0.5s						
DANN	**Dangsing**	**8.99**	**147**	*ePn*	**Pn**	**17 04 16.2**	**+0.3**
DANN				*eSn*	**Sn**	**17 05 52.6**	**-3.0**
KK31	**Karatay Array**	**9.22**	**322**	Pn	Pn	17 04 14.3	-4.4
	comp=N,1.4nm,0.3s,baz=142,slow=12,SNR=99						
KK31				⇓Sn	Sn	17 05 52.9	-7.7
	comp=N,5.0nm,0.3s,baz=140,slow=22,SNR=4.0						
KKAR	**Karatay Array**	**9.22**	**322**	*eP*	Pn	17 04 14.5	-4.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR	**Karatay Array**	**9.22**	**322**	*eP*	Pn	17 04 14.5	-4.2
	comp=Z,5.0nm,0.3s						
KOLN	**Koldanda**	**9.43**	**149**	*ePn*	**Pn**	**17 04 22.9**	**+1.2**
KOLN				*eSn*	**Sn**	**17 06 02.9**	**-3.1**
	comp=Z,231nm,0.6s						
KOLN	**Koldanda**	**9.43**	**149**	*ePn*	**Pn**	**17 04 22.9**	**+1.2**
KOLN				*eSn*	**Sn**	**17 06 02.9**	**-3.1**
GKN	**Gorkha**	**9.69**	**144**	*ePn*	**Pn**	**17 04 26.6**	**+1.4**
GKN				*eSn*	**Sn**	**17 06 08.3**	**-4.1**
	comp=Z,83nm,0.3s						
GKN	**Gorkha**	**9.69

RAMN	**Ramite**	**11.54**	**139**	*e*Pn		**Pn**	**17 04 50.2**	**+0.1**
RAMN				*e*Sn		**Sn**	**17 06 53.4**	**-4.0**
	comp=N,118nm,0.6s							
RAMN	**Ramite**	**11.54**	**139**	*e*Pn		**Pn**	**17 04 50.2**	**+0.1**
RAMN				*e*Sn		**Sn**	**17 06 53.4**	**-4.0**
TAPN	**Taplejung**	**11.85**	**134**	*e*Pn		**Pn**	**17 04 55.5**	**+1.3**
TAPN				*e*Sn		**Sn**	**17 07 00.1**	**-4.8**
	comp=N,40nm,0.5s							
TAPN	**Taplejung**	**11.85**	**134**	*e*Pn		**Pn**	**17 04 55.5**	**+1.3**
TAPN				*e*Sn		**Sn**	**17 07 00.1**	**-4.8**
ODAN	**Odare**	**12.04**	**137**	*e*Pn		**Pn**	**17 04 57.2**	**+0.5**
ODAN				*e*Sn		**Sn**	**17 07 04.2**	**-5.3**
	comp=N,87nm,0.5s							
ODAN	**Odare**	**12.04**	**137**	*e*Pn		**Pn**	**17 04 57.2**	**+0.5**
ODAN				*e*Sn		**Sn**	**17 07 04.2**	**-5.3**
LSA	**Lhasa**	**12.59**	**116**	P		**P**	**17 05 08.3**	**-2.3**
KURBB	**Kurchatov Arra**	**14.60**	**1**	P		Pn	17 05 25.3	-3.9
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=46							
KURBB				S		**Sn**	**17 08 13.0**	**+2.5**
	baz=187,slow=21,SNR=5.0							
KURBB	**Kurchatov Arra**	**14.60**	**1**	⇑P		Pn	17 05 25.6	-3.6
	comp=N,0.1nm,0.3s							
KURK	**Kurchatov**	**14.70**	**1**	⇑P		Pn	17 05 26.7	-3.8
	comp=N,4.8nm,0.7s							
KURK	**Kurchatov**	**14.70**	**1**	*e*P		Pn	17 05 26.6	-3.8
KURK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	**14.70**	**1**	*e*P		Pn	17 05 26.6	-3.8
	comp=Z,4.7nm,0.7s							
GTA	**Gaotai**	**17.45**	**72**	*e*P		**Pn**	**17 06 08.8**	**+4.2**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
VOSK	**Vostochnaya**	**17.46**	**345**	⇓P		**P**	**17 06 03.4**	**-0.4**
	comp=Z,4.9nm,0.8s							
LATR	**Latur**	**17.59**	**185**	*e*P		**Pn**	**17 06 10.5**	**+4.3**
LATR				*ex*		x	17 09 10.8	
POO	**Poona**	**17.83**	**194**	*e*P		**Pn**	**17 06 13.0**	**+3.8**
POO				*ex*		x	17 09 18.0	
BVA0	**Borovoye Array**	**17.87**	**345**	P		**P**	**17 06 07.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=156,slow=10,SNR=34							
BVAR	**Borovoye Array**	**17.87**	**345**	P		**P**	**17 06 07.7**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=150,slow=13,SNR=20							
BVAR	**Borovoye Array**	**17.87**	**345**	P		**P**	**17 06 07.7**	**-0.6**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**17.92**	**344**	⇓P		**P**	**17 06 08.6**	**-0.2**
	comp=Z,10nm,0.7s							
BRVK	**Borovoye**	**17.92**	**344**	*e*P		**P**	**17 06 08.8**	**0.0**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BRVK	**Borovoye**	**17.92**	**344**	*e*P		**P**	**17 06 08.8**	**0.0**
	comp=Z,7.0nm,0.7s							
ZRNK	**Zerenda**	**18.12**	**342**	⇓P		**P**	**17 06 10.1**	**-0.9**
	comp=Z,3.4nm,0.6s							
ZAA0	**Zalesovo Array**	**18.52**	**12**	*e*P		**P**	**17 06 14.1**	**-1.2**
ZALV	**Zalesovo Beam**	**18.52**	**12**	P		**P**	**17 06 14.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=195,slow=10.0,SNR=17							
ZALV				S		**S**	**17 09 37.2**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=202,slow=19,SNR=3.0							
ZALV	**Zalesovo Beam**	**18.52**	**12**	P		**P**	**17 06 14.5**	**-0.8**
ZALV				S		**S**	**17 09 37.2**	**-2.8**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**18.77**	**320**	P		**P**	**17 06 19.1**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=127,slow=12,SNR=45							
ABKAR	**Akbulak array**	**18.77**	**320**	*e*P		**P**	**17 06 16.7**	**-1.5**
	comp=Z,3.6nm,0.6s							
NVS	**Novosibirsk**	**19.15**	**9**	*e*P		**P**	**17 06 20.9**	**-1.2**
NVS				pmax		pmax		
	comp=N,8.0nm,0.5s							
NVS				pmax		pmax		
	comp=E,4.0nm,0.5s							
NVS				pmax		pmax		
	comp=Z,10.0nm,0.5s							
AKTO	**Aktyubinsk**	**20.48**	**321**	P		**P**	**17 06 35.5**	**-1.1**
	comp=Z,2.6nm,0.4s,baz=116,slow=7.5,SNR=15							
AKTO				S		S	17 10 10.4	-8.5
	comp=Z,0.3nm,0.4s,baz=272,slow=17,SNR=2.0							
AKTO	**Aktyubinsk**	**20.48**	**321**	P		**P**	**17 06 35.5**	**-1.1**
AKTO				S		S	17 10 10.4	-8.5
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.4s							
ZAK	**Zakamensk**	**23.12**	**44**	*e*P		**P**	**17 07 05.6**	**+1.7**
ZAK				*e*			17 07 31.2	
SONM	**Songino Array**	**23.95**	**52**	P		**P**	**17 07 15.0**	**+3.5**
	comp=Z,3.0nm,0.6s,baz=246,slow=9.6,SNR=39							
SONM				pP		**pP**	**17 07 40.2**	**+3.1**
	comp=Z,2.2nm,0.7s,baz=247,slow=12,SNR=4.9							
ULN	**Ulaanbaatar**	**24.38**	**52**	P		**P**	**17 07 16.1**	**+0.7**
	comp=Z,2.4nm,0.7s							
CHTO	**Chiang Mai**	**25.08**	**128**	*e*P		**P**	**17 07 19.8**	**-2.1**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**25.08**	**128**	*e*P		**P**	**17 07 19.8**	**-2.1**
	comp=Z,3.7nm,0.8s							
CM31	**Chiang Mai Arr**	**25.34**	**128**	P		**P**	**17 07 27.3**	**+3.1**
	comp=Z,9.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**25.34**	**128**	P		**P**	**17 07 27.5**	**+3.2**
	comp=Z,10.0nm,0.8s,baz=314,slow=8.8,SNR=55							
BRTR	**Keskin Array B**	**35.08**	**290**	P		**P**	**17 08 50.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=98,slow=7.1,SNR=5.8							
BRTR				pP		**pP**	**17 09 19.1**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=105,slow=9.3,SNR=3.3							
AKASG	**Malin Array Be**	**37.78**	**308**	P		**P**	**17 09 11.6**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=78,slow=8.9,SNR=11							
AKASG	**Malin Array Be**	**37.78**	**308**	P		**P**	**17 09 11.6**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AK01	**Malin Array Si**	**37.78**	**308**	*e*P		**P**	**17 09 11.1**	**-1.6**
AK02	**Malin Array Si**	**37.79**	**308**	*e*P		**P**	**17 09 12.0**	**-0.7**
JOF	**Joensuu**	**39.26**	**328**	*e*P		**P**	**17 09 25.1**	**+0.3**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.2s							
JOF	**Joensuu**	**39.26**	**328**	*ep*		**P**	**17 09 25.1**	**+0.3**
	comp=Z,0.5nm,0.2s							
KSRS	**Korea Array**	**39.52**	**73**	P		**P**	**17 09 30.1**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=288,slow=7.8,SNR=5.2							
FINES	**FINESS Array B**	**41.17**	**325**	P		**P**	**17 09 40.3**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=112,slow=9.4,SNR=30							
KAF	**Kangasniemi**	**41.23**	**326**	*e*P		**P**	**17 09 41.1**	**0.0**
KAF	**Kangasniemi**	**41.23**	**326**	*ep*		**P**	**17 09 41.1**	**0.0**
	comp=Z,0.4nm,0.2s							
JNU	**Nakatsue**	**43.06**	**78**	P		P	17 09 59.6	+3.2
	comp=Z,5.1nm,0.8s,baz=316,slow=2.4,SNR=5.1							
ARCES	**ARCESS Array B**	**43.87**	**336**	P		**P**	**17 10 02.3**	**0.0**
	comp=Z,1.1nm,0.4s,baz=99,slow=8.2,SNR=14							
GERES	**GERESS Array B**	**47.91**	**307**	P		**P**	**17 10 34.5**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=79,slow=5.1,SNR=3.6							
NB2	**NORSAR Subarra**	**48.25**	**323**	P		**P**	**17 10 36.1**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**48.25**	**323**	P		**P**	**17 10 36.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=91,slow=7.6,SNR=8.4							
CDF	**Champ du Feu**	**52.17**	**307**	*e*P		**P**	**17 11 06.0**	**-0.5**
CDF	**Champ du Feu**	**52.17**	**307**	*e*P		**P**	**17 11 06.0**	**-0.5**
CDF	**Champ du Feu**	**52.17**	**307**	*e*P		**P**	**17 11 06.0**	**-0.5**
HINF	**Hinteralfeld**	**52.59**	**307**	*e*P		**P**	**17 11 09.0**	**-0.6**
HINF	**Hinteralfeld**	**52.59**	**307**	*e*P		**P**	**17 11 09.0**	**-0.6**
HINF	**Hinteralfeld**	**52.59**	**307**	*e*P		**P**	**17 11 09.0**	**-0.6**
LPG	**La Plagne**	**53.28**	**304**	*e*P		**P**	**17 11 14.9**	**-0.1**
	comp=Z,1.6nm,0.3s							
LPG	**La Plagne**	**53.28**	**304**	*e*P		**P**	**17 11 14.9**	**-0.1**
LPG				pmax		pmax		
	comp=Z,2.0nm,0.3s							
LPG	**La Plagne**	**53.28**	**304**	*e*P		**P**	**17 11 14.9**	**-0.1**
	comp=Z,1.6nm,0.3s							
LPL	**La Plagne**	**53.29**	**304**	*e*P		**P**	**17 11 15.1**	**+0.1**
	comp=Z,4.6nm,0.6s							
LPL	**La Plagne**	**53.29**	**304**	*e*P		**P**	**17 11 15.1**	**+0.1**
LPL				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LPL	**La Plagne**	**53.29**	**304**	*e*P		**P**	**17 11 15.1**	**+0.1**
	comp=Z,4.6nm,0.6s							
SBF	**Sospel**	**53.29**	**302**	*e*P		**P**	**17 11 13.7**	**-1.2**
	comp=Z,17nm,0.6s							
SBF	**Sospel**	**53.29**	**302**	*e*P		**P**	**17 11 13.7**	**-1.2**
SBF				pmax		pmax		
	comp=Z,17nm,0.6s							
SBF	**Sospel**	**53.29**	**302**	*e*P		**P**	**17 11 13.7**	**-1.2**
	comp=Z,17nm,0.6s							
GIVF	**Givet**	**53.31**	**310**	*e*P		**P**	**17 11 14.0**	**-0.8**
GIVF	**Givet**	**53.31**	**310**	*e*P		**P**	**17 11 14.0**	**-0.8**
GIVF	**Givet**	**53.31**	**310**	*e*P		**P**	**17 11 14.0**	**-0.8**
CABF	**La Chapelle**	**53.41**	**305**	*e*P		**P**	**17 11 16.1**	**+0.4**
CABF	**La Chapelle**	**53.41**	**305**	*e*P		**P**	**17 11 16.1**	**+0.4**
CABF	**La Chapelle**	**53.41**	**305**	*e*P		**P**	**17 11 16.1**	**+0.4**
MEZF	**Maizieres J'vi**	**53.58**	**308**	*e*P		**P**	**17 11 16.0**	**-0.7**
	comp=Z,6.1nm,0.5s							
MEZF	**Maizieres J'vi**	**53.58**	**308**	*e*P		**P**	**17 11 16.0**	**-0.7**
	comp=Z,6.1nm,0.5s							
BAIF	**Baives**	**53.70**	**310**	*e*P		**P**	**17 11 17.5**	**-0.1**
BAIF	**Baives**	**53.70**	**310**	*e*P		**P**	**17 11 17.5**	**-0.1**
BAIF	**Baives**	**53.70**	**310**	*e*P		**P**	**17 11 17.5**	**-0.1**
LMR	**La Mourre**	**54.10**	**301**	*e*P		**P**	**17 11 20.1**	**-0.5**
LMR	**La Mourre**	**54.10**	**301**	*e*P		**P**	**17 11 20.1**	**-0.5**
LMR	**La Mourre**	**54.10**	**301**	*e*P		**P**	**17 11 20.1**	**-0.5**
SMF	**Signal de Mont**	**54.89**	**306**	*e*P		**P**	**17 11 25.5**	**-0.8**
SMF	**Signal de Mont**	**54.89**	**306**	*e*P		**P**	**17 11 25.5**	**-0.8**
SMF	**Signal de Mont**	**54.89**	**306**	*e*P		**P**	**17 11 25.5**	**-0.8**
SSF	**Saint Saulge**	**54.98**	**306**	*e*P		**P**	**17 11 26.2**	**-0.8**
SSF	**Saint Saulge**	**54.98**	**306**	*e*P		**P**	**17 11 26.2**	**-0.8**
SSF	**Saint Saulge**	**54.98**	**306**	*e*P		**P**	**17 11 26.2**	**-0.8**
AVF	**Avril sur Loir**	**55.16**	**306**	*e*P		**P**	**17 11 27.1**	**-1.2**
	comp=Z,4.2nm,0.5s							
AVF	**Avril sur Loir**	**55.16**	**306**	*e*P		**P**	**17 11 27.1**	**-1.2**
AVF				pmax		pmax		
	comp=Z,4.0nm,0.5s							
AVF	**Avril sur Loir**	**55.16**	**306**	*e*P		**P**	**17 11 27.1**	**-1.2**
	comp=Z,4.2nm,0.5s							
TCF	**Toulx Ste Croi**	**56.07**	**306**	*e*P		**P**	**17 11 34.6**	**-0.2**
TCF	**Toulx Ste Croi**	**56.07**	**306**	*e*P		**P**	**17 11 34.6**	**-0.2**
TCF	**Toulx Ste Croi**	**56.07**	**306**	*e*P		**P**	**17 11 34.6**	**-0.2**
LDF	**La Druitiere**	**56.84**	**309**	*e*P		**P**	**17 11 39.5**	**-0.6**
	comp=Z,3.5nm,0.4s							
LDF	**La Druitiere**	**56.84**	**309**	*e*P		**P**	**17 11 39.5**	**-0.6**
LDF				pmax		pmax		
	comp=Z,4.0nm,0.4s							
LDF	**La Druitiere**	**56.84**	**309**	*e*P		**P**	**17 11 39.5**	**-0.6**
	comp=Z,3.5nm,0.4s							
MTLF	**Montolieu**	**57.05**	**302**	*e*P		**P**	**17 11 41.4**	**-0.3**
MTLF	**Montolieu**	**57.05**	**302**	*e*P		**P**	**17 11 41.4**	**-0.3**
MTLF	**Montolieu**	**57.05**	**302**	*e*P		**P**	**17 11 41.4**	**-0.3**
GRR	**Gorron**	**57.37**	**309**	*e*P		**P**	**17 11 43.0**	**-0.9**
GRR	**Gorron**	**57.37**	**309**	*e*P		**P**	**17 11 43.0**	**-0.9**
GRR	**Gorron**	**57.37**	**309**	*e*P		**P**	**17 11 43.0**	**-0.9**
ETSF	**Etsaut**	**59.10**	**303**	*e*P		**P**	**17 11 56.0**	**-0.1**
	comp=Z,6.5nm,0.7s							
ETSF	**Etsaut**	**59.10**	**303**	*e*P		**P**	**17 11 56.0**	**-0.1**
ETSF				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ETSF	**Etsaut**	**59.10**	**303**	*e*P		**P**	**17 11 56.0**	**-0.1**
	comp=Z,6.5nm,0.7s							
ESDC	**Sonseca Array**	**62.75**	**301**	P		**P**	**17 12 20.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=54,slow=7.1,SNR=6.6							
RES	**Resolute Bay**	**69.48**	**358**	P		**P**	**17 13 03.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=51,slow=6.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**71.52**	**273**	P		**P**	**17 13 15.6**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=49,slow=5.4,SNR=18							
TORD				pP		**pP**	**17 13 47.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=40,slow=5.6,SNR=4.1							
INK	**Inuvik**	**73.32**	**12**	P		**P**	**17 13 27.1**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=263,slow=8.6,SNR=12							
ILAR	**Eielson Array**	**73.53**	**18**	P		**P**	**17 13 28.1**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=327,slow=4.9,SNR=19							
ILAR				sP		**sP**	**17 14 13.8**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=304,slow=5.6,SNR=3.0							
WRA	**Warramunga Arr**	**76.93**	**127**	P		**P**	**17 13 49.7**	**+2.1**
	comp=Z,1.3nm,0.5s,baz=324,slow=6.1,SNR=54							
KDAK	**Kodiak Island**	**77.32**	**25**	P		**P**	**17 13 50.8**	**+1.5**
	comp=Z,3.5nm,0.6s,baz=157,slow=23,SNR=8.4							
ASAR	**Alice Springs**	**79.35**	**130**	P		**P**	**17 14 03.2**	**+2.3**
	comp=Z,1.7nm,0.7s,baz=318,slow=5.5,SNR=32							
YKA	**Yellowknife Ar**	**81.29**	**6**	P		**P**	**17 14 11.3**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=343,slow=5.2,SNR=35							
YKA				sP		**sP**	**17 14 57.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=341,slow=5.4,SNR=2.1							
STKA	**Stephens Creek**	**89.95**	**130**	P		**P**	**17 14 55.6**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=358,slow=4.9,SNR=4.3							

NIED ***08*** *17:07:00,24.°90N×143.°40E,h17km,Mw3.7 Best double couple: M₀4.32000×10¹⁴ NP1:φ₀s56.00000°,δ89.00000°, λ124.00000°. NP2:φ₀s147.00000°,δ34.00000°,λ1.00000°.*
IDC ***08*** *17:07:20.1±0.7,24.°86N×142.°62E,h0km,mb3.8/18, mb1 3.9/21,mb1mx3.9/31,mbtmp3.8/21,ML3.8/3, Error ellipse: s-maj=24.2km s-min=14.0km az=76.0*
JMA ***08*** *17:07:22.2±0.1,24.°90N×143.°44E,h95km,M4.2*
ISCJB ***08*** *17:07:23.1±0.7,24.°93N±0.°06×142.°7E±0.°2,h33km, mb3.8/18, Error ellipse: s-maj=20.4km s-min=7.9km az=175.9*

ISC 08 17:07:24.6±0.7,24.°84N±0.°07×142.°9E±0.°2,h35km,n36, σ1.°74/42,mb3.8/18,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.89**	**340**	P	**Pn**	**17 07 56.0**	**+1.6**
JHHJ				*e*S	**Sn**	**17 08 21.7**	**+4.7**
CBIJ	**Chichi jima**	**2.33**	**344**	Pn	**Pn**	**17 08 00.5**	**+0.1**
	42nm,0.3s,baz=269,slow=21,SNR=20						
CBIJ				Sn	**Sn**	**17 08 31.0**	**+3.2**
	96nm,0.3s,baz=283,slow=23,SNR=16						
CBIJ	**Chichi jima**	**2.33**	**344**	P	**Pn**	**17 08 01.2**	**+0.8**
CBIJ				*e*S	**Sn**	**17 08 30.6**	**+2.8**
BSO1	**Boso 1**	**9.91**	**351**	P	**Pn**	**17 09 44.8**	**+0.7**
JOD2	**Odawara 2**	**10.89**	**343**	P	**Pn**	**17 09 57.6**	**-0.4**
JYH	**Shimob**	**11.28**	**342**	P	**Pn**	**17 10 03.0**	**-0.1**
JHU	**Hanno**	**11.40**	**345**	*e*S	**Sn**	**17 12 07.6**	**-3.5**
JRY	**Ryogami san**	**11.65**	**344**	P	**Pn**	**17 10 07.7**	**-0.7**
JHO	**Hitachi**	**11.90**	**351**	P	**Pn**	**17 10 10.6**	**-1.1**
JAG	**Ashikaga**	**11.91**	**346**	P	**Pn**	**17 10 09.9**	**-2.0**
JAG				*e*S	**Sn**	**17 12 19.9**	**-3.7**
JNG	**Nsakai**	**12.24**	**341**	P	**Pn**	**17 10 16.8**	**+0.4**
MJAR	**Matsushiro Arr**	**12.33**	**342**	Pn	**Pn**	**17 10 16.3**	**-1.4**
	1.0nm,0.3s,baz=159,slow=11,SNR=23						
MAT	**Matsushiro**	**12.33**	**342**	P	**Pn**	**17 10 17.2**	**-0.5**
JIO	**Ouri**	**13.63**	**355**	P	**Pn**	**17 10 33.3**	**-2.1**
KSRS	**Korea Array**	**17.91**	**318**	P	**Pn**	**17 11 29.4**	**-1.5**
	0.1nm,0.3s,baz=124,slow=12,SNR=5.6						
USRK	**Ussuriysk Arra**	**21.25**	**338**	P	**P**	**17 12 08.3**	**+0.7**
	1.3nm,0.5s,baz=152,slow=9.1,SNR=4.2						
SONM	**Songino Array**	**36.78**	**318**	P	**P**	**17 14 27.2**	**-1.8**
	0.3nm,0.4s,baz=127,slow=8.5,SNR=9.5						
CMAR	**Chiang Mai Arr**	**41.20**	**270**	P	**P**	**17 15 06.5**	**+0.4**
	0.4nm,0.4s,baz=55,slow=7.5,SNR=4.9						
WRA	**Warramunga Arr**	**45.29**	**191**	P	**P**	**17 15 38.7**	**-0.4**
	0.5nm,0.5s,baz=12,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**49.00**	**191**	P	**P**	**17 16 07.4**	**-0.6**
	0.1nm,0.4s,baz=10,slow=7.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**51.32**	**320**	P	**P**	**17 16 26.4**	**-0.9**
	1.1nm,0.5s,baz=101,slow=7.5,SNR=7.1						
ZALV				PcP	**PcP**	**17 17 40.9**	**+0.1**
	0.3nm,0.4s,baz=159,slow=3.6,SNR=2.4						
MKAR	**Makanchi Array**	**52.40**	**311**	P	**P**	**17 16 32.5**	**-1.0**
	0.4nm,0.5s,baz=91,slow=9.6,SNR=12						
MKAR				PcP	**PcP**	**17 17 44.2**	**+0.2**
	0.5nm,0.5s,baz=82,slow=6.7,SNR=6.9						
KURBB	**Kurchatov Arra**	**55.07**	**316**	P	**P**	**17 16 51.6**	**-1.3**
	2.3nm,0.6s,baz=91,slow=8.2,SNR=37						
STKA	**Stephens Creek**	**56.41**	**181**	P	**P**	**17 17 05.2**	**+2.6**
	1.8nm,0.8s,baz=333,slow=11,SNR=2.0						
AAK	**Ala-Archa**	**58.07**	**306**	P	**P**	**17 17 14.5**	**-0.1**
	0.4nm,0.5s,baz=117,slow=2.3,SNR=3.6						
ILAR	**Eielson Array**	**59.39**	**28**	P	**P**	**17 17 24.6**	**+1.4**
	0.2nm,0.9s,baz=262,slow=6.3,SNR=2.7						
BVAR	**Borovoye Array**	**60.13**	**318**	P	**P**	**17 17 27.8**	**-0.6**
	1.4nm,0.4s,baz=91,slow=7.5,SNR=14						
AKTO	**Aktyubinsk**	**68.09**	**317**	P	**P**	**17 18 20.8**	**+0.1**
	0.9nm,0.7s,baz=77,slow=14,SNR=4.3						
YKA	**Yellowknife Ar**	**73.82**	**28**	P	**P**	**17 18 56.6**	**+1.4**
	0.2nm,0.5s,baz=295,slow=5.8,SNR=4.4						
ARCES	**ARCESS Array B**	**75.87**	**341**	P	**P**	**17 19 07.8**	**+0.8**
	1.7nm,0.8s,baz=36,slow=7.8,SNR=3.1						
FINES	**FINESS Array B**	**80.24**	**334**	P	**P**	**17 19 31.3**	**0.0**
	1.6nm,0.3s,baz=68,slow=5.3,SNR=23						
NB2	**NORSAR Subarra**	**85.93**	**339**	P	**P**	**17 20 00.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**85.93**	**339**	P	**P**	**17 20 00.7**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=46,slow=4.9,SNR=6.9						
BRTR	**Keskin Array B**	**87.99**	**313**	P	**P**	**17 20 11.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=90,slow=3.2,SNR=2.5						
PLCA	**Paso Flores**	**147.97**	**128**	PKPbc	**PKPab**	**17 27 07.8**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=254,slow=5.3,SNR=3.3						
LPAZ	**La Paz**	**149.80**	**80**	PKPbc	**PKPab**	**17 27 14.5**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=286,slow=7.4,SNR=2.6						

MEX 08 17:19:02.7±1.4,17.°26N×94.°13W,h179km±12km,MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.74**	**257**	*e*P	Pn	17 19 27.4	-1.2
CMIG				*i* S	Sn	17 19 46.4	-2.0
TGIG		**1.07**	**116**	*i* P	Pn	17 19 29.3	-1.6
TGIG				*i* S	Sn	17 19 49.5	-3.1
PCIG		**1.77**	**150**	*e*P	Pn	17 19 36.8	-0.5
PCIG				*e*S	Sn	17 20 02.2	-1.9
CCIG	**Comitan**	**2.14**	**117**	*i* P	Pn	17 19 40.6	-0.8
CCIG				*i* S	Sn	17 20 08.8	-2.7
HUIG	**Huatulco**	**2.41**	**232**	*e*P	Pn	17 19 41.3	-2.9
HUIG				*e*S	Sn	17 20 14.8	-1.7
VHO	**Vista Hermosa**	**2.50**	**266**	*e*P	Pn	17 19 44.9	-0.6
VHO				*i* S	Sn	17 20 17.4	-1.4
TPIG	**Tehuac#an**	**3.29**	**291**	*i* S	Sn	17 20 33.7	-2.2
UTMO	**Huajuapan**	**3.55**	**280**	*i* P	Pn	17 19 57.7	-0.6
UTMO				*i* S	Sn	17 20 40.1	-1.8
PNIG	**Pinotepa**	**3.92**	**258**	*e*P	Pn	17 20 00.5	-2.4
PNIG				*e*S	Sn	17 20 48.1	-1.7

IDC 08 17:38:12.9±1.1,3.°80N×126.°61E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/23,mbtmp3.6/6,Error ellipse: s-maj=88.2km s-min=17.4km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.79**	**182**	P	P	17 43 06.6	0.0
	0.7nm,0.3s,baz=8.1,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**24.79**	**162**	P	P	17 43 36.3	-0.5
	3.1nm,0.7s,baz=343,slow=11,SNR=23						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	17 44 07.7	0.0
	0.2nm,0.3s,baz=348,slow=12,SNR=8.8						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	17 45 35.1	+0.3
	3.0nm,0.7s,baz=334,slow=9.3,SNR=7.3						
SONM	**Songino Array**	**47.19**	**342**	P	P	17 46 47.5	-0.1
	0.4nm,1.0s,baz=148,slow=3.2,SNR=2.8						
SONM				PcP	PcP	17 48 19.2	0.0
	0.4nm,0.9s,baz=134,slow=4.2,SNR=3.3						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	17 48 03.2	-0.4
	0.3nm,0.5s,baz=114,slow=8.2,SNR=6.6						

IDC 08 18:07:26.8±7.4,19.°77S×175.°99W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/20,mbtmp3.8/3,ML1.9/1,Error ellipse: s-maj=316.3km s-min=32.0km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.09**	**35**	Pn	Pn	18 09 09.9	-1.9

*AUST **08** 18:40:30.5±0.9,2.11N×98.34E,h60km,Error ellipse: s-maj=2.0km s-min=1.2km az=262.0*

ISC 08 18:40:22.4±0.6, 1.11N±0.06×97.14E±0.06, h25km, n77, σ1.51/79, mb4.5/25, MS4.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.47**	**66**	P	**Pb**	**18 40 31.8**	**-0.4**
	baz=1.1,SNR=1000						
GSI	**Gunungsitoli**	**0.47**	**66**	P	**Pb**	**18 40 32.6**	**+0.4**
GSI				S	**Sn**	**18 40 41.5**	**+0.3**
TPTI		**2.14**	**1**	P	**Pn**	**18 40 54.7**	**-1.8**
PSI	**Prapat**	**2.45**	**47**	Pn	**Pn**	**18 40 59.8**	**-1.1**
	10nm,0.3s,baz=212,slow=7.1,SNR=73						
PSI				LR	LR	18 41 50.4	
	comp=Z,2μm,20.3s,baz=307,slow=38						
PSI	**Prapat**	**2.45**	**47**	S	Sn	18 41 00.1	-30
	baz=0.8,SNR=69						
PSI	**Prapat**	**2.45**	**47**	P	**Pn**	**18 40 59.6**	**-1.3**
MNSI	**Mandailing Nat**	**2.46**	**97**	P	**Pn**	**18 41 00.8**	**-0.1**
MNSI				S	**Sn**	**18 41 30.0**	**-0.1**
TSI	**Tuntungan**	**2.77**	**31**	P	**Pn**	**18 41 05.2**	**0.0**
PPI	**Padang Panjang**	**3.61**	**116**	P	**Pn**	**18 41 17.4**	**+0.7**
	baz=3.3,SNR=24						
PPI	**Padang Panjang**	**3.61**	**116**	P	**Pn**	**18 41 17.1**	**+0.4**
BKNI	**Bangkinang**	**3.97**	**101**	P	**Pn**	**18 41 22.5**	**+0.7**
LHMI	**Lhok Sumawe**	**4.10**	**357**	P	**Pn**	**18 41 23.7**	**+0.2**
BSI	**Banda Aceh**	**4.73**	**337**	P	**Pn**	**18 41 29.8**	**-2.4**
FRIM	**Kepong**	**4.95**	**65**	P	**Pn**	**18 41 35.7**	**+0.5**
IPM	**Ipoh**	**5.12**	**49**	P	**Pn**	**18 41 38.5**	**+0.9**
KULM	**Kulim**	**5.43**	**40**	P	**Pn**	**18 41 41.8**	**0.0**
KGM	**Kluang**	**6.24**	**82**	P	**Pn**	**18 41 54.0**	**+1.0**
MYKOM	**Kota Tinggi**	**6.74**	**84**	P	**Pn**	**18 42 00.5**	**+0.7**
MNAI	**Manna**	**7.95**	**133**	P	**Pn**	**18 42 16.1**	**-0.4**
KSM	**Kuching**	**13.17**	**88**	P	**Pn**	**18 43 28.0**	**0.0**
SBUM	**Sibu**	**15.13**	**85**	P	**Pn**	**18 43 55.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.33**	**6**	P	**Pn**	**18 44 20.7**	**-2.1**
	0.2nm,0.3s,baz=195,slow=10,SNR=23						
CMAR				LR	LR	18 52 25.7	
	comp=Z,764nm,18.9s,baz=193,slow=42						
KKM	**Kota Kinabalu**	**19.65**	**75**	P	**P**	**18 44 50.0**	**+0.3**
SDKM	**Sandakan**	**20.51**	**77**	P	**P**	**18 44 58.9**	**-0.2**
TSM	**Tawau**	**20.95**	**81**	P	**P**	**18 45 03.6**	**-0.1**
MYLDM	**Lahad Datu**	**21.70**	**79**	P	**P**	**18 45 12.0**	**+0.2**
PCI	**Palu**	**22.78**	**95**	S	S	18 49 04.7	-27
	baz=22,SNR=5.0						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**18 45 40.4**	**+0.5**
KMI				pP	**pP**	**18 45 46.8**	**-0.6**
KMI				pmax	pmax		
	comp=Z,55nm,1.4s						
KMI				pmax	pmax		
	comp=Z,280nm,4.2s						
KMI				LR	LR		
	comp=N,1μm,16.8s						
KMI				LR	LR		
	comp=E,560nm,13.9s						
KMI				LR	LR		
	comp=Z,1μm,14.9s						
SHL	**Shillong**	**24.84**	**349**	*i* P	**P**	**18 45 43.5**	**+0.3**
SHL				*e*S	**S**	**18 50 10.0**	**+5.2**
ODAN	**Odare**	**27.27**	**341**	*e*P	**P**	**18 46 05.8**	**+0.6**
	comp=Z,48nm,1.0s						
TAPN	**Taplejung**	**27.62**	**342**	*e*P	**P**	**18 46 09.3**	**+0.9**
	comp=Z,90nm,1.2s						
RAMN	**Ramite**	**27.62**	**339**	*e*P	**P**	**18 46 09.5**	**+1.2**
JIRN	**Jiri**	**28.41**	**339**	*e*P	**P**	**18 46 16.6**	**+1.0**
PKI	**Pulchoki**	**28.62**	**338**	*e*P	**P**	**18 46 17.9**	**+0.6**
GUN	**Gumba**	**28.75**	**339**	*e*P	**P**	**18 46 19.4**	**+0.9**
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**	**18 46 20.1**	**+0.7**
LSA	**Lhasa**	**29.00**	**349**	P	**P**	**18 46 21.2**	**+0.3**
GKN	**Gorkha**	**29.30**	**337**	*e*P	**P**	**18 46 23.9**	**+0.7**
KOLN	**Koldanda**	**29.52**	**335**	*e*P	**P**	**18 46 26.3**	**+1.1**
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**29.96**	**336**	*e*P	**P**	**18 46 29.9**	**+0.7**
PYUN	**Piuthan**	**30.06**	**334**	*e*P	**P**	**18 46 30.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	P	18 47 09.0	+5.2
	baz=34,SNR=4.9						
DDI	**Dehra Dun**	**34.24**	**330**	*ex*	x	18 47 13.0	
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**18 47 07.6**	**-1.6**
XAN				pP	**pP**	**18 47 12.7**	**-4.0**
XAN				PP	**PP**	**18 48 29.9**	**+2.0**
XAN				S	**S**	**18 52 42.2**	**+5.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,36nm,6.7s						
XAN				LR	LR		
	comp=N,370nm,13.4s						
XAN				LR	LR		
	comp=E,58nm,11.3s						
XAN				LR	LR		
	comp=Z,200nm,12.8s						
LZH	**Lanzhou**	**35.35**	**9**	*e*P	**P**	**18 47 15.0**	**-1.1**
LZH				pP	**pP**	**18 47 21.5**	**-2.1**
LZH				sP	**sP**	**18 47 24.0**	**-2.7**
LZH				pmax	pmax		
	comp=Z,28nm,1.5s						
LZH				pmax	pmax		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=N,190nm,6.9s						
LZH				LR	LR		
	comp=E,330nm,9.0s						
LZH				LR	LR		
	comp=Z,150nm,6.4s						
MTN	**Manton Dam**	**36.46**	**113**	P	P	18 47 09.2	-17
	baz=36,SNR=4.9						
MTN				S	S	18 52 42.1	-24
	baz=36,SNR=4.8						
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**18 47 40.0**	**-0.3**
GTA				pP	**pP**	**18 47 50.4**	**+2.6**
GTA				sP	**sP**	**18 47 55.0**	**+4.1**
GTA				S	**ScP**	**18 53 37.6**	**-3.4**
GTA				pmax	pmax		
	comp=Z,12nm,0.8s						
GTA				LR	LR		
	comp=N,340nm,19.0s						
GTA				LR	LR		
	comp=E,240nm,15.2s						
GTA				LR	LR		
	comp=Z,380nm,18.1s						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**18 48 10.8**	**-1.5**
	comp=Z,3.7nm,0.6s,baz=301,slow=9.1,SNR=63						
WRA				LR	LR	19 05 26.3	
	comp=Z,186nm,21.9s,baz=250,slow=36						
BJI	**Beijing**	**42.45**	**22**	P	**P**	**18 48 15.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJI				pmax	pmax		
	comp=Z,140nm,4.0s						
BJI				LR	LR		
	comp=N,260nm,13.8s						
BJI				LR	LR		
	comp=E,350nm,15.6s						
BJI				LR	LR		
	comp=Z,97nm,22.1s						
WMQ	**Urumqi**	**43.35**	**350**	P	**P**	**18 48 23.6**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMQ				LR	LR		
	comp=N,130nm,23.0s						
WMQ				LR	LR		
	comp=E,190nm,26.0s						
WMQ				LR	LR		
	comp=Z,110nm,25.0s						
ASAR	**Alice Springs**	**43.39**	**127**	P	**P**	**18 48 22.3**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=302,slow=7.5,SNR=22						
JNU	**Nakatsue**	**44.91**	**41**	P	**P**	**18 48 34.2**	**-1.2**
	comp=Z,5.6nm,0.8s,baz=167,slow=6.5,SNR=3.1						
KSRS	**Korea Array**	**45.96**	**35**	P	**P**	**18 48 42.8**	**-0.7**
	comp=Z,9.6nm,0.8s,baz=222,slow=9.0,SNR=36						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**18 48 53.3**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=190,slow=9.4,SNR=23						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**18 48 54.1**	**0.0**
	comp=Z,3.3nm,0.8s,baz=159,slow=7.7,SNR=47						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**18 49 09.4**	**-0.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
MJAR	**Matsushiro Arr**	**51.80**	**42**	P	**P**	**18 49 27.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=217,slow=7.5,SNR=7.2						
USRK	**Ussuriysk Arra**	**52.88**	**31**	P	**P**	**18 49 36.1**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=230,slow=4.8,SNR=17						
QLP	**Quilpie**	**53.06**	**125**	P	**P**	**18 49 38.6**	**+0.8**
	baz=53,SNR=13						
STKA	**Stephens Creek**	**53.34**	**132**	P	**P**	**18 49 40.1**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=300,slow=7.4,SNR=8.1						
STKA	**Stephens Creek**	**53.34**	**132**	P	**P**	**18 49 40.6**	**+0.7**
	baz=53,SNR=4.4						
ZALV	**Zalesovo Beam**	**53.64**	**351**	P	**P**	**18 49 41.5**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=177,slow=6.1,SNR=36						
RDF	**Al-Radifah**	**54.73**	**305**	*e*P	**P**	**18 49 50.9**	**+0.8**
RDF				AMb	AMB	18 50 04.2	
	comp=Z,10nm,0.9s						
NAY	**Al-Naaiem**	**55.10**	**305**	*e*P	**P**	**18 49 53.2**	**+0.4**
NAY				AMb	AMB	18 49 55.0	
	comp=Z,2.8nm,0.5s						
MIB	**Mutribah**	**55.22**	**306**	*e*P	**P**	**18 49 54.1**	**+0.5**
MIB				AMb	AMB	18 50 04.1	
	comp=Z,9.2nm,0.7s						
EIDS	**Eidsvold**	**58.38**	**121**	P	**P**	**18 50 16.6**	**+0.5**
	baz=58,SNR=3.9						
KBZ	**Khabaz**	**64.10**	**319**	P	**P**	**18 50 53.8**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=107,slow=13,SNR=4.2						
BRTR	**Keskin Array B**	**69.13**	**312**	P	**P**	**18 51 26.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=139,slow=2.8,SNR=6.2						
KOLS	**Kolonicke sedl**	**79.25**	**320**	*e*P	**P**	**18 52 27.9**	**+2.2**
CRVS	**Cervenica-Dubn**	**79.77**	**319**	*e*P	P	18 52 32.5	+4.0
FINES	**FINESS Array B**	**80.05**	**333**	P	**P**	**18 52 29.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=118,slow=12,SNR=4.3						
VYHS	**Vyhne**	**81.42**	**319**	*e*P	P	18 52 42.8	+5.4
ARCES	**ARCESS Array B**	**82.60**	**340**	P	**P**	**18 52 42.1**	**-1.0**
	comp=Z,5.2nm,1.0s,baz=86,slow=6.7,SNR=6.8						
GERES	**GERESS Array B**	**84.84**	**319**	P	**P**	**18 52 55.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=116,slow=3.1,SNR=4.5						
ILAR	**Eielson Array**	**99.80**	**23**	LR	LR	19 46 06.2	
	comp=Z,99nm,20.1s,baz=294,slow=40						
TXAR	**Lajitas Array**	**143.78**	**32**	PKP	PKPbc	18 59 54.5	+0.7
	comp=Z,0.5nm,0.7s,baz=39,slow=1.4,SNR=4.9						
CPUP	**Villa Florida**	**144.90**	**222**	PKP	PKPbc	18 59 58.2	+0.9
	comp=Z,0.9nm,0.5s,baz=93,slow=2.4,SNR=5.0						

IDC 08 18:41:35.4±0.9, 1.00N×97.12E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/26, mbtmp4.2/14, ML3.8/2, MS4.2/3, Ms1 4.2/3, ms1mx3.5/19, Error ellipse: s-maj=26.2km s-min=19.1km az=43.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.54**	**45**	P	Pn	18 42 18.3	+0.3
	5.1nm,0.3s,baz=281,slow=10,SNR=1.5						
CMAR	**Chiang Mai Arr**	**17.44**	**6**	P	Pn	18 45 38.9	-1.4
	0.3nm,0.3s,baz=197,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**42.00**	**122**	P	P	18 49 28.9	+0.2
	2.7nm,0.8s,baz=301,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**43.39**	**127**	P	P	18 49 39.5	-0.1
	0.9nm,0.6s,baz=301,slow=8.1,SNR=2.8						
ASAR				LR	LR	19 11 19.5	
	comp=Z,224nm,18.1s,baz=298,slow=41						
KSRS	**Korea Array**	**46.06**	**34**	P	P	18 50 00.2	-0.9
	6.9nm,0.8s,baz=223,slow=8.8,SNR=11						
SONM	**Songino Array**	**47.34**	**8**	P	P	18 50 11.1	0.0
	2.8nm,0.8s,baz=190,slow=9.4,SNR=7.0						
SONM				PcP	PcP	18 51 42.3	+0.2
	0.9nm,0.7s,baz=188,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**47.42**	**346**	P	P	18 50 11.7	+0.1
	2.5nm,0.7s,baz=160,slow=7.1,SNR=3.1						
MJAR	**Matsushiro Arr**	**51.89**	**42**	P	P	18 50 45.5	-0.4
	0.6nm,0.6s,baz=228,slow=8.4,SNR=3.2						
USRK	**Ussuriysk Arra**	**52.99**	**31**	P	P	18 50 54.0	+0.2
	5.3nm,0.8s,baz=221,slow=5.2,SNR=7.1						
STKA	**Stephens Creek**	**53.28**	**132**	LR	LR	19 14 42.6	
	comp=Z,329nm,19.2s,baz=281,slow=37						
ZALV	**Zalesovo Beam**	**53.74**	**351**	P	P	18 50 59.3	0.0
	10nm,0.9s,baz=175,slow=6.3,SNR=7.3						
KBZ	**Khabaz**	**64.17**	**319**	P	P	18 52 12.5	+0.6
	1.7nm,0.8s,baz=95,slow=12,SNR=2.5						
BRTR	**Keskin Array B**	**69.19**	**312**	P	P	18 52 44.4	+0.1
	0.5nm,0.7s,baz=134,slow=7.8,SNR=2.5						
FINES	**FINESS Array B**	**80.14**	**333**	P	P	18 53 46.9	-0.3
	4.9nm,1.2s,baz=64,slow=3.2,SNR=2.6						
ARCES	**ARCESS Array B**	**82.70**	**340**	P	P	18 54 00.5	-0.1
	6.9nm,1.2s,baz=73,slow=4.1,SNR=4.2						
NOA	**NORSAR Array B**	**87.14**	**331**	LR	LR	19 38 07.2	
	comp=Z,90nm,18.1s,baz=290,slow=39						
TXAR	**Lajitas Array**	**143.88**	**32**	PKP	PKPab	19 01 10.8	+0.1
	0.3nm,0.6s,baz=83,slow=2.2,SNR=3.3						
CPUP	**Villa Florida**	**144.80**	**222**	PKP	PKPbc	19 01 14.3	+0.3
	1.7nm,0.8s,baz=135,slow=1.4,SNR=1.9						

IDC 08 18:44:20.4±0.9, 30.89N×140.23E, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.7/25, mbtmp3.6/9, ML3.1/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/32, Error ellipse: s-maj=35.5km s-min=20.5km az=106.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.15**	**155**	Sn	Sn	18 46 15.2	+0.8
	3.0nm,0.3s,baz=120,slow=20,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.88**	**344**	Pn	Pn	18 45 49.8	+0.8
	0.4nm,0.3s,baz=156,slow=13,SNR=16						
MJAR				Sn	Sn	18 46 55.3	-1.8
	baz=184,slow=18,SNR=3.2						
MAT	**Matsushiro**	**5.88**	**344**	P	Pn	18 45 49.9	+1.0
MAT				S	Sn	18 46 55.2	-1.9
JNU	**Nakatsue**	**8.25**	**288**	Pn	Pn	18 46 21.5	0.0
	0.3nm,0.3s,baz=90,slow=2.0,SNR=3.6						
JNU				LR	LR	18 49 18.3	
	comp=Z,40nm,19.2s,baz=45,slow=36						
USRK	**Ussuriysk Arra**	**14.79**	**336**	LR	LR	18 53 30.6	
	comp=Z,49nm,19.9s,baz=233,slow=37						
ZALV	**Zalesovo Beam**	**45.53**	**317**	PcP	PcP	18 54 17.4	-2.9
	0.5nm,0.4s,baz=144,slow=2.2,SNR=4.1						
WRA	**Warramunga Arr**	**50.86**	**187**	P	P	18 53 22.9	-0.3
	0.4nm,0.4s,baz=5.3,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**54.59**	**187**	P	P	18 53 50.3	-0.4
	0.1nm,0.5s,baz=12,slow=7.6,SNR=5.0						
ILAR	**Eielson Array**	**55.25**	**30**	P	P	18 53 54.1	-0.9
	0.5nm,0.7s,baz=266,slow=6.9,SNR=7.5						
YKA	**Yellowknife Ar**	**69.63**	**29**	P	P	18 55 30.3	-1.0
	0.3nm,0.6s,baz=300,slow=6.4,SNR=6.5						
NVAR	**Mina Array Bea**	**79.51**	**52**	P	P	18 56 30.6	+1.1
	0.4nm,0.6s,baz=299,slow=5.9,SNR=5.5						
PDAR	**Pinedale Array**	**82.71**	**44**	P	P	18 56 45.9	-0.6
	0.6nm,1.0s,baz=343,slow=2.8,SNR=3.3						
TXAR	**Lajitas Array**	**94.66**	**52**	P	P	18 57 44.6	+0.7
	0.3nm,0.5s,baz=3.3,slow=3.2,SNR=4.8						
LPAZ	**La Paz**	**150.33**	**67**	PKPbc	PKPbc	19 04 15.7	+0.6
	0.9nm,0.7s,baz=354,slow=4.0,SNR=5.1						
LPAZ				PKPab	PKPab	19 04 21.1	-0.2
	1.1nm,0.8s,baz=78,slow=4.5,SNR=6.9						

GUC 08 18:57:12.5±0.8, 32.22S×71.59W, h39km±2km, MD3.8, ML3.3, 9C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.34**	**13**	⇑*i*P	Pn	18 57 21.3	+0.3
CHNG				*i* S	Sn	18 57 27.4	-0.1
CHNG				AML	AML	18 57 28.0	
	comp=E,2μm,0.5s						
PTCH	**Petorca**	**0.56**	**95**	⇑*i*P	Pn	18 57 24.4	+0.3
PTCH				*i* S	Sn	18 57 33.1	+0.8
PTCH				AML	AML	18 57 34.6	
	comp=E,10μm,0.1s						
IHA	**Instituto Hidr**	**0.81**	**183**	⇑*i*P	Pn	18 57 27.8	+0.3
IHA				*e*S	Sn	18 57 38.9	+0.6
ROCH	**El Roble**	**0.90**	**147**	⇑*i*P	Pn	18 57 29.3	+0.3
ROCH				*i* S	Sn	18 57 42.3	+1.3
ROCH				AML	AML	18 57 42.6	
	comp=E,858nm,0.5s						
JACH	**Jahuel**	**0.96**	**119**	⇑*i*P	Pn	18 57 30.5	+0.9
JACH				*i* S	Sn	18 57 44.0	+1.7
CMCH	**Combarbala**	**1.15**	**26**	⇑*i*P	Pn	18 57 32.9	+0.6
CMCH				*i* S	Sn	18 57 48.5	+1.6
CMCH				AML	AML	18 57 51.5	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**1.20**	**141**	⇑*i*P	Pn	18 57 34.0	+1.1
PEL				*i* S	Sn	18 57 50.0	+2.0
PEL				AML	AML	18 57 51.2	
	comp=E,3μm,0.2s						
LCCH	**Las Cruces**	**1.26**	**179**	*e*P	Pn	18 57 34.4	+0.8
SAN	**Santiago**	**1.46**	**148**	*e*P	Pn	18 57 37.0	+0.6
SAN				*e*S	Sn	18 57 55.9	+1.6
SAN				AML	AML	18 57 58.9	
	comp=N,363nm,0.4s						
CLCH	**Cerro Calan**	**1.47**	**143**	*e*P	Pn	18 57 37.9	+1.2
CLCH				*i* S	Sn	18 57 56.9	+2.1
CLCH				AML	AML	18 57 59.7	
	comp=E,566nm,0.7s						
TACH	**Talagante**	**1.54**	**159**	⇑*i*P	Pn	18 57 38.8	+1.4
FSR	**Penalolen**	**1.54**	**145**	*e*P	Pn	18 57 39.0	+1.4
FSR				*e*S	Sn	18 57 58.8	+2.3
FCH	**Farellones**	**1.56**	**136**	⇓*i*P	Pn	18 57 39.7	+1.6
FCH				AML	AML	18 58 00.7	
	comp=E,770nm,0.3s						
ANTU	**Antumapu**	**1.57**	**149**	*e*P	Pn	18 57 39.2	+1.3
ANTU				*e*S	Sn	18 57 59.0	+1.9
ANTU				AML	AML	18 58 01.9	
	comp=E,497nm,0.3s						
LMEL	**Las Melosas**	**2.00**	**145**	*e*P	Pn	18 57 45.7	+1.7
LMEL				*e*S	Sn	18 58 10.3	+2.4
LMEL				AML	AML	18 58 15.3	
	comp=N,457nm,0.2s						
CACH	**El Canelo**	**2.07**	**157**	⇑*i*P	Pn	18 57 47.1	+2.2
CACH				*e*S	Sn	18 58 13.0	+3.4

*KNET **08** 19:27:45.5±0.3, 42.23N×73.83E, h0km, ml2.2, Error ellipse: s-maj=2.8km s-min=1.9km az=127.0*
*NNC **08** 19:27:47.1±1.6, 42.42N×73.73E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=30.8km s-min=6.5km az=174.0*

ISC 08 19:27:45.1±1.1, 42.23N±0.06×73.76E±0.03, h10km±12km, n11, σ0.69/21, 8C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.11**	**205**	⇓P	**Pg**	**19 27 48.2**	**+0.1**
	215nm,0.1s,SNR=1069						
AML				⇑S	**Sg**	**19 27 50.2**	**-0.1**
	1μm,0.2s						
EKS2	**Erkin-Say**	**0.43**	**2**	P	**Pb**	**19 27 54.5**	**-0.3**
	40nm,0.1s,SNR=304						
EKS2				⇓S	**Sb**	**19 28 00.8**	**-0.6**
	86nm,0.1s						
UCH	**Uchtor**	**0.56**	**90**	⇑P	**Pg**	**19 27 55.9**	**-0.1**
	4.2nm,0.1s,SNR=20						
UCH				⇑S	**Sg**	**19 28 03.2**	**-0.3**
	91nm,0.3s						
AAK	**Ala-Archa**	**0.68**	**54**	⇓P	**Pg**	**19 27 58.3**	**+0.1**
	11nm,0.2s,SNR=25						
AAK				⇑S	**Sg**	**19 28 07.2**	**+0.1**
	40nm,0.3s						
KBK	**Karagaybulak**	**0.98**	**64**	⇓P	**Pg**	**19 28 03.8**	**-0.1**
	14nm,0.2s,SNR=12						
KBK				⇓S	**Sg**	**19 28 16.7**	**+0.1**
	114nm,0.4s						
CHMS	**Chumysh**	**1.06**	**43**	⇓P	**Pg**	**19 28 05.4**	**0.0**
	9.6nm,0.2s,SNR=5.9						
CHMS				⇑S	**Sb**	**19 28 19.7**	**+0.2**
	26nm,0.2s						
USP	**Ospenovka**	**1.17**	**28**	⇓P	**Pb**	**19 28 07.6**	**+0.2**
	9.9nm,0.1s,SNR=9.9						
USP				⇑S	**Sg**	**19 28 23.2**	**+0.5**
	48nm,0.2s						
TKM2	**Tokmak 2**	**1.52**	**63**	⇓P	**Pb**	**19 28 14.5**	**+1.0**
	3.8nm,0.3s						
TKM2				⇑S	**Sb**	**19 28 34.2**	**+1.3**
	9.1nm,0.3s						
TKM2	**Tokmak 2**	**1.52**	**63**	⇓P	**Pb**	**19 28 13.7**	**+0.2**
	5.0nm,0.1s,SNR=11						
KK31	**Karatay Array**	**2.55**	**291**	Pn	**Pb**	**19 28 31.8**	**+0.9**
	3.1nm,0.5s,baz=113,slow=15,SNR=77						
KK31				Sn	**Sg**	**19 29 05.8**	**-1.1**
	5.9nm,0.4s,baz=104,slow=26,SNR=15						
KNDC	**Almaty**	**2.56**	**66**	⇑Pn	**Pb**	**19 28 29.9**	**-1.2**
	12nm,0.5s						
KNDC				⇓Sn	**Sb**	**19 29 01.8**	**-0.9**
	15nm,0.4s						

*DDA **08** 19:50:27.0, 40.80N×27.51E, h7km, MD2.7*
*CSEM **08** 19:50:27.1±0.1, 40.82N×27.47E, h12km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.6km az=149.0*

ISK 08 19:50:26.8, 40.80N×27.49E, h11km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFT	**Murefte**	**0.16**	**265**	PG	Pb	19 50 31.4	-0.6
MFT				*e*SG	Sg	19 50 34.1	+0.9
MFT	**Murefte**	**0.16**	**265**	*i* Pg	Pb	19 50 31.4	-0.6
MFT				*e*Sg	Sg	19 50 34.1	+0.9
TKR	**Tekirdag**	**0.19**	**10**	PG	Pg	19 50 31.6	+0.6
TKR				*e*SG	Sg	19 50 34.8	+1.0
TKR	**Tekirdag**	**0.19**	**10**	*i* Pg	Pg	19 50 31.6	+0.6
TKR				*e*Sg	Sg	19 50 34.9	+1.0
RKY	**Sarkoy-Tekirda**	**0.26**	**245**	*e*PG	Pg	19 50 32.9	+0.6
RKY				*e*SG	Sb	19 50 37.3	-1.0
RKY	**Sarkoy-Tekirda**	**0.26**	**245**	*e*Pg	Pg	19 50 32.9	+0.6
RKY				*e*Sg	Sb	19 50 37.3	-1.0
KRBG	**Karabiga-Canak**	**0.43**	**200**	*e*PG	Pg	19 50 35.7	+0.3
KRBG				*e*SG	Sb	19 50 42.3	-0.6
KRBG	**Karabiga-Canak**	**0.43**	**200**	*e*Pg	Pg	19 50 35.7	+0.4
KRBG				*e*Sg	Sb	19 50 42.3	-0.7
EDC	**Edincik**	**0.54**	**148**	*e*PG	Pb	19 50 37.9	-0.3
EDC	**Edincik**	**0.54**	**148**	*e*Pg	Pb	19 50 37.9	-0.3
BNT	**Bandirma**	**0.55**	**144**	*e*PG	Pg	19 50 37.8	+0.2
BNT	**Bandirma**	**0.55**	**144**	*e*Pg	Pg	19 50 37.8	+0.2
**SLVT

LOT	**Lotru**	**0.41**	**276**	⇑*iP*	Pg	19 51 44.7	+0.5
LOT	**Lotru**	**0.41**	**276**	S	Sg	19 51 50.6	+0.9
LOT	**Lotru**	**0.41**	**276**	⇑*iP*	Pg	19 51 44.7	+0.5
VOIR		**0.49**	**86**	⇑*iP*	Pg	19 51 45.9	+0.2
VOIR				*i* S	Sg	19 51 52.8	+0.5
VOIR		**0.49**	**86**	⇑*iP*	Pg	19 51 45.9	+0.2
VOIR		**0.49**	**86**	S	Sg	19 51 52.8	+0.5
VOIR		**0.49**	**86**	⇑*iP*	Pg	19 51 45.9	+0.2
MDB	**Medias**	**0.73**	**2**	⇑*iP*	Pb	19 51 51.1	+0.3
MDB				*i* S	Sb	19 52 02.2	+1.2
MDB	**Medias**	**0.73**	**2**	⇑*iP*	Pb	19 51 51.1	+0.3
MDB	**Medias**	**0.73**	**2**	S	Sb	19 52 02.2	+1.2

IDC 08 19:51:43.1±1.5, 15°05S×175°16W, h228km±21km, mb3.6/7, mb1 3.8/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=59.0km s-min=15.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.47**	**71**	P	Pn	19 52 40.7	+1.0
	17nm,0.3s,baz=160,slow=0.5,SNR=26						
AFI				S	Sg	19 53 24.4	+0.2
	14nm,0.3s,baz=71,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**48.27**	**257**	P	P	20 00 01.1	-0.5
	2.0nm,0.8s,baz=90,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**48.60**	**252**	P	P	20 00 04.0	-0.2
	11nm,0.7s,baz=87,slow=8.2,SNR=150						
PETK	**Petropavlovsk-**	**71.79**	**343**	P	P	20 02 40.2	-0.3
	6.2nm,1.0s,baz=156,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**75.22**	**43**	P	P	20 03 01.5	+0.4
	0.3nm,0.5s,baz=240,slow=7.2,SNR=3.6						
ILAR	**Eielson Array**	**82.44**	**1**	P	P	20 03 39.4	0.0
	0.4nm,0.5s,baz=228,slow=6.0,SNR=9.0						
PDAR	**Pinedale Array**	**83.15**	**42**	P	P	20 03 43.2	-0.7
	0.7nm,0.6s,baz=240,slow=2.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**90.89**	**289**	P	P	20 04 22.9	+1.4
	0.3nm,0.6s,baz=76,slow=3.5,SNR=4.8						
ARCES	**ARCESS Array B**	**124.02**	**351**	PKP	PKPdf	20 10 12.4	-1.2
	5.3nm,1.1s,baz=0.0,slow=4.8,SNR=3.8						
BRTR	**Keskin Array B**	**144.80**	**320**	PKP	PKPab	20 10 53.0	+0.1
	0.7nm,0.6s,baz=107,slow=2.0,SNR=7.3						
GERES	**GERESS Array B**	**145.52**	**350**	PKPbc	PKPbc	20 10 54.7	0.0
	0.1nm,0.3s,baz=318,slow=1.8,SNR=3.7						

*IDC **08** 20:00:06.3±1.7, 4.°81N×126.°88E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/24, mbtmp3.4/5, MS3.2/1, Ms1 3.2/1, ms1mx2.2/20, Error ellipse: s-maj=111.0km s-min=20.1km az=70.0*

ISC 08 20:00:13.1±1.5, 5°.1N±0°.1×126°.9E±0°.3, h76km, n10, σ2°.28/7, mb3.3/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.98**	**341**	*eP*	Pn	20 00 52.2	+7.5
MATI				*eS*	**Sn**	**20 01 05.7**	**-3.0**
GSPH	**General Santos**	**2.20**	**298**	⇑*eP*	**Pn**	**20 00 46.6**	**-1.1**
BUKP	**Musuan**	**3.35**	**327**	*eP*	Pn	20 01 08.7	+5.5
BUKP				*eS*	Sn	20 01 20.7	-21
CTBH	**Cotabato--PC H**	**3.41**	**309**	⇑*eP*	**Pn**	**20 01 05.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**23.05**	**183**	P	**P**	**20 05 11.8**	**-0.4**
	1.9nm,0.9s,baz=5.2,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**25.90**	**164**	P	**P**	**20 05 38.3**	**+0.1**
	0.5nm,0.6s,baz=343,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**29.36**	**167**	P	**P**	**20 06 07.9**	**-1.2**
	0.2nm,0.5s,baz=342,slow=6.9,SNR=4.7						
MJAR	**Matsushiro Arr**	**33.00**	**17**	LR	LR	20 18 50.9	
	comp=Z,38nm,19.8s,baz=110,slow=34						
MKAR	**Makanchi Array**	**56.57**	**325**	P	**P**	**20 09 50.3**	**+2.3**
	0.1nm,0.4s,baz=121,slow=7.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**60.72**	**327**	P	P	20 10 22.4	+5.7
	0.3nm,0.5s,baz=129,slow=7.3,SNR=2.5						

IDC 08 20:10:17.7±0.8, 27°.60N×64°.27E, h0km, mb3.5/11, mb1 3.7/13, mb1mx3.6/29, mbtmp3.5/13, ML3.2/2, Error ellipse: s-maj=22.3km s-min=18.7km az=132.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**6.70**	**231**	Pn	Pn	20 11 58.0	+0.6
	0.4nm,0.3s,baz=126,slow=19,SNR=7.7						
WSAR				Sn	Sn	20 13 12.6	-1.8
	12nm,0.3s,baz=276,slow=14,SNR=24						
AAK	**Ala-Archa**	**17.15**	**26**	P	Pn	20 14 18.9	-0.1
	0.1nm,0.3s,baz=224,slow=14,SNR=6.8						
MKAR	**Makanchi Array**	**23.84**	**32**	P	P	20 15 32.5	0.0
	0.8nm,0.8s,baz=218,slow=7.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**25.42**	**21**	P	P	20 15 46.4	-0.5
	0.9nm,0.9s,baz=216,slow=8.8,SNR=7.9						
BVAR	**Borovoye Array**	**25.80**	**9**	P	P	20 15 49.8	-0.5
	1.7nm,0.6s,baz=176,slow=9.1,SNR=8.2						
ZALV	**Zalesovo Beam**	**30.35**	**24**	P	P	20 16 31.6	+0.6
	0.5nm,0.4s,baz=229,slow=9.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**33.09**	**98**	P	P	20 16 55.4	-0.1
	0.4nm,0.5s,baz=287,slow=12,SNR=5.1						
AKASG	**Malin Array Be**	**35.14**	**321**	P	P	20 17 11.2	-1.7
	0.2nm,0.3s,baz=126,slow=6.5,SNR=4.0						
SONM	**Songino Array**	**38.37**	**47**	P	P	20 17 44.1	+3.5
	0.4nm,1.1s,baz=245,slow=6.2,SNR=2.3						
ARCES	**ARCESS Array B**	**47.56**	**343**	P	P	20 18 57.3	+2.6
	2.2nm,0.7s,baz=128,slow=7.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**59.84**	**270**	P	P	20 20 25.9	+0.5
	0.4nm,0.7s,baz=48,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**82.63**	**117**	P	P	20 22 42.7	-0.6
	0.9nm,0.9s,baz=307,slow=4.4,SNR=8.9						
ASAR	**Alice Springs**	**84.31**	**120**	P	P	20 22 51.9	0.0
	0.7nm,0.9s,baz=299,slow=4.7,SNR=7.6						
ILAR	**Eielson Array**	**84.78**	**13**	P	P	20 22 54.0	+0.4
	0.1nm,0.6s,baz=305,slow=5.4,SNR=2.7						
YKA	**Yellowknife Ar**	**90.22**	**359**	P	P	20 23 21.4	+1.6
	0.2nm,0.7s,baz=350,slow=4.4,SNR=4.7						

CSEM 08 20:15:08.6, 31°.31N×15°.96E, h35km, ML3.4, 1D, After LDSN, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSHF	**Shwairf**	**1.98**	**229**	*i* P	Pb	20 15 44.0	-0.1
	SNR=120						
LSHF	**Shwairf**	**1.98**	**229**	*i* P	Pb	20 15 42.4	-1.7
	SNR=91						
LSHF				*eS*	Sn	20 16 03.6	+0.3
	460nm,0.5s,SNR=91						
LJFR	**Jufra**	**2.20**	**183**	*i* P	Pb	20 15 47.6	-0.3
	SNR=119						
LJFR	**Jufra**	**2.20**	**183**	*i* P	Pn	20 15 45.2	+2.4
	SNR=91						
LJFR				*eS*	Sn	20 16 09.7	+0.9
	832nm,0.6s,SNR=91						
GHAR	**Gharyan**	**2.58**	**289**	*i* P	Pb	20 15 53.4	-0.9
	SNR=113						
GHAR	**Gharyan**	**2.58**	**289**	*i* P	Pn	20 15 49.2	+1.2
	SNR=91						
LZLA	**Zalla**	**3.08**	**153**	*i* P	Pn	20 15 54.5	-0.3
	SNR=76						
LZLA				*eS*	Sn	20 16 31.6	+1.3
	259nm,0.9s,SNR=76						
ALAS	**Alassa**	**4.00**	**294**	*i* P	Pn	20 16 11.2	+3.8
	SNR=105						
ALAS	**Alassa**	**4.00**	**294**	*i* P	Pn	20 16 07.9	+0.5
	SNR=76						
LUMB	**Murzuk**	**5.26**	**192**	*i* P	Pn	20 16 23.7	-1.1
	SNR=76						
LUMB				*eS*	Sn	20 17 22.7	-1.6
	SNR=76						
LGHD	**Ghdames**	**5.76**	**259**	*i* P	Pn	20 16 32.9	+1.2
	SNR=100						
LGHD	**Ghdames**	**5.76**	**259**	⇓*iP*	Pn	20 16 32.9	+1.2
	SNR=70						

*JMA **08** 20:22:14.8±0.2, 24°.43N×122°.29E, h68km, M1.9*
*TAP **08** 20:22:15.0, 24°.24N×122°.25E, h53km, ML3.0, C*

ISC 08 20:22:15.5±1.3, 24°.20N±0°.04×122°.28E±0°.02, h34km±3km, n34, σ0°.84/65, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.54**	**295**	⇓*iP*	**Pb**	**20 22 26.6**	**-0.1**
	baz=298						
ENA				S	**Sb**	**20 22 35.2**	**+0.7**
	baz=298						
TWC	**Suao**	**0.57**	**316**	*i* P	**Pb**	**20 22 26.6**	**-0.5**
	baz=316						
TWC				S	**Sb**	**20 22 34.8**	**-0.3**
	baz=316						
TWD	**Chiawan**	**0.63**	**259**	*i* P	**Pn**	**20 22 27.7**	**-0.3**
	baz=247						
TWD				*i* S	**Sb**	**20 22 37.1**	**+0.2**
	baz=247						
HWA	**Hwalien**	**0.65**	**250**	P	**Pn**	**20 22 28.2**	**0.0**
	baz=246						
HWA				*eS*	**Sb**	**20 22 37.5**	**0.0**
	baz=246						
YOJ	**Yonaguni jima**	**0.72**	**68**	P	**Pn**	**20 22 29.1**	**-0.1**
YOJ				*eS*	**Sb**	**20 22 39.7**	**+0.4**
TWE	**Neicheng**	**0.76**	**313**	⇓*iP*	**Pn**	**20 22 29.6**	**-0.2**
	baz=306						
TWE				S	**Sn**	**20 22 39.9**	**-0.3**
	baz=306						
ENTT	**Nioudou**	**0.78**	**304**	⇓*iP*	**Pn**	**20 22 30.0**	**-0.2**
	baz=303						
ENTT				S	**Sn**	**20 22 40.7**	**-0.1**
	baz=303						
NNS	**Nan Shan**	**0.86**	**286**	P	**Pn**	**20 22 30.8**	**-0.5**
	baz=284						
NNS				S	**Sn**	**20 22 42.4**	**-0.3**
	baz=284						
ESL	**Shilin**	**0.86**	**244**	*eP*	**Pn**	**20 22 30.6**	**-0.6**
	baz=240						
ESL				*eS*	**Sn**	**20 22 42.2**	**-0.4**
	baz=240						
WHF	**Hehuan Shan**	**0.93**	**267**	P	**Pn**	**20 22 31.8**	**-0.6**
	baz=254						
WHF				*eS*	**Sn**	**20 22 44.1**	**-0.7**
	baz=254						
NSK	**Sanguang**	**0.96**	**300**	*eP*	**Pn**	**20 22 32.2**	**-0.5**
	baz=298						
NSK				*eS*	**Sn**	**20 22 44.4**	**-0.9**
	baz=298						
TWT	**Tachien**	**1.01**	**273**	*eP*	**Pn**	**20 22 33.7**	**+0.3**
	baz=271						
TWT				S	**Sn**	**20 22 46.5**	**0.0**
	baz=271						
EHY	**Hungye**	**1.11**	**232**	*eP*	**Pn**	**20 22 34.4**	**-0.3**
	baz=230						
EHY				*eS*	**Sn**	**20 22 47.4**	**-1.4**
	baz=230						
TWS1	**Kuangyinshan**	**1.19**	**319**	*eP*	**Pn**	**20 22 35.5**	**-0.2**
	baz=330						
TWF1	**Yuli**	**1.23**	**227**	*eP*	**Pn**	**20 22 35.9**	**-0.4**
	baz=236						
TWF1				*eS*	**Sn**	**20 22 50.8**	**-1.0**
	baz=236						
NSTT	**Nanjuang**	**1.24**	**291**	*eP*	**Pn**	**20 22 36.9**	**+0.4**
	baz=289						
NSTT				*eS*	**Sn**	**20 22 52.3**	**+0.3**
	baz=289						
SMLT	**Sun Moon Lake**	**1.30**	**256**	*eP*	**Pn**	**20 22 38.0**	**+0.7**
	baz=248						
SMLT				*eS*	**Sn**	**20 22 53.2**	**-0.4**
	baz=248						
TYC	**Yuchr**	**1.33**	**258**	*eP*	**Pn**	**20 22 38.3**	**+0.6**
	baz=249						
TYC				*eS*	**Sn**	**20 22 53.7**	**-0.5**
	baz=249						
IRIF	**Iriomote-Funau**	**1.33**	**84**	P	**Pn**	**20 22 37.4**	**-0.3**
IRIF				*eS*	**Sn**	**20 22 54.2**	**-0.1**
CHKT	**Chengkung**	**1.38**	**218**	*eP*	**Pn**	**20 22 36.7**	**-1.6**
	baz=209						
CHKT				*eS*	**Sn**	**20 22 53.4**	**-1.9**
	baz=209						
TWQ1	**Liyutan**	**1.38**	**277**	*eP*	**Pn**	**20 22 39.0**	**+0.6**
	baz=275						
TWQ1				*eS*	**Sn**	**20 22 55.8**	**+0.3**
	baz=275						
NSY	**Sanyi**	**1.40**	**279**	*eP*	**Pn**	**20 22 37.4**	**-1.3**
	baz=278						
NSY				*eS*	**Sn**	**20 22 56.6**	**+0.6**
	baz=278						
HATJ	**Hateruma jima**	**1.40**	**95**	*eS*	**Sn**	**20 22 57.4**	**+1.4**
JKRS	**Kuro-shima**	**1.58**	**88**	P	**Pn**	**20 22 41.5**	**+0.4**
JKRS				*eS*	**Sn**	**20 23 01.1**	**+0.7**
WGK	**Gukeng**	**1.65**	**252**	*eP*	**Pn**	**20 22 42.2**	**+0.2**
	baz=241						
WGK				*eS*	**Sn**	**20 23 03.2**	**+1.1**
	baz=241						
JIJ	**Ishigaki jima**	**1.71**	**84**	P	**Pn**	**20 22 42.4**	**-0.5**
JIJ				*eS*	**Sn**	**20 23 02.5**	**-1.1**
CHN4	**Tsaushan**	**1.76**	**242**	*eP*	**Pn**	**20 22 44.8**	**+1.3**
	baz=232						
CHN4				*eS*	**Sn**	**20 23 06.5**	**+1.7**
	baz=232						
TWG	**Pinlang**	**1.76**	**219**	*eP*	**Pn**	**20 22 44.3**	**+0.7**
	baz=218						
WTP	**Ta-pu**	**1.79**	**238**	*eP*	**Pn**	**20 22 44.8**	**+0.7**
	baz=238						
WTP				*eS*	**Sn**	**20 23 06.9**	**+1.2**
	baz=238						
TWK	**Hsinying**	**1.88**	**241**	*eP*	**Pn**	**20 22 46.0**	**+0.6**
	baz=240						
TWK				*eS*	**Sn**	**20 23 09.2**	**+1.2**
	baz=240						
CHN1	**Nanshi**	**1.89**	**238**	*eP*	**Pn**	**20 22 46.9**	**+1.5**
	baz=238						
CHN1				*eS*	**Sn**	**20 23 09.7**	**+1.5**
	baz=238						
SGST	**Jiashian**	**1.91**	**235**	*eP*	**Pn**	**20 22 45.6**	**-0.1**
	baz=234						
SGST				*eS*	**Sn**	**20 23 10.3**	**+1.8**
	baz=234						
ECL	**Taimali**	**2.00**	**218**	*eP*	**Pn**	**20 22 46.6**	**-0.4**
	baz=217						
ECL				*eS*	**Sn**	**20 23 08.9**	**-2.0**
	baz=217						
JTJ	**Tarama**	**2.25**	**78**	P	**Pn**	**20 22 50.4**	**0.0**
JTJ				*eS*	**Sn**	**20 23 17.1**	**+0.1**

*CASC **08** 20:31:15.1±1.1, 12°.88N×90°.26W, h16km±7km, MD3.8*
*ISCJB **08** 20:31:16.5±1.2, 12°.9N±0°.1×90°.20W±0°.06, h29km, mb3.7/3, Error ellipse: s-maj=15.4km s-min=6.4km az=21.2*
*IDC **08** 20:31:16.8±2.4, 13°.80N×89°.55W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/24, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=62.4km s-min=25.8km az=32.0*

ISC 08 20:31:18.2±1.5, 13°.0N±0°.1×90°.17W±0°.08, h29km, n22, σ1°.43/22, mb3.6/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.01**	**32**	*eP*	**Pn**	**20 31 35.5**	**-1.1**
SNJE	**San Jose**	**1.04**	**32**	*eP*	**Pn**	**20 31 36.3**	**-0.7**
RTR	**El Retiro**	**1.05**	**29**	*eP*	**Pn**	**20 31 36.4**	**-0.7**
BOQS	**Boqueron**	**1.15**	**49**	*eP*	**Pn**	**20 31 37.9**	**-0.6**
IXG	**Ixpaco**	**1.22**	**347**	*eP*	**Pn**	**20 31 38.0**	**-1.5**
RBDL	**Robledal**	**1.22**	**23**	*eP*	**Pn**	**20 31 39.0**	**-0.5**
LFU	**La Fuente**	**1.28**	**53**	*eP*	**Pn**	**20 31 39.8**	**-0.4**
LBRS	**Las Brisas**	**1.33**	**55**	*eP*	**Pn**	**20 31 40.7**	**-0.2**
SNVI	**San Vicente**	**1.44**	**64**	*eP*	**Pn**	**20 31 41.6**	**-0.8**
FUG	**Fuego 3**	**1.60**	**336**	*eP*	**Pn**	**20 31 43.0**	**-1.7**
NBG	**Las Nubes**	**1.61**	**354**	*eP*	**Pn**	**20 31 45.4**	**+0.5**
MTO2	**Montecristo 2**	**1.62**	**29**	*eP*	**Pn**	**20 31 44.8**	**-0.1**
BLLM	**Bellamira**	**1.94**	**76**	*eP*	**Pn**	**20 31 48.8**	**-0.4**
TP2	**Tecpan 2**	**1.98**	**335**	*eP*	**Pn**	**20 31 49.0**	**-1.0**
CAHU	**Cacacuatique**	**2.06**	**67**	*eP*	**Pn**	**20 31 50.7**	**-0.4**
CNCH	**Conchagua**	**2.29**	**82**	*eP*	**Pn**	**20 31 53.8**	**-0.4**
JTS	**JuntasAbangare**	**5.77**	**117**	Pn	**Pn**	**20 32 42.8**	**+0.9**
	1.1nm,0.3s,baz=301,slow=19,SNR=8.3						
CMIG	**Matias Romero**	**6.12**	**313**	Pn	**Pn**	**20 32 46.2**	**-0.4**
	0.2nm,0.3s,baz=90,slow=9.1,SNR=2.6						
CMIG				Sn	**Sn**	**20 33 59.6**	**+3.9**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**20.54**	**324**	P	**P**	**20 35 55.5**	**+1.0**
	0.4nm,0.5s,baz=140,slow=11,SNR=5.1						
NVAR	**Mina Array Bea**	**35.58**	**320**	P	**P**	**20 38 14.8**	**+1.4**
	0.8nm,0.9s,baz=122,slow=6.6,SNR=4.2						
SCHQ	**Schefferville**	**45.59**	**19**	P	P	20 39 31.1	-4.4
	1.3nm,0.5s,baz=217,slow=10,SNR=7.4						
YKA	**Yellowknife Ar**	**52.43**	**346**	P	**P**	**20 40 24.7**	**-3.1**
	0.2nm,0.5s,baz=133,slow=7.2,SNR=6.3						

IDC 08 20:40:49.9±2.1, 0°.75N×96°.96E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML3.1/2, Error ellipse: s-maj=53.8km s-min=28.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.83**	**44**	Pn	Pn	20 41 35.7	-1.0
	1.1nm,0.3s,baz=318,slow=16,SNR=8.3						
CMAR	**Chiang Mai Arr**	**17.71**	**6**	P	P	20 44 58.8	-0.4
	0.1nm,0.3s,baz=198,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**42.00**	**121**	P	P	20 48 43.3	-0.1
	0.2nm,0.5s,baz=302,slow=9.0,SNR=4.8						
SONM	**Songino Array**	**47.61**	**9**	P	P	20 49 27.6	-0.3
	0.2nm,0.6s,baz=193,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**47.62**	**346**	P	P	20 49 27.9	+0.1
	0.3nm,0.5s,baz=162,slow=9.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**53.97**	**351**	P	P	20 50 15.1	-0.4
	0.8nm,0.5s,baz=173,slow=7.4,SNR=7.3						

*ISCJB **08** 20:45:28.3±0.4, 24°.39N±0°.03×122°.13E±0°.03, h16km±6km, Error ellipse: s-maj=5.5km s-min=3.9km az=158.8*
*TAP **08** 20:45:28.7, 24°.43N×122°.06E, h18km, ML3.0, B*
*JMA **08** 20:45:29.7±0.3, 24°.43N×122°.16E, h55km, M1.9*

ISC 08 20:45:27.9±1.0, 24°.39N±0°.03×122°.11E±0°.02, h16km±8km, n30, σ0°.50/48, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.32**	**313**	⇑*iP*	**Pg**	**20 45 34.6**	**0.0**
	baz=309						
TWC				*i* S	**Sg**	**20 45 38.4**	**-0.8**
	baz=309						
ENA	**Nanau**	**0.34**	**276**	⇑*iP*	**Pg**	**20 45 35.0**	**+0.1**
	baz=275						
ENA				S	**Sg**	**20 45 39.6**	**0.0**
	baz=275						
ILA	**Ilan**	**0.50**	**319**	*eP*	**Pb**	**20 45 38.3**	**0.0**
	baz=321						
TWE	**Neicheng**	**0.52**	**309**	⇓*iP*	**Pg**	**20 45 38.4**	**+0.2**
	baz=311						
TWE				S	**Sg**	**20 45 44.4**	**-0.8**
	baz=311						
ENTT	**Nioudou**	**0.55**	**297**	P	**Pg**	**20 45 38.9**	**+0.1**
	baz=296						
ENTT				S	**Sg**	**20 45 45.9**	**-0.4**
	baz=296						
TWD	**Chiawan**	**0.56**	**237**	*eP*	**Pg**	**20 45 39.2**	**+0.2**
	baz=235						
TWD				*eS*	**Sb**	**20 45 47.2**	**+0.1**
	baz=235						
TWB1	**Santiao Chiao**	**0.62**	**350**	*eP*	**Pb**	**20 45 40.5**	**+0.1**
	baz=345						
NNS	**Nan Shan**	**0.67**	**274**	*eP*	**Pg**	**20 45 41.0**	**-0.1**
	baz=278						
NNS				*eS*	**Sg**	**20 45 49.2**	**-0.8**
	baz=278						
NSK	**Sanguang**	**0.74**	**293**	*eP*	**Pg**	**20 45 42.3**	**0.0**
	baz=296						
NSK				*eS*	**Sg**	**20 45 51.4**	**-0.7**
	baz=296						
NWF	**Wu-fen Shan**	**0.74**	**336**	*eP*	**Pb**	**20 45 42.8**	**+0.3**
	baz=339						
NWF				*eS*	**Sg**	**20 45 52.2**	**0.0**
	baz=339						
WHF	**Hehuan Shan**	**0.81**	**253**	*i* P	**Pb**	**20 45 43.8**	**0.0**
	baz=256						
WHF				*eS*	**Sg**	**20 45 54.5**	**+0.1**
	baz=256						
YOJ	**Yonaguni jima**	**0.83**	**85**	*eP*	**Pg**	**20 45 44.3**	**+0.4**
	baz=78						
YOJ	**Yonaguni jima**	**0.83**	**85**	P	Pn	20 45 44.8	-0.1
YOJ				*eS*	**Sg**	**20 45 55.6**	**+0.7**
TAP1	**Taipei**	**0.84**	**321**	*eP*	**Pn**	**20 45 45.3**	**+0.2**
	baz=321						
TAP1				*eS*	**Sg**	**20 45 55.3**	**+0.1**
	baz=321						
ESL	**Shilin**	**0.84**	**227**	*eP*	**Pg**	**20 45 44.4**	**+0.2**
	baz=221						
TAP	**Taipei**	**0.85**	**320**	*eP*	**Pn**	**20 45 45.3**	**+0.1**
	baz=329						
TAP				*eS*	**Sb**	**20 45 55.3**	**-0.1**
	baz=329						
TWT	**Tachien**	**0.86**	**261**	*eP*	**Pn**	**20 45 45.7**	**+0.1**
	baz=263						
TWT				*eS*	**Sg**	**20 45 56.6**	**+0.5**
	baz=263						
TWS1	**Kuangyinshan**	**0.95**	**319**	*eP*	**Pn**	**20 45 47.1**	**+0.6**
	baz=320						
TWS1				*eS*	**Sn**	**20 45 59.6**	**-0.1**
	baz=320						
TWY	**Chenhua**	**0.99**	**332**	*eP*	**Pn**	**20 45 47.6**	**+0.4**
	baz=346						
NSTT	**Nanjuang**	**1.04**	**284**	*eP*	**Pg**	**20 45 49.1**	**+1.1**
	baz=282						
SMLT	**Sun Moon Lake**	**1.21**	**246**	*eP*	**Pg**	**20 45 51.5**	**+0.2**
	baz=241						
TWQ1	**Liyutan**	**1.22**	**268**	*eP*	**Pg**	**20 45 52.5**	**+1.1**
	baz=273						
TYC	**Yuchr**	**1.24**	**247**	*eP*	**Pg**	**20 45 52.2**	**+0.4**
	baz=232						
TWF1	**Yuli**	**1.27**	**216**	*eP*	**Pn**	**20 45 51.0**	**0.0**
	baz=226						
IRIF	**Iriomote-Funau**	**1.48**	**92**	P	**Pn**	**20 45 53.6**	**-0.3**
IRIF				*eS*	**Sn**	**20 46 12.1**	**-0.8**
ELDTW	**Lidau**	**1.56**	**220**	*eP*	**Pn**	**20 45 55.2**	**+0.2**
	baz=201						
JKRS	**Kuro-shima**	**1.74**	**95**	P	**Pn**	**20 45 57.9**	**+0.4**
JKRS				*eS*	**Sn**	**20 46 18.9**	**-0.5**
JIJ	**Ishigaki jima**	**1.86**	**90**	P	**Pn**	**20 45 58.8**	**-0.3**
JIJ				*eS*	**Sn**	**20 46 20.9**	**-1.3**
CHN1	**Nanshi**	**1.88**	**231**	*eP*	**Pb**	**20 46 01.9**	**0.0**
	baz=225						
JTJ	**Tarama**	**2.38**	**83**	P	**Pn**	**20 46 07.0**	**+0.8**
JTJ				*eS*	**Sn**	**20 46 34.5**	**-0.5**

*JMA **08** 20:51:19.1±0.3, 24°.17N×140°.84E, h100km, M4.5*
*IDC **08** 20:51:20.6±9.9, 23°.73N×141°.78E, h170km±93km, mb3.1/6, mb1 3.3/6, mb1mx3.0/24, mbtmp3.1/6, Error ellipse: s-maj=33.8km s-min=19.6km az=82.0*

ISC 08 20:51:21.3±1.4, 24°.3N±0°.1×141°.3E±0°.2, h148km, n17, σ1°.73/19, mb3.4/6, Volcano Islands region

ZIIG				*i* S	Sn	20 52 41.5	-1.8
PLIG	**Platanillo**	**1.49**	**33**	*e*P	Pn	20 52 32.0	-1.3
PLIG				*i* S	Sn	20 52 49.9	-1.7
YAIG	**Yautepec**	**2.11**	**35**	*i* P	Pn	20 52 40.5	-1.4
YAIG				*i* S	Sn	20 53 04.5	-2.6
PNIG	**Pinotepa**	**2.25**	**109**	*i* P	Pn	20 52 40.3	-3.4
PNIG				*i* S	Sn	20 53 15.3	+4.9

DDA ***08*** *20:55:55.8, 36.9*′*94*″*N×28.0*′*05E, h7km, MD2.8*
CSEM ***08*** *20:55:56.2±0.1, 36.9*′*97N×28.3*′*33E, h2km, MD2.6, Error ellipse: s-maj=4.1km s-min=2.5km az=30.0*
ISK ***08*** *20:55:57.4, 37.0*′*06N×28.2*′*21E, h2km, MD2.6*
ISC 08 20:55:55.1±1.5**, 36.8**′**8N**±0.0′06**×28.2**′**4E**±0.0′03**, h1**km±13km**, n13**, σ0.58**/21**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**7**	PG	**Pg**	**20 55 59.9**	**-0.1**
YER	**Yerkesik**	**0.26**	**7**	*i* Pg	**Pg**	**20 55 59.9**	**-0.1**
TURN	**Turunc**	**0.29**	**91**	*i* P	**Pg**	**20 56 00.7**	**+0.1**
TURN				*i* S	**Sg**	**20 56 04.3**	**-0.1**
TURN	**Turunc**	**0.29**	**91**	*i* P	**Pg**	**20 56 00.7**	**+0.1**
TURN				*i* S	**Sg**	**20 56 04.3**	**-0.1**
MLSB	**Milas**	**0.56**	**318**	*e*PG	**Pg**	**20 56 06.6**	**+0.8**
MLSB				*e*SG	**Sg**	**20 56 13.2**	**+0.2**
MLSB	**Milas**	**0.56**	**318**	*e*Pg	**Pg**	**20 56 06.6**	**+0.8**
MLSB				*e*Sg	**Sg**	**20 56 13.2**	**+0.2**
BODT	**Bodrum**	**0.77**	**284**	*e*PG	**Pn**	**20 56 12.1**	**-1.0**
BODT				*e*SG	**Sb**	**20 56 22.9**	**+0.6**
BODT	**Bodrum**	**0.77**	**284**	*e*Pg	**Pn**	**20 56 12.1**	**-1.0**
BODT				*e*Sg	**Sb**	**20 56 22.9**	**+0.6**
AYDN	**Tasoluk**	**0.83**	**340**	*i* P	**Pg**	**20 56 11.1**	**+0.1**
AYDN				*i* S	**Sg**	**20 56 21.0**	**-0.8**
AYDN	**Tasoluk**	**0.83**	**340**	*i* P	**Pg**	**20 56 11.1**	**+0.1**
AYDN				*i* S	**Sg**	**20 56 21.0**	**-0.8**
DNZL	**Cakiroluk**	**1.03**	**38**	*i* P	**Pn**	**20 56 17.0**	**+0.1**
DNZL				*i* S	**Sn**	**20 56 32.5**	**+0.4**
DNZL	**Cakiroluk**	**1.03**	**38**	*i* P	**Pn**	**20 56 17.0**	**+0.1**
ELL	**Elmali**	**1.34**	**95**	*e*PN	Pg	20 56 24.7	+3.9

IDC 08 21:20:01.2±5.7**, 24.5**′**0S×178.0**′**4W, h0km, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.8**/17**, mbtmp4.2**/3**, Error ellipse: s-maj=165.1km s-min=90.8km az=147.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.17**	**249**	P	P	21 27 05.1	-0.4
	0.8nm,0.3s,baz=90,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**43.70**	**261**	P	P	21 28 08.1	-0.3
	2.9nm,0.7s,baz=106,slow=8.2,SNR=25						
WRA	**Warramunga Arr**	**44.15**	**266**	P	P	21 28 12.2	+0.3
	3.6nm,0.6s,baz=104,slow=7.9,SNR=36						
NOA	**NORSAR Array B**	**142.93**	**353**	PKP	PKPdf	21 39 35.7	-0.7
	1.4nm,0.8s,baz=16,slow=5.0,SNR=3.8						
BRTR	**Keskin Array B**	**149.37**	**307**	PKPbc	PKPab	21 39 57.9	+0.8
	0.6nm,0.8s,baz=90,slow=4.3,SNR=4.9						

IDC ***08*** *21:22:02.1±4.6, 6.6*′*62S×106.0*′*5E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/31, Error ellipse: s-maj=119.3km s-min=83.4km az=132.0*
ISCJB ***08*** *21:22:05.9±0.8, 7.4*′*3S×106.0*′*2E±0.0*′*03, h26km±7km, mb3.6/4, Error ellipse: s-maj=6.3km s-min=5.1km az=135.2*
AUST ***08*** *21:22:06.3, 7.3*′*6S×105.8*′*9E, h25km*
DJA ***08*** *21:22:09.0±0.4, 7.°S±3.′×10.°6E±.°, h21km±4km, M4.2/21, mb4.5/3, MLv4.0/21*
ISC 08 21:22:06.3±1.3**, 7.4**′**0S**±0.′04**×106.1**′**0E**±0.′03**, h33**km±5km**, n39**, σ2.6**/38**, mb3.7**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.59**	**49**	P	**Pn**	**21 22 18.5**	**+0.1**
SKJI				S	**Sn**	**21 22 27.6**	**+0.7**
CGJI	**Cibinong**	**0.88**	**332**	P	**Pb**	**21 22 23.2**	**+0.1**
CGJI				S	**Sn**	**21 22 32.9**	**-1.0**
DBJI	**Dramaga**	**1.05**	**38**	P	**Pb**	**21 22 26.4**	**+0.3**
DBJI				S	**Sb**	**21 22 40.3**	**+0.7**
CBJI	**Citeko**	**1.22**	**38**	P	**Pn**	**21 22 26.5**	**-0.5**
CBJI				S	**Sn**	**21 22 39.5**	**-2.9**
SBJI	**Serang**	**1.27**	**1**	P	**Pb**	**21 22 28.6**	**-1.0**
SBJI				S	**Sb**	**21 22 43.8**	**-1.8**
TNG	**Tangerang**	**1.33**	**24**	P	**Pb**	**21 22 29.5**	**-1.2**
TNG	**Tangerang**	**1.33**	**24**	P	**Pb**	**21 22 29.4**	**-1.2**
LEM	**Lembang**	**1.61**	**70**	P	**Pb**	**21 22 35.3**	**-0.2**
	baz=1.8,SNR=43						
LEM	**Lembang**	**1.61**	**70**	P	**Pb**	**21 22 35.3**	**-0.2**
LEM				S	**Sb**	**21 22 57.8**	**+2.3**
CISI	**Cisompet, Garu**	**1.71**	**95**	P	**Pb**	**21 22 35.6**	**-1.5**
CISI				S	**Sn**	**21 22 55.3**	**+0.8**
BLSI	**Bandar Lampung**	**2.19**	**337**	P	**Pn**	**21 22 41.7**	**+1.3**
KASI	**Kota Agung**	**2.45**	**319**	P	**Pn**	**21 22 45.8**	**+1.9**
KASI				S	**Sb**	**21 23 21.7**	**+2.3**
CLJI	**Cilicap**	**2.91**	**97**	P	**Pb**	**21 22 56.1**	**-1.4**
TGJI	**Tegal**	**3.04**	**80**	P	Pb	21 22 56.2	-3.6
XMI	**Christmas Isla**	**3.06**	**188**	P	**Pn**	**21 22 52.9**	**+0.5**
	baz=3.1,SNR=18						
XMIS	**Christmas Isla**	**3.10**	**188**	P	**Pn**	**21 22 53.2**	**+0.3**
	baz=3.1,SNR=5.9						
XMIS				S	**Sn**	**21 23 27.9**	**-0.9**
	baz=3.1,SNR=6.9						
LWLI	**Liwa**	**3.11**	**319**	P	**Sn**	**21 23 29.8**	**+0.4**
LWLI				S	**Sn**	**21 23 30.1**	**+0.7**
MDSI	**Maura Dua**	**3.46**	**326**	P	Pn	21 22 53.4	-4.5
YOGI	**Yogyakarta**	**4.18**	**96**	P	Pn	21 23 11.6	+3.8
MNAI	**Manna**	**4.34**	**314**	P	Pn	21 23 13.6	+3.5
UGM	**Wanagama**	**4.41**	**97**	P	Pn	21 23 16.5	+5.5
	baz=4.6,SNR=6.9						
UGM	**Wanagama**	**4.41**	**97**	P	Pn	21 23 15.9	+4.9
UGM				S	**Sn**	**21 24 00.6**	**-0.7**
PCJI	**Pacitan**	**5.09**	**99**	P	**Pn**	**21 23 22.6**	**+2.3**
PCJI				S	**Sn**	**21 24 16.7**	**-1.3**
KSI	**Kapahiang**	**5.10**	**317**	P	Pn	21 23 25.7	+5.2
	45nm,0.9s,0.1nm						
PWJI	**Pagerwojo**	**5.69**	**97**	P	Pn	21 23 33.7	+5.2
	20nm,0.6s,0.1nm						
PWJI				S	**Sn**	**21 24 32.0**	**-0.7**
	20nm,0.6s,0.1nm						
PPI	**Padang Panjang**	**8.94**	**320**	P	Pn	21 23 52.0	-21
	baz=8.8,SNR=4.5						
PPI	**Padang Panjang**	**8.94**	**320**	P	Pn	21 24 16.6	+3.5
GSI	**Gunungsitoli**	**12.12**	**315**	P	**Pn**	**21 24 55.5**	**-1.3**
	baz=12,SNR=3.9						
GSI				S	Sn	21 26 44.5	-27
	baz=12,SNR=37						
PSI	**Prapat**	**12.40**	**324**	LR	LR	21 30 18.7	
	comp=Z,39nm,20.4s,baz=12,slow=42						
WSI	**Waingapu**	**14.22**	**100**	S	Sn	21 27 47.0	-15
	baz=14,SNR=4.6						
PCI	**Palu**	**15.13**	**65**	S	**S**	**21 28 46.5**	**+5.7**
	baz=15,SNR=7.2						
MTN	**Manton Dam**	**25.22**	**104**	P	**P**	**21 27 30.5**	**+1.2**
	baz=25,SNR=3.9						
SWI	**Sorong**	**25.91**	**77**	S	**S**	**21 31 58.0**	**-5.8**
	baz=26,SNR=8.1						
KDU	**Kakadu**	**26.48**	**104**	P	**P**	**21 27 44.1**	**+3.3**
	baz=27,SNR=3.3						
JAY	**Jayapura**	**34.80**	**84**	P	P	21 28 58.9	+4.5
	baz=35,SNR=4.2						
JAY				S	**S**	**21 34 26.2**	**+3.0**
	baz=35,SNR=3.6						
SONM	**Songino Array**	**54.99**	**0**	P	P	21 31 29.9	-4.6
	0.3nm,0.6s,baz=179,slow=8.8,SNR=4.9						
SONM				PcP	**PcP**	**21 32 33.9**	**-2.0**
	0.7nm,0.6s,baz=178,slow=4.4,SNR=9.9						
MKAR	**Makanchi Array**	**57.96**	**341**	P	P	21 31 51.5	-4.0
	0.4nm,0.5s,baz=153,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**63.70**	**346**	P	P	21 32 29.4	-4.9
	0.2nm,0.3s,baz=144,slow=5.2,SNR=3.3						
BRTR	**Keskin Array B**	**81.42**	**312**	P	**P**	**21 34 18.6**	**-1.8**
	0.5nm,0.6s,baz=131,slow=6.2,SNR=5.8						

JMA ***08*** *21:35:42.6±0.1, 40.2*′*4N×142.7*′*45E, h35km±1km, M3.2*
IDC ***08*** *21:35:44.4±4.8, 40.2*′*4N×142.9*′*57E, h61km±25km, mb3.3/5, mb1 3.2/8, mb1mx3.1/29, mbtmp3.2/8, ML2.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/21, Error ellipse: s-maj=78.8km s-min=31.1km az=111.0*

ISC 08 21:35:41.6±1.7**, 40.2**′**9N**±0.′05**×142.8**′**9E**±0.′09**, h28**km±12km**, n19**, σ1.3**/32**, mb3.4**/5**, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.59**	**234**	⇓P	**Pb**	**21 35 53.8**	**+0.3**
JTH				S	**Sb**	**21 36 01.9**	**+0.3**
JANG	**Nango**	**0.75**	**277**	⇓P	**Pn**	**21 35 56.3**	**-0.1**
JANG				S	**Sn**	**21 36 06.0**	**-0.9**
MIYJ	**Miyakonagasawa**	**0.88**	**216**	⇓P	**Pn**	**21 35 57.6**	**-0.5**
MIYJ				S	**Sn**	**21 36 08.2**	**-1.8**
JKZ	**Kuzumaki**	**0.94**	**252**	⇓P	**Pn**	**21 35 59.1**	**0.0**
JTM	**Tenmabayashi**	**1.20**	**295**	⇓P	**Pn**	**21 36 03.2**	**+0.7**
JTM				S	**Sn**	**21 36 17.9**	**+0.1**
JOM	**Ohasama**	**1.23**	**229**	⇓P	**Pn**	**21 36 03.4**	**+0.4**
JAH	**Hinai**	**1.43**	**267**	P	**Pn**	**21 36 06.6**	**+0.9**
JAH				S	**Sn**	**21 36 24.4**	**+0.9**
JOT	**Ohata**	**1.55**	**315**	P	**Pn**	**21 36 08.5**	**+1.1**
JMK	**Ichinoseki**	**1.66**	**217**	P	**Pn**	**21 36 09.9**	**+1.1**
JRG	**Rokugo**	**1.69**	**239**	P	**Pn**	**21 36 10.9**	**+1.7**
ASAJ	**Asahikawa**	**3.83**	**1**	P	**Pn**	**21 36 41.2**	**+2.5**
	1.4nm,0.3s,baz=143,slow=6.4,SNR=10						
ASAJ				S	**Sb**	**21 37 30.9**	**-3.4**
	0.5nm,0.3s,baz=107,slow=19,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.03**	**223**	P	**Pn**	**21 36 56.9**	**+1.6**
	0.3nm,0.3s,baz=30,slow=14,SNR=5.8						
USRK	**Ussuriysk Arra**	**8.71**	**300**	P	Pn	21 37 49.8	+4.1
	0.1nm,0.3s,baz=104,slow=15,SNR=4.7						
CBIJ	**Chichi jima**	**13.16**	**181**	LR	LR	21 43 30.5	
	comp=Z,48nm,20.7s,baz=96,slow=36						
SONM	**Songino Array**	**26.82**	**298**	P	**P**	**21 41 19.5**	**-0.1**
	0.2nm,0.5s,baz=99,slow=8.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.42**	**310**	P	**P**	**21 43 16.6**	**-0.6**
	0.4nm,0.5s,baz=83,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**43.18**	**299**	P	**P**	**21 43 39.7**	**-0.2**
	0.2nm,0.4s,baz=84,slow=7.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**44.73**	**306**	P	**P**	**21 43 51.7**	**-0.6**
	0.7nm,0.6s,baz=82,slow=8.4,SNR=4.8						
BVAR	**Borovoye Array**	**49.06**	**310**	P	**P**	**21 44 26.1**	**0.0**
	0.6nm,0.4s,baz=79,slow=9.0,SNR=7.1						

ISK ***08*** *21:40:19.2, 39.4*′*2N×26.2*′*15E, h16km, MD3.6, ML3.6*
ATH ***08*** *21:40:19.5, 39.3*′*9N×26.3*′*6E, h23km±2km, MD3.4/9*
DDA ***08*** *21:40:20.1, 39.4*′*2N×26.3*′*0E, h27km, MD3.4*
CSEM ***08*** *21:40:20.7±0.1, 39.4*′*1N×26.2*′*8E, h10km, MD3.4, Error ellipse: s-maj=3.2km s-min=2.3km az=60.0*
ISCJB ***08*** *21:40:20.3±0.5, 39.4*′*2N±0.0′2×26.2*′*4E±0.0′2, h14km±3km, Error ellipse: s-maj=3.5km s-min=2.2km az=148.3*
SOF ***08*** *21:40:22.7, 39.5*′*9N×26.4*′*2E, h14km, MD3.1*
BEO ***08*** *21:40:22.7±1.1, 39.7*′*2N×26.6*′*3E, h0km, ML3.4/5*
SKO ***08*** *21:40:24.4, 39.6*′*5N×26.1*′*5E, h0km*
ISC 08 21:40:20.8±0.8**, 39.4**′**1N**±0.′02**×26.2**′**9E**±0.′02**, h13**km±6km**, n179**, σ0.95**/232**, 9C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.16**	**186**	*e*PB	**Pg**	**21 40 24.5**	**-0.1**
PRK				*e*SB	**Sg**	**21 40 27.2**	**-0.1**
PRK	**Paraskevi**	**0.16**	**186**	*e*Pb	**Pg**	**21 40 24.5**	**-0.1**
PRK				*e*Sb	**Sg**	**21 40 27.2**	**-0.1**
EZN	**Ezine**	**0.42**	**3**	*e*PG	**Pg**	**21 40 28.7**	**-0.4**
EZN				*e*SG	**Sg**	**21 40 34.9**	**+0.2**
EZN	**Ezine**	**0.42**	**3**	*e*Pg	**Pg**	**21 40 28.7**	**-0.4**
EZN				*e*Sg	**Sg**	**21 40 34.9**	**+0.2**
BOZC	**Bozcaada**	**0.47**	**337**	*i* P	**Pb**	**21 40 30.3**	**-0.6**
LIA	**Limnos Island**	**0.99**	**300**	*e*PN	**Pn**	**21 40 40.1**	**-0.2**
LIA				*e*SN	**Sn**	**21 40 53.6**	**-0.5**
LIA	**Limnos Island**	**0.99**	**300**	*e*Pn	**Pn**	**21 40 40.1**	**-0.2**
LIA				*e*Sn	**Sn**	**21 40 53.6**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.00**	**8**	*e*PG	**Pg**	**21 40 38.8**	**-1.2**
GELI				*e*SG	**Sb**	**21 40 53.3**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.00**	**8**	*e*Pg	**Pg**	**21 40 38.8**	**-1.2**
GELI				*e*Sg	**Sb**	**21 40 53.3**	**+0.3**
LPK	**Lapseki**	**1.03**	**20**	*e*PG	**Pg**	**21 40 39.8**	**-0.8**
LPK				*e*SG	**Sn**	**21 40 54.9**	**-0.3**
LPK	**Lapseki**	**1.03**	**20**	*e*Pg	**Pg**	**21 40 39.8**	**-0.8**
LPK				*e*Sg	**Sn**	**21 40 54.9**	**-0.3**
CHOS	**Chios island**	**1.04**	**190**	*e*PN	**Pg**	**21 40 39.9**	**-0.9**
CHOS				*e*SN	**Sg**	**21 40 54.2**	**-0.1**
CHOS	**Chios island**	**1.04**	**190**	*e*Pn	**Pg**	**21 40 39.9**	**-0.9**
CHOS				*e*Sn	**Sg**	**21 40 54.2**	**-0.1**
URLA	**Izmir**	**1.07**	**167**	*i* P	**Pb**	**21 40 40.3**	**-0.9**
URLA				*i* S	**Sg**	**21 40 55.8**	**+0.3**
URLA	**Izmir**	**1.07**	**167**	*i* P	**Pb**	**21 40 40.3**	**-0.9**
URLA				*i* S	**Sg**	**21 40 55.8**	**+0.3**
BALY	**Balya**	**1.08**	**72**	*i* P	**Pb**	**21 40 40.8**	**-0.5**
BALY				*i* S	**Sb**	**21 40 55.9**	**+0.6**
BALY	**Balya**	**1.08**	**72**	*i* P	**Pb**	**21 40 40.8**	**-0.5**
BALY				*i* S	**Sb**	**21 40 55.9**	**+0.6**
BLCB	**Balcova**	**1.18**	**150**	*e*PN	**Pn**	**21 40 42.5**	**-0.5**
BLCB	**Balcova**	**1.18**	**150**	*e*Pn	**Pn**	**21 40 42.5**	**-0.5**
BALB	**Balikesir**	**1.25**	**79**	*e*PN	**Pn**	**21 40 43.6**	**-0.3**
BALB	**Balikesir**	**1.25**	**79**	*e*Pn	**Pn**	**21 40 43.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.25**	**59**	*e*PN	**Pn**	**21 40 43.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.25**	**59**	*e*Pn	**Pn**	**21 40 43.4**	**-0.5**
KRBG	**Karabiga-Canak**	**1.25**	**38**	*e*PN	**Pn**	**21 40 43.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.25**	**38**	*e*Pn	**Pn**	**21 40 43.3**	**-0.6**
IZM	**Izmir**	**1.26**	**143**	*e*PN	**Pn**	**21 40 43.8**	**-0.4**
IZM	**Izmir**	**1.26**	**143**	*e*Pn	**Pn**	**21 40 43.8**	**-0.4**
ERIK	**Erikli-Kesan**	**1.27**	**8**	*e*PN	**Pn**	**21 40 43.1**	**-1.1**
ERIK	**Erikli-Kesan**	**1.27**	**8**	*e*Pn	**Pn**	**21 40 43.1**	**-1.1**
AKS	**Akhisar**	**1.29**	**114**	*e*PN	**Pn**	**21 40 44.5**	**-0.1**
AKS	**Akhisar**	**1.29**	**114**	*e*Pn	**Pn**	**21 40 44.5**	**-0.1**
AKHS	**Akhisar**	**1.30**	**114**	*i* P	**Pn**	**21 40 43.8**	**-0.8**
AKHS				*i* S	**Sb**	**21 41 01.8**	**+0.2**
AKHS	**Akhisar**	**1.30**	**114**	*i* P	**Pn**	**21 40 43.8**	**-0.8**
AKHS				*i* S	**Sb**	**21 41 01.8**	**+0.2**
ENEZ	**Enez**	**1.33**	**355**	*e*PN	**Pn**	**21 40 43.3**	**-1.8**
ENEZ	**Enez**	**1.33**	**355**	*e*Pn	**Pn**	**21 40 43.3**	**-1.8**
RKY	**Sarkoy-Tekirda**	**1.45**	**28**	*e*PN	**Pn**	**21 40 46.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.45**	**28**	*e*Pn	**Pn**	**21 40 46.5**	**-0.2**
SART	**Tekirdag**	**1.45**	**28**	*i* P	**Pn**	**21 40 46.6**	**-0.1**
SART				*i* S	**Sg**	**21 41 07.3**	**-0.1**
SART	**Tekirdag**	**1.45**	**28**	*i* P	**Pn**	**21 40 46.6**	**-0.1**
SART				*i* S	**Sg**	**21 41 07.3**	**-0.1**
ALN	**Alexandroupoli**	**1.50**	**353**	*e*PN	**Pn**	**21 40 47.5**	**+0.1**
ALN				*e*SN	**Sb**	**21 41 06.9**	**-0.5**
ALN	**Alexandroupoli**	**1.50**	**353**	*e*Pn	**Pn**	**21 40 47.5**	**+0.1**
ALN				*e*Sn	**Sb**	**21 41 06.9**	**-0.5**
BNT	**Bandirma**	**1.57**	**52**	*e*PN	**Pn**	**21 40 47.8**	**-0.6**
BNT	**Bandirma**	**1.57**	**52**	*e*Pn	**Pn**	**21 40 47.8**	**-0.6**
MFT	**Murefte**	**1.57**	**29**	*e*PN	**Pn**	**21 40 48.6**	**+0.1**
MFT	**Murefte**	**1.57**	**29**	*e*Pn	**Pn**	**21 40 48.6**	**+0.1**
DURS	**Dursunbey**	**1.70**	**83**	*i* P	**Pn**	**21 40 50.1**	**-0.1**
DURS				*i* S	**Sn**	**21 41 11.3**	**-0.5**
DURS	**Dursunbey**	**1.70**	**83**	*i* P	**Pn**	**21 40 50.1**	**-0.1**
DURS				*i* S	**Sn**	**21 41 11.3**	**-0.5**
DST	**Dursunbey**	**1.81**	**83**	*e*PN	**Pn**	**21 40 52.1**	**+0.4**
DST	**Dursunbey**	**1.81**	**83**	*e*Pn	**Pn**	**21 40 52.1**	**+0.4**
TKR	**Tekirdag**	**1.84**	**31**	*e*PN	**Pn**	**21 40 51.6**	**-0.5**
TKR	**Tekirdag**	**1.84**	**31**	*e*Pn	**Pn**	**21 40 51.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.86**	**156**	*i* P	**Pb**	**21 40 54.6**	**0.0**
GCAM				*i* S	**Sg**	**21 41 20.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.86**	**156**	*i* P	**Pb**	**21 40 54.6**	**0.0**
GCAM				*i* S	**Sg**	**21 41 20.3**	**-0.2**
DEMI	**Demirci**	**1.92**	**100**	*e*P	**Pb**	**21 40 55.1**	**-0.6**
DEMI				*i* S	**Sb**	**21 41 21.4**	**+1.9**
DEMI	**Demirci**	**1.92**	**100**	*e*P	**Pb**	**21 40 55.1**	**-0.6**
DEMI				*i* S	**Sb**	**21 41 21.4**	**+1.9**
CRLT	**Corlu**	**2.04**	**32**	*e*PN	**Pn**	**21 40 54.6**	**-0.3**
CRLT	**Corlu**	**2.04**	**32**	*e*Pn	**Pn**	**21 40 54.6**	**-0.3**
KULA	**Kula-Manisa**	**2.05**	**115**	*e*PN	**Pn**	**21 40 55.7**	**+0.6**
KULA	**Kula-Manisa**	**2.05**	**115**	*e*Pn	**Pn**	**21 40 55.7**	**+0.6**
ORLT	**Orhaneli**	**2.11**	**72**	*e*PN	**Pn**	**21 40 56.4**	**+0.6**
ORLT	**Orhaneli**	**2.11**	**72**	*e*Pn	**Pn**	**21 40 56.4**	**+0.6**
AYDN	**Tasoluk**	**2.14**	**144**	*i* P	**Pn**	**21 40 55.3**	**-1.0**
AYDN				*i* S	**Sb**	**21 41 27.3**	**+1.3**
AYDN	**Tasoluk**	**2.14**	**144**	*i* P	**Pn**	**21 40 55.3**	**-1.0**
AYDN				*i* S	**Sb**	**21 41 27.3**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.21**	**64**	*e*PN	**Pn**	**21 40 57.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.21**	**64**	*e*Pn	**Pn**	**21 40 57.6**	**+0.4**
ARMT	**Armutlu**	**2.29**	**59**	*e*PN	**Pn**	**21 40 57.9**	**-0.3**
ARMT	**Armutlu**	**2.29**	**59**	*e*Pn	**Pn**	**21 40 57.9**	**-0.3**
KDZ	**Kurdzhali**	**2.34**	**344**	S	**Sn**	**21 41 27.0**	**-0.5**
KDZ				P	**Pn**	**21 40 59.4**	**+0.5**
KDZ	**Kurdzhali**	**2.34**	**344**	P	**Pn**	**21 40 59.4**	**+0.5**
KDZ				S	**Sn**	**21 41 27.0**	**-0.5**
SLVT	**Silivri**	**2.34**	**38**	*e*PN	**Pn**	**21 40 59.1**	**+0.2**
SLVT	**Silivri**	**2.34**	**38**	*e*Pn	**Pn**	**21 40 59.1**	**+0.2**
NEO	**Neokhori**	**2.38**	**268**	*e*PN	**Pn**	**21 40 59.3**	**-0.3**
NEO	**Neokhori**	**2.38**	**268**	*e*Pn	**Pn**	**21 40 59.3**	**-0.3**
ELBA	**Catalca**	**2.38**	**43**	*i* P	**Pn**	**21 40 59.7**	**+0.1**
ELBA	**Catalca**	**2.38**	**43**	*i* P	**Pn**	**21 40 59.7**	**+0.1**
PLG	**Polygyros**	**2.39**	**295**	*e*PB	**Pn**	**21 41 00.7**	**+1.0**
PLG	**Polygyros**	**2.39**	**295**	*e*Pb	**Pn**	**21 41 00.7**	**+1.0**
MLSB	**Milas**	**2.41**	**151**	*e*PN	**Pn**	**21 41 00.3**	**+0.3**
MLSB	**Milas**	**2.41**	**151**	*e*Pn	**Pn**	**21 41 00.3**	**+0.3**
APE	**Apeiranthos**	**2.41**	**195**	*e*PN	**Pn**	**21 40 58.5**	**-1.5**
APE	**Apeiranthos**	**2.41**	**195**	*e*PN	**Pn**	**21 40 59.0**	**-1.0**
APE	**Apeiranthos**	**2.41**	**195**	*e*Pn	**Pn**	**21 40 59.0**	**-1.0**
GEMT	**Gemlik**	**2.45**	**64**	*e*PN	**Pn**	**21 41 01.1**	**+0.6**
GEMT	**Gemlik**	**2.45**	**64**	*e*Pn	**Pn**	**21 41 01.1**	**+0.6**
TVSB	**Tavsanli**	**2.45**	**88**	*e*PN	**Pn**	**21 41 01.3**	**+0.7**
TVSB	**Tavsanli**	**2.45**	**88**	*e*Pn	**Pn**	**21 41 01.3**	**+0.7**
EDRB	**Edirne**	**2.46**	**8**	*e*PN	**Pn**	**21 40 60.0**	**-0.6**
EDRB	**Edirne**	**2.46**	**8**	*e*Pn	**Pn**	**21 41 00.0**	**-0.6**
BODT	**Bodrum**	**2.48**	**161**	*e*PN	**Pn**	**21 41 00.8**	**-0.1**
BODT	**Bodrum**	**2.48**	**161**	*e*Pn	**Pn**	**21 41 00.8**	**-0.1**
CTKS	**Kestanelik-??a**	**2.49**	**42**	*e*PN	**Pn**	**21 41 00.4**	**-0.6**
CTKS	**Kestanelik-??a**	**2.49**	**42**	*e*Pn	**Pn**	**21 41 00.4**	**-0.6**
CTYL	**Yal??k??y-??at**	**2.56**	**36**	*e*PN	**Pn**	**21 41 02.2**	**+0.2**
CTYL	**Yal??k??y-??at**	**2.56**	**36**	*e*Pn	**Pn**	**21 41 02.2**	**+0.2**
RZN	**Rozhen**	**2.57**	**333**	P	**Pn**	**21 41 03.3**	**+1.0**
RZN				S	**Sn**	**21 41 33.4**	**-0.2**
RZN	**Rozhen**	**2.57**	**333**	P	**Pn**	**21 41 03.3**	**+1.0**
RZN				S	**Sn**	**21 41 33.4**	**-0.2**
BGKT	**Bogazkoy**	**2.59**	**46**	*e*PN	**Pn**	**21 41 02.2**	**-0.2**
BGKT	**Bogazkoy**	**2.59**	**46**	*e*Pn	**Pn**	**21 41 02.2**	**-0.2**
YLV	**Yalova**	**2.63**	**63**	*e*PN	**Pn**	**21 41 03.7**	**+0.6**
YLV	**Yalova**	**2.63**	**63**	*e*Pn	**Pn**	**21 41 03.7**	**+0.6**
SOH	**Sokhos**	**2.66**	**303**	*e*PB	**Pn**	**21 41 05.0**	**+1.6**
SOH	**Sokhos**	**2.66**	**303**	*e*Pb	**Pn**	**21 41 05.0**	**+1.6**
ISK	**Istanbul-Kandi**	**2.69**	**51**	*e*PN	**Pn**	**21 41 04.0**	**+0.3**
ISK	**Istanbul-Kandi**	**2.69**	**51**	*e*Pn	**Pn**	**21 41 04.0**	**+0.3**
DIM	**Dimitrovgrad**	**2.70**	**348**	S	**Sn**	**21 41 36.0**	**-0.4**
DIM	**Dimitrovgrad**	**2.70**	**348**	S	**Sn**	**21

ADAG	**Mount Adagdak**	**1.65**	**258**	P	**Pn**	**21 44 42.3**	**+1.8**
KIKV	**Kanaga Island**	**2.02**	**257**	P	**Pn**	**21 44 46.6**	**+1.2**
TAPA	**Tanaga Point A**	**2.42**	**258**	P	**Pn**	**21 44 52.5**	**+1.7**
TASE	**Tanaga Southea**	**2.55**	**260**	P	**Pn**	**21 44 54.2**	**+1.7**
NIKO	**Nikolski**	**3.19**	**77**	P	**Pn**	**21 45 02.3**	**+1.1**
NIKO				S	**Sn**	**21 45 40.4**	**+2.3**
OKSO	**Okmok South**	**3.68**	**72**	P	**Pn**	**21 45 08.8**	**+0.9**
OKSO				S	**Sn**	**21 45 52.8**	**+2.8**
MSOM	**Makushin Julie**	**4.49**	**68**	P	**Pn**	**21 45 20.4**	**+1.4**
MREP	**Makushin Rep't**	**4.61**	**69**	P	**Pn**	**21 45 22.2**	**+1.6**
UNV	**Unalaska Valle**	**4.76**	**69**	P	**Pn**	**21 45 23.7**	**+1.2**
LVA	**Lava Point**	**5.11**	**66**	P	**Pn**	**21 45 28.5**	**+1.1**
ZRO	**Akutan Zero**	**5.12**	**67**	P	**Pn**	**21 45 29.8**	**+2.3**
KDAK	**Kodiak Island**	**13.39**	**58**	P	**Pn**	**21 47 18.9**	**-1.0**
	0.5nm,0.3s,baz=0.0,slow=20,SNR=5.9						
KDAK	**Kodiak Island**	**13.39**	**58**	P	**Pn**	**21 47 18.9**	**-1.0**
ILAR	**Eielson Array**	**18.63**	**38**	P	**P**	**21 48 23.6**	**-1.0**
	0.6nm,0.3s,baz=244,slow=9.7,SNR=59						
ILAR	**Eielson Array**	**18.63**	**38**	P	**P**	**21 48 23.6**	**-1.0**
INK	**Inuvik**	**24.95**	**35**	P	**P**	**21 49 29.9**	**+0.7**
	0.9nm,0.5s,baz=239,slow=4.5,SNR=5.6						
INK	**Inuvik**	**24.95**	**35**	P	**P**	**21 49 29.9**	**+0.7**
YKA	**Yellowknife Ar**	**32.38**	**48**	P	**P**	**21 50 33.6**	**-1.6**
	0.2nm,0.6s,baz=278,slow=8.8,SNR=4.9						
YKA	**Yellowknife Ar**	**32.38**	**48**	P	**P**	**21 50 33.6**	**-1.6**
PDAR	**Pinedale Array**	**43.18**	**76**	P	**P**	**21 52 06.4**	**-0.3**
	2.7nm,0.6s,baz=303,slow=4.0,SNR=19						
PDAR	**Pinedale Array**	**43.18**	**76**	P	**P**	**21 52 06.4**	**-0.3**
TXAR	**Lajitas Array**	**55.58**	**85**	P	**P**	**21 53 40.5**	**-0.6**
	0.5nm,0.6s,baz=301,slow=4.7,SNR=7.5						
TXAR	**Lajitas Array**	**55.58**	**85**	P	**P**	**21 53 40.5**	**-0.6**
WRA	**Warramunga Arr**	**84.83**	**228**	P	**P**	**21 56 38.9**	**-0.6**
	0.3nm,0.5s,baz=33,slow=5.8,SNR=8.7						
WRA	**Warramunga Arr**	**84.83**	**228**	P	**P**	**21 56 38.9**	**-0.6**
ASAR	**Alice Springs**	**88.27**	**226**	P	**P**	**21 56 56.5**	**+0.3**
	0.5nm,0.4s,baz=31,slow=5.3,SNR=5.9						
ASAR	**Alice Springs**	**88.27**	**226**	P	**P**	**21 56 56.5**	**+0.3**

IDC 08 22:03:15.5±2.0, 4°.00N×127°.01E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=150.5km s-min=25.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	22 08 40.8	+0.8
	2.0nm,0.7s,baz=343,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.31**	**167**	P	P	22 09 10.2	-0.9
	0.3nm,0.8s,baz=359,slow=9.6,SNR=3.4						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	22 13 06.5	-0.1
	0.1nm,0.4s,baz=118,slow=7.8,SNR=3.4						

*ISCJB **08** 22:10:43.1±0.5, 23°.66N±0°.02×122°.12E±0°.02, h15km±5km, Error ellipse: s-maj=3.9km s-min=2.5km az=139.5*
*JMA **08** 22:10:44.9±0.3, 23°.75N×122°.11E, h73km, M2.7*
*TAP **08** 22:10:45.2, 23°.72N×122°.04E, h36km, ML3.3, C*

ISC 08 22:10:44.2±1.2, 23°.69N±0°.03×122°.08E±0°.03, h25km±12km, n42, σ1°.93/81, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.52**	**304**	*e*P	**Pb**	**22 10 54.9**	**+0.1**
	baz=301						
HWA				*e*S	**Sb**	**22 11 01.5**	**-0.6**
	baz=301						
TWD	**Chiawan**	**0.59**	**312**	*i* P	**Pb**	**22 10 55.7**	**-0.3**
	baz=313						
TWD				*i* S	**Sb**	**22 11 03.6**	**-0.4**
	baz=313						
ESL	**Shilin**	**0.61**	**282**	P	**Pn**	**22 10 55.8**	**-1.5**
	baz=272						
ESL				S	**Sb**	**22 11 03.9**	**-0.5**
	baz=272						
EHY	**Hungye**	**0.72**	**256**	⇑*i*P	**Pn**	**22 10 58.1**	**-0.6**
	baz=267						
EHY				S	**Sn**	**22 11 07.7**	**-1.3**
	baz=267						
TWF1	**Yuli**	**0.79**	**245**	⇑P	**Pn**	**22 10 59.2**	**-0.6**
	baz=234						
TWF1				S	**Sn**	**22 11 09.9**	**-0.9**
	baz=234						
ENA	**Nanau**	**0.80**	**337**	*e*P	**Pn**	**22 10 59.3**	**-0.7**
	baz=332						
ENA				S	**Sn**	**22 11 09.8**	**-1.2**
	baz=332						
WHF	**Hehuan Shan**	**0.87**	**302**	⇑*i*P	**Pn**	**22 11 00.2**	**-1.1**
	baz=301						
WHF				S	**Sn**	**22 11 11.4**	**-2.0**
	baz=301						
CHKT	**Chengkung**	**0.88**	**228**	P	**Pn**	**22 10 59.6**	**-1.4**
	baz=217						
CHKT				*e*S	**Sn**	**22 11 10.5**	**-2.4**
	baz=217						
TWC	**Suao**	**0.94**	**347**	*e*P	**Pn**	**22 11 01.7**	**-0.2**
	baz=350						
TWC				*e*S	**Sn**	**22 11 13.9**	**-0.7**
	baz=350						
NNS	**Nan Shan**	**0.99**	**319**	*e*P	**Pn**	**22 11 02.3**	**-0.3**
	baz=320						
NNS				*e*S	**Sn**	**22 11 14.5**	**-1.4**
	baz=320						
TWT	**Tachien**	**1.00**	**305**	P	**Pn**	**22 11 02.7**	**-0.2**
	baz=304						
TWT				*e*S	**Sn**	**22 11 15.0**	**-1.2**
	baz=304						
ENTT	**Nioudou**	**1.06**	**334**	*e*P	**Pn**	**22 11 03.5**	**0.0**
	baz=335						
ENTT				*e*S	**Sn**	**22 11 16.6**	**-0.8**
	baz=335						
ELDTW	**Lidau**	**1.09**	**243**	⇑*i*P	**Pn**	**22 11 03.3**	**-0.7**
	baz=241						
ELDTW				*e*S	**Sn**	**22 11 16.0**	**-2.5**
	baz=241						
SMLT	**Sun Moon Lake**	**1.10**	**281**	*i* P	**Pn**	**22 11 04.0**	**-0.1**
	baz=286						
SMLT				*e*S	**Sn**	**22 11 18.2**	**-0.3**
	baz=286						
TWE	**Neicheng**	**1.10**	**340**	*e*P	**Pn**	**22 11 04.0**	**0.0**
	baz=342						
TWE				*e*S	**Sn**	**22 11 17.7**	**-0.7**
	baz=342						
TYC	**Yuchr**	**1.14**	**281**	⇑P	**Pn**	**22 11 04.5**	**-0.1**
	baz=280						
TYC				*e*S	**Sn**	**22 11 19.2**	**-0.2**
	baz=280						
YOJ	**Yonaguni jima**	**1.15**	**48**	P	**Pn**	**22 11 04.9**	**+0.2**
YOJ				*e*S	**Sn**	**22 11 19.5**	**-0.1**
ALS	**Alishan**	**1.18**	**262**	⇑*e*P	**Pn**	**22 11 05.8**	**+0.4**
	baz=252						
NSK	**Sanguang**	**1.19**	**326**	*e*P	**Pn**	**22 11 05.4**	**+0.1**
	baz=327						
NSK				*e*S	**Sn**	**22 11 19.3**	**-1.3**
	baz=327						
TTN	**Taitung**	**1.26**	**223**	*e*P	**Pn**	**22 11 06.0**	**-0.2**
	baz=212						
TTN				*e*S	**Sn**	**22 11 22.1**	**-0.3**
	baz=212						
TWG	**Pinlang**	**1.27**	**227**	*e*P	**Pn**	**22 11 05.6**	**-0.7**
	baz=237						
TWG				*e*S	**Sn**	**22 11 20.7**	**-1.7**
	baz=237						
NSTT	**Nanjuang**	**1.36**	**314**	*e*P	**Pn**	**22 11 08.5**	**+0.9**
	baz=314						
NSTT				*e*S	**Sn**	**22 11 25.1**	**+0.2**
	baz=314						
TCU	**Taichung**	**1.36**	**290**	*e*P	**Pb**	**22 11 09.4**	**+0.3**
	baz=289						
TCU				*e*S	**Sb**	**22 11 28.4**	**+2.2**
	baz=289						
TWQ1	**Liyutan**	**1.36**	**299**	*e*P	**Pn**	**22 11 08.9**	**+1.2**
	baz=299						
TWQ1				*e*S	**Sn**	**22 11 25.5**	**+0.6**
	baz=299						
CHN4	**Tsaushan**	**1.40**	**257**	*e*P	**Pn**	**22 11 09.6**	**+1.4**
	baz=255						
CHN4				*e*S	**Sn**	**22 11 27.2**	**+1.2**
	baz=255						
NSY	**Sanyi**	**1.41**	**301**	*e*P	**Pn**	**22 11 08.9**	**+0.6**
	baz=301						
NSY				*e*S	**Sn**	**22 11 26.1**	**0.0**
	baz=301						
WTP	**Ta-pu**	**1.42**	**252**	P	**Pn**	**22 11 09.5**	**+1.1**
	baz=250						
WTP				*e*S	**Sn**	**22 11 27.2**	**+0.9**
	baz=250						
ECL	**Taimali**	**1.50**	**224**	*e*P	**Pn**	**22 11 08.2**	**-1.3**
	baz=222						
ECL				*e*S	**Sn**	**22 11 26.4**	**-1.9**
	baz=222						
SGST	**Jiashian**	**1.50**	**247**	*e*P	**Pn**	**22 11 10.9**	**+1.4**
	baz=236						
SGST				*e*S	**Sn**	**22 11 29.7**	**+1.3**
	baz=236						
CHN1	**Nanshi**	**1.51**	**251**	P	**Pn**	**22 11 11.1**	**+1.4**
	baz=249						
CHN1				*e*S	**Sb**	**22 11 30.8**	**+0.4**
	baz=249						
TWK	**Hsinying**	**1.52**	**254**	*e*P	**Pn**	**22 11 10.8**	**+1.0**
	baz=252						
TWK				*e*S	**Sn**	**22 11 29.5**	**+0.7**
	baz=252						
CHY	**Chiayi**	**1.53**	**263**	*e*P	**Pn**	**22 11 11.8**	**+1.8**
	baz=262						
CHY				*e*S	**Sb**	**22 11 30.8**	**-0.1**
	baz=262						
HATJ	**Hateruma jima**	**1.62**	**76**	P	**Pn**	**22 11 11.3**	**+0.1**
HATJ				S	**Sn**	**22 11 31.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.64**	**66**	P	**Pn**	**22 11 11.9**	**+0.4**
IRIF				S	**Sn**	**22 11 32.2**	**+0.4**
WTCT	**Ta-ch'eng**	**1.66**	**277**	*e*P	**Pn**	**22 11 13.0**	**+1.3**
	baz=275						
WTCT				*e*S	**Sb**	**22 11 34.2**	**-0.4**
	baz=275						
EAST	**Anshuo**	**1.72**	**221**	*e*P	**Pn**	**22 11 12.0**	**-0.7**
	baz=220						
CHN8	**Yiju**	**1.75**	**259**	*e*P	**Pn**	**22 11 14.0**	**+1.1**
	baz=258						
CHN8				*e*S	**Sn**	**22 11 36.3**	**+1.9**
	baz=258						
TWM1	**Shoushan**	**1.75**	**241**	*e*P	**Pb**	**22 11 16.0**	**+0.3**
	baz=239						
JKRS	**Kuro-shima**	**1.85**	**72**	P	**Pn**	**22 11 14.7**	**+0.4**
JKRS				S	**Sn**	**22 11 37.6**	**+0.7**
SCZT	**Fangliau**	**1.88**	**226**	*e*P	**Pn**	**22 11 16.1**	**+1.4**
	baz=221						
SCZT				*e*S	**Sn**	**22 11 38.6**	**+1.0**
	baz=221						
JIJ	**Ishigaki jima**	**2.00**	**70**	P	**Pn**	**22 11 16.2**	**-0.3**
JIJ				*e*S	**Sn**	**22 11 39.6**	**-1.1**
JTJ	**Tarama**	**2.58**	**68**	P	**Pn**	**22 11 24.2**	**-0.1**
JTJ				*e*S	**Sn**	**22 11 54.6**	**-0.3**

IDC 08 22:14:46.5±1.4, 3°.98N×126°.47E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=122.8km s-min=23.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**162**	P	P	22 20 12.3	+0.1
	1.9nm,0.8s,baz=343,slow=10,SNR=13						
SONM	**Songino Array**	**46.98**	**342**	P	P	22 23 20.7	+1.2
	0.1nm,0.5s,baz=158,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	22 24 34.8	-0.8
	0.5nm,0.7s,baz=115,slow=8.1,SNR=8.9						
KURBB	**Kurchatov Arra**	**61.39**	**327**	P	P	22 25 04.0	-0.4
	0.8nm,0.5s,baz=126,slow=6.5,SNR=18						

*ISCJB **08** 22:15:02.0±0.2, 14°.03N±0°.03×91°.59W±0°.02, h58km, mb4.8/109, MS4.1/37, Error ellipse: s-maj=5.0km s-min=2.1km az=31.5*
*IDC **08** 22:15:02.5±0.5, 14°.18N×91°.17W, h58km±4km, mb4.2/21, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, MS4.1/36, Ms1 4.1/36, ms1mx4.0/45, Error ellipse: s-maj=22.3km s-min=10.0km az=57.0*
*BJI **08** 22:15:02.7, 14°.10N×91°.40W, h60km, mB5.2/6, Ms5.3/5, Ms7 4.9/5*
*NEIC **08** 22:15:02.8±0.2, 14°.05N×91°.36W, mb4.9/97, MD4.7(MEX), Error ellipse: s-maj=5.7km s-min=3.7km az=51.0*
NEIC Felt [II] at Guatemala. Also felt at Alotenango, Antigua Guatemala, Ciudad Vieja, La Esperanza, Mazatenango, Mixco, Retalhuleu, San Francisco Zapotitlan, San Pedro La Laguna, San Pedro Sacatepequez and Villa Nueva.
*GCMT **08** 22:15:03.6±0.3, 13°.92N×91°.98W, h50km±1km, MW5.0, Moment Tensor Solution. s47,c63; s52,c75; Moment tensor: Scale 10^16Nm; Mrr-4.33±.20; Mθθ1.33±.15; Mφφ3.00±.18; Mrθ0.21±.10; Mθφ-2.67±.11; Mφr-0.79±.14; Best double couple: M0 4.70000×10^16 NP1:θs139.00000°, δ41.00000°, λ-97.00000°. NP2:φs328.00000°, δ50.00000°, λ-84.00000°. Principal axes: T 5.0200, Plg5.0000°, Azm54.0000°; N -0.6100, Plg4.0000°, Azm144.0000°; P -4.4100, Plg84.0000°, Azm278.0000°; Data Used: II G IU CN IC.*
*MEX **08** 22:15:03.2±0.6, 13°.71N×91°.97W, h30km, MD4.6*
*CASC **08** 22:15:03.3±1.9, 13°.87N×91°.55W, h22km±12km, MD4.7, mb4.9(NEIC)*

ISC 08 22:15:02.2±0.4, 13°.95N±0°.04×91°.65W±0°.03, h58km±2km, h58km:pP-P, n572, σ1°.56/654, mb4.9/109, MS4.2/37, 129C-145D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.36**	**1**	*e*P	**Pn**	**22 15 14.1**	**+1.4**
FUG	**Fuego 3**	**0.92**	**58**	*e*P	**Pn**	**22 15 20.0**	**+0.7**
FG6		**0.95**	**51**	*e*P	**Pn**	**22 15 20.7**	**+0.8**
TP2	**Tecpan 2**	**1.02**	**36**	*e*P	**Pn**	**22 15 22.0**	**+1.1**
PCG	**Pacaya**	**1.10**	**66**	*e*P	**Pn**	**22 15 22.8**	**+1.0**
THIG		**1.12**	**328**	*e*P	**Pn**	**22 15 21.5**	**-0.3**
THIG				*i* S	**Sn**	**22 15 36.8**	**+0.4**
THIG		**1.12**	**328**	*e*P	**Pn**	**22 15 21.5**	**-0.3**
THIG				*i* S	**Sn**	**22 15 36.8**	**+0.4**
IXG	**Ixpaco**	**1.18**	**79**	*e*P	**Pn**	**22 15 23.0**	**+0.4**
GCG	**Guatemala City**	**1.25**	**60**	*e*P	**Pn**	**22 15 25.8**	**+2.1**
GCG				*e*S	**Sn**	**22 15 43.4**	**+3.8**
GCG				*e*S		22 15 43.5	
NBG	**Las Nubes**	**1.41**	**63**	*e*P	**Pn**	**22 15 28.2**	**+2.4**
NBG				*e*S	Sn	22 15 50.0	+6.4
RBDL	**Robledal**	**1.91**	**85**	*e*P	**Pn**	**22 15 33.1**	**+0.6**
RTR	**El Retiro**	**1.94**	**91**	*e*P	**Pn**	**22 15 33.9**	**+0.9**
SBLS	**San Blas**	**1.97**	**93**	*e*P	**Pn**	**22 15 33.8**	**+0.4**
SNJE	**San Jose**	**1.98**	**92**	*e*P	**Pn**	**22 15 34.3**	**+0.7**
MRL	**Marmol**	**2.19**	**59**	*e*P	**Pn**	**22 15 38.5**	**+2.1**
BOQS	**Boqueron**	**2.31**	**95**	*e*P	**Pn**	**22 15 38.9**	**+0.8**
BOQS				*e*S	**Sn**	**22 16 07.3**	**+1.8**
PCIG		**2.31**	**319**	*e*P	**Pn**	**22 15 37.6**	**-0.3**
PCIG				*e*S	**Sn**	**22 16 04.1**	**-1.1**
PCIG		**2.31**	**319**	*e*P	**Pn**	**22 15 37.6**	**-0.3**
PCIG				*e*S	**Sn**	**22 16 04.1**	**-1.1**
SNET	**Serv Nac Est T**	**2.36**	**96**	*e*P	**Pn**	**22 15 39.4**	**+0.7**
SNET				*e*S	**Sn**	**22 16 07.2**	**+0.7**
CCIG	**Comitan**	**2.37**	**348**	*e*P	**Pn**	**22 15 41.5**	**+2.7**
CCIG				*i* S	Sn	22 16 12.0	+5.3
CCIG	**Comitan**	**2.37**	**348**	*e*P	**Pn**	**22 15 41.5**	**+2.7**
CCIG				*i* S	**Sn**	**22 16 11.2**	**+4.4**
LBRS	**Las Brisas**	**2.54**	**94**	*e*P	**Pn**	**22 15 41.7**	**+0.7**
SNVI	**San Vicente**	**2.75**	**97**	*e*P	**Pn**	**22 15 45.1**	**+1.2**
TGIG		**3.15**	**333**	*e*P	**Pn**	**22 15 50.6**	**+1.2**
TGIG				*e*S	**Sn**	**22 16 29.0**	**+3.2**
TGIG		**3.15**	**333**	*e*P	**Pn**	**22 15 50.6**	**+1.2**
TGIG				*i* S	**Sn**	**22 16 28.5**	**+2.6**
VSM	**San Miguel**	**3.32**	**99**	*e*P	**Pn**	**22 15 53.8**	**+1.9**
CAHU	**Cacaucatique**	**3.34**	**93**	*e*P	**Pn**	**22 15 52.8**	**+0.7**
BLLM	**Bellamira**	**3.35**	**98**	*e*P	**Pn**	**22 15 53.5**	**+1.3**
CNCH	**Conchagua**	**3.77**	**100**	*e*P	**Pn**	**22 15 58.8**	**+0.9**
CNCH				*e*S	**Sn**	**22 16 43.7**	**+2.6**
TGUH	**Tegucigalpa,Un**	**4.25**	**88**	*e*Pn	**Pn**	**22 16 03.1**	**-1.2**
TGUH				Sn	Sn	22 16 41.9	-11
CMIG	**Matias Romero**	**4.41**	**315**	P	**Pn**	**22 16 06.9**	**+0.2**
	33nm,0.3s,baz=127,slow=12,SNR=121						
CMIG				S	**Sn**	**22 16 56.3**	**-0.5**
	120nm,0.3s,baz=275,slow=21,SNR=8.7						
CMIG	**Matias Romero**	**4.41**	**315**	P	**Pn**	**22 16 06.9**	**+0.2**
CMIG				S	**Sn**	**22 16 56.3**	**-0.5**
HUIG	**Huatulco**	**4.68**	**293**	*e*P	**Pn**	**22 16 09.0**	**-1.3**
HUIG				*e*S	Sn	22 16 58.7	-4.6
HUIG	**Huatulco**	**4.68**	**293**	*e*P	**Pn**	**22 16 09.0**	**-1.3**
HUIG				*e*S	Sn	22 16 58.7	-4.6
VHO	**Vista Hermosa**	**5.80**	**303**	*e*P	**Pn**	**22 16 25.8**	**-0.1**
VHO				*e*S	**Sn**	**22 17 29.2**	**-2.0**
VHO	**Vista Hermosa**	**5.80**	**303**	*e*P	**Pn**	**22 16 25.8**	**-0.1**
VHO				*e*S	**Sn**	**22 17 29.2**	**-2.0**
TEIG	**Tepich**	**7.02**	**27**	P	**Pn**	**22 16 42.8**	**+0.4**
	97nm,0.3s,baz=224,slow=3.6,SNR=409						
TEIG				S	**Sn**	**22 17 58.2**	**-2.6**
	23nm,0.3s,baz=288,slow=20,SNR=2.8						
TEIG	**Tepich**	**7.02**	**27**	*e*Pn	**Pn**	**22 16 43.1**	**+0.7**
TEIG				*e*Sn	**Sn**	**22 17 56.8**	**-4.0**
JTS	**JuntasAbangare**	**7.49**	**118**	P	**Pn**	**22 16 50.6**	**+1.8**
	5.8nm,0.3s,baz=328,slow=15,SNR=19						
JTS	**JuntasAbangare**	**7.49**	**118**	*e*Pn	**Pn**	**22 16 50.4**	**+1.5**
JTS				*e*Sn	**Sn**	**22 18 12.7**	**+0.3**
CGA2	**Cerro Gallo 2**	**8.04**	**118**	*e*P	Pn	22 16 59.9	+3.4
CGA2	**Cerro Gallo 2**	**8.04**	**118**	*e*P	Pn	22 16 59.9	+3.4
LAJ	**Bijagual**	**8.41**	**118**	*e*P	**Pn**	**22 17 00.2**	**-1.4**
LAJ	**Bijagual**	**8.41**	**118**	*e*P	**Pn**	**22 17 00.2**	**-1.4**
QCR	**Quepos**	**8.60**	**121**	*e*P	Pn	22 17 06.1	+2.1
BUS	**Buena Vista**	**8.87**	**119**	*e*P	Pn	22 17 11.6	+3.4
BUS	**Buena Vista**	**8.87**	**119**	*e*P	Pn	22 17 11.6	+3.4
ACR	**Cerro Adams**	**9.84**	**121**	*e*P	**Pn**	**22 17 23.4**	**+2.3**
ACR	**Cerro Adams**	**9.84**	**121**	*e*P	**Pn**	**22 17 23.4**	**+2.3**
PAYG	**Puerto Ayora**	**14.59**	**175**	*e*Pn	**P**	**22 18 29.3**	**-1.2**
HKT	**Hockley**	**16.39**	**347**	*e*Pn	**Pn**	**22 18 48.6**	**+0.3**
	131nm,1.8s						
HKT				*e*Sn	**Sn**	**22 21 48.1**	**-1.1**
732A	**Laxson Ranch,**	**16.61**	**334**	⇑P	**P**	**22 18 52.7**	**-0.1**
	baz=17,SNR=17						
632A	**Uvalde**	**17.22**	**335**	⇑P	**P**	**22 19 00.1**	**+0.5**
	baz=17,SNR=7.4						
631A	**Perdido Creek**	**17.47**	**333**	⇑P	**P**	**22 19 02.5**	**+0.2**
	baz=18,SNR=9.5						
532A	**Rocksprings**	**17.81**	**336**	⇓P	**P**	**22 19 08.0**	**+1.8**
	baz=18,SNR=16						
NATX	**Nacogdoches**	**17.94**	**352**	*e*Pn	**Pn**	**22 19 07.5**	**0.0**
	156nm,1.3s						
JCT	**Junction City**	**18.09**	**337**	*e*Pn	**Pn**	**22 19 11.9**	**+2.4**
	17nm,0.8s						
JCT				*e*Sn	**Sn**	**22 22 28.1**	**-2.5**
JCT	**Junction City**	**18.09**	**337**	⇑P	**Pn**	**22 19 11.2**	**+1.8**
	baz=18,SNR=8.7						
531A	**Rocksprings**	**18.11**	**334**	⇓P	**Pn**	**22 19 11.4**	**+1.7**
	baz=18,SNR=9.7						
VBMS	**Vicksburg**	**18.21**	**3**	*e*P	**P**	**22 19 10.0**	**-0.4**
	70nm,0.6s						
530A	**J-C Ranch, Com**	**18.44**	**333**	⇑P	**Pn**	**22 19 15.2**	**+1.5**
	baz=18,SNR=14						
432A	**Menard**	**18.44**	**337**	⇓P	**Pn**	**22 19 15.1**	**+1.4**
	baz=18,SNR=10.0						
431A	**Sonora**	**18.59**	**335**	⇓P	**Pn**	**22 19 17.1**	**+1.6**
	baz=19,SNR=20						
628A	**Black Gap, Mar**	**18.64**	**328**	⇓P	**Pn**	**22 19 18.0**	**+1.9**
	baz=19,SNR=37						
529A	**Stev Forest Ra**	**18.82**	**330**	⇑P	**Pn**	**22 19 19.0**	**+0.6**
	baz=19,SNR=26						
627A	**Terlingua Ranc**	**18.87**	**327**	⇑P	**Pn**	**22 19 20.4**	**+1.4**
	baz=19,SNR=57						
332A	**Millersview**	**18.88**	**338**	⇓P	**Pn**	**22 19 19.4**	**+0.5**
	baz=19						
OTAV	**Otavalo**	**18.88**	**135**	*e*P	**P**	**22 19 18.1**	**-0.3**
	12nm,1.3s						
TXAR	**Lajitas Array**	**18.93**	**326**	P	**Pn**	**22 19 20.4**	**+0.8**
	0.8nm,0.3s,baz=155,slow=12,SNR=214						
TXAR					PcP	**PcP**	**22 23 43.8**	**+1.1**
	0.0nm,0.3s,baz=101,slow=1.3,SNR=4.4						
TXAR					ScP	**ScP**	**22 27 19.3**	**+5.7**
	0.1nm,0.3s,baz=144,slow=4.5,SNR=16						
TXAR					LR	LR	22 27 24.1	
	comp=Z,121nm,19.2s,baz=355,slow=39						
TXAR	**Lajitas Array**	**18.93**	**326**	P	**Pn**	**22 19 20.4**	**+0.8**
TXAR					PcP	**PcP**	**22 23 43.8**	**+1.1**
TXAR					ScP	**ScP**	**22 27 19.3**	**+5.7**
430A	**Baggett Ranch,**	**18.94**	**334**	⇓P	**Pn**	**22 19 20.4**	**+0.6**
	baz=19,SNR=31						
331A	**San Angelo**	**19.07**	**336**	⇓P	**Pn**	**22 19 21.7**	**+0.5**
	baz=19						
429A	**Davenport Ranc**	**19.09**	**332**	⇑P	**Pn**	**22 19 21.7**	**+0.1**
	baz=19,SNR=16						
528A	**Cox Ranch, San**	**19.13**	**329**	⇑P	**Pn**	**22 19 22.4**	**+0.3**
	baz=19,SNR=25						
ROSC	**El Rosal**	**19.31**	**116**	P	**Pn**	**22 19 25.7**	**+1.0**
	1.1nm,0.3s,baz=103,slow=19,SNR=10						
ROSC	**El Rosal**	**19.31**	**116**	P	**Pn**	**22 19 25.7**	**+1.0**
626A	**Big Bend Ranch**	**19.35**	**325**	⇓P	**Pn**	**22 19 25.6**	**+0.9**
	baz=20,SNR=80						
330A	**Mertzon**	**19.45**	**335**	⇑P	**Pn**	**22 19 25.4**	**-0.4**
	baz=20						
LRAL	**Lakeview Retre**	**19.46**	**12**	*e*Pn	**P**	**22 19 23.5**	**-0.7**
	93nm,1.3s						
LRAL				*e*S	**S**	**22 22 58.6**	**-2.6**
527A	**Woodward Ranch**	**19.54**	**328**	⇓P	**Pn**	**22 19 27.6**	**+0.6**
	baz=20,SNR=50						
428A	**Kincaid Ranch,**	**19.55**	**330**	⇑P	**Pn**	**22 19 27.8**	**+0.8**
	baz=20,SNR=22						
231A	**Bronte**	**19.58**	**338**	⇓P	**P**	**22 19 26.2**	**+0.6**
	baz=20						
526A	**Mary Lane Ranc**	**19.72**	**326**	⇑P	**Pn**	**22 19 29.5**	**+0.3**
	baz=20,SNR=32						
230A	**Sterling City**	**19.85**	**336**	⇓P	**Pn**	**22 19 29.7**	**-0.8**
	baz=20						
329A	**Wagon Wheel Ra**	**19.86**	**333**	⇑P	**Pn**	**22 19 30.6**	**-0.2**
	baz=20,SNR=27						
ABTX	**Abilene, Hawle**	**19.97**	**340**	⇓P	**P**	**22 19 30.5**	**+0.8**
	baz=20,SNR=24						
427A	**Hayter Ranch,**	**20.00**	**329**	⇓P	**Pn**	**22 19 32.0**	**-0.4**
	baz=20,SNR

baz=22,SNR=16
125A Gardner Draw, 22.09 330 ⇑P P 22 19 53.4 +0.8
baz=22,SNR=48
Z26A Caprock 22.27 332 ⇑P P 22 19 55.1 +0.5
baz=22,SNR=42
JSC Jenkinsville 22.32 23 eP P 22 19 53.5 -1.5
MSTX Muleshoe 22.34 335 ⇓P P 22 19 54.6 -0.7
baz=22,SNR=26
X29A Tulia 22.34 338 ⇑P P 22 19 54.7 -0.6
baz=22,SNR=14
CPCT Cooper Cave 22.35 15 eP P 22 19 55.2 -0.1
WVT Waverly 22.35 8 eP P 22 19 53.6 -1.6
64nm,1.2s
Y27A Causey 22.43 334 ⇓P P 22 19 55.8 -0.5
baz=22,SNR=22
UTMT University of 22.43 6 eP P 22 19 55.5 -0.7
124A Stringfield Ra 22.52 328 ⇑P P 22 19 58.8 +1.3
baz=28,SNR=134
X28A Dimmitt 22.59 337 ⇑P P 22 19 59.0 +1.0
baz=23
Z25A Roswell 22.62 330 ⇓P P 22 19 58.8 +0.4
baz=23,SNR=35
PARMO Parma 22.68 4 eP P 22 19 58.2 -0.6
AMTX Amarillo 22.73 338 eP P 22 19 59.0 -0.5
62nm,0.6s
AMTX Amarillo 22.73 338 ⇓P P 22 19 58.8 -0.6
baz=23,SNR=19
TKL Tuckaleechee C 22.74 17 P P 22 19 59.7 +0.2
23nm,0.8s,baz=187,slow=9.4,SNR=30
TKL LR LR 22 29 44.6
comp=Z,673nm,21.8s,baz=301,slow=39
TKL Tuckaleechee C 22.74 17 eP P 22 19 59.6 +0.2
Y26A Elida 22.75 333 ⇓P P 22 19 59.5 -0.2
baz=23,SNR=8.9
123A Bell Site, Whi 22.89 327 ⇓P P 22 20 02.9 +1.7
baz=23,SNR=5.6
W29A Amraillo 22.93 339 ⇓P P 22 20 00.8 -0.7
baz=23,SNR=14
222A Williams Famil 22.94 325 ⇑P P 22 20 02.4 +0.7
baz=23
Z24A Sheeppen Canyo 22.98 329 ⇑P P 22 20 03.2 +1.1
baz=23,SNR=74
KMSC Kings Mountain 23.06 22 ⇑P P 22 20 02.2 -0.5
baz=23,SNR=8.3
X27A F and S Farms, 23.06 335 ⇓P P 22 20 02.2 -0.7
baz=23,SNR=7.5
Y25A Mesa, Roswell 23.14 331 ⇑P P 22 20 04.5 +0.8
baz=23,SNR=34
320A Kipp Ranch, An 23.23 321 ⇑P P 22 20 06.8 +2.2
baz=23,SNR=19
W28A Vega 23.25 338 ⇑P P 22 20 03.9 -0.8
baz=23
221A Mesquite Ranch 23.26 323 ⇑P P 22 20 06.8 +1.9
baz=23,SNR=16
X26A CR and CF Fran 23.27 334 ⇓P P 22 20 05.5 +0.5
baz=23,SNR=9.6
122A Conniff Cattle 23.34 326 ⇑P P 22 20 08.0 +2.4
baz=24,SNR=8.9
Z23A Rita Site, Whi 23.36 328 ⇑P P 22 20 07.2 +1.4
baz=24,SNR=68
W27A Bowe Ranch, En 23.41 336 ⇓P P 22 20 06.3 0.0
baz=24,SNR=17
Y24A Capitan 23.49 330 ⇓P P 22 20 08.3 +1.2
baz=24,SNR=28
220A Playas Peak, P 23.63 322 ⇓P P 22 20 10.5 +2.1
baz=24,SNR=49
X25A Clemmons Ranch 23.63 332 ⇓P P 22 20 09.0 +0.7
baz=24,SNR=29
TZTN Tazewell 23.64 16 eP P 22 20 07.8 -0.4
34nm,0.8s
121A Cookes Peak, D 23.65 324 ⇑P P 22 20 10.5 +2.0
baz=24,SNR=29
V28A Channing 23.70 338 ⇑P P 22 20 08.8 -0.1
baz=24,SNR=14
319A Douglas 23.72 320 ⇓P P 22 20 11.7 +2.5
baz=24,SNR=23
Z22A Elephant Butte 23.74 327 ⇑P P 22 20 11.5 +2.2
baz=24,SNR=18
SIUC Southern Illin 23.77 5 eP P 22 20 08.4 -0.9
200nm,1.1s
Y23A Lovelace Mesa, 23.80 329 ⇓P P 22 20 11.5 +1.6
baz=24,SNR=54
FVM French Village 23.96 2 eP P 22 20 09.1 -2.0
8.4nm,0.5s
X24A Lazy VL Ranch, 24.02 331 ⇑P P 22 20 13.3 +1.4
baz=24,SNR=13
W25A X Bar L Ranch, 24.12 334 ⇓P P 22 20 13.8 +1.0
baz=24,SNR=13
120A U Bar Ranch, L 24.15 323 ⇑P P 22 20 15.4 +2.4
baz=24,SNR=38
USIN University of 24.18 8 eP P 22 20 12.7 -0.3
50nm,0.9s
USIN epP pP 22 20 26.0 -1.4
Y22A Socorro 24.27 328 ⇓P P 22 20 16.4 +2.2
baz=24,SNR=31
V26A Tequesquite Ra 24.34 335 ⇑P P 22 20 15.9 +1.2
baz=24
X23A Hourglass Bar 24.39 330 ⇓P P 22 20 17.1 +1.8
baz=24
LPM Los Pinos Moun 24.39 329 eP P 22 20 17.0 +1.7
LENM Lemitar 24.45 328 eP P 22 20 17.8 +1.9
W24A Lazy 6 Ranch, 24.54 332 ⇓P P 22 20 18.7 +2.0
baz=25,SNR=12
Z20A Nine Sixteen R 24.54 324 ⇓P P 22 20 19.1 +2.5
baz=25,SNR=16
CNNC Cliffs of the 24.56 28 eP P 22 20 15.8 -0.7
49nm,0.8s
SLM Saint Louis 24.62 3 eP P 22 20 15.1 -2.0
75nm,0.7s
WCI Wyandotte Cave 24.64 10 eP P 22 20 15.9 -1.4
73nm,0.9s
Y21A Point of Rocks 24.70 327 ⇓P P 22 20 20.7 +2.5
baz=25,SNR=16
ATAH Atahualpa 24.74 147 P P 22 20 20.4 +1.6
8.1nm,0.8s,baz=38,slow=6.3,SNR=6.4
ATAH LR LR 22 28 44.5
comp=Z,224nm,20.1s,baz=257,slow=33
ATAH Atahualpa 24.74 147 P P 22 20 20.4 +1.6
X22A Bernardo 24.74 328 ⇓P P 22 20 20.8 +2.3
baz=25
ANMO Albuquerque 24.81 330 P P 22 20 20.9 +1.8
9.1nm,0.7s,baz=148,slow=12,SNR=48
ANMO PcP PcP 22 23 54.2 -0.1
2.2nm,0.8s,baz=152,slow=6.4,SNR=4.8
ANMO ScP ScP 22 27 32.9 +4.5
4.5nm,0.9s,baz=181,slow=3.8,SNR=5.9
ANMO LR LR 22 31 35.2
comp=Z,155nm,20.7s,baz=342,slow=40
ANMO Albuquerque 24.81 330 eP P 22 20 20.4 +1.2
9.8nm,0.7s
ANMO PcP PcP 22 23 54.2 -0.1
ANMO eScP ScP 22 27 32.7 +4.2
ANMO ScP ScP 22 27 32.9 +4.5
U26A Atchley Ranch, 24.84 336 ⇓P P 22 20 19.7 +0.3
baz=25,SNR=12
W23A Werner Place, 24.84 331 ⇑P P 22 20 20.7 +1.3
baz=25,SNR=5.4
SJG San Juan 24.84 77 LR LR 22 29 00.5
comp=Z,337nm,20.4s,baz=270,slow=34
OLIL Olney 24.88 7 eP P 22 20 18.8 -0.6
44nm,0.8s
T28A Walsh 24.89 340 ⇓P P 22 20 20.2 +0.4
baz=25
Y20A Horse Springs, 25.00 325 ⇓P P 22 20 23.0 +2.1
baz=25,SNR=21
X21A Alamocita Cree 25.09 327 ⇓P P 22 20 24.0 +2.3
baz=25,SNR=47
U25A Circle Dot Ran 25.11 335 ⇑P P 22 20 23.0 +1.1
baz=25,SNR=12
W22A Albuquerque 25.11 330 ⇑P P 22 20 23.6 +1.8
baz=25,SNR=8.0
BLA Blacksburg 25.24 21 eP P 22 20 21.5 -1.3
5.5nm,0.8s
V23A Ortiz Mt. (NFS 25.33 331 ⇓P P 22 20 26.2 +2.3
baz=26,SNR=10.0
VWCC Virginia Weste 25.43 22 eP P 22 20 24.1 -0.4
VWCC epP pP 22 20 39.1 +0.3
KSU1 Kansas State U 25.43 351 eP P 22 20 25.2 +0.8
24nm,0.7s
KSU1 epP pP 22 20 38.9 0.0
T26A Comanche Natio 25.47 337 ⇑P P 22 20 26.1 +1.0
baz=26,SNR=5.9
BLO Bloomington 25.52 9 eP P 22 20 24.8 -0.5
42nm,0.8s
W21A San Fidel 25.54 328 ⇑P P 22 20 27.4 +1.6
baz=26,SNR=8.4
X20A Quemado 25.54 326 ⇓P P 22 20 28.2 +2.4
baz=26,SNR=6.9
T25A Trinidad 25.75 336 ⇑P P 22 20 29.5 +1.8
baz=26,SNR=9.1
V22A San Miguel Ran 25.81 331 ⇑P P 22 20 29.6 +1.3
baz=26,SNR=7.5
U23A El Rito 25.82 332 ⇓P P 22 20 29.7 +1.4
baz=26,SNR=23
T24A Torres, Weston 25.95 335 ⇓P P 22 20 30.9 +1.3
baz=26,SNR=6.6
W20A Ramah 25.99 327 ⇓P P 22 20 32.0 +2.2
baz=26,SNR=36
V21A Milan 26.08 329 ⇓P P 22 20 32.9 +2.3
baz=26
U22A Llaves 26.16 331 ⇓P P 22 20 33.1 +1.7
baz=26,SNR=13
S25A Robets Cordova 26.21 337 ⇓P P 22 20 32.4 +0.6
baz=26,SNR=7.8
T23A Casias Ranch, 26.34 333 ⇑P P 22 20 34.6 +1.6
baz=26
X18A Snowflake 26.34 324 ⇑P P 22 20 35.1 +2.1
baz=26,SNR=7.2
214A Organ Pipe Nat 26.39 316 ⇓P P 22 20 35.1 +1.8
baz=27,SNR=15
R26A Arlington 26.41 339 ⇓P P 22 20 35.0 +1.5
baz=26,SNR=10
V20A Brimhall 26.49 328 ⇓P P 22 20 36.0 +1.6
baz=27,SNR=7.7
U21A Nageezi 26.58 330 ⇑P P 22 20 37.3 +2.0
baz=27,SNR=12
JSRW J. Sargeant Re 26.63 25 eP P 22 20 34.3 -1.0
W18A Petrified Fore 26.65 325 ⇓P P 22 20 38.8 +3.0
baz=27,SNR=5.6
T22A Edith 26.70 332 ⇓P P 22 20 38.1 +1.8
baz=27,SNR=9.4
U20A Newcomb 26.97 329 ⇑P P 22 20 40.4 +1.8
baz=27,SNR=5.3
T21A Navajo Lake 26.98 331 ⇑P P 22 20 40.8 +2.1
baz=27,SNR=12
X16A Lo Mia Camp, P 27.13 322 ⇑P P 22 20 42.1 +2.0
baz=27,SNR=20
R23A Moffat 27.22 335 ⇑P P 22 20 42.4 +1.4
baz=27,SNR=10
U19A Dine' College, 27.25 328 ⇓P P 22 20 42.3 +1.1
baz=27,SNR=7.6
ACSO Alum Creek Sta 27.26 15 eP P 22 20 40.1 -0.8
30nm,0.8s
S22A 4UR Ranch, Cre 27.28 333 ⇑P P 22 20 43.2 +1.7
baz=27,SNR=10
Z14A Wintersburg 27.36 319 ⇓P P 22 20 43.8 +1.9
baz=28
113A Mohawk Valley, 27.52 317 ⇓P P 22 20 45.1 +1.7
baz=28,SNR=14
MVCO Mesa Verde 27.61 330 eP P 22 20 46.4 +1.9
36nm,1.0s
MVCO Mesa Verde 27.61 330 ⇓P P 22 20 45.9 +1.5
baz=28,SNR=22
S21A Coal Bank Pass 27.64 332 ⇑P P 22 20 46.1 +1.3
baz=28,SNR=7.9
R22A Saguache, Gunn 27.65 334 ⇓P P 22 20 46.6 +1.8
baz=28
Y14A Wickenburg 27.77 319 ⇑P P 22 20 47.5 +1.8
baz=28,SNR=8.6
WUAZ Wupatki 27.86 324 eP P 22 20 47.3 +0.7
13nm,0.8s
WUAZ Wupatki 27.86 324 ⇓P P 22 20 48.5 +2.0
baz=28
S20A Disappointment 28.04 331 ⇑P P 22 20 49.6 +1.3
baz=28,SNR=7.0
Q22A Crested Butte, 28.24 334 ⇑P P 22 20 51.5 +1.4
baz=28
P23A Jefferson 28.24 336 ⇓P P 22 20 51.6 +1.4
baz=28,SNR=17
R20A Redvale 28.34 331 ⇓P P 22 20 52.5 +1.6
baz=28
GLA Glamis 28.41 316 eP P 22 20 53.8 +2.5
42nm,1.3s
GLA epP pP 22 21 05.9 +0.1
GLA Glamis 28.41 316 ⇓P P 22 20 52.7 +1.4
baz=29,SNR=9.7
ISCO Idaho Springs 28.53 337 eP P 22 20 52.5 -0.1
4.8nm,0.7s
ISCO eScP ScP 22 27 43.8 +4.2
ISCO Idaho Springs 28.53 337 ⇓P P 22 20 53.0 +0.4
baz=29,SNR=8.4
Y12C Blythe 28.62 317 ⇓P P 22 20 55.0 +1.8
baz=29
S18A Hurst Farm, Bl 28.73 329 ⇓P P 22 20 55.7 +1.3
baz=29,SNR=17
PV04 Paradox Valley 28.75 331 eP P 22 20 56.6 +2.2
SWSC Sam W. Stewart 29.00 315 ⇓P P 22 20 58.3 +1.8
baz=29,SNR=6.1
U15A North Rim 29.03 324 ⇓P P 22 20 59.2 +2.1
baz=29,SNR=9.6
W13A Huapai Mount 29.07 320 ⇓P P 22 20 59.6 +2.1
baz=29,SNR=11
S17A Black Ridge (B 29.10 328 ⇓P P 22 20 59.2 +1.7
baz=29,SNR=6.7
SSPA Standing Stone 29.18 22 eP P 22 20 57.4 -0.7
15nm,1.0s
SSPA epP pP 22 21 12.0 -0.6
BC3 Big Chuckawall 29.18 316 ⇑P P 22 21 00.3 +2.0
baz=29,SNR=22
O22A Kremmling 29.20 336 ⇑P P 22 20 59.7 +1.1
baz=29,SNR=8.6
IRM Iron Mountain 29.29 317 ⇓P P 22 21 01.0 +1.8
baz=29,SNR=11
Q19A Hogan Spring (29.37 331 ⇑P P 22 21 01.2 +1.3
baz=30,SNR=5.3
MONP Monument Peak 29.41 314 ⇑P P 22 21 02.4 +2.0
baz=30,SNR=7.0
P20A De Beque 29.41 333 ⇓P P 22 21 01.9 +1.5
baz=30
BAR Barrett 29.46 314 eP P 22 21 03.0 +2.2
6.8nm,1.0s
S16A Weppner Ranch, 29.58 327 ⇓P P 22 21 03.6 +1.7
baz=30,SNR=14
N23A Red Feather La 29.61 338 ⇓P P 22 21 03.2 +1.1
baz=30
R17A Hanksville Air 29.65 329 ⇑P P 22 21 04.0 +1.6
baz=30,SNR=15
NNA Nana 29.66 150 LR LR 22 31 02.6
comp=Z,136nm,20.5s,baz=331,slow=32
N22A Wattenberg Ran 29.71 337 ⇓P P 22 21 04.9 +1.8
baz=30,SNR=8.6
BELC Belle Mtn. Jos 29.75 316 ⇓P P 22 21 05.5 +2.1
baz=30,SNR=10
LDFC Landfair 29.83 319 eP P 22 21 07.5 +3.5
52nm,1.0s
PFO Pinyon Flat Ob 29.84 315 eP P 22 21 06.3 +2.2
11nm,1.0s
PFO Pinyon Flat Ob 29.84 315 ⇓P P 22 21 06.2 +2.0
baz=30,SNR=6.4
O20A White River Ci 29.87 334 ⇓P P 22 21 06.1 +1.7
baz=30
Q18A Rafter H Ranch 29.89 330 ⇑P P 22 21 06.4 +1.8
baz=30,SNR=7.3
R16A Teasdale 29.94 328 ⇑P P 22 21 07.0 +1.9
baz=30,SNR=12
ECSD EROS Data Cent 29.98 353 eP P 22 21 05.7 +0.5
9.9nm,1.0s
GMRC Granite Mounta 30.00 318 ⇓P P 22 21 07.7 +2.2
baz=30,SNR=9.0
SRU San Rafael 30.09 330 eP P 22 21 08.2 +1.8
22nm,1.3s
SRU San Rafael 30.09 330 ⇑P P 22 21 07.4 +1.0
baz=30,SNR=5.7
N21A Black Mountain 30.10 336 ⇑P P 22 21 08.5 +2.0
baz=30
Q16A Castle Valley 30.26 329 ⇑P P 22 21 09.7 +1.7
baz=30,SNR=12
M22A Cedar Creek Ra 30.29 337 ⇑P P 22 21 10.4 +2.2
baz=30,SNR=7.8
R15A Junction 30.31 327 ⇑P P 22 21 10.2 +1.9
baz=30
P18A Preston Nutter 30.36 331 ⇑P P 22 21 10.2 +1.3
baz=30,SNR=7.5
O19A Miners Draw (B 30.39 333 ⇑P P 22 21 10.2 +1.3
baz=30
CCUT Cedar City 30.43 324 eP P 22 21 12.5 +3.0
22nm,1.0s
CCUT ePcP PcP 22 24 10.4 +2.4
HEC Hector,Ludlow 30.47 317 ⇑P P 22 21 11.6 +2.0
baz=31
MSU Marysvale 30.48 327 eP P 22 21 11.8 +2.0
MSU ePcP PcP 22 24 10.3 +2.3
MSU eScP ScP 22 27 46.1 +0.4
P17A Butcher Ranch, 30.48 330 ⇑P P 22 21 11.3 +1.5
baz=31,SNR=8.1
TMUT Trail Mountain 30.57 329 eP P 22 21 12.8 +2.0
11nm,0.8s
TMUT ePcP PcP 22 24 10.8 +2.4
TUQ Turquoise Moun 30.57 319 ⇓P P 22 21 12.5 +1.9
baz=31
ARUT Antelope Range 30.64 325 eP P 22 21 13.3 +2.1
41nm,1.0s
O18A Roosevelt 30.76 332 ⇓P P 22 21 14.1 +1.8
baz=31,SNR=10
N19A John Jarvie Ra 30.90 334 ⇓P P 22 21 14.3 +0.8
baz=31,SNR=8.1
BFSC Mount Baldy Ra 31.02 315 ⇓P P 22 21 16.6 +2.1
baz=31,SNR=5.9
P16A Fountain Green 31.04 329 ⇑P P 22 21 16.7 +2.0
baz=31,SNR=5.5
O17A Robinson Place 31.04 331 ⇑P P 22 21 16.4 +1.6
baz=31,SNR=17
GSC Goldstone 31.06 318 eP P 22 21 17.3 +2.4
5.9nm,0.9s
GSC ePcP PcP 22 24 10.9 +1.4
N18A Larsen Ranch, 31.18 333 ⇑P P 22 21 17.4 +1.4
baz=31,SNR=7.6
R13A O'Grain Ranch, 31.21 325 ⇓P P 22 21 18.9 +2.6
baz=31,SNR=12
BINY Binghamton 31.24 23 eP P 22 21 15.9 -0.4
149nm,2.0s
BINY epP pP 22 21 31.3 +0.4
MWC Mount Wilson 31.28 315 eP P 22 21 19.4 +2.5
19nm,1.1s
P15A Leamington 31.32 328 ⇓P P 22 21 19.1 +1.9
baz=31,SNR=6.3
MPU Maple Canyon 31.33 330 eP P 22 21 19.4 +2.0
20nm,0.9s
PASC Pasadena Art C 31.34 315 eP P 22 21 18.8 +1.5
26nm,1.4s
DAU Daniels Canyon 31.46 331 eP P 22 21 21.4 +2.8
L20A Wamsutter 31.48 336 ⇑P P 22 21 19.8 +1.1
baz=32
EDW2 Edwards Air Fo 31.60 316 ⇑P P 22 21 21.6 +2.0
baz=32,SNR=6.7
JLU Jordanelle 31.70 331 eP P 22 21 22.6 +2.0
31nm,1.6s
FURC Furnace Creek, 31.81 319 ⇓P P 22 21 23.8 +2.5
baz=32,SNR=5.4
RSSD Black Hills 31.88 343 eP P 22 21 23.1 +1.0
3.3nm,0.9s
N16A Rees Ranch, Co 31.91 331 ⇑P P 22 21 24.0 +1.5
baz=32,SNR=8.4
O15A The Old Anders 31.95 329 ⇑P P 22 21 24.6 +1.9
baz=32,SNR=5.3
MPMC Manual Prospec 31.96 318 ⇓P P 22 21 24.7 +1.8
baz=32,SNR=29
DUG Dugway 32.06 329 eP P 22 21 25.9 +2.3
14nm,1.2s
DUG ePcP PcP 22 24 13.2 +1.1
DUG Dugway 32.06 329 ⇓P P 22 21 25.5 +1.8
baz=32,SNR=9.8
DAC Darwin (Calif) 32.16 318 eP P 22 21 26.2 +1.5
7.8nm,0.9s
DAC epP pP 22 21 41.1 +1.9
DAC ePcP PcP 22 24 13.7 +1.2
R11A Troy Canyon, C 32.25 323 ⇑P P 22 21 27.7 +2.3
baz=32,SNR=9.5
ARVC Arvin 32.31 316 ⇑P P 22 21 28.0 +2.2
baz=32
M16A Huntsville 32.34 331 ⇓P P 22 21 27.4 +1.2
baz=32
ISA Isabella 32.38 317 eP P 22 21 29.4 +3.0
11nm,1.0s
ISA Isabella 32.38 317 ⇑P P 22 21 28.7 +2.3
baz=32,SNR=6.5
I22A 9 Mile Ranch, 32.43 340 ⇓P P 22 21 27.2 +0.3
baz=32
N15A Stansbury Isla 32.44 330 ⇑P P 22 21 28.5 +1.5
baz=33,SNR=6.0
GRAC Grapevine Rang 32.46 320 ⇓P P 22 21 29.5 +2.4
baz=33,SNR=5.3
SADO Sadowa 32.51 17 P P 22 21 25.2 -2.1
6.3nm,0.8s,baz=263,slow=3.5,SNR=6.3
SADO LR LR 22 35 28.8
comp=Z,350nm,20.7s,baz=189,slow=38
SADO Sadowa 32.51 17 P P 22 21 25.2 -2.1
J20A Shoshoni 32.53 337 ⇑P P 22 21 29.0 +1.3
baz=33,SNR=6.7
HWUT Hardware Ranch 32.54 332 eP P 22 21 29.4 +1.5
18nm,0.9s
HWUT ePcP PcP 22 24 14.7 +1.2
H24A Dirks Ranch, A 32.60 343 ⇑P P 22 21 28.8 +0.5
baz=33,SNR=7.2
BW06 Boulder Array 32.61 335 eP P 22 21 29.5 +1.0
3.4nm,0.8s
BW06 Boulder Array 32.61 335 ⇓P P 22 21 28.9 +0.4
baz=33
PDAR Pinedale Array 32.61 335 P P 22 21 27.9 -0.7
3.4nm,0.7s,baz=127,slow=11,SNR=26
PDAR PcP PcP 22 24 13.7 -0.1
1.2nm,0.8s,baz=159,slow=5.4,SNR=5.1
PDAR pPcP 22 24 30.1
3.6nm,1.0s,baz=129,slow=4.0,SNR=8.1
PDAR ScP ScP 22 27 56.0 +3.1
3.1nm,1.0s,baz=145,slow=3.6,SNR=12
PDAR LR LR 22 37 03.2
comp=Z,123nm,19.7s,baz=155,slow=40
PDAR Pinedale Array 32.61 335 P P 22 21 27.9 -0.7
PDAR PcP PcP 22 24 13.7 -0.1
PDAR pPcP 22 24 30.1
PDAR ScP ScP 22 27 56.0 +3.1
L17A Cokeville 32.62 333 ⇓P P 22 21 29.5 +0.9
baz=33
I21A Big Trails, Te 32.64 339 ⇓P P 22 21 29.1 +0.4
baz=33
K18A Toltan Ranch, 32.70 334 ⇓P P 22 21 30.7 +1.4
baz=33,SNR=18
L16A Fish Haven 32.80 332 ⇓P P 22 21 31.1 +0.9
baz=33,SNR=6.6
M15A Larsen Ranch, 32.84 331 ⇑P P 22 21 31.7 +1.2
baz=33,SNR=24
VES Vestal, Richgr 32.88 316 ⇑P P 22 21 33.3 +2.5
baz=33,SNR=17
I20A Worland 33.06 338 ⇑P P 22 21 32.8 +0.4
baz=33,SNR=17
J18A Kendall Valley 33.16 335 ⇑P P 22 21 33.9 +0.4
baz=33,SNR=15
K17A Gardner Place, 33.17 334 ⇓P P 22 21 34.3 +0.9
baz=33,SNR=14
L15A Malad City 33.23 331 ⇑P P 22 21 34.7 +0.7
baz=33,SNR=32
HVU Hansel Valley 33.24 331 eP P 22 21 36.0 +2.0
39nm,1.2s
RCTC Rector, Farmer 33.26 317 ⇓P P 22 21 36.0 +2.0
baz=33,SNR=5.7
AHID Auburn Hatcher 33.26 333 eP P 22 21 35.3 +1.1
13nm,0.8s
MTUM Tungsten Hills 33.43 319 eP P 22 21 38.4 +2.7
I19A Meeteetse 33.45 337 ⇑P P 22 21 36.7 +0.9
baz=34,SNR=15
H20A Greybull 33.48 339 ⇑P P 22 21 36.0 0.0
baz=34,SNR=9.3
I18A Diamond G Ranc 33.49 336 ⇑P P 22 21 36.8 +0.5
baz=34,SNR=7.8
K16A Soda Springs 33.52 333 ⇓P P 22 21 37.5 +1.0
baz=34,SNR=5.9
J17A Brown Place, J 33.58 334 ⇓P P 22 21 38.0 +1.0
baz=34,SNR=23
REDW Red Top Meadow 33.63 334 eP P 22 21 38.3 +0.8
36nm,0.9s
L14A Malta 33.66 330 ⇑P P 22 21 38.8 +1.2
baz=34,SNR=55
SNOW Snow King Moun 33.68 335 eP P 22 21 39.1 +1.3
42nm,0.8s
ELK Elko 33.72 327 eP P 22 21 40.2 +2.0
ELK ePcP PcP 22 24 18.7 +1.8
LOHW Long Hollow 33.74 335 eP P 22 21 39.3 +1.0
16nm,1.0s
F23A Volborg 33.74 343 ⇑P P 22 21 38.2 +0.1
baz=34
TPAW Teton Pass 33.78 334 eP P 22 21 39.5 +0.7
17nm,0.8s
RRI2 Red Ridge 33.82 334 eP P 22 21 40.6 +1.4
49nm,1.5s
K15A Arbon 33.83 332 ⇓P P 22 21 40.4 +1.2
baz=34,SNR=14
NV11 Mina Array Sit 33.84 321 eP P 22 21 41.1 +1.9
NV11 epP pP 22 21 55.3 +1.5
NV11 ePcP PcP 22 24 17.9 +0.7
LONY Lake Ozonia 33.85 22 eP P 22 21 37.8 -1.3
32nm,1.2s
LONY epP pP 22 21 53.7 +0.1

G21A Lodge Grass 33.85 340 ⇑P P 22 21 39.5 +0.3
baz=34
J16A Bone 33.89 333 ⇑P P 22 21 40.6 +0.9
baz=34,SNR=13
EYMN Ely 33.89 0 eP P 22 21 37.2 -2.2
26nm,1.6s
MOOW Moose Ponds 33.91 335 eP P 22 21 40.3 +0.4
8.1nm,0.9s
NVAR Mina Array Bea 33.92 321 P P 22 21 41.9 +1.9
20nm,0.8s,baz=135,slow=8.9,SNR=121
NVAR pP pP 22 21 56.4 +1.7
10nm,0.9s,baz=289,slow=9.2,SNR=11
NVAR PcP PcP 22 24 18.9 +1.4
5.2nm,0.8s,baz=135,slow=3.5,SNR=7.7
NVAR pPcP 22 24 35.4
2.9nm,0.7s,baz=135,slow=3.8,SNR=4.7
NVAR ScP ScP 22 28 01.9 +4.4
2.1nm,0.8s,baz=147,slow=4.3,SNR=9.6
NVAR Mina Array Bea 33.92 321 P P 22 21 41.9 +1.9
NVAR pP pP 22 21 56.4 +1.7
NVAR PcP PcP 22 24 18.9 +1.4
NVAR pPcP 22 24 35.4
NVAR ScP ScP 22 28 01.9 +4.4
DCID1 Drake Creek 33.96 334 eP P 22 21 41.9 +1.6
13nm,0.8s
I17A Pilgrim Ck. 33.98 335 ⇑P P 22 21 41.7 +1.2
baz=34,SNR=7.1
K14A Jones Ranch, D 34.02 331 ⇓P P 22 21 41.8 +1.1
baz=34,SNR=54
IMW Indian Meadow 34.11 335 eP P 22 21 42.8 +1.1
8.0nm,0.9s
IMW ePcP PcP 22 24 19.2 +1.3
H18A Shoshone NF, C 34.25 337 ⇑P P 22 21 42.5 -0.4
baz=34,SNR=29
J15A Blackfoot 34.35 333 ⇓P P 22 21 44.5 +1.0
baz=34,SNR=18
MDND Maddock 34.44 351 ⇓P P 22 21 42.6 -1.5
baz=34
RLMT Red Lodge 34.48 338 eP P 22 21 45.3 +0.5
40nm,2.1s
RLMT Red Lodge 34.48 338 ⇓P P 22 21 44.6 -0.2
baz=35,SNR=6.9
YFT Old Faithful 34.52 335 eP P 22 21 45.8 +0.6
11nm,0.9s
BMN Battle Mountai 34.59 325 eP P 22 21 48.2 +2.5
24nm,1.0s
BMN epP pP 22 22 03.1 +2.7
G18A Lazy EL Ranch, 34.76 338 ⇑P P 22 21 46.8 -0.3
baz=35,SNR=14
J14A Carey 34.78 332 ⇑P P 22 21 48.8 +1.4
baz=35
H16A Russell Place, 34.90 335 ⇑P P 22 21 48.8 +0.4
baz=35,SNR=6.7
CMB Columbia Colle 35.00 319 eP P 22 21 50.5 +1.4
19nm,1.3s
CMB epP pP 22 22 05.3 +1.6
QLMT Earthquake Lak 35.08 335 eP P 22 21 52.1 +2.2
J13A Cove Ranch, Pi 35.15 331 ⇓P P 22 21 51.5 +1.0
baz=35,SNR=15
D22A Cohagen 35.26 343 ⇓P P 22 21 50.8 -0.5
baz=35,SNR=5.9
E20A Meyer Farm, Mu 35.28 340 ⇑P P 22 21 51.7 +0.2
baz=35
F18A Big Timber 35.31 338 ⇑P P 22 21 51.9 0.0
baz=35,SNR=6.5
WCN Washoe City 35.35 321 eP P 22 21 54.2 +1.9
13nm,1.1s
HLID Hailey 35.38 331 eP P 22 21 54.2 +1.7
23nm,1.1s
HLID Hailey 35.38 331 ⇓P P 22 21 53.7 +1.2
baz=36,SNR=26
H15A Lima 35.41 334 ⇑P P 22 21 54.4 +1.7
baz=36,SNR=22
I13A Wildhorse Cree 35.52 332 ⇓P P 22 21 55.1 +1.4
baz=36,SNR=45
G16A Moss Hill, Enn 35.55 335 ⇓P P 22 21 55.8 +1.9
baz=36,SNR=16
F17A Fitzpatrick Pl 35.66 337 ⇓P P 22 21 55.6 +0.7
baz=36,SNR=11
MCMT McKenzie Canyo 35.67 334 eP P 22 21 56.0 +1.0
27nm,1.1s
MCMT epP pP 22 22 12.7 +3.0
C22A Vida 35.72 343 ⇑P P 22 21 56.7 +1.5
baz=36
H14A Leadore 35.72 333 ⇑P P 22 21 57.2 +1.7
baz=36
G15A Dillon 35.78 335 ⇑P P 22 21 57.3 +1.3
baz=36,SNR=18
BOZ Bozeman (W) 35.83 336 eP P 22 21 56.9 +0.6
8.1nm,1.2s
BOZ Bozeman (W) 35.83 336 ⇓P P 22 21 56.9 +0.6
baz=36
I12A Atlanta 35.90 331 ⇓P P 22 21 58.3 +1.3
baz=36,SNR=79
F16A Kennard Place, 35.94 336 ⇑P P 22 21 58.0 +0.8
baz=36,SNR=11
MFID Camas Ranch 35.96 329 eP P 22 21 58.9 +1.5
24nm,1.0s
MFID ePcP PcP 22 24 25.1 +1.9
MFID Camas Ranch 35.96 329 ⇑P P 22 21 58.8 +1.4
baz=36,SNR=24
DLMT Dillon 35.99 335 eP P 22 21 59.1 +1.5
18nm,1.1s
H13A Challis 36.08 332 ⇓P P 22 21 60.0 +1.5
baz=36,SNR=67
E17A Martinsdale 36.21 337 ⇓P P 22 22 00.4 +0.8
baz=36
G14A Jackson 36.26 334 ⇓P P 22 22 01.4 +1.3
baz=36,SNR=10
SAML Samuel 36.27 127 eP P 22 21 58.5 -1.7
17nm,1.3s
LRM Limekiln Ridge 36.30 335 eP P 22 22 01.8 +1.4
F15A Butte 36.33 335 ⇓P P 22 22 01.7 +1.1
baz=36,SNR=7.8
H12A Diamond D Ranc 36.34 332 ⇑P P 22 22 02.1 +1.4
baz=36,SNR=58
ULM Lac du Bonnet 36.36 355 P P 22 21 57.7 -2.9
2.9nm,0.8s,baz=180,slow=8.3,SNR=4.8
ULM PcP PcP 22 24 23.9 -0.2
4.2nm,0.9s,baz=181,slow=2.8,SNR=3.4
ULM LR LR 22 38 31.0
comp=Z,258nm,21.7s,baz=125,slow=39
ULM Lac du Bonnet 36.36 355 P P 22 21 57.7 -2.9
ULM PcP PcP 22 24 23.9 -0.2
G13A Cobalt 36.48 333 ⇓P P 22 22 02.8 +0.9
baz=37,SNR=12
E16A East Helena 36.58 337 ⇑P P 22 22 03.1 +0.4
baz=37,SNR=8.0
F14A Wisdom 36.67 334 ⇑P P 22 22 04.3 +0.8
baz=37
D17A Six Diamond Ra 36.73 338 ⇑P P 22 22 03.8 -0.2
baz=37
E15A Deer Lodge 36.87 336 ⇓P P 22 22 05.8 +0.6
baz=37,SNR=10
G12A Big Creek, Yel 37.00 332 ⇑P P 22 22 07.5 +1.1
baz=37,SNR=32
F13A Darby 37.07 333 ⇑P P 22 22 07.3 +0.4
baz=37,SNR=22
C17A Wharram Farm, 37.16 338 ⇓P P 22 22 07.4 -0.2
baz=37,SNR=5.6
E14A Clinton 37.21 335 ⇑P P 22 22 09.0 +0.9
baz=37,SNR=8.5
MOD Modoc 37.31 324 eP P 22 22 10.4 +1.5
24nm,1.4s
MOD epP pP 22 22 25.0 +1.3
D15A Lincoln 37.33 336 ⇑P P 22 22 09.7 +0.7
baz=37,SNR=6.4
F12A Elk City 37.45 333 ⇑P P 22 22 10.9 +0.8
baz=38,SNR=68
CHMT Chamberlain Mo 37.51 336 eP P 22 22 11.4 +0.7
E13A Victor 37.52 334 ⇑P P 22 22 11.0 +0.4
baz=38,SNR=29
A19A Klindworth Far 37.62 341 ⇓P P 22 22 11.9 +0.6
baz=38
C16A Fuhringer Ranc 37.66 338 ⇓P P 22 22 11.7 -0.1
baz=38,SNR=9.8
MSO Missoula 37.72 335 eP P 22 22 13.2 +0.9
20nm,1.4s
MSO Missoula 37.72 335 ⇓P P 22 22 13.1 +0.8
baz=38,SNR=12
BMO Blue Mountains 37.73 330 eP P 22 22 13.0 +0.5
21nm,1.1s
D14A Greenough 37.75 335 ⇑P P 22 22 12.5 -0.1
baz=38,SNR=8.1
SLMT Seeley Lake 37.87 336 eP P 22 22 14.1 +0.4
C15A Salmond Ranch, 37.96 337 ⇓P P 22 22 15.2 +0.8
baz=38,SNR=10.0

LPAZ La Paz 37.98 141 PcP PcP 22 24 30.2 -0.1
4.0nm,1.2s,baz=347,slow=7.6,SNR=4.8
LPAZ LR LR 22 37 50.6
comp=Z,168nm,21.2s,baz=91,slow=36
LPAZ La Paz 37.98 141 PcP PcP 22 24 30.2 -0.1
E12A Beaver Dam Sad 38.10 333 ⇓P P 22 22 15.6 +0.1
baz=38,SNR=40
D13A Huson 38.15 335 ⇑P P 22 22 16.4 +0.5
baz=38,SNR=9.2
SWMT Swartz Lake 38.29 335 eP P 22 22 17.6 +0.5
SWMT ePcP PcP 22 24 31.2 +1.1
B15A Bradely Ranch, 38.39 337 ⇓P P 22 22 17.8 -0.1
baz=38
D12A Red Ives Fores 38.49 334 ⇓P P 22 22 18.8 0.0
baz=39
JTMT Jette 38.60 335 eP P 22 22 20.6 +0.9
YBH Yreka Blue Hor 38.62 322 P P 22 22 20.7 +0.8
2.8nm,0.8s,baz=181,slow=3.4,SNR=3.9
YBH PcP PcP 22 24 31.5 +0.2
2.4nm,0.8s,baz=51,slow=6.5,SNR=3.7
YBH Yreka Blue Hor 38.62 322 P P 22 22 20.7 +0.8
YBH PcP PcP 22 24 31.5 +0.2
C13A Hot Springs 38.66 335 ⇑P P 22 22 20.5 +0.3
baz=39
B14A Marquette Ranc 38.70 337 ⇑P P 22 22 20.7 +0.2
baz=39
BLMT Blacktail Moun 38.84 336 eP P 22 22 22.9 +1.0
BSMT Bassoo Peak 38.89 335 eP P 22 22 23.0 +0.8
A15A Johnson Ranch, 39.01 338 ⇓P P 22 22 23.1 0.0
baz=39,SNR=9.9
B13A Whitefish 39.17 336 ⇓P P 22 22 24.7 +0.2
baz=39,SNR=10
A14A Double T Ranch 39.26 337 ⇑P P 22 22 25.3 +0.1
baz=39,SNR=15
C11A Tepee Creek (N 39.49 334 ⇓P P 22 22 27.7 +0.6
baz=40
B12A Libby 39.70 335 ⇓P P 22 22 29.5 +0.7
baz=40,SNR=11
HAWA Hanford 39.93 330 eP P 22 22 31.0 +0.3
84nm,2.1s
A12A Yaak River Ran 40.10 335 ⇑P P 22 22 33.3 +1.2
baz=40,SNR=9.6
NEW Newport 40.19 334 eP P 22 22 33.3 +0.4
10.0nm,0.9s
NEW Newport 40.19 334 ⇑P P 22 22 33.2 +0.3
baz=40,SNR=6.2
TRW Toppenish Ridg 40.36 329 P P 22 22 36.7 +2.4
EBG Ellensburg 40.80 330 P P 22 22 39.5 +1.6
NAC Naches 40.80 329 P P 22 22 39.9 +2.0
WTV Waterville 41.06 331 P P 22 22 42.1 +2.0
LON Longmire 41.31 328 eP P 22 22 43.6 +1.4
24nm,1.0s
JCW Jim Creek 42.35 330 P P 22 22 50.9 +0.3
SIV San Ignacio 42.41 133 P P 22 22 50.8 -0.6
4.3nm,0.7s,baz=317,slow=8.6,SNR=14
SIV PcP PcP 22 24 42.7 -1.1
3.6nm,0.9s,baz=324,slow=3.2,SNR=3.6
SIV LR LR 22 39 27.3
comp=Z,163nm,18.6s,slow=35
SIV San Ignacio 42.41 133 P P 22 22 50.8 -0.6
SIV PcP PcP 22 24 42.7 -1.1
PGC Sidney 43.41 329 eP P 22 23 00.3 +1.3
2.2nm,0.9s
PGC epP pP 22 23 15.7 +1.7
SCHQ Schefferville 45.15 20 P P 22 23 10.5 -2.4
27nm,0.7s,baz=217,slow=6.4,SNR=65
SCHQ LR LR 22 42 50.3
comp=Z,546nm,21.7s,baz=22,slow=37
SCHQ Schefferville 45.15 20 eP P 22 23 10.7 -2.2
BBB Bella Bella 47.97 330 LR LR 22 47 11.3
comp=Z,176nm,20.5s,baz=136,slow=40
YKA Yellowknife Ar 51.15 347 P P 22 23 58.2 -0.8
7.2nm,0.7s,baz=150,slow=7.6,SNR=117
YKA pP pP 22 24 13.2 -1.1
3.7nm,0.7s,baz=149,slow=7.7,SNR=9.3
YKA PcP PcP 22 25 12.9 -0.9
4.1nm,0.9s,baz=147,slow=4.3,SNR=7.7
YKA ScP ScP 22 29 04.8 -0.6
0.5nm,0.7s,baz=142,slow=4.1,SNR=5.5
YKA Yellowknife Ar 51.15 347 P P 22 23 58.2 -0.8
YKA pP pP 22 24 13.2 -1.1
YKA PcP PcP 22 25 12.9 -0.9
YKA ScP ScP 22 29 04.8 -0.6
YKW3 Yellowknife Ar 51.21 347 eP P 22 23 58.1 -1.4
0.4nm,1.2s
YKW3 epP pP 22 24 14.4 -0.5
CPUP Villa Florida 52.12 140 P P 22 24 05.8 -1.0
5.2nm,0.9s,baz=313,slow=5.1,SNR=6.0
CPUP LR LR 22 45 32.6
comp=Z,156nm,21.5s,baz=329,slow=35
CPUP Villa Florida 52.12 140 P P 22 24 05.8 -1.0
BDFB Brasilia 52.21 123 P P 22 24 07.2 -0.6
1.0nm,0.4s,baz=301,slow=10.0,SNR=4.0
BDFB LR LR 22 46 18.3
comp=Z,160nm,21.0s,baz=54,slow=36
BDFB Brasilia 52.21 123 P P 22 24 07.2 -0.6
FRB Frobisher Bay 52.28 13 LR LR 22 46 40.5
comp=Z,241nm,18.6s,baz=50,slow=36
DLBC Dease Lake 52.84 336 LR LR 22 52 05.2
comp=Z,239nm,20.0s,baz=150,slow=42
DLBC Dease Lake 52.84 336 eP P 22 24 14.4 +2.6
DLBC epP pP 22 24 28.5 +1.3
DLBC ePcP PcP 22 25 21.4 +1.0
RKT Rikitea 56.17 230 eLR LR 22 41 17.8
RKT eT T 23 24 55.2
5.6nm,0.3s
PLCA Paso Flores 57.82 161 P P 22 24 47.2 -0.6
8.5nm,1.1s,baz=326,slow=7.6,SNR=9.1
PLCA LR LR 22 44 33.4
comp=Z,246nm,21.1s,baz=101,slow=31
PLCA Paso Flores 57.82 161 eP P 22 24 48.3 +0.5
TRQA Tornquist 58.74 153 eP P 22 24 53.4 -0.8
BMRM Bremner River 60.37 333 eP P 22 25 06.8 +1.7
27nm,0.9s
INK Inuvik 60.58 343 LR LR 22 55 41.4
comp=Z,203nm,20.0s,baz=336,slow=40
INK Inuvik 60.58 343 eP P 22 25 06.2 -0.1
10nm,0.9s
RES Resolute Bay 60.75 359 LR LR 22 53 47.3
comp=Z,163nm,18.8s,baz=159,slow=38
RES Resolute Bay 60.75 359 eP P 22 25 05.7 -1.7
7.8nm,0.8s
EGAK Eagle 60.88 338 eP P 22 25 08.3 -0.2
7.1nm,1.0s
DIV Divide 60.95 333 eP P 22 25 10.6 +1.4
31nm,1.0s
DOT Dot Lake 61.40 336 eP P 22 25 13.0 +0.9
27nm,1.0s
PAX Paxson 61.64 335 eP P 22 25 14.0 +0.2
SML Sawmill 62.35 333 eP P 22 25 19.3 +0.8
18nm,1.4s
PMR Palmer 62.61 333 eP P 22 25 21.1 +0.9
30nm,1.0s
RC01 Rabbit Creek A 62.69 332 eP P 22 25 21.6 +0.9
42nm,0.9s
KDAK Kodiak Island 62.94 328 P P 22 25 23.4 +1.0
12nm,0.8s,baz=97,slow=7.7,SNR=5.5
KDAK pP pP 22 25 39.1 +0.9
11nm,0.8s,baz=6.8,slow=2.4,SNR=3.2
KDAK Kodiak Island 62.94 328 P P 22 25 23.4 +1.0
KDAK pP pP 22 25 39.1 +0.9
ILAR Eielson Array 63.02 337 P P 22 25 22.6 -0.2
22nm,1.0s,baz=122,slow=4.9,SNR=101
ILAR pP pP 22 25 38.4 -0.3
9.2nm,1.0s,baz=126,slow=4.9,SNR=7.4
ILAR LR LR 22 54 52.5
comp=Z,196nm,19.9s,baz=138,slow=38
ILAR Eielson Array 63.02 337 P P 22 25 22.6 -0.2
ILAR pP pP 22 25 38.4 -0.3
COLA College 63.44 337 eP P 22 25 25.2 -0.4
17nm,0.9s
COLA epP pP 22 25 41.4 0.0
COLA ePcP PcP 22 26 02.5 +0.6
SPU Mount Spurr 63.78 332 eP P 22 25 28.7 +0.7
TRF Thorofare Moun 63.83 335 eP P 22 25 28.1 -0.4
RSO Redoubt South 63.86 331 eP P 22 25 29.5 +0.8
PPT Papeete 65.17 243 LR LR 22 47 53.0
comp=Z,75nm,18.6s,baz=15,slow=30
PPT2 Papeete2 65.18 243 eLR LR 22 45 10.0
421nm,26.0s,baz=65
SVW2 Sparrevohn 65.38 331 eP P 22 25 38.1 -0.3
12nm,0.8s
SUMG Summit 66.19 15 eP P 22 25 42.2 -1.7
232nm,3.0s
SUMG Summit 66.19 15 *i* P P 22 25 42.3 -1.6
8.0nm,0.7s
TBI Tubuai 67.61 237 eLR LR 22 46 30.7
380nm,26.8s
TBI eT T 23 39 09.5
3.3nm,0.3s
BORG Borgarnes 69.10 26 LR LR 22 59 03.0
comp=Z,16nm,18.5s,baz=235,slow=38
BBTS Babate 72.44 79 LR LR 22 52 19.4
comp=Z,169nm,21.4s,baz=50,slow=31
DAG Danmarks Havn 72.63 13 ⇓ *i* P P 22 26 20.6 -2.5
78nm,0.8s
ESDC Sonseca Array 79.47 52 P P 22 26 59.8 -3.0
0.8nm,0.8s,baz=278,slow=5.4,SNR=6.3
ESDC LR LR 22 57 09.7
comp=Z,101nm,18.4s,baz=240,slow=32
ESDC Sonseca Array 79.47 52 P P 22 26 59.8 -3.0
FX1 Attu Island--F 82.11 322 LR LR 23 01 40.6
comp=Z,72nm,20.0s,baz=95,slow=34
NOA NORSAR Array B 84.02 28 P P 22 27 24.9 -1.4
1.5nm,0.9s,baz=290,slow=5.1,SNR=4.2
NOA LR LR 23 01 13.9
comp=Z,131nm,20.4s,baz=45,slow=33
NOA NORSAR Array B 84.02 28 P P 22 27 24.9 -1.4
DBIC Dimbokro 85.32 84 LR LR 23 00 13.6
comp=Z,109nm,18.3s,baz=258,slow=32
HFS Hagfors 85.48 29 LR LR 23 02 07.0
comp=Z,162nm,21.9s,baz=264,slow=33
ARCES ARCESS Array B 86.07 18 LR LR 23 04 48.0
comp=Z,256nm,21.9s,baz=115,slow=35
DAVOX Davos/Dischmat 87.67 42 LR LR 23 01 17.7
comp=Z,144nm,20.1s,baz=277,slow=32
GERES GERESS Array B 89.42 40 P P 22 27 50.7 -2.2
0.5nm,0.8s,baz=314,slow=8.5,SNR=4.0
GERES LR LR 23 04 03.2
comp=Z,118nm,20.3s,baz=287,slow=33
GERES GERESS Array B 89.42 40 P P 22 27 50.7 -2.2
TORD Torodi Ar. Bea 90.05 77 P P 22 27 53.5 -2.8
0.4nm,0.9s,baz=277,slow=6.4,SNR=3.8
TORD LR LR 23 01 33.0
comp=Z,133nm,21.1s,baz=195,slow=31
TORD Torodi Ar. Bea 90.05 77 P P 22 27 53.5 -2.8
FINES FINESS Array B 90.39 25 LR LR 23 07 30.9
comp=Z,148nm,19.1s,baz=325,slow=35
PETK Petropavlovsk- 90.88 326 P P 22 28 01.0 +1.5
4.0nm,0.9s,baz=46,slow=6.2,SNR=3.6
PETK pP pP 22 28 17.3 +1.2
11nm,1.1s,baz=78,slow=10,SNR=4.5
PETK Petropavlovsk- 90.88 326 P P 22 28 01.0 +1.5
PETK pP pP 22 28 17.3 +1.2
VRAC Vranov 91.02 38 LR LR 23 04 43.7
comp=Z,129nm,20.0s,baz=293,slow=33
VYHS Vyhne 92.70 39 eP P 22 28 09.7 +1.7
CRVS Cervenica-Dubn 94.09 37 eP P 22 28 17.9 +3.5
AKASG Malin Array Be 97.58 33 LR LR 23 19 19.2
comp=Z,75nm,18.3s,baz=255,slow=40
DZM Mont Dzumac 105.98 251 eLR LR 23 04 47.8
185nm,26.4s
ZALV Zalesovo Beam 112.31 2 PKiKP PKiKP 22 33 31.0 -0.4
0.3nm,0.5s,baz=260,slow=2.6,SNR=3.6
ZALV Zalesovo Beam 112.31 2 PKiKP PKiKP 22 33 31.0 -0.4
CN2 Changchun 113.30 332 ePKiKP PKiKP 22 33 33.1 -0.5
KURK Kurchatov 115.05 7 PKP PKPdf 22 33 36.2 -0.6
KURBB Kurchatov Arra 115.13 7 PKP PKPdf 22 33 36.2 -0.7
2.4nm,1.0s,baz=346,slow=2.5,SNR=19
SONM Songino Array 116.42 347 PKP PKPdf 22 33 39.4 -0.3
0.8nm,0.8s,baz=319,slow=0.7,SNR=8.8
SONM pPKP pPKPdf 22 33 56.9 0.0
0.8nm,0.9s,baz=296,slow=0.8,SNR=4.8
SONM Songino Array 116.42 347 PKP PKPdf 22 33 39.4 -0.3
SONM pPKP pPKPdf 22 33 56.9 0.0
KSRS Korea Array 116.78 325 PKP PKPdf 22 33 39.8 -0.7
1.9nm,0.6s,baz=34,slow=2.3,SNR=8.3
KSRS pPKP pPKPdf 22 33 56.9 -0.8
1.5nm,0.7s,baz=48,slow=1.9,SNR=3.1
KSAR Wonju Array Be 116.81 325 PKP PKPdf 22 33 39.8 -0.7
KSAR pPKP pPKPdf 22 33 56.9 -0.8
MK31 Makanchi Array 119.29 5 ePKPdf PKPdf 22 33 44.0 -1.1
MKAR Makanchi Array 119.29 5 PKP PKPdf 22 33 44.4 -0.8
1.6nm,0.9s,baz=350,slow=1.5,SNR=12
MKAR pPKP pPKPdf 22 34 01.4 -0.9
0.8nm,0.8s,baz=328,slow=1.6,SNR=4.4
MKAR Makanchi Array 119.29 5 PKP PKPdf 22 33 44.4 -0.8
MKAR pPKP pPKPdf 22 34 01.4 -0.9
BOSA Boshof 120.02 115 PKP PKPdf 22 33 47.1 0.0
6.6nm,0.9s,baz=163,slow=4.6,SNR=5.9
BOSA pPKP pPKPdf 22 34 03.5 -0.8
9.0nm,1.0s,baz=129,slow=5.5,SNR=4.3
BOSA Boshof 120.02 115 PKP PKPdf 22 33 47.1 0.0
BOSA pPKP pPKPdf 22 34 03.5 -0.8
HHC Hu-ho-hao-te 121.39 340 ePKP PKPdf 22 33 43.8 -5.6
HHC PP PP 22 35 19.6 -0.3
HHC PKS PKSdf 22 37 19.1 -7.1
HHC AMB AMB
comp=Z,94nm,10.2s
HHC LR LR
comp=N,260nm,20.6s
HHC LR LR
comp=E,190nm,19.0s
HHC LR LR
comp=Z,110nm,19.4s
AAK Ala-Archa 122.27 12 PKP PKPdf 22 33 51.3 +0.1
comp=Z,2.8nm,1.0s,baz=322,slow=0.8,SNR=7.7
AAK Ala-Archa 122.27 12 ePKPdf PKPdf 22 33 51.0 -0.1
AAK PKP PKPdf 22 33 51.3 +0.1
WMQ Urumqi 122.51 1 ePKP PKPdf 22 33 51.6 +0.2
KSH Kashi 125.57 12 ePKP PKPdf 22 33 58.8 +1.3
KSH ePP PP 22 35 54.0 +6.1
KSH PKS PKSdf 22 37 34.2 -0.1
KSH SKS SKSdf 22 41 05.3 +0.5
KSH SKKS SKKSac 22 42 42.7 +0.1
KSH SS SS 22 52 47.8 +5.7
KSH AMB AMB
comp=Z,89nm,4.6s
KSH LR LR
comp=N,99nm,9.5s
KSH LR LR
comp=E,68nm,3.8s
KSH LR LR
comp=Z,260nm,7.0s
GTA Gaotai 125.85 349 PKP PKPdf 22 33 58.6 +0.5
GTA AMB AMB
comp=Z,150nm,5.7s
LZH Lanzhou 128.12 344 ePKP PKPdf 22 34 03.5 +0.9
STKA Stephens Creek 128.33 240 PKP PKPdf 22 34 03.2 +0.5
comp=Z,6.4nm,1.0s,baz=20,slow=2.9,SNR=5.9
STKA Stephens Creek 128.33 240 PKP PKPdf 22 34 03.2 +0.5
XAN Xi'an 128.41 338 PKP PKPdf 22 34 02.7 -0.3
CD2 Chengdu 133.00 342 PKP PKPdf 22 34 11.2 -0.6
CD2 sPKP 22 34 35.5
CD2 PP PP 22 36 40.0 +3.5
CD2 PKS PKSdf 22 37 46.1 -2.3
CD2 SKS SKSdf 22 41 14.4 -4.1
CD2 SKKS SKKSac 22 43 23.9 -5.1
CD2 SS SS 22 54 13.3 -0.5
CD2 AMB AMB
comp=Z,120nm,7.1s
CD2 LR LR
comp=N,230nm,6.5s
CD2 LR LR
comp=Z,190nm,5.9s
WRA Warramunga Arr 135.72 256 PKP PKPdf 22 34 17.6 +0.6
comp=Z,1.9nm,0.9s,baz=90,slow=2.3,SNR=15
WRA SKPab SKiKP 22 37 53.3 +3.4
comp=Z,1.2nm,0.9s,baz=85,slow=2.6,SNR=6.9
WRA Warramunga Arr 135.72 256 PKP PKPdf 22 34 17.6 +0.6
WRA SKPab SKiKP 22 37 53.3 +3.4
ASAR Alice Springs 135.97 250 PKP PKPdf 22 34 17.8 +0.3
comp=Z,1.3nm,0.9s,baz=103,slow=2.7,SNR=8.6
ASAR pPKP pPKPdf 22 34 34.2 -0.5
comp=Z,1.3nm,0.8s,baz=90,slow=2.7,SNR=5.0
ASAR SKPab SKiKP 22 37 53.3 +2.9
comp=Z,0.2nm,0.4s,baz=74,slow=4.0,SNR=2.5
ASAR Alice Springs 135.97 250 PKP PKPdf 22 34 17.8 +0.3
ASAR pPKP pPKPdf 22 34 34.2 -0.5
ASAR SKPab SKiKP 22 37 53.3 +2.9
GYA Guiyang 136.06 336 ePdif Pdif 22 31 20.8 -1.3
GYA PKP PKPdf 22 34 17.6 -0.1
GYA sPKP 22 34 42.0
GYA PP PP 22 37 01.2 +5.0
GYA AMB AMB
comp=Z,90nm,7.6s
KMI Kunming 138.71 340 PKP PKPdf 22 34 22.6 -0.2
KMI sPKP 22 34 47.1
KMI LR LR
comp=N,100nm,16.0s

KMI				LR	LR			
	comp=E,91nm,17.4s							
KMI				LR	LR			
	comp=Z,150nm,24.1s							
FITZ	**Fitzroy Crossi**	**143.97**	**258**	*e*PKPdf	PKPbc	22 34 30.6	+0.6
CHTO	**Chiang Mai**	**145.81**	**342**	*e*PKPdf	**PKPdf**	**22 34 35.0**	**-0.3**
CM31	**Chiang Mai Arr**	**146.15**	**342**	*e*PKPdf	**PKPbc**	**22 34 37.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**146.15**	**342**	PKPbc	**PKPbc**	**22 34 36.9**	**+0.1**
	comp=Z,45nm,0.9s,baz=341,slow=4.1,SNR=216							
CMAR				pPKPbc	pPKPbc	22 34 53.9	+0.1
	comp=Z,12nm,0.8s,baz=343,slow=4.4,SNR=3.7							
CMAR	**Chiang Mai Arr**	**146.15**	**342**	PKPbc	**PKPbc**	**22 34 36.9**	**+0.1**
CMAR				pPKPbc	pPKPbc	22 34 53.9	+0.1
HYB	**Hyderabad**	**147.36**	**18**	*i* PKP	**PKPdf**	**22 34 39.0**	**+1.1**
PSI	**Prapat**	**160.33**	**327**	PKPab	**PKPab**	**22 35 37.0**	**-0.1**
	comp=Z,15nm,0.9s,baz=239,slow=2.8,SNR=9.6							
PSI				pPKPab	**pPKPab**	**22 35 53.2**	**-0.5**
	comp=Z,13nm,1.0s,baz=307,slow=4.7,SNR=4.1							
PSI	**Prapat**	**160.33**	**327**	PKPab	**PKPab**	**22 35 37.0**	**-0.1**
PSI				pPKPab	**pPKPab**	**22 35 53.2**	**-0.5**

*ISCJB **08** 22:33:01.9±0.7, 6.°87N±0.°07×73.°03W±0.°08, h164km±8km, mb3.3/2, Error ellipse: s-maj=15.1km s-min=8.6km az=36.9*

*FUNV **08** 22:33:03.2, 6.°80N×73.°08W, h168km, MW3.5*

*IDC **08** 22:33:03.9±4.4, 6.°69N×73.°18W, h165km±29km, mb3.1/2, mb1 3.5/3, mb1mx3.0/23, mbtmp3.2/3, Error ellipse: s-maj=84.0km s-min=28.8km az=86.0*

ISC 08 22:33:02.7±1.0, 6.°85N±0.°07×73.°03W±0.°08, h160km±9km, n17, σ1°19/22, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.24**	**35**	*i*P	**Pn**	**22 33 31.6**	**+0.8**
CAPV				*e*S	**Sn**	**22 33 52.8**	**+0.4**
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**22 33 43.3**	**+0.2**
	20nm,0.3s,baz=92,slow=23,SNR=76						
ROSC				S	**Sn**	**22 34 11.5**	**-2.8**
	14nm,0.3s,baz=271,slow=22,SNR=4.0						
VIGV	**El Vigia**	**2.58**	**40**	*e*P	**Pn**	**22 33 46.1**	**+0.7**
VIGV				*e*S	**Sn**	**22 34 17.6**	**-0.8**
SOCV	**Socops**	**2.59**	**56**	*e*P	**Pn**	**22 33 46.5**	**+1.0**
SOCV				*e*S	**Sn**	**22 34 17.6**	**-0.9**
ELOV	**Elorza**	**3.53**	**87**	*e*P	**Pn**	**22 33 57.9**	**+0.7**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**22 33 58.9**	**-0.4**
VIRV				*e*S	**Sn**	**22 34 41.4**	**-1.9**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**22 34 08.5**	**+0.3**
DABV	**Dabajuro**	**4.69**	**30**	*e*P	**Pn**	**22 34 12.4**	**+0.2**
TEPV	**Terepaima**	**4.90**	**51**	*e*P	**Pn**	**22 34 15.4**	**+0.3**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**22 34 20.2**	**-1.0**
MAPV	**Macapo**	**5.41**	**56**	*e*P	**Pn**	**22 34 21.9**	**+0.1**
MONV	**Montecano**	**5.91**	**31**	*e*P	**Pn**	**22 34 26.9**	**-1.4**
CUPV	**Cœpira**	**7.84**	**66**	*e*P	**Pn**	**22 34 52.1**	**-2.0**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**22 39 54.1**	**+1.2**
	0.3nm,0.7s,baz=127,slow=9.3,SNR=3.9						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**22 43 14.8**	**+0.8**
	0.5nm,0.6s,baz=129,slow=7.2,SNR=9.6						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	**PKPbc**	**22 52 32.8**	**-0.4**
	0.2nm,0.5s,baz=133,slow=3.9,SNR=3.0						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**22 52 36.1**	**-0.1**
	0.2nm,0.4s,baz=109,slow=2.5,SNR=9.0						

*ISCJB **08** 22:37:04.8±0.3, 39.°16N±0.°02×29.°42E±0.°03, h0km, Error ellipse: s-maj=3.0km s-min=2.7km az=43.2*

*ISK **08** 22:37:04.5, 39.°16N×29.°46E, h4km, MD2.8*

*DDA **08** 22:37:04.7, 39.°18N×29.°41E, h15km, MD2.9*

*CSEM **08** 22:37:05.1±0.1, 39.°17N×29.°44E, h1km, MD2.9, Error ellipse: s-maj=2.1km s-min=2.0km az=65.0*

ISC 08 22:37:05.3±0.9, 39.°17N±0.°02×29.°42E±0.°02, h0km, n44, σ0°82/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.09**	**150**	*i*P	**Pg**	**22 37 08.4**	**+1.3**
GDZ				*i*S	**Sg**	**22 37 10.4**	**+2.1**
GDZ	**Gediz**	**0.09**	**150**	*i*P	**Pg**	**22 37 08.4**	**+1.3**
GDZ				*i*S	**Sg**	**22 37 10.4**	**+2.1**
TVSB	**Tavsanli**	**0.28**	**6**	PG	**Pg**	**22 37 10.8**	**+0.1**
TVSB	**Tavsanli**	**0.28**	**6**	*i*Pg	**Pg**	**22 37 10.8**	**+0.1**
ALT	**Altintas**	**0.55**	**102**	*e*PG	**Pg**	**22 37 15.3**	**-0.5**
ALT				*e*SG	**Sg**	**22 37 23.1**	**+0.2**
ALT	**Altintas**	**0.55**	**102**	*e*Pg	**Pg**	**22 37 15.3**	**-0.5**
ALT				*e*Sg	**Sg**	**22 37 23.1**	**+0.2**
DEMI	**Demirci**	**0.56**	**257**	*i*P	**Pg**	**22 37 16.7**	**+0.6**
DEMI				*i*S	**Sg**	**22 37 24.0**	**+0.6**
DEMI	**Demirci**	**0.56**	**257**	*i*P	**Pg**	**22 37 16.7**	**+0.6**
DEMI				*i*S	**Sg**	**22 37 24.0**	**+0.6**
DST	**Dursunbey**	**0.76**	**305**	*e*PG	**Pg**	**22 37 20.3**	**+0.5**
DST	**Dursunbey**	**0.76**	**305**	*e*Pg	**Pg**	**22 37 20.3**	**+0.5**
KHAL	**Karahalli**	**0.80**	**176**	*i*P	**Pg**	**22 37 20.6**	**0.0**
KHAL				*i*S	**Sg**	**22 37 30.2**	**-0.8**
KHAL	**Karahalli**	**0.80**	**176**	*i*P	**Pg**	**22 37 20.6**	**0.0**
KHAL				*i*S	**Sg**	**22 37 30.2**	**-0.8**
KHL	**Karahalli**	**0.85**	**175**	*e*PG	**Pg**	**22 37 21.4**	**-0.2**
KHL	**Karahalli**	**0.85**	**175**	*e*Pg	**Pg**	**22 37 21.4**	**-0.2**
DURS	**Dursunbey**	**0.85**	**301**	*i*P	**Pg**	**22 37 22.1**	**+0.4**
DURS				*i*S	**Sg**	**22 37 32.3**	**-0.4**
DURS	**Dursunbey**	**0.85**	**301**	*i*P	**Pg**	**22 37 22.1**	**+0.4**
DURS				*i*S	**Sg**	**22 37 32.3**	**-0.4**
KULA	**Kula-Manisa**	**0.88**	**222**	*e*PG	**Pg**	**22 37 22.2**	**-0.1**
KULA	**Kula-Manisa**	**0.88**	**222**	*e*Pg	**Pg**	**22 37 22.2**	**-0.1**
MANT	**Manisa**	**0.96**	**225**	*i*P	**Pg**	**22 37 23.6**	**-0.1**
MANT				*i*S	**Sg**	**22 37 33.9**	**-2.2**
MANT	**Manisa**	**0.96**	**225**	*i*P	**Pg**	**22 37 23.6**	**-0.1**
MANT				*i*S	**Sg**	**22 37 33.9**	**-2.2**
ORLT	**Orhaneli**	**0.96**	**335**	*e*PG	**Pg**	**22 37 24.0**	**+0.2**
ORLT	**Orhaneli**	**0.96**	**335**	*e*Pg	**Pg**	**22 37 24.0**	**+0.2**
BORA	**Eskisehir**	**1.07**	**48**	*i*P	**Pg**	**22 37 24.9**	**-0.9**
BORA				*i*S	**Sg**	**22 37 39.5**	**-0.1**
BORA	**Eskisehir**	**1.07**	**48**	*i*P	**Pg**	**22 37 24.9**	**-0.9**
BORA				*i*S	**Sg**	**22 37 39.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.08**	**125**	*e*PG	**Pg**	**22 37 25.2**	**-0.8**
SHUT				*e*SG	**Sg**	**22 37 40.3**	**+0.4**
SHUT	**Suhut-Afyon**	**1.08**	**125**	*e*Pg	**Pg**	**22 37 25.2**	**-0.8**
SHUT				*e*Sg	**Sg**	**22 37 40.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**341**	*e*PN	**Pg**	**22 37 29.7**	**+0.1**
MDNY				*e*SN	**Sb**	**22 37 47.8**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.27**	**341**	*e*Pn	**Pg**	**22 37 29.7**	**+0.1**
MDNY				*e*Sn	**Sb**	**22 37 47.8**	**+0.9**
GEMT	**Gemlik**	**1.28**	**352**	*e*PN	**Pg**	**22 37 29.8**	**0.0**
GEMT				*e*SN	**Sb**	**22 37 48.5**	**+1.3**
GEMT	**Gemlik**	**1.28**	**352**	*e*Pn	**Pg**	**22 37 29.8**	**0.0**
GEMT				*e*Sn	**Sb**	**22 37 48.5**	**+1.3**
BALB	**Balikesir**	**1.28**	**292**	*e*PN	**Pg**	**22 37 30.3**	**+0.4**
BALB	**Balikesir**	**1.28**	**292**	*e*Pn	**Pg**	**22 37 30.3**	**+0.4**
AKHS	**Akhisar**	**1.29**	**257**	*i*P	**Pg**	**22 37 30.0**	**0.0**
AKHS				*i*S	**Sg**	**22 37 46.6**	**0.0**
AKHS	**Akhisar**	**1.29**	**257**	*i*P	**Pg**	**22 37 30.0**	**0.0**
AKHS				*i*S	**Sg**	**22 37 46.6**	**0.0**
YLV	**Yalova**	**1.40**	**358**	*e*PN	**Pn**	**22 37 31.7**	**-0.5**
YLV				*e*SN	**Sb**	**22 37 51.8**	**+1.1**
YLV	**Yalova**	**1.40**	**358**	*e*Pn	**Pn**	**22 37 31.7**	**-0.5**
YLV				*e*Sn	**Sb**	**22 37 51.8**	**+1.1**
ARMT	**Armutlu**	**1.46**	**343**	*e*PN	**Pn**	**22 37 32.8**	**-0.1**
ARMT				*e*SN	**Sg**	**22 37 52.7**	**+0.5**
ARMT	**Armutlu**	**1.46**	**343**	*e*Pn	**Pn**	**22 37 32.8**	**-0.1**
ARMT				*e*Sn	**Sg**	**22 37 52.7**	**+0.5**
BALY	**Balya**	**1.51**	**293**	*i*P	**Pn**	**22 37 33.7**	**+0.1**
BALY				*i*S	**Sb**	**22 37 51.9**	**-2.0**
BALY	**Balya**	**1.51**	**293**	*i*P	**Pn**	**22 37 33.7**	**+0.1**
BALY				*i*S	**Sb**	**22 37 51.9**	**-2.0**
GULT	**Gulveren**	**1.52**	**33**	*e*PN	**Pn**	**22 37 33.1**	**-0.7**
GULT				*e*SN	**Sg**	**22 37 53.8**	**-0.2**
GULT	**Gulveren**	**1.52**	**33**	*e*Pn	**Pn**	**22 37 33.1**	**-0.7**
GULT				*e*Sn	**Sg**	**22 37 53.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.60**	**304**	*e*PN	**Pn**	**22 37 34.7**	**-0.2**
GONE				*e*SN	**Sb**	**22 37 57.5**	**+1.0**
GONE	**Gonen-Balikesi**	**1.60**	**304**	*e*Pn	**Pn**	**22 37 34.7**	**-0.2**
GONE				*e*Sn	**Sb**	**22 37 57.5**	**+1.0**

IDC 08 22:48:57.3±5.5, 21.°76S×170.°10E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.5/3, Error ellipse: s-maj=228.0km s-min=40.1km az=151.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**33.39**	**260**	P	P	22 55 36.4	-1.4
	0.2nm,0.5s,baz=91,slow=7.7,SNR=3.8						
WRA	**Warramunga Arr**	**33.43**	**266**	P	P	22 55 39.1	+1.0
	0.3nm,0.3s,baz=98,slow=8.4,SNR=14						
ILAR	**Eielson Array**	**92.39**	**17**	P	P	23 02 09.3	0.0
	0.3nm,0.6s,baz=224,slow=6.3,SNR=4.4						

*ISCJB **08** 23:04:40.9±0.5, 31.°39S±0.°03×68.°73W±0.°05, h108km±5km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=5.0km az=20.5*

*GUC **08** 23:04:41.3±0.6, 31.°43S×68.°99W, h150km±11km, MD3.9, ML4.0*

*IDC **08** 23:04:41.7±0.8, 31.°54S×68.°65W, h103km±6km, mb3.5/5, mb1 3.7/9, mb1mx3.6/19, mbtmp3.5/9, Error ellipse: s-maj=26.9km s-min=24.2km az=108.0*

ISC 08 23:04:41.6±0.7, 31.°40S±0.°04×68.°73W±0.°05, h102km±6km, n32, σ0°80/47, mb3.5/5, 4C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.47**	**117**	P	**Pn**	**23 04 57.7**	**+0.3**
	59nm,0.3s,baz=286,slow=5.0,SNR=7754						
CFAA				S	**Sn**	**23 05 10.2**	**+1.0**
	61nm,0.3s,baz=155,slow=22,SNR=146						
CMCH	**Combarbala**	**1.96**	**276**	*e*P	**Pn**	**23 05 14.2**	**+0.4**
CMCH				*i*S	**Sn**	**23 05 38.9**	**+0.6**
JACH	**Jahuel**	**2.04**	**230**	*e*P	**Pn**	**23 05 15.4**	**+0.6**
JACH				*e*S	**Sn**	**23 05 41.3**	**+1.1**
PTCH	**Petorca**	**2.06**	**245**	*e*P	**Pn**	**23 05 15.1**	**+0.1**
PTCH				*i*S	**Sn**	**23 05 40.6**	**0.0**
PTCH				AML	AML	23 05 41.7	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**2.34**	**214**	*i*P	**Pn**	**23 05 19.8**	**+0.9**
FCH				*e*S	**Sn**	**23 05 48.9**	**+1.4**
FCH				AML	AML	23 05 53.5	
	comp=E,555nm,0.4s						
PEL	**Peldehue**	**2.41**	**223**	*i*P	**Pn**	**23 05 19.7**	**+0.2**
PEL				*i*S	**Sn**	**23 05 48.6**	**-0.1**
PEL				AML	AML	23 05 54.8	
	comp=N,954nm,0.5s						
CHNG	**Los Chungos**	**2.41**	**258**	*e*P	**Pn**	**23 05 19.0**	**-0.6**
CHNG				*i*S	**Sn**	**23 05 47.3**	**-1.4**
CHNG				AML	AML	23 05 58.7	
	comp=E,485nm,0.7s						
ROCH	**El Roble**	**2.49**	**230**	*i*P	**Pn**	**23 05 20.2**	**-0.7**
ROCH				*i*S	**Sn**	**23 05 50.5**	**-0.5**
CLCH	**Cerro Calan**	**2.52**	**217**	*i*P	**Pn**	**23 05 21.7**	**+0.7**
CLCH				*i*S	**Sn**	**23 05 51.5**	**+0.2**
CLCH				AML	AML	23 05 53.5	
	comp=N,2μm,0.6s						
SAN	**Santiago**	**2.62**	**218**	*e*S	**Sn**	**23 05 54.1**	**+0.3**
SAN				AML	AML	23 05 58.0	
	comp=N,539nm,0.6s						
ANTU	**Antumapu**	**2.70**	**216**	*e*P	**Pn**	**23 05 23.3**	**-0.1**
ANTU				*i*S	**Sn**	**23 05 55.8**	**+0.2**
ANTU				AML	AML	23 05 57.4	
	comp=N,568nm,0.4s						
LMEL	**Las Melosas**	**2.74**	**207**	*i*P	**Pn**	**23 05 24.6**	**+0.5**
LMEL				*e*S	**Sn**	**23 05 57.9**	**+1.1**
LMEL				AML	AML	23 06 07.9	
	comp=N,307nm,0.5s						
TACH	**Talagante**	**2.92**	**219**	*i*P	**Pn**	**23 05 25.9**	**-0.4**
CHCH	**Chadas Angostu**	**3.01**	**212**	*i*P	**Pn**	**23 05 27.6**	**+0.1**
CHCH				*e*S	**Sn**	**23 06 03.0**	**+0.1**
CACH	**El Canelo**	**3.14**	**210**	*i*P	**Pn**	**23 05 29.9**	**+0.6**
CPCH	**Copiapo**	**4.26**	**340**	*i*S	**Sn**	**23 06 34.0**	**+0.8**
CDCH	**Caldera**	**4.68**	**336**	*e*P	**Pn**	**23 05 50.6**	**+0.6**
CDCH				*i*S	**Sn**	**23 06 43.2**	**0.0**
PLCA	**Paso Flores**	**9.43**	**188**	P	**Pn**	**23 06 52.7**	**-1.9**
	comp=N,0.5nm,0.3s,baz=245,slow=10,SNR=3.1						
CPUP	**Villa Florida**	**11.19**	**66**	P	**Pn**	**23 07 16.5**	**-1.9**
	comp=N,0.5nm,0.3s,baz=245,slow=10,SNR=3.1						
LPAZ	**La Paz**	**15.05**	**2**	P	**P**	**23 08 12.2**	**-0.2**
	comp=N,0.4nm,0.3s,baz=190,slow=8.2,SNR=29						
SIV	**San Ignacio**	**16.85**	**26**	P	**P**	**23 08 32.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=218,slow=12,SNR=8.5						
TXAR	**Lajitas Array**	**68.93**	**328**	P	**P**	**23 15 37.0**	**+1.2**
	comp=N,0.5nm,0.6s,baz=158,slow=8.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**80.68**	**68**	P	**P**	**23 16 43.9**	**+0.2**
	comp=N,1.3nm,0.7s,baz=277,slow=6.1,SNR=12						
TORD				pP	**pP**	**23 17 09.8**	**-0.2**
	comp=N,0.8nm,0.7s,baz=282,slow=5.6,SNR=5.4						
PDAR	**Pinedale Array**	**82.77**	**331**	P	**P**	**23 16 54.4**	**0.0**
	comp=N,0.5nm,0.7s,baz=111,slow=8.1,SNR=4.0						
NVAR	**Mina Array Bea**	**83.42**	**323**	P	**P**	**23 16 59.2**	**+1.4**
	comp=N,0.3nm,0.6s,baz=180,slow=5.9,SNR=3.3						
SCHQ	**Schefferville**	**85.89**	**1**	P	**P**	**23 17 08.8**	**-0.8**
	comp=N,1.4nm,0.9s,baz=188,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	**124.36**	**207**	PKP	**PKPdf**	**23 23 28.0**	**-1.3**
	comp=N,0.4nm,0.6s,baz=161,slow=1.6,SNR=11						
AAK	**Ala-Archa**	**148.79**	**59**	PKPbc	**PKPbc**	**23 24 17.8**	**+0.5**
	comp=N,0.6nm,0.6s,baz=5.7,slow=2.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**149.07**	**42**	PKPbc	**PKPbc**	**23 24 17.8**	**+0.3**
	comp=N,0.6nm,0.7s,baz=298,slow=3.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**150.54**	**32**	PKPbc	**PKPbc**	**23 24 21.2**	**+0.2**
	comp=N,1.6nm,0.6s,baz=309,slow=2.5,SNR=12						
MKAR	**Makanchi Array**	**152.95**	**47**	PKPbc	**PKPbc**	**23 24 26.0**	**-0.8**
	comp=N,0.5nm,0.8s,baz=335,slow=1.7,SNR=4.4						
MKAR				PKPab	**PKPab**	**23 24 38.3**	**-0.1**
	comp=N,0.4nm,0.7s,baz=284,slow=4.1,SNR=4.9						
SONM	**Songino Array**	**163.16**	**11**	PKPab	**PKPab**	**23 25 23.3**	**+0.8**
	comp=N,0.2nm,0.6s,baz=351,slow=3.8,SNR=2.5						

IDC 08 23:11:49.2±1.1, 4.°08N×126.°42E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, 1C, Error ellipse: s-maj=121.9km s-min=16.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.80**	**325**	*i*P	Pb	23 12 57.0	-0.2
WRA	**Warramunga Arr**	**25.11**	**162**	P	P	23 17 16.0	0.0
	1.7nm,0.7s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.52**	**166**	P	P	23 17 46.0	-0.8
	0.4nm,0.8s,baz=339,slow=7.0,SNR=3.8						
STKA	**Stephens Creek**	**38.56**	**159**	P	P	23 19 14.6	+0.7
	1.3nm,0.5s,baz=353,slow=7.2,SNR=3.8						
SONM	**Songino Array**	**46.87**	**342**	P	P	23 20 21.6	+0.2
	0.2nm,0.5s,baz=159,slow=9.0,SNR=3.1						
MKAR	**Makanchi Array**	**57.10**	**325**	P	P	23 21 37.3	-0.2
	0.8nm,0.7s,baz=126,slow=7.3,SNR=15						
KURBB	**Kurchatov Arra**	**61.28**	**327**	P	P	23 22 06.2	-0.2
	1.2nm,0.5s,baz=127,slow=6.2,SNR=25						

MEX 08 23:25:54.3±0.9, 18.°18N×100.°70W, h46km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.35**	**73**	*e*P	Pn	23 26 01.6	-1.9
ARIG				*i*S	Sn	23 26 08.4	-1.8
ZIIG	**Zihuatanejo**	**0.93**	**232**	*i*P	Pn	23 26 09.3	-1.6
ZIIG				*i*S	Sn	23 26 22.0	-1.2
PLIG	**Platanillo**	**1.15**	**79**	*i*P	Pn	23 26 12.7	-1.5
PLIG				*i*S	Sn	23 26 27.2	-1.7
CAIG	**El Cayaco**	**1.20**	**160**	*e*P	Pn	23 26 12.5	-2.2
CAIG				*i*S	Sn	23 26 27.8	-1.9

DDA 08 23:56:38.2, 38.°04N×38.°16E, h6km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.32**	**324**	*i*P	Pg	23 56 44.7	0.0
AKCD				*i*S	Sg	23 56 50.0	+0.9
MYA	**Malataya**	**0.35**	**36**	*e*PG	Pg	23 56 45.6	+0.3
MYA				*e*SG	Sg	23 56 51.6	+1.5
URFA	**Urfa**	**0.79**	**138**	*e*PG	Pg	23 56 52.5	-1.1

*ISCJB **09** 00:02:29.6±0.6, 40.°55N±0.°03×33.°00E±0.°03, h3km±5km, Error ellipse: s-maj=4.4km s-min=4.2km az=155.9*

*ISK **09** 00:02:29.3, 40.°53N×33.°01E, h5km, MD3.2*

*CSEM **09** 00:02:30.0±0.1, 40.°55N×33.°00E, h5km, MD3.2, Error ellipse: s-maj=2.4km s-min=2.2km az=139.0*

*DDA **09** 00:02:31.9, 40.°57N×32.°99E, h11km, MD3.2*

ISC 09 00:02:30.2±1.1, 40.°55N±0.°02×33.°00E±0.°02, h5km±10km, n35, σ0°53/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CANT	**Cankiri**	**0.47**	**83**	*e*PG	**Pg**	**00 02 38.9**	**-0.4**
CANT				*e*SG	**Sg**	**00 02 46.2**	**+0.7**
LOD	**Lodumlu**	**0.69**	**196**	*e*PG	**Pg**	**00 02 42.3**	**-1.1**
LOD				*e*SG	**Sg**	**00 02 52.1**	**-0.2**
LOD	**Lodumlu**	**0.69**	**196**	*e*Pg	**Pg**	**00 02 42.3**	**-1.1**
LOD				*e*Sg	**Sg**	**00 02 52.1**	**-0.2**
SAFT	**Safranbolu**	**0.73**	**341**	*e*PG	**Pg**	**00 02 44.1**	**-0.1**
SAFT				*e*SG	**Sg**	**00 02 54.7**	**+0.9**
SAFT	**Safranbolu**	**0.73**	**341**	*e*Pg	**Pg**	**00 02 44.1**	**-0.1**
SAFT				*e*Sg	**Sg**	**00 02 54.7**	**+0.9**
TOS	**Tosya**	**0.91**	**58**	*e*PG	**Pg**	**00 02 47.4**	**-0.4**
TOS				*e*SG	**Sb**	**00 03 00.7**	**-0.4**
TOS	**Tosya**	**0.91**	**58**	*e*Pg	**Pg**	**00 02 47.4**	**-0.4**
TOS				*e*Sg	**Sb**	**00 03 00.7**	**-0.4**
BBAL	**Bala**	**1.01**	**175**	*i*P	**Pg**	**00 02 50.2**	**+0.6**
BBAL				*i*S	**Sn**	**00 03 06.2**	**+0.4**
BBAL	**Bala**	**1.01**	**175**	*i*P	**Pg**	**00 02 50.2**	**+0.6**
BBAL				*i*S	**Sn**	**00 03 06.2**	**+0.4**
BALT	**Daday**	**1.02**	**16**	*i*P	**Pg**	**00 02 50.0**	**+0.1**
BALT				*i*S	**Sg**	**00 03 02.3**	**-0.9**
BALT	**Daday**	**1.02**	**16**	*i*P	**Pg**	**00 02 50.0**	**+0.1**
BALT				*i*S	**Sg**	**00 03 02.3**	**-0.9**
CORM	**Corum**	**1.30**	**106**	*e*PN	**Pn**	**00 02 54.6**	**-0.5**
CORM				*e*SN	**Sb**	**00 03 12.3**	**+0.2**
CORM	**Corum**	**1.30**	**106**	*e*Pn	**Pn**	**00 02 54.6**	**-0.5**
CORM				*e*Sn	**Sb**	**00 03 12.3**	**+0.2**
KAMT	**Kaman**	**1.30**	**155**	*e*PN	**Pn**	**00 02 54.7**	**-0.4**
KAMT				*e*SN	**Sb**	**00 03 12.3**	**+0.1**
KAMT	**Kaman**	**1.30**	**155**	*e*Pn	**Pn**	**00 02 54.7**	**-0.4**
KAMT				*e*Sn	**Sb**	**00 03 12.3**	**+0.1**
MDUB	**Mudurnu**	**1.38**	**267**	*e*PN	**Pb**	**00 02 56.5**	**-0.1**
MDUB				*e*SN	**Sg**	**00 03 15.6**	**+1.0**
MDUB	**Mudurnu**	**1.38**	**267**	*e*Pn	**Pb**	**00 02 56.5**	**-0.1**
MDUB				*e*Sn	**Sg**	**00 03 15.6**	**+1.0**
CDAG	**Cicekdag**	**1.40**	**131**	*i*P	**Pn**	**00 02 56.7**	**+0.2**
CDAG				*i*S	**Sg**	**00 03 16.0**	**+0.8**
CDAG	**Cicekdag**	**1.40**	**131**	*i*P	**Pn**	**00 02 56.7**	**+0.2**
CDAG				*i*S	**Sg**	**00 03 16.0**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*PN	**Pn**	**00 02 58.3**	**-0.7**
SVRH				*e*SN	**Sn**	**00 03 19.7**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*Pn	**Pn**	**00 02 58.3**	**-0.7**
SVRH				*e*Sn	**Sn**	**00 03 19.7**	**-0.2**
GULT	**Gulveren**	**1.90**	**267**	*e*PN	**Pn**	**00 03 03.0**	**-0.4**
GULT	**Gulveren**	**1.90**	**267**	*e*Pn	**Pn**	**00 03 03.0**	**-0.4**
YOZ	**Yozgat**	**2.00**	**116**	*e*PN	**Pn**	**00 03 04.3**	**-0.4**
YOZ	**Yozgat**	**2.00**	**116**	*e*Pn	**Pn**	**00 03 04.3**	**-0.4**
KVT	**Kavak**	**2.37**	**76**	*e*PN	**Pn**	**00 03 10.0**	**+0.2**
KVT	**Kavak**	**2.37**	**76**	*e*Pn	**Pn**	**00 03 10.0**	**+0.2**
SULT	**Sultanhani-AKS**	**2.38**	**170**	*e*PN	**Pn**	**00 03 09.6**	**-0.3**
SULT	**Sultanhani-AKS**	**2.38**	**170**	*e*Pn	**Pn**	**00 03 09.6**	**-0.3**
ADVT	**Abdulvahap**	**2.49**	**268**	*e*PN	**Pn**	**00 03 11.6**	**+0.2**
ADVT	**Abdulvahap**	**2.49**	**268**	*e*Pn	**Pn**	**00 03 11.6**	**+0.2**
ALT	**Altintas**	**2.68**	**237**	*e*PN	**Pn**	**00 03 14.2**	**+0.1**
ALT	**Altintas**	**2.68**	**237**	*e*Pn	**Pn**	**00 03 14.2**	**+0.1**
BNN	**Bunyan**	**2.77**	**127**	*e*PN	**Pn**	**00 03 15.3**	**-0.1**
BNN	**Bunyan**	**2.77**	**127**	*e*Pn	**Pn**	**00 03 15.3**	**-0.1**

*NIED **09** 00:06:00, 32.°20N×138.°20E, h400km,

PKI	Pulchoki	45.54	278	*e*P	P	00 14 21.8	-0.6
	13nm,0.6s						
PKI	Pulchoki	45.54	278	*e*P	P	00 14 21.8	-0.6
	13nm,0.6s						
KKN	Kakani	45.57	279	*e*P	P	00 14 22.3	-0.3
	22nm,0.8s						
KKN	Kakani	45.57	279	*e*P	P	00 14 22.3	-0.3
	22nm,0.8s						
GKN	Gorkha	46.04	279	*e*P	P	00 14 26.0	-0.1
	20nm,0.7s						
GKN	Gorkha	46.04	279	*e*P	P	00 14 26.0	-0.1
	20nm,0.7s						
DANN	Dangsing	46.66	280	*e*P	P	00 14 31.3	+0.2
	22nm,0.3s						
DANN	Dangsing	46.66	280	*e*P	P	00 14 31.3	+0.2
	22nm,0.3s						
KURK	Kurchatov	46.92	311	*e*P	P	00 14 30.4	-1.9
	5.1nm,0.8s						
KURBB	**Kurchatov Arra**	**46.98**	**311**	P	P	00 14 32.6	-0.1
	1.9nm,0.4s,baz=90,slow=9.2,SNR=22						
KURBB				PcP	PcP	00 15 58.3	0.0
	0.3nm,0.3s,baz=98,slow=4.0,SNR=4.0						
KOLN	Koldanda	46.99	279	*e*P	P	00 14 33.3	-0.1
	13nm,0.5s						
KOLN	Koldanda	46.99	279	*e*P	P	00 14 33.3	-0.1
	13nm,0.5s						
PYUN	Piuthan	47.39	280	*e*P	P	00 14 36.6	+0.1
	48nm,0.4s						
PYUN	Piuthan	47.39	280	*e*P	P	00 14 36.6	+0.1
	48nm,0.4s						
TKM2	Tokmak 2	49.66	301	*e*P	P	00 14 49.2	-4.2
	1.2nm,0.4s						
AAK	Ala-Archa	50.51	301	*e*P	P	00 14 56.1	-3.5
	6.9nm,0.7s						
EKS2	Erkin-Say	51.02	301	P	P	00 14 59.0	-4.4
FITZ	Fitzroy Crossi	51.39	195	P	P	00 15 06.3	+0.2
	2.4nm,0.8s,baz=19,slow=4.2,SNR=5.3						
FITZ	Fitzroy Crossi	51.39	195	*e*P	P	00 15 02.7	-3.4
	1.7nm,0.6s						
BVAR	Borovoye Array	51.92	315	P	P	00 15 10.0	+0.4
	1.9nm,0.5s,baz=99,slow=7.2,SNR=28						
BVAR				PcP	PcP	00 16 17.4	+1.0
	1.1nm,0.4s,baz=106,slow=3.7,SNR=8.2						
WRAB	Tennant Creek	51.93	184	*e*P	P	00 15 06.4	-3.7
	1.1nm,0.3s						
WRA	Warramunga Arr	51.94	184	P	P	00 15 09.8	-0.4
	0.6nm,0.3s,baz=1.4,slow=7.6,SNR=38						
WRA				PcP	PcP	00 16 18.5	+1.6
	0.4nm,0.5s,baz=356,slow=4.1,SNR=5.9						
BRVK	Borovoye	51.98	315	*e*P	P	00 15 06.5	-3.5
	1.4nm,0.5s						
KDAK	Kodiak Island	52.57	39	P	P	00 15 15.2	+1.0
	3.0nm,0.4s,baz=4.2,slow=0.9,SNR=10						
ILAR	Eielson Array	55.06	30	P	P	00 15 33.2	+1.2
	0.4nm,0.6s,baz=268,slow=6.4,SNR=8.7						
ASAR	Alice Springs	55.67	185	P	P	00 15 37.6	+0.8
	0.5nm,0.7s,baz=17,slow=11,SNR=8.3						
KBL	Kabul	56.67	293	*e*P	P	00 15 39.7	-4.3
ARU	Arti	58.24	320	*e*P	P	00 15 53.4	-0.9
	4.9nm,0.3s						
ABKAR	Akbulak array	59.03	312	*e*P	P	00 15 59.4	-0.4
	6.3nm,0.4s						
AKTO	Aktyubinsk	59.94	313	P	P	00 16 06.1	+0.3
	2.8nm,0.7s,baz=73,slow=14,SNR=14						
ARCES	ARCESS Array B	67.57	339	P	P	00 16 55.9	+1.0
	1.9nm,0.8s,baz=62,slow=7.0,SNR=8.3						
JOF	Joensuu	68.95	332	*e*p	P	00 17 03.1	-0.3
	1.4nm,0.5s						
YKA	Yellowknife Ar	69.38	28	P	P	00 17 07.7	+1.7
	0.4nm,0.7s,baz=298,slow=6.4,SNR=9.6						
KAF	Kangasniemi	71.35	333	*e*p	P	00 17 17.6	-0.2
	1.4nm,0.4s						
FINES	FINESS Array B	71.82	332	P	P	00 17 21.1	+0.5
	2.7nm,0.4s,baz=60,slow=5.8,SNR=55						
KBZ	Khabaz	71.97	311	P	P	00 17 22.9	+1.1
	5.1nm,0.8s,baz=88,slow=1.5,SNR=10						
MIB	Mutribah	75.38	296	*e*P	P	00 17 41.3	-0.3
MIB				AMb	AMB	00 17 42.0	
	comp=Z,12nm,0.6s						
RDF	Al-Radifah	75.64	295	*e*P	P	00 17 42.9	-0.2
RDF				AMb	AMB	00 17 43.7	
	comp=Z,16nm,0.7s						
NAY	Al-Naaiem	75.72	296	*e*P	P	00 17 43.1	-0.5
NAY				AMb	AMB	00 17 44.0	
	comp=Z,6.5nm,0.7s						
AKASG	Malin Array Be	76.43	322	P	P	00 17 47.5	+0.4
	comp=Z,1.7nm,0.3s,baz=51,slow=5.7,SNR=11						
NOA	NORSAR Array B	77.57	337	P	P	00 17 53.8	+0.5
	comp=Z,1.1nm,0.8s,baz=44,slow=5.4,SNR=3.2						
BR131	Keskin Array S	79.97	311	*e*P	P	00 18 06.3	-0.5
	comp=Z,2.5nm,1.0s						
BRTR	Keskin Array B	79.97	311	P	P	00 18 07.7	+0.8
	comp=Z,2.1nm,0.8s,baz=108,slow=4.3,SNR=17						
NVAR	Mina Array Bea	80.14	51	P	P	00 18 10.7	+2.8
	comp=Z,0.5nm,0.6s,baz=296,slow=4.8,SNR=4.3						
GERES	GERESS Array B	85.33	327	P	P	00 18 34.2	+0.3
	comp=Z,0.3nm,0.6s,baz=341,slow=5.2,SNR=3.1						
TXAR	Lajitas Array	95.29	51	P	P	00 19 23.2	+2.5
	comp=Z,0.3nm,0.6s,baz=272,slow=4.0,SNR=6.5						
TORD	Torodi Ar. Bea	118.58	310	PKP	PKPdf	00 24 42.5	-0.1
	comp=Z,0.2nm,0.4s,baz=80,slow=1.2,SNR=11						

JSN 09 00:09:07.9±2.9, 17°50N×78°83W, h0km±58km, MD3.8, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCJ	Malvern	1.16	69	*i* S	Sg	00 09 43.5	-2.0
MBJ	Montego Bay	1.28	46	*i* S	Sg	00 09 48.7	-0.5
BBJ	Bamboo Saint A	1.72	59	*i* P	Pn	00 09 36.5	-2.7
STH	Stony Hill	2.00	73	*i* P	Pn	00 09 40.6	-2.4
STH				*i* S	Sn	00 10 07.8	-1.1
HOJ	Hope	2.04	76	*i* P	Pn	00 09 44.0	+0.5
GWJ	Greenwich	2.08	74	*i* P	Pn	00 09 42.5	-1.7

IDC 09 00:18:19.5±2.5, 8°76S×122°32E, h124km±30km, mb3.2/3, mb1 3.7/7, mb1mx3.5/21, mbtmp3.5/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=110.9km s-min=15.6km az=60.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	4.51	325	P	Pn	00 19 26.9	+0.9
	2.9nm,0.3s,baz=116,slow=14,SNR=6.5						
FITZ	Fitzroy Crossi	9.83	161	P	Pn	00 20 36.1	-1.7
	0.7nm,0.3s,baz=3.0,slow=7.7,SNR=17						
FITZ				S	Sn	00 22 19.1	-7.3
	1.1nm,0.3s,baz=228,slow=14,SNR=7.4						
FITZ				LR	LR	00 25 04.8	
	comp=Z,50nm,18.3s,baz=85,slow=41						
WRA	Warramunga Arr	16.09	135	P	Pn	00 21 57.2	-1.7
	0.6nm,0.3s,baz=310,slow=12,SNR=28						
WRA				S	Sn	00 24 46.0	-12
	0.7nm,0.3s,baz=316,slow=24,SNR=12						
ASAR	Alice Springs	18.52	145	P	Pn	00 22 27.8	-0.3
	0.3nm,0.3s,baz=328,slow=13,SNR=11						
STKA	Stephens Creek	29.15	145	P	P	00 24 09.7	+0.6
	2.7nm,0.7s,baz=319,slow=10,SNR=5.6						
SONM	Songino Array	58.08	347	P	P	00 27 59.8	-0.2
	0.2nm,0.6s,baz=164,slow=9.5,SNR=2.9						
MKAR	Makanchi Array	65.78	331	P	P	00 28 51.0	-0.4
	0.1nm,0.4s,baz=132,slow=8.0,SNR=3.8						

*ISCJB **09** 00:24:41.5±0.6, 38°97N±0°02×26°23E±0°04, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=162.6*
*ISK **09** 00:24:41.6, 38°95N×26°24E, h14km, MD3.2*
*ATH **09** 00:24:41.5, 39°03N×26°39E, h24km±3km, MD3.2/4*
*DDA **09** 00:24:42.2, 38°98N×26°30E, h7km, MD3.1*
*CSEM **09** 00:24:42.2±0.1, 38°96N×26°26E, h10km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.1km az=69.0*

ISC 09 00:24:42.1±1.1, 38°98N±0°02×26°27E±0°03, h10km±8km, n66, σ0°67/99, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.27	0	*e*PB	Pg	00 24 47.3	-0.2
PRK				*e*SB	Sb	00 24 52.4	-1.1
PRK	Paraskevi	0.27	0	*e*Pb	Pg	00 24 47.3	-0.2
PRK				*e*Sb	Sb	00 24 52.4	-1.1
AYVA	Ayvalik	0.46	45	*i* P	Pg	00 24 50.9	-0.3
AYVA				*i* S	Sg	00 24 57.7	+0.4
AYVA	Ayvalik	0.46	45	*i* P	Pg	00 24 50.9	-0.3
AYVA				*i* S	Sg	00 24 57.7	+0.4
CHOS	Chios island	0.61	196	*e*PB	Pb	00 24 54.6	-0.3
CHOS				*e*SN	Sn	00 25 05.6	-1.2
CHOS	Chios island	0.61	196	*e*Pb	Pb	00 24 54.6	-0.3
URLA	Izmir	0.67	157	*i* P	Pg	00 24 55.2	+0.2
URLA				*i* S	Sb	00 25 04.9	-0.2
URLA	Izmir	0.67	157	*i* P	Pg	00 24 55.2	+0.2
URLA				*i* S	Sb	00 25 04.9	-0.2
BLCB	Balcova	0.85	134	*e*PG	Pg	00 24 58.2	-0.2
BLCB				*e*SG	Sb	00 25 10.3	+0.1
BLCB	Balcova	0.85	134	*e*Pg	Pg	00 24 58.2	-0.2
BLCB				*e*Sg	Sb	00 25 10.3	+0.1
EZN	Ezine	0.85	3	*e*PG	Pb	00 24 58.8	0.0
EZN				*e*SG	Sn	00 25 11.9	-0.5
EZN	Ezine	0.85	3	*e*Pg	Pb	00 24 58.8	0.0
EZN				*e*Sg	Sn	00 25 11.9	-0.5
IZM	Izmir	0.97	126	*e*PG	Pg	00 25 00.6	-0.1
IZM	Izmir	0.97	126	*e*Pg	Pg	00 25 00.6	-0.1
AKHS	Akhisar	1.21	94	*i* P	Pn	00 25 04.8	-0.2
AKHS				*i* S	Sn	00 25 22.1	+0.7
AKHS	Akhisar	1.21	94	*i* P	Pn	00 25 04.8	-0.2
AKHS				*i* S	Sn	00 25 22.1	+0.7
AKS	Akhisar	1.21	94	*e*PN	Pg	00 25 04.9	-0.3
AKS				*e*SN	Sn	00 25 21.8	+0.4
AKS	Akhisar	1.21	94	*e*Pn	Pg	00 25 04.9	-0.3
AKS				*e*Sn	Sn	00 25 21.8	+0.4
LIA	Limnos Island	1.25	318	*e*PN	Pn	00 25 05.7	+0.2
LIA				*e*SN	Sn	00 25 23.0	+0.7
LIA	Limnos Island	1.25	318	*e*Pn	Pn	00 25 05.7	+0.2
LIA				*e*Sn	Sn	00 25 23.0	+0.7
BALY	Balya	1.29	54	*i* P	Pn	00 25 06.0	-0.2
BALY				*i* S	Sg	00 25 25.6	+1.9
BALY	Balya	1.29	54	*i* P	Pn	00 25 06.0	-0.2
BALY				*i* S	Sg	00 25 25.6	+1.9
BALB	Balikesir	1.41	62	*e*PN	Pn	00 25 07.9	+0.1
BALB				*e*SN	Sg	00 25 26.9	-0.6
BALB	Balikesir	1.41	62	*e*Pn	Pn	00 25 07.9	+0.1
BALB				*e*Sn	Sg	00 25 26.9	-0.6
GELI	Tayfur-Gelibol	1.43	6	*e*PN	Pn	00 25 08.2	+0.3
GELI	Tayfur-Gelibol	1.43	6	*e*Pn	Pn	00 25 08.2	+0.3
LPK	Lapseki	1.44	15	*e*PN	Pn	00 25 08.5	+0.3
LPK	Lapseki	1.44	15	*e*Pn	Pn	00 25 08.5	+0.3
GONE	Gonen-Balikesi	1.53	45	*e*PN	Pn	00 25 09.4	+0.1
GONE				*e*SN	Sg	00 25 30.7	-0.5
GONE	Gonen-Balikesi	1.53	45	*e*Pn	Pn	00 25 09.4	+0.1
GONE				*e*Sn	Sg	00 25 30.7	-0.5
KRBG	Karabiga-Canak	1.62	29	*e*PN	Pn	00 25 10.5	-0.1
KRBG	Karabiga-Canak	1.62	29	*e*Pn	Pn	00 25 10.5	-0.1
ERIK	Erikli-Kesan	1.70	6	*e*PN	Pn	00 25 12.1	+0.4
ERIK				*e*SN	Sb	00 25 34.3	-0.5
ERIK	Erikli-Kesan	1.70	6	*e*Pn	Pn	00 25 12.1	+0.4
ERIK				*e*Sn	Sb	00 25 34.3	-0.5
ENEZ	Enez	1.76	357	*e*PN	Pn	00 25 13.1	+0.6
ENEZ				*e*SN	Sb	00 25 35.8	-0.6
ENEZ	Enez	1.76	357	*e*Pn	Pn	00 25 13.1	+0.6
ENEZ				*e*Sn	Sb	00 25 35.8	-0.6
DURS	Dursunbey	1.82	69	*i* P	Pn	00 25 12.3	-1.2
DURS				*i* S	Sg	00 25 41.1	+0.5
DURS	Dursunbey	1.82	69	*i* P	Pn	00 25 12.3	-1.2
DURS				*i* S	Sg	00 25 41.1	+0.5
EDC	Edincik	1.84	42	*e*PN	Pn	00 25 14.2	+0.5
EDC	Edincik	1.84	42	*e*Pn	Pn	00 25 14.2	+0.5
RKY	Sarkoy-Tekirda	1.84	22	*e*PN	Pn	00 25 14.0	+0.3
RKY	Sarkoy-Tekirda	1.84	22	*e*Pn	Pn	00 25 14.0	+0.3
BNT	Bandirma	1.87	42	*e*PN	Pn	00 25 14.2	0.0
BNT	Bandirma	1.87	42	*e*Pn	Pn	00 25 14.2	0.0
DEMI	Demirci	1.91	87	*i* P	Pg	00 25 17.7	-0.9
DEMI				*i* S	Sg	00 25 42.5	-0.8
DEMI	Demirci	1.91	87	*i* P	Pg	00 25 17.7	-0.9
DEMI				*i* S	Sg	00 25 42.6	-0.8
ALN	Alexandroupoli	1.92	355	*e*PN	Pn	00 25 15.2	+0.4
ALN	Alexandroupoli	1.92	355	*e*Pn	Pn	00 25 15.2	+0.4
KULA	Kula-Manisa	1.93	103	*e*PN	Pn	00 25 15.5	+0.6
KULA	Kula-Manisa	1.93	103	*e*Pn	Pn	00 25 15.5	+0.6
ORLT	Orhaneli	2.29	61	*e*PN	Pn	00 25 20.8	+0.9
ORLT	Orhaneli	2.29	61	*e*Pn	Pn	00 25 20.8	+0.9
CRLT	Corlu	2.42	27	*e*PN	Pn	00 25 22.4	+0.7
CRLT	Corlu	2.42	27	*e*Pn	Pn	00 25 22.4	+0.7
MDNY	Mudanya-Bursa	2.45	55	*e*PN	Pn	00 25 23.0	+1.0
MDNY	Mudanya-Bursa	2.45	55	*e*Pn	Pn	00 25 23.0	+1.0
TVSB	Tavsanli	2.52	78	*e*PN	Pn	00 25 23.8	+0.6
TVSB	Tavsanli	2.52	78	*e*Pn	Pn	00 25 23.8	+0.6
ARMT	Armutlu	2.55	51	*e*PN	Pn	00 25 24.3	+0.9
ARMT				*e*SN	Sn	00 25 55.2	+0.7
ARMT	Armutlu	2.55	51	*e*Pn	Pn	00 25 24.3	+0.9
ARMT				*e*Sn	Sn	00 25 55.2	+0.7
SLVT	Silivri	2.70	33	*e*PN	Pn	00 25 26.5	+1.1
SLVT	Silivri	2.70	33	*e*Pn	Pn	00 25 26.5	+1.1
CTKS	Kestanelik-??a	2.83	37	*e*PN	Pn	00 25 28.2	+0.9
CTKS	Kestanelik-??a	2.83	37	*e*Pn	Pn	00 25 28.2	+0.9
EDRB	Edirne	2.89	7	*e*PN	Pn	00 25 29.2	+1.2
EDRB	Edirne	2.89	7	*e*Pn	Pn	00 25 29.3	+1.2

*TIR **09** 00:30:11.2±0.9, 41°97N×20°06E, h29km±6km, ML3.0*
*SKO **09** 00:30:12.4, 42°04N×20°09E, h1km*
*CSEM **09** 00:30:12.1±0.2, 41°90N×20°11E, h19km, ML3.0, Error ellipse: s-maj=4.9km s-min=3.4km az=49.0*
*PDG **09** 00:30:13.4±0.2, 41°93N×20°00E, h11km, ML2.0/10, Error ellipse: s-maj=0.2km s-min=0.6km az=0.0*

ISC 09 00:30:12.9±0.9, 41°92N±0°02×20°06E±0°03, h18km±4km, n33, σ0°96/64, 12C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	Puka	0.17	313	*i* PG	Pg	00 30 17.5	0.0
PUK				*i* SG	Sg	00 30 21.1	+0.4
PUK	Puka	0.17	313	*i* Pg	Pg	00 30 17.5	0.0
	SNR=149						
PUK				*i* Sg	Sg	00 30 21.1	+0.4
	SNR=149						
PHP	Peshkopia	0.37	130	*e*PG	Pg	00 30 19.9	-0.7
PHP				*i* SG	Sb	00 30 27.7	+1.3
PHP	Peshkopia	0.37	130	*e*Pg	Pg	00 30 19.9	-0.7
	SNR=117						
PHP				*i* Sg	Sb	00 30 27.7	+1.3
	SNR=117						
BCI	Bajram Curri	0.44	0	*i* PG	Pg	00 30 20.5	-1.4
BCI				*i* SN	Sb	00 30 29.1	+0.6
BCI	Bajram Curri	0.44	0	*i* Pg	Pg	00 30 20.5	-1.4
	SNR=117						
BCI				*i* Sn	Sb	00 30 29.1	+0.6
TIR	Tirane	0.59	195	*e*PG	Pb	00 30 24.1	-0.6
TIR				*i* SG	Sg	00 30 34.1	+1.4
TIR	Tirane	0.59	195	*e*Pg	Pb	00 30 24.1	-0.6
	SNR=105						
TIR				*i* Sg	Sg	00 30 34.1	+1.4
	SNR=105						
ULC	Ulcinj	0.61	274	⇑*i* Pg	Pb	00 30 23.9	-1.1
ULC				*e*Sg	Sb	00 30 32.7	-0.6
ULC	Ulcinj	0.61	274	⇑*i* Pg	Pb	00 30 23.9	-1.1
ULC				*e*Sg	Sb	00 30 32.7	-0.6
PVY	Plav	0.68	353	⇓*i* Pg	Pb	00 30 25.8	-0.4
PVY				*e*Sg	Sn	00 30 36.6	-1.2
PVY	Plav	0.68	353	⇓*i* Pg	Pb	00 30 25.8	-0.4
PVY				*e*Sg	Sn	00 30 36.6	-1.2
TTG	Podgorica	0.78	311	⇑*i* Pg	Pb	00 30 26.9	-1.0
TTG				*e*Sg	Sn	00 30 39.3	-0.9
PDG	Podgorica	0.79	310	⇑*i* Pg	Pb	00 30 26.9	-1.1
PDG				*e*Sg	Sn	00 30 39.3	-1.0
BUM	Brajici-Budva	0.95	294	⇑*i* Pg	Pb	00 30 30.5	-0.3
BUM				*e*Sg	Sn	00 30 44.7	+0.2
BUM	Brajici-Budva	0.95	294	⇑*i* Pg	Pb	00 30 30.5	-0.3
BUM				*e*Sg	Sn	00 30 44.7	+0.2
IVA	Berane	0.95	353	⇓*i* Pg	Pn	00 30 31.1	-0.4
IVA				*e*Sg	Sn	00 30 45.8	+1.1
BEY	Berane	0.96	352	⇓*i* Pg	Pn	00 30 31.1	-0.4
BEY				*e*Sg	Sn	00 30 45.8	+1.1
SKO	Skopje	1.03	87	*e*Pg	Pb	00 30 30.7	-1.4
SKO	Skopje	1.03	87	*e*Pg	Pb	00 30 31.1	-1.0
NKY	Niksic	1.19	319	⇓*i* Pg	Pn	00 30 34.7	0.0
NKY				*e*Sg	Sg	00 30 53.0	+1.5
NKY	Niksic	1.19	319	⇓*i* Pg	Pn	00 30 34.7	0.0
NKY				*e*Sg	Sg	00 30 53.0	+1.5
HCY	Herceg Novi	1.28	295	⇓*i* Pg	Pb	00 30 36.6	+0.2
HCY				*e*Sg	Sg	00 30 55.3	+1.0
HCY	Herceg Novi	1.28	295	⇓*i* Pg	Pb	00 30 36.6	+0.2
HCY				*e*Sg	Sg	00 30 55.3	+1.0
BIA	Bitola	1.31	133	*e*Pg	Pn	00 30 36.0	-0.4
BIA				*e*Sg	Sg	00 30 56.8	+1.6
BIA	Bitola	1.31	133	*e*Pg	Pn	00 30 35.9	-0.4
BIA				*e*Sg	Sg	00 30 56.8	+1.6
PLE	Pljevlja	1.49	341	⇑*i* Pg	Pb	00 30 40.6	+0.5
PLE				*e*Sg	Sg	00 31 02.6	+1.5
PLE	Pljevlja	1.49	341	⇑*i* Pg	Pb	00 30 40.6	+0.5
PLE				*e*Sg	Sg	00 31 02.6	+1.5
BRY	Bratogost	1.49	311	⇑*i* Pg	Pb	00 30 40.6	+0.5
BRY				*e*Sg	Sg	00 31 02.7	+1.6
BRY	Bratogost	1.49	311	⇑*i* Pg	Pb	00 30 40.6	+0.5
BRY				*e*Sg	Sg	00 31 02.7	+1.6
UPM	Unac-Piva	1.54	327	⇑*i* Pg	Pb	00 30 41.1	+0.1
UPM				*e*Sg	Sg	00 31 03.5	+0.9
UPM	Unac-Piva	1.54	327	⇑*i* Pg	Pb	00 30 41.1	+0.1
UPM				*e*Sg	Sg	00 31 03.5	+0.9
STON	Ston	1.99	299	*i* Pn	Pb	00 30 48.5	0.0
STON				Sn	Sg	00 31 17.0	0.0

*ISCJB **09** 00:44:46.4±0.5, 15°81N±0°07×92°58W±0°06, h186km±3km, mb3.9/9, Error ellipse: s-maj=13.0km s-min=7.0km az=31.1*
*IDC **09** 00:44:47.3±1.5, 15°83N×92°37W, h178km±15km, mb3.6/9, mb1 3.9/13, mb1mx3.6/30, mbtmp3.6/13, MS3.4/1, Ms1 3.5/1, ms1mx2.5/37, Error ellipse: s-maj=25.5km s-min=10.8km az=54.0*
*MEX **09** 00:44:48.6±0.7, 15°85N×92°61W, h187km±7km, MD4.2*

ISC 09 00:44:47.5±0.7, 15°80N±0°08×92°57W±0°07, h182km±6km, n20, σ1°39/27, mb3.9/9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		0.63	261	*e*P	Pn	00 45 12.9	-0.2
PCIG				*i* S	Sn	00 45 32.1	-0.6
CCIG	Comitan	0.64	41	*i* P	Pn	00 45 13.6	+0.2
CCIG				*i* S	Sn	00 45 32.6	-0.8
THIG		0.94	162	*i* P	Pn	00 45 15.4	+0.5
THIG				*i* S	Sn	00 45 37.2	+1.0
TGIG		1.11	332	*i* P	Pn	00 45 16.6	+0.3
TGIG				*e*S	Sn	00 45 38.4	-0.3
CMIG	Matias Romero	2.56	300	P	Pn	00 45 30.8	-0.3
	196nm,0.3s,baz=100,slow=9.2,SNR=2259						
CMIG				S	Sn	00 46 02.1	-2.8
	95nm,0.3s,baz=305,slow=19,SNR=19						
VHO	Vista Hermosa	4.19	288	*i* P	Pn	00 45 51.5	+0.2
VHO				*e*S	Sn	00 46 39.1	-2.1
UTMO	Huajuapan	5.40	293	*i* P	Pn	00 46 07.4	+0.5
UTMO				*e*S	Sn	00 47 07.8	-1.6
TEIG	Tepich	6.00	42	P	Pn	00 46 12.4	-2.2
	6.4nm,0.3s,baz=246,slow=4.2,SNR=34						
JTS	JuntasAbangare	9.22	126	P	Pn	00 46 56.8	-0.2
	3.3nm,0.3s,baz=327,slow=15,SNR=9.5						
JTS				S	Sn	00 48 31.7	-8.4
	1.1nm,0.3s,baz=320,slow=18,SNR=3.0						
TXAR	Lajitas Array	16.91	325	P	Pn	00 48 35.5	+1.7
	0.4nm,0.3s,baz=153,slow=12,SNR=58						
TKL	Tuckaleechee C	21.28	20	P	P	00 49 19.8	0.0
	4.4nm,0.9s,baz=198,slow=12,SNR=4.8						
ANMO	Albuquerque	22.77	329	P	P	00 49 35.9	+1.3
	1.8nm,0.6s,baz=152,slow=12,SNR=9.9						
NVAR	Mina Array Bea	31.94	320	P	P	00 50 59.4	+2.9
	2.9nm,0.6s,baz=133,slow=8.6,SNR=22						
LPAZ	La Paz	39.98	142	P	P	00 52 05.3	-0.1
	2.9nm,0.7s,baz=318,slow=6.3,SNR=14						
LPAZ				LR	LR	01 06 57.8	
	comp=Z,44nm,18.5s,baz=288,slow=33						
SIV	San Ignacio	44.33	134	P	P	00 52 38.2	-1.7
	0.7nm,0.4s,baz=328,slow=10,SNR=6.2						
YKA	Yellowknife Ar	49.16	347	P	P	00 53 16.0	-0.6
	2.8nm,0.5s,baz=149,slow=7.5,SNR=54						
CPUP	Villa Florida	54.11	140	P	P	00 53 51.9	-1.9
	0.9nm,0.5s,baz=250,slow=7.8,SNR=4.0						
INK	Inuvik	58.56	343	P	P	00 54 24.4	-0.3
	1.4nm,0.5s,baz=135,slow=6.6,SNR=9.5						
ILAR	Eielson Array	60.98	337	P	P	00 54 41.0	-0.3
	0.5nm,0.6s,baz=97,slow=6.4,SNR=6.1						
WRA	Warramunga Arr	135.27	257	PKP	PKPdf	01 03 47.6	+1.2
	0.2nm,0.3s,baz=28,slow=0.9,SNR=9.9						

IDC 09 00:51:03.9±1.0, 16°99S×179°77E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=926.1km s-min=143.2km az=77.0, Fiji Islands

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

*ISK **09** 01:08:03.4, 37˚.65N×36˚.33E, h10km, MD2.8*
*CSEM **09** 01:08:04.6±0.2, 37˚.61N×36˚.32E, h19km±1km, MD3.0, Error ellipse: s-maj=5.9km s-min=4.4km az=3.0*
*ISCJB **09** 01:08:05.2±0.5, 37˚.60N±0˚.04×36˚.30E±0˚.03, h21km±5km, Error ellipse: s-maj=6.3km s-min=4.5km az=12.2*
*DDA **09** 01:08:06.4, 37˚.60N×36˚.48E, h8km, MD3.0*
ISC 09 01:08:05.0±0.9, **37˚.58N**±0˚.03×**36˚.31E**±0˚.02, **h25**km±5km, **n25**, σ0**92**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.03**	**93**	*i* P	**Pb**	**01 08 09.9**	**+0.5**
ANDN				*i* S	**Sb**	**01 08 12.0**	**-0.4**
ANDN	**Andirin**	**0.03**	**93**	*i* P	**Pb**	**01 08 09.9**	**+0.5**
ANDN				*i* S	**Sb**	**01 08 12.0**	**-0.4**
KOZT	**Kozan**	**0.40**	**256**	*e*PG	**Pb**	**01 08 12.5**	**-1.0**
KOZT				*e*SG	**Sb**	**01 08 19.1**	**-0.3**
KOZT	**Kozan**	**0.40**	**256**	*e*Pg	**Pb**	**01 08 12.5**	**-1.0**
KOZT				*e*Sg	**Sb**	**01 08 19.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.47**	**99**	*e*PG	**Pb**	**01 08 13.0**	**-1.8**
KMRS				*e*SG	**Sb**	**01 08 19.5**	**-1.9**
KMRS	**Kahramanmaras**	**0.47**	**99**	*e*Pg	**Pb**	**01 08 13.0**	**-1.8**
KMRS				*e*Sg	**Sb**	**01 08 19.5**	**-1.9**
CEYT	**Ceyhan**	**0.73**	**218**	*e*PG	**Pb**	**01 08 19.1**	**+0.1**
CEYT				*e*SG	**Sn**	**01 08 30.4**	**+0.4**
CEYT	**Ceyhan**	**0.73**	**218**	*e*Pg	**Pb**	**01 08 19.1**	**+0.1**
CEYT				*e*Sg	**Sn**	**01 08 30.4**	**+0.4**
GAZ	**Gaziantep**	**0.82**	**119**	*e*PG	**Pb**	**01 08 20.6**	**-0.1**
GAZ				*e*SG	**Sn**	**01 08 33.1**	**+0.6**
GAZ	**Gaziantep**	**0.82**	**119**	*e*Pg	**Pb**	**01 08 20.6**	**-0.1**
GAZ				*e*Sg	**Sn**	**01 08 33.1**	**+0.6**
KUZU	**Kuzuini**	**1.01**	**143**	*i* P	**Pn**	**01 08 23.8**	**+0.1**
KUZU				*i* S	**Sn**	**01 08 37.7**	**+0.6**
KUZU	**Kuzuini**	**1.01**	**143**	*i* P	**Pn**	**01 08 23.8**	**+0.1**
KUZU				*i* S	**Sn**	**01 08 37.7**	**+0.6**
GZT	**Gaziantep**	**1.02**	**102**	*i* P	**Pn**	**01 08 23.3**	**-0.6**
GZT				*i* S	**Sb**	**01 08 37.3**	**+0.1**
PINB	**Pinarbasi**	**1.10**	**4**	*i* P	**Pn**	**01 08 24.2**	**-0.8**
PINB				*i* S	**Sn**	**01 08 41.8**	**+2.2**
PINB	**Pinarbasi**	**1.10**	**4**	*i* P	**Pn**	**01 08 24.2**	**-0.8**
BNN	**Bunyan**	**1.32**	**344**	*e*PN	**Pn**	**01 08 27.8**	**-0.2**
BNN				*e*SN	**Sb**	**01 08 45.5**	**-0.2**
BNN	**Bunyan**	**1.32**	**344**	*e*Pn	**Pn**	**01 08 27.8**	**-0.2**
BNN				*e*Sn	**Sb**	**01 08 45.5**	**-0.2**
NIG	**Nigde**	**1.45**	**292**	*e*PN	**Pn**	**01 08 29.7**	**-0.1**
NIG	**Nigde**	**1.45**	**292**	*e*Pn	**Pn**	**01 08 29.7**	**-0.1**
AKCD	**Akcadag**	**1.46**	**60**	*i* P	**Pb**	**01 08 31.0**	**-0.5**
AKCD				*i* S	**Sb**	**01 08 51.2**	**+1.5**
AKCD	**Akcadag**	**1.46**	**60**	*i* P	**Pb**	**01 08 31.0**	**-0.5**
ATAB	**Bozova**	**1.58**	**93**	*i* P	**Pn**	**01 08 31.5**	**0.0**
ATAB				*i* S	**Sb**	**01 08 55.2**	**+2.1**
ATAB	**Bozova**	**1.58**	**93**	*i* P	**Pn**	**01 08 31.5**	**0.0**
URFA	**Urfa**	**2.00**	**93**	*e*PN	**Pn**	**01 08 37.8**	**+0.5**
URFA	**Urfa**	**2.00**	**93**	*e*Pn	**Pn**	**01 08 37.8**	**+0.5**

*AUST **09** 01:08:47.7, 3˚.73S×153˚.06E, h60km*
*ISCJB **09** 01:09:00.2±0.8, 4˚.77S±0˚.08×152˚.1E±0˚.1, h70km, mb4.3/18, Error ellipse: s-maj=21.5km s-min=7.8km az=24.9*
*IDC **09** 01:09:08.2±3.4, 4˚.86S×151˚.89E, h122km±30km, mb4.0/12, mb1 4.1/13, mb1mx3.9/24, mbtmp4.0/13, MS2.6/1, Ms1 2.6/1, ms1mx2.2/31, Error ellipse: s-maj=22.3km s-min=18.0km az=85.0*
*NEIC **09** 01:09:10.2±1.6, 4˚.91S×151˚.88E, h143km±14km, mb4.8/9, Error ellipse: s-maj=12.1km s-min=10.2km az=77.0*
ISC 09 01:09:02.3±0.7, **4.73S**±0˚.09×**152˚.0E**±0˚.1, **h70**km, **n63**, σ0**95**/64, **mb4.4**/18, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.68**	**226**	P	Pn	01 10 42.8	+4.9
	5.2nm,0.3s,baz=36,slow=5.9,SNR=14						
PMG				S	**Sn**	**01 11 53.1**	**+0.5**
	5.9nm,0.3s,baz=245,slow=2.8,SNR=3.1						
PMG	**Port Moresby**	**6.68**	**226**	*e*Pn	Pn	01 10 43.2	+5.3
	57nm,0.7s						
PMG				*e*Sn	**Sn**	**01 11 54.9**	**+2.3**
JAY	**Jayapura**	**11.48**	**281**	S	Sn	01 13 59.6	+10
	baz=12,SNR=3.2						
COEN	**Coen**	**12.64**	**223**	P	Pn	01 12 03.6	+4.3
	baz=14,SNR=4.8						
CTA	**Charters Tower**	**16.26**	**200**	LR	LR	01 18 15.2	
	comp=Z,19nm,19.3s,baz=52,slow=34						
QIS	**Mount Isa**	**19.82**	**216**	P	**Pn**	**01 13 29.1**	**-0.5**
	baz=21,SNR=7.3						
KDU	**Kakadu**	**20.84**	**246**	P	**P**	**01 13 38.8**	**+0.3**
	baz=22,SNR=34						
MTN	**Manton Dam**	**22.12**	**247**	P	**P**	**01 13 53.8**	**+1.6**
	baz=24,SNR=8.8						
DZM	**Mont Dzumac**	**22.21**	**142**	P	**P**	**01 13 55.7**	**+2.4**
	11nm,0.8s,baz=336,slow=8.6,SNR=8.7						
DZM	**Mont Dzumac**	**22.21**	**142**	*e*P	**P**	**01 13 55.3**	**+2.0**
	13nm,0.9s						
WRAB	**Tennant Creek**	**22.88**	**227**	*e*P	**P**	**01 13 59.6**	**-0.7**
	14nm,0.6s						
WRA	**Warramunga Arr**	**22.90**	**227**	P	**P**	**01 13 59.7**	**-0.8**
	13nm,0.6s,baz=51,slow=10.0,SNR=148						
WRA				PcP	**PcP**	**01 17 47.9**	**-1.1**
	1.2nm,0.9s,baz=34,slow=2.0,SNR=5.6						
WRA	**Warramunga Arr**	**22.90**	**227**	P	**P**	**01 13 59.7**	**-0.8**
WRA				PcP	**PcP**	**01 17 47.9**	**-1.1**
AS31	**Alice Springs**	**25.67**	**221**	*e*P	**P**	**01 14 25.2**	**-0.7**
ASAR	**Alice Springs**	**25.67**	**221**	P	**P**	**01 14 25.3**	**-0.6**
	4.9nm,0.6s,baz=55,slow=8.7,SNR=24						
ASAR				PcP	**PcP**	**01 17 54.5**	**-0.5**
	0.7nm,0.7s,baz=56,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**25.67**	**221**	P	**P**	**01 14 25.3**	**-0.6**
ASAR				PcP	**PcP**	**01 17 54.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.99**	**241**	P	**P**	**01 14 55.0**	**-0.7**
	10nm,0.5s,baz=61,slow=6.8,SNR=83						
FITZ	**Fitzroy Crossi**	**28.99**	**241**	*e*P	**P**	**01 14 54.5**	**-1.1**
	9.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**28.99**	**241**	P	**P**	**01 14 54.6**	**-1.1**
	baz=30,SNR=53						
BBOO	**Buckleboo**	**31.66**	**206**	P	**P**	**01 15 18.4**	**-0.7**
	baz=33,SNR=6.3						
PCI	**Palu**	**32.33**	**276**	S	**S**	**01 20 33.0**	**-1.5**
	baz=33,SNR=5.4						
MEEK	**Meekatharra**	**38.61**	**232**	P	**P**	**01 16 18.1**	**-0.9**
	baz=40,SNR=18						
GIRL	**Giralia**	**40.60**	**240**	P	**P**	**01 16 36.5**	**+1.0**
	baz=42,SNR=3.3						
MORW	**Morawa**	**41.77**	**230**	P	**P**	**01 16 44.0**	**-1.1**
	baz=43,SNR=6.2						
JNU	**Nakatsue**	**42.63**	**333**	P	**P**	**01 16 53.1**	**+1.1**
	8.6nm,0.9s,baz=16,slow=3.5,SNR=5.5						
JNU	**Nakatsue**	**42.63**	**333**	P	**P**	**01 16 53.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**57.12**	**295**	P	**P**	**01 18 43.6**	**+1.5**
	2.5nm,0.8s,baz=104,slow=5.1,SNR=12						
CMAR	**Chiang Mai Arr**	**57.12**	**295**	P	**P**	**01 18 43.6**	**+1.5**
SONM	**Songino Array**	**65.83**	**328**	P	**P**	**01 19 41.8**	**+1.2**
	1.7nm,0.6s,baz=147,slow=5.2,SNR=16						
SONM	**Songino Array**	**65.83**	**328**	P	**P**	**01 19 41.8**	**+1.2**
TAPN	**Taplejung**	**69.68**	**301**	*e*P	**P**	**01 20 05.5**	**+0.1**
TAPN	**Taplejung**	**69.68**	**301**	*e*P	**P**	**01 20 05.5**	**+0.1**
ODAN	**Odare**	**69.81**	**301**	*e*P	**P**	**01 20 06.1**	**0.0**
	9.9nm,0.6s						
ODAN	**Odare**	**69.81**	**301**	*e*P	**P**	**01 20 06.1**	**0.0**
	9.9nm,0.6s						
JIRN	**Jiri**	**71.06**	**301**	*e*P	**P**	**01 20 13.9**	**0.0**
JIRN	**Jiri**	**71.06**	**301**	*e*P	**P**	**01 20 13.9**	**0.0**
GUN	**Gumba**	**71.39**	**301**	*e*P	**P**	**01 20 16.0**	**+0.1**
	17nm,0.8s						
GUN	**Gumba**	**71.39**	**301**	*e*P	**P**	**01 20 16.0**	**+0.1**
	17nm,0.8s						
PKI	**Pulchoki**	**71.70**	**301**	*e*P	**P**	**01 20 17.6**	**-0.1**
PKI	**Pulchoki**	**71.70**	**301**	*e*P	**P**	**01 20 17.6**	**-0.1**
GKN	**Gorkha**	**72.48**	**301**	*e*P	**P**	**01 20 21.8**	**-0.3**
GKN	**Gorkha**	**72.48**	**301**	*e*P	**P**	**01 20 21.8**	**-0.3**
KOLN	**Koldanda**	**73.30**	**301**	*e*P	**P**	**01 20 26.6**	**-0.5**
	9.0nm,0.7s						
KOLN	**Koldanda**	**73.30**	**301**	*e*P	**P**	**01 20 26.6**	**-0.5**
	9.0nm,0.7s						
DANN	**Dangsing**	**73.31**	**301**	*e*P	**P**	**01 20 26.6**	**-0.6**
DANN	**Dangsing**	**73.31**	**301**	*e*P	**P**	**01 20 26.6**	**-0.6**
PYUN	**Piuthan**	**73.91**	**301**	*e*P	**P**	**01 20 29.7**	**-0.9**
	22nm,0.9s						
PYUN	**Piuthan**	**73.91**	**301**	*e*P	**P**	**01 20 29.7**	**-0.9**
	22nm,0.9s						
MK31	**Makanchi Array**	**79.74**	**319**	*e*P	**P**	**01 21 02.4**	**-0.5**
MKAR	**Makanchi Array**	**79.74**	**319**	P	**P**	**01 21 03.0**	**+0.1**
	1.8nm,0.8s,baz=100,slow=7.2,SNR=15						
MKAR	**Makanchi Array**	**79.74**	**319**	P	**P**	**01 21 03.0**	**+0.1**
ZALV	**Zalesovo Beam**	**80.64**	**326**	P	**P**	**01 21 06.9**	**-0.6**
	1.6nm,0.4s,baz=114,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**80.64**	**326**	P	**P**	**01 21 06.9**	**-0.6**
ILAR	**Eielson Array**	**82.39**	**22**	P	**P**	**01 21 15.8**	**-0.7**
	0.3nm,0.5s,baz=251,slow=5.2,SNR=9.1						
ILAR	**Eielson Array**	**82.39**	**22**	P	**P**	**01 21 15.8**	**-0.7**
KURK	**Kurchatov**	**83.22**	**322**	*e*P	**P**	**01 21 21.0**	**-0.1**
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**83.24**	**322**	P	**P**	**01 21 20.2**	**-1.0**
	1.1nm,0.9s,baz=103,slow=3.9,SNR=9.5						
AAK	**Ala-Archa**	**84.03**	**314**	P	**P**	**01 21 26.4**	**+0.8**
	2.2nm,0.7s,baz=145,slow=6.0,SNR=9.3						
AAK	**Ala-Archa**	**84.03**	**314**	P	**P**	**01 21 26.4**	**+0.8**
GERES	**GERESS Array B**	**123.57**	**328**	PKP	**PKPdf**	**01 27 51.4**	**-0.7**
	0.6nm,0.5s,baz=94,slow=2.2,SNR=10						
GERES	**GERESS Array B**	**123.57**	**328**	PKP	**PKPdf**	**01 27 51.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.52**	**288**	PKPbc	**PKPbc**	**01 28 43.4**	**-1.4**
	1.9nm,0.3s,baz=77,slow=2.1,SNR=81						
TORD	**Torodi Ar. Bea**	**149.52**	**288**	PKPbc	**PKPbc**	**01 28 43.4**	**-1.4**

WEL 09 01:11:40.5±1.1, **47˚.54S**×**165˚.52E**, **h33**km, **ML3.7**/3, **Error ellipse: s-maj=9.8km s-min=8.5km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.59**	**30**	PN	Pn	01 12 05.3	-1.1
PYZ				*e*SN	Sn	01 12 26.8	+1.1
APZ	**The Paps**	**1.83**	**68**	PN	Pn	01 12 08.4	-1.3
APZ				*e*SN	Sn	01 12 29.2	-2.5
WHZ	**Wether Hill Ro**	**2.35**	**46**	PN	Pn	01 12 16.2	-0.5
WHZ				*e*SN	Sn	01 12 43.6	-0.9
DCZ	**Deep Cove**	**2.35**	**29**	*e*PN	Pn	01 12 18.4	+1.6
SYZ	**Scrubby Hill**	**2.67**	**69**	PN	Pn	01 12 20.6	-0.5
SYZ				*e*SN	Sn	01 12 50.4	-1.9
MLZ	**Mavora Lakes**	**2.86**	**41**	PN	Pn	01 12 23.6	-0.3
MLZ				*e*SN	Sn	01 12 56.6	-0.6
TUZ	**Tuapeka**	**3.24**	**62**	PN	Pn	01 12 28.8	-0.3
EAZ	**Earnscleugh**	**3.49**	**50**	*e*PN	Pn	01 12 30.7	-1.8
ODZ	**Otahua Downs**	**4.34**	**57**	PN	Pn	01 12 42.1	-2.0

*ISCJB **09** 01:12:27.3±0.6, 31˚.40N±0˚.03×104˚.05E±0˚.06, h14km, mb3.3/5, Error ellipse: s-maj=7.9km s-min=4.6km az=17.6*
*IDC **09** 01:12:27.7±1.1, 31˚.19N×103˚.79E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.3/26, mbtmp3.3/6, ML3.0/1, Error ellipse: s-maj=84.3km s-min=18.4km az=59.0*
*BJI **09** 01:12:31.2, 31˚.35N×103˚.75E, h18km, ML3.4/12, Ms3.4/1, Ms7 3.4/1*
ISC 09 01:12:29.5±0.8, **31˚.35N**±0˚.04×**103˚.94E**±0˚.06, **h14**km, **n10**, σ1**47**/16, **mb3.3**/5, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.46**	**199**	Pg	**Pg**	**01 12 37.9**	**-0.8**
CD2				Sg	**Sg**	**01 12 44.3**	**-0.6**
CD2				*s*max	*s*max		
	comp=N,4μm,0.9s						
CD2				*s*max	*s*max		
	comp=E,4μm,0.6s						
LZH	**Lanzhou**	**4.73**	**359**	*e*Pg	**Pg**	**01 13 58.2**	**-1.8**
LZH				Sg	**Sg**	**01 15 01.4**	**+0.1**
LZH				*s*max	*s*max		
	comp=N,36nm,0.8s						
LZH				*s*max	*s*max		
	comp=E,33nm,0.6s						
LZH				LR	LR		
	comp=N,160nm,4.9s						
LZH				LR	LR		
	comp=E,140nm,4.0s						
LZH				LR	LR		
	comp=Z,210nm,4.6s						
XAN	**Xi'an**	**4.99**	**56**	Pg	**Pg**	**01 14 04.7**	**-0.3**
XAN				Sn	**Sn**	**01 14 42.9**	**+1.4**
XAN				Sg	**Sg**	**01 15 08.2**	**-1.4**
XAN				*s*max	*s*max		
	comp=N,44nm,0.7s						
XAN				*s*max	*s*max		
	comp=E,16nm,0.7s						
GYA	**Guiyang**	**5.43**	**153**	*e*Pn	**Pn**	**01 13 52.0**	**+1.9**
GYA				Sn	**Sn**	**01 14 52.9**	**+0.5**
GYA				Sg	**Sg**	**01 15 20.4**	**-3.4**
GYA				*s*max	*s*max		
	comp=N,70nm,0.9s						
GYA				*s*max	*s*max		
	comp=E,80nm,0.9s						
SONM	**Songino Array**	**16.57**	**6**	Pn	**P**	**01 16 23.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=196,slow=9.9,SNR=3.1						
MKAR	**Makanchi Array**	**22.70**	**319**	P	**P**	**01 17 30.3**	**-0.4**
	comp=E,0.2nm,0.7s,baz=122,slow=12,SNR=3.4						
ZALV	**Zalesovo Beam**	**26.44**	**334**	P	**P**	**01 18 07.0**	**+1.3**
	comp=E,0.3nm,0.4s,baz=116,slow=6.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**26.96**	**323**	P	**P**	**01 18 11.8**	**+1.4**
	comp=E,0.3nm,0.8s,baz=131,slow=9.0,SNR=5.7						
WRA	**Warramunga Arr**	**58.76**	**146**	P	**P**	**01 22 27.7**	**+0.5**
	comp=E,0.7nm,0.4s,baz=338,slow=7.9,SNR=28						
ASAR	**Alice Springs**	**61.77**	**149**	P	**P**	**01 22 47.2**	**-0.7**
	comp=E,0.2nm,0.5s,baz=344,slow=7.3,SNR=3.2						

*IDC **09** 01:53:32.3±4.6, 19˚.82S×168˚.36E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/24, Error ellipse: s-maj=111.0km s-min=38.5km az=118.0*
ISC 09 01:53:36.5±3.4, **20˚.0S**±0˚.3×**168˚.3E**±0˚.5, **h25**km, **n6**, σ1**80**/9, **mb3.5**/3, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.68**	**220**	Pn	**Pn**	**01 54 17.6**	**-0.5**
	4.3nm,0.3s,baz=93,slow=14,SNR=70						
DZM				Sn	**Sn**	**01 54 52.4**	**+2.6**
	8.5nm,0.3s,baz=312,slow=22,SNR=7.2						
DZM				LR	LR	01 54 53.7	
	comp=Z,1μm,19.1s,baz=210,slow=28						
DZM	**Mont Dzumac**	**2.68**	**220**	*e*P	**Pn**	**01 54 17.4**	**-0.8**
DZM				*e*S	**Sn**	**01 54 50.3**	**+0.4**
NOUC	**Port Laguerre**	**2.79**	**222**	*e*P	**Pn**	**01 54 21.5**	**+1.9**
NOUC				*e*S	**Sb**	**01 54 56.8**	**-2.6**
WRA	**Warramunga Arr**	**31.89**	**264**	P	**P**	**02 00 00.2**	**+0.2**
	0.4nm,0.9s,baz=89,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**32.09**	**257**	P	**P**	**02 00 02.7**	**+0.8**
	1.2nm,0.8s,baz=87,slow=9.0,SNR=14						
SONM	**Songino Array**	**87.31**	**323**	P	**P**	**02 06 20.4**	**-0.8**
	0.1nm,0.3s,baz=116,slow=6.6,SNR=2.7						

*DDA **09** 02:21:08.3, 37˚.82N×29˚.06E, h7km, MD2.8*
*ISK **09** 02:21:11.0, 37˚.77N×29˚.07E, h5km, MD2.6*
*CSEM **09** 02:21:11.2±0.5, 37˚.71N×29˚.05E, h2km, MD2.6, Error ellipse: s-maj=36.1km s-min=10.4km az=143.0*
ISC 09 02:21:12.8±2.3, **37˚.9N**±0˚.7×**28˚.9E**±0˚.5, **h10**km, **n10**, σ0**83**/8, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.15**	**152**	*e*PG	Pg	02 21 11.8	-4.4
DENT	**Denizli**	**0.15**	**152**	*e*Pg	Pg	02 21 11.8	-4.4
DNZL	**Cakiroluk**	**0.22**	**158**	*i* P	Pg	02 21 11.2	-6.2
DNZL				*i* S	Sg	02 21 13.6	-6.9
DNZL	**Cakiroluk**	**0.22**	**158**	*i* P	Pg	02 21 11.2	-6.2
DNZL				*i* S	Sg	02 21 13.6	-6.9
MLSB	**Milas**	**1.10**	**238**	*e*PN	**Pn**	**02 21 33.8**	**-0.5**
MLSB				*e*SN	**Sn**	**02 21 50.5**	**+0.9**
MLSB	**Milas**	**1.10**	**238**	*e*Pn	**Pn**	**02 21 33.8**	**-0.5**
MLSB				*e*Sn	**Sn**	**02 21 50.5**	**+0.9**
ALT	**Altintas**	**1.48**	**38**	*e*PN	**Pb**	**02 21 40.4**	**-0.1**
ALT	**Altintas**	**1.48**	**38**	*e*Pn	**Pb**	**02 21 40.4**	**-0.1**
SVRH	**Sivrihisar-ESK**	**2.55**	**52**	*e*PN	**Pn**	**02 21 55.1**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.55**	**52**	*e*Pn	**Pn**	**02 21 55.1**	**+0.8**

DDA 09 02:22:51.2, 39˚.84N×31˚.86E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HENT	**Hendek**	**1.23**	**324**	*e*P	Pb	02 23 14.4	-0.4
HENT				*i* S	Sn	02 23 32.3	+0.5
KDHN	**Kadinhani**	**1.33**	**171**	*e*P	Pn	02 23 15.9	-0.4
KDHN				*e*S	Sn	02 23 35.8	+1.4

*ISK **09** 02:23:13.8, 40˚.13N×31˚.71E, h3km, MD3.0*
*CSEM **09** 02:23:14.5±0.1, 40˚.12N×31˚.70E, h2km, MD3.0, Error ellipse: s-maj=3.6km s-min=2.3km az=13.0*
ISC 09 02:23:15.3±1.1, **40˚.14N**±0˚.03×**31˚.71E**±0˚.02, **h7**km±10km, **n34**, σ0**92**/53, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDUB	**Mudurnu**	**0.52**	**311**	*e*PG	**Pg**	**02 23 24.5**	**-0.7**
MDUB				*e*SG	**Sg**	**02 23 32.5**	**+0.5**
MDUB	**Mudurnu**	**0.52**	**311**	*e*Pg	**Pg**	**02 23 24.5**	**-0.7**
MDUB				*e*Sg	**Sg**	**02 23 32.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**0.70**	**192**	*e*PG	**Pg**	**02 23 28.2**	**-0.6**
SVRH	**Sivrihisar-ESK**	**0.70**	**192**	*e*Pg	**Pg**	**02 23 28.2**	**-0.6**
LOD	**Lodumlu**	**0.85**	**107**	*e*PG	**Pg**	**02 23 30.9**	**-0.6**
LOD				*e*SG	**Sb**	**02 23 43.4**	**-0.6**
LOD	**Lodumlu**	**0.85**	**107**	*e*Pg	**Pg**	**02 23 30.9**	**-0.6**
LOD				*e*Sg	**Sb**	**02 23 43.4**	**-0.6**
GULT	**Gulveren**	**0.96**	**288**	*e*PG	**Pg**	**02 23 33.0**	**-0.8**
GULT	**Gulveren**	**0.96**	**288**	*e*Pg	**Pg**	**02 23 33.0**	**-0.8**
BORA	**Eskisehir**	**1.00**	**256**	*i* P	**Pg**	**02 23 32.8**	**-1.6**
BORA				*i* S	**Sn**	**02 23 50.6**	**+0.5**
BORA	**Eskisehir**	**1.00**	**256**	*i* P	**Pg**	**02 23 32.8**	**-1.6**
BORA				*i* S	**Sn**	**02 23 50.6**	**+0.4**
GPA	**Golpazari**	**1.08**	**279**	*e*PG	**Pg**	**02 23 35.2**	**-0.9**
GPA	**Golpazari**	**1.08**	**279**	*e*Pg	**Pg**	**02 23 35.2**	**-0.9**
BBAL	**Bala**	**1.24**	**118**	*i* P	**Pg**	**02 23 37.7**	**-1.4**
BBAL				*i* S	**Sn**	**02 23 56.8**	**+0.6**
BBAL	**Bala**	**1.24**	**118**	*i* P	**Pg**	**02 23 37.7**	**-1.4**
BBAL				*i* S	**Sn**	**02 23 56.8**	**+0.6**
AFSR	**Af˘ar-Bala (A**	**1.25**	**123**	*e*PN	**Pn**	**02 23 38.4**	**-0.9**
AFSR				*e*SN	**Sn**	**02 23 56.6**	**+0.1**
AFSR	**Af˘ar-Bala (A**	**1.25**	**123**	*e*Pn	**Pn**	**02 23 38.4**	**-0.9**
AFSR				*e*Sn	**Sn**	**02 23 56.6**	**+0.1**
KIZT	**Kizilcal**	**1.26**	**174**	*e*PN	**Pn**	**02 23 38.6**	**-0.9**
KIZT				*e*SN	**Sn**	**02 23 56.6**	**-0.1**
KIZT	**Kizilcal**	**1.26**	**174**	*e*Pn	**Pn**	**02 23 38.6**	**-0.9**
KIZT				*e*Sn	**Sn**	**02 23 56.6**	**-0.1**
BOLV	**Bolvadin**	**1.53**	**203**	*e*P	**Pn**	**02 23 43.4**	**+0.2**
BOLV				*e*S	**Sg**	**02 24 07.2**	**+2.6**
BOLV	**Bolvadin**	**1.53**	**203**	*e*P	**Pn**	**02 23 43.4**	**+0.2**
BOLV				*e*S	**Sg**	**02 24 07.2**	**+2.6**
ALT	**Altintas**	**1.64**	**229**	*e*PN	**Pn**	**02 23 44.5**	**-0.2**
ALT	**Altintas**	**1.64**	**229**	*e*Pn	**Pn**	**02 23 44.5**	**-0.2**
ILGA	**Ilgaz**	**1.78**	**58**	*e*P	**Pn**	**02 23 47.0**	**+0.3**
ILGA				*e*S	**Sg**	**02 24 14.9**	**+2.4**
ILGA	**Ilgaz**	**1.78**	**58**	*e*P	**Pn**	**02 23 47.0**	**+0.3**
SHUT	**Suhut-Afyon**	**1.82**	**210**	*e*PN	**Pn**	**02 23 46.9**	**-0.2**
SHUT	**Suhut-Afyon**	**1.82**	**210**	*e*Pn	**Pn**	**02 23 46.9**	**-0.2**
YLV	**Yalova**	**1.84**	**284**	*e*PN	**Pn**	**02 23 47.3**	**0.0**
YLV	**Yalova**	**1.84**	**284**	*e*Pn	**Pn**	**02 23 47.3**	**0.0**
TVSB	**Tavsanli**	**1.86**	**249**	*e*PN	**Pn**	**02 23 47.5**	**-0.2**
TVSB	**Tavsanli**	**1.86**	**249**	*e*Pn	**Pn**	**02 23 47.5**	**-0.2**
BALT	**Daday**	**1.89**	**42**	*e*P	**Pn**	**02 23 48.3**	**+0.1**
BALT				*e*S	**Sg**	**02 24 16.4**	**+0.4**
BALT	**Daday**	**1.89**	**42**	*e*P	**Pn**	**02 23 48.3**	**+0.1**
BALT				*e*S	**Sg**	**02 24 16.4**	**+0.4**
CORM	**Corum**	**2.24**	**88**	*e*PN	**Pn**	**02 23 53.0**	**+0.1**
CORM				*e*SN	**Sn**	**02 24 21.5**	**+0.6**
CORM	**Corum**	**2.24**	**88**	*e*Pn	**Pn**	**02 23 53.0**	**+0.1**
CORM				*e*Sn	**Sn**	**02 24 21.5**	**+0.6**

IDC 09 02:26:15.1±2.9, **1˚.19S**×**98˚.26E**, **h0**km, **mb3.4**/4, **mb1 3.5**/5, **mb1mx3.4**/23, **mbtmp3.4**/5, **ML3.0**/1, **Error ellipse: s-maj=101.1km s-min=22.4km az=62.0, Southern Sumatera**

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

GTA				LR	LR			
	comp=N,550nm,8.6s							
GTA				LR	LR			
	comp=E,450nm,8.1s							
GTA				LR	LR			
	comp=Z,570nm,9.5s							
BJT	**Baijiatuau**	**11.88**	**46**	Pn	**Pn**	02	44	19.9 +0.9
CMAR	**Chiang Mai Arr**	**14.77**	**203**	Pn	**Pn**	02	44	60.0 +1.3
	comp=Z,1.4nm,0.3s,baz=11,slow=11,SNR=6.4							
CMAR	**Chiang Mai Arr**	**14.77**	**203**	Pn	**Pn**	02	44	60.0 +1.3
SONM	**Songino Array**	**15.64**	**3**	Pn	**Pn**	02	45	09.7 -0.4
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=8.9							
SONM	**Songino Array**	**15.64**	**3**	Pn	**Pn**	02	45	09.7 -0.4
ULN	**Ulaanbaatar**	**15.71**	**5**	*e*Pn	**Pn**	02	45	10.8 -0.3
	comp=Z,5.8nm,1.0s							
ZAK	**Zakamensk**	**18.20**	**356**	*e*P	**P**	02	45	44.0 +1.4
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KSAR	**Wonju Array Be**	**19.43**	**68**	P	**Pn**	02	45	57.6 +0.4
KSRS	**Korea Array**	**19.46**	**68**	P	**Pn**	02	45	57.6 +0.1
	comp=Z,0.3nm,0.3s,baz=254,slow=10,SNR=12							
CN2	**Changchun**	**19.74**	**48**	*e*P	**Pn**	02	46	01.2 +0.3
JOW	**Kunigami**	**20.88**	**99**	LR	LR	02	55	02.7
	comp=Z,38nm,18.7s,baz=72,slow=39							
JOW	**Kunigami**	**20.88**	**99**	*e*P	**P**	02	46	13.4 +1.5
MK31	**Makanchi Array**	**22.71**	**316**	*e*P	**P**	02	46	30.9 -0.6
MK31	**Makanchi Array**	**22.71**	**316**	*e*P	**P**	02	46	30.9 -0.6
MKAR	**Makanchi Array**	**22.71**	**316**	P	**P**	02	46	31.2 -0.3
	comp=Z,1.2nm,0.5s,baz=122,slow=13,SNR=21							
MKAR	**Makanchi Array**	**22.71**	**316**	P	**P**	02	46	31.2 -0.3
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**22.71**	**316**	P	**P**	02	46	31.2 -0.3
USRK	**Ussuriysk Arra**	**24.20**	**53**	P	**P**	02	46	45.7 -0.4
	comp=Z,2.4nm,0.8s,baz=254,slow=10,SNR=7.5							
ZAA0	**Zalesovo Array**	**26.10**	**332**	*e*P	**P**	02	47	02.2 -1.1
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	02	47	03.4 0.0
	comp=Z,1.9nm,0.4s,baz=138,slow=9.7,SNR=12							
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	02	47	03.4 0.0
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ZALV	**Zalesovo Beam**	**26.10**	**332**	P	**P**	02	47	03.4 0.0
KLR	**Kul'dur**	**26.22**	**42**	*e*P	**P**	02	47	01.7 -2.7
AAK	**Ala-Archa**	**26.29**	**302**	LR	LR	02	59	25.1
	comp=Z,52nm,18.1s,baz=292,slow=41							
KURBB	**Kurchatov Arra**	**26.87**	**321**	P	**P**	02	47	10.7 +0.4
	comp=Z,4.2nm,1.0s,baz=122,slow=11,SNR=19							
KURBB				PcP	**PcP**	02	50	31.8 -0.6
	comp=Z,0.8nm,0.6s,baz=116,slow=1.9,SNR=7.3							
KURK	**Kurchatov**	**26.88**	**321**	*e*P	**P**	02	47	10.6 +0.3
KURK						02	50	31.8
KURK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KURK	**Kurchatov**	**26.88**	**321**	*e*P	**P**	02	47	10.6 +0.3
	comp=Z,6.3nm,1.0s							
KURK				PcP	**PcP**	02	50	31.8 -0.6
ABKAR	**Akbulak array**	**37.57**	**310**	*e*P	**P**	02	48	42.6 -1.3
	comp=Z,1.1nm,0.5s							
ARU	**Arti**	**40.07**	**321**	P	**P**	02	49	06.1 +1.3
ARU	**Arti**	**40.07**	**321**	*e*P	**P**	02	49	04.8 +0.1
	comp=Z,12nm,0.9s							
PETK	**Petropavlovsk-**	**42.83**	**45**	P	**P**	02	49	27.6 +0.2
	comp=Z,2.2nm,0.6s,baz=209,slow=2.6,SNR=3.0							
PETK	**Petropavlovsk-**	**42.83**	**45**	P	**P**	02	49	27.6 +0.2
PETK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
PETK	**Petropavlovsk-**	**42.83**	**45**	P	**P**	02	49	27.6 +0.2
KBZ	**Khabaz**	**49.29**	**302**	P	**P**	02	50	19.1 +0.7
	comp=Z,1.1nm,0.6s,baz=117,slow=16,SNR=5.0							
KBZ	**Khabaz**	**49.29**	**302**	P	**P**	02	50	19.2 +0.7
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KBZ	**Khabaz**	**49.29**	**302**	P	**P**	02	50	19.1 +0.7
JOF	**Joensuu**	**54.54**	**327**	*e*P	**P**	02	50	56.0 -1.3
JOF				pmax	pmax			
	comp=Z,3.0nm,0.7s							
JOF	**Joensuu**	**54.54**	**327**	*e*p	**P**	02	50	56.0 -1.3
	comp=Z,2.9nm,0.7s							
KEV	**Kevo**	**56.06**	**336**	*e*P	**P**	02	51	07.1 -1.1
KEV				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KEV	**Kevo**	**56.06**	**336**	*e*p	**P**	02	51	07.1 -1.1
	comp=Z,5.4nm,0.5s							
ARCES	**ARCESS Array B**	**56.59**	**336**	P	**P**	02	51	11.8 -0.2
	comp=Z,2.9nm,0.5s,baz=93,slow=8.5,SNR=24							
ARCES	**ARCESS Array B**	**56.59**	**336**	P	**P**	02	51	11.8 -0.2
BRTR	**Keskin Array B**	**56.91**	**299**	P	**P**	02	51	14.5 -0.5
	comp=Z,0.8nm,0.6s,baz=98,slow=5.7,SNR=7.8							
BRTR	**Keskin Array B**	**56.91**	**299**	P	**P**	02	51	14.5 -0.5
KAF	**Kangasniemi**	**56.92**	**327**	*e*P	P	02	51	09.9 -4.5
KAF				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KAF	**Kangasniemi**	**56.92**	**327**	*e*p	P	02	51	09.9 -4.5
	comp=Z,2.4nm,0.7s							
FINES	**FINESS Array B**	**57.11**	**326**	P	**P**	02	51	14.7 -1.0
	comp=Z,3.8nm,0.7s,baz=92,slow=7.5,SNR=23							
FINES	**FINESS Array B**	**57.11**	**326**	P	**P**	02	51	14.7 -1.0
AKASG	**Malin Array Be**	**57.23**	**313**	P	**P**	02	51	16.2 -0.6
	comp=Z,1.4nm,0.5s,baz=64,slow=7.6,SNR=3.6							
AKASG	**Malin Array Be**	**57.23**	**313**	P	**P**	02	51	16.2 -0.6
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**57.23**	**313**	P	**P**	02	51	16.2 -0.6
WRAB	**Tennant Creek**	**58.95**	**148**	*e*P	**P**	02	51	29.3 +0.2
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.6s							
WRAB	**Tennant Creek**	**58.95**	**148**	*e*P	**P**	02	51	29.3 +0.2
	comp=Z,7.7nm,0.6s							
WRA	**Warramunga Arr**	**58.95**	**148**	P	**P**	02	51	29.7 +0.6
	comp=Z,5.9nm,0.6s,baz=342,slow=7.5,SNR=115							
WRA	**Warramunga Arr**	**58.95**	**148**	P	**P**	02	51	29.7 +0.6
AS31	**Alice Springs**	**62.02**	**150**	*e*P	**P**	02	51	50.6 +0.5
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	02	51	50.8 +0.7
	comp=Z,2.9nm,0.5s,baz=337,slow=6.9,SNR=37							
ASAR	**Alice Springs**	**62.02**	**150**	P	**P**	02	51	50.8 +0.7
NB2	**NORSAR Subarra**	**64.17**	**327**	P	**P**	02	52	02.7 -1.3
	comp=Z,2.5nm,0.6s,baz=73,slow=6.9							
NOA	**NORSAR Array B**	**64.17**	**327**	P	**P**	02	52	02.6 -1.4
	comp=Z,3.1nm,0.7s,baz=72,slow=6.6,SNR=10							
NOA	**NORSAR Array B**	**64.17**	**327**	P	**P**	02	52	02.6 -1.4
GERES	**GERESS Array B**	**67.36**	**314**	P	**P**	02	52	24.4 -0.4
	comp=Z,1.0nm,0.9s,baz=57,slow=4.9,SNR=3.9							
GERES	**GERESS Array B**	**67.36**	**314**	P	**P**	02	52	24.4 -0.4
ILAR	**Eielson Array**	**68.48**	**26**	P	**P**	02	52	29.9 -1.6
	comp=Z,0.6nm,0.8s,baz=281,slow=3.5,SNR=6.9							
ILAR	**Eielson Array**	**68.48**	**26**	P	**P**	02	52	29.9 -1.6
INK	**Inuvik**	**70.84**	**20**	P	**P**	02	52	45.7 -0.2
	comp=Z,2.3nm,0.6s,baz=330,slow=9.6,SNR=6.8							
INK	**Inuvik**	**70.84**	**20**	*e*P	**P**	02	52	45.1 -0.8
	comp=Z,2.3nm,0.6s							
STKA	**Stephens Creek**	**72.50**	**148**	P	**P**	02	52	56.7 +0.4
	comp=Z,1.3nm,0.4s,baz=336,slow=8.8,SNR=8.0							
STKA	**Stephens Creek**	**72.50**	**148**	*e*P	**P**	02	52	56.2 -0.2
LPG	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.1 -0.2
	comp=Z,11nm,0.7s							
LPG	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.1 -0.2
LPG				pmax	pmax			
	comp=Z,11nm,0.7s							
LPG	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.1 -0.2
	comp=Z,11nm,0.7s							
LPL	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.0 -0.2
	comp=Z,14nm,0.7s							
LPL	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.0 -0.2
LPL				pmax	pmax			
	comp=Z,14nm,0.7s							
LPL	**La Plagne**	**73.09**	**313**	*e*P	**P**	02	53	00.0 -0.2
	comp=Z,14nm,0.7s							
YKA	**Yellowknife Ar**	**80.39**	**17**	P	**P**	02	53	40.6 -0.2
	comp=Z,1.0nm,0.6s,baz=328,slow=5.1,SNR=22							
YKA	**Yellowknife Ar**	**80.39**	**17**	P	**P**	02	53	40.6 -0.2
TORD	**Torodi Ar. Bea**	**94.08**	**288**	P	**P**	02	54	47.3 -1.3
	comp=Z,0.3nm,0.8s,baz=33,slow=6.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**94.08**	**288**	P	**P**	02	54	47.3 -1.3

*ISCJB **09** 02:48:44.8±1.0, 35.70N±0.06×22.00E±0.08, h11km, Error ellipse: s-maj=11.7km s-min=6.0km az=139.3*
*CSEM **09** 02:48:46.8±0.5, 35.82N×22.13E, h8km, MD3.6, Error ellipse: s-maj=13.1km s-min=5.7km az=42.0*
*THE **09** 02:48:47.2, 35.82N×22.07E, h6km±1km, ML3.0/1, Error ellipse: s-maj=2.6km s-min=1.5km az=46.0*
*ATH **09** 02:48:48.1, 35.83N×22.16E, h36km±6km, MD3.6/13*
ISC 09 02:48:47.3±1.7, 35.81N±0.08×22.12E±0.07, h11km, n60, σ0.8s58/64, 1C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.88**	**58**	P	**Pb**	02 49 04.7	+0.2
KYTH	**Kithira**	**0.88**	**58**	*e*PN	**Pb**	02 49 04.8	+0.2
KYTH	**Kithira**	**0.88**	**58**	*e*Pn	**Pb**	02 49 04.8	+0.2
DYR	**Agios Nikonas**	**0.96**	**10**	S	**Sb**	02 49 19.0	+0.3
DYR	**Agios Nikonas**	**0.96**	**10**	S	**Sb**	02 49 19.0	+0.3
PYL	**PYLOS**	**1.12**	**344**	P	**Pg**	02 49 08.3	-0.6
PYL				S	**Sn**	02 49 24.1	-0.3
PYL	**PYLOS**	**1.12**	**344**	*e*PB	**Pg**	02 49 08.4	-0.5
PYL				*e*SN	**Sn**	02 49 24.9	+0.5
PYL	**PYLOS**	**1.12**	**344**	P	**Pg**	02 49 08.3	-0.6
PYL				S	**Sn**	02 49 24.1	-0.3
PYL				*e*Sn	**Sn**	02 49 24.9	+0.5
ITM	**Ithomi**	**1.37**	**354**	P	**Pn**	02 49 12.3	-0.1
ITM				S	**Sg**	02 49 31.6	+0.1
ITM	**Ithomi**	**1.37**	**354**	*e*PB	**Pn**	02 49 12.2	-0.1
ITM	**Ithomi**	**1.37**	**354**	P	**Pn**	02 49 12.3	-0.1
ITM				S	**Sg**	02 49 31.6	+0.1
VLX	**Vlachokerasia**	**1.57**	**8**	P	**Pn**	02 49 14.4	-0.8
VLX	**Vlachokerasia**	**1.57**	**8**	P	**Pn**	02 49 14.4	-0.8
VAM	**Vamos**	**1.75**	**103**	*e*PN	**Pn**	02 49 17.5	0.0
VAM	**Vamos**	**1.75**	**103**	*e*Pn	**Pn**	02 49 17.5	0.0
AMT	**Artemida-Makis**	**1.75**	**349**	P	**Pn**	02 49 17.6	0.0
AMT	**Artemida-Makis**	**1.75**	**349**	P	**Pn**	02 49 17.6	0.0
DID	**Didima**	**1.91**	**28**	P	**Pn**	02 49 19.2	-0.7
DID	**Didima**	**1.91**	**28**	*e*PN	**Pn**	02 49 19.2	-0.7
DID	**Didima**	**1.91**	**28**	P	**Pn**	02 49 19.2	-0.7
GUR	**Goura**	**2.13**	**5**	*e*PN	**Pn**	02 49 23.3	+0.5
GUR	**Goura**	**2.13**	**5**	*e*Pn	**Pn**	02 49 23.3	+0.5
RLS	**Riolos of Patr**	**2.30**	**347**	*e*PB	**Pn**	02 49 26.4	+1.3
RLS	**Riolos of Patr**	**2.30**	**347**	*e*Pb	**Pn**	02 49 26.4	+1.3
LTK	**Loutraki**	**2.31**	**17**	*e*PB	**Pn**	02 49 26.8	+1.5
LTK	**Loutraki**	**2.31**	**17**	*e*Pb	**Pn**	02 49 26.8	+1.5
PTL	**Penteli**	**2.63**	**32**	P	**Pn**	02 49 30.4	+0.6
PTL	**Penteli**	**2.63**	**32**	P	**Pn**	02 49 30.4	+0.6
VLS	**Valsamata**	**2.66**	**333**	P	**Pn**	02 49 30.1	0.0
VLS	**Valsamata**	**2.66**	**333**	P	**Pn**	02 49 30.1	0.0
NPS	**Neapolis**	**2.90**	**100**	*e*PN	**Pn**	02 49 34.0	+0.6
NPS	**Neapolis**	**2.90**	**100**	*e*Pn	**Pn**	02 49 34.0	+0.6
LKR	**Lokris**	**2.92**	**14**	P	**Pn**	02 49 33.6	0.0
LKR	**Lokris**	**2.92**	**14**	*e*PN	**Pn**	02 49 33.6	0.0
LKR	**Lokris**	**2.92**	**14**	P	**Pn**	02 49 33.6	0.0
APE	**Apeiranthos**	**3.02**	**65**	*e*PN	**Pn**	02 49 34.7	-0.4
APE	**Apeiranthos**	**3.02**	**65**	*e*Pn	**Pn**	02 49 34.7	-0.4
THL	**Klokotos Trika**	**3.75**	**359**	P	**Pn**	02 49 45.2	+0.2
THL	**Klokotos Trika**	**3.75**	**359**	*e*PN	**Pn**	02 49 45.2	+0.2
THL	**Klokotos Trika**	**3.75**	**359**	P	**Pn**	02 49 45.2	+0.2
RGA	**Parga**	**3.77**	**339**	P	**Pn**	02 49 45.2	-0.2
RGA	**Parga**	**3.77**	**339**	P	**Pn**	02 49 45.2	-0.2
JAN	**Janina**	**3.96**	**346**	*e*PN	**Pn**	02 49 48.5	+0.4
JAN	**Janina**	**3.96**	**346**	*e*Pn	**Pn**	02 49 48.5	+0.4
IGT	**Igoumenitsa**	**3.97**	**340**	P	**Pn**	02 49 47.5	-0.6
IGT	**Igoumenitsa**	**3.97**	**340**	P	**Pn**	02 49 47.5	-0.6
KEK	**Kerkira**	**4.30**	**335**	P	**Pn**	02 49 52.9	+0.2
KEK	**Kerkira**	**4.30**	**335**	*e*PN	**Pn**	02 49 52.8	+0.1
KEK	**Kerkira**	**4.30**	**335**	*e*Pn	**Pn**	02 49 52.8	+0.1
NEST	**Nestorio**	**4.67**	**350**	P	**Pn**	02 49 58.3	+0.5
NEST	**Nestorio**	**4.67**	**350**	P	**Pn**	02 49 58.3	+0.5
FNA	**Florina**	**5.00**	**354**	P	**Pn**	02 50 02.1	-0.1
FNA	**Florina**	**5.00**	**354**	P	**Pn**	02 50 02.1	-0.1
GRG	**Griva**	**5.14**	**2**	P	**Pn**	02 50 04.0	-0.2
GRG	**Griva**	**5.14**	**2**	P	**Pn**	02 50 04.0	-0.2
KNT	**Kendrikon**	**5.38**	**6**	P	**Pn**	02 50 07.5	+0.1
KNT	**Kendrikon**	**5.38**	**6**	P	**Pn**	02 50 07.5	+0.1
STON	**Ston**	**7.83**	**335**	⇑*i*Pn	Pn	02 50 37.6	-3.5
STON				Sn	Sn	02 52 00.3	-9.4
GRUS	**Gruza**	**8.14**	**353**	*e*Pn	**Pn**	02 50 43.4	-1.9
NVLJ	**Novalja**	**10.34**	**330**	Sn	Sn	02 53 00.1	-11

IDC 09 02:59:41.0±1.2, 0.34S×132.44E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/22, mbtmpg3.7/6, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/36, Error ellipse: s-maj=59.1km s-min=19.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**200**	P	P	03 04 02.0	-1.1
	0.2nm,0.3s,baz=43,slow=16,SNR=6.6						
WRA	**Warramunga Arr**	**19.57**	**175**	P	P	03 04 11.0	+0.3
	0.3nm,0.3s,baz=350,slow=12,SNR=18						
ASAR	**Alice Springs**	**23.23**	**177**	P	P	03 04 50.6	+0.5
	3.8nm,0.9s,baz=354,slow=12,SNR=16						
JOW	**Kunigami**	**27.31**	**352**	LR	LR	03 14 58.1	
	comp=Z,28nm,18.6s,baz=46,slow=34						
MKAR	**Makanchi Array**	**64.15**	**324**	P	P	03 10 17.5	+0.1
	0.5nm,0.5s,baz=114,slow=7.9,SNR=10						
KURBB	**Kurchatov Arra**	**68.24**	**326**	P	P	03 10 43.7	+0.2
	0.7nm,0.6s,baz=126,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**86.32**	**25**	P	P	03 12 24.1	-0.6
	0.3nm,0.7s,baz=276,slow=3.5,SNR=2.8						

*ISCJB **09** 03:14:19.1±0.3, 23.34N±0.02×121.42E±0.02, h40km±5km, Error ellipse: s-maj=3.2km s-min=2.4km az=139.5*
*TAP **09** 03:14:19.2, 23.35N×121.33E, h41km, ML3.8, B*
*JMA **09** 03:14:19.9±0.4, 23.47N×121.45E, h99km, M3.2*
ISC 09 03:14:19.7±1.5, 23.34N±0.03×121.40E±0.02, h35km±2km, n64, σ1.9s05/103, 6C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWF1	**Yuli**	**0.09**	**278**	⇑*i*P	Pn	03 14 25.8	0.0
	baz=286						
TWF1				S	Sn	03 14 30.2	+0.3
	baz=286						
EHY	**Hungye**	**0.18**	**338**	⇑*i*P	Pn	03 14 26.2	-1.5
	baz=359						
EHY				*e*S	Sn	03 14 30.9	-3.5
	baz=359						
CHKT	**Chengkung**	**0.24**	**187**	*e*P	**Pn**	03 14 27.0	-0.4
	baz=171						
CHKT				*e*S	**Sn**	03 14 33.2	-0.4
	baz=171						
ELDTW	**Lidau**	**0.38**	**247**	⇓*i*P	**Pn**	03 14 28.2	-0.4
	baz=235						
ELDTW				S	**Sn**	03 14 34.4	-0.7
	baz=235						
TEGC	**Jichi Village**	**0.39**	**20**	*e*P	**Pn**	03 14 29.0	+0.3
	baz=32						
TEGC				*e*S	**Sn**	03 14 36.4	+1.2
	baz=32						
ESL	**Shilin**	**0.47**	**4**	*e*P	**Pn**	03 14 28.8	-1.1
	baz=18						
ESF	**Shoufeng Towns**	**0.54**	**11**	*e*P	**Pn**	03 14 30.9	0.0
	baz=12						
TWG	**Pinlang**	**0.60**	**210**	⇓*i*P	**Pn**	03 14 30.0	-1.7
	baz=193						
TWG				*e*S	**Sn**	03 14 38.0	-2.2
	baz=193						
TTN	**Taitung**	**0.63**	**202**	*e*P	**Pn**	03 14 31.1	-1.0
	baz=185						
TTN				*e*S	**Sn**	03 14 41.1	+0.3
	baz=185						
HWA	**Hwalien**	**0.66**	**17**	*e*P	**Pn**	03 14 31.7	-0.9
	baz=16						
HWA				*e*S	**Sn**	03 14 41.1	-0.6
	baz=16						
CHN5	**Tsauling**	**0.71**	**291**	⇑*i*P	**Pn**	03 14 33.2	0.0
	baz=302						
CHN5				S	**Sn**	03 14 43.6	+0.6
	baz=302						
SMLT	**Sun Moon Lake**	**0.71**	**320**	⇓*i*P	**Pn**	03 14 33.3	0.0
	baz=329						
SMLT				*e*S	**Sn**	03 14 42.8	-0.2
	baz=329						
WTP	**Ta-pu**	**0.73**	**263**	⇓*i*P	**Pn**	03 14 33.3	-0.1
	baz=260						
WTP				S	**Sn**	03 14 43.8	+0.4
	baz=260						
CHN4	**Tsaushan**	**0.74**	**271**	⇑P	**Pn**	03 14 33.5	-0.1
	baz=267						
CHN4				S	**Sn**	03 14 43.9	+0.3
	baz=267						
TYC	**Yuchr**	**0.75**	**319**	⇓*i*P	**Pn**	03 14 33.9	+0.2
	baz=323						
TYC				*i* S	**Sn**	03 14 44.2	+0.3
	baz=323						
TWD	**Chiawan**	**0.76**	**14**	⇓*i*P	**Pn**	03 14 32.6	-1.3
	baz=13						
TWD				*e*S	**Sn**	03 14 42.1	-2.0
	baz=13						
SGST	**Jiashian**	**0.79**	**251**	P	**Pn**	03 14 34.4	+0.1
	baz=248						
SGST				S	**Sn**	03 14 46.0	+1.1
	baz=248						
WHF	**Hehuan Shan**	**0.81**	**351**	⇓P	**Pn**	03 14 34.2	-0.8
	baz=5.0						
WHF				*e*S	**Sn**	03 14 44.5	-1.6
	baz=5.0						
CHN1	**Nanshi**	**0.81**	**259**	⇓*e*P	**Pn**	03 14 34.6	0.0
	baz=257						
CHN1				*e*S	**Sn**	03 14 46.0	+0.5
	baz=257						
TWK	**Hsinying**	**0.84**	**265**	⇓P	**Pn**	03 14 35.1	+0.1
	baz=263						
TWK				*e*S	**Sn**	03 14 46.8	+0.6
	baz=263						
WGK	**Gukeng**	**0.84**	**294**	*e*P	**Pn**	03 14 34.9	-0.1
	baz=305						
WGK				*e*S	**Sn**	03 14 47.1	+1.0
	baz=305						
ECL	**Taimali**	**0.84**	**209**	*e*P	**Pn**	03 14 33.0	-2.1
	baz=198						
WNT	**Mingjian**	**0.85**	**310**	*e*P	**Pn**	03 14 35.3	+0.2
	baz=313						
WNT				*e*S	**Sn**	03 14 47.0	+0.7
	baz=313						
CHY	**Chiayi**	**0.91**	**280**	*e*P	**Pn**	03 14 35.9	0.0
	baz=280						
CHY				*e*S	**Sn**	03 14 47.9	+0.1
	baz=280						
TWT	**Tachien**	**0.93**	**348**	⇓P	**Pn**	03 14 36.3	-0.1
	baz=352						
TWT				*e*S	**Sn**	03 14 48.3	-0.4
	baz=352						
CHN3	**Shinhua**	**0.98**	**255**	*e*P	**Pn**	03 14 37.9	+1.0
	baz=262						
CHN3				*e*S	**Sn**	03 14 52.4	+2.8
	baz=262						
TWM1	**Shoushan**	**1.03**	**240**	*e*P	**Pn**	03 14 38.9	+1.3
	baz=237						
SGLT	**Jiouru**	**1.03**	**234**	*e*P	**Pn**	03 14 39.3	+1.7
	baz=230						
TCU	**Taichung**	**1.04**	**321**	*e*P	**Pn**	03 14 38.4	+0.6
	baz=313						
TCU				*e*S	**Sn**	03 14 51.8	+0.8
	baz=313						
EAST	**Anshuo**	**1.08**	**208**	*e*P	**Pn**	03 14 36.6	-1.7
	baz=195						
TAW	**Tawu**	**1.08**	**205**	*e*P	**Pn**	03 14 38.3	0.0
	baz=192						
CHN8	**Yiju**	**1.09**	**271**	*e*P	**Pn**	03 14 38.0	-0.4
	baz=269						
CHN8				S	**Sn**	03 14 52.6	+0.3
	baz=269						
NNS	**Nan Shan**	**1.10**	**359**	*e*P	**Pn**	03 14 38.2	-0.4
	baz=15						
TAI1	**Yung-k'ang**	**1.12**	**255**	*e*P	**Pn**	03 14 39.6	+0.9
	baz=252						
SCLT	**Jiali**	**1.12**	**262**	*e*P	**Pn**	03 14 38.6	-0.2
	baz=260						
SCLT				*e*S	**Sn**	03 14 53.9	+0.9
	baz=260						
ENA	**Nanau**	**1.13**	**16**	*e*P	**Pn**	03 14 37.7	-1.3
	baz=15						
WTCT	**Ta-ch'eng**	**1.15**	**297**	*e*P	**Pn**	03 14 38.7	-0.5
	baz=298						
WTCT				*e*S	**Sn**	03 14 54.0	+0.3
	baz=298						
TWQ1	**Liyutan**	**1.16**	**331**	P	**Pn**	03 14 40.0	+0.6
	baz=335						
TWQ1				S	**Sn**	03 14 56.0	+2.0
	baz=335						
SCZT	**Fangliau**	**1.20**	**217**	*e*P	**Pn**	03 14 39.4	-0.5
	baz=211						
SCZT				*e*S	**Sn**	03 14 56.6	+1.7
	baz=211						
NSY	**Sanyi**	**1.22**	**332**	*e*P	**Pn**	03 14 41.0	+0.8
	baz=336						
NSY				*e*S	**Sn**	03 14 58.1	+2.5
	baz=336						
LAY	**Lan-yu**	**1.30**	**174**	*e*P	**Pn**	03

R15A	**Junction**	**0.75**	**216**	⇓P		**Pb**	**03 20 38.2**	**-1.0**
	baz=0.7								
R15A				⇑S		**Sb**	**03 20 48.8**	**-1.0**
	baz=0.7								
P16A	**Fountain Green**	**0.79**	**3**	⇓P		**Pb**	**03 20 39.5**	**-0.5**
	baz=0.8								
P15A	**Leamington**	**0.87**	**330**	⇑P		**Pb**	**03 20 40.6**	**-0.7**
	baz=0.9								
P15A				⇓S		**Sg**	**03 20 52.0**	**+0.6**
	baz=0.9								
R17A	**Hanksville Air**	**0.88**	**116**	⇓P		**Pg**	**03 20 40.5**	**+0.2**
	baz=0.9								
R17A				⇑S		**Sg**	**03 20 51.9**	**+0.1**
	baz=0.9								
SRU	**San Rafael**	**0.98**	**72**	*e*Pg		**Pg**	**03 20 42.2**	**+0.1**
SRU				*e*Sg		**Sg**	**03 20 55.0**	**+0.2**
SRU	**San Rafael**	**0.98**	**72**	⇓P		**Pg**	**03 20 42.2**	**+0.1**
	baz=1.0								
SRU				⇑S		**Sg**	**03 20 54.7**	**-0.1**
	baz=1.0								
P17A	**Butcher Ranch,**	**1.00**	**49**	⇑P		**Pg**	**03 20 42.4**	**-0.3**
	baz=1.0								
P17A				⇓S		**Sg**	**03 20 54.9**	**-0.8**
	baz=1.0								
S16A	**Weppner Ranch,**	**1.10**	**175**	⇑P		**Pg**	**03 20 44.3**	**-0.1**
	baz=1.1								
S16A				⇓S		**Sg**	**03 20 58.9**	**+0.3**
	baz=1.1								
MPU	**Maple Canyon**	**1.20**	**3**	*e*Pg		**Pb**	**03 20 46.8**	**-0.2**
MPU				*e*Sg		**Sg**	**03 21 01.6**	**-0.4**
Q18A	**Rafter H Ranch**	**1.27**	**76**	⇓P		**Pg**	**03 20 47.6**	**-0.1**
	baz=1.3								
Q18A				⇓S		**Sg**	**03 21 04.3**	**+0.2**
	baz=1.3								
S17A	**Black Ridge (B**	**1.38**	**148**	⇑P		**Pn**	**03 20 49.7**	**-0.1**
	baz=1.4								
S17A				⇑S		**Sg**	**03 21 07.3**	**-0.4**
	baz=1.4								
P18A	**Preston Nutter**	**1.40**	**54**	⇑P		**Pn**	**03 20 49.8**	**-0.5**
	baz=1.4								
P18A				⇑S		**Sg**	**03 21 07.2**	**-1.3**
	baz=1.4								
DUG	**Dugway**	**1.62**	**329**	*e*Pn		**Pn**	**03 20 52.3**	**-0.7**
DUG				*e*Sn		**Sg**	**03 21 15.3**	**-0.1**
DUG	**Dugway**	**1.62**	**329**	⇓P		**Pn**	**03 20 52.4**	**-0.6**
	baz=1.6								
DUG				⇓S		**Sg**	**03 21 15.2**	**-0.1**
	baz=1.6								
DAU	**Daniels Canyon**	**1.64**	**12**	*e*Pn		**Pn**	**03 20 52.8**	**-0.7**
DAU				*e*Sn		**Sn**	**03 21 14.1**	**-1.1**
ARUT	**Antelope Range**	**1.70**	**233**	*e*Pg		**Pb**	**03 20 54.8**	**-0.6**
S18A	**Hurst Farm, BI**	**1.76**	**129**	⇑Sb		**Sb**	**03 21 19.5**	**+0.3**
	baz=1.8								
JLU	**Jordanelle**	**1.80**	**7**	*e*Pn		**Pb**	**03 20 56.6**	**-0.5**
JLU				*e*Sn		**Sn**	**03 21 18.8**	**-0.3**
CCUT	**Cedar City**	**1.81**	**226**	*e*Pn		**Pb**	**03 20 56.7**	**-0.6**
CCUT				*e*Sn		**Sb**	**03 21 20.4**	**-0.1**
CTU	**Camp Tracy**	**1.88**	**359**	*e*Pn		**Pn**	**03 20 56.5**	**-0.1**
CTU				*e*Sn		**Sb**	**03 21 22.2**	**-0.2**
R13A	**O'Grain Ranch,**	**1.88**	**251**	⇓Sg		**Sg**	**03 21 26.3**	**+2.6**
	baz=1.9								
Q19A	**Hogan Spring (**	**1.92**	**85**	⇓Sb		**Sb**	**03 21 24.1**	**+0.5**
	baz=1.9								
O18A	**Roosevelt**	**1.96**	**42**	⇓Sb		**Sb**	**03 21 25.4**	**+0.6**
	baz=2.0								
N15A	**Stansbury Isla**	**2.16**	**344**	⇑P		**Pn**	**03 21 00.6**	**+0.1**
	baz=2.2								
PV04	**Paradox Valley**	**2.24**	**100**	*e*Pn		**Pb**	**03 21 03.4**	**-1.3**
PV04				*e*Sn		**Sn**	**03 21 31.3**	**+1.3**
O19A	**Miners Draw (B**	**2.49**	**53**	⇑Sb		**Sb**	**03 21 40.9**	**+0.7**
	baz=2.5								
M16A	**Huntsville**	**2.50**	**2**	⇓P		**Pn**	**03 21 06.3**	**+1.2**
	baz=2.5								
PV01	**Paradox Valley**	**2.56**	**104**	*e*Pn		**Pn**	**03 21 06.4**	**+0.3**
PV01				*e*Sn		**Sn**	**03 21 37.1**	**-0.8**
Q20A	**Ridgley Place,**	**2.67**	**86**	⇓Sb		**Sb**	**03 21 45.8**	**+0.4**
	baz=2.7								
M15A	**Larsen Ranch,**	**2.70**	**348**	⇑P		**Pn**	**03 21 08.2**	**+0.3**
	baz=2.7								
HWUT	**Hardware Ranch**	**2.79**	**2**	*e*Pn		**Pn**	**03 21 11.0**	**+1.8**
HWUT				*e*Sn		**Sn**	**03 21 45.2**	**+1.7**
HVU	**Hansel Valley**	**3.07**	**345**	*e*Pn		**Pn**	**03 21 13.1**	**+0.1**
HVU				*e*Sn		**Sn**	**03 21 48.0**	**-2.3**
L15A	**Malad City**	**3.23**	**351**	⇓P		**Pn**	**03 21 15.6**	**+0.4**
	baz=3.2								
ELK	**Elko**	**3.33**	**307**	*e*Pn		**Pn**	**03 21 16.6**	**0.0**
ELK				*e*Sn		**Sn**	**03 21 57.6**	**+0.7**
SMCO	**Snowmass**	**3.71**	**83**	*e*Pn		**Pn**	**03 21 22.8**	**+0.7**
SMCO				*e*Sn		**Sn**	**03 22 07.8**	**+1.1**
RRI2	**Red Ridge**	**4.54**	**4**	*e*Pn		**Pn**	**03 21 33.5**	**+0.2**
REDW	**Red Top Meadow**	**4.59**	**8**	*e*Pn		**Pn**	**03 21 35.1**	**+1.1**
ISCO	**Idaho Springs**	**4.84**	**76**	*e*Pn		**Pn**	**03 21 36.0**	**-1.5**
ISCO				Sn		**Sn**	**03 22 34.4**	**+0.2**
LOHW	**Long Hollow**	**4.87**	**10**	*e*Pn		**Pn**	**03 21 38.7**	**+0.9**
MOOW	**Moose Ponds**	**4.98**	**8**	*e*Pn		**Pn**	**03 21 40.2**	**+0.9**
IMW	**Indian Meadow**	**5.11**	**6**	*e*Pn		**Pn**	**03 21 41.2**	**0.0**
	3.9nm,0.5s								
HLID	**Hailey**	**5.16**	**338**	*e*Pn		**Pn**	**03 21 43.9**	**+2.2**
	2.8nm,0.8s								
LENM	**Lemitar**	**6.01**	**139**	*e*Pn		**Pn**	**03 21 52.8**	**-0.7**
LENM				*e*Sn		**Sn**	**03 23 03.7**	**+0.8**

*IDC **09** 03:25:56.2±5.9,35°.90N×71°.39E,h74^{km}±45^{km},mb3.4/6, mb1 3.5/11,mb1mx3.2/31,mbtmp3.4/11,ML3.6/5,Error ellipse: s-maj=55.7km s-min=34.2km az=147.0*

*ISCJB **09** 03:26:00.9±0.5,36°.41N±0°.03×71°.2E±0°.1,h100^{km}, mb3.7/5,Error ellipse: s-maj=11.6km s-min=4.8km az=0.8*

*NNC **09** 03:26:06.3±7.3,36°.79N×70°.78E,h73^{km}±126^{km},mb3.5, mpv4.1,Error ellipse: s-maj=53.9km s-min=44.6km az=24.0*

ISC 09 03:26:01.8±0.7,36°.41N±0°.06×71°.1E±0°.1,h100^{km},n28, σ1°17/30,mb3.8/5,3C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.67**	**165**	⇓P		**Pn**	**03 26 43.1**	**-0.2**
CEP				S		**Sn**	**03 27 15.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.27**	**147**	P		Pn	03 26 51.1	-0.2
THW	**Thamme Wali**	**3.65**	**171**	P		**Pn**	**03 26 55.9**	**-0.4**
SARP	**Sargodha**	**4.67**	**163**	P		Pn	03 27 07.7	-2.3
KSH	**Kashi**	**4.94**	**50**	*e*Pn		Pn	03 27 09.5	-4.3
KSH					Sn	Sn	03 27 54.6	-15
KSH					smax	smax		
	comp=N,41nm,0.3s							
KSH					smax	smax		
	comp=E,45nm,0.4s							
AML	**Almayashu**	**6.05**	**19**	P		**Pn**	**03 27 29.9**	**+0.7**
	SNR=59							
KZA	**Kyzart**	**6.51**	**28**	P		**Pn**	**03 27 35.5**	**+0.2**
	SNR=6.7							
EKS2	**Erkin-Say**	**6.57**	**18**	P		**Pn**	**03 27 37.0**	**+1.0**
	SNR=31							
KK31	**Karatay Array**	**6.70**	**356**	⇓P		**Pn**	**03 27 38.1**	**+0.6**
	comp=E,11nm,0.3s,baz=178,slow=12,SNR=805							
KK31				⇓S		**Sn**	**03 28 48.8**	**-3.5**
	comp=E,3.1nm,0.3s,baz=187,slow=21,SNR=3.7							
AAK	**Ala-Archa**	**6.74**	**22**	P		**Pn**	**03 27 39.3**	**+1.0**
	comp=E,3.1nm,0.3s,baz=169,slow=6.3,SNR=51							
AAK				S		**Sn**	**03 28 53.1**	**-0.6**
	comp=E,0.7nm,0.3s,baz=349,slow=22,SNR=12							
AAK	**Ala-Archa**	**6.74**	**22**	P		**Pn**	**03 27 39.2**	**+0.8**
	SNR=12							
TKM2	**Tokmak 2**	**7.37**	**27**	⇓P		**Pn**	**03 27 45.3**	**-1.5**
	comp=E,2.7nm,0.5s							
TKM2				⇓S		**Sn**	**03 29 08.4**	**-0.5**
	comp=E,4.1nm,0.8s							
TKM2	**Tokmak 2**	**7.37**	**27**	P		**Pn**	**03 27 47.5**	**+0.7**
	SNR=7.6							
MK31	**Makanchi Array**	**13.31**	**35**	⇑P		**P**	**03 29 13.7**	**+1.0**
	comp=E,0.6nm,0.7s							
MKAR	**Makanchi Array**	**13.31**	**35**	P		**Pn**	**03 29 05.7**	**-1.0**
	comp=E,0.1nm,0.3s,baz=234,slow=12,SNR=3.3							
KURBB	**Kurchatov Arra**	**15.18**	**18**	P		**P**	**03 29 32.6**	**-0.8**
	comp=E,0.0nm,0.3s,baz=205,slow=11,SNR=8.3							
AB31	**Akbulak array**	**15.20**	**331**	⇓P		**Pn**	**03 29 30.0**	**-0.9**
	comp=E,0.9nm,0.3s							
AB31				⇑S		Sn	03 32 08.8	-10
	comp=E,0.7nm,0.5s,baz=155,slow=24,SNR=4.8							
ZRNK	**Zerenda**	**16.60**	**356**	⇓P		**P**	**03 29 49.1**	**0.0**
	comp=E,1.9nm,1.1s							
BVAR	**Borovoye Array**	**16.62**	**358**	P		**P**	**03 29 49.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=168,slow=17,SNR=5.0							
AKTO	**Aktyubinsk**	**16.90**	**330**	P		**P**	**03 29 53.2**	**+0.8**
	comp=E,0.4nm,0.3s,baz=142,slow=14,SNR=10							
AKTO	**Aktyubinsk**	**16.90**	**330**	⇑P		**P**	**03 29 52.9**	**+0.6**
	comp=E,0.8nm,1.1s							
ZALV	**Zalesovo Beam**	**19.96**	**24**	P		**P**	**03 30 25.2**	**-0.6**
	comp=E,1.3nm,0.3s,baz=205,slow=10,SNR=11							
FINES	**FINESS Array B**	**37.60**	**326**	P		**P**	**03 33 08.7**	**+2.3**
	comp=E,1.7nm,0.9s,baz=104,slow=8.0,SNR=5.3							
ARCES	**ARCESS Array B**	**41.26**	**338**	P		**P**	**03 33 38.3**	**+1.7**
	comp=E,2.1nm,0.7s,baz=99,slow=7.5,SNR=7.5							
NB2	**NORSAR Subarra**	**44.50**	**323**	P		**P**	**03 34 03.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.50**	**323**	P		**P**	**03 34 03.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P		**P**	**03 36 35.0**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=53,slow=5.9,SNR=9.5							
YKA	**Yellowknife Ar**	**81.33**	**3**	P		**P**	**03 38 06.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=350,slow=5.2,SNR=6.2							

GUC 09 03:35:20.6±0.6,32°.54S×71°.69W,h15^{km}±4^{km},MD3.6, ML2.7,8C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.49**	**175**	⇑*i*P		Pg	03 35 30.0	-0.3
IHA				*i* S		Sg	03 35 37.3	+0.4
CHNG	**Los Chungos**	**0.67**	**14**	⇑*i*P		Pg	03 35 33.1	-0.7
CHNG				*i* S		Sg	03 35 42.5	-0.2
ROCH	**El Roble**	**0.72**	**127**	⇓*i*P		Pg	03 35 34.1	-0.8
ROCH				*i* S		Sg	03 35 44.4	-0.2
JACH	**Jahuel**	**0.94**	**99**	*e*S		Sb	03 35 50.6	-0.4
PEL	**Peldehue**	**1.04**	**126**	⇑*i*P		Pb	03 35 39.2	-1.2
PEL				*i* S		Sb	03 35 53.1	-0.8
PEL				AML	AML		03 35 55.1	
	comp=E,679nm,0.3s							
TACH	**Talagante**	**1.28**	**151**	⇑*i*P		Pn	03 35 42.9	-1.1
TACH				*i* S		Sb	03 35 59.0	-1.8
CLCH	**Cerro Calan**	**1.29**	**132**	⇑*i*P		Pn	03 35 43.1	-1.2
CLCH				*i* S		Sb	03 35 60.0	-1.3
CLCH				AML	AML		03 36 11.1	
	comp=N,142nm,0.7s							
ANTU	**Antumapu**	**1.36**	**139**	⇑*i*P		Pn	03 35 44.2	-0.9
ANTU				*i* S		Sn	03 36 02.1	-0.9
ANTU				AML	AML		03 36 07.0	
	comp=N,192nm,0.6s							
FCH	**Farellones**	**1.42**	**124**	⇑*i*P		Pn	03 35 45.0	-1.3
FCH				*i* S		Sn	03 36 04.2	-0.8
FCH				AML	AML		03 36 05.3	
	comp=E,154nm,0.1s							
CMCH	**Combarbala**	**1.48**	**23**	⇑*i*P		Pn	03 35 45.7	-1.1
CMCH				*e*S		Sn	03 36 05.5	-0.5
CMCH				AML	AML		03 36 07.8	
	comp=E,384nm,0.5s							
CHCH	**Chadas Angostu**	**1.64**	**148**	*e*P		Pn	03 35 48.7	-0.3
LMEL	**Las Melosas**	**1.81**	**137**	*e*P		Pn	03 35 51.4	0.0
LMEL				*i* S		Sn	03 36 14.6	+0.4
LMEL				AML	AML		03 36 22.9	
	comp=N,121nm,0.2s							
CACH	**El Canelo**	**1.82**	**150**	*e*P		Pn	03 35 52.4	+0.8
CACH				*e*S		Sb	03 36 16.7	+0.2

DDA 09 03:39:30.2,37°.80N×29°.07E,h7^{km},MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.12**	**190**	*i* P		Pg	03 39 32.6	-0.4
DNZL				*i* S		Sg	03 39 35.4	+0.5

*IDC **09** 03:44:21.6±0.5,17°.20S×66°.76E,h0^{km},mb4.3/22, mb1 4.4/22,mb1mx4.3/33,mbtmp4.3/22,MS4.4/30, Ms1 4.4/30,ms1mx4.3/38,Error ellipse: s-maj=16.3km s-min=15.1km az=82.0*

*ISCJB **09** 03:44:23.2±0.4, 17°.21S±0°.08×66°.83E±0°.07,h21^{km}, mb4.3/35,MS4.4/30,Error ellipse: s-maj=10.9km s-min=9.0km az=2.5*

*NEIC **09** 03:44:23.3±0.3,17°.18S×66°.80E,h10^{km},mb4.6/10,Error ellipse: s-maj=9.1km s-min=7.7km az=179.0*

*BJI **09** 03:44:26.7,17°.10S×66°.60E,h33^{km},mb4.3/6*

*GCMT **09** 03:44:28.7±0.2, 17°.07S×66°.70E,h18^{km}±1^{km},MW5.2, Moment Tensor Solution. s44,c61; s85,c152; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.63±.21; M_{tt}=-6.98±.20; M_{pp}=7.61±.20; M_{rt}=-1.45±.44; M_{rp}=3.56±.16; M_{tp}=-2.02±.43; Best double couple: M_0=8.50000×10^{16} NP1:ϕ=147.00000°, δ=75.00000°, λ=176.00000°. NP2:ϕ=238.00000°, δ=86.00000°, λ=15.00000°. Principal axes: T 8.9800, Plg13.0000°, Azm104.0000°; N -1.0500, Plg74.0000°, Azm253.0000°; P -7.9300, Plg8.0000°, Azm12.0000°; Data Used: ll IU G IC.*

ISC 09 03:44:25.0±0.5,17°.2S±0°.1×66°.7E±0°.09,h21^{km},n111, σ0°.91/91,mb4.5/35,MS4.3/30,7C-7D,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**18.67**	**261**	*e*P		**Pn**	**03 48 42.7**	**+0.2**
	160nm,2.0s							
KMBO	**Kilima Mbogo**	**33.14**	**296**	*e*P		**P**	**03 51 01.1**	**+0.7**
	9.9nm,1.6s							
LSZ	**Lusaka**	**37.06**	**267**	*e*P		**P**	**03 51 33.7**	**-0.4**
PSI	**Prapat**	**37.43**	**61**	LR		LR	04 03 43.1	
	comp=Z,713nm,19.7s,baz=159,slow=31							
LBTB	**Lobatse**	**39.08**	**251**	P		**P**	**03 51 50.4**	**-0.6**
	11nm,0.8s,baz=105,slow=8.4,SNR=15							
LBTB	**Lobatse**	**39.08**	**251**	*e*P		**P**	**03 51 51.5**	**+0.5**
	13nm,0.9s							
BOSA	**Boshof**	**39.71**	**246**	P		**P**	**03 51 56.0**	**-0.3**
	2.5nm,0.7s,baz=54,slow=12,SNR=4.7							
BOSA	**Boshof**	**39.71**	**246**	P		**P**	**03 51 56.0**	**-0.3**
WSAR	**Wadi Sarin**	**40.97**	**349**	P		**P**	**03 52 06.3**	**-0.2**
	6.4nm,0.9s,baz=166,slow=5.4,SNR=3.5							
WSAR				LR		LR	04 04 03.1	
	comp=Z,394nm,21.3s,baz=170,slow=29							
WSAR	**Wadi Sarin**	**40.97**	**349**	P		**P**	**03 52 06.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**47.50**	**43**	P		**P**	**03 52 58.5**	**-0.4**
	1.3nm,0.3s,baz=233,slow=7.6,SNR=12							
CMAR				LR		LR	04 08 51.2	
	comp=Z,191nm,21.4s,baz=227,slow=31							
CMAR	**Chiang Mai Arr**	**47.50**	**43**	P		**P**	**03 52 58.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**47.88**	**119**	LR		LR	04 08 23.7	
	comp=Z,587nm,21.1s,baz=303,slow=30							
SHL	**Shillong**	**49.03**	**31**	*e*P		**P**	**03 53 10.0**	**-0.8**
MAW	**Mawson**	**50.45**	**182**	LR		LR	04 08 59.2	
	comp=Z,758nm,19.1s,baz=12,slow=29							
KAPI	**Kappang**	**53.21**	**83**	LR		LR	04 12 51.5	
	comp=Z,460nm,21.6s,baz=256,slow=32							
FITZ	**Fitzroy Crossi**	**55.89**	**100**	LR		LR	04 14 25.8	
	comp=Z,765nm,20.6s,baz=266,slow=32							
FITZ	**Fitzroy Crossi**	**55.89**	**100**	*e*P		**P**	**03 54 01.7**	**0.0**
	9.7nm,1.1s							
AAK	**Ala-Archa**	**59.95**	**7**	P		**P**	**03 54 30.9**	**+1.0**
	2.0nm,0.9s,baz=149,slow=4.3,SNR=4.3							
AAK				LR		LR	04 17 10.4	
	comp=Z,334nm,20.6s,baz=188,slow=33							
AAK	**Ala-Archa**	**59.95**	**7**	P		**P**	**03 54 30.9**	**+1.0**
TKM2	**Tokmak 2**	**60.36**	**7**	*e*P		**P**	**03 54 31.3**	**-1.5**
	3.3nm,0.8s							
GNI	**Garni**	**60.63**	**341**	P		**P**	**03 54 36.4**	**+1.8**
	9.0nm,0.8s,baz=174,slow=18,SNR=2.9							
GNI	**Garni**	**60.63**	**341**	P		**P**	**03 54 36.4**	**+1.8**
ASAR	**Alice Springs**	**62.75**	**108**	P		**P**	**03 54 48.9**	**-0.4**
	4.5nm,0.8s,baz=270,slow=5.8,SNR=28							
ASAR				LR		LR	04 18 43.6	
	comp=Z,1μm,19.4s,baz=269,slow=33							
ASAR	**Alice Springs**	**62.75**	**108**	P		**P**	**03 54 48.9**	**-0.4**
AS31	**Alice Springs**	**62.75**	**108**	*e*P		**P**	**03 54 48.8**	**-0.5**
WRA	**Warramunga Arr**	**63.72**	**104**	P		**P**	**03 54 55.9**	**+0.2**
	17nm,1.1s,baz=264,slow=6.0,SNR=38							
WRA				LR		LR	04 22 02.5	
	comp=Z,552nm,18.5s,baz=240,slow=36							
WRA	**Warramunga Arr**	**63.72**	**104**	P		**P**	**03 54 55.9**	**+0.2**
WRAB	**Tennant Creek**	**63.73**	**104**	*e*P		**P**	**03 54 55.4**	**-0.4**
	20nm,1.1s							
GTA	**Gaotai**	**64.22**	**28**	*e*P		P	03 55 01.2	+2.6
GTA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**64.45**	**341**	LR		LR	04 20 19.1	
	comp=Z,190nm,20.2s,baz=328,slow=34							
BR131	**Keskin Array S**	**64.51**	**332**	*e*P		**P**	**03 55 00.5**	**0.0**
	comp=Z,1.7nm,0.8s							
BRTR	**Keskin Array B**	**64.51**	**332**	P		**P**	**03 54 59.9**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=151,slow=5.6,SNR=9.4							
BRTR				LR		LR	04 21 13.6	
	comp=Z,182nm,19.2s,baz=326,slow=34							
BRTR	**Keskin Array B**	**64.51**	**332**	P		**P**	**03 54 59.9**	**-0.6**
MKAR	**Makanchi Array**	**65.21**	**12**	LR		LR	04 22 46.1	
	comp=Z,150nm,19.3s,baz=93,slow=35							
ABKAR	**Akbulak array**	**66.43**	**355**	*e*P		**P**	**03 55 10.9**	**-1.6**
	comp=Z,2.2nm,0.7s							
AKTO	**Aktyubinsk**	**67.77**	**354**	P		**P**	**03 55 21.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=191,slow=8.4,SNR=3.9							
AKTO				LR		LR	04 23 59.6	
	comp=Z,129nm,19.8s,baz=6.9,slow=35							
AKTO	**Aktyubinsk**	**67.77**	**354**	P		**P**	**03 55 21.1**	**0.0**
KURBB	**Kurchatov Arra**	**68.31**	**8**	P		**P**	**03 55 22.8**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=206,slow=6.6,SNR=14							
KURK	**Kurchatov**	**68.41**	**8**	*e*P		**P**	**03 55 24.7**	**-0.3**
	comp=Z,4.4nm,1.0s							
STKA	**Stephens Creek**	**68.45**	**118**	LR		LR	04 22 12.1	
	comp=Z,436nm,18.8s,baz=222,slow=33							
NJ2	**Nanjing**	**69.90**	**46**	*e*P		P	03 55 37.3	+2.6
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
BVAR	**Borovoye Array**	**70.00**	**2**	P		**P**	**03 55 34.2**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=172,slow=8.0,SNR=8.9							
BVAR	**Borovoye Array**	**70.00**	**2**	P		**P**	**03 55 34.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**70.98**	**291**	P		**P**	**03 55 40.8**	**-0.8**
	comp=Z,0.5nm,1.1s,baz=140,slow=4.8,SNR=5.5							
TORD				LR		LR	04 24 56.3	
	comp=Z,319nm,19.0s,baz=120,slow=34							
TORD	**Torodi Ar. Bea**	**70.98**	**291**	P		**P**	**03 55 40.8**	**-0.8**
CFR	**Carcaliu**	**71.31**	**332**	⇓*i*P		**P**	**03 55 43.6**	**+0.6**
VTS	**Vitosha**	**71.74**	**328**	⇓*i*P		**P**	**03 55 46.3**	**+0.4**
ISR	**Istrita**	**71.99**	**331**	⇓*i*P		P	03 55 50.1	+2.9
VRI	**Vrincioaia**	**72.47**	**332**	⇓*i*P		**P**	**03 55 51.3**	**+1.3**
PLOR	**Plostina**	**72.50**	**332**	⇑*i*P		**P**	**03 55 51.7**	**+1.5**
ZAA0	**Zalesovo Array**	**72.53**	**11**	*e*P		**P**	**03 55 48.6**	**-1.5**
ZALV	**Zalesovo Beam**	**72.53**	**11**	P		**P**	**03 55 48.7**	**-1.4**
	comp=Z,3.5nm,0.6s,baz=198,slow=6.8,SNR=14							
ZALV				LR		LR	04 25 32.1	
	comp=Z,118nm,19.4s,baz=65,slow=34							
ZALV	**Zalesovo Beam**	**72.53**	**11**	P		**P**	**03 55 48.7**	**-1.4**
MLR	**Muntele Rosu**	**72.55**	**331**	P		**P**	**03 55 52.1**	**+1.5**
	comp=Z,0.9nm,1.1s,baz=178,slow=7.4,SNR=4.1							
MLR	**Muntele Rosu**	**72.55**	**331**	P		**P**	**03 55 52.1**	**+1.5**
MLR	**Muntele Rosu**	**72.55**	**331**	⇑*i*P		**P**	**03 55 51.8**	**+1.2**
QSPA	**South Pole Qui**	**72.90**	**180**	P		**P**	**03 55 52.4**	**-0.1**
	comp=Z,7.5nm,0.5s,baz=287,slow=1.6,SNR=103							
QSPA	**South Pole Qui**	**72.90**	**180**	P		**P**	**03 55 52.5**	**-0.1**
VOIR		**72.92**	**331**	⇑*i*P		**P**	**03 55 53.5**	**+0.7**
ARR	**Arges**	**73.07**	**330**	⇓*i*P		**P**	**03 55 53.8**	**+0.2**
SONM	**Songino Array**	**73.80**	**27**	P		**P**	**03 55 58.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=230,slow=5.1,SNR=10							
SONM				LR		LR	04 27 05.6	
	comp=Z,124nm,18.6s,baz=8.5,slow=35							
SONM	**Songino Array**	**73.80**	**27**	P		**P**	**03 55 58.9**	**+0.9**
JOW	**Kunigami**	**74.00**	**55**	LR		LR	04 23 45.1	
	comp=Z,114nm,20.6s,baz=280,slow=32							
ULN	**Ulaanbaatar**	**74.11**	**27**	*e*P		**P**	**03 56 00.4**	**+0.6**
	comp=Z,3.6nm,1.1s							
VNDA	**Vanda**	**74.43**	**167**	P		**P**	**03 56 01.6**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=274,slow=3.9,SNR=4.9							
VNDA				LR		LR	04 24 26.9	
	comp=Z,266nm,20.2s,baz=2.9,slow=32							
VNDA	**Vanda**	**74.43**	**167**	P		**P**	**03 56 01.6**	**+0.5**
DBIC	**Dimbokro**	**74.61**	**282**	P		**P**	**03 56 02.2**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=162,slow=14,SNR=3.8							
DBIC				LR		LR	04 27 21.2	
	com

COEN	**Coen**	**14.14**	**239**	*e*Pn	**Pn**	**04 40 21.2**	**-0.9**
	59nm,0.6s						
COEN	**Coen**	**14.14**	**239**	P	**Pn**	**04 40 22.4**	**+0.3**
	baz=14,SNR=6.9						
COEN	**Coen**	**14.14**	**239**	P	**Pn**	**04 40 22.5**	**+0.3**
	baz=7.4,SNR=6.1						
CTA	**Charters Tower**	**15.97**	**214**	Pn	**Pn**	**04 40 46.6**	**+0.8**
	0.3nm,0.3s,baz=33,slow=12,SNR=5.3						
CTA				LR	LR	04 45 55.9	
	comp=Z,260nm,18.1s,baz=55,slow=34						
CTA	**Charters Tower**	**15.97**	**214**	Pn	**Pn**	**04 40 46.6**	**+0.8**
DZM	**Mont Dzumac**	**18.29**	**147**	P	**P**	**04 41 15.5**	**+1.1**
	0.3nm,0.3s,baz=149,slow=18,SNR=4.0						
DZM	**Mont Dzumac**	**18.29**	**147**	P	**P**	**04 41 15.5**	**+1.1**
QIS	**Mount Isa**	**20.65**	**227**	P	**P**	**04 41 40.5**	**+0.4**
	baz=21,SNR=6.7						
QLP	**Quilpie**	**22.38**	**208**	P	**P**	**04 41 58.6**	**-0.1**
	baz=23,SNR=5.4						
GUMO	**Guam**	**23.04**	**332**	LR	LR	04 49 18.7	
	comp=Z,105nm,21.7s,baz=92,slow=32						
KDU	**Kakadu**	**23.57**	**254**	P	**P**	**04 42 09.7**	**-1.1**
	baz=24,SNR=3.7						
WRAB	**Tennant Creek**	**24.41**	**236**	*e*P	**P**	**04 42 17.8**	**-0.7**
	11nm,0.8s						
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**04 42 18.2**	**-0.4**
	7.6nm,0.6s,baz=58,slow=9.4,SNR=178						
WRA				PcP	**PcP**	**04 45 56.5**	**-0.3**
	0.3nm,0.5s,baz=68,slow=2.5,SNR=6.2						
WRA				LR	LR	04 51 21.6	
	comp=Z,124nm,19.9s,baz=75,slow=36						
WRA	**Warramunga Arr**	**24.42**	**236**	P	**P**	**04 42 18.2**	**-0.4**
WRA				PcP	**PcP**	**04 45 56.5**	**-0.3**
ASAR	**Alice Springs**	**26.73**	**229**	P	**P**	**04 42 38.5**	**-1.1**
	1.5nm,0.5s,baz=61,slow=9.1,SNR=44						
ASAR				PcP	**PcP**	**04 46 02.4**	**+0.4**
	0.5nm,0.7s,baz=63,slow=2.5,SNR=4.2						
ASAR	**Alice Springs**	**26.73**	**229**	P	**P**	**04 42 38.5**	**-1.1**
ASAR				PcP	**PcP**	**04 46 02.4**	**+0.4**
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**04 42 50.3**	**-1.2**
	1.5nm,0.6s,baz=1.4,slow=9.9,SNR=5.7						
STKA				LR	LR	04 53 59.7	
	comp=Z,205nm,18.4s,baz=21,slow=36						
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**04 42 50.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**31.31**	**246**	P	**P**	**04 43 19.8**	**-0.4**
	4.1nm,0.5s,baz=72,slow=8.5,SNR=40						
FITZ	**Fitzroy Crossi**	**31.31**	**246**	*e*P	**P**	**04 43 18.6**	**-1.5**
	7.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**31.31**	**246**	P	**P**	**04 43 19.7**	**-0.4**
	baz=32,SNR=15						
WSI	**Waingapu**	**35.11**	**263**	S	S	04 49 14.3	-8.7
	baz=35,SNR=3.2						
MEEK	**Meekatharra**	**40.32**	**236**	P	**P**	**04 44 36.6**	**-0.8**
	baz=41,SNR=3.4						
KLBR	**Kellerberrin**	**43.05**	**230**	P	**P**	**04 44 58.9**	**-0.7**
	baz=43,SNR=9.5						
MJAR	**Matsushiro Arr**	**46.24**	**340**	P	**P**	**04 45 24.3**	**-0.5**
	0.8nm,0.3s,baz=158,slow=7.1,SNR=3.7						
MJAR				PcP	**PcP**	**04 47 00.8**	**+1.0**
	1.9nm,0.7s,baz=171,slow=3.8,SNR=4.2						
MJAR	**Matsushiro Arr**	**46.24**	**340**	P	**P**	**04 45 24.3**	**-0.5**
MJAR				PcP	**PcP**	**04 47 00.8**	**+1.0**
KSRS	**Korea Array**	**51.20**	**332**	P	**P**	**04 46 03.0**	**+0.2**
	0.9nm,0.5s,baz=147,slow=8.2,SNR=4.8						
KSAR	**Wonju Array Be**	**51.21**	**332**	P	**P**	**04 46 03.0**	**+0.1**
USRK	**Ussuriysk Arra**	**55.20**	**339**	P	**P**	**04 46 32.5**	**+0.4**
	3.8nm,0.8s,baz=141,slow=40,SNR=4.2						
PETK	**Petropavlovsk-**	**59.83**	**1**	P	**P**	**04 47 05.4**	**+0.9**
	1.1nm,0.7s,baz=186,slow=5.5,SNR=2.6						
PETK	**Petropavlovsk-**	**59.83**	**1**	P	**P**	**04 47 05.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.37**	**295**	P	**P**	**04 47 14.7**	**-1.1**
	7.7nm,0.8s,baz=123,slow=5.6,SNR=30						
CMAR	**Chiang Mai Arr**	**61.37**	**295**	P	**P**	**04 47 14.7**	**-1.1**
CHTO	**Chiang Mai**	**61.49**	**296**	*e*P	**P**	**04 47 15.8**	**-0.7**
	2.3nm,0.7s						
SONM	**Songino Array**	**69.65**	**327**	P	**P**	**04 48 09.2**	**+0.4**
	2.3nm,0.7s,baz=137,slow=5.9,SNR=20						
SONM	**Songino Array**	**69.65**	**327**	P	**P**	**04 48 09.2**	**+0.4**
ILAR	**Eielson Array**	**83.06**	**21**	P	**P**	**04 49 24.2**	**-0.1**
	0.7nm,0.8s,baz=241,slow=6.3,SNR=10						
ILAR				LR	LR	05 20 29.3	
	comp=Z,91nm,21.3s,baz=216,slow=31						
ILAR	**Eielson Array**	**83.06**	**21**	P	**P**	**04 49 24.2**	**-0.1**
MK31	**Makanchi Array**	**83.80**	**319**	*e*P	**P**	**04 49 28.4**	**-0.2**
MKAR	**Makanchi Array**	**83.80**	**319**	P	**P**	**04 49 28.6**	**0.0**
	1.6nm,0.7s,baz=101,slow=5.8,SNR=21						
MKAR	**Makanchi Array**	**83.80**	**319**	P	**P**	**04 49 28.6**	**0.0**
ZALV	**Zalesovo Beam**	**84.50**	**326**	P	**P**	**04 49 31.1**	**-0.9**
	1.0nm,0.6s,baz=111,slow=6.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**84.50**	**326**	P	**P**	**04 49 31.1**	**-0.9**
NEW	**Newport**	**93.25**	**42**	LR	LR	05 24 12.5	
	comp=Z,143nm,21.3s,baz=294,slow=30						
YKA	**Yellowknife Ar**	**95.95**	**28**	P	**P**	**04 50 26.3**	**+0.6**
	0.7nm,0.8s,baz=269,slow=4.8,SNR=12						
YKA	**Yellowknife Ar**	**95.95**	**28**	P	**P**	**04 50 26.3**	**+0.6**
AKASG	**Malin Array Be**	**117.88**	**325**	PKP	**PKPdf**	**04 55 45.4**	**0.0**
	0.8nm,0.5s,baz=53,slow=2.9,SNR=4.3						
AKASG	**Malin Array Be**	**117.88**	**325**	PKP	**PKPdf**	**04 55 45.4**	**0.0**
GERES	**GERESS Array B**	**127.34**	**329**	PKP	**PKPdf**	**04 56 04.4**	**+0.6**
	0.8nm,0.7s,baz=165,slow=4.1,SNR=5.7						
GERES	**GERESS Array B**	**127.34**	**329**	PKP	**PKPdf**	**04 56 04.4**	**+0.6**
TAM	**Tamanrasset**	**147.23**	**302**	*e*PKPbc	**PKPbc**	**04 56 43.9**	**+0.5**
BDFB	**Brasilia**	**147.54**	**134**	PKPbc	**PKPbc**	**04 56 44.8**	**+0.5**
	4.0nm,0.6s,baz=209,slow=1.4,SNR=9.1						
BDFB	**Brasilia**	**147.54**	**134**	PKPbc	**PKPbc**	**04 56 44.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**153.66**	**286**	PKPbc	**PKPbc**	**04 56 58.1**	**-0.8**
	0.8nm,0.7s,baz=70,slow=1.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**153.66**	**286**	PKPbc	**PKPbc**	**04 56 58.1**	**-0.8**

*IDC **09** 04:40:14.3±1.6,24.25S×67.11W,h151km±15km,mb3.2/2, mb1 3.6/7,mb1mx3.4/20,mbtmp3.4/7, Error ellipse: s-maj=21.0km s-min=13.2km az=95.0*

*ISCJB **09** 04:40:16.7±0.8,24.07S±0.06×67.5W±0.1,h218km±11km, mb3.3/2, Error ellipse: s-maj=15.2km s-min=9.1km az=10.8*

*GUC **09** 04:40:18.1±0.6,23.97S×67.61W,h210km±5km,ML4.6*

ISC 09 04:40:18.8±1.1,23.99S±0.08×67.5W±0.1,h212km±10km, n23,σ1§42/29,7C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.26**	**328**	*e*P	**Pn**	**04 40 51.5**	**-0.6**
SPCH				*i* S	**S**	**04 41 17.2**	**-0.4**
SPCH				AML	AML	04 41 18.1	
	comp=N,1μm,0.6s						
LVC	**Limon Verde**	**1.90**	**316**	⇑*i* P	Pn	04 41 01.8	+4.3
LVC				*i* S	**S**	**04 41 31.5**	**+4.2**
PB04	**Plate Boundary**	**2.52**	**312**	⇑*i* P	Pn	04 41 08.4	+4.8
PB04				*i* S	S	04 41 46.9	+8.6
PB04				AML	AML	04 41 49.2	
	comp=N,1μm,0.3s						
CEN1	**Los Morros**	**2.56**	**283**	⇑*i* P	**Pn**	**04 41 04.5**	**+0.2**
CEN1				*i* S	**S**	**04 41 39.6**	**+0.3**
CEN1				AML	AML	04 41 40.9	
	comp=N,470nm,0.7s						
ANCH	**Antofagasta**	**2.70**	**276**	⇑*i* P	**Pn**	**04 41 04.8**	**-0.8**
ANCH				*e*S	**S**	**04 41 40.6**	**-1.2**
PB09	**Plate Boundary**	**2.72**	**323**	⇑*i* P	**Pn**	**04 41 06.6**	**+0.5**
PB09				*i* S	**S**	**04 41 44.0**	**+1.4**
PB09				AML	AML	04 41 45.8	
	comp=N,4μm,0.4s						
MACH	**Maria Elena**	**2.75**	**310**	*e*P	**Pn**	**04 41 06.5**	**0.0**
MACH				*e*S	**S**	**04 41 43.3**	**-0.1**
MECH	**Mejillones**	**2.86**	**287**	⇑*i* P	**Pn**	**04 41 07.4**	**0.0**
MECH				*i* S	**S**	**04 41 45.1**	**0.0**
MECH				AML	AML	04 41 50.3	
	comp=N,1μm,0.3s						
PB07	**Plate Boundary**	**3.16**	**315**	⇑*i* P	**Pn**	**04 41 11.2**	**0.0**
PB07				*e*S	**S**	**04 41 51.4**	**-0.3**
PB07				AML	AML	04 41 52.1	
	comp=E,2μm,0.3s						
PB01	**Plate Boundary**	**3.47**	**327**	*e*P	**Pn**	**04 41 14.5**	**-0.2**
PB01				*e*S	**S**	**04 41 58.2**	**+0.1**
PB01				AML	AML	04 42 01.6	
	comp=E,932nm,0.1s						
HMBC	**Humberstone**	**4.31**	**328**	*e*P	**Pn**	**04 41 24.0**	**-1.1**
HMBC				*e*S	**S**	**04 42 16.2**	**-0.7**
PSGC	**Pisagua**	**5.01**	**330**	*e*P	**Pn**	**04 41 32.1**	**-1.6**
PSGC				*e*S	**S**	**04 42 30.7**	**-2.0**
CFAA	**Coronel Fontan**	**7.62**	**185**	P	Pn	04 42 00.6	-6.5
	comp=E,0.1nm,0.3s,baz=1.8,slow=13,SNR=13						
CFAA				S	S	04 43 20.9	-13
	comp=E,0.2nm,0.3s,baz=267,slow=19,SNR=8.9						
LPAZ	**La Paz**	**7.68**	**355**	P	**Pn**	**04 42 09.5**	**+0.9**
	comp=E,2.7nm,0.3s,baz=169,slow=11,SNR=78						
LPAZ				S	**S**	**04 43 35.4**	**-0.7**
	comp=E,0.1nm,0.3s,baz=254,slow=15,SNR=2.5						
CPUP	**Villa Florida**	**9.49**	**106**	P	Pn	04 42 23.1	-8.1
	comp=E,0.2nm,0.3s,baz=275,slow=11,SNR=4.7						
SIV	**San Ignacio**	**9.97**	**38**	P	Pn	04 42 33.7	-4.0
	comp=E,0.9nm,0.3s,baz=227,slow=14,SNR=11						
SIV				S	S	04 44 15.1	-15
	comp=E,0.2nm,0.3s,baz=229,slow=17,SNR=3.7						
PLCA	**Paso Flores**	**16.90**	**188**	P	**P**	**04 44 00.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=30,slow=12,SNR=5.8						
BDFB	**Brasilia**	**20.09**	**69**	P	**P**	**04 44 34.3**	**-2.3**
	comp=E,2.2nm,0.3s,baz=241,slow=11,SNR=33						
TXAR	**Lajitas Array**	**63.41**	**325**	P	P	04 50 31.0	+4.9
	comp=E,0.1nm,0.5s,baz=151,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.97**	**69**	P	**P**	**04 51 49.0**	**+0.5**
	comp=E,1.5nm,0.5s,baz=262,slow=5.8,SNR=40						
ASAR	**Alice Springs**	**128.28**	**205**	PKP	**PKPdf**	**04 59 02.4**	**+1.7**
	comp=E,0.4nm,0.9s,baz=198,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**131.44**	**208**	PKP	**PKPdf**	**04 59 09.0**	**+2.3**
	comp=E,0.3nm,0.5s,baz=160,slow=1.7,SNR=11						
MKAR	**Makanchi Array**	**146.79**	**39**	PKPbc	**PKPab**	**04 59 38.6**	**+1.1**
	comp=E,0.5nm,0.6s,baz=303,slow=3.0,SNR=7.8						

*ISK **09** 04:45:09.9,40.26N×41.59E,h13km,MD2.6*

*DDA **09** 04:45:11.7,40.19N×41.51E,h7km,MD2.8*

*CSEM **09** 04:45:11.2±0.4,40.13N×41.54E,h23km±5km,MD2.6, Error ellipse: s-maj=14.2km s-min=11.0km az=123.0*

ISC 09 04:45:11.2±1.3,40.20N±0.04×41.57E±0.04,h15km±11km, n15,σ0§62/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.31**	**121**	*i* P	**Pg**	**04 45 17.5**	**-0.2**
HOMI				*i* S	**Sb**	**04 45 24.2**	**+0.8**
ERZM	**Erzurum**	**0.34**	**207**	*i* P	**Pg**	**04 45 18.3**	**+0.1**
ERZM	**Erzurum**	**0.34**	**207**	*i* P	**Pg**	**04 45 18.3**	**+0.1**
EZM	**Erzurum**	**0.34**	**208**	*e*PG	**Pg**	**04 45 18.3**	**+0.1**
EZM				*e*SG	**Sb**	**04 45 24.4**	**+0.1**
DDEM	**Demirkent**	**0.70**	**12**	*e*P	**Pn**	**04 45 27.2**	**+0.5**
DDEM				*i* S	**Sn**	**04 45 37.1**	**-0.2**
DDEM	**Demirkent**	**0.70**	**12**	*e*P	**Pn**	**04 45 27.2**	**+0.5**
DDEM				*i* S	**Sn**	**04 45 37.1**	**-0.2**
DAGI	**Agillar**	**0.91**	**17**	*i* P	**Pg**	**04 45 29.3**	**+0.4**
DAGI				*i* S	**Sn**	**04 45 42.7**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.10**	**280**	*e*PN	**Pb**	**04 45 31.8**	**-0.3**
BAYT				*e*SN	**Sn**	**04 45 47.5**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.10**	**280**	*e*Pn	**Pb**	**04 45 31.8**	**-0.3**
BAYT				*e*Sn	**Sn**	**04 45 47.5**	**+0.2**
BCA	**Borcka**	**1.24**	**2**	*e*PN	**Pn**	**04 45 32.6**	**-1.4**
BCA	**Borcka**	**1.24**	**2**	*e*Pn	**Pn**	**04 45 32.6**	**-1.4**
AGRB	**Hanur-Agry**	**1.27**	**119**	*e*PN	**Pn**	**04 45 34.0**	**-0.5**
AGRB	**Hanur-Agry**	**1.27**	**119**	*e*Pn	**Pn**	**04 45 34.0**	**-0.5**
KELT	**Kelkit**	**1.77**	**269**	*i* P	**Pb**	**04 45 44.0**	**+0.6**
KELT	**Kelkit**	**1.77**	**269**	*i* P	**Pb**	**04 45 44.0**	**+0.6**

*AUST **09** 05:54:51.7,7.97S×167.03E,h0km*

*IDC **09** 05:55:18.8±1.5,10.57S×164.66E,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.1/22,mbtmp4.2/10,ML4.9/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/29, Error ellipse: s-maj=41.1km s-min=21.5km az=119.0*

*ISCJB **09** 05:55:23.6±0.9,10.74S±0.07×164.7E±0.1,h46km, mb4.1/9,MS3.5/2, Error ellipse: s-maj=19.4km s-min=9.2km az=165.6*

ISC 09 05:55:24.8±1.0,10.74S±0.08×164.8E±0.2,h46km,n21, σ1§76/21,mb4.1/9,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.38**	**172**	Pn	**Pn**	**05 58 06.2**	**+1.3**
	8.0nm,0.3s,baz=14,slow=8.3,SNR=178						
DZM				Sn	**Sn**	**06 00 08.0**	**-2.8**
	0.7nm,0.3s,baz=233,slow=19,SNR=2.9						
DZM				LR	LR	06 01 50.9	
	comp=Z,243nm,18.8s,baz=21,slow=34						
DZM	**Mont Dzumac**	**11.38**	**172**	*e*P	**Pn**	**05 58 05.6**	**+0.7**
NOUC	**Port Laguerre**	**11.39**	**173**	*e*P	Pn	05 58 09.2	+4.3
NOUC				*e*S	**Sn**	**06 00 13.1**	**+2.1**
EIDS	**Eidsvold**	**19.51**	**220**	P	**P**	**05 59 45.7**	**-2.7**
	baz=23,SNR=14						
CTA	**Charters Tower**	**20.13**	**240**	P	**P**	**05 59 56.1**	**+1.0**
	6.1nm,0.7s,baz=64,slow=16,SNR=9.0						
COEN	**Coen**	**21.36**	**259**	P	**P**	**06 00 11.1**	**+2.7**
	baz=24,SNR=8.5						
RMQ	**Roma**	**21.79**	**222**	P	**P**	**06 00 16.9**	**+4.0**
	baz=25,SNR=5.2						
AFI	**Afiamalu**	**23.10**	**100**	LR	LR	06 08 16.8	
	comp=Z,151nm,19.3s,baz=111,slow=33						
QLP	**Quilpie**	**25.00**	**228**	P	**P**	**06 00 45.4**	**+1.0**
	baz=28,SNR=7.1						
STKA	**Stephens Creek**	**30.04**	**222**	P	**P**	**06 01 29.8**	**+0.3**
	6.4nm,0.6s,baz=40,slow=7.9,SNR=12						
STKA				LR	LR	06 13 03.5	
	comp=Z,121nm,19.3s,baz=28,slow=35						
STKA	**Stephens Creek**	**30.04**	**222**	P	**P**	**06 01 31.1**	**+1.6**
	baz=34,SNR=5.5						
WRA	**Warramunga Arr**	**30.72**	**249**	P	**P**	**06 01 35.1**	**-0.6**
	1.2nm,0.6s,baz=67,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**32.10**	**242**	P	**P**	**06 01 46.4**	**-1.5**
	1.7nm,0.6s,baz=67,slow=10.0,SNR=24						
FITZ	**Fitzroy Crossi**	**38.56**	**254**	P	**P**	**06 02 42.3**	**-1.1**
	1.8nm,0.5s,baz=66,slow=7.5,SNR=14						
FITZ	**Fitzroy Crossi**	**38.56**	**254**	P	**P**	**06 02 42.8**	**-0.7**
	baz=42,SNR=6.2						
XMIS	**Christmas Isla**	**58.05**	**264**	P	P	06 05 03.4	-10
	baz=60,SNR=3.3						
CMAR	**Chiang Mai Arr**	**71.13**	**294**	P	**P**	**06 06 39.5**	**+0.4**
	1.3nm,0.5s,baz=124,slow=5.4,SNR=8.3						
SONM	**Songino Array**	**77.87**	**324**	P	**P**	**06 07 17.7**	**-0.1**
	0.8nm,0.8s,baz=140,slow=3.4,SNR=7.5						
GTA	**Gaotai**	**78.17**	**314**	*e*P	**P**	**06 07 20.8**	**+1.1**
GTA				pP	**PcP**	**06 07 28.2**	**-0.9**
GTA				sP	sP	06 07 31.3	-7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**83.52**	**19**	P	**P**	**06 07 47.4**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=231,slow=5.7,SNR=3.5						
MKAR	**Makanchi Array**	**92.66**	**317**	P	**P**	**06 08 31.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=97,slow=5.9,SNR=12						

*MOS **09** 06:01:07.8±1.2,13.61N×90.44W,h33km,mb5.4/56, MS4.7/6, Error ellipse: s-maj=9.8km s-min=4.6km az=107.6*

*IDC **09** 06:01:09.3±1.3,13.75N×90.29W,h37km±9km,mb4.6/23, mb1 4.8/24,mb1mx4.7/27,mbtmp4.6/24,ML5.5/2,MS4.6/29, Ms1 4.7/29,ms1mx4.6/33, Error ellipse: s-maj=18.8km s-min=9.1km az=53.0*

*CASC **09** 06:01:10.5±1.6,13.47N×90.77W,h21km±5km,MD5.1, ML5.3,mb5.3(NEIC)*

*ISCJB **09** 06:01:10.0±0.2,13.57N±0.02×90.66W±0.02,h50km, mb5.2/168,MS4.8/43, Error ellipse: s-maj=3.8km s-min=1.9km az=33.3*

*SZGRF **09** 06:01:11.1,15.47N×91.92W,h33km,mb5.0, Mexico-Guatemala border region*

*NEIC **09** 06:01:11.1±0.2,13.54N×90.57W,mb5.3/140, MD5.4(SNET), Error ellipse: s-maj=5.7km s-min=3.5km az=224.0*

NEIC Felt [IV] at Antigua Guatemala and [II] at Guatemala. Also felt at Chichicastenango, Chiquimulilla, Ciudad Vieja, Fraijanes, Jocotenango, Jutiapa, La Esperanza, Mazatenango, Mixco, Palin, Panajachel, Quetzaltenango, San Jose, San Jose El Idolo, San Lucas Sacatepequez, San Pedro La Laguna, Santa Catarina Pinula, Santiago Sacatepequez, Totonicapan and Villa Nueva. Felt [III] at San Salvador, El Salvador. Also felt at San Juan Opico. Felt at Tapachula and Tuxtla Gutierrez, Mexico.

*GCMT **09** 06:01:12.4±0.1,13.46N×90.89W,h40km,MW5.4, Moment Tensor Solution. s82,c135; s81,c142; Moment tensor: Scale 10¹⁷Nm; M_{rr}1.16±.03; $M_{\theta\theta}$-1.26±.02; $M_{\phi\phi}$0.10±.02; $M_{r\theta}$-0.44±.02; $M_{\theta\phi}$-0.40±.02; $M_{\phi r}$0.26±.02; Best double couple: $M_0$1.40000×10¹⁷ NP1:ϕ_s57.00000°, δ40.00000°,λ62.00000°. NP2:ϕ_s272.00000°,δ56.00000°, λ111.00000°. Principal axes: T 1.3300, Plg71.0000°, Azm233.0000°; N 0.0900, Plg18.0000°, Azm79.0000°; P -1.4200, Plg8.0000°, Azm347.0000°; Data Used: ll IU IC G.*

ISC 09 06:01:11.0±0.4,13.52N±0.03×90.71W±0.03,h54km±3km, h54km:pP-P,n862,σ1§71/966,mb5.2/168,MS4.8/44, 148C-168D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.87**	**6**	⇓*e*P	**Pn**	**06 01 28.0**	**+0.6**
FUG	**Fuego 3**	**0.93**	**352**	⇓*e*P	**Pn**	**06 01 28.1**	**+0.1**
FG6		**1.04**	**351**	*e*P	**Pn**	**06 01 30.1**	**+0.3**
GCG	**Guatemala City**	**1.07**	**9**	*e*P	**Pn**	**06 01 31.8**	**+1.8**
GCG				*e*S	**Sn**	**06 01 47.1**	**+3.1**
RTR	**El Retiro**	**1.09**	**70**	⇑*i*P	**Pn**	**06 01 31.4**	**+1.1**
SBLS	**San Blas**	**1.10**	**73**	⇑*i*P	**Pn**	**06 01 31.1**	**+0.8**
NBG	**Las Nubes**	**1.11**	**18**	⇓*e*P	**Pn**	**06 01 32.6**	**+2.0**
SNJE	**San Jose**	**1.12**	**72**	⇑*i*P	**Pn**	**06 01 31.6**	**+1.0**
RBDL	**Robledal**	**1.15**	**59**	*e*P	**Pn**	**06 01 32.2**	**+1.2**
JAT	**Jato**	**1.20**	**311**	⇓*i*P	**Pn**	**06 01 31.1**	**-0.4**
TP2	**Tecpan 2**	**1.29**	**346**	⇑*i*P	**Pn**	**06 01 33.9**	**+0.8**
BOQS	**Boqueron**	**1.40**	**81**	⇑*i*P	**Pn**	**06 01 36.0**	**+1.5**
SNET	**Serv Nac Est T**	**1.44**	**83**	*i* P	**Pn**	**06 01 36.2**	**+1.3**
SNET				*e*S	**Sn**	**06 01 55.5**	**+2.8**
SNET				AML	AML	06 02 02.5	
	comp=Z,63μm,0.6s						
MTO2	**Montecristo 2**	**1.57**	**56**	⇑*i*P	**Pn**	**06 01 38.5**	**+1.8**
LBRS	**Las Brisas**	**1.63**	**82**	⇑*i*P	**Pn**	**06 01 39.2**	**+1.8**
SNVI	**San Vicente**	**1.82**	**87**	*i* P	**Pn**	**06 01 42.1**	**+2.1**
MRL	**Marmol**	**1.82**	**33**	⇑*e*P	**Pn**	**06 01 43.1**	**+3.0**
THIG		**2.04**	**312**	P	**Pn**	**06 01 41.5**	**-1.4**
THIG				S	**Sn**	**06 02 06.7**	**-0.7**
VSM	**San Miguel**	**2.37**	**92**	*i* P	**Pn**	**06 01 50.0**	**+2.4**
BLLM	**Bellamira**	**2.40**	**92**	*i* P	**Pn**	**06 01 50.2**	**+2.2**
CAHU	**Cacacuatique**	**2.44**	**84**	*i* P	**Pn**	**06 01 50.3**	**+1.7**
CNCH	**Conchagua**	**2.81**	**95**	*i* P	**Pn**	**06 01 55.2**	**+1.7**
CCIG	**Comitan**	**3.07**	**333**	P	**Pn**	**06 01 58.9**	**+1.7**
CCIG				S	Sn	06 02 40.6	+7.8
PCIG		**3.26**	**312**	P	**Pn**	**06 01 58.6**	**-1.0**
PCIG				S	**Sn**	**06 02 37.3**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.38**	**81**	*e*Pn	**Pn**	**06 02 02.7**	**+1.5**
TGUH				*e*Sn	**Sn**	**06 02 38.1**	**-2.0**
TGIG		**3.99**	**324**	P	**Pn**	**06 02 12.1**	**+2.4**
TGIG				S	**Sn**	**06 02 60.0**	**+4.7**
CMIG	**Matias Romero**	**5.37**	**312**	Pn	**Pn**	**06 02 27.6**	**-1.0**
	comp=Z,77nm,0.3s,baz=130,slow=13,SNR=769						
CMIG				Sn	**Sn**	**06 03 26.5**	**-2.6**
	comp=Z,390nm,0.3s,baz=80,slow=17,SNR=6.5						
CMIG	**Matias Romero**	**5.37**	**312**	Pn	**Pn**	**06 02 27.6**	**-1.0**
CMIG				Sn	**Sn**	**06 03 26.5**	**-2.6**
HUIG	**Huatulco**	**5.69**	**294**	P	**Pn**	**06 02 32.1**	**-0.8**
HUIG				S	**Sn**	**06 03 37.3**	**+0.4**
GBS2	**Las Lilas**	**5.79**	**117**	*i* P	**Pn**	**06 02 36.5**	**+2.1**
NY14	**Universidad de**	**5.81**	**119**	*i* P	**Pn**	**06 02 36.9**	**+2.3**
GBS3	**Finca Las Im¯¡**	**5.81**	**117**	*i* P	**Pn**	**06 02 36.2**	**+1.5**
GBS3				*i* S	**Sn**	**06 03 38.9**	**-1.1**
LAPC	**Finca la Perla**	**5.84**	**117**	*i* P	**Pn**	**06 02 36.9**	**+1.9**
MESS	**Mesas**	**6.06**	**117**	*i* P	**Pn**	**06 02 39.3**	**+1.2**
PTEN	**Parque Tenorio**	**6.25**	**116**	*i* P	**Pn**	**06 02 41.8**	**+1.1**
AMAS	**Alto Masis**	**6.29**	**117**	*i* P	**Pn**	**06 02 42.6**	**+1.2**
JTS	**JuntasAbangare**	**6.48**	**119**	Pn	**Pn**	**06 02 45.7**	**+1.8**
	comp=Z,50nm,0.3s,baz=306,slow=22,SNR=107						
JTS				Sn	**Sn**	**06 04 01.2**	**+4.7**
	comp=Z,36nm,0.3s,baz=313,slow=18,SNR=2.2						
JTS	**JuntasAbangare**	**6.48**	**119**	*e*Pn	**Pn**	**06 02 45.2**	**+1.3**
JTS				*e*Sn	Sn	06 03 55.3	-1.3
JTS				Sn	Sn	06 04 01.2	+4.6
CASO	**Castillo**	**6.60**	**117**	*i* P	**Pn**	**06 02 47.7**	**+2.2**
VHO	**Vista Hermosa**	**6.80**	**302**	P	**Pn**	**06 02 48.2**	**-0.2**

TXAR PcP PcP 06 09 54.5 +1.0
comp=Z,0.3nm,0.3s,baz=105,slow=1.0,SNR=5.3
TXAR ScP ScP 06 13 29.8 +4.6
comp=Z,0.1nm,0.3s,baz=113,slow=2.1,SNR=7.0
TXAR Lajitas Array 19.80 325 P Pn 06 05 39.1 +0.1
TXAR PcP PcP 06 09 54.5 +1.0
TXAR ScP ScP 06 13 29.8 +4.6
429A Davenport Ranc 19.90 331 ⇓P P 06 05 38.9 +0.7
baz=20
528A Cox Ranch, San 19.97 328 ⇑P P 06 05 40.0 +1.0
baz=20,SNR=36
SDV Santo Domingo 20.22 101 *e*P P 06 05 40.8 -1.1
comp=Z,72nm,0.7s
626A Big Bend Ranch 20.23 324 P Pn 06 05 43.5 -0.6
baz=20,SNR=305
527A Woodward Ranch 20.39 326 P Pn 06 05 45.1 -1.0
baz=20,SNR=286
526A Mary Lane Ranc 20.59 325 ⇑P Pn 06 05 47.2 -1.3
baz=21,SNR=292
329A Wagon Wheel Ra 20.66 332 ⇑P P 06 05 46.5 +0.1
baz=21,SNR=60
ABTX Abilene, Hawle 20.69 338 ⇑P P 06 05 45.9 -0.8
baz=21,SNR=61
427A Hayter Ranch, 20.84 328 ⇑P P 06 05 49.3 +0.9
baz=21,SNR=198
GOGA Godfrey 20.87 17 *e*P P 06 05 48.8 +0.3
GOGA pmax pmax
comp=Z,362nm,1.0s
GOGA Godfrey 20.87 17 *e*P P 06 05 48.8 +0.3
comp=Z,362nm,1.0s
OXF Oxford 20.93 3 *e*P P 06 05 48.8 -0.3
OXF pmax pmax
comp=Z,1μm,1.1s
OXF Oxford 20.93 3 *e*P P 06 05 48.8 -0.3
comp=Z,1μm,1.1s
328A Wristen Ranch, 20.97 330 ⇓P P 06 05 49.9 +0.1
baz=21
229A Bryant Ranch, 20.99 333 ⇑P P 06 05 50.0 0.0
baz=21,SNR=32
426A McDonald Obser 21.03 326 ⇓P P 06 05 51.4 +0.9
baz=21,SNR=228
MIAR Mount Ida 21.09 353 *e*P P 06 05 50.5 -0.4
MIAR pmax pmax
comp=Z,326nm,1.1s
MIAR Mount Ida 21.09 353 *e*P P 06 05 50.5 -0.4
comp=Z,326nm,1.1s
UALR University of 21.21 356 *e*P P 06 05 52.0 -0.1
comp=Z,543nm,1.4s
327A Balmorhea Ranc 21.30 329 ⇓P P 06 05 53.6 +0.3
baz=21,SNR=11
LPIG La Paz 21.30 302 P P 06 05 56.1 +2.9
comp=Z,5.4nm,0.9s,baz=109,slow=0.5,SNR=16
LPIG LR LR 06 15 02.3
comp=Z,200nm,18.1s,baz=92,slow=39
LPIG La Paz 21.30 302 P P 06 05 56.1 +2.9
228A UT Block 9, Go 21.48 331 ⇓P P 06 05 54.6 -0.6
baz=22,SNR=38
326A Caldwell Ranch 21.51 328 ⇓P P 06 05 55.8 +0.3
baz=22,SNR=143
129A Stewart Farms, 21.58 334 ⇑P P 06 05 55.5 -0.8
baz=22,SNR=12
227A Bennet, Jal 21.72 330 ⇑P P 06 05 57.4 -0.4
baz=22,SNR=62
NHSC New Hope 21.73 24 *e*P P 06 05 57.7 0.0
comp=Z,840nm,1.1s
COW Cow Castle Cre 21.77 23 *e*P P 06 05 59.7 +1.6
128A Castleberry Fa 21.85 332 ⇑P P 06 05 58.2 -1.0
baz=22,SNR=62
HBAR Harrisburg 21.94 0 *e*P P 06 06 01.8 +1.9
SWET Sewanee 22.02 10 *e*P P 06 06 00.8 -0.1
comp=Z,163nm,0.8s
Z29A Hungry Hill Ra 22.06 335 ⇓P P 06 06 00.0 -1.3
baz=22,SNR=61
325A Bean Ranch, Si 22.08 326 P P 06 06 01.9 +0.2
baz=22,SNR=173
CLNB Carlsbad 22.21 329 *e*P P 06 06 03.5 +0.4
comp=Z,12nm,0.7s
127A Arkansas Junct 22.30 331 ⇑P P 06 06 02.7 -1.3
baz=22,SNR=27
HALT Halls 22.32 3 *e*P P 06 06 04.0 -0.1
WMOK Wichita Mounta 22.35 342 *e*P P 06 06 02.7 -1.7
WMOK *e* 06 09 59.6
WMOK pmax pmax
comp=Z,153nm,1.1s
WMOK Wichita Mounta 22.35 342 *e*P P 06 06 02.7 -1.7
comp=Z,153nm,1.1s
WMOK *e*PcP PcP 06 09 59.6 +1.4
GNAR Gosnell 22.35 1 *e*P P 06 06 05.2 +0.8
comp=Z,4μm,1.1s
JSC Jenkinsville 22.37 21 *e*P P 06 06 04.5 -0.1
JSC Jenkinsville 22.37 21 *e*P P 06 06 04.5 -0.1
Z28A Tucker Farm, M 22.37 334 ⇑P P 06 06 03.0 -1.7
baz=22,SNR=24
GDL2 Guadalupe Moun 22.41 328 *e*P P 06 06 06.4 +1.2
324A Moseley Ranch, 22.41 325 ⇓P P 06 06 05.0 -0.4
baz=22,SNR=426
CPCT Cooper Cave 22.53 13 *e*P P 06 06 06.7 +0.3
Y29A Porterfield Fa 22.57 336 ⇑P P 06 06 05.3 -1.6
baz=23,SNR=37
225A Deer Hill, Car 22.57 327 ⇓P P 06 06 06.4 -0.6
baz=23,SNR=210
126A Clayton Basin, 22.59 330 ⇓P P 06 06 06.2 -1.0
baz=23,SNR=21
WVT Waverly 22.66 6 *e*P P 06 06 06.8 -0.9
WVT pmax pmax
comp=Z,383nm,1.3s
WVT Waverly 22.66 6 *e*P P 06 06 06.8 -0.9
comp=Z,383nm,1.3s
GLAT Glass 22.68 3 *e*P P 06 06 09.5 +1.5
LHS Liberty Hill 22.71 22 *e*P P 06 06 07.3 -0.9
LHS Liberty Hill 22.71 22 *e*P P 06 06 07.3 -0.9
TUL1 Tulsa 22.76 349 P P 06 06 07.2 -1.6
baz=23,SNR=31
Z27A Tatum 22.76 332 ⇑P P 06 06 07.3 -1.6
baz=23
UTMT University of 22.78 4 *e*P P 06 06 09.0 +0.1
comp=Z,885nm,1.1s
UTMT *e*PcP PcP 06 10 01.7 +2.7
CPRX Cap Rock 22.83 330 *e*P P 06 06 10.2 +0.5
comp=Z,107nm,0.9s
Y28A McKinney Farm, 22.84 335 ⇓P P 06 06 07.5 -2.3
baz=23,SNR=25
TKL Tuckaleechee C 22.91 15 P P 06 06 10.2 -0.1
comp=Z,200nm,1.0s,baz=186,slow=11,SNR=43
TKL LR LR 06 15 44.4
comp=Z,4μm,21.9s,baz=194,slow=39
TKL Tuckaleechee C 22.91 15 *e*P P 06 06 10.2 -0.1
224A Cornudas Mount 22.92 326 ⇑P P 06 06 10.0 -0.6
baz=23,SNR=422
125A Gardner Draw 22.92 329 ⇓P P 06 06 09.5 -1.1
baz=23,SNR=135
PARMO Parma 23.06 2 *e*P P 06 06 11.5 -0.2
Z26A Caprock 23.08 331 ⇓P P 06 06 10.8 -1.4
baz=23,SNR=139
X29A Tulia 23.09 336 ⇓P P 06 06 10.7 -1.5
baz=23,SNR=21
MSTX Muleshoe 23.12 334 ⇑P P 06 06 10.4 -2.1
baz=23,SNR=30
KMSC Kings Mountain 23.13 20 ⇓P P 06 06 09.6 -2.9
baz=23
Y27A Causey 23.22 333 ⇑P P 06 06 11.5 -2.0
baz=23,SNR=36
X28A Dimmitt 23.35 335 ⇓P P 06 06 13.3 -1.5
baz=24,SNR=7.9
124A Stringfield Ra 23.37 327 ⇓P P 06 06 15.5 +0.5
baz=24,SNR=376
223A Chaparral, Ant 23.37 325 ⇑P P 06 06 14.4 -0.6
baz=24,SNR=11
Z25A Roswell 23.45 329 ⇓P P 06 06 15.1 -0.6
baz=24,SNR=56
AMTX Amarillo 23.47 337 *e*P P 06 06 15.1 -0.8
comp=Z,105nm,0.8s
AMTX Amarillo 23.47 337 ⇑P P 06 06 14.5 -1.3
baz=24,SNR=29
Y26A Elida 23.55 332 ⇓P P 06 06 15.2 -1.5
baz=24
W29A Amraillo 23.67 337 ⇓P P 06 06 16.1 -1.6
baz=24,SNR=6.3
123A Bell Site, Whi 23.75 326 ⇓P P 06 06 18.5 -0.1
baz=24,SNR=15
TZTN Tazewell 23.80 14 *e*P P 06 06 18.3 -0.6
comp=Z,122nm,0.8s
Z24A Sheeppen Canyo 23.81 328 ⇑P P 06 06 19.1 -0.1
baz=24,SNR=350
222A Williams Famil 23.82 324 ⇑P P 06 06 19.2 0.0
baz=24,SNR=34
X27A F and S Farms, 23.84 334 ⇓P P 06 06 17.5 -1.8
baz=24
ATAH Atahualpa 23.89 149 P P 06 06 22.8 +2.5
comp=Z,44nm,0.8s,baz=336,slow=7.1,SNR=30
ATAH PcP PcP 06 10 03.4 +1.2
comp=Z,14nm,0.8s,baz=28,slow=2.6,SNR=4.4
ATAH LR LR 06 14 37.9
comp=Z,2μm,18.2s,baz=341,slow=34
ATAH Atahualpa 23.89 149 P P 06 06 22.8 +2.5
ATAH PcP PcP 06 10 03.4 +1.2
Y25A Mesa, Roswell 23.96 330 ⇑P P 06 06 20.2 -0.2
baz=24,SNR=137
W28A Vega 24.00 336 ⇓P P 06 06 19.5 -1.3
baz=24,SNR=12
SJG San Juan 24.05 76 P P 06 06 17.8 -3.5
comp=Z,11nm,0.7s,baz=265,slow=8.4,SNR=2.9
SJG San Juan 24.05 76 *e*P P 06 06 20.0 -1.3
comp=Z,33nm,0.8s
SJG *e*PcP PcP 06 10 01.1 -0.9
X26A CR and CF Fran 24.07 333 ⇓P P 06 06 20.4 -1.0
baz=24,SNR=19
SIUC Southern Illin 24.13 3 *e*P P 06 06 21.5 -0.2
comp=Z,455nm,1.1s
320A Kipp Ranch, An 24.14 320 P P 06 06 24.4 +2.2
baz=24,SNR=102
W27A Bowe Ranch, En 24.18 335 ⇑P P 06 06 21.1 -1.3
baz=24,SNR=39
122A Conniff Cattle 24.21 325 ⇑P P 06 06 23.9 +1.2
baz=24,SNR=41
Z23A Rita Site, Whi 24.21 327 ⇓P P 06 06 23.9 +1.1
baz=24,SNR=121
V29A Stinnett 24.29 338 ⇑P P 06 06 22.0 -1.4
baz=24
Y24A Capitan 24.32 329 ⇓P P 06 06 24.1 +0.2
baz=24,SNR=119
FVM French Village 24.36 1 *e*P P 06 06 22.6 -1.3
FVM pmax pmax
comp=Z,76nm,1.0s
FVM French Village 24.36 1 *e*P P 06 06 22.6 -1.3
comp=Z,76nm,1.0s
FVM *e*ScP ScP 06 13 34.8 -1.8
X25A Clemmons Ranch 24.43 331 ⇑P P 06 06 24.8 0.0
baz=25,SNR=7.9
V28A Channing 24.44 337 ⇑P P 06 06 23.7 -1.1
baz=25,SNR=15
USIN University of 24.49 6 *e*P P 06 06 24.6 -0.4
comp=Z,647nm,1.2s
W26A Owens Ranch, T 24.50 333 ⇓P P 06 06 24.6 -0.8
baz=25
CNNC Cliffs of the 24.52 26 *e*P P 06 06 24.8 -0.6
comp=Z,76nm,0.9s
220A Playas Peak, P 24.53 321 P P 06 06 27.5 +1.8
baz=25,SNR=232
121A Cookes Peak, D 24.53 323 ⇓P P 06 06 27.7 +1.9
baz=25,SNR=129
Z22A Elephant Butte 24.60 326 ⇓P P 06 06 27.3 +0.9
baz=25,SNR=71
319A Douglas 24.64 319 ⇑P P 06 06 28.5 +1.9
baz=25,SNR=87
Y23A Lovelace Mesa, 24.64 328 ⇓P P 06 06 27.5 +0.8
baz=25,SNR=136
X24A Lazy VL Ranch, 24.84 330 ⇓P P 06 06 28.7 +0.2
baz=25,SNR=15
W25A X Bar L Ranch, 24.91 332 ⇓P P 06 06 30.0 +0.8
baz=25,SNR=12
WCI Wyandotte Cave 24.92 8 *e*P P 06 06 28.4 -0.6
WCI pmax pmax
comp=Z,218nm,0.9s
WCI Wyandotte Cave 24.92 8 *e*P P 06 06 28.4 -0.6
comp=Z,218nm,0.9s
SLM Saint Louis 25.02 1 *e*P P 06 06 30.8 +1.0
SLM pmax pmax
comp=Z,85nm,0.7s
SLM Saint Louis 25.02 1 *e*P P 06 06 30.8 +1.0
comp=Z,85nm,0.7s
Z21A St. Cloud Mine 25.04 325 ⇑P P 06 06 32.3 +2.0
baz=25
120A U Bar Ranch, L 25.04 322 P P 06 06 33.0 +2.6
baz=25,SNR=207
BNM Barren Site 25.11 328 *e*P P 06 06 33.1 +2.0
comp=Z,85nm,0.9s
V26A Tequesquite Ra 25.11 334 ⇓P P 06 06 31.1 +0.2
baz=25,SNR=31
Y22A Socorro 25.12 327 ⇓P P 06 06 32.4 +1.3
baz=25,SNR=172
Y22D IRIS PASSCAL I 25.20 327 ⇑P P 06 06 33.8 +2.0
baz=25,SNR=11
STVI Saint Thomas 25.21 76 *e*P P 06 06 30.6 -1.2
comp=Z,28nm,0.8s
OLIL Olney 25.21 5 *e*P P 06 06 30.9 -0.8
comp=Z,220nm,1.1s
OLIL *e*ScP ScP 06 13 40.7 +1.8
LPM Los Pinos Moun 25.24 328 *e*P P 06 06 33.7 +1.6
LENM Lemitar 25.30 327 *e*P P 06 06 35.1 +2.4
BLA Blacksburg 25.32 19 *e*P P 06 06 32.6 0.0
BLA pmax pmax
comp=Z,126nm,1.0s
BLA Blacksburg 25.32 19 *e*P P 06 06 32.6 0.0
comp=Z,126nm,1.0s
W24A Lazy 6 Ranch, 25.34 331 ⇑P P 06 06 33.4 +0.3
baz=26,SNR=36
Z20A Nine Sixteen R 25.42 323 ⇓P P 06 06 36.0 +2.2
baz=26,SNR=166
VWCC Virginia Weste 25.49 20 *e*P P 06 06 34.6 +0.3
V25A Rancho No Teng 25.50 333 ⇓P P 06 06 34.6 0.0
baz=26,SNR=30
Y21A Point of Rocks 25.56 326 ⇑P P 06 06 37.0 +1.9
baz=26,SNR=105
LAZ Ladron 25.57 327 *e*P P 06 06 37.0 +1.8
comp=Z,28nm,0.9s
X22A Bernardo 25.58 328 ⇑P P 06 06 37.3 +2.1
baz=26,SNR=27
U26A Atchley Ranch, 25.60 335 P P 06 06 36.0 +0.6
baz=26,SNR=16
T28A Walsh 25.62 339 ⇑P P 06 06 37.6 +2.2
baz=26
ANMO Albuquerque 25.64 329 P P 06 06 37.9 +2.0
comp=Z,19nm,0.9s,baz=149,slow=12,SNR=84
ANMO LR LR 06 18 44.8
comp=Z,969nm,19.2s,baz=119,slow=41
ANMO Albuquerque 25.64 329 *e*P P 06 06 37.2 +1.3
ANMO P P 06 06 37.9 +2.0
W23A Werner Place, 25.66 330 ⇑P P 06 06 37.2 +1.2
baz=26,SNR=34
V24A Rampart Ranch, 25.70 332 ⇓P P 06 06 37.9 +1.5
baz=26,SNR=20
T27A Campo 25.79 337 ⇓P P 06 06 37.1 +0.1
baz=26,SNR=6.4
BLO Bloomington 25.81 7 *e*P P 06 06 36.9 -0.2
BLO pmax pmax
comp=Z,113nm,0.8s
BLO Bloomington 25.81 7 *e*P P 06 06 36.9 -0.2
comp=Z,113nm,0.8s
Y20A Horse Springs, 25.87 325 ⇑P P 06 06 40.1 +2.1
baz=26,SNR=215
U25A Circle Dot Ran 25.89 334 ⇓P P 06 06 38.1 +0.1
baz=26,SNR=12
X21A Alamocita Cree 25.95 326 ⇓P P 06 06 40.4 +1.8
baz=26,SNR=211
W22A Albuquerque 25.95 329 ⇓P P 06 06 39.7 +1.1
baz=26,SNR=38
KSU1 Kansas State U 26.01 349 *e*P P 06 06 38.2 -0.6
comp=Z,106nm,0.8s
V23A Ortiz Mt. (NFS 26.15 330 ⇓P P 06 06 41.6 +1.2
baz=26,SNR=34
T26A Comanche Natio 26.22 336 ⇓P P 06 06 42.0 +1.0
baz=26,SNR=6.3
W21A San Fidel 26.39 327 ⇓P P 06 06 44.3 +1.8
baz=26
X20A Quemado 26.41 325 ⇑P P 06 06 45.5 +2.7
baz=26,SNR=89
T25A Trinidad 26.52 335 ⇓P P 06 06 45.0 +1.3
baz=27
S26A Kim 26.56 337 ⇓P P 06 06 44.8 +0.8
baz=27
U23A El Rito 26.62 331 ⇑P P 06 06 45.9 +1.1
baz=27,SNR=74
V22A San Miguel Ran 26.64 330 ⇓P P 06 06 46.5 +1.7
baz=27,SNR=32
JSRW J. Sargeant Re 26.65 23 *e*P P 06 06 46.7 +2.1
T24A Torres, Weston 26.73 334 ⇓P P 06 06 46.6 +0.9
baz=27,SNR=6.4
W20A Ramah 26.85 326 ⇑P P 06 06 48.4 +1.6
baz=27,SNR=86
R27A Eads 26.90 339 ⇑P P 06 06 47.0 -0.1
baz=27
V21A Milan 26.91 328 ⇑P P 06 06 48.8 +1.5
baz=27,SNR=13
SFIN Scholer Farm 26.94 6 ⇓P P 06 06 47.4 +0.1
baz=27
S25A Robets Cordova 26.97 335 ⇓P P 06 06 47.6 -0.2
baz=27
U22A Llaves 26.98 330 ⇓P P 06 06 50.4 +2.5
baz=27,SNR=16
T23A Casias Ranch, 27.13 332 ⇓P P 06 06 50.6 +1.3
baz=27,SNR=11
R26A Arlington 27.15 338 P P 06 06 50.5 +1.2
baz=27,SNR=7.2
X18A Snowflake 27.22 323 P P 06 06 52.5 +2.4
baz=27,SNR=59
S24A Houchin Ranch, 27.28 334 ⇓P P 06 06 52.2 +1.6
baz=27
CBN Corbin 27.29 23 *e*P P 06 06 53.0 +2.6
comp=Z,269nm,1.8s
214A Organ Pipe Nat 27.33 316 ⇓P P 06 06 53.2 +2.3
baz=27
R25A Fountain Ranch 27.33 336 ⇓P P 06 06 52.0 +1.1
baz=28
V20A Brimhall 27.34 327 ⇑P P 06 06 53.1 +2.0
baz=28,SNR=18
U21A Nageezi 27.41 329 ⇑P P 06 06 54.3 +2.5
baz=28,SNR=23
ACSO Alum Creek Sta 27.46 13 *e*P P 06 06 51.4 -0.5
comp=Z,86nm,0.8s
KSCO Kaye Shedlock' 27.49 340 ⇓P P 06 06 52.8 +0.5
baz=28
T22A Edith 27.51 331 ⇑P P 06 06 55.6 +2.8
baz=28,SNR=19
W18A Petrified Fore 27.52 325 P P 06 06 55.9 +3.1
baz=28,SNR=15
Q26A Hugo 27.72 338 ⇓P P 06 06 55.7 +1.2
baz=28,SNR=7.6
T21A Navajo Lake 27.80 330 ⇓P P 06 06 57.3 +2.0
baz=28,SNR=14
U20A Newcomb 27.81 328 ⇑P P 06 06 57.5 +2.3
baz=28,SNR=14
P27A Ficken Ranch, 27.96 340 ⇑P P 06 06 57.4 +0.8
baz=28
Q25A Bedland, Calha 27.99 337 ⇑P P 06 06 57.4 +0.5
baz=28
X16A Lo Mia Camp, P 28.03 321 P P 06 06 59.5 +2.2
baz=28,SNR=95
S22A 4UR Ranch, Cre 28.07 332 P P 06 06 59.4 +1.6
baz=28,SNR=19
U19A Dine' College, 28.10 327 P P 06 07 00.4 +2.4
baz=28,SNR=72
P26A Davis Ranch, A 28.23 339 ⇑P P 06 07 00.8 +1.8
baz=28
Z14A Wintersburg 28.28 318 ⇑P P 06 07 02.0 +2.6
baz=28
SCIA State Center 28.36 356 *e*P P 06 07 01.3 +1.4
comp=Z,75nm,1.0s
Q24A Divide 28.38 336 ⇓P P 06 07 02.6 +2.1
baz=28
R22A Saguache, Gunn 28.44 333 ⇑P P 06 07 02.8 +1.7
baz=29
MVCO Mesa Verde 28.44 329 *e*P P 06 07 02.8 +1.8
comp=Z,49nm,1.0s
MVCO Mesa Verde 28.44 329 ⇓P P 06 07 02.9 +1.9
baz=29,SNR=36
S21A Coal Bank Pass 28.45 331 ⇑P P 06 07 03.0 +1.8
baz=29,SNR=20
113A Mohawk Valley, 28.46 316 ⇓P P 06 07 03.5 +2.6
baz=29,SNR=20
SDMD Soldier's Deli 28.54 23 *e*P P 06 07 00.8 -0.8
comp=Z,32nm,0.9s
Y14A Wickenburg 28.68 319 P P 06 07 05.2 +2.2
baz=29,SNR=36
WUAZ Wupatki 28.74 323 *e*P P 06 07 05.1 +1.4
comp=Z,91nm,0.9s
WUAZ *e*PcP PcP 06 10 14.3 +1.5
WUAZ Wupatki 28.74 323 ⇑P P 06 07 05.9 +2.3
baz=29,SNR=55
NNA Nana 28.83 151 LR LR 06 16 36.6
comp=Z,1μm,20.5s,baz=14,slow=32
S20A Disappointment 28.86 330 ⇓P P 06 07 07.5 +2.7
baz=29,SNR=31
R21A Cimarron 28.91 332 ⇓P P 06 07 07.1 +1.9
baz=29
P23A Jefferson 29.01 335 P P 06 07 07.4 +1.3
baz=29,SNR=12
Q22A Crested Butte, 29.03 333 ⇑P P 06 07 07.9 +1.6
baz=29
OGNE Ogallala 29.06 342 *e*P P 06 07 05.8 -0.4
comp=Z,55nm,0.9s
N27A Anderson Farm, 29.09 341 ⇓P P 06 07 07.1 +0.6
baz=29
R20A Redvale 29.15 331 P P 06 07 09.4 +2.1
baz=29,SNR=20
PV01 Paradox Valley 29.20 330 *e*P P 06 07 10.6 +2.8
comp=Z,2μm,0.9s
MVL Millersville 29.24 23 *e*P P 06 07 07.1 -0.6
comp=Z,34nm,1.1s
SSPA Standing Stone 29.25 20 *e*P P 06 07 07.2 -0.6
comp=Z,39nm,1.4s
ISCO Idaho Springs 29.28 336 *e*P P 06 07 10.7 +2.2
ISCO *e* 06 10 15.7
ISCO pmax pmax
comp=Z,17nm,1.0s
ISCO Idaho Springs 29.28 336 *e*P P 06 07 10.7 +2.2
comp=Z,17nm,1.0s
ISCO *e*PcP PcP 06 10 15.7 +1.4
ISCO Idaho Springs 29.28 336 ⇑P P 06 07 10.0 +1.5
baz=29
Q21A Lamborn Mesa, 29.30 332 ⇓P P 06 07 11.4 +2.9
baz=29
AAM Ann Arbor 29.32 11 *e*P P 06 07 10.6 +2.2
AAM pmax pmax
comp=Z,65nm,1.1s
AAM Ann Arbor 29.32 11 *e*P P 06 07 10.6 +2.2
comp=Z,65nm,1.1s
GLA Glamis 29.35 316 *e*P P 06 07 12.0 +3.1
GLA pmax pmax
comp=Z,122nm,1.3s
GLA Glamis 29.35 316 *e*P P 06 07 12.0 +3.1
comp=Z,122nm,1.3s
GLA Glamis 29.35 316 ⇑P P 06 07 11.7 +2.9
baz=30,SNR=21
O24A Longmont 29.35 337 ⇑P P 06 07 11.0 +2.0
baz=30
ALLY Alegheny Colle 29.49 16 *e*P P 06 07 10.6 +0.6
Y12C Blythe 29.56 317 P P 06 07 13.6 +3.0
baz=30,SNR=14
PV04 Paradox Valley 29.57 330 *e*P P 06 07 12.9 +2.0
S18A Hurst Farm, Bl 29.57 328 P P 06 07 13.7 +2.6
baz=30,SNR=60
P22A Eagle 29.57 334 ⇑P P 06 07 11.9 +0.9
baz=30
PDMCI Parker Dam,Lak 29.64 318 P P 06 07 14.1 +2.7
baz=30,SNR=34
Q20A Ridgley Place, 29.73 332 ⇑P P 06 07 14.3 +2.0
baz=30
O23A Lake Granby, G 29.75 336 ⇑P P 06 07 15.0 +2.4
baz=30
P21A Newcastle 29.81 333 ⇓P P 06 07 15.4 +2.3
baz=30
N24A Carr 29.90 338 ⇑P P 06 07 15.4 +1.6
baz=30
U15A North Rim 29.91 323 P P 06 07 16.8 +2.7
baz=30,SNR=64
SWSC Sam W. Stewart 29.95 314 ⇑P P 06 07 16.8 +2.7
baz=30,SNR=13
S17A Black Ridge (B 29.95 327 ⇓P P 06 07 16.4 +2.1
baz=30,SNR=55
O22A Kremmling 29.96 335 ⇑P P 06 07 15.7 +1.1
baz=30
ERPA Erie 29.97 16 *e*P P 06 07 15.6 +1.4
comp=Z,36nm,0.8s
W13A Hualapai Mount 29.99 320 P P 06 07 17.5 +2.8
baz=30,SNR=53
BC3 Big Chuckawall 30.12 316 ⇓P P 06 07 18.3 +2.5
baz=30,SNR=26
Q19A Hogan Spring (30.18 330 ⇑P P 06 07 17.8 +1.5
baz=30,SNR=20
P20A De Beque 30.21 332 ⇑P P 06 07 17.5 +0.9
baz=30
IRM Iron Mountain 30.22 317 ⇓P P 06 07 19.2 +2.6
baz=30,SNR=25
MONP Monument Peak 30.36 314 P P 06 07 20.5 +2.5
baz=30,SNR=30
BAR Barrett 30.42 313 *e*P P 06 07 21.1 +2.8
comp=Z,201nm,2.6s
BAR *e*ScP ScP 06 13 60.0 +4.9
M24A Cheyenne 30.44 339 ⇑P P 06 07 20.1 +1.6
baz=31
S16A Weppner Ranch, 30.44 326 P P 06 07 20.8 +2.1
baz=31,SNR=68

N22A **Wattenberg Ran** 30.47 336 ⇑P P 06 07 19.9 +0.9
baz=31
R17A **Hanksville Air** 30.49 328 P P 06 07 21.9 +2.9
baz=31,SNR=40
PHWY **Pilot Hill** 30.52 338 eP P 06 07 20.4 +0.9
ECSD **EROS Data Cent** 30.53 352 eP P 06 07 18.5 -0.6
comp=Z,50nm,0.9s
O20A **White River Ci** 30.66 333 ⇓P P 06 07 22.1 +1.6
baz=31,SNR=9.7
BELC **Belle Mtn. Jos** 30.69 316 ⇓P P 06 07 23.5 +2.6
baz=31,SNR=33
Q18A **Rafter H Ranch** 30.72 330 P P 06 07 23.4 +2.4
baz=31,SNR=17
LDFC **Landfair** 30.75 318 eP P 06 07 24.6 +3.2
LDFC ePcP PcP 06 10 19.3 +1.4
PFO **Pinyon Flat Ob** 30.78 315 eP P 06 07 24.1 +2.5
comp=Z,55nm,1.2s
PFO ePcP PcP 06 10 19.4 +1.4
PFO **Pinyon Flat Ob** 30.78 315 ⇓P P 06 07 24.3 +2.7
baz=31,SNR=10
R16A **Teasdale** 30.79 327 P P 06 07 24.8 +2.9
baz=31,SNR=53
109C **Camp Elliot, M** 30.84 313 ⇓P P 06 07 24.6 +2.6
baz=31,SNR=7.6
N21A **Black Mountain** 30.87 335 ⇓P P 06 07 24.7 +2.2
baz=31
SRU **San Rafael** 30.92 329 eP P 06 07 24.0 +1.1
SRU e 06 10 18.3
SRU pmax pmax
comp=Z,39nm,1.1s
SRU **San Rafael** 30.92 329 eP P 06 07 24.0 +1.1
comp=Z,39nm,1.1s
SRU ePcP PcP 06 10 18.3 -0.1
SRU **San Rafael** 30.92 329 ⇓P P 06 07 24.3 +1.4
baz=31,SNR=21
GMRC **Granite Mounta** 30.93 317 ⇓P P 06 07 25.8 +2.8
baz=31,SNR=45
M22A **Cedar Creek Ra** 31.04 336 ⇑P P 06 07 25.0 +1.0
baz=31
PAL **Palisades** 31.07 25 eP P 06 07 23.8 0.0
PAL pmax pmax
comp=Z,17nm,0.9s
PAL **Palisades** 31.07 25 eP P 06 07 23.8 0.0
comp=Z,17nm,0.9s
Q16A **Castle Valley** 31.10 328 P P 06 07 27.8 +3.3
baz=31,SNR=50
R15A **Junction** 31.17 326 ⇑P P 06 07 27.6 +2.5
baz=31,SNR=40
P18A **Preston Nutter** 31.18 330 ⇑P P 06 07 27.2 +1.9
baz=31,SNR=10
O19A **Miners Draw (B** 31.19 332 ⇓P P 06 07 26.1 +0.9
baz=31
N20A **Spence Gulch,** 31.24 334 P P 06 07 26.9 +1.2
baz=31,SNR=12
MURC **Murrieta** 31.29 314 P P 06 07 28.6 +2.6
baz=31,SNR=12
BINY **Binghamton** 31.30 21 eP P 06 07 24.9 -1.0
BINY ePcP PcP 06 10 19.6 +0.5
CCUT **Cedar City** 31.31 324 eP P 06 07 28.8 +2.5
comp=Z,83nm,1.0s
CCUT ePcP PcP 06 10 19.3 -0.2
P17A **Butcher Ranch,** 31.31 329 ⇑P P 06 07 28.3 +2.1
baz=31,SNR=11
L23A **Garrett** 31.32 338 P P 06 07 27.0 +0.6
baz=31,SNR=12
MSU **Marysvale** 31.33 326 eP P 06 07 29.6 +3.1
MSU **Marysvale** 31.33 326 eP P 06 07 29.6 +3.1
HEC **Hector,Ludlow** 31.40 317 ⇓P P 06 07 30.4 +3.4
baz=32,SNR=7.4
TMUT **Trail Mountain** 31.41 329 eP P 06 07 29.4 +2.1
comp=Z,28nm,0.8s
TMUT ePcP PcP 06 10 20.8 +1.0
TMUT eScP ScP 06 14 02.8 +4.3
TUQ **Turquoise Moun** 31.50 318 P P 06 07 30.8 +2.8
baz=32,SNR=12
M21A **Separation Pea** 31.52 336 ⇑P P 06 07 29.6 +1.4
baz=32
ARUT **Antelope Range** 31.52 324 eP P 06 07 30.9 +2.8
ARUT pmax pmax
comp=Z,108nm,0.9s
ARUT **Antelope Range** 31.52 324 eP P 06 07 30.9 +2.8
comp=Z,108nm,0.9s
L22A **Ellis Ranch, M** 31.52 337 ⇓P P 06 07 29.3 +1.2
baz=32
O18A **Roosevelt** 31.57 331 P P 06 07 30.6 +2.1
baz=32,SNR=21
GLMI **Grayling** 31.62 8 eP P 06 07 26.9 -1.9
comp=Z,220nm,1.3s
SPMN **St. Paul** 31.65 357 P P 06 07 27.8 -1.1
baz=32,SNR=11
N19A **John Jarvie Ra** 31.69 333 P P 06 07 30.1 +0.5
baz=32,SNR=12
M20A **Sweetwater, Wa** 31.75 335 ⇑P P 06 07 30.5 +0.2
baz=32
L21A **Rawlins** 31.82 336 ⇑P P 06 07 31.1 +0.3
baz=32,SNR=9.5
K23A **Bowen Ranch, D** 31.85 339 ⇑P P 06 07 32.4 +1.4
baz=32,SNR=6.8
P16A **Fountain Green** 31.87 328 ⇓P P 06 07 34.1 +2.8
baz=32,SNR=17
SCI **San Clemente I** 31.92 312 ⇑P P 06 07 34.5 +2.9
baz=32
BFSC **Mount Baldy Ra** 31.96 315 ⇓P P 06 07 34.6 +2.6
baz=32,SNR=22
N18A **Larsen Ranch,** 31.98 332 ⇓P P 06 07 34.3 +2.1
baz=32
GSC **Goldstone** 31.99 317 eP P 06 07 35.5 +3.2
GSC pmax pmax
comp=Z,34nm,1.1s
GSC **Goldstone** 31.99 317 eP P 06 07 35.5 +3.2
comp=Z,34nm,1.1s
GSC **Goldstone** 31.99 317 ⇑P P 06 07 34.8 +2.6
baz=32,SNR=13
SHOC **Shoshone** 32.01 319 ⇓P P 06 07 34.8 +2.5
baz=32,SNR=15
CIS **Catalina Islan** 32.04 313 ⇑P P 06 07 34.6 +2.0
baz=32,SNR=10
K22A **Casper** 32.09 338 P P 06 07 33.9 +0.9
baz=32,SNR=9.1
R13A **O'Grain Ranch,** 32.09 324 ⇓P P 06 07 35.9 +2.8
baz=32,SNR=77
P15A **Leamington** 32.16 328 ⇑P P 06 07 36.2 +2.5
baz=32,SNR=34
MPU **Maple Canyon** 32.16 329 eP P 06 07 36.9 +3.1
comp=Z,49nm,1.0s
MWC **Mount Wilson** 32.23 314 eP P 06 07 36.9 +2.4
MWC e 06 10 23.5
MWC pmax pmax
comp=Z,58nm,1.1s
MWC **Mount Wilson** 32.23 314 eP P 06 07 36.9 +2.4
comp=Z,58nm,1.1s
MWC ePcP PcP 06 10 23.5 +1.5
L20A **Wamsutter** 32.25 335 ⇑P P 06 07 35.0 +0.5
baz=32
DAU **Daniels Canyon** 32.28 330 eP P 06 07 36.9 +1.9
DAU **Daniels Canyon** 32.28 330 eP P 06 07 36.9 +1.9
PASC **Pasadena Art C** 32.29 314 eP P 06 07 37.8 +3.0
comp=Z,72nm,1.4s
K21A **Alcova** 32.34 337 ⇓P P 06 07 36.2 +0.8
baz=32
DECC **Green Verdugo** 32.44 314 ⇓P P 06 07 37.7 +1.6
baz=33,SNR=6.7
N17A **Moffit Pass** 32.49 331 ⇓P P 06 07 38.0 +1.3
baz=33,SNR=5.9
M18A **Lyman** 32.52 332 ⇓P P 06 07 37.6 +0.7
baz=33
JLU **Jordanelle** 32.52 330 eP P 06 07 39.9 +2.9
comp=Z,24nm,1.0s
JLU epP pP 06 07 51.7 +0.9
EDW2 **Edwards Air Fo** 32.55 316 P P 06 07 39.3 +2.2
baz=33,SNR=17
RSSD **Black Hills** 32.56 342 eP P 06 07 37.5 +0.3
RSSD e 06 10 23.1
RSSD **Black Hills** 32.56 342 eP P 06 07 37.5 +0.3
RSSD ePcP PcP 06 10 23.1 +0.3
SADO **Sadowa** 32.66 15 P P 06 07 35.6 -2.3
comp=Z,12nm,0.5s,baz=245,slow=6.6,SNR=18
SADO **Sadowa** 32.66 15 P P 06 07 35.6 -2.3
FURC **Furnace Creek,** 32.73 319 ⇓P P 06 07 41.2 +2.7
baz=33,SNR=26
J22A **Midwest** 32.73 339 ⇑P P 06 07 39.2 +0.6
baz=33
N16A **Rees Ranch, Co** 32.73 330 ⇓P P 06 07 40.8 +2.0
baz=33,SNR=16
CTU **Camp Tracy** 32.74 330 eP P 06 07 42.2 +3.4
comp=Z,50nm,1.0s
L19A **Farson** 32.75 334 ⇑P P 06 07 39.6 +0.6
baz=33
O15A **The Old Anders** 32.79 328 ⇓P P 06 07 41.7 +2.4
baz=33,SNR=6.5
K20A **Yellowstone Ra** 32.79 336 ⇓P P 06 07 39.7 +0.5
baz=33
M17A **Scullys Gap (B** 32.83 332 ⇑P P 06 07 40.8 +1.2
baz=33,SNR=7.9
BLG **Laguna Peak** 32.88 313 ⇓P P 06 07 42.2 +2.3
baz=33
MPMC **Manual Prospec** 32.89 318 P P 06 07 42.4 +2.2
baz=33,SNR=70
DUG **Dugway** 32.90 328 eP P 06 07 42.4 +2.2
DUG e 06 10 24.5
DUG pmax pmax
comp=Z,42nm,1.3s
DUG **Dugway** 32.90 328 eP P 06 07 42.4 +2.2
comp=Z,42nm,1.3s
DUG ePcP PcP 06 10 24.5 +0.8
DUG eScP ScP 06 14 08.1 +4.6
DUG **Dugway** 32.90 328 P P 06 07 43.1 +3.0
baz=33,SNR=19
L18A **Fontenelle, Gr** 32.90 333 ⇑P P 06 07 40.9 +0.6
baz=33
J21A **Lysite** 33.03 337 ⇓P P 06 07 42.1 +0.8
baz=33,SNR=9.6
DAC **Darwin (Calif)** 33.09 318 eP P 06 07 44.8 +2.9
DAC e 06 10 25.8
DAC pmax pmax
comp=Z,42nm,1.1s
DAC **Darwin (Calif)** 33.09 318 eP P 06 07 44.8 +2.9
comp=Z,42nm,1.1s
DAC ePcP PcP 06 10 25.8 +1.4
K19A **Absolon Red Bu** 33.13 335 ⇑P P 06 07 42.7 +0.5
baz=33
R11A **Troy Canyon, C** 33.14 323 ⇑P P 06 07 44.6 +2.3
baz=33,SNR=64
I22A **9 Mile Ranch,** 33.15 339 ⇓P P 06 07 42.5 +0.2
baz=33,SNR=9.1
ACCN **Adirondack Com** 33.17 23 eP P 06 07 43.7 +1.3
comp=Z,97nm,1.9s
BSC **Santa Cruz Isl** 33.22 313 ⇓P P 06 07 45.8 +2.8
baz=33
ARVC **Arvin** 33.26 315 ⇓P P 06 07 46.0 +2.8
baz=33,SNR=24
N15A **Stansbury Isla** 33.27 329 ⇓P P 06 07 45.5 +2.1
baz=33
J20A **Shoshoni** 33.28 337 ⇓P P 06 07 43.9 +0.5
baz=33
H24A **Dirks Ranch, A** 33.28 342 P P 06 07 43.8 +0.4
baz=33,SNR=6.2
ISA **Isabella** 33.31 316 eP P 06 07 46.4 +2.6
ISA e 06 10 26.3
ISA pmax pmax
comp=Z,44nm,1.1s
ISA **Isabella** 33.31 316 eP P 06 07 46.4 +2.6
comp=Z,44nm,1.1s
ISA ePcP PcP 06 10 26.3 +1.5
ISA **Isabella** 33.31 316 P P 06 07 46.5 +2.7
baz=33,SNR=23
HWUT **Hardware Ranch** 33.35 331 eP P 06 07 44.9 +0.7
comp=Z,27nm,1.0s
HWUT epP pP 06 07 58.0 0.0
HWUT ePcP PcP 06 10 25.8 +0.8
I21A **Big Trails, Te** 33.37 338 ⇓P P 06 07 45.3 +1.1
baz=34
GRAC **Grapevine Rang** 33.38 319 P P 06 07 47.4 +3.2
baz=34,SNR=46
BW06 **Boulder Array** 33.38 334 eP P 06 07 44.8 +0.3
BW06 **Boulder Array** 33.38 334 ⇑P P 06 07 45.2 +0.7
baz=34
PDAR **Pinedale Array** 33.38 334 P P 06 07 44.5 +0.1
comp=Z,4.2nm,0.7s,baz=131,slow=11,SNR=23
PDAR PcP PcP 06 10 24.5 -0.7
comp=Z,9.2nm,1.0s,baz=141,slow=3.0,SNR=8.2
PDAR ScP ScP 06 14 07.3 +2.1
comp=Z,7.6nm,0.9s,baz=140,slow=4.7,SNR=15
PDAR PKiKP PKiKP 06 17 49.1 -1.4
comp=Z,1.1nm,0.9s,baz=131,slow=4.6,SNR=4.6
PDAR LR LR 06 23 27.9
comp=Z,992nm,21.6s,baz=150,slow=40
PDAR **Pinedale Array** 33.38 334 P P 06 07 44.5 +0.1
PDAR PcP PcP 06 10 24.5 -0.7
PDAR ScP ScP 06 14 07.3 +2.1
PDAR PKiKP PKiKP 06 17 49.1 -1.4
L17A **Cokeville** 33.42 332 ⇑P P 06 07 44.8 0.0
baz=34,SNR=8.0
K18A **Toltan Ranch,** 33.48 334 P P 06 07 46.6 +1.2
baz=34,SNR=18
CWC **Cottonwood Cre** 33.50 318 ⇑P P 06 07 47.8 +2.3
baz=34
J19A **Crowheart** 33.59 335 P P 06 07 46.4 +0.3
baz=34,SNR=6.8
L16A **Fish Haven** 33.61 332 ⇑P P 06 07 47.6 +1.2
baz=34
M15A **Larsen Ranch,** 33.67 330 ⇓P P 06 07 48.9 +2.0
baz=34
H22A **Clearmont** 33.72 340 ⇑P P 06 07 48.6 +1.3
baz=34
I20A **Worland** 33.80 337 ⇓P P 06 07 48.3 +0.4
baz=34,SNR=13
PKM **Peak Mountain** 33.82 314 ⇑P P 06 07 49.2 +0.9
baz=34,SNR=7.8
VES **Vestal, Richgr** 33.82 316 ⇓P P 06 07 50.6 +2.5
baz=34,SNR=50
MDV **Middlebury** 33.88 23 eP P 06 07 48.7 +0.2
comp=Z,704nm,0.5s
MDV eScP ScP 06 14 06.6 +0.1
LONY **Lake Ozonia** 33.91 21 eP P 06 07 47.3 -1.4
comp=Z,53nm,1.2s
LONY epP pP 06 08 04.5 +1.9
LONY eS S 06 13 11.1 +1.6
J18A **Kendall Valley** 33.94 334 P P 06 07 49.8 +0.4
baz=34,SNR=15
G23A **Biddle** 33.95 341 ⇓P P 06 07 48.7 -0.5
baz=34
K17A **Gardner Place,** 33.96 333 ⇓P P 06 07 49.9 +0.5
baz=34,SNR=18
TIN **Tinemaha** 33.96 319 ⇓P P 06 07 51.7 +2.3
baz=34,SNR=12
H21A **Big Horn, Sher** 33.99 339 ⇑P P 06 07 50.0 +0.4
baz=34
AHID **Auburn Hatcher** 34.05 333 eP P 06 07 51.2 +1.0
comp=Z,5.1nm,0.4s
AHID eScP ScP 06 14 10.0 +2.5
L15A **Malad City** 34.05 331 P P 06 07 51.2 +1.0
baz=34,SNR=30
HVU **Hansel Valley** 34.07 330 eP P 06 07 53.2 +2.9
HVU pmax pmax
comp=Z,62nm,1.2s
HVU **Hansel Valley** 34.07 330 eP P 06 07 53.2 +2.9
comp=Z,62nm,1.2s
SMMC **Simmler** 34.16 315 ⇑P P 06 07 54.0 +2.8
baz=34,SNR=7.6
RCTC **Rector, Farmer** 34.19 317 P P 06 07 54.5 +3.2
baz=34,SNR=37
I19A **Meeteetse** 34.21 336 ⇓P P 06 07 52.2 +0.6
baz=34,SNR=11
H20A **Greybull** 34.21 338 ⇑P P 06 07 52.0 +0.5
baz=34
F24A **Ekalaka** 34.25 343 ⇓P P 06 07 51.9 +0.1
baz=34
G22A **Birney** 34.26 340 ⇓P P 06 07 51.9 0.0
baz=34
I18A **Diamond G Ranc** 34.26 335 P P 06 07 52.7 +0.6
baz=34,SNR=9.3
K16A **Soda Springs** 34.32 332 ⇑P P 06 07 54.3 +1.8
baz=34
EYMN **Ely** 34.32 359 eP P 06 07 49.7 -2.6
comp=Z,90nm,1.6s
MTUM **Tungsten Hills** 34.35 319 eP P 06 07 56.1 +3.3
J17A **Brown Place, J** 34.36 334 P P 06 07 54.1 +1.2
baz=34,SNR=39
REDW **Red Top Meadow** 34.42 334 eP P 06 07 53.8 +0.3
comp=Z,68nm,0.9s
REDW epP pP 06 08 07.4 +0.1
F23A **Volborg** 34.42 342 ⇓P P 06 07 53.0 -0.2
baz=34
FRNY **Flat Rock** 34.45 22 eP P 06 07 53.4 0.0
comp=Z,47nm,1.3s
FRNY epP pP 06 08 08.4 +1.2
SNOW **Snow King Moun** 34.46 334 eP P 06 07 54.0 +0.2
comp=Z,51nm,0.8s
SNOW epP pP 06 08 08.2 +0.6
L14A **Malta** 34.48 330 P P 06 07 55.9 +1.9
baz=35,SNR=45
LOHW **Long Hollow** 34.51 334 eP P 06 07 54.2 0.0
comp=Z,6.6nm,0.6s
LOHW epP pP 06 08 08.1 -0.1
LOHW eScP ScP 06 14 13.0 +3.8
TPAW **Teton Pass** 34.56 334 eP P 06 07 56.7 +1.9
comp=Z,54nm,1.4s
TPAW epP pP 06 08 09.5 +0.8
TPAW eScP ScP 06 14 13.6 +4.2
G21A **Lodge Grass** 34.57 339 ⇓P P 06 07 55.2 +0.7
baz=35
ELK **Elko** 34.58 326 eP P 06 07 56.4 +1.5
ELK epP pP 06 08 08.9 +0.1
RRI2 **Red Ridge** 34.61 333 eP P 06 07 56.5 +1.4
comp=Z,62nm,1.4s
RRI2 ePcP PcP 06 10 29.0 +0.4
RRI2 eScP ScP 06 14 13.3 +3.8
K15A **Arbon** 34.64 331 ⇓P P 06 07 56.6 +1.3
baz=35,SNR=12
J16A **Bone** 34.68 333 ⇓P P 06 07 57.2 +1.5
baz=35,SNR=9.1
MOOW **Moose Ponds** 34.68 334 eP P 06 07 56.7 +1.0
MOOW epP pP 06 08 09.8 +0.2
MOOW ePcP PcP 06 10 29.5 +0.7
MOOW eScP ScP 06 14 13.2 +3.4
MLAC **Mammoth Lakes** 34.69 319 ⇓P P 06 07 58.9 +3.0
baz=35,SNR=5.5
H19A **Powell** 34.74 337 ⇑P P 06 07 56.8 +0.7
baz=35
F22A **Rosebud** 34.74 341 ⇑P P 06 07 55.7 -0.3
baz=35
NV11 **Mina Array Sit** 34.74 321 eP P 06 07 59.1 +2.8
DCID1 **Drake Creek** 34.75 334 eP P 06 07 59.2 +2.9
I17A **Pilgrim Ck.** 34.75 334 ⇑P P 06 07 57.3 +1.0
baz=35,SNR=13
NVAR **Mina Array Bea** 34.83 320 P P 06 07 59.7 +2.7
comp=Z,102nm,0.8s,baz=133,slow=8.0,SNR=373
NVAR PcP PcP 06 10 30.6 +1.3
comp=Z,12nm,0.8s,baz=123,slow=3.3,SNR=8.5
NVAR ScP ScP 06 14 14.1 +3.7
comp=Z,7.6nm,0.9s,baz=133,slow=3.8,SNR=14
NVAR LR LR 06 25 51.2
comp=Z,2μm,18.3s,baz=226,slow=42
NVAR **Mina Array Bea** 34.83 320 P P 06 07 59.8 +2.7
NVAR PcP PcP 06 10 30.6 +1.3
NVAR ScP ScP 06 14 14.1 +3.7
K14A **Jones Ranch, D** 34.84 330 ⇓P P 06 07 58.4 +1.4
baz=35,SNR=33
E24A **Baker** 34.87 344 ⇑P P 06 07 57.7 +0.6
baz=35
IMW **Indian Meadow** 34.89 334 eP P 06 07 58.1 +0.5
comp=Z,8.9nm,0.8s
IMW ePcP PcP 06 10 30.7 +1.2
IMW eScP ScP 06 14 12.6 +2.0
G20A **Bridger** 34.92 338 ⇓P P 06 07 58.2 +0.5
baz=35
AGMN **Agassiz Nation** 34.93 354 eP P 06 07 56.1 -1.5
comp=Z,55nm,1.3s
AGMN ePcP PcP 06 10 28.3 -0.8
FLWY **Flagg Ranch** 34.94 335 eP P 06 07 59.1 +1.2
FLWY eScP ScP 06 14 15.8 +5.2
H18A **Shoshone NF, C** 35.01 336 P P 06 07 58.8 +0.3
baz=35,SNR=48
E23A **Ismay** 35.09 342 ⇑P P 06 07 58.9 -0.1
baz=35
I16A **Newdale** 35.10 334 ⇑P P 06 08 00.3 +1.0
baz=35,SNR=9.6
H17A **Grant Village** 35.14 335 ⇑P P 06 08 01.0 +1.3
baz=35
J15A **Blackfoot** 35.15 332 ⇑P P 06 08 00.5 +0.8
baz=35,SNR=10.0
RLMT **Red Lodge** 35.23 337 eP P 06 08 01.4 +1.0
RLMT **Red Lodge** 35.23 337 ⇓P P 06 08 01.2 +0.8
baz=35,SNR=11
E22A **Miles City** 35.23 342 ⇓P P 06 08 00.3 0.0
baz=35
SAML **Samuel** 35.28 128 eP P 06 07 59.9 -1.1
comp=Z,56nm,1.0s
SAML epP pP 06 08 13.1 -1.8
SAML ePcP PcP 06 10 30.6 -0.1
YFT **Old Faithful** 35.29 335 eP P 06 08 02.4 +1.4
comp=Z,14nm,0.8s
YFT eScP ScP 06 14 17.6 +5.6
ARE **Arequipa** 35.33 147 eP P 06 08 03.0 +1.4
ARE **Arequipa** 35.33 147 eP P 06 08 03.0 +1.4
D24A **Glendive** 35.38 344 ⇑P P 06 08 02.6 +1.1
baz=36
F20A **Billings** 35.40 339 ⇑P P 06 08 02.6 +0.9
baz=36
BMN **Battle Mountai** 35.47 324 eP P 06 08 04.9 +2.4
BMN e*PP pP 06 08 17.0 +0.6
BMN pmax pmax
comp=Z,51nm,0.8s
BMN **Battle Mountai** 35.47 324 eP P 06 08 04.9 +2.4
comp=Z,51nm,0.8s
BMN epP pP 06 08 17.0 +0.6
G18A **Lazy EL Ranch,** 35.50 337 P P 06 08 02.9 +0.2
baz=36,SNR=10
YMR **Madison River** 35.52 335 eP P 06 08 04.6 +1.6
comp=Z,38nm,1.2s
YMR eScP ScP 06 14 16.3 +3.5
I15A **Monteview** 35.64 333 ⇑P P 06 08 06.8 +2.9
baz=36
H16A **Russell Place,** 35.67 335 ⇓P P 06 08 05.5 +1.3
baz=36,SNR=11
E21A **Keefer Ranch,** 35.68 341 ⇑P P 06 08 04.5 +0.4
baz=36
F19A **Roth Farm, Mol** 35.73 338 ⇑P P 06 08 05.1 +0.6
baz=36
C24A **Savage** 35.79 344 ⇓P P 06 08 05.7 +0.7
baz=36
QLMT **Earthquake Lak** 35.85 335 eP P 06 08 08.2 +2.5
comp=Z,1.6nm,1.1s
QLMT eScP ScP 06 14 17.9 +4.0
CMB **Columbia Colle** 35.92 318 eP P 06 08 07.3 +1.0
CMB pmax pmax
comp=Z,38nm,0.9s
CMB **Columbia Colle** 35.92 318 eP P 06 08 07.3 +1.0
comp=Z,38nm,0.9s
SAO **San Andreas Ge** 35.93 316 eP P 06 08 07.1 +0.8
SAO pmax pmax
comp=Z,31nm,0.9s
SAO **San Andreas Ge** 35.93 316 eP P 06 08 07.1 +0.8
comp=Z,31nm,0.9s
D22A **Cohagen** 35.94 342 ⇓P P 06 08 05.9 -0.4
baz=36,SNR=11
GCMT **Greycliff** 35.94 337 eP P 06 08 07.3 +0.9
comp=Z,6.2nm,0.7s
J13A **Cove Ranch, Pi** 35.96 330 ⇓P P 06 08 08.5 +1.8
baz=36,SNR=17
G17A **Pierce Place,** 35.97 336 ⇑P P 06 08 08.6 +1.9
baz=36,SNR=14
E20A **Meyer Farm, Mu** 36.00 339 P P 06 08 07.3 +0.5
baz=36,SNR=9.8
F18A **Big Timber** 36.06 337 ⇓P P 06 08 07.7 +0.3
baz=36,SNR=12
E19A **Rath Farm, Rou** 36.19 339 ⇓P P 06 08 09.0 +0.6
baz=36
H15A **Lima** 36.20 333 ⇓P P 06 08 10.3 +1.6
baz=36,SNR=18
HLID **Hailey** 36.20 330 eP P 06 08 10.5 +1.8
comp=Z,42nm,1.3s
HLID ePcP PcP 06 10 34.7 +1.5
HLID **Hailey** 36.20 330 ⇑P P 06 08 10.7 +2.0
baz=36,SNR=34
C23A **Lambert** 36.24 343 P P 06 08 09.1 +0.2
baz=36,SNR=5.7
WCN **Washoe City** 36.26 320 eP P 06 08 12.5 +3.2
WCN e 06 10 35.4
WCN pmax pmax
comp=Z,32nm,1.0s
WCN **Washoe City** 36.26 320 eP P 06 08 12.5 +3.2
comp=Z,32nm,1.0s
WCN ePcP PcP 06 10 35.4 +1.9
G16A **Moss Hill, Enn** 36.33 335 ⇓P P 06 08 12.4 +2.7
baz=36,SNR=15
I13A **Wildhorse Cree** 36.33 331 ⇓P P 06 08 12.2 +2.3
baz=36,SNR=22
C22A **Vida** 36.39 343 ⇓P P 06 08 10.8 +0.7
baz=36,SNR=9.0
F17A **Fitzpatrick Pl** 36.42 336 P P 06 08 12.0 +1.5
baz=36,SNR=28
MCMT **McKenzie Canyo** 36.45 333 eP P 06 08 13.1 +2.1
comp=Z,16nm,0.8s
MCMT eScP ScP 06 14 20.1 +3.9
D20A **Manuel Ranch,** 36.51 340 P P 06 08 12.1 +1.0
baz=37,SNR=11
H14A **Leadore** 36.52 332 ⇑P P 06 08 13.5 +2.1
baz=37,SNR=16

G15A Dillon 36.57 334 ⇑P P 06 08 13.2 +1.4
baz=37,SNR=31
BOZ Bozeman (W) 36.59 335 eP P 06 08 13.0 +1.0
BOZ e 06 09 38.1
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ Bozeman (W) 36.59 335 eP P 06 08 13.0 +1.0
comp=Z,8.1nm,0.8s
BOZ ePP PnPn 06 09 38.1 +1.8
BOZ eScP ScP 06 14 19.1 +2.5
BOZ Bozeman (W) 36.59 335 ⇑P P 06 08 13.3 +1.3
baz=37,SNR=23
DGMT Dagmar 36.59 345 eP P 06 08 12.2 +0.5
comp=Z,131nm,0.2s
DGMT Dagmar 36.59 345 P P 06 08 12.3 +0.5
baz=37,SNR=11
E18A Harlowton 36.69 338 ⇓P P 06 08 13.8 +1.0
baz=37
F16A Kennard Place, 36.70 335 P P 06 08 14.4 +1.6
baz=37,SNR=14
DLMT Dillon 36.77 334 eP P 06 08 15.2 +1.7
comp=Z,20nm,1.0s
DLMT ePcP PcP 06 10 35.9 +1.1
DLMT eScP ScP 06 14 20.7 +3.5
MFID Camas Ranch 36.79 329 eP P 06 08 15.3 +1.6
comp=Z,38nm,1.1s
MFID ePcP PcP 06 10 36.5 +1.5
MFID Camas Ranch 36.79 329 P P 06 08 15.3 +1.6
baz=37,SNR=12
B23A Brockton 36.80 344 ⇑P P 06 08 14.5 +0.9
baz=37,SNR=9.3
C21A Desert Coulee 36.83 342 P P 06 08 15.4 +1.6
baz=37,SNR=7.5
D19A Cripps Ranch, 36.83 339 ⇓P P 06 08 14.4 +0.5
baz=37,SNR=13
ULM Lac du Bonnet 36.87 354 P P 06 08 11.8 -2.2
comp=Z,30nm,1.0s,baz=179,slow=9.9,SNR=30
ULM LR LR 06 26 20.4
comp=Z,664nm,20.9s,baz=5.3,slow=41
ULM Lac du Bonnet 36.87 354 eP P 06 08 11.9 -2.2
comp=Z,39nm,1.0s
H13A Challis 36.88 332 P P 06 08 15.9 +1.5
baz=37,SNR=50
B22A Reddig Ranch S 36.92 343 ⇑P P 06 08 16.0 +1.3
baz=37
E17A Martinsdale 36.96 337 ⇓P P 06 08 16.5 +1.3
baz=37,SNR=9.1
A24A Westby 36.97 345 P P 06 08 15.4 +0.4
baz=37,SNR=10
G14A Jackson 37.05 333 P P 06 08 17.0 +1.1
baz=37,SNR=22
LRM Limekiln Ridge 37.07 335 eP P 06 08 17.3 +1.1
LRM ePcP PcP 06 10 37.6 +1.7
LPAZ La Paz 37.09 142 P P 06 08 17.1 +0.2
comp=Z,14nm,1.0s,baz=323,slow=6.5,SNR=37
LPAZ LR LR 06 23 35.0
comp=Z,2μm,21.7s,baz=272,slow=36
LPAZ La Paz 37.09 142 eP P 06 08 17.5 +0.5
comp=Z,27nm,1.2s
F15A Butte 37.11 335 P P 06 08 17.4 +1.0
baz=37,SNR=25
H12A Diamond D Ranc 37.15 331 ⇓P P 06 08 17.9 +1.1
baz=37,SNR=23
D18A Linhart Farms, 37.18 338 ⇑P P 06 08 17.9 +1.0
baz=37
A23A Redstone 37.22 345 ⇑P P 06 08 18.2 +1.1
baz=37,SNR=12
G13A Cobalt 37.28 332 ⇓P P 06 08 18.4 +0.6
baz=37,SNR=18
E16A East Helena 37.34 336 ⇓P P 06 08 18.8 +0.6
baz=38,SNR=23
OHCM Honcut 37.37 319 eP P 06 08 21.4 +3.0
C19A Slack Wire Ran 37.38 340 ⇓P P 06 08 18.8 +0.3
baz=38,SNR=12
F14A Wisdom 37.46 334 ⇓P P 06 08 20.4 +1.0
baz=38,SNR=11
D17A Six Diamond Ra 37.47 337 P P 06 08 20.2 +0.8
baz=38,SNR=30
A22A Carney Farms, 37.53 344 ⇓P P 06 08 21.2 +1.4
baz=38,SNR=8.2
HRY Holter Researc 37.54 336 eP P 06 08 21.3 +1.3
MCCM Marconi Confer 37.62 317 eP P 06 08 21.6 +0.9
comp=Z,103nm,0.9s
E15A Deer Lodge 37.64 335 ⇓P P 06 08 21.6 +0.8
baz=38,SNR=21
B20A Solberg Farm, 37.66 341 P P 06 08 21.7 +0.9
baz=38,SNR=8.6
D16A Dana Ranch, Ca 37.69 337 ⇓P P 06 08 22.2 +0.9
baz=38,SNR=12
G12A Big Creek, Yel 37.81 331 ⇑P P 06 08 22.9 +0.6
baz=38
A21A Bergtoll Ranch 37.81 343 ⇓P P 06 08 23.1 +1.0
baz=38,SNR=7.4
F13A Darby 37.86 333 ⇑P P 06 08 23.4 +0.7
baz=38,SNR=33
EGMT Eagleton 37.87 339 eP P 06 08 23.3 +0.6
comp=Z,50nm,1.5s
EGMT Eagleton 37.87 339 ⇓P P 06 08 23.1 +0.4
baz=38,SNR=11
C17A Wharram Farm, 37.90 338 ⇓P P 06 08 23.2 +0.3
baz=38,SNR=16
B19A Brinkman Farms 37.97 340 P P 06 08 24.4 +0.9
baz=38,SNR=10.0
E14A Clinton 37.99 334 ⇓P P 06 08 24.6 +0.8
baz=38,SNR=19
A20A Cobblestone Ra 38.02 341 P P 06 08 24.8 +0.9
baz=38,SNR=14
D15A Lincoln 38.09 336 ⇓P P 06 08 25.7 +1.1
baz=38,SNR=27
MOD Modoc 38.19 323 eP P 06 08 26.5 +0.9
comp=Z,48nm,1.1s
MOD epP pP 06 08 39.2 -0.4
B18A Beardsley Farm 38.20 339 P P 06 08 26.2 +0.8
baz=38,SNR=7.8
F12A Elk City 38.25 332 P P 06 08 26.5 +0.5
baz=38,SNR=63
CHMT Chamberlain Mo 38.28 335 eP P 06 08 27.7 +1.4
E13A Victor 38.30 334 P P 06 08 26.8 +0.4
baz=38,SNR=55
A19A Klindworth Far 38.32 341 P P 06 08 27.1 +0.7
baz=38,SNR=13
C16A Fuhringer Ranc 38.41 337 P P 06 08 27.9 +0.7
baz=38,SNR=36
B17A L&G Farms, Che 38.47 338 ⇑P P 06 08 27.6 -0.1
baz=39,SNR=7.4
MSO Missoula 38.50 334 eP P 06 08 29.5 +1.4
comp=Z,12nm,1.0s
MSO ePcP PcP 06 10 41.4 +1.3
MSO eScP ScP 06 14 27.2 +3.6
MSO Missoula 38.50 334 ⇓P P 06 08 28.9 +0.8
baz=39,SNR=11
D14A Greenough 38.52 335 ⇑P P 06 08 28.5 +0.3
baz=39,SNR=24
BMO Blue Mountains 38.56 329 eP P 06 08 28.5 -0.1
comp=Z,16nm,1.0s
BMO eScP ScP 06 14 27.3 +3.4
SLMT Seeley Lake 38.64 335 eP P 06 08 30.4 +1.1
comp=Z,9.2nm,0.8s
SLMT eScP ScP 06 14 27.8 +3.5
A18A Metzger Ranch, 38.67 340 P P 06 08 29.8 +0.5
baz=39,SNR=8.1
C15A Salmond Ranch, 38.72 336 ⇑P P 06 08 31.1 +1.2
baz=39,SNR=20
WDC Whiskeytown Da 38.75 320 eP P 06 08 30.5 +0.5
WDC e 06 10 41.4
WDC pmax pmax
comp=Z,25nm,1.0s
WDC Whiskeytown Da 38.75 320 eP P 06 08 30.5 +0.5
comp=Z,25nm,1.0s
WDC ePcP PcP 06 10 41.4 +0.5
E12A Beaver Dam Sad 38.89 332 ⇑P P 06 08 31.5 +0.1
baz=39
KCPM Cahto Peak 38.91 318 eP P 06 08 35.2 +3.6
comp=Z,47nm,1.3s
KCPM epP pP 06 08 46.8 +1.2
KCPM ePcP PcP 06 10 42.2 +0.6
KIPM Iron Peak 38.91 318 eP P 06 08 34.0 +2.4
comp=Z,146nm,1.0s
D13A Huson 38.93 334 ⇓P P 06 08 32.2 +0.6
baz=39,SNR=28
A17A Triple J Farms 38.98 339 P P 06 08 32.4 +0.4
baz=39,SNR=9.5
SWMT Swartz Lake 39.06 335 eP P 06 08 34.4 +1.6
SWMT eScP S 06 14 28.9 +0.6
B15A Bradely Ranch, 39.14 337 ⇑P P 06 08 33.3 -0.1
baz=39,SNR=12
C14A Swan Lake 39.17 335 ⇓P P 06 08 34.3 +0.7
baz=39
YBMT Yellow Bay 39.35 335 eP P 06 08 37.0 +1.8
comp=Z,20nm,0.9s
JTMT Jette 39.37 335 eP P 06 08 37.1 +1.8
C13A Hot Springs 39.44 335 ⇑P P 06 08 36.8 +1.0
baz=40,SNR=7.6
B14A Marquette Ranc 39.45 336 ⇑P P 06 08 37.0 +1.0
baz=40,SNR=12
YBH Yreka Blue Hor 39.52 321 P P 06 08 36.7 +0.1
comp=Z,22nm,0.8s,baz=97,slow=6.8,SNR=50
YBH LR LR 06 29 06.0
comp=Z,1μm,18.5s,baz=147,slow=42
YBH Yreka Blue Hor 39.52 321 eP P 06 08 37.3 +0.7
comp=Z,18nm,0.8s
YBH ePcP PcP 06 10 44.3 +0.9
BLMT Blacktail Moun 39.61 335 eP P 06 08 39.6 +2.2
KHMM Horse Mountain 39.66 320 eP P 06 08 39.5 +1.6
comp=Z,137nm,0.9s
BSMT Bassoo Peak 39.66 334 eP P 06 08 38.8 +1.0
A15A Johnson Ranch, 39.75 337 ⇓P P 06 08 38.7 +0.2
baz=40,SNR=28
C12B Naegeli Ranch, 39.84 334 ⇓P P 06 08 39.7 +0.5
baz=40,SNR=12
B13A Whitefish 39.94 335 ⇓P P 06 08 40.1 +0.1
baz=40,SNR=20
A14A Double T Ranch 40.01 337 P P 06 08 41.0 +0.3
baz=40,SNR=41
VIPM Ingram Point 40.05 326 P P 06 08 42.0 +0.9
VIPM Ingram Point 40.05 326 P P 06 08 42.0 +0.9
KRMB Red Mountain 40.13 320 eP P 06 08 44.1 +2.4
comp=Z,325nm,2.5s
HUMO Hull Mountain 40.18 322 eP P 06 08 43.2 +1.2
WALA Waterton Lakes 40.27 336 eP P 06 08 43.5 +0.8
comp=Z,0.5nm,0.9s
C11A Tepee Creek (N 40.28 333 ⇑P P 06 08 43.2 +0.4
baz=40
A13A Flathead Natio 40.36 336 ⇓P P 06 08 44.5 +1.0
baz=40
B12A Libby 40.48 334 ⇓P P 06 08 45.5 +1.1
baz=41,SNR=19
IRO Indian Ridge 40.62 325 P P 06 08 47.2 +1.3
KBO Bosley Butte 40.72 321 eP P 06 08 48.9 +2.4
comp=Z,270nm,1.0s
HAWA Hanford 40.76 329 eP P 06 08 46.8 +0.1
comp=Z,13nm,0.9s
A12A Yaak River Ran 40.87 335 ⇑P P 06 08 48.3 +0.7
baz=41,SNR=6.2
NEW Newport 40.98 333 eP P 06 08 48.5 -0.1
comp=Z,10nm,0.9s
NEW Newport 40.98 333 ⇓P P 06 08 48.6 0.0
baz=41,SNR=11
KEBM Edson Butte 41.16 322 eP P 06 08 52.8 +2.6
comp=Z,533nm,1.0s
VLL Laurance Lake 41.24 327 P P 06 08 53.2 +2.4
SIV San Ignacio 41.45 134 P P 06 08 53.1 +0.3
comp=Z,61nm,0.9s,baz=322,slow=10,SNR=170
SIV LR LR 06 25 23.9
comp=Z,2μm,20.5s,slow=35
SIV San Ignacio 41.45 134 P P 06 08 53.1 +0.3
LVC Limon Verde 41.78 149 eP P 06 08 55.3 -0.3
comp=Z,5.1nm,1.1s
FFC Flin Flon 42.05 350 eP P 06 08 56.4 -0.7
FFC pmax pmax
comp=Z,45nm,1.3s
FFC Flin Flon 42.05 350 eP P 06 08 56.4 -0.7
comp=Z,45nm,1.3s
LON Longmire 42.15 328 eP P 06 08 59.2 +1.0
LON pmax pmax
comp=Z,45nm,0.9s
LON Longmire 42.15 328 eP P 06 08 59.2 +1.0
comp=Z,45nm,0.9s
NLWA Neilton Lookou 43.64 327 eP P 06 09 11.4 +1.2
comp=Z,98nm,1.1s
PGC Sidney 44.24 329 eP P 06 09 17.9 +3.0
comp=Z,4.6nm,1.1s
SCHQ Schefferville 45.24 19 P P 06 09 20.7 -2.1
comp=Z,43nm,0.9s,baz=223,slow=8.5,SNR=36
SCHQ LR LR 06 29 05.6
comp=Z,2μm,20.3s,baz=222,slow=37
SCHQ Schefferville 45.24 19 eP P 06 09 20.8 -2.1
comp=Z,64nm,0.9s
LCO Las Campanas 46.50 156 eP P 06 09 34.0 +0.7
comp=Z,93nm,0.9s
CMCH Combarbala 48.30 157 *i* P P 06 09 47.5 +0.4
CFAA Coronel Fontan 49.78 155 P P 06 09 59.0 +0.6
comp=Z,6.1nm,0.9s,baz=337,slow=7.7,SNR=106
CFAA LR LR 06 26 59.2
comp=Z,92nm,21.5s,baz=245,slow=31
CFAA Coronel Fontan 49.78 155 P P 06 09 59.0 +0.6
FCH Farellones 50.50 158 ⇑*i*P P 06 10 03.5 -0.6
BDFB Brasilia 51.21 123 P P 06 10 08.9 -0.6
comp=Z,14nm,0.8s,baz=294,slow=8.7,SNR=19
BDFB LR LR 06 30 10.1
comp=Z,787nm,21.4s,baz=26,slow=34
BDFB Brasilia 51.21 123 P P 06 10 08.9 -0.6
CPUP Villa Florida 51.22 141 P P 06 10 08.2 -1.0
comp=Z,27nm,1.0s,baz=310,slow=10,SNR=30
CPUP LR LR 06 34 03.0
comp=Z,815nm,18.5s,baz=314,slow=39
CPUP Villa Florida 51.22 141 P P 06 10 08.2 -1.0
YKA Yellowknife Ar 51.78 346 P P 06 10 11.8 -1.1
comp=Z,7.9nm,1.0s,baz=146,slow=7.4,SNR=36
YKA ScP ScP 06 15 19.1 +1.3
comp=Z,0.4nm,0.7s,baz=145,slow=4.5,SNR=5.7
YKA Yellowknife Ar 51.78 346 P P 06 10 11.8 -1.1
YKA ScP ScP 06 15 19.1 +1.3
YKW3 Yellowknife Ar 51.84 346 eP P 06 10 12.6 -0.8
comp=Z,1.1nm,1.3s
DLBC Dease Lake 53.60 336 eP P 06 10 28.0 +1.4
SPB Sao Paulo 56.14 131 eP P 06 10 44.8 -0.5
comp=Z,152nm,1.5s
RKT Rikitea 56.60 230 eP P 06 10 49.7 +1.1
comp=Z,155nm,1.1s
RKT eLR LR 06 27 29.5
comp=Z,1μm,25.2s
PLCA Paso Flores 57.12 162 P P 06 10 52.2 +0.2
comp=Z,55nm,1.2s,baz=336,slow=9.8,SNR=40
PLCA LR LR 06 31 21.5
comp=Z,1μm,18.9s,baz=2.8,slow=32
PLCA Paso Flores 57.12 162 eP P 06 10 52.4 +0.3
comp=Z,114nm,1.4s
RCBR Riachuelo 57.70 106 eP P 06 10 56.8 +0.2
comp=Z,65nm,1.0s
RCBR epP pP 06 11 10.3 -1.1
TRQA Tornquist 57.95 153 eP P 06 10 57.5 -0.4
comp=Z,60nm,1.1s
TRQA ePcP PcP 06 11 50.4 +0.8
CAM4 Nova Friburgo 59.14 127 ⇑*i*P P 06 11 06.3 -0.4
CAM4 *i* 06 11 09.7
CAM4 *i* 06 11 18.6
CAM4 *i* 06 11 20.2
CAM4 *i* 06 11 23.5
CAM4 *i* 06 11 32.8
CAM4 *i* 06 11 38.7
CAM4 *i* 06 11 44.8
CAM4 *i* 06 11 53.2
DAWY Dawson 60.59 338 eP P 06 11 15.7 -0.1
RES Resolute Bay 61.20 359 eP P 06 11 18.2 -1.4
comp=Z,22nm,0.8s
INK Inuvik 61.25 343 eP P 06 11 19.4 -0.7
comp=Z,11nm,0.7s
EGAK Eagle 61.62 338 eP P 06 11 22.0 -0.7
comp=Z,8.2nm,0.9s
ILAR Eielson Array 63.77 337 P P 06 11 35.9 -1.2
comp=Z,5.2nm,0.8s,baz=113,slow=5.2,SNR=50
ILAR PKPPKP P'P'df 06 40 32.4 -0.5
comp=Z,0.9nm,1.0s,baz=307,slow=3.4,SNR=6.4
ILAR Eielson Array 63.77 337 P P 06 11 35.9 -1.2
ILAR P'P' 06 40 32.4
KDAK Kodiak Island 63.78 328 P P 06 11 37.5 +0.4
comp=Z,7.2nm,0.4s,baz=114,slow=4.9,SNR=21
KDAK Kodiak Island 63.78 328 P P 06 11 37.5 +0.4
COLA College 64.19 337 eP P 06 11 39.2 -0.5
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 64.19 337 eP P 06 11 39.2 -0.5
comp=Z,15nm,0.7s
MEH Mehetia 64.62 243 eP P 06 11 44.2 +0.9
comp=Z,148nm,1.2s
RSO Redoubt South 64.68 331 eP P 06 11 43.9 +0.6
comp=Z,78nm,0.7s
TIAR Tiarei 65.59 243 eP P 06 11 50.4 +0.7
comp=Z,182nm,1.0s
PPT Papeete 65.80 244 LR LR 06 32 13.4
comp=Z,1μm,19.3s,baz=9.3,slow=28
PPT2 Papeete2 65.81 244 eS S 06 20 35.0 +0.8
comp=Z,288nm,27.5s
PPT2 eLR LR 06 31 34.1
comp=Z,2μm,24.2s,baz=57
PAE Paea 65.84 243 eP P 06 11 52.0 +0.8
comp=Z,35nm,1.2s
SUMG Summit 66.36 15 eP P 06 11 53.9 -0.3
SUMG pmax pmax
comp=Z,37nm,1.3s
SUMG Summit 66.36 15 eP P 06 11 53.9 -0.3
comp=Z,37nm,1.3s
SUMG Summit 66.36 15 *i* P P 06 11 52.9 -1.3
comp=Z,12nm,1.0s
TBI Tubuai 68.16 238 eLR LR 06 32 41.5
comp=Z,1μm,27.5s,baz=59
TBI Tubuai 68.16 238 eLR LR 06 58 12.9
comp=Z,188nm,21.8s
ALE Alert 69.95 4 P P 06 12 14.6 -1.5
comp=Z,76nm,0.9s,SNR=8.2
EFI East Falkland 70.84 159 *d* iP P 06 12 22.4 +0.6
DAG Danmarks Havn 72.83 13 *i* P P 06 12 31.1 -2.4
comp=Z,72nm,0.8s
DAG
comp=Z,2μm,19.0s
EVOP Sao Brissos 75.96 53 eP P 06 12 48.9 -3.5
EVOP pmax pmax
comp=Z,11nm,0.8s
EVOP Sao Brissos 75.96 53 eP P 06 12 48.9 -3.5
comp=Z,11nm,0.8s
EVO Evora 76.04 53 eP P 06 12 48.9 -4.0
comp=Z,11nm,0.8s
RAR Rarotonga 76.08 244 LR LR 06 36 32.3
comp=Z,629nm,19.8s,baz=1.0,slow=28
ESDC Sonseca Array 79.02 52 P P 06 13 06.3 -3.2
comp=Z,3.0nm,0.7s,baz=294,slow=4.5,SNR=10
ESDC LR LR 06 45 54.4
comp=Z,274nm,19.4s,baz=250,slow=34
ESDC Sonseca Array 79.02 52 P P 06 13 06.3 -3.2
BILL Bilibino 82.36 338 eP P 06 13 26.6 -0.2
BILL pmax pmax
comp=Z,21nm,0.9s
BILL Bilibino 82.36 338 eP P 06 13 26.6 -0.2
comp=Z,20nm,0.9s
FX1 Attu Island--F 83.00 323 eP P 06 13 31.0 +0.6
SSF Saint Saulge 83.06 43 eP P 06 13 27.9 -2.9
comp=Z,25nm,1.2s
SSF Saint Saulge 83.06 43 eP P 06 13 27.9 -2.9
SSF pmax pmax
comp=Z,25nm,1.3s
SSF Saint Saulge 83.06 43 eP P 06 13 27.9 -2.9
comp=Z,25nm,1.3s
LOR Lormes 83.25 43 eP P 06 13 29.5 -2.3
comp=Z,27nm,1.1s
LOR Lormes 83.25 43 eP P 06 13 29.5 -2.3
comp=Z,27nm,1.1s
NB2 NORSAR Subarra 83.96 29 P P 06 13 36.5 +1.3
comp=Z,5.5nm,1.0s,baz=289,slow=4.6
NOA NORSAR Array B 83.96 29 P P 06 13 35.8 +0.6
comp=Z,4.2nm,0.9s,baz=289,slow=4.7,SNR=6.6
NOA LR LR 06 48 32.6
comp=Z,312nm,20.2s,baz=290,slow=34
NOA NORSAR Array B 83.96 29 P P 06 13 35.8 +0.6
PAGF Fort de Pagny 84.19 42 eP P 06 13 34.7 -1.9
comp=Z,6.6nm,0.9s
PAGF Fort de Pagny 84.19 42 eP P 06 13 34.7 -1.9
comp=Z,6.6nm,0.9s
VIVF Saint-Julien-l 84.35 45 eP P 06 13 35.9 -1.6
comp=Z,34nm,1.2s
VIVF Saint-Julien-l 84.35 45 eP P 06 13 35.9 -1.6
VIVF pmax pmax
comp=Z,34nm,1.2s
VIVF Saint-Julien-l 84.35 45 eP P 06 13 35.9 -1.6
comp=Z,34nm,1.2s
LIC Lamto 84.38 85 eP P 06 13 35.9 -2.3
comp=Z,127nm,0.8s,baz=277
LIC Lamto 84.38 85 eP P 06 13 35.9 -2.3
comp=Z,127nm,0.8s
DBIC Dimbokro 84.45 84 P P 06 13 37.6 -0.9
comp=Z,40nm,0.7s,baz=269,slow=5.9,SNR=83
DBIC LR LR 06 46 51.8
comp=Z,330nm,22.0s,baz=257,slow=33
DBIC Dimbokro 84.45 84 eP P 06 13 38.0 -0.5
comp=Z,33nm,0.7s
HAU Haudompre 84.72 42 eP P 06 13 37.1 -2.2
HAU Haudompre 84.72 42 eP P 06 13 37.1 -2.2
HAU Haudompre 84.72 42 eP P 06 13 37.1 -2.2
AFI Afiamalu 84.78 254 LR LR 06 45 05.1
comp=Z,359nm,19.2s,baz=64,slow=31
CDF Champ du Feu 85.22 41 eP P 06 13 39.8 -2.1
CDF Champ du Feu 85.22 41 eP P 06 13 39.8 -2.1
CDF Champ du Feu 85.22 41 eP P 06 13 39.8 -2.1
ARCES ARCESS Array B 86.19 18 P P 06 13 44.5 -1.7
comp=Z,4.5nm,0.8s,baz=285,slow=4.6,SNR=6.9
ARCES LR LR 06 52 51.5
comp=Z,391nm,20.2s,baz=298,slow=36
ARCES ARCESS Array B 86.19 18 P P 06 13 44.5 -1.7
TUE Stuetta 87.10 43 eP P 06 13 51.2 -0.2
comp=Z,11nm,0.9s
DAVA Damuels 87.22 42 ⇓*i*P P 06 13 51.2 -0.6
comp=Z,17nm,1.1s
GRF Grafenberg Arr 87.35 40 eP P 06 13 50.8 -1.4
comp=Z,16nm,1.1s
FETA Feichten 87.85 42 ⇓*i*P P 06 13 53.7 -1.2
comp=Z,7.8nm,1.0s
CLL Collm 87.92 38 eP P 06 13 54.0 -0.9
CLL eS S 06 24 24.0 -10
CLL MLR MLR
comp=Z,400nm,20.6s
NKC Novy Kostel 87.94 39 eP P 06 13 53.9 -1.1
NKC Novy Kostel 87.94 39 eP P 06 13 53.9 -1.1
KHC Kasperske Hory 88.99 40 eP P 06 13 59.2 -0.9
KHC Kasperske Hory 88.99 40 eP P 06 13 59.2 -0.9
KHC *es*P sP 06 14 22.5 +0.8
GERES GERESS Array B 89.16 40 P P 06 13 58.1 -2.9
comp=Z,1.2nm,0.8s,baz=270,slow=1.6,SNR=7.5
GERES LR LR 06 49 40.1
comp=Z,434nm,21.0s,baz=280,slow=33
GERES GERESS Array B 89.16 40 P P 06 13 58.1 -2.9
TOA0 Torodi Ar. Sit 89.26 77 eP P 06 13 59.9 -2.1
TORD Torodi Ar. Bea 89.26 77 P P 06 13 58.5 -3.4
comp=Z,4.5nm,0.8s,baz=288,slow=5.0,SNR=26
TORD PKKPbc PKKPbc 06 31 38.0 +0.2
comp=Z,0.9nm,0.9s,baz=357,slow=2.9,SNR=3.8
TORD LR LR 06 49 13.2
comp=Z,293nm,20.5s,baz=275,slow=32
TORD Torodi Ar. Bea 89.26 77 P P 06 13 58.5 -3.4
TORD PKKPbc PKKPbc 06 31 38.0 +0.2
UPC Upice 89.99 38 eP P 06 14 08.4 +3.7
UPC Upice 89.99 38 eP P 06 14 08.4 +3.7
KEST Kesra 90.17 53 P P 06 14 03.2 -2.7
comp=Z,1.6nm,0.9s,baz=321,slow=6.5,SNR=3.8
KEST LR LR 06 51 22.4
comp=Z,95nm,20.5s,baz=102,slow=34
KEST Kesra 90.17 53 P P 06 14 03.2 -2.7
DPC Dobruska-Polom 90.23 38 eP P 06 14 00.9 -4.9
DPC Dobruska-Polom 90.23 38 eP P 06 14 00.9 -4.9
DPC *es*P sP 06 14 27.5 0.0
FINES FINESS Array B 90.39 25 LR LR 06 54 58.4
comp=Z,417nm,18.5s,baz=315,slow=36
TAM Tamanrasset 90.45 67 eP P 06 14 07.2 -0.4
TAM pmax pmax
comp=Z,5.0nm,1.3s
TAM Tamanrasset 90.45 67 eP P 06 14 07.2 -0.4
comp=Z,5.4nm,1.3s
PET Petropavlovsk 91.26 326 eP P 06 14 24.8 +14
PET *e* 06 24 37.1
PET eSS SS 06 31 27.9 +18
PET pmax pmax
comp=Z,11nm,0.6s
PET pmax pmax
comp=Z,100nm,7.5s
PET MLR MLR
comp=Z,300nm,19.0s
PETK Petropavlovsk- 91.74 326 P P 06 14 12.3 -0.4
comp=Z,14nm,0.9s,baz=76,slow=6.4,SNR=13
PETK LR LR 06 59 12.8
comp=Z,142nm,18.0s,baz=260,slow=38
PETK Petropavlovsk- 91.74 326 P P 06 14 12.3 -0.4
PETK pmax pmax
comp=Z,14nm,0.9s
PETK MLR MLR
comp=Z,142nm,18.0s
PETK Petropavlovsk- 91.74 326 P P 06 14 12.3 -0.4
VYHS Vyhne 92.46 39 eP pP 06 14 28.1 -3.8
VYHS Vyhne 92.46 39 epP pP 06 14 28.1 -3.8
VYHS *e* 06 14 52.4
UZH Uzhgorod 94.49 38 eP P 06 14 33.0 +7.6

AKASG	**Malin Array Be**	**97.43**	**34**	LR	LR	07 02 06.2			
	comp=Z,235nm,18.7s,baz=310,slow=38								
KIS	**Kishinev**	**99.13**	**37**	*e*L	L	06 52 24.0			
DZM	**Mont Dzumac**	**106.71**	**251**	*e*PP	PP	06 19 43.6	-3.5		
	comp=Z,74nm,27.4s								
DZM	**Mont Dzumac**	**106.71**	**251**	*e*PS	PS	06 29 06.9	-0.9		
	comp=Z,82nm,27.1s								
DZM				*e*LR	LR	06 50 42.9			
	comp=Z,487nm,25.1s								
ABKAR	**Akbulak array**	**112.33**	**20**	*e*PKPdf	**PKiKP**	**06 19 40.8**	**0.0**		
ZAA0	**Zalesovo Array**	**112.69**	**3**	*e*PKPdf	**PKiKP**	**06 19 40.6**	**-0.8**		
ZALV	**Zalesovo Beam**	**112.69**	**3**	PKiKP	**PKiKP**	**06 19 40.6**	**-0.8**		
	comp=Z,2.0nm,0.5s,baz=300,slow=1.5,SNR=14								
ZALV	**Zalesovo Beam**	**112.69**	**3**	*i* PKIKP	**PKiKP**	**06 19 40.6**	**-0.8**		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**112.69**	**3**	PKiKP	**PKiKP**	**06 19 40.6**	**-0.8**		
TLY	**Talaya**	**113.88**	**350**	*i* PKiKP	**PKiKP**	**06 19 40.1**	**-3.7**		
TLY				pmax	pmax				
	comp=Z,3.0nm,1.2s								
CN2	**Changchun**	**114.10**	**332**	*e*PKP	PKPdf	06 19 42.3	-2.1		
CN2				PP	**PP**	**06 20 41.6**	**+3.0**		
CN2				AMB	AMB				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,500nm,17.0s								
CN2				LR	LR				
	comp=E,500nm,17.0s								
CN2				LR	LR				
	comp=Z,300nm,19.0s								
KURK	**Kurchatov**	**115.36**	**7**	*e*PKiKP	**PKPdf**	**06 19 46.4**	**-0.2**		
KURK	**Kurchatov**	**115.36**	**7**	*e*PKPdf	**PKPdf**	**06 19 46.4**	**-0.2**		
ULN	**Ulaanbaatar**	**116.87**	**347**	*e*PKPdf	**PKPdf**	**06 19 49.9**	**+0.1**		
SONM	**Songino Array**	**117.04**	**347**	PKP	**PKPdf**	**06 19 49.9**	**-0.2**		
	comp=Z,4.6nm,0.8s,baz=14,slow=0.6,SNR=33								
SONM				SKP		06 23 23.8			
	comp=Z,1.5nm,0.9s,baz=22,slow=1.8,SNR=5.4								
SONM				PKKPbc	**PKKPbc**	**06 30 14.8**	**-2.0**		
	comp=Z,4.2nm,0.9s,baz=205,slow=3.7,SNR=28								
SONM	**Songino Array**	**117.04**	**347**	PKP	**PKPdf**	**06 19 49.9**	**-0.2**		
SONM				SKP		06 23 23.8			
SONM				PKKPbc	**PKKPbc**	**06 30 14.8**	**-2.0**		
DRV	**Dumont d'Urvil**	**117.29**	**200**	PP	PP	06 20 30.0	-31		
DRV				SKKS		06 25 12.0			
DRV	**Dumont d'Urvil**	**117.29**	**200**	R		06 56 00.0			
KSRS	**Korea Array**	**117.64**	**326**	PKP	**PKPdf**	**06 19 51.6**	**+0.2**		
	comp=Z,5.8nm,0.6s,baz=13,slow=1.6,SNR=24								
KSAR	**Wonju Array Be**	**117.67**	**326**	PKP	**PKPdf**	**06 19 51.6**	**+0.1**		
BOSA	**Boshof**	**119.02**	**115**	PKP	**PKPdf**	**06 19 54.0**	**-0.4**		
	comp=Z,20nm,1.0s,baz=274,slow=3.6,SNR=18								
BOSA	**Boshof**	**119.02**	**115**	PKP	**PKPdf**	**06 19 54.0**	**-0.4**		
MK31	**Makanchi Array**	**119.63**	**6**	*e*PKiKP	**PKPdf**	**06 19 54.4**	**-0.7**		
MK31	**Makanchi Array**	**119.63**	**6**	*e*PKPdf	**PKPdf**	**06 19 54.4**	**-0.7**		
MKAR	**Makanchi Array**	**119.63**	**6**	PKP	**PKPdf**	**06 19 54.0**	**-1.0**		
	comp=Z,2.3nm,0.7s,baz=268,slow=3.4,SNR=17								
MKAR				SKP		06 23 28.0			
	comp=Z,0.8nm,0.8s,baz=337,slow=2.4,SNR=3.6								
MKAR				PKKPbc	**PKKPbc**	**06 30 04.8**	**-2.5**		
	comp=Z,1.1nm,0.8s,baz=145,slow=4.4,SNR=9.4								
MKAR	**Makanchi Array**	**119.63**	**6**	PKiKP	**PKPdf**	**06 19 54.1**	**-1.0**		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**119.63**	**6**	PKP	**PKPdf**	**06 19 54.0**	**-1.0**		
MKAR				SKP		06 23 28.0			
MKAR				PKKPbc	**PKKPbc**	**06 30 04.8**	**-2.5**		
LSZ	**Lusaka**	**120.96**	**100**	*e*PKPdf	**PKPdf**	**06 19 59.2**	**+0.8**		
KKAR	**Karatay Array**	**121.08**	**16**	*e*PKiKP	**PKPdf**	**06 19 57.5**	**-0.4**		
KKAR	**Karatay Array**	**121.08**	**16**	*e*PKPdf	**PKPdf**	**06 19 57.5**	**-0.4**		
BJI	**Beijing**	**121.14**	**336**	PKP	**PKPdf**	**06 19 56.8**	**-1.3**		
BJI				PP	**PP**	**06 21 30.2**	**+2.8**		
BJI				LR	LR				
	comp=N,180nm,25.0s								
BJI				LR	LR				
	comp=E,460nm,22.4s								
BJI				LR	LR				
	comp=Z,330nm,26.8s								
HHC	**Hu-ho-hao-te**	**122.10**	**340**	*e*PKP	**PKPdf**	**06 19 55.8**	**-4.3**		
HHC				sPKP		06 20 33.3			
HHC				PKS	PKSdf	06 23 31.3	-5.5		
HHC				SKS	**SKSac**	**06 26 56.2**	**+0.4**		
HHC				AMB	AMB				
	comp=Z,150nm,8.6s								
HHC				LR	LR				
	comp=N,270nm,18.8s								
HHC				LR	LR				
	comp=E,250nm,19.6s								
HHC				LR	LR				
	comp=Z,510nm,21.4s								
WMQ	**Urumqi**	**122.92**	**1**	*e*Pdif	**Pdif**	**06 16 32.3**	**-0.2**		
WMQ				PKP	**PKPdf**	**06 20 01.2**	**-0.3**		
WMQ				PP	PP	06 21 44.8	+5.6		
WMQ				SKS	**SKSdf**	**06 27 09.0**	**-0.1**		
WMQ				S	**Sdif**	**06 29 31.0**	**-1.4**		
WMQ				SS	**SS**	**06 38 16.2**	**-1.7**		
WMQ				AMB	AMB				
	comp=Z,38nm,15.0s								
WMQ				LR	LR				
	comp=N,500nm,35.0s								
WMQ				LR	LR				
	comp=E,250nm,35.0s								
WMQ				LR	LR				
	comp=Z,50nm,30.0s								
KSH	**Kashi**	**125.79**	**13**	*e*PKP	**PKPdf**	**06 20 06.7**	**-0.5**		
KSH				*es*PKP		06 20 44.7			
KSH				*e*PP	PP	06 22 04.0	+5.3		
KSH				PKS	**PKSdf**	**06 23 42.2**	**-1.8**		
KSH				SKS	**SKSdf**	**06 27 09.3**	**-5.6**		
KSH				SKKS	SKKSac	06 28 45.3	-8.4		
KSH				SS	**SS**	**06 38 51.1**	**-3.4**		
KSH				AMB	AMB				
	comp=Z,100nm,5.0s								
KSH				LR	LR				
	comp=N,170nm,5.5s								
KSH				LR	LR				
	comp=E,210nm,6.9s								
KSH				LR	LR				
	comp=Z,360nm,23.7s								
GTA	**Gaotai**	**126.43**	**350**	PKP	**PKPdf**	**06 20 08.7**	**+0.2**		
GTA				AMB	AMB				
	comp=Z,91nm,5.2s								
GTA				LR	LR				
	comp=N,280nm,24.7s								
GTA				LR	LR				
	comp=E,220nm,22.3s								
GTA				LR	LR				
	comp=Z,480nm,24.7s								
NJ2	**Nanjing**	**126.56**	**329**	*e*PKP	**PKPdf**	**06 20 08.2**	**-0.5**		
NJ2				PP	PP	06 22 09.5	+5.4		
NJ2				PKS	**PKSdf**	**06 23 42.5**	**-2.9**		
NJ2				AMB	AMB				
	comp=Z,80nm,6.2s								
NJ2				LR	LR				
	comp=N,470nm,24.0s								
NJ2				LR	LR				
	comp=E,530nm,23.1s								
NJ2				LR	LR				
	comp=Z,90nm,21.5s								
COEN	**Coen**	**127.76**	**263**	*e*PKPdf	**PKPdf**	**06 20 12.3**	**+0.9**		
LZH	**Lanzhou**	**128.78**	**345**	*e*PKP	**PKPdf**	**06 20 14.4**	**+1.3**		
LZH				sPKP		06 20 46.4			
LZH				SKS	**SKSdf**	**06 27 15.6**	**-5.0**		
LZH				AMB	AMB				
	comp=Z,160nm,6.1s								
LZH				LR	LR				
	comp=N,350nm,15.8s								
LZH				LR	LR				
	comp=E,230nm,12.8s								
LZH				LR	LR				
	comp=Z,380nm,17.1s								
STKA	**Stephens Creek**	**128.91**	**240**	PKP	**PKPdf**	**06 20 13.5**	**+0.4**		
	comp=Z,19nm,1.0s,baz=32,slow=2.5,SNR=17								
STKA	**Stephens Creek**	**128.91**	**240**	PKP	**PKPdf**	**06 20 13.5**	**+0.4**		
STKA				*e*PKPdf	**PKiKP**	**06 20 13.8**	**0.0**		
XAN	**Xi'an**	**129.14**	**339**	PKP	**PKPdf**	**06 20 14.0**	**+0.3**		
WHN	**Wuhan**	**129.99**	**332**	PKP	**PKPdf**	**06 20 16.0**	**+0.7**		
WHN				PP	**PP**	**06 22 29.9**	**+3.4**		
WHN				LR	LR				
	comp=Z,790nm,29.2s								
CD2	**Chengdu**	**133.69**	**343**	PKP	**PKPdf**	**06 20 21.5**	**-0.8**		
CD2				sPKP		06 20 51.6			
CD2				PP	**PP**	**06 22 53.7**	**+3.6**		
CD2				PKS	**PKSdf**	**06 23 56.4**	**-2.5**		
CD2				SKS	**SKSdf**	**06 27 23.1**	**-6.3**		
CD2				SS	**SS**	**06 40 29.3**	**-2.3**		
CD2				AMB	AMB				
	comp=Z,390nm,7.7s								
CD2				LR	LR				
	comp=N,410nm,17.3s								
CD2				LR	LR				
	comp=Z,560nm,20.8s								
DDI	**Dehra Dun**	**135.08**	**14**	*ex*	**PKiKP**	**06 20 24.5**	**-2.0**		
KKR	**Kurukshetra**	**135.13**	**15**	*ex*	**PKiKP**	**06 20 27.9**	**+1.4**		
BHGR	**Bahadurgarh**	**136.37**	**16**	*ex*	**PKPdf**	**06 20 23.0**	**-4.3**		
WRAB	**Tennant Creek**	**136.48**	**255**	*e*PKiKP	**PKPdf**	**06 20 28.5**	**+0.8**		
WRAB	**Tennant Creek**	**136.48**	**255**	*e*PKPdf	**PKPdf**	**06 20 28.5**	**+0.8**		
WRA	**Warramunga Arr**	**136.49**	**255**	PKhKP	PKPpre	06 20 15.4			
	comp=Z,1.8nm,0.9s,baz=92,slow=3.2,SNR=10								
WRA				PKP	**PKPdf**	**06 20 28.0**	**+0.2**		
	comp=Z,11nm,0.9s,baz=85,slow=1.8,SNR=40								
WRA				SKPab	**SKPab**	**06 24 05.5**	**+3.8**		
	comp=Z,2.8nm,0.8s,baz=86,slow=2.7,SNR=10								
WRA	**Warramunga Arr**	**136.49**	**255**	PKP	**PKPdf**	**06 20 28.0**	**+0.2**		
WRA				SKPab	**SKPab**	**06 24 05.5**	**+3.8**		
BISR	**Bishrakh**	**136.61**	**15**	*ex*	PKPdf	06 20 20.2	-7.6		
AYAN	**Aya Nagar**	**136.61**	**16**	*e*P	**PKPdf**	**06 20 28.0**	**+0.2**		
KHET	**Khetri**	**136.63**	**17**	*e*P	**PKPdf**	**06 20 27.8**	**-0.1**		
ASAR	**Alice Springs**	**136.69**	**250**	PKhKP	PKPpre	06 20 13.8			
	comp=Z,1.3nm,0.7s,baz=118,slow=3.2,SNR=9.9								
ASAR				PKP	**PKPdf**	**06 20 29.3**	**+1.2**		
	comp=Z,4.2nm,0.8s,baz=106,slow=2.9,SNR=12								
ASAR				SKPbc	**SKPbc**	**06 23 56.9**	**+0.6**		
	comp=Z,2.2nm,1.0s,baz=55,slow=3.5,SNR=5.4								
ASAR				SKPab	**SKPab**	**06 24 05.7**	**+3.3**		
	comp=Z,4.8nm,1.0s,baz=98,slow=2.5,SNR=8.2								
ASAR	**Alice Springs**	**136.69**	**250**	PKP	**PKPdf**	**06 20 29.3**	**+1.2**		
ASAR				SKPbc	**SKPbc**	**06 23 56.9**	**+0.6**		
ASAR				SKPab	**SKPab**	**06 24 05.7**	**+3.3**		
GYA	**Guiyang**	**136.82**	**337**	Pdif	**Pdif**	**06 17 33.0**	**-1.8**		
GYA				PKP	**PKPdf**	**06 20 28.4**	**0.0**		
GYA				sPKP		06 20 57.8			
GYA				PP	**PP**	**06 23 14.2**	**+4.1**		
GYA				PKS	**PKSdf**	**06 24 02.6**	**-2.3**		
GYA				SKKS		06 29 56.0			
GYA				SS	**SS**	**06 41 07.3**	**-2.3**		
GYA				AMB	AMB				
	comp=Z,130nm,7.8s								
GYA				LR	LR				
	comp=N,120nm,20.7s								
GYA				LR	LR				
	comp=E,110nm,21.5s								
GYA				LR	LR				
	comp=Z,130nm,21.8s								
SONA	**Sohna**	**136.82**	**16**	*e*P	**PKPdf**	**06 20 27.5**	**-0.7**		
LSA	**Lhasa**	**136.99**	**358**	*e*PKiKP	**PKPdf**	**06 20 30.2**	**+1.1**		
LSA	**Lhasa**	**136.99**	**358**	*e*PKPdf	**PKPdf**	**06 20 30.2**	**+1.1**		
AGRA	**Agra**	**138.02**	**15**	*e*P	**PKPdf**	**06 20 29.9**	**-0.5**		
KMI	**Kunming**	**139.41**	**341**	PKP	**PKPdf**	**06 20 33.7**	**+0.4**		
KMI				PP	**PP**	**06 23 31.0**	**+4.8**		
KMI				AMB	AMB				
	comp=Z,110nm,6.3s								
KMI				LR	LR				
	comp=N,250nm,21.3s								
KMI				LR	LR				
	comp=E,240nm,22.1s								
KMI				LR	LR				
	comp=Z,310nm,18.2s								
IMP	**Imphal**	**141.66**	**353**	*e*P	**PKPdf**	**06 20 35.0**	**-2.2**		
QIZ	**Qiongzhong**	**141.84**	**327**	PKP	**PKPdf**	**06 20 40.1**	**+2.5**		
QIZ				PP	**PP**	**06 23 46.0**	**+4.8**		
QIZ				LR	LR				
	comp=N,140nm,35.5s								
QIZ				LR	LR				
	comp=Z,280nm,19.6s								
POO	**Poona**	**144.70**	**26**	*e*P	**PKPab**	**06 20 39.5**	**-1.9**		
POO				AMb	AMB	06 20 42.5			
	comp=Z,45nm,1.1s								
FITZ	**Fitzroy Crossi**	**144.78**	**258**	PKP	PKPbc	06 20 42.0	+0.3		
	comp=Z,66nm,1.0s,baz=68,slow=1.2,SNR=85								
FITZ	**Fitzroy Crossi**	**144.78**	**258**	PKP	PKPbc	06 20 42.0	+0.3		
MYLDM	**Lahad Datu**	**145.56**	**301**	P	**PKPab**	**06 20 46.7**	**+2.1**		
KAD	**Karad**	**145.92**	**26**	*i* P	**PKPdf**	**06 20 43.5**	**-1.3**		
KDM	**Kudat**	**145.94**	**305**	P	**PKPab**	**06 20 46.9**	**+0.8**		
SDKM	**Sandakan**	**146.38**	**303**	P	**PKPbc**	**06 20 46.8**	**-0.2**		
CHTO	**Chiang Mai**	**146.49**	**343**	*e*PKP2	**PKPdf**	**06 20 46.2**	**+0.5**		
CHTO	**Chiang Mai**	**146.49**	**343**	*e*PKPbc	**PKPdf**	**06 20 46.2**	**+0.5**		
TSM	**Tawau**	**146.56**	**300**	P	**PKPbc**	**06 20 47.6**	**+0.1**		
CM31	**Chiang Mai Arr**	**146.83**	**343**	*e*PKPbc	**PKPbc**	**06 20 48.5**	**+0.5**		
CMAR	**Chiang Mai Arr**	**146.83**	**343**	PKPbc	**PKPbc**	**06 20 48.1**	**+0.1**		
	comp=Z,55nm,0.8s,baz=344,slow=3.6,SNR=154								
CMAR				SKPbc	**SKiKP**	**06 24 23.0**	**+0.4**		
	comp=Z,5.8nm,0.9s,baz=338,slow=2.8,SNR=7.4								
CMAR	**Chiang Mai Arr**	**146.83**	**343**	PKPbc	**PKPbc**	**06 20 48.1**	**+0.1**		
CMAR				SKPbc	**SKiKP**	**06 24 23.0**	**+0.4**		
KKM	**Kota Kinabalu**	**146.95**	**304**	*e*PKPdf	**PKPbc**	**06 20 48.0**	**-0.6**		
KKM				*e*PKPbc	**PKPab**	**06 20 49.5**	**-0.6**		
KKM	**Kota Kinabalu**	**146.95**	**304**	P	**PKPbc**	**06 20 48.1**	**-0.6**		
HYB	**Hyderabad**	**147.48**	**19**	*i* PKP	**PKPdf**	**06 20 46.0**	**-1.4**		
NWAO	**Narrogin (SRO)**	**148.03**	**228**	PKPbc	**PKPbc**	**06 20 50.9**	**-0.1**		
	comp=Z,90nm,0.9s,baz=120,slow=5.2,SNR=39								
NWAO	**Narrogin (SRO)**	**148.03**	**228**	*e*PKPbc	**PKPbc**	**06 20 51.0**	**-0.1**		
VIS	**Vishakhapatnam**	**148.40**	**11**	*e*P	**PKPdf**	**06 20 47.6**	**-1.2**		
VIS				AMb	AMB	06 20 54.0			
	comp=Z,42nm,1.1s								
KAPI	**Kappang**	**148.81**	**283**	*e*PKPdf	**PKPdf**	**06 20 50.5**	**+0.9**		
KAPI				*e*PKPbc	**PKPbc**	**06 20 52.9**	**-0.7**		
KAPI				*e*PKPab	**PKPab**	**06 20 58.5**	**+1.0**		
MBWA	**Marble Bar**	**150.01**	**251**	*e*PKPbc	**PKPbc**	**06 20 56.2**	**-0.1**		
MDRS	**Chennai**	**152.10**	**19**	*e*P	**PKPdf**	**06 20 54.0**	**-0.7**		
MDRS				AMb	AMB	06 20 60.0			
	comp=Z,118nm,0.2s								
KSM	**Kuching**	**154.38**	**304**	*e*PKPdf	**PKPdf**	**06 20 59.0**	**+0.9**		
KSM				*e*PKPbc	**PKiKP**	**06 21 07.3**	**+0.9**		
VAY				*e*Lg	Lg	06 18 26.4			
	comp=N,29nm,0.4s								
VAY	**Valandovo**	**0.83**	**279**	*e*Pg	**Pn**	**06 18 14.8**	**+0.6**		
VAY				*e*Sg	**Sb**	**06 18 23.5**	**-0.7**		
VAY	**Valandovo**	**0.83**	**279**	*e*Pg	**Pb**	**06 18 13.1**	**+0.2**		
VAY				*e*Sg	**Sb**	**06 18 23.5**	**-0.7**		
VAY				*e*Lg	Lg	06 18 26.9			
	comp=N,29nm,0.4s								
PLG	**Polygyros**	**0.84**	**192**	*e*PB	**Pb**	**06 18 12.7**	**-0.3**		
PLG	**Polygyros**	**0.84**	**192**	*e*Pb	**Pb**	**06 18 12.7**	**-0.3**		
OUR	**Ouranopolis**	**0.90**	**164**	P	**Pb**	**06 18 13.7**	**-0.2**		
OUR				S	**Sb**	**06 18 26.2**	**+0.2**		
OUR	**Ouranopolis**	**0.90**	**164**	P	**Pb**	**06 18 13.7**	**-0.2**		
OUR				S	**Sb**	**06 18 26.2**	**+0.2**		
RZN	**Rozhen**	**0.93**	**58**	*i* P	**Pg**	**06 18 14.5**	**+0.4**		
RZN				*i* S	**Sn**	**06 18 28.9**	**-0.2**		
RZN	**Rozhen**	**0.93**	**58**	*i* P	**Pg**	**06 18 14.5**	**+0.4**		
RZN				*i* S	**Sn**	**06 18 28.9**	**-0.2**		
GRG	**Griva**	**0.99**	**256**	P	**Pg**	**06 18 14.8**	**-0.4**		
GRG				S	**Sn**	**06 18 29.6**	**-0.7**		
GRG	**Griva**	**0.99**	**256**	P	**Pg**	**06 18 14.8**	**-0.4**		
GRG				S	**Sn**	**06 18 29.6**	**-0.7**		
KDZ	**Kurdzhali**	**1.39**	**71**	*i* P	**Pn**	**06 18 21.7**	**-0.1**		
KDZ				*i* S	**Sn**	**06 18 39.8**	**-0.5**		
KDZ	**Kurdzhali**	**1.39**	**71**	*i* P	**Pn**	**06 18 21.7**	**-0.1**		
KDZ				*i* S	**Sn**	**06 18 39.8**	**-0.5**		
VTS	**Vitosha**	**1.43**	**346**	*i* P	**Sg**	**06 18 43.9**	**+1.5**		
VTS				*i* S	**Pg**	**06 18 23.6**	**-0.2**		
VTS	**Vitosha**	**1.43**	**346**	*e*Pg	**Pg**	**06 18 24.0**	**+0.2**		
VTS				*e*Sg	**Sg**	**06 18 42.8**	**+0.4**		
VTS	**Vitosha**	**1.43**	**346**	*e*Pg	**Pg**	**06 18 24.0**	**+0.2**		
VTS				*e*Sg	**Sg**	**06 18 42.8**	**+0.4**		
BARS	**Barje**	**2.12**	**320**	*e*Pn	**Pb**	**06 18 35.7**	**+0.8**		
BARS				*e*Sn	**Sb**	**06 19 01.9**	**+0.5**		
BARS	**Barje**	**2.12**	**320**	*e*Pn	**Pb**	**06 18 35.7**	**+0.8**		
BARS				*e*Sn	**Sb**	**06 19 01.9**	**+0.5**		
ZAPS	**Zavoj**	**2.21**	**340**	*e*Pn	**Pg**	**06 18 37.5**	**-1.1**		
ZAPS				*e*Sn	**Sb**	**06 19 04.5**	**+0.6**		

*ISK **09** 06:26:17.9, 39.46N×28.51E, h5km, MD2.7*
*DDA **09** 06:26:19.0, 39.48N×28.53E, h8km, MD2.8*
*CSEM **09** 06:26:19.1±0.1, 39.47N×28.53E, h2km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.3km az=53.0*

ISC 09 06:26:19.3±1.0, **39.47N**±0.02×**28.50E**±0.02, **h6**km±8km, **n26**, σ**044**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.14**	**351**	*i* P	**Pg**	**06 26 21.9**	**-0.3**
DURS				*i* S	**Sg**	**06 26 24.3**	**+0.1**
DURS	**Dursunbey**	**0.14**	**351**	*i* P	**Pg**	**06 26 21.9**	**-0.3**
DURS				*i* S	**Sg**	**06 26 24.3**	**+0.1**
DEMI	**Demirci**	**0.46**	**159**	*e*P	**Pg**	**06 26 28.3**	**+0.2**
DEMI	**Demirci**	**0.46**	**159**	*e*P	**Pg**	**06 26 28.3**	**+0.2**
BALY	**Balya**	**0.73**	**292**	*e*P	**Pg**	**06 26 33.9**	**+0.4**
BALY				*i* S	**Sg**	**06 26 43.9**	**+0.9**
BALY	**Balya**	**0.73**	**292**	*e*P	**Pg**	**06 26 33.9**	**+0.4**
BALY				*i* S	**Sg**	**06 26 43.9**	**+0.9**
TVSB	**Tavsanli**	**0.74**	**91**	*e*PG	**Pg**	**06 26 33.2**	**-0.4**
TVSB	**Tavsanli**	**0.74**	**91**	*e*Pg	**Pg**	**06 26 33.2**	**-0.4**
AKS	**Akhisar**	**0.80**	**223**	*e*PG	**Pg**	**06 26 34.3**	**-0.3**
AKS				*e*SG	**Sb**	**06 26 46.1**	**-0.5**
AKS	**Akhisar**	**0.80**	**223**	*e*Pg	**Pg**	**06 26 34.3**	**-0.3**
AKS				*e*Sg	**Sb**	**06 26 46.1**	**-0.5**
GDZ	**Gediz**	**0.85**	**116**	*e*P	**Pg**	**06 26 35.5**	**-0.2**
GDZ				*e*S	**Sg**	**06 26 47.2**	**+0.5**
GDZ	**Gediz**	**0.85**	**116**	*e*P	**Pg**	**06 26 35.5**	**-0.2**
GDZ				*e*S	**Sg**	**06 26 47.2**	**+0.5**
GONE	**Gonen-Balikesi**	**0.85**	**313**	*e*PG	**Pg**	**06 26 35.3**	**-0.5**
GONE	**Gonen-Balikesi**	**0.85**	**313**	*e*Pg	**Pg**	**06 26 35.3**	**-0.5**
KULA	**Kula-Manisa**	**0.96**	**173**	*e*PG	**Pg**	**06 26 37.5**	**-0.2**
KULA	**Kula-Manisa**	**0.96**	**173**	*e*Pg	**Pg**	**06 26 37.6**	**-0.2**
MANT	**Manisa**	**0.98**	**177**	*e*P	**Pg**	**06 26 38.1**	**0.0**
MANT				*e*S	**Sg**	**06 26 50.4**	**-0.4**
MANT	**Manisa**	**0.98**	**177**	*e*P	**Pg**	**06 26 38.1**	**0.0**
MANT				*e*S	**Sg**	**06 26 50.4**	**-0.4**
ARMT	**Armutlu**	**1.13**	**14**	*e*PN	**Pg**	**06 26 40.8**	**-0.3**
ARMT				*e*SN	**Sn**	**06 26 57.6**	**0.0**
ARMT	**Armutlu**	**1.13**	**14**	*e*Pn	**Pg**	**06 26 40.8**	**-0.3**
ARMT				*e*Sn	**Sn**	**06 26 57.6**	**0.0**
BORA	**Eskisehir**	**1.56**	**74**	*e*P	**Pn**	**06 26 47.6**	**-0.1**
BORA				*e*S	**Sg**	**06 27 11.2**	**+1.7**
BORA	**Eskisehir**	**1.56**	**74**	*e*P	**Pn**	**06 26 47.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.59**	**321**	*e*PN	**Pn**	**06 26 48.3**	**+0.2**
RKY				*e*SN	**Sg**	**06 27 10.5**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.59**	**321**	*e*Pn	**Pn**	**06 26 48.3**	**+0.2**
RKY				*e*Sn	**Sg**	**06 27 10.5**	**+0.1**
MFT	**Murefte**	**1.62**	**325**	*e*PN	**Pb**	**06 26 49.6**	**0.0**
MFT				*e*SN	**Sg**	**06 27 11.4**	**+0.1**
MFT	**Murefte**	**1.62**	**325**	*e*Pn	**Pb**	**06 26 49.7**	**0.0**
MFT				*e*Sn	**Sg**	**06 27 11.4**	**+0.1**

*ATH **09** 06:33:31.5, 41.29N×23.55E, h4km, MD2.9/3*
*THE **09** 06:33:32.5, 41.21N×23.65E, h3km±1km, ML1.9/5, Error ellipse: s-maj=1.9km s-min=0.4km az=292.0*
*ISCJB **09** 06:33:32.5±0.5, 41.20N±0.02×23.63E±0.04, h0km±11km, Error ellipse: s-maj=4.7km s-min=3.2km az=7.9*
*SKO **09** 06:33:32.7, 41.22N×23.68E, h0km, ML1.5, ML1.9*
*CSEM **09** 06:33:32.6±0.1, 41.20N×23.66E, h2km, ML1.9/5, Error ellipse: s-maj=3.1km s-min=2.1km az=81.0*
*BEO **09** 06:33:36.2±1.0, 41.22N×23.57E, h0km, ML1.6/4*

ISC 09 06:33:32.8±1.1, **41.20N**±0.02×**23.65E**±0.02, **h3**km±10km, **n29**, σ**076**/52, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.09**	**207**	P	**Pg**	**06 33 34.7**	**+0.1**
SRS				S	**Sg**	**06 33 36.5**	**+0.6**
SRS	**Serrai**	**0.09**	**207**	P	**Pg**	**06 33 34.7**	**+0.1**
SRS				S	**Sg**	**06 33 36.5**	**+0.6**
NVR	**Nevrokopi**	**0.22**	**47**	P	**Pg**	**06 33 36.6**	**-0.4**
NVR				S	**Sg**	**06 33 39.7**	**-0.2**
NVR	**Nevrokopi**	**0.22**	**47**	*e*PG	**Pg**	**06 33 36.6**	**-0.4**
NVR				*e*SG	**Sg**	**06 33 39.7**	**-0.2**
NVR	**Nevrokopi**	**0.22**	**47**	P	**Pg**	**06 33 36.6**	**-0.4**
NVR				S	**Sg**	**06 33 39.7**	**-0.2**

VTS				*e*Sg	**Sn**	**06 34 19.6**	**+0.4**
BARS	**Barje**	**2.11**	**320**	*e*Pn	**Pg**	**06 34 12.3**	**-1.0**
BARS				*e*Sg	**Sg**	**06 34 42.0**	**+1.3**
BARS	**Barje**	**2.11**	**320**	*e*Pn	**Pg**	**06 34 12.3**	**-1.0**
BARS				*e*Sg	**Sg**	**06 34 42.0**	**+1.3**
ZAPS	**Zavoj**	**2.20**	**340**	*e*Pn	**Pg**	**06 34 13.8**	**-1.2**
ZAPS				*e*Sg	**Sg**	**06 34 45.3**	**+1.8**

DDA ***09*** *06:38:24.9, 38°.69N×27°.63E, h13km, MD2.9*
ISCJB ***09*** *06:38:25.7±0.6, 38°.68N±0°.03×27°.66E±0°.04, h5km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=15.5*
ISK ***09*** *06:38:25.0, 38°.69N×27°.69E, h3km, MD2.8*
CSEM ***09*** *06:38:25.8±0.2, 38°.69N×27°.68E, h2km, MD2.8, Error ellipse: s-maj=3.8km s-min=3.0km az=113.0*
ISC 09 06:38:25.4±1.0, 38°.69N±0°.02×27°.65E±0°.03, h14km±8km, n28, σ0°49/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.23**	**35**	*i* P	**Pg**	**06 38 30.1**	**-0.3**
AKHS				*i* S	**Sg**	**06 38 34.3**	**+0.5**
AKHS	**Akhisar**	**0.23**	**35**	*i* P	**Pg**	**06 38 30.1**	**-0.3**
AKHS				*i* S	**Sg**	**06 38 34.3**	**+0.5**
AKS	**Akhisar**	**0.23**	**34**	*e*PG	**Pg**	**06 38 30.1**	**-0.3**
AKS				*e*SG	**Sg**	**06 38 34.0**	**+0.1**
AKS	**Akhisar**	**0.23**	**34**	*e*Pg	**Pg**	**06 38 30.1**	**-0.3**
AKS				*e*Sg	**Sg**	**06 38 34.0**	**+0.1**
IZM	**Izmir**	**0.42**	**226**	*e*PG	**Pb**	**06 38 34.6**	**-0.1**
IZM	**Izmir**	**0.42**	**226**	*e*Pg	**Pb**	**06 38 34.6**	**-0.1**
BLCB	**Balcova**	**0.57**	**237**	*e*PG	**Pb**	**06 38 37.3**	**+0.2**
BLCB	**Balcova**	**0.57**	**237**	*e*Pg	**Pb**	**06 38 37.3**	**+0.2**
KULA	**Kula-Manisa**	**0.81**	**102**	*e*PG	**Pg**	**06 38 40.9**	**-0.3**
KULA				*e*SG	**Sb**	**06 38 52.4**	**+0.2**
KULA	**Kula-Manisa**	**0.81**	**102**	*e*Pg	**Pg**	**06 38 40.9**	**-0.3**
KULA				*e*Sg	**Sb**	**06 38 52.4**	**+0.2**
AYDN	**Tasoluk**	**1.05**	**170**	*i* P	**Pg**	**06 38 45.0**	**-0.6**
AYDN				*i* S	**Sb**	**06 38 59.4**	**+0.5**
AYDN	**Tasoluk**	**1.05**	**170**	*i* P	**Pg**	**06 38 45.0**	**-0.6**
AYDN				*i* S	**Sb**	**06 38 59.4**	**+0.5**
BALY	**Balya**	**1.05**	**359**	*i* P	**Pg**	**06 38 44.7**	**-0.9**
BALY				*i* S	**Sg**	**06 38 58.8**	**-0.5**
BALY	**Balya**	**1.05**	**359**	*i* P	**Pg**	**06 38 44.7**	**-0.9**
BALY				*i* S	**Sg**	**06 38 58.8**	**-0.5**
DURS	**Dursunbey**	**1.11**	**35**	*i* P	**Pg**	**06 38 45.9**	**-1.0**
DURS				*i* S	**Sg**	**06 39 01.5**	**+0.1**
DURS	**Dursunbey**	**1.11**	**35**	*i* P	**Pg**	**06 38 45.9**	**-1.0**
DURS				*i* S	**Sg**	**06 39 01.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.35**	**1**	*e*PN	**Pg**	**06 38 51.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.35**	**1**	*e*Pn	**Pg**	**06 38 51.6**	**+0.2**
GDZ	**Gediz**	**1.48**	**74**	*e*P	**Pg**	**06 38 53.7**	**-0.2**
GDZ				*e*S	**Sb**	**06 39 12.6**	**+1.0**
GDZ	**Gediz**	**1.48**	**74**	*e*P	**Pg**	**06 38 53.7**	**-0.2**
GDZ				*i* S	**Sb**	**06 39 12.6**	**+1.0**
EZN	**Ezine**	**1.53**	**318**	*e*PN	**Pg**	**06 38 54.6**	**-0.2**
EZN	**Ezine**	**1.53**	**318**	*e*Pn	**Pg**	**06 38 54.6**	**-0.2**
TVSB	**Tavsanli**	**1.60**	**61**	*e*PN	**Pb**	**06 38 54.8**	**0.0**
TVSB				*e*SN	**Sg**	**06 39 16.6**	**-0.4**
TVSB	**Tavsanli**	**1.60**	**61**	*e*Pn	**Pb**	**06 38 54.8**	**0.0**
TVSB				*e*Sn	**Sg**	**06 39 16.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.72**	**351**	*e*PN	**Pb**	**06 38 56.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.72**	**351**	*e*Pn	**Pb**	**06 38 56.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.03**	**350**	*e*PN	**Pb**	**06 39 01.8**	**-0.2**
RKY				*e*SN	**Sb**	**06 39 27.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.03**	**350**	*e*Pn	**Pb**	**06 39 01.8**	**-0.2**
RKY				*e*Sn	**Sb**	**06 39 27.7**	**+0.6**

IDC 09 06:44:42.3±0.9, 33°.54N×82°.23E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/30, mbtmp3.6/12, ML3.1/2, Error ellipse: s-maj=29.2km s-min=16.8km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.24**	**0**	Pn	Pn	06 47 49.7	-1.9
	0.1nm,0.3s,baz=182,slow=13,SNR=8.8						
KURBB	**Kurchatov Arra**	**17.29**	**352**	Pn	Pn	06 48 44.1	-0.9
	0.0nm,0.3s,baz=174,slow=11,SNR=9.1						
ZALV	**Zalesovo Beam**	**20.49**	**4**	P	P	06 49 22.0	+0.4
	1.3nm,0.6s,baz=199,slow=9.2,SNR=7.8						
CMAR	**Chiang Mai Arr**	**21.20**	**131**	P	P	06 49 30.4	+0.8
	4.2nm,0.8s,baz=306,slow=11,SNR=21						
BVAR	**Borovoye Array**	**21.25**	**340**	P	P	06 49 30.4	+0.6
	0.4nm,0.6s,baz=152,slow=13,SNR=2.7						
SONM	**Songino Array**	**23.11**	**45**	P	P	06 49 50.9	+0.9
	0.8nm,0.9s,baz=231,slow=9.1,SNR=5.9						
AKTO	**Aktyubinsk**	**24.51**	**321**	P	P	06 50 03.5	+0.2
	1.5nm,0.9s,baz=126,slow=10,SNR=6.2						
FINES	**FINESS Array B**	**45.10**	**326**	P	P	06 52 59.9	-0.1
	3.2nm,0.9s,baz=81,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**72.78**	**129**	P	P	06 56 12.8	0.0
	0.9nm,0.6s,baz=328,slow=5.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**75.04**	**276**	P	P	06 56 26.6	+0.3
	1.0nm,0.6s,baz=50,slow=5.0,SNR=8.8						
ASAR	**Alice Springs**	**75.20**	**132**	P	P	06 56 26.6	-0.3
	0.6nm,0.8s,baz=314,slow=6.0,SNR=4.7						
YKA	**Yellowknife Ar**	**83.35**	**8**	P	P	06 57 09.2	-1.7
	0.3nm,0.5s,baz=337,slow=5.6,SNR=7.7						

IDC ***09*** *06:45:44.9±1.1, 30°.86S×177°.27W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.1/18, mbtmp4.2/4, MS3.7/5, Ms1 3.7/5, ms1mx3.5/27, Error ellipse: s-maj=59.5km s-min=26.3km az=162.0*
NEIC ***09*** *06:45:50.3±0.5, 30°.87S×177°.33W, h35km, mb4.6/4, Error ellipse: s-maj=28.6km s-min=12.1km az=168.0*
ISC 09 06:45:49.4±0.9, 30°.8S±0°.3×177°.3W±0°.2, h27km, n33, σ1s31/32, mb4.3/7, MS4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.42**	**63**	LR	LR	06 54 51.8	
	comp=Z,34nm,18.7s,baz=91,slow=30						
CTAO	**Charters Tower**	**34.45**	**279**	*e*P	**P**	**06 52 34.5**	**-0.5**
	7.5nm,0.6s						
STKA	**Stephens Creek**	**34.96**	**257**	P	**P**	**06 52 40.0**	**+0.7**
	3.3nm,0.7s,baz=89,slow=10.0,SNR=8.6						
STKA				LR	LR	07 06 06.0	
	comp=Z,253nm,19.2s,baz=287,slow=35						
STKA	**Stephens Creek**	**34.96**	**257**	*e*P	**P**	**06 52 39.8**	**+0.5**
	3.9nm,1.4s						
AS31	**Alice Springs**	**43.68**	**267**	*e*P	**P**	**06 53 51.9**	**-0.3**
ASAR	**Alice Springs**	**43.68**	**267**	P	**P**	**06 53 51.9**	**-0.3**
	2.1nm,0.6s,baz=106,slow=7.3,SNR=24						
ASAR				LR	LR	07 13 08.1	
	comp=Z,250nm,18.8s,baz=101,slow=38						
ASAR	**Alice Springs**	**43.68**	**267**	P	**P**	**06 53 51.9**	**-0.3**
WRAB	**Tennant Creek**	**44.70**	**272**	*e*P	**P**	**06 54 00.1**	**-0.3**
	13nm,1.3s						
WRA	**Warramunga Arr**	**44.71**	**272**	P	**P**	**06 53 59.8**	**-0.7**
	2.1nm,0.5s,baz=113,slow=7.9,SNR=40						
WRA				ScP	**ScP**	**06 59 37.0**	**+3.9**
	0.2nm,0.6s,baz=102,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**44.71**	**272**	P	**P**	**06 53 59.8**	**-0.7**
WRA				ScP	**ScP**	**06 59 37.0**	**+3.9**
FITZ	**Fitzroy Crossi**	**52.95**	**270**	*e*P	**P**	**06 55 03.6**	**-0.2**
	6.1nm,1.1s						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**06 58 38.9**	**+1.0**
	1.0nm,0.9s,baz=214,slow=6.3,SNR=5.8						
NVAR	**Mina Array Bea**	**88.15**	**42**	P	**P**	**06 58 38.9**	**+1.0**
CFAA	**Coronel Fontan**	**88.51**	**126**	LR	LR	07 29 28.7	
	comp=Z,14nm,20.2s,baz=193,slow=39						
LPAZ	**La Paz**	**97.43**	**114**	LR	LR	07 35 20.9	
	comp=Z,87nm,19.4s,baz=69,slow=31						
MK31	**Makanchi Array**	**118.50**	**310**	*e*PKPdf	**PKPdf**	**07 04 34.5**	**+0.1**
MKAR	**Makanchi Array**	**118.50**	**310**	PKP	**PKPdf**	**07 04 33.3**	**-1.0**
	0.2nm,0.5s,baz=221,slow=1.3,SNR=3.2						
MKAR	**Makanchi Array**	**118.50**	**310**	PKP	**PKPdf**	**07 04 33.4**	**-1.0**
KURK	**Kurchatov**	**121.77**	**314**	PKP	**PKPdf**	**07 04 39.2**	**-1.2**
KURBB	**Kurchatov Arra**	**121.81**	**313**	PKP	**PKPdf**	**07 04 39.2**	**-1.3**
	0.3nm,0.5s,baz=116,slow=1.9,SNR=6.0						
BVAR	**Borovoye Array**	**127.12**	**316**	PKP	**PKPdf**	**07 04 50.4**	**-0.3**
	0.3nm,0.5s,baz=29,slow=2.3,SNR=4.0						
BVAR	**Borovoye Array**	**127.12**	**316**	PKP	**PKPdf**	**07 04 50.4**	**-0.3**
KAF	**Kangasniemi**	**145.14**	**341**	*ep*	**PKPbc**	**07 05 20.9**	**-2.3**
	4.2nm,0.7s						
FINES	**FINESS Array B**	**145.74**	**340**	PKPbc	**PKPbc**	**07 05 24.9**	**-0.2**
	3.0nm,0.6s,baz=60,slow=3.7,SNR=22						
FINES	**FINESS Array B**	**145.74**	**340**	PKPbc	**PKPbc**	**07 05 24.9**	**-0.2**
HFS	**Hagfors**	**149.77**	**349**	PKPbc	**PKPbc**	**07 05 35.0**	**-1.1**
	1.5nm,0.6s,baz=0.0,slow=0.6,SNR=5.0						
HFS	**Hagfors**	**149.77**	**349**	PKPbc	**PKPbc**	**07 05 35.0**	**-1.1**
AKASG	**Malin Array Be**	**151.99**	**323**	PKPbc	**PKPbc**	**07 05 41.5**	**-0.1**
	1.0nm,0.5s,baz=58,slow=3.0,SNR=5.2						
AKASG	**Malin Array Be**	**151.99**	**323**	PKPbc	**PKPbc**	**07 05 41.5**	**-0.1**
BRTR	**Keskin Array B**	**153.32**	**298**	PKPbc	**PKPbc**	**07 05 45.2**	**0.0**
	0.2nm,0.3s,baz=46,slow=4.2,SNR=2.4						
BRTR	**Keskin Array B**	**153.32**	**298**	PKPbc	**PKPbc**	**07 05 45.2**	**0.0**
TORD	**Torodi Ar. Bea**	**162.39**	**177**	PKPab	**PKPab**	**07 06 35.8**	**-0.8**
	0.2nm,0.5s,baz=182,slow=3.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**162.39**	**177**	PKPab	**PKPab**	**07 06 35.8**	**-0.8**

ISCJB ***09*** *07:21:40.3±0.4, 80°.22N±0°.08×1°.7W±0°.3, h10km, mb4.2/22, MS3.5/6, Error ellipse: s-maj=12.3km s-min=5.4km az=29.4*
CSEM ***09*** *07:21:40.2±0.2, 80°.27N×1°.96W, h2km, mb4.4/5, Error ellipse: s-maj=12.3km s-min=6.4km az=24.0*
IDC ***09*** *07:21:40.6±0.6, 80°.33N×2°.20W, h0km, mb3.9/17, mb1 4.1/20, mb1mx4.0/31, mbtmp3.9/20, ML3.7/2, MS3.4/10, Ms1 3.4/10, ms1mx3.2/37, Error ellipse: s-maj=17.6km s-min=11.8km az=32.0*
NEIC ***09*** *07:21:41.9±0.4, 80°.30N×2°.17W, h10km, mb4.4/6, Error ellipse: s-maj=13.3km s-min=7.2km az=206.0*
BER ***09*** *07:21:43.9±2.3, 80°.31N×0°.71W, h10km, MD2.5, ML3.3, ML3.8(NAO)*
NAO ***09*** *07:21:43.6±5.3, 80°.46N×0°.84E, ML3.8*
ISC 09 07:21:42.1±0.5, 80°.33N±0°.08×1°.01W±0°.06, h10km, n111, σ2s03/111, mb4.1/22, MS3.6/6, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.73**	**114**	Pn	**Pn**	**07 22 24.4**	**-1.4**
KBS				Sn	**Sn**	**07 22 54.4**	**-4.3**
KBS	**Kingsbay**	**2.73**	**114**	*e*P	**Pn**	**07 22 24.5**	**-1.4**
KBS				*e*S	**Sn**	**07 22 54.5**	**-4.3**
KBS				AML	AML	07 22 56.3	
	comp=Z,238nm,0.4s						
KBS	**Kingsbay**	**2.73**	**114**	*e*Pn	**Pn**	**07 22 24.7**	**-1.1**
KBS				*e*Sn	**Sn**	**07 22 54.5**	**-4.3**
KBS	**Kingsbay**	**2.73**	**114**	*e*P	**Pn**	**07 22 24.5**	**-1.4**
	SNR=50						
KBS				*e*Sn	**Sn**	**07 22 54.5**	**-4.3**
SPA0	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.3**	**-0.6**
SPA0				Sn	**Sn**	**07 23 23.8**	**-3.7**
SPA0	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.3**	**-0.6**
SPA0				Sn	**Sn**	**07 23 23.8**	**-3.7**
SPA0	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.3**	**-0.6**
SPA0				Sn	**Sn**	**07 23 23.8**	**-3.7**
	SNR=50						
SPITS	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.2**	**-0.6**
	baz=321,slow=6.5,SNR=2308						
SPITS				Sn	**Sn**	**07 23 24.1**	**-3.3**
	baz=326,slow=17,SNR=8.8						
SPITS	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.2**	**-0.6**
SPITS				Sn	**Sn**	**07 23 24.1**	**-3.3**
SPITS	**Spitsbergen Ar**	**3.89**	**115**	Pn	**Pn**	**07 22 41.2**	**-0.6**
SPITS				Sn	**Sn**	**07 23 24.1**	**-3.3**
HSP	**Hornsund**	**4.64**	**127**	*e*P	**Pn**	**07 22 51.9**	**-0.2**
HSP				*e*S	**Sn**	**07 23 44.3**	**-1.7**
HOPEN	**Hopen**	**6.42**	**113**	*e*P	**Pn**	**07 23 15.9**	**-0.6**
HOPEN				*e*S	**Sn**	**07 24 23.8**	**-5.8**
HOPEN				AML	AML	07 24 30.8	
	comp=N,66nm,0.6s						
HOPEN	**Hopen**	**6.42**	**113**	*e*P	**Pn**	**07 23 15.9**	**-0.6**
	SNR=47						
SUMG	**Summit**	**11.40**	**248**	*e*Pn	Pn	07 24 19.3	-5.7
	comp=N,23nm,0.4s						
SUMG				*e*Sn	Sn	07 26 19.2	-14
SUMG	**Summit**	**11.40**	**248**	*i* P	Pn	07 24 18.9	-6.1
KEV	**Kevo**	**12.60**	**131**	*ep*	**Pn**	**07 24 43.7**	**+2.8**
	baz=343,slow=14						
ARA0	**ARCESS Array S**	**12.62**	**134**	Pn	**Pn**	**07 24 40.8**	**-0.5**
	baz=343,slow=14						
ARA0				Sn	Sn	07 26 53.4	-8.2
	baz=353,slow=28						
ARA0	**ARCESS Array S**	**12.62**	**134**	Pn	**Pn**	**07 24 40.8**	**-0.5**
	baz=343,slow=14						
ARA0				Sn	Sn	07 26 53.4	-8.2
	baz=353,slow=28						
ARA0	**ARCESS Array S**	**12.62**	**134**	Pn	**Pn**	**07 24 40.8**	**-0.5**
	SNR=50						
ARCES	**ARCESS Array B**	**12.62**	**134**	Pn	**Pn**	**07 24 41.7**	**+0.5**
	comp=N,0.2nm,0.3s,baz=324,slow=12,SNR=7.2						
ARCES				Sn	**Sn**	**07 26 56.6**	**-4.9**
	comp=N,0.3nm,0.3s,baz=354,slow=16,SNR=3.8						
ARCES				LR	LR	07 30 36.2	
	comp=N,47nm,18.5s,baz=190,slow=42						
ARCES	**ARCESS Array B**	**12.62**	**134**	Pn	**Pn**	**07 24 41.7**	**+0.5**
ARCES				Sn	**Sn**	**07 26 56.6**	**-4.9**
ARCES	**ARCESS Array B**	**12.62**	**134**	Pn	**Pn**	**07 24 41.7**	**+0.5**
SFJD	**Kangerlussuaq**	**18.31**	**252**	P	Pn	07 25 48.2	-7.5
	comp=N,0.8nm,0.3s,baz=12,slow=12,SNR=5.3						
SFJD				S	Sn	07 28 56.2	-24
	comp=N,0.7nm,0.3s,baz=105,slow=20,SNR=3.5						
SFJD				LR	LR	07 33 28.0	
	comp=N,209nm,18.2s,baz=334,slow=39						
SFJD	**Kangerlussuaq**	**18.31**	**252**	P	Pn	07 25 48.2	-7.5
SFJD				S	Sn	07 28 56.2	-24
RES	**Resolute Bay**	**18.72**	**304**	P	P	07 25 52.0	-8.3
	comp=N,0.3nm,0.3s,baz=36,slow=14,SNR=12						
RES				LR	LR	07 33 08.0	
	comp=N,109nm,18.5s,baz=27,slow=37						
RES	**Resolute Bay**	**18.72**	**304**	*e*P	P	07 25 55.4	-4.9
	comp=N,3.4nm,0.5s						
NB2	**NORSAR Subarra**	**19.70**	**162**	P	**Pn**	**07 26 16.1**	**+3.5**
	baz=344,slow=12						
NB2	**NORSAR Subarra**	**19.70**	**162**	Pn	**Pn**	**07 26 16.1**	**+3.5**
	baz=344,slow=12						
NB2	**NORSAR Subarra**	**19.70**	**162**	P	**Pn**	**07 26 16.6**	**+4.0**
	comp=Z,2.8nm,0.9s,baz=355,slow=11						
NOA	**NORSAR Array B**	**19.70**	**162**	P	**Pn**	**07 26 13.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=353,slow=8.8,SNR=5.9						
NOA				LR	LR	07 32 42.4	
	comp=Z,58nm,18.6s,baz=110,slow=34						
NOA	**NORSAR Array B**	**19.70**	**162**	P	**Pn**	**07 26 13.4**	**+0.8**
KAF	**Kangasniemi**	**19.86**	**141**	*ep*	**Pn**	**07 26 13.7**	**-0.7**
	comp=Z,3.7nm,0.7s						
FIA0	**FINESS Array S**	**20.49**	**141**	P	Pn	07 26 21.2	-0.6
	baz=355,slow=9.3						
FIA0	**FINESS Array S**	**20.49**	**141**	P	Pn	07 26 21.2	-0.6
	baz=355,slow=9.3						
FIA0	**FINESS Array S**	**20.49**	**141**	P	Pn	07 26 21.2	-0.6
	SNR=47						
FINES	**FINESS Array B**	**20.49**	**141**	P	Pn	07 26 21.1	-0.7
	comp=Z,3.6nm,0.8s,baz=352,slow=8.8,SNR=6.4						
FINES	**FINESS Array B**	**20.49**	**141**	P	Pn	07 26 21.1	-0.7
FINES	**FINESS Array B**	**20.49**	**141**	P	Pn	07 26 21.1	-0.7
HFS	**Hagfors**	**20.75**	**159**	P	**P**	**07 26 23.3**	**+0.9**
	baz=341,slow=11						
HFS	**Hagfors**	**20.75**	**159**	P	**P**	**07 26 23.0**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=28,slow=6.5,SNR=9.9						
HFS				LR	LR	07 32 14.5	
	comp=Z,43nm,21.4s,baz=256,slow=30						
HFS	**Hagfors**	**20.75**	**159**	P	**P**	**07 26 23.3**	**+0.9**
	baz=341,slow=11						
HFS	**Hagfors**	**20.75**	**159**	P	**P**	**07 26 23.0**	**+0.5**
HFS	**Hagfors**	**20.75**	**159**	P	**P**	**07 26 23.3**	**+0.9**
	SNR=47						
FRB	**Frobisher Bay**	**24.29**	**268**	P	**P**	**07 26 57.0**	**-1.9**
	comp=Z,4.5nm,0.9s,baz=27,slow=12,SNR=5.3						
FRB				LR	LR	07 35 38.6	
	comp=Z,86nm,19.7s,baz=84,slow=35						
FRB	**Frobisher Bay**	**24.29**	**268**	P	**P**	**07 26 57.0**	**-1.9**
FRB	**Frobisher Bay**	**24.29**	**268**	P	**P**	**07 26 57.0**	**-1.9**
AKASG	**Malin Array Be**	**31.40**	**142**	P	**P**	**07 28 02.7**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=350,slow=9.4,SNR=5.7						
AKASG	**Malin Array Be**	**31.40**	**142**	P	**P**	**07 28 02.7**	**+0.1**
AKASG	**Malin Array Be**	**31.40**	**142**	P	**P**	**07 28 02.7**	**+0.1**
GERES	**GERESS Array B**	**32.01**	**162**	P	**P**	**07 28 10.0**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=1.4,slow=8.1,SNR=17						
GERES	**GERESS Array B**	**32.01**	**162**	P	**P**	**07 28 10.0**	**+1.8**
GERES	**GERESS Array B**	**32.01**	**162**	P	**P**	**07 28 10.0**	**+1.8**
SCHQ	**Schefferville**	**32.44**	**260**	P	**P**	**07 28 09.8**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=35,slow=8.5,SNR=14						
SCHQ	**Schefferville**	**32.44**	**260**	P	**P**	**07 28 09.8**	**-1.9**
SCHQ	**Schefferville**	**32.44**	**260**	P	**P**	**07 28 09.9**	**-1.9**
YKA	**Yellowknife Ar**	**32.70**	**308**	P	**P**	**07 28 12.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=11,slow=9.0,SNR=8.0						
YKA	**Yellowknife Ar**	**32.70**	**308**	P	**P**	**07 28 12.2**	**-1.8**
YKA	**Yellowknife Ar**	**32.70**	**308**	P	**P**	**07 28 12.2**	**-1.8**
ILAR	**Eielson Array**	**33.85**	**334**	P	**P**	**07 28 24.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=2.8,slow=7.3,SNR=16						
ILAR	**Eielson Array**	**33.85**	**334**	P	**P**	**07 28 24.1**	**+0.1**
ILAR	**Eielson Array**	**33.85**	**334**	P	**P**	**07 28 24.1**	**+0.1**
ZALV	**Zalesovo Beam**	**36.66**	**81**	P	**P**	**07 28 50.1**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=343,slow=9.6,SNR=6.7						
ZALV				LR	LR	07 47 43.6	
	comp=Z,82nm,18.5s,baz=27,slow=42						
ZALV	**Zalesovo Beam**	**36.66**	**81**	P	**P**	**07 28 50.1**	**+1.9**
ZALV	**Zalesovo Beam**	**36.66**	**81**	P	**P**	**07 28 50.1**	**+1.9**
ABKAR	**Akbulak array**	**37.02**	**108**	*e*P	**P**	**07 28 53.6**	**+2.2**
	comp=Z,2.5nm,1.0s						
ABKAR	**Akbulak array**	**37.02**	**108**	*e*P	**P**	**07 28 53.6**	**+2.2**
	comp=Z,2.5nm,1.0s						
KURK	**Kurchatov**	**38.73**	**88**	*e*P	**P**	**07 29 07.5**	**+1.9**
	comp=Z,9.8nm,0.9s						
KURK	**Kurchatov**	**38.73**	**88**	*e*P	**P**	**07 29 07.6**	**+1.9**
	comp=Z,9.8nm,0.9s						
KBZ	**Khabaz**	**39.89**	**128**	P	**P**	**07 29 17.6**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=302,slow=8.3,SNR=5.7						
KBZ	**Khabaz**	**39.89**	**128**	P	**P**	**07 29 17.6**	**+2.1**
KBZ	**Khabaz**	**39.89**	**128**	P	**P**	**07 29 17.6**	**+2.1**
ESDC	**Sonseca Array**	**40.79**	**183**	P	**P**	**07 29 23.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=8.3,SNR=4.5						
ESDC	**Sonseca Array**	**40.79**	**183**	P	**P**	**07 29 23.4**	**+0.3**
ESDC	**Sonseca Array**	**40.79**	**183**	P	**P**	**07 29 23.4**	**+0.3**
ULM	**Lac du Bonnet**	**41.72**	**286**	LR	LR	07 47 08.2	
	comp=Z,138nm,18.1s,baz=344,slow=37						
BRTR	**Keskin Array B**	**42.72**	**140**	P	**P**	**07 29 40.4**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=328,slow=5.1,SNR=3.9						
BRTR	**Keskin Array B**	**42.72**	**140**	P	**P**	**07 29 40.4**	**+1.4**
BRTR	**Keskin Array B**	**42.72**	**140**	P	**P**	**07 29 40.4**	**+1.4**
MK31	**Makanchi Array**	**43.14**	**86**	*e*P	**P**	**07 29 44.3**	**+2.1**
MK31	**Makanchi Array**	**43.14**	**86**	*e*P	**P**	**07 29 44.3**	**+2.1**
MKAR	**Makanchi Array**	**43.14**	**86**	P	**P**	**07 29 44.3**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=348,slow=7.2,SNR=24						
MKAR	**Makanchi Array**	**43.14**	**86**	P	**P**	**07 29 44.3**	**+2.1**
MKAR	**Makanchi Array**	**43.14**	**86**	P	**P**	**07 29 44.3**	**+2.1**
SONM	**Songino Array**	**46.04**	**63**	P	**P**	**07 30 07.6**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=340,slow=6.5,SNR=4.9						
SONM				LR	LR	07 50 44.6	
	comp=Z,83nm,20.2s,baz=176,slow=38						
SONM	**Songino Array**	**46.04**	**63**	P	**P**	**07 30 07.6**	**+2.2**
SONM	**Songino Array**	**46.04**	**63**	P	**P**	**07 30 07.6**	**+2.2**
BSMT	**Bassoo Peak**	**46.95**	**302**	*e*P	**P**	**07 30 11.3**	**-1.4**
	comp=Z,4.2nm,0.7s						
BSMT	**Bassoo Peak**	**46.95**	**302**	*e*P	**P**	**07 30 11.3**	**-1.4**
	comp=Z,4.2nm,0.7s						
SLMT	**Seeley Lake**	**47.37**	**301**	*e*P	**P**	**07 30 15.1**	**-0.8**
SLMT	**Seeley Lake**	**47.37**	**301**	*e*P	**P**	**07 30 15.1**	**-0.8**
CHMT	**Chamberlain Mo**	**47.65**	**301**	*e*P	**P**	**07 30 16.9**	**-1.2**
CHMT	**Chamberlain Mo**	**47.65**	**301**	*e*P	**P**	**07 30 16.9**	**-1.2**
IMW	**Indian Meadow**	**50.26**	**298**	*e*P	**P**	**07 30 38.2**	**-0.1**
	comp=Z,3.6nm,0.7s						
IMW	**Indian Meadow**	**50.26**	**298**	*e*P	**

0.4nm,0.3s,baz=357,slow=13,SNR=27
WRA Sn **Sn** **08 06 24.7 -4.4**
0.7nm,0.3s,baz=354,slow=24,SNR=7.1
FITZ Fitzroy Crossi 15.89 210 Pn **Pn** **08 03 39.3 -2.3**
1.2nm,0.3s,baz=36,slow=13,SNR=31
FITZ Sn Sn 08 06 28.5 -8.3
1.5nm,0.3s,baz=187,slow=16,SNR=11
FITZ Fitzroy Crossi 15.89 210 P **Pn** **08 03 40.3 -1.3**
baz=16,SNR=23
ASAR Alice Springs 19.27 180 P **Pn** **08 04 24.8 +1.3**
0.4nm,0.3s,baz=4.4,slow=12,SNR=27
ASAR S **S** **08 07 53.9 -4.8**
0.2nm,0.3s,baz=356,slow=27,SNR=5.5
CTA Charters Tower 19.84 143 P **Pn** **08 04 31.6 +1.4**
5.0nm,0.6s,baz=322,slow=11,SNR=7.0
MKAR Makanchi Array 68.14 325 P **P** **08 10 55.7 -1.3**
0.4nm,0.6s,baz=115,slow=7.7,SNR=6.0
ILAR Eielson Array 89.29 25 P **P** **08 12 53.9 +1.2**
0.2nm,0.7s,baz=260,slow=5.0,SNR=3.4

*ISCJB **09** 08:23:19.6±0.6,33.°28N±0.°05×140.°10E±0.°07, h154km±5km, mb3.2/3, Error ellipse: s-maj=10.2km s-min=7.2km az=164.5*
*IDC **09** 08:23:19.9±1.5,33.°10N×139.°80E,h125km±30km, mb3.0/3, mb1 3.2/5, mb1mx2.9/26, mbtmp3.1/5, Error ellipse: s-maj=125.0km s-min=11.2km az=68.0*
*JMA **09** 08:23:22.1±0.2,33.°37N×140.°03E, h141km±2km, M3.4*
ISC 09 08:23:21.0±1.0,33.°28N±0.°05×140.°07E±0.°07, h147km±8km, n20,σ1s27/30, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.27**	**233**	P	**Pn**	**08 23 41.9**	**+0.8**
JHJ2				S	**Sn**	**08 23 56.7**	**+0.4**
JIM2	**Oshima 3**	**1.53**	**340**	P	**Pn**	**08 23 50.9**	**+0.2**
JIM2				S	**Sn**	**08 24 12.3**	**-1.2**
BSO3	**Boso 3**	**1.57**	**13**	P	**Pn**	**08 23 51.2**	**+0.5**
BSO3				S	**Sn**	**08 24 14.7**	**+1.1**
BSO1	**Boso 1**	**1.57**	**28**	P	**Pn**	**08 23 51.2**	**+0.8**
BSO1				S	**Sn**	**08 24 14.1**	**+1.0**
BSO2	**Boso 2**	**1.58**	**21**	S	**Sn**	**08 24 15.6**	**+1.8**
TK02	**Tokai 2**	**2.04**	**290**	P	**Pn**	**08 23 56.7**	**+0.5**
TK02				S	**Sn**	**08 24 24.9**	**+1.6**
TK04	**Tokai 4**	**2.14**	**302**	P	**Pn**	**08 23 58.0**	**+0.6**
JOD2	**Odawara 2**	**2.14**	**338**	P	**Pn**	**08 23 57.8**	**+0.2**
JOD2				S	**Sn**	**08 24 25.0**	**-0.9**
SHZ3	**Shizuoka 3**	**2.36**	**320**	P	**Pn**	**08 24 00.8**	**+0.5**
JYN	**Shimob**	**2.55**	**331**	P	**Pn**	**08 24 03.2**	**+0.6**
JRY	**Ryogami san**	**2.90**	**341**	P	**Pn**	**08 24 07.1**	**+0.2**
JRY				S	**Sn**	**08 24 40.4**	**-2.1**
JAG	**Ashikaga**	**3.18**	**351**	P	**Pn**	**08 24 09.3**	**-1.2**
MJAR	**Matsushiro Arr**	**3.60**	**335**	P	**Pn**	**08 24 15.0**	**-0.9**
	2.0nm,0.3s,baz=157,slow=6.5,SNR=21						
MJAR				S	**Sn**	**08 24 57.9**	**-0.7**
	1.2nm,0.3s,baz=151,slow=15,SNR=5.7						
MAT	**Matsushiro**	**3.60**	**335**	P	**Pn**	**08 24 15.4**	**-0.5**
MAT				eS	**Sn**	**08 24 57.6**	**-1.0**
MAT	**Matsushiro**	**3.60**	**335**	P	**Pn**	**08 24 16.2**	**+0.3**
JGM	**Miyama**	**3.68**	**312**	P	**Pn**	**08 24 17.4**	**+0.5**
CBIJ	**Chichi jima**	**6.42**	**163**	P	**Pn**	**08 24 51.4**	**-2.0**
	5.5nm,0.3s,baz=252,slow=17,SNR=7.9						
CBIJ				S	**Sn**	**08 26 02.1**	**-3.6**
	8.8nm,0.3s,baz=298,slow=23,SNR=4.0						
MKAR	**Makanchi Array**	**45.28**	**305**	P	**P**	**08 31 24.1**	**+0.3**
	0.4nm,0.5s,baz=87,slow=9.9,SNR=8.9						
WRA	**Warramunga Arr**	**53.20**	**187**	P	**P**	**08 32 22.9**	**-1.2**
	0.2nm,0.4s,baz=2.5,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**56.93**	**187**	P	**P**	**08 32 51.9**	**+1.1**
	0.2nm,0.5s,baz=11,slow=7.1,SNR=4.4						

IDC 09 08:28:13.8±7.7,6.°80S×153.°80E, h68km±59km, mb3.0/2, mb1 3.4/3, mb1mx3.1/19, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=89.2km s-min=46.5km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.07**	**248**	P	Pn	08 29 55.3	+0.7
	1.2nm,0.3s,baz=171,slow=14,SNR=3.0						
PMG				S	Sn	08 31 13.4	-0.1
	0.6nm,0.3s,baz=130,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**22.97**	**233**	P	P	08 33 12.2	-0.7
	0.2nm,0.3s,baz=59,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**25.43**	**227**	P	P	08 33 35.5	+0.1
	0.9nm,0.7s,baz=61,slow=8.1,SNR=9.3						
TORD	**Torodi Ar. Bea**	**151.83**	**285**	PKPbc	PKPbc	08 48 02.3	+0.4
	0.5nm,0.6s,baz=73,slow=2.3,SNR=4.0						

IDC 09 08:32:51.2±12.0,6.°56S×127.°82E, h375km±160km, mb2.8/3, mb1 2.9/6, mb1mx2.8/20, mbtmp2.8/6, Error ellipse: s-maj=99.2km s-min=27.3km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.67**	**190**	P	P	08 35 28.0	0.0
	0.4nm,0.3s,baz=28,slow=12,SNR=14						
WRA	**Warramunga Arr**	**14.73**	**155**	P	P	08 36 00.9	-0.9
	0.7nm,0.3s,baz=328,slow=12,SNR=36						
ASAR	**Alice Springs**	**17.99**	**162**	P	P	08 36 36.9	+0.1
	0.1nm,0.3s,baz=342,slow=12,SNR=10						
CTA	**Charters Tower**	**22.38**	**129**	P	P	08 37 19.2	0.0
	1.3nm,0.6s,baz=346,slow=8.3,SNR=2.2						
SONM	**Songino Array**	**57.37**	**343**	P	P	08 42 01.7	0.0
	0.2nm,0.5s,baz=163,slow=5.6,SNR=2.7						
MKAR	**Makanchi Array**	**66.69**	**328**	P	P	08 43 02.8	-0.1
	0.2nm,0.4s,baz=128,slow=7.8,SNR=7.7						

*ISCJB **09** 08:34:40.8±0.7, 10.°78N±0.°05×62.°37W±0.°04, h88km±7km, Error ellipse: s-maj=8.6km s-min=4.7km az=150.0*
*FUNV **09** 08:34:42.8, 10.°75N×62.°27W, h76km, MW3.1*
*TRN **09** 08:34:47.6, 11.°00N×62.°09W, h22km, MD2.9*
ISC 09 08:34:41.8±1.3,10.°73N±0.°05×62.°35W±0.°04, h85km±9km, n16,σ1s31/25, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.15**	**124**	⇑*e*P	**Pn**	**08 34 53.8**	**-0.2**
GUIV				*e*S	**Sn**	**08 35 01.5**	**-1.6**
GUNV	**Guanoco**	**0.81**	**226**	⇑*i*P	**Pn**	**08 35 00.5**	**+1.5**
GUNV				*e*S	**Sn**	**08 35 13.4**	**+1.5**
CRUV	**Carupano**	**0.87**	**266**	*e*P	**Pn**	**08 35 00.3**	**+0.7**
CRUV				*e*S	**Sn**	**08 35 12.6**	**-0.5**
TRN	**Trinidad (W)**	**0.94**	**95**	*e*P	**Pn**	**08 35 01.9**	**+1.5**
TRN				*e*S	**Sn**	**08 35 13.8**	**-0.5**
GRW	**Mount Saint Ca**	**1.57**	**25**	*e*P	**Pn**	**08 35 10.3**	**+2.0**
GRW				*e*S	**Sn**	**08 35 25.5**	**-2.9**
TOSP	**Speyside**	**1.87**	**72**	*e*P	**Pn**	**08 35 14.4**	**+2.3**
TOSP				*e*S	**Sn**	**08 35 33.9**	**-1.3**
ORIV	**Oritupano**	**1.95**	**212**	*e*P	**Pn**	**08 35 13.7**	**+0.4**
ORIV				*e*S	**Sn**	**08 35 36.9**	**-0.3**
PCRV	**Puerto La Cruz**	**2.31**	**256**	*e*P	**Pn**	**08 35 18.4**	**+0.3**
PCRV				*e*S	**Sn**	**08 35 45.2**	**-0.6**
RIOV	**Rio Grande**	**2.70**	**169**	*e*P	**Pn**	**08 35 24.0**	**+0.8**
SVB	**Belmont**	**2.74**	**23**	*e*S	**Sn**	**08 35 54.4**	**-1.7**
PRGV	**PARIAGUAN**	**2.99**	**229**	*e*S	**Sn**	**08 36 01.5**	**-0.6**
GURV	**El Guri**	**3.04**	**194**	*e*P	**Pn**	**08 35 28.2**	**+0.4**
CUPV	**Cœpira**	**3.45**	**259**	*e*P	**Pn**	**08 35 34.1**	**+0.7**
CUPV				*e*S	**Sn**	**08 36 12.9**	**-0.3**
MERV	**Las Mercedes**	**4.16**	**250**	*e*S	**Sn**	**08 36 29.4**	**-1.0**
LUEV	**Luepa**	**4.94**	**170**	*e*P	**Pn**	**08 35 53.0**	**-0.7**
BAUV	**El Baul**	**5.88**	**253**	*e*P	**Pn**	**08 36 06.8**	**+0.3**

*ISCJB **09** 08:48:01.5±0.6, 40.°53N±0.°03×24.°27E±0.°05, h25km±5km, Error ellipse: s-maj=6.4km s-min=5.1km az=26.0*
*ATH **09** 08:48:01.0, 40.°54N×24.°28E, h36km±4km, MD2.9/5*
*CSEM **09** 08:48:01.2±0.1, 40.°53N×24.°27E, h15km, ML1.9/6, Error ellipse: s-maj=2.8km s-min=2.5km az=150.0*
*THE **09** 08:48:02.0, 40.°55N×24.°22E, h12km±1km, ML1.9/6, Error ellipse: s-maj=1.3km s-min=0.5km az=188.0*
ISC 09 08:48:01.3±0.9,40.°54N±0.°03×24.°27E±0.°03, h17km±8km, n28,σ0s20/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.30**	**227**	P	**Pb**	**08 48 08.0**	**-0.2**
OUR				S	**Sg**	**08 48 12.2**	**0.0**
OUR	**Ouranopolis**	**0.30**	**227**	P	**Pb**	**08 48 08.0**	**-0.2**
OUR				S	**Sg**	**08 48 12.2**	**0.0**
KAVA	**Kavala**	**0.49**	**22**	P	**Pg**	**08 48 11.1**	**-0.2**
KAVA				S	**Sb**	**08 48 18.6**	**+0.1**
KAVA	**Kavala**	**0.49**	**22**	P	**Pg**	**08 48 11.1**	**-0.2**
KAVA				S	**Sb**	**08 48 18.6**	**+0.1**
PLG	**Polygyros**	**0.65**	**256**	P	**Pg**	**08 48 14.0**	**-0.1**
PLG				S	**Sg**	**08 48 22.9**	**+0.1**
PLG	**Polygyros**	**0.65**	**256**	*e*PN	**Pg**	**08 48 14.1**	**-0.1**
PLG	**Polygyros**	**0.65**	**256**	P	**Pg**	**08 48 14.0**	**-0.1**
PLG				S	**Sg**	**08 48 22.9**	**+0.1**
SOH	**Sokhos**	**0.75**	**292**	P	**Pb**	**08 48 16.0**	**0.0**
SOH	**Sokhos**	**0.75**	**292**	*e*PN	**Pg**	**08 48 16.4**	**+0.3**
SOH				*e*SN	**Sg**	**08 48 26.2**	**+0.1**
SOH	**Sokhos**	**0.75**	**292**	P	**Pb**	**08 48 16.0**	**0.0**
SOH	**Sokhos**	**0.75**	**292**	*e*Pn	**Pg**	**08 48 16.4**	**+0.3**
PAIG	**Paliouri**	**0.76**	**217**	P	**Pb**	**08 48 16.1**	**0.0**
PAIG				S	**Sg**	**08 48 26.8**	**+0.5**
PAIG	**Paliouri**	**0.76**	**217**	P	**Pb**	**08 48 16.1**	**0.0**
PAIG				S	**Sg**	**08 48 26.8**	**+0.5**
SRS	**Serrai**	**0.77**	**319**	P	**Pb**	**08 48 16.3**	**0.0**
SRS				S	**Sb**	**08 48 26.6**	**0.0**
SRS	**Serrai**	**0.77**	**319**	P	**Pb**	**08 48 16.3**	**0.0**
SRS				S	**Sb**	**08 48 26.6**	**0.0**
NVR	**Nevrokopi**	**0.87**	**339**	P	**Pg**	**08 48 18.3**	**0.0**
NVR				S	**Sg**	**08 48 29.8**	**+0.1**
NVR	**Nevrokopi**	**0.87**	**339**	*e*PN	**Pg**	**08 48 18.3**	**0.0**
NVR				*e*SN	**Sg**	**08 48 29.9**	**+0.2**
NVR	**Nevrokopi**	**0.87**	**339**	P	**Pg**	**08 48 18.3**	**0.0**
NVR				S	**Sg**	**08 48 29.8**	**+0.1**
HORT	**Hortiatis**	**0.89**	**274**	P	**Pg**	**08 48 18.6**	**-0.1**
HORT				S	**Sb**	**08 48 30.3**	**+0.2**
HORT	**Hortiatis**	**0.89**	**274**	P	**Pg**	**08 48 18.6**	**-0.1**
HORT				S	**Sb**	**08 48 30.3**	**+0.2**
LIA	**Limnos Island**	**0.95**	**132**	*e*PN	**Pb**	**08 48 19.2**	**0.0**
LIA	**Limnos Island**	**0.95**	**132**	*e*Pn	**Pb**	**08 48 19.2**	**0.0**
KNT	**Kendrikon**	**1.21**	**301**	P	**Pb**	**08 48 23.6**	**-0.2**
KNT				S	**Sn**	**08 48 39.5**	**0.0**
KNT	**Kendrikon**	**1.21**	**301**	P	**Pb**	**08 48 23.6**	**-0.2**
KNT				S	**Sn**	**08 48 39.5**	**0.0**
ALN	**Alexandroupoli**	**1.40**	**75**	P	**Pb**	**08 48 27.1**	**+0.2**
ALN	**Alexandroupoli**	**1.40**	**75**	*e*PN	**Pn**	**08 48 25.7**	**-0.3**
ALN	**Alexandroupoli**	**1.40**	**75**	*e*Pn	**Pn**	**08 48 25.7**	**-0.3**
ALN	**Alexandroupoli**	**1.40**	**75**	P	**Pb**	**08 48 27.1**	**+0.2**

IDC 09 08:52:30.9±1.7,6.°26S×130.°91E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=66.2km s-min=24.4km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.85**	**203**	Pn	Pn	08 55 35.9	+0.9
	0.5nm,0.3s,baz=30,slow=12,SNR=17						
FITZ				Sn	Sn	08 57 47.8	-11
	0.4nm,0.3s,baz=130,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	**14.01**	**167**	Pn	Pn	08 55 49.4	-1.4
	0.2nm,0.3s,baz=348,slow=14,SNR=16						
WRA				Sn	Sn	08 58 16.1	-11
	0.7nm,0.3s,baz=349,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**17.55**	**171**	P	Pn	08 56 37.4	+0.3
	0.1nm,0.3s,baz=356,slow=15,SNR=7.4						
ASAR				S	Sn	08 59 38.5	-15
	0.1nm,0.3s,baz=202,slow=27,SNR=3.5						
CMAR	**Chiang Mai Arr**	**39.96**	**309**	P	P	09 00 07.7	+0.3
	0.9nm,0.3s,baz=144,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**58.03**	**341**	P	P	09 02 25.3	-0.5
	0.2nm,0.5s,baz=166,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**68.11**	**326**	P	P	09 03 32.7	0.0
	0.8nm,0.4s,baz=116,slow=8.0,SNR=21						

*CSEM **09** 09:07:50.9±0.1,38.°33N×7.°96W, h12km, ML3.0/13, Error ellipse: s-maj=1.9km s-min=1.3km az=91.0*
*LDG **09** 09:07:51.6±0.1,38.°32N×8.°00W, h2km, Md3.5/1, Error ellipse: s-maj=2.1km s-min=1.5km az=99.0*
*ISCJB **09** 09:07:51.1±0.3,38.°33N±0.°01×7.°95W±0.°03, h21km±3km, Error ellipse: s-maj=3.8km s-min=2.5km az=179.2*
*INMG **09** 09:07:51.8±1.7,38.°32N×7.°98W, h11km±5km, ML2.6, Error ellipse: s-maj=2.6km s-min=1.6km az=88.0*
*MDD **09** 09:07:51.9±0.3,38.°32N×7.°99W, h11km, mbLg2.8/23, Error ellipse: s-maj=2.9km s-min=2.2km az=83.0, PRXIMO*
*IGIL **09** 09:07:52.1,38.°32N×7.°98W, h0km, ML2.5*
ISC 09 09:07:51.0±0.8,38.°31N±0.°01×7.°97W±0.°02, h17km±6km, n99,σ0s92/148, 3C-2D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVO	**Evora**	**0.22**	**351**	⇓*i*Pg	**Pg**	**09 07 56.2**	**0.0**
EVO				*e*Sg	**Sg**	**09 07 59.3**	**-0.5**
	608nm,0.2s						
EVOP	**Sao Brissos**	**0.25**	**330**	⇓*i*Pg	**Pg**	**09 07 56.2**	**-0.4**
EVOP				*e*Sg	**Sg**	**09 07 59.3**	**-1.1**
	304nm,0.2s						
PBEJ	**Beja**	**0.30**	**165**	*e*Pg	**Pg**	**09 07 57.4**	**-0.1**
PBEJ				*e*Sg	**Sg**	**09 08 01.5**	**-0.3**
PBEJ				A	A	09 08 01.9	
	209nm,0.1s						
PBEJ	**Beja**	**0.30**	**165**	Pg	**Pg**	**09 07 57.4**	**-0.1**
PBEJ				Lg	Lg	09 08 01.5	
	104nm,0.1s						
PBEJ	**Beja**	**0.30**	**165**	*e*Pg	**Pg**	**09 07 57.4**	**-0.1**
PBEJ				*e*Sg	**Sg**	**09 08 01.5**	**-0.3**
	209nm,0.1s						
MOE	**Montemor**	**0.37**	**305**	*e*Pg	**Pg**	**09 07 58.3**	**-0.4**
MOE				*e*Sg	**Sg**	**09 08 03.2**	**-0.7**
MOE	**Montemor**	**0.37**	**305**	Pg	**Pg**	**09 07 58.3**	**-0.4**
MOE				Lg	Lg	09 08 03.2	
MOE	**Montemor**	**0.37**	**305**	*e*Pg	**Pg**	**09 07 58.3**	**-0.4**
MOE				Lg	Lg	09 08 03.2	
MOE				*e*Sg	Lg	09 08 03.2	
PNCL	**Nicolau / Gran**	**0.49**	**246**	*i* Pg	**Pg**	**09 08 00.6**	**-0.2**
PNCL				*e*Sg	**Sg**	**09 08 07.0**	**-0.4**
PNCL				A	A	09 08 07.6	
	93nm,0.1s						
MESJ	**Messejana**	**0.51**	**203**	*e*P	**Pg**	**09 08 01.2**	**-0.1**
MESJ				*e*S	**Sg**	**09 08 07.7**	**-0.5**
MESJ				AML	AML	09 08 08.1	
	comp=N,99nm,0.2s						
MESJ	**Messejana**	**0.51**	**203**	*e*P	**Pg**	**09 08 01.2**	**-0.1**
MESJ				*e*S	**Sg**	**09 08 07.7**	**-0.5**
MESJ	**Messejana**	**0.51**	**203**	Pg	**Pg**	**09 08 01.2**	**-0.1**
MESJ				Lg	Lg	09 08 07.7	
MESJ	**Messejana**	**0.51**	**203**	*e*P	**Pg**	**09 08 01.2**	**-0.1**
MESJ				Lg	Lg	09 08 07.7	
MESJ				*e*S	Lg	09 08 07.7	
PESTR	**Estremoz**	**0.63**	**28**	*e*Pg	**Pg**	**09 08 03.4**	**0.0**
PESTR				*e*Sg	**Sg**	**09 08 11.7**	**-0.1**
PESTR				A	A	09 08 12.8	
	comp=N,72nm,0.3s						
PESTR	**Estremoz**	**0.63**	**28**	⇑Pg	**Pg**	**09 08 03.4**	**0.0**
PESTR				Lg	Lg	09 08 11.7	
	comp=N,72nm,0.3s						
PESTR	**Estremoz**	**0.63**	**28**	Pg	**Pg**	**09 08 03.4**	**0.0**
PESTR				*e*Sg	**Sg**	**09 08 11.7**	**-0.1**
	comp=N,72nm,0.3s						
PCVE	**Castro Verde**	**0.68**	**185**	*e*Pg	**Pg**	**09 08 04.3**	**-0.2**
PCVE				A	A	09 08 17.3	
	comp=N,96nm,0.1s						
PCVE	**Castro Verde**	**0.68**	**185**	Pg	**Pg**	**09 08 04.3**	**-0.2**
PCVE	**Castro Verde**	**0.68**	**185**	*e*Pg	**Pg**	**09 08 04.3**	**-0.2**
	comp=N,96nm,0.1s						
PBAR	**Barrancos**	**0.74**	**100**	*e*P	**Pg**	**09 08 05.6**	**0.0**
PBAR				*e*S	**Sb**	**09 08 15.7**	**+0.3**
PBAR				A	A	09 08 20.0	
	comp=N,122nm,0.6s						
PBAR	**Barrancos**	**0.74**	**100**	Pg	**Pg**	**09 08 05.6**	**0.0**
PBAR				Lg	Lg	09 08 15.7	
	comp=N,122nm,0.6s						
PBAR	**Barrancos**	**0.74**	**100**	*e*P	**Pg**	**09 08 05.6**	**0.0**
PBAR				*e*S	**Sb**	**09 08 15.7**	**+0.3**
	comp=N,122nm,0.6s						
PMTG	**Montargil**	**0.78**	**345**	*e*P	**Pg**	**09 08 05.9**	**-0.4**
PMTG				*e*S	**Sg**	**09 08 16.0**	**-0.7**
PMTG				A	A	09 08 19.1	
	comp=N,297nm,0.1s						
PMTG	**Montargil**	**0.78**	**345**	*e*P	**Pg**	**09 08 05.9**	**-0.4**
PMTG				*e*S	**Sg**	**09 08 16.0**	**-0.7**
	comp=N,297nm,0.1s						
EGRO	**El Granado**	**0.87**	**154**	Pg	**Pb**	**09 08 08.1**	**+0.5**
	comp=N,10nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	09 08 20.3	
	comp=N,62nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.87**	**154**	Pg	**Pb**	**09 08 08.1**	**+0.5**
	comp=N,10nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	09 08 20.3	
	comp=N,62nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**0.87**	**59**	⇑Pg	**Pb**	**09 08 08.3**	**+0.6**
	comp=N,27nm,0.1s,SNR=18						
EBAD				Lg	Lg	09 08 19.6	
	comp=N,148nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**0.87**	**59**	Pg	**Pb**	**09 08 08.3**	**+0.6**
	comp=N,27nm,0.1s,SNR=18						
EBAD				Lg	Lg	09 08 19.6	
	comp=N,148nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**0.93**	**168**	*e*P	**Pn**	**09 08 09.2**	**-0.1**
PVAQ				*e*S	**Sb**	**09 08 20.5**	**-0.2**
PVAQ				A	A	09 08 23.6	
	comp=N,118nm,0.2s						
PVAQ	**Vaqueiros**	**0.93**	**168**	Pg	**Pn**	**09 08 09.2**	**-0.1**
PVAQ				Lg	Lg	09 08 20.5	
	comp=N,118nm,0.2s						
PVAQ	**Vaqueiros**	**0.93**	**168**	*e*P	**Pn**	**09 08 09.2**	**-0.1**
PVAQ				*e*S	**Sb**	**09 08 20.5**	**-0.2**
	comp=N,118nm,0.2s						
ALMR	**Almeirim**	**0.97**	**331**	*e*P	**Pb**	**09 08 09.5**	**+0.1**
ALMR				*e*S	**Sb**	**09 08 21.6**	**-0.3**
ALMR				AML	AML	09 08 24.1	
	comp=E,91nm,0.3s						
ALMR	**Almeirim**	**0.97**	**331**	*e*P	**Pb**	**09 08 09.5**	**+0.1**
ALMR				*e*S	**Sb**	**09 08 21.6**	**-0.3**
ALMR	**Almeirim**	**0.97**	**331**	Pg	**Pb**	**09 08 09.5**	**+0.1**
ALMR				Lg	Lg	09 08 21.6	
ALMR	**Almeirim**	**0.97**	**331**	*e*P	**Pb**	**09 08 09.5**	**+0.1**
ALMR				*e*S	**Sb**	**09 08 21.6**	**-0.3**
ALMR				Lg	Lg	09 08 21.6	
PTEO	**Sao Teotonio**	**0.97**	**218**	*e*P	**Pg**	**09 08 09.7**	**-0.2**
PTEO				*e*Sg	**Sg**	**09 08 22.6**	**-0.1**
PTEO				A	A	09 08 25.5	
	comp=E,84nm,0.2s						
PTEO	**Sao Teotonio**	**0.97**	**218**	Pg	**Pg**	**09 08 09.7**	**-0.2**
PTEO				Lg	Lg	09 08 22.6	
	comp=E,42nm,0.2s						
PTEO	**Sao Teotonio**	**0.97**	**218**	*e*P	**Pg**	**09 08 09.7**	**-0.2**
PTEO				*e*Sg	Lg	09 08 22.6	
	comp=E,84nm,0.2s						
LIS	**Lisbon**	**1.01**	**294**	*e*S	**Sb**	**09 08 23.2**	**+0.1**
LIS				AML	AML	09 08 25.3	
	comp=N,180nm,0.3s						
LIS	**Lisbon**	**1.01**	**294**	*e*S	**Sb**	**09 08 23.2**	**+0.1**
LIS	**Lisbon**	**1.01**	**294**	Lg	Lg	09 08 23.2	
LIS	**Lisbon**	**1.01**	**294**	*e*S	**Sb**	**09 08 23.2**	**+0.1**
PBDV	**Barranco-do-Ve**	**1.07**	**178**	*e*P	**Pg**	**09 08 12.4**	**+0.7**
PBDV				*e*S	**Sb**	**09 08 25.1**	**+0.3**
PBDV				A	A	09 08 29.1	
	comp=N,82nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.07**	**178**	Pg	**Pg**	**09 08 12.4**	**+0.7**
PBDV				Lg	Lg	09 08 25.1	
	comp=N,82nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.07**	**178**	*e*P	**Pg**	**09 08 12.4**	**+0.7**
PBDV				*e*S	**Sb**	**09 08 25.1**	**+0.3**
	comp=N,82nm,0.2s						
MORF	**Marmelete**	**1.14**	**209**	*e*P	**Pn**	**09 08 12.6**	**+0.3**
MORF				*e*S	**Sn**	**09 08 27.8**	**+0.2**
MORF				A	A	09 08 29.5	
	comp=N,71nm,0.1s						
MORF	**Marmelete**	**1.14**	**209**	Pg	**Pn**	**09 08 12.6**	**+0.3**
MORF				Lg	Lg	09 08 27.8	
	comp=N,71nm,0.1s						
MORF	**Marmelete**	**1.14**	**209**	*e*P	**Pn**	**09 08 12.6**	**+0.3**
MORF				*e*S	**Sn**	**09 08 27.8**	**+0.2**
	comp=N,71nm,0.1s						
EMIN	**Mina Concepcio**	**1.16**	**118**	Pg	**Pn**	**09 08 12.5**	**0.0**
	comp=N,6.8nm,0.1s,SNR=81						
EMIN				Lg	Lg	09 08 28.6	
	comp=N,33nm,0.1s,SNR=33						
EMIN	**Mina Concepcio**	**1.16**	**118**	Pg	**Pn**	**09 08 12.5**	**0.0**
	comp=N,6.8nm,0.1s,SNR=81						
EMIN				Lg	Lg	09 08 28.6	
	comp=N,33nm,0.1s,SNR=33						
PMRV	**Marv??o**	**1.20**	**22**	*e*P	**Pb**	**09 08 13.7**	**+0.3**
PMRV				*e*S	**Sb**	**09 08 28.8**	**+0.2**
PMRV				A	A	09 08 31.0	
	comp=N,77nm,0.2s						
PMRV	**Marv??o**	**1.20**	**22**	Pg	**Pb**	**09 08 13.7**	**+0.3**
PMRV				Lg	Lg	09 08 28.8	
	comp=N,77nm,0.2s						
PMRV	**Marv??o**	**1.20**	**22**	*e*P	**Pb**	**09 08 13.7**	**+0.3**
PMRV				*e*S	**Sb**	**09 08 28.8**	**+0.2**
	comp=N,77nm,0.2s						
PMAFR	**Mafra**	**1.21**	**302**	*e*P	**Pb**	**09 08 13.7**	**+0.2**
PMAFR				*e*Sg	**Sg**	**09 08 30.9**	**+0.5**
PMAFR				A	A	09 08 34.1	
	comp=N,105nm,0.4s						
PMAFR	**Mafra**	**1.21**	**302**	⇑Pg	**Pb**	**09 08 13.8**	**+0.2**
	comp=N,17nm,0.2s,SNR=18						

MVO					Sn		**Sn**	**09 09 10.5**	**-1.4**
	comp=N,2.0nm,0.1s,SNR=7.9								
MVO					Lg		Lg	09 09 23.0	
	comp=N,7.6nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**2.94**	**14**		Pn		**Pn**	**09 08 37.7**	**+0.7**
	comp=N,1.7nm,0.2s,SNR=7.9								
MVO					*e*Sn		**Sn**	**09 09 12.4**	**+0.5**
MVO					Lg		Lg	09 09 23.0	
	comp=N,7.6nm,0.2s,SNR=7.9								
MVO					*e*Sg		**Sg**	**09 09 23.1**	**-2.4**
	comp=N,15nm,0.6s								
PVRL	**Vila Real**	**2.96**	**4**	*e*Sg			**Sg**	**09 09 23.4**	**-2.9**
PVRL				A			A	09 09 26.3	
	comp=N,21nm,0.1s								
PVRL	**Vila Real**	**2.96**	**4**	Lg			Lg	09 09 23.4	
	comp=N,11nm,0.1s								
PVRL	**Vila Real**	**2.96**	**4**	Lg			Lg	09 09 23.4	
	comp=N,11nm,0.1s								
POLO	**Lamas de Olo**	**3.06**	**2**	*e*Pn			**Pn**	**09 08 40.0**	**+1.3**
POLO				*e*Sn			**Sn**	**09 09 14.1**	**-0.9**
POLO				*e*Sg			**Sb**	**09 09 24.9**	**+2.7**
POLO				A			A	09 09 30.9	
	comp=N,4.9nm,0.3s								
POLO	**Lamas de Olo**	**3.06**	**2**	*e*Pn			**Pn**	**09 08 40.0**	**+1.3**
POLO				*e*Sn			**Sn**	**09 09 14.1**	**-0.9**
PCAB	**Cabril**	**3.39**	**359**	*e*Sg			**Sb**	**09 09 36.2**	**+4.5**
PCAB				A			A	09 09 41.9	
	comp=N,14nm,0.3s								
PCAB	**Cabril**	**3.39**	**359**	Lg			Lg	09 09 36.2	
	comp=N,6.9nm,0.3s								
PCAB	**Cabril**	**3.39**	**359**	Lg			Lg	09 09 36.2	
	comp=N,6.9nm,0.3s								
ESDC	**Sonseca Array**	**3.40**	**65**	Sn			**Sn**	**09 09 22.1**	**-1.3**
	comp=N,1.1nm,0.2s,baz=249,slow=22,SNR=5.4								
ESDC				Lg			Lg	09 09 37.2	
	comp=N,6.1nm,0.3s,baz=244,slow=30,SNR=12								
ESDC	**Sonseca Array**	**3.40**	**65**	Sn			**Sn**	**09 09 22.1**	**-1.3**
	comp=N,1.1nm,0.2s,baz=249,slow=22,SNR=5.4								
ESDC				Lg			Lg	09 09 37.2	
	comp=N,6.1nm,0.3s,slow=30,SNR=12								
ELOB	**Lobios**	**3.55**	**359**	Pn			**Pn**	**09 08 45.9**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=7.9								
ELOB				Sn			**Sn**	**09 09 24.9**	**-2.2**
	comp=N,1.2nm,0.1s,SNR=7.9								
ELOB				Lg			Lg	09 09 41.7	
	comp=N,4.5nm,0.2s,SNR=7.7								
ELOB	**Lobios**	**3.55**	**359**	Pn			**Pn**	**09 08 45.9**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=7.9								
ELOB				Sn			**Sn**	**09 09 24.9**	**-2.2**
	comp=N,1.2nm,0.1s,SNR=7.9								
ELOB				Lg			Lg	09 09 41.7	
	comp=N,4.5nm,0.2s,SNR=7.7								
PBRG	**Braganca**	**3.61**	**15**	*e*Pn			**Pn**	**09 08 47.5**	**+1.2**
PBRG				A			A	09 09 48.9	
	comp=N,14nm,0.6s								
PBRG	**Braganca**	**3.61**	**15**	Pn			**Pn**	**09 08 47.5**	**+1.2**
PBRG	**Braganca**	**3.61**	**15**	*e*Pn			**Pn**	**09 08 47.5**	**+1.2**
	comp=N,14nm,0.6s								
PGAV	**Gavieira, Arco**	**3.66**	**356**	*e*Pn			**Pn**	**09 08 47.7**	**+0.8**
PGAV				*e*Sn			**Sn**	**09 09 28.2**	**-1.5**
PGAV				A			A	09 09 50.1	
	comp=N,13nm,0.5s								
PGAV	**Gavieira, Arco**	**3.66**	**356**	*e*Pn			**Pn**	**09 08 47.7**	**+0.8**
PGAV				*e*Sn			**Sn**	**09 09 28.2**	**-1.5**
	comp=N,13nm,0.5s								
ECAL	**Calabor**	**3.74**	**14**	Pn			**Pn**	**09 08 48.9**	**+0.8**
	comp=N,0.6nm,0.1s,SNR=7.9								
ECAL				Sn			**Sn**	**09 09 30.6**	**-1.2**
	comp=N,0.2nm,0.1s,SNR=7.9								
ECAL				Lg			Lg	09 09 48.9	
	comp=N,55nm,0.6s,SNR=6.3								
ECAL	**Calabor**	**3.74**	**14**	Pn			**Pn**	**09 08 48.9**	**+0.8**
	comp=N,0.6nm,0.1s,SNR=7.9								
ECAL				Sn			**Sn**	**09 09 30.6**	**-1.2**
	comp=N,0.2nm,0.1s,SNR=7.9								
ECAL				Lg			Lg	09 09 48.9	
	comp=N,55nm,0.6s,SNR=6.3								
SJPF	**Ste Jean**	**7.01**	**45**	*e*Pn			**Pn**	**09 09 33.8**	**+0.8**
SJPF	**Ste Jean**	**7.01**	**45**	Pn			**Pn**	**09 09 33.8**	**+0.8**
ETSF	**Etsaut**	**7.26**	**49**	*e*Pn			**Pn**	**09 09 36.8**	**+0.4**
ETSF	**Etsaut**	**7.26**	**49**	Pn			**Pn**	**09 09 36.8**	**+0.4**
EPF	**Esparros**	**7.88**	**51**	*e*Pn			**Pn**	**09 09 44.6**	**-0.2**
EPF	**Esparros**	**7.88**	**51**	Pn			**Pn**	**09 09 44.6**	**-0.2**

CSEM 09 09:41:15.2, 43°23N×5°85W, h0km, ML1.2, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
EARI	**Arriondas**	**0.47**	**81**	Pg	Pg	09	41 23.9	-0.4
	27nm,1.2s,SNR=11							
EARI				Lg	Lg	09	41 30.7	
	SNR=7.9							
EPON	**Pontenova**	**0.96**	**276**	Pg	Pg	09	41 32.4	-1.2
	SNR=7.9							
EPON				Lg	Lg	09	41 47.1	
	7.0nm,0.7s,SNR=5.0							
ECAL	**Calabor**	**1.45**	**207**	Pg	Pn	09	41 41.0	-1.8
	SNR=7.9							
ECAL				Lg	Lg	09	42 03.0	
	SNR=7.9							
ELAN	**Lanestosa**	**1.76**	**89**	Pg	Pn	09	41 46.5	-0.5
	SNR=7.9							
ELAN				Lg	Lg	09	42 13.1	
	SNR=7.9							

IDC 09 09:44:49.1±2.9, 13°79S×73°93W, h84km±20km, mb3.4/3, mb1 3.5/7, mb1mx3.4/23, mbtmp3.4/7, Error ellipse: s-maj=118.5km s-min=18.8km az=30.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
NNA	**Nana**	**3.36**	**302**	P	Pn	09	45 40.0	+0.6
	7.9nm,0.3s,baz=128,slow=12,SNR=18							
NNA				S	Sn	09	46 25.1	+6.7
	31nm,0.3s,baz=188,slow=21,SNR=7.6							
LPAZ	**La Paz**	**6.13**	**115**	P	Pn	09	46 17.8	-0.2
	0.9nm,0.3s,baz=284,slow=10.0,SNR=18							
ATAH	**Atahualpa**	**7.94**	**326**	P	Pn	09	46 42.5	+0.1
	0.3nm,0.3s,baz=145,slow=18,SNR=1.9							
SIV	**San Ignacio**	**12.62**	**102**	P	Pn	09	47 43.8	-1.9
	0.1nm,0.3s,baz=288,slow=11,SNR=4.8							
TXAR	**Lajitas Array**	**51.60**	**326**	P	P	09	53 47.0	-0.3
	0.5nm,0.7s,baz=159,slow=7.7,SNR=7.5							
TORD	**Torodi Ar. Bea**	**79.55**	**74**	P	P	09	56 48.7	+1.1
	2.4nm,1.0s,baz=269,slow=5.0,SNR=5.0							
YKA	**Yellowknife Ar**	**82.40**	**342**	P	P	09	57 01.0	-0.6
	0.3nm,0.7s,baz=134,slow=5.0,SNR=7.2							
SONM	**Songino Array**	**146.06**	**360**	PKPbc	PKPdf	10	04 18.7	-0.1
	0.7nm,0.7s,baz=353,slow=1.4,SNR=6.5							

*ISCJB **09** 09:47:17.0±0.3, 16°57S±0°06×11°05W±0°05, h10km, mb4.8/61, MS4.2/35, Error ellipse: s-maj=9.3km s-min=6.6km az=166.8*

*BJI **09** 09:47:17.7, 17°36S×10°32W, h11km, mB5.6/11, Ms5.2/9, Ms7 4.8/10*

*MOS **09** 09:47:17.2±0.8, 16°53S×11°04W, h10km, mb5.2/22, Error ellipse: s-maj=13.1km s-min=6.7km az=63.9*

*IDC **09** 09:47:17.2±0.6, 16°62S×11°09W, h0km, mb4.5/21, mb1 4.5/21, mb1mx4.5/26, mbtmp4.5/21, MS4.1/29, Ms1 4.1/29, ms1mx4.1/34, Error ellipse: s-maj=18.4km s-min=13.9km az=156.0*

*NEIC **09** 09:47:18.8±0.2, 16°60S×11°08W, h10km, mb5.2/20, Error ellipse: s-maj=6.9km s-min=5.3km az=153.0*

*GCMT **09** 09:47:20.2±0.3, 16°39S×11°15W, h13km±1km, MW4.9, Moment Tensor Solution. s18,c19; s64,c80; Moment tensor: Scale 10^{16}Nm; M_{rr}2.37±.19; $M_{\theta\theta}$-0.62±.12; $M_{\phi\phi}$-1.74±.12; $M_{r\theta}$-1.50±.44; $M_{\theta\phi}$0.46±.08; $M_{\phi r}$0.16±.29; Best double couple: $M_0$2.50000×10^{16} NP1:ϕ_s173.00000°, δ38.00000°, λ123.00000°. NP2:ϕ_s314.00000°, δ59.00000°, λ67.00000°. Principal axes: T 2.9900, Plg67.0000°, Azm179.0000°; N -0.9500, Plg19.0000°, Azm326.0000°; P -2.0400, Plg11.0000°, Azm60.0000°; Data Used: IU IC II G.*

ISC 09 09:47:18.7±0.4, 16°57S±0°09×11°04W±0°06, h10km, n188, σ1°45/197, mb5.0/61, MS4.1/35, 11C-10D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
SHEL	**Horse Pasture**	**5.12**	**84**	*e*P			**Pn**	**09 48 34.6**	**-1.0**
SHEL				*e*				09 49 34.5	
SHEL	**Horse Pasture**	**5.12**	**84**	*e*Pn			**Pn**	**09 48 34.6**	**-1.0**
SHEL				*e*Sn			**Sn**	**09 49 34.5**	**-0.4**
SHEL				*e*TT				09 53 43.1	
LIC	**Lamto**	**23.41**	**15**	*e*P			**P**	**09 52 24.4**	**-3.7**
	159nm,1.5s								
LIC	**Lamto**	**23.41**	**15**	*e*P			**P**	**09 52 24.4**	**-3.7**
	159nm,1.5s								
DBIC	**Dimbokro**	**23.89**	**15**	P			**P**	**09 52 32.2**	**-0.4**
	6.8nm,0.7s,baz=164,slow=8.7,SNR=12								
DBIC					LR		LR	09 59 29.9	
	comp=Z,465nm,20.6s,baz=169,slow=31								
DBIC	**Dimbokro**	**23.89**	**15**	P			**P**	**09 52 32.2**	**-0.4**
	98nm,1.9s								
RCBR	**Riachuelo**	**26.58**	**291**	P			**P**	**09 52 57.5**	**+0.1**
	14nm,1.0s,baz=81,slow=6.5,SNR=4.1								
RCBR					LR		LR	10 00 21.2	
	comp=Z,367nm,19.8s,baz=110,slow=30								
RCBR	**Riachuelo**	**26.58**	**291**	P			**P**	**09 52 57.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**32.10**	**24**	P			**P**	**09 53 45.7**	**-0.5**
	11nm,0.6s,baz=203,slow=9.1,SNR=137								
TORD					LR		LR	10 04 30.8	
	comp=Z,416nm,18.3s,baz=200,slow=32								
TORD	**Torodi Ar. Bea**	**32.10**	**24**	P			**P**	**09 53 45.7**	**-0.5**
SUR	**Sutherland**	**32.83**	**125**	P			**P**	**09 53 52.5**	**-0.4**
	9.4nm,0.8s,baz=65,slow=1.5,SNR=4.7								
SUR	**Sutherland**	**32.83**	**125**	P			**P**	**09 53 52.5**	**-0.4**
LBTB	**Lobatse**	**35.18**	**110**	P			**P**	**09 54 13.1**	**-0.1**
	2.4nm,0.8s,baz=251,slow=13,SNR=2.7								
LBTB	**Lobatse**	**35.18**	**110**	P			**P**	**09 54 13.1**	**-0.1**
BOSA	**Boshof**	**35.46**	**116**	P			**P**	**09 54 15.8**	**+0.2**
	14nm,0.9s,baz=287,slow=12,SNR=12								
BOSA					LR		LR	10 06 25.5	
	comp=Z,488nm,19.1s,baz=96,slow=32								
BOSA	**Boshof**	**35.46**	**116**	*e*P			**P**	**09 54 15.8**	**+0.2**
	21nm,1.0s								
BDFB	**Brasilia**	**35.50**	**266**	P			**P**	**09 54 16.2**	**+0.1**
	4.7nm,0.8s,baz=88,slow=7.0,SNR=4.0								
BDFB					LR		LR	10 05 56.9	
	comp=Z,401nm,20.7s,baz=237,slow=32								
BDFB	**Brasilia**	**35.50**	**266**	P			**P**	**09 54 16.2**	**+0.1**
LSZ	**Lusaka**	**37.71**	**94**	*e*P			**P**	**09 54 35.5**	**+0.6**
	58nm,1.5s								
TAM	**Tamanrasset**	**42.34**	**23**	*e*P			**P**	**09 55 14.3**	**+1.0**
TAM					pmax		pmax		
	comp=Z,26nm,1.7s								
TAM	**Tamanrasset**	**42.34**	**23**	*e*P			**P**	**09 55 14.3**	**+1.0**
	comp=Z,26nm,1.7s								
CPUP	**Villa Florida**	**43.97**	**249**	P			**P**	**09 55 26.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=66,slow=7.1,SNR=6.1								
CPUP					LR		LR	10 10 36.7	
	comp=Z,206nm,20.2s,baz=94,slow=32								
CPUP	**Villa Florida**	**43.97**	**249**	P			**P**	**09 55 26.8**	**+0.4**
SIV	**San Ignacio**	**47.92**	**263**	P			**P**	**09 55 56.7**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=96,slow=13,SNR=5.1								
SIV	**San Ignacio**	**47.92**	**263**	P			**P**	**09 55 56.8**	**-1.0**
TRQA	**Tornquist**	**49.38**	**234**	*e*P			**P**	**09 56 07.8**	**-0.8**
	comp=Z,19nm,1.1s								
KMBO	**Kilima Mbogo**	**49.95**	**77**	*e*P			**P**	**09 56 14.7**	**+1.1**
	comp=Z,10nm,1.7s								
CFAA	**Coronel Fontan**	**53.76**	**243**	P			**P**	**09 56 40.3**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=90,slow=5.5,SNR=6.3								
CFAA	**Coronel Fontan**	**53.76**	**243**	P			**P**	**09 56 40.3**	**-1.4**
LPAZ	**La Paz**	**54.59**	**262**	P			**P**	**09 56 47.5**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=92,slow=7.2,SNR=4.5								
LPAZ					LR		LR	10 18 52.4	
	comp=Z,368nm,19.9s,baz=62,slow=35								
LPAZ	**La Paz**	**54.59**	**262**	*e*P			**P**	**09 56 47.8**	**-0.7**
EVOP	**Sao Brissos**	**54.87**	**3**	*e*P			**P**	**09 56 50.3**	**+1.0**
EVOP					pmax		pmax		
	comp=Z,49nm,1.3s								
EVOP	**Sao Brissos**	**54.87**	**3**	*e*P			**P**	**09 56 50.3**	**+1.0**
	comp=Z,49nm,1.3s								
EVO	**Evora**	**54.88**	**3**	*e*P			**P**	**09 56 50.3**	**+0.9**
	comp=Z,49nm,1.3s								
KEST	**Kesra**	**55.48**	**20**	P			**P**	**09 56 55.1**	**+1.2**
	comp=Z,10nm,1.1s,baz=180,slow=3.7,SNR=8.7								
KEST					LR		LR	10 18 55.2	
	comp=Z,71nm,19.7s,baz=206,slow=34								
KEST	**Kesra**	**55.48**	**20**	P			**P**	**09 56 55.1**	**+1.2**
LCO	**Las Campanas**	**55.87**	**246**	*e*P			**P**	**09 56 57.4**	**+0.2**
	comp=Z,30nm,1.2s								
ESDC	**Sonseca Array**	**56.34**	**7**	P			**P**	**09 57 00.5**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=189,slow=6.5,SNR=8.0								
ESDC					LR		LR	10 22 09.7	
	comp=Z,80nm,18.3s,baz=0.0,slow=37								
ESDC	**Sonseca Array**	**56.34**	**7**	P			**P**	**09 57 00.5**	**+0.6**
PLCA	**Paso Flores**	**56.36**	**232**	LR			LR	10 16 40.1	
	comp=Z,388nm,21.9s,baz=245,slow=31								
TCF	**Toulx Ste Croi**	**63.70**	**10**	*e*P			**P**	**09 57 50.0**	**-0.3**
	comp=Z,25nm,1.1s								
TCF	**Toulx Ste Croi**	**63.70**	**10**	*e*P			**P**	**09 57 50.0**	**-0.3**
TCF					pmax		pmax		
	comp=Z,25nm,1.1s								
TCF	**Toulx Ste Croi**	**63.70**	**10**	*e*P			**P**	**09 57 50.0**	**-0.3**
	comp=Z,25nm,1.1s								
LPG	**La Plagne**	**63.85**	**14**	*e*P			**P**	**09 57 52.5**	**+0.9**
	comp=Z,16nm,0.9s								
LPG	**La Plagne**	**63.85**	**14**	*e*P			**P**	**09 57 52.5**	**+0.9**
LPG					pmax		pmax		
	comp=Z,16nm,0.9s								
LPG	**La Plagne**	**63.85**	**14**	*e*P			**P**	**09 57 52.5**	**+0.9**
	comp=Z,16nm,0.9s								
LPL	**La Plagne**	**63.86**	**14**	*e*P			**P**	**09 57 52.3**	**+0.7**
LPL	**La Plagne**	**63.86**	**14**	*e*P			**P**	**09 57 52.3**	**+0.7**
LPL	**La Plagne**	**63.86**	**14**	*e*P			**P**	**09 57 52.3**	**+0.7**
EIL	**Elat**	**63.88**	**44**	LR			LR	10 23 33.9	
	comp=Z,120nm,19.4s,baz=271,slow=34								
SMF	**Signal de Mont**	**64.33**	**11**	*e*P			**P**	**09 57 54.1**	**-0.4**
SMF	**Signal de Mont**	**64.33**	**11**	*e*P			**P**	**09 57 54.1**	**-0.4**
SMF	**Signal de Mont**	**64.33**	**11**	*e*P			**P**	**09 57 54.1**	**-0.4**
AVF	**Avril sur Loir**	**64.38**	**11**	*e*P			**P**	**09 57 54.7**	**0.0**
AVF	**Avril sur Loir**	**64.38**	**11**	*e*P			**P**	**09 57 54.7**	**0.0**
AVF	**Avril sur Loir**	**64.38**	**11**	*e*P			**P**	**09 57 54.7**	**0.0**
SSF	**Saint Saulge**	**64.67**	**11**	*e*P			**P**	**09 57 56.9**	**+0.3**
SSF	**Saint Saulge**	**64.67**	**11**	*e*P			**P**	**09 57 56.9**	**+0.3**
SSF	**Saint Saulge**	**64.67**	**11**	*e*P			**P**	**09 57 56.9**	**+0.3**
CABF	**La Chapelle**	**64.75**	**13**	*e*P			**P**	**09 57 57.2**	**-0.1**
	comp=Z,26nm,1.0s								
CABF	**La Chapelle**	**64.75**	**13**	*e*P			**P**	**09 57 57.2**	**-0.1**
CABF					pmax		pmax		
	comp=Z,26nm,1.0s								
CABF	**La Chapelle**	**64.75**	**13**	*e*P			**P**	**09 57 57.2**	**-0.1**
	comp=Z,26nm,1.0s								
LOR	**Lormes**	**64.94**	**11**	*e*P			**P**	**09 57 58.4**	**0.0**
LOR	**Lormes**	**64.94**	**11**	*e*P			**P**	**09 57 58.4**	**0.0**
DAVOX	**Davos/Dischmat**	**65.81**	**16**	LR			LR	10 25 15.3	
	comp=Z,168nm,19.7s,baz=246,slow=35								
ROSC	**El Rosal**	**66.06**	**283**	LR			LR	10 24 57.2	
	comp=Z,354nm,18.2s,baz=186,slow=34								
HAU	**Haudompre**	**66.13**	**13**	*e*P			**P**	**09 58 05.9**	**-0.2**
HAU	**Haudompre**	**66.13**	**13**	*e*P			**P**	**09 58 05.9**	**-0.2**
HAU	**Haudompre**	**66.13**	**13**	*e*P			**P**	**09 58 05.9**	**-0.2**
FETA	**Feichten**	**66.26**	**16**	*i*P			**P**	**09 58 06.7**	**-0.5**
	comp=Z,19nm,2.0s								
DAVA	**Damuels**	**66.28**	**15**	*i*P			**P**	**09 58 05.9**	**-1.3**
	comp=Z,8.2nm,0.8s								
MMAI	**Mount Meron Ar**	**66.33**	**42**	LR			LR	10 26 03.6	
	comp=Z,90nm,19.8s,baz=300,slow=35								
CADS	**Cadrg**	**66.39**	**19**	*e*P			**P**	**09 58 08.3**	**+0.5**
LJU	**Ljubljana**	**66.47**	**19**	*e*P			**P**	**09 58 08.8**	**+0.5**
ASF	**Jabal al Asfar**	**66.75**	**43**	LR			LR	10 26 58.0	
	comp=Z,64nm,19.1s,baz=88,slow=36								
KBA	**Koelnbreinsper**	**67.04**	**18**	*i*P			**P**	**09 58 13.0**	**+0.9**
	comp=Z,7.5nm,1.1s								
SOKA	**Soboth**	**67.19**	**19**	*i*P			**P**	**09 58 14.0**	**+0.9**
	comp=Z,13nm,1.2s								
ARSA	**Arzberg**	**67.86**	**19**	*i*P			**P**	**09 58 17.9**	**+0.7**
	comp=Z,9.0nm,0.9s								
PKSM	**Moragy**	**68.00**	**22**	*i*P			**P**	**09 58 19.0**	**+1.0**
PKSM	**Moragy**	**68.00**	**22**	*i*P			**P**	**09 58 19.0**	**+1.0**
RAYN	**Ar Rayn**	**68.11**	**56**	*e*P			**P**	**09 58 21.5**	**+2.2**
	comp=Z,66nm,2.1s								
CONA	**Conrad Observa**	**68.56**	**19**	*i*P			**P**	**09 58 21.5**	**-0.1**
	comp=Z,23nm,1.5s								
MAW	**Mawson**	**68.68**	**157**	LR			LR	10 20 28.5	
	comp=Z,316nm,19.6s,baz=52,slow=29								
GERES	**GERESS Array B**	**68.74**	**17**	P			**P**	**09 58 22.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=186,slow=3.8,SNR=6.8								
GERES					LR		LR	10 26 42.2	
	comp=Z,148nm,18.9s,baz=255,slow=34								
GERES	**GERESS Array B**	**68.74**	**17**	P			**P**	**09 58 22.6**	**-0.1**
KHC	**Kasperske Hory**	**68.96**	**17**	*e*P			**P**	**09 58 23.8**	**-0.2**
KHC	**Kasperske Hory**	**68.96**	**17**	*e*P			**P**	**09 58 23.8**	**-0.2**
KHC				*ex*			x	09 58 36.2	
ARR	**Arges**	**69.62**	**26**	*i*P			**P**	**09 58 29.5**	**+1.3**
NKC	**Novy Kostel**	**69.66**	**16**	*e*P			**P**	**09 58 29.3**	**+1.0**
NKC	**Novy Kostel**	**69.66**	**16**	*e*P			**P**	**09 58 29.3**	**+1.0**
BRTR	**Keskin Array B**	**69.79**	**35**	P			**P**	**09 58 30.8**	**+1.3**
	comp=Z,4.8nm,0.9s,baz=201,slow=6.5,SNR=20								
BRTR					LR		LR	10 27 55.2	
	comp=Z,41nm,19.8s,baz=248,slow=35								
BRTR	**Keskin Array B**	**69.79**	**35**	P			**P**	**09 58 30.8**	**+1.3**
BR131	**Keskin Array S**	**69.79**	**35**	*e*P			**P**	**09 58 30.5**	**+1.0**
	comp=Z,27nm,1.5s								
VOIR				**69.86**	**26**	*i*P	**P**	**09 58 29.8**	**+0.1**
VOIR				**69.86**	**26**	*i*P	**P**	**09 58 29.8**	**+0.1**
PSZ	**Piszkesteto**			**69.90**	**22**	*i*P	**P**	**09 58 30.5**	**+0.6**
PSZ	**Piszkesteto**			**69.90**	**22**	*e*P	**P**	**09 58 30.5**	**+0.6**
	comp=Z,28nm,1.3s								
PSZ	**Piszkesteto**			**69.90**	**22**	*i*P	**P**	**09 58 30.5**	**+0.6**
PRU	**Pruhonice**			**70.01**	**17**	*e*P	**P**	**09 58 30.7**	**+0.3**
PRU	**Pruhonice**			**70.01**	**17**	*e*P	**P**	**09 58 30.7**	**+0.3**
VRAC	**Vranov**			**70.01**	**19**	LR	LR	10 26 31.1	
	comp=Z,103nm,20.2s,baz=228,slow=34								
VYHS	**Vyhne**			**70.03**	**21**	*e*P	**P**	**09 58 31.0**	**+0.4**
VYHS					pmax		pmax		
	comp=Z,17nm,1.4s								
VYHS	**Vyhne**			**70.03**	**21**	*e*P	**P**	**09 58 31.0**	**+0.4**
MLR	**Muntele Rosu**			**70.28**	**27**	*i*P	**P**	**09 58 32.7**	**+0.3**
BRG	**Berggiesshubel**			**70.64**	**16**	*e*(P)	P	09 58 30.2	-4.0
	comp=Z,8.9nm,1.3s								
BRG	**Berggiesshubel**			**70.64**	**16**	*e*P	P	09 58 30.2	-4.0
BRG					pmax		pmax		
	comp=Z,9.0nm,1.3s								
MORC	**Moravsky Berou**			**70.72**	**19**	*e*P	**P**	**09 58 35.0**	**+0.1**
MORC					pmax		pmax		
	comp=Z,21nm,1.5s								
MORC	**Moravsky Berou**			**70.72**	**19**	*e*P	**P**	**09 58 35.0**	**+0.1**
	comp=Z,21nm,1.5s								
DPC	**Dobruska-Polom**			**70.85**	**18**	*e*P	**P**	**09 58 35.9**	**+0.2**
DPC	**Dobruska-Polom**			**70.85**	**18**	*e*P	**P**	**09 58 35.9**	**+0.2**
DPC	**Dobruska-Polom**			**70.85**	**18**	*e*P	**P**	**09 58 35.8**	**+0.2**
UPC	**Upice**			**70.90**	**18**	*e*P	**P**	**09 58 36.3**	**+0.5**
UPC	**Upice**			**70.90**	**18**	*e*P	**P**	**09 58 36.3**	**+0.5**
UPC					*ex*		x	09 58 47.1	
VRI	**Vrincioaia**			**70.92**	**27**	*i*P	**P**	**09 58 36.5**	**+0.4**
VRI	**Vrincioaia**			**70.92**	**27**	*i*P	**P**	**09 58 36.5**	**+0.4**
OKC	**Ostrava-Krasne**			**70.97**	**20**	*e*P	**P**	**09 58 36.7**	**+0.4**
OKC	**Ostrava-Krasne**			**70.97**	**20**	*e*P	**P**	**09 58 36.7**	**+0.4**
CRVS	**Cervenica-Dubn**			**71.29**	**22**	*e*P	**P**	**09 58 39.2**	**+0.9**
CRVS					pmax		pmax		
	comp=Z,21nm,1.5s								
CRVS	**Cervenica-Dubn**			**71.29**	**22**	*e*P	**P**	**09 58 39.2**	**+0.9**
UZH	**Uzhgorod**			**71.37**	**23**	*c i*P	**P**	**09 58 39.0**	**+0.3**
UZH					*e*			09 58 51.7	
KOLS	**Kolonicke sedl**			**71.61**	**22**	*e*P	**P**	**09 58 41.4**	**+1.2**
KOLS					pmax		pmax		
	comp=Z,21nm,1.7s								
KOLS	**Kolonicke sedl**			**71.61**	**22**	*e*P	**P**	**09 58 41.4**	**+1.2**
OJC	**Ojcow**			**71.83**	**20**	*e*P	**P**	**09 58 41.7**	**+0.1**
OJC					pmax		pmax		
	comp=Z,45nm,1.7s								
OJC	**Ojcow**			**71.83**	**20**	*e*P	**P**	**09 58 41.6**	**+0.1**
	comp=Z,45nm,1.7s								
OJC	**Ojcow

comp=Z,2.0nm,0.9s,baz=249,slow=4.3,SNR=8.3
AKTO LR LR 10 45 04.6
comp=Z,49nm,18.3s,baz=260,slow=38
AKTO Aktyubinsk 89.92 37 P **P 10 00 18.9 +0.9**
AKTO Aktyubinsk 89.92 37 P **P 10 00 18.9 +0.9**
LVZ Lovozero 90.50 16⇓*eP* **P 10 00 21.1 +0.7**
LVZ pmax pmax
comp=Z,32nm,1.2s
ABKAR Akbulak array 90.54 38 *eP* **P 10 00 21.0 +0.1**
ARU Arti 92.86 31 *d iP* **P 10 00 31.3 -0.2**
ARU 10 04 12.4
ARU S **SKSac 10 11 04.5 -0.7**
ARU SS **SS 10 17 45.9 -5.0**
ARU pmax pmax
comp=Z,9.0nm,1.7s
SPITS Spitsbergen Ar 95.84 5 LR LR 10 44 16.1
comp=Z,64nm,19.9s,baz=160,slow=36
BVAR Borovoye Array 98.02 37 LR LR 10 46 11.5
comp=Z,54nm,19.7s,baz=121,slow=36
KSH Kashi 98.11 51 *eP* **P 10 00 54.8 -1.2**
KSH epP **pP 10 00 59.3 -0.1**
KSH esP **sP 10 01 01.2 +0.6**
KSH *e*PP **PP 10 04 54.9 -0.6**
KSH SKS **SKSac 10 11 30.8 -3.4**
KSH S S 10 12 16.3 -7.2
KSH sS **ScS 10 12 24.3 +0.6**
KSH SS **SS 10 19 00.7 -5.8**
KSH pmax pmax
comp=Z,100nm,4.4s
KSH LR LR
comp=N,680nm,11.7s
KSH LR LR
comp=E,390nm,12.1s
KSH LR LR
comp=Z,230nm,7.8s
PV04 Paradox Valley 106.16 306 *e*Pdif **Pdif 10 01 39.7 +7.7**
KMI Kunming 118.05 70 PKP **PKPdf 10 06 06.5 -0.3**
KMI PP **PP 10 07 26.2 +4.5**
KMI AMB AMB
comp=Z,60nm,3.1s
KMI LR LR
comp=Z,60nm,24.9s
CD2 Chengdu 119.38 64 PKP **PKPdf 10 06 08.1 -0.9**
CD2 PP **PP 10 07 34.4 +3.9**
CD2 PKS **PKSdf 10 09 43.5 -2.3**
CD2 SKS **SKSdf 10 13 17.9 -3.6**
CD2 SKKS **SKKSac 10 14 25.6 -5.4**
CD2 AMB AMB
comp=Z,220nm,6.5s
CD2 LR LR
comp=E,220nm,5.9s
CD2 LR LR
comp=Z,200nm,6.0s
LZH Lanzhou 119.54 58 *e*PKP **PKPdf 10 06 06.5 -2.8**
SONM Songino Array 120.47 44 PKP **PKPdf 10 06 10.9 +0.2**
comp=Z,0.5nm,0.7s,baz=239,slow=2.9,SNR=5.0
SONM Songino Array 120.47 44 PKP **PKPdf 10 06 10.9 +0.2**
GYA Guiyang 121.69 69 Pdif **Pdif 10 02 41.0 -0.2**
GYA PKP **PKPdf 10 06 13.4 -0.3**
GYA PP **PP 10 07 50.7 +4.1**
GYA PKS **PKSdf 10 09 48.3 -2.3**
GYA SKKS 10 14 41.2
GYA SS **SS 10 24 24.0 +0.3**
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=N,120nm,20.8s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,130nm,22.0s
HHC Hu-ho-hao-te 125.22 51 *e*PKP **PKPdf 10 06 19.2 -0.8**
HHC PP **PP 10 08 13.2 +3.4**
HHC PKS **PKSdf 10 09 54.8 -1.9**
HHC SKS **SKSdf 10 13 30.0 -2.2**
HHC SKKS **SKKSac 10 15 05.6 -2.9**
HHC SS **SS 10 25 09.4 +1.9**
HHC AMB AMB
comp=Z,100nm,7.1s
HHC LR LR
comp=N,140nm,19.4s
HHC LR LR
comp=E,120nm,18.3s
HHC LR LR
comp=Z,170nm,19.2s
NJ2 Nanjing 132.22 62 *e*PKP PKPdf 10 06 28.1 -5.3
NJ2 sPKP 10 06 42.1
NJ2 PP **PP 10 08 54.5 -1.4**
NJ2 AMB AMB
comp=Z,160nm,6.8s
NJ2 LR LR
comp=N,130nm,21.4s
NJ2 LR LR
comp=E,80nm,23.9s
NJ2 LR LR
comp=Z,170nm,22.6s
CN2 Changchun 134.35 44 *e*PKP **PKPdf 10 06 39.3 +2.2**
MDJ Mudanjiang 136.71 41 PKP **PKPdf 10 06 41.0 -0.5**
MDJ AMB AMB
comp=Z,100nm,6.6s
MAJO Matsushiro 146.28 48 *e*PKP2 **PKPdf 10 06 59.1 +0.2**
MAJO Matsushiro 146.28 48 *e*PKPdf **PKPdf 10 06 59.1 +0.2**
MJAR Matsushiro Arr 146.28 48 PKPbc **PKPbc 10 07 00.1 +0.1**
comp=Z,5.6nm,1.0s,baz=280,slow=5.0,SNR=15
MJAR Matsushiro Arr 146.28 48 PKPbc **PKPbc 10 07 00.1 +0.1**

IDC 09 09:58:23.2±1.9, 0.71°S×133.20°E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=79.6km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.81**	**203**	P	P	10 02 44.0	-0.5
	0.2nm,0.3s,baz=37,slow=11,SNR=5.4						
WRA	**Warramunga Ar**	**19.14**	**177**	P	Pn	10 02 48.8	-0.3
	0.3nm,0.3s,baz=356,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	10 03 28.5	+0.4
	1.3nm,0.3s,baz=358,slow=12,SNR=40						
STKA	**Stephens Creek**	**32.00**	**166**	P	P	10 04 50.7	-0.6
	0.6nm,0.3s,baz=11,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**64.30**	**324**	P	P	10 09 04.5	0.0
	0.4nm,0.4s,baz=113,slow=7.6,SNR=7.5						

IDC 09 10:01:03.1±1.4, 27.71°N×143.01°E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=32.8km s-min=17.2km az=93.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.96**	**230**	Pn	Pn	10 01 23.9	+0.1
	31nm,0.3s,baz=245,slow=18,SNR=19						
CBIJ				Sn	Sn	10 01 38.5	+0.4
	58nm,0.3s,baz=261,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**9.70**	**336**	Pn	Pn	10 03 23.5	-0.4
	0.4nm,0.3s,baz=143,slow=12,SNR=5.0						
SONM	**Songino Array**	**34.79**	**315**	P	P	10 07 55.5	0.0
	0.4nm,0.8s,baz=122,slow=7.0,SNR=2.8						
WRA	**Warramunga Ar**	**48.11**	**191**	P	P	10 09 44.1	-0.7
	1.9nm,0.7s,baz=12,slow=8.4,SNR=12						
FITZ	**Fitzroy Crossi**	**48.55**	**202**	P	P	10 09 49.5	+1.3
	1.5nm,0.9s,baz=0.0,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**50.66**	**309**	P	P	10 10 03.3	-0.8
	0.1nm,0.3s,baz=82,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**51.83**	**191**	P	P	10 10 12.2	-0.9
	0.1nm,0.4s,baz=5.0,slow=6.3,SNR=4.8						
BVAR	**Borovoye Array**	**58.09**	**317**	P	P	10 10 58.6	+0.5
	0.5nm,0.4s,baz=88,slow=8.4,SNR=4.7						

*CSEM **09** 10:13:49.2, 36.33°N×31.89°E, h32km, MD3.4, After ISK*
ISK 09 10:13:49.2, 36.33°N×31.89°E, h32km, MD3.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**1.15**	**300**	*e*PN	Pb	10 14 10.0	-0.5
ANTB				*e*SN	Sn	10 14 23.9	+0.3
ANTB	**Antalya**	**1.15**	**300**	*e*Pn	Pb	10 14 10.0	-0.5
ANTB				*e*Sn	Sn	10 14 23.9	+0.2
LEF	**Lefka**	**1.45**	**146**	*e*PN	Pn	10 14 13.5	+0.2
LEF				*e*SN	Sn	10 14 31.4	+0.3
LEF	**Lefka**	**1.45**	**146**	*e*Pn	Pn	10 14 13.5	+0.3
LEF				*e*Sn	Sn	10 14 31.4	+0.3
LFK	**Lefkose**	**1.69**	**128**	*e*PN	Pn	10 14 17.9	+1.2
LFK	**Lefkose**	**1.69**	**128**	*e*Pn	Pn	10 14 17.9	+1.3
MERS	**Mersin**	**2.19**	**75**	*e*PN	Pn	10 14 24.3	+0.9
MERS	**Mersin**	**2.19**	**75**	*e*Pn	Pn	10 14 24.3	+0.9
KOZT	**Kozan**	**3.36**	**69**	*e*PN	Pn	10 14 40.8	+1.4
KOZT	**Kozan**	**3.36**	**69**	*e*Pn	Pn	10 14 40.8	+1.3

*CSEM **09** 10:13:59.7±0.4, 34.41°N×34.29°E, h2km, Mw3.7, Error ellipse: s-maj=12.7km s-min=6.2km az=25.0*
*NIC **09** 10:14:01.7±0.3, 34.53°N×34.35°E, h39km, ML3.1, MW3.7*
*ISCJB **09** 10:14:02.1±0.8, 34.48N±0.07°×34.31°E±0.06, h29km, Error ellipse: s-maj=10.6km s-min=6.2km az=23.8*
ISC 09 10:14:01.4±1.1, 34.46N±0.05°×34.29E±0.04, h29km, n26, σ1$30/34, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.58**	**339**	P	**Pb**	**10 14 12.7**	**-0.4**
	13nm,0.2s						
PHNC				S	**Sn**	**10 14 21.9**	**-0.4**
PHNC	**Paralimni**	**0.58**	**339**	P	**Pb**	**10 14 12.7**	**-0.4**
	13nm,0.2s						
PHNC				S	**Sn**	**10 14 21.9**	**-0.4**
CSS	**Prodhromos**	**0.94**	**303**	P	**Pb**	**10 14 18.2**	**-0.9**
	2.5nm,0.3s						
CSS				S	**Sb**	**10 14 31.2**	**+0.1**
CSS	**Prodhromos**	**0.94**	**303**	*e*PN	**Pb**	**10 14 18.4**	**-0.7**
CSS	**Prodhromos**	**0.94**	**303**	*e*Pn	**Pb**	**10 14 18.4**	**-0.7**
CSS	**Prodhromos**	**0.94**	**303**	P	**Pb**	**10 14 18.2**	**-0.9**
	2.5nm,0.3s						
CSS				S	**Sb**	**10 14 31.2**	**+0.1**
EREN	**Erenkoy**	**1.07**	**355**	*e*PN	**Pb**	**10 14 21.8**	**+0.5**
EREN	**Erenkoy**	**1.07**	**355**	*e*Pn	**Pb**	**10 14 21.8**	**+0.5**
MAMC	**Mammari**	**1.13**	**309**	P	**Pb**	**10 14 21.5**	**-0.8**
MAMC	**Mammari**	**1.13**	**309**	P	**Pb**	**10 14 21.5**	**-0.8**
SZAC	**Souni-Zanaja**	**1.20**	**285**	P	**Pb**	**10 14 22.7**	**-0.8**
	3.8nm,0.4s						
SZAC				S	**Sb**	**10 14 38.8**	**+0.2**
SZAC	**Souni-Zanaja**	**1.20**	**285**	P	**Pb**	**10 14 22.7**	**-0.8**
	3.8nm,0.4s						
SZAC				S	**Sb**	**10 14 38.8**	**+0.2**
HWQ	**Hawqa**	**1.38**	**97**	*e*P	**Pb**	**10 14 24.4**	**-2.3**
HWQ	**Hawqa**	**1.38**	**97**	*e*P	**Pb**	**10 14 24.4**	**-2.3**
ALFC	**Alevga**	**1.56**	**297**	P	**Pb**	**10 14 28.4**	**-1.2**
	2.4nm,0.2s						
ALFC				S	**Sb**	**10 14 50.4**	**+1.5**
ALFC	**Alevga**	**1.56**	**297**	P	**Pb**	**10 14 28.4**	**-1.2**
	2.4nm,0.2s						
ALFC				S	**Sb**	**10 14 50.4**	**+1.5**
RCY	**Rachaya**	**1.60**	**126**	*e*P	**Pb**	**10 14 30.6**	**+0.1**
RCY	**Rachaya**	**1.60**	**126**	*e*P	**Pb**	**10 14 30.6**	**+0.1**
PPCY	**Paphos**	**1.66**	**285**	P	**Pb**	**10 14 30.1**	**-1.2**
PPCY	**Paphos**	**1.66**	**285**	P	**Pb**	**10 14 30.1**	**-1.2**
GAZI	**Gazipasa**	**2.40**	**318**	*i* P	**Pn**	**10 14 39.2**	**+0.5**
GAZI	**Gazipasa**	**2.40**	**318**	*i* P	**Pn**	**10 14 39.2**	**+0.5**
ERMK	**Ermenek**	**2.45**	**333**	*i* P	**Pb**	**10 14 41.7**	**-3.2**
ERMK	**Ermenek**	**2.45**	**333**	*i* P	**Pb**	**10 14 41.7**	**-3.2**
GULE	**Gulek**	**2.84**	**8**	*i* P	**Pn**	**10 14 46.6**	**+1.6**
GULE	**Gulek**	**2.84**	**8**	*i* P	**Pn**	**10 14 46.6**	**+1.6**

MEX 09 10:36:23.0±1.0, 16.08N×98.15W, h8km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**4**	*i* P	Pg	10 36 29.5	+0.2
PNIG				*i* S	Sg	10 36 33.0	-0.5
VHO	**Vista Hermosa**	**1.68**	**54**	*i* P	Pn	10 36 49.5	-3.5
VHO				*i* S	Sn	10 37 10.7	-4.3
HUIG	**Huatulco**	**1.99**	**99**	*i* P	Pb	10 36 58.9	-0.6
HUIG				*i* S	Sn	10 37 19.9	-2.2
CAIG	**El Cayaco**	**2.25**	**296**	*i* P	Pn	10 36 56.3	-4.2
CAIG				*i* S	Sn	10 37 24.9	-3.6
MEIG	**Mezcala**	**2.31**	**323**	*e*P	Pn	10 36 57.6	-3.9
MEIG				*i* S	Sn	10 37 26.3	-4.0
PLIG	**Platanillo**	**2.64**	**331**	*i* P	Pn	10 37 02.5	-3.6
PLIG				*e*S	Sn	10 37 34.4	-4.0
YAIG	**Yautepec**	**2.90**	**343**	*i* P	Pn	10 37 06.4	-3.4
YAIG				*i* S	Sn	10 37 41.0	-4.1
PPM	**Popocatepetl**	**3.01**	**351**	*i* P	Pn	10 37 09.2	-2.5
PPM				*i* S	Sn	10 37 42.5	-5.9
ARIG	**Puente Sto Nin**	**3.03**	**317**	*i* P	Pn	10 37 09.2	-2.2
ARIG				*i* S	Sn	10 37 44.4	-3.6

IDC 09 10:40:36.6±2.2, 4.52N×127.42E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=168.5km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.24**	**165**	P	P	10 46 02.6	-1.9
	0.4nm,0.6s,baz=344,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**28.72**	**168**	P	P	10 46 37.7	+1.8
	0.3nm,1.0s,baz=354,slow=7.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	10 50 26.3	-0.1
	0.2nm,0.4s,baz=120,slow=7.5,SNR=8.6						

*ISCJB **09** 11:06:09.9±0.6, 24.53N±0.03°×122.35E±0.02, h79km±6km, Error ellipse: s-maj=5.5km s-min=2.9km az=168.1*
*TAP **09** 11:06:09.7, 24.58N×122.34E, h81km±1km, ML3.4, D*
*JMA **09** 11:06:09.6±0.2, 24.67N×122.38E, h85km, M2.5*
ISC 09 11:06:10.5±1.4, 24.52N±0.05°×122.34E±0.03, h76km±10km, n41, σ0°78/78, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.46**	**282**	⇓P	**Pn**	**11 06 23.3**	**-0.2**
	baz=273						
TWC				*e*S	**Sn**	**11 06 33.2**	**+0.2**
	baz=273						
ENA	**Nanau**	**0.56**	**261**	*i* P	**Pn**	**11 06 24.5**	**+0.2**
	baz=253						
ENA				*e*S	**Sn**	**11 06 35.3**	**+0.7**
	baz=253						
TWB1	**Santiao Chiao**	**0.59**	**327**	P	**Pn**	**11 06 24.0**	**-0.6**
	baz=323						
TWB1				S	**Sn**	**11 06 34.7**	**-0.4**
	baz=323						
ILA	**Ilan**	**0.59**	**295**	*e*P	**Pn**	**11 06 24.6**	**-0.1**
	baz=288						
ILA				*e*S	**Sn**	**11 06 35.3**	**+0.1**
	baz=288						
YOJ	**Yonaguni jima**	**0.61**	**95**	P	**Pn**	**11 06 25.0**	**+0.1**
YOJ				*e*S	**Sn**	**11 06 36.4**	**+0.8**
TWE	**Neicheng**	**0.65**	**289**	⇓*i*P	**Pn**	**11 06 25.2**	**-0.1**
	baz=282						
TWE				*i* S	**Sn**	**11 06 36.4**	**+0.2**
	baz=282						
ENTT	**Nioudou**	**0.72**	**280**	P	**Pn**	**11 06 26.3**	**+0.3**
	baz=274						
ENTT				*e*S	**Sn**	**11 06 38.2**	**+0.6**
	baz=274						
NWF	**Wu-fen Shan**	**0.75**	**317**	*i* P	**Pn**	**11 06 25.9**	**-0.6**
	baz=313						
NWF				S	**Sn**	**11 06 37.8**	**-0.6**
	baz=313						
TWD	**Chiawan**	**0.81**	**238**	P	**Pn**	**11 06 26.8**	**-0.2**
	baz=233						
TWD				*e*S	**Sn**	**11 06 40.2**	**+0.9**
	baz=233						
HWA	**Hwalien**	**0.86**	**232**	*e*P	**Pn**	**11 06 27.4**	**-0.2**
	baz=227						
HWA				*e*S	**Sn**	**11 06 41.1**	**+0.8**
	baz=227						
NNS	**Nan Shan**	**0.89**	**265**	P	**Pn**	**11 06 27.9**	**-0.1**
	baz=260						
NNS				S	**Sn**	**11 06 41.1**	**0.0**
	baz=260						
NSK	**Sanguang**	**0.91**	**280**	⇓*i*P	**Pn**	**11 06 28.1**	**-0.2**
	baz=275						
NSK				S	**Sn**	**11 06 41.6**	**0.0**
	baz=275						
TWS1	**Kuangyinshan**	**1.02**	**305**	P	**Pn**	**11 06 28.8**	**-0.8**
	baz=301						
TWS1				S	**Sn**	**11 06 43.0**	**-0.8**
	baz=301						
WHF	**Hehuan Shan**	**1.05**	**250**	P	**Pn**	**11 06 30.2**	**-0.2**
	baz=245						
WHF				*e*S	**Sn**	**11 06 45.1**	**0.0**
	baz=245						
ESL	**Shilin**	**1.09**	**230**	*e*P	**Pn**	**11 06 29.6**	**-0.7**
	baz=226						
ESL				*e*S	**Sn**	**11 06 44.6**	**-0.6**
	baz=226						
TWT	**Tachien**	**1.10**	**256**	⇓*i*P	**Pn**	**11 06 31.1**	**+0.5**
	baz=252						
TWT				S	**Sn**	**11 06 46.4**	**+0.7**
	baz=252						
NCU	**National Centr**	**1.14**	**294**	*e*P	**Pn**	**11 06 30.9**	**-0.2**
	baz=290						
NCU				*e*S	**Sn**	**11 06 47.0**	**+0.5**
	baz=290						
NSTT	**Nanjuang**	**1.23**	**276**	P	**Pn**	**11 06 31.7**	**-0.4**
	baz=272						
NSTT				*e*S	**Sn**	**11 06 48.0**	**-0.4**
	baz=272						
IRIF	**Iriomote-Funau**	**1.28**	**98**	P	**Pn**	**11 06 32.3**	**-0.4**
IRIF				S	**Sn**	**11 06 49.7**	**+0.2**
EHY	**Hungye**	**1.37**	**223**	*e*P	**Pn**	**11 06 33.2**	**-0.8**
	baz=220						
EHY				*e*S	**Sn**	**11 06 50.3**	**-1.4**
	baz=220						
HATJ	**Hateruma jima**	**1.41**	**109**	P	**Pn**	**11 06 34.7**	**+0.3**
HATJ				*e*S	**Sn**	**11 06 54.0**	**+1.5**
TWQ1	**Liyutan**	**1.44**	**264**	*e*P	**Pn**	**11 06 34.7**	**-0.2**
	baz=260						
TWQ1				*e*S	**Sn**	**11 06 53.3**	**+0.1**
	baz=260						
NSY	**Sanyi**	**1.45**	**266**	*e*P	**Pn**	**11 06 34.3**	**-0.7**
	baz=263						
NSY				*e*S	**Sn**	**11 06 53.8**	**+0.4**
	baz=263						
SMLT	**Sun Moon Lake**	**1.46**	**245**	P	**Pn**	**11 06 35.4**	**+0.2**
	baz=241						
SMLT				*e*S	**Sn**	**11 06 54.2**	**+0.3**
	baz=241						
TYC	**Yuchr**	**1.49**	**246**	P	**Pn**	**11 06 36.1**	**+0.7**
	baz=243						
TYC				S	**Sn**	**11 06 55.1**	**+0.8**
	baz=243						
TWF1	**Yuli**	**1.50**	**220**	*e*P	**Pn**	**11 06 34.8**	**-0.9**
	baz=217						
TWF1				*e*S	**Sn**	**11 06 54.0**	**-0.7**
	baz=217						
JKRS	**Kuro-shima**	**1.54**	**100**	P	**Pn**	**11 06 36.4**	**+0.2**
JKRS				*e*S	**Sn**	**11 06 56.2**	**+0.5**
TCU	**Taichung**	**1.56**	**257**	*e*S	**Sn**	**11 06 55.7**	**-0.4**
	baz=253						
JIJ	**Ishigaki jima**	**1.65**	**95**	P	**Pn**	**11 06 37.0**	**-0.6**
JIJ				S	**Sn**	**11 06 57.0**	**-1.1**
CHKT	**Chengkung**	**1.67**	**213**	*e*P	**Pn**	**11 06 37.0**	**-0.9**
	baz=210						
CHKT				*e*S	**Sn**	**11 06 57.2**	**-1.4**
	baz=210						
CHN5	**Tsauling**	**1.78**	**239**	P	**Pn**	**11 06 40.1**	**+0.7**
	baz=237						
CHN5				S	**Sn**	**11 07 02.7**	**+1.4**
	baz=237						
ELDTW	**Lidau**	**1.79**	**223**	*e*P	**Pn**	**11 06 38.9**	**-0.7**
	baz=220						
ELDTW				*e*S	**Sn**	**11 07 00.6**	**-1.1**
	baz=220						
CHN4	**Tsaushan**	**1.98**	**234**	*e*P	**Pn**	**11 06 42.9**	**+0.9**
	baz=232						
CHN4				*e*S	**Sn**	**11 07 06.9**	**+1.0**
	baz=232						
WTP	**Ta-pu**	**2.02**	**232**	*e*P	**Pn**	**11 06 43.4**	**+0.7**
	baz=229						
WTP				*e*S	**Sn**	**11 07 08.2**	**+1.0**
	baz=229						
CHY	**Chiayi**	**2.03**	**240**	*e*S	**Sn**	**11 07 08.0**	**+0.9**
	baz=238						
TWG	**Pinlang**	**2.05**	**215**	*e*P	**Pn**	**11 06 41.5**	**-1.4**
	baz=213						
TWG				*e*S	**Sn**	**11 07 06.0**	**-1.7**
	baz=213						
TWK	**Hsinying**	**2.10**	**234**	*e*P	**Pn**	**11 06 45.1**	**+1.4**
	baz=232						
TWK				*e*S	**Sn**	**11 07 10.2**	**+1.2**
	baz=232						
CHN1	**Nanshi**	**2.12**	**232**	*e*P	**Pn**	**11 06 44.8**	**+0.9**
	baz=230						
CHN1				*e*S	**Sn**	**11 07 10.9**	**+1.3**
	baz=230						
JTJ	**Tarama**	**2.15**	**86**	P	**Pn**	**11 06 44.6**	**+0.3**
JTJ				*e*S	**Sn**	**11 07 10.1**	**0.0**
SGST	**Jiashian**	**2.15**	**229**	*e*S	**Sn**	**11 07 11.8**	**+1.6**
	baz=227						
ECL	**Taimali**	**2.30**	**214**	*e*S	**Sn**	**11 07 12.0**	**-1.6**
	baz=212						

*ISCJB **09** 11:06:14.3±1.1, 51.76N±0.05°×176.25E±0.03, h26km±8km, mb4.5/74, MS3.8/22, Error ellipse: s-maj=9.1km s-min=3.5km az=1.5*
*MOS **09** 11:06:15.7±1.3, 51.88N×176.17E, h33km, mb4.7/35, Error ellipse: s-maj=9.7km s-min=7.0km az=115.4*
*NEIC **09** 11:06:16.3±1.4, 51.72N×176.25E, h28km±10km, mb4.7/29, ML4.3(AEIC), Error ellipse: s-maj=8.3km s-min=3.8km az=179.0*
*IDC **09** 11:06:17.5±2.2, 51.79N×176.30E, h36km±17km, mb3.9/28, mb1 4.1/31, mb1mx4.1/37, mbtmp4.0/31, ML4.4/3, MS3.7/17, Ms1 3.7/17, ms1mx3.4/53, Error ellipse: s-maj=17.5km s-min=9.3km az=163.0*
*BJI **09** 11:06:21.8, 52.75N×175.28E, h42km, mB5.0/21, mb4.7/30, Ms4.6/15, Ms7 4.3/14*
ISC 09 11:06:17.6±0.5, 51.86N±0.07°×176.19E±0.03, h35km±1km, h34km:pP-P, n198, σ1$43/220, mb4.5/74, MS3.8/22, 11C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.55**	**305**	P	**Pn**	**11 06 42.4**	**-0.3**
SMY				S	**Sb**	**11 07 04.2**	**-0.8**
SMY	**Shemya**	**1.55**	**305**	P	**Pn**	**11 06 42.4**	**-0.3**
SMY				S	**Sb**	**11 07 04.2**	**-0.8**
FX1	**Attu Island--F**	**2.12**	**300**	Pn	**Pn**	**11 06 50.2**	**-0.2**
	593nm,0.3s,baz=179,slow=5.2,SNR=1080						
FX1				Sn	**Sb**	**11 07 19.4**	**-1.8**
	824nm,0.3s,baz=247,slow=21,SNR=8.6						
FX1	**Attu Island--F**	**2.12**	**300**	*e*Pn	**Pn**	**11 06 50.3**	**-0.2**
FX1				*e*Sn	**Sn**	**11 07 18.1**	**+2.5**
FX1				Sn	**Sb**	**11 07 19.4**	**-1.8**
GANE	**Gareloi Northe**	**3.12**	**89**	P	**Pn**	**11 07 02.0**	**-2.3**
GANE				S	**Sn**	**11 07 39.0**	**-1.4**
GAEA	**Gareloi East**	**3.15**	**89**	P	**Pn**	**11 07 02.9**	**-1.7**
GAEA				S	**Sn**	**11 07 42.0**	**+1.1**
TASE	**Tanaga Southea**	**3.58**	**88**	P	**Pn**	**11 07 09.1**	**-1.6**
TAFP	**Tanaga Falls P**	**3.61**	**87**	P	**Pn**	**11 07 09.1**	**-1.9**
TAPA	**Tanaga Point A**	**3.72**	**88**	P	**Pn**	**11 07 11.0**	**-1.6**
ETKA	**Kagalaska Isla**	**4.59**	**87**	P	**Pn**	**11 07 23.4**	**-1.1**
GSCK	**Great Sitkin C**	**4.74**	**85**	P	**Pn**	**11 07 26.0**	**-0.5**
GSCK				S	**Sn**	**11 08 20.7**	**+0.5**
GSTR	**Great Sitkin T**	**4.80**	**84**	Pn	**Pn**	**11 07 25.5**	**-1.9**
GSMY	**Great Sitkin M**	**4.80**	**85**	P	**Pn**	**11 07 26.3**	**-1.1**
KOSE	**Korovin Southe**	**6.04**	**82**	P	**Pn**	**11 07 42.1**	**-2.2**
UNV	**Unalaska Valle**	**10.66**	**72**	*e*Pn	**Pn**	**11 08 46.8**	**-0.8**
PET	**Petropavlovsk**	**10.77**	**283**	*e*P	**Pn**	**11 08 50.0**	**+0.9**
PET				*e*S	**Sn**	**11 10 44.7**	**-3.6**
PET				pmax	pmax		
	comp=Z,17nm,0.8s						
PET				smax	smax		
	comp=E,48nm,1.0s						
PET				smax	smax		
	comp=N,40nm,1.2s						
PEA0B	**Petropavlovsk-**	**11.34**	**284**	*e*Pn	**Pn**	**11 08 58.0**	**+1.0**
PEA0B				*e*Sn	**Sn**	**11 11 00.1**	**-2.3**
PETK	**Petropavlovsk-**	**11.34**	**284**	Pn	**Pn**	**11 08 57.8**	**+0.8**
	comp=N,0.7nm,0.3s,baz=337,slow=7.2,SNR=4.3						
PETK				Sn	**Sn**	**11 10 59.1**	**-3.3**
	comp=N,1.6nm,0.3s,baz=83,slow=5.4,SNR=6.4						
PETK				LR	LR	11 13 22.6	
	comp=N,133nm,18.8s,baz=330,slow=37						
PETK	**Petropavlovsk-**	**11.34**	**284**	P	**Pn**	**11 08 57.8**	**+0.8**
PETK						11 10 59.1	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.34**	**284**	Pn	**Pn**	**11 08 57.8**	**+0.8**
PETK				Sn	**Sn**	**11 10 59.1**	**-3.3**
SKR	**Severo-Kuril's**	**12.62**	**273**	*e*P	**Pn**

SKR pmax pmax
comp=Z,80nm,0.5s
TNA Tin City 15.95 24 *e*Pn **P** **11 10 02.0 -0.2**
SEY Seymchan 16.84 320⇑ *e*P **Pn** **11 10 10.3 0.0**
BILL Bilibino 16.93 347 *e*P **P** **11 10 13.1 -0.1**
BILL pmax pmax
comp=Z,16nm,1.1s
BILL Bilibino 16.93 347 *e*Pn **P** **11 10 13.1 -0.1**
comp=Z,16nm,1.1s
KDAK Kodiak Island 18.83 59 P **P** **11 10 32.7 -1.4**
comp=Z,1.0nm,0.3s,baz=291,slow=13,SNR=21
KDAK Kodiak Island 18.83 59 P **P** **11 10 32.6 -1.4**
RSO Redoubt South 19.16 51 *e*P **Pn** **11 10 39.1 +0.2**
SPU Mount Spurr 19.66 49 *e*P **Pn** **11 10 45.2 +0.5**
RC01 Rabbit Creek A 20.73 50 *e*P **P** **11 10 55.6 +0.7**
comp=Z,30nm,0.7s
TRF Thorofare Moun 21.07 44 *e*P P 11 11 04.2 +5.5
comp=Z,20nm,1.0s
PMR Palmer 21.12 49 *e*P **P** **11 10 59.6 +0.7**
PMR pmax pmax
comp=Z,185nm,2.6s
PMR Palmer 21.12 49 *e*P **P** **11 10 59.6 +0.7**
comp=Z,185nm,2.6s
YUK Yuzh-Kuril'sk 21.65 261 P **P** **11 11 03.8 -0.9**
YUK *e* 11 11 22.6
YUK *e*S **S** **11 15 00.0 -2.4**
YUK pmax pmax
comp=Z,75nm,6.8s
YSS Yuzh-Sakhalins 22.18 271 *e*P **P** **11 11 14.0 +3.6**
YSS *e* 11 11 21.0
YSS Yuzh-Sakhalins 22.18 271 *e*P **P** **11 11 09.0 -1.4**
comp=Z,25nm,0.8s
COLA College 22.53 41 *e*P **P** **11 11 16.1 +2.1**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 22.53 41 *e*P **P** **11 11 16.1 +2.1**
comp=Z,13nm,0.9s
COLD Coldfoot 22.54 34 *e*P P 11 11 20.1 +6.0
comp=Z,35nm,1.9s
DIV Divide 22.64 51 *e*P **P** **11 11 18.4 +3.0**
comp=Z,25nm,1.0s
ILAR Eielson Array 22.89 41 P **P** **11 11 18.4 +0.5**
comp=Z,1.3nm,0.6s,baz=249,slow=7.6,SNR=17
ILAR Eielson Array 22.89 41 P **P** **11 11 18.4 +0.5**
PAX Paxson 23.07 46 *e*P **P** **11 11 20.1 +0.3**
PAX pmax pmax
comp=Z,22nm,0.9s
PAX Paxson 23.07 46 *e*P **P** **11 11 20.1 +0.3**
comp=Z,22nm,0.9s
BMRM Bremner River 23.19 52 *e*P **P** **11 11 21.3 +0.3**
comp=Z,22nm,0.7s
ASAJ Asahikawa 23.61 264 P **P** **11 11 26.6 +1.4**
comp=Z,18nm,0.8s,baz=78,slow=5.3,SNR=9.8
ASAJ Asahikawa 23.61 264 *e*P **P** **11 11 26.6 +1.4**
comp=Z,12nm,1.0s
DOT Dot Lake 23.82 45 *e*P **P** **11 11 30.9 +3.8**
comp=Z,9.8nm,0.8s
MENT Mentasta 23.85 47 *e*P **P** **11 11 28.4 +1.0**
DAWY Dawson 25.93 45 *e*P **P** **11 11 47.2 +0.9**
HABR Khabarovsk 26.32 279 *e*P **P** **11 11 48.5 -1.3**
HABR *e**SP **sP** **11 12 03.7 -0.1**
HABR *e*PPP PPP 11 12 35.9
HABR *e* 11 15 13.4
HABR *e*S **S** **11 16 18.9 -1.2**
HABR *e**SS **sS** **11 16 36.5 +0.1**
HABR *e*SSS SSS 11 17 34.5
HABR *e* 11 22 39.8
HABR pmax pmax
comp=N,60nm,2.1s
HABR pmax pmax
comp=E,122nm,3.1s
HABR pmax pmax
comp=Z,32nm,1.6s
YAK Yakutsk 26.74 311 *e*P **P** **11 11 51.3 -2.2**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=E,12nm,1.2s
YAK Yakutsk 26.74 311 *e*P **P** **11 11 52.6 -0.9**
comp=E,40nm,0.8s
YAK *e*pP **pP** **11 11 59.9 -3.4**
KLR Kul'dur 28.03 282 *e*P P 11 12 00.0 -5.2
INK Inuvik 28.89 36 P **P** **11 12 13.4 +0.8**
comp=E,0.4nm,0.5s,baz=193,slow=7.0,SNR=1.7
INK LR LR 11 25 38.4
comp=E,101nm,20.6s,baz=302,slow=40
INK Inuvik 28.89 36 P **P** **11 12 13.4 +0.8**
USRK Ussuriysk Arra 30.13 273 P **P** **11 12 24.1 +0.2**
comp=E,3.5nm,0.8s,baz=48,slow=4.8,SNR=6.9
MJAR Matsushiro Arr 30.82 255 P **P** **11 12 31.6 +1.5**
comp=E,0.6nm,0.5s,baz=49,slow=6.2,SNR=5.2
MJAR Matsushiro Arr 30.82 255 P **P** **11 12 31.6 +1.5**
CN2 Changchun 34.39 277 *e*P **P** **11 13 03.2 +2.1**
BOD Bodaibo 35.16 305 ⇓ *i*P **P** **11 13 06.6 -1.0**
BOD pmax pmax
comp=Z,12nm,1.2s
KSRS Korea Array 36.53 266 P **P** **11 13 21.2 +1.7**
comp=Z,1.9nm,0.9s,baz=55,slow=9.3,SNR=4.2
KSRS LR LR 11 27 25.0
comp=Z,29nm,18.0s,baz=55,slow=35
KSAR Wonju Array Be 36.56 266 P **P** **11 13 21.2 +1.4**
YKW3 Yellowknife Ar 37.13 46 *e*P **P** **11 13 25.1 +0.7**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 37.16 46 P **P** **11 13 25.4 +0.8**
comp=Z,1.2nm,0.6s,baz=287,slow=8.0,SNR=11
YKA Yellowknife Ar 37.16 46 P **P** **11 13 25.4 +0.8**
RES Resolute Bay 40.59 24 P **P** **11 13 53.3 0.0**
comp=Z,0.6nm,0.6s,baz=305,slow=7.2,SNR=3.2
RES Resolute Bay 40.59 24 *e*P **P** **11 13 53.0 -0.2**
comp=Z,4.8nm,1.1s
NEW Newport 41.62 68 P **P** **11 14 00.1 -2.0**
comp=Z,0.8nm,0.7s,baz=311,slow=22,SNR=2.6
NEW Newport 41.62 68 P **P** **11 14 00.1 -2.0**
BJI Beijing 42.21 278 P **P** **11 14 07.8 +0.9**
BJI S **S** **11 20 26.7 +2.0**
BJI pmax pmax
comp=Z,16nm,0.5s
BJI LR LR
comp=N,160nm,15.6s
BJI LR LR
comp=E,110nm,19.3s
TLY Talaya 43.14 300 *e*P **P** **11 14 13.6 -0.8**
TLY *e* 11 16 05.1
TLY *e* 11 20 33.2
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,122nm,19.0s
ULN Ulaanbaatar 43.22 293 *e*P **P** **11 14 15.4 +0.2**
comp=Z,4.9nm,0.7s
SONM Songino Array 43.61 294 P **P** **11 14 19.1 +0.7**
comp=Z,5.3nm,0.6s,baz=59,slow=8.9,SNR=47
SONM ScP **ScP** **11 19 56.1 +2.2**
comp=Z,0.6nm,1.0s,baz=72,slow=4.3,SNR=4.3
SONM LR LR 11 32 26.5
comp=Z,74nm,19.8s,baz=13,slow=36
SONM Songino Array 43.61 294 P **P** **11 14 19.1 +0.7**
SONM ScP **ScP** **11 19 56.1 +2.2**
ZAK Zakamensk 44.00 298⇑ *i*P **P** **11 14 21.4 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
HHC Hu-ho-hao-te 44.54 282 *e*P **P** **11 14 24.4 -1.5**
HHC pP **pP** **11 14 37.1 +1.0**
HHC PP **PP** **11 16 09.8 -0.1**
HHC S **S** **11 20 55.3 -3.7**
HHC SS SS 11 24 06.9 -12
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,100nm,7.1s
HHC LR LR
comp=N,170nm,13.5s
HHC LR LR
comp=E,140nm,12.4s
HHC LR LR
comp=Z,110nm,12.2s
MOY Mondy 44.56 301 *e*P **P** **11 14 23.0 -2.9**
NJ2 Nanjing 45.69 267 *e*P **P** **11 14 34.6 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KRAR Krasnoyarsk 46.40 310⇑ *e*P **P** **11 14 40.4 +0.2**
NVAR Mina Array Bea 46.57 80 P **P** **11 14 41.9 -0.2**
comp=Z,0.8nm,0.5s,baz=297,slow=7.8,SNR=6.1
NVAR Mina Array Bea 46.57 80 P **P** **11 14 41.9 -0.2**
HWUT Hardware Ranch 48.64 72 P **P** **11 14 57.1 -0.9**

BW06 Boulder Array 49.11 70 *e*P **P** **11 15 04.4 +2.8**
PDAR Pinedale Array 49.11 70 P **P** **11 14 59.8 -1.9**
comp=Z,0.8nm,0.6s,baz=302,slow=3.4,SNR=6.1
PDAR Pinedale Array 49.11 70 P **P** **11 14 59.8 -1.9**
GSC Goldstone 49.50 82 *e*P **P** **11 15 06.4 +1.8**
GSC pmax pmax
comp=Z,5.0nm,0.7s
GSC Goldstone 49.50 82 *e*P **P** **11 15 06.4 +1.8**
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 51.39 311 P **P** **11 15 17.5 -1.0**
comp=Z,0.9nm,0.6s,baz=20,slow=4.2,SNR=5.7
ZALV LR LR 11 38 07.2
comp=Z,65nm,18.9s,baz=38,slow=37
ZALV Zalesovo Beam 51.39 311 P **P** **11 15 17.5 -1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,65nm,18.9s
ZALV Zalesovo Beam 51.39 311 P **P** **11 15 17.5 -1.0**
NVS Novosibirsk 51.58 312 *e*P **P** **11 15 17.9 -2.0**
ULM Lac du Bonnet 51.99 55 P **P** **11 15 23.4 +0.3**
comp=Z,1.2nm,0.5s,baz=267,slow=5.3,SNR=2.6
ULM LR LR 11 39 41.1
comp=Z,96nm,18.4s,baz=358,slow=39
ULM Lac du Bonnet 51.99 55 P **P** **11 15 23.4 +0.3**
LZH Lanzhou 52.24 282 *e*P **P** **11 15 26.1 +0.8**
LZH pP **pP** **11 15 36.2 +0.6**
LZH sP **sP** **11 15 40.7 +1.0**
LZH pmax pmax
comp=Z,19nm,1.1s
GTA Gaotai 52.47 288 *e*P **P** **11 15 27.6 +0.7**
GTA pP **pP** **11 15 37.9 +0.6**
GTA sP **sP** **11 15 42.3 +1.0**
GTA PP **PP** **11 17 28.0 +2.4**
GTA S **S** **11 22 48.6 -2.2**
GTA sS **sS** **11 23 04.8 -3.1**
GTA pmax pmax
comp=Z,4.0nm,0.5s
GTA pmax pmax
comp=Z,63nm,7.6s
GTA LR LR
comp=N,140nm,19.0s
GTA LR LR
comp=E,150nm,18.1s
GTA LR LR
comp=Z,130nm,16.6s
AGMN Agassiz Nation 53.22 56 *e*P **P** **11 15 32.1 0.0**
comp=Z,72nm,2.5s
CD2 Chengdu 55.81 278 P **P** **11 15 52.4 +1.1**
CD2 pP **pP** **11 16 04.6 +2.9**
CD2 PP **PP** **11 17 58.2 +2.5**
CD2 S **S** **11 23 33.2 -2.7**
CD2 SS **SS** **11 27 18.3 -3.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,80nm,4.1s
CD2 LR LR
comp=N,250nm,6.5s
CD2 LR LR
comp=Z,180nm,6.1s
KURK Kurchatov 56.38 311 *c i*P **P** **11 15 54.7 -0.3**
KURK pmax pmax
comp=Z,33nm,1.3s
KURK Kurchatov 56.38 311 *e*P **P** **11 15 55.0 0.0**
comp=Z,14nm,0.8s
WMQ Urumqi 56.42 300 P **P** **11 15 56.1 +0.6**
WMQ LR LR
comp=N,200nm,21.0s
WMQ LR LR
comp=E,94nm,19.0s
WMQ LR LR
comp=Z,100nm,20.0s
ARCES ARCESS Array B 57.03 348 P **P** **11 15 59.5 +0.1**
comp=Z,3.4nm,0.8s,baz=38,slow=8.1,SNR=6.7
ARCES ARCESS Array B 57.03 348 P **P** **11 15 59.5 +0.1**
GYA Guiyang 57.17 272 *e*P **P** **11 16 03.0 +1.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 57.25 305 *ce*P **P** **11 16 00.6 -0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 57.25 305 *e*P **P** **11 16 00.1 -1.1**
MKAR Makanchi Array 57.25 305 P **P** **11 16 00.5 -0.7**
comp=Z,3.7nm,0.7s,baz=52,slow=6.9,SNR=42
MKAR LR LR 11 39 51.6
comp=Z,66nm,18.1s,baz=355,slow=35
MKAR Makanchi Array 57.25 305 *ce*P **P** **11 16 00.5 -0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 57.25 305 P **P** **11 16 00.5 -0.7**
BVA0 Borovoye Array 58.45 317 *i*P **P** **11 16 09.4 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 58.45 317 LR LR 11 46 29.7
comp=Z,33nm,18.2s,baz=49,slow=41
BRVK Borovoye 58.48 317⇑ *e*P **P** **11 16 09.8 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 58.48 317 *e*P **P** **11 16 09.8 +0.1**
comp=Z,11nm,1.1s
GDL2 Guadalupe Moun 59.18 76 *e*P P 11 16 24.4 +9.3
SVE Sverdlovsk 59.45 325 *e*P **P** **11 16 18.0 +1.6**
SVE pmax pmax
comp=Z,10.0nm,1.3s
ARU Arti 60.49 326 *d i*P **P** **11 16 24.0 +0.5**
ARU 11 18 34.3
ARU S **S** **11 24 38.1 +1.9**
ARU SS **SS** **11 28 37.0 +3.4**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 60.49 326 *e*P **P** **11 16 23.8 +0.2**
comp=Z,6.6nm,0.6s
KMI Kunming 60.57 274 P **P** **11 16 27.5 +2.7**
KMI pmax pmax
comp=Z,10.0nm,1.2s
SCHQ Schefferville 61.51 36 P **P** **11 16 30.3 -0.2**
comp=Z,1.2nm,0.5s,baz=20,slow=2.0,SNR=7.2
SCHQ LR LR 11 45 52.7
comp=Z,94nm,19.0s,baz=33,slow=39
SCHQ Schefferville 61.51 36 P **P** **11 16 30.3 -0.2**
TXAR Lajitas Array 61.64 78 P **P** **11 16 31.9 0.0**
comp=Z,1.2nm,0.4s,baz=306,slow=5.3,SNR=36
TXAR Lajitas Array 61.64 78 P **P** **11 16 31.9 0.0**
KLMR Klimovskoe 62.41 338 *e*P P 11 16 46.3 +10
KLMR pmax pmax
comp=Z,26nm,1.8s
AAK Ala-Archa 64.11 307 P **P** **11 16 48.7 +0.5**
comp=Z,3.9nm,0.8s
AAK Ala-Archa 64.11 307 *c i*P **P** **11 16 48.4 +0.2**
AAK pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa 64.11 307 P **P** **11 16 48.7 +0.5**
LSA Lhasa 64.32 286 *e*P **P** **11 16 50.4 +0.3**
LSA pmax pmax
comp=Z,3.0nm,0.4s
LSA Lhasa 64.32 286 *e*P **P** **11 16 50.4 +0.3**
comp=Z,3.2nm,0.4s
FINES FINESS Array B 64.56 345 P **P** **11 16 49.6 -1.0**
comp=Z,1.0nm,0.5s,baz=15,slow=9.8,SNR=7.6
FINES LR LR 11 47 33.4
comp=Z,95nm,18.8s,baz=319,slow=38
FINES FINESS Array B 64.56 345 P **P** **11 16 49.6 -1.0**
AB31 Akbulak array 65.61 320 *ce*P **P** **11 16 57.9 +0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 65.61 320 *e*P **P** **11 16 58.0 +0.3**
comp=Z,2.4nm,0.6s
KSH Kashi 65.66 303 *e*P P 11 17 01.6 +3.3
KSH *e*PcP **PcP** **11 17 32.7 +3.2**
KSH *e*PP PP 11 19 28.8 +6.3
KSH PcS 11 21 33.5
KSH S **S** **11 25 43.9 +2.3**
KSH ScS **SKSac** **11 26 50.3 -0.8**
KSH pmax pmax
comp=Z,84nm,6.8s
KSH LR LR
comp=N,170nm,6.4s
KSH LR LR
comp=E,100nm,5.0s
KSH LR LR
comp=Z,240nm,6.9s
KK31 Karatay Array 65.71 309 *ce*P **P** **11 16 57.7 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.5s

KKAR Karatay Array 65.71 309 *e*P **P** **11 16 58.1 -0.3**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 65.71 309 *e*P **P** **11 16 58.1 -0.3**
comp=Z,7.7nm,0.9s
NB2 NORSAR Subarra 66.81 352 P **P** **11 17 03.3 -1.9**
comp=Z,2.6nm,0.6s,baz=10,slow=6.5
NOA NORSAR Array B 66.81 352 P **P** **11 17 04.9 -0.3**
comp=Z,1.8nm,0.8s,baz=12,slow=6.5,SNR=5.8
NOA LR LR 11 46 42.0
comp=Z,45nm,18.4s,baz=15,slow=36
NOA NORSAR Array B 66.81 352 P **P** **11 17 04.9 -0.3**
SHL Shillong 66.90 282 *e*P **P** **11 17 07.0 +0.5**
CMAR Chiang Mai Arr 67.86 272 P **P** **11 17 12.8 +0.4**
comp=Z,1.6nm,0.6s,baz=26,slow=7.0,SNR=9.5
CMAR LR LR 11 50 07.3
comp=Z,48nm,18.0s,baz=173,slow=39
CMAR Chiang Mai Arr 67.86 272 P **P** **11 17 12.8 +0.4**
TAPN Taplejung 68.09 287 *e*Pn **P** **11 17 14.6 +0.5**
comp=Z,52nm,1.1s
TAPN Taplejung 68.09 287 *e*Pn **P** **11 17 14.6 +0.5**
comp=Z,52nm,1.1s
OBN Obninsk 68.25 336⇑ *e*P **P** **11 17 14.5 +0.3**
OBN *e* 11 17 22.7
OBN pmax pmax
comp=Z,18nm,1.6s
OBN MLR MLR
comp=Z,100nm,17.0s
GUN Gumba 68.76 288 *e*Pn **P** **11 17 18.9 +0.6**
comp=Z,32nm,0.5s
JIRN Jiri 68.76 288 *e*Pn **P** **11 17 19.1 +0.7**
comp=Z,10nm,0.7s
RAMN Ramite 69.05 287 *e*Pn **P** **11 17 20.3 +0.3**
comp=Z,46nm,0.7s
KKN Kakani 69.20 289 *e*Pn **P** **11 17 21.4 +0.5**
PKI Pulchoki 69.29 288 *e*Pn **P** **11 17 22.0 +0.4**
comp=Z,14nm,0.5s
PKI Pulchoki 69.29 288 *e*P **P** **11 17 22.0 +0.4**
PKI pmax pmax
comp=Z,14nm,0.5s
PKI Pulchoki 69.29 288 *e*Pn **P** **11 17 22.0 +0.4**
comp=Z,14nm,0.5s
GKN Gorkha 69.42 289 *e*Pn **P** **11 17 22.5 +0.3**
DANN Dangsing 69.67 290 *e*Pn **P** **11 17 24.4 +0.5**
comp=Z,28nm,0.9s
DANN Dangsing 69.67 290 *e*Pn **P** **11 17 24.4 +0.5**
comp=Z,28nm,0.9s
KOLN Koldanda 70.20 290 *e*Pn **P** **11 17 27.2 +0.1**
PYUN Piuthan 70.31 290 *e*Pn **P** **11 17 28.1 +0.4**
comp=Z,35nm,1.0s
PYUN Piuthan 70.31 290 *e*Pn **P** **11 17 28.1 +0.4**
comp=Z,35nm,1.0s
KBL Kabul 73.03 304 *e*P **P** **11 17 43.0 -1.0**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 73.03 304 *e*P **P** **11 17 43.0 -1.0**
comp=Z,11nm,0.8s
PMOR Pomariorio Ree 73.53 144 *e*T T 12 38 14.0
comp=Z,124nm,0.2s
AKASG Malin Array Be 74.05 339 P **P** **11 17 49.2 -0.2**
comp=Z,1.7nm,0.4s,baz=24,slow=6.3,SNR=4.8
AKASG Malin Array Be 74.05 339 *i*P **P** **11 17 52.0 +2.6**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 74.05 339 P **P** **11 17 49.2 -0.2**
KIEV Kiev 74.06 339 *e*P **P** **11 17 50.8 +1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 74.06 339 *e*P **P** **11 17 50.8 +1.3**
comp=Z,3.3nm,0.6s
AK01 Malin Array Si 74.06 339 *e*P **P** **11 17 49.2 -0.3**
AK02 Malin Array Si 74.09 339 *e*P **P** **11 17 49.4 -0.3**
DZM Mont Dzumac 74.10 189 *e*LR LR 11 40 24.6
comp=Z,136nm,23.8s
DZM Mont Dzumac 74.10 189 LR LR 11 43 30.0
comp=Z,139nm,20.9s,baz=31,slow=30
PPT Papeete 75.30 146 LR LR 11 48 46.3
comp=Z,178nm,19.1s,baz=351,slow=34
PPT2 Papeete2 75.32 146 *e*LR LR 11 41 10.6
comp=Z,108nm,22.2s
PPT2 *e*T T 12 40 25.8
comp=Z,4.0nm,0.2s
PAE Paea 75.39 146 *e*T T 12 40 30.1
comp=Z,1.3nm,0.2s
CTA Charters Tower 76.27 209 LR LR 11 50 23.9
comp=Z,77nm,18.5s,baz=230,slow=35
KBZ Khabaz 76.58 327 P **P** **11 18 04.8 +0.7**
comp=Z,4.3nm,1.0s,baz=106,slow=1.6,SNR=4.9
KBZ Khabaz 76.58 327 P **P** **11 18 04.8 +0.7**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 76.58 327 P **P** **11 18 04.8 +0.7**
ZEI Tsey 77.09 326 *e*P **P** **11 18 06.8 -0.5**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 77.15 343 *e*P **P** **11 18 05.4 -1.9**
KOLS Kolonicke sedl 77.15 343 *e*P **P** **11 18 05.4 -1.9**
BUR08 Bucovina Ar. S 77.81 340 *e*P **P** **11 18 11.5 +0.4**
VYHS Vyhne 78.17 345 *e*P **P** **11 18 10.4 -2.6**
VYHS Vyhne 78.17 345 *e*P **P** **11 18 10.4 -2.6**
MLR Muntele Rosu 79.70 339 LR LR 11 54 45.4
comp=Z,20.1nm,18.6s,baz=298,slow=36
WRA Warramunga Arr 80.29 220 P **P** **11 18 23.3 -1.5**
comp=Z,2.0nm,0.9s,baz=30,slow=6.0,SNR=18
WRA Warramunga Arr 80.29 220 P **P** **11 18 23.3 -1.5**
TBI Tubuai 80.71 148 *e*LR LR 11 43 31.7
comp=Z,95nm,23.0s
TBI *e*T T 12 47 07.3
comp=Z,3.4nm,0.2s
FITZ Fitzroy Crossi 82.38 228 P **P** **11 18 35.6 -0.2**
comp=Z,3.0nm,0.9s,baz=40,slow=5.7,SNR=8.1
FITZ Fitzroy Crossi 82.38 228 P **P** **11 18 35.6 -0.2**
BRTR Keskin Array B 83.13 332 LR LR 11 59 38.6
comp=Z,28nm,19.1s,baz=101,slow=38
ASAR Alice Springs 83.82 218 P **P** **11 18 42.8 -0.5**
comp=Z,1.3nm,0.7s,baz=21,slow=5.3,SNR=18
ASAR Alice Springs 83.82 218 P **P** **11 18 42.8 -0.5**
STKA Stephens Creek 88.73 209 P **P** **11 19 07.0 -0.1**
comp=Z,2.5nm,1.0s,baz=337,slow=20,SNR=2.9
STKA Stephens Creek 88.73 209 P **P** **11 19 07.0 -0.1**
TORD Torodi Ar. Bea 115.09 354 PKP **PKPdf** **11 24 53.2 -1.9**
comp=Z,0.4nm,0.7s,baz=256,slow=2.0,SNR=4.0
TORD Torodi Ar. Bea 115.09 354 PKP **PKPdf** **11 24 53.2 -1.9**
BOSA Boshof 148.25 306 PKPbc **PKPbc** **11 25 59.2 -0.6**
comp=Z,2.9nm,1.0s,baz=209,slow=2.8,SNR=3.1
BOSA Boshof 148.25 306 PKPbc **PKPbc** **11 25 59.2 -0.6**

IDC 09 11:15:00.4±31.0, 5°.45N×126°.14E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmpg3.6/4, Error ellipse: s-maj=526.0km s-min=104.5km az=153.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.41**	**181**	P	P	11 20 11.2	0.0
	0.5nm,0.4s,baz=4.7,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**26.49**	**162**	P	P	11 20 40.2	+0.6
	1.0nm,0.7s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.92**	**166**	P	P	11 21 09.0	-1.2
	0.1nm,0.3s,baz=335,slow=7.3,SNR=5.4						
STKA	**Stephens Creek**	**39.94**	**159**	P	P	11 22 36.9	+0.4
	1.3nm,0.7s,baz=5.7,slow=10,SNR=3.0						

*NEIC **09** 11:16:03.0, 15°.24N×93°.97W, h16km, MD4.0(MEX), After MEX.*

MEX 09 11:16:03.0±1.4, 15°.24N×93°.97W, h16km±15km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.86**	**57**	*e*P	Pb	11 16 16.3	-3.3
PCIG				*i* S	Sb	11 16 27.0	-3.9
PCIG		**0.86**	**57**	*e*P	Pb	11 16 16.3	-3.3
PCIG				*i* S	Sb	11 16 27.0	-3.9
THIG		**1.68**	**101**	*i* P	Pn	11 16 27.7	-4.0
THIG				*i* S	Sn	11 16 47.5	-5.5
THIG		**1.68**	**101**	*i* P	Pn	11 16 27.7	-4.0
THIG				*i* S	Sn	11 16 47.5	-5.5
TGIG		**1.73**	**28**	*e*P	Pn	11 16 29.2	-3.4
TGIG				*i* S	Sn	11 16 48.7	-5.8
TGIG		**1.73**	**28**	*e*P	Pn	11 16 29.2	-3.4
TGIG				*i* S	Sn	11 16 48.7	-5.8
CMIG	**Matias Romero**	**2.04**	**335**	*e*P	Pn	11 16 33.8	-2.9
CMIG				*i* S	Sn	11 16 57.3	-4.5
CMIG	**Matias Romero**	**2.04**	**335**	*e*P	Pn	11 16 33.8	-2.9

CMIG				*i* S	Sn	11 16 57.3	-4.5		
CCIG	**Comitan**	**2.05**	**59**	*i* P	Pn	11 16 34.9	-2.1		
CCIG				*i* S	Sn	11 16 57.1	-5.4		
CCIG	**Comitan**	**2.05**	**59**	*i* P	Pn	11 16 34.9	-2.1		
CCIG				*i* S	Sn	11 16 57.1	-5.4		
HUIG	**Huatulco**	**2.12**	**285**	*e*P	Pn	11 16 35.0	-2.8		
HUIG				*i* S	Sn	11 16 58.2	-5.7		
HUIG	**Huatulco**	**2.12**	**285**	*e*P	Pn	11 16 35.0	-2.8		
HUIG				*i* S	Sn	11 16 58.2	-5.7		
VHO	**Vista Hermosa**	**3.22**	**305**	*i* P	Pg	11 17 03.7	-1.3		
VHO				*i* S	Sn	11 17 30.2	-1.2		
VHO	**Vista Hermosa**	**3.22**	**305**	*i* P	Pg	11 17 03.7	-1.3		
VHO				*i* S	Sn	11 17 30.2	-1.2		
PNIG	**Pinotepa**	**4.16**	**287**	*i* P	Pn	11 17 04.7	-1.2		
PNIG				*i* S	Sn	11 17 45.2	-9.0		
PNIG	**Pinotepa**	**4.16**	**287**	*i* P	Pn	11 17 04.7	-1.2		
PNIG				*i* S	Sn	11 17 45.2	-9.0		

IDC 09 11:20:33.2±7.3, 20°.69S×68°.96W, h84km±50km, mb3.5/2, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=65.0km s-min=32.4km az=49.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.45**	**10**	P	Pn	11 21 39.4	+0.3
	3.9nm,0.3s,baz=187,slow=6.6,SNR=69						
LPAZ				S	Sn	11 22 30.1	0.0
	0.5nm,0.3s,baz=305,slow=21,SNR=3.1						
SIV	**San Ignacio**	**8.82**	**59**	P	Pn	11 22 37.8	-0.2
	1.0nm,0.3s,baz=257,slow=12,SNR=18						
TORD	**Torodi Ar. Bea**	**77.12**	**71**	P	P	11 32 17.7	-0.3
	0.3nm,0.4s,baz=252,slow=5.6,SNR=13						
YKA	**Yellowknife Ar**	**90.41**	**341**	P	P	11 33 23.8	-0.9
	0.2nm,0.3s,baz=127,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**145.00**	**95**	PKPbc	PKPbc	11 39 59.9	-0.2
	0.2nm,0.5s,baz=321,slow=3.1,SNR=4.1						
SONM	**Songino Array**	**152.66**	**7**	PKPbc	PKPbc	11 40 20.8	+0.6
	0.3nm,0.4s,baz=220,slow=1.4,SNR=3.7						
SONM				PKPab	PKPab	11 40 30.8	-0.2
	0.2nm,0.5s,baz=354,slow=1.4,SNR=1.8						

*ISCJB **09** 11:20:54.5±1.0, 36°.3N±0°.1×69°.7E±0°.2, h213km, mb3.1/3, Error ellipse: s-maj=22.7km s-min=11.9km az=23.2*
*IDC **09** 11:20:57.6±5.2, 36°.37N×69°.93E, h230km±50km, mb2.9/4, mb1 3.1/8, mb1mx2.9/30, mbtmp3.0/8, Error ellipse: s-maj=40.1km s-min=24.9km az=4.0*
ISC 09 11:20:56.1±1.2, 36°.3N±0°.1×69°.8E±0°.2, h213km, n16, σ1°31/16, mb3.1/3, 2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.52**	**26**	P	**Pn**	**11 22 31.6**	**+1.1**
	SNR=26						
KK31	**Karatay Array**	**6.77**	**4**	⇓Pn	**Pn**	**11 22 34.2**	**+0.8**
	0.5nm,0.3s,baz=185,slow=12,SNR=12						
KK31				⇓Sn	S	11 23 40.9	-10
	5.1nm,0.8s,baz=189,slow=16,SNR=3.8						
UCH	**Uchtor**	**6.91**	**30**	P	S	11 23 48.7	-6.0
	SNR=6.7						
EKS2	**Erkin-Say**	**7.01**	**25**	P	**Pn**	**11 22 38.1**	**+1.5**
	SNR=13						
KZA	**Kyzart**	**7.11**	**35**	P	**Pn**	**11 22 39.6**	**+1.5**
	SNR=8.8						
AAK	**Ala-Archa**	**7.25**	**29**	P	**Pn**	**11 22 41.5**	**+1.9**
	3.4nm,0.3s,baz=165,slow=4.2,SNR=31						
AAK				S	**S**	**11 23 59.9**	**-2.2**
	0.7nm,0.3s,baz=168,slow=22,SNR=7.1						
AAK	**Ala-Archa**	**7.25**	**29**	P	**Pn**	**11 22 41.3**	**+1.6**
	SNR=7.3						
ULHL	**Ulahol**	**7.72**	**38**	P	**Pn**	**11 22 47.3**	**+1.5**
	SNR=8.6						
USP	**Ospenovka**	**7.80**	**26**	P	**Pn**	**11 22 47.9**	**+1.2**
	SNR=5.3						
MKAR	**Makanchi Array**	**13.99**	**38**	P	**P**	**11 24 06.8**	**0.0**
	0.3nm,0.3s,baz=221,slow=13,SNR=10						
KURBB	**Kurchatov Arra**	**15.59**	**21**	P	**P**	**11 24 24.4**	**-0.1**
	0.1nm,0.3s,baz=210,slow=12,SNR=19						
BVAR	**Borovoye Array**	**16.68**	**1**	P	**Pn**	**11 24 37.6**	**-0.1**
	0.6nm,0.3s,baz=167,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**20.46**	**26**	P	**P**	**11 25 17.0**	**-0.2**
	1.0nm,0.3s,baz=216,slow=10,SNR=7.9						
TORD	**Torodi Ar. Bea**	**64.75**	**268**	P	**P**	**11 31 12.1**	**0.0**
	0.3nm,0.4s,baz=48,slow=5.7,SNR=8.4						
WRA	**Warramunga Arr**	**82.73**	**121**	P	**P**	**11 32 55.2**	**-1.0**
	0.1nm,0.3s,baz=328,slow=4.8,SNR=3.7						
ASAR	**Alice Springs**	**84.96**	**124**	P	**P**	**11 33 07.0**	**-0.4**
	0.2nm,0.5s,baz=307,slow=4.4,SNR=4.7						

IDC 09 11:30:04.3±1.0, 26°.90N×61°.61E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=26.2km s-min=22.5km az=115.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**4.54**	**217**	Pn	Pn	11 31 14.6	+0.3
	0.4nm,0.3s,baz=85,slow=4.1,SNR=3.6						
WSAR				Sn	Sn	11 32 08.2	+0.5
	8.9nm,0.3s,baz=185,slow=23,SNR=28						
MKAR	**Makanchi Array**	**25.71**	**34**	P	P	11 35 36.3	+0.1
	0.2nm,0.7s,baz=217,slow=9.1,SNR=2.8						
FINES	**FINESS Array B**	**41.94**	**335**	P	P	11 37 56.7	+0.1
	1.4nm,0.3s,baz=134,slow=8.0,SNR=17						
ARCES	**ARCESS Array B**	**47.55**	**344**	P	P	11 38 40.6	-0.6
	1.6nm,0.8s,baz=129,slow=9.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**57.47**	**269**	P	P	11 39 55.4	-0.1
	0.2nm,0.5s,baz=64,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**84.44**	**116**	P	P	11 42 39.1	-0.2
	0.3nm,0.6s,baz=317,slow=4.8,SNR=3.7						
ASAR	**Alice Springs**	**86.02**	**119**	P	P	11 42 47.2	+0.1
	0.2nm,0.6s,baz=297,slow=5.1,SNR=4.0						

IDC 09 11:31:20.2±1.9, 5°.64S×148°.61E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=101.0km s-min=26.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01**	**201**	Pn	Pn	11 32 26.4	+3.5
	1.0nm,0.3s,baz=159,slow=23,SNR=4.8						
PMG				Sn	Sn	11 33 06.9	-3.9
	2.0nm,0.3s,baz=228,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**19.87**	**223**	P	P	11 35 52.5	-0.6
	0.1nm,0.3s,baz=48,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**22.85**	**217**	P	P	11 36 25.2	0.0
	0.4nm,0.4s,baz=51,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**25.63**	**239**	P	P	11 36 51.9	+0.2
	1.4nm,0.8s,baz=47,slow=12,SNR=6.6						
ILAR	**Eielson Array**	**84.52**	**23**	P	P	11 43 54.9	0.0
	0.5nm,0.6s,baz=245,slow=4.9,SNR=9.0						

IDC 09 11:31:55.1±50.0, 15°.81S×177°.40W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=927.7km s-min=163.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.51**	**239**	P	P	11 39 35.9	-0.2
	1.8nm,0.8s,baz=83,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**46.00**	**257**	P	P	11 40 20.6	-0.1
	0.1nm,0.2s,baz=91,slow=7.8,SNR=7.0						
ASAR	**Alice Springs**	**46.32**	**252**	P	P	11 40 23.1	-0.1
	1.0nm,0.6s,baz=89,slow=8.0,SNR=20						

*ISCJB **09** 11:36:17.4±0.5, 39°.44N±0°.03×28°.15E±0°.03, h6km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=29.3*
*ISK **09** 11:36:17.4, 39°.46N×28°.17E, h13km, MD2.8*
*DDA **09** 11:36:17.4, 39°.46N×28°.15E, h8km, MD2.9*
*CSEM **09** 11:36:17.6±0.1, 39°.44N×28°.15E, h8km, MD2.9, Error ellipse: s-maj=2.9km s-min=1.9km az=36.0*
ISC 09 11:36:17.8±0.9, 39°.45N±0°.02×28°.16E±0°.02, h11km±7km, n46, σ0°41/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.28**	**57**	*i* P	**Pg**	**11 36 23.1**	**-0.6**
DURS				*i* S	**Sg**	**11 36 27.7**	**+0.1**
DURS	**Dursunbey**	**0.28**	**57**	*i* P	**Pg**	**11 36 23.1**	**-0.6**
DURS				*i* S	**Sg**	**11 36 27.7**	**+0.1**
BALB	**Balikesir**	**0.29**	**311**	*e*PG	**Pg**	**11 36 23.8**	**0.0**
BALB				*e*SG	**Sg**	**11 36 28.4**	**+0.6**
BALB	**Balikesir**	**0.29**	**311**	*e*Pg	**Pg**	**11 36 23.8**	**0.0**
BALB				*e*Sg	**Sg**	**11 36 28.4**	**+0.6**
DST	**Dursunbey**	**0.39**	**66**	*e*PG	**Pg**	**11 36 25.4**	**-0.2**
DST				*e*SG	**Sg**	**11 36 31.2**	**+0.5**
DST	**Dursunbey**	**0.39**	**66**	*e*Pg	**Pg**	**11 36 25.4**	**-0.2**
DST				*e*Sg	**Sg**	**11 36 31.2**	**+0.5**
BALY	**Balya**	**0.51**	**305**	*i* P	**Pg**	**11 36 26.5**	**-1.4**
BALY				*i* S	**Sg**	**11 36 35.1**	**+0.4**
BALY	**Balya**	**0.51**	**305**	*i* P	**Pg**	**11 36 26.5**	**-1.4**
BALY				*i* S	**Sg**	**11 36 35.1**	**+0.4**
DEMI	**Demirci**	**0.59**	**133**	*i* P	**Pg**	**11 36 29.0**	**-0.3**
DEMI	**Demirci**	**0.59**	**133**	*i* P	**Pg**	**11 36 29.0**	**-0.3**
GONE	**Gonen-Balikesi**	**0.70**	**329**	*e*PG	**Pg**	**11 36 31.0**	**-0.5**
GONE				*e*SG	**Sb**	**11 36 41.6**	**-0.2**
GONE	**Gonen-Balikesi**	**0.70**	**329**	*e*Pg	**Pg**	**11 36 31.0**	**-0.5**
GONE				*e*Sg	**Sb**	**11 36 41.6**	**-0.2**
ORLT	**Orhaneli**	**0.82**	**43**	*e*PG	**Pg**	**11 36 33.6**	**-0.1**
ORLT	**Orhaneli**	**0.82**	**43**	*e*Pg	**Pg**	**11 36 33.7**	**-0.1**
EDC	**Edincik**	**0.93**	**346**	*e*PG	**Pg**	**11 36 35.2**	**-0.5**
EDC				*e*SG	**Sb**	**11 36 48.8**	**+0.5**
EDC	**Edincik**	**0.93**	**346**	*e*Pg	**Pg**	**11 36 35.2**	**-0.5**
EDC				*e*Sg	**Sb**	**11 36 48.8**	**+0.5**
MANT	**Manisa**	**1.00**	**162**	*i* P	**Pg**	**11 36 36.5**	**-0.7**
MANT				*i* S	**Sb**	**11 36 51.0**	**+0.4**
MANT	**Manisa**	**1.00**	**162**	*i* P	**Pg**	**11 36 36.5**	**-0.7**
MANT				*i* S	**Sb**	**11 36 51.0**	**+0.4**
TVSB	**Tavsanli**	**1.00**	**89**	*e*PG	**Pb**	**11 36 37.4**	**+0.1**
TVSB	**Tavsanli**	**1.00**	**89**	*e*Pg	**Pb**	**11 36 37.4**	**+0.1**
KULA	**Kula-Manisa**	**1.01**	**157**	*e*PG	**Pb**	**11 36 37.4**	**+0.1**
KULA	**Kula-Manisa**	**1.01**	**157**	*e*Pg	**Pb**	**11 36 37.4**	**+0.1**
ULDT	**Uludag**	**1.02**	**47**	*i* P	**Pg**	**11 36 37.3**	**-0.3**
ULDT				*i* S	**Sn**	**11 36 52.3**	**-0.4**
ULDT	**Uludag**	**1.02**	**47**	*i* P	**Pg**	**11 36 37.3**	**-0.3**
ULDT				*i* S	**Sn**	**11 36 52.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*PG	**Pg**	**11 36 38.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*Pg	**Pg**	**11 36 38.1**	**-0.4**
GDZ	**Gediz**	**1.08**	**109**	*i* P	**Pb**	**11 36 38.4**	**-0.3**
GDZ				*i* S	**Sn**	**11 36 54.1**	**0.0**
GDZ	**Gediz**	**1.08**	**109**	*i* P	**Pb**	**11 36 38.4**	**-0.3**
GDZ				*i* S	**Sn**	**11 36 54.1**	**0.0**
ARMT	**Armutlu**	**1.24**	**25**	*e*PN	**Pn**	**11 36 40.9**	**-0.2**
ARMT				*e*SN	**Sn**	**11 36 58.0**	**+0.2**
ARMT	**Armutlu**	**1.24**	**25**	*e*Pn	**Pn**	**11 36 40.9**	**-0.2**
ARMT				*e*Sn	**Sn**	**11 36 58.0**	**+0.2**
LPK	**Lapseki**	**1.42**	**311**	*e*PN	**Pn**	**11 36 43.6**	**0.0**
LPK	**Lapseki**	**1.42**	**311**	*e*Pn	**Pn**	**11 36 43.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.45**	**329**	*e*PN	**Pn**	**11 36 44.0**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.45**	**329**	*e*Pn	**Pn**	**11 36 44.0**	**-0.1**
EZN	**Ezine**	**1.47**	**286**	*e*PN	**Pn**	**11 36 44.4**	**+0.2**
EZN				*e*SN	**Sb**	**11 37 04.0**	**+0.2**
EZN	**Ezine**	**1.47**	**286**	*e*Pn	**Pn**	**11 36 44.4**	**+0.2**
EZN				*e*Sn	**Sb**	**11 37 04.0**	**+0.2**
KHAL	**Karahalli**	**1.49**	**136**	*i* P	**Pb**	**11 36 45.6**	**0.0**
KHAL	**Karahalli**	**1.49**	**136**	*i* P	**Pb**	**11 36 45.6**	**0.0**
ALT	**Altintas**	**1.56**	**104**	*e*PN	**Pn**	**11 36 45.4**	**-0.2**
ALT				*e*SN	**Sn**	**11 37 06.1**	**+0.3**
ALT	**Altintas**	**1.56**	**104**	*e*Pn	**Pn**	**11 36 45.4**	**-0.2**
ALT				*e*Sn	**Sn**	**11 37 06.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.61**	**307**	*e*PN	**Pn**	**11 36 46.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.61**	**307**	*e*Pn	**Pn**	**11 36 46.3**	**+0.1**
ERIK	**Erikli-Kesan**	**1.76**	**314**	*e*PN	**Pn**	**11 36 48.4**	**+0.2**
ERIK				*e*SN	**Sn**	**11 37 10.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.76**	**314**	*e*Pn	**Pn**	**11 36 48.4**	**+0.2**
ERIK				*e*Sn	**Sn**	**11 37 11.0**	**+0.4**
BORA	**Eskisehir**	**1.82**	**76**	*i* P	**Pb**	**11 36 50.8**	**-0.4**
BORA	**Eskisehir**	**1.82**	**76**	*i* P	**Pb**	**11 36 50.8**	**-0.4**

IDC 09 11:51:50.2±2.4, 4°.12S×148°.11E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, MS3.3/3, Ms1 3.3/3, ms1mx2.8/25, Error ellipse: s-maj=111.1km s-min=23.4km az=117.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.68**	**219**	P	P	11 56 32.6	+0.6
	2.5nm,1.0s,baz=43,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.79**	**214**	P	P	11 57 04.2	-0.6
	1.1nm,0.8s,baz=50,slow=9.0,SNR=8.8						
ASAR				LR	LR	12 06 33.2	
	comp=Z,26nm,19.0s,baz=259,slow=37						
DZM	**Mont Dzumac**	**25.19**	**137**	LR	LR	12 05 31.4	
	comp=Z,172nm,19.4s,baz=53,slow=33						
FITZ	**Fitzroy Crossi**	**26.01**	**236**	P	P	11 57 25.3	+0.1
	4.0nm,0.9s,baz=53,slow=10,SNR=8.1						
FITZ				LR	LR	12 07 58.8	
	comp=Z,53nm,18.1s,baz=128,slow=37						
PETK	**Petropavlovsk-**	**57.59**	**7**	P	P	12 01 41.6	-0.1
	1.2nm,0.7s,baz=188,slow=7.1,SNR=11						

*ISK **09** 12:00:38.8, 39°.41N×28°.17E, h11km, MD2.5*
*ISCJB **09** 12:00:39.9±0.6, 39°.44N±0°.03×28°.15E±0°.04, h2km±6km, Error ellipse: s-maj=5.5km s-min=3.9km az=146.9*
*DDA **09** 12:00:40.4, 39°.46N×28°.16E, h9km, MD2.8*
*CSEM **09** 12:00:40.1±0.3, 39°.44N×28°.15E, h10km, MD2.8, Error ellipse: s-maj=5.5km s-min=3.7km az=57.0*
ISC 09 12:00:40.1±1.0, 39°.44N±0°.02×28°.17E±0°.03, h9km±9km, n22, σ0°62/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.29**	**55**	*i* P	**Pg**	**12 00 46.0**	**0.0**
DURS				*i* S	**Sb**	**12 00 51.5**	**-0.9**
DURS	**Dursunbey**	**0.29**	**55**	*i* P	**Pg**	**12 00 46.0**	**0.0**
DURS				*i* S	**Sb**	**12 00 51.5**	**-0.9**
BALB	**Balikesir**	**0.30**	**312**	*e*PG	**Pg**	**12 00 46.0**	**-0.2**
BALB				*e*SG	**Sg**	**12 00 50.6**	**+0.3**
BALB	**Balikesir**	**0.30**	**312**	*e*Pg	**Pg**	**12 00 46.0**	**-0.2**
BALB				*e*Sg	**Sg**	**12 00 50.6**	**+0.3**
DST	**Dursunbey**	**0.39**	**64**	*e*PG	**Pg**	**12 00 47.3**	**-0.5**
DST				*e*SG	**Sg**	**12 00 53.3**	**+0.5**
DST	**Dursunbey**	**0.39**	**64**	*e*Pg	**Pg**	**12 00 47.3**	**-0.5**
DST				*e*Sg	**Sg**	**12 00 53.3**	**+0.5**
DEMI	**Demirci**	**0.58**	**133**	*i* P	**Pb**	**12 00 52.2**	**-0.2**
DEMI				*i* S	**Sb**	**12 01 01.8**	**+1.0**
DEMI	**Demirci**	**0.58**	**133**	*i* P	**Pb**	**12 00 52.2**	**-0.2**
DEMI				*i* S	**Sb**	**12 01 01.8**	**+1.0**
GONE	**Gonen-Balikesi**	**0.72**	**329**	*e*PG	**Pg**	**12 00 53.5**	**-0.5**
GONE				*e*SG	**Sb**	**12 01 04.2**	**-0.5**
GONE	**Gonen-Balikesi**	**0.72**	**329**	*e*Pg	**Pg**	**12 00 53.5**	**-0.5**
GONE				*e*Sg	**Sb**	**12 01 04.2**	**-0.5**
MANT	**Manisa**	**0.99**	**162**	*i* P	**Pb**	**12 00 59.8**	**+0.2**
MANT				*i* S	**Sb**	**12 01 13.7**	**+0.9**
MANT	**Manisa**	**0.99**	**162**	*i* P	**Pb**	**12 00 59.8**	**+0.2**
MANT				*i* S	**Sb**	**12 01 13.7**	**+0.9**
KULA	**Kula-Manisa**	**1.00**	**157**	*e*PG	**Pg**	**12 00 58.1**	**-1.2**
KULA				*e*SG	**Sg**	**12 01 11.6**	**-0.6**
KULA	**Kula-Manisa**	**1.00**	**157**	*e*Pg	**Pg**	**12 00 58.1**	**-1.2**
KULA				*e*Sg	**Sg**	**12 01 11.6**	**-0.6**
TVSB	**Tavsanli**	**1.00**	**89**	*e*PG	**Pg**	**12 00 58.5**	**-0.9**
TVSB				*e*SG	**Sb**	**12 01 13.0**	**0.0**
TVSB	**Tavsanli**	**1.00**	**89**	*e*Pg	**Pg**	**12 00 58.5**	**-0.9**
TVSB				*e*Sg	**Sb**	**12 01 13.0**	**0.0**
ULDT	**Uludag**	**1.02**	**46**	*i* P	**Pb**	**12 01 00.3**	**+0.2**
ULDT				*i* S	**Sb**	**12 01 14.0**	**+0.2**
ULDT	**Uludag**	**1.02**	**46**	*i* P	**Pb**	**12 01 00.3**	**+0.2**
ULDT				*i* S	**Sb**	**12 01 14.0**	**+0.2**
GDZ	**Gediz**	**1.07**	**108**	*i* P	**Pn**	**12 01 02.4**	**+1.0**
GDZ				*i* S	**Sn**	**12 01 16.5**	**0.0**
GDZ	**Gediz**	**1.07**	**108**	*i* P	**Pn**	**12 01 02.4**	**+1.0**
GDZ				*i* S	**Sn**	**12 01 16.5**	**0.0**
ARMT	**Armutlu**	**1.25**	**25**	*e*PN	**Pn**	**12 01 03.6**	**-0.2**
ARMT				*e*SN	**Sn**	**12 01 20.8**	**+0.2**
ARMT	**Armutlu**	**1.25**	**25**	*e*Pn	**Pn**	**12 01 03.6**	**-0.2**
ARMT				*e*Sn	**Sn**	**12 01 20.8**	**+0.2**

NNC 09 12:02:06.6±12.0, 53°.95N×86°.94E, h0km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=108.6km s-min=55.2km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**7.76**	**204**	⇑Pn	Pn	12 04 04.5	+3.8
	1.9nm,1.2s,baz=26,slow=13,SNR=10						
MK31				⇑Sn	Sn	12 05 35.3	+6.1
	0.6nm,0.8s,baz=32,slow=28						
MK31				⇑Lg	Lg	12 06 09.9	
	3.6nm,1.2s,baz=317,slow=12,SNR=2.7						
VOSK	**Vostochnaya**	**9.63**	**269**	⇑Pn	Pn	12 04 28.5	+2.2
	0.9nm,0.5s						
VOSK				⇑Sn	Sn	12 06 12.3	-2.8
	1.9nm,0.8s						
ZRNK	**Zerenda**	**10.74**	**272**	⇓Pn	Pn	12 04 38.0	-3.6
	1.4nm,0.9s						
ZRNK				⇑Sn	Sn	12 06 41.7	-0.7
	0.1nm,0.4s						

*IDC **09** 12:19:09.3±0.7, 3°.48S×149°.59E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.4/21, mbtmp4.2/18, ML3.2/2, MS4.4/21, Ms1 4.5/21, ms1mx4.4/25, Error ellipse: s-maj=24.0km s-min=13.4km az=101.0*
*NEIC **09** 12:19:10.9±0.3, 3°.49S×149°.60E, h10km, mb4.6/10, Error ellipse: s-maj=12.8km s-min=5.8km az=98.0*
*ISCJB **09** 12:19:11.2±0.4, 3°.47S±0°.04×149°.47E±0°.08, h20km, mb4.4/29, MS4.5/27, Error ellipse: s-maj=12.0km s-min=5.9km az=1.0*
*GCMT **09** 12:19:15.3±0.1, 3°.47S×149°.58E, h16km, MW5.2, Moment Tensor Solution. s56,c81; s95,c170; Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.05±.14; $M_{\theta\theta}$3.98±.13; $M_{\phi\phi}$-3.93±.13; $M_{r\theta}$1.25±.38; $M_{\theta\phi}$6.19±.12; $M_{r\phi}$0.36±.35; Best double couple: $M_0$7.50000×10¹⁶ NP1:ϕ_s16.00000°, δ82.00000°, λ175.00000°. NP2:ϕ_s107.00000°, δ85.00000°, λ8.00000°. Principal axes: T 7.5800, Plg9.0000°, Azm331.0000°; N -0.2500, Plg80.0000°, Azm138.0000°; P -7.3300, Plg2.0000°, Azm241.0000°; Data Used: II IU IC G.*
*BJI **09** 12:19:17.3, 3°.60S×149°.50E, h70km, mB5.2/14, mb4.8/19, Ms4.8/13, Ms7 4.6/12*
*AUST **09** 12:19:22.2, 3°.79S×149°.55E, h100km*
ISC 09 12:19:12.9±0.5, 3°.44S±0°.06×149°.5E±0°.1, h20km, n78, σ1°21/72, mb4.5/29, MS4.5/27, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**201**	Pn	**Pn**	**12 20 46.3**	**+0.6**
	0.7nm,0.3s,baz=14,slow=8.3,SNR=4.8						
PMG				Sn	Sn	12 22 06.0	+8.0
	1.5nm,0.3s,baz=119,slow=18,SNR=5.3						
PMG	**Port Moresby**	**6.37**	**201**	Pn	**Pn**	**12 20 46.3**	**+0.6**
PMG				Sn	Sn	12 22 06.0	+8.0
CTA	**Charters Tower**	**16.85**	**191**	Pn	**Pn**	**12 23 08.3**	**+0.6**
	0.2nm,0.3s,baz=15,slow=12,SNR=3.8						
CTA	**Charters Tower**	**16.85**	**191**	Pn	**Pn**	**12 23 08.3**	**+0.6**
CTAO	**Charters Tower**	**16.85**	**191**	*e*Pn	**Pn**	**12 23 05.1**	**-2.7**
	7.9nm,1.1s						
GUMO	**Guam**	**17.54**	**345**	LR	LR	12 28 34.9	
	comp=Z,2μm,20.6s,baz=140,slow=32						
KDU	**Kakadu**	**19.20**	**240**	P	**P**	**12 23 35.4**	**-0.3**
	baz=19,SNR=7.9						
QIS	**Mount Isa**	**19.57**	**209**	P	**Pn**	**12 23 40.7**	**-0.3**
	baz=19,SNR=29						
MTN	**Manton Dam**	**20.44**	**242**	P	**P**	**12 23 49.1**	**-0.2**
	baz=20,SNR=11						
WRAB	**Tennant Creek**	**22.09**	**221**	*e*P	**P**	**12 24 06.1**	**-0.9**
	71nm,0.9s						
WRA	**Warramunga Arr**	**22.10**	**221**	P	**P**	**12 24 06.1**	**-1.0**
	22nm,0.8s,baz=46,slow=9.8,SNR=64						
WRA				LR	LR	12 33 24.4	
	comp=Z,2μm,18.2s,baz=45,slow=39						
WRA	**Warramunga Arr**	**22.10**	**221**	P	**P**	**12 24 06.1**	**-1.0**
RMQ	**Roma**	**22.93**	**182**	P	**P**	**12 24 15.2**	**-0.6**
	baz=23,SNR=5.3						
QLP	**Quilpie**	**23.56**	**192**	P	**P**	**12 24 21.5**	**-0.7**
	baz=23,SNR=9.3						
DZM	**Mont Dzumac**	**24.75**	**140**	*e*P	**P**	**12 24 33.8**	**+0.3**
	66nm,1.2s						
DZM				*e*LR	LR	12 30 35.0	
	4μm,25.1s						
DZM	**Mont Dzumac**	**24.75**	**140**	P	**P**	**12 24 31.4**	**-2.1**
	14nm,0.9s,baz=112,slow=21,SNR=5.7						
DZM				LR	LR	12 32 47.1	
	comp=Z,2μm,20.6s,baz=116,slow=33						
DZM	**Mont Dzumac**	**24.75**	**140**	P	**P**	**12 24 31.4**	**-2.1**
ASAR	**Alice Springs**	**25.14**	**216**	P	**P**	**12 24 36.1**	**-0.7**
	11nm,0.8s,baz=49,slow=7.4,SNR=61						
ASAR				LR	LR	12 35 25.2

	comp=Z,500nm,34.4s								
CMAR	**Chiang Mai Arr**	**54.34**	**296**	P		**P**	**12 28 38.1**	**-0.5**	
	comp=Z,2.3nm,0.6s,baz=121,slow=6.2,SNR=12								
CMAR				LR		LR	12 54 21.4		
	comp=Z,151nm,18.2s,baz=286,slow=39								
CMAR	**Chiang Mai Arr**	**54.34**	**296**	P		**P**	**12 28 38.1**	**-0.5**	
PETK	**Petropavlovsk-**	**56.76**	**6**	P		**P**	**12 28 55.4**	**+0.1**	
	comp=Z,1.6nm,0.7s,baz=191,slow=14,SNR=3.2								
PETK				LR		LR	12 50 11.8		
	comp=Z,223nm,18.8s,baz=185,slow=33								
PETK	**Petropavlovsk-**	**56.76**	**6**	P		**P**	**12 28 55.4**	**+0.1**	
LZH	**Lanzhou**	**57.99**	**317**	*e*P		**P**	**12 29 07.0**	**+2.4**	
LZH				pmax		pmax			
	comp=Z,18nm,1.0s								
LZH				pmax		pmax			
	comp=Z,110nm,4.0s								
LZH				LR		LR			
	comp=N,330nm,15.9s								
LZH				LR		LR			
	comp=E,370nm,17.0s								
LZH				LR		LR			
	comp=Z,380nm,18.4s								
PPT2	**Papeete2**	**61.26**	**108**	*e*LR		LR	12 47 32.3		
	comp=Z,287nm,26.2s								
TBI	**Tubuai**	**62.10**	**115**	*e*S		S	12 37 49.8	-7.4	
	comp=Z,44nm,30.0s								
TBI				*e*LQ		LQ	12 45 22.2		
	comp=Z,577nm,41.0s								
TBI				*e*LR		LR	12 48 03.6		
	comp=Z,519nm,30.2s								
GTA	**Gaotai**	**62.45**	**318**	*e*P		**P**	**12 29 36.8**	**+1.7**	
GTA				S		**S**	**12 37 56.9**	**-4.6**	
GTA				pmax		pmax			
	comp=Z,6.0nm,1.6s								
GTA				pmax		pmax			
	comp=Z,130nm,5.7s								
GTA				LR		LR			
	comp=N,200nm,20.4s								
GTA				LR		LR			
	comp=E,330nm,21.4s								
GTA				LR		LR			
	comp=Z,310nm,19.0s								
ULN	**Ulaanbaatar**	**63.14**	**329**	*e*P		**P**	**12 29 38.4**	**-1.1**	
	comp=Z,3.9nm,0.9s								
SONM	**Songino Array**	**63.46**	**329**	P		**P**	**12 29 41.5**	**0.0**	
	comp=Z,1.3nm,0.8s,baz=147,slow=6.5,SNR=11								
SONM				LR		LR	12 55 41.9		
	comp=Z,385nm,21.4s,baz=172,slow=34								
SONM	**Songino Array**	**63.46**	**329**	P		**P**	**12 29 41.5**	**0.0**	
LSA	**Lhasa**	**64.78**	**305**	P		**P**	**12 29 52.0**	**+1.0**	
LSA	**Lhasa**	**64.78**	**305**	*e*P		**P**	**12 29 52.2**	**+1.1**	
	comp=Z,4.9nm,0.8s								
BILL	**Bilibino**	**72.28**	**7**	*e*P		**P**	**12 30 36.3**	**-0.3**	
	comp=Z,4.4nm,0.9s								
WMQ	**Urumqi**	**72.54**	**318**	*e*P		**P**	**12 30 41.5**	**+2.8**	
WMQ				LR		LR			
	comp=N,220nm,24.0s								
WMQ				LR		LR			
	comp=E,130nm,34.0s								
WMQ				LR		LR			
	comp=Z,140nm,24.0s								
VNDA	**Vanda**	**74.32**	**177**	LR		LR	12 58 47.4		
	comp=Z,344nm,18.7s,baz=341,slow=32								
MKAR	**Makanchi Array**	**77.16**	**319**	P		**P**	**12 31 06.1**	**+0.8**	
	comp=Z,1.4nm,0.9s,baz=96,slow=7.6,SNR=7.4								
MKAR				LR		LR	13 05 15.0		
	comp=Z,231nm,18.6s,baz=263,slow=36								
MKAR	**Makanchi Array**	**77.16**	**319**	P		**P**	**12 31 06.1**	**+0.8**	
ZAA0	**Zalesovo Array**	**78.22**	**327**	*e*P		**P**	**12 31 10.4**	**-0.7**	
ZALV	**Zalesovo Beam**	**78.22**	**327**	P		**P**	**12 31 10.8**	**-0.2**	
	comp=Z,2.3nm,0.8s,baz=114,slow=6.6,SNR=11								
ZALV				LR		LR	13 04 45.1		
	comp=Z,288nm,21.2s,baz=73,slow=35								
ZALV	**Zalesovo Beam**	**78.22**	**327**	P		**P**	**12 31 10.8**	**-0.2**	
KURK	**Kurchatov**	**80.70**	**323**	*e*P		**P**	**12 31 24.9**	**+0.3**	
	comp=Z,2.7nm,0.8s								
AAK	**Ala-Archa**	**81.36**	**314**	LR		LR	13 08 12.5		
	comp=Z,256nm,20.1s,baz=91,slow=36								
ILAR	**Eielson Array**	**82.16**	**23**	P		**P**	**12 31 31.9**	**-0.1**	
	comp=Z,2.1nm,0.8s,baz=261,slow=5.2,SNR=17								
ILAR	**Eielson Array**	**82.16**	**23**	P		**P**	**12 31 31.9**	**-0.1**	
KKAR	**Karatay Array**	**84.33**	**314**	*e*P		**P**	**12 31 44.7**	**+0.9**	
	comp=Z,5.7nm,1.0s								
MAW	**Mawson**	**85.56**	**203**	LR		LR	13 06 59.4		
	comp=Z,538nm,22.0s,baz=256,slow=34								
BRVK	**Borovoye**	**86.27**	**324**	*e*P		**P**	**12 31 54.0**	**+0.8**	
	comp=Z,3.1nm,0.9s								
ABKAR	**Akbulak array**	**92.30**	**319**	*e*P		**P**	**12 32 21.8**	**0.0**	
	comp=Z,1.1nm,0.7s								
NVAR	**Mina Array Bea**	**93.82**	**52**	P		**P**	**12 32 29.1**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=13,slow=4.5,SNR=3.5								
NVAR				LR		LR	13 09 19.6		
	comp=Z,261nm,18.8s,baz=270,slow=32								
NVAR	**Mina Array Bea**	**93.82**	**52**	P		**P**	**12 32 29.1**	**-0.2**	
YKA	**Yellowknife Ar**	**95.75**	**28**	P		**P**	**12 32 37.5**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=272,slow=4.7,SNR=10								
YKA	**Yellowknife Ar**	**95.75**	**28**	P		**P**	**12 32 37.5**	**+0.2**	
RPN	**Rapa Nui**	**98.33**	**118**	LR		LR	13 10 18.6		
	comp=Z,125nm,18.8s,baz=133,slow=31								
GERES	**GERESS Array B**	**121.17**	**327**	PKP		**PKPdf**	**12 38 03.8**	**-0.9**	
	comp=Z,0.4nm,0.4s,baz=145,slow=4.9,SNR=3.7								
GERES	**GERESS Array B**	**121.17**	**327**	PKP		**PKPdf**	**12 38 03.8**	**-0.9**	
TOA0	**Torodi Ar. Sit**	**146.77**	**289**	*e*PKPdf		**PKPbc**	**12 38 54.1**	**-0.5**	
TORD	**Torodi Ar. Bea**	**146.77**	**289**	PKPbc		**PKPbc**	**12 38 54.5**	**-0.1**	
	comp=Z,4.3nm,0.8s,baz=56,slow=2.8,SNR=28								
TORD	**Torodi Ar. Bea**	**146.77**	**289**	PKPbc		**PKPbc**	**12 38 54.5**	**-0.1**	

*ISCJB **09** 12:22:36.2±0.7, 80°.28N±0°.10×3°.5W±0°.5, h10km, mb3.4/8, Error ellipse: s-maj=16.0km s-min=9.4km az=144.6*
*IDC **09** 12:22:36.6±0.8, 80°.34N×2°.65W, h0km, mb3.4/8, mb1 3.7/10, mb1mx3.5/29, mbtmp3.6/10, ML4.2/2, Error ellipse: s-maj=28.7km s-min=15.7km az=11.0*
ISC 09 12:22:37.2±0.8, 80°.2N±0°.1×2°.74W±0°.07, h10km, n13, σ2s10/15, mb3.5/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SPITS	**Spitsbergen Ar**	**4.13**	**110**	Pn		**Pn**	**12 23 37.9**		**-2.3**
	baz=317,slow=4.7,SNR=318								
DAG	**Danmarks Havn**	**4.70**	**230**	*i* P		**Pn**	**12 23 48.6**		**+0.6**
DAG				*i* S		**Sn**	**12 24 41.0**		**-1.5**
SUMG	**Summit**	**11.10**	**246**	*i* P		**Pn**	**12 25 15.6**		**-0.5**
SUMG				*e*S		**Sn**	**12 27 15.5**		**-4.7**
SFJD	**Kangerlussuaq**	**18.01**	**251**	Pn		**P**	**12 26 49.7**		**+2.1**
	0.5nm,0.3s,baz=0.0,slow=11,SNR=3.6								
RES	**Resolute Bay**	**18.52**	**303**	P		**P**	**12 26 50.3**		**-2.9**
	0.2nm,0.3s,baz=28,slow=15,SNR=6.5								
FRB	**Frobisher Bay**	**23.99**	**266**	P		**P**	**12 27 51.4**		**0.0**
	1.6nm,0.6s,baz=0.8,slow=9.7,SNR=4.2								
SCHQ	**Schefferville**	**32.13**	**258**	P		**P**	**12 29 05.2**		**+0.9**
	1.3nm,0.7s,baz=29,slow=10,SNR=4.0								
YKA	**Yellowknife Ar**	**32.52**	**307**	P		**P**	**12 29 08.2**		**+0.7**
	0.1nm,0.3s,baz=8.9,slow=8.4,SNR=3.8								
ILAR	**Eielson Array**	**33.80**	**333**	P		**P**	**12 29 18.3**		**-0.4**
	0.5nm,0.9s,baz=357,slow=7.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**36.96**	**79**	P		**P**	**12 29 46.9**		**+1.0**
	0.2nm,0.4s,baz=338,slow=6.9,SNR=2.3								
MKAR	**Makanchi Array**	**43.44**	**85**	P		**P**	**12 30 40.9**		**+1.1**
	0.3nm,0.8s,baz=1.4,slow=5.8,SNR=3.5								
TXAR	**Lajitas Array**	**63.13**	**286**	P		**P**	**12 33 06.0**		**+1.3**
	0.2nm,0.6s,baz=44,slow=4.6,SNR=4.7								
TORD	**Torodi Ar. Bea**	**67.15**	**175**	P		**P**	**12 33 32.8**		**+2.0**
	0.5nm,1.0s,baz=3.9,slow=5.8,SNR=2.9								

*NEIC **09** 12:34:46.7, 19°.58N×66°.36W, h42km, MD3.6(RSPR), After RSPR.*
RSPR 09 12:34:46.7, 19°.58N×66°.36W, h41km±29km, MD3.6/4, 12C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
AOPR	**Arecibo Observ**	**1.29**	**197**	*e*S		Sn	12 35 22.4		-1.9
AOPR	**Arecibo Observ**	**1.29**	**197**‖	*e*P		Pn	12 35 06.6		-1.7
AOPR	**Arecibo Observ**	**1.29**	**197**‖	*e*P		Pn	12 35 06.6		-1.7
AOPR				*e*S		Sn	12 35 22.4		-1.9
CBYP	**Canovanas**	**1.39**	**160**	*e*S		Sn	12 35 25.0		-1.9
CBYP	**Canovanas**	**1.39**	**160**‖	*e*P		Pn	12 35 08.1		-1.6
CBYP	**Canovanas**	**1.39**	**160**‖	*e*P		Pn	12 35 08.1		-1.6
CBYP				*e*S		Sn	12 35 25.0		-1.9
SJG	**San Juan**	**1.48**	**172**‖	*e*P		Pn	12 35 10.1		-0.7
SJG	**San Juan**	**1.48**	**172**‖	*e*P		Pn	12 35 10.1		-0.7
HUMP	**Col San Antoni**	**1.51**	**161**	*e*S		Sn	12 35 28.8		-1.0
HUMP	**Col San Antoni**	**1.51**	**161**‖	*e*P		Pn	12 35 09.7		-1.6
HUMP	**Col San Antoni**	**1.51**	**161**‖	*e*P		Pn	12 35 09.7		-1.6
HUMP				*e*S		Sn	12 35 28.8		-1.0
CELP	**Cerrillos**	**1.52**	**188**‖	*e*P		Pn	12 35 10.7		-0.7
CELP	**Cerrillos**	**1.52**	**188**‖	*e*P		Pn	12 35 10.7		-0.7
OBIP	**Obispado Ponce**	**1.55**	**189**‖	*e*P		Pn	12 35 10.9		-0.9
OBIP	**Obispado Ponce**	**1.55**	**189**	*e*S		Sn	12 35 29.9		-0.9
OBIP	**Obispado Ponce**	**1.55**	**189**‖	*e*P		Pn	12 35 10.9		-0.9
OBIP				*e*S		Sn	12 35 29.9		-0.9
LSP	**Las Mesas**	**1.56**	**206**	*e*S		Sn	12 35 30.4		-0.7
CPD	**Cerro la Pandu**	**1.59**	**165**‖	*e*P		Pn	12 35 10.9		-1.6
CPD	**Cerro la Pandu**	**1.59**	**165**	*e*S		Sn	12 35 30.3		-1.6
CPD	**Cerro la Pandu**	**1.59**	**165**‖	*e*P		Pn	12 35 10.9		-1.6
CPD				*e*S		Sn	12 35 30.3		-1.6
MTP	**Monte Pirata**	**1.66**	**153**‖	*e*P		Pn	12 35 11.9		-1.4
MTP	**Monte Pirata**	**1.66**	**153**	*e*S		Sn	12 35 32.2		-1.3
MTP	**Monte Pirata**	**1.66**	**153**‖	*e*P		Pn	12 35 11.9		-1.4
MTP				*e*S		Sn	12 35 32.2		-1.3
CRPR	**Cabo Rojo, PR**	**1.73**	**205**‖	*e*P		Pn	12 35 13.3		-0.9
CRPR	**Cabo Rojo, PR**	**1.73**	**205**	*e*S		Sn	12 35 34.5		-0.5
CRPR	**Cabo Rojo, PR**	**1.73**	**205**‖	*e*P		Pn	12 35 13.3		-0.9
CRPR				*e*S		Sn	12 35 34.5		-0.5
STVI	**Saint Thomas**	**1.81**	**133**‖	*e*P		Pn	12 35 15.0		-0.3
STVI	**Saint Thomas**	**1.81**	**133**	*e*S		Sn	12 35 36.8		-0.2
STVI	**Saint Thomas**	**1.81**	**133**‖	*e*P		Pn	12 35 15.0		-0.3
STVI				*e*S		Sn	12 35 36.8		-0.2

*ISK **09** 12:43:36.2, 39°.43N×28°.21E, h16km, MD2.5*
*ISCJB **09** 12:43:37.9±1.0, 39°.50N±0°.04×28°.20E±0°.05, h22km±14km, Error ellipse: s-maj=7.9km s-min=5.2km az=34.3*
*CSEM **09** 12:43:37.3±0.2, 39°.51N×28°.21E, h20km, MD2.9, Error ellipse: s-maj=6.0km s-min=4.1km az=41.0*
*DDA **09** 12:43:38.1, 39°.44N×28°.16E, h6km, MD2.9*
ISC 09 12:43:37.4±0.9, 39°.45N±0°.04×28°.21E±0°.03, h14km±8km, n16, σ0s59/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DURS	**Dursunbey**	**0.26**	**53**	*i* P		**Pg**	**12 43 42.7**		**-0.3**
DURS				*i* S		**Sb**	**12 43 48.9**		**+0.6**
DURS	**Dursunbey**	**0.26**	**53**	*i* P		**Pg**	**12 43 42.7**		**-0.3**
DURS				*i* S		**Sb**	**12 43 48.9**		**+0.6**
BALB	**Balikesir**	**0.32**	**308**	*e*PG		**Pg**	**12 43 43.5**		**-0.5**
BALB				*e*SG		**Sg**	**12 43 48.9**		**+0.5**
BALB	**Balikesir**	**0.32**	**308**	*e*Pg		**Pg**	**12 43 43.5**		**-0.5**
BALB				*e*Sg		**Sg**	**12 43 48.9**		**+0.5**
DST	**Dursunbey**	**0.35**	**64**	*e*PG		**Pg**	**12 43 44.1**		**-0.6**
DST				*e*SG		**Sg**	**12 43 49.9**		**+0.3**
DST	**Dursunbey**	**0.35**	**64**	*e*Pg		**Pg**	**12 43 44.1**		**-0.6**
DST				*e*Sg		**Sg**	**12 43 49.9**		**+0.3**
DEMI	**Demirci**	**0.56**	**135**	*i* P		**Pb**	**12 43 49.4**		**+0.3**
DEMI				*i* S		**Sn**	**12 43 59.0**		**-1.3**
DEMI	**Demirci**	**0.56**	**135**	*i* P		**Pb**	**12 43 49.4**		**+0.3**
DEMI				*i* S		**Sn**	**12 43 59.0**		**-1.3**
GONE	**Gonen-Balikesi**	**0.72**	**326**	*e*PG		**Pg**	**12 43 50.8**		**-0.7**
GONE				*e*SG		**Sb**	**12 44 01.9**		**+0.4**
GONE	**Gonen-Balikesi**	**0.72**	**326**	*e*Pg		**Pg**	**12 43 50.8**		**-0.7**
GONE				*e*Sg		**Sb**	**12 44 02.0**		**+0.4**
TVSB	**Tavsanli**	**0.97**	**89**	*e*PG		**Pb**	**12 43 55.8**		**-0.3**
TVSB				*e*SG		**Sg**	**12 44 09.5**		**+0.6**
TVSB	**Tavsanli**	**0.97**	**89**	*e*Pg		**Pb**	**12 43 55.8**		**-0.3**
TVSB				*e*Sg		**Sg**	**12 44 09.5**		**+0.6**
MANT	**Manisa**	**0.99**	**164**	*i* P		**Pn**	**12 43 57.3**		**+0.2**
MANT				*i* S		**Sn**	**12 44 11.9**		**+0.8**
MANT	**Manisa**	**0.99**	**164**	*i* P		**Pn**	**12 43 57.3**		**+0.2**
MANT				*i* S		**Sn**	**12 44 11.9**		**+0.8**
KULA	**Kula-Manisa**	**0.99**	**159**	*e*PG		**Pb**	**12 43 56.3**		**-0.2**
KULA				*e*SG		**Sb**	**12 44 09.5**		**0.0**
KULA	**Kula-Manisa**	**0.99**	**159**	*e*Pg		**Pb**	**12 43 56.3**		**-0.2**
KULA				*e*Sg		**Sb**	**12 44 09.5**		**0.0**

*IDC **09** 12:53:11.3±0.8, 9°.66S×113°.14E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.4/21, mbtmp4.3/15, ML4.3/1, MS3.7/6, Ms1 3.8/6, ms1mx3.3/27, Error ellipse: s-maj=28.0km s-min=11.4km az=51.0*
*ISCJB **09** 12:53:14.9±0.5, 10°.04S±0°.03×112°.85E±0°.03, h54km±4km, mb4.6/30, MS3.5/3, Error ellipse: s-maj=5.5km s-min=4.2km az=19.1*
*AUST **09** 12:53:14.9, 10°.44S×112°.88E, h20km*
*NEIC **09** 12:53:15.9±0.3, 9°.82S×112°.96E, h35km, mb4.9/13, Error ellipse: s-maj=10.5km s-min=5.6km az=219.0*
*DJA **09** 12:53:15.6±0.8, 10°.5s′×11°.3E±″, h11km±7km, M4.8/24, mb5.0/14, mB5.4/5, MLv4.7/24, Mw(mB)4.8/5*
*BJI **09** 12:53:15.5, 9°.70S×112°.80E, h40km, mB5.0/7, mb4.7/18*
ISC 09 12:53:15.7±0.4, 10°.04S±0°.04×112°.84E±0°.04, h39km±3km, n121, σ1s38/125, mb4.6/30, MS3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
GMJI	**Gumukmas**	**1.85**	**19**	P		Pn	12 53 41.6		-3.4
GMJI				S		**Sn**	**12 54 07.3**		**+0.1**
KRKI	**Karangkates**	**1.91**	**348**	P		**Pn**	**12 53 44.1**		**-1.6**
KRKI				S		**Sn**	**12 54 08.7**		**+0.2**
JAGI	**Jajag, Banyuwa**	**2.03**	**40**	P		**Pn**	**12 53 45.9**		**-1.5**
JAGI				S		**Sn**	**12 54 12.0**		**+0.5**
PWJI	**Pagerwojo**	**2.25**	**333**	P		**Pn**	**12 53 49.7**		**-0.7**
PWJI				S		**Sn**	**12 54 17.6**		**+0.7**
BYJI	**Banyuwangi**	**2.35**	**40**	P		**Pn**	**12 53 51.5**		**-0.3**
BYJI				S		**Sn**	**12 54 20.0**		**+0.5**
BLJI	**Banyuglugur**	**2.40**	**18**	P		**Pn**	**12 53 52.3**		**-0.2**
BLJI				S		**Sn**	**12 54 20.6**		**0.0**
NBBI	**Negara**	**2.42**	**47**	P		**Pn**	**12 53 54.4**		**+1.7**
PCJI	**Pacitan**	**2.46**	**318**	P		**Pn**	**12 53 54.2**		**+0.9**
PCJI				S		**Sn**	**12 54 24.0**		**+1.9**
SJI	**Sawahan**	**2.52**	**335**	P		**Pn**	**12 53 54.5**		**+0.3**
SJI				S		**Sn**	**12 54 24.5**		**+0.7**
IGBI	**Denpasar**	**2.58**	**62**	P		**Pn**	**12 53 55.8**		**+0.8**
DNP	**Denpasar**	**2.71**	**60**	P		**Pn**	**12 53 56.5**		**-0.2**
SRBI	**Singaraja**	**3.04**	**51**	P		**Pn**	**12 54 01.0**		**-0.4**
UGM	**Wanagama**	**3.11**	**313**	*e*Pn		**Pn**	**12 54 03.1**		**+0.8**
UGM	**Wanagama**	**3.11**	**313**	P		**Pn**	**12 54 03.1**		**+0.8**
	baz=3.4,SNR=50								
UGM	**Wanagama**	**3.11**	**313**	P		**Pn**	**12 54 04.2**		**+1.9**
UGM				S		**Sn**	**12 54 40.2**		**+1.9**
KMMI	**Kalianget**	**3.17**	**21**	P		**Pn**	**12 54 03.1**		**0.0**
KHKI	**Kahang-Kahang**	**3.20**	**59**	P		**Pn**	**12 54 03.2**		**-0.3**
YOGI	**Yogyakarta**	**3.34**	**311**	P		**Pn**	**12 54 06.2**		**+1.1**
SMRI	**Semarang**	**3.80**	**321**	P		**Pn**	**12 54 09.9**		**+1.1**
BJII	**Banjarnegara**	**4.09**	**311**	P		**Pn**	**12 54 17.0**		**+1.1**
CISI	**Cisompet, Garu**	**5.54**	**296**	P		**Pn**	**12 54 37.4**		**+1.6**
	178nm,0.6s,4μm1.7nm								
BBKI	**Banjar Baru**	**6.83**	**17**	P		**Pn**	**12 54 55.4**		**+2.0**
	155nm,1.1s,2μm0.5nm								
XMI	**Christmas Isla**	**7.05**	**266**	P		**Pn**	**12 54 57.2**		**+0.8**
	baz=7.1,SNR=20								
XMI				S		**Sn**	**12 56 12.8**		**-2.5**
	baz=7.1,SNR=3.3								
XMIS	**Christmas Isla**	**7.08**	**266**	*e*Pn		**Pn**	**12 54 57.3**		**+0.4**
XMIS	**Christmas Isla**	**7.08**	**266**	P		**Pn**	**12 54 57.4**		**+0.5**
	baz=7.1,SNR=12								
PBKI	**Pangkalan Bun**	**7.38**	**351**	P		**Pn**	**12 55 02.4**		**+1.5**
	120nm,1.0s,3μm0.4nm								
KAPI	**Kappang**	**8.48**	**54**	Pn		**Pn**	**12 55 14.4**		**-1.7**
	2.8nm,0.3s,baz=240,slow=9.3,SNR=3.5								
KAPI				LR		LR	12 59 00.8		
	comp=Z,507nm,18.7s,baz=232,slow=44								
KAPI	**Kappang**	**8.48**	**54**	Pn		**Pn**	**12 55 14.4**		**-1.7**
BKSI	**Bulukumba**	**8.61**	**58**	P		Pn	12 55 21.2		+3.4
	25nm,0.7s,371nm0.1nm								
MMRI	**Maumere**	**9.38**	**82**	P		**Pn**	**12 55 30.0**		**+1.5**
	52nm,0.8s								
LWLI	**Liwa**	**10.03**	**299**	P		**Pn**	**12 55 38.9**		**+1.5**
	110nm,0.6s								
KDI	**Kendari**	**11.43**	**59**	P		Pn	12 56 08.7		+12
PCI	**Palu**	**11.44**	**38**	P		Pn	12 56 11.3		+15
	baz=12,SNR=3.6								
PCI				S		**Sn**	**12 58 06.7**		**+3.5**
	baz=12,SNR=16								
KSM	**Kuching**	**11.71**	**347**	P		Pn	12 56 10.5		+10
	baz=12,SNR=3.3								
KSI	**Kapahiang**	**11.98**	**301**	P		**Pn**	**12 56 04.9**		**+0.8**
	272nm,0.7s,3μm								
SBUM	**Sibu**	**12.42**	**357**	P		**Pn**	**12 56 09.1**		**-0.9**
	14nm,0.9s								
GIRL	**Giralia**	**12.61**	**174**	P		**Pn**	**12 56 12.6**		**0.0**
	baz=12,SNR=13								
GIRL				S		**Sn**	**12 58 28.8**		**-2.9**
	baz=12,SNR=5.5								
MBWA	**Marble Bar**	**12.89**	**150**	*e*Pn		**Pn**	**12 56 13.6**		**-2.9**
FITZ	**Fitzroy Crossi**	**14.78**	**124**	Pn		**Pn**	**12 56 40.5**		**-1.6**

	1.0nm,0.3s,baz=297,slow=6.8,SNR=23								
FITZ					Sn	Sn	12 59 13.4		-11
	0.4nm,0.3s,baz=74,slow=16,SNR=4.4								
FITZ					LR	LR	13 02 30.2		
	comp=Z,188nm,18.0s,baz=303,slow=38								
FITZ	**Fitzroy Crossi**	**14.78**	**124**	*e*Pn		**Pn**	**12 56 40.4**		**-1.6**
FITZ					Sn	Sn	12 59 13.4		-11
FITZ	**Fitzroy Crossi**	**14.78**	**124**	P		**Pn**	**12 56 40.3**		**-1.7**
	baz=14,SNR=18								
PPI	**Padang Panjang**	**15.61**	**307**	S		S	13 00 18.5		+19
	baz=16,SNR=5.6								
MEEK	**Meekatharra**	**17.39**	**162**	P		**Pn**	**12 57 14.9**		**-0.6**
	baz=17,SNR=52								
MEEK				S		Sn	13 00 19.0		-9.2
	baz=17,SNR=6.5								
MTN	**Manton Dam**	**18.15**	**101**	P		**P**	**12 57 25.9**		**+1.1**
	baz=18,SNR=6.6								
PSI	**Prapat**	**18.83**	**312**	LR		LR	13 06 44.9		
	comp=Z,453nm,19.2s,baz=338,slow=43								
MORW	**Morawa**	**19.17**	**171**	P		**Pn**	**12 57 38.6**		**+1.5**
	baz=19,SNR=12								
TLE	**Tual**	**20.19**	**79**	P		**P**	**12 57 46.2**		**-1.0**
	baz=20,SNR=4.8								
TLE	**Tual**	**20.19**	**79**	P		Pn	12 57 49.4		0.0
	55nm,1.1s								
FAKI	**Fak Fak**	**20.53**	**71**	P		**P**	**12 57 49.9**		**-1.1**
	49nm,0.7s								
BLDU	**Ballidu**	**20.79**	**171**	P		Pn	12 58 04.2		+8.0
	baz=20,SNR=6.7								
DAV	**Davao City (W)**	**21.21**	**37**	LR		LR	13 05 45.6		
	comp=Z,167nm,21.0s,baz=208,slow=36								
WRA	**Warramunga Arr**	**22.96**	**118**	P		**P**	**12 58 16.8**		**-0.1**
	7.7nm,0.9s,baz=292,slow=12,SNR=32								
WRA				S		**S**	**13 02 27.7**		**+3.1**
	1.8nm,0.7s,baz=284,slow=25,SNR=6.0								
WRA	**Warramunga Arr**	**22.96**	**118**	P		**P**	**12 58 16.8**		**-0.1**
WRA				S		**S**	**13 02 27.7**		**+3.1**
WRAB	**Tennant Creek**	**22.97**	**118**	*e*P		**P**	**12 58 17.2**		**+0.2**
	76nm,2.3s								
NWAO	**Narrogin (SRO)**	**23.14**	**171**	LR		LR	13 07 24.7		
	comp=Z,167nm,21.3s,baz=131,slow=36								
AS31	**Alice Springs**	**24.25**	**127**	*e*P		**P**	**12 58 30.8**		**+1.5**
ASAR	**Alice Springs**	**24.25**	**127**	P		**P**	**12 58 31.1**		**+1.9**
	3.6nm,0.8s,baz=301,slow=9.1,SNR=68								
ASAR				PcP		**PcP**	**13 02 11.5**		**+2.5**
	0.6nm,0.3s,baz=306,slow=1.8,SNR=7.8								
ASAR				S		S	13 02 58.8		+13
	6.3nm,1.0s,baz=295,slow=22,SNR=12								
ASAR	**Alice Springs**	**24.25**	**127**	P		**P**	**12 58 31.1**		**+1.9**
ASAR				PcP		**PcP**	**13 02 11.5**		**+2.5**
ASAR				S		S	13 02 58.8		+13
JAY	**Jayapura**	**28.67**	**77**	P		P	12 59 19.3		+10
	baz=29,SNR=3.3								
COEN	**Coen**	**29.92**	**101**	P		**P**	**12 59 21.4**		**+1.2**
	baz=30,SNR=4.2								
CMAR	**Chiang Mai Arr**	**31.

ellipse: s-maj=140.4km s-min=27.2km az=74.0
*ISCJB **09** 13:21:47.6±1.1,32.°00N±0.°06×142.°9E±0.°2, h86km, mb3.5/2, Error ellipse: s-maj=21.9km s-min=7.3km az=165.4*
*JMA **09** 13:21:47.5±0.7, 31.°90N×142.°75E, h73km, M3.5*
ISC 09 13:21:49.5±1.5, 31.°97N±0.°09×142.°8E±0.°2, h86km, n14, σ0s66/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.08**	**331**	P		**Pn**	**13 22 35.5**	**0.0**
BSO3	**Boso 3**	**3.42**	**327**	P		**Pn**	**13 22 40.7**	**+0.4**
JHU	**Hanno**	**4.86**	**324**	P		**Pn**	**13 22 59.9**	**-0.2**
JHU				*e*S		**Sn**	**13 23 56.1**	**+1.1**
JHO	**Hitachi**	**4.99**	**339**	P		**Pn**	**13 23 01.8**	**-0.1**
JHO				*e*S		**Sn**	**13 23 57.5**	**-0.7**
JYN	**Shimob**	**5.00**	**316**	P		**Pn**	**13 23 02.3**	**+0.2**
JRY	**Ryogami san**	**5.18**	**322**	P		**Pn**	**13 23 04.3**	**-0.2**
JAG	**Ashikaga**	**5.24**	**329**	P		**Pn**	**13 23 05.1**	**-0.2**
JNG	**Nsakai**	**5.90**	**320**	P		**Pn**	**13 23 15.3**	**+0.9**
JFT	**Otama**	**5.90**	**341**	P		**Pn**	**13 23 15.3**	**+1.0**
JFT				*e*S		**Sn**	**13 24 20.9**	**+0.4**
MJAR	**Matsushiro Arr**	**5.94**	**321**	Pn		**Pn**	**13 23 13.7**	**-1.2**
	0.6nm,0.3s,baz=150,slow=10,SNR=7.9							
MJAR						Sn	**13 24 21.1**	**-0.3**
	0.2nm,0.3s,baz=151,slow=25,SNR=2.3							
JMM	**Marumori**	**6.11**	**345**	P		**Pn**	**13 23 17.6**	**+0.4**
JMM				*e*S		**Sn**	**13 24 24.8**	**-0.8**
JMK	**Ichinoseki**	**7.09**	**350**	*e*S		**Sn**	**13 24 49.1**	**-0.4**
WRA	**Warramunga Arr**	**52.25**	**190**	P		**P**	**13 30 51.6**	**-0.4**
	0.3nm,0.5s,baz=7.0,slow=7.7,SNR=8.2							
ASAR	**Alice Springs**	**55.97**	**190**	P		**P**	**13 31 19.2**	**+0.2**
	0.2nm,0.7s,baz=3.2,slow=5.1,SNR=4.7							

IDC 09 13:24:57.9±4.2, 4.°29S×150.°04E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=162.2km s-min=47.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.13**	**193**	LR		LR	13 33 06.8	
	comp=Z,51nm,21.0s,baz=186,slow=30							
WRA	**Warramunga Arr**	**21.82**	**223**	P		P	13 29 51.5	-0.4
	1.6nm,0.9s,baz=41,slow=11,SNR=10.0							
ASAR	**Alice Springs**	**24.77**	**217**	P		P	13 30 21.7	+0.1
	0.7nm,0.8s,baz=54,slow=8.2,SNR=7.7							
FITZ	**Fitzroy Crossi**	**27.54**	**238**	P		P	13 30 46.9	+0.3
	2.9nm,0.8s,baz=72,slow=6.3,SNR=6.5							
FITZ						LR	13 42 53.4	
	comp=Z,76nm,18.6s,baz=236,slow=39							
TORD	**Torodi Ar. Bea**	**147.53**	**288**	PKPbc		PKPbc	13 44 44.4	-0.8
	0.3nm,0.7s,baz=58,slow=2.4,SNR=2.6							

*ISK **09** 13:42:38.7, 37.°20N×38.°68E, h10km, MD2.6*
*ISCJB **09** 13:42:40.0±1.5, 37.°28N±0.°07×38.°67E±0.°07, h5km±7km, Error ellipse: s-maj=13.4km s-min=6.5km az=144.4*
*CSEM **09** 13:42:40.0±0.6, 37.°28N×38.°67E, h8km, MD2.8, Error ellipse: s-maj=16.3km s-min=6.6km az=144.0*
*DDA **09** 13:42:44.6, 37.°49N×38.°29E, h9km, MD2.8*
ISC 09 13:42:40.6±1.4, 37.°29N±0.°06×38.°65E±0.°05, h8km±10km, n12, σ0s75/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.21**	**42**	*e*PG		**Pg**	**13 42 44.5**	**-0.3**
URFA	**Urfa**	**0.21**	**42**	*e*Pg		**Pg**	**13 42 44.5**	**-0.3**
ATAB	**Bozova**	**0.34**	**303**	*i* P		**Pg**	**13 42 46.6**	**-0.6**
ATAB				*i* S		**Sg**	**13 42 52.3**	**+0.7**
ATAB	**Bozova**	**0.34**	**303**	*i* P		**Pg**	**13 42 46.6**	**-0.6**
ATAB				*i* S		**Sg**	**13 42 52.3**	**+0.7**
MALT	**Malatya**	**1.04**	**350**	*e*PN		**Pb**	**13 43 00.9**	**0.0**
MALT				*e*SN		**Sn**	**13 43 16.6**	**+0.2**
MALT	**Malatya**	**1.04**	**350**	*e*Pn		**Pb**	**13 43 00.9**	**0.0**
MALT				*e*Sn		**Sn**	**13 43 16.6**	**+0.2**
GAZ	**Gaziantep**	**1.15**	**265**	*e*PN		**Pg**	**13 43 01.4**	**-1.3**
GAZ				*e*SN		**Sb**	**13 43 18.2**	**+0.3**
GAZ	**Gaziantep**	**1.15**	**265**	*e*Pn		**Pg**	**13 43 01.4**	**-1.3**
GAZ				*e*Sn		**Sb**	**13 43 18.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.21**	**25**	*e*PN		**Pb**	**13 43 03.1**	**-0.7**
SVRC				*e*SN		**Sn**	**13 43 21.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.21**	**25**	*e*Pn		**Pb**	**13 43 03.2**	**-0.7**
SVRC				*e*Sn		**Sn**	**13 43 21.1**	**+0.4**
KUZU	**Kuzuini**	**1.36**	**248**	*i* P		**Pb**	**13 43 06.3**	**0.0**
KUZU				*i* S		**Sg**	**13 43 25.6**	**+1.3**
KUZU	**Kuzuini**	**1.36**	**248**	*i* P		**Pb**	**13 43 06.3**	**0.0**
KUZU				*i* S		**Sg**	**13 43 25.6**	**+1.3**

*BJI **09** 13:59:08.1, 1.°00S×123.°51E, h83km, mB5.0/18, mb4.7/28, Ms4.6/15, Ms7 4.3/14*
*IDC **09** 13:59:10.6±1.5, 0.°38S×123.°18E, h58km±13km, mb4.1/18, mb1 4.2/20, mb1mx4.1/28, mbtmp4.1/20, MS3.8/16, Ms1 3.8/16, ms1mx3.6/33, Error ellipse: s-maj=14.5km s-min=8.5km az=76.0*
*ISCJB **09** 13:59:10.8±0.4, 0.°52S±0.°03×123.°23E±0.°03, h66km±4km, mb4.7/51, Error ellipse: s-maj=5.0km s-min=4.3km az=148.6*
*DJA **09** 13:59:11.4±0.6, 1.°5S±2.°×12.°3E±.°, h11km±5km, M4.9/29, mB5.3/15, mb5.0/29, MLv5.1/19, Mw(mB)4.8/15*
*NEIC **09** 13:59:13.5±0.9, 0.°49S×123.°24E, h84km±9km, mb4.9/22, Error ellipse: s-maj=8.8km s-min=5.7km az=64.0*
NEIC Felt [II] at Luwuk.
*AUST **09** 13:59:16.3, 1.°00S×123.°00E, h100km*
ISC 09 13:59:11.7±0.6, 0.°47S±0.°04×123.°18E±0.°05, h63km±5km, n201, σ1s55/199, mb4.7/51, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.70**	**216**	P		**Pn**	**13 59 23.6**	**-2.6**
LUWI				S		**Sn**	**13 59 35.4**	**-1.4**
KMSI	**Cibinong**	**1.31**	**38**	P		**Pn**	**13 59 34.2**	**+0.3**
MRSI	**Marisa**	**1.56**	**307**	P		**Pn**	**13 59 35.3**	**-1.9**
APSI	**Ampana**	**1.59**	**254**	P		**Pn**	**13 59 37.2**	**-0.5**
APSI				S		Sn	14 00 02.4	+5.0
MNI	**Manado**	**2.52**	**41**	P		**Pn**	**13 59 51.4**	**+1.1**
PCI	**Palu**	**3.37**	**263**	P		Pn	13 59 55.1	-6.9
KDI	**Kendari**	**3.51**	**189**	P		**Pn**	**14 00 02.8**	**-1.0**
TTSI	**Tana Toraja**	**4.22**	**233**	P		**Pn**	**14 00 14.2**	**+0.6**
LBMI	**Labuha**	**4.32**	**92**	P		**Pn**	**14 00 16.0**	**+1.1**
TNTI	**Ternate**	**4.36**	**74**	P		**Pn**	**14 00 16.6**	**+1.1**
SPSI	**Sidrap Palu**	**4.87**	**224**	P		**Pn**	**14 00 23.3**	**+0.9**
BBSI	**Bau Bau**	**5.02**	**187**	P		**Pn**	**14 00 25.5**	**+1.0**
MJSI	**Majene**	**5.20**	**234**	P		Pn	14 00 36.8	+10
KAPI	**Kappang**	**5.67**	**217**	P		**Pn**	**14 00 33.1**	**-0.3**
	18nm,0.3s,baz=44,slow=7.4,SNR=30							
KAPI				S		**Sn**	**14 01 37.4**	**+0.2**
	19nm,0.3s,baz=204,slow=19,SNR=3.5							
KAPI					LR	LR	14 03 26.1	
	comp=Z,962nm,18.0s,baz=196,slow=44							
KAPI	**Kappang**	**5.67**	**217**	*e*P		**Pn**	**14 00 32.8**	**-0.6**
	104nm,0.6s							
KAPI				S		**Sn**	**14 01 37.4**	**+0.2**
KAPI	**Kappang**	**5.67**	**217**	P		**Pn**	**14 00 34.0**	**+0.6**
	147nm,0.6s,2µm0.7nm							
BKSI	**Bulukumba**	**5.71**	**212**	P		**Pn**	**14 00 34.9**	**+1.0**
	103nm,1.1s,2µm0.6nm							
AAI	**Ambon**	**5.94**	**123**	P		**Pn**	**14 00 38.0**	**+0.9**
	baz=5.8,SNR=16							
AAI	**Ambon**	**5.94**	**123**	P		**Pn**	**14 00 38.2**	**+1.1**
	283nm,0.8s,4µm1.3nm							
SMKI	**Samarinda**	**5.97**	**270**	P		Pn	14 00 43.1	+5.5
	296nm,0.8s,6µm1.3nm							
MSAI	**Masohi**	**6.41**	**117**	P		**Pn**	**14 00 44.5**	**+0.9**
	26nm,0.7s,966nm0.2nm							
TSM	**Tawau**	**7.11**	**312**	P		**Pn**	**14 00 54.2**	**+1.1**
MYLDM	**Lahad Datu**	**7.30**	**320**	P		Pn	14 01 00.6	+4.8
MYLDM	**Lahad Datu**	**7.30**	**320**	P		Pn	14 00 59.7	+3.9
	505nm,1.2s,5µm1.7nm							
KBKI	**Kotabaru**	**7.55**	**248**	P		Pn	14 01 09.9	+11
CTBH	**Cotabato--PC H**	**7.71**	**8**	‖ *e*P		**Pn**	**14 01 02.5**	**+1.1**
DAV	**Davao City (W)**	**7.86**	**18**	P		Pn	14 01 07.0	+3.6
	7.2nm,0.3s,baz=243,slow=6.1,SNR=7.4							
DAV					LR	LR	14 04 07.1	
	comp=Z,426nm,18.7s,baz=322,slow=38							
DAV	**Davao City (W)**	**7.86**	**18**	P		Pn	14 01 06.7	+3.3
DAV	**Davao City (W)**	**7.86**	**18**	P		Pn	14 01 09.1	+5.7
	274nm,0.6s,1.0nm							
MMRI	**Maumere**	**8.17**	**187**	P		**Pn**	**14 01 05.6**	**-2.0**
	103nm,1.4s,1µm							
SDKM	**Sandakan**	**8.52**	**316**	P		Pn	14 01 16.0	+3.5
BBKI	**Banjar Baru**	**8.85**	**250**	P		**Pn**	**14 01 18.2**	**+1.2**
	107nm,0.7s,1µm							
FAKI	**Fak Fak**	**9.38**	**105**	P		**Pn**	**14 01 21.9**	**-2.4**
	49nm,1.1s							
KKM	**Kota Kinabalu**	**9.50**	**313**	*e*P		Pn	14 01 28.7	+2.7
	57nm,0.8s							
KKM	**Kota Kinabalu**	**9.50**	**313**	P		Pn	14 01 29.1	+3.1
	baz=9.8,SNR=8.3							
KKM	**Kota Kinabalu**	**9.50**	**313**	P		Pn	14 01 29.2	+3.3
KKM	**Kota Kinabalu**	**9.50**	**313**	P		Pn	14 01 34.5	+8.6
	70nm,0.8s,898nm							
WSI	**Waingapu**	**9.58**	**197**	P		Pn	14 01 18.5	-8.4
	baz=9.1,SNR=5.0							
WSI	**Waingapu**	**9.58**	**197**	P		Pn	14 01 30.8	+3.9
	325nm,0.5s,14µm							
KDM	**Kudat**	**9.69**	**319**	P		Pn	14 01 32.3	+3.9
BTM	**Bintulu**	**10.73**	**290**	P		Pn	14 01 47.4	+4.7
TLE	**Tual**	**10.83**	**118**	P		**Pn**	**14 01 43.8**	**-0.3**
	baz=11,SNR=10							
TLE	**Tual**	**10.83**	**118**	P		**Pn**	**14 01 44.2**	**+0.1**
	196nm,1.1s							
SBUM	**Sibu**	**11.34**	**285**	P		Pn	14 01 56.0	+5.1
SBUM	**Sibu**	**11.34**	**285**	P		Pn	14 01 56.0	+5.1
	38nm,1.6s,1µm							
KSM	**Kuching**	**13.02**	**279**	*e*P		Pn	14 02 17.0	+3.1
	17nm,0.9s							
KSM	**Kuching**	**13.02**	**279**	P		**P**	**14 02 19.2**	**-2.9**
	baz=13,SNR=5.3							
KSM	**Kuching**	**13.02**	**279**	P		**P**	**14 02 19.3**	**-2.8**
KSM	**Kuching**	**13.02**	**279**	P		**P**	**14 02 19.7**	**-2.4**
	25nm,1.0s,535nm							
MTN	**Manton Dam**	**14.60**	**148**	P		**Pn**	**14 02 34.6**	**-0.4**
	baz=14,SNR=13							
TGY	**Tagaytay City**	**14.65**	**351**	P		P	14 02 43.0	+2.7
	7.2nm,0.3s,baz=168,slow=8.8,SNR=6.8							
TGY	**Tagaytay City**	**14.65**	**351**	P		P	14 02 43.0	+2.7
BJII	**Banjarnegara**	**15.07**	**243**	P		**P**	**14 02 49.3**	**+4.3**
	47nm,1.3s							
KDU	**Kakadu**	**15.24**	**143**	P		**Pn**	**14 02 44.3**	**+1.1**
	baz=15,SNR=11							
KDU				S		Sn	14 05 03.0	-28
	baz=15,SNR=6.8							
CISI	**Cisompet, Garu**	**16.86**	**245**	P		P	14 03 19.3	+14
PPBI	**Pangkal Pinang**	**17.12**	**264**	P		P	14 03 18.0	+10
JAY	**Jayapura**	**17.63**	**97**	P		P	14 03 26.9	+13
	baz=18,SNR=3.4							
FITZ	**Fitzroy Crossi**	**17.69**	**172**	P		**Pn**	**14 03 13.0**	**-0.8**
	0.7nm,0.3s,baz=5.8,slow=8.2,SNR=16							
FITZ						LR	LR	14 10 22.1
	comp=Z,104nm,19.5s,baz=358,slow=38							
FITZ	**Fitzroy Crossi**	**17.69**	**172**	P		**Pn**	**14 03 13.4**	**-0.4**
	4.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.69**	**172**	P		**Pn**	**14 03 13.7**	**-0.1**
	baz=17,SNR=12							
CGJI	**Cibinong**	**18.48**	**250**	P		Pn	14 03 29.3	+5.8
	56nm,1.2s							
KASI	**Kota Agung**	**19.32**	**255**	P		Pn	14 03 47.4	+14
MYKOM	**Kota Tinggi**	**19.46**	**277**	P		**Pn**	**14 03 36.5**	**+1.3**
KGM	**Kluang**	**20.01**	**277**	P		**Pn**	**14 03 41.7**	**-0.1**
KSI	**Kapahiang**	**20.82**	**261**	P		Pn	14 03 58.0	+6.7
	85nm,0.5s,2µm							
MBWA	**Marble Bar**	**20.84**	**189**	*e*P		**P**	**14 03 48.8**	**+0.5**
	18nm,1.0s							
RGRI	**Rengat**	**20.85**	**270**	P		Pn	14 03 52.6	+1.0
	946nm,0.4s,77µm							
FRIM	**Kepong**	**21.86**	**280**	P		**P**	**14 04 03.2**	**+3.8**
WRAB	**Tennant Creek**	**22.22**	**151**	*e*P		**P**	**14 04 02.6**	**-0.6**
	39nm,1.0s							
WRA	**Warramunga Arr**	**22.22**	**151**	P		**P**	**14 04 01.9**	**-1.3**
	39nm,1.1s,baz=333,slow=9.7,SNR=95							
WRA						S	**S**	**14 08 05.9**	**+1.7**
	2.1nm,1.2s,baz=325,slow=20,SNR=4.0							
WRA						ScP	**ScP**	**14 11 30.1**	**+0.2**
	1.0nm,0.5s,baz=323,slow=2.6,SNR=18							
WRA	**Warramunga Arr**	**22.22**	**151**	P		**P**	**14 04 01.9**	**-1.3**
WRA						S	**S**	**14 08 05.9**	**+1.7**
WRA						ScP	**ScP**	**14 11 30.1**	**+0.2**
IPM	**Ipoh**	**22.68**	**283**	*e*P		**P**	**14 04 09.4**	**+1.3**
	19nm,0.8s							
IPM	**Ipoh**	**22.68**	**283**	P		**P**	**14 04 09.7**	**+1.6**
IPM	**Ipoh**	**22.68**	**283**	P		**P**	**14 04 10.6**	**+2.5**
	26nm,0.9s							
PPI	**Padang Panjang**	**22.79**	**270**	P		**P**	**14 04 12.0**	**+2.7**
	45nm,1.2s,681nm							
KULM	**Kulim**	**23.22**	**285**	P		**P**	**14 04 14.8**	**+1.2**
MNSI	**Mandailing Nat**	**23.64**	**273**	P		**P**	**14 04 19.8**	**+2.3**
	35nm,1.2s							
TPUB	**Ta-pu**	**23.76**	**354**	*e*P		**P**	**14 04 19.6**	**+1.2**
	41nm,0.8s							
COEN	**Coen**	**23.90**	**125**	P		**P**	**14 04 20.9**	**+1.1**
	baz=24,SNR=17							
SSLB	**Suanglung**	**24.21**	**355**	*e*P		**P**	**14 04 23.4**	**+0.9**
	25nm,0.8s							
PSI	**Prapat**	**24.47**	**278**	P		**P**	**14 04 24.6**	**-0.5**
	8.1nm,0.7s,baz=138,slow=8.8,SNR=4.6							
PSI						LR	14 14 30.1	
	comp=Z,356nm,19.3s,baz=244,slow=38							
PSI	**Prapat**	**24.47**	**278**	P		**P**	**14 04 24.6**	**-0.5**
ASAR	**Alice Springs**	**25.30**	**156**	P		**P**	**14 04 32.8**	**+0.2**
	7.6nm,0.8s,baz=344,slow=13,SNR=67							
ASAR						PcP	**PcP**	**14 08 04.3**	**0.0**
	4.4nm,0.5s,baz=348,slow=2.1,SNR=32							
ASAR						ScP	**ScP**	**14 11 39.3**	**+1.1**
	0.5nm,0.5s,baz=338,slow=2.7,SNR=7.4							
ASAR						LR	LR	14 15 11.1	
	comp=Z,170nm,19.5s,baz=38,slow=38							
ASAR	**Alice Springs**	**25.30**	**156**	P		**P**	**14 04 32.8**	**+0.2**
ASAR						PcP	**PcP**	**14 08 04.3**	**0.0**
ASAR						ScP	**ScP**	**14 11 39.3**	**+1.1**
PMG	**Port Moresby**	**25.46**	**111**	P		**P**	**14 04 34.4**	**+0.4**
	20nm,0.7s,baz=273,slow=3.5,SNR=9.0							
PMG	**Port Moresby**	**25.46**	**111**	P		**P**	**14 04 34.4**	**+0.4**
PMG	**Port Moresby**	**25.46**	**111**	P		**P**	**14 04 35.2**	**+1.2**
	34nm,1.0s							
QIS	**Mount Isa**	**25.62**	**142**	P		**P**	**14 04 35.9**	**+0.4**
	baz=25,SNR=9.5							
GSI	**Gunungsitoli**	**25.67**	**274**	P		P	14 04 29.4	-6.5
	baz=26,SNR=7.7							
GSI						S	S	14 08 44.0	-16
	baz=26,SNR=5.9							
GSI	**Gunungsitoli**	**25.67**	**274**	P		P	14 04 47.9	+12
	76nm,1.2s							
MEEK	**Meekatharra**	**26.39**	**189**	P		**P**	**14 04 42.3**	**0.0**
	baz=26,SNR=3.4							
CTA	**Charters Tower**	**29.83**	**132**	LR		LR	14 18 06.8	
	comp=Z,248nm,18.3s,baz=320,slow=38							
CM31	**Chiang Mai Arr**	**30.35**	**310**	*e*P		**P**	**14 05 19.4**	**+1.7**
	3.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.35**	**310**	P		**P**	**14 05 18.5**	**+0.8**
	4.3nm,0.6s,baz=134,slow=7.2,SNR=26							
CMAR						PcP	**PcP**	**14 08 16.9**	**+0.2**
	1.3nm,0.7s,baz=161,slow=2.1,SNR=6.9							
CMAR						LR	LR	14 18 07.0	
	comp=Z,183nm,19.6s,baz=183,slow=38							
CMAR	**Chiang Mai Arr**	**30.35**	**310**	P		**P**	**14 05 18.5**	**+0.8**
CMAR						PcP	**PcP**	**14 08 16.9**	**+0.2**
CHTO	**Chiang Mai**	**30.56**	**310**	*e*P		**P**	**14 05 20.9**	**+1.3**
	8.8nm,0.8s							
CHTO	**Chiang Mai**	**30.56**	**310**	P		**P**	**14 05 21.2**	**+1.6**
BLDU	**Ballidu**	**30.61**	**191**	P		**P**	**14 05 20.3**	**+0.6**
	baz=30,SNR=10.0							
GYA	**Guiyang**	**31.15**	**330**	*e*P		P	14 05 28.5	+3.7
GYA					sP	sP	14 05 57.3	+10
GYA					S	**S**	**14 10 28.0**	**+1.6**
GYA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
KMI	**Kunming**	**32.23**	**324**	P		P	14 05 40.1	+5.7
KMI					pmax	pmax		
	comp=Z,8.0nm,0.9s							
NJ2	**Nanjing**	**32.60**	**353**	*e*P		**P**	**14 05 36.6**	**-0.7**
NJ2					pmax	pmax		
	comp=Z,10.0nm,1.0s							
NWAO	**Narrogin (SRO)**	**32.77**	**189**	LR		LR	14 19 47.5	
	comp=Z,129nm,18.5s,baz=282,slow=38							
CBIJ	**Chichi jima**	**32.95**	**32**	P		**P**	**14 05 38.9**	**-1.5**
	comp=Z,148nm,0.4s,baz=254,slow=7.1,SNR=25							
CBIJ	**Chichi jima**	**32.95**	**32**	P		**P**	**14 05 38.9**	**-1.5**
ENH	**Enshi**	**33.24**	**338**	*e*P		**P**	**14 05 44.3**	**+1.4**
	comp=Z,23nm,0.8s							
STKA	**Stephens Creek**	**35.76**	**153**	P		**P**	**14 06 05.1**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=345,slow=13,SNR=5.4							
STKA						PcP	**PcP**	**14 08 31.7**	**+0.2**
	comp=Z,3.9nm,0.4s,baz=338,slow=5.0,SNR=11							
STKA						LR	LR	14 20 20.6	
	comp=Z,123nm,18.1s,baz=21,slow=35							
STKA	**Stephens Creek**	**35.76**	**153**	P		**P**	**14 06 05.1**	**+0.4**
STKA					PcP	**PcP**	**14 08 31.7**	**+0.2**
STKA	**Stephens Creek**	**35.76**	**153**	P		**P**	**14 06 05.3**	**+0.6**
	baz=36,SNR=4.2							
CD2	**Chengdu**	**36.26**	**331**	P		**P**	**14 06 10.6**	**+1.6**
CD2					pP	pP	14 06 30.6	+5.9
CD2					sP	sP	14 06 40.7	+8.6
CD2					PP	**PP**	**14 07 36.0**	**+3.4**
CD2					S	**S**	**14 11 45.8**	**+0.7**
CD2					sS	**ScP**	**14 12 20.2**	**+6.0**
CD2					SS	**SnSn**	**14 14 16.0**	**-1.4**
CD2					pmax	pmax		
	comp=Z,60nm,0.9s							
CD2					pmax	pmax		
	comp=Z,150nm,6.1s							
CD2					LR	LR		
	comp=N,260nm,5.4s							
CD2					LR	LR		
	comp=Z,190nm,7.7s							
CMSA	**Cobar Meteorol**	**37.53**	**148**	P		**P**	**14 06 22.1**	**+2.4**
	baz=37,SNR=6.7							
KSRS	**Korea Array**	**37.99**	**6**	LR		LR	14 24 46.0	
	comp=Z,30nm,18.8s,baz=187,slow=40							
MAJO	**Matsushiro**	**39.38**	**19**	*e*P		**P**	**14 06 35.0**	**-0.2**
	comp=Z,7.2nm,0.8s							
MAT	**Matsushiro**	**39.38**	**19**	P		**P**	**14 06 34.4**	**-0.8**
MJAR	**Matsushiro Arr**	**39.38**	**19**	P		**P**	**14 06 33.8**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=195,slow=9.4,SNR=11							
MJAR						LR	LR	14 20 44.6	
	comp=Z,55nm,20.1s,baz=200,slow=33							
MJAR	**Matsushiro Arr**	**39.38**	**19**	P		**P**	**14 06 33.8**	**-1.5**
SHL	**Shillong**	**39.80**	**313**	*e*P		**P**	**14 06 40.0**	**+0.9**
ARMA	**Armidale**	**40.22**	**140**	P		**P**	**14 06 44.5**	**+2.1**
	baz=40,SNR=7.6							
LZH	**Lanzhou**	**40.58**	**336**	*e*P		**P**	**14 06 47.6**	**+2.3**
LZH					pP	pP	14 07 07.8	+6.5
LZH					sP	sP	14 07 18.3	+10
LZH					PP	**PnPn**	**14 08 25.2**	**+0.8**
LZH					*e*S	**S**	**14 12 55.4**	**+5.0**
LZH					sS	sS	14 13 28.0	+10
LZH					pmax	pmax		
	comp=Z,16nm,1.0s							
LZH					pmax	pmax		
	comp=Z,110nm,4.1s							
LZH					LR	LR		
	comp=N,140nm,10.2s							
LZH					LR	LR		
	comp=E,190nm,11.2s							
LZH					LR	LR		
	comp=Z,390nm,13.4s							
BJI	**Beijing**	**40.82**	**352**	P		**P**	**14 06 49.4**	**+2.4**
BJI					pmax	pmax		
	comp=Z,7.0nm,0.5s							
BJI					LR	LR		
	comp=Z,78nm,36.6s							
HHC	**Hu-ho-hao-te**	**42.46**	**347**	*e*P		**P**	**14 07 01.4**	**+0.8**
HHC					pP	**pP**	**14 07 19.9**	**+3.3**
HHC					sP	sP	14 07 28.8	+4.8
HHC					PP	**PP**	**14 08 44.3**	**+4.1**
HHC					S	**S**	**14 13 18.3**	**+0.2**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,84nm,5.3s							
HHC					LR	LR		
	comp=N,290nm,16.7s							
HHC					LR	LR		
	comp=E,150nm,16.7s							
HHC					LR	LR		
	comp=Z,78nm,15.7s							
LSA	**Lhasa**	**42.81**	**317**	P		**P**	**14 07 04.2**	**+0.1**
LSA	**Lhasa**	**42.81**	**317**	*e*P		**P**	**14 07 04.7**	**+0.6**
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**43.87**	**311**	*e*P		**P**	**14 07 14.2**	**+1.8**
	comp=Z,28nm,0.7s							
ODAN	**Odare**	**43.87**	**311**	*e*P		**P**	**14 07 14.2**	**+1.8**
	comp=Z,28nm,0.7s							
TAPN	**Taplejung**	**43.89**	**312**	*e*P		**P**	**14 07 12.9**	**+0.3**
	comp=Z,14nm,0.5s							
TAPN	**Taplejung**	**43.89**	**312**	*e*P		**P**	**14 07 12.9**	**+0.3**
	comp=Z,14nm,0.5s							
CN2	**Changchun**	**44.12**	**2**	*e*P		P	14 07 16.6	+2.8
RAMN	**Ramite**	**44.51**	**311**	*e*P		**P**	**14 07 19.2**	**+1.7**
	comp=Z,52nm,0.6s							
RAMN	**Ramite**	**44.51**	**311**	*e*P		**P**	**14 07 19.2**	**+1.7**
	comp=Z,52nm,0.6s							
GTA	**Gaotai**	**45.09**	**334**	*e*P		P	14 07 24.5	+

KSH					LR	LR			
	comp=E,200nm,10.0s								
KSH					LR	LR			
	comp=Z,230nm,6.6s								
MK31	**Makanchi Array**	**59.10**	**328**	*e*P	**P**	**14 09 04.7**	**-0.9**		
MKAR	**Makanchi Array**	**59.10**	**328**	P	**P**	**14 09 04.6**	**-1.0**		
	comp=Z,1.6nm,0.4s,baz=122,slow=8.4,SNR=42								
MKAR				PcP	**PcP**	**14 09 52.3**	**-1.4**		
	comp=Z,2.4nm,0.6s,baz=172,slow=3.2,SNR=7.0								
MKAR				ScP	**ScP**	**14 13 46.7**	**-2.4**		
	comp=Z,0.3nm,0.6s,baz=134,slow=4.8,SNR=4.3								
MKAR	**Makanchi Array**	**59.10**	**328**	P	**P**	**14 09 04.6**	**-1.0**		
MKAR				PcP	**PcP**	**14 09 52.3**	**-1.4**		
MKAR				ScP	**ScP**	**14 13 46.7**	**-2.4**		
PETK	**Petropavlovsk-**	**60.64**	**23**	P	**P**	**14 09 14.8**	**-1.2**		
	comp=Z,1.9nm,0.6s,baz=216,slow=4.3,SNR=12								
PETK				ScP	**ScP**	**14 13 53.2**	**-2.5**		
	comp=Z,2.7nm,0.9s,baz=157,slow=4.8,SNR=3.6								
PETK	**Petropavlovsk-**	**60.64**	**23**	P	**P**	**14 09 14.8**	**-1.2**		
PETK				ScP	**ScP**	**14 13 53.2**	**-2.5**		
AAK	**Ala-Archa**	**61.20**	**321**	P	**P**	**14 09 19.5**	**-0.7**		
	comp=Z,1.3nm,0.5s,baz=136,slow=12,SNR=5.9								
AAK	**Ala-Archa**	**61.20**	**321**	P	**P**	**14 09 19.5**	**-0.7**		
KBL	**Kabul**	**61.38**	**310**	P	**P**	**14 09 20.6**	**-1.0**		
	baz=62,SNR=4.6								
ZAA0	**Zalesovo Array**	**62.81**	**336**	P	**P**	**14 09 29.5**	**-1.1**		
ZALV	**Zalesovo Beam**	**62.81**	**336**	P	**P**	**14 09 28.2**	**-2.3**		
	comp=Z,0.6nm,0.4s,baz=137,slow=7.2,SNR=5.7								
ZALV	**Zalesovo Beam**	**62.81**	**336**	P	**P**	**14 09 28.2**	**-2.3**		
KURBB	**Kurchatov Arra**	**63.46**	**330**	P	**P**	**14 09 33.0**	**-1.9**		
	comp=Z,0.9nm,0.4s,baz=139,slow=6.3,SNR=16								
KURK	**Kurchatov**	**63.47**	**330**	*e*P	**P**	**14 09 33.1**	**-1.9**		
	comp=Z,5.0nm,0.6s								
VNDA	**Vanda**	**79.76**	**172**	P	**P**	**14 11 12.7**	**+0.3**		
	comp=Z,3.7nm,0.7s,baz=322,slow=5.3,SNR=11								
VNDA				LR	LR	14 44 09.1			
	comp=Z,130nm,19.0s,baz=287,slow=34								
VNDA	**Vanda**	**79.76**	**172**	P	**P**	**14 11 12.7**	**+0.3**		
PPT	**Papeete**	**87.23**	**107**	LR	LR	14 48 21.1			
	comp=Z,375nm,18.3s,baz=354,slow=34								
BRTR	**Keskin Array B**	**89.34**	**310**	LR	LR	14 57 37.0			
	comp=Z,35nm,19.3s,baz=240,slow=39								
ILAR	**Eielson Array**	**90.39**	**25**	P	**P**	**14 12 03.0**	**-2.8**		
	comp=Z,0.5nm,0.5s,baz=255,slow=4.8,SNR=15								
ILAR	**Eielson Array**	**90.39**	**25**	P	**P**	**14 12 03.0**	**-2.8**		
ARCES	**ARCESS Array B**	**93.13**	**340**	P	**P**	**14 12 15.6**	**-2.9**		
	comp=Z,4.6nm,0.9s,baz=78,slow=6.3,SNR=6.7								
ARCES	**ARCESS Array B**	**93.13**	**340**	P	**P**	**14 12 15.6**	**-2.9**		
BOSA	**Boshof**	**96.74**	**241**	LR	LR	14 52 39.8			
	comp=Z,137nm,20.5s,baz=329,slow=33								
CRVS	**Cervenica-Dubn**	**98.06**	**319**	PDIF	Pdif	14 12 43.1	+1.7		
VYHS	**Vyhne**	**99.84**	**319**	PDIF	**Pdif**	**14 12 50.5**	**+1.2**		
NVAR	**Mina Array Bea**	**112.33**	**48**	PKiKP	**PKiKP**	**14 17 42.0**	**+0.8**		
	comp=Z,0.8nm,0.6s,baz=249,slow=1.9,SNR=5.4								
NVAR	**Mina Array Bea**	**112.33**	**48**	PKiKP	**PKiKP**	**14 17 42.0**	**+0.8**		
PDAR	**Pinedale Array**	**116.83**	**41**	PKP	**PKPdf**	**14 17 49.2**	**-0.5**		
	comp=Z,0.7nm,0.6s,baz=97,slow=1.1,SNR=6.5								
PDAR	**Pinedale Array**	**116.83**	**41**	PKP	**PKPdf**	**14 17 49.2**	**-0.5**		
ULM	**Lac du Bonnet**	**120.31**	**28**	PKP	**PKPdf**	**14 17 54.0**	**-1.9**		
	comp=Z,2.4nm,0.6s,baz=314,slow=1.3,SNR=6.2								
ULM	**Lac du Bonnet**	**120.31**	**28**	PKP	**PKPdf**	**14 17 54.0**	**-1.9**		
TORD	**Torodi Ar. Bea**	**120.70**	**285**	PKP	**PKPdf**	**14 17 56.2**	**-1.3**		
	comp=Z,1.3nm,0.6s,baz=47,slow=1.6,SNR=9.8								
TORD	**Torodi Ar. Bea**	**120.70**	**285**	PKP	**PKPdf**	**14 17 56.2**	**-1.3**		
SCHQ	**Schefferville**	**125.19**	**7**	PKP	**PKPdf**	**14 18 04.5**	**-0.6**		
	comp=Z,1.5nm,0.7s,baz=108,slow=5.6,SNR=5.1								
SCHQ	**Schefferville**	**125.19**	**7**	PKP	**PKPdf**	**14 18 04.5**	**-0.6**		
TXAR	**Lajitas Array**	**126.95**	**53**	PKP	**PKPdf**	**14 18 09.1**	**-0.2**		
	comp=Z,0.4nm,0.7s,baz=224,slow=2.5,SNR=3.1								
TXAR	**Lajitas Array**	**126.95**	**53**	PKP	**PKPdf**	**14 18 09.1**	**-0.2**		
DBIC	**Dimbokro**	**127.81**	**278**	PKP	**PKPdf**	**14 18 10.9**	**-0.3**		
	comp=Z,1.2nm,0.4s,baz=292,slow=1.4,SNR=6.3								
DBIC	**Dimbokro**	**127.81**	**278**	PKP	**PKPdf**	**14 18 10.9**	**-0.3**		
JCT	**Junction City**	**129.47**	**50**	*e*PKPdf	**PKPdf**	**14 18 14.0**	**-0.1**		
LCO	**Las Campanas**	**147.82**	**157**	*e*PKPbc	**PKPbc**	**14 18 50.6**	**+0.1**		
CPUP	**Villa Florida**	**153.35**	**179**	PKPbc	**PKPbc**	**14 19 02.9**	**-0.6**		
	comp=Z,1.5nm,0.5s,baz=246,slow=1.2,SNR=6.0								
CPUP	**Villa Florida**	**153.35**	**179**	PKPbc	**PKPbc**	**14 19 02.9**	**-0.6**		
LPAZ	**La Paz**	**159.95**	**147**	PKPab	**PKPab**	**14 19 46.0**	**+1.1**		
	comp=Z,1.2nm,0.7s,baz=216,slow=4.0,SNR=3.7								
LPAZ	**La Paz**	**159.95**	**147**	PKPab	**PKPab**	**14 19 46.0**	**+1.1**		

*ISCJB **09** 14:13:07.6±1.5, 36.74N±0.09×28.12E±0.05, h12km, Error ellipse: s-maj=13.0km s-min=5.2km az=3.4*
*ISK **09** 14:13:11.2, 36.96N×28.01E, h8km, MD2.3*
*CSEM **09** 14:13:11.9±0.5, 36.96N×28.02E, h2km, MD2.5*
*DDA **09** 14:13:11.0, 36.96N×28.06E, h7km, MD2.5*

IDC 09 14:13:08.0±1.5, 36.78N±0.08×28.11E±0.03, h12km, n13, σ0.95/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.38**	**22**	*e*PG	**Pb**	**14 13 17.3**	**+0.5**
YER				*e*SG	**Sb**	**14 13 21.8**	**-0.9**
YER	**Yerkesik**	**0.38**	**22**	*e*Pg	**Pb**	**14 13 17.3**	**+0.5**
YER				*e*Sg	**Sb**	**14 13 21.8**	**-0.9**
TURN	**Turunc**	**0.41**	**76**	*i* P	**Pg**	**14 13 15.7**	**-0.4**
TURN				*i* S	**Sg**	**14 13 19.9**	**-1.7**
MLSB	**Milas**	**0.58**	**333**	*e*PG	**Pg**	**14 13 19.2**	**-0.1**
MLSB	**Milas**	**0.58**	**333**	*e*Pg	**Pg**	**14 13 19.2**	**-0.1**
BODT	**Bodrum**	**0.70**	**294**	*e*PG	**Pb**	**14 13 22.7**	**+0.6**
BODT				*e*SG	**Sb**	**14 13 31.1**	**-0.5**
BODT	**Bodrum**	**0.70**	**294**	*e*Pg	**Pb**	**14 13 22.7**	**+0.6**
BODT				*e*Sg	**Sb**	**14 13 31.2**	**-0.5**
GCAM	**G?zelcaml?**	**1.16**	**323**	*i* P	**Pn**	**14 13 30.4**	**+0.5**
GCAM				*i* S	**Sg**	**14 13 44.2**	**-1.0**
GCAM	**G?zelcaml?**	**1.16**	**323**	*i* P	**Pn**	**14 13 30.4**	**+0.5**
GCAM				*i* S	**Sg**	**14 13 44.2**	**-1.0**
DNZL	**Cakiroluk**	**1.18**	**39**	*i* P	**Pg**	**14 13 32.2**	**+1.5**
DNZL	**Cakiroluk**	**1.18**	**39**	*i* P	**Pg**	**14 13 32.2**	**+1.5**
GOLH	**Golhisar**	**1.25**	**68**	*i* P	Pg	14 13 36.8	+4.8
GOLH	**Golhisar**	**1.25**	**68**	*i* P	Pg	14 13 36.8	+4.8

IDC 09 14:36:07.2±7.4, 34.19S×179.40E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=218.3km s-min=52.2km az=149.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**40.89**	**273**	P	P	14 43 50.9	-0.3
	0.4nm,0.6s,baz=114,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**42.23**	**278**	P	P	14 44 02.2	0.0
	0.6nm,0.5s,baz=118,slow=7.7,SNR=18						
PETK	**Petropavlovsk-**	**88.96**	**347**	P	P	14 49 03.1	0.0
	0.7nm,0.6s,baz=148,slow=8.5,SNR=4.4						

*IDC **09** 15:04:44.7±3.4, 7.38S×128.83E, h98km±31km, mb3.8/7, mb1 3.9/11, mb1mx3.8/21, mbtmp3.8/11, Error ellipse: s-maj=26.7km s-min=15.3km az=69.0*
*AUST **09** 15:04:46.7±0.3, 7.58S×128.91E, h98km, Error ellipse: s-maj=0.8km s-min=0.7km az=249.0*
*ISCJB **09** 15:04:48.1±0.4, 7.58S±0.04×129.03E±0.04, h131km, mb3.9/7, Error ellipse: s-maj=5.5km s-min=5.1km az=159.1*
*DJA **09** 15:04:50.2±0.5, 8°S±4°×12°9E±°, h79km±16km, M4.6/7, mB5.4/4, mb4.6/7, MLv4.6/6, Mw(mB)4.9/4*

ISC 09 15:04:48.5±0.5, 7.60S±0.05×128.97E±0.05, h131km, n43, σ1.98/48, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.96**	**349**	P	**Pn**	**15 05 47.4**	**-0.5**
	baz=4.0,SNR=4.1						
AAI	**Ambon**	**3.96**	**349**	P	**Pn**	**15 05 47.8**	**-0.1**
TLE	**Tual**	**4.22**	**63**	P	**Pn**	**15 05 51.6**	**+0.4**
	baz=4.3,SNR=65						
TLE				S	**Sn**	**15 06 38.8**	**-1.2**
	baz=4.3,SNR=7.7						
TLE	**Tual**	**4.22**	**63**	P	**Pn**	**15 05 51.5**	**+0.2**
MTN	**Manton Dam**	**5.63**	**158**	P	**Pn**	**15 06 12.1**	**+2.0**
	baz=5.7,SNR=190						
MTN				S	**Sn**	**15 07 14.3**	**+0.6**
	baz=5.7,SNR=7.7						
FAKI	**Fak Fak**	**5.69**	**35**	P	**Pn**	**15 06 13.6**	**+2.7**
	46nm,0.6s,850nm0.3nm						
KDU	**Kakadu**	**6.12**	**146**	P	**Pn**	**15 06 18.1**	**+1.4**
	baz=6.2,SNR=508						
KDU				S	**Sn**	**15 07 24.8**	**-0.7**
	baz=6.2,SNR=5.4						

MMRI	**Maumere**	**6.74**	**261**	P	**Pn**	**15 06 25.6**	**+0.5**		
	48nm,0.5s,1µm0.2nm								
KDI	**Kendari**	**7.28**	**299**	P	**Pn**	**15 06 34.8**	**+2.5**		
	23nm,0.9s,0.1nm								
WSI	**Waingapu**	**8.81**	**256**	P	**Pn**	**15 06 52.5**	**-0.5**		
	baz=8.8,SNR=3.8								
WSI				S	**Sn**	**15 08 26.9**	**-3.8**		
	baz=8.8,SNR=4.0								
FITZ	**Fitzroy Crossi**	**10.93**	**197**	P	**Pn**	**15 07 19.4**	**-1.8**		
	0.8nm,0.3s,baz=23,slow=11,SNR=31								
FITZ				S	Sn	15 09 14.2	-7.6		
	4.5nm,0.3s,baz=124,slow=19,SNR=10								
FITZ	**Fitzroy Crossi**	**10.93**	**197**	P	**Pn**	**15 07 20.3**	**-1.0**		
	baz=11,SNR=36								
JAY	**Jayapura**	**12.73**	**67**	P	**P**	**15 07 52.5**	**+1.5**		
	baz=13,SNR=4.0								
JAY				S	**Sn**	**15 10 01.8**	**-3.9**		
	baz=13,SNR=3.8								
WRA	**Warramunga Arr**	**13.33**	**158**	P	**Pn**	**15 07 51.6**	**-1.0**		
	4.0nm,0.3s,baz=343,slow=13,SNR=88								
WRA				S	Sn	15 10 12.9	-6.9		
	4.7nm,0.3s,baz=331,slow=24,SNR=16								
DAV	**Davao City (W)**	**14.96**	**347**	P	**P**	**15 08 17.4**	**+1.7**		
	426nm,0.4s,7µm								
COEN	**Coen**	**15.31**	**116**	P	**Pn**	**15 08 16.8**	**-1.1**		
	baz=15,SNR=28								
QIS	**Mont Isa**	**16.49**	**142**	P	**P**	**15 08 33.2**	**+0.6**		
	baz=17,SNR=15								
QIS				S	Sn	15 11 27.6	-8.4		
	baz=17,SNR=6.4								
ASAR	**Alice Springs**	**16.66**	**164**	P	**P**	**15 08 35.7**	**+1.2**		
	1.3nm,0.3s,baz=339,slow=10,SNR=110								
ASAR				S	**Sn**	**15 11 35.0**	**-5.1**		
	1.7nm,0.3s,baz=351,slow=24,SNR=7.8								
PMG	**Port Moresby**	**18.08**	**97**	P	**Pn**	**15 08 52.1**	**+0.6**		
	0.6nm,0.3s,baz=266,slow=12,SNR=4.4								
SBUM	**Sibu**	**19.47**	**300**	P	**Pn**	**15 09 10.9**	**+3.1**		
KSM	**Kuching**	**20.68**	**295**	P	**P**	**15 09 19.7**	**+1.3**		
	baz=21,SNR=3.9								
MEEK	**Meekatharra**	**21.34**	**206**	P	**P**	**15 09 26.8**	**+1.5**		
	baz=21,SNR=5.8								
MEEK				S	Sn	15 13 25.2	-6.5		
	baz=21,SNR=4.4								
XMIS	**Christmas Isla**	**23.20**	**261**	S	S	15 14 02.4	+16		
	baz=23,SNR=3.1								
QLP	**Quilpie**	**23.81**	**144**	P	**P**	**15 09 51.8**	**+2.3**		
	baz=24,SNR=22								
KMBL	**Kambalda**	**24.55**	**195**	P	**P**	**15 09 58.2**	**+2.0**		
	baz=25,SNR=8.2								
MORW	**Morawa**	**24.58**	**208**	P	**P**	**15 09 59.6**	**+3.1**		
	baz=25,SNR=8.5								
MORW				S	S	15 14 35.8	+28		
	baz=25,SNR=3.2								
BLDU	**Ballidu**	**25.61**	**205**	P	**P**	**15 10 08.0**	**+2.3**		
	baz=26,SNR=14								
BBOO	**Buckleboo**	**25.93**	**166**	P	**P**	**15 10 10.4**	**+1.8**		
	baz=26,SNR=11								
KLBR	**Kellerberrin**	**26.06**	**202**	P	**P**	**15 10 11.6**	**+1.7**		
	baz=26,SNR=8.1								
STKA	**Stephens Creek**	**26.87**	**156**	P	**P**	**15 10 18.1**	**+1.0**		
	1.8nm,0.5s,baz=308,slow=12,SNR=8.3								
STKA	**Stephens Creek**	**26.87**	**156**	P	**P**	**15 10 18.8**	**+1.7**		
	baz=27,SNR=6.7								
NWAO	**Narrogin (SRO)**	**27.45**	**202**	P	**P**	**15 10 23.9**	**+1.6**		
	3.1nm,0.3s,baz=52,slow=8.4,SNR=14								
CMSA	**Cobar Meteorol**	**28.47**	**149**	P	**P**	**15 10 33.6**	**+2.2**		
	baz=29,SNR=13								
ARPS	**Mount Arapiles**	**31.31**	**160**	P	**P**	**15 10 59.0**	**+2.7**		
	baz=32,SNR=12								
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**15 12 03.8**	**-1.6**		
	0.7nm,0.6s,baz=144,slow=7.2,SNR=7.3								
CMAR				PcP	**PcP**	**15 14 10.2**	**-1.2**		
	0.4nm,0.6s,baz=179,slow=3.8,SNR=4.1								
SONM	**Songino Array**	**58.69**	**342**	P	**P**	**15 14 30.9**	**-1.5**		
	0.3nm,0.4s,baz=149,slow=6.1,SNR=4.0								
PETK	**Petropavlovsk-**	**65.22**	**19**	P	**P**	**15 15 14.1**	**-1.6**		
	3.3nm,0.9s,baz=189,slow=7.3,SNR=4.6								
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**15 15 32.8**	**-1.9**		
	2.7nm,0.5s,baz=116,slow=8.1,SNR=77								
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	P	15 15 53.1	-2.7		
	0.4nm,0.4s,baz=116,slow=6.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**127.92**	**281**	PKP	**PKPdf**	**15 23 37.7**	**-2.2**		
	0.2nm,0.6s,baz=96,slow=4.3,SNR=3.7								
CPUP	**Villa Florida**	**145.72**	**170**	PKPbc	**PKPab**	**15 24 13.5**	**+0.2**		
	1.9nm,0.5s,baz=324,slow=0.7,SNR=5.1								
ATAH	**Atahualpa**	**149.03**	**118**	PKPbc	**PKPbc**	**15 24 25.0**	**+2.1**		
	2.5nm,0.5s,baz=169,slow=5.2,SNR=2.4								
LPAZ	**La Paz**	**150.85**	**145**	PKPbc	**PKPbc**	**15 24 27.1**	**-0.3**		
	1.0nm,0.4s,baz=54,slow=3.8,SNR=8.1								

*ISCJB **09** 15:25:24.0±0.7, 65.88N±0.04×134.8W±0.1, h6km, mb3.6/1, Error ellipse: s-maj=7.1km s-min=4.6km az=43.3*
*IDC **09** 15:25:26.9±0.9, 66.09N×135.33W, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.3/30, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=12.3km s-min=9.3km az=179.0*
*PGC **09** 15:25:29.1±0.0, 66.15N×135.35W, h20km, ML3.6/2, 148km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 09 15:25:26.7±0.9, 66.08N±0.05×134.86W±0.06, h6km, n14, σ2.907/22, 9D, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**2.30**	**13**	Pn	**Pn**	**15 26 05.7**	**+0.6**
	5.8nm,0.3s,baz=196,slow=15,SNR=39						
INK				Sn	**Sn**	**15 26 32.7**	**-0.9**
	18nm,0.3s,baz=140,slow=26,SNR=10						
INK				Lg	Lg	15 26 39.6	
	64nm,0.3s,baz=120,slow=30,SNR=14						
INK	**Inuvik**	**2.30**	**13**	⇓Pn	**Pn**	**15 26 05.6**	**+0.5**
INK				⇓Sn	**Sn**	**15 26 32.0**	**-1.6**
DAWY	**Dawson**	**2.79**	**226**	⇓Pn	**Pn**	**15 26 12.1**	**+0.3**
DAWY				⇑Sg	**Sb**	**15 26 52.4**	**+1.2**
ILAR	**Eielson Array**	**5.19**	**261**	Pn	**Pn**	**15 26 42.3**	**-2.5**
	0.6nm,0.3s,baz=76,slow=12,SNR=26						
ILAR				Pg	Pg	15 27 01.7	-4.3
	1.5nm,0.3s,baz=59,slow=16,SNR=26						
ILAR				Lg	Lg	15 28 04.8	
	3.3nm,0.3s,baz=66,slow=24,SNR=5.7						
HYT	**Haines Junctio**	**5.41**	**194**	⇓Pn	**Pn**	**15 26 48.8**	**+0.9**
HYT				⇓Sg	**Sg**	**15 28 17.2**	**-2.9**
WHY	**Whitehorse**	**5.44**	**180**	⇑Pn	**Pn**	**15 26 50.5**	**+2.1**
WHY				⇑Sg	**Sg**	**15 28 20.1**	**-1.1**
GALN	**Gameti Lake**	**7.66**	**97**	⇓Pn	**Pn**	**15 27 21.1**	**+2.4**
GALN				⇑Sn	**Sn**	**15 28 44.2**	**-1.4**
DLBC	**Dease Lake**	**7.99**	**161**	Lg	Lg	15 29 41.4	
	0.5nm,0.3s,baz=115,slow=22,SNR=4.1						
DLBC	**Dease Lake**	**7.99**	**161**	⇓Sg	**Sg**	**15 29 40.8**	**-2.1**
CTLN	**Castor Lake**	**8.07**	**93**	⇑Pn	**Pn**	**15 27 25.6**	**+1.3**
CTLN				⇓Sn	**Sn**	**15 28 52.7**	**-3.0**
YKW3	**Yellowknife Ar**	**9.45**	**102**	⇓Pn	**Pn**	**15 27 45.0**	**+1.8**
YKW3				⇑Sn	**Sn**	**15 29 25.9**	**-3.6**
YKA	**Yellowknife Ar**	**9.49**	**103**	Pn	**Pn**	**15 27 45.4**	**+1.7**
	0.6nm,0.3s,baz=298,slow=13,SNR=13						
YKA				Sn	**Sn**	**15 29 28.3**	**-2.2**
	0.9nm,0.3s,baz=302,slow=24,SNR=6.7						
YKA				Lg	Lg	15 30 30.5	
	0.5nm,0.3s,baz=301,slow=30,SNR=4.0						
JERN	**Jeri Cho Mine,**	**9.50**	**80**	⇑Pn	**Pn**	**15 27 44.8**	**+1.0**
JERN				⇓Sn	Sn	15 29 25.6	-5.1
BRTR	**Keskin Array B**	**74.15**	**9**	P	**P**	**15 37 06.2**	**+2.5**
	0.5nm,0.7s,baz=336,slow=1.7,SNR=3.7						

*ISCJB **09** 15:27:03.1±0.6, 32.40N±0.02×115.24W±0.03, h7km±5km, Error ellipse: s-maj=4.7km s-min=4.0km az=178.4*
*NEIC **09** 15:27:05.0, 32.37N×115.24W, h8km, ML3.3(ECX), ML3.2(PAS), After ECX.*
*ECX **09** 15:27:05.0±0.6, 32.37N×115.24W, h8km, MD3.2, ML3.3*

ISC 09 15:27:03.5±1.0, 32.38N±0.02×115.24W±0.03, h16km±9km, n21, σ0.93/35, 8C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.39**	**181**	⇑*e*P	**Pg**	**15 27 11.3**	**-0.2**
EMX				*e*S	**Sg**	**15 27 17.0**	**+0.2**
EMX				⇑*e*		15 27 17.6	
	comp=N,2µm,0.5s						
EMX				⇑*e*		15 27 21.1	
	comp=E,2µm,0.8s						
COK	**Cook Ranch**	**0.62**	**319**	⇑*e*P	**Pb**	**15 27 16.0**	**0.0**
YUH	**Yuha Desert**	**0.64**	**295**	⇓*e*P	**Pg**	**15 27 16.0**	**0.0**
SWSC	**Sam W. Stewart**	**0.73**	**320**	⇓P	**Pg**	**15 27 17.1**	**-0.6**
	baz=0.8						
SWSC				⇑S	**Sg**	**15 27 27.6**	**+0.2**
	baz=0.8						
RMX	**La Rumorosa**	**0.74**	**287**	⇓*e*P	**Pg**	**15 27 17.9**	**-0.1**
RMX				*e*S	**Sg**	**15 27 28.4**	**+0.5**
RMX				*e*		15 27 30.3	
	comp=E,523nm,0.4s						
RDX	**Rancho Dawling**	**0.75**	**233**	*e*P	**Pg**	**15 27 18.3**	**+0.2**
RDX				*e*S	**Sg**	**15 27 28.2**	**+0.2**
RDX				⇓*e*		15 27 30.4	
	comp=N,1µm,0.5s						
GLA	**Glamis**	**0.75**	**27**	*e*Pg	**Pg**	**15 27 17.9**	**-0.2**
GLA				*e*Sg	**Sg**	**15 27 27.8**	**-0.3**
GLA	**Glamis**	**0.75**	**27**	⇓P	**Pg**	**15 27 17.8**	**-0.4**
	baz=0.8						
GLA				⇑S	**Sg**	**15 27 28.4**	**+0.2**
	baz=0.8						
ECBX	**El Chinero**	**0.92**	**170**	*e*P	**Pb**	**15 27 21.0**	**-0.1**
ECBX				*e*S	**Sg**	**15 27 33.2**	**-0.3**
CBX	**Cerro Bola**	**1.21**	**267**	*e*P	**Pn**	**15 27 26.1**	**+0.2**
CBX				*e*S	**Sn**	**15 27 42.2**	**+0.1**
BAR	**Barrett**	**1.25**	**284**	*e*Pg	**Pb**	**15 27 26.6**	**-0.1**
BAR				*e*Sg	**Sb**	**15 27 42.4**	**-0.2**
BC3	**Big Chuckawall**	**1.28**	**352**	⇑P	**Pn**	**15 27 25.7**	**-1.3**
	baz=1.3						
SPX	**San Pedro Mart**	**1.35**	**188**	*e*PN	**Pg**	**15 27 29.6**	**+0.2**
SPX				*e*S	**Sb**	**15 27 46.7**	**+1.0**
ECNX	**Esteban Cantu**	**1.36**	**238**	*e*P	**Pb**	**15 27 28.4**	**-0.3**
ECNX				*e*P	**Pn**	**15 27 27.6**	**-0.5**
ECNX				*e*S	**Sn**	**15 27 45.5**	**-0.3**
ECNX				*e*S	**Sb**	**15 27 46.5**	**+0.6**
PBX	**Punta Banda**	**1.42**	**244**	*e*P	**Pn**	**15 27 29.1**	**+0.4**
PBX				*e*S	**Sg**	**15 27 48.5**	**-0.7**
PFO	**Pinyon Flat Ob**	**1.59**	**320**	Pn	**Pn**	**15 27 28.8**	**-2.4**
PFO	**Pinyon Flat Ob**	**1.59**	**320**	⇑P	**Pn**	**15 27 29.7**	**-1.5**
	baz=1.6						
109C	**Camp Elliot, M**	**1.66**	**288**	⇓Sb	**Sb**	**15 27 54.6**	**+0.3**
	baz=1.7						
LDFC	**Landfair**	**2.69**	**2**	*e*Pg	**Pg**	**15 27 57.8**	**+2.7**
MWC	**Mount Wilson**	**2.99**	**309**	*e*Pg	**Pb**	**15 27 58.8**	**+2.3**
ISA	**Isabella**	**4.23**	**321**	*e*Pg	**Pg**	**15 28 23.8**	**-0.8**

IDC 09 15:43:55.9±1.6, 15.18S×66.24E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/24, mbtmp3.6/5, Error ellipse: s-maj=52.7km s-min=29.5km az=39.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**46.43**	**45**	P	P	15 52 24.4	-0.3
	0.3nm,0.4s,baz=225,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**63.36**	**12**	P	P	15 54 26.9	0.0
	0.1nm,0.6s,baz=205,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**63.88**	**109**	P	P	15 54 30.8	-0.2
	0.4nm,0.8s,baz=270,slow=5.4,SNR=5.0						
WRA	**Warramunga Arr**	**64.72**	**105**	P	P	15 54 36.2	-0.3
	0.7nm,0.9s,baz=268,slow=5.9,SNR=6.4						
KEST	**Kesra**	**73.87**	**315**	P	P	15 55 31.7	-1.2
	1.3nm,0.7s,baz=23,slow=6.9,SNR=4.0						
PDAR	**Pinedale Array**	**152.27**	**353**	PKPbc	PKPbc	16 03 55.9	+1.6
	0.2nm,0.5s,baz=98,slow=1.8,SNR=2.6	

Ms1 3.3/5,ms1mx3.1/26,Error ellipse: s-maj=18.3km s-min=12.5km az=173.0

ISC 09 16:14:08.6±0.6,**6°84S**±0.09×**155°23E**±0.07,**h41**km,**n24**, σ1°**43**/25,**mb4.0**/12,**MS3.2**/3,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.34**	**119**	P	**Pn**	**16 15 27.7**	**+1.9**
	10nm,0.3s,baz=261,slow=7.1,SNR=17						
HNR				S	**Sn**	**16 16 26.9**	**+0.8**
	16nm,0.3s,baz=218,slow=19,SNR=12						
HNR				LR	LR	16 17 27.4	
	comp=Z,223nm,20.1s,baz=152,slow=38						
PMG	**Port Moresby**	**8.38**	**252**	P	**Pn**	**16 16 09.3**	**+1.7**
	1.3nm,0.3s,baz=61,slow=14,SNR=5.7						
PMG				S	**Sn**	**16 17 44.4**	**+3.3**
	0.8nm,0.3s,baz=78,slow=19,SNR=2.7						
COEN	**Coen**	**13.80**	**238**	P	**Pn**	**16 17 22.4**	**+0.7**
	baz=14,SNR=4.2						
CTA	**Charters Tower**	**15.79**	**213**	P	**Pn**	**16 17 47.8**	**-0.4**
	0.3nm,0.3s,baz=41,slow=12,SNR=14						
CTA				LR	LR	16 23 00.8	
	comp=Z,100nm,20.3s,baz=208,slow=34						
QIS	**Mount Isa**	**20.38**	**226**	P	**P**	**16 18 41.5**	**-0.5**
	baz=21,SNR=6.1						
RMQ	**Roma**	**20.49**	**197**	P	**P**	**16 18 42.9**	**-0.3**
	baz=22,SNR=5.0						
KDU	**Kakadu**	**23.16**	**254**	P	**P**	**16 19 10.3**	**-1.4**
	baz=23,SNR=4.0						
KDU				S	S	16 22 49.9	-31
	baz=23,SNR=3.1						
WRA	**Warramunga Arr**	**24.09**	**235**	P	**P**	**16 19 19.1**	**-1.5**
	3.9nm,0.6s,baz=58,slow=9.4,SNR=72						
WRA				PcP	**PcP**	**16 22 59.4**	**-2.0**
	0.3nm,0.5s,baz=63,slow=2.3,SNR=5.1						
ASAR	**Alice Springs**	**26.45**	**228**	P	**P**	**16 19 40.0**	**-1.9**
	2.0nm,0.4s,baz=60,slow=9.2,SNR=100						
ASAR				LR	LR	16 29 27.1	
	comp=Z,67nm,21.4s,baz=278,slow=35						
STKA	**Stephens Creek**	**27.98**	**205**	P	**P**	**16 19 54.2**	**-1.3**
	1.6nm,0.6s,baz=32,slow=11,SNR=3.8						
STKA				LR	LR	16 30 13.9	
	comp=Z,132nm,18.4s,baz=26,slow=35						
FITZ	**Fitzroy Crossi**	**30.93**	**246**	P	**P**	**16 20 20.6**	**-1.3**
	baz=31,SNR=9.0						
AFI	**Afiamalu**	**33.18**	**105**	LR	LR	16 32 53.4	
	comp=Z,31nm,19.6s,baz=312,slow=34						
MEEK	**Meekatharra**	**39.99**	**236**	P	**P**	**16 21 38.5**	**-1.1**
	baz=41,SNR=4.2						
MJAR	**Matsushiro Arr**	**46.01**	**341**	P	**P**	**16 22 29.5**	**+1.4**
	0.5nm,0.4s,baz=161,slow=7.7,SNR=3.9						
PETK	**Petropavlovsk-**	**59.75**	**2**	P	**P**	**16 24 10.1**	**+0.9**
	3.7nm,0.8s,baz=162,slow=5.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**60.92**	**295**	P	**P**	**16 24 18.3**	**+0.4**
	1.8nm,0.6s,baz=123,slow=5.5,SNR=21						
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**16 25 13.0**	**+1.0**
	0.7nm,0.8s,baz=119,slow=6.3,SNR=6.1						
ILAR	**Eielson Array**	**83.14**	**21**	P	**P**	**16 26 28.7**	**-1.3**
	1.0nm,0.8s,baz=260,slow=4.9,SNR=9.9						
MKAR	**Makanchi Array**	**83.44**	**319**	P	**P**	**16 26 31.7**	**-0.2**
	0.6nm,0.7s,baz=104,slow=5.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**84.18**	**329**	P	**P**	**16 26 34.3**	**-1.2**
	0.2nm,0.3s,baz=143,slow=5.0,SNR=2.6						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**16 27 31.0**	**-0.6**
	0.5nm,0.6s,baz=263,slow=4.6,SNR=12						
PDAR	**Pinedale Array**	**98.42**	**48**	P	P	16 27 40.9	-2.0
	0.4nm,0.8s,baz=266,slow=5.1,SNR=3.0						
BDFB	**Brasilia**	**147.93**	**134**	PKPbc	**PKPdf**	**16 33 48.5**	**+0.8**
	5.7nm,0.7s,baz=191,slow=5.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**153.20**	**286**	PKPbc	**PKPbc**	**16 34 01.9**	**-1.3**
	0.4nm,0.5s,baz=77,slow=2.8,SNR=4.8						

*ATH **09** 16:18:36.3,36°.10N×21°.80E,h5km±4km,ML3.4*
*THE **09** 16:18:38.9,36°.21N×21°.88E,h0km±1km,ML3.5/5,Error ellipse: s-maj=1.8km s-min=0.6km az=202.0*
*CSEM **09** 16:18:39.9±0.5,36°.23N×21°.95E,h2km,ML3.5/5,Error ellipse: s-maj=10.2km s-min=6.2km az=43.0*

ISC 09 16:18:37.9±1.8,**36°15N**±0°.06×**21°84E**±0°.05,**h2**km±10km, **n72**,σ1°**06**/96,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYR	**Agios Nikonas**	**0.73**	**33**	P	**Pg**	**16 18 51.3**	**-0.5**
DYR				S	**Sg**	**16 19 01.2**	**0.0**
DYR	**Agios Nikonas**	**0.73**	**33**	P	**Pg**	**16 18 51.3**	**-0.5**
DYR				S	**Sg**	**16 19 01.2**	**0.0**
PYL	**PYLOS**	**0.75**	**354**	P	**Pg**	**16 18 51.8**	**-0.4**
PYL				S	**Sg**	**16 19 02.4**	**+0.5**
PYL	**PYLOS**	**0.75**	**354**	*e*PB	**Pg**	**16 18 51.8**	**-0.4**
PYL				*e*SB	**Sg**	**16 19 02.8**	**+0.9**
PYL	**PYLOS**	**0.75**	**354**	P	**Pg**	**16 18 51.8**	**-0.4**
PYL				S	**Sg**	**16 19 02.4**	**+0.5**
PYL				*e*Sb	**Sg**	**16 19 02.8**	**+0.9**
KYTH	**Kithira**	**0.97**	**82**	P	**Pg**	**16 18 56.8**	**+0.3**
KYTH	**Kithira**	**0.97**	**82**	*e*PN	**Pg**	**16 18 56.6**	**+0.1**
KYTH	**Kithira**	**0.97**	**82**	P	**Pg**	**16 18 56.8**	**+0.3**
ITM	**Ithomi**	**1.03**	**4**	P	**Pg**	**16 18 57.3**	**-0.3**
ITM				S	**Sg**	**16 19 11.5**	**+0.6**
ITM	**Ithomi**	**1.03**	**4**	*e*PB	**Pg**	**16 18 57.2**	**-0.3**
ITM				*e*SB	**Sb**	**16 19 12.3**	**-0.1**
ITM	**Ithomi**	**1.03**	**4**	P	**Pg**	**16 18 57.3**	**-0.3**
ITM				S	**Sg**	**16 19 11.5**	**+0.6**
ITM				*e*Sb	**Sb**	**16 19 12.3**	**-0.1**
VLI	**Veliai**	**1.05**	**57**	P	**Pg**	**16 18 57.4**	**-0.5**
VLI				S	**Sb**	**16 19 12.4**	**-0.5**
VLI	**Veliai**	**1.05**	**57**	*e*PG	**Pg**	**16 18 57.0**	**-0.9**
VLI				*e*SB	**Sb**	**16 19 13.1**	**+0.2**
VLI	**Veliai**	**1.05**	**57**	*e*Pg	**Pg**	**16 18 57.0**	**-0.9**
VLI	**Veliai**	**1.05**	**57**	P	**Pg**	**16 18 57.4**	**-0.5**
VLI				S	**Sb**	**16 19 12.4**	**-0.5**
VLI				*e*Sb	**Sb**	**16 19 13.1**	**+0.2**
VLX	**Vlachokerasia**	**1.29**	**19**	P	**Pg**	**16 19 01.7**	**-0.9**
VLX				S	**Sb**	**16 19 20.0**	**0.0**
VLX	**Vlachokerasia**	**1.29**	**19**	*e*PG	**Pg**	**16 19 01.7**	**-0.9**
VLX				*e*SB	**Sn**	**16 19 20.6**	**-0.4**
VLX	**Vlachokerasia**	**1.29**	**19**	P	**Pg**	**16 19 01.7**	**-0.9**
VLX				S	**Sb**	**16 19 20.0**	**0.0**
VLX				*e*Sb	**Sn**	**16 19 20.6**	**-0.4**
AMT	**Artemida-Makis**	**1.38**	**356**	P	**Pn**	**16 19 03.8**	**-0.5**
AMT				S	**Sn**	**16 19 23.2**	**+0.1**
AMT	**Artemida-Makis**	**1.38**	**356**	P	**Pn**	**16 19 03.8**	**-0.5**
AMT				S	**Sn**	**16 19 23.2**	**+0.1**
DIDY	**Didyma**	**1.72**	**39**	P	**Pb**	**16 19 09.8**	**-0.4**
DIDY	**Didyma**	**1.72**	**39**	P	**Pb**	**16 19 09.8**	**-0.4**
DID	**Didima**	**1.75**	**39**	P	**Pn**	**16 19 09.2**	**-0.2**
DID				S	**Sn**	**16 19 31.5**	**-0.8**
DID	**Didima**	**1.75**	**39**	*e*PG	**Pb**	**16 19 09.9**	**-0.9**
DID				*e*SN	**Sg**	**16 19 36.3**	**+2.1**
DID	**Didima**	**1.75**	**39**	P	**Pn**	**16 19 09.2**	**-0.2**
DID	**Didima**	**1.75**	**39**	*e*Pg	**Pb**	**16 19 09.9**	**-0.9**
DID				S	**Sn**	**16 19 31.5**	**-0.8**
DID				*e*Sn	**Sg**	**16 19 36.3**	**+2.1**
GUR	**Goura**	**1.82**	**12**	P	**Pn**	**16 19 10.4**	**0.0**
GUR	**Goura**	**1.82**	**12**	*e*PG	**Pn**	**16 19 10.8**	**+0.4**
GUR	**Goura**	**1.82**	**12**	P	**Pn**	**16 19 10.4**	**0.0**
GUR	**Goura**	**1.82**	**12**	*e*Pg	**Pn**	**16 19 10.8**	**+0.4**
RLS	**Riolos of Patr**	**1.93**	**351**	P	**Pb**	**16 19 12.7**	**-1.0**
RLS	**Riolos of Patr**	**1.93**	**351**	*e*PN	**Pb**	**16 19 13.1**	**-0.6**
RLS	**Riolos of Patr**	**1.93**	**351**	P	**Pb**	**16 19 12.7**	**-1.0**
RLS	**Riolos of Patr**	**1.93**	**351**	*e*Pn	**Pb**	**16 19 13.1**	**-0.4**
VAM	**Vamos**	**2.05**	**111**	P	**Pn**	**16 19 13.7**	**+0.3**
VAM	**Vamos**	**2.05**	**111**	*e*PN	**Pn**	**16 19 14.1**	**+0.7**
VAM	**Vamos**	**2.05**	**111**	P	**Pn**	**16 19 13.7**	**+0.3**
VAM	**Vamos**	**2.05**	**111**	*e*Pn	**Pn**	**16 19 14.1**	**+0.7**
LTK	**Loutraki**	**2.07**	**25**	P	**Pb**	**16 19 15.8**	**-0.4**
LTK	**Loutraki**	**2.07**	**25**	*e*PG	**Pb**	**16 19 15.8**	**-0.4**
LTK	**Loutraki**	**2.07**	**25**	P	**Pb**	**16 19 15.8**	**-0.4**
NAIG	**Nisos Aigina**	**2.08**	**39**	*e*PG	**Pb**	**16 19 15.9**	**-0.4**
NAIG	**Nisos Aigina**	**2.08**	**39**	*e*Pg	**Pb**	**16 19 15.9**	**-0.4**
LAKA	**Lakka**	**2.09**	**3**	P	**Pb**	**16 19 16.1**	**-0.4**
LAKA	**Lakka**	**2.09**	**3**	P	**Pb**	**16 19 16.1**	**-0.4**
VLS	**Valsamata**	**2.26**	**334**	*e*PN	**Pn**	**16 19 17.2**	**+0.9**
VLS	**Valsamata**	**2.26**	**334**	*e*Pn	**Pn**	**16 19 17.2**	**+0.9**
EFP	**Efpalio**	**2.27**	**1**	*e*PN	**Pb**	**16 19 18.6**	**-1.0**
EFP	**Efpalio**	**2.27**	**1**	*e*Pn	**Pb**	**16 19 18.6**	**-1.0**
DSF	**Desfina**	**2.32**	**13**	P	**Pb**	**16 19 19.5**	**-1.0**
DSF	**Desfina**	**2.32**	**13**	P	**Pb**	**16 19 19.5**	**-1.0**
ATH	**Athens Observa**	**2.35**	**39**	*e*PN	**Pb**	**16 19 19.7**	**-1.3**
ATH	**Athens Observa**	**2.35**	**39**	*e*Pn	**Pb**	**16 19 19.7**	**-1.3**
PTL	**Penteli**	**2.49**	**40**	P	**Pn**	**16 19 20.6**	**+1.1**
PTL	**Penteli**	**2.49**	**40**	*e*PN	**Pn**	**16 19 21.0**	**+1.5**
PTL	**Penteli**	**2.49**	**40**	P	**Pn**	**16 19 20.6**	**+1.1**
PTL	**Penteli**	**2.49**	**40**	*e*Pn	**Pn**	**16 19 21.0**	**+1.5**
LKR	**Lokris**	**2.66**	**20**	*e*PN	**Pb**	**16 19 24.1**	**-2.1**
LKR	**Lokris**	**2.66**	**20**	*e*Pn	**Pb**	**16 19 24.1**	**-2.1**
ATAL	**Atalanti**	**2.70**	**20**	P	**Pn**	**16 19 22.6**	**+0.2**
ATAL	**Atalanti**	**2.70**	**20**	P	**Pn**	**16 19 22.6**	**+0.2**
EVR	**Evrytania**	**2.76**	**359**	*e*PN	**Pn**	**16 19 25.3**	**+2.0**
EVR	**Evrytania**	**2.76**	**359**	*e*Pn	**Pn**	**16 19 25.3**	**+2.0**
MRKA	**Markates**	**2.90**	**28**	P	**Pn**	**16 19 26.9**	**+1.8**
MRKA	**Markates**	**2.90**	**28**	P	**Pn**	**16 19 26.9**	**+1.8**
APE	**Apeiranthos**	**3.10**	**72**	*e*PG	**Pb**	**16 19 31.7**	**-2.2**
APE	**Apeiranthos**	**3.10**	**72**	*e*PN	**Pn**	**16 19 30.0**	**+2.1**
APE	**Apeiranthos**	**3.10**	**72**	*e*Pn	**Pn**	**16 19 30.0**	**+2.1**
NEO	**Neokhori**	**3.33**	**19**	*e*PB	**Pn**	**16 19 33.8**	**+2.7**
NEO	**Neokhori**	**3.33**	**19**	*e*Pb	**Pn**	**16 19 33.8**	**+2.7**
THL	**Klokotos Trika**	**3.41**	**2**	*e*PN	**Pn**	**16 19 34.1**	**+2.0**
THL	**Klokotos Trika**	**3.41**	**2**	*e*Pn	**Pn**	**16 19 34.1**	**+2.0**

*ISCJB **09** 16:18:43.7±0.5,59°.99N±0°.04×152°.73W±0°.09, h114km±4km,mb3.3/1,Error ellipse: s-maj=7.9km s-min=5.7km az=16.6*
*IDC **09** 16:18:44.3±2.1,59°.98N×152°.70W,h92km±36km,mb3.3/1, mb1 3.1/4,mb1mx2.9/28,mbtmp2.9/4,Error ellipse: s-maj=43.8km s-min=19.1km az=110.0*
*NEIC **09** 16:18:45.8,60°.00N×152°.78W,h102km,MG2.6(AEIC), After AEIC.*

ISC 09 16:18:44.5±1.0,**60°01N**±0°.04×**152°74W**±0°.05, **h110**km±6km,**n42**,σ1°**19**/51,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INE	**Iliamna NE**	**0.17**	**288**	P	**Pn**	**16 18 59.8**	**-0.3**
INE				S	**Sn**	**16 19 11.4**	**-0.3**
ILW	**Iliamna West**	**0.20**	**285**	P	**Pn**	**16 18 59.8**	**-0.3**
ILW				S	**Sn**	**16 19 11.7**	**-0.2**
OPT	**Oil Point**	**0.43**	**215**	P	**Pn**	**16 19 00.9**	**-0.1**
RSO	**Redoubt South**	**0.46**	**359**	P	**Pn**	**16 19 01.2**	**-0.1**
RSO				S	**Sn**	**16 19 12.8**	**-1.2**
RDN	**Redoubt North**	**0.51**	**359**	P	**Pn**	**16 19 01.5**	**0.0**
HOM	**Homer**	**0.66**	**122**	P	**Pn**	**16 19 02.5**	**0.0**
AUW	**Augustine West**	**0.74**	**210**	P	**Pn**	**16 19 03.3**	**+0.1**
BRLK	**Bradley Lake**	**0.97**	**104**	P	**Pn**	**16 19 05.8**	**+0.4**
BRLK				S	**Sn**	**16 19 21.2**	**+0.1**
SPBG	**Spurr Blockage**	**1.27**	**8**	P	**Pn**	**16 19 09.1**	**+0.4**
BGL	**Barrier Glacie**	**1.27**	**8**	P	**Pn**	**16 19 09.2**	**+0.4**
CGLM	**Capps Glacier**	**1.35**	**15**	P	**Pn**	**16 19 10.1**	**+0.4**
NCG	**North Capps Gl**	**1.43**	**11**	P	**Pn**	**16 19 11.2**	**+0.7**
STLK	**Strandline Lak**	**1.56**	**16**	P	**Pn**	**16 19 12.4**	**+0.3**
FIB	**Fire Island**	**1.72**	**46**	P	**Pn**	**16 19 15.3**	**+1.4**
SUA	**Susitna One**	**1.76**	**33**	P	**Pn**	**16 19 15.2**	**+0.7**
SUA				S	**Sn**	**16 19 38.4**	**+1.0**
KAKN	**Katmai Knife C**	**2.09**	**216**	P	**Pn**	**16 19 18.8**	**+0.1**
KABR	**Katmai Barrier**	**2.21**	**212**	P	**Pn**	**16 19 20.6**	**+0.4**
KDAK	**Kodiak Island**	**2.23**	**178**	P	**Pn**	**16 19 19.3**	**-1.1**
	3.4nm,0.3s,baz=12,slow=12,SNR=36						
KDAK				S	**Sn**	**16 19 46.4**	**-1.5**
	11nm,0.3s,baz=307,slow=20,SNR=34						
KDAK	**Kodiak Island**	**2.23**	**178**	P	**Pn**	**16 19 19.4**	**-1.0**
KDAK				S	**Sn**	**16 19 46.4**	**-1.5**
KDAK				S		16 19 46.7	
PMR	**Palmer**	**2.38**	**47**	P	**Pn**	**16 19 21.5**	**-0.8**
PPLA	**Purkeypile**	**2.91**	**5**	P	**Pn**	**16 19 30.5**	**+1.1**
SCM	**Sheep Creek Mo**	**3.21**	**53**	P	**Pn**	**16 19 33.0**	**-0.3**
TT01	**Tatalina**	**3.31**	**333**	P	**Pn**	**16 19 34.1**	**-0.4**
TRF	**Thorofare Moun**	**3.65**	**18**	P	**Pn**	**16 19 39.6**	**+0.4**
RND	**Reindeer**	**3.88**	**27**	P	**Pn**	**16 19 42.5**	**+0.3**
DHY	**Denali Highway**	**4.01**	**38**	P	**Pn**	**16 19 44.2**	**+0.2**
GOAT	**Goat Mountain**	**4.03**	**78**	P	**Pn**	**16 19 44.8**	**+0.6**
BMRM	**Bremner River**	**4.14**	**73**	P	**Pn**	**16 19 45.8**	**+0.1**
PAX	**Paxson**	**4.58**	**46**	P	**Pn**	**16 19 52.1**	**+0.4**
BARK	**Barkley Ridge**	**5.13**	**81**	P	**Pn**	**16 19 59.5**	**+0.4**
CCB	**Clear Creek Bu**	**5.19**	**24**	P	**Pn**	**16 19 59.3**	**-0.5**
KIAG	**Kiagna River**	**5.22**	**75**	P	**Pn**	**16 20 00.8**	**+0.5**
BALM	**Baldy**	**5.24**	**74**	P	**Pn**	**16 20 00.9**	**+0.4**
IL1	**Eielson Array**	**5.50**	**27**	P	**Pn**	**16 20 03.4**	**-0.5**
ILAR	**Eielson Array**	**5.50**	**27**	P	**Pn**	**16 20 03.5**	**-0.5**
	0.4nm,0.3s,baz=214,slow=14,SNR=14						
ILAR				S	**Sn**	**16 21 01.3**	**-4.6**
	1.0nm,0.3s,baz=219,slow=22,SNR=13						
ILAR	**Eielson Array**	**5.50**	**27**	P	**Pn**	**16 20 03.5**	**-0.5**
ILAR				S	**Sn**	**16 21 01.3**	**-4.6**
IM3	**Indian Mountai**	**6.02**	**356**	P	**Pn**	**16 20 11.3**	**+0.4**
PNIL	**Peninsula**	**6.74**	**87**	P	**Pn**	**16 20 21.8**	**+1.1**
YKA	**Yellowknife Ar**	**18.33**	**66**	P	**Pn**	**16 22 51.1**	**0.0**
	0.1nm,0.3s,baz=274,slow=10.0,SNR=4.7						
YKA	**Yellowknife Ar**	**18.33**	**66**	P	**Pn**	**16 22 51.1**	**0.0**
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**16 28 05.1**	**+1.8**
	0.3nm,0.9s,baz=45,slow=7.3,SNR=4.0						
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**16 28 05.1**	**+1.8**

KRSC 09 16:30:17.1±0.5,**55°08N**×**164°72E**,**h40**km±30km,**ML3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.73**	**80**	*i* P	Pn	16 30 28.0	-2.9
BKI				*e*S	Sn	16 30 37.2	-3.6
KBTR	**Krutoberegovo**	**1.56**	**317**	*e*P	Pn	16 30 40.5	-1.8
KBTR				*e*S	Sn	16 30 58.5	-2.9
MKZ	**Mys Kozlova**	**1.81**	**254**	*e*P	Pn	16 30 46.1	+0.4
MKZ				*e*S	Sn	16 31 07.5	+0.2
SMKR	**Semkarok**	**2.37**	**311**	S	Sn	16 31 23.3	+1.8
ZLN	**Zelenaya**	**2.42**	**294**	S	Sn	16 31 28.7	+1.1
BZGR	**Bezymyannyi-Gr**	**2.45**	**292**	P	Pn	16 30 56.0	+1.4
BZGR				S	Sn	16 31 24.6	+1.2
BZMR	**Bezymyannaya**	**2.55**	**291**	P	Pn	16 30 57.6	+1.4
BZWR	**Bezymyannyi-We**	**2.56**	**292**	P	Pn	16 30 56.2	-0.1
KLY	**Klyuchi**	**2.61**	**300**	P	Pn	16 30 56.3	-0.4
KLY				S	Sn	16 31 25.2	-2.0
KRSR	**Krestovskiy**	**2.62**	**298**	P	Pn	16 30 57.0	0.0
TUMR	**Tumrok**	**2.63**	**276**	*e*P	Pn	16 30 58.8	+1.6
TUMR				*e*S	Sn	16 31 30.1	+2.1
KMNR	**Kamenistaya**	**2.64**	**287**	*e*P	Pn	16 30 59.4	+2.1
KMNR				S	Sn	16 31 31.0	+2.8
KPT	**Kopyto**	**2.71**	**291**	P	Pn	16 30 59.9	+1.7
KOZ	**Kozyrevsk**	**2.92**	**292**	S	Sn	16 31 38.6	+3.7
SRDR	**Sredinnyy**	**3.09**	**296**	P	Pn	16 31 05.7	+2.3
SRDR				S	Sn	16 31 41.3	+2.1
SPN	**Mys Shipunski**	**3.41**	**236**	S	Sn	16 31 45.4	-1.3
ESO	**Esso**	**3.53**	**286**	P	Pn	16 31 11.3	+1.9
NLO	**Nalychevo**	**3.70**	**241**	S	Sn	16 31 54.3	+0.4
SDLR	**Sedlovina**	**3.88**	**245**	*e*P	Pn	16 31 16.4	+2.1
SDLR				S	Sn	16 31 58.9	+0.3
SMAR	**Somma**	**3.93**	**245**	P	Pn	16 31 16.6	+1.5
UGLR	**Uglovaya**	**3.94**	**244**	P	Pn	16 31 17.3	+2.1
AVH	**Avacha**	**3.96**	**245**	P	Pn	16 31 17.7	+2.3
PET	**Petropavlovsk**	**4.13**	**243**	P	Pn	16 31 19.8	+2.3
PET				S	Sn	16 32 04.1	-0.4
RUS	**Russkaya**	**4.54**	**237**	P	Pn	16 31 24.3	+1.1
RUS				S	Sn	16 32 12.5	-2.1
MTVR	**Mutnovka**	**4.67**	**239**	P	Pn	16 31 26.7	+1.5
MTVR				S	Sn	16 32 17.1	-1.1
ASAK	**Asacha**	**4.87**	**239**	P	Pn	16 31 29.9	+2.1
ASAK				S	Sn	16 32 23.6	+0.6

*GEN **09** 16:30:23.9,46°.72N×7°.24E,h9km,ML1.7*
*CSEM **09** 16:30:23.5±0.1,46°.71N×7°.15E,h15km,ML2.4/17,Error ellipse: s-maj=2.8km s-min=1.5km az=101.0*
*ZUR **09** 16:30:24.0,46°.71N×7°.23E,h8km±1km,ML2.0/13*
*STR **09** 16:30:24.2±0.2,46°.73N×7°.20E,h10km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **09** 16:30:24.4±0.0,46°.71N×7°.19E,h10km,Md2.3/2,Ml2.6/19, Error ellipse: s-maj=1.0km s-min=0.6km az=101.0*
*VIE **09** 16:30:24.8±0.5,47°.05N×7°.27E,h11km±1km,ML2.5/1, Error ellipse: s-maj=5.0km s-min=2.6km az=2.0*

ISC 09 16:30:24.3±0.8,**46°72N**±0°.01×**7°21E**±0°.02,**h15**km±6km, **n81**,σ1°**31**/130,**5C-3D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORNY	**Torny/Romont**	**0.18**	**288**	⇓*i* Pg	**Pg**	**16 30 28.2**	**-0.5**
	1μm,0.2s						
TORNY				*i* Sg	**Sg**	**16 30 31.7**	**0.0**
	1μm,0.2s						
WIMIS	**Wimmis**	**0.29**	**100**	*e*Pg	**Pg**	**16 30 29.7**	**-0.8**
	259nm,0.7s						
WIMIS				*e*Sg	**Sg**	**16 30 34.2**	**-0.5**
	259nm,0.7s						
SENIN	**Lac Senin/Sane**	**0.36**	**170**	*e*Pg	**Pg**	**16 30 31.2**	**-0.6**
	120nm,0.3s						
AIGLE	**Aigle**	**0.42**	**205**	*e*Pg	**Pg**	**16 30 32.1**	**-0.6**
	178nm,0.1s						
AIGLE				*e*Sg	**Sg**	**16 30 38.0**	**-0.4**
	178nm,0.1s						
LKBD	**Leukerbad**	**0.44**	**139**	*e*Pg	**Pg**	**16 30 32.9**	**-0.2**
	40nm,0.7s						
GRYON	**Gryon**	**0.47**	**188**	*e*Pg	**Pg**	**16 30 33.4**	**-0.3**
	31nm,0.4s						
OG01	**Vacheresse**	**0.53**	**223**	Pg	**Pg**	**16 30 34.4**	**-0.4**
OG01				Sg	**Sg**	**16 30 41.8**	**-0.2**
OG01	**Vacheresse**	**0.53**	**223**	Pg	**Pg**	**16 30 34.4**	**-0.4**
OG01				Sg	**Sg**	**16 30 41.8**	**-0.2**
SALAN	**Lac Salanfe**	**0.60**	**196**	⇓*i* Pg	**Pg**	**16 30 35.4**	**-0.7**
	22nm,0.2s						
HASLI	**Hasliberg/Brie**	**0.65**	**86**	*e*Sg	Sg	16 30 37.7	-7.9
	80nm,0.4s						
BOURR	**Bourrignon**	**0.68**	**1**	*e*Pg	**Pb**	**16 30 37.9**	**+0.1**
	80nm,0.7s						
LOMF	**Lomont**	**0.69**	**338**	Pg	**Pg**	**16 30 37.4**	**-0.3**
LOMF				Sg	**Sg**	**16 30 46.2**	**-0.6**
LOMF	**Lomont**	**0.69**	**338**	Pg	**Pg**	**16 30 37.4**	**-0.3**
LOMF				Sg	**Sg**	**16 30 46.2**	**-0.6**
BALST	**Balsthal**	**0.70**	**28**	⇑*i* Pg	**Pn**	**16 30 40.9**	**+1.2**
	161nm,0.3s						
BBS	**Basel-Blauen**	**0.77**	**15**	Pg	**Pg**	**16 30 39.4**	**0.0**
BBS				Sg	**Sg**	**16 30 49.4**	**-0.2**
CABF	**La Chapelle**	**0.78**	**263**	*e*Pg	**Pg**	**16 30 39.0**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**0.78**	**263**	*e*Pn	**Pb**	**16 30 39.9**	**+0.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**16 30 49.4**	**-0.4**
	12nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.78**	**263**	*e*Pg	**Pg**	**16 30 39.0**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**0.78**	**263**	*e*Pn	**Pb**	**16 30 39.9**	**+0.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**16 30 49.4**	**-0.4**
	5.9nm,0.3s,SNR=1.0						
BNALP	**Bannalp**	**0.85**	**79**	*e*Sg	Sg	16 30 43.8	-8.2
	76nm,0.3s						
BNALP	**Bannalp**	**0.85**	**79**	*e*Pg	Pn	16 30 52.4	+11
	76nm,0.3s						
SULZ	**Cheisacher**	**1.02**	**37**	⇓*i* Pg	**Pn**	**16 30 45.0**	**+1.0**
	117nm,0.2s						
RSL	**Roselend**	**1.11**	**202**	Pg	**Pn**	**16 30 46.1**	**+0.7**
RSL				Sg	**Sn**	**16 31 00.8**	**+0.3**
RSL	**Roselend**	**1.11**	**202**	Pg	**Pn**	**16 30 46.1**	**+0.7**
RSL				Sg	**Sn**	**16 31 00.8**	**+0.3**
HINF	**Hinteralfeld**	**1.12**	**348**	*e*Pn	**Pb**	**16 30 44.6**	**-0.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**1.12**	**348**	*e*Pg	**Pb**	**16 30 45.8**	**+0.3**
HINF				*e*Sg	**Sb**	**16 31 00.2**	**+0.3**
	31nm,0.2s,SNR=1.0						
HINF	**

SMF	**Signal de Mont**	**2.32**	**269**	*e*Pg	**Pb**	**16 31 07.3 +1.5**
SMF				*e*Sg	**Sb**	**16 31 36.0 +1.7**
	1.5nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.36**	**285**	*e*Pg	**Pb**	**16 31 07.8 +1.3**
	SNR=1.0					
LOR				*e*Sg	**Sb**	**16 31 37.6 +2.2**
	2.9nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.36**	**285**	*e*Pg	**Pb**	**16 31 07.8 +1.3**
	SNR=1.0					
LOR				*e*Sg	**Sb**	**16 31 37.6 +2.2**
	1.5nm,0.2s,SNR=1.0					
SSF	**Saint Saulge**	**2.56**	**279**	*e*Pg	**Pb**	**16 31 11.5 +1.6**
SSF				*e*Sg	**Sb**	**16 31 44.1 +2.9**
	2.5nm,0.2s,SNR=1.0					
SSF	**Saint Saulge**	**2.56**	**279**	*e*Pg	**Pb**	**16 31 11.5 +1.6**
SSF				*e*Sg	**Sb**	**16 31 44.1 +2.9**
	1.2nm,0.2s,SNR=1.0					
VIVF	**Saint-Julien-l**	**2.57**	**225**	*e*Pn	**Pn**	**16 31 04.2 -1.2**
VIVF	**Saint-Julien-l**	**2.57**	**225**	*e*Pg	**Pb**	**16 31 11.6 +1.5**
VIVF				*e*Sg	**Sg**	**16 31 45.1 -1.8**
	2.5nm,0.2s,SNR=1.0					
VIVF	**Saint-Julien-l**	**2.57**	**225**	*e*Pn	**Pn**	**16 31 04.2 -1.2**
VIVF	**Saint-Julien-l**	**2.57**	**225**	*e*Pg	**Pb**	**16 31 11.6 +1.5**
VIVF				*e*Sg	**Sg**	**16 31 45.1 -1.8**
	1.2nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**2.65**	**273**	*e*Pn	**Pn**	**16 31 05.1 -1.4**
AVF	**Avril sur Loir**	**2.65**	**273**	*e*Pg	**Pb**	**16 31 13.4 +1.9**
AVF				*e*Sg	**Sb**	**16 31 47.1 +3.3**
	1.3nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**2.65**	**273**	*e*Pn	**Pn**	**16 31 05.1 -1.4**
AVF	**Avril sur Loir**	**2.65**	**273**	*e*Pg	**Pb**	**16 31 13.4 +1.9**
AVF				*e*Sg	**Sb**	**16 31 47.1 +3.3**
	0.6nm,0.2s,SNR=1.0					
SMRF	**Simiane la Rot**	**2.98**	**203**	*e*Pg	**Pb**	**16 31 18.9 +1.9**
SMRF				*e*Sn	**Sn**	**16 31 43.1 -3.3**
	7.3nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**2.98**	**203**	*e*Pg	**Pb**	**16 31 18.9 +1.9**
SMRF				*e*Sn	**Sn**	**16 31 43.1 -3.3**
	3.7nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.01**	**269**	*e*Pg	**Pb**	**16 31 19.9 +2.3**
BGF				*e*Sg	**Sg**	**16 31 58.7 -2.3**
	5.1nm,0.3s					
BGF	**Bois d'Agland**	**3.01**	**269**	*e*Pg	**Pb**	**16 31 19.9 +2.3**
BGF				*e*Sg	**Sg**	**16 31 58.7 -2.3**
	2.5nm,0.3s					

WEL 09 16:32:23.5±0.5, 38.00N×175.88E, h181km±5km, ML3.5/16, 1C, Error ellipse: s-maj=5.4km s-min=4.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.00**	**105**	PN	Pn	16 32 51.4	+0.2
URZ				SN	Sn	16 33 11.9	-0.8
BKZ	**Black Stump Fm**	**1.26**	**158**	⇑PN	Pn	16 32 53.1	-0.3
TUVZ	**Tukino**	**1.28**	**188**	PN	Pn	16 32 53.8	+0.2
NMHZ	**Naumai**	**1.31**	**147**	PN	Pn	16 32 54.5	+0.7
NMHZ				SN	Sn	16 33 17.3	-0.2
RAHZ	**Arahi**	**1.32**	**134**	PN	Pn	16 32 54.2	+0.4
RAHZ				SN	Sn	16 33 16.6	-0.8
MWZ	**Matawai**	**1.34**	**105**	PN	Pn	16 32 54.2	+0.1
PKVZ	**Pokaka**	**1.36**	**198**	PN	Pn	16 32 54.4	+0.2
MOVZ	**Moawhango**	**1.41**	**184**	PN	Pn	16 32 54.2	-0.5
MTVZ	**Mangateitei**	**1.42**	**193**	PN	Pn	16 32 54.9	+0.1
VRZ	**Vera Road**	**1.43**	**218**	PN	Pn	16 32 55.7	+0.9
BHHZ	**Black Hill Sta**	**1.49**	**175**	PN	Pn	16 32 55.8	-0.5
MCHZ	**McNeill Hill**	**1.58**	**156**	PN	Pn	16 32 56.4	+0.2
KNZ	**Kokohu**	**1.74**	**127**	PN	Pn	16 32 57.4	-0.4
PUZ	**Puketiti**	**1.88**	**93**	PN	Pn	16 32 59.2	0.0
CNGZ	**Carnagh Statio**	**1.89**	**106**	PN	Pn	16 32 59.8	+0.5
CKHZ	**Cape Kidnapper**	**1.90**	**151**	PN	Pn	16 32 58.9	-0.5
PNHZ	**Pukenui**	**1.93**	**173**	PN	Pn	16 32 58.6	-1.2
KAHZ	**Kahuranaki**	**1.95**	**157**	PN	Pn	16 32 59.4	-0.7
MHGZ	**Mahia Peninsul**	**1.96**	**127**	PN	Pn	16 32 59.8	-0.3
TSZ	**Takapari Road**	**2.06**	**178**	PN	Pn	16 32 59.9	-1.3
WPHZ	**Waipukurau**	**2.11**	**168**	PN	Pn	16 33 00.4	-1.3
PXZ	**Pawanui**	**2.17**	**160**	PN	Pn	16 33 01.0	-1.4
DVHZ	**Dannevirke**	**2.31**	**175**	PN	Pn	16 33 02.1	-1.9
PRHZ	**Porangahau**	**2.34**	**166**	PN	Pn	16 33 02.6	-1.7
MRZ	**Mangatainoka R**	**2.67**	**185**	PN	Pn	16 33 05.7	-2.4
BFZ	**Birch Farm**	**2.69**	**174**	PN	Pn	16 33 06.2	-2.2
TIWZ	**Tintock**	**2.77**	**180**	PN	Pn	16 33 07.0	-2.4
OGWZ	**Otaki Gorge**	**2.87**	**191**	PN	Pn	16 33 08.2	-2.2
HOWZ	**Holdsworth Sta**	**2.91**	**185**	PN	Pn	16 33 08.2	-2.8
KIW	**Kapiti Island**	**2.96**	**194**	PN	Pn	16 33 08.9	-2.7
TMWZ	**Te Maipa**	**3.10**	**180**	PN	Pn	16 33 10.4	-2.9
CAW	**Cannon Point**	**3.17**	**191**	PN	Pn	16 33 11.2	-2.9
MTW	**Mount Morrison**	**3.17**	**185**	PN	Pn	16 33 10.7	-3.4
TRWZ	**Traveller**	**3.40**	**182**	PN	Pn	16 33 13.7	-3.2
SNZO	**South Karori**	**3.43**	**195**	PN	Pn	16 33 13.9	-3.3
TCW	**Tory Channel**	**3.44**	**201**	PN	Pn	16 33 14.5	-2.9
MSWZ	**Moikau Station**	**3.45**	**188**	PN	Pn	16 33 14.1	-3.5
PLWZ	**Palliser**	**3.60**	**188**	PN	Pn	16 33 15.7	-3.8
TUWZ	**Tuamarina**	**3.74**	**203**	PN	Pn	16 33 17.8	-3.4
QRZ	**Quartz Range**	**3.84**	**222**	PN	Pn	16 33 19.1	-3.3
THZ	**Tophouse**	**4.40**	**210**	PN	Pn	16 33 27.4	-2.4
KHZ	**Kahutara**	**4.76**	**201**	PN	Pn	16 33 30.6	-3.7

IDC 09 16:39:10.5±16.0, 21.72S×179.52E, h307km±159km, mb3.5/6, mb1 3.6/6, mb1mx3.2/20, mbtmp3.5/6, Error ellipse: s-maj=63.1km s-min=33.6km az=111.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**22.43**	**300**	P	P	16 43 43.7	-0.3
	15nm,0.3s,baz=339,slow=23,SNR=14						
CTA	**Charters Tower**	**31.09**	**267**	P	P	16 45 02.9	+1.8
	2.1nm,0.6s,baz=44,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**41.99**	**258**	P	P	16 46 32.8	+0.1
	1.1nm,0.5s,baz=91,slow=7.1,SNR=44						
ASAR				pP	pP	16 47 17.8	-17
	2.4nm,0.7s,baz=87,slow=9.0,SNR=17						
WRA	**Warramunga Arr**	**42.15**	**264**	P	P	16 46 32.4	-1.5
	0.9nm,0.5s,baz=97,slow=7.9,SNR=32						
WRA				pP	pP	16 47 16.6	-19
	0.5nm,0.4s,baz=95,slow=7.2,SNR=5.6						
MJAR	**Matsushiro Arr**	**69.85**	**326**	P	P	16 49 48.7	+0.3
	2.1nm,0.5s,baz=206,slow=8.8,SNR=9.5						
TXAR	**Lajitas Array**	**89.66**	**58**	P	P	16 51 34.0	-0.4
	0.4nm,0.7s,baz=201,slow=7.4,SNR=3.8						

ISK ***09*** *16:59:05.9, 37.91N×29.21E, h8km, MD3.0*
ISCJB ***09*** *16:59:06.4±0.4, 37.90N±0.02×29.21E±0.03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=6.1*
DDA ***09*** *16:59:06.0, 37.89N×29.24E, h11km, MD3.0*
CSEM ***09*** *16:59:06.5±0.1, 37.91N×29.20E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.3km az=101.0*

ISC 09 16:59:06.7±0.9, 37.90N±0.02×29.21E±0.02, h10km±8km, n34, σ0 52/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.20**	**223**	*e*PG	**Pg**	**16 59 10.7**	**-0.3**
DENT	**Denizli**	**0.20**	**223**	*e*Pg	**Pg**	**16 59 10.7**	**-0.3**
DNZL	**Cakiroluk**	**0.25**	**211**	*i* P	**Pg**	**16 59 11.9**	**+0.1**
DNZL				*i* S	**Sg**	**16 59 15.9**	**+0.6**
KHL	**Karahalli**	**0.49**	**30**	*e*PG	**Pg**	**16 59 15.7**	**-0.5**
KHL				*e*SG	**Sg**	**16 59 22.9**	**+0.2**
KHL	**Karahalli**	**0.49**	**30**	*e*Pg	**Pg**	**16 59 15.7**	**-0.5**
KHL				*e*Sg	**Sg**	**16 59 22.9**	**+0.2**
KHAL	**Karahalli**	**0.52**	**25**	*i* P	**Pg**	**16 59 15.9**	**-0.9**
KHAL				*i* S	**Sg**	**16 59 24.1**	**+0.4**
KHAL	**Karahalli**	**0.52**	**25**	*i* P	**Pg**	**16 59 15.9**	**-0.9**
KHAL				*i* S	**Sg**	**16 59 24.1**	**+0.4**
GOLH	**Golhisar**	**0.72**	**157**	*i* P	**Pg**	**16 59 19.6**	**-1.0**
GOLH				*i* S	**Sg**	**16 59 31.2**	**+1.1**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*PG	**Pg**	**16 59 20.7**	**-0.5**
KULA				*e*SG	**Sg**	**16 59 31.5**	**+0.6**
KULA	**Kula-Manisa**	**0.75**	**325**	*e*Pg	**Pg**	**16 59 20.7**	**-0.5**
KULA				*e*Sg	**Sg**	**16 59 31.5**	**+0.6**
MANT	**Manisa**	**0.78**	**319**	*i* P	**Pg**	**16 59 21.5**	**-0.3**
MANT				*i* S	**Sg**	**16 59 31.5**	**-0.5**
MANT	**Manisa**	**0.78**	**319**	*i* P	**Pg**	**16 59 21.5**	**-0.3**
MANT				*i* S	**Sg**	**16 59 31.5**	**-0.5**
ISP	**Isparta**	**1.04**	**94**	*e*PG	**Pb**	**16 59 27.0**	**+0.1**
ISP				*e*SG	**Sn**	**16 59 42.3**	**+0.2**
ISP	**Isparta**	**1.04**	**94**	*e*Pg	**Pb**	**16 59 27.0**	**+0.1**
ISP				*e*Sg	**Sn**	**16 59 42.3**	**+0.2**
YER	**Yerkesik**	**1.06**	**224**	*e*PG	**Pb**	**16 59 26.8**	**-0.4**
YER				*e*SG	**Sn**	**16 59 42.0**	**-0.5**
YER	**Yerkesik**	**1.06**	**224**	*e*Pg	**Pb**	**16 59 26.8**	**-0.4**
YER				*e*Sg	**Sn**	**16 59 42.0**	**-0.5**
BCK	**Bucak**	**1.18**	**111**	*e*PN	**Pb**	**16 59 28.8**	**-0.4**
BCK				*e*SN	**Sg**	**16 59 45.6**	**+0.9**
BCK	**Bucak**	**1.18**	**111**	*e*Pn	**Pb**	**16 59 28.8**	**-0.4**
BCK				*e*Sn	**Sg**	**16 59 45.6**	**+0.9**
DEMI	**Demirci**	**1.20**	**341**	*i* P	**Pg**	**16 59 30.0**	**+0.2**
DEMI				*i* S	**Sn**	**16 59 47.1**	**+1.1**
DEMI	**Demirci**	**1.20**	**341**	*i* P	**Pg**	**16 59 30.0**	**+0.2**
DEMI				*i* S	**Sn**	**16 59 47.1**	**+1.1**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**16 59 29.2**	**-0.5**
GDZ				*i* S	**Sg**	**16 59 46.0**	**+0.5**
GDZ	**Gediz**	**1.20**	**10**	*i* P	**Pn**	**16 59 29.2**	**-0.5**
GDZ				*i* S	**Sg**	**16 59 46.0**	**+0.5**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*PN	**Pn**	**16 59 30.3**	**+0.1**
SHUT	**Suhut-Afyon**	**1.24**	**58**	*e*Pn	**Pn**	**16 59 30.3**	**+0.1**
ELL	**Elmali**	**1.28**	**154**	*e*PN	**Pn**	**16 59 30.5**	**-0.2**
ELL	**Elmali**	**1.28**	**154**	*e*Pn	**Pn**	**16 59 30.5**	**-0.2**
ALT	**Altintas**	**1.35**	**31**	*e*PN	**Pn**	**16 59 31.4**	**-0.3**
ALT	**Altintas**	**1.35**	**31**	*e*Pn	**Pn**	**16 59 31.4**	**-0.3**
TVSB	**Tavsanli**	**1.56**	**7**	*e*PN	**Pn**	**16 59 34.6**	**+0.1**
TVSB	**Tavsanli**	**1.56**	**7**	*e*Pn	**Pn**	**16 59 34.6**	**+0.1**
BODT	**Bodrum**	**1.73**	**242**	*e*PN	**Pn**	**16 59 37.0**	**+0.3**
BODT	**Bodrum**	**1.73**	**242**	*e*Pn	**Pn**	**16 59 37.0**	**+0.3**
CAVI	**Cavuskoy**	**2.35**	**12**	*e*PN	**Pn**	**16 59 45.4**	**+0.1**
CAVI	**Cavuskoy**	**2.35**	**12**	*e*Pn	**Pn**	**16 59 45.4**	**+0.1**

IDC 09 17:01:38.2±1.4, 13.00N×143.44E, h206km±29km, mb3.1/7, mb1 3.2/7, mb1mx3.0/27, mbtmp3.1/7, Error ellipse: s-maj=57.1km s-min=15.1km az=84.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.51**	**67**	P	Pn	17 02 13.3	+0.8
	9.0nm,0.3s,baz=269,slow=21,SNR=18						
GUMO				S	S	17 02 39.2	+0.4
	47nm,0.3s,baz=70,slow=18,SNR=13						
WRA	**Warramunga Arr**	**33.94**	**195**	P	P	17 08 02.0	-0.2
	0.4nm,0.6s,baz=15,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**37.61**	**194**	P	P	17 08 33.2	-0.2
	0.1nm,0.6s,baz=21,slow=8.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**43.09**	**283**	P	P	17 09 18.5	+0.1
	0.5nm,0.4s,baz=81,slow=6.8,SNR=6.6						
SONM	**Songino Array**	**46.42**	**326**	P	P	17 09 44.2	-0.2
	0.3nm,0.5s,baz=146,slow=6.7,SNR=3.6						
MKAR	**Makanchi Array**	**60.95**	**316**	P	P	17 11 29.6	-0.1
	0.4nm,0.5s,baz=95,slow=7.9,SNR=6.8						
KURBB	**Kurchatov Arra**	**64.18**	**320**	P	P	17 11 50.9	0.0
	1.1nm,0.3s,baz=100,slow=6.8,SNR=5.0						
BVAR	**Borovoye Array**	**69.53**	**322**	P	P	17 12 24.6	0.0
	1.7nm,0.5s,baz=103,slow=7.2,SNR=8.6						

IDC 09 17:10:44.9±0.7, 3.62N×126.77E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/25, mbtmp3.8/10, 1C, Error ellipse: s-maj=51.3km s-min=13.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.37**	**325**	⇑*e*P	Pn	17 11 55.6	+3.0
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	P	17 15 37.1	+0.4
	1.3nm,0.5s,baz=360,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**24.57**	**163**	P	P	17 16 06.0	-0.8
	4.0nm,0.7s,baz=343,slow=10,SNR=31						
WRA				PcP	PcP	17 19 45.3	+0.2
	0.2nm,0.5s,baz=328,slow=2.2,SNR=4.9						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	17 16 37.6	-0.1
	0.4nm,0.6s,baz=347,slow=7.4,SNR=13						
ASAR				PcP	PcP	17 19 52.4	-0.7
	0.7nm,0.7s,baz=357,slow=2.2,SNR=8.2						
CMAR	**Chiang Mai Arr**	**30.96**	**301**	P	P	17 17 04.7	+0.6
	0.3nm,0.3s,baz=118,slow=7.0,SNR=3.6						
KSRS	**Korea Array**	**33.69**	**2**	P	P	17 17 28.4	+0.7
	0.9nm,0.6s,baz=184,slow=9.9,SNR=4.8						
STKA	**Stephens Creek**	**38.02**	**159**	P	P	17 18 05.3	+0.4
	2.1nm,0.6s,baz=337,slow=8.4,SNR=6.8						
SONM	**Songino Array**	**47.41**	**341**	P	P	17 19 20.6	-0.6
	0.4nm,0.9s,baz=165,slow=6.6,SNR=3.5						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	17 20 36.4	-0.8
	0.3nm,0.4s,baz=122,slow=7.9,SNR=16						
MKAR				PcP	PcP	17 21 30.3	0.0
	0.4nm,0.8s,baz=133,slow=4.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.85**	**327**	P	P	17 21 05.7	-0.2
	1.3nm,0.5s,baz=127,slow=6.1,SNR=7.3						
BVAR	**Borovoye Array**	**67.43**	**327**	P	P	17 21 42.4	+0.1
	0.4nm,0.6s,baz=134,slow=8.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.99**	**288**	PKP	PKPdf	17 29 44.2	-0.2
	0.5nm,0.8s,baz=25,slow=1.4,SNR=2.7						

CSEM 09 17:11:30.7±1.6, 45.42N×5.68W, h10km, mb3.7/9, Error ellipse: s-maj=45.3km s-min=6.1km az=165.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EARI	**Arriondas**	**2.14**	**171**	P	Pn	17 12 06.8	+0.2
	7.1nm,0.8s,SNR=6.3						
ELAN	**Lanestosa**	**2.71**	**143**	P	Pn	17 12 13.9	-0.4
	3.8nm,0.3s,SNR=8.8						
ECAL	**Calabor**	**3.56**	**193**	P	Pn	17 12 26.2	+0.1
	6.2nm,0.7s,SNR=7.9						
ELIZ	**Elizondo**	**3.74**	**126**	P	Pn	17 12 27.7	-0.8
	4.4nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**3.93**	**209**	*e*Pn	Pn	17 12 31.2	0.0
PGAV				ET		17 15 00.8	
PGAV	**Gavieira, Arco**	**3.93**	**209**	*e*Pn	Pn	17 12 31.2	0.0
ELOB	**Lobios**	**3.94**	**207**	P	Pn	17 12 31.3	-0.1
	1.6nm,0.3s,SNR=6.3						
IZUN	**Zunzarren**	**3.97**	**129**	P	Pn	17 12 31.3	-0.4
	0.6nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**4.03**	**127**	P	Pn	17 12 32.6	0.0
	4.1nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**4.06**	**128**	P	Pn	17 12 33.4	+0.4
	2.0nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**4.11**	**127**	P	Pn	17 12 34.0	+0.4
	3.5nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**4.13**	**128**	P	Pn	17 12 34.9	+1.0
	SNR=7.9						
POLO	**Lamas de Olo**	**4.32**	**202**	*e*Pn	Pn	17 12 36.7	+0.1
POLO				ET		17 15 09.0	
POLO	**Lamas de Olo**	**4.32**	**202**	*e*Pn	Pn	17 12 36.7	+0.1

IDC 09 17:18:19.1±3.0, 22.91N×11.60W, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/26, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=103.9km s-min=30.7km az=85.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.93**	**125**	Pn	Pn	17 22 05.1	+0.2
	0.1nm,0.3s,baz=318,slow=12,SNR=3.9						
TORD				Sn	Sn	17 24 52.1	-10
	0.0nm,0.3s,baz=302,slow=26,SNR=2.7						
DBIC	**Dimbokro**	**17.41**	**157**	P	Pn	17 22 22.8	-0.7
	0.3nm,0.3s,baz=318,slow=14,SNR=4.4						
DBIC				S	Sn	17 25 24.5	-14
	0.2nm,0.3s,baz=331,slow=14,SNR=2.8						
GERES	**GERESS Array B**	**32.73**	**31**	P	P	17 24 53.5	-0.1
	0.9nm,0.8s,baz=214,slow=9.5,SNR=5.6						
FINES	**FINESS Array B**	**46.36**	**24**	P	P	17 26 46.3	-0.5
	1.1nm,0.8s,baz=241,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**76.22**	**45**	P	P	17 30 09.7	+0.2
	0.4nm,0.5s,baz=281,slow=5.6,SNR=7.5						
WRA	**Warramunga Arr**	**148.20**	**91**	PKPbc	PKPbc	17 38 07.3	-0.6
	0.5nm,0.8s,baz=292,slow=2.5,SNR=5.4						
ASAR	**Alice Springs**	**148.35**	**98**	PKPbc	PKPbc	17 38 07.8	-0.5
	0.4nm,0.7s,baz=288,slow=1.9,SNR=8.2						

SOF ***09*** *17:18:59.5, 42.59N×27.01E, h15km, MD3.0*
CSEM ***09*** *17:19:00.9±0.3, 42.60N×26.95E, h2km, MD3.0, Error ellipse: s-maj=6.3km s-min=4.7km az=150.0*

ISC 09 17:19:00.1±1.1, 42.59N±0.02×26.95E±0.02, h4km±10km, n85, σ1 8/106, 14C-12D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.29**	**246**	*i* P	**Pb**	**17 19 07.3**	**-0.6**
JMB				*i* S	**Sb**	**17 19 13.3**	**+0.1**
JMB	**Yambol**	**0.29**	**246**	*i* P	**Pb**	**17 19 07.3**	**-0.6**
PRD	**Provadia**	**0.70**	**28**	*i* P	**Pg**	**17 19 12.5**	**-1.0**
PRD				*i* S	**Sg**	**17 19 20.8**	**-1.7**
PRD	**Provadia**	**0.70**	**28**	*i* P	**Pg**	**17 19 12.5**	**-1.0**
PRD				*i* S	**Sg**	**17 19 20.8**	**-1.7**
EDRB	**Edirne**	**0.75**	**192**	*e*PG	**Pn**	**17 19 16.7**	**-0.8**
EDRB				*e*SG	**Sn**	**17 19 29.7**	**+0.3**
SZH	**Strazhica**	**1.01**	**313**	*i* P	**Pg**	**17 19 19.4**	**0.0**
SZH				*i* S	**Sb**	**17 19 33.8**	**0.0**
SZH	**Strazhica**	**1.01**	**313**	*i* P	**Pg**	**17 19 19.4**	**0.0**
SZH				*i* S	**Sb**	**17 19 33.8**	**0.0**
DIM	**Dimitrovgrad**	**1.18**	**243**	*i* P	**Pg**	**17 19 22.0**	**-0.7**
DIM				*i* S	**Sn**	**17 19 39.0**	**-0.8**
DIM	**Dimitrovgrad**	**1.18**	**243**	*i* P	**Pg**	**17 19 22.0**	**-0.7**
DIM				*i* S	**Sn**	**17 19 39.0**	**-0.8**
PVL	**Pavlikeni**	**1.34**	**299**	*i* P	**Pg**	**17 19 26.5**	**+0.7**
PVL				*i* S	**Sn**	**17 19 45.9**	**+2.0**
PVL	**Pavlikeni**	**1.34**	**299**	*i* P	**Pg**	**17 19 26.5**	**+0.7**
PSN	**Preselentsi**	**1.42**	**39**	*i* P	**Pn**	**17 19 24.7**	**-2.0**
PSN				*i* S	**Sb**	**17 19 44.5**	**-1.1**
CRLT	**Corlu**	**1.57**	**158**	*e*PN	**Pg**	**17 19 29.9**	**-0.2**
CRLT				*e*SN	**Sg**	**17 19 52.7**	**+2.2**
ZIMR		**1.58**	**313**	⇑*i*P	**Pb**	**17 19 29.0**	**-0.8**
ZIMR		**1.58**	**313**	S	**Sg**	**17 19 51.4**	**+0.6**
SLVT	**Silivri**	**1.65**	**145**	*e*PN	**Pg**	**17 19 31.2**	**-0.5**
TKR	**Tekirdag**	**1.65**	**164**	*e*PN	**Pg**	**17 19 31.5**	**-0.3**
MANR	**Mangalia**	**1.72**	**44**	⇓*i*P	**Pn**	**17 19 30.8**	**+0.1**
MANR	**Mangalia**	**1.72**	**44**	⇓*i*P	**Pn**	**17 19 30.8**	**+0.1**
MANR				S	**Sb**	**17 19 53.7**	**-0.4**
CTKS	**Kestenalik-??a**	**1.78**	**139**	*e*PN	**Pb**	**17 19 32.5**	**-0.8**
ELBA	**Catalca**	**1.81**	**142**	*i* P	**Pg**	**17 19 34.0**	**+0.1**
ELBA				*i* S	**Sg**	**17 19 59.7**	**+1.3**
ELBA	**Catalca**	**1.81**	**142**	*i* P	**Pb**	**17 19 34.0**	**+0.1**
ELBA				*i* S	**Sg**	**17 19 59.7**	**+1.3**
MFT	**Murefte**	**1.81**	**172**	*e*PN	**Pb**	**17 19 33.8**	**-0.1**
BUC1	**Bucharest**	**1.88**	**339**	S	**Sg**	**17 20 00.2**	**-0.4**
BUC1	**Bucharest**	**1.88**	**339**	S	**Sg**	**17 20 00.2**	**-0.4**
CVD	**Cernavoda**	**1.90**	**24**	⇑*i*P	Pg	17 19 39.5	+3.0
CVD	**Cernavoda**	**1.90**	**24**	S	**Sg**	**17 19 59.5**	**-1.6**
CVD	**Cernavoda**	**1.90**	**24**	S	**Sg**	**17 19 59.5**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.91**	**175**	*e*PN	**Pb**	**17 19 35.7**	**+0.2**
EFOR	**EFORİE**	**1.93**	**39**	⇓*i*P	**Pg**	**17 19 37.6**	**+0.5**
EFOR	**EFORIE**	**1.93**	**39**	⇓*i*P	**Pg**	**17 19 37.6**	**+0.5**
EFOR				S	**Sb**	**17 19 59.6**	**-0.7**
ERIK	**Erikli-Kesan**	**1.94**	**190**	*e*PN	**Pb**	**17 19 35.8**	**-0.2**
ENEZ	**Enez**	**1.94**	**198**	*e*PN	**Pb**	**17 19 35.6**	**-0.4**
ENEZ				*e*SN	**Sg**	**17 20 01.9**	**-0.5**
BGKT	**Bogazkoy**	**1.96**	**135**	*e*PN	**Pn**	**17 19 34.6**	**+0.6**
AMRR	**Amara**	**2.04**	**8**	⇑*i*P	**Pb**	**17 19 36.9**	**-0.8**
AMRR	**Amara**	**2.04**	**8**	⇑*i*P	**Pb**	**17 19 36.9**	**-0.8**
AMRR				S	**Sb**	**17 20 02.1**	**-1.4**
TIRR	**Tirgusor**	**2.15**	**29**	⇑*i*P	**Pn**	**17 19 37.5**	**+0.8**
TIRR	**Tirgusor**	**2.15**	**29**	⇑*i*P	**Pn**	**17 19 37.5**	**+0.8**
TIRR				S	**Sb**	**17 20 05.9**	**-0.7**
ISK	**Istanbul-Kandi**	**2.19**	**133**	*e*PN	**Pn**	**17 19 37.7**	**+0.5**
KRBG	**Karabiga-Canak**

BHL				eS		Sg	17 24 26.8	+0.1
SALA	Sala	0.93	122	eP		Pb	17 24 22.1	-0.2
SALA				eS		Sg	17 24 34.0	0.0
SALA				AML		AML	17 24 36.7	
	comp=E,7.4nm,0.2s							
SALA				AML		AML	17 24 39.2	
	comp=N,112nm,0.5s							
SALA	Sala	0.93	122	eP		Pb	17 24 22.1	-0.2
	SNR=75							
SALA				eS		Sg	17 24 34.0	0.0
	comp=N,112nm,0.5s,SNR=59							
HWQ	Hawqa	1.08	7	eP		Pg	17 24 23.6	-0.9
HWQ	Hawqa	1.08	7	eP		Pg	17 24 23.6	-0.9
ZALF	Zalf	1.33	102	eP		Pn	17 24 28.0	-0.6
ZALF				eS		Sb	17 24 46.2	+0.1
ZALF				AML		AML	17 24 48.5	
	comp=E,37nm,0.2s							
ZALF				AML		AML	17 24 49.2	
	comp=N,97nm,0.4s							
ZALF	Zalf	1.33	102	eP		Pn	17 24 28.0	-0.6
	SNR=57							
ZALF				eS		Sb	17 24 46.2	+0.1
	comp=N,97nm,0.4s,SNR=49							
HAWK	Haweek	1.41	21	iP		Pn	17 24 29.9	+0.1
HAWK				eS		Sb	17 24 49.4	+0.9
HAWK				AML		AML	17 24 54.3	
	comp=E,35nm,0.5s							
HAWK				AML		AML	17 24 55.0	
	comp=N,29nm,0.6s							
HAWK	Haweek	1.41	21	iP		Pn	17 24 29.9	+0.1
	SNR=57							
HAWK				eS		Sb	17 24 49.4	+0.9
	comp=N,29nm,0.6s,SNR=49							
ZFRI	Zfri	2.69	191		Pn	Pn	17 24 48.2	+0.8
HRFI	Mount Harif	3.22	192		Pn	Pn	17 24 56.4	+1.7

*GRAL **09** 17:24:56.9±0.3, 33°15.N×35°.85E, h2km±2km, MD3.5*
*ISCJB **09** 17:24:57.2±0.5, 33°.19N±0°.02×35°.79E±0°.03, h1km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=16.1*
*NSSC **09** 17:24:57.8±1.6, 33°.19N×35°.84E, h0km±3km, MD1.6, ML3.0, Fault plane solution: NP1:ϕs39.24000°, δ34.78000°, λ42.19000°.*
*CSEM **09** 17:24:57.3±0.1, 33°.19N×35°.80E, h2km, MD3.5/10, Error ellipse: s-maj=3.2km s-min=2.1km az=96.0*

ISC 09 17:24:57.6±1.2, 33°20N±0°.02×35°.81E±0°.02, h1km±10km, n37, σ0s73/69, 5C-9D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSDI	Kefar Szold	0.13	265	Pg	Pg	17 25 59.9	-0.2
KSDI				Sg	Sg	17 25 02.0	+0.3
BRBR	Barbar	0.24	30	eP	Pg	17 25 02.5	+0.2
BRBR				iP	Pg	17 25 02.5	+0.2
BRBR				iS	Sg	17 25 06.6	+1.2
BRBR				AML	AML	17 25 07.5	
	comp=E,14μm,0.7s						
BRBR				AML	AML	17 25 09.8	
	comp=N,6μm,0.4s						
RCY	Rachaya	0.29	4	eP	Pg	17 25 03.1	-0.2
RCY				eS	Sg	17 25 07.9	+0.8
MATL	Matarih	0.49	305	eP	Pg	17 25 06.8	-0.3
MATL	Matarih	0.49	305	eP	Pg	17 25 06.8	-0.3
QASN	Qassioun	0.51	50	eP	Pg	17 25 07.7	+0.3
QASN				iS	Sb	17 25 16.5	-0.9
QASN				AML	AML	17 25 20.4	
	comp=N,7μm,0.7s						
QASN				AML	AML	17 25 21.5	
	comp=E,6μm,0.7s						
QASN	Qassioun	0.51	50	eP	Pg	17 25 07.7	+0.3
	SNR=91						
QASN				iS	Sb	17 25 16.5	-0.9
	comp=E,6μm,0.7s,SNR=59						
TOTH	TOTAH	0.54	73	eP	Pg	17 25 08.3	+0.3
TOTH				eS	Sg	17 25 16.0	+1.0
TOTH				AML	AML	17 25 22.3	
	comp=E,830nm,0.7s						
TOTH				AML	AML	17 25 30.4	
	comp=N,1μm,0.7s						
TOTH	TOTAH	0.54	73	eP	Pg	17 25 08.3	+0.3
	SNR=91						
TOTH				eS	Sg	17 25 16.0	+1.0
	comp=N,1μm,0.7s,SNR=59						
TCHB	Talchebab	0.55	166	eP	Pg	17 25 08.3	+0.1
TCHB				iP	Pg	17 25 08.3	+0.1
TCHB				eS	Sb	17 25 17.6	-0.8
TCHB				AML	AML	17 25 20.7	
	comp=E,6μm,0.6s						
TCHB				AML	AML	17 25 22.2	
	comp=N,3μm,0.5s						
TCHB	Talchebab	0.55	166	iP	Pg	17 25 08.3	+0.1
	SNR=90						
TCHB				eS	Sb	17 25 17.6	-0.8
	comp=N,3μm,0.5s,SNR=59						
BHL	Bhannes	0.71	350	eP	Pg	17 25 10.6	-0.7
BHL				eS	Sg	17 25 21.0	+0.5
BHL	Bhannes	0.71	350	eP	Pg	17 25 10.6	-0.7
BHL				eS	Sg	17 25 21.0	+0.5
BEYL	Beirut	0.72	338	eP	Pg	17 25 10.9	-0.5
BEYL	Beirut	0.72	338	eP	Pg	17 25 10.9	-0.5
SALA	Sala	0.92	122	eP	Pg	17 25 15.1	-0.1
SALA				eS	Sg	17 25 27.7	+0.6
SALA				AML	AML	17 25 32.8	
	comp=N,1μm,0.6s						
SALA				AML	AML	17 25 33.6	
	comp=E,66nm,0.5s						
SALA	Sala	0.92	122	eP	Pg	17 25 15.1	-0.1
	SNR=75						
SALA				eS	Sg	17 25 27.7	+0.6
	comp=E,66nm,0.5s,SNR=59						
HWQ	Hawqa	1.08	6	eP	Pg	17 25 17.3	-1.0
HWQ	Hawqa	1.08	6	eP	Pg	17 25 17.3	-1.0
ZALF	Zalf	1.31	102	eP	Pg	17 25 21.4	-1.3
ZALF				iP	Pg	17 25 21.6	-1.2
ZALF				eS	Sg	17 25 39.7	-0.1
ZALF				AML	AML	17 25 42.9	
	comp=N,694nm,0.7s						
ZALF				AML	AML	17 25 43.7	
	comp=E,441nm,0.7s						
ZALF	Zalf	1.31	102	iP	Pg	17 25 21.6	-1.2
	SNR=57						
ZALF				eS	Sg	17 25 39.7	-0.1
	comp=E,441nm,0.7s,SNR=49						
HAWK	Haweek	1.41	21	eP	Pn	17 25 23.3	-1.1
HAWK				iP	Pn	17 25 23.3	-1.1
HAWK				iS	Sn	17 25 44.0	+0.3
HAWK				AML	AML	17 25 48.1	
	comp=E,244nm,0.5s						
HAWK				AML	AML	17 25 48.7	
	comp=N,348nm,0.5s						
HAWK	Haweek	1.41	21	iP	Pn	17 25 23.3	-1.1
	SNR=57						
HAWK				iS	Sn	17 25 44.0	+0.3
	comp=N,348nm,0.5s,SNR=49						
ROOS	tl_alroos	1.56	52	eP	Pn	17 25 26.4	-0.3
ROOS				eS	Sn	17 25 47.4	-0.2
ROOS				AML	AML	17 25 52.4	
	comp=E,6.3nm,0.3s						
ROOS				AML	AML	17 25 54.2	
	comp=N,4.5nm,0.3s						
ROOS	tl_alroos	1.56	52	eP	Pn	17 25 26.4	-0.3
	SNR=57						
ROOS				eS	Sn	17 25 47.4	-0.2
	comp=N,4.5nm,0.3s,SNR=49						
BIDA	Albida	1.85	13	eP	Pn	17 25 31.5	+0.9
BIDA				iS	Sb	17 25 56.0	-0.1
BIDA				AML	AML	17 25 57.5	
	comp=N,675nm,0.5s						
BIDA				AML	AML	17 25 57.9	
	comp=E,587nm,0.4s						
BIDA	Albida	1.85	13	eP	Pn	17 25 31.5	+0.9
	SNR=45						
BIDA				iS	Sb	17 25 56.0	-0.1
	comp=E,587nm,0.4s,SNR=40						
YTIR	Yattir	1.93	198	Pn	Pn	17 25 31.1	-0.5
YTIR				Sn	Sb	17 25 57.5	-0.7
WRDH	Warideh	2.35	12	eP	Pn	17 25 37.8	+0.3
WRDH				eS	Sn	17 26 08.3	+1.3
WRDH				AML	AML	17 26 17.7	
	comp=N,212nm,0.5s						
WRDH				AML	AML	17 26 18.6	
	comp=E,138nm,0.4s						
WRDH	Warideh	2.35	12	eP	Pn	17 25 37.8	+0.3
	SNR=45						
WRDH				eS	Sn	17 26 08.3	+1.3
	comp=E,138nm,0.4s,SNR=40						
ZFRI	Zfri	2.70	192	Pn	Pn	17 25 41.6	-0.5
CSS	Prodhromos	2.70	311	Pn	Pn	17 25 41.7	-0.5
PRNI	Paran	2.92	194	Pn	Pn	17 25 44.9	-0.4
PRNI				Pn	Sn	17 26 22.3	+1.2
KRMI	Paran Flat	3.21	197	Pn	Pn	17 25 48.6	-0.7
HRFI	Mount Harif	3.23	192	Pn	Pn	17 25 48.9	-0.5
HRFI				Sn	Sn	17 26 29.9	+1.4
MBRI	Mt Berech	3.48	193	Pn	Pn	17 25 53.0	0.0
MBRI				Sn	Sn	17 26 36.2	+1.3
EIL	Elat	3.60	192	Pn	Pn	17 25 54.4	-0.1
EIL				Sn	Sn	17 26 38.7	+1.0

IDC 09 17:37:26.1±2.0, 3°.93N×126°.90E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=106.6km s-min=25.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.93	183	P	P	17 42 21.6	+0.3
	1.9nm,1.0s,baz=354,slow=18,SNR=3.1						
WRA	Warramunga Arr	24.82	163	P	P	17 42 50.2	-0.1
	0.8nm,0.5s,baz=343,slow=10,SNR=14						
ASAR	Alice Springs	28.26	166	P	P	17 43 21.1	-0.2
	0.1nm,0.3s,baz=341,slow=8.2,SNR=7.2						
MKAR	Makanchi Array	57.49	325	P	P	17 47 17.1	-0.1
	0.1nm,0.4s,baz=127,slow=7.1,SNR=4.4						

*IDC **09** 17:59:25.1±0.8, 0°.37S×133°.00E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.8/23, mbtmp3.8/10, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.3/39, Error ellipse: s-maj=45.8km s-min=12.1km az=78.0*
*ISCJB **09** 17:59:28.5±0.5, 0°.40S±0°.06×132°.90E±0°.05, h32km, mb3.7/8, MS3.5/1, Error ellipse: s-maj=8.5km s-min=6.3km az=15.6*
*DJA **09** 17:59:28.8±1.1, 0°.5S±4°×13°.3E±°, h9km±9km, M4.7/9, mb4.8/9, mB5.4/4, MLv4.6/9, Mw(mB)4.8/4*
*AUST **07** 17:59:40.8, 0°.99S×132°.00E, h100km*

ISC 09 17:59:29.6±0.7, 0°.48S±0°.06×132°.98E±0°.05, h32km, n31, σ2s12/33, mb3.6/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	Sorong	1.77	258	P	Pn	17 59 57.0	-1.0
	baz=0.8,SNR=696						
SWI	Sorong	1.77	258	P	Pn	17 59 57.0	-1.0
SWI				S	Sb	18 00 23.2	0.0
FAKI	Fak Fak	2.53	197	P	Pb	18 00 11.5	-2.9
FAKI				S	Sb	18 00 44.3	-0.9
BAKI	Biak	3.20	103	P	Pn	18 00 19.7	+1.9
BAKI				S	Sb	18 00 59.9	-4.5
MSAI	Masohi	4.95	235	P	Pn	18 00 43.6	+1.7
TLE	Tual	5.13	183	P	Pn	18 00 48.0	+3.8
	baz=4.7,SNR=35						
TLE				S	Sn	18 01 49.0	+6.5
	baz=4.7,SNR=10						
TLE	Tual	5.13	183	P	Pn	18 00 47.9	+3.6
	230nm,0.7s,4μm1.3nm						
TLE				S	Sn	18 01 48.9	+6.5
	230nm,0.7s,4μm1.3nm						
LBMI	Labuha	5.49	268	P	Pn	18 00 49.3	+0.1
	54nm,0.9s,1μm0.2nm						
AAI	Ambon	5.75	236	P	Pn	18 00 55.2	+2.4
	baz=4.7,SNR=37						
AAI	Ambon	5.75	236	P	Pn	18 00 54.5	+1.7
	305nm,0.8s,3μm1.1nm						
TNTI	Ternate	5.75	282	P	Pn	18 00 52.9	0.0
	25nm,0.7s,0.1nm						
JAY	Jayapura	7.98	105	S	Sb	18 03 38.0	+16
	baz=8.8,SNR=3.1						
KDU	Kakadu	12.14	182	P	Pn	18 02 21.4	+0.9
	baz=12,SNR=17						
KDU				S	Sn	18 04 30.5	-4.3
	baz=12,SNR=3.2						
MTN	Manton Dam	12.42	188	P	Pn	18 02 24.2	-0.1
	baz=12,SNR=39						
MTN				S	Sn	18 04 38.8	-2.9
	baz=12,SNR=5.0						
PCI	Palu	13.15	268	P	Pn	18 02 32.4	-2.0
	baz=12,SNR=3.1						
SPSI	Sidrap Palu	13.65	255	P	Pn	18 02 43.4	+2.3
	14nm,0.7s						
BKSI	Bulukumba	13.71	249	P	Pn	18 02 43.7	+1.7
	15nm,0.7s						
FITZ	Fitzroy Crossi	18.94	202	P	P	18 03 48.2	+0.1
	0.6nm,0.3s,baz=35,slow=11,SNR=15						
FITZ				S	Sn	18 07 12.8	-7.4
	0.3nm,0.3s,baz=317,slow=19,SNR=3.6						
FITZ				LR	LR	18 10 49.9	
	comp=Z,36nm,18.6s,baz=287,slow=36						
FITZ	Fitzroy Crossi	18.94	202	P	P	18 03 48.4	+0.2
	baz=18,SNR=5.3						
WRA	Warramunga Arr	19.39	176	P	Pn	18 03 53.9	-0.5
	0.5nm,0.3s,baz=354,slow=11,SNR=31						
WRA				S	S	18 07 22.7	-8.0
	0.4nm,0.3s,baz=357,slow=23,SNR=6.9						
ASAR	Alice Springs	23.07	178	P	P	18 04 34.1	+1.5
	3.0nm,0.5s,baz=352,slow=6.7,SNR=129						
ASAR				S	S	18 08 48.0	+6.4
	1.0nm,1.0s,baz=351,slow=15,SNR=5.1						
CTA	Charters Tower	23.42	147	P	P	18 04 37.2	+1.1
	1.7nm,0.8s,baz=312,slow=12,SNR=2.3						
STKA	Stephens Creek	32.27	166	P	P	18 05 56.4	+0.9
	1.6nm,0.3s,baz=349,slow=9.6,SNR=8.8						
STKA	Stephens Creek	32.27	166	P	P	18 05 56.7	+1.2
	baz=32,SNR=8.0						
GSI	Gunungsitoli	35.45	273	S	S	18 11 38.0	-19
	baz=34,SNR=8.7						
SONM	Songino Array	53.39	338	P	P	18 08 46.9	+0.5
	0.4nm,0.7s,baz=148,slow=7.2,SNR=4.6						
SONM				PcP	PcP	18 09 53.8	+0.4
	0.3nm,0.7s,baz=132,slow=4.3,SNR=2.6						
PETK	Petropavlovsk-	57.25	17	LR	LR	18 33 48.5	
	comp=Z,33nm,18.1s,baz=217,slow=36						
MKAR	Makanchi Array	64.58	324	P	P	18 10 04.2	+0.3
	0.3nm,0.6s,baz=128,slow=6.4,SNR=9.2						
ZALV	Zalesovo Beam	67.20	331	P	P	18 10 19.7	-0.9
	0.2nm,0.4s,baz=104,slow=4.8,SNR=2.8						
KURBB	Kurchatov Arra	68.66	326	P	P	18 10 29.8	-0.1
	0.5nm,0.8s,baz=120,slow=6.0,SNR=7.2						
ILAR	Eielson Array	86.22	25	P	P	18 12 07.2	-0.5
	0.3nm,0.6s,baz=253,slow=5.2,SNR=5.3						

CSEM 09 18:04:58.9±2.6, 45°.34N×5°.93W, h10km, mb3.5/5, Error ellipse: s-maj=72.4km s-min=16.1km az=167.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EARI	Arriondas	2.11	166	P	Pn	18 05 34.6	+0.3
	2.4nm,0.2s,SNR=24						
EPON	Pontenova	2.20	204	P	Pn	18 05 33.8	-1.7
	0.6nm,0.1s,SNR=7.9						
ELAN	Lanestosa	2.77	139	P	Pn	18 05 44.4	+1.1
	1.9nm,0.3s,SNR=5.7						
EMAZ	Mazaricos	3.25	224	P	Pn	18 05 49.6	-0.3
	1.0nm,0.1s,SNR=7.9						
ECAL	Calabor	3.45	190	P	Pn	18 05 54.1	+1.3
	5.2nm,0.6s,SNR=5.4						
PBRG	Braganca	3.59	190	eT	T	18 08 25.9	
PGAV	Gavieira, Arco	3.78	208	eP	Pn	18 05 57.6	+0.2
PGAV				eT	T	18 08 24.9	
PGAV	Gavieira, Arco	3.78	208	eP	Pn	18 05 57.6	+0.2
ELOB	Lobios	3.81	205	P	Pn	18 05 57.4	-0.3
	3.7nm,0.4s,SNR=7.0						
IZUN	Zunzarren	4.07	126	P	Pn	18 05 59.7	-1.5
	SNR=7.9						
POLO	Lamas de Olo	4.20	200	eP	Pn	18 06 05.2	+2.1
POLO	Lamas de Olo	4.20	200	eP	Pn	18 06 05.2	+2.1
IEPA	Eparoz	4.23	126	P	Pn	18 06 03.0	-0.4
	SNR=7.9						
GUD	Guadarrama	4.88	164	P	Pn	18 06 10.9	-1.6
	SNR=7.9						
CSOR	Sort	5.91	118	P	Pn	18 06 28.1	+1.5
	4.9nm,0.4s,SNR=7.6						

*IDC **09** 18:07:24.6±0.8, 3°.58N×126°.60E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/25, mbtmp3.8/11, ML4.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/37, Error ellipse: s-maj=45.0km s-min=13.7km az=70.0*
*ISCJB **09** 18:07:28.5±0.6, 3°.72N±0°.04×126°.95E±0°.08, h48km, mb3.8/10, MS3.4/2, Error ellipse: s-maj=11.9km s-min=6.0km az=175.2*
*DJA **09** 18:07:52.7±0.5, 1°N±8°×12°.6E±°, h10km, M3.2/4, MLv3.2/4*

ISC 09 18:07:30.8±0.7, 3°.71N±0°.06×126°.89E±0°.09, h48km, n19, σ1s47/19, mb3.8/10, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.96	171	P	Pn	18 08 17.9	+2.6
TNTI				S	Sn	18 08 49.2	-0.4
MNI	Manado	3.05	222	P	Pn	18 08 15.8	-0.8
MNI				S	Sn	18 08 53.4	+1.6
DAV	Davao City (W)	3.58	339	Pn	Pn	18 08 23.5	-0.4
	12nm,0.3s,baz=169,slow=15,SNR=1.4						
DAV				LR	LR	18 10 08.2	
	comp=Z,199nm,18.9s,baz=63,slow=45						
LBMI	Labuha	4.36	172	P	Pn	18 08 32.3	-2.3
CTBH	Cotabato--PC H	4.37	323	iP	Pn	18 08 37.1	+2.4
MRSI	Marisa	5.90	237	P	Pn	18 08 55.9	+0.2
TGY	Tagaytay City	11.88	331	Pn	Pn	18 10 16.7	-1.0
	58nm,0.3s,baz=258,slow=16,SNR=2.8						
FITZ	Fitzroy Crossi	21.71	183	P	P	18 12 16.6	-1.4
	1.6nm,0.8s,baz=7.1,slow=12,SNR=4.5						
WRA	Warramunga Arr	24.62	163	P	P	18 12 45.5	-1.4
	1.8nm,0.5s,baz=335,slow=11,SNR=15						
ASAR	Alice Springs	28.06	166	P	P	18 13 17.2	-0.7
	0.2nm,0.3s,baz=342,slow=7.7,SNR=9.6						
CMAR	Chiang Mai Arr	31.02	300	P	P	18 13 42.3	-1.9
	0.3nm,0.3s,baz=230,slow=26,SNR=3.6						
MJAR	Matsushiro Arr	34.29	16	LR	LR	18 28 40.5	
	comp=Z,46nm,19.0s,baz=205,slow=37						
STKA	Stephens Creek	38.06	159	P	P	18 14 45.7	+0.9
	2.0nm,0.7s,baz=314,slow=10.0,SNR=5.7						
ASAJ	Asahikawa	42.56	17	LR	LR	18 32 47.9	
	comp=Z,60nm,19.1s,baz=46,slow=36						
SONM	Songino Array	47.37	341	P	P	18 16 00.5	+0.3
	0.4nm,0.5s,baz=165,slow=7.4,SNR=5.2						
PETK	Petropavlovsk-	55.38	22	P	P	18 17 01.9	+1.9
	2.2nm,0.8s,baz=216,slow=8.9,SNR=3.5						
MKAR	Makanchi Array	57.66	325	P	P	18 17 16.2	-0.2
	0.3nm,0.4s,baz=117,slow=7.2,SNR=9.3						
ZALV	Zalesovo Beam	60.68	333	P	P	18 17 36.8	-0.2
	0.4nm,0.3s,baz=106,slow=6.9,SNR=3.8						
KURBB	Kurchatov Arra	61.84	327	P	P	18 17 45.2	+0.2
	1.4nm,0.6s,baz=129,slow=6.5,SNR=19						

MAN 09 18:09:42, 15°.92N×119°.79E, h23km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	Santa Cruz	0.19	141	eP	Pn	18 09 48.6	-0.9
SCZP				eS	Sb	18 09 52.7	+1.8
BOLP	Bolinao	0.47	15	eP	Pn	18 09 53.7	+0.3
BOLP				eS	Sn	18 10 01.8	+0.8
BCPH	Baguio City Da	0.89	59	iP	Pn	18 09 59.4	+0.1
BCPH				iS	Sn	18 10 13.2	+1.5
BALP	Baler	1.73	96	eP	Pn	18 10 11.4	+0.7
ABRA	Dolores	1.93	27	eP	Pn	18 10 14.9	+1.4
CAUP	Cauayan	2.20	62	eP	Pb	18 10 20.2	-1.0
LUBP	Lubang	2.22	168	eP	Pn	18 10 18.4	+1.0
PALP	Palanan	2.77	65	eP	Pb	18 10 28.7	-2.2

*ISK **09** 18:24:14.5, 37°.68N×36°.35E, h3km, MD2.6*
*ISCJB **09** 18:24:16.4±0.8, 37°.58N±0°.05×36°.35E±0°.04, h6km±8km, Error ellipse: s-maj=8.2km s-min=5.4km az=21.9*
*CSEM **09** 18:24:16.2±0.2, 37°.59N×36°.35E, h10km, MD2.8, Error ellipse: s-maj=5.8km s-min=4.4km az=26.0*
*DDA **09** 18:24:17.9, 37°.67N×36°.67E, h7km, MD2.8*

ISC 09 18:24:16.2±1.1, 37°.58N±0°.05×36°.35E±0°.03, h14km±9km, n12, σ0s45/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	Kozan	0.42	256	ePG	Pg	18 24 24.3	-0.4
KOZT				eSG	Sb	18 24 31.5	-0.2
KOZT	Kozan	0.42	256	ePg	Pg	18 24 24.3	-0.4
KOZT				eSg	Sb	18 24 31.5	-0.2
KMRS	Kahramanmaras	0.45	100	ePG	Pg	18 24 24.3	-0.8
KMRS				eSG	Sg	18 24 31.7	+0.6
KMRS	Kahramanmaras	0.45	100	ePg	Pg	18 24 24.3	-0.8
KMRS				eSg	Sg	18 24 31.7	+0.6
GAZ	Gaziantep	0.80	120	ePG	Pg	18 24 31.6	-0.1
GAZ				eSG	Sn	18 24 44.2	-0.7
GAZ	Gaziantep	0.80	120	ePg	Pg	18 24 31.6	-0.1
GAZ				eSg	Sn	18 24 44.2	-0.7
KUZU	Kuzuini	0.99	144	iP	Pg	18 24 35.6	+0.2
KUZU				iS	Sg	18 24 48.8	+0.4
KUZU	Kuzuini	0.99	144	iP	Pg	18 24 35.6	+0.2
KUZU				iS	Sg	18 24 48.8	+0.4
PINB	Pinarbasi	1.09	2	iP	Pn	18 24 37.5	+0.2
PINB				iS	Sn	18 24 52.6	+0.2
PINB	Pinarbasi	1.09	2	iP	Pn	18 24 37.5	+0.2
PINB				iS	Sn	18 24 52.6	+0.2
MALT	Malatya	1.80	65	ePN	Pn	18 24 47.0	+0.2
MALT	Malatya	1.80	65	ePn	Pn	18 24 47.0	+0.2

DJA 09 18:24:46.9±1.2, 0°.S±3°×12°.4E±°, h14km±8km, M3.5/6, MLv3.5/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	1.06	348	S	Sb	18 25 18.7	-2.2
LUWI	Luwuk	1.55	248	P	Pb	18 25 15.1	-0.2
LUWI				S	Sn	18 25 31.8	-2.1
MNI	Manado	2.00	18	P	Pn	18 25 20.8	+0.4
MNI				S	Sb	18 25 46.7	-1.3
MRSI	Marisa	2.46	293	P	Pn	18 25 26.1	-0.5
APSI	Ampana	2.60	260	P	Pn	18 25 29.8	+1.3
APSI				S	Sn	18 26 01.9	+2.0
LBMI	Labuha	3.29	93	P	Pn	18 25 38.0	-0.1
LBMI				S	Sn	18 26 17.5	+0.3
TNTI	Ternate	3.39	69	P	Pn	18 25 39.6	+0.2
TNTI				S	Sn	18 26 21.7	+2.2
KDI	Kendari	3.81	205	P	Pn	18 25 45.4	+0.2

IDC 09 18:25:15.3±2.2, 3°.54N×126°.92E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=170.3km s-min=27.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.54	183	LR	LR	18 39 00.0	
	comp=Z,63nm,18.1s,baz=150,slow=38						
WRA	Warramunga Arr	24.45	163	P	P	18 30 36.8	+0.8
	0.5nm,0.6s,baz=343,slow=10,SNR=6.7						
ASAR	Alice Springs	27.89	166	P	P	18 31 06.5	-0.6
	0.2nm,0.9s,baz=343,slow=8.7,SNR=3.2						
MKAR	Makanchi Array	57.82	325	P	P	18 35 08.5	-0.1
	0.1nm,0.5s,baz=125,slow=8.0,SNR=4.0						

*GRAL **09** 18:27:43.8±0.3, 33°.16N×35°.83E, h0km±64km, MD2.9*
*NSSC **09** 18:27:43.

QASN				*i* S		**Sb**	**18 28 03.3**	**+0.5**		
QASN				AML	AML	18 28 06.5				
	comp=E,383nm,0.2s									
QASN				AML	AML	18 28 07.5				
	comp=N,423nm,0.4s									
QASN	**Qassioun**	**0.52**	**51**	*i* P		**Pg**	**18 27 54.7**	**+0.3**		
	SNR=91									
QASN				*i* S		**Sb**	**18 28 03.3**	**+0.5**		
	comp=N,423nm,0.4s,SNR=59									
HNTI	**Hanita**	**0.53**	**257**	Pg		**Pg**	**18 27 54.7**	**+0.1**		
HNTI				Sg		**Sb**	**18 28 03.5**	**+0.4**		
TOTH	**TOTAH**	**0.55**	**74⇑**	*i* P		**Pg**	**18 27 55.0**	**0.0**		
TOTH				AML	AML	18 27 55.7				
	comp=E,54nm,0.2s									
TOTH				*e*S		**Sb**	**18 28 03.4**	**-0.4**		
TOTH				AML	AML	18 28 13.7				
	comp=N,58nm,0.6s									
TOTH	**TOTAH**	**0.55**	**74⇑**	*i* P		**Pg**	**18 27 55.0**	**0.0**		
	SNR=91									
TOTH				*e*S		**Sb**	**18 28 03.3**	**-0.4**		
	comp=N,58nm,0.6s,SNR=59									
TCHB	**Talchebab**	**0.56**	**165⇓**	*i* P		**Pg**	**18 27 54.9**	**-0.1**		
TCHB				*e*S		**Sg**	**18 28 02.9**	**+0.5**		
TCHB				AML	AML	18 28 07.2				
	comp=E,211nm,0.6s									
TCHB				AML	AML	18 28 12.8				
	comp=N,145nm,0.4s									
TCHB	**Talchebab**	**0.56**	**165⇓**	*i* P		**Pg**	**18 27 54.9**	**-0.1**		
	SNR=90									
TCHB				*e*S		**Sg**	**18 28 02.9**	**+0.5**		
	comp=N,145nm,0.4s,SNR=59									
BLGI	**Bet Lehem HaGe**	**0.69**	**227**	Pg		**Pg**	**18 27 57.5**	**-0.1**		
BLGI				Sg		**Sg**	**18 28 07.1**	**+0.4**		
BHL	**Bhannes**	**0.71**	**351**	*e*P		**Pg**	**18 27 57.4**	**-0.5**		
BHL				*e*S		**Sg**	**18 28 07.4**	**+0.2**		
BHL	**Bhannes**	**0.71**	**351**	*e*P		**Pg**	**18 27 57.4**	**-0.5**		
BHL				*e*S		**Sg**	**18 28 07.4**	**+0.2**		
MMLI	**Mount Malkishu**	**0.83**	**202**	Pg		**Pg**	**18 27 59.9**	**-0.3**		
MMLI				Sg		**Sb**	**18 28 11.9**	**+0.4**		
OFRI	**'Ofer**	**0.90**	**230**	Pg		**Pg**	**18 28 01.0**	**-0.5**		
OFRI				Sg		**Sg**	**18 28 13.2**	**0.0**		
SALA	**Sala**	**0.93**	**122**	*e*P		**Sb**	**18 28 01.7**	**-0.5**		
SALA				*e*S		**Sb**	**18 28 15.2**	**+0.5**		
SALA				AML	AML	18 28 16.1				
	comp=E,5.6nm,0.3s									
SALA				AML	AML	18 28 19.6				
	comp=N,94nm,0.5s									
SALA	**Sala**	**0.93**	**122⇑**	*e*P		**Pg**	**18 28 02.3**	**+0.1**		
	SNR=75									
SALA				*e*S		**Sb**	**18 28 15.2**	**+0.5**		
	comp=N,94nm,0.5s,SNR=59									
HMDT	**Nahal Hemdat**	**0.98**	**193**	Pg		**Pg**	**18 28 02.4**	**-0.6**		
HMDT				Sg		**Sb**	**18 28 16.5**	**+0.7**		
HWQ	**Hawqa**	**1.08**	**7**	*e*P		**Pb**	**18 28 04.5**	**-0.3**		
SLTI	**Sal'it**	**1.15**	**214**	Pg		**Pb**	**18 28 05.9**	**-0.1**		
SLTI				Sg		**Sg**	**18 28 21.5**	**+0.2**		
ZALF	**Zalf**	**1.32**	**102⇓**	*e*P		**Pn**	**18 28 08.2**	**-0.3**		
ZALF				*e*S		**Sg**	**18 28 26.6**	**-0.3**		
ZALF				AML	AML	18 28 29.4				
	comp=N,69nm,0.5s									
ZALF				AML	AML	18 28 30.2				
	comp=E,36nm,0.3s									
ZALF	**Zalf**	**1.32**	**102⇓**	*e*P		**Pn**	**18 28 08.2**	**-0.3**		
	SNR=57									
ZALF				*e*S		**Sg**	**18 28 26.6**	**-0.3**		
	comp=E,36nm,0.3s,SNR=49									
HAWK	**Haweek**	**1.41**	**21⇑**	*e*P		**Pb**	**18 28 10.5**	**+0.1**		
HAWK				*e*S		**Sg**	**18 28 30.2**	**+0.7**		
HAWK				AML	AML	18 28 33.7				
	comp=N,34nm,0.2s									
HAWK				AML	AML	18 28 34.9				
	comp=E,23nm,0.3s									
HAWK	**Haweek**	**1.41**	**21⇓**	*e*P		**Pb**	**18 28 10.6**	**+0.2**		
	SNR=57									
HAWK				*e*S		**Sg**	**18 28 30.2**	**+0.7**		
	comp=E,23nm,0.3s,SNR=49									
DSI	**Dead Sea**	**1.67**	**192**	Sn		**Sg**	**18 28 36.9**	**-0.9**		

MEX 09 18:32:03.3±1.1, 17°14N×100°11W, h25km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**238**	*e*P	Pb	18 32 07.0	-1.7
CAIG				*i* S	Sb	18 32 11.5	-0.9
ACX	**Acapulco**	**0.36**	**139**	*e*P	Pb	18 32 08.8	-2.5
ACX				*i* S	Sb	18 32 14.9	-1.8
MEIG	**Mezcala**	**0.91**	**31**	*e*P	Pb	18 32 16.9	-3.7
MEIG				*i* S	Sb	18 32 28.7	-3.6
ARIG	**Puente Sto Nin**	**1.15**	**349**	*e*P	Pn	18 32 20.7	-3.2
ARIG				*i* S	Sn	18 32 35.9	-3.1
PLIG	**Platanillo**	**1.37**	**25**	*e*P	Pn	18 32 23.7	-3.2
PLIG				*i* S	Sn	18 32 41.1	-3.3
ZIIG	**Zihuatanejo**	**1.38**	**290**	*e*P	Pn	18 32 24.7	-2.2
ZIIG				*i* S	Sn	18 32 41.2	-3.1
YAIG	**Yautepec**	**1.98**	**30**	*i* P	Pn	18 32 33.4	-2.0
YAIG				*i* S	Sn	18 32 56.3	-3.2
PNIG	**Pinotepa**	**2.04**	**111**	*e*P	Pn	18 32 34.5	-1.6
PNIG				*i* S	Sn	18 32 59.1	-1.7
UTMO	**Huajuapan**	**2.30**	**72**	*e*P	Pn	18 32 37.6	-2.4
UTMO				*i* S	Sn	18 33 06.3	-1.4
PPM	**Popocatepetl**	**2.38**	**36**	*e*P	Pn	18 32 38.9	-2.4
PPM				*i* S	Sn	18 33 07.4	-2.7

MEX 09 18:55:29.6±1.2, 16°85N×100°48W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**45**	*e*P	Pg	18 55 33.5	-1.6
CAIG				*i* S	Sg	18 55 37.5	-1.3
ACX	**Acapulco**	**0.59**	**88**	*e*P	Pg	18 55 39.9	-1.1
ACX				*i* S	Sg	18 55 47.6	-1.2
ZIIG	**Zihuatanejo**	**1.21**	**309**	*e*P	Pg	18 55 48.6	-4.2
ZIIG				*i* S	Sg	18 56 04.7	-3.8
MEIG	**Mezcala**	**1.35**	**37**	*e*P	Pn	18 55 51.7	-3.5
MEIG				*i* S	Sb	18 56 09.1	-4.0
ARIG	**Puente Sto Nin**	**1.43**	**5**	*e*P	Pn	18 55 53.0	-3.3
ARIG				*i* S	Sb	18 56 11.2	-4.2
PLIG	**Platanillo**	**1.79**	**31**	*e*P	Pn	18 55 58.6	-2.8
PLIG				*i* S	Sn	18 56 20.5	-4.1
PNIG	**Pinotepa**	**2.30**	**101**	*i* P	Pn	18 56 04.1	-4.1
PNIG				*i* S	Sn	18 56 33.6	-3.3
YAIG	**Yautepec**	**2.41**	**34**	*i* P	Pn	18 56 05.9	-4.0
YAIG				*i* S	Sn	18 56 35.7	-4.3
UTMO	**Huajuapan**	**2.73**	**69**	*i* P	Pn	18 56 10.1	-4.4
UTMO				*i* S	Sn	18 56 45.0	-3.0
PPM	**Popocatepetl**	**2.82**	**38**	*i* P	Pn	18 56 11.7	-4.4
PPM				*i* S	Sn	18 56 47.0	-3.9

*IDC **09** 18:58:09.6±5.1, 5°13N×75°54W, h120km±60km, mb3.2/1, mb1 3.6/1, mb1mx2.9/21, mbtmp3.2/1, Error ellipse: s-maj=106.6km s-min=45.4km az=87.0*
*ISCJB **09** 18:58:10.4±0.8, 5°40N±0°08×73°67W±0°10, h158km, mb3.4/1, Error ellipse: s-maj=16.8km s-min=6.9km az=37.8*
*FUNV **09** 18:58:10.5, 5°11N×73°72W, h142km, MW3.8*
ISC 09 18:58:10.9±1.2, 5°32N±0°09×73°56W±0°09, h158km, n15, σ1°58/23, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.89**	**239**	P	**Pn**	**18 58 34.9**	**-1.2**
	84nm,0.3s,baz=279,slow=19,SNR=109						
ROSC				S	**Sn**	**18 58 53.5**	**-1.8**
	42nm,0.3s,baz=270,slow=20,SNR=15						
CAPV	**Capacho**	**2.82**	**26⇑**	*e*P	**Pn**	**18 58 57.8**	**+1.2**
CAPV				*e*S	**Sn**	**18 59 32.2**	**+0.3**
SOCV	**Socops**	**3.99**	**42**	*e*P	**Pn**	**18 59 11.8**	**+0.6**
SOCV				*e*S	**Sn**	**18 59 58.4**	**+0.2**
VIGV	**El Vigia**	**4.12**	**32**	*e*P	**Pn**	**18 59 14.6**	**+1.6**
VIGV				*e*S	**Sn**	**19 00 01.6**	**+0.2**
ELOV	**Elorza**	**4.38**	**67**	*e*P	**Pn**	**18 59 17.4**	**+1.1**
VIRV	**Villa del Rosa**	**5.28**	**12**	*e*P	**Pn**	**18 59 28.0**	**-0.1**
VIRV				*e*S	**Sn**	**19 00 26.8**	**-1.8**
QARV	**Quebrada Arrib**	**5.71**	**32**	*e*P	**Pn**	**18 59 35.4**	**+1.5**
QARV				*e*S	**Sn**	**19 00 37.2**	**-1.8**
CURV	**Curarigua**	**5.87**	**37**	*e*P	**Pn**	**18 59 36.5**	**+0.5**
TEPV	**Terepaima**	**6.33**	**43**	*e*P	**Pn**	**18 59 43.4**	**+1.3**
SIQV	**Siquisique**	**6.47**	**35**	*e*P	**Pn**	**18 59 44.7**	**+0.8**
SIQV				*e*S	**Sn**	**19 00 54.0**	**-3.0**
BAUV	**El Baul**	**6.55**	**56**	*e*P	**Pn**	**18 59 44.6**	**-0.5**
BAUV				*e*S	**Sn**	**19 00 55.5**	**-3.5**
MONV	**Montecano**	**7.49**	**28**	*e*P	**Pn**	**18 59 57.6**	**+0.1**
BIRV	**Birongo**	**8.85**	**54**	*e*P	**Pn**	**19 00 16.2**	**+0.5**
YKA	**Yellowknife Ar**	**64.52**	**340**	P	**P**	**19 08 30.1**	**-0.4**
	0.3nm,0.4s,baz=136,slow=6.6,SNR=6.5						
WRA	**Warramunga Arr**	**149.22**	**239**	PKPbc	**PKPdf**	**19 17 39.9**	**+2.6**
	0.1nm,0.7s,baz=106,slow=3.9,SNR=3.5						

GUC 09 19:15:13.8±0.8, 28°85S×71°35W, h41km±5km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.59**	**106⇓**	*i*P	Pn	19 15 26.9	+0.7
LCO				*i* S	Sn	19 15 36.0	+1.0
LCO				AML	AML	19 15 36.4	
	comp=N,5μm,0.2s						
TLL	**Tololo Astrono**	**1.39**	**160**	*e*P	Pn	19 15 38.6	+1.4
TLL				*i* S	Sn	19 15 57.0	+2.4
TLL				AML	AML	19 16 02.4	
	comp=N,324nm,0.5s						
CPCH	**Copiapo**	**1.73**	**31**	*e*P	Pn	19 15 42.3	+0.9
CPCH				*e*S	Sn	19 16 04.5	+2.1
CPCH				AML	AML	19 16 07.8	
	comp=N,2μm,0.1s						
CDCH	**Caldera**	**1.84**	**15**	*e*P	Pn	19 15 43.2	+0.4
CDCH				*e*S	Sn	19 16 05.2	+0.2

MAN 09 19:22:54, 7°88N×124°75E, h28km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.31**	**89**	*e*P	Pn	19 23 03.7	+0.9
BUKP				*e*S	Sn	19 23 10.3	+1.9
CGP	**Cagayan de Oro**	**0.58**	**355**	*e*P	Pn	19 23 06.5	+0.1
CGP				*i* S	Sn	19 23 16.1	+1.1
CTBH	**Cotabato--PC H**	**0.82**	**217⇑**	*i*P	Pb	19 23 08.3	-1.4
PAGZ	**Pagadian**	**1.35**	**269**	*e*P	Pn	19 23 17.9	+0.8
PAGZ				*e*S	Sn	19 23 30.5	-3.6

*DDA **09** 19:36:15.2, 37°32N×43°56E, h5km, MD3.7*
*ISK **09** 19:36:16.8, 37°36N×43°94E, h7km, MD3.9*
*CSEM **09** 19:36:21.4±0.3, 37°66N×43°72E, h2km, MD3.7, Error ellipse: s-maj=7.7km s-min=5.7km az=117.0*
ISC 09 19:36:18.3±1.4, 37°41N±0°04×43°78E±0°05, h5km±10km, n53, σ1°73/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.16**	**340**	*i* P	**Pg**	**19 36 20.7**	**-0.9**
HAKT				*i* S	**Sg**	**19 36 25.6**	**+2.0**
VANT	**Van**	**1.09**	**338**	*e*PN	**Pg**	**19 36 39.6**	**+0.4**
VANT				*e*SN	**Sn**	**19 36 56.9**	**+0.9**
VANT	**Van**	**1.09**	**338**	*e*Pn	**Pg**	**19 36 39.6**	**+0.4**
VANB	**Van**	**1.22**	**346**	*e*PN	**Pg**	**19 36 41.7**	**0.0**
VANB	**Van**	**1.22**	**346**	*e*Pn	**Pg**	**19 36 41.7**	**0.0**
TATV	**Tatvan**	**1.62**	**313**	*i* P	**Pn**	**19 36 46.9**	**-0.8**
TATV				*i* S	**Sg**	**19 37 11.6**	**+1.2**
TATV	**Tatvan**	**1.62**	**313**	*i* P	**Pn**	**19 36 46.9**	**-0.8**
CLDR	**Caldiran**	**1.73**	**4**	*e*PN	**Pn**	**19 36 49.0**	**-0.4**
CLDR	**Caldiran**	**1.73**	**4**	*e*Pn	**Pn**	**19 36 49.0**	**-0.4**
BEST	**Besiri**	**2.04**	**284**	*i* P	**Pn**	**19 36 51.6**	**-1.9**
BEST				*i* S	**Sb**	**19 37 21.0**	**-0.8**
DYDN	**Diyadin**	**2.13**	**358**	*i* P	**Pn**	**19 36 56.4**	**+1.6**
DYDN				*i* S	**Sb**	**19 37 24.5**	**+0.1**
DYDN	**Diyadin**	**2.13**	**358**	*i* P	**Pn**	**19 36 56.4**	**+1.6**
AGPB	**Hanur-Agry**	**2.25**	**344**	*e*PN	**Pn**	**19 36 56.8**	**+0.4**
AGRB				*e*SN	**Sn**	**19 37 25.7**	**+1.1**
AGRB	**Hanur-Agry**	**2.25**	**344**	*e*Pn	**Pn**	**19 36 56.8**	**+0.4**
AGRB				*e*Sn	**Sn**	**19 37 25.7**	**+1.1**
MARD	**Mardin**	**2.39**	**269**	*i* P	Pn	19 36 53.9	-4.4
MARD				*i* S	**Sn**	**19 37 27.2**	**-0.8**
VRTB	**Varto-Mus**	**2.53**	**314**	*e*PN	**Pn**	**19 37 01.1**	**+0.9**
VRTB	**Varto-Mus**	**2.53**	**314**	*e*Pn	**Pn**	**19 37 01.1**	**+0.9**
BNGL	**BINGOL**	**2.58**	**307**	*i* P	**Pn**	**19 37 01.6**	**+0.6**
BNGL				*i* S	**Sb**	**19 37 36.9**	**-0.3**
GNI	**Garni**	**2.84**	**15**	*e*PN	**Pn**	**19 37 04.3**	**-0.2**
GNI	**Garni**	**2.84**	**15**	*e*Pn	**Pn**	**19 37 04.3**	**-0.2**
DIY	**Diyarbakir**	**2.86**	**281**	*e*PN	**Pn**	**19 37 06.1**	**+1.4**
DIY				*e*SN	**Sb**	**19 37 42.0**	**-3.2**
DIY	**Diyarbakir**	**2.86**	**281**	*e*Pn	**Pn**	**19 37 06.1**	**+1.4**
DIY				*e*Sn	**Sb**	**19 37 42.0**	**-3.2**
BNGB	**Bing¯¶l**	**2.91**	**304**	*e*PN	**Pn**	**19 37 06.6**	**+1.3**
DIYA	**Diyarbakir**	**2.94**	**281**	*i* P	**Pb**	**19 37 09.0**	**-2.3**
DIYA				*i* S	**Sb**	**19 37 47.0**	**-0.7**
DIYA	**Diyarbakir**	**2.94**	**281**	*i* P	**Pb**	**19 37 09.0**	**-2.3**
BINT	**Bingol**	**2.98**	**300**	*e*Pn	**Pn**	**19 37 06.6**	**+0.3**
EZM	**Erzurum**	**3.12**	**324**	*e*PN	**Pn**	**19 37 09.3**	**+0.7**
KARS	**Kars**	**3.26**	**351**	*e*PN	**Pn**	**19 37 10.5**	**+0.3**
KARS	**Kars**	**3.26**	**351**	*e*Pn	**Pn**	**19 37 10.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.66**	**287**	*e*PN	**Pn**	**19 37 17.5**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.66**	**287**	*e*Pn	**Pn**	**19 37 17.5**	**+1.6**
ERZN	**Erzincan**	**3.85**	**306**	*e*PN	**Pn**	**19 37 19.9**	**+1.6**
URFA	**Urfa**	**3.94**	**272**	*e*PN	**Pn**	**19 37 21.7**	**+2.1**
URFA	**Urfa**	**3.94**	**272**	*e*Pn	**Pn**	**19 37 21.7**	**+2.1**
BAYT	**Ayd¯–ntepe-Bay**	**4.11**	**318**	*e*PN	**Pn**	**19 37 23.9**	**+2.0**
BAYT	**Ayd¯–ntepe-Bay**	**4.11**	**318**	*e*Pn	**Pn**	**19 37 24.0**	**+2.0**
BHD	**Baghdad**	**4.16**	**173**	*e*Pn	Pb	19 37 29.0	-3.0
BHD				*e*Sn	**Sb**	**19 38 22.0**	**-0.6**
BHD				*e*Sg	Sg	19 38 47.0	+15
BHD	**Baghdad**	**4.16**	**173**	*e*Pn	Pb	19 37 29.0	-3.0
BHD				*e*Sn	**Sb**	**19 38 22.0**	**-0.6**
BHD				*e*Sg	Sg	19 38 47.0	+15
EZC	**Erzincan**	**4.18**	**305**	*e*Pn	Pn	19 37 19.9	-3.0
MALT	**Malatya**	**4.33**	**284**	*e*PN	**Pn**	**19 37 27.7**	**+2.8**
MALT	**Malatya**	**4.33**	**284**	*e*Pn	**Pn**	**19 37 27.7**	**+2.8**
MYA	**Malataya**	**4.33**	**284**	*e*PN	**Pn**	**19 37 27.0**	**+2.1**
MYA	**Malataya**	**4.33**	**284**	*e*Pn	**Pn**	**19 37 27.0**	**+2.1**
ILIC	**ilic-Erzincan**	**4.57**	**298**	*e*PN	**Pn**	**19 37 30.2**	**+2.0**
ILIC	**ilic-Erzincan**	**4.57**	**298**	*e*Pn	**Pn**	**19 37 30.2**	**+2.0**
GAZ	**Gaziantep**	**5.24**	**269**	*e*PN	**Pn**	**19 37 40.2**	**+2.8**
GAZ	**Gaziantep**	**5.24**	**269**	*e*Pn	**Pn**	**19 37 40.2**	**+2.8**
KMRS	**Kahramanmaras**	**5.47**	**273**	*e*PN	**Pn**	**19 37 43.4**	**+2.9**
KMRS	**Kahramanmaras**	**5.47**	**273**	*e*Pn	**Pn**	**19 37 43.4**	**+2.9**
KOZT	**Kozan**	**6.32**	**273**	*e*PN	Pn	19 37 55.5	+3.3
KOZT	**Kozan**	**6.32**	**273**	*e*Pn	Pn	19 37 55.5	+3.3
BNN	**Bunyan**	**6.41**	**285**	*e*PN	**Pn**	**19 37 56.6**	**+3.0**
BNN	**Bunyan**	**6.41**	**285**	*e*Pn	**Pn**	**19 37 56.6**	**+3.0**

*IDC **09** 19:42:15.0±0.6, 21°86S×175°10W, h0km, mb4.6/17, mb1 4.7/17, mb1mx4.6/26, mbtmp4.6/17, MS4.5/21, Ms1 4.5/21, ms1mx4.4/30, Error ellipse: s-maj=20.8km s-min=16.7km az=143.0*
*BJI **09** 19:42:16.4, 21°59S×174°99W, h14km, mB5.5/21, mb5.1/29, Ms5.2/24, Ms7 4.8/24*
*ISCJB **09** 19:42:16.2±0.4, 21°94S±0°07×175°23W±0°07, h13km, mb4.9/38, MS4.6/31, Error ellipse: s-maj=11.8km s-min=8.2km az=143.5*
*NEIC **09** 19:42:20.4±0.4, 21°90S×175°18W, h35km, mb5.0/11, Error ellipse: s-maj=14.4km s-min=9.4km az=143.0*
*GCMT **09** 19:42:22.3±0.2, 22°00S×174°40W, h26km, MW5.3, Moment Tensor Solution. s56,c103; s85,c151; Moment tensor: Scale 10^16 Nm; Mrr 7.43±.22; Mθθ -0.76±.16; Mφφ -6.67±.15; Mrθ 2.39±.34; Mrφ -4.52±.11; Mθφ 4.70±.29; Best double couple: M0 9.80000×10^16 NP1:φ210.00000°, δ29.00000°, λ92.00000°. NP2:φ27.00000°, δ61.00000°, λ89.00000°. Principal axes: T 9.0000, Plg74.0000°, Azm295.0000°; N 1.7000, Plg1.0000°, Azm28.0000°; P -10.7000, Plg16.0000°, Azm118.0000°; Data Used: II IU IC G.*
*MOS **09** 19:42:24.7±1.6, 21°06S×176°08W, h33km, mb5.3/10, MS4.5/4 Error ellipse: s-maj=18.0km s-min=13.8km az=20.8*
*AUST **09** 19:42:48.9, 22°36S×176°48W, h200km*
ISC 09 19:42:17.7±0.5, 21°89S±0°08×175°04W±0°08, h16km±2km, h16km:pP-P, n239, σ1°34/261, mb5.1/37, MS4.6/34, 15C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.71**	**301**	*e*P	Pn	19 44 17.1	+7.8
MSVF	**Nonsavu**	**7.71**	**301**	*e*Pn	Pn	19 44 17.1	+7.8
MSVF	**Nonsavu**	**7.71**	**301**	Pn	Pn	19 44 18.0	+8.7
	985nm,0.9s,SNR=57						
AFI	**Afiamalu**	**8.53**	**22**	Pn	Pn	19 44 15.4	-5.2
	12nm,0.3s,baz=82,slow=19,SNR=5.4						
AFI				Sn	Sn	19 45 39.9	-17
	2.1nm,0.3s,baz=162,slow=20,SNR=2.4						
AFI	**Afiamalu**	**8.53**	**22**	Pn	Pn	19 44 15.4	-5.2
AFI				Sn	Sn	19 45 39.9	-17
RAR	**Rarotonga**	**14.23**	**90**	Pn	Pn	19 45 27.7	-11
	4.8nm,0.3s,baz=270,slow=6.3,SNR=20						
RAR				Sn	Sn	19 47 49.4	-27
	3.8nm,0.3s,baz=270,slow=2.8,SNR=4.0						
RAR				LR	LR	19 49 32.5	
	comp=Z,2μm,21.0s,baz=268,slow=31						
RAR				T	T	20 00 13.3	
	8.1nm,0.3s,baz=270,slow=18,SNR=6.4						
RAR	**Rarotonga**	**14.23**	**90**	Pn	Pn	19 45 27.7	-11
RAR				Sn	Sn	19 47 49.4	-27
RAR				TT		20 00 13.3	
DZM	**Mont Dzumac**	**17.17**	**266**	*e*P	**P**	**19 46 21.3**	**+2.6**
	78nm,1.1s						
DZM				*e*LR	LR	19 50 12.3	
	3μm,21.9s						
DZM	**Mont Dzumac**	**17.17**	**266**	P	P	19 46 24.2	+5.5
	0.5nm,0.3s,baz=88,slow=19,SNR=7.1						
DZM				LR	LR	19 50 38.7	
	comp=Z,625nm,19.8s,baz=98,slow=29						
DZM	**Mont Dzumac**	**17.17**	**266**	P	P	19 46 24.2	+5.5
URZ	**Urewera**	**17.66**	**201**	*e*Pn	**Pn**	**19 46 23.1**	**+0.2**
	21nm,0.8s						
TBI	**Tubuai**	**23.65**	**98**	*e*S	**S**	**19 51 41.9**	**-0.7**
	2μm,30.0s						
TBI				*e*LR	LR	19 53 03.2	
	3μm,28.8s,baz=268						
PPT2	**Papeete2**	**24.34**	**84**	*e*LQ	LQ	19 52 06.7	
	3μm,27.5s						
PPT2				*e*LR	LR	19 53 18.6	
	3μm,27.0s,baz=251						
PPT	**Papeete**	**24.34**	**84**	LR	LR	19 54 34.7	
	comp=Z,1μm,20.7s,baz=352,slow=30						
HNR	**Honiara**	**27.03**	**293**	LR	LR	19 56 56.5	
	comp=Z,1μm,21.2s,baz=298,slow=33						
RMQ	**Roma**	**33.26**	**255**	P	**P**	**19 48 57.0**	**+2.6**
	baz=32,SNR=6.1						
CTA	**Charters Tower**	**36.12**	**266**	P	**P**	**19 49 19.5**	**+0.3**
	13nm,0.6s,baz=99,slow=11,SNR=28						
CTA	**Charters Tower**	**36.12**	**266**	P	**P**	**19 49 19.5**	**+0.3**
CTAO	**Charters Tower**	**36.12**	**266**	*e*P	**P**	**19 49 17.9**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**36.12**	**266**	*e*P	**P**	**19 49 17.9**	**-1.3**
	comp=Z,13nm,0.7s						
CMSA	**Cobar Meteorol**	**36.20**	**246**	P	**P**	**19 49 19.4**	**-0.4**
	baz=35,SNR=15						
RKT	**Rikitea**	**36.96**	**100**	*e*LR	LR	19 59 03.7	
	comp=Z,2μm,30.0s						
QLP	**Quilpie**	**37.31**	**255**	P	**P**	**19 49 28.9**	**-0.4**
	baz=36,SNR=11						
PMG	**Port Moresby**	**38.34**	**283**	*e*P	**P**	**19 49 37.7**	**-0.4**
	comp=Z,18nm,1.0s						
PATS	**Pohnpei**	**38.70**	**315**	S	S	19 55 30.7	-6.8
	baz=38,SNR=3.8						
STKA	**Stephens Creek**	**39.71**	**246**	P	**P**	**19 49 49.6**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=92,slow=9.9,SNR=11						
STKA				LR	LR	20 05 39.2	
	comp=Z,1μm,18.4s,baz=74,slow=35						
STKA	**Stephens Creek**	**39.71**	**246**	*e*P	**P**	**19 49 48.9**	**-0.5**
	comp=Z,29nm,2.6s						
STKA	**Stephens Creek**	**39.71**	**246**	P	**P**	**19 49 51.5**	**+2.1**
	baz=38,SNR=8.2						
COEN	**Coen**	**40.43**	**274**	*e*P	**P**	**19 49 55.5**	**-0.1**
	comp=Z,55nm,0.8s						
COEN	**Coen**	**40.43**	**274**	P	P	19 49 41.6	-14
	baz=39,SNR=18						
BBOO	**Buckleboo**	**44.43**	**245**	P	**P**	**19 50 26.2**	**-1.8**
	baz=43,SNR=6.0						
ASAR	**Alice Springs**	**46.90**	**258**	P	**P**	**19 50 46.5**	**-1.2**
	comp=Z,15nm,0.8s,baz=92,slow=8.2,SNR=117						
ASAR				LR	LR	20 10 20.5	
	comp=Z,1μm,18.1s,baz=100,slow=36						
ASAR	**Alice Springs**	**46.90**	**258**	P	**P**	**19 50 46.5**	**-1.2**
WRAB	**Tennant Creek**	**47.14**	**263**	P	**P**	**19 50 48.0**	**-1.6**
	comp=Z,127nm,0.8s,SNR=8.0						
WRA	**Warramunga Arr**	**47.15**	**263**	P	**P**	**19 50 47.6**	**-2.0**
	comp=Z,15nm,0.9s,baz=98,slow=7.9,SNR=38						
WRA				LR	LR	20 09 30.9	
	comp=Z,894nm,18.8s,baz=95,slow=35						
WRA	**Warramunga Arr**	**47.15**	**263**	P	**P**	**19 50 47.6**	**-2.0**

comp=Z,10.0nm,0.9s
HABR Khabarovsk 83.03 329 *ce*P **P 19 54 40.6 -1.4**
HABR *e**PP **pP 19 54 51.3 +3.8**
HABR *e* 19 54 55.2
HABR *e* 19 57 52.9
HABR *e*S **S 20 04 59.6 -1.0**
HABR pmax pmax
comp=N,11nm,1.5s
HABR pmax pmax
comp=E,24nm,2.0s
HABR pmax pmax
comp=Z,70nm,2.0s
HABR MLR MLR
comp=Z,116nm,18.0s
MDJ Mudanjiang 83.25 324 P **P 19 54 44.5 +1.2**
MDJ pP **PcP 19 54 47.7 -0.1**
MDJ sP **sP 19 54 49.7 -1.0**
MDJ PP **PP 19 57 53.9 -1.4**
MDJ S **SKSac 20 05 06.0 +1.3**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,110nm,6.6s
MDJ LR LR
comp=N,52nm,5.6s
MDJ LR LR
comp=E,100nm,11.1s
MDJ LR LR
comp=Z,140nm,8.0s
QIZ Qiongzhong 83.94 293 P **P 19 54 45.0 -2.4**
QIZ S **S 20 05 12.6 +1.5**
QIZ LR LR
comp=N,120nm,32.3s
QIZ LR LR
comp=Z,200nm,22.4s
MFID Camas Ranch 84.69 39 *e*P **P 19 54 51.2 +0.4**
comp=Z,20nm,1.6s
CN2 Changchun 85.09 321 *e*P **P 19 54 53.0 +0.3**
CN2 *e*sP **sP 19 55 00.1 0.0**
CN2 *e*S **S 20 05 21.1 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
TMUT Trail Mountain 85.19 44 *e*P **P 19 54 54.4 +0.7**
comp=Z,12nm,0.9s
TXAR Lajitas Array 85.51 56 LR LR 20 27 16.4
comp=Z,222nm,18.9s,baz=240,slow=32
LPM Los Pinos Moun 85.71 51 *e*P **P 19 54 58.4 +2.1**
ANMO Albuquerque 86.15 50 P **P 19 55 00.4 +2.0**
comp=Z,2.6nm,1.0s,baz=218,slow=0.3,SNR=4.0
ANMO Albuquerque 86.15 50 P **P 19 55 00.4 +2.0**
PLCA Paso Flores 86.31 133 LR LR 20 27 08.0
comp=Z,227nm,18.5s,baz=248,slow=31
PSI Prapat 87.35 274 P **P 19 55 04.7 0.0**
baz=86,SNR=5.3
CMIG Matias Romero 87.51 71 LR LR 20 24 29.6
comp=Z,189nm,19.9s,baz=138,slow=29
GSI Gunungsitoli 88.05 272 P **P 19 55 09.3 +1.4**
baz=87,SNR=17
PDAR Pinedale Array 88.11 42 P **P 19 55 07.6 -0.2**
comp=Z,0.5nm,0.8s,baz=240,slow=2.9,SNR=3.8
PDAR LR LR 20 28 09.8
comp=Z,247nm,19.6s,baz=260,slow=31
PDAR Pinedale Array 88.11 42 P **P 19 55 07.6 -0.2**
SEY Seymchan 88.37 346⇑*e*P **P 19 55 07.7 -0.5**
BJI Beijing 88.83 314 P **P 19 55 12.1 +1.2**
BJI S **S 20 05 52.4 -5.4**
BJI pmax pmax
comp=Z,14nm,1.2s
BJI LR LR
comp=N,170nm,22.7s
BJI LR LR
comp=E,220nm,18.0s
BJI LR LR
comp=Z,100nm,26.2s
ILAR Eielson Array 89.08 12 LR LR 20 33 39.7
comp=Z,99nm,19.2s,baz=288,slow=35
GYA Guiyang 89.73 299 P **P 19 55 16.0 +0.3**
GYA PP **PP 19 58 51.4 +3.2**
GYA SKS **SKSac 20 05 45.0 -1.0**
GYA S **S 20 06 06.2 -1.0**
GYA SS **SS 20 12 06.1 +1.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=N,520nm,19.0s
GYA LR LR
comp=E,630nm,20.5s
GYA LR LR
comp=Z,750nm,21.4s
XAN Xi'an 91.17 306 P **P 19 55 23.5 +1.4**
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN LR LR
comp=N,100nm,21.5s
XAN LR LR
comp=Z,58nm,11.3s
HHC Hu-ho-hao-te 92.30 313 *e*P **P 19 55 26.6 -0.7**
HHC pP **pP 19 55 31.4 -1.4**
HHC sP **sP 19 55 33.6 -1.1**
HHC PP **PP 19 59 10.1 +1.8**
HHC S **S 20 06 28.5 -1.5**
HHC sS **ScS 20 06 34.9 +2.7**
HHC SS **SS 20 12 41.7 +0.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,99nm,9.4s
HHC LR LR
comp=N,220nm,17.2s
HHC LR LR
comp=E,160nm,17.2s
HHC LR LR
comp=Z,280nm,15.5s
KMI Kunming 92.44 296 P **P 19 55 30.1 +1.7**
KMI pP **pP 19 55 32.8 -1.1**
KMI PP **PP 19 59 12.7 +2.9**
KMI S **S 20 06 30.3 -1.8**
KMI pmax pmax
comp=Z,5.0nm,0.8s
KMI pmax pmax
comp=Z,100nm,4.5s
KMI LR LR
comp=N,120nm,15.8s
KMI LR LR
comp=E,290nm,18.5s
KMI LR LR
comp=Z,320nm,18.1s
CMAR Chiang Mai Arr 93.17 288 P **P 19 55 31.5 -0.2**
comp=Z,5.4nm,0.9s,baz=125,slow=2.7,SNR=39
CMAR LR LR 20 35 37.5
comp=Z,131nm,18.3s,baz=296,slow=34
CMAR Chiang Mai Arr 93.17 288 P **P 19 55 31.5 -0.2**
CHTO Chiang Mai 93.31 289 *e*P **P 19 55 33.8 +1.5**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 93.31 289 *e*P **P 19 55 33.8 +1.5**
comp=Z,8.8nm,1.0s
CD2 Chengdu 93.86 302 P **P 19 55 35.0 +0.4**
CD2 pP **pP 19 55 39.8 -0.3**
CD2 sP **sP 19 55 42.0 -0.1**
CD2 PP **PP 19 59 23.6 +2.9**
CD2 SKS **SKSac 20 06 08.3 -0.7**
CD2 S **S 20 06 42.1 -2.0**
CD2 sS **sS 20 06 49.7 -3.6**
CD2 SS **SS 20 13 05.0 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.3s
CD2 LR LR
comp=E,310nm,7.1s
CD2 LR LR
comp=Z,190nm,15.5s
LZH Lanzhou 95.81 306 *e*P **P 19 55 44.1 +0.5**
LZH pP **pP 19 55 48.4 -0.7**
LZH sP **sP 19 55 50.9 -0.1**
LZH PP **PP 19 59 35.1 -0.7**
LZH SKS **SKSac 20 06 18.3 -1.2**
LZH *e*S **ScS 20 07 02.5 +0.7**
LZH sS **sS 20 07 10.7 +0.5**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,90nm,4.1s
LZH LR LR
comp=N,140nm,12.6s
LZH LR LR
comp=E,270nm,14.3s
LZH LR LR
comp=Z,310nm,15.1s
YKA Yellowknife Ar 96.64 24 P **P 19 55 46.2 -0.3**
comp=Z,0.7nm,0.8s,baz=235,slow=4.5,SNR=11
YKA Yellowknife Ar 96.64 24 P **P 19 55 46.2 -0.3**
ULN Ulaanbaatar 98.22 318 *e*P Pdif 19 55 54.5 +0.2
comp=Z,9.9nm,1.7s
SONM Songino Array 98.62 318 LR LR 20 35 40.7
comp=Z,173nm,21.7s,baz=1.5,slow=32
LPAZ La Paz 98.98 112 LR LR 20 33 41.0
comp=Z,209nm,18.5s,baz=271,slow=31
ULM Lac du Bonnet 99.92 40 LR LR 20 37 21.3
comp=Z,257nm,19.7s,baz=286,slow=33
GTA Gaotai 99.99 308 *e*P **Pdif 19 56 03.1 +0.8**
GTA pP **pP 19 56 08.0 +0.2**
GTA sP **sP 19 56 10.5 +0.7**
GTA pmax pmax
comp=Z,1.0nm,1.2s
TLY Talaya 101.70 321 *e*P **Pdif 19 56 17.7 +8.3**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,123nm,20.0s
WMQ Urumqi 109.92 310 *e*P **Pdif 19 56 46.6 +0.3**
WMQ LR LR
comp=N,110nm,25.0s
WMQ LR LR
comp=Z,280nm,24.0s
MKAR Makanchi Array 114.16 313 PKP PKPdf 20 00 54.8 -1.5
comp=Z,0.4nm,0.6s,baz=43,slow=1.9,SNR=5.6
MKAR Makanchi Array 114.16 313 PKIKP PKPdf 20 00 54.8 -1.4
MKAR Makanchi Array 114.16 313 PKP PKPdf 20 00 54.8 -1.5
KURK Kurchatov 116.89 317 PKIKP **PKPdf 20 00 59.9 -1.4**
KURK Kurchatov 116.89 317 PKP **PKPdf 20 00 59.9 -1.4**
KURK *e*PKPdf **PKiKP 20 01 00.2 -1.0**
KURBB Kurchatov Arra 116.94 317 PKP **PKPdf 20 00 59.9 -1.5**
comp=Z,1.2nm,0.8s,baz=99,slow=2.0,SNR=14
KSH Kashi 117.95 304 *e*PKP **PKPdf 20 01 05.0 +1.1**
KSH *e*PP PP 20 02 25.2 +6.8
KSH PKS **PKSdf 20 04 40.6 -0.1**
KSH SKS **SKSdf 20 08 16.6 +1.1**
KSH SKKS **SKKSac 20 09 17.6 -0.7**
KSH AMB AMB
comp=Z,93nm,5.1s
KSH LR LR
comp=N,98nm,6.3s
KSH LR LR
comp=E,130nm,6.0s
KSH LR LR
comp=Z,180nm,10.4s
BVAR Borovoye Array 121.92 320 PKP **PKPdf 20 01 10.3 -0.6**
comp=Z,1.2nm,0.5s,baz=168,slow=0.9,SNR=12
BVAR Borovoye Array 121.92 320 PKIKP **PKPdf 20 01 10.3 -0.6**
BVAR Borovoye Array 121.92 320 PKP **PKPdf 20 01 10.3 -0.6**
BRVK Borovoye 121.98 320⇓*i*PKIKP **PKPdf 20 01 10.2 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
KBL Kabul 122.98 298 *e*PKIKP **PKPdf 20 01 14.1 +0.3**
KBL Kabul 122.98 298 *e*PKPdf **PKPdf 20 01 14.1 +0.3**
KBL Kabul 122.98 298 P **PKPdf 20 01 14.1 +0.3**
baz=122,SNR=3.6
SVE Sverdlovsk 126.69 326 *e*PKIKP **PKPdf 20 01 19.8 -0.1**
SVE pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 127.91 325 *i* PKIKP **PKPdf 20 01 21.6 -0.7**
ARU 20 03 24.6
ARU 20 08 24.9
AKTO Aktyubinsk 129.94 318 PKP **PKPdf 20 01 26.6 +0.2**
comp=Z,1.1nm,0.7s,baz=140,slow=3.1,SNR=6.4
AKTO Aktyubinsk 129.94 318 PKIKP **PKPdf 20 01 26.6 +0.2**
AKTO Aktyubinsk 129.94 318 PKP **PKPdf 20 01 26.6 +0.2**
ARCES ARCESS Array B 130.76 351 PKP **PKPdf 20 01 28.7 +1.3**
comp=Z,3.6nm,0.9s,baz=350,slow=5.3,SNR=5.0
ARCES ARCESS Array B 130.76 351 PKP **PKPdf 20 01 28.7 +1.3**
FINES FINESS Array B 137.85 345 PKhKP PKPpre 20 01 36.8
comp=Z,1.1nm,0.7s,baz=48,slow=2.8,SNR=3.4
FINES FINESS Array B 137.85 345 PKPpre PKPpre 20 01 36.8
NOA NORSAR Array B 140.64 355 PKhKP PKPpre 20 01 40.3
comp=Z,1.4nm,0.9s,baz=17,slow=4.3,SNR=3.6
NOA NORSAR Array B 140.64 355 PKPpre PKPpre 20 01 40.4
KIV Kislovodsk 141.90 314 *i* PKIKP **PKPdf 20 01 47.4 -1.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,209nm,22.0s
CUKT Cukurca 143.34 303 *e*P PKPbc 20 01 48.6 -0.2
EZM Erzurum 144.28 309 *e*P **PKPab 20 01 50.8 -0.6**
VRTB Varto-Mus 144.45 307 *e*P **PKPab 20 01 51.5 -0.3**
BAYT Ayd˜–ntepe-Bay 144.99 310 *e*P **PKPdf 20 01 54.3 -0.2**
BNGB Bing˜¶l 145.08 307 *e*P **PKPdf 20 01 54.6 0.0**
SUW Suwalki 145.08 341 *e*PKP **PKPbc 20 01 53.1 -0.4**
SUW Suwalki 145.08 341 *e*PKHKP **PKPbc 20 01 52.4 -1.0**
SUW Suwalki 145.08 341 *e*PKPdf **PKPbc 20 01 52.4 -1.0**
SUW Suwalki 145.08 341 *e*PKP **PKPbc 20 01 53.0 -0.4**
GUMT Gumushane 145.43 310 *e*P **PKPab 20 01 56.2 +0.8**
AKASG Malin Array Be 145.54 332 PKPbc **PKPdf 20 01 54.4 -0.5**
comp=Z,24nm,0.8s,baz=39,slow=4.1,SNR=51
AKASG Malin Array Be 145.54 332 PKHKP **PKPdf 20 01 54.4 -0.5**
AKASG Malin Array Be 145.54 332 PKPbc **PKPdf 20 01 54.4 -0.5**
ERZN Erzincan 145.58 309 *e*P **PKPdf 20 01 54.0 -1.5**
DIY Diyarbakir 145.75 306 *e*P **PKPab 20 01 57.0 +0.4**
EZC Erzincan 145.78 309 *e*P **PKPab 20 01 57.6 +0.8**
ESPY Espiye-Giresun 145.79 311 *e*P **PKPdf 20 01 54.9 -0.8**
SVRC Sivrice-ELAZID 146.29 307 *e*P **PKPdf 20 01 57.2 +0.3**
ILIC ilic-Erzincan 146.46 309 *e*P **PKPab 20 01 59.0 -0.3**
SIM Simferopol' 146.82 321 *e*PKP2 **PKPab 20 02 00.2 -0.2**
SIM pmax pmax
comp=Z,25nm,0.7s
URFA Urfa 146.96 306 *e*P **PKPbc 20 02 00.3 +0.5**
MYA Malataya 146.96 307 *e*P **PKPbc 20 02 00.6 +0.8**
MALT Malatya 146.96 307 *e*P **PKPab 20 02 01.9 +0.6**
BSEG Bad Segeberg 147.75 354 *e*PKPbc **PKPbc 20 02 01.0 -0.3**
DIKM Dikmen 147.82 315 *e*P **PKPbc 20 02 02.1 +0.1**
BYBT Boyabat 148.23 315 *e*P **PKPbc 20 02 03.4 +0.4**
GAZ Gaziantep 148.26 306 *e*P **PKPbc 20 02 02.8 -0.6**
LVV L'vov 148.32 336 *e*PKIKP **PKPbc 20 02 02.5 -0.5**
KMRS Kahramanmaras 148.38 307 *e*P **PKPbc 20 02 03.0 -0.6**
BNN Bunyan 148.64 310 *e*P **PKPbc 20 02 04.0 -0.4**
CORM Corum 148.93 313 *e*P **PKPbc 20 02 06.0 +1.0**
KWP Kalwaria Pacla 148.96 337 *e*PKP **PKPbc 20 02 05.0 +0.3**
KWP Kalwaria Pacla 148.96 337 *e*PKP **PKPbc 20 02 04.9 +0.3**
KOZT Kozan 149.18 307 *e*P **PKPbc 20 02 04.1 -1.5**
CANT Cankiri 149.41 314 *e*P **PKPbc 20 02 06.8 +0.7**
OJC Ojcow 149.41 341 *e*PKHKP PKPpre 20 01 58.9
OJC *i* 20 02 05.4
OJC Ojcow 149.41 341 *e*PKIKP **PKPbc 20 02 05.9 +0.1**
OJC Ojcow 149.41 341 *e*PKPdf **PKPbc 20 02 05.9 +0.1**
OJC Ojcow 149.41 341 *e*PKPdf **PKPdf 20 01 58.9 -2.5**
OJC *e*PKPbc **PKPbc 20 02 02.6 -3.2**
OJC *e*PKiKP **PKiKP 20 02 05.4 -1.5**
BURAR Bucovina Array 149.60 332⇓*i*P **PKPbc 20 02 08.0 +1.5**
KOLS Kolonicke sedl 149.70 337 *e*PKIKP **PKPbc 20 02 07.1 +0.5**
KOLS Kolonicke sedl 149.70 337 *e*PKP **PKPbc 20 02 07.1 +0.5**
SAFT Safranbolu 149.70 316 *e*P **PKPbc 20 02 06.5 -0.3**
KSP Ksiaz 149.77 346 *e*PKP **PKPbc 20 02 07.0 +0.3**
KSP Ksiaz 149.77 346 *e*PKIKP **PKPbc 20 02 06.9 +0.2**
KSP Ksiaz 149.77 346 *e*PKP **PKPbc 20 02 06.9 +0.3**
BRTR Keskin Array B 149.81 313 PKPbc **PKPbc 20 02 07.0 -0.3**
comp=Z,8.9nm,0.8s,baz=125,slow=2.9,SNR=61
BRTR Keskin Array B 149.81 313 PKPbc **PKPbc 20 02 07.0 -0.3**
NIG Nigde 149.83 309 *e*P **PKPbc 20 02 06.8 -0.7**
UZH Uzhgorod 149.94 337 *e*PKIKP **PKPbc 20 02 07.0 -0.1**
UZH *e* 20 02 13.7
CLL Collm 149.98 350 *i* PKIKP **PKPbc 20 02 07.0 -0.1**
CLL *e* 20 02 12.0
CLL pmax pmax
comp=Z,20nm,1.0s
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 149.98 350 *e*PKPbc **PKPbc 20 02 06.8 -0.3**
CLL Collm 149.98 350 *i* PKPbc **PKPbc 20 02 07.0 -0.1**
comp=Z,20nm,1.0s
CLL *e*PKPab **PKPab 20 02 12.0 -0.8**
comp=Z,18nm,1.1s
CLL *e*pPKPbc **pPKPbc 20 02 16.0 +3.3**
CLL *e* 20 02 49.0
CFR Carcaliu 149.99 326⇑*i*P **PKPbc 20 02 07.4 +0.1**
CRVS Cervenica-Dubn 150.01 338 *e*PKIKP **PKPbc 20 02 07.5 +0.2**
CRVS Cervenica-Dubn 150.01 338 *e*PKP **PKPbc 20 02 07.5 +0.2**
UPC Upice 150.15 346 *e*PKIKP **PKPbc 20 02 07.9 +0.3**
UPC *e* 20 02 14.2
UPC Upice 150.15 346⇑*e*PKP **PKPbc 20 02 07.9 +0.3**
UPC *e*PKPAB **PKPab 20 02 14.2 +0.7**
VRI Vrincioaia 150.21 329⇓*i*P **PKPbc 20 02 07.8 -0.1**
DPC Dobruska-Polom 150.22 345 *e*PKIKP **PKPbc 20 02 07.9 +0.1**
DPC *e* 20 02 14.7
DPC Dobruska-Polom 150.22 345⇑*e*PKP **PKPbc 20 02 07.9 +0.1**
DPC *e*PKPAB **PKPab 20 02 14.7 +0.8**
OKC Ostrava-Krasne 150.23 343 *e*PKIKP **PKPbc 20 02 07.5 -0.3**
OKC Ostrava-Krasne 150.23 343⇑*e*PKP **PKPbc 20 02 07.5 -0.3**
BRG Berggiesshubel 150.23 349 *e*PKP **PKPbc 20 02 07.8 0.0**
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 150.23 349 *e*PKHKP **PKPbc 20 02 07.8 0.0**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 150.23 349 *e*PKPbc **PKPbc 20 02 07.5 -0.3**
PLOR Plostina 150.26 329⇑*i*P **PKPbc 20 02 08.1 0.0**
TRPA Tarpa 150.27 336⇑*i*P **PKPbc 20 02 08.3 +0.4**
LOD Lodumlu 150.33 314 *e*P **PKPbc 20 02 08.0 -0.5**
PVCC Panska Ves 150.44 348 *e*PKHKP **PKPbc 20 02 08.7 +0.4**
PVCC *e* 20 02 17.5
PVCC Panska Ves 150.44 348⇑*e*PKP **PKPbc 20 02 08.7 +0.4**
PVCC *e*pPKP **PKPab 20 02 17.5 +2.8**
MORC Moravsky Berou 150.45 343⇓*i*P **PKPbc 20 02 08.7 +0.3**
SULT Sultanhani-AKS 150.58 310 *e*P **PKPbc 20 02 07.7 -1.4**
MOX Moxa 150.83 351 *e*PKPbc **PKPbc 20 02 08.5 -0.7**
MOX *e*L L 21 05 20.8
comp=Z,158nm,19.9s
MLR Muntele Rosu 150.86 329⇑*i*P **PKPbc 20 02 09.9 +0.3**
TANN Tannenbergstha 150.93 350 *e*PKPbc **PKPbc 20 02 09.4 -0.1**
PRU Pruhonice 150.96 347 *e*PKHKP **PKPbc 20 02 09.4 -0.1**
PRU *e* 20 02 16.2
PRU Pruhonice 150.96 347⇑*e*PKP **PKPbc 20 02 09.4 -0.1**
PRU *e*PKPAB **PKPab 20 02 16.2 -0.7**
MDUB Mudurnu 151.07 316 *e*P **PKPbc 20 02 07.5 -2.7**
NKC Novy Kostel 151.11 350 *e*PKIKP **PKPbc 20 02 09.8 -0.1**
NKC *e* 20 02 15.8
NKC Novy Kostel 151.11 350⇑*e*PKP **PKPbc 20 02 09.8 -0.1**
NKC *e*PKPAB **PKPab 20 02 15.8 -1.7**
VYHS Vyhne 151.23 341 *e*PKIKP **PKPbc 20 02 10.1 -0.1**
VYHS Vyhne 151.23 341 *e*PKP **PKPbc 20 02 10.1 -0.1**
DRGR 151.29 334⇑*i*P **PKPbc 20 02 10.8 +0.3**
VOIR 151.33 330⇓*i*P **PKPbc 20 02 11.0 +0.4**
KIZT Kizilcal 151.41 312 *e*P **PKPdf 20 02 07.7 +2.7**
GULT Gulveren 151.53 316 *e*P **PKPbc 20 02 09.3 -2.0**
ARR Arges 151.57 330⇓*i*P **PKPbc 20 02 12.1 +0.9**
TNS Taunus Mts 151.59 355 *e*PKPbc **PKPbc 20 02 10.7 -0.4**
LFK Lefkose 151.70 304 *e*P **PKPbc 20 02 10.4 -1.4**
GRF Grafenberg Arr 151.82 351 *e*PKPbc **PKPbc 20 02 11.6 +0.1**
GRF *e*L L 21 13 18.4
comp=Z,147nm,19.1s
LOT Lotru 151.91 331⇓*i*P **PKPbc 20 02 12.2 +0.2**
EIL Elat 151.96 292 P **PKPbc 20 02 13.1 +0.6**
baz=151,SNR=3.8
CSS Prodhromos 151.96 304 *e*P **PKPbc 20 02 15.3 +3.0**
KHC Kasperske Hory 151.97 348 *e*PKIKP **PKPbc 20 02 12.0 +0.1**
KHC *e* 20 02 16.5
KHC Kasperske Hory 151.97 348⇑*e*PKP **PKPbc 20 02 12.0 +0.1**
KHC *e*pPKP **PKiKP 20 02 16.5 +4.2**
GEC2 GERESS Array S 152.22 348 *e*PKPbc **PKPbc 20 02 12.4 -0.2**
GERES GERESS Array B 152.22 348 PKPbc **PKPbc 20 02 12.4 -0.2**
comp=Z,1.7nm,0.8s,baz=11,slow=2.7,SNR=10
GERES GERESS Array B 152.22 348 PKPbc **PKPbc 20 02 12.4 -0.2**
BZS Buzias 152.69 334⇓*i*P **PKPbc 20 02 13.5 -0.1**
ARSA Arzberg 153.30 344⇓*i*pPKiKP **PKPab 20 02 26.6 -0.2**
comp=Z,6.6nm,1.1s
TORD Torodi Ar. Bea 170.76 160 PKP **PKPdf 20 02 23.8 -2.2**
comp=Z,0.7nm,0.8s,baz=153,slow=0.3,SNR=4.5
TORD PKPab **PKPab 20 03 43.2 -0.4**
comp=Z,0.9nm,0.8s,baz=192,slow=3.4,SNR=4.4
TORD Torodi Ar. Bea 170.76 160 PKP **PKPdf 20 02 23.8 -2.2**
TORD PKPab **PKPab 20 03 43.2 -0.4**

IDC 09 19:42:38.5±1.6**,2°.39S×141°.93E,h0**km**,mb3.2**/3**, mb1 3.5**/4**,mb1mx3.4**/18**,mbtmp3.3**/4**,ML3.6**/1**,Error ellipse: s-maj=72.8km s-min=25.6km az=102.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.96**	**202**	P	Pn	19 47 02.7	+0.6
	0.2nm,0.3s,baz=17,slow=12,SNR=18						
ASAR	**Alice Springs**	**22.53**	**200**	P	P	19 47 39.7	-0.6
	0.2nm,0.8s,baz=18,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**71.52**	**321**	P	P	19 54 02.1	+0.7
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.3						
ILAR	**Eielson Array**	**84.22**	**24**	P	P	19 55 10.7	-1.0
	0.6nm,0.6s,baz=234,slow=4.5,SNR=6.1						

CSEM 09 19:44:39.9±1.0**,45°.40N×5°.65W,h10**km**,mb3.7**/22**,Error ellipse: s-maj=24.4km s-min=7.9km az=170.0,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARI	**Arriondas**	**2.12**	**171**	S	Sg	19 45 47.4	-0.8
	4.6nm,0.7s,SNR=5.7						
EPON	**Pontenova**	**2.34**	**208**	P	Pn	19 45 18.5	+0.1
	6.8nm,0.8s,SNR=7.5						
EPON				S	Sn	19 45 46.0	-1.2
	54nm,1.3s						
ELAN	**Lanestosa**	**2.69**	**143**	P	Pn	19 45 23.9	+0.8
	2.9nm,0.2s,SNR=17						
ELAN				S	Sn	19 45 56.6	+0.9
	46nm,1.3s						
EMAZ	**Mazaricos**	**3.43**	**226**	S	Sn	19 46 01.2	-13
	27nm,2.8s,SNR=7.9						
ECAL	**Calabor**	**3.55**	**193**	S	Sn	19 46 14.2	-3.0
	40nm,1.3s						
PBRG	**Braganca**	**3.68**	**193**	*e*P	Pn	19 45 37.9	+1.0
PBRG				*e*T	T	19 48 09.3	
ELIZ	**Elizondo**	**3.71**	**126**	S	Sn	19 46 19.9	-1.1
	7.1nm,0.4s,SNR=8.6						
PGAV	**Gavieira, Arco**	**3.93**	**210**	*e*P	Pn	19 45 40.1	-0.3
PGAV				*e*T	T	19 48 07.2	
PGAV	**Gavieira, Arco**	**3.93**	**210**	*e*P	Pn	19 45 40.1	-0.3
ELOB	**Lobios**	**3.94**	**207**	S	Sn	19 46 30.2	+3.2
	22nm,3.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**4.00**	**127**	S	Sn	19 46 29.9	+1.5
	2.8nm,1.4s,SNR=7.9						
PCAB	**Cabril**	**4.07**	**206**	*e*T	T	19 48 13.1	
IELO	**Elcoad**	**4.08**	**127**	S	Sb	19 46 36.1	-5.1
	2.2nm,2.0s,SNR=7.9						
IEPA	**Eparoz**	**4.10**	**128**	S	Sb	19 46 36.7	-5.2
	1.3nm,2.7s,SNR=7.9						
POLO	**Lamas de Olo**	**4.32**	**202**	*e*P	Pn	19 45 47.5	+1.7
POLO				*e*T	T	19 48 17.9	
POLO	**Lamas de Olo**	**4.32**	**202**	*e*P	Pn	19 45 47.5	+1.7
MVO	**Moncorvo**	**4.35**	**194**	*e*P	Pn	19 45 47.7	+1.5
MVO				*e*T	T	19 48 20.3	
CSOR	**Sort**	**5.76**	**119**	P	Pn	19 46 05.3	-0.2
	1.2nm,0.3s,SNR=5.8						
ESDC	**Sonseca Array**	**5.86**	**167**	P	Pn	19 46 06.4	-0.4
	0.3nm,0.2s,baz=346,slow=12,SNR=4.5						
ESDC				S	Sn	19 47 02.6	-11
	9.9nm,2.8s,SNR=7.9						
ERTA	**Horta de San J**	**6.23**	**133**	P	Pn	19 46 12.0	+0.1
	0.1nm,1.0s,SNR=7.9						
EPOB	**Poblet**	**6.35**	**127**	P	Pn	19 46 13.4	-0.3
	2.3nm,1.4s,SNR=7.9						
EBAD	**Badajoz**	**6.72**	**189**	P	Pn	19 46 17.6	-1.0
	0.4nm,0.4s,SNR=7.9						

---

*ISCJB **09** 19:44:49.0±0.5, 20°.14N±0°.07×155°.29W±0°.07, h10km, mb4.0/11, MS3.9/2, Error ellipse: s-maj=11.6km s-min=8.1km az=36.3*
*IDC **09** 19:44:49.1±1.2, 20°.12N×155°.20W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/27, mbtmp3.8/9, MS3.9/2, Ms1 3.9/2, ms1mx3.1/45, Error ellipse: s-maj=39.6km s-min=24.5km az=157.0*
*NEIC **09** 19:44:53.0, 20°.11N×155°.17W, h19km, MD4.0(HVO), After HVO.*
NEIC Felt [IV] at Honoka'a, Laupahoehoe, Ninole, Pa'auilo, Pepeekeo and Waimea; [III] at Hakalau, Honomu, Kapaau, Kealakekua, Papa'ikou and Waikoloa. Felt [II] throughout

Hawai'i and Maui and at Honolulu, O'ahu. Also felt on Lana'i.

ISC 09 19:44:51.1±0.6, 20°12N±0°09 × 155°29W±0°09, h10km, n31, σ2§03/37, mb3.9/11, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.74**	**175**	*e*Pn	**Pb**	**19 45 05.0**	**-1.2**
STCH	**Steam Cracks**	**0.74**	**168**	*e*Pn	**Pb**	**19 45 04.8**	**-1.4**
HON	**Honolulu**	**2.81**	**296**	*e*Pn	**Pb**	**19 45 34.7**	**-1.4**
KIP	**Kipapa**	**2.86**	**297**	*e*Pn	**Pn**	**19 45 35.3**	**-1.6**
KIP				*e*Sn	**Sn**	**19 46 08.6**	**-2.8**
DIB	**Dawson Inlet,** SNR=493	**37.41**	**23**	T	T	20 31 52.5	
PDAR	**Pinedale Array** 1.1nm,0.9s,baz=251,slow=4.5,SNR=7.3	**44.40**	**49**	P	**P**	**19 53 01.6**	**-0.7**
PDAR	**Pinedale Array**	**44.40**	**49**	P	**P**	**19 53 01.6**	**-0.7**
ILAR	**Eielson Array** 1.3nm,0.7s,baz=195,slow=7.0,SNR=16	**44.98**	**5**	P	**P**	**19 53 05.8**	**-0.4**
ILAR				PcP	**PcP**	**19 54 46.9**	**-0.4**
	1.0nm,0.6s,baz=208,slow=4.8,SNR=9.8						
ILAR	**Eielson Array**	**44.98**	**5**	P	**P**	**19 53 05.8**	**-0.4**
ILAR				PcP	**PcP**	**19 54 46.9**	**-0.4**
ANMO	**Albuquerque** 1.1nm,0.9s,baz=298,slow=12,SNR=4.0	**45.32**	**60**	P	**P**	**19 53 08.4**	**-1.3**
ANMO				LR	LR	20 07 04.9	
	comp=Z,87nm,21.0s,baz=101,slow=30						
ANMO	**Albuquerque**	**45.32**	**60**	P	**P**	**19 53 08.4**	**-1.3**
TXAR	**Lajitas Array** 2.1nm,0.6s,baz=262,slow=8.4,SNR=19	**47.46**	**68**	P	**P**	**19 53 25.5**	**-0.9**
TXAR				PP	**PcP**	**19 55 01.3**	**+4.5**
	2.8nm,0.9s,baz=201,slow=6.7,SNR=8.5						
TXAR	**Lajitas Array**	**47.46**	**68**	P	**P**	**19 53 25.5**	**-0.9**
TXAR				PP	**PcP**	**19 55 01.3**	**+4.5**
INK	**Inuvik** 0.5nm,0.5s,baz=191,slow=5.2,SNR=2.9	**50.07**	**10**	P	**P**	**19 53 44.5**	**-1.3**
INK	**Inuvik**	**50.07**	**10**	P	**P**	**19 53 44.5**	**-1.3**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=236,slow=7.8,SNR=7.9	**50.67**	**23**	P	**P**	**19 53 49.7**	**-0.7**
YKA				PcP	**PcP**	**19 55 06.5**	**-1.2**
	0.2nm,0.5s,baz=244,slow=3.3,SNR=4.0						
YKA	**Yellowknife Ar**	**50.67**	**23**	P	**P**	**19 53 49.8**	**-0.7**
YKA				PcP	**PcP**	**19 55 06.5**	**-1.2**
CN2	**Changchun**	**68.74**	**310**	*e*P	P	19 55 58.9	+3.6
CTA	**Charters Tower** comp=Z,102nm,18.1s,baz=336,slow=35	**69.80**	**239**	LR	LR	20 25 22.8	
SONM	**Songino Array** 0.4nm,0.6s,baz=55,slow=4.1,SNR=2.4	**80.73**	**318**	P	**P**	**19 57 05.1**	**+0.2**
SONM	**Songino Array**	**80.73**	**318**	P	**P**	**19 57 05.1**	**+0.2**
ASAR	**Alice Springs** 1.1nm,0.9s,baz=66,slow=4.4,SNR=6.0	**81.56**	**241**	P	**P**	**19 57 09.6**	**+0.1**
ASAR	**Alice Springs**	**81.56**	**241**	P	**P**	**19 57 09.6**	**+0.1**
LZH	**Lanzhou**	**86.73**	**307**	*e*P	**P**	**19 57 38.5**	**+2.6**
LZH				pP	**pP**	**19 57 43.4**	**+4.1**
LZH				sP	**sP**	**19 57 45.6**	**+5.1**
LZH	comp=Z,19nm,1.1s			pmax	pmax		
GYA	**Guiyang**	**88.08**	**297**	*e*P	**P**	**19 57 44.0**	**+1.5**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=35,slow=5.4,SNR=4.3	**90.06**	**329**	P	**P**	**19 57 51.0**	**-0.2**
ZALV	**Zalesovo Beam**	**90.06**	**329**	P	**P**	**19 57 51.0**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=335,slow=2.7,SNR=5.4	**139.93**	**36**	PKP	**PKPdf**	**20 04 18.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**139.93**	**36**	PKP	**PKPdf**	**20 04 18.9**	**-1.7**
DBIC	**Dimbokro** comp=Z,5.5nm,1.1s,baz=145,slow=2.4,SNR=3.9	**140.57**	**51**	PKP	**PKPdf**	**20 04 19.3**	**-2.5**
DBIC	**Dimbokro**	**140.57**	**51**	PKP	**PKPdf**	**20 04 19.3**	**-2.5**

*BJI **09** 19:45:00.4, 29°.32N×82°.78E, h20km, mB4.4/2, mb3.9/5*
*DMN **09** 19:45:05.6±0.6, 31°.45N×83°.05E, h10km, Ml4.5/4, Error ellipse: s-maj=13.9km s-min=8.1km az=130.0*
*IDC **09** 19:45:09.5±0.8, 30°.65N×83°.46E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.8/32, mbtmp3.8/15, ML3.3/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/43, Error ellipse: s-maj=28.2km s-min=15.5km az=54.0*
*NDI **09** 19:45:27.3±3.3, 30°.10N×83°.54E, h33km, ML3.1*

ISC 09 19:45:10.4±1.8, 30°.67N±0°.05 × 83°.58E±0°.04, h4km±13km, n39, σ1§41/39, mb3.7/11, MS3.6/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsang**	**2.32**	**176**	*e*Pn	**Pb**	**19 45 53.7**	**+0.7**
DANN	1µm,0.8s			*e*Sn	**Sg**	**19 46 28.7**	**+3.7**
PYUN	**Piuthan**	**2.62**	**191**	*e*Pn	**Pb**	**19 45 56.3**	**-1.7**
PYUN	1µm,0.7s			*e*Sn	**Sg**	**19 46 33.6**	**-0.9**
GKN	**Gorkha**	**2.82**	**161**	*e*Pn	**Pb**	**19 46 01.1**	**-0.3**
GKN	214nm,0.5s			*e*Sn	**Sg**	**19 46 42.3**	**+1.3**
KOLN	**Koldanda**	**2.89**	**180**	*e*Pn	**Pb**	**19 46 01.3**	**-1.5**
KOLN	491nm,0.6s			*e*Sn	**Sg**	**19 46 42.9**	**-0.5**
PTH	**Pithoragarh**	**3.12**	**250**	*ex*	**Pb**	**19 46 06.8**	**+0.2**
PTH				*e*S	**Sb**	**19 46 45.8**	**+0.8**
KKN	**Kakani**	**3.24**	**152**	*e*Pn	**Pb**	**19 46 06.8**	**-1.8**
DMN	**Daman**	**3.33**	**156**	*e*Pn	**Pb**	**19 46 07.9**	**-2.4**
GUN	**Gumba**	**3.41**	**143**	*e*Pn	**Pb**	**19 46 09.5**	**-2.2**
PKI	**Pulchoki**	**3.48**	**152**	*e*Pn	**Pb**	**19 46 10.2**	**-2.7**
JIRN	**Jiri**	**3.77**	**142**	*e*Pn	Pb	19 46 14.6	-3.3
RAMN	**Ramite**	**4.56**	**144**	*e*Pn	Pn	19 46 24.1	+3.6
DDI	**Dehra Dun**	**4.78**	**267**	*ex*	**Pn**	**19 46 24.0**	**+0.7**
DDI				*ex*	**Sg**	**19 47 43.3**	**-0.6**
TAPN	**Taplejung**	**4.91**	**131**	*e*Pn	Pn	19 46 29.9	+4.6
ODAN	**Odare**	**5.07**	**138**	*e*Pn	Pn	19 46 32.0	+4.6
NDI	**New Delhi**	**5.88**	**252**	*ex*	Pn	19 46 32.0	-6.3
KKR	**Kurukshetra**	**5.88**	**265**	*e*P	Pb	19 46 50.6	-3.0
AGRA	**Agra**	**6.01**	**237**	*e*S	**Sn**	**19 47 49.3**	**-0.1**
AGRA	comp=E,43nm,0.4s			AML	AML	19 48 49.4	
AGRA	comp=N,56nm,0.4s			AML	AML	19 48 50.6	
AYAN	**Aya Nagar**	**6.03**	**250**	*e*P	Pb	19 46 51.5	-4.5
AYAN				*ex*	**Sg**	**19 48 25.3**	**+1.3**
SONA	**Sohna**	**6.15**	**249**	*ex*	**Pn**	**19 46 42.6**	**+0.5**
SONA				*e*S	**Sn**	**19 47 53.8**	**+0.8**
SONA	comp=E,27nm,0.5s			AML	AML	19 48 34.5	
SONA	comp=N,27nm,0.6s			AML	AML	19 48 35.5	
LSA	**Lhasa**	**6.63**	**97**	P	Pn	19 46 54.7	+5.6
LSA				S	**Sg**	**19 48 45.1**	**+1.7**
LSA	comp=E,690nm,7.1s			LR	LR		
LSA	comp=Z,910nm,8.0s			LR	LR		
KHET	**Khetri**	**7.26**	**251**	*ex*	**Pn**	**19 46 55.9**	**-1.4**
KHET				*e*S	**Sn**	**19 48 21.3**	**+1.1**
KHET	comp=N,7.0nm,0.2s			AML	AML	19 48 26.0	
KHET	comp=E,5.4nm,0.2s			AML	AML	19 48 26.2	
WMQ	**Urumqi**	**13.52**	**13**	P	**P**	**19 48 33.6**	**+1.1**
WMQ	comp=Z,10.0nm,1.0s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,0.1nm,0.3s,baz=128,slow=19,SNR=1.6	**13.97**	**331**	Pn	**Pn**	**19 48 29.8**	**+0.5**
AAK	comp=Z,86nm,19.0s,baz=131,slow=40			LR	LR	19 54 31.1	
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=4.0	**16.13**	**357**	Pn	**Pn**	**19 48 57.1**	**-0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=303,slow=12,SNR=17	**18.50**	**128**	P	**Pn**	**19 49 29.1**	**+1.2**
KURBB	**Kurchatov Array** comp=Z,8.1nm,1.2s,baz=174,slow=9.6,SNR=26	**20.28**	**351**	P	**P**	**19 49 46.1**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.9s,baz=182,slow=10,SNR=9.1	**23.28**	**2**	P	**P**	**19 50 17.8**	**-1.2**
BVAR	**Borovoye Array** comp=Z,2.1nm,0.9s,baz=171,slow=10,SNR=6.8	**24.32**	**340**	P	**P**	**19 50 28.6**	**-0.4**
SONM	**Songino Array** comp=Z,1.9nm,0.9s,baz=231,slow=8.7,SNR=12	**24.47**	**39**	P	**P**	**19 50 32.3**	**+1.7**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=113,slow=12,SNR=3.5	**27.46**	**323**	P	**P**	**19 50 58.0**	**+0.5**
AKTO	comp=Z,44nm,20.8s,baz=43,slow=39			LR	LR	20 03 08.7	
KSRS	**Korea Array** comp=Z,99nm,20.5s,baz=46,slow=38	**37.09**	**67**	LR	LR	20 08 54.5	
BRTR	**Keskin Array B** comp=Z,0.3nm,0.8s,baz=108,slow=9.3,SNR=3.8	**41.34**	**297**	P	**P**	**19 52 58.5**	**+0.9**
FINES	**FINESS Array B** comp=Z,0.8nm,0.7s,baz=100,slow=14,SNR=4.7	**48.12**	**327**	P	**P**	**19 53 50.0**	**-1.1**
WRA	**Warramunga Arr** comp=Z,2.3nm,0.8s,baz=325,slow=6.3,SNR=19	**70.09**	**129**	P	**P**	**19 56 24.1**	**0.0**
ASAR	**Alice Springs** comp=Z,0.6nm,0.9s,baz=313,slow=5.8,SNR=3.3	**72.44**	**132**	P	**P**	**19 56 38.3**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.8s,baz=38,slow=5.4,SNR=3.8	**76.51**	**277**	P	**P**	**19 57 00.2**	**-1.9**
ILAR	**Eielson Array** 1.3nm,0.7s,baz=195,slow=7.0,SNR=16	**77.08**	**20**	P	**P**	**19 57 04.5**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.9s,baz=336,slow=4.6,SNR=4.5	**86.01**	**8**	P	**P**	**19 57 50.5**	**-1.3**
SCHQ	**Schefferville** comp=Z,235nm,18.3s,baz=348,slow=41	**91.11**	**343**	LR	LR	20 47 27.5	

*IDC **09** 19:54:23.6±2.0, 18°.43N×78°.77W, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/24, mbtmp3.2/2, ML5.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/14, Error ellipse: s-maj=59.4km s-min=47.1km az=52.0*
*ISCJB **09** 19:54:24.2±1.1, 18°.0N±0°.2×78°.86W±0°.05, h33km, mb3.1/2, Error ellipse: s-maj=26.9km s-min=7.0km az=2.5*
*JSN **09** 19:54:24.7±1.2, 19°.40N×78°.20W, h6km±16km, MD4.4*

ISC 09 19:54:26.4±1.0, 18°.1N±0°.2×78°.79W±0°.06, h35km, n13, σ1§58/15, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBJ	**Montego Bay**	**0.93**	**70**	*i* P	**Pn**	**19 54 43.4**	**+0.3**
MBJ				*i* S	**Sn**	**19 54 56.4**	**+1.1**
MCJ	**Malvern**	**1.06**	**98**	*i* P	Pn	19 54 51.5	+6.6
BBJ	**Bamboo Saint A**	**1.47**	**78**	*i* P	**Pn**	**19 54 48.6**	**-2.0**
STH	**Stony Hill**	**1.88**	**90**	*i* P	**Pn**	**19 54 55.5**	**-0.6**
STH				*i* S	**Sn**	**19 55 19.0**	**+0.3**
HOJ	**Hope**	**1.94**	**92**	*i* P	**Pn**	**19 54 56.0**	**-1.0**
GWJ	**Greenwich**	**1.96**	**90**	*i* P	**Pn**	**19 54 56.4**	**-0.9**
YHJ	**Yallahs**	**2.19**	**95**	*i* P	**Pn**	**19 55 00.5**	**+0.1**
TEIG	**Tepich** 20nm,0.3s,baz=105,slow=3.3,SNR=86	**9.22**	**285**	Pn	**Pn**	**19 56 37.7**	**+0.7**
TEIG	6.2nm,0.3s,baz=17,slow=23,SNR=11			Sn	**Sn**	**19 58 17.0**	**-2.5**
TEIG	comp=Z,44nm,20.9s,baz=66,slow=36			LR	LR	19 59 51.4	
CMIG	**Matias Romero** 0.2nm,0.3s,baz=38,slow=17,SNR=2.2	**15.38**	**269**	Pn	**P**	**19 58 08.5**	**+3.3**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=124,slow=13,SNR=3.9	**25.33**	**301**	P	**P**	**19 59 50.6**	**+0.4**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=136,slow=9.5,SNR=4.2	**50.85**	**339**	P	**P**	**20 03 23.4**	**-0.1**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=84,slow=3.1,SNR=8.4	**148.65**	**261**	PKPbc	**PKPab**	**20 14 13.4**	**-1.0**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=81,slow=2.2,SNR=3.4	**149.00**	**254**	PKPbc	**PKPab**	**20 14 13.8**	**-2.0**

IDC 09 20:00:05.5±7.7, 19°.51S×176°.72W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/19, mbtmp3.4/2, Error ellipse: s-maj=353.4km s-min=66.3km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.3nm,0.6s,baz=80,slow=6.2,SNR=6.6	**45.92**	**256**	P	P	20 08 29.6	-0.9
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=96,slow=8.4,SNR=12	**45.94**	**261**	P	P	20 08 31.0	+0.5
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=325,slow=1.8,SNR=4.5	**147.04**	**314**	PKPbc	PKPbc	20 19 49.9	-0.8

IDC 09 20:33:42.5±1.9, 5°.53S×147°.05E, h156km±24km, mb3.3/3, mb1 3.6/5, mb1mx3.2/19, mbtmp3.4/5, Error ellipse: s-maj=47.5km s-min=13.3km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 19nm,0.3s,baz=18,slow=5.4,SNR=50	**3.86**	**178**	P	Pn	20 34 42.2	+1.1
PMG	12nm,0.3s,baz=14,slow=24,SNR=14			S	Sn	20 35 26.6	-0.1
CTA	**Charters Tower** 0.3nm,0.3s,baz=0.7,slow=11,SNR=6.6	**14.50**	**183**	P	P	20 37 04.8	+2.0
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=42,slow=11,SNR=102	**18.93**	**220**	P	P	20 37 52.5	+0.9
WRA	0.0nm,0.3s,baz=41,slow=21,SNR=5.4			S	S	20 41 16.5	-2.1
ASAR	**Alice Springs** 3.2nm,0.4s,baz=47,slow=8.3,SNR=69	**22.04**	**214**	P	P	20 38 25.6	+0.8
ASAR	1.1nm,0.8s,baz=36,slow=23,SNR=8.5			S	S	20 42 19.6	+2.6
FITZ	**Fitzroy Crossi** 1.0nm,0.3s,baz=49,slow=12,SNR=17	**24.36**	**237**	P	P	20 38 46.8	+0.5
SONM	**Songino Array** 0.1nm,0.4s,baz=131,slow=5.2,SNR=2.6	**64.02**	**331**	P	P	20 43 59.4	-0.1
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=56,slow=3.8,SNR=6.2	**145.02**	**285**	PKP	PKPbc	20 52 59.7	-2.3

*IDC **09** 20:42:29.5±2.1, 39°.13N×32°.30E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/25, mbtmp3.4/4, ML3.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/31, Error ellipse: s-maj=25.4km s-min=18.1km az=175.0*
*ISK **09** 20:42:30.3, 39°.05N×32°.35E, h5km, MD3.9, ML3.7*
*CSEM **09** 20:42:32.2±0.1, 39°.03N×32°.33E, h2km, MD3.6, Error ellipse: s-maj=3.0km s-min=2.3km az=4.0*
*DDA **09** 20:42:36.3, 38°.52N×31°.89E, h35km, MD3.6*

ISC 09 20:42:31.4±1.1, 39°.04N±0°.02×32°.33E±0°.02, h5km±9km, n158, σ1§45/180, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZT	**Kizilcal**	**0.39**	**246**	PG	**Pg**	**20 42 38.5**	**-0.4**
KIZT	**Kizilcal**	**0.39**	**246**	*i* Pg	**Pg**	**20 42 38.5**	**-0.4**
KDHN	**Kadinhani**	**0.55**	**198**	*i* P	**Pg**	**20 42 41.2**	**-0.7**
KDHN				*i* S	**Sg**	**20 42 49.4**	**+0.4**
KDHN	**Kadinhani**	**0.55**	**198**	*i* P	**Pg**	**20 42 41.2**	**-0.7**
KDHN				*i* S	**Sg**	**20 42 49.4**	**+0.4**
AFSR	**Af¯ar-Bala (A**	**0.70**	**55**	*e*PG	**Pg**	**20 42 44.2**	**-0.7**
AFSR				*e*SG	**Sg**	**20 42 54.9**	**+0.8**
AFSR	**Af¯ar-Bala (A**	**0.70**	**55**	*e*Pg	**Pg**	**20 42 44.2**	**-0.7**
AFSR				*e*Sg	**Sg**	**20 42 54.9**	**+0.8**
SVRH	**Sivrihisar-ESK**	**0.75**	**303**	*e*PG	**Pg**	**20 42 45.1**	**-0.7**
SVRH				*e*SG	**Sb**	**20 42 57.4**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.75**	**303**	*e*Pg	**Pg**	**20 42 45.1**	**-0.7**
SVRH				*e*Sg	**Sb**	**20 42 57.4**	**-0.1**
LADK	**Ladik-KONYA**	**0.84**	**178**	*e*PG	**Pg**	**20 42 47.8**	**+0.2**
LADK	**Ladik-KONYA**	**0.84**	**178**	*e*Pg	**Pg**	**20 42 47.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.09**	**179**	*e*PN	**Pb**	**20 42 51.5**	**-1.3**
KONT				*e*SN	**Sn**	**20 43 08.6**	**-0.3**
KONT	**Konya--Tatoy**	**1.09**	**179**	*e*Pn	**Pb**	**20 42 51.6**	**-1.3**
KONT				*e*Sn	**Sn**	**20 43 08.6**	**-0.3**
BOLV	**Bolvadin**	**1.12**	**254**	*i* P	**Pb**	**20 42 51.8**	**-1.6**
BOLV				*i* S	**Sn**	**20 43 09.4**	**-0.4**
BOLV	**Bolvadin**	**1.12**	**254**	*i* P	**Pb**	**20 42 51.8**	**-1.6**
BOLV				*i* S	**Sn**	**20 43 09.4**	**-0.4**
BRTR	**Keskin Array B** 82nm,0.3s,baz=230,slow=16,SNR=496	**1.22**	**56**	Pg	**Pn**	**20 42 52.4**	**-2.9**
BRTR	76nm,0.3s,baz=224,slow=27,SNR=20			Lg		20 43 09.1	
ESKT	**Eskisehir**	**1.25**	**293**	*e*PN	**Pn**	**20 42 55.3**	**-0.3**
ESKT	**Eskisehir**	**1.25**	**293**	*e*Pn	**Pn**	**20 42 55.3**	**-0.3**
SULT	**Sultanhani-AKS**	**1.25**	**132**	*e*Pn	**Pn**	**20 42 55.3**	**-0.3**
SULT				*e*SN	**Sn**	**20 43 13.4**	**+0.5**
SULT	**Sultanhani-AKS**	**1.25**	**132**	*e*Pn	**Pn**	**20 42 55.3**	**-0.3**
SULT				*e*Sn	**Sn**	**20 43 13.4**	**+0.5**
SHUT	**Suhut-Afyon**	**1.47**	**251**	*e*PN	**Pn**	**20 42 58.6**	**-0.1**
SHUT				*e*SN	**Sg**	**20 43 20.2**	**+1.4**
SHUT	**Suhut-Afyon**	**1.47**	**251**	*e*Pn	**Pn**	**20 42 58.6**	**-0.1**
SHUT				*e*Sn	**Sg**	**20 43 20.2**	**+1.4**
MDUB	**Mudurnu**	**1.67**	**329**	*e*PN	**Pn**	**20 43 01.8**	**+0.3**
MDUB				*e*SN	**Sb**	**20 43 24.9**	**+0.7**
MDUB	**Mudurnu**	**1.67**	**329**	*e*Pn	**Pn**	**20 43 01.8**	**+0.3**
MDUB				*e*Sn	**Sb**	**20 43 24.9**	**+0.7**
ALT	**Altintas**	**1.73**	**271**	*e*PN	**Pn**	**20 43 02.7**	**+0.5**
ALT				*e*SN	**Sb**	**20 43 26.4**	**+0.7**
ALT	**Altintas**	**1.73**	**271**	*e*Pn	**Pn**	**20 43 02.7**	**+0.5**
ALT				*e*Sn	**Sb**	**20 43 26.5**	**+0.7**
CANT	**Cankiri**	**1.85**	**32**	*e*PN	**Pn**	**20 43 04.3**	**+0.4**
CANT				*e*SN	**Sb**	**20 43 29.0**	**-0.3**
GULT	**Gulveren**	**1.97**	**315**	*e*PN	**Pn**	**20 43 06.2**	**+0.6**
GULT				*e*SN	**Sb**	**20 43 32.3**	**-0.5**
GULT	**Gulveren**	**1.97**	**315**	*e*Pn	**Pn**	**20 43 06.2**	**+0.6**
GULT				*e*Sn	**Sb**	**20 43 32.3**	**-0.5**
GPA	**Golpazari**	**2.00**	**309**	*e*PN	**Pn**	**20 43 06.5**	**+0.6**
GPA	**Golpazari**	**2.00**	**309**	*e*Pn	**Pn**	**20 43 06.5**	**+0.6**
NIG	**Nigde**	**2.01**	**117**	*e*PN	**Pn**	**20 43 06.7**	**+0.4**
NIG	**Nigde**	**2.01**	**117**	*e*Pn	**Pn**	**20 43 06.7**	**+0.4**
BCK	**Bucak**	**2.09**	**222**	*e*PN	**Pn**	**20 43 08.0**	**+0.8**
BCK				*e*SN	**Sb**	**20 43 35.5**	**-0.6**
BCK	**Bucak**	**2.09**	**222**	*e*Pn	**Pn**	**20 43 08.0**	**+0.8**
BCK				*e*Sn	**Sb**	**20 43 35.5**	**-0.6**
CORM	**Corum**	**2.11**	**57**	*e*PN	**Pn**	**20 43 07.0**	**-0.5**
CORM				*e*SN	**Sn**	**20 43 35.1**	**+1.0**
CORM	**Corum**	**2.11**	**57**	*e*Pn	**Pn**	**20 43 07.0**	**-0.5**
CORM				*e*Sn	**Sn**	**20 43 35.1**	**+1.0**
SAFT	**Safranbolu**	**2.21**	**7**	*e*PN	**Pn**	**20 43 09.4**	**+0.6**
SAFT	**Safranbolu**	**2.21**	**7**	*e*Pn	**Pn**	**20 43 09.4**	**+0.6**
CAVI	**Cavuskoy**	**2.24**	**302**	*e*PN	**Pn**	**20 43 10.5**	**+1.3**
CAVI	**Cavuskoy**	**2.24**	**302**	*e*Pn	**Pn**	**20 43 10.5**	**+1.3**
SPNC	**Sapanca-Adapaz**	**2.26**	**317**	*e*PN	**Pn**	**20 43 10.6**	**+1.1**
SPNC	**Sapanca-Adapaz**	**2.26**	**317**	*e*Pn	**Pn**	**20 43 10.6**	**+1.1**
TVSB	**Tavsanli**	**2.27**	**281**	*e*PN	**Pn**	**20 43 10.4**	**+0.8**
TVSB				*e*SN	**Sb**	**20 43 39.7**	**-1.5**
TVSB	**Tavsanli**	**2.27**	**281**	*e*Pn	**Pn**	**20 43 10.4**	**+0.8**
TVSB				*e*Sn	**Sb**	**20 43 39.7**	**-1.5**
KHL	**Karahalli**	**2.31**	**253**	*e*PN	**Pn**	**20 43 11.1**	**+0.9**
KHL	**Karahalli**	**2.31**	**253**	*e*Pn	**Pn**	**20 43 11.1**	**+0.9**
KDZE	**Karadeniz Ereo**	**2.37**	**344**	*e*PN	**Pn**	**20 43 11.8**	**+0.9**
KDZE	**Karadeniz Ereo**	**2.37**	**344**	*e*Pn	**Pn**	**20 43 11.8**	**+0.9**
TOS	**Tosya**	**2.38**	**33**	*e*PN	**Pn**	**20 43 11.8**	**+0.6**
TOS	**Tosya**	**2.38**	**33**	*e*Pn	**Pn**	**20 43 11.8**	**+0.6**
YOZ	**Yozgat**	**2.39**	**75**	*e*PN	**Pn**	**20 43 12.0**	**+0.6**
YOZ	**Yozgat**	**2.39**	**75**	*e*Pn	**Pn**	**20 43 12.0**	**+0.6**
ERMK	**Ermenek**	**2.44**	**169**	*i* P	**Pn**	**20 43 12.5**	**+0.4**
ERMK	**Ermenek**	**2.44**	**169**	*i* P	**Pn**	**20 43 12.5**	**+0.4**
ANTB	**Antalya**	**2.52**	**212**	*e*PN	**Pn**	**20 43 14.0**	**+1.1**
ANTB	**Antalya**	**2.52**	**212**	*e*Pn	**Pn**	**20 43 14.0**	**+1.1**
GULE	**Gulek**	**2.61**	**132**	*i* P	**Pg**	**20 43 22.0**	**+0.6**
HRT	**Hereke**	**2.71**	**312**	*e*PN	**Pn**	**20 43 16.6**	**+0.9**
HRT	**Hereke**	**2.71**	**312**	*e*Pn	**Pn**	**20 43 16.6**	**+0.9**
YLV	**Yalova**	**2.74**	**305**	*e*PN	**Pn**	**20 43 17.5**	**+1.4**
YLV	**Yalova**	**2.74**	**305**	*e*Pn	**Pn**	**20 43 17.5**	**+1.4**
BNN	**Bunyan**	**2.75**	**93**	*e*PN	**Pn**	**20 43 17.1**	**+0.8**
BNN	**Bunyan**	**2.75**	**93**	*e*Pn	**Pn**	**20 43 17.1**	**+0.8**
MERS	**Mersin**	**2.78**	**141**	*e*PN	**Pn**	**20 43 17.8**	**+1.2**
MERS	**Mersin**	**2.78**	**141**	*e*Pn	**Pn**	**20 43 17.8**	**+1.2**
GEMT	**Gemlik**	**2.79**	**301**	*e*PN	**Pn**	**20 43 17.9**	**+1.2**
GEMT	**Gemlik**	**2.79**	**301**	*e*Pn	**Pn**	**20 43 17.9**	**+1.2**
ORLT	**Orhaneli**	**2.84**	**292**	*e*PN	**Pn**	**20 43 19.0**	**+1.6**
ORLT	**Orhaneli**	**2.84**	**292**	*e*Pn	**Pn**	**20 43 19.0**	**+1.6**
DENT	**Denizli**	**2.89**	**245**	*e*PN	**Pn**	**20 43 19.2**	**+1.1**
DENT	**Denizli**	**2.89**	**245**	*e*Pn	**Pn**	**20 43 19.3**	**+1.1**
KULA	**Kula-Manisa**	**2.92**	**261**	*e*PN	**Pn**	**20 43 19.6**	**+1.1**
KULA	**Kula-Manisa**	**2.92**	**261**	*e*Pn	**Pn**	**20 43 19.7**	**+1.1**
DST	**Dursunbey**	**2.93**	**282**	*e*PN	**Pn**	**20 43 20.0**	**+1.3**
DST	**Dursunbey**	**2.93**	**282**	*e*Pn	**Pn**	**20 43 20.0**	**+1.3**
SILT	**Sile**	**2.95**	**317**	*e*PN	**Pn**	**20 43 20.2**	**+1.3**
SILT	**Sile**	**2.95**	**317**	*e*Pn	**Pn**	**20 43 20.2**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.97**	**298**	*e*PN	**Pn**	**20 43 20.5**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.97**	**298**	*e*Pn	**Pn**	**20 43 20.5**	**+1.3**
BYBT	**Boyabat**	**3.06**	**37**	*e*PN	**Pn**	**20 43 21.6**	**+1.3**
BYBT	**Boyabat**	**3.06**	**37**	*e*Pn	**Pn**	**20 43 21.7**	**+1.3**
KOZT	**Kozan**	**3.16**	**118**	*e*PN	**Pn**	**20 43 23.1**	**+1.3**
KOZT	**Kozan**	**3.16**	**118**	*e*Pn	**Pn**	**20 43 23.1**	**+1.3**
BZK	**Bozkurt**	**3.18**	**23**	*e

DAV	Davao City (W)	3.66 339	LR	LR	20 51 13.4		
	comp=Z,311nm,18.4s,baz=104,slow=44						
LBMI	Labuha	4.28 172	P	Pn	20 49 42.8	+3.3	
CTBH	Cotabato--PC H	4.43 324	⇑iP	Pn	20 49 43.7	+2.2	
MRSI	Marisa	5.85 238	P	Pn	20 50 01.5	+0.5	
	44nm,1.3s,674nm0.2nm						
LUWI	Luwuk	6.20 222	P	Pn	20 50 09.7	+3.9	
	80nm,1.1s,809nm0.3nm						
SWI	Sorong	6.25 135	P	Pn	20 50 07.3	+0.8	
	26nm,0.9s,0.1nm						
MYLDM	Lahad Datu	8.50 281	P	Pn	20 50 40.5	+3.2	
KAPI	Kappang	11.16 220	LR	LR	20 56 21.9		
	comp=Z,129nm,18.5s,baz=182,slow=42						
GUMO	Guam	20.33 60	LR	LR	21 00 10.2		
	comp=Z,59nm,18.6s,baz=141,slow=34						
FITZ	Fitzroy Crossi	21.63 183	P	P	20 53 22.8	-0.3	
	1.9nm,0.7s,baz=3.2,slow=8.5,SNR=6.6						
WRA	Warramunga Arr	24.54 163	P	P	20 53 50.3	-1.9	
	5.0nm,0.8s,baz=343,slow=10,SNR=18						
ASAR	Alice Springs	27.98 166	P	P	20 54 22.5	-0.7	
	0.4nm,0.4s,baz=351,slow=7.5,SNR=8.8						
ASAR			LR	LR	21 04 29.7		
	comp=Z,116nm,18.1s,baz=349,slow=34						
CMAR	Chiang Mai Arr	31.05 300	P	P	20 54 49.1	-1.4	
	0.5nm,0.8s,baz=109,slow=7.1,SNR=7.3						
STKA	Stephens Creek	37.98 159	P	P	20 55 48.8	-1.4	
	4.1nm,0.7s,baz=337,slow=9.0,SNR=8.0						
STKA			LR	LR	21 11 42.5		
	comp=Z,87nm,18.3s,baz=349,slow=37						
SONM	Songino Array	47.44 341	P	P	20 57 07.0	+0.2	
	0.6nm,0.5s,baz=164,slow=7.8,SNR=5.6						
SONM			LR	LR	21 18 10.5		
	comp=Z,83nm,18.9s,baz=174,slow=38						
MKAR	Makanchi Array	57.72 325	P	P	20 58 22.9	+0.1	
	1.1nm,0.5s,baz=123,slow=8.4,SNR=12						
ZALV	Zalesovo Beam	60.75 333	P	P	20 58 42.7	-0.7	
	0.4nm,0.4s,baz=123,slow=7.4,SNR=3.3						
BVAR	Borovoye Array	67.49 327	P	P	20 59 28.5	+0.8	
	1.1nm,0.8s,baz=133,slow=6.5,SNR=6.4						
AKTO	Aktyubinsk	73.83 322	P	P	21 00 05.5	-0.9	
	1.1nm,0.7s,baz=91,slow=8.4,SNR=3.9						

*IDC **09** 20:54:01.9±0.9, 7°.53S×130°.65E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, ML4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=72.9km s-min=17.4km az=61.0*

*ISCJB **09** 20:54:03.0±0.6, 7°.11S±0°.05×131°.82E±0°.07, h33km, mb3.7/7, MS3.5/1, Error ellipse: s-maj=10.1km s-min=7.3km az=167.5*

*AUST **09** 20:54:03.2, 6°.97S×131°.55E, h0km*

*DJA **09** 20:54:04.8±0.5, 7°.5±.5°×13°.2E±°, h95km±32km, M4.4/7, mB5.1/3, mb4.7/7, MLv4.3/4, Mw(mB)4.4/3*

ISC 09 20:54:04.2±0.7, 7°.23S±0°.06×132°.01E±0°.07, h35km, n31, σ2s02/23, mb3.8/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	Tual	1.74	25	P	Pn	20 54 29.3	-2.6
	baz=1.8,SNR=94						
TLE				S	Sn	20 55 00.4	+7.5
	baz=1.8,SNR=8.0						
TLE	Tual	1.74	25	P	Pn	20 54 29.0	-2.9
FAKI	Fak Fak	4.28	3	P	Pn	20 55 02.7	-4.3
MSAI	Masohi	4.92	321	P	Pn	20 55 15.3	-0.5
AAI	Ambon	5.17	313	P	Pn	20 55 18.6	-0.6
	baz=4.7,SNR=6.5						
AAI	Ambon	5.17	313	P	Pn	20 55 18.6	-0.6
	70nm,0.5s						
KDU	Kakadu	5.45	175	P	Pn	20 55 27.4	+4.4
	baz=5.8,SNR=77						
MTN	Manton Dam	5.65	189	P	Pn	20 55 30.7	+4.9
	baz=5.9,SNR=56						
SWI	Sorong	6.36	353	P	Pn	20 55 31.5	-4.1
	baz=6.1,SNR=13						
SWI				S	Sn	20 56 36.7	-10
	baz=6.1,SNR=7.6						
SWI	Sorong	6.36	353	P	Pn	20 55 31.3	-4.3
	47nm,0.6s,2µm						
LBMI	Labuha	7.94	325	P	Pn	20 55 55.5	-1.7
	53nm,0.6s,979nm						
KDI	Kendari	9.89	289	P	Pn	20 56 28.4	+4.4
	17nm,0.9s						
WSI	Waingapu	11.84	257	S	Sn	20 58 58.9	-2.7
	baz=12,SNR=3.2						
FITZ	Fitzroy Crossi	12.46	209	Pn	Pn	20 57 00.7	+1.5
	0.7nm,0.3s,baz=48,slow=10,SNR=25						
FITZ				Sn	Sn	20 59 13.9	-3.1
	3.1nm,0.3s,baz=172,slow=13,SNR=6.7						
FITZ	Fitzroy Crossi	12.46	209	P	Pn	20 57 00.7	+1.5
	baz=12,SNR=19						
WRA	Warramunga Arr	12.84	170	Pn	Pn	20 57 04.7	+0.2
	0.9nm,0.3s,baz=356,slow=14,SNR=26						
WRA				Sn	Sn	20 59 26.6	+0.3
	1.8nm,0.3s,baz=356,slow=23,SNR=7.0						
COEN	Coen	12.85	122	P	Pn	20 57 06.2	+1.7
	baz=13,SNR=14						
QIS	Mount Isa	15.16	152	P	P	20 57 46.2	+5.6
	baz=16,SNR=5.6						
QIS				S	Sn	21 00 19.5	-3.3
	baz=16,SNR=4.5						
ASAR	Alice Springs	16.45	174	Pn	Pn	20 57 52.7	+0.2
	1.3nm,0.3s,baz=9.9,slow=14,SNR=53						
ASAR				Sn	Sn	21 00 51.4	-2.7
	0.7nm,0.3s,baz=354,slow=24,SNR=5.6						
CTA	Charters Tower	18.82	134	P	Pn	20 58 33.9	+12
	0.4nm,0.3s,baz=323,slow=12,SNR=3.7						
QLP	Quilpie	22.49	150	P	P	20 59 12.2	+11
	baz=23,SNR=5.4						
MEEK	Meekatharra	23.13	212	P	P	20 59 15.1	+7.6
	baz=23,SNR=3.6						
STKA	Stephens Creek	26.11	161	P	P	20 59 38.9	+4.0
	0.7nm,0.4s,baz=336,slow=18,SNR=2.6						
YNG	Young	30.90	153	S	S	21 05 18.4	-1.2
	baz=31,SNR=6.2						
PSI	Prapat	34.48	286	LR	LR	21 14 20.5	
	comp=Z,85nm,18.4s,baz=111,slow=37						
CMAR	Chiang Mai Arr	41.41	308	P	P	21 01 44.3	-3.4
	0.5nm,0.6s,baz=132,slow=6.7,SNR=8.1						
SONM	Songino Array	59.30	340	P	P	21 04 04.1	+1.5
	0.7nm,1.0s,baz=153,slow=3.5,SNR=4.1						
MKAR	Makanchi Array	69.51	326	P	P	21 05 10.0	+0.6
	1.2nm,0.6s,baz=119,slow=7.5,SNR=12						
AAK	Ala-Archa	72.00	319	P	P	21 05 24.4	-0.4
	1.2nm,1.1s,baz=127,slow=5.1,SNR=3.1						
ZALV	Zalesovo Beam	72.67	333	P	P	21 05 28.3	0.0
	0.5nm,0.4s,baz=132,slow=5.5,SNR=4.5						
BVAR	Borovoye Array	79.32	327	P	P	21 06 06.4	+0.2
	0.4nm,0.6s,baz=116,slow=10,SNR=4.2						

IDC 09 21:10:23.4±1.8, 2°.83N×125°.48E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=124.9km s-min=23.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.80	180	P	Pn	21 15 07.8	-1.1
	0.6nm,0.7s,baz=14,slow=12,SNR=3.7						
WRA	Warramunga Arr	24.25	159	P	P	21 15 41.5	-0.9
	1.0nm,0.6s,baz=335,slow=11,SNR=10						
ASAR	Alice Springs	27.59	163	P	P	21 16 13.0	+0.4
	0.1nm,0.5s,baz=346,slow=7.2,SNR=3.0						
MKAR	Makanchi Array	57.59	326	P	P	21 20 14.8	-0.4
	0.1nm,0.3s,baz=116,slow=8.7,SNR=2.1						

*ISK **09** 21:43:27.8, 38°.70N×40°.14E, h2km, MD2.9*

*DDA **09** 21:43:27.9, 38°.63N×40°.20E, h9km, ML3.1*

*ISCJB **09** 21:43:28.0±0.6, 38°.64N±0°.02×40°.21E±0°.03, h5km±4km, Error ellipse: s-maj=4.2km s-min=3.9km az=19.7*

*CSEM **09** 21:43:29.5±0.3, 38°.59N×40°.19E, h15km, MD2.9, Error ellipse: s-maj=6.7km s-min=6.1km az=158.0*

ISC 09 21:43:28.1±1.1, 38°.64N±0°.02×40°.21E±0°.02, h12km±10km, n22, σ0s45/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	Bingol	0.32	42	ePg	Pn	21 43 38.2	-0.6
BNGB	Bing¶ll	0.51	46	ePG	Pg	21 43 38.2	0.0
BNGB				eSG	Sb	21 43 46.8	+0.3
DIYA	Diyarbakir	0.72	186	eP	Pb	21 43 42.6	0.0
DIYA				eS	Sb	21 43 51.9	-0.5
DIYA	Diyarbakir	0.72	186	eP	Pb	21 43 42.6	0.0
DIYA				eS	Sb	21 43 51.9	-0.5
SVRC	Sivrice-ELAZID	0.75	250	ePG	Pg	21 43 42.6	-0.1
SVRC				eSG	Sb	21 43 53.8	+0.2
SVRC	Sivrice-ELAZID	0.75	250	ePg	Pg	21 43 42.6	-0.1
SVRC				eSg	Sb	21 43 53.8	+0.2
BNGL	BINGOL	0.80	67	eP	Pg	21 43 43.8	+0.2
BNGL				eS	Sb	21 43 55.7	+0.8
ERZN	Erzincan	1.02	338	ePG	Pb	21 43 46.7	-1.1
ERZN				eSG	Sg	21 44 00.3	-0.9
BTMT	Batman	1.10	113	ePN	Pg	21 43 49.6	+0.3
BTMT				eSN	Sn	21 44 04.8	+0.2
BTMT	Batman	1.10	113	ePn	Pg	21 43 49.6	+0.3
BTMT				eSn	Sn	21 44 04.8	+0.2
BEST	Besiri	1.12	131	eP	Pb	21 43 49.1	-0.4
BEST				eS	Sb	21 44 03.4	-0.6
MARD	Mardin	1.40	161	eP	Pn	21 43 53.6	+0.1
MARD				eS	Sb	21 44 12.1	+0.1
MYA	Malataya	1.44	258	ePN	Pb	21 43 55.0	+0.2
MYA				eSN	Sg	21 44 14.6	+0.3
MYA	Malataya	1.44	258	ePn	Pb	21 43 55.0	+0.2
MYA				eSn	Sg	21 44 14.6	+0.3
MALT	Malatya	1.44	258	ePN	Pb	21 43 54.8	-0.1
MALT				eSN	Sg	21 44 15.2	+0.8
MALT	Malatya	1.44	258	ePn	Pb	21 43 54.8	-0.1
MALT				eSn	Sg	21 44 15.2	+0.8
ILIC	ilic-Erzincan	1.52	303	ePN	Pn	21 43 55.3	+0.1
ILIC				eSN	Sb	21 44 15.9	+0.4
ILIC	ilic-Erzincan	1.52	303	ePn	Pn	21 43 55.3	+0.1
ILIC				eSn	Sb	21 44 15.9	+0.4
URFA	Urfa	1.62	223	ePN	Pg	21 43 58.5	-0.7
URFA	Urfa	1.62	223	ePn	Pg	21 43 58.5	-0.7
KELT	Kelkit	1.68	334	eP	Pb	21 43 59.2	+0.1
KELT				eS	Sb	21 44 20.5	+0.1
KELT	Kelkit	1.68	334	eP	Pb	21 43 59.2	+0.1
KELT				eS	Sb	21 44 20.5	+0.1

*CRAAG **09** 22:42:08.2, 36°.44N×3°.77E, Ml2.7*

*ISCJB **09** 22:42:09.0±0.8, 36°.49N±0°.05×3°.83E±0°.07, h16km, Error ellipse: s-maj=8.3km s-min=6.5km az=165.6*

*CSEM **09** 22:42:09.9±0.5, 36°.33N×3°.86E, h20km, mb3.5/5, Error ellipse: s-maj=13.5km s-min=11.9km az=23.0*

*MDD **09** 22:42:10.3±1.0, 36°.42N×3°.85E, h12km±12km, mb3.5/5, Error ellipse: s-maj=11.1km s-min=6.7km az=36.0, PRXIMO*

ISC 09 22:42:08.9±1.0, 36°.43N±0°.04×3°.88E±0°.04, h16km, n25, σ1s54/31, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	Djebel Ketaf	0.39	179	P	Pg	22 42 18.2	+1.4
AKET	Djebel Ketaf	0.39	179	P	Pg	22 42 18.2	+1.4
AKET	Djebel Ketaf	0.39	179	P	Pg	22 42 18.2	+1.4
ADJB	Djebel Djouab	0.45	232	P	Pb	22 42 18.3	-0.2
ADJB	Djebel Djouab	0.45	232	P	Pb	22 42 18.3	-0.2
ADJB	Djebel Djouab	0.45	232	P	Pb	22 42 18.3	-0.2
ABA	Alger-Bouzarea	0.77	299	P	Pg	22 42 23.4	-0.5
ABA	Alger-Bouzarea	0.77	299	P	Pg	22 42 23.4	-0.5
ABA	Alger-Bouzarea	0.77	299	P	Pg	22 42 23.4	-0.5
EMHD	Djebel Mahouad	0.78	253	P	Pg	22 42 23.6	-0.5
EMHD	Djebel Mahouad	0.78	253	P	Pg	22 42 23.6	-0.5
EMHD	Djebel Mahouad	0.78	253	P	Pg	22 42 23.6	-0.5
SET	Setif	1.25	100	P	Pn	22 42 31.0	-0.9
SET	Setif	1.25	100	P	Pn	22 42 31.0	-0.9
SET	Setif	1.25	100	P	Pn	22 42 31.0	-0.9
OKGL	Djebel Kef Gue	2.64	262	P	Pn	22 42 51.5	+0.6
	0.9nm,0.1s,SNR=7.9						
OKGL				S	Sn	22 43 21.0	-1.6
	4.8nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	2.64	262	P	Pn	22 42 51.5	+0.6
	0.9nm,0.1s,SNR=7.9						
OKGL				S	Sn	22 43 21.0	-1.6
	4.8nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.27	323	P	Pn	22 43 02.0	+2.4
	1.2nm,0.1s,SNR=7.9						
EIBI				S	Sn	22 43 36.3	-1.9
	0.8nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.27	323	P	Pn	22 43 02.0	+2.4
	1.2nm,0.1s,SNR=7.9						
EIBI				S	Sn	22 43 36.3	-1.9
	0.8nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.43	346	P	Pn	22 43 04.5	+2.8
	0.3nm,0.1s,SNR=7.9						
ETOS				S	Sn	22 43 40.7	-1.4
	0.5nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.43	346	P	Pn	22 43 04.5	+2.8
	0.3nm,0.1s,SNR=7.9						
ETOS				S	Sn	22 43 40.7	-1.4
	0.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.84	299	P	Pn	22 43 22.8	+1.6
	0.6nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.84	299	P	Pn	22 43 22.8	+1.6
	0.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.20	320	P	Pn	22 43 28.1	+1.9
	0.4nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.20	320	P	Pn	22 43 28.1	+1.9
	0.4nm,0.1s,SNR=7.9						

*ISCJB **09** 22:48:13.6±0.4, 23°.11S±0°.04×68°.58W±0°.05, h101km±2km, mb4.0/15, Error ellipse: s-maj=7.3km s-min=6.2km az=155.4*

*NEIC **09** 22:48:14.3, 23°.10S×68°.73W, h95km, mb4.2/10, After GUC.*

*GUC **09** 22:48:14.3±0.7, 23°.10S×68°.73W, h95km±4km, ML4.8*

*IDC **09** 22:48:15.3±0.5, 23°.00S×68°.53W, h101km±4km, mb3.8/13, mb1 4.0/16, mb1mx3.9/21, mbtmp3.8/16, Error ellipse: s-maj=16.3km s-min=14.1km az=80.0*

ISC 09 22:48:15.0±0.4, 23°.09S±0°.05×68°.63W±0°.04, h101km±3km, h100km:pP-P, n178, σ0s94/209, mb4.1/15, 63C-56D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	San Pedro de A	0.44	65	⇓iP	Pn	22 48 30.6	-0.2
SPCH				i S	Sn	22 48 42.7	+0.1
SPCH	San Pedro de A	0.44	65	⇓iP	Pn	22 48 30.6	-0.2
SPCH				i S	Sn	22 48 42.7	+0.1
SPCH				AML	AML	22 48 43.2	
	comp=E,229µm,0.3s						
LVC	Limon Verde	0.54	332	eP	Pn	22 48 35.0	+3.6
LVC				i S	Sn	22 48 47.6	+3.8
LVC	Limon Verde	0.54	332	eP	Pn	22 48 35.0	+3.6
LVC				i S	Sn	22 48 47.6	+3.8
PB04	Plate Boundary	1.14	316	⇑iP	Pn	22 48 41.3	+4.3
PB04				i S	Sn	22 49 02.1	+8.5
PB04				AML	AML	22 49 05.8	
	comp=N,17µm,0.4s						
MACH	Maria Elena	1.37	311	⇑iP	Pn	22 48 38.9	-1.0
MACH				i S	Sn	22 48 57.3	-1.5
MACH	Maria Elena	1.37	311	⇑iP	Pn	22 48 38.9	-1.0
MACH				i S	Sn	22 48 57.3	-1.5
PB09	Plate Boundary	1.41	336	⇓iP	Pn	22 48 40.0	-0.4
PB09				i S	Sn	22 48 59.0	-0.5
PB09				AML	AML	22 49 00.6	
	comp=N,21µm,0.5s						
CEN1	Los Morros	1.47	258	⇓iP	Pn	22 48 41.5	+0.5
CEN1				i S	Sn	22 49 02.2	+1.4
CEN1				AML	AML	22 49 06.4	
	comp=N,7µm,0.8s						
MECH	Mejillones	1.67	269	eP	Pn	22 48 42.1	-1.3
MECH	Mejillones	1.67	269	eP	Pn	22 48 42.1	-1.3
MECH				AML	AML	22 49 11.6	
	comp=E,10µm,0.7s						
ANCH	Antofagasta	1.73	250	⇑iP	Pn	22 48 43.6	-0.6
ANCH				i S	Sn	22 49 05.0	-1.4
ANCH	Antofagasta	1.73	250	⇑iP	Pn	22 48 43.6	-0.6
ANCH				i S	Sn	22 49 05.0	-1.4
PB07	Plate Boundary	1.79	319	⇓iP	Pn	22 48 43.9	-1.1
PB07				AML	AML	22 49 09.5	
	comp=N,9µm,0.7s						
PB01	Plate Boundary	2.19	339	⇑iP	Pn	22 48 49.0	-1.1
PB01				i S	Sn	22 49 16.0	-1.0
PB01				AML	AML	22 49 18.0	
	comp=E,5µm,0.6s						
LPAZ	La Paz	6.79	4	P	Pn	22 49 52.4	-0.2
	comp=E,1.4nm,0.3s,baz=193,slow=5.9,SNR=27						
LPAZ	La Paz	6.79	4	P	Pn	22 49 52.4	-0.2
CFAA	Coronel Fontan	8.48	178	P	Pn	22 50 13.0	-2.1
	comp=E,1.0nm,0.3s,baz=357,slow=13,SNR=18						
CFAA	Coronel Fontan	8.48	178	P	Pn	22 50 13.0	-2.1
SIV	San Ignacio	10.03	47	P	Pn	22 50 33.2	-3.1
	comp=E,33nm,0.3s,baz=253,slow=10,SNR=325						
SIV	San Ignacio	10.03	47	P	Pn	22 50 33.2	-3.1
CPUP	Villa Florida	10.77	110	P	Pn	22 50 45.0	-1.1
	comp=E,1.0nm,0.3s,baz=268,slow=11,SNR=18						
CPUP	Villa Florida	10.77	110	P	Pn	22 50 45.0	-1.1
TRQA	Tornquist	15.97	161	ePn	Pn	22 51 52.8	-1.0
	comp=E,23nm,0.9s						
PLCA	Paso Flores	17.66	185	P	Pn	22 52 14.4	-0.1
	comp=E,0.5nm,0.3s,baz=2.1,slow=10,SNR=12						
PLCA				PcP	PcP	22 56 49.3	+1.6
	comp=E,0.1nm,0.3s,baz=59,slow=1.4,SNR=3.9						
PLCA	Paso Flores	17.66	185	eP	P	22 52 13.5	-0.6
	comp=E,3.1nm,0.5s						
PLCA				PcP	PcP	22 56 49.3	+1.6
BDFB	Brasilia	20.80	73	P	P	22 52 46.4	-2.0
	comp=E,6.5nm,0.6s,baz=239,slow=13,SNR=14						
BDFB	Brasilia	20.80	73	P	P	22 52 46.4	-2.0
BCIP	Isla Barro Col	33.89	340	eP	P	22 54 46.1	-2.2
	comp=E,7.5nm,0.6s						
TXAR	Lajitas Array	62.08	325	P	P	22 58 25.4	+0.1
	comp=E,0.2nm,0.4s,baz=221,slow=42,SNR=2.4						
TXAR				PcP	PcP	22 59 03.4	-1.3
	comp=E,0.4nm,0.6s,baz=148,slow=7.4,SNR=3.4						
TXAR	Lajitas Array	62.08	325	P	P	22 58 25.4	+0.1
TXAR				PcP	PcP	22 59 03.4	-1.3
626A	Big Bend Ranch	62.50	325	⇓P	P	22 58 29.1	+1.0
	baz=63						
328A	Wristen Ranch,	63.29	327	⇓P	P	22 58 33.4	+0.2
	baz=64						
426A	McDonald Obser	63.33	326	⇓P	P	22 58 33.8	0.0
	baz=64						
WMOK	Wichita Mounta	64.25	333	eP	P	22 58 39.2	-0.1
	comp=E,1.3nm,0.5s						
325A	Bean Ranch, Si	64.38	326	⇑P	P	22 58 40.7	+0.1
	baz=65						
Y23A	Lovelace Mesa,	66.96	327	⇓P	P	22 58 58.0	+0.9
	baz=67						
QSPA	South Pole Qui	67.11	180	P	P	22 58 58.6	+1.1
	comp=E,8.8nm,0.5s,baz=170,slow=1.1,SNR=57						
QSPA				pP	PcP	22 59 25.5	+0.5
	comp=E,3.4nm,0.5s,baz=84,slow=0.7,SNR=2.9						
QSPA	South Pole Qui	67.11	180	eP	P	22 58 58.6	+1.1
	comp=E,5.2nm,0.5s						
QSPA				ePcP	PcP	22 59 25.3	+0.4
QSPA				pP	PcP	22 59 25.5	+0.5
ANMO	Albuquerque	67.97	327	P	P	22 59 04.1	+0.7
	comp=E,1.7nm,0.7s,baz=124,slow=8.1,SNR=4.3						
ANMO	Albuquerque	67.97	327	eP	P	22 59 03.7	+0.3
	comp=E,2.7nm,1.0s						
V24A	Rampart Ranch,	68.01	328	⇓P	P	22 59 04.2	+0.5
	baz=68						
U25A	Circle Dot Ran	68.14	329	⇓P	P	22 59 05.0	+0.5
	baz=68						
S26A	Kim	68.71	331	⇑P	P	22 59 08.5	+0.6
	baz=69						
DBIC	Dimbokro	68.95	73	P	P	22 59 10.9	+1.2
	comp=E,1.2nm,0.4s,baz=192,slow=8.5,SNR=6.3						
DBIC				pP	pP	22 59 35.1	0.0
	comp=E,5.1nm,0.8s,baz=223,slow=8.3,SNR=4.4						
DBIC	Dimbokro	68.95	73	eP	P	22 59 10.0	+0.3
	comp=E,1.6nm,0.4s						
DBIC				pP	pP	22 59 35.1	0.0
S24A	Houchin Ranch,	69.53	330	⇓P	P	22 59 14.0	+0.8
	baz=70						
Q24A	Divide	70.57	331	⇑P	P	22 59 20.0	+0.5
	baz=71						
P25A	Willow Gulch B	70.58	332	⇑P	P	22 59 20.1	+0.7
	baz=71						
ISCO	Idaho Springs	71.46	331	⇑P	P	22 59 25.0	+0.2
	baz=72						
S18A	Hurst Farm, Bl	71.89	327	⇑P	P	22 59 28.7	+1.2
	baz=72						
O23A	Lake Granby, G	71.93	331	⇑P	P	22 59 28.7	+1.0
	baz=72						
O22A	Kremmling	72.17	330	⇑P	P	22 59 29.9	+0.8
	baz=72						
L26A	Underwood Farm	72.21	334	⇑P	P	22 59 30.1	+1.0
	baz=72						
M24A	Cheyenne	72.47	332	⇓P	P	22 59 31.7	+1.0
	baz=73						
N22A	Wattenberg Ran	72.64	331	⇑P	P	22 59 32.8	+0.9
	baz=73						
R17A	Hanksville Air	72.81	327	⇓P	P	22 59 34.0	+1.2
	baz=73						
GMRC	Granite Mounta	72.83	321	⇑P	P	22 59 34.5	+1.6
	baz=73						
M23A	Laramie	72.86	332	⇓P	P	22 59 33.8	+0.7
	baz=73						
M22A	Cedar Creek Ra	73.19	331	⇓P	P	22 59 35.8	+0.7
	baz=73						
K23A	Bowen Ranch, D	73.87	333	⇑P	P	22 59 39.7	+0.8
	baz=74						
N19A	John Jarvie Ra	73.97	329	⇓P	P	22 59 40.6	+1.0
	baz=74						
L21A	Rawlins	73.99	331	⇑P	P	22 59 40.4	+0.7
	baz=74						
O17A	Robinson Place	74.18	328	⇑P	P	22 59 42.2	+1.3
	baz=74						
R13A	O'Grain Ranch,	74.33	324	⇓P	P	22 59 43.5	+1.7
	baz=74						
K21A	Alcova	74.47	331	⇑P	P	22 59 43.2	+0.8
	baz=75						
J22A	Midwest	74.76	332	⇓P	P	22 59 44.9	+0.8
	baz=75						
N17A	Moffit Pass	74.80	328	⇑P	P	22 59 45.3	+0.8
	baz=75						
H24A	Dirks Ranch, A	75.06	334	⇓P	P	22 59 45.8	+0.1
	baz=75						
VNDA	Vanda	75.33	190	P	P	22 59 47.3	+0.6
	comp=E,1.5nm,0.8s,baz=132,slow=6.3,SNR=3.0						
VNDA	Vanda	75.33	190	eP	P	22 59 46.6	-0.1
	comp=E,1.7nm,0.9s						
K19A	Absolon Red Bu	75.33	331	⇓P	P	22 59 47.6	+0.2
	baz=76						
J20A	Shoshoni	75.41	331	⇑P	P	22 59 48.1	+0.3
	baz=76						
I21A	Big Trails, Te	75.44	332

	baz=78							
J15A	**Blackfoot**	**77.44**	**329**	⇑P		**P**	**23 00 00.2**	**+1.0**
	baz=78							
G18A	**Lazy EL Ranch,**	**77.62**	**332**	⇓P		**P**	**23 00 00.7**	**+0.5**
	baz=78							
TOA0	**Torodi Ar. Sit**	**77.66**	**70**	*eP*		**P**	**23 00 00.1**	**-0.8**
TOA0				*epP*		**pP**	**23 00 26.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.66**	**70**	P		**P**	**23 00 00.3**	**-0.6**
	comp=E,2.8nm,0.5s,baz=254,slow=5.4,SNR=50							
TORD				pP		**pP**	**23 00 26.4**	**-0.3**
	comp=E,7.0nm,0.7s,baz=251,slow=5.4,SNR=9.8							
TORD	**Torodi Ar. Bea**	**77.66**	**70**	P		**P**	**23 00 00.3**	**-0.6**
TORD				pP		**pP**	**23 00 26.4**	**-0.3**
D22A	**Cohagen**	**77.69**	**335**	⇓P		**P**	**23 00 01.2**	**+0.7**
	baz=78							
F19A	**Roth Farm, Mol**	**77.77**	**332**	⇓P		**P**	**23 00 01.1**	**+0.1**
	baz=78							
H16A	**Russell Place,**	**77.89**	**330**	⇑P		**P**	**23 00 02.4**	**+0.6**
	baz=78							
D21A	**La Casta Ranch**	**77.94**	**334**	⇑P		**P**	**23 00 02.4**	**+0.6**
	baz=78							
E20A	**Meyer Farm, Mu**	**77.95**	**333**	⇓P		**P**	**23 00 02.6**	**+0.7**
	baz=78							
DGMT	**Dagmar**	**78.03**	**337**	⇓P		**P**	**23 00 02.6**	**+0.3**
	baz=78							
F18A	**Big Timber**	**78.14**	**332**	⇓P		**P**	**23 00 03.3**	**+0.2**
	baz=78							
E19A	**Rath Farm, Rou**	**78.19**	**333**	⇓P		**P**	**23 00 03.5**	**+0.2**
	baz=78							
A24A	**Westby**	**78.34**	**337**	⇑P		**P**	**23 00 04.3**	**+0.3**
	baz=79							
HLID	**Hailey**	**78.52**	**328**	⇑P		**P**	**23 00 06.4**	**+1.1**
	baz=79							
G16A	**Moss Hill, Enn**	**78.55**	**330**	⇓P		**P**	**23 00 06.3**	**+1.0**
	baz=79							
F17A	**Fitzpatrick Pl**	**78.56**	**332**	⇑P		**P**	**23 00 06.2**	**+0.9**
	baz=79							
C21A	**Desert Coulee**	**78.60**	**335**	⇓P		**P**	**23 00 05.8**	**+0.3**
	baz=79							
I13A	**Wildhorse Cree**	**78.64**	**328**	⇓P		**P**	**23 00 06.8**	**+0.8**
	baz=79							
A23A	**Redstone**	**78.69**	**337**	⇑P		**P**	**23 00 06.6**	**+0.7**
	baz=79							
E18A	**Harlowton**	**78.75**	**332**	⇑P		**P**	**23 00 06.8**	**+0.4**
	baz=79							
D19A	**Cripps Ranch,**	**78.79**	**333**	⇓P		**P**	**23 00 06.8**	**+0.3**
	baz=79							
G15A	**Dillon**	**78.81**	**330**	⇑P		**P**	**23 00 07.5**	**+0.7**
	baz=79							
E17A	**Martinsdale**	**79.08**	**332**	⇑P		**P**	**23 00 08.6**	**+0.3**
	baz=79							
A22A	**Carney Farms,**	**79.10**	**336**	⇑P		**P**	**23 00 07.9**	**-0.3**
	baz=79							
H13A	**Challis**	**79.19**	**329**	⇓P		**P**	**23 00 09.7**	**+0.9**
	baz=79							
C19A	**Slack Wire Ran**	**79.31**	**334**	⇑P		**P**	**23 00 09.2**	**-0.1**
	baz=80							
F15A	**Butte**	**79.33**	**330**	⇓P		**P**	**23 00 10.3**	**+0.7**
	baz=80							
B20A	**Solberg Farm,**	**79.46**	**335**	⇑P		**P**	**23 00 10.4**	**+0.2**
	baz=80							
H12A	**Diamond D Ranc**	**79.47**	**328**	⇑P		**P**	**23 00 11.0**	**+0.6**
	baz=80							
A21A	**Bergtoll Ranch**	**79.48**	**335**	⇓P		**P**	**23 00 10.1**	**-0.1**
	baz=80							
D17A	**Six Diamond Ra**	**79.54**	**332**	⇓P		**P**	**23 00 11.0**	**+0.3**
	baz=80							
G13A	**Cobalt**	**79.57**	**329**	⇓P		**P**	**23 00 11.6**	**+0.7**
	baz=80,SNR=5.2							
F14A	**Wisdom**	**79.70**	**330**	⇓P		**P**	**23 00 12.3**	**+0.7**
	baz=80							
A20A	**Cobblestone Ra**	**79.78**	**335**	⇓P		**P**	**23 00 12.4**	**+0.5**
	baz=80							
D16A	**Dana Ranch, Ca**	**79.82**	**332**	⇓P		**P**	**23 00 12.9**	**+0.8**
	baz=80							
E15A	**Deer Lodge**	**79.84**	**331**	⇓P		**P**	**23 00 12.7**	**+0.4**
	baz=80							
C17A	**Wharram Farm,**	**79.94**	**333**	⇑P		**P**	**23 00 13.1**	**+0.3**
	baz=80							
B18A	**Beardsley Farm**	**80.13**	**334**	⇑P		**P**	**23 00 14.2**	**+0.4**
	baz=80							
F13A	**Darby**	**80.13**	**329**	⇑P		**P**	**23 00 14.3**	**+0.4**
	baz=80,SNR=5.2							
A19A	**Klindworth Far**	**80.14**	**334**	⇓P		**P**	**23 00 13.8**	**0.0**
	baz=80							
D15A	**Lincoln**	**80.25**	**331**	⇑P		**P**	**23 00 15.2**	**+0.7**
	baz=80							
C16A	**Fuhringer Ranc**	**80.50**	**332**	⇓P		**P**	**23 00 16.1**	**+0.3**
	baz=81							
E13A	**Victor**	**80.55**	**330**	⇑P		**P**	**23 00 16.8**	**+0.6**
	baz=81							
A18A	**Metzger Ranch,**	**80.57**	**334**	⇑P		**P**	**23 00 16.2**	**+0.1**
	baz=81							
C15A	**Salmond Ranch,**	**80.85**	**332**	⇓P		**P**	**23 00 18.3**	**+0.6**
	baz=81,SNR=6.2							
A17A	**Triple J Farms**	**80.94**	**333**	⇑P		**P**	**23 00 17.9**	**-0.2**
	baz=81							
D13A	**Huson**	**81.16**	**330**	⇓P		**P**	**23 00 19.7**	**+0.4**
	baz=81							
E12A	**Beaver Dam Sad**	**81.18**	**329**	⇑P		**P**	**23 00 19.7**	**+0.2**
	baz=81							
B15A	**Bradely Ranch,**	**81.24**	**332**	⇓P		**P**	**23 00 19.8**	**0.0**
	baz=82							
B14A	**Marquette Ranc**	**81.58**	**332**	⇑P		**P**	**23 00 21.8**	**+0.2**
	baz=82							
C13A	**Hot Springs**	**81.65**	**331**	⇓P		**P**	**23 00 22.0**	**+0.2**
	baz=82							
C12B	**Naegeli Ranch,**	**82.08**	**330**	⇑P		**P**	**23 00 24.7**	**+0.6**
	baz=82							
A14A	**Double T Ranch**	**82.11**	**332**	⇓P		**P**	**23 00 24.5**	**+0.1**
	baz=82							
B13A	**Whitefish**	**82.12**	**331**	⇑P		**P**	**23 00 24.5**	**+0.2**
	baz=82							
BOSA	**Boshof**	**82.48**	**118**	P		**P**	**23 00 26.7**	**-0.2**
	comp=E,3.1nm,0.7s,baz=168,slow=2.4,SNR=6.0							
BOSA	**Boshof**	**82.48**	**118**	*eP*		**P**	**23 00 26.4**	**-0.4**
	comp=E,4.1nm,0.8s							
B12A	**Libby**	**82.69**	**331**	⇓P		**P**	**23 00 27.8**	**+0.6**
	baz=83							
A12A	**Yaak River Ran**	**83.06**	**331**	⇑P		**P**	**23 00 29.5**	**+0.3**
	baz=83							
ESDC	**Sonseca Array**	**86.79**	**44**	P		**P**	**23 00 49.2**	**+1.1**
	comp=E,0.2nm,0.3s,baz=6.9,slow=38,SNR=1.4							
ESDC				pP		**pP**	**23 01 15.6**	**+1.1**
	comp=E,0.4nm,0.6s,baz=234,slow=5.0,SNR=2.4							
ESDC	**Sonseca Array**	**86.79**	**44**	P		**P**	**23 00 49.2**	**+1.1**
ESDC				pP		**pP**	**23 01 15.6**	**+1.1**
YKA	**Yellowknife Ar**	**92.77**	**340**	P		**P**	**23 01 15.0**	**-0.4**
	comp=E,1.5nm,0.7s,baz=137,slow=4.7,SNR=29							
YKA				pP		**pP**	**23 01 41.6**	**-0.4**
	comp=E,1.5nm,0.7s,baz=139,slow=4.5,SNR=9.1							
YKA	**Yellowknife Ar**	**92.77**	**340**	P		**P**	**23 01 15.0**	**-0.4**
YKA				pP		**pP**	**23 01 41.6**	**-0.4**
ASAR	**Alice Springs**	**128.62**	**207**	PKP		**PKPdf**	**23 07 10.8**	**-0.2**
	comp=E,1.1nm,0.6s,baz=154,slow=1.8,SNR=14							
ASAR				pPKP		**pPKPdf**	**23 07 38.9**	**+0.2**
	comp=E,1.6nm,0.8s,baz=168,slow=2.5,SNR=7.2							
ASAR	**Alice Springs**	**128.62**	**207**	PKP		**PKPdf**	**23 07 10.8**	**-0.2**
ASAR				pPKP		**pPKPdf**	**23 07 38.9**	**+0.2**
WRA	**Warramunga Arr**	**131.71**	**209**	PKP		**PKPdf**	**23 07 17.0**	**+0.1**
	comp=E,1.2nm,0.5s,baz=150,slow=1.6,SNR=31							
WRA				pPKP		**pPKPdf**	**23 07 45.4**	**+0.8**
	comp=E,1.4nm,0.9s,baz=160,slow=1.4,SNR=5.7							
WRA	**Warramunga Arr**	**131.71**	**209**	PKP		**PKPdf**	**23 07 17.0**	**+0.1**
WRA				pPKP		**pPKPdf**	**23 07 45.4**	**+0.8**
ZAA0	**Zalesovo Array**	**143.27**	**26**	PKPdf		PKPbc	23 07 34.3	-0.1
ZALV	**Zalesovo Beam**	**143.27**	**26**	PKP		PKPbc	23 07 35.3	+0.9
	comp=E,1.9nm,0.5s,baz=295,slow=3.6,SNR=12							
ZALV				pPKP		pPKPdf	23 08 02.5	-2.3
	comp=E,3.1nm,0.8s,baz=302,slow=3.0,SNR=6.1							
ZALV	**Zalesovo Beam**	**143.27**	**26**	PKP		PKPbc	23 07 35.3	+0.9
ZALV				pPKP		pPKPdf	23 08 02.5	-2.3
MK31	**Makanchi Array**	**146.75**	**38**	ePKPdf		**PKPdf**	**23 07 43.6**	**+0.2**
MKAR	**Makanchi Array**	**146.75**	**38**	PKPbc		**PKPdf**	**23 07 43.9**	**+0.5**
	comp=E,4.2nm,0.8s,baz=322,slow=2.1,SNR=32							
MKAR				pPKPbc		pPKPbc	23 08 11.5	-1.1
	comp=E,6.1nm,0.9s,baz=323,slow=3.0,SNR=13							
MKAR	**Makanchi Array**	**146.75**	**38**	PKPbc		**PKPdf**	**23 07 43.9**	**+0.5**
MKAR				pPKPbc		pPKPbc	23 08 11.5	-1.1
MJAR	**Matsushiro Arr**	**153.24**	**306**	PKPbc		**PKPbc**	**23 08 02.5**	**+1.1**
	comp=E,1.4nm,0.9s,baz=136,slow=1.3,SNR=4.4							
MJAR				PKPab		**PKPab**	**23 08 13.5**	**-0.1**
	comp=E,1.5nm,0.7s,baz=107,slow=2.4,SNR=4.6							
MJAR	**Matsushiro Arr**	**153.24**	**306**	PKPbc		**PKPbc**	**23 08 02.5**	**+1.1**
MJAR				PKPab		**PKPab**	**23 08 13.5**	**-0.1**
SONM	**Songino Array**	**154.99**	**8**	PKP		**PKPdf**	**23 07 57.9**	**+1.8**
	comp=E,0.4nm,0.8s,baz=310,slow=2.0,SNR=7.5							
SONM				PKPbc		**PKiKP**	**23 08 05.0**	**+0.1**
	comp=E,0.5nm,0.5s,baz=307,slow=2.0,SNR=7.4							
SONM				PKPab		**PKPab**	**23 08 22.0**	**+1.3**
	comp=E,0.8nm,0.7s,baz=320,slow=4.2,SNR=5.1							
SONM	**Songino Array**	**154.99**	**8**	PKP		**PKPdf**	**23 07 57.9**	**+1.8**
SONM				PKPbc		**PKiKP**	**23 08 05.0**	**+0.1**
SONM				PKPab		**PKPab**	**23 08 22.0**	**+1.3**

*IDC **09** 22:53:27.1±16.0, 17.°99S×178.°29W, h621km±175km, mb3.4/6, mb1 3.5/6, mb1mx3.1/22, mbtmp3.4/6, Error ellipse: s-maj=109.5km s-min=33.5km az=58.0*
*AUST **09** 22:54:45.2, 21.°00S×169.°47E, h300km*
ISC 09 22:53:24.5±1.6, 18.°0S±0.°3×178.°1W±0.°2, h590km, n17, σ1§30/15, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	**Canberra Magne**	**33.58**	**233**	P	**P**	**22 59 17.9**	**+0.8**
	baz=23,SNR=7.0						
CTA	**Charters Tower**	**33.70**	**261**	P	**P**	**22 59 17.8**	**-0.5**
	4.8nm,0.6s,baz=88,slow=8.4,SNR=8.8						
CMSA	**Cobar Meteorol**	**35.33**	**241**	P	**P**	**22 59 31.9**	**+0.2**
	baz=24,SNR=9.0						
QLP	**Quilpie**	**35.75**	**249**	P	**P**	**22 59 35.1**	**-0.1**
	baz=24,SNR=8.5						
COEN	**Coen**	**37.38**	**270**	P	**P**	**22 59 49.0**	**+0.3**
	baz=26,SNR=54						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**23 00 00.7**	**+0.5**
	1.4nm,0.5s,baz=90,slow=9.9,SNR=8.8						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**23 00 00.5**	**+0.3**
	baz=27,SNR=5.8						
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**23 00 46.8**	**-1.2**
	4.2nm,0.6s,baz=95,slow=7.1,SNR=124						
ASAR	**Alice Springs**	**45.02**	**254**	P	**P**	**23 00 48.1**	**-0.8**
	8.6nm,0.6s,baz=85,slow=8.5,SNR=99						
KDU	**Kakadu**	**47.83**	**269**	P	P	23 01 22.9	+13
	baz=36,SNR=6.8						
KDU				S	S	23 06 35.4	-49
	baz=36,SNR=3.5						
PALU	**Palau**	**53.14**	**294**	S	S	23 09 01.3	+25
	baz=44,SNR=5.2						
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**23 01 48.8**	**-0.8**
	1.1nm,0.5s,baz=221,slow=5.1,SNR=7.5						
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**23 01 49.0**	**-0.7**
	baz=41,SNR=3.6						
PCI	**Palu**	**63.20**	**278**	P	**PcP**	**23 03 31.2**	**+3.7**
	baz=52,SNR=4.3						
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**23 03 49.4**	**-0.1**
	1.4nm,0.7s,baz=49,slow=4.6,SNR=5.8						
BRTR	**Keskin Array B**	**145.05**	**315**	PKP	**PKPdf**	**23 11 55.0**	**-0.8**
	1.1nm,0.7s,baz=130,slow=3.8,SNR=8.0						
GERES	**GERESS Array B**	**147.79**	**345**	PKPbc	**PKPbc**	**23 12 03.0**	**-1.0**
	0.8nm,0.7s,baz=2.9,slow=2.7,SNR=6.1						

MEX 09 23:00:06.3±1.0, 17.°89N×102.°73W, h4km±11km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.70**	**304**	*eP*	Pg	23 00 18.9	-1.0
MMIG				*i* S	Sg	23 00 28.2	-0.8
ZIIG	**Zihuatanejo**	**1.24**	**103**	*eP*	Pg	23 00 26.8	-3.3
ZIIG				*i* S	Sg	23 00 43.1	-3.2
R15V		**1.74**	**317**	*eP*	Pn	23 00 34.5	-2.9
R15V				*i* S	Sn	23 00 55.3	-4.9
EZ5V		**1.78**	**333**	*eP*	Pn	23 00 34.7	-3.6
EZ5V				*i* S	Sn	23 00 56.9	-4.8
ARIG	**Puente Sto Nin**	**2.30**	**80**	*eP*	Pn	23 00 40.3	-4.8
ARIG				*i* S	Sn	23 01 09.6	-4.4
SFJM	**Santa Fe**	**2.60**	**354**	*i* P	Pn	23 00 46.4	-3.0
SFJM				*i* S	Sn	23 01 18.5	-3.2
PLIG	**Platanillo**	**3.11**	**80**	*eP*	Pn	23 00 53.4	-3.0
PLIG				*i* S	Sn	23 01 29.9	-4.2

*IGQ **09** 23:15:31.8, 1.°57S×77.°94W, h196km±10km, Mb4.1, Ms3.9, Error ellipse: s-maj=4.2km s-min=1.3km az=2.2*
*ISCJB **09** 23:15:32.6±0.3, 1.°57S±0.°03×78.°24W±0.°09, h200km, mb3.4/2, Error ellipse: s-maj=12.8km s-min=4.7km az=4.0*
*IDC **09** 23:15:36.2±5.8, 1.°80S×78.°53W, h229km±63km, mb3.1/2, mb1 3.2/4, mb1mx2.9/23, mbtmp3.2/4, Error ellipse: s-maj=81.5km s-min=47.6km az=55.0*
ISC 09 23:15:32.7±0.9, 1.°53S±0.°05×78.°2W±0.°1, h200km, n56, σ1§26/56, 14C-22D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.24**	**289**	⇓S	**Sn**	**23 16 17.3**	**-2.9**
ULBA	**Ulba**	**0.24**	**289**	⇓P	**Pn**	**23 15 58.8**	**-0.8**
BRUN	**Tungurahua Vol**	**0.25**	**295**	⇓S	**Sn**	**23 16 17.7**	**-2.5**
BRUN	**Tungurahua Vol**	**0.25**	**295**	⇓P	**Pn**	**23 15 58.9**	**-0.7**
PAT1	**Patacocha**	**0.26**	**275**	⇑P	**Pn**	**23 15 59.1**	**-0.7**
PAT1	**Patacocha**	**0.26**	**275**	⇑S	**Sn**	**23 16 18.2**	**-2.3**
RUN5	**Runtun**	**0.27**	**295**	P	**Pn**	**23 15 58.6**	**-1.0**
ARRY	**Arrayan**	**0.27**	**275**	⇓S	**Sn**	**23 16 17.3**	**-3.0**
ARRY	**Arrayan**	**0.27**	**275**	⇓P	**Pn**	**23 15 58.9**	**-0.8**
RETU	**Refugio**	**0.27**	**286**	⇑P	**Pn**	**23 15 59.4**	**-0.5**
BMAS	**Trigal station**	**0.30**	**275**	⇓S	**Sn**	**23 16 18.4**	**-2.1**
BMAS	**Trigal station**	**0.30**	**275**	⇓P	**Pn**	**23 15 59.1**	**-0.6**
JUI6	**Juive**	**0.30**	**290**	⇑S	**Sn**	**23 16 18.9**	**-1.5**
JUI6	**Juive**	**0.30**	**290**	⇑P	**Pn**	**23 15 59.1**	**-0.5**
BBIL	**Ulba Tungurahu**	**0.32**	**284**	⇓P	**Pn**	**23 15 59.0**	**-0.7**
IGUA	**Igualata**	**0.46**	**275**	P	**Pn**	**23 16 00.5**	**+0.1**
RIOE	**Riobamba**	**0.50**	**244**	P	**Pn**	**23 15 59.8**	**-0.5**
PISA	**Pisayambo**	**0.51**	**337**	⇑P	**Pn**	**23 15 60.0**	**-0.6**
PISA	**Pisayambo**	**0.51**	**337**	⇑S	**Sn**	**23 16 21.7**	**-0.4**
MACE	**Macas**	**0.72**	**181**	⇑S	**Sn**	**23 16 19.7**	**-3.5**
MACE	**Macas**	**0.72**	**181**	⇑P	**Pn**	**23 15 59.8**	**-1.3**
BMOR	**Cotopaxi Volca**	**0.84**	**341**	⇓P	**Pn**	**23 16 02.0**	**-0.2**
TAMB	**Tambo**	**0.85**	**347**	⇓P	**Pn**	**23 16 01.9**	**-0.3**
MOV1	**Cotopaxi Vol s**	**0.85**	**342**	⇓P	**Pn**	**23 16 02.2**	**-0.1**
BTAM	**Cotopaxi Volca**	**0.88**	**346**	⇓P	**Pn**	**23 16 02.2**	**-0.2**
COV1	**Cotopaxi Volc**	**0.88**	**349**	P	**Pn**	**23 16 02.7**	**+0.2**
BREF	**Cotopaxi Volca**	**0.89**	**343**	⇓P	**Pn**	**23 16 02.7**	**+0.1**
BVC2	**Cotopaxi Volca**	**0.90**	**345**	⇓P	**Pn**	**23 16 02.5**	**-0.1**
CAMI	**Rancho Maria**	**0.91**	**339**	⇓P	**Pn**	**23 16 03.2**	**+0.8**
VC1	**Cotopaxi 1**	**0.91**	**346**	⇓P	**Pn**	**23 16 02.5**	**-0.1**
NAS2	**Nasa**	**0.92**	**342**	P	**Pn**	**23 16 03.1**	**+0.5**
PITA	**Cotopaxi Volc**	**1.00**	**345**	⇓P	**Pn**	**23 16 03.1**	**0.0**
ANTI	**Antisana**	**1.07**	**1**	⇓P	**Pn**	**23 16 03.1**	**-0.6**
JUA2	**San Juan 2**	**1.37**	**342**	⇓P	**Pn**	**23 16 06.2**	**+0.3**
GGP	**Refugio Guagua**	**1.41**	**343**	⇑P	**Pn**	**23 16 06.9**	**+0.6**
TERV	**Terraza Guagua**	**1.41**	**343**	P	**Pn**	**23 16 06.7**	**+0.4**
PINO	**Pino**	**1.43**	**343**	⇑P	**Pn**	**23 16 06.6**	**+0.1**
CHAR	**Charly**	**1.52**	**20**	P	**Pn**	**23 16 06.1**	**-1.1**
CAYR	**Refugio Cayamb**	**1.54**	**7**	P	**Pn**	**23 16 07.4**	**-0.2**
CONE	**Cono NE Rev Vo**	**1.55**	**20**	P	**Pn**	**23 16 06.1**	**-1.2**
CAYA	**Cayambe**	**1.60**	**7**	⇓P	**Pn**	**23 16 08.0**	**0.0**
OTAV	**Otavalo**	**1.77**	**351**	⇓P	**Pn**	**23 16 09.3**	**-0.2**
COTA	**Cotacachi**	**1.86**	**355**	P	**Pn**	**23 16 11.1**	**+0.7**
GOLV	**Golondrinas**	**1.97**	**331**	P	**Pn**	**23 16 11.8**	**+0.8**
JAMA	**Jama**	**2.38**	**302**	P	Pn	23 16 17.9	+2.5
YANT	**Yantaza**	**2.39**	**194**	⇑S	**Sn**	**23 16 46.6**	**-2.4**
YANT	**Yantaza**	**2.39**	**194**	⇑P	**Pn**	**23 16 15.2**	**-0.3**
CATE	**Catamayo**	**2.69**	**206**	S	**Sn**	**23 16 55.6**	**+0.4**
CATE	**Catamayo**	**2.69**	**206**	P	**Pn**	**23 16 19.4**	**+0.4**
ARNL	**Arenillas**	**2.75**	**223**	⇑P	**Pn**	**23 16 18.7**	**-0.7**
ATAH	**Atahualpa**	**5.57**	**182**	P	**Pn**	**23 16 56.5**	**+1.6**
	2.0nm,0.3s,baz=8.5,slow=7.7,SNR=18						
ATAH				S	**Sn**	**23 17 58.0**	**-1.9**
	3.3nm,0.3s,baz=224,slow=17,SNR=11						
LPAZ	**La Paz**	**17.70**	**147**	P	**Pn**	**23 19 28.9**	**+1.0**
	0.4nm,0.3s,baz=336,slow=8.7,SNR=8.1						
SIV	**San Ignacio**	**22.16**	**131**	P	**P**	**23 20 14.0**	**+1.4**
	1.8nm,0.7s,baz=273,slow=12,SNR=9.2						
TORD	**Torodi Ar. Bea**	**80.49**	**76**	P	**P**	**23 27 25.3**	**+2.1**
	0.2nm,0.3s,baz=279,slow=5.9,SNR=9.6						
ASAR	**Alice Springs**	**139.99**	**229**	PKP	**PKPdf**	**23 34 36.2**	**-2.0**
	0.1nm,0.3s,baz=207,slow=36,SNR=1.2						
WRA	**Warramunga Arr**	**141.63**	**235**	PKP	**PKPdf**	**23 34 41.3**	**+0.2**
	0.4nm,0.9s,baz=115,slow=2.8,SNR=1.5						

*NEIC **09** 23:20:16.5, 18.°38N×68.°61W, h127km, MD3.7(RSPR), After RSPR.*
RSPR 09 23:20:16.5, 18.°38N×68.°61W, h127km±2km, MD3.7/15, 22C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.72**	**111**	⇓*i*P	Pn	23 20 36.7	+0.1
IMO	**Isla Mona**	**0.72**	**111**	⇓*i*P	Pn	23 20 36.7	+0.1
DR12	**Loma Pena Alta**	**0.84**	**299**	⇓*i*P	Pn	23 20 37.0	-0.7
DR12				*e*S	Sn	23 20 52.6	-1.2
DR12	**Loma Pena Alta**	**0.84**	**299**	⇓*i*P	Pn	23 20 37.0	-0.7
DR12				*e*S	Sn	23 20 52.6	-1.2
SMN1	**Samana, DR**	**1.02**	**322**	⇑*e*P	Pn	23 20 39.3	-0.1
SMN1				*e*S	Sn	23 20 57.3	+0.5
AGPR	**Aguadilla, PR**	**1.43**	**86**	⇓*e*P	Pn	23 20 44.1	+0.6
AGPR	**Aguadilla, PR**	**1.43**	**86**	*e*S	Sn	23 21 04.8	+0.7
AGPR	**Aguadilla, PR**	**1.43**	**86**	⇓*e*P	Pn	23 20 44.1	+0.6
AGPR				*e*S	Sn	23 21 04.8	+0.7
LSP	**Las Mesas**	**1.46**	**98**	⇓*e*P	Pn	23 20 44.0	+0.1
LSP	**Las Mesas**	**1.46**	**98**	⇓*e*P	Pn	23 20 44.0	+0.1
CRPR	**Cabo Rojo, PR**	**1.47**	**104**	⇑*e*P	Pn	23 20 44.2	+0.2
CRPR	**Cabo Rojo, PR**	**1.47**	**104**	*e*S	Sn	23 21 04.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.47**	**104**	⇑*e*P	Pn	23 20 44.2	+0.2
CRPR				*e*S	Sn	23 21 04.6	-0.4
LRS	**Lares**	**1.68**	**93**	⇑*e*P	Pn	23 20 46.8	+0.3
LRS				*e*S	Sn	23 21 11.1	+1.8
LRS	**Lares**	**1.68**	**93**	⇑*e*P	Pn	23 20 46.8	+0.3
LRS				*e*S	Sn	23 21 11.1	+1.8
GBPR	**Guanica, Bosqu**	**1.69**	**103**	⇑*e*P	Pn	23 20 46.9	+0.3
GBPR	**Guanica, Bosqu**	**1.69**	**103**	⇑*e*P	Pn	23 20 46.9	+0.3
AOPR	**Arecibo Observ**	**1.76**	**91**	⇑*e*P	Pn	23 20 47.2	-0.2
AOPR	**Arecibo Observ**	**1.76**	**91**	*e*S	Sn	23 21 11.3	+0.2
AOPR	**Arecibo Observ**	**1.76**	**91**	⇑*e*P	Pn	23 20 47.2	-0.2
AOPR				*e*S	Sn	23 21 11.3	+0.2
OBIP	**Obispado Ponce**	**1.93**	**100**	⇓*e*P	Pn	23 20 49.4	-0.1
OBIP	**Obispado Ponce**	**1.93**	**100**	*e*S	Sn	23 21 14.3	-0.4
OBIP	**Obispado Ponce**	**1.93**	**100**	⇓*e*P	Pn	23 20 49.4	-0.1
OBIP				*e*S	Sn	23 21 14.3	-0.4
CELP	**Cerrillos**	**1.95**	**98**	⇑*e*P	Pn	23 20 49.9	+0.1
CELP				*e*S	Sn	23 21 15.6	+0.4
CELP	**Cerrillos**	**1.95**	**98**	⇑*e*P	Pn	23 20 49.9	+0.1
CELP				*e*S	Sn	23 21 15.6	+0.4
SJG	**San Juan**	**2.35**	**96**	⇑*e*P	Pn	23 20 54.6	-0.1
SJG	**San Juan**	**2.35**	**96**	*e*S	Sn	23 21 23.7	-0.3
SJG	**San Juan**	**2.35**	**96**	⇑*e*P	Pn	23 20 54.6	0.0
SJG	**San Juan**	**2.35**	**96**	⇑*e*P	Pn	23 20 54.6	-0.1
SJG				*e*S	Sn	23 21 23.7	-0.3
CPD	**Cerro la Pandu**	**2.58**	**97**	⇑*e*P	Pn	23 20 57.9	+0.3
CPD	**Cerro la Pandu**	**2.58**	**97**	*e*S	Sn	23 21 29.2	-0.1
CPD	**Cerro la Pandu**	**2.58**	**97**	⇑*e*P	Pn	23 20 57.9	+0.3
CPD				*e*S	Sn	23 21 29.2	-0.1
SDDR	**Presa de Saban**	**2.61**	**284**	⇓*e*P	Pn	23 21 00.5	+2.5
SDDR	**Presa de Saban**	**2.61**	**284**	⇓*e*P	Pn	23 21 00.5	+2.5
CBYP	**Canovanas**	**2.62**	**92**	⇑*e

ULC				*e*Sg		**Sn**	23 59 15.0	+1.8
KZN	**Kozani**	**1.33**	**136**	P		**Pb**	23 58 59.1	+0.2
KZN				S		**Sg**	23 59 18.4	+1.9
KZN	**Kozani**	**1.33**	**136**	*e*PN		**Pg**	23 58 59.2	0.0
KZN				*e*SN		**Sg**	23 59 17.7	+1.2
KZN	**Kozani**	**1.33**	**136**	*e*Pn		**Pg**	23 58 59.2	0.0
KZN				*e*Sn		**Sg**	23 59 17.7	+1.2
KZN				S		**Sg**	23 59 18.4	+1.9
PVY	**Plav**	**1.40**	**342**	⇑*i*Pg		**Pn**	23 58 59.9	+0.4
PVY				*e*Sg		**Sg**	23 59 21.9	+3.4
PVY	**Plav**	**1.40**	**342**	⇑*i*Pg		**Pn**	23 58 59.9	+0.4
PVY				*e*Sg		**Sg**	23 59 21.9	+3.4
GRG	**Griva**	**1.43**	**102**	P		**Pn**	23 59 00.2	+0.3
GRG				S		**Sg**	23 59 19.9	+0.3
GRG	**Griva**	**1.43**	**102**	P		**Pn**	23 59 00.2	+0.3
GRG				S		**Sg**	23 59 19.9	+0.3
TTG	**Podgorica**	**1.51**	**321**	⇑*i*Pg		**Pn**	23 59 00.8	-0.1
TTG				*e*Sg		**Sg**	23 59 25.1	+3.0
PDG	**Podgorica**	**1.51**	**320**	*e*Pn		**Pn**	23 59 01.4	+0.5
PDG				*e*Sn		**Sg**	23 59 23.2	+1.0
PDG	**Podgorica**	**1.51**	**320**	⇑*i*Pg		**Pn**	23 59 00.8	-0.1
PDG	**Podgorica**	**1.51**	**320**	*e*Pn		**Pn**	23 59 01.4	+0.5
PDG				*e*Sn		**Sg**	23 59 23.2	+1.0
PDG				*e*Sg		**Sg**	23 59 25.1	+2.9
VAY	**Valandovo**	**1.52**	**87**	P		**Pn**	23 59 01.1	0.0
VAY				S		**Sg**	23 59 22.2	-0.2
VAY	**Valandovo**	**1.52**	**87**	*i* Pn		**Pn**	23 59 01.0	-0.1
VAY				*i* Sn		**Sg**	23 59 22.3	-0.2
VAY				*e*Lg		Lg	23 59 24.5	
	comp=N,530nm,0.6s							
VAY				*e*Lg		Lg	23 59 25.0	
	comp=E,356nm,0.5s							
VAY	**Valandovo**	**1.52**	**87**	P		**Pn**	23 59 01.1	0.0
VAY	**Valandovo**	**1.52**	**87**	*i* Pn		**Pn**	23 59 01.4	+0.3
VAY				S		**Sg**	23 59 22.2	-0.2
VAY				*i* Sn		**Sb**	23 59 22.7	+1.2
VAY				*e*Lg		Lg	23 59 25.5	
	comp=E,356nm,0.5s							
BUM	**Brajici-Budva**	**1.61**	**310**	⇑*i*Pn		**Pn**	23 59 02.7	+0.3
BUM				*e*Sn		**Sg**	23 59 27.4	+2.0
BUM	**Brajici-Budva**	**1.61**	**310**	⇑*i*Pn		**Pn**	23 59 02.7	+0.3
BUM				*e*Sn		**Sg**	23 59 27.4	+2.0
JAN	**Janina**	**1.63**	**172**	P		**Pb**	23 59 03.7	-0.2
JAN				S		**Sg**	23 59 26.5	+0.6
JAN	**Janina**	**1.63**	**172**	*e*PN		**Sb**	23 59 03.5	-0.4
JAN				*e*SN		**Sb**	23 59 24.9	+0.3
JAN	**Janina**	**1.63**	**172**	*e*Pn		**Pb**	23 59 03.5	-0.4
JAN				*e*Sn		**Sb**	23 59 24.9	+0.3
JAN				S		**Sg**	23 59 26.5	+0.6
KEK	**Kerkira**	**1.66**	**201**	P		**Pb**	23 59 03.8	-0.6
KEK	**Kerkira**	**1.66**	**201**	*e*PN		**Pn**	23 59 03.3	+0.3
KEK	**Kerkira**	**1.66**	**201**	*e*Pn		**Pn**	23 59 03.3	+0.3
KEK	**Kerkira**	**1.66**	**201**	P		**Pb**	23 59 03.8	-0.6
IVA	**Berane**	**1.67**	**343**	⇑*i*Pn		**Pb**	23 59 04.9	+0.2
IVA				*e*Sn		**Sg**	23 59 29.2	+1.8
BEY	**Berane**	**1.67**	**343**	⇑*i*Pn		**Pb**	23 59 04.9	+0.2
BEY				*e*Sn		**Sg**	23 59 29.2	+1.8
IGT	**Igoumenitsa**	**1.75**	**186**	P		**Pb**	23 59 05.8	-0.1
IGT				S		**Sg**	23 59 29.8	+0.1
IGT	**Igoumenitsa**	**1.75**	**186**	P		**Pb**	23 59 05.8	-0.1
IGT				S		**Sg**	23 59 29.8	+0.1
KNT	**Kendrikon**	**1.77**	**93**	P		**Pn**	23 59 05.0	+0.4
KNT				S		**Sb**	23 59 28.2	-0.5
KNT	**Kendrikon**	**1.77**	**93**	P		**Pn**	23 59 05.0	+0.4
KNT				S		**Sb**	23 59 28.2	-0.5
BARS	**Barje**	**1.81**	**31**	*e*Pn		**Pb**	23 59 06.3	-0.7
BARS				*e*Sn		**Sg**	23 59 31.0	-0.7
BARS	**Barje**	**1.81**	**31**	*e*Pn		**Pb**	23 59 06.3	-0.7
BARS				*e*Sn		**Sg**	23 59 31.0	-0.7
LIT	**Litokhoron**	**1.88**	**128**	P		**Pn**	23 59 06.7	+0.7
LIT				S		**Sb**	23 59 32.1	+0.3
LIT	**Litokhoron**	**1.88**	**128**	*e*PN		**Pn**	23 59 06.8	+0.7
LIT				*e*SN		**Sn**	23 59 30.5	+0.5
LIT	**Litokhoron**	**1.88**	**128**	*e*Pn		**Pn**	23 59 06.8	+0.7
LIT				*e*Sn		**Sn**	23 59 30.5	+0.5
LIT				S		**Sb**	23 59 32.1	+0.3
NKY	**Niksic**	**1.93**	**323**	⇓*i*Pn		**Pb**	23 59 08.6	-0.5
NKY				*e*Sn		**Sg**	23 59 35.0	-0.6
NKY	**Niksic**	**1.93**	**323**	⇓*i*Pn		**Pb**	23 59 08.6	-0.5
NKY				*e*Sn		**Sg**	23 59 35.0	-0.6
THE	**Thessaloniki**	**1.94**	**108**	P		**Pn**	23 59 07.4	+0.6
THE				S		**Sb**	23 59 32.8	-0.6
THE	**Thessaloniki**	**1.94**	**108**	P		**Pn**	23 59 07.4	+0.6
THE				S		**Sb**	23 59 32.8	-0.6
HCY	**Herceg Novi**	**1.94**	**308**	⇓*i*Pn		**Pn**	23 59 07.9	+1.1
HCY				*e*Sn		**Sg**	23 59 35.3	-0.5
HCY	**Herceg Novi**	**1.94**	**308**	⇓*i*Pn		**Pn**	23 59 07.9	+1.1
HCY				*e*Sn		**Sg**	23 59 35.3	-0.5
KKB	**Krupnik**	**1.99**	**72**	*i* P		**Pn**	23 59 08.8	+1.2
KKB				*i* S		**Sb**	23 59 35.4	+0.4
KKB	**Krupnik**	**1.99**	**72**	*i* P		**Pn**	23 59 08.8	+1.2
KKB				*i* S		**Sb**	23 59 35.4	+0.4
SELS	**Selova**	**1.99**	**12**	*e*Pn		**Pn**	23 59 08.2	+0.6
SELS				*e*Sn		**Sb**	23 59 35.2	+0.1
SJES	**Sjenica**	**2.04**	**348**	*e*Pn		**Pb**	23 59 10.2	-0.7
SJES				*e*Sn		**Sb**	23 59 35.9	-0.5
SJES	**Sjenica**	**2.04**	**348**	*e*Pn		**Pb**	23 59 10.2	-0.7
SJES				*e*Sn		**Sb**	23 59 35.9	-0.5
THL	**Klokotos Trika**	**2.04**	**146**	P		**Pn**	23 59 08.7	+0.6
THL	**Klokotos Trika**	**2.04**	**146**	*e*PN		**Pn**	23 59 08.8	+0.6
THL	**Klokotos Trika**	**2.04**	**146**	*e*Pn		**Pn**	23 59 08.8	+0.6
HORT	**Hortiatis**	**2.04**	**108**	P		**Pn**	23 59 08.9	+0.5
HORT	**Hortiatis**	**2.04**	**108**	P		**Pn**	23 59 08.9	+0.5
SOH	**Sokhos**	**2.17**	**101**	P		**Pn**	23 59 10.8	+0.8
SOH	**Sokhos**	**2.17**	**101**	*e*PN		**Pn**	23 59 11.0	+1.0
SOH	**Sokhos**	**2.17**	**101**	P		**Pn**	23 59 10.8	+0.8
BRY	**Bratogost**	**2.21**	**318**	*e*Pn		**Pn**	23 59 12.4	+1.6
BRY				*e*Sn		**Sb**	23 59 42.1	+0.5
BRY	**Bratogost**	**2.21**	**318**	*e*Pn		**Pn**	23 59 12.4	+1.6
BRY				*e*Sn		**Sb**	23 59 42.1	+0.5
PLE	**Pljevlja**	**2.23**	**338**	*e*Pn		**Pb**	23 59 13.2	-1.0
PLE				*e*Sn		**Sb**	23 59 42.5	+0.4
PLE	**Pljevlja**	**2.23**	**338**	*e*Pn		**Pb**	23 59 13.2	-1.0
PLE				*e*Sn		**Sb**	23 59 42.5	+0.4
UPM	**Unac-Piva**	**2.29**	**328**	⇑*i*Pn		**Pn**	23 59 13.5	+1.7
UPM				*e*Sn		**Sb**	23 59 45.2	+1.5
UPM	**Unac-Piva**	**2.29**	**328**	⇑*i*Pn		**Pn**	23 59 13.5	+1.7
UPM				*e*Sn		**Sb**	23 59 45.2	+1.5
SRS	**Serrai**	**2.30**	**93**	P		**Pn**	23 59 12.5	+0.7
SRS	**Serrai**	**2.30**	**93**	P		**Pn**	23 59 12.5	+0.7
IVAS	**Ivanjica**	**2.32**	**353**	*e*Pn		**Pn**	23 59 12.7	+0.5
IVAS				*e*Sn		**Sb**	23 59 44.4	-0.2
IVAS	**Ivanjica**	**2.32**	**353**	*e*Pn		**Pn**	23 59 12.7	+0.5
IVAS				*e*Sn		**Sb**	23 59 44.4	-0.2
PLG	**Polygyros**	**2.37**	**111**	P		**Pn**	23 59 13.7	+0.9
PLG	**Polygyros**	**2.37**	**111**	*e*PB		**Pn**	23 59 13.9	+1.1
PLG				*e*SN		**Sn**	23 59 41.7	-0.4
PLG	**Polygyros**	**2.37**	**111**	P		**Pn**	23 59 13.7	+0.9
PLG				*e*Sn		**Sn**	23 59 41.7	-0.4
VTS	**Vitosha**	**2.38**	**55**	P		**Pn**	23 59 14.6	+1.5
VTS				S		**Sn**	23 59 44.1	+1.5
VTS	**Vitosha**	**2.38**	**55**	⇓*i*P		**Pn**	23 59 14.9	+1.8
VTS	**Vitosha**	**2.38**	**55**	S		**Sn**	23 59 43.8	+1.3
VTS	**Vitosha**	**2.38**	**55**	*i* P		**Pn**	23 59 14.6	+1.5
VTS				*i* S		**Sn**	23 59 44.0	+1.5
VTS	**Vitosha**	**2.38**	**55**	*e*Pn		**Pn**	23 59 13.8	+0.7
VTS				*e*Sn		**Sn**	23 59 43.1	+0.6
VTS	**Vitosha**	**2.38**	**55**	*e*Pn		**Pn**	23 59 13.8	+0.7
VTS	**Vitosha**	**2.38**	**55**	P		**Pn**	23 59 14.6	+1.5
VTS				*e*Sn		**Sn**	23 59 43.1	+0.6
VTS				*i* S		**Sn**	23 59 44.0	+1.5
MMB	**Musomiste**	**2.41**	**81**	*i* P		**Pn**	23 59 14.0	+0.7
MMB	**Musomiste**	**2.41**	**81**	*i* P		**Pn**	23 59 14.0	+0.7
LKD2	**Lefkada island**	**2.48**	**178**	P		**Pn**	23 59 15.6	+1.3
LKD2				S		**Sb**	23 59 47.9	-1.2
LKD2	**Lefkada island**	**2.48**	**178**	*e*PN		**Pn**	23 59 14.7	+0.4
LKD2				*e*SN		**Sn**	23 59 46.3	+1.5
LKD2	**Lefkada island**	**2.48**	**178**	*e*Pn		**Pn**	23 59 14.7	+0.4
LKD2	**Lefkada island**	**2.48**	**178**	P		**Pn**	23 59 15.6	+1.3
LKD2				*e*Sn		**Sn**	23 59 46.3	+1.5
LKD2				S		**Sb**	23 59 47.9	-1.2
NVR	**Nevrokopi**	**2.49**	**87**	P		**Pn**	23 59 15.1	+0.6
NVR				S		**Sn**	23 59 46.5	+1.4
NVR	**Nevrokopi**	**2.49**	**87**	*e*PN		**Pn**	23 59 15.2	+0.7
NVR				*e*SN		**Sn**	23 59 45.1	0.0
NVR	**Nevrokopi**	**2.49**	**87**	*e*Pn		**Pn**	23 59 15.2	+0.7
NVR				*e*Sn		**Sn**	23 59 45.1	0.0
NVR				S		**Sn**	23 59 46.5	+1.4
ZAPS	**Zavoj**	**2.53**	**37**	*e*Pn		**Pn**	23 59 16.2	+1.2
ZAPS				*e*Sn		**Sn**	23 59 48.3	+2.3
ZAPS	**Zavoj**	**2.53**	**37**	*e*Pn		**Pn**	23 59 16.2	+1.2
ZAPS				*e*Sn		**Sn**	23 59 48.3	+2.3
EVR	**Evrytania**	**2.54**	**157**	*e*PN		**Pn**	23 59 16.0	+0.8
EVR	**Evrytania**	**2.54**	**157**	*e*Pn		**Pn**	23 59 16.0	+0.8
GRUS	**Gruza**	**2.62**	**3**	*e*Pn		**Pn**	23 59 17.7	+1.5
GRUS				*e*Sn		**Sn**	23 59 50.7	+2.5
GRUS	**Gruza**	**2.62**	**3**	*e*Pn		**Pn**	23 59 17.7	+1.5
GRUS				*e*Sn		**Sn**	23 59 50.7	+2.5
STON	**Ston**	**2.66**	**308**	*e*Pn		**Pn**	23 59 17.6	+0.8
STON				Sn		**Sn**	23 59 50.5	+1.4
STON	**Ston**	**2.66**	**308**	*e*Pn		**Pn**	23 59 17.5	+0.8
STON				*e*Sn		**Sn**	23 59 50.5	+1.4
OUR	**Ouranopolis**	**2.77**	**109**	P		**Pn**	23 59 18.9	+0.7
OUR	**Ouranopolis**	**2.77**	**109**	P		**Pn**	23 59 18.9	+0.7
XOR	**Xorichti**	**2.77**	**132**	P		**Pn**	23 59 18.8	+0.5
XOR	**Xorichti**	**2.77**	**132**	P		**Pn**	23 59 18.8	+0.5
BAI	**Bari**	**2.78**	**268**	*e*Pn		**Pn**	23 59 17.4	-0.9
NEO	**Neokhori**	**2.83**	**133**	*e*PN		**Pn**	23 59 19.8	+0.6
NEO	**Neokhori**	**2.83**	**133**	*e*Pn		**Pn**	23 59 19.8	+0.6
DIVS	**Divibare**	**2.86**	**352**	P		**Pn**	23 59 20.0	+0.5
DIVS	**Divibare**	**2.86**	**352**	*e*Pn		**Pn**	23 59 20.8	+1.3
DIVS				*e*Sn		**Sn**	23 59 56.0	+1.9
DIVS	**Divibare**	**2.86**	**352**	P		**Pn**	23 59 20.0	+0.5
DIVS	**Divibare**	**2.86**	**352**	*e*Pn		**Pn**	23 59 20.8	+1.3
DIVS				*e*Sn		**Sn**	23 59 56.0	+1.9
EFP	**Efpalio**	**3.02**	**159**	*e*PB		**Pn**	23 59 24.3	+2.5
EFP				*e*SN		**Sn**	23 59 59.7	+1.5
EFP	**Efpalio**	**3.02**	**159**	*e*Pb		**Pn**	23 59 24.3	+2.5
EFP				*e*Sn		**Sn**	23 59 59.7	+1.5
VLS	**Valsamata**	**3.09**	**179**	*e*PN		**Pn**	23 59 23.5	+0.8
VLS	**Valsamata**	**3.09**	**179**	*e*Pn		**Pn**	23 59 23.5	+0.8
MPEP	**Malo Peshtene**	**3.15**	**48**	*i* P		**Pn**	23 59 24.0	+0.5
RZN	**Rozhen**	**3.15**	**81**	*i* P		**Pn**	23 59 21.0	-2.7
RZN	**Rozhen**	**3.15**	**81**	*i* P		**Pn**	23 59 21.0	-2.7
PLD	**Plovdiv**	**3.22**	**74**	P		**Pn**	23 59 25.8	+1.4
PLD	**Plovdiv**	**3.22**	**74**	P		**Pn**	23 59 25.8	+1.4
LKR	**Lokris**	**3.22**	**144**	P		**Pn**	23 59 24.7	+0.2
LKR	**Lokris**	**3.22**	**144**	*e*PN		**Pn**	23 59 24.7	+0.2
LKR	**Lokris**	**3.22**	**144**	P		**Pn**	23 59 24.7	+0.2
CDT	**Castel del Mon**	**3.24**	**268**	*e*Pn		**Pn**	23 59 23.9	-0.8
RLS	**Riolos of Patr**	**3.29**	**167**	*e*PN		**Pn**	23 59 27.3	+2.0
RLS	**Riolos of Patr**	**3.29**	**167**	*e*Pn		**Pn**	23 59 27.3	+2.0
TEKS	**Tekeris**	**3.36**	**347**	*e*Pn		**Pn**	23 59 27.7	+1.3
TEKS	**Tekeris**	**3.36**	**347**	*e*Pn		**Pn**	23 59 27.7	+1.3
GUR	**Goura**	**3.61**	**157**	*e*PN		**Pn**	23 59 30.6	+0.7
GUR	**Goura**	**3.61**	**157**	*e*Pn		**Pn**	23 59 30.6	+0.7
LIA	**Limnos Island**	**3.78**	**110**	*e*PN		**Pn**	23 59 33.5	+1.3
LIA	**Limnos Island**	**3.78**	**110**	*e*Pn		**Pn**	23 59 33.5	+1.3
ATH	**Athens Observa**	**4.10**	**142**	*e*PN		**Pn**	23 59 37.1	+0.5
ATH	**Athens Observa**	**4.10**	**142**	*e*Pn		**Pn**	23 59 37.1	+0.5
PTL	**Penteli**	**4.11**	**140**	*e*PN		**Pn**	23 59 38.0	+1.3
PTL	**Penteli**	**4.11**	**140**	*e*Pn		**Pn**	23 59 38.0	+1.3
ALN	**Alexandroupoli**	**4.17**	**93**	*e*PN		**Pn**	23 59 38.1	+0.6
ALN	**Alexandroupoli**	**4.17**	**93**	*e*Pn		**Pn**	23 59 38.1	+0.6
NAIG	**Nisos Aigina**	**4.18**	**146**	*e*PN		**Pn**	23 59 39.0	+1.4
NAIG	**Nisos Aigina**	**4.18**	**146**	*e*Pn		**Pn**	23 59 39.0	+1.4
ITM	**Ithomi**	**4.22**	**165**	*e*PN		**Pn**	23 59 40.1	+1.8
ITM	**Ithomi**	**4.22**	**165**	*e*Pn		**Pn**	23 59 40.1	+1.8
DID	**Didima**	**4.30**	**150**	*e*PN		**Pn**	23 59 40.2	+1.0
DID	**Didima**	**4.30**	**150**	*e*Pn		**Pn**	23 59 40.3	+1.0
BZS	**Buzias**	**4.41**	**10**	⇑*i*P		**Pn**	23 59 40.6	-0.2
BZS	**Buzias**	**4.41**	**10**	*e*Pn		**Pn**	23 59 40.8	0.0
BZS	**Buzias**	**4.41**	**10**	*e*Pn		**Pn**	23 59 40.8	0.0
BZS				⇓*i*S		**Sn**	00 00 34.0	+1.6
LOT	**Lotru**	**4.79**	**28**	⇑*i*P		**Pn**	23 59 47.2	+1.1
LOT	**Lotru**	**4.79**	**28**	⇑*i*P		**Pn**	23 59 47.2	+1.1
PRK	**Paraskevi**	**4.82**	**113**	*e*PN		**Pn**	23 59 48.5	+2.1
PRK	**Paraskevi**	**4.82**	**113**	*e*Pn		**Pn**	23 59 48.5	+2.1
VLI	**Veliai**	**4.91**	**157**	*e*PN		**Pn**	23 59 49.4	+1.7
VLI	**Veliai**	**4.91**	**157**	*e*Pn		**Pn**	23 59 49.4	+1.7
ARR	**Arges**	**5.06**	**35**	*e*P		**Pn**	23 59 51.2	+1.4
ARR	**Arges**	**5.06**	**35**	⇓*i*P		**Pn**	23 59 51.2	+1.4
ARR	**Arges**	**5.06**	**35**	*e*P		**Pn**	23 59 51.2	+1.4
PKSM	**Moragy**	**5.13**	**345**	⇓*i*P		**Pn**	23 59 52.5	+1.8
PKSM	**Moragy**	**5.13**	**345**	⇓*i*P		**Pn**	23 59 52.5	+1.8
PKSM	**Moragy**	**5.13**	**345**	*e*Pn		**Pn**	23 59 51.6	+0.9
PKSM				*e*Sn		**Sn**	00 00 49.6	-0.4
VOIR		**5.30**	**37**	⇑*i*P		**Pn**	23 59 55.0	+1.9
VOIR		**5.30**	**37**	⇑*i*P		**Pn**	23 59 55.0	+1.9
NVLJ	**Novalja**	**5.31**	**310**	*e*Pn		**Pn**	23 59 52.3	-0.9
NVLJ				Sn		**Sn**	00 00 46.8	-7.7
NVLJ	**Novalja**	**5.31**	**310**	*e*Pn		**Pn**	23 59 52.3	-0.9
MLR	**Muntele Rosu**	**5.76**	**41**	Pn		Pn	00 00 03.5	+4.0
	comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=16							
GCIS	**Gornji Cirnik**	**5.82**	**324**	*i* Pn		**Pn**	00 00 01.5	+1.3
BEHE	**Becsehely**	**5.87**	**334**	⇓*e*Pn		Pn	00 00 07.7	+6.8
BEHE				*e*Sn		**Sn**	00 01 12.2	+3.9
LEGS	**Legarje**	**6.02**	**323**	*i* Pn		**Pn**	00 00 04.3	+1.3
BUD	**Budapest**	**6.31**	**351**	⇓*e*Pn		**Pn**	00 00 09.4	+2.6
BUD				*e*Sn		**Sn**	00 01 19.6	+0.6
PSZ	**Piszkesteto**	**6.66**	**356**	⇓*e*Pn		**Pn**	00 00 13.7	+1.9
PSZ				*e*Sn		**Sn**	00 01 27.4	-0.5
SOKA	**Soboth**	**6.71**	**325**	⇑*i*Pn		**Pn**	00 00 13.3	+0.8
SOKA	**Soboth**	**6.71**	**325**	Pn		**Pn**	00 00 13.3	+0.8
VOY	**Vojsko**	**6.78**	**317**	*e*Pn		**Pn**	00 00 13.9	+0.5
VOY				*e*			00 00 19.8	
VOY				*e*Sn		**Sn**	00 01 29.2	-1.6
OBKA	**Obir**	**6.80**	**322**	⇓*i*Pn		**Sn**	00 00 15.5	+1.8
OBKA				⇓*i*Sn		**Sn**	00 01 31.9	+0.6
OBKA	**Obir**	**6.80**	**322**	Pn		**Pn**	00 00 15.5	+1.8
OBKA				Sn		**Sn**	00 01 31.9	+0.6
ARSA	**Arzberg**	**6.98**	**331**	⇓*i*Pn		**Pn**	00 00 17.0	+0.8
ARSA	**Arzberg**	**6.98**	**331**	Pn		**Pn**	00 00 17.0	+0.8
SOP	**Sopron**	**7.02**	**337**	*e*PKKPdf		S	00 01 29.8	
MOA	**Molln**	**7.96**	**328**	⇑*i*Pn		**Pn**	00 00 30.5	+0.9
MOA				⇓*i*Sn		**Sn**	00 02 00.6	+0.8
MOA	**Molln**	**7.96**	**328**	Pn		**Pn**	00 00 30.5	+0.9
MOA				Sn		**Sn**	00 02 00.6	+0.8
ABTA	**Abfaltersbach**	**7.97**	**316**	⇑*i*Pn		**Pn**	00 00 30.3	+0.6
	SNR=12							
ABTA	**Abfaltersbach**	**7.97**	**316**	Pn		**Pn**	00 00 30.3	+0.6
	SNR=12							
NIE	**Niedzica**	**8.15**	**359**	*e*P		**Pn**	00 00 35.1	+2.9
PGF	**Piogqiola**	**8.71**	**282**	*e*Pn		**Pn**	00 00 37.0	-3.0
WATA	**Walderalm**	**8.84**	**316**	⇓*i*Pn		**Pn**	00 00 42.7	+1.0
	SNR=7.2							
WATA	**Walderalm**	**8.84**	**316**	Pn		**Pn**	00 00 42.7	+1.0
	SNR=7.2							
GERES	**GERESS Array B**	**8.99**	**330**	Pn		**Pn**	00 00 46.2	+2.5
	comp=E,0.4nm,0.3s,baz=155,slow=13,SNR=7.6							
MOTA	**Moosalm**	**9.09**	**315**	⇓*i*Pn		**Pn**	00 00 46.0	+0.8
	SNR=6.8							
MOTA				⇑*i*Sn		**Sn**	00 02 29.0	+1.2
MOTA	**Moosalm**	**9.09**	**315**	Pn		**Pn**	00 00 46.0	+0.8
	SNR=6.8							
MOTA				Sn		**Sn**	00 02 29.0	+1.2
KHC	**Kasperske Hory**	**9.27**	**330**	*e*PN		**Pn**	00 00 47.9	+0.4
KHC				*e*SN		Sn	00 02 25.1	-6.9
DAVOX	**Davos/Dischmat**	**9.45**	**309**	Pn		**Pn**	00 00 51.0	+0.8
	comp=E,1.1nm,0.3s,baz=138,slow=15,SNR=14							
PRU	**Pruhonice**	**9.68**	**336**	*e*PN		**Pn**	00 00 52.9	-0.2
DAVA	**Damuels**	**9.73**	**312**	⇓*i*Pn		**Pn**	00 00 55.0	+1.1
DAVA				⇓*i*Sn		**Sn**	00 02 44.0	+0.6
DAVA	**Damuels**	**9.73**	**312**	Pn		**Pn**	00 00 55.0	+1.1
DAVA				Sn		**Sn**	00 02 44.0	+0.6
BRTR	**Keskin Array B**	**10.09**	**95**	Pn		**Pn**	00 01 00.5	+1.6
	comp=E,0.1nm,0.3s,baz=268,slow=14,SNR=2.2							
FRF	**La Foret Royal**	**10.54**	**287**	*e*P		**Pn**	00 01 07.3	+2.5
FRF	**La Foret Royal**	**10.54**	**287**	*e*P		**Pn**	00 01 07.3	+2.5
LMR	**La Mourre**	**10.61**	**286**	*e*Pn		Pn	00 01 02.6	-3.2
MBDF	**Montbardon**	**10.67**	**293**	*e*Pn		Pn	00 01 03.2	-3.6
MBDF				*e*Sn		Sn	00 02 56.0	-11
	comp=E,0.8nm,0.2s							
LPG	**La Plagne**	**10.89**	**297**	*e*Pn		**Pn**	00 01 07.2	-2.8
LPG				*e*Sn		Sn	00 03 01.8	-11
	comp=E,6.7nm,0.6s							
CABF	**La Chapelle**	**11.71**	**302**	*e*Pn		**Pn**	00 01 18.2	-2.8
HINF	**Hinteralfeld**	**11.76**	**308**	*e*Pn		Pn	00 01 17.6	-3.9
HINF				*e*Sn		Sn	00 03 21.3	-12
	comp=E,1.4nm,0.3s							
CDF	**Champ du Feu**	**11.81**	**312**	*e*Pn		Pn	00 01 19.0	-3.4
CDF				*e*Sn		Sn	00 03 22.9	-12
	comp=E,0.7nm,0.3s							
LOR	**Lormes**	**13.37**	**302**	*e*Pn		Pn	00 01 40.3	-3.3
HFS	**Hagfors**	**19.36**	**350**	P		**P**	00 02 59.6	+0.3
	comp=E,0.1nm,0.3s,baz=134,slow=10,SNR=1.0							
FINES	**FINESS Array B**	**20.48**	**8**	P		**P**	00 03 11.5	-0.1
	comp=E,1.5nm,0.9s,baz=227,slow=25,SNR=1.8							
NB2	**NORSAR Subarra**	**20.60**	**347**	P		**P**	00 03 11.8	-1.2
	comp=Z,4.9nm,1.1s,baz=162,slow=11							
NB2	**NORSAR Subarra**	**20.60**	**347**	P		**P**	00 03 11.8	-1.2
	comp=Z,4.9nm,1.1s,SNR=4.1							
NOA	**NORSAR Array B**	**20.60**	**347**	P		**P**	00 03 12.0	-1.0
	comp=Z,1.1nm,0.6s,baz=156,slow=10,SNR=4.9							
TORD	**Torodi Ar. Bea**	**32.50**	**216**	P		**P**	00 05 04.8	0.0
	comp=Z,1.0nm,0.9s,baz=22,slow=8.7,SNR=5.9							
ZALV	**Zalesovo Beam**	**43.66**	**50**	P		**P**	00 06 39.0	+0.5
	comp=Z,1.9nm,0.6s,baz=281,slow=7.8,SNR=8.7							
MKAR	**Makanchi Array**	**43.72**	**61**	P		**P**	00 06 38.8	-0.3
	comp=Z,0.2nm,0.7s,baz=293,slow=9.0,SNR=4.9							
SONM	**Songino Array**	**58.51**	**52**	P		**P**	00 08 29.3	-1.0
	comp=Z,0.1nm,0.3s,baz=78,slow=8

GDZ					*i* S		**Sn**	**00 24 54.6**	**+0.3**
GDZ	**Gediz**	**1.05**	**35**		*i* P		**Pn**	**00 24 39.5**	**-0.2**
GDZ					*i* S		**Sn**	**00 24 54.6**	**+0.3**
YER	**Yerkesik**	**1.14**	**198**		*e*PN		**Pb**	**00 24 40.8**	**+0.2**
YER	**Yerkesik**	**1.14**	**198**		*e*Pn		**Pb**	**00 24 40.8**	**+0.2**
IZM	**Izmir**	**1.16**	**279**		*e*PN		**Pb**	**00 24 40.4**	**-0.5**
IZM					*e*Sn		**Sg**	**00 24 56.4**	**+0.1**
IZM	**Izmir**	**1.16**	**279**		*e*Pn		**Pb**	**00 24 40.4**	**-0.5**
IZM					*e*Sn		**Sg**	**00 24 56.4**	**+0.1**
MLSB	**Milas**	**1.19**	**219**		*e*PN		**Pn**	**00 24 41.2**	**-0.2**
MLSB	**Milas**	**1.19**	**219**		*e*Pn		**Pn**	**00 24 41.2**	**-0.2**
BLCB	**Balcova**	**1.33**	**278**		*e*PN		**Pn**	**00 24 43.0**	**-0.3**
BLCB					*e*SN		**Sn**	**00 25 00.7**	**-0.1**
BLCB	**Balcova**	**1.33**	**278**		*e*Pn		**Pn**	**00 24 43.0**	**-0.3**
BLCB					*e*Sn		**Sn**	**00 25 00.7**	**-0.1**
TVSB	**Tavsanli**	**1.36**	**25**		*e*PN		**Pn**	**00 24 43.3**	**-0.5**
TVSB	**Tavsanli**	**1.36**	**25**		*e*Pn		**Pn**	**00 24 43.3**	**-0.5**
ALT	**Altintas**	**1.37**	**52**		*e*PN		**Pn**	**00 24 43.6**	**-0.4**
ALT	**Altintas**	**1.37**	**52**		*e*Pn		**Pn**	**00 24 43.6**	**-0.4**
DURS	**Dursunbey**	**1.39**	**352**		*i* P		**Pb**	**00 24 44.8**	**-0.1**
DURS					*i* S		**Sb**	**00 25 02.7**	**+0.1**
DURS	**Dursunbey**	**1.39**	**352**		*i* P		**Pb**	**00 24 44.8**	**-0.1**
DURS					*i* S		**Sb**	**00 25 02.7**	**+0.1**
BORA	**Eskisehir**	**2.14**	**39**		*i* P		**Pg**	**00 25 00.2**	**+0.2**

IDC ***10*** *00:36:42.7±0.3, 16°.55N×93°.46W, h148km±2km, mb4.2/28, mb1 4.4/30, mb1mx4.4/32, mbtmp4.3/30, MS3.6/4, Ms1 3.6/4, ms1mx3.1/37, Error ellipse: s-maj=9.5km s-min=5.8km az=42.0*

MOS ***10*** *00:36:42.8±1.2, 16°.58N×93°.12W, h156km, mb5.1/28, Error ellipse: s-maj=10.6km s-min=4.8km az=100.8*

MEX ***10*** *00:36:44.9±1.0, 16°.46N×93°.65W, h148km±9km, MD5.0*

ISCJB ***10*** *00:36:44.4±0.2, 16°.57N±0°.03×93°.24W±0°.03, h171km±2km, mb4.8/117, Error ellipse: s-maj=5.0km s-min=2.9km az=42.8*

NEIC ***10*** *00:36:44.0, 16°.46N×93°.65W, h147km, mb5.0/97, MD4.9(MEX), After MEX.*

NEIC Felt at Arriaga, Oaxaca, San Cristobal de las Casas and Tuxtla Gutierrez.

GCMT ***10*** *00:36:45.3±0.4, 16°.63N×93°.49W, h162km±3km, MW5.0, Moment Tensor Solution. s28,c33; s73,c104; Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.15; $M_{\theta\theta}$-1.54±.17; $M_{\phi\phi}$1.49±.17; $M_{r\theta}$3.19±.12; $M_{r\phi}$-1.02±.17; $M_{\theta\phi}$-1.97±.12; Best double couple: M_o4.20000×10^{16} NP1:ϕ_s210.00000°, δ26.00000°, λ0.00000°. NP2:ϕ_s120.00000°, δ90.00000°, λ116.00000°. Principal axes: T 4.2600, Plg40.0000°, Azm54.0000°; N -0.2000, Plg26.0000°, Azm300.0000°; P -4.0700, Plg39.0000°, Azm186.0000°; Data Used: II IU IC CN G.*

CASC ***10*** *00:37:00.2±3.0, 16°.50N×91°.61W, h0km±77km, MD4.9, mb5.0(NEIC)*

ISC 10 00:36:43.4±0.3, 16°.54N±0°.03×93°.39W±0°.03, h154km±2km, h153km:pP-P, n761, σ1.961/853, mb4.9/117, 162C-159D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**0.35**	**48**		*e*P		**Pn**	**00 37 05.1**	**+0.4**
TGIG					*i* S		**Sn**	**00 37 20.4**	**-0.5**
SCX	**San Cristobal**	**0.75**	**75**		*e*P		**Pn**	**00 37 08.9**	**+2.2**
PCIG		**0.85**	**168**		*e*P		**Pn**	**00 37 06.9**	**-0.5**
PCIG					*i* S		**Sn**	**00 37 24.4**	**-1.3**
CCIG	**Comitan**	**1.23**	**102**		*e*P		**Pn**	**00 37 12.3**	**+1.5**
CCIG					*i* S		**Sn**	**00 37 34.7**	**+2.9**
CMIG	**Matias Romero**	**1.53**	**291**		P		**Pn**	**00 37 11.9**	**-1.6**
	974nm,0.3s,baz=103,slow=6.4,SNR=6425								
CMIG					S		**Sn**	**00 37 33.1**	**-3.6**
	4µm,0.3s,baz=316,slow=19,SNR=86								
CMIG	**Matias Romero**	**1.53**	**291**		P		**Pn**	**00 37 11.9**	**-1.6**
CMIG					S		**Sn**	**00 37 33.1**	**-3.6**
CMIG	**Matias Romero**	**1.53**	**291**		*e*P		**Pn**	**00 37 12.1**	**-1.5**
CMIG					*i* S		Sn	00 37 32.1	-4.6
THIG		**1.95**	**146**		*i* P		**Pn**	**00 37 19.3**	**+1.1**
THIG					*i* S		**Sn**	**00 37 45.7**	**+0.7**
HUIG	**Huatulco**	**2.72**	**254**		*e*P		Pn	00 37 23.0	-4.4
HUIG					*i* S		Sn	00 37 54.8	-6.6
JAT	**Jato**	**2.78**	**142**		*e*P		**Pn**	**00 37 30.9**	**+2.6**
JAT					*e*S		**Sn**	**00 38 07.7**	**+4.7**
TP2	**Tecpan 2**	**2.88**	**127**		*e*P		**Pn**	**00 37 31.8**	**+1.9**
FG6		**3.12**	**129**		*e*P		**Pn**	**00 37 36.0**	**+3.2**
FUG	**Fuego 3**	**3.22**	**130**		*e*P		**Pn**	**00 37 35.6**	**+1.6**
VHO	**Vista Hermosa**	**3.24**	**280**		*e*P		Pn	00 37 31.7	-2.5
VHO					*i* S		Sn	00 38 07.2	-6.3
PCG	**Pacaya**	**3.43**	**128**		*e*P		Pn	00 37 40.7	+4.0
PCG					*e*S		**Sn**	**00 38 16.3**	**-1.7**
NBG	**Las Nubes**	**3.52**	**123**		*e*P		**Pn**	**00 37 40.0**	**+2.1**
IXG	**Ixpaco**	**3.68**	**129**		*e*P		**Pn**	**00 37 42.1**	**+2.3**
MRL	**Marmol**	**3.85**	**112**		*e*P		**Pn**	**00 37 43.9**	**+1.9**
MRL					*e*S		**Sn**	**00 38 22.7**	**-4.9**
TPIG	**Tehuac#an**	**4.22**	**297**		*e*P		**Pn**	**00 37 45.7**	**-1.2**
TPIG					*i* S		Sn	00 38 31.0	-5.2
RBDL	**Robledal**	**4.32**	**123**		*e*P		**Pn**	**00 37 49.4**	**+1.3**
RBDL					*e*S		Sn	00 38 28.6	-10
UTMO	**Huajuapan**	**4.41**	**288**		*e*P		**Pn**	**00 37 48.5**	**-0.8**
UTMO					*e*S		Sn	00 38 35.7	-4.8
MTO2	**Montecristo 2**	**4.43**	**118**		*e*P		**Pn**	**00 37 50.8**	**+1.1**
MTO2					*e*S		Sn	00 38 26.3	-15
SNJE	**San Jose**	**4.52**	**125**		*e*P		**Pn**	**00 37 53.0**	**+2.2**
SNJE					*e*S		Sn	00 38 31.0	-12
PNIG	**Pinotepa**	**4.54**	**269**		*e*P		Pn	00 37 47.5	-3.4
PNIG					*i* S		Sn	00 38 38.1	-5.5
BOQS	**Boqueron**	**4.85**	**125**		*e*P		**Pn**	**00 37 57.5**	**+2.2**
BOQS					*e*S		Sn	00 38 37.3	-14
LFU	**La Fuente**	**4.98**	**123**		*e*P		**Pn**	**00 37 58.8**	**+2.0**
SNVI	**San Vicente**	**5.28**	**123**		*e*P		**Pn**	**00 38 03.2**	**+2.5**
PPM	**Popocatepetl**	**5.58**	**298**		*e*P		**Pn**	**00 38 06.2**	**+1.1**
CAHU	**Cacacuatique**	**5.71**	**118**		*e*P		**Pn**	**00 38 07.6**	**+1.0**
TEIG	**Tepich**	**6.09**	**52**	P			**Pn**	**00 38 12.3**	**+1.0**
	248nm,0.3s,baz=254,slow=5.0,SNR=824								
TEIG					S		**Sn**	**00 39 20.2**	**+0.1**
	baz=225,slow=18,SNR=4.1								
TEIG	**Tepich**	**6.09**	**52**		*e*Pn		**Pn**	**00 38 11.8**	**+0.5**
TEIG					*e*Sn		**Sn**	**00 39 20.2**	**+0.1**
UNM	**Universidad Na**	**6.17**	**298**		*i* P		**Pn**	**00 38 11.3**	**-1.3**
UNM					*i* S		Sn	00 39 17.6	-4.9
ACX	**Acapulco**	**6.20**	**274**		*e*P		Pn	00 38 10.6	-2.3
TGUH	**Tegucigalpa,Un**	**6.40**	**112**		*e*Pn		**Pn**	**00 38 17.5**	**+1.9**
	336nm,0.8s								
TGUH					*e*Sn		Sn	00 39 13.2	-15
SFJM	**Santa Fe**	**9.96**	**295**		*i* P		Pn	00 38 53.2	-10
JTS	**JuntasAbangare**	**10.29**	**126**	P			**Pn**	**00 39 08.7**	**+1.3**
	11nm,0.3s,baz=314,slow=19,SNR=17								
JTS					S		**S**	**00 41 04.1**	**+1.4**
	3.9nm,0.3s,baz=345,slow=20,SNR=2.9								
JTS	**JuntasAbangare**	**10.29**	**126**		*e*Pn		**Pn**	**00 39 08.8**	**+1.3**
JTS					*e*Sn		**S**	**00 41 03.8**	**+1.2**
JTS					S		S	00 41 04.1	+1.4
JTS	**JuntasAbangare**	**10.29**	**126**		Pn		**Pn**	**00 39 08.6**	**+1.3**
	397nm,0.4s,SNR=12								
KVTX	**Kingsville**	**11.72**	**340**		*e*Pn		**Pn**	**00 39 28.0**	**+2.1**
HKT	**Hockley**	**13.54**	**351**		*e*P		**Pn**	**00 39 50.7**	**+1.5**
HKT	**Hockley**	**13.54**	**351**		*e*Pn		**Pn**	**00 39 50.7**	**+1.5**
732A	**Laxson Ranch,**	**13.56**	**335**		⇑P		**Pn**	**00 39 48.6**	**-1.0**
	baz=14,SNR=209								
632A	**Uvalde**	**14.18**	**337**		⇑P		**Pn**	**00 39 55.4**	**-2.1**
	baz=14,SNR=267								
631A	**Perdido Creek**	**14.41**	**334**		⇓P		**Pn**	**00 39 59.3**	**-1.1**
	baz=14,SNR=124								
532A	**Rocksprings**	**14.78**	**337**		⇑P		**Pn**	**00 40 05.0**	**0.0**
	baz=15,SNR=451								
531A	**Rocksprings**	**15.06**	**335**		⇓P		**Pn**	**00 40 09.2**	**+0.7**
	baz=15,SNR=76								
JCT	**Junction City**	**15.06**	**338**		*e*P		**P**	**00 40 11.4**	**+1.2**
JCT					*e*S		**Sn**	**00 42 57.4**	**+1.4**
JCT					pmax		pmax		
	comp=Z,194nm,0.5s								
JCT	**Junction City**	**15.06**	**338**		*e*Pn		**P**	**00 40 11.4**	**+1.2**
	comp=Z,194nm,0.5s								
JCT					*e*S		**Sn**	**00 42 57.4**	**+1.4**
JCT	**Junction City**	**15.06**	**338**		⇓P		**Pn**	**00 40 09.1**	**+0.5**
	baz=15,SNR=66								
NATX	**Nacogdoches**	**15.20**	**356**		*e*Pn		**P**	**00 40 12.2**	**+0.7**
	comp=Z,268nm,1.0s								
MTDJ	**Mount Denham**	**15.23**	**81**		*e*Pn		**Pn**	**00 40 10.2**	**-0.5**
	comp=Z,310nm,1.4s								
530A	**J-C Ranch, Com**	**15.38**	**333**		⇓P		**Pn**	**00 40 13.4**	**+1.0**
	baz=15,SNR=38								
432A	**Menard**	**15.42**	**339**		⇑P		**Pn**	**00 40 14.1**	**+1.2**
	baz=16,SNR=56								
BRAL	**Brewton**	**15.52**	**21**		*e*Pn		**Pn**	**00 40 14.7**	**+0.5**
	comp=Z,712nm,1.3s								
431A	**Sonora**	**15.54**	**336**		⇑P		**Pn**	**00 40 15.9**	**+1.4**
	baz=16,SNR=74								
628A	**Black Gap, Mar**	**15.56**	**328**		⇑P		**P**	**00 40 16.8**	**+1.1**
	baz=16,SNR=43								
529A	**Stev Forest Ra**	**15.75**	**331**		⇓P		**P**	**00 40 18.5**	**+0.7**
	baz=16,SNR=32								
627A	**Terlingua Ranc**	**15.79**	**326**		P		**P**	**00 40 19.9**	**+1.6**
	baz=16,SNR=34								
WHTX	**Lake Whitney**	**15.82**	**347**		⇓P		**P**	**00 40 19.5**	**+1.1**
	baz=16,SNR=101								
VBMS	**Vicksburg**	**15.83**	**9**		*e*P		**P**	**00 40 19.8**	**+1.3**
	comp=Z,221nm,0.8s								
VBMS						S	**Sn**	**00 43 11.5**	**-2.7**
TXAR	**Lajitas Array**	**15.85**	**325**			P	**P**	**00 40 20.4**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=149,slow=14,SNR=122								
TXAR	**Lajitas Array**	**15.85**	**325**			P	**P**	**00 40 20.4**	**+1.5**
430A	**Baggett Ranch,**	**15.89**	**335**		⇓P		**P**	**00 40 20.5**	**+1.3**
	baz=16,SNR=12								
429A	**Davenport Ranc**	**16.03**	**333**		⇓P		**P**	**00 40 22.1**	**+1.2**
	baz=16,SNR=42								
528A	**Cox Ranch, San**	**16.06**	**329**		P		**P**	**00 40 22.8**	**+1.5**
	baz=16,SNR=13								
626A	**Big Bend Ranch**	**16.28**	**325**		⇑P		**P**	**00 40 25.5**	**+1.8**
	baz=16,SNR=68								
527A	**Woodward Ranch**	**16.46**	**327**		⇓P		**Pn**	**00 40 27.8**	**+2.0**
	baz=16								
428A	**Kincaid Ranch,**	**16.48**	**331**		⇑P		**Pn**	**00 40 28.1**	**+2.3**
	baz=16,SNR=16								
526A	**Mary Lane Ranc**	**16.65**	**326**		⇑P		**Pn**	**00 40 29.7**	**+1.7**
	baz=17,SNR=23								
329A	**Wagon Wheel Ra**	**16.81**	**334**		⇑P		**Pn**	**00 40 31.3**	**+1.4**
	baz=17,SNR=10								
427A	**Hayter Ranch,**	**16.92**	**329**		P		**Pn**	**00 40 33.5**	**+2.2**
	baz=17,SNR=24								
ABTX	**Abilene, Hawle**	**16.98**	**342**		⇑P		**Pn**	**00 40 32.9**	**+0.9**
	baz=17,SNR=18								
328A	**Wristen Ranch,**	**17.08**	**332**		P		**Pn**	**00 40 34.9**	**+1.7**
	baz=17,SNR=26								
426A	**McDonald Obser**	**17.09**	**327**		P		**Pn**	**00 40 35.5**	**+2.0**
	baz=17,SNR=38								
229A	**Bryant Ranch,**	**17.16**	**335**		⇑P		**Pn**	**00 40 35.2**	**+1.2**
	baz=17								
327A	**Balmorhea Ranc**	**17.39**	**330**		⇑P		**Pn**	**00 40 38.7**	**+1.8**
	baz=17								
LRAL	**Lakeview Retre**	**17.41**	**18**		*e*Pn		**Pn**	**00 40 37.6**	**+0.6**
	comp=Z,53nm,0.7s								
LRAL					*e*S		**S**	**00 43 49.7**	**+0.3**
326A	**Caldwell Ranch**	**17.59**	**329**		⇑P		**Pn**	**00 40 40.0**	**+0.7**
	baz=18,SNR=24								
228A	**UT Block 9, Go**	**17.61**	**333**		⇑P		**Pn**	**00 40 40.0**	**+0.5**
	baz=18,SNR=8								
GTBY	**Guantanamo Bay**	**17.69**	**76**		*e*P		**P**	**00 40 39.1**	**0.0**
	comp=Z,462nm,1.2s								
425A	**Indio Mountain**	**17.70**	**325**		⇑P		**Pn**	**00 40 41.5**	**+0.9**
	baz=18								
129A	**Stewart Farms,**	**17.76**	**336**		P		**Pn**	**00 40 41.7**	**+0.4**
	baz=18,SNR=14								
227A	**Bennet, Jal**	**17.83**	**332**		⇓P		**Pn**	**00 40 43.0**	**+0.9**
	baz=18,SNR=14								
MIAR	**Mount Ida**	**17.93**	**360**		*e*P		**P**	**00 40 42.8**	**+1.1**
MIAR					*e*S		**S**	**00 43 57.5**	**-2.1**
MIAR					pmax		pmax		
	comp=Z,77nm,0.8s								
MIAR	**Mount Ida**	**17.93**	**360**		*e*Pn		**P**	**00 40 42.8**	**+1.1**
	comp=Z,77nm,0.8s								
MIAR					*e*S		**S**	**00 43 57.5**	**-2.1**
128A	**Castleberry Fa**	**18.00**	**334**		⇓P		**P**	**00 40 44.1**	**+1.5**
	baz=18,SNR=27								
325A	**Bean Ranch, Si**	**18.14**	**327**		P		**P**	**00 40 45.7**	**+1.5**
	baz=18,SNR=19								
UALR	**University of**	**18.18**	**3**		*e*Pn		**P**	**00 40 46.0**	**+1.6**
	comp=Z,78nm,0.8s								
UALR					*e*S		**S**	**00 44 00.3**	**-4.2**
OXF	**Oxford**	**18.25**	**11**		*e*P		**P**	**00 40 45.6**	**+0.5**
OXF					*e*S		**S**	**00 44 03.5**	**-2.4**
OXF					pmax		pmax		
	comp=Z,179nm,0.4s								
OXF	**Oxford**	**18.25**	**11**		*e*P		**P**	**00 40 45.6**	**+0.5**
	comp=Z,179nm,0.4s								
OXF					*e*S		**S**	**00 44 03.5**	**-2.4**
Z29A	**Hungry Hill Ra**	**18.26**	**337**		⇑P		**P**	**00 40 47.1**	**+1.8**
	baz=18,SNR=31								
127A	**Arkansas Junct**	**18.42**	**333**		⇓P		**P**	**00 40 48.6**	**+1.4**
	baz=18,SNR=9.3								
324A	**Moseley Ranch,**	**18.47**	**326**		⇑P		**P**	**00 40 49.3**	**+1.5**
	baz=18,SNR=20								
GDL2	**Guadalupe Moun**	**18.50**	**329**		*e*P		**Pn**	**00 40 50.7**	**+0.7**
Z28A	**Tucker Farm, M**	**18.55**	**336**		⇓P		**P**	**00 40 49.8**	**+1.3**
	baz=19								
MNTX	**Cornudas Mount**	**18.62**	**326**		*e*P		**P**	**00 40 50.5**	**+1.3**
	comp=Z,14nm,0.8s								
MNTX					*e*			00 41 07.7	
MNTX	**Cornudas Mount**	**18.62**	**326**		P		**P**	**00 40 51.0**	**+1.8**
	baz=19,SNR=29								
225A	**Deer Hill, Car**	**18.65**	**328**		P		**Pn**	**00 40 52.2**	**+0.3**
	baz=19,SNR=9.8								
126A	**Clayton Basin,**	**18.70**	**331**		⇑P		**P**	**00 40 51.6**	**+1.4**
	baz=19,SNR=22								
WMOK	**Wichita Mounta**	**18.75**	**346**		*e*P		**P**	**00 40 51.1**	**+0.4**
WMOK					*e*S		**S**	**00 44 16.4**	**+0.4**
WMOK					pmax		pmax		
	comp=Z,84nm,0.6s								
WMOK	**Wichita Mounta**	**18.75**	**346**		*e*P		**P**	**00 40 51.1**	**+0.4**
	comp=Z,84nm,0.6s								
WMOK					*e*S		**S**	**00 44 16.4**	**+0.4**
Y29A	**Porterfield Fa**	**18.79**	**338**		⇑P		**P**	**00 40 52.3**	**+1.2**
	baz=19,SNR=14								
Z27A	**Tatum**	**18.91**	**334**		⇑P		**P**	**00 40 53.7**	**+1.2**
	baz=19								
224A	**Cornudas Mount**	**18.98**	**327**		P		**P**	**00 40 55.1**	**+1.8**
	baz=19,SNR=29								
125A	**Gardner Draw,**	**19.01**	**330**		⇑P		**P**	**00 40 55.4**	**+1.8**
	baz=19,SNR=26								
GOGA	**Godfrey**	**19.04**	**26**		*e*P		**P**	**00 40 55.4**	**+1.7**
GOGA					pmax		pmax		
	comp=Z,141nm,1.4s								
GOGA	**Godfrey**	**19.04**	**26**		*e*Pn		**P**	**00 40 55.4**	**+1.7**
	comp=Z,141nm,1.4s								
Y28A	**McKinney Farm,**	**19.04**	**337**		⇑P		**P**	**00 40 55.2**	**+1.3**
	baz=19,SNR=32								
HBAR	**Harrisburg**	**19.09**	**7**		*e*P		**P**	**00 40 53.9**	**-0.4**
Z26A	**Caprock**	**19.20**	**332**		⇑P		**P**	**00 40 57.2**	**+1.5**
	baz=19,SNR=32								
MSTX	**Muleshoe**	**19.30**	**336**		P		**P**	**00 40 57.5**	**+0.9**
	baz=19,SNR=39								
X29A	**Tulia**	**19.33**	**339**		⇓P		**P**	**00 40 58.1**	**+1.2**
	baz=19,SNR=20								
Y27A	**Causey**	**19.38**	**335**		P		**P**	**00 40 58.3**	**+0.7**
	baz=19,SNR=32								
TUL1	**Tulsa**	**19.41**	**354**		P		**P**	**00 40 58.5**	**+0.8**
	baz=20,SNR=26								
124A	**Stringfield Ra**	**19.44**	**328**		⇓P		**P**	**00 41 00.4**	**+2.0**
	baz=19,SNR=42								
Z25A	**Roswell**	**19.55**	**331**		⇑P		**P**	**00 41 00.7**	**+1.3**
	baz=20,SNR=20								
X28A	**Dimmitt**	**19.57**	**338**		⇓P		**P**	**00 41 00.2**	**+0.6**
	baz=20,SNR=6.5								
GNAR	**Gosnell**	**19.58**	**8**		*e*P		**P**	**00 40 59.8**	**+0.3**
	comp=Z,2µm,1.1s								
HALT	**Halls**	**19.63**	**10**		*e*P		**P**	**00 40 58.5**	**-1.5**
Y26A	**Elida**	**19.69**	**333**		⇑P		**P**	**00 41 02.2**	**+1.3**
	baz=20,SNR=12								
AMTX	**Amarillo**	**19.72**	**339**		*e*P		**P**	**00 41 02.3**	**+1.2**
	comp=Z,224nm,0.5s								
AMTX	**Amarillo**	**19.72**	**339**		⇓P		**P**	**00 41 02.1**	**+1.0**
	baz=20,SNR=66								
SWET	**Sewanee**	**19.76**	**18**		*e*P		**P**	**00 41 02.0**	**+0.5**
	comp=Z,68nm,0.9s								
SWET					*e*S		**S**	**00 44 32.0**	**-4.0**
123A	**Bell Site, Whi**	**19.81**	**326**		⇓P		**P**	**00 41 04.1**	**+1.8**
	baz=20								
222A	**Williams Famil**	**19.87**	**324**		⇑P		**P**	**00 41 04.7**	**+1.8**
	baz=20,SNR=13								
Z24A	**Sheeppen Canyo**	**19.90**	**329**		⇓P		**P**	**00 41 04.7**	**+1.4**
	baz=20,SNR=40								
W29A	**Amraillo**	**19.92**	**340**		⇑P		**P**	**00 41 04.4**	**+1.0**
	baz=20,SNR=24								
X27A	**F and S Farms,**	**20.02**	**336**		⇑P		**P**	**00 41 05.2**	**+0.8**
	baz=20,SNR=19								
Y25A	**Mesa, Roswell**	**20.07**	**332**		⇑P		**P**	**00 41 06.8**	**+1.8**
	baz=20,SNR=23								
WVT	**Waverly**	**20.13**	**13**		*e*P		**P**	**00 41 05.4**	**-0.1**
WVT					pmax		pmax		
	comp=Z,33nm,0.6s								
WVT	**Waverly**	**20.13**	**13**		*e*P		**P**	**00 41 05.4**	**-0.1**
	comp=Z,33nm,0.6s								
320A	**Kipp Ranch, An**	**20.17**	**320**		⇑P		**P**	**00 41 08.9**	**+2.8**
	baz=20,SNR=10.0								
221A	**Mesquite Ranch**	**20.19**	**322**		⇓P		**P**	**00 41 08.9**	**+2.5**
	baz=20,SNR=8.2								
X26A	**CR and CF Fran**	**20.22**	**334**		⇓P		**P**	**00 41 07.9**	**+1.2**
	baz=20,SNR=18								
W28A	**Vega**	**20.24**	**339**		⇓P		**P**	**00 41 07.6**	**+0.9**
	baz=20,SNR=8.9								
122A	**Conniff Cattle**	**20.26**	**325**		⇑P		**P**	**00 41 08.8**	**+1.8**
	baz=20								
Z23A	**Rita Site, Whi**	**20.29**	**328**		⇑P		**P**	**00 41 09.7**	**+2.4**
	baz=20,SNR=31								
PARMO	**Parma**	**20.30**	**8**		*e*P		Pn	00 41 10.2	-0.8
COW	**Cow Castle Cre**	**20.31**	**32**		*e*P		**P**	**00 41 07.2**	**-0.2**
NHSC	**New Hope**	**20.36**	**33**		*e*P		Pn	00 41 10.9	-0.8
	comp=Z,254nm,0.9s								
W27A	**Bowe Ranch, En**	**20.37**	**337**		⇓P		**P**	**00 41 08.7**	**+0.5**
	baz=20,SNR=69								
Y24A	**Capitan**	**20.42**	**330**		⇑P		**P**	**00 41 10.8**	**+2.0**
	baz=20,SNR=34								
CPCT	**Cooper Cave**	**20.43**	**21**		*e*P		**P**	**00 41 08.8**	**0.0**
220A	**Playas Peak, P**	**20.56**	**321**		⇓P		**P**	**00 41 12.6**	**+2.3**
	baz=20,SNR=20								
X25A	**Clemmons Ranch**	**20.57**	**333**		⇓P		**P**	**00 41 12.0**	**+1.6**
	baz=21,SNR=16								
V29A	**Stinnett**	**20.57**	**341**		⇓P		**P**	**00 41 11.1**	**+0.8**
	baz=21								
121A	**Cookes Peak, D**	**20.57**	**323**		P		**P**	**00 41 13.3**	**+2.8**
	baz=20,SNR=43								
Z22A	**Elephant Butte**	**20.66**	**326**		⇓P		**P**	**00 41 13.4**	**+2.0**
	baz=21,SNR=7.1								
319A	**Douglas**	**20.67**	**318**		⇓P		**P**	**00 41 14.1**	**+2.6**
	baz=21,SNR=11								
W26A	**Owens Ranch, T**	**20.67**	**335**		⇓P		**P**	**00 41 12.2**	**+0.8**
	baz=21,SNR=13								
V28A	**Channing**	**20.69**	**339**		⇑P		**P**	**00 41 12.6**	**+1.0**
	baz=21,SNR=25								
Y23A	**Lovelace Mesa,**	**20.73**	**329**		⇑P		**P**	**00 41 14.3**	**+2.2**
	baz=21,SNR=65								
JSC	**Jenkinsville**	**20.76**	**29**		*e*P		**P**	**00 41 13.1**	**+0.9**
JSC	**Jenkinsville**	**20.76**	**29**		*e*P		**P**	**00 41 13.1**	**+0.9**
TKL	**Tuckaleechee C**	**20.88**	**22**		P		**P**	**00 41 14.1**	**+0.5**
	comp=Z,11nm,0.5s,baz=192,slow=15,SNR=20								
TKL	**Tuckaleechee C**	**20.88**	**22**		*e*P		**P**	**00 41 13.9**	**+0.3**
X24A	**Lazy VL Ranch,**	**20.95**	**331**		⇓P		**P**	**00 41 16.2**	**+1.7**
	baz=21,SNR=5.5								
W25A	**X Bar L Ranch,**	**21.07**	**334**		⇓P		**P**	**00 41 17.1**	**+1.4**
	baz=21,SNR=34								
120A	**U Bar Ranch, L**	**21.08**	**322**		⇓P		**P**	**00 41 18.1**	**+2.2**
	baz=21,SNR=15								
Z21A	**St. Cloud Mine**	**21.09**	**325**		⇓P		**P**	**00 41 17.9**	**+1.9**
	baz=21,SNR=7.0								
BNM	**Barren Site**	**21.19**	**328**		*e*P		**P**	**00 41 18.9**	**+1.8**
	comp=Z,44nm,0.8s								

baz=23,SNR=97
R27A **Eads** 23.19 341 ⇑P P 00 41 37.5 +0.9
baz=23,SNR=36
X18A **Snowflake** 23.27 323 ⇑P P 00 41 39.5 +2.0
baz=23,SNR=7.5
T23A **Casias Ranch,** 23.28 334 ⇓P P 00 41 39.7 +1.9
baz=23,SNR=14
BLO **Bloomington** 23.34 14 *eP* P 00 41 37.2 -0.7
BLO **Bloomington** 23.34 14 *eP* P 00 41 37.2 -0.7
214A **Organ Pipe Nat** 23.37 315 ⇑P P 00 41 40.3 +2.0
baz=23
R26A **Arlington** 23.41 340 ⇑P P 00 41 39.9 +1.2
baz=24,SNR=21
V20A **Brimhall** 23.41 328 ⇓P P 00 41 40.8 +1.9
baz=23
SDV **Santo Domingo** 23.45 106 *eP* P 00 41 38.3 -1.1
comp=Z,45nm,0.9s
S24A **Houchin Ranch,** 23.46 336 ⇓P P 00 41 41.6 +2.2
baz=24,SNR=18
U21A **Nageezi** 23.51 330 ⇑P P 00 41 42.0 +2.2
baz=24,SNR=8.5
R25A **Fountain Ranch** 23.56 338 P P 00 41 42.0 +1.9
baz=24,SNR=71
BLA **Blacksburg** 23.57 27 *eP* P 00 41 38.8 -1.3
BLA pmax pmax
comp=Z,63nm,0.9s
BLA **Blacksburg** 23.57 27 *eP* P 00 41 38.8 -1.3
comp=Z,63nm,0.9s
W18A **Petrified Fore** 23.57 325 ⇓P P 00 41 42.5 +2.2
baz=24
T22A **Edith** 23.64 332 ⇑P P 00 41 43.3 +2.3
baz=24,SNR=29
KSCO **Kaye Shedlock'** 23.80 342 ⇑P P 00 41 43.2 +0.9
baz=24,SNR=6.1
S23A **Nye Farm, Mont** 23.84 335 ⇓P P 00 41 45.0 +2.2
baz=24,SNR=5.9
T21A **Navajo Lake** 23.91 331 ⇓P P 00 41 45.4 +2.0
baz=24,SNR=17
R24A **Sanders Place,** 23.94 337 ⇑P P 00 41 45.1 +1.5
baz=24,SNR=41
Q26A **Hugo** 24.00 340 ⇑P P 00 41 45.6 +1.5
baz=24,SNR=29
X16A **Lo Mia Camp, P** 24.06 321 P P 00 41 47.1 +2.3
baz=24,SNR=15
U19A **Dine' College,** 24.18 327 ⇑P P 00 41 47.4 +1.5
baz=24
R23A **Moffat** 24.18 336 ⇓P P 00 41 47.2 +1.3
baz=24,SNR=34
S22A **4UR Ranch, Cre** 24.22 333 ⇑P P 00 41 47.8 +1.6
baz=24,SNR=25
Q25A **Bedland, Calha** 24.23 339 ⇓P P 00 41 47.4 +1.1
baz=24,SNR=19
P27A **Ficken Ranch,** 24.29 343 ⇑P P 00 41 47.6 +0.9
baz=24,SNR=9.1
Z14A **Wintersburg** 24.32 317 ⇑P P 00 41 49.1 +2.3
baz=24
SFIN **Scholer Farm** 24.38 12 P P 00 41 47.1 -0.2
baz=25,SNR=5.2
113A **Mohawk Valley,** 24.50 315 ⇑P P 00 41 50.7 +2.1
baz=24
P26A **Davis Ranch, A** 24.52 341 P P 00 41 50.1 +1.2
baz=25,SNR=71
MVCO **Mesa Verde** 24.54 330 *eP* P 00 41 51.2 +2.1
comp=Z,51nm,0.9s
MVCO **Mesa Verde** 24.54 330 P P 00 41 51.4 +2.2
baz=24,SNR=22
S21A **Coal Bank Pass** 24.57 332 ⇓P P 00 41 51.0 +1.5
baz=25,SNR=24
R22A **Saguache, Gunn** 24.59 334 ⇓P P 00 41 51.5 +1.8
baz=25,SNR=13
Q24A **Divide** 24.60 338 ⇓P P 00 41 51.0 +1.3
baz=25
Y14A **Wickenburg** 24.72 318 ⇑P P 00 41 52.4 +1.8
baz=25
P25A **Willow Gulch B** 24.74 340 P P 00 41 52.2 +1.4
baz=25,SNR=14
WUAZ **Wupatki** 24.79 323 ⇓P P 00 41 53.4 +2.1
baz=25
Q23A **Hartsel** 24.80 336 ⇑P P 00 41 52.2 +0.6
baz=25
O27A **Beecher Island** 24.85 343 ⇓P P 00 41 52.8 +1.0
baz=25
S20A **Disappointment** 24.97 331 ⇓P P 00 41 54.9 +1.9
baz=25,SNR=9.2
P24A **Kohler Place,** 25.00 339 ⇑P P 00 41 54.6 +1.4
baz=25
R21A **Cimarron** 25.05 333 P P 00 41 55.6 +1.9
baz=25,SNR=12
BGNE **Belgrade** 25.12 352 ⇑P P 00 41 54.3 +0.2
baz=25,SNR=6.3
O26A **Horse Wrangler** 25.14 342 ⇑P P 00 41 56.1 +1.7
baz=25
Q22A **Crested Butte,** 25.19 335 ⇑P P 00 41 56.6 +1.5
baz=25,SNR=13
P23A **Jefferson** 25.21 337 ⇑P P 00 41 57.0 +1.7
baz=25,SNR=26
O25A **Wiggins** 25.27 340 ⇑P P 00 41 57.4 +1.8
baz=25
R20A **Redvale** 25.27 331 ⇓P P 00 41 57.9 +2.2
baz=25,SNR=15
ACSO **Alum Creek Sta** 25.28 19 *eP* P 00 41 59.3 +3.8
comp=Z,75nm,0.9s
SCIA **State Center** 25.28 0 *eP* P 00 41 55.5 0.0
comp=Z,385nm,1.8s
GLA **Glamis** 25.39 314 *eP* P 00 41 58.9 +2.2
GLA pmax pmax
comp=Z,41nm,0.8s
GLA **Glamis** 25.39 314 *eP* P 00 41 58.9 +2.2
comp=Z,41nm,0.8s
GLA **Glamis** 25.39 314 ⇓P P 00 41 59.0 +2.3
baz=25
OGNE **Ogallala** 25.44 345 *eP* P 00 41 58.0 +0.9
comp=Z,34nm,0.7s
OGNE *epP* pP 00 42 35.5 +6.4
OGNE **Ogallala** 25.44 345 ⇑P P 00 41 57.9 +0.8
baz=26,SNR=9.7
N27A **Anderson Farm,** 25.44 344 ⇑P P 00 41 58.0 +0.9
baz=26,SNR=6.8
Q21A **Lamborn Mesa,** 25.45 334 ⇑P P 00 41 58.9 +1.6
baz=26,SNR=6.3
SMCO **Snowmass** 25.49 335 *eP* P 00 41 59.6 +1.7
comp=Z,43nm,1.1s
SMCO *epP* pP 00 42 36.2 +6.3
ISCO **Idaho Springs** 25.50 338 *eP* P 00 41 59.2 +1.3
ISCO pmax pmax
comp=Z,33nm,0.8s
ISCO **Idaho Springs** 25.50 338 *eP* P 00 41 59.2 +1.3
comp=Z,33nm,0.8s
ISCO **Idaho Springs** 25.50 338 P P 00 41 59.2 +1.3
baz=26,SNR=16
Y12C **Blythe** 25.59 316 ⇑P P 00 42 00.9 +2.5
baz=26
O24A **Longmont** 25.60 339 ⇑P P 00 41 59.9 +1.3
baz=26
S18A **Hurst Farm, Bl** 25.65 328 ⇑P P 00 42 00.9 +1.6
baz=26
N26A **Koester Ranch,** 25.66 343 ⇓P P 00 42 00.8 +1.7
baz=26
PDMCI **Parker Dam,Lak** 25.68 317 P P 00 42 01.6 +2.4
baz=26,SNR=5.7
P22A **Eagle** 25.76 336 P P 00 42 01.7 +1.6
baz=26,SNR=12
Q20A **Ridgley Place,** 25.86 333 ⇓P P 00 42 02.6 +1.6
baz=26
U15A **North Rim** 25.96 323 ⇓P P 00 42 03.8 +1.8
baz=26
O23A **Lake Granby, G** 25.98 338 ⇓P P 00 42 03.6 +1.5
baz=26
P21A **Newcastle** 25.98 335 ⇑P P 00 42 04.1 +2.1
baz=26,SNR=11
SWSC **Sam W. Stewart** 26.00 313 ⇑P P 00 42 04.9 +2.8
baz=26
W13A **Hualapai Mount** 26.02 319 P P 00 42 04.8 +2.3
baz=26,SNR=9.5
S17A **Black Ridge (B** 26.02 327 ⇓P P 00 42 04.2 +1.8
baz=26
SJG **San Juan** 26.05 83 P P 00 42 02.7 +0.1
comp=Z,5.2nm,0.3s,baz=270,slow=10.0,SNR=4.0
SJG PcP PcP 00 45 27.0 +0.3
comp=Z,9.3nm,0.6s,baz=268,slow=4.9,SNR=3.7
SJG ScP ScP 00 48 52.1 0.0
comp=Z,2.9nm,0.3s,baz=104,slow=0.4,SNR=4.0
SJG **San Juan** 26.05 83 P P 00 42 02.8 +0.1
SJG PcP PcP 00 45 27.1 +0.3
SJG ScP ScP 00 48 52.1 0.0
M27A **Reverse DX Ran** 26.08 345 ⇓P P 00 42 04.1 +1.2
baz=26
BC3 **Big Chuckawall** 26.16 315 P P 00 42 06.0 +2.3
baz=26,SNR=14
N24A **Carr** 26.16 340 ⇑P P 00 42 05.4 +1.7
baz=26
O22A **Kremmling** 26.17 337 ⇓P P 00 42 04.9 +1.0
baz=26,SNR=8.6
M26A **McRoberts Ranc** 26.22 343 ⇓P P 00 42 05.9 +1.7
baz=26
IRM **Iron Mountain** 26.26 316 ⇑P P 00 42 06.5 +2.1
baz=26
Q19A **Hogan Spring (** 26.30 331 ⇓P P 00 42 06.4 +1.5
baz=26
P20A **De Beque** 26.35 333 ⇓P P 00 42 07.3 +1.9
baz=26
MONP **Monument Peak** 26.41 312 ⇓P P 00 42 08.5 +2.4
baz=26
M25A **Palm-Egli Farm** 26.46 342 ⇓P P 00 42 08.0 +1.7
baz=26
S16A **Weppner Ranch,** 26.51 326 ⇓P P 00 42 09.0 +2.1
baz=26
R17A **Hanksville Air** 26.57 328 P P 00 42 09.5 +2.1
baz=27,SNR=8.2
N23A **Red Feather La** 26.59 338 ⇑P P 00 42 09.3 +1.7
baz=27
N22A **Wattenberg Ran** 26.69 338 ⇓P P 00 42 10.1 +1.5
baz=27,SNR=8.0
P19A **Cripple Cowboy** 26.72 333 ⇓P P 00 42 10.7 +1.9
baz=27
M24A **Cheyenne** 26.73 341 ⇑P P 00 42 10.5 +1.8
baz=27
BELC **Belle Mtn. Jos** 26.73 315 ⇑P P 00 42 10.9 +2.0
baz=27,SNR=5.7
PHWY **Pilot Hill** 26.78 340 *eP* P 00 42 10.8 +1.5
comp=Z,15nm,0.8s
PHWY *epP* pP 00 42 46.2 +4.8
O20A **White River Ci** 26.82 334 ⇑P P 00 42 11.6 +2.0
baz=27
R16A **Teasdale** 26.86 327 ⇑P P 00 42 12.3 +2.2
baz=27
GMRC **Granite Mounta** 26.96 317 ⇓P P 00 42 12.9 +2.0
baz=27,SNR=8.9
AAM **Ann Arbor** 27.00 16 *eP* P 00 42 09.7 -1.2
AAM pmax pmax
comp=Z,56nm,1.1s
AAM **Ann Arbor** 27.00 16 *eP* P 00 42 09.7 -1.2
comp=Z,56nm,1.1s
SRU **San Rafael** 27.02 330 ⇑P P 00 42 13.3 +1.9
baz=27
N21A **Black Mountain** 27.06 336 ⇑P P 00 42 13.8 +2.0
baz=27
L25A **Engebretsen Ra** 27.09 343 ⇓P P 00 42 13.9 +2.0
baz=27
K27A **Flueckinger Fa** 27.15 346 ⇑P P 00 42 14.3 +1.8
baz=27
Q16A **Castle Valley** 27.19 329 ⇑P P 00 42 15.2 +2.2
baz=27
ECSD **EROS Data Cent** 27.24 355 *eP* P 00 42 12.5 -0.7
comp=Z,60nm,0.6s
M22A **Cedar Creek Ra** 27.27 338 ⇑P P 00 42 15.5 +1.8
baz=27
L24A **Wheatland** 27.28 341 ⇑P P 00 42 15.4 +1.8
baz=27
P18A **Preston Nutter** 27.29 331 ⇓P P 00 42 15.4 +1.4
baz=27
O19A **Mires Draw (B** 27.33 333 ⇓P P 00 42 15.8 +1.7
baz=27
MURC **Murrieta** 27.34 313 ⇑P P 00 42 16.5 +2.3
baz=27
CCUT **Cedar City** 27.35 324 *eP* P 00 42 17.5 +3.0
comp=Z,9.6nm,0.9s
MSU **Marysvale** 27.40 327 *eP* P 00 42 17.3 +2.5
MSU **Marysvale** 27.40 327 *eP* P 00 42 17.3 +2.5
MSU *epP* pP 00 42 55.2 +8.2
P17A **Butcher Ranch,** 27.41 330 ⇑P P 00 42 16.7 +1.9
baz=27,SNR=10.0
N20A **Spence Gulch,** 27.41 335 P P 00 42 16.2 +1.2
baz=28,SNR=14
TMUT **Trail Mountain** 27.50 329 *eP* P 00 42 18.2 +2.4
comp=Z,12nm,0.9s
ALLY **Alegheny Colle** 27.50 22 *epP* pP 00 42 54.9 +7.3
SSPA **Standing Stone** 27.51 26 *eP* P 00 42 14.4 -1.1
SSPA *ePcP* PcP 00 45 30.6 +0.8
ARUT **Antelope Range** 27.56 324 *eP* P 00 42 19.1 +2.8
ARUT pmax pmax
comp=Z,21nm,0.9s
ARUT **Antelope Range** 27.56 324 *eP* P 00 42 19.1 +2.8
comp=Z,21nm,0.9s
L23A **Garrett** 27.59 340 ⇓P P 00 42 17.7 +1.2
baz=28,SNR=7.8
O18A **Roosevelt** 27.69 332 P P 00 42 19.2 +1.9
baz=28,SNR=7.0
M21A **Separation Pea** 27.73 337 ⇓P P 00 42 19.5 +1.8
baz=28,SNR=8.2
L22A **Ellis Ranch, M** 27.76 339 ⇑P P 00 42 19.7 +1.6
baz=28
ATAH **Atahualpa** 27.81 147 P P 00 42 22.1 +3.2
comp=Z,6.6nm,0.7s,baz=349,slow=7.3,SNR=4.3
ATAH **Atahualpa** 27.81 147 P P 00 42 22.1 +3.2
N19A **John Jarvie Ra** 27.84 334 ⇓P P 00 42 20.1 +1.4
baz=28,SNR=10
M20A **Sweetwater, Wa** 27.94 336 P P 00 42 21.2 +1.5
baz=28,SNR=11
P16A **Fountain Green** 27.96 329 ⇓P P 00 42 22.2 +2.4
baz=28
O17A **Robinson Place** 27.97 331 P P 00 42 22.3 +2.4
baz=28,SNR=23
BFSC **Mount Baldy Ra** 28.01 314 ⇓P P 00 42 22.7 +2.5
baz=28
L21A **Rawlins** 28.04 337 P P 00 42 21.6 +1.1
baz=28,SNR=13
N18A **Larsen Ranch,** 28.12 333 ⇑P P 00 42 22.7 +1.4
baz=28,SNR=7.6
R13A **O'Grain Ranch,** 28.14 324 ⇓P P 00 42 24.0 +2.6
baz=28,SNR=14
K23A **Bowen Ranch, D** 28.14 341 ⇓P P 00 42 22.8 +1.5
baz=28,SNR=5.9
P15A **Leamington** 28.24 328 ⇓P P 00 42 24.1 +1.9
baz=28
MPU **Maple Canyon** 28.26 329 *eP* P 00 42 24.8 +2.4
comp=Z,16nm,0.8s
K22A **Casper** 28.34 339 ⇓P P 00 42 24.5 +1.4
baz=28
M19A **Rock Springs** 28.34 335 ⇓P P 00 42 24.8 +1.6
baz=28
O16A **Springville** 28.34 330 ⇓P P 00 42 24.9 +1.7
baz=28
J24A **Dixon Ranch, L** 28.38 343 ⇓P P 00 42 24.8 +1.4
baz=28
DAU **Daniels Canyon** 28.39 330 *eP* P 00 42 26.1 +2.4
DAU **Daniels Canyon** 28.39 330 *eP* P 00 42 26.1 +2.4
L20A **Wamsutter** 28.44 336 ⇑P P 00 42 25.4 +1.3
baz=28
K21A **Alcova** 28.58 338 ⇓P P 00 42 26.4 +1.2
baz=29
SPMN **St. Paul** 28.60 1 P P 00 42 24.6 -0.5
baz=29,SNR=29
N17A **Moffit Pass** 28.61 332 P P 00 42 27.8 +2.1
baz=29,SNR=12
JLU **Jordanelle** 28.63 330 *eP* P 00 42 28.0 +2.2
comp=Z,38nm,1.7s
M18A **Lyman** 28.66 333 ⇑P P 00 42 26.9 +0.8
baz=29
J23A **Dilts Ranch, B** 28.71 341 ⇑P P 00 42 27.5 +1.3
baz=29
LRMC **Laurel Mountai** 28.72 316 ⇓P P 00 42 29.0 +2.5
baz=29
FURC **Furnace Creek,** 28.76 318 ⇑P P 00 42 29.2 +2.6
baz=29
N16A **Rees Ranch, Co** 28.85 331 ⇓P P 00 42 29.6 +2.0
baz=29,SNR=6.8
I24A **Kuemmerle Ranc** 28.85 343 ⇓P P 00 42 29.2 +1.7
baz=29
O15A **The Old Anders** 28.87 329 ⇑P P 00 42 29.9 +2.1
baz=29
MPMC **Manual Prospec** 28.92 317 P P 00 42 30.5 +2.1
baz=29,SNR=9.6
L19A **Farson** 28.93 335 ⇑P P 00 42 29.9 +1.6
baz=29
RSSD **Black Hills** 28.93 344 *eP* P 00 42 29.2 +0.8
RSSD **Black Hills** 28.93 344 *eP* P 00 42 29.2 +0.8
M17A **Scullys Gap (B** 28.96 333 ⇓P P 00 42 29.8 +1.1
baz=29,SNR=6.5
DUG **Dugway** 28.98 328 *eP* P 00 42 31.3 +2.6
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG **Dugway** 28.98 328 *eP* P 00 42 31.3 +2.6
comp=Z,6.8nm,0.9s
DUG **Dugway** 28.98 328 P P 00 42 31.1 +2.3
baz=29,SNR=6.4
K20A **Yellowstone Ra** 29.00 337 ⇓P P 00 42 29.9 +1.0
baz=29
J22A **Midwest** 29.01 340 ⇑P P 00 42 30.0 +1.0
baz=29,SNR=6.7
L18A **Fontenelle, Gr** 29.06 334 P P 00 42 30.8 +1.2
baz=29,SNR=10
GLMI **Grayling** 29.15 13 *eP* P 00 42 28.3 -1.7
comp=Z,83nm,0.7s
GLMI *epP* pP 00 43 08.2 +5.8
R11A **Troy Canyon, C** 29.18 322 ⇑P P 00 42 32.5 +1.9
baz=29
M16A **Huntsville** 29.27 331 P P 00 42 33.2 +1.8
baz=29,SNR=5.6
J21A **Lysite** 29.27 339 ⇑P P 00 42 33.0 +1.7
baz=29,SNR=12
K19A **Absolon Red Bu** 29.34 336 ⇑P P 00 42 32.2 +0.3
baz=29,SNR=7.7
ISA **Isabella** 29.35 315 ⇓P P 00 42 34.3 +2.3
baz=29
N15A **Stansbury Isla** 29.36 330 ⇑P P 00 42 34.2 +2.1
baz=29
GRAC **Grapevine Rang** 29.41 319 ⇓P P 00 42 35.0 +2.5
baz=29,SNR=5.4
I22A **9 Mile Ranch,** 29.44 341 ⇓P P 00 42 33.9 +1.2
baz=30,SNR=9.6
J20A **Shoshoni** 29.51 338 ⇓P P 00 42 35.0 +1.6
baz=30,SNR=5.9
CWC **Cottonwood Cre** 29.53 317 ⇑P P 00 42 35.7 +2.0
baz=30
L17A **Cokeville** 29.56 333 ⇑P P 00 42 34.9 +0.9
baz=30,SNR=9.2
BW06 **Boulder Array** 29.56 335 *eP* P 00 42 35.0 +1.0
BW06 **Boulder Array** 29.56 335 ⇓P P 00 42 34.7 +0.8
baz=30,SNR=5.1
PDAR **Pinedale Array** 29.56 335 P P 00 42 34.5 +0.5
comp=Z,2.7nm,0.7s,baz=132,slow=8.9,SNR=24
PDAR pP pP 00 43 07.5 +1.0
comp=Z,2.4nm,0.9s,baz=152,slow=6.7,SNR=2.9
PDAR sP sP 00 43 22.1 -2.0
comp=Z,7.0nm,0.9s,baz=134,slow=8.4,SNR=8.9
PDAR PcP PcP 00 45 34.8 -0.5
comp=Z,2.3nm,0.6s,baz=128,slow=5.6,SNR=9.6
PDAR **Pinedale Array** 29.56 335 P P 00 42 34.5 +0.5
PDAR pP pP 00 43 07.5 +1.0
PDAR sP sP 00 43 22.1 -2.0
PDAR PcP PcP 00 45 34.8 -0.5
I21A **Big Trails, Te** 29.63 339 ⇓P P 00 42 35.3 +0.8
baz=30,SNR=7.7
H24A **Dirks Ranch, A** 29.65 344 ⇓P P 00 42 35.3 +0.8
baz=30,SNR=12
K18A **Toltan Ranch,** 29.65 335 ⇑P P 00 42 36.4 +1.6
baz=30,SNR=12
COWI **Conover** 29.69 6 *eP* P 00 42 32.9 -1.9
comp=Z,23nm,0.8s
L16A **Fish Haven** 29.74 332 ⇓P P 00 42 36.8 +1.2
baz=30,SNR=8.6
M15A **Larsen Ranch,** 29.77 330 ⇑P P 00 42 37.5 +1.8
baz=30,SNR=5.3
J19A **Crowheart** 29.79 337 ⇑P P 00 42 36.6 +0.7
baz=30,SNR=9.5
VES **Vestal, Richgr** 29.86 315 ⇓P P 00 42 39.0 +2.6
baz=30
PKM **Peak Mountain** 29.87 313 ⇑P P 00 42 39.0 +2.2
baz=30
H22A **Clearmont** 30.03 341 ⇑P P 00 42 38.6 +0.7
baz=30,SNR=11
I20A **Worland** 30.04 338 P P 00 42 39.7 +1.6
baz=30,SNR=19
K17A **Gardner Place,** 30.11 334 ⇑P P 00 42 40.1 +1.3
baz=30,SNR=14
J18A **Kendall Valley** 30.12 335 P P 00 42 39.9 +1.0
baz=30,SNR=19
G24A **Alzada** 30.16 344 ⇓P P 00 42 40.1 +1.1
baz=30
L15A **Malad City** 30.16 331 ⇑P P 00 42 40.6 +1.4
baz=30,SNR=21
HVU **Hansel Valley** 30.17 330 *eP* P 00 42 37.8 -1.5
HVU pmax pmax
comp=Z,28nm,0.8s
HVU **Hansel Valley** 30.17 330 *eP* P 00 42 37.8 -1.5
comp=Z,28nm,0.8s
AHID **Auburn Hatcher** 30.20 334 *eP* P 00 42 41.3 +1.7
RCTC **Rector, Farmer** 30.23 316 ⇓P P 00 42 42.1 +2.5
baz=30
H21A **Big Horn, Sher** 30.28 340 P P 00 42 40.9 +0.8
baz=30,SNR=8.8
G23A **Biddle** 30.30 343 ⇓P P 00 42 40.7 +0.4
baz=30,SNR=7.7
I19A **Meeteetse** 30.43 337 ⇓P P 00 42 42.9 +1.4
baz=30,SNR=17
I18A **Diamond G Ranc** 30.45 336 ⇑P P 00 42 42.8 +1.0
baz=30,SNR=11
K16A **Soda Springs** 30.46 333 ⇓P P 00 42 43.5 +1.6
baz=30,SNR=13
H20A **Greybull** 30.47 339 ⇑P P 00 42 42.6 +0.8
baz=30
J17A **Brown Place, J** 30.53 335 ⇓P P 00 42 44.3 +1.8
baz=31,SNR=61
G22A **Birney** 30.58 342 ⇑P P 00 42 43.0 +0.2
baz=31
REDW **Red Top Meadow** 30.59 335 *eP* P 00 42 44.6 +1.6
L14A **Malta** 30.59 330 ⇓P P 00 42 44.9 +1.9
baz=31,SNR=42
SADO **Sadowa** 30.60 20 P P 00 42 41.4 -1.4
comp=Z,3.3nm,0.4s,baz=258,slow=9.8,SNR=5.0
SADO PcP PcP 00 45 37.4 -0.2
comp=Z,3.5nm,0.5s,baz=253,slow=5.2,SNR=3.6
SADO LR LR 00 56 37.0
comp=Z,104nm,20.1s,baz=219,slow=39
SADO **Sadowa** 30.60 20 P P 00 42 41.4 -1.4
SADO PcP PcP 00 45 37.4 -0.2
SNOW **Snow King Moun** 30.63 335 *eP* P 00 42 45.3 +1.9
comp=Z,77nm,0.8s
ELK **Elko** 30.64 326 *eP* P 00 42 45.9 +2.4
ELK *epP* pP 00 43 14.6 -1.4
F24A **Ekalaka** 30.64 345 ⇓P P 00 42 43.8 +0.5
baz=31
LOHW **Long Hollow** 30.69 335 *eP* P 00 42 45.4 +1.5
comp=Z,22nm,0.9s
TPAW **Teton Pass** 30.73 335 *eP* P 00 42 46.1 +1.8
comp=Z,45nm,0.9s
K15A **Arbon** 30.77 332 ⇑P P 00 42 46.2 +1.7
baz=31,SNR=20
RRI2 **Red Ridge** 30.77 334 *eP* P 00 42 46.3 +1.6
F23A **Volborg** 30.78 343 ⇓P P 00 42 45.4 +0.9
baz=31,SNR=6.5
J16A **Bone** 30.83 334 ⇑P P 00 42 46.7 +1.6
baz=31,SNR=12
MOOW **Moose Ponds** 30.86 335 *eP* P 00 42 46.7 +1.3
comp=Z,21nm,0.9s
G21A **Lodge Grass** 30.86 341 ⇑P P 00 42 45.8 +0.5
baz=31
NVAR **Mina Array Bea** 30.87 320 P P 00 42 48.5 +2.9
comp=Z,20nm,0.7s,baz=131,slow=8.8,SNR=82
NVAR PcP PcP 00 45 39.7 +1.0
comp=Z,3.1nm,0.7s,baz=128,slow=2.4,SNR=4.7
NVAR **Mina Array Bea** 30.87 320 P P 00 42 48.5 +2.9
NVAR PcP PcP 00 45 39.7 +1.0
DCID1 **Drake Creek** 30.91 334 *eP* P 00 42 47.8 +2.0
I17A **Pilgrim Ck.** 30.94 335 ⇑P P 00 42 47.8 +1.8
baz=31,SNR=20
K14A **Jones Ranch, D** 30.95 331 ⇓P P 00 42 47.6 +1.4
baz=31,SNR=18
H19A **Powell** 30.97 338 ⇑P P 00 42 47.3 +1.0
baz=31,SNR=15
GRGR **Grenville** 31.04 94 *eP* P 00 42 45.7 -1.3
IMW **Indian Meadow** 31.06 335 *eP* P 00 42 48.6 +1.4
F22A **Rosebud** 31.07 342 ⇓P P 00 42 47.7 +0.6
baz=31
FLWY **Flagg Ranch** 31.12 335 *eP* P 00 42 49.4 +1.7
comp=Z,20nm,0.8s
G20A **Bridger** 31.19 340 ⇑P P 00 42 48.5 +0.3
baz=31,SNR=12
H18A **Shoshone NF, C** 31.23 337 ⇓P P 00 42 49.5 +0.9
baz=31,SNR=100
I16A **Newdale** 31.27 334 ⇑P P 00 42 50.7 +1.8
baz=31,SNR=13
E24A **Baker** 31.28 345 ⇑P P 00 42 49.7 +0.9
baz=31,SNR=5.9
J15A **Blackfoot** 31.29 333 P P 00 42 50.9 +1.9
baz=31,SNR=20
H17A **Grant Village** 31.33 336 ⇓P P 00 42 51.4 +1.8
baz=31,SNR=13
EYMN **Ely** 31.36 2 *eP* P 00 42 48.1 -1.3
comp=Z,26nm,1.3s
LKWY **Lake** 31.41 336 *eP* P 00 42 52.7 +2.5
LKWY pmax pmax

comp=Z,29nm,1.1s
LKWY **Lake** 31.41 336 *e*P P 00 42 52.7 +2.5
comp=Z,28nm,1.1s
RLMT **Red Lodge** 31.46 338 *e*P P 00 42 51.6 +1.0
comp=Z,25nm,1.3s
RLMT **Red Lodge** 31.46 338 ⇑P P 00 42 51.5 +0.8
baz=32,SNR=16
BMN **Battle Mountai** 31.51 324 *e*P P 00 42 53.6 +2.5
BMN **Battle Mountai** 31.51 324 *e*P P 00 42 53.6 +2.5
E22A **Miles City** 31.59 343 P P 00 42 52.0 +0.4
baz=32,SNR=6.1
MDND **Maddock** 31.64 352 ⇓P P 00 42 52.0 +0.1
baz=32,SNR=22
F20A **Billings** 31.68 340 ⇓P P 00 42 52.8 +0.4
baz=32
YMR **Madison River** 31.71 336 *e*P P 00 42 54.5 +1.7
comp=Z,56nm,1.0s
YMR *e*pP pP 00 43 31.7 +6.3
AGMN **Agassiz Nation** 31.74 357 *e*P P 00 42 52.1 -0.6
comp=Z,41nm,0.8s
G18A **Lazy EL Ranch,** 31.74 338 P P 00 42 54.0 +1.0
baz=32,SNR=24
I15A **Monteview** 31.79 333 ⇓P P 00 42 55.3 +1.8
baz=32
D24A **Glendive** 31.80 346 ⇓P P 00 42 54.4 +1.0
baz=32,SNR=14
H16A **Russell Place,** 31.86 336 ⇓P P 00 42 55.6 +1.5
baz=32,SNR=13
CMB **Columbia Colle** 31.95 317 *e*P P 00 42 57.0 +2.1
CMB **Columbia Colle** 31.95 317 *e*P P 00 42 57.0 +2.1
F19A **Roth Farm, Mol** 31.99 339 P P 00 42 55.7 +0.6
baz=32,SNR=16
E21A **Keefer Ranch,** 32.01 342 ⇑P P 00 42 55.7 +0.5
baz=32
QLMT **Earthquake Lak** 32.03 335 *e*P P 00 42 58.0 +2.3
D23A **Lindsay** 32.07 345 ⇑P P 00 42 56.8 +1.0
baz=32,SNR=10.0
J13A **Cove Ranch, Pi** 32.08 331 ⇓P P 00 42 57.4 +1.5
baz=32
GCMT **Greycliff** 32.18 338 *e*P P 00 42 57.8 +0.9
comp=Z,18nm,0.8s
C24A **Savage** 32.22 346 ⇑P P 00 42 58.2 +1.2
baz=32,SNR=11
E20A **Meyer Farm, Mu** 32.30 341 P P 00 42 58.6 +0.9
baz=32,SNR=14
F18A **Big Timber** 32.30 338 ⇓P P 00 42 58.9 +1.1
baz=32
D22A **Cohagen** 32.31 344 ⇓P P 00 42 58.8 +1.0
baz=32,SNR=24
HLID **Hailey** 32.31 331 *e*P P 00 42 58.7 +0.6
comp=Z,17nm,0.8s
HLID **Hailey** 32.31 331 P P 00 42 59.9 +1.8
baz=32,SNR=42
H15A **Lima** 32.36 334 ⇑P P 00 43 00.7 +2.3
baz=32,SNR=21
I13A **Wildhorse Cree** 32.45 332 ⇓P P 00 43 01.1 +1.8
baz=32,SNR=33
D21A **La Casta Ranch** 32.46 343 ⇑P P 00 43 00.4 +1.2
baz=32
E19A **Rath Farm, Rou** 32.47 340 ⇑P P 00 42 60.0 +0.7
baz=32,SNR=15
G16A **Moss Hill, Enn** 32.51 335 ⇑P P 00 43 01.5 +1.7
baz=32,SNR=17
MCMT **McKenzie Canyo** 32.61 334 *e*P P 00 43 03.0 +2.2
comp=Z,30nm,1.0s
MCMT *e*pP pP 00 43 40.1 +6.7
F17A **Fitzpatrick Pl** 32.64 337 ⇓P P 00 43 02.6 +1.8
baz=33,SNR=37
C23A **Lambert** 32.65 345 ⇓P P 00 43 01.7 +0.9
baz=33,SNR=9.4
H14A **Leadore** 32.66 333 ⇑P P 00 43 03.3 +2.2
baz=33,SNR=31
G15A **Dillon** 32.74 335 ⇓P P 00 43 03.8 +2.1
baz=33,SNR=43
C22A **Vida** 32.78 344 ⇑P P 00 43 02.7 +0.8
baz=33,SNR=13
BOZ **Bozeman (W)** 32.79 336 *e*P P 00 43 03.0 +0.8
BOZ *e**PP pP 00 43 41.3 +6.5
BOZ pmax pmax
comp=Z,20nm,1.1s
BOZ **Bozeman (W)** 32.79 336 *e*P P 00 43 03.0 +0.8
comp=Z,20nm,1.1s
BOZ *e*pP pP 00 43 41.2 +6.5
BOZ **Bozeman (W)** 32.79 336 ⇓P P 00 43 03.3 +1.1
baz=33,SNR=23
D20A **Manuel Ranch,** 32.82 341 ⇑P P 00 43 03.3 +1.0
baz=33,SNR=23
I12A **Atlanta** 32.83 330 ⇓P P 00 43 04.6 +2.0
baz=33
MFID **Camas Ranch** 32.88 329 *e*P P 00 43 04.9 +2.0
comp=Z,10nm,0.6s
MFID **Camas Ranch** 32.88 329 P P 00 43 05.0 +2.0
baz=33,SNR=8.3
F16A **Kennard Place,** 32.90 336 P P 00 43 05.0 +1.8
baz=33,SNR=7.6
E18A **Harlowton** 32.94 339 P P 00 43 04.6 +1.2
baz=33,SNR=28
DLMT **Dillon** 32.94 335 *e*P P 00 43 05.5 +2.0
comp=Z,46nm,1.1s
H13A **Challis** 33.02 332 P P 00 43 06.2 +2.1
baz=33,SNR=56
DGMT **Dagmar** 33.05 347 *e*P P 00 43 04.8 +0.5
comp=Z,59nm,1.1s
DGMT **Dagmar** 33.05 347 ⇑P P 00 43 04.7 +0.5
baz=33,SNR=6.5
D19A **Cripps Ranch,** 33.12 341 ⇓P P 00 43 05.7 +0.8
baz=33,SNR=24
C21A **Desert Coulee** 33.18 343 ⇑P P 00 43 06.2 +0.8
baz=33,SNR=24
E17A **Martinsdale** 33.19 338 ⇓P P 00 43 06.6 +0.9
baz=33,SNR=11
G14A **Jackson** 33.20 334 ⇓P P 00 43 07.6 +1.7
baz=33,SNR=24
B23A **Brockton** 33.23 346 ⇓P P 00 43 06.8 +1.0
baz=33,SNR=13
LRM **Limekiln Ridge** 33.26 335 *e*P P 00 43 08.0 +1.6
H12A **Diamond D Ranc** 33.28 332 ⇑P P 00 43 08.3 +1.8
baz=33,SNR=57
F15A **Butte** 33.29 335 P P 00 43 08.3 +1.7
baz=33,SNR=55
B22A **Reddig Ranch S** 33.32 345 ⇓P P 00 43 07.4 +0.8
baz=33,SNR=5.2
C20A **Veseth Ranch,** 33.34 342 ⇑P P 00 43 07.8 +1.1
baz=33,SNR=11
G13A **Cobalt** 33.42 333 P P 00 43 09.3 +1.7
baz=33,SNR=19
A24A **Westby** 33.44 347 ⇓P P 00 43 08.2 +0.6
baz=34,SNR=12
D18A **Linhart Farms,** 33.45 340 ⇑P P 00 43 09.0 +1.2
baz=34,SNR=5.3
E16A **East Helena** 33.55 337 ⇓P P 00 43 10.0 +1.3
baz=34,SNR=37
F14A **Wisdom** 33.62 334 ⇑P P 00 43 10.5 +1.1
baz=34,SNR=18
A23A **Redstone** 33.66 346 ⇑P P 00 43 10.5 +0.9
baz=34,SNR=16
C19A **Slack Wire Ran** 33.68 341 ⇑P P 00 43 10.8 +1.1
baz=34,SNR=15
ULM **Lac du Bonnet** 33.69 357 P P 00 43 08.4 -1.3
comp=Z,28nm,0.6s,baz=180,slow=9.4,SNR=57
ULM **Lac du Bonnet** 33.69 357 P P 00 43 08.4 -1.3
D17A **Six Diamond Ra** 33.71 339 ⇑P P 00 43 11.3 +1.1
baz=34,SNR=42
HRY **Holter Researc** 33.76 337 *e*P P 00 43 11.8 +1.3
E15A **Deer Lodge** 33.83 336 P P 00 43 12.3 +1.2
baz=34,SNR=24
D16A **Dana Ranch, Ca** 33.92 338 ⇑P P 00 43 12.6 +0.7
baz=34,SNR=9.7
G12A **Big Creek, Yel** 33.94 332 ⇓P P 00 43 13.8 +1.6
baz=34
A22A **Carney Farms,** 33.94 345 P P 00 43 13.2 +1.2
baz=34,SNR=11
B20A **Solberg Farm,** 34.00 342 ⇓P P 00 43 13.3 +0.8
baz=34,SNR=20
F13A **Darby** 34.01 333 P P 00 43 13.7 +1.0
baz=34,SNR=33
C17A **Wharram Farm,** 34.15 339 ⇑P P 00 43 14.8 +1.0
baz=34,SNR=33
EGMT **Eagleton** 34.16 340 *e*P P 00 43 14.9 +1.1
comp=Z,40nm,0.9s
EGMT **Eagleton** 34.16 340 ⇓P P 00 43 14.8 +0.9
baz=34,SNR=15
E14A **Clinton** 34.16 335 ⇑P P 00 43 15.1 +1.1
baz=34,SNR=19
A21A **Bergtoll Ranch** 34.20 344 ⇑P P 00 43 15.2 +1.1
baz=34,SNR=38
B19A **Brinkman Farms** 34.28 342 ⇑P P 00 43 16.2 +1.2
baz=34,SNR=9.3

D15A **Lincoln** 34.29 337 ⇓P P 00 43 16.3 +1.1
baz=34,SNR=22
A20A **Cobblestone Ra** 34.37 343 ⇑P P 00 43 16.6 +1.0
baz=34,SNR=31
F12A **Elk City** 34.39 333 ⇑P P 00 43 17.5 +1.6
baz=34,SNR=101
E13A **Victor** 34.47 334 ⇑P P 00 43 17.7 +1.1
baz=34,SNR=47
CHMT **Chamberlain Mo** 34.47 336 *e*P P 00 43 17.6 +0.9
B18A **Beardsley Farm** 34.49 341 ⇓P P 00 43 18.1 +1.4
baz=35,SNR=13
C16A **Fuhringer Ranc** 34.64 338 ⇑P P 00 43 19.2 +1.1
baz=35,SNR=51
A19A **Klindworth Far** 34.65 342 ⇑P P 00 43 19.0 +0.9
baz=35,SNR=22
BMO **Blue Mountains** 34.66 330 *e*P P 00 43 18.7 +0.4
comp=Z,12nm,1.1s
MSO **Missoula** 34.68 335 *e*P P 00 43 19.2 +0.8
comp=Z,26nm,1.2s
MSO *e*pP pP 00 43 56.6 +5.3
MSO **Missoula** 34.68 335 ⇑P P 00 43 19.4 +0.9
baz=35,SNR=20
D14A **Greenough** 34.71 336 P P 00 43 19.4 +0.7
baz=35,SNR=21
B17A **L&G Farms, Che** 34.73 339 P P 00 43 19.5 +0.7
baz=35,SNR=10.0
SLMT **Seeley Lake** 34.83 336 *e*P P 00 43 20.4 +0.6
C15A **Salmond Ranch,** 34.94 337 P P 00 43 21.7 +1.1
baz=35,SNR=24
A18A **Metzger Ranch,** 34.97 341 ⇓P P 00 43 21.6 +0.8
baz=35,SNR=18
E12A **Beaver Dam Sad** 35.04 333 ⇓P P 00 43 22.1 +0.6
baz=35
D13A **Huson** 35.10 335 P P 00 43 23.1 +1.1
baz=35,SNR=36
B16A **M & M Farms, S** 35.15 339 P P 00 43 23.1 +0.7
baz=35,SNR=16
SWMT **Swartz Lake** 35.25 336 *e*P P 00 43 24.1 +0.7
A17A **Triple J Farms** 35.27 340 ⇓P P 00 43 24.0 +0.6
baz=35
C14A **Swan Lake** 35.36 336 ⇑P P 00 43 25.0 +0.7
baz=35
B15A **Bradely Ranch,** 35.37 338 ⇓P P 00 43 24.9 +0.6
baz=35,SNR=11
D12A **Red Ives Fores** 35.44 334 ⇓P P 00 43 25.2 +0.3
baz=36
F10A **Beach Ranch, E** 35.45 331 P P 00 43 25.8 +0.8
YBMT **Yellow Bay** 35.54 336 *e*P P 00 43 27.1 +1.3
comp=Z,11nm,0.8s
JTMT **Jette** 35.56 336 *e*P P 00 43 27.3 +1.4
A16A **West Butte Ran** 35.57 339 ⇓P P 00 43 26.7 +0.7
baz=36
C13A **Hot Springs** 35.62 335 ⇑P P 00 43 27.3 +0.9
baz=36,SNR=12
B14A **Marquette Ranc** 35.67 337 ⇓P P 00 43 27.9 +1.0
baz=36
BLMT **Blacktail Moun** 35.80 336 *e*P P 00 43 29.3 +1.1
BSMT **Bassoo Peak** 35.84 335 *e*P P 00 43 29.6 +1.2
A15A **Johnson Ranch,** 35.99 338 ⇑P P 00 43 30.2 +0.6
baz=36,SNR=12
C12B **Naegeli Ranch,** 36.01 334 ⇓P P 00 43 30.6 +0.9
baz=36,SNR=7.6
B13A **Whitefish** 36.14 336 ⇓P P 00 43 31.9 +1.1
baz=36,SNR=18
HUMO **Hull Mountain** 36.22 322 *e*P P 00 43 32.3 +0.7
comp=Z,22nm,0.7s
A14A **Double T Ranch** 36.23 338 ⇓P P 00 43 32.7 +1.0
baz=36,SNR=24
C11A **Tepee Creek (N** 36.44 334 ⇓P P 00 43 34.4 +1.0
baz=36
WALA **Waterton Lakes** 36.49 337 *e*P P 00 43 34.5 +0.7
comp=Z,0.1nm,0.5s
A13A **Flathead Natio** 36.57 337 ⇑P P 00 43 35.4 +0.9
baz=37,SNR=8.3
B12A **Libby** 36.66 335 ⇓P P 00 43 36.3 +1.1
baz=37,SNR=14
HAWA **Hanford** 36.85 329 *e*P P 00 43 37.5 +0.7
comp=Z,12nm,1.1s
A12A **Yaak River Ran** 37.05 336 ⇓P P 00 43 39.7 +1.1
baz=37,SNR=6.6
NEW **Newport** 37.14 334 P P 00 43 39.7 +0.4
comp=Z,4.5nm,0.6s,baz=143,slow=9.3,SNR=15
NEW PcP PcP 00 45 56.0 -0.2
comp=Z,2.6nm,0.6s,baz=114,slow=10,SNR=3.3
NEW **Newport** 37.14 334 *e*P P 00 43 39.7 +0.4
comp=Z,7.3nm,0.8s
NEW PcP PcP 00 45 56.0 -0.2
NEW **Newport** 37.14 334 P P 00 43 39.8 +0.6
baz=37,SNR=8.2
OD2 **Odessa Site #2** 37.19 331 P P 00 43 41.1 +1.5
DPW **Davenport** 37.31 332 P P 00 43 42.2 +1.5
DPW **Davenport** 37.31 332 P P 00 43 42.2 +1.5
SAW **Saint Andrews** 37.73 331 P P 00 43 46.0 +1.7
LON **Longmire** 38.23 328 *e*P P 00 43 50.3 +1.8
LON pmax pmax
comp=Z,8.0nm,0.8s
LON **Longmire** 38.23 328 *e*P P 00 43 50.3 +1.8
comp=Z,8.4nm,0.8s
FFC **Flin Flon** 38.68 352 *e*P P 00 43 52.3 +0.3
FFC *e*PP pP 00 44 30.6 +5.1
FFC pmax pmax
comp=Z,38nm,0.6s
FFC **Flin Flon** 38.68 352 *e*P P 00 43 52.3 +0.3
comp=Z,38nm,0.6s
FFC *e*pP pP 00 44 30.6 +5.1
FFC **Flin Flon** 38.68 352 P P 00 43 52.9 +0.9
comp=Z,429nm,0.5s,SNR=26
SAML **Samuel** 39.18 128 *e*P P 00 43 53.6 -3.0
comp=Z,12nm,0.8s
SAML *e*PcP PcP 00 46 03.1 0.0
MBW **Mount Baker** 39.67 330 P P 00 44 00.9 +0.3
LPAZ **La Paz** 41.05 141 P P 00 44 13.2 +0.5
comp=Z,28nm,0.8s,baz=331,slow=7.2,SNR=11
LPAZ sP sP 00 45 01.8 -2.0
comp=Z,14nm,0.7s,baz=324,slow=9.4,SNR=5.8
LPAZ **La Paz** 41.05 141 P P 00 44 13.2 +0.5
LPAZ sP sP 00 45 01.8 -2.0
SCHQ **Schefferville** 43.35 22 P P 00 44 30.0 -0.3
comp=Z,3.5nm,0.8s,baz=181,slow=3.7,SNR=8.1
SCHQ PcP PP 00 46 15.5 +1.4
comp=Z,11nm,0.8s,baz=235,slow=5.4,SNR=6.4
SCHQ LR LR 01 05 10.0
comp=Z,63nm,19.2s,baz=104,slow=39
SCHQ **Schefferville** 43.35 22 P P 00 44 30.0 -0.3
SCHQ PcP PP 00 46 15.5 +1.4
SIV **San Ignacio** 45.41 134 P P 00 44 46.1 -0.9
comp=Z,18nm,0.6s,baz=316,slow=8.5,SNR=25
SIV pP pP 00 45 21.9 +0.6
comp=Z,3.8nm,0.5s,baz=314,slow=7.0,SNR=2.5
SIV PcP PcP 00 46 24.4 +0.6
comp=Z,11nm,0.7s,baz=300,slow=5.1,SNR=7.1
SIV ScP ScP 00 50 02.3 +0.1
comp=Z,3.7nm,1.0s,baz=302,slow=6.8,SNR=4.4
SIV **San Ignacio** 45.41 134 P P 00 44 46.1 -0.9
SIV pP pP 00 45 21.9 +0.6
SIV PcP PcP 00 46 24.4 +0.6
SIV ScP ScP 00 50 02.3 +0.1
RPN **Rapa Nui** 46.08 200 *e*P P 00 44 54.7 +2.6
comp=Z,3µm,2.6s
YKA **Yellowknife Ar** 48.26 347 P P 00 45 08.4 -0.1
comp=Z,36nm,0.5s,baz=152,slow=7.4,SNR=503
YKA pP pP 00 45 42.7 -0.5
comp=Z,9.1nm,0.7s,baz=149,slow=7.6,SNR=4.5
YKA sP sP 00 45 58.7 -1.6
comp=Z,13nm,0.8s,baz=149,slow=7.6,SNR=5.3
YKA **Yellowknife Ar** 48.26 347 P P 00 45 08.4 -0.1
YKA pP pP 00 45 42.8 -0.5
YKA sP sP 00 45 58.8 -1.6
YKW3 **Yellowknife Ar** 48.32 347 *e*P P 00 45 08.7 -0.3
comp=Z,0.9nm,0.6s
YKW3 *e*pP pP 00 45 43.9 +0.2
DLBC **Dease Lake** 49.80 336 *e*P P 00 45 22.6 +2.2
FRB **Frobisher Bay** 50.17 14 P P 00 45 21.9 -1.2
comp=Z,4.1nm,0.4s,baz=214,slow=7.4,SNR=13
FRB **Frobisher Bay** 50.17 14 P P 00 45 21.9 -1.2
CFAA **Coronel Fontan** 53.62 153 P P 00 45 50.1 +1.1
comp=Z,1.0nm,0.7s,baz=332,slow=6.1,SNR=20
CFAA sP sP 00 46 41.3 0.0
comp=Z,1.1nm,0.7s,baz=326,slow=5.3,SNR=6.7
CFAA **Coronel Fontan** 53.62 153 P P 00 45 50.1 +1.1
CFAA sP sP 00 46 41.3 0.0
BDFB **Brasilia** 55.02 123 P P 00 45 57.8 -1.7
comp=Z,4.9nm,0.5s,baz=278,slow=7.1,SNR=11
BDFB sP sP 00 46 47.8 -4.2
comp=Z,9.5nm,0.8s,baz=277,slow=9.3,SNR=4.6
BDFB **Brasilia** 55.02 123 P P 00 45 57.8 -1.7

BDFB sP sP 00 46 47.8 -4.2
CPUP **Villa Florida** 55.18 140 P P 00 45 59.4 -1.0
comp=Z,16nm,0.7s,baz=311,slow=7.6,SNR=39
CPUP sP sP 00 46 49.1 -3.7
comp=Z,13nm,0.7s,baz=308,slow=7.6,SNR=8.8
CPUP **Villa Florida** 55.18 140 P P 00 45 59.4 -1.0
CPUP sP sP 00 46 49.1 -3.7
DAWY **Dawson** 56.83 338 *e*P P 00 46 12.0 +0.4
BMRM **Bremner River** 57.31 333 *e*P P 00 46 16.3 +1.2
comp=Z,18nm,0.6s
INK **Inuvik** 57.63 344 P P 00 46 17.4 +0.4
comp=Z,26nm,0.6s,baz=130,slow=6.8,SNR=65
INK PcP PcP 00 47 08.0 -0.5
comp=Z,7.8nm,0.5s,baz=112,slow=5.3,SNR=6.3
INK **Inuvik** 57.63 344 *e*P P 00 46 17.7 +0.6
comp=Z,32nm,0.7s
INK *e*pP pP 00 46 58.6 +5.6
INK *e*PcP PcP 00 47 07.9 -0.5
EGAK **Eagle** 57.87 338 *e*P P 00 46 19.0 +0.2
comp=Z,19nm,1.1s
MENT **Mentasta** 57.88 335 *e*P P 00 46 19.1 +0.1
RES **Resolute Bay** 58.16 360 P P 00 46 20.0 -0.7
comp=Z,8.9nm,0.5s,baz=185,slow=9.6,SNR=77
RES PcP PcP 00 47 08.8 -1.6
comp=Z,5.0nm,0.7s,baz=200,slow=9.7,SNR=4.3
RES **Resolute Bay** 58.16 360 *e*P P 00 46 19.6 -1.0
comp=Z,16nm,0.8s
RES PcP PcP 00 47 08.8 -1.6
DOT **Dot Lake** 58.37 336 *e*P P 00 46 23.1 +0.7
comp=Z,14nm,0.9s
DOT *e*pP pP 00 47 04.0 +5.7
PAX **Paxson** 58.60 335 *e*P P 00 46 24.9 +0.8
PAX pmax pmax
comp=Z,38nm,0.7s
PAX **Paxson** 58.60 335 *e*P P 00 46 24.9 +0.8
comp=Z,38nm,0.7s
SML **Sawmill** 59.29 333 *e*P P 00 46 29.5 +0.7
SML pmax pmax
comp=Z,11nm,1.1s
SML **Sawmill** 59.29 333 *e*P P 00 46 29.5 +0.7
comp=Z,11nm,1.1s
PMR **Palmer** 59.55 333 *e*P P 00 46 31.4 +0.9
PMR pmax pmax
comp=Z,17nm,0.7s
PMR **Palmer** 59.55 333 *e*P P 00 46 31.4 +0.9
comp=Z,17nm,0.7s
ILAR **Eielson Array** 59.99 337 P P 00 46 33.9 +0.5
comp=Z,27nm,0.9s,baz=144,slow=5.1,SNR=267
ILAR **Eielson Array** 59.99 337 P P 00 46 33.9 +0.5
SPB **Sao Paulo** 60.06 130 *e*P P 00 46 32.9 -1.7
comp=Z,32nm,1.1s
COLA **College** 60.40 336 *e*P P 00 46 35.9 -0.3
COLA pmax pmax
comp=Z,32nm,0.8s
COLA **College** 60.40 336 *e*P P 00 46 35.9 -0.3
comp=Z,32nm,0.8s
TRF **Thorofare Moun** 60.78 334 *e*P P 00 46 39.1 0.0
comp=Z,98nm,0.7s
TRF *e*pP PcP 00 47 24.1 +2.8
RSO **Redoubt South** 60.79 331 *e*P P 00 46 40.1 +0.8
comp=Z,81nm,0.8s
RSO *e*PcP PcP 00 47 21.1 -0.4
PLCA **Paso Flores** 60.80 160 P P 00 46 39.8 +0.4
comp=Z,6.1nm,0.9s,baz=328,slow=8.2,SNR=8.8
PLCA pP pP 00 47 15.4 -0.2
comp=Z,6.5nm,0.9s,baz=334,slow=10.0,SNR=4.9
PLCA **Paso Flores** 60.80 160 P P 00 46 39.8 +0.4
PLCA pP pP 00 47 15.4 -0.2
RCBR **Riachuelo** 61.03 106 P P 00 46 40.0 -1.4
comp=Z,7.3nm,0.8s,baz=352,slow=6.3,SNR=3.5
RCBR pP pP 00 47 18.2 +0.6
comp=Z,12nm,0.9s,baz=290,slow=9.6,SNR=2.8
RCBR **Riachuelo** 61.03 106 P P 00 46 40.0 -1.4
RCBR pP pP 00 47 18.2 +0.6
COLD **Coldfoot** 62.29 338 *e*P P 00 46 50.1 +1.2
comp=Z,19nm,0.9s
COLD *e*PcP PcP 00 47 27.6 +0.4
SUMG **Summit** 64.17 16 *i* P P 00 47 00.7 -0.9
comp=Z,4.8nm,0.9s
TNA **Tin City** 68.67 335 *e*P P 00 47 31.1 +1.3
comp=Z,24nm,1.3s
TNA *e*pP pP 00 48 11.9 +5.1
DAG **Danmarks Havn** 70.52 14 *i* P P 00 47 40.3 -0.7
comp=Z,38nm,0.6s
PVIS **Viseu** 76.05 51 *e*pP pP 00 48 52.4 +0.5
MORF **Marmelete** 76.07 55 *e*pP pP 00 48 58.2 +6.2
MORF A A 00 49 08.1
comp=Z,47nm,1.7s
PMTG **Montargil** 76.08 53 *e*pP pP 00 48 52.4 +0.4
PVRL **Vila Real** 76.09 51 *e*pP pP 00 48 52.8 +0.7
PVRL A A 00 49 07.1
comp=Z,29nm,1.8s
MTE **Manteigas** 76.37 52 *e*pP pP 00 48 54.3 +0.6
MTE A A 00 49 16.6
comp=Z,34nm,1.4s
PCBR **Castelo Branco** 76.52 52 A A 00 48 39.4
comp=Z,17nm,1.6s
PCBR *e*pP pP 00 48 55.7 +1.2
PBEJ **Beja** 76.55 54 *e*pP pP 00 48 55.9 +1.2
PBEJ A A 00 49 07.2
comp=Z,21nm,1.9s
MVO **Moncorvo** 76.62 51 A A 00 48 27.5
comp=Z,31nm,1.6s
MVO *e*pP pP 00 48 56.2 +1.0
PMRV **Marv??o** 76.66 53 *e*pP pP 00 48 55.9 +0.5
PMRV A A 00 48 56.7
comp=Z,16nm,1.5s
PBRG **Braganca** 76.72 50 *e*pP pP 00 48 59.4 +3.7
PBRG A A 00 48 59.6
comp=Z,37nm,1.7s
PVAQ **Vaqueiros** 76.78 55 A A 00 48 48.7
comp=Z,26nm,1.8s
PVAQ *e*pP pP 00 48 57.5 +1.4
KBS **Kingsbay** 76.79 11 *c* *i* P P 00 48 18.6 +1.0
KBS pmax pmax
comp=Z,52nm,1.2s
PBAR **Barrancos** 77.16 54 *e*pP pP 00 48 57.1 -1.1
PBAR A A 00 49 01.4
comp=Z,24nm,2.0s
SPITS **Spitsbergen Ar** 77.88 11 P P 00 48 24.3 +0.6
comp=Z,7.6nm,0.5s,baz=298,slow=1.8,SNR=40
SPITS **Spitsbergen Ar** 77.88 11 P P 00 48 24.3 +0.6
BILL **Bilibino** 78.61 338 *e*P P 00 48 28.8 +0.9
BILL pmax pmax
comp=Z,40nm,0.8s
BILL **Bilibino** 78.61 338 *e*P P 00 48 28.8 +0.9
comp=Z,40nm,0.8s
ESDC **Sonseca Array** 79.21 52 P P 00 48 30.2 -1.5
comp=Z,0.1nm,0.3s,baz=281,slow=5.9,SNR=3.6
ESDC pP pP 00 49 09.1 -0.6
comp=Z,1.4nm,0.6s,baz=293,slow=5.9,SNR=6.6
ESDC **Sonseca Array** 79.21 52 P P 00 48 30.2 -1.5
ESDC pP pP 00 49 09.1 -0.6
ETSF **Etsaut** 80.97 48 *e*P P 00 48 38.4 -2.7
NB2 **NORSAR Subarra** 82.56 28 P P 00 48 49.3 +0.2
comp=Z,1.3nm,0.6s,baz=290,slow=5.1
NOA **NORSAR Array B** 82.56 28 P P 00 48 48.9 -0.1
comp=Z,2.1nm,0.7s,baz=292,slow=4.8,SNR=8.1
NOA pP pP 00 49 26.5 -0.8
comp=Z,2.9nm,0.9s,baz=291,slow=5.2,SNR=3.8
NOA LR LR 01 28 22.6
comp=Z,53nm,18.4s,baz=0.0,slow=38
NOA **NORSAR Array B** 82.56 28 P P 00 48 48.9 -0.1
NOA pP pP 00 49 26.5 -0.8
LOR **Lormes** 82.84 43 *e*P P 00 48 48.6 -2.1
comp=Z,3.7nm,0.6s
LOR **Lormes** 82.84 43 *e*P P 00 48 48.6 -2.1
comp=Z,3.7nm,0.6s
SMF **Signal de Mont** 83.00 44 *e*P P 00 48 49.7 -1.9
comp=Z,9.1nm,0.8s
SMF **Signal de Mont** 83.00 44 *e*P P 00 48 49.7 -1.9
SMF pmax pmax
comp=Z,9.0nm,0.8s
SMF **Signal de Mont** 83.00 44 *e*P P 00 48 49.7 -1.9
comp=Z,9.1nm,0.8s
MEZF **Maizieres J'vi** 83.25 41 *e*P P 00 48 50.9 -1.9
MEZF **Maizieres J'vi** 83.25 41 *e*P P 00 48 50.9 -1.9
SFTF **Sexfontaines** 83.33 42 *e*P P 00 48 51.3 -1.9
SFTF **Sexfontaines** 83.33 42 *e*P P 00 48 51.3 -1.9
PAGF **Fort de Pagny** 83.66 41 *e*P P 00 48 53.2 -1.7
PAGF **Fort de Pagny** 83.66 41 *e*P P 00 48 53.2 -1.7
ARCES **ARCESS Array B** 84.16 18 P P 00 48 57.4 +0.4
comp=Z,12nm,0.6s,baz=287,slow=4.6,SNR=51
ARCES pP pP 00 49 33.4 -2.0
comp=Z,7.2nm,0.8s,baz=311,slow=4.6,SNR=2.5
ARCES **ARCESS Array B** 84.16 18 P P 00 48 57.4 +0.4

ARCES				pP		**pP**	**00 49 33.4**	**-2.0**
HAU	**Haudompre**	**84.22**	**42**	*e*P		**P**	**00 48 55.9**	**-1.9**
	comp=Z,6.1nm,0.6s							
HAU	**Haudompre**	**84.22**	**42**	*e*P		**P**	**00 48 55.9**	**-1.9**
HAU				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HAU	**Haudompre**	**84.22**	**42**	*e*P		**P**	**00 48 55.9**	**-1.9**
	comp=Z,6.1nm,0.6s							
HINF	**Hinteralfeld**	**84.61**	**42**	*e*P		**P**	**00 48 57.7**	**-2.1**
	comp=Z,3.6nm,0.5s							
HINF	**Hinteralfeld**	**84.61**	**42**	*e*P		**P**	**00 48 57.7**	**-2.1**
HINF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
HINF	**Hinteralfeld**	**84.61**	**42**	*e*P		**P**	**00 48 57.7**	**-2.1**
	comp=Z,3.6nm,0.5s							
SEY	**Seymchan**	**85.90**	**335**‖	*e*P		**P**	**00 49 06.3**	**+0.5**
DBIC	**Dimbokro**	**86.73**	**84**	P		**P**	**00 49 08.5**	**-2.4**
	comp=Z,1.6nm,0.7s,baz=282,slow=6.2,SNR=4.4							
DBIC	**Dimbokro**	**86.73**	**84**	P		**P**	**00 49 08.5**	**-2.4**
CLL	**Colim**	**87.12**	**37**	*e*pP		pP	00 49 53.0	+2.4
PETK	**Petropavlovsk-**	**87.80**	**325**	P		**P**	**00 49 16.5**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=79,slow=10,SNR=3.8							
PETK	**Petropavlovsk-**	**87.80**	**325**	P		**P**	**00 49 16.5**	**+1.3**
PETK	**Petropavlovsk-**	**87.80**	**325**	P		**P**	**00 49 16.5**	**+1.3**
GERES	**GERESS Array B**	**88.50**	**39**	P		**P**	**00 49 18.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=333,slow=4.8,SNR=6.0							
GERES	**GERESS Array B**	**88.50**	**39**	P		**P**	**00 49 18.2**	**-0.6**
FINES	**FINESS Array B**	**88.78**	**25**	P		**P**	**00 49 19.2**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=331,slow=2.4,SNR=12							
FINES	**FINESS Array B**	**88.78**	**25**	P		**P**	**00 49 19.2**	**-0.3**
KEST	**Kesra**	**90.44**	**53**	P		**P**	**00 49 28.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=231,slow=4.2,SNR=4.1							
KEST	**Kesra**	**90.44**	**53**	P		**P**	**00 49 28.1**	**0.0**
TORD	**Torodi Ar. Bea**	**91.08**	**76**	P		P	00 49 28.9	-2.4
	comp=Z,0.3nm,0.8s,baz=296,slow=6.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**91.08**	**76**	P		P	00 49 28.9	-2.4
VYHS	**Vyhne**	**91.73**	**38**	*e*P		P	00 49 29.9	-3.7
VYHS				pmax	pmax			
	comp=Z,51nm,3.2s							
VYHS	**Vyhne**	**91.73**	**38**	*e*P		P	00 49 29.9	-3.7
UZH	**Uzhgorod**	**93.67**	**37**	*e*P		**P**	**00 49 43.0**	**+0.4**
UZH				*e*			00 50 19.7	
KLMR	**Klimovskoe**	**94.19**	**21**	*e*P		P	00 49 41.4	-3.2
KLMR				pmax	pmax			
	comp=Z,29nm,1.8s							
OBN	**Obninsk**	**97.03**	**26**	P		**P**	**00 49 57.0**	**-0.7**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MLR	**Muntele Rosu**	**97.44**	**38**	P		**P**	**00 49 59.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=235,slow=19,SNR=3.3							
MLR				pP		**pP**	**00 50 40.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=283,slow=6.0,SNR=2.4							
MLR	**Muntele Rosu**	**97.44**	**38**	P		**P**	**00 49 59.1**	**-0.9**
MLR				pP		**pP**	**00 50 40.1**	**+1.2**
BRTR	**Keskin Array B**	**105.39**	**40**	PKiKP		**PKiKP**	**00 54 47.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=235,slow=1.2,SNR=4.5							
BRTR	**Keskin Array B**	**105.39**	**40**	PKiKP		**PKiKP**	**00 54 47.9**	**-0.7**
BVAR	**Borovoye Array**	**109.32**	**10**	PKiKP		**PKiKP**	**00 54 55.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=260,slow=2.5,SNR=3.8							
BVAR	**Borovoye Array**	**109.32**	**10**	PKiKP		**PKiKP**	**00 54 55.1**	**-0.2**
ZALV	**Zalesovo Beam**	**109.78**	**1**	PKiKP		**PKiKP**	**00 54 55.2**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=251,slow=0.8,SNR=6.0							
ZALV				PP		**PP**	**00 55 25.9**	**-3.3**
	comp=Z,1.0nm,0.6s,baz=356,slow=6.6,SNR=6.0							
ZALV	**Zalesovo Beam**	**109.78**	**1**	PKiKP		**PKiKP**	**00 54 55.2**	**-0.9**
ZALV				PP		**PP**	**00 55 25.9**	**-3.3**
SONM	**Songino Array**	**113.51**	**346**	PKiKP		**PKiKP**	**00 55 02.8**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=341,slow=1.3,SNR=8.1							
SONM	**Songino Array**	**113.51**	**346**	PKiKP		**PKiKP**	**00 55 02.8**	**-0.8**
MKAR	**Makanchi Array**	**116.84**	**3**	PKP		**PKPdf**	**00 55 08.8**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=347,slow=1.4,SNR=13							
MKAR	**Makanchi Array**	**116.84**	**3**	PKiKP		**PKPdf**	**00 55 08.8**	**-1.1**
MKAR	**Makanchi Array**	**116.84**	**3**	PKP		**PKPdf**	**00 55 08.8**	**-1.1**
BJI	**Beijing**	**117.33**	**335**	PKP		**PKPdf**	**00 55 11.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**118.38**	**339**	*e*PKP		**PKPdf**	**00 55 14.6**	**+1.5**
HHC				PP		PP	00 56 38.4	+8.1
HHC				PKS		**PKSdf**	**00 58 51.5**	**+1.6**
HHC				SKS		**SKSdf**	**01 02 09.3**	**-1.8**
HHC				SKKS		**SKKSac**	**01 03 14.0**	**-2.8**
HHC				AMB		AMB		
	comp=Z,73nm,12.0s							
SUR	**Sutherland**	**118.92**	**118**	PKP		**PKPdf**	**00 55 14.8**	**+0.3**
	comp=Z,7.3nm,0.9s,baz=153,slow=4.5,SNR=3.9							
SUR	**Sutherland**	**118.92**	**118**	PKP		**PKPdf**	**00 55 14.8**	**+0.3**
WMQ	**Urumqi**	**119.93**	**359**	*e*PKP		**PKPdf**	**00 55 15.7**	**-0.3**
AAK	**Ala-Archa**	**120.08**	**10**	PKP		**PKPdf**	**00 55 16.6**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=205,slow=4.2,SNR=6.4							
AAK	**Ala-Archa**	**120.08**	**10**	PKiKP		**PKPdf**	**00 55 16.6**	**+0.2**
AAK	**Ala-Archa**	**120.08**	**10**	PKP		**PKPdf**	**00 55 16.6**	**+0.2**
BOSA	**Boshof**	**122.62**	**114**	PKP		**PKPdf**	**00 55 21.4**	**-0.1**
	comp=Z,20nm,0.8s,baz=312,slow=1.7,SNR=32							
BOSA	**Boshof**	**122.62**	**114**	PKP		**PKPdf**	**00 55 21.4**	**-0.1**
LBTB	**Lobatse**	**122.73**	**109**	PKP		**PKPdf**	**00 55 21.9**	**0.0**
	comp=Z,8.7nm,0.7s,baz=297,slow=2.8,SNR=25							
LBTB	**Lobatse**	**122.73**	**109**	PKP		**PKPdf**	**00 55 21.9**	**0.0**
LBTB				*e*PKPdf		**PKiKP**	**00 55 22.1**	**0.0**
GTA	**Gaotai**	**122.99**	**348**	*e*PKP		**PKPdf**	**00 55 22.6**	**+0.5**
GTA				PP		PP	00 57 07.3	+5.7
GTA				SKS		**SKSdf**	**01 02 17.0**	**-3.0**
GTA				SKKS		**SKKSac**	**01 03 42.1**	**-4.8**
GTA				SS		**SS**	**01 13 34.1**	**+1.4**
GTA				AMB		AMB		
	comp=Z,82nm,5.5s							
GTA				LR		LR		
	comp=N,91nm,15.9s							
GTA				LR		LR		
	comp=E,81nm,16.2s							
GTA				LR		LR		
	comp=Z,88nm,15.7s							
KSH	**Kashi**	**123.36**	**10**	*e*PKP		**PKPdf**	**00 55 23.6**	**+0.8**
KSH				*e*PP		PP	00 57 11.6	+7.5
KSH				PKS		**PKSdf**	**00 59 00.6**	**+1.0**
KSH				SKS		**SKSdf**	**01 02 20.0**	**-0.7**
KSH				SKKS		**SKKSac**	**01 03 46.1**	**-3.1**
KSH				SS		**SS**	**01 13 40.4**	**+3.1**
KSH				AMB		AMB		
	comp=Z,49nm,4.5s							
KSH				LR		LR		
	comp=N,69nm,5.3s							
KSH				LR		LR		
	comp=E,67nm,4.3s							
KSH				LR		LR		
	comp=Z,230nm,6.6s							
LZH	**Lanzhou**	**125.18**	**343**	*e*PKP		**PKPdf**	**00 55 24.8**	**-1.6**
LZH				sPKP			00 56 28.4	
XAN	**Xi'an**	**125.39**	**337**	PKP		**PKPdf**	**00 55 26.4**	**-0.3**
STKA	**Stephens Creek**	**128.09**	**242**	PKP		**PKPdf**	**00 55 29.6**	**-2.2**
	comp=Z,1.9nm,0.8s,baz=95,slow=2.3,SNR=3.0							
STKA				pPKP		**pPKPdf**	**00 56 11.3**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=93,slow=5.1,SNR=2.8							
STKA	**Stephens Creek**	**128.09**	**242**	PKP		**PKPdf**	**00 55 29.6**	**-2.2**
STKA				pPKP		**pPKPdf**	**00 56 11.3**	**-1.2**
KMBO	**Kilima Mbogo**	**129.06**	**78**	*e*PKPdf		**PKPdf**	**00 55 35.2**	**+0.7**
CD2	**Chengdu**	**130.02**	**341**	PKP		**PKPdf**	**00 55 34.7**	**-0.9**
CD2				sPKP			00 56 41.1	
CD2				PP		**PP**	**00 57 52.0**	**+3.9**
CD2				PKS		**PKSdf**	**00 59 09.7**	**-2.6**
CD2				SKS		SKSdf	01 02 26.4	-6.8
CD2				SKKS		SKKSac	01 04 24.0	-7.4
CD2				SS		**SS**	**01 14 57.7**	**-2.7**
CD2				AMB		AMB		
	comp=Z,100nm,5.9s							
GYA	**Guiyang**	**133.02**	**335**	Pdif		**Pdif**	**00 52 37.0**	**-1.7**
GYA				PKP		**PKPdf**	**00 55 40.8**	**-0.7**
GYA				sPKP			00 56 46.4	
GYA				PP		**PP**	**00 58 11.3**	**+3.6**
GYA				PKS		**PKSdf**	**00 59 15.0**	**-3.2**
GYA				SKKS			01 04 42.1	
GYA				SS		**SS**	**01 15 34.8**	**-2.6**
GYA				LR		LR		
	comp=N,120nm,19.8s							
GYA				LR		LR		
	comp=E,130nm,20.2s							
GYA				LR		LR		
	comp=Z,150nm,21.0s							
WRA	**Warramunga Arr**	**134.65**	**258**	PKP		**PKPdf**	**00 55 44.7**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=82,slow=2.2,SNR=10							
WRA				pPKP		**pPKPdf**	**00 56 24.5**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=84,slow=2.6,SNR=6.1							
WRA	**Warramunga Arr**	**134.65**	**258**	PKP		**PKPdf**	**00 55 44.7**	**+0.2**
WRA				pPKP		**pPKPdf**	**00 56 24.5**	**-0.7**
ASAR	**Alice Springs**	**135.18**	**253**	PKP		**PKPdf**	**00 55 47.3**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=84,slow=2.5,SNR=5.4							
ASAR				SKPbc		**SKPbc**	**00 59 01.9**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=105,slow=2.7,SNR=8.1							
ASAR	**Alice Springs**	**135.18**	**253**	PKP		**PKPdf**	**00 55 47.3**	**+1.9**
ASAR				SKPbc		**SKPbc**	**00 59 01.9**	**-0.2**
KMI	**Kunming**	**135.70**	**339**	PKP		**PKPdf**	**00 55 47.7**	**+1.0**
OPO	**Ambohidratompo**	**142.41**	**99**	PKP		**PKPdf**	**00 55 57.4**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=238,slow=3.6,SNR=8.7							
OPO	**Ambohidratompo**	**142.41**	**99**	PKP		**PKPdf**	**00 55 57.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**142.75**	**262**	PKP		**PKPdf**	**00 56 00.9**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=0.0,slow=3.0,SNR=4.9							
FITZ				pPKP		**pPKPdf**	**00 56 35.9**	**-4.1**
	comp=Z,4.0nm,0.9s,baz=31,slow=1.4,SNR=4.6							
FITZ	**Fitzroy Crossi**	**142.75**	**262**	PKP		**PKPdf**	**00 56 00.9**	**+1.6**
FITZ				pPKP		**pPKPdf**	**00 56 35.9**	**-4.1**
CMAR	**Chiang Mai Arr**	**143.16**	**340**	PKhKP		PKPpre	00 55 56.9	
	comp=Z,2.1nm,0.6s,baz=337,slow=3.9,SNR=9.7							
CMAR				PKP		**PKPdf**	**00 56 01.6**	**+1.5**
	comp=Z,4.4nm,0.6s,baz=321,slow=1.8,SNR=14							
CMAR				pPKP		pPKPdf	00 56 40.4	-0.4
	comp=Z,1.5nm,0.3s,baz=339,slow=2.4,SNR=2.3							
CMAR	**Chiang Mai Arr**	**143.16**	**340**	PKPpre		PKPpre	00 55 56.9	
CMAR				PKP		**PKPdf**	**00 56 01.6**	**+1.5**
CMAR				pPKP		pPKPdf	00 56 40.4	-0.4
HYB	**Hyderabad**	**145.34**	**14**	*i* PKP		**PKPdf**	**00 56 03.0**	**-1.0**
PSI	**Prapat**	**157.25**	**327**	PKPab		**PKPab**	**00 56 54.0**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=360,slow=5.1,SNR=7.5							
PSI	**Prapat**	**157.25**	**327**	PKPab		**PKPab**	**00 56 54.0**	**+0.3**

IDC 10 00:41:37.6±2.1, 19°.39S×68°.65W, h145km±18km, mb3.5/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.6/6, Error ellipse: s-maj=32.3km s-min=20.6km az=96.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**3.12**	**9**	P		Pn	00 42 27.4	+0.1
	4.5nm,0.3s,baz=183,slow=6.3,SNR=41							
LPAZ				S		Sn	00 43 05.6	+0.1
	0.9nm,0.3s,baz=283,slow=23,SNR=7.6							
SIV	**San Ignacio**	**7.97**	**66**	P		Pn	00 43 30.1	-0.7
	4.8nm,0.3s,baz=276,slow=11,SNR=73							
PLCA	**Paso Flores**	**21.34**	**184**	P		P	00 46 13.3	+0.1
	4.3nm,0.9s,baz=347,slow=11,SNR=6.8							
DBIC	**Dimbokro**	**67.91**	**74**	P		P	00 52 21.5	+0.4
	2.3nm,0.7s,baz=241,slow=7.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**76.42**	**71**	P		P	00 53 11.8	+0.1
	0.6nm,0.3s,baz=255,slow=5.5,SNR=12							
YKA	**Yellowknife Ar**	**89.29**	**341**	P		P	00 54 16.6	-0.3
	0.1nm,0.4s,baz=130,slow=4.2,SNR=3.4							
YKA				pP		pP	00 54 51.0	-2.7
	0.3nm,0.8s,baz=134,slow=4.7,SNR=7.0							
WRA	**Warramunga Arr**	**134.88**	**211**	PKP		PKPdf	01 00 39.5	-0.7
	0.1nm,0.3s,baz=157,slow=1.4,SNR=2.5							

*ISCJB **10** 00:48:08.4±0.9, 13°.41N±0°.05×120°.26E±0°.08, h10km, mb3.9/4, Error ellipse: s-maj=12.3km s-min=6.7km az=158.6*

*IDC **10** 00:48:08.2±1.1, 13°.31N×120°.34E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/24, mbtmp3.9/4, Error ellipse: s-maj=24.7km s-min=11.4km az=116.0*

*MAN **10** 00:48:10, 13°.52N×120°.39E, h1km, mb4.0, ML2.8, MS2.5*

ISC 10 00:48:09.8±0.9, 13°.5N±0°.1×120°.4E±0°.1, h10km, n8, σ1§18/10, mb3.8/4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.28**	**325**	*e*P		**Pg**	**00 48 15.3**	**-0.1**
LUBP				*e*S		**Sg**	**00 48 19.6**	**+0.3**
TGY	**Tagaytay City**	**0.78**	**40**	Pg		**Pn**	**00 48 26.7**	**-0.2**
	290nm,0.3s,baz=185,slow=3.6,SNR=8.0							
TGY				Lg		Lg	00 48 41.6	
	270nm,0.3s,baz=162,slow=20,SNR=17							
TGY	**Tagaytay City**	**0.78**	**40**‖	*e*P		**Pn**	**00 48 26.8**	**-0.2**
OTRP	**Odiongan**	**1.94**	**126**	*e*P		**Pb**	**00 48 45.6**	**+0.4**
OTRP				*e*S		**Sn**	**00 49 08.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**21.21**	**286**	P		**P**	**00 52 57.6**	**+1.7**
	0.8nm,0.3s,baz=93,slow=10.0,SNR=5.6							
WRA	**Warramunga Arr**	**35.95**	**157**	P		**P**	**00 55 09.1**	**-1.8**
	1.9nm,0.4s,baz=334,slow=9.8,SNR=17							
SONM	**Songino Array**	**36.17**	**344**	P		**P**	**00 55 12.4**	**-0.2**
	0.7nm,0.8s,baz=159,slow=8.2,SNR=6.4							
ASAR	**Alice Springs**	**39.23**	**160**	P		**P**	**00 55 37.5**	**-1.1**
	1.8nm,0.6s,baz=339,slow=7.3,SNR=24							

IDC 10 00:48:14.4±0.9, 52°.81S×10°.52E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/17, mbtmp4.2/7, MS4.0/7, Ms1 4.0/7, ms1mx3.7/23, Error ellipse: s-maj=39.1km s-min=21.9km az=74.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUR	**Sutherland**	**21.73**	**24**	LR		LR	00 59 34.8	
	comp=Z,259nm,18.5s,baz=104,slow=31							
BOSA	**Boshof**	**26.52**	**30**	LR		LR	01 01 47.8	
	comp=Z,216nm,20.3s,baz=170,slow=31							
MAW	**Mawson**	**28.83**	**141**	LR		LR	01 02 55.1	
	comp=Z,366nm,20.3s,baz=125,slow=31							
LBTB	**Lobatse**	**30.00**	**28**	LR		LR	01 04 04.0	
	comp=Z,166nm,18.6s,baz=149,slow=32							
QSPA	**South Pole Qui**	**37.43**	**180**	P		P	00 55 29.1	0.0
	1.2nm,0.2s,baz=167,slow=2.5,SNR=3.9							
VNDA	**Vanda**	**48.72**	**172**	P		P	00 57 00.2	+0.2
	3.8nm,1.1s,baz=349,slow=4.2,SNR=5.8							
VNDA				LR		LR	01 16 08.9	
	comp=Z,179nm,18.2s,baz=32,slow=34							
CPUP	**Villa Florida**	**56.22**	**270**	P		P	00 57 55.4	-0.8
	2.4nm,0.6s,baz=98,slow=7.3,SNR=6.7							
DBIC	**Dimbokro**	**60.68**	**342**	P		P	00 58 27.2	-0.1
	2.4nm,0.8s,baz=24,slow=16,SNR=5.0							
TORD	**Torodi Ar. Bea**	**66.12**	**351**	P		P	00 59 03.5	+0.2
	1.1nm,1.0s,baz=186,slow=4.2,SNR=8.3							
TORD				LR		LR	01 26 03.0	
	comp=Z,75nm,18.1s,baz=230,slow=34							
LPAZ	**La Paz**	**70.35**	**269**	P		P	00 59 31.3	+0.5
	3.7nm,0.9s,baz=111,slow=7.7,SNR=9.3							
STKA	**Stephens Creek**	**85.51**	**140**	P		P	01 00 53.6	-0.5
	3.0nm,1.0s,baz=159,slow=1.4,SNR=2.9							
WRA	**Warramunga Arr**	**92.78**	**129**	LR		LR	01 35 34.6	
	comp=Z,142nm,18.7s,baz=50,slow=31							
YKA	**Yellowknife Ar**	**149.99**	**311**	PKP		PKPdf	01 07 58.4	-2.0
	0.1nm,0.3s,baz=106,slow=1.3,SNR=4.2							
YKA				PKPbc		PKPbc	01 08 05.0	-0.3
	1.6nm,0.7s,baz=94,slow=2.5,SNR=24							
YKA				PKPab		PKPab	01 08 11.1	-0.1
	0.5nm,0.8s,baz=93,slow=2.8,SNR=4.8							

*AUST **10** 00:56:38.9±11.0, 4°.07S×143°.73E, h1km±1km, Error ellipse: s-maj=3.3km s-min=1.4km az=21.0*

*ISCJB **10** 00:56:41.5±0.9, 4°.1S±0°.1×143°.9E±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=18.1km s-min=14.2km az=153.3*

*IDC **10** 00:56:49.2±0.9, 4°.43S×144°.23E, h100km±8km, mb3.6/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=26.7km s-min=15.1km az=75.0*

ISC 10 00:56:43.2±1.1, 4°.1S±0°.1×144°.0E±0°.1, h35km, n20, σ1§94/17, mb4.0/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.10**	**149**	P		**Pn**	**00 58 13.4**	**+2.5**
	3.6nm,0.3s,baz=307,slow=3.8,SNR=6.5							
PMG				S		**Sn**	**00 59 17.0**	**-2.6**
	2.8nm,0.3s,baz=317,slow=19,SNR=2.5							
COEN	**Coen**	**9.78**	**185**	P		Pn	00 59 06.6	+5.1
	baz=9.9,SNR=7.6							
KDU	**Kakadu**	**14.20**	**233**	P		Pn	00 59 47.9	-14
	baz=14,SNR=4.6							
WRA	**Warramunga Arr**	**18.30**	**210**	P		**Pn**	**01 00 53.6**	**-0.9**
	1.0nm,0.3s,baz=34,slow=10,SNR=15							
ASAR	**Alice Springs**	**21.71**	**206**	P		**P**	**01 01 30.5**	**-1.0**
	3.4nm,0.6s,baz=31,slow=10,SNR=28							
EIDS	**Eidsvold**	**22.18**	**163**	P		**P**	**01 01 37.1**	**+0.7**
	baz=22,SNR=3.6							
RMQ	**Roma**	**22.68**	**169**	P		**P**	**01 01 43.4**	**+1.6**
	baz=23,SNR=7.0							
FITZ	**Fitzroy Crossi**	**22.69**	**231**	P		**P**	**01 01 42.8**	**+0.9**
	8.6nm,0.5s,baz=43,slow=12,SNR=53							
FITZ	**Fitzroy Crossi**	**22.69**	**231**	P		**P**	**01 01 42.9**	**+0.9**
	baz=23,SNR=20							
WSI	**Waingapu**	**24.14**	**256**	P		**P**	**01 02 00.1**	**+3.9**
	baz=24,SNR=3.9							
PCI	**Palu**	**24.34**	**277**	P		**P**	**01 01 54.7**	**-3.3**
	baz=24,SNR=8.3							
PCI				S		S	01 06 28.4	+13
	baz=24,SNR=6.0							
STKA	**Stephens Creek**	**27.68**	**184**	P		**P**	**01 02 25.7**	**-2.3**
	1.9nm,0.6s,baz=13,slow=8.7,SNR=6.4							
MGCD	**Mangrove Creek**	**29.67**	**168**	P		P	01 03 01.4	+16
	baz=30,SNR=5.0							
MGCD				S		S	01 07 49.8	+11
	baz=30,SNR=28							
FORT	**Forrest**	**30.45**	**208**	P		**P**	**01 02 52.4**	**-0.3**
	baz=30,SNR=8.3							
MEEK	**Meekatharra**	**33.00**	**225**	P		**P**	**01 03 14.8**	**-0.4**
	baz=33,SNR=6.8							
KMBL	**Kambalda**	**34.14**	**215**	P		**P**	**01 03 25.1**	**0.0**
	baz=34,SNR=5.4							
BLDU	**Ballidu**	**36.81**	**221**	P		**P**	**01 03 47.4**	**-0.6**
	baz=37,SNR=7.6							
SONM	**Songino Array**	**61.35**	**332**	pP		pP	01 07 22.8	+16
	0.2nm,0.6s,baz=159,slow=6.2,SNR=2.0							
MKAR	**Makanchi Array**	**74.17**	**321**	P		**P**	**01 08 17.3**	**+0.9**
	0.1nm,0.4s,baz=103,slow=6.2,SNR=5.2							
MKAR				pP		PcP	01 08 43.5	+12
	0.9nm,0.9s,baz=100,slow=7.2,SNR=4.6							
ILAR	**Eielson Array**	**84.98**	**24**	P		**P**	**01 09 13.8**	**-0.9**
	0.4nm,1.1s,baz=240,slow=3.5,SNR=3.3							
ILAR				pP		pP	01 09 40.1	+14
	0.7nm,1.0s,baz=249,slow=5.3,SNR=4.4							
ILAR				sP		sP	01 09 49.8	+20
	0.3nm,0.6s,baz=261,slow=4.5,SNR=3.6							

MEX 10 01:05:16.6±1.3, 17°.27N×95°.05W, h30km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.24**	**139**	*e*P		Pb	01 05 21.3	-2.1
CMIG				*i* S		Sb	01 05 26.4	-1.5
VHO	**Vista Hermosa**	**1.62**	**263**	*i* P		Pn	01 05 42.6	-0.9
VHO				*i* S		Sn	01 06 00.8	-2.8
HUIG	**Huatulco**	**1.81**	**214**	*i* P		Pn	01 05 44.0	-1.8
HUIG				*i* S		Sn	01 06 05.1	-2.6
TGIG		**1.91**	**105**	*i* P		Pn	01 05 45.1	-2.1
TGIG				*i* S		Sn	01 06 07.0	-3.2
PCIG		**2.35**	**131**	*e*P		Pn	01 05 52.0	-1.1
PCIG				*i* S		Sn	01 06 18.5	-2.4
UTMO	**Huajuapan**	**2.69**	**282**	*i* P		Pn	01 05 55.6	-2.5
UTMO				*i* S		Sn	01 06 26.4	-3.4
PNIG	**Pinotepa**	**3.08**	**254**	*i* P		Pn	01 05 59.8	-3.4
PNIG				*i* S		Sn	01 06 36.0	-3.0

IDC 10 01:14:01.8±1.1, 6°.87S×155°.23E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=40.9km s-min=22.9km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**8.38**	**252**	Pn		Pn	01 16 06.3	+1.7
	1.4nm,0.3s,baz=20,slow=12,SNR=2.5							
WRA	**Warramunga Arr**	**24.08**	**235**	P		P	01 19 18.9	-0.4
	1.3nm,0.6s,baz=59,slow=9.5,SNR=11							
ASAR	**Alice Springs**	**26.43**	**229**	P		P	01 19 40.1	-0.4
	0.4nm,0.4s,baz=60,slow=8.7,SNR=7.3							
STKA	**Stephens Creek**	**27.95**	**205**	P		P	01 19 57.7	+3.6
	1.2nm,0.4s,baz=24,slow=12,SNR=4.1							
CMAR	**Chiang Mai Arr**	**60.94**	**295**	P		P	01 24 18.2	+1.0
	1.4nm,0.4s,baz=121,slow=5.5,SNR=4.7				

WRAB Tennant Creek 18.11 213 *e*P **P** **01 26 01.0 -0.2**
comp=Z,199nm,0.8s
WRAB eS **Sn** **01 29 19.8 -3.9**
WRAB Tennant Creek 18.11 213 P **P** **01 26 00.0 -1.2**
comp=Z,2μm,0.8s
WRA Warramunga Arr 18.12 213 P **P** **01 26 00.4 -1.0**
comp=Z,4.5nm,0.3s,baz=36,slow=12,SNR=454
WRA S **Sn** **01 29 23.5 -0.5**
comp=Z,0.1nm,0.3s,baz=28,slow=22,SNR=6.3
WRA PcP **PcP** **01 30 32.2 +0.1**
comp=Z,0.5nm,0.3s,baz=8.8,slow=1.8,SNR=5.8
WRA Warramunga Arr 18.12 213 P **P** **01 26 00.4 -1.0**
WRA S **Sn** **01 29 23.5 -0.5**
WRA PcP **PcP** **01 30 32.2 +0.1**
GUMO Guam 18.29 0 LR LR 01 32 28.0
comp=Z,270nm,19.5s,baz=177,slow=35
EIDS Eidsvold 21.32 164 *e*P **P** **01 26 37.5 +1.4**
comp=Z,104nm,0.9s
EIDS Eidsvold 21.32 164 P **P** **01 26 37.3 +1.2**
baz=21,SNR=9.0
AS31 Alice Springs 21.45 208 *e*P **P** **01 26 37.1 -0.4**
AS31 eS **S** **01 30 31.6 +0.4**
ASAR Alice Springs 21.45 208 P **P** **01 26 36.9 -0.6**
comp=Z,34nm,0.8s,baz=35,slow=9.7,SNR=225
ASAR S **S** **01 30 37.1 +5.8**
comp=Z,26nm,1.2s,baz=26,slow=22,SNR=4.9
ASAR Alice Springs 21.45 208 P **P** **01 26 36.9 -0.6**
ASAR S **S** **01 30 37.1 +5.8**
QLP Quilpie 21.65 181 P **P** **01 26 39.7 +0.2**
baz=22,SNR=44
RMQ Roma 21.89 170 P **P** **01 26 43.5 +1.3**
baz=22,SNR=24
KDI Kendari 22.06 271 P **P** **01 26 45.6 +1.5**
comp=Z,23nm,1.3s,comp=Z,2μm
LUWI Luwuk 22.24 279 P **P** **01 26 44.0 -2.1**
comp=Z,229nm,0.8s,comp=Z,2μm
DAV Davao City (W) 22.47 302 LR LR 01 34 49.5
comp=Z,74nm,21.8s,baz=51,slow=35
FITZ Fitzroy Crossi 22.86 233 P **P** **01 26 50.2 -2.3**
comp=Z,33nm,0.8s,baz=56,slow=8.8,SNR=74
FITZ S **S** **01 30 55.6 -0.4**
comp=Z,14nm,1.0s,baz=75,slow=10,SNR=3.9
FITZ LR LR 01 36 25.4
comp=Z,1μm,19.5s,baz=49,slow=38
FITZ Fitzroy Crossi 22.86 233 *e*P **P** **01 26 50.7 -1.8**
FITZ *e*S **S** **01 30 56.0 0.0**
FITZ Fitzroy Crossi 22.86 233 P **P** **01 26 50.9 -1.6**
baz=23,SNR=55
FITZ S **S** **01 30 59.2 +3.2**
baz=23,SNR=4.5
MRSI Marisa 23.36 282 P **P** **01 26 55.5 -1.9**
comp=Z,56nm,1.1s,comp=Z,1μmcomp=Z,46μm
BKSI Bulukumba 24.51 268 P **P** **01 27 09.7 +1.9**
comp=Z,28nm,1.1s,comp=Z,561nm
KAPI Kappang 24.88 268 P **P** **01 27 09.6 -1.6**
comp=Z,11nm,0.6s,baz=60,slow=7.0,SNR=4.5
KAPI Kappang 24.88 268 P **P** **01 27 09.6 -1.6**
TTSI Tana Toraja 24.91 273 P **P** **01 27 12.5 +1.1**
comp=Z,89nm,1.3s,comp=Z,996nm
PCI Palu 25.16 278 S S 01 31 09.1 -24
baz=25,SNR=4.2
ARMA Armidale 26.28 166 *e*P **P** **01 27 25.3 +1.5**
comp=Z,83nm,1.4s
ARMA Armidale 26.28 166 P **P** **01 27 25.2 +1.5**
baz=26,SNR=12
CMSA Cobar Meteorol 26.59 178 P **P** **01 27 27.1 +0.7**
baz=27,SNR=21
STKA Stephens Creek 27.08 186 P **P** **01 27 30.5 -0.3**
comp=Z,12nm,0.8s,baz=26,slow=12,SNR=18
STKA PcP **PcP** **01 30 50.2 +0.1**
comp=Z,4.1nm,0.6s,baz=0.0,slow=7.1,SNR=3.4
STKA LR LR 01 39 21.8
comp=Z,667nm,19.0s,baz=11,slow=39
STKA Stephens Creek 27.08 186 P **P** **01 27 30.5 -0.3**
STKA PcP **PcP** **01 30 50.2 +0.1**
STKA Stephens Creek 27.08 186 P **P** **01 27 30.8 0.0**
baz=27,SNR=12
DZM Mont Dzumac 27.14 131 *e*LR LR 01 34 31.3
comp=Z,881nm,26.9s
DZM Mont Dzumac 27.14 131 P **P** **01 27 32.6 +1.1**
comp=Z,9.3nm,0.7s,baz=316,slow=16,SNR=8.1
DZM Mont Dzumac 27.14 131 P **P** **01 27 32.6 +1.1**
YNG Young 29.53 174 P **P** **01 27 53.7 +1.1**
baz=30,SNR=11
CAN Canberra 30.61 173 *e*P **P** **01 28 03.1 +0.9**
CAN pmax pmax
comp=Z,7.0nm,0.6s
CAN Canberra 30.61 173 *e*P **P** **01 28 03.1 +0.9**
comp=Z,6.7nm,0.6s
ARPS Mount Arapiles 31.91 184 P **P** **01 28 14.3 +0.9**
baz=32,SNR=7.8
TOO Toolangi 32.60 179 P **P** **01 28 21.2 +1.6**
baz=33,SNR=3.9
MEEK Meekatharra 33.06 226 P **P** **01 28 23.1 -0.7**
baz=33,SNR=30
SBUM Sibu 33.27 282 P **P** **01 28 25.8 +0.1**
comp=Z,14nm,1.0s
KMBL Kambalda 34.03 216 P **P** **01 28 31.4 -0.7**
baz=34,SNR=6.0
GIRL Giralia 34.39 236 P **P** **01 28 36.4 +1.1**
baz=34,SNR=6.1
KSM Kuching 34.95 279 P **P** **01 28 40.5 +0.2**
baz=35,SNR=4.4
KSM Kuching 34.95 279 P **P** **01 28 40.9 +0.6**
MSVF Nonsavu 35.03 114 *e*P **P** **01 28 42.2 +1.2**
MSVF pmax pmax
comp=Z,303nm,3.0s
MSVF Nonsavu 35.03 114 *e*P **P** **01 28 42.2 +1.2**
comp=Z,303nm,3.0s
MSVF Nonsavu 35.03 114 P **P** **01 28 42.9 +1.9**
comp=Z,121nm,0.7s,SNR=6.1
MORW Morawa 36.33 225 P **P** **01 28 51.6 -0.3**
baz=36,SNR=16
NACB Ninganchiao 36.59 323 *e*P **P** **01 28 54.2 +0.2**
comp=Z,38nm,1.0s
KLBR Kellerberrin 36.74 220 P **P** **01 28 54.6 -0.7**
baz=37,SNR=4.6
BLDU Ballidu 36.80 223 P **P** **01 28 55.5 -0.4**
baz=37,SNR=26
TATO Taipei 37.25 324 *e*P **P** **01 29 00.3 +0.6**
comp=Z,156nm,1.0s
MOO Moorlands 37.53 177 P **P** **01 29 03.7 +1.8**
baz=38,SNR=3.5
NWAO Narrogin (SRO) 37.95 219 P **P** **01 29 05.3 -0.3**
comp=Z,7.9nm,0.8s,baz=25,slow=6.6,SNR=5.7
NWAO Narrogin (SRO) 37.95 219 *e*P **P** **01 29 05.4 -0.1**
TAU Tasmania Unive 38.00 177 *e*P **P** **01 29 07.6 +1.8**
TAU pmax pmax
comp=Z,163nm,2.2s
TAU Tasmania Unive 38.00 177 *e*P **P** **01 29 07.6 +1.8**
comp=Z,163nm,2.2s
JHJ Hachijo jima 2 38.02 353 LR LR 01 41 48.0
comp=Z,370nm,21.1s,baz=315,slow=31
JNU Nakatsue 39.95 342 LR LR 01 43 47.2
comp=Z,176nm,18.6s,baz=61,slow=33
MJAR Matsushiro Arr 41.60 352 P **P** **01 29 34.8 -0.9**
comp=Z,6.7nm,1.0s,baz=187,slow=10,SNR=8.6
MJAR pP **pP** **01 29 53.8 -1.4**
comp=Z,0.8nm,0.4s,baz=314,slow=40,SNR=2.2
MJAR LR LR 01 46 45.3
comp=Z,103nm,18.8s,baz=175,slow=36
MJAR Matsushiro Arr 41.60 352 P **P** **01 29 34.8 -0.9**
MJAR pP **pP** **01 29 53.8 -1.4**
MAT Matsushiro 41.60 352 P **P** **01 29 34.3 -1.4**
MAT S **S** **01 35 48.0 +1.9**
NJ2 Nanjing 44.17 328 *e*P **P** **01 29 58.3 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PPI Padang Panjang 44.48 274 P **P** **01 29 58.5 -1.0**
baz=44,SNR=5.6
IPM Ipoh 44.62 281 *e*P **P** **01 30 00.1 -0.4**
comp=Z,63nm,1.7s
KSRS Korea Array 44.88 341 P **P** **01 30 02.1 0.0**
comp=Z,14nm,1.0s,baz=160,slow=9.6,SNR=22
KSRS pP **pP** **01 30 19.1 -2.6**
comp=Z,4.4nm,0.9s,baz=165,slow=10.0,SNR=2.5
KSRS LR LR 01 48 27.2
comp=Z,140nm,20.7s,baz=143,slow=36
KSAR Wonju Array Be 44.88 341 P **P** **01 30 02.1 0.0**
KSAR pP **pP** **01 30 19.1 -2.6**
KULM Kulim 45.15 282 *e*P **P** **01 30 03.9 -0.8**
comp=Z,160nm,2.2s
RPZ Rata Peaks 45.16 153 *e*P **P** **01 30 06.0 +1.6**
comp=Z,39nm,0.8s
WHN Wuhan 45.61 322 P **P** **01 30 09.1 +1.0**
PSI Prapat 46.38 278 P **P** **01 30 13.9 -0.7**
baz=46,SNR=49

GYA Guiyang 48.22 312 P **P** **01 30 30.0 +1.4**
GYA pP **pP** **01 30 50.8 +2.4**
GYA sP **sP** **01 30 59.4 +1.9**
GYA PcP **PcP** **01 31 56.4 +1.6**
GYA PP **PP** **01 32 23.0 +1.3**
GYA ScP **ScP** **01 35 42.8 +0.4**
GYA PcS **PcS** **01 35 51.2 +0.3**
GYA S **S** **01 37 23.5 +1.2**
GYA sS **sS** **01 37 56.0 -0.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,620nm,17.8s
GYA LR LR
comp=E,530nm,18.2s
GYA LR LR
comp=Z,650nm,17.0s
ENH Enshi 48.53 318 *e*P **P** **01 30 29.8 -1.1**
comp=Z,5.9nm,0.8s
USRK Ussurisyk Arra 50.12 348 P **P** **01 30 42.3 -0.3**
comp=Z,7.7nm,0.8s,baz=178,slow=8.0,SNR=13
USRK LR LR 01 50 12.7
comp=Z,71nm,18.6s,baz=148,slow=34
KMI Kunming 50.49 308 P **P** **01 30 48.2 +2.1**
KMI pP **pP** **01 31 07.7 +1.7**
KMI S **S** **01 37 54.2 -0.3**
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,30nm,3.1s
KMI LR LR
comp=N,140nm,23.2s
KMI LR LR
comp=E,160nm,22.2s
KMI LR LR
comp=Z,160nm,21.2s
CM31 Chiang Mai Arr 50.70 298 *e*P **P** **01 30 47.0 -0.5**
comp=Z,8.0nm,0.4s
CMAR Chiang Mai Arr 50.70 298 P **P** **01 30 48.0 +0.5**
comp=Z,9.7nm,0.6s,baz=121,slow=5.9,SNR=39
CMAR LR LR 01 51 51.3
comp=Z,53nm,18.6s,baz=117,slow=36
CMAR Chiang Mai Arr 50.70 298 P **P** **01 30 48.0 +0.5**
CHTO Chiang Mai 50.84 299 *e*P **P** **01 30 48.5 -0.1**
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO Chiang Mai 50.84 299 *e*P **P** **01 30 48.5 -0.1**
comp=Z,18nm,1.3s
MDJ Mudanjiang 51.05 346 P **P** **01 30 52.0 +2.3**
MDJ pP **pP** **01 31 09.7 0.0**
MDJ sP **sP** **01 31 17.9 -0.8**
MDJ PP **PP** **01 32 46.6 -0.5**
MDJ S **S** **01 38 05.7 +4.6**
MDJ sS **sS** **01 38 36.5 +1.3**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,55nm,5.0s
MDJ LR LR
comp=N,230nm,26.1s
MDJ LR LR
comp=E,160nm,18.7s
MDJ LR LR
comp=Z,320nm,25.5s
XAN Xi'an 51.35 322 P **P** **01 30 51.8 -0.4**
XAN pmax pmax
comp=Z,5.0nm,1.1s
CN2 Changchun 51.43 342 *e*P **P** **01 30 53.1 +0.6**
CN2 *es*P **sP** **01 31 21.6 0.0**
CN2 *e*S **S** **01 38 06.7 +0.4**
CN2 SS **SS** **01 41 41.2 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,200nm,20.0s
CN2 LR LR
comp=Z,200nm,12.0s
YSS Yuzh-Sakhalins 51.58 358 *e*P **P** **01 30 53.0 -0.5**
YSS *e* 01 31 13.0
BJI Beijing 51.79 332 P **P** **01 30 54.5 -0.8**
BJI pP **pP** **01 31 15.9 +0.6**
BJI PP **PP** **01 32 57.6 +3.7**
BJI S **S** **01 38 14.9 +3.5**
BJI pmax pmax
comp=Z,31nm,0.8s
BJI pmax pmax
comp=Z,54nm,3.0s
BJI LR LR
comp=N,160nm,32.2s
BJI LR LR
comp=E,170nm,14.8s
BJI LR LR
comp=Z,190nm,32.2s
CD2 Chengdu 52.84 315 P **P** **01 31 03.5 +0.2**
CD2 pP **pP** **01 31 23.1 -0.3**
CD2 sP **sP** **01 31 32.2 -0.2**
CD2 PP **PP** **01 33 05.4 +1.8**
CD2 S **S** **01 38 25.8 -0.4**
CD2 sS **sS** **01 38 58.5 -2.0**
CD2 SS **SS** **01 42 03.5 -2.7**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,120nm,7.3s
CD2 LR LR
comp=E,210nm,7.1s
CD2 LR LR
comp=Z,190nm,10.1s
HABR Khabarovsk 53.74 352 *e*P **P** **01 31 07.6 -1.9**
HABR *e**PP **pP** **01 31 27.6 -2.0**
HABR 01 31 37.4
HABR *e*PPP PPP 01 34 18.7
HABR *e*S **S** **01 38 36.4 -1.3**
HABR *e*SS **SS** **01 42 19.4 -0.3**
HABR pmax pmax
comp=E,83nm,3.0s
HABR pmax pmax
comp=Z,99nm,2.4s
HABR pmax pmax
comp=N,50nm,2.4s
HHC Hu-ho-hao-te 54.66 329 ⇑P **P** **01 31 16.7 +0.2**
HHC pP **pP** **01 31 36.3 -0.4**
HHC sP **sP** **01 31 44.7 -1.0**
HHC PcP **PcP** **01 32 19.5 +1.1**
HHC ScP **ScP** **01 36 09.6 -0.3**
HHC S **S** **01 38 50.3 -0.3**
HHC ScS **ScS** **01 40 55.0 -3.4**
HHC SS **SS** **01 42 32.1 -2.6**
HHC pmax pmax
comp=Z,14nm,1.3s
HHC pmax pmax
comp=Z,73nm,8.4s
HHC LR LR
comp=N,250nm,15.2s
HHC LR LR
comp=E,260nm,10.8s
HHC LR LR
comp=Z,310nm,15.2s
KLR Kul'dur 55.00 350 *e*P P 01 31 14.7 -3.9
KLR pmax pmax
comp=Z,56nm,1.8s
LZH Lanzhou 55.85 320 ⇑P **P** **01 31 25.7 +0.5**
LZH pP **pP** **01 31 43.3 -2.2**
LZH sP **sP** **01 31 51.4 -3.1**
LZH PP **PP** **01 33 32.7 +2.0**
LZH *e*S **S** **01 39 10.1 +3.3**
LZH sS **sS** **01 39 41.5 +0.2**
LZH pmax pmax
comp=Z,51nm,1.4s
LZH pmax pmax
comp=Z,110nm,4.2s
LZH LR LR
comp=N,220nm,11.9s
LZH LR LR
comp=E,200nm,13.9s
LZH LR LR
comp=Z,320nm,14.5s
PETK Petropavlovsk- 58.74 9 P **P** **01 31 45.4 +0.4**
comp=Z,12nm,0.9s,baz=169,slow=8.0,SNR=12

PETK LR LR 01 52 35.3
comp=Z,98nm,20.2s,baz=104,slow=31
PETK Petropavlovsk- 58.74 9 P **P** **01 31 45.4 +0.4**
PETK Petropavlovsk- 58.74 9 P **P** **01 31 45.4 +0.4**
SHL Shillong 59.48 303 *e*P **P** **01 31 53.0 +2.1**
GTA Gaotai 60.40 321 ⇑P **P** **01 31 57.3 +0.4**
GTA pP **pP** **01 32 21.5 +4.1**
GTA PP **PP** **01 34 14.5 +3.5**
GTA S **S** **01 40 06.4 +0.5**
GTA sS sS 01 40 48.4 +7.5
GTA SS **SS** **01 44 08.9 +3.7**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.7s
GTA LR LR
comp=N,76nm,17.6s
GTA LR LR
comp=E,82nm,17.6s
GTA LR LR
comp=Z,130nm,16.6s
LSA Lhasa 61.73 307 P **P** **01 32 04.5 -2.0**
LSA Lhasa 61.73 307 *e*P **P** **01 32 05.1 -1.4**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 61.73 307 *e*P **P** **01 32 05.1 -1.4**
comp=Z,10nm,0.7s
ULN Ulaanbaatar 62.01 332 *e*P **P** **01 32 07.6 0.0**
SONM Songino Array 62.29 332 P **P** **01 32 09.5 0.0**
comp=Z,3.7nm,0.7s,baz=162,slow=6.0,SNR=40
SONM PcP **PcP** **01 32 48.3 -0.3**
comp=Z,2.5nm,0.9s,baz=154,slow=4.9,SNR=6.1
SONM LR LR 01 57 54.9
comp=Z,169nm,19.8s,baz=175,slow=35
SONM PKP2bc 02 01 24.8
comp=Z,5.5nm,0.9s,baz=303,slow=2.6,SNR=31
SONM Songino Array 62.29 332 P **P** **01 32 09.5 0.0**
SONM PcP **PcP** **01 32 48.3 -0.3**
SONM ⇑*e* 02 01 24.8
TAPN Taplejung 63.62 304 *e*P **P** **01 32 18.7 -0.2**
comp=Z,62nm,1.0s
TAPN Taplejung 63.62 304 *e*P **P** **01 32 18.7 -0.2**
comp=Z,62nm,1.0s
ODAN Odare 63.71 303 *e*P **P** **01 32 19.5 +0.1**
comp=Z,84nm,1.0s
ODAN Odare 63.71 303 *e*P **P** **01 32 19.5 +0.1**
comp=Z,84nm,1.0s
RAMN Ramite 64.40 303 *e*P **P** **01 32 24.0 0.0**
comp=Z,27nm,0.5s
RAMN Ramite 64.40 303 *e*P **P** **01 32 24.0 0.0**
comp=Z,27nm,0.5s
JIRN Jiri 64.99 303 *e*P **P** **01 32 28.0 +0.1**
comp=Z,8.3nm,0.6s
JIRN Jiri 64.99 303 *e*P **P** **01 32 28.0 +0.1**
comp=Z,8.3nm,0.6s
GUN Gumba 65.33 304 *e*P **P** **01 32 30.1 0.0**
comp=Z,84nm,0.7s
GUN Gumba 65.33 304 *e*P **P** **01 32 30.1 0.0**
comp=Z,84nm,0.7s
PPT2 Papeete2 65.40 107 *e*LR LR 01 52 23.3
comp=Z,184nm,30.8s
ZAK Zakamensk 65.54 332 ⇑*i*P **P** **01 32 30.5 -0.2**
ZAK *e* 01 33 08.9
ZAK pmax pmax
comp=Z,18nm,1.0s
PKI Pulchoki 65.61 303 *e*P **P** **01 32 31.6 -0.3**
comp=Z,39nm,0.9s
PKI Pulchoki 65.61 303 *e*P **P** **01 32 31.6 -0.3**
PKI pmax pmax
comp=Z,39nm,0.9s
PKI Pulchoki 65.61 303 *e*P **P** **01 32 31.6 -0.3**
comp=Z,39nm,0.9s
KKN Kakani 65.79 303 *e*P **P** **01 32 32.9 0.0**
comp=Z,71nm,0.7s
KKN Kakani 65.79 303 *e*P **P** **01 32 32.9 0.0**
KKN Kakani 65.79 303 *e*P **P** **01 32 32.9 0.0**
comp=Z,71nm,0.7s
DMN Daman 65.88 303 *e*P **P** **01 32 33.6 +0.1**
comp=Z,95nm,0.8s
DMN Daman 65.88 303 *e*P **P** **01 32 33.6 +0.1**
comp=Z,95nm,0.8s
TLY Talaya 66.28 333 *e*P **P** **01 32 34.5 -0.8**
TLY *e*S S 01 41 10.7 -7.7
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 66.28 333 *e*P **P** **01 32 35.7 +0.4**
GKN Gorkha 66.40 303 *e*P **P** **01 32 36.6 -0.1**
comp=Z,72nm,0.7s
GKN Gorkha 66.40 303 *e*P **P** **01 32 36.6 -0.1**
comp=Z,72nm,0.7s
KOLN Koldanda 67.19 303 *e*P **P** **01 32 41.6 -0.2**
comp=Z,51nm,0.7s
KOLN Koldanda 67.19 303 *e*P **P** **01 32 41.6 -0.2**
comp=Z,51nm,0.7s
DANN Dangsing 67.24 303 *e*P **P** **01 32 41.8 -0.5**
DANN Dangsing 67.24 303 *e*P **P** **01 32 41.8 -0.5**
PYUN Piuthan 67.81 303 *e*P **P** **01 32 45.2 -0.5**
comp=Z,68nm,0.8s
PYUN Piuthan 67.81 303 *e*P **P** **01 32 45.2 -0.5**
comp=Z,68nm,0.8s
SEY Seymchan 67.82 4 ⇑*e*P **P** **01 32 44.7 -0.1**
HYB Hyderabad 68.93 291 *i*P **P** **01 32 51.0 -1.7**
WMQ Urumqi 70.43 320 P **P** **01 33 01.6 +0.1**
WMQ pmax pmax
comp=Z,30nm,1.0s
HVS Khovu-Aksy 70.73 329 *c i*P **P** **01 33 03.3 +0.2**
VNDA Vanda 73.22 176 P **P** **01 33 18.2 +0.7**
comp=Z,4.8nm,0.7s,baz=318,slow=6.6,SNR=17
VNDA LR LR 02 07 35.6
comp=Z,148nm,18.1s,baz=280,slow=37
VNDA Vanda 73.22 176 *e*P **P** **01 33 18.4 +0.9**
POO Poona 73.54 291 ⇓*i*P **P** **01 33 18.0 -2.5**
comp=Z,40nm,1.0s
BILL Bilibino 74.26 8 *e*P **P** **01 33 23.1 -0.5**
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 74.26 8 *e*P **P** **01 33 23.1 -0.5**
comp=Z,3.9nm,0.8s
MK31 Makanchi Array 75.16 321 *ce*P **P** **01 33 28.5 -0.8**
MK31 pmax pmax
comp=Z,21nm,0.8s
MK31 Makanchi Array 75.16 321 *e*P **P** **01 33 28.7 -0.7**
MK31 Makanchi Array 75.16 321 *e*P **P** **01 33 28.7 -0.7**
MKAR Makanchi Array 75.16 321 P **P** **01 33 29.1 -0.2**
comp=Z,17nm,0.8s,baz=109,slow=6.7,SNR=148
MKAR LR LR 02 09 16.7
comp=Z,45nm,20.2s,baz=265,slow=38
MKAR Makanchi Array 75.16 321 *e*P **P** **01 33 29.1 -0.2**
MKAR Makanchi Array 75.16 321 *e*P **P** **01 33 29.1 -0.2**
ZAA0 Zalesovo Array 76.82 328 *e*P **P** **01 33 37.1 -1.5**
ZALV Zalesovo Beam 76.82 328 P **P** **01 33 37.5 -1.1**
comp=Z,14nm,0.8s,baz=108,slow=5.2,SNR=64
ZALV PKPPKP **P'P'df** **02 00 53.9 +4.1**
comp=Z,0.6nm,0.7s,baz=336,slow=3.3,SNR=4.9
ZALV Zalesovo Beam 76.82 328 P **P** **01 33 37.5 -1.1**
ZALV Zalesovo Beam 76.82 328 P **P** **01 33 37.5 -1.1**
ZALV P'P' 02 00 53.9
KSH Kashi 76.91 312 *e*P **P** **01 33 40.4 +0.8**
KSH *e*PcP **PcP** **01 33 52.4 +2.0**
KSH *ep*P **pP** **01 34 02.9 +2.0**
KSH *es*P **sP** **01 34 10.5 +0.8**
KSH *e*PP **PP** **01 36 36.8 +3.0**
KSH S **S** **01 43 21.5 0.0**
KSH SKS **SKSac** **01 43 41.9 -3.2**
KSH ScS **ScS** **01 43 48.4 -1.4**
KSH sS **sS** **01 43 56.6 -1.2**
KSH SS **SS** **01 48 24.2 +4.3**
KSH pmax pmax
comp=Z,21nm,1.6s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=N,110nm,5.3s
KSH LR LR
comp=E,120nm,4.8s
KSH LR LR
comp=Z,240nm,7.0s
NVS Novosibirsk 78.05 329 ⇑*i*P **P** **01 33 43.9 -1.5**
NVS *e* 01 34 06.7
NVS pmax pmax
comp=E,25nm,1.8s
NVS pmax pmax
comp=Z,44nm,1.8s
NVS pmax pmax
comp=N,11nm,1.5s

TNA	Tin City	78.17	18	*e*P		P		01 33 47.1	+1.3	
	comp=N,6.7nm,0.8s									
KZA	Kyzart	78.21	315	P		P		01 33 47.6	+0.5	
	SNR=16									
TKM2	Tokmak 2	78.22	315	*i* P		P		01 33 46.8	-0.2	
TKM2	Tokmak 2	78.22	315	*e*P		P		01 33 46.7	-0.2	
	comp=N,13nm,0.5s									
TKM2	Tokmak 2	78.22	315	P		P		01 33 46.8	-0.2	
	SNR=14									
CHMS	Chumysh	78.84	315	P		P		01 33 49.8	-0.3	
	SNR=6.6									
AAK	Ala-Archa	78.91	315	*i* P		P		01 33 50.7	+0.1	
AAK	Ala-Archa	78.91	315	*e*P		P		01 33 50.2	-0.5	
	comp=N,22nm,0.8s									
AAK	Ala-Archa	78.91	315	P		P		01 33 50.5	-0.2	
	comp=N,54nm,0.8s,SNR=5.1									
AAK	Ala-Archa	78.91	315	P		P		01 33 50.8	+0.1	
	SNR=6.2									
KURK	Kurchatov	78.92	324	*c i* P		P		01 33 49.3	-1.0	
KURK					pmax		pmax			
	comp=Z,18nm,1.2s									
KURK	Kurchatov	78.92	324	*e*P		P		01 33 49.8	-0.5	
	comp=Z,14nm,1.0s									
KURK					pP		pP	01 34 11.6	-0.1	
KURK					PKKPbc		PKKPbc	01 52 43.5	-2.0	
KURK	Kurchatov	78.92	324	P		P		01 33 49.5	-0.8	
	comp=Z,77nm,1.0s,SNR=10									
KURBB	Kurchatov Arra	78.94	324	P		P		01 33 49.7	-0.7	
	comp=Z,7.6nm,1.0s,baz=110,slow=5.1,SNR=15									
KURBB					pP		pP	01 34 11.6	-0.2	
	comp=Z,3.2nm,1.0s,baz=111,slow=5.2,SNR=3.6									
KURBB					PKKPbc		PKKPbc	01 52 43.5	-2.0	
	comp=Z,0.1nm,0.3s,baz=303,slow=3.2,SNR=5.7									
USP	Ospenovka	79.09	316	P		P		01 33 51.4	-0.1	
	SNR=10									
AML	Almayashu	79.33	314	P		P		01 33 53.5	+0.2	
	SNR=15									
EKS2	Erkin-Say	79.42	315	*e*P		P		01 33 53.2	-0.2	
EKS2					pmax		pmax			
	comp=Z,12nm,1.0s									
EKS2	Erkin-Say	79.42	315	*e*P		P		01 33 53.2	-0.2	
	comp=Z,12nm,1.0s									
EKS2	Erkin-Say	79.42	315	P		P		01 33 54.0	+0.6	
	SNR=9.3									
KDAK	Kodiak Island	79.95	29	P		P		01 33 56.3	+0.6	
	comp=Z,16nm,0.8s,baz=9.6,slow=2.2,SNR=9.1									
KDAK	Kodiak Island	79.95	29	P		P		01 33 56.3	+0.6	
SVW2	Sparrevohn	80.13	25	*e*P		P		01 33 58.3	+1.6	
KBL	Kabul	81.01	306	*e*P		P		01 34 00.4	-1.8	
KBL					pmax		pmax			
	comp=Z,31nm,1.9s									
KBL	Kabul	81.01	306	*e*P		P		01 34 00.4	-1.8	
	comp=Z,31nm,1.9s									
KK31	Karatay Array	81.85	315	*ce*P		P		01 34 05.7	-0.6	
KK31					pmax		pmax			
	comp=Z,3.0nm,0.5s									
KKAR	Karatay Array	81.85	315	*e*P		P		01 34 05.1	-1.2	
KKAR	Karatay Array	81.85	315	*e*P		P		01 34 05.1	-1.2	
MAW	Mawson	82.46	202	LR		LR		02 08 04.7		
	comp=Z,313nm,18.8s,baz=223,slow=34									
PMR	Palmer	83.14	26	*e*P		P		01 34 12.0	-0.5	
PMR					pmax		pmax			
	comp=Z,22nm,1.1s									
PMR	Palmer	83.14	26	*e*P		P		01 34 12.0	-0.5	
	comp=Z,22nm,1.1s									
TRF	Thorofare Moun	83.41	24	*e*P		P		01 34 12.9	-1.2	
	comp=Z,12nm,0.6s									
SML	Sawmill	83.58	26	*e*P		P		01 34 15.1	+0.3	
SML					pmax		pmax			
	comp=Z,6.0nm,0.8s									
SML	Sawmill	83.58	26	*e*P		P		01 34 15.1	+0.3	
	comp=Z,6.3nm,0.8s									
BVA0	Borovoye Array	84.49	324	*i* P		P		01 34 19.3	-0.3	
BVA0					pmax		pmax			
	comp=Z,4.0nm,1.1s									
BVAR	Borovoye Array	84.49	324	P		P		01 34 19.4	-0.2	
	comp=Z,15nm,0.9s,baz=109,slow=6.8,SNR=54									
BVAR	Borovoye Array	84.49	324	P		P		01 34 19.4	-0.2	
BVAR	Borovoye Array	84.49	324	P		P		01 34 19.4	-0.2	
BRVK	Borovoye	84.56	324	*c i* P		P		01 34 19.4	-0.6	
BRVK					pmax		pmax			
	comp=Z,17nm,0.8s									
BRVK	Borovoye	84.56	324	*e*P		P		01 34 19.3	-0.6	
BRVK	Borovoye	84.56	324	P		P		01 34 19.7	-0.2	
	comp=Z,97nm,0.9s,SNR=7.6									
COLA	College	84.96	23	*e*P		P		01 34 20.7	-1.0	
COLA					pmax		pmax			
	comp=Z,19nm,0.7s									
COLA	College	84.96	23	*e*P		P		01 34 20.6	-1.0	
	comp=Z,19nm,0.7s									
COLD	Coldfoot	85.03	21	*e*P		P		01 34 22.7	+0.7	
QSPA	South Pole Qui	85.14	180	*e*P		P		01 34 23.0	+0.2	
	comp=Z,27nm,0.9s									
PAX	Paxson	85.24	25	*e*P		P		01 34 23.4	+0.1	
PAX	Paxson	85.24	25	*e*P		P		01 34 23.4	+0.1	
ILAR	Eielson Array	85.30	24	P		P		01 34 21.9	-1.5	
	comp=Z,21nm,0.7s,baz=253,slow=5.1,SNR=305									
ILAR					LR		LR	02 11 37.3		
	comp=Z,71nm,19.6s,baz=244,slow=35									
ILAR	Eielson Array	85.30	24	P		P		01 34 21.9	-1.5	
DOT	Dot Lake	86.07	25	*e*P		P		01 34 27.6	+0.3	
	comp=Z,24nm,0.8s									
EGAK	Eagle	87.62	24	*e*P		P		01 34 35.2	+0.5	
	comp=Z,11nm,0.7s									
DAWY	Dawson	88.17	25	*e*P		P		01 34 37.9	+0.4	
DAWY				*e*				01 34 59.7		
SKAG	Skagway	89.02	30	*e*P		P		01 34 42.5	+1.1	
	comp=Z,13nm,1.1s									
AB31	Akbulak array	90.21	319	*ce*P		P		01 34 45.5	-1.8	
AB31					pmax		pmax			
	comp=Z,4.0nm,0.5s									
ABKAR	Akbulak array	90.21	319	*e*P		P		01 34 45.5	-1.7	
INK	Inuvik	91.39	22	P		P		01 34 51.5	-0.7	
	comp=Z,7.6nm,0.8s,baz=277,slow=2.1,SNR=18									
INK	Inuvik	91.39	22	*e*P		P		01 34 52.0	-0.3	
DLBC	Dease Lake	91.58	32	P		P		01 34 53.4	-0.1	
	comp=Z,1.5nm,0.6s,baz=269,slow=4.3,SNR=6.0									
DLBC	Dease Lake	91.58	32	P		P		01 34 53.4	-0.1	
AKTO	Aktyubinsk	91.58	320	P		P		01 34 52.1	-1.5	
	comp=Z,1.6nm,0.7s,baz=91,slow=6.1,SNR=5.0									
AKTO	Aktyubinsk	91.58	320	P		P		01 34 52.1	-1.5	
AKTO	Aktyubinsk	91.58	320	P		P		01 34 52.1	-1.5	
ARU	Arti	91.86	326	*d i* P		P		01 34 52.1	-2.6	
ARU								01 38 31.4		
ARU					S		SKSac	01 45 17.0	-3.3	
ARU					SS		SS	01 51 54.5	-4.5	
ARU					pmax		pmax			
	comp=Z,7.0nm,1.2s									
ARU	Arti	91.86	326	*e*P		P		01 34 51.9	-2.8	
YKA	Yellowknife Ar	99.18	28	P		Pdif		01 35 27.4	-0.5	
	comp=Z,0.6nm,0.6s,baz=278,slow=4.9,SNR=13									
YKA					PP		PP	01 39 30.8	-0.5	
	comp=Z,0.4nm,0.9s,baz=271,slow=7.3,SNR=5.7									
YKA					PKKPbc		PKKPbc	01 51 52.0	-3.3	
	comp=Z,0.6nm,0.6s,baz=98,slow=3.2,SNR=9.4									
YKA	Yellowknife Ar	99.18	28	P		Pdif		01 35 27.4	-0.5	
YKA					PP		PP	01 39 30.8	-0.5	
YKA					PKKPbc		PKKPbc	01 51 52.0	-3.3	
CHMT	Chamberlain Mo	101.72	43	*e*Pdif		Pdif		01 35 38.3	-1.6	
ARCES	ARCESS Array B	104.43	342	Pdiff		Pdif		01 35 50.2	-1.0	
	comp=Z,3.4nm,0.9s,baz=68,slow=9.8,SNR=3.7									
ARCES					PKiKP		PKiKP	01 40 06.2	-0.8	
	comp=Z,3.1nm,0.9s,baz=55,slow=4.6,SNR=4.9									
ARCES	ARCESS Array B	104.43	342	Pdif		Pdif		01 35 50.2	-1.0	
ARCES					PKiKP		PKiKP	01 40 06.2	-0.8	
FINES	FINESS Array B	107.62	334	PKiKP		PKiKP		01 40 14.1	+1.0	
	comp=Z,2.6nm,1.0s,baz=222,slow=1.9,SNR=3.3									
FINES	FINESS Array B	107.62	334	PKiKP		PKiKP		01 40 14.1	+1.0	
BRTR	Keskin Array B	109.25	310	PKKPbc		PKKPbc		01 51 24.4	-0.1	
	comp=Z,0.5nm,1.0s,baz=212,slow=5.1,SNR=3.8									
BRTR	Keskin Array B	109.25	310	PKKPbc		PKKPbc		01 51 24.4	-0.1	
TXAR	Lajitas Array	111.17	61	PKKPbc		PKKPbc		01 51 18.6	+0.8	
	comp=Z,0.3nm,0.8s,baz=112,slow=5.6,SNR=3.5									
TXAR					PKKPab		PKKPab	01 51 27.8	+0.5	
	comp=Z,0.9nm,0.9s,baz=110,slow=7.0,SNR=9.5									
TXAR	Lajitas Array	111.17	61	PKKPbc		PKKPbc		01 51 18.6	+0.8	
TXAR				PKKPab		PKKPab		01 51 27.8	+0.5	
BOSA	Boshof	113.03	236	PKiKP		PKiKP		01 40 24.8	+0.3	
	comp=Z,3.4nm,1.0s,baz=50,slow=0.8,SNR=6.5									
BOSA	Boshof	113.03	236	PKiKP		PKiKP		01 40 24.8	+0.3	
MLR	Muntele Rosu	113.38	318	PKiKP		PKiKP		01 40 23.6	-1.0	
	baz=249,slow=8.6									
MLR					PKKPbc		PKKPbc	01 51 09.4	-1.6	
	comp=Z,0.4nm,0.8s,baz=325,slow=21,SNR=3.6									
MLR	Muntele Rosu	113.38	318	PKiKP		PKiKP		01 40 23.6	-1.0	
MLR				PKKPbc		PKKPbc		01 51 09.4	-1.6	
HFS	Hagfors	113.56	336	PKKPbc		PKKPbc		01 51 08.8	-1.9	
	comp=Z,2.5nm,1.0s,baz=204,slow=2.6,SNR=5.0									
HFS	Hagfors	113.56	336	PKKPbc		PKKPbc		01 51 08.8	-1.9	
NOA	NORSAR Array B	114.01	337	PKKPbc		PKKPbc		01 51 07.6	-1.7	
	comp=Z,0.9nm,0.6s,baz=236,slow=3.2,SNR=3.6									
NOA	NORSAR Array B	114.01	337	PKKPbc		PKKPbc		01 51 07.6	-1.7	
KHC	Kasperske Hory	119.58	325	*e*PKiKP		PKPdf		01 40 34.5	-1.8	
KHC	Kasperske Hory	119.58	325	*e*PKPdf		PKPdf		01 40 34.5	-1.8	
GERES	GERESS Array B	119.66	325	PKP		PKPdf		01 40 35.9	-0.7	
	comp=Z,1.8nm,0.8s,baz=66,slow=1.6,SNR=16									
GERES					pPKP		pPKPdf	01 40 59.3	0.0	
	comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=3.5									
GERES					PKKPbc		PKKPbc	01 50 47.9	-1.2	
	comp=Z,1.0nm,0.6s,baz=215,slow=4.2,SNR=8.6									
GERES	GERESS Array B	119.66	325	PKP		PKPdf		01 40 35.9	-0.7	
GERES					pPKP		pPKPdf	01 40 59.3	0.0	
GERES					PKKPbc		PKKPbc	01 50 47.9	-1.2	
WTTA	Wattenberg	121.65	324	⇑ *i* PKiKP		PKPdf		01 40 39.9	-0.7	
	comp=Z,6.3nm,0.7s									
MOTA	Moosalm	121.92	325	⇑ *i* PKPdf		PKPdf		01 40 40.1	-1.0	
	comp=Z,7.4nm,0.9s									
FETA	Feichten	122.31	324	⇑ *i* PKPdf		PKPdf		01 40 40.1	-1.7	
	comp=Z,4.5nm,0.9s									
CDF	Champ du Feu	123.46	327	*e*PKiKP		PKPdf		01 40 42.8	-1.1	
CDF	Champ du Feu	123.46	327	*e*PKiKP		PKPdf		01 40 42.8	-1.1	
CDF	Champ du Feu	123.46	327	*e*PKPdf		PKPdf		01 40 42.8	-1.1	
SCHQ	Schefferville	124.01	21	PKP		PKPdf		01 40 44.2	-0.5	
	comp=Z,1.9nm,0.6s,baz=53,slow=2.9,SNR=7.5									
SCHQ	Schefferville	124.01	21	PKP		PKPdf		01 40 44.2	-0.5	
BAIF	Baives	124.03	330	*e*PKiKP		PKPdf		01 40 44.4	-0.4	
BAIF	Baives	124.03	330	*e*PKiKP		PKPdf		01 40 44.4	-0.4	
BAIF	Baives	124.03	330	*e*PKPdf		PKPdf		01 40 44.4	-0.4	
HINF	Hinteralfeld	124.04	327	*e*PKiKP		PKPdf		01 40 44.2	-0.8	
	comp=Z,18nm,1.1s									
HINF	Hinteralfeld	124.04	327	*e*PKiKP		PKPdf		01 40 44.2	-0.8	
HINF	Hinteralfeld	124.04	327	*e*PKPdf		PKPdf		01 40 44.2	-0.8	
HAU	Haudompre	124.20	327	*e*PKiKP		PKPdf		01 40 44.6	-0.6	
	comp=Z,14nm,0.9s									
HAU	Haudompre	124.20	327	*e*PKiKP		PKPdf		01 40 44.6	-0.6	
HAU	Haudompre	124.20	327	*e*PKPdf		PKPdf		01 40 44.6	-0.6	
PLCA	Paso Flores	124.33	148	PKP		PKPdf		01 40 46.5	+0.6	
	comp=Z,9.6nm,0.8s,baz=226,slow=2.4,SNR=25									
PLCA	Paso Flores	124.33	148	PKP		PKPdf		01 40 46.5	+0.6	
MEZF	Maizieres J'vi	124.58	328	*e*PKiKP		PKPdf		01 40 44.7	-1.2	
MEZF	Maizieres J'vi	124.58	328	*e*PKPdf		PKPdf		01 40 44.7	-1.2	
SFTF	Sexfontaines	124.78	328	*e*PKiKP		PKPdf		01 40 45.7	-0.6	
SFTF	Sexfontaines	124.78	328	*e*PKPdf		PKPdf		01 40 45.7	-0.6	
CABF	La Chapelle	125.18	326	*e*PKiKP		PKPdf		01 40 47.1	-0.1	
	comp=Z,21nm,0.9s									
CABF	La Chapelle	125.18	326	*e*PKiKP		PKPdf		01 40 47.1	-0.1	
CABF	La Chapelle	125.18	326	*e*PKPdf		PKPdf		01 40 47.1	-0.1	
LPG	La Plagne	125.45	325	*e*PKiKP		PKPdf		01 40 47.6	-0.4	
LPG	La Plagne	125.45	325	*e*PKiKP		PKPdf		01 40 47.6	-0.4	
LPG	La Plagne	125.45	325	*e*PKPdf		PKPdf		01 40 47.6	-0.4	
LPL	La Plagne	125.45	325	*e*PKiKP		PKPdf		01 40 47.7	-0.3	
LPL	La Plagne	125.45	325	*e*PKiKP		PKPdf		01 40 47.7	-0.3	
LPL	La Plagne	125.45	325	*e*PKPdf		PKPdf		01 40 47.7	-0.3	
MBDF	Montbardon	125.88	324	*e*PKiKP		PKPdf		01 40 47.8	-0.9	
MBDF	Montbardon	125.88	324	*e*PKiKP		PKPdf		01 40 47.8	-0.9	
MBDF	Montbardon	125.88	324	*e*PKPdf		PKPdf		01 40 47.8	-0.9	
LOR	Lormes	125.98	328	*e*PKiKP		PKPdf		01 40 48.2	-0.5	
LOR	Lormes	125.98	328	*e*PKPdf		PKPdf		01 40 48.2	-0.5	
SSF	Saint Saulge	126.30	328	*e*PKiKP		PKPdf		01 40 48.9	-0.3	
SSF	Saint Saulge	126.30	328	*e*PKiKP		PKPdf		01 40 48.9	-0.3	
SSF	Saint Saulge	126.30	328	*e*PKPdf		PKPdf		01 40 48.9	-0.3	
SMF	Signal de Mont	126.38	327	*e*PKiKP		PKPdf		01 40 48.9	-0.5	
	comp=Z,19nm,1.2s									
SMF	Signal de Mont	126.38	327	*e*PKiKP		PKPdf		01 40 48.9	-0.5	
SMF	Signal de Mont	126.38	327	*e*PKPdf		PKPdf		01 40 48.9	-0.5	
BGF	Bois d'Agland	126.97	328	*e*PKiKP		PKPdf		01 40 50.4	-0.1	
BGF	Bois d'Agland	126.97	328	*e*PKiKP		PKPdf		01 40 50.4	-0.1	
BGF	Bois d'Agland	126.97	328	*e*PKPdf		PKPdf		01 40 50.4	-0.1	
TCF	Toulx Ste Croi	127.48	328	*e*PKiKP		PKPdf		01 40 51.4	-0.2	
	comp=Z,16nm,1.0s									
TCF	Toulx Ste Croi	127.48	328	*e*PKiKP		PKPdf		01 40 51.4	-0.2	
TCF	Toulx Ste Croi	127.48	328	*e*PKPdf		PKPdf		01 40 51.4	-0.2	
GRR	Gorron	127.60	332	*e*PKiKP		PKPdf		01 40 50.8	-0.9	
GRR	Gorron	127.60	332	*e*PKiKP		PKPdf		01 40 50.8	-0.9	
GRR	Gorron	127.60	332	*e*PKPdf		PKPdf		01 40 50.8	-0.9	
LFF	La Frestale	129.14	327	*e*PKiKP		PKPdf		01 40 53.7	-1.0	
LFF	La Frestale	129.14	327	*e*PKiKP		PKPdf		01 40 53.7	-1.0	
LFF	La Frestale	129.14	327	*e*PKPdf		PKPdf		01 40 53.7	-1.0	
ESDC	Sonseca Array	135.25	325	PKP		PKPdf		01 41 05.0	-1.5	
	comp=Z,0.1nm,0.3s,baz=43,slow=1.6,SNR=3.4									
ESDC	Sonseca Array	135.25	325	PKP		PKPdf		01 41 05.0	-1.5	
LPAZ	La Paz	141.32	124	PKhKP		PKPpre		01 41 13.4		
	comp=Z,2.8nm,0.5s,baz=220,slow=2.9,SNR=7.8									
LPAZ	La Paz	141.32	124	PKPpre		PKPpre		01 41 13.4		
CPUP	Villa Florida	142.38	146	PKhKP		PKPpre		01 41 15.2		
	comp=Z,2.5nm,0.5s,baz=211,slow=2.7,SNR=9.6									
CPUP					PKP		PKPdf	01 41 20.7	+0.9	
	comp=Z,18nm,0.9s,baz=285,slow=1.0,SNR=22									
CPUP	Villa Florida	142.38	146	PKPpre		PKPpre		01 41 15.2		
CPUP					PKP		PKPdf	01 41 20.7	+0.9	
TOA0	Torodi Ar. Sit	142.60	285	*e*P		PKPpre		01 41 15.5		
TORD	Torodi Ar. Bea	142.60	285	PKhKP		PKPpre		01 41 15.1		
	comp=Z,9.0nm,0.6s,baz=68,slow=3.5,SNR=151									
TORD	Torodi Ar. Bea	142.60	285	PKPpre		PKPpre		01 41 15.1		
SDV	Santo Domingo	144.67	81	*e*P		PKPab		01 41 22.5	-0.8	
SAML	Samuel	148.99	116	*e*PKPdf		PKPdf		01 41 31.3	-0.1	
SPB	Sao Paulo	149.37	158	*e*PKPbc		PKPbc		01 41 37.1	+0.9	
DBIC	Dimbokro	149.68	275	PKPbc		PKPbc		01 41 37.5	+0.2	
	comp=Z,88nm,0.6s,baz=77,slow=2.7,SNR=195									
DBIC	Dimbokro	149.68	275	*e*PKPbc		PKPbc		01 41 37.5	+0.2	
LIC	Lamto	149.87	274	⇑ *i* PKiKP		PKPbc		01 41 37.8	+0.1	
	comp=Z,294nm,0.8s									
BDFB	Brasilia	156.07	148	PKP		PKPdf		01 41 41.9	-0.1	
	comp=Z,10nm,1.0s,baz=220,slow=4.2,SNR=9.1									
BDFB					PKPbc		PKPab	01 41 51.7	-18	
	comp=Z,5.3nm,0.7s,baz=279,slow=0.1,SNR=6.3									
BDFB					PKPab		PKPab	01 42 09.0	-0.4	
	comp=Z,9.2nm,0.8s,baz=144,slow=1.9,SNR=7.6									
BDFB	Brasilia	156.07	148	PKP		PKPdf		01 41 41.9	-0.1	
BDFB					PKPbc		PKPab	01 41 51.7	-18	
BDFB					PKPab		PKPab	01 42 09.0	-0.4	

AUST **10** *01:30:28.8, 16.97S×177.50W, h200km*
ISCJB **10** *01:31:01.0±0.7, 17.6S±0.2×178.6W±0.1, h500km, mb3.7/7, Error ellipse: s-maj=30.4km s-min=12.1km az=151.8*
IDC **10** *01:31:02.3±2.2, 17.60S×178.52W, h507km±26km, mb3.3/7, mb1 3.6/8, mb1mx3.2/22, mbtmp3.4/8, Error ellipse: s-maj=31.4km s-min=15.8km az=152.0*

ISC 10 01:31:01.7±0.8, 17.6S±0.2×178.5W±0.2, h500km±0.8, n20, σ0.9 86/19, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.44	61	P	P	01 32 52.9	+0.4
	7.5nm,0.3s,baz=333,slow=4.3,SNR=4.1						
DZM	Mont Dzumac	14.85	250	P	P	01 34 15.9	+5.5
	0.6nm,0.3s,baz=119,slow=19,SNR=4.2						
CNB	Canberra Magne	33.54	232	P	P	01 37 00.7	+1.3
	baz=35,SNR=6.8						
CMSA	Cobar Meteorol	35.22	240	P	P	01 37 14.1	+0.6
	baz=36,SNR=9.5						
COEN	Coen	37.02	270	P	P	01 37 30.0	+1.3
	baz=38,SNR=15						
STKA	Stephens Creek	38.70	241	P	P	01 37 43.1	+1.0
	3.5nm,0.5s,baz=89,slow=7.7,SNR=6.5						
STKA	Stephens Creek	38.70	241	P	P	01 37 43.2	+1.0
	baz=40,SNR=4.9						
BBOO	Buckleboo	43.48	241	P	P	01 38 20.4	+0.2
	baz=45,SNR=12						
WRA	Warramunga Arr	44.60	259	P	P	01 38 28.4	-0.8
	1.6nm,0.5s,baz=91,slow=7.2,SNR=16						
WRA				PcP	PcP	01 40 00.4	-1.2
	0.4nm,0.4s,baz=97,slow=3.3,SNR=4.5						
ASAR	Alice Springs	44.79	254	P	P	01 38 30.6	-0.1
	19nm,0.6s,baz=88,slow=8.2,SNR=180						
ASAR				PcP	PcP	01 40 00.9	-1.3
	0.6nm,0.4s,baz=103,slow=4.0,SNR=4.5						
KDU	Kakadu	47.48	269	P	P	01 38 51.1	0.0
	baz=48,SNR=5.8						
MTN	Manton Dam	48.73	268	S	S	01 45 50.6	+25
	baz=50,SNR=5.9						
FITZ	Fitzroy Crossi	52.99	260	P	P	01 39 31.5	-0.1
	0.7nm,0.3s,baz=78,slow=8.8,SNR=10						
FITZ	Fitzroy Crossi	52.99	260	P	P	01 39 31.6	+0.1
	baz=54,SNR=6.2						
MEEK	Meekatharra	58.46	249	P	P	01 40 08.2	-1.3
	baz=60,SNR=3.9						
QSPA	South Pole Qui	72.44	180	P	P	01 41 36.6	0.0
	3.8nm,0.9s,baz=81,slow=1.8,SNR=7.1						
ILAR	Eielson Array	85.62	13	P	P	01 42 46.1	-0.2
	0.2nm,0.4s,baz=223,slow=5.5,SNR=6.7						
PDAR	Pinedale Array	87.20	43	P	P	01 42 55.1	+0.4
	0.2nm,0.5s,baz=250,slow=1.8,SNR=3.5						
BRTR	Keskin Array B	144.52	315	PKP	PKPbc	01 49 40.5	-0.8
	0.4nm,0.5s,baz=103,slow=2.7,SNR=6.7						
GERES	GERESS Array B	147.31	345	PKPbc	PKPbc	01 49 48.4	-0.4
	0.2nm,0.3s,baz=3.8,slow=4.0,SNR=3.8						

BJI **10** *01:40:55.1, 41.85N×143.73E, h33km, mB4.6/4, mb4.4/9*
NIED **10** *01:41:00, 42.40N×143.10E, h56km, Mw4.2 Best double couple: M0 2.28000×10^15 NP1:φ±δ 23.00000°, δ71.00000°, λ 82.00000°. NP2:φ±δ 226.00000°, δ20.00000°, λ112.00000°.*
MOS **10** *01:41:02.7±0.9, 42.50N×143.03E, h46km, mb4.9/20, Error ellipse: s-maj=10.0km s-min=6.3km az=108.1*
ISCJB **10** *01:41:04.4±0.3, 42.36N±0.03×143.04E±0.05, h66km±2km, mb4.4/54, Error ellipse: s-maj=6.6km s-min=3.9km az=39.7*
IDC **10** *01:41:04.8±0.6, 42.45N×143.05E, h52km±5km, mb3.9/23, mb1 4.0/26, mb1mx4.0/33, mbtmp3.9/26, MS3.8/4, Ms1 3.8/4, ms1mx3.1/35, Error ellipse: s-maj=15.3km s-min=11.8km az=151.0*
NEIC **10** *01:41:05.5±0.4, 42.41N×143.07E, h59km±3km, mb4.8/18, MW4.2(NIED), Error ellipse: s-maj=5.7km s-min=3.9km az=131.0*
NEIC Recorded [2 JMA] in southern Hokkaido.
JMA **10** *01:41:05.9±0.1, 42.36N×143.11E, h49km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ±δ 26.00000°, δ70.00000°, λ74.00000°. NP2:φ±δ 245.00000°, δ25.00000°, λ126.00000°. Principal axes: T Plg62.0000°, Azm272.0000°; N Plg15.0000°, Azm32.0000°; P Plg23.0000°, Azm128.0000°;*
JMA Felt II J1.

ISC 10 01:41:05.0±0.4, 42°38N±0.03×143°05E±0.04, h55km±3km, n207, σ1.9 01/223, mb4.5/55, MS3.8/5, 11C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.24	246	⇓P	Pn	01 41 14.6	+0.5
JCH	Churui	0.33	44	⇑P	Pn	01 41 14.9	+0.1
JEM	Erimo	0.37

MKAR PcP **PcP** **01 50 46.8 +0.1**
comp=Z,1.0nm,0.8s,baz=68,slow=2.6,SNR=4.1
MKAR **Makanchi Array** **42.56 298** P **P** **01 48 55.2 +0.1**
MKAR 01 50 46.8
MKAR **Makanchi Array** **42.56 298** P **P** **01 48 55.2 +0.1**
MKAR PcP **PcP** **01 50 46.8 +0.1**
KURK **Kurchatov** **43.81 304***c* *i*P **P** **01 49 04.9 -0.2**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK **Kurchatov** **43.81 304** *e*P **P** **01 49 04.6 -0.5**
comp=Z,15nm,0.8s
KURBB **Kurchatov Arra** **43.88 304** P **P** **01 49 05.9 +0.1**
comp=Z,16nm,0.8s,baz=76,slow=8.8,SNR=132
CMAR **Chiang Mai Arr** **44.25 251** P **P** **01 49 10.2 +1.1**
comp=Z,0.8nm,0.3s,baz=45,slow=9.0,SNR=5.3
CMAR sP **sP** **01 49 29.1 -0.6**
comp=Z,1.6nm,0.3s,baz=19,slow=9.1,SNR=3.2
CMAR **Chiang Mai Arr** **44.25 251** P **P** **01 49 10.2 +1.1**
CMAR sP **sP** **01 49 29.1 -0.6**
ILAR **Eielson Array** **44.35 35** P **P** **01 49 08.8 -0.5**
comp=Z,2.8nm,1.0s,baz=264,slow=7.0,SNR=13
ILAR **Eielson Array** **44.35 35** P **P** **01 49 08.8 -0.5**
TAPN **Taplejung** **47.02 270** *e*P **P** **01 49 31.9 +0.7**
TAPN **Taplejung** **47.02 270** *e*P **P** **01 49 31.9 +0.7**
ODAN **Odare** **47.53 270** *e*P **P** **01 49 35.0 -0.1**
ODAN **Odare** **47.53 270** *e*P **P** **01 49 35.0 -0.1**
JIRN **Jiri** **47.98 271** *e*P **P** **01 49 38.8 +0.1**
JIRN **Jiri** **47.98 271** *e*P **P** **01 49 38.8 +0.1**
RAMN **Ramite** **48.07 270** *e*P **P** **01 49 39.6 +0.3**
comp=Z,26nm,0.8s
RAMN **Ramite** **48.07 270** *e*P **P** **01 49 39.6 +0.3**
comp=Z,26nm,0.8s
GUN **Gumba** **48.07 272** *e*P **P** **01 49 39.9 +0.5**
comp=Z,18nm,0.4s
BRVK **Borovoye** **48.09 309**⇑ *i*P **P** **01 49 39.1 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK **Borovoye** **48.09 309** *e*P **P** **01 49 38.4 -0.4**
comp=Z,7.6nm,0.9s
BRVK *e*PcP **PcP** **01 51 06.1 +0.4**
TKM2 **Tokmak 2** **48.37 295** *e*P **P** **01 49 41.8 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
TKM2 **Tokmak 2** **48.37 295** *e*P **P** **01 49 41.8 +0.5**
comp=Z,4.7nm,0.7s
KKN **Kakani** **48.58 272** *e*P **P** **01 49 43.6 +0.4**
KKN **Kakani** **48.58 272** *e*P **P** **01 49 43.6 +0.4**
KKN **Kakani** **48.58 272** *e*P **P** **01 49 43.6 +0.4**
GKN **Gorkha** **48.94 273** *e*P **P** **01 49 45.8 -0.1**
comp=Z,6.8nm,0.4s
DANN **Dangsing** **49.40 274** *e*P **P** **01 49 50.2 +0.6**
comp=Z,59nm,0.7s
DANN **Dangsing** **49.40 274** *e*P **P** **01 49 50.2 +0.6**
comp=Z,59nm,0.7s
KOLN **Koldanda** **49.84 273** *e*P **P** **01 49 53.0 +0.2**
KOLN **Koldanda** **49.84 273** *e*P **P** **01 49 53.0 +0.2**
PYUN **Piuthan** **50.11 274** *e*P **P** **01 49 55.2 +0.4**
comp=Z,16nm,0.6s
PYUN **Piuthan** **50.11 274** *e*P **P** **01 49 55.2 +0.4**
comp=Z,16nm,0.6s
KKAR **Karatay Array** **51.68 297** *e*P **P** **01 50 05.9 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR **Karatay Array** **51.68 297** *e*P **P** **01 50 05.9 -0.3**
comp=Z,1.9nm,0.5s
SVE **Sverdlovsk** **52.07 316**⇓ *e*P **P** **01 50 09.3 +0.5**
SVE pmax pmax
comp=Z,16nm,0.7s
ARU **Arti** **53.28 316***c* *i*P **P** **01 50 17.7 -0.1**
ARU 01 52 16.2
ARU S **S** **01 57 47.6 +2.7**
ARU SS **SKiKP** **02 01 27.6 -1.6**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU **Arti** **53.28 316** *e*P **P** **01 50 17.3 -0.5**
comp=Z,15nm,0.9s
ARU *e*PcP **PcP** **01 51 24.4 -0.4**
HNR **Honiara** **53.83 159** LR LR 02 11 09.4
comp=Z,199nm,19.1s,baz=320,slow=34
SPITS **Spitsbergen Ar** **55.54 348** P **P** **01 50 33.0 -0.9**
comp=Z,4.7nm,0.8s,baz=84,slow=8.5,SNR=7.9
SPITS **Spitsbergen Ar** **55.54 348** P **P** **01 50 33.0 -0.9**
ABKAR **Akbulak array** **55.56 308** *e*P **P** **01 50 34.6 +0.2**
comp=Z,3.7nm,0.3s
AKTO **Aktyubinsk** **56.13 310** P **P** **01 50 38.6 +0.1**
comp=Z,1.0nm,0.4s,baz=62,slow=14,SNR=10
AKTO **Aktyubinsk** **56.13 310** P **P** **01 50 38.6 +0.1**
AKTO **Aktyubinsk** **56.13 310** P **P** **01 50 38.6 +0.1**
RES **Resolute Bay** **57.12 16** P **P** **01 50 44.3 -0.8**
comp=Z,4.0nm,0.5s,baz=316,slow=6.1,SNR=25
RES **Resolute Bay** **57.12 16** *e*P **P** **01 50 44.5 -0.6**
comp=Z,3.1nm,0.6s
YKA **Yellowknife Ar** **58.58 32** P **P** **01 50 55.4 -0.2**
comp=Z,0.3nm,0.5s,baz=304,slow=6.9,SNR=7.0
YKA pP **pP** **01 51 09.3 -1.1**
comp=Z,0.3nm,0.3s,baz=308,slow=7.0,SNR=4.2
YKA **Yellowknife Ar** **58.58 32** P **P** **01 50 55.4 -0.2**
YKA pP **pP** **01 51 09.3 -1.1**
DAG **Danmarks Havn** **60.56 355** *i*P **P** **01 51 08.1 -0.9**
comp=Z,12nm,0.7s
JOF **Joensuu** **61.87 331** *e*P **P** **01 51 17.1 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF **Joensuu** **61.87 331** *e*p **P** **01 51 17.1 -0.9**
comp=Z,2.1nm,0.5s
WRA **Warramunga Arr** **62.53 189** P **P** **01 51 22.2 -0.7**
comp=Z,0.3nm,0.3s,baz=6.1,slow=7.7,SNR=5.7
WRA pP **pP** **01 51 37.1 -0.8**
comp=Z,1.3nm,0.5s,baz=6.2,slow=7.1,SNR=8.2
WRA **Warramunga Arr** **62.53 189** P **P** **01 51 22.2 -0.7**
WRA pP **pP** **01 51 37.1 -0.8**
KAF **Kangasniemi** **64.16 332** *e*P P 01 51 27.4 -5.8
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF **Kangasniemi** **64.16 332** *e*p P 01 51 27.4 -5.8
comp=Z,1.0nm,0.4s
OBN **Obninsk** **64.60 322** P **P** **01 51 35.0 -1.2**
OBN 01 54 03.0
OBN pmax pmax
comp=Z,18nm,2.3s
FINES **FINESS Array B** **64.69 332** P **P** **01 51 36.2 -0.5**
comp=Z,4.0nm,0.5s,baz=50,slow=6.9,SNR=48
FINES **FINESS Array B** **64.69 332** P **P** **01 51 36.2 -0.5**
SUMG **Summit** **65.34 0** *i*P **P** **01 51 41.0 -0.3**
comp=Z,4.0nm,0.9s
ASAR **Alice Springs** **66.26 189** P **P** **01 51 48.5 +1.3**
comp=Z,0.2nm,0.3s,baz=19,slow=6.1,SNR=5.2
ASAR **Alice Springs** **66.26 189** P **P** **01 51 48.5 +1.3**
KIV **Kislovodsk** **68.39 310** *e*P **P** **01 52 01.7 +0.9**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,51nm,18.0s
KIV **Kislovodsk** **68.39 310** *e*P **P** **01 52 00.9 +0.1**
comp=Z,7.1nm,0.6s
KBZ **Khabaz** **68.41 310** P **P** **01 52 02.1 +1.4**
comp=Z,4.0nm,0.7s,baz=46,slow=4.8,SNR=11
KBZ LR LR 02 22 40.5
comp=Z,40nm,21.7s,baz=268,slow=36
KBZ **Khabaz** **68.41 310** P **P** **01 52 02.1 +1.4**
KBZ **Khabaz** **68.41 310** P **P** **01 52 02.1 +1.4**
HFS **Hagfors** **69.74 336** P **P** **01 52 08.0 -0.8**
comp=Z,2.4nm,0.4s,baz=54,slow=7.5,SNR=31
HFS **Hagfors** **69.74 336** P **P** **01 52 08.0 -0.8**
NB2 **NORSAR Subarra** **69.75 337** P **P** **01 52 08.1 -0.7**
comp=Z,0.7nm,0.5s,baz=35,slow=6.5
NOA **NORSAR Array B** **69.75 337** P **P** **01 52 08.2 -0.7**
comp=Z,1.0nm,0.5s,baz=36,slow=6.2,SNR=7.0
NOA **NORSAR Array B** **69.75 337** P **P** **01 52 08.2 -0.7**
NVAR **Mina Array Bea** **70.84 55** P **P** **01 52 17.3 +1.2**
comp=Z,0.5nm,0.6s,baz=300,slow=5.8,SNR=3.6
NVAR **Mina Array Bea** **70.84 55** P **P** **01 52 17.3 +1.2**
AKASG **Malin Array Be** **70.86 322** P **P** **01 52 14.8 -0.9**
comp=Z,0.7nm,0.4s,baz=43,slow=6.1,SNR=7.4
AKASG **Malin Array Be** **70.86 322***ce*P **P** **01 52 14.6 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** **70.86 322** P **P** **01 52 14.8 -0.9**
PDAR **Pinedale Array** **73.06 47** P **P** **01 52 29.4 +0.1**
comp=Z,0.4nm,0.4s,baz=36,slow=0.2,SNR=7.6
PDAR **Pinedale Array** **73.06 47** P **P** **01 52 29.4 +0.1**
BHD **Baghdad** **74.15 301** *i*PKP P **01 52 34.6 -1.0**
BHD *i*S S 02 02 12.0 +7.4
BUR08 **Bucovina Ar. S** **74.89 322** *e*P **P** **01 52 39.9 +0.1**
BURAR **Bucovina Array** **74.90 322**⇑ *i*P **P** **01 52 39.1 -0.7**
KOLS **Kolonicke sedl** **75.24 324** *e*P **P** **01 52 39.4 -2.2**
KOLS pmax pmax
comp=Z,71nm,3.0s
KOLS **Kolonicke sedl** **75.24 324** *e*P **P** **01 52 39.4 -2.2**
OJC **Ojcow** **75.30 326** *e*P **P** **01 52 42.3 +0.3**
OJC **Ojcow** **75.30 326** *e*P **P** **01 52 42.3 +0.3**
CRVS **Cervenica-Dubn** **75.61 325** *e*P **P** **01 52 41.1 -2.7**
CRVS pmax pmax
comp=Z,11nm,1.7s
CRVS **Cervenica-Dubn** **75.61 325** *e*P **P** **01 52 41.1 -2.7**
BRTR **Keskin Array B** **76.26 312** P **P** **01 52 47.7 -0.1**
comp=Z,1.3nm,0.7s,baz=67,slow=4.4,SNR=13
BRTR LR LR 02 29 22.4
comp=Z,42nm,18.1s,baz=180,slow=38
BRTR **Keskin Array B** **76.26 312** P **P** **01 52 47.7 -0.1**
VYHS **Vyhne** **77.04 326** *e*P **P** **01 52 50.2 -1.7**
VYHS **Vyhne** **77.04 326** *e*P **P** **01 52 50.2 -1.7**
CLL **Collm** **77.08 330** *e*P **P** **01 52 52.0 0.0**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL **Collm** **77.08 330** *e*P **P** **01 52 52.0 0.0**
comp=Z,3.0nm,0.8s
PRU **Pruhonice** **77.58 329** *e*P **P** **01 52 55.4 +0.6**
PRU **Pruhonice** **77.58 329** *e*P **P** **01 52 55.4 +0.6**
KHC **Kasperske Hory** **78.64 329** *e*P **P** **01 53 01.2 +0.4**
KHC **Kasperske Hory** **78.64 329** *e*P **P** **01 53 01.2 +0.4**
GERES **GERESS Array B** **78.82 329** P **P** **01 53 01.7 -0.2**
comp=Z,0.6nm,0.5s,baz=45,slow=6.2,SNR=6.2
GERES **GERESS Array B** **78.82 329** P **P** **01 53 01.7 -0.2**
SCHQ **Schefferville** **79.86 17** LR LR 02 31 26.3
comp=Z,78nm,20.0s,baz=20,slow=38
PAGF **Fort de Pagny** **81.95 333** *e*P **P** **01 53 18.5 0.0**
comp=Z,4.0nm,0.7s
PAGF **Fort de Pagny** **81.95 333** *e*P **P** **01 53 18.5 0.0**
comp=Z,4.0nm,0.7s
SFTF **Sexfontaines** **82.49 333** *e*P **P** **01 53 21.2 -0.1**
SFTF **Sexfontaines** **82.49 333** *e*P **P** **01 53 21.2 -0.1**
LOR **Lormes** **83.69 333** *e*P **P** **01 53 27.1 -0.5**
LOR **Lormes** **83.69 333** *e*P **P** **01 53 27.1 -0.5**
SSF **Saint Saulge** **83.99 334** *e*P **P** **01 53 29.6 +0.5**
SSF **Saint Saulge** **83.99 334** *e*P **P** **01 53 29.6 +0.5**
SSF **Saint Saulge** **83.99 334** *e*P **P** **01 53 29.6 +0.5**
GRR **Gorron** **84.17 337** *e*P **P** **01 53 29.5 -0.5**
GRR **Gorron** **84.17 337** *e*P **P** **01 53 29.5 -0.5**
GRR **Gorron** **84.17 337** *e*P **P** **01 53 29.5 -0.5**
LPL **La Plagne** **84.21 331** *e*P **P** **01 53 30.2 -0.4**
LPL **La Plagne** **84.21 331** *e*P **P** **01 53 30.2 -0.4**
LPL **La Plagne** **84.21 331** *e*P **P** **01 53 30.2 -0.4**
LPG **La Plagne** **84.22 331** *e*P **P** **01 53 30.6 -0.1**
comp=Z,3.7nm,0.5s
LPG **La Plagne** **84.22 331** *e*P **P** **01 53 30.6 -0.1**
LPG pmax pmax
comp=Z,4.0nm,0.5s
LPG **La Plagne** **84.22 331** *e*P **P** **01 53 30.6 -0.1**
comp=Z,3.7nm,0.5s
SMF **Signal de Mont** **84.24 333** *e*P **P** **01 53 30.0 -0.4**
SMF **Signal de Mont** **84.24 333** *e*P **P** **01 53 30.0 -0.4**
SMF **Signal de Mont** **84.24 333** *e*P **P** **01 53 30.0 -0.4**
AVF **Avril sur Loir** **84.28 333** *e*P **P** **01 53 29.8 -0.8**
comp=Z,5.7nm,0.6s
AVF **Avril sur Loir** **84.28 333** *e*P **P** **01 53 29.8 -0.8**
AVF pmax pmax
comp=Z,6.0nm,0.6s
AVF **Avril sur Loir** **84.28 333** *e*P **P** **01 53 29.8 -0.8**
comp=Z,5.7nm,0.6s
BGF **Bois d'Agland** **84.65 334** *e*P **P** **01 53 32.1 -0.4**
BGF **Bois d'Agland** **84.65 334** *e*P **P** **01 53 32.1 -0.4**
BGF **Bois d'Agland** **84.65 334** *e*P **P** **01 53 32.1 -0.4**
ORIF **Oris-en-Rattie** **85.04 331** *e*P **P** **01 53 34.3 -0.3**
ORIF **Oris-en-Rattie** **85.04 331** *e*P **P** **01 53 34.3 -0.3**
ORIF **Oris-en-Rattie** **85.04 331** *e*P **P** **01 53 34.3 -0.3**
SBF **Sospel** **85.37 329** *e*P **P** **01 53 36.0 -0.2**
comp=Z,39nm,0.9s
SBF **Sospel** **85.37 329** *e*P **P** **01 53 36.0 -0.2**
SBF pmax pmax
comp=Z,39nm,0.9s
SBF **Sospel** **85.37 329** *e*P **P** **01 53 36.0 -0.2**
comp=Z,39nm,0.9s
VIVF **Saint-Julien-l** **85.52 332** *e*P **P** **01 53 36.4 -0.5**
VIVF **Saint-Julien-l** **85.52 332** *e*P **P** **01 53 36.4 -0.5**
VIVF **Saint-Julien-l** **85.52 332** *e*P **P** **01 53 36.4 -0.5**
MFF **Saint Martin d** **85.56 336** *e*P **P** **01 53 37.3 +0.3**
MFF **Saint Martin d** **85.56 336** *e*P **P** **01 53 37.3 +0.3**
MFF **Saint Martin d** **85.56 336** *e*P **P** **01 53 37.3 +0.3**
TXAR **Lajitas Array** **85.89 54** P **P** **01 53 39.7 +0.6**
comp=Z,0.9nm,0.6s,baz=285,slow=3.6,SNR=17
TXAR pP **pP** **01 53 55.4 +0.6**
comp=Z,0.4nm,0.6s,baz=291,slow=3.6,SNR=3.5
TXAR **Lajitas Array** **85.89 54** P **P** **01 53 39.7 +0.6**
TXAR pP **pP** **01 53 55.4 +0.6**
CAF **Calviac** **86.35 333** *e*P **P** **01 53 41.5 +0.5**
comp=Z,13nm,0.9s
CAF **Calviac** **86.35 333** *e*P **P** **01 53 41.5 +0.5**
CAF pmax pmax
comp=Z,13nm,0.9s
CAF **Calviac** **86.35 333** *e*P **P** **01 53 41.5 +0.5**
comp=Z,13nm,0.9s
ETSF **Etsaut** **89.01 334** *e*P **P** **01 53 54.3 +0.5**
comp=Z,6.3nm,0.6s
ETSF **Etsaut** **89.01 334** *e*P **P** **01 53 54.3 +0.5**
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ETSF **Etsaut** **89.01 334** *e*P **P** **01 53 54.3 +0.5**
comp=Z,6.3nm,0.6s
TORD **Torodi Ar. Bea** **114.33 318** PKP PKPdf 01 59 37.9 -0.9
comp=Z,0.5nm,1.1s,baz=25,slow=1.2,SNR=5.0
TORD **Torodi Ar. Bea** **114.33 318** PKP PKPdf 01 59 37.9 -0.9
VNA2 **Neumayer--Watz** **147.80 198** *e*PKP **PKPbc** **02 00 42.9 +0.6**
VNA2 **Neumayer--Watz** **147.80 198** *es*PKPab sPKPab 02 00 59.2 -7.7
VNA2 **Neumayer--Watz** **147.80 198** *e*PP PP 02 04 05.8 -4.5
VNA2 **Neumayer--Watz** **147.80 198** *e*WP PP 02 04 18.5 +8.3
VNA1 **Neumayer--Stat** **148.19 198** *e*PKP **PKPdf** **02 00 41.1 +1.1**
BDFB **Brasilia** **151.70 23** PKPbc **PKPbc** **02 00 53.6 -0.1**
comp=Z,2.9nm,0.7s,baz=39,slow=3.1,SNR=5.5
BDFB **Brasilia** **151.70 23** PKPbc **PKPbc** **02 00 53.6 -0.1**

CSEM ***10*** *01:49:36.9±0.2, 67.18N×20.68E, h2km, ML1.7, Error ellipse: s-maj=3.8km s-min=3.5km az=47.0, Mining explosion.*
UPP ***10*** *01:49:37.2, 67.19N×20.67E, h0km, ML2.2, Suspected Mining explosion.*
HEL 10 01:49:37.7±0.0, 67.18N×20.68E, h0km, ML1.7, ML2.2(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**214**	*i*	P	Pg		01 49 39.0	-0.2
DUNU				*i*	S	Sg		01 49 40.1	0.0
DUNU	**Dundret**	**0.07**	**214**		P	Pg		01 49 38.9	-0.3
DUNU					S	Sg		01 49 40.1	-0.1
MASU	**Masugnsbyn**	**0.58**	**61**	*i*	P	Pg		01 49 48.3	-0.6
MASU	**Masugnsbyn**	**0.58**	**61**		P	Pg		01 49 48.3	-0.6
SALU	**Saltoluokta**	**0.86**	**284**	*i*	P	Pg		01 49 53.4	-1.0
SALU	**Saltoluokta**	**0.86**	**284**		P	Pg		01 49 53.3	-1.0
ERTU	**Ertsjaerv**	**0.87**	**136**	*i*	P	Pg		01 49 53.2	-1.2
ERTU	**Ertsjaerv**	**0.87**	**136**		P	Pg		01 49 53.2	-1.2
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*	P	Pg		01 49 54.5	-1.1
NIKU	**Nikkaluokta**	**0.93**	**318**		P	Pg		01 49 54.4	-1.2
LANU	**Lannavaara**	**1.00**	**29**	*e*	P	Pg		01 49 55.8	-1.2
LANU				*e*	S	Sg		01 50 08.8	-1.3
LANU	**Lannavaara**	**1.00**	**29**		P	Pg		01 49 55.9	-1.1
LANU					S	Sg		01 50 08.8	-1.3
HEF	**Hetta**	**1.67**	**41**	*e*	P	Pn		01 50 07.2	-1.1
HEF				*e*	S	Sn		01 50 29.0	-1.4
HEF	**Hetta**	**1.67**	**41**		P	Pn		01 50 07.1	-1.1
HEF					S	Sn		01 50 29.0	-1.4
SJUU	**Sjulsmark**	**1.72**	**167**	*e*	P	Pn		01 50 08.5	-0.4
SJUU	**Sjulsmark**	**1.72**	**167**		P	Pn		01 50 08.4	-0.5
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*	P	Pn		01 50 10.2	-0.1
KIF				*e*	S	Sn		01 50 34.4	+0.2
KIF					MSG			01 50 38.2	
comp=Z,4.3nm,0.2s									
KIF	**Kilpisjarvi**	**1.83**	**1**		P	Pn		01 50 10.2	-0.1
KIF					S	Sn		01 50 34.4	+0.2
RNF	**Rovaniemi**	**2.18**	**103**	*e*	SG	Sb		01 50 46.5	+0.9
RNF	**Rovaniemi**	**2.18**	**103**		Sg	Sb		01 50 46.5	+0.9
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*	SB	Sb		01 51 07.4	-0.7
OUL	**Oulu**	**2.99**	**132**	*e*	SG	Sb		01 51 10.4	+1.7

IDC 10 02:01:34.0±5.5, 3.49S×150.91E, h69km±51km, mb3.5/9, mb1 3.8/10, mb1mx3.6/20, mbtmp3.6/10, ML3.0/1, MS3.6/16, Ms1 3.6/16, ms1mx3.5/31, Error ellipse: s-maj=51.5km s-min=27.6km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.95**	**212**		P	Pn		02 03 14.1	+0.8
1.7nm,0.3s,baz=359,slow=6.9,SNR=16									
CTA	**Charters Tower**	**17.11**	**195**		LR	LR		02 11 53.8	
comp=Z,109nm,19.6s,baz=198,slow=36									
GUMO	**Guam**	**18.00**	**341**		LR	LR		02 10 14.9	
comp=Z,193nm,21.9s,baz=121,slow=29									
WRA	**Warramunga Arr**	**22.99**	**223**		P	P		02 06 32.4	-0.8
4.9nm,0.7s,baz=48,slow=9.8,SNR=28									
ASAR	**Alice Springs**	**25.93**	**218**		P	P		02 07 01.1	+1.0
3.1nm,0.7s,baz=52,slow=8.4,SNR=23									
DAV	**Davao City (W)**	**27.37**	**293**		LR	LR		02 16 41.9	
comp=Z,70nm,18.8s,baz=171,slow=33									
FITZ	**Fitzroy Crossi**	**28.69**	**238**		P	P		02 07 23.4	-1.3
2.0nm,0.7s,baz=59,slow=10,SNR=6.7									
FITZ					LR	LR		02 19 40.5	
comp=Z,127nm,20.2s,baz=57,slow=38									
STKA	**Stephens Creek**	**29.56**	**196**		LR	LR		02 19 17.9	
comp=Z,102nm,19.1s,baz=231,slow=36									
JOW	**Kunigami**	**37.24**	**325**		LR	LR		02 20 40.0	
comp=Z,161nm,21.7s,baz=65,slow=31									
JNU	**Nakatsue**	**41.05**	**334**		LR	LR		02 22 08.8	
comp=Z,59nm,20.9s,baz=159,slow=30									
MJAR	**Matsushiro Art**	**41.55**	**345**		LR	LR		02 25 08.3	
comp=Z,62nm,18.7s,baz=195,slow=34									
NWAO	**Narrogin (SRO)**	**43.00**	**223**		LR	LR		02 28 30.5	
comp=Z,134nm,18.7s,baz=82,slow=38									
KSRS	**Korea Array**	**46.00**	**334**		LR	LR		02 27 47.1	
comp=Z,55nm,18.8s,baz=318,slow=34									
USRK	**Ussuriysk Arra**	**50.42**	**342**		LR	LR		02 27 59.1	
comp=Z,93nm,19.0s,baz=153,slow=31									
CMAR	**Chiang Mai Arr**	**55.62**	**295**		P	P		02 11 03.1	-0.2
1.1nm,0.3s,baz=99,slow=5.8,SNR=4.2									
CMAR					LR	LR		02 34 10.8	
comp=Z,33nm,18.3s,baz=120,slow=35									
PETK	**Petropavlovsk-**	**56.68**	**5**		P	P		02 11 13.6	+3.4
0.8nm,0.5s,baz=168,slow=7.5,SNR=3.0									
PETK					LR	LR		02 31 05.2	
comp=Z,52nm,20.6s,baz=310,slow=31									
SONM	**Songino Array**	**64.22**	**328**		P	P		02 12 03.1	+1.2
0.2nm,0.7s,baz=128,slow=9.3,SNR=2.7									
SONM					LR	LR		02 38 20.2	
comp=Z,89nm,18.4s,baz=154,slow=34									
MKAR	**Makanchi Array**	**78.11**	**319**		P	P		02 13 25.6	-0.1
0.2nm,0.5s,baz=93,slow=7.2,SNR=3.1									
MKAR					LR	LR		02 50 51.0	
comp=Z,50nm,18.1s,baz=169,slow=38									
ZALV	**Zalesovo Beam**	**79.03**	**327**		P	P		02 13 30.0	-0.6
0.3nm,0.3s,baz=134,slow=4.2,SNR=1.9									
ZALV					LR	LR		02 47 55.5	
comp=Z,54nm,20.2s,baz=67,slow=35									
ILAR	**Eielson Array**	**81.67**	**23**		P	P		02 13 43.9	-0.6
0.3nm,0.8s,baz=252,slow=5.6,SNR=3.0									
BVAR	**Borovoye Array**	**87.07**	**323**		P	P		02 14 13.0	+0.9
0.6nm,0.7s,baz=106,slow=5.1,SNR=4.3									
TORD	**Torodi Ar. Bea**	**148.10**	**289**		PKPbc	PKPbc		02 21 13.1	+0.1
0.5nm,0.9s,baz=50,slow=1.9,SNR=3.0									

AUST ***10*** *02:14:13.6±0.9, 7.93N×122.14E, h21km±1km, Error ellipse: s-maj=4.2km s-min=1.6km az=9.0*
NEIC ***10*** *02:15:22.5±1.7, 4.88N×123.71E, h518km±20km, mb4.4/17, Error ellipse: s-maj=32.2km s-min=7.7km az=54.0*
ISCJB ***10*** *02:15:23.3±0.3, 4.77N±0.05×123.59E±0.07, h545km, mb4.1/36, Error ellipse: s-maj=9.5km s-min=5.1km az=152.1*
IDC ***10*** *02:15:24.9±0.7, 4.77N×123.59E, h548km±8km, mb3.3/18, mb1 3.4/20, mb1mx3.3/34, mbtmp3.4/20, Error ellipse: s-maj=19.9km s-min=6.8km az=70.0*
ISC 10 02:15:24.6±0.4, 4.81N±0.07×123.54E±0.09, h545km, n83, σ1ᵍ01/91, mb4.1/36, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**2.50**	**16**⇓	*i*	P		**P**	**02 16 35.0**	**-1.3**
DAV	**Davao City (W)**	**3.03**	**42**		P		**P**	**02 16 39.3**	**-0.1**
56nm,0.3s,baz=250,slow=13,SNR=5.0									
DAV					S		**S**	**02 17 41.5**	**+1.2**
baz=287,slow=23,SNR=9.1									
MYLDM	**Lahad Datu**	**5.03**	**274**		P		**P**	**02 16 54.6**	**+0.1**
MYLDM	**Lahad Datu**	**5.03**	**274**		P		**P**	**02 16 54.4**	**-0.1**
TSM	**Tawau**	**5.67**	**265**		P		**P**	**02 16 58.6**	**-1.4**
SDKM	**Sandakan**	**6.37**	**278**		P		**P**	**02 17 04.3**	**-2.2**
KKM	**Kota Kinabalu**	**7.39**	**280**	*e*	Pn		**P**	**02 17 14.1**	**-2.3**
114nm,0.8s									
KKM	**Kota Kinabalu**	**7.39**	**280**		P		**P**	**02 17 15.0**	**-1.3**
KAPI	**Kappang**	**10.46**	**201**		P		**P**	**02 17 46.5**	**-0.9**
0.4nm,0.3s,baz=22,slow=5.2,SNR=6.0									
KAPI	**Kappang**	**10.46**	**201**		P		**P**	**02 17 47.9**	**+0.6**
23nm,1.1s									
BTM	**Bintulu**	**10.55**	**262**		P		**P**	**02 17 48.4**	**+0.2**
SBUM	**Sibu**	**11.53**	**259**		P		**P**	**02 17 58.8**	**+0.4**
TLE	**Tual**	**13.86**	**138**		P		**P**	02 18 15.4	-7.1
baz=17,SNR=4.3									
MTN	**Manton Dam**	**19.09**	**157**		P		**P**	**02 19 15.8**	**+3.0**
baz=23,SNR=6.0									
KDU	**Kakadu**	**19.52**	**153**		P		**P**	**02 19 14.8**	**-1.9**
baz=23,SNR=8.0									
FITZ	**Fitzroy Crossi**	**22.86**	**175**		P		**P**	**02 19 46.1**	**-0.6**
2.8nm,0.7s,baz=358,slow=12,SNR=15									
FITZ	**Fitzroy Crossi**	**22.86**	**175**	*e*	P		**P**	**02 19 46.5**	**-0.2**
4.1nm,0.8s									
FITZ	**Fitzroy Crossi**	**22.86**	**175**		P		**P**	**02 19 46.7**	**0.0**
baz=26,SNR=7.5									
PSI	**Prapat**	**24.64**	**266**		P		**P**	**02 20 03.3**	**+0.5**
2.3nm,0.6s,baz=0.4,slow=22,SNR=3.6									
MBWA	**Marble Bar**	**26.07**	**188**	*e*	P		**P**	**02 20 14.4**	**-0.8**
3.4nm,0.4s									
WRAB	**Tennant Creek**	**26.79**	**157**	*e*	P		**P**	**02 20 18.3**	**-3.2**
WRA	**Warramunga Arr**	**26.79**	**157**		P		**P**	**02 20 21.2**	**-0.4**
1.0nm,0.3s,baz=339,slow=9.6,SNR=25									
WRA					S		**S**	**02 24 16.6**	**-3.1**
1.5nm,0.9s,baz=331,slow=17,SNR=5.2									
WRA					ScP		**ScP**	**02 26 15.9**	**+0.6**
1.0nm,0.8s,baz=348,slow=3.0,SNR=7.1									
COEN	**Coen**	**26.97**	**134**	*e*	P		**P**	**02 20 22.6**	**-0.6**
13nm,0.6s									
COEN

	4.0nm,0.6s							
GUN	**Gumba**	**42.53**	**307**	*eP*	**P**	02	22	33.8 **+0.7**
	28nm,0.6s							
GUN	**Gumba**	**42.53**	**307**	*eP*	**P**	02	22	33.8 **+0.7**
	28nm,0.6s							
PKI	**Pulchoki**	**42.76**	**306**	*eP*	**P**	02	22	35.2 **+0.3**
	3.6nm,0.4s							
PKI	**Pulchoki**	**42.76**	**306**	*eP*	**P**	02	22	35.2 **+0.3**
	3.6nm,0.4s							
KKN	**Kakani**	**42.95**	**306**	*eP*	**P**	02	22	36.7 **+0.4**
KKN	**Kakani**	**42.95**	**306**	*eP*	**P**	02	22	36.7 **+0.4**
DMN	**Daman**	**43.02**	**306**	*eP*	**P**	02	22	37.4 **+0.6**
DMN	**Daman**	**43.02**	**306**	*eP*	**P**	02	22	37.4 **+0.6**
GKN	**Gorkha**	**43.56**	**306**	*eP*	**P**	02	22	41.4 **+0.5**
GKN	**Gorkha**	**43.56**	**306**	*eP*	**P**	02	22	41.4 **+0.5**
KOLN	**Koldanda**	**44.30**	**305**	*eP*	**P**	02	22	47.0 **+0.3**
	30nm,0.6s							
KOLN	**Koldanda**	**44.30**	**305**	*eP*	**P**	02	22	47.0 **+0.3**
	30nm,0.6s							
DANN	**Dangsing**	**44.41**	**306**	*eP*	**P**	02	22	48.3 **+0.7**
	33nm,0.6s							
DANN	**Dangsing**	**44.41**	**306**	*eP*	**P**	02	22	48.3 **+0.7**
	33nm,0.6s							
PYUN	**Piuthan**	**44.93**	**306**	*eP*	**P**	02	22	52.4 **+0.8**
	35nm,0.8s							
PYUN	**Piuthan**	**44.93**	**306**	*eP*	**P**	02	22	52.4 **+0.8**
	35nm,0.8s							
SONM	**Songino Array**	**45.32**	**344**	P	**P**	02	22	55.3 **+1.1**
	1.2nm,0.8s,baz=156,slow=6.9,SNR=12							
SONM				PcP	**PcP**	02	24	22.2 **0.0**
	0.6nm,0.6s,baz=180,slow=3.4,SNR=4.8							
MK31	**Makanchi Array**	**54.88**	**326**	*eP*	**P**	02	24	04.2 **+0.2**
MKAR	**Makanchi Array**	**54.88**	**326**	P	**P**	02	24	05.0 **+1.0**
	2.5nm,0.5s,baz=122,slow=7.9,SNR=56							
MKAR				PcP	**PcP**	02	24	58.0 **+0.3**
	2.4nm,0.7s,baz=118,slow=4.5,SNR=16							
TKM2	**Tokmak 2**	**56.84**	**319**	*eP*	**P**	02	24	18.6 **+0.8**
EKS2	**Erkin-Say**	**57.92**	**318**	*eP*	**P**	02	24	26.2 **+1.1**
	2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**58.21**	**334**	P	**P**	02	24	26.4 **-0.3**
	1.0nm,0.5s,baz=124,slow=5.8,SNR=4.6							
ZALV				PcP	**PcP**	02	25	09.9 **-0.8**
	0.6nm,0.6s,baz=97,slow=3.7,SNR=2.6							
KURBB	**Kurchatov Arra**	**59.14**	**328**	P	**P**	02	24	33.5 **+0.6**
	5.1nm,0.6s,baz=128,slow=6.4,SNR=63							
KURK	**Kurchatov**	**59.14**	**328**	*eP*	**P**	02	24	33.4 **+0.4**
	1.3nm,0.6s							
BVAR	**Borovoye Array**	**64.70**	**328**	P	**P**	02	25	09.3 **+0.2**
	1.9nm,0.7s,baz=128,slow=9.3,SNR=12							
BRVK	**Borovoye**	**64.77**	**328**	*eP*	**P**	02	25	09.4 **-0.1**
	1.4nm,0.5s							
AKTO	**Aktyubinsk**	**70.85**	**322**	P	**P**	02	25	47.0 **+0.4**
	3.6nm,0.5s,baz=122,slow=6.5,SNR=28							
ARU	**Arti**	**72.34**	**328**	*eP*	**P**	02	25	55.0 **-0.1**
	4.7nm,0.5s							
MIB	**Mutribah**	**75.65**	**299**	*eP*	**P**	02	26	14.1 **-0.4**
MIB				AMb	AMB	02	26	14.9
	comp=Z,24nm,1.1s							
NAY	**Al-Naaiem**	**75.71**	**299**	*eP*	**P**	02	26	14.3 **-0.6**
NAY				AMb	AMB	02	26	15.2
	comp=Z,8.8nm,0.7s							
ILAR	**Eielson Array**	**85.50**	**25**	P	**P**	02	27	04.4 **-0.4**
	comp=Z,0.2nm,0.9s,baz=248,slow=4.8,SNR=4.4							
JOF	**Joensuu**	**86.77**	**333**	*ep*	**P**	02	27	09.8 **-1.0**
	comp=Z,3.6nm,0.7s							
BRTR	**Keskin Array B**	**86.88**	**309**	P	**P**	02	27	11.1 **-1.1**
	comp=Z,1.2nm,0.8s,baz=123,slow=7.1,SNR=9.3							
ARCES	**ARCESS Array B**	**88.34**	**340**	P	**P**	02	27	17.6 **-0.6**
	comp=Z,1.9nm,0.8s,baz=79,slow=4.7,SNR=5.5							
SPITS	**Spitsbergen Ar**	**88.81**	**349**	P	**P**	02	27	20.0 **-0.1**
	comp=Z,3.2nm,0.6s,baz=123,slow=7.2,SNR=9.9							
KAF	**Kangasniemi**	**89.17**	**332**	*ep*	**P**	02	27	20.1 **-2.0**
	comp=Z,1.4nm,0.5s							
FINES	**FINESS Array B**	**89.38**	**332**	P	**P**	02	27	22.2 **-0.8**
	comp=Z,2.0nm,0.6s,baz=66,slow=4.7,SNR=15							
TORD	**Torodi Ar. Bea**	**119.56**	**288**	PKP	**PKPdf**	02	33	13.6 **0.0**
	comp=Z,0.5nm,0.3s,baz=66,slow=1.7,SNR=31							
CFAA	**Coronel Fontan**	**151.14**	**159**	PKPbc	**PKPbc**	02	34	17.5 **+0.4**
	comp=Z,0.4nm,0.6s,baz=210,slow=6.4,SNR=5.3							
CPUP	**Villa Florida**	**158.58**	**178**	PKPab	**PKPab**	02	34	59.3 **+0.1**
	comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=2.2							

IDC 10 02:17:49.8±2.2,0.08N×127.57E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/20,mbtmp3.4/3,MS3.0/1,Ms1 3.0/1, ms1mx2.2/25,Error ellipse: s-maj=166.6km s-min=28.6km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.97**	**162**	P	P	02 22 35.2	+0.5
	0.6nm,0.4s,baz=341,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**24.39**	**166**	P	P	02 23 09.5	-0.6
	0.3nm,0.4s,baz=350,slow=9.9,SNR=3.2						
PSI	**Prapat**	**28.77**	**276**	LR	LR	02 36 58.2	
	comp=Z,28nm,19.3s,baz=295,slow=4.0						
MKAR	**Makanchi Array**	**61.03**	**326**	P	P	02 28 05.3	0.0
	0.3nm,0.5s,baz=123,slow=5.3,SNR=4.0						

*ISCJB **10** 02:21:52.6±1.1,13.8N±0.1×91.74W±0.07,h75km±9km, mb3.4/3,Error ellipse: s-maj=19.1km s-min=6.9km az=27.2*
*CASC **10** 02:21:53.8±2.3,13.80N×91.64W,h26km±13km,MD4.0*
*IDC **10** 02:21:56.0±6.4,14.08N×91.60W,h66km±40km,mb3.0/3, mb1 3.5/5,mb1mx3.3/23,mbtmp3.1/5,ML3.9/3,Error ellipse: s-maj=54.7km s-min=21.1km az=173.0*

ISC 10 02:21:55.4±1.1,13.96N±0.09×91.64W±0.06,h69km±9km, n21,σ1°33/30,mb3.5/3,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.36**	**1**	*eP*	**Pn**	02 22 05.7	-1.2
FUG	**Fuego 3**	**0.92**	**58**	*eP*	**Pn**	02 22 11.7	-1.3
FG6		**0.95**	**51**	*eP*	**Pn**	02 22 12.6	-0.9
FG6				*eS*	**Sn**	02 22 28.6	+1.7
TP2	**Tecpan 2**	**1.02**	**36**	*eP*	**Pn**	02 22 13.6	-0.9
PCG	**Pacaya**	**1.09**	**66**	*eP*	**Pn**	02 22 14.8	-0.5
PCG				*eS*	**Sn**	02 22 32.1	+2.0
NBG	**Las Nubes**	**1.40**	**63**	*eP*	**Pn**	02 22 20.1	+0.8
NBG				*eS*	**Sn**	02 22 38.6	+1.3
RBDL	**Robledal**	**1.91**	**85**	*eP*	**Pn**	02 22 24.7	-1.1
RTR	**El Retiro**	**1.94**	**92**	*eP*	**Pn**	02 22 25.4	-1.0
SBLS	**San Blas**	**1.96**	**93**	*eP*	**Pn**	02 22 25.3	-1.5
SNJE	**San Jose**	**1.98**	**92**	*eP*	**Pn**	02 22 25.6	-1.4
SNJE				*eS*	**Sn**	02 22 50.4	-0.5
MRL	**Marmol**	**2.19**	**59**	*eP*	**Pn**	02 22 30.2	+0.5
MRL				*eS*	**Sn**	02 22 52.4	-3.5
BOQS	**Boqueron**	**2.31**	**95**	*eP*	**Pn**	02 22 30.2	-1.1
LFU	**La Fuente**	**2.46**	**95**	*eP*	**Pn**	02 22 32.4	-1.0
SNVI	**San Vicente**	**2.75**	**97**	*eP*	**Pn**	02 22 37.0	-0.2
SNVI				*eS*	**Sn**	02 23 09.4	-0.1
CMIG	**Matias Romero**	**4.41**	**315**	P	**Pn**	02 22 59.1	-0.8
	2.8nm,0.3s,baz=135,slow=9.1,SNR=26						
CMIG				S	**Sn**	02 23 49.3	-0.7
	7.4nm,0.3s,baz=273,slow=22,SNR=5.8						
TEIG	**Tepich**	**7.02**	**27**	P	**Pn**	02 23 34.9	-0.6
	18nm,0.3s,baz=22,slow=19,SNR=100						
TEIG				S	**Sn**	02 24 52.0	-1.8
	4.6nm,0.3s,baz=43,slow=19,SNR=6.6						
TXAR	**Lajitas Array**	**18.93**	**326**	P	**Pn**	02 26 12.6	+0.4
	0.0nm,0.3s,baz=149,slow=13,SNR=9.1						
NVAR	**Mina Array Bea**	**33.92**	**321**	P	**P**	02 28 34.2	+2.1
	0.7nm,0.7s,baz=124,slow=8.9,SNR=4.7						
NVAR				pP	**pP**	02 28 49.5	+0.6
	2.0nm,0.9s,baz=140,slow=8.3,SNR=5.8						
YKA	**Yellowknife Ar**	**51.15**	**347**	P	**P**	02 30 49.9	-1.1
	0.2nm,0.6s,baz=148,slow=7.5,SNR=4.1						
ILAR	**Eielson Array**	**63.02**	**337**	P	**P**	02 32 14.6	-0.2
	0.2nm,0.5s,baz=116,slow=6.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**146.14**	**342**	PKPbc	**PKPdf**	02 41 28.1	+0.5
	0.9nm,0.3s,baz=336,slow=3.3,SNR=6.7						

*ISCJB **10** 02:25:59.6±1.1,35.42N±0.04×141.20E±0.09,h28km±6km, mb3.5/2,Error ellipse: s-maj=11.9km s-min=6.5km az=3.5*
*JMA **10** 02:26:00.1±0.1,35.45N×141.15E,h32km±2km,MJ3.1*
*IDC **10** 02:26:05.5±2.8,35.35N×140.75E,h90km±33km,mb3.1/2, mb1 3.4/4,mb1mx3.0/27,mbtmp3.2/4,Error ellipse: s-maj=58.4km s-min=16.3km az=90.0*

ISC 10 02:26:00.3±1.3,35.41N±0.05×141.09E±0.08,h30km±10km, n15,σ1°56/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.34**	**328**	P	**Pb**	02	26	08.3 **-0.1**
CHOJ				S	**Sb**	02	26	13.9 **0.0**
KTR	**Katsuura**	**0.68**	**247**	S	**Sn**	02	26	23.9 **+0.4**
JCN	**Nagara**	**0.72**	**271**	P	**Pn**	02	26	16.0 **+1.5**
BSO4	**Boso 4**	**0.74**	**236**	P	**Pn**	02	26	15.1 **+0.4**
BSO4				S	**Sn**	02	26	25.6 **+0.7**
BSO1	**Boso 1**	**0.76**	**187**	P	**Pn**	02	26	14.7 **+0.2**
BSO3	**Boso 3**	**0.77**	**218**	P	**Pn**	02	26	15.2 **+0.3**
BSO3				S	**Sn**	02	26	27.6 **+2.3**
JYT	**Yasato**	**1.09**	**319**	P	**Pn**	02	26	19.3 **-0.2**
JIM2	**Oshima 3**	**1.52**	**243**	P	**Pn**	02	26	25.3 **-0.2**
JIM2				S	**Sn**	02	26	43.5 **-0.9**
JOD2	**Odawara 2**	**1.64**	**265**	P	**Pn**	02	26	27.3 **+0.2**
JAG	**Ashikaga**	**1.67**	**308**	P	**Pn**	02	26	28.5 **+1.0**
JHJ	**Hachijo jima 2**	**2.53**	**206**	P	**Pn**	02	26	41.1 **+1.8**
	29nm,0.3s,baz=72,slow=20,SNR=3.1							
JHJ				S	**Sn**	02	27	11.7 **+2.5**
	43nm,0.3s,baz=237,slow=21,SNR=6.1							
MJAR	**Matsushiro Arr**	**2.59**	**297**	P	**Pn**	02	26	42.2 **+2.0**
	2.3nm,0.3s,baz=101,slow=14,SNR=11							
MAT	**Matsushiro**	**2.59**	**297**	P	**Pn**	02	26	42.6 **+2.4**
MAT				S	**Sb**	02	27	15.7 **-1.9**
ILAR	**Eielson Array**	**51.01**	**32**	P	**P**	02	34	59.9 **+0.8**
	0.4nm,0.6s,baz=272,slow=5.7,SNR=8.8							
WRA	**Warramunga Arr**	**55.42**	**188**	P	**P**	02	35	29.2 **-2.8**
	0.4nm,0.8s,baz=4.3,slow=7.6,SNR=5.3							

IDC 10 02:30:43.3±69.0,18.82S×176.94W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/19,mbtmp3.7/3,Error ellipse: s-maj=1278.0km s-min=179.9km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.43**	**242**	P	P	02 38 15.2	0.0
	1.8nm,0.8s,baz=90,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**45.84**	**260**	P	P	02 39 07.1	-0.5
	0.2nm,0.4s,baz=97,slow=8.2,SNR=7.0						
ASAR	**Alice Springs**	**45.89**	**255**	P	P	02 39 08.1	+0.1
	0.8nm,0.7s,baz=88,slow=8.2,SNR=9.7						

IDC 10 02:37:55.9±2.2,18.20S×177.62W,h597km±58km, mb3.4/5,mb1 3.5/7,mb1mx3.1/23,mbtmp3.4/7,Error ellipse: s-maj=73.9km s-min=24.3km az=10.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.05**	**54**	P	P	02 39 46.3	-0.1
	4.2nm,0.3s,baz=112,slow=7.1,SNR=4.7						
DZM	**Mont Dzumac**	**15.45**	**253**	P	P	02 41 09.3	+0.8
	0.8nm,0.3s,baz=123,slow=17,SNR=6.6						
CTA	**Charters Tower**	**34.14**	**261**	P	P	02 43 53.0	+0.1
	3.8nm,0.3s,baz=101,slow=11,SNR=10						
STKA	**Stephens Creek**	**39.15**	**242**	P	P	02 44 33.5	-0.2
	2.1nm,0.4s,baz=86,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**45.32**	**260**	P	P	02 45 21.9	-0.3
	2.3nm,0.4s,baz=96,slow=8.0,SNR=84						
ASAR	**Alice Springs**	**45.44**	**254**	P	P	02 45 22.8	-0.2
	5.4nm,0.7s,baz=88,slow=8.3,SNR=56						
QSPA	**South Pole Qui**	**71.86**	**180**	P	P	02 48 19.3	+0.1
	1.1nm,0.6s,baz=315,slow=3.6,SNR=6.4						

*NOU **10** 02:43:13.9±0.6,19.33S×168.98E,h10km,MD3.0,ML3.0*
*IDC **10** 02:43:14.3±5.5,20.09S×169.48E,h91km±71km,mb3.2/4, mb1 3.5/5,mb1mx3.4/18,mbtmp3.3/5,ML4.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/13,Error ellipse: s-maj=195.3km s-min=39.0km az=151.0*
*ISCJB **10** 02:43:17.3±1.0,19.7S±0.1×168.9E±0.2,h104km,mb3.4/4, Error ellipse: s-maj=28.7km s-min=8.7km az=36.8*

ISC 10 02:43:18.3±1.4,19.7S±0.2×168.8E±0.2,h104km,n11, σ1°56/15,mb3.5/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.06**	**216**	*eP*	**Pn**	02	44	03.7 **-1.2**
BAYA				*eS*	**Sn**	02	44	41.4 **+0.6**
DZM	**Mont Dzumac**	**3.26**	**223**	P	**Pn**	02	44	07.1 **-0.6**
	13nm,0.3s,baz=145,slow=22,SNR=152							
DZM				S	**Sn**	02	44	46.2 **+0.4**
	54nm,0.3s,baz=94,slow=23,SNR=16							
DZM				LR	LR	02	45	02.0
	comp=Z,256nm,18.3s,baz=31,slow=31							
NORM	**Noumea**	**3.35**	**221**	*eP*	**Pn**	02	44	08.4 **-0.4**
NORM				*eS*	**Sn**	02	44	48.3 **+0.5**
NOUC	**Port Laguerre**	**3.37**	**224**	*eP*	**Pn**	02	44	09.1 **-0.1**
NOUC				*eS*	**Sn**	02	44	49.4 **+1.0**
NOUC				AMP		02	44	51.9
	comp=Z,81nm,3.4s							
WRA	**Warramunga Arr**	**32.42**	**264**	P	**P**	02	49	40.7 **+2.0**
	comp=Z,0.3nm,0.9s,baz=99,slow=7.9,SNR=3.1							
ASAR	**Alice Springs**	**32.65**	**257**	P	**P**	02	49	41.6 **+1.0**
	comp=Z,0.6nm,0.6s,baz=85,slow=8.8,SNR=5.8							
ASAR				pP	**pP**	02	49	59.6 **-4.4**
	comp=Z,0.5nm,0.6s,baz=84,slow=9.3,SNR=4.7							
SONM	**Songino Array**	**87.35**	**323**	P	**P**	02	55	54.2 **+0.5**
	comp=Z,0.3nm,0.6s,baz=144,slow=3.6,SNR=4.1							
VNA3	**Neumayer Olymp**	**89.30**	**180**	*eP*	**P**	02	56	02.8 **+0.3**
VNA2	**Neumayer--Watz**	**89.59**	**181**	*eP*	**P**	02	56	04.6 **+0.7**
	baz=191,slow=3.6							
ILAR	**Eielson Array**	**90.77**	**17**	P	P	02	56	05.9 **-3.4**
	comp=Z,3nm,0.9s,baz=216,slow=4.5,SNR=4.1							
GERES	**GERESS Array B**	**144.71**	**331**	PKPbc	**PKPdf**	**03**	**02**	**42.7 -0.2**
	comp=Z,1.0nm,0.6s,baz=31,slow=3.9,SNR=11							

*JMA **10** 03:29:24.4±0.3,32.37N×138.02E,h394km,M3.4*
*ISCJB **10** 03:29:27.9±0.6,32.72N±0.08×137.96E±0.08, h375km±4km,mb3.3/10,Error ellipse: s-maj=14.3km s-min=8.3km az=140.7*
*IDC **10** 03:29:28.9±1.9,32.61N×137.78E,h366km±23km, mb3.0/10,mb1 3.1/11,mb1mx3.0/27,mbtmp3.0/11,Error ellipse: s-maj=52.2km s-min=13.7km az=73.0*

ISC 10 03:29:29.0±1.0,32.76N±0.10×137.90E±0.08,h369km±8km, n34,σ1°27/39,mb3.3/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.22**	**323**	P	**Pn**	03	30	18.5 **+1.3**
TTO1	**TONANKAI O.B.S**	**1.28**	**313**	P	**Pn**	03	30	18.3 **+0.8**
TTO4	**TONANKAI O.B.S**	**1.29**	**346**	P	**Pn**	03	30	18.9 **+1.4**
JIE	**Ise**	**1.91**	**329**	P	**Pn**	03	30	22.1 **+0.7**
JWZ	**Kozaga**	**1.99**	**293**	P	**Pn**	03	30	21.4 **-0.5**
JKN2	**Miekihoku**	**2.01**	**318**	P	**Pn**	03	30	22.2 **+0.2**
HMMJ	**Hamamatsu 2**	**2.10**	**356**	P	**Pn**	03	30	24.0 **+1.4**
JNY	**Yasuok**	**2.60**	**359**	P	**Pn**	03	30	27.9 **+1.5**
BSO3	**Boso 3**	**2.98**	**46**	*eS*	**S**	03	31	18.2 **+0.4**
BSO4	**Boso 4**	**3.01**	**42**	*eS*	**S**	03	31	18.5 **-0.2**
JAI	**Aioi**	**3.07**	**291**	P	**Pn**	03	30	29.8 **-0.6**
BSO1	**Boso 1**	**3.19**	**53**	P	**Pn**	03	30	30.6 **-0.1**
BSO1				*eS*	**S**	03	31	21.8 **+1.2**
JWT	**Wachi**	**3.27**	**321**	P	**Pn**	03	30	32.7 **+0.6**
JRY	**Ryogami san**	**3.36**	**14**	P	**Pn**	03	30	35.1 **+2.2**
JMN	**Monobe**	**3.51**	**287**	P	**Pn**	03	30	34.0 **-0.4**
MJAR	**Matsushiro Arr**	**3.79**	**4**	P	**Pn**	03	30	38.0 **+1.1**
	1.7nm,0.3s,baz=182,slow=11,SNR=23							
MAT	**Matsushiro**	**3.79**	**4**	P	**Pn**	03	30	37.9 **+0.9**
MAT				S	**S**	03	31	31.0 **-0.9**
MAT	**Matsushiro**	**3.79**	**4**	P	**Pn**	03	30	37.8 **+0.8**
JAG	**Ashikaga**	**3.88**	**19**	P	**Pn**	03	30	37.9 **+0.1**
JAG				*eS*	**S**	03	31	31.6 **-1.9**
JYT	**Yasato**	**3.95**	**28**	P	**Pn**	03	30	38.3 **-0.2**
JYT				*eS*	**S**	03	31	32.1 **-2.6**
JHO	**Hitachi**	**4.43**	**29**	P	**Pn**	03	30	43.3 **-0.1**
JHO				S	**S**	03	31	40.4 **-3.2**
JHS	**Saijyo**	**4.57**	**301**	P	**Pn**	03	30	45.3 **+0.4**
JFK	**Kawauchi**	**5.21**	**27**	*eS*	**S**	03	31	56.0 **-2.7**
JMK	**Ichinoseki**	**6.74**	**23**	*eS*	**S**	03	32	29.5 **-0.5**
SONM	**Songino Array**	**28.12**	**312**	P	**P**	03	34	49.4 **+0.8**
	0.2nm,0.5s,baz=127,slow=7.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**42.82**	**316**	P	**P**	03	36	51.0 **-0.8**
	0.5nm,0.3s,baz=65,slow=8.8,SNR=4.2							
MKAR	**Makanchi Array**	**44.09**	**305**	P	**P**	03	37	02.0 **-0.1**
	0.5nm,0.5s,baz=87,slow=10,SNR=7.2							
WRA	**Warramunga Arr**	**52.51**	**184**	P	**P**	03	38	04.1 **-1.7**
	0.3nm,0.3s,baz=1.4,slow=7.7,SNR=9.8							
ASAR	**Alice Springs**	**56.23**	**184**	P	**P**	03	38	32.0 **-0.4**
	0.2nm,0.5s,baz=18,slow=13,SNR=4.1							
AKTO	**Aktyubinsk**	**59.43**	**313**	P	**P**	03	38	54.5 **+0.5**
	0.6nm,0.3s,baz=66,slow=10.0,SNR=4.8							
ARCES	**ARCESS Array B**	**66.97**	**339**	P	**P**	03	39	43.7 **+1.0**
	4.0nm,1.0s,baz=46,slow=7.7,SNR=2.8							
FINES	**FINESS Array B**	**71.23**	**332**	P	**P**	03	40	09.4 **+0.8**
	1.7nm,0.9s,baz=32,slow=5.4,SNR=4.7							
AKASG	**Malin Array Be**	**75.88**	**322**	P	**P**	03	40	34.9 **-0.8**
	0.7nm,0.5s,baz=48,slow=5.3,SNR=4.6							
BRTR	**Keskin Array B**	**79.48**	**311**	P	**P**	03	40	56.9 **+1.1**
	0.5nm,0.7s,baz=121,slow=4.0,SNR=3.4							

*AUST **10** 03:44:37.3,6.50S×124.51E,h450km*
*ISCJB **10** 03:44:47.7±0.4,6.96S±0.06×125.08E±0.07,h543km, mb3.9/5,Error ellipse: s-maj=10.8km s-min=5.3km az=141.9*
*DJA **10** 03:44:48.1±0.3,7.7°S±5.1°×12.7°5E±°,h537km±11km,M3.9/10, mB4.4/5,mb4.3/10,MLv4.0/2,Mw(mB)3.5/5*
*IDC **10** 03:44:48.7±1.5,7.06S×124.98E,h536km±21km,mb3.4/5, mb1 3.5/9,mb1mx3.3/23,mbtmp3.4/9,Error ellipse: s-maj=46.9km s-min=11.6km az=58.0*

ISC 10 03:44:48.8±0.7,7.04S±0.07×125.12E±0.09,h543km,n31, σ1°40/35,mb3.9/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.27**	**241**	P	**P**	03	46	03.1 **-1.9**
KDI	**Kendari**	**3.95**	**321**	P	**P**	03	46	08.8 **-1.1**
NLAI	**Namlea**	**4.26**	**28**	P	**P**	03	46	12.3 **0.0**
BKSI	**Bulukumba**	**5.25**	**289**	P	**P**	03	46	18.4 **-2.1**
	60nm,0.7s,579nm							
WSI	**Waingapu**	**5.44**	**241**	S	S	03	46	58.0 -40
	baz=5.2,SNR=6.1							
KAPI	**Kappang**	**5.71**	**290**	P	**P**	03	46	23.3 **-1.1**
	3.5nm,0.3s,baz=120,slow=6.6,SNR=18							
KAPI	**Kappang**	**5.71**	**290**	P	**P**	03	46	23.4 **-1.1**
	54nm,1.0s,622nm							
SPSI	**Sidrap Palu**	**6.14**	**300**	P	**P**	03	46	26.9 **-1.6**
	52nm,0.7s,568nm							
TTSI	**Tana Toraja**	**6.61**	**307**	P	**P**	03	46	33.7 **+0.9**
	63nm,0.8s							
MRSI	**Marisa**	**8.11**	**337**	P	**P**	03	46	45.4 **-2.2**
	50nm,0.8s,731nm							
FAKI	**Fak Fak**	**8.20**	**60**	P	**P**	03	46	46.6 **-1.8**
	24nm,0.7s							
MTN	**Manton Dam**	**8.27**	**135**	P	**P**	03	46	48.8 **-0.3**
	baz=9.1,SNR=100							
MTN				S	**S**	03	48	25.0 **-2.6**
	baz=9.1,SNR=4.6							
KDU	**Kakadu**	**9.16**	**128**	P	**P**	03	46	57.5 **-0.7**
	baz=10.0,SNR=12							
KDU				S	**S**	03	48	42.6 **-1.6**
	baz=10.0,SNR=6.5							
FITZ	**Fitzroy Crossi**	**11.01**	**177**	P	**P**	03	47	16.7 **-0.3**
	0.4nm,0.3s,baz=13,slow=11,SNR=20							
FITZ				S	**S**	03	49	16.8 **-2.2**
	0.8nm,0.3s,baz=11,slow=19,SNR=13							
FITZ	**Fitzroy Crossi**	**11.01**	**177**	P	**P**	03	47	16.8 **-0.3**
	baz=12,SNR=12							
FITZ				S	**S**	03	49	17.2 **-1.8**
	baz=12,SNR=9.0							
WRA	**Warramunga Arr**	**15.64**	**146**	P	**P**	03	48	04.0 **-1.0**
	3.4nm,0.3s,baz=326,slow=11,SNR=101							
WRA				S	**S**	03	50	45.3 **-0.6**
	baz=322,slow=16,SNR=3.6							
ASAR	**Alice Springs**	**18.56**	**154**	P	**P**	03	48	33.2 **+1.0**
	3.1nm,0.3s,

GBRS	**Gornja Briga**	**0.40**	**103**	⇑*i*	Pg	**Pg**	**04 03 06.7**	**-0.6**
GBRS				*i*	Sg	**Sg**	**04 03 12.8**	**+0.1**
	comp=Z,102nm,0.1s							
VISS	**Visnje**	**0.45**	**66**	*i*	Pg	**Pg**	**04 03 07.5**	**-0.7**
VISS				*i*	Sg	**Sg**	**04 03 14.1**	**-0.1**
VISS								
	comp=Z,49nm,0.1s							
VISS	**Visnje**	**0.45**	**66**	*i*	Pg	**Pg**	**04 03 07.5**	**-0.7**
VISS				*i*	Sg	**Sg**	**04 03 14.1**	**-0.1**
	comp=Z,49nm,0.1s							
CRNS	**Crni Vrh**	**0.46**	**1**	*i*	Pg	**Pg**	**04 03 07.8**	**-0.6**
CRNS				*i*	Sg	**Sg**	**04 03 15.0**	**+0.5**
CRNS								
	comp=Z,95nm,0.2s							
LJU	**Ljubljana**	**0.46**	**24**	*i*	Pg	**Pg**	**04 03 08.3**	**-0.1**
LJU	**Ljubljana**	**0.46**	**24**	*i*	Pg	**Pg**	**04 03 08.3**	**-0.1**
VOJS	**Vojsko**	**0.48**	**328**	⇑*i*	Pg	**Pg**	**04 03 08.2**	**-0.6**
VOJS				*i*	Sg	**Sg**	**04 03 15.8**	**+0.5**
VOJS	**Vojsko**	**0.48**	**328**	⇑*i*	Pg	**Pg**	**04 03 08.2**	**-0.6**
VOJS				*i*	Sg	**Sg**	**04 03 15.0**	**+0.5**
VNDS	**Vrh nad Dolski**	**0.57**	**33**	*i*	Pg	**Pg**	**04 03 10.1**	**-0.4**
VNDS								
	comp=Z,25nm,0.1s							
SABO	**M.te Sabotino**	**0.58**	**308**	⇑*e*	Pg	**Pg**	**04 03 09.7**	**-0.9**
SABO				*e*	Sg	**Sg**	**04 03 18.7**	**+0.4**
SABO	**M.te Sabotino**	**0.58**	**308**		Pg	**Pg**	**04 03 09.7**	**-0.9**
SABO					Sg	**Sg**	**04 03 18.7**	**+0.4**
	comp=Z,258nm,0.6s							
SABO	**M.te Sabotino**	**0.58**	**308**	*e*P		**Pg**	**04 03 09.7**	**-0.9**
SABO					Sg	**Sg**	**04 03 18.7**	**+0.4**
	comp=Z,258nm,0.6s							
PDKS	**Podkum**	**0.68**	**50**	*i*	Pg	**Pg**	**04 03 12.1**	**-0.4**
PDKS				*e*	Sg	**Sg**	**04 03 21.5**	**0.0**
PDKS								
	comp=Z,38nm,0.1s							
PDKS	**Podkum**	**0.68**	**50**	*i*	Pg	**Pg**	**04 03 12.1**	**-0.4**
PDKS				*e*	Sg	**Sg**	**04 03 21.5**	**0.0**
	comp=Z,38nm,0.1s							
MOZS	**Mozjanca**	**0.68**	**11**	⇓*i*	Pg	**Pg**	**04 03 12.5**	**-0.1**
MOZS	**Mozjanca**	**0.68**	**11**	⇓*i*	Pg	**Pg**	**04 03 12.5**	**-0.1**
DRE	**Drenchia**	**0.69**	**322**	⇑*e*	Pg	**Pg**	**04 03 11.7**	**-1.1**
DRE				*e*	Sg	**Sb**	**04 03 22.5**	**-0.4**
DRE	**Drenchia**	**0.69**	**322**	*e*P		**Pg**	**04 03 11.7**	**-1.1**
DRE				*e*	Sg	**Sb**	**04 03 22.5**	**-0.4**
CADS	**Cadrg**	**0.70**	**329**	*i*	Pg	**Pg**	**04 03 12.0**	**-1.0**
CADS				*i*	Sg	**Sb**	**04 03 23.3**	**+0.2**
CADS	**Cadrg**	**0.70**	**329**	*i*	Pg	**Pg**	**04 03 12.0**	**-1.0**
CADS				*i*	Sg	**Sb**	**04 03 23.3**	**+0.2**
BOJS	**Bojanci**	**0.71**	**99**	*i*	Pg	**Pg**	**04 03 11.9**	**-1.2**
BOJS				*e*	Sg	**Sg**	**04 03 21.9**	**-0.5**
BOJS	**Bojanci**	**0.71**	**99**	*i*	Pg	**Pg**	**04 03 11.9**	**-1.2**
BOJS				*e*	Sg	**Sg**	**04 03 22.0**	**-0.5**
GORS	**Gorjuse**	**0.72**	**346**	*i*	Pg	**Pg**	**04 03 12.6**	**-0.6**
GORS				*e*	Sg	**Sb**	**04 03 23.7**	**+0.2**
GORS								
	comp=Z,30nm,0.1s							
GORS	**Gorjuse**	**0.72**	**346**	*i*	Pg	**Pg**	**04 03 12.6**	**-0.6**
GORS				*e*	Sg	**Sb**	**04 03 23.7**	**+0.2**
	comp=Z,30nm,0.1s							
COLI	**Coloredo**	**0.80**	**310**	⇓*e*	Pg	**Pg**	**04 03 13.7**	**-1.0**
COLI				*e*	Sg	**Sb**	**04 03 26.6**	**+0.9**
COLI	**Coloredo**	**0.80**	**310**	*e*P		**Pg**	**04 03 13.7**	**-1.0**
COLI				*e*	Sg	**Sb**	**04 03 26.6**	**+0.9**
ROBS	**Robic**	**0.81**	**320**	*i*	Pg	**Pg**	**04 03 13.9**	**-1.0**
ROBS				*e*	Sg	**Sb**	**04 03 25.7**	**-0.3**
ROBS								
	comp=Z,27nm,0.1s							
ROBS	**Robic**	**0.81**	**320**	*i*	Pg	**Pg**	**04 03 13.9**	**-1.0**
ROBS				*e*	Sg	**Sg**	**04 03 25.4**	**-0.2**
LEGS	**Legarje**	**0.81**	**66**	*i*	Pg	**Pg**	**04 03 14.3**	**-0.7**
LEGS				*i*	Sg	**Sg**	**04 03 24.9**	**-0.8**
LEGS	**Legarje**	**0.81**	**66**	*i*	Pg	**Pg**	**04 03 14.3**	**-0.7**
LEGS				*i*	Sg	**Sg**	**04 03 24.9**	**-0.8**
TLI	**Talmassons**	**0.86**	**291**	⇓*e*	Pg	**Pg**	**04 03 15.3**	**-0.6**
TLI	**Talmassons**	**0.86**	**291**	⇓*e*	Pg	**Pg**	**04 03 15.3**	**-0.6**
CRES	**Cresnjev**	**0.87**	**76**	*i*	Pg	**Pg**	**04 03 15.1**	**-0.9**
CRES	**Cresnjev**	**0.87**	**76**	*i*	Pg	**Pg**	**04 03 15.1**	**-0.9**
OBKA	**Obir**	**0.91**	**13**	⇑*e*	Pg	**Pg**	**04 03 16.3**	**-0.6**
	SNR=40							
OBKA				⇑*i*	Sg	**Sg**	**04 03 27.8**	**-1.0**
	comp=Z,43nm,0.3s							
OBKA	**Obir**	**0.91**	**13**		Pg	**Pg**	**04 03 16.3**	**-0.6**
	SNR=40							
OBKA					Sg	**Sg**	**04 03 27.8**	**-1.0**
	comp=Z,43nm,0.3s							
VINO	**Villanova**	**0.93**	**313**	⇑*e*	Pg	**Pg**	**04 03 16.0**	**-1.2**
VINO				*e*	Sg	**Sb**	**04 03 29.9**	**+0.4**
VINO	**Villanova**	**0.93**	**313**	*e*P		**Pg**	**04 03 16.0**	**-1.2**
VINO				*e*	Sg	**Sb**	**04 03 29.9**	**+0.4**
BAD	**Bernadia**	**0.93**	**311**	⇓*e*	Pg	**Pg**	**04 03 16.3**	**-1.0**
BAD				*e*	Sg	**Sn**	**04 03 31.5**	**+0.1**
BAD	**Bernadia**	**0.93**	**311**	*e*P		**Pg**	**04 03 16.3**	**-1.0**
BAD				*e*	Sg	**Sn**	**04 03 31.5**	**+0.1**
BUA	**Buia**	**0.99**	**307**		Pg	**Pb**	**04 03 18.5**	**+0.3**
BUA	**Buia**	**0.99**	**307**		Pg	**Pb**	**04 03 18.5**	**+0.3**
LSR	**Lussari**	**0.99**	**330**	⇓*e*	Pg	**Pg**	**04 03 17.7**	**-0.8**
LSR	**Lussari**	**0.99**	**330**	⇓*e*	Pg	**Pg**	**04 03 17.7**	**-0.8**
GCIS	**Gornji Cirnik**	**0.99**	**75**	*i*	Pg	**Pg**	**04 03 17.6**	**-0.9**
GCIS	**Gornji Cirnik**	**0.99**	**75**	*i*	Pg	**Pg**	**04 03 17.5**	**-0.9**
DOBS	**Dobrina**	**1.00**	**58**	*i*	Pg	**Pg**	**04 03 17.8**	**-0.8**
DOBS	**Dobrina**	**1.00**	**58**	*i*	Pg	**Pg**	**04 03 17.8**	**-0.8**
PTCC	**Patocco-Chiusa**	**1.00**	**322**		Pg	**Pg**	**04 03 17.6**	**-1.0**
	comp=Z,1.0nm,0.4s							
PTCC	**Patocco-Chiusa**	**1.00**	**322**		Pg	**Pg**	**04 03 17.6**	**-1.0**
	comp=Z,1.0nm,0.4s							
GOLS	**Golise**	**1.03**	**68**	*i*	Pg	**Pg**	**04 03 18.7**	**-0.5**
GOLS								
	comp=Z,76nm,0.2s							
GOLS	**Golise**	**1.03**	**68**	*i*	Pg	**Pg**	**04 03 18.7**	**-0.5**
	comp=Z,76nm,0.2s							
ACOM	**Acomizza, Ital**	**1.06**	**331**	⇑*e*	Pg	**Pg**	**04 03 19.1**	**-0.6**
ACOM	**Acomizza, Ital**	**1.06**	**331**	⇑*e*	Pg	**Pg**	**04 03 19.1**	**-0.6**
MPRI	**Monte Prat**	**1.08**	**305**	*e*	Pg	**Pg**	**04 03 19.3**	**-0.7**
MPRI	**Monte Prat**	**1.08**	**305**	*e*	Pg	**Pg**	**04 03 19.3**	**-0.7**
MYKA	**Terra Mystica**	**1.09**	**337**	⇓*i*	Pg	**Pg**	**04 03 19.9**	**-0.5**
MYKA				⇑*i*	Sg	**Sg**	**04 03 34.2**	**-0.4**
	comp=Z,30nm,0.3s							
MYKA	**Terra Mystica**	**1.09**	**337**		Pg	**Pg**	**04 03 19.9**	**-0.5**
MYKA					Sg	**Sg**	**04 03 34.2**	**-0.4**
	comp=Z,30nm,0.3s							
NVLJ	**Novalja**	**1.15**	**157**	*e*	Pg	**Pb**	**04 03 20.6**	**-0.4**
NVLJ					Sg	**Sg**	**04 03 36.3**	**-0.1**
NVLJ	**Novalja**	**1.15**	**157**	*e*	Pg	**Pb**	**04 03 20.6**	**-0.4**
NVLJ					Sg	**Sg**	**04 03 36.2**	**-0.1**
FUSE	**Fusea**	**1.18**	**313**	⇓*e*	Pg	**Pb**	**04 03 21.3**	**-0.2**
FUSE	**Fusea**	**1.18**	**313**	⇓*e*	Pg	**Pb**	**04 03 21.3**	**-0.2**
PERS	**Pernice**	**1.18**	**30**	*i*	Pg	**Pb**	**04 03 21.0**	**-0.5**
PERS								
	comp=Z,30nm,0.2s							
PERS	**Pernice**	**1.18**	**30**	*i*	Pg	**Pb**	**04 03 21.0**	**-0.5**
	comp=Z,30nm,0.2s							
SOKA	**Soboth**	**1.19**	**27**	⇑*i*	Pg	**Pb**	**04 03 21.2**	**-0.5**
SOKA				⇑*i*	Sg	**Sb**	**04 03 37.3**	**+0.3**
	comp=Z,5.8nm,0.2s							
SOKA	**Soboth**	**1.19**	**27**		Pg	**Pb**	**04 03 21.2**	**-0.5**
SOKA					Sg	**Sb**	**04 03 37.3**	**+0.3**
	comp=Z,5.8nm,0.2s							
BISS	**Bistriski jare**	**1.19**	**30**	*i*	Pg	**Pb**	**04 03 21.3**	**-0.4**
BISS	**Bistriski jare**	**1.19**	**30**	*i*	Pg	**Pb**	**04 03 21.3**	**-0.4**
PLRO	**Paularo**	**1.20**	**321**	*e*	Pg	**Pn**	**04 03 22.0**	**0.0**
PLRO	**Paularo**	**1.20**	**321**	*e*	Pg	**Pn**	**04 03 22.0**	**0.0**
GROS	**Grobnik**	**1.21**	**46**	*i*	Pg	**Pn**	**04 03 21.5**	**-0.5**
GROS								
	comp=Z,20nm,0.1s							
GROS	**Grobnik**	**1.21**	**46**	*i*	Pg	**Pn**	**04 03 21.5**	**-0.5**
	comp=Z,20nm,0.1s							
MLNI	**Malnisio**	**1.26**	**295**	⇑*e*	Pg	**Pb**	**04 03 22.9**	**-0.1**
MLNI				*e*	Sg	**Sn**	**04 03 41.1**	**+1.5**
MLNI	**Malnisio**	**1.26**	**295**	*e*P		**Pb**	**04 03 22.9**	**-0.1**
MLNI				*e*	Sg	**Sn**	**04 03 41.1**	**+1.5**
POLC	**Polcenigo**	**1.29**	**289**	⇑*e*	Pg	**Pg**	**04 03 23.5**	**-0.6**
ZOU	**Zoufplan**	**1.29**	**317**	⇓*e*	Pg	**Pb**	**04 03 23.5**	**0.0**
CAE	**Caneva**	**1.33**	**287**	⇓*e*	Pg	**Pn**	**04 03 23.7**	**+0.1**
CAE	**Caneva**	**1.33**	**287**	⇓*e*	Pg	**Pn**	**04 03 23.7**	**+0.1**
FVI	**Forni Avoltri**	**1.41**	**314**		Pg	**Pb**	**04 03 25.3**	**-0.3**
	comp=Z,170nm,0.4s							
FVI	**Forni Avoltri**	**1.41**	**314**		Pg	**Pb**	**04 03 25.3**	**-0.3**
	comp=Z,170nm,0.4s							
CSMI	**Casera Mimoias**	**1.43**	**309**	⇓*e*	Pg	**Pg**	**04 03 26.0**	**-0.7**
CSMI	**Casera Mimoias**	**1.43**	**309**	⇓*e*	Pg	**Pg**	**04 03 26.0**	**-0.7**
CIMO	**Cimolais**	**1.44**	**299**	⇑*e*	Pg	**Pn**	**04 03 24.9**	**-0.2**
CIMO	**Cimolais**	**1.44**	**299**	⇑*e*	Pg	**Pn**	**04 03 24.9**	**-0.2**
CSO	**Casso**	**1.49**	**296**	⇓*e*	Pg	**Pn**	**04 03 25.8**	**-0.1**
CSO				*e*	Sg	**Sg**	**04 03 47.0**	**-0.4**
CSO	**Casso**	**1.49**	**296**	*e*P		**Pn**	**04 03 25.8**	**-0.1**
CSO				*e*	Sg	**Sg**	**04 03 47.0**	**-0.4**
VARN	**Col Varnada, M**	**1.55**	**285**	⇓*e*	Pg	**Pn**	**04 03 26.4**	**-0.2**
VARN				*e*	Sg	**Sg**	**04 03 48.3**	**-0.8**
VARN	**Col Varnada, M**	**1.55**	**285**	*e*P		**Pn**	**04 03 26.4**	**-0.2**
VARN				*e*	Sg	**Sg**	**04 03 48.3**	**-0.8**
KBA	**Koelnbreinsper**	**1.58**	**337**	⇑*i*	Pn	**Pn**	**04 03 27.2**	**0.0**
KBA				⇑*i*	Pg	**Pb**	**04 03 28.9**	**+0.4**
KBA				⇓*i*	Sn	**Sn**	**04 03 48.1**	**+0.4**
KBA				⇓*i*	Sg	**Sg**	**04 03 50.4**	**0.0**
	comp=Z,15nm,0.2s							
KBA	**Koelnbreinsper**	**1.58**	**337**		Pn	**Pn**	**04 03 27.2**	**0.0**
ABTA	**Abfaltersbach**	**1.65**	**314**	⇑*e*	Pn	**Pb**	**04 03 29.0**	**-0.6**
	SNR=20							
ABTA				⇑*i*	Pg	**Pg**	**04 03 30.7**	**-0.3**
ABTA				⇑*i*	Sg	**Sg**	**04 03 52.7**	**+0.3**
	comp=Z,23nm,0.2s							
ABTA	**Abfaltersbach**	**1.65**	**314**		Pn	**Pb**	**04 03 29.0**	**-0.6**
	SNR=20							
AGOR	**Agordo**	**1.67**	**294**	⇑*e*	Pg	**Pn**	**04 03 28.3**	**0.0**
AGOR	**Agordo**	**1.67**	**294**		Pg	**Pn**	**04 03 28.7**	**+0.4**
	comp=Z,50nm,0.5s							
CGRP	**Cima Grappa**	**1.74**	**279**	⇑*e*	Pg	**Pn**	**04 03 29.1**	**-0.2**
CGRP				*e*	Sg	**Sb**	**04 03 53.7**	**+0.8**
CGRP	**Cima Grappa**	**1.74**	**279**	⇑*e*	Pg	**Pn**	**04 03 29.1**	**-0.2**
CGRP				*e*	Sg	**Sb**	**04 03 53.7**	**+0.8**
ARSA	**Arzberg**	**1.85**	**28**	⇓*i*	Pn	**Pn**	**04 03 30.6**	**-0.2**
ARSA				⇑*i*	Pg	**Pb**	**04 03 33.7**	**+0.7**
ARSA				⇑*i*	Sn	**Sn**	**04 03 54.8**	**+0.8**
ARSA	**Arzberg**	**1.85**	**28**		Pn	**Pn**	**04 03 30.6**	**-0.2**
CTI	**Castel Tesino**	**1.87**	**284**		Pg	**Pn**	**04 03 31.1**	**0.0**
	comp=Z,45nm,0.2s							
CTI	**Castel Tesino**	**1.87**	**284**	*e*	Pg	**Pn**	**04 03 31.1**	**0.0**
MOA	**Molln**	**2.23**	**0**	⇓*i*	Pn	**Pn**	**04 03 36.3**	**+0.4**
MOA				⇓*i*	Sn	**Sn**	**04 03 03.5**	**+0.2**
MOA	**Molln**	**2.23**	**0**		Pn	**Pn**	**04 03 36.3**	**+0.4**
MOA					Sn	**Sn**	**04 03 03.5**	**+0.2**
WTTA	**Wattenberg**	**2.44**	**313**	⇓*i*	Pn	**Pn**	**04 03 39.7**	**+0.7**
WTTA	**Wattenberg**	**2.44**	**313**		Pn	**Pn**	**04 03 39.7**	**+0.7**
CSNA	**Conrad Observa**	**2.56**	**25**	⇑*i*	Pn	**Pn**	**04 03 40.6**	**+0.1**
CSNA	**Conrad Observa**	**2.56**	**25**		Pn	**Pn**	**04 03 40.6**	**+0.1**
KHC	**Kasperske Hory**	**3.54**	**353**	*e*	SN	**Sn**	**04 04 35.9**	**+0.2**
KHC	**Kasperske Hory**	**3.54**	**353**		Sn	**Sn**	**04 04 35.9**	**+0.2**
STON	**Ston**	**3.70**	**137**	*e*	Pn	**Pn**	**04 03 57.3**	**+1.2**
STON					Sn	**Sn**	**04 04 41.3**	**+1.7**
STON	**Ston**	**3.70**	**137**	*e*	Pn	**Pn**	**04 03 57.3**	**+1.2**
STON					Sn	**Sn**	**04 04 41.3**	**+1.7**

***IDC* 10 04:04:22.9±5.9, 17°11N×85°31W, h0km, mb3.3/3, mb1 3.9/5, mb1mx3.5/25, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=95.0km s-min=46.1km az=152.0, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.19**	**318**			Pn	Pn	04 05 27.5	-0.5
	90nm,0.3s,baz=57,slow=1.1,SNR=285								
TEIG						Sn	Sn	04 06 12.9	-4.8
	36nm,0.3s,baz=52,slow=21,SNR=18								
CMIG	**Matias Romero**	**9.16**	**271**	Pn		Pn	Pn	04 06 37.1	+0.7
	0.4nm,0.3s,baz=80,slow=4.6,SNR=5.3								
CMIG						Sn	Sn	04 08 17.9	-2.4
	0.2nm,0.3s,baz=47,slow=16,SNR=2.7								
TKL	**Tuckaleechee C**	**18.52**	**4**	P		Pn	Pn	04 08 41.8	+0.7
	0.1nm,0.3s,baz=56,slow=3.7,SNR=3.6								
TKL						S	Sn	04 11 55.0	-14
	0.1nm,0.3s,baz=128,slow=17,SNR=2.7								
TXAR	**Lajitas Array**	**20.77**	**309**	P		P	P	04 09 05.8	+0.2
	1.1nm,0.8s,baz=127,slow=12,SNR=9.4								
TXAR						S	S	04 12 48.6	-10
	0.2nm,0.6s,baz=127,slow=15,SNR=2.9								
PDAR	**Pinedale Array**	**32.87**	**326**	P		P	P	04 10 58.5	-0.3
	0.3nm,0.6s,baz=101,slow=9.4,SNR=3.3								
ILAR	**Eielson Array**	**62.66**	**335**	P		P	P	04 14 48.8	-0.3
	0.5nm,0.9s,baz=120,slow=4.5,SNR=4.2								

IDC ***10*** *04:04:18.3±0.4, 24°.42S×176°.31W, h0km, mb4.7/23, mb1 4.9/23, mb1mx4.9/26, mbtmp4.7/23, MS5.0/27, Ms1 5.0/27, ms1mx4.9/33, Error ellipse: s-maj=17.8km s-min=14.8km az=154.0*

BJI ***10*** *04:04:21.8, 24°.50S×176°.40W, h35km, mB5.6/19, mb5.2/31, Ms5.3/12, Ms7 5.0/14*

MOS ***10*** *04:04:22.4±1.2, 24°.47S×176°.45W, h33km, mb5.4/30, MS5.2/9, Error ellipse: s-maj=12.0km s-min=10.8km az=141.5*

SZGRF ***10*** *04:04:22.3, 24°.58S×176°.27W, h33km, mb5.4, South of Fiji Islands*

ISCJB ***10*** *04:04:22.9±0.2, 24°.63S±0°.05×176°.40W±0°.04, h43km, mb5.1/85, MS5.1/44, Error ellipse: s-maj=7.1km s-min=4.5km az=161.4*

NEIC ***10*** *04:04:23.3±0.2, 24°.62S×176°.36W, h35km, mb5.3/60, Error ellipse: s-maj=8.5km s-min=4.6km az=148.0*

GCMT ***10*** *04:04:25.8±0.1, 24°.56S×175°.67W, h31km, MW5.5, Moment Tensor Solution. s98,c174; s99,c196; Moment tensor: Scale 10^{17}Nm; M_{rr}1.99±.04; $M_{\theta\theta}$0.18±.03; $M_{\phi\phi}$-2.16±.03; $M_{r\theta}$0.19±.05; $M_{\theta\phi}$-0.22±.02; $M_{\phi r}$1.34±.04; Best double couple: M_o2.50000×10^{17} NP1:ϕ_s184.00000°, δ29.00000°, λ87.00000°. NP2:ϕ_s7.00000°, δ61.00000°, λ92.00000°. Principal axes: T 2.3900, Plg73.0000°, Azm281.0000°; N 0.1900, Plg1.0000°, Azm186.0000°; P -2.5800, Plg16.0000°, Azm96.0000°; Data Used: II IU IC G CN. Surface waves from 110 sta.*

ISC 10 04:04:24.5±0.3, 24°60S±0°06×176°38W±0°07, h43km, n620, σ0996/614, mb5.2/83, MS5.2/44, 126C-121D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.58**	**322**	*e*P		Pn		04 06 30.2	+4.0
MSVF				*e*S		**Sn**		**04 08 02.7**	**+0.9**
MSVF	**Nonsavu**	**8.58**	**322**	*e*Pn		Pn		04 06 30.2	+4.0
MSVF				*e*S		**Sn**		**04 08 02.6**	**+0.9**
AFI	**Afiamalu**	**11.49**	**23**	Pn		Pn		04 06 57.2	-8.8
	22nm,0.3s,baz=346,slow=5.8,SNR=7.8								
AFI						Sn		04 08 56.9	-16
	14nm,0.3s,baz=48,slow=19,SNR=4.2								
AFI				T		T		04 18 37.2	
	6.8nm,0.3s,baz=190,slow=15,SNR=4.2								
AFI	**Afiamalu**	**11.49**	**23**	*e*Pn		Pn		04 06 57.4	-8.6
AFI				*e*S		Sn		04 08 51.0	-22
AFI				TT				04 18 37.2	
URZ	**Urewera**	**14.70**	**201**	*e*Pn		**Pn**		**04 07 48.3**	**-1.3**
URZ				*e*S		Sn		04 10 19.9	-11
RAR	**Rarotonga**	**15.67**	**81**	Pn		Pn		04 07 52.4	-10
	23nm,0.3s,baz=270,slow=8.8,SNR=12								
RAR						Sn		04 10 28.4	-27
	27nm,0.3s,baz=90,slow=21,SNR=5.7								
RAR				LR		LR		04 13 01.5	
	comp=Z,5μm,19.9s,baz=269,slow=34								
RAR				T		T		04 23 50.5	
	40nm,0.3s,baz=270,slow=1.1,SNR=4.1								
RAR	**Rarotonga**	**15.67**	**81**	*e*Pn		Pn		04 07 52.0	-10
	213nm,0.8s								
RAR						Sn		04 10 28.4	-27
RAR				TT				04 23 50.5	
DZM	**Mont Dzumac**	**15.97**	**276**	*e*P		P		04 08 15.9	+6.6
	243nm,1.2s								
DZM				*e*LQ		LQ		04 11 39.0	
	4μm,27.0s								
DZM				*e*LR		LR		04 12 08.8	
	11μm,23.2s								
DZM	**Mont Dzumac**	**15.97**	**276**	Pn		**P**		**04 08 13.7**	**+4.4**
	1.7nm,0.3s,baz=85,slow=17,SNR=20								
DZM	**Mont Dzumac**	**15.97**	**276**	Pn		**P**		**04 08 08.0**	**-1.3**
	140nm,1.1s								
NOUC	**Port Laguerre**	**16.09**	**275**	*e*P		P		04 08 17.3	+6.7
SNZO	**South Karori**	**18.25**	**202**	*e*Pn		**P**		**04 08 32.4**	**-1.8**
SNZO				*e*S		Sn		04 11 45.7	-11
KHZ	**Kahutara**	**19.63**	**203**	*e*P		P		04 08 44.1	-5.2
	39nm,0.7s								
TBI	**Tubuai**	**24.62**	**93**	*e*LQ		LQ		04 13 58.8	
	1μm,26.8s								
TBI				*e*LR		LR		04 15 20.6	
	9μm,27.2s,baz=265								
PPT2	**Papeete2**	**25.94**	**80**	*e*LQ		LQ		04 14 48.4	
	4μm,24.2s								
PPT2				*e*LR		LR		04 16 00.1	
	10μm,24.0s,baz=248								
PPT	**Papeete**	**25.94**	**80**	LR		LR		04 17 35.0	
	comp=Z,5μm,20.9s,baz=251,slow=31								
PPT				T		T		04 36 47.2	
	24nm,0.4s,baz=78,slow=22,SNR=4.2								
HNR	**Honiara**	**27.13**	**300**	LR		LR		04 19 19.0	
	comp=Z,4μm,19.8s,baz=323,slow=33								
ARMA	**Armidale**	**28.90**	**251**	*e*P		**P**		**04 10 20.4**	**+0.8**
	94nm,1.8s								
EIDS	**Eidsvold**	**29.46**	**262**	*e*P		**P**		**04 10 24.9**	**+0.4**
	286nm,2.5s								
CTA	**Charters Tower**	**34.78**	**270**	P		**P**		**04 11 12.1**	**+1.0**
	16nm,0.6s,baz=95,slow=11,SNR=24								
CTA				LR		LR		04 23 42.1	
	comp=Z,2μm,19.7s,baz=102,slow=33								
CTA	**Charters Tower**	**34.78**	**270**	P		**P**		**04 11 12.1**	**+1.0**
CTAO	**Charters Tower**	**34.78**	**270**	*e*P		**P**		**04 11 11.3**	**+0.2**
CTAO				pmax		pmax			
	comp=Z,22nm,0.8s								
CTAO	**Charters Tower**	**34.78**	**270**	*e*P		**P**		**04 11 11.3**	**+0.2**
	comp=Z,22nm,0.8s								
STKA	**Stephens Creek**	**37.54**	**249**	P		**P**		**04 11 35.4**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=82,slow=9.2,SNR=12								
STKA				S		S		04 17 31.8	+11
	comp=Z,0.6nm,0.5s,baz=257,slow=18,SNR=1.7								
STKA				LR		LR		04 25 14.8	
	comp=Z,7μm,20.5s,baz=80,slow=33								
STKA	**Stephens Creek**	**37.54**	**249**	*e*P		**P**		**04 11 33.6**	**-1.0**
	comp=Z,24nm,2.5s								
STKA				S		S		04 17 31.8	+11
RKT	**Rikitea**	**37.80**	**97**	*e*LR		LR		04 21 26.1	
	comp=Z,5μm,27.5s,baz=266								
PMG	**Port Moresby**	**37.85**	**287**	P		**P**		**04 11 36.9**	**-0.4**
	comp=Z,64nm,1.0s,baz=124,slow=5.5,SNR=9.9								
PMG				S		S		04 17 42.9	+17
	comp=Z,5.9nm,0.5s,baz=230,slow=17,SNR=2.1								
PMG	**Port Moresby**	**37.85**	**287**	*e*P		**P**		**04 11 37.2**	**-0.1**
PMG				S		S		04 17 42.9	+17
COEN	**Coen**	**39.48**	**278**	*e*P		**P**		**04 11 50.4**	**-0.7**
	comp=Z,149nm,1.0s								
BBOO	**Buckleboo**	**42.22**	**248**	*e*P		**P**		**04 12 12.8**	**-0.7**
AS31	**Alice Springs**	**45.17**	**260**	*e*P		**P**		**04 12 37.3**	**-0.1**
ASAR	**Alice Springs**	**45.18**	**260**	P		**P**		**04 12 37.2**	**-0.2**
	comp=Z,24nm,0.8s,baz=103,slow=7.9,SNR=113								
ASAR				S		**S**		**04 19 14.6**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=101,slow=16,SNR=6.6								
ASAR				LR		LR		04 31 16.1	
	comp=Z,5μm,18.1s,baz=109,slow=36								
ASAR	**Alice Springs**	**45.18**	**260**	P		**P**		**04 12 37.2**	**-0.2**
ASAR				S		**S**		**04 19 14.6**	**+0.2**
WRAB	**Tennant Creek**	**45.64**	**266**	*e*P		**P**		**04 12 39.7**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,24nm,0.8s								
WRAB	**Tennant Creek**	**45.64

comp=Z,220nm,12.0s
SSE LR LR
comp=N,360nm,19.3s
SSE LR LR
comp=E,190nm,19.3s
SSE LR LR
comp=Z,420nm,17.7s
CMB Columbia Colle 81.49 41 *e*P **P 04 16 40.1 +2.7**
CMB pmax pmax
comp=Z,18nm,1.3s
CMB Columbia Colle 81.49 41 *e*P **P 04 16 40.1 +2.7**
comp=Z,18nm,1.3s
BELC Belle Mtn. Jos 81.76 47 ⇑P **P 04 16 38.7 -0.3**
baz=82
BC3 Big Chuckawall 81.92 47 ⇑P **P 04 16 39.4 -0.4**
baz=82
GSC Goldstone 82.02 45 *e*P **P 04 16 39.1 -1.1**
GSC pmax pmax
comp=Z,29nm,1.5s
GSC Goldstone 82.02 45 *e*P **P 04 16 39.1 -1.1**
comp=Z,29nm,1.5s
GSC Goldstone 82.02 45 ⇑P **P 04 16 39.8 -0.4**
baz=82
MPMC Manual Prospec 82.04 44 ⇓P **P 04 16 40.1 -0.4**
baz=82
MTUM Tungsten Hills 82.17 43 *e*P **P 04 16 41.4 +0.3**
IRM Iron Mountain 82.42 47 ⇑P **P 04 16 42.0 -0.3**
baz=83
GMRC Granite Mounta 82.45 46 ⇓P **P 04 16 42.2 -0.4**
baz=83
YBH Yreka Blue Hor 82.58 37 P **P 04 16 43.0 -0.1**
comp=Z,3.4nm,0.8s,baz=127,slow=9.0,SNR=2.9
YBH Yreka Blue Hor 82.58 37 P **P 04 16 43.0 -0.1**
Y12C Blythe 82.60 48 ⇑P **P 04 16 43.4 +0.2**
baz=83
WCN Washoe City 82.68 41 *e*P **P 04 16 43.5 -0.3**
WCN pmax pmax
comp=Z,42nm,1.6s
WCN Washoe City 82.68 41 *e*P **P 04 16 43.5 -0.3**
comp=Z,42nm,1.6s
FURC Furnace Creek, 82.69 44 ⇓P **P 04 16 43.4 -0.1**
baz=83
GRAC Grapevine Rang 82.69 44 ⇑P **P 04 16 43.6 -0.1**
baz=83
SHOC Shoshone 82.72 45 ⇓P **P 04 16 43.9 0.0**
baz=83
NVAR Mina Array Bea 83.00 42 P **P 04 16 45.1 -0.3**
comp=Z,3.0nm,0.9s,baz=224,slow=7.2,SNR=13
NVAR LR LR 04 47 49.3
comp=Z,751nm,18.9s,baz=122,slow=32
NVAR Mina Array Bea 83.00 42 P **P 04 16 45.1 -0.3**
NV11 Mina Array Sit 83.10 42 *e*P **P 04 16 45.4 -0.5**
USRK Ussuriysk Arra 83.17 325 P **P 04 16 47.2 +1.4**
comp=Z,20nm,0.9s,baz=128,slow=3.2,SNR=24
USRK LR LR 04 52 18.0
comp=Z,978nm,19.5s,baz=129,slow=35
PDMCI Parker Dam,Lak 83.18 48 ⇑P **P 04 16 46.2 0.0**
baz=83
Z14A Wintersburg 83.45 49 ⇓P **P 04 16 47.5 -0.1**
baz=84
Y14A Wickenburg 83.74 48 ⇑P **P 04 16 48.6 -0.5**
baz=84
W13A Hualapai Mount 83.81 47 ⇑P **P 04 16 48.9 -0.8**
baz=84
VNA3 Neumayer Olymp 83.97 176 *e*P **P 04 16 49.9 +0.1**
VNA3 Neumayer Olymp 83.97 176 *e*SPn **SPn 04 28 03.5 +2.6**
MOD Modoc 84.04 39 *e*P **P 04 16 50.3 -0.4**
comp=Z,17nm,1.1s
TUC Tucson 84.36 51 *e*P **P 04 16 52.4 0.0**
TUC pmax pmax
comp=Z,24nm,1.4s
TUC Tucson 84.36 51 *e*P **P 04 16 52.4 0.0**
comp=Z,24nm,1.4s
VNA2 Neumayer--Watz 84.42 176 *e*P **P 04 16 52.7 +0.6**
baz=178,slow=3.1
VNA2 Neumayer--Watz 84.42 176 *e*SPn **SPn 04 28 05.8 -0.7**
baz=178,slow=3.1
R11A Troy Canyon, C 84.64 44 ⇑P **P 04 16 53.0 -0.8**
baz=85
VNA1 Neumayer--Stat 84.64 176 *e*P **P 04 16 53.8 +0.7**
MDJ Mudanjiang 84.71 325 P **P 04 16 54.7 +0.9**
MDJ pmax pmax
comp=Z,27nm,1.1s
MDJ Mudanjiang 84.71 325 *e*P **P 04 16 54.6 +0.9**
comp=Z,25nm,0.9s
BMN Battle Mountai 84.91 41 *e*P **P 04 16 54.8 -0.3**
BMN pmax pmax
comp=Z,27nm,1.4s
BMN Battle Mountai 84.91 41 *e*P **P 04 16 54.8 -0.3**
comp=Z,27nm,1.4s
319A Douglas 84.92 52 ⇓P **P 04 16 54.8 -0.5**
baz=85
X16A Lo Mia Camp, P 85.08 49 ⇓P **P 04 16 56.5 +0.4**
baz=85
PLCA Paso Flores 85.39 133 P **P 04 16 57.7 +0.1**
comp=Z,1.0nm,0.6s,baz=26,slow=5.6,SNR=2.3
PLCA LR LR 04 46 04.3
comp=Z,567nm,18.9s,baz=78,slow=29
PLCA Paso Flores 85.39 133 P **P 04 16 57.7 +0.1**
320A Kipp Ranch, An 85.45 53 ⇓P **P 04 16 57.9 -0.1**
baz=86
R13A O'Grain Ranch, 85.56 44 ⇑P **P 04 16 58.3 -0.1**
baz=86
U15A North Rim 85.64 47 ⇓P **P 04 16 58.6 -0.4**
baz=86
ARUT Antelope Range 85.67 45 *e*P **P 04 16 58.6 -0.4**
ARUT pmax pmax
comp=Z,16nm,1.2s
ARUT Antelope Range 85.67 45 *e*P **P 04 16 58.6 -0.4**
comp=Z,16nm,1.2s
220A Playas Peak, P 85.75 52 ⇑P **P 04 16 59.4 0.0**
baz=86
120A U Bar Ranch, L 86.02 52 ⇓P **P 04 17 00.5 -0.3**
baz=86
WHN Wuhan 86.06 306 P **P 04 17 00.9 +0.1**
WHN S **S 04 27 33.3 +1.3**
WHN pmax pmax
comp=Z,770nm,6.7s
WHN LR LR
comp=Z,2μm,22.0s
X18A Snowflake 86.16 49 ⇓P **P 04 17 01.2 -0.2**
baz=86
ELK Elko 86.29 42 *e*P P 04 17 05.6 +3.6
comp=Z,11nm,1.3s
PSI Prapat 86.33 275 P **P 04 17 02.4 -0.4**
comp=Z,3.0nm,0.4s,baz=30,slow=3.4,SNR=7.3
PSI Prapat 86.33 275 P **P 04 17 02.4 -0.4**
Z20A Nine Sixteen R 86.35 51 ⇑P **P 04 17 02.6 +0.2**
baz=86
CN2 Changchun 86.44 322 *e*P **P 04 17 02.3 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,1μm,25.0s
CN2 LR LR
comp=E,2μm,25.0s
CN2 LR LR
comp=Z,600nm,20.0s
121A Cookes Peak, D 86.61 52 ⇓P **P 04 17 03.8 0.0**
baz=87
W18A Petrified Fore 86.63 49 ⇓P **P 04 17 03.9 +0.1**
baz=87
KLR Kul'dur 86.80 329 *e*P P 04 17 00.0 -4.0
KLR *e* 04 27 46.5
KLR pmax pmax
comp=Z,100nm,2.0s
MVU Marysvale 86.87 45 *e*P **P 04 17 05.6 +0.6**
comp=Z,8.3nm,1.2s
MSU Marysvale 86.90 45 *e*P **P 04 17 05.7 +0.6**
MSU Marysvale 86.90 45 *e*P **P 04 17 05.7 +0.6**
Y20A Horse Springs, 86.92 51 ⇓P **P 04 17 05.4 +0.1**
baz=87
Z21A St. Cloud Mine 87.11 51 ⇑P **P 04 17 05.9 -0.2**
baz=87
X20A Quemado 87.18 50 ⇓P **P 04 17 06.4 -0.1**
baz=87
122A Conniff Cattle 87.27 52 ⇑P **P 04 17 07.1 +0.2**
baz=87
DUG Dugway 87.46 43 ⇓P **P 04 17 07.7 +0.1**
baz=88
Y21A Point of Rocks 87.47 51 ⇑P **P 04 17 08.2 +0.2**
baz=88
W20A Ramah 87.49 49 ⇑P **P 04 17 08.1 +0.1**
baz=88
MFID Camas Ranch 87.56 39 *e*P P 04 17 12.9 +4.9
comp=Z,15nm,1.5s
MFID Camas Ranch 87.56 39 ⇑P **P 04 17 08.1 +0.1**
baz=88
Z22A Elephant Butte 87.58 52 ⇑P **P 04 17 08.0 -0.4**
baz=88
BMO Blue Mountains 87.61 38 *e*P **P 04 17 07.5 -0.7**
BMO Blue Mountains 87.61 38 *e*P **P 04 17 07.5 -0.7**
X21A Alamocita Cree 87.62 50 ⇑P **P 04 17 08.2 -0.5**
baz=88
324A Moseley Ranch, 87.72 54 ⇓P **P 04 17 08.0 -1.1**
baz=88,SNR=12
O15A The Old Anders 87.73 43 ⇓P **P 04 17 08.5 -0.4**
baz=88
425A Indio Mountain 87.76 55 ⇑P **P 04 17 08.8 -0.5**
baz=88
626A Big Bend Ranch 87.78 56 ⇓P **P 04 17 09.3 -0.1**
baz=88,SNR=9.0
R17A Hanksville Air 87.80 46 ⇓P **P 04 17 09.3 0.0**
baz=88
V20A Brimhall 87.87 49 ⇓P **P 04 17 09.6 -0.2**
baz=88
MNTX Cornudas Mount 87.93 54 *e*P **P 04 17 09.3 -0.6**
comp=Z,18nm,1.4s
MNTX Cornudas Mount 87.93 54 ⇓P **P 04 17 08.9 -1.0**
baz=88,SNR=15
Y22A Socorro 87.94 51 ⇑P **P 04 17 10.0 -0.1**
baz=88
TMUT Trail Mountain 87.97 45 *e*P **P 04 17 12.1 +1.8**
comp=Z,20nm,1.0s
224A Cornudas Mount 88.02 53 ⇑P **P 04 17 10.1 -0.4**
baz=88
TXAR Lajitas Array 88.03 57 P **P 04 17 10.4 -0.1**
comp=Z,2.0nm,0.9s,baz=210,slow=7.2,SNR=12
TXAR LR LR 04 53 07.9
comp=Z,593nm,18.2s,baz=5.0,slow=33
TXAR Lajitas Array 88.03 57 P **P 04 17 10.4 -0.1**
LENM Lemitar 88.05 51 *e*P **P 04 17 11.5 +0.9**
LAZ Ladron 88.06 51 *e*P **P 04 17 10.7 0.0**
comp=Z,26nm,1.7s
325A Bean Ranch, Si 88.07 54 ⇓P **P 04 17 10.3 -0.4**
baz=88
526A Mary Lane Ranc 88.07 56 ⇓P **P 04 17 10.4 -0.3**
baz=88
Z23A Rita Site, Whi 88.11 52 ⇑P **P 04 17 10.6 -0.3**
baz=88
BNM Barren Site 88.29 51 *e*P **P 04 17 11.6 -0.2**
comp=Z,60nm,1.9s
O16A Springville 88.29 44 ⇓P **P 04 17 11.8 +0.1**
baz=88
627A Terlingua Ranc 88.30 57 ⇓P **P 04 17 11.3 -0.6**
baz=88
SRU San Rafael 88.31 45 *e*P **P 04 17 11.0 -0.7**
SRU pmax pmax
comp=Z,14nm,1.1s
SRU San Rafael 88.31 45 *e*P **P 04 17 11.0 -0.7**
comp=Z,14nm,1.1s
SRU San Rafael 88.31 45 ⇓P **P 04 17 11.6 -0.2**
baz=88
LPM Los Pinos Moun 88.37 51 *e*P **P 04 17 11.7 -0.4**
124A Stringfield Ra 88.38 53 ⇓P **P 04 17 11.6 -0.7**
baz=89
426A McDonald Obser 88.42 55 ⇑P **P 04 17 12.0 -0.5**
baz=89
HLID Hailey 88.47 40 *e*P **P 04 17 13.8 +1.4**
comp=Z,51nm,2.5s
HLID Hailey 88.47 40 ⇓P **P 04 17 12.4 0.0**
baz=89
527A Woodward Ranch 88.47 56 ⇑P **P 04 17 11.8 -0.8**
baz=89
J13A Cove Ranch, Pi 88.51 40 ⇓P **P 04 17 12.4 -0.2**
baz=89
225A Deer Hill, Car 88.55 54 ⇓P **P 04 17 12.2 -0.8**
baz=89
Y23A Lovelace Mesa, 88.58 52 ⇓P **P 04 17 12.9 -0.3**
baz=89
K14A Jones Ranch, D 88.60 41 ⇓P **P 04 17 12.9 -0.1**
baz=89
PMR Palmer 88.66 13 *e*P **P 04 17 11.6 -0.9**
PMR Palmer 88.66 13 *e*P **P 04 17 11.6 -0.9**
comp=Z,267nm,2.6s
628A Black Gap, Mar 88.69 57 ⇑P **P 04 17 13.3 -0.4**
baz=89
N16A Rees Ranch, Co 88.72 43 ⇓P **P 04 17 13.5 -0.1**
baz=89
U21A Nageezi 88.76 49 ⇑P **P 04 17 13.7 -0.3**
baz=89
Z24A Sheeppen Canyo 88.77 52 ⇓P **P 04 17 13.5 -0.5**
baz=89
L15A Malad City 88.77 42 ⇑P **P 04 17 14.0 +0.2**
baz=89
P18A Preston Nutter 88.77 45 ⇓P **P 04 17 13.8 -0.3**
baz=89
O17A Robinson Place 88.77 44 ⇓P **P 04 17 13.3 -0.7**
baz=89
326A Caldwell Ranch 88.77 55 ⇓P **P 04 17 13.0 -1.0**
baz=89
H12A Diamond D Ranc 88.80 39 ⇓P **P 04 17 13.9 -0.1**
baz=89
ANMO Albuquerque 88.82 51 *e*P **P 04 17 13.9 -0.4**
comp=Z,15nm,1.2s
X23A Hourglass Bar 88.82 51 ⇑P **P 04 17 14.3 0.0**
baz=89
I13A Wildhorse Cree 88.85 40 ⇓P **P 04 17 14.8 +0.6**
baz=89
GDL2 Guadalupe Moun 88.93 54 *e*P **P 04 17 14.9 +0.1**
125A Gardner Draw, 88.94 53 ⇑P **P 04 17 14.3 -0.5**
baz=89
DIV Divide 88.95 14 *e*P **P 04 17 13.6 -0.5**
comp=Z,34nm,1.0s
427A Hayter Ranch, 88.97 55 ⇑P **P 04 17 14.8 -0.1**
baz=89
V22A San Miguel Ran 89.00 49 ⇑P **P 04 17 14.9 -0.2**
baz=89
Y24A Capitan 89.02 52 ⇑P **P 04 17 14.6 -0.7**
baz=89,SNR=11
BMRM Bremner River 89.08 15 *e*P **P 04 17 14.3 -0.4**
comp=Z,56nm,1.4s
528A Cox Ranch, San 89.10 56 ⇑P **P 04 17 15.3 -0.3**
baz=89
W23A Werner Place, 89.14 50 ⇑P **P 04 17 16.2 +0.4**
baz=89
H13A Challis 89.16 39 ⇓P **P 04 17 16.0 +0.4**
baz=89
Z25A Roswell 89.21 53 ⇓P **P 04 17 16.1 0.0**
baz=89
F12A Elk City 89.30 38 ⇓P **P 04 17 15.5 -0.7**
baz=90,SNR=7.4
S21A Coal Bank Pass 89.32 48 ⇓P **P 04 17 16.4 -0.3**
baz=90
V23A Ortiz Mt. (NFS 89.42 50 ⇑P **P 04 17 17.5 +0.4**
baz=90
428A Kincaid Ranch, 89.45 56 ⇑P **P 04 17 17.4 +0.2**
baz=90
G13A Cobalt 89.48 39 ⇓P **P 04 17 16.0 -1.0**
baz=90
E12A Beaver Dam Sad 89.53 37 ⇑P **P 04 17 15.8 -1.5**
baz=90
J15A Blackfoot 89.54 41 ⇓P **P 04 17 16.1 -1.3**
baz=90
Y25A Mesa, Roswell 89.55 52 ⇑P **P 04 17 16.8 -0.8**
baz=90
CMIG Matias Romero 89.55 71 P **P 04 17 17.4 -0.4**
comp=Z,3.7nm,0.8s,baz=132,slow=11,SNR=3.0
CMIG Matias Romero 89.55 71 P **P 04 17 17.4 -0.4**
ENH Enshi 89.56 304 *e*P **P 04 17 18.1 +0.5**
comp=Z,72nm,1.2s
W24A Lazy 6 Ranch, 89.69 51 ⇑P **P 04 17 18.1 -0.2**
baz=90
H14A Leadore 89.70 40 ⇓P **P 04 17 17.9 -0.3**
baz=90
U23A El Rito 89.72 49 ⇓P **P 04 17 18.0 -0.5**
baz=90
K16A Soda Springs 89.73 42 ⇑P **P 04 17 17.8 -0.6**
baz=90
Z26A Caprock 89.74 53 ⇓P **P 04 17 17.6 -0.9**
baz=90
BJT Baijiatuau 89.83 315 *e*P **P 04 17 18.4 -0.2**
NEW Newport 89.83 35 P **P 04 17 19.1 +0.6**
comp=Z,3.5nm,1.0s,baz=297,slow=3.2,SNR=3.6
NEW Newport 89.83 35 P **P 04 17 19.1 +0.6**
NEW Newport 89.83 35 ⇑P **P 04 17 18.0 -0.5**
baz=90
BJI Beijing 89.84 315 P **P 04 17 18.9 +0.3**
BJI pmax pmax
comp=Z,18nm,2.2s
BJI pmax pmax
comp=Z,310nm,4.4s
BJI LR LR
comp=N,610nm,20.3s
BJI LR LR
comp=E,260nm,20.3s
BJI LR LR
comp=Z,550nm,24.3s
F13A Darby 89.84 38 ⇑P **P 04 17 17.8 -0.9**
baz=90
R21A Cimarron 89.86 47 ⇓P **P 04 17 18.6 -0.6**
baz=90
I15A Monteview 89.86 40 ⇑P **P 04 17 18.4 -0.5**
baz=90
O19A Miners Draw (B 89.86 45 ⇓P **P 04 17 18.0 -1.0**
baz=90
M18A Lyman 89.88 44 ⇓P **P 04 17 18.6 -0.5**
baz=90
N18A Larsen Ranch, 89.88 44 ⇑P **P 04 17 18.3 -0.8**
baz=90
127A Arkansas Junct 89.90 54 ⇓P **P 04 17 18.4 -0.9**
baz=90
P20A De Beque 89.90 46 ⇑P **P 04 17 18.7 -0.6**
baz=90
J16A Bone 89.96 41 ⇓P **P 04 17 18.9 -0.6**
baz=90
429A Davenport Ranc 90.00 56 ⇑P **P 04 17 18.6 -1.1**
baz=90
G14A Jackson 90.01 39 ⇓P **P 04 17 19.5 -0.1**
baz=90
S22A 4UR Ranch, Cre 90.02 48 ⇓P **P 04 17 19.4 -0.5**
baz=90
C11A Tepee Creek (N 90.03 36 ⇓P **P 04 17 18.9 -0.6**
baz=90,SNR=9.1
D12A Red Ives Fores 90.03 37 ⇑P **P 04 17 19.0 -0.5**
baz=90
K17A Gardner Place, 90.09 42 ⇓P **P 04 17 19.4 -0.6**
baz=90
TNA Tin City 90.10 4 *e*P **P 04 17 19.3 +0.1**
comp=Z,13nm,1.1s
H15A Lima 90.12 40 ⇑P **P 04 17 19.9 -0.3**
baz=90
MCMT McKenzie Canyo 90.12 40 *e*P **P 04 17 20.2 0.0**
comp=Z,5.9nm,1.3s
TRF Thorofare Moun 90.14 11 *e*P **P 04 17 18.0 -1.7**
comp=Z,32nm,1.0s
530A J-C Ranch, Com 90.19 57 ⇓P **P 04 17 20.5 -0.1**
baz=90
SKAG Skagway 90.31 20 *e*P **P 04 17 21.6 +1.3**
comp=Z,80nm,1.7s
E13A Victor 90.31 38 ⇓P **P 04 17 20.5 -0.3**
baz=90
R22A Saguache, Gunn 90.32 48 ⇓P **P 04 17 21.2 -0.2**
baz=90
Z27A Tatum 90.32 53 ⇑P **P 04 17 21.0 -0.2**
baz=90
O20A White River Ci 90.34 45 ⇓P **P 04 17 21.2 -0.1**
baz=90
329A Wagon Wheel Ra 90.35 55 ⇑P **P 04 17 21.4 0.0**
baz=90
W25A X Bar L Ranch, 90.36 51 ⇓P **P 04 17 21.0 -0.4**
baz=90
I16A Newdale 90.38 41 ⇑P **P 04 17 21.3 0.0**
baz=91
F14A Wisdom 90.40 39 ⇑P **P 04 17 21.3 -0.1**
baz=91
REDW Red Top Meadow 90.47 42 *e*P **P 04 17 21.6 -0.2**
comp=Z,75nm,2.2s
TPAW Teton Pass 90.48 41 *e*P **P 04 17 22.1 +0.1**
comp=Z,22nm,1.5s
X26A CR and CF Fran 90.50 52 ⇓P **P 04 17 22.1 0.0**
baz=91
128A Castleberry Fa 90.52 54 ⇓P **P 04 17 21.9 -0.2**
baz=91
G15A Dillon 90.53 39 ⇓P **P 04 17 21.5 -0.5**
baz=91,SNR=8.7
Q22A Crested Butte, 90.54 47 ⇓P **P 04 17 21.9 -0.5**
baz=91
D13A Huson 90.55 37 ⇑P **P 04 17 21.1 -0.8**
baz=91
J17A Brown Place, J 90.56 42 ⇑P **P 04 17 21.5 -0.7**
baz=91
K18A Toltan Ranch, 90.56 43 ⇑P **P 04 17 22.0 -0.3**
baz=91
V25A Rancho No Teng 90.57 51 ⇓P **P 04 17 21.7 -0.7**
baz=91
DLMT Dillon 90.58 39 *e*P **P 04 17 22.2 +0.1**
comp=Z,22nm,1.6s
732A Laxson Ranch, 90.58 59 ⇓P **P 04 17 22.0 -0.4**
baz=91
SNOW Snow King Moun 90.59 42 *e*P **P 04 17 22.4 0.0**
comp=Z,17nm,1.2s
Y27A Causey 90.64 53 ⇑P **P 04 17 22.0 -0.7**
baz=91
PAX Paxson 90.65 14 *e*P **P 04 17 21.5 -0.5**
PAX pmax pmax
comp=Z,30nm,1.5s
PAX Paxson 90.65 14 *e*P **P 04 17 21.5 -0.5**
comp=Z,30nm,1.5s
SMCO Snowmass 90.67 47 *e*P P 04 17 28.0 +4.9
comp=Z,19nm,1.5s
MSO Missoula 90.67 38 *e*P P 04 17 29.3 +6.7
MSO Missoula 90.67 38 ⇑P **P 04 17 21.7 -0.8**
baz=91
E14A Clinton 90.68 38 ⇓P **P 04 17 22.2 -0.4**
baz=91
SEY Seymchan 90.69 346 ⇑*e*P **P 04 17 21.5 -0.5**
L19A Farson 90.69 43 ⇑P **P 04 17 22.0 -0.9**
baz=91
IMW Indian Meadow 90.72 41 *e*P **P 04 17 22.6 -0.5**
comp=Z,12nm,1.2s
MOOW Moose Ponds 90.75 41 *e*P **P 04 17 23.0 -0.1**
comp=Z,78nm,2.8s
LOHW Long Hollow 90.76 41 *e*P **P 04 17 23.0 -0.2**
comp=Z,78nm,2.6s
B12A Libby 90.77 36 ⇓P **P 04 17 22.6 -0.2**
baz=91
531A Rocksprings 90.81 57 ⇑P **P 04 17 22.7 -0.8**
baz=91
C13A Hot Springs 90.83 37 ⇑P **P 04 17 23.3 +0.1**
baz=91
J18A Kendall Valley 90.89 42 ⇓P **P 04 17 23.2 -0.6**
baz=91,SNR=13
F15A Butte 90.91 39 ⇓P **P 04 17 23.6 -0.3**
baz=91
R23A Moffat 90.92 48 ⇓P **P 04 17 23.7 -0.4**
baz=91
LRM Limekiln Ridge 90.93 39 *e*P **P 04 17 25.1 +1.1**
BW06 Boulder Array 90.93 43 *e*P **P 04 17 23.8 -0.2**
comp=Z,8.7nm,1.2s
BW06 Boulder Array 90.93 43 ⇑P **P 04 17 23.2 -0.8**
baz=91
PDAR Pinedale Array 90.93 43 P **P 04 17 23.1 -0.9**
comp=Z,1.9nm,0.9s,baz=223,slow=2.3,SNR=10
PDAR LR LR 04 49 57.6
comp=Z,484nm,21.8s,baz=249,slow=30
PDAR Pinedale Array 90.93 43 P **P 04 17 23.1 -0.9**
I17A Pilgrim Ck. 90.95 41 ⇑P **P 04 17 23.8 -0.2**
baz=91
QLMT Earthquake Lak 90.95 40 *e*P **P 04 17 24.2 +0.2**
G16A Moss Hill, Enn 90.96 40 ⇑P **P 04 17 23.2 -0.8**
baz=91
FLWY Flagg Ranch 90.97 41 *e*P **P 04 17 23.9 -0.2**
comp=Z,31nm,1.5s
129A Stewart Farms, 90.98 54 ⇑P **P 04 17 23.7 -0.6**
baz=91
H16A Russell Place, 90.99 40 ⇑P **P 04 17 24.1 -0.1**
baz=91,SNR=9.0
U25A Circle Dot Ran 90.99 50 ⇑P **P 04 17 23.9 -0.5**
baz=91
A12A Yaak River Ran 91.01 35 ⇑P **P 04 17 24.0 0.0**
baz=91
X27A F and S Farms, 91.06 52 ⇓P **P 04 17 24.2 -0.5**
baz=91
D14A Greenough 91.06 37 ⇓P **P 04 17 23.6 -0.7**
baz=91
632A Uvalde 91.08 58 ⇑P **P 04 17 24.0 -0.8**
baz=91
CHMT Chamberlain Mo 91.11 38 *e*P **P 04 17 24.0 -0.7**
V26A Tequesquite Ra 91.13 51 ⇓P **P 04 17 24.4 -0.5**
baz=91
H17A Grant Village 91.21 41 ⇑P **P 04 17 24.9 -0.4**
baz=91
DLBC Dease Lake 91.24 22 *e*P **P 04 17 24.8 -0.1**
L20A Wamsutter 91.28 44 ⇑P **P 04 17 25.3 -0.3**
baz=92
532A Rocksprings 91.28 57 ⇓P **P 04 17 24.9 -0.8**
baz=91
W27A Bowe Ranch, En 91.28 52 ⇑P **P 04 17 25.0 -0.7**
baz=92
I18A Diamond G Ranc 91.28 42 ⇑P **P 04 17 25.2 -0.4**

baz=92
BOZ Bozeman (W) 91.30 39 *e*P **P** 04 17 25.1 -0.5
BOZ pmax pmax
comp=Z,30nm,1.6s
BOZ Bozeman (W) 91.30 39 *e*P **P** 04 17 25.1 -0.5
comp=Z,30nm,1.6s
BOZ Bozeman (W) 91.30 39 ⇑P **P** 04 17 25.1 -0.5
baz=92,SNR=17
T25A Trinidad 91.36 49 ⇓P **P** 04 17 25.5 -0.6
baz=92
F16A Kennard Place, 91.38 39 ⇑P **P** 04 17 25.9 +0.1
baz=92
Z29A Hungry Hill Ra 91.40 54 ⇑P **P** 04 17 25.5 -0.7
baz=92
K19A Absolon Red Bu 91.40 43 ⇑P **P** 04 17 26.1 0.0
baz=92
LKWY Lake 91.41 41 *e*P **P** 04 17 26.9 +0.7
LKWY pmax pmax
comp=Z,20nm,1.4s
LKWY Lake 91.41 41 *e*P **P** 04 17 26.9 +0.7
comp=Z,20nm,1.4s
R24A Sanders Place, 91.43 48 ⇓P **P** 04 17 26.5 +0.1
baz=92
U26A Atchley Ranch, 91.45 50 ⇑P **P** 04 17 26.4 -0.1
baz=92
J19A Crowheart 91.51 42 ⇓P **P** 04 17 26.5 -0.1
baz=92
P23A Jefferson 91.52 47 ⇑P **P** 04 17 26.9 -0.1
baz=92
D15A Lincoln 91.59 38 ⇓P **P** 04 17 27.1 +0.2
baz=92
S25A Robets Cordova 91.60 49 ⇓P **P** 04 17 26.9 -0.3
baz=92
K20A Yellowstone Ra 91.63 43 ⇓P **P** 04 17 27.3 +0.1
baz=92
432A Menard 91.71 57 ⇓P **P** 04 17 27.2 -0.5
baz=92
E16A East Helena 91.78 39 ⇓P **P** 04 17 27.7 0.0
baz=92
XAN Xi'an 91.78 307 P **P** 04 17 28.6 +0.7
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,57nm,7.7s
HRY Holter Researc 91.79 38 *e*P **P** 04 17 27.6 -0.1
COLA College 91.88 12 *e*P **P** 04 17 26.1 -1.4
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 91.88 12 *e*P **P** 04 17 26.1 -1.4
comp=Z,9.6nm,0.9s
O23A Lake Granby, G 91.90 46 ⇑P **P** 04 17 28.3 -0.4
baz=92
H18A Shoshone NF, C 91.91 41 ⇑P **P** 04 17 28.8 +0.2
baz=92
B14A Marquette Ranc 91.94 37 ⇑P **P** 04 17 27.3 -1.2
baz=92,SNR=8.5
C15A Salmond Ranch, 91.96 37 ⇑P **P** 04 17 27.8 -0.8
baz=92
I19A Meeteetse 91.97 42 ⇑P **P** 04 17 27.4 -1.4
baz=92
ILAR Eielson Array 91.97 12 P **P** 04 17 26.8 -1.2
comp=Z,2.8nm,0.9s,baz=219,slow=5.6,SNR=22
ILAR LR LR 04 57 34.7
comp=Z,482nm,19.3s,baz=27,slow=35
ILAR Eielson Array 91.97 12 P **P** 04 17 26.8 -1.2
F17A Fitzpatrick Pl 92.01 40 ⇓P **P** 04 17 27.9 -0.9
baz=92
D16A Dana Ranch, Ca 92.13 38 ⇑P **P** 04 17 28.9 -0.4
baz=92
J20A Shoshoni 92.16 43 ⇓P **P** 04 17 29.0 -0.6
baz=92
A14A Double T Ranch 92.22 36 ⇓P **P** 04 17 28.7 -1.0
baz=92,SNR=7.4
S26A Kim 92.25 49 ⇑P **P** 04 17 29.5 -0.6
baz=92
K21A Alcova 92.30 44 ⇑P **P** 04 17 29.5 -0.8
baz=92
H19A Powell 92.31 41 ⇓P **P** 04 17 30.1 -0.1
baz=92
G18A Lazy EL Ranch, 92.32 40 ⇓P **P** 04 17 30.4 +0.1
baz=92
RLMT Red Lodge 92.39 41 *e*P P 04 17 34.0 +3.4
RLMT Red Lodge 92.39 41 ⇓P **P** 04 17 29.8 -0.8
baz=93
I20A Worland 92.45 42 ⇑P **P** 04 17 30.1 -0.8
baz=93
C16A Fuhringer Ranc 92.46 38 ⇓P **P** 04 17 30.7 -0.1
baz=93
KMI Kunming 92.52 296 P **P** 04 17 33.6 +1.8
KMI pmax pmax
comp=Z,14nm,1.3s
KMI LR LR
comp=Z,220nm,30.1s
GCMT Greycliff 92.52 40 *e*P **P** 04 17 31.6 +0.4
comp=Z,13nm,1.5s
J21A Lysite 92.55 43 ⇓P **P** 04 17 30.3 -1.1
baz=93
F18A Big Timber 92.55 40 ⇑P **P** 04 17 30.8 -0.4
baz=93
A15A Johnson Ranch, 92.59 36 ⇑P **P** 04 17 30.3 -1.1
baz=93
R26A Arlington 92.60 49 ⇓P **P** 04 17 31.1 -0.6
baz=93
ABTX Abilene, Hawle 92.63 55 ⇓P **P** 04 17 30.7 -1.2
baz=93
D17A Six Diamond Ra 92.69 39 ⇓P **P** 04 17 30.9 -1.0
baz=93,SNR=11
E18A Harlowton 92.80 39 ⇑P **P** 04 17 32.2 -0.2
baz=93
H20A Greybull 92.81 42 ⇓P **P** 04 17 31.8 -0.7
baz=93
CMAR Chiang Mai Arr 92.87 289 P **P** 04 17 35.0 +1.8
comp=Z,9.1nm,0.8s,baz=142,slow=3.3,SNR=23
CMAR LR LR 04 55 41.7
comp=Z,254nm,21.0s,baz=190,slow=33
CMAR Chiang Mai Arr 92.87 289 P **P** 04 17 35.0 +1.8
HIA Hailar 92.88 324 *e*P **P** 04 17 32.7 +0.2
I21A Big Trails, Te 92.89 43 ⇓P **P** 04 17 31.7 -1.2
baz=93
C17A Wharram Farm, 92.91 38 ⇓P **P** 04 17 31.7 -1.1
baz=93,SNR=11
F19A Roth Farm, Mol 92.98 40 ⇓P **P** 04 17 32.8 -0.5
baz=93
DAWY Dawson 92.98 15 *e*P **P** 04 17 32.4 -0.4
CHTO Chiang Mai 93.02 289 *e*P **P** 04 17 35.3 +1.4
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 93.02 289 *e*P **P** 04 17 35.3 +1.4
comp=Z,13nm,0.9s
EGAK Eagle 93.17 14 *e*P **P** 04 17 32.8 -0.7
comp=Z,22nm,1.4s
J22A Midwest 93.19 43 ⇓P **P** 04 17 33.3 -1.0
baz=93
A16A West Butte Ran 93.19 37 ⇓P **P** 04 17 33.5 -0.6
baz=93
BILL Bilibino 93.25 354 *e*P **P** 04 17 33.5 -0.3
BILL pmax pmax
comp=Z,14nm,0.9s
BILL Bilibino 93.25 354 *e*P **P** 04 17 33.5 -0.3
comp=Z,14nm,0.9s
E19A Rath Farm, Rou 93.40 40 ⇓P **P** 04 17 35.1 0.0
baz=94
F20A Billings 93.42 41 ⇑P **P** 04 17 35.1 -0.2
baz=94
I22A 9 Mile Ranch, 93.43 43 ⇓P **P** 04 17 35.2 -0.2
baz=94
A17A Triple J Farms 93.68 37 ⇓P **P** 04 17 36.4 0.0
baz=94
D19A Cripps Ranch, 93.72 39 ⇓P **P** 04 17 36.3 -0.3
baz=94
E20A Meyer Farm, Mu 93.81 40 ⇓P **P** 04 17 37.1 +0.1
baz=94
C19A Slack Wire Ran 93.93 39 ⇓P **P** 04 17 37.6 0.0
baz=94
F23A Volborg 95.02 42 ⇑P **P** 04 17 42.5 -0.1
baz=95
H24A Dirks Ranch, A 95.06 43 ⇑P **P** 04 17 42.4 -0.4
baz=95
RSSD Black Hills 95.07 44 *e*P **P** 04 17 42.1 -0.9
RSSD pmax pmax
comp=Z,10.0nm,1.2s
RSSD Black Hills 95.07 44 *e*P **P** 04 17 42.1 -0.9
comp=Z,9.9nm,1.2s
A20A Cobblestone Ra 95.18 38 ⇑P **P** 04 17 43.9 +0.7
baz=95
D24A Glendive 96.36 41 ⇓P **P** 04 17 49.4 +0.8
baz=97
LZH Lanzhou 96.42 307 *e*P **P** 04 17 51.2 +1.9
LZH pP **pP** 04 18 03.8 +1.4
LZH sP **sP** 04 18 08.7 +1.5
LZH pmax pmax
comp=Z,17nm,1.0s
LPAZ La Paz 99.12 113 LR LR 04 54 54.8
comp=Z,412nm,19.7s,baz=185,slow=31
YKA Yellowknife Ar 99.60 25 P **Pdif** 04 18 01.1 -1.6
comp=Z,0.4nm,0.9s,baz=234,slow=4.2,SNR=6.9
YKA PKKPbc **PKKPbc** 04 34 28.9 +2.2
comp=Z,0.3nm,0.5s,baz=41,slow=2.3,SNR=4.4
YKA Yellowknife Ar 99.60 25 P **Pdif** 04 18 01.1 -1.6
YKA PKKPbc **PKKPbc** 04 34 28.9 +2.2
SONM Songino Array 99.80 318 P **Pdif** 04 18 05.4 +1.2
comp=Z,1.6nm,0.9s,baz=135,slow=5.0,SNR=9.4
SONM LR LR 05 01 13.3
comp=Z,401nm,21.8s,baz=276,slow=34
SONM Songino Array 99.80 318 P **Pdif** 04 18 05.4 +1.2
ZAK Zakamensk 102.72 320 *e*P **Pdif** 04 18 16.2 -0.8
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZALV Zalesovo Beam 114.59 320 PKP PKPdf 04 22 58.0 -1.6
comp=Z,1.1nm,0.5s,baz=129,slow=2.1,SNR=6.1
ZALV Zalesovo Beam 114.59 320 PKIKP PKPdf 04 22 58.0 -1.6
ZALV Zalesovo Beam 114.59 320 PKP PKPdf 04 22 58.0 -1.6
MK31 Makanchi Array 115.06 312 *e*PKIKP **PKPdf** 04 22 58.8 -2.0
MK31 Makanchi Array 115.06 312 *e*PKPdf **PKPdf** 04 22 58.8 -2.0
MKAR Makanchi Array 115.06 312 PKP **PKPdf** 04 22 59.3 -1.5
comp=Z,1.2nm,0.7s,baz=137,slow=0.6,SNR=12
MKAR Makanchi Array 115.06 312 PKIKP **PKPdf** 04 22 59.3 -1.5
MKAR Makanchi Array 115.06 312 PKP **PKPdf** 04 22 59.3 -1.5
NVS Novosibirsk 115.63 321 *e*PKIKP **PKPdf** 04 22 58.6 -2.9
KURK Kurchatov 117.99 316 ⇑*i*PKIKP **PKPdf** 04 23 05.4 -0.8
KURK pmax pmax
comp=Z,9.0nm,2.5s
KURK Kurchatov 117.99 316 *e*PKPdf **PKPdf** 04 23 04.3 -1.9
OPO Ambohidratompo119.64 229 PKP **PKPdf** 04 23 11.8 +1.1
comp=Z,0.5nm,0.2s,baz=173,slow=16,SNR=3.8
OPO Ambohidratompo119.64 229 PKP **PKPdf** 04 23 11.8 +1.1
SCHQ Schefferville 120.92 39 PKP **PKPdf** 04 23 11.1 -0.6
comp=Z,2.3nm,0.9s,baz=212,slow=9.7,SNR=2.9
SCHQ Schefferville 120.92 39 PKP **PKPdf** 04 23 11.1 -0.6
SUR Sutherland 121.01 197 PKP **PKPdf** 04 23 14.6 +1.6
comp=Z,6.9nm,0.7s,baz=151,slow=6.0,SNR=6.7
SUR Sutherland 121.01 197 PKP **PKPdf** 04 23 14.6 +1.6
KKAR Karatay Array 122.92 307 *e*PKIKP **PKPdf** 04 23 14.8 -1.2
KKAR Karatay Array 122.92 307 *e*PKPdf **PKPdf** 04 23 14.8 -1.2
KBL Kabul 123.10 296 *e*PKIKP **PKPdf** 04 23 16.3 -0.6
KBL Kabul 123.10 296 *e*PKPdf **PKPdf** 04 23 16.3 -0.6
BOSA Boshof 123.14 203 PKP **PKPdf** 04 23 18.9 +1.7
comp=Z,5.0nm,0.9s,baz=138,slow=1.2,SNR=6.6
BOSA Boshof 123.14 203 PKP **PKPdf** 04 23 18.9 +1.7
BVAR Borovoye Array 123.14 318 PKP **PKPdf** 04 23 15.2 -0.9
comp=Z,2.4nm,0.7s,baz=90,slow=3.0,SNR=13
BVAR Borovoye Array 123.14 318 PKIKP **PKPdf** 04 23 15.2 -0.9
BVAR Borovoye Array 123.14 318 PKP **PKPdf** 04 23 15.2 -0.9
BRVK Borovoye 123.21 319 ⇑*i*PKIKP **PKPdf** 04 23 15.1 -1.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 126.64 6 *i* P **PKPdf** 04 23 20.6 -1.5
comp=Z,14nm,1.0s
SUMG Summit 126.75 15 *i* P **PKPdf** 04 23 22.8 -0.2
comp=Z,3.9nm,1.1s
ARU Arti 129.39 324 *i* PKIKP **PKPdf** 04 23 27.1 -0.8
ARU 04 25 35.8
ARU SS SS 04 42 53.7 -2.5
ARU MLR MLR
comp=Z,553nm,20.0s
ARU Arti 129.39 324 *e*PKPdf **PKPdf** 04 23 27.3 -0.6
ARCES ARCESS Array B 133.20 350 PKP **PKPdf** 04 23 34.9 +0.1
comp=Z,3.5nm,0.6s,baz=72,slow=1.1,SNR=18
ARCES ARCESS Array B 133.20 350 PKP **PKPdf** 04 23 34.9 +0.1
LSZ Lusaka 133.68 214 *e*PKPdf **PKPdf** 04 23 38.0 +0.5
KLMR Klimovskoe 136.21 335 *e*PKIKP **PKPdf** 04 23 41.4 +0.8
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR MLR MLR
comp=Z,978nm,24.0s
KMBO Kilima Mbogo 138.56 237 *e*PKPdf **PKPdf** 04 23 46.9 +0.1
FINES FINESS Array B 140.11 343 PKHKP PKPpre 04 23 39.0
comp=Z,1.0nm,0.6s,baz=62,slow=4.5,SNR=5.5
FINES PKP **PKiKP** 04 23 49.1 -1.2
comp=Z,2.2nm,0.6s,baz=45,slow=3.2,SNR=6.9
FINES FINESS Array B 140.11 343 PKPpre PKPpre 04 23 39.0
FINES PKP **PKiKP** 04 23 49.1 -1.2
VRHR Novokhopersk 140.67 322 *e*PKIKP **PKPdf** 04 23 51.9 +2.8
VRHR pmax pmax
comp=Z,4.0nm,0.3s
VRHR pmax pmax
comp=N,3.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.5s
OBN Obninsk 141.05 330 *i* PKIKP **PKPdf** 04 23 51.0 +1.4
OBN pmax pmax
comp=Z,19nm,1.5s
OBN MLR MLR
comp=Z,500nm,18.0s
VSR Storozhevoye 141.96 324 *e*PKIKP **PKPdf** 04 23 52.2 +0.8
VSR pmax pmax
comp=Z,5.0nm,0.9s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.7s
VORD Divnogorie 142.02 323 *e*PKIKP **PKPdf** 04 23 50.8 -0.7
VORD pmax pmax
comp=Z,3.0nm,0.7s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,1.6s
KIV Kislovodsk 142.82 311 *i* PKIKP **PKPdf** 04 23 56.5 +3.2
KIV *e* 04 27 00.5
KIV *e*SS SS 04 45 35.3 -2.2
KIV *e*SSS SSS 04 51 01.5
KIV pmax pmax
comp=Z,6.0nm,1.1s
NB2 NORSAR Subarra143.20 354 PKP PKPab 04 23 48.9 -0.2
comp=Z,1.7nm,0.7s,baz=13,slow=3.4
NOA NORSAR Array B143.20 354 PKHKP PKPpre 04 23 49.5
comp=Z,3.9nm,0.9s,baz=10.0,slow=2.3,SNR=9.1
NOA NORSAR Array B143.20 354 PKPpre PKPpre 04 23 49.5
KARS Kars 143.46 306 *e*P PKPbc 04 23 52.0 +0.1
DAGI Agillar 144.20 307 *i* P PKPbc 04 23 53.8 -0.3
DBOC Borcka 144.31 307 *i* P **PKPab** 04 23 52.7 -1.3
BCA Borcka 144.31 307 *e*P **PKPab** 04 23 53.8 -0.2
DDEM Demirkent 144.37 307 *i* P PKPbc 04 23 54.6 -0.1
ERZM Erzurum 144.90 305 *i* P PKPbc 04 23 56.5 -0.1
EZM Erzurum 144.90 305 *e*P **PKPdf** 04 23 57.7 +0.4
SOC Sochi 144.97 312 *i* PKIKP PKPbc 04 23 55.9 -0.4
SOC *e*PPP PPP 04 30 34.9
SOC pmax pmax
comp=Z,32nm,1.1s
VRTB Varto-Mus 145.01 304 *e*P **PKPdf** 04 23 58.5 +1.1
NACGM Naroch 145.22 337 *e*P **PKPbc** 04 23 54.0 -2.7
BNGL BINGOL 145.29 303 *i* P **PKPab** 04 23 58.5 +0.5
BNGB Bingℸll 145.64 304 *e*P **PKPdf** 04 23 58.2 -0.2
BAYT Ayd¬ntepe-Bay 145.68 306 *e*P **PKPab** 04 23 59.9 +0.6
GUMT Gumushane 146.15 307 *e*P **PKPab** 04 24 00.8 -0.2
ERZN Erzincan 146.21 305 *e*P **PKPab** 04 24 02.9 +1.6
DIYA Diyarbakir 146.31 302 *i* P **PKPbc** 04 24 01.1 +0.3
KELT Kelkit 146.40 306 *i* P **PKPab** 04 24 02.0 -0.1
SVRC Sivrice-ELAZID 146.83 303 *e*P **PKPab** 04 24 03.6 -0.1
GRSN GIRESUNGRSN 146.88 308 *i* P **PKPab** 04 24 04.4 +0.7
ILIC ilic-Erzincan 147.10 305 *e*P **PKPab** 04 24 04.2 -0.6
SUW Suwalki 147.18 339 *e*PKP **PKPbc** 04 24 02.5 -0.1
SUW Suwalki 147.18 339 *e*PKP2 **PKPbc** 04 24 02.2 -0.4
SUW Suwalki 147.18 339 *e*PKPbc **PKPbc** 04 24 02.2 -0.4
SUW Suwalki 147.18 339 *e*PKP **PKPbc** 04 24 02.5 -0.1
KEMA Kemaliye 147.21 305 *i* P **PKPdf** 04 24 00.9 -0.2
AKASG Malin Array Be 147.30 329 PKPbc **PKPbc** 04 24 01.9 -1.1
comp=Z,8.3nm,0.6s,baz=41,slow=3.4,SNR=28
AKASG Malin Array Be 147.30 329 PKP2 **PKPbc** 04 24 02.0 -1.1
AKASG Malin Array Be 147.30 329 PKPbc **PKPbc** 04 24 01.9 -1.1
AK01 Malin Array Si 147.31 329 *e*PKPdf **PKPdf** 04 24 01.7 +1.0
KIEV Kiev 147.31 329 *e*PKP2 **PKPbc** 04 24 01.9 -1.2
KIEV Kiev 147.31 329 *e*PKPbc **PKPbc** 04 24 01.9 -1.2
AK02 Malin Array Si 147.34 329 *e*PKPbc **PKPbc** 04 24 02.1 -1.1
URFA Urfa 147.42 302 *e*P **PKPbc** 04 24 04.4 +0.4
MALT Malatya 147.51 303 *e*P PKPab 04 24 15.7 +9.3
AKCD Akcadag 147.90 303 *i* P **PKPbc** 04 24 05.9 +0.6
MUD Monsted U'grnd 147.92 354 *i* P **PKPbc** 04 24 04.8 +0.3
comp=Z,23nm,1.0s
SIM Simferopol' 148.04 317 *e*PKP2 **PKPab** 04 24 08.0 -0.1
SIM *e* 04 27 38.0
SIM pmax pmax
comp=Z,18nm,0.8s
SIM pmax pmax
comp=Z,270nm,22.8s
ERBA Erbaa 148.05 308 *i* P **PKPbc** 04 24 05.7 +0.2
COP Copenhagen 148.28 350 *i* P **PKPbc** 04 24 06.7 +1.2
comp=Z,20nm,0.9s
BSD Bornholm Skovb 148.39 348 *i* P **PKPbc** 04 24 05.3 -0.5
comp=Z,24nm,1.0s
GZT Gaziantep 148.41 302 *i* P **PKPbc** 04 24 07.0 +0.3
CTKT Corum 149.46 309 *i* P **PKPbc** 04 24 09.0 -0.3
GKP Gorka Klasztor 149.58 344 *e*PKP **PKPab** 04 24 13.8 -0.2
GKP Gorka Klasztor 149.58 344 *e*PKP **PKPab** 04 24 13.8 -0.2
CORM Corum 149.74 308 *e*P **PKPbc** 04 24 10.6 +0.7
BEL Belsk 149.80 339 *e*PKP **PKPbc** 04 24 09.8 +0.3
BEL Belsk 149.80 339 *e*PKP **PKPbc** 04 24 09.8 +0.3
TOS Tosya 149.84 310 *e*P **PKPbc** 04 24 09.8 -0.3
ASF Jabal al Asfar 149.85 292 PKPbc **PKPbc** 04 24 10.8 +0.4
comp=Z,1.8nm,0.6s,baz=29,slow=7.5,SNR=5.9
ASF Jabal al Asfar 149.85 292 PKPbc **PKPbc** 04 24 10.8 +0.4
KIS Kishinev 149.94 324 *e*PKP2 **PKPbc** 04 24 10.0 0.0
KIS MLR MLR
comp=N,1μm,22.0s
KIS MLR MLR
comp=Z,900nm,22.0s
KIS MLR MLR
comp=Z,900nm,22.0s
KIS Kishinev 149.94 324 *e*PKP **PKPbc** 04 24 10.0 0.0
KIS Kishinev 149.94 324 *e*PKP2 PKPab 04 24 28.0 +12
KIS *e*L L 05 22 34.0
KIS LRM MLR 05 30 06.0
comp=Z,900nm,22.0s
AVNT Avonos 150.06 306 *i* P **PKPbc** 04 24 09.6 -1.2
BALT Daday 150.07 312 *i* P **PKPbc** 04 24 12.8 +2.0
CDAG Cicekdag 150.13 308 *i* P **PKPab** 04 24 18.6 +1.7
LVV L'vov 150.22 333 *e*PKIKP **PKPbc** 04 24 09.5 -1.1
BSEG Bad Segeberg 150.27 352 *e*PKPbc **PKPbc** 04 24 10.1 -0.4
GULE Gulek 150.57 303 *i* P **PKPbc** 04 24 12.4 +0.3
BR131 Keskin Array S 150.62 308 *e*PKPdf **PKPdf** 04 24 06.3 -0.3
BR131 *e*PKPbc **PKPbc** 04 24 11.7 -0.4
BRTR Keskin Array B 150.62 308 PKP **PKPdf** 04 24 05.2 -1.4
comp=Z,5.9nm,1.0s,baz=136,slow=3.4,SNR=16
BRTR PKPbc **PKPbc** 04 24 11.3 -0.8
comp=Z,4.0nm,0.8s,baz=143,slow=5.2,SNR=17
BRTR Keskin Array B 150.62 308 PKP **PKPdf** 04 24 05.2 -1.4
BRTR PKPbc **PKPbc** 04 24 11.3 -0.8
SAFT Safranbolu 150.67 312 *e*P **PKPbc** 04 24 11.9 -0.1
KWP Kalwaria Pacla 150.91 334 *e*PKP **PKPbc** 04 24 12.3 0.0
KWP Kalwaria Pacla 150.91 334 *e*PKIKP **PKPbc** 04 24 12.2 0.0
KWP Kalwaria Pacla 150.91 334 *e*PKPbc **PKPbc** 04 24 12.2 0.0
KWP Kalwaria Pacla 150.91 334 *e*PKP **PKPbc** 04 24 12.3 0.0
BBAL Bala 151.05 308 *i* P **PKPbc** 04 24 12.7 -0.4
TLCR 151.06 322 ⇑PKIKP **PKPbc** 04 24 13.8 +1.1
TLCR 151.06 322 ⇑*i*P **PKPbc** 04 24 13.8 +1.1
RUE Ruedersdorf 151.10 347 *e*PKPbc **PKPbc** 04 24 12.0 -0.5
AFSR Af¯ar-Bala (A 151.13 308 *e*P **PKPbc** 04 24 11.6 -1.6
GHRR 151.29 324 ⇓*i*P **PKPbc** 04 24 15.0 +1.8
BUR08 Bucovina Ar. S 151.32 329 *e*PKPbc **PKPbc** 04 24 13.6 +0.1
BURAR Bucovina Array 151.34 329 ⇓*i*P **PKPbc** 04 24 13.8 +0.4
TESR 151.39 326 ⇓*i*P **PKPbc** 04 24 13.1 -0.4
CFR Carcaliu 151.45 322 ⇑PKIKP **PKPbc** 04 24 15.1 +1.5
CFR Carcaliu 151.45 322 ⇑*i*P **PKPbc** 04 24 15.1 +1.5
OJC Ojcow 151.50 338 *i* PKIKP **PKPbc** 04 24 12.9 -0.7
OJC *e* 04 24 20.1
OJC Ojcow 151.50 338 *e*PKiKP **PKPbc** 04 24 12.9 -0.7
OJC *e*PKPab **PKPab** 04 24 20.1 -2.0
KOLS Kolonicke sedl 151.63 334 *e*PKIKP **PKPbc** 04 24 14.4 +0.4
KOLS Kolonicke sedl 151.63 334 *e*PKP **PKPbc** 04 24 14.4 +0.4
NRDL Niedersach Rie 151.71 352 *e*PKPbc **PKPbc** 04 24 13.3 -0.6
TIRR Tirgusor 151.73 321 *e*PKIKP **PKPbc** 04 24 13.8 -0.5
TIRR Tirgusor 151.73 321 *e*PKPbc **PKPbc** 04 24 13.8 -0.5
TIRR Tirgusor 151.73 321 ⇓*i*P **PKPbc** 04 24 14.1 -0.2
VRI Vrincioaia 151.78 325 ⇑PKIKP **PKPbc** 04 24 14.4 0.0
VRI Vrincioaia 151.78 325 ⇑*i*P **PKPbc** 04 24 14.4 0.0
PLOR Plostina 151.83 325 ⇑PKIKP **PKPbc** 04 24 14.3 -0.3
PLOR Plostina 151.83 325 ⇑*i*P **PKPbc** 04 24 14.3 -0.3
UZH Uzhgorod 151.86 333 *e*PKIKP **PKPbc** 04 24 14.3 -0.2
UZH *e* 04 24 21.0
UZH *i* 04 24 24.3
UZH *i* 04 24 30.0
CRVS Cervenica-Dubn 151.98 335 *e*PKIKP **PKPbc** 04 24 14.6 -0.2
CRVS *e* 04 24 27.1
CRVS Cervenica-Dubn 151.98 335 *e*PKP **PKPbc** 04 24 14.6 -0.2
CRVS *e* 04 24 27.1
NIE Niedzica 151.99 336 *i* PKIKP **PKPbc** 04 24 15.0 +0.2
NIE Niedzica 151.99 336 *e*PKiKP **PKPbc** 04 24 15.0 +0.2
MDUB Mudurnu 152.03 311 *e*P **PKPbc** 04 24 14.6 -0.7
KSP Ksiaz 152.03 343 *e*PKP **PKPbc** 04 24 14.8 0.0
KSP Ksiaz 152.03 343 *e*PKIKP **PKPdf** 04 24 07.8 -0.4
KSP *e* 04 24 14.3
KSP Ksiaz 152.03 343 *e*PKP **PKPbc** 04 24 14.8 0.0
IBBN Ibbenburen 152.15 355 *e*PKPbc **PKPbc** 04 24 14.8 -0.2
IBBN *e*PKPab **PKPab** 04 24 24.3 -0.4
KONT Konya--Tatoy 152.19 305 *e*P **PKPab** 04 24 23.7 -1.7
ERMK Ermenek 152.19 302 *i* P **PKPbc** 04 24 15.5 -0.4
KIZT Kizilcal 152.20 308 *e*P **PKPbc** 04 24 15.2 -0.5
SVRH Sivrihisar-ESK 152.23 309 *e*P **PKPdf** 04 24 12.1 +3.1
CLZ Clausthal 152.31 351 *e*PKPbc **PKPbc** 04 24 15.3 -0.1
CLL Collm 152.37 347 *i* PKIKP **PKPbc** 04 24 14.8 -0.7
CLL *i* 04 24 19.5
CLL *i* 04 24 24.3
CLL *e* 04 28 02.0
CLL pmax pmax
comp=Z,16nm,0.9s
CLL pmax pmax
comp=Z,32nm,1.2s
CLL MLR MLR
comp=Z,500nm,19.1s
CLL Collm 152.37 347 *e*PKPbc **PKPbc** 04 24 15.1 -0.4
OKC Ostrava-Krasne 152.38 339 AMS AMS 05 32 30.0
comp=Z,800nm,19.2s
UPC Upice 152.41 343 *e*PKIKP **PKPbc** 04 24 15.5 -0.2
UPC *e* 04 24 25.8
UPC Upice 152.41 343 ⇑*e*PKP **PKPbc** 04 24 15.5 -0.2
UPC *e*PKPAB **PKPab** 04 24 25.8 -0.1
MLR Muntele Rosu 152.44 325 ⇑*i*P **PKPbc** 04 24 15.9 -0.2
DPC Dobruska-Polom 152.47 342 *e*PKIKP **PKPbc** 04 24 15.9 +0.1
DPC *e* 04 24 26.2
DPC Dobruska-Polom 152.47 342 ⇑*e*PKP **PKPbc** 04 24 15.9 +0.1
DPC *e*PKPAB **PKPab** 04 24 26.2 0.0
DPC *e*SPKP 04 24 43.1
BRG Berggiesshubel 152.58 346 *e*PKP **PKPbc** 04 24 15.8 -0.2
comp=Z,21nm,1.3s
BRG *i* 04 24 31.9
comp=Z,23nm,1.1s
BRG PP PP 04 27 51.0 -7.6
BRG
comp=E,551nm,26.6s
BRG
comp=Z,570nm,22.0s
BRG Berggiesshubel 152.58 346 *e*PKIKP **PKPbc** 04 24 15.8 -0.2
BRG *i* 04 24 31.9
BRG pmax pmax
comp=Z,21nm,1.3s
BRG MLR MLR
comp=E,551nm,26.6s
BRG MLR MLR
comp=Z,570nm,22.0s
BRG Berggiesshubel 152.58 346 *e*PKPbc **PKPbc** 04 24 15.4 -0.6
BRG *e*PKPab **PKPab** 04 24 26.3 -0.2
MORC Moravsky Berou 152.62 340 *e*PKIKP **PKPdf** 04 24 09.8 +0.6
MORC Moravsky Berou 152.62 340 *e*PKPdf **PKPdf** 04 24 09.8 +0.6
MORC Moravsky Berou 152.62 340 ⇓*i*P **PKPbc** 04 24 16.1 -0.1
PVCC Panska Ves 152.76 345 *e*PKIKP **PKPbc** 04 24 16.5 +0.1
PVCC *e* 04 24 26.7
PVCC *e* 04 24 32.7
PVCC Panska Ves 152.76 345 ⇑*e*PKP **PKPbc** 04 24 16.5 +0.1
PVCC *e*PKPAB **PKPab** 04 24 26.7 -0.6
PVCC *e*pPKP pPKPdf 04 24 32.7 +10
VOIR 152.94 326 ⇑PKIKP **PKPbc** 04 24 18.0 +0.9
VOIR 152.94 326 ⇑*i*P **PKPbc** 04 24 18.0 +0.9
ARR Arges 153.20 326 ⇑*i*P **PKPbc** 04 24 18.5 +0.8
PRU Pruhonice 153.26 344 *e*PKIKP **PKPbc** 04 24 16.8 -0.7
PRU *e* 04 24 30.6
PRU MLR MLR
comp=Z,500nm,16.4s
PRU Pruhonice 153.26 344 ⇑*e*PKP **PKPbc** 04 24 16.8 -0.7
PRU *e*PKPAB **PKPab** 04 24 30.6 +1.2
PRU AMS AMS 05 36 10.0
comp=Z,500nm,16.4s
MOX Moxa 153.27 349 *e*PKPbc **PKPbc** 04 24 17.1 -0.5
VYHS Vyhne 153.30 337 *e*PKIKP **PKPbc** 04 24 17.4 -0.3

VYHS				*e*			04 24 29.7		
VYHS	**Vyhne**	**153.30**	**337**	*e*PKP		**PKPbc**	**04 24 17.4**	**-0.3**
VYHS				*e*			04 24 29.7		
VRAC	**Vranov**	**153.32**	**341**	*ǁi*P		**PKPab**	**04 24 30.3**	**+0.6**
TANN	**Tannenbergstha**	**153.33**	**347**	*e*PKPab		**PKPab**	**04 24 29.1**	**-0.7**
NKC	**Novy Kostel**	**153.50**	**347**	*e*PKIKP		**PKPbc**	**04 24 20.4**	**+2.3**
NKC				*e*			04 24 30.3		
NKC				MLR		MLR			
	comp=Z,600nm,20.7s								
NKC	**Novy Kostel**	**153.50**	**347ǁ**	*e*PKP		**PKPbc**	**04 24 20.4**	**+2.3**
NKC				*e*PKPAB		**PKPab**	**04 24 30.3**	**-0.2**
NKC				AMS		AMS	05 40 50.0		
	comp=Z,600nm,20.7s								
ARMT	**Armutlu**	**153.56**	**313**	*e*P		**PKPdf**	**04 24 06.2**	**-4.6**
TREC	**Trest**	**153.65**	**342**	AMS		AMS	05 42 10.0		
	comp=Z,800nm,21.1s								
TVSB	**Tavsanli**	**153.67**	**310**	*e*P		**PKPbc**	**04 24 18.3**	**-0.6**
ROTZ	**Rotzenmuhle**	**154.00**	**347**	*e*PKPab		**PKPab**	**04 24 31.2**	**-1.4**
TNS	**Taunus Mts**	**154.15**	**353**	*e*PKPbc		**PKPbc**	**04 24 19.1**	**-0.4**
TNS				*e*PKPab		**PKPab**	**04 24 32.5**	**-0.7**
GRF	**Grafenberg Arr**	**154.26**	**349**	*e*PKPab		**PKPab**	**04 24 33.4**	**-0.3**
GRF				*e*L		L	05 44 49.4		
	comp=Z,479nm,18.3s								
KHC	**Kasperske Hory**	**154.29**	**345**	*e*PKIKP		**PKPdf**	**04 24 11.1**	**-0.5**
KHC				*e*			04 24 19.7		
KHC				*e*			04 24 33.8		
KHC	**Kasperske Hory**	**154.29**	**345**	*e*PKPdf		**PKPdf**	**04 24 11.1**	**-0.5**
KHC				*e*PKPbc		**PKPbc**	**04 24 19.7**	**-0.1**
KHC				*e*PKPab		**PKPab**	**04 24 33.8**	**-0.1**
KHC	**Kasperske Hory**	**154.29**	**345ǁ**	*e*PKP		**PKPbc**	**04 24 19.3**	**-0.6**
KHC				*e*PKPAB		**PKPab**	**04 24 33.6**	**-0.3**
KHC				*ep*PKP		pPKPdf	04 24 45.5	+20
KHC				AMS		AMS	05 40 40.0		
	comp=Z,600nm,21.0s								
WET	**Wettzell**	**154.44**	**346**	*e*PKPab		**PKPab**	**04 24 34.4**	**-0.1**
GERES	**GERESS Array B**	**154.53**	**344**	PKP		**PKPdf**	**04 24 09.2**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.1,SNR=4.8								
GERES				PKPbc		**PKPbc**	**04 24 20.1**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=90,slow=1.5,SNR=5.8								
GERS	**GERESS Array B**	**154.53**	**344**	PKP		**PKPdf**	**04 24 09.2**	**-2.8**
GERES				PKPbc		**PKPbc**	**04 24 20.1**	**-0.4**
CONA	**Conrad Observa**	**154.77**	**340ǁ**	*i*sPKiKP		sPKiKP	04 24 36.6	-2.5
	comp=Z,9.0nm,1.0s								
WLF	**Walferdange**	**154.90**	**356**	*e*PKPab		**PKPab**	**04 24 36.2**	**-0.2**
PKSM	**Moragy**	**155.28**	**334**	*ǁ*PKIKP		**PKPdf**	**04 24 12.4**	**-0.6**
PKSM	**Moragy**	**155.28**	**334**	*ǁi*P		**PKPdf**	**04 24 12.4**	**-0.6**
PLD	**Plovdiv**	**155.31**	**320**	*e*P		**PKPab**	**04 24 39.0**	**+0.6**
YER	**Yerkesik**	**155.50**	**306**	*e*P		PKPab	04 24 26.6	-13
RZN	**Rozhen**	**155.56**	**319**	*e*P		**PKPab**	**04 24 40.0**	**+0.2**
FUR	**Furstenfeldbru**	**155.71**	**347**	*e*PKPab		**PKPab**	**04 24 39.6**	**-0.3**
RJOB	**Jochberg**	**155.78**	**345**	*e*PKPab		**PKPab**	**04 24 40.5**	**+0.2**
VTS	**Vitosha**	**155.84**	**323**	*e*P		**PKPab**	**04 24 41.5**	**+0.6**
BFO	**Black Forest**	**156.02**	**352**	*e*PKPab		**PKPab**	**04 24 41.1**	**-0.2**
MMB	**Musomiste**	**156.20**	**320**	*e*P		**PKPab**	**04 24 41.7**	**-0.6**
ECH	**Echery**	**156.26**	**354**	PKP		**PKPab**	**04 24 41.0**	**-1.3**
MOF	**Molkenrain**	**156.62**	**354**	PKP		**PKPab**	**04 24 44.1**	**+0.1**
FETA	**Feichten**	**156.91**	**348ǁ**	*i*PKPab		**PKPab**	**04 24 45.5**	**+0.2**
	comp=Z,11nm,1.1s								
PLDF	**La Plantade**	**158.68**	**360**	PKP		**PKPab**	**04 24 52.7**	**-0.1**
LBL	**Lubilhac**	**159.41**	**1**	PKP		**PKPab**	**04 24 56.0**	**0.0**
PCBR	**Castelo Branco**	**162.16**	**29**	*e*PKPdf		**PKPdf**	**04 24 22.0**	**+0.6**
EVO	**Evora**	**162.96**	**33**	*e*PKPdf		**PKPdf**	**04 24 22.6**	**+0.4**
PFVI	**Vila Bisbo**	**163.58**	**38**	*e*PKPdf		**PKPdf**	**04 24 23.5**	**+0.7**
ESDC	**Sonseca Array**	**163.67**	**21**	PKP		**PKPdf**	**04 24 22.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=339,slow=3.7,SNR=4.9								
ESDC				PKPab		**PKPab**	**04 25 14.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=355,slow=3.5,SNR=2.5								
ESDC	**Sonseca Array**	**163.67**	**21**	PKP		**PKPdf**	**04 24 22.9**	**0.0**
ESDC				PKPab		**PKPab**	**04 25 14.6**	**-0.3**
PBAR	**Barrancos**	**163.71**	**31**	*e*PKPdf		**PKPdf**	**04 24 25.9**	**+3.0**
TOA0	**Torodi Ar. Sit**	**168.47**	**171**	*e*PKPdf		**PKPdf**	**04 24 27.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**168.47**	**171**	PKP		**PKPdf**	**04 24 26.1**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=304,slow=0.9,SNR=9.6								
TORD				PKPab		**PKPab**	**04 25 36.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=198,slow=4.1,SNR=12								
TORD	**Torodi Ar. Bea**	**168.47**	**171**	PKP		**PKPdf**	**04 24 26.1**	**-1.2**
TORD				PKPab		**PKPab**	**04 25 36.8**	**+0.4**
TAM	**Tamanrasset**	**177.49**	**225**	*e*PKIKP		**PKPdf**	**04 24 29.8**	**-1.2**
TAM	**Tamanrasset**	**177.49**	**225**	*e*PKPdf		**PKPdf**	**04 24 29.8**	**-1.2**

AUST ***10*** *04:16:24.1,24.˚53S×178.˚45W,h600km*
ISCJB ***10*** *04:16:27.2±0.5,25.˚0S±0.˚1×179.˚79E±0.˚08,h501km, mb4.2/15, Error ellipse: s-maj=17.6km s-min=9.6km az=166.4*
IDC ***10*** *04:16:29.2±1.4,24.˚91S×179.˚80E,h512km±13km, mb3.7/14,mb1 3.9/14,mb1mx3.8/22,mbtmp3.7/14, Error ellipse: s-maj=16.8km s-min=10.2km az=174.0*

ISC 10 04:16:27.9±0.5,24.˚9S±0.˚1×179.˚82E±0.˚09,h501km,n36, σ0s92/43,mb4.3/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.59**	**280**	P	P	04 19 16.9	+4.0
	2.7nm,0.3s,baz=93,slow=16,SNR=22						
CMSA	**Cobar Meteorol**	**30.71**	**250**	P	**P**	**04 22 02.3**	**+1.0**
	baz=32,SNR=19						
CTA	**Charters Tower**	**31.33**	**272**	P	**P**	**04 22 08.3**	**+1.5**
	27nm,0.4s,baz=98,slow=11,SNR=43						
QLP	**Quilpie**	**32.04**	**259**	P	**P**	**04 22 13.9**	**+1.1**
	baz=34,SNR=9.0						
QLP				S	S	04 26 37.4	-12
	baz=34,SNR=5.9						
STKA	**Stephens Creek**	**34.21**	**249**	P	**P**	**04 22 32.0**	**+0.9**
	5.4nm,0.4s,baz=97,slow=10,SNR=40						
STKA	**Stephens Creek**	**34.21**	**249**	P	**P**	**04 22 32.1**	**+0.9**
	baz=36,SNR=33						
PMG	**Port Moresby**	**34.67**	**291**	P	**P**	**04 22 36.2**	**+1.0**
	9.2nm,0.6s,baz=45,slow=4.5,SNR=3.6						
COEN	**Coen**	**36.12**	**281**	P	**P**	**04 22 48.6**	**+1.3**
	baz=38,SNR=8.7						
BBOO	**Buckleboo**	**38.91**	**248**	P	**P**	**04 23 09.8**	**-0.2**
	baz=40,SNR=16						
ASAR	**Alice Springs**	**41.72**	**262**	P	**P**	**04 23 33.0**	**+0.4**
	3.3nm,0.3s,baz=92,slow=6.5,SNR=56						
ASAR				ScP	**ScP**	**04 28 20.9**	**+0.9**
	0.7nm,0.7s,baz=106,slow=4.2,SNR=4.9						
ASAR				S	**S**	**04 29 12.2**	**-1.1**
	0.7nm,0.8s,baz=94,slow=17,SNR=5.9						
WRA	**Warramunga Ar**	**42.19**	**267**	P	**P**	**04 23 36.4**	**+0.1**
	19nm,0.5s,baz=102,slow=7.9,SNR=393						
WRA				ScP	**ScP**	**04 28 22.5**	**+0.6**
	3.5nm,0.9s,baz=101,slow=4.2,SNR=16						
WRA				S	**S**	**04 29 17.4**	**-2.5**
	1.3nm,0.8s,baz=99,slow=15,SNR=8.4						
FORT	**Forrest**	**45.82**	**250**	P	**P**	**04 24 04.0**	**-0.5**
	baz=47,SNR=14						
KDU	**Kakadu**	**46.22**	**276**	P	**P**	**04 24 07.5**	**-0.2**
	baz=48,SNR=13						
KDU				S	S	04 30 45.4	+28
	baz=48,SNR=3.8						
FITZ	**Fitzroy Crossi**	**50.59**	**266**	P	**P**	**04 24 41.2**	**+0.9**
	9.7nm,0.7s,baz=130,slow=8.1,SNR=27						
FITZ	**Fitzroy Crossi**	**50.59**	**266**	P	**P**	**04 24 40.7**	**+0.4**
	baz=52,SNR=16						
VNDA	**Vanda**	**53.39**	**185**	P	**P**	**04 25 00.1**	**+0.6**
	1.4nm,0.8s,baz=7.6,slow=6.3,SNR=2.1						
KLBR	**Kellerberrin**	**54.46**	**248**	P	**P**	**04 25 07.5**	**-0.3**
	baz=56,SNR=7.0						
MEEK	**Meekatharra**	**54.68**	**254**	P	**P**	**04 25 08.8**	**-0.7**
	baz=56,SNR=5.1						
BLDU	**Balliduˇ**	**55.51**	**249**	P	**P**	**04 25 14.7**	**-0.5**
	baz=57,SNR=15						
MORW	**Morawa**	**56.39**	**251**	P	**P**	**04 25 21.0**	**-0.3**
	baz=58,SNR=5.3						
RPN	**Rapa Nui**	**62.91**	**109**	P	**P**	**04 26 05.6**	**+0.6**
	70nm,0.5s,baz=4.5,slow=2.3,SNR=3.2						
QSPA	**South Pole Qui**	**65.20**	**180**	P	**P**	**04 26 19.4**	**+0.4**
	7.8nm,0.7s,baz=24,slow=1.2,SNR=34						
USRK	**Ussuriysk Arra**	**81.50**	**327**	P	**P**	**04 27 53.1**	**+0.9**
	1.1nm,0.5s,baz=143,slow=4.2,SNR=3.9						
NVAR	**Mina Array Bea**	**85.57**	**44**	P	**P**	**04 28 13.6**	**+0.5**
	1.7nm,0.7s,baz=223,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**91.09**	**58**	P	**P**	**04 28 39.8**	**+0.8**
	2.2nm,0.8s,baz=210,slow=6.9,SNR=14						
ANMO	**Albuquerque**	**91.69**	**52**	P	**P**	**04 28 42.0**	**+0.3**
	1.0nm,0.8s,baz=147,slow=3.8,SNR=4.9						
ILAR	**Eielson Array**	**93.03**	**14**	P	**P**	**04 28 45.9**	**-0.9**
	0.2nm,0.7s,baz=241,slow=4.5,SNR=4.8						
PDAR	**Pinedale Array**	**93.51**	**44**	P	**P**	**04 28 49.9**	**0.0**
	0.5nm,0.7s,baz=197,slow=2.7,SNR=4.2						
MKAR	**Makanchi Array**	**112.70**	**312**	PKiKP	**PKiKP**	**04 34 05.8**	**-1.2**
	0.2nm,0.6s,baz=71,slow=1.5,SNR=3.9						
MKAR				PKKPbc	**PKKPbc**	**04 44 55.8**	**-1.7**
	0.3nm,0.6s,baz=280,slow=3.3,SNR=4.3						
BVAR	**Borovoye Array**	**121.07**	**318**	PKP	**PKPdf**	**04 34 21.8**	**-1.0**
	0.8nm,0.5s,baz=147,slow=2.3,SNR=4.0						
ARCES	**ARCESS Array B**	**132.81**	**348**	PKP	**PKPdf**	**04 34 44.7**	**-0.1**
	4.2nm,0.8s,baz=32,slow=4.7,SNR=5.7						
ARCES				SKPbc	**SKPbc**	**04 37 24.9**	**-0.3**
	2.8nm,0.8s,baz=33,slow=4.6,SNR=7.0						
FINES	**FINESS Array B**	**139.32**	**341**	PKP	**PKPdf**	**04 34 57.6**	**+0.5**
	0.4nm,0.3s,baz=161,slow=35,SNR=3.7						
FINES				SKPbc	**SKPbc**	**04 37 44.5**	**-0.5**
	5.1nm,0.8s,baz=36,slow=3.5,SNR=9.1						
NOA	**NORSAR Array B**	**143.03**	**351**	PKP	PKPab	04 35 01.2	+0.1
	0.9nm,0.7s,baz=257,slow=1.5,SNR=3.3						
AKASG	**Malin Array Be**	**145.70**	**326**	PKPbc	**PKPdf**	**04 35 08.7**	**0.0**
	0.8nm,0.5s,baz=45,slow=4.1,SNR=4.0						
BRTR	**Keskin Array B**	**148.03**	**306**	PKPbc	**PKPbc**	**04 35 16.6**	**-0.4**
	0.5nm,0.6s,baz=138,slow=3.9,SNR=4.0						
BRTR				PKPab	**PKPab**	**04 35 21.5**	**0.0**
	0.5nm,0.7s,baz=101,slow=3.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**168.19**	**189**	PKP	**PKPdf**	**04 35 35.8**	**-1.6**
	0.7nm,1.0s,baz=56,slow=1.5,SNR=6.1						
TORD				PKPab	**PKPab**	**04 36 47.6**	**-1.1**
	1.4nm,0.6s,baz=181,slow=3.7,SNR=16						

IDC 10 04:16:49.5±3.1,2.˚05N×96.˚25E,h0km,mb4.3/7,mb1 4.3/8, mb1mx3.9/27,mbtmp4.3/8,ML3.8/2,MS4.5/1,Ms1 4.5/1, ms1mx3.1/35,Error ellipse: s-maj=68.3km s-min=34.8km az=11.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.77**	**74**	Pn	Pn	04 17 35.2	-0.2
	4.0nm,0.3s,baz=219,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**16.52**	**9**	Pn	Pn	04 20 43.6	+0.8
	0.4nm,0.3s,baz=197,slow=11,SNR=12						
JNU	**Nakatsue**	**44.81**	**43**	LR	LR	04 43 18.9	
	comp=Z,549nm,21.8s,baz=132,slow=36						
AAK	**Ala-Archa**	**44.85**	**337**	P	P	04 25 07.1	+1.2
	0.5nm,0.5s,baz=164,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**46.20**	**347**	P	P	04 25 16.0	-0.2
	2.8nm,0.4s,baz=160,slow=9.2,SNR=63						
SONM	**Songino Array**	**46.45**	**9**	P	P	04 25 17.8	-0.5
	0.8nm,0.5s,baz=190,slow=9.3,SNR=16						
SONM				PcP	PcP	04 26 53.1	+0.1
	0.5nm,0.7s,baz=208,slow=3.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.58**	**352**	P	P	04 26 04.5	-0.4
	6.8nm,0.4s,baz=180,slow=6.7,SNR=22						
BVAR	**Borovoye Array**	**55.15**	**341**	P	P	04 26 23.1	-0.6
	2.2nm,0.6s,baz=140,slow=9.2,SNR=9.0						
FINES	**FINESS Array B**	**78.81**	**333**	P	P	04 28 53.8	-0.3
	1.4nm,0.8s,baz=54,slow=2.4,SNR=3.4						
ARCES	**ARCESS Array B**	**81.42**	**340**	P	P	04 29 08.4	+0.3
	4.6nm,0.9s,baz=97,slow=7.4,SNR=3.6						

ISCJB ***10*** *04:28:37.7±0.5,36.˚97N±0.˚03×22.˚17E±0.˚04,h10km±4km, Error ellipse: s-maj=5.1km s-min=4.4km az=149.5*
THE ***10*** *04:28:37.9,36.˚98N×22.˚19E,h0km±1km,ML2.2/3,Error ellipse: s-maj=1.9km s-min=0.5km az=89.0*
CSEM ***10*** *04:28:37.5±0.3,36.˚96N×22.˚20E,h12km,ML2.2/3,Error ellipse: s-maj=5.9km s-min=4.7km az=137.0*
ATH ***10*** *04:28:38.2,37.˚04N×22.˚10E,h22km±2km,MD2.9/9*

ISC 10 04:28:38.0±0.9,36.˚98N±0.˚03×22.˚18E±0.˚03,h12km±7km, n26,σ0s43/46,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DYR	**Agios Nikonas**	**0.25**	**151**	P	**Pg**	**04 28 43.2**	**-0.1**
DYR				S	**Sg**	**04 28 46.7**	**-0.1**
DYR	**Agios Nikonas**	**0.25**	**151**	P	**Pg**	**04 28 43.2**	**-0.1**
DYR				S	**Sg**	**04 28 46.7**	**-0.1**
ITM	**Ithomi**	**0.28**	**314**	P	**Pg**	**04 28 43.6**	**-0.2**
ITM				S	**Sg**	**04 28 47.8**	**0.0**
ITM	**Ithomi**	**0.28**	**314**	P	**Pg**	**04 28 43.6**	**-0.2**
ITM				S	**Sg**	**04 28 47.8**	**0.0**
PYL	**PYLOS**	**0.36**	**256**	P	**Pg**	**04 28 44.8**	**-0.5**
PYL				S	**Sg**	**04 28 50.9**	**+0.7**
PYL	**PYLOS**	**0.36**	**256**	*e*PB	**Pg**	**04 28 44.7**	**-0.5**
PYL				*e*SB	**Sg**	**04 28 50.9**	**+0.7**
PYL	**PYLOS**	**0.36**	**256**	*e*Pb	**Pg**	**04 28 44.7**	**-0.5**
PYL				S	**Sg**	**04 28 50.9**	**+0.7**
VLX	**Vlachokerasia**	**0.42**	**22**	P	**Pg**	**04 28 46.0**	**-0.3**
VLX				S	**Sg**	**04 28 52.6**	**+0.7**
VLX	**Vlachokerasia**	**0.42**	**22**	*e*PB	**Pg**	**04 28 46.7**	**+0.4**
VLX				*e*SB	**Sb**	**04 28 53.1**	**-0.5**
VLX	**Vlachokerasia**	**0.42**	**22**	P	**Pg**	**04 28 46.0**	**-0.3**
VLX	**Vlachokerasia**	**0.42**	**22**	*e*Pb	**Pg**	**04 28 46.7**	**+0.4**
VLX				S	**Sg**	**04 28 52.6**	**+0.7**
VLX				*e*Sb	**Sb**	**04 28 53.1**	**-0.5**
VLI	**Veliai**	**0.66**	**113**	*e*PN	**Pn**	**04 28 52.7**	**-0.4**
VLI				*e*SN	**Sn**	**04 29 03.7**	**+0.3**
AMT	**Artemida-Makis**	**0.67**	**326**	P	**Pg**	**04 28 51.6**	**+0.1**
AMT				S	**Sb**	**04 29 00.9**	**+0.2**
AMT	**Artemida-Makis**	**0.67**	**326**	P	**Pg**	**04 28 51.0**	**+0.1**
AMT				S	**Sb**	**04 29 00.9**	**+0.2**
GUR	**Goura**	**0.96**	**8**	P	**Pb**	**04 28 56.2**	**-0.4**
GUR				S	**Sn**	**04 29 10.6**	**-0.3**
GUR	**Goura**	**0.96**	**8**	*e*PN	**Pb**	**04 28 56.0**	**-0.6**
GUR	**Goura**	**0.96**	**8**	P	**Pb**	**04 28 56.2**	**-0.4**
GUR				S	**Sn**	**04 29 10.6**	**-0.3**
KYTH	**Kithira**	**0.98**	**135**	*e*PN	**Pn**	**04 28 58.8**	**+1.3**
DID	**Didima**	**0.99**	**58**	*e*PN	**Pn**	**04 28 57.5**	**-0.2**
DID				*e*SN	**Sn**	**04 29 11.3**	**-0.3**
DID	**Didima**	**0.99**	**58**	*e*Pn	**Pn**	**04 28 57.5**	**-0.2**
DID				*e*Sn	**Sn**	**04 29 11.3**	**-0.3**
LTK	**Loutraki**	**1.21**	**31**	*e*PN	**Pg**	**04 29 01.2**	**-0.1**
LTK				*e*SN	**Sn**	**04 29 17.0**	**0.0**
LTK	**Loutraki**	**1.21**	**31**	*e*Pn	**Pg**	**04 29 01.2**	**-0.1**
LTK				*e*Sn	**Sn**	**04 29 17.0**	**0.0**
EFP	**Efpalio**	**1.46**	**351**	*e*PN	**Pb**	**04 29 05.2**	**+0.2**
EFP	**Efpalio**	**1.46**	**351**	*e*Pn	**Pb**	**04 29 05.2**	**+0.2**
LKR	**Lokris**	**1.79**	**21**	*e*PB	**Pn**	**04 29 08.6**	**0.0**
LKR	**Lokris**	**1.79**	**21**	*e*Pb	**Pn**	**04 29 08.6**	**0.0**

NSSP ***10*** *04:32:37.3,38.˚67N×44.˚72E,h10km,Ms3.1*
DDA ***10*** *04:32:40.4,38.˚67N×44.˚86E,h2km,MD3.4*
ISK ***10*** *04:32:42.9,38.˚72N×44.˚65E,h5km,MD3.5*
CSEM ***10*** *04:32:44.4±0.5,38.˚68N×44.˚58E,h2km,MD3.5,Error ellipse: s-maj=12.8km s-min=7.4km az=105.0*

ISC 10 04:32:43.6±1.3,38.˚63N±0.˚03×44.˚72E±0.˚04,h18km±6km, n38,σ1s30/54,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.81**	**310**	*e*PG	**Pg**	**04 32 57.5**	**-1.8**
CLDR				*e*SG	**Sg**	**04 33 09.3**	**-0.8**
CLDR	**Caldiran**	**0.81**	**310**	*e*Pg	**Pg**	**04 32 57.6**	**-1.8**
CLDR				*e*Sg	**Sg**	**04 33 09.3**	**-0.8**
VANB	**Van**	**1.04**	**268**	*e*PG	**Pb**	**04 33 03.0**	**-0.1**
VANB				*e*SG	**Sn**	**04 33 17.9**	**+0.4**
VANB	**Van**	**1.04**	**268**	*e*Pg	**Pb**	**04 33 03.0**	**-0.1**
VANT	**Van**	**1.16**	**260**	*e*PN	**Pn**	**04 33 05.4**	**+0.4**
VANT	**Van**	**1.16**	**260**	*e*Pn	**Pn**	**04 33 05.4**	**+0.4**
DYDN	**Diyadin**	**1.21**	**319**	*i*P	**Pn**	**04 33 04.8**	**-1.0**
DYDN				*i*S	**Sn**	**04 33 22.7**	**+0.8**
DYDN	**Diyadin**	**1.21**	**319**	*i*P	**Pn**	**04 33 04.8**	**-1.0**
DYDN				*i*S	**Sn**	**04 33 22.7**	**+0.8**
HKR	**Hakkari**	**1.30**	**216**	*e*PN	**Pg**	**04 33 10.2**	**+1.4**
HKR	**Hakkari**	**1.30**	**216**	*e*Pn	**Pg**	**04 33 10.2**	**+1.4**
GNI	**Garni**	**1.52**	**1**	*e*PN	**Pn**	**04 33 10.6**	**+0.6**
GNI				*e*SN	**Sg**	**04 33 31.9**	**-0.7**
GNI	**Garni**	**1.52**	**1**	*i*P	**Pg**	**04 33 12.8**	**0.0**
GNI				*i*S	**Sg**	**04 33 33.8**	**+1.2**
GNI	**Garni**	**1.52**	**1**	*e*Pn	**Pn**	**04 33 10.6**	**+0.6**
GNI	**Garni**	**1.52**	**1**	P	**Pg**	**04 33 12.8**	**0.0**
GNI				*e*Sn	**Sg**	**04 33 31.9**	**-0.7**
GNI				S	**Sg**	**04 33 33.8**	**+1.2**
ERE	**Yerevan**	**1.55**	**353**	*e*P	**Pg**	**04 33 13.0**	**-0.4**
ERE				*e*S	**Sg**	**04 33 35.0**	**+1.4**
ERE	**Yerevan**	**1.55**	**353**	P	**Pg**	**04 33 13.0**	**-0.4**
ERE				S	**Sg**	**04 33 35.0**	**+1.4**
CUKT	**Cukurca**	**1.64**	**213**	*e*PN	**Pg**	**04 33 15.0**	**-0.1**
CUKT	**Cukurca**	**1.64**	**213**	*e*Pn	**Pg**	**04 33 15.0**	**-0.1**
VADZ	**Vardenis**	**1.73**	**27**	*e*P	Pn	04 33 02.0	-11
VADZ				*e*S	Sn	04 33 25.0	-10
TATV	**Tatvan**	**1.92**	**267**	*i*P	**Pb**	**04 33 18.1**	**-0.1**
TATV				*i*S	**Sg**	**04 33 47.1**	**+1.5**
TATV	**Tatvan**	**1.92**	**267**	*i*P	**Pb**	**04 33 18.1**	**-0.1**
KARS	**Kars**	**2.36**	**328**	*e*PN	**Pn**	**04 33 22.8**	**+1.3**
KARS	**Kars**	**2.36**	**328**	*e*Pn	**Pn**	**04 33 22.8**	**+1.3**

BTMT	**Batman**	**2.57**	**261**	*e*PN		**Pb**	**04 33 29.1**	**-0.1**
BNGL	**BINGOL**	**2.81**	**278**	*i*P		**Pb**	**04 33 33.2**	**0.0**
BEST	**Besiri**	**2.81**	**256**	*i*P		**Pb**	**04 33 31.7**	**-1.6**
BEST				*i*S		**Sg**	**04 34 15.1**	**+1.2**
DGRG	**David-gareji**	**2.86**	**10**	P		**Pb**	**04 33 35.1**	**+1.0**
DGRG				S		**Sg**	**04 34 15.3**	**-0.2**
DGRG	**David-gareji**	**2.86**	**10**	P		**Pb**	**04 33 35.1**	**+1.0**
ERZM	**Erzurum**	**2.90**	**297**	*i*P		**Pb**	**04 33 33.6**	**-1.2**
ERZM	**Erzurum**	**2.90**	**297**	*i*P		**Pb**	**04 33 33.6**	**-1.2**
EZM	**Erzurum**	**2.90**	**297**	*e*PN		**Pn**	**04 33 31.0**	**+2.0**
AKH	**Akhalkalaki**	**2.93**	**342**	P		**Pb**	**04 33 36.7**	**+1.4**
AKH				S		**Sg**	**04 34 17.6**	**-0.1**
TBLG	**Delisi**	**3.10**	**0**	P		**Pg**	**04 33 43.5**	**+0.6**
TBLG				S		**Sg**	**04 34 21.6**	**-1.4**
BNGB	**Bingˇǁl**	**3.17**	**278**	*e*PN		**Pn**	**04 33 35.0**	**+2.3**
BINT	**Bingol**	**3.31**	**276**	*e*Pn		**Pn**	**04 33 35.0**	**+0.4**
MARD	**Mardin**	**3.38**	**248**	*i*P		**Pn**	**04 33 38.2**	**+2.6**
ONI	**Oni**	**4.07**	**347**	P		**Pg**	**04 33 58.9**	**-2.6**
BHD	**Baghdad**	**5.36**	**183**	*e*P		**Pn**	**04 34 01.0**	**-1.6**
BHD				*e*S		**Sn**	**04 35 00.0**	**-3.8**

BJI ***10*** *04:40:37.7,0.˚72N×97.˚38E,h48km,mB4.9/16,mb4.7/33, Ms4.6/17,Ms7 4.4/18*
IDC ***10*** *04:40:38.9±0.6,0.˚99N×97.˚29E,h22km±3km,mb4.1/16, mb1 4.2/18,mb1mx4.1/28,mbtmp4.1/18,ML4.3/2,MS3.9/3, Ms1 3.9/3,ms1mx3.4/39,Error ellipse: s-maj=24.1km s-min=11.3km az=47.0*
ISCJB ***10*** *04:40:39.7±0.7,1.˚10N±0.˚04×97.˚34E±0.˚04,h36km±5km, mb4.5/49,MS4.3/8,Error ellipse: s-maj=7.8km s-min=4.3km az=140.7*
NEIC ***10*** *04:40:39.2±0.3,1.˚02N×97.˚39E,mb4.6/23,Error ellipse: s-maj=7.8km s-min=5.6km az=46.0*
DJA ***10*** *04:40:40.1±0.7,1.˚N±3.˚×97.˚E±.˚,h29km±3km,M4.5/14, mb4.4/2,mB4.8/1,MLv4.5/14,Mw(mB)4.0/1*

ISC 10 04:40:39.9±0.5,1.˚03N±0.˚04×97.˚26E±0.˚04,h30km±2km, h29km:pP-P,n125,σ1s66/175,mb4.5/49,MS4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.41**	**49**	P	**Pb**	**04 40 48.5**	**-0.5**
GSI				S	**Sb**	**04 40 53.1**	**-2.1**
TPTI		**2.21**	**358**	P	**Pn**	**04 41 13.4**

comp=Z,19nm,0.8s
CD2 Chengdu 30.35 11 P P 04 46 51.5 +2.3
CD2 pP pP 04 47 04.0 +6.2
CD2 sP sP 04 47 09.9 +8.5
CD2 PP **PnPn 04 47 52.0 +4.0**
CD2 S **S 04 51 47.3 -0.5**
CD2 sS sS 04 52 08.7 +6.6
CD2 SS **ScP 04 53 29.2 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,90nm,4.3s
CD2 LR LR
comp=N,520nm,21.4s
CD2 LR LR
comp=Z,700nm,22.0s
ENH Enshi 31.31 21 P **P 04 46 54.9 -2.8**
comp=Z,17nm,0.8s
FITZ Fitzroy Crossi 33.78 126 P **P 04 47 18.1 -1.4**
comp=Z,1.5nm,0.8s,baz=314,slow=9.4,SNR=5.0
FITZ pP **pP 04 47 25.2 -3.0**
comp=Z,1.6nm,0.7s,baz=330,slow=6.8,SNR=3.7
FITZ Fitzroy Crossi 33.78 126 P **P 04 47 18.1 -1.4**
FITZ pP **pP 04 47 25.2 -3.0**
XAN Xi'an 34.60 17 P **P 04 47 25.4 -1.0**
XAN pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 35.41 9 *eP* **P 04 47 34.0 +0.5**
LZH pP **pP 04 47 43.2 +1.0**
LZH sP **sP 04 47 49.8 +4.0**
LZH PP **PP 04 48 56.5 +2.3**
LZH *eS* **S 04 53 10.2 +3.6**
LZH sS sS 04 53 30.4 +9.4
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,64nm,4.1s
LZH LR LR
comp=N,190nm,14.0s
LZH LR LR
comp=E,200nm,12.8s
LZH LR LR
comp=Z,310nm,16.2s
NJ2 Nanjing 36.98 31 *eP* **P 04 47 47.2 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 38.27 3 *eP* **P 04 47 58.2 +0.5**
GTA S **S 04 53 49.3 -0.7**
GTA pmax pmax
comp=Z,12nm,1.4s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=N,210nm,20.4s
GTA LR LR
comp=E,280nm,20.9s
GTA LR LR
comp=Z,310nm,20.9s
HHC Hu-ho-hao-te 41.70 16 *eP* **P 04 48 27.7 +1.5**
HHC pP pP 04 48 41.5 +6.5
HHC sP sP 04 48 45.1 +6.5
HHC PP **PnPn 04 50 07.8 -0.2**
HHC PcP **PcP 04 50 24.6 +2.1**
HHC S **S 04 54 40.5 -0.9**
HHC sS sS 04 55 01.5 +5.6
HHC pmax pmax
comp=Z,14nm,1.0s
HHC LR LR
comp=N,400nm,15.2s
HHC LR LR
comp=E,480nm,16.2s
HHC LR LR
comp=Z,510nm,16.8s
WRA Warramunga Arr 41.90 122 P **P 04 48 26.6 -1.4**
comp=Z,1.5nm,0.6s,baz=300,slow=9.0,SNR=17
WRA pP **pP 04 48 34.1 -2.7**
comp=Z,2.6nm,0.7s,baz=299,slow=9.1,SNR=13
WRA Warramunga Arr 41.90 122 P **P 04 48 26.6 -1.4**
WRA pP **pP 04 48 34.1 -2.7**
WRAB Tennant Creek 41.90 122 *eP* **P 04 48 26.7 -1.4**
comp=Z,3.1nm,0.8s
BJT Baijiatuan 42.45 22 *eP* **P 04 48 32.4 +0.2**
comp=Z,16nm,0.6s
BJI Beijing 42.47 22 P **P 04 48 32.6 +0.3**
BJI pmax pmax
comp=Z,34nm,0.8s
BJI pmax pmax
comp=Z,110nm,3.3s
KSH Kashi 42.95 336 *eP* **P 04 48 36.0 -0.4**
KSH *ep*P **pP 04 48 48.2 +2.9**
KSH *es*P sP 04 48 53.4 +4.6
KSH *e*PP **PP 04 50 18.3 +1.8**
KSH *e*PcP **PcP 04 50 26.1 -0.6**
KSH *e*ScP **ScP 04 54 12.4 -3.5**
KSH PcS **PcS 04 54 17.1 -2.0**
KSH S **S 04 54 58.8 -1.0**
KSH sS **sS 04 55 18.5 +4.1**
KSH SS SS 04 58 04.3 -8.0
KSH ScS **ScS 04 58 30.3 -5.1**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,130nm,7.5s
KSH LR LR
comp=N,140nm,5.2s
KSH LR LR
comp=E,100nm,4.6s
KSH LR LR
comp=Z,290nm,6.6s
ASAR Alice Springs 43.25 127 P **P 04 48 38.5 -0.5**
comp=Z,0.9nm,0.7s,baz=302,slow=7.8,SNR=11
ASAR pP **pP 04 48 45.2 -2.6**
comp=Z,1.5nm,0.6s,baz=297,slow=8.1,SNR=11
ASAR Alice Springs 43.25 127 P **P 04 48 38.5 -0.5**
ASAR pP **pP 04 48 45.2 -2.6**
WMQ Urumqi 43.45 350 P **P 04 48 41.2 +0.9**
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ LR LR
comp=N,160nm,22.0s
WMQ LR LR
comp=E,210nm,22.0s
WMQ LR LR
comp=Z,330nm,20.0s
KSAR Wonju Array Be 45.92 34 P **P 04 49 00.0 0.0**
KSRS Korea Array 45.95 34 P **P 04 49 00.0 -0.3**
comp=Z,4.2nm,0.8s,baz=220,slow=8.7,SNR=11
TKM2 Tokmak 2 45.99 338 *eP* **P 04 49 01.5 +0.6**
comp=Z,4.9nm,0.9s
AAK Ala-Archa 46.18 337 P **P 04 49 03.2 +1.0**
EKS2 Erkin-Say 46.49 336 *eP* **P 04 49 05.7 +1.1**
comp=Z,2.7nm,0.8s
SONM Songino Array 47.29 8 P **P 04 49 11.1 +0.3**
comp=Z,4.0nm,0.8s,baz=190,slow=9.1,SNR=33
SONM PcP **PcP 04 50 42.2 +0.6**
comp=Z,1.8nm,0.7s,baz=195,slow=3.7,SNR=6.1
SONM pPcP 04 50 49.3
comp=Z,0.9nm,0.5s,baz=187,slow=4.0,SNR=6.2
SONM Songino Array 47.29 8 P **P 04 49 11.1 +0.3**
SONM PcP **PcP 04 50 42.2 +0.6**
SONM pPcP 04 50 49.3
ULN Ulaanbaatar 47.42 9 *eP* **P 04 49 11.6 -0.2**
comp=Z,2.7nm,0.8s
MK31 Makanchi Array 47.42 346 *eP* **P 04 49 12.1 +0.4**
MKAR Makanchi Array 47.42 346 P **P 04 49 12.3 +0.7**
comp=Z,9.9nm,0.7s,baz=158,slow=7.7,SNR=131
MKAR Makanchi Array 47.42 346 P **P 04 49 12.3 +0.7**
KKAR Karatay Array 48.23 334 *eP* **P 04 49 18.7 +0.7**
comp=Z,1.2nm,0.6s
CN2 Changchun 49.43 27 *eP* **P 04 49 26.8 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 51.97 345 *eP* **P 04 49 46.3 +0.1**
comp=Z,11nm,1.0s
MDJ Mudanjiang 51.98 29 P **P 04 49 46.7 +0.3**
MDJ pmax pmax
comp=Z,9.0nm,1.9s
CTA Charters Tower 52.37 116 LR LR 05 13 24.5
comp=Z,219nm,18.7s,baz=137,slow=38
USRK Ussuriysk Arra 52.89 31 P **P 04 49 53.4 +0.3**
comp=Z,6.6nm,0.8s,baz=226,slow=5.3,SNR=10
STKA Stephens Creek 53.20 132 P **P 04 49 56.6 +0.9**
comp=Z,2.7nm,0.8s,baz=334,slow=8.1,SNR=3.5
STKA pP **pP 04 50 02.6 -2.1**
comp=Z,1.7nm,0.6s,baz=303,slow=9.5,SNR=2.8
STKA Stephens Creek 53.20 132 *eP* **P 04 49 56.0 +0.3**
comp=Z,0.9nm,1.0s
STKA pP **pP 04 50 02.6 -2.1**
ZAA0 Zalesovo Array 53.73 351 *eP* **P 04 49 58.8 -0.4**
ZALV Zalesovo Beam 53.73 351 P **P 04 49 59.6 +0.4**
comp=Z,14nm,0.6s,baz=179,slow=6.5,SNR=61
ZALV Zalesovo Beam 53.73 351 P **P 04 49 59.6 +0.4**
BRVK Borovoye 56.49 341 *eP* **P 04 50 18.6 -0.5**
comp=Z,3.5nm,0.7s
ABKAR Akbulak array 57.69 332 *eP* **P 04 50 27.0 -0.6**
comp=Z,5.3nm,0.7s
AKTO Aktyubinsk 59.41 332 LR LR 05 21 54.0
comp=Z,290nm,20.0s,baz=271,slow=42
KMBO Kilima Mbogo 60.04 268 P **P 04 50 46.2 +1.3**
BRTR Keskin Array B 69.27 312 P **P 04 51 44.5 -0.2**
comp=Z,0.8nm,0.9s,baz=148,slow=6.8,SNR=4.7
BRTR pP **pP 04 51 51.2 -2.7**
comp=Z,0.6nm,0.7s,baz=116,slow=8.4,SNR=4.4
BRTR Keskin Array B 69.27 312 P **P 04 51 44.5 -0.2**
BRTR pP **pP 04 51 51.2 -2.7**
AKASG Malin Array Be 75.43 322 P **P 04 52 20.5 -0.5**
comp=Z,2.7nm,0.7s,baz=93,slow=4.9,SNR=5.2
AKASG Malin Array Be 75.43 322 P **P 04 52 20.5 -0.5**
BUR08 Bucovina Ar. S 77.21 319 *eP* **P 04 52 31.5 +0.2**
KOLS Kolonicke sedl 79.38 320 *eP* **P 04 52 45.1 +1.9**
FINES FINESS Array B 80.17 333 P **P 04 52 47.3 +0.2**
comp=Z,2.3nm,0.9s,baz=101,slow=1.9,SNR=4.4
FINES FINESS Array B 80.17 333 P **P 04 52 47.3 +0.2**
ARCES ARCESS Array B 82.71 340 P **P 04 53 01.1 +0.6**
comp=Z,2.3nm,0.8s,baz=15,slow=5.0,SNR=4.1
ARCES pP **pP 04 53 08.0 -2.0**
comp=Z,3.9nm,1.1s,baz=79,slow=2.6,SNR=1.5
ARCES ARCESS Array B 82.71 340 P **P 04 53 01.1 +0.6**
ARCES pP **pP 04 53 08.0 -2.0**
GERES GERESS Array B 84.98 319 P **P 04 53 13.4 +0.8**
comp=Z,1.8nm,0.9s,baz=97,slow=5.8,SNR=9.4
GERES pP **pP 04 53 21.2 -0.9**
comp=Z,0.6nm,0.5s,baz=77,slow=5.8,SNR=4.2
GERES GERESS Array B 84.98 319 P **P 04 53 13.4 +0.8**
GERES pP **pP 04 53 21.2 -0.9**
NB2 NORSAR Subarra 87.18 331 P **P 04 53 22.7 -0.5**
comp=Z,1.2nm,0.8s,baz=96,slow=4.6
NOA NORSAR Array B 87.18 331 P **P 04 53 23.3 +0.2**
comp=Z,1.8nm,0.8s,baz=94,slow=5.0,SNR=4.6
NOA NORSAR Array B 87.18 331 P **P 04 53 23.3 +0.2**
TXAR Lajitas Array 143.78 32 PKP **PKPdf 05 00 14.6 +1.5**
comp=Z,0.3nm,0.7s,baz=35,slow=4.6,SNR=5.0
TXAR pPKP **pPKPdf 05 00 19.8 -3.1**
comp=Z,0.2nm,0.5s,baz=5.4,slow=2.6,SNR=3.8
TXAR Lajitas Array 143.78 32 PKP **PKPdf 05 00 14.6 +1.5**
TXAR pPKP **pPKPdf 05 00 19.8 -3.1**
CPUP Villa Florida 144.92 222 PKP **PKPdf 05 00 15.3 +0.3**
comp=Z,1.0nm,0.5s,baz=87,slow=12,SNR=4.7
CPUP pPKP **pPKPdf 05 00 22.6 -2.1**
comp=Z,4.3nm,0.7s,baz=113,slow=1.8,SNR=6.1
CPUP Villa Florida 144.92 222 PKP **PKPdf 05 00 15.3 +0.3**
CPUP pPKP **pPKPdf 05 00 22.6 -2.1**

IDC 10 05:05:09.3±2.1, 1°18N×126°87E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=118.8km s-min=26.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.20**	**184**	P	P	05 09 35.1	+0.2
	0.1nm,0.3s,baz=4.1,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**22.23**	**161**	P	P	05 10 07.3	-0.5
	0.6nm,0.7s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**25.62**	**165**	P	P	05 10 41.1	+0.3
	0.2nm,0.4s,baz=345,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**59.73**	**326**	P	P	05 15 15.9	-0.1
	0.1nm,0.4s,baz=117,slow=6.8,SNR=3.8						

*ISK **10** 05:06:57.9,37°.10N×28°.20E, h5km, MD3.0*
*DDA **10** 05:06:57.1,36°.96N×28°.14E, h7km, MD3.0*
*CSEM **10** 05:06:58.7±0.2, 37°.05N×28°.25E, h2km, MD3.0, Error ellipse: s-maj=5.4km s-min=3.0km az=10.0*
ISC 10 05:06:57.1±1.2, 37°.07N±0°.03×28°.19E±0°.02, h2km±11km, n40, σ1°73/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.10**	**48**	*e*PG	**Pg**	**05 06 59.9**	**+0.9**
YER	**Yerkesik**	**0.10**	**48**	*e*Pg	**Pg**	**05 06 59.9**	**+0.9**
TURN	**Turunc**	**0.38**	**121**	*i* P	Pg	05 07 01.1	-3.3
TURN				*i* S	**Sg**	**05 07 04.7**	**-4.7**
TURN	**Turunc**	**0.38**	**121**	*i* P	Pg	05 07 01.1	-3.3
TURN				*i* S	**Sg**	**05 07 04.7**	**-4.7**
MLSB	**Milas**	**0.40**	**304**	*e*PG	**Pb**	**05 07 07.7**	**+0.7**
MLSB				*e*SG	**Sb**	**05 07 13.2**	**-0.5**
MLSB	**Milas**	**0.40**	**304**	*e*Pg	**Pb**	**05 07 07.7**	**+0.7**
MLSB				*e*Sg	**Sb**	**05 07 13.2**	**-0.5**
AYDN	**Tasoluk**	**0.64**	**337**	*i* P	**Pb**	**05 07 11.5**	**+0.4**
AYDN				*i* S	**Sn**	**05 07 22.1**	**-2.0**
AYDN	**Tasoluk**	**0.64**	**337**	*i* P	**Pb**	**05 07 11.5**	**+0.4**
AYDN				*i* S	**Sn**	**05 07 22.1**	**-2.0**
BODT	**Bodrum**	**0.71**	**270**	*e*PG	**Pb**	**05 07 12.4**	**+0.2**
BODT				*e*SG	**Sn**	**05 07 23.6**	**-2.1**
BODT	**Bodrum**	**0.71**	**270**	*e*Pg	**Pb**	**05 07 12.4**	**+0.2**
BODT				*e*Sg	**Sn**	**05 07 23.6**	**-2.1**
DNZL	**Cakiroluk**	**0.92**	**47**	*i* P	**Pg**	**05 07 15.7**	**+1.0**
DNZL				*i* S	**Sn**	**05 07 35.3**	**+4.2**
DNZL	**Cakiroluk**	**0.92**	**47**	*i* P	**Pg**	**05 07 15.7**	**+1.0**
DENT	**Denizli**	**0.95**	**44**	*e*PG	**Pn**	**05 07 16.8**	**-0.8**
DENT	**Denizli**	**0.95**	**44**	*e*Pg	**Pn**	**05 07 16.8**	**-0.8**
GCAM	**G?zelcaml?**	**0.99**	**310**	*i* P	**Pn**	**05 07 18.9**	**+0.9**
GCAM				*i* S	**Sn**	**05 07 34.4**	**+1.8**
GCAM	**G?zelcaml?**	**0.99**	**310**	*i* P	**Pn**	**05 07 18.9**	**+0.9**
GCAM				*i* S	**Sn**	**05 07 34.4**	**+1.8**
GOLH	**Golhisar**	**1.10**	**81**	*i* P	**Pg**	**05 07 18.9**	**+0.6**
GOLH				*i* S	**Sn**	**05 07 36.3**	**+0.7**
GOLH	**Golhisar**	**1.10**	**81**	*i* P	**Pg**	**05 07 18.9**	**+0.6**
GOLH				*i* S	**Sn**	**05 07 36.3**	**+0.7**
AKAS	**Kas**	**1.41**	**126**	*i* P	**Pg**	**05 07 24.0**	**-0.2**
AKAS				*i* S	**Sg**	**05 07 46.2**	**+3.8**
AKAS	**Kas**	**1.41**	**126**	*i* P	**Pg**	**05 07 24.0**	**-0.2**
AKAS				*i* S	**Sg**	**05 07 46.2**	**+3.8**
ELL	**Elmali**	**1.41**	**103**	*e*PN	**Pg**	**05 07 25.9**	**+1.7**
ELL	**Elmali**	**1.41**	**103**	*e*Pn	**Pg**	**05 07 25.9**	**+1.7**
KULA	**Kula-Manisa**	**1.49**	**14**	*e*PN	**Pg**	**05 07 26.5**	**+0.8**
KULA	**Kula-Manisa**	**1.49**	**14**	*e*Pn	**Pg**	**05 07 26.5**	**+0.8**
IZM	**Izmir**	**1.52**	**331**	*e*PN	**Pg**	**05 07 26.9**	**+0.7**
IZM	**Izmir**	**1.52**	**331**	*e*Pn	**Pg**	**05 07 26.9**	**+0.7**
BLCB	**Balcova**	**1.60**	**325**	*e*PN	**Pg**	**05 07 28.2**	**+0.4**
BLCB	**Balcova**	**1.60**	**325**	*e*Pn	**Pg**	**05 07 28.2**	**+0.4**
KHL	**Karahalli**	**1.64**	**40**	*e*PN	**Pb**	**05 07 28.4**	**+0.3**
KHL	**Karahalli**	**1.64**	**40**	*e*Pn	**Pb**	**05 07 28.4**	**+0.3**
AKS	**Akhisar**	**1.83**	**351**	*e*PN	**Pb**	**05 07 31.2**	**-0.1**
AKS	**Akhisar**	**1.83**	**351**	*e*Pn	**Pb**	**05 07 31.2**	**-0.1**
BCK	**Bucak**	**1.95**	**78**	*e*PN	**Pb**	**05 07 33.4**	**0.0**
BCK	**Bucak**	**1.95**	**78**	*e*Pn	**Pb**	**05 07 33.4**	**0.0**
APE	**Apeiranthos**	**2.13**	**271**	*e*PN	**Pb**	**05 07 36.5**	**0.0**
APE	**Apeiranthos**	**2.13**	**271**	*e*Pn	**Pb**	**05 07 36.5**	**0.0**
ALT	**Altintas**	**2.49**	**37**	*e*PN	**Pb**	**05 07 40.8**	**-1.9**
ALT	**Altintas**	**2.49**	**37**	*e*Pn	**Pb**	**05 07 40.8**	**-1.9**
TVSB	**Tavsanli**	**2.58**	**22**	*e*PN	**Pb**	**05 07 42.1**	**-2.0**
TVSB	**Tavsanli**	**2.58**	**22**	*e*Pn	**Pb**	**05 07 42.1**	**-2.0**

*IDC **10** 05:22:31.3±1.5, 23°.48N×93°.93E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, Error ellipse: s-maj=69.3km s-min=19.8km az=62.0*
ISC 10 05:22:41.9±2.8, 23°.7N±0°.3×93°.35E±0°.09, h57km, n20, σ1°76/28, mb3.4/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.17**	**27**	*i* P	**Pn**	**05 23 00.0**	**-2.1**
IMP				*i* S	**Sn**	**05 23 17.0**	**-0.2**
ODAN	**Odare**	**6.22**	**301**	*e*Pn	**Pn**	**05 24 13.8**	**+2.5**
ODAN				*e*Sn	**Sn**	**05 25 21.9**	**+0.7**
	294nm,0.4s						
TAPN	**Taplejung**	**6.23**	**306**	*e*Pn	Pn	05 24 14.5	+3.0
TAPN				*e*Sn	**Sn**	**05 25 23.4**	**+1.8**
	69nm,0.2s						
RAMN	**Ramite**	**6.89**	**299**	*e*Pn	**Pn**	**05 24 22.9**	**+2.4**
RAMN				*e*Sn	**Sn**	**05 25 37.8**	**+0.1**
	89nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.41**	**134**	Pn	Pn	05 24 19.9	-7.6
	1.0nm,0.3s,baz=305,slow=13,SNR=7.1						
JIRN Jiri 7.54 303 *e*Pn **Pn 05 24 31.4 +1.8**
GUN Gumba 7.91 303 *e*Pn **Pn 05 24 36.5 +2.0**
GUN *e*Sn **Sn 05 26 02.6 -0.1**
197nm,0.6s
PKI Pulchoki 8.11 300 *e*Pn **Pn 05 24 38.5 +1.2**
PKI *e*Sn **Sn 05 26 06.6 -1.2**
26nm,0.2s
KKN Kakani 8.31 301 *e*Pn **Pn 05 24 42.1 +2.1**
KKN *e*Sn **Sn 05 26 12.0 -0.6**
53nm,0.3s
DMN Daman 8.37 299 *e*Pn **Pn 05 24 42.5 +1.7**
DMN *e*Sn **Sn 05 26 12.6 -1.5**
44nm,0.4s
GKN Gorkha 8.92 300 *e*Pn **Pn 05 24 49.5 +1.3**
GKN *e*Sn **Sn 05 26 26.0 -1.3**
127nm,0.3s
KOLN Koldanda 9.66 297 *e*Pn **Pn 05 24 58.7 +0.3**
KOLN *e*Sn **Sn 05 26 42.4 -3.1**
126nm,0.5s
DANN Dangsing 9.77 300 *e*Pn **Pn 05 25 00.8 +0.9**
DANN *e*Sn **Sn 05 26 46.5 -1.7**
41nm,0.3s
PYUN Piuthan 10.28 297 *e*Pn **Pn 05 25 07.5 +0.6**
PYUN *e*Sn **Sn 05 26 57.7 -3.1**
67nm,0.5s
AAK Ala-Archa 24.48 325 P **P 05 27 57.6 +1.8**
0.9nm,0.6s,baz=184,slow=15,SNR=3.9
MKAR Makanchi Array 24.66 342 P **P 05 27 57.0 -0.2**
1.3nm,0.7s,baz=157,slow=8.7,SNR=21
SONM Songino Array 26.20 20 P **P 05 28 08.6 -2.6**
0.3nm,0.4s,baz=200,slow=8.9,SNR=4.1
ZALV Zalesovo Beam 30.84 350 P **P 05 28 51.9 -0.5**
0.8nm,0.5s,baz=164,slow=7.3,SNR=5.0
WRA Warramunga Arr 59.00 134 P P 05 32 29.2 -6.8
0.1nm,0.3s,baz=321,slow=7.6,SNR=5.0
ASAR Alice Springs 61.41 137 P P 05 32 45.9 -6.6
0.1nm,0.3s,baz=318,slow=6.8,SNR=3.3

*TIR **10** 05:23:03.2, 41°.20N×20°.53E, h9km, ML2.4*
*SKO **10** 05:23:10.6, 41°.26N×20°.49E, h15km, M1.9, ML2.2*
*THE **10** 05:23:11.3, 41°.29N×20°.50E, h5km±1km, ML2.6/2, Error ellipse: s-maj=1.5km s-min=0.5km az=356.0*
*BEO **10** 05:23:11.1±1.4, 41°.05N×20°.42E, h9km±5km, ML2.4/3*
*CSEM **10** 05:23:11.6±0.2, 41°.25N×20°.49E, h2km, ML2.6/2, Error ellipse: s-maj=5.8km s-min=3.6km az=39.0*
ISC 10 05:23:11.3±1.1, 41°.25N±0°.02×20°.50E±0°.02, h6km±9km, n34, σ1°05/62, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.43**	**354**	*e*PG	**Pg**	**05 23 19.5**	**-0.3**
PHP				*i* SG	**Sg**	**05 23 26.6**	**+1.1**
PHP	**Peshkopia**	**0.43**	**354**	P	**Pg**	**05 23 19.1**	**-0.7**
PHP				S	**Sg**	**05 23 24.4**	**-1.1**
PHP	**Peshkopia**	**0.43**	**354**	P	**Pg**	**05 23 19.1**	**-0.7**
PHP	**Peshkopia**	**0.43**	**354**	*e*Pg	**Pg**	**05 23 19.5**	**-0.3**
PHP				S	**Sg**	**05 23 24.4**	**-1.1**
PHP				*i* Sg	**Sg**	**05 23 26.6**	**+1.1**
TIR	**Tirane**	**0.49**	**282**	*e*PG	**Pg**	**05 23 20.4**	**-0.3**
TIR				*i* SG	**Sb**	**05 23 28.1**	**-1.6**
TIR	**Tirane**	**0.49**	**282**	P	**Pg**	**05 23 20.4**	**-0.3**
TIR				S	**Sg**	**05 23 27.3**	**+0.2**
TIR	**Tirane**	**0.49**	**282**	*e*Pg	**Pg**	**05 23 21.0**	**+0.3**
TIR				*e*Sg	**Sb**	**05 23 28.4**	**-1.3**
TIR	**Tirane**	**0.49**	**282**	P	**Pg**	**05 23 20.4**	**-0.3**
TIR	**Tirane**	**0.49**	**282**	*e*Pg	**Pg**	**05 23 21.0**	**+0.3**
TIR				S	**Sg**	**05 23 27.3**	**+0.2**
TIR				*i* Sg	**Sb**	**05 23 28.1**	**-1.6**
BIA	**Bitola**	**0.66**	**110**	P	**Pg**	**05 23 23.7**	**-0.4**
BIA				S	**Sb**	**05 23 34.1**	**-0.7**
BIA	**Bitola**	**0.66**	**110**	*i* Pg	**Pg**	**05 23 23.6**	**-0.4**
BIA				*i* Sg	**Sb**	**05 23 34.2**	**-0.7**
BIA	**Bitola**	**0.66**	**110**	P	**Pg**	**05 23 23.7**	**-0.4**
BIA				S	**Sb**	**05 23 34.1**	**-0.7**
FNA	**Florina**	**0.81**	**125**	P	**Pg**	**05 23 26.9**	**0.0**
FNA				S	**Sb**	**05 23 39.7**	**+0.6**
FNA	**Florina**	**0.81**	**125**	P	**Pg**	**05 23 26.9**	**0.0**
FNA				S	**Sb**	**05 23 39.7**	**+0.6**
PUK	**Puka**	**0.91**	**330**	*e*PG	**Pg**	**05 23 27.6**	**-1.2**
PUK				*i* SG	**Sn**	**05 23 43.2**	**-1.1**
PUK	**Puka**	**0.91**	**330**	*e*Pg	**Pg**	**05 23 27.6**	**-1.2**
PUK				*i* Sg	**Sn**	**05 23 43.2**	**-1.1**
NEST	**Nestorio**	**0.93**	**153**	P	**Pb**	**05 23 29.5**	**-0.5**
NEST				S	**Sn**	**05 23 44.0**	**-0.8**
NEST	**Nestorio**	**0.93**	**153**	P	**Pb**	**05 23 29.5**	**-0.5**
NEST				S	**Sn**	**05 23 44.0**	**-0.8**
SKO	**Skopje**	**1.01**	**44**	*e*Pg	**Pg**	**05 23 30.6**	**-0.1**
SKO				*i* Sg	**Sn**	**05 23 45.5**	**-1.0**
SKO				*e*Lg	Lg	05 23 46.9	
	comp=N,94nm,0.4s						
SKO				*e*Lg	Lg	05 23 47.0	
	comp=E,70nm,0.8s						
SKO	**Skopje**	**1.01**	**44**	*e*Pg	**Pb**	**05 23 31.0**	**-0.2**
SKO				*i* Sg	**Sn**	**05 23 46.0**	**-0.5**
SKO				*e*Lg	Lg	05 23 47.5	
	comp=E,70nm,0.8s						
BCI	**Bajram Curri**	**1.16**	**344**	*e*PG	Pb	05 23 25.3	-8.5
BCI				*i* SG	**Sn**	**05 23 54.2**	**+3.9**
KZN	**Kozani**	**1.35**	**134**	P	**Pg**	**05 23 36.9**	**-0.3**
KZN				S	**Sg**	**05 23 56.1**	**+1.4**
KZN	**Kozani**	**1.35**	**134**	P	**Pg**	**05 23 36.9**	**-0.3**
KZN				S	**Sg**	**05 23 56.1**	**+1.4**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pg**	**05 23 39.7**	**-0.4**
PDG				*e*Sn	**Sg**	**05 24 01.3**	**+1.8**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pg**	**05 23 39.7**	**-0.4**
PDG				*e*Sn	**Sg**	**05 24 01.3**	**+1.8**
VAY	**Valandovo**	**1.56**	**87**	*e*Pg	**Pn**	**05 23 39.3**	**-0.3**
VAY				*e*Sg	**Sg**	**05 24 01.7**	**+0.2**
VAY				*e*Lg	Lg	05 24 02.0	
	comp=E,15nm,0.6s						
VAY				*e*Lg	Lg	05 24 02.2	
	comp=N,18nm,0.4s						
VAY	**Valandovo**	**1.56**	**87**	*e*Pg	**Pb**	**05 23 39.7**	**-0.9**
VAY				*e*Sg	**Sg**	**05 24 01.2**	**-0.3**
VAY				*e*Lg	Lg	05 24 01.6	
	comp=N,18nm,0.4s						
BARS	**Barje**	**1.84**	**32**	*e*Pn	**Pb**	**05 23 45.9**	**+0.4**
BARS	**Barje**	**1.84**	**32**	*e*Pn	**Pb**	**05 23 45.9**	**+0.4**
VTS	**Vitosha**	**2.42**	**56**	*e*Pn	**Pn**	**05 23 52.7**	**+1.1**
VTS				*e*Sn	**Sb**	**05 24 25.1**	**-0.5**
VTS	**Vitosha**	**2.42**	**56**	*e*Pn	**Pn**	**05 23 52.7**	**+1.1**
VTS				*e*Sn	**Sb**	**05 24 25.1**	**-0.5**
ZAPS	**Zavoj**	**2.57**	**37**	*e*Pn	**Pb**	**05 23 56.1**	**-1.7**
DIVS	**Divibare**	**2.87**	**353**	*e*Pn	**Pn**	**05 23 59.5**	**+1.8**
DIVS	**Divibare**	**2.87**	**353**	*e*Pn	**Pn**	**05 23 59.5**	**+1.8**

*ISCJB **10** 05:34:45.8±0.5, 26°.76N±0°.08×126°.63E±0°.08, h114km±8km, mb3.8/6, Error ellipse: s-maj=17.3km s-min=5.3km az=142.1*
*IDC **10** 05:34:46.0±2.7, 26°.69N×126°.57E, h102km±20km, mb3.6/6, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, Error ellipse: s-maj=51.4km s-min=22.4km az=12.0*
*JMA **10** 05:34:47.4±0.2, 26°.80N×126°.59E, h102km±3km, M3.4*
ISC 10 05:34:46.8±0.8, 26°.75N±0°.09×126°.59E±0°.08, h111km±9km, n20, σ1°26/32, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.45**	**158**	P	**Pn**	**05 35 03.5**	**0.0**
JKE				*e*S	**Sn**	**05 35 15.7**	**-0.3**
JAGN	**Aguni-jima**	**0.60**	**105**	P	**Pn**	**05 35 04.8**	**+0.1**
JAGN				S	**Sn**	**05 35 17.2**	**-0.6**
JJT2	**Tamagusuku 2**	**1.20**	**120**	P	**Pn**	**05 35 11.0**	**+0.8**
JJT2				S	**Sn**	**05 35 28.0**	**0.0**
JIH	**Iheya**	**1.26**	**77**	P	**Pn**	**05 35 11.3**	**+0.4**
JIH				S	**Sn**	**05 35 28.2**	**-1.0**
JOW	**Kunigami**	**1.51**	**86**	P	**Pn**	**05 35 14.0**	**+0.2**
	70nm,0.3s,baz=153,slow=11,SNR=190						
JOW				S	**Sn**	**05 35 32.6**	**-1.6**
	67nm,0.3s,baz=116,slow=25,SNR=8.2						
JOW	**Kunigami**	**1.51**	**86**	P	**Pn**	**05 35 14.0**	**+0.2**
JOW				S	**Sn**	**05 35 32.7**	**-1.6**
JOGS	**Gusukube**	**2.25**	**209**	*e*S	**Sn**	**05 35 51.1**	**+0.3**
JTK	**Tokunoshima**	**2.34**	**63**	P	**Pn**	**05 35 24.2**	**0.0**
JTK				S	**Sn**	**05 35 51.0**	**-1.9**
JTJ	**Tarama**	**2.70**	**220**	P	**Pn**	**05 35 30.2

JIJ	**Ishigaki jima**	**3.24**	**224**	P		**Pn**	**05 35 35.5**	**-0.6**
JIJ				S		**Sn**	**05 36 10.9**	**-3.3**
JZK	**Kikaishima**	**3.38**	**62**	P		**Pn**	05 35 37.9	**0.0**
JZK				*e*S		**Sn**	**05 36 15.6**	**-1.8**
JMZ	**Minamidaito 2**	**4.26**	**102**	P		**Pn**	**05 35 48.2**	**-1.4**
JMZ				*e*S		Sn	05 36 30.8	-7.6
JNU	**Nakatsue**	**7.36**	**29**	P		**Pn**	**05 36 33.5**	**+1.8**
	1.3nm,0.3s,baz=174,slow=13,SNR=4.3							
SONM	**Songino Array**	**26.34**	**328**	P		**P**	**05 40 12.9**	**+0.5**
	1.5nm,0.6s,baz=145,slow=10,SNR=16							
MKAR	**Makanchi Array**	**40.10**	**312**	P		**P**	**05 42 11.3**	**-0.1**
	0.9nm,0.5s,baz=94,slow=11,SNR=20							
MKAR				PcP		**PcP**	**05 44 14.7**	**+0.7**
	0.9nm,0.6s,baz=79,slow=3.3,SNR=10							
ZALV	**Zalesovo Beam**	**40.95**	**323**	P		**P**	**05 42 18.4**	**0.0**
	3.0nm,0.5s,baz=112,slow=9.0,SNR=18							
KURBB	**Kurchatov Arra**	**43.47**	**316**	P		**P**	**05 42 38.3**	**-0.4**
	1.2nm,0.5s,baz=104,slow=9.2,SNR=5.1							
ILAR	**Eielson Array**	**64.68**	**28**	P		**P**	**05 45 13.4**	**+0.9**
	0.2nm,0.4s,baz=248,slow=4.7,SNR=4.8							
YKA	**Yellowknife Ar**	**78.67**	**25**	P		**P**	**05 46 37.0**	**+0.7**
	0.9nm,0.8s,baz=302,slow=5.6,SNR=9.5							

IDC 10 05:35:05.4±1.8, 6°22.5S×148°02.E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=62.3km s-min=24.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.27**	**195**	Pn	Pn	05 36 00.0	+2.0
	4.3nm,0.3s,baz=47,slow=5.6,SNR=6.5						
PMG				Sn	Sn	05 36 40.8	+3.1
	6.8nm,0.3s,baz=6.9,slow=16,SNR=6.8						
WRA	**Warramunga Arr**	**19.04**	**223**	P	P	05 39 29.4	+0.1
	0.2nm,0.3s,baz=50,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**22.03**	**217**	P	P	05 40 00.9	-0.8
	1.0nm,0.4s,baz=55,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**24.82**	**240**	P	P	05 40 29.0	-0.5
	1.6nm,0.5s,baz=70,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**85.29**	**23**	P	P	05 47 44.1	+0.2
	0.2nm,0.6s,baz=258,slow=4.3,SNR=4.3						

*IDC **10** 05:41:48.1±0.9, 7°32S×106°07E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/24, mbtmp4.1/10, MS3.3/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=49.4km s-min=15.2km az=49.0*
*NEIC **10** 05:41:49.5±0.4, 7°33S×106°04E, h10km, mb4.3/5, Error ellipse: s-maj=24.8km s-min=6.8km az=47.0*
*DJA **10** 05:41:51.9±0.8, 8°S±3°×10°6E±°, h23km±8km, M4.5/12, mb4.8/3, mB5.0/1, MLv4.4/12, Mw(mB)4.3/1*
*ISCJB **10** 05:41:55.1±0.9, 7°39S±0°09×106°05E±0°06, h73km±7km, mb4.1/13, Error ellipse: s-maj=18.1km s-min=5.1km az=31.4*

ISC 10 05:41:55.6±1.4, 7°4S±0°1×105°99E±0°07, h57km±12km, n43, σ1°06/49, mb4.2/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.70**	**53**	P	**Pn**	**05 42 07.6**	**-2.1**
SKJI				S	**Sn**	**05 42 20.9**	**+1.0**
CGJI	**Cibinong**	**0.86**	**340**	S	**Sn**	**05 42 24.6**	**+1.1**
DBJI	**Dramaga**	**1.15**	**41**	P	**Pn**	**05 42 16.4**	**+0.9**
SBJI	**Serang**	**1.30**	**6**	P	**Pn**	**05 42 19.1**	**+1.5**
CBJI	**Citeko**	**1.31**	**41**	P	**Pn**	**05 42 16.2**	**-1.5**
CBJI				S	**Sn**	**05 42 32.6**	**-1.6**
LEM	**Lembang**	**1.72**	**70**	P	**Pn**	**05 42 24.7**	**+1.3**
CISI	**Cisompet, Garu**	**1.81**	**94**	P	**Pn**	**05 42 22.9**	**-1.6**
CISI				S	**Sn**	**05 42 49.0**	**+2.5**
KASI	**Kota Agung**	**2.40**	**322**	P	**Pn**	**05 42 32.4**	**-0.1**
KASI				S	**Sn**	**05 43 01.8**	**+1.0**
CLJI	**Cilicap**	**3.01**	**96**	P	**Pn**	**05 42 42.6**	**+1.7**
LWLI	**Liwa**	**3.07**	**321**	P	**Pn**	**05 42 41.7**	**0.0**
LWLI				S	**Sn**	**05 43 19.7**	**+2.4**
BJII	**Banjamegara**	**3.69**	**89**	P	Pn	05 42 55.1	+4.9
PCJI	**Pacitan**	**5.20**	**99**	P	**Pn**	**05 43 09.5**	**-1.3**
	69nm,0.4s,1µm0.4nm						
PWJI	**Pagerwojo**	**5.79**	**96**	P	**Pn**	**05 43 19.4**	**+0.4**
	67nm,0.8s,0.3nm						
PWJI				S	**Sn**	**05 44 24.4**	**+0.3**
	67nm,0.8s,0.3nm						
NBBI	**Negara**	**8.60**	**97**	P	Pn	05 44 04.5	+7.0
SRBI	**Singaraja**	**9.16**	**95**	P	**Pn**	**05 44 06.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**21.88**	**121**	P	**P**	**05 46 42.7**	**-1.2**
	2.4nm,0.8s,baz=229,slow=7.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**21.88**	**121**	*e*P	**P**	**05 46 42.9**	**-1.1**
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**30.16**	**117**	P	**P**	**05 47 59.5**	**-1.1**
	0.9nm,0.6s,baz=290,slow=10,SNR=6.4						
WRA				LR	LR	05 59 17.1	
	comp=Z,62nm,20.2s,baz=150,slow=35						
WRA	**Warramunga Arr**	**30.16**	**117**	P	**P**	**05 47 59.5**	**-1.1**
WRAB	**Tennant Creek**	**30.17**	**117**	*e*P	**P**	**05 48 00.7**	**0.0**
	66nm,2.5s						
ASAR	**Alice Springs**	**31.27**	**124**	P	**P**	**05 48 10.1**	**-0.3**
	0.6nm,0.5s,baz=305,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**31.27**	**124**	P	**P**	**05 48 10.1**	**-0.3**
STKA	**Stephens Creek**	**41.11**	**131**	P	**P**	**05 49 34.2**	**0.0**
	1.2nm,0.3s,baz=318,slow=8.0,SNR=7.1						
STKA	**Stephens Creek**	**41.11**	**131**	*e*P	**P**	**05 49 34.4**	**+0.2**
	1.1nm,1.0s						
SONM	**Songino Array**	**55.02**	**0**	P	**P**	**05 51 21.5**	**+0.1**
	0.6nm,0.4s,baz=181,slow=9.8,SNR=12						
SONM				PcP	**PcP**	**05 52 22.7**	**+0.2**
	0.4nm,0.5s,baz=184,slow=3.3,SNR=4.3						
SONM	**Songino Array**	**55.02**	**0**	P	**P**	**05 51 21.5**	**+0.1**
SONM				PcP	**PcP**	**05 52 22.7**	**+0.2**
TKM2	**Tokmak 2**	**57.23**	**334**	*e*P	**P**	**05 51 36.8**	**-0.6**
	1.9nm,0.4s						
MK31	**Makanchi Array**	**57.95**	**341**	*e*P	**P**	**05 51 41.3**	**-0.9**
MKAR	**Makanchi Array**	**57.95**	**341**	P	**P**	**05 51 41.4**	**-0.8**
	1.7nm,0.5s,baz=145,slow=8.3,SNR=29						
MKAR	**Makanchi Array**	**57.95**	**341**	P	**P**	**05 51 41.4**	**-0.8**
KURBB	**Kurchatov Arra**	**62.51**	**341**	P	**P**	**05 52 12.9**	**-0.3**
	1.7nm,0.6s,baz=153,slow=6.2,SNR=13						
KURK	**Kurchatov**	**62.56**	**341**	P	**P**	**05 52 12.9**	**-0.6**
ZALV	**Zalesovo Beam**	**63.70**	**346**	P	**P**	**05 52 20.3**	**-0.7**
	1.9nm,0.3s,baz=155,slow=5.5,SNR=9.0						
ZALV	**Zalesovo Beam**	**63.70**	**346**	P	**P**	**05 52 20.3**	**-0.7**
ABKAR	**Akbulak Array**	**69.27**	**330**	*e*P	**P**	**05 52 56.3**	**-0.4**
	1.9nm,0.5s						
KBZ	**Khabaz**	**76.30**	**318**	P	**P**	**05 53 39.4**	**+1.0**
	2.8nm,1.0s,baz=140,slow=1.7,SNR=4.4						
KBZ	**Khabaz**	**76.30**	**318**	P	**P**	**05 53 39.4**	**+1.0**
BRTR	**Keskin Array B**	**81.36**	**312**	P	**P**	**05 54 06.7**	**+0.1**
	1.2nm,0.6s,baz=136,slow=6.6,SNR=6.7						
BRTR	**Keskin Array B**	**81.36**	**312**	P	**P**	**05 54 06.7**	**+0.1**
TXAR	**Lajitas Array**	**144.59**	**48**	PKP	**PKPdf**	**06 01 26.9**	**+0.2**
	0.5nm,0.5s,baz=232,slow=1.6,SNR=7.4						
TXAR	**Lajitas Array**	**144.59**	**48**	PKP	**PKPdf**	**06 01 26.9**	**+0.2**
BDFB	**Brasilia**	**145.53**	**228**	PKPbc	**PKPab**	**06 01 29.5**	**+0.5**
	2.4nm,1.0s,baz=126,slow=10,SNR=3.9						
BDFB	**Brasilia**	**145.53**	**228**	PKPbc	**PKPab**	**06 01 29.5**	**+0.5**

*THE **10** 05:51:46.9, 41°28N×20°52E, h0km±2km, ML3.0/1, Error ellipse: s-maj=2.8km s-min=0.6km az=292.0*
*SKO **10** 05:51:46.3, 41°25N×20°49E, h15km, M2.2, ML2.5*
*BEO **10** 05:51:46.6±0.8, 41°09N×20°49E, h4km±3km, ML2.4/7*
*CSEM **10** 05:51:47.3±0.3, 41°22N×20°48E, h2km, ML3.0/1, Error ellipse: s-maj=6.2km s-min=4.0km az=41.0*

ISC 10 05:51:46.9±1.1, 41°26N±0°02×20°51E±0°02, h4km±10km, n32, σ1°36/65, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.42**	**353**	*e*PN	**Pg**	**05 51 55.3**	**+0.2**
PHP				*i* SN	**Sg**	**05 52 05.7**	**+1.8**
PHP	**Peshkopia**	**0.42**	**353**	P	**Pg**	**05 51 54.9**	**-0.2**
PHP				S	**Sg**	**05 52 00.8**	**+0.1**
PHP	**Peshkopia**	**0.42**	**353**	P	**Pg**	**05 51 54.9**	**-0.2**
PHP				S	**Sg**	**05 52 00.8**	**+0.1**
TIR	**Tirane**	**0.49**	**280**	*e*PN	**Pg**	**05 51 54.4**	**-2.0**
TIR				*i* SN	**Sg**	**05 52 03.3**	**+0.5**
TIR	**Tirane**	**0.49**	**280**	P	**Pg**	**05 51 56.2**	**-0.1**
TIR				S	**Sb**	**05 52 04.2**	**-1.6**
TIR	**Tirane**	**0.49**	**280**	*e*Pg	**Pg**	**05 51 56.3**	**-0.1**
TIR				*e*Sg	**Sb**	**05 52 04.1**	**-1.7**
TIR	**Tirane**	**0.49**	**280**	*e*Pg	**Pg**	**05 51 56.3**	**-0.1**
TIR				*e*Sg	**Sb**	**05 52 04.1**	**-1.7**
BIA	**Bitola**	**0.66**	**111**	P	**Pg**	**05 51 59.3**	**-0.3**
BIA				S	**Sb**	**05 52 09.9**	**-0.7**
BIA	**Bitola**	**0.66**	**111**	*i* Pg	**Pg**	**05 51 59.3**	**-0.3**
BIA				*i* Sg	**Sg**	**05 52 09.2**	**+1.0**
BIA	**Bitola**	**0.66**	**111**	P	**Pg**	**05 51 59.3**	**-0.3**
BIA				*i* Sg	**Sg**	**05 52 09.1**	**+1.0**
BIA				S	**Sb**	**05 52 09.9**	**-0.7**
FNA	**Florina**	**0.81**	**126**	P	**Pg**	**05 52 02.1**	**-0.4**
FNA				S	**Sb**	**05 52 14.3**	**-0.6**
FNA	**Florina**	**0.81**	**126**	P	**Pg**	**05 52 02.1**	**-0.4**
FNA				S	**Sb**	**05 52 14.3**	**-0.6**
PUK	**Puka**	**0.91**	**329**	*e*PN	**Pg**	**05 52 03.2**	**-1.1**
PUK				*i* SN	**Sn**	**05 52 21.3**	**+1.1**
NEST	**Nestorio**	**0.94**	**154**	P	**Pb**	**05 52 05.5**	**-0.3**
NEST				S	**Sb**	**05 52 18.6**	**-0.1**
NEST	**Nestorio**	**0.94**	**154**	P	**Pb**	**05 52 05.5**	**-0.3**
NEST				S	**Sb**	**05 52 18.6**	**-0.1**
SKO	**Skopje**	**0.99**	**44**	*i* Pg	**Pg**	**05 52 06.2**	**+0.2**
SKO				*i* Sg	**Sb**	**05 52 20.3**	**+0.1**
SKO				*e*Lg	Lg	05 52 21.2	
	comp=E,75nm,0.4s						
SKO				*e*Lg	Lg	05 52 22.0	
	comp=N,243nm,0.4s						
SKO	**Skopje**	**0.99**	**44**	*e*Pg	**Pn**	**05 52 07.9**	**+0.2**
SKO				*e*Sg	**Sn**	**05 52 21.3**	**-0.9**
SKO	**Skopje**	**0.99**	**44**	*e*Pg	**Pn**	**05 52 07.9**	**+0.2**
SKO				*e*Sg	**Sn**	**05 52 21.3**	**-0.9**
SKO				*e*Lg	Lg	05 52 22.5	
	comp=N,243nm,0.4s						
BCI	**Bajram Curri**	**1.15**	**343**	*e*PN	**Pb**	**05 52 07.2**	**-2.2**
BCI				*e*PN	**Sn**	**05 52 30.1**	**+4.0**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pb**	**05 52 15.1**	**-0.2**
PDG				*e*Sg	**Sg**	**05 52 38.5**	**+3.5**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pb**	**05 52 15.1**	**-0.2**
PDG				*e*Sg	**Sg**	**05 52 38.5**	**+3.5**
VAY	**Valandovo**	**1.55**	**87**	*i* Pg	**Pb**	**05 52 15.4**	**-0.8**
VAY				*e*Lg	Lg	05 52 37.4	
	comp=N,29nm,0.4s						
VAY				*i* Sg	**Sg**	**05 52 37.4**	**+0.6**
VAY				*e*Lg	Lg	05 52 38.1	
	comp=E,26nm,0.5s						
VAY	**Valandovo**	**1.55**	**87**	*i* Pg	**Pb**	**05 52 15.8**	**-0.4**
VAY				*i* Sg	**Sg**	**05 52 37.9**	**+1.1**
VAY				*e*Lg	Lg	05 52 38.6	
	comp=E,26nm,0.5s						
BARS	**Barje**	**1.83**	**32**	*e*Pn	**Pg**	**05 52 21.9**	**-0.1**
BARS				*e*Sn	**Sg**	**05 52 46.8**	**+1.0**
BARS	**Barje**	**1.83**	**32**	*e*Pn	**Pg**	**05 52 21.9**	**-0.1**
BARS				*e*Sn	**Sg**	**05 52 46.8**	**+1.0**
IVAS	**Ivanjica**	**2.33**	**354**	*e*Pn	**Pb**	**05 52 27.6**	**-1.9**
IVAS				*e*Sn	**Sb**	**05 52 59.9**	**+1.3**
IVAS	**Ivanjica**	**2.33**	**354**	*e*Pn	**Pb**	**05 52 27.6**	**-1.9**
IVAS				*e*Sn	**Sb**	**05 52 59.9**	**+1.3**
VTS	**Vitosha**	**2.41**	**56**	*e*Pn	**Pn**	**05 52 28.3**	**+1.0**
VTS				*e*Sn	**Sb**	**05 52 59.2**	**-1.9**
VTS	**Vitosha**	**2.41**	**56**	*e*Pn	**Pn**	**05 52 28.3**	**+1.0**
VTS				*e*Sn	**Sb**	**05 52 59.2**	**-1.9**
ZAPS	**Zavoj**	**2.55**	**37**	*e*Pn	**Pb**	**05 52 31.9**	**-1.4**
ZAPS				*e*Sn	**Sb**	**05 53 04.4**	**-0.7**
DIVS	**Divibare**	**2.86**	**352**	*e*Pn	**Pn**	**05 52 33.6**	**+0.2**
DIVS				*e*Sn	**Sb**	**05 53 11.2**	**-2.8**
DIVS	**Divibare**	**2.86**	**352**	*e*Pn	**Pn**	**05 52 33.6**	**+0.2**
DIVS				*e*Sn	**Sb**	**05 53 11.2**	**-2.8**

*BEO **10** 06:09:15.5±1.3, 40°92N×20°48E, h8km±5km, ML2.3/3*
*SKO **10** 06:09:16.7, 41°23N×20°48E, h15km, M1.9, ML2.2*
*THE **10** 06:09:17.3, 41°28N×20°51E, h11km±9km, ML2.8/1, Error ellipse: s-maj=9.9km s-min=0.5km az=344.0*
*CSEM **10** 06:09:17.4±0.3, 41°23N×20°50E, h2km, ML2.8/1, Error ellipse: s-maj=7.7km s-min=5.0km az=37.0*

ISC 10 06:09:17.3±1.2, 41°23N±0°03×20°51E±0°03, h6km±11km, n22, σ0°92/39, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.46**	**354**	P	**Pg**	**06 09 25.3**	**-0.8**
PHP				S	**Sg**	**06 09 31.6**	**-0.5**
PHP	**Peshkopia**	**0.46**	**354**	P	**Pg**	**06 09 25.3**	**-0.8**
PHP				S	**Sg**	**06 09 31.6**	**-0.5**
TIR	**Tirane**	**0.50**	**284**	P	**Pg**	**06 09 26.3**	**-0.6**
TIR				S	**Sb**	**06 09 34.4**	**-1.5**
TIR	**Tirane**	**0.50**	**284**	*e*Pg	**Pg**	**06 09 26.3**	**-0.6**
TIR				*e*Sg	**Sb**	**06 09 36.6**	**+0.7**
TIR	**Tirane**	**0.50**	**284**	P	**Pg**	**06 09 26.3**	**-0.6**
TIR				S	**Sb**	**06 09 34.4**	**-1.5**
TIR				*e*Sg	**Sb**	**06 09 36.6**	**+0.7**
BIA	**Bitola**	**0.65**	**109**	*e*Pg	**Pg**	**06 09 29.2**	**-0.6**
BIA				*i* Sg	**Sb**	**06 09 39.6**	**-0.8**
BIA	**Bitola**	**0.65**	**109**	*e*Pg	**Pg**	**06 09 29.2**	**-0.6**
BIA				*i* Sg	**Sb**	**06 09 39.6**	**-0.8**
FNA	**Florina**	**0.80**	**124**	P	**Pg**	**06 09 32.7**	**+0.2**
FNA				S	**Sb**	**06 09 45.0**	**+0.5**
FNA	**Florina**	**0.80**	**124**	P	**Pg**	**06 09 32.7**	**+0.2**
FNA				S	**Sb**	**06 09 45.0**	**+0.5**
NEST	**Nestorio**	**0.91**	**153**	P	**Pb**	**06 09 35.2**	**-0.3**
NEST				S	**Sn**	**06 09 49.6**	**-0.6**
NEST	**Nestorio**	**0.91**	**153**	P	**Pb**	**06 09 35.2**	**-0.3**
SKO	**Skopje**	**1.02**	**43**	*i* Pg	**Pb**	**06 09 37.1**	**-0.2**
SKO				*i* Sg	**Sb**	**06 09 50.7**	**-0.3**
SKO				*e*Lg	Lg	06 09 52.0	
	comp=E,43nm,0.4s						
SKO				*e*Lg	Lg	06 09 53.8	
	comp=N,116nm,0.5s						
SKO	**Skopje**	**1.02**	**43**	*i* Pg	**Pb**	**06 09 37.6**	**+0.3**
SKO				*i* Sg	**Sb**	**06 09 51.2**	**+0.2**
SKO				*e*Lg	Lg	06 09 54.3	
	comp=N,116nm,0.5s						
PDG	**Podgorica**	**1.52**	**322**	*e*Pn	**Pg**	**06 09 46.4**	**0.0**
PDG				*e*Sn	**Sg**	**06 10 08.9**	**+2.8**
PDG	**Podgorica**	**1.52**	**322**	*e*Pn	**Pg**	**06 09 46.4**	**0.0**
PDG				*e*Sn	**Sg**	**06 10 08.9**	**+2.8**
VAY	**Valandovo**	**1.56**	**86**	*e*Pg	**Pb**	**06 09 46.4**	**-0.1**
VAY				*e*Sg	**Sg**	**06 10 07.8**	**+0.4**
VAY				*e*Lg	Lg	06 10 08.3	
	comp=E,11nm,0.4s						
VAY				*e*Lg	Lg	06 10 08.3	
	comp=N,18nm,0.6s						
VAY	**Valandovo**	**1.56**	**86**	*e*Pg	**Pb**	**06 09 46.8**	**+0.3**
VAY				*e*Lg	Lg	06 10 01.8	
	comp=N,18nm,0.6s						
BARS	**Barje**	**1.86**	**31**	*e*Pn	**Pb**	**06 09 52.2**	**+0.5**
BARS				*e*Sn	**Sg**	**06 10 17.8**	**+0.7**
IVAS	**Ivanjica**	**2.36**	**354**	*e*Pn	**Pb**	**06 09 59.4**	**-0.8**
IVAS	**Ivanjica**	**2.36**	**354**	*e*Pn	**Pb**	**06 09 59.4**	**-0.8**
VTS	**Vitosha**	**2.43**	**55**	*e*Pn	**Pn**	**06 09 57.9**	**+0.2**
VTS	**Vitosha**	**2.43**	**55**	*e*Pn	**Pn**	**06 09 57.9**	**+0.2**

IDC 10 06:21:08.7±2.1, 22°80S×176°65W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=56.3km s-min=36.7km az=28.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.58**	**267**	P	P	06 28 01.1	+1.6
	7.4nm,0.5s,baz=83,slow=11,SNR=18						
STKA	**Stephens Creek**	**37.99**	**247**	P	P	06 28 28.3	-0.3
	1.4nm,0.8s,baz=107,slow=15,SNR=3.0						
ASAR	**Alice Springs**	**45.26**	**259**	P	P	06 29 27.9	-0.5
	0.5nm,0.5s,baz=91,slow=8.5,SNR=8.5						
WRA	**Warramunga Arr**	**45.57**	**264**	P	P	06 29 29.4	-1.4
	1.1nm,0.3s,baz=96,slow=8.4,SNR=81						
QSPA	**South Pole Qui**	**67.28**	**180**	P	P	06 32 04.9	-0.1
	2.0nm,1.0s,baz=65,slow=8.5,SNR=5.7						
AKASG	**Malin Array Be**	**145.63**	**331**	PKPbc	PKPdf	06 40 48.6	-0.2
	1.3nm,0.5s,baz=45,slow=4.0,SNR=5.4						

*ISK **10** 06:22:56.7, 38°80N×43°87E, h2km, MD2.9*
*ISCJB **10** 06:22:58.3±0.6, 38°88N±0°04×43°71E±0°06, h7km±5km, Error ellipse: s-maj=9.7km s-min=4.0km az=33.2*
*DDA **10** 06:22:58.3, 38°95N×43°56E, h8km, MD2.8*
*CSEM **10** 06:22:58.0±0.3, 38°90N×43°66E, h12km, MD2.9, Error ellipse: s-maj=14.0km s-min=5.8km az=119.0*

ISC 10 06:22:58.1±1.0, 38°92N±0°03×43°63E±0°04, h15km±11km, n19, σ0°96/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.32**	**45**	*e*PG	**Pg**	**06 23 04.4**	**-0.5**
CLDR				*e*SG	**Sg**	**06 23 10.2**	**+0.7**
CLDR	**Caldiran**	**0.32**	**45**	*e*Pg	**Pg**	**06 23 04.4**	**-0.5**
CLDR				*e*Sg	**Sg**	**06 23 10.2**	**+0.7**
VANB	**Van**	**0.37**	**210**	*e*PG	**Pb**	**06 23 06.2**	**-0.3**
VANB				*e*SG	**Sb**	**06 23 12.8**	**+0.6**
VANB	**Van**	**0.37**	**210**	*e*Pg	**Pb**	**06 23 06.3**	**-0.3**
VANB				*e*Sg	**Sb**	**06 23 12.8**	**+0.6**
VANT	**Van**	**0.57**	**210**	*e*PG	**Pb**	**06 23 09.4**	**-0.6**
VANT				*e*SG	**Sb**	**06 23 18.5**	**+0.5**
VANT	**Van**	**0.57**	**210**	*e*Pg	**Pb**	**06 23 09.4**	**-0.6**
VANT				*e*Sg	**Sb**	**06 23 18.5**	**+0.5**
DYDN	**Diyadin**	**0.63**	**4**	*i* P	**Pg**	**06 23 09.1**	**-1.5**
DYDN				*i* S	**Sg**	**06 23 19.8**	**+0.8**
DYDN	**Diyadin**	**0.63**	**4**	*i* P	**Pg**	**06 23 09.1**	**-1.5**
DYDN				*i* S	**Sg**	**06 23 19.8**	**+0.8**
TATV	**Tatvan**	**1.14**	**250**	*i* P	**Pb**	**06 23 18.9**	**-0.8**
TATV				*i* S	**Sb**	**06 23 34.3**	**-0.1**
TATV	**Tatvan**	**1.14**	**250**	*i* P	**Pb**	**06 23 18.9**	**-0.8**
TATV				*i* S	**Sb**	**06 23 34.3**	**-0.1**
HAKT	**HAKKARI**	**1.36**	**177**	*i* P	**Pn**	**06 23 22.0**	**-0.8**
HAKT				*i* S	**Sg**	**06 23 45.0**	**+3.0**
HAKT	**HAKKARI**	**1.36**	**177**	*i* P	**Pn**	**06 23 22.0**	**-0.8**
GNI	**Garni**	**1.50**	**35**	*e*PN	**Pb**	**06 23 26.2**	**+0.3**
GNI				*e*SN	**Sg**	**06 23 47.0**	**+0.4**
GNI	**Garni**	**1.50**	**35**	*e*Pn	**Pb**	**06 23 26.2**	**+0.3**
GNI				*e*Sn	**Sg**	**06 23 47.0**	**+0.4**
CUKT	**Cukurca**	**1.67**	**181**	*e*PN	**Pn**	**06 23 26.2**	**-0.7**
CUKT	**Cukurca**	**1.67**	**181**	*e*Pn	**Pn**	**06 23 26.2**	**-0.7**
BNGL	**BINGOL**	**1.93**	**272**	*i* P	**Pb**	**06 23 33.9**	**+0.6**
BNGL				*i* S	**Sg**	**06 24 00.3**	**-0.1**
BNGB	**Bingˆ¶l**	**2.30**	**273**	*e*PN	**Pb**	**06 23 39.6**	**+0.2**
BINT	**Bingol**	**2.45**	**270**	*e*Pn	**Pn**	**06 23 39.6**	**+1.8**

IDC 10 06:42:35.2±5.3, 6°24S×154°58E, h84km±44km, mb3.5/11, mb1 3.7/12, mb1mx3.7/19, mbtmp3.5/12, ML3.0/1, Error ellipse: s-maj=32.0km s-min=21.2km az=92.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.00**	**246**	P	Pn	06 44 29.1	+0.3
	1.3nm,0.3s,baz=53,slow=9.1,SNR=5.0						
PMG				S	Sn	06 45 59.8	+2.1
	1.0nm,0.3s,baz=52,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**23.92**	**233**	P	P	06 47 41.4	-0.3
	1.4nm,0.7s,baz=58,slow=9.6,SNR=13						
WRA				PcP	PcP	06 51 23.0	+0.6
	0.6nm,0.6s,baz=58,slow=2.2,SNR=12						
ASAR	**Alice Springs**	**26.38**	**227**	P	P	06 48 03.4	-0.5
	0.3nm,0.5s,baz=57,slow=9.3,SNR=4.7						
ASAR				PcP	PcP	06 51 28.5	+0.7
	0.4nm,0.4s,baz=74,slow=2.6,SNR=6.1						
STKA	**Stephens Creek**	**28.25**	**204**	P	P	06 48 20.3	-0.3
	1.4nm,0.8s,baz=42,slow=14,SNR=2.9						
CMAR	**Chiang Mai Arr**	**60.09**	**295**	P	P	06 52 33.8	-0.5
	1.0nm,0.3s,baz=111,slow=7.2,SNR=6.2						
SONM	**Songino Array**	**68.48**	**327**	P	P	06 53 29.2	+0.5
	0.4nm,0.7s,baz=126,slow=5.4,SNR=3.3						
MKAR	**Makanchi Array**	**82.57**	**319**	P	P	06 54 47.7	-1.4
	0.5nm,0.6s,baz=133,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	**82.83**	**22**	P	P	06 54 46.0	-4.1
	0.3nm,0.6s,baz=245,slow=5.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**83.33**	**326**	P	P	06 54 53.0	+0.2
	0.3nm,0.5s,baz=137,slow=9.3,SNR=2.8						
QSPA	**South Pole Qui**	**83.73**	**180**	P	P	06 54 54.7	-0.2
	1.3nm,0.6s,baz=292,slow=2.0,SNR=18						
NVAR	**Mina Array Bea**	**91.58**	**52**	P	P	06 55 33.7	+0.3
	0.7nm,0.8s,baz=244,slow=6.4,SNR=4.8						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	P	06 55 52.2	0.0
	0.1nm,0.5s,baz=343,slow=

ILAR Eielson Array 97.02 3 P P 07 13 11.6 -0.9

*SKO **10** 07:02:12.6,41˙.22N×20˙.49E,h12km,M2.1,ML2.4*
*BEO **10** 07:02:12.2±0.8,40˙.99N×20˙.42E,h6km±5km,ML2.3/5*
*THE **10** 07:02:13.2,41˙.28N×20˙.51E,h14km±7km,ML2.9/1,Error ellipse: s-maj=7.9km s-min=0.5km az=354.0*
*CSEM **10** 07:02:13.4±0.3,41˙.21N×20˙.51E,h2km,ML2.9/1,Error ellipse: s-maj=7.7km s-min=4.1km az=20.0*

ISC 10 07:02:13.3±1.2,41˙.24N±0˙.03×20˙.52E±0˙.02,h4km±14km, n23,σ0ş73/46,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.45**	**353**	P		**Pg**		**07 02 21.0**	**-0.9**
PHP				S		**Sg**		**07 02 27.7**	**-0.1**
PHP	**Peshkopia**	**0.45**	**353**	P		**Pg**		**07 02 21.0**	**-0.9**
PHP				S		**Sg**		**07 02 27.7**	**-0.1**
TIR	**Tirane**	**0.50**	**283**	P		**Pg**		**07 02 22.3**	**-0.6**
TIR				S		**Sg**		**07 02 30.4**	**+0.9**
TIR	**Tirane**	**0.50**	**283**	*e*Pg		**Pg**		**07 02 22.3**	**-0.6**
TIR				*e*Sg		**Sg**		**07 02 30.1**	**+0.6**
TIR	**Tirane**	**0.50**	**283**	P		**Pg**		**07 02 22.3**	**-0.6**
TIR				*e*Sg		**Sg**		**07 02 30.1**	**+0.6**
TIR				S		**Sg**		**07 02 30.4**	**+0.9**
BIA	**Bitola**	**0.65**	**110**	P		**Pg**		**07 02 25.4**	**-0.3**
BIA				S		**Sb**		**07 02 36.0**	**-0.7**
BIA	**Bitola**	**0.65**	**110**	*i* Pg		**Pg**		**07 02 25.3**	**-0.3**
BIA				*e*Sg		**Sb**		**07 02 35.9**	**-0.7**
BIA	**Bitola**	**0.65**	**110**	P		**Pg**		**07 02 25.4**	**-0.3**
BIA				*e*Sg		**Sb**		**07 02 35.9**	**-0.7**
FNA	**Florina**	**0.79**	**125**	P		**Pg**		**07 02 28.7**	**+0.2**
FNA				S		**Sb**		**07 02 41.2**	**+0.4**
FNA	**Florina**	**0.79**	**125**	P		**Pg**		**07 02 28.7**	**+0.2**
SKO	**Skopje**	**1.01**	**43**	*i* Pg		**Pg**		**07 02 32.6**	**0.0**
SKO				*i* Sg		**Sb**		**07 02 46.9**	**-0.1**
SKO				*e*Lg		Lg		07 02 47.3	
	comp=E,101nm,0.8s								
SKO				*e*Lg		Lg		07 02 49.1	
	comp=N,180nm,0.4s								
SKO	**Skopje**	**1.01**	**43**	*i* Pg		**Pg**		**07 02 33.0**	**+0.4**
SKO				*i* Sg		**Sb**		**07 02 47.3**	**+0.4**
SKO				*e*Lg		Lg		07 02 49.6	
	comp=N,180nm,0.4s								
PDG	**Podgorica**	**1.52**	**322**	*e*Pn		**Pg**		**07 02 42.5**	**+0.1**
PDG				*e*Sn		**Sg**		**07 03 03.4**	**+1.3**
PDG	**Podgorica**	**1.52**	**322**	*e*Pn		**Pg**		**07 02 42.5**	**+0.1**
PDG				*e*Sn		**Sg**		**07 03 03.4**	**+1.3**
VAY	**Valandovo**	**1.55**	**86**	*e*Pg		**Pb**		**07 02 42.3**	**-0.2**
VAY				*e*Sg		**Sg**		**07 03 03.5**	**+0.4**
VAY				*e*Lg		Lg		07 03 03.9	
	comp=N,28nm,0.4s								
VAY				*e*Lg		Lg		07 03 04.2	
	comp=E,26nm,0.5s								
VAY	**Valandovo**	**1.55**	**86**	*e*Pn		**Pb**		**07 02 42.1**	**-0.4**
VAY				*e*Sn		**Sg**		**07 03 02.9**	**-0.2**
VAY	**Valandovo**	**1.55**	**86**	*e*Pn		**Pb**		**07 02 42.1**	**-0.4**
VAY	**Valandovo**	**1.55**	**86**	*e*Pg		**Pb**		**07 02 42.8**	**+0.3**
VAY				*e*Lg		Lg		07 03 01.7	
	comp=E,26nm,0.5s								
VAY				*e*Sg		**Sb**		**07 03 01.9**	**-0.6**
VAY				*e*Sn		**Sg**		**07 03 02.9**	**-0.2**
BARS	**Barje**	**1.85**	**31**	*e*Pn		**Pb**		**07 02 47.2**	**-0.5**
BARS				*e*Sn		**Sg**		**07 03 14.4**	**+1.7**
BARS	**Barje**	**1.85**	**31**	*e*Pn		**Pb**		**07 02 47.2**	**-0.5**
BARS				*e*Sn		**Sg**		**07 03 14.4**	**+1.7**
VTS	**Vitosha**	**2.42**	**55**	*e*Pn		**Pn**		**07 02 54.3**	**+0.5**
VTS				*e*Sn		**Sb**		**07 03 27.1**	**-0.7**
VTS	**Vitosha**	**2.42**	**55**	*e*Pn		**Pn**		**07 02 54.3**	**+0.5**
VTS				*e*Sn		**Sb**		**07 03 27.1**	**-0.7**
ZAPS	**Zavoj**	**2.57**	**37**	*e*Pn		**Pb**		**07 02 58.4**	**-1.6**
ZAPS				*e*Sn		**Sb**		**07 03 32.1**	**+0.2**

*IDC **10** 07:10:04.5±0.4,11˙.77N×88˙.26W,h0km,mb4.6/25, mb1 4.8/26,mb1mx4.8/29,mbtmp4.7/26,ML4.8/1,MS4.2/22, Ms1 4.2/22,ms1mx4.0/39,Error ellipse: s-maj=19.0km s-min=10.4km az=57.0*
*ISCJB **10** 07:10:08.7±0.3,11˙.74N±0˙.02×88˙.38W±0˙.02,h39km±2km, mb4.9/163,MS4.2/26,Error ellipse: s-maj=4.5km s-min=2.0km az=35.7*
*MOS **10** 07:10:08.8±1.1,11˙.82N×88˙.27W,h33km,mb5.2/43,Error ellipse: s-maj=9.1km s-min=4.8km az=112.9*
*CASC **10** 07:10:08.8±10.0,11˙.71N×88˙.51W,h94km±157km,MD4.6, ML4.9,mb5.0(NEIC)*
*GCMT **10** 07:10:10.0±0.2,11˙.60N×88˙.68W,h12km,MW5.1, Moment Tensor Solution. s51,c74; s93,c161; Moment tensor: Scale 10¹⁶Nm; Mrr=6.15±.12; Mθθ=4.18±.11; Mφφ=1.98±.14; Mrθ=1.22±.36; Mrφ=-2.93±.10; Mθφ=-0.02±.37; Best double couple: M₀6.30000×10¹⁶ NP1:φ=131.00000°, δ=41.00000°, λ=-81.00000°. NP2:φ=299.00000°, δ=50.00000°, λ=-98.00000°. Principal axes: T 6.2900, Plg5.0000°, Azm34.0000°; N 0.0200, Plg6.0000°, Azm304.0000°; P -6.3100, Plg82.0000°, Azm161.0000°; Data Used: II IU IC G CN.*
*NEIC **10** 07:10:11.0±0.4,11˙.73N×88˙.38W,h44km±3km,mb5.0/145 Error ellipse: s-maj=4.5km s-min=2.6km az=212.0*
*SZGRF **10** 07:10:11.5,11˙.51N×87˙.84W,h28km,mb5.1,MS4.3,Near coast of Nicaragua*

ISC 10 07:10:10.4±0.5,11˙.72N±0˙.04×88˙.44W±0˙.04,h41km±4km, n880,σ1ş21/947,mb5.0/163,MS4.3/26,197C-204D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.66**	**21**	*e*P		**Pn**		**07 10 36.1**	**-1.0**
VSM	**San Miguel**	**1.71**	**5**	*e*P		**Pn**		**07 10 37.0**	**-1.0**
BLLM	**Bellamira**	**1.73**	**6**	*e*P		**Pn**		**07 10 36.9**	**-1.2**
SNVI	**San Vicente**	**1.93**	**348**	*e*P		**Pn**		**07 10 39.5**	**-1.4**
CAHU	**Cacacuatique**	**2.06**	**6**	*e*P		**Pn**		**07 10 42.1**	**-0.6**
LBRS	**Las Brisas**	**2.10**	**344**	*e*P		**Pn**		**07 10 41.9**	**-1.2**
SNET	**Serv Nac Est T**	**2.11**	**338**	*e*P		**Pn**		**07 10 41.6**	**-1.7**
SNET				*e*P				07 10 41.8	
SNET				*e*S		**Sn**		**07 11 06.1**	**-2.2**
SNET				AML		AML		07 11 13.4	
	comp=Z,13μm,0.4s								
BOQS	**Boqueron**	**2.17**	**338**	*e*P		**Pn**		**07 10 42.9**	**-1.4**
SBLS	**San Blas**	**2.41**	**331**	*e*P		**Pn**		**07 10 46.4**	**-1.2**
SNJE	**San Jose**	**2.43**	**332**	*e*P		**Pn**		**07 10 46.7**	**-1.1**
RTR	**El Retiro**	**2.47**	**332**	*e*P		**Pn**		**07 10 47.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.59**	**26**	*e*Pn		**Pn**		**07 10 49.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.59**	**26**	*e*P		**Pn**		**07 10 49.7**	**-0.1**
TGUH				*e*S		**Sn**		**07 11 21.1**	**+1.0**
RBDL	**Robledal**	**2.68**	**333**	*e*P		**Pn**		**07 10 50.6**	**-0.6**
MTO2	**Montecristo 2**	**2.82**	**341**	*e*P		**Pn**		**07 10 52.7**	**-0.5**
MTO2				*e*S		**Sn**		**07 11 24.8**	**-1.2**
NY14	**Universidad de**	**3.04**	**110**	*i* P		**Pn**		**07 10 55.3**	**-0.7**
NY14				*i* S		**Sn**		**07 11 28.9**	**-2.3**
GBS2	**Las Lilas**	**3.05**	**106**	*i* P		**Pn**		**07 10 55.6**	**-0.6**
GBS3	**Finca Las Im˜¡**	**3.07**	**107**	*i* P		**Pn**		**07 10 55.2**	**-1.2**
GBS3				*i* S		**Sn**		**07 11 28.6**	**-2.3**
LAPC	**Finca la Perla**	**3.09**	**107**	*i* P		**Pn**		**07 10 55.5**	**-1.2**
LAPC				*i* S		**Sn**		**07 11 29.4**	**-3.1**
GPS3	**Bodega del ICE**	**3.16**	**107**	*i* P		**Pn**		**07 10 57.1**	**-0.6**
MESS	**Mesas**	**3.32**	**107**	*i* P		**Pn**		**07 11 00.1**	**+0.1**
COLC	**Colonia**	**3.34**	**108**	*i* P		**Pn**		**07 10 59.5**	**-0.6**
CUI	**Cuipilapa**	**3.38**	**108**	*i* P		**Pn**		**07 11 00.3**	**-0.5**
PCG	**Pacaya**	**3.40**	**322**	*e*P		**Pn**		**07 11 01.1**	**-0.1**
PCG				*e*S		**Sn**		**07 11 40.5**	**0.0**
NBG	**Las Nubes**	**3.41**	**327**	*e*P		**Pn**		**07 11 02.4**	**+1.0**
NBG				*e*S		**Sn**		**07 11 42.3**	**+1.6**
PTEN	**Parque Tenorio**	**3.53**	**106**	*i* P		**Pn**		**07 11 02.1**	**-0.7**
MRL	**Marmol**	**3.55**	**340**	*e*P		**Pn**		**07 11 04.2**	**+1.0**
MRL				*e*S		**Sn**		**07 11 46.0**	**+2.0**
AMAS	**Alto Masis**	**3.55**	**108**	*i* P		**Pn**		**07 11 03.1**	**0.0**
AMAS				*i* S		**Sn**		**07 11 41.3**	**-2.7**
FUG	**Fuego 3**	**3.59**	**319**	*e*P		**Pn**		**07 11 03.2**	**-0.6**
CHPA	**Chiripa**	**3.69**	**110**	*i* P		**Pn**		**07 11 05.3**	**+0.3**
FG6		**3.70**	**320**	*e*P		**Pn**		**07 11 05.1**	**-0.3**
FG6				*e*S		**Sn**		**07 11 47.3**	**-0.6**
JTS	**JuntasAbangare**	**3.70**	**112**	Pn		**Pn**		**07 11 04.1**	**-1.0**
	comp=Z,80nm,0.3s,baz=328,slow=8.5,SNR=223								
JTS				Sn		**Sn**		**07 11 44.0**	**-3.5**
	comp=Z,93nm,0.3s,baz=276,slow=19,SNR=6.9								
JTS				LR		LR		07 12 52.8	
	comp=Z,3μm,18.2s,baz=347,slow=47								
JTS	**JuntasAbangare**	**3.70**	**112**	*e*Pn		**Pn**		**07 11 04.9**	**-0.2**
JTS	**JuntasAbangare**	**3.70**	**112**	Pn		**Pn**		**07 11 04.8**	**-0.3**
	comp=Z,5μm,0.7s								
TP2	**Tecpan 2**	**3.96**	**321**	*e*P		**Pn**		**07 11 09.6**	**+0.6**
JAT	**Jato**	**4.05**	**310**	*e*P		**Pn**		**07 11 09.2**	**-0.8**
JAT				*e*S		**Sn**		**07 11 53.1**	**-3.1**
CGA2	**Cerro Gallo 2**	**4.25**	**113**	*e*P		**Pn**		**07 11 13.5**	**+0.7**
CGA2				*e*S		**Sn**		**07 11 59.2**	**-2.0**
CGA2	**Cerro Gallo 2**	**4.25**	**113**	*e*P		**Pn**		**07 11 13.5**	**+0.7**
CGA2				*e*S		Sn		07 12 07.2	+6.0
LAJ	**Bijagual**	**4.62**	**113**	*e*P		Pn		07 11 12.9	-5.0
SJS	**Escuela Geolog**	**4.65**	**112**	*e*P		**Pn**		**07 11 18.6**	**+0.3**
SJS				*e*S		**Sn**		**07 12 09.3**	**-1.8**
SJS	**Escuela Geolog**	**4.65**	**112**	*e*P		**Pn**		**07 11 18.6**	**+0.3**
SJS				*e*S		**Sn**		**07 12 16.5**	**+5.3**
QCR	**Quepos**	**4.78**	**118**	*e*P		**Pn**		**07 11 19.8**	**-0.1**
QCR				*e*S		Sn		07 12 20.0	+6.0
THIG			**4.90**	**311**	P		**Pn**		**07 11 20.0**	**-1.6**
BUS	**Buena Vista**	**5.07**	**115**	*e*P		**Pn**		**07 11 24.9**	**+0.5**
BUS				*e*S		**Sn**		**07 12 19.9**	**-2.1**
BUS	**Buena Vista**	**5.07**	**115**	*e*P		**Pn**		**07 11 24.9**	**+0.5**
BUS				*e*S		Sn		07 12 29.8	+7.8
CCIG	**Comitan**	**5.79**	**322**	P		**Pn**		**07 11 34.8**	**+0.8**
ACR	**Cerro Adams**	**6.01**	**120**	*e*P		**Pn**		**07 11 37.8**	**+0.9**
ACR	**Cerro Adams**	**6.01**	**120**	*e*P		**Pn**		**07 11 37.8**	**+0.9**
PCIG		**6.11**	**311**	P		**Pn**		**07 11 37.4**	**-0.9**
ICCO	**Coco Island**	**6.28**	**167**	*i* P		**Pn**		**07 11 38.5**	**-2.1**
ICCO				*e*S		**Sn**		**07 12 52.7**	**+1.5**
BRU2	**Volcan**	**6.35**	**117**	*e*P		**Pn**		**07 11 42.7**	**+1.0**
TGIG		**6.78**	**318**	P		**Pn**		**07 11 47.6**	**+0.1**
CMIG	**Matias Romero**	**8.22**	**311**	Pn		**Pn**		**07 12 06.1**	**-1.1**
	comp=Z,12nm,0.3s,baz=100,slow=10.0,SNR=302								
CMIG				Sn		**Sn**		**07 13 36.5**	**-2.4**
	comp=Z,8.3nm,0.3s,baz=59,slow=19,SNR=2.4								
CMIG	**Matias Romero**	**8.22**	**311**	Pn		**Pn**		**07 12 06.1**	**-1.1**
CMIG				Sn		**Sn**		**07 13 36.5**	**-2.4**
TEIG	**Tepich**	**8.46**	**1**	Pn		**Pn**		**07 12 12.2**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=169,slow=7.9,SNR=41								
TEIG	**Tepich**	**8.46**	**1**	*e*Pn		**Pn**		**07 12 09.9**	**-0.6**
HUIG	**Huatulco**	**8.47**	**299**	P		**Pn**		**07 12 09.0**	**-1.7**
BCIP	**Isla Barro Col**	**8.83**	**106**	*e*Pn		**Pn**		**07 12 15.0**	**-0.5**
VHO	**Vista Hermosa**	**9.64**	**304**	P		**Pn**		**07 12 27.8**	**+0.9**
PNIG	**Pinotepa**	**10.49**	**297**	P		**Pn**		**07 12 38.5**	**+0.2**
TPIG	**Tehuac#an**	**10.89**	**309**	P		**Pn**		**07 12 44.6**	**+0.6**
UTMO	**Huajuapan**	**10.91**	**305**	P		**Pn**		**07 12 44.7**	**+0.4**
SOR	**Soroa**	**12.17**	**24**	*e*		Pn		07 13 05.2	+3.9
ACX	**Acapulco**	**12.20**	**296**	P		**Pn**		**07 13 02.2**	**+0.5**
PPM	**Popocatepetl**	**12.24**	**308**	P		**Pn**		**07 13 05.1**	**+2.3**
PPM	**Popocatepetl**	**12.24**	**308**	P		**Pn**		**07 13 05.1**	**+2.3**
MTDJ	**Mount Denham**	**12.36**	**57**	*e*Pn		**Pn**		**07 13 05.4**	**+1.4**
PAYG	**Puerto Ayora**	**12.45**	**189**	*e*Pn		**Pn**		**07 13 07.6**	**+2.5**
	comp=Z,122nm,1.0s								
MEIG	**Mezcala**	**12.45**	**301**	P		**Pn**		**07 13 06.8**	**+1.6**
YAIG	**Yautepec**	**12.47**	**306**	P		**Pn**		**07 13 06.8**	**+1.2**
PLIG	**Platanillo**	**12.58**	**303**	P		**Pn**		**07 13 09.2**	**+2.2**
IIO	**Organos**	**12.62**	**310**	P		**Pn**		**07 13 08.9**	**+1.1**
CAIG	**El Cayaco**	**12.63**	**296**	P		**Pn**		**07 13 08.8**	**+1.2**
PBVM	**Pinon**	**12.81**	**308**	P		**Pn**		**07 13 08.5**	**-1.5**
PTVM	**Pico Tres Padr**	**12.92**	**309**	P		**Pn**		**07 13 11.5**	**-0.3**
SZVM	**Salazar**	**12.97**	**307**	P		**Pn**		**07 13 12.3**	**-0.4**
MGV	**Manicaragua**	**13.12**	**37**	*e*		**Pn**		**07 13 12.1**	**-2.1**
DEIG	**Demacu**	**13.29**	**311**	P		**Pn**		**07 13 17.9**	**+1.1**
LMGC	**Las Mercedes**	**13.77**	**52**	*e*		**Pn**		**07 13 24.2**	**+1.1**
ZIIG	**Zihuatanejo**	**13.90**	**296**	P		**Pn**		**07 13 27.1**	**+2.2**
RCC	**Rio Carpintero**	**14.76**	**55**	*e*		**Pn**		**07 13 34.5**	**-2.0**
OTAV	**Otavalo**	**15.11**	**138**	*e*Pn		**Pn**		**07 13 43.0**	**+1.4**
	comp=Z,16nm,0.8s								
GTBY	**Guantanamo Bay**	**15.19**	**56**	*e*P		**P**		**07 13 44.3**	**-2.3**
	comp=Z,136nm,0.9s								
ROSC	**El Rosal**	**15.53**	**115**	Pn		**P**		**07 13 49.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=99,slow=21,SNR=12								
ROSC	**El Rosal**	**15.53**	**115**	*e*P		**P**		**07 13 50.2**	**-0.6**
MMIG	**Aguila**	**15.81**	**296**	P		**P**		**07 13 53.6**	**0.0**
SFJM	**Santa Fe**	**16.51**	**304**	P		**P**		**07 14 00.8**	**-0.7**
LNIG	**Linares**	**16.77**	**323**	P		**Pn**		**07 14 01.3**	**-1.1**
ZAIG	**Zacatecas**	**17.39**	**311**	P		**P**		**07 14 11.6**	**+0.2**
DWPF	**Disney**	**17.58**	**21**	*e*P		**Pn**		**07 14 12.5**	**+0.1**
	comp=Z,97nm,1.1s								
SDV	**Santo Domingo**	**17.74**	**97**	*e*P		**Pn**		**07 14 13.3**	**-1.4**
	comp=Z,79nm,0.8s								
ANIG	**Ahuacatlan**	**18.00**	**303**	P		**P**		**07 14 19.2**	**+1.4**
SDDR	**Presa de Saban**	**18.04**	**64**	*e*P		**Pn**		**07 14 17.9**	**-0.2**
	comp=Z,45nm,0.8s								
KVTX	**Kingsville**	**18.08**	**332**	*e*P		**P**		**07 14 19.3**	**+0.8**
	comp=Z,415nm,1.5s								
BRAL	**Brewton**	**19.25**	**4**	*e*P		**Pn**		**07 14 34.3**	**+1.7**
	comp=Z,134nm,1.3s								
HKT	**Hockley**	**19.41**	**340**	*e*P		**P**		**07 14 33.3**	**+0.3**
HKT				pmax		pmax			
	comp=Z,72nm,1.3s								
HKT	**Hockley**	**19.41**	**340**	*e*P		**P**		**07 14 33.3**	**+0.3**
	comp=Z,72nm,1.3s								
732A	**Laxson Ranch,**	**20.07**	**329**	⇓P		**P**		**07 14 39.5**	**-0.9**
	baz=20,SNR=39								
VBMS	**Vicksburg**	**20.50**	**355**	*e*P		Pn		07 14 46.4	-1.0
	comp=Z,227nm,1.0s								
632A	**Uvalde**	**20.62**	**331**	⇓P		**P**		**07 14 45.3**	**-1.0**
	baz=21,SNR=39								
NATX	**Nacogdoches**	**20.76**	**345**	*e*P		**P**		**07 14 48.6**	**+0.8**
	comp=Z,130nm,1.1s								
631A	**Perdido Creek**	**20.93**	**329**	⇓P		**P**		**07 14 48.3**	**-1.4**
	baz=21,SNR=43								
532A	**Rocksprings**	**21.20**	**332**	⇑P		**P**		**07 14 51.7**	**-0.9**
	baz=21,SNR=49								
ATAH	**Atahualpa**	**21.22**	**151**	P		**P**		**07 14 53.9**	**+0.6**
	comp=Z,90nm,1.2s,baz=335,slow=5.9,SNR=20								
ATAH				LR		LR		07 22 07.4	
	comp=Z,621nm,20.7s,baz=161,slow=34								
ATAH	**Atahualpa**	**21.22**	**151**	P		**P**		**07 14 53.9**	**+0.6**
LRAL	**Lakeview Retre**	**21.26**	**3**	*e*P		**P**		**07 14 55.3**	**+2.1**
	comp=Z,58nm,1.0s								
JCT	**Junction City**	**21.44**	**332**	*e*P		**P**		**07 14 54.0**	**-1.2**
JCT				pmax		pmax			
	comp=Z,107nm,1.3s								
JCT	**Junction City**	**21.44**	**332**	*e*P		**P**		**07 14 54.0**	**-1.2**
	comp=Z,107nm,1.3s								
JCT	**Junction City**	**21.44**	**332**	⇓P		**P**		**07 14 54.1**	**-1.2**
	baz=22,SNR=50								
CRPR	**Cabo Rojo, PR**	**21.53**	**71**	*e*P		**P**		**07 14 57.9**	**+1.7**
	comp=Z,59nm,0.9s								
531A	**Rocksprings**	**21.53**	**330**	⇑P		**P**		**07 14 55.1**	**-1.1**
	baz=22,SNR=14								
MPR	**Mayaguez**	**21.55**	**70**	*e*P		**P**		**07 14 57.5**	**+1.0**
	comp=Z,65nm,0.9s								
LSP	**Las Mesas**	**21.59**	**70**	*e*P		**P**		**07 14 57.0**	**+0.1**
432A	**Menard**	**21.78**	**333**	⇓P		**P**		**07 14 57.1**	**-1.8**
	baz=22,SNR=50								
WHTX	**Lake Whitney**	**21.83**	**339**	⇑P		**P**		**07 14 57.6**	**-1.6**
	baz=22,SNR=8.8								
LRS	**Lares**	**21.84**	**70**	*e*P		**P**		**07 14 59.8**	**+0.1**
530A	**J-C Ranch, Com**	**21.91**	**329**	⇓P		**P**		**07 14 59.2**	**-1.1**
	baz=22,SNR=16								
431A	**Sonora**	**21.99**	**331**	⇑P		**P**		**07 14 59.8**	**-1.3**
	baz=22,SNR=31								
OBIP	**Obispado Ponce**	**22.00**	**71**	*e*P		**P**		**07 15 01.8**	**+0.4**
	comp=Z,53nm,0.8s								
CELP	**Cerrillos**	**22.04**	**71**	*e*P		**P**		**07 15 02.0**	**+0.4**
GOGA	**Godfrey**	**22.07**	**11**	*e*P		**P**		**07 15 02.1**	**+0.2**
GOGA				pmax		pmax			
	comp=Z,64nm,0.9s								
GOGA	**Godfrey**	**22.07**	**11**	*e*P		**P**		**07 15 02.1**	**+0.2**
	comp=Z,64nm,0.9s								
HPIG		**22.17**	**316**	P		**P**		**07 15 03.5**	**+0.1**
628A	**Black Gap, Mar**	**22.22**	**325**	⇓P		**P**		**07 15 03.4**	**-0.2**
	baz=22,SNR=25								
529A	**Stev Forest Ra**	**22.35**	**327**	⇑P		**P**		**07 15 03.5**	**-1.5**
	baz=22,SNR=15								
430A	**Baggett Ranch,**	**22.38**	**330**	⇓P		**P**		**07 15 03.9**	**-1.4**
	baz=22,SNR=27								
SJG	**San Juan**	**22.44**	**71**	P		**P**		**07 15 04.7**	**-1.3**
	comp=Z,18nm,0.2s,baz=90,slow=22,SNR=8.9								
SJG				PcP		**PcP**		**07 19 00.3**	**+0.7**
	comp=Z,13nm,0.7s,baz=273,slow=2.1,SNR=3.5								
SJG				LR		LR		07 23 56.9	
	comp=Z,397nm,18.6s,baz=270,slow=37								
SJG	**San Juan**	**22.44**	**71**	*e*P		**P**		**07 15 05.8**	**-0.3**
	comp=Z,66nm,0.8s								
627A	**Terlingua Ranc**	**22.48**	**324**	⇑P		**P**		**07 15 06.4**	**-0.1**
	baz=23,SNR=44								
TXAR	**Lajitas Array**	**22.56**	**323**	P		**P**		**07 15 07.1**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=147,slow=11,SNR=70								
TXAR				PcP		**PcP**		**07 19 01.2**	**+1.3**
	comp=Z,5.0nm,1.1s,baz=151,slow=2.9,SNR=7.0								
TXAR				ScP		ScP		07 22 48.5	+14
	comp=Z,0.6nm,0.9s,baz=168,slow=6.4,SNR=3.8								
TXAR	**Lajitas Array**	**22.56**	**323**	P		**P**		**07 15 07.0**	**-0.2**
TXAR				PcP		**PcP**		**07 19 01.2**	**+1.3**
TXAR				ScP		ScP		07 22 48.5	+14
429A	**Davenport Ranc**	**22.58**	**328**	⇓P		**P**		**07 15 05.8**	**-1.7**
	baz=23,SNR=24								
NHSC	**New Hope**	**22.60**	**18**	*e*P		**P**		**07 15 08.6**	**+1.0**
	comp=Z,106nm,1.1s								
528A	**Cox Ranch, San**	**22.68**	**326**	⇓P		**P**		**07 15 07.2**	**-1.5**
	baz=23,SNR=13								
OXF	**Oxford**	**22.71**	**358**	*e*P		**P**		**07 15 08.3**	**-0.4**
OXF				pmax		pmax			
	comp=Z,167nm,1.1s								
OXF	**Oxford**	**22.71**	**358**	*e*P		**P**		**07 15 08.2**	**-0.4**
	comp=Z,167nm,1.1s								
HUMP	**Col San Antoni**	**22.73**	**71**	*e*P		**P**		**07 15 10.0**	**+1.0**
626A	**Big Bend Ranch**	**22.99**	**323**	⇑P		**P**		**07 15 11.3**	**-0.5**
	baz=23,SNR=35								
428A	**Kincaid Ranch,**	**23.07**	**327**	⇓P		**P**		**07 15 11.3**	**-1.2**
	baz=23,SNR=14								
527A	**Woodward Ranch**	**23.13**	**325**	⇓P		**P**		**07 15 12.0**	**-1.3**
	baz=23,SNR=22								
MIAR	**Mount Ida**	**23.20**	**349**	*e*P		**P**		**07 15 12.9**	**-0.8**
MIAR				pmax		pmax			
	comp=Z,69nm,0.8s								
MIAR	**Mount Ida**	**23.20**	**349**	*e*P		**P**		**07 15 12.9**	**-0.8**
	comp=Z,69nm,0.8s								
ABTX	**Abilene, Hawle**	**23.22**	**335**	⇓P		**P**		**07 15 12.0**	**-2.0**
	baz=23,SNR=50								
UALR	**University of**	**23.23**	**352**	*e*P		**P**		**07 15 13.6**	**-0.4**
	comp=Z,100nm,0.9s								
329A	**Wagon Wheel Ra**	**23.32**	**330**	⇓P		**P**		**07 15 13.0**	**-2.0**
	baz=23,SNR=19								
526A	**Mary Lane Ranc**	**23.34**	**324**	⇑P		**P**		**07 15 14.5**	**-0.9**
	baz=23,SNR=18								
JSC	**Jenkinsville**	**23.40**	**15**	*e*P		**P**		**07 15 15.7**	**0.0**
JSC	**Jenkinsville**	**23.40**	**15**	*e*P		**P**		**07 15 15.7**	**0.0**
SWET	**Sewanee**	**23.51**	**5**	*e*P		**P**		**07 15 16.2**	**-0.6**
	comp=Z,170nm,1.7s								
427A	**Hayter Ranch,**	**23.55**	**326**	⇑P		**P**		**07 15 16.3**	**-1.0**
	baz=24,SNR=9.9								
STVI	**Saint Thomas**	**23.60**	**71**	*e*P		**P**		**07 15 17.2**	**-0.5**
	comp=Z,302nm,0.8s								
229A	**Bryant Ranch,**	**23.63**	**331**	⇑P		**P**		**07 15 15.7**	**-2.3**
	baz=24,SNR=9.7								
CDVI	**St. Croix**	**23.65**	**72**	*e*P		**P**		**07 15 17.1**	**-1.2**
	comp=Z,245nm

comp=Z,36nm,0.8s
BLA Blacksburg 26.39 15 eP P 07 15 43.1 0.0
comp=Z,36nm,0.8s
ANWB Willy Bob 26.43 74 eP P 07 15 42.2 -1.4
comp=Z,200nm,0.8s
X27A F and S Farms, 26.44 332 ⇓P P 07 15 42.9 -0.8
baz=26,SNR=10
WCI Wyandotte Cave 26.47 4 eP P 07 15 42.6 -1.2
WCI e 07 19 09.1
WCI pmax pmax
comp=Z,27nm,0.8s
WCI Wyandotte Cave 26.47 4 eP P 07 15 42.6 -1.2
comp=Z,27nm,0.8s
WCI ePcP PcP 07 19 09.1 +1.0
123A Bell Site, Whi 26.49 325 ⇑P P 07 15 44.5 +0.3
baz=27
Z24A Sheeppen Canyo 26.52 327 ⇓P P 07 15 44.6 +0.1
baz=27,SNR=16
VWCC Virginia Weste 26.53 15 eP P 07 15 44.5 +0.2
W28A Vega 26.56 334 ⇑P P 07 15 44.3 -0.5
baz=27,SNR=8.1
222A Williams Famil 26.59 323 ⇓P P 07 15 45.1 0.0
baz=27
Y25A Mesa, Roswell 26.63 329 ⇓P P 07 15 45.1 -0.3
baz=27,SNR=17
X26A CR and CF Fran 26.70 331 ⇑P P 07 15 45.7 -0.3
baz=27,SNR=5.8
FDF Fort de France 26.72 81 eP P 07 15 45.3 -1.0
FDF pmax pmax
comp=Z,198nm,1.2s
FDF Fort de France 26.72 81 eP P 07 15 45.3 -1.0
comp=Z,198nm,1.2s
W27A Bowe Ranch, En 26.77 333 ⇓P P 07 15 46.0 -0.7
baz=27,SNR=18
V29A Stinnett 26.81 336 ⇑P P 07 15 47.2 +0.2
baz=27
OLIL Olney 26.91 1 eP P 07 15 47.1 -0.5
comp=Z,36nm,0.8s
OLIL ePcP PcP 07 19 10.7 +1.6
221A Mesquite Ranch 26.93 322 ⇓P P 07 15 49.1 +0.9
baz=27,SNR=6.8
Z23A Rita Site, Whi 26.94 326 ⇓P P 07 15 49.0 +0.8
baz=27,SNR=10
320A Kipp Ranch, An 26.94 320 ⇑P P 07 15 49.1 +0.9
baz=27,SNR=29
V28A Channing 26.99 335 ⇓P P 07 15 47.9 -0.7
baz=27,SNR=26
Y24A Capitan 27.02 328 ⇓P P 07 15 48.9 -0.1
baz=27,SNR=13
X25A Clemmons Ranch 27.09 330 ⇓P P 07 15 49.2 -0.4
baz=27,SNR=22
W26A Owens Ranch, T 27.12 332 ⇑P P 07 15 50.5 +0.7
baz=27,SNR=9.0
HSIG 27.15 313 P P 07 15 54.3 +4.3
121A Cookes Peak, D 27.30 322 ⇑P P 07 15 52.3 +0.8
baz=27,SNR=16
220A Playas Peak, P 27.32 320 ⇓P P 07 15 52.6 +1.0
baz=27,SNR=43
Z22A Elephant Butte 27.34 325 ⇓P P 07 15 52.6 +0.7
baz=27
Y23A Lovelace Mesa, 27.35 327 ⇑P P 07 15 52.3 +0.3
baz=27,SNR=11
BLO Bloomington 27.40 3 eP P 07 15 51.1 -1.0
BLO e 07 19 11.2
BLO pmax pmax
comp=Z,25nm,1.1s
BLO Bloomington 27.40 3 eP P 07 15 51.1 -1.0
comp=Z,25nm,1.1s
BLO ePcP PcP 07 19 11.2 +0.9
319A Douglas 27.45 319 ⇑P P 07 15 54.0 +1.2
baz=28,SNR=23
X24A Lazy VL Ranch, 27.51 329 ⇓P P 07 15 53.0 -0.4
baz=28
JSRW J. Sargeant Re 27.55 18 eP P 07 15 55.2 +1.8
W25A X Bar L Ranch, 27.55 331 ⇑P P 07 15 53.5 -0.2
baz=28,SNR=17
V26A Tequesquite Ra 27.71 332 ⇑P P 07 15 54.8 -0.3
baz=28,SNR=22
Z21A St. Cloud Mine 27.79 324 ⇓P P 07 15 57.0 +1.1
baz=28
BNM Barren Site 27.82 326 eP P 07 15 57.9 +1.6
comp=Z,16nm,1.3s
120A U Bar Ranch, L 27.83 321 ⇑P P 07 15 57.5 +1.3
baz=28,SNR=20
Y22A Socorro 27.85 326 ⇓P P 07 15 58.4 +2.0
baz=28,SNR=17
X23A Hourglass Bar 27.92 327 ⇓P P 07 15 56.9 -0.2
baz=28
Y22D IRIS PASSCAL I 27.93 326 ⇑P P 07 15 58.0 +0.9
baz=28
LPM Los Pinos Moun 27.95 327 eP P 07 15 59.4 +2.1
comp=Z,3.2nm,0.7s
W24A Lazy 6 Ranch, 28.01 329 ⇑P P 07 15 58.0 +0.2
baz=28,SNR=19
LENM Lemitar 28.02 326 eP P 07 15 60.0 +2.0
T28A Walsh 28.13 336 ⇑P P 07 15 58.1 -0.6
baz=28
V25A Rancho No Teng 28.13 331 ⇓P P 07 15 58.9 0.0
baz=28,SNR=27
CBN Corbin 28.17 19 eP P 07 15 59.6 +0.6
comp=Z,45nm,0.8s
U26A Atchley Ranch, 28.19 333 ⇓P P 07 15 59.1 -0.3
baz=28,SNR=14
Z20A Nine Sixteen R 28.19 322 ⇑P P 07 16 00.7 +1.3
baz=28,SNR=19
KSU1 Kansas State U 28.23 346 eP P 07 15 58.6 -0.9
comp=Z,26nm,0.9s
LAZ Ladron 28.29 326 eP P 07 16 02.2 +1.8
comp=Z,5.5nm,1.3s
X22A Bernardo 28.30 326 ⇑P P 07 16 00.9 +0.5
baz=28
Y21A Point of Rocks 28.30 325 ⇓P P 07 16 01.9 +1.4
baz=28,SNR=24
T27A Campo 28.32 335 ⇑P P 07 16 00.0 -0.5
baz=28,SNR=5.7
ANMO Albuquerque 28.34 328 P P 07 16 02.4 +1.6
comp=Z,2.1nm,0.8s,baz=148,slow=16,SNR=6.7
ANMO PcP PcP 07 19 14.2 +1.2
comp=Z,4.0nm,1.1s,baz=188,slow=7.7,SNR=3.3
ANMO Albuquerque 28.34 328 eP P 07 16 02.0 +1.2
comp=Z,9.2nm,1.4s
W23A Werner Place, 28.34 328 ⇓P P 07 16 01.3 +0.5
baz=28
V24A Rampart Ranch, 28.35 330 ⇑P P 07 16 01.6 +0.7
baz=28
U25A Circle Dot Ran 28.49 332 ⇓P P 07 16 02.4 +0.3
baz=29
SFIN Scholer Farm 28.57 2 ⇓P P 07 16 02.9 +0.4
baz=29
Y20A Horse Springs, 28.63 324 ⇑P P 07 16 04.9 +1.4
baz=29,SNR=15
W22A Albuquerque 28.65 327 ⇓P P 07 16 04.6 +1.1
baz=29
X21A Alamocita Cree 28.68 325 ⇑P P 07 16 05.1 +1.3
baz=29,SNR=12
ACSO Alum Creek Sta 28.81 9 eP P 07 16 04.2 -0.4
comp=Z,37nm,1.1s
V23A Ortiz Mt. (NFS 28.82 329 ⇑P P 07 16 04.9 -0.2
baz=29
U24A Moreno Valley 28.90 331 ⇓P P 07 16 05.2 -0.7
baz=29
S27A Las Animas 28.93 336 ⇓P P 07 16 05.1 -0.8
baz=29,SNR=13
T25A Trinidad 29.10 333 ⇑P P 07 16 07.4 -0.1
baz=29
W21A San Fidel 29.10 326 ⇓P P 07 16 08.0 +0.4
baz=29
S26A Kim 29.11 335 ⇓P P 07 16 07.5 0.0
baz=29
X20A Quemado 29.15 324 ⇑P P 07 16 08.3 +0.2
baz=29,SNR=5.5
U23A El Rito 29.28 330 ⇓P P 07 16 09.5 +0.3
baz=29,SNR=24
V22A San Miguel Ran 29.32 328 ⇑P P 07 16 11.2 +1.7
baz=29,SNR=6.3
R27A Eads 29.41 337 ⇑P P 07 16 08.6 -1.5
baz=30,SNR=5.8
SDMD Soldier's Deli 29.44 18 eP P 07 16 11.0 +0.7
comp=Z,23nm,0.9s
S25A Robets Cordova 29.55 334 ⇓P P 07 16 10.7 -0.7
baz=30
W20A Ramah 29.58 325 ⇑P P 07 16 13.1 +1.3
baz=30,SNR=8.6
V21A Milan 29.62 327 ⇓P P 07 16 12.4 +0.2
baz=30
U22A Llaves 29.65 329 ⇓P P 07 16 13.1 +0.7
baz=30
R26A Arlington 29.68 336 ⇑P P 07 16 13.6 +1.0
baz=30,SNR=11
T23A Casias Ranch, 29.77 331 ⇑P P 07 16 14.6 +1.0
baz=30
S24A Houchin Ranch, 29.88 333 ⇑P P 07 16 14.9 +0.4
baz=30
R25A Fountain Ranch 29.89 334 ⇑P P 07 16 14.8 +0.4
baz=30,SNR=8.7
KSCO Kaye Shedlock' 29.97 338 ⇑P P 07 16 16.4 +1.2
baz=30,SNR=7.6
BBSR BB Station 29.98 43 eP P 07 16 14.5 -0.6
comp=Z,62nm,1.0s
X18A Snowflake 29.99 323 ⇓P P 07 16 17.1 +1.7
baz=30,SNR=5.6
U21A Nageezi 30.10 328 ⇑P P 07 16 17.1 +0.6
baz=30
214A Organ Pipe Nat 30.16 316 ⇑P P 07 16 18.0 +1.2
baz=30,SNR=19
Q26A Hugo 30.24 336 ⇓P P 07 16 18.3 +0.8
baz=30,SNR=7.9
SSPA Standing Stone 30.27 16 eP P 07 16 20.5 +2.9
comp=Z,56nm,1.8s
W18A Petrified Fore 30.28 324 ⇑P P 07 16 18.6 +0.7
baz=30
R24A Sanders Place, 30.32 333 ⇑P P 07 16 18.4 +0.1
baz=30
SCIA State Center 30.37 353 eP P 07 16 17.7 -0.7
comp=Z,35nm,0.8s
P27A Ficken Ranch, 30.43 338 ⇑P P 07 16 20.0 +0.8
baz=30
T21A Navajo Lake 30.47 329 ⇑P P 07 16 20.8 +1.1
baz=31
U20A Newcomb 30.52 327 ⇑P P 07 16 21.1 +1.1
baz=31
Q25A Bedland, Calha 30.53 335 ⇑P P 07 16 20.6 +0.5
baz=31
R23A Moffat 30.61 332 ⇑P P 07 16 22.2 +1.2
baz=31
S22A 4UR Ranch, Cre 30.71 331 ⇑P P 07 16 22.3 +0.4
baz=31
P26A Davis Ranch, A 30.73 337 ⇑P P 07 16 22.2 +0.4
baz=31
BGNE Belgrade 30.78 346 ⇑P P 07 16 22.0 -0.1
baz=31
X16A Lo Mia Camp, P 30.82 321 ⇓P P 07 16 24.4 +1.7
baz=31,SNR=30
U19A Dine' College, 30.82 326 ⇓P P 07 16 23.4 +0.6
baz=31
Q24A Divide 30.95 334 ⇑P P 07 16 24.5 +0.6
baz=31
O27A Beecher Island 30.96 339 ⇓P P 07 16 24.0 +0.2
baz=31
R22A Saguache, Gunn 31.07 331 ⇓P P 07 16 25.2 +0.1
baz=31
Z14A Wimsburg 31.10 318 ⇓P P 07 16 26.7 +1.6
baz=31,SNR=7.2
S21A Coal Bank Pass 31.12 329 ⇑P P 07 16 26.0 +0.6
baz=31
MVCO Mesa Verde 31.13 328 eP P 07 16 27.3 +1.7
comp=Z,93nm,2.2s
MVCO Mesa Verde 31.13 328 ⇓P P 07 16 25.5 0.0
baz=31
ERPA Erie 31.17 12 eP P 07 16 25.8 +0.2
comp=Z,46nm,1.1s
Q23A Hartsel 31.19 333 ⇑P P 07 16 26.1 -0.1
baz=31
113A Mohawk Valley, 31.29 316 ⇓P P 07 16 27.7 +1.0
baz=31,SNR=23
O26A Horse Wrangler 31.31 338 ⇓P P 07 16 27.3 +0.4
baz=31
OGNE Ogallala 31.48 340 eP P 07 16 28.4 +0.1
comp=Z,9.1nm,0.9s
OGNE Ogallala 31.48 340 ⇓P P 07 16 28.6 +0.2
baz=32
Y14A Wickenburg 31.50 319 ⇑P P 07 16 30.4 +1.8
baz=32,SNR=18
WUAZ Wupatki 31.52 323 eP P 07 16 30.5 +1.6
comp=Z,53nm,1.2s
WUAZ Wupatki 31.52 323 ⇓P P 07 16 29.9 +1.1
baz=32,SNR=6.0
N27A Anderson Farm, 31.53 339 ⇑P P 07 16 28.8 0.0
baz=32,SNR=5.3
P23A Jefferson 31.58 334 ⇓P P 07 16 30.1 +0.5
baz=32,SNR=8.1
N26A Koester Ranch, 31.79 338 ⇑P P 07 16 31.5 +0.4
baz=32
ISCO Idaho Springs 31.84 334 eP P 07 16 31.8 0.0
ISCO e 07 19 24.1
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 31.84 334 eP P 07 16 31.8 0.0
comp=Z,7.7nm,1.0s
ISCO ePcP PcP 07 19 24.1 +2.0
ISCO Idaho Springs 31.84 334 ⇓P P 07 16 32.0 +0.1
baz=32,SNR=7.2
PV01 Paradox Valley 31.87 329 eP P 07 16 32.7 +0.7
comp=Z,422nm,1.0s
O24A Longmont 31.89 335 ⇓P P 07 16 32.2 +0.1
baz=32
SMCO Snowmass 31.93 332 eP P 07 16 33.2 +0.5
comp=Z,20nm,1.2s
SMCO ePcP PcP 07 19 23.5 +1.0
Q21A Lamborn Mesa, 31.93 331 ⇑P P 07 16 34.7 +2.1
baz=32
N25A Grover 32.09 337 ⇓P P 07 16 34.8 +1.0
baz=32
GLA Glamis 32.18 316 eP P 07 16 36.6 +2.0
GLA pmax pmax
comp=Z,61nm,1.0s
GLA Glamis 32.18 316 eP P 07 16 36.6 +2.0
comp=Z,61nm,1.0s
GLA Glamis 32.18 316 ⇓P P 07 16 36.8 +2.2
baz=32,SNR=18
PV04 Paradox Valley 32.24 329 eP P 07 16 36.4 +1.2
BINY Binghamton 32.26 17 eP P 07 16 34.9 -0.2
comp=Z,223nm,2.1s
S18A Hurst Farm, Bl 32.28 327 ⇓P P 07 16 37.0 +1.4
baz=32
PV10 Paradox Valley 32.30 329 eP P 07 16 35.5 -0.3
comp=Z,167nm,0.9s
O23A Lake Granby, G 32.31 335 ⇓P P 07 16 36.3 +0.4
baz=32
Q20A Ridgley Place, 32.37 330 ⇓P P 07 16 37.9 +1.5
baz=32
Y12C Blythe 32.38 317 ⇓P P 07 16 37.7 +1.4
baz=32,SNR=7.3
N24A Carr 32.41 336 ⇓P P 07 16 37.0 +0.3
baz=32
P21A Newcastle 32.43 332 ⇓P P 07 16 37.9 +1.1
baz=32
SAML Samuel 32.43 128 eP P 07 16 35.9 -1.0
comp=Z,63nm,0.9s
SAML epP pP 07 16 50.6 +2.5
PDMCI Parker Dam,Lak 32.46 318 ⇑P P 07 16 39.0 +2.1
baz=32,SNR=22
O22A Kremmling 32.54 334 ⇑P P 07 16 38.3 +0.3
baz=33
L27A T5 Ranch, Ells 32.59 341 ⇑P P 07 16 39.0 +0.8
baz=33
M25A Palm-Egli Farm 32.62 338 ⇑P P 07 16 38.8 +0.3
baz=33
ARE Arequipa 32.63 149 eP P 07 16 39.0 +0.1
ARE Arequipa 32.63 149 eP P 07 16 39.0 +0.1
ECSD EROS Data Cent 32.68 349 eP P 07 16 37.2 -1.6
comp=Z,47nm,1.3s
ECSD ePcP PcP 07 19 25.2 +1.3
ECSD eS S 07 21 50.5 -1.7
U15A North Rim 32.68 323 ⇓P P 07 16 40.1 +0.9
baz=33,SNR=7.3
W13A Hualapai Mount 32.79 319 ⇓P P 07 16 41.9 +1.8
baz=33,SNR=29
SWSC Sam W. Stewart 32.79 314 ⇓P P 07 16 41.4 +1.6
baz=33,SNR=5.9
P20A De Beque 32.85 331 ⇓P P 07 16 41.6 +1.1
baz=33
Q19A Hogan Spring (32.85 329 ⇑P P 07 16 41.4 +0.9
baz=33
M24A Cheyenne 32.94 337 ⇓P P 07 16 42.2 +0.9
baz=33,SNR=7.9
BC3 Big Chuckawall 32.96 316 ⇑P P 07 16 42.7 +1.2
baz=33,SNR=20
O21A Pagoda 32.99 333 ⇓P P 07 16 42.2 +0.4
baz=33
N22A Wattenberg Ran 33.03 334 ⇓P P 07 16 42.4 +0.2
baz=33,SNR=7.8
PHWY Pilot Hill 33.04 336 eP P 07 16 42.0 -0.3
comp=Z,15nm,1.1s
PHWY ePcP PcP 07 19 26.4 +1.0
IRM Iron Mountain 33.05 317 ⇑P P 07 16 43.4 +1.3
baz=33,SNR=17
K27A Flueckinger Fa 33.13 341 ⇓P P 07 16 43.0 +0.2
baz=33
S16A Weppner Ranch, 33.18 325 ⇑P P 07 16 43.8 +0.4
baz=33,SNR=6.7
R17A Hanksville Air 33.20 327 ⇑P P 07 16 44.6 +1.1
baz=33,SNR=7.3
MONP Monument Peak 33.20 314 ⇑P P 07 16 44.2 +0.5
baz=33
BAR Barrett 33.27 313 eP P 07 16 45.7 +1.6
comp=Z,15nm,1.5s
O20A White River Ci 33.28 332 ⇑P P 07 16 45.4 +1.1
baz=33,SNR=7.1
M23A Laramie 33.29 336 ⇑P P 07 16 44.8 +0.4
baz=33
N21A Black Mountain 33.46 333 ⇑P P 07 16 46.7 +0.8
baz=34,SNR=13
R16A Teasdale 33.52 326 ⇓P P 07 16 47.2 +0.8
baz=34,SNR=5.9
BELC Belle Mtn. Jos 33.53 316 ⇑P P 07 16 47.4 +1.0
baz=34,SNR=16
LDFC Landfair 33.57 318 eP P 07 16 50.1 +3.3
comp=Z,83nm,1.1s
M22A Cedar Creek Ra 33.59 335 ⇑P P 07 16 48.1 +1.0
baz=34
SPMN St. Paul 33.60 354 ⇓P P 07 16 45.8 -1.0
baz=34,SNR=35
SRU San Rafael 33.61 328 eP P 07 16 47.9 +0.7
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 33.61 328 eP P 07 16 47.9 +0.7
comp=Z,7.5nm,0.9s
SRU San Rafael 33.61 328 ⇓P P 07 16 47.8 +0.6
baz=34
PFO Pinyon Flat Ob 33.62 315 eP P 07 16 49.2 +1.9
comp=Z,67nm,1.5s
PFO Pinyon Flat Ob 33.62 315 ⇓P P 07 16 47.9 +0.6
baz=34,SNR=7.4
109C Camp Elliot, M 33.69 313 ⇑P P 07 16 48.8 +1.1
baz=34
GMRC Granite Mounta 33.75 317 ⇓P P 07 16 49.8 +1.4
baz=34,SNR=8.2
Q16A Castle Valley 33.81 327 ⇓P P 07 16 49.7 +0.8
baz=34
O19A Miners Draw (B 33.82 331 ⇓P P 07 16 49.6 +0.7
baz=34
L23A Garrett 33.83 337 ⇓P P 07 16 48.9 -0.2
baz=34,SNR=12
BRSD Miller 33.85 346 ⇓P P 07 16 47.9 -1.0
baz=34
N20A Spence Gulch, 33.85 332 ⇑P P 07 16 50.3 +1.0
baz=34,SNR=26
P18A Preston Nutter 33.86 329 ⇑P P 07 16 50.1 +0.7
baz=34
R15A Junction 33.90 325 ⇑P P 07 16 50.5 +0.8
baz=34
P17A Butcher Ranch, 33.99 328 ⇓P P 07 16 50.7 +0.2
baz=34
L22A Ellis Ranch, M 34.05 336 ⇓P P 07 16 51.8 +0.8
baz=34
MSU Marysvale 34.06 326 eP P 07 16 52.4 +1.2
MSU Marysvale 34.06 326 eP P 07 16 52.4 +1.2
CCUT Cedar City 34.07 323 eP P 07 16 52.8 +1.5
comp=Z,28nm,1.2s
CCUT ePcP PcP 07 19 29.8 +1.5
M21A Separation Pea 34.08 334 ⇓P P 07 16 52.3 +1.0
baz=34,SNR=20
MURC Murrieta 34.14 314 ⇑P P 07 16 53.1 +1.4
baz=34,SNR=9.5
O18A Roosevelt 34.23 330 ⇑P P 07 16 53.7 +1.3
baz=34
HEC Hector,Ludlow 34.23 317 ⇓P P 07 16 53.9 +1.5
baz=34
ARUT Antelope Range 34.27 324 eP P 07 16 54.5 +1.6
ARUT pmax pmax
comp=Z,17nm,1.1s
ARUT Antelope Range 34.27 324 eP P 07 16 54.5 +1.6
comp=Z,17nm,1.1s
BBRC Big Bear Solar 34.31 316 ⇑P P 07 16 55.2 +1.9
baz=34,SNR=12
LPAZ La Paz 34.31 144 P P 07 16 53.8 -0.1
comp=Z,1.7nm,0.6s,baz=335,slow=9.9,SNR=6.5
LPAZ LR LR 07 31 11.9
comp=Z,376nm,19.7s,baz=100,slow=37
LPAZ La Paz 34.31 144 eP P 07 16 53.9 -0.1
comp=Z,14nm,1.4s
TUQ Turquoise Moun 34.31 318 ⇓P P 07 16 53.8 +0.6
baz=34
N19A John Jarvie Ra 34.32 332 ⇑P P 07 16 53.5 +0.2
baz=34,SNR=5.5
M20A Sweetwater, Wa 34.34 333 ⇓P P 07 16 54.1 +0.6
baz=34
K23A Bowen Ranch, D 34.35 337 ⇓P P 07 16 54.0 +0.5
baz=34
L21A Rawlins 34.38 335 ⇓P P 07 16 54.0 +0.2
baz=34,SNR=34
J24A Dixon Ranch, L 34.50 339 ⇑P P 07 16 54.6 -0.1
baz=35
O17A Robinson Place 34.53 329 ⇑P P 07 16 55.8 +0.6
baz=35
P16A Fountain Green 34.57 328 ⇑P P 07 16 55.3 -0.3
baz=35
K22A Casper 34.61 336 ⇓P P 07 16 55.8 0.0
baz=35,SNR=7.3
N18A Larsen Ranch, 34.61 331 ⇑P P 07 16 56.0 +0.2
baz=35,SNR=5.3
BFSC Mount Baldy Ra 34.80 315 ⇑P P 07 16 58.4 +0.9
baz=35,SNR=8.1
GSC Goldstone 34.82 317 eP P 07 16 59.9 +2.3
GSC pmax pmax
comp=Z,40nm,1.4s
GSC Goldstone 34.82 317 eP P 07 16 59.9 +2.3
comp=Z,40nm,1.4s
GSC Goldstone 34.82 317 ⇑P P 07 16 58.6 +1.0
baz=35,SNR=7.1
SHOC Shoshone 34.82 318 ⇓P P 07 16 58.8 +1.3
baz=35,SNR=6.3
L20A Wamsutter 34.83 334 ⇑P P 07 16 57.9 +0.2
baz=35
R13A O'Grain Ranch, 34.85 324 ⇓P P 07 16 59.3 +1.4
baz=35,SNR=14
MPU Maple Canyon 34.86 328 eP P 07 16 58.6 +0.7
comp=Z,30nm,1.4s
P15A Leamington 34.87 327 ⇓P P 07 16 59.1 +1.0
baz=35,SNR=12
J23A Dilts Ranch, B 34.88 338 ⇑P P 07 16 59.0 +0.9
baz=35
LONY Lake Ozonia 34.88 17 eP P 07 16 57.1 -0.8
comp=Z,32nm,0.9s
K21A Alcova 34.88 335 ⇓P P 07 16 58.2 0.0
baz=35
CIS Catalina Islan 34.89 313 ⇓P P 07 16 59.4 +1.3
baz=35
O16A Springville 34.93 328 ⇓P P 07 16 58.6 0.0
baz=35
I24A Kuemmerle Ranc 34.95 339 ⇓P P 07 16 59.1 +0.5
baz=35,SNR=6.7
DAU Daniels Canyon 34.96 329 eP P 07 17 00.1 +1.1
DAU Daniels Canyon 34.96 329 eP P 07 17 00.1 +1.1
RSSD Black Hills 34.98 340 eP P 07 16 59.1 +0.1
RSSD e 07 19 31.3
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 34.98 340 eP P 07 16 59.1 +0.1
comp=Z,7.5nm,0.8s
RSSD ePcP PcP 07 19 31.3 +0.6
MWC Mount Wilson 35.07 315 eP P 07 17 01.8 +1.9
MWC pmax pmax
comp=Z,66nm,1.3s
MWC Mount Wilson 35.07 315 eP P 07 17 01.8 +1.9
comp=Z,66nm,1.3s
PASC Pasadena Art C 35.13 314 eP P 07 17 02.6 +2.4
comp=Z,58nm,1.4s
N17A Moffit Pass 35.15 330 ⇑P P 07 17 00.4 -0.1
baz=35
M18A Lyman 35.15 331 ⇓P P 07 17 00.7 +0.1
baz=35
J22A Midwest 35.23 337 ⇓P P 07 17 01.4 +0.3
baz=35,SNR=9.9
DECC Green Verdugo 35.28 314 ⇓P P 07 17 02.8 +1.3
baz=35
L19A Farson 35.35 333 ⇑P P 07 17 02.8 +0.6
baz=36
FRNY Flat Rock 35.38 18 eP P 07 17 01.4 -0.8
comp=Z,35nm,1.2s
EDW2 Edwards Air Fo 35.38 316 ⇓P P 07 17 03.6 +1.2
baz=36,SNR=8.8
N16A Rees Ranch, Co 35.40 329 ⇓P P 07 17 03.7 +1.0

baz=36
M17A Scullys Gap (B 35.47 331 ⇑P P 07 17 03.8 +0.6
baz=36
LRMC Laurel Mountai 35.51 317 ⇑P P 07 17 04.9 +1.3
baz=36,SNR=11
L18A Fontenelle, Gr 35.52 332 ⇑P P 07 17 04.5 +0.8
baz=36
FURC Furnace Creek, 35.54 319 ⇑P P 07 17 04.8 +1.2
baz=36,SNR=11
J21A Lysite 35.56 336 ⇓P P 07 17 04.6 +0.6
baz=36,SNR=18
DUG Dugway 35.61 327 eP P 07 17 05.4 +1.0
DUG pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway 35.61 327 eP P 07 17 05.3 +1.0
comp=Z,9.1nm,1.2s
DUG Dugway 35.61 327 ⇓P P 07 17 04.8 +0.4
baz=36,SNR=8.6
I22A 9 Mile Ranch, 35.65 337 ⇑P P 07 17 04.5 -0.1
baz=36,SNR=15
H24A Dirks Ranch, A 35.70 340 ⇑P P 07 17 05.2 +0.1
baz=36,SNR=25
K19A Absolon Red Bu 35.71 334 ⇓P P 07 17 05.5 +0.2
baz=36,SNR=16
MPMC Manual Prospec 35.71 318 ⇓P P 07 17 06.2 +0.8
baz=36,SNR=18
BLG Laguna Peak 35.72 314 ⇓P P 07 17 05.9 +0.6
baz=36
OSI Osito Adit 35.75 315 ⇑P P 07 17 04.6 -0.9
baz=36
M16A Huntsville 35.82 330 ⇓P P 07 17 05.6 -0.7
baz=36
J20A Shoshoni 35.82 335 ⇓P P 07 17 06.2 0.0
baz=36
I21A Big Trails, Te 35.89 336 ⇓P P 07 17 06.6 -0.2
baz=36,SNR=14
R11A Troy Canyon, C 35.91 322 ⇑P P 07 17 07.6 +0.5
baz=36,SNR=25
BW06 Boulder Array 35.98 333 eP P 07 17 07.0 -0.6
comp=Z,18nm,1.5s
BW06 ePcP PcP 07 19 34.3 +0.6
BW06 Boulder Array 35.98 333 ⇓P P 07 17 07.3 -0.3
baz=36
PDAR Pinedale Array 35.98 333 P P 07 17 07.0 -0.6
comp=Z,2.0nm,1.0s,baz=131,slow=9.3,SNR=11
PDAR PcP PcP 07 19 34.1 +0.4
comp=Z,5.0nm,0.9s,baz=131,slow=3.8,SNR=11
PDAR ScP ScP 07 23 30.3 +13
comp=Z,0.5nm,0.9s,baz=255,slow=4.5,SNR=3.7
PDAR LR LR 07 33 15.3
comp=Z,215nm,18.5s,baz=270,slow=39
PDAR Pinedale Array 35.98 333 P P 07 17 07.0 -0.6
PDAR PcP PcP 07 19 34.1 +0.4
PDAR ScP ScP 07 23 30.3 +13
L17A Cokeville 36.05 331 ⇑P P 07 17 07.7 -0.5
baz=36,SNR=7.1
K18A Toltan Ranch, 36.09 333 ⇓P P 07 17 08.7 +0.1
baz=36,SNR=20
ARVC Arvin 36.09 315 ⇑P P 07 17 09.9 +1.5
baz=36,SNR=9.9
ISA Isabella 36.14 316 eP P 07 17 11.0 +2.1
ISA e 07 19 36.0
ISA pmax pmax
comp=Z,49nm,1.5s
ISA Isabella 36.14 316 eP P 07 17 11.0 +2.1
comp=Z,49nm,1.5s
ISA ePcP PcP 07 19 36.0 +1.8
ISA Isabella 36.14 316 ⇓P P 07 17 10.3 +1.4
baz=36,SNR=10
J19A Crowheart 36.16 334 ⇑P P 07 17 08.6 -0.4
baz=36,SNR=11
G24A Alzada 36.18 341 ⇑P P 07 17 08.6 -0.5
baz=36,SNR=8.0
GRAC Grapevine Rang 36.19 319 ⇓P P 07 17 11.1 +1.8
baz=36
H22A Clearmont 36.20 338 ⇓P P 07 17 09.0 -0.3
baz=36,SNR=9.9
EYMN Ely 36.21 357 eP P 07 17 07.2 -2.1
comp=Z,18nm,0.8s
L16A Fish Haven 36.26 331 ⇓P P 07 17 09.0 -0.9
baz=36
CWC Cottonwood Cre 36.32 318 ⇑P P 07 17 10.8 +0.3
baz=36
I20A Worland 36.34 336 ⇑P P 07 17 11.0 +0.5
baz=36,SNR=27
M15A Larsen Ranch, 36.34 329 ⇓P P 07 17 11.7 +1.1
baz=36
G23A Biddle 36.39 340 ⇓P P 07 17 10.6 -0.3
baz=36,SNR=10.0
H21A Big Horn, Sher 36.48 337 ⇓P P 07 17 11.2 -0.6
baz=37,SNR=13
J18A Kendall Valley 36.53 333 ⇓P P 07 17 11.6 -0.7
baz=37,SNR=24
K17A Gardner Place, 36.58 332 ⇑P P 07 17 12.2 -0.5
baz=37,SNR=6.9
F24A Ekalaka 36.65 341 ⇑P P 07 17 13.0 -0.1
baz=37,SNR=12
VES Vestal, Richgr 36.66 316 ⇓P P 07 17 14.7 +1.5
baz=37,SNR=21
PKM Peak Mountain 36.66 314 ⇑P P 07 17 14.0 +0.5
baz=37
L15A Malad City 36.71 330 ⇑P P 07 17 12.9 -0.9
baz=37,SNR=11
G22A Birney 36.72 339 ⇑P P 07 17 12.3 -1.4
baz=37
H20A Greybull 36.73 336 ⇑P P 07 17 13.7 -0.1
baz=37
HVU Hansel Valley 36.74 329 eP P 07 17 15.6 +1.5
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 36.74 329 eP P 07 17 15.6 +1.5
comp=Z,9.5nm,1.0s
I19A Meeteetse 36.76 335 ⇑P P 07 17 14.4 +0.2
baz=37,SNR=13
TIN Tinemaha 36.77 318 ⇑P P 07 17 15.3 +0.9
baz=37
I18A Diamond G Ranc 36.84 334 ⇑P P 07 17 15.0 +0.1
baz=37,SNR=16
F23A Volborg 36.85 340 ⇓P P 07 17 14.7 -0.1
baz=37,SNR=11
K16A Soda Springs 36.95 331 ⇑P P 07 17 15.0 -0.9
baz=37
J17A Brown Place, J 36.96 333 ⇑P P 07 17 16.3 +0.4
baz=37,SNR=18
AGMN Agassiz Nation 36.99 352 eP P 07 17 14.7 -1.2
comp=Z,51nm,0.9s
AGMN ePcP PcP 07 19 37.6 +1.2
SMMC Simmler 37.00 315 ⇑P P 07 17 17.4 +1.2
baz=37
RCTC Rector, Farmer 37.02 317 ⇓P P 07 17 18.2 +1.9
baz=37,SNR=25
REDW Red Top Meadow 37.02 332 eP P 07 17 16.6 +0.1
comp=Z,34nm,1.1s
G21A Lodge Grass 37.05 338 ⇓P P 07 17 16.2 -0.3
baz=37
SNOW Snow King Moun 37.06 333 eP P 07 17 17.1 +0.2
comp=Z,31nm,1.0s
LOHW Long Hollow 37.11 333 eP P 07 17 17.5 +0.3
comp=Z,14nm,0.9s
L14A Malta 37.16 329 ⇓P P 07 17 17.2 -0.5
baz=37,SNR=12
MTUM Tungsten Hills 37.16 319 eP P 07 17 20.2 +2.4
TPAW Teton Pass 37.17 333 eP P 07 17 18.2 +0.4
comp=Z,32nm,1.3s
F22A Rosebud 37.19 339 ⇓P P 07 17 17.4 -0.3
baz=37,SNR=10
MDND Maddock 37.22 348 ⇑P P 07 17 17.2 -0.6
baz=37
RRI2 Red Ridge 37.23 332 eP P 07 17 18.4 +0.1
comp=Z,111nm,2.3s
E24A Baker 37.24 342 ⇑P P 07 17 19.1 +1.0
baz=37,SNR=14
H19A Powell 37.28 336 ⇓P P 07 17 19.2 +0.7
baz=37
MOOW Moose Ponds 37.28 333 eP P 07 17 18.8 +0.1
comp=Z,6.5nm,0.9s
MOOW ePcP PcP 07 19 38.5 +0.9
K15A Arbon 37.29 330 ⇑P P 07 17 18.5 -0.2
baz=37
J16A Bone 37.30 332 ⇑P P 07 17 19.2 +0.3
baz=37,SNR=8.0
ELK Elko 37.31 326 eP P 07 17 20.8 +1.8
ELK ePcP PcP 07 19 38.5 +0.7
I17A Pilgrim Ck. 37.34 333 ⇑P P 07 17 19.5 +0.3
baz=37,SNR=11
DCID1 Drake Creek 37.36 332 eP P 07 17 20.4 +1.0
comp=Z,15nm,0.9s
DCID1 ePcP PcP 07 19 39.7 +1.9
G20A Bridger 37.43 337 ⇓P P 07 17 19.6 -0.2
baz=38,SNR=16
IMW Indian Meadow 37.48 333 eP P 07 17 20.5 0.0
comp=Z,6.4nm,0.8s
IMW ePcP PcP 07 19 39.7 +1.4
E23A Ismay 37.50 341 ⇑P P 07 17 20.0 -0.3
baz=38,SNR=5.3
MLAC Mammoth Lakes 37.50 319 ⇓P P 07 17 22.5 +1.8
baz=38
K14A Jones Ranch, D 37.51 329 ⇑P P 07 17 20.5 0.0
baz=38,SNR=20
FLWY Flagg Ranch 37.52 333 eP P 07 17 20.7 0.0
comp=Z,18nm,1.1s
NV11 Mina Array Sit 37.54 320 eP P 07 17 22.9 +2.0
NV11 ePcP PcP 07 19 39.7 +1.3
H18A Shoshone NF, C 37.56 335 ⇑P P 07 17 21.2 +0.1
baz=38,SNR=23
NVAR Mina Array Bea 37.63 320 P P 07 17 23.8 +2.0
comp=Z,42nm,0.9s,baz=138,slow=6.8,SNR=175
NVAR PcP PcP 07 19 40.0 +1.2
comp=Z,1.3nm,0.6s,baz=211,slow=31,SNR=11
NVAR ScP ScP 07 23 37.5 +14
comp=Z,1.4nm,1.0s,baz=124,slow=4.8,SNR=4.7
NVAR Mina Array Bea 37.63 320 P P 07 17 23.8 +2.0
NVAR PcP PcP 07 19 40.0 +1.2
NVAR ScP ScP 07 23 37.5 +14
E22A Miles City 37.66 340 ⇓P P 07 17 21.4 -0.3
baz=38,SNR=15
I16A Newdale 37.71 332 ⇓P P 07 17 21.6 -0.7
baz=38
H17A Grant Village 37.72 334 ⇑P P 07 17 22.3 -0.1
baz=38
D24A Glendive 37.75 342 ⇓P P 07 17 22.5 +0.2
baz=38,SNR=7.6
RLMT Red Lodge 37.76 336 eP P 07 17 22.3 -0.5
comp=Z,32nm,1.4s
RLMT ePcP PcP 07 19 40.0 +1.0
RLMT Red Lodge 37.76 336 ⇑P P 07 17 22.2 -0.5
baz=38,SNR=21
LKWY Lake 37.78 334 eP P 07 17 24.3 +1.3
LKWY pmax pmax
comp=Z,16nm,1.1s
LKWY Lake 37.78 334 eP P 07 17 24.3 +1.3
comp=Z,16nm,1.1s
J15A Blackfoot 37.79 331 ⇓P P 07 17 22.9 0.0
baz=38,SNR=8.5
YFT Old Faithful 37.88 334 eP P 07 17 24.9 +1.2
comp=Z,55nm,1.3s
YFT ePcP PcP 07 19 42.0 +2.6
F20A Billings 37.89 337 ⇑P P 07 17 23.1 -0.6
baz=38,SNR=18
G18A Lazy EL Ranch, 38.04 336 ⇑P P 07 17 24.4 -0.7
baz=38,SNR=16
D23A Lindsay 38.07 341 ⇑P P 07 17 25.4 +0.3
baz=38,SNR=16
YMR Madison River 38.11 334 eP P 07 17 26.2 +0.6
comp=Z,35nm,1.1s
YMR ePcP PcP 07 19 41.6 +1.5
E21A Keefer Ranch, 38.13 339 ⇓P P 07 17 25.4 -0.3
baz=38,SNR=7.9
C24A Savage 38.15 342 ⇓P P 07 17 26.1 +0.4
baz=38
BMN Battle Mountai 38.23 324 eP P 07 17 29.3 +2.6
BMN pmax pmax
comp=Z,34nm,1.1s
BMN Battle Mountai 38.23 324 eP P 07 17 29.3 +2.6
comp=Z,34nm,1.1s
F19A Roth Farm, Mol 38.24 337 ⇓P P 07 17 26.5 -0.2
baz=38,SNR=22
H16A Russell Place, 38.26 333 ⇓P P 07 17 26.8 -0.1
baz=38,SNR=16
D22A Cohagen 38.36 340 ⇑P P 07 17 27.7 +0.1
baz=38,SNR=28
QLMT Earthquake Lak 38.44 333 eP P 07 17 29.7 +1.3
QLMT ePcP PcP 07 19 43.5 +2.4
GCMT Greycliff 38.47 336 eP P 07 17 28.2 -0.4
comp=Z,14nm,1.1s
GCMT ePcP PcP 07 19 42.3 +1.2
E20A Meyer Farm, Mu 38.48 338 ⇑P P 07 17 28.3 -0.3
baz=39,SNR=30
D21A La Casta Ranch 38.56 340 ⇑P P 07 17 29.6 +0.3
baz=39
F18A Big Timber 38.59 336 ⇑P P 07 17 29.8 +0.2
baz=39,SNR=20
C23A Lambert 38.62 342 ⇓P P 07 17 29.9 +0.1
baz=39,SNR=13
J13A Cove Ranch, Pi 38.63 330 ⇓P P 07 17 29.7 -0.3
baz=39
E19A Rath Farm, Rou 38.69 337 ⇑P P 07 17 30.4 +0.1
baz=39,SNR=11
CMB Columbia Colle 38.74 318 eP P 07 17 32.4 +1.5
CMB pmax pmax
comp=Z,27nm,1.2s
CMB Columbia Colle 38.74 318 eP P 07 17 32.4 +1.5
comp=Z,27nm,1.2s
C22A Vida 38.79 341 ⇑P P 07 17 31.7 +0.6
baz=39,SNR=24
H15A Lima 38.81 332 ⇓P P 07 17 32.7 +1.1
baz=39,SNR=14
HLID Hailey 38.87 330 eP P 07 17 32.4 +0.4
comp=Z,7.2nm,1.0s
HLID ePcP PcP 07 19 44.6 +2.1
HLID Hailey 38.87 330 ⇑P P 07 17 32.6 +0.5
baz=39,SNR=11
PQI Presque Isle 38.89 22 eP P 07 17 31.5 -0.4
comp=Z,19nm,0.6s
ULM Lac du Bonnet 38.91 352 P P 07 17 30.1 -1.9
comp=Z,26nm,0.8s,baz=173,slow=8.6,SNR=23
ULM PcP PcP 07 19 42.5 +0.4
comp=Z,9.1nm,0.8s,baz=152,slow=2.7,SNR=4.0
ULM LR LR 07 34 57.4
comp=Z,271nm,20.6s,baz=304,slow=38
ULM Lac du Bonnet 38.91 352 eP P 07 17 30.1 -1.9
comp=Z,31nm,0.9s
ULM PcP PcP 07 19 42.5 +0.4
G16A Moss Hill, Enn 38.91 333 ⇑P P 07 17 32.7 +0.3
baz=39,SNR=20
DGMT Dagmar 38.93 343 eP P 07 17 32.1 -0.2
comp=Z,51nm,1.0s
DGMT Dagmar 38.93 343 ⇑P P 07 17 32.0 -0.2
baz=39,SNR=11
F17A Fitzpatrick Pl 38.97 335 ⇑P P 07 17 33.4 +0.6
baz=39,SNR=27
D20A Manuel Ranch, 38.98 339 ⇓P P 07 17 33.1 +0.3
baz=39,SNR=32
I13A Wildhorse Cree 38.98 330 ⇑P P 07 17 33.5 +0.5
baz=39,SNR=10.0
WCN Washoe City 39.06 320 eP P 07 17 36.1 +2.4
WCN pmax pmax
comp=Z,30nm,1.2s
WCN Washoe City 39.06 320 eP P 07 17 36.1 +2.4
comp=Z,30nm,1.2s
MCMT McKenzie Canyo 39.07 332 eP P 07 17 34.7 +0.9
comp=Z,11nm,0.9s
H14A Leadore 39.15 332 ⇑P P 07 17 34.9 +0.5
baz=39,SNR=14
B23A Brockton 39.16 343 ⇓P P 07 17 34.7 +0.6
baz=39,SNR=18
BOZ Bozeman (W) 39.17 334 eP P 07 17 34.5 0.0
BOZ pmax pmax
comp=Z,35nm,1.6s
BOZ Bozeman (W) 39.17 334 eP P 07 17 34.5 0.0
comp=Z,35nm,1.6s
BOZ Bozeman (W) 39.17 334 ⇓P P 07 17 34.8 +0.4
baz=39,SNR=11
G15A Dillon 39.17 333 ⇓P P 07 17 35.0 +0.5
baz=39,SNR=16
E18A Harlowton 39.21 336 ⇑P P 07 17 34.8 0.0
baz=39,SNR=13
C21A Desert Coulee 39.25 340 ⇑P P 07 17 35.1 +0.1
baz=39
F16A Kennard Place, 39.28 334 ⇓P P 07 17 35.9 +0.6
baz=39,SNR=21
A24A Westby 39.29 344 ⇓P P 07 17 35.6 +0.4
baz=39,SNR=12
D19A Cripps Ranch, 39.31 338 ⇑P P 07 17 35.8 +0.3
baz=39,SNR=30
B22A Reddig Ranch S 39.31 341 ⇓P P 07 17 35.4 -0.1
baz=39,SNR=7.1
DLMT Dillon 39.37 333 eP P 07 17 36.5 +0.4
comp=Z,40nm,1.4s
C20A Veseth Ranch, 39.47 339 ⇑P P 07 17 37.1 +0.3
baz=40,SNR=7.4
MFID Camas Ranch 39.48 328 eP P 07 17 40.3 +3.2
comp=Z,8.9nm,0.9s
MFID ePcP PcP 07 19 46.3 +1.9
MFID Camas Ranch 39.48 328 ⇑P P 07 17 37.4 +0.4
baz=40,SNR=13
E17A Martinsdale 39.50 336 ⇑P P 07 17 37.6 +0.3
baz=40,SNR=10
H13A Challis 39.53 331 ⇑P P 07 17 37.8 +0.3
baz=40,SNR=15
A23A Redstone 39.57 343 ⇓P P 07 17 38.0 +0.3
baz=40,SNR=10
LRM Limekiln Ridge 39.66 334 eP P 07 17 39.3 +0.6
LRM ePcP PcP 07 19 46.1 +1.1
G14A Jackson 39.67 332 ⇓P P 07 17 39.0 +0.3
baz=40
D18A Linhart Farms, 39.69 337 ⇓P P 07 17 38.3 -0.4
baz=40,SNR=11
F15A Butte 39.69 334 ⇑P P 07 17 39.0 +0.1
baz=40,SNR=12
B21A Ellsworth Farm 39.75 341 ⇓P P 07 17 39.1 -0.1
baz=40
C19A Slack Wire Ran 39.85 338 ⇓P P 07 17 40.1 +0.1
baz=40,SNR=40
E16A East Helena 39.89 335 ⇑P P 07 17 40.6 +0.2
baz=40,SNR=34
A22A Carney Farms, 39.90 342 ⇓P P 07 17 41.2 +0.7
baz=40,SNR=18
G13A Cobalt 39.91 331 ⇓P P 07 17 40.4 -0.3
baz=40
D17A Six Diamond Ra 39.99 336 ⇑P P 07 17 41.5 +0.2
baz=40,SNR=24
F14A Wisdom 40.06 333 ⇑P P 07 17 42.2 +0.3
baz=40
B20A Solberg Farm, 40.09 340 ⇓P P 07 17 42.1 +0.1
baz=40,SNR=15
HRY Holter Researc 40.10 335 eP P 07 17 42.0 -0.1
OHCM Honcut 40.18 319 eP P 07 17 44.8 +2.1
A21A Bergtoll Ranch 40.22 341 ⇓P P 07 17 42.7 -0.3
baz=40,SNR=16
E15A Deer Lodge 40.22 334 ⇓P P 07 17 43.1 -0.1
baz=40,SNR=15
D16A Dana Ranch, Ca 40.24 335 ⇓P P 07 17 43.7 +0.4
baz=40,SNR=20
EGMT Eagleton 40.36 338 eP P 07 17 44.2 0.0
comp=Z,28nm,0.9s
EGMT Eagleton 40.36 338 ⇑P P 07 17 44.3 0.0
baz=40,SNR=22
C17A Wharram Farm, 40.41 337 ⇑P P 07 17 44.7 0.0
baz=40,SNR=23
B19A Brinkman Farms 40.43 339 ⇑P P 07 17 44.4 -0.3
baz=40,SNR=23
A20A Cobblestone Ra 40.44 340 ⇑P P 07 17 45.0 +0.1
baz=40,SNR=21
G12A Big Creek, Yel 40.46 330 ⇑P P 07 17 44.9 -0.3
baz=41
F13A Darby 40.48 332 ⇑P P 07 17 45.3 -0.1
baz=41,SNR=9.4
E14A Clinton 40.58 333 ⇓P P 07 17 45.9 -0.3
baz=41,SNR=6.4
D15A Lincoln 40.65 335 ⇑P P 07 17 46.9 +0.1
baz=41,SNR=20
B18A Beardsley Farm 40.67 338 ⇓P P 07 17 47.3 +0.5
baz=41,SNR=19
A19A Klindworth Far 40.76 339 ⇑P P 07 17 47.2 -0.4
baz=41,SNR=14
CHMT Chamberlain Mo 40.86 334 eP P 07 17 48.0 -0.6
F12A Elk City 40.89 331 ⇑P P 07 17 48.4 -0.3
baz=41,SNR=14
E13A Victor 40.91 333 ⇓P P 07 17 48.8 0.0
baz=41,SNR=12
C16A Fuhringer Ranc 40.94 336 ⇓P P 07 17 49.1 0.0
baz=41
MOD Modoc 40.96 323 eP P 07 17 50.4 +1.0
comp=Z,24nm,1.1s
B17A L&G Farms, Che 40.97 337 ⇑P P 07 17 49.3 +0.1
baz=41,SNR=7.7
MSO Missoula 41.09 333 eP P 07 17 50.1 -0.3
comp=Z,17nm,1.3s
MSO ePcP PcP 07 19 51.3 +1.9
MSO Missoula 41.09 333 ⇓P P 07 17 49.7 -0.7
baz=41,SNR=14
D14A Greenough 41.10 334 ⇓P P 07 17 50.0 -0.5
baz=41,SNR=11
A18A Metzger Ranch, 41.14 339 ⇓P P 07 17 50.7 +0.1
baz=41,SNR=14
SLMT Seeley Lake 41.22 334 eP P 07 17 50.8 -0.6
BMO Blue Mountains 41.25 329 eP P 07 17 52.4 +0.8
comp=Z,5.2nm,0.9s
C15A Salmond Ranch, 41.27 335 ⇑P P 07 17 51.9 +0.1
baz=41,SNR=21
B16A M & M Farms, S 41.42 337 ⇓P P 07 17 52.4 -0.6
baz=42
A17A Triple J Farms 41.47 338 ⇑P P 07 17 53.4 0.0
baz=42,SNR=27
E12A Beaver Dam Sad 41.52 332 ⇑P P 07 17 52.8 -1.2
baz=42,SNR=6.6
D13A Huson 41.53 333 ⇓P P 07 17 53.0 -0.8
baz=42,SNR=6.9
SWMT Swartz Lake 41.64 334 eP P 07 17 54.5 -0.4
SWMT ePcP PcP 07 19 52.7 +1.5
B15A Bradely Ranch, 41.68 336 ⇑P P 07 17 55.1 0.0
baz=42,SNR=14
C14A Swan Lake 41.74 334 ⇓P P 07 17 54.5 -1.1
baz=42
A16A West Butte Ran 41.81 337 ⇓P P 07 17 56.0 -0.2
baz=42
D12A Red Ives Fores 41.90 332 ⇑P P 07 17 56.4 -0.5
baz=42
LHEM Herd Peak 41.95 321 P P 07 17 58.9 +1.3
B14A Marquette Ranc 42.00 335 ⇑P P 07 17 58.0 +0.1
baz=42
C13A Hot Springs 42.02 334 ⇓P P 07 17 57.1 -0.8
baz=42
A15A Johnson Ranch, 42.28 336 ⇑P P 07 17 59.8 -0.2
baz=42,SNR=17
C12B Naegeli Ranch, 42.44 333 ⇓P P 07 18 01.1 -0.2
baz=42
KHMM Horse Mountain 42.46 320 eP P 07 18 03.6 +1.9
comp=Z,58nm,0.9s
B13A Whitefish 42.51 334 ⇓P P 07 18 03.1 +1.3
baz=43,SNR=6.0
A14A Double T Ranch 42.55 336 ⇑P P 07 18 01.9 -0.3
baz=43,SNR=40
VIPM Ingram Point 42.77 326 P P 07 18 06.1 +1.9
VIPM Ingram Point 42.77 326 P P 07 18 06.1 +1.9
WALA Waterton Lakes 42.81 335 eP P 07 18 04.3 -0.1
comp=Z,0.8nm,1.4s
WALA ePcP PcP 07 19 56.1 +1.0
C11A Tepee Creek (N 42.89 332 ⇑P P 07 18 04.9 0.0
baz=43
A13A Flathead Natio 42.92 335 ⇓P P 07 18 04.6 -0.7
baz=43
KRMB Red Mountain 42.93 320 eP P 07 18 06.3 +0.9
comp=Z,100nm,1.5s
B12A Libby 43.07 334 ⇓P P 07 18 06.8 +0.4
baz=43
A12A Yaak River Ran 43.45 334 ⇑P P 07 18 09.8 +0.4
baz=44
KBO Bosley Butte 43.51 321 eP P 07 18 11.2 +1.1
comp=Z,184nm,1.2s
NEW Newport 43.60 332 eP P 07 18 12.0 +1.4
comp=Z,4.0nm,0.8s
NEW ePcP PcP 07 19 58.2 +0.6
BROR Big Rock Looko 43.65 324 P P 07 18 12.0 +1.0
VFP Flag Point 43.75 326 P P 07 18 14.2 +2.2
KEBM Edson Butte 43.94 322 eP P 07 18 14.8 +1.3
comp=Z,155nm,1.1s
LCO Las Campanas 43.96 157 eP P 07 18 14.0 0.0
FFC Flin Flon 44.22 349 eP P 07 18 14.7 -0.7
FFC e 07 20 00.4
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 44.22 349 eP P 07 18 14.7 -0.7
comp=Z,9.8nm,0.9s
FFC ePcP PcP 07 20 00.4 +0.9
FFC Flin Flon 44.22 349 P P 07 18 14.3 -1.1
comp=Z,62nm,1.9s,SNR=6.3
ETW Entiat 44.66 329 P P 07 18 21.5 +2.2
LON Longmire 44.85 328 eP P 07 18 22.2 +1.4
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 44.85 328 eP P 07 18 22.2 +1.4
comp=Z,9.4nm,0.9s
DRLN Deer Lake 45.34 28 eP P 07 18 23.5 -1.0
comp=Z,44nm,1.2s
SCHQ Schefferville 46.26 17 P P 07 18 30.3 -1.3
comp=Z,33nm,0.9s,baz=216,slow=6.2,SNR=50
SCHQ PcP PcP 07 20 07.3 +0.7
comp=Z,14nm,0.8s,baz=222,slow=5.0,SNR=3.9
SCHQ LR LR 07 39 21.3
comp=Z,472nm,18.5s,baz=8.5,slow=38

SCHQ	**Schefferville**	**46.26**	**17**	*e*P		**P**	**07 18 30.1**	**-1.5**
	comp=Z,73nm,1.0s								
BDFB	**Brasilia**	**48.37**	**123**	P		**P**	**07 18 48.1**	**-0.7**
	comp=Z,8.1nm,0.6s,baz=279,slow=9.5,SNR=12								
BDFB				LR		LR	07 41 11.9		
	comp=Z,332nm,18.9s,baz=291,slow=39								
BDFB	**Brasilia**	**48.37**	**123**	P		**P**	**07 18 48.1**	**-0.7**
CPUP	**Villa Florida**	**48.42**	**142**	P		**P**	**07 18 47.5**	**-1.3**
	comp=Z,10nm,1.1s,baz=303,slow=6.9,SNR=8.6								
CPUP				PcP		**PcP**	**07 20 14.7**	**0.0**	
	comp=Z,4.8nm,0.8s,baz=61,slow=0.2,SNR=3.1								
CPUP				LR		LR	07 40 36.4		
	comp=Z,263nm,18.1s,baz=307,slow=38								
CPUP	**Villa Florida**	**48.42**	**142**	P		**P**	**07 18 47.5**	**-1.3**
CPUP				PcP		**PcP**	**07 20 14.7**	**0.0**	
YKA	**Yellowknife Ar**	**54.07**	**345**	P		**P**	**07 19 29.5**	**-1.2**
	comp=Z,9.2nm,0.9s,baz=141,slow=7.4,SNR=106								
YKA				PcP		**PcP**	**07 20 35.7**	**+0.6**	
	comp=Z,3.4nm,0.8s,baz=142,slow=4.2,SNR=6.8								
YKA				ScP		ScP	07 24 40.3	+10	
	comp=Z,0.8nm,0.9s,baz=141,slow=3.8,SNR=4.6								
YKA	**Yellowknife Ar**	**54.07**	**345**	P		**P**	**07 19 29.5**	**-1.2**
YKA				PcP		**PcP**	**07 20 35.7**	**+0.6**	
YKA				ScP		ScP	07 24 40.3	+10	
YKW3	**Yellowknife Ar**	**54.13**	**345**	*e*P		**P**	**07 19 30.2**	**-0.9**
	comp=Z,0.3nm,0.9s								
PLCA	**Paso Flores**	**54.75**	**163**	P		**P**	**07 19 35.5**	**-0.4**
	comp=Z,12nm,1.0s,baz=328,slow=8.2,SNR=14								
PLCA				LR		LR	07 37 37.7		
	comp=Z,187nm,21.5s,baz=101,slow=30								
PLCA	**Paso Flores**	**54.75**	**163**	*e*P		**P**	**07 19 34.9**	**-1.1**
	comp=Z,26nm,1.3s								
TRQA	**Tornquist**	**55.36**	**155**	*e*P		**P**	**07 19 39.5**	**-0.9**
	comp=Z,23nm,1.4s								
DLBC	**Dease Lake**	**56.16**	**335**	*e*P		**P**	**07 19 46.6**	**+0.7**
RKT	**Rikitea**	**57.22**	**233**	*e*S		S	07 27 55.2	+8.3	
	comp=Z,495nm,30.2s								
RES	**Resolute Bay**	**63.06**	**358**	*e*P		**P**	**07 20 32.9**	**-0.2**
	comp=Z,7.1nm,0.8s								
INK	**Inuvik**	**63.62**	**343**	*e*P		**P**	**07 20 37.0**	**+0.2**
	comp=Z,12nm,0.9s								
EGAK	**Eagle**	**64.12**	**338**	*e*P		**P**	**07 20 39.7**	**-0.6**
	comp=Z,13nm,1.2s								
DOT	**Dot Lake**	**64.70**	**336**	*e*P		**P**	**07 20 44.8**	**+0.7**
	comp=Z,11nm,0.9s								
PAX	**Paxson**	**64.98**	**335**	*e*P		**P**	**07 20 46.2**	**+0.2**
PAX				pmax		pmax			
	comp=Z,116nm,2.6s								
PAX	**Paxson**	**64.98**	**335**	*e*P		**P**	**07 20 46.2**	**+0.2**
	comp=Z,116nm,2.6s								
PMR	**Palmer**	**66.02**	**333**	*e*P		**P**	**07 20 53.2**	**+0.6**
PMR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
PMR	**Palmer**	**66.02**	**333**	*e*P		**P**	**07 20 53.2**	**+0.6**
	comp=Z,6.8nm,0.7s								
ILAR	**Eielson Array**	**66.30**	**336**	P		**P**	**07 20 53.9**	**-0.4**
	comp=Z,5.4nm,0.8s,baz=111,slow=4.8,SNR=56								
ILAR				LR		LR	07 53 37.5		
	comp=Z,259nm,19.2s,baz=111,slow=39								
ILAR	**Eielson Array**	**66.30**	**336**	P		**P**	**07 20 53.9**	**-0.4**
COLA	**College**	**66.72**	**336**	*e*P		**P**	**07 20 56.9**	**-0.1**
COLA				*e*			07 21 25.5		
COLA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
COLA	**College**	**66.72**	**336**	*e*P		**P**	**07 20 56.9**	**-0.1**
	comp=Z,7.0nm,1.0s								
COLA				*e*PcP		**PcP**	**07 21 25.5**	**-0.3**	
PPT	**Papeete**	**67.02**	**245**	LR		LR	07 44 36.2		
	comp=Z,209nm,18.6s,baz=161,slow=31								
PPT2	**Papeete2**	**67.03**	**245**	*e*S		S	07 29 58.7	+7.6	
	comp=Z,167nm,25.8s								
PPT2				*e*LR		LR	07 40 48.0		
	comp=Z,768nm,28.5s,baz=56								
TRF	**Thorofare Moun**	**67.18**	**335**	*e*P		**P**	**07 20 59.4**	**-0.8**
	comp=Z,35nm,1.4s								
SUMG	**Summit**	**67.54**	**14**	*e*P		**P**	**07 21 04.7**	**+2.1**
SUMG				pmax		pmax			
	comp=Z,27nm,1.1s								
SUMG	**Summit**	**67.54**	**14**	*e*P		**P**	**07 21 04.7**	**+2.1**
	comp=Z,27nm,1.1s								
SUMG	**Summit**	**67.54**	**14**	*i* P		**P**	**07 21 04.7**	**+2.1**
	comp=Z,17nm,1.0s								
COLD	**Coldfoot**	**68.52**	**338**	*e*P		**P**	**07 21 09.3**	**+1.0**
	comp=Z,13nm,1.0s								
SVW2	**Sparrevohn**	**68.83**	**331**	*e*P		**P**	**07 21 10.7**	**+0.3**
	comp=Z,41nm,1.7s								
TBI	**Tubuai**	**69.11**	**239**	*e*S		S	07 30 23.5	+7.9	
	comp=Z,143nm,24.0s								
TBI				*e*LR		LR	07 41 59.1		
	comp=Z,503nm,30.2s								
DAG	**Danmarks Havn**	**74.08**	**13**	*i* P		**P**	**07 21 41.3**	**-0.5**
	comp=Z,73nm,1.1s								
TNA	**Tin City**	**75.06**	**335**	*e*P		**P**	**07 21 50.0**	**+2.4**
	comp=Z,69nm,1.2s								
EVOP	**Sao Brissos**	**75.26**	**53**	*e*P		**P**	**07 21 48.6**	**-0.7**
EVOP				pmax		pmax			
	comp=Z,19nm,0.9s								
EVOP	**Sao Brissos**	**75.26**	**53**	*e*P		**P**	**07 21 48.6**	**-0.7**
	comp=Z,19nm,0.9s								
EVO	**Evora**	**75.35**	**53**	*e*P		**P**	**07 21 48.6**	**-1.2**
	comp=Z,19nm,0.9s								
ESDC	**Sonseca Array**	**78.40**	**52**	P		**P**	**07 22 06.3**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=284,slow=5.3,SNR=9.1								
ESDC				LR		LR	07 54 26.0		
	comp=Z,168nm,18.7s,baz=245,slow=34								
ESDC	**Sonseca Array**	**78.40**	**52**	P		**P**	**07 22 06.3**	**-0.8**
GRR	**Gorron**	**79.75**	**43**	*e*P		**P**	**07 22 13.0**	**-1.2**
	comp=Z,143nm,1.5s								
GRR	**Gorron**	**79.75**	**43**	*e*P		**P**	**07 22 13.0**	**-1.2**
GRR	**Gorron**	**79.75**	**43**	*e*P		**P**	**07 22 13.0**	**-1.2**
	comp=Z,143nm,1.5s								
SPITS	**Spitsbergen Ar**	**81.62**	**12**	LR		LR	08 00 02.8		
	comp=Z,129nm,19.0s,baz=265,slow=37								
LIC	**Lamto**	**82.33**	**85**	*e*P		**P**	**07 22 27.8**	**-0.8**
	comp=Z,69nm,1.0s,baz=274								
LIC	**Lamto**	**82.33**	**85**	*e*P		**P**	**07 22 27.8**	**-0.8**
	comp=Z,69nm,1.0s								
DBIC	**Dimbokro**	**82.41**	**85**	P		**P**	**07 22 27.5**	**-1.5**
	comp=Z,9.5nm,1.0s,baz=266,slow=6.7,SNR=5.9								
DBIC				LR		LR	07 56 22.4		
	comp=Z,123nm,18.1s,baz=255,slow=34								
DBIC	**Dimbokro**	**82.41**	**85**	*e*P		**P**	**07 22 28.4**	**-0.6**
	comp=Z,18nm,1.1s								
BGF	**Bois d'Agland**	**82.48**	**44**	*e*P		**P**	**07 22 29.2**	**+0.4**
	comp=Z,25nm,1.0s								
BGF	**Bois d'Agland**	**82.48**	**44**	*e*P		**P**	**07 22 29.2**	**+0.4**
BGF				pmax		pmax			
	comp=Z,25nm,1.0s								
BGF	**Bois d'Agland**	**82.48**	**44**	*e*P		**P**	**07 22 29.2**	**+0.4**
	comp=Z,25nm,1.0s								
GIVF	**Givet**	**83.19**	**40**	*e*P		**P**	**07 22 31.3**	**-1.1**
GIVF	**Givet**	**83.19**	**40**	*e*P		**P**	**07 22 31.3**	**-1.1**
GIVF	**Givet**	**83.19**	**40**	*e*P		**P**	**07 22 31.3**	**-1.1**
NB2	**NORSAR Subarra**	**84.47**	**29**	P		**P**	**07 22 39.6**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=284,slow=5.1								
NOA	**NORSAR Array B**	**84.47**	**29**	P		**P**	**07 22 38.4**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=284,slow=4.9,SNR=6.4								
NOA				LR		LR	07 56 23.2		
	comp=Z,104nm,21.2s,baz=250,slow=33								
NOA	**NORSAR Array B**	**84.47**	**29**	P		**P**	**07 22 38.4**	**-0.4**
HAU	**Haudompre**	**84.57**	**42**	*e*P		**P**	**07 22 38.2**	**-1.3**
HAU	**Haudompre**	**84.57**	**42**	*e*P		**P**	**07 22 38.2**	**-1.3**
HAU	**Haudompre**	**84.57**	**42**	*e*P		**P**	**07 22 38.2**	**-1.3**
HINF	**Hinteralfeld**	**84.94**	**42**	*e*P		**P**	**07 22 40.0**	**-1.4**
HINF	**Hinteralfeld**	**84.94**	**42**	*e*P		**P**	**07 22 40.0**	**-1.4**
HINF	**Hinteralfeld**	**84.94**	**42**	*e*P		**P**	**07 22 40.0**	**-1.4**
LPL	**La Plagne**	**85.33**	**45**	*e*P		**P**	**07 22 42.5**	**-1.2**
LPL	**La Plagne**	**85.33**	**45**	*e*P		**P**	**07 22 42.5**	**-1.2**
LPL	**La Plagne**	**85.33**	**45**	*e*P		**P**	**07 22 42.5**	**-1.2**
LPG	**La Plagne**	**85.35**	**45**	*e*P		**P**	**07 22 42.6**	**-1.2**
	comp=Z,20nm,1.2s								
LPG	**La Plagne**	**85.35**	**45**	*e*P		**P**	**07 22 42.6**	**-1.2**
LPG				pmax		pmax			
	comp=Z,20nm,1.2s								
LPG	**La Plagne**	**85.35**	**45**	*e*P		**P**	**07 22 42.6**	**-1.2**
	comp=Z,20nm,1.2s								
TUE	**Stuetta**	**86.90**	**43**	*e*P		**P**	**07 22 51.5**	**+0.2**
	comp=Z,8.8nm,0.9s								
ARCES	**ARCESS Array B**	**87.19**	**19**	P		**P**	**07 22 51.9**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=338,slow=9.1,SNR=3.8								
ARCES				LR		LR	08 06 03.3		
	comp=Z,91nm,20.1s,baz=117,slow=39								
ARCES	**ARCESS Array B**	**87.19**	**19**	P		**P**	**07 22 51.9**	**-0.2**
MOX	**Moxa**	**87.32**	**39**	*e*P		**P**	**07 22 54.6**	**+1.5**
	comp=Z,10.0nm,1.0s								
MOX				*e*P		**pP**	**07 23 02.1**	**-3.5**	
	comp=Z,116nm,20.4s								
GRF	**Grafenberg Arr**	**87.32**	**40**	*e*P		**P**	**07 22 53.8**	**+0.7**
	comp=Z,17nm,0.9s								
GRF				*e*pP		**pP**	**07 23 02.1**	**-3.5**	
GRF				*e*L		L	07 56 29.4		
	comp=Z,143nm,21.7s								
GRA3	**Grafenberg Arr**	**87.37**	**40**	*e*pP		pP	07 23 03.0	-2.8	
GRA2	**Grafenberg Arr**	**87.42**	**40**	*e*pP		pP	07 23 03.2	-2.9	
TORD	**Torodi Ar. Bea**	**87.51**	**77**	P		**P**	**07 22 53.4**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=281,slow=4.3,SNR=11								
TORD	**Torodi Ar. Bea**	**87.51**	**77**	P		**P**	**07 22 53.4**	**-1.2**
GRB2	**Grafenberg Arr**	**87.71**	**40**	*e*pP		pP	07 23 03.8	-3.7	
GRC3	**Grafenberg Arr**	**87.76**	**41**	*e*pP		pP	07 23 04.1	-3.6	
GRB5	**Grafenberg Arr**	**87.76**	**40**	*e*pP		pP	07 23 04.8	-3.0	
GRB3	**Grafenberg Arr**	**87.78**	**40**	*e*pP		pP	07 23 04.9	-3.0	
TANN	**Tannenbergstha**	**87.90**	**39**	*e*pP		pP	07 23 05.6	-2.9	
ROTZ	**Rotzenmuhle**	**87.92**	**40**	*e*pP		pP	07 23 05.1	-3.4	
NKC	**Novy Kostel**	**87.94**	**39**	*e*P		**P**	**07 22 56.0**	**-0.1**
NKC				*e*			07 23 04.8		
NKC	**Novy Kostel**	**87.94**	**39**	*e*P		**P**	**07 22 56.0**	**-0.1**
NKC				*e*pP		**pP**	**07 23 04.8**	**-3.8**	
CLL	**Collm**	**87.99**	**38**	*e*P		**P**	**07 22 57.0**	**+0.8**
CLL				*i*			07 23 04.1		
CLL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CLL	**Collm**	**87.99**	**38**	*e*pP		pP	07 23 05.1	-3.6	
CLL	**Collm**	**87.99**	**38**	*e*P		**P**	**07 22 57.0**	**+0.8**
	comp=Z,6.0nm,1.0s								
CLL				*i* pP		**pP**	**07 23 04.1**	**-4.6**	
	comp=Z,20nm,1.2s								
CLL				*e*PS		**PS**	**07 34 45.0**	**+0.8**	
WET	**Wettzell**	**88.51**	**40**	*e*pP		pP	07 23 08.4	-3.0	
BRG	**Berggiesshubel**	**88.68**	**38**	*e*P		**P**	**07 23 00.0**	**+0.5**
	comp=Z,3.0nm,0.8s								
BRG				*e*			07 23 08.8		
	comp=Z,26nm,1.7s								
BRG	**Berggiesshubel**	**88.68**	**38**	*e*P		**P**	**07 23 00.0**	**+0.5**
BRG				*e*			07 23 08.8		
BRG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRG				pmax		pmax			
	comp=Z,26nm,1.7s								
BRG	**Berggiesshubel**	**88.68**	**38**	*e*P		**P**	**07 23 00.0**	**+0.5**
	comp=Z,26nm,1.7s								
BRG				*e*pP		**pP**	**07 23 09.3**	**-2.7**	
KHC	**Kasperske Hory**	**88.96**	**40**	*e*P		**P**	**07 23 01.7**	**+0.8**
KHC				*e*			07 23 09.8		
KHC	**Kasperske Hory**	**88.96**	**40**	*e*P		**P**	**07 23 01.7**	**+0.8**
KHC				*e*pP		**pP**	**07 23 09.8**	**-3.7**	
GEC2	**GERESS Array S**	**89.12**	**40**	*e*P		**P**	**07 23 02.0**	**+0.3**
	comp=Z,11nm,1.1s								
GEC2				*e*pP		**pP**	**07 23 10.5**	**-3.8**	
GERES	**GERESS Array B**	**89.12**	**40**	P		**P**	**07 23 01.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=298,slow=2.9,SNR=9.0								
GERES				LR		LR	08 03 19.0		
	comp=Z,137nm,18.1s,baz=109,slow=36								
GERES	**GERESS Array B**	**89.12**	**40**	P		**P**	**07 23 01.7**	**-0.1**
TAM	**Tamanrasset**	**89.12**	**67**	*e*P		**P**	**07 23 03.9**	**+1.5**
TAM				pmax		pmax			
	comp=Z,7.0nm,1.1s								
TAM	**Tamanrasset**	**89.12**	**67**	*e*P		**P**	**07 23 03.9**	**+1.5**
	comp=Z,6.6nm,1.1s								
KEST	**Kesra**	**89.46**	**54**	LR		LR	07 57 38.6		
	comp=Z,60nm,21.7s,baz=81,slow=32								
DPC	**Dobruska-Polom**	**90.28**	**38**	*e*P		**P**	**07 23 07.8**	**+0.7**
DPC	**Dobruska-Polom**	**90.28**	**38**	*e*P		**P**	**07 23 07.8**	**+0.7**
CONA	**Conrad Observa**	**90.77**	**41**	*i*/*e*P		**PcP**	**07 23 10.2**	**-0.3**
	comp=Z,5.6nm,0.9s								
FINES	**FINESS Array B**	**91.05**	**26**	P		**P**	**07 23 10.4**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=298,slow=12,SNR=4.3								
FINES				LR		LR	08 06 10.8		
	comp=Z,146nm,18.3s,baz=322,slow=37								
FINES	**FINESS Array B**	**91.05**	**26**	P		**P**	**07 23 10.4**	**+0.1**
SEY	**Seymchan**	**92.24**	**336**	*i*/*e*P		**P**	**07 23 16.5**	**+0.7**
VYHS	**Vyhne**	**92.45**	**39**	*e*P		**P**	**07 23 18.0**	**+0.8**
VYHS	**Vyhne**	**92.45**	**39**	*e*P		**P**	**07 23 18.0**	**+0.8**
KOLS	**Kolonicke sedl**	**94.40**	**38**	*e*P		P	07 23 29.3	+3.2	
KOLS				pmax		pmax			
	comp=Z,36nm,2.3s								
KOLS	**Kolonicke sedl**	**94.40**	**38**	*e*P		P	07 23 29.3	+3.2	
PETK	**Petropavlovsk-**	**94.47**	**326**	P		**P**	**07 23 27.7**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=20,slow=1.7,SNR=3.0								
PETK	**Petropavlovsk-**	**94.47**	**326**	P		**P**	**07 23 27.7**	**+1.4**
PETK	**Petropavlovsk-**	**94.47**	**326**	P		**P**	**07 23 27.7**	**+1.4**
UZH	**Uzhgorod**	**94.53**	**38**	*e*P		**P**	**07 23 28.3**	**+1.6**
KLMR	**Klimovskoe**	**96.83**	**23**	*e*P		**P**	**07 23 34.6**	**-2.3**
KLMR				pmax		pmax			
	comp=Z,17nm,1.5s								
VNA3	**Neumayer Olymp**	**97.42**	**161**	*e*P		**P**	**07 23 38.8**	**-0.4**
AKASG	**Malin Array Be**	**97.67**	**35**	LR		LR	08 05 04.9		
	comp=Z,114nm,18.0s,baz=275,slow=34								
VNA2	**Neumayer-Watz**	**98.07**	**161**	*e*P		**P**	**07 23 41.7**	**-0.4**
	baz=316,slow=5.1								
QSPA	**South Pole Qui**	**101.68**	**180**	PKKPbc		PKKPbc	07 40 04.1	-4.3	
	comp=Z,1.4nm,0.9s,baz=292,slow=6.2,SNR=6.5								
QSPA	**South Pole Qui**	**101.68**	**180**	PKKPbc		PKKPbc	07 40 04.1	-4.3	
DZM	**Mont Dzumac**	**108.20**	**250**	*e*LR		LR	08 00 20.8		
	comp=Z,169nm,27.1s								
KBZ	**Khabaz**	**109.27**	**35**	PKKPbc		PKKPbc	07 39 42.0	-1.5	
	comp=Z,0.9nm,0.5s,baz=214,slow=4.9,SNR=3.8								
KBZ	**Khabaz**	**109.27**	**35**	PKKPbc		PKKPbc	07 39 42.0	-1.5	
ABKAR	**Akbulak array**	**113.21**	**22**	*e*PKPdf		**PKiKP**	**07 28 44.1**	**+0.5**
ZALV	**Zalesovo Beam**	**114.34**	**4**	PKP		PKPdf	07 28 45.3	-0.4	
	comp=Z,0.8nm,0.5s,baz=292,slow=2.7,SNR=5.9								
ZALV				PKKPbc		**PKKPbc**	**07 39 26.9**	**-0.3**	
	comp=Z,0.7nm,0.6s,baz=197,slow=1.5,SNR=4.6								
ZALV	**Zalesovo Beam**	**114.34**	**4**	PKIKP		PKPdf	07 28 45.3	-0.4	
ZALV	**Zalesovo Beam**	**114.34**	**4**	PKP		PKPdf	07 28 45.3	-0.4	
ZALV				PKKPbc		**PKKPbc**	**07 39 26.9**	**-0.3**	
TLY	**Talaya**	**116.00**	**352**	*e*P		**Pdif**	**07 25 04.3**	**+1.8**
TLY	**Talaya**	**116.00**	**352**	*e*Pdif		**Pdif**	**07 25 04.3**	**+1.8**
BOSA	**Boshof**	**116.24**	**116**	PKP		**PKPdf**	**07 28 50.1**	**0.0**
	comp=Z,5.8nm,1.0s,baz=96,slow=1.0,SNR=5.5								
BOSA	**Boshof**	**116.24**	**116**	PKP		**PKPdf**	**07 28 50.1**	**0.0**
CN2	**Changchun**	**116.72**	**333**	*e*PKP		**PKPdf**	**07 28 52.7**	**+2.1**
KURK	**Kurchatov**	**116.81**	**9**	*e*PKIKP		**PKPdf**	**07 28 50.5**	**0.0**
KURK	**Kurchatov**	**116.81**	**9**	*e*PKPdf		**PKPdf**	**07 28 50.5**	**0.0**
SONM	**Songino Array**	**119.26**	**349**	PKP		**PKPdf**	**07 28 55.7**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=358,slow=1.5,SNR=17								
SONM				PKKPbc		**PKKPbc**	**07 39 07.4**	**-2.5**	
	comp=Z,1.3nm,0.8s,baz=191,slow=3.9,SNR=11								
SONM	**Songino Array**	**119.26**	**349**	PKP		**PKPdf**	**07 28 55.7**	**+0.2**
SONM				PKKPbc		**PKKPbc**	**07 39 07.4**	**-2.5**	
KSRS	**Korea Array**	**120.37**	**327**	PKP		**PKPdf**	**07 28 58.0**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=19,slow=1.7,SNR=7.7								
KSAR	**Warramunga Be**	**120.40**	**327**	PKP		**PKPdf**	**07 28 58.0**	**+0.2**
MK31	**Makanchi Array**	**121.17**	**7**	*e*PKIKP		**PKPdf**	**07 28 58.2**	**-0.9**
MK31	**Makanchi Array**	**121.17**	**7**	*e*PKPdf		**PKPdf**	**07 28 58.2**	**-0.9**
MKAR	**Makanchi Array**	**121.17**	**7**	PKP		**PKPdf**	**07 28 58.2**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=1.8,slow=2.1,SNR=19								
MKAR				PKKPbc		**PKKPbc**	**07 38 59.6**	**-3.1**	
	comp=Z,0.7nm,0.9s,baz=186,slow=6.7,SNR=6.0								
MKAR	**Makanchi Array**	**121.17**	**7**	PKIKP		**PKPdf**	**07 28 58.2**	**-0.9**
MKAR	**Makanchi Array**	**121.17**	**7**	PKP		**PKPdf**	**07 28 58.2**	**-0.9**
MKAR				PKKPbc		**PKKPbc**	**07 38 59.6**	**-3.1**
EKS2	**Erkin-Say**	**123.48**	**16**	*e*PKIKP		**PKPdf**	**07 29 04.8**	**+1.0**
EKS2	**Erkin-Say**	**123.48**	**16**	*e*PKPdf		**PKPdf**	**07 29 04.8**	**+1.0**
BJI	**Beijing**	**123.67**	**337**	PKP		**PKPdf**	**07 28 59.6**	**-4.4**
AAK	**Ala-Archa**	**123.70**	**15**	PKKPbc		PKKPbc	07 38 50.6	-2.4	
	comp=Z,0.3nm,0.3s,baz=162,slow=7.9,SNR=4.2								
AAK	**Ala-Archa**	**123.70**	**15**	PKKPbc		PKKPbc	07 38 50.6	-2.4	
TKM2	**Tokmak 2**	**123.70**	**14**	*e*PKIKP		**PKPdf**	**07 29 04.7**	**+0.4**
TKM2	**Tokmak 2**	**123.70**	**14**	*e*PKPdf		**PKPdf**	**07 29 04.7**	**+0.4**
WMQ	**Urumqi**	**124.62**	**3**	*e*PKP		**PKPdf**	**07 29 05.1**	**-0.8**
WMQ				LR		LR			
	comp=N,200nm,30.0s								
WMQ				LR		LR			
	comp=Z,220nm,32.0s								
KMBO	**Kilima Mbogo**	**125.11**	**83**	*e*PKPdf		**PKPdf**	**07 29 08.4**	**+0.5**
CTA	**Charters Tower**	**126.94**	**254**	PKP		**PKPdf**	**07 29 11.2**	**+0.3**
	comp=Z,9.0nm,1.0s,baz=213,slow=1.4,SNR=10.0								
CTA	**Charters Tower**	**126.94**	**254**	PKP		**PKPdf**	**07 29 11.2**	**+0.3**
CTAO	**Charters Tower**	**126.94**	**254**	*e*PKIKP		**PKPdf**	**07 29 10.5**	**-0.3**
CTAO	**Charters Tower**	**126.94**	**254**	*e*PKPdf		**PKPdf**	**07 29 10.5**	**-0.3**
KSH	**Kashi**	**127.01**	**15**	*e*PKP		**PKPdf**	**07 29 12.4**	**+1.8**
KSH				PP		PP	07 31 15.1	+7.4	
KSH				PKS		**PKSdf**	**07 32 47.3**	**-0.1**
KSH				SKKS			07 38 02.6		
KSH				SS		**SS**	**07 48 18.0**	**+6.3**
KSH				AMB		AMB			
	comp=Z,74nm,4.4s								
KSH				LR		LR			
	comp=N,120nm,6.8s								
KSH				LR		LR			
	comp=E,64nm,5.5s								
KSH				LR		LR			
	comp=Z,260nm,6.8s								
GTA	**Gaotai**	**128.56**	**352**	*e*PKP		**PKPdf**	**07 29 14.7**	**+1.1**
GTA				PP		PP	07 31 23.9	+6.1	
GTA				SKS		**SKSdf**	**07 36 21.3**	**-1.1**
GTA				SKKS		**SKKSac**	**07 38 11.5**	**-1.9**
GTA				SS		**SS**	**07 48 34.5**	**+3.6**
GTA				AMB		AMB			
	comp=Z,110nm,7.4s								
GTA				LR		LR			
	comp=N,99nm,15.7s								
GTA				LR		LR			
	comp=E,92nm,15.4s								
COEN	**Coen**	**129.71**	**262**	*e*PKPdf		**PKPdf**	**07 29 17.1**	**+0.9**
STKA	**Stephens Creek**	**129.89**	**238**	PKP		**PKPdf**	**07 29 16.3**	**+0.2**
	comp=E,13nm,1.0s,baz=81,slow=4.6,SNR=11								
STKA	**Stephens Creek**	**129.89**	**238**	*e*PKPdf		**PKPdf**	**07 29 16.4**	**+0.2**
LZH	**Lanzhou**	**131.06**	**347**	*e*PKP		**PKPdf**	**07 29 20.0**	**+1.5**
LZH				sPKP			07 29 35.0		
LZH				PP		**PP**	**07 31 36.3**	**+2.1**
LZH				AMB		AMB			
	comp=Z,100nm,4.8s								
LZH				LR		LR			
	comp=N,280nm,14.8s								
LZH				LR		LR			
	comp=E,210nm,13.9s								
LZH				LR		LR			
	comp=Z,330nm,16.1s								
XAN	**Xi'an**	**131.60**	**341**	PKP		**PKPdf**	**07 29 20.8**	**+1.4**
CD2	**Chengdu**	**136.03**	**345**	PKP		**PKPdf**	**07 29 26.7**	**-1.1**
CD2				sPKP			07 29 48.9		
CD2				PP		**PP**	**07 32 09.3**	**+3.5**
CD2				PKS		**PKSdf**	**07 33 01.6**	**-2.7**
CD2				SKS		**SKSdf**	**07 36 30.1**	**-5.8**
CD2				SKKS		**SKKSac**	**07 38 53.9**	**-5.3**
CD2				SS		**SS**	**07 50 00.6**	**-1.2**
CD2				AMB		AMB			
	comp=Z,140nm,7.7s								
CD2				LR		LR			
	comp=E,170nm,7.1s								
CD2				LR		LR			
	comp=Z,210nm,7.1s								
AS31	**Alice Springs**	**138.10**	**248**	*e*PKPdf		**PKPdf**	**07 29 31.3**	**-0.4**
ASAR	**Alice Springs**	**138.10**	**248**	PKhKP		PKPpre	07 29 22.8		
	comp=Z,1.8nm,0.7s,baz=97,slow=2.5,SNR=14								
ASAR

ellipse: s-maj=91.5km s-min=74.3km az=164.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**18.08**	**195**	P		Pn	07 26 37.8	-0.3
	0.5nm,0.3s,baz=18,slow=12,SNR=25							
FITZ	**Fitzroy Crossi**	**20.48**	**219**	P		P	07 27 04.6	-0.4
	0.5nm,0.6s,baz=45,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**21.77**	**193**	P		P	07 27 18.9	+0.1
	1.1nm,0.6s,baz=19,slow=11,SNR=16							
STKA	**Stephens Creek**	**29.44**	**176**	P		P	07 28 31.1	+0.2
	0.8nm,0.5s,baz=6.0,slow=8.1,SNR=4.6							

TIR ***10*** *07:29:41.2,41.°12N×19.°43E,h3km,ML3.1*
CSEM ***10*** *07:29:45.0±0.6,41.°20N×19.°66E,h5km,ML2.4, Error ellipse: s-maj=12.5km s-min=7.1km az=52.0*
ISCJB ***10*** *07:29:46.6±1.0,41.°23N±0.°04×19.°70E±0.°10,h20km±5km, Error ellipse: s-maj=12.4km s-min=5.7km az=165.4*
SKO ***10*** *07:29:46.2,41.°20N×19.°64E,h8km,M2.2,ML2.6*
BEO ***10*** *07:29:48.2±0.6,41.°37N×20.°08E,h5km±3km,ML2.4/4*

ISC 10 07:29:46.0±1.2, 41.°16N±0.°04×19.°72E±0.°04, h18km±5km, n27,σ1℘23/44, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TIR	**Tirane**	**0.22**	**30**	*e*PG		**Pg**	**07 29 50.4**	**-0.8**
TIR				*i* SG		**Sb**	**07 29 56.3**	**+1.4**
TIR	**Tirane**	**0.22**	**30**	*e*Pg		**Pg**	**07 29 50.5**	**-0.8**
TIR				*e*Sg		**Sb**	**07 29 55.0**	**+0.1**
TIR	**Tirane**	**0.22**	**30**	*e*Pg		**Pg**	**07 29 50.5**	**-0.8**
TIR				*e*Sg		**Sb**	**07 29 55.0**	**+0.1**
PHP	**Peshkopia**	**0.76**	**46**	*e*PG		**Pb**	**07 29 59.8**	**-0.9**
PHP				*i* SG		**Sn**	**07 30 16.6**	**+3.7**
PHP	**Peshkopia**	**0.76**	**46**	*e*Pg		**Pb**	**07 29 59.8**	**-0.9**
PUK	**Puka**	**0.89**	**8**	*e*PG		**Pb**	**07 30 01.8**	**-1.3**
PUK				*i* SG		**Sn**	**07 30 16.6**	**+0.3**
PUK	**Puka**	**0.89**	**8**	*e*Pg		**Pb**	**07 30 01.8**	**-1.3**
BIA	**Bitola**	**1.22**	**96**	*e*Pg		**Pg**	**07 30 09.5**	**-0.2**
BIA				*e*Sg		**Sg**	**07 30 26.7**	**+1.0**
BIA	**Bitola**	**1.22**	**96**	*e*Pg		**Pg**	**07 30 09.5**	**-0.2**
BIA				*e*Sg		**Sg**	**07 30 26.6**	**+1.0**
BCI	**Bajram Curri**	**1.23**	**12**	*e*PN		**Pn**	**07 30 07.7**	**-0.8**
BCI				*i* SN		**Sg**	**07 30 29.5**	**+3.4**
BCI	**Bajram Curri**	**1.23**	**12**	*e*Pn		**Pn**	**07 30 07.7**	**-0.8**
SRN	**Sarande**	**1.30**	**170**	*e*PG		**Pn**	**07 30 09.2**	**0.0**
SRN				*i* SG		**Sg**	**07 30 28.9**	**+0.9**
PDG	**Podgorica**	**1.32**	**345**	*e*Pg		**Pb**	**07 30 10.4**	**+0.2**
PDG				*e*Sg		**Sb**	**07 30 27.1**	**+0.3**
PDG	**Podgorica**	**1.32**	**345**	*e*Pg		**Pb**	**07 30 10.4**	**+0.2**
PDG				*e*Sg		**Sb**	**07 30 27.1**	**+0.3**
SKO	**Skopje**	**1.53**	**57**	*e*Pg		**Pb**	**07 30 13.9**	**+0.1**
SKO				*e*Sg		**Sg**	**07 30 36.1**	**+0.8**
SKO				*e*Lg		Lg	07 30 37.4	
	comp=N,80nm,0.6s							
SKO				*e*Lg		Lg	07 30 39.0	
	comp=E,64nm,0.6s							
SKO	**Skopje**	**1.53**	**57**	*e*Pg		**Pn**	**07 30 09.6**	**-2.8**
SKO				*e*Sg		Sn	07 30 25.4	-6.4
SKO	**Skopje**	**1.53**	**57**	*e*Pg		**Pb**	**07 30 14.3**	**+0.5**
SKO				*e*Sg		**Sg**	**07 30 36.5**	**+1.2**
SKO				*e*Lg		Lg	07 30 39.5	
	comp=E,64nm,0.6s							
SJES	**Sjenica**	**2.11**	**5**	*e*Sn		**Sn**	**07 30 45.3**	**-1.1**
SJES	**Sjenica**	**2.11**	**5**	*e*Sn		**Sn**	**07 30 45.3**	**-1.1**
BARS	**Barje**	**2.28**	**43**	*e*Pn		**Pn**	**07 30 22.3**	**-0.5**
BARS	**Barje**	**2.28**	**43**	*e*Pn		**Pn**	**07 30 22.3**	**-0.5**
IVAS	**Ivanjica**	**2.44**	**7**	*e*Pn		**Pn**	**07 30 25.2**	**+0.2**
IVAS				*e*Sn		**Sn**	**07 30 52.8**	**-1.6**
IVAS	**Ivanjica**	**2.44**	**7**	*e*Pn		**Pn**	**07 30 25.2**	**+0.2**
IVAS				*e*Sn		**Sn**	**07 30 52.8**	**-1.6**
DIVS	**Divibare**	**2.94**	**4**	*e*Pn		**Pn**	**07 30 33.0**	**+1.0**
DIVS				*e*Sn		**Sn**	**07 31 06.2**	**-0.7**
DIVS	**Divibare**	**2.94**	**4**	*e*Pn		**Pn**	**07 30 33.0**	**+1.0**
DIVS				*e*Sn		**Sn**	**07 31 06.2**	**-0.7**
ZAPS	**Zavoj**	**3.02**	**45**	*e*Pn		**Pn**	**07 30 32.5**	**-0.6**
ZAPS	**Zavoj**	**3.02**	**45**	*e*Pn		**Pn**	**07 30 32.5**	**-0.6**

IDC 10 07:33:22.9±0.9, 4.°61N×126.°88E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=58.0km s-min=16.6km az=79.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**22.60**	**183**	P		P	07 38 26.3	+1.1
	3.7nm,0.8s,baz=359,slow=5.5,SNR=8.6							
WRA	**Warramunga Arr**	**25.48**	**163**	P		P	07 38 52.6	-0.3
	4.2nm,0.5s,baz=343,slow=10,SNR=54							
ASAR	**Alice Springs**	**28.93**	**167**	P		P	07 39 23.6	-0.4
	0.3nm,0.5s,baz=342,slow=7.2,SNR=6.8							
STKA	**Stephens Creek**	**38.90**	**160**	P		P	07 40 50.1	-0.2
	2.8nm,0.6s,baz=316,slow=7.4,SNR=6.7							
SONM	**Songino Array**	**46.52**	**341**	P		P	07 41 53.2	+1.0
	0.3nm,0.5s,baz=156,slow=9.5,SNR=1.4							
PETK	**Petropavlovsk-**	**54.57**	**22**	P		P	07 42 52.8	-0.1
	1.2nm,0.7s,baz=223,slow=14,SNR=2.7							
MKAR	**Makanchi Array**	**56.92**	**325**	P		P	07 43 08.7	-1.3
	0.4nm,0.5s,baz=124,slow=8.4,SNR=5.5							

DJA ***10*** *07:45:30.5±4.9,45.°N±16.°×14.°7E±2.°1,h114km±47km, M5.2/14,mB5.5/3,mb5.2/14,Mw(mB)5.0/3*
MOS ***10*** *07:45:35.9±1.3,44.°61N×146.°40E,h176km,mb4.7/55, Error ellipse: s-maj=9.6km s-min=9.0km az=99.7*
BJI ***10*** *07:45:36.1,44.°74N×146.°34E,h165km,mB4.9/26, mb5.1/41*
ISCJB ***10*** *07:45:36.7±0.2,44.°62N±0.°03×146.°36E±0.°02, h169km±2km,mb4.6/184, Error ellipse: s-maj=4.4km s-min=2.5km az=163.5*
SKHL ***10*** *07:45:36.8±0.1,44.°59N×146.°45E,h155km±11km,mb5.9/3, msh5.5/3*
IDC ***10*** *07:45:37.5±0.5,44.°72N×146.°35E,h164km±3km,mb4.3/37, mb1 4.4/44,mb1mx4.4/45,mbtmp4.3/44, Error ellipse: s-maj=9.0km s-min=5.7km az=147.0*
NEIC ***10*** *07:45:37.3±0.5,44.°70N×146.°31E,h160km±4km, mb4.8/113, Error ellipse: s-maj=5.1km s-min=2.8km az=152.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
JMA ***10*** *07:45:38.0±0.3,44.°43N×146.°49E,h164km±2km,M4.5*
JMA Felt I J1.
NIED ***10*** *07:46:00,44.°40N×146.°50E,h140km,Mw4.6 Best double couple: M0 7.95000×10^15 NP1:φs 317.00000°, δ 63.00000°, λ 130.00000°. NP2:φs 76.00000°, δ 47.00000°, λ 39.00000°.*

ISC 10 07:45:37.1±0.3, 44.°59N±0.°03×146.°40E±0.°03, h163km±2km, h162km:pP-P, n775,σ1℘07/890, mb4.7/184, 181C-139D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.68**	**215**	*i* PN		**Pn**	**07 46 01.6**	**+0.8**
YUK				*i* S		**Sn**	**07 46 20.2**	**+1.3**
YUK				pmax		pmax		
	comp=N,386nm,0.2s							
YUK				pmax		pmax		
	comp=Z,4μm,0.5s							
YUK				pmax		pmax		
	comp=E,418nm,0.5s							
YUK				smax		smax		
	comp=N,8μm,0.5s							
YUK				smax		smax		
	comp=E,15μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**0.68**	**215**	⇑*i*P		**Pn**	**07 46 01.6**	**+0.8**
YUK				AMB		AMB	07 46 02.2	
	comp=E,390nm,0.5s							
YUK				AMB		AMB	07 46 02.2	
	comp=E,418nm,0.5s							
YUK				AMB		AMB	07 46 02.2	
	comp=E,4μm,0.5s							
YUK				*i* S		**Sn**	**07 46 20.3**	**+1.3**
YUK				A		A	07 46 23.3	
	comp=E,8μm,0.5s							
YUK				A		A	07 46 23.3	
	comp=E,15μm,0.5s							
JRA	**Rausu**	**1.13**	**235**	⇑P		**Pn**	**07 46 05.0**	**+0.9**
KUR	**Kuril'sk**	**1.22**	**58**	*i*PN		**Pn**	**07 46 05.3**	**+0.3**
KUR				*i* S		**Sn**	**07 46 26.6**	**+0.2**
KUR				pmax		pmax		
	comp=Z,18μm,1.6s							
KUR				pmax		pmax		
	comp=N,6μm,1.4s							
KUR				pmax		pmax		
	comp=E,3μm,1.0s							
KUR				smax		smax		
	comp=N,36μm,1.5s							
KUR				smax		smax		
	comp=E,17μm,2.0s							
KUR				smax		smax		
	comp=N,5μm,0.9s							
KUR				smax		smax		
	comp=E,2μm,0.9s							
KUR	**Kuril'sk**	**1.22**	**58**	⇓*i*P		**Pn**	**07 46 05.3**	**+0.3**
KUR				⇓*i*P		**Pn**	**07 46 05.3**	**+0.3**
KUR				⇓*i*P		**Pn**	**07 46 05.3**	**+0.3**
KUR				AMB		AMB	07 46 06.0	
	comp=E,6μm,1.2s							
KUR				AMB		AMB	07 46 06.0	
	comp=E,3μm,1.2s							
KUR				AMB		AMB	07 46 06.0	
	comp=E,18μm,1.6s							
KUR				*i* S		**Sn**	**07 46 26.6**	**+0.2**
KUR				A		A	07 46 28.0	
	comp=E,5μm,0.9s							
KUR				A		A	07 46 28.0	
	comp=E,2μm,0.9s							
KUR				A		A	07 46 28.0	
	comp=E,25μm,2.0s							
KUR				A		A	07 46 28.0	
	comp=E,13μm,2.0s							
KUR				A		A	07 46 28.0	
	comp=E,36μm,1.8s							
KUR				A		A	07 46 28.0	
	comp=E,17μm,1.8s							
NEM2	**Nemuro 2**	**1.31**	**202**	⇑P		**Pn**	**07 46 05.5**	**-0.3**
NEM2				*e*S		**Sn**	**07 46 26.4**	**-1.4**
JNK	**Nakash**	**1.57**	**231**	⇑P		**Pn**	**07 46 09.2**	**+0.8**
JTKR	**Abashiri--Toko**	**1.90**	**252**	⇑P		**Pn**	**07 46 12.9**	**+1.1**
JTKR				*e*S		**Sn**	**07 46 40.0**	**+1.4**
JAK	**Akkeshi**	**2.02**	**218**	⇑P		**Pn**	**07 46 13.4**	**+0.2**
JAK				*e*S		**Sn**	**07 46 40.0**	**-1.0**
JMP	**Maruseppu**	**2.26**	**256**	⇑P		**Pn**	**07 46 17.2**	**+1.1**
JMP				*e*S		**Sn**	**07 46 47.3**	**+1.2**
JAR	**Ashorobuto**	**2.30**	**237**	⇑P		**Pn**	**07 46 17.6**	**+1.1**
JOB	**Onbets**	**2.51**	**229**	⇑P		**Pn**	**07 46 19.9**	**+0.9**
JOB				*e*S		**Sn**	**07 46 50.6**	**-0.7**
JKK2	**Kamakawa 2**	**2.72**	**256**	⇑P		**Pn**	**07 46 23.1**	**+1.5**
JKK2				*e*S		**Sn**	**07 46 58.3**	**+2.3**
JSE	**Soyaes**	**2.75**	**279**	⇑P		**Pn**	**07 46 23.3**	**+1.5**
JSE				*e*S		**Sn**	**07 46 58.7**	**+2.3**
ASAJ	**Asahikawa**	**2.77**	**262**	P		**Pn**	**07 46 24.0**	**+1.8**
	comp=E,88nm,0.3s,baz=85,slow=13,SNR=538							
ASAJ				S		**Sn**	**07 46 58.7**	**+1.7**
	comp=E,31nm,0.3s,baz=210,slow=32,SNR=18							
ASAJ	**Asahikawa**	**2.77**	**262**	*e*Pn		**Pn**	**07 46 24.0**	**+1.8**
ASAJ				S		**Sn**	**07 46 58.7**	**+1.7**
ASAJ				*e*Sn		Sn	07 47 00.5	+3.5
JCH	**Churui**	**2.96**	**229**	⇑P		**Pn**	**07 46 24.8**	**+0.3**
JCH				*e*S		**Sn**	**07 46 59.6**	**-1.6**
JFR	**Furan**	**3.10**	**244**	⇑P		**Pn**	**07 46 27.7**	**+1.4**
JWK2	**Keihoku**	**3.28**	**284**	⇓P		**Pn**	**07 46 31.1**	**+2.7**
JWK2				*e*S		**Sn**	**07 47 12.4**	**+4.1**
JHR	**Hokuryu**	**3.47**	**258**	P		**Pn**	**07 46 33.2**	**+2.3**
YSS	**Yuzh-Sakhalins**	**3.48**	**314**	⇑*e*PN		**Pn**	**07 46 32.2**	**+1.2**
YSS				*i* S		**Sn**	**07 47 14.0**	**+1.1**
YSS				pmax		pmax		
	comp=Z,90nm,0.6s							
YSS				smax		smax		
	comp=N,1μm,2.0s							
YSS	**Yuzh-Sakhalins**	**3.48**	**314**	*e*Pn		**Pn**	**07 46 31.6**	**+0.6**
YSS				*e*Sn		**Sn**	**07 47 14.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**3.48**	**314**	⇑*e*P		**Pn**	**07 46 32.2**	**+1.2**
YSS				AMB		AMB	07 46 33.6	
	comp=N,90nm,0.6s							
YSS				*i* S		**Sn**	**07 47 14.0**	**+1.1**
YSS				A		A	07 47 17.0	
	comp=N,1μm,2.0s							
JNBK	**Urakawa-nobuka**	**3.52**	**230**	⇑P		**Pn**	**07 46 31.0**	**-0.5**
JNBK				*e*S		**Sn**	**07 47 10.2**	**-3.6**
JEW	**Eniwo**	**3.99**	**246**	⇑P		**Pn**	**07 46 39.4**	**+1.8**
UGL	**Uglegorsk**	**5.39**	**328**	*e*PN		**Pn**	**07 46 57.0**	**+1.3**
UGL				*e*S		**Sn**	**07 48 00.0**	**+2.7**
UGL				pmax		pmax		
	comp=Z,55nm,0.7s							
UGL				smax		smax		
	comp=N,800nm,4.0s							
UGL				smax		smax		
	comp=E,2μm,4.0s							
UGL	**Uglegorsk**	**5.39**	**328**	*e*P		**Pn**	**07 46 57.0**	**+1.3**
UGL				AMB		AMB	07 46 58.5	
	comp=E,55nm,0.7s							
UGL				*e*S		**Sn**	**07 48 00.0**	**+2.7**
UGL				A		A	07 48 03.0	
	comp=E,800nm,4.0s							
UGL				A		A	07 48 03.0	
	comp=E,2μm,4.0s							
TYV	**Tymovskoe**	**6.77**	**339**	*e*P		**Pn**	**07 47 14.0**	**0.0**
TYV				AMB		AMB	07 47 14.8	
	comp=E,66nm,0.8s							
TYV				AMB		AMB	07 47 14.8	
	comp=E,55nm,0.8s							
TYV				AMB		AMB	07 47 14.8	
	comp=E,88nm,0.8s							
TEY	**Ternei**	**6.99**	**277**	*e*P		**Pn**	**07 47 18.0**	**+1.1**
TEY				AMB		AMB	07 47 18.3	
	comp=E,17nm,0.7s							
TEY				AMB		AMB	07 47 18.3	
	comp=E,43nm,1.0s							
HABR	**Khabarovsk**	**8.74**	**300**	PN		**Pn**	**07 47 39.3**	**-0.8**
HABR				S		**Sn**	**07 49 18.3**	**+1.0**
HABR				pmax		pmax		
	comp=N,31nm,1.9s							
HABR				pmax		pmax		
	comp=E,30nm,1.1s							
HABR				pmax		pmax		
	comp=E,125nm,2.8s							
SKR	**Severo-Kuril's**	**8.95**	**44**	*e*PN		Pn	07 47 37.6	-5.3
SKR				pmax		pmax		
	comp=N,80nm,0.4s							
SKR				pmax		pmax		
	comp=E,70nm,0.4s							
SKR				pmax		pmax		
	comp=Z,150nm,0.4s							
SKR	**Severo-Kuril's**	**8.95**	**44**	*e*P		Pn	07 47 37.6	-5.3
SKR				AMB		AMB	07 47 41.0	
	comp=Z,80nm,0.4s							
SKR				AMB		AMB	07 47 41.0	
	comp=Z,70nm,0.4s							
SKR				AMB		AMB	07 47 41.0	
	comp=Z,150nm,0.4s							
SKR				*e*S		**Sn**	**07 49 27.5**	**+5.1**
SKR				A		A	07 49 27.5	
	comp=Z,50nm,0.5s							
SKR				A		A	07 49 27.5	
	comp=Z,150nm,0.5s							
OKH	**Okha**	**9.25**	**347**	*e*P		**Pn**	**07 47 45.0**	**-1.9**
OKH				*e*P		**Pn**	**07 47 45.0**	**-1.9**
OKH				AMB		AMB	07 47 46.0	
	comp=Z,1μm,4.0s							
OKH				*e*L		L	07 49 41.6	
NKL	**Nikolayevsk**	**9.36**	**338**	*i* P		Pn	07 47 44.5	-3.8
NKL				AMB		AMB	07 47 46.8	
	comp=Z,70nm,1.4s							
NKL				AMB		AMB	07 47 46.8	
	comp=Z,53nm,1.4s							
NKL				AMB		AMB	07 47 46.8	
	comp=Z,210nm,1.4s							
NKL				AMB		AMB	07 47 47.0	
	comp=Z,400nm,3.0s							
MAJO	**Matsushiro**	**10.17**	**221**	*e*PN		**Pn**	**07 47 57.9**	**-1.2**
MAJO	**Matsushiro**	**10.17**	**221**	*e*Pn		**Pn**	**07 47 57.9**	**-1.2**
MAT	**Matsushiro**	**10.17**	**221**	P		**Pn**	**07 47 57.5**	**-1.6**
MAT				S		**S**	**07 49 56.4**	**+3.5**
MJAR	**Matsushiro Arr**	**10.17**	**221**	P		**Pn**	**07 47 57.6**	**-1.5**
	comp=Z,3.6nm,0.3s,baz=28,slow=13,SNR=33							
MJAR	**Matsushiro Arr**	**10.17**	**221**	P		**Pn**	**07 47 57.6**	**-1.5**
USRK	**Ussuriysk Arra**	**10.32**	**273**	P		**Pn**	**07 48 01.5**	**+0.5**
	comp=Z,5.1nm,0.3s,baz=86,slow=12,SNR=86							
KLR	**Kul'dur**	**11.04**	**300**	*e*PN		**Pn**	**07 48 08.2**	**-2.3**
KLR				pmax		pmax		
	comp=E,74nm,1.6s							
KLR				pmax		pmax		
	comp=Z,62nm,1.6s							
PEA0B	**Petropavlovsk-**	**11.30**	**37**	*e*Pn		**Pn**	**07 48 11.6**	**-2.3**
PETK	**Petropavlovsk-**	**11.30**	**37**	P		**Pn**	**07 48 11.6**	**-2.3**
	comp=Z,6.3nm,0.3s,baz=204,slow=9.3,SNR=69							
PETK	**Petropavlovsk-**	**11.30**	**37**	PN		**Pn**	**07 48 11.6**	**-2.3**
PETK	**Petropavlovsk-**	**11.30**	**37**	P		**Pn**	**07 48 11.6**	**-2.3**
PET	**Petropavlovsk**	**11.67**	**39**	*e*PN		**Pn**	**07 48 16.9**	**-1.6**
PET				pmax		pmax		
	comp=Z,31nm,0.4s							
PET	**Petropavlovsk**	**11.67**	**39**	*e*Pn		**Pn**	**07 48 16.6**	**-1.9**
MDJ	**Mudanjiang**	**11.99**	**276**	P		**Pn**	**07 48 22.1**	**-0.7**
MDJ				pmax		pmax		
	comp=Z,34nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,52nm,3.0s							
MDJ	**Mudanjiang**	**11.99**	**276**	*e*Pn		**Pn**	**07 48 22.7**	**-0.1**
	comp=Z,34nm,0.8s							
JHJ	**Hachijo jima 2**	**12.55**	**206**	P		**Pn**	**07 48 29.9**	**-0.3**
	comp=Z,40nm,0.3s,baz=287,slow=14,SNR=4.2							
CN2	**Changchun**	**15.05**	**274**	*e*P		**Pn**	**07 48 59.6**	**-1.9**
CN2				*e*sP		sP	07 49 43.0	-7.8
CN2				*e*S		**Sn**	**07 51 45.6**	**-3.4**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=Z,200nm,5.0s							
ZEA	**Zeya**	**15.47**	**313**	*e*P		**Pn**	**07 49 03.2**	**-3.4**
ZEA				AMB		AMB	07 49 05.1	
	comp=Z,43nm,1.2s							
KSRS	**Korea Array**	**15.64**	**249**	P		**Pn**	**07 49 08.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=62,slow=11,SNR=20							
KSRS				PcP		**PcP**	**07 53 59.8**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=342,slow=0.7,SNR=9.9							
KSAR	**Wonju Array Be**	**15.68**	**249**	P		**Pn**	**07 49 08.1**	**-1.2**
KSAR				PcP		**PcP**	**07 53 59.8**	**+1.0**
JNU	**Nakatsue**	**16.62**	**232**	P		**Pn**	**07 49 21.5**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=13,slow=6.0,SNR=12							
JNU	**Nakatsue**	**16.62**	**232**	*e*P		**Pn**	**07 49 21.5**	**+0.8**
	comp=Z,43nm,1.1s							
SEY	**Seymchan**	**18.70**	**9**	⇓*i*P		**P**	**07 49 40.5**	**-2.3**
HIA	**Hailar**	**18.75**	**294**	*e*P		**P**	**07 49 41.0**	**-2.6**
	comp=Z,25nm,0.6s							
DL2	**Dalian**	**19.30**	**262**	P		**P**	**07 49 50.1**	**+0.6**
DL2				pmax		pmax		
	comp=Z,40nm,0.6s							
FX1	**Attu Island--F**	**19.41**	**55**	P		**P**	**07 49 51.6**	**+1.0**
	comp=Z,12nm,0.3s,baz=44,slow=2.0,SNR=21							
FX1	**Attu Island--F**	**19.41**	**55**	*e*P		**P**	**07 49 51.5**	**+0.9**
YAK	**Yakutsk**	**20.02**	**337**	*e*P		P	07 49 51.1	-5.8
YAK				*e*S		S	07 53 23.8	-8.9
YAK				pmax		pmax		
	comp=Z,13nm,0.9s							
YAK				smax		smax		
	comp=N,126nm,1.5s							
YAK				smax		smax		
	comp=E,130nm,1.5s							
BJI	**Beijing**	**22.74**	**269**	P		**P**	**07 50 24.7**	**-0.5**
BJI				pP		**pP**	**07 50 54.0**	**-1.0**
BJI				S		**S**	**07 54 15.8**	**-5.5**
BJI				pmax		pmax		
	comp=Z,67nm,0.8s							
BJI				pmax		pmax		
	comp=Z,200nm,4.0s							
BJT	**Baijiatuau**	**22.75**	**269**	*e*P		**P**	**07 50 24.9**	**-0.5**
	comp=Z,57nm,0.6s							
JOW	**Kunigami**	**22.95**	**225**	P		**P**	**07 50 28.4**	**+1.2**
	comp=Z,18nm,0.4s,baz=55,slow=9.5							
JOW	**Kunigami**	**22.95**	**225**	*e*P		**P**	**07 50 28.4**	**+1.2**
	comp=Z,17nm,0.8s							
BOD	**Bodaibo**	**23.96**	**315**	*e*P		**P**	**07 50 32.5**	**-3.6**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.2s							
NJ2	**Nanjing**	**24.85**	**249**	*e*P		**P**	**07 50 45.3**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
HHC	**Hu-ho-hao-te**	**25.75**	**274**	*e*P		**P**	**07 50 54.1**	**+1.5**
HHC				pP		**pP**	**07 51 26.1**	**-0.1**
HHC				PP		**PnPn**	**07 51 41.7**	**+1.7**
HHC				sP		**sP**	**07 51 44.1**	**-0.9**
HHC				PcP		**PcP**	**07 54 22.3**	**+4.3**
HHC				S		**S**	**07 55 07.9**	**-1.6**
HHC				sS		**sS**	**07 56 05.4**	**-3.7**
HHC				ScP		**ScP**	**07 57 44.9**	**+2.9**
HHC				pmax		pmax		
	comp=Z,71nm,1.2s							
HHC				pmax		pmax		
	comp=Z,330nm,8.4s							
ULN	**Ulaanbaatar**	**27.22**	**291**	*e*P		**P**	**07 51 05.4**	**-0.4**
	comp=Z,9.5nm,0.5s							
ULN				*e*PcP		**PcP**	**07 54 21.5**	**0.0**
ULN	**Ulaanbaatar**	**27.22**	**291**	P		**P**	**07 51 03.9**	**-1.9**
	comp=Z,13nm,0.6s							
SONM	**Songino Array**	**27.66**	**291**	P		**P**	**07 51 09.4**	**-0.3**
	comp=Z,10nm,0.5s,baz=77,slow=8.4,SNR=117							
SONM				PcP		**PcP**	**07 54 22.8**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=139,slow=2.8,SNR=4.9							
SONM				ScP		**ScP**	**07 57 46.7**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=113,slow=2.2,SNR=4.5							
SONM	**Songino Array**	**27.66**	**291**	P		**P**	**07 51 09.4**	**-0.3**
SONM				PcP		**PcP**	**07 54 22.8**	**+0.3**
SONM				ScP		**ScP**	**07 57 46.7**	**-0.9**
WHN	**Wuhan**	**28.81**	**252**	⇓P		**P**	**07 51 20.0**	**+0.1**
TLY	**Talaya**	**29.06**	**300**	*e*P		**P**	**07 51 20.9**	**-1.0**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TLY	**Talaya**	**29.06**	**300**	*e*P		**P**	**07 51 22.0**	**0.0**
	comp=Z,2.4nm,0.4s							
ZAK	**Zakamensk**	**29.39**	**297**	⇓*i*P		**P**	**07 51 23.6**	**-1.3**
ZAK				*e*			07 54 27.3	
ZAK				*e*			07 57 45.2	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TPUB	**Ta-pu**	**29.92**	**233**	*e*P		**P**	**07 51 30.8**	**+1.1**
	comp=Z,26nm,0.6s							
XAN	**Xi'an**	**30.61**	**263**	P		**P**	**07 51 35.6**	**-0.2**
XAN				pmax		pmax		
	comp=

GYA PcS **PcS** **07 58 37.4 +1.6**
GYA ScS **ScS** **08 02 25.3 -0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SVW2 Sparrevohn 37.31 43 *eP* **P** **07 52 33.5 +0.3**
comp=Z,154nm,2.6s
KDAK Kodiak Island 39.08 48 P **P** **07 52 47.4 -0.6**
comp=Z,22nm,0.6s,baz=305,slow=2.4,SNR=34
KDAK PcP **PcP** **07 54 54.8 +0.6**
comp=Z,6.2nm,0.7s,baz=108,slow=3.2,SNR=4.9
KDAK Kodiak Island 39.08 48 P **P** **07 52 47.4 -0.6**
KDAK PcP **PcP** **07 54 54.8 +0.6**
TRF Thorofare Moun 39.72 39 *eP* **P** **07 52 53.1 -0.3**
comp=Z,11nm,0.7s
COLD Coldfoot 39.74 33 *eP* **P** **07 52 52.1 -1.2**
comp=Z,7.4nm,0.6s
ZAA0 Zalesovo Array 40.07 306 *eP* **P** **07 52 54.9 -1.3**
ZALV Zalesovo Beam 40.07 306 P **P** **07 52 53.9 -2.3**
comp=Z,2.1nm,0.3s,baz=66,slow=5.2,SNR=12
ZALV PcP **PcP** **07 54 57.7 +0.2**
comp=Z,7.9nm,0.4s,baz=85,slow=2.5,SNR=23
ZALV ScP **ScP** **07 58 29.9 -1.2**
comp=Z,3.8nm,0.9s,baz=64,slow=5.2,SNR=7.5
ZALV Zalesovo Beam 40.07 306 P **P** **07 52 53.9 -2.3**
ZALV 07 54 57.7
ZALV Zalesovo Beam 40.07 306 P **P** **07 52 53.9 -2.3**
ZALV PcP **PcP** **07 54 57.7 +0.2**
ZALV ScP **ScP** **07 58 29.9 -1.2**
KMI Kunming 40.19 256 P **P** **07 52 58.3 +0.5**
KMI pmax pmax
comp=Z,64nm,1.1s
PMR Palmer 40.38 42 *eP* **P** **07 52 58.7 0.0**
PMR pmax pmax
comp=Z,30nm,1.0s
PMR Palmer 40.38 42 *eP* **P** **07 52 58.6 0.0**
comp=Z,30nm,1.0s
SEW Seward 40.40 44 *eP* **P** **07 52 58.5 -0.3**
comp=Z,660nm,2.8s
COLA College 40.72 37 *eP* **P** **07 53 01.2 -0.1**
COLA pmax pmax
comp=Z,36nm,0.8s
COLA College 40.72 37 *eP* **P** **07 53 01.2 -0.1**
comp=Z,36nm,0.8s
SML Sawmill 40.74 41 *eP* **P** **07 53 01.7 0.0**
SML pmax pmax
comp=Z,15nm,0.8s
SML Sawmill 40.74 41 *eP* **P** **07 53 01.7 0.0**
comp=Z,16nm,0.8s
NVS Novosibirsk 40.78 308 *eP* **P** **07 52 59.6 -2.4**
NVS *e* 07 54 58.1
ILAR Eielson Array 41.13 37 P **P** **07 53 04.4 -0.4**
comp=Z,18nm,0.5s,baz=263,slow=7.0,SNR=220
ILAR pP **pP** **07 53 40.3 +0.1**
comp=Z,2.1nm,0.7s,baz=277,slow=7.2,SNR=1.8
ILAR ScP **ScP** **07 58 33.4 -1.8**
comp=Z,0.8nm,0.7s,baz=272,slow=3.8,SNR=8.0
ILAR Eielson Array 41.13 37 P **P** **07 53 04.4 -0.4**
ILAR pP **pP** **07 53 40.3 +0.1**
ILAR ScP **ScP** **07 58 33.4 -1.8**
WMQ Urumqi 41.29 290 P **P** **07 53 07.4 +0.9**
WMQ pmax pmax
comp=Z,20nm,1.0s
WMQ LR LR
comp=N,200nm,30.0s
WMQ LR LR
comp=Z,220nm,32.0s
PAX Paxson 41.93 39 *eP* **P** **07 53 12.5 +1.1**
PAX pmax pmax
comp=Z,17nm,1.4s
PAX Paxson 41.93 39 *eP* **P** **07 53 12.5 +1.1**
comp=Z,17nm,1.4s
DIV Divide 42.05 42 *eP* **P** **07 53 12.8 +0.5**
comp=Z,34nm,0.8s
DOT Dot Lake 42.48 38 *eP* **P** **07 53 15.2 -0.5**
comp=Z,15nm,0.9s
BMRM Bremner River 42.64 42 *eP* **P** **07 53 17.9 +0.8**
comp=Z,27nm,0.8s
MENT Mentasta 42.73 39 *eP* **P** **07 53 17.7 -0.1**
EGAK Eagle 43.57 36 *eP* **P** **07 53 23.4 -1.0**
comp=Z,28nm,0.8s
MK31 Makanchi Array 43.73 297 *eP* **P** **07 53 25.3 -0.7**
MK31 Makanchi Array 43.73 297 *eP* **P** **07 53 25.3 -0.7**
MKAR Makanchi Array 43.73 297 P **P** **07 53 25.4 -0.5**
comp=Z,16nm,0.7s,baz=79,slow=8.3,SNR=154
MKAR PcP **PcP** **07 55 09.9 +0.1**
comp=Z,2.2nm,0.4s,baz=71,slow=5.2,SNR=8.6
MKAR ScP **ScP** **07 58 45.1 -0.8**
comp=Z,0.9nm,0.7s,baz=53,slow=4.7,SNR=5.8
MKAR Makanchi Array 43.73 297 *eP* **P** **07 53 25.5 -0.5**
MKAR 07 55 09.9
MKAR Makanchi Array 43.73 297 *eP* **P** **07 53 25.5 -0.5**
MKAR PcP **PcP** **07 55 09.9 +0.1**
MKAR ScP **ScP** **07 58 45.1 -0.8**
DAWY Dawson 44.45 37 *eP* **P** **07 53 31.4 -0.1**
KURK Kurchatov 44.62 303 *d iP* **P** **07 53 31.6 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 44.62 303 *eP* **P** **07 53 31.5 -1.4**
comp=Z,7.6nm,0.9s
LSA Lhasa 45.64 270 P **P** **07 53 43.0 +1.2**
LSA Lhasa 45.64 270 *eP* **P** **07 53 43.0 +1.2**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 45.64 270 *eP* **P** **07 53 43.0 +1.2**
comp=Z,11nm,0.6s
INK Inuvik 45.95 31 P **P** **07 53 42.2 -1.0**
comp=Z,17nm,0.4s,baz=293,slow=7.3,SNR=141
INK Inuvik 45.95 31 *eP* **P** **07 53 41.9 -1.3**
comp=Z,19nm,0.5s
CHTO Chiang Mai 47.01 253 *eP* **P** **07 53 52.9 +0.8**
CHTO pmax pmax
comp=Z,53nm,0.6s
CHTO Chiang Mai 47.01 253 *eP* **P** **07 53 52.9 +0.8**
comp=Z,53nm,0.6s
CHTO Chiang Mai 47.01 253 P **P** **07 53 53.0 +0.8**
SNR=17
CHTO Chiang Mai 47.01 253 P **P** **07 53 53.2 +1.1**
comp=Z,90nm,0.8s,comp=Z,654nm
CM31 Chiang Mai Arr 47.26 252 *eP* **P** **07 53 55.2 +1.2**
comp=Z,4.6nm,0.4s
CMAR Chiang Mai Arr 47.26 252 P **P** **07 53 55.1 +1.1**
comp=Z,15nm,0.6s,baz=40,slow=7.1,SNR=84
CMAR PcP **PcP** **07 55 23.7 +1.1**
comp=Z,4.0nm,0.6s,baz=10,slow=1.8,SNR=9.2
CMAR ScP **ScP** **07 59 02.1 +1.1**
comp=Z,1.2nm,0.3s,baz=90,slow=7.1,SNR=7.5
CMAR Chiang Mai Arr 47.26 252 P **P** **07 53 55.1 +1.1**
CMAR PcP **PcP** **07 55 23.7 +1.1**
CMAR ScP **ScP** **07 59 02.1 +1.1**
VOSK Vostochnaya 48.34 308 P **P** **07 53 59.9 -2.0**
VOSK pmax pmax
comp=Z,4.0nm,1.1s
BRVK Borovoye 48.60 309 ⇑ *iP* **P** **07 54 03.2 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 48.60 309 *eP* **P** **07 54 03.4 -0.5**
comp=Z,3.4nm,0.8s
MRSI Marisa 48.99 213 P **P** **07 54 07.0 -0.3**
comp=Z,68nm,0.9s
ZRNK Zerenda 49.36 309 *i P* **P** **07 54 08.5 -1.2**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s
TAPN Taplejung 49.46 270 *eP* **P** **07 54 11.9 +0.7**
comp=Z,40nm,0.4s
ULHL Ulahol 49.56 293 P **P** **07 54 12.3 +0.7**
SNR=11
TKM2 Tokmak 2 49.66 294 *i P* **P** **07 54 12.8 +0.4**
TKM2 Tokmak 2 49.66 294 *eP* **P** **07 54 12.7 +0.4**
comp=Z,44nm,1.4s
TKM2 Tokmak 2 49.66 294 P **P** **07 54 12.8 +0.4**
SNR=24
ODAN Odare 49.98 270 *eP* **P** **07 54 15.4 +0.4**
comp=Z,25nm,0.5s
ODAN Odare 49.98 270 *eP* **P** **07 54 15.4 +0.4**
comp=Z,25nm,0.5s
KBK Karagaybulak 50.21 294 *i P* **P** **07 54 16.5 0.0**
KBK Karagaybulak 50.21 294 P **P** **07 54 16.5 0.0**
SNR=8.1
USP Ospenovka 50.21 295 *i P* **P** **07 54 16.6 +0.3**
USP Ospenovka 50.21 295 P **P** **07 54 16.6 +0.3**
SNR=7.6
KZA Kyzart 50.29 294 *i P* **P** **07 54 18.5 +1.2**
KZA Kyzart 50.29 294 P **P** **07 54 18.5 +1.2**
SNR=19
FRU Bishkek 50.34 295 *eP* **P** **07 54 17.0 -0.3**
JIRN Jiri 50.36 272 *eP* **P** **07 54 18.6 +0.6**
comp=Z,17nm,0.4s
DLBC Dease Lake 50.42 43 P **P** **07 54 19.1 +1.5**
comp=Z,4.9nm,0.5s,baz=282,slow=5.4,SNR=33
DLBC Dease Lake 50.42 43 *eP* **P** **07 54 19.0 +1.3**
GUN Gumba 50.44 272 *eP* **P** **07 54 19.0 +0.4**
comp=Z,102nm,0.5s
GUN Gumba 50.44 272 *eP* **P** **07 54 19.0 +0.4**
comp=Z,102nm,0.5s
RAMN Ramite 50.49 271 *eP* **P** **07 54 19.2 +0.3**
comp=Z,88nm,0.4s
AAK Ala-Archa 50.52 295 P **P** **07 54 19.0 +0.3**
comp=Z,7.9nm,0.5s,baz=110,slow=5.2,SNR=46
AAK Ala-Archa 50.52 295 *i P* **P** **07 54 18.8 +0.1**
AAK Ala-Archa 50.52 295 P **P** **07 54 19.0 +0.3**
AAK Ala-Archa 50.52 295 P **P** **07 54 18.8 +0.1**
SNR=17
KKN Kakani 50.94 272 *eP* **P** **07 54 22.5 +0.4**
comp=Z,29nm,0.5s
KKN Kakani 50.94 272 *eP* **P** **07 54 22.5 +0.4**
KKN pmax pmax
comp=Z,29nm,0.5s
KKN Kakani 50.94 272 *eP* **P** **07 54 22.5 +0.4**
comp=Z,29nm,0.5s
EKS2 Erkin-Say 50.97 295 *eP* **P** **07 54 22.2 +0.1**
EKS2 *e* 07 55 36.2
EKS2 pmax pmax
comp=Z,12nm,0.6s
EKS2 Erkin-Say 50.97 295 *eP* **P** **07 54 22.2 +0.1**
comp=Z,12nm,0.6s
EKS2 *e*PcP **PcP** **07 55 36.2 +0.3**
EKS2 Erkin-Say 50.97 295 P **P** **07 54 22.2 +0.1**
SNR=22
PKI Pulchoki 50.97 272 *eP* **P** **07 54 22.8 +0.2**
comp=Z,36nm,0.5s
PKI Pulchoki 50.97 272 *eP* **P** **07 54 22.8 +0.2**
PKI pmax pmax
comp=Z,36nm,0.5s
PKI Pulchoki 50.97 272 *eP* **P** **07 54 22.8 +0.2**
comp=Z,36nm,0.5s
KSH Kashi 51.06 290 P P 07 54 26.8 +4.0
KSH *e*pP pP 07 55 02.0 +2.4
KSH *e*sP sP 07 55 19.5 +1.9
KSH *e*PcP **PcP** **07 55 39.0 +2.7**
KSH PP **PP** **07 56 25.7 +5.0**
KSH *e*ScP **ScP** **07 59 19.2 +2.1**
KSH PcS **PcS** **07 59 34.9 +0.7**
KSH S **S** **08 01 30.4 +2.7**
KSH ScS **ScS** **08 03 55.0 -1.6**
KSH SS **SS** **08 05 06.5 +2.1**
KSH pmax pmax
comp=Z,13nm,0.9s
KSH pmax pmax
comp=Z,200nm,6.1s
KSH LR LR
comp=N,120nm,7.0s
KSH LR LR
comp=E,95nm,6.8s
KSH LR LR
comp=Z,140nm,10.5s
DMN Daman 51.17 272 *eP* **P** **07 54 24.6 +0.7**
comp=Z,61nm,0.5s
DMN Daman 51.17 272 *eP* **P** **07 54 24.6 +0.7**
comp=Z,61nm,0.5s
GKN Gorkha 51.27 273 *eP* **P** **07 54 25.0 +0.4**
comp=Z,66nm,0.5s
GKN Gorkha 51.27 273 *eP* **P** **07 54 25.0 +0.4**
comp=Z,66nm,0.5s
AML Almayashu 51.28 294 P **P** **07 54 25.3 +0.6**
SNR=13
DANN Dangsing 51.69 274 *eP* **P** **07 54 28.7 +0.9**
comp=Z,165nm,0.6s
DANN Dangsing 51.69 274 *eP* **P** **07 54 28.7 +0.9**
comp=Z,165nm,0.6s
KOLN Koldanda 52.15 273 *eP* **P** **07 54 31.7 +0.6**
comp=Z,65nm,0.6s
KOLN Koldanda 52.15 273 *eP* **P** **07 54 31.7 +0.6**
comp=Z,65nm,0.6s
PYUN Piuthan 52.39 274 *eP* **P** **07 54 33.5 +0.6**
comp=Z,68nm,0.5s
PYUN Piuthan 52.39 274 *eP* **P** **07 54 33.5 +0.6**
comp=Z,68nm,0.5s
KDI Kendari 52.82 210 P **P** **07 54 36.2 +0.4**
comp=Z,23nm,1.1s
KK31 Karatay Array 52.85 297 *i P* **P** **07 54 35.2 -0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 52.85 297 *eP* **P** **07 54 36.0 +0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 52.85 297 *eP* **P** **07 54 36.0 +0.1**
comp=Z,6.9nm,0.6s
ARU Arti 53.37 316 *d iP* **P** **07 54 38.6 -0.8**
ARU 07 56 36.3
ARU S **S** **08 01 58.8 +0.5**
ARU SS **SS** **08 05 41.9 +2.1**
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 53.37 316 *eP* **P** **07 54 38.3 -1.1**
comp=Z,4.6nm,0.4s
ARU *e*PcP **PcP** **07 55 44.4 -0.1**
SPITS Spitsbergen Ar 53.86 349 P **P** **07 54 39.9 -2.8**
comp=Z,1.7nm,0.5s,baz=78,slow=7.8,SNR=12
SPITS PcP **PcP** **07 55 46.0 0.0**
comp=Z,7.9nm,1.1s,baz=115,slow=9.3,SNR=4.3
SPITS Spitsbergen Ar 53.86 349 P **P** **07 54 39.9 -2.8**
SPITS PcP **PcP** **07 55 46.0 0.0**
RES Resolute Bay 54.32 17 P **P** **07 54 44.3 -1.7**
comp=Z,9.3nm,0.5s,baz=315,slow=7.1,SNR=70
RES Resolute Bay 54.32 17 *eP* **P** **07 54 43.7 -2.3**
comp=Z,9.7nm,0.6s
DLH Dalhousie 54.79 283 *eP* **P** **07 54 49.0 -1.3**
YKW3 Yellowknife Ar 55.37 34 *eP* **P** **07 54 53.3 -0.4**
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 55.40 34 P **P** **07 54 53.8 -0.2**
comp=Z,11nm,0.7s,baz=302,slow=6.8,SNR=176
YKA Yellowknife Ar 55.40 34 P **P** **07 54 53.8 -0.2**
KULM Kulim 55.91 239 *eP* **P** **07 54 59.6 +1.5**
comp=Z,21nm,0.8s
KULM Kulim 55.91 239 P **P** **07 54 59.8 +1.6**
comp=Z,29nm,0.9s
AB31 Akbulak array 56.12 308 *i P* **P** **07 54 58.8 -0.5**
AB31 pmax pmax
comp=Z,8.0nm,0.2s
ABKAR Akbulak array 56.12 308 *eP* **P** **07 54 58.9 -0.4**
comp=Z,12nm,0.4s
KEV Kevo 57.74 339 *eP* **P** **07 55 07.5 -2.8**
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 57.74 339 *ep* **P** **07 55 07.5 -2.8**
comp=Z,3.6nm,0.7s
ARCES ARCESS Array B 58.27 339 P **P** **07 55 12.8 -1.3**
comp=Z,1.9nm,0.6s,baz=41,slow=7.3,SNR=21
ARCES PcP **PcP** **07 56 03.0 -0.3**
comp=Z,4.5nm,0.8s,baz=71,slow=5.7,SNR=6.4
ARCES ARCESS Array B 58.27 339 P **P** **07 55 12.8 -1.3**
ARCES PcP **PcP** **07 56 03.0 -0.3**
COEN Coen 58.34 184 *eP* **P** **07 55 15.9 +0.8**
comp=Z,52nm,1.0s
KBL Kabul 58.40 289 *eP* **P** **07 55 14.8 -1.0**
KBL pmax pmax
comp=Z,21nm,0.7s
KBL Kabul 58.40 289 *eP* **P** **07 55 14.8 -1.0**
comp=Z,20nm,0.7s
PSI Prapat 58.91 239 P **P** **07 55 19.4 +0.1**
comp=Z,9.2nm,0.8s,baz=107,slow=6.7,SNR=7.3
PSI Prapat 58.91 239 P **P** **07 55 19.4 +0.1**
PSI Prapat 58.91 239 P **P** **07 55 19.6 +0.2**
comp=Z,14nm,1.0s
SRBI Singaraja 59.50 217 P **P** **07 55 24.1 +0.9**
comp=Z,76nm,0.9s,comp=Z,1μm
KHKI Kahang-Kahang 59.59 216 P **P** **07 55 23.1 -0.6**
comp=Z,63nm,0.7s
PWJI Pagerwojo 60.96 220 P **P** **07 55 32.6 -0.5**
comp=Z,61nm,0.8s
JOF Joensuu 61.09 332 *eP* **P** **07 55 30.5 -2.9**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 61.09 332 *ep* **P** **07 55 30.5 -2.9**
comp=Z,5.4nm,0.5s
NEW Newport 62.18 49 P **P** **07 55 41.5 +0.5**
comp=Z,5.9nm,0.8s,baz=299,slow=5.5,SNR=20
NEW Newport 62.18 49 *eP* **P** **07 55 41.5 +0.5**
comp=Z,7.3nm,0.8s
NEW Newport 62.18 49 ⇓P **P** **07 55 41.6 +0.5**
baz=62
HYB Hyderabad 62.27 267 *i P* **P** **07 55 41.0 -1.0**
A12A Yaak River Ran 62.56 47 ⇑P **P** **07 55 43.8 +0.2**
baz=62
YBH Yreka Blue Hor 62.89 57 P **P** **07 55 47.3 +1.4**
comp=Z,1.8nm,0.6s,baz=6.5,slow=4.7,SNR=3.5
YBH Yreka Blue Hor 62.89 57 P **P** **07 55 47.3 +1.4**
C11A Tepee Creek (N 62.90 49 ⇑P **P** **07 55 46.3 +0.4**
baz=63
SUMG Summit 63.09 2 *eP* **P** **07 55 46.0 -1.0**
SUMG pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 63.09 2 *eP* **P** **07 55 46.0 -1.0**
comp=Z,2.9nm,0.4s
A13A Flathead Natio 63.21 47 ⇑P **P** **07 55 48.1 +0.3**
baz=63
KAF Kangasniemi 63.32 333 *eP* **P** **07 55 45.5 -2.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 63.32 333 *ep* **P** **07 55 45.5 -2.7**
comp=Z,1.9nm,0.5s
WALA Waterton Lakes 63.39 46 *eP* **P** **07 55 49.2 +0.1**
comp=Z,0.2nm,1.0s
C12B Naegeli Ranch, 63.40 48 ⇓P **P** **07 55 49.5 +0.4**
baz=63
B13A Whitefish 63.52 47 ⇓P **P** **07 55 50.7 +0.8**
baz=63,SNR=7.1
BSMT Bassoo Peak 63.68 48 *eP* **P** **07 55 52.3 +1.2**
A14A Double T Ranch 63.70 46 ⇓P **P** **07 55 51.4 +0.3**
baz=63,SNR=6.8
D12A Red Ives Fores 63.87 49 ⇓P **P** **07 55 52.2 0.0**
baz=64
FINES FINESS Array B 63.88 332 P **P** **07 55 49.9 -2.0**
comp=Z,11nm,0.6s,baz=43,slow=7.7,SNR=44
FINES PcP **PcP** **07 56 25.3 -0.9**
comp=Z,3.4nm,0.4s,baz=46,slow=3.6,SNR=8.5
FINES FINESS Array B 63.88 332 P **P** **07 55 49.9 -2.0**
FINES PcP **PcP** **07 56 25.3 -0.9**
C13A Hot Springs 63.90 48 ⇓P **P** **07 55 53.0 +0.7**
baz=64
A15A Johnson Ranch, 64.05 46 ⇑P **P** **07 55 53.2 -0.2**
baz=64,SNR=5.5
E12A Beaver Dam Sad 64.14 50 ⇓P **P** **07 55 54.8 +0.7**
baz=64,SNR=21
BMO Blue Mountains 64.15 52 *eP* **P** **07 55 54.9 +0.9**
comp=Z,0.8nm,0.6s
B14A Marquette Ranc 64.16 47 ⇑P **P** **07 55 54.8 +0.7**
baz=64,SNR=5.7
C14A Swan Lake 64.28 48 ⇑P **P** **07 55 55.6 +0.7**
baz=64,SNR=7.0
SWMT Swartz Lake 64.31 48 *eP* **P** **07 55 55.9 +0.8**
D13A Huson 64.32 48 ⇑P **P** **07 55 56.6 +0.5**
baz=64,SNR=10.0
B15A Bradely Ranch, 64.56 47 ⇑P **P** **07 55 57.0 +0.3**
baz=64,SNR=6.2
VRHR Novokhopersk 64.66 318 *eP* **P** **07 55 55.5 -1.6**
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
F12A Elk City 64.72 50 ⇑P **P** **07 55 58.6 +0.7**
baz=64,SNR=5.1
SLMT Seeley Lake 64.74 48 *eP* **P** **07 55 58.6 +0.6**
MSO Missoula 64.76 48 *eP* **P** **07 55 58.9 +0.9**
comp=E,9.2nm,1.3s
MSO *e* 07 56 38.1
MSO Missoula 64.76 48 ⇑P **P** **07 55 58.6 +0.5**
baz=64,SNR=7.7
D14A Greenough 64.84 48 ⇑P **P** **07 55 59.1 +0.5**
baz=65,SNR=9.5
C15A Salmond Ranch, 64.87 47 ⇑P **P** **07 55 59.8 +1.0**
baz=65,SNR=15
E13A Victor 64.88 49 ⇓P **P** **07 55 59.1 +0.3**
baz=65,SNR=6.5
POO Poona 64.90 272 ⇑ *iP* **P** **07 55 57.0 -2.2**
comp=E,50nm,1.0s
B16A M & M Farms, S 64.94 46 ⇑P **P** **07 55 59.0 -0.1**
baz=65
CHMT Chamberlain Mo 65.08 48 *eP* **P** **07 56 00.7 +0.5**
G12A Big Creek, Yel 65.08 51 ⇓P **P** **07 56 00.4 +0.2**
baz=65
A17A Triple J Farms 65.11 45 ⇑P **P** **07 56 00.4 +0.1**
baz=65,SNR=9.1
WRAB Tennant Creek 65.14 193 *eP* **P** **07 56 00.3 -0.3**
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 65.14 193 *eP* **P** **07 56 00.3 -0.3**
comp=Z,22nm,0.9s
WRAB *e* 07 56 23.0
WRAB *e* 07 56 50.4
WRA Warramunga Arr 65.16 193 P **P** **07 56 00.4 -0.2**
comp=Z,15nm,0.6s,baz=9.5,slow=6.7,SNR=126
WRA Warramunga Arr 65.16 193 P **P** **07 56 00.4 -0.2**
FITZ Fitzroy Crossi 65.20 202 P **P** **07 56 01.7 +0.8**
comp=Z,16nm,0.8s,baz=13,slow=6.3,SNR=35
FITZ Fitzroy Crossi 65.20 202 *eP* **P** **07 56 01.7 +0.8**
comp=Z,22nm,1.0s
F13A Darby 65.21 50 ⇑P **P** **07 56 00.9 0.0**
baz=65
E14A Clinton 65.27 49 ⇑P **P** **07 56 01.7 +0.3**
baz=65
C16A Fuhringer Ranc 65.31 47 ⇑P **P** **07 56 02.2 +0.6**
baz=65,SNR=20
FFC Flin Flon 65.34 36 *eP* **P** **07 56 01.4 -0.1**
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC Flin Flon 65.34 36 *eP* **P** **07 56 01.4 -0.1**
comp=Z,8.4nm,0.9s
D15A Lincoln 65.39 48 ⇓P **P** **07 56 02.4 +0.3**
baz=65
B17A L&G Farms, Che 65.48 46 ⇓P **P** **07 56 02.5 0.0**
baz=65
A18A Metzger Ranch, 65.56 45 ⇑P **P** **07 56 03.5 +0.4**
baz=65
G13A Cobalt 65.70 50 ⇓P **P** **07 56 04.1 0.0**
baz=65
E15A Deer Lodge 65.71 48 ⇓P **P** **07 56 04.8 +0.5**
baz=65,SNR=8.8
F14A Wisdom 65.71 49 ⇑P **P** **07 56 04.3 0.0**
baz=65
VSR Storozhevoye 65.75 319 *eP* **P** **07 56 03.5 -0.6**
VSR pmax pmax
comp=Z,6.0nm,0.5s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VORD Divnogorie 65.86 319 *eP* **P** **07 56 04.0 -0.8**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,10.0nm,1.3s
MFID Camas Ranch 65.88 52 *eP* **P** **07 56 06.0 +0.7**
comp=E,2.1nm,0.8s
MFID Camas Ranch 65.88 52 ⇑P **P** **07 56 05.5 +0.3**
baz=66
D16A Dana Ranch, Ca 65.90 47 ⇑P **P** **07 56 06.2 +0.8**
baz=66,SNR=7.6
C17A Wharram Farm, 65.92 46 ⇑P **P** **07 56 05.5 +0.1**
baz=66,SNR=9.8
HRY Holter Researc 65.96 48 *eP* **P** **07 56 06.6 +0.9**
H13A Challis 66.03 51 ⇓P **P** **07 56 06.8 +0.6**
baz=66,SNR=11
G14A Jackson 66.03 50 ⇓P **P** **07 56 06.2 -0.2**
baz=66
A19A Klindworth Far 66.10 44 ⇓P **P** **07 56 07.1 +0.5**
baz=66,SNR=7.8
E16A East Helena 66.16 48 ⇓P **P** **07 56 07.7 +0.7**
baz=66,SNR=6.3
F15A Butte 66.17 49 ⇑P **P** **07 56 07.9 +0.7**
baz=66,SNR=18
EGMT Eagleton 66.19 45 *eP* **P** **07 56 07.6 +0.4**
comp=E,10nm,1.1s
EGMT Eagleton 66.19 45 ⇑P **P** **07 56 07.5 +0.4**
baz=66,SNR=5.4
LRM Limekiln Ridge 66.20 49 *eP* **P** **07 56 08.2 +0.7**
LRM *e* 07 56 46.1
D17A Six Diamond Ra 66.27 47 ⇓P **P** **07 56 07.8 0.0**
baz=66
B19A Brinkman Farms 66.31 45 ⇓P **P** **07 56 08.4 +0.5**
baz=66,SNR=6.4
DLMT Dillon 66.42 49 *eP* **P** **07 56 10.0 +1.2**
comp=E,7.9nm,0.8s
H14A Leadore 66.48 50 ⇓P **P** **07 56 09.3 +0.1**
baz=66

I13A **Wildhorse Cree** 66.52 51 ⇓P P 07 56 10.3 +0.9
baz=66,SNR=14
A20A **Cobblestone Ra** 66.54 44 ⇑P P 07 56 10.0 +0.6
baz=66,SNR=7.8
HLID **Hailey** 66.58 51 *eP* P 07 56 10.3 +0.5
comp=E,1.4nm,0.8s
HLID **Hailey** 66.58 51 ⇑P P 07 56 10.4 +0.5
baz=66
G15A **Dillon** 66.60 49 ⇓P P 07 56 10.7 +0.7
baz=66,SNR=21
MCMT **McKenzie Canyo** 66.63 50 *eP* P 07 56 10.6 +0.4
E17A **Martinsdale** 66.63 47 ⇑P P 07 56 10.8 +0.7
baz=66,SNR=11
F16A **Kennard Place,** 66.67 48 ⇑P P 07 56 10.9 +0.6
baz=66,SNR=15
D18A **Linhart Farms,** 66.70 46 ⇓P P 07 56 10.9 +0.5
baz=66
C19A **Slack Wire Ran** 66.73 45 ⇓P P 07 56 11.4 +0.7
baz=66,SNR=8.5
BOZ **Bozeman (W)** 66.75 48 *eP* P 07 56 11.6 +0.7
BOZ pmax pmax
comp=Z,9.0nm,0.6s
BOZ **Bozeman (W)** 66.75 48 *eP* P 07 56 11.6 +0.7
comp=Z,9.0nm,0.6s
BOZ **Bozeman (W)** 66.75 48 ⇑P P 07 56 11.8 +0.9
baz=66,SNR=13
B20A **Solberg Farm,** 66.79 44 ⇓P P 07 56 11.4 +0.5
baz=66
J13A **Cove Ranch, Pi** 66.81 51 ⇓P P 07 56 12.1 +0.9
baz=67,SNR=6.4
H15A **Lima** 66.87 50 ⇓P P 07 56 12.1 +0.4
baz=67
G16A **Moss Hill, Enn** 66.93 49 ⇑P P 07 56 12.5 +0.5
baz=67,SNR=12
A21A **Bergtoll Ranch** 66.96 43 ⇑P P 07 56 12.5 +0.5
baz=67,SNR=12
E18A **Harlowton** 67.06 47 ⇓P P 07 56 13.3 +0.5
baz=67,SNR=6.3
F17A **Fitzpatrick Pl** 67.10 48 ⇓P P 07 56 13.7 +0.7
baz=67
D19A **Cripps Ranch,** 67.20 46 ⇑P P 07 56 14.2 +0.6
baz=67,SNR=9.1
C20A **Veseth Ranch,** 67.28 45 ⇑P P 07 56 14.6 +0.6
baz=67,SNR=7.6
A22A **Carney Farms,** 67.45 43 ⇓P P 07 56 15.4 +0.3
baz=67,SNR=9.7
H16A **Russell Place,** 67.57 49 ⇓P P 07 56 17.0 +0.9
baz=67,SNR=9.7
NVAR **Mina Array Bea** 67.59 58 P P 07 56 17.1 +0.7
comp=Z,1.9nm,0.6s,baz=301,slow=7.1,SNR=17
NVAR pP pP 07 56 55.8 +0.7
comp=Z,1.3nm,0.7s,baz=301,slow=7.3,SNR=2.6
NVAR **Mina Array Bea** 67.59 58 P P 07 56 17.1 +0.7
NVAR pP pP 07 56 55.8 +0.7
F18A **Big Timber** 67.60 47 ⇑P P 07 56 17.0 +0.8
baz=67,SNR=12
D20A **Manuel Ranch,** 67.62 45 ⇓P P 07 56 17.0 +0.8
baz=67,SNR=13
C21A **Desert Coulee** 67.66 44 ⇓P P 07 56 16.2 -0.2
baz=67
GCMT **Greycliff** 67.70 47 *eP* P 07 56 17.7 +0.9
E19A **Rath Farm, Rou** 67.71 46 ⇑P P 07 56 17.6 +0.8
baz=67,SNR=6.6
YMR **Madison River** 67.75 49 *eP* P 07 56 18.6 +1.4
comp=Z,5.9nm,0.6s
J15A **Blackfoot** 67.78 51 ⇓P P 07 56 18.3 +1.0
baz=68
K14A **Jones Ranch, D** 67.92 52 ⇓P P 07 56 19.5 +1.3
baz=68,SNR=5.4
YFT **Old Faithful** 67.96 49 *eP* P 07 56 21.1 +2.6
comp=Z,11nm,0.9s
I16A **Newdale** 67.99 50 ⇑P P 07 56 20.0 +1.3
baz=68,SNR=8.5
E20A **Meyer Farm, Mu** 68.02 46 ⇑P P 07 56 19.0 +0.3
baz=68
F19A **Roth Farm, Mol** 68.03 47 ⇓P P 07 56 19.5 +0.7
baz=68,SNR=11
G18A **Lazy EL Ranch,** 68.07 48 ⇑P P 07 56 19.4 +0.3
baz=68
LKWY **Lake** 68.12 49 *eP* P 07 56 21.8 +2.2
LKWY pmax pmax
comp=Z,4.0nm,0.8s
LKWY **Lake** 68.12 49 *eP* P 07 56 21.8 +2.2
comp=Z,4.3nm,0.8s
H17A **Grant Village** 68.14 49 ⇑P P 07 56 21.7 +2.0
baz=68,SNR=9.4
K15A **Arbon** 68.19 51 ⇑P P 07 56 21.1 +1.1
baz=68
D21A **La Casta Ranch** 68.22 45 ⇑P P 07 56 20.4 +0.5
baz=68
L14A **Malta** 68.22 52 ⇓P P 07 56 21.3 +1.2
baz=68,SNR=5.3
B23A **Brockton** 68.26 43 ⇑P P 07 56 20.7 +0.6
baz=68,SNR=5.2
IMW **Indian Meadow** 68.27 49 *eP* P 07 56 22.1 +1.5
comp=Z,2.7nm,0.5s
FLWY **Flagg Ranch** 68.28 49 *eP* P 07 56 22.4 +1.9
comp=Z,23nm,1.8s
J16A **Bone** 68.32 50 ⇑P P 07 56 22.0 +1.2
baz=68,SNR=5.7
DCID1 **Drake Creek** 68.34 50 *eP* P 07 56 22.9 +2.0
comp=Z,7.5nm,0.3s
RLMT **Red Lodge** 68.35 48 *eP* P 07 56 21.8 +0.8
comp=Z,14nm,1.5s
RLMT **Red Lodge** 68.35 48 ⇓P P 07 56 21.8 +0.8
baz=68,SNR=5.9
A24A **Westby** 68.42 42 ⇓P P 07 56 21.2 +0.1
baz=68
RRI2 **Red Ridge** 68.43 50 *eP* P 07 56 22.9 +1.4
comp=Z,16nm,0.8s
RRI2 *e* 07 57 02.1
H18A **Shoshone NF, C** 68.44 48 ⇓P P 07 56 22.4 +0.8
baz=68,SNR=6.8
I17A **Pilgrim Ck.** 68.45 49 ⇑P P 07 56 23.2 +1.6
baz=68,SNR=11
MOOW **Moose Ponds** 68.47 49 *eP* P 07 56 23.1 +1.4
comp=Z,4.6nm,0.8s
MOOW *e* 07 57 01.6
FRB **Frobisher Bay** 68.52 16 P P 07 56 19.6 -1.8
comp=Z,2.0nm,0.3s,baz=332,slow=7.1,SNR=12
FRB **Frobisher Bay** 68.52 16 P P 07 56 19.6 -1.8
TPAW **Teton Pass** 68.53 50 *eP* P 07 56 23.7 +1.5
comp=Z,8.0nm,0.8s
TPAW *e* 07 57 03.1
D22A **Cohagen** 68.57 44 ⇑P P 07 56 22.5 +0.4
baz=68
K16A **Soda Springs** 68.62 51 ⇓P P 07 56 23.9 +1.2
baz=68,SNR=6.0
NB2 **NORSAR Subarra** 68.63 338 P P 07 56 20.5 -1.6
comp=Z,3.5nm,0.5s,baz=31,slow=6.5
NOA **NORSAR Array B** 68.63 338 P P 07 56 20.6 -1.6
comp=Z,3.7nm,0.5s,baz=32,slow=6.3,SNR=30
NOA pP pP 07 57 01.6 +0.6
comp=Z,2.9nm,0.9s,baz=33,slow=6.1,SNR=2.4
NOA **NORSAR Array B** 68.63 338 P P 07 56 20.6 -1.6
NOA pP pP 07 57 01.6 +0.6
DGMT **Dagmar** 68.64 42 *eP* P 07 56 22.8 +0.3
comp=Z,13nm,0.6s
DGMT **Dagmar** 68.64 42 ⇑P P 07 56 22.8 +0.3
baz=68,SNR=6.5
LOHW **Long Hollow** 68.64 49 *eP* P 07 56 24.1 +1.3
comp=Z,7.7nm,2.8s
SNOW **Snow King Moun** 68.66 50 *eP* P 07 56 24.4 +1.5
comp=Z,5.0nm,0.7s
REDW **Red Top Meadow** 68.67 50 *eP* P 07 56 24.6 +1.6
comp=Z,21nm,1.6s
REDW *e* 07 57 04.0
L15A **Malad City** 68.72 52 ⇓P P 07 56 24.1 +0.9
baz=68
J17A **Brown Place, J** 68.75 50 ⇓P P 07 56 24.5 +1.0
baz=68,SNR=6.9
H19A **Powell** 68.80 48 ⇑P P 07 56 24.4 +0.7
baz=68
KIV **Kislovodsk** 68.81 311 *eP* P 07 56 24.6 +1.0
KIV pmax pmax
comp=Z,26nm,0.9s
KIV **Kislovodsk** 68.81 311 *eP* P 07 56 24.2 +0.5
comp=Z,27nm,0.9s
G20A **Bridger** 68.84 47 ⇑P P 07 56 24.0 +0.1
baz=69
KBZ **Khabaz** 68.84 311 P P 07 56 24.7 +1.0
comp=Z,14nm,0.8s,baz=70,slow=3.4,SNR=38
KBZ **Khabaz** 68.84 311 P P 07 56 24.7 +1.0
KBZ **Khabaz** 68.84 311 P P 07 56 24.7 +1.0
AS31 **Alice Springs** 68.88 192 *eP* P 07 56 24.7 +0.6
ASAR **Alice Springs** 68.88 192 P P 07 56 24.7 +0.6
comp=Z,1.1nm,0.6s,baz=115,slow=7.7,SNR=20
ASAR pP pP 07 57 03.0 0.0
comp=Z,1.1nm,0.7s,baz=12,slow=6.0,SNR=2.1
ASAR **Alice Springs** 68.88 192 P P 07 56 24.7 +0.6
ASAR pP pP 07 57 03.0 0.0
ZEI **Tsey** 68.94 310 *eP* P 07 56 23.3 -1.3
ZEI pmax pmax
comp=Z,9.0nm,0.6s
I18A **Diamond G Ranc** 69.01 49 ⇑P P 07 56 26.1 +1.0
baz=69
D23A **Lindsay** 69.04 44 ⇓P P 07 56 25.5 +0.5
baz=69,SNR=5.9
K17A **Gardner Place,** 69.04 50 ⇓P P 07 56 25.9 +0.7
baz=69
M15A **Larsen Ranch,** 69.04 52 ⇓P P 07 56 26.0 +0.8
baz=69
E22A **Miles City** 69.17 45 ⇑P P 07 56 26.3 +0.5
baz=69
I19A **Meeteetse** 69.22 48 ⇓P P 07 56 27.1 +0.7
baz=69
J18A **Kendall Valley** 69.23 49 ⇓P P 07 56 26.9 +0.5
baz=69
L16A **Fish Haven** 69.25 51 ⇑P P 07 56 26.9 +0.3
baz=69
R11A **Troy Canyon, C** 69.27 56 ⇑P P 07 56 27.0 +0.3
baz=69
G21A **Lodge Grass** 69.36 46 ⇑P P 07 56 27.1 0.0
baz=69
H20A **Greybull** 69.45 47 ⇑P P 07 56 27.4 -0.2
baz=69
E23A **Ismay** 69.46 44 ⇑P P 07 56 27.8 +0.3
baz=69
F22A **Rosebud** 69.47 46 ⇓P P 07 56 27.7 +0.1
baz=69
L17A **Cokeville** 69.50 51 ⇓P P 07 56 28.3 +0.2
baz=69
D24A **Glendive** 69.51 43 ⇓P P 07 56 28.4 +0.5
baz=69
K18A **Toltan Ranch,** 69.60 50 ⇑P P 07 56 29.2 +0.5
baz=69,SNR=6.4
M16A **Huntsville** 69.60 52 ⇑P P 07 56 28.7 -0.1
baz=69
MPMC **Manual Prospec** 69.61 59 ⇓P P 07 56 29.1 +0.3
baz=69
DUG **Dugway** 69.67 53 *eP* P 07 56 30.2 +1.1
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG **Dugway** 69.67 53 *eP* P 07 56 30.2 +1.1
comp=Z,4.1nm,0.7s
DUG **Dugway** 69.67 53 ⇓P P 07 56 29.8 +0.7
baz=69,SNR=5.5
J19A **Crowheart** 69.71 49 ⇑P P 07 56 29.9 +0.6
baz=69,SNR=6.0
FURC **Furnace Creek,** 69.73 59 ⇓P P 07 56 29.9 +0.7
baz=70
I20A **Worland** 69.74 48 ⇑P P 07 56 29.9 +0.5
baz=70,SNR=6.3
BW06 **Boulder Array** 69.78 50 *eP* P 07 56 29.9 +0.1
comp=Z,4.2nm,0.6s
BW06 **Boulder Array** 69.78 50 ⇑P P 07 56 29.8 -0.1
baz=70,SNR=9.3
PDAR **Pinedale Array** 69.78 50 P P 07 56 30.1 +0.3
comp=Z,5.3nm,0.6s,baz=286,slow=1.5,SNR=50
PDAR pP pP 07 57 07.6 -1.2
comp=Z,2.1nm,0.9s,baz=318,slow=2.0,SNR=2.9
PDAR **Pinedale Array** 69.78 50 P P 07 56 30.1 +0.3
PDAR pP pP 07 57 07.6 -1.2
MBWA **Marble Bar** 69.82 207 *eP* P 07 56 30.2 +0.3
comp=Z,18nm,0.8s
G22A **Birney** 69.84 46 ⇓P P 07 56 29.8 -0.2
baz=70
H21A **Big Horn, Sher** 69.85 47 ⇑P P 07 56 30.2 +0.1
baz=70,SNR=8.2
E24A **Baker** 69.91 44 ⇑P P 07 56 30.5 +0.1
baz=70
F23A **Volborg** 69.94 45 ⇑P P 07 56 30.6 0.0
baz=70,SNR=7.1
N16A **Rees Ranch, Co** 70.00 52 ⇓P P 07 56 31.5 +0.4
baz=70
EDW2 **Edwards Air Fo** 70.07 60 ⇑P P 07 56 32.0 +0.5
baz=70
L18A **Fontenelle, Gr** 70.08 50 ⇑P P 07 56 32.1 +0.4
baz=70,SNR=5.3
K19A **Absolon Red Bu** 70.12 49 ⇑P P 07 56 31.9 0.0
baz=70
J20A **Shoshoni** 70.17 48 ⇓P P 07 56 32.4 +0.2
baz=70,SNR=9.8
GNI **Garni** 70.21 307 *eP* P 07 56 34.9 +2.5
comp=Z,10nm,0.8s
I21A **Big Trails, Te** 70.28 48 ⇑P P 07 56 33.1 +0.3
baz=70,SNR=14
N17A **Moffit Pass** 70.30 52 ⇓P P 07 56 33.4 +0.3
baz=70,SNR=5.5
G23A **Biddle** 70.31 46 ⇑P P 07 56 33.2 +0.4
baz=70
L19A **Farson** 70.33 50 ⇑P P 07 56 33.5 +0.3
baz=70
F24A **Ekalaka** 70.34 45 ⇓P P 07 56 32.9 -0.1
baz=70
P15A **Leamington** 70.40 54 ⇑P P 07 56 33.7 +0.1
baz=70
O16A **Springville** 70.42 53 ⇑P P 07 56 34.2 +0.5
baz=70
K20A **Yellowstone Ra** 70.51 49 ⇓P P 07 56 34.0 -0.2
baz=70
J21A **Lysite** 70.52 48 ⇑P P 07 56 34.3 +0.1
baz=70
AKASG **Malin Array Be** 70.59 323 P P 07 56 33.5 -0.8
comp=Z,4.4nm,0.4s,baz=40,slow=6.5,SNR=23
AKASG pP pP 07 57 15.6 +2.3
comp=Z,1.4nm,0.5s,baz=41,slow=6.1,SNR=1.7
AKASG sP sP 07 57 30.0 -0.8
comp=Z,0.4nm,0.3s,baz=38,slow=5.8,SNR=1.7
AKASG **Malin Array Be** 70.59 323 P P 07 56 33.5 -0.8
AKASG *PP pP 07 57 15.6 +2.3
AKASG *SP sP 07 57 30.0 -0.8
AKASG **Malin Array Be** 70.59 323 P P 07 56 33.5 -0.8
AKASG pP pP 07 57 15.6 +2.3
AKASG sP sP 07 57 30.0 -0.8
KIEV **Kiev** 70.60 323 *eP* P 07 56 33.3 -1.0
KIEV pmax pmax
comp=Z,5.0nm,0.5s
KIEV **Kiev** 70.60 323 *eP* P 07 56 33.3 -1.0
comp=Z,4.8nm,0.5s
AK01 **Malin Array Si** 70.60 323 *eP* P 07 56 33.0 -1.4
AK02 **Malin Array Si** 70.63 323 *eP* P 07 56 33.5 -1.0
I22A **9 Mile Ranch,** 70.65 47 ⇑P P 07 56 35.1 +0.1
baz=70
BFSC **Mount Baldy Ra** 70.70 61 ⇓P P 07 56 35.7 +0.3
baz=70
G24A **Alzada** 70.72 45 ⇑P P 07 56 35.1 -0.2
baz=70
H23A **Clabaugh Cattl** 70.75 46 ⇑P P 07 56 35.2 -0.3
baz=70
N18A **Larsen Ranch,** 70.92 51 ⇓P P 07 56 37.0 +0.3
baz=71
L20A **Wamsutter** 70.95 50 ⇑P P 07 56 37.3 +0.3
baz=71
TUQ **Turquoise Moun** 70.98 59 ⇑P P 07 56 37.3 +0.2
baz=71
J22A **Midwest** 70.98 47 ⇑P P 07 56 37.1 +0.1
baz=71
H24A **Dirks Ranch, A** 71.05 45 ⇑P P 07 56 36.9 -0.4
baz=71
K21A **Alcova** 71.11 48 ⇑P P 07 56 37.8 -0.1
baz=71
ULM **Lac du Bonnet** 71.15 37 P P 07 56 36.8 -0.9
comp=Z,3.2nm,0.4s,baz=309,slow=5.7,SNR=8.1
ULM **Lac du Bonnet** 71.15 37 P P 07 56 36.8 -0.9
MSU **Marysvale** 71.16 54 *eP* P 07 56 39.0 +0.7
MSU pmax pmax
comp=Z,2.0nm,0.7s
MSU **Marysvale** 71.16 54 *eP* P 07 56 39.0 +0.7
comp=Z,1.8nm,0.7s
O18A **Roosevelt** 71.22 52 ⇑P P 07 56 38.9 +0.4
baz=71
N19A **John Jarvie Ra** 71.25 51 ⇑P P 07 56 38.9 +0.2
baz=71
P17A **Butcher Ranch,** 71.34 53 ⇑P P 07 56 39.7 +0.4
baz=71
M20A **Sweetwater, Wa** 71.39 50 ⇑P P 07 56 40.1 +0.5
baz=71
MURC **Murrieta** 71.40 61 ⇓P P 07 56 40.1 +0.6
baz=71
Q16A **Castle Valley** 71.47 53 ⇑P P 07 56 41.0 +0.9
baz=71
K22A **Casper** 71.49 48 ⇓P P 07 56 40.0 -0.1
baz=71
L21A **Rawlins** 71.51 49 ⇓P P 07 56 40.6 +0.3
baz=71
P18A **Preston Nutter** 71.52 52 ⇑P P 07 56 41.0 +0.5
baz=71
O19A **Miners Draw (B** 71.69 51 ⇓P P 07 56 41.5 +0.2
baz=71
SRU **San Rafael** 71.71 53 *eP* P 07 56 41.8 +0.3
SRU *e* 07 57 21.3
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU **San Rafael** 71.71 53 *eP* P 07 56 41.8 +0.3
comp=Z,6.4nm,0.8s
SRU *e* 07 57 21.3
SRU **San Rafael** 71.71 53 ⇑P P 07 56 41.8 +0.3
baz=72
R16A **Teasdale** 71.72 54 ⇓P P 07 56 42.2 +0.5
baz=72
RSSD **Black Hills** 71.76 46 *eP* P 07 56 42.0 +0.3
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD **Black Hills** 71.76 46 *eP* P 07 56 42.0 +0.3
comp=Z,3.5nm,0.7s
M21A **Separation Pea** 71.76 49 ⇑P P 07 56 41.7 -0.1
baz=72
N20A **Spence Gulch,** 71.80 50 ⇑P P 07 56 42.4 +0.3
baz=72
BELC **Belle Mtn. Jos** 71.89 60 ⇑P P 07 56 42.8 +0.3
baz=72
L22A **Ellis Ranch, M** 71.97 48 ⇓P P 07 56 43.1 +0.1
baz=72
R17A **Hanksville Air** 72.08 54 ⇓P P 07 56 44.1 +0.5
baz=72
P19A **Cripple Cowboy** 72.23 52 ⇑P P 07 56 44.6 0.0
baz=72
N21A **Black Mountain** 72.26 50 ⇓P P 07 56 45.2 +0.4
baz=72
O20A **White River Ci** 72.29 51 ⇑P P 07 56 45.3 +0.4
baz=72
L23A **Garrett** 72.30 48 ⇓P P 07 56 45.0 0.0
baz=72
M22A **Cedar Creek Ra** 72.32 49 ⇑P P 07 56 45.5 +0.3
baz=72
W13A **Hualapai Mount** 72.44 58 ⇓P P 07 56 46.5 +0.5
baz=72
Q19A **Hogan Spring (** 72.53 52 ⇓P P 07 56 46.5 +0.2
baz=72
S17A **Black Ridge (B** 72.56 54 ⇓P P 07 56 46.5 0.0
baz=72
WBK **Wadi Bani Khal** 72.72 285 P P 07 56 48.9 +1.3
SNR=6.0
M23A **Laramie** 72.74 49 ⇓P P 07 56 47.7 0.0
baz=72
N22A **Wattenberg Ran** 72.81 49 ⇓P P 07 56 48.6 +0.4
baz=72
PDMCI **Parker Dam,Lak** 72.83 59 ⇓P P 07 56 48.6 +0.6
baz=73
Y12C **Blythe** 72.96 59 ⇑P P 07 56 49.5 +0.8
baz=73
S18A **Hurst Farm, Bl** 72.98 54 ⇓P P 07 56 49.4 +0.3
baz=73
N23A **Red Feather La** 73.02 49 ⇓P P 07 56 49.9 +0.6
baz=73
PV10 **Paradox Valley** 73.06 53 *eP* P 07 56 50.9 +1.3
comp=Z,242nm,0.8s
Q20A **Ridgley Place,** 73.08 52 ⇓P P 07 56 50.4 +0.8
baz=73
PV04 **Paradox Valley** 73.12 53 *eP* P 07 56 50.8 +0.9
P21A **Newcastle** 73.16 51 ⇑P P 07 56 50.9 +0.8
baz=73
HATD **Hatta, Dubai** 73.20 288 P P 07 56 50.8 +0.5
SNR=9.6
O22A **Kremmling** 73.21 50 ⇓P P 07 56 50.8 +0.3
baz=73
M24A **Cheyenne** 73.22 48 ⇑P P 07 56 51.1 +0.7
baz=73
HOQ **Hoqain** 73.22 287 P P 07 56 51.1 +0.7
SNR=6.8
ASHO **Ashiyiah** 73.34 288 P P 07 56 51.6 +0.4
SNR=6.7
JMDO **Jabal Madar** 73.48 285 P P 07 56 52.6 +0.6
SNR=8.0
P22A **Eagle** 73.49 50 ⇑P P 07 56 52.5 +0.4
baz=73
O23A **Lake Granby, G** 73.52 50 ⇑P P 07 56 53.2 +0.9
baz=73
R20A **Redvale** 73.56 52 ⇑P P 07 56 53.0 +0.5
baz=73
Q21A **Lamborn Mesa,** 73.57 52 ⇑P P 07 56 53.3 +0.8
baz=73
SMCO **Snowmass** 73.66 51 *eP* P 07 56 53.0 -0.3
comp=Z,6.7nm,1.3s
Y14A **Wickenburg** 73.76 58 ⇑P P 07 56 54.3 +0.8
baz=74
BSY **Bisya** 73.85 286 P P 07 56 55.1 +1.0
SNR=12
ISCO **Idaho Springs** 73.97 50 *eP* P 07 56 55.9 +0.9
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO **Idaho Springs** 73.97 50 *eP* P 07 56 55.9 +0.9
comp=Z,8.1nm,1.4s
ISCO **Idaho Springs** 73.97 50 ⇑P P 07 56 55.4 +0.4
baz=74
MVCO **Mesa Verde** 74.18 53 ⇓P P 07 56 56.3 +0.2
baz=74
Z14A **Wintersburg** 74.19 59 ⇑P P 07 56 57.0 +1.1
baz=74
S21A **Coal Bank Pass** 74.26 52 ⇑P P 07 56 56.7 0.0
baz=74
X16A **Lo Mia Camp, P** 74.38 57 ⇓P P 07 56 58.2 +0.9
baz=74
R22A **Saguache, Gunn** 74.45 51 ⇓P P 07 56 58.0 +0.2
baz=74
P24A **Kohler Place,** 74.56 49 ⇓P P 07 56 58.4 +0.2
baz=74
BUR08 **Bucovina Ar. S** 74.63 323 *eP* P 07 56 58.3 -0.1
BURAR **Bucovina Array** 74.64 323 ⇑*iP* P 07 56 58.7 +0.3
EYMN **Ely** 74.78 36 *eP* P 07 56 58.4 -0.6
ARMA **Armidale** 74.80 175 *eP* P 07 57 01.1 +1.8
comp=Z,14nm,0.9s
KOLS **Kolonicke sedl** 74.84 326 *eP* P 07 56 59.9 +0.5
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS **Kolonicke sedl** 74.84 326 *eP* P 07 56 59.9 +0.5
TESR 74.87 322 ⇑*iP* P 07 56 59.6 0.0
T21A **Navajo Lake** 74.88 53 ⇑P P 07 57 01.0 +0.8
baz=75
N27A **Anderson Farm,** 74.90 47 ⇑P P 07 57 00.5 +0.5
baz=75
W18A **Petrified Fore** 74.91 56 ⇓P P 07 57 01.2 +0.9
baz=75
R23A **Moffat** 74.99 51 ⇓P P 07 57 01.5 +0.6
baz=75
OGNE **Ogallala** 75.06 47 ⇑P P 07 57 01.1 +0.2
baz=75
CRVS **Cervenica-Dubn** 75.19 326 *eP* P 07 57 01.6 +0.2
CRVS pmax pmax
comp=Z,3.0nm,0.8s
CRVS **Cervenica-Dubn** 75.19 326 *eP* P 07 57 01.6 +0.2
CFR **Carcaliu** 75.21 320 ⇑P P 07 57 01.0 -0.6
CFR **Carcaliu** 75.21 320 ⇑*iP* P 07 57 01.0 -0.6
214A **Organ Pipe Nat** 75.24 60 ⇓P P 07 57 02.9 +0.9
baz=75
R24A **Sanders Place,** 75.36 51 ⇓P P 07 57 03.5 +0.7
baz=75
TRPA **Tarpa** 75.36 325 ⇑*iP* P 07 57 02.9 +0.5
P26A **Davis Ranch, A** 75.37 49 ⇑P P 07 57 03.3 +0.5
baz=75
PLOR **Plostina** 75.37 321 ⇑P P 07 57 01.8 -0.8
PLOR **Plostina** 75.37 321 ⇑*iP* P 07 57 01.8 -0.8
W20A **Ramah** 75.63 55 ⇑P P 07 57 04.8 +0.3
baz=75
T23A **Casias Ranch,** 75.69 52 ⇓P P 07 57 05.4 +0.5
baz=75
U22A **Llaves** 75.70 53 ⇓P P 07 57 05.9 +1.1
baz=75
ECSD **EROS Data Cent** 75.70 42 *eP* P 07 57 04.4 0.0
comp=Z,6.3nm,0.9s
ECSD *e* 07 57 45.2
OKC **Ostrava-Krasne** 75.72 328 *eP* P 07 57 04.6 +0.2
OKC **Ostrava-Krasne** 75.72 328 *eP* P 07 57 04.6 +0.2
Q26A **Hugo** 75.73 49 ⇑P P 07 57 05.3 +0.4
baz=76
KBD **Kabd** 75.84 297 *eP* P 07 57 05.4 0.0
R25A **Fountain Ranch** 75.88 50 ⇑P P 07 57 05.8 +0.1
baz=76
MLR **Muntele Rosu** 75.97 321 ⇑*iP* P 07 57 05.6 -0.5
DPC **Dobruska-Polom** 75.97 330 *eP* P 07 56 06.8 +0.9

DPC Dobruska-Polom 75.97 330 eP P 07 57 06.8 +0.9
QRN Al-Qurain 75.99 296 eP P 07 57 06.2 -0.1
QRN AMb AMB 07 57 06.9
comp=Z,87nm,0.4s
MORC Moravsky Berou 75.99 329 eP P 07 57 05.6 -0.4
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 75.99 329 eP P 07 57 05.6 -0.4
comp=Z,4.7nm,0.8s
MORC Moravsky Berou 75.99 329 ⇑iP P 07 57 05.7 -0.3
V22A San Miguel Ran 76.00 53 ⇑P P 07 57 07.0 +0.5
baz=76
NAY Al-Naaiem 76.07 297 eP P 07 57 06.4 -0.4
NAY AMb AMB 07 57 07.5
comp=Z,26nm,0.9s
U23A El Rito 76.11 53 ⇑P P 07 57 07.9 +0.7
baz=76
KSCO Kaye Shedlock' 76.15 49 ⇑P P 07 57 07.5 +0.3
baz=76
R26A Arlington 76.22 50 ⇓P P 07 57 07.9 +0.3
baz=76
STKA Stephens Creek 76.23 184 P P 07 57 07.9 +0.6
comp=Z,5.7nm,0.7s,baz=357,slow=7.1,SNR=8.7
STKA Stephens Creek 76.23 184 eP P 07 57 08.0 +0.8
comp=Z,0.9nm,0.6s
CLL Collm 76.32 332 eP P 07 57 06.0 -1.8
CLL e*PP pP 07 57 50.0 +2.6
CLL Collm 76.32 332 eP P 07 57 06.0 -1.8
CLL e(pP) pP 07 57 50.0 +2.6
VOIR 76.41 322 ⇑P P 07 57 09.0 +0.5
VOIR 76.41 322 ⇑iP P 07 57 09.0 +0.5
T25A Trinidad 76.53 51 ⇓P P 07 57 10.1 +0.6
baz=76
V23A Ortiz Mt. (NFS 76.53 53 ⇓P P 07 57 10.6 +1.1
baz=76
VYHS Vyhne 76.55 327 eP P 07 57 09.4 +0.3
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 76.55 327 eP P 07 57 09.4 +0.3
Y20A Horse Springs, 76.56 56 ⇓P P 07 57 10.8 +1.0
baz=76
BR131 Keskin Array S 76.58 313 eP P 07 57 10.0 +0.3
comp=Z,3.1nm,0.6s
BRTR Keskin Array B 76.58 313 P P 07 57 09.9 +0.3
comp=Z,3.9nm,0.7s,baz=82,slow=3.8,SNR=20
BRTR Keskin Array B 76.58 313 P P 07 57 09.9 +0.3
R27A Eads 76.58 49 ⇑P P 07 57 09.6 0.0
baz=76
PSZ Piszkesteto 76.60 326 eP P 07 57 09.8 +0.3
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 76.60 326 eP P 07 57 09.8 +0.3
comp=Z,3.9nm,0.7s
PSZ Piszkesteto 76.60 326 ⇓iP P 07 57 09.6 +0.1
ARR Arges 76.64 322 ⇑iP P 07 57 11.1 +1.3
S26A Kim 76.70 50 ⇓P P 07 57 10.4 +0.1
baz=76
VRAC Vranov 76.73 329 ⇓iP P 07 57 09.5 -0.6
FORT Forrest 76.85 196 eP P 07 57 11.6 +0.8
comp=Z,23nm,0.8s
ANMO Albuquerque 76.94 54 P P 07 57 12.6 +0.8
comp=Z,1.2nm,0.6s,baz=332,slow=13,SNR=6.9
ANMO pP pP 07 57 52.2 +0.7
comp=Z,1.5nm,1.0s,baz=342,slow=9.8,SNR=2.5
ANMO Albuquerque 76.94 54 eP P 07 57 12.2 +0.4
comp=Z,2.4nm,0.8s
Z20A Nine Sixteen R 76.99 56 ⇓P P 07 57 13.6 +1.5
baz=77
SCHQ Schefferville 77.01 19 P P 07 57 11.1 -0.5
comp=Z,4.5nm,0.6s,baz=7.5,slow=5.8,SNR=21
SCHQ Schefferville 77.01 19 eP P 07 57 10.9 -0.7
comp=Z,5.1nm,0.7s
V25A Rancho No Teng 77.35 52 ⇑P P 07 57 14.9 +0.9
baz=77
W24A Lazy 6 Ranch, 77.35 53 ⇓P P 07 57 15.0 +0.9
baz=77
120A U Bar Ranch, L 77.36 57 ⇓P P 07 57 15.0 +0.8
baz=77
Y22A Socorro 77.36 55 ⇓P P 07 57 14.9 +0.7
baz=77
BZS Buzias 77.75 324 ⇓P P 07 57 15.3 -0.5
BZS Buzias 77.75 324 ⇓iP P 07 57 15.3 -0.5
319A Douglas 77.80 58 ⇑P P 07 57 17.2 +0.7
baz=78
V26A Tequesquite Ra 77.85 51 ⇑P P 07 57 16.9 +0.1
baz=78
121A Cookes Peak, D 77.88 56 ⇑P P 07 57 17.5 +0.5
baz=78
220A Playas Peak, P 77.88 57 ⇓P P 07 57 17.5 +0.5
baz=78
W25A X Bar L Ranch, 77.89 52 ⇑P P 07 57 17.6 +0.6
baz=78
Y23A Lovelace Mesa, 77.90 54 ⇓P P 07 57 17.2 0.0
baz=78,SNR=5.5
KHC Kasperske Hory 77.97 330 eP P 07 57 17.1 0.0
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 77.97 330 eP P 07 57 17.1 0.0
comp=Z,6.9nm,0.8s
KHC Kasperske Hory 77.97 330 eP P 07 57 17.1 0.0
GERES GERESS Array B 78.16 330 P P 07 57 17.8 -0.4
comp=Z,1.1nm,0.3s,baz=38,slow=5.8,SNR=12
GERES GERESS Array B 78.16 330 P P 07 57 17.8 -0.4
Z23A Rita Site, Whi 78.27 55 ⇓P P 07 57 19.4 +0.2
baz=78
124A Stringfield Ra 79.13 55 ⇑P P 07 57 24.2 +0.2
baz=79
Z25A Roswell 79.14 54 ⇑P P 07 57 24.4 +0.6
baz=79
VTS Vitosha 79.46 321 ⇓P P 07 57 25.5 0.0
VTS Vitosha 79.46 321 ⇓iP P 07 57 25.5 0.0
SOKA Soboth 79.50 328 ⇓iP P 07 57 25.3 -0.2
comp=Z,7.4nm,0.9s
Z26A Caprock 79.57 53 ⇑P P 07 57 26.3 +0.1
baz=79,SNR=6.8
Y27A Causey 79.59 52 ⇑P P 07 57 26.7 +0.4
baz=79
125A Gardner Draw, 79.62 54 ⇓P P 07 57 27.0 +0.5
baz=79
AMTX Amarillo 79.69 51 ⇑P P 07 57 27.5 +0.7
baz=79
KBA Koelnbreinsper 79.79 330 ⇑iP P 07 57 27.6 +0.4
comp=Z,9.8nm,0.8s
MNTX Cornudas Mount 79.90 55 ⇑P P 07 57 28.5 +0.6
baz=80
Z27A Tatum 79.97 53 ⇑P P 07 57 28.9 +0.5
baz=80
324A Moseley Ranch, 80.02 56 ⇓P P 07 57 28.8 +0.1
baz=80
GDL2 Guadalupe Moun 80.13 54 eP P 07 57 29.9 +0.7
GDL2 e 07 58 09.4
BAIF Baives 80.15 336 eP P 07 57 29.0 +0.2
BAIF Baives 80.15 336 eP P 07 57 29.0 +0.2
BAIF Baives 80.15 336 eP P 07 57 29.0 +0.2
WTTA Wattenberg 80.24 331 ⇓iP P 07 57 29.4 -0.2
comp=Z,7.2nm,0.4s
VISS Visnje 80.31 328 iP P 07 57 29.3 -0.5
VISS Visnje 80.31 328 iP P 07 57 29.3 -0.5
MOTA Moosalm 80.35 331 ⇓iP P 07 57 30.1 -0.1
comp=Z,4.2nm,0.5s
325A Bean Ranch, Si 80.37 55 ⇑P P 07 57 31.1 +0.5
baz=80
BOJS Bojanci 80.40 328 iP P 07 57 29.8 -0.4
BOJS Bojanci 80.40 328 iP P 07 57 29.8 -0.5
Y29A Porterfield Fa 80.45 52 ⇑P P 07 57 31.0 +0.2
baz=80
Z28A Tucker Farm, M 80.47 52 ⇑P P 07 57 30.8 -0.1
baz=80
JAVS Javornik 80.53 328 iP P 07 57 33.3 +2.2
JAVS Javornik 80.53 328 iP P 07 57 33.3 +2.2
CDF Champ du Feu 80.69 334 eP P 07 57 32.0 +0.1
CDF Champ du Feu 80.69 334 eP P 07 57 32.0 +0.1
CDF Champ du Feu 80.69 334 eP P 07 57 32.0 +0.1
FETA Feichten 80.76 331 ⇓iP P 07 57 31.4 -1.0
comp=Z,3.0nm,0.6s
425A Indio Mountain 80.79 56 ⇑P P 07 57 33.2 +0.4
baz=81
Z29A Hungry Hill Ra 80.87 52 ⇑P P 07 57 32.9 -0.2
baz=81,SNR=6.7
128A Castleberry Fa 80.90 53 ⇓P P 07 57 33.6 +0.3
baz=81
326A Caldwell Ranch 81.00 55 ⇑P P 07 57 34.1 +0.3
baz=81
RAYN Ar Rayn 81.16 294 eP P 07 57 35.4 +0.6
FUORN Ofenpass-Fuorn 81.27 331 eP P 07 57 35.3 +0.1
comp=Z,53nm,2.3s

HAU Haudompre 81.34 334 eP P 07 57 34.9 -0.4
HAU Haudompre 81.34 334 eP P 07 57 34.9 -0.4
HAU Haudompre 81.34 334 eP P 07 57 34.9 -0.4
HINF Hinteralfeld 81.35 334 eP P 07 57 34.9 -0.4
HINF Hinteralfeld 81.35 334 eP P 07 57 34.9 -0.4
HINF Hinteralfeld 81.35 334 eP P 07 57 34.9 -0.4
426A McDonald Obser 81.44 55 ⇑P P 07 57 36.8 +0.5
baz=81
NWAO Narrogin (SRO) 81.59 204 P P 07 57 36.8 +0.4
comp=Z,13nm,0.6s,baz=19,slow=6.1,SNR=11
NWAO Narrogin (SRO) 81.59 204 eP P 07 57 36.8 +0.4
comp=Z,11nm,0.7s
328A Wristen Ranch, 81.62 54 ⇑P P 07 57 37.5 +0.4
baz=81
427A Hayter Ranch, 81.67 55 ⇓P P 07 57 38.2 +0.8
baz=81
TUE Stuetta 81.71 332 eP P 07 57 37.2 -0.2
comp=Z,4.9nm,0.7s
526A Mary Lane Ranc 81.85 56 ⇓P P 07 57 38.6 +0.2
baz=82
329A Wagon Wheel Ra 82.02 53 ⇓P P 07 57 39.3 +0.2
baz=82
527A Woodward Ranch 82.06 55 ⇑P P 07 57 39.6 +0.1
baz=82
TUL1 Tulsa 82.07 46 ⇓P P 07 57 39.9 +0.6
baz=82
428A Kincaid Ranch, 82.18 54 ⇑P P 07 57 41.1 +1.1
baz=82
626A Big Bend Ranch 82.19 56 ⇓P P 07 57 40.7 +0.6
baz=82
ABTX Abilene, Hawle 82.50 51 ⇓P P 07 57 41.7 +0.1
baz=82
528A Cox Ranch, San 82.54 55 ⇑P P 07 57 42.2 +0.3
baz=82
FLN La Foliniere 82.61 339 eP P 07 57 41.0 -0.8
FLN La Foliniere 82.61 339 eP P 07 57 41.0 -0.8
FLN La Foliniere 82.61 339 eP P 07 57 41.0 -0.8
TXAR Lajitas Array 82.63 56 P P 07 57 42.8 +0.4
comp=Z,1.5nm,0.5s,baz=296,slow=3.9,SNR=31
TXAR pP pP 07 58 22.2 -0.4
comp=Z,3.9nm,0.9s,baz=302,slow=4.1,SNR=8.3
TXAR Lajitas Array 82.63 56 P P 07 57 42.8 +0.4
TXAR pP pP 07 58 22.2 -0.4
627A Terlingua Ranc 82.70 56 ⇑P P 07 57 43.4 +0.6
baz=82
429A Davenport Ranc 82.71 54 ⇑P P 07 57 43.4 +0.6
baz=82
LOR Lormes 82.76 335 eP P 07 57 43.0 +0.4
comp=Z,10nm,0.7s
LOR Lormes 82.76 335 eP P 07 57 43.0 +0.4
comp=Z,10nm,0.7s
529A Stev Forest Ra 82.89 54 ⇑P P 07 57 43.4 -0.2
baz=83,SNR=6.2
430A Baggett Ranch, 82.97 53 ⇑P P 07 57 44.7 +0.6
baz=83
628A Black Gap, Mar 82.97 55 ⇑P P 07 57 44.8 +0.7
baz=83
SSF Saint Saulge 83.05 335 eP P 07 57 44.5 +0.4
comp=Z,8.1nm,0.8s
SSF Saint Saulge 83.05 335 eP P 07 57 44.5 +0.4
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 83.05 335 eP P 07 57 44.5 +0.4
comp=Z,8.1nm,0.8s
GRR Gorron 83.06 339 eP P 07 57 44.9 +0.8
comp=Z,33nm,0.8s
GRR Gorron 83.06 339 eP P 07 57 44.9 +0.8
GRR pmax pmax
comp=Z,33nm,0.8s
GRR Gorron 83.06 339 eP P 07 57 44.9 +0.8
comp=Z,33nm,0.8s
SMF Signal de Mont 83.33 335 eP P 07 57 44.9 -0.7
comp=Z,9.4nm,0.6s
SMF Signal de Mont 83.33 335 eP P 07 57 44.9 -0.7
SMF pmax pmax
comp=Z,9.0nm,0.6s
SMF Signal de Mont 83.33 335 eP P 07 57 44.9 -0.7
comp=Z,9.4nm,0.6s
AVF Avril sur Loir 83.34 335 eP P 07 57 45.0 -0.6
comp=Z,20nm,0.8s
AVF Avril sur Loir 83.34 335 eP P 07 57 45.0 -0.6
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 83.34 335 eP P 07 57 45.0 -0.6
comp=Z,20nm,0.8s
530A J-C Ranch, Com 83.39 54 ⇓P P 07 57 47.0 +0.8
baz=83
431A Sonora 83.41 53 ⇑P P 07 57 47.2 +0.8
baz=83
LPL La Plagne 83.42 333 eP P 07 57 46.1 -0.2
comp=Z,15nm,0.8s
LPL La Plagne 83.42 333 eP P 07 57 46.1 -0.2
LPL pmax pmax
comp=Z,15nm,0.8s
LPL La Plagne 83.42 333 eP P 07 57 46.1 -0.2
comp=Z,15nm,0.8s
LPG La Plagne 83.44 333 eP P 07 57 46.2 -0.3
comp=Z,20nm,0.8s
LPG La Plagne 83.44 333 eP P 07 57 46.2 -0.3
LPG pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 83.44 333 eP P 07 57 46.2 -0.3
comp=Z,20nm,0.8s
BGF Bois d'Agland 83.70 336 eP P 07 57 47.0 -0.5
BGF Bois d'Agland 83.70 336 eP P 07 57 47.0 -0.5
BGF Bois d'Agland 83.70 336 eP P 07 57 47.0 -0.5
432A Menard 83.72 52 ⇓P P 07 57 48.2 +0.3
baz=84
531A Rocksprings 83.83 53 ⇓P P 07 57 48.5 +0.1
baz=84
SIUC Southern Illin 83.90 41 eP P 07 57 49.2 +0.6
comp=Z,17nm,1.0s
JCT Junction City 84.02 53 ⇑P P 07 57 49.7 +0.3
baz=84
MBDF Montbardon 84.11 332 eP P 07 57 48.9 -0.9
comp=Z,10nm,0.6s
MBDF Montbardon 84.11 332 eP P 07 57 48.9 -0.9
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 84.11 332 eP P 07 57 48.9 -0.9
comp=Z,10nm,0.6s
TCF Toulx Ste Croi 84.13 336 eP P 07 57 49.9 +0.2
comp=Z,10nm,0.6s
TCF Toulx Ste Croi 84.13 336 eP P 07 57 49.9 +0.2
TCF pmax pmax
comp=Z,10.0nm,0.6s
TCF Toulx Ste Croi 84.13 336 eP P 07 57 49.9 +0.2
comp=Z,10nm,0.6s
532A Rocksprings 84.22 53 ⇑P P 07 57 50.5 +0.1
baz=84
ORIF Oris-en-Rattie 84.23 333 eP P 07 57 49.4 -0.9
comp=Z,12nm,0.6s
ORIF Oris-en-Rattie 84.23 333 eP P 07 57 49.4 -0.9
ORIF pmax pmax
comp=Z,12nm,0.6s
ORIF Oris-en-Rattie 84.23 333 eP P 07 57 49.4 -0.9
comp=Z,12nm,0.6s
631A Perdido Creek 84.38 54 ⇑P P 07 57 51.1 -0.1
baz=84,SNR=11
IDI Anoyia 84.44 316 eP P 07 57 49.9 -1.6
comp=Z,38nm,0.4s
MFF Saint Martin d 84.51 338 eP P 07 57 51.3 -0.2
comp=Z,10nm,0.6s
MFF Saint Martin d 84.51 338 eP P 07 57 51.3 -0.2
MFF pmax pmax
comp=Z,11nm,0.6s
MFF Saint Martin d 84.51 338 eP P 07 57 51.3 -0.2
comp=Z,10nm,0.6s
SBF Sospel 84.65 332 eP P 07 57 51.6 -0.8
comp=Z,25nm,0.7s
SBF Sospel 84.65 332 eP P 07 57 51.6 -0.8
SBF pmax pmax
comp=Z,25nm,0.7s
SBF Sospel 84.65 332 eP P 07 57 51.6 -0.8
comp=Z,25nm,0.7s
VIVF Saint-Julien-l 84.68 334 eP P 07 57 52.2 -0.2
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 84.68 334 eP P 07 57 52.2 -0.2
VIVF pmax pmax
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 84.68 334 eP P 07 57 52.2 -0.2
comp=Z,14nm,0.7s
632A Uvalde 84.76 53 ⇑P P 07 57 53.4 +0.3
baz=84
RJF Les Rejaudoux 85.23 336 eP P 07 57 54.6 -0.6
comp=Z,11nm,0.7s
RJF Les Rejaudoux 85.23 336 eP P 07 57 54.6 -0.6

RJF pmax pmax
comp=Z,11nm,0.6s
RJF Les Rejaudoux 85.23 336 eP P 07 57 54.6 -0.6
comp=Z,11nm,0.6s
732A Laxson Ranch, 85.24 54 ⇓P P 07 57 56.1 +0.6
baz=85
PGF Pioggiola 85.26 330 eP P 07 57 54.4 -1.1
PGF Pioggiola 85.26 330 eP P 07 57 54.4 -1.1
PGF Pioggiola 85.26 330 eP P 07 57 54.4 -1.1
CAF Calviac 85.41 335 eP P 07 57 56.6 +0.5
comp=Z,41nm,0.9s
CAF Calviac 85.41 335 eP P 07 57 56.6 +0.5
CAF pmax pmax
comp=Z,41nm,0.9s
CAF Calviac 85.41 335 eP P 07 57 56.6 +0.5
comp=Z,41nm,0.9s
LMR La Mourre 85.43 332 eP P 07 57 55.4 -0.8
comp=Z,21nm,0.8s
LMR La Mourre 85.43 332 eP P 07 57 55.4 -0.8
LMR pmax pmax
comp=Z,21nm,0.8s
LMR La Mourre 85.43 332 eP P 07 57 55.4 -0.8
comp=Z,21nm,0.8s
LASF Ste Croix 85.63 334 eP P 07 57 57.1 -0.1
comp=Z,13nm,0.9s
LASF Ste Croix 85.63 334 eP P 07 57 57.1 -0.1
comp=Z,13nm,0.9s
LFF La Frestale 85.79 336 eP P 07 57 58.2 +0.3
comp=Z,20nm,0.6s
LFF La Frestale 85.79 336 eP P 07 57 58.2 +0.3
LFF pmax pmax
comp=Z,20nm,0.6s
LFF La Frestale 85.79 336 eP P 07 57 58.2 +0.3
comp=Z,20nm,0.6s
MTLF Montolieu 86.81 335 eP P 07 58 03.1 +0.2
MTLF Montolieu 86.81 335 eP P 07 58 03.1 +0.2
MTLF Montolieu 86.81 335 eP P 07 58 03.1 +0.2
SJPF Ste Jean 88.02 337 eP P 07 58 08.6 -0.1
SJPF Ste Jean 88.02 337 eP P 07 58 08.6 -0.1
SJPF Ste Jean 88.02 337 eP P 07 58 08.6 -0.1
ETSF Etsaut 88.03 336 eP P 07 58 08.9 0.0
comp=Z,16nm,0.7s
ETSF Etsaut 88.03 336 eP P 07 58 08.9 0.0
ETSF pmax pmax
comp=Z,16nm,0.7s
ETSF Etsaut 88.03 336 eP P 07 58 08.9 0.0
comp=Z,16nm,0.7s
KEST Kesra 91.08 326 P P 07 58 22.5 -0.7
comp=Z,1.1nm,0.5s,baz=265,slow=13,SNR=4.6
KEST Kesra 91.08 326 P P 07 58 22.5 -0.7
ESDC Sonseca Array 91.97 338 P P 07 58 26.9 -0.4
comp=Z,0.6nm,0.3s,baz=14,slow=3.9,SNR=6.9
ESDC Sonseca Array 91.97 338 P P 07 58 26.9 -0.4
TORD Torodi Ar. Bea 114.20 322 PKP PKPdf 08 03 56.4 -1.1
comp=Z,1.0nm,0.4s,baz=15,slow=2.3,SNR=27
TORD PKKPbc PKKPbc 08 14 38.1 +1.7
comp=Z,0.2nm,0.5s,baz=204,slow=2.6,SNR=4.5
TORD Torodi Ar. Bea 114.20 322 PKP PKPdf 08 03 56.4 -1.1
TORD PKKPbc PKKPbc 08 14 38.1 +1.7
VNDA Vanda 122.21 176 PKP PKPdf 08 04 11.0 0.0
comp=Z,1.2nm,0.8s,baz=332,slow=5.2,SNR=6.5
VNDA Vanda 122.21 176 PKP PKPdf 08 04 11.0 0.0
DBIC Dimbokro 122.79 325 PKP PKPdf 08 04 13.2 -0.9
comp=Z,2.8nm,0.5s,baz=28,slow=2.2,SNR=11
DBIC Dimbokro 122.79 325 PKP PKPdf 08 04 13.2 -0.9
LBTB Lobatse 128.77 272 ePKPdf PKPdf 08 04 26.1 +0.9
BOSA Boshof 131.17 268 SKPbc SKPbc 08 07 39.1 -0.1
comp=Z,3.0nm,0.9s,baz=4.6,slow=5.1,SNR=4.1
BOSA Boshof 131.17 268 SKPbc SKPbc 08 07 39.1 -0.1
QSPA South Pole Qui 134.32 180 PKP PKPdf 08 04 34.4 0.0
comp=Z,3.4nm,0.6s,baz=0.4,slow=0.6,SNR=15
QSPA South Pole Qui 134.32 180 PKP PKPdf 08 04 34.4 0.0
LPAZ La Paz 139.49 57 PKP PKPdf 08 04 46.6 +0.4
comp=Z,0.8nm,0.5s,baz=359,slow=5.3,SNR=4.2
LPAZ La Paz 139.49 57 ePKPdf PKPdf 08 04 46.4 +0.3
LPAZ PKP PKPdf 08 04 46.6 +0.4
NVL N'lazarevskaya 145.72 205 ePKP2 PKPab 08 04 55.9 -0.2
NVL pmax pmax
comp=Z,29nm,1.1s
LCO Las Campanas 146.79 75 ePKPbc PKPbc 08 05 00.6 +0.3
BDFB Brasilia 148.67 27 PKPbc PKPbc 08 05 05.4 0.0
comp=Z,4.3nm,0.5s,baz=182,slow=1.8,SNR=9.3
BDFB Brasilia 148.67 27 PKPbc PKPbc 08 05 05.4 0.0
VNA2 Neumayer--Watz 150.63 197 ePKiKP PKiKP 08 05 09.2 +0.2
baz=109,slow=1.2
VNA2 Neumayer--Watz 150.63 197 ePKPab PKPab 08 05 16.2 +0.2
baz=109,slow=1.2
VNA2 Neumayer--Watz 150.63 197 epPKiKP pPKiKP 08 05 52.4 +0.7
baz=109,slow=1.2
VNA3 Neumayer Olymp 150.84 196 ePKiKP PKiKP 08 05 09.3 -0.2
VNA3 Neumayer Olymp 150.84 196 ePKPab PKPab 08 05 16.1 -0.7
VNA1 Neumayer--Stat 151.03 197 ePKiKP PKiKP 08 05 10.0 +0.2
PLCA Paso Flores 152.71 95 PKPbc PKPbc 08 05 14.3 +0.2
comp=Z,4.7nm,0.6s,baz=266,slow=2.7,SNR=21
PLCA Paso Flores 152.71 95 ePKPbc PKPbc 08 05 14.3 +0.2
CPUP Villa Florida 153.59 54 PKPbc PKPbc 08 05 14.7 -1.7
comp=Z,0.6nm,0.4s,baz=250,slow=15,SNR=4.3
CPUP Villa Florida 153.59 54 PKPbc PKPbc 08 05 14.7 -1.7

IDC 10 07:48:14.9±1.6, 36.69S×179.05W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.3/4, Error ellipse: s-maj=61.4km s-min=39.2km az=11.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	34.49	289	P	P	07 55 04.4	-0.4
	7.1nm,1.1s,baz=100,slow=11,SNR=4.7						
ASAR	Alice Springs	42.30	274	P	P	07 56 10.9	+0.4
	1.1nm,0.8s,baz=116,slow=7.6,SNR=10						
WRA	Warramunga Arr	43.85	279	P	P	07 56 22.8	-0.3
	3.6nm,0.6s,baz=120,slow=7.7,SNR=20						
PETK	Petropavlovsk-	91.68	346	P	P	08 01 23.4	-0.2
	2.2nm,0.7s,baz=162,slow=7.5,SNR=4.1						
FINES	FINESS Array B	150.62	335	PKPbc	PKPbc	08 08 08.7	+0.8
	1.1nm,0.5s,baz=52,slow=2.3,SNR=2.9						
BRTR	Keskin Array B	154.22	287	PKPbc	PKPbc	08 08 15.3	-1.6
	0.3nm,0.3s,baz=0.0,slow=1.4,SNR=2.3						
TORD	Torodi Ar. Bea	156.55	182	PKPab	PKPab	08 08 40.7	-0.3
	0.2nm,0.4s,baz=159,slow=3.9,SNR=3.2						

AUST 10 07:53:25.6, 9.97S×115.92E, h200km, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	Waingapu	4.32	86	S	Sn	07 55 25.3	+2.1
	baz=4.3,SNR=4.2						
WSI	Waingapu	4.32	86	P	Pn	07 54 36.5	+5.1
	baz=4.3,SNR=3.8						
UGM	Wanagama	5.71	291	P	Pn	07 54 47.2	-2.0
	baz=5.7,SNR=3.4						
PCI	Palu	9.81	24	P	Pn	07 55 41.1	-1.4
	baz=9.9,SNR=4.5						
PCI	Palu	9.81	24	S	Sn	07 57 39.1	+6.8
	baz=9.9,SNR=6.8						
MTN	Manton Dam	15.18	102	P	Pn	07 56 49.9	-0.3
	baz=15,SNR=3.1						
KDU	Kakadu	16.45	101	P	P	07 57 00.2	-4.4
	baz=16,SNR=3.1						
PPI	Padang Panjang	18.11	301	P	Pn	07 57 25.6	+0.6
	baz=18,SNR=4.5						
GSI	Gunungsitoli	21.43	301	P	P	07 57 49.6	-8.6
	baz=22,SNR=3.4						

*CSEM **10** 07:55:25.2, 45.83N×15.61E, h0km, ML0.8, Suspected Mining explosion. After LJU*

LJU 10 07:55:25.2, 45.83N×15.61E, h0km, ML0.8, 2C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCIS	Gornji Cirnik	0.04	16	⇑iPg	Pg	07 55 25.8	-0.2
GCIS	comp=Z,142nm,0.2s						
GCIS	Gornji Cirnik	0.04	16	⇑iPg	Pg	07 55 25.8	-0.2
	comp=Z,142nm,0.2s						
CRES	Cresnjev	0.11	268	iPg	Pg	07 55 27.0	-0.4
CRES				eSg	Sg	07 55 29.0	+0.2
CRES	comp=Z,42nm,0.1s						
CRES	Cresnjev	0.11	268	iPg	Pg	07 55 27.0	-0.3
CRES				eSg	Sg	07 55 29.0	+0.2
	comp=Z,42nm,0.1s						

GOLS	**Golise**	**0.18**	**3**	*i* Pg	Pg	07 55 28.8	+0.1
GOLS									
	comp=Z,13nm,0.2s								
GOLS	**Golise**	**0.18**	**3**	*i* Pg	Pg	07 55 28.8	0.0
	comp=Z,13nm,0.2s								
LEGS	**Legarje**	**0.24**	**300**	*i* Pg	Pg	07 55 30.1	+0.3
LEGS	**Legarje**	**0.24**	**300**	*i* Pg	Pg	07 55 30.1	+0.3
VISS	**Visnje**	**0.54**	**267**	*i* Pg	Pg	07 55 36.4	+0.8
VISS				*i* Sg	Sg	07 55 43.1	+0.4
VISS	**Visnje**	**0.54**	**267**	*i* Pg	Pg	07 55 36.4	+0.8
VISS				*i* Sg	Sg	07 55 43.1	+0.4

TIR ***10*** *07:58:36.4, 41°.12N × 19°.43E, h20km, ML2.7*
CSEM ***10*** *07:58:36.7 ± 0.5, 41°.02N ± 20°.21E, h2km, ML3.0/1, Error ellipse: s-maj=9.3km s-min=4.0km az=37.0*
THE ***10*** *07:58:37.3, 41°.09N ± 20°.25E, h0km ± 3km, ML3.0/1, Error ellipse: s-maj=3.1km s-min=0.8km az=268.0*
SKO ***10*** *07:58:37.6, 41°.00N ± 20°.19E, h0km, M2.0, ML2.3*
BEO ***10*** *07:58:39.1 ± 0.7, 41°.11N ± 20°.29E, h0km, ML2.4/3*

ISC 10 07:58:37.3 ± 1.1, 41°.05N ± 0°.04 × 20°.21E ± 0°.03, h6km ± 10km, n31, σ 1§05/59, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.40**	**319**	*e*Pg	**Pg**	**07 58 44.4**	**-0.6**
TIR				*i* Sg	**Sg**	**07 58 51.3**	**+1.1**
TIR	**Tirane**	**0.40**	**319**	P	**Pg**	**07 58 44.5**	**-0.6**
TIR				S	**Sg**	**07 58 51.0**	**+0.8**
TIR	**Tirane**	**0.40**	**319**	*e*Pg	**Pg**	**07 58 45.4**	**+0.4**
TIR				*e*Sg	**Sb**	**07 58 52.2**	**-0.8**
TIR	**Tirane**	**0.40**	**319**	P	**Pg**	**07 58 44.5**	**-0.6**
TIR				S	**Sg**	**07 58 51.0**	**+0.8**
TIR				*i* Sg	**Sg**	**07 58 51.3**	**+1.1**
PHP	**Peshkopia**	**0.66**	**15**	*e*PG	**Pg**	**07 58 49.1**	**-0.9**
PHP				*i* SG	**Sb**	**07 59 00.1**	**-0.5**
PHP	**Peshkopia**	**0.66**	**15**	P	**Pg**	**07 58 49.0**	**-0.9**
PHP				S	**Sg**	**07 58 58.6**	**+0.1**
PHP	**Peshkopia**	**0.66**	**15**	P	**Pg**	**07 58 49.0**	**-0.9**
PHP				S	**Sg**	**07 58 58.6**	**+0.1**
PHP				*i* Sg	**Sb**	**07 59 00.1**	**-0.5**
BIA	**Bitola**	**0.84**	**92**	P	**Pg**	**07 58 52.2**	**-1.3**
BIA				S	**Sg**	**07 59 04.8**	**+0.4**
BIA	**Bitola**	**0.84**	**92**	*e*Pg	**Pg**	**07 58 52.4**	**-1.1**
BIA				*e*Sg	**Sg**	**07 59 04.7**	**+0.4**
BIA	**Bitola**	**0.84**	**92**	P	**Pg**	**07 58 52.2**	**-1.3**
BIA				S	**Sg**	**07 59 04.8**	**+0.4**
FNA	**Florina**	**0.92**	**106**	P	**Pg**	**07 58 54.1**	**-0.9**
FNA				S	**Sg**	**07 59 07.2**	**+0.2**
FNA	**Florina**	**0.92**	**106**	P	**Pg**	**07 58 54.1**	**-0.9**
FNA				S	**Sg**	**07 59 07.2**	**+0.2**
PUK	**Puka**	**1.02**	**346**	*e*PG	**Pg**	**07 58 56.2**	**-0.7**
PUK				*i* SG	**Sn**	**07 59 12.9**	**0.0**
PUK	**Puka**	**1.02**	**346**	*e*Pg	**Pg**	**07 58 56.2**	**-0.7**
PUK				*i* Sg	**Sn**	**07 59 12.9**	**0.0**
SKO	**Skopje**	**1.30**	**45**	*e*Pg	**Pn**	**07 59 01.7**	**-0.3**
SKO				*e*Sg	**Sg**	**07 59 19.9**	**+0.7**
SKO				*e*Lg	Lg	07 59 21.8	
	comp=E,71nm,0.9s						
SKO				*e*Lg	Lg	07 59 22.8	
	comp=N,97nm,0.6s						
SKO	**Skopje**	**1.30**	**45**	*e*Pn	**Pg**	**07 59 03.3**	**+1.0**
SKO				*e*Sn	**Sg**	**07 59 19.9**	**+0.7**
SKO	**Skopje**	**1.30**	**45**	*e*Pg	**Pn**	**07 59 01.2**	**-0.8**
SKO	**Skopje**	**1.30**	**45**	*e*Pn	**Pg**	**07 59 03.3**	**+1.0**
SKO				*e*Sn	**Sg**	**07 59 19.9**	**+0.7**
SKO				*e*Sg	**Sn**	**07 59 20.4**	**+0.7**
SKO				*e*Lg	Lg	07 59 23.3	
	comp=N,97nm,0.6s						
BCI	**Bajram Curri**	**1.32**	**355**	*e*PN	**Pb**	**07 59 02.3**	**-0.2**
BCI				*i* SN	**Sg**	**07 59 22.5**	**+2.8**
BCI	**Bajram Curri**	**1.32**	**355**	*e*Pn	**Pb**	**07 59 02.3**	**-0.2**
BCI				*i* Sn	**Sg**	**07 59 22.5**	**+2.8**
KZN	**Kozani**	**1.40**	**122**	P	**Pb**	**07 59 03.8**	**-0.1**
KZN				S	**Sg**	**07 59 24.4**	**+2.1**
KZN	**Kozani**	**1.40**	**122**	P	**Pb**	**07 59 03.8**	**-0.1**
KZN				S	**Sg**	**07 59 24.4**	**+2.1**
PDG	**Podgorica**	**1.55**	**333**	*e*Pg	**Pb**	**07 59 06.0**	**-0.4**
PDG				*e*Sg	**Sg**	**07 59 28.0**	**+0.8**
PDG	**Podgorica**	**1.55**	**333**	*e*Pg	**Pb**	**07 59 06.0**	**-0.4**
PDG				*e*Sg	**Sg**	**07 59 28.0**	**+0.8**
VAY	**Valandovo**	**1.80**	**81**	*e*Pg	**Pb**	**07 59 10.2**	**-0.4**
VAY				*e*Sg	**Sg**	**07 59 36.3**	**+1.1**
VAY				*e*Lg	Lg	07 59 40.8	
	comp=N,30nm,0.9s						
VAY				*e*Lg	Lg	07 59 42.0	
	comp=E,62nm,1.4s						
VAY	**Valandovo**	**1.80**	**81**	*e*Pn	**Pb**	**07 59 10.6**	**0.0**
VAY	**Valandovo**	**1.80**	**81**	*e*Pg	**Pb**	**07 59 10.7**	**+0.1**
VAY				*e*Sg	**Sg**	**07 59 36.7**	**+1.6**
VAY				*e*Lg	Lg	07 59 42.5	
	comp=E,62nm,1.4s						
BARS	**Barje**	**2.13**	**34**	*e*Pn	**Pn**	**07 59 14.6**	**+1.2**
BARS	**Barje**	**2.13**	**34**	*e*Pn	**Pn**	**07 59 14.6**	**+1.2**
IVAS	**Ivanjica**	**2.52**	**359**	*e*Pn	**Pb**	**07 59 21.1**	**-1.9**
IVAS	**Ivanjica**	**2.52**	**359**	*e*Pn	**Pb**	**07 59 21.1**	**-1.9**

CSEM ***10*** *08:05:59.7, 45°.74N × 15°.30E, h0km, ML1.0, Mining explosion. After LJU*

LJU 10 08:05:59.7, 45°.74N × 15°.30E, h6km, ML1.0, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.14**	**54**	⇑*i* Pg	Pg	08 06 02.7	+0.1
CRES				*i* Sg	Sg	08 06 04.9	+0.3
	comp=Z,19nm,0.1s						
CRES	**Cresnjev**	**0.14**	**54**	⇑*i* Pg	Pg	08 06 02.7	+0.1
CRES				*i* Sg	Sg	08 06 04.9	+0.3
	comp=Z,19nm,0.1s						
LEGS	**Legarje**	**0.20**	**4**	*i* Pg	Pg	08 06 03.9	+0.1
LEGS				*e*Sg	Sg	08 06 07.0	+0.4
LEGS	**Legarje**	**0.20**	**4**	*i* Pg	Pg	08 06 03.9	+0.1
LEGS				*e*Sg	Sg	08 06 07.0	+0.4
BOJS	**Bojanci**	**0.24**	**188**	*i* Pg	Pg	08 06 04.5	0.0
BOJS				*i* Sg	Sg	08 06 08.2	+0.5
BOJS							
	comp=Z,7.0nm,0.1s						
BOJS	**Bojanci**	**0.24**	**188**	*i* Pg	Pg	08 06 04.4	-0.1
BOJS				*i* Sg	Sg	08 06 08.2	+0.5
	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.26**	**62**	*i* Pg	Pg	08 06 05.0	+0.1
GCIS							
	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.26**	**62**	*i* Pg	Pg	08 06 04.9	0.0
	comp=Z,7.0nm,0.1s						
VISS	**Visnje**	**0.33**	**281**	*i* Pg	Pg	08 06 06.4	+0.2
VISS				*i* Sg	Sg	08 06 11.0	+0.6
VISS							
	comp=Z,4.0nm,0.1s						
VISS	**Visnje**	**0.33**	**281**	*i* Pg	Pg	08 06 06.4	+0.3
VISS				*i* Sg	Sg	08 06 11.0	+0.5
	comp=Z,4.0nm,0.1s						
PDKS	**Podkum**	**0.38**	**327**	⇓*i* Pg	Pg	08 06 07.5	+0.3
PDKS				*i* Sg	Sg	08 06 12.4	+0.2
PDKS							
	comp=Z,6.0nm,0.1s						
PDKS	**Podkum**	**0.38**	**327**	⇓*i* Pg	Pg	08 06 07.5	+0.3
PDKS				*i* Sg	Sg	08 06 12.4	+0.1
	comp=Z,6.0nm,0.1s						

IDC 10 08:22:53.3 ± 1.0, 21°.70S × 178°.94W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/18, mbtmp4.2/3, Error ellipse: s-maj=1098.0km s-min=164.4km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.49**	**245**	P	P	08 29 59.1	-1.2
	2.4nm,0.8s,baz=73,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**43.40**	**258**	P	P	08 30 57.8	-0.2
	1.6nm,0.6s,baz=96,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**43.58**	**263**	P	P	08 31 00.1	+0.6
	1.8nm,0.4s,baz=96,slow=8.4,SNR=37						

ATH ***10*** *08:32:55.8, 41°.36N × 20°.49E, h12km ± 6km, MD3.5/9*
BEO ***10*** *08:32:56.0 ± 0.5, 41°.03N × 20°.50E, h6km ± 2km, ML3.9/1*

TIR ***10*** *08:32:56.7, 41°.23N × 20°.46E, h2km, ML3.9*
PDG ***10*** *08:32:56.4 ± 0.4, 41°.17N × 20°.50E, h4km, MD3.9/5, ML3.8/9, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
IDC ***10*** *08:32:56.1 ± 0.8, 41°.24N × 20°.42E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.9/30, mbtmp3.8/17, ML3.4/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/54, Error ellipse: s-maj=16.1km s-min=13.4km az=158.0*
SKO ***10*** *08:32:57.0, 41°.26N × 20°.49E, h15km, M3.8, ML4.2*
CSEM ***10*** *08:32:57.5 ± 0.1, 41°.24N × 20°.49E, h2km, Ms4.0, Error ellipse: s-maj=2.0km s-min=1.6km az=32.0*
ISCJB ***10*** *08:32:57.3 ± 0.3, 41°.28N ± 0°.01 × 20°.46E ± 0°.02, h10km ± 2km, mb3.8/10, MS3.3/2, Error ellipse: s-maj=2.2km s-min=1.7km az=42.5*
THE ***10*** *08:32:57.7, 41°.30N × 20°.54E, h0km ± 1km, ML4.0/5, Error ellipse: s-maj=1.4km s-min=0.6km az=331.0*
VIE ***10*** *08:32:58.3 ± 0.3, 41°.23N × 20°.42E, h10km, mb3.5/10, Ms4.0/10, Error ellipse: s-maj=3.1km s-min=2.4km az=20.0*
50 km ESE of Tirana
SOF ***10*** *08:32:58.3, 41°.30N × 20°.77E, h2km, MD3.4*
ROM ***10*** *08:32:58.5 ± 0.4, 41°.27N × 20°.39E, h10km, MI3.9/15, Error ellipse: s-maj=7.5km s-min=3.1km az=76.0*
PRU ***10*** *08:32:59.1, 41°.31N × 20°.51E, h0km*

ISC 10 08:32:57.7 ± 0.9, 41°.25N ± 0°.01 × 20°.49E ± 0°.01, h10km ± 6km, n325, σ 1§17/447, mb3.8/10, 40C-26D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.44**	**355**	*i* PG	**Pg**	**08 33 06.5**	**+0.2**
PHP				*i* SG	**Sb**	**08 33 13.6**	**-0.6**
PHP	**Peshkopia**	**0.44**	**355**	P	**Pg**	**08 33 05.2**	**-1.1**
PHP				S	**Sg**	**08 33 11.9**	**-0.2**
PHP	**Peshkopia**	**0.44**	**355**	P	**Pg**	**08 33 05.2**	**-1.1**
PHP	**Peshkopia**	**0.44**	**355**	*i* Pg	**Pg**	**08 33 06.5**	**+0.2**
PHP				S	**Sg**	**08 33 11.9**	**-0.2**
PHP				*i* Sg	**Sb**	**08 33 13.6**	**-0.6**
TIR	**Tirane**	**0.48**	**282**	*i* PG	**Pg**	**08 33 06.5**	**-0.6**
TIR				*i* SG	**Sg**	**08 33 14.3**	**+0.9**
TIR	**Tirane**	**0.48**	**282**	Pn	**Pg**	**08 33 06.5**	**-0.6**
TIR	**Tirane**	**0.48**	**282**	P	**Pg**	**08 33 06.5**	**-0.6**
TIR				S	**Sb**	**08 33 14.6**	**-0.8**
TIR	**Tirane**	**0.48**	**282**	*e*Pg	**Pg**	**08 33 06.4**	**-0.6**
TIR				*e*Sg	**Sb**	**08 33 14.9**	**-0.5**
TIR	**Tirane**	**0.48**	**282**	P	**Pg**	**08 33 06.5**	**-0.6**
TIR				*i* Sg	**Sg**	**08 33 14.3**	**+0.9**
TIR				S	**Sb**	**08 33 14.6**	**-0.8**
TIR				*e*Sb	Sb	08 33 15.2	-0.2
BIA	**Bitola**	**0.67**	**110**	P	**Pg**	**08 33 09.4**	**-1.3**
BIA				S	**Sg**	**08 33 20.1**	**+0.6**
BIA	**Bitola**	**0.67**	**110**	P	**Pg**	**08 33 09.4**	**-1.3**
BIA				S	**Sg**	**08 33 20.1**	**+0.6**
FNA	**Florina**	**0.82**	**124**	P	**Pg**	**08 33 12.9**	**-0.6**
FNA				S	**Sb**	**08 33 25.4**	**+0.3**
FNA	**Florina**	**0.82**	**124**	P	**Pg**	**08 33 12.9**	**-0.6**
FNA				S	**Sb**	**08 33 25.4**	**+0.3**
PUK	**Puka**	**0.91**	**331**	*i* PG	**Pg**	**08 33 14.3**	**-1.0**
PUK				*i* SG	**Sn**	**08 33 29.5**	**-0.4**
PUK	**Puka**	**0.91**	**331**	*i* Pg	**Pg**	**08 33 14.3**	**-1.0**
PUK				*i* Sg	**Sn**	**08 33 29.5**	**-0.4**
NEST	**Nestorio**	**0.94**	**153**	P	**Pg**	**08 33 15.4**	**-0.3**
NEST				S	**Sn**	**08 33 29.9**	**-0.6**
NEST	**Nestorio**	**0.94**	**153**	S	**Pg**	**08 33 15.4**	**-0.3**
SKO	**Skopje**	**1.01**	**44**	P	**Pg**	**08 33 16.9**	**-0.3**
SKO				S	**Sb**	**08 33 31.7**	**+0.9**
SKO	**Skopje**	**1.01**	**44**	*e*Pg	**Pb**	**08 33 17.6**	**+0.2**
SKO				*i* Sg	**Sb**	**08 33 30.9**	**0.0**
SKO				*e*Lg	Lg	08 33 31.5	
	comp=E,6μm,0.6s						
SKO				*e*Lg	Lg	08 33 33.8	
	comp=N,10μm,0.6s						
SKO	**Skopje**	**1.01**	**44**	*e*Pg	**Pn**	**08 33 17.9**	**-0.1**
SKO				*e*Sg	**Sn**	**08 33 33.2**	**+0.8**
SKO	**Skopje**	**1.01**	**44**	P	**Pg**	**08 33 16.9**	**-0.3**
SKO	**Skopje**	**1.01**	**44**	*e*Pg	**Pn**	**08 33 17.9**	**-0.1**
SKO				*i* Sg	**Sb**	**08 33 31.3**	**+0.5**
SKO				S	**Sb**	**08 33 31.7**	**+0.9**
SKO				*e*Lg	Lg	08 33 34.2	
	comp=N,10μm,0.6s						
LSK	**Leskovik**	**1.10**	**176**	*i* PG	**Pn**	**08 33 19.5**	**+0.2**
LSK				*i* SG	**Sn**	**08 33 35.6**	**+1.0**
LSK	**Leskovik**	**1.10**	**176**	*i* Pg	**Pn**	**08 33 19.5**	**+0.2**
LSK				*i* Sg	**Sn**	**08 33 35.6**	**+1.0**
BCI	**Bajram Curri**	**1.16**	**344**	*i* PG	**Pn**	**08 33 21.7**	**+1.7**
BCI				*i* SG	**Sn**	**08 33 38.6**	**+2.6**
BCI	**Bajram Curri**	**1.16**	**344**	*i* Pg	**Pn**	**08 33 21.7**	**+1.7**
BCI				*i* Sg	**Sn**	**08 33 38.6**	**+2.6**
ULC	**Ulcinj**	**1.17**	**308**	⇓*i* Pg	**Pb**	**08 33 19.0**	**-1.1**
ULC				*e*Sg	**Sn**	**08 33 38.2**	**+1.9**
ULC	**Ulcinj**	**1.17**	**308**	⇓*i* Pg	**Pb**	**08 33 19.0**	**-1.1**
ULC				*e*Sg	**Sn**	**08 33 38.2**	**+1.9**
KZN	**Kozani**	**1.35**	**134**	P	**Pn**	**08 33 22.5**	**-0.2**
KZN				S	**Sg**	**08 33 42.8**	**+1.5**
KZN	**Kozani**	**1.35**	**134**	*e*PB	**Pn**	**08 33 22.7**	**0.0**
KZN				*e*SB	**Sg**	**08 33 42.9**	**+1.6**
KZN	**Kozani**	**1.35**	**134**	P	**Pn**	**08 33 22.5**	**-0.2**
KZN				*e*Sn	**Sg**	**08 33 42.9**	**+1.6**
PVY	**Plav**	**1.40**	**344**	⇓*i* Pg	**Pn**	**08 33 23.4**	**0.0**
PVY				*e*Sg	**Sg**	**08 33 45.9**	**+3.1**
PVY	**Plav**	**1.40**	**344**	⇓*i* Pg	**Pn**	**08 33 23.4**	**0.0**
PVY				*e*Sg	**Sg**	**08 33 45.9**	**+3.1**
GRG	**Griva**	**1.48**	**101**	P	**Pn**	**08 33 24.4**	**0.0**
GRG				S	**Sg**	**08 33 45.1**	**-0.1**
GRG	**Griva**	**1.48**	**101**	P	**Pn**	**08 33 24.4**	**0.0**
GRG				S	**Sg**	**08 33 45.1**	**-0.1**
TTG	**Podgorica**	**1.49**	**323**	⇑*i* Pg	**Pn**	**08 33 25.0**	**+0.4**
TTG				*e*Sg	**Sg**	**08 33 49.1**	**+3.3**
PDG	**Podgorica**	**1.50**	**322**	Pn	**Pn**	**08 33 24.5**	**-0.1**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pb**	**08 33 25.5**	**-0.1**
PDG				*e*Sn	**Sg**	**08 33 47.9**	**+2.0**
PDG	**Podgorica**	**1.50**	**322**	⇑*i* Pg	**Pn**	**08 33 25.0**	**+0.4**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pb**	**08 33 25.5**	**-0.1**
PDG				*e*Sn	**Sg**	**08 33 47.9**	**+2.0**
PDG				*e*Sg	**Sg**	**08 33 49.1**	**+3.2**
MEV	**Metsovon**	**1.57**	**159**	P	**Pb**	**08 33 26.9**	**0.0**
MEV				S	**Sg**	**08 33 49.6**	**+1.5**
MEV	**Metsovon**	**1.57**	**159**	P	**Pb**	**08 33 26.9**	**0.0**
VAY	**Valandovo**	**1.57**	**87**	P	**Pn**	**08 33 25.0**	**-0.6**
VAY	**Valandovo**	**1.57**	**87**	*i* P	**Pn**	**08 33 25.1**	**-0.6**
VAY				*i* Sg	**Sn**	**08 33 46.2**	**+0.2**
VAY	**Valandovo**	**1.57**	**87**	*e*Pg	**Pn**	**08 33 25.2**	**-0.4**
VAY				*e*Sg	**Sb**	**08 33 47.3**	**+0.6**
VAY				*e*Lg	Lg	08 33 48.2	
	comp=N,1μm,0.6s						
VAY				*e*Lg	Lg	08 33 48.4	
	comp=E,1μm,0.5s						
VAY	**Valandovo**	**1.57**	**87**	*e*Pg	**Pn**	**08 33 25.2**	**-0.4**
VAY				*e*Sg	**Sn**	**08 33 46.0**	**0.0**
VAY	**Valandovo**	**1.57**	**87**	*i* P	**Pn**	**08 33 25.1**	**-0.6**
VAY	**Valandovo**	**1.57**	**87**	*e*Pg	**Pn**	**08 33 25.6**	**0.0**
VAY				*e*Sg	**Sg**	**08 33 47.8**	**-0.4**
VAY				*e*Lg	Lg	08 33 48.8	
	comp=E,1μm,0.5s						
BUM	**Brajici-Budva**	**1.59**	**312**	⇑*i* Pn	**Pn**	**08 33 26.4**	**+0.4**
BUM				*e*Sn	**Sg**	**08 33 51.7**	**+2.9**
BUM	**Brajici-Budva**	**1.59**	**312**	⇑*i* Pn	**Pn**	**08 33 26.4**	**+0.4**
BUM				*e*Sn	**Sg**	**08 33 51.7**	**+2.9**
JAN	**Janina**	**1.61**	**170**	P	**Pg**	**08 33 28.3**	**-0.4**
JAN				S	**Sg**	**08 33 50.9**	**+1.3**
JAN	**Janina**	**1.61**	**170**	*e*PG	**Pg**	**08 33 28.5**	**-0.2**
JAN	**Janina**	**1.61**	**170**	P	**Pg**	**08 33 28.3**	**-0.4**
KEK	**Kerkira**	**1.62**	**199**	Pn	**Pb**	**08 33 27.6**	**-0.2**
	comp=E,1μm,0.8s						
KEK	**Kerkira**	**1.62**	**199**	P	**Pb**	**08 33 27.5**	**-0.2**
KEK				S	**Sg**	**08 33 50.6**	**+0.7**
KEK	**Kerkira**	**1.62**	**199**	*e*PN	**Pb**	**08 33 27.5**	**-0.2**
KEK	**Kerkira**	**1.62**	**199**	P	**Pb**	**08 33 27.5**	**-0.2**
IVA	**Berane**	**1.68**	**345**	⇓*i* Pn	**Pb**	**08 33 28.8**	**0.0**
IVA				*e*Sn	**Sg**	**08 33 54.6**	**+2.9**
BEY	**Berane**	**1.68**	**345**	⇓*i* Pn	**Pb**	**08 33 28.8**	**0.0**
BEY				*e*Sn	**Sg**	**08 33 54.6**	**+2.8**
IGT	**Igoumenitsa**	**1.72**	**184**	P	**Pb**	**08 33 29.2**	**-0.2**
IGT				S	**Sg**	**08 33 53.8**	**+0.8**
IGT	**Igoumenitsa**	**1.72**	**184**	P	**Pb**	**08 33 29.2**	**-0.2**
KNT	**Kendrikon**	**1.82**	**92**	P	**Pn**	**08 33 29.2**	**+0.1**
KNT	**Kendrikon**	**1.82**	**92**	P	**Pn**	**08 33 29.2**	**+0.1**
BARS	**Barje**	**1.85**	**32**	*e*Pn	**Pn**	**08 33 30.3**	**+0.8**
BARS				*e*Sn	**Sg**	**08 33 56.5**	**-0.8**
BARS	**Barje**	**1.85**	**32**	*e*Pn	**Pn**	**08 33 30.3**	**+0.8**
BARS				*e*Sn	**Sg**	**08 33 56.5**	**-0.8**

LIT	**Litokhoron**	**1.91**	**126**	P	**Pn**	**08 33 30.8**	**+0.5**
LIT				S	**Sb**	**08 33 57.1**	**+0.7**
LIT	**Litokhoron**	**1.91**	**126**	*e*PN	**Pn**	**08 33 30.9**	**+0.6**
LIT	**Litokhoron**	**1.91**	**126**	P	**Pn**	**08 33 30.8**	**+0.5**
LIT				S	**Sb**	**08 33 57.1**	**+0.7**
HCY	**Herceg Novi**	**1.91**	**309**	⇑*i* Pn	**Pb**	**08 33 32.0**	**-0.7**
HCY				*e*Sn	**Sg**	**08 33 59.4**	**+0.3**
HCY	**Herceg Novi**	**1.91**	**309**	⇑*i* Pn	**Pb**	**08 33 32.0**	**-0.7**
HCY				*e*Sn	**Sg**	**08 33 59.4**	**+0.3**
NKY	**Niksic**	**1.92**	**325**	⇑*i* Pn	**Pb**	**08 33 32.1**	**-0.8**
NKY				*e*Sn	**Sg**	**08 34 00.6**	**+1.2**
NKY	**Niksic**	**1.92**	**325**	⇑*i* Pn	**Pb**	**08 33 32.1**	**-0.8**
NKY				*e*Sn	**Sg**	**08 34 00.6**	**+1.2**
PAR	**Parga**	**1.93**	**183**	P	**Pb**	**08 33 32.4**	**-0.6**
RGA				S	**Sb**	**08 33 58.5**	**+1.4**
RGA	**Parga**	**1.93**	**183**	P	**Pb**	**08 33 32.4**	**-0.6**
SCTE	**Santa Cesarea**	**1.94**	**233**	Pn	**Pn**	**08 33 30.8**	**+0.2**
	comp=E,2μm,0.9s						
SCTE	**Santa Cesarea**	**1.94**	**233**	Pn	**Pn**	**08 33 30.8**	**+0.2**
	comp=E,2μm,0.9s						
THE	**Thessaloniki**	**1.98**	**107**	P	**Pn**	**08 33 30.8**	**-0.4**
THE				S	**Sn**	**08 33 56.8**	**+0.8**
THE	**Thessaloniki**	**1.98**	**107**	P	**Pn**	**08 33 30.8**	**-0.4**
THE				S	**Sn**	**08 33 56.8**	**+0.8**
SELS	**Selova**	**2.02**	**13**	*e*Pn	**Pb**	**08 33 33.5**	**-1.1**
SELS				*e*Sn	**Sg**	**08 34 02.2**	**-0.6**
KKB	**Krupnik**	**2.04**	**72**	*i* P	**Pn**	**08 33 33.0**	**+0.8**
KKB				*i* S	**Sb**	**08 33 59.4**	**-1.0**
KKB	**Krupnik**	**2.04**	**72**	*i* P	**Pn**	**08 33 33.0**	**+0.8**
KKB				*i* S	**Sb**	**08 33 59.4**	**-1.0**
SJES	**Sjenica**	**2.05**	**349**	*e*Pn	**Pb**	**08 33 34.0**	**-1.0**
SJES				*e*Sn	**Sg**	**08 34 02.4**	**-1.1**
THL	**Klokotos Trika**	**2.05**	**145**	P	**Pn**	**08 33 32.6**	**+0.4**
THL				S	**Sb**	**08 34 00.1**	**-0.3**
THL	**Klokotos Trika**	**2.05**	**145**	*e*PB	**Pn**	**08 33 32.5**	**+0.4**
THL	**Klokotos Trika**	**2.05**	**145**	*e*Pn	**Pn**	**08 33 32.5**	**+0.4**
THL				S	**Sb**	**08 34 00.1**	**-0.3**
HORT	**Hortiatis**	**2.08**	**107**	P	**Pn**	**08 33 32.8**	**0.0**
HORT	**Hortiatis**	**2.08**	**107**	P	**Pn**	**08 33 32.8**	**0.0**
BRY	**Bratogost**	**2.20**	**319**	⇓*i* Pn	**Pn**	**08 33 36.0**	**+1.6**
BRY				*e*Sn	**Sg**	**08 34 07.2**	**-1.2**
BRY	**Bratogost**	**2.20**	**319**	⇓*i* Pn	**Pn**	**08 33 36.0**	**+1.6**
BRY				*e*Sn	**Sg**	**08 34 07.2**	**-1.2**
SOH	**Sokhos**	**2.21**	**100**	P	**Pn**	**08 33 34.6**	**+0.1**
SOH	**Sokhos**	**2.21**	**100**	*e*PN	**Pn**	**08 33 34.9**	**+0.4**
SOH	**Sokhos**	**2.21**	**100**	P	**Pn**	**08 33 34.6**	**+0.1**
SOH	**Sokhos**	**2.21**	**100**	*e*Pn	**Pn**	**08 33 34.9**	**+0.4**
SOH	**Sokhos**	**2.21**	**100**	*e*Pb	**Pn**	**08 33 34.9**	**+0.4**
PLE	**Pljevlja**	**2.23**	**339**	⇑*i* Pn	**Pb**	**08 33 37.1**	**-1.1**
PLE				*e*Sn	**Sb**	**08 34 07.3**	**+1.3**
PLE	**Pljevlja**	**2.23**	**339**	⇑*i* Pn	**Pb**	**08 33 37.1**	**-1.1**
PLE				*e*Sn	**Sb**	**08 34 07.3**	**+1.3**
UPM	**Unac-Piva**	**2.28**	**329**	*e*Pn	**Pn**	**08 33 37.3**	**+1.7**
UPM				*e*Sn	**Sb**	**08 34 08.9**	**+1.5**
UPM	**Unac-Piva**	**2.28**	**329**	*e*Pn	**Pn**	**08 33 37.3**	**+1.7**
UPM				*e*Sn	**Sb**	**08 34 08.9**	**+1.5**
IVAS	**Ivanjica**	**2.34**	**354**	*e*Pn	**Pn**	**08 33 38.2**	**+1.9**
IVAS				*e*Sn	**Sb**	**08 34 10.5**	**+1.5**
IVAS	**Ivanjica**	**2.34**	**354**	*e*Pn	**Pn**	**08 33 38.2**	**+1.9**
IVAS				*e*Sn	**Sb**	**08 34 10.5**	**+1.5**
SRS	**Serrai**	**2.35**	**92**	P	**Pn**	**08 33 36.4**	**+0.1**
SRS	**Serrai**	**2.35**	**92**	P	**Pn**	**08 33 36.4**	**+0.1**
PLG	**Polygyros**	**2.41**	**110**	P

MSAG	Monte S. Angel	3.47 279	Pn	Pn	08 33 51.8	0.0		
MSAG	Monte S. Angel	3.47 279	Pn	Pn	08 33 51.8	0.0		
SCHR	S. Chirico Rap	3.51 254	Pn	Pn	08 33 52.8	+0.4		
	comp=E,454nm,1.6s							
SCHR	S. Chirico Rap	3.51 254	Pn	Pn	08 33 52.8	+0.4		
	comp=E,454nm,1.6s							
MRLC	Muro Lucano	3.81 264	Pn	Pn	08 33 57.8	+1.3		
	comp=E,154nm,0.6s							
MRLC	Muro Lucano	3.81 264	Pn	Pn	08 33 57.8	+1.3		
	comp=E,154nm,0.6s							
CARO	Carolei	3.83 240	Pn	Pn	08 33 57.7	+1.0		
	comp=E,297nm,0.7s							
CARO	Carolei	3.83 240	Pn	Pn	08 33 57.7	+1.0		
	comp=E,297nm,0.7s							
AMT	Artemida-Makis	3.83 165	P	Pn	08 33 58.9	+2.2		
AMT	Artemida-Makis	3.83 165	P	Pn	08 33 58.9	+2.2		
SGTA	Sant Agata di	3.87 270	Pn	Pn	08 33 59.0	+1.7		
	comp=E,304nm,1.0s							
SGTA	Sant Agata di	3.87 270	Pn	Pn	08 33 59.0	+1.7		
	comp=E,304nm,1.0s							
FGSL	Fruska Gora	3.94 353	*e*Pn	Pn	08 34 00.5	+2.3		
FRGS	Fruska Gora	3.94 353	*e*Pn	Pn	08 34 00.5	+2.3		
CDRU	Civita di Ruta	4.00 261	Pn	Pn	08 33 59.0	-0.2		
	comp=E,63nm,0.5s							
CDRU	Civita di Ruta	4.00 261	Pn	Pn	08 33 59.0	-0.2		
	comp=E,63nm,0.5s							
MCRV	Calabrutti - M	4.05 265	Pn	Pn	08 34 00.5	+0.6		
	comp=E,114nm,0.5s							
MCRV	Calabrutti - M	4.05 265	Pn	Pn	08 34 00.5	+0.6		
	comp=E,114nm,0.5s							
ALN	Alexandroupoli	4.22 93	P	Pn	08 34 02.3	+0.3		
ALN	Alexandroupoli	4.22 93	P	Pn	08 34 02.3	+0.3		
BLY	Banja Luka	4.25 326	*e*Pn	Pn	08 34 04.2	+1.7		
BLY	Banja Luka	4.25 326	*e*Pn	Pn	08 34 04.2	+1.7		
SACR	S. Croce Del S	4.36 274	Pn	Pn	08 34 04.9	+0.9		
SACR	S. Croce Del S	4.36 274	Pn	Pn	08 34 04.9	+0.9		
BZS	Buzias	4.44 10⇑	*i*P	Pn	08 34 05.0	-0.1		
BZS	Buzias	4.44 10	*e*Pn	Pn	08 34 05.6	+0.5		
BZS	Buzias	4.44 10⇑	*i*P	Pn	08 34 05.0	-0.1		
BZS	Buzias	4.44 10	*e*Pn	Pn	08 34 05.6	+0.5		
BZS			S	Sn	08 35 01.0	+4.2		
BSSO	Busso	4.44 276	Pn	Pn	08 34 07.1	+1.9		
	comp=E,106nm,0.7s							
BSSO	Busso	4.44 276	Pn	Pn	08 34 07.1	+1.9		
	comp=E,106nm,0.7s							
PTRJ	Pietraroja	4.49 273	Pn	Pn	08 34 06.7	+0.8		
	comp=E,371nm,0.7s							
PTRJ	Pietraroja	4.49 273	Pn	Pn	08 34 06.7	+0.8		
	comp=E,371nm,0.7s							
SZH	Strazhica	4.52 62	*i*P	Pn	08 34 07.4	+1.3		
SZH	Strazhica	4.52 62	*i*P	Pn	08 34 07.4	+1.3		
MIDA	Miranda	4.70 277	Pn	Pn	08 34 09.5	+0.7		
	comp=E,83nm,0.5s							
MIDA	Miranda	4.70 277	Pn	Pn	08 34 09.5	+0.7		
	comp=E,83nm,0.5s							
JMB	Yambol	4.71 73	*i*P	Pn	08 34 08.8	0.0		
JMB			*i*S	Sn	08 35 00.9	-2.6		
JMB	Yambol	4.71 73	*i*P	Pn	08 34 08.8	0.0		
JMB			*i*S	Sn	08 35 00.9	-2.6		
VAGA	Valle Agricola	4.71 274	Pn	Pn	08 34 09.9	+1.0		
	comp=E,124nm,0.5s							
VAGA	Valle Agricola	4.71 274	Pn	Pn	08 34 09.9	+1.0		
	comp=E,124nm,0.5s							
CERA	Filignano	4.88 276	Pn	Pn	08 34 12.2	+1.0		
	comp=E,261nm,0.8s							
CERA	Filignano	4.88 276	Pn	Pn	08 34 12.2	+1.0		
	comp=E,261nm,0.8s							
RHK3	Tenkes	4.91 341	*e*Pn	Pn	08 34 13.3	+1.7		
RHK3	Tenkes	4.91 341	*e*Pn	Pn	08 34 13.3	+1.7		
ARR	Arges	5.11 35⇑	*i*P	Pn	08 34 15.4	+1.1		
ARR	Arges	5.11 35⇑	*i*P	Pn	08 34 15.4	+1.1		
PKSM	Moragy	5.14 346⇓	*i*P	Pn	08 34 15.7	+1.0		
PKSM	Moragy	5.14 346	*e*Pn	Pn	08 34 16.0	+1.3		
PKSM	Moragy	5.14 346⇓	*i*P	Pn	08 34 15.7	+1.0		
PKSM	Moragy	5.14 346	*e*Pn	Pn	08 34 16.0	+1.3		
PKSM	Moragy	5.14 346	*e*Pn	Pn	08 34 16.3	+1.6		
VVLD	Villa Vallelon	5.19 279	Pn	Pn	08 34 15.8	+0.3		
	comp=E,191nm,0.7s							
VVLD	Villa Vallelon	5.19 279	Pn	Pn	08 34 15.8	+0.3		
	comp=E,191nm,0.7s							
NVLJ	Novalja	5.29 311	*e*Pn	Pn	08 34 17.0	+0.2		
NVLJ			Sn	Sn	08 35 17.3	-0.5		
NVLJ	Novalja	5.29 311	*e*Pn	Pn	08 34 16.9	+0.2		
NVLJ			Sn	Sn	08 35 17.2	-0.5		
AQU	L'Aquila	5.41 284⇑	*i*P	Pn	08 34 18.9	+0.4		
AQU	L'Aquila	5.41 284⇑	*i*P	Pn	08 34 18.9	+0.4		
CAMP	Campotosto	5.44 286	Pn	Pn	08 34 18.8	-0.1		
	comp=E,21nm,1.9s							
CAMP	Campotosto	5.44 286	Pn	Pn	08 34 18.8	-0.1		
	comp=E,21nm,1.9s							
PKS9	Tamasi	5.57 344	*e*Pn	Pn	08 34 22.3	+1.7		
PKS9	Tamasi	5.57 344	*e*Pn	Pn	08 34 22.3	+1.7		
FIAM	Fiamignano	5.61 283	Pn	Pn	08 34 22.6	+1.4		
FIAM	Fiamignano	5.61 283	Pn	Pn	08 34 22.6	+1.4		
BOJS	Bojanci	5.71 320	*i*Pn	Pn	08 34 24.2	+1.7		
BOJS	Bojanci	5.71 320	*i*Pn	Pn	08 34 24.2	+1.7		
NRCA	Norcia	5.71 289	Pn	Pn	08 34 22.7	0.0		
	comp=E,42nm,0.5s							
NRCA	Norcia	5.71 289	Pn	Pn	08 34 22.7	0.0		
	comp=E,42nm,0.5s							
APE	Apeiranthos	5.72 135⇑	*i*P	Pn	08 34 24.2	+1.4		
APE	Apeiranthos	5.72 135⇑	*i*P	Pn	08 34 24.2	+1.4		
DRGR		5.77 15⇑	*i*P	Pn	08 34 24.0	+0.6		
DRGR		5.77 15⇑	*i*P	Pn	08 34 24.0	+0.6		
FDMO	Fiordimonte	5.78 290	Pn	Pn	08 34 23.4	-0.2		
	comp=E,37nm,0.6s							
FDMO	Fiordimonte	5.78 290	Pn	Pn	08 34 23.4	-0.2		
	comp=E,37nm,0.6s							
MLR	Muntele Rosu	5.81 41	Pn	Pn	08 34 26.0	+1.9		
	comp=E,0.3nm,0.3s,baz=197,slow=14,SNR=9.5							
MLR			Sn	Sn	08 35 33.7	+2.9		
	comp=E,0.2nm,0.3s,baz=263,slow=18,SNR=3.2							
MLR	Muntele Rosu	5.81 41⇑	*i*P	Pn	08 34 25.6	+1.5		
MLR	Muntele Rosu	5.81 41⇑	*i*P	Pn	08 34 25.6	+1.5		
CRES	Cresnjev	5.86 323	*i*Pn	Pn	08 34 25.9	+1.3		
CRES	Cresnjev	5.86 323	*i*Pn	Pn	08 34 25.9	+1.3		
BEHE	Becsehely	5.87 334⇑	*e*Pn	Pn	08 34 31.2	+6.5		
BEHE			*e*Sn	Sb	08 35 41.5	-8.9		
ISR	Istrita	5.88 47⇑	*i*P	Pn	08 34 24.9	0.0		
ISR	Istrita	5.88 47⇑	*i*P	Pn	08 34 24.9	0.0		
ARVD	Arcevia	6.02 294	Pn	Pn	08 34 26.5	-0.4		
	comp=E,32nm,0.7s							
ARVD	Arcevia	6.02 294	Pn	Pn	08 34 26.5	-0.4		
	comp=E,32nm,0.7s							
ASSB	Assisi San Ben	6.09 290	Pn	Pn	08 34 28.4	+0.6		
	comp=E,45nm,0.7s							
ASSB	Assisi San Ben	6.09 290	Pn	Pn	08 34 28.4	+0.6		
	comp=E,45nm,0.7s							
KNDS	Knezji Dol	6.17 316	*i*Pn	Pn	08 34 29.9	+0.9		
KNDS	Knezji Dol	6.17 316	*i*Pn	Pn	08 34 29.9	+0.9		
FSSB	Fossombrone	6.20 296	Pn	Pn	08 34 28.7	-0.6		
	comp=E,103nm,0.4s							
FSSB	Fossombrone	6.20 296	Pn	Pn	08 34 28.7	-0.6		
	comp=E,103nm,0.4s							
BUD	Budapest	6.32 351⇑	*e*Pn	Pn	08 34 34.0	+3.1		
BUD			*e*Sn	Sn	08 35 45.3	+2.2		
BUD	Budapest	6.32 351⇑	*e*Pn	Pn	08 34 34.0	+3.1		
BUD			*e*Sn	Sn	08 35 45.3	+2.2		
PKSG		6.32 347	*e*Pn	Pn	08 34 34.3	+3.4		
PKSG		6.32 347	*e*Pn	Pn	08 34 34.3	+3.4		
PLOR	Plostina	6.42 42⇓	*i*P	Pn	08 34 33.5	+1.2		
PLOR	Plostina	6.42 42⇓	*i*P	Pn	08 34 33.5	+1.2		
VRI	Vrincioaia	6.47 42⇓	*i*P	Pn	08 34 34.7	+1.8		
VRI	Vrincioaia	6.47 42⇓	*i*P	Pn	08 34 34.7	+1.8		
TIRR	Tirgusor	6.65 59⇓	*i*P	Pn	08 34 36.3	+0.9		
TIRR	Tirgusor	6.65 59⇓	*i*P	Pn	08 34 36.3	+0.9		
PSZ	Piszkesteto	6.68 357⇑	*i*P	Pn	08 34 36.2	+0.3		
PSZ	Piszkesteto	6.68 357⇑	*e*Pn	Pn	08 34 36.3	+0.3		
PSZ			*e*Sn	Sn	08 35 52.3	+0.2		
PSZ	Piszkesteto	6.68 357⇑	*e*Pn	Pn	08 34 36.3	+0.3		
PSZ			*e*Sn	Sn	08 35 52.3	+0.2		
SOKA	Soboth	6.70 326⇓	*i*Pn	Pn	08 34 37.4	+1.2		
SOKA			⇓*i*Sn	Sn	08 35 52.8	+0.1		
SOKA	Soboth	6.70 326	Pn	Pn	08 34 37.4	+1.2		
SOKA			Sn	Sn	08 35 52.8	+0.1		
VOY	Vojsko	6.76 317	*e*Pn	Pn	08 34 37.7	+0.7		
VOY			*e*		08 34 43.2			
VOY			*e*Sn	Sn	08 35 53.3	-0.8		
VOY	Vojsko	6.76 317	*e*Pn	Pn	08 34 37.7	+0.7		
OBKA	Obir	6.79 323	⇓*i*Pn	Pn	08 34 37.4	0.0		
OBKA			⇓*i*Sn	Sn	08 35 56.1	+1.4		
OBKA	Obir	6.79 323	Pn	Pn	08 34 37.4	0.0		
OBKA			Sn	Sn	08 35 56.1	+1.4		
SOP	Sopron	7.02 338⇓	*e*Pn	Pn	08 34 46.5	+6.0		
TRPA	Tarpa	7.03 11⇓	*i*P	Pn	08 34 42.0	+1.3		
TRPA	Tarpa	7.03 11⇓	*e*Pn	Pn	08 34 40.8	+0.1		
TRPA	Tarpa	7.03 11⇓	*i*P	Pn	08 34 42.0	+1.3		
TRPA	Tarpa	7.03 11⇓	*e*Pn	Pn	08 34 40.8	+0.1		
BURAR	Bucovina Array	7.21 26⇓	*i*P	Pn	08 34 44.8	+1.6		
BURAR	Bucovina Array	7.21 26⇓	*i*P	Pn	08 34 44.8	+1.6		
VYHS	Vyhne	7.34 351	*e*PN	Pn	08 34 46.6	+1.7		
VYHS			*e*SN	Sn	08 36 08.8	+0.6		
VYHS	Vyhne	7.34 351	*e*Pn	Pn	08 34 46.6	+1.7		
VYHS			*e*Sn	Sn	08 36 08.8	+0.6		
KBA	Koelnbreinsper	7.76 321⇑	*i*Pn	Pn	08 34 51.4	+0.5		
KBA	Koelnbreinsper	7.76 321	Pn	Pn	08 34 51.4	+0.5		
KOLS	Kolonicke sedl	7.79 9	*e*PN	Pn	08 34 52.4	+1.4		
KOLS			*e*SN	Sn	08 36 20.8	+1.6		
KOLS	Kolonicke sedl	7.79 9	*e*Pn	Pn	08 34 52.4	+1.4		
KOLS			*e*Sn	Sn	08 36 20.8	+1.6		
ABTA	Abfaltersbach	7.95 316⇑	*i*Pn	Pn	08 34 54.3	+0.9		
ABTA			⇑*i*Sn	Sn	08 36 23.9	+0.5		
ABTA	Abfaltersbach	7.95 316	Pn	Pn	08 34 54.3	+0.9		
ABTA			Sn	Sn	08 36 23.9	+0.5		
MOA	Molln	7.95 328⇓	*i*Pn	Pn	08 34 53.9	+0.6		
MOA			⇑*i*Sn	Sn	08 36 25.7	+2.4		
MOA	Molln	7.95 328	Pn	Pn	08 34 53.9	+0.6		
MOA			Sn	Sn	08 36 25.7	+2.4		
VRAC	Vranov	8.51 343	LR	LR	08 38 02.0			
	comp=E,38nm,20.0s,baz=342,slow=36							
WTTA	Wattenberg	8.74 316⇑	*i*Pn	Pn	08 35 04.5	+0.2		
WTTA	Wattenberg	8.74 316	Pn	Pn	08 35 04.5	+0.2		
GERES	GERESS Array B	9.98 330	Pn	Pn	08 35 09.1	+1.6		
	comp=E,0.3nm,0.3s,baz=146,slow=13,SNR=9.0							
FETA	Feichten	9.08 313⇑	*i*Pn	Pn	08 35 09.2	+0.3		
FETA			⇑*i*Sn	Sn	08 36 51.1	-0.1		
FETA	Feichten	9.08 313	Pn	Pn	08 35 09.2	+0.3		
FETA			Sn	Sn	08 36 51.1	-0.1		
KHC	Kasperske Hory	9.27 331	*e*PN	Pn	08 35 12.3	+1.0		
KHC			*e*SN	Sn	08 36 49.0	-6.6		
KHC	Kasperske Hory	9.27 331	Pn	Pn	08 35 12.3	+1.0		
DAVOX	Davos/Dischmat	9.43 309	Pn	Pn	08 35 14.8	+1.1		
	comp=E,1.0nm,0.3s,baz=131,slow=14,SNR=6.3							
DAVOX			Sn	Sn	08 36 58.9	-1.0		
	comp=E,0.3nm,0.3s,baz=328,slow=19,SNR=3.0							
BRTR	Keskin Array B	10.13 94	Pn	Pn	08 35 24.8	+1.4		
	comp=E,0.1nm,0.3s,baz=269,slow=12,SNR=5.5							
KEST	Kesra	10.32 241	LR	LR	08 39 53.2			
	comp=E,28nm,20.7s,baz=150,slow=41							
HFS	Hagfors	19.37 350	P	P	08 37 22.6	-0.8		
	comp=E,0.2nm,0.3s,baz=180,slow=17,SNR=5.7							
FINES	FINESS Array B	20.51 8	P	P	08 37 35.1	-0.5		
	comp=E,1.6nm,0.7s,baz=170,slow=9.9,SNR=4.7							
NB2	NORSAR Subarra	20.61 347	P	P	08 37 36.6	-0.3		
	comp=Z,1.6nm,0.5s,baz=150,slow=11							
NB2	NORSAR Subarra	20.61 347	P	P	08 37 36.6	-0.3		
	comp=Z,1.6nm,0.5s,SNR=5.7							
NOA	NORSAR Array B	20.61 347	P	P	08 37 36.0	-0.9		
	comp=Z,2.4nm,0.6s,baz=155,slow=10,SNR=6.3							
ARCES	ARCESS Array B	28.47 4	P	P	08 38 51.3	-1.3		
	comp=E,5.1nm,1.1s,baz=183,slow=12,SNR=3.6							
ARCES			LR	LR	08 51 54.1			
	comp=Z,80nm,19.8s,baz=193,slow=40							
TORD	Torodi Ar. Bea	32.45 216	P	P	08 39 27.8	-0.4		
	comp=Z,2.4nm,0.8s,baz=26,slow=7.4,SNR=16							
AAK	Ala-Archa	39.62 69	LR	LR	08 59 28.4			
	comp=Z,45nm,19.7s,baz=303,slow=40							
ZALV	Zalesovo Beam	43.71 50	P	P	08 41 02.9	+0.3		
	comp=Z,5.7nm,0.6s,baz=280,slow=7.7,SNR=14							
MKAR	Makanchi Array	43.78 61	P	P	08 41 02.2	-1.2		
	comp=Z,0.4nm,0.4s,baz=268,slow=7.1,SNR=12							
MKAR			PcP	PcP	08 42 52.7	+2.8		
	comp=Z,0.4nm,0.7s,baz=273,slow=2.9,SNR=3.7							
SONM	Songino Array	58.56 52	P	P	08 42 54.3	-0.2		
	comp=Z,0.7nm,0.7s,baz=289,slow=9.0,SNR=3.8							
YKA	Yellowknife Ar	70.50 340	P	P	08 44 11.1	-1.0		
	comp=Z,0.3nm,0.6s,baz=33,slow=5.3,SNR=5.7							
ILAR	Eielson Array	73.85 354	P	P	08 44 31.8	-0.3		
	comp=Z,0.2nm,0.6s,baz=352,slow=4.6,SNR=6.4							
KSRS	Korea Array	77.41 51	P	P	08 44 52.8	-0.2		
	comp=Z,2.0nm,0.6s,baz=315,slow=5.2,SNR=2.6							
PDAR	Pinedale Array	85.00 326	P	P	08 45 32.4	-1.2		
	comp=Z,0.4nm,0.8s,baz=41,slow=5.9,SNR=3.6							
TXAR	Lajitas Array	92.84 314	P	P	08 46 10.5	-0.4		
	comp=Z,0.3nm,0.8s,baz=65,slow=4.3,SNR=6.2							
ASAR	Alice Springs	122.47 94	PKP	PKPdf	08 51 54.9	+1.4		
	comp=Z,0.2nm,0.5s,baz=336,slow=2.0,SNR=4.0							

ISCJB ***10*** *09:05:24.1±0.9,51°.48N±0°.04×16°.12E±0°.04, h0km, Error ellipse: s-maj=6.6km s-min=3.7km az=14.1*
WAR ***10*** *09:05:25.6,51°.54N×16°.07E*
CSEM ***10*** *09:05:25.7±0.5,51°.48N×16°.13E, h2km, ML3.3/6, Error ellipse: s-maj=8.8km s-min=4.6km az=178.0*
PRU ***10*** *09:05:27.1,51°.43N×16°.15E, h0km*

ISC 10 09:05:25.9±1.2, 51°.48N±0°.05×16°.14E±0°.03, h0km, n23, σ0s95/45, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.65	172	*e*Pg	Pg	09 05 38.9	+0.6
KSP				*e*Sg	Sg	09 05 47.5	+0.8
KSP	Ksiaz	0.65	172	*e*Pg	Pg	09 05 38.9	+0.6
KSP				*e*Sg	Sg	09 05 47.5	+0.8
KSP	Ksiaz	0.65	172	*e*Pg	Pg	09 05 38.8	+0.6
KSP				*e*Sg	Sg	09 05 47.4	+0.8
UPC	Upice	0.98	185	*e*PG	Pg	09 05 45.1	+0.4
UPC				*e*SG	Sg	09 05 56.6	-0.7
	comp=Z,50nm,0.6s						
UPC	Upice	0.98	185	Pg	Pg	09 05 45.1	+0.4
UPC				Sg	Sg	09 05 56.6	-0.7
	50nm,0.6s						
DPC	Dobruska-Polom	1.14	174	*e*PG	Pg	09 05 47.8	+0.1
DPC				*e*SG	Sg	09 06 01.6	-0.9
	comp=Z,28nm,0.4s						
DPC	Dobruska-Polom	1.14	174	Pg	Pg	09 05 47.8	+0.1
DPC				Sg	Sg	09 06 01.6	-0.9
	28nm,0.4s						
PVCC	Panska Ves	1.38	227	*e*PG	Pb	09 05 52.6	0.0
PVCC				*e*SG	Sb	09 06 10.7	0.0
	comp=Z,112nm,0.2s						
PVCC	Panska Ves	1.38	227	Pg	Pb	09 05 52.6	0.0
PVCC				Sg	Sb	09 06 10.7	0.0
	112nm,0.2s						
BRG	Berggiesshubel	1.51	247	PG	Pn	09 05 54.0	-0.3
BRG				SG	Sg	09 06 14.2	-0.3
	40nm,0.3s						
PRU	Pruhonice	1.81	215	*e*PG	Pg	09 06 00.2	-0.4
PRU				*e*SG	Sg	09 06 23.7	-0.3
	comp=Z,20nm,0.4s						
PRU	Pruhonice	1.81	215	Pg	Pg	09 06 00.2	-0.4
PRU				Sg	Sg	09 06 23.7	-0.3
	20nm,0.4s						
MORC	Moravsky Berou	1.93	152	*e*Pn	Pn	09 05 59.6	-0.4
MORC				*e*Sg	Sn	09 06 24.6	-0.3
CLL	Collm	1.98	266	*i*Pg	Pb	09 06 02.8	+0.1
CLL				*i*Sg	Sg	09 06 28.8	-0.6
	comp=Z,15nm,0.5s						
VRAC	Vranov	2.19	172	*e*Sg	Sb	09 06 35.2	+1.0
OJC	Ojcow	2.64	117	*e*Pg	Pg	09 06 16.2	-0.3
OJC				*e*Sg	Sg	09 06 51.5	+0.9
OJC	Ojcow	2.64	117	*e*Pg	Pg	09 06 16.2	-0.3
OJC				*e*Sg	Sg	09 06 51.5	+0.9
NKC	Novy Kostel	2.66	243	*e*PG	Pg	09 06 16.3	-0.5
NKC				*e*SG	Sg	09 06 52.2	+1.0
	comp=Z,23nm,0.3s						
NKC	Novy Kostel	2.66	243	Pg	Pg	09 06 16.3	-0.5
NKC				Sg	Sg	09 06 52.2	+1.0
	comp=Z,23nm,0.3s						
KHC	Kasperske Hory	2.87	216	*e*PG	Pb	09 06 19.0	+1.0
KHC				*e*SN	Sn	09 06 48.9	+0.7
KHC				*e*SG	Sg	09 06 56.7	-1.4
	comp=Z,7.3nm,0.5s						
KHC	Kasperske Hory	2.87	216	Pg	Pb	09 06 19.0	+1.0
KHC				Sn	Sn	09 06 48.9	+0.7
KHC				Sg	Sg	09 06 56.7	-1.4
	comp=Z,7.3nm,0.5s						
VYHS	Vyhne	3.46	149	*e*SG	Sg	09 07 13.9	-3.1
VYHS	Vyhne	3.46	149	*e*Sg	Sg	09 07 13.9	-3.1

IDC 10 09:11:30.8±2.1, 4°.32N×126°.61E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmpg3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/25, Error ellipse: s-maj=192.4km s-min=26.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.28	163	P	P	09 16 59.3	+0.2
	0.5nm,0.8s,baz=342,slow=10,SNR=4.6						
KSRS	Korea Array	33.00	2	LR	LR	09 32 38.5	
	comp=Z,22nm,19.7s,baz=190,slow=38						
STKA	Stephens Creek	38.72	159	P	P	09 18 56.3	-0.4
	1.8nm,0.9s,baz=330,slow=7.8,SNR=3.3						
MKAR	Makanchi Array	57.01	325	P	P	09 21 18.4	0.0
	0.2nm,0.9s,baz=116,slow=6.6,SNR=2.6						

MOS ***10*** *09:23:16.9±0.9, 52°.23N×157°.63E, h128km, mb4.5/8, Error ellipse: s-maj=13.1km s-min=6.1km az=64.4*
ISCJB ***10*** *09:23:17.5±0.2, 52°.22N±0°.03×157°.63E±0°.05, h131km±1km, mb4.2/50, Error ellipse: s-maj=6.5km s-min=3.3km az=136.4*
KRSC ***10*** *09:23:18.2±0.5, 52°.21N×158°.00E, h126km±33km, ML4.7*
NEIC ***10*** *09:23:18.8±0.4, 52°.34N×157°.49E, h129km±3km, mb4.5/26, Error ellipse: s-maj=8.2km s-min=3.9km az=145.0*
IDC ***10*** *09:23:19.1±0.5, 52°.38N×157°.43E, h133km±4km, mb3.9/26, mb1 4.1/28, mb1mx3.9/38, mbtmpg3.9/28, Error ellipse: s-maj=13.5km s-min=7.3km az=145.0*

ISC 10 09:23:18.3±0.4, 52°.16N±0°.04×157°.76E±0°.04, h130km±3km, h130km:pP-P,n378,σ1s37/432, mb4.4/50, 113C-101D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	Asacha	0.24	21	*i*P	Pn	09 23 36.0	-0.4
ASAK				*i*S	Sn	09 23 49.5	-0.7
MTVR	Mutnovka	0.42	38	*i*P	Pn	09 23 36.3	-0.9
MTVR				*i*S	Sn	09 23 50.3	-1.2
RUS	Russkaya	0.54	59	PN	Pn	09 23 36.8	-0.8
RUS				S	Sn	09 23 50.5	-1.7
RUS	Russkaya	0.54	59	*i*P	Pn	09 23 36.8	-0.8
RUS				*i*S	Sn	09 23 50.5	-1.7
MIPR	Malaya Ipel'ka	0.63	282	*i*P	Pn	09 23 37.7	-0.5
MIPR				*i*S	Sn	09 23 51.3	-2.0
APC	Apacha	0.85	335	*i*P	Pn	09 23 39.4	-0.5
APC				*i*S	Sn	09 23 55.3	-1.0
PEA0B	Petropavlovsk-	0.95	358	*e*Pn	Pn	09 23 40.5	-0.4
PEA0B				*e*Sn	Sn	09 23 58.4	+0.4
PETK	Petropavlovsk-	0.95	358	P	Pn	09 23 40.4	-0.4
	1μm,0.3s,baz=156,slow=9.8						
PETK				S	Sn	09 23 56.9	-1.1
	44nm,0.3s,baz=13,slow=18,SNR=5.0						
PETK	Petropavlovsk-	0.95	358	PN	Pn	09 23 40.4	-0.4
PETK				S	Sn	09 23 56.9	-1.1
PETK	Petropavlovsk-	0.95	358	P	Pn	09 23 40.4	-0.4
PETK				S	Sn	09 23 56.9	-1.1
PET	Petropavlovsk	1.03	32⇑	*i*PN	Pn	09 23 40.7	-0.7
PET				*i*S	Sn	09 23 58.2	-0.9
PET				pmax	pmax		
	comp=Z,1μm,2.2s						
PET				pmax	pmax		
	comp=Z,106nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,6.0s						
PET				MLR	MLR		
	comp=Z,511nm,12.2s						
PET	Petropavlovsk	1.03	32	*e*Pn	Pn	09 23 40.7	-0.7
PET				*e*Sn	Sn	09 23 59.0	-0.1
PET	Petropavlovsk	1.03	32	*i*P	Pn	09 23 40.8	-0.7
PET				*i*S	Sn	09 23 56.9	-2.2
UGLR	Uglovaya	1.24	31	*i*P	Pn	09 23 43.9	+0.2
UGLR				*i*S	Sn	09 24 03.2	+0.2
KOK	Koryaka	1.26	25	*i*P	Pn	09 23 44.2	+0.3
KOK				*i*S	Sn	09 24 03.4	0.0
AVH	Avacha	1.26	28	*i*P	Pn	09 23 44.2	+0.3
AVH				*i*S	Sn	09 24 02.4	-1.0

BILL	**Bilibino**	**16.46**	**11**	*e*Pn		**Pn**	09 27 00.2	-1.0	
	comp=Z,3.2nm,0.4s								
KLR	**Kul'dur**	**16.71**	**270**	*e*P		**Pn**	09 27 02.2	-2.2	
USRK	**Ussuriysk Arra**	**18.86**	**255**	P		**P**	09 27 27.7	-0.3	
	comp=Z,0.3nm,0.3s,baz=63,slow=10,SNR=8.0								
MAJO	**Matsushiro**	**20.85**	**229**	*e*P		**P**	09 27 50.3	+0.6	
MAJO				pmax	pmax				
	comp=Z,28nm,0.6s								
MAJO	**Matsushiro**	**20.85**	**229**	*e*P		**P**	09 27 50.3	+0.6	
	comp=Z,28nm,0.6s								
MAT	**Matsushiro**	**20.85**	**229**	P		**P**	09 27 50.0	+0.3	
MJAR	**Matsushiro Arr**	**20.85**	**229**	P		**P**	09 27 50.2	+0.6	
	comp=Z,10nm,0.5s,baz=25,slow=9.7,SNR=41								
MJAR	**Matsushiro Arr**	**20.85**	**229**	P		**P**	09 27 50.2	+0.6	
TNA	**Tin City**	**21.88**	**39**	*e*P		**P**	09 28 01.4	+1.1	
	comp=Z,13nm,1.0s								
HIA	**Hailar**	**24.06**	**278**	*e*P		**P**	09 28 20.6	-0.7	
	comp=Z,6.3nm,0.8s								
BOD	**Bodaibo**	**25.37**	**300**	*e*P		**P**	09 28 32.9	-0.1	
JNU	**Nakatsue**	**27.19**	**236**	P		**P**	09 28 50.4	+0.8	
	comp=Z,6.9nm,0.9s,baz=153,slow=9.0,SNR=3.9								
JNU	**Nakatsue**	**27.19**	**236**	P		**P**	09 28 50.4	+0.8	
KDAK	**Kodiak Island**	**28.51**	**59**	P		**P**	09 29 00.3	-0.6	
	comp=Z,8.5nm,1.0s,baz=310,slow=16,SNR=5.2								
KDAK	**Kodiak Island**	**28.51**	**59**	P		**P**	09 29 00.3	-0.6	
TRF	**Thorofare Moun**	**29.04**	**47**	*e*P		**P**	09 29 05.6	-0.3	
	comp=Z,4.2nm,0.5s								
COLD	**Coldfoot**	**29.18**	**39**	*e*P		**P**	09 29 07.2	+0.3	
	comp=Z,3.2nm,0.6s								
SML	**Sawmill**	**30.06**	**50**	*e*P		**P**	09 29 14.8	+0.1	
SML				pmax	pmax				
	comp=Z,4.0nm,0.7s								
SML	**Sawmill**	**30.06**	**50**	*e*P		**P**	09 29 14.8	+0.1	
	comp=Z,4.0nm,0.7s								
COLA	**College**	**30.07**	**44**	*e*P		**P**	09 29 15.2	+0.5	
COLA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
COLA	**College**	**30.07**	**44**	*e*P		**P**	09 29 15.2	+0.5	
	comp=Z,7.8nm,0.9s								
ILAR	**Eielson Array**	**30.48**	**44**	P		**P**	09 29 18.0	-0.4	
	comp=Z,7.9nm,0.7s,baz=264,slow=7.6,SNR=109								
ILAR	**Eielson Array**	**30.48**	**44**	P		**P**	09 29 18.0	-0.4	
DOT	**Dot Lake**	**31.80**	**46**	*e*P		**P**	09 29 29.2	-0.8	
	comp=Z,5.0nm,0.6s								
SONM	**Songino Array**	**32.73**	**283**	P		**P**	09 29 37.2	-1.2	
	comp=Z,0.3nm,0.3s,baz=62,slow=8.2,SNR=6.2								
SONM				PcP		**PcP**	09 32 20.4	-0.3	
	comp=Z,0.4nm,0.6s,baz=94,slow=2.7,SNR=4.6								
SONM				ScP		**ScP**	09 35 52.5	+0.3	
	comp=Z,1.0nm,0.9s,baz=95,slow=2.8,SNR=6.6								
SONM	**Songino Array**	**32.73**	**283**	P		**P**	09 29 37.2	-1.2	
SONM				PcP		**PcP**	09 32 20.4	-0.3	
SONM				ScP		**ScP**	09 35 52.5	+0.3	
EGAK	**Eagle**	**32.93**	**44**	*e*P		**P**	09 29 39.4	-0.4	
	comp=Z,10nm,0.7s								
INK	**Inuvik**	**35.48**	**37**	P		**P**	09 30 02.2	+0.5	
	comp=Z,2.1nm,0.3s,baz=272,slow=6.3,SNR=16								
INK				pP		**pP**	09 30 31.0	+0.9	
	comp=Z,1.5nm,0.7s,baz=311,slow=9.3,SNR=2.2								
INK	**Inuvik**	**35.48**	**37**	P		**P**	09 30 02.2	+0.5	
INK				pP		**pP**	09 30 31.0	+0.9	
DLBC	**Dease Lake**	**39.74**	**52**	P		**P**	09 30 39.9	+2.1	
	comp=Z,2.3nm,0.5s,baz=316,slow=6.1,SNR=11								
DLBC	**Dease Lake**	**39.74**	**52**	P		**P**	09 30 39.9	+2.1	
ZALV	**Zalesovo Beam**	**42.08**	**303**	pP		pP	09 31 23.9	-2.2	
	comp=Z,1.7nm,0.8s,baz=88,slow=5.2,SNR=3.8								
ZALV	**Zalesovo Beam**	**42.08**	**303**	pP		pP	09 31 23.9	-2.2	
RES	**Resolute Bay**	**44.72**	**21**	*e*P		**P**	09 31 18.0	+0.3	
	comp=Z,29nm,2.2s								
YKA	**Yellowknife Ar**	**44.81**	**41**	P		**P**	09 31 19.1	+0.5	
	comp=Z,2.5nm,0.6s,baz=296,slow=8.2,SNR=33								
YKA	**Yellowknife Ar**	**44.81**	**41**	P		**P**	09 31 19.1	+0.5	
KURK	**Kurchatov**	**47.01**	**301**	*e*P		**P**	09 31 34.7	-1.3	
KURK	**Kurchatov**	**47.01**	**301**	P		**P**	09 31 34.4	-1.7	
KURK				pP		**pP**	09 32 05.5	-0.3	
KURK				ScP		**ScP**	09 36 46.7	-0.7	
KURBB	**Kurchatov Arra**	**47.11**	**301**	P		**P**	09 31 34.3	-2.4	
	comp=Z,0.8nm,0.7s,baz=61,slow=7.8,SNR=5.2								
KURBB				pP		**pP**	09 32 05.5	-1.0	
	comp=Z,2.6nm,0.6s,baz=62,slow=7.9,SNR=9.3								
KURBB				ScP		**ScP**	09 36 46.7	-1.1	
	comp=Z,0.1nm,0.2s,baz=60,slow=4.0,SNR=4.5								
MK31	**Makanchi Array**	**47.27**	**295**	*e*P		**P**	09 31 36.8	-1.4	
MK31	**Makanchi Array**	**47.27**	**295**	*e*P		**P**	09 31 36.8	-1.4	
MKAR	**Makanchi Array**	**47.27**	**295**	P		**P**	09 31 35.7	-2.4	
	comp=Z,0.3nm,0.4s,baz=61,slow=7.3,SNR=11								
MKAR				pP		**pP**	09 32 07.9	0.0	
	comp=Z,0.8nm,0.6s,baz=58,slow=7.3,SNR=5.7								
MKAR	**Makanchi Array**	**47.27**	**295**	*i* P		**P**	09 31 38.9	+0.8	
MKAR	**Makanchi Array**	**47.27**	**295**	*e*P		**P**	09 31 36.8	-1.3	
MKAR				pP		**pP**	09 32 07.9	0.0	
SPITS	**Spitsbergen Ar**	**47.82**	**350**	P		**P**	09 31 41.0	-0.9	
	comp=Z,1.1nm,0.5s,baz=64,slow=4.5,SNR=12								
SPITS	**Spitsbergen Ar**	**47.82**	**350**	P		**P**	09 31 41.0	-0.9	
BVAR	**Borovoye Array**	**49.85**	**308**	P		**P**	09 31 55.6	-2.1	
	comp=Z,0.3nm,0.3s,baz=52,slow=5.7,SNR=3.4								
BVAR				pP		**pP**	09 32 26.8	-1.0	
	comp=Z,0.9nm,0.5s,baz=58,slow=8.7,SNR=4.3								
BVAR				PcP		**PcP**	09 33 15.3	-1.0	
	comp=Z,0.4nm,0.3s,baz=66,slow=3.1,SNR=5.1								
BVAR	**Borovoye Array**	**49.85**	**308**	P		**P**	09 31 55.6	-2.1	
BVAR				*PP		**pP**	09 32 26.8	-1.0	
BVAR							09 33 15.3		
BVAR	**Borovoye Array**	**49.85**	**308**	P		**P**	09 31 55.6	-2.1	
BVAR				pP		**pP**	09 32 26.8	-1.0	
BVAR				PcP		**PcP**	09 33 15.3	-1.0	
NEW	**Newport**	**51.61**	**58**	P		**P**	09 32 11.2	+0.1	
	comp=Z,1.5nm,0.7s,baz=315,slow=7.1,SNR=5.3								
NEW	**Newport**	**51.61**	**58**	P		**P**	09 32 11.2	+0.1	
NEW	**Newport**	**51.61**	**58**	⇑P		**P**	09 32 10.9	-0.1	
	baz=51								
A13A	**Flathead Natio**	**52.59**	**56**	⇑P		**P**	09 32 19.0	+0.7	
	baz=52								
WALA	**Waterton Lakes**	**52.77**	**56**	*e*P		**P**	09 32 20.5	+0.8	
	comp=Z,0.1nm,0.8s								
C12B	**Naegeli Ranch,**	**52.82**	**58**	⇑P		**P**	09 32 21.1	+1.2	
	baz=53								
B13A	**Whitefish**	**52.92**	**57**	⇓P		**P**	09 32 21.7	+1.0	
	baz=53								
A14A	**Double T Ranch**	**53.07**	**56**	⇑P		**P**	09 32 22.5	+0.7	
	baz=53								
BSMT	**Bassoo Peak**	**53.08**	**57**	*e*P		**P**	09 32 23.3	+1.2	
C13A	**Hot Springs**	**53.30**	**57**	⇓P		**P**	09 32 24.9	+1.3	
	baz=53								
A15A	**Johnson Ranch,**	**53.41**	**55**	⇑P		**P**	09 32 24.7	+0.3	
	baz=53								
B14A	**Marquette Ranc**	**53.54**	**56**	⇑P		**P**	09 32 26.1	+0.8	
	baz=53								
E12A	**Beaver Dam Sad**	**53.60**	**59**	⇑P		**P**	09 32 26.5	+0.7	
	baz=53								
C14A	**Swan Lake**	**53.67**	**57**	⇑P		**P**	09 32 27.5	+1.3	
	baz=54								
D13A	**Huson**	**53.74**	**58**	⇑P		**P**	09 32 27.5	+0.7	
	baz=54								
B15A	**Bradely Ranch,**	**53.93**	**56**	⇓P		**P**	09 32 28.4	+0.3	
	baz=54								
SLMT	**Seeley Lake**	**54.15**	**57**	*e*P		**P**	09 32 31.0	+1.2	
MSO	**Missoula**	**54.18**	**58**	⇓P		**P**	09 32 31.0	+1.0	
	baz=54								
F12A	**Elk City**	**54.19**	**60**	⇓P		**P**	09 32 31.2	+1.1	
	baz=54								
D14A	**Greenough**	**54.24**	**57**	⇑P		**P**	09 32 31.2	+0.8	
	baz=54								
C15A	**Salmond Ranch,**	**54.26**	**56**	⇑P		**P**	09 32 31.7	+1.1	
	baz=54								
B16A	**M & M Farms, S**	**54.30**	**55**	⇑P		**P**	09 32 31.1	+0.3	
	baz=54								
E13A	**Victor**	**54.31**	**58**	⇑P		**P**	09 32 32.2	+1.3	
	baz=54								
A17A	**Triple J Farms**	**54.46**	**54**	⇓P		**P**	09 32 32.3	+0.4	
	baz=54,SNR=12								
G12A	**Big Creek, Yel**	**54.56**	**60**	⇑P		**P**	09 32 33.8	+0.9	
	baz=54								
F13A	**Darby**	**54.66**	**59**	⇑P		**P**	09 32 34.1	+0.6	
	baz=54								
C16A	**Fuhringer Ranc**	**54.68**	**56**	⇑P		**P**	09 32 34.1	+0.6	
	baz=54								
E14A	**Clinton**	**54.69**	**58**	⇑P		**P**	09 32 34.7	+1.0	
	baz=54								
D15A	**Lincoln**	**54.78**	**57**	⇑P		**P**	09 32 35.4	+1.0	
	baz=55								
B17A	**L&G Farms, Che**	**54.84**	**55**	⇑P		**P**	09 32 35.2	+0.5	
	baz=55								
A18A	**Metzger Ranch,**	**54.90**	**54**	⇓P		**P**	09 32 35.5	+0.4	
	baz=55								
E15A	**Deer Lodge**	**55.12**	**57**	⇓P		**P**	09 32 37.7	+0.8	
	baz=55								
F14A	**Wisdom**	**55.15**	**58**	⇑P		**P**	09 32 38.0	+1.0	
	baz=55								
G13A	**Cobalt**	**55.17**	**60**	⇑P		**P**	09 32 38.2	+1.0	
	baz=55								
B18A	**Beardsley Farm**	**55.28**	**54**	⇓P		**P**	09 32 38.3	+0.4	
	baz=55,SNR=5.8								
D16A	**Dana Ranch, Ca**	**55.29**	**56**	⇑P		**P**	09 32 39.0	+1.0	
	baz=55								
C17A	**Wharram Farm,**	**55.29**	**55**	⇑P		**P**	09 32 38.1	+0.2	
	baz=55,SNR=5.6								
MFID	**Camas Ranch**	**55.42**	**62**	⇑P		**P**	09 32 40.5	+1.5	
	baz=55								
A19A	**Klindworth Far**	**55.44**	**53**	⇑P		**P**	09 32 39.7	+0.7	
	baz=55								
H13A	**Challis**	**55.51**	**60**	⇓P		**P**	09 32 41.0	+1.4	
	baz=55								
EGMT	**Eagleton**	**55.54**	**54**	⇓P		**P**	09 32 40.4	+0.7	
	baz=55								
E16A	**East Helena**	**55.55**	**57**	⇓P		**P**	09 32 41.1	+1.2	
	baz=55								
F15A	**Butte**	**55.59**	**58**	⇑P		**P**	09 32 41.2	+0.9	
	baz=55								
LRM	**Limekiln Ridge**	**55.62**	**58**	*e*P		**P**	09 32 40.9	+0.3	
	comp=Z,26nm,1.0s								
D17A	**Six Diamond Ra**	**55.65**	**56**	⇓P		**P**	09 32 41.5	+1.0	
	baz=55								
B19A	**Brinkman Farms**	**55.65**	**54**	⇓P		**P**	09 32 41.3	+0.8	
	baz=55								
A20A	**Cobblestone Ra**	**55.87**	**53**	⇓P		**P**	09 32 42.9	+0.9	
	baz=56								
H14A	**Leadore**	**55.95**	**60**	⇑P		**P**	09 32 43.7	+0.9	
	baz=56								
I13A	**Wildhorse Cree**	**56.02**	**61**	⇓P		**P**	09 32 45.0	+1.7	
	baz=56,SNR=6.4								
E17A	**Martinsdale**	**56.02**	**56**	⇑P		**P**	09 32 44.7	+1.5	
	baz=56								
G15A	**Dillon**	**56.04**	**59**	⇓P		**P**	09 32 44.4	+1.0	
	baz=56								
F16A	**Kennard Place,**	**56.08**	**57**	⇑P		**P**	09 32 44.7	+1.1	
	baz=56								
C19A	**Slack Wire Ran**	**56.09**	**54**	⇑P		**P**	09 32 45.0	+1.5	
	baz=56								
HLID	**Hailey**	**56.09**	**61**	⇓P		**P**	09 32 45.6	+1.8	
	baz=56								
BOZ	**Bozeman (W)**	**56.17**	**58**	⇑P		**P**	09 32 45.9	+1.6	
	baz=56								
A21A	**Bergtoll Ranch**	**56.28**	**52**	⇓P		**P**	09 32 46.0	+1.0	
	baz=56,SNR=5.5								
H15A	**Lima**	**56.33**	**59**	⇑P		**P**	09 32 46.8	+1.3	
	baz=56								
J13A	**Cove Ranch, Pi**	**56.33**	**61**	⇑P		**P**	09 32 47.3	+1.8	
	baz=56								
G16A	**Moss Hill, Enn**	**56.36**	**58**	⇓P		**P**	09 32 46.6	+0.9	
	baz=56,SNR=5.1								
E18A	**Harlowton**	**56.43**	**56**	⇑P		**P**	09 32 47.8	+1.6	
	baz=56								
F17A	**Fitzpatrick Pl**	**56.50**	**57**	⇑P		**P**	09 32 47.3	+0.7	
	baz=56								
D19A	**Cripps Ranch,**	**56.55**	**55**	⇓P		**P**	09 32 48.2	+1.2	
	baz=56								
CMAR	**Chiang Mai Arr**	**56.59**	**257**	P		**P**	09 32 47.4	0.0	
	comp=Z,0.9nm,0.6s,baz=20,slow=6.3,SNR=5.1								
CMAR	**Chiang Mai Arr**	**56.59**	**257**	P		**P**	09 32 47.4	0.0	
A22A	**Carney Farms,**	**56.77**	**52**	⇑P		**P**	09 32 49.3	+0.9	
	baz=56								
D20A	**Manuel Ranch,**	**56.98**	**54**	⇓P		**P**	09 32 51.3	+1.4	
	baz=57								
F18A	**Big Timber**	**56.98**	**56**	⇑P		**P**	09 32 51.1	+1.1	
	baz=57								
H16A	**Russell Place,**	**57.00**	**58**	⇑P		**P**	09 32 51.7	+1.4	
	baz=57,SNR=5.2								
E19A	**Rath Farm, Rou**	**57.08**	**55**	⇑P		**P**	09 32 51.9	+1.3	
	baz=57								
A23A	**Redstone**	**57.29**	**51**	⇑P		**P**	09 32 53.0	+1.0	
	baz=57								
E20A	**Meyer Farm, Mu**	**57.38**	**55**	⇓P		**P**	09 32 54.1	+1.3	
	baz=57								
NVAR	**Mina Array Bea**	**57.41**	**68**	P		**P**	09 32 55.3	+2.0	
	comp=Z,1.4nm,0.5s,baz=291,slow=7.7,SNR=14								
NVAR				pP		**pP**	09 33 26.7	+2.6	
	comp=Z,0.9nm,0.8s,baz=299,slow=10,SNR=3.4								
NVAR	**Mina Array Bea**	**57.41**	**68**	P		**P**	09 32 55.3	+2.0	
NVAR				pP		**pP**	09 33 26.7	+2.6	
F19A	**Roth Farm, Mol**	**57.41**	**56**	⇓P		**P**	09 32 54.4	+1.4	
	baz=57								
I16A	**Newdale**	**57.44**	**59**	⇑P		**P**	09 32 54.7	+1.3	
	baz=57								
K14A	**Jones Ranch, D**	**57.45**	**61**	⇓P		**P**	09 32 55.8	+2.4	
	baz=57,SNR=5.0								
G18A	**Lazy EL Ranch,**	**57.46**	**57**	⇓P		**P**	09 32 54.3	+0.8	
	baz=57								
LKWY	**Lake**	**57.54**	**58**	*e*P		**P**	09 32 57.3	+3.2	
LKWY				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LKWY	**Lake**	**57.54**	**58**	*e*P		**P**	09 32 57.3	+3.2	
	comp=Z,3.8nm,0.9s								
H17A	**Grant Village**	**57.57**	**58**	⇓P		**P**	09 32 57.2	+2.9	
	baz=57								
B23A	**Brockton**	**57.58**	**51**	⇑P		**P**	09 32 54.9	+0.8	
	baz=57								
C22A	**Vida**	**57.64**	**53**	⇓P		**P**	09 32 55.4	+0.9	
	baz=57								
K15A	**Arbon**	**57.70**	**61**	⇑P		**P**	09 32 57.5	+2.4	
	baz=58,SNR=5.2								
A24A	**Westby**	**57.74**	**51**	⇑P		**P**	09 32 55.6	+0.4	
	baz=58								
RLMT	**Red Lodge**	**57.75**	**57**	*e*P		**P**	09 32 57.3	+1.8	
	comp=Z,7.7nm,1.0s								
RLMT	**Red Lodge**	**57.75**	**57**	⇑P		**P**	09 32 57.2	+1.6	
	baz=58,SNR=7.3								
L14A	**Malta**	**57.76**	**62**	⇑P		**P**	09 32 58.0	+2.4	
	baz=58								
J16A	**Bone**	**57.79**	**60**	⇑P		**P**	09 32 57.5	+1.7	
	baz=58								
H18A	**Shoshone NF, C**	**57.85**	**57**	⇑P		**P**	09 32 57.8	+1.5	
	baz=58								
I17A	**Pilgrim Ck.**	**57.89**	**59**	⇓P		**P**	09 32 59.0	+2.5	
	baz=58								
C23A	**Lambert**	**57.95**	**52**	⇑P		**P**	09 32 57.8	+1.2	
	baz=58								
TPAW	**Teton Pass**	**57.99**	**59**	*e*P		**P**	09 32 59.8	+2.5	
	comp=Z,60nm,2.8s								
LOHW	**Long Hollow**	**58.09**	**59**	*e*P		**P**	09 33 00.3	+2.4	
	comp=Z,4.0nm,1.1s								
K16A	**Soda Springs**	**58.10**	**60**	⇓P		**P**	09 33 00.3	+2.3	
	baz=58								
REDW	**Red Top Meadow**	**58.13**	**59**	*e*P		**P**	09 33 00.7	+2.4	
	comp=Z,3.3nm,1.0s								
H19A	**Powell**	**58.20**	**57**	⇓P		**P**	09 33 00.2	+1.6	
	baz=58								
G20A	**Bridger**	**58.22**	**56**	⇑P		**P**	09 32 59.8	+1.1	
	baz=58,SNR=5.9								
L15A	**Malad City**	**58.24**	**61**	⇑P		**P**	09 33 01.1	+2.1	
	baz=58								
D23A	**Lindsay**	**58.37**	**53**	⇓P		**P**	09 33 01.1	+1.4	
	baz=58								
E22A	**Mills City**	**58.52**	**54**	⇓P		**P**	09 33 01.1	+0.4	
	baz=58								
J18A	**Kendall Valley**	**58.67**	**59**	⇓P		**P**	09 33 03.6	+1.5	
	baz=58								
L16A	**Fish Haven**	**58.75**	**61**	⇑P		**P**	09 33 03.8	+1.3	
	baz=59								
D24A	**Glendive**	**58.84**	**52**	⇓P		**P**	09 33 04.4	+1.5	
	baz=59								
L17A	**Cokeville**	**58.99**	**60**	⇑P		**P**	09 33 06.0	+1.8	
	baz=59								
R11A	**Troy Canyon, C**	**59.01**	**66**	⇓P		**P**	09 33 06.1	+1.8	
	baz=59								
K18A	**Toltan Ranch,**	**59.06**	**59**	⇑P		**P**	09 33 06.8	+2.2	
	baz=59,SNR=7.8								
M16A	**Huntsville**	**59.13**	**61**	⇓P		**P**	09 33 06.9	+1.8	
	baz=59								
J19A	**Crowheart**	**59.14**	**58**	⇓P		**P**	09 33 06.9	+1.8	
	baz=59								
I20A	**Worland**	**59.15**	**57**	⇓P		**P**	09 33 07.0	+1.9	
	baz=59,SNR=5.3								
G22A	**Birney**	**59.20**	**55**	⇑P		**P**	09 33 06.7	+1.3	
	baz=59								
BW06	**Boulder Array**	**59.23**	**59**	*e*P		**P**	09 33 06.3	+0.5	
	comp=Z,3.7nm,0.8s								
BW06	**Boulder Array**	**59.23**	**59**	⇑P		**P**	09 33 07.2	+1.4	
	baz=59,SNR=7.1								
PDAR	**Pinedale Array**	**59.23**	**59**	P		**P**	09 33 07.2	+1.4	
	comp=Z,5.5nm,0.8s,baz=318,slow=2.6,SNR=39								
PDAR	**Pinedale Array**	**59.23**	**59**	P		**P**	09 33 07.2	+1.4	
H21A	**Big Horn, Sher**	**59.23**	**56**	⇓P		**P**	09 33 07.1	+1.4	
	baz=59,SNR=6.0								
E24A	**Baker**	**59.24**	**53**	⇑P		**P**	09 33 06.5	+0.9	
	baz=59								
SFJD	**Kangerlussuaq**	**59.25**	**13**	P		**P**	09 33 03.8	-1.4	
	comp=Z,1.9nm,0.3s,baz=226,slow=4.6,SNR=4.3								
SFJD	**Kangerlussuaq**	**59.25**	**13**	P		**P**	09 33 03.9	-1.4	
DUG	**Dugway**	**59.27**	**63**	⇓P		**P**	09 33 08.0	+2.0	
	baz=59								
F23A	**Volborg**	**59.29**	**54**	⇑P		**P**	09 33 07.4	+1.4	
	baz=59,SNR=6.9								
M17A	**Scullys Gap (B**	**59.54**	**61**	⇑P		**P**	09 33 09.6	+1.6	
	baz=59								
K19A	**Absolon Red Bu**	**59.56**	**58**	⇓P		**P**	09 33 09.3	+1.3	
	baz=59								
L18A	**Fontenelle, Gr**	**59.56**	**60**	⇑P		**P**	09 33 09.6	+1.5	
	baz=59								
J20A	**Shoshoni**	**59.59**	**58**	⇑P		**P**	09 33 10.0	+1.8	
	baz=59,SNR=5.1								
FURC	**Furnace Creek,**	**59.59**	**69**	⇑P		**P**	09 33 10.4	+2.3	
	baz=60								
G23A	**Biddle**	**59.66**	**54**	⇑P		**P**	09 33 09.6	+1.0	
	baz=59								
I21A	**Big Trails, Te**	**59.67**	**57**	⇑P		**P**	09 33 10.1	+1.3	
	baz=60								
LRMC	**Laurel Mountai**	**59.81**	**70**	⇑P		P	09 33 13.2	+3.4	
	baz=60								
N17A	**Moffit Pass**	**59.82**	**61**	⇓P		**P**	09 33 11.3	+1.3	
	baz=60								
M18A	**Lyman**	**59.89**	**60**	⇓P		**P**	09 33 11.9	+1.5	
	baz=60								
J21A	**Lysite**	**59.92**	**57**	⇑P		**P**	09 33 11.7	+1.1	
	baz=60								
K20A	**Yellowstone Ra**	**59.94**	**58**	⇑P		**P**	09 33 11.4	+0.7	
	baz=60								
O16A	**Springville**	**59.97**	**62**	⇓P		**P**	09 33 13.1	+2.2	
	baz=60								
P15A	**Leamington**	**59.99**	**63**	⇓P		**P**	09 33 12.7	+1.7	
	baz=60								
I22A	**9 Mile Ranch,**	**60.03**	**56**	⇑P		**P**	09 33 12.3	+1.1	
	baz=60								
G24A	**Alzada**	**60.06**	**54**	⇑P		**P**	09 33 12.4	+1.1	
	baz=60,SNR=5.3								
J22A	**Midwest**	**60.38**	**57**	⇓P		**P**	09 33 14.8	+1.2	
	baz=60								
L20A	**Wamsutter**	**60.40**	**59**	⇓P		**P**	09 33 15.6	+1.7	
	baz=60								
H24A	**Dirks Ranch, A**	**60.40**	**54**	⇓P		**P**	09 33 14.9	+1.2	
	baz=60,SNR=5.5								
N18A	**Larsen Ranch,**	**60.42**	**60**	⇑P		**P**	09 33 15.2	+1.3	
	baz=60								
ULM	**Lac du Bonnet**	**60.50**	**45**	P		**P**	09 33 13.8	-0.2	
	comp=Z,1.8nm,0.5s,baz=342,slow=6.8,SNR=4.3								
ULM	**Lac du Bonnet**	**60.50**	**45**	P		**P**	09 33 13.8	-0.2	
K21A	**Alcova**	**60.53**	**58**	⇑P		**P**	09 33 15.8	+1.1	
	baz=60,SNR=9.6								
O18A	**Roosevelt**	**60.74**	**61**	⇑P		**P**	09 33 18.5	+2.4	
	baz=61								
M20A	**Sweetwater, Wa**	**60.85**	**59**	⇓P		**P**	09 33 18.3	+1.4	
	baz=61								
J23A	**Dilts Ranch, B**	**60.86**	**56**	⇓P		**P**	09 33 17.8	+1.0	
	baz=61								
K22A	**Casper**	**60.89**	**57**	⇑P		**P**	09 33 18.4	+1.3	
	baz=61								
L21A	**Rawlins**	**60.94**	**58**	⇓P		**P**	09 33 18.1	+0.6	
	baz=61								
P18A	**Preston Nutter**	**61.07**	**62

	baz=65								
SPMN	**St. Paul**	**65.64**	**47**	⇑P		**P**	**09 33 48.6**	**+0.4**
	baz=65								
U23A	**El Rito**	**65.66**	**62**	⇓P		**P**	**09 33 51.0**	**+2.3**
	baz=66								
R26A	**Arlington**	**65.67**	**59**	⇓P		**P**	**09 33 50.0**	**+1.4**
	baz=66								
R27A	**Eads**	**66.02**	**58**	⇑P		**P**	**09 33 51.6**	**+0.8**
	baz=66								
T25A	**Trinidad**	**66.02**	**60**	⇑P		**P**	**09 33 52.3**	**+1.4**
	baz=66								
V23A	**Ortiz Mt. (NFS**	**66.10**	**62**	⇑P		**P**	**09 33 53.5**	**+2.0**
	baz=66								
S26A	**Kim**	**66.16**	**59**	⇓P		**P**	**09 33 53.0**	**+1.2**
	baz=66								
X21A	**Alamocita Cree**	**66.18**	**64**	⇓P		**P**	**09 33 53.6**	**+1.6**
	baz=66								
T26A	**Comanche Natio**	**66.43**	**59**	⇓P		**P**	**09 33 54.4**	**+0.9**
	baz=66								
ANMO	**Albuquerque**	**66.54**	**63**	P		**P**	**09 33 55.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=333,slow=9.8,SNR=5.5								
ANMO	**Albuquerque**	**66.54**	**63**	P		**P**	**09 33 55.9**	**+1.6**
U25A	**Circle Dot Ran**	**66.57**	**61**	⇓P		**P**	**09 33 55.8**	**+1.3**
	baz=66								
COEN	**Coen**	**67.04**	**195**	*eP*		**P**	**09 33 58.2**	**+1.0**
	comp=Z,29nm,0.8s								
120A	**U Bar Ranch, L**	**67.11**	**66**	⇓P		**P**	**09 33 59.8**	**+1.9**
	baz=67								
SCHQ	**Schefferville**	**67.13**	**26**	P		**P**	**09 33 56.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=356,slow=9.4,SNR=7.1								
SCHQ	**Schefferville**	**67.13**	**26**	P		**P**	**09 33 56.6**	**-0.8**
T28A	**Walsh**	**67.25**	**59**	⇑P		**P**	**09 33 59.2**	**+0.6**
	baz=67								
V26A	**Tequesquite Ra**	**67.35**	**61**	⇑P		**P**	**09 34 00.8**	**+1.5**
	baz=67								
W25A	**X Bar L Ranch,**	**67.42**	**61**	⇑P		**P**	**09 34 01.1**	**+1.3**
	baz=67								
319A	**Douglas**	**67.61**	**67**	⇓P		**P**	**09 34 02.6**	**+1.6**
	baz=68								
Y24A	**Capitan**	**67.86**	**63**	⇑P		**P**	**09 34 04.6**	**+2.0**
	baz=68								
Y25A	**Mesa, Roswell**	**68.27**	**63**	⇓P		**P**	**09 34 06.4**	**+1.3**
	baz=68								
Z24A	**Sheeppen Canyo**	**68.35**	**63**	⇓P		**P**	**09 34 07.5**	**+1.8**
	baz=68								
Z26A	**Caprock**	**69.15**	**63**	⇓P		**P**	**09 34 11.7**	**+1.2**
	baz=69								
224A	**Cornudas Mount**	**69.20**	**64**	⇑P		**P**	**09 34 12.1**	**+1.2**
	baz=69								
125A	**Gardner Draw,**	**69.24**	**63**	⇓P		**P**	**09 34 12.7**	**+1.6**
	baz=69								
Z27A	**Tatum**	**69.53**	**62**	⇑P		**P**	**09 34 14.1**	**+1.2**
	baz=69								
MNTX	**Cornudas Mount**	**69.56**	**65**	⇓P		**P**	**09 34 14.2**	**+1.2**
	baz=69								
324A	**Moseley Ranch,**	**69.70**	**65**	⇑P		**P**	**09 34 15.0**	**+1.0**
	baz=70								
325A	**Bean Ranch, Si**	**70.04**	**65**	⇑P		**P**	**09 34 17.2**	**+1.1**
	baz=70								
425A	**Indio Mountain**	**70.48**	**65**	⇓P		**P**	**09 34 20.3**	**+1.6**
	baz=70								
328A	**Wristen Ranch,**	**71.23**	**63**	⇑P		**P**	**09 34 24.5**	**+1.4**
	baz=71								
427A	**Hayter Ranch,**	**71.31**	**64**	⇑P		**P**	**09 34 25.2**	**+1.5**
	baz=71								
TUL1	**Tulsa**	**71.44**	**55**	⇑P		**P**	**09 34 24.7**	**+0.5**
	baz=71								
526A	**Mary Lane Ranc**	**71.53**	**65**	⇑P		**P**	**09 34 26.5**	**+1.4**
	baz=71								
329A	**Wagon Wheel Ra**	**71.60**	**62**	⇑P		**P**	**09 34 26.7**	**+1.3**
	baz=71								
527A	**Woodward Ranch**	**71.73**	**64**	⇑P		**P**	**09 34 27.6**	**+1.3**
	baz=72								
428A	**Kincaid Ranch,**	**71.80**	**63**	⇑P		**P**	**09 34 28.1**	**+1.5**
	baz=72								
626A	**Big Bend Ranch**	**71.89**	**65**	⇑P		**P**	**09 34 28.5**	**+1.3**
	baz=72								
ABTX	**Abilene, Hawle**	**71.99**	**60**	⇑P		**P**	**09 34 28.3**	**+0.7**
	baz=72								
SFIN	**Scholer Farm**	**72.04**	**47**	⇓P		**P**	**09 34 27.5**	**-0.3**
	baz=72								
528A	**Cox Ranch, San**	**72.17**	**64**	⇑P		**P**	**09 34 30.5**	**+1.6**
	baz=72								
429A	**Davenport Ranc**	**72.31**	**63**	⇓P		**P**	**09 34 30.7**	**+1.1**
	baz=72								
TXAR	**Lajitas Array**	**72.32**	**65**	P		**P**	**09 34 31.2**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=292,slow=5.5,SNR=43								
TXAR				pP		**pP**	**09 35 02.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=316,slow=3.5,SNR=3.0								
TXAR	**Lajitas Array**	**72.32**	**65**	P		**P**	**09 34 31.2**	**+1.5**
TXAR				pP		**pP**	**09 35 02.4**	**+0.5**
KOLS	**Kolonicke sedl**	**72.40**	**331**	*eP*		P	09 34 20.4	-9.4
KOLS	**Kolonicke sedl**	**72.40**	**331**	*eP*		P	09 34 20.4	-9.4
529A	**Stev Forest Ra**	**72.52**	**63**	⇑P		**P**	**09 34 32.4**	**+1.5**
	baz=72								
430A	**Baggett Ranch,**	**72.55**	**62**	⇓P		**P**	**09 34 31.8**	**+0.8**
	baz=72								
CTA	**Charters Tower**	**72.63**	**191**	P		**P**	**09 34 32.2**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=352,slow=7.1,SNR=4.2								
CTA	**Charters Tower**	**72.63**	**191**	P		**P**	**09 34 32.2**	**+0.9**
CRVS	**Cervenica-Dubn**	**72.67**	**331**	*eP*		P	09 34 25.0	-6.4
CRVS	**Cervenica-Dubn**	**72.67**	**331**	*eP*		P	09 34 25.0	-6.4
431A	**Sonora**	**72.97**	**62**	⇓P		**P**	**09 34 34.5**	**+1.0**
	baz=73								
SIUC	**Southern Illin**	**73.22**	**50**	*eP*		P	09 34 29.0	-5.8
	comp=Z,9.6nm,0.6s								
531A	**Rocksprings**	**73.40**	**62**	⇑P		**P**	**09 34 37.5**	**+1.4**
	baz=73								
WRAB	**Tennant Creek**	**74.63**	**203**	*eP*		**P**	**09 34 43.7**	**+0.7**
WRAB				pmax		pmax			
	comp=Z,12nm,1.0s								
WRAB	**Tennant Creek**	**74.63**	**203**	*eP*		**P**	**09 34 43.7**	**+0.7**
	comp=Z,12nm,1.0s								
WRA	**Warramunga Arr**	**74.65**	**203**	P		**P**	**09 34 43.7**	**+0.6**
	comp=Z,5.4nm,0.6s,baz=22,slow=6.3,SNR=79								
WRA	**Warramunga Arr**	**74.65**	**203**	P		**P**	**09 34 43.7**	**+0.6**
732A	**Laxson Ranch,**	**74.83**	**63**	⇓P		**P**	**09 34 46.0**	**+1.7**
	baz=75								
FITZ	**Fitzroy Crossi**	**75.34**	**212**	P		**P**	**09 34 48.3**	**+1.2**
	comp=Z,4.7nm,0.5s,baz=24,slow=8.2,SNR=24								
FITZ	**Fitzroy Crossi**	**75.34**	**212**	P		**P**	**09 34 48.3**	**+1.2**
AS31	**Alice Springs**	**78.33**	**202**	*eP*		**P**	**09 35 05.0**	**+1.2**
ASAR	**Alice Springs**	**78.33**	**202**	P		**P**	**09 35 05.2**	**+1.4**
	comp=Z,6.4nm,0.5s,baz=14,slow=5.3,SNR=130								
ASAR	**Alice Springs**	**78.33**	**202**	P		**P**	**09 35 05.2**	**+1.4**
STKA	**Stephens Creek**	**84.87**	**194**	P		**P**	**09 35 39.0**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=41,slow=11,SNR=5.7								
STKA	**Stephens Creek**	**84.87**	**194**	P		**P**	**09 35 39.0**	**+1.1**
ESDC	**Sonseca Array**	**87.17**	**346**	pP		pP	09 36 22.5	-0.2
	comp=Z,0.5nm,0.3s,baz=356,slow=4.5,SNR=3.0								
PLCA	**Paso Flores**	**145.43**	**90**	PKPbc		**PKPab**	**09 42 41.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=281,slow=2.1,SNR=8.0								
PLCA	**Paso Flores**	**145.43**	**90**	PKPbc		**PKPab**	**09 42 41.3**	**+0.5**
TRQA	**Tornquist**	**149.04**	**79**	*e*PKPdf		**PKPdf**	**09 42 47.3**	**+1.1**
TRQA				*e*PKPbc		**PKPbc**	**09 42 50.9**	**+0.5**
TRQA				*e*PKPab		**PKPab**	**09 42 56.0**	**+0.9**

*IDC **10** 09:28:35.4±2.0, 19°.10N×106°.64W, h0km, mb3.3/2, mb1 3.9/4, mb1mx3.7/24, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=49.0km s-min=34.9km az=48.0*
*ISCJB **10** 09:28:41.5±1.5, 19°.48N±0°.06×106°.20W±0°.08, h42km±21km, mb3.4/2, Error ellipse: s-maj=13.2km s-min=8.7km az=150.6*
*MEX **10** 09:28:42.1±0.8, 19°.48N×106°.29W, h20km±19km, MD4.1*

ISC 10 09:28:43.2±3.1, 19°.46N±0°.09×106°.2W±0°.2, h49km±34km, n13, σ1$41/21, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
R15V		**2.11**	**98**	*i* P		**Pn**		**09 29 14.8**	**-1.4**
R15V				*i* S		**Sn**		**09 29 41.1**	**-0.1**
ANIG	**Ahuacatlan**	**2.23**	**45**	*e*P		**Pn**		**09 29 16.7**	**-1.2**
ANIG				*i* S		**Sn**		**09 29 42.9**	**-1.4**
EZ5V		**2.45**	**89**	*i* P		**Pn**		**09 29 20.9**	**-0.1**
EZ5V				*i* S		**Sn**		**09 29 48.9**	**-1.0**
MMIG	**Aquila**	**2.94**	**113**	*i* P		**Pn**		**09 29 26.1**	**-1.4**
MMIG				*i* S		**Sn**		**09 30 01.1**	**-0.5**
SFJM	**Santa Fe**	**3.14**	**71**	*i* P		**Pn**		**09 29 29.5**	**-0.9**
SFJM				*i* S		**Sn**		**09 30 07.0**	**+0.2**
ZAIG	**Zacatecas**	**4.72**	**45**	*i* P		**Pn**		**09 29 50.4**	**-1.8**
ZAIG				*i* S		**Sn**		**09 30 45.3**	**-0.6**
ZIIG	**Zihuatanejo**	**4.86**	**112**	*i* P		**Pn**		**09 29 54.3**	**+0.5**
ZIIG				*i* S		**Sn**		**09 30 47.4**	**-1.3**
ARIG	**Puente Sto Nin**	**5.66**	**101**	*i* P		**Pn**		**09 30 06.1**	**+1.2**
ARIG				*i* S		**Sn**		**09 31 10.6**	**+1.9**
TXAR	**Lajitas Array**	**10.09**	**13**	P	n	**Pn**		**09 31 07.6**	**+1.9**
	0.1nm,0.3s,baz=194,slow=15,SNR=11								
CMIG	**Matias Romero**	**11.00**	**101**	P	n	**Pn**		**09 31 20.2**	**+2.1**
	0.8nm,0.3s,baz=289,slow=12,SNR=20								
NVAR	**Mina Array Bea**	**21.63**	**333**	P		**P**		**09 33 30.8**	**+1.3**
	1.1nm,0.8s,baz=160,slow=11,SNR=6.1								
ILAR	**Eielson Array**	**52.71**	**330**	P		**P**		**09 37 52.5**	**-0.1**
	0.3nm,0.6s,baz=143,slow=6.3,SNR=6.7								
WRA	**Warramunga Arr**	**123.29**	**258**	PKP		**PKPdf**		**09 47 33.5**	**-2.0**
	0.1nm,0.6s,baz=90,slow=2.4,SNR=5.1								

IDC 10 10:01:46.9±4.3, 19°.96S×68°.85W, h118km±33km, mb3.3/3, mb1 3.6/6, mb1mx3.3/20, mbtmp3.3/6, Error ellipse: s-maj=48.2km s-min=21.9km az=57.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LPAZ	**La Paz**	**3.71**	**11**	P		Pn		10 02 43.6	+0.2
	1.7nm,0.3s,baz=190,slow=7.5,SNR=30								
LPAZ				S		Sn		10 03 27.1	0.0
	0.3nm,0.3s,baz=179,slow=16,SNR=4.9								
SIV	**San Ignacio**	**8.39**	**63**	P		Pn		10 03 44.8	-0.9
	2.0nm,0.3s,baz=266,slow=10,SNR=56								
CPUP	**Villa Florida**	**12.35**	**123**	P		Pn		10 04 39.7	+1.0
	0.3nm,0.3s,baz=335,slow=7.9,SNR=3.2								
PDAR	**Pinedale Array**	**72.81**	**330**	P		P		10 13 03.2	+0.4
	0.1nm,0.4s,baz=149,slow=5.7,SNR=2.4								
TORD	**Torodi Ar. Bea**	**76.79**	**71**	P		P		10 13 26.2	+0.2
	0.3nm,0.4s,baz=262,slow=5.6,SNR=4.9								
TORD				pP		pP		10 13 54.3	-1.5
	0.7nm,0.9s,baz=253,slow=5.9,SNR=2.6								
YKA	**Yellowknife Ar**	**89.76**	**341**	P		P		10 14 30.8	-0.6
	0.6nm,0.6s,baz=136,slow=4.8,SNR=12								
YKA				pP		pP		10 14 58.4	-3.7
	0.4nm,0.8s,baz=136,slow=5.0,SNR=3.3								
ASAR	**Alice Springs**	**131.29**	**208**	PKP		PKPdf		10 20 44.1	-1.9
	0.1nm,0.5s,baz=124,slow=2.7,SNR=2.9								
WRA	**Warramunga Arr**	**134.30**	**211**	PKP		PKPdf		10 20 51.6	0.0
	0.3nm,0.7s,baz=151,slow=1.8,SNR=3.6								
SONM	**Songino Array**	**151.92**	**7**	PKPbc		PKPbc		10 21 28.5	+0.4
	0.3nm,0.5s,baz=340,slow=1.2,SNR=3.0								

IDC 10 10:08:13.6±9.6, 15°.91S×176°.65W, h388km±316km, mb3.2/3, mb1 3.3/4, mb1mx3.0/20, mbtmp3.2/4, Error ellipse: s-maj=305.4km s-min=110.0km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**5.12**	**68**	P		Pn		10 09 36.7	+0.3
	1.8nm,0.3s,baz=46,slow=19,SNR=5.0								
AFI				S		S		10 10 43.6	0.0
	0.9nm,0.3s,baz=358,slow=17,SNR=1.8								
STKA	**Stephens Creek**	**41.07**	**240**	P		P		10 15 21.2	-0.2
	1.5nm,0.8s,baz=72,slow=9.6,SNR=2.6								
WRA	**Warramunga Arr**	**46.67**	**257**	P		P		10 16 05.4	-0.1
	0.4nm,0.5s,baz=92,slow=7.4,SNR=18								
ASAR	**Alice Springs**	**46.97**	**252**	P		P		10 16 07.5	-0.2
	2.2nm,0.4s,baz=88,slow=7.9,SNR=66								

*IDC **10** 10:11:23.2±0.8, 9°.64N×126°.37E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/25, mbtmp3.7/8, Error ellipse: s-maj=41.0km s-min=16.3km az=75.0*
*ISCJB **10** 10:11:27.6±0.6, 9°.59N±0°.06×126°.58E±0°.05, h43km, mb3.9/9, Error ellipse: s-maj=9.0km s-min=7.0km az=2.6*
*MAN **10** 10:11:28, 9°.50N×126°.55E, h32km, mb4.6, ML3.5, MS3.4*

ISC 10 10:11:29.3±0.9, 9°.55N±0°.07×126°.56E±0°.08, h43km, n17, σ1$25/21, mb3.8/9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BUTP	**Butuan**	**1.09**	**238**	*e*P		**Pn**		**10 11 46.6**	**-1.6**
MSLP	**Maasin**	**1.78**	**289**	*e*P		**Pn**		**10 11 57.2**	**-0.3**
MSLP				*e*S		**Sn**		**10 12 22.4**	**+3.4**
CGP	**Cagayan de Oro**	**2.14**	**240**	*e*P		**Pn**		**10 12 01.7**	**-0.9**
CGP				*e*S		**Sn**		**10 12 27.7**	**-0.2**
BUKP	**Musuan**	**2.23**	**222**	*e*P		**Pn**		**10 12 05.1**	**+1.3**
TBP	**Tagbilaran**	**2.67**	**273**	*e*P		**Pn**		**10 12 09.5**	**-0.3**
TBP				*e*S		**Sn**		**10 12 40.4**	**-0.5**
LLP	**Lapu-Lapu**	**2.67**	**287**	*e*P		**Pn**		**10 12 10.6**	**+0.8**
LLP				*e*S		**Sn**		**10 12 40.8**	**-0.2**
CTBH	**Cotabato--PC H**	**3.26**	**225**	*e*P		**Pn**		**10 12 16.7**	**-1.2**
PAGZ	**Pagadian**	**3.57**	**242**	*e*P		**Pn**		**10 12 23.3**	**+1.1**
CBIJ	**Chichi jima**	**22.86**	**38**	P		**P**		**10 16 28.8**	**-0.2**
	72nm,0.5s,baz=271,slow=21,SNR=2.8								
FITZ	**Fitzroy Crossi**	**27.49**	**182**	P		**P**		**10 17 12.4**	**+0.7**
	1.4nm,0.6s,baz=18,slow=11,SNR=4.0								
WRA	**Warramunga Arr**	**30.29**	**165**	P		**P**		**10 17 37.5**	**+0.9**
	0.1nm,0.4s,baz=347,slow=7.9,SNR=3.8								
ASAR	**Alice Springs**	**33.78**	**168**	P		**P**		**10 18 07.7**	**+0.4**
	0.1nm,0.3s,baz=350,slow=7.5,SNR=5.3								
STKA	**Stephens Creek**	**43.63**	**161**	P		**P**		**10 19 30.7**	**+1.0**
	0.7nm,0.5s,baz=348,slow=14.9,SNR=2.7								
MKAR	**Makanchi Array**	**52.77**	**323**	P		**P**		**10 20 38.9**	**-1.3**
	0.5nm,0.5s,baz=122,slow=7.6,SNR=12								
KURBB	**Kurchatov Arra**	**56.83**	**326**	P		**P**		**10 21 08.0**	**-1.4**
	0.2nm,0.4s,baz=78,slow=6.8,SNR=3.7								
ARCES	**ARCESS Array B**	**84.97**	**340**	P		**P**		**10 23 59.9**	**+0.1**
	2.4nm,0.8s,baz=83,slow=9.9,SNR=5.5								
FINES	**FINESS Array B**	**86.66**	**332**	P		**P**		**10 24 07.1**	**-1.1**
	0.8nm,0.4s,baz=64,slow=4.4,SNR=5.3								

*ATH **10** 10:13:18.5, 38°.90N×27°.92E, h8km±2km, MD3.6/10*
*DDA **10** 10:13:20.9, 38°.96N×27°.78E, h17km, ML3.9*
*CSEM **10** 10:13:21.5±0.1, 38°.94N×27°.77E, h10km, ML3.6, Error ellipse: s-maj=1.6km s-min=1.4km az=107.0*
*ISK **10** 10:13:21.1, 38°.94N×27°.76E, h14km, ML3.6*
*ISCJB **10** 10:13:21.2±0.3, 38°.94N±0°.02×27°.76E±0°.02, h13km±3km, Error ellipse: s-maj=3.0km s-min=2.8km az=41.9*
*THE **10** 10:13:23.3, 38°.89N×27°.72E, h16km±3km, ML3.9/3, Error ellipse: s-maj=3.4km s-min=1.0km az=99.0*
*SOF **10** 10:13:24.0, 39°.27N×27°.62E, h6km, MD3.1*

ISC 10 10:13:21.8±0.8, 38°.95N±0°.02×27°.76E±0°.02, h13km±5km, n167, σ0$94/211, 12D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AKHS	**Akhisar**	**0.09**	**148**	*i* Pg		**Pg**		**10 13 24.4**	**-0.3**
AKHS				*i* Sg		**Sg**		**10 13 26.5**	**-0.2**
AKS	**Akhisar**	**0.09**	**148**	PG		**Pg**		**10 13 24.4**	**-0.3**
AKS	**Akhisar**	**0.09**	**148**	*i* Pg		**Pg**		**10 13 24.4**	**-0.3**
IZM	**Izmir**	**0.68**	**215**	PG		**Pg**		**10 13 34.3**	**-0.6**
IZM	**Izmir**	**0.68**	**215**	*i* Pg		**Pg**		**10 13 34.3**	**-0.6**
BALB	**Balikesir**	**0.69**	**8**	PG		**Pg**		**10 13 35.0**	**-0.3**
BALB				*e*SG		**Sb**		**10 13 45.5**	**+0.3**
BALB	**Balikesir**	**0.69**	**8**	*i* Pg		**Pg**		**10 13 35.0**	**-0.3**
BALB				*e*Sg		**Sb**		**10 13 45.5**	**+0.3**
DEMI	**Demirci**	**0.75**	**83**	*i* P		**Pg**		**10 13 36.3**	**-0.1**
DEMI				*i* S		**Sg**		**10 13 46.1**	**-0.3**
DEMI	**Demirci**	**0.75**	**83**	*i* P		**Pg**		**10 13 36.3**	**-0.1**
DEMI				*i* S		**Sg**		**10 13 46.1**	**-0.3**
BALY	**Balya**	**0.79**	**352**	*i* P		**Pg**		**10 13 36.8**	**-0.4**
BALY				*i* S		**Sg**		**10 13 47.6**	**0.0**
BALY	**Balya**	**0.79**	**352**	*i* P		**Pg**		**10 13 36.8**	**-0.4**
BALY				*i* S		**Sg**		**10 13 47.7**	**0.0**
BLCB	**Balcova**	**0.80**	**225**	*e*PG		**Pg**		**10 13 36.8**	**-0.4**
BLCB				*e*SG		**Sb**		**10 13 48.2**	**+0.2**
BLCB	**Balcova**	**0.80**	**225**	*e*Pg		**Pg**		**10 13 36.8**	**-0.4**
BLCB				*e*Sg		**Sb**		**10 13 48.2**	**+0.2**
KULA	**Kula-Manisa**	**0.83**	**121**	*e*PG		**Pg**		**10 13 37.6**	**-0.3**
KULA	**Kula-Manisa**	**0.83**	**121**	*e*Pg		**Pg**		**10 13 37.6**	**-0.3**
DURS	**Dursunbey**	**0.85**	**40**	*i* P		**Pg**		**10 13 37.6**	**-0.8**
DURS				*i* S		**Sg**		**10 13 49.2**	**-0.4**
DURS	**Dursunbey**	**0.85**	**40**	*i* P		**Pg**		**10 13 37.6**	**-0.8**
DURS				*i* S		**Sg**		**10 13 49.2**	**-0.4**
AYVA	**Ayvalik**	**0.90**	**294**	*i* P		**Pg**		**10 13 39.3**	**+0.1**
AYVA				*i* S		**Sb**		**10 13 51.6**	**+0.5**
AYVA	**Ayvalik**	**0.90**	**294**	*i* P		**Pb**		**10 13 39.3**	**+0.1**
AYVA				*i* S		**Sb**		**10 13 51.6**	**+0.5**
DST	**Dursunbey**	**0.94**	**46**	*e*PG		**Pb**		**10 13 39.7**	**-0.1**
DST	**Dursunbey**	**0.94**	**46**	*e*Pg		**Pb**		**10 13 39.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.09**	**357**	*e*PN		**Pb**		**10 13 42.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.09**	**357**	*e*Pn		**Pb**		**10 13 42.6**	**+0.1**
PRK	**Paraskevi**	**1.19**	**285**	P		**Pn**		**10 13 44.1**	**0.0**
PRK				S		**Sb**		**10 13 59.5**	**0.0**
PRK	**Paraskevi**	**1.19**	**285**	*e*PB		**Pn**		**10 13 44.1**	**0.0**
PRK				*e*SB		**Sg**		**10 14 02.4**	**+2.2**
PRK	**Paraskevi**	**1.19**	**285**	P		**Pn**		**10 13 44.1**	**0.0**
PRK				S		**Sb**		**10 13 59.5**	**0.0**
PRK				*e*Sb		**Sg**		**10 14 02.4**	**+2.2**
GDZ	**Gediz**	**1.35**	**84**	*e*P		**Pn**		**10 13 46.1**	**-0.3**
GDZ				*e*S		**Sn**		**10 14 04.3**	**0.0**
GDZ	**Gediz**	**1.35**	**84**	*e*P		**Pn**		**10 13 46.1**	**-0.3**
GDZ				*e*S		**Sn**		**10 14 04.3**	**0.0**
EDC	**Edincik**	**1.40**	**3**	*e*PN		**Pb**		**10 13 47.7**	**0.0**
EDC	**Edincik**	**1.40**	**3**	*e*Pn		**Pb**		**10 13 47.7**	**0.0**
ORLT	**Orhaneli**	**1.41**	**39**	*e*PN		**Pn**		**10 13 47.4**	**+0.3**
ORLT	**Orhaneli**	**1.41**	**39**	*e*Pn		**Pn**		**10 13 47.4**	**+0.3**
BNT	**Bandirma**	**1.41**	**5**	*e*PN		**Pn**		**10 13 47.0**	**-0.1**
BNT	**Bandirma**	**1.41**	**5**	*e*Pn		**Pn**		**10 13 47.0**	**-0.1**
EZN	**Ezine**	**1.41**	**309**	*e*PN		**Pn**		**10 13 47.5**	**+0.4**
EZN	**Ezine**	**1.41**	**309**	*e*Pn		**Pn**		**10 13 47.5**	**+0.4**
TVSB	**Tavsanli**	**1.42**	**69**	*e*PN		**Pn**		**10 13 47.4**	**+0.1**
TVSB	**Tavsanli**	**1.42**	**69**	*e*Pn		**Pn**		**10 13 47.4**	**+0.1**
CHOS	**Chios island**	**1.45**	**248**	P		**Pn**		**10 13 47.4**	**-0.2**
CHOS				S		**Sn**		**10 14 05.7**	**-0.8**
CHOS	**Chios island**	**1.45**	**248**	*e*PG		**Pn**		**10 13 47.4**	**-0.2**
CHOS				*e*SB		**Sg**		**10 14 08.4**	**0.0**
CHOS	**Chios island**	**1.45**	**248**	P		**Pn**		**10 13 47.4**	**-0.2**
CHOS				S		**Sn**		**10 14 05.7**	**-0.8**
CHOS				*e*Sb		**Sg**		**10 14 08.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.48**	**346**	*e*PN		**Pn**		**10 13 48.0**	**-0.1**
KRBG	**Karabiga-Canak**	**1.48**	**346**	*e*Pn		**Pn**		**10 13 48.0**	**-0.1**
SIGR	**SIGRI**	**1.50**	**281**	P		**Pn**		**10 13 48.2**	**-0.1**
SIGR				S		**Sn**		**10 14 07.4**	**-0.3**
SIGR	**SIGRI**	**1.50**	**281**	P		**Pn**		**10 13 48.2**	**-0.1**
SIGR				S		**Sn**		**10 14 07.4**	**-0.3**
KHL	**Karahalli**	**1.52**	**114**	*e*PN		**Pn**		**10 13 49.3**	**+0.6**
KHL	**Karahalli**	**1.52**	**114**	*e*Pn		**Pn**		**10 13 49.3**	**+0.6**
DENT	**Denizli**	**1.56**	**140**	*e*PN		**Pn**		**10 13 49.3**	**+0.1**
DENT	**Denizli**	**1.56**	**140**	*e*Pn		**Pn**		**10 13 49.3**	**+0.1**
BOZC	**Bozcaada**	**1.59**	**305**	*e*P		**Pn**		**10 13 49.9**	**+0.3**
BOZC				*e*S		**Sb**		**10 14 11.4**	**+0.4**
LPK	**Lapseki**	**1.61**	**332**	*e*PN		**Pn**		**10 13 50.0**	**+0.1**
LPK	**Lapseki**	**1.61**	**332**	*e*Pn		**Pn**		**10 13 50.0**	**+0.1**
MLSB	**Milas**	**1.65**	**179**	*e*PN		**Pn**		**10 13 50.0**	**-0.5**
MLSB	**Milas**	**1.65**	**179**	*e*Pn		**Pn**		**10 13 50.0**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.66**	**31**	*e*PN		**Pn**		**10 13 50.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.66**	**31**	*e*Pn		**Pn**		**10 13 50.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.75**	**326**	*e*PN		**Pn**		**10 13 52.5**	**+0.7**
GELI	**Tayfur-

MPEP	**Malo Peshtene**	**5.34**	**327**	*i* P	**Pn**	**10 14 41.7**	**+0.6**
TIRR	**Tirgusor**	**5.52**	**5**	⇓*i*P	**Pn**	**10 14 43.5**	**-0.1**
TIRR	**Tirgusor**	**5.52**	**5**	⇓*i*P	**Pn**	**10 14 43.5**	**-0.1**
BARS	**Barje**	**5.93**	**313**	*e*Pn	**Pn**	**10 14 50.3**	**+1.1**
CFR	**Carcaliu**	**6.23**	**2**	⇓*i*P	**Pn**	**10 14 53.0**	**-0.3**
CFR	**Carcaliu**	**6.23**	**2**	⇓*i*P	**Pn**	**10 14 53.0**	**-0.3**
MLR	**Muntele Rosu**	**6.67**	**349**	⇓*i*P	**Pn**	**10 15 01.1**	**+1.6**
MLR	**Muntele Rosu**	**6.67**	**349**	⇓*i*P	**Pn**	**10 15 01.1**	**+1.6**
PLOR	**Plostina**	**6.94**	**354**	⇓*i*P	**Pn**	**10 15 04.3**	**+1.1**
PLOR	**Plostina**	**6.94**	**354**	⇓*i*P	**Pn**	**10 15 04.3**	**+1.1**
TESR		**7.60**	**354**	⇓*i*P	**Pn**	**10 15 12.7**	**+0.6**
TESR		**7.60**	**354**	⇓*i*P	**Pn**	**10 15 12.7**	**+0.6**

*IDC **10** 10:18:10.2±3.8, 27°.97N×93°.12E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/33, Error ellipse: s-maj=363.8km s-min=22.2km az=60.0*

ISC 10 10:18:11.4±1.1, **27°.81N**±0°.07×**92°.1E**±0°.2, **h10**km, **n7, σ1s87/8, mb3.8/3, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**2.05**	**337**	Pg	**Pn**	**10 18 45.0**	**-1.4**
LSA				Sg	**Sn**	**10 19 12.0**	**-0.2**
LSA				smax	smax		
	comp=N,50nm,0.8s						
LSA				smax	smax		
	comp=E,50nm,0.5s						
SHL	**Shillong**	**2.23**	**184**	*e*PN	**Pn**	**10 18 47.0**	**-1.7**
SHL				*e*SN	**Sn**	**10 19 18.0**	**+1.6**
IMP	**Imphal**	**3.45**	**150**	*e*P	**Pn**	**10 19 05.0**	**-0.3**
IMP				*e*S	**Sg**	**10 20 01.0**	**-1.3**
MKAR	**Makanchi Array**	**20.45**	**341**	P	**P**	**10 22 49.7**	**+0.7**
	comp=E,0.4nm,0.7s,baz=146,slow=13,SNR=4.9						
KURBB	**Kurchatov Arra**	**25.00**	**339**	P	**P**	**10 23 38.1**	**+2.8**
	comp=E,0.2nm,0.4s,baz=151,slow=10,SNR=3.8						
KURBB				LR	LR	10 35 33.0	
	comp=E,29nm,19.2s,baz=345,slow=41						
WRA	**Warramunga Arr**	**62.66**	**135**	P	P	10 28 33.3	-3.2
	comp=E,0.4nm,0.5s,baz=324,slow=7.1,SNR=8.2						
ASAR	**Alice Springs**	**65.18**	**138**	P	P	10 28 49.9	-3.2
	comp=E,0.4nm,0.6s,baz=322,slow=7.0,SNR=9.4						

*CSEM **10** 10:29:09.8±0.1, 43°.19N×0°.78W, h15km, ML2.6/11, Error ellipse: s-maj=3.5km s-min=2.0km az=170.0*
*ISCJB **10** 10:29:10.1±0.5, 43°.20N±0°.04×0°.82W±0°.03, h19km±4km, Error ellipse: s-maj=6.2km s-min=3.9km az=174.4*
*LDG **10** 10:29:10.3±0.1, 43°.21N×0°.81W, h7km, Md2.6/2, Ml2.4/5, Error ellipse: s-maj=2.4km s-min=1.4km az=159.0*
*STR **10** 10:29:10.7±0.2, 43°.14N×0°.79W, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MDD **10** 10:29:10.7±0.4, 43°.21N×0°.82W, h11km, mbLg2.2/16, Error ellipse: s-maj=4.3km s-min=2.7km az=169.0, PRXIMO*

ISC 10 10:29:09.9±0.5, **43°.24N**±0°.03×**0°.82W**±0°.02, **h20**km±1km, **n60, σ0s98/92, 2C-2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.09**	**250**	Pg	**Pg**	**10 29 14.3**	**+0.5**
ORDF				Sg	**Sg**	**10 29 16.1**	**-0.3**
ORDF	**Ordiarp**	**0.09**	**250**	Pg	**Pg**	**10 29 14.3**	**+0.5**
ORDF				Sg	**Sg**	**10 29 16.1**	**-0.3**
LARF	**Larrau**	**0.24**	**211**	Pg	**Pb**	**10 29 15.2**	**-0.3**
LARF				Sg	**Sb**	**10 29 17.6**	**-1.7**
LARF	**Larrau**	**0.24**	**211**	Pg	**Pb**	**10 29 15.2**	**-0.3**
LARF				Sg	**Sb**	**10 29 17.6**	**-1.7**
OSSF	**Osses**	**0.33**	**272**	Pg	**Pb**	**10 29 17.0**	**-0.1**
OSSF	**Osses**	**0.33**	**272**	Pg	**Pb**	**10 29 17.0**	**-0.1**
SJPF	**Ste Jean**	**0.33**	**246**	*e*Pg	**Pg**	**10 29 16.9**	**-0.1**
SJPF				*e*Sg	**Sg**	**10 29 20.6**	**-1.3**
	78nm,0.2s						
SJPF	**Ste Jean**	**0.33**	**246**	Pg	**Pg**	**10 29 16.9**	**-0.1**
SJPF				*e*Sg	**Sg**	**10 29 20.6**	**-1.3**
	39nm,0.2s						
REYF	**Montagne du Re**	**0.36**	**119**	Pg	**Pg**	**10 29 17.0**	**-0.6**
REYF				Sg	**Sg**	**10 29 22.0**	**-0.8**
REYF	**Montagne du Re**	**0.36**	**119**	Pg	**Pg**	**10 29 17.0**	**-0.6**
REYF				Sg	**Sg**	**10 29 22.0**	**-0.8**
ETSF	**Etsaut**	**0.39**	**151**	*e*Pg	**Pg**	**10 29 17.4**	**-0.9**
ETSF				*e*Sg	**Sg**	**10 29 22.1**	**-1.8**
	140nm,0.3s						
ETSF	**Etsaut**	**0.39**	**151**	Pg	**Pg**	**10 29 17.4**	**-0.9**
ETSF				*e*Sg	Lg	10 29 22.1	
	70nm,0.3s						
EORO	**Oroz-Betelu**	**0.50**	**226**	⇓Pg	**Pg**	**10 29 19.6**	**-0.6**
	15nm,0.2s,SNR=18						
EORO				Lg	Lg	10 29 25.8	
	62nm,0.1s,SNR=5.0						
EORO	**Oroz-Betelu**	**0.50**	**226**	Pg	**Pg**	**10 29 19.6**	**-0.6**
	15nm,0.2s,SNR=18						
EORO				Lg	Lg	10 29 25.8	
	62nm,0.1s,SNR=5.0						
IELO	**Elcoad**	**0.51**	**218**	⇓Pg	**Pg**	**10 29 19.5**	**-0.7**
	15nm,0.2s,SNR=18						
IELO				Lg	Lg	10 29 25.2	
	183nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.51**	**218**	Pg	**Pg**	**10 29 19.5**	**-0.7**
	15nm,0.2s,SNR=18						
IELO				Lg	Lg	10 29 25.2	
	183nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.53**	**261**	Pg	**Pb**	**10 29 20.3**	**-0.2**
	13nm,0.2s,SNR=18						
ELIZ				Lg	Lg	10 29 26.8	
	27nm,0.1s,SNR=24						
ELIZ	**Elizondo**	**0.53**	**261**	Pg	**Pb**	**10 29 20.3**	**-0.2**
	13nm,0.2s,SNR=18						
ELIZ				Lg	Lg	10 29 26.8	
	27nm,0.1s,SNR=24						
IEPA	**Eparoz**	**0.57**	**215**	⇑Pg	**Pg**	**10 29 21.8**	**+0.4**
	4.6nm,0.1s,SNR=18						
IEPA				Lg	Lg	10 29 28.2	
	141nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.57**	**215**	Pg	**Pg**	**10 29 21.8**	**+0.4**
	4.6nm,0.1s,SNR=18						
IEPA				Lg	Lg	10 29 28.2	
	141nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.59**	**222**	Pg	**Pb**	**10 29 20.9**	**-0.7**
	1.6nm,0.2s,SNR=7.3						
IPRE				Lg	Lg	10 29 28.1	
	41nm,0.2s,SNR=38						
IPRE	**Itoiz**	**0.59**	**222**	Pg	**Pb**	**10 29 20.9**	**-0.7**
	1.6nm,0.2s,SNR=7.3						
IPRE				Lg	Lg	10 29 28.1	
	41nm,0.2s,SNR=38						
IZUN	**Zunzarren**	**0.60**	**231**	⇑Pg	**Pb**	**10 29 21.3**	**-0.6**
	5.3nm,0.1s,SNR=18						
IZUN	**Zunzarren**	**0.60**	**231**	Pg	**Pb**	**10 29 21.3**	**-0.6**
	5.3nm,0.1s,SNR=18						
IUNC	**Unciti**	**0.70**	**226**	Pg	**Pg**	**10 29 23.6**	**-0.2**
	4.6nm,0.1s,SNR=14						
IUNC				Lg	Lg	10 29 32.6	
	56nm,0.2s,SNR=5.7						
IUNC	**Unciti**	**0.70**	**226**	Pg	**Pg**	**10 29 23.6**	**-0.2**
	4.6nm,0.1s,SNR=14						
IUNC				Lg	Lg	10 29 32.6	
	56nm,0.2s,SNR=5.7						
VIEF	**Viey**	**0.71**	**120**	Pg	**Pb**	**10 29 23.1**	**-0.7**
VIEF				Sg	**Sb**	**10 29 31.9**	**-1.3**
VIEF	**Viey**	**0.71**	**120**	Pg	**Pb**	**10 29 23.1**	**-0.7**
VIEF				Sg	**Sb**	**10 29 31.9**	**-1.3**
EARA	**Aranguren**	**0.73**	**230**	Pg	**Pg**	**10 29 24.5**	**+0.1**
	5.9nm,0.1s,SNR=4.0						
EARA				Lg	Lg	10 29 32.8	
	21nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.73**	**230**	Pg	**Pg**	**10 29 24.5**	**+0.1**
	5.9nm,0.1s,SNR=4.0						
EARA				Lg	Lg	10 29 32.8	
	21nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.87**	**104**	*e*Pg	**Pn**	**10 29 27.2**	**0.0**
EPF				*e*Sg	**Sg**	**10 29 38.3**	**-0.3**
	7.0nm,0.2s						
EPF	**Esparros**	**0.87**	**104**	Pg	**Pn**	**10 29 27.2**	**0.0**
EPF				*e*Sg	Lg	10 29 38.3	
	3.5nm,0.2s						
ESAC	**San Caprasio**	**1.54**	**170**	Pg	**Pb**	**10 29 38.3**	**+0.4**
	16nm,0.2s,SNR=8.5						
ESAC				Sn	**Sn**	**10 29 55.3**	**-0.6**
	35nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	10 29 57.5	
	93nm,0.2s,SNR=12						
SALF	**Salau**	**1.55**	**108**	Pg	**Pb**	**10 29 38.6**	**+0.6**
SALF	**Salau**	**1.55**	**108**	Pg	**Pb**	**10 29 38.6**	**+0.6**
CSOR	**Sort**	**1.68**	**120**	Pg	**Pg**	**10 29 41.2**	**-1.1**
	3.0nm,0.2s,SNR=12						
CSOR				Lg	Lg	10 30 02.8	
	3.5nm,0.1s,SNR=6.4						
CSOR	**Sort**	**1.68**	**120**	Pg	**Pg**	**10 29 41.2**	**-1.1**
	3.0nm,0.2s,SNR=12						
CSOR				Lg	Lg	10 30 02.8	
	3.5nm,0.1s,SNR=6.4						
EMIR	**Miracle**	**2.18**	**127**	Pg	Pg	10 29 50.3	-1.7
	0.2nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	10 30 19.0	
	3.3nm,0.1s,SNR=4.0						
EMIR	**Miracle**	**2.18**	**127**	Pg	Pg	10 29 50.3	-1.7
	0.2nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	10 30 19.0	
	3.3nm,0.1s,SNR=4.0						
CLLI	**Llivia**	**2.19**	**109**	Pg	**Pb**	**10 29 49.4**	**+0.4**
	2.3nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	10 30 19.0	
	1.0nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**2.19**	**109**	Pg	**Pb**	**10 29 49.4**	**+0.4**
	2.3nm,0.3s,SNR=7.9						
CLLI				Lg	Lg	10 30 19.0	
	1.0nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.22**	**86**	*e*Pn	**Pn**	**10 29 45.9**	**+0.3**
MTLF				*e*Sg	Sg	10 30 19.7	-1.7
	4.8nm,0.2s						
MTLF	**Montolieu**	**2.22**	**86**	Pn	**Pn**	**10 29 45.9**	**+0.3**
MTLF				*e*Sg	Sg	10 30 19.7	-1.7
	2.4nm,0.2s						
EPOB	**Poblet**	**2.36**	**143**	Pg	**Pb**	**10 29 53.0**	**+1.3**
	1.0nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**10 30 15.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	10 30 22.4	
	1.0nm,0.1s,SNR=5.8						
EPOB	**Poblet**	**2.36**	**143**	Pg	**Pb**	**10 29 53.0**	**+1.3**
	1.0nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**10 30 15.5**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	10 30 22.4	
	1.0nm,0.1s,SNR=5.8						
ERTA	**Horta de San J**	**2.44**	**159**	Lg	Lg	10 30 25.5	
	3.5nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.44**	**159**	Lg	Lg	10 30 25.5	
	3.5nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.59**	**201**	Pn	**Pn**	**10 29 51.8**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
ETOR				Pg	Pg	10 29 58.8	-1.0
	5.2nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**10 30 21.8**	**-0.1**
	10.0nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	10 30 30.5	
	19nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.59**	**201**	Pn	**Pn**	**10 29 51.8**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.66**	**38**	*e*Pn	**Pn**	**10 29 52.2**	**+0.6**
RJF				*e*Sn	**Sn**	**10 30 21.8**	**-1.5**
RJF				*e*Sg	Sg	10 30 35.2	-0.2
	2.4nm,0.1s						
RJF	**Les Rejaudoux**	**2.66**	**38**	Pn	**Pn**	**10 29 52.2**	**+0.6**
RJF				Sn	**Sn**	**10 30 21.8**	**-1.5**
RJF				*e*Sg	Lg	10 30 35.2	
	1.2nm,0.1s						
CAF	**Calviac**	**2.67**	**50**	*e*Pn	**Pn**	**10 29 51.9**	**0.0**
CAF				*e*Sn	**Sn**	**10 30 21.7**	**-2.0**
CAF				*e*Sg	Sg	10 30 34.8	-1.1
	1.5nm,0.1s						
CAF	**Calviac**	**2.67**	**50**	Pn	**Pn**	**10 29 51.9**	**0.0**
CAF				Sn	**Sn**	**10 30 21.7**	**-2.0**
CAF				*e*Sg	Lg	10 30 34.8	
	0.8nm,0.1s						
CFON	**Fontmartina**	**2.83**	**121**	Pn	**Pn**	**10 29 55.9**	**+1.8**
	0.5nm,0.1s,SNR=7.9						
CFON				Pg	Pg	10 30 02.4	-1.8
	0.7nm,0.1s,SNR=7.9						
CFON				Sn	**Sn**	**10 30 29.5**	**+2.0**
	8.5nm,0.3s,SNR=4.0						
CFON				Lg	Lg	10 30 39.4	
	6.2nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**2.83**	**121**	Pn	**Pn**	**10 29 55.9**	**+1.8**
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.89**	**175**	Pg	**Pb**	**10 30 02.2**	**+1.3**
	0.1nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**10 30 26.9**	**-2.4**
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.89**	**175**	Pg	**Pb**	**10 30 02.2**	**+1.3**
	0.1nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**10 30 26.9**	**-2.4**
	0.4nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**3.49**	**75**	*e*Pn	**Pn**	**10 30 03.8**	**+0.6**
LASF				*e*Sn	**Sn**	**10 30 42.9**	**-1.0**
	1.4nm,0.2s						
LASF	**Ste Croix**	**3.49**	**75**	Pn	**Pn**	**10 30 03.8**	**+0.6**
LASF				*e*Sn	**Sn**	**10 30 42.9**	**-1.0**
	0.7nm,0.2s						

*IDC **10** 10:33:36.3±1.1, 15°.59N×96°.35E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/27, mbtmp3.7/9, ML4.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/34, Error ellipse: s-maj=40.3km s-min=19.4km az=55.0, Near south coast of Myanmar*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.78**	**41**	Pn	Pn	10 34 37.9	+2.0
	13nm,0.3s,baz=234,slow=15,SNR=191						
PSI	**Prapat**	**12.96**	**168**	LR	LR	10 42 06.5	
	comp=Z,56nm,18.2s,baz=344,slow=39						
MKAR	**Makanchi Array**	**33.25**	**342**	P	P	10 40 14.6	-0.7
	0.7nm,0.9s,baz=159,slow=10,SNR=8.2						
KURBB	**Kurchatov Arra**	**37.79**	**341**	P	P	10 40 52.8	-1.4
	0.9nm,0.3s,baz=150,slow=8.3,SNR=11						
ZALV	**Zalesovo Beam**	**39.33**	**349**	P	P	10 41 06.3	-0.7
	1.7nm,0.5s,baz=171,slow=8.5,SNR=10						
MJAR	**Matsushiro Arr**	**42.58**	**53**	LR	LR	11 00 49.2	
	comp=Z,32nm,20.0s,baz=110,slow=38						
WRA	**Warramunga Arr**	**51.40**	**132**	P	P	10 42 43.1	-0.1
	0.7nm,0.8s,baz=319,slow=7.5,SNR=6.6						
ASAR	**Alice Springs**	**53.57**	**136**	P	P	10 42 59.0	-0.4
	0.2nm,0.2s,baz=315,slow=7.7,SNR=4.9						
BRTR	**Keskin Array B**	**59.28**	**307**	P	P	10 43 40.3	+0.1
	0.4nm,0.4s,baz=102,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**67.01**	**331**	P	P	10 44 32.7	+1.8
	1.1nm,0.9s,baz=103,slow=6.0,SNR=2.8						
ILAR	**Eielson Array**	**86.83**	**23**	P	P	10 46 22.0	-0.5
	0.2nm,0.6s,baz=310,slow=3.4,SNR=4.0						

*IDC **10** 10:52:44.5±2.2, 7°.09S×129°.04E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=142.2km s-min=32.2km az=67.0, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.78**	**159**	Pn	Pn	10 56 00.6	-0.6
	0.2nm,0.3s,baz=341,slow=14,SNR=24						
WRA				Sn	Sn	10 58 23.3	-12
	0.5nm,0.3s,baz=338,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.14**	**165**	P	Pn	10 56 46.1	+0.5
	0.1nm,0.3s,baz=339,slow=10,SNR=4.0						
ASAR				S	Sn	10 59 48.5	-8.5
	0.1nm,0.3s,baz=184,slow=24,SNR=4.9						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	11 03 44.3	0.0
	0.2nm,0.3s,baz=119,slow=7.2,SNR=5.2						

DJA 10 11:11:12.9±1.6, **1°.S**±5°×**13°.3E**±°, **h10**km, **M3.9/3, mb4.2/2, mB5.3/1, MLv3.7/3, Mw(mB)4.7/1, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.51**	**271**	P	Pn	11 11 38.1	-1.9
SWI				S	Sb	11 12 00.9	+0.6
FAKI	**Fak Fak**	**2.07**	**195**	P	Pb	11 11 50.2	-0.5
FAKI				S	Sn	11 12 14.8	+1.1
BAKI	**Biak**	**3.35**	**95**	S	Sn	11 12 47.9	+2.7
BNDI	**Bandanaira**	**4.60**	**218**	P	Pn	11 12 22.1	-0.4
LUWI	**Luwuk**	**10.00**	**269**	P	Pn	11 13 36.7	0.0
	17nm,1.3s,1μm						

*ISCJB **10** 11:19:16.4±0.7, 6°.97S±0°.07×127°.50E±0°.09, h315km, mb3.2/2, Error ellipse: s-maj=13.6km s-min=7.7km az=150.6*
*AUST **10** 11:19:16.6±0.0, 6°.89S×127°.39E, h328km, Error ellipse: s-maj=1.6km s-min=1.2km az=31.0*
*IDC **10** 11:19:20.9±5.1, 7°.24S×127°.31E, h341km±55km, mb2.8/2, mb1 3.2/5, mb1mx3.0/20, mbtmp3.1/5, Error ellipse: s-maj=69.8km s-min=19.1km az=63.0*

ISC 10 11:19:17.5±0.9, **7°.04S**±0°.08×**127°.5E**±0°.1, **h315**km, **n14, σ1s78/17, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**5.42**	**75**	P	**Pn**	**11 20 40.6**	**0.0**
	baz=5.5,SNR=11						
TLE				S	S	11 21 37.0	-10
	baz=5.5,SNR=7.7						
MTN	**Manton Dam**	**6.81**	**148**	P	**Pn**	**11 20 57.0**	**+0.1**
	baz=7.0,SNR=8.6						
KDU	**Kakadu**	**7.47**	**139**	P	Pn	11 21 09.8	+4.9
	baz=7.7,SNR=4.3						
PCI	**Palu**	**9.74**	**308**	P	**Pn**	**11 21 30.9**	**-1.7**
	baz=9.6,SNR=5.9						
PCI				S	S	11 22 56.5	-26
	baz=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**11.14**	**189**	P	**Pn**	**11 21 49.0**	**-0.5**
	1.3nm,0.3s,baz=29,slow=8.4,SNR=28						
FITZ				S	**S**	**11 23 55.1**	**+0.8**
	0.2nm,0.3s,baz=91,slow=21,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.14**	**189**	P	**Pn**	**11 21 49.3**	**-0.2**
	baz=11,SNR=19						
WRA	**Warramunga Arr**	**14.46**	**153**	P	**P**	**11 22 27.8**	**-0.3**
	0.5nm,0.3s,baz=328,slow=12,SNR=28						
WRA				S	**S**	**11 25 02.5**	**-3.7**
	0.2nm,0.3s,baz=321,slow=21,SNR=6.8						
COEN	**Coen**	**16.90**	**115**	P	**P**	**11 22 54.2**	**-0.5**
	baz=17,SNR=52						
ASAR	**Alice Springs**	**17.66**	**160**	P	**P**	**11 23 03.5**	**+0.7**
	0.7nm,0.3s,baz=343,slow=12,SNR=101						
ASAR				S	**S**	**11 26 09.2**	**-0.5**
	0.1nm,0.3s,baz=340,slow=16,SNR=6.6						
QIS	**Mount Isa**	**17.86**	**140**	P	**P**	**11 23 05.3**	**+0.3**
	baz=18,SNR=10						
QIS				S	**S**	**11 26 10.9**	**-2.8**
	baz=18,SNR=5.4						
MEEK	**Meekatharra**	**21.24**	**202**	P	**P**	**11 23 39.8**	**+0.2**
	baz=21,SNR=14						
LHI	**Lord Howe Isla**	**38.25**	**134**	S	**S**	**11 31 42.0**	**+3.7**
	baz=38,SNR=3.2						
MKAR	**Makanchi Array**	**66.90**	**328**	P	**P**	**11 29 38.0**	**+1.5**
	0.1nm,0.4s,baz=131,slow=8.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**71.24**	**330**	P	**P**	**11 30 04.1**	**+1.2**
	0.4nm,0.4s,baz=136,slow=5.2,SNR=6.6						

GUC 10 11:20:15.3±0.6, **31°.73S×69°.49W**, **h137**km±10km, **MD3.6, ML3.6, 2C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**1.33**	**224**	*e*P	Pn	11 20 43.0	+0.7
JACH				*i* S	Sn	11 21 03.5	+0.7
PTCH	**Petorca**	**1.33**	**246**	*e*P	Pn	11 20 42.6	+0.5
PTCH				*i* S	Sn	11 21 03.0	+0.4
PTCH				AML	AML	11 21 03.7	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**1.40**	**293**	⇓*i*P	Pn	11 20 43.4	+0.4
CMCH				*i* S	Sn	11 21 04.7	+0.6
CMCH				AML	AML	11 21 06.9	
	comp=N,1μm,0.9s						
CHNG	**Los Chungos**	**1.72**	**264**	⇑*i*P	Pn	11 20 46.9	+0.6
CHNG				*i* S	Sn	11 21 10.3	+0.3
PEL	**Peldehue**	**1.74**	**215**	*e*P	Pn	11 20 47.1	+0.4
PEL				*i* S	Sn	11 21 10.9	+0.2
PEL				AML	AML	11 21 13.0	
	comp=N,712nm,0.5s						
ROCH	**El Roble**	**1.79**	**226**	*e*P	Pn	11 20 48.0	+0.5
ROCH				*e*S	Sn	11 21 12.9	+0.8
CLCH	**Cerro Calan**	**1.88**	**208**	*e*P	Pn	11 20 48.9	+0.5
CLCH				*e*S	Sn	11 21 14.3	+0.6
CLCH				AML	AML	11 21 16.9	
	comp=E,593nm,0.6s						
TLL	**Tololo Astrono**	**1.92**	**324**	*e*P	Pn	11 20 49.8	+0.7
TLL				*i* S	Sn	11 21 15.8	+0.8
TLL				AML	AML	11 21 18.1	
	comp=E,161nm,0.4s						
LMEL	**Las Melosas**	**2.20**	**196**	*e*P	Pn	11 20 53.0	+0.7
LMEL				AML	AML	11 21 29.5	
	comp=E,159nm,0.3s						
CHCH	**Chadas Angostu**	**2.41**	**204**	*e*P	Pn	11 20 55.4	+0.6
CHCH				*i* S	Sn	11 21 25.2	+0.1
CACH	**El Canelo**	**2.56**	**201**	*e*P	Pn	11 20 57.5	+0.8
LNV	**Longovilo**	**2.75**	**216**	*e*P	Pn	11 20 58.2	-0.7
LCO	**Las Campanas**	**2.90**	**339**	⇑*i*P	Pn	11 21 01.7	+0.4
LCO				*i* S	Sn	11 21 36.5	-0.2
LCO				AML	AML	11 21 38.7	
	comp=N,212nm,0.3s						

CASC 10 11:23:07.1±1.2, **9°.28N×82°.73W**, **h10**km±9km, **MD3.5, 1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.49**	**175**	*e*P	Pb	11 23 17.5	-0.5
BRU2				*e*S	Sb	11 23 25.6	-0.2
ACR	**Cerro Adams**	**0.76**	**215**	⇓*e*P	Pg	11 23 22.0	+0.1
BUS	**Buena Vista**	**1.05**	**285**	*e*P	Pg	11 23 26.5	-1.4
QCR	**Quepos**	**1.42**	**276**	*e*P	Pn	11 23 31.6	-1.5
QCR				*e*S	Sn	11 23 51.5	-0.3
SJS	**Escuela Geolog**	**1

ELL	**Elmali**	**1.47**	**313**	*e*Pn	**Pn**	**11 36 25.7**	**-0.2**
LEF	**Lefka**	**1.48**	**115**	*e*PN	**Pn**	**11 36 25.6**	**-0.4**
LEF				*e*SN	**Sn**	**11 36 44.3**	**-0.3**
LEF	**Lefka**	**1.48**	**115**	*e*Pn	**Pn**	**11 36 25.6**	**-0.4**
LEF				*e*Sn	**Sn**	**11 36 44.3**	**-0.3**
ERMK	**Ermenek**	**1.61**	**56**	*e*P	**Pn**	**11 36 27.8**	**-0.1**
ERMK				*e*S	**Sn**	**11 36 47.9**	**-0.2**
ERMK	**Ermenek**	**1.61**	**56**	*e*P	**Pn**	**11 36 27.8**	**-0.1**
ERMK				*e*S	**Sn**	**11 36 47.9**	**-0.2**
BCK	**Bucak**	**1.78**	**343**	*e*PN	**Pn**	**11 36 30.9**	**+0.7**
BCK	**Bucak**	**1.78**	**343**	*e*Pn	**Pn**	**11 36 30.9**	**+0.7**
CSS	**Prodhromos**	**1.88**	**114**	*e*PN	**Pn**	**11 36 32.1**	**+0.7**
CSS	**Prodhromos**	**1.88**	**114**	*e*Pn	**Pn**	**11 36 32.1**	**+0.7**
LFK	**Lefkose**	**1.93**	**104**	*e*PN	**Pn**	**11 36 32.4**	**+0.3**
LFK	**Lefkose**	**1.93**	**104**	*e*Pn	**Pn**	**11 36 32.4**	**+0.3**
GOLH	**Golhisar**	**2.01**	**318**	*e*P	**Pb**	**11 36 35.9**	**-0.8**
GOLH				*e*S	**Sn**	**11 36 57.7**	**0.0**
GOLH	**Golhisar**	**2.01**	**318**	*e*P	**Pb**	**11 36 35.9**	**-0.8**
GOLH				*e*S	**Sn**	**11 36 57.7**	**0.0**
ISP	**Isparta**	**2.15**	**345**	*e*PN	**Pn**	**11 36 36.7**	**+1.5**
ISP	**Isparta**	**2.15**	**345**	*e*Pn	**Pn**	**11 36 36.7**	**+1.5**
EREN	**Erenkoy**	**2.39**	**94**	*e*PN	**Pn**	**11 36 39.1**	**+0.7**
EREN	**Erenkoy**	**2.39**	**94**	*e*Pn	**Pn**	**11 36 39.1**	**+0.7**
TURN	**Turunc**	**2.41**	**298**	*e*P	**Pb**	**11 36 42.4**	**-1.1**
TURN				*e*S	**Sb**	**11 37 12.6**	**-0.2**
ARG	**Arkhangelos**	**2.57**	**281**	*e*P	**Pn**	**11 36 41.0**	**+0.1**
LADK	**Ladik-KONYA**	**2.60**	**20**	*e*PN	**Pn**	**11 36 42.8**	**+1.3**
LADK	**Ladik-KONYA**	**2.60**	**20**	*e*Pn	**Pn**	**11 36 42.8**	**+1.3**
DNZL	**Cakiroluk**	**2.62**	**318**	*e*P	**Pb**	**11 36 47.6**	**+0.4**
YER	**Yerkesik**	**2.76**	**301**	*e*PN	**Pn**	**11 36 43.4**	**-0.2**
YER	**Yerkesik**	**2.76**	**301**	*e*Pn	**Pn**	**11 36 43.4**	**-0.2**
SHUT	**Suhut-Afyon**	**2.85**	**349**	*e*PN	**Pn**	**11 36 45.7**	**+0.8**
SHUT	**Suhut-Afyon**	**2.85**	**349**	*e*Pn	**Pn**	**11 36 45.7**	**+0.8**
MERS	**Mersin**	**2.87**	**66**	*e*PN	**Pn**	**11 36 47.3**	**+2.2**
MERS	**Mersin**	**2.87**	**66**	*e*Pn	**Pn**	**11 36 47.3**	**+2.2**
KHL	**Karahalli**	**2.91**	**332**	*e*PN	**Pn**	**11 36 46.1**	**+0.4**
KHL	**Karahalli**	**2.91**	**332**	*e*Pn	**Pn**	**11 36 46.1**	**+0.4**
SULT	**Sultanhani-AKS**	**3.04**	**36**	*e*PN	**Pn**	**11 36 48.9**	**+1.4**
SULT	**Sultanhani-AKS**	**3.04**	**36**	*e*Pn	**Pn**	**11 36 48.9**	**+1.4**
DAT	**Datca**	**3.12**	**289**	*e*PN	**Pn**	**11 36 47.7**	**-0.9**
DAT	**Datca**	**3.12**	**289**	*e*Pn	**Pn**	**11 36 47.7**	**-0.9**
MLSB	**Milas**	**3.19**	**300**	*e*PN	**Pn**	**11 36 48.9**	**-0.5**
MLSB	**Milas**	**3.19**	**300**	*e*Pn	**Pn**	**11 36 48.9**	**-0.5**
AYDN	**Tasoluk**	**3.31**	**306**	*e*P	**Pn**	**11 36 52.3**	**+1.2**
AYDN				*e*S	**Sn**	**11 37 26.1**	**-3.6**
AYDN	**Tasoluk**	**3.31**	**306**	*e*P	**Pn**	**11 36 52.3**	**+1.2**
KARP	**Karpathos**	**3.33**	**268**	*e*P	**Pn**	**11 36 52.6**	**+1.2**
ALT	**Altintas**	**3.42**	**345**	*e*PN	**Pn**	**11 36 54.0**	**+1.3**
ALT	**Altintas**	**3.42**	**345**	*e*Pn	**Pn**	**11 36 54.0**	**+1.3**
BODT	**Bodrum**	**3.43**	**294**	*e*PN	**Pn**	**11 36 53.1**	**+0.3**
BODT	**Bodrum**	**3.43**	**294**	*e*Pn	**Pn**	**11 36 53.1**	**+0.3**
KULA	**Kula-Manisa**	**3.44**	**324**	*e*PN	**Pn**	**11 36 54.0**	**+1.0**
KULA	**Kula-Manisa**	**3.44**	**324**	*e*Pn	**Pn**	**11 36 54.0**	**+1.0**
KOZT	**Kozan**	**4.07**	**64**	*e*PN	**Pn**	**11 37 03.4**	**+1.9**
KOZT	**Kozan**	**4.07**	**64**	*e*Pn	**Pn**	**11 37 03.4**	**+1.9**
ZKR	**Zakros**	**4.15**	**263**	*e*P	**Pn**	**11 37 03.9**	**+1.2**
NPS	**Neapolis**	**4.62**	**266**	*e*P	**Pn**	**11 37 09.8**	**+0.7**
LAST	**Lasithi**	**4.74**	**265**	*e*P	**Pn**	**11 37 12.1**	**+1.2**
GAZ	**Gaziantep**	**5.01**	**72**	*e*PN	**Pn**	**11 37 15.8**	**+1.2**
GAZ	**Gaziantep**	**5.01**	**72**	*e*Pn	**Pn**	**11 37 15.8**	**+1.2**
IDI	**Anoyia**	**5.20**	**267**	*e*P	**Pn**	**11 37 18.9**	**+1.7**

*ISK **10** 11:48:39.5,38°.99N×41°.84E,h21km,MD2.9*
*CSEM **10** 11:48:39.4±0.3,38°.93N×41°.71E,h30km,MD2.9, Error ellipse: s-maj=11.7km s-min=7.7km az=23.0*
*DDA **10** 11:48:40.5,39°.06N×41°.83E,h7km,MD3.3*

ISC 10 11:48:39.7±1.3, 38°.99N±0°.03×41°.87E±0°.03, h21km±4km, n22, σ1§51/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.37**	**298**	*e*PG	**Pb**	**11 48 47.3**	**-0.2**
VRTB	**Varto-Mus**	**0.37**	**298**	*e*Pg	**Pb**	**11 48 47.3**	**-0.2**
BNGL	**BINGOL**	**0.57**	**267**	*e*P	**Pb**	**11 48 50.4**	**-0.7**
BNGL				*e*S	**Sn**	**11 49 01.1**	**-0.4**
TATV	**Tatvan**	**0.57**	**147**	*e*P	**Pn**	**11 48 52.0**	**-0.7**
TATV				*e*S	**Sn**	**11 49 01.4**	**-0.2**
TATV	**Tatvan**	**0.57**	**147**	*e*P	**Pn**	**11 48 52.0**	**-0.7**
TATV				*e*S	**Sn**	**11 49 01.4**	**-0.2**
BNGB	**Bingˆ¶l**	**0.93**	**271**	*e*PG	**Pn**	**11 48 57.4**	**-0.3**
BNGB				*e*SG	**Sn**	**11 49 10.6**	**+0.1**
ERZM	**Erzurum**	**1.00**	**337**	*e*P	**Pn**	**11 48 59.1**	**+0.4**
ERZM				*e*S	**Sn**	**11 49 12.4**	**0.0**
ERZM	**Erzurum**	**1.00**	**337**	*e*P	**Pn**	**11 48 59.1**	**+0.4**
ERZM				*e*S	**Sn**	**11 49 12.4**	**0.0**
EZM	**Erzurum**	**1.00**	**337**	*e*PG	**Pn**	**11 48 58.6**	**-0.2**
AGRB	**Hanur-Agry**	**1.05**	**56**	*e*PG	**Pb**	**11 48 59.7**	**+0.5**
AGRB				*e*SG	**Sn**	**11 49 14.5**	**+1.1**
AGRB	**Hanur-Agry**	**1.05**	**56**	*e*Pg	**Pb**	**11 48 59.7**	**+0.5**
AGRB				*e*Sg	**Sn**	**11 49 14.5**	**+1.1**
HOMI	**Horasan**	**1.06**	**1**	*e*P	**Pn**	**11 48 59.1**	**-0.4**
HOMI				*e*S	**Sn**	**11 49 15.6**	**+1.8**
BINT	**Bingol**	**1.09**	**265**	*e*Pg	**Pn**	**11 48 57.4**	**-2.4**
BINT				*e*Sg	**Sb**	**11 49 10.6**	**-3.0**
BEST	**Besiri**	**1.19**	**204**	*e*P	**Pb**	**11 49 03.9**	**+2.3**
BEST				*e*S	Sn	11 49 22.5	+5.7
KOPT	**Kop Dagi**	**1.48**	**314**	*e*P	**Pb**	**11 49 07.2**	**+0.5**
KOPT				*e*S	Sb	11 49 30.5	+5.4
KOPT	**Kop Dagi**	**1.48**	**314**	*e*P	**Pb**	**11 49 07.2**	**+0.5**
CLDR	**Caldiran**	**1.60**	**84**	*e*PN	**Pb**	**11 49 07.6**	**-1.0**
CLDR	**Caldiran**	**1.60**	**84**	*e*Pn	**Pb**	**11 49 07.6**	**-1.0**
ERZN	**Erzincan**	**1.77**	**290**	*e*PN	**Pn**	**11 49 09.4**	**+0.1**
MARD	**Mardin**	**1.88**	**208**	*e*P	Pb	11 49 25.5	+12
MARD				*e*S	**Sb**	**11 49 41.5**	**+5.0**
EZC	**Erzincan**	**2.10**	**292**	*e*Pn	Pn	11 49 09.4	-4.3
BHD	**Baghdad**	**6.05**	**160**	*e*P	Pb	11 50 16.0	-8.4
BHD				*e*S	**Sb**	**11 51 34.0**	**-2.4**

NNC 10 12:12:38.0±1.2, 54°.13N×85°.98E, h0km, mb3.6, mpv3.2, 6C-4D, Error ellipse: s-maj=10.0km s-min=8.1km az=99.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.65**	**236**	⇑Pn	Pn	12 14 03.5	+0.4
	2.2nm,0.7s						
KURK				⇓Sn	Sn	12 15 09.7	+1.0
	0.7nm,0.5s						
KURK				⇑Lg	Lg	12 15 38.6	
	4.2nm,0.6s						
KURBB	**Kurchatov Arra**	**5.76**	**235**	⇑Pn	Pn	12 14 04.9	+0.3
	0.7nm,0.6s						
KURBB				⇓Sn	Sn	12 15 12.3	+1.0
	0.7nm,0.6s						
KURBB				⇑Lg	Lg	12 15 41.7	
	1.3nm,0.7s						
MK31	**Makanchi Array**	**7.71**	**199**	Pn	Pn	12 14 31.6	+0.2
	2.4nm,0.7s,baz=27,slow=14,SNR=30						
MK31				⇓Sn	Sn	12 16 00.3	+0.8
	0.6nm,0.6s,baz=25,slow=27,SNR=4.9						
MK31				⇑Lg	Lg	12 16 43.4	
	1.9nm,0.7s,baz=32,slow=34,SNR=4.3						
VOSK	**Vostochnaya**	**9.07**	**267**	⇓Pn	Pn	12 14 49.6	-0.4
	1.5nm,0.6s						
BVA0	**Borovoye Array**	**9.34**	**270**	Pn	Pn	12 14 54.7	+0.9
	0.1nm,0.5s,baz=74,slow=13,SNR=5.8						
ZRNK	**Zerenda**	**10.18**	**270**	⇑Pn	Pn	12 15 04.4	-0.8
	2.3nm,0.6s						

*ISCJB **10** 12:13:45.9±0.5,3°.97N±0°.05×127°.04E±0°.08,h36km, mb4.1/14,MS3.6/1, Error ellipse: s-maj=11.8km s-min=6.0km az=159.7*
*IDC **10** 12:13:48.8±5.6,3°.72N×126°.47E,h38km±49km,mb3.9/11, mb1 4.1/11,mb1mx3.9/23,mbtmp3.9/11,MS3.2/3, Ms1 3.2/3,ms1mx2.7/49, Error ellipse: s-maj=37.5km s-min=11.2km az=77.0*
*NEIC **10** 12:13:48.3±0.4,3°.72N×126°.51E,h35km,mb4.1/5, Error ellipse: s-maj=26.0km s-min=7.5km az=70.0*
*AUST **10** 12:13:52.4±2.8,3°.49N×126°.74E,h60km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=254.0*
*DJA **10** 12:13:53.7±0.9,4°N±7°×12°.7E±°,h54km±9km,M4.5/10, mB5.0/2,mb4.5/10,MLv4.4/5,Mw(mB)4.3/2*

ISC 10 12:13:48.2±0.6, 3°.87N±0°.06×126°.93E±0°.10, h36km, n57, σ1§35/49, mb4.1/14, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.11**	**172**	P	**Pn**	**12 14 36.1**	**+1.4**
TNTI				S	**Sn**	**12 15 09.7**	**-1.0**
MNI	**Manado**	**3.19**	**221**	P	**Pn**	**12 14 38.1**	**+2.3**
DAV	**Davao City (W)**	**3.45**	**337**	LR	LR	12 15 25.6	
	comp=Z,226nm,21.9s,baz=167,slow=28						
CTBH	**Cotabato--PC H**	**4.26**	**321**	*i*P	Pn	12 14 55.3	+4.7
KMSI	**Cibinong**	**4.40**	**222**	P	Pn	12 15 01.5	+9.0
LBMI	**Labuha**	**4.52**	**173**	P	**Pn**	**12 14 56.6**	**+2.5**
MRSI	**Marisa**	**6.02**	**236**	P	**Pn**	**12 15 17.6**	**+2.9**
	135nm,0.6s						
SWI	**Sorong**	**6.39**	**137**	P	**Pn**	**12 15 22.4**	**+2.5**
	baz=6.3,SNR=5.1						
SWI	**Sorong**	**6.39**	**137**	P	**Pn**	**12 15 22.3**	**+2.5**
	34nm,0.7s,0.2nm						
LUWI	**Luwuk**	**6.41**	**220**	P	Pn	12 15 26.4	+6.3
	116nm,1.1s,1µm0.5nm						
MYLDM	**Lahad Datu**	**8.50**	**279**	P	Pn	12 15 52.6	+3.8
	35nm,1.0s						
KDI	**Kendari**	**8.89**	**209**	P	**Pn**	**12 15 55.0**	**+0.9**
	16nm,1.2s						
KAPI	**Kappang**	**11.37**	**219**	LR	LR	12 20 59.4	
	comp=Z,81nm,20.9s,baz=262,slow=39						
SBUM	**Sibu**	**14.75**	**265**	P	**P**	**12 17 20.9**	**+1.0**
	20nm,1.2s,487nm						
MTN	**Manton Dam**	**17.12**	**166**	P	**Pn**	**12 17 42.8**	**-2.0**
	baz=17,SNR=18						
KDU	**Kakadu**	**17.35**	**162**	P	**Pn**	**12 17 47.9**	**+0.3**
	baz=17,SNR=5.1						
FITZ	**Fitzroy Crossi**	**21.87**	**183**	P	**P**	**12 18 37.9**	**-0.1**
	2.2nm,0.5s,baz=14,slow=12,SNR=17						
FITZ				S	**S**	**12 22 35.0**	**-2.8**
	2.9nm,1.0s,baz=184,slow=18,SNR=3.7						
FITZ	**Fitzroy Crossi**	**21.87**	**183**	*e*P	**P**	**12 18 36.5**	**-1.5**
	1.9nm,0.3s						
FITZ				S	**S**	**12 22 35.0**	**-2.8**
FITZ	**Fitzroy Crossi**	**21.87**	**183**	P	**P**	**12 18 37.9**	**-0.1**
	baz=22,SNR=6.8						
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P	**P**	**12 19 06.2**	**-0.4**
	19nm,0.8s						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**12 19 06.2**	**-0.5**
	15nm,0.6s,baz=344,slow=11,SNR=178						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**12 19 06.2**	**-0.5**
QIS	**Mount Isa**	**27.28**	**153**	P	**P**	**12 19 29.8**	**+0.4**
	baz=27,SNR=6.4						
AS31	**Alice Springs**	**28.20**	**166**	*e*P	**P**	**12 19 37.7**	**+0.1**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**12 19 37.5**	**-0.2**
	1.7nm,0.6s,baz=341,slow=8.5,SNR=36						
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**12 19 37.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.97**	**300**	P	**P**	**12 20 01.2**	**-1.0**
	0.3nm,0.3s,baz=108,slow=6.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**30.97**	**300**	P	**P**	**12 20 01.2**	**-1.0**
MEEK	**Meekatharra**	**31.38**	**194**	P	**P**	**12 20 05.7**	**-0.1**
	baz=31,SNR=7.5						
QLP	**Quilpie**	**34.60**	**152**	P	**P**	**12 20 34.2**	**+0.3**
	baz=34,SNR=4.0						
KLBR	**Kellerberrin**	**36.33**	**193**	P	**P**	**12 20 48.9**	**+0.2**
	baz=36,SNR=6.9						
STKA	**Stephens Creek**	**38.19**	**160**	P	**P**	**12 21 05.1**	**+0.7**
	10nm,0.7s,baz=333,slow=8.7,SNR=16						
STKA	**Stephens Creek**	**38.19**	**160**	*e*P	**P**	**12 21 05.2**	**+0.7**
	1.6nm,0.6s						
STKA	**Stephens Creek**	**38.19**	**160**	P	**P**	**12 21 05.5**	**+1.0**
	baz=38,SNR=12						
ARMA	**Armidale**	**41.48**	**147**	P	**P**	**12 21 34.1**	**+2.1**
	baz=41,SNR=4.5						
DZM	**Mont Dzumac**	**46.46**	**125**	*e*LR	LR	12 22 57.8	
	210nm,24.9s						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**12 22 17.8**	**+0.1**
	0.6nm,0.6s,baz=154,slow=9.1,SNR=6.9						
SONM				PcP	**PcP**	**12 23 50.1**	**+1.5**
	0.8nm,0.8s,baz=160,slow=4.2,SNR=4.8						
SONM				LR	LR	12 42 52.1	
	comp=Z,62nm,18.7s,baz=54,slow=37						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**12 22 17.8**	**+0.1**
SONM				PcP	**PcP**	**12 23 50.1**	**+1.5**
PETK	**Petropavlovsk-**	**55.23**	**22**	P	P	12 23 21.3	+3.8
	1.2nm,0.8s,baz=241,slow=18,SNR=4.1						
PETK	**Petropavlovsk-**	**55.23**	**22**	P	P	12 23 21.3	+3.8
MK31	**Makanchi Array**	**57.55**	**325**	*e*P	**P**	**12 23 33.4**	**-0.8**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**12 23 33.2**	**-1.0**
	0.7nm,0.4s,baz=118,slow=7.6,SNR=16						
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**12 23 33.2**	**-1.0**
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	**P**	**12 23 53.1**	**-1.7**
	0.7nm,0.4s,baz=118,slow=7.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	**P**	**12 23 53.0**	**-1.7**
KURK	**Kurchatov**	**61.73**	**327**	*e*P	**P**	**12 24 02.3**	**-0.5**
	2.1nm,0.5s						
ABKAR	**Akbulak array**	**72.16**	**321**	*e*P	**P**	**12 25 09.6**	**+0.3**
	0.7nm,0.5s						
PPT2	**Papse2**	**84.97**	**108**	*e*LR	LR	12 26 17.8	
	133nm,29.5s						
TBI	**Tubuai**	**85.67**	**114**	*e*LR	LR	12 26 35.8	
	82nm,30.8s						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**12 26 44.2**	**-0.6**
	0.8nm,0.8s,baz=97,slow=5.2,SNR=3.8						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**12 26 44.2**	**-0.6**
ARCES	**ARCESS Array B**	**90.38**	**340**	P	**P**	**12 26 44.6**	**-0.8**
	3.4nm,1.0s,baz=56,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**90.38**	**340**	P	**P**	**12 26 44.6**	**-0.8**
KOLS	**Kolonicke sedl**	**96.66**	**320**	*e*P	**P**	12 27 22.0	+7.3
VYHS	**Vyhne**	**98.97**	**320**	PDIF	Pdif	12 27 29.4	+4.2
TORD	**Torodi Ar. Bea**	**123.06**	**288**	PKP	**PKPdf**	**12 32 42.0**	**+0.1**
	0.6nm,0.6s,baz=8.9,slow=1.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**123.06**	**288**	PKP	**PKPdf**	**12 32 42.0**	**+0.1**

DJA 10 12:16:09.4±0.4, 1°N±6°×10°0E±°, h13km±4km, M3.7/6, MLv3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.04**	**150**	P	Pg	12 16 10.9	-0.9
MNSI				S	Sg	12 16 15.1	+1.6
PPI	**Padang Panjang**	**1.53**	**147**	P	Pg	12 16 41.5	+2.7
BKNI	**Bangkinang**	**1.56**	**109**	P	Pn	12 16 37.3	+0.4
BKNI				S	Sn	12 16 56.1	-0.9
GSI	**Gunungsitoli**	**2.04**	**283**	P	Pn	12 16 43.4	-0.1
PSI	**Prapat**	**2.06**	**342**	P	Pn	12 16 42.7	-1.2
IPM	**Ipoh**	**3.91**	**22**	P	Pn	12 17 09.2	0.0
KULM	**Kulim**	**4.56**	**14**	P	Pn	12 17 17.2	-1.0

*TIR **10** 12:23:00.6,41°.25N×20°.45E,h15km, ML2.9*
*SKO **10** 12:23:00.8,41°.27N×20°.50E,h10km, M2.2,ML2.6*
*THE **10** 12:23:01.6,41°.28N×20°.51E,h0km±2km, ML2.9/2, Error ellipse: s-maj=2.5km s-min=0.6km az=318.0*
*CSEM **10** 12:23:01.6±0.2,41°.28N×20°.50E,h2km, ML2.9/2, Error ellipse: s-maj=3.3km s-min=2.5km az=48.0*
*BEO **10** 12:23:08.5±1.0,41°.50N×20°.61E,h8km±3km, ML2.3/5*

ISC 10 12:23:01.8±1.1, 41°.28N±0°.02×20°.51E±0°.02, h0km±10km, n34, σ0§93/65, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.41**	**353**	*e*PG	**Pg**	**12 23 09.5**	**-0.3**
PHP				*i* SG	**Sg**	**12 23 15.4**	**+0.3**
PHP	**Peshkopia**	**0.41**	**353**	P	**Pg**	**12 23 09.5**	**-0.3**
PHP				S	**Sg**	**12 23 15.3**	**+0.2**
PHP	**Peshkopia**	**0.41**	**353**	P	**Pg**	**12 23 09.5**	**-0.3**
PHP				S	**Sg**	**12 23 15.3**	**+0.2**
TIR	**Tirane**	**0.49**	**279**	*e*PG	**Pg**	**12 23 10.6**	**-0.7**
TIR				*i* SG	**Sg**	**12 23 17.2**	**-0.5**
TIR	**Tirane**	**0.49**	**279**	P	**Pg**	**12 23 10.6**	**-0.7**
TIR				S	**Sg**	**12 23 18.4**	**+0.7**
TIR	**Tirane**	**0.49**	**279**	P	**Pg**	**12 23 10.6**	**-0.7**
TIR				*i* Sg	**Sg**	**12 23 17.2**	**-0.5**
TIR				S	**Sg**	**12 23 18.4**	**+0.7**
BIA	**Bitola**	**0.66**	**112**	P	**Pg**	**12 23 13.7**	**-0.8**
BIA				S	**Sg**	**12 23 24.0**	**+0.9**
BIA	**Bitola**	**0.66**	**112**	*i* Pg	**Pg**	**12 23 13.7**	**-0.8**
BIA				*i* Sg	**Sg**	**12 23 24.0**	**+0.9**
BIA	**Bitola**	**0.66**	**112**	P	**Pg**	**12 23 13.7**	**-0.8**
BIA				S	**Sg**	**12 23 24.0**	**+0.9**
FNA	**Florina**	**0.82**	**127**	P	**Pg**	**12 23 17.2**	**-0.3**
FNA				S	**Sg**	**12 23 29.4**	**+1.3**
FNA	**Florina**	**0.82**	**127**	P	**Pg**	**12 23 17.2**	**-0.3**
FNA				S	**Sg**	**12 23 29.4**	**+1.3**
PUK	**Puka**	**0.90**	**329**	*e*PG	**Pg**	**12 23 18.2**	**-0.8**
PUK				*i* SG	**Sb**	**12 23 33.1**	**+0.3**
PUK	**Puka**	**0.90**	**329**	*e*Pg	**Pg**	**12 23 18.2**	**-0.8**
PUK				*i* Sg	**Sb**	**12 23 33.2**	**+0.3**
NEST	**Nestorio**	**0.95**	**154**	P	**Pg**	**12 23 19.7**	**-0.3**
NEST				S	**Sg**	**12 23 33.2**	**+0.9**
NEST	**Nestorio**	**0.95**	**154**	P	**Pg**	**12 23 19.7**	**-0.3**
NEST				S	**Sg**	**12 23 33.2**	**+0.9**
SKO	**Skopje**	**0.98**	**45**	*i* Pg	**Pg**	**12 23 20.1**	**-0.5**
SKO				*i* Sg	**Sg**	**12 23 34.0**	**+0.5**
SKO				*e*Lg	Lg	12 23 36.0	
	comp=E,233nm,0.8s						
SKO				*e*Lg	Lg	12 23 36.1	
	comp=N,228nm,0.6s						
SKO	**Skopje**	**0.98**	**45**	*e*Pg	**Pn**	**12 23 22.7**	**-0.2**
SKO				*e*Sg	**Sg**	**12 23 33.6**	**+0.2**
SKO	**Skopje**	**0.98**	**45**	*i* Pg	**Pg**	**12 23 20.6**	**-0.1**
SKO				*i* Sg	**Sb**	**12 23 34.4**	**-0.9**
SKO				*e*Lg	Lg	12 23 36.5	
	comp=N,228nm,0.6s						
BCI	**Bajram Curri**	**1.14**	**343**	*e*PN	Pn	12 23 28.4	+3.3
BCI				*i* SN	**Sn**	**12 23 42.3**	**+0.8**
BCI	**Bajram Curri**	**1.14**	**343**	*e*Pn	Pn	12 23 28.4	+3.3
BCI				*i* Sn	**Sn**	**12 23 42.3**	**+0.8**
KZN	**Kozani**	**1.36**	**135**	P	**Pb**	**12 23 28.2**	**0.0**
KZN				S	**Sn**	**12 23 47.4**	**+0.5**
KZN	**Kozani**	**1.36**	**135**	P	**Pb**	**12 23 28.2**	**0.0**
KZN				S	**Sn**	**12 23 47.4**	**+0.5**
SRN	**Sarande**	**1.45**	**196**	*i* PN	**Pn**	**12 23 28.9**	**-0.3**
SRN	**Sarande**	**1.45**	**196**	*i* Pn	**Pn**	**12 23 28.9**	**-0.3**
PDG	**Podgorica**	**1.49**	**321**	*e*Pg	**Pg**	**12 23 32.6**	**+2.3**
PDG				*e*Sg	**Sg**	**12 23 52.0**	**+2.4**
PDG	**Podgorica**	**1.49**	**321**	*e*Pg	**Pg**	**12 23 32.6**	**+2.3**
PDG				*e*Sg	**Sg**	**12 23 52.0**	**+2.4**
VAY	**Valandovo**	**1.55**	**88**	*i* Pg	**Pn**	**12 23 30.5**	**-0.2**
VAY				*e*Sg	**Sg**	**12 23 51.8**	**+0.1**
VAY				*e*Lg	Lg	12 23 52.2	
	comp=N,40nm,0.7s						
VAY				*e*Lg	Lg	12 23 52.6	
	comp=E,32nm,0.4s						
VAY	**Valandovo**	**1.55**	**88**	*i* Pg	**Pn**	**12 23 30.9**	**+0.2**
VAY				*e*Sg	**Sg**	**12 23 52.2**	**+0.6**
VAY				*e*Lg	Lg	12 23 53.0	
	comp=E,32nm,0.4s						
BARS	**Barje**	**1.82**	**32**	*e*Pg	**Pg**	**12 23 37.2**	**+0.5**
BARS				*e*Sg	**Sb**	**12 23 59.2**	**-0.2**
BARS	**Barje**	**1.82**	**32**	*e*Pg	**Pg**	**12 23 37.2**	**+0.5**
BARS				*e*Sg	**Sb**	**12 23 59.2**	**-0.2**
VTS	**Vitosha**	**2.40**	**56**	*e*Pn	**Pb**	**12 23 46.5**	**+0.5**
VTS				*e*Sn	**Sn**	**12 24 12.2**	**-0.6**
VTS	**Vitosha**	**2.40**	**56**	*e*Pn	**Pb**	**12 23 46.5**	**+0.5**
VTS				*e*Sn	**Sn**	**12 24 12.2**	**-0.6**
DIVS	**Divibare**	**2.85**	**352**	*e*Pn	**Pb**	**12 23 51.2**	**-2.4**
DIVS				*e*Sn	**Sn**	**12 24 23.7**	**+0.1**
DIVS	**Divibare**	**2.85**	**352**	*e*Pn	**Pb**	**12 23 51.2**	**-2.4**
DIVS				*e*Sn	**Sn**	**12 24 23.7**	**+0.1**

*ISCJB **10** 12:26:16.2±0.6,6°.90S±0°.07×126°.8E±0°.2,h450km, mb3.2/6, Error ellipse: s-maj=23.3km s-min=7.8km az=164.5*
*IDC **10** 12:26:18.4±2.7,7°.05S×126°.67E,h462km±35km,mb2.9/6, mb1 3.0/9,mb1mx2.9/20,mbtmp2.9/9, Error ellipse: s-maj=42.0km s-min=12.4km az=68.0*
*AUST **10** 12:26:35.6±0.0,8°.90S×126°.98E,h442km, Error ellipse: s-maj=3.0km s-min=1.5km az=239.0*

**ISC 10 12:26:18.0±1.0, 7°.00S±0°.

ARMA	**Armidale**	**26.23**	**249**	P	**P**	**13 01 43.2**	**+1.0**
	baz=26,SNR=6.9							
EIDS	**Eidsvold**	**26.51**	**261**	P	**P**	**13 01 45.1**	**+0.5**
	baz=26,SNR=4.5							
MGCD	**Mangrove Creek**	**27.16**	**243**	P	**P**	**13 01 51.1**	**+1.0**
	baz=27,SNR=10							
RMQ	**Roma**	**28.56**	**258**	P	**P**	**13 02 03.6**	**+1.1**
	baz=28,SNR=5.4							
CNB	**Canberra Magne**	**29.06**	**240**	P	**P**	**13 02 07.6**	**+0.8**
	baz=29,SNR=9.6							
YNG	**Young**	**29.60**	**242**	P	**P**	**13 02 11.9**	**+0.5**
	baz=29,SNR=7.3							
CMSA	**Cobar Meteorol**	**31.43**	**248**	P	**P**	**13 02 27.1**	**-0.1**
	baz=31,SNR=8.3							
CTA	**Charters Tower**	**31.67**	**270**	P	**P**	**13 02 29.6**	**+0.1**
	12nm,0.5s,baz=91,slow=10,SNR=38							
QLP	**Quilpie**	**32.60**	**258**	P	**P**	**13 02 37.0**	**-0.3**
	baz=32,SNR=5.3							
TOO	**Toolangi**	**32.66**	**237**	P	**P**	**13 02 37.7**	**+0.1**
	baz=32,SNR=9.1							
PMG	**Port Moresby**	**34.65**	**289**	P	**P**	**13 02 54.3**	**-0.4**
	8.1nm,0.7s,baz=167,slow=7.3,SNR=3.1							
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**13 02 56.7**	**-0.1**
	2.6nm,0.5s,baz=56,slow=6.2,SNR=14							
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**13 02 56.8**	**-0.1**
	baz=35,SNR=9.6							
COEN	**Coen**	**36.29**	**279**	P	**P**	**13 03 09.1**	**+0.7**
	baz=36,SNR=5.7							
BBOO	**Buckleboo**	**39.65**	**247**	P	**P**	**13 03 34.5**	**-1.1**
	baz=39,SNR=12							
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**13 03 55.8**	**-0.6**
	5.6nm,0.7s,baz=97,slow=7.2,SNR=117							
ASAR				ScP	**ScP**	**13 08 42.8**	**+3.1**
	1.0nm,0.9s,baz=106,slow=5.0,SNR=5.4							
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**13 03 58.1**	**-1.1**
	5.7nm,0.3s,baz=96,slow=8.5,SNR=174							
WRA				ScP	**ScP**	**13 08 45.9**	**+4.6**
	0.4nm,0.6s,baz=98,slow=3.7,SNR=5.3							
KDU	**Kakadu**	**46.47**	**275**	P	**P**	**13 04 28.1**	**-1.0**
	baz=46,SNR=4.3							
FORT	**Forrest**	**46.52**	**249**	P	**P**	**13 04 28.1**	**-1.2**
	baz=46,SNR=10							
MTN	**Manton Dam**	**47.64**	**274**	P	**P**	**13 04 36.9**	**-1.1**
	baz=47,SNR=4.8							
FITZ	**Fitzroy Crossi**	**51.03**	**265**	P	**P**	**13 05 02.6**	**-0.3**
	3.2nm,0.5s,baz=95,slow=6.3,SNR=14							
FITZ	**Fitzroy Crossi**	**51.03**	**265**	P	**P**	**13 05 02.5**	**-0.4**
	baz=51,SNR=9.1							
VNDA	**Vanda**	**54.48**	**185**	P	**P**	**13 05 26.1**	**-0.5**
	0.9nm,0.6s,baz=46,slow=3.6,SNR=4.3							
MEEK	**Meekatharra**	**55.32**	**253**	P	**P**	**13 05 32.2**	**-1.3**
	baz=55,SNR=3.2							
BLDU	**Balliduu**	**56.24**	**248**	P	**P**	**13 05 38.6**	**-1.1**
	baz=56,SNR=16							
MORW	**Morawa**	**57.09**	**250**	P	**P**	**13 05 44.8**	**-0.8**
	baz=57,SNR=6.2							
QSPA	**South Pole Qui**	**66.26**	**180**	P	**P**	**13 06 45.5**	**+0.5**
	2.7nm,0.9s,baz=351,slow=4.0,SNR=15							
GSI	**Gunungsitoli**	**83.78**	**274**	P	P	13 08 32.4	+8.5
	baz=84,SNR=3.2							
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**13 08 53.5**	**+1.9**
	0.7nm,0.7s,baz=133,slow=2.7,SNR=4.9							
TXAR	**Lajitas Array**	**90.22**	**58**	P	**P**	**13 08 55.0**	**+0.9**
	0.5nm,0.6s,baz=204,slow=8.2,SNR=3.6							
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**13 09 03.2**	**-1.2**
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.3							

*IDC **10** 13:07:19.1±2.0,1.˝94N×124.˚85E,h0km,mb2.9/3, mb1 3.1/3,mb1mx3.0/22,mbtmp2.9/3,Error ellipse: s-maj=209.3km s-min=25.3km az=64.0*

MAN 10 13:07:00,6.˚54N×125.˚85E,h150km,mb4.5,ML3.4,MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.57**	**45**	*e*P	Pn	13 07 23.2	+1.4
MATI				*e*S	Sn	13 07 32.4	-6.0
BUKP	**Musuan**	**1.54**	**330**	*e*P	Pn	13 07 31.8	+1.7
PAGZ	**Pagadian**	**2.77**	**298**	*e*P	Pn	13 07 45.3	+0.8
WRA	**Warramunga Arr**	**27.61**	**163**	P	P	13 12 32.0	-1.5
	0.2nm,0.8s,baz=336,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**31.04**	**166**	P	P	13 13 02.7	-1.1
	0.1nm,0.3s,baz=340,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**54.77**	**325**	P	PcP	13 17 13.4	-1.3
	0.1nm,0.5s,baz=122,slow=4.1,SNR=2.5						

*NSSC **10** 13:12:44.8±5.9,37.˚92N×45.˚40E,h37km±999km,MD2.4, ML4.5*
*AZER **10** 13:12:47.2,36.˚62N×42.˚08E,h0km*
*ISK **10** 13:13:01.5,37.˚21N×43.˚70E,h5km,MD3.9*
*CSEM **10** 13:13:01.6±0.1,37.˚14N×43.˚73E,h2km,ML4.5,Error ellipse: s-maj=4.5km s-min=3.5km az=40.0*
*DDA **10** 13:13:02.1,37.˚29N×43.˚49E,h7km,MD4.1*
*MOS **10** 13:13:02.1±1.9,37.˚15N×43.˚62E,h14km,mb4.1/19,Error ellipse: s-maj=10.0km s-min=5.1km az=94.7*
*IDC **10** 13:13:05.4±3.2,37.˚23N×43.˚69E,h24km±21km,mb3.7/18, mb1 3.8/25,mb1mx3.7/34,mbtmp3.7/25,ML3.4/6,MS3.5/12, Ms1 3.5/12,ms1mx3.2/39,Error ellipse: s-maj=15.5km s-min=10.1km az=141.0*
*TEH **10** 13:13:06.1,37.˚18N×43.˚98E,h15km,ML4.3*

ISC 10 13:13:01.7±0.8,37.˚16N±0.˚02×43.˚63E±0.˚02,h1km±6km, n193,σ1s42/202,mb3.9/27,MS3.4/10,12C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.09**	**351**	*e*PG	**Pg**	**13 13 03.6**	**0.0**
CUKT				*e*SG	**Sg**	**13 13 05.6**	**+0.8**
CUKT	**Cukurca**	**0.09**	**351**	*e*Pg	**Pg**	**13 13 03.6**	**0.0**
CUKT				*e*Sg	**Sg**	**13 13 05.6**	**+0.8**
HAKT	**HAKKARI**	**0.41**	**9**	*i* P	**Pg**	**13 13 08.1**	**-1.5**
HAKT				*i* S	**Sg**	**13 13 14.7**	**-0.1**
HAKT	**HAKKARI**	**0.41**	**9**	*i* P	**Pg**	**13 13 08.1**	**-1.5**
HAKT				*i* S	**Sg**	**13 13 14.7**	**-0.1**
VANT	**Van**	**1.29**	**347**	*e*PN	**Pn**	**13 13 25.8**	**-1.3**
VANT	**Van**	**1.29**	**347**	*e*Pn	**Pn**	**13 13 25.8**	**-1.3**
VANB	**Van**	**1.45**	**353**	*e*PN	**Pn**	**13 13 27.7**	**-1.4**
VANB				*e*SN	**Sn**	**13 13 47.6**	**-1.3**
VANB	**Van**	**1.45**	**353**	*e*Pn	**Pn**	**13 13 27.7**	**-1.4**
VANB				*e*Sn	**Sn**	**13 13 47.6**	**-1.3**
TATV	**Tatvan**	**1.73**	**322**	*i* P	**Pb**	**13 13 33.9**	**-0.4**
TATV				*i* S	**Sg**	**13 14 00.8**	**+3.6**
TATV	**Tatvan**	**1.73**	**322**	*i* P	**Pb**	**13 13 33.9**	**-0.4**
TATV				*i* S	**Sg**	**13 14 00.8**	**+3.6**
IAZR	**Azarshahr**	**1.95**	**74**	*e*Pn	**Pn**	**13 13 34.4**	**-1.7**
IAZR				*e*		13 14 03.7	
	comp=Z,65μm,0.4s						
IAZR	**Azarshahr**	**1.95**	**74**	*e*Pn	**Pn**	**13 13 34.4**	**-1.7**
BTMT	**Batman**	**1.98**	**302**	*e*PN	**Pb**	**13 13 38.3**	**-0.3**
BTMT				*e*SN	**Sb**	**13 14 05.3**	**+1.4**
BTMT	**Batman**	**1.98**	**302**	*e*Pn	**Pb**	**13 13 38.3**	**-0.3**
BTMT				*e*Sn	**Sb**	**13 14 05.3**	**+1.4**
CLDR	**Caldiran**	**2.00**	**7**	*e*PN	**Pn**	**13 13 35.8**	**-1.0**
CLDR	**Caldiran**	**2.00**	**7**	*e*Pn	**Pn**	**13 13 35.8**	**-1.0**
BEST	**Besiri**	**2.01**	**292**	*i* P	**Pn**	**13 13 36.7**	**-0.2**
BEST				*i* S	**Sb**	**13 14 03.9**	**-0.7**
IMRD	**Marand**	**2.26**	**46**	*e*Pn	**Pn**	**13 13 39.9**	**-0.5**
IMRD				*e*		13 14 34.3	
	comp=Z,16μm,0.4s						
IMRD	**Marand**	**2.26**	**46**	*e*Pn	**Pn**	**13 13 39.9**	**-0.5**
ITBZ	**Tabriz**	**2.27**	**61**	*e*Pn	**Pn**	**13 13 39.7**	**-0.8**
ITBZ				*e*Sg	**Sb**	**13 14 09.9**	**-2.3**
ITBZ				*e*		13 14 20.6	
	comp=Z,7μm,0.4s						
ITBZ	**Tabriz**	**2.27**	**61**	*e*Pn	**Pn**	**13 13 39.7**	**-0.8**
MARD	**Mardin**	**2.28**	**275**	*i* P	**Pn**	**13 13 40.6**	**+0.1**
MARD				*i* S	**Sb**	**13 14 13.7**	**+1.3**
IFTB	**Fath-abad**	**2.36**	**68**	*e*Pn	**Pn**	**13 13 40.9**	**-0.9**
IFTB	**Fath-abad**	**2.36**	**68**	*e*Pn	**Pn**	**13 13 40.9**	**-0.9**
DYDN	**Diyadin**	**2.38**	**1**	*i* P	**Pn**	**13 13 43.1**	**+1.0**
DYDN				*e*S	**Sg**	**13 14 18.4**	**0.0**
DYDN	**Diyadin**	**2.38**	**1**	*i* P	**Pn**	**13 13 43.1**	**+1.0**
AGRB	**Hanur-Agry**	**2.47**	**349**	*e*PN	**Pn**	**13 13 42.7**	**-0.5**
AGRB	**Hanur-Agry**	**2.47**	**349**	*e*Pn	**Pn**	**13 13 42.7**	**-0.5**
KBSD	**Kabsdagh**	**2.47**	**267**	*e*P	**Pn**	**13 13 43.8**	**+0.7**
KBSD				*e*S	**Sg**	**13 14 21.8**	**+0.8**
KBSD				AML	AML	13 14 36.1	
	comp=Z,2μm,0.6s						
KBSD	**Kabsdagh**	**2.47**	**267**	*e*P	**Pn**	**13 13 43.8**	**+0.7**
	SNR=57						
NAX	**Nakhchivan**	**2.50**	**36**	⇑P	**Pn**	**13 13 43.4**	**-0.1**
	SNR=5.8						
NAX	**Nakhchivan**	**2.50**	**36**	P	**Pn**	**13 13 43.4**	**-0.1**
	SNR=5.8						
VRTB	**Varto-Mus**	**2.63**	**320**	*e*PN	**Pn**	**13 13 45.6**	**+0.2**
VRTB	**Varto-Mus**	**2.63**	**320**	*e*Pn	**Pn**	**13 13 45.7**	**+0.2**
BNGL	**BINGOL**	**2.65**	**313**	*i* P	**Pn**	**13 13 47.1**	**+1.3**
IBST	**Bostanabad**	**2.66**	**77**	*e*Pn	**Pn**	**13 13 44.7**	**-1.2**
IBST				*e*Sg	**Sn**	**13 14 19.4**	**+0.6**
IBST				*e*		13 14 25.2	
	comp=Z,12μm,0.3s						
IBST	**Bostanabad**	**2.66**	**77**	*e*Pn	**Pn**	**13 13 44.7**	**-1.2**
MZRK	**Al-Mazaregh**	**2.74**	**242**	*i* P	**Pb**	**13 13 49.4**	**-2.1**
MZRK				*e*S	**Sg**	**13 14 31.5**	**+1.8**
MZRK				AML	AML	13 14 43.2	
	comp=Z,1μm,0.6s						
MZRK	**Al-Mazaregh**	**2.74**	**242**	*i* P	**Pb**	**13 13 49.4**	**-2.1**
	SNR=57						
DIY	**Diyarbakir**	**2.80**	**286**	*e*PN	**Pn**	**13 13 48.8**	**+1.1**
DIY	**Diyarbakir**	**2.80**	**286**	*e*Pn	**Pn**	**13 13 48.8**	**+1.1**
DIYA	**Diyarbakir**	**2.89**	**286**	*i* P	**Pn**	**13 13 48.2**	**-0.7**
DIYA				*i* S	**Sg**	**13 14 34.5**	**0.0**
DIYA	**Diyarbakir**	**2.89**	**286**	*i* P	**Pn**	**13 13 48.2**	**-0.7**
IHRS	**Heris**	**2.95**	**66**	*e*Pn	**Pn**	**13 13 48.8**	**-1.0**
IHRS				*e*		13 14 56.0	
	comp=Z,11μm,0.6s						
IHRS	**Heris**	**2.95**	**66**	*e*Pn	**Pn**	**13 13 48.8**	**-1.0**
BNGB	**Bing˜ll**	**2.96**	**309**	*e*PN	**Pn**	**13 13 50.6**	**+0.7**
BINT	**Bingol**	**3.01**	**306**	*e*Pn	**Pn**	**13 13 50.6**	**-0.1**
GNI	**Garni**	**3.11**	**16**	Pn	**Pn**	**13 13 53.1**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=178,slow=3.7,SNR=15						
GNI				Lg	Lg	13 14 42.0	
	comp=Z,3.8nm,0.3s,baz=200,slow=22,SNR=1.9						
GNI	**Garni**	**3.11**	**16**	*e*PN	**Pn**	**13 13 51.9**	**-0.2**
GNI	**Garni**	**3.11**	**16**	*e*Pn	**Pn**	**13 13 51.9**	**-0.2**
EZM	**Erzurum**	**3.27**	**328**	*e*PN	**Pn**	**13 13 55.0**	**+0.7**
ISRB	**Sarab**	**3.28**	**77**	*e*Pn	**Pn**	**13 13 53.9**	**-0.5**
ISRB				*e*		13 14 44.6	
	comp=Z,11μm,0.4s						
ISRB	**Sarab**	**3.28**	**77**	*e*Pn	**Pn**	**13 13 53.9**	**-0.5**
IDHR	**Dehrash**	**3.32**	**137**	*e*Pn	**Pn**	**13 13 54.5**	**-0.5**
IDHR	**Dehrash**	**3.32**	**137**	*e*Pn	**Pn**	**13 13 54.5**	**-0.5**
KARS	**Kars**	**3.49**	**353**	*e*PN	**Pn**	**13 13 57.5**	**+0.2**
KARS	**Kars**	**3.49**	**353**	*e*Pn	**Pn**	**13 13 57.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**3.63**	**291**	*e*PN	**Pn**	**13 14 00.4**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.63**	**291**	*e*Pn	**Pn**	**13 14 00.4**	**+1.2**
IGHG	**Ghaleghazi**	**3.70**	**139**	*e*Pn	**Pn**	**13 14 00.3**	**+0.1**
IGHG				*e*		13 15 10.2	
	comp=Z,13μm,0.4s						
IGHG	**Ghaleghazi**	**3.70**	**139**	*e*Pn	**Pn**	**13 14 00.3**	**+0.1**
IVIS	**Veis**	**3.71**	**134**	*e*Pn	**Pn**	**13 14 00.1**	**-0.1**
IVIS				*e*Sg	**Sb**	**13 14 56.1**	**+2.6**
IVIS				*e*		13 15 08.3	
	comp=Z,4μm,0.4s						
IVIS	**Veis**	**3.71**	**134**	*e*Pn	**Pn**	**13 14 00.1**	**-0.1**
IVIS				*e*Sg	**Sb**	**13 14 56.1**	**+2.6**
BHD	**Baghdad**	**3.93**	**171**	*e*Pn	**Pn**	**13 14 02.0**	**-1.1**
BHD				*e*Pg	**Pg**	**13 14 16.0**	**-1.0**
BHD				*e*Sn	**Sn**	**13 14 49.0**	**-0.7**
BHD				*e*Sg	**Sg**	**13 15 10.0**	**+2.2**
BHD	**Baghdad**	**3.93**	**171**	*e*Pn	**Pn**	**13 14 02.0**	**-1.1**
GANJ	**Ganja**	**4.07**	**30**	⇓P	**Pn**	**13 14 05.5**	**+0.4**
	SNR=8.0						
GANJ				⇑S	Sg	13 15 23.1	+11
GANJ	**Ganja**	**4.07**	**30**	P	**Pn**	**13 14 05.5**	**+0.4**
	SNR=8.0						
BRDA	**Brd**	**4.17**	**41**	⇓P	**Pb**	**13 14 14.8**	**-0.9**
	SNR=12						
BRDA				⇑S	Sg	13 15 24.0	+8.5
AKH	**Akhalkalaki**	**4.25**	**359**	P	**Pb**	**13 14 18.6**	**+1.3**
GLBA	**Clilabad**	**4.29**	**60**	⇓P	**Pb**	**13 14 17.7**	**-0.3**
	SNR=12						
GLBA				⇓S	**Sg**	**13 15 19.6**	**-0.1**
IKOM	**Komasi**	**4.34**	**132**	*e*Pn	**Pn**	**13 14 08.8**	**-0.2**
IKOM				*e*		13 15 32.1	
	comp=Z,8μm,0.5s						
IKOM	**Komasi**	**4.34**	**132**	*e*Pn	**Pn**	**13 14 08.8**	**-0.2**
LKRN	**Lenkeran, Azer**	**4.36**	**68**	⇓P	**Pb**	**13 14 20.5**	**+1.4**
	SNR=4.4						
LKRN				⇓S	**Sg**	**13 15 21.8**	**0.0**
JHLN	**Al Jahlan**	**4.43**	**252**	*e*P	**Pn**	**13 14 10.6**	**+0.5**
JHLN				*e*S	**Sb**	**13 15 14.5**	**+0.1**
JHLN				AML	AML	13 15 46.1	
	comp=Z,319nm,1.2s						
JHLN	**Al Jahlan**	**4.43**	**252**	*e*P	**Pn**	**13 14 10.6**	**+0.5**
	SNR=57						
DGRG	**David-gareji**	**4.50**	**17**	P	Pb	13 14 17.4	-4.1
TBLG	**Delisi**	**4.65**	**10**	*e*P	**Pn**	**13 14 15.6**	**+2.6**
TBLG	**Delisi**	**4.65**	**10**	P	**Pn**	**13 14 15.6**	**+2.6**
TBLG	**Delisi**	**4.65**	**10**	P	**Pn**	**13 14 15.6**	**+2.6**
AKCD	**Akcadag**	**4.66**	**286**	*e*P	**Pn**	**13 14 13.3**	**0.0**
AKCD	**Akcadag**	**4.66**	**286**	*e*P	**Pn**	**13 14 13.3**	**0.0**
SLMH	**Al Salmeh**	**4.67**	**260**	*e*P	Pb	13 14 21.7	-2.7
SLMH				*e*S	**Sb**	**13 15 19.8**	**-1.4**
SLMH				AML	AML	13 15 43.9	
	comp=Z,380nm,0.7s						
GOR	**Gori**	**4.84**	**4**	P	Pn	13 14 19.3	+3.7
GOR	**Gori**	**4.84**	**4**	P	Pn	13 14 19.3	+3.7
SEKA	**Sheki**	**4.91**	**33**	⇓P	**Pb**	**13 14 27.8**	**-0.6**
	SNR=4.6						
ALIB	**Äli-Bayra**	**5.06**	**55**	⇑P	Pn	13 14 23.9	+5.3
	SNR=4.2						
ALIB				⇑S	**Sg**	**13 15 44.0**	**-0.3**
IML	**Ismayilli**	**5.08**	**43**	⇓P	**Pn**	**13 14 20.3**	**+1.3**
	SNR=2.8						
IML				⇓S	**Sg**	**13 15 45.4**	**+0.6**
IML	**Ismayilli**	**5.08**	**43**	P	**Pn**	**13 14 20.3**	**+1.3**
	SNR=2.8						
PQL	**Pirkuli**	**5.30**	**45**	⇑P	Pb	13 14 29.1	-6.2
PQL				⇑S	Sg	13 15 46.2	-5.9
IGZV	**Ghazvin**	**5.35**	**96**	*e*Pn	**Pn**	**13 14 21.2**	**-1.7**
IGZV				*e*		13 16 06.3	
	comp=Z,4μm,0.6s						
IGZV	**Ghazvin**	**5.35**	**96**	*e*Pn	**Pn**	**13 14 21.2**	**-1.7**
IRAZ	**Razeghan**	**5.38**	**107**	*e*Pn	**Pn**	**13 14 22.2**	**-1.1**
IRAZ				*e*		13 14 42.7	
	comp=Z,2μm,0.4s						
IRAZ	**Razeghan**	**5.38**	**107**	*e*Pn	**Pn**	**13 14 22.2**	**-1.1**
ONI	**Oni**	**5.43**	**359**	P	Pn	13 14 27.4	+3.7
ZEI	**Tsey**	**5.61**	**2**	*e*P	Pn	13 14 30.6	+4.2
ZEI				pmax	pmax		
	comp=Z,19nm,0.7s						
QUBA	**Quba, Azerbaij**	**5.64**	**41**	⇑P	**Pn**	**13 14 28.4**	**+1.7**
QUBA	**Quba, Azerbaij**	**5.64**	**41**	P	**Pn**	**13 14 28.4**	**+1.7**
SIZA	**Siyzn**	**5.67**	**45**	⇓P	Pn	13 14 30.1	+3.0
	SNR=4.7						
KFRA	**Kufra**	**5.85**	**253**	*e*P	**Pn**	**13 14 31.5**	**+1.9**
KFRA				*e*S	**Sb**	**13 15 51.7**	**-3.4**
KFRA				AML	AML	13 16 23.6	
	comp=N,9μm,1.5s						
KFRA				AML	AML	13 16 30.2	
	comp=E,7μm,0.7s						
IR5	**Iran Long-Peri**	**5.95**	**107**	*e*Pn	**Pb**	**13 14 46.3**	**0.0**
WRDH	**Warideh**	**6.05**	**256**	*e*P	**Pn**	**13 14 34.1**	**+1.8**
WRDH				*e*S	**Sb**	**13 15 56.1**	**-4.8**
WRDH				AML	AML	13 16 29.8	
	comp=E,10μm,1.2s						
WRDH				AML	AML	13 16 34.9	
	comp=N,31μm,1.4s						
WRDH	**Warideh**	**6.05**	**256**	*e*P	**Pn**	**13 14 34.1**	**+1.8**
	SNR=57						
BIDA	**Albida**	**6.29**	**252**	*e*P	Pn	13 14 38.3	+2.7
BIDA				*e*S	Sb	13 15 58.7	-9.1
BIDA				AML	AML	13 16 35.9	
	comp=N,374nm,0.7s						
BIDA				AML	AML	13 16 44.5	
	comp=E,297nm,1.1s						
BIDA	**Albida**	**6.29**	**252**	*e*P	Pn	13 14 38.3	+2.7
	SNR=57						
HAWK	**Haweek**	**6.43**	**248**	*e*P	**Pn**	**13 14 38.4**	**+0.9**
HAWK				*e*S	Sb	13 16 04.3	-7.4
HAWK				AML	AML	13 16 47.9	
	comp=N,122nm,0.9s						
HAWK				AML	AML	13 16 53.1	
	comp=E,100nm,0.7s						
HAWK	**Haweek**	**6.43**	**248**	*e*P	**Pn**	**13 14 38.4**	**+0.9**
	SNR=57						
MAK	**Makhachkala**	**6.52**	**26**	*e*P	**Pn**	**13 14 36.3**	**-2.3**
MAK				MLR	MLR		
	comp=Z,271nm,7.0s						
KBZ	**Khabaz**	**6.59**	**355**	Pn	Pn	13 14 43.8	+4.2
	comp=Z,0.2nm,0.3s,baz=168,slow=9.0,SNR=30						
KBZ				LR	LR	13 17 34.7	
	comp=Z,339nm,20.6s,baz=169,slow=41						
KBZ	**Khabaz**	**6.59**	**355**	P	Pn	13 14 43.8	+4.2
KBZ				MLR	MLR		
	comp=Z,339nm,20.6s						
ZALF	**Zalf**	**6.67**	**233**	*e*P	**Pn**	**13 14 42.9**	**+2.1**
ZALF				*e*S	Sb	13 16 10.1	-8.5
ZALF				AML	AML	13 16 52.0	
	comp=E,68nm,0.7s						
ZALF				AML	AML	13 16 54.4	
	comp=N,139nm,0.8s						
KIV	**Kislovodsk**	**6.83**	**354**	*e*P	**Pn**	**13 14 44.2**	**+1.2**
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIV				MLR	MLR		
	comp=Z,59nm,8.0s						
IVRN	**Varamin**	**6.91**	**106**	*e*Pn	**Pn**	**13 14 43.2**	**-0.9**
IVRN	**Varamin**	**6.91**	**106**	*e*Pn	**Pn**	**13 14 43.2**	**-0.9**
IDMV	**Damavand**	**6.96**	**101**	*e*Pn	**Pn**	**13 14 43.6**	**-1.5**
IDMV				*e*		13 15 14.3	
	comp=Z,631nm,0.6s						
IDMV	**Damavand**	**6.96**	**101**	*e*Pn	**Pn**	**13 14 43.6**	**-1.5**
TOTH	**TOTAH**	**7.00**	**239**	*e*P	**Pn**	**13 14 47.9**	**+2.6**
TOTH				*e*S	Sb	13 16 19.0	-9.1
TOTH	**TOTAH**	**7.00**	**239**	*e*P	**Pn**	**13 14 47.9**	**+2.6**
	SNR=57						
SOC	**Sochi**	**7.08**	**336**	*e*P	Pn	13 14 42.7	-3.7
SOC				*e*		13 16 03.8	
SOC				MLR	MLR		
	comp=Z,300nm,12.0s						
SALA	**Sala**	**7.19**	**234**	*e*P	**Pn**	**13 14 48.9**	**+0.8**
SALA				*e*S	Sb	13 16 23.1	-11
SALA				AML	AML	13 17 04.8	
	comp=N,212nm,0.5s						
SALA				AML	AML	13 17 05.9	
	comp=E,25nm,0.3s						
BRBR	**Barbar**	**7.30**	**241**	*e*P	**Pn**	**13 14 51.8**	**+2.2**
BRBR				*e*S	Sb	13 16 26.1	-11
ASF	**Jabal al Asfar**	**7.44**	**230**	Pn	**Pn**	**13 14 52.7**	**+1.2**
	comp=E,0.4nm,0.3s,baz=272,slow=19,SNR=3.9						
ASF				Lg	Lg	13 17 01.4	
	comp=E,2.1nm,0.3s,baz=104,slow=21,SNR=10						
IPIR	**Pirpir**	**7.45**	**125**	*e*Pn	**Pn**	**13 14 50.4**	**-1.4**
IPIR				*e*		13 14 53.0	
	comp=Z,426nm,0.1s						
IPIR	**Pirpir**	**7.45**	**125**	*e*Pn	**Pn**	**13 14 50.4**	**-1.4**
ISFB	**Sefidab**	**7.54**	**109**	*e*Pn	**Pn**	**13 14 51.2**	**-1.6**
ISFB				*e*		13 15 37.0	
	comp=Z,513nm,0.7s						
ISFB	**Sefidab**	**7.54**	**109**	*e*Pn	**Pn**	**13 14 51.2**	**-1.6**
MMAI	**Mount Meron Ar**	**7.90**	**241**	Pn	Pn	13 15 01.1	+3.3
	comp=Z,2.0nm,0.3s,baz=52,slow=19,SNR=3.7						
MMAI				Lg	Lg	13 17 20.4	
	comp=Z,3.7nm,0.3s,baz=130,slow=53,SNR=4.4						
MIB	**Mutribah**	**7.96**	**156**	*e*P	Pn	13 14 55.3	-3.2
MIB				AML	AML	13 16 27.1	
	comp=Z,26nm,0.7s						
MIB	**Mutribah**	**7.96**	**156**	*e*P	Pn	13 14 55.3	-3.2
BRTR	**Keskin Array B**	**8.24**	**291**	Pn	**Pn**	**13 15 03.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=2.9						
IZEF	**Zefreh**	**8.31**	**118**	*e*Pn	**Pn**	**13 15 02.2**	**-1.3**
IZEF				*e*		13 18 08.8	
	comp=Z,146nm,0.3s						
IZEF	**Zefreh**	**8.31**	**118**	*e*Pn	**Pn**	**13 15 02.2**	**-1.3**
NAY	**Al-Naaiem**	**8.45**	**158**	*e*P	**Pn**	**13 15 02.2**	**-3.0**
NAY				AML	AML	13 16 36.7	
	comp=Z,13nm,0.8s						
NAY	**Al-Naaiem**	**8.45**	**158**	*e*P	**Pn**	**13 15 02.2**	**-3.0**
KBD	**Kabd**	**8.66**	**156**	*e*P	**Pn**	**13 15 05.7**	**-2.4**
KBD	**Kabd**	**8.66**	**156**	*e*P	**Pn**	**13 15 05.7**	**-2.4**
QRN	**Al-Qurain**	**9.13**	**156**	*e*P	**Pn**	**13 15 12.5**	**-2.0**
EIL	**Elat**	**10.40**	**227**	Pn	Pn	13 15 37.7	+5.7
	comp=Z,0.4nm,0.3s,baz=68,slow=8.4,SNR=2.7						
EIL				Lg	Lg

FINES	**FINESS Array B**	**26.69**	**341**	P		**P**	**13 18 40.9**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=140,slow=12,SNR=3.7							
DAVOX	**Davos/Dischmat**	**26.69**	**302**	P		**P**	**13 18 42.6**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=126,slow=5.1,SNR=4.4							
DAVOX				LR		LR	13 30 36.9	
	comp=Z,85nm,18.9s,baz=254,slow=39							
KEST	**Kesra**	**27.53**	**277**	P		**P**	**13 18 52.1**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=266,slow=6.5,SNR=5.4							
KURBB	**Kurchatov Arra**	**28.24**	**50**	P		**P**	**13 18 56.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=259,slow=9.0,SNR=4.5							
KURK	**Kurchatov**	**28.32**	**50**	*eP*		**P**	**13 18 58.0**	**+1.3**
KURK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
HFS	**Hagfors**	**29.86**	**330**	P		**P**	**13 19 10.0**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=131,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**30.05**	**59**	P		**P**	**13 19 10.8**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=264,slow=6.6,SNR=11							
MKAR	**Makanchi Array**	**30.05**	**59**	P		**P**	**13 19 10.8**	**-1.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**31.39**	**330**	P		**P**	**13 19 22.7**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=123,slow=7.7,SNR=3.1							
NOA				LR		LR	13 32 46.5	
	comp=Z,61nm,19.2s,baz=0.0,slow=38							
ZALV	**Zalesovo Beam**	**32.81**	**46**	LR		LR	13 34 45.9	
	comp=Z,43nm,20.0s,baz=43,slow=40							
ARCES	**ARCESS Array B**	**33.90**	**349**	LR		LR	13 34 29.5	
	comp=Z,96nm,18.4s,baz=122,slow=38							
ESDC	**Sonseca Array**	**37.03**	**289**	P		**P**	**13 20 12.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=66,slow=9.5,SNR=6.5							
ESDC				LR		LR	13 37 05.4	
	comp=Z,62nm,18.2s,baz=290,slow=39							
TORD	**Torodi Ar. Bea**	**44.36**	**249**	P		**P**	**13 21 14.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=52,slow=4.5,SNR=3.4							
SONM	**Songino Array**	**46.31**	**56**	LR		LR	13 43 13.1	
	comp=Z,50nm,18.0s,baz=270,slow=39							
CMAR	**Chiang Mai Arr**	**51.63**	**95**	P		**P**	**13 22 09.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=296,slow=8.5,SNR=12							
CMAR				LR		LR	13 48 59.0	
	comp=Z,36nm,19.6s,baz=343,slow=42							
KSRS	**Korea Array**	**64.70**	**61**	P		**P**	**13 23 39.6**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=290,slow=6.6,SNR=4.7							
SEY	**Seymchan**	**65.34**	**28**	*iP*		**P**	**13 23 44.9**	**-0.2**
BOSA	**Boshof**	**67.66**	**197**	P		**P**	**13 24 01.6**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=333,slow=12,SNR=4.2							
BOSA				LR		LR	13 53 40.8	
	comp=Z,76nm,18.6s,baz=165,slow=36							
INK	**Inuvik**	**74.83**	**359**	P		**P**	**13 24 43.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=271,slow=5.2,SNR=4.0							
ILAR	**Eielson Array**	**78.07**	**5**	P		**P**	**13 25 00.5**	**-1.2**
	comp=Z,0.3nm,1.0s,baz=328,slow=5.1,SNR=4.4							
YKA	**Yellowknife Ar**	**79.15**	**350**	P		**P**	**13 25 07.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=16,slow=6.0,SNR=8.8							
ULM	**Lac du Bonnet**	**85.92**	**335**	P		**P**	**13 25 43.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=56,slow=7.3,SNR=3.9							

*ISCJB **10** 13:13:53.9±0.5,57.26N±0.04×153.67W±0.05,h41km, mb3.9/14, Error ellipse: s-maj=5.7km s-min=3.7km az=1.0*
*IDC **10** 13:13:56.6±1.0,57.52N×154.11W,h39km±4km,mb3.6/15, mb1 3.8/16,mb1mx3.7/30,mbtmp3.7/16,ML3.7/1, Error ellipse: s-maj=27.2km s-min=11.6km az=4.0*
*NEIC **10** 13:13:57.3,57.36N×153.88W,h38km,ML3.4(AEIC),After AEIC.*

ISC 10 13:13:56.0±0.6,57.41N±0.06×153.83W±0.03,h41km,n64, σ1s57/80,mb3.9/14,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KDAK	**Kodiak Island**	**0.77**	**60**	Pn		**Pn**	**13 14 11.4**	**+1.1**
	117nm,0.3s,baz=232,slow=7.7,SNR=1236							
KDAK				Sn		**Sn**	**13 14 23.2**	**+2.5**
	346nm,0.3s,baz=332,slow=22,SNR=63							
KDAK	**Kodiak Island**	**0.77**	**60**	P		**Pn**	**13 14 11.5**	**+1.1**
KDAK				S		**Sn**	**13 14 23.0**	**+2.2**
KABR	**Katmai Barrier**	**0.95**	**320**	P		**Pn**	**13 14 13.1**	**+0.2**
KAWH	**Katmai**	**1.11**	**333**	P		**Pn**	**13 14 15.9**	**+0.9**
KAWH				S		**Sn**	**13 14 30.5**	**+1.4**
KCE	**Katmai Mt Cerb**	**1.11**	**320**	P		**Pn**	**13 14 16.1**	**+1.0**
KAKN	**Katmai Knife C**	**1.11**	**324**	P		**Pn**	**13 14 15.8**	**+0.7**
KAKN				S		**Sn**	**13 14 30.3**	**+1.1**
KBM	**Katmai Bkd Mtn**	**1.14**	**320**	P		**Pn**	**13 14 16.7**	**+1.2**
KABU	**Katmai Buttres**	**1.16**	**319**	P		**Pn**	**13 14 16.8**	**+1.0**
KABU				S		**Sn**	**13 14 32.6**	**+2.1**
KAPH	**Katmai Pasha**	**1.22**	**347**	P		**Pn**	**13 14 18.5**	**+1.8**
KAPH				S		**Sn**	**13 14 35.2**	**+3.2**
FOSS	**Fourpeaked Sta**	**1.40**	**3**	P		**Pn**	**13 14 20.6**	**+1.6**
FOSS				S		**Sn**	**13 14 39.2**	**+3.0**
KELA	**Mount Kelaz**	**1.45**	**316**	P		**Pn**	**13 14 20.6**	**+0.8**
KELA				S		**Sn**	**13 14 40.8**	**+3.1**
AUH	**Augustine H**	**1.97**	**6**	P		**Pn**	**13 14 29.5**	**+2.6**
OPT	**Oil Point**	**2.27**	**8**	P		**Pn**	**13 14 32.6**	**+1.5**
ANPK	**Aniakchak Peak**	**2.41**	**258**	P		**Pn**	**13 14 35.1**	**+2.1**
ANNW	**Aniakchak Nort**	**2.43**	**261**	P		**Pn**	**13 14 34.6**	**+1.5**
AZAC	**Aniakchak**	**2.45**	**260**	P		**Pn**	**13 14 34.9**	**+1.4**
ILW	**Iliamna West**	**2.69**	**7**	P		**Pn**	**13 14 38.4**	**+1.6**
CHGN	**Chignik**	**2.75**	**248**	*e*Pn		**Pn**	**13 14 36.5**	**-1.0**
BRLK	**Bradley Lake**	**2.82**	**32**	P		**Pn**	**13 14 39.7**	**+1.1**
RSO	**Redoubt South**	**3.12**	**10**	P		**Pn**	**13 14 45.4**	**+2.6**
VNHG	**Veniaminof 1**	**3.16**	**250**	P		**Pn**	**13 14 46.1**	**+2.8**
SEW	**Seward**	**3.54**	**38**	P		**Pn**	**13 14 48.7**	**+0.4**
STLK	**Strandline Lak**	**4.23**	**13**	P		**Pn**	**13 14 60.0**	**+2.1**
RC01	**Rabbit Creek A**	**4.25**	**28**	P		**Pn**	**13 14 59.0**	**+0.9**
SUA	**Susitna One**	**4.36**	**20**	P		**Pn**	**13 15 01.1**	**+1.4**
SKT	**Skwentna**	**4.73**	**13**	P		**Pn**	**13 15 06.6**	**+1.8**
PMR	**Palmer**	**4.83**	**28**	P		**Pn**	**13 15 06.3**	**+0.3**
SML	**Sawmill**	**5.22**	**30**	Pn		**Pn**	**13 15 12.0**	**+0.5**
	6.0nm,0.7s							
EYAK	**Cordova Ski Ar**	**5.24**	**50**	P		**Pn**	**13 15 12.0**	**+0.4**
VLZ	**Valdez**	**5.36**	**43**	P		**Pn**	**13 15 14.0**	**+0.7**
GOAT	**Goat Mountain**	**5.68**	**52**	P		**Pn**	**13 15 18.5**	**+0.7**
BMRM	**Bremner River**	**5.94**	**49**	P		**Pn**	**13 15 21.8**	**+0.6**
GRIN	**Grindle Hills**	**6.17**	**58**	P		**Pn**	**13 15 25.1**	**+0.6**
TRF	**Thorofare Moun**	**6.31**	**15**	P		**Pn**	**13 15 27.4**	**+0.9**
KULT	**Kultieth River**	**6.43**	**59**	P		**Pn**	**13 15 28.9**	**+0.8**
BARK	**Barkley Ridge**	**6.60**	**58**	P		**Pn**	**13 15 31.2**	**+0.8**
HARP	**HAARP**	**6.64**	**37**	P		**Pn**	**13 15 33.0**	**+2.0**
KIAG	**Kiagna River**	**6.87**	**54**	P		**Pn**	**13 15 35.3**	**+1.1**
BALM	**Baldy**	**6.92**	**54**	P		**Pn**	**13 15 35.5**	**+0.6**
PAX	**Paxson**	**6.96**	**33**	*e*Pn		**Pn**	**13 15 35.3**	**-0.1**
	9.0nm,0.7s							
BARN	**Barnard Glacie**	**7.24**	**55**	P		**Pn**	**13 15 39.8**	**+0.6**
PNL	**Peninsula**	**7.88**	**67**	*e*Pn		**Pn**	**13 15 48.1**	**+0.2**
COLA	**College**	**8.03**	**19**	*e*Pn		Pn	13 15 53.3	+3.5
	5.3nm,0.8s							
ILAR	**Eielson Array**	**8.11**	**22**	Pn		**Pn**	**13 15 51.4**	**+0.3**
	0.3nm,0.3s,baz=214,slow=14,SNR=16							
ILAR				Sn		**Sn**	**13 17 17.6**	**-3.7**
	0.5nm,0.3s,baz=222,slow=31,SNR=5.3							
IM3	**Indian Mountai**	**8.61**	**0**	P		**Pn**	**13 15 59.0**	**+1.2**
DLBC	**Dease Lake**	**12.68**	**75**	Pn		**Pn**	**13 16 50.9**	**-2.6**
	0.1nm,0.3s,baz=87,slow=26,SNR=3.1							
DLBC				Sn		**Sn**	**13 19 13.8**	**+0.6**
	0.1nm,0.3s,baz=135,slow=20,SNR=2.7							
INK	**Inuvik**	**14.23**	**32**	Pn		**P**	**13 17 19.1**	**-1.9**
	0.2nm,0.3s,baz=204,slow=11,SNR=3.4							
INK				Sn		**Sn**	**13 19 46.0**	**-4.7**
	0.2nm,0.3s,baz=33,slow=12,SNR=3.2							
FX1	**Attu Island--F**	**19.28**	**271**	P		**P**	**13 18 15.8**	**-1.1**
	0.8nm,0.3s,baz=80,slow=22,SNR=3.1							
YKA	**Yellowknife Ar**	**20.05**	**59**	P		**P**	**13 18 26.0**	**+0.8**
	1.1nm,0.5s,baz=271,slow=10.0,SNR=26							
PETK	**Petropavlovsk-**	**27.47**	**282**	P		**P**	**13 19 37.0**	**-0.9**
	1.7nm,0.9s,baz=83,slow=11,SNR=6.3							
NVAR	**Mina Array Bea**	**29.95**	**114**	P		**P**	**13 20 03.1**	**+2.8**
	0.7nm,0.7s,baz=309,slow=10.0,SNR=6.4							
PDAR	**Pinedale Array**	**31.32**	**99**	P		**P**	**13 20 14.5**	**+2.1**
	1.4nm,0.6s,baz=307,slow=4.8,SNR=16							
SCHG	**Schefferville**	**45.39**	**54**	P		**P**	**13 22 10.9**	**+0.9**
	1.5nm,0.5s,baz=180,slow=4.6,SNR=4.4							
SONM	**Songino Array**	**55.38**	**307**	P		**P**	**13 23 30.3**	**+0.4**
	0.9nm,0.6s,baz=42,slow=6.4,SNR=8.5							
SONM				pP		**pP**	**13 23 40.7**	**-1.1**
	1.1nm,0.7s,baz=48,slow=7.3,SNR=6.9							
ZALV	**Zalesovo Beam**	**59.22**	**324**	P		**P**	**13 23 52.5**	**+0.1**
	0.4nm,0.3s,baz=37,slow=7.6,SNR=5.3							
NOA	**NORSAR Array B**	**61.31**	**8**	P		**P**	**13 24 07.1**	**+0.4**
	1.2nm,0.7s,baz=351,slow=6.7,SNR=4.7							
NOA				pP		**pP**	**13 24 18.3**	**-0.4**
	1.0nm,0.8s,baz=176,slow=3.6,SNR=1.9							
FINES	**FINESS Array B**	**61.49**	**0**	P		**P**	**13 24 08.1**	**+0.3**
	1.2nm,0.7s,baz=193,slow=33,SNR=3.7							
KURBB	**Kurchatov Arra**	**64.04**	**326**	P		**P**	**13 24 24.3**	**-0.6**
	0.4nm,0.7s,baz=29,slow=6.0,SNR=4.9							
KURBB				pP		**pP**	**13 24 36.3**	**-0.7**
	0.2nm,0.4s,baz=27,slow=6.2,SNR=2.9							
BVAR	**Borovoye Array**	**64.16**	**332**	P		**P**	**13 24 25.3**	**-0.4**
	1.1nm,0.7s,baz=28,slow=6.7,SNR=8.5							
BVAR				pP		**pP**	**13 24 37.0**	**-0.8**
	0.9nm,0.6s,baz=37,slow=6.0,SNR=6.0							
MKAR	**Makanchi Array**	**66.19**	**321**	P		**P**	**13 24 38.4**	**-0.7**
	0.6nm,0.7s,baz=43,slow=6.3,SNR=7.9							
MKAR				pP		**pP**	**13 24 50.7**	**-0.4**
	0.2nm,0.5s,baz=55,slow=8.1,SNR=3.1							
AKTO	**Aktyubinsk**	**69.36**	**339**	P		**P**	**13 24 58.6**	**-0.3**
	0.3nm,0.3s,baz=31,slow=8.4,SNR=4.1							
AKASG	**Malin Array Be**	**72.22**	**358**	P		**P**	**13 25 16.0**	**-0.2**
	0.4nm,0.3s,baz=1.4,slow=5.5,SNR=3.4							
AKASG				pP		**pP**	**13 25 27.7**	**-0.7**
	1.6nm,0.5s,baz=357,slow=5.1,SNR=4.1							
AAK	**Ala-Archa**	**72.43**	**325**	pP		pP	13 25 29.8	-0.2
	0.8nm,0.5s,baz=208,slow=4.2,SNR=2.8							
CMAR	**Chiang Mai Arr**	**83.54**	**294**	P		**P**	**13 26 19.1**	**-0.5**
	0.5nm,0.6s,baz=0.1,slow=4.9,SNR=3.4							
CMAR				pP		**pP**	**13 26 31.2**	**-0.8**
	0.8nm,0.7s,baz=13,slow=5.3,SNR=2.8							

*TIR **10** 13:34:08.7,41.29N×20.52E,h15km, ML3.3*
*SKO **10** 13:34:08.2,41.28N×20.50E,h11km, M2.2,ML2.6*
*CSEM **10** 13:34:09.4±0.2,41.27N×20.53E,h2km, ML3.3, Error ellipse: s-maj=5.4km s-min=4.0km az=50.0*
*THE **10** 13:34:09.1,41.26N×20.50E,h3km±1km, ML2.9/2, Error ellipse: s-maj=1.3km s-min=0.4km az=349.0*
*BEO **10** 13:34:15.7±1.3,41.56N×20.71E,h0km, ML2.1/3*

ISC 10 13:34:09.1±1.0,41.28N±0.02×20.52E±0.02,h8km±9km, n31,σ0s79/61,Albania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
PHP	**Peshkopia**	**0.41**	**352**	*e*PG		**Pg**	**13 34 17.4**	**+0.3**
PHP				*i* SG		**Sg**	**13 34 22.7**	**+0.2**
PHP	**Peshkopia**	**0.41**	**352**	P		**Pg**	**13 34 17.3**	**+0.2**
PHP				S		**Sg**	**13 34 23.6**	**+1.1**
PHP	**Peshkopia**	**0.41**	**352**	P		**Pg**	**13 34 17.3**	**+0.2**
PHP				*i* Sg		**Sg**	**13 34 22.7**	**+0.2**
PHP				S		**Sg**	**13 34 23.6**	**+1.1**
TIR	**Tirane**	**0.50**	**278**	*e*PG		**Pg**	**13 34 18.1**	**-0.7**
TIR				*i* SG		**Sg**	**13 34 26.1**	**+0.8**
TIR	**Tirane**	**0.50**	**278**	P		**Pg**	**13 34 18.2**	**-0.6**
TIR				S		**Sg**	**13 34 25.4**	**+0.1**
TIR	**Tirane**	**0.50**	**278**	P		**Pg**	**13 34 18.2**	**-0.6**
TIR				S		**Sg**	**13 34 25.4**	**+0.1**
TIR				*i* Sg		**Sg**	**13 34 26.1**	**+0.8**
BIA	**Bitola**	**0.66**	**113**	P		**Pg**	**13 34 21.2**	**-0.7**
BIA				S		**Sb**	**13 34 31.6**	**-0.7**
BIA	**Bitola**	**0.66**	**113**	*i* Pg		**Pg**	**13 34 21.2**	**-0.7**
BIA				*i* Sg		**Sb**	**13 34 31.5**	**-0.7**
BIA	**Bitola**	**0.66**	**113**	P		**Pg**	**13 34 21.2**	**-0.7**
BIA				*i* Sg		**Sb**	**13 34 31.5**	**-0.7**
FNA	**Florina**	**0.82**	**127**	P		**Pg**	**13 34 24.5**	**-0.3**
FNA				S		**Sb**	**13 34 36.5**	**-0.2**
FNA	**Florina**	**0.82**	**127**	P		**Pg**	**13 34 24.5**	**-0.3**
FNA				S		**Sb**	**13 34 36.5**	**-0.2**
PUK	**Puka**	**0.89**	**328**	*e*PG		**Pg**	**13 34 26.5**	**+0.2**
PUK				*i* SG		**Sn**	**13 34 40.9**	**-0.2**
PUK	**Puka**	**0.89**	**328**	*e*Pg		**Pg**	**13 34 26.5**	**+0.2**
NEST	**Nestorio**	**0.95**	**155**	P		**Pg**	**13 34 26.9**	**-0.6**
NEST				S		**Sb**	**13 34 40.2**	**-0.5**
NEST	**Nestorio**	**0.95**	**155**	P		**Pg**	**13 34 26.9**	**-0.6**
NEST				S		**Sn**	**13 34 40.2**	**-0.5**
SKO	**Skopje**	**0.97**	**45**	*i* Pg		**Pg**	**13 34 27.5**	**-0.3**
SKO				*i* Sg		**Sn**	**13 34 42.5**	**-0.5**
SKO				*e*Lg	Lg		13 34 42.9	
	comp=E,113nm,0.9s							
SKO				*e*Lg	Lg		13 34 44.4	
	comp=N,238nm,0.5s							
SKO	**Skopje**	**0.97**	**45**	*i* Pg		**Pb**	**13 34 28.0**	**-0.2**
SKO				*i* Sg		**Sn**	**13 34 43.0**	**0.0**
SKO				*e*Lg	Lg		13 34 44.8	
	comp=N,238nm,0.5s							
KZN	**Kozani**	**1.36**	**135**	P		**Pb**	**13 34 34.5**	**-0.3**
KZN				S		**Sg**	**13 34 53.3**	**+0.5**
KZN	**Kozani**	**1.36**	**135**	P		**Pb**	**13 34 34.5**	**-0.3**
KZN				S		**Sg**	**13 34 53.3**	**+0.5**
SRN	**Sarande**	**1.46**	**196**	*e*PN		**Pg**	**13 34 37.7**	**+0.7**
SRN				*i* SN		**Sg**	**13 34 57.4**	**+1.5**
SRN	**Sarande**	**1.46**	**196**	*e*Pn		**Pg**	**13 34 37.7**	**+0.7**
SRN				*i* Sn		**Sg**	**13 34 57.4**	**+1.5**
VAY	**Valandovo**	**1.54**	**88**	*e*Pg		**Pg**	**13 34 38.6**	**-0.1**
VAY				*e*Sg		**Sg**	**13 34 58.4**	**-0.3**
VAY				*e*Lg	Lg		13 34 59.8	
	comp=E,35nm,0.5s							
VAY				*e*Lg	Lg		13 35 00.7	
	comp=N,56nm,0.8s							
VAY	**Valandovo**	**1.54**	**88**	*e*Pg		**Pg**	**13 34 39.0**	**+0.3**
VAY				*e*Sg		**Sg**	**13 34 58.9**	**+0.2**
VAY				*e*Lg	Lg		13 35 01.2	
	comp=N,56nm,0.8s							
BARS	**Barje**	**1.81**	**32**	*e*Pn		**Pg**	**13 34 44.3**	**+0.5**
BARS				*e*Sn		**Sb**	**13 35 04.7**	**-0.6**
BARS	**Barje**	**1.81**	**32**	*e*Pn		**Pg**	**13 34 44.3**	**+0.5**
BARS				*e*Sn		**Sb**	**13 35 04.7**	**-0.6**
SELS	**Selova**	**1.99**	**13**	*e*Pn		**Pg**	**13 34 46.6**	**-0.6**
VTS	**Vitosha**	**2.39**	**56**	*e*Pg		**Pb**	**13 34 53.4**	**+0.9**
VTS				*e*Sg		**Sb**	**13 35 22.6**	**+0.4**
VTS	**Vitosha**	**2.39**	**56**	*e*Pg		**Pb**	**13 34 53.4**	**+0.9**
VTS				*e*Sg		**Sb**	**13 35 22.6**	**+0.4**
ZAPS	**Zavoj**	**2.53**	**38**	*e*Pn		**Pb**	**13 34 54.1**	**-0.7**
DIVS	**Divibare**	**2.84**	**352**	*e*Pn		**Pb**	**13 34 57.9**	**-2.2**
DIVS				*e*Sn		**Sn**	**13 35 30.9**	**+1.7**
DIVS	**Divibare**	**2.84**	**352**	*e*Pn		**Pb**	**13 34 57.9**	**-2.2**
DIVS				*e*Sn		**Sn**	**13 35 30.9**	**+1.7**

*ISCJB **10** 13:47:13.7±0.5,39.79N±0.02×26.04E±0.03,h11km±3km, Error ellipse: s-maj=4.4km s-min=3.6km az=168.4*
*ATH **10** 13:47:13.2,39.78N×26.04E,h28km±1km, MD2.9/5*
*DDA **10** 13:47:13.5,39.81N×26.12E,h12km, MD2.8*
*THE **10** 13:47:14.1,39.79N×26.04E,h10km±4km, ML2.6/3, Error ellipse: s-maj=4.9km s-min=0.4km az=221.0*
*ISK **10** 13:47:14.1,39.83N×26.10E,h2km, MD2.8*
*CSEM **10** 13:47:14.0±0.1,39.80N×26.04E,h10km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.7km az=87.0*

ISC 10 13:47:13.5±0.8,39.78N±0.02×26.05E±0.02,h13km±5km, n48,σ0s43/78,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
BOZC	**Bozcaada**	**0.06**	**4**	*i* P		**Pg**	**13 47 16.3**	**+0.1**
BOZC				*i* S		**Sg**	**13 47 17.6**	**-0.4**
EZN	**Ezine**	**0.22**	**77**	*e*PG		**Pg**	**13 47 18.4**	**+0.1**
EZN				*e*SG		**Sg**	**13 47 21.5**	**-0.1**
EZN	**Ezine**	**0.22**	**77**	*e*Pg		**Pg**	**13 47 18.4**	**+0.1**
EZN				*e*Sg		**Sg**	**13 47 21.5**	**-0.1**
PRK	**Paraskevi**	**0.56**	**162**	P		**Pb**	**13 47 25.2**	**+0.1**
PRK				S		**Sb**	**13 47 33.4**	**+0.4**
PRK	**Paraskevi**	**0.56**	**162**	*e*PN		**Pb**	**13 47 25.2**	**+0.1**
PRK				*e*SN		**Sb**	**13 47 33.0**	**0.0**
PRK	**Paraskevi**	**0.56**	**162**	P		**Pb**	**13 47 25.2**	**+0.1**
PRK				*e*Sn		**Sb**	**13 47 33.0**	**0.0**
PRK				S		**Sb**	**13 47 33.4**	**+0.4**
SIGR	**SIGRI**	**0.58**	**195**	P		**Pb**	**13 47 25.6**	**+0.1**
SIGR				S		**Sb**	**13 47 34.6**	**+0.9**
SIGR	**SIGRI**	**0.58**	**195**	P		**Pb**	**13 47 25.6**	**+0.1**
SIGR				S		**Sb**	**13 47 34.6**	**+0.9**
LIA	**Limnos Island**	**0.68**	**281**	P		**Pb**	**13 47 27.0**	**-0.1**
LIA				S		**Sb**	**13 47 36.6**	**+0.3**
LIA	**Limnos Island**	**0.68**	**281**	*e*PN		**Pg**	**13 47 26.8**	**+0.1**
LIA				*e*SN		**Sb**	**13 47 36.6**	**+0.3**
LIA	**Limnos Island**	**0.68**	**281**	P		**Pb**	**13 47 27.0**	**-0.1**
LIA				S		**Sb**	**13 47 36.6**	**+0.3**
AYVA	**Ayvalik**	**0.68**	**133**	*i* P		**Pb**	**13 47 27.5**	**+0.2**
AYVA				*i* S		**Sg**	**13 47 35.9**	**+0.1**
AYVA	**Ayvalik**	**0.68**	**133**	*i* P		**Pb**	**13 47 27.5**	**+0.2**
AYVA				*i* S		**Sg**	**13 47 35.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.70**	**28**	*e*PG		**Pg**	**13 47 27.2**	**0.0**
GELI				*e*SG		**Sb**	**13 47 36.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.70**	**28**	*e*Pg		**Pg**	**13 47 27.2**	**0.0**
GELI				*e*Sg		**Sb**	**13 47 36.9**	**-0.2**
LPK	**Lapseki**	**0.81**	**42**	*e*PG		**Pb**	**13 47 29.3**	**-0.1**
LPK				*e*SG		**Sb**	**13 47 40.4**	**+0.2**
LPK	**Lapseki**	**0.81**	**42**	*e*Pg		**Pb**	**13 47 29.3**	**-0.1**
LPK				*e*Sg		**Sb**	**13 47 40.4**	**+0.2**
ENEZ	**Enez**	**0.96**	**5**	*e*PG		**Pb**	**13 47 32.0**	**0.0**
ENEZ	**Enez**	**0.96**	**5**	*e*Pg		**Pb**	**13 47 32.0**	**0.0**
ALN	**Alexandroupoli**	**1.12**	**360**	P		**Pb**	**13 47 34.6**	**-0.1**
ALN				S		**Sn**	**13 47 49.8**	**-0.2**
ALN	**Alexandroupoli**	**1.12**	**360**	*e*PN		**Pb**	**13 47 34.6**	**-0.1**
ALN				*e*SN		**Sb**	**13 47 49.2**	**+0.1**
ALN	**Alexandroupoli**	**1.12**	**360**	P		**Pb**	**13 47 34.6**	**-0.1**
ALN				*e*Sn		**Sb**	**13 47 49.2**	**+0.1**
ALN				S		**Sn**	**13 47 49.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.14**	**57**	*e*PN		**Pg**	**13 47 35.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.14**	**57**	*e*Pn		**Pg**	**13 47 35.4**	**0.0**
BALY	**Balya**	**1.21**	**91**	*i* P		**Pb**	**13 47 36.3**	**0.0**
BALY				*i* S		**Sb**	**13 47 52.1**	**+0.2**
BALY	**Balya**	**1.21**	**91**	*i* P		**Pb**	**13 47 36.3**	**0.0**
BALY				*i* S		**Sb**	**13 47 52.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.25**	**43**	*e*PN		**Pg**	**13 47 37.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.25**	**43**	*e*Pn		**Pg**	**13 47 37.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.29**	**77**	*e*PN		**Pg**	**13 47 38.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.29**	**77**	*e*Pn		**Pg**	**13 47 38.6**	**+0.3**
CHOS	**Chios island**	**1.39**	**180**	*e*PN		**Pn**	**13 47 38.6**	**0.0**
CHOS	**Chios island**	**1.39**	**180**	*e*Pn		**Pn**	**13 47 38.6**	**0.0**
BALB	**Balikesir**	**1.42**	**95**	*e*PN		**Pg**	**13 47 41.1**	**+0.3**
BALB	**Balikesir**	**1.42**	**95**	*e*Pn		**Pg**	**13 47 41.1**	**+0.3**
URLA	**Izmir**	**1.48**	**163**	*i* P		**Pb**	**13 47 41.2**	**+0.4**
URLA				*i* S		**Sn**	**13 47 57.0**	**-2.0**
URLA	**Izmir**	**1.48**	**163**	*i* P		**Pb**	**13 47 41.2**	**+0.4**
URLA				*i* S		**Sn**	**13 47 57.0**	**-2.0**
EDC	**Edincik**	**1.51**	**67**	*e*PN		**Pg**	**13 47 42.2**	**-0.2**
EDC	**Edincik**	**1.51**	**67**	*e*Pn		**Pg**	**13 47 42.2**	**-0.2**
AKS	**Akhisar**	**1.64**	**123**	*e*PN		**Pg**	**13 47 44.7**	**-0.3**
AKS	**Akhisar**	**1.64**	**123**	*e*Pn		**Pg**	**13 47 44.7**	**-0.3**
AKHS	**Akhisar**	**1.64**	**123**	*i* P		**Pb**	**13 47 43.3**	**-0.3**
AKHS				*i* S		**Sb**	**13 48 04.1**	**0.0**
AKHS	**Akhisar**	**1.64**	**123**	*i* P		**Pb**	**13 47 43.3**	**-0.3**
AKHS				*i* S		**Sb**	**13 48 04.1**	**0.0**
TKR	**Tekirdag**	**1.66**	**43**	*e*PN		**Pb**	**13 47 44.1**	**+0.2**
TKR	**Tekirdag**	**1.66**	**43**	*e*Pn		**Pb**	**13 47 44.1**

comp=Z,0.5nm,0.3s,baz=121,slow=9.2,SNR=14
CMIG Sn **Sn** **14 29 49.7 -0.5**
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=2.1
NVAR Mina Array Bea 37.55 320 P **P** **14 33 35.0 +1.4**
comp=Z,0.8nm,0.9s,baz=143,slow=7.7,SNR=4.3
YKA Yellowknife Ar 53.93 345 P **P** **14 35 40.1 -2.2**
comp=Z,0.1nm,0.4s,baz=138,slow=7.8,SNR=4.4
CMAR Chiang Mai Arr 149.01 346 PKPbc **PKPdf** **14 46 06.8 +2.7**
comp=Z,0.6nm,0.7s,baz=343,slow=2.8,SNR=4.9

*IDC **10** 14:26:21.3±2.7, 22.68N×11.32W, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.2/26, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=91.2km s-min=39.9km az=69.0*
ISC 10 14:26:23.3±1.3, 22.6N±0.2×11.2W±0.3, h10km, n10, σ1§63/8, Mauritania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.43**	**125**	Pn		**P**		**14 30 04.1**	**-1.6**
	0.1nm,0.3s,baz=313,slow=12,SNR=16								
TORD					Sn		**Sn**	**14 32 54.9**	**+2.6**
	0.1nm,0.3s,baz=309,slow=21,SNR=3.1								
DBIC	**Dimbokro**	**16.96**	**158**	P		**Pn**		**14 30 21.1**	**+0.3**
	0.3nm,0.3s,baz=319,slow=13,SNR=3.5								
PMAN	**Manadas**	**21.56**	**322**	*eS*		Sn		14 35 25.6	+5.2
PMAN				A		A		14 35 26.2	
	23nm,0.3s								
PCAN	**Candelaria**	**21.68**	**321**	*eS*		Sn		14 35 19.5	-3.7
PCAN				A		A		14 35 19.9	
	55nm,0.3s								
ROSA	**Rosais**	**21.71**	**322**	*eS*		Sn		14 35 22.1	-1.8
ROSA				A		A		14 35 22.1	
	30nm,0.4s								
CALA	**Caldeira**	**21.89**	**321**	*eS*		**S**		**14 35 20.1**	**+1.7**
PCED	**Cedros**	**21.92**	**321**	*eS*		**S**		**14 35 19.3**	**+0.5**
PCED				A		A		14 35 21.7	
	28nm,0.3s								
MKAR	**Makanchi Array**	**76.17**	**45**	P		**P**		**14 38 11.4**	**-0.3**
	0.3nm,0.7s,baz=302,slow=7.0,SNR=5.0								
WRA	**Warramunga Arr**	**147.80**	**92**	PKPbc		**PKPbc**		**14 46 08.7**	**-0.6**
	0.3nm,0.6s,baz=298,slow=2.4,SNR=4.2								
ASAR	**Alice Springs**	**147.92**	**99**	PKPbc		**PKPbc**		**14 46 09.1**	**-0.5**
	0.3nm,0.7s,baz=277,slow=2.3,SNR=4.4								

IDC 10 14:51:19.9±8.9, 4.36S×153.48E, h80km±62km, mb3.4/3, mb1 3.6/4, mb1mx3.2/20, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=104.0km s-min=57.2km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.03**	**231**	P			Pn	14 53 14.7	+0.8
	2.3nm,0.3s,baz=49,slow=11,SNR=11								
PMG					S		Sn	14 54 43.4	+0.3
	6.6nm,0.3s,baz=126,slow=17,SNR=11								
WRA	**Warramunga Arr**	**24.24**	**229**	P			P	14 56 29.9	+0.3
	1.6nm,0.5s,baz=54,slow=10.0,SNR=47								
ASAR	**Alice Springs**	**26.93**	**223**	P			P	14 56 53.1	-0.8
	0.2nm,0.5s,baz=54,slow=9.2,SNR=5.8								
FITZ	**Fitzroy Crossi**	**30.46**	**241**	P			P	14 57 25.3	0.0
	0.7nm,0.4s,baz=66,slow=9.3,SNR=5.1								
TORD	**Torodi Ar. Bea**	**150.81**	**289**	PKPbc			PKPbc	15 11 04.3	+0.1
	0.3nm,0.7s,baz=64,slow=2.3,SNR=3.2								

MAN 10 15:02:57, 16.76N×120.09E, h38km, mb4.5, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.41**	**204**	*eP*			Pn	15 03 08.8	+2.5
BOLP				*eS*			Sn	15 03 17.1	+4.0
SCZP	**Santa Cruz**	**1.00**	**190**	*eP*			Pn	15 03 15.0	+0.6
ABRA	**Dolores**	**1.06**	**34**	*eP*			Pn	15 03 16.3	+0.9
CAUP	**Cauayan**	**1.67**	**84**	*eP*			Pn	15 03 26.8	+3.1

IDC 10 15:03:12.2±6.2, 6.06S×151.87E, h86km±49km, mb3.4/4, mb1 3.6/5, mb1mx3.2/19, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=100.0km s-min=33.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.73**	**234**	P			Pn	15 04 33.2	-1.7
	2.5nm,0.3s,baz=57,slow=4.4,SNR=11								
PMG					S		Sn	15 05 41.0	+1.7
	1.2nm,0.3s,baz=48,slow=16,SNR=3.4								
WRA	**Warramunga Arr**	**21.93**	**229**	P			P	15 07 59.5	+0.7
	0.8nm,0.7s,baz=55,slow=10.0,SNR=10								
ASAR	**Alice Springs**	**24.61**	**223**	P			P	15 08 24.6	0.0
	1.2nm,0.6s,baz=56,slow=9.2,SNR=31								
FITZ	**Fitzroy Crossi**	**28.26**	**243**	P			P	15 08 56.9	-0.6
	1.2nm,0.5s,baz=66,slow=8.3,SNR=6.8								
ILAR	**Eielson Array**	**83.66**	**22**	P			P	15 15 31.3	+0.3
	0.3nm,0.8s,baz=251,slow=5.6,SNR=3.5								

MAN 10 15:13:43, 6.63N×126.19E, h66km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.32**	**12**	*eP*			Pn	15 13 56.1	+2.1
MATI				*eS*			Sn	15 14 05.1	+3.1
DMPH	**Davao City--Mi**	**0.82**	**304**	⇑*iP*			Pn	15 14 00.3	+1.3
DMPH				*iS*			Sn	15 14 19.3	+8.5
BUKP	**Musuan**	**1.67**	**318**	*eP*			Pn	15 14 11.0	+0.7
BUKP				*eS*			Sn	15 14 32.2	+1.4

*DDA **10** 15:20:43.1, 36.73N×37.01E, h15km, MD2.8*
*ISK **10** 15:20:45.3, 36.91N×37.07E, h5km, MD2.6*
*CSEM **10** 15:20:45.0±0.4, 36.80N×37.01E, h2km, MD2.8, Error ellipse: s-maj=9.1km s-min=7.9km az=85.0*
ISC 10 15:20:45.2±1.4, 36.82N±0.06×37.09E±0.05, h5km±14km, n12, σ0§52/18, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.04**	**198**	*iP*			**Pg**	**15 20 45.8**	**-0.7**
KUZU				*iS*			**Sg**	**15 20 48.5**	**+1.0**
KUZU	**Kuzuini**	**0.04**	**198**	*iP*			**Pg**	**15 20 45.8**	**-0.7**
KUZU				*iS*			**Sg**	**15 20 48.5**	**+1.0**
GAZ	**Gaziantep**	**0.37**	**15**	*e*PG			**Pg**	**15 20 52.3**	**-0.1**
GAZ				*e*SG			**Sg**	**15 20 57.4**	**+0.2**
GAZ	**Gaziantep**	**0.37**	**15**	*e*Pg			**Pg**	**15 20 52.3**	**-0.1**
GAZ				*e*Sg			**Sg**	**15 20 57.4**	**+0.2**
KMRS	**Kahramanmaras**	**0.70**	**347**	*e*PG			**Pg**	**15 20 58.4**	**-0.4**
KMRS				*e*SG			**Sg**	**15 21 08.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.70**	**347**	*e*Pg			**Pg**	**15 20 58.4**	**-0.4**
KMRS				*e*Sg			**Sg**	**15 21 08.2**	**+0.2**
KOZT	**Kozan**	**1.21**	**304**	*e*PN			**Pg**	**15 21 08.5**	**+0.1**
KOZT	**Kozan**	**1.21**	**304**	*e*Pn			**Pg**	**15 21 08.5**	**+0.1**
URFA	**Urfa**	**1.52**	**65**	*e*PN			**Pg**	**15 21 14.3**	**0.0**
URFA	**Urfa**	**1.52**	**65**	*e*Pn			**Pg**	**15 21 14.3**	**0.0**
MALT	**Malatya**	**1.83**	**35**	*e*PN			**Pb**	**15 21 19.1**	**-0.2**
MALT	**Malatya**	**1.83**	**35**	*e*Pn			**Pb**	**15 21 19.1**	**-0.2**

*TIR **10** 15:22:43.8, 38.22N×21.78E, h3km*
*IDC **10** 15:22:44.1±0.8, 38.39N×21.88E, h0km, mb3.9/16, mb1 4.0/17, mb1mx4.0/29, mbtmp3.9/17, ML3.4/1, MS3.2/7, Ms1 3.2/7, ms1mx2.8/59, Error ellipse: s-maj=19.2km s-min=17.4km az=34.0*
*ATH **10** 15:22:45.3, 38.36N×21.85E, h9km±2km, ML3.7*
*ISCJB **10** 15:22:45.2±0.3, 38.33N±0.01×21.85E±0.02, h9km±2km, mb4.0/20, MS3.2/4, Error ellipse: s-maj=2.4km s-min=2.2km az=140.3*
*CSEM **10** 15:22:45.6±0.1, 38.31N×21.86E, h2km, ML3.9, Error ellipse: s-maj=2.4km s-min=2.0km az=65.0*
*THE **10** 15:22:45.8, 38.33N×21.87E, h0km, ML4.0/11, Error ellipse: s-maj=0.9km s-min=0.3km az=255.0*
*MOS **10** 15:22:46.2±1.1, 38.32N×21.75E, h25km, mb4.4/15, Error ellipse: s-maj=12.0km s-min=6.1km az=71.9*
*SKO **10** 15:22:47.2, 38.39N×22.10E, h0km*
*BEO **10** 15:22:49.2±0.9, 38.41N×22.14E, h0km, ML3.8/6*
*SOF **10** 15:22:58.6, 39.23N×22.54E, h5km, MD3.2*
ISC 10 15:22:45.3±0.7, 38.34N±0.01×21.87E±0.01, h6km±4km, n219, σ1§32/291, mb4.0/20, MS3.2/4, 20C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.09**	**228**	P			**Pg**	**15 22 47.1**	**-0.2**
UPR				S			**Sg**	**15 22 48.6**	**0.0**
UPR	**University Cam**	**0.09**	**228**	*e*PG			**Pg**	**15 22 47.1**	**-0.2**
UPR				*e*SG			**Sg**	**15 22 49.4**	**+0.8**
UPR	**University Cam**	**0.09**	**228**	P			**Pg**	**15 22 46.9**	**-0.4**
UPR				S			**Sg**	**15 22 48.6**	**0.0**
UPR				*e*Sg			Sg	15 22 49.4	+0.8
EFP	**Efpalio**	**0.09**	**20**	P			**Pg**	**15 22 47.8**	**+0.4**
EFP				S			**Sg**	**15 22 49.6**	**+0.8**
EFP	**Efpalio**	**0.09**	**20**	*e*PG			**Pg**	**15 22 47.3**	**-0.1**
EFP				*e*SG			**Sg**	**15 22 49.6**	**+0.8**
EFP	**Efpalio**	**0.09**	**20**	*e*Pg			**Pg**	**15 22 47.3**	**-0.1**
EFP	**Efpalio**	**0.09**	**20**	P			**Pg**	**15 22 47.8**	**+0.4**
EFP				S			**Sg**	**15 22 49.1**	**+0.3**
EFP				*e*Sg			Sg	15 22 49.6	+0.8
LAKA	**Lakka**	**0.13**	**139**	P			**Pg**	**15 22 48.5**	**+0.4**
LAKA				S			**Sg**	**15 22 50.8**	**+0.8**
LAKA	**Lakka**	**0.13**	**139**	P			**Pg**	**15 22 48.4**	**+0.4**
LAKA				S			**Sg**	**15 22 50.7**	**+0.8**
TRIZ	**Trizonia**	**0.16**	**81**	P			**Pg**	**15 22 49.1**	**+0.5**
TRIZ				S			**Sg**	**15 22 51.7**	**+0.9**
RLS	**Riolos of Patr**	**0.42**	**228**	P			**Pg**	**15 22 53.5**	**0.0**
RLS				S			**Sg**	**15 22 59.9**	**+0.9**
RLS	**Riolos of Patr**	**0.42**	**228**	*e*PG			**Pg**	**15 22 53.5**	**0.0**
RLS				*e*SB			**Sg**	**15 23 00.2**	**+1.2**
RLS	**Riolos of Patr**	**0.42**	**228**	P			**Pg**	**15 22 53.3**	**-0.2**
RLS				S			**Sg**	**15 22 59.9**	**+0.9**
RLS				*e*Sb			**Sb**	**15 23 00.2**	**+1.2**
DSF	**Desfina**	**0.52**	**82**	P			**Pg**	**15 22 55.4**	**0.0**
DSF				S			**Sb**	**15 23 04.5**	**-0.4**
DSF	**Desfina**	**0.52**	**82**	P			**Pg**	**15 22 55.7**	**-0.2**
DSF				S			**Sg**	**15 23 04.0**	**+0.9**
DESF	**Desfina**	**0.53**	**82**	P			**Pb**	**15 22 56.3**	**-0.7**
DESF				S			**Sb**	**15 23 04.5**	**-0.4**
DESF	**Desfina**	**0.53**	**82**	P			**Pb**	**15 22 56.3**	**-0.7**
DESF				S			**Sb**	**15 23 04.5**	**-0.4**
GUR	**Goura**	**0.55**	**137**	P			**Pg**	**15 22 55.7**	**-0.2**
GUR				S			**Sg**	**15 23 04.0**	**+0.9**
GUR	**Goura**	**0.55**	**137**	*e*PB			**Pg**	**15 22 55.7**	**-0.2**
GUR	**Goura**	**0.55**	**137**	P			**Pg**	**15 22 55.7**	**-0.2**
GUR				S			**Sg**	**15 23 03.6**	**+0.5**
EVR	**Evrytania**	**0.58**	**355**	P			**Pg**	**15 22 56.5**	**+0.1**
EVR				S			**Sb**	**15 23 05.6**	**-0.7**
EVR	**Evrytania**	**0.58**	**355**	P			**Pg**	**15 22 56.5**	**+0.1**
EVR				S			**Sg**	**15 23 04.6**	**+0.6**
AMT	**Artemida-Makis**	**0.82**	**189**	P			**Pg**	**15 23 00.8**	**-0.2**
AMT				S			**Sb**	**15 23 13.4**	**+0.2**
AMT	**Artemida-Makis**	**0.82**	**189**	P			**Pg**	**15 23 00.7**	**-0.2**
AMT				S			**Sb**	**15 23 12.8**	**+0.4**
KFL	**Anninata**	**0.88**	**255**	P			**Pg**	**15 23 01.7**	**-0.5**
KFL				S			**Sb**	**15 23 16.1**	**+1.1**
KFL	**Anninata**	**0.88**	**255**	P			**Pg**	**15 23 01.7**	**-0.5**
KFL				S			**Sb**	**15 23 14.5**	**-0.5**
LTK	**Loutraki**	**0.92**	**110**	P			**Pg**	**15 23 03.0**	**0.0**
LTK	**Loutraki**	**0.92**	**110**	*e*PN			**Pb**	**15 23 03.6**	**-0.1**
LTK	**Loutraki**	**0.92**	**110**	P			**Pg**	**15 23 03.0**	**0.0**
LTK	**Loutraki**	**0.92**	**110**	*e*Pn			**Pb**	**15 23 03.6**	**-0.1**
LTK				S			**Sb**	**15 23 15.7**	**-0.5**
LKR	**Lokris**	**0.94**	**70**	P			**Pg**	**15 23 03.5**	**+0.2**
LKR				S			**Sb**	**15 23 17.3**	**+0.6**
LKR	**Lokris**	**0.94**	**70**	P			**Pg**	**15 23 03.5**	**+0.2**
LKR				S			**Sb**	**15 23 17.3**	**+0.6**
ATAL	**Atalanti**	**0.97**	**68**	P			**Pg**	**15 23 04.1**	**+0.2**
ATAL				S			**Sb**	**15 23 18.5**	**+0.9**
ATAL	**Atalanti**	**0.97**	**68**	P			**Pg**	**15 23 04.1**	**+0.2**
ATAL				S			**Sb**	**15 23 18.5**	**+0.9**
VLS	**Valsamata**	**1.02**	**261**	P			**Pg**	**15 23 03.3**	**-1.5**
VLS				S			**Sb**	**15 23 19.5**	**+0.5**
VLS	**Valsamata**	**1.02**	**261**	*e*PB			**Pg**	**15 23 03.4**	**-1.4**
VLS				*e*SB			**Sb**	**15 23 20.1**	**+1.1**
VLS	**Valsamata**	**1.02**	**261**	*e*Pb			**Pg**	**15 23 03.4**	**-1.4**
VLS				S			**Sb**	**15 23 19.5**	**+0.5**
VLS				*e*Sb			**Sb**	**15 23 20.1**	**+1.1**
VLX	**Vlachokerasia**	**1.05**	**157**	P			**Pg**	**15 23 04.8**	**-0.7**
VLX				S			**Sb**	**15 23 20.8**	**+0.8**
VLX	**Vlachokerasia**	**1.05**	**157**	P			**Pg**	**15 23 04.8**	**-0.7**
VLX				S			**Sb**	**15 23 19.6**	**-0.4**
ITM	**Ithomi**	**1.16**	**178**	P			**Pg**	**15 23 07.1**	**-0.4**
ITM				S			**Sn**	**15 23 23.9**	**-0.3**
ITM	**Ithomi**	**1.16**	**178**	*e*PN			**Pg**	**15 23 07.3**	**-0.3**
ITM				*e*SB			**Sn**	**15 23 27.6**	**+3.4**
ITM	**Ithomi**	**1.16**	**178**	P			**Pg**	**15 23 07.2**	**-0.3**
ITM				S			**Sb**	**15 23 20.8**	**+0.7**
ITM				*e*Sb			**Sn**	**15 23 27.6**	**+3.4**
THL	**Klokotos Trika**	**1.23**	**5**	P			**Pg**	**15 23 08.7**	**-0.1**
THL				S			**Sn**	**15 23 27.4**	**+1.6**
THL	**Klokotos Trika**	**1.23**	**5**	*e*PB			**Pg**	**15 23 08.2**	**-0.6**
THL	**Klokotos Trika**	**1.23**	**5**	*e*Pb			**Pg**	**15 23 08.2**	**-0.6**
THL	**Klokotos Trika**	**1.23**	**5**	P			**Pg**	**15 23 08.7**	**-0.1**
THL				S			**Sn**	**15 23 27.4**	**+1.6**
DID	**Didima**	**1.37**	**127**	P			**Pn**	**15 23 10.6**	**-0.3**
DID				S			**Sn**	**15 23 31.0**	**+1.7**
DID	**Didima**	**1.37**	**127**	*e*PB			**Pb**	**15 23 12.3**	**+1.0**
DID	**Didima**	**1.37**	**127**	P			**Pn**	**15 23 11.1**	**+0.2**
DID	**Didima**	**1.37**	**127**	*e*Pb			**Pb**	**15 23 12.3**	**+1.0**
DID				S			**Sn**	**15 23 30.0**	**+0.7**
DIDY	**Didyma**	**1.37**	**129**	P			**Pb**	**15 23 12.0**	**+0.6**
DIDY	**Didyma**	**1.37**	**129**	P			**Pb**	**15 23 12.0**	**+0.6**
MRKA	**Markates**	**1.40**	**74**	P			**Pn**	**15 23 11.5**	**+0.2**
MRKA	**Markates**	**1.40**	**74**	P			**Pn**	**15 23 11.5**	**+0.2**
PYL	**PYLOS**	**1.45**	**184**	P			**Pn**	**15 23 11.6**	**-0.2**
PYL				S			**Sn**	**15 23 32.9**	**+1.7**
PYL	**PYLOS**	**1.45**	**184**	*e*PG			**Pb**	**15 23 12.4**	**-0.2**
PYL	**PYLOS**	**1.45**	**184**	P			**Pn**	**15 23 11.9**	**-0.1**
PYL	**PYLOS**	**1.45**	**184**	*e*Pg			**Pb**	**15 23 12.4**	**-0.2**
PYL				S			**Sn**	**15 23 32.1**	**+0.9**
XOR	**Xorichti**	**1.46**	**45**	P			**Pn**	**15 23 12.3**	**+0.2**
XOR				S			**Sg**	**15 23 33.1**	**+1.0**
XOR	**Xorichti**	**1.46**	**45**	P			**Pn**	**15 23 12.3**	**+0.2**
XOR				S			**Sg**	**15 23 33.1**	**+1.0**
ATH	**Athens Observa**	**1.50**	**104**	P			**Pb**	**15 23 13.4**	**-0.2**
ATH				S			**Sg**	**15 23 34.2**	**+0.6**
ATH	**Athens Observa**	**1.50**	**104**	*e*PG			**Pb**	**15 23 13.3**	**-0.3**
ATH	**Athens Observa**	**1.50**	**104**	P			**Pb**	**15 23 13.4**	**-0.2**
ATH				S			**Sg**	**15 23 34.2**	**+0.6**
ERET	**Eretria**	**1.53**	**86**	P			**Pn**	**15 23 13.6**	**+0.4**
ERET				S			**Sg**	**15 23 34.9**	**+0.5**
ERET	**Eretria**	**1.53**	**86**	P			**Pn**	**15 23 13.6**	**+0.4**
ERET				S			**Sg**	**15 23 34.9**	**+0.5**
JAN	**Janina**	**1.53**	**329**	P			**Pb**	**15 23 14.1**	**0.0**
JAN	**Janina**	**1.53**	**329**	P			**Pb**	**15 23 14.1**	**0.0**
RGA	**Parga**	**1.53**	**310**	P			**Pn**	**15 23 13.9**	**+0.7**
RGA	**Parga**	**1.53**	**310**	P			**Pn**	**15 23 13.6**	**+0.4**
ATHU	**Athens Univers**	**1.56**	**103**	P			**Pn**	**15 23 13.9**	**+0.4**
ATHU				S			**Sg**	**15 23 35.4**	**+0.1**
ATHU	**Athens Univers**	**1.56**	**103**	P			**Pn**	**15 23 13.9**	**+0.4**
ATHU				S			**Sg**	**15 23 35.4**	**+0.1**
PTL	**Penteli**	**1.60**	**100**	P			**Pb**	**15 23 14.8**	**-0.5**
PTL				S			**Sg**	**15 23 36.6**	**-0.1**
PTL	**Penteli**	**1.60**	**100**	P			**Pb**	**15 23 14.8**	**-0.5**
PTL				S			**Sg**	**15 23 36.6**	**-0.1**
DYR	**Agios Nikonas**	**1.62**	**167**	P			**Pn**	**15 23 14.8**	**+0.4**
DYR	**Agios Nikonas**	**1.62**	**167**	P			**Pn**	**15 23 14.8**	**+0.4**
IGT	**Igoumenitsa**	**1.69**	**315**	P			**Pb**	**15 23 16.6**	**-0.1**
IGT	**Igoumenitsa**	**1.69**	**315**	P			**Pb**	**15 23 16.6**	**-0.1**
LIT	**Litokhoron**	**1.82**	**15**	P			**Pn**	**15 23 14.0**	**+0.8**
LIT				S			**Sb**	**15 23 43.2**	**+1.1**
LIT	**Litokhoron**	**1.82**	**15**	P			**Pn**	**15 23 18.0**	**+0.8**
LIT				S			**Sb**	**15 23 43.2**	**+1.1**
VLI	**Veliai**	**1.83**	**152**	P			**Pn**	**15 23 17.9**	**+0.7**
VLI	**Veliai**	**1.83**	**152**	P			**Pn**	**15 23 17.9**	**+0.7**
KZN	**Kozani**	**1.96**	**358**	P			**Pn**	**15 23 19.8**	**+0.6**
KZN				S			**Sb**	**15 23 46.4**	**+0.1**
KZN	**Kozani**	**1.96**	**358**	P			**Pn**	**15 23 19.8**	**+0.6**
KZN				S			**Sb**	**15 23 46.4**	**+0.1**
LSK	**Leskovik**	**2.06**	**332**	*e*PN			**Pg**	**15 23 25.5**	**+0.8**
LSK	**Leskovik**	**2.06**	**332**	*e*Pn			**Pg**	**15 23 25.5**	**+0.8**
SRN	**Sarande**	**2.11**	**317**	*e*PN			**Pb**	**15 23 23.5**	**-0.5**
SRN				*i* SN			**Sg**	**15 23 56.2**	**+3.0**
SRN	**Sarande**	**2.11**	**317**	*e*Pn			**Pb**	**15 23 23.5**	**-0.5**
FNA	**Florina**	**2.47**	**351**	P			**Pn**	**15 23 27.5**	**+1.4**
FNA				S			**Sn**	**15 23 59.2**	**+2.6**
FNA	**Florina**	**2.47**	**351**	P			**Pn**	**15 23 27.5**	**+1.4**
FNA				S			**Sn**	**15 23 59.2**	**+2.6**
BIA	**Bitola**	**2.71**	**351**	*e*Pn			**Pn**	**15 23 31.7**	**+2.3**
BIA	**Bitola**	**2.71**	**351**	*e*Pn			**Pn**	**15 23 31.7**	**+2.3**
SOH	**Sokhos**	**2.73**	**24**	P			**Pn**	**15 23 30.5**	**+0.8**
SOH	**Sokhos**	**2.73**	**24**	P			**Pn**	**15 23 14.0**	**+0.8**
VAY	**Valandovo**	**3.02**	**10**	*i* P			**Pb**	**15 23 37.6**	**-1.9**
VAY	**Valandovo**	**3.02**	**10**	*e*Pn			**Pn**	**15 23 35.2**	**+1.5**
VAY	**Valandovo**	**3.02**	**10**	*e*Pn			**Pn**	**15 23 35.6**	**+1.9**
VAY	**Valandovo**	**3.02**	**10**	*i* P			**Pb**	**15 23 37.6**	**-1.9**
APE	**Apeiranthos**	**3.17**	**112**	*e*PN			**Pn**	**15 23 36.9**	**+1.2**
APE	**Apeiranthos**	**3.17**	**112**	⇑P			**Pn**	**15 23 37.0**	**+1.2**
APE				S			**Sn**	**15 24 13.1**	**-0.8**
APE	**Apeiranthos**	**3.17**	**112**	⇑*iP*			**Pn**	**15 23 37.0**	**+1.2**
APE	**Apeiranthos**	**3.17**	**112**	S			**Sn**	**15 24 13.1**	**-0.8**
APE	**Apeiranthos**	**3.17**	**112**	⇑*iP*			**Pn**	**15 23 37.0**	**+1.2**
APE				S			**Sn**	**15 24 13.1**	**-0.8**
TIR	**Tirane**	**3.38**	**333**	*e*PN			**Pn**	**15 23 40.9**	**+2.4**
TIR	**Tirane**	**3.38**	**333**	*e*Pn			**Pb**	**15 23 45.2**	**-0.3**
TIR	**Tirane**	**3.38**	**333**	*e*Pn			**Pn**	**15 23 40.9**	**+2.4**
PHP	**Peshkopia**	**3.51**	**342**	*i* PN			**Pb**	**15 23 45.9**	**-2.0**
PHP				*i* SN			**Sb**	**15 24 30.6**	**-0.2**
PHP	**Peshkopia**	**3.51**	**342**	*i* Pn			**Pb**	**15 23 45.9**	**-2.0**
MMB	**Musomiste**	**3.54**	**23**	*i* P			**Pn**	**15 23 41.5**	**+0.6**
MMB				*i* Sg			**Sn**	**15 24 22.2**	**-0.9**
MMB	**Musomiste**	**3.54**	**23**	*i* P			**Pn**	**15 23 41.5**	**+0.6**
KKB	**Krupnik**	**3.64**	**14**	*i* P			**Pn**	**15 23 44.3**	**+2.1**
KKB				*i* Sg			**Sn**	**15 24 25.2**	**-0.3**
KKB	**Krupnik**	**3.64**	**14**	*i* P			**Pn**	**15 23 44.3**	**+2.1**
EZN	**Ezine**	**3.77**	**65**	*e*PN			**Pn**	**15 23 42.3**	**-1.6**
PUK	**Puka**	**3.99**	**338**	*e*PN			Pb	15 23 52.7	-3.4
RZN	**Rozhen**	**4.00**	**32**	*i* P			**Pn**	**15 23 47.9**	**+0.7**
RZN	**Rozhen**	**4.00**	**32**	*i* P			**Pn**	**15 23 47.9**	**+0.7**
BLCB	**Balcova**	**4.07**	**88**	*e*P			**Pn**	**15 23 47.1**	**-0.9**
ENEZ	**Enez**	**4.09**	**53**	*e*PN			**Pn**	**15 23 46.9**	**-1.4**
GELI	**Tayfur-Gelibol**	**4.12**	**59**	*e*P			**Pn**	**15 23 47.4**	**-1.3**
IZM	**Izmir**	**4.24**	**88**	*e*P			**Pn**	**15 23 49.2**	**-0.8**
BCI	**Bajram Curri**	**4.25**	**342**	*e*PN			**Pn**	**15 23 52.7**	**+2.2**
BCI	**Bajram Curri**	**4.25**	**342**	*e*Pn			**Pn**	**15 23 52.7**	**+2.2**
LPK	**Lapseki**	**4.30**	**60**	*e*P			**Pn**	**15 23 49.9**	**-1.3**
VTS	**Vitosha**	**4.37**	**13**	⇑P			**Pn**	**15 23 54.5**	**+2.2**
VTS				S			**Sn**	**15 24 45.1**	**+1.5**
VTS	**Vitosha**	**4.37**	**13**	⇑*iP*			**Pn**	**15 23 54.5**	**+2.2**
VTS	**Vitosha**	**4.37**	**13**	S			**Sn**	**15 24 45.0**	**+1.5**
VTS	**Vitosha**	**4.37**	**13**	*i* P			**Pn**	**15 23 53.6**	**+1.3**
VTS				*i* S			**Sn**	**15 24 44.4**	**+0.9**
VTS	**Vitosha**	**4.37**	**13**	*e*Pn			**Pn**	**15 23 54.0**	**+1.7**
VTS	**Vitosha**	**4.37**	**13**	*e*Pn			**Pn**	**15 23 54.0**	**+1.7**
VTS				*i* S			**Sn**	**15 24 44.4**	**+0.9**
VTS				*e*Sn			Sb	15 24 45.0	-11
BARS	**Barje**	**4.47**	**360**	*e*Pn			Pn	15 23 57.1	+3.5
BARS				*e*Sn			**Sn**	**15 24 48.8**	**+2.9**
BARS	**Barje**	**4.47**	**360**	*e*Pn			Pn	15 23 57.1	+3.5
BARS				*e*Sn			**Sn**	**15 24 48.8**	**+2.9**
BODT	**Bodrum**	**4.50**	**105**	*e*P			**Pn**	**15 23 54.5**	**+0.5**
PDG	**Podgorica**	**4.54**	**335**	*e*Pn			Pb	15 24 00.8	-4.6
PDG		

KLMR					pmax	pmax		
	comp=Z,21nm,1.2s							
ARU	**Arti**	**30.24**	**41**	*d*	iP	**P**	**15 28 56.6**	**+0.1**
ARU				*e*			15 29 53.6	
ARU					S	**S**	**15 33 58.7**	**+2.5**
ARU					pmax	pmax		
	comp=Z,15nm,2.5s							
TORD	**Torodi Ar. Bea**	**30.84**	**221**		P	**P**	**15 29 01.9**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=32,slow=9.3,SNR=12							
ARCES	**ARCESS Array B**	**31.32**	**2**		P	**P**	**15 29 05.1**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=189,slow=6.8,SNR=5.3							
ARCES					LR	LR	15 42 37.5	
	comp=Z,116nm,18.4s,baz=356,slow=38							
BRVK	**Borovoye**	**36.14**	**50**	*ce*	P	**P**	**15 29 50.5**	**+2.5**
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**40.01**	**358**		P	**P**	**15 30 19.9**	**-0.5**
	comp=Z,10nm,1.0s,baz=147,slow=11,SNR=3.1							
KURK	**Kurchatov**	**41.33**	**54**	⇓	*i* P	**P**	**15 30 32.4**	**+0.9**
KURK					pmax	pmax		
	comp=Z,2.0nm,1.0s							
NVS	**Novosibirsk**	**43.79**	**47**	*e*	P	**P**	**15 30 51.0**	**-0.5**
NVS					pmax	pmax		
	comp=Z,11nm,1.3s							
NVS					pmax	pmax		
	comp=E,1.0nm,1.1s							
MKAR	**Makanchi Array**	**44.31**	**59**		P	**P**	**15 30 55.6**	**-0.3**
	comp=E,1.4nm,0.5s,baz=277,slow=7.3,SNR=24							
MKAR					PcP	**PP**	**15 32 39.8**	**+0.8**
	comp=E,0.5nm,0.7s,baz=287,slow=3.8,SNR=3.2							
MKAR	**Makanchi Array**	**44.31**	**59**	*ce*	P	**P**	**15 30 55.5**	**-0.3**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**44.79**	**48**		P	**P**	**15 30 59.1**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=275,slow=8.4,SNR=16							
ZALV	**Zalesovo Beam**	**44.79**	**48**		P	**P**	**15 30 59.1**	**-0.5**
ZALV					pmax	pmax		
	comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**59.53**	**51**		P	**P**	**15 32 49.1**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=283,slow=8.5,SNR=8.3							
CMAR	**Chiang Mai Arr**	**68.82**	**83**		P	**P**	**15 33 50.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=302,slow=8.3,SNR=4.4							
YKA	**Yellowknife Ar**	**73.59**	**341**		P	**P**	**15 34 18.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=35,slow=5.7,SNR=7.3							
ULM	**Lac du Bonnet**	**76.19**	**324**		P	**P**	**15 34 34.5**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=43,slow=4.8,SNR=5.9							
ILAR	**Eielson Array**	**76.84**	**355**		P	**P**	**15 34 37.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=345,slow=2.4,SNR=6.4							
KSRS	**Korea Array**	**78.40**	**51**		P	**P**	**15 34 45.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=332,slow=4.2,SNR=3.6							
PDAR	**Pinedale Array**	**88.00**	**326**		P	**P**	**15 35 37.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=41,slow=2.7,SNR=3.5							
WRA	**Warramunga Arr**	**119.49**	**93**		PKP	**PKPdf**	**15 41 35.2**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=303,slow=1.5,SNR=3.3							
ASAR	**Alice Springs**	**121.14**	**97**		PKP	**PKPdf**	**15 41 38.2**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=295,slow=1.6,SNR=2.7							

PRU 10 15:22:48.7,50°23N×19°04E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPC	**Dobruska-Polom**	**1.75**	**275**	*e*SG	Sb	15 23 44.3	0.0

*IDC **10** 15:50:38.7±5.3, 36°03N×71°19E, h88km±45km, mb3.3/8, mb1 3.4/13, mb1mx3.2/32, mbtmp3.3/13, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=37.7km s-min=25.8km az=23.0*
*ISCJB **10** 15:50:41.3±0.4, 36°35N±0°03×71°44E±0°06, h114km, mb3.6/7, Error ellipse: s-maj=7.1km s-min=3.4km az=167.5*
*NEIC **10** 15:50:41.6±0.5, 36°31N×71°28E, h150km, mb4.6/17, Error ellipse: s-maj=9.5km s-min=4.8km az=63.0*
*NNC **10** 15:50:49.3±6.5, 36°94N×70°99E, h189km±97km, mb3.2, mpv4.0, Error ellipse: s-maj=61.0km s-min=36.3km az=24.0*

ISC 10 15:50:42.1±0.6, 36°37N±0°05×71°30E±0°08, h114km, n61, σ1s81/67, mb3.7/7, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**169**	⇓P	**Pn**	**15 51 24.4**	**+1.5**
CEP				S	**Sn**	**15 51 56.0**	**+1.7**
KBL	**Kabul**	**2.59**	**226**	*e*P	**Pn**	**15 51 23.4**	**+0.4**
CHCP	**Chirah Chowk**	**3.15**	**149**	P	**Pn**	**15 51 32.2**	**+2.0**
THW	**Thamme Wali**	**3.58**	**174**	P	**Pn**	**15 51 37.1**	**+1.1**
THW				S	**Sn**	**15 52 17.0**	**-0.6**
SARP	**Sargodha**	**4.58**	**165**	P	**Pn**	**15 51 49.6**	**+0.3**
THN	**Thein Dam**	**5.36**	**136**	*e*P	**Pn**	**15 52 00.0**	**+0.2**
THN				*e*S	**Sn**	**15 53 00.0**	**-0.3**
AML	**Almayashu** SNR=131	**6.05**	**17**	P	**Pn**	**15 52 10.6**	**+1.2**
UCH	**Uchtor** SNR=5.5	**6.36**	**22**	P	**Sn**	**15 53 24.1**	**-1.1**
KZA	**Kyzart** SNR=12	**6.47**	**27**	P	**Pn**	**15 52 16.4**	**+1.2**
EKS2	**Erkin-Say** 8.5nm,0.6s	**6.57**	**16**	*e*P	**Pn**	**15 52 17.5**	**+1.3**
EKS2	**Erkin-Say** SNR=14	**6.57**	**16**	P	**Pn**	**15 52 17.6**	**+1.3**
AAK	**Ala-Archa** 6.8nm,0.3s,baz=197,slow=3.1,SNR=180	**6.73**	**21**	P	**Pn**	**15 52 20.3**	**+1.9**
AAK				S	**Sn**	**15 53 31.9**	**-1.7**
	2.2nm,0.3s,baz=242,slow=7.0,SNR=9.0						
AAK	**Ala-Archa** 83nm,0.4s	**6.73**	**21**	*e*P	**Pn**	**15 52 18.6**	**+0.3**
AAK	**Ala-Archa** SNR=41	**6.73**	**21**	P	**Pn**	**15 52 20.0**	**+1.6**
KK31	**Karatay Array** 6.4nm,0.2s,baz=173,slow=12,SNR=175	**6.75**	**355**	⇑P	**Pn**	**15 52 18.6**	**0.0**
KK31				⇑S	**Sn**	**15 53 29.7**	**-4.3**
	7.6nm,0.5s,baz=190,slow=26,SNR=9.6						
KKAR	**Karatay Array** 26nm,0.3s	**6.75**	**355**	*e*P	**Pn**	**15 52 18.5**	**-0.1**
KBK	**Karagaybulak** SNR=9.8	**6.88**	**23**	P	**Pn**	**15 52 21.7**	**+1.2**
CHMS	**Chumysh** SNR=17	**7.14**	**21**	P	**Pn**	**15 52 25.5**	**+1.7**
USP	**Ospenovka** SNR=19	**7.32**	**19**	P	**Pn**	**15 52 27.6**	**+1.4**
TKM2	**Tokmak 2** 3.7nm,0.6s	**7.34**	**26**	⇓P	**Pn**	**15 52 27.9**	**+1.3**
TKM2				⇑S	**Sn**	**15 53 48.5**	**+0.1**
	5.2nm,0.9s						
TKM2	**Tokmak 2** 4.8nm,0.4s	**7.34**	**26**	*e*P	**Pn**	**15 52 27.0**	**+0.4**
TKM2	**Tokmak 2** SNR=12	**7.34**	**26**	P	**Pn**	**15 52 27.9**	**+1.3**
PYUN	**Piuthan** 11nm,0.2s	**12.87**	**127**	*e*P	**Pn**	**15 53 38.4**	**-2.6**
PYUN	**Piuthan** 11nm,0.2s	**12.87**	**127**	*e*P	**Pn**	**15 53 38.4**	**-2.6**
DANN	**Dangsing** 14nm,0.3s	**13.22**	**124**	*e*P	**Pn**	**15 53 43.0**	**-2.6**
DANN	**Dangsing** 14nm,0.3s	**13.22**	**124**	*e*P	**Pn**	**15 53 43.0**	**-2.6**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=218,slow=11,SNR=2.5	**13.26**	**35**	P	**Pn**	**15 53 46.8**	**+1.0**
KOLN	**Koldanda** 6.4nm,0.2s	**13.49**	**126**	*e*P	**Pn**	**15 53 46.8**	**-2.3**
KOLN	**Koldanda** 6.4nm,0.2s	**13.49**	**126**	*e*P	**Pn**	**15 53 46.8**	**-2.3**
GKN	**Gorkha** 13nm,0.3s	**14.03**	**123**	*e*P	**Pn**	**15 53 53.3**	**-2.7**
GKN	**Gorkha** 13nm,0.3s	**14.03**	**123**	*e*P	**Pn**	**15 53 53.3**	**-2.7**
DMN	**Daman** 8.9nm,0.3s	**14.60**	**123**	*e*P	**Pn**	**15 54 01.1**	**-2.3**
DMN	**Daman** 8.9nm,0.3s	**14.60**	**123**	*e*P	**Pn**	**15 54 01.1**	**-2.3**
KKN	**Kakani** 11nm,0.4s	**14.61**	**122**	*e*P	**Pn**	**15 54 00.8**	**-2.6**
KKN	**Kakani** 11nm,0.4s	**14.61**	**122**	*e*P	**Pn**	**15 54 00.8**	**-2.6**
PKI	**Pulchoki** 7.6nm,0.3s	**14.83**	**122**	*e*P	**Pn**	**15 54 04.2**	**-2.1**
PKI	**Pulchoki** 7.6nm,0.3s	**14.83**	**122**	*e*P	**Pn**	**15 54 04.2**	**-2.1**
GUN	**Gumba** 10nm,0.3s	**14.94**	**120**	*e*P	**Pn**	**15 54 04.9**	**-2.9**
GUN	**Gumba** 10nm,0.3s	**14.94**	**120**	*e*P	**Pn**	**15 54 04.9**	**-2.9**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=203,slow=10,SNR=6.5	**15.17**	**18**	P	**P**	**15 54 13.1**	**+0.6**
KURBB				LR	LR	16 00 13.2	
	comp=Z,24nm,18.9s,baz=55,slow=37						
AB31	**Akbulak array** 3.3nm,0.5s,baz=146,slow=11,SNR=115	**15.31**	**331**	⇑P	**Pn**	**15 54 10.7**	**-1.2**
AB31				S	Sn	15 56 49.1	-12
	1.1nm,0.5s,baz=152,slow=24,SNR=5.9						
ABKAR	**Akbulak array** 3.6nm,0.4s	**15.31**	**331**	*e*P	**Pn**	**15 54 10.5**	**-1.4**
JIRN	**Jiri** 4.5nm,0.3s	**15.31**	**120**	*e*P	**Pn**	**15 54 10.2**	**-2.3**
JIRN	**Jiri** 4.5nm,0.3s	**15.31**	**120**	*e*P	**Pn**	**15 54 10.2**	**-2.3**
RAMN	**Ramite** 8.5nm,0.3s	**16.04**	**122**	*e*P	**Pn**	**15 54 19.7**	**-1.7**
RAMN	**Ramite** 8.5nm,0.3s	**16.04**	**122**	*e*P	**Pn**	**15 54 19.7**	**-1.7**
TAPN	**Taplejung** 22nm,0.7s	**16.57**	**118**	*e*P	**Pn**	**15 54 26.0**	**-2.0**
TAPN	**Taplejung** 22nm,0.7s	**16.57**	**118**	*e*P	**Pn**	**15 54 26.0**	**-2.0**
ODAN	**Odare** 13nm,0.5s	**16.65**	**120**	*e*P	**Pn**	**15 54 27.4**	**-1.4**
ODAN	**Odare** 13nm,0.5s	**16.65**	**120**	*e*P	**Pn**	**15 54 27.4**	**-1.4**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=164,slow=11,SNR=3.9	**16.67**	**358**	P	**Pn**	**15 54 29.1**	**+0.5**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=142,slow=13,SNR=24	**17.01**	**330**	P	**Pn**	**15 54 33.5**	**+0.6**
AKTO				S	Sn	15 57 31.0	-11
	0.1nm,0.3s,baz=234,slow=19,SNR=3.4						
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=211,slow=10,SNR=12	**19.94**	**24**	P	**P**	**15 55 06.3**	**+1.6**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=119,slow=11,SNR=3.2	**37.73**	**326**	P	**P**	**15 57 48.1**	**+1.8**
ARCES	**ARCESS Array B** 1.5nm,0.9s,baz=115,slow=8.8,SNR=7.8	**41.36**	**338**	P	**P**	**15 58 18.1**	**+1.8**
HFS	**Hagfors** 1.4nm,0.5s,baz=99,slow=9.2,SNR=6.7	**43.32**	**322**	P	**P**	**15 58 34.1**	**+1.8**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=96,slow=7.9	**44.63**	**323**	P	**P**	**15 58 43.8**	**+1.0**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=97,slow=7.9,SNR=5.4	**44.63**	**323**	P	**P**	**15 58 44.1**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=50,slow=5.5,SNR=5.9	**65.95**	**269**	P	**P**	**16 01 14.3**	**-2.0**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=350,slow=5.6,SNR=5.0	**81.36**	**3**	P	**P**	**16 02 45.8**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.3s,baz=322,slow=5.4,SNR=4.1	**81.72**	**122**	P	**P**	**16 02 48.1**	**0.0**

FUNV 10 15:54:23.1, 6°95N×73°03W, h166km, MW3.8, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.16**	**38**	*e*P	Pn	15 54 50.0	-1.0
CAPV				*e*S	Sn	15 55 10.8	-1.6
SOCV	**Socops**	**2.53**	**58**	*e*P	Pn	15 55 05.0	-0.5
SOCV				*e*S	Sn	15 55 34.9	-3.4
ELOV	**Elorza**	**3.52**	**89**	*e*P	Pn	15 55 15.8	-2.0
ELOV				*e*S	Sn	15 55 55.3	-4.9
VIRV	**Villa del Rosa**	**3.58**	**10**	*e*P	Pn	15 55 16.6	-1.9
VIRV				*e*S	Sn	15 55 56.3	-5.4
QARV	**Quebrada Arrib**	**4.08**	**37**	*e*P	Pn	15 55 23.4	-1.5
QARV				*e*S	Sn	15 56 08.3	-4.9
CURV	**Curarigua**	**4.30**	**45**	*e*P	Pn	15 55 26.9	-0.9
DABV	**Dabajuro**	**4.60**	**31**	*e*P	Pn	15 55 29.6	-2.0
TEPV	**Terepaima**	**4.84**	**52**	*e*P	Pn	15 55 33.9	-0.9
SIQV	**Siquisique**	**4.87**	**41**	⇑*e*P	Pn	15 55 33.9	-1.2
BAUV	**El Baul**	**5.33**	**68**	*e*P	Pn	15 55 38.8	-2.3
MAPV	**Macapo**	**5.36**	**57**	*e*P	Pn	15 55 40.7	-0.9
MONV	**Montecano**	**5.82**	**31**	*e*P	Pn	15 55 46.0	-1.6
TURV	**Turiamo**	**6.20**	**56**	*e*P	Pn	15 55 50.3	-2.4

*IDC **10** 15:59:58.4±3.5, 13°11N×90°65W, h0km, mb3.5/2, mb1 4.2/4, mb1mx3.7/24, mbtmp3.9/4, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/19, Error ellipse: s-maj=64.3km s-min=53.3km az=11.0*
*ISCJB **10** 16:00:02.6±1.4, 13°33N±0°06×90°84W±0°04, h20km±8km, mb3.9/1, MS3.1/1, Error ellipse: s-maj=11.1km s-min=5.4km az=13.4*
*CASC **10** 16:00:04.6±2.4, 13°42N×90°76W, h20km±8km, MD3.7, ML3.7*

ISC 10 15:59:59.6±2.4, 13°24N±0°09×90°76W±0°05, h2km±12km, n24, σ1s04/28, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.97**	**17**	*e*P	**Pb**	**16 00 20.2**	**+0.8**
PCG	**Pacaya**	**1.16**	**7**	*e*P	**Pg**	**16 00 22.8**	**+1.0**
PCG				*e*S	**Sg**	**16 00 37.0**	**+0.2**
FUG	**Fuego 3**	**1.20**	**356**	*e*P	**Pg**	**16 00 22.9**	**+0.2**
SBLS	**San Blas**	**1.25**	**61**	⇑*e*P	**Pn**	**16 00 25.5**	**+1.1**
SBLS				*e*S	**Sn**	**16 00 41.0**	**-1.1**
RTR	**El Retiro**	**1.26**	**59**	*e*P	**Pn**	**16 00 25.7**	**+1.2**
RTR				*e*S	**Sn**	**16 00 40.8**	**-1.4**
SNJE	**San Jose**	**1.28**	**61**	*e*P	**Pn**	**16 00 25.9**	**+1.1**
FG6		**1.32**	**355**	*e*P	**Pn**	**16 00 24.6**	**-0.8**
FG6				*e*S	**Sg**	**16 00 40.2**	**-1.8**
RBDL	**Robledal**	**1.35**	**50**	*e*P	**Pb**	**16 00 26.7**	**+0.8**
JAT	**Jato**	**1.37**	**321**	*e*P	**Pn**	**16 00 26.1**	**+0.3**
JAT				*e*S	Sn	16 00 40.2	-4.4
NBG	**Las Nubes**	**1.40**	**16**	*e*P	**Pg**	**16 00 27.6**	**+1.2**
NBG				*e*S	**Sg**	**16 00 44.0**	**-0.6**
BOQS	**Boqueron**	**1.52**	**71**	*e*P	Pb	16 00 30.2	+1.6
BOQS				*e*S	**Sn**	**16 00 49.5**	**+1.0**
SNET	**Serv Nac Est T**	**1.55**	**73**	*e*P	Pg	16 00 30.3	+1.0
SNET				*e*S	**Sn**	**16 00 49.5**	**+0.4**
SNET				AML	AML	16 00 55.0	
	comp=Z,1μm,0.3s						
TP2	**Tecpan 2**	**1.56**	**350**	*e*P	**Pn**	**16 00 28.6**	**-0.2**
LFU	**La Fuente**	**1.68**	**72**	*e*P	Pg	16 00 32.8	+1.0
LBRS	**Las Brisas**	**1.74**	**73**	*e*P	Pg	16 00 33.7	+0.8
MTO2	**Montecristo 2**	**1.78**	**49**	*e*P	**Pg**	**16 00 32.8**	**-0.9**
MTO2				*e*S	**Sn**	**16 00 54.3**	**-0.7**
MRL	**Marmol**	**2.09**	**30**	*e*P	**Pb**	**16 00 37.6**	**-0.8**
MRL				*e*S	**Sn**	**16 01 02.0**	**-0.5**
CAHU	**Cacacuatique**	**2.53**	**78**	*e*P	**Pb**	**16 00 44.5**	**-1.5**
CMIG	**Matias Romero** comp=Z,3.2nm,0.3s,baz=128,slow=14,SNR=27	**5.53**	**314**	Pn	**Pn**	**16 01 22.9**	**-0.1**
CMIG				Sn	Sn	16 02 21.7	-5.5
	comp=Z,5.4nm,0.3s,baz=54,slow=18,SNR=4.4						
TEIG	**Tepich** comp=Z,6.3nm,0.3s,baz=197,slow=15,SNR=33	**7.34**	**19**	Pn	**Pn**	**16 01 48.2**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=130,slow=9.7,SNR=4.8	**20.00**	**325**	P	**P**	**16 04 34.2**	**+0.5**
TKL	**Tuckaleechee C** comp=Z,62nm,19.1s,baz=299,slow=38	**23.19**	**15**	LR	LR	16 14 35.5	
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.6s,baz=130,slow=8.4,SNR=7.6	**35.02**	**321**	P	**P**	**16 06 55.4**	**+1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=334,slow=2.5,SNR=4.1	**147.08**	**343**	PKPbc	**PKPbc**	**16 19 43.4**	**-1.8**

*ISCJB **10** 16:00:44.3±0.7, 4°55N±0°07×94°84E±0°08, h48km, mb3.9/9, Error ellipse: s-maj=12.9km s-min=8.0km az=150.7*
*DJA **10** 16:00:46.4±1.2, 5°N±5°×9°5E±1°1, h10km, M3.7/4, mb4.1/1, MLv3.6/4*
*IDC **10** 16:00:48.1±7.8, 4°52N×94°85E, h68km±60km, mb3.6/9, mb1 3.7/11, mb1mx3.4/30, mbtmp3.6/11, ML3.2/1, Error ellipse: s-maj=113.3km s-min=15.7km az=56.0*

ISC 10 16:00:46.2±1.0, 4°61N±0°08×95°0E±0°1, h48km, n16, σ1s21/18, mb3.9/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.94**	**21**	P	**Pn**	**16 01 02.9**	**-0.2**
BSI				S	**Sn**	**16 01 16.3**	**+0.7**
LHMI	**Lhok Sumawe**	**2.07**	**73**	P	**Pn**	**16 01 19.5**	**+1.0**
TPTI		**2.59**	**121**	P	**Pn**	**16 01 25.3**	**-0.3**
TPTI				S	**Sn**	**16 01 53.1**	**-2.8**
PSI	**Prapat** 1.2nm,0.3s,baz=347,slow=16,SNR=3.7	**4.34**	**114**	P	**Pn**	**16 01 52.9**	**+3.0**
MNSI	**Mandailing Nat**	**5.97**	**129**	P	**Pn**	**16 02 12.9**	**+0.8**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=207,slow=11,SNR=17	**14.30**	**15**	P	**P**	**16 04 10.8**	**-1.3**
AAK	**Ala-Archa** 0.8nm,0.6s,baz=141,slow=5.3,SNR=8.1	**42.01**	**337**	P	**P**	**16 08 33.4**	**+0.3**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=165,slow=8.3,SNR=16	**43.43**	**347**	P	**P**	**16 08 43.9**	**-0.5**
SONM	**Songino Array**	**44.17**	**11**	PcP	**PcP**	**16 10 35.3**	**+0.6**
	0.2nm,0.5s,baz=186,slow=3.9,SNR=2.7						
WRA	**Warramunga Arr** 1.4nm,0.6s,baz=302,slow=9.2,SNR=20	**45.75**	**124**	P	**P**	**16 09 03.4**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=298,slow=7.7,SNR=12	**47.24**	**128**	P	**P**	**16 09 15.1**	**+0.2**
KURBB	**Kurchatov Arra** 1.1nm,0.2s,baz=172,slow=7.5,SNR=5.1	**47.89**	**346**	P	**P**	**16 09 19.9**	**+0.5**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=163,slow=8.2,SNR=4.8	**49.88**	**352**	P	**P**	**16 09 34.5**	**-0.2**
BVAR	**Borovoye Array** 1.1nm,0.6s,baz=142,slow=7.5,SNR=6.3	**52.32**	**341**	P	**P**	**16 09 53.3**	**+0.2**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=105,slow=5.5,SNR=6.9	**75.96**	**332**	P	**P**	**16 12 28.2**	**+0.3**
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=99,slow=7.5,SNR=5.3	**78.59**	**340**	P	**P**	**16 12 42.4**	**-0.1**

*IDC **10** 16:05:07.8±0.6, 4°15N×126°59E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/23, mbtmp4.1/14, MS3.6/11, Ms1 3.7/11, ms1mx3.3/45, Error ellipse: s-maj=35.7km s-min=10.3km az=72.0*
*ISCJB **10** 16:05:11.4±0.3, 4°27N±0°04×126°84E±0°06, h36km, mb4.4/28, MS3.7/11, Error ellipse: s-maj=9.3km s-min=4.6km az=160.2*
*NEIC **10** 16:05:12.9±0.3, 4°13N×126°60E, h35km, mb4.8/13, Error ellipse: s-maj=12.6km s-min=5.1km az=64.0*
*BJI **10** 16:05:15.5, 4°00N×126°70E, h90km, mB5.1/6, mb4.4/13*
*DJA **10** 16:05:16.7±0.5, 4°N±4°×12°7E±°, h10km, M4.8/8, mb4.7/5, mB5.1/2, MLv4.8/8, Mw(mB)4.5/2*
*MAN **10** 16:05:59, 7°01N×124°70E, h54km, mb4.5, ML3.3, MS3.2*
*AUST **10** 16:06:41.3, 2°00S×127°50E, h450km*

ISC 10 16:05:13.5±0.4, 4°26N±0°05×126°86E±0°09, h36km, n95, σ1s75/89, mb4.4/28, MS3.8/11, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.07**	**335**	Pn	Pn	16 06 04.2	+4.7
	29nm,0.3s,baz=164,slow=3.1,SNR=4.0						
DAV	**Davao City (W)**	**3.07**	**335**	Pn	Pn	16 06 04.2	+4.7
DAV				*e*Pg		16 06 08.3	
DAV	**Davao City (W)**	**3.07**	**335**	P	Pn	16 06 13.1	+14
DMPH	**Davao City--Mi**	**3.11**	**334**	⇑*e*P	Pn	16 06 04.7	+4.6
DMPH				*e*S	**Sn**	**16 06 41.6**	**+5.5**
MNI	**Manado**	**3.45**	**216**	P	Pn	16 06 02.4	-2.4
TNTI	**Ternate**	**3.50**	**172**	P	**Pn**	**16 06 05.2**	**-0.3**
CTBH	**Cotabato--PC H**	**3.93**	**319**	⇑*i* P	**Pn**	**16 06 12.5**	**+1.2**
BUKP	**Musuan**	**4.01**	**334**	*e*P	**Pn**	**16 06 15.3**	**+2.7**
BUKP				*e*S	Sn	16 06 31.5	-27
KMSI	**Cibinong**	**4.66**	**218**	P	**Pn**	**16 06 22.7**	**+1.3**
BUTP	**Butuan**	**4.84**	**345**	*e*P	**Pn**	**16 06 33.6**	**+10**
LBMI	**Labuha**	**4.91**	**173**	P	**Pn**	**16 06 25.1**	**+0.3**
LBMI				S	**Sn**	**16 07 26.3**	**+5.9**
PAGZ	**Pagadian**	**4.97**	**316**	*e*P	**Pn**	**16 06 27.5**	**+1.9**
MRSI	**Marisa** 84nm,0.6s,994nm	**6.19**	**233**	P	**Pn**	**16 06 41.9**	**-0.5**
LUWI	**Luwuk** 229nm,1.4s,2μm0.7nm	**6.67**	**218**	P	**Pn**	**16 06 52.1**	**+3.1**
MYLDM	**Lahad Datu** 54nm,1.4s,0.2nm	**8.38**	**277**	P	Pn	16 07 19.4	+6.8
FAKI	**Fak Fak** 27nm,1.1s	**8.94**	**143**	P	**Pn**	**16 07 20.8**	**+0.6**
KDI	**Kendari**	**9.20**	**207**	P	**Pn**	**16 07 25.1**	**+1.4**
TTSI	**Tana Toraja**	**10.11**	**224**	P	Pn	16 07 42.1	+5.9
KAPI	**Kappang** comp=Z,243nm,19.5s,baz=332,slow=41	**11.63**	**218**	LR	LR	16 12 55.0	
KSM	**Kuching**	**16.76**	**261**	*e*P	**Pn**	**16 09 07.4**	**+1.7**
MTN	**Manton Dam** baz=11,SNR=24	**17.52**	**166**	P	**Pn**	**16 09 11.5**	**-3.5**
KDU	**Kakadu** baz=12,SNR=17	**17.74**	**162**	P	**Pn**	**16 09 17.1**	**-0.7**
FITZ	**Fitzroy Crossi** 2.8nm,0.6s,baz=12,slow=7.6,SNR=10	**22.25**	**183**	P	P	**16 10 05.4**	**-2.1**
FITZ	**Fitzroy Crossi** 11nm,1.0s	**22.25**	**183**	*e*P	P	**16 10 05.3**	**-2.1**
FITZ	**Fitzroy Crossi** baz=16,SNR=14	**22.25**	**183**	P	P	**16 10 05.7**	**-1.7**
COEN	**Coen**	**24.28**	**138**	*e*P	**P**	**16 10 28.2**	**+0.5**
WRAB	**Tennant Creek** 24nm,0.8s	**25.14**	**163**	*e*P	**P**	**16 10 33.9**	**-1.6**
WRA	**Warramunga Arr** 16nm,0.9s,baz=337,slow=11,SNR=63	**25.15**	**163**	P	**P**	**16 10 34.5**	**-1.0**
WRA				S	**S**	**16 15 01.9**	**+3.6**
	1.9nm,0.9s,baz=342,slow=18,SNR=5.5						
WRA	**Warramunga Arr**	**25.15**	**163**	P	**P**	**16 10 34.5**	**-1.0**
WRA				S	**S**	**16 15 01.9**	**+3.6**
MBWA	**Marble Bar**	**26.21**	**195**	*e*P	**P**	**16 10 41.2**	**-3.9**
QIS	**Mount Isa** baz=22,SNR=8.3	**27.66**	**154**	P	**P**	**16 10 59.1**	**+1.0**
AS31	**Alice Springs**	**28.59**	**166**	*e*P	**P**	**16 11 06.0**	**-0.5**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=344,slow=6.9,SNR=23	**28.59**	**166**	P	**P**	**16 11 05.5**	**-1.0**
ASAR				S	**S**	**16 15 54.8**	**+2.1**
	0.3nm,0.6s,baz=333,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**28.59**	**166**	P	**P**	**16 11 05.5**	**-1.0**
ASAR				S	**S**	**16 15 54.8**	**+2.1**
WHN	**Wuhan**	**28.69**	**337**	*e*P	P	16 11 16.0	+8.8
WHN				S	**S**	**16 15 54.4**	**+0.5**
WHN				LR	LR		
	comp=Z,750nm,17.8s						
**C

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,15nm,0.7s						
DANN	Dangsing	47.42	305	eP	P	16 13 42.9	-2.2
	comp=Z,15nm,0.7s						
PYUN	Piuthan	47.96	304	eP	P	16 13 47.6	-1.6
	comp=Z,7.9nm,0.5s						
PYUN	Piuthan	47.96	304	eP	P	16 13 47.6	-1.6
	comp=Z,7.9nm,0.5s						
PETK	Petropavlovsk-	54.89	22	P	P	16 14 41.4	+1.0
	comp=Z,1.2nm,0.7s,baz=180,slow=4.5,SNR=8.5						
PETK				LR	LR	16 36 09.3	
	comp=Z,19nm,19.1s,baz=90,slow=34						
PETK	Petropavlovsk-	54.89	22	P	P	16 14 41.4	+1.0
MK31	Makanchi Array	57.20	325	eP	P	16 14 56.0	-1.0
MKAR	Makanchi Array	57.20	325	P	P	16 14 55.9	-1.2
	comp=Z,2.5nm,0.7s,baz=126,slow=8.2,SNR=40						
MKAR				PcP	PcP	16 15 51.5	+0.2
	comp=Z,1.6nm,0.7s,baz=115,slow=4.9,SNR=4.5						
MKAR	Makanchi Array	57.20	325	P	P	16 14 55.9	-1.2
MKAR				PcP	PcP	16 15 51.5	+0.2
YAK	Yakutsk	57.68	2	eP	P	16 14 59.9	-0.1
	comp=Z,9.3nm,0.7s						
ZALV	Zalesovo Beam	60.18	333	P	P	16 15 16.1	-1.5
	comp=Z,0.6nm,0.3s,baz=117,slow=7.8,SNR=6.9						
ZALV				LR	LR	16 41 08.9	
	comp=Z,42nm,19.9s,baz=38,slow=36						
ZALV	Zalesovo Beam	60.18	333	P	P	16 15 16.1	-1.5
KURK	Kurchatov	61.37	327	eP	P	16 15 25.0	-0.8
	comp=Z,6.8nm,0.6s						
BRVK	Borovoye	67.02	327	eP	P	16 16 02.7	-0.1
	comp=Z,5.0nm,0.8s						
GNI	Garni	81.25	310	LR	LR	17 01 17.4	
	comp=Z,40nm,19.1s,baz=226,slow=42						
KBZ	Khabaz	82.71	313	LR	LR	17 00 03.0	
	comp=Z,56nm,18.3s,baz=246,slow=40						
VNDA	Vanda	83.93	173	P	P	16 17 39.0	-0.2
	comp=Z,1.9nm,1.0s,baz=303,slow=5.6,SNR=3.2						
VNDA	Vanda	83.93	173	P	P	16 17 39.0	-0.2
ILAR	Eielson Array	84.57	25	P	P	16 17 44.5	+1.6
	comp=Z,0.7nm,1.0s,baz=259,slow=5.1,SNR=3.8						
ILAR	Eielson Array	84.57	25	P	P	16 17 44.5	+1.6
BRTR	Keskin Array B	89.79	310	P	P	16 18 06.9	-2.0
	comp=Z,0.4nm,0.5s,baz=119,slow=3.1,SNR=3.6						
BRTR	Keskin Array B	89.79	310	P	P	16 18 06.9	-2.0
ARCES	ARCESS Array B	90.00	340	P	P	16 18 09.2	+0.2
	comp=Z,2.3nm,0.8s,baz=80,slow=5.6,SNR=6.3						
ARCES	ARCESS Array B	90.00	340	P	P	16 18 09.2	+0.2
FINES	FINESS Array B	91.43	332	P	P	16 18 15.8	0.0
	comp=Z,2.0nm,0.8s,baz=77,slow=3.0,SNR=4.1						
FINES	FINESS Array B	91.43	332	P	P	16 18 15.8	0.0
NOA	NORSAR Array B	98.37	334	LR	LR	17 08 37.2	
	comp=Z,45nm,18.9s,baz=0.0,slow=39						
TORD	Torodi Ar. Bea	122.88	289	PKP	PKPdf	16 24 05.9	-1.0
	comp=Z,0.4nm,0.6s,baz=60,slow=1.0,SNR=3.7						
TORD	Torodi Ar. Bea	122.88	289	PKP	PKPdf	16 24 05.9	-1.0

*ISCJB **10** 16:05:45.9±0.4, 38°.34N±0°.02×21°.84E±0°.03, h10^{km}±3^{km}, Error ellipse: s-maj=4.5km s-min=3.8km az=36.4*
*CSEM **10** 16:05:45.7±0.1, 38°.35N×21°.84E, h10^{km}, MD3.1, Error ellipse: s-maj=3.7km s-min=2.8km az=124.0*
*THE **10** 16:05:46.4, 38°.34N×21°.85E, h7^{km}±1^{km}, ML2.1/4, Error ellipse: s-maj=1.2km s-min=0.3km az=309.0*
*ATH **10** 16:05:46.1, 38°.34N×21°.84E, h9^{km}±3^{km}, MD3.1/6*
ISC 10 16:05:45.7±0.9, **38°.35N**±0°.02×**21°.81E**±0°.03, **h10**^{km}±5^{km}, **n27**, σ**0ˢ.31**/54, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPR	University Cam	0.07	195	P	Pg	16 05 48.0	+0.2
UPR				S	Sg	16 05 49.8	+0.4
UPR	University Cam	0.07	195	ePG	Pg	16 05 47.8	0.0
UPR				eSG	Sg	16 05 50.0	+0.6
UPR	University Cam	0.07	195	ePg	Pg	16 05 47.8	0.0
UPR				S	Sg	16 05 49.8	+0.4
EFP	Efpalio	0.11	44	P	Pg	16 05 48.2	-0.3
EFP				S	Sg	16 05 50.3	-0.2
EFP	Efpalio	0.11	44	ePG	Pg	16 05 48.1	-0.4
EFP				eSG	Sg	16 05 50.7	+0.2
EFP	Efpalio	0.11	44	ePg	Pg	16 05 48.1	-0.4
EFP				S	Sg	16 05 50.3	-0.2
EFP				eSg	Sg	16 05 50.7	+0.2
LAKA	Lakka	0.17	128	P	Pg	16 05 49.2	-0.2
LAKA				S	Sg	16 05 51.9	-0.1
LAKA	Lakka	0.17	128	P	Pg	16 05 49.2	-0.2
LAKA				S	Sg	16 05 51.9	-0.1
TRIZ	Trizonia	0.21	85	P	Pg	16 05 50.3	+0.3
TRIZ				S	Sg	16 05 53.1	+0.1
TRIZ	Trizonia	0.21	85	P	Pg	16 05 50.3	+0.3
TRIZ				S	Sg	16 05 53.1	+0.1
KALE	Kalithea	0.27	80	P	Pg	16 05 50.9	-0.2
KALE				S	Sg	16 05 54.7	0.0
KALE	Kalithea	0.27	80	P	Pg	16 05 50.9	-0.2
KALE				S	Sg	16 05 54.7	0.0
RLS	Riolos of Patr	0.39	223	P	Pb	16 05 54.2	-0.5
RLS				S	Sb	16 06 00.5	-0.3
RLS	Riolos of Patr	0.39	223	ePB	Pg	16 05 54.0	+0.6
RLS				eSB	Sb	16 06 00.8	0.0
RLS	Riolos of Patr	0.39	223	P	Pb	16 05 54.2	-0.5
RLS				S	Sb	16 06 00.5	-0.3
RLS				eSb	Sb	16 06 00.8	0.0
DSF	Desfina	0.57	83	P	Pg	16 05 56.8	+0.1
DSF				S	Sg	16 06 04.5	+0.3
DSF	Desfina	0.57	83	P	Pg	16 05 56.8	+0.1
DSF				S	Sg	16 06 04.5	+0.3
EVR	Evrytania	0.57	0	P	Pg	16 05 57.2	+0.4
EVR				S	Sb	16 06 05.8	-0.2
EVR	Evrytania	0.57	0	ePG	Pg	16 05 57.0	+0.2
EVR				eSB	Sb	16 06 06.3	+0.3
EVR	Evrytania	0.57	0	P	Pg	16 05 57.2	+0.4
EVR				S	Sb	16 06 05.8	-0.2
EVR				eSb	Sb	16 06 06.3	+0.3
GUR	Goura	0.59	134	P	Pg	16 05 56.7	-0.4
GUR				S	Sg	16 06 05.2	+0.4
GUR	Goura	0.59	134	ePG	Pg	16 05 56.6	-0.5
GUR				eSB	Sg	16 06 05.1	+0.3
GUR	Goura	0.59	134	P	Pg	16 05 56.7	-0.4
GUR				eSb	Sg	16 06 05.1	+0.3
AMT	Artemida-Makis	0.82	186	P	Pb	16 06 02.1	+0.2
AMT				S	Sb	16 06 13.4	+0.4
AMT	Artemida-Makis	0.82	186	P	Pb	16 06 02.1	+0.2
AMT				S	Sb	16 06 13.4	+0.4
VLS	Valsamata	0.97	260	ePB	Pg	16 06 03.9	-0.5
VLS	Valsamata	0.97	260	ePb	Pg	16 06 03.9	-0.5

*AUST **10** 16:08:03.3, 1°.50N×130°.00E, h35^{km}*
*ISCJB **10** 16:09:35.2±0.6, 5°.50S±0°.06×129°.02E±0°.09, h350^{km}, mb3.4/5, Error ellipse: s-maj=12.2km s-min=8.2km az=178.8*
*IDC **10** 16:09:38.1±3.5, 5°.62S×128°.75E, h360^{km}±38^{km}, mb3.1/5, mb1 3.3/8, mb1mx3.2/21, mbtmp3.2/8, Error ellipse: s-maj=41.4km s-min=10.7km az=76.0*
ISC 10 16:09:37.0±0.8, **5°.62S**±0°.07×**129°.1E**±0°.1, **h350**^{km}, **n15**, σ**1ˢ.52**/18, **mb3.5**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	2.11	335	S	S	16 10 23.6	-47
	baz=5.5,SNR=7.5						
TLE	Tual	3.64	90	S	S	16 11 32.6	-2.4
	baz=7.6,SNR=18						
MTN	Manton Dam	7.46	164	P	Pn	16 11 24.2	-0.6
	baz=14,SNR=14						
KDU	Kakadu	7.78	155	P	Pn	16 11 28.6	+0.1
	baz=14,SNR=25						
FITZ	Fitzroy Crossi	12.85	195	P	P	16 12 27.2	-0.9
	1.1nm,0.3s,baz=30,slow=9.5,SNR=10						
FITZ				S	S	16 14 48.9	-0.9
	0.2nm,0.3s,baz=307,slow=20,SNR=2.7						
FITZ	Fitzroy Crossi	12.85	195	P	Pn	16 12 28.1	-0.8
	baz=20,SNR=8.2						
WRA	Warramunga Arr	15.13	161	P	Pn	16 12 54.9	-0.5
	0.6nm,0.3s,baz=341,slow=12,SNR=6.4						
WRA				S	S	16 15 37.0	+1.3
	0.3nm,0.3s,baz=339,slow=19,SNR=4.5						
ASAR	Alice Springs	18.53	166	P	P	16 13 31.6	+2.0
	1.4nm,0.3s,baz=342,slow=12,SNR=16						
ASAR				S	S	16 16 44.5	+1.8
	0.3nm,0.3s,baz=349,slow=24,SNR=10						
MEEK	Meekatharra	23.16	204	P	P	16 14 12.8	-1.0
	baz=30,SNR=6.0						
MORW	Morawa	26.39	206	P	P	16 14 41.9	-0.7
	baz=33,SNR=3.4						
SONM	Songino Array	56.85	342	P	P	16 18 45.3	-1.0
	0.2nm,0.4s,baz=160,slow=8.7,SNR=3.4						
PETK	Petropavlovsk-	63.31	19	P	P	16 19 30.5	+1.0
	1.0nm,0.5s,baz=189,slow=6.8,SNR=7.2						
MKAR	Makanchi Array	66.58	327	P	P	16 19 49.8	-0.7
	0.8nm,0.4s,baz=114,slow=8.6,SNR=22						
MKAR				pP	pP	16 21 10.7	+3.3
	0.2nm,0.4s,baz=117,slow=7.6,SNR=2.3						
ZALV	Zalesovo Beam	69.95	334	P	P	16 20 09.8	-1.2
	0.6nm,0.6s,baz=123,slow=5.5,SNR=4.3						
QSPA	South Pole Qui	84.35	180	P	P	16 21 31.3	+1.0
	0.6nm,0.8s,baz=306,slow=19,SNR=3.5						

FUNV 10 16:12:27.5, 9°.94N×59°.50W, h36^{km}**, MW3.7, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	2.77	285	eP	Pn	16 13 08.0	-1.3
GUIV				eS	Sn	16 13 38.3	-3.2
RIOV	Rio Grande	2.94	231	eP	Pn	16 13 10.4	-1.4
RIOV				eS	Sn	16 13 43.2	-2.8
GUNV	Guanoco	3.39	274	eP	Pn	16 13 17.2	-0.7
GUNV				eS	Sn	16 13 53.1	-3.9
CRUV	Carupano	3.75	282	eP	Pn	16 13 20.8	-1.9
CRUV				eS	Sn	16 13 59.7	-6.0
GURV	El Guri	4.15	239	eS	Sn	16 14 11.4	-4.4
LUEV	Luepa	4.51	206	eS	Sn	16 14 19.4	-5.5
CUPV	Cœpira	6.19	272	eP	Pn	16 13 54.6	-2.0
CUPV				eS	Sn	16 14 59.1	-7.1
TURV	Turiamo	8.22	274	eS	Sn	16 15 45.8	-10
BAUV	El Baul	8.48	264	eP	Pn	16 14 25.4	-2.5

*IDC **10** 16:18:33.5±2.7, 4°.80S×152°.74E, h103^{km}±22^{km}, mb3.8/13, mb1 4.0/14, mb1mx3.9/20, mbtmp3.8/14, MS3.5/1, Ms1 3.5/1, ms1mx2.5/33, Error ellipse: s-maj=32.9km s-min=11.8km az=126.0*
*NEIC **10** 16:18:35.9±1.8, 4°.78S×152°.66E, h124^{km}±15^{km}, mb4.7/5, Error ellipse: s-maj=18.4km s-min=9.7km az=113.0*
*AUST **10** 16:19:17.4, 6°.67S×150°.14E, h300^{km}*
ISC 10 16:18:33.1±0.7, **4°.80S**±0°.10×**152°.8E**±0°.1, **h100**^{km}, **n48**, σ**1ˢ.09**/49, **mb4.0**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.24	230	P	Pn	16 20 17.7	+1.4
	2.7nm,0.3s,baz=62,slow=8.2,SNR=15						
PMG				S	Sn	16 21 35.4	-1.6
	4.2nm,0.3s,baz=61,slow=6.5,SNR=3.4						
PMG	Port Moresby	7.24	230	eP	Pn	16 20 17.4	+1.1
	22nm,0.6s						
PMG				S	Sn	16 21 35.4	-1.6
JAY	Jayapura	12.29	280	S	S	16 24 03.7	+2.6
	baz=10,SNR=27						
COEN	Coen	13.15	226	eP	Pn	16 21 37.5	+1.4
	54nm,0.6s						
COEN	Coen	13.15	226	P	Pn	16 21 37.9	+1.7
	baz=10.0,SNR=7.1						
QIS	Mount Isa	20.25	218	P	Pn	16 23 02.5	-1.0
	baz=17,SNR=12						
KDU	Kakadu	21.56	247	P	P	16 23 12.5	-2.2
	baz=18,SNR=69						
KDU				S	S	16 26 35.4	-33
	baz=18,SNR=7.6						
MTN	Manton Dam	22.85	248	P	P	16 23 28.3	+0.1
	baz=20,SNR=12						
QLP	Quilpie	23.16	200	P	P	16 23 33.9	+2.9
	baz=21,SNR=4.4						
WRAB	Tennant Creek	23.44	228	eP	P	16 23 33.3	-0.4
	19nm,0.6s						
WRA	Warramunga Arr	23.45	228	P	P	16 23 33.5	-0.3
	12nm,0.5s,baz=51,slow=10,SNR=118						
WRA				S	S	16 27 40.0	+0.1
	1.2nm,0.8s,baz=45,slow=17,SNR=4.8						
WRA	Warramunga Arr	23.45	228	P	P	16 23 33.5	-0.3
WRA				S	S	16 27 40.0	+0.1
AS31	Alice Springs	26.16	222	eP	P	16 23 58.1	-0.2
ASAR	Alice Springs	26.16	222	P	P	16 23 58.5	+0.1
	2.8nm,0.4s,baz=55,slow=8.8,SNR=39						
ASAR				pP	pP	16 24 19.6	-0.9
	3.3nm,0.7s,baz=55,slow=9.8,SNR=6.6						
ASAR	Alice Springs	26.16	222	P	P	16 23 58.5	+0.1
ASAR				pP	pP	16 24 19.6	-0.9
STKA	Stephens Creek	28.92	200	P	P	16 24 23.9	+1.0
FITZ	Fitzroy Crossi	29.67	241	P	P	16 24 27.9	-1.8
	4.8nm,0.5s,baz=99,slow=7.9,SNR=22						
FITZ				LR	LR	16 37 21.4	
	comp=Z,94nm,21.4s,baz=36,slow=38						
FITZ	Fitzroy Crossi	29.67	241	eP	P	16 24 27.9	-1.8
	8.8nm,0.9s						
FITZ	Fitzroy Crossi	29.67	241	P	P	16 24 28.3	-1.3
	baz=26,SNR=16						
PCI	Palu	33.15	276	S	S	16 29 42.2	-31
	baz=31,SNR=5.4						
FORT	Forrest	34.80	219	P	P	16 25 14.8	+0.4
	baz=32,SNR=14						
MBWA	Marble Bar	35.98	240	eP	P	16 25 23.1	-1.5
	4.3nm,0.4s						
NIUE	Niue	39.01	115	P	P	16 26 25.3	+35
	baz=41,SNR=3.2						
MEEK	Meekatharra	39.21	233	P	P	16 25 51.3	-0.5
	baz=36,SNR=26						
MORW	Morawa	42.35	231	P	P	16 26 16.8	-0.8
	baz=39,SNR=15						
BLDU	Ballidu	42.59	229	P	P	16 26 18.8	-0.7
	baz=39,SNR=9.6						
JNU	Nakatsue	43.06	333	P	P	16 26 22.8	-0.5
	4.6nm,0.7s,baz=155,slow=4.4,SNR=4.6						
JNU	Nakatsue	43.06	333	P	P	16 26 22.8	-0.5
KSRS	Korea Array	48.00	333	P	P	16 27 02.5	+0.5
	0.5nm,0.5s,baz=148,slow=9.1,SNR=3.0						
KSAR	Wonju Array Be	48.01	333	P	P	16 27 02.5	+0.4
PETK	Petropavlovsk-	57.84	3	P	P	16 28 13.8	-0.3
	0.6nm,0.4s,baz=172,slow=8.0,SNR=7.1						
PETK	Petropavlovsk-	57.84	3	P	P	16 28 13.8	-0.3
CMAR	Chiang Mai Arr	57.88	295	P	P	16 28 14.7	-0.4
	0.6nm,0.7s,baz=122,slow=5.9,SNR=5.5						
CMAR	Chiang Mai Arr	57.88	295	P	P	16 28 14.7	-0.4
MKAR	Makanchi Array	80.33	319	P	P	16 30 34.1	+0.8
	0.3nm,0.6s,baz=91,slow=7.3,SNR=4.0						
MKAR	Makanchi Array	80.33	319	P	P	16 30 34.1	+0.8
ZALV	Zalesovo Beam	81.16	326	P	P	16 30 37.3	-0.2
	0.5nm,0.5s,baz=104,slow=6.5,SNR=2.9						
ZALV	Zalesovo Beam	81.16	326	P	P	16 30 37.3	-0.2
ILAR	Eielson Array	82.15	22	P	P	16 30 41.8	-0.8
	1.2nm,0.6s,baz=246,slow=5.6,SNR=16						
ILAR	Eielson Array	82.15	22	P	P	16 30 41.8	-0.8
NVAR	Mina Array Bea	92.08	52	P	P	16 31 32.5	+0.8
	0.2nm,0.3s,baz=248,slow=6.3,SNR=2.6						
NVAR	Mina Array Bea	92.08	52	P	P	16 31 32.5	+0.8
YKA	Yellowknife Ar	95.42	28	P	P	16 31 46.2	+0.1
	0.5nm,0.6s,baz=271,slow=5.0,SNR=11						
YKA	Yellowknife Ar	95.42	28	P	P	16 31 46.2	+0.1
PDAR	Pinedale Array	98.84	48	P	Pdif	16 32 03.0	+0.5
	0.7nm,0.9s,baz=288,slow=4.4,SNR=4.3						
PDAR	Pinedale Array	98.84	48	P	Pdif	16 32 03.0	+0.5
TORD	Torodi Ar. Bea	150.31	288	PKPbc	PKPbc	16 38 13.4	-0.4
	0.9nm,0.5s,baz=68,slow=2.1,SNR=8.4						
TORD	Torodi Ar. Bea	150.31	288	PKPbc	PKPbc	16 38 13.4	-0.4

*ISCJB **10** 16:21:36.2±0.4, 37°.91N±0°.03×140°.82E±0°.05, h94^{km}±3^{km}, mb3.5/10, Error ellipse: s-maj=7.4km s-min=4.8km az=31.9*
*JMA **10** 16:21:37.4, 37°.92N×140°.81E, h85^{km}±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s229.00000°, δ63.00000°, λ-115.00000°. NP2: ϕ_s95.00000°, δ36.00000°, λ-50.00000°. Principal axes: T Plg15.0000°, Azm337.0000°; N Plg22.0000°, Azm241.0000°; P Plg63.0000°, Azm98.0000°;*
JMA Felt II J1.
*IDC **10** 16:21:38.1±2.2, 37°.94N×140°.77E, h96^{km}±19^{km}, mb3.4/10, mb1 3.6/13, mb1mx3.5/27, mbtmp3.4/13 Error ellipse: s-maj=21.3km s-min=18.8km az=132.0*
ISC 10 16:21:36.9±0.7, **37°.88N**±0°.04×**140°.83E**±0°.05, **h87**^{km}±5^{km}, **n30**, σ**0ˢ.95**/46, **mb3.6**/10, **4C-9D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMM	Marumori	0.03	251	⇓P	Pn	16 21 49.5	+0.3
JMM				S	Sn	16 21 58.5	+0.2
JOU	Okura	0.51	345	⇓P	Pn	16 21 51.7	+0.2
JOU				S	Sn	16 22 02.5	+0.3
JFK	Kawauchi	0.51	176	⇑P	Pn	16 21 52.3	+0.8
JFK				S	Sn	16 22 03.0	+0.7
JFT	Otama	0.53	228	⇓P	Pn	16 21 52.2	+0.5
JFT				S	Sn	16 22 03.6	+1.0
JYS	Shirataka	0.70	300	⇓P	Pn	16 21 53.2	+0.1
JYS				S	Sn	16 22 05.3	+0.1
JIO	Ouri	0.71	35	⇓P	Pn	16 21 53.4	+0.2
JIO				eS	Sn	16 22 05.0	-0.4
JFY	Yanaizu	1.01	243	⇓P	Pn	16 21 57.1	+0.5
JFY				S	Sn	16 22 11.8	+0.5
JYK	Kaneyama	1.10	340	⇑P	Pn	16 21 57.7	0.0
JYK				S	Sn	16 22 12.6	-0.6
JMK	Ichinoseki	1.12	16	⇑P	Pn	16 21 58.0	+0.2
JMK				eS	Sn	16 22 13.7	+0.3
JYA	Atsumi	1.13	309	⇓P	Pn	16 21 58.0	0.0
JYA				S	Sn	16 22 13.5	-0.3
JNS	Sasagawa	1.20	268	⇓P	Pn	16 21 59.0	+0.2
JNS				S	Sn	16 22 15.4	+0.2
JAW	Awa shima	1.38	295	⇓P	Pn	16 22 00.8	-0.1
JAW				S	Sn	16 22 18.6	-0.5
JOM	Ohasama	1.63	13	⇑P	Pn	16 22 04.8	+0.5
JOM				S	Sn	16 22 25.1	+0.1
MJAR	Matsushiro Arr	2.48	238	P	Pn	16 22 16.9	+1.4
	6.8nm,0.3s,baz=36,slow=12,SNR=121						
MAT	Matsushiro	2.48	238	P	Pn	16 22 16.8	+1.3
MAT				S	Sn	16 22 45.8	+0.8
JHJ	Hachijo jima 2	4.82	191	P	Pn	16 22 45.5	-1.6
	21nm,0.3s,baz=90,slow=20,SNR=4.0						
JHJ				S	Sn	16 23 37.6	-4.1
	108nm,0.3s,baz=88,slow=23,SNR=8.4						
ASAJ	Asahikawa	6.38	12	P	Pn	16 23 06.8	-1.4
	2.9nm,0.3s,baz=213,slow=10,SNR=22						
ASAJ				S	Sn	16 24 20.4	+1.0
	1.4nm,0.3s,baz=190,slow=18,SNR=2.9						
USRK	Ussuriysk Arra	9.18	316	P	Pn	16 23 48.3	+1.9
	0.6nm,0.3s,baz=130,slow=14,SNR=12						
SONM	Songino Array	26.94	303	P	P	16 27 09.9	-0.2
	0.4nm,0.4s,baz=102,slow=9.0,SNR=10						
ZALV	Zalesovo Beam	41.01	312	P	P	16 29 10.1	-1.0
	0.2nm,0.4s,baz=81,slow=8.9,SNR=3.2						
MKAR	Makanchi Array	43.28	301	P	P	16 29 29.6	-0.3
	0.2nm,0.5s,baz=84,slow=9.4,SNR=5.5						
ILAR	Eielson Array	49.03	33	P	P	16 30 15.2	+0.6
	0.8nm,0.6s,baz=266,slow=5.8,SNR=15						
ASAR	Alice Springs	61.56	187	P	P	16 31 45.3	+0.3
	0.2nm,0.7s,baz=1.4,slow=7.4,SNR=2.2						
ARCES	ARCESS Array B	63.05	339	P	P	16 31 54.0	-0.4
	3.8nm,1.0s,baz=57,slow=9.8,SNR=5.8						
FINES	FINESS Array B	67.85	332	P	P	16 32 24.6	-0.8
	0.5nm,0.5s,baz=26,slow=11,SNR=3.2						
NVAR	Mina Array Bea	74.85	53	P	P	16 33 08.8	+0.4
	0.3nm,0.5s,baz=273,slow=6.2,SNR=3.0						
PDAR	Pinedale Array	77.41	45	P	P	16 33 22.7	0.0
	0.9nm,0.5s,baz=257,slow=1.6,SNR=8.8						
TXAR	Lajitas Array	89.97	52	P	P	16 34 27.1	+0.2
	0.5nm,0.7s,baz=308,slow=2.4,SNR=6.5						
QSPA	South Pole Qui	127.62	180	PKP	PKPdf	16 40 30.3	-0.7
	0.5nm,0.5s,baz=314,slow=8.6,SNR=6.2						
LPAZ	La Paz	146.65	58	PKPbc	PKPbc	16 41 09.9	+0.2
	1.1nm,0.5s,baz=270,slow=2.4,SNR=5.4						

IDC 10 16:23:33.1±0.8, **1°.86S**×**139°.18E**, **h0**^{km}, **mb4.2**/9, **mb1 4.4**/12, **mb1mx4.2**/21, **mbtmp4.3**/12, **ML4.7**/2, **MS3.6**/4, **Ms1 3.6**/4, **ms1mx3.0**/35, **Error ellipse: s-maj=32.1km s-min=14.9km az=74.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	10.92	134	Pn	Pn	16 26 10.1	-0.6
	0.3nm,0.3s,baz=342,slow=6.4,SNR=2.5						
WRA	Warramunga Arr	18.58	194	P	P	16 27 51.3	-0.7
	2.9nm,0.3s,baz=19,slow=12,SNR=37						
CTA	Charters Tower	19.39	160	P	Pn	16 28 01.9	-0.1
	1.5nm,0.3s,baz=334,slow=11,SNR=18						
KAPI	Kappang	19.64	260	LR	LR	16 36 45.5	
	comp=Z,65nm,20.0s,baz=14,slow=40						
FITZ	Fitzroy Crossi	20.91	219	P	P	16 28 17.3	-0.1
	1.5nm,0.4s,baz=31,slow=11,SNR=3.5						
FITZ				S	S	16 32 04.2	-7.2
	5.6nm,0.8s,baz=0.0,slow=17,SNR=3.4						
HNR	Honiara	21.98	111	LR	LR	16 35 57.5	
	comp=Z,269nm,19.5s,baz=95,slow=34						
ASAR	Alice Springs	22.27	193	P	P	16 28 31.9	-0.2
	12nm,0.6s,baz=25,slow=10,SNR=54						
STKA	Stephens Creek	29.94	176	P	P	16 29 42.8	-0.3
	2.6nm,0.5s,baz=5.2,slow=12,SNR=11						
DZM	Mont Dzumac	33.26	129	LR	LR	16 43 29.3	
	comp=Z,155nm,18.3s,baz=54,slow=36						
CMAR	Chiang Mai Arr	44.43	299	P	P	16 31 46.5	+0.2
	1.4nm,0.9s,baz=114,slow=6.4,SNR=12						
SONM	Songino Array	57.16	334	P	P	16 33 21.6	-0.3
	0.3nm,0.8s,baz=149,slow=6.0,SNR=2.6						
SONM				LR	LR	16 55 07.9	
	comp=Z,43nm,20.9s,baz=283,slow=33						
MKAR	Makanchi Array	69.41	322	P	P	16 34 43.5	+0.5
	1.2nm,0.5s,baz=111,slow=7.9,SNR=32						
ZALV	Zalesovo Beam	71.44	330	P	P	16 34 54.7	-0.6
	0.6nm,0.4s,baz=123,slow=5.5,SNR=5.1						
VNDA	Vanda	76.58	175	P	P	16 35 24.9	0.0
	3.3nm,0.6s,baz=325,slow=7.6,SNR=7.7						
ILAR	Eielson Array	84.87	24	P	P	16 36 08.7	-0.9
	0.5nm,0.8s,baz=270,slow=4.5,SNR=5.0						
QSPA	South Pole Qui	88.08	180	P	P	16 36 25.0	-0.5
	2.8nm,0.6s,baz=317,slow=2.1,SNR=32						
TORD	Torodi Ar. Bea	136.46	287	PKP	PKPdf	16 42 59.6	+1.4
	0.3nm,0.7s,baz=88,slow=2.8,SNR=2.5						
DBIC	Dimbokro	143.83	279	PKP	PKPbc	16 43 09.0	-0.1
	3.2nm,0.7s,baz=38,slow=4.3,SNR=3.8						
LPAZ	La Paz	147.55	125	PKPbc	PKPbc	16 43 22.0	+0.8
	2.0nm,0.7s,baz=277,slow=6.2,SNR=8.7						

*IDC **10** 16:28:47.8±0.9, 4°.25N×126°.73E, h0^{km}, mb3.9/9, mb1 4.1/9, mb1mx3.9/23, mbtmp3.9/9, Error ellipse: s-maj=50.4km s-min=15.4km az=68.0*
*ISCJB **10** 16:28:52.2±0.6, 4°.14N±0°.10×126°.4E±0°.1, h45^{km}, mb3.9/10, Error ellipse: s-maj=23.2km s-min=10.2km az=151.1*
*NEIC **10** 16:28:52.9±0.5, 4°.16N×126°.54E, h35^{km}, mb4.5/1, Error ellipse: s-maj=16.7km s-min=7.6km az=62.0*
ISC 10 16:28:54.3±0.8, **4°.1N**±0°.1×**126°.5E**±0°.2, **h45**^{km}, **n22**, σ**1ˢ.00**/24, **mb4.0**/10, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	3.83	325	⇑iP	Pn	16 29 52.9	+2.1
KKM	Kota Kinabalu	10.39	281	eP	Pn	16 31 20.0	-0.9
FITZ	Fitzroy Crossi	22.05	182	P	P	16 33 47.1	+1.7
	2.2nm,0.6s,baz=0.0,slow=13,SNR=2.8						
FITZ	Fitzroy Crossi	22.05	182	P	P	16 33 45.5	+0.1
WRAB	Tennant Creek	25.08	162	eP	P	16 34 15.1	+0.2
	15nm,0.9s						
WRA	Warramunga Arr	25.09	162	P	P	16 34 14.9	-0.1
	5.8nm,0.8s,baz=339,slow=11,SNR=12						
WRA	Warramunga Arr	25.09	162	P	P	16 34 14.9	-0.1
ASAR	Alice Springs	28.51	166	P	P	16 34 46.1	+0.4
	0.7nm,0.6s,baz=343,slow=7.1,SNR=5.7						
ASAR	Alice Springs	28.51	166	P	P	16 34 46.1	+0.4
CMAR	Chiang Mai Arr	30.47	300	P	P	16 35 03.1	0.0
	0.9nm,0.7s,baz=119,slow=7.7,SNR=8.3						
CMAR	Chiang Mai Arr	30.47	300	P	P	16 35 03.1	0.0
STKA	Stephens Creek	38.54	159	P	P	16 36 12.8	+0.1
	3.7nm,0.8s,baz=24,slow=4.7,SNR=6.5						
STKA	Stephens Creek	38.54	159	P	P	16 36 12.8	+0.1
SONM	Songino Array	46.89	342	P	P	16 37 20.4	0.0
	0.5nm,0.6s,baz=154,slow=6.6,SNR=5.0						
SONM	Songino Array	46.89	342	P	P	16 37 20.4	0.0
MK31	Makanchi Array	57.12	325	eP	P	16 38 35.9	-0.5
MKAR	Makanchi Array	57.12	325	P	P	16 38 36.3	-0.1
	0.9nm,0.4s,baz=115,slow=7.7,SNR=21						
MKAR				PcP	PcP	16 39 31.9	+1.1
	0.5nm,0.6s,baz=133,slow=3.2,SNR=6.0						
MKAR	Makanchi Array	57.12	325	P	P	16 38 36.3	-0.1
MKAR				PcP	PcP	16 39 31.9	+1.1
ZALV	Zalesovo Beam	60.16	333	P	P	16 38 56.6	-0.8
	0.9nm,0.4s,baz=129,slow=7.2,SNR=6.8						
ZALV	Zalesovo Beam	60.16	333	P	P	16 38 56.6	-0.8
ILAR	Eielson Array	84.91	25	P	P	16 41 22.3	-2.0
	0.2nm,0.6s,baz=279,slow=5.6,SNR=3.4						
ILAR	Eielson Array	84.91	25	P	P	16 41 22.3	-2.0

IDC 10 16:34:58.5±2.6, 10°32S×161°14E, h75km±18km, mb3.5/7, mb1 3.6/8, mb1mx3.5/20, mbtmp3.5/8, MS3.3/3, Ms1 3.3/3, ms1mx3.0/13, Error ellipse: s-maj=33.5km s-min=17.5km az=70.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.47**	**307**	P	Pn	16 35 22.7	-0.5
	77nm,0.3s,baz=165,slow=4.7,SNR=110						
HNR				S	Sn	16 35 41.9	0.0
	1µm,0.3s,baz=144,slow=19,SNR=52						
DZM	**Mont Dzumac**	**12.75**	**157**	P	Pn	16 37 56.7	-0.2
	0.5nm,0.3s,baz=320,slow=19,SNR=15						
DZM				S	Sn	16 40 12.4	-4.7
	0.2nm,0.3s,baz=301,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**27.55**	**247**	P	P	16 40 38.8	+0.2
	0.5nm,0.5s,baz=74,slow=9.1,SNR=9.7						
GUMO	**Guam**	**28.72**	**325**	LR	LR	16 49 41.5	
	comp=Z,64nm,21.7s,baz=95,slow=31						
ASAR	**Alice Springs**	**29.16**	**239**	P	P	16 40 52.2	-0.7
	0.1nm,0.4s,baz=64,slow=10,SNR=5.7						
KSRS	**Korea Array**	**56.81**	**329**	P	P	16 44 35.0	-0.1
	2.9nm,1.1s,baz=137,slow=6.8,SNR=4.0						
KSRS				LR	LR	17 05 20.6	
	comp=Z,24nm,20.4s,baz=74,slow=32						
USRK	**Ussuriysk Arra**	**60.36**	**336**	P	P	16 44 59.6	0.0
	2.4nm,0.8s,baz=129,slow=8.7,SNR=4.4						
VNDA	**Vanda**	**67.19**	**180**	P	P	16 45 44.5	+0.4
	1.6nm,0.7s,baz=14,slow=10.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**67.69**	**295**	LR	LR	17 17 21.2	
	comp=Z,18nm,18.3s,baz=195,slow=38						
SONM	**Songino Array**	**75.45**	**325**	P	P	16 46 33.7	-0.9
	0.5nm,0.7s,baz=142,slow=5.8,SNR=5.9						
MKAR	**Makanchi Array**	**89.92**	**318**	P	P	16 47 51.1	+1.7
	0.2nm,0.8s,baz=107,slow=3.6,SNR=2.9						

MEX 10 16:38:41.4±0.7, 18°22N×100°67W, h53km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.32**	**80**	*e*P	Pn	16 38 49.0	-2.0
ARIG				*i* S	Sn	16 38 56.2	-1.6
ZIIG	**Zihuatanejo**	**0.97**	**231**	*e*P	Pn	16 38 57.2	-1.6
ZIIG				*i* S	Sn	16 39 10.1	-1.6
MEIG	**Mezcala**	**1.04**	**106**	*i* P	Pn	16 38 58.5	-1.4
MEIG				*i* S	Sn	16 39 11.4	-2.2
PLIG	**Platanillo**	**1.12**	**81**	*i* P	Pn	16 38 59.8	-1.2
PLIG				*i* S	Sn	16 39 13.8	-1.7
CAIG	**El Cayaco**	**1.23**	**162**	*e*P	Pn	16 39 00.4	-2.0
CAIG				*i* S	Sn	16 39 16.1	-1.8
YAIG	**Yautepec**	**1.65**	**67**	*e*P	Pn	16 39 07.0	-1.2
YAIG				*i* S	Sn	16 39 26.2	-2.3
PPM	**Popocatepetl**	**2.11**	**66**	*i* P	Pn	16 39 14.4	-0.6
PPM				*i* S	Sn	16 39 37.6	-2.9
UTMO	**Huajuapan**	**2.76**	**98**	*i* P	Pn	16 39 22.9	-0.5
UTMO				*i* S	Sn	16 39 53.6	-2.2
PNIG	**Pinotepa**	**3.04**	**126**	*i* P	Pn	16 39 25.4	-1.6
PNIG				*i* S	Sn	16 39 59.9	-2.4

IDC 10 16:43:39.5±2.4, 4°33N×123°32E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=337.5km s-min=26.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.44**	**156**	P	P	16 49 18.5	+0.1
	0.1nm,0.3s,baz=335,slow=9.7,SNR=2.8						
ASAR	**Alice Springs**	**29.68**	**160**	P	P	16 49 47.1	-0.1
	0.2nm,0.7s,baz=337,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**55.15**	**327**	P	P	16 53 13.8	-0.1
	0.2nm,0.4s,baz=123,slow=7.7,SNR=8.5						

*ATH **10** 16:49:52.9, 34°.98N×24°.33E, h34km±2km, MD3.4/12*
*IDC **10** 16:49:52.6±4.5, 35°.00N×24°.37E, h38km±41km, mb3.3/4, mb1 3.4/8, mb1mx3.2/29, mbtmp3.3/8, ML3.4/4, Error ellipse: s-maj=51.1km s-min=24.0km az=137.0*
*CSEM **10** 16:49:53.4±0.2, 34°.97N×24°.30E, h23km±2km, MD3.4, Error ellipse: s-maj=6.3km s-min=3.1km az=20.0*
*THE **10** 16:49:54.4, 35°.01N×24°.34E, h15km, ML3.2/1, Error ellipse: s-maj=0.9km s-min=0.5km az=234.0*

ISC 10 16:49:54.0±1.0, 35°.01N±0°.03×24°.35E±0°.02, h17km±8km, n46, σ0s84/66, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.27**	**231**	P	Pg	16 49 59.9	-0.1
GVD				S	Sb	16 50 05.0	+0.3
GVD	**Gavdhos**	**0.27**	**231**	*e*PB	Pg	16 49 59.8	-0.2
GVD				*e*SB	Sb	16 50 06.2	+1.5
GVD	**Gavdhos**	**0.27**	**231**	P	Pg	16 49 59.9	-0.1
GVD				S	Sb	16 50 05.0	+0.3
SIVA	**Sivas**	**0.38**	**89**	P	Pg	16 50 01.9	+0.1
SIVA				S	Sb	16 50 08.3	+0.5
SIVA	**Sivas**	**0.38**	**89**	*e*PB	Pg	16 50 02.1	+0.3
SIVA				*e*SB	Sb	16 50 09.2	+1.4
SIVA	**Sivas**	**0.38**	**89**	*e*Pb	Pg	16 50 02.1	+0.3
SIVA				S	Sb	16 50 08.3	+0.5
SIVA				*e*Sb	Sb	16 50 09.2	+1.4
VAM	**Vamos**	**0.41**	**343**	P	Pb	16 50 02.7	-0.1
VAM				S	Sb	16 50 09.2	+0.4
VAM	**Vamos**	**0.41**	**343**	*e*PB	Pb	16 50 02.7	-0.1
VAM				*e*SB	Sb	16 50 10.8	+2.0
VAM	**Vamos**	**0.41**	**343**	P	Pb	16 50 02.7	-0.1
VAM				S	Sb	16 50 09.2	+0.4
VAM				*e*Sb	Sb	16 50 10.8	+2.0
IDI	**Anoyia**	**0.52**	**58**	P	Pg	16 50 04.5	0.0
IDI				S	Sb	16 50 13.1	+1.1
IDI	**Anoyia**	**0.52**	**58**	*e*PN	Pg	16 50 04.4	0.0
IDI				*e*SN	Sb	16 50 13.3	+1.3
IDI	**Anoyia**	**0.52**	**58**	P	Pg	16 50 04.5	0.0
IDI				S	Sb	16 50 13.1	+1.1
KARN	**Karanos**	**0.53**	**318**	P	Pg	16 50 04.3	-0.2
KARN				S	Sb	16 50 12.4	+0.4
KARN	**Karanos**	**0.53**	**318**	*e*PN	Pg	16 50 04.0	-0.5
KARN				*e*SN	Sb	16 50 13.4	+1.4
KARN	**Karanos**	**0.53**	**318**	*e*Pn	Pg	16 50 04.0	-0.5
KARN	**Karanos**	**0.53**	**318**	P	Pg	16 50 04.3	-0.2
KARN				S	Sb	16 50 12.4	+0.4
KARN				*e*Sn	Sb	16 50 13.4	+1.4
LAST	**Lasithi**	**0.94**	**80**	P	Pg	16 50 11.4	-0.4
LAST				S	Sg	16 50 25.0	+0.3
LAST	**Lasithi**	**0.94**	**80**	*e*PN	Pb	16 50 11.3	-0.5
LAST	**Lasithi**	**0.94**	**80**	P	Pb	16 50 11.4	-0.4
LAST				S	Sg	16 50 25.0	+0.3
NPS	**Neapolis**	**1.07**	**76**	P	Pb	16 50 13.8	-0.2
NPS				S	Sn	16 50 29.1	+0.6
NPS	**Neapolis**	**1.07**	**76**	*e*PN	Pb	16 50 13.9	-0.1
NPS	**Neapolis**	**1.07**	**76**	*e*Pn	Pb	16 50 13.9	-0.1
NPS				S	Sn	16 50 29.1	+0.6
ZKR	**Zakros**	**1.54**	**86**	P	Pn	16 50 20.5	-0.1
ZKR				S	Sn	16 50 40.0	-0.1
ZKR	**Zakros**	**1.54**	**86**	P	Pn	16 50 20.5	-0.1
ZKR				S	Sn	16 50 40.0	-0.1
KYTH	**Kithira**	**1.66**	**320**	P	Pn	16 50 22.2	0.0
KYTH	**Kithira**	**1.66**	**320**	*e*PB	Pn	16 50 22.8	+0.6
KYTH	**Kithira**	**1.66**	**320**	P	Pn	16 50 22.2	0.0
KYTH	**Kithira**	**1.66**	**320**	*e*Pb	Pn	16 50 22.8	+0.6
VLI	**Veliai**	**2.05**	**327**	*e*PB	Pn	16 50 29.2	+1.5
VLI	**Veliai**	**2.05**	**327**	*e*Pb	Pn	16 50 29.2	+1.5
APE	**Apeiranthos**	**2.27**	**25**	P	Pn	16 50 30.0	-0.6
APE				S	Sn	16 50 58.0	-0.2
APE	**Apeiranthos**	**2.27**	**25**	*e*PN	Pn	16 50 29.0	-1.6
APE	**Apeiranthos**	**2.27**	**25**	*e*Pn	Pn	16 50 29.0	-1.6
APE	**Apeiranthos**	**2.27**	**25**	P	Pn	16 50 30.0	-0.6
APE				S	Sn	16 50 58.0	-0.2
DID	**Didima**	**2.65**	**341**	*e*PN	Pn	16 50 35.1	-0.8
DID	**Didima**	**2.65**	**341**	*e*Pn	Pn	16 50 35.1	-0.8
GUR	**Goura**	**3.34**	**332**	*e*PN	Pn	16 50 44.8	-0.6
GUR	**Goura**	**3.34**	**332**	*e*Pn	Pn	16 50 44.8	-0.6
BRTR	**Keskin Array B**	**8.77**	**55**	Pn	Pn	16 51 58.0	-1.9
	0.1nm,0.3s,baz=228,slow=14,SNR=3.7						
MMAI	**Mount Meron Ar**	**9.39**	**99**	Pn	Pn	16 52 04.1	-4.5
	0.6nm,0.3s,baz=270,slow=9.2,SNR=4.1						
AKASG	**Malin Array Be**	**16.08**	**11**	Pn	Pn	16 53 33.9	-5.2
	0.6nm,0.3s,baz=198,slow=10.0,SNR=3.4						
KBZ	**Khabaz**	**16.75**	**53**	Pn	**Pn**	**16 53 46.6**	**-1.0**
	0.1nm,0.3s,baz=250,slow=15,SNR=3.8						
TORD	**Torodi Ar. Bea**	**29.89**	**229**	P	P	16 55 56.9	-3.9
	0.3nm,0.6s,baz=34,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**44.41**	**56**	P	P	16 57 59.4	-4.3
	0.2nm,0.5s,baz=267,slow=8.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.59**	**46**	P	P	16 58 07.8	-5.1
	0.5nm,0.4s,baz=265,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**60.09**	**50**	P	P	16 59 56.4	-3.9
	0.5nm,0.6s,baz=288,slow=7.3,SNR=6.0						

*IDC **10** 16:50:26.2±3.0, 8°.76S×112°.34E, h0km, mb2.9/3, mb1 3.1/3, mb1mx3.0/20, mbtmp3.0/3, Error ellipse: s-maj=173.7km s-min=26.5km az=48.0*
*ISCJB **10** 16:50:31.4±1.2, 9°.39S±0°.08×112°.00E±0°.08, h40km, mb3.0/3, Error ellipse: s-maj=13.9km s-min=8.7km az=42.2*
*DJA **10** 16:50:33.4±1.2, 9°.5S±9°×11°.2E±°, h29km±16km, M3.3/7, MLv3.3/7*

ISC 10 16:50:30.9±1.5, 9°.4S±0°.1×111°.91E±0°.08, h40km, n10, σ1s49/12, mb3.1/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.35**	**23**	P	Pn	16 50 54.4	+1.1
PWJI	**Pagerwojo**	**1.38**	**356**	P	Pn	16 50 54.2	+0.5
PWJI				S	Sn	16 51 10.7	-0.1
PCJI	**Pacitan**	**1.41**	**329**	P	Pn	16 50 54.9	+0.8
SJI	**Sawahan**	**1.67**	**355**	P	Pn	16 50 58.8	+1.0
GMJI	**Gumukmas**	**1.89**	**53**	P	Pn	16 51 00.4	-0.3
BLJI	**Banyuglugur**	**2.35**	**45**	P	Pn	16 51 09.7	+2.7
JAGI	**Jajag, Banyuwa**	**2.40**	**67**	P	Pn	16 51 08.7	+1.0
JAGI				S	Sn	16 51 34.0	-2.0
WRA	**Warramunga Arr**	**24.06**	**118**	P	P	16 55 43.2	+0.6
	0.4nm,0.7s,baz=294,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**25.35**	**127**	P	P	16 55 55.5	+1.1
	0.1nm,0.7s,baz=292,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**61.88**	**337**	P	P	17 00 44.5	-1.7
	0.2nm,0.5s,baz=153,slow=5.8,SNR=3.8						

*NEIC **10** 16:53:15.9, 19°.39N×66°.38W, h102km, MD3.5(RSPR), After RSPR.*

RSPR 10 16:53:15.9, 19°.39N×66°.38W, h102km±12km, MD3.5/3, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.10**	**199**	*e*P	Pn	16 53 36.9	-0.7
AOPR	**Arecibo Observ**	**1.10**	**199**	*e*S	Sn	16 53 53.6	-0.3
AOPR	**Arecibo Observ**	**1.10**	**199**	P	Pn	16 53 36.9	-0.7
AOPR				*e*S	Sn	16 53 53.6	-0.3
LRS	**Lares**	**1.18**	**202**	*e*Pn	Pn	16 53 37.4	-1.2
SJG	**San Juan**	**1.29**	**170**	Pn	Pn	16 53 39.9	+0.1
HUMP	**Col San Antoni**	**1.34**	**158**	*e*S	Sn	16 53 59.1	+0.2
OBIP	**Obispado Ponce**	**1.36**	**189**	P	Pn	16 53 39.5	-1.0
LSP	**Las Mesas**	**1.38**	**209**	*e*Pn	Pn	16 53 40.7	-0.2
MTP	**Monte Pirata**	**1.51**	**149**	*e*P	Pn	16 53 42.6	+0.3
MTP	**Monte Pirata**	**1.51**	**149**	*e*S	Sn	16 54 01.7	-0.7
MTP	**Monte Pirata**	**1.51**	**149**	*e*P	Pn	16 53 42.6	+0.3
MTP				*e*S	Sn	16 54 01.7	-0.7
CRPR	**Cabo Rojo, PR**	**1.54**	**207**	*e*P	Pn	16 53 43.7	+0.9
STVI	**Saint Thomas**	**1.70**	**127**	*e*P	Pn	16 53 45.1	+0.3
STVI	**Saint Thomas**	**1.70**	**127**	*e*S	Sn	16 54 06.5	-0.2
STVI	**Saint Thomas**	**1.70**	**127**	*e*P	Pn	16 53 45.1	+0.3
STVI				*e*S	Sn	16 54 06.5	-0.2

*DDA **10** 17:11:50.0, 34°.49N×24°.84E, h25km, MD3.9*
*HLW **10** 17:11:53.2, 35°.34N×25°.34E, h33km±16km, Md4.0, Ml3.5*
*ISK **10** 17:11:54.4, 34°.48N×25°.21E, h51km, MD4.3*
*BJI **10** 17:11:54.4, 34°.60N×25°.40E, h10km, mb4.6/4*
*ISCJB **10** 17:11:55.3±0.5, 34°.75N±0°.02×25°.38E±0°.02, h10km±3km, mb4.3/41, MS5.2/1, Error ellipse: s-maj=3.3km s-min=2.2km az=34.5*
*IDC **10** 17:11:56.1±0.7, 34°.94N×25°.36E, h0km, mb4.1/16, mb1 4.2/23, mb1mx4.1/34, mbtmp4.1/23, ML3.9/6, MS2.8/3, Ms1 2.8/3, ms1mx2.4/49, Error ellipse: s-maj=18.9km s-min=12.9km az=2.0*
*NEIC **10** 17:11:57.4±0.3, 34°.86N×25°.32E, h10km, mb4.3/24, Error ellipse: s-maj=6.6km s-min=3.6km az=192.0*
*ATH **10** 17:11:57.5, 34°.84N×25°.33E, h12km±2km, ML3.7*
*CSEM **10** 17:11:57.1±0.1, 34°.74N×25°.33E, h10km, mb4.3/10, Mw3.9, Error ellipse: s-maj=3.9km s-min=2.2km az=33.0*
*THE **10** 17:11:58.4, 34°.93N×25°.31E, h0km, ML3.8/4, Error ellipse: s-maj=1.2km s-min=0.4km az=166.0*
*MOS **10** 17:11:59.5±1.1, 34°.99N×25°.25E, h33km, mb4.4/19, Error ellipse: s-maj=7.8km s-min=5.4km az=80.3*

ISC 10 17:11:57.2±0.9, 34°.82N±0°.03×25°.33E±0°.02, h10km±5km, n394, σ1s31/439, mb4.2/41, 3C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.36**	**19**	P	Pg	17 12 03.8	-0.6
LAST				S	Sg	17 12 08.8	-0.4
LAST	**Lasithi**	**0.36**	**19**	*e*PG	Pg	17 12 04.1	-0.3
LAST				*e*SB	Sg	17 12 09.1	-0.1
LAST	**Lasithi**	**0.36**	**19**	*e*Pg	Pg	17 12 04.1	-0.3
SIVA	**Sivas**	**0.47**	**295**	P	Pg	17 12 06.9	+0.5
SIVA				S	Sb	17 12 14.2	-0.4
SIVA	**Sivas**	**0.47**	**295**	*e*PB	Pg	17 12 06.9	+0.5
SIVA				*e*SB	Sb	17 12 14.0	-0.6
SIVA	**Sivas**	**0.47**	**295**	P	Pg	17 12 06.9	+0.5
SIVA				S	Sb	17 12 14.2	-0.4
NPS	**Neapolis**	**0.50**	**27**	P	Pg	17 12 06.4	-0.5
NPS				S	Sg	17 12 13.7	+0.2
NPS	**Neapolis**	**0.50**	**27**	*e*PB	Pg	17 12 06.5	-0.5
NPS				*e*SB	Sg	17 12 13.3	-0.2
NPS	**Neapolis**	**0.50**	**27**	*e*Pb	Pg	17 12 06.5	-0.5
NPS				*e*Sb	Sg	17 12 13.3	-0.2
IDI	**Anoyia**	**0.59**	**322**	P	Pg	17 12 08.1	-0.6
IDI				S	Sg	17 12 15.9	-0.6
IDI	**Anoyia**	**0.59**	**322**	*e*Pg	Pg	17 12 07.7	-1.0
IDI				*e*Sg	Sg	17 12 15.4	-1.1
IDI	**Anoyia**	**0.59**	**322**	*e*Pg	Pg	17 12 07.7	-1.0
IDI				*e*Sg	Sg	17 12 15.4	-1.1
ZKR	**Zakros**	**0.78**	**68**	P	Pb	17 12 13.1	+0.2
ZKR				S	Sn	17 12 25.3	-0.8
ZKR	**Zakros**	**0.78**	**68**	*e*PG	Pg	17 12 12.1	-0.2
ZKR				*e*SB	Sb	17 12 23.8	+0.2
ZKR	**Zakros**	**0.78**	**68**	*e*Pg	Pg	17 12 12.1	-0.2
ZKR	**Zakros**	**0.78**	**68**	P	Pb	17 12 13.1	+0.2
ZKR				*e*Sb	Sb	17 12 23.8	+0.2
GVD	**Gavdhos**	**1.02**	**271**	P	Pn	17 12 17.6	0.0
GVD				S	Sn	17 12 33.0	+0.9
GVD	**Gavdhos**	**1.02**	**271**	*e*Pg	Pb	17 12 17.1	0.0
GVD	**Gavdhos**	**1.02**	**271**	*e*Pg	Pb	17 12 17.1	0.0
GVD	**Gavdhos**	**1.02**	**271**	P	Pn	17 12 17.6	0.0
VAM	**Vamos**	**1.10**	**303**	P	Pb	17 12 17.8	-0.5
VAM				S	Sg	17 12 33.2	+0.6
VAM	**Vamos**	**1.10**	**303**	*e*PG	Pb	17 12 17.4	-0.9
VAM	**Vamos**	**1.10**	**303**	*e*Pg	Pb	17 12 17.4	-0.9
VAM	**Vamos**	**1.10**	**303**	P	Pb	17 12 17.8	-0.5
VAM				S	Sg	17 12 33.2	+0.6
KARN	**Karanos**	**1.30**	**297**	P	Pn	17 12 21.3	-0.1
KARN				S	Sg	17 12 39.4	+0.4
KARN	**Karanos**	**1.30**	**297**	P	Pn	17 12 21.3	-0.1
KARN				S	Sg	17 12 39.4	+0.4
THR1	**Thera Island**	**1.55**	**4**	P	Pn	17 12 24.5	-0.4
THR1	**Thera Island**	**1.55**	**4**	P	Pn	17 12 24.5	-0.4
THR2	**Thira island,**	**1.62**	**3**	P	Pn	17 12 25.7	-0.2
THR2	**Thira island,**	**1.62**	**3**	P	Pn	17 12 25.7	-0.2
KARP	**Karpathos**	**1.66**	**64**	*e*PG	Pg	17 12 28.4	-0.7
KARP	**Karpathos**	**1.66**	**64**	*e*Pg	Pg	17 12 28.4	-0.7
APE	**Apeiranthos**	**2.25**	**4**	*e*PN	Pn	17 12 35.8	+1.3
APE				*e*SN	Sb	17 13 05.3	-0.6
APE	**Apeiranthos**	**2.25**	**4**	*e*P	Pn	17 12 34.6	+0.1
APE	**Apeiranthos**	**2.25**	**4**	P	Pn	17 12 34.7	+0.2
APE				S	Sn	17 13 02.3	-0.1
APE	**Apeiranthos**	**2.25**	**4**	*e*PN	Pb	17 12 37.1	-0.9
APE	**Apeiranthos**	**2.25**	**4**	P	Pn	17 12 34.7	+0.2
APE	**Apeiranthos**	**2.25**	**4**	*e*Pn	Pn	17 12 35.8	+1.3
APE				S	Sn	17 13 02.3	-0.1
APE				*e*Sn	Sb	17 13 05.3	-0.6
KYTH	**Kithira**	**2.37**	**309**	P	Pn	17 12 36.6	+0.4
KYTH	**Kithira**	**2.37**	**309**	*e*PB	Pb	17 12 38.0	-2.0
KYTH	**Kithira**	**2.37**	**309**	P	Pn	17 12 36.6	+0.4
KYTH	**Kithira**	**2.37**	**309**	*e*Pb	Pb	17 12 38.0	-2.0
ARG	**Arkhangelos**	**2.67**	**58**	P	Pn	17 12 41.2	+0.9
ARG	**Arkhangelos**	**2.67**	**58**	*e*PN	Pb	17 12 42.7	-2.4
ARG	**Arkhangelos**	**2.67**	**58**	P	Pn	17 12 41.2	+0.9
ARG	**Arkhangelos**	**2.67**	**58**	*e*Pn	Pb	17 12 42.7	-2.4
VLI	**Veliai**	**2.72**	**315**	P	Pn	17 12 41.2	+0.3
VLI				S	Sn	17 13 13.8	0.0
VLI	**Veliai**	**2.72**	**315**	*e*PB	Pn	17 12 42.0	+1.1
VLI	**Veliai**	**2.72**	**315**	P	Pn	17 12 41.2	+0.3
VLI	**Veliai**	**2.72**	**315**	*e*Pb	Pn	17 12 42.0	+1.1
VLI				S	Sn	17 13 13.8	0.0
BODT	**Bodrum**	**2.75**	**35**	*e*PN	Pn	17 12 42.8	+1.4
BODT	**Bodrum**	**2.75**	**35**	*e*Pn	Pn	17 12 42.8	+1.4
MLSB	**Milas**	**3.17**	**38**	*e*PN	Pn	17 12 48.6	+1.5
MLSB	**Milas**	**3.17**	**38**	*e*Pn	Pn	17 12 48.6	+1.5
DID	**Didima**	**3.17**	**328**	P	Pn	17 12 47.6	+0.4
DID				S	Sn	17 13 25.2	+0.1
DID	**Didima**	**3.17**	**328**	P	Pn	17 12 47.6	+0.4
DID				S	Sn	17 13 25.2	+0.1
NAIG	**Nisos Aigina**	**3.29**	**334**	*e*PN	Pn	17 12 51.8	+3.0
NAIG	**Nisos Aigina**	**3.29**	**334**	*e*Pn	Pn	17 12 51.8	+3.0
SLUM		**3.32**	**182**	AMP		17 13 00.0	
	comp=E,90µm,0.6s,logA/T=5.2,baz=182						
SLUM		**3.32**	**182**	P	Pn	17 12 50.2	+1.0
YER	**Yerkesik**	**3.33**	**45**	*e*PN	Pn	17 12 50.2	+0.9
YER	**Yerkesik**	**3.33**	**45**	*e*Pn	Pn	17 12 50.2	+0.9
TURN	**Turunc**	**3.35**	**51**	*i* P	Pn	17 12 46.3	-3.4
TURN				*i* S	Sn	17 13 24.0	-5.5
TURN	**Turunc**	**3.35**	**51**	*i* P	Pn	17 12 46.3	-3.4
ATH	**Athens Observa**	**3.41**	**338**	*e*PN	Pn	17 12 53.2	+2.8
ATH	**Athens Observa**	**3.41**	**338**	*e*Pn	Pn	17 12 53.2	+2.8
PTL	**Penteli**	**3.43**	**340**	*e*PN	Pn	17 12 53.8	+3.0
PTL	**Penteli**	**3.43**	**340**	*e*Pn	Pn	17 12 53.8	+3.0
AYDN	**Tasoluk**	**3.50**	**35**	*i* P	Pn	17 12 54.8	+3.0
AYDN				*i* S	Sn	17 13 32.2	-1.1
AYDN	**Tasoluk**	**3.50**	**35**	*i* P	Pn	17 12 54.8	+3.0
AYDN				*i* S	Sn	17 13 32.2	-1.1
AKAS	**Kas**	**3.76**	**67**	*i* P	Pn	17 12 56.2	+0.9
AKAS				*i* S	Sb	17 13 45.7	-3.7
AKAS	**Kas**	**3.76**	**67**	*i* P	Pn	17 12 56.2	+0.9
BLCB	**Balcova**	**3.81**	**21**	*e*PN	Pn	17 12 56.8	+0.8
BLCB	**Balcova**	**3.81**	**21**	*e*Pn	Pn	17 12 56.8	+0.8
IZM	**Izmir**	**3.89**	**23**	*e*PN	Pn	17 12 59.3	+2.2
IZM	**Izmir**	**3.89**	**23**	*e*Pn	Pn	17 12 59.3	+2.2
GUR	**Goura**	**3.94**	**323**	P	Pn	17 12 57.8	0.0
GUR				S	Sn	17 13 44.1	0.0
GUR	**Goura**	**3.94**	**323**	P	Pn	17 12 57.8	0.0
GUR				S	Sn	17 13 44.1	0.0
HMAT	**Matruh**	**4.00**	**158**	P	Pn	17 12 58.7	+0.1
	baz=160						
HMAT	**Matruh**	**4.00**	**158**	P	Pn	17 12 58.7	+0.1
DENT	**Denizli**	**4.18**	**45**	*e*PN	Pn	17 13 03.1	+2.0
DENT	**Denizli**	**4.18**	**45**	*e*Pn	Pn	17 13 03.1	+2.0
ELL	**Elmali**	**4.19**	**61**	*e*PN	Pn	17 13 01.6	+0.4
ELL	**Elmali**	**4.19**	**61**	*e*Pn	Pn	17 13 01.6	+0.4
AKS	**Akhisar**	**4.51**	**25**	*e*PN	Pn	17 13 07.7	+2.1
AKS	**Akhisar**	**4.51**	**25**	*e*Pn	Pn	17 13 07.7	+2.1
KULA	**Kula-Manisa**	**4.55**	**35**	*e*PN	Pn	17 13 07.8	+1.5
KULA	**Kula-Manisa**	**4.55**	**35**	*e*Pn	Pn	17 13 07.8	+1.5
KHL	**Karahalli**	**4.86**	**43**	*e*PN	Pn	17 13 11.7	+1.3
KHL	**Karahalli**	**4.86**	**43**	*e*Pn	Pn	17 13 11.7	+1.3
BCK	**Bucak**	**5.00**	**57**	*e*PN	Pn	17 13 13.7	+1.3
BCK	**Bucak**	**5.00**	**57**	*e*Pn	Pn	17 13 13.7	+1.3
GONE	**Gonen-Balikesi**	**5.54**	**19**	*e*PN	Pn	17 13 21.4	+1.7
GONE	**Gonen-Balikesi**	**5.54**	**19**	*e*Pn	Pn	17 13 21.4	+1.7
SWA2		**5.56**	**179**	P	Pn	17 13 21.5	+1.5
	baz=179						
SWA2				S	Sn	17 14 23.9	-0.1
	baz=179						
SHUT	**Suhut-Afyon**	**5.61**	**47**	*e*PN	Pn	17 13 21.5	+0.7
SHUT	**Suhut-Afyon**	**5.61**	**47**	*e*Pn	Pn	17 13 21.5	+0.7
GELI	**Tayfur-Gelibol**	**5.64**	**9**	*e*PN	Pn	17 13 22.1	+1.1
GELI	**Tayfur-Gelibol**	**5.64**	**9**

CUC	**Castrocucco**	**9.16**	**307**	*e*Pn		**Pn**		**17 14 10.6**		**+1.1**
	comp=E,15nm,0.6s									
KRMI	**Paran Flat**	**9.21**	**118**	Pn		**Pn**		**17 14 10.2**		**0.0**
KRMI				Sn		**Sn**		**17 15 50.1**		**-3.9**
PRNI	**Paran**	**9.30**	**116**	Pn		**Pn**		**17 14 10.5**		**-0.8**
ZFRI	**Zfri**	**9.32**	**114**	Pn		**Pn**		**17 14 10.9**		**-0.7**
ZFRI				Sn		**Sn**		**17 15 52.7**		**-3.8**
HRFI	**Mount Harif**	**9.49**	**118**	Pn		**Pn**		**17 14 13.5**		**-0.4**
MBRI	**Mt Berech**	**9.53**	**119**	Pn		**Pn**		**17 14 14.2**		**-0.4**
MBRI				Sn		**Sn**		**17 15 58.0**		**-3.8**
EIL	**Elat**	**9.63**	**120**	Pn		**Pn**		**17 14 15.8**		**0.0**
	comp=E,1.4nm,0.3s,baz=335,slow=7.5,SNR=15									
EIL				Sn		**Sn**		**17 16 00.2**		**-3.9**
	comp=E,1.7nm,0.3s,baz=317,slow=19,SNR=5.6									
EIL	**Elat**	**9.63**	**120**	Pn		**Pn**		**17 14 15.8**		**0.0**
EIL				Sn		**Sn**		**17 16 00.2**		**-3.9**
EIL	**Elat**	**9.63**	**120**	Pn		**Pn**		**17 14 15.4**		**-0.4**
EIL				Sn		**Sn**		**17 16 00.2**		**-3.9**
HKAT	**Jabal Katrina**	**9.69**	**128**	P		**Pn**		**17 14 16.3**		**-0.5**
	baz=130									
HKAT	**Jabal Katrina**	**9.69**	**128**	P		**Pn**		**17 14 16.3**		**-0.5**
GRUS	**Gruza**	**9.73**	**340**	*e*Pn		**Pn**		**17 14 19.8**		**+2.6**
ASF	**Jabal al Asfar**	**10.01**	**102**	Pn		**Pn**		**17 14 20.6**		**-0.5**
	comp=E,0.3nm,0.3s,baz=227,slow=9.6,SNR=2.7									
ASF				Sn		**Sn**		**17 16 13.8**		**+0.2**
	comp=E,0.2nm,0.3s,baz=315,slow=4.3,SNR=2.2									
ASF				LR		LR		17 19 11.2		
	comp=E,39nm,21.8s,baz=297,slow=43									
ASF	**Jabal al Asfar**	**10.01**	**102**	Pn		**Pn**		**17 14 20.6**		**-0.5**
ASF				Sn		**Sn**		**17 16 13.8**		**+0.2**
GTR	**Jabal at Tayr**	**10.32**	**153**	P		**Pn**		**17 14 26.1**		**+0.7**
	baz=154									
GTR	**Jabal at Tayr**	**10.32**	**153**	P		**Pn**		**17 14 26.1**		**+0.7**
ANN	**Anapa**	**13.62**	**39**	*e*P		Pn		17 15 13.6		+3.3
ANN				pmax		pmax				
	comp=Z,177nm,2.7s									
KOLS	**Kolonicke sedl**	**14.28**	**352**	*e*P		**P**		**17 15 27.4**		**+0.7**
KOLS	**Kolonicke sedl**	**14.28**	**352**	*e*P		**P**		**17 15 27.4**		**+0.7**
CRVS	**Cervenica-Dubn**	**14.36**	**350**	*e*P		P		17 15 24.1		-3.5
CRVS	**Cervenica-Dubn**	**14.36**	**350**	*e*PN		P		17 15 24.1		-3.5
CRVS	**Cervenica-Dubn**	**14.36**	**350**	*e*Pn		P		17 15 24.1		-3.5
VYHS	**Vyhne**	**14.49**	**342**	*e*P		**Pn**		**17 15 25.1**		**+2.8**
VYHS	**Vyhne**	**14.49**	**342**	*e*PN		**Pn**		**17 15 25.1**		**+2.8**
VYHS	**Vyhne**	**14.49**	**342**	*e*Pn		**Pn**		**17 15 25.1**		**+2.8**
AKH	**Akhalkalaki**	**15.72**	**60**	P		**Pn**		**17 15 40.2**		**+1.3**
ONI	**Oni**	**16.11**	**56**	P		**P**		**17 15 46.6**		**-0.6**
ONI	**Oni**	**16.11**	**56**	P		**P**		**17 15 46.6**		**-0.6**
KIEV	**Kiev**	**16.11**	**9**	*e*P		**Pn**		**17 15 43.0**		**-0.7**
KIEV				*e*				17 18 44.3		
KIEV				pmax		pmax				
	comp=Z,6.0nm,0.6s									
KIEV	**Kiev**	**16.11**	**9**	*e*Pn		**Pn**		**17 15 43.0**		**-0.7**
	comp=Z,5.7nm,0.6s									
KIEV				*e*Sn		**Sn**		**17 18 44.3**		**+2.0**
KIEV	**Kiev**	**16.11**	**9**	*e*Pn		**Pn**		**17 15 43.0**		**-0.7**
	comp=Z,5.7nm,0.6s									
KIEV				*e*Sn		**Sn**		**17 18 44.3**		**+2.0**
AKASG	**Malin Array Be**	**16.12**	**9**	Pn		**P**		**17 15 45.5**		**-1.6**
	comp=Z,3.1nm,0.3s,baz=202,slow=10,SNR=12									
AKASG	**Malin Array Be**	**16.12**	**9**	P		**P**		**17 15 45.5**		**-1.6**
AKASG	**Malin Array Be**	**16.12**	**9**	Pn		**P**		**17 15 45.5**		**-1.6**
AKASG	**Malin Array Be**	**16.12**	**9**	Pn		**P**		**17 15 45.5**		**-1.6**
KIV	**Kislovodsk**	**16.20**	**51**	*e*P		**P**		**17 15 49.9**		**+1.8**
KIV				pmax		pmax				
	comp=Z,15nm,1.1s									
KBZ	**Khabaz**	**16.23**	**52**	Pn		**P**		**17 15 48.1**		**-0.2**
	comp=Z,0.4nm,0.3s,baz=247,slow=8.4,SNR=21									
KBZ	**Khabaz**	**16.23**	**52**	P		**P**		**17 15 48.1**		**-0.2**
KBZ	**Khabaz**	**16.23**	**52**	Pn		**P**		**17 15 48.1**		**-0.2**
KBZ	**Khabaz**	**16.23**	**52**	Pn		**P**		**17 15 48.1**		**-0.2**
GNI	**Garni**	**16.29**	**65**	Pn		**P**		**17 15 48.8**		**-0.4**
	comp=Z,0.4nm,0.3s,baz=256,slow=8.3,SNR=3.0									
GNI				LR		LR		17 23 34.4		
	comp=Z,39nm,20.0s,baz=274,slow=43									
GNI	**Garni**	**16.29**	**65**	Pn		**Pn**		**17 15 46.0**		**-0.2**
	comp=Z,5.5nm,0.8s									
GNI	**Garni**	**16.29**	**65**	Pn		**Pn**		**17 15 46.0**		**-0.2**
	comp=Z,5.5nm,0.8s									
GOR	**Gori**	**16.35**	**58**	P		**P**		**17 15 52.1**		**+2.4**
GOR	**Gori**	**16.35**	**58**	P		**P**		**17 15 52.1**		**+2.4**
GERES	**GERESS Array B**	**16.45**	**332**	Pn		**Pn**		**17 15 49.0**		**+0.9**
	comp=Z,0.2nm,0.3s,baz=147,slow=13,SNR=9.4									
GERES				LR		LR		17 21 33.7		
	comp=Z,46nm,19.3s,baz=258,slow=35									
GERES	**GERESS Array B**	**16.45**	**332**	Pn		**Pn**		**17 15 49.0**		**+0.9**
GERES	**GERESS Array B**	**16.45**	**332**	Pn		**Pn**		**17 15 49.0**		**+0.9**
ZEI	**Tsey**	**16.49**	**56**	*e*P		**P**		**17 15 52.5**		**+1.1**
ZEI				pmax		pmax				
	comp=Z,6.0nm,0.7s									
TBLG	**Delisi**	**16.71**	**60**	*e*P		**P**		**17 15 56.7**		**+3.0**
TBLG	**Delisi**	**16.71**	**60**	P		**P**		**17 15 56.8**		**+3.0**
KHC	**Kasperske Hory**	**16.73**	**332**	*e*P		**P**		**17 15 55.0**		**+1.1**
KHC	**Kasperske Hory**	**16.73**	**332**	*e*P		**P**		**17 15 55.0**		**+1.1**
KHC				*ex*		x		17 16 32.0		
KHC	**Kasperske Hory**	**16.73**	**332**	P		**P**		**17 15 55.0**		**+1.1**
DGRG	**David-gareji**	**17.08**	**61**	P		**P**		**17 15 58.4**		**+0.5**
DGRG	**David-gareji**	**17.08**	**61**	P		**P**		**17 15 58.4**		**+0.5**
LPG	**La Plagne**	**17.72**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.2**
LPG	**La Plagne**	**17.72**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.2**
LPG	**La Plagne**	**17.72**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.2**
LPL	**La Plagne**	**17.74**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.3**
LPL	**La Plagne**	**17.74**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.3**
LPL	**La Plagne**	**17.74**	**313**	*e*P		**Pn**		**17 16 02.1**		**-2.3**
CABF	**La Chapelle**	**18.69**	**315**	*e*P		**P**		**17 16 14.9**		**-0.7**
	comp=Z,17nm,0.9s									
CABF	**La Chapelle**	**18.69**	**315**	*e*P		**P**		**17 16 14.9**		**-0.7**
CABF				pmax		pmax				
	comp=Z,17nm,0.9s									
CABF	**La Chapelle**	**18.69**	**315**	*e*P		**P**		**17 16 14.9**		**-0.7**
	comp=Z,17nm,0.9s									
CABF	**La Chapelle**	**18.69**	**315**	*e*P		**P**		**17 16 14.9**		**-0.7**
	comp=Z,17nm,0.9s									
HINF	**Hinteralfeld**	**18.94**	**319**	*e*P		**Pn**		**17 16 18.7**		**-0.3**
HINF	**Hinteralfeld**	**18.94**	**319**	*e*P		**Pn**		**17 16 18.7**		**-0.3**
HINF	**Hinteralfeld**	**18.94**	**319**	*e*P		**Pn**		**17 16 18.7**		**-0.3**
HINF	**Hinteralfeld**	**18.94**	**319**	*e*P		**Pn**		**17 16 18.7**		**-0.3**
VORD	**Divnogorie**	**19.05**	**28**	*e*P		**Pn**		**17 16 20.0**		**-0.1**
VORD				pmax		pmax				
	comp=Z,5.0nm,0.7s									
VORD				pmax		pmax				
	comp=N,10.0nm,0.8s									
VORD				pmax		pmax				
	comp=E,6.0nm,0.6s									
CDF	**Champ du Feu**	**19.08**	**321**	*e*P		**Pn**		**17 16 20.4**		**-0.3**
	comp=E,5.6nm,0.7s									
CDF	**Champ du Feu**	**19.08**	**321**	*e*P		**Pn**		**17 16 20.4**		**-0.3**
CDF				pmax		pmax				
	comp=Z,6.0nm,0.6s									
CDF	**Champ du Feu**	**19.08**	**321**	*e*P		**Pn**		**17 16 20.4**		**-0.3**
	comp=Z,5.6nm,0.6s									
CDF	**Champ du Feu**	**19.08**	**321**	*e*P		**Pn**		**17 16 20.4**		**-0.3**
	comp=Z,5.6nm,0.6s									
VSR	**Storozhevoye**	**19.20**	**27**	*e*P		**Pn**		**17 16 21.2**		**-0.8**
VSR				pmax		pmax				
	comp=N,2.0nm,0.5s									
VSR				pmax		pmax				
	comp=Z,2.0nm,0.5s									
VSR				pmax		pmax				
	comp=E,2.0nm,0.6s									
MIB	**Mutribah**	**19.25**	**99**	*e*P		**Pn**		**17 16 23.1**		**+0.4**
MIB				AMb		AMB		17 16 25.9		
	comp=Z,42nm,1.4s									
MIB	**Mutribah**	**19.25**	**99**	*e*P		**Pn**		**17 16 23.1**		**+0.4**
	comp=Z,42nm,1.4s									
HAU	**Haudompre**	**19.33**	**319**	*e*P		**P**		**17 16 22.8**		**+0.3**
	comp=Z,8.2nm,0.6s									
HAU	**Haudompre**	**19.33**	**319**	*e*P		**P**		**17 16 22.8**		**+0.3**
HAU				pmax		pmax				
	comp=Z,8.0nm,0.6s									
HAU	**Haudompre**	**19.33**	**319**	*e*P		**P**		**17 16 22.8**		**+0.3**
	comp=Z,8.2nm,0.6s									
HAU	**Haudompre**	**19.33**	**319**	*e*P		**P**		**17 16 22.8**		**+0.3**
	comp=Z,8.2nm,0.6s									
NAY	**Al-Naaiem**	**19.37**	**101**	*e*P		**Pn**		**17 16 24.9**		**+0.7**
NAY				AMb		AMB		17 16 26.9		
	comp=Z,17nm,0.8s									
NAY	**Al-Naaiem**	**19.37**	**101**	*e*P		**Pn**		**17 16 24.9**		**+0.7**
	comp=Z,17nm,0.8s									
UMR	**Umm Al-Rimmam**	**19.65**	**99**	*e*P		**Pn**		**17 16 27.4**		**-0.1**
UMR				AMb		AMB		17 16 28.4		
	comp=Z,92nm,0.8s									
UMR	**Umm Al-Rimmam**	**19.65**	**99**	*e*P		**Pn**		**17 16 27.4**		**-0.1**
	comp=Z,92nm,0.8s									
VRHR	**Novokhopersk**	**20.09**	**31**	*e*P		Pn		17 16 32.2		-0.4
VRHR				pmax		pmax				
	comp=Z,10.0nm,0.6s									
VRHR				pmax		pmax				
	comp=N,10.0nm,0.9s									
VRHR				pmax		pmax				
	comp=E,7.0nm,0.7s									
LOR	**Lormes**	**20.34**	**314**	*e*P		**P**		**17 16 33.9**		**+0.3**
	comp=E,5.2nm,0.6s									
LOR	**Lormes**	**20.34**	**314**	*e*P		**P**		**17 16 33.9**		**+0.3**
	comp=E,5.2nm,0.6s									
LOR	**Lormes**	**20.34**	**314**	*e*P		**P**		**17 16 33.9**		**+0.3**
	comp=E,5.2nm,0.6s									
SSF	**Saint Saulge**	**20.45**	**313**	*e*P		**P**		**17 16 34.8**		**+0.1**
	comp=E,9.3nm,0.8s									
SSF	**Saint Saulge**	**20.45**	**313**	*e*P		**P**		**17 16 34.8**		**+0.1**
SSF				pmax		pmax				
	comp=Z,9.0nm,0.8s									
SSF	**Saint Saulge**	**20.45**	**313**	*e*P		**P**		**17 16 34.8**		**+0.1**
	comp=Z,9.3nm,0.8s									
SSF	**Saint Saulge**	**20.45**	**313**	*e*P		**P**		**17 16 34.8**		**+0.1**
	comp=Z,9.3nm,0.8s									
BGF	**Bois d'Agland**	**20.61**	**311**	*e*P		**P**		**17 16 36.9**		**+0.4**
BGF	**Bois d'Agland**	**20.61**	**311**	*e*P		**P**		**17 16 36.9**		**+0.4**
BGF	**Bois d'Agland**	**20.61**	**311**	*e*P		**P**		**17 16 36.9**		**+0.4**
BGF	**Bois d'Agland**	**20.61**	**311**	*e*P		**P**		**17 16 36.9**		**+0.4**
TAM	**Tamanrasset**	**21.05**	**241**	*e*P		**P**		**17 16 44.5**		**+2.9**
TAM				pmax		pmax				
	comp=Z,7.0nm,1.1s									
TAM	**Tamanrasset**	**21.05**	**241**	*e*Pn		**P**		**17 16 44.5**		**+2.9**
	comp=Z,6.8nm,1.1s									
TAM	**Tamanrasset**	**21.05**	**241**	*e*Pn		**P**		**17 16 44.5**		**+2.9**
	comp=Z,6.8nm,1.1s									
GIVF	**Givet**	**21.39**	**322**	*e*P		**P**		**17 16 44.4**		**-0.5**
GIVF	**Givet**	**21.39**	**322**	*e*P		**P**		**17 16 44.4**		**-0.5**
GIVF	**Givet**	**21.39**	**322**	*e*P		**P**		**17 16 44.4**		**-0.5**
GIVF	**Givet**	**21.39**	**322**	*e*P		**P**		**17 16 44.4**		**-0.5**
ETSF	**Etsaut**	**21.66**	**300**	*e*P		**P**		**17 16 47.8**		**-0.1**
ETSF	**Etsaut**	**21.66**	**300**	*e*P		**P**		**17 16 47.8**		**-0.1**
ETSF	**Etsaut**	**21.66**	**300**	*e*P		**P**		**17 16 47.8**		**-0.1**
ETSF	**Etsaut**	**21.66**	**300**	*e*P		**P**		**17 16 47.8**		**-0.1**
BAIF	**Baives**	**21.68**	**321**	*e*P		**P**		**17 16 47.8**		**-0.2**
	comp=Z,12nm,0.6s									
BAIF	**Baives**	**21.68**	**321**	*e*P		**P**		**17 16 47.8**		**-0.2**
BAIF				pmax		pmax				
	comp=Z,12nm,0.6s									
BAIF	**Baives**	**21.68**	**321**	*e*P		**P**		**17 16 47.8**		**-0.2**
	comp=Z,12nm,0.6s									
BAIF	**Baives**	**21.68**	**321**	*e*P		**P**		**17 16 47.8**		**-0.2**
	comp=Z,12nm,0.6s									
OBN	**Obninsk**	**21.74**	**18**	P		**P**		**17 16 49.0**		**+0.5**
OBN								17 17 11.0		
OBN				*e*S		**S**		**17 20 48.5**		**-0.3**
OBN				pmax		pmax				
	comp=Z,12nm,0.9s									
ESDC	**Sonseca Array**	**23.76**	**290**	P		**P**		**17 17 10.7**		**+0.9**
	comp=Z,1.0nm,0.5s,baz=85,slow=11,SNR=7.0									
ESDC	**Sonseca Array**	**23.76**	**290**	P		**P**		**17 17 10.7**		**+0.9**
ESDC	**Sonseca Array**	**23.76**	**290**	P		**P**		**17 17 10.7**		**+0.9**
MDT	**Midelt**	**24.92**	**274**	P		**P**		**17 17 21.2**		**+0.6**
	comp=Z,1.7nm,0.8s,baz=107,slow=8.7,SNR=4.9									
MDT	**Midelt**	**24.92**	**274**	P		**P**		**17 17 21.2**		**+0.6**
MDT	**Midelt**	**24.92**	**274**	P		**P**		**17 17 21.2**		**+0.6**
HFS	**Hagfors**	**26.44**	**347**	P		**P**		**17 17 31.6**		**-2.3**
	comp=Z,1.6nm,0.6s,baz=152,slow=9.8,SNR=4.9									
HFS	**Hagfors**	**26.44**	**347**	P		**P**		**17 17 31.6**		**-2.3**
FINES	**FINESS Array B**	**26.64**	**1**	P		**P**		**17 17 33.9**		**-1.9**
	comp=Z,1.6nm,0.4s,baz=157,slow=11,SNR=22									
FINES				PcP		**PcP**		**17 20 59.5**		**+0.1**
	comp=Z,2.5nm,1.0s,baz=182,slow=4.2,SNR=4.7									
FINES	**FINESS Array B**	**26.64**	**1**	P		**P**		**17 17 33.9**		**-1.9**
FINES				PcP		**PcP**		**17 20 59.5**		**+0.1**
FINES	**FINESS Array B**	**26.64**	**1**	P		**P**		**17 17 33.9**		**-1.9**
FINES	**FINESS Array B**	**26.64**	**1**	PcP		**PcP**		**17 20 59.5**		**+0.1**
FIA1	**FINESS Array S**	**26.65**	**1**	*e*P		**P**		**17 17 33.6**		**-2.1**
KAF	**Kangasniemi**	**27.32**	**1**	*e*P		**P**		**17 17 39.5**		**-2.3**
KAF				pmax		pmax				
	comp=Z,2.0nm,0.6s									
KAF	**Kangasniemi**	**27.32**	**1**	*e*p		**P**		**17 17 39.5**		**-2.3**
	comp=Z,2.2nm,0.6s									
KLMR	**Klimovskoe**	**27.61**	**15**	*e*P		**P**		**17 17 42.4**		**-2.0**
KLMR				pmax		pmax				
	comp=Z,15nm,1.5s									
JOF	**Joensuu**	**28.37**	**6**	*e*P		**P**		**17 17 48.7**		**-2.5**
JOF				pmax		pmax				
	comp=Z,2.0nm,0.5s									
JOF	**Joensuu**	**28.37**	**6**	*e*p		**P**		**17 17 48.7**		**-2.5**
	comp=Z,2.0nm,0.5s									
AKTO	**Aktyubinsk**	**28.38**	**47**	P		**P**		**17 17 51.2**		**-0.3**
	comp=Z,1.6nm,0.6s,baz=239,slow=9.6,SNR=5.4									
AKTO	**Aktyubinsk**	**28.38**	**47**	P		**P**		**17 17 51.2**		**-0.3**
AKTO	**Aktyubinsk**	**28.38**	**47**	P		**P**		**17 17 51.2**		**-0.3**
AKTO	**Aktyubinsk**	**28.38**	**47**	P		**P**		**17 17 51.2**		**-0.3**
ABKAR	**Akbulak array**	**29.18**	**50**	P		**P**		**17 17 58.6**		**0.0**
	comp=Z,0.8nm,0.3s									
ABKAR	**Akbulak array**	**29.18**	**50**	P		**P**		**17 17 58.6**		**0.0**
	comp=Z,0.8nm,0.3s									
TOA0	**Torodi Ar. Sit**	**30.38**	**231**	*e*P		**P**		**17 18 10.3**		**+0.8**
TOA0	**Torodi Ar. Sit**	**30.38**	**231**	*e*P		**P**		**17 18 10.3**		**+0.8**
TORD	**Torodi Ar. Bea**	**30.38**	**231**	P		**P**		**17 18 11.0**		**+1.4**
	comp=Z,3.3nm,0.6s,baz=34,slow=8.8,SNR=33									
TORD	**Torodi Ar. Bea**	**30.38**	**231**	P		**P**		**17 18 11.0**		**+1.4**
ARU	**Arti**	**31.25**	**36***c*	*i*P		**P**		**17 18 16.8**		**0.0**
ARU								17 19 16.7		
ARU				S		**S**		**17 23 25.4**		**+2.4**
ARU				SS		**SnSn**		**17 25 11.4**		**+6.1**
ARU				pmax		pmax				
	comp=Z,12nm,1.7s									
ARU	**Arti**	**31.25**	**36**	*e*P		**P**		**17 18 16.0**		**-0.8**
	comp=Z,4.2nm,0.6s									
ARU				*e*				17 18 28.7		
ARU	**Arti**	**31.25**	**36**	*e*P		**P**		**17 18 16.0**		**-0.8**
	comp=Z,4.2nm,0.6s									
ARCES	**ARCESS Array B**	**34.77**	**0**	P		**P**		**17 18 45.5**		**-1.9**
	comp=Z,1.0nm,0.4s,baz=174,slow=9.1,SNR=23									
ARCES	**ARCESS Array B**	**34.77**	**0**	P		**P**		**17 18 45.5**		**-1.9**
KEV	**Kevo**	**35.00**	**1**	*e*P		**P**		17 18 44.6		-4.8
KEV				pmax		pmax				
	comp=Z,1.0nm,0.4s									
KEV	**Kevo**	**35.00**	**1**	*e*p		P		17 18 44.6		-4.8
	comp=Z,0.7nm,0.4s									
KKAR	**Karatay Array**	**35.73**	**63**	*e*P		**P**		**17 18 57.1**		**+1.0**
KKAR				pmax		pmax				
	comp=Z,2.0nm,0.5s									
KKAR	**Karatay Array**	**35.73**	**63**	*e*P		**P**		**17 18 57.1**		**+1.0**
	comp=Z,1.6nm,0.5s									
KKAR	**Karatay Array**	**35.73**	**63**	*e*P		**P**		**17 18 57.1**		**+1.0**
	comp=Z,1.6nm,0.5s									
BRVK	**Borovoye**	**36.42**	**46**	*i*P		**P**		**17 19 01.6**		**-0.2**
BRVK				pmax		pmax				
	comp=Z,4.0nm,1.3s									
BRVK	**Borovoye**	**36.42**	**46**	*e*P		**P**		**17 19 02.0**		**+0.2**
	comp=Z,4.6nm,1.1s									
BRVK	**Borovoye**	**36.42**	**46**	*e*P		**P**		**17 19 02.0**		**+0.2**
	comp=Z,4.6nm,1.1s									
EKS2	**Erkin-Say**	**38.15**	**63**	*e*P		**P**		**17 19 17.9**		**+1.1**
EKS2				pmax		pmax				
	comp=Z,2.0nm,0.6s									
EKS2	**Erkin-Say**	**38.15**	**63**	*e*P		**P**		**17 19 17.9**		**+1.1**
	comp=Z,2.2nm,0.6s									
EKS2	**Erkin-Say**	**38.15**	**63**	*e*P		**P**		**17 19 17.9**		**+1.1**
	comp=Z,2.2nm,0.6s									
AAK	**Ala-Archa**	**38.68**	**63**	*e*P		**P**		**17 19 21.7**		**+0.4**
AAK				pmax		pmax				
	comp=Z,21nm,1.0s									
AAK	**Ala-Archa**	**38.68**	**63**	*e*P		**P**		**17 19 21.7**		**+0.4**
	comp=Z,21nm,1.0s									
AAK	**Ala-Archa**	**38.68**	**63**	*e*P		**P**		**17 19 21.7**		**+0.4**
	comp=Z,21nm,1.0s									
TKM2	**Tokmak 2**	**39.46**	**63**	*e*P		**P**		**17 19 27.8**		**-0.1**
TKM2				pmax		pmax				
	comp=Z,2.0nm,0.6s									
TKM2	**Tokmak 2**	**39.46**	**63**	*e*P		**P**		**17 19 27.8**		**-0.1**
	comp=Z,1.9nm,0.6s									
TKM2	**Tokmak 2**	**39.46**	**63**	*e*P		**P**		**17 19 27.8**		**-0.1**
	comp=Z,1.9nm,0.6s									
KURK	**Kurchatov**	**41.28**	**51**	*i*P		**P**		**17 19 43.3**		**+0.7**
KURK				pmax		pmax				
	comp=Z,6.0nm,1.1s									
MK31	**Makanchi Array**	**43.84**	**56**	*e*P		**P**		**17 20 03.9**		**+0.4**
MK31				*e*				17 21 50.0		
MK31	**Makanchi Array**	**43.84**	**56**	*e*P		**P**		**17 20 03.9**		**+0.4**
MK31				*e*PcP		**PcP**		**17 21 50.0**		**+0.2**
MK31	**Makanchi Array**	**43.84**	**56**	*e*P		**P**		**17 20 03.9**		**+0.4**
MK31	**Makanchi Array**	**43.84**	**56**	*e*PcP		**PcP**		**17 21 50.0**		**+0.2**
MKAR	**Makanchi Array**	**43.84**	**56**	P		**P**		**17 20 04.1**		**+0.6**
	comp=Z,2.3nm,0.5s,baz=273,slow=7.8,SNR=53									
MKAR				PcP		**PcP**		**17 21 50.1**		**+0.4**
	comp=Z,0.6nm,0.6s,baz=261,slow=3.5,SNR=3.2									
MKAR				ScP		**ScP**		**17 25 41.5**		**+0.1**
	comp=Z,0.1nm,0.4s,baz=266,slow=5.8,SNR=2.6									
MKAR	**Makanchi Array**	**43.84**	**56**	P		**P**		**17 20 04.1**		**+0.6**
MKAR								17 21 50.1		
MKAR	**Makanchi Array**	**43.84**	**56**	P		**P**		**17 20 04.1**		**+0.6**
MKAR				PcP		**PcP**		**17 21 50.1**		**+0.4**
MKAR				ScP		**ScP**		**17 25 41.5**		**+0.1**
MKAR	**Makanchi Array**	**43.84**	**56**	P		**P**		**17 20 04.1**		**+0.6**
NVS	**Novosibirsk**	**44.23**	**45**	*e*P		**P**		**17 20 05.7**		**-0.7**
NVS				pmax		pmax				
	comp=Z,27nm,2.5s									
ZAA0	**Zalesovo Array**	**45.14**	**46**	*e*P		**P**		**17 20 13.2**		**-0.4**
ZAA0	**Zalesovo Array**	**45.14**	**46**	*e*P		**P**		**17 20 13.2**		**-0.4**
ZALV	**Zalesovo Beam**	**45.14**	**46**	P		**P**		**17 20 13.4**		**-0.2**
	comp=Z,2.4nm,0.4s,baz=269,slow=8.4,SNR=23									
ZALV	**Zalesovo Beam**	**45.14**	**46**	P		**P**		**17 20 13.4**		**-0.2**
ZALV	**Zalesovo Beam**	**45.14**	**46**	P		**P**		**17 20 13.4**		**-0.2**
ZALV	**Zalesovo Beam**	**45.14**	**46**	P		**P**		**17 20 13.4**		**-0.2**
PYUN	**Piuthan**	**49.07**	**81**	*e*P		**P**		**17 20 45.6**		**+0.6**
	comp=E,16nm,0.6s									
PYUN	**Piuthan**	**49.07**	**81**	*e*P		**P**		**17 20 45.6**		**+0.6**
	comp=Z,16nm,0.6s									
DANN	**Dangsing**	**49.59**	**80**	*e*P		**P**		**17 20 50.1**		**+1.0**
	comp=Z,33nm,0.7s									
DANN	**Dangsing**	**49.59**	**80**	*e*P		**P**		**17 20 50.1**		**+1.0**
	comp=Z,33nm,0.7s									
KOLN	**Koldanda**	**49.69**	**81**	*e*P		**P**		**17 20 50.1**		**+0.4**
	comp=Z,7.3nm,0.7s									
KOLN	**Koldanda**	**49.69**	**81**	*e*P		**P**		**17 20 50.1**		**+0.4**
	comp=Z,7.3nm,0.7s									
GKN	**Gorkha**	**50.44**	**80**	*e*P		**P**		**17 20 55.6**		**+0.2**
	comp=Z,8.1nm,0.5s									
GKN	**Gorkha**	**50.44**	**80**	*e*P		**P**		**17 20 55.6**		**+0.2**
	comp=Z,8.1nm,0.4s									
DMN	**Daman**	**50.98**	**81**	*e*P		**P**		**17 21 00.1**		**+0.5**
	comp=Z,10nm,0.5s									
DMN	**Daman**	**50.98**	**81**	*e*P		**P**		**17 21 00.1**		**+0.5**
	comp=Z,10nm,0.5s									
KKN	**Kakani**	**51.05**	**80**	*e*P		**P**		**17 21

TORD	**Torodi Ar. Bea**	**80.64**	**68**	P		**P**	**17 25 24.0**	**+0.3**
	comp=N,1.3nm,0.7s,baz=253,slow=4.5,SNR=8.5							
PDAR	**Pinedale Array**	**82.61**	**331**	P		**P**	**17 25 33.8**	**+0.1**
	comp=N,0.3nm,0.5s,baz=126,slow=4.6,SNR=2.9							
WRA	**Warramunga Arr**	**124.50**	**207**	PKP		**PKPdf**	**17 32 08.8**	**-0.9**
	comp=N,0.2nm,0.5s,baz=163,slow=1.7,SNR=5.1							
ZALV	**Zalesovo Beam**	**150.41**	**32**	PKPbc		**PKPbc**	**17 33 00.9**	**+0.1**
	comp=N,1.3nm,0.4s,baz=305,slow=3.2,SNR=11							
ZALV				pPKPbc		**pPKPbc**	**17 33 30.0**	**-0.4**
	comp=N,0.8nm,0.7s,baz=316,slow=4.1,SNR=5.1							
MKAR	**Makanchi Array**	**152.86**	**47**	PKPbc		**PKPbc**	**17 33 06.7**	**0.0**
	comp=N,0.4nm,0.6s,baz=307,slow=1.5,SNR=6.4							
MKAR				PKPab		**PKPab**	**17 33 18.3**	**+0.1**
	comp=N,0.5nm,0.6s,baz=288,slow=4.5,SNR=7.6							
MKAR				pPKPbc		**pPKPbc**	**17 33 35.8**	**-0.5**
	comp=N,0.3nm,0.6s,baz=6.7,slow=1.3,SNR=3.5							

BJI ***10*** *17:42:09.9,2˚.02S×139˚.46E,h16km,mB5.7/48,mb5.2/61, Ms5.0/61,Ms7 4.7/55*

ISCJB ***10*** *17:42:10.9±0.8,1˚.91S±0˚.03×139˚.17E±0˚.03,h7km±5km, mb5.4/163,MS5.0/179,Error ellipse: s-maj=5.0km s-min=4.4km az=39.9*

IDC ***10*** *17:42:11.7±0.4,1˚.89S×139˚.12E,h0km,mb5.1/24, mb1 5.1/28,mb1mx5.1/31,mbtmp5.1/28,ML5.1/3,MS4.9/16, Ms1 4.9/16,ms1mx4.5/40,Error ellipse: s-maj=15.5km s-min=10.0km az=72.0*

NEIC ***10*** *17:42:14.4±2.3,1˚.88S×139˚.12E,h18km±14km,mb5.5/70, MS5.2/142,MW5.5,MW5.4,Error ellipse: s-maj=5.8km s-min=3.5km az=56.0,Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁷Nm; Mrr=0.66; Mθθ=-0.20; Mϕϕ=-0.46; Mrθ=-0.99; Mθϕ=-0.41; Mϕr=1.18; Best double couple: Mo=1.70000×10¹⁷ NP1:ϕs=329.00000°,δ83.00000°, λ78.00000°. NP2:ϕs=211.00000°,δ14.00000°,λ151.00000°. Principal axes: T 1.9300, Plg50.0000°, Azm225.0000°; N -0.6700, Plg12.0000°, Azm330.0000°; P -1.2600, Plg37.0000°, Azm70.0000°;*

MOS ***10*** *17:42:15.0±1.0,1˚.88S×139˚.11E,h33km,mb5.6/42, MS4.7/26 Error ellipse: s-maj=11.0km s-min=5.5km az=114.9*

DJA ***10*** *17:42:16.8±0.7,2˚.S±5˚×13˚.9E±˚,h38km±5km,M5.5/62, mb5.5/62,mB5.9/56,MLv5.6/5,Mw(mB)5.5/56,Mwp5.4/3*

GCMT ***10*** *17:42:17.5±0.1,1˚.66S×139˚.19E,h12km,MW5.4,Moment Tensor Solution. s85,c136; s99,c224; Moment tensor: Scale 10¹⁷Nm; Mrr=1.25±.02; Mθθ=-0.11±.01; Mϕϕ=-1.14±.02; Mrθ=-0.67±.04; Mθϕ=0.46±.01; Mϕr=0.82±.04; Best double couple: Mo=1.70000×10¹⁷ NP1:ϕs=171.00000°,δ27.00000°, λ111.00000°. NP2:ϕs=328.00000°,δ65.00000°,λ80.00000°. Principal axes: T 1.6600, Plg68.0000°, Azm218.0000°; N 0.0100, Plg9.0000°, Azm332.0000°; P -1.6700, Plg19.0000°, Azm65.0000°; Data Used: II IU IC G CN. Surface waves from 113 sta.*

NEIC ***10*** *17:42:28.3±0.0,1˚.24S×138˚.74E,h10km,Moment Tensor Solution. s162 Moment tensor: Scale 10¹⁷Nm; Mrr=1.22; Mθθ=0.21; Mϕϕ=-1.43; Mrθ=-0.19; Mθϕ=0.48; Mϕr=1.65; Best double couple: Mo=2.20000×10¹⁷ NP1:ϕs=352.00000°, δ70.00000°,λ96.00000°. NP2:ϕs=154.00000°,δ21.00000°, λ73.00000°. Principal axes: T 2.0100, Plg64.0000°, Azm272.0000°; N 0.3100, Plg5.0000°, Azm170.0000°; P -2.3300, Plg24.0000°, Azm77.0000°;*

ISC 10 17:42:14.8±0.3,1˚.93S±0˚.03×139˚.13E±0˚.04,h21km±3km, h21km:pP-P,n588,σ1°49/566,mb5.4/161,MS5.1/180, 52C-13D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.42**	**262**	P		**Pn**	**17 42 25.2**	**-0.5**
JAY	**Jayapura**	**1.68**	**110**	P		**Pn**	**17 42 41.7**	**-1.3**
WAMI	**Wamena**	**1.98**	**192**	P		Pb	17 42 53.9	+3.7
BAKI	**Biak**	**3.11**	**284**	P		**Pn**	**17 43 00.7**	**-2.0**
FAKI	**Fak Fak**	**6.95**	**262**	P		**Pn**	**17 43 56.6**	**+1.2**
	720nm,0.9s,6µm36µm2.2nm							
TLE	**Tual**	**7.36**	**240**	P		**Pn**	**17 44 03.7**	**+2.5**
	734nm,1.4s,10µm3.3nm							
SWI	**Sorong**	**7.94**	**278**	P		Pn	17 44 13.9	+4.8
	157nm,1.1s,3µm0.7nm							
MSAI	**Masohi**	**10.29**	**262**	P		Pn	17 44 45.2	+3.9
	84nm,1.1s,1µm							
PMG	**Port Moresby**	**10.90**	**133**	Pn		**Pn**	**17 44 51.4**	**+1.7**
	0.7nm,0.3s,baz=308,slow=16,SNR=9.4							
PMG	**Port Moresby**	**10.90**	**133**	*e*Pn		**Pn**	**17 44 50.9**	**+1.2**
	127nm,0.8s							
PMG	**Port Moresby**	**10.90**	**133**	P		**Pn**	**17 44 51.8**	**+2.1**
	176nm,1.4s,2µm							
AAI	**Ambon**	**11.06**	**261**	P		**Pn**	**17 44 53.9**	**+2.0**
	259nm,0.7s,3µm							
LBMI	**Labuha**	**11.70**	**276**	P		**Pn**	**17 45 03.2**	**+2.5**
	118nm,1.5s,3µm							
TNTI	**Ternate**	**12.07**	**283**	P		Pn	17 45 09.4	+3.7
	185nm,1.9s,5µm12µm							
COEN	**Coen**	**12.60**	**162**	*e*Pn		**Pn**	**17 45 13.5**	**+0.5**
	393nm,0.8s							
DAV	**Davao City (W)**	**16.21**	**304**	Pn		**Pn**	**17 46 02.4**	**+0.9**
	17nm,0.3s,baz=80,slow=21,SNR=3.8							
DAV				LR		LR	17 53 03.5	
	comp=Z,2µm,18.1s,baz=117,slow=40							
DAV	**Davao City (W)**	**16.21**	**304**	Pn		**Pn**	**17 46 01.4**	**-0.2**
LUWI	**Luwuk**	**16.38**	**273**	P		**Pn**	**17 46 02.7**	**-0.9**
	285nm,1.4s,4µm							
GUMO	**Guam**	**16.44**	**20**	LR		LR	17 51 57.2	
	comp=Z,3µm,19.3s,baz=204,slow=36							
GUMO	**Guam**	**16.44**	**20**	*e*Pn		**P**	**17 46 07.9**	**+0.9**
	131nm,1.0s							
KDI	**Kendari**	**16.61**	**263**	P		**P**	**17 46 08.0**	**-1.0**
	229nm,2.0s,6µm							
BBSI	**Bau Bau**	**16.90**	**257**	P		**P**	**17 46 13.5**	**+1.4**
	795nm,1.2s,8µm							
BUKP	**Musuan**	**17.09**	**305**	*e*P		**P**	**17 46 15.1**	**+0.8**
CTBH	**Cotabato--PC H**	**17.42**	**302**	i/P		**Pn**	**17 46 16.2**	**-0.5**
MMRI	**Maumere**	**18.08**	**248**	P		**P**	**17 46 26.3**	**+1.1**
	182nm,1.9s,4µm							
PAGZ	**Pagadian**	**18.47**	**302**	*e*P		**Pn**	**17 46 29.6**	**-0.1**
WRAB	**Tennant Creek**	**18.49**	**194**	*e*P		**P**	**17 46 26.3**	**-3.4**
WRAB				pmax		pmax		
	comp=Z,190nm,0.7s							
WRAB	**Tennant Creek**	**18.49**	**194**	*e*Pn		**P**	**17 46 26.3**	**-3.4**
	comp=Z,190nm,0.7s							
WRAB	**Tennant Creek**	**18.49**	**194**	P		**P**	**17 46 27.5**	**-2.2**
	comp=Z,2µm,0.6s,SNR=48							
WRA	**Warramunga Arr**	**18.50**	**194**	P		**P**	**17 46 26.9**	**-2.9**
	comp=Z,4.6nm,0.3s,baz=6.1,slow=12,SNR=60							
WRA				S		Sn	17 49 47.8	-8.6
	comp=Z,2.4nm,0.3s,baz=5.0,slow=23,SNR=4.2							
WRA				LR		LR	17 54 11.1	
	comp=Z,4µm,18.1s,baz=20,slow=39							
WRA	**Warramunga Arr**	**18.50**	**194**	P		**P**	**17 46 26.9**	**-2.9**
WRA				S		Sn	17 49 47.8	-8.6
MSLP	**Maasin**	**18.59**	**310**	*e*P		**P**	**17 46 29.0**	**-1.8**
PLP	**Palo**	**19.17**	**313**	i/P		**P**	**17 46 35.3**	**-1.9**
BKSI	**Bulukumba**	**19.26**	**259**	P		**Pn**	**17 46 40.9**	**+1.6**
	comp=Z,184nm,3.0s,comp=Z,6µm							
CTA	**Charters Tower**	**19.34**	**159**	P		**Pn**	**17 46 39.8**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=334,slow=11,SNR=89							
CTA				S		**Sn**	**17 50 16.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=282,slow=20,SNR=2.0							
CTA	**Charters Tower**	**19.34**	**159**	P		**Pn**	**17 46 39.8**	**-0.4**
CTA				S		**Sn**	**17 50 16.3**	**-0.3**
CTAO	**Charters Tower**	**19.34**	**159**	*e*P		**P**	**17 46 39.5**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,115nm,0.8s							
CTAO	**Charters Tower**	**19.34**	**159**	*e*Pn		**P**	**17 46 39.5**	**+0.5**
	comp=Z,115nm,0.8s							
CTAO				*e*S		**S**	**17 50 23.5**	**+6.5**
OCLP	**Ormoc**	**19.37**	**312**	*e*P		**P**	**17 46 39.8**	**+0.5**
KAPI	**Kappang**	**19.58**	**261**	P		**P**	**17 46 41.9**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=103,slow=12,SNR=9.4							
KAPI	**Kappang**	**19.58**	**261**	i/*e*P		**P**	**17 46 41.7**	**0.0**
	comp=Z,102nm,1.0s							
KAPI	**Kappang**	**19.58**	**261**	P		**Pn**	**17 46 43.8**	**+0.7**
	SNR=15							
KAPI	**Kappang**	**19.58**	**261**	Pn		**Pn**	**17 46 43.4**	**+0.3**
	comp=Z,335nm,1.0s,SNR=11							
KAPI	**Kappang**	**19.58**	**261**	P		**Pn**	**17 46 43.6**	**+0.5**
	comp=Z,118nm,1.5s,comp=Z,4µm							
GUIM	**Jordan**	**20.66**	**307**	*e*P		**P**	**17 46 54.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.82**	**219**	P		**P**	**17 46 55.4**	**+0.3**
	comp=Z,68nm,1.0s,baz=42,slow=12,SNR=57							
FITZ				S		**S**	**17 50 40.6**	**-6.1**
	comp=Z,142nm,1.0s,baz=84,slow=18,SNR=7.9							
FITZ				LR		LR	17 55 59.4	
	comp=Z,6µm,20.9s,baz=40,slow=40							
FITZ	**Fitzroy Crossi**	**20.82**	**219**	i*e*P		**P**	**17 46 54.8**	**-0.3**
	comp=Z,170nm,1.3s							
FITZ				S		**S**	**17 50 40.6**	**-6.1**
MYLDM	**Lahad Datu**	**21.79**	**289**	P		**P**	**17 47 08.0**	**+2.4**
MYLDM	**Lahad Datu**	**21.79**	**289**	P		**P**	**17 47 07.6**	**+2.0**
	comp=Z,248nm,1.6s,comp=Z,4µm							
HNR	**Honiara**	**22.00**	**111**	P		**P**	**17 47 07.5**	**-0.4**
	comp=Z,170nm,0.8s,baz=349,slow=17,SNR=8.7							
HNR				S		**S**	**17 51 09.6**	**-0.3**
	comp=Z,7.1nm,0.4s,baz=340,slow=15,SNR=2.1							
HNR	**Honiara**	**22.00**	**111**	P		**P**	**17 47 07.5**	**-0.4**
HNR				S		**S**	**17 51 09.6**	**-0.3**
HNR				LR		LR		
	comp=Z,3µm,19.0s							
CUYO	**Cuyo Island**	**22.05**	**306**	*e*P		**P**	**17 47 07.9**	**-0.5**
TSM	**Tawau**	**22.13**	**286**	P		**P**	**17 47 09.9**	**+0.6**
OTRP	**Odiongan**	**22.15**	**310**	*e*P		**P**	**17 47 09.8**	**+0.4**
AS31	**Alice Springs**	**22.19**	**193**	i*e*P		**P**	**17 47 09.7**	**-0.1**
ASAR	**Alice Springs**	**22.19**	**193**	P		**P**	**17 47 09.9**	**+0.1**
	comp=Z,137nm,0.8s,baz=23,slow=8.6,SNR=287							
ASAR				S		**S**	**17 51 13.3**	**-0.2**
	comp=Z,28nm,0.8s,baz=17,slow=24,SNR=7.1							
ASAR				LR		LR	17 56 25.3	
	comp=Z,4µm,18.6s,baz=14,slow=38							
ASAR	**Alice Springs**	**22.19**	**193**	P		**P**	**17 47 09.9**	**+0.1**
ASAR				S		**S**	**17 51 13.3**	**-0.2**
SDKM	**Sandakan**	**23.16**	**289**	P		**P**	**17 47 20.2**	**-0.1**
ENPP	**El Nido**	**23.55**	**304**	*e*P		**P**	**17 47 24.4**	**+0.4**
BATP	**Bataraza**	**23.78**	**297**	*e*P		**P**	**17 47 27.1**	**+0.8**
KDM	**Kudat**	**23.93**	**292**	P		**P**	**17 47 27.7**	**0.0**
TGY	**Tagaytay City**	**24.06**	**312**	P		**P**	**17 47 29.1**	**+0.2**
	comp=Z,189nm,0.7s,baz=176,slow=4.0,SNR=19							
TGY	**Tagaytay City**	**24.06**	**312**	P		**P**	**17 47 29.1**	**+0.2**
KKM	**Kota Kinabalu**	**24.22**	**289**	i*e*P		**P**	**17 47 30.3**	**-0.2**
	comp=Z,726nm,1.6s							
KKM				LR		LR		
	comp=Z,3µm,20.0s							
KKM	**Kota Kinabalu**	**24.22**	**289**	P		**P**	**17 47 30.8**	**+0.3**
KKM	**Kota Kinabalu**	**24.22**	**289**	P		**P**	**17 47 30.5**	**0.0**
	comp=Z,238nm,1.7s,comp=Z,4µm							
KHKI	**Kahang-Kahang**	**24.27**	**254**	P		**P**	**17 47 30.2**	**-0.7**
	comp=Z,198nm,1.4s,comp=Z,4µm							
BBKI	**Banjar Baru**	**24.31**	**266**	P		**P**	**17 47 32.9**	**+1.7**
	comp=Z,1µm,1.4s,comp=Z,18µm							
LUBP	**Lubang**	**24.35**	**310**	*e*P		**P**	**17 47 30.5**	**-1.0**
SRBI	**Singaraja**	**24.59**	**255**	P		**P**	**17 47 33.5**	**-0.2**
	comp=Z,114nm,2.0s,comp=Z,4µm							
BALP	**Baler**	**24.69**	**316**	*e*P		**P**	**17 47 33.8**	**-0.8**
IGBI	**Denpasar**	**24.83**	**253**	P		**P**	**17 47 35.1**	**-0.8**
	comp=Z,74nm,2.3s							
CAUP	**Cauayan**	**25.37**	**318**	*e*P		**P**	**17 47 43.7**	**+3.0**
BYJI	**Banyuwangi**	**25.44**	**255**	P		**P**	**17 47 41.5**	**0.0**
	comp=Z,551nm,1.5s							
KMMI	**Kalianget**	**25.59**	**258**	P		**P**	**17 47 45.2**	**+2.4**
	comp=Z,781nm,1.1s,comp=Z,10µm							
JAGI	**Jajag, Banyuwa**	**25.70**	**254**	P		**P**	**17 47 41.7**	**-2.1**
	comp=Z,138nm,1.7s,comp=Z,2µm							
EIDS	**Eidsvold**	**25.99**	**155**	i*e*P		**P**	**17 47 47.7**	**+1.3**
	comp=Z,335nm,1.1s							
BLJI	**Banyuglugur**	**26.08**	**256**	P		**P**	**17 47 46.8**	**-0.5**
	comp=Z,122nm,1.3s,comp=Z,2µm							
GMJI	**Gumukmas**	**26.34**	**255**	P		**P**	**17 47 47.4**	**-2.2**
	comp=Z,80nm,1.8s,comp=Z,2µm							
BTM	**Bintulu**	**26.53**	**281**	P		**P**	**17 47 52.7**	**+1.3**
MBWA	**Marble Bar**	**26.88**	**223**	i*e*P		**P**	**17 47 54.6**	**+0.2**
	comp=Z,130nm,0.9s							
MBWA				LR		LR		
	comp=Z,4µm,19.0s							
MBWA	**Marble Bar**	**26.88**	**223**	P		**P**	**17 47 56.0**	**+1.6**
	SNR=22							
SBUM	**Sibu**	**27.25**	**279**	P		**P**	**17 47 59.3**	**+1.4**
SBUM	**Sibu**	**27.25**	**279**	P		**P**	**17 47 59.0**	**+1.1**
	comp=Z,82nm,1.8s,comp=Z,2µm							
PBKI	**Pangkalan Bun**	**27.45**	**268**	P		**P**	**17 48 00.4**	**+0.8**
	comp=Z,175nm,1.0s,comp=Z,2µm							
SJI	**Sawahan**	**27.86**	**257**	P		**P**	**17 48 03.0**	**-0.4**
	comp=Z,79nm,2.0s,comp=Z,2µm							
PWJI	**Pagerwojo**	**27.88**	**257**	P		**P**	**17 48 01.7**	**-1.7**
	comp=Z,130nm,1.5s,comp=Z,2µm							
PCJI	**Pacitan**	**28.52**	**256**	P		**P**	**17 48 07.5**	**-1.7**
	comp=Z,124nm,1.3s,comp=Z,1µm							
CBIJ	**Chichi jima**	**29.01**	**6**	LR		LR	17 59 27.3	
	comp=Z,866nm,18.9s,baz=232,slow=36							
KSM	**Kuching**	**29.02**	**276**	*e*P		**P**	**17 48 14.5**	**+0.9**
	comp=Z,204nm,1.6s							
KSM				LR		LR		
	comp=Z,1µm,21.0s							
KSM	**Kuching**	**29.02**	**276**	P		**P**	**17 48 14.6**	**+0.9**
KSM	**Kuching**	**29.02**	**276**	P		**P**	**17 48 14.2**	**+0.6**
	comp=Z,83nm,1.8s,comp=Z,1µm							
BJII	**Banjarnegara**	**29.80**	**259**	P		**P**	**17 48 20.6**	**-0.1**
	comp=Z,94nm,1.9s,comp=Z,3µm							
STKA	**Stephens Creek**	**29.87**	**176**	P		**P**	**17 48 20.5**	**-0.5**
	comp=Z,21nm,0.6s,baz=352,slow=8.8,SNR=27							
STKA	**Stephens Creek**	**29.87**	**176**	P		**P**	**17 48 20.5**	**-0.5**
TGJI	**Tegal**	**30.31**	**260**	P		**P**	**17 48 25.2**	**+0.1**
	comp=Z,87nm,1.5s							
JOW	**Kunigami**	**30.46**	**341**	P		**P**	**17 48 26.0**	**-0.2**
	comp=Z,27nm,0.8s,baz=168,slow=16,SNR=4.2							
JOW	**Kunigami**	**30.46**	**341**	P		**P**	**17 48 26.0**	**-0.2**
FORT	**Forrest**	**30.55**	**199**	i/P		**P**	**17 48 27.6**	**+0.7**
	comp=Z,213nm,0.8s							
YULB	**Yu-li**	**30.58**	**326**	*e*P		**P**	**17 48 25.7**	**-1.6**
	comp=Z,15nm,0.8s							
ARMA	**Armidale**	**30.71**	**159**	*e*P		**P**	**17 48 29.9**	**+1.4**
	comp=Z,40nm,1.0s							
BBOO	**Buckleboo**	**30.85**	**185**	i*e*P		**P**	**17 48 29.8**	**+0.2**
	comp=Z,4µm,1.3s							
TPUB	**Ta-pu**	**30.88**	**325**	*e*P		**P**	**17 48 28.1**	**-1.9**
	comp=Z,58nm,1.4s							
NACB	**Ninganchiao**	**31.05**	**328**	P		**P**	**17 48 31.1**	**-0.3**
	comp=Z,20nm,0.9s							
SSLB	**Suanglung**	**31.09**	**326**	*e*P		**P**	**17 48 30.1**	**-1.7**
	comp=Z,30nm,0.8s							
YHNB	**Yeheng**	**31.56**	**328**	*e*P		P	17 48 32.9	-3.2
	comp=Z,130nm,1.4s							
YHNB				LR		LR		
	comp=Z,2µm,20.0s							
CISI	**Cisompet, Garu**	**31.69**	**259**	P		**P**	**17 48 35.3**	**-2.1**
	comp=Z,147nm,1.1s,comp=Z,2µm							
TATO	**Taipei**	**31.75**	**328**	PFAKE				
TATO				LR		LR		
	comp=Z,1µm,20.0s							
LEM	**Lembang**	**31.79**	**260**	P		**P**	**17 48 38.3**	**0.0**
	comp=Z,68nm,1.8s,comp=Z,2µm							
DBJI	**Dramaga**	**32.61**	**261**	P		**P**	**17 48 44.4**	**-1.0**
	comp=Z,81nm,1.3s							
PPBI	**Pangkal Pinang**	**32.97**	**269**	P		**P**	**17 48 49.5**	**+0.9**
	comp=Z,103nm,1.8s,comp=Z,2µm							
DZM	**Mont Dzumac**	**33.26**	**129**	*e*P		**P**	**17 48 50.8**	**-0.2**
	comp=Z,159nm,1.2s							
DZM				*e*S		**S**	**17 54 07.2**	**-3.2**
	comp=Z,1µm,25.5s							
DZM				*e*LR		LR	17 57 41.4	
	comp=Z,3µm,23.2s							
DZM	**Mont Dzumac**	**33.26**	**129**	P		**P**	**17 48 51.4**	**+0.4**
	comp=Z,34nm,0.9s,baz=317,slow=8.6,SNR=13							
DZM	**Mont Dzumac**	**33.26**	**129**	P		**P**	**17 48 51.4**	**+0.4**
QZH	**Quanzhou**	**33.33**	**325**	P		P	17 48 40.4	-11
QZH				S		S	17 53 53.5	-18
QZH				LR		LR		
	comp=N,1µm,8.0s							
QZH				LR		LR		
	comp=E,1µm,4.9s							
QZH				LR		LR		
	comp=Z,2µm,15.0s							
CGJI	**Cibinong**	**33.66**	**261**	P		**P**	**17 48 52.2**	**-2.3**
	comp=Z,124nm,0.9s,comp=Z,2µm							
WAKE	**Wake Island**	**34.29**	**51**	PFAKE			17 49 10.0	+10
WAKE				LR		LR		
	comp=Z,4µm,21.0s							
CAN	**Canberra**	**34.46**	**166**	*e*P		**P**	**17 49 02.6**	**+1.3**
CAN				pmax		pmax		
	comp=Z,319nm,1.9s							
CAN				MLR		MLR		
	comp=Z,3µm,19.0s							
CAN	**Canberra**	**34.46**	**166**	*e*P		**P**	**17 49 02.6**	**+1.3**
	comp=Z,319nm,1.9s							
CAN				LR		LR		
	comp=Z,3µm,19.0s							
KASI	**Kota Agung**	**34.74**	**263**	P		**P**	**17 49 02.2**	**-1.7**
	comp=Z,111nm,1.8s,comp=Z,1µm							
LWLI	**Liwa**	**35.14**	**264**	P		**P**	**17 49 06.7**	**-0.8**
	comp=Z,158nm,1.7s,comp=Z,3µm							
MYKOM	**Kota Tinggi**	**35.47**	**276**	P		**P**	**17 49 10.9**	**+0.7**
MYKOM	**Kota Tinggi**	**35.47**	**276**	P		**P**	**17 49 11.5**	**+1.3**
	comp=Z,82nm,1.7s,comp=Z,2µm							
QIZ	**Qiongzhong**	**35.53**	**307**	P		**P**	**17 49 10.5**	**-0.2**
QIZ				pmax		pmax		
	comp=Z,62nm,1.7s							
QIZ				LR		LR		
	comp=N,1µm,25.4s							
QIZ				LR		LR		
	comp=Z,920nm,17.3s							
QIZ	**Qiongzhong**	**35.53**	**307**	*e*P		**P**	**17 49 09.8**	**-0.8**
	comp=Z,152nm,1.5s							
QIZ				LR		LR		
	comp=Z,925nm,22.0s							
JNU	**Nakatsue**	**35.73**	**348**	P		**P**	**17 49 11.4**	**-0.8**
	comp=Z,33nm,0.9s,baz=126,slow=2.9,SNR=10							
JNU	**Nakatsue**	**35.73**	**348**	P		**P**	**17 49 11.4**	**-0.8**
KGM	**Kluang**	**36.02**	**276**	P		**P**	**17 49 15.9**	**+1.0**
MNAI	**Manna**	**36.20**	**265**	P		**P**	**17 49 15.7**	**-0.8**
	comp=Z,168nm,1.6s,comp=Z,3µm							
KSI	**Kapahiang**	**36.53**	**266**	P		**P**	**17 49 19.1**	**-0.3**
	comp=Z,108nm,1.8s,comp=Z,3µm							
SSE	**Sheshan**	**37.02**	**334**	P		**P**	**17 49 24.1**	**+0.9**
SSE				PP		**PnPn**	**17 50 49.2**	**+1.1**
SSE				S		**S**	**17 55 11.0**	**+3.2**
SSE				pmax		pmax		
	comp=Z,32nm,0.7s							
SSE				pmax		pmax		
	comp=Z,270nm,5.3s							
SSE				LR		LR		
	comp=N,610nm,13.7s							
SSE				LR		LR		
	comp=E,760nm,13.7s							
SSE				LR		LR		
	comp=Z,1µm,16.3s							
NWAO	**Narrogin (SRO)**	**37.06**	**211**	P		**P**	**17 49 23.7**	**+0.1**
	comp=Z,74nm,0.9s,baz=43,slow=8.2,SNR=14							
NWAO	**Narrogin (SRO)**	**37.06**	**211**	P		**P**	**17 49 23.7**	**+0.1**
NWAO				LR		LR		
	comp=Z,6µm,22.0s							
NWAO	**Narrogin (SRO)**	**37.06**	**211**	P		**P**	**17 49 25.1**	**+1.6**
	SNR=7.9							
FRIM	**Kepong**	**37.84**	**278**	P		**P**	**17 49 31.0**	**+0.5**
BKNI	**Bangkinang**	**38.15**	**273**	P		**P**	**17 49 34.0**	**+0.9**
	comp=Z,168nm,1.6s,comp=Z,3µm							
MJAR	**Matsushiro Arr**	**38.29**	**359**	P		**P**	**17 49 32.8**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=182,slow=7.6,SNR=6.1							
MJAR	**Matsushiro Arr**	**38.29**	**359**	P		**P**	**17 49 32.8**	**-1.1**
MAJO	**Matsushiro**	**38.29**	**359**	PFAKE			17 49 50.0	+16
MAJO				LR		LR		
	comp=Z,1µm,20.0s							
MAT	**Matsushiro**	**38.29**	**359**	P		**P**	**17 49 34.4**	**+0.5**
MAT				S		**S**	**17 55 27.0**	**0.0**
IPM	**Ipoh**	**38.60**	**280**	*e*P		**P**	**17 49 36.7**	**-0.3**
	comp=Z,79nm,0.6s							
IPM				*e*PcP		**PcP**	**17 51 48.4**	**-0.9**
IPM	**Ipoh**	**38.60**	**280**	P		**P**	**17 49 37.1**	**+0.2**
IPM	**Ipoh**	**38.60**	**280**	P		**P**	**17 49 37.1**	**+0.2**
	comp=Z,160nm,0.8s,comp=Z,2µm							
PPI	**Padang Panjang**	**38.75**	**272**	P		**P**	**17 49 37.9**	**-0.2**
	comp=Z,161nm,1.8s,comp=Z,3µm							
NJ2	**Nanjing**	**38.89**	**332**	*e*P		**P**	**17 49 39.5**	**+0.6**
NJ2				pP		**pP**	**17 49 44.2**	**-1.2**
NJ2				PP		**PnPn**	**17 51 09.7**	**-0.9**
NJ2				S		**S**	**17 55 41.5**	**+5.4**
NJ2				sS		**sS**	**17 55 45.5**	**-1.3**
NJ2				pmax		pmax		
	comp=Z,30nm,1.3s							
NJ2				pmax		pmax		
	comp=Z,390nm,5.0s							
NJ2				LR		LR		
	comp=N,1µm,16.0s							
NJ2				LR		LR		
	comp=E,2µm,25.0s							
NJ2				LR		LR		
	comp=Z,1µm,14.0s							
KULM	**Kulim**	**39.10**	**281**	*e*P		**P**	**17 49 40.9**	**-0.2**
	comp=Z,132nm,1.1s							
KULM				LR		LR		
	comp=Z,852nm,22.0s							
KULM	**Kulim**	**39.10**	**281**	P		**P**	**17 49 41.4**	**+0.4**
MNSI	**Mandailing Nat**	**39.64**	**274**	P		**P**	**17 49 45.1**	**-0.4**
	comp=Z,90nm,0.7s							
WHN	**Wuhan**	**40.01

	comp=E,450nm,14.8s								
DL2					LR	LR			
	comp=Z,430nm,15.2s								
ERM	**Erimo**	**43.90**	**4**		PFAKE		17 50 30.0	+10	
ERM					LR	LR			
	comp=Z,2µm,20.0s								
KMI	**Kunming**	**44.34**	**310**	⇑	P	**P**	**17 50 24.8**	**+0.7**	
KMI					pP	**pP**	**17 50 30.3**	**-0.4**	
KMI					sP	**sP**	**17 50 32.1**	**-1.2**	
KMI					PP	**PcP**	**17 52 10.4**	**+2.3**	
KMI					ScP	**ScP**	**17 55 59.8**	**+0.6**	
KMI					PcS	**PcS**	**17 56 01.7**	**0.0**	
KMI					S	**S**	**17 56 57.6**	**-0.1**	
KMI					SS	SS	18 00 08.2	-8.7	
KMI					ScS	**ScS**	**18 00 20.5**	**-1.5**	
KMI					pmax	pmax			
	comp=Z,43nm,1.6s								
KMI					pmax	pmax			
	comp=Z,480nm,3.4s								
KMI					LR	LR			
	comp=N,860nm,14.6s								
KMI					LR	LR			
	comp=E,740nm,11.3s								
KMI					LR	LR			
	comp=Z,760nm,23.7s								
BSI	**Banda Aceh**	**44.40**	**280**		P	**P**	**17 50 22.9**	**-1.6**	
	comp=Z,72nm,1.7s,comp=Z,1µm								
CM31	**Chiang Mai Arr**	**44.42**	**299**		*e*P	**P**	**17 50 24.7**	**+0.1**	
	comp=Z,11nm,0.6s								
CMAR	**Chiang Mai Arr**	**44.42**	**299**		P	**P**	**17 50 24.9**	**+0.3**	
	comp=Z,21nm,0.8s,baz=119,slow=6.4,SNR=121								
CMAR	**Chiang Mai Arr**	**44.42**	**299**		P	**P**	**17 50 24.9**	**+0.3**	
CHTO	**Chiang Mai**	**44.56**	**299**		*e*P	**P**	**17 50 25.3**	**-0.4**	
CHTO					*e*		17 52 09.5		
CHTO					pmax	pmax			
	comp=Z,86nm,1.5s								
CHTO					MLR	MLR			
	comp=Z,669nm,21.0s								
CHTO	**Chiang Mai**	**44.56**	**299**		*e*P	**P**	**17 50 25.3**	**-0.4**	
	comp=Z,86nm,1.5s								
CHTO					*e*		17 52 09.5		
CHTO					LR	LR			
	comp=Z,669nm,21.0s								
CHTO	**Chiang Mai**	**44.56**	**299**		P	**P**	**17 50 26.1**	**+0.4**	
	SNR=32								
CHTO	**Chiang Mai**	**44.56**	**299**		P	**P**	**17 50 25.6**	**-0.1**	
XAN	**Xi'an**	**45.69**	**324**		P	**P**	**17 50 33.9**	**-0.6**	
XAN					S	**S**	**17 57 15.4**	**-1.2**	
XAN					pmax	pmax			
	comp=Z,14nm,0.8s								
XAN					LR	LR			
	comp=Z,73nm,16.3s								
SNY	**Shenyang**	**45.79**	**344**	⇓	P	**P**	**17 50 35.0**	**0.0**	
SNY					S	**S**	**17 57 18.1**	**+0.5**	
SNY					pmax	pmax			
	comp=Z,230nm,1.2s								
SNY					pmax	pmax			
	comp=Z,2µm,3.5s								
SNY					LR	LR			
	comp=N,750nm,15.1s								
ASAJ	**Asahikawa**	**45.95**	**3**		P	**P**	**17 50 36.2**	**0.0**	
	comp=N,9.7nm,0.8s,baz=227,slow=9.9,SNR=5.7								
ASAJ					LR	LR	18 08 03.1		
	comp=N,1µm,20.8s,baz=162,slow=34								
ASAJ	**Asahikawa**	**45.95**	**3**		P	**P**	**17 50 36.2**	**0.0**	
USRK	**Ussuriysk Arra**	**46.37**	**353**		P	**P**	**17 50 39.7**	**+0.2**	
	comp=N,10nm,0.9s,baz=191,slow=7.1,SNR=11								
USRK					LR	LR	18 07 31.3		
	comp=N,766nm,20.7s,baz=300,slow=33								
BJT	**Baijiatuau**	**46.75**	**336**		*e*P	**P**	**17 50 42.0**	**-0.5**	
	comp=N,49nm,0.9s								
BJT					LR	LR			
	comp=Z,1µm,19.0s								
BJI	**Beijing**	**46.76**	**336**		P	**P**	**17 50 42.0**	**-0.7**	
BJI					S	**S**	**17 57 29.7**	**-1.9**	
BJI					pmax	pmax			
	comp=Z,49nm,1.4s								
BJI					pmax	pmax			
	comp=Z,440nm,4.0s								
BJI					LR	LR			
	comp=N,990nm,18.7s								
BJI					LR	LR			
	comp=E,990nm,18.0s								
BJI					LR	LR			
	comp=E,810nm,19.5s								
CD2	**Chengdu**	**46.90**	**317**	⇑	*i*P	**P**	**17 50 44.8**	**+0.8**	
CD2					pP	**pP**	**17 50 49.3**	**-1.3**	
CD2					PP	**PP**	**17 52 34.9**	**+0.3**	
CD2					S	**S**	**17 57 35.0**	**+1.0**	
CD2					pmax	pmax			
	comp=Z,160nm,1.1s								
CD2					pmax	pmax			
	comp=Z,690nm,4.9s								
CD2					LR	LR			
	comp=N,1µm,15.5s								
CD2					LR	LR			
	comp=Z,1µm,17.8s								
CN2	**Changchun**	**47.16**	**346**		*e*P	**P**	**17 50 45.5**	**-0.2**	
CN2					*ep*P	**pP**	**17 50 50.0**	**-2.3**	
CN2					*es*P	**sP**	**17 50 52.5**	**-2.4**	
CN2					*e*S	**S**	**17 57 39.5**	**+2.3**	
CN2					SS	SS	18 00 56.0	-8.7	
CN2					pmax	pmax			
	comp=Z,20nm,0.9s								
CN2					pmax	pmax			
	comp=Z,400nm,5.0s								
CN2					LR	LR			
	comp=N,600nm,20.0s								
CN2					LR	LR			
	comp=E,900nm,20.0s								
CN2					LR	LR			
	comp=Z,700nm,24.0s								
YSS	**Yuzh-Sakhalins**	**48.79**	**3**	⇑	*e*P	**P**	**17 50 58.1**	**-0.2**	
YSS					*e**SP	**sP**	**17 51 11.0**	**+3.5**	
YSS					*e*S	**S**	**17 58 02.0**	**+1.9**	
YSS					*e*PS	**sS**	**17 58 14.0**	**+3.0**	
YSS					*e*SS	**SS**	**18 01 26.0**	**-5.0**	
YSS					*e*SSS	SSS	18 02 42.0		
YSS					pmax	pmax			
	comp=Z,500nm,5.0s								
YSS					MLR	MLR			
	comp=N,400nm,15.0s								
YSS					MLR	MLR			
	comp=Z,400nm,15.0s								
YSS	**Yuzh-Sakhalins**	**48.79**	**3**		*e*P	**P**	**17 50 56.7**	**-1.6**	
	comp=Z,22nm,0.6s								
YSS					LR	LR			
	comp=Z,358nm,20.0s								
HHC	**Hu-ho-hao-te**	**49.44**	**332**		*e*P	**P**	**17 51 03.5**	**-0.1**	
HHC					pP	**pP**	**17 51 09.2**	**-1.0**	
HHC					sP	**sP**	**17 51 11.5**	**-1.3**	
HHC					PcP	**PcP**	**17 52 27.0**	**+1.4**	
HHC					PP	**PP**	**17 52 59.4**	**+1.5**	
HHC					ScP	**ScP**	**17 56 20.8**	**+0.8**	
HHC					S	**S**	**17 58 12.3**	**+2.5**	
HHC					sS	**sS**	**17 58 19.5**	**-1.2**	
HHC					ScS	**ScS**	**18 00 54.1**	**-0.4**	
HHC					SS	**SS**	**18 01 39.7**	**-2.3**	
HHC					pmax	pmax			
	comp=Z,60nm,1.5s								
HHC					pmax	pmax			
	comp=Z,1µm,6.0s								
HHC					LR	LR			
	comp=N,2µm,16.6s								
HHC					LR	LR			
	comp=E,1µm,17.1s								
HHC					LR	LR			
	comp=Z,2µm,16.5s								
AFI	**Afiamalu**	**49.94**	**107**		LR	LR	18 11 20.3		
	comp=Z,963nm,18.8s,baz=274,slow=35								
BTO	**Baotou**	**49.98**	**331**		*e*P	**P**	**17 51 07.3**	**-0.4**	
LZH	**Lanzhou**	**50.12**	**322**	⇑	P	**P**	**17 51 10.1**	**+1.2**	
LZH					pP	**pP**	**17 51 14.6**	**-1.0**	
LZH					sP	**sP**	**17 51 17.9**	**-0.2**	
LZH					PP	**PP**	**17 53 05.2**	**+0.9**	
LZH					S	**S**	**17 58 23.0**	**+3.4**	
LZH					sS	**sS**	**17 58 30.1**	**-0.5**	
LZH					pmax	pmax			
	comp=Z,46nm,1.0s								
LZH					pmax	pmax			
	comp=Z,210nm,4.0s								
LZH					LR	LR			
	comp=N,540nm,14.5s								
LZH					LR	LR			
	comp=E,750nm,14.7s								
LZH					LR	LR			
	comp=Z,990nm,15.4s								
HABR	**Khabarovsk**	**50.33**	**356**	*ce*	P	**P**	**17 51 09.6**	**-0.4**	
HABR				*e*	*P*P	**pP**	**17 51 18.4**	**+1.8**	
HABR				*e*	*S*P	**sP**	**17 51 22.9**	**+3.7**	
HABR				*e*			17 52 26.6		
HABR				*e*			17 53 04.9		
HABR				*e*	PPP	PPP	17 54 00.7		
HABR				*e*	S	**S**	**17 58 21.7**	**0.0**	
HABR				*e*	*S*S	**sS**	**17 58 37.0**	**+4.4**	
HABR				*e*			18 00 57.0		
HABR				*e*	SS	**SS**	**18 01 56.4**	**+0.7**	
HABR				*e*	SSS	SSS	18 03 23.7		
HABR					pmax	pmax			
	comp=N,48nm,2.5s								
HABR					pmax	pmax			
	comp=Z,92nm,2.5s								
HABR					pmax	pmax			
	comp=E,80nm,2.5s								
HABR					MLR	MLR			
	comp=Z,327nm,16.0s								
RPZ	**Rata Peaks**	**50.34**	**150**		P	**P**	**17 51 09.8**	**-0.5**	
	comp=Z,77nm,0.9s								
SNZO	**South Karori**	**50.62**	**145**		PFAKE		17 51 20.0	+7.6	
SNZO					LR	LR			
	comp=Z,2µm,20.0s								
KLR	**Kul'dur**	**51.36**	**354**		*e*P	P	17 51 13.6	-4.2	
KLR					*e*S	**S**	**17 58 33.0**	**-3.0**	
KLR					*e*		18 03 37.5		
KLR					pmax	pmax			
	comp=Z,120nm,1.8s								
KLR					MLR	MLR			
	comp=E,500nm,12.5s								
KLR					MLR	MLR			
	comp=Z,2µm,12.5s								
MIDW	**Midway**	**51.39**	**51**		PFAKE		17 51 30.0	+12	
MIDW					LR	LR			
	comp=Z,2µm,20.0s								
HIA	**Hailar**	**53.69**	**344**		*e*P	**P**	**17 51 34.2**	**-0.9**	
	comp=Z,27nm,1.1s								
HIA					LR	LR			
	comp=Z,769nm,19.0s								
JOHN	**Johnston Islan**	**53.94**	**68**		PFAKE		17 51 50.0	+13	
JOHN					LR	LR			
	comp=Z,24nm,22.0s								
GTA	**Gaotai**	**54.70**	**323**	⇑	P	**P**	**17 51 43.4**	**+0.6**	
GTA					pP	**pP**	**17 51 48.0**	**-1.5**	
GTA					sP	**sP**	**17 51 50.5**	**-1.6**	
GTA					PP	**PP**	**17 53 48.1**	**+2.5**	
GTA					S	**S**	**17 59 22.2**	**0.0**	
GTA					sS	**sS**	**17 59 30.3**	**-2.9**	
GTA					SS	**SS**	**18 03 04.7**	**-0.8**	
GTA					pmax	pmax			
	comp=Z,34nm,1.8s								
GTA					pmax	pmax			
	comp=Z,470nm,5.2s								
GTA					LR	LR			
	comp=N,280nm,16.6s								
GTA					LR	LR			
	comp=E,460nm,16.6s								
GTA					LR	LR			
	comp=Z,590nm,17.6s								
CAL	**Calcutta**	**55.16**	**299**		*e*P	**P**	**17 51 46.1**	**-0.2**	
CAL					*ex*	x	17 59 02.9		
LSA	**Lhasa**	**55.56**	**308**		P	**P**	**17 51 50.4**	**+0.8**	
LSA					S	**S**	**17 59 36.2**	**+1.5**	
LSA					LR	LR			
	comp=E,430nm,29.6s								
LSA	**Lhasa**	**55.56**	**308**		*e*P	**P**	**17 51 50.4**	**+0.8**	
LSA					pmax	pmax			
	comp=Z,25nm,0.6s								
LSA					MLR	MLR			
	comp=Z,354nm,20.0s								
LSA	**Lhasa**	**55.56**	**308**		*e*P	**P**	**17 51 50.4**	**+0.8**	
	comp=Z,25nm,0.6s								
LSA					LR	LR			
	comp=Z,354nm,20.0s								
ULN	**Ulaanbaatar**	**56.95**	**335**		*e*P	**P**	**17 51 58.9**	**+0.1**	
	comp=Z,36nm,1.0s								
ULN					LR	LR			
	comp=Z,2µm,19.0s								
ULN	**Ulaanbaatar**	**56.95**	**335**		P	**P**	**17 51 59.9**	**+1.1**	
	SNR=23								
PETK	**Petropavlovsk-**	**57.01**	**13**		P	**P**	**17 51 58.8**	**-0.2**	
	comp=Z,15nm,1.1s,baz=159,slow=4.6,SNR=10								
PETK					LR	LR	18 19 20.7		
	comp=Z,459nm,18.0s,baz=199,slow=39								
PETK	**Petropavlovsk-**	**57.01**	**13**		P	**P**	**17 51 58.8**	**-0.2**	
PETK	**Petropavlovsk-**	**57.01**	**13**		P	**P**	**17 51 58.8**	**-0.2**	
PET	**Petropavlovsk**	**57.16**	**14**		*e*P	**P**	**17 52 01.8**	**+1.9**	
PET					*e*S	**S**	**17 59 53.0**	**-1.1**	
PET					*e*SS	**SS**	**18 03 40.0**	**-3.4**	
PET					pmax	pmax			
	comp=Z,400nm,14.6s								
PET					MLR	MLR			
	comp=Z,500nm,17.0s								
PET	**Petropavlovsk**	**57.16**	**14**		PFAKE		17 52 10.0	+10	
PET					LR	LR			
	comp=Z,703nm,19.0s								
SONM	**Songino Array**	**57.20**	**334**		P	**P**	**17 52 00.9**	**+0.3**	
	comp=Z,5.9nm,0.7s,baz=153,slow=7.1,SNR=48								
SONM					PcP	**PcP**	**17 52 55.4**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=159,slow=4.9,SNR=2.9								
SONM					PKP2bc		18 22 02.0		
	comp=Z,1.2nm,1.2s,baz=212,slow=0.7,SNR=5.9								
SONM	**Songino Array**	**57.20**	**334**		P	**P**	**17 52 00.9**	**+0.3**	
SONM					PcP	**PcP**	**17 52 55.4**	**+0.4**	
SONM				⇑	*e*		18 22 02.0		
TAPN	**Taplejung**	**57.38**	**304**		*e*P	**P**	**17 52 02.8**	**+0.4**	
	comp=Z,325nm,1.6s								
TAPN	**Taplejung**	**57.38**	**304**		*e*P	**P**	**17 52 02.8**	**+0.4**	
	comp=Z,325nm,1.6s								
ODAN	**Odare**	**57.47**	**304**		*e*P	**P**	**17 52 03.3**	**+0.3**	
	comp=Z,52nm,0.6s								
ODAN	**Odare**	**57.47**	**304**		*e*P	**P**	**17 52 03.3**	**+0.3**	
	comp=Z,52nm,0.6s								
CIT	**Chita**	**57.95**	**342**		*e*P	**P**	**17 52 06.2**	**+0.6**	
CIT					*e*		17 52 55.1		
CIT					pmax	pmax			
	comp=Z,134nm,2.9s								
RAMN	**Ramite**	**58.16**	**303**		*e*P	**P**	**17 52 08.4**	**+0.6**	
RAMN	**Ramite**	**58.16**	**303**		*e*P	**P**	**17 52 08.4**	**+0.6**	
JIRN	**Jiri**	**58.75**	**304**		*e*P	**P**	**17 52 12.4**	**+0.3**	
	comp=Z,13nm,0.6s								
JIRN	**Jiri**	**58.75**	**304**		*e*P	**P**	**17 52 12.4**	**+0.3**	
	comp=Z,13nm,0.6s								
GUN	**Gumba**	**59.10**	**304**		*e*P	**P**	**17 52 15.1**	**+0.6**	
	comp=Z,76nm,0.6s								
GUN	**Gumba**	**59.10**	**304**		*e*P	**P**	**17 52 15.1**	**+0.6**	
	comp=Z,76nm,0.6s								
PKI	**Pulchoki**	**59.37**	**304**		*e*P	**P**	**17 52 16.3**	**0.0**	
	comp=Z,50nm,0.8s								
PKI	**Pulchoki**	**59.37**	**304**		*e*P	**P**	**17 52 16.3**	**0.0**	
PKI					pmax	pmax			
	comp=Z,50nm,0.8s								
PKI	**Pulchoki**	**59.37**	**304**		*e*P	**P**	**17 52 16.3**	**0.0**	
	comp=Z,50nm,0.8s								
KKN	**Kakani**	**59.55**	**304**		*e*P	**P**	**17 52 17.7**	**+0.2**	
	comp=Z,81nm,0.7s								
KKN	**Kakani**	**59.55**	**304**		*e*P	**P**	**17 52 17.7**	**+0.2**	
KKN					pmax	pmax			
	comp=Z,81nm,0.7s								
KKN	**Kakani**	**59.55**	**304**		*e*P	**P**	**17 52 17.7**	**+0.2**	
	comp=Z,81nm,0.7s								
DMN	**Daman**	**59.63**	**304**		*e*P	**P**	**17 52 18.4**	**+0.3**	
	comp=Z,63nm,0.6s								
DMN	**Daman**	**59.63**	**304**		*e*P	**P**	**17 52 18.4**	**+0.3**	
	comp=Z,63nm,0.6s								
CLNS	**Chul'man**	**59.71**	**351**		*e*P	**P**	**17 52 17.4**	**-0.3**	
CLNS					*e**PP	pP	17 52 32.8	+8.3	
CLNS					*e*		17 53 01.6		
CLNS					*e*		17 54 29.4		
CLNS					*e*PPP	PPP	17 55 54.1		
CLNS					*e*S	**S**	**18 00 26.5**	**-0.8**	
CLNS					*e*		18 02 03.4		
CLNS					*e*SS	**SS**	**18 04 23.8**	**+0.3**	
CLNS					pmax	pmax			
	comp=N,16nm,1.0s								
CLNS					pmax	pmax			
	comp=Z,38nm,1.1s								
CLNS					pmax	pmax			
	comp=E,12nm,1.0s								
CLNS					pmax	pmax			
	comp=Z,5.0nm,1.3s								
CLNS					pmax	pmax			
	comp=E,11nm,1.4s								
CLNS					pmax	pmax			
	comp=N,4.0nm,0.9s								
CLNS					smax	smax			
	comp=E,258nm,12.2s								
CLNS					smax	smax			
	comp=N,98nm,10.9s								
CLNS					MLR	MLR			
	comp=Z,235nm,14.0s								
CLNS					MLR	MLR			
	comp=N,236nm,13.0s								
CLNS					MLR	MLR			
	comp=E,244nm,14.0s								
GKN	**Gorkha**	**60.16**	**304**		*e*P	**P**	**17 52 22.0**	**+0.4**	
	comp=E,97nm,0.7s								
GKN	**Gorkha**	**60.16**	**304**		*e*P	**P**	**17 52 22.0**	**+0.4**	
	comp=E,97nm,0.7s								
ZAK	**Zakamensk**	**60.47**	**334**	⇓	*i*P	**P**	**17 52 22.7**	**-0.5**	
ZAK					pmax	pmax			
	comp=Z,43nm,1.7s								
KOLN	**Koldanda**	**60.94**	**303**		*e*P	**P**	**17 52 27.5**	**+0.5**	
	comp=Z,59nm,0.7s								
KOLN	**Koldanda**	**60.94**	**303**		*e*P	**P**	**17 52 27.5**	**+0.5**	
	comp=Z,59nm,0.7s								
DANN	**Dangsing**	**61.00**	**304**		*e*P	**P**	**17 52 27.8**	**+0.3**	
	comp=Z,85nm,0.6s								
DANN	**Dangsing**	**61.00**	**304**		*e*P	**P**	**17 52 27.8**	**+0.3**	
	comp=Z,85nm,0.6s								
TLY	**Talaya**	**61.29**	**336**	⇑	*i*P	**P**	**17 52 29.3**	**+0.7**	
TLY					*e*S	**S**	**18 00 49.9**	**+2.2**	
TLY					pmax	pmax			
	comp=Z,49nm,2.0s								
TLY					MLR	MLR			
	comp=Z,1µm,19.0s								
TLY	**Talaya**	**61.29**	**336**		*e*P	**P**	**17 52 29.1**	**+0.5**	
	comp=Z,105nm,1.8s								
TLY					LR	LR			
	comp=Z,1µm,20.0s								
TLY	**Talaya**	**61.29**	**336**		P	**P**	**17 52 29.8**	**+1.2**	
	SNR=28								
TLY	**Talaya**	**61.29**	**336**		P	**P**	**17 52 29.1**	**+0.5**	
	comp=Z,112nm,1.2s,SNR=7.5								
IRK	**Irkutsk**	**61.46**	**336**	⇑	*i*P	**P**	**17 52 29.7**	**0.0**	
IRK					pmax	pmax			
	comp=Z,88nm,2.4s								
PYUN	**Piuthan**	**61.56**	**303**		*e*P	**P**	**17 52 31.6**	**+0.4**	
	comp=Z,220nm,0.7s								
PYUN	**Piuthan**	**61.56**	**303**		*e*P	**P**	**17 52 31.6**	**+0.4**	
	comp=Z,220nm,0.7s								
FX1	**Attu Island--F**	**61.62**	**23**		*e*P	**P**	**17 52 29.5**	**-1.3**	
MOY	**Mondy**	**62.40**	**334**		*e*P	**P**	**17 52 37.0**	**+0.8**	
MOY					pmax	pmax			
	comp=Z,133nm,2.8s								
HYB	**Hyderabad**	**62.69**	**291**		*i*P	**P**	**17 52 37.0**	**-1.7**	
BOD	**Bodaibo**	**62.88**	**345**		*e*P	**P**	**17 52 38.7**	**-0.4**	
BOD					pmax	pmax			
	comp=Z,29nm,1.7s								
NGP	**Nagpur**	**63.05**	**295**		*e*P	**P**	**17 52 38.8**	**-2.2**	
NGP					AMb	AMB	17 52 42.3		
	comp=Z,102nm,1.5s								
NGP					*e*S	**S**	**18 01 09.8**	**-1.2**	
YAK	**Yakutsk**	**64.20**	**355**	*c*	*i*P	**P**	**17 52 47.9**	**+0.1**	
YAK					*e**PP	**pP**	**17 52 58.0**	**+3.5**	
YAK					*e*		17 53 26.5		
YAK					*e*		17 55 08.9		
YAK					*e*PPP	PPP	17 56 42.0		
YAK					*e*S	**S**	**18 01 24.0**	**+0.2**	
YAK					*e*		18 02 39.2		
YAK					*e*SS	**SS**	**18 05 33.2**	**-0.3**	
YAK					*e*SSS	SSS	18 08 28.6		
YAK					pmax	pmax			
	comp=Z,57nm,0.9s								
YAK					pmax	pmax			
	comp=N,34nm,1.3s								
YAK					pmax	pmax			
	comp=Z,92nm,3.7s								
YAK					pmax	pmax			
	comp=N,104nm,3.8s								
YAK					pmax	pmax			
	comp=E,36nm,3.0s								
YAK					smax	smax			
	comp=N,381nm,4.3s								
YAK					smax	smax			
	comp=E,95nm,4.7s								
YAK					MLR	MLR			
	comp=Z,371nm,15.0s								
YAK					MLR	MLR			
	comp=N,233nm,15.0s								
YAK					MLR	MLR			
	comp=E,145nm,14.0s								
YAK	**Yakutsk**	**64.20**	**355**		*e*P	**P**	**17 52 47.7**	**0.0**	
	comp=E,66nm,0.8s								
YAK					LR	LR			
	comp=Z,780nm,20.0s								
WMQ	**Urumqi**	**64.67**	**321**		P	**P**	**17 52 51.9**	**+0.6**	
WMQ					PcP	**PcP**	**17 53 24.9**	**-0.1**	
WMQ					PP	**PP**	**17 55 15.4**	**+1.6**	
WMQ					S	**S**	**18 01 31.1**	**+0.6**	
WMQ					SKS	**SKSac**	**18 02 43.7**	**-1.2**	
WMQ					SS	**SS**	**18 05 43.6**	**+1.9**	
WMQ					pmax	pmax			
	comp=Z,64nm,1.6s								
WMQ					pmax	pmax			
	comp=Z,770nm,4.6s								
WMQ					LR	LR			
	comp=N,380nm,23.0s								
WMQ					LR	LR			
	comp=E,140nm,23.0s								
WMQ					LR	LR			
	comp=Z,220nm,22.0s								
AKL	**Akola**	**64.80**	**294**		*e*P	**P**	**17 52 51.7**	**-0.8**	
AKL					AMb	AMB	17 52 55.7		
	comp=Z,91nm,1.2s								
HVS	**Khovu-Aksy**	**65.43**	**330**	*c*	*i*P	**P**	**17 52 57.0**	**+0.9**	
SEY	**Seymchan**	**65.47**	**7**	*d*	*i*P	**P**	**17 52 56.7**	**+0.7**	
MNGI	**Mangalore**	**65.48**	**285**		*e*P	**P**	**17 52 55.0**	**-2.1**	
AGRA	**Agra**	**65.57**	**301**		*e*P	**P**	**17 52 56.4**	**-0.9**	
AGRA					AMb	AMB	17 53 03.6		
	comp=Z,96nm,0.2s								
DDI	**Dehra Dun**	**66.35**	**304**		*e*P	**P**	**17 53 02.8**	**+0.3**	
BISR	**Bishrakh**	**66.36**	**302**		*e*P	**P**	**17 53 01.6**	**-0.9**	
SONA	**Sohna**	**66.58**	**302**		*e*P	**P**	**17 53 03.4**	**-0.4**	
SONA					AMb	AMB	17 53 04.9		
	comp=Z,55nm,1.1s								
AYAN	**Aya Nagar**	**66.60**	**302**		*e*P	**P**	**17 53 02.8**	**-1.2**	
AYAN					AMb	AMB	17 53 06.4		
	comp=Z,42nm,1.6s								
DGAR	**Diego Garcia**	**66.63**	**263**		PFAKE		17 53 20.0	+16	
DGAR					LR	LR			
	comp=Z,1µm,19.0s								
BHGR	**Bahadurgarh**	**66.82**	**302**		*e*P	**P**	**17 53 04.7**	**-0.7**	
KKR	**Kurukshetra**	**67.27**	**304**		*e*P	**P**	**17 53 08.3**	**0.0**	
POO	**Poona**	**67.30**	**291**	⇓	*i*P	**P**	**17 53 07.0**	**-1.7**	
	comp=Z,179nm,1.5s								
CASY	**Casey**	**67.31**	**192**		*e*P	**P**	**17 53 06.0**	**-1.9**	
	comp=Z,76nm,1.2s								
CASY					LR	LR			
	comp=Z,2µm,20.0s								
KHET	**Khetri**	**67.62**	**301**		*e*P	**P**	**17 53 10.3**	**-0.2**	
KHET					AMb	AMB	17 53 12.4		
	comp=Z,59nm,1.9s								
MK31	**Makanchi Array**	**69.44**	**322**	⇑	*i*P	**P**	**17 53 21.8**	**+0.3**	
MK31	**Makanchi Array**	**69.44**	**322**	⇑	*i*P	**P**	**17 53 21.8**	**+0.3**	
MKAR	**Makanchi Array**	**69.44**	**322**		P	**P**	**17 53 22.0**	**+0.4**	
	comp=Z,21nm,0.6s,baz=110,slow=7.9,SNR=302								
MKAR	**Makanchi Array**	**69.44**	**322**		P	**P**	**17 53 22.0**	**+0.4**	
MKAR	**Makanchi Array**	**69.44**	**322**		P	**P**	**17 53 22.0**	**+0.4**	
KSH	**Kashi**	**70.86**	**313**	⇑	*i*P	**P**	**17

NIL Nilore 71.20 306 PFAKE 17 53 40.0 +7.3
NIL LR LR
comp=Z,20nm,22.0s
ZAA0 Zalesovo Array 71.48 330⇑ *i*P **P** **17 53 33.0 -0.8**
ZALV Zalesovo Beam 71.48 330 P **P** **17 53 33.0 -0.8**
comp=Z,12nm,0.6s,baz=114,slow=6.4,SNR=86
ZALV Zalesovo Beam 71.48 330 P **P** **17 53 33.0 -0.8**
ZALV Zalesovo Beam 71.48 330 P **P** **17 53 33.0 -0.8**
PPT2 Papeete2 71.59 108 *e*S **S** **18 02 51.0 -3.0**
comp=Z,420nm,25.8s
PPT2 *e*LQ LQ 18 12 28.1
comp=Z,2μm,42.0s
PPT2 *e*LR LR 18 16 11.2
comp=Z,1μm,26.8s
TBI Tubuai 72.18 114 *e*S **S** **18 02 56.4 -4.1**
comp=Z,364nm,26.8s
TBI *e*SS **SS** **18 07 37.4 -0.9**
comp=Z,458nm,30.5s
TBI *e*LQ LQ 18 12 41.5
comp=Z,813nm,38.5s
TBI *e*LR LR 18 15 45.9
comp=Z,1μm,32.0s
KZA Kyzart 72.23 315 P **P** **17 53 40.6 +1.5**
SNR=59
TKM2 Tokmak 2 72.28 316⇑ *i*P **P** **17 53 39.0 -0.1**
TKM2 pmax pmax
comp=Z,68nm,1.5s
TKM2 MLR MLR
comp=Z,327nm,20.0s
TKM2 Tokmak 2 72.28 316⇑ *i*P **P** **17 53 39.0 -0.1**
comp=Z,68nm,1.5s
TKM2 LR LR
comp=Z,327nm,20.0s
TKM2 Tokmak 2 72.28 316 P **P** **17 53 39.8 +0.7**
SNR=22
BILL Bilibino 72.33 10 *e*P P 17 53 34.0 -4.7
BILL pmax pmax
comp=Z,14nm,1.3s
BILL Bilibino 72.33 10 *e*P P 17 53 34.0 -4.7
comp=Z,14nm,1.3s
KBK Karagaybulak 72.64 316 P **P** **17 53 42.7 +1.5**
SNR=15
NVS Novosibirsk 72.73 330⇑ *i*P **P** **17 53 40.3 -1.0**
NVS *e* 17 56 30.5
NVS pmax pmax
comp=N,54nm,1.6s
NVS pmax pmax
comp=E,69nm,1.6s
NVS pmax pmax
comp=Z,137nm,1.6s
NVS pmax pmax
comp=Z,46nm,2.8s
NVS pmax pmax
comp=N,18nm,2.4s
UCH Uchtor 72.80 315 P **P** **17 53 44.5 +1.9**
SNR=5.7
CHMS Chumysh 72.89 316 P **P** **17 53 43.6 +1.1**
SNR=17
FRU Bishkek 72.92 316⇑ *i*P **P** **17 53 42.0 -0.8**
FRU pmax pmax
comp=Z,99nm,2.0s
AAK Ala-Archa 72.94 316 *e*P **P** **17 53 43.2 +0.1**
AAK pmax pmax
comp=Z,55nm,0.9s
AAK Ala-Archa 72.94 316 *e*P **P** **17 53 43.2 +0.1**
comp=Z,55nm,0.9s
AAK Ala-Archa 72.94 316 P **P** **17 53 43.4 +0.3**
comp=Z,89nm,1.9s,SNR=14
AAK Ala-Archa 72.94 316 P **P** **17 53 44.5 +1.5**
SNR=15
USP Ospenovka 73.15 316 P **P** **17 53 44.6 +0.5**
SNR=34
KURK Kurchatov 73.33 325 *c i*P **P** **17 53 45.3 +0.4**
KURK pmax pmax
comp=Z,101nm,1.6s
KURK Kurchatov 73.33 325⇑ *i*P **P** **17 53 44.7 -0.2**
comp=Z,173nm,1.6s
KURK Kurchatov 73.33 325 P **P** **17 53 45.3 +0.4**
SNR=36
KURK Kurchatov 73.33 325 P **P** **17 53 44.2 -0.7**
comp=Z,213nm,1.3s,SNR=42
AML Almayashu 73.34 315 P **P** **17 53 46.8 +1.0**
SNR=34
EKS2 Erkin-Say 73.45 316⇑ *e*P **P** **17 53 46.3 +0.3**
EKS2 pmax pmax
comp=Z,70nm,1.5s
EKS2 MLR MLR
comp=Z,364nm,19.0s
EKS2 Erkin-Say 73.45 316⇑ *e*P **P** **17 53 46.3 +0.3**
comp=Z,70nm,1.5s
EKS2 LR LR
comp=Z,364nm,19.0s
EKS2 Erkin-Say 73.45 316 P **P** **17 53 47.0 +0.9**
SNR=32
KBL Kabul 74.81 306 *e*P **P** **17 53 54.1 -0.1**
KBL pmax pmax
comp=Z,21nm,0.9s
KBL Kabul 74.81 306 *e*P **P** **17 53 54.1 -0.1**
comp=Z,21nm,0.9s
KKAR Karatay Array 75.88 315⇑ *i*P **P** **17 53 59.9 0.0**
KKAR pmax pmax
comp=Z,80nm,1.6s
KKAR Karatay Array 75.88 315⇑ *i*P **P** **17 53 59.9 0.0**
comp=Z,80nm,1.6s
VNDA Vanda 76.51 175 P **P** **17 54 03.4 +0.6**
comp=Z,22nm,0.7s,baz=322,slow=6.5,SNR=86
VNDA LR LR 18 28 22.3
comp=Z,2μm,18.2s,baz=350,slow=36
VNDA Vanda 76.51 175⇑ *i*P **P** **17 54 03.0 +0.1**
comp=Z,29nm,0.9s
SBA Scott Base 77.27 174 *e*P **P** **17 54 08.9 +1.8**
SBA pmax pmax
comp=Z,83nm,1.4s
SBA Scott Base 77.27 174 *e*P **P** **17 54 08.8 +1.8**
comp=Z,83nm,1.4s
TNA Tin City 77.29 20 *e*P **P** **17 54 08.8 +1.5**
comp=Z,9.3nm,0.8s
BVAR Borovoye Array 78.92 325 P **P** **17 54 17.0 +0.3**
comp=Z,27nm,0.6s,baz=115,slow=7.6,SNR=204
BVAR Borovoye Array 78.92 325 P **P** **17 54 17.0 +0.3**
BVAR Borovoye Array 78.92 325 P **P** **17 54 17.0 +0.3**
BRVK Borovoye 78.99 325⇑ *i*P **P** **17 54 17.3 +0.2**
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK MLR MLR
comp=Z,474nm,21.0s
BRVK Borovoye 78.99 325⇑ *i*P **P** **17 54 17.3 +0.2**
comp=Z,31nm,0.8s
BRVK LR LR
comp=Z,474nm,21.0s
BRVK Borovoye 78.99 325 P **P** **17 54 17.8 +0.7**
comp=Z,330nm,0.7s,SNR=22
BRVK Borovoye 78.99 325 P **P** **17 54 17.9 +0.8**
SNR=30
WBK Wadi Bani Khal 81.66 293 P **P** **17 54 33.4 +1.2**
SNR=9.0
JMDO Jabal Madar 82.44 293 P **P** **17 54 36.5 +0.3**
SNR=14
SMDO Samad 82.55 293 P **P** **17 54 37.7 +0.8**
SNR=11
MAW Mawson 83.00 202 LR LR 18 29 49.8
comp=Z,2μm,18.2s,baz=66,slow=34
PMR Palmer 83.09 27⇑ *e*P **P** **17 54 38.2 -0.5**
PMR pmax pmax
comp=Z,28nm,1.0s
PMR Palmer 83.09 27⇑ *e*P **P** **17 54 38.2 -0.5**
comp=Z,28nm,1.0s
TRF Thorofare Moun 83.14 25 *e*P **P** **17 54 37.8 -1.4**
comp=Z,72nm,1.8s
HOQ Hoqain 83.27 294 P **P** **17 54 41.1 +0.6**
SNR=21
BSY Bisya 83.30 293 P **P** **17 54 41.6 +0.8**
SNR=16
SML Sawmill 83.52 27 *e*P **P** **17 54 41.3 +0.3**
SML pmax pmax
comp=Z,12nm,1.1s
SML Sawmill 83.52 27 *e*P **P** **17 54 41.3 +0.3**
comp=Z,12nm,1.1s
MSEY Mahe Island 83.52 266 PFAKE 17 54 50.0 +7.9
MSEY LR LR
comp=Z,442nm,20.0s
ARQ Araqi 83.97 294 P **P** **17 54 45.2 +1.1**
SNR=18
ABKT Ailbek 84.09 308 P **P** **17 54 45.4 +0.9**
comp=Z,197nm,1.4s,SNR=14
COLD Coldfoot 84.38 22 *e*P **P** **17 54 46.0 +0.7**
comp=Z,7.2nm,0.9s

BANOM Banah 84.39 296 P **P** **17 54 47.2 +0.9**
SNR=20
ABKAR Akbulak array 84.40 320⇑ *e*P **P** **17 54 45.2 -0.5**
comp=Z,17nm,0.9s
HATD Hatta, Dubai 84.45 295 P **P** **17 54 47.3 +0.8**
SNR=15
ASHO Ashiyiah 84.51 295 P **P** **17 54 47.5 +0.6**
SNR=21
DIV Divide 84.52 28 *e*P **P** **17 54 47.1 +0.9**
comp=Z,38nm,0.9s
COLA College 84.59 24 P **P** **17 54 46.4 +0.1**
COLA MLR MLR
comp=Z,705nm,20.0s
COLA College 84.59 24 P **P** **17 54 46.4 +0.1**
COLA LR LR
comp=Z,705nm,20.0s
NAZ Nazwa, Dubai 84.89 295 P **P** **17 54 48.9 +0.1**
SNR=19
ILAR Eielson Array 84.96 24 P **P** **17 54 47.4 -0.9**
comp=Z,6.5nm,0.9s,baz=260,slow=5.2,SNR=36
ILAR LR LR 18 30 18.2
comp=Z,589nm,19.3s,baz=50,slow=34
ILAR Eielson Array 84.96 24 P **P** **17 54 47.4 -0.9**
BMRM Bremner River 85.04 28 *e*P **P** **17 54 48.1 -0.6**
comp=Z,59nm,1.5s
PAX Paxson 85.11 26 *e*P **P** **17 54 48.5 -0.6**
PAX pmax pmax
comp=Z,25nm,1.5s
PAX Paxson 85.11 26 *e*P **P** **17 54 48.5 -0.6**
comp=Z,25nm,1.5s
ASUD Al Ashush, Dub 85.16 295 P **P** **17 54 51.3 +1.2**
SNR=14
SVE Sverdlovsk 85.32 327 *e*P **P** **17 54 50.9 +0.7**
SVE pmax pmax
comp=Z,62nm,1.9s
RKT Rikitea 85.47 113 *e*LR LR 18 21 59.8
comp=Z,924nm,26.8s
RBK Rabkut 85.74 288 P **P** **17 54 53.9 +0.7**
SNR=13
MENT Mentasta 85.88 27 *e*P **P** **17 54 51.7 -1.2**
DOT Dot Lake 85.88 26 *e*P **P** **17 54 52.7 -0.3**
comp=Z,3.6nm,0.8s
ARU Arti 86.38 327 *c i*P **P** **17 54 54.8 -0.7**
ARU 17 58 15.5
ARU S **SKSac** **18 05 18.4 -2.2**
ARU SS **SS** **18 11 05.7 -4.3**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 86.38 327 *e*P **P** **17 54 54.1 -1.4**
comp=Z,11nm,0.9s
ARU *e*PP **PP** **17 58 12.1 -4.7**
ARU LR LR
comp=Z,390nm,20.0s
ARU Arti 86.38 327 P **P** **17 54 54.5 -1.0**
comp=Z,70nm,1.0s,SNR=5.3
ABTO Aybut 86.59 287 P **P** **17 54 58.3 +0.9**
SNR=17
EGAK Eagle 87.35 25 *e*P **P** **17 55 00.5 +0.4**
comp=Z,28nm,1.3s
EGAK LR LR
comp=Z,688nm,20.0s
SOKR Solikamsk 87.77 330⇓ *i*P **P** **17 55 01.5 -0.6**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,570nm,19.0s
DAWY Dawson 87.99 26⇑ *e*P **P** **17 55 03.9 +0.7**
WRAK Wrangell Islan 90.78 34 PFAKE 17 55 30.0 +14
WRAK LR LR
comp=Z,1μm,21.0s
INK Inuvik 90.80 22 *e*P **P** **17 55 15.5 -0.6**
comp=Z,11nm,1.3s
ABPO Ambohimpanom 91.18 251 PFAKE 17 55 30.0 +11
ABPO LR LR
comp=Z,426nm,19.0s
DGRG David-gareji 94.09 311 P **P** **17 55 32.3 +0.2**
TBLG Delisi 94.56 312 *e*P **P** **17 55 33.7 -0.5**
TBLG Delisi 94.56 312 P **P** **17 55 33.7 -0.5**
GNI Garni 94.60 310 *e*P **P** **17 55 34.9 +0.3**
GNI LR LR
comp=Z,210nm,21.0s
ZEI Tsey 95.15 313 *e*P **P** **17 55 35.1 -2.1**
ZEI pmax pmax
comp=Z,7.0nm,1.4s
ONI Oni 95.49 312 P **P** **17 55 38.6 +0.1**
AKH Akhalkalaki 95.51 311 P **P** **17 55 38.4 -0.3**
KIV Kislovodsk 95.98 314 *e*P **P** **17 55 39.3 -1.4**
KIV *e* 18 06 12.7
KIV *e*SS SS 18 13 28.9 -0.4
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 95.98 314 P **P** **17 55 38.9 -1.8**
comp=Z,11nm,1.3s
KIV LR LR
comp=Z,354nm,21.0s
NLWA Neilton Lookou 96.16 43 PFAKE 17 55 50.0 +8.6
NLWA LR LR
comp=Z,926nm,20.0s
VRHR Novokhopersk 96.22 321 *e*P **P** **17 55 39.5 -2.0**
VRHR pmax pmax
comp=Z,20nm,1.4s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
KLMR Klimovskoe 96.37 331 *e*P P 17 55 38.3 -3.6
KLMR pmax pmax
comp=Z,22nm,1.6s
LVZ Lovozero 97.22 338 PFAKE 17 56 00.0 +14
LVZ LR LR
comp=Z,499nm,19.0s
YBH Yreka Blue Hor 97.38 48 LR LR 18 30 33.8
comp=Z,1μm,20.8s,baz=340,slow=30
VORD Divnogorie 97.70 321 *e*P **P** **17 55 46.3 -1.9**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,1.2s
VSR Storozhevoye 97.75 321 *e*P **P** **17 55 46.7 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,6.0nm,0.7s
KBS Kingsbay 98.61 351 PFAKE 17 56 00.0 +8.3
KBS LR LR
comp=Z,367nm,22.0s
OBN Obninsk 98.76 325⇑ *e*P **P** **17 55 52.5 -0.3**
OBN *e* 17 55 58.5
OBN *e* 17 59 54.8
OBN *e*PS **PS** **18 08 42.4 -7.0**
OBN pmax pmax
comp=Z,45nm,2.0s
OBN Obninsk 98.76 325 PFAKE 17 56 00.0 +7.2
OBN LR LR
comp=Z,652nm,21.0s
YKA Yellowknife Ar 99.19 27 P **Pdif** **17 55 54.5 -0.1**
comp=Z,0.5nm,0.8s,baz=286,slow=4.5,SNR=8.1
YKA PP **PP** **17 59 54.2 -2.8**
comp=Z,0.8nm,1.0s,baz=284,slow=7.4,SNR=5.7
YKA PKKPbc **PKKPbc** **18 12 19.0 -2.9**
comp=Z,0.7nm,0.7s,baz=102,slow=6.6,SNR=12
YKA Yellowknife Ar 99.19 27 P **Pdif** **17 55 54.5 -0.1**
YKA PP **PP** **17 59 54.2 -2.8**
YKA PKKPbc **PKKPbc** **18 12 19.1 -2.9**
HAWA Hanford 99.22 43 PFAKE 17 56 10.0 +15
HAWA LR LR
comp=Z,966nm,19.0s
MALT Malatya 99.60 308 PFAKE 17 56 10.0 +13
MALT LR LR
comp=Z,22nm,21.0s
ARCES ARCESS Array B 99.92 341 P **Pdif** **17 55 56.5 -1.2**
comp=Z,4.0nm,0.7s,baz=82,slow=8.7,SNR=9.4
ARCES LR LR 18 46 05.4
comp=Z,337nm,19.5s,baz=62,slow=38
ARCES ARCESS Array B 99.92 341 P **Pdif** **17 55 56.5 -1.2**
NEW Newport 100.58 41 PFAKE 17 56 10.0 +8.8
NEW LR LR
comp=Z,966nm,19.0s
BMO Blue Mountains 100.97 45 PFAKE 17 56 10.0 +6.9
BMO LR LR
comp=Z,511nm,19.0s
NVAR Mina Array Bea 101.04 51 P **Pdif** **17 56 05.2 +1.5**
comp=Z,0.3nm,0.6s,baz=232,slow=4.4,SNR=4.1
NVAR PP PP 18 00 19.2 +7.0
comp=Z,0.8nm,0.9s,baz=270,slow=8.9,SNR=3.6
NVAR Mina Array Bea 101.04 51 P **Pdif** **17 56 05.2 +1.5**
NVAR PP PP 18 00 19.2 +7.0
BMN Battle Mountai 101.63 49 PFAKE 17 56 20.0 +14
BMN LR LR
comp=Z,959nm,19.0s
KMBO Kilima Mbogo 101.83 268 PFAKE 17 56 20.0 +12
KMBO LR LR
comp=Z,268nm,20.0s
DAC Darwin (Calif) 101.84 53 PFAKE 17 56 20.0 +13
DAC LR LR
comp=Z,2μm,19.0s
TPH Tonopah 101.93 52 PFAKE 17 56 20.0 +12
TPH LR LR
comp=Z,772nm,19.0s
FINES FINESS Array B 102.56 333 P **Pdif** **17 56 07.7 -2.0**
comp=Z,0.4nm,0.3s,baz=129,slow=2.0,SNR=4.5
FINES FINESS Array B 102.56 333 P **Pdif** **17 56 07.7 -2.0**
MSO Missoula 102.95 42 PFAKE 17 56 20.0 +8.1
MSO LR LR
comp=Z,506nm,21.0s
PFO Pinyon Flat Ob 103.07 56 PFAKE 17 56 20.0 +7.3
PFO LR LR
comp=Z,2μm,20.0s
HLID Hailey 103.23 46 PFAKE 17 56 20.0 +6.7
HLID LR LR
comp=Z,991nm,22.0s
AKASG Malin Array Be 104.02 322 Pdiff **Pdif** **17 56 17.4 +1.1**
comp=Z,0.2nm,0.4s,baz=52,slow=5.1,SNR=5.4
AKASG Malin Array Be 104.02 322 P **Pdif** **17 56 17.5 +1.1**
AKASG Malin Array Be 104.02 322 Pdif **Pdif** **17 56 17.4 +1.1**
KIEV Kiev 104.03 322 PFAKE 17 56 30.0 +14
KIEV LR LR
comp=Z,519nm,20.0s
CSS Prodhromos 104.04 305 PFAKE 17 56 30.0 +13
CSS LR LR
comp=Z,272nm,21.0s
BOZ Bozeman (W) 104.77 43 PFAKE 17 56 30.0 +10
BOZ LR LR
comp=Z,787nm,20.0s
DUG Dugway 105.00 49 PFAKE 17 56 30.0 +8.8
DUG LR LR
comp=Z,713nm,20.0s
EGMT Eagleton 105.46 41 PFAKE 18 00 50.0
EGMT LR LR
comp=Z,921nm,20.0s
AHID Auburn Hatcher 105.76 46 PFAKE 18 00 50.0
AHID LR LR
comp=Z,772nm,20.0s
MVU Marysvale 105.76 51 PFAKE 18 00 50.0
MVU LR LR
comp=Z,791nm,20.0s
ISP Isparta 105.84 309 PFAKE 18 00 50.0
ISP LR LR
comp=Z,259nm,21.0s
LKWY Lake 105.86 44 PFAKE 18 00 50.0
LKWY LR LR
comp=Z,906nm,21.0s
RLMT Red Lodge 106.51 43 PFAKE 18 00 50.0
RLMT LR LR
comp=Z,888nm,21.0s
BW06 Boulder Array 106.87 46 PFAKE 18 00 50.0
BW06 LR LR
comp=Z,804nm,19.0s
PDAR Pinedale Array 106.87 46 PKiKP **PKiKP** **18 00 39.8 +0.2**
comp=Z,0.5nm,0.9s,baz=274,slow=1.4,SNR=4.0
PDAR PKKPbc **PKKPbc** **18 11 57.5 -1.4**
comp=Z,0.5nm,0.8s,baz=108,slow=4.8,SNR=3.4
PDAR Pinedale Array 106.87 46 PKiKP **PKiKP** **18 00 39.8 +0.2**
PDAR PKKPbc **PKKPbc** **18 11 57.5 -1.4**
WUAZ Wupatki 106.95 54 PFAKE 18 00 50.0
WUAZ LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 107.90 32 PFAKE 18 00 50.0
FFC LR LR
comp=Z,829nm,19.0s
TUC Tucson 107.97 57 PFAKE 18 00 50.0
TUC LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 108.34 322 PFAKE 18 00 50.0
KWP LR LR
comp=Z,511nm,20.0s
MBAR Mbarara 108.36 269 PFAKE 18 00 50.0
MBAR LR LR
comp=Z,1μm,20.0s
KOLS Kolonicke sedl 108.84 322 *e*P **Pdif** **17 56 32.7 -5.2**
KOLS Kolonicke sedl 108.84 322 PDIF **Pdif** **17 56 32.7 -5.2**
DGMT Dagmar 108.88 39 PFAKE 18 00 50.0
DGMT LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 108.90 51 PFAKE 18 01 00.0
MVCO LR LR
comp=Z,731nm,19.0s
UZH Uzhgorod 108.93 321 *e*P **Pdif** **17 56 38.7 +0.4**
CRVS Cervenica-Dubn 109.36 322 *e*P **Pdif** **17 56 41.8 +1.6**
CRVS Cervenica-Dubn 109.36 322 PDIF **Pdif** **17 56 41.8 +1.6**
LSZ Lusaka 109.63 253 PFAKE 18 01 00.0
LSZ LR LR
comp=Z,305nm,19.0s
ISCO Idaho Springs 110.48 48 PFAKE 18 01 00.0
ISCO LR LR
comp=Z,870nm,19.0s
PSZ Piszkesteto 110.68 321 PFAKE 18 01 00.0
PSZ LR LR
comp=Z,392nm,21.0s
ANMO Albuquerque 111.00 53 PFAKE 18 01 00.0
ANMO LR LR
comp=Z,905nm,20.0s
VYHS Vyhne 111.12 322 *e*P **Pdif** **17 56 50.1 +2.0**
VYHS Vyhne 111.12 322 PDIF **Pdif** **17 56 50.1 +2.0**
Y24A Capitan 112.06 54⇑P **PKiKP** **18 00 49.7 +0.2**
baz=112
124A Stringfield Ra 112.31 55⇑P **PKiKP** **18 00 50.5 +0.4**
baz=112
SUR Sutherland 112.54 234 PFAKE 18 01 00.0
SUR LR LR
comp=Z,830nm,20.0s
MNTX Cornudas Mount 112.59 56 PFAKE 18 01 00.0
MNTX LR LR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 112.59 56⇓P **PKiKP** **18 00 51.3 +0.9**
baz=112
S26A Kim 112.68 50⇑P **PKiKP** **18 00 51.0 +0.5**
baz=113
OGNE Ogallala 112.77 46 PFAKE 18 01 00.0
OGNE LR LR
comp=Z,860nm,20.0s
U26A Atchley Ranch, 112.80 51⇑P **PKiKP** **18 00 50.6 -0.2**
baz=113
TIR Tirane 112.95 314 PFAKE 18 01 00.0
TIR LR LR
comp=Z,337nm,19.0s
BRG Berggiesshubel 113.01 326 *e*(P) **PP** **18 01 37.7 -1.5**
comp=Z,4.3nm,1.0s
BRG
comp=N,468nm,16.4s
BRG
comp=E,459nm,23.7s
BRG
comp=Z,794nm,21.5s
ULM Lac du Bonnet 113.18 35 PKiKP **PKiKP** **18 00 51.5 +0.7**
comp=Z,1.2nm,0.4s,baz=328,slow=3.0,SNR=3.5
ULM Lac du Bonnet 113.18 35 PKiKP **PKiKP** **18 00 51.5 +0.7**
CLL Collm 113.33 326 *e*PKPdf **PKiKP** **18 00 51.0 -0.1**
CLL *e*Sdif Sdif 18 09 15.0 -8.3
CLL *e*SS **SS** **18 17 31.0 +5.2**
CLL *e*SSS SSS 18 21 36.0
CLL LmH 18 53 00.0
comp=N,300nm,21.0s
CLL LmH 18 53 00.0
comp=E,300nm,19.1s
CLL LmH 18 53 00.0
comp=Z,600nm,20.0s
CLL LmV 18 57 00.0
comp=Z,600nm,19.3s
Z27A Tatum 114.00 54⇓P **PKiKP** **18 00 53.6 +0.5**
baz=114
AGMN Agassiz Nation 114.07 37 PFAKE 18 01 00.0 +7.3
AGMN LR LR
comp=Z,1μm,21.0s
GERES GERESS Array B 114.07 324 PKP PKPdf 18 00 52.5 -0.3
comp=Z,0.4nm,0.5s,baz=104,slow=0.4,SNR=4.1
GERES GERESS Array B 114.07 324 PKP PKPdf 18 00 52.5 -0.3

527A	**Woodward Ranch** baz=114	**114.41**	**58**	⇑P		PKPdf	18 00 53.8	-0.2
TXAR	**Lajitas Array** comp=Z,0.7nm,0.6s,baz=255,slow=2.7,SNR=2.7	**114.54**	**59**	PKP	PKPdf		18 00 55.1	+0.8
TXAR	**Lajitas Array**	**114.54**	**59**	PKP	PKPdf		18 00 55.1	+0.8
AMTX	**Amarillo**	**114.82**	**52**	PFAKE			18 01 10.0	+15
AMTX	comp=Z,631nm,20.0s			LR	LR			
AMTX	**Amarillo** baz=115	**114.82**	**52**	⇑P		PKPdf	18 00 55.1	+0.4
ECSD	**EROS Data Cent**	**115.52**	**42**	PFAKE			18 01 10.0	+14
ECSD	comp=Z,763nm,19.0s			LR	LR			
429A	**Davenport Ranc** baz=116	**115.74**	**57**	⇑P		**PKPdf**	**18 00 56.8**	**+0.3**
TIP	**Timpagrande**	**115.91**	**313**	PFAKE			18 01 10.0	+13
TIP	comp=Z,354nm,21.0s			LR	LR			
430A	**Baggett Ranch,** baz=116	**116.25**	**57**	⇑P		**PKPdf**	**18 00 57.6**	**+0.2**
CUC	**Castrocucco**	**116.31**	**314**	PFAKE			18 01 10.0	+13
CUC	comp=Z,173nm,19.0s			LR	LR			
EYMN	**Ely**	**116.81**	**36**	PFAKE			18 01 10.0	+12
EYMN	comp=Z,1μm,20.0s			LR	LR			
DAVA	**Damuels** comp=Z,4.6nm,0.8s	**117.07**	**324**	⇓*i*PKiKP		**PKiKP**	**18 00 59.2**	**+0.5**
AQU	**L'Aquila**	**117.07**	**317**	PFAKE			18 01 10.0	+11
AQU	comp=Z,396nm,21.0s			LR	LR			
631A	**Perdido Creek** baz=117	**117.14**	**58**	⇓P		**PKPdf**	**18 00 59.6**	**+0.4**
WMOK	**Wichita Mounta**	**117.15**	**52**	PFAKE			18 01 10.0	+11
WMOK	comp=Z,740nm,19.0s			LR	LR			
KSU1	**Kansas State U**	**117.31**	**46**	PFAKE			18 01 10.0	+11
KSU1	comp=Z,757nm,21.0s			LR	LR			
BFO	**Black Forest**	**117.44**	**325**	PFAKE			18 01 10.0	+11
BFO	comp=Z,488nm,20.0s			LR	LR			
JCT	**Junction City**	**117.53**	**56**	PFAKE			18 01 10.0	+10
JCT	comp=Z,729nm,20.0s			LR	LR			
JCT	**Junction City** baz=118	**117.53**	**56**	⇓P		**PKPdf**	**18 01 00.7**	**+0.8**
532A	**Rocksprings** baz=118	**117.53**	**57**	⇓P		**PKPdf**	**18 01 00.3**	**+0.3**
632A	**Uvalde** baz=118	**117.79**	**58**	⇑P		**PKPdf**	**18 01 01.4**	**+1.0**
TUE	**Stuetta**	**117.79**	**323**	PFAKE			18 01 10.0	+10
TUE	comp=Z,775nm,21.0s			LR	LR			
WLF	**Walferdange**	**117.92**	**327**	PFAKE			18 01 10.0	+10
WLF	comp=Z,593nm,19.0s			LR	LR			
VLC	**Villacollemand**	**118.26**	**320**	PFAKE			18 01 10.0	+9.1
VLC	comp=Z,419nm,21.0s			LR	LR			
HINF	**Hinteralfeld**	**118.55**	**325**	*e*PKIKP		**PKPdf**	**18 01 00.2**	**-1.2**
HINF	**Hinteralfeld**	**118.55**	**325**	*e*PKIKP		**PKPdf**	**18 01 00.2**	**-1.2**
HINF	**Hinteralfeld**	**118.55**	**325**	*e*PKPdf		**PKPdf**	**18 01 00.2**	**-1.2**
SCIA	**State Center**	**118.56**	**42**	PFAKE			18 01 10.0	+8.5
SCIA	comp=Z,749nm,20.0s			LR	LR			
ESK	**Eskdalemuir**	**118.67**	**337**	PFAKE			18 01 10.0	+8.7
ESK	comp=Z,625nm,20.0s			LR	LR			
HAU	**Haudompre**	**118.73**	**326**	*e*PKIKP		**PKPdf**	**18 01 00.8**	**-0.9**
HAU	**Haudompre**	**118.73**	**326**	*e*PKIKP		**PKPdf**	**18 01 00.8**	**-0.9**
HAU	**Haudompre**	**118.73**	**326**	*e*PKPdf		**PKPdf**	**18 01 00.8**	**-0.9**
TSUM	**Tsumeb**	**118.89**	**247**	PFAKE			18 01 10.0	+7.1
TSUM	comp=Z,255nm,19.0s			LR	LR			
COWI	**Conover**	**119.14**	**36**	PFAKE			18 01 10.0	+7.5
COWI	comp=Z,2μm,21.0s			LR	LR			
CABF	**La Chapelle** comp=Z,11nm,0.7s	**119.64**	**325**	*e*PKIKP		**PKPdf**	**18 01 03.1**	**-0.5**
CABF	**La Chapelle**	**119.64**	**325**	*e*PKIKP		**PKPdf**	**18 01 03.1**	**-0.5**
CABF	**La Chapelle**	**119.64**	**325**	*e*PKPdf		**PKPdf**	**18 01 03.1**	**-0.5**
LPG	**La Plagne** comp=Z,7.3nm,0.8s	**119.84**	**323**	*e*PKIKP		**PKPdf**	**18 01 01.7**	**-2.5**
LPG	**La Plagne**	**119.84**	**323**	*e*PKIKP		**PKPdf**	**18 01 01.7**	**-2.5**
LPG	**La Plagne**	**119.84**	**323**	*e*PKPdf		**PKPdf**	**18 01 01.7**	**-2.5**
LPL	**La Plagne**	**119.84**	**323**	*e*PKIKP		**PKPdf**	**18 01 02.3**	**-1.9**
LPL	**La Plagne**	**119.84**	**323**	*e*PKIKP		**PKPdf**	**18 01 02.3**	**-1.9**
LPL	**La Plagne**	**119.84**	**323**	*e*PKPdf		**PKPdf**	**18 01 02.3**	**-1.9**
KVTX	**Kingsville**	**119.90**	**59**	PFAKE			18 01 20.0	+16
KVTX	comp=Z,1μm,21.0s			LR	LR			
BNI	**Bardonecchia**	**120.12**	**323**	PFAKE			18 01 20.0	+15
BNI	comp=Z,1μm,22.0s			LR	LR			
SSF	**Saint Saulge**	**120.85**	**326**	*e*PKIKP		**PKPdf**	**18 01 05.1**	**-0.7**
SSF	**Saint Saulge**	**120.85**	**326**	*e*PKIKP		**PKPdf**	**18 01 05.1**	**-0.7**
SSF	**Saint Saulge**	**120.85**	**326**	*e*PKPdf		**PKPdf**	**18 01 05.1**	**-0.7**
VSL	**Villasalto**	**121.05**	**316**	PFAKE			18 01 20.0	+14
VSL	comp=Z,158nm,19.0s			LR	LR			
MIAR	**Mount Ida**	**121.25**	**50**	*e*PKIKP		**PKPdf**	**18 01 07.3**	**+0.4**
MIAR	comp=Z,1μm,20.0s			MLR	MLR			
MIAR	**Mount Ida**	**121.25**	**50**	*e*PKPdf		**PKPdf**	**18 01 07.3**	**+0.4**
MIAR	comp=Z,1μm,20.0s			LR	LR			
SSB	**Saint Sauveur**	**121.27**	**324**	PFAKE			18 01 20.0	+13
SSB	comp=Z,389nm,19.0s			LR	LR			
NATX	**Nacogdoches**	**121.36**	**54**	PFAKE			18 01 20.0	+13
NATX	comp=Z,859nm,21.0s			LR	LR			
VIVF	**Saint-Julien-l**	**121.43**	**323**	*e*PKIKP		**PKPdf**	**18 01 05.5**	**-1.5**
VIVF	**Saint-Julien-l**	**121.43**	**323**	*e*PKIKP		**PKPdf**	**18 01 05.5**	**-1.5**
VIVF	**Saint-Julien-l**	**121.43**	**323**	*e*PKPdf		**PKPdf**	**18 01 05.5**	**-1.5**
BGF	**Bois d'Agland**	**121.52**	**326**	*e*PKIKP		**PKPdf**	**18 01 06.5**	**-0.6**
BGF	**Bois d'Agland**	**121.52**	**326**	*e*PKIKP		**PKPdf**	**18 01 06.5**	**-0.6**
BGF	**Bois d'Agland**	**121.52**	**326**	*e*PKPdf		**PKPdf**	**18 01 06.5**	**-0.6**
GLMI	**Grayling**	**122.50**	**36**	PFAKE			18 01 20.0	+11
GLMI	comp=Z,988nm,20.0s			LR	LR			
SCHQ	**Schefferville** comp=Z,2.3nm,0.7s,baz=339,slow=6.8,SNR=5.4	**123.18**	**18**	PKP		**PKPdf**	**18 01 10.2**	**+0.2**
SCHQ	**Schefferville**	**123.18**	**18**	PKP		**PKPdf**	**18 01 10.2**	**+0.2**
OLIL	**Olney**	**123.48**	**44**	*e*PKPdf		**PKPdf**	**18 01 10.6**	**-0.4**
OXF	**Oxford**	**124.43**	**49**	PFAKE			18 01 20.0	+7.0
OXF	comp=Z,934nm,20.0s			LR	LR			
VBMS	**Vicksburg**	**124.49**	**52**	PFAKE			18 01 20.0	+6.9
VBMS	comp=Z,894nm,20.0s			LR	LR			
AAM	**Ann Arbor**	**124.51**	**38**	PFAKE			18 01 20.0	+7.1
AAM	comp=Z,966nm,20.0s			LR	LR			
PLAL	**Pickwick Lake**	**125.22**	**48**	PFAKE			18 01 30.0	+16
PLAL	comp=Z,683nm,19.0s			LR	LR			
ACSO	**Alum Creek Sta**	**126.10**	**39**	PFAKE			18 01 30.0	+14
ACSO	comp=Z,678nm,20.0s			LR	LR			
ERPA	**Erie**	**126.82**	**36**	PFAKE			18 01 30.0	+13
ERPA	comp=Z,1μm,20.0s			LR	LR			
LRAL	**Lakeview Retre**	**126.87**	**49**	*e*PKPdf		**PKPdf**	**18 01 17.6**	**0.0**
LRAL	comp=Z,719nm,20.0s			LR	LR			
BRAL	**Brewton**	**127.68**	**52**	PFAKE			18 01 30.0	+11
BRAL	comp=Z,918nm,19.0s			LR	LR			
TKL	**Tuckaleechee C**	**128.00**	**45**	*e*PKPdf		**PKPdf**	**18 01 19.4**	**-0.4**
LONY	**Lake Ozonia**	**128.11**	**30**	PFAKE			18 01 30.0	+10
LONY	comp=Z,779nm,20.0s			LR	LR			
BINY	**Binghamton**	**129.04**	**33**	PFAKE			18 01 30.0	+8.4
BINY	comp=Z,841nm,19.0s			LR	LR			
GOGA	**Godfrey**	**129.33**	**47**	PFAKE			18 01 30.0	+7.6
GOGA	comp=Z,715nm,21.0s			LR	LR			
BLA	**Blacksburg**	**129.45**	**41**	PFAKE			18 01 30.0	+7.4
BLA	comp=Z,637nm,20.0s			LR	LR			
PLCA	**Paso Flores** comp=Z,2.3nm,0.9s,baz=231,slow=6.4,SNR=3.7	**129.65**	**151**	PKP		**PKPdf**	**18 01 23.3**	**+0.4**
PLCA	**Paso Flores**	**129.65**	**151**	PKP		**PKPdf**	**18 01 23.3**	**+0.4**
LBNH	**Lisbon**	**129.69**	**29**	PFAKE			18 01 30.0	+7.2
LBNH	comp=Z,927nm,21.0s			LR	LR			
TEIG	**Tepich**	**130.29**	**65**	PFAKE			18 01 40.0	+15
TEIG	comp=Z,549nm,21.0s			LR	LR			
TAM	**Tamanrasset**	**130.47**	**299**	*e*PKIKP		**PKPdf**	**18 01 27.5**	**+2.4**
TAM	comp=Z,202nm,19.0s			MLR	MLR			
TAM	**Tamanrasset**	**130.47**	**299**	*e*PKPdf		**PKPdf**	**18 01 27.5**	**+2.4**
TAM	comp=Z,202nm,19.0s			LR	LR			
PAYG	**Puerto Ayora**	**130.52**	**93**	PFAKE			18 01 40.0	+15
PAYG	comp=Z,732nm,20.0s			LR	LR			
CBN	**Corbin**	**130.81**	**38**	PFAKE			18 01 40.0	+15
CBN	comp=Z,1μm,21.0s			LR	LR			
MTE	**Manteigas**	**131.25**	**326**	PFAKE			18 01 40.0	+14
MTE	comp=Z,304nm,19.0s			LR	LR			
NHSC	**New Hope**	**131.86**	**46**	PFAKE			18 01 40.0	+13
NHSC	comp=Z,856nm,19.0s			LR	LR			
CNNC	**Cliffs of the**	**132.26**	**42**	PFAKE			18 01 40.0	+12
CNNC	comp=Z,744nm,20.0s			LR	LR			
TGUH	**Tegucigalpa,Un**	**132.60**	**73**	PFAKE			18 01 40.0	+11
TGUH	comp=Z,495nm,21.0s			LR	LR			
RTC	**Rabat Centre**	**134.99**	**319**	PFAKE			18 01 40.0	+7.0
RTC	comp=Z,263nm,21.0s			LR	LR			
JTS	**JuntasAbangare**	**135.44**	**77**	PFAKE			18 01 50.0	+16
JTS	comp=Z,785nm,20.0s			LR	LR			
TRQA	**Tornquist**	**135.68**	**156**	PFAKE			18 01 50.0	+16
TRQA	comp=Z,435nm,19.0s			LR	LR			
TOA0	**Torodi Ar. Sit**	**136.44**	**287**	*e*PKPdf		**PKPdf**	**18 01 36.7**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.9s,baz=97,slow=2.4,SNR=4.9	**136.44**	**287**	PKhKP	PKPpre		18 01 23.8	
TORD				PKP		**PKPdf**	**18 01 36.8**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,3.3nm,0.9s,baz=50,slow=1.7,SNR=9.5	**136.44**	**287**	PKPpre	PKPpre		18 01 23.8	
TORD				PKP		**PKPdf**	**18 01 36.8**	**+0.6**
MTDJ	**Mount Denham**	**140.57**	**63**	PFAKE			18 02 00.0	+16
MTDJ	comp=Z,388nm,22.0s			LR	LR			
BCIP	**Isla Barro Col**	**140.59**	**78**	PFAKE			18 02 00.0	+16
BCIP	comp=Z,704nm,21.0s			LR	LR			
NNA	**Nana**	**141.68**	**112**	PFAKE			18 02 00.0	+14
NNA	comp=Z,326nm,20.0s			LR	LR			
GTBY	**Guantanamo Bay**	**142.06**	**59**	PFAKE			18 02 00.0	+14
GTBY	comp=Z,530nm,19.0s			LR	LR			
OTAV	**Otavalo**	**142.39**	**92**	*e*PKPdf		**PKPdf**	**18 01 44.8**	**-3.0**
OTAV	comp=Z,512nm,19.0s			LR	LR			
LVC	**Limon Verde**	**143.35**	**133**	*e*PKPpre		PKPpre	18 01 42.4	
LVC	comp=Z,37nm,19.0s			LR	LR			
DBIC	**Dimbokro** comp=Z,20nm,0.6s,baz=74,slow=4.0,SNR=49	**143.79**	**279**	PKP		PKPbc	18 01 47.2	0.0
DBIC	**Dimbokro**	**143.79**	**279**	*e*PKPdf		PKPbc	18 01 47.2	0.0
LIC	**Lamto** comp=Z,513nm,1.7s	**144.01**	**278**	*e*PKIKP		**PKPab**	**18 01 46.8**	**-0.6**
LIC	**Lamto**	**144.01**	**278**	*e*PKPdf		**PKPab**	**18 01 46.8**	**-0.6**
ARE	**Arequipa**	**144.67**	**122**	*e*PKIKP		**PKPdf**	**18 01 52.0**	**+0.6**
ARE	**Arequipa**	**144.67**	**122**	*e*P		**PKPdf**	**18 01 52.0**	**+0.6**
SDDR	**Presa de Saban**	**145.73**	**58**	*e*PKPdf		**PKPab**	**18 01 53.6**	**0.0**
SDDR	comp=Z,514nm,20.0s			LR	LR			
ROSC	**El Rosal** comp=Z,12nm,0.7s,baz=239,slow=0.2,SNR=19	**146.48**	**84**	PKPbc		**PKPbc**	**18 01 56.4**	**+0.2**
ROSC	**El Rosal**	**146.48**	**84**	PKPbc		**PKPbc**	**18 01 56.4**	**+0.2**
LPAZ	**La Paz** comp=Z,10nm,0.8s,baz=304,slow=1.2,SNR=14	**147.55**	**125**	PKPbc		**PKPbc**	**18 01 58.8**	**-0.6**
LPAZ	**La Paz**	**147.55**	**125**	*e*PKPdf		**PKPbc**	**18 01 58.5**	**-0.8**
LPAZ				PKPbc		**PKPbc**	**18 01 58.8**	**-0.6**
CPUP	**Villa Florida** comp=Z,7.2nm,0.8s,baz=277,slow=1.8,SNR=11	**147.71**	**152**	PKPbc		**PKPbc**	**18 01 59.4**	**+0.7**
CPUP	**Villa Florida**	**147.71**	**152**	PKPbc		**PKPbc**	**18 01 59.4**	**+0.7**
SDV	**Santo Domingo**	**149.59**	**76**	*e*PKPdf		**PKPdf**	**18 02 00.4**	**+0.8**
SDV	comp=Z,175nm,20.0s			LR	LR			
CRPR	**Cabo Rojo, PR**	**149.70**	**57**	*e*PKPdf		**PKPdf**	**18 02 00.3**	**+0.9**
LRS	**Lares**	**149.78**	**56**	*e*PKPdf		**PKPbc**	**18 02 02.8**	**-1.5**
OBIP	**Obispado Ponce**	**150.10**	**56**	*e*PKPdf		**PKPdf**	**18 02 00.1**	**+0.1**
CELP	**Cerrillos**	**150.10**	**56**	*e*PKPbc		**PKPbc**	**18 02 05.5**	**+0.4**
SJG	**San Juan**	**150.44**	**55**	*e*PKPbc		**PKPbc**	**18 02 06.3**	**+0.5**
SJG	comp=Z,379nm,20.0s			LR	LR			
MTP	**Monte Pirata**	**150.94**	**55**	*e*PKPdf		**PKPdf**	**18 02 02.3**	**+1.0**
MTP				*e*PKPbc		**PKiKP**	**18 02 07.8**	**+0.2**
STVI	**Saint Thomas**	**151.29**	**54**	*e*PKPbc		**PKPbc**	**18 02 08.1**	**+0.2**
CDVI	**St. Croix**	**151.76**	**55**	*e*PKPbc		**PKPbc**	**18 02 08.9**	**0.0**
SPB	**Sao Paulo**	**153.84**	**166**	PFAKE			18 02 20.0	-6.2
SPB	comp=Z,443nm,19.0s			LR	LR			
ANWB	**Willy Bob**	**154.18**	**51**	PFAKE			18 02 20.0	+5.7
ANWB	comp=Z,433nm,19.0s			LR	LR			
SAML	**Samuel**	**155.27**	**116**	*e*PKPdf		**PKPdf**	**18 02 08.9**	**+1.2**
SAML	comp=Z,494nm,22.0s			LR	LR			
FDF	**Fort de France**	**156.28**	**56**	PFAKE			18 02 20.0	+11
FDF	comp=Z,393nm,20.0s			LR	LR			
BDFB	**Brasilia** comp=Z,6.4nm,0.7s,baz=158,slow=2.3,SNR=9.3	**161.16**	**158**	PKP		**PKPdf**	**18 02 15.6**	**+0.6**
BDFB	**Brasilia**	**161.16**	**158**	PKP		**PKPdf**	**18 02 15.6**	**+0.6**
RCBR	**Riachuelo**	**170.83**	**213**	PFAKE			18 02 30.0	+7.3
RCBR	comp=Z,632nm,20.0s			LR	LR			

BJI ***10*** *17:52:29.7,2˚.34S×139˚.11E,h14km,mB5.2/27,mb4.8/39, Ms4.9/25,Ms7 4.6/24*

AUST ***10*** *17:52:31.3±2.2,1˚.80S×139˚.38E,h0km,Error ellipse: s-maj=1.1km s-min=0.6km az=23.0*

IDC ***10*** *17:52:31.3±0.5,1˚.91S×139˚.11E,h0km,mb4.6/15, mb1 4.7/19,mb1mx4.6/25,mbtmp4.6/19,ML4.8/2,MS4.6/2, Ms1 4.6/2,ms1mx3.7/37,Error ellipse: s-maj=17.9km s-min=10.7km az=83.0*

NEIC ***10*** *17:52:31.7±3.6,1˚.81S×139˚.16E,h2km±22km,mb5.1/38, Error ellipse: s-maj=7.3km s-min=5.0km az=221.0*

MOS ***10*** *17:52:34.2±1.1,1˚.89S×139˚.18E,h33km,mb5.1/19,Error ellipse: s-maj=12.2km s-min=6.7km az=113.5*

ISCJB ***10*** *17:52:34.0±0.2,1˚.90S±0˚.03×139˚.21E±0˚.04,h29km, mb4.9/73,MS4.7/9,Error ellipse: s-maj=5.1km s-min=4.0km az=170.8*

DJA ***10*** *17:52:35.6±1.3,2˚S±7˚×13˚9E±˚,h20km±12km,M5.2/19, mb4.9/19,MLv5.3/3*

ISC 10 17:52:35.9±0.3,1˚.90S±0˚.04×139˚.21E±0˚.05,h29km,n249, σ1˚978/272,mb5.0/72,MS4.6/9,4C-1D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** baz=1.5,SNR=61	**1.61**	**112**	P	**Pn**	**17 53 01.3**	**-1.2**
JAY	**Jayapura**	**1.61**	**112**	P	**Pn**	**17 53 02.1**	**-0.4**
WAMI	**Wamena**	**2.04**	**194**	P	**Pb**	**17 53 14.5**	**+2.3**
BAKI	**Biak**	**3.18**	**283**	P	**Pn**	**17 53 21.0**	**-3.0**
FAKI	**Fak Fak** 138nm,1.1s,0.6nm	**7.03**	**262**	P	**Pn**	**17 54 16.8**	**-0.2**
TLE	**Tual** baz=7.7,SNR=8.8	**7.45**	**240**	P	**Pn**	**17 54 24.6**	**+1.9**
TLE	**Tual**	**7.45**	**240**	P	**Pn**	**17 54 24.6**	**+1.9**
SWI	**Sorong** baz=8.2,SNR=6.2	**8.02**	**277**	P	**Pn**	**17 54 33.4**	**+2.9**
SWI	**Sorong** 70nm,0.8s	**8.02**	**277**	P	Pn	17 54 33.6	+3.1
PALU	**Palau** baz=10,SNR=4.4	**10.33**	**333**	P	Pn	17 54 54.8	-7.4
MSAI	**Masohi**	**10.37**	**262**	P	Pn	17 55 18.6	+16
PMG	**Port Moresby** 0.4nm,0.3s,baz=307,slow=10,SNR=3.3	**10.87**	**134**	Pn	**Pn**	**17 55 09.5**	**-0.1**
PMG	**Port Moresby** 66nm,1.0s	**10.87**	**134**	*e*Pn	**Pn**	**17 55 09.5**	**-0.1**
PMG	**Port Moresby** 58nm,0.8s	**10.87**	**134**	P	**Pn**	**17 55 09.7**	**+0.1**
AAI	**Ambon** baz=11,SNR=3.3	**11.15**	**261**	P	Pn	17 55 23.9	+10
AAI	**Ambon**	**11.15**	**261**	P	Pn	17 55 19.7	+6.2
LBMI	**Labuha**	**11.77**	**276**	P	Pn	17 55 29.5	+7.4
TNTI	**Ternate**	**12.14**	**283**	P	P	17 55 35.1	-4.2
COEN	**Coen** baz=13,SNR=11	**12.61**	**162**	P	**Pn**	**17 55 34.7**	**+1.2**
KDU	**Kakadu** baz=13,SNR=38	**12.63**	**212**	P	**Pn**	**17 55 33.5**	**-0.2**
MTN	**Manton Dam** baz=14,SNR=30	**13.50**	**216**	P	**Pn**	**17 55 45.9**	**+0.3**
MTN	baz=14,SNR=4.6			S	**Sn**	**17 58 14.7**	**-0.1**
GUMO	**Guam** comp=Z,986nm,21.6s,baz=212,slow=35	**16.38**	**20**	LR	LR	18 02 05.9	
LUWI	**Luwuk**	**16.46**	**273**	P	**Pn**	**17 56 21.1**	**-3.8**
KDI	**Kendari**	**16.70**	**263**	P	P	17 56 39.2	+9.1
BBSI	**Bau Bau**	**16.98**	**257**	P	P	17 56 43.5	+10
MRSI	**Marisa** 65nm,1.1s	**17.43**	**278**	P	**P**	**17 56 37.9**	**-0.3**
WRAB	**Tennant Creek**	**18.54**	**195**	*e*P	**Pn**	**17 56 50.8**	**0.0**
WRAB	comp=Z,74nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,74nm,0.8s	**18.54**	**195**	*e*P	**Pn**	**17 56 50.8**	**0.0**
QIS	**Mount Isa** baz=19,SNR=8.1	**18.55**	**179**	P	**Pn**	**17 56 51.7**	**+0.8**
WRA	**Warramunga Arr** comp=Z,4.1nm,0.3s,baz=22,slow=10,SNR=63	**18.55**	**195**	P	**P**	**17 56 49.8**	**-0.8**
WRA				S	Sn	18 00 08.5	-9.1
WRA	**Warramunga Arr** comp=Z,0.9nm,0.3s,baz=9.2,slow=22,SNR=4.7	**18.55**	**195**	P	**P**	**17 56 49.8**	**-0.8**
WRA				S	Sn	18 00 08.5	-9.1
CTA	**Charters Tower** comp=Z,1.2nm,0.3s,baz=334,slow=12,SNR=10	**19.34**	**160**	P	**Pn**	**17 56 59.7**	**-0.8**
CTA	**Charters Tower**	**19.34**	**160**	P	**Pn**	**17 56 59.7**	**-0.8**
CTAO	**Charters Tower**	**19.34**	**160**	*e*P	**P**	**17 56 59.2**	**0.0**
CTAO	comp=Z,35nm,0.9s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,35nm,0.9s	**19.34**	**160**	*e*P	**P**	**17 56 59.2**	**0.0**
BKSI	**Bulukumba** comp=Z,36nm,1.5s	**19.35**	**259**	P	**P**	**17 56 59.3**	**0.0**
TTSI	**Tana Toraja** comp=Z,102nm,1.0s	**19.41**	**266**	P	**Pn**	**17 57 02.1**	**+0.8**
SPSI	**Sidrap Palu** comp=Z,74nm,1.0s	**19.52**	**264**	P	**P**	**17 57 01.4**	**+0.2**
KAPI	**Kappang** baz=68,slow=7.6	**19.67**	**260**	P	**P**	**17 57 02.4**	**-0.4**
KAPI	**Kappang**	**19.67**	**260**	P	**P**	**17 57 02.4**	**-0.4**
KAPI	**Kappang** comp=Z,54nm,1.0s	**19.67**	**260**	P	**Pn**	**17 57 06.8**	**+2.5**
FITZ	**Fitzroy Crossi** comp=Z,22nm,1.0s,baz=53,slow=10,SNR=5.0	**20.90**	**219**	P	**P**	**17 57 16.0**	**-0.1**
FITZ				S	**S**	**18 01 01.4**	**-6.4**
FITZ	**Fitzroy Crossi** comp=Z,15nm,0.7s,baz=128,slow=16,SNR=3.7	**20.90**	**219**	P	**P**	**17 57 16.0**	**-0.1**
FITZ				S	**S**	**18 01 01.4**	**-6.4**
FITZ	**Fitzroy Crossi** baz=21,SNR=8.7	**20.90**	**219**	P	Pn	17 57 17.5	-1.3
FITZ	baz=21,SNR=5.4			S	**S**	**18 01 04.5**	**-3.3**
MYLDM	**Lahad Datu**	**21.85**	**289**	P	**P**	**17 57 28.1**	**+1.7**
MYLDM	**Lahad Datu** comp=Z,81nm,1.2s	**21.85**	**289**	P	**P**	**17 57 27.5**	**+1.1**
HNR	**Honiara** comp=Z,52nm,0.7s,baz=283,slow=3.8,SNR=5.0	**21.93**	**111**	P	**P**	**17 57 28.0**	**+0.7**
HNR	**Honiara** comp=Z,76nm,0.8s	**21.93**	**111**	*e*P	**P**	**17 57 28.0**	**+0.7**
TSM	**Tawau**	**22.19**	**286**	P	**P**	**17 57 31.6**	**+1.5**
AS31	**Alice Springs**	**22.24**	**193**	*e*P	**P**	**17 57 30.6**	**+0.1**
ASAR	**Alice Springs** comp=Z,78nm,1.0s,baz=23,slow=9.4,SNR=44	**22.24**	**193**	P	**P**	**17 57 30.2**	**-0.4**
ASAR	comp=Z,7.3nm,0.9s,baz=15,slow=22,SNR=5.5			S	**S**	**18 01 34.1**	**+0.2**
ASAR	**Alice Springs**	**22.24**	**193**	P	**P**	**17 57 30.2**	**-0.4**
ASAR				S	**S**	**18 01 34.1**	**+0.2**
KBKI	**Kotabaru** comp=Z,81nm,1.1s	**23.06**	**266**	P	**P**	**17 57 39.2**	**-0.1**
SDKM	**Sandakan**	**23.23**	**289**	P	**P**	**17 57 41.2**	**+0.1**
KKM	**Kota Kinabalu** comp=Z,79nm,1.0s	**24.28**	**289**	*e*P	**P**	**17 57 50.1**	**-1.0**
KKM	**Kota Kinabalu** baz=24,SNR=14	**24.28**	**289**	P	**P**	**17 57 51.0**	**-0.2**
KKM	**Kota Kinabalu**	**24.28**	**289**	P	**P**	**17 57 51.4**	**+0.2**
KKM	**Kota Kinabalu**	**24.28**	**289**	P	**P**	**17 57 50.9**	**-0.2**
BBKI	**Banjar Baru**	**24.39**	**266**	P	**P**	**17 57 52.6**	**+0.6**
SRBI	**Singaraja** comp=Z,53nm,1.2s	**24.67**	**255**	P	**P**	**17 57 54.3**	**-0.3**
QLP	**Quilpie** baz=25,SNR=16	**25.01**	**169**	P	**P**	**17 57 59.0**	**+1.6**
BYJI	**Banyuwangi**	**25.53**	**255**	P	**P**	**17 58 03.5**	**+1.2**
KMMI	**Kalianget**	**25.67**	**258**	P	**P**	**17 58 05.8**	**+2.2**
EIDS	**Eidsvold** comp=Z,149nm,1.1s	**25.99**	**155**	*e*P	**P**	**17 58 10.2**	**+3.8**
EIDS	**Eidsvold** baz=26,SNR=13	**25.99**	**155**	P	**P**	**17 58 10.6**	**+4.2**
RMQ	**Roma** baz=26,SNR=12	**26.11**	**160**	P	**P**	**17 58 11.7**	**+4.2**
BLJI	**Banyuglugur**	**26.17**	**256**	P	**P**	**17 58 08.1**	**0.0**
BTM	**Bintulu**	**26.60**	**281**	P	**P**	**17 58 12.9**	**+0.8**
MBWA	**Marble Bar** comp=Z,80nm,1.0s	**26.96**	**223**	*e*P	**P**	**17 58 15.4**	**+0.1**
SBUM	**Sibu**	**27.33**	**279**	P	**P**	**17 58 19.4**	**+0.8**
SBUM	**Sibu** comp=Z,28nm,1.3s	**27.33**	**279**	P	**P**	**17 58 20.5**	**+1.9**
STKI	**Sintang** comp=Z,22nm,1.1s	**27.80**	**274**	P	**P**	**17 58 23.8**	**+1.0**
SJI	**Sawahan** comp=Z,42nm,1.4s	**27.94**	**257**	P	**P**	**17 58 25.6**	**+1.4**
PWJI	**Pagerwojo**	**27.96**	**256**	P	**P**	**17 58 21.5**	**-2.8**
PCJI	**Pacitan**	**28.60**	**256**	P	**P**	**17 58 28.6**	**-1.4**
KSM	**Kuching** comp=Z,29nm,1.1s	**29.09**	**276**	*e*P	**P**	**17 58 34.4**	**+0.1**
KSM	**Kuching** baz=29,SNR=6.9	**29.09**	**276**	P	**P**	**17 58 35.7**	**+1.3**
KSM	**Kuching**	**29.09**	**276**	P	**P**	**17 58 35.2**	**+0.8**
KSM	**Kuching** com

PSI	**Prapat**	**40.54 277**	P	**P**	**18 00 12.1**	**-1.1**		
	comp=Z,39nm,1.0s,baz=122,slow=3.0,SNR=30							
PSI	**Prapat**	**40.54 277**	P	**P**	**18 00 12.1**	**-1.1**		
PSI	**Prapat**	**40.54 277**	P	**P**	**18 00 12.6**	**-0.6**		
	baz=41,SNR=27							
PSI	**Prapat**	**40.54 277**	P	**P**	**18 00 13.0**	**-0.2**		
TAU	**Tasmania Unive**	**41.47 171**	*e*P	**P**	**18 00 21.4**	**+1.2**		
TAU			pmax	pmax				
	comp=Z,43nm,1.3s							
TAU	**Tasmania Unive**	**41.47 171**	*e*P	**P**	**18 00 21.4**	**+1.2**		
	comp=Z,43nm,1.3s							
GSI	**Gunungsitoli**	**41.75 274**	P	**P**	**18 00 21.9**	**-1.1**		
GYA	**Guiyang**	**42.21 314**	P	**P**	**18 00 28.3**	**+1.6**		
GYA			PP	**PP**	**18 02 08.6**	**+3.7**		
GYA			ScP	**ScP**	**18 06 10.8**	**+1.4**		
GYA			S	**S**	**18 06 47.4**	**+1.9**		
GYA			SS	**SS**	**18 09 49.0**	**-5.3**		
GYA			pmax	pmax				
	comp=Z,20nm,0.8s							
GYA			pmax	pmax				
	comp=Z,110nm,4.9s							
GYA			LR	LR				
	comp=N,520nm,17.8s							
GYA			LR	LR				
	comp=E,460nm,18.0s							
GYA			LR	LR				
	comp=Z,480nm,17.8s							
ENH	**Enshi**	**42.75 321**	*e*P	**P**	**18 00 30.4**	**-0.5**		
	comp=Z,18nm,1.0s							
COCO	**West Island**	**43.21 254**	*e*P	**P**	**18 00 36.2**	**+1.4**		
COCO	**West Island**	**43.21 254**	*e*P	**P**	**18 00 36.2**	**+1.4**		
	comp=Z,169nm,1.2s							
COCO	**West Island**	**43.21 254**	P	**P**	**18 00 37.4**	**+2.5**		
KMI	**Kunming**	**44.38 310**	P	**P**	**18 00 45.5**	**+1.1**		
KMI			pP	**pP**	**18 00 50.1**	**-3.1**		
KMI			S	**S**	**18 07 17.8**	**+0.2**		
KMI			sS	sS	18 07 26.7	-5.3		
KMI			pmax	pmax				
	comp=Z,17nm,1.0s							
KMI			pmax	pmax				
	comp=Z,180nm,4.0s							
KMI			LR	LR				
	comp=N,490nm,15.9s							
KMI			LR	LR				
	comp=E,520nm,17.0s							
KMI			LR	LR				
	comp=Z,490nm,19.3s							
BSI	**Banda Aceh**	**44.47 280**	P	**P**	**18 00 43.6**	**-1.5**		
CMAR	**Chiang Mai Arr**	**44.48 299**	P	**P**	**18 00 44.6**	**-0.4**		
	comp=Z,7.3nm,0.8s,baz=119,slow=6.2,SNR=46							
CMAR	**Chiang Mai Arr**	**44.48 299**	P	**P**	**18 00 44.6**	**-0.4**		
CHTO	**Chiang Mai**	**44.62 299**	*e*P	**P**	**18 00 45.4**	**-0.7**		
CHTO			pmax	pmax				
	comp=Z,20nm,1.3s							
CHTO	**Chiang Mai**	**44.62 299**	*e*P	**P**	**18 00 45.4**	**-0.7**		
	comp=Z,20nm,1.3s							
CHTO	**Chiang Mai**	**44.62 299**	P	**P**	**18 00 45.2**	**-1.0**		
	SNR=7.4							
CHTO	**Chiang Mai**	**44.62 299**	P	**P**	**18 00 45.6**	**-0.5**		
USRK	**Ussuriysk Arra**	**46.35 353**	P	**P**	**18 00 58.5**	**-0.9**		
	comp=Z,1.8nm,0.8s,baz=166,slow=9.0,SNR=2.8							
BJI	**Beijing**	**46.76 336**	P	**P**	**18 01 03.0**	**+0.3**		
BJI			pmax	pmax				
	comp=Z,8.0nm,1.0s							
CD2	**Chengdu**	**46.93 317**	P	**P**	**18 01 04.4**	**+0.1**		
CD2			pP	**pP**	**18 01 08.9**	**-4.1**		
CD2			sP	**sP**	**18 01 11.4**	**-5.1**		
CD2			PP	**PP**	**18 02 54.5**	**-0.5**		
CD2			S	**S**	**18 07 54.3**	**+0.5**		
CD2			SS	SS	18 11 13.6	-7.3		
CD2			pmax	pmax				
	comp=Z,40nm,0.9s							
CD2			pmax	pmax				
	comp=Z,400nm,7.5s							
CD2			LR	LR				
	comp=N,650nm,13.7s							
CD2			LR	LR				
	comp=Z,630nm,15.5s							
CN2	**Changchun**	**47.14 346**	*e*P	P	18 01 10.5	+4.9		
CN2			*es*P	sP	18 01 17.0	-0.9		
CN2			*e*S	S	18 08 04.5	+8.2		
CN2			pmax	pmax				
	comp=Z,10.0nm,1.1s							
CN2			pmax	pmax				
	comp=Z,200nm,4.0s							
CN2			LR	LR				
	comp=N,300nm,18.0s							
CN2			LR	LR				
	comp=E,400nm,18.0s							
CN2			LR	LR				
	comp=Z,600nm,19.0s							
HHC	**Hu-ho-hao-te**	**49.45 332**	*e*P	**P**	**18 01 26.0**	**+2.4**		
HHC			pP	**pP**	**18 01 36.7**	**+4.3**		
HHC			PcP	**PcP**	**18 02 48.6**	**+3.0**		
HHC			PP	**PP**	**18 03 21.0**	**+3.0**		
HHC			ScP	**ScP**	**18 06 40.0**	**+0.9**		
HHC			S	**S**	**18 08 29.1**	**-0.1**		
HHC			sS	**sS**	**18 08 47.1**	**+3.4**		
HHC			ScS	**ScS**	**18 11 12.1**	**-1.6**		
HHC			SS	**SS**	**18 12 00.1**	**-1.4**		
HHC			pmax	pmax				
	comp=Z,15nm,1.2s							
HHC			pmax	pmax				
	comp=Z,340nm,7.2s							
HHC			LR	LR				
	comp=N,2μm,19.1s							
HHC			LR	LR				
	comp=E,1μm,16.7s							
HHC			LR	LR				
	comp=Z,2μm,17.3s							
LZH	**Lanzhou**	**50.14 322**	*e*P	**P**	**18 01 30.3**	**+1.2**		
LZH			pP	**pP**	**18 01 36.3**	**-1.6**		
LZH			sP	**sP**	**18 01 40.5**	**-0.9**		
LZH			PP	**PP**	**18 03 22.1**	**-2.4**		
LZH			*e*S	**S**	**18 08 41.0**	**+1.8**		
LZH			sS	**sS**	**18 08 55.2**	**+1.4**		
LZH			pmax	pmax				
	comp=Z,20nm,1.0s							
LZH			pmax	pmax				
	comp=Z,190nm,6.3s							
LZH			LR	LR				
	comp=N,420nm,14.9s							
LZH			LR	LR				
	comp=E,320nm,13.2s							
LZH			LR	LR				
	comp=Z,510nm,15.8s							
KLR	**Kul'dur**	**51.33 354**	*e*P	**P**	**18 01 39.8**	**+2.2**		
GTA	**Gaotai**	**54.72 323**	⇑P	**P**	**18 02 02.8**	**-0.2**		
GTA			pP	**pP**	**18 02 07.4**	**-4.5**		
GTA			sP	sP	18 02 09.8	-5.5		
GTA			PP	**PP**	**18 04 07.6**	**+1.7**		
GTA			S	**S**	**18 09 41.2**	**-0.6**		
GTA			SS	**SS**	**18 13 24.5**	**-0.7**		
GTA			pmax	pmax				
	comp=Z,8.0nm,1.8s							
GTA			pmax	pmax				
	comp=Z,150nm,4.0s							
GTA			LR	LR				
	comp=N,280nm,16.6s							
GTA			LR	LR				
	comp=E,220nm,17.1s							
GTA			LR	LR				
	comp=Z,310nm,16.6s							
LSA	**Lhasa**	**55.60 308**	P	**P**	**18 02 10.2**	**+0.3**		
LSA	**Lhasa**	**55.60 308**	*e*P	**P**	**18 02 09.9**	**0.0**		
LSA			pmax	pmax				
	comp=Z,23nm,1.3s							
LSA	**Lhasa**	**55.60 308**	*e*P	**P**	**18 02 09.9**	**0.0**		
	comp=Z,23nm,1.3s							
ULN	**Ulaanbaatar**	**56.95 335**	*e*P	**P**	**18 02 16.3**	**-2.4**		
	comp=Z,6.3nm,0.8s							
PETK	**Petropavlovsk-**	**56.96 13**	P	**P**	**18 02 18.1**	**-0.5**		
	comp=Z,3.2nm,1.1s,baz=183,slow=9.7,SNR=2.4							
PETK	**Petropavlovsk-**	**56.96 13**	P	**P**	**18 02 18.1**	**-0.5**		
PETK	**Petropavlovsk-**	**56.96 13**	P	**P**	**18 02 18.1**	**-0.5**		
SONM	**Songino Array**	**57.21 334**	P	**P**	**18 02 20.6**	**0.0**		
	comp=Z,3.3nm,1.0s,baz=158,slow=8.2,SNR=10							
SONM	**Songino Array**	**57.21 334**	P	**P**	**18 02 20.6**	**0.0**		
TAPN	**Taplejung**	**57.43 304**	*e*P	**P**	**18 02 22.3**	**-0.4**		
	comp=Z,68nm,1.3s							
TAPN	**Taplejung**	**57.43 304**	*e*P	**P**	**18 02 22.3**	**-0.4**		
	comp=Z,68nm,1.3s							
ODAN	**Odare**	**57.51 304**	*e*P	**P**	**18 02 22.5**	**-0.8**		
	comp=Z,27nm,0.7s							
ODAN	**Odare**	**57.51 304**	*e*P	**P**	**18 02 22.5**	**-0.8**		
	comp=Z,27nm,0.7s							
RAMN	**Ramite**	**58.20 303**	*e*P	**P**	**18 02 27.4**	**-0.7**		
	comp=Z,36nm,0.9s							
RAMN	**Ramite**	**58.20 303**	*e*P	**P**	**18 02 27.4**	**-0.7**		
	comp=Z,36nm,0.9s							
JIRN	**Jiri**	**58.80 304**	*e*P	**P**	**18 02 31.9**	**-0.5**		
	comp=Z,6.1nm,0.8s							
JIRN	**Jiri**	**58.80 304**	*e*P	**P**	**18 02 31.9**	**-0.5**		
	comp=Z,6.1nm,0.8s							
GUN	**Gumba**	**59.15 304**	*e*P	**P**	**18 02 33.7**	**-1.1**		
	comp=Z,81nm,1.3s							
GUN	**Gumba**	**59.15 304**	*e*P	**P**	**18 02 33.7**	**-1.1**		
	comp=Z,81nm,1.3s							
PKI	**Pulchoki**	**59.41 304**	*e*P	**P**	**18 02 35.8**	**-0.8**		
PKI	**Pulchoki**	**59.41 304**	*e*P	**P**	**18 02 35.8**	**-0.8**		
PKI	**Pulchoki**	**59.41 304**	*e*P	**P**	**18 02 35.8**	**-0.8**		
KKN	**Kakani**	**59.60 304**	*e*P	**P**	**18 02 37.2**	**-0.6**		
	comp=Z,40nm,0.9s							
KKN	**Kakani**	**59.60 304**	*e*P	**P**	**18 02 37.2**	**-0.6**		
KKN			pmax	pmax				
	comp=Z,40nm,0.9s							
KKN	**Kakani**	**59.60 304**	*e*P	**P**	**18 02 37.2**	**-0.6**		
	comp=Z,40nm,0.9s							
DMN	**Daman**	**59.68 304**	*e*P	**P**	**18 02 38.0**	**-0.4**		
	comp=Z,42nm,1.0s							
DMN	**Daman**	**59.68 304**	*e*P	**P**	**18 02 38.0**	**-0.4**		
	comp=Z,42nm,1.0s							
GKN	**Gorkha**	**60.21 304**	*e*P	**P**	**18 02 41.0**	**-0.9**		
	comp=Z,58nm,1.1s							
GKN	**Gorkha**	**60.21 304**	*e*P	**P**	**18 02 41.0**	**-0.9**		
	comp=Z,58nm,1.1s							
ZAK	**Zakamensk**	**60.47 334**⇑	*i*P	**P**	**18 02 41.6**	**-1.6**		
ZAK			pmax	pmax				
	comp=Z,13nm,1.2s							
KOLN	**Koldanda**	**60.99 303**	*e*P	**P**	**18 02 46.9**	**-0.4**		
	comp=Z,21nm,0.9s							
KOLN	**Koldanda**	**60.99 303**	*e*P	**P**	**18 02 46.9**	**-0.4**		
	comp=Z,21nm,0.9s							
DANN	**Dangsing**	**61.05 304**	*e*P	**P**	**18 02 46.8**	**-1.0**		
	comp=Z,23nm,0.7s							
DANN	**Dangsing**	**61.05 304**	*e*P	**P**	**18 02 46.8**	**-1.0**		
	comp=Z,23nm,0.7s							
TLY	**Talaya**	**61.29 336**	*e*P	**P**	**18 02 48.7**	**+0.1**		
TLY			pmax	pmax				
	comp=Z,8.0nm,1.2s							
TLY	**Talaya**	**61.29 336**	P	**P**	**18 02 49.7**	**+1.1**		
	SNR=6.4							
IRK	**Irkutsk**	**61.46 336**	*e*P	**P**	**18 02 50.3**	**+0.6**		
IRK			pmax	pmax				
	comp=Z,30nm,1.3s							
FX1	**Attu Island--F**	**61.56 23**	*e*P	**P**	**18 02 50.4**	**+0.1**		
PYUN	**Piuthan**	**61.61 303**	*e*P	**P**	**18 02 51.2**	**-0.3**		
	comp=Z,123nm,1.0s							
PYUN	**Piuthan**	**61.61 303**	*e*P	**P**	**18 02 51.2**	**-0.3**		
	comp=Z,123nm,1.0s							
MOY	**Mondy**	**62.40 334**	*e*P	**P**	**18 02 56.6**	**+0.4**		
MOY			pmax	pmax				
	comp=Z,32nm,2.6s							
HYB	**Hyderabad**	**62.76 291**	*i* P	**P**	**18 02 58.0**	**-1.1**		
BOD	**Bodaibo**	**62.86 345**	*e*P	**P**	**18 02 56.6**	**-2.4**		
BOD			pmax	pmax				
	comp=Z,32nm,2.6s							
YAK	**Yakutsk**	**64.17 355**	*e*P	**P**	**18 03 06.8**	**-0.8**		
YAK			pmax	pmax				
	comp=Z,31nm,1.0s							
YAK			pmax	pmax				
	comp=N,12nm,1.1s							
YAK	**Yakutsk**	**64.17 355**	*e*P	**P**	**18 03 06.7**	**-0.8**		
	comp=N,28nm,0.8s							
DRV	**Dumont d'Urvil**	**64.64 180**	PP	PP	18 05 41.0	+8.1		
DRV			S	S	18 11 42.0	-6.3		
DRV			SS	SS	18 15 48.0	-11		
DRV			L	L	18 19 00.0			
DRV			R		18 23 00.0			
WMQ	**Urumqi**	**64.69 321**	P	**P**	**18 03 12.5**	**+1.0**		
WMQ			pmax	pmax				
	comp=Z,18nm,1.2s							
WMQ			pmax	pmax				
	comp=Z,44nm,13.0s							
WMQ			LR	LR				
	comp=N,390nm,22.0s							
WMQ			LR	LR				
	comp=E,200nm,20.0s							
WMQ			LR	LR				
	comp=Z,300nm,20.0s							
HVS	**Khovu-Aksy**	**65.44 330**	*i* P	**P**	**18 03 15.9**	**-0.3**		
MK31	**Makanchi Array**	**69.46 322**	*e*P	**P**	**18 03 41.2**	**-0.4**		
MK31	**Makanchi Array**	**69.46 322**	*e*P	**P**	**18 03 41.2**	**-0.4**		
MKAR	**Makanchi Array**	**69.46 322**	P	**P**	**18 03 41.4**	**-0.3**		
	comp=Z,3.3nm,0.5s,baz=99,slow=8.4,SNR=99							
MKAR	**Makanchi Array**	**69.46 322**	P	**P**	**18 03 41.4**	**-0.3**		
MKAR	**Makanchi Array**	**69.46 322**	P	**P**	**18 03 41.4**	**-0.3**		
KSH	**Kashi**	**70.90 313**	*e*P	**P**	**18 03 52.3**	**+1.6**		
KSH			pP	**pP**	**18 03 57.3**	**-2.6**		
KSH			*es*P	**sP**	**18 03 59.4**	**-3.9**		
KSH			PcP	**PcP**	**18 04 13.7**	**+2.5**		
KSH			*e*PP	**PP**	**18 06 32.9**	**+4.7**		
KSH			S	**S**	**18 13 05.8**	**+1.2**		
KSH			sS	**sS**	**18 13 14.7**	**-5.0**		
KSH			SKS	**SKSac**	**18 13 50.5**	**-1.0**		
KSH			ScS	**ScS**	**18 13 52.9**	**-0.1**		
KSH			SS	**SS**	**18 17 41.2**	**+3.4**		
KSH			pmax	pmax				
	comp=Z,22nm,1.4s							
KSH			pmax	pmax				
	comp=Z,170nm,5.9s							
KSH			LR	LR				
	comp=N,130nm,5.9s							
KSH			LR	LR				
	comp=E,160nm,6.0s							
KSH			LR	LR				
	comp=Z,320nm,7.5s							
ZAA0	**Zalesovo Array**	**71.49 330**	*e*P	**P**	**18 03 51.9**	**-2.0**		
ZALV	**Zalesovo Beam**	**71.49 330**	P	**P**	**18 03 52.3**	**-1.5**		
	comp=Z,2.0nm,0.5s,baz=121,slow=5.6,SNR=16							
ZALV	**Zalesovo Beam**	**71.49 330**	P	**P**	**18 03 52.3**	**-1.5**		
ZALV	**Zalesovo Beam**	**71.49 330**	P	**P**	**18 03 52.3**	**-1.5**		
TKM2	**Tokmak 2**	**72.31 316**	*e*P	**P**	**18 03 57.3**	**-2.0**		
TKM2			pmax	pmax				
	comp=Z,8.0nm,1.0s							
TKM2	**Tokmak 2**	**72.31 316**	*e*P	**P**	**18 03 57.3**	**-2.0**		
	comp=Z,8.1nm,1.0s							
NVS	**Novosibirsk**	**72.75 330**	*e*P	**P**	**18 03 59.7**	**-1.6**		
NVS			pmax	pmax				
	comp=Z,48nm,1.8s							
NVS			pmax	pmax				
	comp=E,22nm,1.7s							
KURK	**Kurchatov**	**73.35 325**⇓	*e*P	**P**	**18 04 04.7**	**-0.3**		
KURK			pmax	pmax				
	comp=Z,22nm,1.3s							
KURK	**Kurchatov**	**73.35 325**	*e*P	**P**	**18 04 03.8**	**-1.2**		
	comp=Z,14nm,1.0s							
KURK	**Kurchatov**	**73.35 325**	P	**P**	**18 04 06.2**	**+1.3**		
	SNR=6.5							
EKS2	**Erkin-Say**	**73.48 316**	*e*P	**P**	**18 04 05.8**	**-0.3**		
EKS2			pmax	pmax				
	comp=Z,12nm,1.2s							
EKS2	**Erkin-Say**	**73.48 316**	*e*P	**P**	**18 04 05.8**	**-0.3**		
	comp=Z,12nm,1.2s							
KBL	**Kabul**	**74.85 306**	*e*P	**P**	**18 04 13.5**	**-0.9**		
KBL			pmax	pmax				
	comp=Z,6.0nm,0.8s							
KBL	**Kabul**	**74.85 306**	*e*P	**P**	**18 04 13.5**	**-0.9**		
	comp=Z,5.8nm,0.8s							
KKAR	**Karatay Array**	**75.91 315**	*e*P	**P**	**18 04 19.2**	**-0.8**		
KKAR			pmax	pmax				
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**75.91 315**	*e*P	**P**	**18 04 19.2**	**-0.8**		
	comp=Z,4.2nm,0.9s							
VNDA	**Vanda**	**76.54 175**	P	**P**	**18 04 22.9**	**0.0**		
	comp=Z,3.5nm,0.5s,baz=305,slow=6.2,SNR=15							
VNDA	**Vanda**	**76.54 175**	P	**P**	**18 04 22.9**	**0.0**		
BVAR	**Borovoye Array**	**78.94 325**	P	**P**	**18 04 36.4**	**-0.4**		
	comp=Z,7.3nm,0.8s,baz=116,slow=6.8,SNR=24							
BVAR	**Borovoye Array**	**78.94 325**	P	**P**	**18 04 36.4**	**-0.4**		
BVAR	**Borovoye Array**	**78.94 325**	P	**P**	**18 04 36.4**	**-0.4**		
BRVK	**Borovoye**	**79.01 325**	*e*P	**P**	**18 04 36.6**	**-0.5**		
BRVK			pmax	pmax				
	comp=Z,8.0nm,0.6s							
BRVK	**Borovoye**	**79.01 325**	*e*P	**P**	**18 04 36.6**	**-0.5**		
	comp=Z,8.2nm,0.6s							
JMDO	**Jabal Madar**	**82.50 293**	P	**P**	**18 04 56.6**	**+0.1**		
	SNR=5.3							
SMDO	**Samad**	**82.61 293**	P	**P**	**18 04 58.8**	**+1.6**		
	SNR=5.9							
HOQ	**Hoqain**	**83.33 294**	P	**P**	**18 05 02.7**	**+1.9**		
	SNR=7.8							
ABKAR	**Akbulak array**	**84.43 320**	*e*P	**P**	**18 05 04.6**	**-1.2**		
	comp=Z,9.7nm,1.1s							
BANOM	**Banah**	**84.45 296**	P	**P**	**18 05 07.2**	**+0.8**		
	SNR=5.0							
ILAR	**Eielson Array**	**84.89 24**	P	**P**	**18 05 06.8**	**-1.0**		
	comp=Z,3.9nm,0.9s,baz=259,slow=5.1,SNR=11							
ILAR	**Eielson Array**	**84.89 24**	P	**P**	**18 05 06.8**	**-1.0**		
DOT	**Dot Lake**	**85.82 26**	*e*P	**P**	**18 05 13.2**	**+0.7**		
	comp=Z,3.2nm,1.0s							
ARU	**Arti**	**86.40 327**	*c i*P	**P**	**18 05 15.8**	**+0.3**		
ARU					18 08 34.7			
ARU			S	S	18 15 38.9	-10		
ARU			SS	**SS**	**18 21 32.4**	**+2.9**		
ARU			pmax	pmax				
	comp=Z,3.0nm,0.8s							
ARU	**Arti**	**86.40 327**	*e*P	**P**	**18 05 14.4**	**-1.0**		
	comp=Z,5.6nm,0.9s							
EGAK	**Eagle**	**87.29 25**	*e*P	**P**	**18 05 18.3**	**-1.3**		
	comp=Z,6.7nm,0.9s							
DAWY	**Dawson**	**87.93 26**	*e*P	**P**	**18 05 23.2**	**+0.4**		
SYO	**Syowa Base**	**91.69 201**⇑	*e*pP	P	18 05 44.4	+4.2		
OBN	**Obninsk**	**98.78 325**	P	Pdif	18 06 13.0	+0.2		
OBN			pmax	pmax				
	comp=Z,35nm,2.4s							
YKA	**Yellowknife Ar**	**99.12 27**	P	**Pdif**	**18 06 14.8**	**+0.6**		
	comp=Z,0.3nm,0.9s,baz=280,slow=4.7,SNR=2.9							
YKA	**Yellowknife Ar**	**99.12 27**	P	**Pdif**	**18 06 14.8**	**+0.6**		
KOLS	**Kolonicke sedl**	**108.86 322**	*e*P	**Pdif**	**18 06 51.1**	**-6.8**		
KOLS	**Kolonicke sedl**	**108.86 322**	PDIF	**Pdif**	**18 06 51.1**	**-6.8**		
VYHS	**Vyhne**	**111.15 322**	*e*P	**Pdif**	**18 07 13.7**	**+5.6**		
VYHS	**Vyhne**	**111.15 322**	*e*	**Pdif**	**18 07 13.7**	**+5.6**		
TOA0	**Torodi Ar. Sit**	**136.50 287**	*e*P	**PKPdf**	**18 11 56.7**	**+0.5**		
TORD	**Torodi Ar. Bea**	**136.50 287**	PKhKP	PKPpre	18 11 48.2			
	comp=Z,0.9nm,1.1s,baz=66,slow=3.5,SNR=3.0							
TORD			PKP	**PKiKP**	**18 11 57.6**	**-0.4**		
	comp=Z,3.4nm,0.9s,baz=66,slow=1.7,SNR=9.2							
TORD	**Torodi Ar. Bea**	**136.50 287**	PKPpre	PKPpre	18 11 48.2			
TORD			PKP	**PKiKP**	**18 11 57.6**	**-0.4**		
DBIC	**Dimbokro**	**143.87 279**	PKhKP	PKPpre	18 12 06.7			
	comp=Z,12nm,0.9s,baz=76,slow=3.8,SNR=8.5							
DBIC	**Dimbokro**	**143.87 279**	PKPpre	PKPpre	18 12 06.7			
ARE	**Arequipa**	**144.62 122**	*e*PKiKP	**PKPdf**	**18 12 12.0**	**+0.8**		
ARE	**Arequipa**	**144.62 122**	*e*P	**PKPdf**	**18 12 12.0**	**+0.8**		
ROSC	**El Rosal**	**146.39 84**	PKPbc	**PKPab**	**18 12 16.6**	**-0.1**		
	comp=Z,5.6nm,0.4s,baz=270,slow=23,SNR=6.4							
ROSC	**El Rosal**	**146.39 84**	PKPbc	**PKPab**	**18 12 16.6**	**-0.1**		
LPAZ	**La Paz**	**147.50 125**	PKPbc	**PKPbc**	**18 12 18.5**	**-0.6**		
	comp=Z,14nm,1.2s,baz=308,slow=2.1,SNR=17							
LPAZ	**La Paz**	**147.50 125**	*e*P	**PKPbc**	**18 12 18.4**	**-0.6**		
CPUP	**Villa Florida**	**147.70 151**	PKPbc	**PKPbc**	**18 12 19.4**	**+0.8**		
	comp=Z,11nm,1.1s,baz=180,slow=4.2,SNR=5.7							
CPUP	**Villa Florida**	**147.70 151**	PKPbc	**PKPbc**	**18 12 19.4**	**+0.8**		
SDV	**Santo Domingo**	**149.51 76**	*e*P	**PKPdf**	**18 12 20.5**	**+1.2**		
BDFB	**Brasilia**	**161.16 158**	PKP	**PKPdf**	**18 12 35.8**	**+1.0**		
	comp=Z,1.8nm,0.5s,baz=309,slow=1.2,SNR=4.1							
BDFB	**Brasilia**	**161.16 158**	PKP	**PKPdf**	**18 12 35.8**	**+1.0**		

IDC 10 18:00:17.2±7.7, 12°.55N×91°.98E, h59$^{km}_{\pm 67}$, mb3.7/9, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, ML3.7/1, Error ellipse: s-maj=57.6km s-min=15.0km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.91**	**48**	P	Pn	18 02 24.4	+1.0
	0.2nm,0.3s,baz=243,slow=17,SNR=3.8						
CMAR				S	Sn	18 03 51.7	-11
	baz=236,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**35.10**	**348**	P	P	18 07 04.8	-0.1
	1.0nm,0.8s,baz=165,slow=9.0,SNR=5.3						
MKAR				PcP	PcP	18 09 36.6	+1.2
	0.2nm,0.7s,baz=158,slow=4.2,SNR=2.6						
SONM	**Songino Array**	**37.18**	**16**	P	P	18 07 22.3	-0.5
	0.9nm,0.7s,baz=202,slow=7.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**41.69**	**354**	P	P	18 07 59.6	-0.4
	0.6nm,0.6s,baz=182,slow=8.5,SNR=4.4						
FITZ	**Fitzroy Crossi**	**45.06**	**132**	P	P	18 08 27.6	-0.1
	2.0nm,0.5s,baz=337,slow=8.6,SNR=6.1						
WRA	**Warramunga Arr**	**52.73**	**127**	P	P	18 09 26.0	-0.5
	1.6nm,0.7s,baz=309,slow=7.8,SNR=25						
ASAR	**Alice Springs**	**54.55**	**131**	P	P	18 09 39.5	-0.3
	1.3nm,0.6s,baz=308,slow=6.8,SNR=33						
BRTR	**Tiklin Array B**	**57.81**	**309**	P	P	18 10 02.8	-0.3
	0.6nm,0.7s,baz=116,slow=8.4,SNR=4.6						
STKA	**Stephens Creek**	**64.86**	**134**	P	P	18 10 51.0	+0.5
	4.1nm,0.9s,baz=333,slow=6.4,SNR=5.4						
FINES	**FINESS Array B**	**67.61**	**332**	P	P	18 11 07.6	0.0
	1.1nm,0.8s,baz=140,slow=4.9,SNR=2.4						

*DJA **10** 18:10:42.9±1.5, 1°.8×13°.9E±°, h19$^{km}_{\pm 13}$, M4.4/3, mb4.8/1, mB5.5/1, MLv4.2/3, Mw(mB)5.0/1*
*IDC **10** 18:10:45.9±2.0, 1°.86S×139°.14E, h0^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML4.1/1, Error ellipse: s-maj=78.8km s-min=20.4km az=86.0*
*ISCJB **10** 18:10:49.6±0.8, 1°.9S±0°.1×139°.0E±0°.1, h33^{km}, mb3.6/5, Error ellipse: s-maj=15.9km s-min=14.1km az=33.4*

ISC 10 18:10:51.4±1.1, 1°.8S±0°.1×139°.08E±0°.07, h35^{km}, n10, σ1s80/10, mb3.6/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.40**	**249**	P	**Pn**	**18 10 59.0**	**-1.7**
SMPI				S	**Sn**	**18 11 10.9**	**+3.9**
JAY	**Jayapura**	**1.75**	**112**	P	**Pn**	**18 11 19.5**	**+0

EBAJ	**Bajamar**	**0.58**	**124**	P	Pn	18 13 48.6	-1.1
	2.6nm,0.2s,SNR=18							
EBAJ				S	Sn	18 13 56.0	-2.2
	8.0nm,0.2s,SNR=14							
CRAJ	**Montana Rajada**	**0.65**	**157**	⇑P	Pn	18 13 50.1	-1.0
	43nm,0.1s,SNR=18							
CRAJ				S	Sn	18 14 00.0	-0.5
	172nm,0.1s,SNR=11							
CRAJ	**Montana Rajada**	**0.65**	**157**	P	Pn	18 13 50.1	-1.0
	43nm,0.1s,SNR=18							
CRAJ				S	Sn	18 14 00.0	-0.5
	172nm,0.1s,SNR=11							
CCAN	**Las Canadas**	**0.69**	**159**	⇑P	Pn	18 13 50.5	-1.1
	37nm,0.2s,SNR=18							
CCAN				S	Sn	18 13 58.2	-3.1
	17nm,0.2s,SNR=12							
CCAN	**Las Canadas**	**0.69**	**159**	P	Pn	18 13 50.5	-1.1
	37nm,0.2s,SNR=18							
CCAN				S	Sn	18 13 58.2	-3.2
	17nm,0.2s,SNR=12							
EGOM	**La Gomera**	**0.76**	**202**	⇑P	Pn	18 13 50.6	-1.5
	11nm,0.1s,SNR=18							
EGOM				S	Sn	18 14 00.5	-1.9
	62nm,0.1s,SNR=19							
EGOM	**La Gomera**	**0.76**	**202**	P	Pn	18 13 50.6	-1.5
	11nm,0.1s,SNR=18							
EGOM				S	Sn	18 14 00.5	-1.9
	62nm,0.1s,SNR=19							
EOSO	**Osorio**	**1.42**	**124**	S	Sn	18 14 16.0	-2.8
	5.4nm,0.2s,SNR=7.9							
EOSO	**Osorio**	**1.42**	**124**	S	Sn	18 14 16.0	-2.9
	5.4nm,0.2s,SNR=7.9							
CFTV	**Fuerteventura**	**2.51**	**100**	P	Pn	18 14 13.8	-2.5
	0.2nm,0.1s,SNR=7.9							
CFTV				S	Sn	18 14 40.9	-4.7
	2.5nm,0.1s,SNR=7.9							
CFTV	**Fuerteventura**	**2.51**	**100**	P	Pn	18 14 13.8	-2.4
	0.2nm,0.1s,SNR=7.9							
CFTV				S	Sn	18 14 40.9	-4.7
	2.5nm,0.1s,SNR=7.9							
CFUE	**Fuerteventura**	**2.60**	**94**	S	Sn	18 14 43.1	-4.8
	1.2nm,0.0s,SNR=7.9							
CFUE	**Fuerteventura**	**2.60**	**94**	S	Sn	18 14 43.1	-4.8
	1.2nm,0.0s,SNR=7.9							

IDC 10 18:17:00.8±1.2,4°28N×126°89E,h0km,mb3.7/10, mb1 3.8/10,mb1mx3.7/25,mbtmp3.7/10,1C,Error ellipse: s-maj=73.1km s-min=16.4km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.93**	**318**	⇑P	Pn	18 18 06.0	+3.6
FITZ	**Fitzroy Crossi**	**22.27**	**183**	P	P	18 21 59.6	0.0
	1.5nm,0.9s,baz=1.8,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**25.16**	**163**	P	P	18 22 28.4	+0.5
	1.4nm,0.8s,baz=343,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**28.60**	**166**	P	P	18 22 58.5	-0.5
	0.3nm,0.6s,baz=349,slow=7.2,SNR=6.3						
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	P	18 23 18.2	+0.3
	0.6nm,0.8s,baz=106,slow=7.6,SNR=5.4						
SONM	**Songino Array**	**46.83**	**341**	P	P	18 25 33.0	+0.4
	0.3nm,0.7s,baz=150,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	18 26 49.7	-0.1
	0.8nm,0.7s,baz=126,slow=8.3,SNR=14						
MKAR				PcP	PcP	18 27 44.0	-0.3
	0.2nm,0.6s,baz=120,slow=3.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**60.17**	**333**	P	P	18 27 09.7	-0.6
	0.4nm,0.5s,baz=111,slow=6.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**61.37**	**327**	P	P	18 27 18.8	+0.3
	2.7nm,0.7s,baz=130,slow=4.4,SNR=32						
AKTO	**Aktyubinsk**	**73.33**	**321**	P	P	18 28 33.7	-0.7
	0.4nm,0.5s,baz=90,slow=5.1,SNR=3.6						
BRTR	**Keskin Array B**	**89.79**	**310**	P	P	18 30 01.5	-0.3
	0.6nm,0.9s,baz=70,slow=9.3,SNR=3.2						

IDC 10 18:19:42.2±1.2,4°20N×126°68E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/24,mbtmp3.6/8,Error ellipse: s-maj=71.1km s-min=16.4km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.18**	**183**	P	P	18 24 40.1	-0.1
	1.3nm,0.7s,baz=15,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**25.14**	**163**	P	P	18 25 09.2	-0.1
	1.1nm,0.6s,baz=344,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**28.58**	**166**	P	P	18 25 40.4	+0.1
	0.2nm,0.4s,baz=337,slow=7.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.59**	**300**	P	P	18 25 58.4	+0.2
	0.6nm,0.8s,baz=119,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**46.84**	**341**	P	P	18 28 14.6	+0.5
	0.2nm,0.6s,baz=154,slow=5.5,SNR=3.5						
MKAR	**Makanchi Array**	**57.14**	**325**	P	P	18 29 30.9	0.0
	0.5nm,0.5s,baz=118,slow=7.8,SNR=7.6						
MKAR				PcP	PcP	18 30 25.5	-0.2
	0.3nm,0.7s,baz=116,slow=4.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**60.15**	**333**	P	P	18 29 50.9	-0.7
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.32**	**327**	P	P	18 29 59.6	-0.1
	1.5nm,0.4s,baz=129,slow=6.4,SNR=13						

IDC 10 18:29:53.8±1.6,4°17N×126°96E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.4/24,mbtmp3.5/5,Error ellipse: s-maj=103.3km s-min=19.4km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	P	18 34 51.0	-0.6
	0.8nm,0.6s,baz=0.0,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**25.03**	**163**	P	P	18 35 19.8	-0.1
	1.5nm,0.5s,baz=344,slow=11,SNR=20						
ASAR	**Alice Springs**	**28.48**	**167**	P	P	18 35 51.3	+0.4
	0.2nm,0.5s,baz=348,slow=7.7,SNR=6.7						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	18 39 43.7	0.0
	0.3nm,0.6s,baz=123,slow=7.5,SNR=6.5						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	18 40 12.4	0.0
	0.3nm,0.5s,baz=130,slow=6.0,SNR=8.5						

IDC 10 18:30:53.0±5.7,3°38S×152°77E,h289km±45km,mb3.1/4, mb1 3.3/6,mb1mx3.0/20,mbtmp3.2/6,Error ellipse: s-maj=64.8km s-min=24.2km az=91.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.18**	**223**	P	Pn	18 32 48.3	-0.5
	0.9nm,0.3s,baz=23,slow=7.7,SNR=4.7						
PMG				S	S	18 34 22.8	+0.2
	1.4nm,0.3s,baz=90,slow=3.0,SNR=5.1						
CTA	**Charters Tower**	**17.78**	**200**	P	P	18 34 42.5	+1.4
	0.5nm,0.3s,baz=35,slow=16,SNR=6.9						
WRA	**Warramunga Arr**	**24.38**	**226**	P	P	18 35 46.0	+0.3
	2.1nm,0.3s,baz=50,slow=10.0,SNR=49						
ASAR	**Alice Springs**	**27.19**	**220**	P	P	18 36 10.7	-0.1
	0.5nm,0.4s,baz=54,slow=8.9,SNR=30						
STKA	**Stephens Creek**	**30.24**	**199**	P	P	18 36 36.5	-1.1
	1.2nm,0.5s,baz=32,slow=15,SNR=4.6						
SONM	**Songino Array**	**65.11**	**327**	P	P	18 41 03.5	0.0
	0.2nm,0.6s,baz=142,slow=5.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.81**	**290**	PKPbc	PKPbc	18 50 09.6	-0.5
	0.2nm,0.4s,baz=57,slow=1.3,SNR=4.3						

IDC 10 18:35:37.9±49.0,18°04S×174°67W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.8/3,Error ellipse: s-maj=931.5km s-min=181.7km az=81.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.70**	**242**	P	P	18 43 28.4	-0.3
	1.5nm,0.9s,baz=84,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**48.11**	**259**	P	P	18 44 19.3	-0.6
	0.2nm,0.4s,baz=97,slow=7.1,SNR=10.0						
ASAR	**Alice Springs**	**48.18**	**254**	P	P	18 44 20.8	+0.3
	1.8nm,0.5s,baz=88,slow=8.4,SNR=59						

WEL 10 18:39:11.3±0.1,42°97S×171°45E,h5km,ML3.5/14,Error ellipse: s-maj=1.0km s-min=0.8km az=0.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.53**	**258**	PG	Pg	18 39 21.9	+0.4
WVZ				SG	Sg	18 39 28.6	+0.1
LTZ	**Lake Taylor**	**0.63**	**73**	P*	Pg	18 39 23.8	+0.3
LTZ				SG	Sg	18 39 31.9	0.0
RPZ	**Rata Peaks**	**0.80**	**201**	P*	Pg	18 39 26.4	-0.4
CRLZ	**Canterbury Las**	**1.05**	**126**	P*	Pg	18 39 31.3	-0.2
CRLZ				S*	Sb	18 39 45.8	-0.2
MQZ	**McQueen's Vall**	**1.15**	**130**	P*	Pg	18 39 32.4	-0.9
MQZ				S*	Sg	18 39 48.2	-0.1
DSZ	**Denniston Nort**	**1.25**	**12**	P*	Pg	18 39 34.7	-0.7
DSZ				S*	Sg	18 39 50.1	-1.5
FOZ	**Fox Glacier**	**1.42**	**244**	P*	Pn	18 39 36.2	-1.5
FOZ				S*	Sb	18 39 53.2	-3.3
THZ	**Tophouse**	**1.62**	**42**	PN	Pn	18 39 40.1	-0.5
KHZ	**Kahutara**	**1.64**	**71**	PN	Pn	18 39 40.4	-0.4
KHZ				SN	Sn	18 40 01.0	-1.2
LBZ	**Lake Benmore**	**1.69**	**212**	PN	Pn	18 39 40.8	-0.7
ODZ	**Otahua Downs**	**2.15**	**195**	PN	Pn	18 39 46.4	-1.5
JCZ	**Jackson Bay**	**2.25**	**240**	PN	Pn	18 39 48.8	-0.5
NNZ	**Nelson**	**2.26**	**40**	PN	Pn	18 39 48.8	-0.5
QRZ	**Quartz Range**	**2.29**	**21**	PN	Pn	18 39 49.4	-0.3
QRZ				SN	Sn	18 40 17.4	-0.9
WKZ	**Wanaka**	**2.56**	**223**	PN	Pn	18 39 52.3	-1.1
EAZ	**Earnscleugh**	**2.74**	**213**	PN	Pn	18 39 54.2	-1.7
TUZ	**Tuapeka**	**3.26**	**203**	PN	Pn	18 40 01.5	-1.5

IDC 10 18:53:19.2±5.0,1°80S×138°67E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/18,mbtmp3.2/3,ML3.5/1,Error ellipse: s-maj=205.1km s-min=28.2km az=85.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52**	**193**	P	Pn	18 57 37.5	+0.1
	0.2nm,0.3s,baz=13,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**22.22**	**192**	P	P	18 58 17.4	-0.2
	0.6nm,0.8s,baz=26,slow=9.7,SNR=6.6						
MKAR	**Makanchi Array**	**69.05**	**322**	P	P	19 04 26.9	0.0
	0.1nm,0.5s,baz=118,slow=5.5,SNR=3.2						

IDC 10 18:57:52.7±2.0,1°93S×138°81E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/20,mbtmp3.7/6,ML4.1/1,Error ellipse: s-maj=77.3km s-min=21.5km az=86.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.43**	**193**	P	Pn	19 02 09.1	-0.8
	0.7nm,0.3s,baz=16,slow=12,SNR=30						
FITZ	**Fitzroy Crossi**	**20.63**	**218**	P	P	19 02 34.8	+0.9
	0.8nm,0.8s,baz=45,slow=17,SNR=2.4						
ASAR	**Alice Springs**	**22.13**	**192**	P	P	19 02 50.1	0.0
	1.5nm,0.5s,baz=17,slow=9.5,SNR=43						
STKA	**Stephens Creek**	**29.91**	**175**	P	P	19 04 02.7	+0.3
	1.8nm,0.8s,baz=10,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**69.23**	**322**	P	P	19 09 01.6	0.0
	0.4nm,0.7s,baz=116,slow=6.6,SNR=4.2						
BVAR	**Borovoye Array**	**78.73**	**325**	P	P	19 09 56.7	-0.3
	0.4nm,0.6s,baz=124,slow=7.2,SNR=4.0						

IDC 10 19:01:59.9±1.4,1°81S×139°20E,h0km,mb3.9/7, mb1 4.2/9,mb1mx3.9/21,mbtmp4.0/9,ML4.2/2,MS3.8/1, Ms1 3.8/1,ms1mx2.6/33,Error ellipse: s-maj=51.0km s-min=17.8km az=75.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.64**	**194**	P	P	19 06 19.3	-0.1
	1.1nm,0.3s,baz=17,slow=12,SNR=24						
CTA	**Charters Tower**	**19.43**	**160**	P	P	19 06 27.9	-0.1
	0.3nm,0.3s,baz=339,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**20.96**	**219**	P	P	19 06 44.6	-0.1
	4.4nm,0.9s,baz=78,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**22.33**	**193**	P	P	19 06 59.2	-0.2
	7.8nm,0.9s,baz=19,slow=11,SNR=47						
STKA	**Stephens Creek**	**29.99**	**176**	P	P	19 08 10.3	0.0
	1.6nm,0.6s,baz=359,slow=10.0,SNR=7.2						
NWAO	**Narrogin (SRO)**	**37.20**	**211**	LR	LR	19 25 59.2	
	comp=Z,130nm,19.4s,baz=326,slow=39						
CMAR	**Chiang Mai Arr**	**44.43**	**299**	P	P	19 10 13.1	+0.2
	0.7nm,0.9s,baz=129,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**69.38**	**322**	P	P	19 13 09.0	-0.7
	0.8nm,0.7s,baz=111,slow=7.9,SNR=7.8						
VNDA	**Vanda**	**76.63**	**175**	P	P	19 13 52.2	+0.2
	1.0nm,0.5s,baz=330,slow=7.1,SNR=6.0						
BVAR	**Borovoye Array**	**78.86**	**325**	P	P	19 14 05.5	+0.5
	1.3nm,0.7s,baz=118,slow=7.3,SNR=10						

IDC 10 19:07:43.4±2.4,10°87S×110°28E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.7/22,mbtmp3.7/9,ML3.7/1,Error ellipse: s-maj=123.3km s-min=16.7km az=48.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.51**	**118**	P	Pn	19 11 35.8	-0.7
	0.2nm,0.3s,baz=300,slow=9.1,SNR=10						
WRA	**Warramunga Arr**	**24.86**	**114**	P	P	19 13 08.4	+0.4
	1.2nm,0.7s,baz=289,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**25.85**	**123**	P	P	19 13 16.4	-0.5
	0.9nm,0.7s,baz=298,slow=8.2,SNR=7.3						
CMAR	**Chiang Mai Arr**	**31.21**	**339**	P	P	19 14 05.7	+0.9
	0.9nm,0.6s,baz=175,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**35.67**	**131**	P	P	19 14 44.1	+0.6
	1.2nm,0.8s,baz=308,slow=12,SNR=3.0						
SONM	**Songino Array**	**58.54**	**357**	P	P	19 17 42.0	+0.1
	0.5nm,0.6s,baz=178,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**62.62**	**339**	P	P	19 18 09.7	0.0
	0.5nm,0.5s,baz=148,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**68.09**	**344**	P	P	19 18 43.4	-1.4
	0.3nm,0.3s,baz=157,slow=4.7,SNR=4.0						
BVAR	**Borovoye Array**	**72.18**	**336**	P	P	19 19 10.1	0.0
	1.1nm,0.7s,baz=140,slow=7.6,SNR=13						

AUST ***10*** *19:10:24.0±3.4, 7°29S×129°63E,h0km,Error ellipse: s-maj=1.3km s-min=1.0km az=267.0*

IDC ***10*** *19:10:27.5±2.6, 7°01S×129°93E,h109km±26km, mb3.5/6, mb1 3.8/10,mb1mx3.7/19,mbtmp3.6/10,Error ellipse: s-maj=32.7km s-min=20.6km az=76.0*

ISCJB ***10*** *19:10:28.5±0.5, 7°10S±0°04×129°88E±0°09,h139km, mb3.7/7,Error ellipse: s-maj=12.9km s-min=5.1km az=162.7*

ISC 10 19:10:29.2±0.6,7°26S±0°06×129°76E±0°08,h139km,n19, σ3s09/22,mb3.8/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.37**	**62**	P	**Pn**	**19 11 19.2**	**-1.7**
	baz=3.5,SNR=240						
AAI	**Ambon**	**3.88**	**336**	P	**Pn**	**19 11 26.1**	**-1.5**
	baz=3.9,SNR=4.0						
MTN	**Manton Dam**	**5.71**	**166**	P	Pn	19 11 56.0	+4.1
	baz=5.7,SNR=49						
MTN				S	**Sn**	**19 13 00.6**	**+4.1**
	baz=5.7,SNR=9.2						
KDU	**Kakadu**	**6.02**	**154**	P	Pn	19 11 59.1	+3.1
	baz=6.1,SNR=111						
KDU				S	**Sn**	**19 13 07.2**	**+3.3**
	baz=6.1,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.50**	**200**	P	**Pn**	**19 13 10.8**	**+1.5**
	0.6nm,0.3s,baz=24,slow=13,SNR=18						
FITZ				S	**Sn**	**19 15 12.7**	**-3.5**
	2.7nm,0.3s,baz=270,slow=16,SNR=5.7						
FITZ	**Fitzroy Crossi**	**11.50**	**200**	P	Pn	19 13 11.9	+2.6
	baz=12,SNR=9.4						
FITZ				S	**Sn**	**19 15 14.8**	**-1.4**
	baz=12,SNR=7.3						
PCI	**Palu**	**11.74**	**302**	S	Sn	19 15 11.7	-10
	baz=12,SNR=4.9						
WRA	**Warramunga Arr**	**13.37**	**161**	P	**P**	**19 13 35.0**	**-3.1**
	2.4nm,0.3s,baz=347,slow=13,SNR=42						
WRA				S	**Sn**	**19 15 58.6**	**-2.7**
	2.2nm,0.3s,baz=339,slow=22,SNR=8.3						
COEN	**Coen**	**14.76**	**118**	P	**P**	**19 13 55.3**	**+1.7**
	baz=15,SNR=4.4						
COEN				S	Sn	19 16 25.3	-10
	baz=15,SNR=7.4						
QIS	**Mount Isa**	**16.30**	**145**	P	**P**	**19 14 13.9**	**+3.2**
	baz=16,SNR=8.4						
QIS				S	**Sn**	**19 17 05.8**	**-6.1**
	baz=16,SNR=4.0						
ASAR	**Alice Springs**	**16.79**	**167**	P	**Pn**	**19 14 19.9**	**+3.7**
	1.3nm,0.3s,baz=347,slow=10,SNR=51						
ASAR				S	**Sn**	**19 17 18.6**	**-5.0**
	0.6nm,0.3s,baz=345,slow=25,SNR=6.1						
ASAR				ScP	**ScP**	**19 22 22.4**	**+4.2**
	baz=356,slow=1.2,SNR=4.5						
PMG	**Port Moresby**	**17.35**	**98**	P	**Pn**	**19 14 22.6**	**-0.4**
	0.9nm,0.3s,baz=290,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**26.86**	**157**	P	P	19 16 04.3	+7.4
	0.9nm,0.6s,baz=330,slow=8.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**39.72**	**310**	P	**P**	**19 17 49.5**	**+1.1**
	0.3nm,0.4s,baz=135,slow=7.1,SNR=3.8						
MJAR	**Matsushiro Arr**	**44.29**	**10**	P	**P**	**19 18 23.3**	**-1.8**
	1.2nm,0.5s,baz=190,slow=10,SNR=6.3						
USRK	**Ussuriysk Arra**	**51.26**	**2**	P	**P**	**19 19 17.4**	**-1.2**
	1.2nm,0.5s,baz=195,slow=9.3,SNR=4.5						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**19 20 12.4**	**+0.8**
	0.5nm,0.5s,baz=154,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	**68.31**	**327**	P	**P**	**19 21 16.8**	**+1.5**
	1.2nm,0.4s,baz=122,slow=7.6,SNR=48						
ZALV	**Zalesovo Beam**	**71.71**	**334**	P	**P**	**19 21 36.2**	**+0.4**
	0.5nm,0.4s,baz=127,slow=5.4,SNR=6.2						

IDC 10 19:19:20.2±1.3,21°15S×179°11W,h601km±14km, mb3.6/20,mb1 3.7/22,mb1mx3.7/26,mbtmp3.6/22,4C-7D, Error ellipse: s-maj=12.7km s-min=11.3km az=93.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.03**	**45**	P	P	19 21 38.7	-0.9
	5.0nm,0.3s,baz=187,slow=8.1,SNR=4.8						
AFI				S	S	19 23 29.2	-4.6
	2.4nm,0.3s,baz=184,slow=19,SNR=5.6						
DZM	**Mont Dzumac**	**13.47**	**263**	P	P	19 22 13.9	-0.1
	0.9nm,0.3s,baz=93,slow=18,SNR=9.3						
HNR	**Honiara**	**23.29**	**297**	P	P	19 23 43.4	0.0
	25nm,0.5s,baz=352,slow=22,SNR=6.4						
CTA	**Charters Tower**	**32.40**	**266**	P	P	19 25 02.8	+0.2
	14nm,0.4s,baz=92,slow=11,SNR=36						
PMG	**Port Moresby**	**34.49**	**285**	P	P	19 25 19.7	-0.3
	21nm,0.7s,baz=90,slow=8.1,SNR=12						
STKA	**Stephens Creek**	**36.57**	**245**	P	P	19 25 37.3	+0.3
	1.4nm,0.5s,baz=67,slow=8.8,SNR=8.5						
ASAR	**Alice Springs**	**43.36**	**258**	P	P	19 26 30.9	-0.4
	11nm,0.6s,baz=97,slow=7.7,SNR=94						
ASAR				ScP	ScP	19 31 01.5	+0.5
	1.0nm,0.7s,baz=91,slow=4.3,SNR=6.3						
ASAR				S	S	19 32 13.1	-3.9
	2.2nm,0.7s,baz=94,slow=16,SNR=15						
WRA	**Warramunga Arr**	**43.49**	**263**	P	P	19 26 31.3	-1.0
	5.3nm,0.3s,baz=97,slow=7.7,SNR=148						
WRA				ScP	ScP	19 31 00.7	-0.8
	0.5nm,0.8s,baz=94,slow=3.6,SNR=3.7						
WRA				S	S	19 32 13.4	-5.4
	0.9nm,0.8s,baz=98,slow=13,SNR=4.4						
FITZ	**Fitzroy Crossi**	**51.92**	**263**	P	P	19 27 34.8	-0.2
	3.2nm,0.4s,baz=134,slow=6.2,SNR=35						
VNDA	**Vanda**	**57.18**	**185**	P	P	19 28 10.7	+0.1
	3.0nm,0.7s,baz=358,slow=6.0,SNR=16						
QSPA	**South Pole Qui**	**68.92**	**180**	P	P	19 29 26.3	+0.3
	9.0nm,0.7s,baz=9.2,slow=1.0,SNR=36						
MJAR	**Matsushiro Arr**	**70.12**	**325**	P	P	19 29 33.3	-0.2
	5.3nm,0.8s,baz=154,slow=5.6,SNR=26						
ASAJ	**Asahikawa**	**73.81**	**332**	P	P	19 29 55.3	+0.8
	9.0nm,0.9s,baz=190,slow=6.1,SNR=4.7						
PETK	**Petropavlovsk-**	**76.64**	**346**	P	P	19 30 10.0	0.0
	3.7nm,0.6s,baz=138,slow=5.6,SNR=10						
KSRS	**Korea Array**	**76.69**	**319**	P	P	19 30 11.5	+0.8
	0.5nm,0.4s,baz=137,slow=6.8,SNR=3.0						
USRK	**Ussuriysk Arra**	**78.92**	**326**	P	P	19 30 23.5	+1.0
	3.4nm,0.7s,baz=94,slow=2.5,SNR=8.0						
NVAR	**Mina Array Bea**	**82.21**	**44**	P	P	19 30 40.3	+0.3
	0.7nm,0.7s,baz=220,slow=7.8,SNR=5.2						
VNA3	**Neumayer Olymp**	**87.56**	**177**	*e*Pn	P	19 31 04.1	-0.9
VNA2	**Neumayer--Watz**	**87.99**	**177**	*e*Pn	P	19 31 06.2	-0.8
ILAR	**Eielson Array**	**89.18**	**13**	P	P	19 31 11.7	-0.8
	1.0nm,0.7s,baz=216,slow=4.8,SNR=19						
CMAR	**Chiang Mai Arr**	**89.36**	**290**	P	P	19 31 14.8	+0.5
	2.8nm,0.9s,baz=127,slow=2.9,SNR=20						
PLCA	**Paso Flores**	**89.58**	**134**	P	P	19 31 15.2	+0.1
	1.6nm,0.8s,baz=210,slow=6.0,SNR=3.7						
PDAR	**Pinedale Array**	**90.14**	**44**	P	P	19 31 18.1	+0.3
	0.4nm,0.8s,baz=207,slow=5.6,SNR=3.7						
SONM	**Songino Array**	**95.56**	**319**	P	P	19 31 42.2	-0.1
	0.3nm,0.5s,baz=120,slow=5.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**110.35**	**321**	PKiKP	PKiKP	19 36 42.7	-1.9
	0.3nm,0.3s,baz=116,slow=3.4,SNR=3.3						
MKAR	**Makanchi Array**	**110.89**	**313**	PKiKP	PKiKP	19 36 44.3	-1.7
	0.2nm,0.6s,baz=84,slow=1.3,SNR=5.8						
ARCES	**ARCESS Array B**	**129.36**	**349**	PKP	PKPdf	19 37 19.0	-1.7
	1.0nm,0.5s,baz=55,slow=3.4,SNR=12						
FINES	**FINESS Array B**	**136.09**	**343**	PKhKP	PKPpre	19 37 17.4	
	0.3nm,0.5s,baz=338,slow=4.1,SNR=3.5						
FINES				PKP	PKPdf	19 37 33.9	+0.3
	0.6n

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.44**	**355**	*e*PG	**Pg**	**19 26 27.0**	**-0.5**
PHP				*i* SG	**Sg**	**19 26 34.1**	**+0.7**
PHP	**Peshkopia**	**0.44**	**355**	P	**Pg**	**19 26 26.6**	**-0.9**
PHP				S	**Sg**	**19 26 32.5**	**-0.9**
PHP	**Peshkopia**	**0.44**	**355**	*e*Pg	**Pg**	**19 26 27.0**	**-0.5**
PHP				*i* Sg	**Sg**	**19 26 34.1**	**+0.7**
TIR	**Tirane**	**0.48**	**283**	*e*PG	**Pg**	**19 26 27.5**	**-0.8**
TIR				*i* SG	**Sb**	**19 26 35.5**	**-1.1**
TIR	**Tirane**	**0.48**	**283**	P	**Pg**	**19 26 27.5**	**-0.8**
TIR	**Tirane**	**0.48**	**283**	*e*Pg	**Pg**	**19 26 27.4**	**-0.8**
TIR				*e*Sg	**Sg**	**19 26 35.7**	**-0.9**
TIR	**Tirane**	**0.48**	**283**	P	**Pg**	**19 26 27.5**	**-0.8**
TIR				*i* Sg	**Sb**	**19 26 35.5**	**-1.1**
BIA	**Bitola**	**0.67**	**109**	P	**Pg**	**19 26 30.7**	**-1.1**
BIA				S	**Sg**	**19 26 41.0**	**+0.4**
BIA	**Bitola**	**0.67**	**109**	*i* Pg	**Pg**	**19 26 30.8**	**-1.0**
BIA				*e*Sg	**Sg**	**19 26 41.1**	**+0.5**
BIA	**Bitola**	**0.67**	**109**	*i* Pg	**Pg**	**19 26 30.8**	**-1.0**
BIA				S	**Sg**	**19 26 41.0**	**+0.4**
FNA	**Florina**	**0.81**	**124**	P	**Pg**	**19 26 34.1**	**-0.5**
FNA				S	**Sn**	**19 26 47.2**	**-1.4**
FNA	**Florina**	**0.81**	**124**	P	**Pg**	**19 26 34.1**	**-0.5**
PUK	**Puka**	**0.91**	**331**	*e*PG	**Pg**	**19 26 35.7**	**-0.8**
PUK				*i* SG	**Sb**	**19 26 49.7**	**+0.6**
PUK	**Puka**	**0.91**	**331**	*e*Pg	**Pg**	**19 26 35.7**	**-0.8**
PUK				*i* Sg	**Sb**	**19 26 49.7**	**+0.6**
NEST	**Nestorio**	**0.93**	**153**	P	**Pg**	**19 26 36.6**	**-0.2**
NEST				S	**Sn**	**19 26 50.7**	**-0.9**
NEST	**Nestorio**	**0.93**	**153**	P	**Pg**	**19 26 36.6**	**-0.2**
SKO	**Skopje**	**1.02**	**44**	*i* Pg	**Pb**	**19 26 38.1**	**-0.5**
SKO				*e*Sg	**Sn**	**19 26 53.0**	**-0.7**
SKO				*e*Lg	Lg	19 26 54.5	
	comp=E,286nm,0.7s						
SKO				*e*Lg	Lg	19 26 54.8	
	comp=N,421nm,0.5s						
SKO	**Skopje**	**1.02**	**44**	*e*Pg	**Pn**	**19 26 39.6**	**+0.4**
SKO				*e*Sg	**Sn**	**19 26 53.2**	**-0.4**
SKO	**Skopje**	**1.02**	**44**	*e*Pg	**Pn**	**19 26 39.6**	**+0.4**
SKO				*e*Sg	**Sn**	**19 26 53.4**	**-0.2**
SKO				*e*Lg	Lg	19 26 55.2	
	comp=N,421nm,0.5s						
BCI	**Bajram Curri**	**1.16**	**344**	*e*PG	**Pg**	**19 26 43.3**	**+2.1**
BCI	**Bajram Curri**	**1.16**	**344**	*e*Pg	**Pg**	**19 26 43.3**	**+2.1**
KZN	**Kozani**	**1.35**	**133**	*e*PB	**Pg**	**19 26 45.7**	**+0.9**
KZN	**Kozani**	**1.35**	**133**	*e*Pb	**Pg**	**19 26 45.7**	**+0.9**
PDG	**Podgorica**	**1.50**	**323**	*e*Pn	**Pb**	**19 26 46.3**	**-0.5**
PDG				*e*Sg	**Sg**	**19 27 10.4**	**+3.3**
PDG	**Podgorica**	**1.50**	**323**	*e*Pn	**Pb**	**19 26 46.3**	**-0.5**
PDG				*e*Sg	**Sg**	**19 27 10.4**	**+3.3**
VAY	**Valandovo**	**1.57**	**87**	P	**Pn**	**19 26 46.1**	**-0.7**
VAY				S	**Sb**	**19 27 08.0**	**+0.1**
VAY	**Valandovo**	**1.57**	**87**	*i* Pg	**Pb**	**19 26 47.3**	**-0.7**
VAY				*e*Sg	**Sg**	**19 27 10.1**	**+0.8**
VAY				*e*Lg	Lg	19 27 10.8	
	comp=E,46nm,0.6s						
VAY				*e*Lg	Lg	19 27 11.1	
	comp=N,43nm,0.5s						
VAY	**Valandovo**	**1.57**	**87**	P	**Pn**	**19 26 46.1**	**-0.7**
VAY	**Valandovo**	**1.57**	**87**	*i* Pg	**Pb**	**19 26 47.7**	**-0.3**
VAY				S	**Sb**	**19 27 08.0**	**+0.1**
VAY				*e*Sg	**Sg**	**19 27 10.6**	**+1.2**
VAY				*e*Lg	Lg	19 27 11.5	
	comp=N,43nm,0.5s						
KEK	**Kerkira**	**1.62**	**199**	*e*PN	**Pb**	**19 26 48.8**	**0.0**
KEK	**Kerkira**	**1.62**	**199**	*e*Pn	**Pb**	**19 26 48.8**	**0.0**
BARS	**Barje**	**1.86**	**32**	*e*Pn	**Pb**	**19 26 53.5**	**+0.6**
BARS				*e*Sn	**Sg**	**19 27 20.9**	**+2.4**
BARS	**Barje**	**1.86**	**32**	*e*Pn	**Pb**	**19 26 53.5**	**+0.6**
BARS				*e*Sn	**Sg**	**19 27 20.9**	**+2.4**
LIT	**Litokhoron**	**1.90**	**126**	*e*PB	**Pb**	**19 26 54.2**	**+0.6**
LIT	**Litokhoron**	**1.90**	**126**	*e*Pb	**Pb**	**19 26 54.3**	**+0.6**
SELS	**Selova**	**2.03**	**13**	*e*Pn	**Pb**	**19 26 55.3**	**-0.5**
SELS				*e*Sn	**Sg**	**19 27 24.3**	**+0.3**
THL	**Klokotos Trika**	**2.04**	**145**	*e*PN	**Pb**	**19 26 56.1**	**+0.1**
THL	**Klokotos Trika**	**2.04**	**145**	*e*Pn	**Pb**	**19 26 56.1**	**+0.1**
SOH	**Sokhos**	**2.21**	**100**	*e*PN	**Pn**	**19 26 56.3**	**+0.7**
SOH	**Sokhos**	**2.21**	**100**	*e*Pn	**Pn**	**19 26 56.3**	**+0.7**
ZAPS	**Zavoj**	**2.58**	**37**	*e*Pn	**Pb**	**19 27 02.8**	**-2.4**
ZAPS				*e*Sn	**Sb**	**19 27 37.1**	**+0.1**
ZAPS	**Zavoj**	**2.58**	**37**	*e*Pn	**Pb**	**19 27 02.8**	**-2.4**
ZAPS				*e*Sn	**Sb**	**19 27 37.1**	**+0.1**
GRUS	**Gruza**	**2.65**	**4**	*e*Pn	**Pn**	**19 27 03.1**	**+1.5**
GRUS				*e*Sn	**Sb**	**19 27 39.1**	**+0.2**
GRUS	**Gruza**	**2.65**	**4**	*e*Pn	**Pn**	**19 27 03.1**	**+1.5**
GRUS				*e*Sn	**Sb**	**19 27 39.1**	**+0.2**
DIVS	**Divibare**	**2.88**	**353**	*e*Pn	**Pb**	**19 27 07.5**	**-2.8**
DIVS				*e*Sn	**Sb**	**19 27 44.0**	**-1.6**
DIVS	**Divibare**	**2.88**	**353**	*e*Pn	**Pb**	**19 27 07.5**	**-2.8**
DIVS				*e*Sn	**Sb**	**19 27 44.0**	**-1.6**

IDC 10 19:26:29.5±1.9, 4°29'N×126°38.3E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/23, mbtmpg3.3/4, Error ellipse: s-maj=109.3km s-min=23.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.29**	**183**	P	P	19 31 28.0	-0.6
	0.5nm,0.5s,baz=354,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**25.19**	**163**	P	P	19 31 56.4	-0.6
	0.7nm,0.6s,baz=344,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**28.63**	**166**	P	P	19 32 29.0	+0.9
	0.3nm,0.7s,baz=338,slow=6.3,SNR=3.4						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	19 36 18.2	-0.1
	0.2nm,0.6s,baz=115,slow=8.9,SNR=3.3						

*TIR **10** 19:27:18.9, 41°.24N×20°.48E, h32km, ML2.6*
*SKO **10** 19:27:18.8, 41°.23N×20°.49E, h12km, M2.4, ML2.9*
*CSEM **10** 19:27:18.8±0.3, 41°.21N×20°.47E, h15km, ML2.6, Error ellipse: s-maj=7.3km s-min=3.8km az=19.0*

ISC 10 19:27:19.2±1.2, 41°.23N±0°.05×20°.47E±0°.03, h14km±10km, n13, σ0s45/22, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.45**	**357**	*e*PG	**Pg**	**19 27 27.8**	**-0.5**
PHP				*i* SG	**Sg**	**19 27 34.9**	**+0.5**
PHP	**Peshkopia**	**0.45**	**357**	*e*Pg	**Pg**	**19 27 27.8**	**-0.5**
PHP				*i* Sg	**Sg**	**19 27 34.9**	**+0.5**
TIR	**Tirane**	**0.47**	**284**	*e*PG	**Pg**	**19 27 28.4**	**-0.2**
TIR				*i* SG	**Sb**	**19 27 36.2**	**+0.1**
TIR	**Tirane**	**0.47**	**284**	*e*Pg	**Pg**	**19 27 28.4**	**-0.2**
TIR				*i* Sg	**Sb**	**19 27 36.2**	**+0.1**
BIA	**Bitola**	**0.68**	**108**	*e*Pg	**Pg**	**19 27 31.7**	**-0.7**
BIA				*e*Sg	**Sb**	**19 27 42.2**	**+0.1**
BIA	**Bitola**	**0.68**	**108**	*e*Pg	**Pg**	**19 27 31.7**	**-0.7**
BIA				*e*Sg	**Sb**	**19 27 42.2**	**+0.1**
PUK	**Puka**	**0.92**	**332**	*e*PG	**Pb**	**19 27 36.7**	**-0.3**
PUK	**Puka**	**0.92**	**332**	*e*Pg	**Pb**	**19 27 36.7**	**-0.3**
SKO	**Skopje**	**1.04**	**44**	*e*Pg	**Pb**	**19 27 38.9**	**0.0**
SKO				*e*Sg	**Sg**	**19 27 53.2**	**+0.4**
SKO				*e*Lg	Lg	19 27 56.0	
	comp=E,376nm,0.7s						
SKO				*e*Lg	Lg	19 27 56.3	
	comp=N,401nm,0.5s						
SKO	**Skopje**	**1.04**	**44**	*e*Pg	**Pn**	**19 27 39.4**	**+0.1**
SKO				*e*Sg	**Sn**	**19 27 53.6**	**-0.1**
SKO				*e*Lg	Lg	19 27 56.7	
	comp=N,401nm,0.5s						
BCI	**Bajram Curri**	**1.17**	**345**	*i* SG	Pg	19 27 45.5	+3.7
VAY	**Valandovo**	**1.58**	**86**	*e*Pg	**Pb**	**19 27 48.3**	**0.0**
VAY				*e*Sg	**Sg**	**19 28 10.7**	**+0.4**
VAY				*e*Lg	Lg	19 28 12.6	
	comp=N,80nm,0.8s						
VAY	**Valandovo**	**1.58**	**86**	*e*Pg	**Pb**	**19 27 48.7**	**+0.4**
VAY				*e*Sg	**Sg**	**19 28 11.1**	**+0.9**

*SOF **10** 19:27:43.5, 40°.69N×20°.50E, h18km, MD2.9*
*ISCJB **10** 19:27:49.8±0.7, 41°.16N±0°.03×20°.48E±0°.03, h2km±3km, Error ellipse: s-maj=5.4km s-min=3.0km az=18.9*
*CSEM **10** 19:27:49.7±0.3, 41°.10N×20°.43E, h2km, ML3.8, Error ellipse: s-maj=7.1km s-min=3.5km az=18.0*
*PDG **10** 19:27:50.9±0.4, 41°.18N×20°.41E, h16km±1km, ML3.4/10, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
*TIR **10** 19:27:50.5, 41°.25N×20°.50E, h17km, ML3.8*
*SKO **10** 19:27:50.6, 41°.23N×20°.48E, h15km, M2.8, ML3.2*

*BEO **10** 19:27:51.2±0.8, 41°.08N×20°.41E, h10km±4km, ML3.1/8*

ISC 10 19:27:50.5±1.2, 41°.16N±0°.04×20°.46E±0°.02, h5km±9km, n71, σ1s18/116, 18C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.49**	**293**	*e*PG	**Pg**	**19 28 00.4**	**+0.5**
TIR				*i* SG	**Sb**	**19 28 08.0**	**-1.1**
TIR	**Tirane**	**0.49**	**293**	*e*Pg	**Pg**	**19 27 59.9**	**0.0**
TIR				*e*Sg	**Sb**	**19 28 08.0**	**-1.1**
TIR	**Tirane**	**0.49**	**293**	*e*Pg	**Pg**	**19 27 59.9**	**0.0**
TIR				*i* Sg	**Sb**	**19 28 08.0**	**-1.1**
PHP	**Peshkopia**	**0.53**	**359**	*e*PG	**Pg**	**19 27 59.3**	**-1.4**
PHP				*i* SG	**Sg**	**19 28 06.0**	**-1.6**
PHP	**Peshkopia**	**0.53**	**359**	*e*Pg	**Pg**	**19 27 59.3**	**-1.4**
BIA	**Bitola**	**0.67**	**101**	*e*Pg	**Pg**	**19 28 03.3**	**-0.1**
BIA				*e*Sg	**Sb**	**19 28 13.8**	**-0.5**
BIA	**Bitola**	**0.67**	**101**	*e*Pg	**Pg**	**19 28 03.3**	**-0.1**
BIA				*e*Sg	**Sb**	**19 28 13.8**	**-0.5**
PUK	**Puka**	**0.98**	**335**	*e*PG	**Pg**	**19 28 07.9**	**-1.5**
PUK				*i* SG	**Sg**	**19 28 22.4**	**+0.2**
PUK	**Puka**	**0.98**	**335**	*e*Pg	**Pg**	**19 28 07.9**	**-1.5**
PUK				*i* Sg	**Sg**	**19 28 22.4**	**+0.2**
SKO	**Skopje**	**1.10**	**42**	*e*Pg	**Pg**	**19 28 11.2**	**-0.4**
SKO				*e*Lg	Lg	19 28 24.6	
	comp=E,961nm,0.6s						
SKO				*e*Sg	**Sg**	**19 28 24.7**	**-1.2**
SKO				*e*Lg	Lg	19 28 27.5	
	comp=N,2μm,0.6s						
SKO	**Skopje**	**1.10**	**42**	*e*Pg	**Pn**	**19 28 12.8**	**+0.1**
SKO	**Skopje**	**1.10**	**42**	*e*Pg	**Pg**	**19 28 11.7**	**+0.1**
SKO				*e*Sg	**Sg**	**19 28 25.1**	**-0.8**
SKO				*e*Lg	Lg	19 28 27.9	
	comp=N,2μm,0.6s						
ULC	**Ulcinj**	**1.22**	**312**	⇓*i* Pg	**Pb**	**19 28 12.7**	**-1.4**
ULC				*e*Sg	**Sn**	**19 28 31.5**	**+0.3**
ULC	**Ulcinj**	**1.22**	**312**	⇓*i* Pg	**Pb**	**19 28 12.7**	**-1.4**
ULC				*e*Sg	**Sn**	**19 28 31.5**	**+0.3**
PVY	**Plav**	**1.49**	**346**	⇑*i* Pg	**Pb**	**19 28 18.5**	**-0.3**
PVY				*e*Sg	**Sg**	**19 28 39.5**	**+1.2**
PVY	**Plav**	**1.49**	**346**	⇑*i* Pg	**Pb**	**19 28 18.5**	**-0.3**
PVY				*e*Sg	**Sg**	**19 28 39.5**	**+1.2**
TTG	**Podgorica**	**1.56**	**325**	⇑*i* Pg	**Pn**	**19 28 18.3**	**-0.6**
TTG				*e*Sg	**Sg**	**19 28 41.4**	**+0.8**
PDG	**Podgorica**	**1.56**	**325**	*e*Pg	**Pg**	**19 28 21.1**	**+0.7**
PDG				*e*Sg	**Sg**	**19 28 42.5**	**+1.8**
PDG	**Podgorica**	**1.56**	**325**	*e*Pg	**Pg**	**19 28 21.1**	**+0.7**
PDG				*e*Sg	**Sg**	**19 28 41.4**	**+0.7**
VAY	**Valandovo**	**1.60**	**83**	*e*Pg	**Pn**	**19 28 19.8**	**+0.2**
VAY				*e*Sg	**Sb**	**19 28 41.3**	**+0.1**
VAY				*e*Lg	Lg	19 28 41.7	
	comp=N,117nm,0.7s						
VAY				*e*Lg	Lg	19 28 41.8	
	comp=E,112nm,0.6s						
VAY	**Valandovo**	**1.60**	**83**	*e*Pg	**Pb**	**19 28 20.2**	**-0.4**
VAY				*e*Sg	**Sg**	**19 28 41.8**	**-0.2**
VAY				*e*Lg	Lg	19 28 42.3	
	comp=E,112nm,0.6s						
BUM	**Brajici-Budva**	**1.64**	**315**	⇑*i* Pn	**Pn**	**19 28 19.2**	**-0.9**
BUM				*e*Sn	**Sg**	**19 28 42.7**	**-0.5**
BUM	**Brajici-Budva**	**1.64**	**315**	⇑*i* Pn	**Pn**	**19 28 19.2**	**-0.9**
BUM				*e*Sn	**Sg**	**19 28 42.7**	**-0.5**
IVA	**Berane**	**1.77**	**346**	*e*Pn	**Pb**	**19 28 21.6**	**-0.3**
IVA				*e*Sn	**Sb**	**19 28 46.0**	**0.0**
BEY	**Berane**	**1.77**	**346**	*e*Pn	**Pn**	**19 28 21.6**	**-0.3**
BEY				*e*Sn	**Sb**	**19 28 46.0**	**0.0**
BARS	**Barje**	**1.94**	**31**	*e*Pn	**Pb**	**19 28 25.9**	**-0.6**
BARS				*e*Sg	**Sg**	**19 28 55.4**	**+2.4**
BARS	**Barje**	**1.94**	**31**	*e*Pn	**Pb**	**19 28 25.9**	**-0.6**
BARS				*e*Sg	**Sg**	**19 28 55.4**	**+2.4**
HCY	**Herceg Novi**	**1.96**	**312**	⇓*i* Pn	**Pn**	**19 28 23.9**	**-0.5**
HCY				*e*Sn	**Sb**	**19 28 50.1**	**-1.3**
HCY	**Herceg Novi**	**1.96**	**312**	⇓*i* Pn	**Pn**	**19 28 23.9**	**-0.5**
HCY				*e*Sn	**Sb**	**19 28 50.1**	**-1.3**
NKY	**Niksic**	**1.98**	**327**	⇑*i* Pn	**Pn**	**19 28 23.8**	**-1.1**
NKY				*e*Sn	**Sn**	**19 28 50.4**	**+0.1**
NKY	**Niksic**	**1.98**	**327**	⇑*i* Pn	**Pn**	**19 28 23.8**	**-1.1**
NKY				*e*Sn	**Sn**	**19 28 50.4**	**+0.1**
KKB	**Krupnik**	**2.10**	**69**	*i* P	Pn	19 28 20.9	-5.5
KKB				*i* S	**Sn**	**19 28 52.2**	**-0.7**
SELS	**Selova**	**2.12**	**13**	*e*Pn	**Pb**	**19 28 28.4**	**-1.1**
SELS				*e*Sg	**Sg**	**19 29 00.4**	**+1.7**
SJES	**Sjenica**	**2.13**	**350**	*e*Pn	**Pn**	**19 28 27.9**	**+0.9**
SJES				*e*Sg	**Sg**	**19 29 01.0**	**+1.8**
SJES	**Sjenica**	**2.13**	**350**	*e*Pn	**Pn**	**19 28 27.9**	**+0.9**
SJES				*e*Sg	**Sg**	**19 29 01.0**	**+1.8**
BRY	**Bratogost**	**2.26**	**321**	⇑*i* Pn	**Pn**	**19 28 28.6**	**-0.1**
BRY				*e*Sn	**Sn**	**19 28 57.9**	**+0.9**
BRY	**Bratogost**	**2.26**	**321**	⇑*i* Pn	**Pn**	**19 28 28.6**	**-0.1**
BRY				*e*Sn	**Sn**	**19 28 57.9**	**+0.9**
PLE	**Pljevlja**	**2.31**	**340**	*e*Pn	**Pn**	**19 28 29.0**	**-0.5**
PLE				*e*Sn	**Sn**	**19 28 58.8**	**+0.4**
PLE	**Pljevlja**	**2.31**	**340**	*e*Pn	**Pn**	**19 28 29.0**	**-0.5**
PLE				*e*Sn	**Sn**	**19 28 58.8**	**+0.4**
UPM	**Unac-Piva**	**2.35**	**331**	⇑*i* Pn	**Pn**	**19 28 29.3**	**-0.7**
UPM				*e*Sn	**Sn**	**19 29 00.1**	**+0.7**
UPM	**Unac-Piva**	**2.35**	**331**	⇑*i* Pn	**Pn**	**19 28 29.3**	**-0.7**
UPM				*e*Sn	**Sn**	**19 29 00.1**	**+0.7**
MMB	**Musomiste**	**2.50**	**79**	*i* P	**Pb**	**19 28 36.6**	**+0.6**
MMB	**Musomiste**	**2.50**	**79**	*i* P	**Pb**	**19 28 36.6**	**+0.6**
VTS	**Vitosha**	**2.50**	**54**	⇑*i* P	**Pn**	**19 28 30.9**	**-1.2**
VTS				S	**Sn**	**19 29 02.3**	**-0.9**
VTS	**Vitosha**	**2.50**	**54**	*i* P	**Pn**	**19 28 30.4**	**-1.7**
VTS				*i* S	**Sn**	**19 29 01.9**	**-1.3**
VTS	**Vitosha**	**2.50**	**54**	*i* P	**Pn**	**19 28 30.4**	**-1.7**
VTS				*i* S	**Sn**	**19 29 01.9**	**-1.3**
ZAPS	**Zavoj**	**2.66**	**37**	*e*Pn	**Pn**	**19 28 34.9**	**+0.7**
ZAPS				*e*Sg	**Sg**	**19 29 18.9**	**+2.8**
STON	**Ston**	**2.68**	**311**	*e*Pn	**Pb**	**19 28 39.8**	**+0.8**
STON				Sn	**Sb**	**19 29 13.4**	**+1.3**
GRUS	**Gruza**	**2.74**	**4**	*e*Pn	**Pn**	**19 28 35.3**	**+0.1**
GRUS				*e*Sg	**Sg**	**19 29 21.7**	**+3.2**
GRUS	**Gruza**	**2.74**	**4**	*e*Pn	**Pn**	**19 28 35.3**	**+0.1**
GRUS				*e*Sg	**Sg**	**19 29 21.7**	**+3.2**
DIVS	**Divibare**	**2.96**	**353**	*e*Pn	**Pn**	**19 28 39.9**	**+1.5**
DIVS				*e*Sg	**Sg**	**19 29 27.7**	**+2.0**
DIVS	**Divibare**	**2.96**	**353**	*e*Pn	**Pn**	**19 28 39.9**	**+1.5**
DIVS				*e*Sg	**Sg**	**19 29 27.7**	**+2.0**
RZN	**Rozhen**	**3.25**	**79**	*i* P	**Pn**	**19 28 42.9**	**+0.6**
RZN	**Rozhen**	**3.25**	**79**	*i* P	**Pn**	**19 28 42.9**	**+0.6**
MPEP	**Malo Peshtene**	**3.28**	**47**	*i* P	**Pg**	**19 28 52.0**	**-1.4**
BZS	**Buzias**	**4.54**	**10**	⇓*i* P	**Pb**	**19 29 08.0**	**-2.7**
PKSM	**Moragy**	**5.22**	**346**	⇑*i* P	**Pn**	**19 29 10.3**	**+1.0**
PKSM	**Moragy**	**5.22**	**346**	⇑*i* P	**Pn**	**19 29 10.3**	**+1.0**
NVLJ	**Novalja**	**5.33**	**312**	*e*Pn	Pn	19 29 14.3	+3.5
NVLJ				Sn	**Sn**	**19 30 13.8**	**+1.1**
NVLJ	**Novalja**	**5.33**	**312**	*e*Pn	Pn	19 29 14.3	+3.5
NVLJ				Sn	**Sn**	**19 30 13.7**	**+1.1**
VOIR		**5.43**	**37**	⇓*i* P	Pn	19 29 15.4	+3.1
VOIR		**5.43**	**37**	⇓*i* P	Pn	19 29 15.4	+3.1
PLOR	**Plostina**	**6.50**	**42**	⇑*i* P	**Pn**	**19 29 28.1**	**+1.2**
PLOR	**Plostina**	**6.50**	**42**	⇑*i* P	**Pn**	**19 29 28.1**	**+1.2**
VRI	**Vrincioaia**	**6.55**	**42**	⇓*i* P	**Pn**	**19 29 28.9**	**+1.3**
VRI	**Vrincioaia**	**6.55**	**42**	⇓*i* P	**Pn**	**19 29 28.9**	**+1.3**
VOY	**Vojsko**	**6.82**	**318**	*e*Pn	Pn	19 29 27.8	-3.5
VOY				*e*		19 29 36.9	
VOY				*e*Sn	**Sn**	**19 30 48.8**	**-0.5**
VYHS	**Vyhne**	**7.43**	**352**	*e*PN	**Pn**	**19 29 41.5**	**+1.9**
VYHS				*e*SN	**Sn**	**19 31 03.3**	**-1.0**
VYHS	**Vyhne**	**7.43**	**352**	*e*Pn	**Pn**	**19 29 41.5**	**+1.9**
VYHS				*e*Sn	**Sn**	**19 31 03.3**	**-1.0**
CRVS	**Cervenica-Dubn**	**7.78**	**5**	*e*PN	Pn	19 29 48.1	+3.7
KOLS	**Kolonicke sedl**	**7.88**	**9**	*e*PN	Pn	19 29 49.5	+3.6

IDC 10 19:30:56.9±1.9, 0°.30N×125°.94E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/21, mbtmpg3.1/3, Error ellipse: s-maj=168.3km s-min=25.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P	P	19 35 49.6	-0.5
	0.7nm,0.7s,baz=336,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**25.05**	**163**	P	P	19 36 23.5	+0.4
	0.2nm,0.4s,baz=346,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	19 41 04.9	-0.1
	0.1nm,0.3s,baz=117,slow=6.9,SNR=2.6						

*SKO **10** 19:31:12.8, 41°.27N×20°.51E, h12km, M2.0, ML2.5*

*CSEM **10** 19:31:12.6±0.3, 41°.20N×20°.50E, h19km, ML2.2, Error ellipse: s-maj=6.9km s-min=4.2km az=22.0*
*TIR **10** 19:31:13.1, 41°.24N×20°.49E, h3km, ML3.0, ML2.5*

ISC 10 19:31:12.9±1.2, 41°.24N±0°.05×20°.49E±0°.03, h11km±11km, n12, σ0s20/22, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.45**	**355**	*e*PG	**Pg**	**19 31 21.9**	**+0.2**
PHP				*i* SG	**Sb**	**19 31 29.5**	**0.0**
PHP	**Peshkopia**	**0.45**	**355**	*e*Pg	**Pg**	**19 31 21.9**	**+0.2**
PHP				*i* Sg	**Sb**	**19 31 29.5**	**0.0**
TIR	**Tirane**	**0.48**	**283**	*e*PG	**Pg**	**19 31 22.4**	**0.0**
TIR				*i* SG	**Sb**	**19 31 30.6**	**+0.1**
TIR	**Tirane**	**0.48**	**283**	*e*Pg	**Pg**	**19 31 22.4**	**0.0**
TIR				*i* Sg	**Sb**	**19 31 30.6**	**+0.1**
BIA	**Bitola**	**0.67**	**109**	*i* Pg	**Pg**	**19 31 25.8**	**-0.1**
BIA				*e*Sg	**Sg**	**19 31 34.7**	**0.0**
BIA	**Bitola**	**0.67**	**109**	*i* Pg	**Pg**	**19 31 25.8**	**-0.1**
BIA				*e*Sg	**Sg**	**19 31 34.6**	**0.0**
PUK	**Puka**	**0.92**	**331**	*e*PG	**Pn**	**19 31 31.7**	**-0.1**
PUK	**Puka**	**0.92**	**331**	*e*Pg	**Pn**	**19 31 31.7**	**-0.1**
SKO	**Skopje**	**1.02**	**44**	*e*Pg	**Pb**	**19 31 32.2**	**-0.4**
SKO				*e*Sg	**Sn**	**19 31 47.4**	**-0.1**
SKO				*e*Lg	Lg	19 31 49.3	
	comp=N,167nm,0.5s						
SKO				*e*Lg	Lg	19 31 49.5	
	comp=E,134nm,0.7s						
SKO	**Skopje**	**1.02**	**44**	*e*Pg	**Pg**	**19 31 32.6**	**0.0**
SKO				*e*Sg	**Sn**	**19 31 47.9**	**+0.4**
SKO				*e*Lg	Lg	19 31 50.0	
	comp=E,134nm,0.7s						
VAY	**Valandovo**	**1.57**	**86**	*e*Pg	**Pb**	**19 31 42.4**	**+0.5**
VAY				*e*Sg	**Sg**	**19 32 03.4**	**0.0**
VAY				*e*Lg	Lg	19 32 04.6	
	comp=N,26nm,0.7s						
VAY				*e*Lg	Lg	19 32 05.2	
	comp=E,22nm,0.6s						
VAY	**Valandovo**	**1.57**	**86**	*e*Pg	**Pg**	**19 31 42.9**	**-0.1**
VAY				*e*Lg	Lg	19 32 01.7	
	comp=E,22nm,0.6s						
VAY				*e*Sg	**Sb**	**19 32 01.9**	**+0.1**

*BEO **10** 19:39:03.1±4.7, 36°.82N×21°.93E, ML3.9/6*
*BJI **10** 19:39:11.7, 38°.20N×21°.80E, h10km, mb4.3/5*
*ISCJB **10** 19:39:14.7±0.3, 38°.32N±0°.01×21°.83E±0°.01, h9km±1km, mb4.1/34, MS3.2/4, Error ellipse: s-maj=2.1km s-min=1.8km az=37.2*
*SKO **10** 19:39:14.9, 38°.24N×22°.09E, h0km*
*CSEM **10** 19:39:15.1±0.1, 38°.31N×21°.85E, h5km, mb4.3/14, Error ellipse: s-maj=2.5km s-min=2.1km az=37.0*
*THE **10** 19:39:15.5, 38°.32N×21°.88E, h0km±1km, ML3.9/12, Error ellipse: s-maj=1.1km s-min=0.4km az=255.0*
*ATH **10** 19:39:15.4, 38°.33N×21°.88E, h6km±3km, ML3.8*
*IDC **10** 19:39:16.9±3.5, 38°.37N×21°.80E, h17km±21km, mb3.8/16, mb1 3.9/23, mb1mx3.9/35, mbtmpg3.8/23, ML3.5/7, MS3.2/6, Ms1 3.2/6, ms1mx2.8/60, Error ellipse: s-maj=14.2km s-min=13.9km az=53.0*
*MOS **10** 19:39:17.6±1.4, 38°.39N×22°.02E, h27km, mb4.4/13, Error ellipse: s-maj=6.3km s-min=3.9km az=96.8*
*NEIC **10** 19:39:20.3±0.7, 38°.31N×21°.89E, h

VLX S Sb 19 39 49.8 +0.1
LKD2 Lefkada island 1.05 297 P Pg 19 39 34.0 -1.4
LKD2 S Sb 19 39 50.3 +0.5
LKD2 Lefkada island 1.05 297 P Pg 19 39 34.0 -1.4
LKD2 S Sb 19 39 50.3 +0.5
ITM Ithomi 1.14 177 P Pg 19 39 36.9 -0.3
ITM S Sn 19 39 53.7 -0.2
ITM Ithomi 1.14 177 *e*PB Pg 19 39 37.1 -0.1
ITM Ithomi 1.14 177 *e*Pb Pg 19 39 37.1 -0.1
ITM S Sn 19 39 53.7 -0.2
THL Klokotos Trika 1.25 6 P Pn 19 39 38.2 -1.1
THL S Sn 19 39 57.9 +1.5
THL Klokotos Trika 1.25 6 P Pn 19 39 38.2 -1.1
THL S Sn 19 39 57.9 +1.5
DID Didima 1.36 126 P Pn 19 39 40.2 -0.7
DID S Sg 19 40 00.7 +1.5
DID Didima 1.36 126 *e*PB Pb 19 39 41.2 -0.1
DID Didima 1.36 126 P Pn 19 39 40.3 -0.7
DID Didima 1.36 126 *e*Pb Pb 19 39 41.2 -0.1
DID S Sg 19 39 59.3 +0.1
DIDY Didyma 1.37 128 P Pb 19 39 41.1 -0.3
DIDY S Sg 19 40 00.2 +0.9
DIDY Didyma 1.37 128 P Pb 19 39 41.1 -0.3
DIDY S Sg 19 40 00.2 +0.9
NAIG Nisos Aigina 1.41 113 *e*PB Pb 19 39 41.9 -0.1
NAIG Nisos Aigina 1.41 113 *e*Pb Pb 19 39 41.9 -0.1
MRKA Markates 1.41 74 P Pn 19 39 41.1 -0.5
MRKA Markates 1.41 74 P Pn 19 39 41.1 -0.5
PYL PYLOS 1.43 184 P Pn 19 39 41.2 -0.6
PYL S Sg 19 40 02.8 +1.6
PYL PYLOS 1.43 184 *e*PG Pb 19 39 42.0 -0.3
PYL PYLOS 1.43 184 P Pn 19 39 41.4 -0.4
PYL PYLOS 1.43 184 *e*Pg Pb 19 39 42.0 -0.3
PYL S Sg 19 40 02.5 +1.3
XOR Xorichti 1.48 45 P Pn 19 39 41.9 -0.6
XOR S Sg 19 40 02.5 -0.2
XOR Xorichti 1.48 45 P Pn 19 39 41.9 -0.6
XOR S Sg 19 40 02.5 -0.2
ATH Athens Observa 1.51 103 P Pn 19 39 42.9 0.0
ATH S Sg 19 40 03.6 -0.2
ATH Athens Observa 1.51 103 *e*PG Pn 19 39 42.9 0.0
ATH *e*SB Sg 19 40 03.4 -0.5
ATH Athens Observa 1.51 103 P Pn 19 39 42.9 0.0
ATH *e*Sb Sg 19 40 03.4 -0.5
SKIA Skiathos 1.52 56 P Pn 19 39 42.3 -0.7
SKIA Skiathos 1.52 56 P Pn 19 39 42.3 -0.7
RGA Parga 1.54 311 P Pn 19 39 43.6 +0.3
RGA S Sg 19 40 05.8 +1.1
RGA Parga 1.54 311 P Pn 19 39 43.6 +0.3
RGA S Sg 19 40 05.8 +1.1
MEV Metsovon 1.54 342 P Pb 19 39 44.0 -0.3
MEV Metsovon 1.54 342 P Pb 19 39 44.0 -0.3
ERET Eretria 1.54 85 P Pn 19 39 43.5 +0.1
ERET Eretria 1.54 85 P Pn 19 39 43.5 +0.1
JAN Janina 1.54 330 P Pb 19 39 44.5 +0.2
JAN Janina 1.54 330 P Pb 19 39 44.5 +0.2
DYR Agios Nikonas 1.60 166 P Pn 19 39 44.2 0.0
DYR S Sb 19 40 06.1 +0.2
DYR Agios Nikonas 1.60 166 P Pn 19 39 44.2 0.0
DYR S Sb 19 40 06.1 +0.2
PTL Penteli 1.61 99 P Pn 19 39 44.3 0.0
PTL S Sb 19 40 05.7 -0.3
PTL Penteli 1.61 99 *e*PB Pn 19 39 44.2 0.0
PTL Penteli 1.61 99 P Pn 19 39 44.3 0.0
PTL S Sb 19 40 05.7 -0.3
IGT Igoumenitsa 1.69 316 P Pb 19 39 46.1 -0.8
IGT Igoumenitsa 1.69 316 P Pb 19 39 46.1 -0.8
AOS Alonnisos 1.80 61 P Pn 19 39 45.9 -0.9
AOS Alonnisos 1.80 61 P Pn 19 39 45.9 -0.9
VLI Veliai 1.82 151 P Pb 19 39 47.9 -1.1
VLI Veliai 1.82 151 P Pb 19 39 47.9 -1.1
LIT Litokhoron 1.84 15 P Pn 19 39 47.8 +0.3
LIT S Sb 19 40 13.1 +0.3
LIT Litokhoron 1.84 15 P Pn 19 39 47.8 +0.3
LIT S Sb 19 40 13.1 +0.3
KZN Kozani 1.98 358 P Pn 19 39 50.2 +0.7
KZN Kozani 1.98 358 P Pn 19 39 50.2 +0.7
MRMA Marmari 2.01 97 P Pn 19 39 49.9 +0.1
MRMA Marmari 2.01 97 P Pn 19 39 49.9 +0.1
SRN Sarande 2.12 318 *e*PN Pb 19 39 52.7 -1.4
SRN *i* SN Sg 19 40 24.8 +1.4
SRN Sarande 2.12 318 *e*Pn Pb 19 39 52.7 -1.4
NEST Nestorio 2.18 344 P Pb 19 39 54.6 -0.6
NEST Nestorio 2.18 344 P Pb 19 39 54.6 -0.6
KYTH Kithira 2.25 155 P Pb 19 39 54.9 -1.4
KYTH Kithira 2.25 155 P Pb 19 39 54.9 -1.4
PLG Polygyros 2.39 31 P Pn 19 39 54.5 -0.6
PLG Polygyros 2.39 31 P Pn 19 39 54.5 -0.6
HORT Hortiatis 2.47 23 P Pn 19 39 56.6 +0.4
HORT Hortiatis 2.47 23 P Pn 19 39 56.6 +0.4
FNA Florina 2.48 352 P Pn 19 39 57.6 +1.2
FNA S Sb 19 40 29.2 -2.1
FNA Florina 2.48 352 P Pn 19 39 57.6 +1.2
FNA S Sb 19 40 29.2 -2.1
GRG Griva 2.66 9 P Pn 19 39 59.3 +0.5
GRG Griva 2.66 9 P Pn 19 39 59.3 +0.5
BIA Bitola 2.72 352 *e*Pn Pn 19 40 01.7 +2.0
BIA Bitola 2.72 352 *e*Pn Pn 19 40 01.6 +2.0
SOH Sokhos 2.75 24 P Pn 19 40 00.1 +0.1
SOH S Sn 19 40 35.5 +1.9
SOH Sokhos 2.75 24 P Pn 19 40 00.1 +0.1
SOH S Sn 19 40 35.5 +1.9
KNT Kendrikon 2.95 16 P Pn 19 40 02.7 0.0
KNT Kendrikon 2.95 16 P Pn 19 40 02.7 0.0
VAY Valandovo 3.04 10 P Pn 19 40 03.9 -0.1
VAY S Sn 19 40 42.9 +2.1
VAY Valandovo 3.04 10 *e*Pn Pn 19 40 05.1 +1.1
VAY Valandovo 3.04 10 *e*Pn Pn 19 40 01.5 -2.5
VAY Valandovo 3.04 10 P Pn 19 40 03.9 -0.1
VAY S Sn 19 40 42.9 +2.1
SRS Serrai 3.10 25 P Pn 19 40 05.4 +0.7
SRS Serrai 3.10 25 P Pn 19 40 05.4 +0.7
APE Apeiranthos 3.17 112 *e*PN Pn 19 40 06.7 +0.9
APE *e*SN Sn 19 40 41.8 -2.3
APE Apeiranthos 3.17 112 ⇑P Pn 19 40 06.0 +0.2
APE S Sn 19 40 43.7 -0.4
APE Apeiranthos 3.17 112 ⇑*i*P Pn 19 40 06.0 +0.2
APE Apeiranthos 3.17 112 *i* S Sn 19 40 43.7 -0.4
APE Apeiranthos 3.17 112 ⇑*i*P Pn 19 40 06.0 +0.2
APE S Sn 19 40 43.7 -0.4
TIR Tirane 3.39 334 *e*P Pb 19 40 16.7 +1.0
TIR Tirane 3.39 334 *e*Pn Pb 19 40 16.7 +1.0
TIR Tirane 3.39 334 *e*Pn Pn 19 40 10.5 +1.8
TIR Tirane 3.39 334 *e*Pn Pn 19 40 10.5 +1.8
NVR Nevrokopi 3.40 26 P Pn 19 40 09.6 +0.7
NVR Nevrokopi 3.40 26 P Pn 19 40 09.6 +0.7
PHP Peshkopia 3.53 343 *e*PN Pb 19 40 15.5 -2.7
PHP *i* SN Sb 19 41 02.6 +1.3
PHP Peshkopia 3.53 343 P Pn 19 40 12.4 +1.7
PHP Peshkopia 3.53 343 P Pn 19 40 12.4 +1.7
PHP Peshkopia 3.53 343 *e*Pn Pb 19 40 15.5 -2.7
SKO Skopje 3.66 355 *e*Pn Pb 19 40 16.6 -3.8
SKO Skopje 3.66 355 *e*Pn Pb 19 40 16.6 -3.8
EZN Ezine 3.79 65 *e*PN Pn 19 40 13.9 -0.3
IDI Anoyia 3.89 140 *e*Pn Pn 19 40 16.3 +0.6
IDI Anoyia 3.89 140 *e*Pn Pn 19 40 16.3 +0.6
PUK Puka 4.01 339 *e*PN Pn 19 40 20.7 +3.4
PUK Puka 4.01 339 *e*PN Pn 19 40 20.7 +3.4
TIP Timpagrande 4.07 284 *e*Pn Pn 19 40 18.1 -0.1
TIP *e*Sn Sn 19 41 04.9 -1.4
TIP Timpagrande 4.07 284 *e*Pn Pn 19 40 18.1 -0.1
TIP *e*Sn Sn 19 41 04.9 -1.4
BLCB Balcova 4.08 88 *e*PN Pn 19 40 18.2 -0.1
ENEZ Enez 4.11 53 *e*PN Pn 19 40 20.0 +1.4
GELI Tayfur-Gelibol 4.14 59 *e*PN Pn 19 40 19.0 0.0
IZM Izmir 4.25 87 *e*PN Pn 19 40 21.0 +0.3
BCI Bajram Curri 4.26 342 *e*PN Pn 19 40 23.5 +2.7
BCI Bajram Curri 4.26 342 *e*Pn Pn 19 40 23.5 +2.7
LPK Lapseki 4.32 60 *e*PN Pn 19 40 22.1 +0.6
VTS Vitosha 4.39 13 ⇑P Pn 19 40 24.4 +1.8
VTS Vitosha 4.39 13 P Pn 19 40 23.0 +0.4
VTS Vitosha 4.39 13 ⇑*i*P Pn 19 40 24.4 +1.8
VTS Vitosha 4.39 13 *e*Pn Pn 19 40 24.4 +1.8
VTS *e*Sn Sn 19 41 19.1 +5.0
VTS Vitosha 4.39 13 P Pn 19 40 23.0 +0.4
VTS Vitosha 4.39 13 *e*Pn Pn 19 40 24.4 +1.8
VTS S Sn 19 41 13.6 -0.5
BARS Barje 4.49 360 *e*Pn Pn 19 40 26.2 +2.3
BARS *e*Sn Sn 19 41 22.4 +6.0

BARS Barje 4.49 360 *e*Pn Pn 19 40 26.2 +2.3
BODT Bodrum 4.51 105 *e*PN Pn 19 40 25.0 +0.9
PDG Podgorica 4.56 335 *e*Pn Pn 19 40 27.7 +2.9
PDG *e*Sn Sn 19 41 22.0 +4.0
PDG Podgorica 4.56 335 *e*Pn Pn 19 40 27.7 +2.9
PDG *e*Sn Sn 19 41 22.0 +4.0
KRBG Karabiga-Canak 4.70 62 *e*PN Pn 19 40 27.5 +0.8
SG1 Sgolgore (BA) 4.72 304 *e*Pn Pn 19 40 26.4 -0.7
BAI Bari 4.74 307 *e*Pn Pn 19 40 27.5 +0.3
GONE Gonen-Balikesi 4.85 67 *e*PN Pn 19 40 29.4 +0.7
BALB Balikesir 4.88 72 *e*PN Pn 19 40 29.7 +0.5
SELS Selova 4.92 354 *e*Pn Pn 19 40 32.5 +2.7
CUC Castrocucco 4.98 291 *e*Pn Pn 19 40 31.4 +0.7
36nm,0.8s
CUC Castrocucco 4.98 291 *e*Pn Pn 19 40 31.4 +0.7
36nm,0.8s
ZAPS Zavoj 4.98 7 *e*Pn Pn 19 40 34.0 +3.3
ZAPS *e*Sn Sn 19 41 35.1 +6.5
CDT Castel del Mon 5.11 304 *e*Pn Pn 19 40 32.6 +0.2
EDRB Edirne 5.14 45 *e*PN Pn 19 40 35.2 +2.4
YER Yerkesik 5.23 101 *e*PN Pn 19 40 35.1 +1.0
IVAS Ivanjica 5.40 347 *e*Pn Pn 19 40 39.6 +3.1
STON Ston 5.53 326 *e*Pn Pn 19 40 37.6 -0.6
STON Sn Sn 19 41 38.5 -3.6
STON Ston 5.53 326 *e*Pn Pn 19 40 37.5 -0.6
GRUS Gruza 5.63 352 *e*Pn Pn 19 40 42.1 +2.6
GRUS *e*Sn Sn 19 41 49.5 +5.1
MS1 Monte Sant'Ang 5.66 309 *e*Pn Pn 19 40 38.8 -0.2
DENT Denizli 5.70 94 *e*PN Pn 19 40 41.3 +0.8
DIVS Divibare 5.94 347 *e*Pn Pn 19 40 45.3 +1.5
DIVS *e*Sn Sn 19 41 56.8 +4.6
DIVS Divibare 5.94 347 *e*Pn Pn 19 40 45.3 +1.5
ZIMR 5.95 25 ⇓P Pn 19 40 46.4 +2.5
ZIMR 5.95 25 ⇓*i*P Pn 19 40 46.4 +2.5
KHL Karahalli 6.03 88 *e*PN Pn 19 40 46.7 +1.6
TVSB Tavsanli 6.04 77 *e*PN Pn 19 40 46.2 +0.9
ALT Altintas 6.50 81 *e*PN Pn 19 40 52.6 +1.0
ELL Elmali 6.59 101 *e*PN Pn 19 40 54.3 +1.5
SHUT Suhut-Afyon 6.83 85 *e*PN Pn 19 40 57.3 +1.1
ISP Isparta 6.86 92 *e*P Pn 19 40 58.0 +1.5
ISP Isparta 6.86 92 *e*Pn Pn 19 40 58.0 +1.5
ISP Isparta 6.86 92 *e*Pn Pn 19 40 58.0 +1.5
GULT Gulveren 7.03 70 *e*PN Pn 19 41 00.1 +1.2
LOT Lotru 7.26 11 ⇑P Pn 19 41 03.4 +1.4
LOT Lotru 7.26 11 ⇑*i*P Pn 19 41 03.4 +1.4
BZS Buzias 7.29 359 ⇑P Pn 19 41 04.9 +2.6
BZS Buzias 7.29 359 ⇑*i*P Pn 19 41 04.9 +2.6
VOIR 7.50 18 ⇓P Pn 19 41 06.3 +1.1
VOIR 7.50 18 ⇓*i*P Pn 19 41 06.3 +1.1
VOIR 7.50 18 ⇓*i*P Pn 19 41 06.3 +1.1
AQU L'Aquila 7.61 305 *e*Pn Pn 19 41 08.5 +1.8
59nm,1.1s
AQU L'Aquila 7.61 305 *e*Pn Pn 19 41 08.5 +1.8
59nm,1.1s
ISR Istrita 7.64 26 ⇓P Pn 19 41 09.7 +2.5
ISR Istrita 7.64 26 ⇓*i*P Pn 19 41 09.7 +2.5
MLR Muntele Rosu 7.78 22 Pn Pn 19 41 11.2 +2.0
0.2nm,0.3s,baz=191,slow=9.7,SNR=9.4
MLR LR LR 19 44 19.2
comp=Z,52nm,21.6s,baz=308,slow=39
MLR Muntele Rosu 7.78 22 Pn Pn 19 41 11.2 +2.0
MLR Muntele Rosu 7.78 22 ⇑*i*P Pn 19 41 11.2 +2.0
MLR Muntele Rosu 7.78 22 ⇑*i*P Pn 19 41 11.2 +2.0
TIRR Tirgusor 7.86 37 *e*P Pn 19 41 14.2 +4.0
TIRR Tirgusor 7.86 37 *e*Pn Pn 19 41 14.2 +4.0
NVLJ Novalja 8.14 322 *e*Pn Pn 19 41 13.3 -0.8
NVLJ Sn Sn 19 42 38.2 -8.1
NVLJ Novalja 8.14 322 *e*Pn Pn 19 41 13.2 -0.8
PKSM Moragy 8.23 344 ⇑P Pn 19 41 16.0 +0.8
PKSM Moragy 8.23 344 ⇑*i*P Pn 19 41 16.0 +0.8
PKSM Moragy 8.23 344 ⇓*e*P Pn 19 41 14.8 -0.4
PKSM Moragy 8.23 344 ⇓*e*Pn Pn 19 41 14.8 -0.4
KONT Konya--Tatoy 8.29 89 *e*PN Pn 19 41 17.5 +1.4
CFR Carcaliu 8.30 32 ⇑P Pn 19 41 21.5 +5.3
PLOR Plostina 8.32 24 ⇑P Pn 19 41 19.0 +2.5
PLOR Plostina 8.32 24 ⇑*i*P Pn 19 41 19.0 +2.5
PLOR Plostina 8.32 24 ⇑*i*P Pn 19 41 19.0 +2.5
VRI Vrincioaia 8.36 24 ⇑P Pn 19 41 19.3 +2.3
VRI Vrincioaia 8.36 24 ⇑*i*P Pn 19 41 19.3 +2.3
VRI Vrincioaia 8.36 24 ⇑*i*P Pn 19 41 19.3 +2.3
BOJS Bojanci 8.70 328 *i* Pn Pn 19 41 21.9 +0.3
BOJS *i* Sn Sn 19 42 56.4 -3.6
BOJS Bojanci 8.70 328 Pn Pn 19 41 21.9 +0.3
TESR 8.92 22 ⇓*i*P Pn 19 41 31.9 +7.3
BEHE Becsehely 8.96 337 ⇓*e*P Pn 19 41 25.0 -0.3
BEHE Becsehely 8.96 337 ⇓*e*Pn Pn 19 41 25.0 -0.3
VISS Visnje 9.11 327 *i* Pn Pn 19 41 27.8 +0.5
VISS *i* Sn Sn 19 43 08.5 -1.6
VISS Visnje 9.11 327 *i* Pn Pn 19 41 27.8 +0.5
VISS *i* Sn Sn 19 43 08.5 -1.6
BR131 Keskin Array S 9.28 78 *e*Pn Pn 19 41 30.6 +0.8
1.9nm,0.4s
BR131 Keskin Array S 9.28 78 *e*Pn Pn 19 41 30.6 +0.8
1.9nm,0.4s
BRTR Keskin Array B 9.28 78 Pn Pn 19 41 31.5 +1.8
0.7nm,0.3s,baz=256,slow=14,SNR=20
BRTR Keskin Array B 9.28 78 Pn Pn 19 41 31.6 +1.8
BRTR Keskin Array B 9.28 78 Pn Pn 19 41 31.5 +1.8
JAVS Javornik 9.52 325 *i* Pn Pn 19 41 33.2 +0.2
JAVS *i* Sn Sn 19 43 20.0 -0.3
JAVS Javornik 9.52 325 *i* Pn Pn 19 41 33.2 +0.2
JAVS *i* Sn Sn 19 43 20.0 -0.3
BURAR Bucovina Array 9.61 14 ⇓*i*P Pn 19 41 36.5 +2.3
BURAR Bucovina Array 9.61 14 ⇓*i*P Pn 19 41 36.5 +2.3
PERS Pernice 9.68 331 *i* Pn Pn 19 41 34.7 -0.4
PERS *i* Sn Sn 19 43 20.0 -4.2
PERS Pernice 9.68 331 *i* Pn Pn 19 41 34.7 -0.4
PSZ Piszkesteto 9.70 352 *e*P Pn 19 41 37.2 +1.8
PSZ *e*S Sn 19 43 23.8 -0.8
PSZ pmax pmax
comp=Z,12nm,0.8s
PSZ Piszkesteto 9.70 352 *e*Pn Pn 19 41 37.2 +1.8
comp=Z,12nm,0.8s
PSZ *e*S Sn 19 43 23.8 -0.8
PSZ Piszkesteto 9.70 352 ⇑*i*P Pn 19 41 38.9 +3.5
PSZ Piszkesteto 9.70 352 *e*Pn Pn 19 41 37.2 +1.8
comp=Z,12nm,0.8s
PSZ *e*S Sn 19 43 23.8 -0.8
PSZ Piszkesteto 9.70 352 ⇑*e*Pn Pn 19 41 39.1 +3.7
VOY Vojsko 9.70 325 *e*Pn Pn 19 41 35.0 -0.5
VOY *e* 19 41 39.3
VOY *e* 19 41 53.0
VOY *e*Sn Sn 19 43 14.6 -10
VOY Vojsko 9.70 325 *e*Pn Pn 19 41 35.0 -0.5
VOY Vojsko 9.70 325 *e*Sn Sn 19 43 14.6 -10
SOKA Soboth 9.75 331 ⇑*i*Pn Pn 19 41 35.9 -0.1
SOKA ⇓*i*Sn Sn 19 43 23.4 -2.4
SOKA Soboth 9.75 331 Pn Pn 19 41 35.9 -0.1
VSL Villasalto 9.79 281 *e*P Pn 19 41 36.0 -0.7
comp=Z,55nm,1.4s
VSL Villasalto 9.79 281 *e*P Pn 19 41 36.0 -0.7
comp=Z,55nm,1.4s
ARSA Arzberg 10.06 335 ⇑*i*Pn Pn 19 41 41.4 +1.1
ARSA Arzberg 10.06 335 Pn Pn 19 41 41.4 +1.1
CORM Corum 10.08 75 *e*PN Pn 19 41 41.4 +0.6
VYHS Vyhne 10.40 349 *e*P Pn 19 41 47.2 +2.3
VYHS *e* 19 43 42.0
VYHS Vyhne 10.40 349 *e*PN Pn 19 41 47.2 +2.3
VYHS *e*SN Sn 19 43 42.0 +0.2
VYHS Vyhne 10.40 349 *e*Pn Pn 19 41 47.2 +2.3
VYHS *e*Sn Sn 19 43 42.0 +0.2
CRVS Cervenica-Dubn 10.58 359 *e*P Pn 19 41 50.1 +2.7
CRVS Cervenica-Dubn 10.58 359 *e*PN Pn 19 41 50.1 +2.7
ABTA Abfaltersbach 10.87 324 ⇑*i*Pn Pn 19 41 50.8 -0.7
ABTA ⇓*i*Sn Sn 19 43 50.6 -2.8
ABTA Abfaltersbach 10.87 324 Pn Pn 19 41 50.8 -0.7
MOA Molln 11.01 332 ⇑*i*Pn Pn 19 41 54.3 +0.9
MOA ⇑*i*Sn Sn 19 43 54.2 -2.6
MOA Molln 11.01 332 Pn Pn 19 41 54.3 +0.9
GERES GERESS Array B 12.05 333 Pn Pn 19 42 08.6 +0.9
comp=Z,0.2nm,0.3s,baz=161,slow=16,SNR=4.1
GERES Sn Sn 19 44 19.6 -2.8
comp=Z,0.1nm,0.3s,baz=150,slow=24,SNR=2.5
GERES GERESS Array B 12.05 333 Pn Pn 19 42 08.6 +0.9
GERES Sn Sn 19 44 19.6 -2.8
GERES GERESS Array B 12.05 333 Pn Pn 19 42 08.6 +0.9
DAVOX Davos/Dischmat 12.21 318 Pn Pn 19 42 10.3 +0.4
comp=Z,0.2nm,0.3s,baz=142,slow=19,SNR=2.1
DAVOX Sn Sn 19 44 29.6 +3.2
comp=Z,0.2nm,0.3s,baz=138,slow=18,SNR=3.1
DAVOX Davos/Dischmat 12.21 318 Pn Pn 19 42 10.3 +0.4

DAVOX Sn Sn 19 44 29.6 +3.2
DAVOX Davos/Dischmat 12.21 318 Pn Pn 19 42 10.3 +0.4
MMAI Mount Meron Ar 12.22 112 Pn Pn 19 42 12.0 +2.0
comp=Z,0.5nm,0.3s,baz=304,slow=16,SNR=4.4
MMAI Mount Meron Ar 12.22 112 Pn Pn 19 42 12.0 +2.0
MMAI Mount Meron Ar 12.22 112 Pn Pn 19 42 12.0 +2.0
KHC Kasperske Hory 12.34 334 P Pn 19 42 12.6 +1.1
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 12.34 334 Pn Pn 19 42 12.6 +1.1
comp=Z,3.6nm,1.1s
KHC Kasperske Hory 12.34 334 Pn Pn 19 42 12.6 +1.1
comp=Z,3.6nm,1.1s
MBDF Montbardon 12.98 304 *e*P Pn 19 42 25.8 +5.5
comp=Z,21nm,1.1s
MBDF Montbardon 12.98 304 *e*P Pn 19 42 25.8 +5.5
MBDF pmax pmax
comp=Z,21nm,1.1s
MBDF Montbardon 12.98 304 *e*P Pn 19 42 25.8 +5.5
comp=Z,21nm,1.1s
BNI Bardonecchia 13.17 305 P Pn 19 42 23.6 +0.6
BNI Bardonecchia 13.17 305 Pn Pn 19 42 23.6 +0.6
BNI Bardonecchia 13.17 305 Pn Pn 19 42 23.6 +0.6
LPG La Plagne 13.32 307 *e*P Pn 19 42 30.0 +4.8
comp=Z,22nm,0.9s
LPG La Plagne 13.32 307 *e*P Pn 19 42 30.0 +4.8
LPG pmax pmax
comp=Z,22nm,0.9s
LPG La Plagne 13.32 307 *e*P Pn 19 42 30.0 +4.8
comp=Z,22nm,0.9s
LPL La Plagne 13.35 307 *e*P Pn 19 42 30.1 +4.7
comp=Z,22nm,1.0s
LPL La Plagne 13.35 307 *e*P Pn 19 42 30.1 +4.7
LPL pmax pmax
comp=Z,22nm,1.0s
LPL La Plagne 13.35 307 *e*P Pn 19 42 30.1 +4.7
comp=Z,22nm,1.0s
AKASG Malin Array Be 13.44 21 Pn Pn 19 42 26.4 0.0
comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=3.5
AKASG Malin Array Be 13.44 21 P Pn 19 42 26.4 0.0
AKASG Malin Array Be 13.44 21 Pn Pn 19 42 26.4 0.0
AKASG Malin Array Be 13.44 21 Pn Pn 19 42 26.4 0.0
ASF Jabal al Asfar 13.73 112 Pn Pn 19 42 33.4 +2.7
comp=Z,0.1nm,0.3s,baz=308,slow=3.6,SNR=2.6
ASF Jabal al Asfar 13.73 112 Pn Pn 19 42 33.4 +2.7
CABF La Chapelle 14.26 311 *e*P P 19 42 42.2 -3.1
comp=Z,22nm,1.0s
CABF La Chapelle 14.26 311 *e*P P 19 42 42.2 -3.1
CABF pmax pmax
comp=Z,22nm,1.0s
CABF La Chapelle 14.26 311 *e*P P 19 42 42.2 -3.1
comp=Z,22nm,1.0s
CABF La Chapelle 14.26 311 *e*P P 19 42 42.2 -3.1
comp=Z,22nm,1.0s
CLL Collm 14.41 337 *e*P P 19 42 49.0 +2.3
CLL Collm 14.41 337 *e*pP P 19 42 49.0 +2.3
comp=Z,10.0nm,1.1s
SMF Signal de Mont 15.65 308 *e*P P 19 43 00.4 -0.2
comp=Z,20nm,1.0s
SMF Signal de Mont 15.65 308 *e*P P 19 43 00.4 -0.2
SMF pmax pmax
comp=Z,20nm,1.0s
SMF Signal de Mont 15.65 308 *e*P P 19 43 00.4 -0.2
comp=Z,20nm,1.0s
SMF Signal de Mont 15.65 308 *e*P P 19 43 00.4 -0.2
comp=Z,20nm,1.0s
SUW Suwalki 15.72 3 *e*P P 19 43 00.4 -0.9
SUW Suwalki 15.72 3 *e*P Pn 19 42 58.4 +1.2
SUW pmax pmax
comp=Z,46nm,0.9s
SUW Suwalki 15.72 3 *e*Pn Pn 19 42 58.4 +1.2
comp=Z,46nm,0.9s
SUW Suwalki 15.72 3 *e*Pn Pn 19 42 58.4 +1.2
comp=Z,46nm,0.9s
SUW Suwalki 15.72 3 *e*P P 19 43 00.4 -0.9
SUW Suwalki 15.72 3 *e*P P 19 43 00.3 -0.9
LOR Lormes 15.92 310 *e*P P 19 43 03.9 +0.3
comp=Z,43nm,1.3s
LOR Lormes 15.92 310 *e*P P 19 43 03.9 +0.3
comp=Z,43nm,1.3s
LOR Lormes 15.92 310 *e*P P 19 43 03.9 +0.3
comp=Z,43nm,1.3s
AVF Avril sur Loir 16.02 308 *e*P P 19 43 05.1 +0.5
comp=Z,51nm,1.2s
AVF Avril sur Loir 16.02 308 *e*P P 19 43 05.1 +0.5
AVF pmax pmax
comp=Z,51nm,1.2s
AVF Avril sur Loir 16.02 308 *e*P P 19 43 05.1 +0.5
comp=Z,51nm,1.2s
AVF Avril sur Loir 16.02 308 *e*P P 19 43 05.1 +0.5
comp=Z,51nm,1.2s
SSF Saint Saulge 16.04 309 *e*P P 19 43 05.5 +0.6
comp=Z,79nm,1.2s
SSF Saint Saulge 16.04 309 *e*P P 19 43 05.5 +0.6
SSF pmax pmax
comp=Z,79nm,1.2s
SSF Saint Saulge 16.04 309 *e*P P 19 43 05.5 +0.6
comp=Z,79nm,1.2s
SSF Saint Saulge 16.04 309 *e*P P 19 43 05.5 +0.6
comp=Z,79nm,1.2s
RJF Les Rejaudoux 16.66 301 *e*P P 19 43 10.6 -1.2
comp=Z,32nm,1.4s
RJF Les Rejaudoux 16.66 301 *e*P P 19 43 10.6 -1.2
RJF pmax pmax
comp=Z,32nm,1.4s
RJF Les Rejaudoux 16.66 301 *e*P P 19 43 10.6 -1.2
comp=Z,32nm,1.4s
RJF Les Rejaudoux 16.66 301 *e*P P 19 43 10.6 -1.2
comp=Z,32nm,1.4s
KBZ Khabaz 16.76 65 LR LR 19 49 53.6
comp=Z,54nm,20.2s,baz=94,slow=38
BAIF Baives 17.20 319 *e*P P 19 43 18.3 +0.6
BAIF Baives 17.20 319 *e*P P 19 43 18.3 +0.6
BAIF Baives 17.20 319 *e*P P 19 43 18.3 +0.6
BAIF Baives 17.20 319 *e*P P 19 43 18.3 +0.6
ETSF Etsaut 17.61 292 *e*P P 19 43 23.2 +0.9
ETSF Etsaut 17.61 292 *e*P P 19 43 23.2 +0.9
ETSF Etsaut 17.61 292 *e*P P 19 43 23.2 +0.9
ETSF Etsaut 17.61 292 *e*P P 19 43 23.2 +0.9
VORD Divnogorie 17.66 39 *e*P P 19 43 26.1 +3.4
VORD pmax pmax
comp=Z,6.0nm,1.1s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.8s
VSR Storozhevoye 17.75 38 *e*P P 19 43 26.5 +2.7
VSR pmax pmax
comp=Z,9.0nm,1.2s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,1.1s
MFF Saint Martin d 18.18 304 *e*P P 19 43 29.7 +1.2
comp=E,79nm,1.3s
MFF Saint Martin d 18.18 304 *e*P P 19 43 29.7 +1.2
MFF pmax pmax
comp=Z,79nm,1.3s
MFF Saint Martin d 18.18 304 *e*P P 19 43 29.7 +1.2
comp=Z,79nm,1.3s
MFF Saint Martin d 18.18 304 *e*P P 19 43 29.7 +1.2
comp=Z,79nm,1.3s
VRHR Novokhopersk 18.91 41 *e*P P 19 43 34.5 -2.0
VRHR pmax pmax
comp=Z,3.0nm,0.4s
VRHR pmax pmax
comp=N,2.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.5s
OBN Obninsk 19.52 26 P Pn 19 43 45.0 +0.6
OBN pmax pmax
comp=Z,13nm,1.1s
ESDC Sonseca Array 20.09 282 P P 19 43 50.2 +0.5
comp=Z,7.6nm,0.8s,baz=76,slow=11,SNR=30
ESDC Sonseca Array 20.09 282 P P 19 43 50.2 +0.5
ESDC Sonseca Array 20.09 282 P P 19 43 50.2 +0.5
ESLA Sonseca Array 20.09 282 *e*P P 19 43 49.9 +0.2
comp=Z,5.6nm,1.1s
ESLA Sonseca Array 20.09 282 *e*P P 19 43 49.8 +0.2
comp=Z,5.6nm,1.1s
PAB San Pablo 20.40 282 *e*P P 19 43 52.2 -0.8
PAB pmax pmax
comp=Z,9.0nm,0.9s
PAB San Pablo 20.40 282 *e*P P 19 43 52.2 -0.8
comp=Z,8.6nm,0.9s
PAB San Pablo 20.40 282 *e*P P 19 43 52.2 -0.8

comp=Z,8.6nm,0.9s
TAM Tamanrasset 20.86 227 *e*P Pn 19 44 03.6 +2.9
TAM Tamanrasset 20.86 227 *e*P Pn 19 44 03.6 +2.9
comp=Z,0.8nm,0.3s
MVO Moncorvo 22.34 286 *e*P **P 19 44 14.1 +0.1**
comp=Z,15nm,1.3s
MVO Moncorvo 22.34 286 *e*P **P 19 44 14.1 +0.1**
comp=Z,15nm,1.3s
HFS Hagfors 22.44 349 P **P 19 44 13.1 -1.6**
comp=Z,4.7nm,0.7s,baz=163,slow=11,SNR=13
HFS LR LR 19 54 28.2
comp=Z,107nm,19.0s,baz=352,slow=41
HFS Hagfors 22.44 349 P **P 19 44 13.1 -1.6**
HFS Hagfors 22.44 349 P **P 19 44 13.1 -1.6**
KONO Kongsberg 22.73 344 *e*P **P 19 44 18.2 +0.4**
KONO Kongsberg 22.73 344 *e*P **P 19 44 18.2 +0.4**
KONO Kongsberg 22.73 344 *e*P **P 19 44 18.2 +0.4**
PMRV Marv??o 22.75 282 *e*P **P 19 44 16.6 -1.7**
comp=Z,13nm,1.3s
PMRV Marv??o 22.75 282 *e*P **P 19 44 16.6 -1.7**
comp=Z,13nm,1.3s
MTE Manteigas 22.78 284 *e*P **P 19 44 17.2 -1.4**
comp=Z,18nm,1.3s
MTE Manteigas 22.78 284 *e*P **P 19 44 17.2 -1.4**
comp=Z,18nm,1.3s
PVIS Viseu 23.02 285 *e*P **P 19 44 22.2 +1.1**
comp=Z,25nm,1.5s
PVIS Viseu 23.02 285 *e*P **P 19 44 22.2 +1.1**
comp=Z,25nm,1.5s
FINES FINESS Array B 23.29 5 P **P 19 44 21.8 -1.8**
comp=Z,3.1nm,0.7s,baz=172,slow=8.7,SNR=10.0
FINES LR LR 19 53 46.5
comp=Z,72nm,20.9s,baz=136,slow=37
FINES FINESS Array B 23.29 5 P **P 19 44 21.8 -1.8**
FINES FINESS Array B 23.29 5 P **P 19 44 21.8 -1.8**
PBEJ Beja 23.32 279 *e*P **P 19 44 24.2 +0.1**
comp=Z,32nm,1.5s
PBEJ Beja 23.32 279 *e*P **P 19 44 24.2 +0.1**
comp=Z,32nm,1.5s
EVO Evora 23.36 280 *e*P **P 19 44 22.9 -1.5**
comp=Z,24nm,2.1s
EVO Evora 23.36 280 *e*P **P 19 44 22.9 -1.5**
comp=Z,24nm,2.1s
NAO01 NORSAR Array S 23.57 347 *e*P **P 19 44 24.6 -1.8**
comp=Z,26nm,1.2s
NAO01 NORSAR Array S 23.57 347 *e*P **P 19 44 24.6 -1.8**
comp=Z,26nm,1.2s
NB2 NORSAR Subarra 23.70 347 P **P 19 44 26.1 -1.5**
comp=Z,2.3nm,0.7s,baz=153,slow=10
NB2 NORSAR Subarra 23.70 347 P **P 19 44 26.1 -1.5**
comp=Z,2.3nm,0.7s,SNR=2.3
NOA NORSAR Array B 23.70 347 P **P 19 44 26.4 -1.2**
comp=Z,2.1nm,0.7s,baz=153,slow=9.1,SNR=14
NOA LR LR 19 53 53.7
comp=Z,52nm,20.5s,baz=295,slow=37
NOA NORSAR Array B 23.70 347 P **P 19 44 26.4 -1.2**
NOA NORSAR Array B 23.70 347 P **P 19 44 26.4 -1.2**
ESK Eskdalemuir 23.94 323 *e*P **P 19 44 28.2 -1.8**
ESK pmax pmax
comp=Z,12nm,0.9s
ESK Eskdalemuir 23.94 323 *e*P **P 19 44 28.2 -1.8**
comp=Z,12nm,0.9s
ESK Eskdalemuir 23.94 323 *e*P **P 19 44 28.2 -1.8**
comp=Z,12nm,0.9s
KAF Kangasniemi 23.98 5 *e*P **P 19 44 27.6 -2.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 23.98 5 *ep* **P 19 44 27.6 -2.6**
comp=Z,3.2nm,0.6s
JOF Joensuu 25.29 10 *e*P **P 19 44 39.4 -2.8**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 25.29 10 *ep* **P 19 44 39.4 -2.8**
comp=Z,1.9nm,0.7s
ARU Arti 30.26 41 P **P 19 45 24.9 -1.9**
ARU Arti 30.26 41 P **P 19 45 24.9 -1.9**
ARU Arti 30.26 41 P **P 19 45 24.9 -1.9**
TORD Torodi Ar. Bea 30.82 221 P **P 19 45 32.2 +0.2**
comp=Z,1.6nm,0.8s,baz=32,slow=9.2,SNR=11
TORD Torodi Ar. Bea 30.82 221 P **P 19 45 32.2 +0.2**
TORD Torodi Ar. Bea 30.82 221 P **P 19 45 32.2 +0.2**
ARCES ARCESS Array B 31.33 2 P **P 19 45 35.0 -1.1**
comp=Z,0.8nm,0.5s,baz=181,slow=9.3,SNR=8.5
ARCES LR LR 19 59 06.9
comp=Z,109nm,19.2s,baz=352,slow=38
ARCES ARCESS Array B 31.33 2 P **P 19 45 35.0 -1.1**
ARCES ARCESS Array B 31.33 2 P **P 19 45 35.0 -1.1**
BRVK Borovoye 36.16 50 P **P 19 46 17.4 -0.8**
BRVK Borovoye 36.16 50 P **P 19 46 17.4 -0.8**
BRVK Borovoye 36.16 50 P **P 19 46 17.4 -0.8**
BVAR Borovoye Array 36.22 50 P **P 19 46 19.9 +1.2**
comp=Z,0.7nm,0.6s,baz=261,slow=3.8,SNR=3.6
BVAR Borovoye Array 36.22 50 P **P 19 46 20.0 +1.2**
BVAR Borovoye Array 36.22 50 P **P 19 46 19.9 +1.2**
BVAR Borovoye Array 36.22 50 P **P 19 46 20.0 +1.2**
KKAR Karatay Array 36.78 67 *e*P **P 19 46 23.0 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 36.78 67 *e*P **P 19 46 23.0 -0.7**
comp=Z,2.6nm,0.6s
KKAR Karatay Array 36.78 67 *e*P **P 19 46 23.0 -0.7**
comp=Z,2.6nm,0.6s
EKS2 Erkin-Say 39.22 67 *e*P **P 19 46 44.0 -0.4**
EKS2 pmax pmax
comp=Z,4.0nm,1.0s
EKS2 Erkin-Say 39.22 67 *e*P **P 19 46 44.0 -0.4**
comp=Z,4.2nm,1.0s
EKS2 Erkin-Say 39.22 67 *e*P **P 19 46 44.0 -0.4**
comp=Z,4.2nm,1.0s
DBIC Dimbokro 39.72 224 P **P 19 46 48.4 -0.3**
comp=Z,2.1nm,0.7s,baz=27,slow=6.8,SNR=3.6
DBIC Dimbokro 39.72 224 P **P 19 46 47.5 -1.1**
comp=Z,19nm,1.4s
DBIC Dimbokro 39.72 224 P **P 19 46 47.5 -1.1**
comp=Z,19nm,1.4s
AAK Ala-Archa 39.74 67 *e*P **P 19 46 48.1 -0.7**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 39.74 67 *e*P **P 19 46 48.1 -0.7**
comp=Z,8.8nm,0.8s
AAK Ala-Archa 39.74 67 *e*P **P 19 46 48.1 -0.7**
comp=Z,8.8nm,0.8s
TKM2 Tokmak 2 40.47 66 P **P 19 46 54.8 -0.2**
TKM2 Tokmak 2 40.47 66 P **P 19 46 54.8 -0.2**
TKM2 Tokmak 2 40.47 66 P **P 19 46 54.8 -0.2**
KURK Kurchatov 41.35 54 *e*P **P 19 46 59.4 -2.4**
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 41.35 54 *e*P **P 19 46 59.4 -2.4**
comp=Z,4.0nm,1.1s
NVS Novosibirsk 43.81 47 *e*P **P 19 47 21.2 -0.5**
NVS pmax pmax
comp=Z,9.0nm,1.4s
MK31 Makanchi Array 44.33 59 *e*P **P 19 47 25.1 -1.0**
MK31 Makanchi Array 44.33 59 *e*P **P 19 47 25.1 -1.0**
MK31 Makanchi Array 44.33 59 *e*P **P 19 47 25.1 -1.0**
MKAR Makanchi Array 44.33 59 P **P 19 47 25.6 -0.6**
comp=Z,1.6nm,0.5s,baz=277,slow=7.3,SNR=39
MKAR PcP **PcP 19 49 09.5 -0.6**
comp=Z,1.1nm,0.9s,baz=274,slow=3.0,SNR=4.0
MKAR ScP **ScP 19 53 02.0 -0.7**
comp=Z,0.2nm,0.7s,baz=302,slow=4.1,SNR=3.6
MKAR Makanchi Array 44.33 59 P **P 19 47 25.6 -0.6**
MKAR 19 49 09.5
MKAR Makanchi Array 44.33 59 P **P 19 47 25.6 -0.6**
MKAR PcP **PcP 19 49 09.5 -0.6**
MKAR ScP **ScP 19 53 02.0 -0.7**
MKAR Makanchi Array 44.33 59 P **P 19 47 25.5 -0.6**
MKAR Makanchi Array 44.33 59 PcP **PcP 19 49 09.5 -0.6**
ZAA0 Zalesovo Array 44.81 48 *e*P **P 19 47 28.6 -1.2**
ZAA0 Zalesovo Array 44.81 48 *e*P **P 19 47 28.6 -1.2**
ZALV Zalesovo Beam 44.81 48 P **P 19 47 29.4 -0.4**
comp=Z,2.3nm,0.4s,baz=275,slow=8.6,SNR=9.4
ZALV Zalesovo Beam 44.81 48 P **P 19 47 29.4 -0.4**
ZALV Zalesovo Beam 44.81 48 P **P 19 47 29.4 -0.4**
ZALV Zalesovo Beam 44.81 48 P **P 19 47 29.4 -0.4**
ZAK Zakamensk 56.67 49 *e*P **P 19 48 59.2 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
LSA Lhasa 56.88 76 P **P 19 49 01.3 -0.4**
LSA pmax pmax
comp=Z,3.0nm,1.1s
LSA Lhasa 56.88 76 P **P 19 49 01.3 -0.4**
comp=Z,2.6nm,1.1s
LSA Lhasa 56.88 76 P **P 19 49 01.3 -0.4**
comp=Z,2.6nm,1.1s
GTA Gaotai 58.83 62 *e*P **P 19 49 17.2 +2.4**
GTA pP pP 19 49 23.2 +6.5
GTA sP sP 19 49 26.2 +8.8
GTA pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 59.55 51 P **P 19 49 18.9 -0.8**
comp=Z,1.0nm,0.7s,baz=283,slow=8.2,SNR=10
SONM Songino Array 59.55 51 P **P 19 49 18.9 -0.8**
SONM Songino Array 59.55 51 P **P 19 49 18.9 -0.8**
RES Resolute Bay 59.92 344 P **P 19 49 23.0 +1.4**
RES Resolute Bay 59.92 344 P **P 19 49 23.0 +1.4**
LBTB Lobstick 63.10 176 P **P** 19 49 47.5 +3.8
comp=Z,6.1nm,1.3s
CMAR Chiang Mai Arr 68.83 83 P **P 19 50 20.4 -0.5**
comp=Z,0.3nm,0.6s,baz=296,slow=6.9,SNR=3.6
CMAR Chiang Mai Arr 68.83 83 P **P 19 50 20.4 -0.5**
CMAR Chiang Mai Arr 68.83 83 P **P 19 50 20.4 -0.5**
YKA Yellowknife Ar 73.61 341 P **P 19 50 48.8 -0.2**
comp=Z,0.3nm,0.6s,baz=35,slow=5.3,SNR=7.6
YKA Yellowknife Ar 73.61 341 P **P 19 50 48.8 -0.2**
YKA Yellowknife Ar 73.61 341 P **P 19 50 48.8 -0.2**
ULM Lac du Bonnet 76.20 324 P **P 19 51 04.0 -0.2**
comp=Z,0.7nm,0.3s,baz=35,slow=8.5,SNR=4.6
ULM Lac du Bonnet 76.20 324 P **P 19 51 04.1 -0.2**
ILAR Eielson Array 76.86 355 P **P 19 51 07.3 -0.4**
comp=Z,0.4nm,0.7s,baz=346,slow=2.9,SNR=7.8
ILAR Eielson Array 76.86 355 P **P 19 51 07.3 -0.4**
ILAR Eielson Array 76.86 355 P **P 19 51 07.3 -0.4**
PDAR Pinedale Array 88.01 326 P **P 19 52 06.2 -0.5**
comp=Z,0.4nm,0.8s,baz=82,slow=6.5,SNR=3.6
PDAR Pinedale Array 88.01 326 P **P 19 52 06.2 -0.5**
PDAR Pinedale Array 88.01 326 P **P 19 52 06.2 -0.5**
WRA Warramunga Arr 119.50 93 PKP **PKPdf 19 58 04.9 -1.3**
comp=Z,0.2nm,0.7s,baz=330,slow=0.1,SNR=4.0
WRA Warramunga Arr 119.50 93 PKP **PKPdf 19 58 04.9 -1.3**
WRA Warramunga Arr 119.50 93 PKIKP **PKPdf 19 58 04.9 -1.3**
ASAR Alice Springs 121.15 97 PKP **PKPdf 19 58 08.2 -1.1**
comp=Z,0.2nm,0.7s,baz=280,slow=0.6,SNR=3.0
ASAR Alice Springs 121.15 97 PKP **PKPdf 19 58 08.2 -1.1**
ASAR Alice Springs 121.15 97 PKIKP **PKPdf 19 58 08.2 -1.1**

*ISCJB **10** 19:40:55.9±0.7, 50.31N±0.05×18.67E±0.04, h0km, Error ellipse: s-maj=6.7km s-min=4.0km az=4.9*
*WAR **10** 19:40:56.7, 50.25N×18.76E*
*PRU **10** 19:40:57.3, 50.32N×18.67E, h0km*
*CSEM **10** 19:41:04.9±0.7, 49.97N×18.23E, h1km, Error ellipse: s-maj=18.9km s-min=9.0km az=12.0*

ISC 10 19:40:57.3±1.0, 50.28N±0.05×18.66E±0.03, h0km, n16, σ1s35/24, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.55**	**217**	*e*PG		**Pg**		**19 41 08.0**	**+0.2**
OKC				*e*SG		**Sg**		**19 41 15.7**	**+0.9**
comp=Z,8.8nm,0.3s									
OKC	**Ostrava-Krasne**	**0.55**	**217**	Pg		**Pg**		**19 41 08.0**	**+0.2**
OKC				Sg		**Sg**		**19 41 15.7**	**+0.9**
8.8nm,0.3s									
OJC	**Ojcow**	**0.74**	**94**	*e*Pg		**Pg**		**19 41 10.1**	**-1.3**
OJC				*e*Sg		**Sg**		**19 41 19.4**	**-1.5**
MORC	**Moravsky Berou**	**0.87**	**236**	*e*Pg		**Pg**		**19 41 14.3**	**+0.3**
MORC				*e*Sg		**Sg**		**19 41 26.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.50**	**274**	*e*PG		**Pn**		**19 41 25.6**	**+0.1**
DPC				*e*SG		**Sn**		**19 41 46.2**	**+0.4**
comp=Z,5.6nm,0.3s									
DPC	**Dobruska-Polom**	**1.50**	**274**	Sg		**Sn**		**19 41 46.2**	**+0.4**
5.6nm,0.3s									
KSP	**Ksiaz**	**1.61**	**292**	*e*Pg		**Pg**		**19 41 28.6**	**+0.4**
KSP				*e*Sg		**Sg**		**19 41 50.4**	**+1.4**
VRAC	**Vranov**	**1.65**	**235**	*e*Pn		**Pb**		**19 41 28.1**	**-0.5**
VRAC				*e*Sg		**Sn**		**19 41 49.3**	**-0.1**
VYHS	**Vyhne**	**1.79**	**176**	*e*PN		**Pn**		**19 41 28.0**	**-1.4**
VYHS				*e*SN		**Sg**		**19 41 53.7**	**-1.0**
PRU	**Pruhonice**	**2.66**	**265**	*e*SG		**Sg**		**19 42 22.4**	**-0.4**
comp=Z,1.5nm,0.4s									
PRU	**Pruhonice**	**2.66**	**265**	Sg		**Sg**		**19 42 22.4**	**-0.4**
1.5nm,0.4s									
KOLS	**Kolonicke sedl**	**2.71**	**118**	*e*P		**Pg**		**19 41 51.9**	**+2.7**
KOLS	**Kolonicke sedl**	**2.71**	**118**	*e*PN		**Pg**		**19 41 51.9**	**+2.7**
KOLS	**Kolonicke sedl**	**2.71**	**118**	*e*Pn		**Pg**		**19 41 51.9**	**+2.7**
KHC	**Kasperske Hory**	**3.49**	**253**	*e*SG		**Sg**		**19 42 47.9**	**-1.4**
comp=Z,1.8nm,0.4s									
KHC	**Kasperske Hory**	**3.49**	**253**	Sg		**Sg**		**19 42 47.9**	**-1.4**
1.8nm,0.4s									

IDC 10 19:42:32.3±4.2, 1.74S×139.88E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, Error ellipse: s-maj=162.2km s-min=28.6km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**196**	P		P		19 46 54.4	-0.1
0.2nm,0.3s,baz=19,slow=12,SNR=12									
ASAR	**Alice Springs**	**22.55**	**194**	P		P		19 47 34.0	-0.3
0.6nm,0.8s,baz=20,slow=8.4,SNR=6.2									
MKAR	**Makanchi Array**	**69.75**	**322**	P		P		19 53 44.6	+0.2
0.3nm,0.9s,baz=104,slow=7.5,SNR=4.1									

WEL 10 20:09:25.5±0.1, 37.82S×174.24E, h12km, ML3.8/31, Error ellipse: s-maj=1.8km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.85**	**145**	P*		Pg		20 09 40.4	-1.6
HIZ				S*		Sg		20 09 52.2	-0.9
WTAZ	**Waiatarua**	**0.92**	**17**	P*		Pg		20 09 42.7	-0.7
WTAZ				S*		Sg		20 09 55.2	-0.2
TOZ	**Tahuroa Road**	**1.00**	**85**	P*		Pb		20 09 43.8	-1.1
TOZ				S*		Sg		20 09 57.0	-1.0
MKAZ	**Moumakai**	**1.02**	**47**	P*		Pb		20 09 43.9	-1.3
MKAZ				S*		Sb		20 09 58.1	-0.5
OTAZ	**Otara**	**1.02**	**32**	P*		Pb		20 09 44.2	-1.0
KAAZ	**Kauri Point**	**1.06**	**21**	P*		Pb		20 09 45.1	-0.7
RVAZ	**Riverhead Bore**	**1.08**	**15**	P*		Pb		20 09 45.1	-1.1
MTAZ	**Motutapu**	**1.16**	**28**	P*		Pb		20 09 46.2	-1.3
MTAZ				S*		Sb		20 09 59.4	-3.1
ABAZ	**Army Bay**	**1.30**	**21**	PN		Pn		20 09 48.2	-1.3
VRZ	**Vera Road**	**1.37**	**163**	PN		Pn		20 09 49.0	-1.4
VRZ				SN		Sn		20 10 07.2	-1.3
DREZ	**Durham Road**	**1.37**	**181**	PN		Pn		20 09 49.7	-0.8
DREZ				SN		Sn		20 10 07.8	-0.7
PKE	**Pukeiti**	**1.39**	**188**	PN		Pn		20 09 50.0	-0.8
NEZ	**North Egmont**	**1.45**	**184**	PN		Pn		20 09 51.5	-0.3
RAEZ	**Rainy Point**	**1.47**	**175**	PN		Pn		20 09 51.5	-0.4
WATZ	**Wairara**	**1.47**	**128**	PN		Pn		20 09 51.3	-0.6
TWVZ	**Taurewa**	**1.56**	**143**	PN		Pn		20 09 52.0	-1.3
KUZ	**Kuaotunu**	**1.59**	**48**	PN		Pn		20 09 52.1	-1.5
RATZ	**Rangitukua**	**1.60**	**131**	PN		Pn		20 09 53.0	-0.7
KATZ	**Kakaramea**	**1.63**	**136**	PN		Pn		20 09 53.5	-0.7
WTVZ	**West Tongariro**	**1.67**	**141**	PN		Pn		20 09 54.1	-0.7
KRVZ	**Karewarewa**	**1.68**	**140**	PN		Pn		20 09 54.2	-0.8
PKVZ	**Pokaka**	**1.71**	**150**	PN		Pn		20 09 54.3	-0.9
RITZ	**Rihia Road**	**1.72**	**133**	PN		Pn		20 09 55.0	-0.4
WPVZ	**Whakapapa**	**1.72**	**144**	PN		Pn		20 09 54.9	-0.6
NGZ	**Ngauruhoe**	**1.73**	**142**	PN		Pn		20 09 54.9	-0.7
FWVZ	**Far West T-bar**	**1.77**	**145**	PN		Pn		20 09 55.6	-0.6
DRZ	**Dome Shelter**	**1.79**	**145**	PN		Pn		20 09 56.2	-0.4
TRVZ	**Turoa**	**1.80**	**146**	PN		Pn		20 09 56.0	-0.7
TUVZ	**Tukino**	**1.82**	**143**	PN		Pn		20 09 56.8	-0.1
MTVZ	**Mangateitei**	**1.84**	**149**	PN		Pn		20 09 56.4	-0.6
WNVZ	**Wahianoa**	**1.84**	**145**	PN		Pn		20 09 57.3	0.0
WCZ	**Waipu Caves**	**1.88**	**3**	PN		Pn		20 09 56.3	-1.2
MOVZ	**Moawhango**	**1.98**	**144**	PN		Pn		20 09 58.8	-0.2
WAZ	**Wanganui**	**2.02**	**163**	PN		Pn		20 09 58.9	-0.6
OUZ	**Omahuta**	**2.64**	**349**	PN		Pn		20 10 07.2	-0.8
DUWZ	**D'Urville Isla**	**2.99**	**185**	PN		Pn		20 10 12.7	-0.1
QRZ	**Quartz Range**	**3.28**	**203**	PN		Pn		20 10 15.6	-1.2
TCW	**Tory Channel**	**3.39**	**180**	PN		Pn		20 10 18.4	+0.2
NNZ	**Nelson**	**3.46**	**191**	PN		Pn		20 10 19.0	-0.2
THZ	**Tophouse**	**4.07**	**194**	PN		Pn		20 10 26.6	-1.1

TIR 10 20:11:11.7, 41.85N×19.56E, h3km, ML2.6, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.31**	**52**	*e*PG		Pg		20 11 14.0	-3.9
PUK						*i* SG	Sb	20 11 23.9	-1.8
BCI	**Bajram Curri**	**0.64**	**36**	*e*PG		Pg		20 11 24.3	+0.3
BCI						*i* SG	Sb	20 11 34.5	-0.4
PHP	**Peshkopia**	**0.68**	**104**	*e*PG		Pg		20 11 25.3	+0.5
PHP						*i* SG	Sb	20 11 35.4	-0.8

*TIR **10** 20:14:57.6, 41.85N×19.55E, h2km, ML2.6*
*CSEM **10** 20:14:58.3±0.4, 41.83N×19.54E, h2km, ML2.6, Error ellipse: s-maj=9.0km s-min=5.5km az=12.0*

ISC 10 20:14:58.4±1.4, 41.84N±0.06×19.56E±0.05, h16km±12km, n8, σ0s42/16, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.32**	**51**	*e*PG		**Pg**		**20 15 05.1**	**0.0**
PUK				*i* SG		**Sg**		**20 15 10.0**	**+0.3**
PUK	**Puka**	**0.32**	**51**	*e*Pg		**Pg**		**20 15 05.1**	**0.0**
PUK				*i* Sg		**Sg**		**20 15 10.0**	**+0.3**
BCI	**Bajram Curri**	**0.65**	**36**	*e*PG		**Pg**		**20 15 10.4**	**-0.7**
BCI				*i* SG		**Sb**		**20 15 20.3**	**+0.1**
BCI	**Bajram Curri**	**0.65**	**36**	*e*Pg		**Pg**		**20 15 10.4**	**-0.7**
BCI				*i* Sg		**Sb**		**20 15 20.3**	**+0.1**
PHP	**Peshkopia**	**0.68**	**103**	*e*PG		**Pg**		**20 15 11.2**	**-0.5**
PHP				*i* SG		**Sb**		**20 15 21.5**	**+0.4**
PHP	**Peshkopia**	**0.68**	**103**	*e*Pg		**Pg**		**20 15 11.2**	**-0.5**
PHP				*i* Sg		**Sb**		**20 15 21.5**	**+0.4**
STON	**Ston**	**1.72**	**307**	*e*Pn		**Pb**		**20 15 29.6**	**0.0**
STON				Sn		**Sb**		**20 15 51.4**	**+0.3**
STON	**Ston**	**1.72**	**307**	*e*Pn		**Pb**		**20 15 29.6**	**0.0**
STON				Sn		**Sb**		**20 15 51.3**	**+0.3**

*IDC **10** 20:22:41.6±0.4, 3.59N×126.66E, h0km, mb4.6/31, mb1 4.7/32, mb1mx4.7/34, mbtmp4.6/32, ML4.9/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/30, Error ellipse: s-maj=18.2km s-min=8.2km az=76.0*
*NEIC **10** 20:22:42.7±2.9, 3.63N×126.69E, h9km±18km, mb5.0/36, Error ellipse: s-maj=8.3km s-min=4.8km az=76.0*
*MOS **10** 20:22:44.5±1.0, 3.63N×126.71E, h33km, mb5.0/27, Error ellipse: s-maj=13.2km s-min=6.0km az=114.2*
*ISCJB **10** 20:22:48.1±0.4, 3.65N±0.02×126.83E±0.03, h64km±4km, mb4.8/93, Error ellipse: s-maj=5.2km s-min=3.5km az=167.3*
*BJI **10** 20:22:48.8, 3.60N×126.74E, h77km, mB5.0/29, mb4.7/42, Ms4.5/22, Ms7 4.3/25*
*AUST **10** 20:22:53.0±0.3, 3.52N×126.89E, h100km, Error ellipse: s-maj=1.1km s-min=0.7km az=228.0*
*DJA **10** 20:22:54.7±0.5, 3.7N±4°×12.7E±°, h89km±5km, M4.7/30, mB5.1/10, mb4.7/30, MLv5.0/6, Mw(mB)4.5/10, Mwp6.2/1*

ISC 10 20:22:51.2±0.3, 3.63N±0.03×126.79E±0.05, h75km±2km, n306, σ1s50/358, mb4.8/92, 18C-15D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.90**	**168**	P		**Pn**		**20 23 32.6**	**-2.6**
MNI	**Manado**	**2.92**	**222**	P		**Pn**		**20 23 34.2**	**-1.2**
MATI	**Mati**	**3.33**	**351**	*e*P		**Pn**		**20 23 39.0**	**-2.1**
MATI				*e*S		Sn		20 24 31.3	+12
DAV	**Davao City (W)**	**3.62**	**341**	Pn		**Pn**		**20 23 44.1**	**-0.9**
60nm,0.3s,baz=94,slow=2.7,SNR=4.6									
DAV				Sn		Sn		20 24 35.1	+8.5
105nm,0.3s,baz=76,slow=22,SNR=3.5									
DAV	**Davao City (W)**	**3.62**	**341**	Pn		Pn		20 23 38.9	-6.1
DAV				Sn		Sn		20 24 35.0	+8.5
DAV	**Davao City (W)**	**3.62**	**341**	P		Pn		20 23 57.8	+13
DMPH	**Davao City--Mi**	**3.66**	**340**	*e*P		**Pn**		**20 23 43.7**	**-1.7**
DMPH				*e*S		**Sn**		**20 24 30.9**	**+3.5**
KCP	**Kidapawan**	**3.76**	**333**	*e*P		**Pn**		**20 23 45.5**	**-1.4**
KCP				*i* S		**Sn**		**20 24 31.8**	**+1.8**
KMSI	**Cibinong**	**4.13**	**223**	P		**Pn**		**20 23 52.8**	**+0.8**
LBMI	**Labuha**	**4.30**	**170**	P		**Pn**		**20 23 52.6**	**-1.7**
CTBH	**Cotabato--PC H**	**4.37**	**325**	*i*P		**Pn**		**20 23 53.1**	**-2.1**
BUKP	**Musuan**	**4.55**	**338**	*e*P		**Pn**		**20 23 56.0**	**-1.8**
CGP	**Cagayan de Oro**	**5.22**	**337**	*e*P		**Pn**		**20 24 05.1**	**-1.8**
PAGZ	**Pagadian**	**5.39**	**321**	*e*P		**Pn**		**20 24 07.6**	**-1.5**
BUTP	**Butuan**	**5.43**	**348**	*e*P		**Pn**		**20 24 08.8**	**-0.8**
MRSI	**Marisa**	**5.77**	**237**	P		**Pn**		**20 24 14.4**	**+0.1**
240nm,0.9s,3μm0.9nm									
LUWI	**Luwuk**	**6.14**	**221**	P		Pn		20 24 22.8	+3.5
MSLP	**Maasin**	**6.74**	**344**	*e*P		**Pn**		**20 24 26.7**	**-0.8**
AAI	**Ambon**	**7.41**	**169**	P		**Pn**		**20 24 35.3**	**-1.4**
baz=7.3,SNR=6.9									
AAI	**Ambon**	**7.41**	**169**	P		Pn		20 24 46.5	+10
PCI	**Palu**	**8.28**	**237**	S		Sn		20 26 40.2	+20
baz=8.3,SNR=13									
MYLDM	**Lahad Datu**	**8.40**	**281**	P		**Pn**		**20 24 50.9**	**+0.6**
MYLDM	**Lahad Datu**	**8.40**	**281**	P		**Pn**		**20 24 50.8**	**+0.5**
81nm,1.1s									
PALU	**Palau**	**8.49**	**64**	P		**Pn**		**20 24 49.5**	**-2.1**
baz=8.5,SNR=5.6									
FAKI	**Fak Fak**	**8.49**	**140**	P		**Pn**		**20 24 50.1**	**-1.5**
36nm,1.1s									
KDI	**Kendari**	**8.61**	**209**	P		**Pn**		**20 24 50.1**	**-3.1**
34nm,1.1s,484nm									
TSM	**Tawau**	**8.92**	**275**	P		**Pn**		**20 24 57.7**	**+0.4**
TTSI	**Tana Toraja**	**9.62**	**226**	P		**Pn**		**20 25 04.7**	**-2.2**
44nm,1.0s,681nm129μm									
SDKM	**Sandakan**	**9.77**	**282**	P		**Pn**		**20 25 09.7**	**+0.7**
KDM	**Kudat**	**10.43**	**289**	P		**Pn**		**20 25 19.2**	**+1.1**
KKM	**Kota Kinabalu**	**10.80**	**283**	*e*Pn		**Pn**		**20 25 23.1**	**-0.1**
18nm,0.6s									
KKM	**Kota Kinabalu**	**10.80**	**283**	P		**Pn**		**20 25 23.5**	**+0.3**
baz=11,SNR=8.9									
KKM	**Kota Kinabalu**	**10.80**	**283**	P		**Pn**		**20 25 24.1**	**+0.9**
KKM	**Kota Kinabalu**	**10.80**	**283**	P		**Pn**		**20 25 23.5**	**+0.3**
27nm,0.9s									
TLE	**Tual**	**10.96**	**147**	P		**Pn**		**20 25 28.1**	**+2.8**
baz=11,SNR=4.3									
TLE	**Tual**	**10.96**	**147**	P		**Pn**		**20 25 23.1**	**-2.1**
63nm,1.2s									
KAPI	**Kappang**	**11.10**	**219**	Pn		Pn		20 25 19.9	-7.3
1.4nm,0.3s,baz=171,slow=12,SNR=3.2									
KAPI	**Kappang**	**11.10**	**219**	Pn		Pn		20 25 19.9	-7.3
TGY	**Tagaytay City**	**11.90**	**331**	Pn		Pn		20 25 33

16nm,0.5s,baz=16,slow=10.0,SNR=59
FITZ S **S** **20 31 29.6 -1.3**
8.6nm,1.2s,baz=193,slow=17,SNR=5.0
FITZ Fitzroy Crossi 21.63 183 P **P** **20 27 33.2 -2.1**
FITZ S **S** **20 31 29.6 -1.3**
FITZ Fitzroy Crossi 21.63 183 P **P** **20 27 33.3 -2.0**
baz=22,SNR=30
FITZ S **S** **20 31 28.2 -2.7**
baz=22,SNR=6.1
CISI Cisompet, Garu 21.95 240 P **P** **20 27 37.3 -1.7**
35nm,0.7s
MYKOM Kota Tinggi 22.98 266 P **P** **20 27 49.9 0.0**
MYKOM Kota Tinggi 22.98 266 P **P** **20 27 48.5 -1.4**
25nm,0.8s
JOW Kunigami 23.11 3 P **P** **20 27 51.1 +0.1**
28nm,0.8s,baz=230,slow=9.1,SNR=4.9
JOW Kunigami 23.11 3 P **P** **20 27 51.1 +0.1**
CGJI Cibinong 23.39 244 P **P** **20 27 52.2 -1.5**
82nm,0.9s,751nm
KGM Kluang 23.49 267 P **P** **20 27 55.7 +1.0**
KTGM Kuala Trenggan 23.64 275 P **P** **20 27 59.5 +3.5**
COEN Coen 23.87 137 P **P** **20 27 57.5 -0.5**
baz=24,SNR=5.1
KASI Kota Agung 24.05 248 P **P** **20 27 59.5 -0.2**
45nm,0.9s
LWLI Liwa 24.28 249 P **P** **20 28 02.1 +0.2**
58nm,0.9s
WRAB Tennant Creek 24.57 163 *e*P **P** **20 28 02.4 -1.9**
WRAB *e*S **S** **20 32 19.5 -0.6**
WRAB pmax pmax
comp=Z,47nm,0.7s
WRAB Tennant Creek 24.57 163 *e*P **P** **20 28 02.4 -1.9**
comp=Z,47nm,0.7s
WRAB *e*S **S** **20 32 19.5 -0.6**
WRA Warramunga Arr 24.57 163 P **P** **20 28 01.6 -2.8**
comp=Z,45nm,0.6s,baz=344,slow=10,SNR=172
WRA PcP **PcP** **20 31 42.2 +1.4**
comp=Z,1.1nm,0.5s,baz=326,slow=2.3,SNR=5.1
WRA S **S** **20 32 24.5 +4.3**
comp=Z,2.0nm,0.7s,baz=334,slow=20,SNR=5.6
WRA Warramunga Arr 24.57 163 P **P** **20 28 01.6 -2.8**
WRA PcP **PcP** **20 31 42.2 +1.4**
WRA S **S** **20 32 24.5 +4.3**
MNAI Manna 25.10 252 P **P** **20 28 10.8 +1.5**
comp=Z,72nm,1.9s
KSI Kapahiang 25.24 254 P **P** **20 28 12.1 +1.5**
comp=Z,59nm,0.4s,comp=Z,2µm
MBWA Marble Bar 25.59 195 *e*P **P** **20 28 13.3 -0.2**
comp=Z,22nm,1.0s
QIS Mount Isa 27.13 153 P **P** **20 28 27.0 -0.5**
baz=27,SNR=19
PSI Prapat 27.83 269 P **P** **20 28 32.8 -1.2**
comp=Z,3.2nm,0.3s,baz=114,slow=1.9,SNR=6.9
PSI Prapat 27.83 269 P **P** **20 28 32.8 -1.2**
PSI Prapat 27.83 269 P **P** **20 28 33.3 -0.7**
baz=28,SNR=3.4
AS31 Alice Springs 28.00 166 *e*P **P** **20 28 34.0 -1.4**
AS31 *e*PcP **PcP** **20 31 49.9 +1.1**
ASAR Alice Springs 28.01 166 P **P** **20 28 34.1 -1.2**
comp=Z,2.2nm,0.5s,baz=349,slow=7.8,SNR=60
ASAR PcP **PcP** **20 31 50.0 +1.3**
comp=Z,2.3nm,0.5s,baz=347,slow=2.3,SNR=5.2
ASAR S S 20 33 23.7 +9.2
comp=Z,1.4nm,0.9s,baz=347,slow=19,SNR=4.8
ASAR Alice Springs 28.01 166 P **P** **20 28 34.1 -1.2**
ASAR PcP **PcP** **20 31 50.0 +1.3**
ASAR S S 20 33 23.7 +9.2
GIRL Giralia 28.85 205 P **P** **20 28 44.7 +2.0**
baz=29,SNR=5.0
WHN Wuhan 29.23 338 P **P** **20 28 45.5 -0.6**
WHN S **S** **20 33 29.6 -3.9**
WHN LR LR
comp=Z,740nm,21.6s
NJ2 Nanjing 29.24 346 *e*P **P** **20 28 46.2 +0.1**
NJ2 pmax pmax
comp=Z,20nm,1.5s
GSI Gunungsitoli 29.27 266 P **P** **20 28 46.2 -0.5**
baz=29,SNR=3.6
JNU Nakatsue 29.59 7 P **P** **20 28 48.4 -0.8**
comp=Z,9.1nm,0.9s,baz=90,slow=2.9,SNR=4.9
JNU Nakatsue 29.59 7 P **P** **20 28 48.4 -0.8**
GYA Guiyang 29.78 322 P **P** **20 28 51.8 +0.6**
GYA pP **pP** **20 29 08.7 -0.1**
GYA sP **sP** **20 29 18.3 +0.7**
GYA PP **PnPn** **20 29 51.2 +1.2**
GYA S **S** **20 33 42.0 -0.5**
GYA sS **sS** **20 34 12.3 -0.6**
GYA ScP **ScP** **20 35 27.6 -1.4**
GYA ScS **ScS** **20 39 21.4 -3.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,480nm,16.8s
GYA LR LR
comp=E,430nm,17.0s
GYA LR LR
comp=Z,460nm,17.4s
CTA Charters Tower 30.35 142 P **P** **20 28 55.1 -1.0**
comp=Z,1.4nm,0.4s,baz=67,slow=8.9,SNR=2.1
CTA Charters Tower 30.35 142 P **P** **20 28 55.1 -1.0**
CM31 Chiang Mai Arr 30.97 301 *e*P **P** **20 29 00.4 -1.2**
comp=Z,2.6nm,0.5s
CMAR Chiang Mai Arr 30.97 301 P **P** **20 29 01.6 0.0**
comp=Z,4.1nm,0.8s,baz=110,slow=6.8,SNR=29
CMAR Chiang Mai Arr 30.97 301 P **P** **20 29 01.6 0.0**
MEEK Meekatharra 31.11 194 P **P** **20 29 02.7 0.0**
baz=31,SNR=21
CHTO Chiang Mai 31.12 301 *e*P **P** **20 29 01.9 -1.0**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 31.12 301 *e*P **P** **20 29 01.9 -1.0**
comp=Z,6.8nm,0.7s
CHTO Chiang Mai 31.12 301 P **P** **20 29 02.1 -0.9**
comp=Z,12nm,0.8s
KMI Kunming 31.49 315 P **P** **20 29 08.4 +2.0**
KMI pmax pmax
comp=Z,5.0nm,1.8s
KMI LR LR
comp=Z,100nm,18.8s
KSAR Wonju Array Be 33.66 2 P **P** **20 29 25.5 +0.6**
KSAR PcP **PcP** **20 32 04.8 +1.3**
KSRS Korea Array 33.68 2 P **P** **20 29 25.5 +0.5**
comp=Z,9.9nm,0.7s,baz=181,slow=9.6,SNR=27
KSRS PcP **PcP** **20 32 04.8 +1.3**
comp=Z,1.8nm,0.7s,baz=193,slow=2.1,SNR=5.0
MORW Morawa 34.11 197 P **P** **20 29 28.8 -0.1**
baz=34,SNR=3.8
FORT Forrest 34.24 178 *e*P **P** **20 29 29.5 -0.5**
comp=Z,33nm,0.6s
FORT Forrest 34.24 178 P **P** **20 29 29.8 -0.2**
baz=34,SNR=16
MJAR Matsushiro Arr 34.40 16 P **P** **20 29 29.9 -1.5**
comp=Z,0.9nm,0.4s,baz=188,slow=9.0,SNR=4.6
MJAR LR LR 20 41 42.4
comp=Z,80nm,19.6s,baz=190,slow=33
MJAR Matsushiro Arr 34.40 16 P **P** **20 29 29.9 -1.5**
QLP Quilpie 34.45 152 P **P** **20 29 31.4 -0.5**
baz=34,SNR=4.4
XAN Xi'an 34.53 333 P **P** **20 29 30.7 -1.9**
XAN LR LR
comp=N,75nm,17.4s
XAN LR LR
comp=E,54nm,19.0s
XAN LR LR
comp=Z,73nm,16.3s
CD2 Chengdu 34.76 324 P **P** **20 29 35.3 +0.7**
CD2 pP **pP** **20 29 52.8 +0.4**
CD2 sP **sP** **20 30 01.5 +0.3**
CD2 PP **PP** **20 30 54.9 +0.2**
CD2 S **S** **20 35 00.3 +0.6**
CD2 sS **sS** **20 35 30.4 +0.1**
CD2 SS **SnSn** **20 37 18.2 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,100nm,6.3s
CD2 LR LR
comp=N,340nm,6.5s
CD2 LR LR
comp=Z,200nm,11.3s
BLDU Ballidu 35.39 195 P **P** **20 29 39.9 0.0**
baz=36,SNR=7.8
DL2 Dalian 35.42 353 P **P** **20 29 40.8 +0.7**
DL2 pmax pmax
comp=Z,40nm,1.0s
KLBR Kellerberrin 36.07 193 P **P** **20 29 45.8 0.0**
baz=36,SNR=10
BBOO Buckleboo 37.29 167 P **P** **20 29 55.7 -0.4**
baz=37,SNR=19
BJI Beijing 37.49 347 P **P** **20 29 58.1 +0.4**
BJI pmax pmax
comp=Z,76nm,0.6s
STKA Stephens Creek 38.02 159 P **P** **20 30 01.9 -0.3**
comp=Z,16nm,0.6s,baz=336,slow=7.1,SNR=48
STKA PcP **PcP** **20 32 17.6 +1.1**
comp=Z,3.4nm,0.7s,baz=324,slow=5.6,SNR=2.7
STKA Stephens Creek 38.02 159 *e*P **P** **20 30 01.5 -0.8**
comp=Z,3.3nm,0.6s
STKA PcP **PcP** **20 32 17.6 +1.1**
STKA Stephens Creek 38.02 159 P **P** **20 30 02.0 -0.3**
baz=38,SNR=38
LZH Lanzhou 38.62 330 *e*P **P** **20 30 08.3 +0.8**
LZH pP **pP** **20 30 25.2 -0.3**
LZH sP **sP** **20 30 36.3 +2.1**
LZH PP **PnPn** **20 31 43.3 +3.3**
LZH *e*S **ScP** **20 36 06.1 +5.9**
LZH sS **sS** **20 36 31.0 +1.5**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.1s
LZH LR LR
comp=N,300nm,14.5s
LZH LR LR
comp=E,340nm,15.0s
LZH LR LR
comp=Z,490nm,16.4s
RKGY Rocky Gully 39.14 193 P **P** **20 30 13.2 +1.5**
baz=39,SNR=7.8
SHL Shillong 39.98 306 *e*P **P** **20 30 19.0 0.0**
CN2 Changchun 40.02 358 *e*P **P** **20 30 18.1 -0.7**
CN2 *e*pP **pP** **20 30 36.0 -1.0**
CN2 *e*S **S** **20 36 18.0 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,300nm,4.0s
USRK Ussuriysk Arra 40.66 6 P **P** **20 30 24.8 +0.7**
comp=Z,8.8nm,0.9s,baz=172,slow=5.5,SNR=10
MDJ Mudanjiang 40.89 3 P **P** **20 30 25.8 -0.2**
MDJ pP **pP** **20 30 43.0 -1.2**
MDJ sP **sP** **20 30 51.3 -1.5**
MDJ PP **PP** **20 32 02.1 +0.4**
MDJ S **S** **20 36 30.6 -1.4**
MDJ sS **sS** **20 37 01.9 -1.3**
MDJ pmax pmax
comp=Z,29nm,1.0s
MDJ pmax pmax
comp=Z,100nm,5.0s
MDJ LR LR
comp=N,22nm,23.0s
MDJ LR LR
comp=E,42nm,19.1s
MDJ LR LR
comp=Z,39nm,20.4s
ARMA Armidale 41.35 147 P **P** **20 30 30.8 +0.7**
baz=41,SNR=5.5
LSA Lhasa 42.55 311 P **P** **20 30 39.9 -0.4**
ARPS Mount Arapiles 42.58 162 P **P** **20 30 41.2 +1.4**
baz=43,SNR=6.3
GTA Gaotai 43.21 329 *e*P **P** **20 30 45.3 +0.2**
GTA pP **pP** **20 31 03.8 +0.3**
GTA sP **sP** **20 31 12.8 +0.7**
GTA S **S** **20 37 07.5 +0.8**
GTA sS **sS** **20 37 39.1 +1.1**
GTA SS **SS** **20 40 15.7 -6.6**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,55nm,5.5s
GTA LR LR
comp=N,160nm,17.1s
GTA LR LR
comp=E,190nm,18.0s
GTA LR LR
comp=Z,240nm,17.6s
TAPN Taplejung 44.12 306 *e*P **P** **20 30 51.8 -1.0**
comp=Z,18nm,0.8s
TAPN Taplejung 44.12 306 *e*P **P** **20 30 51.8 -1.0**
comp=Z,18nm,0.8s
ODAN Odare 44.17 306 *e*P **P** **20 30 52.3 -0.9**
comp=Z,25nm,0.7s
ODAN Odare 44.17 306 *e*P **P** **20 30 52.3 -0.9**
comp=Z,25nm,0.7s
RAMN Ramite 44.85 305 *e*P **P** **20 30 57.9 -0.7**
comp=Z,14nm,0.6s
RAMN Ramite 44.85 305 *e*P **P** **20 30 57.9 -0.7**
comp=Z,14nm,0.6s
HABR Khabarovsk 45.23 8 *c*eP **P** **20 30 59.7 -1.2**
HABR *e**PP pP 20 31 08.7 -11
HABR *e* 20 31 13.0
HABR *e* 20 32 45.5
HABR *e*S **S** **20 37 37.7 +2.2**
HABR *e**SS sS 20 37 54.1 -13
HABR *e* 20 40 52.9
HABR *e*SSS SSS 20 41 49.8
HABR pmax pmax
comp=E,125nm,3.4s
HABR pmax pmax
comp=Z,115nm,2.3s
HABR pmax pmax
comp=N,600nm,2.3s
HABR MLR MLR
comp=Z,66nm,17.0s
YSS Yuzh-Sakhalins 45.32 15 *e*P **P** **20 31 02.2 +0.5**
JIRN Jiri 45.48 306 *e*P **P** **20 31 02.8 -0.9**
JIRN Jiri 45.48 306 *e*P **P** **20 31 02.8 -0.9**
KLR Kul'dur 45.63 5 *e*P P 20 30 58.6 -5.5
GUN Gumba 45.83 306 *e*P **P** **20 31 05.4 -1.1**
comp=Z,25nm,0.6s
GUN Gumba 45.83 306 *e*P **P** **20 31 05.4 -1.1**
comp=Z,25nm,0.6s
PKI Pulchoki 46.07 305 *e*P **P** **20 31 06.8 -1.6**
PKI Pulchoki 46.07 305 *e*P **P** **20 31 06.8 -1.6**
PKI Pulchoki 46.07 305 *e*P **P** **20 31 06.8 -1.6**
KKN Kakani 46.26 306 *e*P **P** **20 31 08.3 -1.4**
comp=Z,6.5nm,0.4s
DMN Daman 46.33 305 *e*P **P** **20 31 09.2 -1.1**
DMN Daman 46.33 305 *e*P **P** **20 31 09.2 -1.1**
DZM Mont Dzumac 46.43 125 P **P** **20 31 12.7 +1.8**
comp=Z,6.7nm,0.8s,baz=203,slow=17,SNR=5.1
DZM Mont Dzumac 46.43 125 P **P** **20 31 12.7 +1.8**
GKN Gorkha 46.87 306 *e*P **P** **20 31 13.0 -1.4**
comp=Z,6.3nm,0.4s
ULN Ulaanbaatar 47.23 342 *e*P **P** **20 31 15.7 -1.2**
comp=Z,6.1nm,0.8s
SONM Songino Array 47.41 341 P **P** **20 31 18.0 -0.2**
comp=Z,2.1nm,0.6s,baz=155,slow=8.7,SNR=19
SONM PcP **PcP** **20 32 49.1 +1.4**
comp=Z,2.1nm,0.8s,baz=164,slow=2.9,SNR=5.1
SONM LR LR 20 52 45.6
comp=Z,78nm,19.2s,baz=0.3,slow=38
SONM Songino Array 47.41 341 P **P** **20 31 18.0 -0.2**
SONM PcP **PcP** **20 32 49.1 +1.4**
KOLN Koldanda 47.63 305 *e*P **P** **20 31 19.5 -0.8**
comp=Z,44nm,0.5s
KOLN Koldanda 47.63 305 *e*P **P** **20 31 19.5 -0.8**
comp=Z,44nm,0.5s
DANN Dangsing 47.72 306 *e*P **P** **20 31 20.0 -1.2**
comp=Z,43nm,0.5s
DANN Dangsing 47.72 306 *e*P **P** **20 31 20.0 -1.2**
comp=Z,43nm,0.5s
PYUN Piuthan 48.25 305 *e*P **P** **20 31 24.4 -0.8**
comp=Z,27nm,0.6s
PYUN Piuthan 48.25 305 *e*P **P** **20 31 24.4 -0.8**
comp=Z,27nm,0.6s
HYB Hyderabad 49.20 290 *i*P **P** **20 31 30.0 -2.4**
ZAK Zakamensk 50.63 341 *e*P **P** **20 31 43.2 +0.4**
ZAK *e* 20 32 58.4
TLY Talaya 51.64 342 *e*P **P** **20 31 50.4 +0.2**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,59nm,21.0s
TLY Talaya 51.64 342 *e*P **P** **20 31 50.7 +0.5**
comp=Z,3.4nm,0.6s
IRK Irkutsk 51.94 343 *e*P **P** **20 31 50.5 -1.9**
IRK *e* 20 39 23.1
IRK pmax pmax
comp=Z,26nm,1.3s
MOY Mondy 52.49 340 *e*P **P** **20 31 57.3 +0.6**
WMQ Urumqi 52.84 325 *e*P **P** **20 32 00.0 +0.7**
WMQ LR LR
comp=N,75nm,20.0s
WMQ LR LR
comp=E,86nm,23.0s
WMQ LR LR
comp=Z,100nm,20.0s
BOD Bodaibo 54.97 352 *e*P **P** **20 32 14.7 +0.2**
BOD pmax pmax
comp=Z,7.0nm,1.5s
PETK Petropavlovsk- 55.50 22 P **P** **20 32 19.3 +0.9**
comp=Z,6.9nm,0.8s,baz=187,slow=5.4,SNR=8.1
PETK Petropavlovsk- 55.50 22 P **P** **20 32 19.3 +0.9**
PETK Petropavlovsk- 55.50 22 P **P** **20 32 19.3 +0.9**
MK31 Makanchi Array 57.67 325 *e*P **P** **20 32 32.6 -1.4**
MK31 Makanchi Array 57.67 325 *e*P **P** **20 32 32.6 -1.4**
MKAR Makanchi Array 57.67 325 P **P** **20 32 33.0 -0.9**
comp=Z,5.2nm,0.4s,baz=120,slow=7.4,SNR=93
MKAR Makanchi Array 57.67 325 P **P** **20 32 33.1 -0.9**
MKAR Makanchi Array 57.67 325 P **P** **20 32 33.0 -0.9**
KSH Kashi 58.15 315 P **P** **20 32 38.8 +1.2**
KSH pP **pP** **20 32 57.9 +1.1**
KSH sP **sP** **20 33 07.5 +2.3**
KSH *e*PcP **PcP** **20 33 29.6 +1.1**
KSH *e*PP **PP** **20 34 50.9 +3.8**
KSH ScP **ScP** **20 37 21.9 -0.3**
KSH PcS **PcS** **20 37 29.2 -0.9**
KSH S **S** **20 40 34.5 +0.9**
KSH sS **sS** **20 41 07.3 +1.0**
KSH ScS **ScS** **20 42 18.4 -2.3**
KSH SS **SS** **20 44 29.5 +3.2**
KSH pmax pmax
comp=Z,12nm,1.4s
KSH pmax pmax
comp=Z,71nm,5.6s
KSH LR LR
comp=N,89nm,7.0s
KSH LR LR
comp=E,120nm,5.5s
KSH LR LR
comp=Z,220nm,5.8s
YAK Yakutsk 58.30 2 *e*P **P** **20 32 38.1 +0.1**
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=N,16nm,1.1s
YAK Yakutsk 58.30 2 *e*P **P** **20 32 37.8 -0.3**
comp=N,38nm,0.9s
KZA Kyzart 59.72 318 P **P** **20 32 50.1 +1.3**
SNR=5.9
TKM2 Tokmak 2 59.86 319 *e*P **P** **20 32 48.3 -1.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 59.86 319 *e*P **P** **20 32 48.3 -1.2**
comp=Z,8.4nm,0.8s
TKM2 Tokmak 2 59.86 319 P **P** **20 32 49.0 -0.4**
SNR=13
ZAA0 Zalesovo Array 60.70 333 *e*P **P** **20 32 51.9 -2.7**
ZALV Zalesovo Beam 60.70 333 P **P** **20 32 54.3 -0.4**
comp=Z,1.9nm,0.4s,baz=131,slow=7.2,SNR=15
ZALV LR LR 21 00 56.0
comp=Z,61nm,19.3s,baz=45,slow=38
ZALV Zalesovo Beam 60.70 333 P **P** **20 32 54.3 -0.4**
ZALV Zalesovo Beam 60.70 333 P **P** **20 32 54.3 -0.4**
USP Ospenovka 60.73 319 P **P** **20 32 54.8 -0.4**
SNR=11
AML Almayashu 60.80 317 P **P** **20 32 56.1 0.0**
SNR=16
EKS2 Erkin-Say 60.96 318 *e*P **P** **20 32 56.5 -0.4**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 60.96 318 *e*P **P** **20 32 56.5 -0.4**
comp=Z,8.6nm,0.8s
EKS2 Erkin-Say 60.96 318 P **P** **20 32 56.9 0.0**
SNR=10
KBL Kabul 61.63 307 *e*P **P** **20 32 59.6 -2.0**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 61.63 307 *e*P **P** **20 32 59.6 -2.0**
comp=Z,6.4nm,0.8s
KURK Kurchatov 61.85 328⇓ *i*P **P** **20 33 01.9 -0.6**
KURK pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 61.85 328 *e*P **P** **20 33 01.1 -1.4**
comp=Z,20nm,0.6s
NVS Novosibirsk 61.98 333 *e*P **P** **20 33 01.2 -2.1**
NVS *e*S **S** **20 41 19.7 -2.2**
NVS pmax pmax
comp=Z,7.0nm,0.9s
NVS smax smax
comp=E,33nm,3.4s
SEY Seymchan 62.11 13⇑ *i*P **P** **20 33 04.7 +0.7**
FX1 Attu Island--F 62.14 30 P **P** **20 33 05.6 +1.2**
comp=E,18nm,0.8s,baz=204,slow=11,SNR=2.5
FX1 Attu Island--F 62.14 30 P **P** **20 33 05.6 +1.2**
KKAR Karatay Array 63.34 317 *e*P **P** **20 33 11.7 -1.0**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 63.34 317 *e*P **P** **20 33 11.7 -1.0**
comp=Z,6.2nm,0.6s
BVAR Borovoye Array 67.43 327 P **P** **20 33 38.4 -0.4**
comp=Z,4.4nm,0.8s,baz=126,slow=7.5,SNR=18
BVAR Borovoye Array 67.43 327 P **P** **20 33 38.4 -0.4**
BVAR Borovoye Array 67.43 327 P **P** **20 33 38.4 -0.4**
BRVK Borovoye 67.50 327⇓ *i*P **P** **20 33 38.7 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 67.50 327 *e*P **P** **20 33 38.3 -1.0**
comp=Z,13nm,0.8s
ABKAR Akbulak array 72.26 321 *e*P **P** **20 34 07.3 -1.2**
comp=Z,4.2nm,0.6s
SVE Sverdlovsk 74.07 328 *e*P **P** **20 34 19.1 0.0**
SVE pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 75.05 328 *d i*P **P** **20 34 24.2 -0.5**
ARU S **S** **20 44 00.8 +4.0**
ARU SS **SS** **20 48 44.0 -3.0**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 75.05 328 *e*P **P** **20 34 23.4 -1.3**
comp=Z,8.6nm,0.6s
ARU Arti 75.05 328 P **P** **20 34 24.5 -0.2**
comp=Z,90nm,0.6s,SNR=7.0
SDPT Sand Point 77.24 34 *e*P **P** **20 34 37.4 +0.2**
comp=Z,37nm,0.6s
ABPO Ambohimpanom 81.33 250 *e*P **P** **20 35 00.3 -0.2**
ABPO pmax pmax
comp=Z,7.0nm,0.9s
ABPO Ambohimpanom 81.33 250 *e*P **P** **20 35 00.2 -0.2**
comp=Z,7.4nm,0.9s
KDAK Kodiak Island 81.94 32 P **P** **20 35 03.8 +1.1**
comp=Z,7.8nm,0.9s,baz=136,slow=14,SNR=4.8
KDAK Kodiak Island 81.94 32 P **P** **20 35 03.8 +1.1**
ZEI Tsey 82.33 312 *e*P **P** **20 35 06.0 +0.7**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 83.09 313 P **P** **20 35 09.8 +0.9**
comp=Z,1.3nm,0.9s,baz=262,slow=22,SNR=2.3
KBZ Khabaz 83.09 313 P **P** **20 35 09.8 +0.9**
KBZ Khabaz 83.09 313 P **P** **20 35 09.8 +0.9**
VNDA Vanda 83.32 173 P **P** **20 35 10.3 +0.9**
comp=Z,1.1nm,0.6s,baz=338,slow=10,SNR=4.6
VNDA Vanda 83.32 173 P **P** **20 35 10.3 +0.9**
COLD Coldfoot 83.96 23 *e*P **P** **20 35 13.9 +1.1**
comp=Z,6.0nm,1.0s
VRHR Novokhopersk 84.15 321 *e*P **P** **20 35 13.6 -0.6**
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,1.0nm,0.4s
SML Sawmill 84.39 28 *e*P **P** **20 35 13.2 -2.1**
SML pmax pmax
comp=Z,40nm,2.3s
SML Sawmill 84.39 28 *e*P **P** **20 35 13.2 -2.1**
comp=Z,40nm,2.3s
ILAR Eielson Array 85.17 25 P **P** **20 35 19.5 +0.5**
comp=Z,0.4nm,0.5s,baz=246,slow=4.8,SNR=9.8
ILAR Eielson Array 85.17 25 P **P** **20 35 19.5 +0.5**
KLMR Klimovskoe 85.52 331 *e*P **P** **20 35 20.3 -0.5**
KLMR pmax pmax
comp=Z,23nm,0.9s
VORD Divnogorie 85.62 321 *e*P **P** **20 35 21.1 -0.4**

VORD				pmax	pmax			
	comp=N,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.7s							
VSR	**Storozhevoye**	**85.70**	**321**	*e*P	**P**	**20 35 21.3**	**-0.6**	
VSR				pmax	pmax			
	comp=E,6.0nm,0.7s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VSR				pmax	pmax			
	comp=N,4.0nm,0.8s							
OBN	**Obninsk**	**87.17**	**325**	P	**P**	**20 35 31.0**	**+2.0**	
OBN				*e*		20 35 44.3		
OBN						20 38 59.0		
OBN				pmax	pmax			
	comp=Z,30nm,1.7s							
OBN				MLR	MLR			
	comp=Z,100nm,14.0s							
JOF	**Joensuu**	**89.29**	**333**	*e*P	**P**	**20 35 37.4**	**-1.5**	
JOF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
JOF	**Joensuu**	**89.29**	**333**	*e*p	**P**	**20 35 37.4**	**-1.5**	
	comp=Z,4.5nm,0.6s							
KMBO	**Kilima Mbogo**	**89.61**	**269**	*e*P	**P**	**20 35 41.5**	**-0.3**	
	comp=Z,10nm,1.4s							
KEV	**Kevo**	**90.00**	**340**	*e*P	**P**	**20 35 41.2**	**-0.9**	
KEV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KEV	**Kevo**	**90.00**	**340**	*e*p	**P**	**20 35 41.2**	**-0.9**	
	comp=Z,0.5nm,0.4s							
BR131	**Keskin Array S**	**90.13**	**310**	P	**P**	**20 35 41.2**	**-2.4**	
	comp=Z,1.6nm,0.7s							
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**20 35 42.8**	**-0.8**	
	comp=Z,2.1nm,0.8s,baz=120,slow=5.0,SNR=11							
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**20 35 42.8**	**-0.8**	
INK	**Inuvik**	**90.23**	**21**	P	**P**	**20 35 43.5**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=279,slow=8.0,SNR=4.1							
INK	**Inuvik**	**90.23**	**21**	P	**P**	**20 35 43.5**	**+0.3**	
ARCES	**ARCESS Array B**	**90.56**	**340**	P	**P**	**20 35 44.4**	**-0.4**	
	comp=Z,3.5nm,0.5s,baz=84,slow=6.9,SNR=23							
ARCES	**ARCESS Array B**	**90.56**	**340**	P	**P**	**20 35 44.4**	**-0.4**	
KAF	**Kangasniemi**	**91.71**	**332**	*e*P	**P**	**20 35 48.4**	**-1.8**	
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**91.71**	**332**	*e*p	**P**	**20 35 48.4**	**-1.8**	
	comp=Z,1.9nm,0.6s							
FINES	**FINESS Array B**	**91.94**	**332**	P	**P**	**20 35 50.4**	**-0.9**	
	comp=Z,1.3nm,0.6s,baz=67,slow=5.5,SNR=10							
FINES	**FINESS Array B**	**91.94**	**332**	P	**P**	**20 35 50.4**	**-0.9**	
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**20 35 51.2**	**-0.6**	
	comp=Z,2.7nm,0.6s,baz=69,slow=4.4,SNR=10							
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**20 35 51.2**	**-0.6**	
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**20 35 51.2**	**-0.6**	
DLBC	**Dease Lake**	**93.80**	**31**	P	**P**	**20 36 00.7**	**+0.7**	
	comp=Z,4.0nm,1.1s,baz=322,slow=27,SNR=3.8							
DLBC	**Dease Lake**	**93.80**	**31**	P	**P**	**20 36 00.7**	**+0.7**	
TESR		**94.35**	**317**	⇑*i*P	**P**	**20 36 02.5**	**-0.3**	
VRI	**Vrincioaia**	**94.40**	**316**	⇑P	**P**	**20 36 03.3**	**+0.3**	
VRI	**Vrincioaia**	**94.40**	**316**	⇑*i*P	**P**	**20 36 03.3**	**+0.3**	
PLOR	**Plostina**	**94.46**	**316**	⇓P	**P**	**20 36 03.2**	**-0.1**	
PLOR	**Plostina**	**94.46**	**316**	⇓*i*P	**P**	**20 36 03.2**	**-0.1**	
MLR	**Muntele Rosu**	**95.01**	**316**	⇑*i*P	**P**	**20 36 06.5**	**+0.5**	
BURAR	**Bucovina Array**	**95.11**	**318**	⇓*i*P	**P**	**20 36 06.8**	**+0.4**	
BUR08	**Bucovina Ar. S**	**95.12**	**318**	*e*P	**P**	**20 36 05.6**	**-0.8**	
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	**P**	**20 36 12.3**	**-1.4**	
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	**P**	**20 36 12.3**	**-1.4**	
UZH	**Uzhgorod**	**96.81**	**320**	*e*P	**P**	**20 36 14.3**	**+0.4**	
UZH				*i*		20 36 23.5		
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*e*P	Pdif	20 36 17.4	+1.3	
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*e*P	Pdif	20 36 17.4	+1.3	
NB2	**NORSAR Subarra**	**98.90**	**334**	P	**P**	**20 36 21.8**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=67,slow=5.1							
NOA	**NORSAR Array B**	**98.90**	**334**	P	**P**	**20 36 21.9**	**-1.2**	
	comp=Z,1.7nm,0.8s,baz=66,slow=4.6,SNR=5.9							
NOA	**NORSAR Array B**	**98.90**	**334**	P	**P**	**20 36 21.9**	**-1.2**	
YKA	**Yellowknife Ar**	**99.56**	**24**	P	**Pdif**	**20 36 27.0**	**+1.1**	
	comp=Z,0.7nm,0.7s,baz=299,slow=4.6,SNR=12							
YKA	**Yellowknife Ar**	**99.56**	**24**	P	**Pdif**	**20 36 27.0**	**+1.1**	
D22A	**Cohagen**	**111.36**	**36**	⇓P	**PKiKP**	**20 41 18.0**	**+1.0**	
	baz=111							
M19A	**Rock Springs**	**112.22**	**42**	⇑P	**PKiKP**	**20 41 19.7**	**+0.7**	
	baz=112							
J22A	**Midwest**	**113.07**	**39**	⇓P	**PKiKP**	**20 41 20.9**	**+0.4**	
	baz=113							
Y24A	**Capitan**	**118.25**	**48**	⇑P	**PKPdf**	**20 41 31.1**	**+0.3**	
	baz=118							
Y25A	**Mesa, Roswell**	**118.81**	**48**	⇑P	**PKPdf**	**20 41 32.8**	**+1.0**	
	baz=119							
Z25A	**Roswell**	**119.08**	**49**	⇓P	**PKPdf**	**20 41 33.1**	**+0.9**	
	baz=119							
425A	**Indio Mountain**	**119.96**	**51**	⇑P	**PKPdf**	**20 41 35.0**	**+1.0**	
	baz=120							
MSTX	**Muleshoe**	**120.20**	**47**	⇑P	**PKPdf**	**20 41 35.5**	**+1.1**	
	baz=120							
SCHQ	**Schefferville**	**120.65**	**9**	PKP	**PKPdf**	**20 41 35.9**	**+1.4**	
	comp=Z,1.2nm,0.7s,baz=288,slow=8.2,SNR=3.7							
SCHQ	**Schefferville**	**120.65**	**9**	PKP	**PKPdf**	**20 41 35.9**	**+1.4**	
526A	**Mary Lane Ranc**	**120.97**	**52**	⇓P	**PKPdf**	**20 41 37.3**	**+1.2**	
	baz=121							
626A	**Big Bend Ranch**	**121.15**	**52**	⇓P	**PKPdf**	**20 41 37.0**	**+0.6**	
	baz=121							
527A	**Woodward Ranch**	**121.31**	**51**	⇓P	**PKPdf**	**20 41 37.8**	**+1.2**	
	baz=121							
328A	**Wristen Ranch,**	**121.38**	**50**	⇑P	**PKPdf**	**20 41 38.2**	**+1.5**	
	baz=121							
TXAR	**Lajitas Array**	**121.61**	**52**	PKP	**PKPdf**	**20 41 38.1**	**+0.9**	
	comp=Z,0.4nm,0.6s,baz=259,slow=1.8,SNR=3.3							
TXAR	**Lajitas Array**	**121.61**	**52**	PKP	**PKPdf**	**20 41 38.1**	**+0.9**	
428A	**Kincaid Ranch,**	**121.77**	**50**	⇑P	**PKPdf**	**20 41 38.8**	**+1.3**	
	baz=122							
627A	**Terlingua Ranc**	**121.78**	**52**	⇑P	**PKPdf**	**20 41 39.0**	**+1.4**	
	baz=122							
528A	**Cox Ranch, San**	**121.94**	**51**	⇓P	**PKPdf**	**20 41 39.2**	**+1.3**	
	baz=122							
529A	**Stev Forest Ra**	**122.40**	**51**	⇑P	**PKPdf**	**20 41 39.9**	**+1.2**	
	baz=122							
429A	**Davenport Ranc**	**122.42**	**50**	⇑P	**PKPdf**	**20 41 39.5**	**+0.8**	
	baz=122							
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKPdf**	**20 41 40.8**	**+0.7**	
	comp=Z,1.6nm,0.7s,baz=76,slow=1.5,SNR=9.1							
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKPdf**	**20 41 40.8**	**+0.7**	
530A	**J-C Ranch, Com**	**123.06**	**50**	⇓P	**PKPdf**	**20 41 41.4**	**+1.5**	
	baz=123							
PLCA	**Paso Flores**	**139.90**	**159**	PKP	**PKPdf**	**20 42 13.4**	**+2.0**	
	comp=Z,0.6nm,0.6s,baz=35,slow=16,SNR=3.2							
PLCA	**Paso Flores**	**139.90**	**159**	PKP	**PKPdf**	**20 42 13.4**	**+2.0**	

IDC 10 20:24:36.5±2.3, 43.65N×127.04W, h0km, mb3.0/4, mb1 3.5/7, mb1mx3.3/30, mbtmp3.1/7, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/14, Error ellipse: s-maj=44.8km s-min=16.3km az=51.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YBH	**Yreka Blue Hor**	**3.72**	**119**	Pn	Pn	20 25 35.5	+0.2
	0.6nm,0.3s,baz=274,slow=12,SNR=5.6						
YBH				Sn	Sn	20 26 19.9	-0.1
	0.7nm,0.3s,baz=61,slow=23,SNR=7.8						
NEW	**Newport**	**8.31**	**53**	LR	LR	20 29 58.6	
	comp=Z,112nm,18.7s,baz=202,slow=39						
NVAR	**Mina Array Bea**	**8.41**	**125**	Pn	Pn	20 26 41.4	+1.6
	baz=296,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**12.79**	**88**	Pn	Pn	20 27 42.9	+3.0
	0.0nm,0.3s,baz=286,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**20.24**	**17**	P	Pn	20 29 14.3	-0.4
	0.2nm,0.7s,baz=205,slow=11,SNR=4.3						
ULM	**Lac du Bonnet**	**22.17**	**62**	P	P	20 29 35.8	+1.9
	1.3nm,0.7s,baz=284,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**23.50**	**120**	P	P	20 29 50.0	+1.9
	0.2nm,0.4s,baz=338,slow=7.0,SNR=3.0						
ILAR	**Eielson Array**	**23.93**	**339**	P	P	20 29 50.4	-1.5
	0.4nm,0.8s,baz=159,slow=7.9,SNR=5.7						

SKHL 10 20:31:03.4±0.6, 53.59N×125.96E, h7km±2km, mb4.0/5, 1C-2D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.78**	**79**	⇓*i*Pg	Pg	20 31 18.6	+0.1
ZEA				AMB	AMB	20 31 19.3	
	160nm,0.2s						
ZEA				*e*Sg	Sb	20 31 29.5	-0.7
ZEA				A	A	20 31 30.9	
	210nm,0.4s						
ZEA				A	A	20 31 30.9	
	240nm,0.4s						
ZEA				A	A	20 31 30.9	
	97nm,0.4s						
KROS	**Kirovskiy**	**1.03**	**35**	⇑*i*Pg	Pg	20 31 21.9	-1.4
KROS				AMB	AMB	20 31 22.2	
	34nm,0.2s						
KROS				AMB	AMB	20 31 22.2	
	30nm,0.2s						
KROS				AMB	AMB	20 31 22.2	
	47nm,0.2s						
KROS				pPg	Pn	20 31 24.4	0.0
KROS				sPg	Sg	20 31 26.7	-10
KROS				*e*Sg	Sb	20 31 35.1	-2.4
KROS				A	A	20 31 36.0	
	320nm,0.3s						
KROS				A	A	20 31 36.0	
	98nm,0.3s						
YASR	**Yasnyy**	**1.25**	**103**	⇓*i*Pg	Pn	20 31 25.2	-2.0
YASR				AMB	AMB	20 31 25.4	
	18nm,0.2s						
YASR				AMB	AMB	20 31 25.4	
	90nm,0.2s						
YASR				AMB	AMB	20 31 25.4	
	100nm,0.2s						
YASR				pPg	Pb	20 31 26.4	-0.8
YASR				*e*Sg	Sg	20 31 41.6	-1.9
YASR				A	A	20 31 44.6	
	83nm,0.5s						
YASR				A	A	20 31 44.6	
	130nm,0.5s						
TUP	**Tupik**	**3.64**	**286**	*e*Pn	Pn	20 32 03.5	+3.3
TUP				*e*Pg	Pg	20 32 11.7	-1.5
TUP				AMB	AMB	20 32 14.6	
	5.0nm,0.5s						
TUP				*e*Sg	Sg	20 32 57.5	-2.9
TUP				A	A	20 33 04.3	
	26nm,0.8s						
EKMR	**Ekimchan**	**4.22**	**94**	*e*Pg	Pb	20 32 18.9	+0.9
EKMR				AMB	AMB	20 32 34.6	
	4.0nm,0.7s						
EKMR				*e*Sg	Sg	20 33 15.7	-3.4
EKMR				A	A	20 33 26.9	
	15nm,0.5s						
EKMR				A	A	20 33 26.9	
	7.0nm,0.5s						

IDC 10 20:32:27.4±1.7, 10.09N×104.27W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/21, mbtmp3.9/10, ML3.0/1, MS3.9/22, Ms1 3.9/22, ms1mx3.8/33, Error ellipse: s-maj=54.3km s-min=21.0km az=57.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**11.48**	**52**	Pn	Pn	20 35 13.3	+0.6
	0.1nm,0.3s,baz=222,slow=12,SNR=16						
CMIG				LR	LR	20 38 33.0	
	comp=Z,710nm,21.1s,baz=217,slow=32						
LPIG	**La Paz**	**15.08**	**338**	LR	LR	20 40 22.8	
	comp=Z,86nm,19.9s,baz=28,slow=32						
TEIG	**Tepich**	**18.42**	**55**	LR	LR	20 43 02.3	
	comp=Z,202nm,19.1s,baz=109,slow=34						
JTS	**JuntasAbangare**	**19.02**	**88**	LR	LR	20 42 04.1	
	comp=Z,446nm,21.2s,baz=153,slow=30						
TXAR	**Lajitas Array**	**19.16**	**2**	P	Pn	20 36 56.5	+3.1
	0.2nm,0.3s,baz=181,slow=12,SNR=11						
TXAR				LR	LR	20 44 10.7	
	comp=Z,251nm,20.3s,baz=60,slow=37						
ANMO	**Albuquerque**	**24.82**	**356**	P	P	20 37 53.3	+1.6
	1.1nm,0.6s,baz=150,slow=1.2,SNR=3.8						
ROSC	**El Rosal**	**30.13**	**98**	LR	LR	20 47 36.2	
	comp=Z,225nm,21.0s,baz=350,slow=30						
NVAR	**Mina Array Bea**	**30.90**	**338**	P	P	20 38 52.6	+6.5
	0.6nm,0.8s,baz=181,slow=8.9,SNR=3.4						
ATAH	**Atahualpa**	**30.93**	**123**	LR		20 48 38.5	
	comp=Z,945nm,18.1s,baz=322,slow=31						
TKL	**Tuckaleechee C**	**31.55**	**33**	LR	LR	20 54 43.7	
	comp=Z,98nm,19.1s,baz=33,slow=42						
PDAR	**Pinedale Array**	**32.88**	**353**	P	P	20 39 04.1	+0.6
	0.7nm,0.9s,baz=181,slow=8.9,SNR=3.8						
ULM	**Lac du Bonnet**	**40.64**	**8**	P	P	20 40 08.5	-0.7
	0.7nm,0.4s,baz=212,slow=6.6,SNR=3.7						
ULM				LR	LR	20 57 11.3	
	comp=Z,216nm,19.4s,baz=179,slow=36						
SADO	**Sadowa**	**40.78**	**28**	LR	LR	20 56 31.3	
	comp=Z,131nm,21.3s,baz=178,slow=35						
LPAZ	**La Paz**	**44.34**	**126**	P	P	20 40 40.3	-0.2
	2.6nm,1.0s,baz=352,slow=8.9,SNR=6.5						
LPAZ				LR	LR	20 57 24.2	
	comp=Z,133nm,21.6s,baz=268,slow=34						
RKT	**Rikitea**	**44.63**	**222**	*e*T	T	21 28 12.8	
	7.1nm,0.3s						
BBB	**Bella Bella**	**46.24**	**340**	LR	LR	21 01 22.0	
	comp=Z,100nm,18.0s,baz=312,slow=38						
SIV	**San Ignacio**	**50.00**	**121**	P	P	20 41 24.2	+0.2
	0.7nm,0.4s,baz=328,slow=13,SNR=3.8						
PPT2	**Papeete2**	**52.53**	**239**	*e*LR	LR	20 56 43.0	
	143nm,26.0s						
YKA	**Yellowknife Ar**	**52.85**	**354**	P	P	20 41 43.7	-0.9
	0.4nm,0.6s,baz=165,slow=8.1,SNR=11						
SCHQ	**Schefferville**	**53.54**	**26**	P	P	20 41 49.0	-0.8
	3.0nm,0.9s,baz=230,slow=4.5,SNR=4.0						
SCHQ				LR	LR	21 05 00.6	
	comp=Z,98nm,18.8s,baz=152,slow=36						
FRB	**Frobisher Bay**	**59.24**	**18**	LR	LR	21 11 53.4	
	comp=Z,72nm,19.3s,baz=236,slow=40						
PLCA	**Paso Flores**	**59.38**	**151**	LR	LR	21 02 14.3	
	comp=Z,202nm,19.0s,baz=99,slow=30						
INK	**Inuvik**	**61.25**	**348**	P	P	20 42 44.1	0.0
	1.6nm,0.9s,baz=149,slow=8.4,SNR=4.5						
BDFB	**Brasilia**	**61.29**	**114**	LR	LR	21 07 33.8	
	comp=Z,300nm,19.2s,baz=329,slow=34						
ILAR	**Eielson Array**	**62.11**	**341**	P	P	20 42 49.9	-0.1
	0.7nm,0.8s,baz=140,slow=4.5,SNR=4.9						
FX1	**Attu Island--F**	**77.55**	**322**	LR	LR	21 11 51.3	
	comp=Z,73nm,19.5s,baz=9.8,slow=30						
PETK	**Petropavlovsk-**	**86.80**	**323**	LR	LR	21 16 39.1	
	comp=Z,40nm,18.3s,baz=272,slow=31						
ESDC	**Sonseca Array**	**91.45**	**49**	LR	LR	21 26 32.2	
	comp=Z,59nm,18.9s,baz=335,slow=36						
ARCES	**ARCESS Array B**	**93.37**	**16**	LR	LR	21 27 06.4	
	comp=Z,78nm,19.2s,baz=343,slow=35						
HNR	**Honiara**	**97.25**	**262**	LR	LR	21 21 19.2	
	comp=Z,110nm,18.6s,baz=76,slow=30						
FINES	**FINESS Array B**	**98.84**	**22**	LR	LR	21 28 41.6	
	comp=Z,86nm,19.1s,baz=320,slow=34						

IDC 10 20:39:56.4±4.4, 1.73S×140.40E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=182.6km s-min=25.9km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.04**	**198**	P	P	20 44 19.8	-0.5
	0.3nm,0.3s,baz=21,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**22.70**	**196**	P	P	20 44 59.9	+0.1
	0.7nm,0.7s,baz=25,slow=9.3,SNR=8.2						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	20 51 10.2	-0.2
	0.2nm,0.4s,baz=105,slow=7.8,SNR=6.8						
BVAR	**Borovoye Array**	**79.49**	**325**	P	P	20 52 05.2	+0.3
	0.3nm,0.5s,baz=104,slow=6.1,SNR=3.1						

IDC 10 20:42:55.0±4.7, 1.85S×138.65E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.3/3, Error ellipse: s-maj=190.9km s-min=30.0km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.46**	**193**	P	Pn	20 47 13.1	+0.5
	0.2nm,0.3s,baz=12,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**22.17**	**192**	P	P	20 47 52.4	-0.4
	0.6nm,0.7s,baz=27,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**69.08**	**322**	P	P	20 54 02.8	-0.1
	0.1nm,0.5s,baz=102,slow=6.7,SNR=4.2						

IDC 10 20:43:49.5±2.1, 1.85S×139.05E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=63.5km s-min=27.6km az=79.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.57**	**194**	P	P	20 48 07.2	-0.9
	0.3nm,0.3s,baz=16,slow=12,SNR=9.6						
CTA	**Charters Tower**	**19.45**	**159**	P	P	20 48 18.0	+0.2
	0.2nm,0.3s,baz=331,slow=10,SNR=2.4						
FITZ	**Fitzroy Crossi**	**20.84**	**218**	P	Pn	20 48 34.8	-0.6
	0.8nm,0.7s,baz=17,slow=17,SNR=2.7						
ASAR	**Alice Springs**	**22.26**	**193**	P	P	20 48 47.4	-0.8
	3.1nm,0.9s,baz=23,slow=10,SNR=16						
STKA	**Stephens Creek**	**29.97**	**176**	P	P	20 50 00.3	+0.6
	1.9nm,0.8s,baz=21,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**69.32**	**322**	P	P	20 54 58.3	-0.6
	0.2nm,0.6s,baz=111,slow=7.7,SNR=2.7						

IDC 10 20:46:01.4±1.4, 4.15N×127.24E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=103.0km s-min=19.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.17**	**184**	P	P	20 50 57.9	-1.3
	0.4nm,0.4s,baz=4.6,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**24.94**	**164**	P	P	20 51 25.7	-0.9
	1.7nm,0.6s,baz=345,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**28.40**	**167**	P	P	20 51 59.7	+1.8
	0.2nm,0.3s,baz=343,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	20 53 24.1	-0.1
	2.4nm,1.0s,baz=349,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	20 55 52.8	+0.3
	0.1nm,0.4s,baz=120,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	P	20 56 12.5	-0.3
	0.2nm,0.4s,baz=148,slow=7.2,SNR=2.6						

*THE **10** 20:52:21.8, 41.50N×19.72E, h10km±1km, ML2.9/1, Error ellipse: s-maj=3.7km s-min=1.6km az=289.0*
*TIR **10** 20:52:22.9, 41.34N×20.48E, h2km, ML2.5*
*BEO **10** 20:52:23.3±0.8, 41.24N×19.94E, h3km±2km, ML2.4/6*
*SKO **10** 20:52:24.8, 41.42N×19.88E, h5km, M2.0, ML2.4*
*PDG **10** 20:52:24.0±0.4, 41.40N×20.00E, h3km±1km, ML2.6/10, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
*CSEM **10** 20:52:24.3±0.3, 41.34N×19.95E, h2km, ML2.4, Error ellipse: s-maj=5.7km s-min=3.3km az=36.0*

ISC 10 20:52:23.9±1.1, 41.42N±0.02×20.00E±0.02, h2km±10km, n66, σ1839/116, 9C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.12**	**237**	*e*PG	**Pg**	**20 52 26.1**	**-0.2**
TIR				*i* SG	**Sg**	**20 52 28.3**	**+0.4**
TIR	**Tirane**	**0.12**	**237**	P	**Pg**	**20 52 26.1**	**-0.2**
TIR				S	**Sg**	**20 52 28.5**	**+0.6**
TIR	**Tirane**	**0.12**	**237**	*e*Pg	**Pg**	**20 52 26.1**	**-0.2**
TIR				*e*Sg	**Sg**	**20 52 28.2**	**+0.4**
TIR	**Tirane**	**0.12**	**237**	P	**Pg**	**20 52 26.1**	**-0.2**
TIR				*e*Sg	**Sg**	**20 52 28.2**	**+0.4**
TIR				S		20 52 28.5	
PHP	**Peshkopia**	**0.43**	**51**	*e*PG	**Pb**	**20 52 32.9**	**-1.3**
PHP				*i* SG	**Sb**	**20 52 40.6**	**-0.6**
PHP	**Peshkopia**	**0.43**	**51**	P	**Pb**	**20 52 33.0**	**-1.3**
PHP				S	**Sb**	**20 52 40.9**	**-0.3**
PHP	**Peshkopia**	**0.43**	**51**	P	**Pb**	**20 52 33.0**	**-1.3**
PHP				*i* Sg	**Sb**	**20 52 40.6**	**-0.6**
PHP				S	**Sb**	**20 52 40.9**	**-0.3**
PUK	**Puka**	**0.63**	**353**	*e*PG	**Pb**	**20 52 36.6**	**-1.2**
PUK				*i* SG	**Sb**	**20 52 47.4**	**+0.3**
PUK	**Puka**	**0.63**	**353**	*e*Pg	**Pb**	**20 52 36.6**	**-1.2**
PUK				*i* Sg	**Sb**	**20 52 47.4**	**+0.3**
ULC	**Ulcinj**	**0.79**	**314**	⇓*i*Pg	**Pg**	**20 52 38.2**	**-0.8**
ULC				*e*Sg	**Sb**	**20 52 51.1**	**-0.4**
ULC	**Ulcinj**	**0.79**	**314**	⇓*i*Pg	**Pg**	**20 52 38.2**	**-0.8**
ULC				*e*Sg	**Sb**	**20 52 51.1**	**-0.4**
BCI	**Bajram Curri**	**0.95**	**3**	*e*PG	**Pg**	**20 52 42.0**	**-0.2**
BCI	**Bajram Curri**	**0.95**	**3**	*e*Pg	**Pg**	**20 52 42.0**	**-0.2**
BIA	**Bitola**	**1.07**	**111**	P	**Pg**	**20 52 44.1**	**-0.4**
BIA				S	**Sn**	**20 53 03.8**	**+2.2**
BIA	**Bitola**	**1.07**	**111**	*e*Pg	**Pn**	**20 52 45.8**	**-0.3**
BIA				*e*Sg	**Sn**	**20 53 01.9**	**+0.3**
BIA	**Bitola**	**1.07**	**111**	P	**Pg**	**20 52 44.1**	**-0.4**
BIA	**Bitola**	**1.07**	**111**	*e*Pg	**Pn**	**20 52 45.8**	**-0.3**
BIA				*e*Sg	**Sn**	**20 53 01.9**	**+0.3**
TTG	**Podgorica**	**1.15**	**332**	⇑*i*Pg	**Pb**	**20 52 44.8**	**-1.8**
TTG				*e*Sg	**Sn**	**20 53 03.5**	**0.0**
PDG	**Podgorica**	**1.16**	**332**	*e*Pg	**Pb**	**20 52 44.9**	**-1.7**
PDG				*e*Sg	**Sn**	**20 53 04.4**	**+0.8**
PDG	**Podgorica**	**1.16**	**332**	⇑*i*Pg	**Pb**	**20 52 44.8**	**-1.8**
PDG				*e*Sg	**Sn**	**20 53 03.5**	**-0.1**
PVY	**Plav**	**1.18**	**359**	⇓*i*Pg	**Pb**	**

VTS	**Vitosha**	**2.67**	**63**	*e*Pn	**Pn**	**20 53 08.7**	**+0.7**
VTS	**Vitosha**	**2.67**	**63**	*e*Pn	**Pn**	**20 53 08.7**	**+0.7**
DIVS	**Divibare**	**2.68**	**360**	*e*Pn	**Pb**	**20 53 09.6**	**-3.1**
DIVS				*e*Sn	**Sn**	**20 53 41.6**	**+0.3**
DIVS	**Divibare**	**2.68**	**360**	*e*Pn	**Pb**	**20 53 09.6**	**-3.1**
DIVS				*e*Sn	**Sn**	**20 53 41.6**	**+0.3**
ZAPS	**Zavoj**	**2.69**	**46**	*e*Pn	**Pb**	**20 53 10.5**	**-2.4**
ZAPS				*e*Sn	**Sb**	**20 53 43.3**	**-3.1**
ZAPS	**Zavoj**	**2.69**	**46**	*e*Pn	**Pb**	**20 53 10.5**	**-2.4**
ZAPS				*e*Sn	**Sb**	**20 53 43.3**	**-3.1**
BZS	**Buzias**	**4.36**	**15**	⇓*i*P	**Pn**	**20 53 33.0**	**+1.8**
BZS	**Buzias**	**4.36**	**15**	S	**Sn**	**20 54 24.0**	**+1.4**
BZS	**Buzias**	**4.36**	**15**	*e*Pn	**Pn**	**20 53 32.8**	**+1.6**
BZS	**Buzias**	**4.36**	**15**	*e*Pn	**Pn**	**20 53 32.8**	**+1.6**

MEX 10 21:00:18.4±0.6, **19.76N**×**104.34W**, **h4**km±7km, **MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.68**	**150**	*e*P	Pg	21 00 30.5	-1.0
R15V				*i* S	Sg	21 00 40.3	-0.1
CJM	**Chamela**	**0.71**	**248**	*e*P	Pg	21 00 31.4	-0.8
CJM				*i* Sg	Sg	21 00 40.5	-0.9
EZ5V		**0.75**	**112**	*e*P	Pg	21 00 31.6	-1.6
EZ5V				*i* S	Sg	21 00 42.6	-0.6
ANIG	**Ahuacatlan**	**1.29**	**353**	*i* P	Pg	21 00 39.9	-3.5
ANIG				*i* S	Sg	21 00 56.0	-4.4
SFJM	**Santa Fe**	**1.42**	**59**	*i* P	Pn	21 00 41.4	-3.8
SFJM				*i* S	Sb	21 00 59.2	-5.1
MMIG	**Aquila**	**1.74**	**147**	*i* P	Pn	21 00 47.7	-1.8
MMIG				*i* S	Sn	21 01 07.8	-4.3

ISK ***10*** *21:02:15.3, 38.28N×26.57E, h5km, MD3.4*
DDA ***10*** *21:02:15.6, 38.27N×26.56E, h18km, MD3.2*
ISCJB ***10*** *21:02:16.3±0.6, 38.25N±0.02×26.53E±0.04, h7km±4km, Error ellipse: s-maj=5.2km s-min=3.6km az=145.5*
ATH ***10*** *21:02:16.3, 38.27N×26.34E, h41km±2km, MD3.2/4*
CSEM ***10*** *21:02:16.5±0.2, 38.27N×26.57E, h2km, MD3.2, Error ellipse: s-maj=4.7km s-min=3.2km az=57.0*
ISC 10 21:02:16.0±0.8, **38.30N**±0.02×**26.58E**±0.02, **h17**km±5km, **n66**, σ0.98/85, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.06**	**12**	*i* P	**Pg**	**21 02 19.1**	**-0.1**
URLA				*i* S	**Sg**	**21 02 21.7**	**+0.4**
URLA	**Izmir**	**0.06**	**12**	*i* P	**Pg**	**21 02 19.1**	**-0.1**
URLA				*i* S	**Sg**	**21 02 21.7**	**+0.4**
BLCB	**Balcova**	**0.37**	**77**	PG	**Pb**	**21 02 24.1**	**-0.1**
BLCB				SG	**Sb**	**21 02 30.6**	**+0.9**
BLCB	**Balcova**	**0.37**	**77**	*i* Pg	**Pb**	**21 02 24.1**	**-0.1**
BLCB				*i* Sg	**Sb**	**21 02 30.6**	**+0.9**
CHOS	**Chios island**	**0.42**	**282**	*e*P	**Pg**	**21 02 24.6**	**0.0**
CHOS				*e*S	**Sg**	**21 02 30.6**	**+0.2**
CHOS	**Chios island**	**0.42**	**282**	*e*P	**Pg**	**21 02 24.6**	**0.0**
CHOS				*e*S	**Sg**	**21 02 30.6**	**+0.2**
IZM	**Izmir**	**0.55**	**80**	PG	**Pb**	**21 02 27.3**	**+0.1**
IZM	**Izmir**	**0.55**	**80**	*i* Pg	**Pb**	**21 02 27.3**	**+0.1**
GCAM	**G?zelcaml?**	**0.79**	**139**	*i* P	**Pg**	**21 02 31.6**	**+0.2**
GCAM				*i* S	**Sn**	**21 02 43.0**	**-0.8**
GCAM	**G?zelcaml?**	**0.79**	**139**	*i* P	**Pg**	**21 02 31.6**	**+0.2**
GCAM				*i* S	**Sn**	**21 02 43.0**	**-0.8**
PRK	**Paraskevi**	**0.97**	**346**	*e*P	**Pn**	**21 02 34.6**	**-0.3**
PRK				*e*S	**Sn**	**21 02 48.5**	**+0.2**
PRK	**Paraskevi**	**0.97**	**346**	*e*P	**Pn**	**21 02 34.6**	**-0.3**
PRK				*e*S	**Sn**	**21 02 48.5**	**+0.2**
AYVA	**Ayvalik**	**1.01**	**5**	*i* P	**Pb**	**21 02 35.0**	**0.0**
AYVA				*i* S	**Sn**	**21 02 51.4**	**+2.2**
AYVA	**Ayvalik**	**1.01**	**5**	*i* P	**Pb**	**21 02 35.0**	**0.0**
AYVA				*i* S	**Sn**	**21 02 51.4**	**+2.2**
AKS	**Akhisar**	**1.12**	**59**	*e*PN	**Pg**	**21 02 37.6**	**-0.1**
AKS	**Akhisar**	**1.12**	**59**	*e*Pn	**Pg**	**21 02 37.6**	**-0.1**
AYDN	**Tasoluk**	**1.21**	**122**	*i* P	**Pn**	**21 02 38.3**	**+0.1**
AYDN				*i* S	**Sn**	**21 02 54.3**	**0.0**
AYDN	**Tasoluk**	**1.21**	**122**	*i* P	**Pn**	**21 02 38.3**	**+0.1**
AYDN				*i* S	**Sn**	**21 02 54.3**	**0.0**
BODT	**Bodrum**	**1.37**	**155**	*e*PN	**Pg**	**21 02 42.2**	**-0.1**
BODT				*e*SN	**Sg**	**21 03 01.9**	**+1.8**
BODT	**Bodrum**	**1.37**	**155**	*e*Pn	**Pg**	**21 02 42.2**	**-0.1**
BODT				*e*Sn	**Sg**	**21 03 01.9**	**+1.8**
MLSB	**Milas**	**1.38**	**136**	*e*PN	**Pg**	**21 02 42.9**	**+0.3**
MLSB	**Milas**	**1.38**	**136**	*e*Pn	**Pg**	**21 02 42.9**	**+0.3**
BDRM	**Kayabasi**	**1.41**	**151**	*i* P	**Pb**	**21 02 42.1**	**+0.2**
BDRM				*i* S	**Sn**	**21 02 57.7**	**-1.5**
BDRM	**Kayabasi**	**1.41**	**151**	*i* P	**Pb**	**21 02 42.1**	**+0.2**
APE	**Apeiranthos**	**1.49**	**214**	*e*PN	**Pb**	**21 02 43.8**	**+0.6**
APE	**Apeiranthos**	**1.49**	**214**	*e*P	**Pn**	**21 02 40.4**	**-1.6**
APE	**Apeiranthos**	**1.49**	**214**	*e*P	**Pn**	**21 02 40.4**	**-1.6**
APE	**Apeiranthos**	**1.49**	**214**	*e*Pn	**Pb**	**21 02 43.8**	**+0.6**
EZN	**Ezine**	**1.54**	**353**	*e*PN	**Pg**	**21 02 45.1**	**-0.4**
EZN	**Ezine**	**1.54**	**353**	*e*Pn	**Pg**	**21 02 45.1**	**-0.4**
MANT	**Manisa**	**1.57**	**82**	*i* P	**Pb**	**21 02 45.5**	**+0.8**
MANT				*i* S	**Sg**	**21 03 06.5**	**0.0**
MANT	**Manisa**	**1.57**	**82**	*i* P	**Pb**	**21 02 45.5**	**+0.8**
MANT				*i* S	**Sg**	**21 03 06.5**	**0.0**
BALY	**Balya**	**1.65**	**29**	*i* P	**Pb**	**21 02 45.1**	**-0.9**
BALY				*i* S	**Sg**	**21 03 10.3**	**+1.2**
BALY	**Balya**	**1.65**	**29**	*i* P	**Pb**	**21 02 45.1**	**-0.9**
BALY				*i* S	**Sg**	**21 03 10.3**	**+1.2**
KULA	**Kula-Manisa**	**1.65**	**82**	*e*PN	**Pb**	**21 02 47.0**	**+1.0**
KULA	**Kula-Manisa**	**1.65**	**82**	*e*Pn	**Pb**	**21 02 47.0**	**+1.0**
BALB	**Balikesir**	**1.68**	**37**	*e*PN	**Pb**	**21 02 47.2**	**+0.8**
BALB	**Balikesir**	**1.68**	**37**	*e*Pn	**Pb**	**21 02 47.2**	**+0.8**
LIA	**Limnos Island**	**1.93**	**326**	*e*P	**Pn**	**21 02 48.1**	**+0.1**
LIA	**Limnos Island**	**1.93**	**326**	*e*P	**Pn**	**21 02 48.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.94**	**26**	*e*PN	**Pb**	**21 02 51.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.94**	**26**	*e*Pn	**Pb**	**21 02 51.0**	**+0.1**
DST	**Dursunbey**	**2.05**	**50**	*e*PN	**Pb**	**21 02 52.4**	**-0.5**
DST	**Dursunbey**	**2.05**	**50**	*e*Pn	**Pb**	**21 02 52.4**	**-0.5**
LPK	**Lapseki**	**2.07**	**4**	*e*PN	**Pb**	**21 02 52.8**	**-0.4**
LPK	**Lapseki**	**2.07**	**4**	*e*Pn	**Pb**	**21 02 52.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.10**	**358**	*e*PN	**Pb**	**21 02 53.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.10**	**358**	*e*Pn	**Pb**	**21 02 53.1**	**-0.4**
KRBG	**Karabiga-Canak**	**2.16**	**15**	*e*PN	**Pb**	**21 02 54.4**	**-0.3**
KRBG	**Karabiga-Canak**	**2.16**	**15**	*e*Pn	**Pb**	**21 02 54.4**	**-0.3**
EDC	**Edincik**	**2.27**	**26**	*e*PN	**Pb**	**21 02 55.9**	**-0.6**
EDC	**Edincik**	**2.27**	**26**	*e*Pn	**Pb**	**21 02 55.9**	**-0.6**
BNT	**Bandirma**	**2.30**	**26**	*e*PN	**Pb**	**21 02 56.1**	**-0.9**
BNT	**Bandirma**	**2.30**	**26**	*e*Pn	**Pb**	**21 02 56.1**	**-0.9**
KHL	**Karahalli**	**2.32**	**89**	*e*PN	**Pb**	**21 02 56.1**	**-1.2**
KHL	**Karahalli**	**2.32**	**89**	*e*Pn	**Pb**	**21 02 56.1**	**-1.2**
ENEZ	**Enez**	**2.45**	**352**	*e*PN	**Pb**	**21 02 58.5**	**-1.2**
ENEZ	**Enez**	**2.45**	**352**	*e*Pn	**Pb**	**21 02 58.5**	**-1.2**
TVSB	**Tavsanli**	**2.52**	**62**	*e*PN	**Pb**	**21 02 59.6**	**-1.3**
TVSB	**Tavsanli**	**2.52**	**62**	*e*Pn	**Pb**	**21 02 59.6**	**-1.3**
ARMT	**Armutlu**	**2.87**	**37**	*e*PN	**Pb**	**21 03 04.5**	**-2.2**
ARMT	**Armutlu**	**2.87**	**37**	*e*Pn	**Pb**	**21 03 04.6**	**-2.2**
SHUT	**Suhut-Afyon**	**3.13**	**84**	*e*PN	**Pb**	**21 03 08.3**	**-2.9**
SHUT	**Suhut-Afyon**	**3.13**	**84**	*e*Pn	**Pb**	**21 03 08.3**	**-2.9**
EDRB	**Edirne**	**3.54**	**2**	*e*PN	Pb	21 03 14.1	-4.1
EDRB	**Edirne**	**3.54**	**2**	*e*Pn	Pb	21 03 14.1	-4.1

IDC 10 21:21:57.2±1.2, **21.61S**×**174.62W**, **h0**km, **mb4.1**/8, **mb1 4.2**/8, **mb1mx4.0**/22, **mbtmp4.0**/8, **MS3.7**/2, **Ms1 3.7**/2, **ms1mx3.1**/28, **Error ellipse: s-maj=38.9km s-min=30.1km az=122.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.12**	**20**	Pn	Pn	21 23 52.1	-4.5
	5.2nm,0.3s,baz=258,slow=21,SNR=3.8						
AFI				Sn	Sn	21 25 16.5	-13
	7.2nm,0.3s,baz=12,slow=20,SNR=3.5						
RAR	**Rarotonga**	**13.83**	**91**	Pn	Pn	21 25 07.0	-7.7
	5.4nm,0.3s,baz=284,slow=23,SNR=3.8						
DZM	**Mont Dzumac**	**17.59**	**265**	LR	LR	21 31 13.5	
	comp=Z,238nm,18.1s,baz=158,slow=32						
HNR	**Honiara**	**27.28**	**292**	LR	LR	21 36 19.2	
	comp=Z,120nm,18.9s,baz=66,slow=32						
ASAR	**Alice Springs**	**47.35**	**257**	P	P	21 30 33.0	-0.3
	1.1nm,0.8s,baz=93,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**47.58**	**262**	P	P	21 30 34.3	-0.8
	0.5nm,0.3s,baz=95,slow=8.4,SNR=28						
FITZ	**Fitzroy Crossi**	**56.01**	**262**	P	P	21 31 38.4	+0.3
	1.5nm,0.9s,baz=131,slow=9.3,SNR=2.2						
QSPA	**South Pole Qui**	**68.47**	**180**	P	P	21 33 01.3	+0.2
	1.6nm,0.9s,baz=149,slow=3.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**73.00**	**322**	P	P	21 33 29.0	+0.1
	1.6nm,0.6s,baz=162,slow=6.7,SNR=5.6						
PETK	**Petropavlovsk-**	**78.19**	**343**	P	P	21 33 58.3	0.0
	1.8nm,0.6s,baz=132,slow=6.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	P	21 35 16.3	+1.1
	0.4nm,0.7s,baz=124,slow=3.5,SNR=5.0						
YKA	**Yellowknife Ar**	**96.22**	**24**	P	P	21 35 26.0	-0.8
	0.1nm,0.3s,baz=248,slow=4.6,SNR=3.3						
AKASG	**Malin Array Be**	**145.47**	**333**	PKPbc	PKPbc	21 41 36.2	-0.9
	0.7nm,0.4s,baz=41,slow=4.1,SNR=4.5						
BRTR	**Keskin Array B**	**149.91**	**313**	PKPbc	PKPbc	21 41 49.2	-0.7
	0.4nm,0.6s,baz=346,slow=7.9,SNR=3.6						

IDC 10 21:32:06.9±1.4, **1.88S**×**139.65E**, **h0**km, **mb3.6**/4, **mb1 3.8**/5, **mb1mx3.6**/18, **mbtmp3.6**/5, **ML3.7**/1, **Error ellipse: s-maj=65.9km s-min=24.1km az=95.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.69**	**196**	P	P	21 36 25.9	-1.1
	0.2nm,0.3s,baz=20,slow=12,SNR=17						
ASAR	**Alice Springs**	**22.36**	**194**	P	P	21 37 07.5	+0.7
	2.1nm,0.8s,baz=27,slow=10,SNR=21						
MKAR	**Makanchi Array**	**69.71**	**322**	P	P	21 43 18.3	-0.5
	0.4nm,0.8s,baz=107,slow=7.6,SNR=4.7						
BVAR	**Borovoye Array**	**79.17**	**325**	P	P	21 44 13.3	-0.3
	0.5nm,0.7s,baz=123,slow=4.0,SNR=4.0						
ILAR	**Eielson Array**	**84.69**	**24**	P	P	21 44 43.1	+0.7
	0.4nm,0.9s,baz=248,slow=5.5,SNR=2.7						

IDC 10 21:44:11.8±1.3, **4.06N**×**127.29E**, **h0**km, **mb3.5**/6, **mb1 3.6**/6, **mb1mx3.5**/23, **mbtmp3.5**/6, **Error ellipse: s-maj=83.1km s-min=20.0km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.84**	**164**	P	P	21 49 35.7	-0.5
	0.9nm,0.6s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.31**	**167**	P	P	21 50 08.0	+0.6
	0.3nm,0.5s,baz=343,slow=9.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**31.19**	**300**	P	P	21 50 33.2	+0.1
	0.3nm,0.7s,baz=107,slow=8.0,SNR=3.1						
SONM	**Songino Array**	**47.16**	**341**	P	P	21 52 46.2	0.0
	0.3nm,0.6s,baz=154,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	21 54 02.7	-1.0
	0.6nm,0.4s,baz=118,slow=8.0,SNR=16						
BVAR	**Borovoye Array**	**67.35**	**327**	P	P	21 55 09.6	+0.9
	0.2nm,0.5s,baz=93,slow=5.8,SNR=2.9						

IDC ***10*** *21:47:01.4±0.8, 3.89N×82.54W, h0km, mb3.9/14, mb1 4.2/17, mb1mx4.1/29, mbtmp4.1/17, ML4.1/3, MS3.8/23, Ms1 3.9/23, ms1mx3.7/44, Error ellipse: s-maj=39.2km s-min=12.8km az=61.0*
NEIC ***10*** *21:47:03.0±0.5, 3.74N×82.85W, h10km, mb4.7/11, Error ellipse: s-maj=12.8km s-min=7.8km az=60.0*
ISCJB ***10*** *21:47:05.5±0.2, 3.80N±0.04×82.72W±0.04, h33km, mb4.2/24, MS3.9/19, Error ellipse: s-maj=7.2km s-min=4.0km az=142.3*
ISC 10 21:47:07.0±0.4, **3.75N**±0.06×**82.82W**±0.08, **h35**km, **n219, σ1.20/213, mb4.3/24, MS4.0/19, 69C-62D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.59**	**129**	*e*Pn	Pn	21 48 23.1	-5.0
	16nm,0.6s						
OTAV				*e*Sn	**Sn**	**21 49 33.1**	**+1.7**
BCIP	**Isla Barro Col**	**6.14**	**29**	*e*Pn	**Pn**	**21 48 36.6**	**+1.3**
BCIP				*e*Sn	**Sn**	**21 49 43.3**	**-1.0**
JTS	**JuntasAbangare**	**6.83**	**342**	Pn	Pn	21 48 42.2	-2.6
	13nm,0.3s,baz=124,slow=13,SNR=24						
JTS				Sn	**Sn**	**21 50 02.2**	**+0.7**
	4.2nm,0.3s,baz=278,slow=23,SNR=5.2						
JTS				LR	LR	21 51 10.9	
	comp=Z,730nm,18.4s,baz=324,slow=37						
JTS	**JuntasAbangare**	**6.83**	**342**	*e*Pn	Pn	21 48 41.7	-3.2
JTS				*e*Sn	**Sn**	**21 50 00.8**	**-0.7**
ROSC	**El Rosal**	**8.54**	**82**	Pn	**Pn**	**21 49 09.9**	**+1.3**
	2.7nm,0.3s,baz=274,slow=23,SNR=8.4						
ROSC				LR	LR	21 52 12.5	
	comp=Z,187nm,21.4s,baz=4.3,slow=38						
ROSC	**El Rosal**	**8.54**	**82**	*e*Pn	**Pn**	**21 49 10.2**	**+1.6**
TGUH	**Tegucigalpa,Un**	**11.14**	**337**	*e*Pn	**Pn**	**21 49 43.4**	**-0.6**
	34nm,0.6s						
ATAH	**Atahualpa**	**11.68**	**158**	Pn	**Pn**	**21 49 52.8**	**+1.0**
	0.2nm,0.3s,baz=78,slow=6.6,SNR=4.5						
ATAH				LR	LR	21 54 03.9	
	comp=Z,1μm,19.3s,baz=320,slow=36						
ATAH	**Atahualpa**	**11.68**	**158**	Pn	**Pn**	**21 49 52.8**	**+1.0**
SDV	**Santo Domingo**	**13.14**	**67**	*e*Pn	**Pn**	**21 50 12.2**	**+0.7**
NNA	**Nana**	**16.73**	**159**	Pn	**Pn**	**21 50 59.0**	**+0.2**
	1.0nm,0.3s,baz=323,slow=7.6,SNR=11						
NNA	**Nana**	**16.73**	**159**	*e*Pn	**Pn**	**21 50 59.6**	**+0.7**
TEIG	**Tepich**	**17.22**	**342**	LR	LR	21 57 25.9	
	comp=Z,283nm,19.7s,baz=236,slow=36						
CMIG	**Matias Romero**	**17.77**	**319**	P	**Pn**	**21 51 12.4**	**+0.6**
	0.1nm,0.3s,baz=116,slow=7.5,SNR=13						
CMIG				LR	LR	21 56 46.1	
	comp=Z,313nm,21.2s,baz=172,slow=33						
CMIG	**Matias Romero**	**17.77**	**319**	P	**Pn**	**21 51 12.4**	**+0.6**
SDDR	**Presa de Saban**	**18.87**	**36**	*e*P	**P**	**21 51 24.0**	**-0.5**
	6.6nm,0.5s						
LRS	**Lares**	**21.29**	**46**	*e*P	**P**	**21 51 49.2**	**-1.6**
SJG	**San Juan**	**21.68**	**48**	P	**P**	**21 51 54.7**	**-0.2**
	9.8nm,0.7s,baz=271,slow=21,SNR=2.5						
SJG				LR	LR	22 00 08.2	
	comp=Z,173nm,21.5s,baz=180,slow=37						
SJG	**San Juan**	**21.68**	**48**	P	**P**	**21 51 54.7**	**-0.2**
SAML	**Samuel**	**23.29**	**123**	*e*P	**P**	**21 52 08.6**	**-3.3**
	22nm,1.0s						
LPAZ	**La Paz**	**24.65**	**144**	P	**P**	**21 52 24.3**	**-0.9**
	14nm,1.1s,baz=339,slow=5.0,SNR=20						
LPAZ				LR	LR	22 02 36.7	
	comp=Z,177nm,20.0s,baz=259,slow=38						
LPAZ	**La Paz**	**24.65**	**144**	*e*P	**P**	**21 52 24.5**	**-0.8**
SIV	**San Ignacio**	**29.11**	**123**	P	**P**	**21 53 04.2**	**-0.7**
	0.8nm,0.6s,baz=263,slow=8.0,SNR=3.2						
SIV				LR	LR	22 05 30.4	
	comp=Z,390nm,18.4s,slow=38						
SIV	**San Ignacio**	**29.11**	**133**	P	**P**	**21 53 04.2**	**-0.7**
632A	**Uvalde**	**30.25**	**330**	⇑P	**P**	**21 53 14.7**	**-0.1**
	baz=30						
631A	**Perdido Creek**	**30.58**	**328**	⇑P	**P**	**21 53 18.6**	**+0.9**
	baz=31						
532A	**Rocksprings**	**30.81**	**330**	⇓P	**P**	**21 53 20.8**	**+1.1**
	baz=31						
JCT	**Junction City**	**31.05**	**331**	⇑P	**P**	**21 53 22.5**	**+0.6**
	baz=31						
531A	**Rocksprings**	**31.17**	**329**	⇓P	**P**	**21 53 23.5**	**+0.6**
	baz=31						
530A	**J-C Ranch, Com**	**31.56**	**328**	⇓P	**P**	**21 53 27.1**	**+0.7**
	baz=32,SNR=5.4						
431A	**Sonora**	**31.62**	**330**	⇓P	**P**	**21 53 27.8**	**+1.0**
	baz=32,SNR=16						
628A	**Black Gap, Mar**	**31.89**	**326**	⇑P	**P**	**21 53 29.9**	**+0.7**
	baz=32						
529A	**Stev Forest Ra**	**32.01**	**327**	⇓P	**P**	**21 53 30.8**	**+0.4**
	baz=32						
430A	**Baggett Ranch,**	**32.02**	**329**	⇑P	**P**	**21 53 30.9**	**+0.6**
	baz=32,SNR=5.8						
627A	**Terlingua Ranc**	**32.15**	**325**	⇑P	**P**	**21 53 32.0**	**+0.3**
	baz=32						
TXAR	**Lajitas Array**	**32.23**	**324**	LR	LR	22 05 55.6	
	comp=Z,48nm,21.6s,baz=120,slow=35						
429A	**Davenport Ranc**	**32.23**	**328**	⇑P	**P**	**21 53 32.7**	**+0.4**
	baz=32						
528A	**Cox Ranch, San**	**32.35**	**326**	⇓P	**P**	**21 53 34.6**	**+1.2**
	baz=32						
626A	**Big Bend Ranch**	**32.66**	**324**	⇓P	**P**	**21 53 36.7**	**+0.6**
	baz=33						
428A	**Kincaid Ranch,**	**32.73**	**327**	⇑P	**P**	**21 53 37.4**	**+0.7**
	baz=33						
526A	**Mary Lane Ranc**	**33.01**	**325**	⇓P	**P**	**21 53 40.0**	**+0.8**
	baz=33						
328A	**Wristen Ranch,**	**33.31**	**328**	⇓P	**P**	**21 53 42.0**	**+0.3**
	baz=33						
426A	**McDonald Obser**	**33.43**	**326**	⇓P	**P**	**21 53 43.7**	**+0.8**
	baz=34						
425A	**Indio Mountain**	**34.07**	**325**	⇓P	**P**	**21 53 48.4**	**0.0**
	baz=34						
128A	**Castleberry Fa**	**34.12**	**330**	⇑P	**P**	**21 53 49.5**	**+0.7**
	baz=34						
Z29A	**Hungry Hill Ra**	**34.25**	**331**	⇑P	**P**	**21 53 49.9**	**0.0**
	baz=34						
325A	**Bean Ranch, Si**	**34.49**	**325**	⇑P	**P**	**21 53 52.3**	**+0.2**
	baz=35						
LCO	**Las Campanas**	**34.59**	**161**	*e*P	**P**	**21 53 54.2**	**+1.2**
	3.8nm,0.4s						
324A	**Moseley Ranch,**	**34.84**	**325**	⇓P	**P**	**21 53 55.2**	**+0.1**
	baz=35						
126A	**Clayton Basin,**	**34.94**	**328**	⇓P	**P**	**21 53 56.5**	**+0.6**
	baz=35						
225A	**Deer Hill, Car**	**34.96**	**326**	⇑P	**P**	**21 53 56.4**	**+0.3**
	baz=35						
X29A	**Tulia**	**35.22**	**332**	⇓P	**P**	**21 53 58.4**	**+0.1**
	baz=35						
125A	**Gardner Draw,**	**35.29**	**327**	⇓P	**P**	**21 53 60.0**	**+1.1**
	baz=35						
224A	**Cornudas Mount**	**35.33**	**325**	⇓P	**P**	**21 53 59.6**	**+0.3**
	baz=35						
MSTX	**Muleshoe**	**35.35**	**331**	⇓P	**P**	**21 53 59.1**	**-0.2**
	baz=36						
Z26A	**Caprock**	**35.40**	**329**	⇑P	**P**	**21 53 59.9**	**+0.1**
	baz=36						
Y27A	**Causey**	**35.47**	**330**	⇓P	**P**	**21 54 00.3**	**-0.1**
	baz=36						
AMTX	**Amarillo**	**35.58**	**333**	*e*P	**P**	**21 54 02.3**	**+0.9**
	11nm,0.8s						
AMTX	**Amarillo**	**35.58**	**333**	⇑P	**P**	**21 54 02.2**	**+0.9**
	baz=36						
124A	**Stringfield Ra**	**35.76**	**326**	⇑P	**P**	**21 54 03.4**	**+0.3**
	baz=36						
Z25A	**Roswell**	**35.80**	**328**	⇓P	**P**	**21 54 04.1**	**+0.8**
	baz=36						
Y26A	**Elida**	**35.83**	**329**	⇓P	**P**	**21 54 04.2**	**+0.6**
	baz=36						
X27A	**F and S Farms,**	**36.05**	**331**	⇑P	**P**	**21 54 06.0**	**+0.5**
	baz=36						
Z24A	**Sheeppen Canyo**	**36.18**	**327**	⇑P	**P**	**21 54 07.2**	**+0.5**
	baz=36						
Y25A	**Mesa, Roswell**	**36.28**	**328**	⇓P	**P**	**21 54 08.5**	**+1.1**
	baz=36,SNR=6.0						
W27A	**Bowe Ranch, En**	**36.37**	**331**	⇓P	**P**	**21 54 08.6**	**+0.5**
	baz=36,SNR=7.7						
V28A	**Channing**	**36.54**	**333**	⇑P	**P**	**21 54 10.5**	**+0.9**
	baz=37						
Y24A	**Capitan**	**36.68**	**328**	⇓P	**P**	**21 54 12.0**	**+1.1**
	baz=37,SNR=5.5						
X25A	**Clemmons Ranch**	**36.74**	**329**	⇑P	**P**	**21 54 11.6**	**+0.3**
	baz=37						
121A	**Cookes Peak, D**	**36.97**	**324**	⇓P	**P**	**21 54 13.9**	**+0.6**
	baz=37						
220A	**Playas Peak, P**	**36.98**	**322**	⇑P	**P**	**21 54 14.1**	**+0.7**
	baz=37						
Y23A	**Lovelace Mesa,**	**37.01**	**327**	⇓P	**P**	**21 54 15.1**	**+1.3**
	baz=37,SNR=5.1						
Z22A	**Elephant Butte**	**37.02**	**325**	⇑P	**P**	**21 54 15.2**	**+1.5**
	baz=37						
X24A	**Lazy VL Ranch,**	**37.16**	**328**	⇑P	**P**	**21 54 15.9**	**+0.9**
	baz=37						
W25A	**X Bar L Ranch,**	**37.18**	**330**	⇑P	**P**	**21 54 15.8**	**+0.7**
	baz=37,SNR=7.7						
V26A	**Tequesquite Ra**	**37.31**	**331**	⇑P	**P**	**21 54 16.9**	**+0.7**
	baz=37,SNR=14						
120A	**U Bar Ranch, L**	**37.49**	**323**	⇑P	**P**	**21 54 18.6**	**+0.8**
	baz=38						
Y22A	**Socorro**	**37.52**	**326**	⇓P	**P**	**21 54 20.3**	**+2.3**
	baz=38						
T28A	**Walsh**	**37.64**	**334**	⇓P	**P**	**21 54 19.8**	**+0.9**

R11A	Troy Canyon, C	45.58	323	⇑P		P	21	55	24.2	+0.2
	baz=46									
PLCA	Paso Flores	45.67	167	P		P	21	55	25.6	+1.1
I20A	Worland	45.85	335	⇑P		P	21	55	26.7	+0.7
	baz=46									
F23A	Volborg	46.23	338	⇓P		P	21	55	29.4	+0.6
	baz=46									
J16A	Bone	46.91	331	⇑P		P	21	55	34.8	+0.4
	baz=47									
K14A	Jones Ranch, D	47.15	329	⇓P		P	21	55	36.8	+0.6
	baz=47									
NVAR	Mina Array Bea	47.28	322	P		P	21	55	38.0	+0.6
	2.0nm,0.8s,baz=135,slow=7.2,SNR=14									
NVAR	Mina Array Bea	47.28	322	P		P	21	55	38.0	+0.6
D23A	Lindsay	47.39	339	⇓P		P	21	55	38.9	+1.0
	baz=48									
C24A	Savage	47.43	340	⇓P		P	21	55	39.2	+1.0
	baz=48									
G18A	Lazy EL Ranch,	47.56	335	⇑P		P	21	55	40.0	+0.6
	baz=48									
ULM	Lac du Bonnet	47.63	349	P		P	21	55	38.3	-1.3
	2.1nm,0.7s,baz=153,slow=9.7,SNR=8.1									
ULM	Lac du Bonnet	47.63	349	*e*P		P	21	55	38.5	-1.2
D22A	Cohagen	47.72	339	⇑P		P	21	55	41.3	+0.9
	baz=48									
RCBR	Riachuelo	47.81	101	LR		LR	22	15	35.3	
	comp=Z,133nm,19.3s,baz=166,slow=36									
H16A	Russell Place,	47.83	333	⇓P		P	21	55	42.2	+0.7
	baz=48									
C23A	Lambert	47.92	340	⇓P		P	21	55	43.1	+1.1
	baz=48									
E20A	Meyer Farm, Mu	47.92	337	⇓P		P	21	55	43.1	+1.0
	baz=48									
F18A	Big Timber	48.09	335	⇓P		P	21	55	44.3	+0.8
	baz=48									
C22A	Vida	48.12	339	⇑P		P	21	55	44.5	+1.0
	baz=48									
E19A	Rath Farm, Rou	48.15	336	⇑P		P	21	55	44.6	+0.8
	baz=48									
D20A	Manuel Ranch,	48.41	337	⇑P		P	21	55	46.9	+1.1
	baz=48									
H15A	Lima	48.41	332	⇑P		P	21	55	46.8	+0.8
	baz=48									
G16A	Moss Hill, Enn	48.48	333	⇑P		P	21	55	47.2	+0.6
	baz=49									
F17A	Fitzpatrick Pl	48.50	334	⇑P		P	21	55	47.0	+0.4
	baz=49									
A24A	Westby	48.51	341	⇓P		P	21	55	47.4	+0.9
	baz=49									
C21A	Desert Coulee	48.62	338	⇓P		P	21	55	48.5	+1.1
	baz=49									
E18A	Harlowton	48.70	335	⇑P		P	21	55	48.9	+0.7
	baz=49									
BOZ	Bozeman (W)	48.73	333	*e*P		P	21	55	48.6	+0.2
	16nm,1.9s									
BOZ	Bozeman (W)	48.73	333	⇓P		P	21	55	48.8	+0.4
	baz=49									
H14A	Leadore	48.76	331	⇑P		P	21	55	49.1	+0.4
	baz=49									
E17A	Martinsdale	49.02	335	⇑P		P	21	55	51.2	+0.5
	baz=49									
A22A	Carney Farms,	49.20	340	⇑P		P	21	55	52.4	+0.6
	baz=49									
C19A	Slack Wire Ran	49.29	337	⇑P		P	21	55	53.3	+0.7
	baz=49									
E16A	East Helena	49.43	334	⇑P		P	21	55	54.3	+0.6
	baz=50									
D17A	Six Diamond Ra	49.49	335	⇑P		P	21	55	54.6	+0.4
	baz=50									
A21A	Bergtoll Ranch	49.54	339	⇓P		P	21	55	55.0	+0.5
	baz=50									
D16A	Dana Ranch, Ca	49.76	334	⇑P		P	21	55	56.7	+0.4
	baz=50									
E15A	Deer Lodge	49.77	333	⇓P		P	21	55	56.9	+0.5
	baz=50									
EGMT	Eagleton	49.81	337	⇑P		P	21	55	57.7	+1.2
	baz=50									
A20A	Cobblestone Ra	49.81	338	⇓P		P	21	55	57.8	+1.4
	baz=50									
C17A	Wharram Farm,	49.90	336	⇑P		P	21	55	58.3	+1.0
	baz=50									
F13A	Darby	50.08	332	⇑P		P	21	55	59.1	+0.4
	baz=50									
G12A	Big Creek, Yel	50.09	330	⇑P		P	21	55	59.4	+0.5
	baz=50									
F12A	Elk City	50.50	331	⇑P		P	21	56	01.8	-0.1
	baz=51									
A17A	Triple J Farms	50.92	337	⇑P		P	21	56	04.9	-0.1
	baz=51									
B13A	Whitefish	52.06	334	⇑P		P	21	56	14.2	+0.8
	baz=52									
SCHQ	Schefferville	52.55	12	P		P	21	56	14.3	-2.6
	1.4nm,0.8s,baz=175,slow=17,SNR=2.7									
SCHQ	Schefferville	52.55	12	P		P	21	56	14.3	-2.6
FFC	Flin Flon	53.15	346	*e*P		P	21	56	21.6	+0.3
	36nm,2.5s									
NEW	Newport	53.19	332	LR		LR	22	20	25.4	
	comp=Z,91nm,21.4s,baz=189,slow=38									
FRB	Frobisher Bay	60.77	7	P		P	21	57	12.6	-2.4
	1.0nm,0.5s,baz=117,slow=6.8,SNR=2.6									
FRB	Frobisher Bay	60.77	7	P		P	21	57	12.6	-2.4
YKA	Yellowknife Ar	63.17	344	P		P	21	57	30.2	-1.0
	2.0nm,0.8s,baz=139,slow=6.6,SNR=2.9									
YKA	Yellowknife Ar	63.17	344	P		P	21	57	30.2	-1.0
DLBC	Dease Lake	65.68	335	LR		LR	22	28	14.3	
	comp=Z,102nm,20.1s,baz=114,slow=38									
PPT	Papeete	69.14	250	LR		LR	22	21	48.3	
	comp=Z,219nm,19.6s,baz=342,slow=30									
RES	Resolute Bay	71.22	357	P		P	21	58	21.4	-0.6
	0.8nm,0.7s,baz=170,slow=16,SNR=3.4									
RES	Resolute Bay	71.22	357	P		P	21	58	21.4	-0.6
INK	Inuvik	72.82	342	LR		LR	22	34	55.8	
	comp=Z,120nm,18.8s,baz=291,slow=40									
INK	Inuvik	72.82	342	*e*P		P	21	58	32.2	+0.4
	3.6nm,1.0s									
SUMG	Summit	73.92	13	*e*P		P	21	58	38.3	-0.4
	159nm,2.5s									
SUMG	Summit	73.92	13	*i* P		P	21	58	38.2	-0.5
	7.0nm,1.0s									
ILAR	Eielson Array	75.77	337	P		P	21	58	48.6	-0.5
	1.0nm,0.8s,baz=130,slow=4.2,SNR=9.3									
ILAR				LR		LR	22	34	25.5	
	comp=Z,85nm,18.9s,baz=23,slow=38									
ILAR	Eielson Array	75.77	337	P		P	21	58	48.6	-0.5
ESDC	Sonseca Array	79.04	50	P		P	21	59	07.6	-0.3
	0.2nm,0.4s,baz=270,slow=5.3,SNR=3.6									
ESDC	Sonseca Array	79.04	50	P		P	21	59	07.6	-0.3
TORD	Torodi Ar. Bea	83.82	77	P		P	21	59	32.8	-0.9
	0.9nm,0.8s,baz=296,slow=3.7,SNR=5.4									
TORD	Torodi Ar. Bea	83.82	77	P		P	21	59	32.8	-0.9
VNA3	Neumayer Olymp	88.16	162	*e*P		P	21	59	52.3	-1.6
NOA	NORSAR Array B	88.70	29	LR		LR	22	37	42.4	
	comp=Z,140nm,18.6s,baz=230,slow=34									
VNA2	Neumayer--Watz	88.79	161	*e*P		P	21	59	57.5	+0.6
HFS	Hagfors	90.02	30	LR		LR	22	34	05.8	
	comp=Z,64nm,19.2s,baz=112,slow=32									
GERES	GERESS Array B	91.49	41	LR		LR	22	36	07.9	
	comp=Z,61nm,18.3s,baz=279,slow=32									
VRAC	Vranov	93.31	40	LR		LR	22	34	42.6	
	comp=Z,64nm,20.9s,baz=94,slow=31									
FINES	FINESS Array B	95.64	27	LR		LR	22	36	26.2	
	comp=Z,60nm,21.2s,baz=275,slow=31									
CN2	Changchun	126.27	335	*e*PKP		PKPdf	22	06	08.8	+2.5
MKAR	Makanchi Array	127.98	13	PKP		PKPdf	22	06	08.1	-1.4
	0.5nm,0.9s,baz=46,slow=3.5,SNR=3.6									
MKAR	Makanchi Array	127.98	13	PKP		PKPdf	22	06	08.1	-1.4
SONM	Songino Array	128.00	352	PKP		PKPdf	22	06	08.5	-1.2
	0.2nm,0.5s,baz=62,slow=0.7,SNR=3.2									
SONM	Songino Array	128.00	352	PKP		PKPdf	22	06	08.5	-1.2
WMQ	Urumqi	131.88	9	*e*PKP		PKPdf	22	06	18.3	+1.2
KSH	Kashi	132.72	22	*e*PKP		PKPdf	22	06	21.2	+2.3
KSH				*e*PP		PP	22	08	49.0	+6.6
KSH				PKS		PKSdf	22	09	55.9	+0.5
KSH				SKS		SKSdf	22	13	31.4	+3.4
KSH				SKKS		SKKSac	22	15	40.8	+3.7
KSH				SS		SS	22	26	26.6	+6.3
KSH				AMB		AMB				
	comp=Z,120nm,6.8s									
KSH				LR		LR				
	comp=N,56nm,4.1s									
KSH				LR		LR				
	comp=E,56nm,7.9s									
KSH				LR		LR				
	comp=Z,260nm,6.3s									
HHC	Hu-ho-hao-te	133.70	345	*e*PKP		PKPdf	22	06	22.3	+1.6
HHC				PP		PP	22	08	54.0	+5.6
HHC				PKS		PKSdf	22	09	56.3	-0.9
HHC				SKS		SKSdf	22	13	32.1	+2.5
HHC				SKKS		SKKSac	22	15	46.3	+3.3
HHC				AMB		AMB				
	comp=Z,100nm,14.4s									
HHC				LR		LR				
	comp=N,200nm,19.2s									
HHC				LR		LR				
	comp=E,200nm,14.4s									
HHC				LR		LR				
	comp=Z,120nm,15.6s									
ASAR	Alice Springs	139.40	237	PKhKP		PKPpre	22	06	27.7	
	comp=Z,0.3nm,0.8s,baz=101,slow=6.5,SNR=3.8									
ASAR	Alice Springs	139.40	237	PKPpre		PKPpre	22	06	27.7	
LZH	Lanzhou	139.88	352	*e*PKP		PKPdf	22	06	31.7	-0.6
WRA	Warramunga Arr	140.37	243	PKhKP		PKPpre	22	06	25.6	
	comp=Z,0.6nm,0.8s,baz=106,slow=2.3,SNR=5.2									
WRA				PKP		PKPdf	22	06	31.5	-2.0
	comp=Z,0.6nm,0.8s,baz=105,slow=2.4,SNR=11									
WRA	Warramunga Arr	140.37	243	PKPpre		PKPpre	22	06	25.6	
WRA				PKP		PKPdf	22	06	31.5	-2.0
CD2	Chengdu	144.97	350	PKP		PKPab	22	06	41.0	+0.5
KMI	Kunming	150.79	350	PKPbc		PKPdf	22	06	50.7	-0.6

NSSP ***10*** *21:47:20.4,38°.37N×44°.52E,h10km,Ms3.3*
DDA ***10*** *21:47:20.6,38°.64N×44°.44E,h2km,MD3.4*
ISK ***10*** *21:47:21.9,38°.66N×44°.13E,h5km,MD3.5*
CSEM ***10*** *21:47:22.8±0.3,38°.60N×44°.14E,h2km,MD3.5,Error ellipse: s-maj=8.8km s-min=5.1km az=118.0*
ISC 10 21:47:22.8±1.1,38°.59N±0°.02×44°.20E±0°.03,h4km±11km, n59,σ1s54/72,4C-10D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
CLDR	Caldiran	0.59	339	*e*P	G		Pg	21	47	32.8	-1.4
CLDR				*e*SG			Sg	21	47	40.9	-1.0
CLDR	Caldiran	0.59	339	*e*Pg			Pg	21	47	32.8	-1.4
CLDR				*e*Sg			Sg	21	47	40.9	-1.0
VANB	Van	0.63	271	*e*PG			Pg	21	47	34.4	-0.6
VANB				*e*SG			Sg	21	47	43.6	+0.5
VANB	Van	0.63	271	*e*Pg			Pg	21	47	34.4	-0.6
VANB				*e*Sg			Sg	21	47	43.6	+0.5
VANT	Van	0.75	257	*e*PG			Pg	21	47	36.8	-0.4
VANT	Van	0.75	257	*e*Pg			Pg	21	47	36.8	-0.4
DYDN	Diyadin	1.03	338	*i* P			Pg	21	47	39.3	-3.3
DYDN				*i* S			Sb	21	47	58.2	+0.9
DYDN	Diyadin	1.03	338	*i* P			Pg	21	47	39.3	-3.3
DYDN				*i* S			Sb	21	47	58.2	+0.9
HKR	Hakkari	1.07	200	*e*PN			Pn	21	47	44.5	-0.3
HKR	Hakkari	1.07	200	*e*Pn			Pn	21	47	44.5	-0.3
HAKT	HAKKARI	1.10	201	*i* P			Pb	21	47	43.4	-1.2
HAKT				*i* S			Sn	21	48	02.5	+1.5
HAKT	HAKKARI	1.10	201	*i* P			Pb	21	47	43.4	-1.2
AGRB	Hanur-Agry	1.36	317	*e*PN			Pn	21	47	47.2	-1.5
AGRB	Hanur-Agry	1.36	317	*e*Pn			Pn	21	47	47.2	-1.5
CUKT	Cukurca	1.42	199	*e*PN			Pg	21	47	50.1	+0.1
CUKT				*e*SN			Sg	21	48	11.5	+3.1
CUKT	Cukurca	1.42	199	*e*Pn			Pg	21	47	50.1	+0.1
TATV	Tatvan	1.51	267	*i* P			Pn	21	47	50.1	-0.8
TATV				*i* S			Sb	21	48	13.1	+1.9
TATV	Tatvan	1.51	267	*i* P			Pn	21	47	50.1	-0.8
TATV				*i* S			Sb	21	48	13.1	+1.9
ERE	Yerevan	1.59	8	⇓*i*P			Pg	21	47	54.0	+0.7
ERE				⇓S			Sg	21	48	18.0	+4.0
ERE	Yerevan	1.59	8	⇓P			Pg	21	47	54.0	+0.7
ERE				S			Sg	21	48	18.0	+4.0
GNI	Garni	1.61	15	*e*PN			Pb	21	47	52.5	-0.8
GNI	Garni	1.61	15	⇓*i*P			Pb	21	47	52.4	-0.9
GNI				⇓*i*S			Sg	21	48	17.3	+2.6
GNI	Garni	1.61	15	⇓P			Pb	21	47	52.3	-0.9
GNI	Garni	1.61	15	*e*Pn			Pb	21	47	52.5	-0.8
GNI				S			Sg	21	48	17.3	+2.6
VADZ	Vardenis	1.98	37	*e*P			Pg	21	48	01.0	+0.2
VADZ				*e*S			Sg	21	48	29.0	+2.4
VADZ	Vardenis	1.98	37	P			Pg	21	48	01.0	+0.2
BTMT	Batman	2.16	260	*e*PN			Pb	21	48	02.4	-0.2
LMTZ	Lermontov	2.19	9	⇓*i*P			Pn	21	47	59.5	-0.7
LMTZ	Lermontov	2.19	9	⇓P			Pn	21	47	59.5	-0.7
KARS	Kars	2.21	337	*e*PN			Pn	21	48	00.1	-0.3
KARS	Kars	2.21	337	*e*Pn			Pn	21	48	00.1	-0.3
VRTB	Varto-Mus	2.21	286	*e*PN			Pn	21	48	00.6	+0.1
VRTB	Varto-Mus	2.21	286	*e*Pn			Pn	21	48	00.5	+0.1
SPIZ	Spitak	2.23	1	⇓*i*P			Pn	21	48	00.7	0.0
SPIZ	Spitak	2.23	1	⇓P			Pn	21	48	00.7	0.0
HOMI	Horasan	2.29	310	*i* P			Pn	21	48	03.1	+1.4
HOMI				*i* S			Sg	21	48	43.9	+7.4
CKLZ	Chkalov	2.37	8	⇑*i*P			Pb	21	48	04.2	-1.9
CKLZ	Chkalov	2.37	8	⇑P			Pb	21	48	04.2	-1.9
STE	Stepanavan	2.41	3	⇑P			Pn	21	48	03.4	+0.2
STEZ	Stepenevan	2.41	4	⇑*i*P			Pn	21	48	03.4	+0.2
ERZM	Erzurum	2.56	302	*i* P			Pb	21	48	08.2	-1.2
ERZM				*i* S			Sg	21	48	49.1	+4.1
ERZM	Erzurum	2.56	302	*i* P			Pb	21	48	08.2	-1.2
EZM	Erzurum	2.56	302	*e*PN			Pn	21	48	05.2	-0.2
BNGB	Bing¯ǁl	2.78	279	*e*PN			Pn	21	48	08.5	+0.3
AKH	Akhalkalaki	2.87	349	P			Pb	21	48	15.2	+0.5
BINT	Bingol	2.91	277	*e*Pn			Pn	21	48	08.5	-1.6
DGRG	David-gareji	3.00	17	P			Pg	21	48	18.8	-1.5
TBLG	Delisi	3.16	7	P			Pb	21	48	20.1	+0.5
KOPT	Kop Dagi	3.20	298	*i* P			Pb	21	48	21.2	+0.7
KOPT				*i* S			Sg	21	49	10.3	+4.6
GOR	Gori	3.39	359	P			Pn	21	48	17.4	+0.8
GOR	Gori	3.39	359	P			Pn	21	48	17.4	+0.8
BAYT	Ayd¯–ntepe-Bay	3.62	301	*e*PN			Pn	21	48	20.7	+0.9
BAYT	Ayd¯–ntepe-Bay	3.62	301	*e*Pn			Pn	21	48	20.7	+0.9
ERZN	Erzincan	3.62	267	*e*PN			Pn	21	48	20.4	+0.7
SVRC	Sivrice-ELAZID	3.84	268	*e*PN			Pn	21	48	23.9	+1.0
SVRC	Sivrice-ELAZID	3.84	268	*e*Pn			Pn	21	48	23.9	+1.0
ONI	Oni	4.04	352	P			Pb	21	48	36.9	+2.4
BHD	Baghdad	5.31	178	*e*P			Pn	21	48	38.0	-4.9
BHD				*e*S			Sn	21	49	32.0	-13
BHD	Baghdad	5.31	178	*e*P			Pn	21	48	38.0	-4.9

IGQ ***10*** *21:58:26.9,0°.83S×79°.87W,h105km±141km,Mb4.5,Ms4.3, Error ellipse: s-maj=1.6km s-min=1.2km az=4.6*
IDC ***10*** *21:58:28.4±0.7,0°.86S×79°.54W,h77km±5km,mb3.8/13, mb1 4.1/14,mb1mx3.9/24,mbtmp3.8/14,MS3.1/3, Ms1 3.1/3,ms1mx2.8/39,Error ellipse: s-maj=25.7km s-min=12.1km az=63.0*
NEIC ***10*** *21:58:28.0,0°.83S×79°.83W,h94km,mb4.5/16, MD4.4(IGQ),After IGQ.*
NEIC Felt at Ambato, Guayaquil, Nanegalito and Quito.
ISCJB ***10*** *21:58:29.9±0.3,0°.92S±0°.03×79°.70W±0°.04,h100km±3km, mb4.2/28,Error ellipse: s-maj=7.1km s-min=4.7km az=159.0*
ISC 10 21:58:28.7±0.4,0°.91S±0°.03×79°.78W±0°.04,h86km±3km, h87km:pP-P,n341,σ1s93/369,mb4.3/28,116C-127D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
PECV	Mancha de Ca P	0.30	295	⇑P			Pn	21	58	43.3	+1.5
JAMA	Jama	0.77	326	P			Pn	21	58	44.1	-1.6
MAG1	Magdalena	0.83	0	P			Pn	21	58	46.2	-0.1
CHIS	Cerro-Chispas-	0.96	262	⇓P			Pn	21	58	46.7	-1.1
IGUA	Igualata	1.27	117	⇓P			Pn	21	58	52.5	+0.4
GOLV	Golondrinas	1.28	30	⇑P			Pn	21	58	50.0	-1.6
CAMI	Rancho Maria	1.29	80	⇓P			Pn	21	58	53.1	+1.0
BMOR	Cotopaxi Volca	1.33	82	⇑P			Pn	21	58	53.6	+0.9
NAS2	Nasa	1.33	79	⇓P			Pn	21	58	54.0	+1.2
MOV1	Cotopaxi Vol s	1.35	82	⇑P			Pn	21	58	53.8	+0.8
BREF	Cotopaxi Volca	1.35	80	⇑P			Pn	21	58	54.5	+1.4
JUA2	San Juan 2	1.36	60	⇑P			Pn	21	58	53.1	+0.1
TERV	Terraza Guagua	1.38	58	⇑P			Pn	21	58	53.3	0.0
BIL2	Estacion Bilba	1.38	113	P			Pn	21	58	54.3	+1.1
BIL2	Estacion Bilba	1.38	113	S			Sn	21	59	12.9	+1.3
PINO	Pino	1.39	57	⇓P			Pn	21	58	53.3	-0.1
BVC2	Cotopaxi Volca	1.39	80	⇑S			Sn	21	59	14.8	+2.8
BVC2	Cotopaxi Volca	1.39	80	⇑P			Pn	21	58	54.6	+1.2
GGP	Refugio Guagua	1.39	58	⇓P			Pn	21	58	53.2	-0.2
PITA	Cotopaxi Volc	1.39	76	⇓P			Pn	21	58	54.2	+0.9
BBIL	Ulba Tungurahu	1.40	113	⇓S			Sn	21	59	13.4	+1.5
BBIL	Ulba Tungurahu	1.40	113	⇓P			Pn	21	58	54.3	+1.0
VC1	Cotopaxi 1	1.40	79	⇓P			Pn	21	58	54.6	+1.1
BTAM	Cotopaxi Volca	1.40	81	⇑S			Sn	21	59	14.1	+1.9
BTAM	Cotopaxi Volca	1.40	81	⇑P			Pn	21	58	54.8	+1.2
PISA	Pisayambo	1.40	96	⇑P			Pn	21	58	54.8	+1.3
JUI6	Juive	1.40	111	⇓P			Pn	21	58	54.3	+0.9
RIOE	Riobamba	1.42	126	⇓P			Pn	21	58	54.1	+0.5
TAMB	Tambo	1.42	81	⇑P			Pn	21	58	55.1	+1.2
BMAS	Trigal station	1.43	115	⇓S			Sn	21	59	15.1	+2.5
BMAS	Trigal station	1.43	115	⇓P			Pn	21	58	54.8	+1.0
RETU	Refugio	1.44	112	⇓P			Pn	21	58	55.1	+1.1
YANA	Yana	1.44	57	P			Pn	21	58	53.8	-0.2
RUN5	Runtun	1.44	110	⇑P			Pn	21	58	55.2	+1.3
ARRY	Arrayan	1.45	114	⇓P			Pn	21	58	54.8	+0.8
COV1	Cotopaxi Volc	1.45	80	⇑P			Pn	21	58	54.5	+0.1
BRUN	Tungurahua Vol	1.46	111	⇓S			Sn	21	59	14.8	+1.6
BRUN	Tungurahua Vol	1.46	111	⇓P			Pn	21	58	54.9	+0.8
PAT1	Patacocha	1.46	114	⇓P			Pn	21	58	55.4	+1.0
ULBA	Ulba	1.47	112	⇓P			Pn	21	58	55.3	+1.0
ANTI	Antisana	1.68	74	⇑P			Pn	21	58	58.3	+1.2
OTAV	Otavalo	1.75	49	*e*Pn			Pn	21	58	58.4	+0.5
OTAV				*e*Sn			Sn	21	59	20.7	+0.7
OTAV	Otavalo	1.75	49	⇑S			Sn	21	59	20.0	0.0
OTAV	Otavalo	1.75	49	⇑P			Pn	21	58	57.8	-0.2
COTA	Cotacachi	1.89	49	⇓P			Pn	21	59	00.5	+0.5
CAYA	Cayambe	2.03	61	⇑P			Pn	21	59	03.1	+1.3
MACE	Macas	2.07	130	S			Sn	21	59	29.8	+2.6
MACE	Macas	2.07	130	P			Pn	21	59	03.5	+1.5
LITE	Lita	2.21	40	S			Sn	21	59	32.6	+2.0
LITE	Lita	2.21	40	P			Pn	21	59	03.5	-0.3
ATAH	Atahualpa	6.34	167	P			Pn	22	00	02.3	+2.3
	2.3nm,0.3s,baz=17,slow=3.3,SNR=12										
ATAH				S			Sn	22	01	08.5	-2.7
	4.7nm,0.3s,baz=329,slow=17,SNR=4.7										
ATAH	Atahualpa	6.34	167	P			Pn	22	00	02.3	+2.3
ATAH				S			Sn	22	01	08.5	-2.7
ROSC	El Rosal	7.90	43	P			Pn	22	00	24.1	+2.8
	3.5nm,0.3s,baz=86,slow=22,SNR=8.1										
ROSC				S			Sn	22	01	48.1	-1.1
	1.5nm,0.3s,baz=256,slow=22,SNR=2.3										
ROSC	El Rosal	7.90	43	S			Sn	22	01	48.1	-1.1
PAYG	Puerto Ayora	10.51	271	Pn			Pn	22	00	58.9	+2.3
NNA	Nana	11.39	165	P			Pn	22	01	08.9	+0.4
	2.3nm,0.3s,baz=306,slow=9.7,SNR=4.1										
NNA				S			Sn	22	03	12.5	-1.5
	7.2nm,0.3s,baz=225,slow=20,SNR=12			

Y28A	McKinney Farm, baz=41	40.56	331	⇑P	P	22 06 01.9 +1.9
Z27A	Tatum baz=41	40.57	329	⇑P	P	22 06 01.3 +1.2
X29A	Tulia baz=41	40.74	332	⇓P	P	22 06 03.8 +2.4
125A	Gardner Draw, baz=41,SNR=6.0	40.83	327	⇑P	P	22 06 04.4 +2.2
224A	Cornudas Mount baz=41	40.87	326	⇑P	P	22 06 03.6 +1.0
MSTX	Muleshoe baz=41	40.87	330	⇓P	P	22 06 04.8 +2.2
Z26A	Caprock baz=41,SNR=16	40.94	328	⇑P	P	22 06 05.8 +2.7
Y27A	Causey baz=41	41.00	330	⇓P	P	22 06 05.5 +1.9
AMTX	Amarillo baz=41	41.09	332	⇑P	P	22 06 06.5 +2.2
124A	Stringfield Ra baz=41,SNR=5.1	41.29	326	⇓P	P	22 06 08.3 +2.2
Z25A	Roswell baz=41,SNR=7.2	41.33	328	⇓P	P	22 06 08.7 +2.4
X27A	F and S Farms, baz=42	41.57	331	⇑P	P	22 06 10.4 +2.2
W28A	Vega baz=42	41.64	332	⇑P	P	22 06 11.1 +2.3
Z24A	Sheeppen Canyo baz=42,SNR=6.8	41.72	327	⇓P	P	22 06 12.1 +2.5
X26A	CR and CF Fran baz=42	41.85	330	⇓P	P	22 06 12.6 +2.0
W27A	Bowe Ranch, En baz=42,SNR=5.0	41.89	331	⇑P	P	22 06 12.9 +2.0
320A	Kipp Ranch, An baz=42	42.10	322	⇓P	P	22 06 14.2 +1.5
Z23A	Rita Site, Whi baz=42	42.15	326	⇑P	P	22 06 15.3 +2.3
122A	Conniff Cattle baz=42	42.17	325	⇑P	P	22 06 14.1 +0.9
Y24A	Capitan baz=42	42.21	328	⇓P	P	22 06 15.7 +2.1
X25A	Clemmons Ranch baz=42	42.27	329	⇑P	P	22 06 16.1 +2.1
220A	Playas Peak, P baz=42	42.50	323	⇑P	P	22 06 18.6 +2.7
121A	Cookes Peak, D baz=42,SNR=5.2	42.50	324	⇑P	P	22 06 18.7 +2.7
Y23A	Lovelace Mesa, baz=43,SNR=7.2	42.55	327	⇑P	P	22 06 18.6 +2.2
Z22A	Elephant Butte baz=43,SNR=6.8	42.55	326	⇓P	P	22 06 19.3 +3.0
319A	Douglas baz=43	42.59	322	⇑P	P	22 06 19.5 +2.8
X24A	Lazy VL Ranch, baz=43	42.70	328	⇓P	P	22 06 19.5 +1.9
W25A	X Bar L Ranch, baz=43	42.71	330	⇓P	P	22 06 19.8 +2.3
V26A	Tequesquite Ra baz=43,SNR=10	42.83	331	⇓P	P	22 06 20.8 +2.3
120A	U Bar Ranch, L baz=43	43.01	323	⇓P	P	22 06 22.8 +2.7
Y22A	Socorro baz=43	43.06	326	⇑P	P	22 06 23.1 +2.7
T28A	Walsh baz=43	43.13	334	⇑P	P	22 06 23.0 +2.1
W24A	Lazy 6 Ranch, baz=43	43.18	329	⇓P	P	22 06 23.7 +2.3
V25A	Rancho No Teng baz=43,SNR=5.7	43.27	330	⇓P	P	22 06 24.4 +2.2
U26A	Atchley Ranch, baz=43	43.29	331	⇓P	P	22 06 24.7 +2.4
Z20A	Nine Sixteen R baz=43	43.39	324	⇑P	P	22 06 26.1 +3.0
X22A	Bernardo baz=44	43.50	327	⇑P	P	22 06 25.4 +1.4
Y21A	Point of Rocks baz=44	43.51	326	⇓P	P	22 06 27.1 +3.0
V24A	Rampart Ranch, baz=44	43.52	329	⇓P	P	22 06 26.3 +2.1
ANMO	Albuquerque 9.4nm,0.9s	43.53	328	*e*P	P	22 06 26.7 +2.4
U25A	Circle Dot Ran baz=44	43.62	331	⇑P	P	22 06 27.6 +2.7
Y20A	Horse Springs, baz=44,SNR=5.9	43.83	325	⇓P	P	22 06 29.5 +2.8
X21A	Alamocita Cree baz=44,SNR=6.7	43.89	326	⇓P	P	22 06 30.1 +2.9
V23A	Ortiz Mt. (NFS baz=44	44.00	329	⇓P	P	22 06 30.5 +2.5
S26A	Kim baz=44	44.16	333	⇑P	P	22 06 32.1 +3.0
T25A	Trinidad baz=44	44.21	331	⇓P	P	22 06 32.3 +2.7
W21A	San Fidel baz=44	44.31	327	⇓P	P	22 06 33.0 +2.6
X20A	Quemado baz=44	44.36	325	⇑P	P	22 06 33.8 +2.9
R27A	Eads baz=44	44.40	334	⇑P	P	22 06 33.3 +2.3
V22A	San Miguel Ran baz=45	44.51	328	⇑P	P	22 06 34.2 +2.1
S25A	Robets Cordova baz=45	44.64	332	⇓P	P	22 06 35.3 +2.3
R26A	Arlington baz=45	44.70	333	⇓P	P	22 06 35.5 +2.1
U22A	Llaves baz=45	44.83	329	⇑P	P	22 06 36.9 +2.2
S24A	Houchin Ranch, baz=45	44.99	331	⇓P	P	22 06 38.1 +2.1
214A	Organ Pipe Nat baz=45	45.23	319	⇑P	P	22 06 39.9 +2.2
U21A	Nageezi baz=45	45.29	328	⇓P	P	22 06 40.1 +1.8
Q25A	Bedland, Calha baz=46	45.56	333	⇑P	P	22 06 43.1 +2.7
T21A	Navajo Lake baz=46	45.65	329	⇑P	P	22 06 43.7 +2.5
R23A	Moffat baz=46	45.72	331	⇓P	P	22 06 43.9 +2.2
X16A	Lo Mia Camp, P baz=46	46.00	323	⇓P	P	22 06 46.4 +2.6
P25A	Willow Gulch B baz=46	46.02	334	⇓P	P	22 06 45.8 +1.9
U19A	Dine' College, baz=46	46.03	327	⇓P	P	22 06 46.2 +2.1
R22A	Saguache, Gunn baz=46	46.21	330	⇑P	P	22 06 48.0 +2.5
MVCO	Mesa Verde baz=46	46.32	328	⇓P	P	22 06 47.8 +1.4
113A	Mohawk Valley, baz=46	46.37	319	⇑P	P	22 06 48.2 +1.7
P23A	Jefferson baz=47	46.66	332	⇑P	P	22 06 51.9 +2.8
R21A	Cimarron baz=47	46.71	330	⇑P	P	22 06 52.0 +2.5
WUAZ	Wupatki 14nm,1.0s	46.71	324	*e*P	P	22 06 52.5 +3.0
WUAZ				*e*pP	pP	22 07 11.8 +1.5
WUAZ	Wupatki baz=47	46.71	324	⇓P	P	22 06 51.8 +2.4
S20A	Disappointment baz=47	46.72	329	⇑P	P	22 06 52.1 +2.6
Q22A	Crested Butte, baz=47	46.77	331	⇑P	P	22 06 52.7 +2.7
ISCO	Idaho Springs	46.90	333	P	P	22 06 52.2 +1.2
ISCO	Idaho Springs baz=47	46.90	333	⇓P	P	22 06 53.2 +2.2
PV10	Paradox Valley 86nm,0.9s	47.48	329	*e*P	P	22 06 55.7 +0.3
S18A	Hurst Farm, Bl baz=48	47.48	327	⇑P	P	22 06 57.1 +1.6
P21A	Newcastle baz=48	47.55	331	⇓P	P	22 06 57.5 +1.6
L26A	Underwood Farm baz=48	47.66	336	⇓P	P	22 06 58.8 +2.3
U15A	North Rim baz=48	47.88	324	⇑P	P	22 07 01.1 +2.5
S17A	Black Ridge (B baz=48	47.88	327	⇑P	P	22 07 00.6 +2.2
W13A	Hualapai Mount baz=48	47.95	322	⇓P	P	22 07 01.0 +1.9
BC3	Big Chuckawall baz=48	48.03	319	⇑P	P	22 07 02.3 +2.8
Q19A	Hogan Spring (baz=48	48.03	329	⇑P	P	22 07 01.3 +1.8
IRM	Iron Mountain baz=48	48.14	320	⇑P	P	22 07 01.9 +1.6
MONP	Monument Peak baz=48	48.20	318	⇓P	P	22 07 03.6 +2.5
S16A	Weppner Ranch, baz=48	48.38	326	⇓P	P	22 07 04.5 +2.1
BELC	Belle Mtn. Jos baz=49	48.60	319	⇓P	P	22 07 06.6 +2.6
SRU	San Rafael baz=49	48.80	328	⇑P	P	22 07 07.8 +2.3
GMRC	Granite Mounta baz=49	48.86	320	⇓P	P	22 07 08.5 +2.5
P17A	Butcher Ranch, baz=49	49.18	328	⇑P	P	22 07 10.2 +1.8
TMUT	Trail Mountain 5.4nm,0.5s	49.30	328	*e*P	P	22 07 12.0 +2.6
HEC	Hector,Ludlow baz=49	49.32	320	⇓P	P	22 07 11.0 +1.6
TUQ	Turquoise Moun baz=50	49.44	321	⇓P	P	22 07 12.7 +2.3
N19A	John Jarvie Ra baz=50	49.45	331	⇑P	P	22 07 12.2 +1.7
R13A	O'Grain Ranch, baz=50	50.05	325	⇑P	P	22 07 16.4 +1.3
EDW2	Edwards Air Fo baz=50	50.44	319	⇑P	P	22 07 19.3 +1.4
LRMC	Laurel Mountai baz=51	50.60	320	⇓P	P	22 07 20.1 +1.0
M17A	Scullys Gap (B baz=51	50.62	330	⇑P	P	22 07 20.0 +0.7
FURC	Furnace Creek, baz=51	50.68	321	⇓P	P	22 07 20.9 +1.4
PDAR	Pinedale Array 0.6nm,0.8s,baz=132,slow=8.2,SNR=2.7	51.07	332	P	P	22 07 23.3 +0.6
PDAR	Pinedale Array	51.07	332	P	P	22 07 23.3 +0.6
R11A	Troy Canyon, C baz=51	51.11	324	⇑P	P	22 07 24.4 +1.4
L15A	Malad City baz=52	51.88	329	⇑P	P	22 07 29.8 +1.1
J16A	Bone baz=52	52.43	331	⇓P	P	22 07 34.7 +1.8
K14A	Jones Ranch, D baz=53	52.68	329	⇓P	P	22 07 35.5 +0.9
RLMT	Red Lodge 11nm,1.0s	52.77	334	*e*P	P	22 07 34.8 -0.4
ULM	Lac du Bonnet 9.1nm,0.7s,baz=157,slow=7.5,SNR=21	52.80	347	P	P	22 07 35.1 0.0
ULM				PcP	PcP	22 08 43.7 +0.3
ULM	Lac du Bonnet 7.6nm,0.8s	52.80	347	P	P	22 07 35.1 0.0
ULM				PcP	PcP	22 08 43.7 +0.3
NVAR	Mina Array Bea 3.8nm,0.9s,baz=138,slow=7.2,SNR=20	52.80	322	P	P	22 07 38.2 +2.6
NVAR				PcP	PcP	22 08 45.1 +1.1
NVAR	Mina Array Bea	52.80	322	P	P	22 07 38.2 +2.6
NVAR				PcP	PcP	22 08 45.1 +1.1
J15A	Blackfoot baz=53	52.93	330	⇑P	P	22 07 37.1 +0.7
D22A	Cohagen baz=53	53.15	338	⇓P	P	22 07 39.7 +1.9
C23A	Lambert baz=53	53.33	339	⇑P	P	22 07 41.2 +2.1
H16A	Russell Place, baz=53	53.34	332	⇓P	P	22 07 41.0 +1.6
E20A	Meyer Farm, Mu baz=54	53.39	336	⇓P	P	22 07 41.6 +2.0
D21A	La Casta Ranch baz=54	53.39	337	⇑P	P	22 07 41.2 +1.6
J14A	Carey baz=54	53.41	330	⇑P	P	22 07 41.4 +1.4
GCMT	Greycliff	53.47	334	*e*P	P	22 07 41.3 +1.0
GCMT				*e*PcP	PcP	22 08 47.5 +1.2
C22A	Vida baz=54	53.53	338	⇓P	P	22 07 43.0 +2.4
G17A	Pierce Place, baz=54	53.58	333	⇓P	P	22 07 42.9 +1.8
E19A	Rath Farm, Rou baz=54	53.62	335	⇓P	P	22 07 42.9 +1.6
J13A	Cove Ranch, Pi baz=54	53.80	329	⇓P	P	22 07 44.5 +1.8
B23A	Brockton baz=54	53.82	339	⇓P	P	22 07 45.0 +2.4
D20A	Manuel Ranch, baz=54	53.86	336	⇑P	P	22 07 45.3 +2.3
A24A	Westby baz=54	53.87	340	⇓P	P	22 07 45.4 +2.3
H15A	Lima baz=54	53.93	331	⇑P	P	22 07 46.4 +2.6
F17A	Fitzpatrick Pl baz=54	53.99	334	⇓P	P	22 07 46.3 +2.2
G16A	Moss Hill, Enn baz=54	53.99	332	⇑P	P	22 07 46.0 +1.9
HLID	Hailey	54.04	329	*e*P	P	22 07 46.7 +2.1
HLID	Hailey baz=54	54.04	329	⇓P	P	22 07 46.3 +1.8
C21A	Desert Coulee baz=54	54.06	338	⇓P	P	22 07 46.3 +1.9
I13A	Wildhorse Cree baz=54	54.14	330	⇓P	P	22 07 46.9 +1.6
E18A	Harlowton baz=54	54.18	335	⇑P	P	22 07 47.4 +2.0
D19A	Cripps Ranch, baz=54	54.22	336	⇑P	P	22 07 47.3 +1.6
BOZ	Bozeman (W) baz=54	54.23	333	⇓P	P	22 07 47.2 +1.3
H14A	Leadore baz=54	54.28	331	⇑P	P	22 07 47.7 +1.4
C20A	Veseth Ranch, baz=54	54.31	337	⇓P	P	22 07 48.4 +2.0
F16A	Kennard Place, baz=54	54.33	333	⇓P	P	22 07 48.4 +1.8
E17A	Martinsdale baz=55	54.51	334	⇓P	P	22 07 49.5 +1.6
I12A	Atlanta baz=55	54.57	329	⇓P	P	22 07 49.1 +0.7
A22A	Carney Farms, baz=55	54.59	339	⇓P	P	22 07 50.2 +1.9
MFID	Camas Ranch 8.3nm,1.1s	54.67	328	*e*P	P	22 07 51.4 +2.3
MFID	Camas Ranch baz=55	54.67	328	⇑P	P	22 07 51.2 +2.2
H13A	Challis baz=55	54.68	330	⇑P	P	22 07 51.1 +2.0
C19A	Slack Wire Ran baz=55	54.75	336	⇑P	P	22 07 51.5 +2.0
F15A	Butte baz=55	54.77	332	⇓P	P	22 07 51.3 +1.4
E16A	East Helena baz=55	54.93	334	⇓P	P	22 07 52.6 +1.8
A21A	Bergtoll Ranch baz=55	54.96	338	⇑P	P	22 07 53.1 +2.2
H12A	Diamond D Ranc baz=55	54.97	330	⇓P	P	22 07 53.1 +1.8
D17A	Six Diamond Ra baz=55	54.97	335	⇓P	P	22 07 52.6 +1.4
G13A	Cobalt baz=55	55.05	331	⇑P	P	22 07 53.5 +1.7
D16A	Dana Ranch, Ca baz=55	55.25	334	⇑P	P	22 07 54.8 +1.6
EGMT	Eagleton baz=55	55.27	336	⇑P	P	22 07 54.7 +1.5
E15A	Deer Lodge baz=55	55.28	333	⇑P	P	22 07 55.3 +1.9
C17A	Wharram Farm, baz=55	55.38	335	⇓P	P	22 07 55.4 +1.4
B18A	Beardsley Farm baz=56	55.57	336	⇓P	P	22 07 57.7 +2.3
A19A	Klindworth Far baz=56	55.59	337	⇓P	P	22 07 57.4 +1.9
F13A	Darby baz=56	55.60	331	⇓P	P	22 07 57.4 +1.6
G12A	Big Creek, Yel baz=56	55.61	330	⇓P	P	22 07 57.0 +1.1
E14A	Clinton baz=56	55.66	332	⇓P	P	22 07 57.3 +1.1
D15A	Lincoln baz=56	55.69	333	⇓P	P	22 07 57.5 +1.2
B17A	L&G Farms, Che baz=56	55.91	335	⇓P	P	22 08 00.2 +2.4
C16A	Fuhringer Ranc baz=56	55.93	334	⇓P	P	22 07 59.8 +1.8
A18A	Metzger Ranch, baz=56	56.02	337	⇑P	P	22 08 00.3 +1.8
F12A	Elk City baz=56	56.03	331	⇓P	P	22 08 00.2 +1.4
MSO	Missoula baz=56	56.18	332	⇑P	P	22 08 00.6 +0.8
A17A	Triple J Farms baz=56	56.38	336	⇑P	P	22 08 02.7 +1.6
SCHQ	Schefferville	56.57	9	P	P	22 08 02.1 -0.1
	2.9nm,1.0s,baz=193,slow=13,SNR=3.9					
SCHQ	Schefferville	56.57	9	P	P	22 08 02.1 -0.1
D13A	Huson baz=57	56.61	332	⇓P	P	22 08 03.0 +0.2
E12A	Beaver Dam Sad baz=57	56.65	331	⇑P	P	22 08 05.1 +1.9
B15A	Bradely Ranch, baz=57	56.67	334	⇑P	P	22 08 04.9 +1.6
C14A	Swan Lake baz=57	56.78	333	⇑P	P	22 08 05.0 +1.0
D12A	Red Ives Fores baz=57	57.00	332	⇓P	P	22 08 06.9 +1.3
B14A	Marquette Ranc baz=57	57.02	334	⇑P	P	22 08 08.0 +2.2
C13A	Hot Springs baz=57	57.09	333	⇑P	P	22 08 08.0 +1.7
A15A	Johnson Ranch, baz=57	57.25	335	⇑P	P	22 08 09.0 +1.6
C12B	Naegeli Ranch, baz=58	57.53	332	⇓P	P	22 08 11.3 +2.0
A14A	Double T Ranch baz=58	57.55	334	⇓P	P	22 08 10.6 +1.1
WALA	Waterton Lakes 0.2nm,1.3s	57.82	334	*e*P	P	22 08 13.1 +1.7
A13A	Flathead Natio baz=58	57.95	334	⇑P	P	22 08 13.7 +1.5
C11A	Tepee Creek (N baz=58	57.99	332	⇑P	P	22 08 13.9 +1.3
FFC	Flin Flon 4.7nm,1.0s	58.39	345	*e*P	P	22 08 15.3 +0.3
NEW	Newport 2.0nm,0.8s	58.71	332	*e*P	P	22 08 18.8 +1.3
NEW	Newport baz=59	58.71	332	⇓P	P	22 08 18.6 +1.2
YKA	Yellowknife Ar 1.8nm,0.7s,baz=138,slow=5.9,SNR=35	68.46	343	P	P	22 09 21.8 +0.5
YKA				pP	pP	22 09 42.0 -1.5
YKA	Yellowknife Ar 1.4nm,0.9s,baz=137,slow=6.0,SNR=5.9	68.46	343	P	P	22 09 21.8 +0.5
YKA				pP	pP	22 09 42.0 -1.5
PPT2	Papeete2 191nm,25.8s	70.49	252	*e*LR	LR	22 19 46.5
DLBC	Dease Lake	71.16	335	*e*P	P	22 09 39.2 +1.2
INK	Inuvik 8.2nm,0.9s	78.16	342	*e*P	P	22 10 19.5 +1.3
INK				*e*pP	pP	22 10 40.4 -0.5
EGAK	Eagle 8.1nm,1.0s	78.99	337	*e*P	P	22 10 24.4 +1.5
ESDC	Sonseca Array 0.4nm,0.5s,baz=267,slow=5.5,SNR=5.7	79.68	50	P	P	22 10 28.0 +0.7
ESDC				pP	pP	22 10 48.1 -1.9
ESDC	Sonseca Array 0.4nm,0.6s,baz=281,slow=7.8,SNR=2.1	79.68	50	P	P	22 10 28.0 +0.7
ESDC				pP	pP	22 10 48.1 -1.9
ILAR	Eielson Array 1.9nm,0.9s,baz=124,slow=3.7,SNR=16	81.23	336	P	P	22 10 35.5 +0.5
ILAR				pP	pP	22 10 56.0 -1.7
ILAR	Eielson Array 1.5nm,1.0s,baz=129,slow=3.2,SNR=5.4	81.23	336	P	P	22 10 35.5 +0.5
ILAR				pP	pP	22 10 56.0 -1.7
TORD	Torodi Ar. Bea 1.0nm,0.7s,baz=282,slow=4.9,SNR=6.5	81.90	77	P	P	22 10 39.4 -0.2
TORD				pP	pP	22 10 59.7 -2.6
TORD	Torodi Ar. Bea 1.6nm,1.1s,baz=280,slow=5.9,SNR=4.2	81.90	77	P	P	22 10 39.4 -0.2
TORD				pP	pP	22 10 59.7 -2.6
VNA1	Neumayer--Stat	83.08	161	*e*P	P	22 10 34.9 -10
VNA1	Neumayer--Stat	83.08	161	*e*PP	PP	22 13 47.4 -9.0
VNA2	Neumayer--Watz	83.43	162	*e*P	P	22 10 47.7 +1.4
VNA2	Neumayer--Watz	83.43	162	*e*PP	PP	22 14 00.0 +0.6
ZALV	Zalesovo Beam 1.0nm,0.5s,baz=256,slow=3.3,SNR=7.0	125.62	11	PKP	PKPdf	22 17 20.1 -0.1
ZALV	Zalesovo Beam	125.62	11	PKP	PKPdf	22 17 20.1 -0.1
USRK	Ussuriysk Arra 1.2nm,0.8s,baz=141,slow=7.3,SNR=3.1	128.48	331	PKP	PKPdf	22 17 26.2 +0.3
MKAR	Makanchi Array 0.6nm,0.9s,baz=8.1,slow=2.6,SNR=4.4	131.69	16	PKP	PKPdf	22 17 32.0 0.0
MKAR	Makanchi Array	131.69	16	PKP	PKPdf	22 17 32.0 0.0
SONM	Songino Array 0.3nm,0.5s,baz=302,slow=1.2,SNR=4.1	132.95	354	PKP	PKPdf	22 17 35.1 +0.6
SONM	Songino Array	132.95	354	PKP	PKPdf	22 17 35.1 +0.6
KSRS	Korea Array 2.1nm,0.8s,baz=70,slow=2.4,SNR=5.3	135.56	328	PKP	PKPdf	22 17 39.4 -0.1
KSAR	Wonju Array Be	135.59	328	PKP	PKPdf	22 17 39.4 -0.2
KSH	Kashi	135.66	27	*e*PKP	PKPdf	22 17 37.6 -2.2
KSH				*es*PKP		22 18 14.8
KSH				*e*PP	PP	22 20 19.7 +2.5
KSH				PKS	PKSdf	22 21 11.7 -4.5
KSH				SKS	SKSdf	22 24 36.4 -7.0
KSH				SKKS	SKKSac	22 27 00.0 -5.5
KSH				SS	SS	22 38 05.2 -2.5
KSH				LR	LR	
	comp=N,37nm,3.6s					
KSH				LR	LR	
	comp=E,33nm,3.7s					
KSH				LR	LR	
	comp=Z,280nm,5.9s					
WMQ	Urumqi	135.84	13	*e*PKP	PKPdf	22 17 37.7 -2.2
HHC	Hu-ho-hao-te	138.93	347	*e*PKP	PKPdf	22 17 43.2 -2.6
HHC				sPKP		22 18 20.2
HHC				PP	PP	22 20 40.5 +3.2
HHC				SKKS		22 27 18.4
HHC				AMB	AMB	
	comp=Z,75nm,10.4s					
HHC				LR	LR	
	comp=N,140nm,15.1s					
HHC				LR	LR	
	comp=E,130nm,14.1s					
HHC				LR	LR	
	comp=Z,140nm,15.1s					
ASAR	Alice Springs comp=Z,0.5nm,0.6s,baz=128,slow=4.7,SNR=5.0	139.17	231	PKhKP	PKPpre	22 17 39.8
ASAR				PKP	PKPdf	22 17 46.8 +0.2
	comp=Z,1.1nm,0.7s,baz=113,slow=1.9,SNR=10					
ASAR	Alice Springs	139.17	231	PKPpre	PKPpre	22 17 39.8
ASAR				PKP	PKPdf	22 17 46.8 +0.2
WRA	Warramunga Arr comp=Z,0.6nm,0.8s,baz=118,slow=2.5,SNR=5.1	140.66	236	PKhKP	PKPpre	22 17 43.9
WRA				PKP	PKPdf	22 17 49.2 -0.2
	comp=Z,2.3nm,0.7s,baz=112,slow=1.8,SNR=22					
WRA	Warramunga Arr	140.66	236	PKPpre	PKPpre	22 17 43.9
WRA				PKP	PKPdf	22 17 49.2 -0.2
LZH	Lanzhou	144.84	355	*e*PKP	PKPab	22 17 51.0 -4.6
LZH				pPKP	pPKPdf	22 18 15.9 -4.7
LZH				sPKP		22 18 25.6
LZH				PP	PP	22 21 15.0 +2.0
LZH				SKS	SKSdf	22 24 52.1 -6.4
LZH				LR	LR	
	comp=N,150nm,13.1s					
LZH				LR	LR	
	comp=E,120nm,15.3s					
LZH				LR	LR	
	comp=Z,220nm,16.6s					
FITZ	Fitzroy Crossi comp=Z,4.9nm,0.8s,baz=188,slow=2.4,SNR=8.8	148.66	232	PKP	PKPdf	22 18 03.5 +0.4
FITZ				PKPbc	PKiKP	22 18 07.9 -0.5
	comp=Z,4.9nm,0.8s,baz=180,slow=4.3,SNR=9.1					
FITZ	Fitzroy Crossi	148.66	232	PKP	PKPdf	22 18 03.5 +0.4
FITZ				PKPbc	PKiKP	22 18 07.9 -0.5
KMI	Kunming	155.80	354	PKP	PKPdf	22 18 09.9 -4.0
CMAR	Chiang Mai Arr comp=Z,1.5nm,0.7s,baz=337,slow=5.4,SNR=10	162.51	4	PKPab	PKPab	22 19 09.4 -0.1
CMAR	Chiang Mai Arr	162.51	4	PKPab	PKPab	22 19 09.4 -0.1

ISK ***10*** *21:58:34.7, 38.67N×44.15E, h5km, MD3.4*
NSSP ***10*** *21:58:36.0, 38.33N×44.67E, h15km, Ms2.9*
CSEM ***10*** *21:58:35.0±0.3, 38.63N×44.20E, h2km, MD3.4, Error ellipse: s-maj=9.1km s-min=5.3km az=85.0*
DDA ***10*** *21:58:38.2, 38.62N×44.53E, h26km, MD3.1*

ISC 10 21:58:36.5±1.2, 38.62N±0.02×44.11E±0.03, h1km±11km, n35,σ1s52/48, 3C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	Caldiran	0.55	344	*e*PG	Pg	21 58 45.4	-1.6
CLDR				*e*SG	Sg	21 58 53.9	-0.2
CLDR	Caldiran	0.55	344	*e*Pg	Pg	21 58 45.4	-1.6
CLDR				*e*Sg	Sg	21 58 53.9	-0.2
VANB	Van	0.56	268	*e*PG	Pg	21 58 47.0	-0.3
VANB				*e*SG	Sb	21 58 56.8	-1.0
VANB	Van	0.56	268	*e*Pg	Pg	21 58 47.0	-0.3
VANB				*e*Sg	Sb	21 58 56.8	-1.0
VANT	Van	0.69	254	PG	Pg	21 58 50.1	+0.4
VANT	Van	0.69	254	*i* Pg	Pg	21 58 50.1	+0.4

DYDN	**Diyadin**	**0.98**	**341**	*i* P	**Pg**	**21 58 52.7**	**-2.6**
DYDN				*i* S	**Sn**	**21 59 14.1**	**+1.8**
DYDN	**Diyadin**	**0.98**	**341**	*i* P	**Pg**	**21 58 52.7**	**-2.6**
HKR	**Hakkari**	**1.08**	**196**	*e*PN	**Pb**	**21 58 58.0**	**0.0**
HKR	**Hakkari**	**1.08**	**196**	*e*Pn	**Pb**	**21 58 58.0**	**0.0**
HAKT	**HAKKARI**	**1.10**	**197**	*i* P	**Pg**	**21 58 56.5**	**-1.1**
HAKT				*i* S	**Sn**	**21 59 16.8**	**+1.5**
HAKT	**HAKKARI**	**1.10**	**197**	*i* P	**Pg**	**21 58 56.5**	**-1.1**
AGRB	**Hanur-Agry**	**1.29**	**318**	*e*PN	**Pg**	**21 59 00.0**	**-1.3**
AGRB	**Hanur-Agry**	**1.29**	**318**	*e*Pn	**Pg**	**21 59 00.0**	**-1.3**
CUKT	**Cukurca**	**1.42**	**196**	*e*PN	**Pn**	**21 59 02.9**	**-0.7**
CUKT	**Cukurca**	**1.42**	**196**	*e*Pn	**Pn**	**21 59 02.9**	**-0.7**
ERE	**Yerevan**	**1.58**	**10**	*e*P	**Pg**	**21 59 08.0**	**+1.3**
ERE	**Yerevan**	**1.58**	**10**	P	**Pg**	**21 59 08.0**	**+1.3**
GNI	**Garni**	**1.61**	**18**	*e*PN	**Pn**	**21 59 05.1**	**-1.1**
GNI	**Garni**	**1.61**	**18**	⇑*i*P	**Pn**	**21 59 05.4**	**-0.8**
GNI				⇑*i*S	**Sg**	**21 59 30.3**	**+2.2**
GNI	**Garni**	**1.61**	**18**	*e*Pn	**Pn**	**21 59 05.1**	**-1.1**
GNI	**Garni**	**1.61**	**18**	⇑P	**Pn**	**21 59 05.4**	**-0.8**
GNI				S	**Sg**	**21 59 30.3**	**+2.2**
VADZ	**Vardenis**	**2.01**	**39**	*e*P	**Pg**	**21 59 17.0**	**+2.1**
VADZ				*e*S	**Sg**	**21 59 41.0**	**+0.1**
BTMT	**Batman**	**2.10**	**259**	*e*PN	**Pb**	**21 59 15.4**	**0.0**
VRTB	**Varto-Mus**	**2.14**	**286**	*e*PN	**Pn**	**21 59 13.4**	**0.0**
VRTB	**Varto-Mus**	**2.14**	**286**	*e*Pn	**Pn**	**21 59 13.5**	**0.0**
BNGL	**BINGOL**	**2.34**	**279**	*i* P	**Pb**	**21 59 18.8**	**-0.7**
BNGL				*i* S	**Sg**	**21 59 54.8**	**+3.3**
BNGB	**Bingˆ¶l**	**2.71**	**279**	*e*PN	**Pn**	**21 59 21.2**	**0.0**
BINT	**Bingol**	**2.84**	**276**	*e*Pn	**Pn**	**21 59 21.2**	**-1.9**
BAYT	**Aydˆ–ntepe-Bay**	**3.54**	**301**	*e*PN	**Pn**	**21 59 32.9**	**+0.1**
BAYT	**Aydˆ–ntepe-Bay**	**3.54**	**301**	*e*Pn	**Pn**	**21 59 32.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.77**	**268**	*e*PN	**Pn**	**21 59 37.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.77**	**268**	*e*Pn	**Pn**	**21 59 37.1**	**+1.1**
BHD	**Baghdad**	**5.34**	**178**	*e*P	**Pn**	**21 59 55.0**	**-2.3**
BHD				*e*Pg	**Pg**	**22 00 17.0**	**-1.8**
BHD				*e*Sn	**Sn**	**22 00 59.0**	**-0.4**
BHD				*e*Sg	**Sg**	**22 01 32.0**	**+4.0**
BHD	**Baghdad**	**5.34**	**178**	*e*P	**Pn**	**21 59 55.0**	**-2.3**

ISCJB ***10*** *22:02:03.8±0.5, 37°.85N×0°.03×27°.39E±0°.04, h0km±8km, Error ellipse: s-maj=5.7km s-min=3.9km az=155.2*
DDA ***10*** *22:02:03.4, 37°.84N×27°.39E, h7km, MD3.0*
ISK ***10*** *22:02:04.0, 37°.86N×27°.33E, h5km, MD3.0*
CSEM ***10*** *22:02:04.2±0.1, 37°.85N×27°.39E, h2km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.7km az=83.0*

ISC 10 22:02:04.1±1.1, 37°.85N±0°.02×27°.39E±0°.02, h3km±11km, n40, σ0=56/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.19**	**219**	*i* P	**Pg**	**22 02 07.5**	**-0.3**
GCAM				*i* S	**Sg**	**22 02 09.9**	**-0.4**
GCAM	**G?zelcaml?**	**0.19**	**219**	*i* P	**Pg**	**22 02 07.5**	**-0.3**
GCAM				*i* S	**Sg**	**22 02 09.9**	**-0.4**
AYDN	**Tasoluk**	**0.43**	**116**	*i* P	**Pg**	**22 02 12.7**	**+0.3**
AYDN				*i* S	**Sg**	**22 02 18.4**	**+0.4**
AYDN	**Tasoluk**	**0.43**	**116**	*i* P	**Pg**	**22 02 12.7**	**+0.3**
AYDN				*i* S	**Sg**	**22 02 18.4**	**+0.4**
IZM	**Izmir**	**0.56**	**350**	PG	**Pg**	**22 02 14.9**	**+0.1**
IZM	**Izmir**	**0.56**	**350**	*i* Pg	**Pg**	**22 02 14.9**	**+0.1**
BLCB	**Balcova**	**0.60**	**333**	*e*PG	**Pg**	**22 02 15.8**	**+0.2**
BLCB				*e*SG	**Sg**	**22 02 23.6**	**+0.2**
BLCB	**Balcova**	**0.60**	**333**	*e*Pg	**Pg**	**22 02 15.8**	**+0.2**
BLCB				*e*Sg	**Sg**	**22 02 23.6**	**+0.2**
MLSB	**Milas**	**0.63**	**151**	*e*PG	**Pg**	**22 02 16.4**	**+0.2**
MLSB	**Milas**	**0.63**	**151**	*e*Pg	**Pg**	**22 02 16.4**	**+0.2**
BDRM	**Kayabasi**	**0.78**	**177**	*i* P	**Pg**	**22 02 17.6**	**-1.5**
BDRM				*i* S	**Sg**	**22 02 29.9**	**+0.7**
BDRM	**Kayabasi**	**0.78**	**177**	*i* P	**Pg**	**22 02 17.6**	**-1.5**
BDRM				*i* S	**Sg**	**22 02 29.9**	**+0.7**
BODT	**Bodrum**	**0.79**	**184**	*e*PG	**Pg**	**22 02 19.8**	**+0.6**
BODT				*e*SG	**Sb**	**22 02 31.4**	**-0.1**
BODT	**Bodrum**	**0.79**	**184**	*e*Pg	**Pg**	**22 02 19.8**	**+0.6**
BODT				*e*Sg	**Sb**	**22 02 31.4**	**-0.1**
URLA	**Izmir**	**0.81**	**309**	*i* P	**Pg**	**22 02 20.1**	**+0.5**
URLA				*i* S	**Sb**	**22 02 31.3**	**-0.8**
URLA	**Izmir**	**0.81**	**309**	*i* P	**Pg**	**22 02 20.1**	**+0.5**
URLA				*i* S	**Sb**	**22 02 31.3**	**-0.8**
YER	**Yerkesik**	**1.01**	**135**	*e*PG	**Pb**	**22 02 24.5**	**+0.3**
YER	**Yerkesik**	**1.01**	**135**	*e*Pg	**Pb**	**22 02 24.5**	**+0.3**
AKHS	**Akhisar**	**1.08**	**18**	*i* P	**Pg**	**22 02 24.2**	**-0.6**
AKHS				*i* S	**Sb**	**22 02 40.1**	**+0.1**
AKHS	**Akhisar**	**1.08**	**18**	*i* P	**Pg**	**22 02 24.2**	**-0.6**
AKHS				*i* S	**Sb**	**22 02 40.1**	**+0.1**
AKS	**Akhisar**	**1.08**	**18**	*e*PN	**Pb**	**22 02 25.4**	**0.0**
AKS	**Akhisar**	**1.08**	**18**	*e*Pn	**Pb**	**22 02 25.4**	**0.0**
MANT	**Manisa**	**1.12**	**55**	*i* P	**Pg**	**22 02 25.0**	**-0.6**
MANT				*i* S	**Sg**	**22 02 39.8**	**-0.4**
MANT	**Manisa**	**1.12**	**55**	*i* P	**Pg**	**22 02 25.0**	**-0.6**
MANT				*i* S	**Sg**	**22 02 39.8**	**-0.4**
KULA	**Kula-Manisa**	**1.20**	**56**	*e*PN	**Pn**	**22 02 28.1**	**+0.2**
KULA	**Kula-Manisa**	**1.20**	**56**	*e*Pn	**Pn**	**22 02 28.1**	**+0.2**
DEMI	**Demirci**	**1.58**	**41**	*i* P	**Pb**	**22 02 33.8**	**-0.3**
DEMI				*i* S	**Sn**	**22 02 53.8**	**-0.4**
DEMI	**Demirci**	**1.58**	**41**	*i* P	**Pb**	**22 02 33.8**	**-0.3**
DEMI				*i* S	**Sn**	**22 02 53.8**	**-0.4**
APE	**Apeiranthos**	**1.67**	**243**	*e*PN	**Pn**	**22 02 34.3**	**0.0**
APE	**Apeiranthos**	**1.67**	**243**	*e*Pn	**Pn**	**22 02 34.3**	**0.0**
KHL	**Karahalli**	**1.75**	**74**	*e*PN	**Pb**	**22 02 36.4**	**-0.5**
KHL	**Karahalli**	**1.75**	**74**	*e*Pn	**Pb**	**22 02 36.4**	**-0.5**
BALB	**Balikesir**	**1.83**	**12**	*e*PN	**Pn**	**22 02 37.0**	**+0.6**
BALB	**Balikesir**	**1.83**	**12**	*e*Pn	**Pn**	**22 02 37.0**	**+0.6**
DST	**Dursunbey**	**2.00**	**28**	*e*PN	**Pn**	**22 02 39.6**	**+0.9**
DST	**Dursunbey**	**2.00**	**28**	*e*Pn	**Pn**	**22 02 39.7**	**+0.9**
TVSB	**Tavsanli**	**2.28**	**45**	*e*PN	**Pn**	**22 02 43.6**	**+0.9**
TVSB	**Tavsanli**	**2.28**	**45**	*e*Pn	**Pn**	**22 02 43.6**	**+0.9**
KRBG	**Karabiga-Canak**	**2.54**	**358**	*e*PN	**Pn**	**22 02 46.8**	**+0.6**
KRBG	**Karabiga-Canak**	**2.54**	**358**	*e*Pn	**Pn**	**22 02 46.8**	**+0.6**

IDC 10 22:09:16.6±1.5, 4°.20N×126°.97E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=136.8km s-min=22.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**163**	P	P	22 14 41.8	-1.1
	1.2nm,0.9s,baz=344,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**28.51**	**167**	P	P	22 15 15.4	+1.4
	0.1nm,0.3s,baz=344,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**46.93**	**341**	P	P	22 17 49.8	+0.6
	0.3nm,0.6s,baz=158,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	22 19 05.9	-0.4
	0.4nm,0.4s,baz=120,slow=8.1,SNR=15						

TIR ***10*** *20:10:28.0, 41°.24N×20°.48E, h7km, ML3.5*
BEO ***10*** *22:10:27.4±0.6, 41°.06N×20°.53E, h5km±3km, ML3.1/1*
SKO ***10*** *22:10:28.6, 41°.22N×20°.49E, h15km, M3.2, ML3.5*
IDC ***10*** *22:10:28.1±1.5, 41°.21N×20°.53E, h0km, mb3.3/4, mb1 3.3/6, mb1mx3.3/26, mbtmp3.2/6, ML3.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/24, Error ellipse: s-maj=29.0km s-min=23.7km az=37.0*
SOF ***10*** *22:10:28.5, 41°.69N×20°.65E, h2km, MD3.4*
PDG ***10*** *22:10:29.6±0.5, 41°.22N×20°.40E, h6km±1km, ML3.3/10, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
ATH ***10*** *22:10:29.1, 41°.30N×20°.52E, h21km±5km, MD3.5/6*
CSEM ***10*** *22:10:29.5±0.2, 41°.25N×20°.54E, h0km±1km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.1km az=43.0*
THE ***10*** *22:10:30.0, 41°.29N×20°.52E, h2km±1km, ML3.4/4, Error ellipse: s-maj=1.3km s-min=0.7km az=288.0*

ISC 10 22:10:29.4±1.0, 41°.26N±0°.01×20°.51E±0°.01, h7km±8km, n169, σ1=19/270, mb3.4/4, 18C-22D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.43**	**353**	*e*PG	**Pg**	**22 10 37.7**	**-0.1**
PHP				*i* SG	**Sb**	**22 10 45.1**	**-1.0**
PHP	**Peshkopia**	**0.43**	**353**	P	**Pg**	**22 10 37.5**	**-0.3**
PHP				S	**Sg**	**22 10 43.2**	**-0.2**
PHP	**Peshkopia**	**0.43**	**353**	*e*Pg	**Pg**	**22 10 37.7**	**-0.1**
PHP				S	**Sg**	**22 10 43.2**	**-0.2**
PHP				*i* Sg	**Sb**	**22 10 45.1**	**-1.0**
TIR	**Tirane**	**0.50**	**281**	*e*PG	**Pg**	**22 10 38.3**	**-0.7**
TIR				*i* SG	**Sg**	**22 10 46.3**	**+0.8**
TIR	**Tirane**	**0.50**	**281**	P	**Pg**	**22 10 38.2**	**-0.7**
TIR				S	**Sg**	**22 10 46.2**	**+0.8**
TIR	**Tirane**	**0.50**	**281**	*e*Pg	**Pg**	**22 10 38.2**	**-0.7**
TIR				*e*Sg	**Sg**	**22 10 46.1**	**+0.7**
TIR	**Tirane**	**0.50**	**281**	*e*Pb	**Pg**	**22 10 38.3**	**-0.7**
TIR				*e*Sb	**Sg**	**22 10 46.4**	**+1.0**
BIA	**Bitola**	**0.66**	**111**	P	**Pb**	**22 10 42.5**	**-0.7**
BIA				S	**Sb**	**22 10 51.6**	**-1.0**
BIA	**Bitola**	**0.66**	**111**	⇑*i*Pg	**Pg**	**22 10 41.5**	**-0.5**
BIA				*e*Sg	**Sg**	**22 10 51.1**	**+0.5**
BIA	**Bitola**	**0.66**	**111**	⇑*i*Pg	**Pg**	**22 10 41.5**	**-0.5**
BIA	**Bitola**	**0.66**	**111**	P	**Pb**	**22 10 42.5**	**-0.7**
BIA				*e*Sg	**Sg**	**22 10 51.1**	**+0.5**
BIA				S	**Sb**	**22 10 51.6**	**-1.0**
FNA	**Florina**	**0.81**	**126**	P	**Pg**	**22 10 45.0**	**+0.2**
FNA				S	**Sb**	**22 10 57.7**	**+0.9**
FNA	**Florina**	**0.81**	**126**	P	**Pg**	**22 10 45.0**	**+0.2**
FNA				S	**Sb**	**22 10 57.7**	**+0.9**
PUK	**Puka**	**0.91**	**330**	*e*PG	**Pg**	**22 10 46.1**	**-0.8**
PUK				*i* SG	**Sb**	**22 11 00.4**	**+0.4**
PUK	**Puka**	**0.91**	**330**	*e*Pg	**Pg**	**22 10 46.1**	**-0.8**
PUK				*i* Sg	**Sb**	**22 11 00.4**	**+0.4**
NEST	**Nestorio**	**0.93**	**154**	P	**Pg**	**22 10 47.4**	**+0.1**
NEST				S	**Sb**	**22 11 01.3**	**+0.7**
NEST	**Nestorio**	**0.93**	**154**	P	**Pg**	**22 10 47.4**	**+0.1**
NEST				S	**Sb**	**22 11 01.3**	**+0.7**
SKO	**Skopje**	**1.00**	**44**	P	**Pb**	**22 10 49.1**	**+0.1**
SKO	**Skopje**	**1.00**	**44**	*i* Pg	**Pn**	**22 10 49.4**	**-0.4**
SKO				*i* Sg	**Sn**	**22 11 03.0**	**-1.1**
SKO				*e*Lg	Lg	22 11 05.8	
	comp=E,2μm,0.7s						
SKO				*e*Lg	Lg	22 11 05.8	
	comp=N,2μm,0.5s						
SKO	**Skopje**	**1.00**	**44**	*e*Pg	**Pn**	**22 10 49.4**	**-0.4**
SKO				*e*Sg	**Sn**	**22 11 03.2**	**-1.0**
SKO	**Skopje**	**1.00**	**44**	P	**Pb**	**22 10 49.1**	**+0.1**
SKO	**Skopje**	**1.00**	**44**	*e*Pg	**Pn**	**22 10 49.4**	**-0.4**
SKO				*e*Lg	Lg	22 11 01.3	
	comp=N,2μm,0.5s						
SKO				*i* Sg	**Sg**	**22 11 01.5**	**0.0**
LSK	**Leskovik**	**1.11**	**177**	*e*PG	**Pb**	**22 10 50.7**	**-0.2**
LSK				*i* SG	**Sg**	**22 11 03.7**	**-1.2**
LSK	**Leskovik**	**1.11**	**177**	*e*Pg	**Pb**	**22 10 50.7**	**-0.2**
LSK				*i* Sg	**Sg**	**22 11 03.7**	**-1.2**
BCI	**Bajram Curri**	**1.16**	**343**	*e*PG	**Pn**	**22 10 52.9**	**+0.9**
BCI				*i* SG	**Sn**	**22 11 08.5**	**+0.3**
BCI	**Bajram Curri**	**1.16**	**343**	*e*Pg	**Pn**	**22 10 52.9**	**+0.9**
BCI				*i* Sg	**Sn**	**22 11 08.5**	**+0.3**
ULC	**Ulcinj**	**1.19**	**307**	⇑*i*Pg	**Pg**	**22 10 50.7**	**-1.4**
ULC				*e*Sg	**Sn**	**22 11 08.6**	**-0.2**
ULC	**Ulcinj**	**1.19**	**307**	⇑*i*Pg	**Pg**	**22 10 50.7**	**-1.4**
ULC				*e*Sg	**Sn**	**22 11 08.6**	**-0.2**
KZN	**Kozani**	**1.35**	**134**	P	**Pg**	**22 10 55.0**	**-0.1**
KZN				S	**Sn**	**22 11 14.4**	**+1.6**
KZN	**Kozani**	**1.35**	**134**	*e*PN	**Pg**	**22 10 55.1**	**-0.1**
KZN				*e*SN	**Sn**	**22 11 14.7**	**+1.9**
KZN	**Kozani**	**1.35**	**134**	*e*Pn	**Pg**	**22 10 55.1**	**-0.1**
KZN				S	**Sn**	**22 11 14.4**	**+1.6**
KZN				*e*Sn	**Sn**	**22 11 14.7**	**+1.9**
PVY	**Plav**	**1.40**	**343**	⇓*i*Pg	**Pn**	**22 10 55.1**	**-0.4**
PVY				*e*Sg	**Sg**	**22 11 17.6**	**+3.2**
PVY	**Plav**	**1.40**	**343**	⇓*i*Pg	**Pn**	**22 10 55.1**	**-0.4**
PVY				*e*Sg	**Sg**	**22 11 17.6**	**+3.2**
SRN	**Sarande**	**1.43**	**196**	*e*PG	**Pg**	**22 10 57.8**	**+1.1**
SRN	**Sarande**	**1.43**	**196**	*e*Pg	**Pg**	**22 10 57.8**	**+1.1**
GRG	**Griva**	**1.46**	**101**	P	**Pb**	**22 10 56.7**	**-0.1**
GRG				S	**Sg**	**22 11 17.6**	**+1.4**
GRG	**Griva**	**1.46**	**101**	P	**Pb**	**22 10 56.7**	**-0.1**
GRG				S	**Sg**	**22 11 17.6**	**+1.4**
TTG	**Podgorica**	**1.50**	**322**	⇓*i*Pg	**Pn**	**22 10 56.4**	**-0.2**
TTG				*e*Sg	**Sg**	**22 11 20.5**	**+2.9**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pn**	**22 10 56.5**	**-0.3**
PDG				*e*Sn	**Sg**	**22 11 19.6**	**+1.9**
PDG	**Podgorica**	**1.50**	**322**	*e*Pn	**Pn**	**22 10 56.5**	**-0.3**
PDG				*e*Sn	**Sg**	**22 11 19.6**	**+1.9**
PDG				*e*Sg	**Sg**	**22 11 20.5**	**+2.8**
VAY	**Valandovo**	**1.55**	**87**	P	**Pn**	**22 10 57.6**	**+0.2**
VAY	**Valandovo**	**1.55**	**87**	*i* P	**Pn**	**22 10 57.1**	**-0.3**
VAY				*i* S	**Sn**	**22 11 17.7**	**-0.1**
VAY	**Valandovo**	**1.55**	**87**	*i* Pg	**Pn**	**22 10 57.3**	**-0.1**
VAY				*i* Sg	**Sg**	**22 11 19.7**	**+0.5**
VAY				*e*Lg	Lg	22 11 20.6	
	comp=N,337nm,0.7s						
VAY				*e*Lg	Lg	22 11 21.1	
	comp=E,248nm,0.6s						
VAY	**Valandovo**	**1.55**	**87**	*i* P	**Pn**	**22 10 57.1**	**-0.3**
VAY	**Valandovo**	**1.55**	**87**	*i* Pg	**Pb**	**22 10 57.7**	**-0.7**
VAY				*i* S	**Sn**	**22 11 17.7**	**-0.1**
VAY				*i* Sg	**Sg**	**22 11 20.2**	**+1.0**
VAY				*e*Lg	Lg	22 11 21.6	
	comp=E,248nm,0.6s						
MEV	**Metsovon**	**1.57**	**159**	P	**Pg**	**22 10 59.4**	**0.0**
MEV	**Metsovon**	**1.57**	**159**	P	**Pg**	**22 10 59.4**	**0.0**
BUM	**Brajici-Budva**	**1.60**	**311**	⇑*i*Pg	**Pn**	**22 10 58.1**	**0.0**
BUM				*e*Sg	**Sg**	**22 11 22.7**	**+2.0**
BUM	**Brajici-Budva**	**1.60**	**311**	⇑*i*Pg	**Pn**	**22 10 58.1**	**0.0**
BUM				*e*Sg	**Sg**	**22 11 22.7**	**+2.0**
KEK	**Kerkira**	**1.64**	**200**	P	**Pb**	**22 10 59.5**	**-0.3**
KEK				S	**Sg**	**22 11 22.7**	**+0.8**
KEK	**Kerkira**	**1.64**	**200**	*e*PN	**Pb**	**22 10 59.6**	**-0.3**
KEK	**Kerkira**	**1.64**	**200**	P	**Pb**	**22 10 59.5**	**-0.3**
KEK				S	**Sg**	**22 11 22.7**	**+0.8**
IVA	**Berane**	**1.68**	**344**	*e*Pn	**Pb**	**22 11 00.9**	**+0.3**
IVA				*e*Sn	**Sg**	**22 11 25.0**	**+1.7**
BEY	**Berane**	**1.68**	**344**	*e*Pn	**Pb**	**22 11 00.9**	**+0.2**
BEY				*e*Sn	**Sg**	**22 11 25.0**	**+1.7**
IGT	**Igoumenitsa**	**1.73**	**185**	P	**Pb**	**22 11 00.6**	**-0.8**
IGT				S	**Sg**	**22 11 25.5**	**+0.7**
IGT	**Igoumenitsa**	**1.73**	**185**	P	**Pb**	**22 11 00.6**	**-0.8**
IGT				S	**Sg**	**22 11 25.5**	**+0.7**
KNT	**Kendrikon**	**1.80**	**92**	P	**Pn**	**22 11 01.3**	**+0.4**
KNT				S	**Sb**	**22 11 25.5**	**0.0**
KNT	**Kendrikon**	**1.80**	**92**	P	**Pn**	**22 11 01.3**	**+0.4**
KNT				S	**Sb**	**22 11 25.5**	**0.0**
BARS	**Barje**	**1.84**	**31**	*e*Pn	**Pn**	**22 11 02.0**	**+0.7**
BARS				*e*Sn	**Sb**	**22 11 27.2**	**+0.7**
BARS	**Barje**	**1.84**	**31**	*e*Pn	**Pn**	**22 11 02.0**	**+0.7**
BARS				*e*Sn	**Sb**	**22 11 27.2**	**+0.7**
LIT	**Litokhoron**	**1.90**	**127**	P	**Pb**	**22 11 03.3**	**-1.0**
LIT	**Litokhoron**	**1.90**	**127**	*e*PN	**Pb**	**22 11 03.5**	**-0.8**
LIT	**Litokhoron**	**1.90**	**127**	P	**Pb**	**22 11 03.3**	**-1.0**
HCY	**Herceg Novi**	**1.92**	**309**	⇓*i*Pn	**Pb**	**22 11 03.6**	**-1.1**
HCY				*e*Sn	**Sg**	**22 11 30.2**	**-0.9**
HCY	**Herceg Novi**	**1.92**	**309**	⇓*i*Pn	**Pb**	**22 11 03.6**	**-1.1**
HCY				*e*Sn	**Sg**	**22 11 30.2**	**-0.9**
NKY	**Niksic**	**1.92**	**324**	⇓*i*Pn	**Pb**	**22 11 03.7**	**-1.1**
NKY				*e*Sn	**Sg**	**22 11 30.7**	**-0.5**
NKY	**Niksic**	**1.92**	**324**	⇓*i*Pn	**Pb**	**22 11 03.7**	**-1.1**
NKY				*e*Sn	**Sg**	**22 11 30.7**	**-0.5**
SELS	**Selova**	**2.01**	**13**	*e*Pn	**Pn**	**22 11 03.5**	**-0.3**
KKB	**Krupnik**	**2.02**	**72**	*i* Pg	**Pb**	**22 11 05.1**	**-1.4**
KKB				*i* Sg	**Sb**	**22 11 30.8**	**-1.1**
KKB	**Krupnik**	**2.02**	**72**	*i* Pg	**Pb**	**22 11 05.1**	**-1.4**
THL	**Klokotos Trika**	**2.04**	**145**	P	**Pn**	**22 11 04.6**	**+0.5**
THL	**Klokotos Trika**	**2.04**	**145**	*e*PB	**Pn**	**22 11 04.7**	**+0.6**
THL	**Klokotos Trika**	**2.04**	**145**	*e*Pn	**Pn**	**22 11 04.7**	**+0.6**
SJES	**Sjenica**	**2.04**	**349**	*e*Pn	**Pb**	**22 11 05.5**	**-1.4**
SJES				*e*Sn	**Sg**	**22 11 34.4**	**-0.6**
SJES	**Sjenica**	**2.04**	**349**	*e*Pn	**Pb**	**22 11 05.5**	**-1.4**
SJES				*e*Sn	**Sg**	**22 11 34.4**	**-0.6**
HORT	**Hortiatis**	**2.07**	**108**	P	**Pn**	**22 11 05.1**	**+0.5**
HORT	**Hortiatis**	**2.07**	**108**	P	**Pn**	**22 11 05.1**	**+0.5**
SOH	**Sokhos**	**2.19**	**100**	P	**Pn**	**22 11 06.8**	**+0.5**
SOH				S	**Sb**	**22 11 35.5**	**-1.3**
SOH	**Sokhos**	**2.19**	**100**	*e*PB	**Pn**	**22 11 06.7**	**+0.5**
SOH	**Sokhos**	**2.19**	**100**	P	**Pn**	**22 11 06.8**	**+0.5**
SOH				S	**Sb**	**22 11 35.5**	**-1.3**
BRY	**Bratogost**	**2.21**	**319**	⇓*i*Pn	**Pn**	**22 11 07.9**	**+1.4**
BRY				*e*Sn	**Sb**	**22 11 36.8**	**-0.4**
BRY	**Bratogost**	**2.21**	**319**	⇓*i*Pn	**Pn**	**22 11 07.9**	**+1.4**
BRY				*e*Sn	**Sb**	**22 11 36.8**	**-0.4**
PLE	**Pljevlja**	**2.23**	**338**	*e*Pn	**Pb**	**22 11 08.8**	**-1.3**
PLE				*e*Sn	**Sb**	**22 11 38.6**	**+0.6**
PLE	**Pljevlja**	**2.23**	**338**	*e*Pn	**Pb**	**22 11 08.8**	**-1.3**
PLE				*e*Sn	**Sb**	**22 11 38.6**	**+0.6**
UPM	**Unac-Piva**	**2.28**	**329**	⇑*i*Pn	**Pn**	**22 11 09.3**	**+1.7**
UPM				*e*Sn	**Sb**	**22 11 39.7**	**+0.2**
UPM	**Unac-Piva**	**2.28**	**329**	⇑*i*Pn	**Pn**	**22 11 09.3**	**+1.7**
UPM				*e*Sn	**Sb**	**22 11 39.7**	**+0.2**
IVAS	**Ivanjica**	**2.33**	**354**	*e*Pn	**Pn**	**22 11 08.6**	**+0.4**
IVAS				*e*Sn	**Sb**	**22 11 42.0**	**+1.1**
IVAS	**Ivanjica**	**2.33**	**354**	*e*Pn	**Pn**	**22 11 08.6**	**+0.4**
IVAS				*e*Sn	**Sb**	**22 11 42.0**	**+1.1**
PLG	**Polygyros**	**2.39**	**111**	P	**Pn**	**22 11 09.9**	**+0.9**
PLG				S	**Sn**	**22 11 39.8**	**+1.2**
PLG	**Polygyros**	**2.39**	**111**	*e*PN	**Pn**	**22 11 09.5**	**+0.5**
PLG	**Polygyros**	**2.39**	**111**	*e*Pn	**Pn**	**22 11 09.5**	**+0.5**
PLG	**Polygyros**	**2.39**	**111**	P	**Pn**	**22 11 09.9**	**+0.9**
PLG				S	**Sn**	**22 11 39.8**	**+1.2**
VTS	**Vitosha**	**2.41**	**56**	P	**Pn**	**22 11 10.5**	**+1.2**
VTS				S	**Sn**	**22 11 39.7**	**+0.4**
VTS	**Vitosha**	**2.41**	**56**	⇓*i*P	**Pn**	**22 11 10.7**	**+1.3**
VTS	**Vitosha**	**2.41**	**56**	S	**Sn**	**22 11 39.4**	**+0.1**
VTS	**Vitosha**	**2.41**	**56**	*i* Pg	**Pn**	**22 11 10.6**	**+1.2**
VTS				*i* Sg	**Sn**	**22 11 40.0**	**+0.7**
VTS	**Vitosha**	**2.41**	**56**	*e*Pn	**Pn**	**22 11 10.6**	**+1.2**
VTS				*e*Sn	**Sn**	**22 11 40.5**	**+1.2**
VTS	**Vitosha**	**2.41**	**56**	*e*Pn	**Pn**	**22 11 10.6**	**+1.2**
VTS				S	**Sn**	**22 11 39.4**	**+0.1**
VTS				*e*Sn	**Sn**	**22 11 40.5**	**+1.2**
MMB	**Musomiste**	**2.44**	**81**	*i* P	**Pn**	**22 11 10.1**	**+0.4**
MMB				*i* Pg	**Pg**	**22 11 14.8**	**-1.3**
MMB	**Musomiste**	**2.44**	**81**	*i* P	**Pn**	**22 11 10.1**	**+0.4**
NVR	**Nevrokopi**	**2.52**	**87**	P	**Pn**	**22 11 11.4**	**+0.6**
NVR				S	**Sn**	**22 11 42.8**	**+0.9**
NVR	**Nevrokopi**	**2.52**	**87**	*e*PN	**Pn**	**22 11 11.4**	**+0.6**
NVR	**Nevrokopi**	**2.52**	**87**	P	**Pn**	**22 11 11.4**	**+0.6**
NVR				S	**Sn**	**22 11 42.8**	**+0.9**
ZAPS	**Zavoj**	**2.56**	**37**	*e*Pn	**Pn**	**22 11 13.0**	**+1.7**
ZAPS				*e*Sn	**Sn**	**22 11 44.3**	**+1.6**
GRUS	**Gruza**	**2.63**	**3**	*e*Pn	**Pn**	**22 11 13.3**	**+1.0**
GRUS				*e*Sn	**Sn**	**22 11 46.7**	**+2.2**
GRUS	**Gruza**	**2.63**	**3**	*e*Pn	**Pn**	**22 11 13.3**	**+1.0**
GRUS				*e*Sn	**Sn**	**22 11 46.7**	**+2.2**
STON	**Ston**	**2.64**	**309**	*i* Pn	**Pb

CTA				LR	LR	22 27 51.5	
	comp=Z,166nm,21.6s,baz=123,slow=38						
CTA	**Charters Tower**	**19.36 159**	P		**Pn**	**22 20 05.4**	**-0.4**
CTAO	**Charters Tower**	**19.36 159**	*eP*		**P**	**22 20 05.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.57 218**	P		Pn	22 20 20.8	+0.7
	2.7nm,0.8s,baz=92,slow=22,SNR=6.6						
FITZ				S	**S**	**22 24 05.4**	**-1.2**
	9.0nm,0.9s,baz=180,slow=12,SNR=7.2						
FITZ	**Fitzroy Crossi**	**20.57 218**	*eP*		Pn	22 20 22.4	+2.2
	3.7nm,0.6s						
FITZ				*eS*	**S**	**22 24 05.7**	**-0.9**
AS31	**Alice Springs**	**22.04 192**	*eP*		**P**	**22 20 35.5**	**+1.9**
ASAR	**Alice Springs**	**22.04 192**	P		**P**	**22 20 34.8**	**+1.2**
	2.9nm,0.4s,baz=23,slow=10.0,SNR=43						
ASAR				S	**S**	**22 24 40.2**	**+4.8**
	1.4nm,0.8s,baz=17,slow=25,SNR=4.9						
ASAR	**Alice Springs**	**22.04 192**	P		**P**	**22 20 34.8**	**+1.2**
ASAR				S	**S**	**22 24 40.2**	**+4.8**
CBIJ	**Chichi jima**	**29.13 6**	LR		LR	22 30 29.7	
	comp=Z,98nm,21.8s,baz=249,slow=31						
STKA	**Stephens Creek**	**29.81 175**	P		**P**	**22 21 45.5**	**-0.1**
	2.5nm,0.6s,baz=344,slow=10.0,SNR=7.1						
STKA				LR	LR	22 34 45.6	
	comp=Z,171nm,20.7s,baz=19,slow=38						
STKA	**Stephens Creek**	**29.81 175**	*eP*		**P**	**22 21 45.7**	**+0.1**
	0.8nm,0.7s						
KSRS	**Korea Array**	**40.56 347**	LR		LR	22 40 25.7	
	comp=Z,53nm,18.6s,baz=257,slow=37						
CMAR	**Chiang Mai Arr**	**44.22 299**	P		**P**	**22 23 49.6**	**+1.5**
	1.6nm,0.6s,baz=110,slow=6.3,SNR=8.1						
CMAR	**Chiang Mai Arr**	**44.22 299**	P		**P**	**22 23 49.6**	**+1.5**
GTA	**Gaotai**	**54.60 323**	*eP*		**P**	**22 25 08.2**	**+1.0**
GTA				pP	**pP**	**22 25 15.8**	**-0.3**
GTA				sP	**sP**	**22 25 19.1**	**-0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**56.90 335**	*eP*		**P**	**22 25 22.4**	**-1.3**
	comp=Z,2.3nm,1.0s						
SONM	**Songino Array**	**57.16 335**	P		**P**	**22 25 24.9**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=139,slow=7.0,SNR=5.5						
SONM	**Songino Array**	**57.16 335**	P		**P**	**22 25 24.9**	**-0.5**
MK31	**Makanchi Array**	**69.33 322**	*eP*		**P**	**22 26 45.8**	**-0.3**
MKAR	**Makanchi Array**	**69.33 322**	P		**P**	**22 26 46.0**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=115,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**69.33 322**	P		**P**	**22 26 46.0**	**-0.1**
ZALV	**Zalesovo Beam**	**71.41 330**	P		**P**	**22 26 56.8**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=119,slow=6.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**71.41 330**	P		**P**	**22 26 56.8**	**-1.7**
AAK	**Ala-Archa**	**72.81 316**	*eP*		**P**	**22 27 07.2**	**-0.2**
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**73.24 325**	*eP*		**P**	**22 27 09.0**	**-0.5**
	comp=Z,6.9nm,1.2s						
EKS2	**Erkin-Say**	**73.32 316**	*eP*		**P**	**22 27 10.9**	**+0.5**
	comp=Z,4.4nm,1.3s						
VNDA	**Vanda**	**76.45 175**	P		**P**	**22 27 27.7**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=347,slow=6.5,SNR=8.0						
VNDA	**Vanda**	**76.45 175**	*eP*		**P**	**22 27 27.4**	**-0.1**
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**84.29 320**	*eP*		**P**	**22 28 10.2**	**0.0**
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**85.15 24**	P		**P**	**22 28 11.2**	**-3.2**
	comp=Z,1.9nm,1.0s,baz=267,slow=5.2,SNR=12						
ILAR	**Eielson Array**	**85.15 24**	P		**P**	**22 28 11.2**	**-3.2**
QSPA	**South Pole Qui**	**87.92 180**	P		**P**	**22 28 27.6**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=293,slow=2.7,SNR=6.0						
QSPA	**South Pole Qui**	**87.92 180**	*eP*		**P**	**22 28 27.8**	**-0.2**
	comp=Z,1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**136.19 287**	PKP		**PKPdf**	**22 35 02.8**	**+1.9**
	comp=Z,0.7nm,1.0s,baz=79,slow=2.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**136.19 287**	PKP		**PKPdf**	**22 35 02.8**	**+1.9**
DBIC	**Dimbokro**	**143.53 278**	PKP		**PKPdf**	**22 35 14.6**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=55,slow=1.9,SNR=5.6						
DBIC	**Dimbokro**	**143.53 278**	PKP		**PKPdf**	**22 35 14.6**	**+0.4**
LPAZ	**La Paz**	**147.73 125**	PKPbc		**PKPbc**	**22 35 25.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=244,slow=5.1,SNR=4.1						
LPAZ	**La Paz**	**147.73 125**	PKPbc		**PKPbc**	**22 35 25.6**	**+0.7**

*NEIC **10** 22:21:54.1, 19.50N×66.44W, h47km, MD3.5(RSPR), After RSPR.*

RSPR 10 22:21:54.1, 19.50N×66.44W, h47km±23km, MD3.5/6, 10C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.18**	**195**	⇑*eP*		Pn	22 22 13.0	-1.3
AOPR	**Arecibo Observ**	**1.18**	**195**	*eS*		Sn	22 22 28.2	-1.1
AOPR	**Arecibo Observ**	**1.18**	**195**	⇑*eP*		Pn	22 22 13.0	-1.3
AOPR				*eS*		Sn	22 22 28.2	-1.1
LRS	**Lares**	**1.26**	**198**	⇓*iP*		Pn	22 22 14.2	-1.2
LRS	**Lares**	**1.26**	**198**	⇓*iP*		Pn	22 22 14.2	-1.2
SJG	**San Juan**	**1.41**	**169**	⇓*eP*		Pn	22 22 16.4	-0.9
SJG	**San Juan**	**1.41**	**169**	⇑*iP*		Pn	22 22 16.6	-0.7
SJG	**San Juan**	**1.41**	**169**	*i* Pu		Pn	22 22 16.6	-0.7
CELP	**Cerrillos**	**1.42**	**185**	⇓*iP*		Pn	22 22 16.5	-1.1
CELP	**Cerrillos**	**1.42**	**185**	⇓*iP*		Pn	22 22 16.5	-1.1
LSP	**Las Mesas**	**1.45**	**205**	⇓*eP*		Pn	22 22 17.6	-0.4
LSP	**Las Mesas**	**1.45**	**205**	⇓*eP*		Pn	22 22 17.6	-0.4
OBIP	**Obispado Ponce**	**1.46**	**186**	⇑*eP*		Pn	22 22 17.5	-0.5
OBIP	**Obispado Ponce**	**1.46**	**186**	⇑*eP*		Pn	22 22 17.5	-0.5
HUMP	**Col San Antoni**	**1.46**	**157**	⇓*eP*		Pn	22 22 16.2	-1.8
HUMP	**Col San Antoni**	**1.46**	**157**	⇓*eP*		Pn	22 22 16.2	-1.8
CPD	**Cerro la Pandu**	**1.54**	**161**	⇑*eP*		Pn	22 22 17.1	-2.0
CPD	**Cerro la Pandu**	**1.54**	**161**	⇑*eP*		Pn	22 22 17.1	-2.0
CRPR	**Cabo Rojo, PR**	**1.61**	**203**	⇑*eP*		Pn	22 22 20.5	+0.4
CRPR	**Cabo Rojo, PR**	**1.61**	**203**	⇑*eP*		Pn	22 22 20.5	+0.4
MTP	**Monte Pirata**	**1.63**	**149**	⇑*eP*		Pn	22 22 18.6	-1.7
MTP	**Monte Pirata**	**1.63**	**149**	⇑*eP*		Pn	22 22 18.6	-1.7
STVI	**Saint Thomas**	**1.81**	**129**	⇓*eP*		Pn	22 22 22.3	-0.5
STVI	**Saint Thomas**	**1.81**	**129**	*eS*		Sn	22 22 43.8	-0.7
STVI	**Saint Thomas**	**1.81**	**129**	⇓*eP*		Pn	22 22 22.3	-0.5
STVI				*eS*		Sn	22 22 43.8	-0.7

IDC 10 22:58:27.2±2.2, 1.75S×139.56E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/32, Error ellipse: s-maj=75.5km s-min=24.1km az=84.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.78**	**195**	P		P	23 02 46.5	-1.8
	0.4nm,0.3s,baz=20,slow=12,SNR=24							
WRA				S		Sn	23 06 06.7	-13
	0.0nm,0.3s,baz=166,slow=12,SNR=3.5							
KAPI	**Kappang**	**20.04**	**260**	LR		LR	23 11 01.4	
	comp=Z,24nm,18.5s,baz=313,slow=38							
FITZ	**Fitzroy Crossi**	**21.23**	**219**	P		P	23 03 14.5	-0.5
	1.2nm,0.7s,baz=63,slow=11,SNR=2.8							
ASAR	**Alice Springs**	**22.46**	**194**	P		P	23 03 27.9	-0.4
	2.7nm,0.8s,baz=27,slow=10.0,SNR=26							
STKA	**Stephens Creek**	**30.02**	**177**	P		P	23 04 39.6	+1.7
	1.3nm,0.7s,baz=338,slow=11,SNR=2.8							
STKA				LR		LR	23 17 12.9	
	comp=Z,72nm,20.3s,baz=24,slow=38							
MKAR	**Makanchi Array**	**69.56**	**322**	P		P	23 09 38.2	0.0
	0.6nm,0.6s,baz=105,slow=8.2,SNR=12							

*IDC **10** 23:01:46.7±0.8, 25.57N×144.06E, h0km, mb3.8/14, mb1 4.1/16, mb1mx4.0/27, mbtmp3.9/16, ML4.0/2, Error ellipse: s-maj=23.5km s-min=15.5km az=81.0*
*JMA **10** 23:01:47.2±0.2, 26.22N×144.50E, h3km, M4.4*
*ISCJB **10** 23:01:49.0±0.6, 25.59N±0.07×144.17E±0.09, h33km, mb3.9/19, Error ellipse: s-maj=14.2km s-min=7.2km az=144.4*
*NEIC **10** 23:01:51.8±0.5, 25.57N×143.98E, h35km, mb4.3/6, Error ellipse: s-maj=14.5km s-min=9.6km az=78.0*

ISC 10 23:01:51.7±0.7, 25.60N±0.10×144.10E±0.10, h35km, n42, σ1°29/50, mb3.9/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.01**	**301**	P		**Pn**	**23 02 24.3**	**+1.2**
JHHJ				*eS*		**Sn**	**23 02 51.3**	**+4.2**
CBIJ	**Chichi jima**	**2.27**	**311**	Pn		**Pn**	**23 02 26.1**	**-0.7**
	32nm,0.3s,baz=270,slow=22,SNR=6.4							
CBIJ				Sn		**Sn**	**23 02 53.4**	**-0.2**
	88nm,0.3s,baz=291,slow=23,SNR=14							
CBIJ	**Chichi jima**	**2.27**	**311**	Pn		**Pn**	**23 02 26.1**	**-0.7**
CBIJ				Sn		**Sn**	**23 02 53.4**	**-0.2**
CBIJ	**Chichi jima**	**2.27**	**311**	P		**Pn**	**23 02 26.0**	**-0.7**
CBIJ				*eS*		**Sn**	**23 02 54.1**	**+0.5**
JOD2	**Odawara 2**	**10.55**	**337**	P		**Pn**	**23 04 18.4**	**-2.1**
JRY	**Ryogami san**	**11.30**	**338**	P		**Pn**	**23 04 28.1**	**-2.6**
JRY				*eS*		Sn	23 06 27.7	-8.0
MJAR	**Matsushiro Arr**	**12.01**	**337**	Pn		**Pn**	**23 04 39.2**	**-1.2**
	1.1nm,0.3s,baz=114,slow=37,SNR=8.8							
MJAR	**Matsushiro Arr**	**12.01**	**337**	Pn		**Pn**	**23 04 39.2**	**-1.2**
USRK	**Ussuriysk Arra**	**21.00**	**335**	P		**P**	**23 06 33.5**	**+1.5**
	2.1nm,0.6s,baz=152,slow=10.0,SNR=4.7							
SSLB	**Suanglung**	**21.11**	**270**	*eP*		**P**	**23 06 32.4**	**-1.0**
	7.9nm,0.7s							
ULN	**Ulaanbaatar**	**36.58**	**317**	*eP*		**P**	**23 08 54.0**	**-0.5**
	0.7nm,0.4s							
SONM	**Songino Array**	**36.98**	**317**	P		**P**	**23 08 58.6**	**+0.8**
	0.5nm,0.5s,baz=116,slow=6.4,SNR=6.0							
SONM	**Songino Array**	**36.98**	**317**	P		**P**	**23 08 58.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**42.30**	**270**	P		**P**	**23 09 42.6**	**+0.3**
	0.8nm,0.3s,baz=57,slow=8.9,SNR=5.3							
CMAR	**Chiang Mai Arr**	**42.30**	**270**	P		**P**	**23 09 42.6**	**+0.3**
WRAB	**Tennant Creek**	**46.24**	**193**	*eP*		**P**	**23 10 13.0**	**-0.7**
	3.2nm,0.4s							
WRA	**Warramunga Arr**	**46.26**	**193**	P		**P**	**23 10 13.2**	**-0.7**
	2.6nm,0.5s,baz=17,slow=8.7,SNR=51							
WRA	**Warramunga Arr**	**46.26**	**193**	P		**P**	**23 10 13.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**47.01**	**204**	P		**P**	**23 10 20.4**	**+0.7**
	4.3nm,0.8s,baz=46,slow=7.5,SNR=10							
FITZ	**Fitzroy Crossi**	**47.01**	**204**	*eP*		**P**	**23 10 18.7**	**-1.0**
	4.6nm,0.8s							
ASAR	**Alice Springs**	**49.96**	**192**	P		**P**	**23 10 41.5**	**-0.9**
	0.3nm,0.4s,baz=6.2,slow=8.1,SNR=5.9							
ASAR	**Alice Springs**	**49.96**	**192**	P		**P**	**23 10 41.5**	**-0.9**
ZALV	**Zalesovo Beam**	**51.74**	**320**	P		**P**	**23 10 54.1**	**-1.3**
	0.4nm,0.5s,baz=87,slow=7.6,SNR=3.8							
ZALV				PcP		**PcP**	**23 12 07.6**	**-0.9**
	0.4nm,0.4s,baz=85,slow=3.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**51.74**	**320**	P		**P**	**23 10 54.1**	**-1.3**
ZALV				PcP		**PcP**	**23 12 07.6**	**-0.9**
MK31	**Makanchi Array**	**52.75**	**310**	*eP*		**P**	**23 11 02.8**	**-0.4**
MKAR	**Makanchi Array**	**52.75**	**310**	P		**P**	**23 11 03.5**	**+0.3**
	0.4nm,0.4s,baz=86,slow=10.0,SNR=9.6							
MKAR				PcP		**PcP**	**23 12 12.6**	**+0.2**
	0.3nm,0.7s,baz=93,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**52.75**	**310**	P		**P**	**23 11 03.5**	**+0.3**
MKAR				PcP		**PcP**	**23 12 12.6**	**+0.2**
KURK	**Kurchatov**	**55.25**	**315**	*eP*		**P**	**23 11 20.7**	**-0.6**
	2.7nm,0.7s							
ILAR	**Eielson Array**	**58.20**	**28**	P		**P**	**23 11 43.5**	**+1.5**
	0.5nm,0.7s,baz=260,slow=4.6,SNR=5.0							
ILAR	**Eielson Array**	**58.20**	**28**	P		**P**	**23 11 43.5**	**+1.5**
KBL	**Kabul**	**64.23**	**298**	*eP*		**P**	**23 12 23.4**	**-0.2**
ABKAR	**Akbulak array**	**67.36**	**315**	*eP*		**P**	**23 12 41.4**	**-1.9**
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**72.63**	**28**	P		**P**	**23 13 14.1**	**-1.2**
	0.2nm,0.4s,baz=293,slow=6.2,SNR=3.5							
YKA	**Yellowknife Ar**	**72.63**	**28**	P		**P**	**23 13 14.1**	**-1.2**
FINES	**FINESS Array B**	**80.03**	**334**	P		**P**	**23 13 57.2**	**-0.1**
	1.2nm,0.6s,baz=59,slow=5.1,SNR=6.6							
FINES	**FINESS Array B**	**80.03**	**334**	P		**P**	**23 13 57.2**	**-0.1**
NVAR	**Mina Array Bea**	**80.08**	**52**	P		**P**	**23 14 01.1**	**+2.7**
	0.3nm,0.6s,baz=331,slow=5.4,SNR=4.0							
NVAR	**Mina Array Bea**	**80.08**	**52**	P		**P**	**23 14 01.1**	**+2.7**
KBZ	**Khabaz**	**80.28**	**314**	P		**P**	**23 14 00.1**	**+1.1**
	1.7nm,0.7s,baz=62,slow=6.3,SNR=4.3							
KBZ	**Khabaz**	**80.28**	**314**	P		**P**	**23 14 00.1**	**+1.1**
NOA	**NORSAR Array B**	**85.62**	**339**	P		**P**	**23 14 25.9**	**-0.5**
	0.6nm,0.8s,baz=40,slow=4.9,SNR=3.0							
NOA	**NORSAR Array B**	**85.62**	**339**	P		**P**	**23 14 25.9**	**-0.5**

IDC 10 23:05:27.5±4.8, 27.34S×63.71E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/23, mbtmp3.8/3, Error ellipse: s-maj=178.1km s-min=93.5km az=149.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**56.91**	**41**	P		P	23 15 14.4	-0.1
	0.6nm,0.3s,baz=237,slow=8.1,SNR=5.5							
MKAR	**Makanchi Array**	**75.67**	**13**	P		P	23 17 14.1	-0.3
	0.3nm,0.8s,baz=212,slow=5.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**82.99**	**12**	P		P	23 17 54.8	+0.7
	0.8nm,0.5s,baz=198,slow=4.6,SNR=4.1							
YKA	**Yellowknife Ar**	**144.83**	**359**	PKP		PKPbc	23 25 04.8	0.0
	0.6nm,0.6s,baz=344,slow=3.5,SNR=13							

*NEIC **10** 23:07:57.7, 19.77N×64.14W, h42km, MD3.6(RSPR), After RSPR.*

RSPR 10 23:07:57.7, 19.77N×64.14W, h43km±14km, MD3.6/9, 15C-20D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.05**	**190**	⇓*iP*		Pn	23 08 15.0	-1.0
ABV				*eS*		Sn	23 08 28.1	-1.3
ABV	**Anegada**	**1.05**	**190**	⇓*iP*		Pn	23 08 15.4	-0.6
ABV				*eS*		Sn	23 08 28.1	-1.3
ABVI	**Anegada Island**	**1.05**	**190**	⇓*iP*		Pn	23 08 15.0	-1.0
ABVI				*eS*		Sn	23 08 28.1	-1.3
TBVI	**Tortola**	**1.42**	**199**	⇓*iP*		Pn	23 08 19.9	-1.2
TBVI	**Tortola**	**1.42**	**199**	⇓*iP*		Pn	23 08 19.9	-1.2
TBVI	**Tortola**	**1.42**	**199**	⇓*iP*		Pn	23 08 19.9	-1.2
STVI	**Saint Thomas**	**1.61**	**209**	⇓*eP*		Pn	23 08 22.6	-1.1
STVI	**Saint Thomas**	**1.61**	**209**	*eS*		Sn	23 08 41.7	-1.5
STVI	**Saint Thomas**	**1.61**	**209**	⇓*eP*		Pn	23 08 22.6	-1.1
STVI				*eS*		Sn	23 08 41.7	-1.5
STVI	**Saint Thomas**	**1.61**	**209**	⇓*eP*		Pn	23 08 22.6	-1.1
STVI				*eS*		Sn	23 08 41.7	-1.5
CDVI	**St. Croix**	**2.09**	**197**	⇑*eP*		Pn	23 08 30.4	0.0
CDVI	**St. Croix**	**2.09**	**197**	⇑*eP*		Pn	23 08 30.4	0.0
CDVI	**St. Croix**	**2.09**	**197**	⇑*eP*		Pn	23 08 30.4	0.0
MTP	**Monte Pirata**	**2.14**	**219**	⇓*eP*		Pn	23 08 30.6	-0.4
MTP	**Monte Pirata**	**2.14**	**219**	*eS*		Sn	23 08 55.7	-0.5
MTP	**Monte Pirata**	**2.14**	**219**	⇓*eP*		Pn	23 08 30.6	-0.4
MTP				*eS*		Sn	23 08 55.7	-0.5
MTP	**Monte Pirata**	**2.14**	**219**	⇓*eP*		Pn	23 08 30.6	-0.4
MTP				*eS*		Sn	23 08 55.7	-0.5
CBYP	**Canovanas**	**2.21**	**228**	⇑*eP*		Pn	23 08 30.8	-1.2
CBYP	**Canovanas**	**2.21**	**228**	⇑*eP*		Pn	23 08 30.8	-1.2
CBYP	**Canovanas**	**2.21**	**228**	⇑*eP*		Pn	23 08 30.8	-1.2
HUMP	**Col San Antoni**	**2.29**	**225**	⇑*eP*		Pn	23 08 32.0	-1.0
HUMP	**Col San Antoni**	**2.29**	**225**	⇑*eP*		Pn	23 08 32.0	-1.0
HUMP	**Col San Antoni**	**2.29**	**225**	⇑*eP*		Pn	23 08 32.5	-0.5
CPD	**Cerro la Pandu**	**2.41**	**225**	⇓*eP*		Pn	23 08 34.2	-0.5
CPD	**Cerro la Pandu**	**2.41**	**225**	⇓*eP*		Pn	23 08 34.2	-0.5
CPD	**Cerro la Pandu**	**2.41**	**225**	⇓*eP*		Pn	23 08 34.2	-0.5
AOPR	**Arecibo Observ**	**2.85**	**241**	⇑*eP*		Pn	23 08 39.9	-0.9
AOPR	**Arecibo Observ**	**2.85**	**241**	⇑*eP*		Pn	23 08 39.9	-0.9
AOPR	**Arecibo Observ**	**2.85**	**241**	⇑*eP*		Pn	23 08 39.9	-0.9
CELP	**Cerrillos**	**2.86**	**234**	⇓*iP*		Pn	23 08 40.2	-0.7
CELP	**Cerrillos**	**2.86**	**234**	⇓*iP*		Pn	23 08 40.2	-0.7
CELP	**Cerrillos**	**2.86**	**234**	⇓*iP*		Pn	23 08 40.2	-0.7
CRPR	**Cabo Rojo, PR**	**3.32**	**239**	⇑*eP*		Pn	23 08 47.1	0.0
CRPR	**Cabo Rojo, PR**	**3.32**	**239**	⇑*eP*		Pn	23 08 47.1	0.0
CRPR	**Cabo Rojo, PR**	**3.32**	**239**	⇑*eP*		Pn	23 08 47.1	0.0
DR12	**Loma Pena Alta**	**5.05**	**260**	⇓*eP*		Pn	23 09 10.9	-0.1
DR12	**Loma Pena Alta**	**5.05**	**260**	⇓*eP*		Pn	23 09 10.9	-0.1

*TIR **10** 23:19:43.5, 41.24N×20.46E, h31km, ML2.5*
*CSEM **10** 23:19:43.2±0.2, 41.32N×20.42E, h40km, ML2.5, Error ellipse: s-maj=7.7km s-min=4.6km az=21.0*
*SKO **10** 23:19:44.2, 41.36N×20.50E, h9km*

ISC 10 23:19:38.3±3.6, 41.5N±0.1×20.36E±0.08, h83km±24km, n7, σ2°12/13, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.19**	**20**	*ePg*		**Pn**	**23 19 52.2**	**+1.7**
PHP				*i* SG		**Sn**	**23 19 59.0**	**-0.4**
PHP	**Peshkopia**	**0.19**	**20**	*ePg*		**Pn**	**23 19 52.2**	**+1.7**
PHP				*i* Sg		**Sn**	**23 19 59.0**	**-0.4**
TIR	**Tirane**	**0.40**	**247**	*ePG*		**Pn**	**23 19 52.7**	**+1.2**
TIR				*i* SG		**Sn**	**23 20 00.3**	**-1.0**
TIR	**Tirane**	**0.40**	**247**	*ePg*		**Pn**	**23 19 52.7**	**+1.2**
TIR				*i* Sg		**Sn**	**23 20 00.3**	**-1.0**
PUK	**Puka**	**0.64**	**327**	*i* SG		**Sn**	**23 20 01.4**	**-3.7**
BIA	**Bitola**	**0.88**	**123**	*ePg*		**Pn**	**23 19 57.6**	**+1.4**
BIA				*eSg*		**Sn**	**23 20 07.1**	**-2.4**
BIA	**Bitola**	**0.88**	**123**	*ePg*		**Pn**	**23 19 57.6**	**+1.4**
BIA				*eSg*		**Sn**	**23 20 07.0**	**-2.4**

*LDG **10** 23:21:19.9±0.3, 36.99N×14.00W, h30km, Ml3.6/4, Error ellipse: s-maj=5.6km s-min=5.1km az=35.0*
*INMG **10** 23:21:19.8±1.7, 36.85N×14.14W, h10km, ML2.9, Error ellipse: s-maj=5.1km s-min=2.3km az=132.0*
*MDD **10** 23:21:19.6±1.4, 37.12N×13.68W, h0km, mb4.1/16, Error ellipse: s-maj=12.9km s-min=11.4km az=49.0, PRXIMO*
*IGIL **10** 23:21:20.3, 37.13N×13.66W, h0km, ML2.9*
*CSEM **10** 23:21:22.5±0.3, 37.19N×13.42W, h10km, ML3.9/5, Error ellipse: s-maj=5.2km s-min=4.0km az=39.0*

ISC 10 23:21:18.7±3.1, 37.18N±0.08×13.6W±0.1, h10km, n144, σ1°83/251, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.84**	**89**	*ePn*		**Pn**	**23 22 18.8**	**+1.0**
PFVI				*eSn*		**Sn**	**23 23 02.9**	**0.0**
PFVI				A		A	23 23 05.9	
	14nm,0.3s							
PFVI	**Vila Bisbo**	**3.84**	**89**	⇑P		**Pn**	**23 22 18.8**	**+1.0**
	7.5nm,0.3s,SNR=18							
PFVI				S		**Sn**	**23 23 03.0**	**0.0**
	10nm,0.3s,SNR=5.6							
PFVI	**Vila Bisbo**	**3.84**	**89**	P		**Pn**	**23 22 18.8**	**+1.0**
	7.5nm,0.3s,SNR=18							
PFVI				S		**Sn**	**23 23 03.0**	**0.0**
	10nm,0.3s,SNR=5.6							
LIS	**Lisbon**	**3.86**	**65**	*eS*		**Sn**	**23 23 02.7**	**-0.8**
LIS				AML		AML	23 23 03.4	
	comp=E,40nm,0.1s							
LIS	**Lisbon**	**3.86**	**65**	*eS*		**Sn**	**23 23 02.7**	**-0.8**
LIS	**Lisbon**	**3.86**	**65**	S		**Sn**	**23 23 02.7**	**-0.8**
LIS	**Lisbon**	**3.86**	**65**	*eS*		**Sn**	**23 23 02.7**	**-0.8**
PMAFR	**Mafra**	**3.86**	**61**	*ePn*		**Pn**	**23 22 20.4**	**+2.3**
PMAFR				*eSn*		**Sn**	**23 23 05.3**	**+1.7**
PMAFR				A		A	23 23 08.4	
	comp=E,52nm,0.2s							
PMAFR	**Mafra**	**3.86**	**61**	P		**Pn**	**23 22 20.3**	**+2.1**
	comp=E,17nm,0.3s,SNR=25							
PMAFR				S		**Sn**	**23 23 04.5**	**+0.9**
	comp=E,32nm,0.3s,SNR=13							
PMAFR	**Mafra**	**3.86**	**61**	P		**Pn**	**23 22 20.3**	**+2.1**
	comp=E,17nm,0.3s,SNR=25							
PMAFR				S		**Sn**	**23 23 04.5**	**+0.9**
	comp=E,32nm,0.3s,SNR=13							
PMAFR				*eSn*		**Sn**	**23 23 05.3**	**+1.7**
	comp=E,52nm,0.2s							
PTEO	**Sao Teotonio**	**3.92**	**83**	*ePn*		**Pn**	**23 22 20.6**	**+1.6**
PTEO				*eSn*		**Sn**	**23 23 05.3**	**+0.2**
PTEO				A		A	23 23 13.2	
	comp=E,15nm,0.5s							
PTEO	**Sao Teotonio**	**3.92**	**83**	P		**Pn**	**23 22 20.6**	**+1.6**
PTEO				S		**Sn**	**23 23 05.3**	**+0.2**
	comp=E,7.4nm,0.5s							
PTEO	**Sao Teotonio**	**

PVAQ A A 23 23 29.3
comp=E,8.8nm,0.1s
PVAQ Vaqueiros 4.72 85 P **Pn 23 22 31.5 +1.6**
PVAQ S **Sn 23 23 24.7 0.0**
comp=E,8.8nm,0.1s
PVAQ Vaqueiros 4.72 85 P **Pn 23 22 31.5 +1.6**
PVAQ S **Sn 23 23 24.7 0.0**
comp=E,8.8nm,0.1s
PTOM Tomar 4.77 58 *e*Pn **Pn 23 22 33.0 +2.4**
PTOM *e*Sn **Sn 23 23 27.2 +1.3**
PTOM A A 23 23 29.4
comp=E,24nm,0.2s
PTOM Tomar 4.77 58 P **Pn 23 22 33.0 +2.4**
PTOM S **Sn 23 23 27.2 +1.3**
comp=E,12nm,0.2s
PTOM Tomar 4.77 58 P **Pn 23 22 33.0 +2.4**
PTOM S **Sn 23 23 27.2 +1.3**
comp=E,12nm,0.2s
EGRO El Granado 4.91 84 P **Pn 23 22 34.0 +1.5**
EGRO S **Sn 23 23 29.4 0.0**
comp=E,13nm,0.3s,SNR=7.9
EGRO El Granado 4.91 84 P **Pn 23 22 34.0 +1.5**
comp=E,6.0nm,1.6s,SNR=7.9
EGRO S **Sn 23 23 29.4 0.0**
comp=E,13nm,0.3s,SNR=7.9
PESTR Estremoz 5.06 69 *e*Pn **Pn 23 22 36.5 +1.9**
PESTR *e*Sn **Sn 23 23 34.0 +0.9**
PESTR A A 23 23 40.1
comp=E,9.6nm,0.3s
PESTR Estremoz 5.06 69 P **Pn 23 22 36.5 +1.9**
PESTR S **Sn 23 23 34.0 +0.9**
comp=E,4.8nm,0.3s
PESTR Estremoz 5.06 69 P **Pn 23 22 36.5 +1.9**
PESTR S **Sn 23 23 34.0 +0.9**
comp=E,4.8nm,0.3s
PMAR Madeira 5.20 212 *e*Sn Sn 23 23 13.2 -24
PMAR A A 23 23 17.3
comp=E,31nm,0.2s
PMAR Madeira 5.20 212 S Sn 23 23 13.2 -24
comp=E,16nm,0.2s
PMOZ Porto Moniz, M 5.24 215 *e*Pn Pn 23 22 26.6 -11
PMOZ *e*Sn Sn 23 23 14.4 -23
PMOZ A A 23 23 23.0
comp=E,43nm,0.5s
PBAR Barrancos 5.32 77 *e*Pn **Pn 23 22 39.9 +1.7**
PBAR *e*Sn **Sn 23 23 39.1 -0.5**
PBAR A A 23 23 44.7
comp=E,7.5nm,0.5s
PBAR Barrancos 5.32 77 P **Pn 23 22 39.9 +1.7**
PBAR S **Sn 23 23 39.1 -0.5**
comp=E,7.5nm,0.5s
PBAR Barrancos 5.32 77 P **Pn 23 22 39.9 +1.7**
PBAR S **Sn 23 23 39.1 -0.5**
comp=E,7.5nm,0.5s
PMRV Marv??o 5.40 64 *e*Pn **Pn 23 22 41.3 +2.1**
PMRV *e*Sn **Sn 23 23 41.6 +0.2**
PMRV A A 23 23 45.5
comp=E,12nm,0.6s
PMRV Marv??o 5.40 64 P **Pn 23 22 41.3 +2.1**
PMRV S **Sn 23 23 41.6 +0.2**
comp=E,12nm,0.6s
PMRV Marv??o 5.40 64 P **Pn 23 22 41.3 +2.1**
PMRV S **Sn 23 23 41.6 +0.2**
comp=E,12nm,0.6s
EBAD Badajoz 5.46 71 P **Pn 23 22 41.4 +1.3**
comp=E,1.2nm,0.4s,SNR=17
EBAD S **Sn 23 23 42.7 -0.2**
comp=E,5.0nm,0.3s,SNR=10
EBAD Badajoz 5.46 71 P **Pn 23 22 41.4 +1.3**
comp=E,1.2nm,0.4s,SNR=17
EBAD S **Sn 23 23 42.7 -0.2**
comp=E,5.0nm,0.3s,SNR=10
PCBR Castelo Branco 5.51 59 *e*Pn **Pn 23 22 42.8 +2.1**
PCBR *e*Sn **Sn 23 23 43.8 -0.3**
PCBR A A 23 23 50.8
comp=E,5.7nm,0.3s
PCBR Castelo Branco 5.51 59 P **Pn 23 22 42.8 +2.1**
PCBR S **Sn 23 23 43.8 -0.3**
comp=E,2.8nm,0.3s
PCBR Castelo Branco 5.51 59 P **Pn 23 22 42.8 +2.1**
PCBR S **Sn 23 23 43.8 -0.3**
comp=E,2.8nm,0.3s
EMIN Mina Concepcio 5.56 82 P **Pn 23 22 42.8 +1.3**
comp=E,1.4nm,0.3s,SNR=20
EMIN S **Sn 23 23 44.4 -1.2**
comp=E,3.3nm,0.3s,SNR=7.7
EMIN Mina Concepcio 5.56 82 P **Pn 23 22 42.8 +1.3**
comp=E,1.4nm,0.3s,SNR=20
EMIN S **Sn 23 23 44.4 -1.2**
comp=E,3.3nm,0.3s,SNR=7.7
PVIS Viseu 5.70 50 *e*Pn **Pn 23 22 45.7 +2.3**
PVIS *e*Sn **Sn 23 23 49.3 +0.4**
PVIS A A 23 23 52.4
comp=E,7.8nm,0.3s
PVIS Viseu 5.70 50 P **Pn 23 22 45.7 +2.3**
PVIS S **Sn 23 23 49.3 +0.4**
comp=E,3.9nm,0.3s
PVIS Viseu 5.70 50 P **Pn 23 22 45.7 +2.3**
PVIS S **Sn 23 23 49.3 +0.4**
comp=E,3.9nm,0.3s
MTE Manteigas 5.74 54 *e*Pn **Pn 23 22 46.0 +2.0**
MTE *e*Sn **Sn 23 23 50.3 +0.4**
MTE A A 23 23 53.9
comp=E,14nm,0.2s
MTE Manteigas 5.74 54 P **Pn 23 22 46.0 +2.0**
MTE S **Sn 23 23 50.3 +0.4**
comp=E,6.8nm,0.2s
MTE Manteigas 5.74 54 P **Pn 23 22 46.0 +2.0**
MTE S **Sn 23 23 50.3 +0.4**
comp=E,6.8nm,0.2s
PVRL Vila Real 6.15 46 *e*Pn **Pn 23 22 52.1 +2.5**
PVRL *e*Sn **Sn 23 23 59.8 -0.2**
PVRL A A 23 24 05.5
comp=E,8.1nm,0.1s
PVRL Vila Real 6.15 46 P **Pn 23 22 52.1 +2.5**
PVRL S **Sn 23 23 59.8 -0.2**
comp=E,4.1nm,0.1s
PVRL Vila Real 6.15 46 P **Pn 23 22 52.1 +2.5**
PVRL S **Sn 23 23 59.8 -0.2**
comp=E,4.1nm,0.1s
POLO Lamas de Olo 6.17 45 *e*Pn **Pn 23 22 51.8 +1.9**
POLO *e*Sn **Sn 23 23 58.4 -2.1**
POLO A A 23 24 04.5
comp=E,2.4nm,0.3s
POLO Lamas de Olo 6.17 45 *e*Pn **Pn 23 22 51.8 +1.9**
ESPR Espera 6.23 91 P **Pn 23 22 52.1 +1.5**
comp=E,4.8nm,0.2s,SNR=12
ESPR S **Sn 23 23 59.8 -2.1**
comp=E,2.0nm,0.5s
ESPR Espera 6.23 91 P **Pn 23 22 52.1 +1.5**
comp=E,4.8nm,0.2s,SNR=12
ESPR S **Sn 23 23 59.8 -2.1**
comp=E,2.0nm,0.5s
EZAM Zamans 6.25 36 P **Pn 23 22 52.5 +1.5**
comp=E,3.7nm,1.2s,SNR=7.9
EZAM S **Sn 23 24 00.2 -2.3**
comp=E,37nm,3.2s,SNR=7.9
EZAM Zamans 6.25 36 P **Pn 23 22 52.5 +1.5**
comp=E,3.7nm,1.2s,SNR=7.9
PCAB Cabril 6.27 42 *e*Pn **Pn 23 22 52.9 +1.7**
PCAB *e*Sn **Sn 23 24 00.7 -2.2**
PCAB A A 23 24 02.6
comp=E,8.5nm,0.3s
PCAB Cabril 6.27 42 P **Pn 23 22 52.9 +1.7**
PCAB S **Sn 23 24 00.7 -2.2**
comp=E,4.2nm,0.3s
PCAB Cabril 6.27 42 P **Pn 23 22 52.9 +1.7**
PGAV Gavieira, Arco 6.32 39 *e*Pn **Pn 23 22 54.4 +2.4**
PGAV *e*Sn **Sn 23 24 02.4 -2.0**
PGAV A A 23 24 10.1
comp=E,6.6nm,0.7s
PGAV Gavieira, Arco 6.32 39 *e*Pn **Pn 23 22 54.4 +2.4**
ELOB Lobios 6.36 41 P **Pn 23 22 54.4 +1.9**
comp=E,4.3nm,0.9s,SNR=7.6
ELOB S **Sn 23 24 02.8 -2.5**
comp=E,4.0nm,0.4s,SNR=7.2
ELOB Lobios 6.36 41 P **Pn 23 22 54.4 +1.9**
comp=E,4.3nm,0.9s,SNR=7.6
MVO Moncorvo 6.49 50 *e*Pn **Pn 23 22 56.1 +1.8**
MVO *e*Sn **Sn 23 24 07.1 -1.3**
MVO A A 23 24 10.2
comp=E,7.6nm,0.2s
MVO Moncorvo 6.49 50 P **Pn 23 22 56.1 +1.8**
comp=E,1.5nm,0.3s,SNR=8.0
MVO S **Sn 23 24 06.1 -2.4**
comp=E,5.8nm,0.2s,SNR=9.7
MVO Moncorvo 6.49 50 P **Pn 23 22 56.1 +1.8**
comp=E,1.5nm,0.3s,SNR=8.0
MVO *e*Sn **Sn 23 24 07.1 -1.3**
comp=E,7.6nm,0.2s
EJIF Jimena Fronter 6.59 94 P **Pn 23 22 56.6 +1.0**
comp=E,0.7nm,0.1s,SNR=7.9
EJIF Jimena Fronter 6.59 94 P **Pn 23 22 56.6 +1.0**
comp=E,0.7nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.78 30 P **Pn 23 23 00.3 +2.1**
comp=E,1.0nm,0.1s,SNR=7.9
EMAZ S **Sn 23 24 10.9 -4.5**
comp=E,5.7nm,0.3s,SNR=7.3
EMAZ Mazaricos 6.78 30 P **Pn 23 23 00.3 +2.1**
comp=E,1.0nm,0.1s,SNR=7.9
STS Santiago 6.90 33 P **Pn 23 23 01.7 +1.8**
comp=E,1.0nm,0.1s,SNR=7.9
STS S **Sn 23 24 14.6 -3.9**
comp=E,6.3nm,0.9s,SNR=7.9
STS Santiago 6.90 33 P **Pn 23 23 01.7 +1.8**
comp=E,1.0nm,0.1s,SNR=7.9
PBRG Braganca 7.05 47 *e*Pn **Pn 23 23 04.0 +2.0**
PBRG *e*Sn **Sn 23 24 20.4 -1.8**
PBRG A A 23 24 23.8
comp=E,4.0nm,0.4s
PBRG Braganca 7.05 47 P **Pn 23 23 04.0 +2.0**
PBRG S **Sn 23 24 20.4 -1.8**
comp=E,2.0nm,0.4s
PBRG Braganca 7.05 47 P **Pn 23 23 04.0 +2.0**
PBRG S **Sn 23 24 20.4 -1.8**
comp=E,2.0nm,0.4s
EMIJ Mijas 7.13 92 P **Pn 23 23 04.5 +1.5**
comp=E,1.0nm,0.2s,SNR=7.9
EMIJ S **Sn 23 24 20.7 -3.4**
comp=E,6.6nm,0.9s,SNR=7.9
EMIJ Mijas 7.13 92 P **Pn 23 23 04.5 +1.5**
comp=E,1.0nm,0.2s,SNR=7.9
EMIJ S **Sn 23 24 20.7 -3.4**
comp=E,6.6nm,0.9s,SNR=7.9
ECAL Calabor 7.14 46 P **Pn 23 23 05.6 +2.4**
comp=E,2.2nm,0.4s,SNR=8.7
ECAL S **Sn 23 24 22.0 -2.4**
comp=E,5.6nm,0.3s,SNR=7.0
ECAL Calabor 7.14 46 P **Pn 23 23 05.6 +2.4**
comp=E,2.2nm,0.4s,SNR=8.7
EADA Adamuz 7.25 79 P **Pn 23 23 06.2 +1.5**
comp=E,0.6nm,0.6s,SNR=7.9
EADA S **Sn 23 24 24.6 -2.4**
comp=E,2.3nm,0.3s,SNR=7.9
EADA Adamuz 7.25 79 P **Pn 23 23 06.2 +1.5**
comp=E,0.6nm,0.6s,SNR=7.9
EADA S **Sn 23 24 24.6 -2.4**
comp=E,2.3nm,0.3s,SNR=7.9
EPON Pontenova 7.89 37 P **Pn 23 23 14.9 +1.4**
comp=E,3.3nm,0.4s,SNR=7.9
EPON S **Sn 23 24 38.5 -4.2**
comp=E,1.8nm,0.3s,SNR=4.8
EPON Pontenova 7.89 37 P **Pn 23 23 14.9 +1.4**
comp=E,3.3nm,0.4s,SNR=7.9
ESDC Sonseca Array 7.99 69 P **Pn 23 23 16.4 +1.5**
comp=E,1.1nm,0.3s,baz=258,slow=13,SNR=12
ESDC S **Sn 23 24 42.0 -3.2**
comp=E,0.5nm,0.2s,baz=252,slow=23,SNR=5.3
ESDC Sonseca Array 7.99 69 P **Pn 23 23 16.4 +1.5**
comp=E,1.1nm,0.3s,slow=13,SNR=12
GUD Guadarrama 8.16 62 P **Pn 23 23 18.9 +1.6**
comp=E,4.3nm,1.1s,SNR=7.9
GUD S **Sn 23 24 46.5 -3.1**
comp=E,2.9nm,0.8s,SNR=7.9
GUD Guadarrama 8.16 62 P **Pn 23 23 18.9 +1.6**
comp=E,4.3nm,1.1s,SNR=7.9
EQES Quesada 8.42 83 P **Pn 23 23 21.6 +0.8**
comp=E,2.0nm,1.5s,SNR=7.9
EQES S **Sn 23 24 52.8 -3.1**
comp=E,14nm,0.7s,SNR=7.9
EQES Quesada 8.42 83 P **Pn 23 23 21.6 +0.8**
comp=E,2.0nm,1.5s,SNR=7.9
EQES S **Sn 23 24 52.8 -3.1**
comp=E,14nm,0.7s,SNR=7.9
EHUE Huescar 8.80 83 P **Pn 23 23 28.7 +2.7**
comp=E,0.1nm,0.2s,SNR=4.0
EHUE S **Sn 23 25 00.9 -4.3**
comp=E,3.5nm,1.1s,SNR=7.9
EHUE Huescar 8.80 83 P **Pn 23 23 28.7 +2.7**
comp=E,0.1nm,0.2s,SNR=4.0
EARI Arriondas 8.88 44 P **Pn 23 23 29.4 +2.4**
comp=E,1.5nm,0.6s,SNR=7.9
EARI S **Sn 23 25 03.3 -3.8**
comp=E,23nm,1.1s,SNR=7.9
EARI Arriondas 8.88 44 P **Pn 23 23 29.4 +2.4**
comp=E,1.5nm,0.6s,SNR=7.9
ETOB Tobarra 9.66 78 P **Pn 23 23 38.8 +1.0**
comp=E,1.0nm,1.0s,SNR=7.9
ETOB S **Sn 23 25 22.4 -4.0**
comp=E,42nm,1.5s,SNR=7.9
ETOB Tobarra 9.66 78 P **Pn 23 23 38.8 +1.0**
comp=E,1.0nm,1.0s,SNR=7.9
ETOR Torete 9.71 64 P **Pn 23 23 40.1 +1.6**
comp=E,7.1nm,0.3s,SNR=12
ETOR S **Sn 23 25 23.6 -4.2**
comp=E,15nm,0.8s,SNR=7.9
ETOR Torete 9.71 64 P **Pn 23 23 40.2 +1.6**
comp=E,7.1nm,0.3s,SNR=12
ELAN Lanestosa 9.86 49 S **Sn 23 25 27.1 -4.1**
comp=E,8.1nm,0.9s,SNR=7.9
EMOS Mosqueruela 10.75 69 P **Pn 23 23 55.2 +2.3**
comp=E,1.9nm,0.4s,SNR=7.9
EMOS S **Sn 23 25 48.3 -5.0**
comp=E,6.7nm,0.7s,SNR=7.9
EMOS Mosqueruela 10.75 69 P **Pn 23 23 55.2 +2.3**
comp=E,1.9nm,0.4s,SNR=7.9
IEPA Eparoz 11.01 56 P **Pn 23 23 58.8 +2.6**
comp=E,1.9nm,0.4s,SNR=7.9
IEPA Eparoz 11.01 56 P **Pn 23 23 58.8 +2.6**
comp=E,1.9nm,0.4s,SNR=7.9
IELO Elcoad 11.06 55 P **Pn 23 23 59.2 +2.3**
comp=E,0.3nm,0.1s,SNR=7.9
IELO S **Sn 23 25 55.3 -5.3**
comp=E,9.9nm,1.0s,SNR=7.9
IELO Elcoad 11.06 55 P **Pn 23 23 59.2 +2.3**
comp=E,0.3nm,0.1s,SNR=7.9
SJPF Ste Jean 11.19 54 *e*Pn **Pn 23 24 00.6 +2.0**
SJPF *e*Sn **Sn 23 26 01.0 -2.7**
comp=E,1.8nm,0.4s
SJPF Ste Jean 11.19 54 P **Pn 23 24 00.6 +2.0**
SJPF S **Sn 23 26 01.0 -2.7**
comp=E,0.4nm,0.4s
ETSF Etsaut 11.53 56 *e*Pn **Pn 23 24 05.5 +2.1**
ETSF *e*Sn **Sn 23 26 11.6 -0.6**
comp=E,1.6nm,0.4s
ETSF Etsaut 11.53 56 P **Pn 23 24 05.5 +2.1**
ETSF S **Sn 23 26 11.6 -0.6**
comp=E,0.4nm,0.4s
EPF Esparros 12.18 57 *e*Pn **Pn 23 24 14.1 +1.8**
EPF *e*Sn **Sn 23 26 25.7 -2.5**
comp=E,1.1nm,0.4s
EPF Esparros 12.18 57 P **Pn 23 24 14.1 +1.8**
EPF S **Sn 23 26 25.7 -2.5**
comp=E,0.3nm,0.4s

*ISCJB **10** 23:26:38.5±0.9, 41°.30N±0°.03×140°.02E±0°.05, h11km±6km, mb3.4/3, Error ellipse: s-maj=6.5km s-min=4.8km az=168.9*
*JMA **10** 23:26:39.0, 41°.32N×140°.03E, h9km±1km, M3.3*
JMA Felt I J1.
*IDC **10** 23:26:41.3±6.0, 40°.68N×139°.18E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML2.1/1, Error ellipse: s-maj=217.2km s-min=27.1km az=59.0*
ISC 10 23:26:38.8±1.3, 41°.31N±0°.03×140°.03E±0°.04, h3km±11km, n12, σ0s.86/20, mb3.7/3, 1C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSR	**Shiriuchi**	**0.36**	**53**	⇓P	**Pg**	**23 26 46.2**	**+0.3**
JSR				*e*S	**Sg**	**23 26 51.3**	**+0.7**
JSI2	**Shiura 2**	**0.39**	**131**	P	**Pg**	**23 26 46.5**	**+0.3**
JSI2				*e*S	**Sg**	**23 26 51.9**	**+0.7**
JIW	**Iwasaki**	**0.72**	**181**	⇑P	**Pg**	**23 26 52.7**	**+0.1**
JIW				*e*S	**Sg**	**23 27 02.2**	**+0.3**
JOT	**Ohata**	**0.77**	**84**	⇓P	**Pg**	**23 26 53.3**	**-0.3**
JOT				*e*S	**Sg**	**23 27 03.4**	**-0.2**
JYM2	**Yakumo 2**	**0.84**	**18**	P	**Pg**	**23 26 54.9**	**-0.1**
JYM2				*e*S	**Sg**	**23 27 06.4**	**+0.4**
JOSM	**Okushiri--Mats**	**0.88**	**332**	P	**Pg**	**23 26 55.0**	**-0.6**
JOSM				*e*S	**Sg**	**23 27 06.8**	**-0.2**
JTM	**Tenmabayashi**	**0.94**	**123**	P	**Pg**	**23 26 56.3**	**-0.6**
JTM				*e*S	**Sg**	**23 27 08.6**	**-0.6**
JKB	**Kayabe**	**0.95**	**52**	⇓P	**Pg**	**23 26 56.7**	**-0.3**
JKB				*e*S	**Sg**	**23 27 08.9**	**-0.4**
USRK	**Ussuriysk Arra**	**6.58**	**299**	Pn	**Pn**	**23 28 15.6**	**-0.8**
	0.5nm,0.3s,baz=104,slow=13,SNR=6.2						
MKAR	**Makanchi Array**	**41.05**	**298**	P	**P**	**23 34 24.3**	**+0.9**
	0.2nm,0.7s,baz=83,slow=9.6,SNR=2.3						
BVAR	**Borovoye Array**	**46.97**	**309**	P	**P**	**23 35 12.8**	**+2.0**
	0.4nm,0.6s,baz=89,slow=9.2,SNR=3.0						
WRA	**Warramunga Arr**	**61.17**	**186**	P	**P**	**23 36 52.8**	**-1.9**
	0.5nm,0.6s,baz=4.0,slow=7.0,SNR=12						

*DDA **10** 23:28:43.7, 37°.84N×27°.39E, h7km, MD2.9*
*ISCJB **10** 23:28:44.3±0.6, 37°.86N±0°.03×27°.38E±0°.05, h0km±11km, Error ellipse: s-maj=7.2km s-min=4.7km az=162.9*
*ISK **10** 23:28:44.5, 37°.87N×27°.33E, h5km, MD2.8*
*CSEM **10** 23:28:44.4±0.2, 37°.85N×27°.38E, h2km, MD2.9, Error ellipse: s-maj=6.1km s-min=3.6km az=87.0*
ISC 10 23:28:44.5±1.1, 37°.84N±0°.02×27°.38E±0°.03, h2km±13km, n24, σ0s.54/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcami?**	**0.19**	**220**	*i* P	**Pg**	**23 28 47.9**	**-0.2**
GCAM				*i* S	**Sg**	**23 28 50.5**	**0.0**
GCAM	**G?zelcami?**	**0.19**	**220**	*i* P	**Pg**	**23 28 47.9**	**-0.2**
GCAM				*i* S	**Sg**	**23 28 50.5**	**0.0**
AYDN	**Tasoluk**	**0.43**	**115**	*i* P	**Pg**	**23 28 52.9**	**0.0**
AYDN				*i* S	**Sg**	**23 28 59.2**	**+0.7**
AYDN	**Tasoluk**	**0.43**	**115**	*i* P	**Pg**	**23 28 52.9**	**0.0**
AYDN				*i* S	**Sg**	**23 28 59.2**	**+0.7**
IZM	**Izmir**	**0.56**	**350**	*e*PG	**Pg**	**23 28 55.2**	**-0.1**
IZM	**Izmir**	**0.56**	**350**	*e*Pg	**Pg**	**23 28 55.2**	**-0.1**
BLCB	**Balcova**	**0.60**	**334**	*e*PG	**Pg**	**23 28 56.2**	**+0.1**
BLCB				*e*SG	**Sg**	**23 29 04.2**	**+0.2**
BLCB	**Balcova**	**0.60**	**334**	*e*Pg	**Pg**	**23 28 56.2**	**+0.1**
BLCB				*e*Sg	**Sg**	**23 29 04.2**	**+0.2**
BDRM	**Kayabasi**	**0.78**	**176**	*i* P	**Pg**	**23 28 57.8**	**-1.7**
BDRM				*i* S	**Sb**	**23 29 11.4**	**-0.4**
BDRM	**Kayabasi**	**0.78**	**176**	*i* P	**Pg**	**23 28 57.8**	**-1.7**
BDRM				*i* S	**Sb**	**23 29 11.4**	**-0.4**
BODT	**Bodrum**	**0.78**	**184**	*e*PG	**Pg**	**23 29 00.1**	**+0.6**
BODT				*e*SG	**Sb**	**23 29 12.1**	**+0.2**
BODT	**Bodrum**	**0.78**	**184**	*e*Pg	**Pg**	**23 29 00.1**	**+0.6**
BODT				*e*Sg	**Sb**	**23 29 12.1**	**+0.2**
YER	**Yerkesik**	**1.01**	**134**	*e*PG	**Pb**	**23 29 04.9**	**+0.2**
YER	**Yerkesik**	**1.01**	**134**	*e*Pg	**Pb**	**23 29 04.9**	**+0.2**
AKHS	**Akhisar**	**1.09**	**18**	*i* P	**Pg**	**23 29 05.0**	**-0.4**
AKHS				*i* S	**Sb**	**23 29 20.4**	**-0.3**
AKHS	**Akhisar**	**1.09**	**18**	*i* P	**Pg**	**23 29 05.0**	**-0.4**
AKHS				*i* S	**Sb**	**23 29 20.4**	**-0.3**
AKS	**Akhisar**	**1.09**	**18**	*e*PN	**Pb**	**23 29 05.9**	**-0.2**
AKS	**Akhisar**	**1.09**	**18**	*e*Pn	**Pb**	**23 29 05.9**	**-0.2**
MANT	**Manisa**	**1.13**	**55**	*i* P	**Pg**	**23 29 05.9**	**-0.3**
MANT				*i* S	**Sg**	**23 29 20.6**	**-0.2**
MANT	**Manisa**	**1.13**	**55**	*i* P	**Pg**	**23 29 05.9**	**-0.3**
MANT				*i* S	**Sg**	**23 29 20.6**	**-0.2**
KULA	**Kula-Manisa**	**1.21**	**56**	*e*PN	**Pn**	**23 29 08.3**	**-0.2**
KULA	**Kula-Manisa**	**1.21**	**56**	*e*Pn	**Pn**	**23 29 08.3**	**-0.2**
DST	**Dursunbey**	**2.01**	**28**	*e*PN	**Pn**	**23 29 20.2**	**+0.7**
DST	**Dursunbey**	**2.01**	**28**	*e*Pn	**Pn**	**23 29 20.2**	**+0.7**

IDC 10 23:39:52.8±9.3, 46°.81N×153°.20E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=234.2km s-min=40.5km az=170.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.96**	**297**	P	**P**	**23 48 25.0**	**-0.2**
	0.3nm,0.6s,baz=62,slow=7.5,SNR=6.1						
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**23 48 54.4**	**-0.2**
	0.3nm,0.7s,baz=300,slow=7.7,SNR=3.0						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**23 50 27.3**	**-0.2**
	0.7nm,0.5s,baz=36,slow=5.9,SNR=8.8						
NOA	**NORSAR Array B**	**68.19**	**341**	P	**P**	**23 50 55.0**	**+0.5**
	0.5nm,0.6s,baz=28,slow=6.4,SNR=4.1						

IDC 10 23:48:57.4±3.3, 17°.86S×178°.17W, h649km±49km, mb3.0/7, mb1 3.2/7, mb1mx3.0/21, mbtmp3.0/7, Error ellipse: s-maj=97.2km s-min=17.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.68**	**260**	P	**P**	**23 54 47.5**	**-0.4**
	1.9nm,0.4s,baz=90,slow=9.1,SNR=4.9						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**23 55 30.2**	**+0.3**
	2.0nm,0.7s,baz=114,slow=5.9,SNR=4.6						
WRA	**Warramunga Arr**	**44.87**	**259**	P	**P**	**23 56 17.1**	**+0.2**
	2.3nm,0.4s,baz=95,slow=7.0,SNR=113						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**23 56 18.1**	**0.0**
	4.1nm,0.5s,baz=91,slow=7.8,SNR=52						
ASAR				S	S	**00 02 12.5**	**+0.5**
	0.4nm,0.9s,baz=91,slow=16,SNR=5.4						
FITZ	**Fitzroy Crossi**	**53.27**	**260**	P	**P**	**23 57 18.7**	**+0.4**
	0.5nm,0.3s,baz=135,slow=5.7,SNR=4.7						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**23 59 57.7**	**0.0**
	0.6nm,0.4s,baz=225,slow=6.2,SNR=6.4						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**00 00 29.8**	**+0.2**
	0.1nm,0.4s,baz=214,slow=4.7,SNR=3.9						

IDC 10 23:53:50.5±6.8, 5°.83S×146°.57E, h33km±53km, mb3.5/4, mb1 3.6/6, mb1mx3.4/19, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=46.2km s-min=30.2km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.60**	**171**	Pn	**Pn**	**23 54 45.9**	**+1.8**
	2.6nm,0.3s,baz=305,slow=12,SNR=5.5						
PMG				Pg	Pb	**23 54 56.0**	**+2.4**
	3.8nm,0.3s,baz=19,slow=13,SNR=14						
PMG				Sn	Sn	**23 55 25.2**	**-0.3**
	3.1nm,0.3s,baz=346,slow=20,SNR=3.5						
PMG				Lg	Lg	**23 55 44.5**	
	4.7nm,0.3s,baz=343,slow=18,SNR=7.2						
WRA	**Warramunga Arr**	**18.39**	**219**	P	**P**	**23 58 02.4**	**-0.6**
	0.1nm,0.3s,baz=41,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.52**	**213**	P	**P**	**23 58 36.3**	**-0.8**
	0.4nm,0.6s,baz=45,slow=9.3,SNR=3.0						
FITZ	**Fitzroy Crossi**	**23.80**	**237**	P	**P**	**23 59 01.0**	**+0.4**
	1.6nm,0.5s,baz=58,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**26.33**	**190**	P	**P**	**23 59 23.9**	**+0.4**
	1.5nm,0.9s,baz=352,slow=15,SNR=2.9						
ILAR	**Eielson Array**	**85.49**	**23**	P	**P**	**00 06 24.6**	**-0.2**
	0.5nm,0.7s,baz=254,slow=4.9,SNR=7.1						

*DDA **10** 23:58:43.9, 39°.15N×29°.51E, h7km, MD2.8*
*ISCJB **10** 23:58:44.1±0.5, 39°.17N±0°.03×29°.47E±0°.04, h2km±6km, Error ellipse: s-maj=5.1km s-min=4.3km az=136.6*
*ISK **10** 23:58:44.0, 39°.20N×29°.47E, h6km, MD2.6*
*CSEM **10** 23:58:44.4±0.1, 39°.18N×29°.47E, h5km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.7km az=117.0*
ISC 10 23:58:44.1±1.0, 39°.17N±0°.02×29°.46E±0°.02, h10km±9km, n26, σ0s.43/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.28**	**0**	PG	**Pg**	**23 58 49.7**	**-0.1**
TVSB				SG	**Sg**	**23 58 53.2**	**-0.4**
TVSB	**Tavsanli**	**0.28**	**0**	*i* Pg	**Pg**	**23 58 49.7**	**-0.1**
TVSB				*i* Sg	**Sg**	**23 58 53.2**	**-0.4**
ALT	**Altintas**	**0.52**	**103**	*e*PG	**Pb**	**23 58 54.7**	**-0.6**
ALT				*e*SG	**Sg**	**23 59 01.7**	**+0.7**
ALT	**Altintas**	**0.52**	**103**	*e*Pg	**Pb**	**23 58 54.7**	**-0.6**
ALT				*e*Sg	**Sg**	**23 59 01.7**	**+0.7**
DEMI	**Demirci**	**0.59**	**258**	*i* P	**Pb**	**23 58 56.2**	**-0.4**
DEMI				*i* S	**Sg**	**23 59 03.9**	**+0.5**
DEMI	**Demirci**	**0.59**	**258**	*i* P	**Pb**	**23 58 56.2**	**-0.4**
DEMI				*i* S	**Sg**	**23 59 03.9**	**+0.5**
KHAL	**Karahalli**	**0.80**	**178**	*i* P	**Pb**	**23 58 59.9**	**-0.2**
KHAL				*i* S	**Sb**	**23 59 11.2**	**+0.2**
KHAL	**Karahalli**	**0.80**	**178**	*i* P	**Pb**	**23 58 59.9**	**-0.2**
KHAL				*i* S	**Sb**	**23 59 11.2**	**+0.2**
KHL	**Karahalli**	**0.85**	**177**	*e*PG	**Pb**	**23 59 01.6**	**+0.7**
KHL	**Karahalli**	**0.85**	**177**	*e*Pg	**Pb**	**23 59 01.6**	**+0.7**
DURS	**Dursunbey**	**0.88**	**300**	*i* P	**Pb**	**23 59 01.5**	**0.0**

DURS				*i* S	**Sn**	**23 59 15.2**	**-0.3**
DURS	**Dursunbey**	**0.88**	**300**	*i* P	**Pb**	**23 59 01.5**	**0.0**
DURS				*i* S	**Sn**	**23 59 15.2**	**-0.3**
KULA	**Kula-Manisa**	**0.91**	**224**	*e*PG	**Pb**	**23 59 01.9**	**0.0**
KULA	**Kula-Manisa**	**0.91**	**224**	*e*Pg	**Pb**	**23 59 01.9**	**0.0**
MANT	**Manisa**	**0.98**	**226**	*i* P	**Pg**	**23 59 02.3**	**-0.6**
MANT				*i* S	**Sb**	**23 59 17.0**	**+0.7**
MANT	**Manisa**	**0.98**	**226**	*i* P	**Pg**	**23 59 02.3**	**-0.6**
MANT				*i* S	**Sb**	**23 59 17.0**	**+0.7**
BORA	**Eskisehir**	**1.04**	**47**	*i* P	**Pg**	**23 59 03.9**	**-0.3**
BORA				*i* S	**Sb**	**23 59 18.6**	**+0.5**
BORA	**Eskisehir**	**1.04**	**47**	*i* P	**Pg**	**23 59 03.9**	**-0.3**
BORA				*i* S	**Sb**	**23 59 18.6**	**+0.5**
SHUT	**Suhut-Afyon**	**1.05**	**126**	*e*PG	**Pn**	**23 59 04.8**	**-0.2**
SHUT	**Suhut-Afyon**	**1.05**	**126**	*e*Pg	**Pn**	**23 59 04.8**	**-0.2**
GEMT	**Gemlik**	**1.28**	**351**	*e*PN	**Pg**	**23 59 08.7**	**+0.1**
GEMT	**Gemlik**	**1.28**	**351**	*e*Pn	**Pg**	**23 59 08.7**	**+0.1**
ARMT	**Armutlu**	**1.47**	**342**	*e*PN	**Pb**	**23 59 11.6**	**+0.1**
ARMT	**Armutlu**	**1.47**	**342**	*e*Pn	**Pb**	**23 59 11.6**	**+0.1**
GULT	**Gulveren**	**1.50**	**32**	*e*PN	**Pb**	**23 59 12.1**	**0.0**
GULT	**Gulveren**	**1.50**	**32**	*e*Pn	**Pb**	**23 59 12.1**	**0.0**

IDC ***10*** *23:59:52.9±1.2,39˚.78N×54˚.06E, h0km, mb3.3/5, mb1 3.6/10, mb1mx3.4/31, mbtmp3.5/10, ML3.5/4, Error ellipse: s-maj=19.5km s-min=9.4km az=167.0*

ISCJB ***10*** *23:59:55.0±1.3, 39˚.8N±0˚.1×54˚.18E±0˚.06, h38km±17km, mb3.2/3, Error ellipse: s-maj=18.1km s-min=7.6km az=172.8*

AZER ***10*** *23:59:58.7, 39˚.47N×53˚.98E, h100km*

ISC 10 23:59:57.0±2.4, 39˚.6N±0˚.1×54˚.2E±0˚.1, h56km±48km, n20, σ1§84/24, mb3.2/3, 10C-8D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**4.28**	**292**	⇑P	**Pn**	**00 01 00.7**	**+1.1**
	SNR=9.5						
SIZA				⇑S	**Sn**	**00 01 51.9**	**+3.5**
LKRN	**Lenkeran, Azer**	**4.28**	**260**	⇑P	**Pn**	**00 00 59.3**	**-0.3**
LKRN				⇓S	**Sn**	**00 01 46.2**	**-2.1**
PQL	**Pirkuli**	**4.42**	**287**	⇑P	**Pn**	**00 01 01.5**	**-0.2**
PQL				⇓S	**Sn**	**00 01 53.4**	**+1.4**
GLBA	**Clilabad**	**4.49**	**267**	⇑P	**Pn**	**00 01 02.3**	**-0.1**
	SNR=15						
GLBA				⇓S	**Sn**	**00 01 51.5**	**-1.8**
QUBA	**Quba, Azerbaij**	**4.66**	**294**	⇓P	**Pn**	**00 01 06.5**	**+1.7**
QUBA				⇓S	**Sn**	**00 01 57.6**	**0.0**
BRDA	**Brd**	**5.41**	**279**	⇑P	**Pn**	**00 01 15.6**	**+0.6**
	SNR=5.0						
BRDA				⇑S	**Sn**	**00 02 16.0**	**+0.1**
SEKA	**Sheki**	**5.55**	**289**	⇓P	**Pn**	**00 01 17.7**	**+0.6**
	SNR=11						
SEKA				⇓S	**Sn**	**00 02 18.9**	**-0.6**
GANJ	**Ganja**	**6.10**	**282**	⇑P	**Pn**	**00 01 23.6**	**-0.9**
	SNR=9.4						
NAX	**Nakhchivan**	**6.73**	**269**	⇑P	**Pn**	**00 01 34.3**	**+1.1**
	SNR=4.3						
GNI	**Garni**	**7.27**	**277**	Pn	**Pn**	**00 01 42.2**	**+1.6**
	1.7nm,0.3s,baz=306,slow=1.8,SNR=17						
GNI				Sn	**Sn**	**00 03 04.1**	**+2.2**
	0.3nm,0.3s,baz=9.4,slow=12,SNR=2.2						
KBZ	**Khabaz**	**9.38**	**300**	Pn	**Pn**	**00 02 07.5**	**-1.8**
	0.3nm,0.3s,baz=99,slow=8.3,SNR=7.9						
KBZ				Sn	**Sn**	**00 03 48.4**	**-4.8**
	0.4nm,0.3s,baz=308,slow=10.0,SNR=4.1						
AB31	**Akbulak array**	**10.48**	**21**	⇓Pn	Pn	00 02 20.7	-3.7
	0.4nm,0.3s,baz=206,slow=15,SNR=11						
AB31				⇑Sn	Sn	00 04 06.9	-13
	0.7nm,0.3s,baz=211,slow=22,SNR=5.7						
AKTO	**Aktyubinsk**	**11.15**	**13**	Pn	Pn	00 02 29.9	-3.7
	0.2nm,0.3s,baz=185,slow=12,SNR=5.7						
AKTO				Sn	Sn	00 04 26.9	-10
	1.2nm,0.3s,baz=55,slow=18,SNR=12						
AAK	**Ala-Archa**	**15.61**	**72**	Pn	**Pn**	**00 03 32.4**	**-1.1**
	0.1nm,0.3s,baz=220,slow=11,SNR=8.7						
BVAR	**Borovoye Array**	**17.42**	**34**	P	**P**	**00 03 56.1**	**-0.4**
	0.5nm,0.3s,baz=233,slow=14,SNR=5.9						
KURBB	**Kurchatov Arra**	**20.32**	**49**	P	Pn	00 04 30.0	-0.6
	0.7nm,0.8s,baz=248,slow=9.3,SNR=3.8						
AKASG	**Malin Array Be**	**20.69**	**311**	P	Pn	00 04 33.1	-1.8
	0.8nm,0.4s,baz=107,slow=9.4,SNR=4.2						
MKAR	**Makanchi Array**	**21.64**	**61**	P	**P**	**00 04 43.9**	**+1.4**
	0.6nm,0.6s,baz=254,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**25.17**	**45**	P	**P**	**00 05 18.1**	**+1.3**
	0.9nm,0.6s,baz=255,slow=9.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**52.99**	**255**	P	P	00 09 09.6	+1.4
	0.1nm,0.4s,baz=60,slow=5.9,SNR=6.2						

IDC ***11*** *00:17:02.8±0.7, 3˚.70N×82˚.85W, h0km, mb3.7/12, mb1 4.1/16, mb1mx4.0/27, mbtmp3.9/16, ML4.0/3, MS4.1/27, Ms1 4.1/27, ms1mx4.0/41, Error ellipse: s-maj=39.0km s-min=13.1km az=60.0*

ISCJB ***11*** *00:17:04.4±0.4, 3˚.68N±0˚.06×82˚.86W±0˚.06, h24km, mb3.9/18, MS4.1/22, Error ellipse: s-maj=9.6km s-min=6.5km az=44.2*

NEIC ***11*** *00:17:04.1±0.5, 3˚.68N×82˚.81W, h10km, mb4.4/7, Error ellipse: s-maj=12.7km s-min=7.2km az=57.0*

GCMT ***11*** *00:17:10.0±0.3, 3˚.58N×82˚.84W, h14km±1km, MW4.9, Moment Tensor Solution. s19,c21; s73,c107; Moment tensor: Scale 10¹⁶Nm; Mrr=0.13±.10; Mθθ0.35±.08; Mφφ-0.23±.10; Mrθ-0.21±.20; Mθφ2.46±.10; Mφr0.65±.23; Best double couple: M₀2.60000×10¹⁶ NP1:φs93.00000°, δ76.00000°, λ-6.00000°. NP2:φs184.00000°, δ84.00000°, λ-166.00000°. Principal axes: T 2.5700, Plg6.0000°, Azm318.0000°; N 0.0100, Plg74.0000°, Azm206.0000°; P -2.5800, Plg14.0000°, Azm49.0000°; Data Used: IU CN II IC G.*

ISC 11 00:17:06.2±0.6, 3˚.69N±0˚.08×82˚.88W±0˚.08, h24km, n65, σ1§03/49, mb4.0/18, MS4.2/22, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.59**	**128**	*e*Pn	Pn	00 18 24.4	-4.1
	18nm,0.6s						
OTAV				*e*Sn	Sn	00 19 25.4	-6.8
BCIP	**Isla Barro Col**	**6.23**	**29**	*e*Pn	**Pn**	**00 18 37.2**	**+0.5**
	93nm,0.7s						
JTS	**JuntasAbangare**	**6.88**	**343**	Pn	**Pn**	**00 18 44.4**	**-1.4**
	4.5nm,0.3s,baz=146,slow=15,SNR=11						
JTS				LR	LR	00 21 04.4	
	comp=Z,2µm,21.1s,baz=165,slow=35						
JTS	**JuntasAbangare**	**6.88**	**343**	*e*Pn	**Pn**	**00 18 44.7**	**-1.0**
	48nm,0.8s						
JTS				*e*Sn	Sn	00 19 53.1	-10
ROSC	**El Rosal**	**8.60**	**82**	Pn	Pn	00 19 13.3	+3.6
	2.0nm,0.3s,baz=270,slow=17,SNR=5.4						
ROSC				LR	LR	00 22 26.2	
	comp=Z,751nm,21.1s,baz=4.6,slow=38						
ROSC	**El Rosal**	**8.60**	**82**	*e*Pn	**Pn**	**00 19 08.7**	**-1.0**
ROSC				Sn	**Sn**	**00 20 48.1**	**+1.9**
ATAH	**Atahualpa**	**11.64**	**157**	Pn	**Pn**	**00 19 50.6**	**-0.8**
	0.5nm,0.3s,baz=347,slow=5.3,SNR=5.7						
ATAH	**Atahualpa**	**11.64**	**157**	Pn	**Pn**	**00 19 50.6**	**-0.8**
SDV	**Santo Domingo**	**13.22**	**66**	*e*Pn	**Pn**	**00 20 13.6**	**+0.8**
	23nm,1.0s						
NNA	**Nana**	**16.68**	**159**	Pn	**Pn**	**00 20 59.3**	**+0.6**
	0.7nm,0.3s,baz=309,slow=8.5,SNR=8.0						
NNA				LR	LR	00 26 56.6	
	comp=Z,638nm,20.9s,baz=317,slow=36						
NNA	**Nana**	**16.68**	**159**	*e*Pn	**Pn**	**00 20 58.4**	**-0.3**
	53nm,1.0s						
TEIG	**Tepich**	**17.26**	**343**	LR	LR	00 27 19.2	
	comp=Z,688nm,20.9s,baz=188,slow=36						
CMIG	**Matias Romero**	**17.79**	**319**	P	**P**	**00 21 13.4**	**+0.4**
	baz=115,slow=8.4,SNR=7.3						
CMIG				LR	LR	00 26 48.5	
	comp=Z,946nm,21.5s,baz=129,slow=33						
CMIG	**Matias Romero**	**17.79**	**319**	P	**P**	**00 21 13.4**	**+0.4**
SDDR	**Presa de Saban**	**18.96**	**36**	P	**P**	**00 21 22.8**	**-3.1**
SJG	**San Juan**	**21.77**	**48**	LR	LR	00 30 32.1	
	comp=Z,231nm,19.1s,baz=270,slow=37						
SAML	**Samuel**	**23.30**	**123**	*e*P	**P**	**00 22 10.5**	**-2.1**
	17nm,0.9s						
LPAZ	**La Paz**	**24.63**	**144**	P	**P**	**00 22 25.9**	**+0.1**
	4.9nm,0.9s,baz=333,slow=11,SNR=11						
LPAZ				LR	LR	00 32 49.5	
	comp=Z,538nm,19.2s,baz=144,slow=38						
LPAZ	**La Paz**	**24.63**	**144**	*e*P	**P**	**00 22 25.4**	**-0.4**
	27nm,1.2s						
SIV	**San Ignacio**	**29.11**	**133**	P	**P**	**00 23 05.4**	**-0.1**
	0.6nm,0.5s,baz=301,slow=12,SNR=2.7						
SIV				LR	LR	00 35 42.9	
	comp=Z,1µm,18.7s,slow=38						
SIV	**San Ignacio**	**29.11**	**133**	P	**P**	**00 23 05.4**	**-0.1**
TXAR	**Lajitas Array**	**32.24**	**324**	P	**P**	**00 23 33.8**	**+0.7**
	0.3nm,1.0s,baz=135,slow=14,SNR=2.5						
TXAR				LR	LR	00 36 08.1	
	comp=Z,156nm,18.6s,baz=345,slow=36						
TXAR	**Lajitas Array**	**32.24**	**324**	P	**P**	**00 23 33.8**	**+0.7**
ANMO	**Albuquerque**	**38.02**	**328**	LR	LR	00 40 07.3	
	comp=Z,155nm,21.7s,baz=317,slow=36						
ANMO	**Albuquerque**	**38.02**	**328**	*e*P	**P**	**00 24 23.2**	**+0.2**
	2.2nm,1.0s						
CPUP	**Villa Florida**	**38.75**	**142**	LR	LR	00 42 45.8	
	comp=Z,344nm,18.9s,baz=307,slow=40						
BDFB	**Brasilia**	**39.48**	**120**	LR	LR	00 42 55.6	
	comp=Z,372nm,18.3s,baz=109,slow=39						
PDAR	**Pinedale Array**	**45.59**	**332**	P	**P**	**00 25 24.3**	**-0.5**
	0.7nm,0.9s,baz=131,slow=10,SNR=3.7						
PDAR				LR	LR	00 46 04.6	
	comp=Z,286nm,18.7s,baz=158,slow=38						
PDAR	**Pinedale Array**	**45.59**	**332**	P	**P**	**00 25 24.3**	**-0.5**
PLCA	**Paso Flores**	**45.62**	**167**	P	**P**	**00 25 24.4**	**-0.5**
	1.0nm,0.7s,baz=331,slow=10,SNR=2.5						
PLCA	**Paso Flores**	**45.62**	**167**	*e*P	**P**	**00 25 25.0**	**+0.2**
NV11	**Mina Array Sit**	**47.21**	**322**	*e*P	**P**	**00 25 39.0**	**+1.5**
NVAR	**Mina Array Bea**	**47.30**	**322**	P	**P**	**00 25 39.9**	**+1.6**
	1.3nm,0.8s,baz=140,slow=7.6,SNR=8.7						
NVAR				LR	LR	00 45 13.0	
	comp=Z,310nm,18.1s,baz=56,slow=36						
NVAR	**Mina Array Bea**	**47.30**	**322**	P	**P**	**00 25 39.9**	**+1.6**
ULM	**Lac du Bonnet**	**47.69**	**349**	P	**P**	**00 25 40.5**	**-0.2**
	2.5nm,0.9s,baz=172,slow=8.9,SNR=5.3						
ULM				LR	LR	00 45 54.5	
	comp=Z,111nm,18.3s,baz=212,slow=36						
YBH	**Yreka Blue Hor**	**51.98**	**323**	LR	LR	00 48 11.1	
	comp=Z,230nm,20.1s,baz=157,slow=36						
SCHQ	**Schefferville**	**52.63**	**12**	LR	LR	00 48 09.4	
	comp=Z,179nm,19.1s,baz=168,slow=36						
SCHQ	**Schefferville**	**52.63**	**12**	*e*P	**P**	**00 26 17.9**	**-0.3**
	2.3nm,0.9s						
FFC	**Flin Flon**	**53.20**	**346**	*e*P	**P**	**00 26 21.6**	**-0.8**
	3.4nm,1.1s						
NEW	**Newport**	**53.22**	**332**	LR	LR	00 50 27.3	
	comp=Z,255nm,19.9s,baz=150,slow=38						
FRB	**Frobisher Bay**	**60.84**	**7**	LR	LR	00 52 54.1	
	comp=Z,140nm,20.3s,baz=200,slow=35						
BBB	**Bella Bella**	**61.12**	**330**	LR	LR	00 57 01.9	
	comp=Z,165nm,18.7s,baz=79,slow=39						
YKA	**Yellowknife Ar**	**63.22**	**344**	P	**P**	**00 27 33.0**	**+0.7**
	1.7nm,0.9s,baz=138,slow=6.6,SNR=19						
YKA	**Yellowknife Ar**	**63.22**	**344**	P	**P**	**00 27 33.0**	**+0.7**
SFJD	**Kangerlussuaq**	**67.02**	**13**	LR	LR	00 58 32.9	
	comp=Z,208nm,18.6s,baz=211,slow=37						
RES	**Resolute Bay**	**71.28**	**357**	P	**P**	**00 28 22.1**	**-1.1**
	0.8nm,0.9s,baz=158,slow=11,SNR=2.4						
RES				LR	LR	01 00 56.2	
	comp=Z,127nm,18.4s,baz=268,slow=37						
RES	**Resolute Bay**	**71.28**	**357**	P	**P**	**00 28 22.1**	**-1.1**
INK	**Inuvik**	**72.87**	**342**	LR	LR	00 59 57.6	
	comp=Z,59nm,21.0s,baz=138,slow=35						
INK	**Inuvik**	**72.87**	**342**	*e*P	**P**	**00 28 32.6**	**-0.2**
	7.4nm,1.4s						
SUMG	**Summit**	**74.00**	**13**	*i* P	**P**	**00 28 40.9**	**+0.9**
	5.6nm,0.9s						
BORG	**Borgarnes**	**74.83**	**23**	LR	LR	00 56 40.4	
	comp=Z,321nm,19.1s,baz=186,slow=32						
ILAR	**Eielson Array**	**75.81**	**337**	P	**P**	**00 28 49.8**	**-0.3**
	0.8nm,1.0s,baz=126,slow=2.7,SNR=7.0						
ILAR	**Eielson Array**	**75.81**	**337**	P	**P**	**00 28 49.8**	**-0.3**
ESDC	**Sonseca Array**	**79.12**	**50**	P	**P**	**00 29 10.1**	**+0.9**
	0.6nm,0.7s,baz=269,slow=5.2,SNR=5.1						
ESDC				LR	LR	00 56 26.4	
	comp=Z,90nm,19.6s,baz=180,slow=30						
ESDC	**Sonseca Array**	**79.12**	**50**	P	**P**	**00 29 10.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.89**	**77**	P	**P**	**00 29 35.9**	**+1.0**
	0.4nm,0.8s,baz=270,slow=2.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.89**	**77**	P	**P**	**00 29 35.9**	**+1.0**
NOA	**NORSAR Array B**	**88.79**	**29**	LR	LR	01 06 00.9	
	comp=Z,50nm,18.2s,baz=235,slow=33						
GERES	**GERESS Array B**	**91.58**	**41**	LR	LR	01 04 37.8	
	comp=Z,109nm,18.9s,baz=266,slow=31						
MKAR	**Makanchi Array**	**128.06**	**13**	PKP	**PKPdf**	**00 36 10.9**	**+0.3**
	0.2nm,0.8s,baz=354,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**128.06**	**13**	PKP	**PKPdf**	**00 36 10.9**	**+0.3**
ASAR	**Alice Springs**	**139.32**	**237**	PKP	**PKPdf**	**00 36 30.7**	**-1.7**
	0.4nm,0.8s,baz=126,slow=4.7,SNR=3.5						
ASAR	**Alice Springs**	**139.32**	**237**	PKP	**PKPdf**	**00 36 30.7**	**-1.7**
WRA	**Warramunga Arr**	**140.29**	**243**	PKhKP	PKPpre	00 36 27.9	
	0.3nm,0.8s,baz=199,slow=4.4,SNR=4.1						
WRA				PKP	**PKPdf**	**00 36 34.8**	**+0.6**
	0.9nm,0.8s,baz=116,slow=1.3,SNR=6.9						
WRA	**Warramunga Arr**	**140.29**	**243**	PKPpre	PKPpre	00 36 27.9	
WRA				PKP	**PKPdf**	**00 36 34.8**	**+0.6**

NIED ***11*** *00:23:00, 23˚.90N×122˚.70E, h35km, Mw4.5 Best double couple: M₀5.39000×10¹⁵ NP1:φs49.00000°, δ76.00000°, λ62.00000°. NP2:φs295.00000°, δ31.00000°, λ152.00000°.*

BJI ***11*** *00:23:56.5, 23˚.99N×122˚.52E, h5km, mB4.6/24, mb4.4/31, ML3.9/7, Ms4.1/27, Ms7 4.1/29*

JMA ***11*** *00:23:59.9±0.2, 23˚.95N×122˚.70E, h10km, M4.6*

NEIC ***11*** *00:23:59.6±2.3, 24˚.04N×122˚.72E, h32km±16km, mb4.6/8, Error ellipse: s-maj=8.4km s-min=7.0km az=55.0*

TAP ***11*** *00:23:59.1, 23˚.92N×122˚.72E, h37km±1km, ML4.7, D*

IDC ***11*** *00:24:01.7±2.8, 24˚.08N×122˚.68E, h52km±26km, mb3.8/22, mb1 4.0/23, mb1mx3.9/30, mbtmp3.8/23, ML3.8/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/41, Error ellipse: s-maj=15.8km s-min=11.5km az=74.0*

ISC 11 00:23:57.5±0.4, 23˚.85N±0˚.02×122˚.68E±0˚.02, h16km±2km, n169, σ1§56/276, mb4.2/36, MS3.7/11, 1C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**26**	P	**Pb**	**00 24 11.3**	**+0.2**
YOJ				S	**Sg**	**00 24 19.1**	**-0.9**
HWA	**Hwalien**	**0.99**	**278**	*e*P	**Pn**	**00 24 16.9**	**+0.2**
	baz=263						
HWA				S	**Sn**	**00 24 30.6**	**+0.2**
	baz=263						
TWD	**Chiawan**	**1.02**	**283**	P	**Pb**	**00 24 16.9**	**+0.1**
	baz=279						
TWD				*e*S	**Sn**	**00 24 30.9**	**-0.2**
	baz=279						
ENA	**Nanau**	**1.03**	**304**	⇓*i*P	**Pn**	**00 24 17.4**	**+0.1**
	baz=300						
ENA				S	**Sn**	**00 24 32.3**	**+0.7**
	baz=300						
NACB	**Ninganchiao**	**1.04**	**288**	*e*Pn	**Pb**	**00 24 17.1**	**-0.1**
NACB				*e*Sn	**Sb**	**00 24 27.2**	**-3.4**
HATJ	**Hateruma jima**	**1.05**	**78**	P	**Pg**	**00 24 18.6**	**+0.8**
HATJ				*e*S	**Sn**	**00 24 32.2**	**+0.2**
TWC	**Suao**	**1.07**	**315**	⇓*i*P	**Pb**	**00 24 17.6**	**0.0**
	baz=311						
TWC				S	**Sb**	**00 24 31.0**	**-0.5**
	baz=311						
IRIF	**Iriomote-Funau**	**1.08**	**63**	P	**Pg**	**00 24 19.4**	**+1.1**
IRIF				*e*S	**Sn**	**00 24 33.2**	**+0.6**
ESL	**Shilin**	**1.14**	**269**	P	**Pn**	**00 24 18.5**	**-0.3**
	baz=265						
ESL				*e*S	**Sb**	**00 24 32.7**	**-0.8**
	baz=265						
ILA	**Ilan**	**1.25**	**317**	*e*P	**Pg**	**00 24 21.6**	**+0.1**
	baz=314						
ILA				*e*S	**Sg**	**00 24 37.8**	**0.0**
	baz=314						
TWE	**Neicheng**	**1.27**	**314**	⇓*i*P	**Pb**	**00 24 21.1**	**+0.1**
	baz=311						
TWE				S	**Sn**	**00 24 37.6**	**+0.3**
	baz=311						
JKRS	**Kuro-shima**	**1.28**	**72**	P	**Pg**	**00 24 23.1**	**+1.0**
JKRS				*e*S	**Sg**	**00 24 40.0**	**+1.2**
ENTT	**Nioudou**	**1.29**	**308**	P	**Pb**	**00 24 21.5**	**+0.1**
	baz=305						
ENTT				*e*S	**Sg**	**00 24 39.0**	**0.0**
	baz=305						
EHY	**Hungye**	**1.29**	**255**	P	**Pb**	**00 24 21.3**	**-0.1**
	baz=252						
EHY				*e*S	**Sb**	**00 24 37.4**	**-0.3**
	baz=252						
TWB1	**Santiao Chiao**	**1.32**	**332**	*e*P	**Pb**	**00 24 21.9**	**0.0**
	baz=329						
TWB1				*e*S	**Sn**	**00 24 38.4**	**-0.1**
	baz=329						
WHF	**Hehuan Shan**	**1.33**	**283**	⇓*i*P	**Pn**	**00 24 21.9**	**+0.1**
	baz=269						
WHF				*e*S	**Sn**	**00 24 38.6**	**-0.7**
	baz=269						
NNS	**Nan Shan**	**1.33**	**297**	*i* P	**Pn**	**00 24 21.8**	**+0.3**
	baz=293						
YULB	**Yu-li**	**1.34**	**251**	*e*Pn	**Pn**	**00 24 21.8**	**+0.1**
YULB				*e*Sn	**Sn**	**00 24 38.6**	**-0.6**
TWF1	**Yuli**	**1.36**	**249**	P	**Pn**	**00 24 22.3**	**+0.5**
	baz=238						
TWF1				*e*S	**Sn**	**00 24 39.6**	**+0.1**
	baz=238						
CHKT	**Chengkung**	**1.42**	**239**	P	**Pn**	**00 24 22.7**	**+0.1**
	baz=226						
CHKT				S	**Sn**	**00 24 39.4**	**-1.6**
	baz=226						
TWT	**Tachien**	**1.43**	**287**	P	**Pb**	**00 24 23.9**	**0.0**
	baz=283						
JIJ	**Ishigaki jima**	**1.44**	**69**	P	**Pg**	**00 24 24.8**	**-0.3**
JIJ				*e*S	**Sb**	**00 24 42.4**	**+0.5**
YHNB	**Yeheng**	**1.44**	**305**	*e*Pn	**Pn**	**00 24 23.6**	**+0.5**
YHNB				*e*Sn	**Sb**	**00 24 43.1**	**+0.9**
NSK	**Sanguang**	**1.46**	**305**	⇓*i*P	**Pb**	**00 24 23.9**	**-0.4**
	baz=289						
NSK				*e*S	**Sb**	**00 24 42.6**	**-0.1**
	baz=289						
NWF	**Wu-fen Shan**	**1.47**	**326**	*i* P	**Pn**	**00 24 23.7**	**+0.3**
	baz=324						
NWF				*e*S	**Sn**	**00 24 42.7**	**+0.3**
	baz=324						
TATO	**Taipei**	**1.56**	**316**	*e*Pn	**Pn**	**00 24 25.1**	**+0.5**
TATO				*e*Sn	**Sn**	**00 24 44.7**	**+0.1**
SSLB	**Suanglung**	**1.58**	**268**	*e*Pn	**Pn**	**00 24 25.4**	**+0.5**
SSLB				*e*Sn	**Sn**	**00 24 41.5**	**-3.6**
TAP1	**Taipei**	**1.59**	**319**	*e*P	**Pb**	**00 24 26.4**	**-0.1**
	baz=330						
TAP1				*e*S	**Sn**	**00 24 44.7**	**-0.5**
	baz=330						
TAP	**Taipei**	**1.60**	**318**	*e*P	**Pb**	**00 24 26.2**	**-0.4**
	baz=330						
TAP				*e*S	**Sn**	**00 24 45.5**	**+0.1**
	baz=330						
SMLT	**Sun Moon Lake**	**1.63**	**272**	⇓*i*P	**Pb**	**00 24 26.7**	**-0.5**
	baz=269						
SMLT				*e*S	**Sn**	**00 24 46.6**	**+0.2**
	baz=269						
ELDTW	**Lidau**	**1.66**	**247**	*i* P	**Pn**	**00 24 26.4**	**+0.3**
	baz=233						
ELDTW				*e*S	**Sn**	**00 24 46.2**	**-0.9**
	baz=233						
TYC	**Yuchr**	**1.67**	**272**	⇓*i*P	**Pb**	**00 24 27.1**	**-0.7**
	baz=270						
TYC				*e*S	**Sn**	**00 24 47.5**	**+0.3**
	baz=270						
TWS1	**Kuangyinshan**	**1.70**	**318**	*e*P	**Pb**	**00 24 27.9**	**-0.5**
	baz=329						
NSTT	**Nanjuang**	**1.72**	**297**	*i* P	**Pb**	**00 24 28.6**	**-0.1**
	baz=295						
NSTT				*e*S	**Sn**	**00 24 48.9**	**+0.5**
	baz=295						
TWY	**Chenhua**	**1.73**	**326**	*e*P	**Pn**	**00 24 27.5**	**+0.6**
	baz=324						
TWY				*e*S	**Sb**	**00 24 49.6**	**-0.8**
	baz=324						
NCU	**National Centr**	**1.76**	**310**	*e*P	**Pn**	**00 24 27.8**	**+0.4**
	baz=294						
NCU				*e*S	**Sb**	**00 24 51.6**	**+0.3**
	baz=294						
TTN	**Taitung**	**1.78**	**233**	*e*P	**Pn**	**00 24 27.4**	**-0.2**
	baz=223						
TTN				*e*S	**Sn**	**00 24 50.0**	**+0.1**
	baz=223						
TWG	**Pinlang**	**1.79**	**236**	*e*P	**Pn**	**00 24 28.6**	**+0.7**
	baz=225						
TWG				*e*S	**Sn**	**00 24 48.9**	**-1.4**
	baz=225						
TWG	**Pinlang**	**1.79**	**236**	*e*Pn	**Pn**	**00 24 28.4**	**+0.7**
TWQ1	**Liyutan**	**1.81**	**286**	⇓*i*P	**Pb**	**00 24 30.4**	**+0.1**
	baz=284						
TWQ1				*e*S	**Sn**	**00 24 51.7**	**+0.9**
	baz=284						
WNT	**Mingjian**	**1.82**	**271**	*e*P	**Pb**	**00 24 30.8**	**+0.2**
	baz=269						
WNT				*e*S	**Sb**	**00 24 53.6**	**+0.5**
	baz=269						
HSN	**Hsinchu**	**1.83**	**302**	*e*P	**Pn**	**00 24 28.5**	**+0.3**
	baz=301						
HSN				*e*S	**Sn**	**00 24 51.9**	**+0.8**
	baz=301						
NSY	**Sanyi**	**1.84**	**288**	*i* P	**Pb**	**00 24 30.9**	**+0.1**
	baz=286						
NSY				*e*S	**Sn**	**00 24 52.3**	**+0.8**
	baz=286						
CHN5	**Tsauling**	**1.85**	**263**	P	**Pb**	**00 24 30.6**	**-0.4**
	baz=260						
CHN5				*e*S	**Sn**	**00 24 52.3**	**+0.5**

KAU	**Kaohsiung**	**2.52**	**240**	*e*P		**Pb**	**00 24 42.5**	**+0.1**	
	baz=253								
TSEB	**Hengchuen, Pin**	**2.54**	**221**	*e*P		**Pb**	**00 24 41.7**	**-1.0**	
	baz=219								
TSEB				*e*S		**Sn**	**00 25 10.9**	**+2.3**	
	baz=219								
HEN	**Hengchun**	**2.56**	**225**	*e*P		**Pn**	**00 24 40.8**	**+2.4**	
	baz=222								
HEN				S		**Sn**	**00 25 09.6**	**+0.4**	
	baz=222								
TWK1	**Hengchun**	**2.56**	**223**	*e*P		**Pn**	**00 24 40.7**	**+2.3**	
	baz=220								
TWK1				*e*S		**Sn**	**00 25 08.6**	**-0.7**	
	baz=220								
JMJ	**Miyako jima 2**	**2.57**	**67**	P		**Pb**	**00 24 41.6**	**-1.7**	
JMJ				*e*S		**Sn**	**00 25 10.9**	**+1.4**	
TWP	**Hsiaoliuchiu**	**2.60**	**235**	*e*P		**Pb**	**00 24 42.4**	**-1.4**	
	baz=231								
JOGS	**Gusukube**	**2.65**	**69**	P		**Pb**	**00 24 43.1**	**-1.5**	
WDGT	**Dungji**	**2.83**	**259**	*e*P		**Pn**	**00 24 43.5**	**+1.5**	
	baz=256								
WDGT				*e*S		**Sn**	**00 25 15.8**	**0.0**	
	baz=256								
PNG	**Penghu**	**2.88**	**265**	*e*P		**Pn**	**00 24 44.1**	**+1.4**	
	baz=277								
PNG				*e*S		**Sn**	**00 25 18.0**	**+1.0**	
	baz=277								
QZH	**Quanzhou**	**3.88**	**287**	⇑*i*Pn		**Pn**	**00 24 57.9**	**+1.4**	
QZH				Sn		**Sn**	**00 25 39.7**	**-2.1**	
QZH				smax		smax			
	comp=N,520nm,1.0s								
QZH				smax		smax			
	comp=E,490nm,1.0s								
QZH				LR		LR			
	comp=N,2μm,4.3s								
QZH				LR		LR			
	comp=E,820nm,3.3s								
QZH				LR		LR			
	comp=Z,2μm,16.1s								
KNM	**Kinmen**	**3.92**	**279**	*e*P		**Pn**	**00 24 59.0**	**+2.0**	
	baz=276								
JKE	**Kume jima 2**	**4.47**	**56**	P		**Pn**	**00 25 05.2**	**+0.6**	
JOW	**Kunigami**	**5.87**	**58**	P		**Pn**	**00 25 23.8**	**-0.1**	
	comp=Z,5.3nm,0.3s,baz=220,slow=16,SNR=6.6								
JOW				S		**Sn**	**00 26 31.0**	**+0.1**	
	comp=Z,3.2nm,0.3s,baz=112,slow=25,SNR=2.0								
JOW	**Kunigami**	**5.87**	**58**	*e*Pn		**Pn**	**00 25 23.8**	**-0.1**	
JOW				S		**Sn**	**00 26 31.0**	**+0.1**	
SSE	**Sheshan**	**7.34**	**350**	P		**Pn**	**00 25 45.9**	**+1.8**	
SSE				S		**Sn**	**00 27 09.7**	**+2.6**	
SSE				smax		smax			
	comp=N,41nm,0.8s								
SSE				smax		smax			
	comp=E,44nm,0.8s								
SSE				LR		LR			
	comp=N,440nm,18.4s								
SSE				LR		LR			
	comp=E,220nm,18.4s								
SSE				LR		LR			
	comp=Z,490nm,16.3s								
NJ2	**Nanjing**	**8.85**	**338**	*e*P		**Pn**	**00 26 04.8**	**+0.1**	
NJ2				S		**Sn**	**00 27 46.5**	**+2.4**	
NJ2				pmax		pmax			
	comp=Z,30nm,1.0s								
NJ2				smax		smax			
	comp=N,110nm,1.0s								
NJ2				smax		smax			
	comp=E,70nm,1.0s								
NJ2				LR		LR			
	comp=N,570nm,12.7s								
NJ2				LR		LR			
	comp=E,560nm,11.2s								
NJ2				LR		LR			
	comp=Z,2μm,8.8s								
JNU	**Nakatsue**	**11.72**	**36**	LR		LR	00 31 22.3		
	comp=Z,136nm,20.4s,baz=230,slow=38								
QIZ	**Qiongzhong**	**12.87**	**251**	P		**Pn**	**00 27 01.0**	**+1.0**	
QIZ				S		**Sn**	**00 29 26.0**	**+3.0**	
QIZ				pmax		pmax			
	comp=Z,100nm,6.7s								
QIZ				LR		LR			
	comp=Z,210nm,21.1s								
KSAR	**Wonju Array Be**	**14.27**	**17**	P		**Pn**	**00 27 21.7**	**+2.8**	
KSRS	**Korea Array**	**14.29**	**17**	P		**Pn**	**00 27 21.7**	**+2.5**	
	comp=Z,1.4nm,0.3s,baz=196,slow=11,SNR=20								
KSRS				LR		LR	00 33 08.3		
	comp=Z,170nm,19.3s,baz=195,slow=39								
GYA	**Guiyang**	**14.73**	**283**	*e*P		**Pn**	**00 27 26.8**	**+1.3**	
GYA				PP		**PnPn**	**00 27 37.8**	**+4.4**	
GYA				S		**Sn**	**00 30 10.2**	**+1.7**	
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
XAN	**Xi'an**	**15.74**	**313**	P		**P**	**00 27 42.1**	**-0.4**	
XAN				pP		**pP**	**00 27 46.1**	**-0.8**	
XAN				S		**Sn**	**00 30 38.2**	**+5.4**	
XAN				sS		**S**	**00 30 43.5**	**-4.0**	
XAN				LR		LR			
	comp=N,140nm,13.6s								
XAN				LR		LR			
	comp=E,120nm,15.1s								
XAN				LR		LR			
	comp=Z,130nm,15.1s								
DAV	**Davao City (W)**	**16.91**	**170**	LR		LR	00 35 15.7		
	comp=Z,119nm,18.1s,baz=260,slow=39								
BJI	**Beijing**	**17.05**	**343**	P		**Pn**	**00 27 55.4**	**+0.1**	
BJI				S		**Sn**	**00 31 06.0**	**+1.5**	
BJI				pmax		pmax			
	comp=Z,12nm,0.6s								
BJI				LR		LR			
	comp=N,310nm,14.3s								
BJI				LR		LR			
	comp=E,160nm,15.2s								
BJI				LR		LR			
	comp=Z,150nm,22.8s								
CBIJ	**Chichi jima**	**17.91**	**75**	LR		LR	00 34 00.1		
	comp=Z,176nm,21.3s,baz=293,slow=34								
KMI	**Kunming**	**18.19**	**278**	P		**P**	**00 28 11.1**	**+1.1**	
KMI				pP		**pP**	**00 28 14.9**	**+0.5**	
KMI				sP		**sP**	**00 28 17.5**	**+1.1**	
KMI				PP		**PnPn**	**00 28 25.7**	**+4.7**	
KMI				S		**Sn**	**00 31 30.2**	**-2.6**	
KMI				pmax		pmax			
	comp=Z,12nm,0.5s								
KMI				pmax		pmax			
	comp=Z,110nm,4.2s								
KMI				LR		LR			
	comp=N,170nm,18.1s								
KMI				LR		LR			
	comp=E,440nm,15.3s								
KMI				LR		LR			
	comp=Z,510nm,14.4s								
CD2	**Chengdu**	**18.20**	**297**	P		**P**	**00 28 10.6**	**+0.7**	
CD2				pP		**pP**	**00 28 14.9**	**+0.6**	
CD2				sP		**sP**	**00 28 18.4**	**+2.1**	
CD2				PP		**PnPn**	**00 28 26.0**	**+5.0**	
CD2				S		**Sn**	**00 31 30.3**	**-2.4**	
CD2				sS		**S**	**00 31 36.6**	**-1.3**	
CD2				SS		**SnSn**	**00 31 53.6**	**+7.2**	
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				pmax		pmax			
	comp=Z,230nm,4.7s								
CD2				LR		LR			
	comp=E,240nm,7.1s								
CD2				LR		LR			
	comp=Z,720nm,14.9s								
CN2	**Changchun**	**20.04**	**6**	*e*P		Pn	00 28 32.7	+1.1	
CN2				*es*P		sP	00 28 39.0	+2.8	
CN2				*e*S		**S**	**00 32 11.9**	**-2.5**	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=N,200nm,12.0s								
CN2				LR		LR			
	comp=E,300nm,12.0s								
CN2				LR		LR			
	comp=Z,900nm,14.0s								
LZH	**Lanzhou**	**20.33**	**311**	*e*P		**P**	**00 28 34.1**	**+0.9**	
LZH				pP		**pP**	**00 28 38.2**	**+0.5**	
LZH				sP		**sP**	**00 28 41.1**	**+1.4**	
LZH				PP		**PnPn**	**00 28 54.3**	**+4.1**	
LZH				*e*S		**S**	**00 32 16.1**	**-4.7**	
LZH				sS		Sn	00 32 22.3	-1.8	
LZH				pmax		pmax			
	comp=Z,25nm,1.1s								
LZH				pmax		pmax			
	comp=Z,110nm,4.0s								
LZH				LR		LR			
	comp=N,340nm,12.0s								
LZH				LR		LR			
	comp=E,700nm,15.0s								
LZH				LR		LR			
	comp=Z,740nm,15.3s								
MDJ	**Mudanjiang**	**21.48**	**14**	P		**P**	**00 28 45.6**	**+0.2**	
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.2s								
MDJ				pmax		pmax			
	comp=Z,100nm,6.2s								
MDJ	**Mudanjiang**	**21.48**	**14**	P		**P**	**00 28 45.5**	**+0.2**	
MDJ				pP		**pP**	**00 28 48.4**	**-1.4**	
MDJ				sP		**sP**	**00 28 49.9**	**-1.9**	
MDJ				S		**S**	**00 32 45.2**	**+2.2**	
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,100nm,6.2s								
MDJ				LR		LR			
	comp=N,73nm,22.0s								
MDJ				LR		LR			
	comp=E,150nm,23.3s								
USRK	**Ussuriysk Arra**	**21.69**	**18**	P		**P**	**00 28 45.4**	**-2.3**	
	comp=E,2.9nm,0.7s,baz=215,slow=12,SNR=4.1								
CHTO	**Chiang Mai**	**22.66**	**262**	*e*P		**P**	**00 29 01.1**	**+2.8**	
	comp=E,8.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**22.76**	**261**	P		**P**	**00 29 00.8**	**+1.4**	
	comp=E,1.1nm,0.4s,baz=61,slow=8.4,SNR=8.1								
CMAR				LR		LR	00 38 35.6		
	comp=E,76nm,20.3s,baz=75,slow=38								
CMAR	**Chiang Mai Arr**	**22.76**	**261**	P		**P**	**00 29 00.8**	**+1.4**	
GTA	**Gaotai**	**24.79**	**314**	*e*P		**P**	**00 29 19.0**	**+0.1**	
GTA				pP		**pP**	**00 29 23.2**	**-0.5**	
GTA				sP		**sP**	**00 29 26.0**	**+0.4**	
GTA				S		**S**	**00 33 39.8**	**-1.2**	
GTA				sS		**sS**	**00 33 46.2**	**-2.5**	
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,77nm,4.3s								
GTA				LR		LR			
	comp=N,200nm,15.9s								
GTA				LR		LR			
	comp=E,220nm,16.2s								
GTA				LR		LR			
	comp=Z,350nm,15.9s								
SONM	**Songino Array**	**27.22**	**336**	P		**P**	**00 29 39.0**	**-1.8**	
	comp=Z,2.1nm,0.7s,baz=147,slow=9.5,SNR=21								
SONM				PcP		**PcP**	**00 33 00.2**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=155,slow=3.6,SNR=4.0								
SONM				LR		LR	00 42 01.4		
	comp=Z,229nm,18.2s,baz=197,slow=40								
SONM	**Songino Array**	**27.22**	**336**	P		**P**	**00 29 39.0**	**-1.8**	
SONM				PcP		**PcP**	**00 33 00.2**	**-0.4**	
LSA	**Lhasa**	**28.69**	**289**	*e*P		**P**	**00 29 55.4**	**+0.9**	
	comp=Z,5.1nm,0.7s								
TAPN	**Taplejung**	**31.67**	**284**	*e*P		**P**	**00 30 21.7**	**+1.0**	
	comp=Z,12nm,0.6s								
ODAN	**Odare**	**31.97**	**283**	*e*P		**P**	**00 30 24.6**	**+1.3**	
	comp=Z,16nm,0.6s								
RAMN	**Ramite**	**32.67**	**283**	*e*P		**P**	**00 30 30.1**	**+0.7**	
	comp=Z,10nm,0.7s								
JIRN	**Jiri**	**33.01**	**284**	*e*P		**P**	**00 30 33.4**	**+0.9**	
	comp=Z,3.7nm,0.6s								
GUN	**Gumba**	**33.27**	**285**	*e*P		**P**	**00 30 35.2**	**+0.4**	
	comp=Z,11nm,0.6s								
KKN	**Kakani**	**33.81**	**285**	*e*P		**P**	**00 30 39.7**	**+0.4**	
	comp=Z,9.8nm,0.5s								
GKN	**Gorkha**	**34.37**	**285**	*e*P		**P**	**00 30 44.1**	**0.0**	
	comp=Z,8.1nm,0.6s								
WMQ	**Urumqi**	**34.88**	**313**	*e*P		**P**	**00 30 50.5**	**+2.3**	
WMQ				LR		LR			
	comp=N,90nm,20.0s								
WMQ				LR		LR			
	comp=E,44nm,15.0s								
WMQ				LR		LR			
	comp=Z,48nm,13.0s								
DANN	**Dangsing**	**35.13**	**286**	*e*P		**P**	**00 30 51.4**	**+0.5**	
	comp=Z,11nm,0.5s								
KOLN	**Koldanda**	**35.30**	**285**	*e*P		**P**	**00 30 52.6**	**+0.4**	
	comp=Z,9.4nm,0.7s								
PYUN	**Piuthan**	**35.82**	**285**	*e*P		**P**	**00 30 57.3**	**+0.6**	
	comp=Z,14nm,0.6s								
PETK	**Petropavlovsk-**	**39.39**	**33**	P		**P**	**00 31 23.3**	**-3.1**	
	comp=Z,1.5nm,0.5s,baz=225,slow=8.2,SNR=4.5								
PETK	**Petropavlovsk-**	**39.39**	**33**	P		**P**	**00 31 23.3**	**-3.1**	
MK31	**Makanchi Array**	**39.53**	**316**	*e*P		**P**	**00 31 26.4**	**-1.2**	
MK31				*e*PcP		**PcP**	**00 33 33.8**	**-1.2**	
MKAR	**Makanchi Array**	**39.53**	**316**	P		**P**	**00 31 26.8**	**-0.9**	
	comp=Z,2.6nm,0.6s,baz=101,slow=10,SNR=52								
MKAR				PcP		**PcP**	**00 33 34.2**	**-0.8**	
	comp=Z,1.2nm,0.8s,baz=102,slow=4.1,SNR=5.2								
MKAR				LR		LR	00 49 05.7		
	comp=Z,92nm,18.4s,baz=261,slow=38								
MKAR	**Makanchi Array**	**39.53**	**316**	*e*P		**P**	**00 31 26.3**	**-1.4**	
MKAR				PcP		**PcP**	**00 33 34.2**	**-0.8**	
PMG	**Port Moresby**	**40.80**	**141**	P		**P**	**00 31 40.0**	**+1.6**	
	comp=Z,2.7nm,0.4s,baz=288,slow=9.6,SNR=3.6								
PMG	**Port Moresby**	**40.80**	**141**	P		**P**	**00 31 40.0**	**+1.6**	
ZALV	**Zalesovo Beam**	**41.27**	**327**	P		**P**	**00 31 39.6**	**-2.3**	
	comp=Z,2.4nm,0.7s,baz=111,slow=8.3,SNR=9.2								
ZALV				PcP		**PcP**	**00 33 38.2**	**-2.2**	
	comp=Z,0.6nm,0.5s,baz=120,slow=4.3,SNR=3.3								
ZALV				LR		LR	00 49 56.8		
	comp=Z,107nm,21.9s,baz=258,slow=38								
ZALV	**Zalesovo Beam**	**41.27**	**327**	P		**P**	**00 31 39.6**	**-2.3**	
ZALV				PcP		**PcP**	**00 33 38.2**	**-2.2**	
FITZ	**Fitzroy Crossi**	**41.79**	**176**	P		**P**	**00 31 46.6**	**+0.1**	
	comp=Z,2.1nm,0.8s,baz=12,slow=8.5,SNR=5.0								
FITZ	**Fitzroy Crossi**	**41.79**	**176**	*e*P		**P**	**00 31 47.6**	**+1.2**	
KSH	**Kashi**	**42.23**	**303**	P		**P**	00 31 53.6	+3.5	
KSH				pP		pP	00 31 58.5	+3.5	
KSH				sP		sP	00 32 02.3	+5.4	
KSH				PP		PP	00 33 34.7	+6.8	
KSH				*e*PcP		**PcP**	**00 33 47.1**	**+3.0**	
KSH				ScP		**ScP**	**00 37 36.0**	**+1.8**	
KSH				PcS		**PcS**	**00 37 39.0**	**+3.0**	
KSH				S		**S**	**00 38 14.6**	**+4.5**	
KSH				sS		sS	00 38 22.9	+4.8	
KSH				SS		**SS**	**00 41 17.3**	**-0.9**	
KSH				ScS		**ScS**	**00 41 52.9**	**+0.8**	
KSH				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KSH				pmax		pmax			
	comp=Z,77nm,3.9s								
KSH				LR		LR			
	comp=N,96nm,5.0s								
KSH				LR		LR			
	comp=E,84nm,5.5s								
KSH				LR		LR			
	comp=Z,310nm,6.3s								
COEN	**Coen**	**42.58**	**150**	*e*P		**P**	**00 31 55.2**	**+2.2**	
TKM2	**Tokmak 2**	**43.05**	**308**	*e*P		**P**	**00 31 57.3**	**+0.5**	
	comp=Z,7.7nm,0.6s								
KURK	**Kurchatov**	**43.23**	**320**	*e*P		**P**	**00 31 56.3**	**-1.6**	
	comp=Z,2.7nm,0.6s								
AAK	**Ala-Archa**	**43.80**	**307**	*e*P		**P**	**00 32 03.4**	**+0.5**	
	comp=Z,131nm,2.5s								
EKS2	**Erkin-Say**	**44.32**	**307**	*e*P		**P**	**00 32 07.4**	**+0.4**	
	comp=Z,25nm,2.4s								
WRAB	**Tennant Creek**	**44.98**	**164**	*e*P		**P**	**00 32 13.6**	**+1.3**	
	comp=Z,34nm,2.1s								
WRA	**Warramunga Arr**	**44.98**	**164**	P		**P**	**00 32 13.3**	**+1.1**	
	comp=Z,3.3nm,0.9s,baz=346,slow=8.7,SNR=25								
WRA	**Warramunga Arr**	**44.98**	**164**	P		**P**	**00 32 13.3**	**+1.1**	
KKAR	**Karatay Array**	**46.76**	**307**	*e*P		**P**	**00 32 26.6**	**+0.4**	
KBL	**Kabul**	**47.54**	**296**	*e*P		**P**	**00 32 33.7**	**+1.1**	
	comp=Z,8.6nm,0.8s								
ASAR	**Alice Springs**	**48.47**	**166**	P		**P**	**00 32 41.3**	**+1.8**	
	comp=Z,1.2nm,0.5s,baz=347,slow=7.5,SNR=20								
ASAR	**Alice Springs**	**48.47**	**166**	P		**P**	**00 32 41.3**	**+1.8**	
BVAR	**Borovoye Array**	**48.80**	**321**	P		**P**	**00 32 40.0**	**-1.8**	
	comp=Z,0.6nm,0.5s,baz=108,slow=8.2,SNR=12								
BVAR				PcP		**PcP**	**00 34 05.0**	**-1.5**	
	comp=Z,2.5nm,0.6s,baz=115,slow=3.5,SNR=15								
BVAR				LR		LR	00 55 17.5		
	comp=Z,52nm,18.6s,baz=160,slow=39								
BVAR	**Borovoye Array**	**48.80**	**321**	P		**P**	**00 32 40.0**	**-1.8**	
BVAR				PcP		**PcP**	**00 34 05.0**	**-1.5**	
ABKAR	**Akbulak array**	**54.65**	**314**	*e*P		**P**	**00 33 24.9**	**-0.6**	
STKA	**Stephens Creek**	**58.29**	**161**	P		**P**	**00 33 53.0**	**+1.5**	
	comp=Z,3.5nm,0.9s,baz=342,slow=5.0,SNR=4.4								
STKA	**Stephens Creek**	**58.29**	**161**	P		**P**	**00 33 53.0**	**+1.5**	
MIB	**Mutribah**	**66.41**	**293**	*e*P		**P**	**00 34 45.8**	**-0.4**	
MIB				AMb		AMB	00 34 46.6		
	comp=Z,27nm,1.1s								
RDF	**Al-Radifah**	**66.46**	**292**	*e*P		**P**	**00 34 45.6**	**-0.9**	
RDF				AMb		AMB	00 34 47.1		
	comp=Z,30nm,0.6s								
NAY	**Al-Naaiem**	**66.63**	**293**	*e*P		**P**	**00 34 47.0**	**-0.6**	
NAY				AMb		AMB	00 34 49.5		
	comp=Z,20nm,1.4s								
ILAR	**Eielson Array**	**68.89**	**27**	P		**P**	**00 34 59.9**	**-1.4**	
	comp=Z,0.3nm,0.7s,baz=302,slow=8.7,SNR=4.6								
ILAR	**Eielson Array**	**68.89**	**27**	P		**P**	**00 34 59.9**	**-1.4**	
JOF	**Joensuu**	**69.67**	**331**	*ep*		**P**	**00 35 04.0**	**-2.1**	
ARCES	**ARCESS Array B**	**70.36**	**338**	P		**P**	**00 35 08.3**	**-2.0**	
	comp=Z,4.1nm,0.9s,baz=59,slow=7.2,SNR=6.8								
ARCES	**ARCESS Array B**	**70.36**	**338**	P		**P**	**00 35 08.3**	**-2.0**	
FINES	**FINESS Array B**	**72.42**	**330**	P		**P**	**00 35 20.6**	**-2.2**	
	comp=Z,1.2nm,0.4s,baz=54,slow=5.6,SNR=22								
FINES				LR		LR	01 10 37.8		
	comp=Z,163nm,18.4s,baz=136,slow=39								
FINES	**FINESS Array B**	**72.42**	**330**	P		**P**	**00 35 20.6**	**-2.2**	
INK	**Inuvik**	**73.02**	**22**	P		**P**	**00 35 24.0**	**-2.2**	
	comp=Z,1.4nm,0.7s,baz=304,slow=4.9,SNR=7.9								
INK	**Inuvik**	**73.02**	**22**	P		**P**	**00 35 24.0**	**-2.2**	
AKASG	**Malin Array Be**	**74.03**	**319**	P		**P**	**00 35 30.5**	**-2.0**	
	comp=Z,1.5nm,0.6s,baz=54,slow=7.7,SNR=3.8								
AKASG	**Malin Array Be**	**74.03**	**319**	P		**P**	**00 35 30.5**	**-2.0**	
BRTR	**Keskin Array B**	**74.47**	**307**	P		**P**	**00 35 34.7**	**-0.8**	
	comp=Z,1.9nm,0.7s,baz=106,slow=4.0,SNR=12								
BRTR	**Keskin Array B**	**74.47**	**307**	P		**P**	**00 35 34.7**	**-0.8**	
RES	**Resolute Bay**	**78.77**	**10**	P		**P**	**00 35 56.8**	**-2.2**	
	comp=Z,0.6nm,0.5s,baz=317,slow=7.2,SNR=4.0								
RES	**Resolute Bay**	**78.77**	**10**	P		**P**	**00 35 56.8**	**-2.2**	
NB2	**NORSAR Subarra**	**79.16**	**333**	P		**P**	**00 35 59.4**	**-2.0**	
	comp=Z,1.2nm,0.5s,baz=57,slow=5.6								
NOA	**NORSAR Array B**	**79.16**	**333**	P		**P**	**00 35 59.4**	**-2.0**	
	comp=Z,1.4nm,0.6s,baz=57,slow=5.5,SNR=11								
NOA	**NORSAR Array B**	**79.16**	**333**	P		**P**	**00 35 59.4**	**-2.0**	
YKA	**Yellowknife Ar**	**82.75**	**23**	P		**P**	**00 36 19.2**	**-1.2**	
	comp=Z,1.3nm,0.7s,baz=312,slow=4.9,SNR=34								
YKA	**Yellowknife Ar**	**82.75**	**23**	P		**P**	**00 36 19.2**	**-1.2**	
GERES	**GERESS Array B**	**83.97**	**321**	P		**P**	**00 36 25.3**	**-1.8**	
	comp=Z,1.0nm,0.6s,baz=63,slow=6.1,SNR=8.9								
GERES	**GERESS Array B**	**83.97**	**321**	P		**P**	**00 36 25.3**	**-1.8**	

IDC 11 00:29:36.0±5.0, 1°.85S×138°.77E, *h*0^{km}, mb3.3/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.3/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/21, Error ellipse: s-maj=201.6km s-min=30.6km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.50**	**193**	P		Pn	00 33 54.6	+0.7
	0.1nm,0.3s,baz=16,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**22.19**	**192**	P		P	00 34 33.8	-0.3
	0.6nm,0.7s,baz=24,slow=9.3,SNR=4.1							
JHJ	**Hachijo jima 2**	**34.80**	**1**	LR		LR	00 48 27.1	
	comp=Z,385nm,19.0s,baz=309,slow=32							
MKAR	**Makanchi Array**	**69.15**	**322**	P		P	00 40 44.3	-0.1
	1.2nm,1.2s,baz=114,slow=8.1,SNR=4.1							

IDC ***11*** *00:31:21.4±0.5, 11°.98S×166°.36E, h0^{km}, mb4.5/24, mb1 4.6/26, mb1mx4.5/30, mbtmp4.5/26, ML3.8/2, MS4.5/25, Ms1 4.5/25, ms1mx4.3/34, Error ellipse: s-maj=18.1km s-min=12.6km az=108.0*

ISCJB ***11*** *00:31:26.7±1.2, 11°.96S±0°.05×166°.15E±0°.05, h41^{km}±10^{km}, mb4.9/65, MS4.5/38, Error ellipse: s-maj=8.9km s-min=7.6km az=170.3*

MOS ***11*** *00:31:26.2±1.1, 11°.89S×166°.07E, h33^{km}, mb5.1/16, Error ellipse: s-maj=10.7km s-min=8.1km az=30.4*

BJI ***11*** *00:31:29.0, 11°.51S×166°.40E, h53^{km}, mB5.2/29, mb5.1/46, Ms5.0/31, Ms7 4.7/31*

NEIC ***11*** *00:31:29.0±1.1, 11°.96S×166°.20E, h50^{km}±9^{km}, mb5.0/25, Error ellipse: s-maj=8.4km s-min=6.3km az=104.0*

GCMT ***11*** *00:31:30.3±0.2, 11°.97S×165°.95E, h26^{km}, MW5.2, Moment Tensor Solution. s80,c114; s79,c119; Moment tensor: Scale 10^{16}Nm; M$_{rr}$6.38±.19; M$_{\theta\theta}$-0.49±.14; M$_{\phi\phi}$-5.89±.14; M$_{r\theta}$2.42±.33; M$_{r\phi}$2.43±.11; M$_{\theta\phi}$-3.67±.27; Best double couple: M$_0$7.90000×10^{16} NP1:ϕ$_s$347.00000°, δ29.00000°, λ103.00000°. NP2:ϕ$_s$152.00000°, δ62.00000°, λ83.00000°. Principal axes: T 7.7700, Plg72.0000°, Azm45.0000°; N 0.3400, Plg6.0000°, Azm155.0000°; P -8.1000, Plg17.0000°, Azm247.0000°; Data Used: II IU IC G CN.*

AUST ***11*** *00:31:35.0, 11°.45S×165°.97E, h100^{km}*

DJA ***11*** *00:31:39.8±5.3, 14°.5E±16°×16°.5E±2°.0, h23^{km}±34^{km}, M4.9/10, mB5.1/2, mb4.9/10, Mw(mB)4.5/2*

ISC 11 00:31:30.5±0.4, 12°.03S±0°.04×166°.14E±0°.05, h62^{km}±2^{km}, h61^{km}:pP-P, n208, σ1^{s}62/256, mb4.8/65, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.61**	**292**	*e*Pn		**Pn**	**00 33 03.0**	**-2.1**
	378nm,0.8s							
HNR				*e*Sn		**Sn**	**00 34 17.5**	**-1.6**
DZM	**Mont Dzumac**	**9.99**	**178**	*e*Pn		**Pn**	**00 33 49.7**	**-1.7**
	8.7nm,0.2s							
DZM				*e*Sn		Sn	00 35 36.0	-6.0
	4.4nm,0.3s							
DZM				*e*LR		LR	00 36 07.4	
	3μm,24.2s							
DZM	**Mont Dzumac**	**9.99**	**178**	Pn		**Pn**	**00 33 49.0**	**-2.4**
	2.7nm,0.3s,baz=8.9,slow=18,SNR=27							
DZM				Sn		**Sn**	**00 35 39.6**	**-2.3**
	1.7nm,0.3s,baz=99,slow=19,SNR=3.4							
DZM				LR		LR	00 36 52.4	
	comp=Z,1μm,19.7s,baz=214,slow=33							
DZM	**Mont Dzumac**	**9.99**	**178**	*e*P

comp=Z,12nm,1.1s
WRAB Tennant Creek 31.51 251 *e*P **P** **00 37 46.1 -0.8**
comp=Z,12nm,1.1s
WRA Warramunga Arr 31.52 251 P **P** **00 37 46.2 -0.8**
comp=Z,3.0nm,0.8s,baz=81,slow=9.3,SNR=19
WRA PcP **PcP** **00 40 39.9 +1.1**
comp=Z,4.3nm,0.8s,baz=78,slow=2.9,SNR=14
WRA Warramunga Arr 31.52 251 P **P** **00 37 46.2 -0.8**
WRA PcP **PcP** **00 40 39.9 +1.1**
AS31 Alice Springs 32.71 245 *e*P **P** **00 37 55.8 -1.6**
AS31 *e*PcP **PcP** **00 40 42.2 +0.2**
ASAR Alice Springs 32.71 245 P **P** **00 37 56.2 -1.2**
comp=Z,3.9nm,0.6s,baz=72,slow=9.4,SNR=42
ASAR PcP **PcP** **00 40 42.5 +0.5**
comp=Z,6.5nm,0.7s,baz=76,slow=2.7,SNR=23
ASAR ScP **ScP** **00 44 26.6 +5.8**
comp=Z,1.4nm,0.9s,baz=70,slow=3.5,SNR=8.2
ASAR LR LR 00 50 48.7
comp=Z,712nm,18.1s,baz=73,slow=36
ASAR Alice Springs 32.71 245 P **P** **00 37 56.2 -1.2**
ASAR PcP **PcP** **00 40 42.5 +0.5**
ASAR ScP **ScP** **00 44 26.6 +5.8**
KDU Kakadu 32.88 265 P P 00 38 04.1 +5.2
baz=33,SNR=6.4
GUMO Guam 33.06 320 LR LR 00 50 03.8
comp=Z,924nm,20.5s,baz=123,slow=34
RAR Rarotonga 33.85 110 LR LR 00 49 47.7
comp=Z,742nm,18.7s,baz=16,slow=33
FITZ Fitzroy Crossi 39.51 256 P **P** **00 38 55.6 +0.1**
comp=Z,4.2nm,0.8s,baz=96,slow=6.9,SNR=9.2
FITZ LR LR 00 54 51.7
comp=Z,858nm,18.2s,baz=76,slow=36
FITZ Fitzroy Crossi 39.51 256 *e*P **P** **00 38 56.0 +0.5**
FITZ Fitzroy Crossi 39.51 256 P **P** **00 38 55.9 +0.4**
baz=40,SNR=4.9
PPT Papeete 43.09 103 LR LR 00 53 40.0
comp=Z,891nm,19.2s,baz=95,slow=31
PPT2 Papeete2 43.09 103 *e*S S 00 45 57.2 +10
comp=Z,459nm,26.0s
PPT2 *e*LQ LQ 00 49 42.2
comp=Z,2μm,27.5s
PPT2 *e*LR LR 00 51 33.0
comp=Z,826nm,22.2s,baz=280
TBI Tubuai 43.61 111 *e*S S 00 46 06.1 +12
comp=Z,239nm,25.5s
TBI *e*LQ LQ 00 49 54.7
comp=Z,1μm,31.5s
TBI *e*LR LR 00 51 43.2
comp=Z,621nm,23.0s,baz=287
DAV Davao City (W) 44.57 293 LR LR 00 55 57.9
comp=Z,250nm,19.5s,baz=138,slow=33
MBWA Marble Bar 45.25 252 *e*P **P** **00 39 43.1 +0.9**
comp=Z,17nm,1.1s
KAPI Kappang 46.35 275 P **P** **00 39 51.4 +0.5**
comp=Z,6.4nm,0.5s,baz=122,slow=9.5,SNR=5.6
KAPI Kappang 46.35 275 P **P** **00 39 51.4 +0.5**
MEEK Meekatharra 46.87 245 P **P** **00 39 55.3 +0.4**
baz=47,SNR=8.3
PCI Palu 47.23 280 S **S** **00 46 41.6 -5.2**
baz=47,SNR=8.4
NWAO Narrogin (SRO) 49.24 237 P **P** **00 40 13.1 0.0**
comp=Z,7.9nm,0.9s,baz=63,slow=6.8,SNR=2.7
NWAO LR LR 01 01 38.3
comp=Z,1μm,18.1s,baz=43,slow=37
NWAO Narrogin (SRO) 49.24 237 *e*P **P** **00 40 13.4 +0.4**
MORW Morawa 49.50 242 P **P** **00 40 15.4 +0.3**
baz=50,SNR=5.6
MYLDM Lahad Datu 50.36 287 P P 00 40 31.8 +10
MYLDM Lahad Datu 50.36 287 P P 00 40 31.6 +10
comp=Z,34nm,1.4s
KKM Kota Kinabalu 52.79 287 *e*P **P** **00 40 42.3 +2.2**
comp=Z,57nm,1.1s
KKM Kota Kinabalu 52.79 287 P P 00 40 47.1 +7.0
comp=Z,55nm,1.1s
JOW Kunigami 53.34 317 LR LR 00 59 06.8
comp=Z,425nm,21.4s,baz=85,slow=31
MJAR Matsushiro Arr 55.02 333 P **P** **00 40 54.3 -1.5**
comp=Z,4.7nm,0.7s,baz=167,slow=8.9,SNR=12
MJAR LR LR 01 02 01.8
comp=Z,169nm,21.2s,baz=235,slow=33
MJAR Matsushiro Arr 55.02 333 P **P** **00 40 54.3 -1.5**
MAJO Matsushiro 55.02 333 *e*P **P** **00 40 54.9 -0.9**
MAJO pmax pmax
comp=Z,55nm,0.5s
MAJO Matsushiro 55.02 333 *e*P **P** **00 40 54.9 -0.9**
comp=Z,55nm,0.5s
JNU Nakatsue 56.10 324 P **P** **00 41 02.9 -0.8**
comp=Z,16nm,0.7s,baz=88,slow=4.5,SNR=9.7
JNU Nakatsue 56.10 324 *e*P **P** **00 41 03.8 +0.1**
RKT Rikitea 56.89 110 *e*LR LR 00 57 51.1
comp=Z,872nm,25.5s
YUK Yuzh-Kuril'sk 58.77 343 P **P** **00 41 21.0 -1.2**
YUK S **S** **00 49 20.4 -2.3**
ASAJ Asahikawa 59.85 341 P **P** **00 41 28.5 -1.1**
comp=Z,10nm,0.8s,baz=116,slow=6.8,SNR=3.4
ASAJ Asahikawa 59.85 341 P **P** **00 41 28.5 -1.1**
SSE Sheshan 60.83 316 P **P** **00 41 34.9 -1.6**
SSE PP **PP** **00 43 47.9 -3.4**
SSE S **S** **00 49 44.2 -5.4**
SSE sS sS 00 50 11.8 -5.6
SSE SS **SS** **00 53 43.4 -6.4**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,160nm,6.1s
SSE LR LR
comp=N,200nm,18.4s
SSE LR LR
comp=E,180nm,18.4s
SSE LR LR
comp=Z,290nm,16.1s
KSRS Korea Array 60.90 326 P **P** **00 41 36.8 -0.1**
comp=Z,4.2nm,0.7s,baz=136,slow=7.1,SNR=17
KSRS LR LR 01 07 58.4
comp=Z,162nm,19.0s,baz=135,slow=36
KSAR Wonju Array Be 60.92 326 P **P** **00 41 36.8 -0.2**
NJ2 Nanjing 62.99 316 *e*P **P** **00 41 52.7 +1.6**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 LR LR
comp=Z,380nm,14.5s
QIZ Qiongzhong 63.48 298 P **P** **00 41 54.7 +0.1**
QIZ pP **pP** **00 42 10.8 -0.4**
QIZ sP **sP** **00 42 18.2 +0.1**
QIZ S **S** **00 50 24.3 +0.7**
QIZ pmax pmax
comp=Z,8.0nm,2.0s
QIZ LR LR
comp=Z,230nm,18.8s
KGM Kluang 63.94 278 P P 00 42 04.8 +7.0
USRK Ussuriysk Arra 63.99 333 P **P** **00 41 58.1 +0.7**
comp=Z,4.6nm,0.7s,baz=157,slow=7.4,SNR=7.0
USRK LR LR 01 06 55.0
comp=Z,264nm,19.9s,baz=294,slow=33
FX1 Attu Island--F 64.93 5 LR LR 01 03 37.6
comp=Z,350nm,20.8s,baz=197,slow=30
PET Petropavlovsk 65.11 355 *e*P **P** **00 42 05.5 +1.0**
PET *e*S **S** **00 50 46.3 +4.0**
PET *e*SS **SS** **00 55 01.0 +5.0**
PET pmax pmax
comp=Z,100nm,13.3s
PETK Petropavlovsk- 65.28 354 P **P** **00 42 04.5 -1.2**
comp=Z,4.1nm,1.0s,baz=168,slow=7.4,SNR=2.3
PETK LR LR 01 05 21.2
comp=Z,213nm,20.4s,baz=191,slow=31
PETK Petropavlovsk- 65.28 354 P **P** **00 42 04.5 -1.2**
PETK Petropavlovsk- 65.28 354 P **P** **00 42 04.5 -1.2**
MDJ Mudanjiang 65.40 332 P **P** **00 42 07.3 +0.7**
MDJ pP **pP** **00 42 23.1 -0.1**
MDJ sP **sP** **00 42 29.9 -0.2**
MDJ PcP **PcP** **00 42 37.7 -0.5**
MDJ PP **PP** **00 44 27.8 -3.5**
MDJ S **S** **00 50 46.4 +0.2**
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,130nm,4.0s
MDJ LR LR
comp=N,130nm,29.7s
MDJ LR LR
comp=E,140nm,24.8s
MDJ Mudanjiang 65.40 332 *e*P **P** **00 42 06.4 -0.2**
comp=E,13nm,1.0s
DL2 Dalian 65.50 323 P **P** **00 42 07.9 +0.6**
DL2 pmax pmax
comp=Z,20nm,0.8s

VNDA Vanda 65.52 181 P **P** **00 42 06.8 -0.2**
comp=Z,3.0nm,0.7s,baz=10,slow=8.0,SNR=9.4
VNDA LR LR 01 08 33.7
comp=Z,243nm,18.6s,baz=2.3,slow=34
VNDA Vanda 65.52 181 *e*P **P** **00 42 07.8 +0.8**
CASY Casey 65.61 202 *e*P **P** **00 42 08.0 +0.3**
SBA Scott Base 65.82 180 *e*P **P** **00 42 10.5 +1.7**
SBA pmax pmax
comp=Z,357nm,2.4s
SBA Scott Base 65.82 180 *e*P **P** **00 42 10.5 +1.7**
comp=Z,357nm,2.4s
IPM Ipoh 66.77 280 *e*P **P** **00 42 17.4 +1.3**
comp=Z,29nm,0.8s
IPM Ipoh 66.77 280 P P 00 42 22.3 +6.2
IPM Ipoh 66.77 280 P P 00 42 23.4 +7.3
comp=Z,42nm,1.3s
CN2 Changchun 66.78 329 ⇑P **P** **00 42 15.9 +0.4**
CN2 *e*sP **sP** **00 42 39.9 +0.8**
CN2 *e*S **S** **00 51 02.7 -0.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,700nm,18.0s
KULM Kulim 67.34 281 *e*P P 00 42 23.3 +3.6
KULM Kulim 67.34 281 P P 00 42 28.1 +8.4
comp=Z,17nm,1.3s
KLR Kul'dur 68.11 336 *e*P P 00 42 20.0 -3.8
PSI Prapat 68.38 278 P **P** **00 42 26.8 +0.4**
comp=Z,2.2nm,0.4s,baz=122,slow=9.5,SNR=3.4
PSI Prapat 68.38 278 P **P** **00 42 26.8 +0.4**
PSI Prapat 68.38 278 P P 00 42 32.9 +6.5
comp=Z,20nm,1.1s
ENH Enshi 68.81 309 *e*P **P** **00 42 28.6 0.0**
comp=Z,54nm,1.4s
GYA Guiyang 69.29 304 P **P** **00 42 33.0 +1.2**
GYA pP **pP** **00 42 51.2 +2.7**
GYA sP **sP** **00 42 57.0 +1.6**
GYA PP **PP** **00 45 08.5 +2.8**
GYA ScP 00 46 53.4
GYA S **S** **00 51 33.6 -0.3**
GYA sS **sS** **00 52 01.2 -1.1**
GYA SKS **SKSac** **00 52 24.7 -2.3**
GYA SS **SS** **00 56 04.8 +2.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,580nm,18.0s
GYA LR LR
comp=E,520nm,18.2s
GYA LR LR
comp=Z,620nm,19.4s
BJI Beijing 69.49 321 P **P** **00 42 32.9 +0.4**
BJI pP **pP** **00 42 49.7 +0.4**
BJI sP **sP** **00 42 56.8 +0.6**
BJI S **S** **00 51 37.6 +2.1**
BJI SS **SS** **00 56 05.1 +0.8**
BJI pmax pmax
comp=Z,27nm,0.8s
BJI LR LR
comp=N,350nm,20.8s
BJI LR LR
comp=E,290nm,20.8s
BJI LR LR
comp=Z,320nm,24.3s
XAN Xi'an 71.07 312 P **P** **00 42 42.7 +0.3**
XAN pP **pP** **00 42 59.2 0.0**
XAN sP **sP** **00 43 06.1 0.0**
XAN PP **PP** **00 45 22.7 +1.9**
XAN S **S** **00 51 51.6 -2.7**
XAN sS **SKiKP** **00 52 17.7 -0.8**
XAN SS **SS** **00 56 26.8 -2.2**
XAN LR LR
comp=N,71nm,20.3s
XAN LR LR
comp=E,73nm,19.8s
XAN LR LR
comp=Z,68nm,19.8s
KMI Kunming 71.96 302 P **P** **00 42 49.7 +1.5**
KMI pP **pP** **00 43 04.5 -0.6**
KMI sP **sP** **00 43 11.3 -0.6**
KMI PP **PP** **00 45 29.9 +1.0**
KMI S **S** **00 52 04.6 -0.7**
KMI sS **sS** **00 52 33.8 0.0**
KMI SS **SS** **00 56 43.6 +0.2**
KMI pmax pmax
comp=Z,9.0nm,1.7s
KMI pmax pmax
comp=Z,210nm,5.5s
KMI LR LR
comp=N,150nm,24.4s
KMI LR LR
comp=E,240nm,22.0s
KMI LR LR
comp=Z,280nm,22.6s
CMAR Chiang Mai Arr 72.86 294 P **P** **00 42 54.3 +1.0**
comp=Z,2.8nm,0.6s,baz=122,slow=4.9,SNR=11
CMAR Chiang Mai Arr 72.86 294 P **P** **00 42 54.3 +1.0**
CHTO Chiang Mai 72.97 294 *e*P **P** **00 42 54.2 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 72.97 294 *e*P **P** **00 42 54.2 +0.2**
comp=Z,8.3nm,1.1s
CHTO Chiang Mai 72.97 294 P P 00 43 02.5 +8.4
HIA Hailar 73.41 330 *e*P **P** **00 42 55.6 -0.4**
comp=Z,4.8nm,0.5s
CD2 Chengdu 73.50 307 P **P** **00 42 59.1 +2.1**
CD2 pP **pP** **00 43 16.0 +2.1**
CD2 sP **sP** **00 43 23.1 +2.3**
CD2 PP **PP** **00 45 45.6 +3.9**
CD2 S **SKiKP** **00 52 22.9 +0.6**
CD2 sS **sS** **00 52 51.8 +0.9**
CD2 SS **SS** **00 57 09.1 +2.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,170nm,8.9s
CD2 LR LR
comp=N,300nm,13.1s
CD2 LR LR
comp=Z,790nm,10.1s
SEY Seymchan 75.49 354 *e*P **P** **00 43 08.0 +0.3**
LZH Lanzhou 75.70 312 *e*P **P** **00 43 11.5 +1.7**
LZH pP **pP** **00 43 28.1 +1.3**
LZH sP **sP** **00 43 35.0 +1.4**
LZH PP **PP** **00 46 04.6 +4.2**
LZH *e*S **S** **00 52 47.6 +0.7**
LZH sS **SKKSac** **00 53 16.0 +0.6**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,150nm,7.0s
LZH LR LR
comp=N,390nm,16.3s
LZH LR LR
comp=E,440nm,16.0s
LZH LR LR
comp=Z,470nm,17.0s
QSPA South Pole Qui 77.98 180 P **P** **00 43 22.0 0.0**
comp=Z,9.3nm,0.8s,baz=343,slow=2.6,SNR=16
QSPA South Pole Qui 77.98 180 *e*P **P** **00 43 21.6 -0.5**
comp=Z,32nm,1.3s
CIT Chita 78.20 330 *e*P **P** **00 43 23.9 +0.6**
ULN Ulaanbaatar 79.32 324 *e*P **P** **00 43 31.0 +1.3**
comp=Z,24nm,0.8s
SONM Songino Array 79.69 324 P **P** **00 43 32.3 +0.6**
comp=Z,8.4nm,0.8s,baz=131,slow=4.3,SNR=46
SONM LR LR 01 19 00.3
comp=Z,190nm,19.9s,baz=4.8,slow=36
SONM Songino Array 79.69 324 P **P** **00 43 32.3 +0.6**
GTA Gaotai 80.02 314 ⇑P **P** **00 43 35.3 +1.7**
GTA pP **pP** **00 43 52.0 +1.2**
GTA sP **sP** **00 43 58.9 +1.3**
GTA S **S** **00 53 35.6 +2.4**
GTA pmax pmax
comp=Z,27nm,1.8s
GTA pmax pmax
comp=Z,130nm,7.1s

GTA LR LR
comp=N,180nm,18.0s
GTA LR LR
comp=E,210nm,19.5s
GTA LR LR
comp=Z,300nm,19.0s
BOD Bodaibo 81.58 335 *e*P P 00 43 35.6 -5.8
BOD pmax pmax
comp=Z,6.0nm,2.0s
ZAK Zakamensk 82.73 325 ⇓*i*P **P** **00 43 47.3 -0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
IRK Irkutsk 83.09 327 *e*P **P** **00 43 47.8 -1.6**
IRK pmax pmax
comp=Z,29nm,0.7s
TLY Talaya 83.15 326 *e*P **P** **00 43 49.9 +0.2**
TLY pmax pmax
comp=Z,13nm,0.7s
TLY Talaya 83.15 326 *e*P **P** **00 43 49.9 +0.2**
comp=Z,13nm,0.7s
TLY Talaya 83.15 326 P **P** **00 43 50.1 +0.3**
comp=Z,110nm,0.8s,SNR=7.6
LSA Lhasa 83.20 302 P **P** **00 43 49.5 -1.6**
LSA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 83.20 302 *e*P **P** **00 43 50.3 -0.8**
LSA pmax pmax
comp=Z,6.0nm,1.0s
LSA Lhasa 83.20 302 *e*P **P** **00 43 50.3 -0.8**
comp=Z,6.2nm,1.0s
MAW Mawson 83.96 202 LR LR 01 13 41.0
comp=Z,297nm,20.9s,baz=272,slow=30
ILAR Eielson Array 84.32 18 P **P** **00 43 53.8 -1.6**
comp=Z,1.2nm,0.7s,baz=259,slow=4.7,SNR=15
ILAR LR LR 01 23 38.6
comp=Z,176nm,18.1s,baz=215,slow=37
ILAR Eielson Array 84.32 18 P **P** **00 43 53.8 -1.6**
MOY Mondy 84.60 325 *e*P **P** **00 43 57.4 +0.1**
MOY pmax pmax
comp=Z,31nm,2.8s
TAPN Taplejung 85.42 299 *e*P **P** **00 44 02.6 +0.4**
ODAN Odare 85.56 299 *e*P **P** **00 44 03.0 +0.2**
comp=Z,41nm,1.0s
EGAK Eagle 86.17 20 *e*P **P** **00 44 03.7 -0.9**
comp=Z,5.7nm,0.9s
RAMN Ramite 86.26 298 *e*P **P** **00 44 06.7 +0.4**
NVAR Mina Array Bea 86.36 50 P **P** **00 44 04.7 -1.8**
comp=Z,0.7nm,0.7s,baz=235,slow=10,SNR=5.7
NVAR LR LR 01 15 17.7
comp=Z,922nm,18.7s,baz=90,slow=31
NVAR Mina Array Bea 86.36 50 P **P** **00 44 04.7 -1.8**
JIRN Jiri 86.80 299 *e*P **P** **00 44 09.7 +0.6**
GUN Gumba 87.13 299 *e*P **P** **00 44 10.8 +0.2**
PKI Pulchoki 87.45 299 *e*P **P** **00 44 12.4 +0.3**
KKN Kakani 87.61 299 *e*P **P** **00 44 12.9 +0.1**
DMN Daman 87.72 299 *e*P **P** **00 44 13.2 -0.1**
comp=Z,55nm,1.1s
GKN Gorkha 88.22 299 *e*P **P** **00 44 15.7 +0.1**
KOLN Koldanda 89.05 299 *e*P **P** **00 44 19.3 -0.3**
DANN Dangsing 89.05 299 *e*P **P** **00 44 19.3 -0.4**
comp=Z,25nm,0.9s
PYUN Piuthan 89.65 299 *e*P **P** **00 44 21.7 -0.7**
comp=Z,41nm,1.3s
WMQ Urumqi 90.06 315 P **P** **00 44 24.2 +0.4**
WMQ pmax pmax
comp=Z,28nm,1.0s
WMQ LR LR
comp=N,110nm,24.0s
WMQ LR LR
comp=E,120nm,27.0s
WMQ LR LR
comp=Z,140nm,22.0s
INK Inuvik 90.70 19 P **P** **00 44 26.4 +0.3**
comp=Z,1.4nm,0.9s,baz=289,slow=5.5,SNR=3.2
INK Inuvik 90.70 19 P **P** **00 44 26.4 +0.3**
SYO Syowa Base 90.96 197 ⇑*e*P **P** **00 44 26.0 -1.4**
HYB Hyderabad 91.28 287 *i*P **P** **00 44 29.0 -0.9**
HYB *e*pP **pP** **00 44 44.0 -3.4**
MK31 Makanchi Array 94.50 317 *e*P **P** **00 44 44.5 +0.3**
MK31 Makanchi Array 94.50 317 *e*P **P** **00 44 44.5 +0.3**
MKAR Makanchi Array 94.50 317 P **P** **00 44 44.5 +0.3**
comp=Z,26nm,0.7s,baz=93,slow=6.3,SNR=375
MKAR LR LR 01 27 09.5
comp=Z,153nm,20.1s,baz=59,slow=35
MKAR Makanchi Array 94.50 317 *e*P **P** **00 44 44.6 +0.4**
MKAR Makanchi Array 94.50 317 *e*P **P** **00 44 44.6 +0.4**
ZAA0 Zalesovo Array 94.58 324 *e*P **P** **00 44 43.2 -1.1**
ZALV Zalesovo Beam 94.58 324 P **P** **00 44 43.2 -1.1**
comp=Z,2.4nm,0.7s,baz=108,slow=4.5,SNR=17
ZALV LR LR 01 30 24.8
comp=Z,169nm,19.0s,baz=245,slow=37
ZALV Zalesovo Beam 94.58 324 P **P** **00 44 43.2 -1.1**
ZALV Zalesovo Beam 94.58 324 P **P** **00 44 43.2 -1.1**
YKA Yellowknife Ar 95.67 27 P **P** **00 44 46.1 -2.9**
comp=Z,0.3nm,0.6s,baz=250,slow=4.6,SNR=4.0
YKA Yellowknife Ar 95.67 27 P **P** **00 44 46.1 -2.9**
NVS Novosibirsk 95.68 325 *i*P **P** **00 44 48.3 -1.0**
NVS pmax pmax
comp=Z,22nm,1.9s
TXAR Lajitas Array 95.96 61 LR LR 01 20 32.9
comp=Z,323nm,18.7s,baz=335,slow=31
SNAA Sanae 96.16 183 *e*P **P** **00 44 50.4 -1.0**
comp=Z,1.5nm,0.8s
PHWY Pilot Hill 96.64 49 *e*P **P** **00 44 51.8 -2.7**
comp=Z,25nm,1.0s
KURK Kurchatov 97.64 320 *e*P **P** **00 44 57.2 -1.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 97.64 320 *e*P **P** **00 44 57.4 -0.9**
comp=Z,24nm,2.1s
KURK PP **PP** **00 48 58.6 +1.8**
KSH Kashi 97.67 309 *e*P Pdif 00 45 00.6 +1.7
KSH *e*pP pP 00 45 17.7 +1.4
KSH *e*sP sP 00 45 24.9 +1.8
KSH *e*PP PP 00 49 03.5 +6.0
KSH SKS **SKSac** **00 55 32.8 +1.4**
KSH S **ScS** **00 56 19.9 +0.1**
KSH sS sS 00 56 49.5 0.0
KSH SS **SS** **01 03 06.8 +5.6**
KSH pmax pmax
comp=Z,1.0nm,0.7s
KSH pmax pmax
comp=Z,140nm,6.4s
KSH LR LR
comp=N,100nm,6.1s
KSH LR LR
comp=E,84nm,4.7s
KSH LR LR
comp=Z,330nm,6.5s
KURBB Kurchatov Arra 97.68 320 P **P** **00 44 57.6 -0.8**
comp=Z,1.7nm,0.7s,baz=98,slow=3.3,SNR=18
KURBB PP **PP** **00 48 58.6 +1.5**
comp=Z,0.3nm,0.2s,baz=95,slow=7.1,SNR=5.3
TKM2 Tokmak 2 98.47 312 *e*P Pdif 00 45 02.6 +0.1
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 98.47 312 *e*P Pdif 00 45 02.6 0.0
comp=Z,2.2nm,0.6s
AAK Ala-Archa 99.23 312 *e*P **Pdif** **00 45 06.0 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 99.23 312 *e*Pdif **Pdif** **00 45 06.2 +0.3**
comp=Z,132nm,2.7s
EKS2 Erkin-Say 99.76 312 *e*P **Pdif** **00 45 08.1 -0.1**
EKS2 Erkin-Say 99.76 312 *e*Pdif **Pdif** **00 45 08.1 -0.1**
BVAR Borovoye Array 102.96 322 Pdiff **Pdif** **00 45 21.5 -0.5**
comp=Z,1.5nm,0.7s,baz=101,slow=6.2,SNR=13
BVAR Borovoye Array 102.96 322 P **Pdif** **00 45 21.5 -0.5**
BVAR Borovoye Array 102.96 322 Pdif **Pdif** **00 45 21.5 -0.5**
ARCES ARCESS Array B 117.38 345 PKP **PKPdf** **00 50 07.5 -1.0**
comp=Z,1.6nm,0.7s,baz=93,slow=2.1,SNR=11
ARCES ARCESS Array B 117.38 345 PKP **PKPdf** **00 50 07.5 -1.0**
MAK Makhachkala 119.00 313 *i* PKIKP **PKPdf** **00 50 12.1 -0.3**
MAK *e* 00 51 32.5
MAK *e*PPP PPP 00 54 05.8
MAK *e* 00 57 00.3
VRHR Novokhopersk 120.68 323 *e*PKIKP **PKPdf** **00 50 14.5 -0.9**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 121.58 310 *e*PKPdf **PKPdf** **00 50 18.0 +0.3**
OBN Obninsk 121.84 329 *e*PKIKP **PKPdf** **00 50 20.4 +3.0**

OBN				*e*		00 50 26.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VSR	**Storozhevoye**	**122.08**	**324**	*e*PKIKP	**PKPdf**	**00 50 17.5**	**-0.6**
KIV	**Kislovodsk**	**122.19**	**315**	*i* PKIKP	**PKPdf**	**00 50 16.4**	**-2.3**
KIV				*e*PS	**PS**	**01 01 49.7**	**-0.1**
KIV				*e*SS	SS	01 08 24.7	-4.6
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,157nm,21.0s						
FINES	**FINESS Array B**	**122.83**	**338**	PKP	**PKPdf**	**00 50 18.0**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=90,slow=1.9,SNR=7.8						
FINES	**FINESS Array B**	**122.83**	**338**	PKP	**PKPdf**	**00 50 18.0**	**-1.2**
BOSA	**Boshof**	**124.66**	**222**	PKP	**PKPdf**	**00 50 24.3**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=148,slow=3.7,SNR=11						
BOSA	**Boshof**	**124.66**	**222**	PKP	**PKPdf**	**00 50 24.3**	**+0.4**
KMBO	**Kilima Mbogo**	**127.59**	**259**	*e*PKPdf	**PKPdf**	**00 50 31.6**	**+1.6**
NOA	**NORSAR Array B**	**127.75**	**345**	PKP	**PKPdf**	**00 50 28.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=39,slow=3.4,SNR=3.6						
NOA	**NORSAR Array B**	**127.75**	**345**	PKP	**PKPdf**	**00 50 28.1**	**-0.6**
BRTR	**Keskin Array B**	**129.91**	**312**	PKP	**PKPdf**	**00 50 34.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=143,slow=2.5,SNR=4.4						
BRTR	**Keskin Array B**	**129.91**	**312**	PKP	**PKPdf**	**00 50 34.5**	**+0.9**
LSZ	**Lusaka**	**130.31**	**238**	*e*PKPdf	**PKPdf**	**00 50 35.8**	**+0.8**
KOLS	**Kolonicke sedl**	**132.59**	**328**	*e*PKIKP	**PKPdf**	**00 50 39.8**	**+1.6**
KOLS	**Kolonicke sedl**	**132.59**	**328**	*e*PKP	**PKPdf**	**00 50 39.8**	**+1.6**
KOLS				*e*		00 50 57.9	
GERES	**GERESS Array B**	**136.75**	**334**	PKP	**PKPdf**	**00 50 46.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=64,slow=2.3,SNR=2.5						
GERES				SKPbc	**SKPab**	**00 54 20.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=20,slow=3.1,SNR=5.4						
GERES	**GERESS Array B**	**136.75**	**334**	PKP	**PKPdf**	**00 50 46.4**	**+0.3**
GERES				SKPbc	**SKPab**	**00 54 20.5**	**+0.7**
KEST	**Kesra**	**148.43**	**322**	PKPbc	**PKPbc**	**00 51 11.4**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=294,slow=0.7,SNR=11						
KEST	**Kesra**	**148.43**	**322**	PKPbc	**PKPbc**	**00 51 11.4**	**+0.7**
ESDC	**Sonseca Array**	**151.11**	**344**	PKPbc	**PKPbc**	**00 51 16.4**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=10,slow=2.9,SNR=8.1						
ESDC				PKPab	**PKPab**	**00 51 23.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=24,slow=4.2,SNR=3.5						
ESDC	**Sonseca Array**	**151.11**	**344**	PKPbc	**PKPbc**	**00 51 16.4**	**-0.7**
ESDC				PKPab	**PKPab**	**00 51 23.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.78**	**276**	PKP	**PKPdf**	**00 51 28.4**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=354,slow=1.0,SNR=8.6						
TORD				PKPab	**PKPab**	**00 52 25.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=45,slow=2.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**164.78**	**276**	PKP	**PKPdf**	**00 51 28.4**	**-0.1**
TORD				PKPab	**PKPab**	**00 52 25.2**	**+0.7**

IDC 11 00:38:08.7±6.5, 19°.41S×176°.95W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/20, mbtmp3.9/4, Error ellipse: s-maj=283.0km s-min=34.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.73**	**256**	P	P	00 46 32.7	+0.6
	3.5nm,0.6s,baz=92,slow=8.4,SNR=44						
WRA	**Warramunga Arr**	**45.74**	**261**	P	P	00 46 31.9	-0.3
	0.9nm,0.7s,baz=97,slow=7.5,SNR=20						
FITZ	**Fitzroy Crossi**	**54.16**	**261**	P	P	00 47 35.3	-0.8
	0.6nm,0.3s,baz=90,slow=2.0,SNR=5.7						
ILAR	**Eielson Array**	**87.04**	**12**	P	P	00 50 55.6	0.0
	0.2nm,0.4s,baz=216,slow=4.9,SNR=9.5						

IPEC 11 00:44:40.8±0.2, 50°.40N×18°.81E, h0km, ML1.0/3, Error ellipse: s-maj=2.5km s-min=0.8km az=175.0
PRU 11 00:44:41.5, 50°.37N×18°.78E, h0km

CSEM 11 00:44:40.9±0.2, 50°.39N×18°.81E, h2km, ML2.0/4, Error ellipse: s-maj=6.5km s-min=2.5km az=172.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.66**	**105**	*e*Pg	Pg	00 44 53.7	+0.1
	baz=287						
OJC				*e*Sg	Sg	00 45 01.3	-0.9
	baz=287						
OJC	**Ojcow**	**0.66**	**105**	*e*Pg	Pg	00 44 53.8	+0.2
OJC				*e*Sg	Sg	00 45 02.3	+0.1
OKC	**Ostrava-Krasne**	**0.70**	**218**	*e*SG	Sg	00 45 03.8	+0.4
	comp=Z,5.6nm,0.8s						
OKC	**Ostrava-Krasne**	**0.70**	**218**	Sg	Sg	00 45 03.8	+0.4
	5.6nm,0.8s						
MORC	**Moravsky Berou**	**1.02**	**233**	*e*Pg	Pg	00 45 00.6	0.0
	baz=52						
MORC				*e*Sg	Sg	00 45 13.1	-0.8
	1.8nm,0.2s,baz=52						
NIE	**Niedzica**	**1.38**	**134**	*e*Pg	Pn	00 45 06.7	-0.5
NIE				*e*Sg	Sg	00 45 24.9	-0.5
DPC	**Dobruska-Polom**	**1.59**	**269**	*e*PG	Pn	00 45 10.2	0.0
DPC				*e*SG	Sb	00 45 31.7	0.0
DPC	**Dobruska-Polom**	**1.59**	**269**	*e*Pn	Pn	00 45 10.1	-0.1
	baz=87						
DPC				Sg	Sb	00 45 31.7	0.0
VRAC	**Vranov**	**1.80**	**234**	*e*Pn	Pn	00 45 13.0	0.0
	baz=52						
VRAC				*e*Sg	Sb	00 45 37.3	-0.3
	1.2nm,0.2s,baz=52						
KRUC	**Moravsky**	**2.06**	**230**	*e*Pn	Pn	00 45 16.9	+0.4
	baz=48						
KRUC				*e*Sn	Sb	00 45 44.5	-0.5
	0.9nm,0.3s,baz=48						

SZGRF 11 00:56:02.7, 17°.54S×178°.00W, h33km, mb4.9, Fiji Islands region
PRU 11 00:56:03.9, 16°.70S×175°.75W, h0km
ISCJB 11 00:56:56.0±0.7, 17°.2S±0°.2×179°.3W±0°.1, h500km, mb3.8/13, Error ellipse: s-maj=27.0km s-min=12.2km az=150.0
VIE 11 00:56:58.6, 16°.42S×179°.65W, h500km, mb3.5 281 km NE of Suva
IDC 11 00:57:01.0±2.1, 17°.28S×179°.29W, h548km±22km, mb3.4/13, mb1 3.7/13, mb1mx3.5/22, mbtmp3.4/13, Error ellipse: s-maj=20.3km s-min=9.8km az=150.0

ISC 11 00:56:56.2±0.6, 17°.3S±0°.2×179°.3W±0°.1, h500km, n68, σ0$95/65, mb3.8/13, 12C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.21**	**240**	P	**P**	**01 03 34.1**	**+1.4**
	0.9nm,0.5s,baz=83,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**43.92**	**259**	P	**P**	**01 04 19.4**	**+1.0**
	0.7nm,0.3s,baz=92,slow=7.5,SNR=31						
WRA				PcP	**PcP**	**01 05 54.0**	**+0.4**
	0.5nm,0.4s,baz=90,slow=3.5,SNR=7.4						
WRA				S	**S**	**01 10 11.9**	**-1.5**
	0.3nm,0.8s,baz=95,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**44.16**	**254**	P	**P**	**01 04 21.9**	**+1.7**
	4.5nm,0.6s,baz=87,slow=8.3,SNR=47						
ASAR				PcP	**PcP**	**01 05 54.8**	**+0.3**
	1.0nm,0.5s,baz=110,slow=3.9,SNR=7.5						
ASAR				ScP	**ScP**	**01 08 56.8**	**-1.8**
	0.6nm,0.8s,baz=105,slow=3.4,SNR=5.1						
ASAR				S	**S**	**01 10 14.2**	**-2.5**
	0.5nm,0.6s,baz=89,slow=16,SNR=6.6						
FITZ	**Fitzroy Crossi**	**52.31**	**260**	P	**P**	**01 05 23.1**	**+2.0**
	1.9nm,0.4s,baz=96,slow=5.8,SNR=16						
MJAR	**Matsushiro Arr**	**66.88**	**324**	P	**P**	**01 06 58.8**	**+0.5**
	1.5nm,0.4s,baz=160,slow=6.3,SNR=4.3						
QSPA	**South Pole Qui**	**72.80**	**180**	P	**P**	**01 07 33.2**	**0.0**
	1.2nm,0.6s,baz=136,slow=19,SNR=10						
NVAR	**Mina Array Bea**	**79.54**	**44**	P	**P**	**01 08 11.8**	**+0.7**
	2.8nm,0.7s,baz=225,slow=8.9,SNR=22						
ILAR	**Eielson Array**	**85.44**	**13**	P	**P**	**01 08 39.4**	**-0.7**
	1.0nm,0.4s,baz=225,slow=5.3,SNR=24						
NEW	**Newport**	**85.49**	**36**	P	**P**	**01 08 40.7**	**+0.1**
	1.3nm,0.7s,baz=172,slow=3.5,SNR=5.1						
TXAR	**Lajitas Array**	**86.36**	**58**	P	**P**	**01 08 46.7**	**+1.3**
	1.7nm,0.8s,baz=215,slow=5.8,SNR=7.5						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**01 08 50.6**	**+0.2**
	1.9nm,0.5s,baz=212,slow=3.0,SNR=19						
SONM	**Songino Array**	**92.51**	**320**	P	**P**	**01 09 14.3**	**+0.7**
	0.6nm,1.1s,baz=121,slow=5.6,SNR=2.7						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**01 09 20.0**	**-0.3**
	0.6nm,0.5s,baz=246,slow=4.5,SNR=12						
ZALV	**Zalesovo Beam**	**107.20**	**322**	PKiKP	**PKiKP**	**01 14 23.7**	**-1.2**
	0.3nm,0.4s,baz=62,slow=0.9,SNR=3.4						
MKAR	**Makanchi Array**	**108.08**	**314**	PKiKP	**PKiKP**	**01 14 25.8**	**-1.1**
	0.4nm,0.5s,baz=104,slow=1.8,SNR=7.5						
ARCES	**ARCESS Array B**	**125.52**	**350**	PKP	**PKPdf**	**01 14 59.2**	**-0.3**
	3.9nm,0.9s,baz=76,slow=1.2,SNR=14						
FINES	**FINESS Array B**	**132.33**	**344**	PKP	**PKPdf**	**01 15 11.5**	**-1.1**
	0.7nm,0.4s,baz=48,slow=3.1,SNR=7.4						
AKASG	**Malin Array Be**	**139.59**	**332**	PKP	**PKPdf**	**01 15 28.1**	**+1.7**
	0.9nm,0.5s,baz=48,slow=3.5,SNR=3.7						
BSEG	**Bad Segeberg**	**142.64**	**351**	*e*PKPbc	**PKPdf**	**01 15 28.5**	**-3.3**
KWP	**Kalwaria Pacla**	**143.13**	**336**	⇓*i*P	PKPbc	01 15 31.2	+0.4
TLCR		**143.56**	**326**	⇑*i*P	**PKPdf**	**01 15 33.1**	**-0.6**
BURAR	**Bucovina Array**	**143.64**	**332**	⇑*i*P	**PKPdf**	**01 15 33.5**	**-0.4**
GHRR		**143.71**	**328**	⇑*i*P	**PKPdf**	**01 15 34.3**	**+0.4**
BRTR	**Keskin Array B**	**143.72**	**315**	PKP	PKPbc	01 15 33.5	+0.3
	3.1nm,0.9s,baz=136,slow=4.0,SNR=11						
TESR		**143.77**	**329**	⇑*i*P	PKPbc	01 15 33.2	+0.3
CFR	**Carcaliu**	**143.93**	**326**	⇓*i*P	**PKPdf**	**01 15 34.1**	**-0.2**
NRDL	**Niedersach Rie**	**144.06**	**350**	*e*PKPbc	PKPbc	01 15 33.4	-0.1
NIE	**Niedzica**	**144.20**	**338**	*e*PKP	**PKPdf**	**01 15 35.3**	**+0.6**
TRPA	**Tarpa**	**144.40**	**335**	⇓*i*P	**PKPab**	**01 15 35.3**	**+0.2**
IBBN	**Ibbenburen**	**144.58**	**353**	*e*PKPbc	PKPbc	01 15 35.4	+0.2
CLL	**Collm**	**144.64**	**347**	*e*PKPbc	**PKPdf**	**01 15 35.4**	**0.0**
CLZ	**Clausthal**	**144.65**	**350**	*e*PKPbc	PKPbc	01 15 35.7	+0.1
DPC	**Dobruska-Polom**	**144.68**	**343**	*e*PKP	**PKPab**	**01 15 36.7**	**+0.5**
MORC	**Moravsky Berou**	**144.82**	**341**	⇑*i*P	PKPbc	01 15 36.1	-0.1
BRG	**Berggiesshubel**	**144.83**	**345**	*e*PKP	**PKPdf**	**01 15 35.9**	**+0.2**
	5.5nm,0.8s						
BRG	**Berggiesshubel**	**144.83**	**345**	*e*PKPbc	PKPbc	01 15 36.3	+0.2
MLR	**Muntele Rosu**	**144.84**	**329**	⇓*i*P	PKPbc	01 15 36.5	0.0
PVCC	**Panska Ves**	**144.99**	**345**	*e*PKP	**PKPab**	**01 15 37.3**	**0.0**
VOIR		**145.32**	**329**	⇑*i*P	**PKPdf**	**01 15 37.0**	**+0.2**
DRGR		**145.38**	**333**	⇑*i*P	**PKPbc**	**01 15 38.2**	**+0.2**
PRU	**Pruhonice**	**145.49**	**344**	*e*PKP	**PKPbc**	**01 15 38.6**	**+0.5**
VRAC	**Vranov**	**145.53**	**342**	⇓*i*P	**PKPdf**	**01 15 34.8**	**-2.2**
ARR	**Arges**	**145.57**	**330**	⇑*i*P	**PKPbc**	**01 15 38.3**	**-0.3**
TANN	**Tannenbergstha**	**145.60**	**347**	*e*PKPbc	**PKPbc**	**01 15 38.5**	**0.0**
PSZ	**Piszkesteto**	**145.61**	**337**	⇓*i*P	**PKPbc**	**01 15 39.0**	**+0.4**
GUNZ	**Gunzen**	**145.67**	**347**	*e*PKPbc	**PKPbc**	**01 15 38.9**	**+0.2**
WERN	**Wernitzgruen**	**145.73**	**347**	*e*PKPbc	**PKPbc**	**01 15 39.3**	**+0.5**
ROTZ	**Rotzenmuhle**	**146.26**	**347**	*e*PKPbc	**PKPbc**	**01 15 40.8**	**+0.5**
KHC	**Kasperske Hory**	**146.53**	**345**	*e*PKP	**PKPbc**	**01 15 41.5**	**+0.4**
GRF	**Grafenberg Arr**	**146.54**	**348**	*e*PKPbc	**PKPbc**	**01 15 41.6**	**+0.5**
GRF				*e*L	L	01 52 43.2	
	comp=Z,194nm,20.0s						
GEC2	**GERESS Array S**	**146.76**	**344**	*e*PKPbc	**PKPbc**	**01 15 41.6**	**-0.2**
GERES	**GERESS Array B**	**146.76**	**344**	PKPbc	**PKPbc**	**01 15 42.0**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=21,slow=3.1,SNR=28						
BZS	**Buzias**	**146.77**	**333**	⇑*i*P	**PKPbc**	**01 15 41.8**	**0.0**
CONA	**Conrad Observa**	**146.98**	**341**	⇑*i*PKPab	**PKPbc**	**01 15 42.9**	**+0.5**
	comp=Z,6.1nm,0.7s						
WLF	**Walferdange**	**147.37**	**353**	*e*PKPbc	**PKPbc**	**01 15 43.9**	**+0.6**
PKSM	**Moragy**	**147.50**	**337**	⇓*i*P	**PKPbc**	**01 15 42.8**	**-0.9**
STU	**Stuttgart**	**147.81**	**349**	*e*PKPbc	**PKPbc**	**01 15 44.5**	**+0.1**
FUR	**Furstenfeldbru**	**147.98**	**347**	*e*PKPbc	**PKPbc**	**01 15 44.9**	**0.0**
RJOB	**Jochberg**	**148.02**	**345**	*e*PKPbc	**PKPbc**	**01 15 44.8**	**-0.3**
BFO	**Black Forest**	**148.38**	**350**	*e*PKPbc	**PKPbc**	**01 15 45.7**	**-0.2**
KBA	**Koelnbreinsper**	**148.48**	**343**	⇓*i*PKPbc	**PKPbc**	**01 15 45.6**	**-0.8**
	comp=Z,3.2nm,0.5s						
RETA	**Reute**	**148.73**	**347**	⇓*i*PKPbc	**PKPbc**	**01 15 46.9**	**0.0**
	comp=Z,2.4nm,0.4s						
WTTA	**Wattenberg**	**148.74**	**346**	⇑*i*PKPbc	**PKPbc**	**01 15 47.0**	**-0.1**
	comp=Z,7.2nm,0.4s						
MOTA	**Moosalm**	**148.79**	**346**	⇓*i*PKPbc	**PKPbc**	**01 15 46.9**	**-0.2**
	comp=Z,2.9nm,0.4s						
MYKA	**Terra Mystica**	**148.81**	**343**	⇓*i*PKPbc	**PKPbc**	**01 15 46.4**	**-0.7**
	comp=Z,4.1nm,0.5s						
ABTA	**Abfaltersbach**	**149.00**	**344**	⇑*i*PKPbc	**PKPbc**	**01 15 46.7**	**-0.9**
	comp=Z,7.9nm,0.7s						
ESDC	**Sonseca Array**	**157.29**	**9**	PKPab	**PKPab**	**01 16 29.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=340,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**175.81**	**193**	PKP	**PKPdf**	**01 16 07.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=312,slow=0.3,SNR=4.9						
TORD				PKPab	**PKPab**	**01 17 51.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=213,slow=3.5,SNR=2.9						

IDC 11 01:06:23.9±3.5, 1°.71S×139°.97E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=144.5km s-min=24.6km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.94**	**197**	P	P	01 10 46.6	0.0
	0.2nm,0.3s,baz=18,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.60**	**195**	P	P	01 11 26.0	-0.4
	0.5nm,0.4s,baz=24,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**69.78**	**322**	P	P	01 17 36.6	+0.4
	0.1nm,0.3s,baz=101,slow=8.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**71.72**	**329**	P	P	01 17 47.7	-0.1
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.4						

CSEM 11 01:17:49.3, 35°.47N×32°.34E, h41km, ML2.9, After NIC

NIC 11 01:17:49.3±0.3, 35°.47N×32°.34E, h41km, ML2.9, MW3.5, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.38**	**145**	P	Pn	01 17 58.1	-0.5
	13nm,0.2s						
ALFC				S	Sn	01 18 05.7	+0.6
ALFC	**Alevga**	**0.38**	**145**	P	Pn	01 17 58.1	-0.5
	13nm,0.2s						
ALFC				S	Sn	01 18 05.7	+0.6
AKMC	**Akamas**	**0.44**	**181**	P	Pn	01 17 59.5	+0.1
AKMC				S	Sn	01 18 06.9	+0.5
AKMC	**Akamas**	**0.44**	**181**	P	Pn	01 17 59.5	+0.1
AKMC				S	Sn	01 18 06.9	+0.5
PPCY	**Paphos**	**0.58**	**179**	P	Pn	01 18 01.3	+0.1
PPCY				S	Sn	01 18 10.6	+1.0
PPCY	**Paphos**	**0.58**	**179**	P	Pn	01 18 01.3	+0.1
PPCY				S	Sn	01 18 10.6	+1.0
MAMC	**Mammari**	**0.78**	**112**	P	Pn	01 18 03.8	-0.1
MAMC	**Mammari**	**0.78**	**112**	P	Pn	01 18 03.8	-0.1
CSS	**Prodhromos**	**0.96**	**122**	P	Pn	01 18 06.7	+0.4
	1.0nm,0.4s						
CSS				S	Sn	01 18 17.6	-1.2
CSS	**Prodhromos**	**0.96**	**122**	P	Pn	01 18 06.7	+0.4
	1.0nm,0.4s						
CSS				S	Sn	01 18 17.6	-1.2

IDC 11 01:26:38.6±7.1, 23°.72S×150°.06E, h0km, mb1 3.4/4, mb1mx3.3/15, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=76.8km s-min=30.6km az=88.0
AUST 11 01:27:08.1±99.0, 26°.95S×150°.44E, h20km, Error ellipse: s-maj=2.7km s-min=1.5km az=357.0

ISC 11 01:26:39.2±1.6, 23°.78S±0°.07×150°.2E±0°.1, h10km, n9, σ1$56/11, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**1.78**	**153**	P	**Sg**	**01 27 36.2**	**-0.4**
	baz=1.7,SNR=12						
EIDS	**Eidsvold**	**1.78**	**153**	S	Sg	01 28 12.7	+36
	baz=1.7,SNR=5.9						
RMQ	**Roma**	**2.99**	**205**	P	**Pg**	**01 27 37.0**	**+0.5**
	baz=1.6,SNR=7.7						
CTA	**Charters Tower**	**5.17**	**314**	Pn	**Pn**	**01 27 55.4**	**-1.4**
	0.5nm,0.3s,baz=138,slow=16,SNR=3.4						
CTA				Pg	**Pb**	**01 28 11.0**	**+1.1**
	1.8nm,0.3s,baz=140,slow=18,SNR=9.7						
CTA				Sn	**Sn**	**01 28 59.0**	**+2.4**
	1.1nm,0.3s,baz=240,slow=21,SNR=5.4						
CTA				Lg	Lg	01 29 05.7	
	2.2nm,0.3s,baz=55,slow=22,SNR=10						
QLP	**Quilpie**	**6.07**	**241**	P	Pg	01 28 27.4	-8.0
	baz=5.5,SNR=3.8						
MGCD	**Mangrove Creek**	**9.43**	**175**	P	Pn	01 28 39.9	-15
	baz=6.3,SNR=6.6						
STKA	**Stephens Creek**	**11.07**	**221**	Pn	**Pn**	**01 29 18.2**	**+0.6**
	0.2nm,0.3s,baz=53,slow=10,SNR=3.3						
STKA				Sn	**Sn**	**01 31 23.2**	**+1.6**
	0.1nm,0.3s,baz=302,slow=19,SNR=2.0						
STKA				Lg	Lg	01 32 17.1	
	0.3nm,0.3s,baz=302,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**14.91**	**267**	Pn	**Pn**	**01 30 08.4**	**-1.8**
	baz=94,slow=13,SNR=4.2						
ASAR				Sn	**Sn**	**01 32 53.8**	**-1.7**
	0.2nm,0.3s,baz=85,slow=25,SNR=3.4						
ASAR				Lg	Lg	01 34 11.6	
	baz=90,slow=30,SNR=4.4						
WRA	**Warramunga Arr**	**15.19**	**282**	Pn	**Pn**	**01 30 13.2**	**-0.7**
	0.1nm,0.3s,baz=108,slow=11,SNR=4.4						
WRA				Sn	**Sn**	**01 33 01.6**	**-0.8**
	0.0nm,0.3s,baz=102,slow=26,SNR=2.8						
WRA				Lg	Lg	01 34 16.1	
	0.1nm,0.3s,baz=109,slow=28,SNR=5.9						

ISCJB 11 01:34:16.3±0.3, 45°.75N±0°.02×17°.31E±0°.02, h10km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=16.9
SZGRF 11 01:34:16.7, 45°.53N×17°.44E, h10km, mb3.1, Northwestern Balkan Peninsula
VIE 11 01:34:17.0±0.3, 45°.75N×17°.31E, h8km±1km, mb2.5/13, ML2.9/13, Error ellipse: s-maj=2.7km s-min=1.3km az=177.0 80 km WSW of Pecs
PRU 11 01:34:16.8, 45°.74N×17°.38E, h0km
BEO 11 01:34:16.3±0.3, 45°.74N×17°.22E, h0km, ML3.1/6
BGR 11 01:34:16.7±0.7, 45°.53N×17°.44E, h10km, ML3.1/6, Error ellipse: s-maj=13.3km s-min=8.9km az=42.0
CSEM 11 01:34:17.0±0.1, 45°.70N×17°.32E, h10km, ML3.2/7, Error ellipse: s-maj=3.3km s-min=2.5km az=7.0
LDG 11 01:34:18.2±0.1, 45°.71N×17°.36E, h30km, Ml2.7/2, Error ellipse: s-maj=3.9km s-min=3.1km az=150.0
IPEC 11 01:34:19.6±0.3, 45°.71N×17°.32E, h38km±13km, ML2.2/2, Error ellipse: s-maj=2.1km s-min=1.8km az=161.0

ISC 11 01:34:17.2±1.0, 45°.66N±0°.02×17°.37E±0°.01, h15km±8km, n189, σ1$43/291, 26C-34D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHK3	**Tenkes**	**0.66**	**70**	⇓*e*Pg	**Pg**	**01 34 29.3**	**-0.8**
RHK3				⇓*e*Sg	**Sb**	**01 34 40.4**	**+1.0**
RHK3	**Tenkes**	**0.66**	**70**	⇓*e*Pn	**Pg**	**01 34 29.3**	**-0.8**
RHK3				*e*Sn	**Sb**	**01 34 40.4**	**+1.0**
SISC	**Sisak**	**0.72**	**255**	*i* Pg	**Pg**	**01 34 30.5**	**-0.8**
SISC				Sg	**Sg**	**01 34 40.6**	**-0.3**
SISC	**Sisak**	**0.72**	**255**	*i* Pg	**Pg**	**01 34 30.5**	**-0.8**
SISC				Sg	**Sg**	**01 34 40.6**	**-0.3**
BEHE	**Becsehely**	**0.91**	**333**	⇑*e*Pn	**Pn**	**01 34 35.8**	**+0.3**
BEHE	**Becsehely**	**0.91**	**333**	*e*Pg	**Pn**	**01 34 36.7**	**+1.2**
BEHE				⇑*e*Sn	**Sn**	**01 34 49.9**	**+1.6**
BEHE	**Becsehely**	**0.91**	**333**	⇑*e*Pn	**Pn**	**01 34 35.8**	**+0.3**
BEHE				*e*		01 34 36.7	
BEHE				*e*Sn	**Sn**	**01 34 49.9**	**+1.6**
BLY	**Banja Luka**	**0.92**	**188**	*e*Pg	**Pb**	**01 34 33.0**	**-1.9**
BLY				*e*Sg	**Sb**	**01 34 46.1**	**-0.8**
BLY	**Banja Luka**	**0.92**	**188**	*e*Pg	**Pb**	**01 34 33.0**	**-1.9**
BLY				*e*Sg	**Sb**	**01 34 46.1**	**-0.8**
PKSM	**Moragy**	**1.05**	**58**	⇓*i*P	**Pb**	**01 34 35.8**	**-1.2**
PKSM				S	**Sb**	**01 34 50.7**	**+0.2**
PKSM	**Moragy**	**1.05**	**58**	*e*Pg	**Pb**	**01 34 35.9**	**-1.1**
PKSM				*e*Sg	**Sg**	**01 34 51.3**	**+0.2**
PKSM	**Moragy**	**1.05**	**58**	*e*Pg	**Pb**	**01 34 35.9**	**-1.1**
PKSM	**Moragy**	**1.05**	**58**	⇓*e*Pn	**Pb**	**01 34 36.5**	**-0.5**
PKSM				S	**Sb**	**01 34 50.7**	**+0.2**
PKSM				*e*Sg	**Sg**	**01 34 51.3**	**+0.2**
PKSM	**Moragy**	**1.05**	**58**	⇓*e*Pn	**Pb**	**01 34 36.5**	**-0.5**
PKSM				*e*Sn	**Sg**	**01 34 51.4**	**+0.3**
KOGS	**Kog**	**1.11**	**316**	*i* Pg	**Pb**	**01 34 37.7**	**-0.4**
KOGS				*i* Sg	**Sn**	**01 34 54.6**	**+1.4**
KOGS							
	comp=Z,314nm,0.2s						
KOGS	**Kog**	**1.11**	**316**	Pg	**Pb**	**01 34 37.7**	**-0.4**
KOGS				*i* Sg	**Sn**	**01 34 54.6**	**+1.4**
	comp=Z,314nm,0.2s						
PKS9	**Tamasi**	**1.12**	**34**	⇑*e*Pn	**Pb**	**01 34 37.6**	**-0.7**
PKS9	**Tamasi**	**1.12**	**34**	⇑*e*Pn	**Pb**	**

VOY	**Vojsko**	**2.46**	**280**	*e*Pn	**Pn**	**01 34 56.3**	**-0.5**
VOY				*e*		01 35 04.7	
VOY				*e*Sn	**Sb**	**01 35 33.8**	**+2.6**
VOY	**Vojsko**	**2.46**	**280**	*e*Pn	**Pn**	**01 34 56.3**	**-0.5**
CONA	**Conrad Observa**	**2.49**	**336** ⇓	*e*Pn	**Pn**	**01 34 57.6**	**+0.2**
	SNR=45						
CONA				⇓*i*Sn	**Sn**	**01 35 26.9**	**-0.6**
CONA	**Conrad Observa**	**2.49**	**336**	Pn	**Pn**	**01 34 57.5**	**+0.2**
CONA				Sn	**Sn**	**01 35 26.9**	**-0.6**
TRUS	**Trudelj**	**2.59**	**123**	*e*Pn	**Pn**	**01 35 01.1**	**+2.5**
TRUS				*e*Sn	**Sb**	**01 35 34.9**	**-0.2**
TRUS	**Trudelj**	**2.59**	**123**	*e*Pn	**Pn**	**01 35 01.1**	**+2.5**
TRUS				*e*Sn	**Sb**	**01 35 34.9**	**-0.2**
MYKA	**Terra Mystica**	**2.77**	**292** ⇑	*i*Pn	**Pn**	**01 35 00.9**	**-0.2**
MYKA				⇓*i*Sn	**Sn**	**01 35 34.3**	**+0.1**
MYKA	**Terra Mystica**	**2.77**	**292**	Pn	**Pn**	**01 35 00.9**	**-0.2**
MYKA				Sn	**Sn**	**01 35 34.3**	**+0.1**
STON	**Ston**	**2.80**	**175**	*e*Pn	**Pn**	**01 35 02.2**	**+0.7**
STON				Sn	**Sn**	**01 35 35.0**	**0.0**
STON	**Ston**	**2.80**	**175**	*e*Pn	**Pn**	**01 35 02.1**	**+0.7**
STON				Sn	**Sn**	**01 35 34.9**	**0.0**
PSZ	**Piszkesteto**	**2.85**	**37** ⇑	*i*P	**Pn**	**01 35 00.6**	**-1.6**
PSZ	**Piszkesteto**	**2.85**	**37** ⇑	*e*Pn	**Pn**	**01 35 00.7**	**-1.5**
PSZ				⇑*e*Sn	**Sn**	**01 35 34.6**	**-1.7**
PSZ	**Piszkesteto**	**2.85**	**37** ⇑	*e*Pn	**Pn**	**01 35 00.7**	**-1.5**
PSZ				*e*Sn	**Sn**	**01 35 34.6**	**-1.7**
SMOL	**Smolenice**	**2.85**	**1**	*e*PN	**Pn**	**01 35 02.1**	**-0.1**
SMOL				*e*SN	**Sn**	**01 35 33.9**	**-2.4**
SMOL	**Smolenice**	**2.85**	**1**	*e*Pn	**Pn**	**01 35 02.1**	**-0.1**
SMOL				*e*Sn	**Sn**	**01 35 33.9**	**-2.4**
IVAS	**Ivanjica**	**2.88**	**135**	*e*Pn	**Pn**	**01 35 04.3**	**+1.7**
IVAS	**Ivanjica**	**2.88**	**135**	*e*Pn	**Pn**	**01 35 04.3**	**+1.7**
GRUS	**Gruza**	**2.97**	**125**	*e*Pn	**Pn**	**01 35 05.2**	**+1.4**
GRUS				*e*Sn	**Sb**	**01 35 43.3**	**-2.6**
GRUS	**Gruza**	**2.97**	**125**	*e*Pn	**Pn**	**01 35 05.2**	**+1.4**
GRUS				*e*Sn	**Sb**	**01 35 43.3**	**-2.6**
BZS	**Buzias**	**2.98**	**89** ⇑	*i*P	**Pn**	**01 35 02.8**	**-1.1**
BZS	**Buzias**	**2.98**	**89**	*e*Pn	**Pn**	**01 35 06.4**	**+2.5**
BZS	**Buzias**	**2.98**	**89** ⇑	*i*P	**Pn**	**01 35 02.8**	**-1.1**
BZS	**Buzias**	**2.98**	**89**	*e*Pn	**Pn**	**01 35 06.4**	**+2.5**
VYHS	**Vyhne**	**3.01**	**19**	*e*PN	**Pn**	**01 35 04.1**	**-0.2**
VYHS				*e*PG	**Pg**	**01 35 14.2**	**-0.6**
VYHS				*e*SN	**Sn**	**01 35 38.5**	**-1.6**
VYHS	**Vyhne**	**3.01**	**19**	*e*Pn	**Pn**	**01 35 04.1**	**-0.2**
MOA	**Molln**	**3.06**	**317**	*e*Pn	**Pn**	**01 35 05.8**	**+0.8**
MOA				*e*Sn	**Sn**	**01 35 40.9**	**-0.4**
MOA	**Molln**	**3.06**	**317**	*e*Pn	**Pn**	**01 35 05.8**	**+0.8**
MOA				*e*Sn	**Sn**	**01 35 40.9**	**-0.4**
MOA	**Molln**	**3.06**	**317** ⇑	*e*Pn	**Pn**	**01 35 05.8**	**+0.8**
	SNR=58						
MOA				⇑*i*Sn	**Sn**	**01 35 40.5**	**-0.8**
MOA	**Molln**	**3.06**	**317**	Pn	**Pn**	**01 35 05.7**	**+0.7**
MOA				Sn	**Sn**	**01 35 40.9**	**-0.4**
KBA	**Koelnbreinsper**	**3.12**	**298**	*e*Pn	**Pn**	**01 35 05.6**	**-0.5**
KBA	**Koelnbreinsper**	**3.12**	**298**	*e*Pn	**Pn**	**01 35 05.6**	**-0.5**
KBA	**Koelnbreinsper**	**3.12**	**298** ⇑	*i*Pn	**Pn**	**01 35 05.7**	**-0.5**
	SNR=8.0						
KBA				⇓*i*Sg	**Sg**	**01 35 58.1**	**+0.5**
	comp=Z,10nm,0.5s						
KBA	**Koelnbreinsper**	**3.12**	**298**	Pn	**Pn**	**01 35 05.7**	**-0.5**
	SNR=8.0						
KBA				Sg	**Sg**	**01 35 58.1**	**+0.5**
	comp=Z,10nm,0.5s						
KRUC	**Moravsky**	**3.47**	**349**	*e*Pn	**Pn**	**01 35 10.3**	**-0.3**
	baz=169						
KRUC				*e*Sn	**Sn**	**01 35 48.9**	**-2.5**
	comp=Z,4.9nm,0.3s,baz=169						
PDG	**Podgorica**	**3.50**	**156**	*e*Pn	**Pn**	**01 35 12.9**	**+1.8**
PDG				*e*Sn	**Sn**	**01 35 56.1**	**+3.8**
PDG	**Podgorica**	**3.50**	**156**	*e*Pn	**Pn**	**01 35 12.9**	**+1.8**
PDG				*e*Sn	**Sn**	**01 35 56.1**	**+3.8**
ABTA	**Abfaltersbach**	**3.54**	**290** ⇓	*i*Pn	**Pn**	**01 35 11.4**	**-0.4**
	SNR=13						
ABTA				⇓*i*Sg	**Sg**	**01 36 11.9**	**+1.0**
	comp=Z,6.2nm,0.4s						
ABTA	**Abfaltersbach**	**3.54**	**290**	Pn	**Pn**	**01 35 11.4**	**-0.4**
	SNR=13						
ABTA				Sg	**Sg**	**01 36 11.9**	**+1.0**
	comp=Z,6.2nm,0.4s						
SELS	**Selova**	**3.63**	**131**	*e*Pn	**Pn**	**01 35 15.2**	**+2.3**
VRAC	**Vranov**	**3.69**	**352** ⇑	*i*P	**Pn**	**01 35 13.9**	**+0.2**
VRAC	**Vranov**	**3.69**	**352** ⇑	*i*P	**Pn**	**01 35 13.9**	**+0.2**
VRAC				*e*Sn	**Sn**	**01 35 54.7**	**-2.2**
	comp=Z,8.2nm,0.4s,baz=172						
VRAC				S	Sb	01 35 55.4	-11
RJOB	**Jochberg**	**3.77**	**305**	*e*Pn	**Pn**	**01 35 16.0**	**+1.1**
RJOB				*e*Sn	**Sn**	**01 35 59.9**	**+0.9**
RJOB	**Jochberg**	**3.77**	**305**	*e*Pn	**Pn**	**01 35 16.0**	**+1.1**
RJOB				*e*Sn	**Sn**	**01 35 59.9**	**+0.9**
RJOB	**Jochberg**	**3.77**	**305**	Pn	**Pn**	**01 35 16.0**	**+1.1**
RJOB				Sn	**Sn**	**01 35 59.9**	**+0.9**
DRGR		**3.88**	**71** ⇓	*i*P	**Pn**	**01 35 15.5**	**-0.8**
DRGR		**3.88**	**71**	*e*Pn	**Pn**	**01 35 17.0**	**+0.7**
DRGR		**3.88**	**71** ⇓	*i*P	**Pn**	**01 35 15.5**	**-0.8**
DRGR		**3.88**	**71**	*e*Pn	**Pn**	**01 35 17.0**	**+0.7**
GEC2	**GERESS Array S**	**4.05**	**323**	*e*Pn	**Pn**	**01 35 19.7**	**+1.0**
GEC2				*e*Sn	**Sn**	**01 36 05.9**	**0.0**
GEC2	**GERESS Array S**	**4.05**	**323**	*e*Pn	**Pn**	**01 35 19.7**	**+1.0**
GEC2				*e*Sn	**Sn**	**01 36 05.9**	**0.0**
GEC2	**GERESS Array S**	**4.05**	**323**	Pn	**Pn**	**01 35 19.7**	**+1.0**
GEC2				Sn	**Sn**	**01 36 05.9**	**0.0**
MORC	**Moravsky Berou**	**4.12**	**2** ⇓	*i*P	**Pn**	**01 35 19.9**	**+0.3**
MORC	**Moravsky Berou**	**4.12**	**2**	S	**Sn**	**01 36 05.4**	**-2.2**
MORC	**Moravsky Berou**	**4.12**	**2** ⇓	*i*P	**Pn**	**01 35 19.9**	**+0.3**
MORC				*e*Sn	**Sn**	**01 36 05.6**	**-2.0**
WTTA	**Wattenberg**	**4.27**	**294**	*e*Pn	**Pn**	**01 35 22.7**	**+0.8**
WTTA	**Wattenberg**	**4.27**	**294**	*e*Pn	**Pn**	**01 35 22.7**	**+0.8**
WTTA	**Wattenberg**	**4.27**	**294** ⇓	*i*Pn	**Pn**	**01 35 22.0**	**+0.1**
WTTA	**Wattenberg**	**4.27**	**294**	Pn	**Pn**	**01 35 22.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**4.28**	**39**	*e*PN	**Pn**	**01 35 23.2**	**+1.5**
CRVS				*e*PG	**Pg**	**01 35 37.5**	**-1.5**
CRVS	**Cervenica-Dubn**	**4.28**	**39**	*e*Pn	**Pn**	**01 35 23.2**	**+1.5**
BARS	**Barje**	**4.28**	**130**	*e*Pn	**Pn**	**01 35 23.3**	**+1.5**
BARS				*e*Sn	**Sn**	**01 36 15.7**	**+4.3**
BARS	**Barje**	**4.28**	**130**	*e*Pn	**Pn**	**01 35 23.3**	**+1.5**
BARS				*e*Sn	**Sn**	**01 36 15.7**	**+4.3**
TRPA	**Tarpa**	**4.32**	**53** ⇓	*i*P	**Pg**	**01 35 39.8**	**-0.1**
KHC	**Kasperske Hory**	**4.32**	**325**	*e*PN	**Pn**	**01 35 23.5**	**+1.1**
KHC				*ex*	x	01 35 30.0	
KHC				*ex*	x	01 35 49.5	
KHC				*e*SN	**Sn**	**01 36 11.4**	**-1.1**
KHC				*ex*	x	01 36 19.0	
KHC				*ex*	x	01 36 34.5	
KHC	**Kasperske Hory**	**4.32**	**325**	*e*Pn	**Pn**	**01 35 23.5**	**+1.1**
KHC				*e*Sn	**Sn**	**01 36 11.4**	**-1.1**
AQU	**L'Aquila**	**4.37**	**222** ⇓	*i*P	**Pn**	**01 35 24.8**	**+1.7**
AQU	**L'Aquila**	**4.37**	**222** ⇓	*i*P	**Pn**	**01 35 24.8**	**+1.7**
ZAPS	**Zavoj**	**4.46**	**120**	*e*Pn	**Pn**	**01 35 26.0**	**+1.7**
WET	**Wettzell**	**4.63**	**320**	*e*Pn	**Pn**	**01 35 27.2**	**+0.6**
WET				*e*Sn	**Sn**	**01 36 18.4**	**-1.7**
WET	**Wettzell**	**4.63**	**320**	*e*Pn	**Pn**	**01 35 27.2**	**+0.6**
WET				*e*Sn	**Sn**	**01 36 18.4**	**-1.7**
WET	**Wettzell**	**4.63**	**320**	Pn	**Pn**	**01 35 27.2**	**+0.6**
WET				Sn	**Sn**	**01 36 18.4**	**-1.7**
KOLS	**Kolonicke sedl**	**4.67**	**44**	*e*PG	**Pg**	**01 35 48.0**	**+1.3**
KOLS	**Kolonicke sedl**	**4.67**	**44**	*e*Pg	**Pg**	**01 35 48.0**	**+1.3**
DPC	**Dobruska-Polom**	**4.74**	**352**	*e*PN	**Pn**	**01 35 28.8**	**+0.6**
DPC				*e*SN	**Sn**	**01 36 19.6**	**-3.4**
DPC	**Dobruska-Polom**	**4.74**	**352**	*e*Pn	**Pn**	**01 35 28.8**	**+0.6**
DPC				Sn	**Sn**	**01 36 19.6**	**-3.4**
FETA	**Feichten**	**4.79**	**289** ⇑	*i*Pn	**Pn**	**01 35 30.1**	**+1.0**
FETA				⇓*i*Sn	**Sn**	**01 36 24.3**	**-0.1**
FETA				⇓*i*Sg	**Sg**	**01 36 53.2**	**+2.1**
	comp=Z,4.3nm,0.7s						
FETA	**Feichten**	**4.79**	**289**	Pn	**Pn**	**01 35 30.0**	**+1.0**
FETA				Sn	**Sn**	**01 36 24.3**	**-0.1**
FETA				Sg	**Sg**	**01 36 53.2**	**+2.1**
	comp=Z,4.3nm,0.7s						
ROTZ	**Rotzenmuhle**	**5.38**	**322**	*e*Pn	**Pn**	**01 35 38.5**	**+1.5**
ROTZ	**Rotzenmuhle**	**5.38**	**322**	*e*Pn	**Pn**	**01 35 38.5**	**+1.5**
ROTZ	**Rotzenmuhle**	**5.38**	**322**	Pn	**Pn**	**01 35 38.5**	**+1.5**
VOIR		**5.40**	**90** ⇓	*i*P	**Pn**	**01 35 36.3**	**-1.0**
VOIR		**5.40**	**90** ⇓	*i*P	**Pn**	**01 35 36.3**	**-1.0**
DAVA	**Damuels**	**5.42**	**290**	*e*Pn	**Pn**	**01 35 37.9**	**+0.3**
DAVA	**Damuels**	**5.42**	**290**	*e*Pn	**Pn**	**01 35 37.9**	**+0.3**
DAVA	**Damuels**	**5.42**	**290**	Pn	**Pn**	**01 35 37.9**	**+0.3**
BRG	**Berggiesshubel**	**5.69**	**338**	PN	Pb	01 35 50.4	-5.8
BRG				*e*		01 36 12.1	
BRG				*e*		01 37 19.8	
	comp=Z,1.2nm,0.2s						
TANN	**Tannenbergstha**	**5.78**	**327**	*e*Pn	**Pn**	**01 35 43.1**	**+0.6**
TANN				*e*Sn	**Sn**	**01 36 45.4**	**-3.1**
TANN	**Tannenbergstha**	**5.78**	**327**	*e*Pn	**Pn**	**01 35 43.1**	**+0.6**
TANN				*e*Sn	**Sn**	**01 36 45.4**	**-3.1**
TANN	**Tannenbergstha**	**5.78**	**327**	Pn	**Pn**	**01 35 43.1**	**+0.6**
GRA1	**Grafenberg Arr**	**5.79**	**316**	Pn	**Pn**	**01 35 43.0**	**+0.5**
GRF	**Grafenberg Arr**	**5.79**	**316**	*e*Pn	**Pn**	**01 35 43.0**	**+0.5**
GRF	**Grafenberg Arr**	**5.79**	**316**	*e*Pn	**Pn**	**01 35 43.0**	**+0.5**
MOX	**Moxa**	**6.30**	**324**	*e*Pn	**Pn**	**01 35 50.4**	**+0.9**
MOX	**Moxa**	**6.30**	**324**	*e*Pn	**Pn**	**01 35 50.4**	**+0.9**
MOX	**Moxa**	**6.30**	**324**	Pn	**Pn**	**01 35 50.4**	**+0.9**
CLL	**Collm**	**6.35**	**334**	*e*Pn	Pn	01 35 44.0	-6.2
CLL				*e*Sn	Sn	01 36 51.0	-11
CLL				*e*		01 37 28.0	
CLL				*e*Sg	**Sg**	**01 37 46.0**	**+5.1**
BFO	**Black Forest**	**6.73**	**297**	*e*Pn	**Pn**	**01 35 54.5**	**-1.0**
BFO	**Black Forest**	**6.73**	**297**	*e*Pn	**Pn**	**01 35 54.5**	**-1.0**
BFO	**Black Forest**	**6.73**	**297**	Pn	**Pn**	**01 35 54.5**	**-1.0**
SBF	**Sospel**	**7.29**	**259**	*e*Pn	**Pn**	**01 36 01.8**	**-1.5**
SBF	**Sospel**	**7.29**	**259**	*e*Pn	**Pn**	**01 36 01.8**	**-1.5**
CDF	**Champ du Feu**	**7.42**	**295**	*e*Pn	**Pn**	**01 36 03.6**	**-1.4**
CDF				*e*Sn	Sn	01 37 20.9	-8.1
	comp=Z,0.6nm,0.3s						
CDF	**Champ du Feu**	**7.42**	**295**	*e*Pn	**Pn**	**01 36 03.6**	**-1.4**
LPG	**La Plagne**	**7.45**	**273**	*e*Pn	**Pn**	**01 36 03.1**	**-2.5**
LPG	**La Plagne**	**7.45**	**273**	*e*P	**Pn**	**01 36 07.5**	**+1.9**
LPG	**La Plagne**	**7.45**	**273**	*e*P	**Pn**	**01 36 07.5**	**+1.9**
LPL	**La Plagne**	**7.46**	**273**	*e*P	**Pn**	**01 36 07.8**	**+2.1**
LPL				*e*Sn	Sn	01 37 22.0	-8.2
	comp=Z,0.6nm,0.2s						
LPL	**La Plagne**	**7.46**	**273**	*e*P	**Pn**	**01 36 07.8**	**+2.1**
TNS	**Taunus Mts**	**7.53**	**311**	*e*Pn	**Pn**	**01 36 06.7**	**+0.3**
TNS	**Taunus Mts**	**7.53**	**311**	*e*Pn	**Pn**	**01 36 06.7**	**+0.3**
TNS	**Taunus Mts**	**7.53**	**311**	Pn	**Pn**	**01 36 06.7**	**+0.3**
HINF	**Hinteralfeld**	**7.54**	**290**	*e*Pn	**Pn**	**01 36 04.8**	**-1.8**
HINF	**Hinteralfeld**	**7.54**	**290**	*e*Pn	**Pn**	**01 36 04.8**	**-1.8**
MBDF	**Montbardon**	**7.54**	**267**	*e*Pn	**Pn**	**01 36 04.3**	**-2.5**
CABF	**La Chapelle**	**7.89**	**281**	*e*Pn	**Pn**	**01 36 10.7**	**-0.8**
CABF	**La Chapelle**	**7.89**	**281**	*e*Pn	**Pn**	**01 36 10.7**	**-0.8**
HAU	**Haudompre**	**7.91**	**291**	*e*Pn	**Pn**	**01 36 09.8**	**-1.9**
HAU	**Haudompre**	**7.91**	**291**	*e*Pn	**Pn**	**01 36 09.8**	**-1.9**
FRF	**La Foret Royal**	**7.93**	**258**	*e*Pn	**Pn**	**01 36 10.2**	**-1.8**
FRF	**La Foret Royal**	**7.93**	**258**	*e*Pn	**Pn**	**01 36 10.2**	**-1.8**
LMR	**La Mourre**	**8.10**	**257**	*e*Pn	**Pn**	**01 36 12.2**	**-2.1**
LMR	**La Mourre**	**8.10**	**257**	*e*Pn	**Pn**	**01 36 12.2**	**-2.1**
SMF	**Signal de Mont**	**9.44**	**281**	*e*Pn	**Pn**	**01 36 31.0**	**-1.7**
SMF	**Signal de Mont**	**9.44**	**281**	*e*Pn	**Pn**	**01 36 31.0**	**-1.7**
LOR	**Lormes**	**9.46**	**285**	*e*Pn	**Pn**	**01 36 30.2**	**-2.7**
AVF	**Avril sur Loir**	**9.78**	**282**	*e*Pn	**Pn**	**01 36 35.5**	**-1.8**
AVF	**Avril sur Loir**	**9.78**	**282**	*e*Pn	**Pn**	**01 36 35.5**	**-1.8**
BGF	**Bois d'Agland**	**10.13**	**280**	*e*Pn	**Pn**	**01 36 40.9**	**-1.1**
BGF	**Bois d'Agland**	**10.13**	**280**	*e*Pn	**Pn**	**01 36 40.9**	**-1.1**

*IDC **11** 01:44:12.7±2.0,24°.66N×122°.20E,h0km,mb3.4/4,*
mb1 3.6/4,mb1mx3.4/24,mbtmp3.4/4,Error ellipse:
s-maj=152.9km s-min=24.3km az=65.0
*TAP **11** 01:44:13.2,24°.84N×122°.03E,h11km,ML3.5,B*
ISC 11 01:44:12.6±1.3,24°.79N±0°.03×122°.11E±0°.04,h4km±9km,
n39,σ0°63/57,mb3.3/4,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.25**	**332**	*i*P	**Pg**	**01 44 17.3**	**-0.1**
	baz=342						
TWB1				*i*S	**Sg**	**01 44 20.2**	**-0.4**
	baz=342						
TWC	**Suao**	**0.30**	**233** ⇓	*i*P	**Pg**	**01 44 19.1**	**+0.6**
	baz=225						
TWC				*e*S	**Sg**	**01 44 22.7**	**+0.3**
	baz=225						
ILA	**Ilan**	**0.33**	**266**	*e*P	**Pg**	**01 44 19.4**	**+0.4**
	baz=254						
NWF	**Wu-fen Shan**	**0.41**	**313** ⇓	*i*P	**Pg**	**01 44 20.7**	**+0.1**
	baz=306						
NWF				*i*S	**Sg**	**01 44 25.5**	**-0.5**
	baz=306						
TWE	**Neicheng**	**0.41**	**261**	P	**Pg**	**01 44 20.5**	**0.0**
	baz=250						
TWE				*e*S	**Sg**	**01 44 25.9**	**0.0**
	baz=250						
ENA	**Nanau**	**0.49**	**223**	*e*P	**Pg**	**01 44 22.7**	**+0.6**
	baz=217						
ENA				*e*S	**Sg**	**01 44 28.9**	**+0.3**
	baz=217						
ENTT	**Nioudou**	**0.52**	**253**	*e*P	**Pg**	**01 44 22.9**	**+0.3**
	baz=246						
ENTT				*e*S	**Sg**	**01 44 29.6**	**+0.2**
	baz=246						
TAP1	**Taipei**	**0.59**	**295**	*e*P	**Pg**	**01 44 24.2**	**+0.2**
	baz=292						
TAP	**Taipei**	**0.60**	**294**	*e*P	**Pg**	**01 44 24.4**	**+0.1**
	baz=292						
TWY	**Chenhua**	**0.67**	**316**	*i*P	**Pg**	**01 44 25.8**	**+0.3**
	baz=317						
NSK	**Sanguang**	**0.70**	**261** ⇓	*i*P	**Pg**	**01 44 25.6**	**-0.4**
	baz=255						
NSK				*e*S	**Sg**	**01 44 34.0**	**-1.1**
	baz=255						
TWS1	**Kuangyinshan**	**0.70**	**296**	P	**Pg**	**01 44 26.6**	**+0.4**
	baz=294						
NNS	**Nan Shan**	**0.76**	**243**	*e*P	**Pg**	**01 44 27.3**	**+0.1**
	baz=237						
TWD	**Chiawan**	**0.85**	**214**	P	**Pb**	**01 44 29.7**	**-0.3**
	baz=210						
TWD				*e*S	**Sb**	**01 44 40.7**	**-1.0**
	baz=210						
YOJ	**Yonaguni jima**	**0.88**	**112**	*e*P	**Pb**	**01 44 30.7**	**+0.3**
	baz=114						
YOJ				*e*S	**Sn**	**01 44 44.4**	**-0.7**
	baz=114						
HWA	**Hwalien**	**0.93**	**210**	*e*P	**Pb**	**01 44 31.6**	**+0.3**
	baz=213						
WHF	**Hehuan Shan**	**1.00**	**230**	P	**Pg**	**01 44 31.9**	**0.0**
	baz=228						
WHF				S	**Sb**	**01 44 45.8**	**-0.9**
	baz=228						
TWT	**Tachien**	**1.01**	**238**	*e*P	**Pb**	**01 44 32.2**	**-0.5**
	baz=229						
NSTT	**Nanjuang**	**1.02**	**261**	*e*P	**Pg**	**01 44 32.5**	**+0.2**
	baz=252						
NSTT				*e*S	**Sb**	**01 44 46.2**	**-0.5**
	baz=252						
ESL	**Shilin**	**1.15**	**213**	*e*P	**Pb**	**01 44 34.8**	**-0.3**
	baz=211						
TWQ1	**Liyutan**	**1.30**	**250**	*e*P	**Pb**	**01 44 38.0**	**+0.4**
	baz=249						
TWQ1				*e*S	**Sn**	**01 44 56.0**	**+0.6**
	baz=249						
SMLT	**Sun Moon Lake**	**1.43**	**231**	*e*P	**Pb**	**01 44 39.8**	**-0.2**
	baz=230						
TYC	**Yuchr**	**1.45**	**233**	*e*P	**Pb**	**01 44 39.8**	**-0.4**
	baz=225						
TYC				*e*S	**Sg**	**01 44 59.1**	**0.0**
	baz=225						
TCU	**Taichung**	**1.46**	**244**	*e*P	**Pg**	**01 44 41.2**	**+0.7**
	baz=261						
EHY	**Hungye**	**1.47**	**210**	*e*P	**Pn**	**01 44 39.6**	**-0.3**
	baz=219						
TWF1	**Yuli**	**1.61**	**208**	*e*P	**Pn**	**01 44 42.1**	**+0.2**
	baz=218						
ALS	**Alishan**	**1.75**	**223**	*e*P	**Pg**	**01 44 46.0**	**-0.1**
	baz=213						
ALS				*e*S	**Sg**	**01 45 09.8**	**+1.0**
	baz=213						
CHN5	**Tsauling**	**1.77**	**228**	P	**Pg**	**01 44 46.4**	**-0.1**
	baz=231						
CHN5				*e*S	**Sg**	**01 45 11.1**	**+1.6**
	baz=231						
ELDTW	**Lidau**	**1.88**	**212**	*e*P	**Pn**	**01 44 46.3**	**+0.6**
	baz=214						
CHN4	**Tsaushan**	**2.00**	**224**	*e*P	**Pg**	**01 44 50.3**	**-0.6**
	baz=230						
CHN4				*e*S	**Sg**	**01 45 17.9**	**+1.2**
	baz=230						
WTP	**Ta-pu**	**2.06**	**222**	*e*P	**Pb**	**01 44 50.5**	**-0.1**
	baz=214						
WTP				*e*S	**Sg**	**01 45 18.7**	**-0.1**
	baz=214						
TWK	**Hsinying**	**2.12**	**225**	*e*P	**Pb**	**01 44 50.5**	**-1.2**
	baz=231						
TWK				*e*S	**Sb**	**01 45 18.4**	**-0.1**
	baz=231						
CHN1	**Nanshi**	**2.16**	**223**	*e*P	**Pb**	**01 44 51.5**	**-0.8**
	baz=229						
CHN1				*e*S	**Sg**	**01 45 21.4**	**-0.6**
	baz=229						
TWG	**Pinlang**	**2.18**	**206**	*e*P	**Pb**	**01 44 51.4**	**-1.3**
	baz=208						
SCZT	**Fangliau**	**2.77**	**210**	*e*P	**Pb**	**01 45 01.3**	**-1.4**
	baz=199						
SONM	**Songino Array**	**26.16**	**336**	P	**P**	**01 49 48.7**	**+0.6**
	0.9nm,0.9s,baz=150,slow=9.6,SNR=5.5						
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**01 51 37.0**	**+1.0**
	0.2nm,0.6s,baz=106,slow=9.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**40.20**	**326**	P	P	01 51 53.8	+3.7
	0.2nm,0.3s,baz=116,slow=6.7,SNR=2.4						
WRA	**Warramunga Arr**	**46.03**	**164**	P	**P**	**01 52 37.0**	**-0.6**
	0.5nm,0.5s,baz=346,slow=8.8,SNR=4.2						

IDC 11 01:59:56.5±2.7,11°.02S×122°.99E,h0km,mb3.2/1,
mb1 3.2/3,mb1mx3.1/18,mbtmp3.1/3,ML3.0/2,Error
ellipse: s-maj=239.2km s-min=34.3km az=51.0,South
of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.07**	**130**	Pn	Pn	02 03 16.6	-0.7
	0.1nm,0.3s,baz=306,slow=15,SNR=4.6						
WRA				Sn	Sn	02 05 45.4	-9.1
	0.2nm,0.3s,baz=308,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**16.32**	**142**	Pn	Pn	02 03 47.8	+0.6
	0.0nm,0.3s,baz=319,slow=12,SNR=3.2						
ASAR				Sn	Sn	02 06 44.0	-5.1
	0.1nm,0.3s,baz=315,slow=22,SNR=3.6						
MKAR	**Makanchi Array**	**68.08**	**331**	P	P	02 10 58.0	0.0
	0.2nm,0.5s,baz=131,slow=6.9,SNR=4.0						

*SKO **11** 02:15:55.7,41°.29N×20°.50E,h24km,M1.6,ML2.1*
*TIR **11** 02:15:56.2,41°.24N×20°.46E,h4km,ML2.6*
*CSEM **11** 02:15:56.3±0.4,41°.22N×20°.49E,h15km,ML2.6,Error*
ellipse: s-maj=8.4km s-min=5.0km az=22.0
ISC 11 02:15:56.3±1.4,41°.24N±0°.05×20°.49E±0°.03,h12km±12km,
n12,σ0°54/22,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.45**	**356**	*e*PG	**Pg**	**02 16 05.0**	**-0.2**
PHP				*e*SG	**Sb**	**02 16 12.3**	**-0.6**
PHP	**Peshkopia**	**0.45**	**356**	*e*Pg	**Pg**	**02 16 05.0**	**-0.2**
PHP				*e*Sg	**Sb**	**02 16 12.3**	**-0.6**
TIR	**Tirane**	**0.48**	**284**	*e*PG	**Pg**	**02 16 05.9**	**+0.2**
TIR				*e*SG	**Sb**	**02 16 13.2**	**-0.6**
TIR	**Tirane**	**0.48**	**284**	*e*Pg	**Pg**	**02 16 05.9**	**+0.2**
TIR				*e*Sg	**Sb**	**02 16 13.2**	**-0.6**
BIA	**Bitola**	**0.67**	**109**	*e*Pg	**Pg**	**02 16 09.5**	**+0.2**
BIA				*e*Sg	**Sb**	**02 16 19.3**	**+0.1**
BIA	**Bitola**	**0.67**	**109**	*e*Pg	**Pg**	**02 16 09.4**	**+0.2**
BIA				*e*Sg	**Sb**	**02 16 19.3**	**+0.1**
PUK	**Puka**	**0.92**	**331**	*e*PG	**Pb**	**02 16 14.2**	**-0.1**
PUK				*e*SG	**Sn**	**02 16 28.8**	**+0.3**
PUK	**Puka**	**0.92**	**331**	*e*Pg	**Pb**	**02

mb4.7/2,MLv4.1/4
ISC 11 02:40:00.3±1.7, 1°18S±0.2×138°98E±0.08, h29km, n9, σ1°44/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.34	235	P	Pn	02 40 09.6	+0.4
JAY	Jayapura	1.86	113	P	Pn	02 40 30.8	+0.5
BAKI	Biak	2.94	282	P	Pn	02 40 43.3	-1.7
BAKI				S	Sn	02 41 21.7	+2.3
FAKI	Fak Fak	6.82	260	P	Pn	02 41 37.7	-0.8
	24nm,1.4s,0.1nm						
AAI	Ambon	10.94	260	P	Pn	02 42 34.1	-0.9
WRA	Warramunga Arr	18.60	194	P	P	02 44 15.1	-0.3
	0.5nm,0.3s,baz=13,slow=12,SNR=24						
FITZ	Fitzroy Crossi	20.84	218	P	Pn	02 44 43.7	+1.3
	1.9nm,0.8s,baz=48,slow=11,SNR=3.2						
ASAR	Alice Springs	22.29	192	P	P	02 44 55.8	+0.3
	3.3nm,1.0s,baz=26,slow=8.8,SNR=12						
MKAR	Makanchi Array	69.24	322	P	P	02 51 09.9	+5.3
	0.1nm,0.5s,baz=114,slow=6.4,SNR=3.5						

BEO 11 02:48:45.7±1.2, 40.07N×19.24E, h15km±6km, ML3.3/3
IDC 11 02:48:47.9±1.3, 40.65N×19.87E, h0km, mb3.4/5, mb1 3.5/9, mb1mx3.4/29, mbtmp3.4/9, ML3.3/4, Error ellipse: s-maj=22.9km s-min=16.4km az=63.0
ATH 11 02:48:47.9, 40.20N×19.31E, h38km±3km, MD3.4/5
PDG 11 02:48:48.5±0.3, 40.27N×19.59E, h19km±1km, ML3.2/10, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0
CSEM 11 02:48:48.0±0.1, 40.31N×19.58E, h2km, ML4.3, Error ellipse: s-maj=2.8km s-min=1.6km az=58.0
THE 11 02:48:49.1, 40.31N×19.65E, h2km±1km, ML3.3/6, Error ellipse: s-maj=1.4km s-min=0.6km az=253.0
TIR 11 02:48:49.0, 40.25N×19.61E, h28km, ML4.3
SKO 11 02:48:50.3, 40.30N×19.65E, h19km, M2.7, ML3.2
ISC 11 02:48:48.0±1.0, 40°31N±0.02×19°56E±0.02, h13km±7km, n187, σ1°41/258, mb3.5/5, 15C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	Tepelena	0.35	93	ePG	Pg	02 48 54.5	-0.6
TPE				eSG	Sg	02 48 59.7	-0.1
TPE	Tepelena	0.35	93	ePg	Pg	02 48 54.5	-0.6
TPE				eSg	Sg	02 48 59.7	-0.1
KEK	Kerkira	0.63	163	P	Pg	02 49 00.5	+0.3
KEK				S	Sb	02 49 09.8	+0.4
KEK	Kerkira	0.63	163	ePN	Pb	02 49 01.2	+0.4
KEK				eSN	Sb	02 49 09.9	+0.5
KEK	Kerkira	0.63	163	eP	Pb	02 49 01.2	+0.4
KEK				eS	Sb	02 49 09.9	+0.5
LSK	Leskovik	0.81	101	eSG	Sg	02 49 11.7	-2.8
LSK				ePG	Pg	02 49 02.5	-1.3
LSK	Leskovik	0.81	101	eSg	Sg	02 49 11.7	-2.8
IGT	Igoumenitsa	0.98	142	P	Pb	02 49 06.6	-0.2
IGT				S	Sn	02 49 20.5	-0.7
IGT	Igoumenitsa	0.98	142	P	Pb	02 49 06.6	-0.2
IGT				S	Sn	02 49 20.5	-0.7
TIR	Tirane	1.06	13	ePG	Pg	02 49 10.2	+1.7
TIR				eSG	Sn	02 49 27.0	+3.8
TIR	Tirane	1.06	13	P	Pg	02 49 09.9	+1.4
TIR				S	Sn	02 49 23.4	+0.2
TIR	Tirane	1.06	13	ePg	Pg	02 49 10.2	+1.7
TIR				eSg	Sn	02 49 29.0	+5.8
TIR	Tirane	1.06	13	P	Pg	02 49 09.9	+1.4
TIR	Tirane	1.06	13	ePg	Pg	02 49 10.2	+1.7
TIR				S	Sn	02 49 23.4	+0.2
NEST	Nestorio	1.15	84	P	Pb	02 49 08.6	-1.1
NEST				S	Sb	02 49 24.9	+0.4
NEST	Nestorio	1.15	84	P	Pb	02 49 08.6	-1.1
NEST				S	Sb	02 49 24.9	+0.4
RGA	Parga	1.17	148	P	Pb	02 49 09.8	-0.2
RGA				S	Sn	02 49 26.2	+0.4
RGA	Parga	1.17	148	P	Pb	02 49 09.8	-0.2
RGA				S	Sn	02 49 26.2	+0.4
JAN	Janina	1.19	123	P	Pb	02 49 10.7	+0.3
JAN				S	Sb	02 49 25.9	+0.2
JAN	Janina	1.19	123	ePB	Pb	02 49 10.6	+0.2
JAN				eSN	Sg	02 49 28.5	+2.1
JAN	Janina	1.19	123	P	Pb	02 49 10.7	+0.3
JAN				S	Sb	02 49 25.9	+0.2
MEV	Metsovon	1.39	112	P	Pb	02 49 14.2	+0.3
MEV	Metsovon	1.39	112	P	Pb	02 49 14.2	+0.3
FNA	Florina	1.47	71	P	Pb	02 49 15.2	+0.1
FNA				S	Sb	02 49 34.3	+0.6
FNA	Florina	1.47	71	P	Pb	02 49 15.2	+0.1
FNA				S	Sb	02 49 34.3	+0.6
BIA	Bitola	1.52	62	P	Pb	02 49 15.8	-0.3
BIA	Bitola	1.52	62	*i* Pg	Pb	02 49 16.2	+0.1
BIA				*i* Sg	Sg	02 49 36.6	-0.3
BIA	Bitola	1.52	62	P	Pb	02 49 15.8	-0.3
BIA	Bitola	1.52	62	*i* Pg	Pb	02 49 16.1	+0.1
BIA				*i* Sg	Sg	02 49 36.6	-0.3
PHP	Peshkopia	1.53	26	ePG	Pb	02 49 16.7	+0.5
PHP				eSG	Sg	02 49 37.9	+0.7
PHP	Peshkopia	1.53	26	P	Pb	02 49 16.4	+0.2
PHP				S	Sg	02 49 37.3	+0.1
PHP	Peshkopia	1.53	26	P	Pb	02 49 16.4	+0.2
PHP	Peshkopia	1.53	26	ePg	Pb	02 49 16.7	+0.5
PHP				S	Sg	02 49 37.3	+0.1
PHP				eSg	Sg	02 49 37.9	+0.7
ULC	Ulcinj	1.67	352	⇑*i* Pn	Pb	02 49 18.6	0.0
ULC				eSn	Sg	02 49 41.7	0.0
ULC	Ulcinj	1.67	352	⇑*i* Pn	Pb	02 49 18.6	0.0
ULC				eSn	Sg	02 49 41.7	0.0
KZN	Kozani	1.69	89	P	Pb	02 49 18.8	-0.2
KZN				S	Sb	02 49 40.7	+0.4
KZN	Kozani	1.69	89	ePN	Pb	02 49 19.5	+0.5
KZN	Kozani	1.69	89	P	Pb	02 49 18.8	-0.2
KZN				S	Sb	02 49 40.7	+0.4
LKD2	Lefkada island	1.74	150	P	Pn	02 49 18.9	+1.0
LKD2	Lefkada island	1.74	150	P	Pn	02 49 18.9	+1.0
PUK	Puka	1.75	8	ePG	Pb	02 49 19.8	-0.2
PUK				eSG	Sb	02 49 42.6	+0.7
PUK	Puka	1.75	8	ePg	Pb	02 49 19.8	-0.2
PUK				eSg	Sb	02 49 42.6	+0.7
THL	Klokotos Trika	2.03	111	P	Pn	02 49 23.3	+1.4
THL				S	Sn	02 49 48.2	+1.1
THL	Klokotos Trika	2.03	111	ePN	Pn	02 49 23.3	+1.4
THL	Klokotos Trika	2.03	111	P	Pn	02 49 23.3	+1.4
THL				S	Sn	02 49 48.2	+1.1
BUM	Brajici-Budva	2.05	346	⇓*i* Pn	Pb	02 49 24.2	-0.9
BUM				eSn	Sb	02 49 51.3	+0.8
BUM	Brajici-Budva	2.05	346	⇓*i* Pn	Pb	02 49 24.2	-0.9
BUM				eSn	Sb	02 49 51.3	+0.8
BCI	Bajram Curri	2.09	10	ePG	Pb	02 49 24.7	-1.0
BCI				eSG	Sb	02 49 51.0	-0.6
BCI	Bajram Curri	2.09	10	ePg	Pb	02 49 24.7	-1.0
BCI				eSg	Sb	02 49 51.0	-0.6
TTG	Podgorica	2.13	354	⇑*i* Pn	Pn	02 49 25.0	+1.8
TTG				eSn	Sb	02 49 52.5	-0.2
PDG	Podgorica	2.13	354	ePn	Pb	02 49 24.9	+1.7
PDG				eSn	Sb	02 49 51.8	-0.9
PDG	Podgorica	2.13	354	⇑*i* Pn	Pb	02 49 25.0	+1.7
PDG				eSn	Sb	02 49 51.8	-0.9
BAI	Bari	2.19	292	ePn	Pn	02 49 25.3	+1.3
SKO	Skopje	2.19	40	ePn	Pn	02 49 25.9	+1.8
SKO				eSg	Sg	02 49 59.0	+0.8
SKO				eLg	Lg	02 50 00.4	
	comp=N,199nm,0.8s						
SKO				eLg	Lg	02 50 00.5	
	comp=E,164nm,0.7s						
SKO	Skopje	2.19	40	ePn	Pb	02 49 26.1	-1.3
SKO				eSn	Sg	02 49 57.3	-1.0
SKO	Skopje	2.19	40	ePn	Pb	02 49 26.1	-1.3
SKO				eLg	Lg	02 50 00.9	
	comp=E,164nm,0.7s						
SG1	Sgolgore (BA)	2.25	284	ePn	Pn	02 49 26.6	+1.6
LIT	Litokhoron	2.26	94	P	Pn	02 49 26.2	+1.2
LIT				S	Sn	02 49 54.6	+1.9
LIT	Litokhoron	2.26	94	P	Pn	02 49 26.2	+1.2
LIT				S	Sn	02 49 54.6	+1.9
GRG	Griva	2.26	73	P	Pn	02 49 26.0	+0.9
GRG				S	Sb	02 49 55.2	-1.3
GRG	Griva	2.26	73	P	Pn	02 49 26.0	+0.9
GRG				S	Sb	02 49 55.2	-1.3
VLS	Valsamata	2.28	159	P	Pn	02 49 25.1	-0.2
VLS	Valsamata	2.28	159	ePN	Pn	02 49 24.9	-0.4
VLS	Valsamata	2.28	159	P	Pn	02 49 25.1	-0.2
HCY	Herceg Novi	2.28	340	⇑*i* Pn	Pn	02 49 27.5	+2.2
HCY				eSn	Sb	02 49 56.5	-0.5
HCY	Herceg Novi	2.28	340	⇑*i* Pn	Pn	02 49 27.5	+2.2
HCY				eSn	Sb	02 49 56.5	-0.5
PVY	Plav	2.30	7	⇑*i* Pn	Pn	02 49 27.7	+2.0
PVY				eSn	Sb	02 49 57.2	-0.6
PVY	Plav	2.30	7	⇑*i* Pn	Pn	02 49 27.7	+2.0
PVY				eSn	Sb	02 49 57.2	-0.6
KFL	Anninata	2.40	156	P	Pn	02 49 27.3	+0.4
KFL	Anninata	2.40	156	P	Pn	02 49 27.3	+0.4
VAY	Valandovo	2.50	65	P	Pn	02 49 28.8	+0.5
VAY	Valandovo	2.50	65	*i* Pn	Pn	02 49 28.5	+0.2
VAY				*i* Sg	Sg	02 50 07.5	-0.9
VAY				eLg	Lg	02 50 08.7	
	comp=N,124nm,1.0s						
VAY				eLg	Lg	02 50 14.0	
	comp=E,103nm,1.0s						
VAY	Valandovo	2.50	65	*i* Pn	Pn	02 49 28.9	+0.6
VAY				*i* Sg	Sb	02 50 01.9	-1.5
VAY				eLg	Lg	02 50 14.4	
	comp=E,103nm,1.0s						
NKY	Niksic	2.54	351	⇑*i* Pn	Pn	02 49 31.2	+2.3
NKY				eSn	Sb	02 50 03.0	-1.5
NKY	Niksic	2.54	351	⇑*i* Pn	Pn	02 49 31.2	+2.3
NKY				eSn	Sb	02 50 03.0	-1.5
BEY	Berane	2.57	6	ePn	Pn	02 49 31.4	+2.0
BEY				eSn	Sb	02 50 03.7	-1.8
IVA	Berane	2.57	6	ePn	Pn	02 49 31.4	+2.0
IVA				eSn	Sb	02 50 03.7	-1.8
CDT	Castel del Mon	2.61	288	ePn	Pn	02 49 31.8	+1.9
EFP	Efpalio	2.62	135	P	Pn	02 49 31.5	+1.5
EFP	Efpalio	2.62	135	P	Pn	02 49 31.5	+1.5
THE	Thessaloniki	2.62	82	P	Pn	02 49 30.9	+0.9
THE	Thessaloniki	2.62	82	P	Pn	02 49 30.9	+0.9
KNT	Kendrikon	2.68	70	P	Pn	02 49 31.7	+0.9
KNT	Kendrikon	2.68	70	P	Pn	02 49 31.7	+0.9
RLS	Riolos of Patr	2.70	146	P	Pn	02 49 31.8	+0.8
RLS	Riolos of Patr	2.70	146	P	Pn	02 49 31.8	+0.8
BRY	Bratogost	2.70	344	⇑*i* Pn	Pn	02 49 33.3	+2.1
BRY				eSn	Sn	02 50 06.6	+2.8
BRY	Bratogost	2.70	344	⇑*i* Pn	Pn	02 49 33.3	+2.1
BRY				eSn	Sn	02 50 06.6	+2.8
HORT	Hortiatis	2.72	83	P	Pn	02 49 31.8	+0.4
HORT	Hortiatis	2.72	83	P	Pn	02 49 31.8	+0.4
TRIZ	Trizonia	2.75	134	P	Pn	02 49 33.5	+1.7
TRIZ	Trizonia	2.75	134	P	Pn	02 49 33.5	+1.7
KALE	Kalithea	2.77	133	P	Pn	02 49 34.0	+1.9
KALE	Kalithea	2.77	133	P	Pn	02 49 34.0	+1.9
LAKA	Lakka	2.79	137	P	Pn	02 49 33.6	+1.2
LAKA	Lakka	2.79	137	P	Pn	02 49 33.6	+1.2
AXAR	Agios Charalam	2.85	122	P	Pn	02 49 35.0	+1.8
AXAR	Agios Charalam	2.85	122	P	Pn	02 49 35.0	+1.8
STON	Ston	2.91	332	*i* Pn	Pn	02 49 34.5	+0.5
STON				Sn	Sn	02 50 09.0	+0.1
STON	Ston	2.91	332	*i* Pn	Pn	02 49 34.5	+0.5
STON				Sn	Sn	02 50 08.9	+0.1
UPM	Unac-Piva	2.93	351	⇓*i* Pn	Pn	02 49 36.0	+1.6
UPM				eSn	Sn	02 50 12.2	+2.6
UPM	Unac-Piva	2.93	351	⇓*i* Pn	Pn	02 49 36.0	+1.6
UPM				eSn	Sn	02 50 12.2	+2.6
SOH	Sokhos	2.94	79	P	Pn	02 49 35.5	+1.1
SOH	Sokhos	2.94	79	P	Pn	02 49 35.5	+1.1
XOR	Xorichti	2.95	107	P	Pn	02 49 35.5	+0.9
XOR	Xorichti	2.95	107	P	Pn	02 49 35.5	+0.9
PLG	Polygyros	2.97	88	P	Pn	02 49 36.0	+1.1
PLG	Polygyros	2.97	88	P	Pn	02 49 36.0	+1.1
DSF	Desfina	2.98	129	P	Pn	02 49 36.4	+1.4
DSF	Desfina	2.98	129	P	Pn	02 49 36.4	+1.4
PLE	Pljevlja	3.02	358	⇓*i* Pn	Pn	02 49 37.8	+2.2
PLE				eSn	Sn	02 50 13.8	+2.1
PLE	Pljevlja	3.02	358	⇓*i* Pn	Pn	02 49 37.8	+2.2
PLE				eSn	Sn	02 50 13.8	+2.1
BARS	Barje	3.02	33	ePn	Pn	02 49 36.9	+1.4
MS1	Monte Sant'Ang	3.07	298	ePn	Pn	02 49 37.6	+1.4
ATAL	Atalanti	3.13	120	P	Pn	02 49 38.9	+1.9
ATAL	Atalanti	3.13	120	P	Pn	02 49 38.9	+1.9
SELS	Selova	3.13	21	ePn	Pn	02 49 40.3	+3.2
LKR	Lokris	3.14	121	P	Pn	02 49 38.5	+1.4
LKR	Lokris	3.14	121	ePN	Pn	02 49 38.2	+1.1
LKR	Lokris	3.14	121	eP	Pn	02 49 38.2	+1.1
SRS	Serrai	3.17	74	P	Pn	02 49 38.6	+1.0
SRS	Serrai	3.17	74	P	Pn	02 49 38.6	+1.0
PAIG	Paliouri	3.19	96	P	Pn	02 49 38.1	+0.4
PAIG	Paliouri	3.19	96	P	Pn	02 49 38.1	+0.4
GUR	Goura	3.21	137	P	Pn	02 49 39.4	+1.2
GUR	Goura	3.21	137	P	Pn	02 49 39.4	+1.2
AMT	Artemida-Makis	3.24	148	P	Pn	02 49 39.7	+1.1
AMT	Artemida-Makis	3.24	148	P	Pn	02 49 39.7	+1.1
IVAS	Ivanjica	3.29	8	ePn	Pn	02 49 40.3	+1.0
IVAS	Ivanjica	3.29	8	ePn	Pn	02 49 40.3	+1.0
OUR	Ouranopolis	3.38	88	P	Pn	02 49 41.4	+0.9
OUR	Ouranopolis	3.38	88	P	Pn	02 49 41.4	+0.9
NVR	Nevrokopi	3.43	71	P	Pn	02 49 41.9	+0.8
NVR	Nevrokopi	3.43	71	P	Pn	02 49 41.9	+0.8
LTK	Loutraki	3.50	130	P	Pn	02 49 43.6	+1.5
LTK	Loutraki	3.50	130	P	Pn	02 49 43.6	+1.5
MRKA	Markates	3.51	116	P	Pn	02 49 43.3	+1.1
MRKA	Markates	3.51	116	P	Pn	02 49 43.3	+1.1
VTS	Vitosha	3.57	49	ePn	Pn	02 49 44.4	+1.3
VTS	Vitosha	3.57	49	ePn	Pn	02 49 44.4	+1.3
ITM	Ithomi	3.63	149	P	Pn	02 49 46.2	+2.2
ITM	Ithomi	3.63	149	P	Pn	02 49 46.2	+2.2
VLX	Vlachokerasia	3.67	142	P	Pn	02 49 46.5	+2.0
VLX	Vlachokerasia	3.67	142	P	Pn	02 49 46.5	+2.0
GRUS	Gruza	3.68	13	ePn	Pn	02 49 45.5	+1.0
GRUS	Gruza	3.68	13	ePn	Pn	02 49 45.5	+1.0
ZAPS	Zavoj	3.75	37	ePn	Pn	02 49 47.2	+1.7
ZAPS	Zavoj	3.75	37	ePn	Pn	02 49 47.2	+1.7
DIVS	Divibare	3.80	5	P	Pn	02 49 46.8	+0.5
DIVS	Divibare	3.80	5	ePn	Pn	02 49 47.0	+0.7
DIVS	Divibare	3.80	5	ePn	Pn	02 49 47.0	+0.7
DID	Didima	4.01	133	P	Pn	02 49 50.0	+0.9
DID	Didima	4.01	133	P	Pn	02 49 50.0	+0.9
VLI	Veliai	4.46	142	P	Pn	02 49 56.8	+1.5
VLI	Veliai	4.46	142	P	Pn	02 49 56.8	+1.5
KYTH	Kithira	4.87	145	P	Pn	02 50 02.6	+1.7
KYTH	Kithira	4.87	145	P	Pn	02 50 02.6	+1.7
NVLJ	Novalja	5.48	322	ePn	Pn	02 50 10.4	+1.1
NVLJ				Sn	Sn	02 51 09.8	-2.4
NVLJ	Novalja	5.48	322	ePn	Pn	02 50 10.3	+1.1
BOJS	Bojanci	6.08	330	*i* Pn	Pn	02 50 19.0	+1.5
BOJS				*i* Sn	Sn	02 51 24.9	-1.9
BOJS	Bojanci	6.08	330	Pn	Pn	02 50 19.0	+1.5
CRES	Cresnjev	6.28	333	*i* Pn	Pn	02 50 21.1	+0.9
CRES				*i* Sn	Sn	02 51 28.8	-2.9
CRES	Cresnjev	6.28	333	*i* Pn	Pn	02 50 21.1	+0.9
VISS	Visnje	6.48	329	*i* Pn	Pn	02 50 24.6	+1.5
VISS				*i* Sn	Sn	02 51 35.7	-1.2
VISS	Visnje	6.48	329	*i* Pn	Pn	02 50 24.6	+1.5
JAVS	Javornik	6.87	326	*i* Pn	Pn	02 50 29.2	+0.7
JAVS				*i* Sn	Sn	02 51 43.6	-3.1
JAVS	Javornik	6.87	326	*i* Pn	Pn	02 50 29.2	+0.7
MLR	Muntele Rosu	6.98	40	Pn	Pn	02 50 34.3	+4.3
	comp=E,0.0nm,0.3s,baz=196,slow=18,SNR=3.0						
VOY	Vojsko	7.06	326	ePn	Pn	02 50 32.3	+1.3
VOY				eSn	Sn	02 51 47.8	-3.3
VOY	Vojsko	7.06	326	ePn	Pn	02 50 32.3	+1.3
SOKA	Soboth	7.16	334	⇓*i* Pn	Pn	02 50 32.7	+0.3
SOKA				⇑*i* Sn	Sn	02 51 49.2	-4.5
SOKA	Soboth	7.16	334	Pn	Pn	02 50 32.7	+0.3
VYHS	Vyhne	8.20	357	ePN	Pn	02 50 54.0	+7.4
VYHS				eSN	Sn	02 52 17.7	-1.3
MOA	Molln	8.44	335	⇑*i* Pn	Pn	02 50 50.6	+0.7
MOA				⇑*i* Sn	Sn	02 52 22.8	-2.2
MOA	Molln	8.44	335	Pn	Pn	02 50 50.6	+0.7
GERES	GERESS Array B	9.50	336	Pn	Pn	02 51 06.0	+1.6
	comp=E,0.2nm,0.3s,baz=162,slow=13,SNR=4.2						
GERES				Sn	Sn	02 52 46.7	-4.4
	comp=E,0.6nm,0.3s,baz=150,slow=22,SNR=8.3						
DAVOX	Davos/Dischmat	9.54	316	Pn	Pn	02 51 06.6	+1.4
	comp=E,0.2nm,0.3s,baz=161,slow=17,SNR=2.9						
DAVOX				Sn	Sn	02 52 49.3	-3.0
	comp=E,0.6nm,0.3s,baz=302,slow=21,SNR=3.7						
KHC	Kasperske Hory	9.79	336	eP	Pn	02 51 03.5	-4.9
KHC				ex	x	02 52 30.5	
KHC				ex	x	02 52 54.5	
ESDC	Sonseca Array	18.03	276	P	P	02 53 00.5	+1.9
	comp=E,0.0nm,0.3s,baz=78,slow=12,SNR=4.2						
HFS	Hagfors	20.18	351	P	P	02 53 19.3	-2.7
	comp=E,0.1nm,0.3s,baz=159,slow=14,SNR=3.0						
NB2	NORSAR Subarra	21.38	349	P	P	02 53 37.6	+2.6
	comp=Z,1.8nm,0.9s,baz=162,slow=11						
NB2	NORSAR Subarra	21.38	349	P	P	02 53 37.6	+2.6
	comp=Z,1.8nm,0.9s,baz=162,slow=11,SNR=4.0						
NOA	NORSAR Array B	21.38	349	P	P	02 53 32.8	-2.3
	comp=Z,0.8nm,0.9s,baz=168,slow=9.1,SNR=3.1						
FINES	FINESS Array B	21.53	9	P	P	02 53 34.2	-2.3
	comp=Z,1.2nm,0.7s,baz=199,slow=10,SNR=4.8						
TORD	Torodi Ar. Bea	31.28	215	P	P	02 55 13.3	+5.6
	comp=Z,0.4nm,0.9s,baz=31,slow=8.3,SNR=2.7						
ZALV	Zalesovo Beam	44.85	50	P	P	02 57 00.2	-1.4
	comp=Z,0.9nm,0.6s,baz=261,slow=6.7,SNR=4.3						
MKAR	Makanchi Array	44.85	60	P	P	02 57 00.7	-1.1
	comp=Z,0.6nm,0.6s,baz=276,slow=6.8,SNR=12						

JMA 11 02:51:55.6±0.1, 40°19N×139°01E, h38km±1km, M3.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOG2	Oga 2	0.66	114	P	Pn	02 52 08.5	0.0
JOG2				eS	Sn	02 52 17.7	0.0
JIW	Iwasaki	0.86	62	P	Pn	02 52 11.4	+0.2
JIW				eS	Sn	02 52 22.4	-0.2
JTB	Tobi-shima	1.08	157	eS	Sn	02 52 27.9	+0.1
JAH	Hinai	1.25	90	P	Pn	02 52 17.2	+0.8
JAH				eS	Sn	02 52 32.4	+0.4
JRG	Rokugo	1.48	122	P	Pn	02 52 20.5	+0.8
JRG				S	Sn	02 52 39.2	+1.4
JYK	Kaneyama	1.64	140	P	Pn	02 52 22.4	+0.5
JYK				eS	Sn	02 52 41.9	+0.1
JTM	Tenmabayashi	1.68	69	P	Pn	02 52 23.7	+1.3
JTM				eS	Sn	02 52 44.5	+1.8
JYA	Atsumi	1.69	161	P	Pn	02 52 23.2	+0.7
JYA				S	Sn	02 52 43.6	+0.8
JSR	Shiriuchi	1.71	38	S	Sn	02 52 43.6	+0.1
JAW	Awa shima	1.74	174	P	Pn	02 52 23.7	+0.4
JOM	Ohasama	1.90	111	P	Pn	02 52 26.7	+1.3
JOM				eS	Sn	02 52 49.9	+1.8
JOSM	Okushiri--Mats	1.92	10	eS	Sn	02 52 47.5	-1.2
JANG	Nango	1.93	84	P	Pn	02 52 27.2	+1.4
JANG				eS	Sn	02 52 50.4	+1.6
JOT	Ohata	1.95	52	eS	Sn	02 52 50.4	+1.0
MAT	Matsushiro	3.70	190	P	Pn	02 52 52.7	+2.5
MAT				S	Sn	02 53 34.3	+1.8

IDC 11 02:53:16.4±2.7, 7.67S×117.40E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, ML2.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/18, Error ellipse: s-maj=221.1km s-min=21.1km az=53.0
DJA 11 02:53:36.2±0.7, 8°S±10'×11°7E±', h139km±14km, M3.9/11, mb3.8/2, mB4.6/1, MLv3.9/11, Mw(mB)3.8/1
ISC 11 02:53:32.6±1.2, 8°3S±0'2×117°55E±0'09, h145km, n18, σ1°34/16, mb3.2/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	Kahang-Kahang	1.93	269	P	Pn	02 54 08.5	+2.0
SRBI	Singaraja	2.33	276	P	Pn	02 54 12.3	+1.0
IGBI	Denpasar	2.43	259	P	Pn	02 54 13.0	+0.5
IGBI				S	Sn	02 54 43.1	-0.2
NBBI	Negara	2.90	269	P	Pn	02 54 16.4	-2.1
WSI	Waingapu	3.02	116	P	Pn	02 54 25.7	+5.8
BYJI	Banyuwangi	3.17	272	P	Pn	02 54 22.1	+0.2
JAGI	Jajag, Banyuwa	3.37	268	P	Pn	02 54 24.9	+0.4
JAGI				S	Sn	02 55 04.0	-0.6
BKSI	Bulukumba	3.94	41	P	Pn	02 54 38.8	+6.9
GMJI	Gumukmas	4.07	271	P	Pn	02 54 34.0	+0.4
PWJI	Pagerwojo	5.70	273	P	Pn	02 54 56.2	+1.0
	14nm,1.4s,755nm0.1nm						
PCJI	Pacitan	6.31	271	P	Pn	02 55 04.0	+0.6
FITZ	Fitzroy Crossi	12.49	142	Pn	Pn	02 56 25.4	0.0
	0.0nm,0.3s,baz=326,slow=11,SNR=1.9						
FITZ				Sn	Sn	02 58 41.5	-1.9
	0.4nm,0.3s,baz=191,slow=20,SNR=8.0						
WRA	Warramunga Arr	19.92	127	P	Pn	02 57 56.1	-0.2
	0.7nm,0.4s,baz=302,slow=12,SNR=23						
ASAR	Alice Springs	21.85	136	P	P	02 58 16.4	+2.5
	0.3nm,0.5s,baz=

*IDC **11** 02:56:29.9±0.8,21°.85S×175°.04W, h0km, mb4.2/13, mb1 4.5/13, mb1mx4.3/23, mbtmp4.2/13, MS4.1/15, Ms1 4.1/15, ms1mx3.9/34, Error ellipse: s-maj=42.1km s-min=16.9km az=155.0*

*ISCJB **11** 02:56:32.4±0.4,22°.10S±0°.1×175°.02W±0°.07, h27km, mb4.6/25, MS4.2/13, Error ellipse: s-maj=20.4km s-min=8.3km az=164.7*

*NEIC **11** 02:56:33.7±0.4,22°.51S×174°.70W, h35km, mb4.8/10, Error ellipse: s-maj=17.4km s-min=8.6km az=161.0*

*GCMT **11** 02:56:36.1±0.4,22°.10S×174°.37W, h30km±1km, MW5.0, Moment Tensor Solution. s31,c37; s56,c76; Moment tensor: Scale 10^16Nm; Mrr3.40±.24; Mθθ-0.11±.18; Mϕϕ-3.29±.14; Mrθ0.89±.31; Mθϕ-1.23±.11; Mϕr2.14±.18; Best double couple: M♂4.20000×10^16 NP1:φs196.00000°, δ29.00000°, λ86.00000°. NP2:φs21.00000°, δ62.00000°, λ92.00000°. Principal axes: T 4.0900, Plg73.0000°, Azm296.0000°; N 0.3000, Plg2.0000°, Azm200.0000°; P -4.4000, Plg17.0000°, Azm109.0000°; Data Used: II IU IC G CN.*

*SZGRF **11** 02:56:36.6,21°.17S×174°.24W, h33km, Tonga Islands*

ISC 11 02:56:33.9±0.5,22°.0S±0°.2×174°.83W±0°.09, h27km, n109, σ1♯21/103, mb4.7/25, MS4.2/14, 12C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.92**	**301**	*e*Pn	Pn	02 58 33.2	+5.8
	294nm,1.2s						
AFI	**Afiamalu**	**8.55**	**20**	Pn	Pn	02 58 29.2	-6.8
	3.6nm,0.3s,baz=217,slow=5.1,SNR=2.8						
AFI				Sn	Sn	03 00 01.1	-11
	4.1nm,0.3s,baz=136,slow=17,SNR=4.1						
AFI				LR	LR	03 00 54.5	
	comp=Z,361nm,21.4s,baz=216,slow=31						
AFI	**Afiamalu**	**8.55**	**20**	Pn	Pn	02 58 29.2	-6.8
RAR	**Rarotonga**	**14.03**	**90**	Pn	Pn	02 59 43.8	-7.2
	3.2nm,0.3s,baz=289,slow=7.2,SNR=7.7						
RAR	**Rarotonga**	**14.03**	**90**	Pn	Pn	02 59 43.8	-7.2
DZM	**Mont Dzumac**	**17.36**	**266**	*e*LR	LR	03 04 48.5	
	1μm,22.0s						
DZM	**Mont Dzumac**	**17.36**	**266**	P	**P**	**03 00 38.3**	**+2.7**
	0.6nm,0.3s,baz=162,slow=19,SNR=5.2						
DZM				LR	LR	03 05 22.3	
	comp=Z,303nm,20.5s,baz=116,slow=31						
DZM	**Mont Dzumac**	**17.36**	**266**	*e*P	**P**	**03 00 38.2**	**+2.6**
	32nm,1.2s						
TBI	**Tubuai**	**23.44**	**98**	*e*S	**S**	**03 05 51.1**	**-1.9**
	286nm,24.2s						
TBI				*e*LR	LR	03 07 20.2	
	745nm,28.8s,baz=269						
PPT2	**Papeete2**	**24.15**	**84**	*e*S	**S**	**03 06 02.7**	**-1.9**
	265nm,25.5s						
PPT2				*e*LR	LR	03 07 40.0	
	752nm,23.8s,baz=250						
PPT	**Papeete**	**24.16**	**84**	LR	LR	03 08 29.8	
	comp=Z,714nm,21.3s,baz=271,slow=30						
HNR	**Honiara**	**27.25**	**293**	LR	LR	03 10 45.0	
	comp=Z,404nm,20.7s,baz=312,slow=32						
CTAO	**Charters Tower**	**36.30**	**266**	*e*P	**P**	**03 03 35.2**	**-0.3**
	8.5nm,0.4s						
PMG	**Port Moresby**	**38.55**	**283**	P	**P**	**03 03 53.2**	**-1.4**
	2.0nm,0.3s,baz=144,slow=16,SNR=4.6						
PMG	**Port Moresby**	**38.55**	**283**	*e*P	**P**	**03 03 55.2**	**+0.6**
	13nm,1.1s						
STKA	**Stephens Creek**	**39.85**	**246**	P	**P**	**03 04 04.2**	**-1.0**
	1.3nm,0.4s,baz=82,slow=11,SNR=7.1						
STKA				LR	LR	03 19 27.8	
	comp=Z,414nm,18.3s,baz=204,slow=35						
STKA	**Stephens Creek**	**39.85**	**246**	P	**P**	**03 04 04.2**	**-1.0**
COEN	**Coen**	**40.63**	**274**	*e*P	**P**	**03 04 11.9**	**0.0**
	40nm,1.0s						
AS31	**Alice Springs**	**47.07**	**258**	*e*P	**P**	**03 05 02.6**	**-1.0**
ASAR	**Alice Springs**	**47.07**	**258**	P	**P**	**03 05 02.3**	**-1.4**
	4.7nm,0.9s,baz=91,slow=8.0,SNR=37						
ASAR				LR	LR	03 24 07.0	
	comp=Z,468nm,19.5s,baz=126,slow=35						
ASAR	**Alice Springs**	**47.07**	**258**	P	**P**	**03 05 02.3**	**-1.4**
WRAB	**Tennant Creek**	**47.32**	**263**	*e*P	**P**	**03 05 03.3**	**-2.3**
	5.6nm,0.7s						
WRA	**Warramunga Arr**	**47.33**	**263**	P	**P**	**03 05 03.4**	**-2.3**
	7.0nm,0.7s,baz=99,slow=8.0,SNR=25						
WRA				LR	LR	03 23 46.0	
	comp=Z,403nm,19.2s,baz=95,slow=35						
WRA	**Warramunga Arr**	**47.33**	**263**	P	**P**	**03 05 03.4**	**-2.3**
FORT	**Forrest**	**51.44**	**248**	*e*P	**P**	**03 05 35.3**	**-1.6**
	32nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.76**	**263**	P	**P**	**03 06 07.7**	**-1.1**
	1.6nm,0.4s,baz=82,slow=9.5,SNR=3.5						
FITZ				LR	LR	03 29 41.3	
	comp=Z,313nm,18.2s,baz=91,slow=36						
FITZ	**Fitzroy Crossi**	**55.76**	**263**	P	**P**	**03 06 07.7**	**-1.1**
VNDA	**Vanda**	**56.72**	**186**	LR	LR	03 28 10.4	
	comp=Z,121nm,18.8s,baz=305,slow=33						
MBWA	**Marble Bar**	**60.41**	**257**	*e*P	**P**	**03 06 39.7**	**-1.6**
	19nm,1.0s						
KAPI	**Kappang**	**65.36**	**275**	LR	LR	03 34 20.2	
	comp=Z,92nm,20.9s,baz=126,slow=35						
QSPA	**South Pole Qui**	**68.09**	**180**	*e*P	**P**	**03 07 32.9**	**+1.8**
	13nm,1.0s						
PETK	**Petropavlovsk-**	**78.50**	**344**	P	**P**	**03 08 31.4**	**-0.9**
	6.4nm,0.9s,baz=151,slow=4.2,SNR=3.8						
PETK	**Petropavlovsk-**	**78.50**	**344**	*e*P	**P**	**03 08 31.4**	**-0.9**
PMSA	**Palmer Station**	**78.74**	**156**	*e*P	P	03 08 28.8	-4.8
	83nm,1.1s						
NVAR	**Mina Array Bea**	**80.12**	**42**	P	**P**	**03 08 43.4**	**+1.6**
	1.7nm,0.9s,baz=224,slow=8.9,SNR=9.7						
NVAR	**Mina Array Bea**	**80.12**	**42**	P	**P**	**03 08 43.4**	**+1.6**
MVU	**Marysvale**	**84.03**	**44**	*e*P	**P**	**03 09 02.0**	**-0.3**
	11nm,1.4s						
MFID	**Camas Ranch**	**84.65**	**39**	*e*P	**P**	**03 09 06.7**	**+1.5**
	12nm,1.5s						
LAZ	**Ladron**	**85.30**	**50**	*e*P	**P**	**03 09 08.3**	**-0.5**
	8.2nm,1.6s						
TXAR	**Lajitas Array**	**85.40**	**56**	P	**P**	**03 09 10.4**	**+1.1**
	0.5nm,0.9s,baz=98,slow=2.5,SNR=4.5						
TXAR				LR	LR	03 40 55.9	
	comp=Z,89nm,20.1s,baz=5.0,slow=31						
TXAR	**Lajitas Array**	**85.40**	**56**	P	**P**	**03 09 10.4**	**+1.1**
ANMO	**Albuquerque**	**86.06**	**50**	P	**P**	**03 09 13.2**	**+0.7**
	0.7nm,0.4s,baz=187,slow=7.1,SNR=6.8						
ANMO	**Albuquerque**	**86.06**	**50**	P	**P**	**03 09 13.2**	**+0.7**
PLCA	**Paso Flores**	**86.10**	**132**	LR	LR	03 39 43.6	
	comp=Z,102nm,20.6s,baz=111,slow=30						
PDAR	**Pinedale Array**	**88.05**	**42**	P	**P**	**03 09 22.4**	**+0.4**
	0.5nm,0.8s,baz=151,slow=3.4,SNR=4.0						
PDAR				LR	LR	03 43 44.1	
	comp=Z,96nm,20.4s,baz=248,slow=32						
PDAR	**Pinedale Array**	**88.05**	**42**	P	**P**	**03 09 22.4**	**+0.4**
COLA	**College**	**89.06**	**11**	*e*P	**P**	**03 09 26.1**	**+0.2**
	9.1nm,1.2s						
ILAR	**Eielson Array**	**89.14**	**12**	P	**P**	**03 09 24.9**	**-1.5**
	1.5nm,1.1s,baz=228,slow=6.2,SNR=7.0						
ILAR				LR	LR	03 48 43.4	
	comp=Z,70nm,18.1s,baz=241,slow=35						
ILAR	**Eielson Array**	**89.14**	**12**	P	**P**	**03 09 24.9**	**-1.5**
DAWY	**Dawson**	**90.11**	**15**	*e*P	**P**	**03 09 31.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.39**	**288**	P	**P**	**03 09 47.9**	**+0.6**
	2.9nm,0.8s,baz=114,slow=3.4,SNR=16						
CMAR	**Chiang Mai Arr**	**93.39**	**288**	P	**P**	**03 09 47.9**	**+0.6**
CHTO	**Chiang Mai**	**93.52**	**289**	*e*P	**P**	**03 09 49.5**	**+1.7**
	26nm,1.6s						
YKA	**Yellowknife Ar**	**96.65**	**24**	P	**P**	**03 09 59.7**	**-1.3**
	0.5nm,0.9s,baz=232,slow=4.5,SNR=7.5						
YKA	**Yellowknife Ar**	**96.65**	**24**	P	**P**	**03 09 59.8**	**-1.3**
LPAZ	**La Paz**	**98.77**	**111**	LR	LR	03 48 16.6	
	comp=Z,67nm,20.7s,baz=57,slow=31						
KURK	**Kurchatov**	**117.09**	**317**	*e*PKPdf	**PKPdf**	**03 15 15.6**	**-0.5**
TKM2	**Tokmak 2**	**118.75**	**308**	*e*PKPdf	**PKPdf**	**03 15 19.9**	**0.0**
BRVK	**Borovoye**	**122.18**	**320**	*e*PKPdf	**PKPdf**	**03 15 25.5**	**-0.4**
SUW	**Suwalki**	**145.23**	**341**	*e*P	**PKPbc**	**03 16 08.2**	**-0.3**
SUW	**Suwalki**	**145.23**	**341**	*e*PKPbc	**PKPab**	**03 16 08.8**	**+0.3**
SUW	**Suwalki**	**145.23**	**341**	*e*P	**PKPbc**	**03 16 08.1**	**-0.3**
MUD	**Monsted U'grnd**	**145.45**	**356**	*i* P	**PKPbc**	**03 16 09.3**	**+0.3**
	14nm,1.0s						
AKASG	**Malin Array Be**	**145.72**	**333**	PKPbc	**PKPdf**	**03 16 09.7**	**0.0**
	9.3nm,0.8s,baz=41,slow=4.2,SNR=25						
AKASG	**Malin Array Be**	**145.72**	**333**	PKPbc	**PKPdf**	**03 16 09.7**	**0.0**
KIEV	**Kiev**	**145.73**	**333**	*e*PKPbc	**PKPdf**	**03 16 10.0**	**+0.3**
AK01	**Malin Array Si**	**145.73**	**333**	*e*PKPbc	**PKPdf**	**03 16 09.8**	**+0.1**
BSEG	**Bad Segeberg**	**147.87**	**354**	*e*PKPbc	**PKPbc**	**03 16 16.5**	**+0.4**
KWP	**Kalwaria Pacla**	**149.12**	**338**	*e*P	**PKPbc**	**03 16 21.0**	**+1.4**
KWP	**Kalwaria Pacla**	**149.12**	**338**	*e*P	**PKPbc**	**03 16 21.0**	**+1.4**
BUR08	**Bucovina Ar. S**	**149.76**	**333**	*e*PKPbc	**PKPbc**	**03 16 22.0**	**+0.6**
BURAR	**Bucovina Array**	**149.77**	**333**	*i* P	**PKPbc**	**03 16 24.2**	**+2.8**
TLCR		**149.82**	**326**	*i* P	**PKPbc**	**03 16 23.0**	**+1.6**
CLZ	**Clausthal**	**149.93**	**354**	*e*PKPbc	**PKPbc**	**03 16 22.3**	**+0.7**
BRTR	**Keskin Array B**	**150.02**	**313**	PKPbc	**PKPbc**	**03 16 22.1**	**-0.2**
	5.4nm,0.8s,baz=122,slow=2.5,SNR=20						
BRTR	**Keskin Array B**	**150.02**	**313**	PKPbc	**PKPbc**	**03 16 22.1**	**-0.2**
CLL	**Collm**	**150.11**	**350**	*e*PKPbc	**PKPbc**	**03 16 22.3**	**+0.4**
CLL	**Collm**	**150.11**	**350**	*i* PKPbc	**PKPbc**	**03 16 22.5**	**+0.6**
	comp=Z,14nm,1.1s						
CLL				*i* PKPab	**PKPab**	**03 16 28.7**	**+0.9**
CLL				Lm	MLR	04 18 00.0	
	comp=Z,100nm,19.9s						
NIE	**Niedzica**	**150.11**	**340**	*e*PKP	**PKPbc**	**03 16 23.0**	**+0.9**
UPC	**Upice**	**150.29**	**346**	*e*PKP	**PKPbc**	**03 16 23.7**	**+1.3**
BRG	**Berggiesshubel**	**150.37**	**349**	*i* PKP	**PKPbc**	**03 16 23.2**	**+0.7**
	comp=Z,11nm,1.1s						
BRG	**Berggiesshubel**	**150.37**	**349**	*e*PKPbc	**PKPbc**	**03 16 23.1**	**+0.5**
DPC	**Dobruska-Polom**	**150.37**	**345**	*e*PKP	**PKPbc**	**03 16 24.1**	**+1.4**
DPC				*ep*PKP	PKPab	03 16 42.8	+14
VRI	**Vrincioaia**	**150.40**	**329**	*i* P	**PKPbc**	**03 16 21.9**	**-0.9**
TRPA	**Tarpa**	**150.44**	**336**	*i* P	**PKPbc**	**03 16 23.3**	**+0.5**
PLOR	**Plostina**	**150.44**	**329**	*i* P	**PKPbc**	**03 16 24.0**	**+1.0**
BUG	**Bochum--Univer**	**150.56**	**357**	*e*PKPbc	**PKPbc**	**03 16 23.1**	**+0.1**
PVCC	**Panska Ves**	**150.58**	**348**	*e*PKP	**PKPbc**	**03 16 24.5**	**+1.4**
PVCC				*ep*PKP	**PKPab**	**03 16 33.4**	**+3.6**
MORC	**Moravsky Berou**	**150.59**	**344**	*e*PKPbc	**PKPbc**	**03 16 24.2**	**+1.0**
MOX	**Moxa**	**150.96**	**352**	*e*PKPbc	**PKPbc**	**03 16 24.4**	**+0.4**
UBBA	**Unterbreizbach**	**150.98**	**354**	*e*PKPbc	**PKPbc**	**03 16 23.5**	**-0.4**
MLR	**Muntele Rosu**	**151.05**	**329**	*i* P	**PKPbc**	**03 16 25.3**	**+0.8**
PRU	**Pruhonice**	**151.10**	**347**	*i* PKP	**PKPbc**	**03 16 25.4**	**+1.1**
DRGR		**151.47**	**334**	*i* P	**PKPbc**	**03 16 26.4**	**+1.0**
VOIR		**151.51**	**330**	*i* P	**PKPbc**	**03 16 27.2**	**+1.6**
TREC	**Trest**	**151.55**	**346**	*i* PKP	**PKPbc**	**03 16 26.5**	**+1.1**
PSZ	**Piszkesteto**	**151.56**	**339**	*e*PKPbc	**PKPbc**	**03 16 25.9**	**+0.4**
PSZ				*e*PKPab	**PKPab**	**03 16 34.8**	**+0.7**
ROTZ	**Rotzenmuhle**	**151.73**	**350**	*e*PKPbc	**PKPbc**	**03 16 26.3**	**+0.5**
ARR	**Arges**	**151.75**	**330**	*i* P	**PKPbc**	**03 16 27.8**	**+1.7**
KHC	**Kasperske Hory**	**152.10**	**348**	*e*PKPbc	**PKPbc**	**03 16 27.2**	**+0.5**
KHC				*e*PKPab	**PKPab**	**03 16 36.9**	**+0.6**
KHC	**Kasperske Hory**	**152.10**	**348**	*i* PKP	**PKPbc**	**03 16 27.6**	**+0.9**
KHC				*ep*PKP	PKPab	03 16 45.9	+10
GEC2	**GERESS Array S**	**152.35**	**348**	*e*PKPbc	**PKPbc**	**03 16 27.7**	**+0.3**
GERES	**GERESS Array B**	**152.35**	**348**	PKPbc	**PKPbc**	**03 16 27.3**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=11,slow=0.7,SNR=9.8						
GERES	**GERESS Array B**	**152.35**	**348**	PKPbc	**PKPbc**	**03 16 27.3**	**-0.1**
WLF	**Walferdange**	**152.37**	**359**	*e*PKPbc	**PKPbc**	**03 16 28.3**	**+1.1**
WLF	**Walferdange**	**152.37**	**359**	*e*PKPdf	**PKPdf**	**03 16 19.1**	**-1.3**
WLF				*e*PKPbc	**PKPbc**	**03 16 25.9**	**-1.3**
BZS	**Buzias**	**152.87**	**334**	*i* P	**PKPbc**	**03 16 29.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**170.60**	**159**	PKP	**PKPdf**	**03 16 39.4**	**-0.9**
	comp=Z,0.8nm,1.0s,baz=168,slow=3.3,SNR=3.5						
TORD				PKPab	**PKPab**	**03 17 58.4**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=191,slow=3.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**170.60**	**159**	PKP	**PKPdf**	**03 16 39.4**	**-0.9**
TORD				PKPab	**PKPab**	**03 17 58.4**	**+0.9**

IDC 11 02:57:17.7±6.8,1°.92N×94°.55W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/20, mbtmp3.9/6, MS3.2/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=136.9km s-min=121.0km az=18.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**12.65**	**49**	LR	LR	03 04 00.9	
	comp=Z,127nm,18.9s,baz=83,slow=32						
CMIG	**Matias Romero**	**15.08**	**359**	LR	LR	03 05 12.3	
	comp=Z,84nm,20.8s,baz=343,slow=32						
TXAR	**Lajitas Array**	**28.61**	**343**	P	P	03 03 15.8	-0.2
	1.1nm,0.8s,baz=164,slow=11,SNR=14						
TKL	**Tuckaleechee C**	**35.03**	**15**	LR	LR	03 17 22.8	
	comp=Z,30nm,19.5s,baz=48,slow=34						
NVAR	**Mina Array Bea**	**42.35**	**332**	P	P	03 05 13.9	0.0
	0.8nm,0.7s,baz=156,slow=8.8,SNR=8.5						
PDAR	**Pinedale Array**	**42.83**	**344**	P	P	03 05 17.8	-0.1
	2.5nm,0.8s,baz=156,slow=8.2,SNR=16						
ULM	**Lac du Bonnet**	**48.17**	**359**	P	P	03 05 59.5	-0.2
	1.4nm,0.8s,baz=184,slow=9.1,SNR=5.0						
YKA	**Yellowknife Ar**	**62.27**	**350**	P	P	03 07 41.4	+0.2
	0.9nm,0.9s,baz=156,slow=6.7,SNR=9.2						
ILAR	**Eielson Array**	**73.03**	**339**	P	P	03 08 49.1	-0.2
	0.8nm,0.9s,baz=158,slow=4.5,SNR=6.7						

*DJA **11** 03:00:11.1±1.2,4°.N±12°.×12°.8E±°, h10km, M4.8/6, mB5.2/2, mb4.4/6, MLv5.0/3, Mw(mB)4.5/2*

*IDC **11** 03:00:23.6±0.7,3°.56N×126°.55E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/24, mbtmp4.0/11, MS3.5/2, Ms1 3.6/2, ms1mx2.8/35, Error ellipse: s-maj=43.3km s-min=13.8km az=71.0*

*ISCJB **11** 03:00:28.9±0.3,3°.57N±0°.04×126°.70E±0°.07, h53km, mb4.3/24, MS3.7/1, Error ellipse: s-maj=9.8km s-min=5.4km az=174.1*

*NEIC **11** 03:00:29.1±0.2,3°.51N×126°.52E, h35km, mb4.6/13, Error ellipse: s-maj=14.5km s-min=4.9km az=67.0*

*MAN **11** 03:01:28,7°.56N×124°.51E, h2km, mb3.9, ML2.7, MS2.4*

ISC 11 03:00:31.0±0.5,3°.53N±0°.06×126°.67E±0°.09, h53km, n63, σ1♯06/60, mb4.2/24, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.76**	**221**	P	**Pn**	**03 01 13.4**	**+0.6**
MNI				S	Sn	03 02 08.3	+23
TNTI	**Ternate**	**2.82**	**166**	P	**Pn**	**03 01 12.8**	**-0.9**
DAV	**Davao City (W)**	**3.68**	**343**	LR	LR	03 03 13.6	
	comp=Z,600nm,18.7s,baz=108,slow=47						
KMSI	**Cibinong**	**3.97**	**223**	P	**Pn**	**03 01 31.7**	**+2.3**
LBMI	**Labuha**	**4.22**	**169**	P	Pn	03 01 23.3	-10
CTBH	**Cotabato--PC H**	**4.39**	**327**	*i* P	**Pn**	**03 01 37.5**	**+2.4**
BUKP	**Musuan**	**4.61**	**340**	*e*P	Pn	03 01 41.8	+3.5
BUKP				*e*S	Sn	03 01 55.5	-35
PAGZ	**Pagadian**	**5.40**	**323**	*e*P	**Pn**	**03 01 48.1**	**-0.8**
PAGZ				*e*S	Sn	03 01 58.5	-51
LUWI	**Luwuk**	**5.98**	**221**	P	**Pn**	**03 01 59.4**	**+2.5**
	169nm,1.1s,2μm0.7nm						
KDI	**Kendari**	**8.46**	**209**	P	**Pn**	**03 02 29.5**	**-1.5**
	25nm,0.9s						
TTSI	**Tana Toraja**	**9.46**	**226**	P	Pn	03 02 47.8	+3.2
MTNI	**Mataram**	**15.98**	**221**	P	**Pn**	**03 04 10.5**	**-2.0**
	14nm,0.9s,939nm						
JAGI	**Jajag, Banyuwa**	**17.25**	**226**	P	**P**	**03 04 29.0**	**-0.3**
	16nm,1.1s						
PCJI	**Pacitan**	**19.34**	**233**	P	**P**	**03 04 51.9**	**-0.4**
	22nm,1.1s						
SSLB	**Suanglung**	**20.89**	**345**	*e*P	**P**	**03 05 08.9**	**0.0**
FITZ	**Fitzroy Crossi**	**21.51**	**183**	P	**P**	**03 05 14.5**	**-1.1**
	6.8nm,0.9s,baz=20,slow=12,SNR=8.4						
FITZ	**Fitzroy Crossi**	**21.51**	**183**	P	**P**	**03 05 14.5**	**-1.1**
WRAB	**Tennant Creek**	**24.50**	**162**	*e*P	**P**	**03 05 44.8**	**-0.8**
	22nm,0.8s						
WRA	**Warramunga Arr**	**24.51**	**162**	P	**P**	**03 05 44.9**	**-0.7**
	20nm,0.8s,baz=342,slow=10,SNR=54						
WRA	**Warramunga Arr**	**24.51**	**162**	P	**P**	**03 05 44.9**	**-0.7**
AS31	**Alice Springs**	**27.93**	**166**	*e*P	**P**	**03 06 15.9**	**-0.6**
ASAR	**Alice Springs**	**27.93**	**166**	P	**P**	**03 06 16.2**	**-0.2**
	1.3nm,0.6s,baz=348,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**03 09 32.2**	**+1.2**
	1.1nm,0.7s,baz=322,slow=2.0,SNR=6.4						
ASAR	**Alice Springs**	**27.93**	**166**	P	**P**	**03 06 16.2**	**-0.2**
ASAR				PcP	**PcP**	**03 09 32.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**30.92**	**301**	P	**P**	**03 06 42.0**	**-1.0**
	0.5nm,0.3s,baz=110,slow=7.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.92**	**301**	P	**P**	**03 06 42.0**	**-1.0**
KSAR	**Wonju Array Be**	**33.77**	**2**	P	**P**	**03 07 07.4**	**-0.4**
KSRS	**Korea Array**	**33.79**	**2**	P	**P**	**03 07 07.4**	**-0.5**
	1.4nm,0.5s,baz=180,slow=9.6,SNR=4.8						
FORT	**Forrest**	**34.14**	**178**	*e*P	**P**	**03 07 10.4**	**-0.6**
	15nm,0.8s						
BBOO	**Buckleboo**	**37.22**	**167**	*e*P	**P**	**03 07 37.7**	**+0.3**
EIDS	**Eidsvold**	**37.23**	**142**	*e*P	**P**	**03 07 37.6**	**0.0**
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**03 07 44.4**	**+0.7**
	7.6nm,0.7s,baz=336,slow=8.2,SNR=15						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**03 07 44.4**	**+0.7**
MDJ	**Mudanjiang**	**41.00**	**3**	*e*P	**P**	**03 08 08.7**	**-0.1**
	5.3nm,0.7s						
ARMA	**Armidale**	**41.33**	**146**	*e*P	**P**	**03 08 12.2**	**+0.3**
	19nm,1.0s						
DZM	**Mont Dzumac**	**46.47**	**125**	*e*P	**P**	**03 08 55.9**	**+2.7**
	14nm,1.1s						
SONM	**Songino Array**	**47.47**	**342**	P	**P**	**03 09 00.0**	**-0.7**
	0.4nm,0.7s,baz=157,slow=7.7,SNR=3.3						
SONM	**Songino Array**	**47.47**	**342**	P	**P**	**03 09 00.0**	**-0.7**
MK31	**Makanchi Array**	**57.69**	**325**	*e*P	**P**	**03 10 15.4**	**-0.7**
MKAR	**Makanchi Array**	**57.69**	**325**	P	**P**	**03 10 15.2**	**-1.0**
	0.7nm,0.5s,baz=122,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**57.69**	**325**	P	**P**	**03 10 15.2**	**-1.0**
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**03 10 31.2**	**-0.4**
	2.6nm,1.1s						
AAK	**Ala-Archa**	**60.47**	**318**	*e*P	**P**	**03 10 35.1**	**-0.6**
	5.3nm,0.6s						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**03 10 37.0**	**-0.1**
	0.5nm,0.3s,baz=27,slow=3.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**03 10 37.0**	**-0.1**
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**03 10 38.9**	**-0.1**
	1.6nm,0.8s						
KURK	**Kurchatov**	**61.88**	**328**	*e*P	**P**	**03 10 44.6**	**-0.3**
	3.8nm,0.8s						
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**03 10 54.4**	**-0.4**
	1.2nm,0.6s						
BRVK	**Borovoye**	**67.53**	**327**	*e*P	**P**	**03 11 21.6**	**0.0**
	4.8nm,1.0s						
ABKAR	**Akbulak array**	**72.27**	**321**	*e*P	**P**	**03 11 51.2**	**+0.4**
	1.1nm,0.8s						
AKTO	**Aktyubinsk**	**73.78**	**322**	P	**P**	**03 11 57.9**	**-1.9**
	1.4nm,0.8s,baz=117,slow=4.5,SNR=4.0						
AKTO	**Aktyubinsk**	**73.78**	**322**	P	**P**	**03 11 57.9**	**-1.9**
ILAR	**Eielson Array**	**85.31**	**25**	P	**P**	**03 13 01.9**	**-0.2**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=6.4						
ILAR	**Eielson Array**	**85.31**	**25**	P	**P**	**03 13 01.9**	**-0.2**
KMBO	**Kilima Mbogo**	**89.48**	**269**	*e*P	**P**	**03 13 23.9**	**+0.4**
	6.0nm,1.3s						
BUR08	**Bucovina Ar. S**	**95.12**	**318**	*e*P	**P**	**03 13 49.2**	**+0.5**
NOA	**NORSAR Array B**	**98.94**	**334**	LR	LR	04 04 03.1	
	comp=Z,23nm,16.3s,baz=200,slow=39						
TOA0	**Torodi Ar. Sit**	**122.92**	**288**	*e*PKPdf	**PKPdf**	**03 19 22.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKPdf**	**03 19 23.0**	**+0.6**
	0.7nm,0.9s,baz=83,slow=1.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKPdf**	**03 19 23.0**	**+0.6**
WVT	**Waverly**	**129.06**	**36**	*e*PKPdf	**PKPdf**	**03 19 32.2**	**-1.4**
TRQA	**Tornquist**	**144.73**	**168**	*e*PKPdf	**PKPdf**	**03 20 02.7**	**+0.2**
LCO	**Las Campanas**	**149.75**	**149**	*e*PKPbc	**PKPbc**	**03 20 17.4**	**+1.3**
LPAZ	**La Paz**	**160.70**	**132**	*e*PKPab	**PKPab**	**03 21 10.7**	**+1.8**

IDC 11 03:04:06.1±2.0,4°.38N×126°.71E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=108.6km s-min=25.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.36**	**183**	P	P	03 09 05.8	-0.1
	1.0nm,0.6s,baz=11,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**25.31**	**163**	P

GERES	**GERESS Array B**	**160.93**	**338**	PKPab	**PKPab**	**03 32 50.6**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=47,slow=9.8,SNR=3.7						
GERES	**GERESS Array B**	**160.93**	**338**	PKPab	**PKPab**	**03 32 50.6**	**-0.6**
TOA0	**Torodi Ar. Sit**	**161.68**	**175**	*e*PKPab	**PKPab**	**03 32 55.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**161.68**	**175**	PKPab	**PKPab**	**03 32 56.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=186,slow=2.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**161.68**	**175**	PKPab	**PKPab**	**03 32 56.2**	**+1.1**
TIP	**Timpagrande**	**166.52**	**308**	*e*PKPab	**PKPab**	**03 33 15.0**	**-1.1**

IDC 11 03:13:28.3±3.6, 2°00.0'S×136°74.6'E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.4/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/17, Error ellipse: s-maj=156.3km s-min=27.8km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.98**	**187**	P	P	03 17 41.6	+1.0
	0.1nm,0.3s,baz=5.0,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.71**	**187**	P	P	03 18 20.6	-0.6
	0.6nm,0.8s,baz=27,slow=10,SNR=6.8						
MJAR	**Matsushiro Arr**	**38.37**	**2**	LR	LR	03 33 44.4	
	comp=Z,90nm,18.3s,baz=195,slow=32						
ASAJ	**Asahikawa**	**46.21**	**6**	LR	LR	03 40 10.5	
	comp=Z,148nm,20.4s,baz=357,slow=35						
MKAR	**Makanchi Array**	**68.04**	**323**	P	P	03 24 29.7	-0.1
	0.2nm,0.6s,baz=112,slow=6.4,SNR=3.7						

*ISCJB **11** 03:22:46.5±0.5, 50°.14N±0°.03×18°.36E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.7km az=14.3*
*CSEM **11** 03:22:47.4±0.2, 50°.15N×18°.40E, h1km, ML2.9/7, Error ellipse: s-maj=5.5km s-min=3.1km az=4.0*
*WAR **11** 03:22:48.4, 50°.08N×18°.45E*
*VIE **11** 03:22:48.8±0.5, 49°.68N×18°.56E, h0km, mb2.1/3, ML2.5/4, Error ellipse: s-maj=3.1km s-min=2.2km az=79.0 28 km SE of Ostrava Suspected Mining induced.*
*IPEC **11** 03:22:48.2±0.2, 50°.08N×18°.46E, h0km±2km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*PRU **11** 03:22:49.3, 50°.14N×18°.34E, h0km*

ISC 11 03:22:48.0±0.8, 50°.11N±0°.03×18°.42E±0°.02, h0km, n35, σ0 93/62, 3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**262**	*e*Pg	**Pg**	**03 22 52.4**	**+1.6**
RAC				*e*Sg	**Sg**	**03 22 55.7**	**+3.1**
OKC	**Ostrava-Krasne**	**0.32**	**213**	*e*PG	**Pg**	**03 22 55.1**	**+1.0**
OKC				*e*SG	**Sb**	**03 23 01.2**	**-1.1**
	comp=Z,129nm,0.7s						
OKC	**Ostrava-Krasne**	**0.32**	**213**	*e*Pg	**Pg**	**03 22 54.7**	**+0.6**
	baz=39						
OKC				Sg	**Sb**	**03 23 01.2**	**-1.1**
	129nm,0.7s						
MORC	**Moravsky Berou**	**0.65**	**240**	*e*Pg	**Pg**	**03 23 01.0**	**+0.5**
	baz=62						
MORC				*e*Sg	**Sg**	**03 23 08.9**	**-0.1**
	39nm,0.3s,baz=62						
OJC	**Ojcow**	**0.90**	**82**	*e*Pg	**Pg**	**03 23 04.7**	**-0.4**
	baz=261						
OJC				*e*Sg	**Sg**	**03 23 17.1**	**+0.4**
OJC	**Ojcow**	**0.90**	**82**	*e*Pg	**Pg**	**03 23 04.9**	**-0.2**
OJC				*e*Sg	**Sg**	**03 23 17.1**	**+0.4**
LIKS	**Likavka**	**1.15**	**157**	*e*SN	**Sn**	**03 23 28.3**	**+0.6**
LIKS	**Likavka**	**1.15**	**157**	*e*Sn	**Sn**	**03 23 28.3**	**+0.6**
DPC	**Dobruska-Polom**	**1.37**	**281**	*e*PG	**Pn**	**03 23 14.4**	**0.0**
DPC				*e*SG	**Sb**	**03 23 32.7**	**+0.2**
	comp=Z,30nm,0.3s						
DPC	**Dobruska-Polom**	**1.37**	**281**	*e*Pg	**Pg**	**03 23 14.2**	**0.0**
	baz=100						
DPC				*e*Sg	**Sg**	**03 23 32.0**	**+0.1**
	baz=100						
NIE	**Niedzica**	**1.41**	**118**	*e*Pg	**Pn**	**03 23 14.8**	**-0.1**
NIE				*e*Sg	**Sb**	**03 23 33.9**	**+0.2**
NIE	**Niedzica**	**1.41**	**118**	*e*Pg	**Pn**	**03 23 14.8**	**-0.1**
NIE				*e*Sg	**Sb**	**03 23 33.9**	**+0.2**
VRAC	**Vranov**	**1.43**	**237**	*e*Pg	**Pn**	**03 23 14.7**	**-0.5**
	baz=57						
VRAC				*e*Sg	**Sg**	**03 23 33.2**	**-0.6**
	20nm,0.2s,baz=57						
KSP	**Ksiaz**	**1.54**	**299**	*e*Pn	**Pn**	**03 23 16.7**	**-0.1**
KSP				*e*Sn	**Sn**	**03 23 37.2**	**-0.4**
KSP	**Ksiaz**	**1.54**	**299**	*e*Pg	**Pn**	**03 23 16.4**	**-0.4**
KSP				*e*Sg	**Sn**	**03 23 37.2**	**-0.4**
KSP	**Ksiaz**	**1.54**	**299**	*e*Pn	**Pn**	**03 23 16.7**	**-0.1**
KSP				*e*Sn	**Sn**	**03 23 37.1**	**-0.4**
VYHS	**Vyhne**	**1.64**	**170**	*e*PN	**Pn**	**03 23 17.8**	**-0.2**
VYHS				*e*SN	**Sb**	**03 23 40.1**	**-0.1**
VYHS	**Vyhne**	**1.64**	**170**	*e*Pn	**Pn**	**03 23 17.8**	**-0.2**
VYHS				*e*Sn	**Sb**	**03 23 40.1**	**-0.1**
KRUC	**Moravsky**	**1.68**	**232**	*e*Pn	**Pn**	**03 23 18.8**	**+0.2**
	baz=52						
KRUC				*e*Sg	**Sn**	**03 23 40.8**	**-0.1**
	9.1nm,0.4s,baz=52						
SMOL	**Smolenice**	**1.72**	**202**	*e*PN	**Pn**	**03 23 19.0**	**-0.2**
SMOL				*e*SN	**Sn**	**03 23 41.7**	**-0.1**
SMOL	**Smolenice**	**1.72**	**202**	*e*Pn	**Pn**	**03 23 19.0**	**-0.2**
SMOL				*e*Sn	**Sn**	**03 23 41.7**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.32**	**120**	*e*PN	**Pb**	**03 23 31.1**	**+0.4**
CRVS				*e*SN	**Sg**	**03 24 02.4**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.32**	**120**	*e*Pn	**Pb**	**03 23 31.1**	**+0.4**
PRU	**Pruhonice**	**2.50**	**269**	*e*PG	**Pb**	**03 23 33.8**	**0.0**
PRU				*e*SG	**Sb**	**03 24 05.9**	**+0.8**
PRU	**Pruhonice**	**2.50**	**269**	Pg	**Pb**	**03 23 33.8**	**0.0**
PRU				Sg	**Sb**	**03 24 05.9**	**+0.8**
	23nm,0.5s						
CONA	**Conrad Observa**	**2.75**	**219**	⇓*i*Pn	**Pn**	**03 23 30.8**	**-2.6**
CONA	**Conrad Observa**	**2.75**	**219**	Pn	**Pn**	**03 23 30.8**	**-2.6**
KOLS	**Kolonicke sedl**	**2.77**	**114**	*e*PN	**Pg**	**03 23 41.2**	**+0.1**
KOLS				*e*SN	**Sb**	**03 24 13.3**	**+0.4**
KOLS	**Kolonicke sedl**	**2.77**	**114**	*e*Pg	**Pg**	**03 23 41.2**	**+0.1**
BRG	**Berggiesshubel**	**2.96**	**287**	SG	**Sg**	**03 24 21.9**	**-1.1**
	5.5nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PN	**Pn**	**03 23 40.0**	**-0.9**
KHC				*e*PG	**Pg**	**03 23 50.0**	**-1.1**
KHC				*e*SG	**Sg**	**03 24 33.5**	**-0.3**
	comp=Z,8.3nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**255**	Pn	**Pn**	**03 23 40.0**	**-0.9**
MOA	**Molln**	**3.55**	**232**	⇓*i*Pg	**Pb**	**03 23 53.4**	**+1.8**
MOA				⇓*i*Sg	**Sg**	**03 24 40.3**	**-1.6**
	6.2nm,0.6s						
MOA	**Molln**	**3.55**	**232**	Pg	**Pb**	**03 23 53.4**	**+1.8**
MOA				Sg	**Sg**	**03 24 40.3**	**-1.6**
	6.2nm,0.6s						
CLL	**Collm**	**3.65**	**291**	*e*Sg	**Sg**	**03 24 44.0**	**-1.1**

IDC 11 03:32:43.5±7.5, 2°29N×94°03W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.6/5, Error ellipse: s-maj=203.9km s-min=139.4km az=57.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.41**	**342**	P	P	03 38 40.1	+0.1
	0.6nm,0.8s,baz=164,slow=11,SNR=7.7						
NVAR	**Mina Array Bea**	**42.27**	**331**	P	P	03 40 38.7	-0.4
	0.7nm,0.8s,baz=159,slow=8.5,SNR=4.4						
PDAR	**Pinedale Array**	**42.62**	**343**	P	P	03 40 42.1	+0.2
	1.4nm,0.8s,baz=153,slow=8.0,SNR=9.4						
YKA	**Yellowknife Ar**	**62.00**	**349**	P	P	03 43 04.8	-0.4
	0.5nm,0.9s,baz=155,slow=6.9,SNR=4.8						
ILAR	**Eielson Array**	**72.87**	**339**	P	P	03 44 14.3	+0.2
	0.4nm,0.9s,baz=147,slow=5.3,SNR=4.6						

*ISCJB **11** 03:49:46.3±0.3, 38°.70S±0°.02×176°.64E±0°.03, h77km±2km, mb4.6/9, Error ellipse: s-maj=4.4km s-min=3.1km az=9.6*
*WEL **11** 03:49:47.5±0.1, 38°.63S×176°.62E, h70km±1km, ML5.0/20, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0*
WEL Felt from Waikato to Gisborne, maximum reported intensity MM 4.
*NEIC **11** 03:49:47.6, 38°.63S×176°.61E, h69km, mb4.5/5, ML4.7(WEL), After WEL.*
NEIC Felt in the central part of the North Island.
*IDC **11** 03:50:18.4±7.5, 38°.60S×175°.59E, h327km±63km, mb3.8/5, mb1 3.8/6, mb1mx3.5/17, mbtmp3.7/6, Error ellipse: s-maj=41.2km s-min=30.4km az=105.0*

ISC 11 03:49:47.1±0.6, 38°.68S±0°.03×176°.62E±0°.03, h71km±4km, n235, σ1 9 21/251, mb4.6/9, 1C-3D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.24**	**298**	⇓*P	**Pn**	**03 49 57.7**	**-0.4**
ALRZ	**Allen Road**	**0.24**	**298**	*P	**Pn**	**03 49 57.8**	**-0.4**
PRRZ	**Plateau Road**	**0.25**	**316**	⇓*P	**Pn**	**03 49 57.7**	**-0.5**
PRRZ	**Plateau Road**	**0.25**	**316**	*P	**Pn**	**03 49 57.7**	**-0.5**
PRRZ				*S	**Sn**	**03 50 05.2**	**-1.1**
RRRZ	**Republican Roa**	**0.35**	**347**	⇓*P	**Pn**	**03 49 58.3**	**-0.5**
RRRZ				*S	**Sn**	**03 50 06.1**	**-1.3**
RRRZ	**Republican Roa**	**0.35**	**347**	*P	**Pn**	**03 49 58.3**	**-0.5**
HRRZ	**Handcock Road**	**0.39**	**318**	*P	**Pn**	**03 49 58.7**	**-0.4**
HRRZ	**Handcock Road**	**0.39**	**318**	*P	**Pn**	**03 49 58.7**	**-0.4**
RAHZ	**Arahi**	**0.44**	**123**	PN	**Pn**	**03 50 00.0**	**+0.5**
RAHZ				SN	**Sn**	**03 50 09.7**	**+1.0**
RAHZ	**Arahi**	**0.44**	**123**	Pn	**Pn**	**03 50 00.0**	**+0.5**
NMHZ	**Naumai**	**0.45**	**161**	⇑PN	**Pn**	**03 50 00.6**	**+0.9**
NMHZ				SN	**Sn**	**03 50 10.9**	**+2.0**
NMHZ	**Naumai**	**0.45**	**161**	Pn	**Pn**	**03 50 00.6**	**+0.9**
TARZ	**Mount Tarawera**	**0.45**	**349**	*P	**Pn**	**03 49 59.4**	**-0.3**
TARZ				*S	**Sn**	**03 50 08.6**	**-0.4**
TARZ	**Mount Tarawera**	**0.45**	**349**	*P	**Pn**	**03 49 59.4**	**-0.3**
HATZ	**Hinemaiaia**	**0.46**	**242**	*P	**Pn**	**03 49 59.7**	**-0.1**
HATZ	**Hinemaiaia**	**0.46**	**242**	*P	**Pn**	**03 49 59.7**	**-0.1**
BKZ	**Black Stump Fm**	**0.50**	**191**	*P	**Pn**	**03 50 00.4**	**+0.2**
BKZ				*S	**Sn**	**03 50 09.9**	**+0.1**
BKZ	**Black Stump Fm**	**0.50**	**191**	*P	**Pn**	**03 49 59.7**	**-0.4**
WHTZ	**Whakaora**	**0.52**	**271**	*P	**Pn**	**03 50 00.6**	**+0.3**
WHTZ	**Whakaora**	**0.52**	**271**	*P	**Pn**	**03 50 00.6**	**+0.3**
MKRZ	**Makatiti**	**0.55**	**348**	*P	**Pn**	**03 50 00.7**	**+0.1**
MKRZ	**Makatiti**	**0.55**	**348**	*P	**Pn**	**03 50 00.7**	**+0.1**
URZ	**Urewera**	**0.57**	**43**	*P	**Pn**	**03 50 00.3**	**-0.5**
URZ	**Urewera**	**0.57**	**43**	*P	**Pn**	**03 49 59.8**	**-0.9**
URZ				*eP	**Pn**	03 50 00.0	-0.7
URZ				*eS	**Sn**	**03 50 09.6**	**-1.2**
EDRZ	**Edgecumbe**	**0.58**	**10**	*P	**Pn**	**03 50 00.4**	**-0.6**
EDRZ	**Edgecumbe**	**0.58**	**10**	*P	**Pn**	**03 50 00.3**	**-0.6**
OMRZ	**Omania**	**0.60**	**341**	*P	**Pn**	**03 50 00.7**	**-0.5**
OMRZ	**Omania**	**0.60**	**341**	*P	**Pn**	**03 50 00.7**	**-0.5**
UTU	**Utuhina**	**0.60**	**326**	*P	**Pn**	**03 50 01.1**	**0.0**
UTU				*S	**Sn**	**03 50 11.8**	**+0.4**
UTU	**Utuhina**	**0.60**	**326**	*P	**Pn**	**03 50 01.1**	**0.0**
RITZ	**Rihia Road**	**0.66**	**243**	*P	**Pn**	**03 50 02.4**	**+0.6**
RITZ	**Rihia Road**	**0.66**	**243**	*P	**Pn**	**03 50 02.4**	**+0.6**
RATZ	**Rangitukua**	**0.69**	**254**	*P	**Pn**	**03 50 02.3**	**+0.2**
RATZ	**Rangitukua**	**0.69**	**254**	*P	**Pn**	**03 50 01.9**	**-0.1**
WATZ	**Wairara**	**0.69**	**267**	*P	**Pn**	**03 50 02.2**	**+0.1**
WATZ	**Wairara**	**0.69**	**267**	*P	**Pn**	**03 50 02.2**	**+0.1**
MARZ	**Manawahe**	**0.69**	**4**	*P	**Pn**	**03 50 01.5**	**-0.6**
MARZ	**Manawahe**	**0.69**	**4**	*P	**Pn**	**03 50 01.5**	**-0.6**
KARZ	**Kaharoa**	**0.72**	**336**	*P	**Pn**	**03 50 02.0**	**-0.4**
KARZ	**Kaharoa**	**0.72**	**336**	*P	**Pn**	**03 50 02.0**	**-0.4**
MCHZ	**McNeill Hill**	**0.77**	**175**	PN	**Pn**	**03 50 04.8**	**+1.8**
MCHZ	**McNeill Hill**	**0.77**	**175**	Pn	**Pn**	**03 50 04.8**	**+1.8**
KATZ	**Kakaramea**	**0.78**	**247**	*P	**Pn**	**03 50 03.5**	**+0.3**
KATZ	**Kakaramea**	**0.78**	**247**	*P	**Pn**	**03 50 03.4**	**+0.3**
MWZ	**Matawai**	**0.79**	**65**	*P	**Pn**	**03 50 03.3**	**0.0**
MWZ				*S	**Sn**	**03 50 15.9**	**+0.7**
MWZ	**Matawai**	**0.79**	**65**	*P	**Pn**	**03 50 03.0**	**-0.3**
OPRZ	**Ohinepanea**	**0.83**	**357**	*P	**Pn**	**03 50 02.9**	**-0.7**
OPRZ				*S	**Sn**	**03 50 15.3**	**-0.6**
OPRZ	**Ohinepanea**	**0.83**	**357**	*P	**Pn**	**03 50 02.9**	**-0.7**
KRVZ	**Karewarewa**	**0.87**	**241**	*P	**Pn**	**03 50 04.8**	**+0.6**
KRVZ	**Karewarewa**	**0.87**	**241**	*P	**Pn**	**03 50 04.8**	**+0.6**
OTVZ	**Oturere**	**0.89**	**236**	*P	**Pn**	**03 50 05.1**	**+0.6**
OTVZ	**Oturere**	**0.89**	**236**	*P	**Pn**	**03 50 05.1**	**+0.6**
KNZ	**Kokohu**	**0.89**	**113**	PN	**Pn**	**03 50 04.8**	**+0.4**
KNZ	**Kokohu**	**0.89**	**113**	Pn	**Pn**	**03 50 04.8**	**+0.4**
WTVZ	**West Tongariro**	**0.91**	**241**	*P	**Pn**	**03 50 05.3**	**+0.5**
WTVZ	**West Tongariro**	**0.91**	**241**	*P	**Pn**	**03 50 05.3**	**+0.5**
NGZ	**Ngauruhoe**	**0.94**	**238**	*P	**Pn**	**03 50 05.7**	**+0.6**
TUVZ	**Tukino**	**0.95**	**232**	*P	**Pn**	**03 50 05.9**	**+0.6**
TUVZ	**Tukino**	**0.95**	**232**	*P	**Pn**	**03 50 05.9**	**+0.6**
WPVZ	**Whakapapa**	**0.99**	**237**	*P	**Pn**	**03 50 06.4**	**+0.7**
WPVZ	**Whakapapa**	**0.99**	**237**	*P	**Pn**	**03 50 06.3**	**+0.7**
TGRZ	**Tauranga**	**0.99**	**343**	*P	**Pn**	**03 50 05.2**	**-0.3**
TGRZ	**Tauranga**	**0.99**	**343**	*P	**Pn**	**03 50 05.3**	**-0.3**
MOVZ	**Moawhango**	**0.99**	**222**	*P	**Pn**	**03 50 06.1**	**+0.4**
MOVZ	**Moawhango**	**0.99**	**222**	*P	**Pn**	**03 50 06.1**	**+0.4**
TWVZ	**Taurewa**	**1.00**	**246**	*P	**Pn**	**03 50 06.1**	**+0.3**
TWVZ	**Taurewa**	**1.00**	**246**	*P	**Pn**	**03 50 06.1**	**+0.3**
FWVZ	**Far West T-bar**	**1.01**	**235**	*P	**Pn**	**03 50 06.6**	**+0.5**
FWVZ	**Far West T-bar**	**1.01**	**235**	*P	**Pn**	**03 50 06.0**	**-0.1**
DRZ	**Dome Shelter**	**1.01**	**234**	*P	**Pn**	**03 50 06.7**	**+0.6**
DRZ	**Dome Shelter**	**1.01**	**234**	*P	**Pn**	**03 50 06.8**	**+0.6**
PRGZ	**Paritu Road**	**1.02**	**104**	PN	**Pn**	**03 50 08.4**	**+0.3**
PRGZ	**Paritu Road**	**1.02**	**104**	Pn	**Pn**	**03 50 06.2**	**+0.3**
WNVZ	**Wahianoa**	**1.02**	**230**	*P	**Pn**	**03 50 06.8**	**+0.6**
WNVZ	**Wahianoa**	**1.02**	**230**	*P	**Pn**	**03 50 06.8**	**+0.6**
TRVZ	**Turoa**	**1.04**	**233**	*P	**Pn**	**03 50 06.9**	**+0.5**
TRVZ	**Turoa**	**1.04**	**233**	*P	**Pn**	**03 50 06.9**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.04**	**160**	PN	**Pn**	**03 50 07.2**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.04**	**160**	Pn	**Pn**	**03 50 07.2**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.11**	**116**	PN	**Pn**	**03 50 07.6**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.11**	**116**	Pn	**Pn**	**03 50 07.6**	**+0.5**
KAHZ	**Kahuranaki**	**1.13**	**170**	PN	**Pn**	**03 50 08.4**	**+0.9**
KAHZ	**Kahuranaki**	**1.13**	**170**	Pn	**Pn**	**03 50 08.4**	**+0.9**
MTVZ	**Mangateitei**	**1.14**	**231**	*P	**Pn**	**03 50 08.2**	**+0.7**
MTVZ	**Mangateitei**	**1.14**	**231**	*P	**Pn**	**03 50 08.2**	**+0.7**
PKVZ	**Pokaka**	**1.16**	**238**	*P	**Pn**	**03 50 08.4**	**+0.6**
PKVZ	**Pokaka**	**1.16**	**238**	*P	**Pn**	**03 50 08.4**	**+0.6**
WIZ	**White Island**	**1.23**	**22**	*P	**Pn**	**03 50 08.0**	**-0.6**
WIZ	**White Island**	**1.23**	**22**	*P	**Pn**	**03 50 08.0**	**-0.6**
PNRZ	**Pukenui**	**1.28**	**195**	PN	**Pn**	**03 50 09.8**	**+0.5**
PNRZ	**Pukenui**	**1.28**	**195**	Pn	**Pn**	**03 50 09.8**	**+0.5**
TOZ	**Tahuroa Road**	**1.29**	**317**	*P	**Pn**	**03 50 09.7**	**+0.2**
TOZ				*S	**Sn**	**03 50 26.0**	**-0.1**
TOZ	**Tahuroa Road**	**1.29**	**317**	*P	**Pn**	**03 50 09.6**	**+0.2**
PXZ	**Pawanui**	**1.37**	**172**	PN	**Pn**	**03 50 10.6**	**+0.2**
PXZ	**Pawanui**	**1.37**	**172**	Pn	**Pn**	**03 50 10.3**	**0.0**
HIZ	**Hauiti**	**1.39**	**276**	PN	**Pn**	**03 50 11.5**	**+0.9**
HIZ	**Hauiti**	**1.39**	**276**	Pn	**Pn**	**03 50 11.1**	**+0.5**
WPHZ	**Waipukurau**	**1.39**	**186**	PN	**Pn**	**03 50 11.0**	**+0.2**
WPHZ	**Waipukurau**	**1.39**	**186**	Pn	**Pn**	**03 50 11.0**	**+0.2**
MYRZ	**Mayor Island**	**1.43**	**348**	*P	**Pn**	**03 50 11.2**	**0.0**
PUZ	**Puketiti**	**1.43**	**65**	PN	**Pn**	**03 50 11.3**	**+0.1**
PUZ	**Puketiti**	**1.43**	**65**	Pn	**Pn**	**03 50 11.2**	**0.0**
TSZ	**Takapari Road**	**1.47**	**200**	PN	**Pn**	**03 50 12.1**	**+0.3**
TSZ	**Takapari Road**	**1.47**	**200**	Pn	**Pn**	**03 50 11.8**	**0.0**
VRZ	**Vera Road**	**1.52**	**252**	*P	**Pn**	**03 50 13.3**	**+1.0**
VRZ	**Vera Road**	**1.52**	**252**	*P	**Pn**	**03 50 13.0**	**+0.7**
PRHZ	**Porangahau**	**1.59**	**179**	PN	**Pn**	**03 50 13.2**	**-0.1**
PRHZ	**Porangahau**	**1.59**	**179**	Pn	**Pn**	**03 50 13.2**	**-0.1**
DVHZ	**Dannevirke**	**1.66**	**192**	PN	**Pn**	**03 50 13.8**	**-0.5**
DVHZ	**Dannevirke**	**1.66**	**192**	Pn	**Pn**	**03 50 13.8**	**-0.5**
WAZ	**Wanganui**	**1.66**	**229**	PN	**Pn**	**03 50 15.9**	**+1.6**
WAZ	**Wanganui**	**1.66**	**229**	Pn	**Pn**	**03 50 15.9**	**+1.6**
MXZ	**Matakaoa Point**	**1.74**	**51**	*P	**Pn**	**03 50 16.2**	**+1.0**
MXZ	**Matakaoa Point**	**1.74**	**51**	*P	**Pn**	**03 50 16.3**	**+1.0**
MHEZ	**Mangahewa**	**1.83**	**257**	PN	**Pn**	**03 50 18.7**	**+2.2**
MHEZ	**Mangahewa**	**1.83**	**257**	Pn	**Pn**	**03 50 18.8**	**+2.2**
POWZ	**Post Office Ro**	**1.83**	**201**	PN	**Pn**	**03 50 16.5**	**0.0**
POWZ	**Post Office Ro**	**1.83**	**201**	Pn	**Pn**	**03 50 16.6**	**0.0**
RAEZ	**Rainy Point**	**1.84**	**250**	PN	**Pn**	**03 50 18.5**	**+1.9**
RAEZ	**Rainy Point**	**1.84**	**250**	Pn	**Pn**	**03 50 18.5**	**+1.9**
MKAZ	**Moumakai**	**1.94**	**323**	PN	**Pn**	**03 50 18.4**	**+0.4**
MKAZ	**Moumakai**	**1.94**	**323**	Pn	**Pn**	**03 50 18.3**	**+0.3**
DREZ	**Durham Road**	**1.95**	**254**	PN	**Pn**	**03 50 20.1**	**+1.9**
DREZ	**Durham Road**	**1.95**	**254**	Pn	**Pn**	**03 50 20.1**	**+1.9**
BFZ	**Birch Farm**	**2.02**	**188**	PN	**Pn**	**03 50 18.2**	**-0.9**
BFZ	**Birch Farm**	**2.02**	**188**	Pn	**Pn**	**03 50 18.2**	**-0.9**
NEZ	**North Egmont**	**2.05**	**252**	PN	**Pn**	**03 50 21.8**	**+2.2**
NEZ	**North Egmont**	**2.05**	**252**	Pn	**Pn**	**03 50 21.8**	**+2.2**
KUZ	**Kuaotunu**	**2.06**	**340**	PN	**Pn**	**03 50 19.5**	**0.0**
KUZ	**Kuaotunu**	**2.06**	**340**	Pn	**Pn**	**03 50 19.1**	**-0.4**
DFE	**Dawson Falls**	**2.06**	**251**	PN	**Pn**	**03 50 21.9**	**+2.2**
DFE	**Dawson Falls**	**2.06**	**251**	Pn	**Pn**	**03 50 21.9**	**+2.2**
PKE	**Pukeiti**	**2.11**	**255**	PN	**Pn**	**03 50 22.0**	**+1.6**
PKE	**Pukeiti**	**2.11**	**255**	Pn	**Pn**	**03 50 22.0**	**+1.6**
MRZ	**Mangatainoka R**	**2.14**	**202**	PN	**Pn**	**03 50 19.9**	**-0.8**
MRZ	**Mangatainoka R**	**2.14**	**202**	Pn	**Pn**	**03 50 19.9**	**-0.8**
TIWZ	**Tintock**	**2.17**	**195**	PN	**Pn**	**03 50 20.4**	**-0.7**
TIWZ	**Tintock**	**2.17**	**195**	Pn	**Pn**	**03 50 20.4**	**-0.7**
OTAZ	**Otara**	**2.18**	**322**	PN	**Pn**	**03 50 22.4**	**+1.1**
OTAZ	**Otara**	**2.18**	**322**	Pn	**Pn**	**03 50 22.4**	**+1.1**
NRZ	**Ngariki Road**	**2.19**	**252**	PN	**Pn**	**03 50 22.9**	**+1.5**
NRZ	**Ngariki Road**	**2.19**	**252**	Pn	**Pn**	**03 50 22.9**	**+1.5**
HOWZ	**Holdsworth Sta**	**2.37**	**201**	PN	**Pn**	**03 50 22.5**	**-1.3**
HOWZ	**Holdsworth Sta**	**2.37**	**201**	Pn	**Pn**	**03 50 22.6**	**-1.3**
WTAZ	**Waiatarua**	**2.38**	**316**	PN	**Pn**	**03 50 24.9**	**+1.0**
WTAZ	**Waiatarua**	**2.38**	**316**	Pn	**Pn**	**03 50 24.9**	**+1.0**
OGWZ	**Otaki Gorge**	**2.41**	**207**	PN	**Pn**	**03 50 23.6**	**-0.7**
OGWZ	**Otaki Gorge**	**2.41**	**207**	Pn	**Pn**	**03 50 23.6**	**-0.7**
TMWZ	**Te Maipa**	**2.49**	**193**	PN	**Pn**	**03 50 24.0**	**-1.4**
TMWZ	**Te Maipa**	**2.49**	**193**	Pn	**Pn**	**03 50 24.0**	**-1.4**
KIW	**Kapiti Island**	**2.55**	**211**	PN	**Pn**	**03 50 25.4**	**-0.8**
KIW	**Kapiti Island**	**2.55**	**211**	Pn	**Pn**	**03 50 25.4**	**-0.8**
CAW	**Cannon Point**	**2.70**	**206**	PN	**Pn**	**03 50 26.9**	**-1.4**
CAW	**Cannon Point**	**2.70**	**206**	Pn	**Pn**	**03 50 26.9**	**-1.4**
TRWZ	**Traveller**	**2.81**	**194**	PN	**Pn**	**03 50 28.0**	**-1.7**
TRWZ	**Traveller**	**2.81**	**194**	Pn	**Pn**	**03 50 28.0**	**-1.7**
PAWZ	**Paruwai Farm**	**2.85**	**198**	PN	**Pn**	**03 50 28.3**	**-2.0**
PAWZ	**Paruwai Farm**	**2.85**	**198**	Pn	**Pn**	**03 50 28.3**	**-2.0**
MSWZ	**Moikau Station**	**2.93**	**201**	PN	**Pn**	**03 50 29.7**	**-1.7**
MSWZ	**Moikau Station**	**2.93**	**201**	Pn	**Pn**	**03 50 29.7**	**-1.7**
WEL	**Wellington**	**2.97**	**208**	PN	**Pn**	**03 50 30.4**	**-1.5**
WEL	**Wellington**	**2.97**	**208**	Pn	**Pn**	**03 50 30.4**	**-1.5**
DUWZ	**D'Urville Isla**	**2.97**	**224**	PN	**Pn**	**03 50 31.4**	**-0.6**
DUWZ	**D'Urville Isla**	**2.97**	**224**	Pn	**Pn**	**03 50 31.4**	**-0.6**
SNZO	**South Karori**	**3.01**	**209**	PN	**Pn**	**03 50 30.6**	**-1.9**
SNZO	**South Karori**	**3.01**	**209**	*e*Pn	**Pn**	**03 50 30.6**	**-1.9**
SNZO				*e*Sn	**Sn**	**03 51 10.6**	**+3.2**
PLWZ	**Palliser**	**3.07**	**199**	PN	**Pn**	**03 50 31.0**	**-2.3**
PLWZ	**Palliser**	**3.07**	**199**	Pn	**Pn**	**03 50 31.0**	**-2.3**
TCW	**Tory Channel**	**3.10**	**215**	PN	**Pn**	**03 50 32.2**	**-1.6**
TCW	**Tory Chann

mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=98.8km s-min=27.0km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**196**	P	P	04 05 54.6	-0.3
	0.5nm,0.3s,baz=19,slow=12,SNR=29						
FITZ	**Fitzroy Crossi**	**21.43**	**220**	P	P	04 06 22.3	-0.5
	1.5nm,0.9s,baz=46,slow=14,SNR=3.4						
ASAR	**Alice Springs**	**22.54**	**194**	P	P	04 06 34.9	+0.2
	1.9nm,0.8s,baz=26,slow=9.9,SNR=22						
MKAR	**Makanchi Array**	**69.76**	**322**	P	P	04 12 45.2	+0.2
	0.3nm,0.5s,baz=118,slow=6.9,SNR=6.6						

BJI ***11*** *05:04:15.2,2.˚10N×95.˚97E,h33km,mB5.0/23,mb4.8/39, Ms4.6/23,Ms7 4.3/24*

IDC ***11*** *05:04:16.3±0.6,2.˚68N×95.˚98E,h0km,mb4.4/25, mb1 4.5/26,mb1mx4.4/34,mbtmp4.4/26,ML4.8/1,MS3.6/7, Ms1 3.6/7,ms1mx3.3/43,Error ellipse: s-maj=22.4km s-min=11.3km az=50.0*

DJA ***11*** *05:04:18.5±2.7,3˚N±6˚×9˚6E±˚,h25km±29km,M4.8/10, mb5.1/4,mB5.1/4,MLv4.7/10,Mw(mB)4.4/4*

MOS ***11*** *05:04:19.4±1.0,2.˚72N×96.˚01E,h33km,mb4.9/23,Error ellipse: s-maj=13.9km s-min=6.1km az=105.1*

ISCJB ***11*** *05:04:20.2±0.7,2.˚61N±0.˚04×95.˚91E±0.˚05,h42km±6km, mb4.7/67,MS3.9/14,Error ellipse: s-maj=9.0km s-min=5.4km az=138.2*

NEIC ***11*** *05:04:21.5±0.3,2.˚67N×95.˚94E,h35km,mb4.7/12,Error ellipse: s-maj=8.0km s-min=5.8km az=220.0*

AUST ***11*** *05:04:24.1±1.5,2.˚63N×96.˚05E,h58km,Error ellipse: s-maj=2.3km s-min=1.1km az=247.0*

ISC 11 05:04:21.3±0.5,2.˚64N±0.˚04×95.˚98E±0.˚05, h35km±1km, n193,σ1°36/219, mb4.7/67, MS3.9/14, 5C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.35**	**63**	P	**Pn**	**05 04 44.4**	**+0.7**
GSI	**Gunungsitoli**	**2.08**	**130**	P	**Pn**	**05 04 53.5**	**-0.2**
	baz=2.0,SNR=24						
GSI				S	**Sn**	**05 05 19.5**	**+1.0**
	baz=2.0,SNR=6.1						
GSI	**Gunungsitoli**	**2.08**	**130**	P	**Pn**	**05 04 53.0**	**-0.8**
GSI				S	**Sn**	**05 05 19.2**	**+0.7**
TSI	**Tuntungan**	**2.72**	**72**	P	**Pb**	**05 05 06.4**	**-3.0**
LHMI	**Lhok Sumawe**	**2.75**	**21**	P	**Pn**	**05 05 04.7**	**+1.7**
BSI	**Banda Aceh**	**2.92**	**347**	P	**Pn**	**05 05 03.1**	**-2.2**
PSI	**Prapat**	**2.95**	**87**	Pn	**Pn**	**05 05 07.7**	**+1.9**
	6.0nm,0.3s,baz=285,slow=6.8,SNR=42						
PSI				LR	LR	05 06 11.1	
	comp=Z,319nm,21.2s,baz=266,slow=39						
PSI	**Prapat**	**2.95**	**87**	Pn	**Pn**	**05 05 07.7**	**+1.9**
PSI	**Prapat**	**2.95**	**87**	P	**Pn**	**05 05 07.7**	**+1.9**
	baz=2.9,SNR=41						
PSI	**Prapat**	**2.95**	**87**	P	**Pn**	**05 05 07.4**	**+1.6**
MNSI	**Mandailing Nat**	**4.04**	**117**	P	**Pn**	**05 05 21.8**	**+1.0**
KULM	**Kulim**	**5.36**	**60**	*e*Pn	**Pn**	**05 05 40.5**	**+1.6**
KULM	**Kulim**	**5.36**	**60**	P	**Pn**	**05 05 41.1**	**+2.2**
KULM	**Kulim**	**5.36**	**60**	P	**Pn**	**05 05 40.1**	**+1.3**
	291nm,0.9s,2µm0.8nm						
IPM	**Ipoh**	**5.36**	**70**	*e*Pn	**Pn**	**05 05 40.8**	**+1.9**
IPM	**Ipoh**	**5.36**	**70**	P	**Pn**	**05 05 40.9**	**+1.9**
IPM	**Ipoh**	**5.36**	**70**	P	**Pn**	**05 05 40.4**	**+1.5**
	114nm,0.9s,1µm0.4nm						
PPI	**Padang Panjang**	**5.39**	**125**	P	**Pn**	**05 05 41.1**	**+1.9**
	baz=5.3,SNR=4.3						
PPI	**Padang Panjang**	**5.39**	**125**	P	**Pn**	**05 05 40.5**	**+1.2**
	92nm,0.8s,914nm0.3nm						
BKNI	**Bangkinang**	**5.56**	**114**	P	**Pn**	**05 05 42.5**	**+0.8**
FRIM	**Kepong**	**5.67**	**84**	P	**Pn**	**05 05 45.0**	**+1.8**
KGM	**Kluang**	**7.36**	**95**	P	**Pn**	**05 06 08.3**	**+1.9**
MYKOM	**Kota Tinggi**	**7.92**	**96**	P	Pn	05 06 10.6	-3.4
MYKOM	**Kota Tinggi**	**7.92**	**96**	P	Pn	05 06 09.8	-4.2
KSM	**Kuching**	**14.37**	**94**	*e*Sn	Sn	05 10 14.5	-6.2
KSM	**Kuching**	**14.37**	**94**	S	**Sn**	**05 10 16.0**	**-4.7**
	baz=14,SNR=4.1						
KSM	**Kuching**	**14.37**	**94**	P	**Pn**	**05 07 44.7**	**+2.3**
CM31	**Chiang Mai Arr**	**15.99**	**10**	*e*Pn	**Pn**	**05 08 03.7**	**0.0**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.99**	**10**	Pn	**Pn**	**05 08 03.4**	**-0.3**
	1.2nm,0.3s,baz=199,slow=12,SNR=44						
CMAR				LR	LR	05 14 05.2	
	comp=Z,165nm,20.6s,baz=195,slow=37						
CMAR	**Chiang Mai Arr**	**15.99**	**10**	Pn	**Pn**	**05 08 03.4**	**-0.3**
SBUM	**Sibu**	**16.23**	**90**	P	**P**	**05 08 09.6**	**0.0**
CHTO	**Chiang Mai**	**16.34**	**10**	*e*P	**Pn**	**05 08 07.3**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**16.34**	**10**	*e*Pn	**Pn**	**05 08 07.3**	**-0.9**
	comp=Z,13nm,0.8s						
BTM	**Bintulu**	**17.09**	**88**	P	**Pn**	**05 08 14.2**	**-3.6**
KKM	**Kota Kinabalu**	**20.46**	**80**	*e*P	**P**	**05 08 56.5**	**+0.3**
	comp=Z,30nm,0.8s						
KKM	**Kota Kinabalu**	**20.46**	**80**	P	**P**	**05 08 57.4**	**+1.1**
	baz=20,SNR=5.7						
KKM	**Kota Kinabalu**	**20.46**	**80**	P	**P**	**05 08 52.3**	**-4.0**
QIZ	**Qiongzhong**	**21.20**	**39**	P	**P**	**05 09 06.3**	**+2.2**
QIZ				pP	**pP**	**05 09 14.3**	**+1.0**
QIZ				sP	**sP**	**05 09 18.2**	**+0.5**
QIZ				S	Sn	05 13 03.0	-3.0
QIZ				pmax	pmax		
	comp=Z,120nm,11.4s						
QIZ				LR	LR		
	comp=Z,410nm,12.9s						
KDM	**Kudat**	**21.21**	**78**	P	**P**	**05 09 07.2**	**+2.9**
SDKM	**Sandakan**	**21.37**	**81**	P	**P**	**05 09 07.8**	**+1.7**
HYB	**Hyderabad**	**22.54**	**312**	*i* P	**P**	**05 09 20.0**	**+1.4**
HYB				*e*S	**S**	**05 13 30.0**	**+6.2**
MYLDM	**Lahad Datu**	**22.61**	**83**	P	**P**	**05 09 20.2**	**+0.9**
SHL	**Shillong**	**23.13**	**351**	*e*P	**P**	**05 09 22.0**	**-2.8**
SHL				*e*S	**S**	**05 13 31.0**	**-3.0**
KMI	**Kunming**	**23.28**	**16**	P	**P**	**05 09 27.3**	**+1.0**
KMI				pP	**pP**	**05 09 38.1**	**+2.3**
KMI				sP	**sP**	**05 09 41.7**	**+1.5**
KMI				PP	PnPn	05 10 01.9	+8.9
KMI				S	**S**	**05 13 36.8**	**+0.1**
KMI				pmax	pmax		
	comp=Z,20nm,0.8s						
KMI				pmax	pmax		
	comp=Z,75nm,5.7s						
KMI				LR	LR		
	comp=N,160nm,23.1s						
KMI				LR	LR		
	comp=E,280nm,26.4s						
KMI				LR	LR		
	comp=Z,290nm,15.4s						
KAPI	**Kappang**	**24.94**	**108**	P	**P**	**05 09 41.2**	**-0.5**
	comp=Z,33nm,0.9s,baz=300,slow=13,SNR=13						
KAPI	**Kappang**	**24.94**	**108**	*e*P	**P**	**05 09 41.4**	**-0.3**
ODAN	**Odare**	**25.45**	**342**	*e*P	**P**	**05 09 46.9**	**+0.5**
	comp=Z,85nm,0.8s						
RAMN	**Ramite**	**25.79**	**340**	*e*P	**P**	**05 09 50.5**	**+1.0**
	comp=Z,101nm,0.6s						
GYA	**Guiyang**	**25.81**	**22**	*e*P	**P**	**05 09 52.0**	**+2.5**
GYA				pP	**pP**	**05 10 01.2**	**+1.7**
GYA				PP	PnPn	05 10 34.8	+7.4
GYA				S	**S**	**05 14 18.4**	**+1.5**
GYA				sS	**sS**	**05 14 36.0**	**+2.6**
GYA				ScP	**ScP**	**05 16 55.4**	**-0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,480nm,17.0s						
GYA				LR	LR		
	comp=E,320nm,17.2s						
GYA				LR	LR		
	comp=Z,420nm,17.4s						
TAPN	**Taplejung**	**25.81**	**343**	*e*P	**P**	**05 09 50.5**	**+0.7**
	comp=Z,95nm,0.9s						
JIRN	**Jiri**	**26.58**	**340**	*e*P	**P**	**05 09 57.5**	**+0.7**
	comp=Z,35nm,0.7s						
PKI	**Pulchoki**	**26.77**	**339**	*e*P	**P**	**05 09 58.7**	**+0.2**
	comp=Z,50nm,0.9s						
DMN	**Daman**	**26.92**	**338**	*e*P	**P**	**05 10 00.5**	**+0.8**
	comp=Z,42nm,0.9s						
GUN	**Gumba**	**26.92**	**340**	*e*P	**P**	**05 10 00.2**	**+0.4**
	comp=Z,92nm,0.8s						
KKN	**Kakani**	**27.02**	**339**	*e*P	**P**	**05 10 00.7**	**+0.2**
	comp=Z,76nm,1.0s						
LSA	**Lhasa**	**27.30**	**351**	P	**P**	**05 10 04.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,30nm,1.0s						
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**05 10 03.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**05 10 03.8**	**+0.5**
	comp=Z,30nm,0.8s						
GKN	**Gorkha**	**27.45**	**338**	*e*P	**P**	**05 10 04.5**	**+0.2**
	comp=Z,84nm,0.9s						
KOLN	**Koldanda**	**27.65**	**336**	*e*P	**P**	**05 10 06.5**	**+0.3**
	comp=Z,57nm,0.7s						
DANN	**Dangsing**	**28.10**	**337**	*e*P	**P**	**05 10 10.4**	**+0.1**
	comp=Z,45nm,0.7s						
PYUN	**Piuthan**	**28.19**	**335**	*e*P	**P**	**05 10 11.2**	**+0.2**
	comp=Z,46nm,0.9s						
CD2	**Chengdu**	**29.07**	**14**	P	**P**	**05 10 18.2**	**-0.4**
CD2				pP	**pP**	**05 10 28.1**	**-0.5**
CD2				sP	**sP**	**05 10 32.3**	**-0.5**
CD2				PP	**PnPn**	**05 11 13.8**	**+2.1**
CD2				S	**S**	**05 15 08.0**	**0.0**
CD2				sS	**sS**	**05 15 24.5**	**0.0**
CD2				SS	**SnSn**	**05 16 40.5**	**+6.8**
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CD2				pmax	pmax		
	comp=Z,100nm,4.0s						
CD2				LR	LR		
	comp=N,410nm,12.5s						
CD2				LR	LR		
	comp=Z,360nm,13.1s						
ENH	**Enshi**	**30.32**	**24**	*e*P	**P**	**05 10 29.1**	**-0.6**
	comp=Z,28nm,1.0s						
WHN	**Wuhan**	**32.75**	**30**	P	**P**	**05 10 51.8**	**+0.8**
XAN	**Xi'an**	**33.49**	**20**	P	**P**	**05 10 56.7**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,12nm,3.9s						
LZH	**Lanzhou**	**34.07**	**11**	*e*P	**P**	**05 11 01.5**	**-1.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
FITZ	**Fitzroy Crossi**	**35.76**	**126**	P	**P**	**05 11 16.6**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=270,slow=5.0,SNR=9.8						
FITZ	**Fitzroy Crossi**	**35.76**	**126**	*e*P	**P**	**05 11 16.6**	**-0.7**
	comp=Z,5.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**35.76**	**126**	P	**P**	**05 11 16.5**	**-0.7**
	baz=36,SNR=5.6						
NJ2	**Nanjing**	**36.32**	**34**	*e*P	**P**	**05 11 23.3**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=Z,420nm,21.4s						
GTA	**Gaotai**	**36.77**	**5**	*e*P	**P**	**05 11 25.4**	**-0.4**
GTA				pP	**pP**	**05 11 35.2**	**-0.7**
GTA				sP	**sP**	**05 11 39.1**	**-1.0**
GTA				S	**S**	**05 17 07.0**	**-0.5**
GTA				pmax	pmax		
	comp=Z,27nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,5.9s						
GTA				LR	LR		
	comp=N,400nm,20.7s						
GTA				LR	LR		
	comp=E,530nm,19.5s						
GTA				LR	LR		
	comp=Z,99nm,21.9s						
KSH	**Kashi**	**40.97**	**336**	*e*P	**P**	**05 12 02.3**	**+1.3**
KSH				*e*pP	**pP**	**05 12 11.4**	**+0.2**
KSH				*e*sP	**sP**	**05 12 15.0**	**-0.3**
KSH				PP	**PnPn**	**05 13 39.6**	**-0.7**
KSH				*e*PcP	**PcP**	**05 14 01.7**	**+0.8**
KSH				*e*ScP	**ScP**	**05 17 48.8**	**+0.7**
KSH				PcS	**PcS**	**05 17 51.6**	**-0.3**
KSH				S	**S**	**05 18 12.2**	**+1.4**
KSH				sS	**sS**	**05 18 28.5**	**+0.9**
KSH				SS	**SS**	**05 21 10.4**	**-3.2**
KSH				ScS	**ScS**	**05 22 01.3**	**-2.1**
KSH				pmax	pmax		
	comp=Z,12nm,1.4s						
KSH				LR	LR		
	comp=N,130nm,6.0s						
KSH				LR	LR		
	comp=E,140nm,6.7s						
KSH				LR	LR		
	comp=Z,190nm,6.8s						
BJT	**Baijiatuau**	**41.47**	**24**	*e*P	**P**	**05 12 04.7**	**-0.2**
	comp=Z,66nm,0.7s						
BJI	**Beijing**	**41.49**	**24**	P	**P**	**05 12 06.5**	**+1.4**
BJI				pP	**pP**	**05 12 12.5**	**-2.8**
BJI				pmax	pmax		
	comp=Z,84nm,0.7s						
WMQ	**Urumqi**	**41.66**	**351**	P	**P**	**05 12 07.5**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,7.0s						
WMQ				LR	LR		
	comp=N,74nm,23.0s						
WMQ				LR	LR		
	comp=E,70nm,24.0s						
WMQ				LR	LR		
	comp=Z,65nm,22.0s						
KZA	**Kyzart**	**43.44**	**337**	P	**P**	**05 12 22.1**	**+0.7**
	SNR=6.3						
WRA	**Warramunga Arr**	**43.83**	**123**	P	**P**	**05 12 24.1**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=300,slow=9.3,SNR=32						
WRA	**Warramunga Arr**	**43.83**	**123**	P	**P**	**05 12 24.1**	**-0.4**
TKM2	**Tokmak 2**	**44.03**	**338**	*e*P	**P**	**05 12 26.5**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,26nm,1.8s						
TKM2	**Tokmak 2**	**44.03**	**338**	*e*P	**P**	**05 12 26.5**	**+0.5**
	comp=Z,26nm,1.8s						
TKM2	**Tokmak 2**	**44.03**	**338**	P	**P**	**05 12 26.5**	**+0.5**
	SNR=6.6						
KBK	**Karagaybulak**	**44.05**	**338**	P	**P**	**05 12 27.6**	**+1.6**
	SNR=6.8						
AML	**Almayashu**	**44.10**	**336**	P	**P**	**05 12 27.5**	**+0.8**
	SNR=11						
AAK	**Ala-Archa**	**44.20**	**337**	P	**P**	**05 12 28.9**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=144,slow=6.5,SNR=9.9						
AAK	**Ala-Archa**	**44.20**	**337**	*e*P	**P**	**05 12 27.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AAK	**Ala-Archa**	**44.20**	**337**	P	**P**	**05 12 28.9**	**+1.6**
FRU	**Bishkek**	**44.33**	**337**	*e*P	**P**	**05 12 29.0**	**+0.9**
EKS2	**Erkin-Say**	**44.51**	**337**	*e*P	**P**	**05 12 30.2**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	**Erkin-Say**	**44.51**	**337**	*e*P	**P**	**05 12 30.2**	**+0.5**
	comp=Z,5.1nm,0.8s						
USP	**Ospenovka**	**44.74**	**338**	P	**P**	**05 12 32.1**	**+0.6**
	SNR=5.5						
ASAR	**Alice Springs**	**45.24**	**127**	P	**P**	**05 12 35.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=301,slow=7.9,SNR=16						
ASAR	**Alice Springs**	**45.24**	**127**	P	**P**	**05 12 35.6**	**-0.1**
KSAR	**Wonju Array Be**	**45.36**	**36**	P	**P**	**05 12 36.5**	**+0.2**
KSRS	**Korea Array**	**45.39**	**36**	P	**P**	**05 12 36.5**	**0.0**
	comp=Z,4.9nm,0.8s,baz=227,slow=9.3,SNR=17						
KSRS				LR	LR	05 34 16.9	
	comp=Z,136nm,19.1s,baz=346,slow=40						
MK31	**Makanchi Array**	**45.56**	**347**	*i* P	**P**	**05 12 37.4**	**-0.5**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MK31	**Makanchi Array**	**45.56**	**347**	*e*P	**P**	**05 12 37.5**	**-0.4**
MKAR	**Makanchi Array**	**45.56**	**347**	P	**P**	**05 12 37.9**	**0.0**
	comp=Z,14nm,0.7s,baz=162,slow=7.9,SNR=134						
MKAR				LR	LR	05 34 19.1	
	comp=Z,45nm,20.1s,baz=165,slow=40						
MKAR	**Makanchi Array**	**45.56**	**347**	*e*P	**P**	**05 12 37.9**	**0.0**
MKAR	**Makanchi Array**	**45.56**	**347**	*e*P	**P**	**05 12 37.9**	**0.0**
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**05 12 41.0**	**+0.3**
	comp=Z,10nm,0.6s,baz=189,slow=9.1,SNR=40						
SONM				PcP	**PcP**	**05 14 18.1**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=169,slow=1.5,SNR=3.6						
SONM				LR	LR	05 33 27.6	
	comp=Z,128nm,21.6s,baz=143,slow=38						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**05 12 41.0**	**+0.3**
SONM				PcP	**PcP**	**05 14 18.1**	**+0.7**
ULN	**Ulaanbaatar**	**46.06**	**10**	*e*P	**P**	**05 12 41.4**	**-0.5**
	comp=Z,6.1nm,0.7s						
SNY	**Shenyang**	**46.21**	**29**	⇑P	**P**	**05 12 42.9**	**-0.1**
SNY				S	**S**	**05 19 26.9**	**-0.2**
SNY				pmax	pmax		
	comp=Z,16nm,0.5s						
SNY				pmax	pmax		
	comp=Z,93nm,3.0s						
SNY				LR	LR		
	comp=N,210nm,4.4s						
SNY				LR	LR		
	comp=E,290nm,5.6s						
SNY				LR	LR		
	comp=Z,250nm,5.4s						
KK31	**Karatay Array**	**46.23**	**334**	*i* P	**P**	**05 12 43.1**	**-0.1**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**46.23**	**334**	*e*P	**P**	**05 12 43.1**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KKAR	**Karatay Array**	**46.23**	**334**	*e*P	**P**	**05 12 43.1**	**-0.1**
	comp=Z,9.5nm,0.8s						
ZAK	**Zakamensk**	**47.97**	**6**	*e*P	P	05 12 52.0	-4.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CN2	**Changchun**	**48.60**	**28**	*e*P	**P**	**05 13 02.0**	**+0.4**
CN2				*e*sP	**sP**	**05 13 16.8**	**+0.7**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
TLY	**Talaya**	**49.29**	**6**	*e*P	**P**	**05 13 07.0**	**+0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,65nm,18.0s						
IRK	**Irkutsk**	**49.92**	**7**	*e*P	**P**	**05 13 12.2**	**+0.7**
IRK				*e*		05 20 25.0	
IRK				pmax	pmax		
	comp=Z,18nm,0.7s						
KURBB	**Kurchatov Arra**	**50.03**	**346**	P	**P**	**05 13 12.7**	**+0.3**
	comp=Z,6.2nm,0.6s,baz=169,slow=6.9,SNR=50						
KURK	**Kurchatov**	**50.10**	**346**	*c* *i*P	**P**	**05 13 13.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**50.10**	**346**	*e*P	**P**	**05 13 12.9**	**+0.1**
ZAA0	**Zalesovo Array**	**51.96**	**352**	*e*P	**P**	**05 13 26.6**	**-0.2**
ZALV	**Zalesovo Beam**	**51.96**	**352**	P	**P**	**05 13 26.7**	**-0.1**
	comp=Z,9.8nm,0.5s,baz=180,slow=6.4,SNR=54						
ZALV	**Zalesovo Beam**	**51.96**	**352**	P	**P**	**05 13 26.7**	**-0.1**
ZALV	**Zalesovo Beam**	**51.96**	**352**	P	**P**	**05 13 26.7**	**-0.1**
USRK	**Ussuriysk Arra**	**52.20**	**32**	P	**P**	**05 13 28.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=139,slow=24,SNR=5.0						
NVS	**Novosibirsk**	**53.06**	**351**	*e*P	**P**	**05 13 33.2**	**-1.7**
NVS				*e*S	**S**	**05 21 02.9**	**+0.4**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
NVS				smax	smax		
	comp=E,16nm,2.0s						
CTA	**Charters Tower**	**54.24**	**117**	P	**P**	**05 13 44.0**	**-0.2**
	comp=E,6.7nm,0.8s,baz=300,slow=9.3,SNR=5.2						
CTA	**Charters Tower**	**54.24**	**117**	P	**P**	**05 13 44.0**	**-0.2**
BVA0	**Borovoye Array**	**54.50**	**341**	*i* P	**P**	**05 13 44.8**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**54.50**	**341**	P	**P**	**05 13 45.2**	**-0.3**
	comp=Z,10nm,0.8s,baz=145,slow=8.3,SNR=50						
BVAR	**Borovoye Array**	**54.50**	**341**	P	**P**	**05 13 45.2**	**-0.3**
BVAR	**Borovoye Array**	**54.50**	**341**	P	**P**	**05 13 45.2**	**-0.3**
BRVK	**Borovoye**	**54.56**	**341**	*c* *i*P	**P**	**05 13 45.3**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**55.22**	**132**	P	**P**	**05 13 52.7**	**+1.5**
	comp=Z,3.3nm,1.0s,baz=314,slow=11,SNR=9.0						
STKA				LR	LR	05 37 56.1	
	comp=Z,77nm,18.9s,baz=24,slow=37						
STKA	**Stephens Creek**	**55.22**	**132**	P	**P**	**05 13 52.7**	**+1.5**
STKA	**Stephens Creek**	**55.22**	**132**	P	**P**	**05 13 51.6**	**+0.5**
	baz=55,SNR=5.7						
KLR	**Kul'dur**	**55.54**	**28**	*e*P	P	05 13 49.8	-3.3
AB31	**Akbulak array**	**55.68**	**332**	*i* P	**P**	**05 13 53.5**	**-0.6**
AB31				pmax	pmax		
	comp=Z,11nm,0.9s						
HABR	**Khabarovsk**	**56.62**	**30**	*e*P	P	05 13 56.9	-3.9
HABR				*SP	sP	05 14 11.9	-3.5
HABR				*e*		05 14 53.1	
HABR						05 16 04.0	
HABR				*e*PPP	PPP	05 17 19.5	
HABR				*e*S	**S**	**05 21 47.8**	**-2.7**
HABR				*e**SS	sS	05 22 06.1	-1.7
HABR				*e*		05 23 44.3	
HABR				*e*SS	**SS**	**05 25 38.8**	**+0.3**
HABR				pmax	pmax		
	comp=Z,65nm,2.0s						
HABR				pmax	pmax		
	comp=N,48nm,2.0s						
HABR				pmax	pmax		
	comp=E,83nm,2.0s						
HABR				MLR	MLR		
	comp=Z,85nm,17.0s						
BOD	**Bodaibo**	**56.84**	**11**	*e*P	**P**	**05 14 02.2**	**0.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKTO	**Aktyubinsk**	**57.39**	**332**	P	**P**	**05 14 05.5**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=129,slow=5.1,SNR=13						
AKTO	**Aktyubinsk**	**57.39**	**332**	P	**P**	**05 14 05.5**	**-0.8**
AKTO	**Aktyubinsk**	**57.39**	**332**	P	**P**	**05 14 05.5**	**-0.8**
CMSA	**Cobar Meteorol**	**58.15**	**130**	P	**P**	**05 14 12.9**	**+1.0**
	baz=58,SNR=8.5						
SVE	**Sverdlovsk**	**60.91**	**339**	⇑*i*P	**P**	**05 14 30.5**	**0.0**
SVE				pmax	pmax		
	comp=Z,21nm,0.9s						
ARU	**Arti**	**61.39**	**337**	*e*P	**P**	**05 14 32.9**	**-0.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**61.39**	**337**	*e*P	**P**	**05 14 32.9**	**-0.9**
	comp=Z,7.0nm,0.8s						
SOKR	**Solikamsk**	**64.31**	**339**	*d* *i*P	**P**	**05 14 53.1**	**0.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**64.40**	**17**	*c* *i*P	**P**	**05 14 53.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,35nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK	**Yakutsk**	**64.40**	**17**	*e*P	**P**	**05 14 53.5**	**-0.2**
ANN	**Anapa**	**66.22**	**318**	*e*P	P	05 15 20.2	+14
ANN				*e*S	S	05 24 24.1	+32
ANN				pmax	pmax		
	comp

VYHS	Vyhne	79.51	319	*e*P	pP	05	16	35.3 -0.2
VYHS	Vyhne	79.51	319	*e*pP	pP	05	16	35.3 -0.2
ARCES	**ARCESS Array B**	80.78	340	P	**P**	**05**	**16**	**31.1 +0.1**
	comp=Z,4.6nm,0.8s,baz=100,slow=6.7,SNR=20							
ARCES				LR	LR	05	58	34.0
	comp=Z,46nm,19.2s,baz=326,slow=40							
ARCES	**ARCESS Array B**	80.78	340	P	**P**	**05**	**16**	**31.1 +0.1**
GERES	**GERESS Array B**	82.93	319	P	**P**	**05**	**16**	**42.8 0.0**
	comp=Z,1.9nm,0.9s,baz=93,slow=4.5,SNR=12							
GERES	**GERESS Array B**	82.93	319	P	**P**	**05**	**16**	**42.8 0.0**
HFS	**Hagfors**	83.87	330	P	**P**	**05**	**16**	**46.7 -0.6**
	comp=Z,1.2nm,0.6s,baz=73,slow=7.0,SNR=5.4							
HFS	**Hagfors**	83.87	330	P	**P**	**05**	**16**	**46.7 -0.6**
NB2	**NORSAR Subarra**	85.16	331	P	P	05	16	47.3 -6.6
	comp=Z,10nm,1.7s,baz=93,slow=5.3							
DAVOX	**Davos/Dischmat**	85.41	317	P	**P**	**05**	**16**	**56.0 +0.3**
	comp=Z,1.6nm,0.4s,baz=3.2,slow=11,SNR=2.1							
DAVOX	**Davos/Dischmat**	85.41	317	P	**P**	**05**	**16**	**56.0 +0.3**
TORD	**Torodi Ar. Bea**	93.57	283	P	**P**	**05**	**17**	**34.9 +0.2**
	comp=Z,0.3nm,0.8s,baz=106,slow=5.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	93.57	283	P	**P**	**05**	**17**	**34.9 +0.2**
ILAR	**Eielson Array**	98.86	23	P	**P**	**05**	**17**	**56.2 -1.3**
	comp=Z,0.3nm,0.8s,baz=296,slow=3.9,SNR=4.8							
ILAR	**Eielson Array**	98.86	23	P	**P**	**05**	**17**	**56.2 -1.3**
ULM	**Lac du Bonnet**	126.34	9	PKP	**PKPdf**	**05**	**23**	**20.4 -0.2**
	comp=Z,1.3nm,0.6s,baz=298,slow=2.9,SNR=3.9							
ULM	**Lac du Bonnet**	126.34	9	PKP	**PKPdf**	**05**	**23**	**20.4 -0.2**
NVAR	**Mina Array Bea**	128.31	34	PKP	**PKPdf**	**05**	**23**	**26.7 +1.7**
	comp=Z,0.8nm,0.8s,baz=286,slow=3.1,SNR=6.1							
NVAR	**Mina Array Bea**	128.31	34	PKP	**PKPdf**	**05**	**23**	**26.7 +1.7**
PDAR	**Pinedale Array**	129.26	24	PKP	**PKPdf**	**05**	**23**	**26.8 +0.1**
	comp=Z,0.4nm,0.6s,baz=112,slow=3.1,SNR=3.9							
PDAR	**Pinedale Array**	129.26	24	PKP	**PKPdf**	**05**	**23**	**26.8 +0.1**
TXAR	**Lajitas Array**	143.05	29	PKhKP	PKPpre	05	23	49.2
	comp=Z,0.5nm,0.6s,baz=206,slow=1.7,SNR=9.2							
TXAR	**Lajitas Array**	143.05	29	PKPpre	PKPpre	05	23	49.2
JCT	**Junction City**	143.78	23	*e*PKIKP	PKPbc	05	23	51.6 +0.4
JCT	**Junction City**	143.78	23	*e*PKPdf	PKPbc	05	23	51.6 +0.4
CPUP	**Villa Florida**	145.20	225	PKPbc	**PKPdf**	**05**	**23**	**57.0 +0.9**
	comp=Z,1.2nm,0.6s,baz=55,slow=5.1,SNR=4.4							
CPUP	**Villa Florida**	145.20	225	PKPbc	**PKPdf**	**05**	**23**	**57.0 +0.9**

IDC 11 05:15:01.1±3.9, 29°.95S×138°.82E, h0km, mb1 2.9/3, mb1mx2.9/15, mbtmp2.7/3, ML2.7/3, Error ellipse: s-maj=164.3km s-min=17.0km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.06**	**130**	Pn	Pn	05 15 50.5	-0.2
	0.4nm,0.3s,baz=298,slow=12,SNR=5.6						
STKA				Pg	Pb	05 15 56.3	-0.1
	1.6nm,0.3s,baz=296,slow=14,SNR=16						
STKA				Sn	Sn	05 16 28.4	+0.3
	1.6nm,0.3s,baz=336,slow=12,SNR=5.7						
STKA				Lg	Lg	05 16 39.3	
	1.9nm,0.3s,baz=193,slow=19,SNR=5.9						
ASAR	**Alice Springs**	**7.65**	**324**	Pn	Pn	05 16 53.9	+0.1
	0.1nm,0.3s,baz=150,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**10.76**	**337**	Pn	Pn	05 17 36.7	+0.2
	0.1nm,0.3s,baz=155,slow=14,SNR=6.2						

IDC 11 06:28:06.7±1.2, 11°.97S×166°.19E, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.2/22, mbtmp4.4/11, ML4.5/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/37, Error ellipse: s-maj=25.2km s-min=21.5km az=116.0

ISCJB 11 06:28:09.2±0.6, 12°.10S±0°.07×166°.18E±0°.09, h30km, mb4.4/11, MS3.9/7, Error ellipse: s-maj=13.0km s-min=10.2km az=174.1

NEIC 11 06:28:12.1±1.3, 12°.01S×166°.20E, h38km±12km, mb4.7/3, Error ellipse: s-maj=11.5km s-min=10.1km az=184.0

ISC 11 06:28:11.3±0.7, 12°.03S±0°.08×166°.11E±0°.09, h30km, n38, σ1§03/37, mb4.5/11, MS3.8/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.58**	**293**	Pn	**Pn**	**06 29 47.1**	**+0.9**
	29nm,0.3s,baz=245,slow=2.6,SNR=4.2						
HNR				Sn	**Sn**	**06 30 58.0**	**-2.2**
	26nm,0.3s,baz=200,slow=24,SNR=7.7						
HNR	**Honiara**	**6.58**	**293**	Pn	**Pn**	**06 29 47.1**	**+0.9**
HNR				Sn	**Sn**	**06 30 58.0**	**-2.2**
DZM	**Mont Dzumac**	**9.99**	**178**	*e*Pn	**Pn**	**06 30 34.0**	**+1.1**
	9.2nm,0.3s						
DZM				*e*Sn	**Sn**	**06 32 21.8**	**-2.3**
	3.9nm,0.3s						
DZM				*e*LR	LR	06 33 01.2	
	265nm,23.6s						
DZM	**Mont Dzumac**	**9.99**	**178**	Pn	**Pn**	**06 30 33.7**	**+0.8**
	1.6nm,0.3s,baz=6.3,slow=15,SNR=10						
DZM	**Mont Dzumac**	**9.99**	**178**	Pn	**Pn**	**06 30 33.7**	**+0.8**
CTA	**Charters Tower**	**20.68**	**245**	P	Pn	06 32 51.0	-0.5
	4.5nm,0.6s,baz=70,slow=12,SNR=5.1						
CTA				LR	LR	06 39 15.1	
	comp=Z,216nm,21.3s,baz=50,slow=32						
CTA	**Charters Tower**	**20.68**	**245**	P	Pn	06 32 51.0	-0.5
CTAO	**Charters Tower**	**20.68**	**245**	*e*P	**P**	**06 32 49.6**	**+0.6**
AFI	**Afiamalu**	**21.63**	**97**	LR	LR	06 40 04.0	
	comp=Z,256nm,19.5s,baz=97,slow=33						
AFI	**Afiamalu**	**21.63**	**97**	*e*P	**P**	**06 32 58.0**	**-1.4**
	44nm,1.2s						
STKA	**Stephens Creek**	**29.98**	**225**	P	**P**	**06 34 18.2**	**+0.9**
	2.8nm,0.7s,baz=348,slow=16,SNR=3.1						
STKA				LR	LR	06 45 56.5	
	comp=Z,218nm,18.1s,baz=290,slow=36						
STKA	**Stephens Creek**	**29.98**	**225**	P	**P**	**06 34 18.2**	**+0.9**
WRAB	**Tennant Creek**	**31.48**	**251**	*e*P	**P**	**06 34 32.5**	**+1.8**
	9.0nm,1.1s						
WRA	**Warramunga Arr**	**31.49**	**251**	P	**P**	**06 34 31.4**	**+0.6**
	1.5nm,0.7s,baz=83,slow=9.0,SNR=13						
WRA				PcP	**PcP**	**06 37 23.4**	**-0.1**
	1.9nm,0.9s,baz=78,slow=3.2,SNR=10						
WRA	**Warramunga Arr**	**31.49**	**251**	P	**P**	**06 34 31.4**	**+0.6**
WRA				PcP	**PcP**	**06 37 23.4**	**-0.1**
AS31	**Alice Springs**	**32.68**	**245**	*e*P	**P**	**06 34 41.1**	**-0.1**
ASAR	**Alice Springs**	**32.68**	**245**	P	**P**	**06 34 40.8**	**-0.4**
	5.2nm,0.7s,baz=72,slow=9.2,SNR=12						
ASAR				PcP	**PcP**	**06 37 26.8**	**0.0**
	1.8nm,0.9s,baz=79,slow=2.7,SNR=12						
ASAR				LR	LR	06 47 41.9	
	comp=Z,120nm,20.7s,baz=354,slow=36						
ASAR	**Alice Springs**	**32.68**	**245**	P	**P**	**06 34 40.8**	**-0.4**
ASAR				PcP	**PcP**	**06 37 26.8**	**0.0**
PPT	**Papeete**	**43.12**	**103**	LR	LR	06 49 42.6	
	comp=Z,222nm,21.6s,baz=279,slow=30						
PPT2	**Papeete2**	**43.12**	**103**	*e*LR	LR	06 48 29.3	
	109nm,21.8s						
TBI	**Tubuai**	**43.64**	**111**	*e*LR	LR	06 48 38.9	
	94nm,25.2s						
ASAJ	**Asahikawa**	**59.84**	**341**	LR	LR	07 03 06.8	
	comp=Z,209nm,19.5s,baz=259,slow=35						
KSRS	**Korea Array**	**60.89**	**326**	P	**P**	**06 38 21.5**	**+0.2**
	0.9nm,0.3s,baz=139,slow=6.6,SNR=5.0						
KSAR	**Wonju Array Be**	**60.90**	**326**	P	**P**	**06 38 21.5**	**+0.1**
USRK	**Ussuriysk Arra**	**63.98**	**333**	LR	LR	07 03 57.7	
	comp=Z,154nm,19.8s,baz=265,slow=34						
ULN	**Ulaanbaatar**	**79.30**	**324**	*e*P	**P**	**06 40 14.6**	**+0.3**
	14nm,1.1s						
SONM	**Songino Array**	**79.67**	**324**	P	**P**	**06 40 16.5**	**+0.4**
	2.6nm,0.7s,baz=133,slow=5.8,SNR=8.5						
SONM	**Songino Array**	**79.67**	**324**	P	**P**	**06 40 16.5**	**+0.4**
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**06 40 40.9**	**+0.8**
	0.4nm,0.6s,baz=257,slow=4.5,SNR=6.8						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**06 40 40.9**	**+0.8**
MK31	**Makanchi Array**	**94.48**	**317**	*e*P	**P**	**06 41 28.6**	**-0.1**
MKAR	**Makanchi Array**	**94.48**	**317**	P	**P**	**06 41 28.9**	**+0.1**
	6.7nm,0.7s,baz=94,slow=6.5,SNR=87						
MKAR	**Makanchi Array**	**94.48**	**317**	P	**P**	**06 41 28.9**	**+0.1**
ZAA0	**Zalesovo Array**	**94.56**	**324**	*e*P	**P**	**06 41 27.7**	**-1.2**
ZALV	**Zalesovo Beam**	**94.56**	**324**	P	**P**	**06 41 27.7**	**-1.2**
	1.5nm,0.8s,baz=104,slow=4.7,SNR=11						
ZALV	**Zalesovo Beam**	**94.56**	**324**	P	**P**	**06 41 27.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**164.74**	**276**	PKP	**PKPdf**	**06 48 12.3**	**-1.1**
	0.5nm,0.9s,baz=195,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**164.74**	**276**	PKP	**PKPdf**	**06 48 12.3**	**-1.1**

IDC 11 06:37:43.2±0.4, 3°.50N×126°.40E, h0km, mb4.6/26, mb1 4.7/26, mb1mx4.7/29, mbtmp4.6/26, MS3.9/13, Ms1 4.0/13, ms1mx3.6/42, Error ellipse: s-maj=19.8km s-min=9.2km az=72.0

BJI 11 06:37:46.6, 3°.63N×126°.56E, h37km, mB5.1/27, mb4.8/37, Ms4.6/23, MS7 4.3/26

MOS 11 06:37:46.2±1.4, 3°.52N×126°.36E, h33km, mb5.0/29, Error ellipse: s-maj=14.1km s-min=6.1km az=116.8

NEIC 11 06:37:48.2±0.2, 3°.58N×126°.49E, h35km, mb4.7/26, Error ellipse: s-maj=9.1km s-min=5.3km az=69.0

ISCJB 11 06:37:49.6±0.6, 3°.62N±0°.03×126°.58E±0°.04, h64km±5km, mb4.7/79, Error ellipse: s-maj=6.9km s-min=4.4km az=170.4

DJA 11 06:37:54.5±0.7, 3°.N±5°×12°.7E±°, h76km±6km, M4.8/26, mB5.4/8, mb4.7/26, MLv4.9/6, Mw(mB)4.8/8

ISC 11 06:37:49.3±0.4, 3°.62N±0°.04×126°.58E±0°.05, h41km±2km, h41km:pP-P, n215, σ1§53/253, mb4.7/77, MS4.0/23, 4C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.05**	**274**	P	**Sn**	**06 38 24.5**	**+3.4**
MNI	**Manado**	**2.77**	**219**	P	**Pn**	**06 38 32.0**	**+0.7**
MNI				S	**Sn**	**06 39 06.9**	**+3.3**
TNTI	**Ternate**	**2.93**	**164**	P	**Pn**	**06 38 33.7**	**+0.2**
TNTI				S	**Sn**	**06 39 11.1**	**+3.6**
GSPH	**General Santos**	**2.94**	**327**	*e*P	**Pn**	**06 38 33.1**	**-0.6**
DAV	**Davao City (W)**	**3.57**	**344**	Pn	**Pn**	**06 38 45.3**	**+3.0**
	55nm,0.3s,baz=198,slow=6.4,SNR=2.7						
DAV				Sn	Sn	06 39 36.4	+13
	58nm,0.3s,baz=93,slow=20,SNR=4.5						
DAV				LR	LR	06 40 33.0	
	comp=Z,2μm,18.8s,baz=334,slow=47						
DAV	**Davao City (W)**	**3.57**	**344**	Pn	**Pn**	**06 38 45.3**	**+3.0**
DAV				Sn	Sn	06 39 36.4	+13
DMPH	**Davao City--Mi**	**3.61**	**343**	*e*P	**Pn**	**06 38 44.5**	**+1.7**
KMSI	**Cibinong**	**3.99**	**221**	P	**Pn**	**06 38 50.6**	**+2.6**
CTBH	**Cotabato--PC H**	**4.27**	**327**	*e*P	**Pn**	**06 38 53.7**	**+1.8**
LBMI	**Labuha**	**4.33**	**168**	P	**Pn**	**06 38 53.5**	**+0.9**
MRSI	**Marisa**	**5.59**	**236**	P	**Pn**	**06 39 11.7**	**+1.7**
LUWI	**Luwuk**	**5.99**	**220**	P	**Pn**	**06 39 18.7**	**+3.1**
	608nm,1.1s,5μm2.3nm						
NLAI	**Namlea**	**6.83**	**176**	P	**Pn**	**06 39 28.6**	**+1.6**
	69nm,0.6s,3μm0.4nm						
MSAI	**Masohi**	**7.30**	**161**	P	**Pn**	**06 39 35.5**	**+1.9**
	16nm,0.8s,1μm0.1nm						
MYLDM	**Lahad Datu**	**8.21**	**281**	P	Pn	06 39 52.4	+6.5
	110nm,1.4s,2μm						
KDI	**Kendari**	**8.50**	**208**	P	**Pn**	**06 39 49.0**	**-1.0**
FAKI	**Fak Fak**	**8.62**	**139**	P	**Pn**	**06 39 50.5**	**-1.1**
	66nm,0.8s						
TTSI	**Tana Toraja**	**9.46**	**226**	P	**Pn**	**06 40 06.1**	**+3.0**
	95nm,1.1s,1μm						
SPSI	**Sidrap Palu**	**10.15**	**222**	P	**Pn**	**06 40 15.3**	**+2.7**
	46nm,0.9s						
KKM	**Kota Kinabalu**	**10.61**	**284**	*e*Pn	**Pn**	**06 40 19.1**	**+0.1**
KKM	**Kota Kinabalu**	**10.61**	**284**	P	Pn	06 40 25.7	+6.7
	28nm,1.2s,562nm						
KAPI	**Kappang**	**10.96**	**219**	Pn	Pn	06 40 28.4	+4.7
	2.5nm,0.3s,baz=150,slow=17,SNR=4.3						
KAPI				LR	LR	06 45 27.2	
	comp=Z,849nm,18.3s,baz=238,slow=43						
KAPI	**Kappang**	**10.96**	**219**	Pn	Pn	06 40 28.4	+4.7
KAPI	**Kappang**	**10.96**	**219**	P	**Pn**	**06 40 26.5**	**+2.8**
	32nm,1.1s						
BKSI	**Bulukumba**	**10.98**	**216**	P	Pn	06 40 28.5	+4.6
	24nm,1.1s						
MMRI	**Maumere**	**12.92**	**200**	P	**Pn**	**06 40 51.0**	**+0.5**
	78nm,1.1s						
BBKI	**Banjar Baru**	**13.68**	**239**	P	**P**	**06 41 06.8**	**-2.0**
SBUM	**Sibu**	**14.39**	**266**	P	**P**	**06 41 19.6**	**+2.9**
JAY	**Jayapura**	**15.37**	**113**	P	**P**	**06 41 27.5**	**-0.2**
STKI	**Sintang**	**15.50**	**257**	P	**P**	**06 41 31.6**	**+2.5**
	48nm,0.9s,17μm						
KHKI	**Kahang-Kahang**	**16.17**	**223**	P	**P**	**06 41 36.5**	**+0.1**
	42nm,1.2s						
KSM	**Kuching**	**16.39**	**263**	*e*Pn	**Pn**	**06 41 36.5**	**-0.1**
	29nm,1.1s						
KSM	**Kuching**	**16.39**	**263**	P	**P**	**06 41 41.1**	**+2.1**
	26nm,1.0s						
NBBI	**Negara**	**16.86**	**225**	P	**P**	**06 41 45.5**	**+1.4**
	69nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.26**	**226**	P	**P**	**06 41 49.6**	**+1.1**
	52nm,0.7s						
GMJI	**Gumukmas**	**17.64**	**228**	P	**P**	**06 41 55.3**	**+2.5**
	29nm,1.0s						
SJI	**Sawahan**	**18.59**	**233**	P	**P**	**06 42 02.3**	**-1.0**
	45nm,0.9s						
PWJI	**Pagerwojo**	**18.73**	**232**	P	**P**	**06 42 03.9**	**-0.9**
	33nm,0.8s						
YULB	**Yu-li**	**20.31**	**346**	*e*P	**P**	**06 42 18.9**	**-3.1**
	25nm,1.1s						
TPUB	**Ta-pu**	**20.40**	**344**	*e*P	**P**	**06 42 20.9**	**-2.1**
	81nm,1.2s						
GUMO	**Guam**	**20.60**	**60**	LR	LR	06 49 27.9	
	comp=Z,241nm,18.0s,baz=240,slow=34						
SSLB	**Suanglung**	**20.78**	**345**	*e*P	**P**	**06 42 25.6**	**-1.5**
	34nm,0.9s						
PPBI	**Pangkal Pinang**	**21.23**	**255**	P	P	06 42 37.4	+5.4
YHNB	**Yeheng**	**21.52**	**347**	*e*P	**P**	**06 42 33.3**	**-1.8**
FITZ	**Fitzroy Crossi**	**21.60**	**182**	P	**P**	**06 42 33.5**	**-2.4**
	20nm,0.8s,baz=19,slow=11,SNR=24						
FITZ	**Fitzroy Crossi**	**21.60**	**182**	*e*P	**P**	**06 42 33.5**	**-2.4**
	29nm,0.9s						
QIZ	**Qiongzhong**	**22.41**	**314**	P	**P**	**06 42 44.1**	**-0.5**
QIZ				sP	sP	06 42 56.4	-3.7
QIZ				S	**S**	**06 46 50.7**	**+2.3**
QIZ				sS	Sn	06 47 03.8	+1.1
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
QIZ				LR	LR		
	comp=Z,380nm,18.9s						
MYKOM	**Kota Tinggi**	**22.78**	**266**	P	**P**	**06 42 48.2**	**-0.4**
CGJI	**Cibinong**	**23.20**	**244**	P	**P**	**06 42 53.0**	**+0.2**
	comp=Z,66nm,1.1s						
PMG	**Port Moresby**	**24.25**	**122**	P	**P**	**06 43 04.3**	**+1.6**
	comp=Z,2.5nm,0.3s,baz=338,slow=22,SNR=1.7						
PMG	**Port Moresby**	**24.25**	**122**	P	**P**	**06 43 04.3**	**+1.6**
WRAB	**Tennant Creek**	**24.62**	**162**	*e*P	**P**	**06 43 03.6**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,107nm,1.0s						
WRAB	**Tennant Creek**	**24.62**	**162**	*e*P	**P**	**06 43 03.5**	**-2.5**
	comp=Z,107nm,1.0s						
WRA	**Warramunga Arr**	**24.62**	**162**	P	**P**	**06 43 03.3**	**-2.8**
	comp=Z,62nm,0.8s,baz=338,slow=10,SNR=165						
WRA				PcP	**PcP**	**06 46 43.2**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=333,slow=2.2,SNR=1.8						
WRA				S	**S**	**06 47 26.9**	**+2.1**
	comp=Z,4.0nm,1.1s,baz=333,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**24.62**	**162**	P	**P**	**06 43 03.3**	**-2.8**
WRA				PcP	**PcP**	**06 46 43.2**	**-0.1**
WRA				S	**S**	**06 47 26.9**	**+2.1**
IPM	**Ipoh**	**25.51**	**273**	*e*P	**P**	**06 43 11.4**	**-2.8**
	comp=Z,22nm,1.0s						
MBWA	**Marble Bar**	**25.52**	**195**	*e*P	**P**	**06 43 14.2**	**0.0**
	comp=Z,30nm,1.0s						
PSI	**Prapat**	**27.63**	**269**	P	**P**	**06 43 32.4**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=158,slow=1.3,SNR=6.1						
PSI				LR	LR	06 56 15.7	
	comp=Z,219nm,18.9s,baz=270,slow=40						
PSI	**Prapat**	**27.63**	**269**	P	**P**	**06 43 32.4**	**-1.1**
AS31	**Alice Springs**	**28.04**	**166**	*e*P	**P**	**06 43 35.3**	**-1.6**
ASAR	**Alice Springs**	**28.04**	**166**	P	**P**	**06 43 35.0**	**-2.0**
	comp=Z,4.1nm,0.6s,baz=342,slow=6.5,SNR=57						
ASAR				PcP	**PcP**	**06 46 51.2**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=346,slow=2.0,SNR=13						
ASAR				S	S	06 48 34.5	+16
	comp=Z,6.7nm,1.2s,baz=340,slow=18,SNR=11						
ASAR	**Alice Springs**	**28.04**	**166**	P	**P**	**06 43 35.0**	**-2.0**
ASAR				PcP	**PcP**	**06 46 51.2**	**+0.1**
ASAR				S	S	06 48 34.5	+16
WHN	**Wuhan**	**29.17**	**338**	P	**P**	**06 43 47.1**	**+0.3**
WHN				*e*S	**S**	**06 48 39.6**	**+3.2**
WHN				LR	LR		
	comp=Z,710nm,16.5s						
NJ2	**Nanjing**	**29.20**	**346**	*e*P	**P**	**06 43 44.6**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JNU	**Nakatsue**	**29.63**	**7**	P	**P**	**06 43 52.2**	**+1.2**
	comp=Z,14nm,0.9s,baz=113,slow=4.1,SNR=6.3						
JNU	**Nakatsue**	**29.63**	**7**	P	**P**	**06 43 52.2**	**+1.2**
GYA	**Guiyang**	**29.66**	**322**	*e*P	**P**	**06 43 53.0**	**+1.5**
GYA				pP	**pP**	**06 44 03.8**	**+1.1**
GYA				PP	**PnPn**	**06 44 51.2**	**+3.4**
GYA				S	**S**	**06 48 45.6**	**+1.0**
GYA				sS	**sS**	**06 49 02.3**	**-1.1**
GYA				ScP	**ScP**	**06 50 33.0**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,480nm,17.8s						
GYA				LR	LR		
	comp=E,370nm,17.4s						
GYA				LR	LR		
	comp=Z,440nm,17.6s						
CTA	**Charters Tower**	**30.47**	**141**	P	**P**	**06 43 59.3**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=5.0,slow=15,SNR=3.6						
CTA	**Charters Tower**	**30.47**	**141**	P	**P**	**06 43 59.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	**P**	**06 44 01.6**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=110,slow=7.2,SNR=17						
CMAR				LR	LR	06 58 31.4	
	comp=Z,135nm,18.5s,baz=100,slow=41						
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	**P**	**06 44 01.6**	**+0.1**
CHTO	**Chiang Mai**	**30.95**	**301**	*e*P	**P**	**06 44 02.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**30.95**	**301**	*e*P	**P**	**06 44 02.0**	**-0.8**
	comp=Z,7.4nm,1.0s						
KMI	**Kunming**	**31.36**	**315**	P	**P**	**06 44 05.1**	**-1.4**
KMI				pP	**pP**	**06 44 17.1**	**-0.7**
KMI				sP	**sP**	**06 44 21.7**	**-1.0**
KMI				S	**S**	**06 49 12.6**	**+1.3**
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
KMI				pmax	pmax		
	comp=Z,77nm,3.6s						
KMI				LR	LR		
	comp=N,260nm,11.3s						
KMI				LR	LR		
	comp=E,130nm,12.8s						
KMI				LR	LR		
	comp=Z,200nm,17.4s						
KSAR	**Wonju Array Be**	**33.69**	**2**	P	**P**	**06 44 26.9**	**+0.4**
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**06 44 26.9**	**+0.3**
KSRS				LR	LR	06 58 29.1	
	comp=Z,5.8nm,0.6s,baz=179,slow=9.5,SNR=28						
FORT	**Forrest**	**34.23**	**178**	*e*P	**P**	**06 44 30.1**	**-1.2**
	comp=Z,31nm,0.6s						
XAN	**Xi'an**	**34.45**	**334**	P	**P**	**06 44 10.3**	**-2.3**
XAN				pP	pP	06 44 40.5	-4.1
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,18nm,5.7s						
MJAR	**Matsushiro Arr**	**34.47**	**17**	P	**P**	**06 44 35.1**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=352,slow=13,SNR=2.6						
MJAR	**Matsushiro Arr**	**34.47**	**17**	P	**P**	**06 44 35.1**	**+1.7**
CD2	**Chengdu**	**34.65**	**324**	P	**P**	**06 44 36.5**	**+1.5**
CD2				pP	**pP**	**06 44 46.6**	**+0.3**
CD2				sP	**sP**	**06 44 50.8**	**-0.5**
CD2				PP	**PP**	**06 45 54.5**	**+0.4**
CD2				S	**S**	**06 50 04.0**	**+2.0**
CD2				sS	**sS**	**06 50 20.7**	**-0.2**
CD2				SS	**SnSn**	**06 52 18.5**	**+1.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,6.5s						
CD2				LR	LR		
	comp=N,270nm,7.1s						
CD2				LR	LR		
	comp=Z,190nm,13.7s						
BBOO	**Buckleboo**	**37.33**	**167**	*e*P	**P**	**06 44 56.4**	**-1.5**
	comp=Z,612nm,2.1s						
BJT	**Baijiatuan**	**37.44**	**347**	*e*P	**P**	**06 44 58.3**	**-0.4**
	comp=Z,63nm,0.8s						
BJI	**Beijing**	**37.46**	**347**	P	**P**	**06 44 58.5**	**-0.4**
BJI				pP	**pP**	**06 45 09.3**	**-1.0**
BJI				pmax	pmax		
	comp=Z,46nm,0.9s						
BJI				LR	LR		
	comp=Z,69nm,20.2s						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**06 45 03.0**	**-1.2**
	comp=Z,24nm,0.8s,baz=336,slow=7.5,SNR=48						
STKA				PcP	**PcP**	**06 47 19.1**	**+0.2**
	comp=Z,10.0nm,0.7s,baz=327,slow=5.8,SNR=7.3						
STKA	**Stephens Creek**	**38.08**	**159**	*e*P	**P**	**06 45 02.6**	**-1.6**
	comp=Z,4.7nm,0.8s						
STKA				PcP	**PcP**	**06 47 19.1**	**+0.2**
SNY	**Shenyang**	**38.14**	**356**	P	**P**	**06 45 05.4**	**+0.8**
SNY				sP	**sP**	**06 45 20.6**	**-0.3**
SNY				S	**S**	**06 50 56.8**	**+1.9**
SNY				pmax	pmax		
	comp=Z,13nm,0.5s						
SNY			

HABR				*e*			06 47 49.0	
HABR				*e**SS	S		06 52 58.9	+19
HABR				*e*			06 55 55.6	
HABR				*e*SSS	SSS		06 56 56.6	
HABR				pmax	pmax			
	comp=Z,30nm,0.9s							
HABR				pmax	pmax			
	comp=N,30nm,2.1s							
HABR				pmax	pmax			
	comp=E,44nm,2.1s							
HABR				MLR	MLR			
	comp=Z,175nm,19.0s							
JIRN	**Jiri**	**45.32**	**306**	*e*P	**P**		**06 46 03.0**	**-1.0**
	comp=Z,4.5nm,0.6s							
KLR	**Kul'dur**	**45.66**	**5**	*e*P	P		06 46 01.7	-4.2
GUN	**Gumba**	**45.67**	**306**	*e*P	**P**		**06 46 05.7**	**-1.1**
	comp=Z,24nm,0.7s							
HIA	**Hailar**	**45.86**	**354**	*e*P	**P**		**06 46 08.1**	**+0.6**
	comp=Z,16nm,1.0s							
DMN	**Daman**	**46.17**	**305**	*e*P	**P**		**06 46 10.1**	**-0.6**
DZM	**Mont Dzumac**	**46.59**	**125**	P	**P**		**06 46 15.1**	**+1.3**
	comp=Z,6.9nm,0.6s,baz=283,slow=23,SNR=6.8							
DZM	**Mont Dzumac**	**46.59**	**125**	P	**P**		**06 46 15.1**	**+1.3**
GKN	**Gorkha**	**46.71**	**306**	*e*P	**P**		**06 46 13.5**	**-1.3**
	comp=Z,10nm,0.6s							
ULN	**Ulaanbaatar**	**47.18**	**342**	*e*P	**P**		**06 46 17.4**	**-0.6**
	comp=Z,6.5nm,1.0s							
SONM	**Songino Array**	**47.36**	**342**	P	**P**		**06 46 19.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=165,slow=6.2,SNR=4.5							
SONM	**Songino Array**	**47.36**	**342**	P	**P**		**06 46 19.6**	**+0.2**
KOLN	**Koldanda**	**47.47**	**305**	*e*P	**P**		**06 46 19.7**	**-1.0**
	comp=Z,32nm,0.6s							
DANN	**Dangsing**	**47.56**	**306**	*e*P	**P**		**06 46 20.2**	**-1.3**
	comp=Z,52nm,0.5s							
PYUN	**Piuthan**	**48.09**	**305**	*e*P	**P**		**06 46 24.6**	**-0.9**
	comp=Z,50nm,1.0s							
HYB	**Hyderabad**	**49.02**	**290**	*i* P	**P**		**06 46 31.0**	**-1.6**
ZAK	**Zakamensk**	**50.58**	**341**	*e*P	P		06 46 52.0	+8.0
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.8s							
TLY	**Talaya**	**51.59**	**342**	*e*P	**P**		**06 46 50.8**	**-0.7**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,73nm,17.0s							
MOY	**Mondy**	**52.44**	**340**	*e*P	**P**		**06 47 00.2**	**+2.3**
DDI	**Dehra Dun**	**52.91**	**306**	*ex*	**P**		**06 47 03.0**	**+1.2**
BOD	**Bodaibo**	**54.95**	**352**	*e*P	**P**		**06 47 16.6**	**+0.6**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.6s							
PETK	**Petropavlovsk-**	**55.59**	**22**	P	**P**		**06 47 22.3**	**+1.6**
	comp=Z,16nm,1.0s,baz=206,slow=4.0,SNR=5.5							
PETK	**Petropavlovsk-**	**55.59**	**22**	P	**P**		**06 47 22.3**	**+1.6**
PETK	**Petropavlovsk-**	**55.59**	**22**	P	**P**		**06 47 22.3**	**+1.6**
MK31	**Makanchi Array**	**57.56**	**325**	*i* P	**P**		**06 47 33.8**	**-1.1**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MK31	**Makanchi Array**	**57.56**	**325**	*e*P	**P**		**06 47 33.6**	**-1.3**
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**		**06 47 33.6**	**-1.3**
	comp=Z,2.9nm,0.4s,baz=118,slow=7.6,SNR=45							
MKAR				PcP	**PcP**		**06 48 29.8**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=131,slow=3.2,SNR=5.1							
MKAR				LR	LR		07 14 14.1	
	comp=Z,142nm,18.8s,baz=124,slow=38							
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**		**06 47 33.7**	**-1.3**
MKAR							06 48 29.8	
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**		**06 47 33.6**	**-1.3**
MKAR				PcP	**PcP**		**06 48 29.8**	**+1.8**
KSH	**Kashi**	**58.02**	**315**	*e*P	**P**		**06 47 38.7**	**+0.3**
KSH				*e*pP	**pP**		**06 47 49.6**	**-0.7**
KSH				*e*sP	**sP**		**06 47 54.7**	**-0.4**
KSH				*e*PcP	**PcP**		**06 48 30.6**	**+0.5**
KSH				*e*PP	**PP**		**06 49 50.1**	**+2.8**
KSH				*e*ScP	**ScP**		**06 52 26.4**	**-0.8**
KSH				PcS	**PcS**		**06 52 29.9**	**-1.7**
KSH				S	**S**		**06 55 33.9**	**-2.5**
KSH				ScS	**ScS**		**06 57 25.5**	**+0.5**
KSH				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KSH				pmax	pmax			
	comp=Z,89nm,5.4s							
KSH				LR	LR			
	comp=N,120nm,4.9s							
KSH				LR	LR			
	comp=E,130nm,5.9s							
KSH				LR	LR			
	comp=Z,200nm,8.4s							
YAK	**Yakutsk**	**58.33**	**2**	*e*P	**P**		**06 47 41.4**	**+1.5**
YAK				pmax	pmax			
	comp=Z,20nm,1.0s							
TKM2	**Tokmak 2**	**59.73**	**319**	*e*P	**P**		**06 47 49.9**	**-0.5**
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TKM2	**Tokmak 2**	**59.73**	**319**	*e*P	**P**		**06 47 49.9**	**-0.5**
	comp=Z,4.0nm,0.7s							
AAK	**Ala-Archa**	**60.34**	**318**	*e*P	**P**		**06 47 52.5**	**-2.0**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
AAK	**Ala-Archa**	**60.34**	**318**	*e*P	**P**		**06 47 53.9**	**-0.6**
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**		**06 47 53.9**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=121,slow=7.1,SNR=6.1							
ZALV				LR	LR		07 17 49.6	
	comp=Z,82nm,18.3s,baz=95,slow=40							
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**		**06 47 53.9**	**-2.0**
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**		**06 47 53.9**	**-2.0**
EKS2	**Erkin-Say**	**60.83**	**318**	*e*P	**P**		**06 47 57.0**	**-0.8**
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.7s							
EKS2	**Erkin-Say**	**60.83**	**318**	*e*P	**P**		**06 47 57.0**	**-0.8**
	comp=Z,4.4nm,0.7s							
KURK	**Kurchatov**	**61.76**	**328**	*e*P	**P**		**06 48 01.9**	**-1.7**
KURK	**Kurchatov**	**61.76**	**328**	*e*P	**P**		**06 48 01.9**	**-1.7**
NVS	**Novosibirsk**	**61.91**	**333**	*e*P	**P**		**06 48 01.4**	**-3.2**
NVS				pmax	pmax			
	comp=Z,17nm,1.7s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.2s							
SEY	**Seymchan**	**62.17**	**13**⇑	*i* P	**P**		**06 48 08.2**	**+2.0**
FX1	**Attu Island--F**	**62.25**	**30**	LR	LR		07 09 58.3	
	comp=E,102nm,20.2s,baz=87,slow=31							
KK31	**Karatay Array**	**63.21**	**317**	*i* P	**P**		**06 48 12.6**	**-1.0**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KKAR	**Karatay Array**	**63.21**	**317**	*e*P	**P**		**06 48 12.7**	**-0.9**
KKAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**63.21**	**317**	*e*P	**P**		**06 48 12.7**	**-0.9**
	comp=Z,5.1nm,0.8s							
VOSK	**Vostochnaya**	**66.88**	**327**	P	**P**		**06 48 35.2**	**-2.0**
VOSK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BVA0	**Borovoye Array**	**67.33**	**327**	*i* P	**P**		**06 48 38.7**	**-1.4**
BRVK	**Borovoye**	**67.41**	**327**	*e*P	**P**		**06 48 39.4**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,11nm,0.8s							
BRVK	**Borovoye**	**67.41**	**327**	*e*P	**P**		**06 48 39.4**	**-1.1**
	comp=Z,11nm,0.8s							
ZRNK	**Zerenda**	**68.06**	**327**	*i* P	**P**		**06 48 42.7**	**-1.9**
ZRNK				pmax	pmax			
	comp=Z,10.0nm,0.7s							
AB31	**Akbulak array**	**72.14**	**321**	*i* P	**P**		**06 49 08.2**	**-1.6**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ABKAR	**Akbulak array**	**72.14**	**321**	*e*P	**P**		**06 49 08.3**	**-1.5**
	comp=Z,3.0nm,0.6s							
SVE	**Sverdlovsk**	**73.98**	**329**	*e*P	**P**		**06 49 21.6**	**+1.2**
SVE				pmax	pmax			
	comp=Z,11nm,0.8s							
ARU	**Arti**	**74.95**	**328**	*d* *i*P	**P**		**06 49 25.1**	**-1.0**
ARU				S	**S**		**06 59 00.9**	**+0.3**
ARU				SS	**SS**		**07 03 46.1**	**-3.5**
ARU				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ARU	**Arti**	**74.95**	**328**	*e*P	**P**		**06 49 24.5**	**-1.6**
	comp=Z,7.4nm,0.6s							
ABPO	**Ambohimpanom**	**81.13**	**250**	*e*P	**P**		**06 50 00.6**	**-0.8**
ABPO				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ABPO	**Ambohimpanom**	**81.13**	**250**	*e*P	**P**		**06 50 00.6**	**-0.8**
	comp=Z,6.5nm,0.8s							
KDAK	**Kodiak Island**	**82.06**	**32**	P	**P**		**06 50 06.2**	**+1.0**
	comp=Z,12nm,1.0s,baz=154,slow=8.5,SNR=5.3							
KDAK	**Kodiak Island**	**82.06**	**32**	P	**P**		**06 50 06.2**	**+1.0**
VNDA	**Vanda**	**83.33**	**173**	P	**P**		**06 50 11.7**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=309,slow=6.9,SNR=15							
VNDA	**Vanda**	**83.33**	**173**	P	**P**		**06 50 11.7**	**+0.2**
VRHR	**Novokhopersk**	**84.03**	**321**	*e*P	**P**		**06 50 13.1**	**-2.5**
VRHR				pmax	pmax			
	comp=N,6.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,7.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
COLD	**Coldfoot**	**84.05**	**23**	*e*P	**P**		**06 50 16.3**	**+0.9**
	comp=Z,4.1nm,0.6s							
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**		**06 50 21.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=248,slow=5.1,SNR=17							
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**		**06 50 21.2**	**-0.3**
KLMR	**Klimovskoe**	**85.43**	**331**	*e*P	**P**		**06 50 21.0**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,22nm,0.9s							
VORD	**Divnogorie**	**85.50**	**321**	*e*P	**P**		**06 50 20.0**	**-3.0**
VSR	**Storozhevoye**	**85.58**	**321**	*e*P	**P**		**06 50 21.7**	**-1.7**
MOS	**Moscow**	**86.45**	**325**	*e*P	**P**		**06 50 25.9**	**-1.7**
ANN	**Anapa**	**86.87**	**315**	*e*P	**P**		**06 50 27.6**	**-2.3**
ANN				*e**PP	PcP		06 50 37.1	+5.0
ANN				*e*			06 53 51.3	
ANN				*e*S	**SKSac**		**07 00 51.4**	**-2.4**
ANN				pmax	pmax			
	comp=Z,29nm,1.1s							
OBN	**Obninsk**	**87.07**	**325**	*e*P	**P**		**06 50 29.7**	**-0.9**
OBN				*e*			06 53 53.5	
OBN				pmax	pmax			
	comp=Z,55nm,1.7s							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s							
KMBO	**Kilima Mbogo**	**89.40**	**269**	*e*P	**P**		**06 50 43.0**	**+0.1**
	comp=Z,11nm,1.3s							
BRTR	**Keskin Array B**	**89.98**	**310**	P	**P**		**06 50 43.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=134,slow=7.1,SNR=6.8							
BRTR	**Keskin Array B**	**89.98**	**310**	P	**P**		**06 50 43.5**	**-1.4**
ARCES	**ARCESS Array B**	**90.50**	**340**	P	**P**		**06 50 45.5**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=64,slow=4.2,SNR=10							
ARCES				LR	LR		07 33 19.3	
	comp=Z,73nm,18.8s,baz=24,slow=37							
ARCES	**ARCESS Array B**	**90.50**	**340**	P	**P**		**06 50 45.5**	**-1.1**
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**		**06 50 54.4**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=50,slow=2.8,SNR=5.8							
FINES				LR	LR		07 40 57.3	
	comp=Z,77nm,19.6s,baz=195,slow=41							
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**		**06 50 54.4**	**+1.4**
AKASG	**Malin Array Be**	**91.89**	**321**	P	**P**		**06 50 52.4**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=71,slow=4.4,SNR=5.8							
AKASG	**Malin Array Be**	**91.89**	**321**	P	**P**		**06 50 52.4**	**-1.0**
AKASG	**Malin Array Be**	**91.89**	**321**	P	**P**		**06 50 52.4**	**-1.0**
MLR	**Muntele Rosu**	**94.88**	**316**⇓	*i*P	**P**		**06 51 06.7**	**-0.8**
BURAR	**Bucovina Array**	**94.99**	**318**⇓	*i*P	**P**		**06 51 07.1**	**-0.8**
BUR08	**Bucovina Ar. S**	**94.99**	**318**	*e*P	**P**		**06 51 06.9**	**-1.0**
BBB	**Bella Bella**	**96.48**	**37**	LR	LR		07 26 12.9	
	comp=Z,76nm,21.1s,baz=220,slow=30							
KOLS	**Kolonicke sedl**	**96.64**	**320**	*e*P	**P**		**06 51 16.4**	**+1.2**
KOLS				pmax	pmax			
	comp=Z,14nm,1.7s							
KOLS	**Kolonicke sedl**	**96.64**	**320**	*e*P	**P**		**06 51 16.4**	**+1.2**
DRGR		**96.83**	**318**⇓	*i*P	**P**		**06 51 15.4**	**-0.8**
CRVS	**Cervenica-Dubn**	**97.16**	**320**	*e*P	Pdif		06 51 19.2	+1.5
CRVS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CRVS	**Cervenica-Dubn**	**97.16**	**320**	*e*P	Pdif		06 51 19.2	+1.5
NB2	**NORSAR Subarra**	**98.82**	**334**	P	Pdif		06 51 24.5	-0.3
	comp=Z,2.2nm,0.8s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**98.82**	**334**	P	Pdif		06 51 24.8	0.0
	comp=Z,1.2nm,0.7s,baz=68,slow=4.6,SNR=3.7							
NOA				LR	LR		07 41 40.6	
	comp=Z,56nm,18.4s,baz=205,slow=39							
NOA	**NORSAR Array B**	**98.82**	**334**	P	Pdif		06 51 24.8	0.0
YKA	**Yellowknife Ar**	**99.66**	**24**	P	**Pdif**		**06 51 28.6**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=302,slow=4.1,SNR=2.7							
YKA	**Yellowknife Ar**	**99.66**	**24**	P	**Pdif**		**06 51 28.6**	**+0.1**
TXAR	**Lajitas Array**	**121.78**	**52**	PKP	**PKPdf**		**06 56 40.5**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=31,slow=0.2,SNR=7.2							
TXAR	**Lajitas Array**	**121.78**	**52**	PKP	**PKPdf**		**06 56 40.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**122.81**	**288**	PKP	**PKPdf**		**06 56 42.1**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=50,slow=1.7,SNR=17							
TORD	**Torodi Ar. Bea**	**122.81**	**288**	PKP	**PKPdf**		**06 56 42.1**	**+0.1**
JCT	**Junction City**	**124.24**	**49**	*e*PKIKP	**PKPdf**		**06 56 44.5**	**0.0**
JCT	**Junction City**	**124.24**	**49**	*e*PKPdf	**PKPdf**		**06 56 44.5**	**0.0**
PLCA	**Paso Flores**	**139.95**	**160**	PKhKP	PKPpre		06 57 08.7	
	comp=Z,1.8nm,0.9s,baz=250,slow=5.7,SNR=4.3							
PLCA	**Paso Flores**	**139.95**	**160**	PKPpre	PKPpre		06 57 08.7	
TRQA	**Tornquist**	**144.84**	**168**	*e*PKPdf	PKPbc		06 57 21.1	-0.4
CFAA	**Coronel Fontan**	**148.86**	**155**	PKPbc	**PKPbc**		**06 57 33.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=227,slow=3.3,SNR=24							
CFAA	**Coronel Fontan**	**148.86**	**155**	PKPbc	**PKPbc**		**06 57 33.4**	**+0.1**
LCO	**Las Campanas**	**149.88**	**149**	*e*PKPbc	**PKPbc**		**06 57 36.5**	**+0.3**
CPUP	**Villa Florida**	**157.11**	**171**	PKPab	**PKPab**		**06 58 11.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=164,slow=5.5,SNR=7.7							
CPUP	**Villa Florida**	**157.11**	**171**	PKPab	**PKPab**		**06 58 11.4**	**-0.3**
LPAZ	**La Paz**	**160.82**	**132**	PKP	**PKPdf**		**06 57 48.0**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=50,slow=2.6,SNR=4.3							
LPAZ				PKPab	**PKPab**		**06 58 29.8**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=108,slow=4.8,SNR=6.8							
LPAZ	**La Paz**	**160.82**	**132**	PKP	**PKPdf**		**06 57 48.0**	**+1.1**
LPAZ				PKPab	**PKPab**		**06 58 29.8**	**+0.7**
BDFB	**Brasilia**	**166.92**	**204**	PKPab	**PKPab**		**06 58 55.5**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=22,slow=11,SNR=3.7							
BDFB	**Brasilia**	**166.92**	**204**	PKPab	**PKPab**		**06 58 55.5**	**+0.5**

*IDC **11** 06:54:52.2±1.0,39.46N×73.80E,h0km,mb3.7/7,*
mb1 3.7/11,mb1mx3.5/31,mbtmp3.6/11,ML3.2/5,Error
ellipse: s-maj=21.1km s-min=13.4km az=98.0
*NNC **11** 06:54:57.2±4.0,39.62N×73.54E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=39.0km s-min=17.1km az=153.0
ISC 11 06:54:56.9±1.5,39.8N±0.1×73.5E±0.1,h14km,n23,
σ1s54/21,mb3.6/7,3C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AML	**Almayashu**	**2.30**	**4**	P	**Pb**		**06 55 38.8**	**+0.4**
	SNR=60							
UCH	**Uchtor**	**2.51**	**18**	P	**Pg**		**06 55 44.4**	**-0.7**
	SNR=17							
KZA	**Kyzart**	**2.61**	**30**	P	**Pb**		**06 55 42.1**	**-1.6**
	SNR=19							
EKS2	**Erkin-Say**	**2.83**	**4**	P	**Pb**		**06 55 46.8**	**-0.5**
	SNR=8.0							
AAK	**Ala-Archa**	**2.90**	**15**	Pn	**Pb**		**06 55 47.4**	**-1.0**
	4.9nm,0.3s,baz=170,slow=6.8,SNR=34							
AAK				Pg	**Pg**		**06 55 50.2**	**-2.2**
	5.5nm,0.3s,baz=178,slow=15,SNR=38							
AAK				Lg	Lg		06 56 33.7	
	4.7nm,0.3s,baz=358,slow=19,SNR=5.3							
AAK	**Ala-Archa**	**2.90**	**15**	P	**Pb**		**06 55 47.3**	**-1.1**
	SNR=30							
KBK	**Karagaybulak**	**3.02**	**21**	P	**Pb**		**06 55 49.1**	**-1.5**
	SNR=17							
ULHL	**Ulahol**	**3.18**	**40**	P	**Pb**		**06 55 53.7**	**+0.3**
	SNR=16							
TKM2	**Tokmak 2**	**3.46**	**27**	⇑Pn	Pn		06 55 54.9	+4.2
	8.3nm,0.5s							
TKM2				⇑Sn	**Sb**		**06 56 40.4**	**+0.1**
	16nm,0.5s							
KK31	**Karatay Array**	**3.96**	**327**	Pn	Pb		06 56 02.3	-4.1
	4.0nm,0.5s,baz=140,slow=15,SNR=45							
KK31				⇑Lg	Lg		06 57 09.0	
	2.9nm,0.3s,baz=144,slow=28							
MKAR	**Makanchi Array**	**9.46**	**40**	Pn	**Pn**		**06 57 14.6**	**+1.9**
	0.9nm,0.3s,baz=126,slow=6.2,SNR=2.6							
BVAR	**Borovoye Array**	**13.36**	**352**	Pn	**Pn**		**06 58 07.7**	**+1.7**
	0.2nm,0.3s,baz=240,slow=40,SNR=3.0							
AB31	**Akbulak array**	**13.47**	**319**	⇓P	**Pn**		**06 58 09.7**	**+2.2**
	0.5nm,0.5s,baz=126,slow=14,SNR=23							
AKTO	**Aktyubinsk**	**15.18**	**319**	Pn	**P**		**06 58 33.3**	**-2.5**
	0.1nm,0.3s,baz=129,slow=16,SNR=3.0							
AKTO	**Aktyubinsk**	**15.18**	**319**	⇓P	**P**		**06 58 34.4**	**-1.4**
	0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**16.07**	**25**	Pn	**Pn**		**06 58 43.7**	**+1.4**
	0.1nm,0.3s,baz=211,slow=12,SNR=5.0							
FINES	**FINESS Array B**	**35.91**	**323**	P	**P**		**07 01 57.7**	**+1.3**
	1.1nm,0.7s,baz=129,slow=11,SNR=4.2							
ARCES	**ARCESS Array B**	**38.87**	**335**	P	**P**		**07 02 22.4**	**+1.1**
	0.8nm,0.6s,baz=105,slow=9.4,SNR=6.2							
NOA	**NORSAR Array B**	**42.97**	**321**	P	**P**		**07 02 56.1**	**+0.9**
	0.4nm,0.6s,baz=86,slow=6.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P	**P**		**07 05 52.5**	**-1.9**
	0.3nm,0.5s,baz=45,slow=5.2,SNR=5.1							
INK	**Inuvik**	**70.29**	**10**	P	**P**		**07 06 08.7**	**-0.6**
	0.2nm,0.4s,baz=239,slow=4.2,SNR=1.5							
WRA	**Warramunga Arr**	**82.16**	**124**	P	P		07 07 12.8	-4.6
	0.8nm,0.8s,baz=329,slow=5.1,SNR=10							
ASAR	**Alice Springs**	**84.61**	**127**	P	P		07 07 25.4	-4.7
	0.2nm,0.5s,baz=328,slow=5.4,SNR=2.6							

*ISK **11** 06:57:40.2,37.26N×28.20E,h5km,MD2.6*
*DDA **11** 06:57:40.0,37.21N×28.18E,h7km,MD2.9*
*ISCJB **11** 06:57:41.2±0.6,37.21N±0.04×28.21E±0.04,h0km,Error*
ellipse: s-maj=5.8km s-min=3.9km az=20.5
*CSEM **11** 06:57:41.5±0.3,37.23N×28.20E,h1km,MD2.6,Error*
ellipse: s-maj=6.7km s-min=4.9km az=12.0
ISC 11 06:57:40.6±0.9,37.21N±0.03×28.18E±0.02,h0km,n16,
σ0s96/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
YER	**Yerkesik**	**0.11**	**131**	PG	**Pg**		**06 57 43.7**	**+1.0**
YER	**Yerkesik**	**0.11**	**131**	*i* Pg	**Pg**		**06 57 43.7**	**+1.0**
MLSB	**Milas**	**0.33**	**286**	*e*PG	**Pg**		**06 57 47.9**	**+0.9**
MLSB				*e*SG	**Sb**		**06 57 53.6**	**-1.8**
MLSB	**Milas**	**0.33**	**286**	*e*Pg	**Pg**		**06 57 47.9**	**+0.9**
MLSB				*e*Sg	**Sb**		**06 57 53.6**	**-1.8**
TURN	**Turunc**	**0.47**	**134**	*e*P	**Pg**		**06 57 48.1**	**-1.6**
TURN				*e*S	**Sg**		**06 57 55.4**	**-0.5**
TURN				*e*S	**Sg**		**06 57 57.2**	**+1.4**
TURN	**Turunc**	**0.47**	**134**	*e*P	**Pg**		**06 57 48.1**	**-1.6**
TURN				*e*S	**Sg**		**06 57 57.2**	**+1.4**
AYDN	**Tasoluk**	**0.51**	**332**	*e*P	**Pg**		**06 57 50.9**	**+0.4**
AYDN				*e*S	**Sg**		**06 57 57.4**	**+0.3**
AYDN	**Tasoluk**	**0.51**	**332**	*e*P	**Pg**		**06 57 50.9**	**+0.4**
AYDN				*e*S	**Sg**		**06 57 57.4**	**+0.3**
BODT	**Bodrum**	**0.71**	**259**	*e*PG	**Pb**		**06 57 55.5**	**-0.4**
BODT				*e*SG	**Sb**		**06 58 06.7**	**+0.5**
BODT	**Bodrum**	**0.71**	**259**	*e*Pg	**Pb**		**06 57 55.5**	**-0.4**
BODT				*e*Sg	**Sb**		**06 58 06.7**	**+0.5**
DNZL	**Cakiroluk**	**0.84**	**55**	*e*P	**Pb**		**06 57 57.9**	**-0.3**
DNZL				*e*S	**Sb**		**06 58 10.9**	**+0.7**
DNZL	**Cakiroluk**	**0.84**	**55**	*e*P	**Pb**		**06 57 57.9**	**-0.3**
DNZL				*e*S	**Sb**		**06 58 10.9**	**+0.7**
KULA	**Kula-Manisa**	**1.36**	**16**	*e*PN	**Pg**		**06 58 06.2**	**-0.5**
KULA	**Kula-Manisa**	**1.36**	**16**	*e*Pn	**Pg**		**06 58 06.2**	**-0.5**
ELL	**Elmali**	**1.46**	**108**	*e*PN	**Pg**		**06 58 08.8**	**+0.2**
ELL	**Elmali**	**1.46**	**108**	*e*Pn	**Pg**		**06 58 08.8**	**+0.2**

*ISK **11** 07:02:45.8,38.94N×43.61E,h12km,MD2.9*
*DDA **11** 07:02:45.9,38.93N×43.59E,h10km,MD3.1*
*CSEM **11** 07:02:46.1±0.4,38.93N×43.60E,h10km,MD2.9,Error*
ellipse: s-maj=11.0km s-min=6.7km az=103.0
ISC 11 07:02:46.0±1.0,38.94N±0.02×43.60E±0.03,h17km±9km,
n23,σ0s73/38,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CLDR	**Caldiran**	**0.32**	**51**	*e*PG	**Pg**		**07 02 52.4**	**-0.5**
CLDR				*e*SG	**Sb**		**07 02 58.0**	**-0.3**
CLDR	**Caldiran**	**0.32**	**51**	*e*Pg	**Pg**		**07 02 52.4**	**-0.5**
CLDR				*e*Sg	**Sb**		**07 02 58.0**	**-0.3**
VANB	**Van**	**0.38**	**206**	*e*PG	**Pb**		**07 02 54.5**	**+0.1**
VANB				*e*SG	**Sb**		**07 02 59.7**	**-0.4**
VANB	**Van**	**0.38**	**206**	*e*Pg	**Pb**		**07 02 54.5**	**+0.1**
VANB				*e*Sg	**Sb**		**07 02 59.7**	**-0.4**
VANT	**Van**	**0.58**	**207**	*e*PG	**Pg**		**07 02 57.2**	**-0.4**
VANT	**Van**	**0.58**	**207**	*e*Pg	**Pg**		**07 02 57.2**	**-0.4**
DYDN	**Diyadin**	**0

*ISCJB **11** 07:30:11.1±0.7, 12°.07S±0'.09×166°.0E±0'.2, h30km, mb4.1/13, MS3.6/5, Error ellipse: s-maj=23.8km s-min=12.4km az=177.7*
*NEIC **11** 07:30:14.3±2.9, 12°.02S×166°.06E, h43km±26km, mb4.5/2, Error ellipse: s-maj=22.1km s-min=18.2km az=103.0*
ISC 11 07:30:12.8±0.7, 11°.98S±0°.10×166°.1E±0'.2, h30km, n31, σ0s96/33, mb4.2/13, MS3.5/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.04**	**178**	Pn		**Pn**		**07 32 35.4**	**+0.3**
	0.3nm,0.3s,baz=72,slow=22,SNR=1.9								
DZM	**Mont Dzumac**	**10.04**	**178**	Pn		**Pn**		**07 32 35.4**	**+0.3**
CTA	**Charters Tower**	**20.69**	**245**	LR		LR		07 41 50.4	
	comp=Z,204nm,18.2s,baz=44,slow=34								
STKA	**Stephens Creek**	**30.02**	**225**	P		**P**		**07 36 21.4**	**+2.3**
	0.5nm,0.4s,baz=6.3,slow=12,SNR=2.0								
STKA				LR		LR		07 47 12.6	
	comp=Z,112nm,19.9s,baz=26,slow=34								
STKA	**Stephens Creek**	**30.02**	**225**	P		**P**		**07 36 21.4**	**+2.3**
WRA	**Warramunga Arr**	**31.50**	**251**	P		**P**		**07 36 31.2**	**-1.1**
	0.6nm,0.9s,baz=83,slow=8.8,SNR=3.8								
WRA				PcP		PcP		07 39 24.9	-0.1
	1.3nm,0.9s,baz=79,slow=3.2,SNR=8.5								
WRA				LR		LR		07 47 41.4	
	comp=Z,94nm,18.3s,baz=215,slow=34								
WRA	**Warramunga Arr**	**31.50**	**251**	P		**P**		**07 36 31.2**	**-1.1**
WRA				PcP		PcP		07 39 24.9	-0.1
ASAR	**Alice Springs**	**32.70**	**245**	P		**P**		**07 36 41.6**	**-1.2**
	0.4nm,0.6s,baz=72,slow=9.3,SNR=9.4								
ASAR				PcP		PcP		07 39 27.9	-0.4
	2.0nm,0.9s,baz=79,slow=2.8,SNR=12								
ASAR				LR		LR		07 50 21.4	
	comp=Z,71nm,19.0s,baz=264,slow=37								
ASAR	**Alice Springs**	**32.70**	**245**	P		**P**		**07 36 41.6**	**-1.2**
ASAR				PcP		PcP		07 39 27.9	-0.4
KSRS	**Korea Array**	**60.84**	**326**	P		**P**		**07 40 22.9**	**+0.5**
	1.4nm,0.7s,baz=227,slow=29,SNR=5.7								
KSAR	**Wonju Array Be**	**60.85**	**326**	P		**P**		**07 40 22.9**	**+0.4**
PETK	**Petropavlovsk-**	**65.22**	**354**	LR		LR		08 07 04.2	
	comp=Z,99nm,19.5s,baz=39,slow=34								
VNDA	**Vanda**	**65.57**	**181**	P		**P**		**07 40 52.8**	**-0.4**
	1.9nm,0.5s,baz=334,slow=2.7,SNR=16								
VNDA	**Vanda**	**65.57**	**181**	P		**P**		**07 40 52.8**	**-0.4**
QSPA	**South Pole Qui**	**78.03**	**180**	P		**P**		**07 42 07.2**	**-1.2**
	2.8nm,1.0s,baz=258,slow=1.5,SNR=3.7								
QSPA	**South Pole Qui**	**78.03**	**180**	P		**P**		**07 42 07.2**	**-1.2**
ULN	**Ulaanbaatar**	**79.26**	**324**	*e*P		**P**		**07 42 15.5**	**+0.1**
	12nm,1.2s								
SONM	**Songino Array**	**79.62**	**324**	P		**P**		**07 42 18.1**	**+0.7**
	2.7nm,0.7s,baz=98,slow=3.1,SNR=4.9								
SONM	**Songino Array**	**79.62**	**324**	P		**P**		**07 42 18.1**	**+0.7**
TLY	**Talaya**	**83.09**	**326**	*e*P		**P**		**07 42 34.6**	**-0.9**
	1.7nm,0.6s								
ILAR	**Eielson Array**	**84.28**	**18**	P		**P**		**07 42 41.2**	**-0.1**
	0.3nm,0.5s,baz=264,slow=5.0,SNR=8.3								
ILAR	**Eielson Array**	**84.28**	**18**	P		**P**		**07 42 41.2**	**-0.1**
MK31	**Makanchi Array**	**94.44**	**317**	*e*P		**P**		**07 43 29.8**	**-0.3**
MKAR	**Makanchi Array**	**94.44**	**317**	P		**P**		**07 43 29.9**	**-0.1**
	5.2nm,0.7s,baz=93,slow=6.4,SNR=58								
MKAR	**Makanchi Array**	**94.44**	**317**	P		**P**		**07 43 29.9**	**-0.1**
ZALV	**Zalesovo Beam**	**94.51**	**324**	P		**P**		**07 43 29.2**	**-0.9**
	0.7nm,0.6s,baz=98,slow=4.4,SNR=3.3								
ZALV	**Zalesovo Beam**	**94.51**	**324**	P		**P**		**07 43 29.2**	**-0.9**
YKA	**Yellowknife Ar**	**95.64**	**27**	P		**P**		**07 43 36.4**	**+1.3**
	0.1nm,0.4s,baz=306,slow=37,SNR=2.5								
YKA	**Yellowknife Ar**	**95.64**	**27**	P		**P**		**07 43 36.4**	**+1.3**
ESDC	**Sonseca Array**	**151.05**	**344**	PKPbc		**PKPbc**		**07 50 02.7**	**-0.6**
	0.6nm,0.4s,baz=22,slow=4.1,SNR=8.5								
ESDC	**Sonseca Array**	**151.05**	**344**	PKPbc		**PKPbc**		**07 50 02.7**	**-0.6**

*ISCJB **11** 07:56:14.5±1.1, 37°.91N±0°.06×27°.44E±0'.07, h10km, Error ellipse: s-maj=9.1km s-min=7.8km az=5.6*
*DDA **11** 07:56:14.4, 37°.92N×27°.42E, h7km, MD2.6*
ISC 11 07:56:14.2±1.4, 37°.94N±0°.06×27°.45E±0°.06, h10km, n5, σ0s43/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.29**	**215**	*e*P		**Pg**		**07 56 20.1**	**0.0**
GCAM				*e*S		**Sg**		**07 56 23.9**	**-0.2**
AYDN	**Tasoluk**	**0.44**	**129**	*i* P		**Pb**		**07 56 23.8**	**-0.3**
AYDN				*i* S		**Sg**		**07 56 29.4**	**+0.7**
IZM	**Izmir**	**0.48**	**342**	*e*PG		**Pb**		**07 56 24.7**	**0.0**
BODT	**Bodrum**	**0.88**	**187**	*e*PG		**Pb**		**07 56 31.7**	**+0.1**
YER	**Yerkesik**	**1.04**	**140**	*e*PG		**Pg**		**07 56 34.0**	**-0.2**

IDC 11 08:05:25.1±2.4, 6°.07S×154°.99E, h233km±24km, mb3.4/6, mb1 3.6/8, mb1mx3.4/20, mbtmp3.5/8, Error ellipse: s-maj=19.9km s-min=14.1km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.44**	**246**	P		Pn		08 07 24.2	+0.2
	0.9nm,0.3s,baz=52,slow=8.1,SNR=2.6								
PMG				S		S		08 09 04.6	+4.9
	0.5nm,0.3s,baz=238,slow=16,SNR=4.9								
CTA	**Charters Tower**	**16.32**	**211**	P		Pn		08 09 03.6	+1.8
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.1								
DZM	**Mont Dzumac**	**19.38**	**146**	P		P		08 09 33.8	-0.1
	1.8nm,0.3s,baz=294,slow=12,SNR=18								
WRA	**Warramunga Arr**	**24.35**	**234**	P		P		08 10 22.4	+0.4
	4.2nm,0.5s,baz=58,slow=10,SNR=108								
ASAR	**Alice Springs**	**26.79**	**227**	P		P		08 10 43.6	-0.4
	0.6nm,0.5s,baz=58,slow=8.9,SNR=12								
ASAR				S		S		08 15 03.7	+1.0
	0.2nm,0.7s,baz=53,slow=14,SNR=3.6								
PETK	**Petropavlovsk-**	**58.99**	**2**	P		P		08 15 01.1	+0.8
	2.1nm,0.6s,baz=194,slow=8.4,SNR=1.5								
ILAR	**Eielson Array**	**82.52**	**22**	P		P		08 17 21.6	+0.1
	0.2nm,0.5s,baz=246,slow=4.9,SNR=5.0								
MKAR	**Makanchi Array**	**82.71**	**319**	P		P		08 17 22.9	0.0
	0.8nm,0.7s,baz=105,slow=4.9,SNR=12								
ZALV	**Zalesovo Beam**	**83.41**	**326**	P		P		08 17 24.6	-1.6
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.0								

IDC 11 08:14:51.2±0.9, 12°.09N×142°.95E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/26, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=54.1km s-min=20.6km az=114.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.39**	**51**	Pn		Pn		08 15 32.4	+0.7
	34nm,0.3s,baz=72,slow=0.8,SNR=13								
GUMO					Sn	Sn		08 15 58.5	-3.3
	28nm,0.3s,baz=3.9,slow=22,SNR=2.5								
WRA	**Warramunga Arr**	**32.94**	**195**	P		P		08 21 27.3	-0.5
	0.5nm,0.8s,baz=21,slow=10,SNR=7.9								
ASAR	**Alice Springs**	**36.62**	**194**	P		P		08 21 59.8	+0.2
	0.1nm,0.5s,baz=29,slow=11,SNR=4.1								
ILAR	**Eielson Array**	**70.71**	**25**	P		P		08 26 07.7	-1.2
	0.7nm,0.4s,baz=250,slow=5.9,SNR=21								
YKA	**Yellowknife Ar**	**85.04**	**27**	P		P		08 27 29.3	+0.7
	0.2nm,0.5s,baz=284,slow=4.7,SNR=4.0								
ARCES	**ARCESS Array B**	**87.92**	**342**	P		P		08 27 43.5	+0.8
	1.6nm,0.8s,baz=71,slow=8.1,SNR=3.7								
NVAR	**Mina Array Bea**	**89.31**	**51**	P		P		08 27 50.6	+0.4
	0.3nm,0.5s,baz=285,slow=4.0,SNR=3.7								
FINES	**FINESS Array B**	**91.71**	**335**	P		P		08 28 00.5	0.0
	0.3nm,0.3s,baz=180,slow=36,SNR=1.6								

IDC 11 08:25:30.6±4.6, 17°.89N×39°.47E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/28, mbtmp3.8/6, MS3.7/14, Ms1 3.7/14, ms1mx3.5/37, Error ellipse: s-maj=164.6km s-min=26.5km az=152.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**18.71**	**70**	LR		LR		08 37 38.2	
	comp=Z,242nm,20.9s,baz=261,slow=39								
AKTO	**Aktyubinsk**	**35.70**	**20**	P		P		08 32 30.6	-0.1
	0.9nm,0.7s,baz=232,slow=8.6,SNR=3.8								
AKTO				LR		LR		08 48 52.1	
	comp=Z,108nm,18.1s,baz=42,slow=39								
TORD	**Torodi Ar. Bea**	**36.66**	**268**	P		P		08 32 39.2	-0.1
	1.3nm,1.0s,baz=66,slow=7.2,SNR=6.1								
TORD				LR		LR		08 47 54.9	
	comp=Z,169nm,20.4s,baz=105,slow=37								
GERES	**GERESS Array B**	**37.27**	**332**	LR		LR		08 48 18.9	
	comp=Z,46nm,19.2s,baz=59,slow=37								
AAK	**Ala-Archa**	**38.60**	**43**	LR		LR		08 51 51.9	
	comp=Z,121nm,20.0s,baz=227,slow=41								
BVAR	**Borovoye Array**	**42.54**	**27**	P		P		08 33 28.4	+0.5
	0.3nm,0.4s,baz=212,slow=9.4,SNR=3.1								
BVAR				LR		LR		08 53 20.4	
	comp=Z,120nm,18.5s,baz=108,slow=39								
DBIC	**Dimbokro**	**44.61**	**261**	LR		LR		08 51 34.4	
	comp=Z,149nm,19.7s,baz=47,slow=35								
KURBB	**Kurchatov Arra**	**45.06**	**35**	P		P		08 33 46.9	-1.3
	1.7nm,0.7s,baz=242,slow=8.0,SNR=9.4								
MKAR	**Makanchi Array**	**45.43**	**41**	P		P		08 33 51.6	+0.4
	1.3nm,0.8s,baz=235,slow=6.4,SNR=12								
MKAR				LR		LR		08 55 20.4	
	comp=Z,95nm,19.6s,baz=69,slow=39								
NOA	**NORSAR Array B**	**47.55**	**342**	LR		LR		08 56 56.0	
	comp=Z,27nm,18.9s,baz=180,slow=40								
ZALV	**Zalesovo Beam**	**50.07**	**33**	P		P		08 34 27.2	+0.1
	1.0nm,0.7s,baz=248,slow=7.8,SNR=6.7								
ZALV				LR		LR		08 59 11.7	
	comp=Z,84nm,18.9s,baz=240,slow=40								
ARCES	**ARCESS Array B**	**52.35**	**354**	LR		LR		08 58 15.5	
	comp=Z,44nm,18.3s,baz=138,slow=38								
PSI	**Prapat**	**60.12**	**97**	LR		LR		08 58 09.4	
	comp=Z,118nm,20.4s,baz=246,slow=33								
KSRS	**Korea Array**	**78.15**	**54**	LR		LR		09 16 24.2	
	comp=Z,72nm,18.8s,baz=178,slow=39								
MJAR	**Matsushiro Arr**	**86.30**	**53**	LR		LR		09 21 08.7	
	comp=Z,62nm,20.1s,baz=20,slow=39								

*ATH **11** 08:35:46.5, 39°.80N×25°.54E, h28km±1km, MD3.0/4*
*ISCJB **11** 08:35:46.7±0.5, 39°.82N±0°.02×25°.60E±0°.02, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=10.7*
*DDA **11** 08:35:46.8, 39°.88N×25°.63E, h6km, MD2.9*
*CSEM **11** 08:35:47.2±0.1, 39°.82N×25°.59E, h8km, ML2.2/4, Error ellipse: s-maj=3.3km s-min=2.9km az=17.0*
*ISK **11** 08:35:47.0, 39°.81N×25°.71E, h2km, MD3.0*
*THE **11** 08:35:47.5, 39°.81N×25°.60E, h7km±1km, ML2.2/4, Error ellipse: s-maj=1.6km s-min=0.7km az=70.0*
ISC 11 08:35:47.2±1.0, 39°.81N±0°.02×25°.61E±0°.02, h10km±8km, n55, σ0s66/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**284**	P		**Pg**		**08 35 54.0**	**+0.1**
LIA				S		**Sg**		**08 35 58.9**	**+0.5**
LIA	**Limnos Island**	**0.34**	**284**	*e*PB		**Pg**		**08 35 54.1**	**+0.1**
LIA				*e*SB		**Sg**		**08 35 59.0**	**+0.5**
LIA	**Limnos Island**	**0.34**	**284**	P		**Pg**		**08 35 54.0**	**+0.1**
LIA				S		**Sg**		**08 35 58.9**	**+0.5**
BOZC	**Bozcaada**	**0.34**	**85**	*i* P		**Pg**		**08 35 53.7**	**-0.3**
BOZC				*i* S		**Sg**		**08 35 59.5**	**+0.9**
EZN	**Ezine**	**0.55**	**89**	*e*PG		**Pg**		**08 35 57.5**	**-0.5**
EZN				*e*SG		**Sg**		**08 36 04.5**	**-0.8**
EZN	**Ezine**	**0.55**	**89**	*e*Pg		**Pg**		**08 35 57.5**	**-0.5**
EZN				*e*Sg		**Sg**		**08 36 04.5**	**-0.8**
SIGR	**SIGRI**	**0.63**	**162**	P		**Pg**		**08 35 59.2**	**-0.3**
SIGR				S		**Sb**		**08 36 08.8**	**-0.4**
SIGR	**SIGRI**	**0.63**	**162**	P		**Pg**		**08 35 59.2**	**-0.3**
SIGR				S		**Sb**		**08 36 08.8**	**-0.4**
PRK	**Paraskevi**	**0.77**	**138**	P		**Pg**		**08 36 02.1**	**+0.1**
PRK				S		**Sb**		**08 36 13.7**	**+0.6**
PRK	**Paraskevi**	**0.77**	**138**	*e*PN		**Pg**		**08 36 02.2**	**+0.2**
PRK	**Paraskevi**	**0.77**	**138**	P		**Pg**		**08 36 02.1**	**+0.1**
PRK				S		**Sb**		**08 36 13.7**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.88**	**48**	*e*PG		**Pg**		**08 36 03.8**	**-0.4**
GELI				*e*SG		**Sb**		**08 36 16.5**	**0.0**
GELI	**Tayfur-Gelibol**	**0.88**	**48**	*e*Pg		**Pg**		**08 36 03.8**	**-0.4**
GELI				*e*Sg		**Sb**		**08 36 16.5**	**0.0**
AYVA	**Ayvalik**	**0.98**	**121**	*i* P		**Pg**		**08 36 06.1**	**+0.1**
AYVA				*i* S		**Sn**		**08 36 21.2**	**+0.3**
AYVA	**Ayvalik**	**0.98**	**121**	*i* P		**Pg**		**08 36 06.1**	**+0.1**
AYVA				*i* S		**Sn**		**08 36 21.2**	**+0.3**
ENEZ	**Enez**	**1.01**	**24**	*e*PG		**Pg**		**08 36 06.2**	**-0.5**
ENEZ				*e*SG		**Sn**		**08 36 21.3**	**-0.5**
ENEZ	**Enez**	**1.01**	**24**	*e*Pg		**Pg**		**08 36 06.2**	**-0.5**
ENEZ				*e*Sg		**Sn**		**08 36 21.3**	**-0.5**
LPK	**Lapseki**	**1.04**	**57**	*e*PG		**Pg**		**08 36 06.8**	**-0.5**
LPK				*e*SG		**Sb**		**08 36 21.6**	**+0.4**
LPK	**Lapseki**	**1.04**	**57**	*e*Pg		**Pg**		**08 36 06.8**	**-0.5**
LPK				*e*Sg		**Sb**		**08 36 21.6**	**+0.4**
ALN	**Alexandroupoli**	**1.13**	**17**	P		**Pb**		**08 36 08.2**	**-0.7**
ALN				S		**Sb**		**08 36 24.1**	**+0.4**
ALN	**Alexandroupoli**	**1.13**	**17**	*e*PN		**Pb**		**08 36 08.3**	**-0.7**
ALN	**Alexandroupoli**	**1.13**	**17**	P		**Pb**		**08 36 08.2**	**-0.7**
ALN				S		**Sb**		**08 36 24.1**	**+0.4**
RDO	**Rodhopi**	**1.33**	**358**	P		**Pn**		**08 36 12.0**	**+0.1**
RDO	**Rodhopi**	**1.33**	**358**	P		**Pn**		**08 36 12.0**	**+0.1**
OUR	**Ouranopolis**	**1.35**	**293**	P		**Pn**		**08 36 11.5**	**-0.6**
OUR				S		**Sg**		**08 36 31.2**	**+0.5**
OUR	**Ouranopolis**	**1.35**	**293**	P		**Pn**		**08 36 11.5**	**-0.6**
OUR				S		**Sg**		**08 36 31.2**	**+0.5**
KRBG	**Karabiga-Canak**	**1.42**	**65**	*e*PN		**Pn**		**08 36 12.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.42**	**65**	*e*Pn		**Pn**		**08 36 12.9**	**-0.2**
KAVA	**Kavala**	**1.45**	**325**	P		**Pn**		**08 36 13.8**	**+0.3**
KAVA	**Kavala**	**1.45**	**325**	P		**Pn**		**08 36 13.8**	**+0.3**
CHOS	**Chios island**	**1.47**	**166**	P		**Pn**		**08 36 13.0**	**-0.8**
CHOS				S		**Sn**		**08 36 33.1**	**0.0**
CHOS	**Chios island**	**1.47**	**166**	*e*PN		**Pn**		**08 36 13.1**	**-0.8**
CHOS	**Chios island**	**1.47**	**166**	P		**Pn**		**08 36 13.0**	**-0.8**
CHOS				S		**Sn**		**08 36 33.1**	**0.0**
AOS	**Alonnisos**	**1.48**	**245**	P		**Pn**		**08 36 14.0**	**+0.4**
AOS	**Alonnisos**	**1.48**	**245**	P		**Pn**		**08 36 14.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.48**	**54**	*e*PN		**Pb**		**08 36 14.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.48**	**54**	*e*Pn		**Pb**		**08 36 14.8**	**-0.2**
SART	**Tekirdag**	**1.49**	**54**	*i* P		**Pn**		**08 36 12.8**	**-1.3**
SART				*i* S		**Sg**		**08 36 34.9**	**-0.1**
SART	**Tekirdag**	**1.49**	**54**	*i* P		**Pn**		**08 36 12.8**	**-1.3**
SART				*i* S		**Sg**		**08 36 34.9**	**-0.1**
PAIG	**Paliouri**	**1.49**	**275**	P		**Pn**		**08 36 13.2**	**-0.8**
PAIG				S		**Sn**		**08 36 33.6**	**+0.1**
PAIG	**Paliouri**	**1.49**	**275**	P		**Pn**		**08 36 13.2**	**-0.8**
PAIG				S		**Sn**		**08 36 33.6**	**+0.1**
BALY	**Balya**	**1.55**	**92**	*i* P		**Pn**		**08 36 14.9**	**0.0**
BALY				*i* S		**Sb**		**08 36 35.8**	**0.0**
BALY	**Balya**	**1.55**	**92**	*i* P		**Pn**		**08 36 14.9**	**0.0**
BALY				*i* S		**Sb**		**08 36 35.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.61**	**81**	*e*PN		**Pn**		**08 36 16.5**	**+0.7**
GONE	**Gonen-Balikesi**	**1.61**	**81**	*e*Pn		**Pn**		**08 36 16.5**	**+0.7**
BALB	**Balikesir**	**1.76**	**95**	*e*PN		**Pn**		**08 36 18.7**	**+0.9**
BALB	**Balikesir**	**1.76**	**95**	*e*Pn		**Pn**		**08 36 18.7**	**+0.9**
EDC	**Edincik**	**1.81**	**72**	*e*PN		**Pn**		**08 36 19.6**	**+1.1**
EDC	**Edincik**	**1.81**	**72**	*e*Pn		**Pn**		**08 36 19.6**	**+1.1**
EDRB	**Edirne**	**2.21**	**23**	*e*PN		**Pn**		**08 36 25.6**	**+1.7**
EDRB	**Edirne**	**2.21**	**23**	*e*Pn		**Pn**		**08 36 25.6**	**+1.7**
ARMT	**Armutlu**	**2.60**	**72**	*e*PN		**Pn**		**08 36 30.6**	**+1.2**
ARMT	**Armutlu**	**2.60**	**72**	*e*Pn		**Pn**		**08 36 30.6**	**+1.2**
TVSB	**Tavsanli**	**3.00**	**96**	*e*PN		**Pn**		**08 36 36.2**	**+1.3**
TVSB	**Tavsanli**	**3.00**	**96**	*e*Pn		**Pn**		**08 36 36.2**	**+1.3**

*MDD **11** 08:36:45.4±2.4, 35°.32N×14°.28W, h0km, mb4.3/4, Error ellipse: s-maj=28.2km s-min=19.5km az=151.0, PRXIMO*
*CSEM **11** 08:36:50.2±0.5, 35°.54N×13°.95W, h10km, ML3.5/5, Error ellipse: s-maj=10.7km s-min=7.9km az=153.0*
INMG 11 08:36:45.4±1.6, 34°.93N×14°.59W, h10km, ML2.9, 1C, Error ellipse: s-maj=16.5km s-min=3.2km az=134.0, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**2.34**	**219**	*e*Pn		Pn		08 37 17.6	-6.4
PMPST				*e*Sn		Sn		08 37 41.0	-12
PMPST				A		A		08 37 44.9	
	44nm,0.5s								
PMPS	**Porto Santo**	**2.36**	**218**	⇑P		Pn		08 37 17.6	-6.6
PMPS				S		Sn		08 37 41.0	-12
	22nm,0.5s								
PMAR	**Madeira**	**2.93**	**222**	*e*Sn		Sn		08 37 56.9	-11
PMAR				A		A		08 38 08.4	
	52nm,0.3s								
PMAR	**Madeira**	**2.93**	**222**	S		Sn		08 37 56.9	-11
	26nm,0.3s								
PMAR	**Madeira**	**2.93**	**222**	*e*Sn		Sn		08 37 56.9	-11
	52nm,0.3s								
FUL	**Funchal**	**2.97**	**221**	*e*Sn		Sn		08 37 57.7	-11
FUL				A		A		08 38 02.9	
	109nm,0.1s								
FUL	**Funchal**	**2.97**	**221**	S		Sn		08 37 57.7	-11
	55nm,0.1s								
PMOZ	**Porto Moniz, M**	**3.02**	**227**	*e*Pn		Pn		08 37 28.4	-5.0
PMOZ					*e*Sn	Sn		08 37 59.6	-10
PMOZ					A	A		08 38 07.5	
	38nm,0.3s								
PMOZ	**Porto Moniz, M**	**3.02**	**227**	*e*Pn		Pn		08 37 28.4	-5.0
PMOZ					*e*Sn	Sn		08 37 59.6	-10
	38nm,0.3s								
PFVI	**Vila Bisbo**	**5.16**	**63**	*e*Pn		Pn		08 37 56.9	-5.8
PFVI					*e*Sn	Sn		08 38 48.7	-14
PFVI					A	A		08 38 53.7	
	13nm,0.4s								
PFVI	**Vila Bisbo**	**5.16**	**63**	P		Pn		08 37 56.9	-5.9
	1.2nm,0.1s,SNR=18								
PFVI					S	Sn		08 38 48.6	-14
	14nm,0.1s,SNR=6.9								
PFVI	**Vila Bisbo**	**5.16**	**63**	P		Pn		08 37 56.9	-5.8
	1.2nm,0.1s,SNR=18								
PFVI					*e*Sn	Sn		08 38 48.7	-14
	13nm,0.4s								
MORF	**Marmelete**	**5.36**	**62**	*e*Pn		Pn		08 37 59.8	-5.7
MORF					*e*Sn	Sn		08 38 54.5	-13
MORF					A	A		08 39 01.8	
	12nm,0.1s								
MORF	**Marmelete**	**5.36**	**62**	P		Pn		08 37 59.8	-5.7
MORF					S	Sn		08 38 54.5	-13
	12nm,0.1s								
MORF	**Marmelete**	**5.36**	**62**	P		Pn		08 37 59.8	-5.7
MORF					S	Sn		08 38 54.5	-13
	12nm,0.1s								
PTEO	**Sao Teotonio**	**5.41**	**59**	*e*Pn		Pn		08 38 01.2	-4.9
PTEO					*e*Sn	Sn		08 38 56.2	-12
PTEO					A	A		08 39 00.1	
	9.4nm,0.5s								
PTEO	**Sao Teotonio**	**5.41**	**59**	P		Pn		08 38 01.2	-4.9
PTEO					S	Sn		08 38 56.2	-12
	4.7nm,0.5s								
PTEO	**Sao Teotonio**	**5.41**	**59**	P		Pn		08 38 01.2	-4.9
PTEO					S	Sn		08 38 56.2	-12
	4.7nm,0.5s								
PNCL	**Nicolau / Gran**	**5.82**	**55**	*e*Pn		Pn		08 38 06.6	-5.2
PNCL					*e*Sn	Sn		08 39 05.6	-13
PNCL					A	A		08 39 09.1	
	5.5nm,0.5s								
PNCL	**Nicolau / Gran**	**5.82**	**55**	*e*Pn		Pn		08 38 06.6	-5.2
PNCL					*e*Sn	Sn		08 39 05.6	-13
	5.5nm,0.5s								
PMAFR	**Mafra**	**5.85**	**45**	*e*Sn		Sn		08 39 05.3	-14
PMAFR					A	A		08 39 07.2	
	25nm,0.2s								
PMAFR	**Mafra**	**5.85**	**45**	P		Pn		08 38 06.3	-5.9
	1.6nm,0.1s,SNR=4.0								
PMAFR					S	Sn		08 39 05.3	-14
	35nm,0.2s,SNR=13								
PMAFR	**Mafra**	**5.85**	**45**	P		Pn		08 38 06.3	-5.9
	1.6nm,0.1s,SNR=4.0								
PMAFR					S	Sn		08 39 05.3	-14
	35nm,0.2s,SNR=13								
PBDV	**Barranco-do-Ve**	**5.86**	**65**	*e*Sn		Sn		08 39 06.2	-14
PBDV					A	A		08 39 11.7	
	7.0nm,0.4s								
PBDV	**Barranco-do-Ve**	**5.86**	**65**	S		Sn		08 39 06.2	-14
	7.0nm,0.4s								
PBDV	**Barranco-do-Ve**	**5.86**	**65**	S		Sn		08 39 06.2	-14
	7.0nm,0.4s								
PCVE	**Castro Verde**	**5.94**	**61**	*e*Pn		Pn		08 38 08.1	-5.3
PCVE

PCBR					A	A	08 39 46.6	
	2.4nm,0.1s							
PCBR	**Castelo Branco**	**7.49**	**47**	S		Sn	08 39 46.1	-14
	1.2nm,0.1s							
PCBR	**Castelo Branco**	**7.49**	**47**	S		Sn	08 39 46.1	-14
	1.2nm,0.1s							
PVIS	**Viseu**	**7.84**	**41**	*e*Sn		Sn	08 39 52.9	-15
PVIS				A		A	08 39 57.3	
	4.2nm,0.1s							
PVIS	**Viseu**	**7.84**	**41**	S		Sn	08 39 52.9	-15
	2.1nm,0.1s							
PVIS	**Viseu**	**7.84**	**41**	S		Sn	08 39 52.9	-15
	2.1nm,0.1s							
POLO	**Lamas de Olo**	**8.37**	**38**	*e*Sn		Sn	08 40 06.5	-15
POLO				A		A	08 40 11.3	
	1.3nm,0.2s							
POLO	**Lamas de Olo**	**8.37**	**38**	*e*Sn		Sn	08 40 06.5	-15
	1.3nm,0.2s							
PGAV	**Gavieira, Arco**	**8.60**	**33**	*e*Pn		Pn	08 38 44.9	-5.1
PGAV				*e*Sn		Sn	08 40 12.3	-15
	2.7nm,0.9s							
PGAV	**Gavieira, Arco**	**8.60**	**33**	*e*Pn		Pn	08 38 44.9	-5.1
PGAV				*e*Sn		Sn	08 40 12.3	-15
	2.7nm,0.9s							
ELOB	**Lobios**	**8.62**	**35**	P		Pn	08 38 43.2	-7.1
	0.2nm,0.1s,SNR=7.9							
ELOB				S		Sn	08 40 10.4	-17
	1.1nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**8.62**	**35**	P		Pn	08 38 43.2	-7.1
	0.2nm,0.1s,SNR=7.9							
ELOB				S		Sn	08 40 10.4	-17
	1.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**8.62**	**41**	P		Pn	08 38 43.5	-6.8
	0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**8.62**	**41**	P		Pn	08 38 43.5	-6.8
	0.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**8.68**	**65**	P		Pn	08 38 45.5	-5.6
	0.3nm,0.1s,SNR=7.9							
EADA				S		Sn	08 40 13.9	-15
	0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**8.68**	**65**	P		Pn	08 38 45.5	-5.6
	0.3nm,0.1s,SNR=7.9							
EADA				S		Sn	08 40 13.9	-15
	0.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**9.12**	**27**	P		Pn	08 38 50.2	-6.9
	1.1nm,0.1s,SNR=7.9							
EMAZ				S		Sn	08 40 21.0	-19
	0.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**9.12**	**27**	P		Pn	08 38 50.2	-6.9
	1.1nm,0.1s,SNR=7.9							

*NEIC **11** 08:50:03.8, 38.°53S×175.°75E, h171km, MG4.1(WEL), After WEL.*

WEL 11 08:50:03.6±0.3, 38.°53S×175.°75E, h173km±2km, ML4.1/17, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.45**	**185**	PN	Pn	08 50 27.3	-0.2
KATZ	**Kakaramea**	**0.45**	**185**	Pn	Pn	08 50 27.3	-0.1
HATZ	**Hinemaiaia**	**0.45**	**143**	PN	Pn	08 50 27.1	-0.3
HATZ				SN	Sn	08 50 44.6	-1.1
HATZ	**Hinemaiaia**	**0.45**	**143**	Pn	Pn	08 50 27.1	-0.3
HATZ				Sn	Sn	08 50 44.5	-1.2
RITZ	**Rihia Road**	**0.46**	**169**	PN	Pn	08 50 27.4	0.0
ALRZ	**Allen Road**	**0.47**	**94**	PN	Pn	08 50 27.3	-0.1
ALRZ	**Allen Road**	**0.47**	**94**	Pn	Pn	08 50 27.4	-0.1
KRVZ	**Karewarewa**	**0.57**	**188**	PN	Pn	08 50 28.0	0.0
KRVZ	**Karewarewa**	**0.57**	**188**	Pn	Pn	08 50 27.9	-0.1
TWVZ	**Taurewa**	**0.59**	**204**	PN	Pn	08 50 28.0	-0.1
TWVZ	**Taurewa**	**0.59**	**204**	Pn	Pn	08 50 28.0	-0.1
WTVZ	**West Tongariro**	**0.60**	**192**	PN	Pn	08 50 28.1	0.0
WTVZ				SN	Sn	08 50 46.8	-0.4
WTVZ	**West Tongariro**	**0.60**	**192**	Pn	Pn	08 50 28.1	0.0
RRRZ	**Republican Roa**	**0.63**	**73**	PN	Pn	08 50 28.0	-0.2
RRRZ				SN	Sn	08 50 46.7	-0.4
RRRZ	**Republican Roa**	**0.63**	**73**	Pn	Pn	08 50 28.0	-0.2
RRRZ				Sn	Sn	08 50 46.5	-0.6
OTVZ	**Oturere**	**0.64**	**186**	PN	Pn	08 50 28.3	-0.1
OTVZ				SN	Sn	08 50 47.4	-0.2
OTVZ	**Oturere**	**0.64**	**186**	Pn	Pn	08 50 28.3	-0.1
KARZ	**Kaharoa**	**0.64**	**38**	PN	Pn	08 50 28.3	0.0
KARZ	**Kaharoa**	**0.64**	**38**	Pn	Pn	08 50 28.3	0.0
NGZ	**Ngauruhoe**	**0.66**	**190**	PN	Pn	08 50 28.4	-0.1
NGZ	**Ngauruhoe**	**0.66**	**190**	Pn	Pn	08 50 28.2	-0.2
WPVZ	**Whakapapa**	**0.69**	**193**	PN	Pn	08 50 28.7	0.0
WPVZ	**Whakapapa**	**0.69**	**193**	Pn	Pn	08 50 28.7	0.0
HIZ	**Hauiti**	**0.70**	**271**	PN	Pn	08 50 28.6	+0.1
HIZ	**Hauiti**	**0.70**	**271**	Pn	Pn	08 50 28.6	+0.1
FWVZ	**Far West T-bar**	**0.74**	**192**	PN	Pn	08 50 28.8	-0.3
FWVZ	**Far West T-bar**	**0.74**	**192**	Pn	Pn	08 50 28.6	-0.4
TUVZ	**Tukino**	**0.74**	**186**	PN	Pn	08 50 29.0	0.0
TUVZ	**Tukino**	**0.74**	**186**	Pn	Pn	08 50 29.0	0.0
DRZ	**Dome Shelter**	**0.76**	**191**	PN	Pn	08 50 29.0	-0.2
DRZ	**Dome Shelter**	**0.76**	**191**	Pn	Pn	08 50 29.0	-0.2
TRVZ	**Turoa**	**0.78**	**191**	Pn	Pn	08 50 29.4	0.0
TRVZ				SN	Sn	08 50 48.5	-0.8
TRVZ	**Turoa**	**0.78**	**191**	Pn	Pn	08 50 29.4	0.0
WNVZ	**Wahianoa**	**0.81**	**188**	PN	Pn	08 50 29.4	0.0
WNVZ	**Wahianoa**	**0.81**	**188**	Pn	Pn	08 50 29.4	0.0
PKVZ	**Pokaka**	**0.82**	**202**	PN	Pn	08 50 29.2	-0.1
PKVZ	**Pokaka**	**0.82**	**202**	Pn	Pn	08 50 29.2	-0.1
TOZ	**Tahuroa Road**	**0.82**	**346**	PN	Pn	08 50 29.6	+0.3
TOZ				SN	Sn	08 50 49.1	+0.1
TOZ	**Tahuroa Road**	**0.82**	**346**	Pn	Pn	08 50 29.6	+0.3
BKZ	**Black Stump Fm**	**0.86**	**138**	PN	Pn	08 50 29.5	-0.1
BKZ	**Black Stump Fm**	**0.86**	**138**	Pn	Pn	08 50 29.4	-0.2
MOVZ	**Moawhango**	**0.88**	**180**	PN	Pn	08 50 29.4	-0.4
MOVZ	**Moawhango**	**0.88**	**180**	Pn	Pn	08 50 29.4	-0.4
MTVZ	**Mangateitei**	**0.88**	**194**	PN	Pn	08 50 29.8	0.0
MTVZ	**Mangateitei**	**0.88**	**194**	Pn	Pn	08 50 29.7	-0.1
VRZ	**Vera Road**	**0.97**	**232**	PN	Pn	08 50 30.3	0.0
VRZ	**Vera Road**	**0.97**	**232**	Pn	Pn	08 50 30.3	0.0
BHHZ	**Black Hill Sta**	**0.99**	**166**	PN	Pn	08 50 30.2	-0.3
BHHZ	**Black Hill Sta**	**0.99**	**166**	Pn	Pn	08 50 30.2	-0.3
NMHZ	**Naumai**	**1.00**	**125**	PN	Pn	08 50 31.4	+0.7
NMHZ	**Naumai**	**1.00**	**125**	Pn	Pn	08 50 31.5	+0.8
URZ	**Urewera**	**1.10**	**76**	PN	Pn	08 50 30.8	-0.6
URZ	**Urewera**	**1.10**	**76**	Pn	Pn	08 50 30.7	-0.6
RAHZ	**Arahi**	**1.11**	**111**	PN	Pn	08 50 31.9	+0.4
RAHZ				SN	Sn	08 50 52.4	-0.6
RAHZ	**Arahi**	**1.11**	**111**	Pn	Pn	08 50 31.9	+0.4
MCHZ	**McNeill Hill**	**1.17**	**141**	PN	Pn	08 50 32.7	+0.8
MCHZ	**McNeill Hill**	**1.17**	**141**	Pn	Pn	08 50 32.8	+0.8
WAZ	**Wanganui**	**1.36**	**206**	PN	Pn	08 50 33.3	-0.3
WAZ	**Wanganui**	**1.36**	**206**	Pn	Pn	08 50 33.4	-0.2
MWZ	**Matawai**	**1.41**	**83**	PN	Pn	08 50 33.8	-0.3
MWZ	**Matawai**	**1.41**	**83**	Pn	Pn	08 50 33.8	-0.3
PNHZ	**Pukenui**	**1.43**	**166**	PN	Pn	08 50 34.0	-0.3
PNHZ	**Pukenui**	**1.43**	**166**	Pn	Pn	08 50 34.0	-0.3
CKHZ	**Cape Kidnapper**	**1.53**	**138**	PN	Pn	08 50 35.6	+0.4
CKHZ				SN	Sn	08 50 58.4	-1.3
CKHZ	**Cape Kidnapper**	**1.53**	**138**	Pn	Pn	08 50 35.6	+0.4
CKHZ				Sn	Sn	08 50 58.4	-1.3
TSZ	**Takapari Road**	**1.54**	**174**	PN	Pn	08 50 35.0	-0.3
TSZ	**Takapari Road**	**1.54**	**174**	Pn	Pn	08 50 35.0	-0.3
KAHZ	**Kahuranaki**	**1.54**	**146**	PN	Pn	08 50 35.6	+0.3
KAHZ	**Kahuranaki**	**1.54**	**146**	Pn	Pn	08 50 35.6	+0.3
KNZ	**Kokohu**	**1.58**	**109**	PN	Pn	08 50 35.8	+0.1
KNZ	**Kokohu**	**1.58**	**109**	Pn	Pn	08 50 35.8	+0.1
WPHZ	**Waipukurau**	**1.62**	**161**	PN	Pn	08 50 35.9	-0.2
WPHZ	**Waipukurau**	**1.62**	**161**	Pn	Pn	08 50 35.9	-0.2
PRGZ	**Paritu Road**	**1.71**	**104**	PN	Pn	08 50 37.1	0.0
PRGZ	**Paritu Road**	**1.71**	**104**	Pn	Pn	08 50 37.1	0.0
PXZ	**Pawanui**	**1.73**	**150**	PN	Pn	08 50 37.0	-0.2
PXZ	**Pawanui**	**1.73**	**150**	Pn	Pn	08 50 37.0	-0.2
DVHZ	**Dannevirke**	**1.80**	**170**	PN	Pn	08 50 37.1	-0.8
DVHZ	**Dannevirke**	**1.80**	**170**	Pn	Pn	08 50 37.1	-0.8
MHGZ	**Mahia Peninsul**	**1.80**	**111**	PN	Pn	08 50 38.2	+0.3
MHGZ	**Mahia Peninsul**	**1.80**	**111**	Pn	Pn	08 50 38.2	+0.3
POWZ	**Post Office Ro**	**1.86**	**180**	PN	Pn	08 50 37.8	-0.8
POWZ	**Post Office Ro**	**1.86**	**180**	Pn	Pn	08 50 37.8	-0.8
PRHZ	**Porangahau**	**1.86**	**159**	PN	Pn	08 50 38.2	-0.4
PRHZ	**Porangahau**	**1.86**	**159**	Pn	Pn	08 50 38.2	-0.4
PUZ	**Puketiti**	**2.03**	**78**	PN	Pn	08 50 40.2	-0.2
PUZ	**Puketiti**	**2.03**	**78**	Pn	Pn	08 50 40.2	-0.3
MRZ	**Mangatainoka R**	**2.13**	**183**	Pn	Pn	08 50 40.3	-1.3
BFZ	**Birch Farm**	**2.18**	**170**	PN	Pn	08 50 41.2	-1.0
BFZ	**Birch Farm**	**2.18**	**170**	Pn	Pn	08 50 41.1	-1.1
MXZ	**Matakaoa Point**	**2.24**	**65**	PN	Pn	08 50 42.7	-0.1
MXZ	**Matakaoa Point**	**2.24**	**65**	Pn	Pn	08 50 42.7	-0.1
TIWZ	**Tintock**	**2.25**	**177**	PN	Pn	08 50 41.7	-1.2
TIWZ	**Tintock**	**2.25**	**177**	Pn	Pn	08 50 41.7	-1.2
OGWZ	**Otaki Gorge**	**2.33**	**191**	PN	Pn	08 50 42.7	-1.1
OGWZ	**Otaki Gorge**	**2.33**	**191**	Pn	Pn	08 50 42.7	-1.1
HOWZ	**Holdsworth Sta**	**2.37**	**184**	PN	Pn	08 50 42.8	-1.6
HOWZ	**Holdsworth Sta**	**2.37**	**184**	Pn	Pn	08 50 42.8	-1.6
KIW	**Kapiti Island**	**2.42**	**195**	PN	Pn	08 50 43.3	-1.6
KIW	**Kapiti Island**	**2.42**	**195**	Pn	Pn	08 50 43.3	-1.6
TMWZ	**Te Maipa**	**2.58**	**178**	PN	Pn	08 50 45.1	-1.7
TMWZ	**Te Maipa**	**2.58**	**178**	Pn	Pn	08 50 45.1	-1.7
CAW	**Cannon Point**	**2.63**	**191**	PN	Pn	08 50 45.7	-1.7
CAW	**Cannon Point**	**2.63**	**191**	Pn	Pn	08 50 45.7	-1.7
MTW	**Mount Morrison**	**2.63**	**184**	PN	Pn	08 50 45.4	-2.0
MTW	**Mount Morrison**	**2.63**	**184**	Pn	Pn	08 50 45.4	-2.0
DUWZ	**D'Urville Isla**	**2.67**	**211**	PN	Pn	08 50 46.1	-1.8
DUWZ	**D'Urville Isla**	**2.67**	**211**	Pn	Pn	08 50 46.1	-1.8
WEL	**Wellington**	**2.85**	**195**	PN	Pn	08 50 48.4	-1.7
WEL	**Wellington**	**2.85**	**195**	Pn	Pn	08 50 48.4	-1.7
PAWZ	**Paruwai Farm**	**2.86**	**185**	*e*PN	Pn	08 50 48.1	-2.0
PAWZ	**Paruwai Farm**	**2.86**	**185**	*e*Pn	Pn	08 50 48.1	-2.0
MSWZ	**Moikau Station**	**2.91**	**187**	PN	Pn	08 50 48.4	-2.3
MSWZ	**Moikau Station**	**2.91**	**187**	Pn	Pn	08 50 48.5	-2.3
TCW	**Tory Channel**	**2.91**	**202**	PN	Pn	08 50 48.9	-1.8
TCW	**Tory Channel**	**2.91**	**202**	Pn	Pn	08 50 48.9	-1.8
TUWZ	**Tuamarina**	**3.21**	**205**	PN	Pn	08 50 52.4	-2.0
TUWZ	**Tuamarina**	**3.21**	**205**	Pn	Pn	08 50 52.4	-2.0
NNZ	**Nelson**	**3.24**	**213**	PN	Pn	08 50 52.5	-2.3
NNZ	**Nelson**	**3.24**	**213**	Pn	Pn	08 50 52.5	-2.3
QRZ	**Quartz Range**	**3.38**	**226**	PN	Pn	08 50 53.6	-3.0
QRZ	**Quartz Range**	**3.38**	**226**	Pn	Pn	08 50 53.6	-3.0
BSWZ	**Blackbirch Sta**	**3.49**	**204**	Pn	Pn	08 50 56.2	-1.7
THZ	**Tophouse**	**3.90**	**213**	PN	Pn	08 51 00.4	-2.7
THZ	**Tophouse**	**3.90**	**213**	Pn	Pn	08 51 00.4	-2.7
KHZ	**Kahutara**	**4.23**	**203**	PN	Pn	08 51 05.0	-2.4
KHZ	**Kahutara**	**4.23**	**203**	Pn	Pn	08 51 05.0	-2.4
LTZ	**Lake Taylor**	**5.00**	**211**	PN	Pn	08 51 14.2	-3.3
LTZ	**Lake Taylor**	**5.00**	**211**	Pn	Pn	08 51 14.2	-3.3
WVZ	**Waitaha Valley**	**5.92**	**218**	PN	Pn	08 51 29.7	+0.3
WVZ	**Waitaha Valley**	**5.92**	**218**	Pn	Pn	08 51 29.7	+0.3

DJA 11 09:01:23.5±0.6, 1.°S±6.°×12.°3E±.°, h10km, M3.9/4, MLv3.9/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.44**	**167**	P	Pg	09 01 30.0	-2.2
LUWI				S	Sb	09 01 40.3	+0.2
APSI	**Ampana**	**1.06**	**254**	P	Pg	09 01 42.9	-1.1
APSI				S	Sn	09 02 11.8	+12
MRSI	**Marisa**	**1.30**	**326**	P	Pn	09 01 45.0	-2.8
MRSI				S	Sg	09 02 06.8	+1.3
KMSI	**Cibinong**	**1.76**	**48**	P	Pn	09 01 54.4	+0.3
KMSI				S	Sb	09 02 18.4	+0.3

IDC 11 09:07:41.4±2.6, 2.°08S×138.°83E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=109.1km s-min=25.2km az=81.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.29**	**194**	P	Pn	09 11 56.7	-0.2
	0.5nm,0.3s,baz=12,slow=11,SNR=28						
ASAR	**Alice Springs**	**21.98**	**192**	P	P	09 12 36.5	-0.8
	2.8nm,0.7s,baz=25,slow=9.4,SNR=20						
STKA	**Stephens Creek**	**29.75**	**175**	P	P	09 13 50.1	+0.4
	1.5nm,1.0s,baz=343,slow=7.9,SNR=3.5						
KSRS	**Korea Array**	**40.62**	**347**	LR	LR	09 31 42.3	
	comp=Z,14nm,19.8s,baz=165,slow=36						
MKAR	**Makanchi Array**	**69.37**	**322**	P	P	09 18 51.3	+0.2
	0.3nm,0.6s,baz=114,slow=7.1,SNR=4.0						

*ISK **11** 09:21:03.7, 39.°62N×29.°64E, h16km, MD2.6*
*ISCJB **11** 09:21:04.3±0.5, 39.°69N±0.°03×29.°44E±0.°04, h0km, Error ellipse: s-maj=4.8km s-min=4.0km az=33.9*
*DDA **11** 09:21:04.6, 39.°65N×29.°45E, h7km, MD2.5*
*CSEM **11** 09:21:04.5±0.3, 39.°67N×29.°45E, h1km, MD2.6, Error ellipse: s-maj=7.0km s-min=5.6km az=111.0*

ISC 11 09:21:04.7±0.8, 39.°69N±0.°03×29.°42E±0.°03, h0km, n20, σ0s86/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.24**	**172**	*e*Pg	**Pg**	**09 21 08.9**	**-0.5**
TVSB				*e*Sg	**Sg**	**09 21 13.2**	**+0.7**
TVSB	**Tavsanli**	**0.24**	**172**	*e*PG	**Pg**	**09 21 08.9**	**-0.5**
TVSB				*e*SG	**Sg**	**09 21 13.2**	**+0.7**
GDZ	**Gediz**	**0.61**	**175**	*i* P	**Pg**	**09 21 15.4**	**-0.8**
GDZ				*i* S	**Sg**	**09 21 24.6**	**+0.5**
GDZ	**Gediz**	**0.61**	**175**	*i* P	**Pg**	**09 21 15.4**	**-0.8**
GDZ				*i* S	**Sg**	**09 21 24.6**	**+0.5**
DURS	**Dursunbey**	**0.73**	**263**	*i* P	**Pg**	**09 21 17.4**	**-1.4**
DURS				*i* S	**Sg**	**09 21 29.5**	**+1.2**
DURS	**Dursunbey**	**0.73**	**263**	*i* P	**Pg**	**09 21 17.4**	**-1.4**
DURS				*i* S	**Sg**	**09 21 29.5**	**+1.2**
MDNY	**Mudanya-Bursa**	**0.79**	**329**	*e*PG	**Pb**	**09 21 22.1**	**+0.8**
MDNY				*e*SG	**Sn**	**09 21 36.3**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.79**	**329**	*e*Pg	**Pb**	**09 21 22.1**	**+0.8**
BORA	**Eskisehir**	**0.82**	**76**	*i* P	**Pg**	**09 21 19.7**	**-0.7**
BORA				*i* S	**Sg**	**09 21 32.0**	**+1.0**
BORA	**Eskisehir**	**0.82**	**76**	*i* P	**Pg**	**09 21 19.7**	**-0.7**
BORA				*i* S	**Sg**	**09 21 32.0**	**+1.0**
DEMI	**Demirci**	**0.85**	**220**	*i* P	**Pg**	**09 21 20.6**	**-0.3**
DEMI				*i* S	**Sb**	**09 21 33.2**	**-1.1**
DEMI	**Demirci**	**0.85**	**220**	*i* P	**Pg**	**09 21 20.6**	**-0.3**
DEMI				*i* S	**Sb**	**09 21 33.2**	**-1.1**
YLV	**Yalova**	**0.87**	**358**	*e*PG	**Pb**	**09 21 22.8**	**0.0**
YLV	**Yalova**	**0.87**	**358**	*e*Pg	**Pb**	**09 21 22.8**	**0.0**
ARMT	**Armutlu**	**0.97**	**334**	*e*PN	**Pb**	**09 21 25.1**	**+0.7**
ARMT	**Armutlu**	**0.97**	**334**	*e*Pn	**Pb**	**09 21 25.1**	**+0.7**
GULT	**Gulveren**	**1.12**	**48**	*e*PG	**Pg**	**09 21 25.0**	**-1.1**
GULT	**Gulveren**	**1.12**	**48**	*e*Pg	**Pg**	**09 21 25.0**	**-1.1**
GONE	**Gonen-Balikesi**	**1.38**	**285**	*e*PN	**Pn**	**09 21 31.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**285**	*e*Pn	**Pn**	**09 21 31.1**	**-0.1**

*ISCJB **11** 09:25:10.7±0.6, 37.°92N±0.°03×29.°17E±0.°05, h9km±5km, Error ellipse: s-maj=6.5km s-min=4.5km az=5.2*
*DDA **11** 09:25:10.0, 37.°90N×29.°17E, h14km, MD2.7*
*CSEM **11** 09:25:10.6±0.2, 37.°91N×29.°18E, h2km, MD2.7, Error ellipse: s-maj=5.9km s-min=4.3km az=102.0*
*ISK **11** 09:25:11.1, 37.°96N×29.°19E, h5km, MD2.7*

ISC 11 09:25:11.0±0.9, 37.°90N±0.°02×29.°18E±0.°03, h14km±8km, n20, σ0s94/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**220**	*e*PG	**Pg**	**09 25 16.4**	**+1.0**
DENT	**Denizli**	**0.18**	**220**	*e*Pg	**Pg**	**09 25 16.4**	**+1.0**
DNZL	**Cakiroluk**	**0.23**	**208**	*i* P	**Pg**	**09 25 15.2**	**-1.0**
DNZL				*i* S	**Sg**	**09 25 19.0**	**-0.7**
DNZL	**Cakiroluk**	**0.23**	**208**	*i* P	**Pg**	**09 25 15.2**	**-1.0**
DNZL				*i* S	**Sg**	**09 25 19.0**	**-0.7**
KHL	**Karahalli**	**0.50**	**32**	*e*PG	**Pg**	**09 25 20.4**	**-0.6**
KHL	**Karahalli**	**0.50**	**32**	*e*Pg	**Pg**	**09 25 20.4**	**-0.6**
KHAL	**Karahalli**	**0.53**	**27**	*i* P	**Pg**	**09 25 20.7**	**-0.9**
KHAL				*i* S	**Sg**	**09 25 28.4**	**-0.3**
KHAL	**Karahalli**	**0.53**	**27**	*i* P	**Pg**	**09 25 20.7**	**-0.9**
KHAL				*i* S	**Sg**	**09 25 28.4**	**-0.3**
GOLH	**Golhisar**	**0.72**	**155**	*i* P	**Pg**	**09 25 23.8**	**-1.3**
GOLH				*i* S	**Sb**	**09 25 36.2**	**+0.8**
GOLH	**Golhisar**	**0.72**	**155**	*i* P	**Pg**	**09 25 23.8**	**-1.3**
GOLH				*i* S	**Sb**	**09 25 36.2**	**+0.8**
KULA	**Kula-Manisa**	**0.74**	**327**	*e*PG	**Pg**	**09 25 25.0**	**-0.5**
KULA				*e*SG	**Sg**	**09 25 35.0**	**-0.3**
KULA	**Kula-Manisa**	**0.74**	**327**	*e*Pg	**Pg**	**09 25 25.0**	**-0.5**
KULA				*e*Sg	**Sg**	**09 25 35.0**	**-0.3**
MANT	**Manisa**	**0.77**	**321**	*i* P	**Pg**	**09 25 25.5**	**-0.6**
MANT				*i* S	**Sg**	**09 25 35.4**	**-0.9**
MANT	**Manisa**	**0.77**	**321**	*i* P	**Pg**	**09 25 25.5**	**-0.6**
MANT				*i* S	**Sg**	**09 25 35.4**	**-0.9**
YER	**Yerkesik**	**1.04**	**224**	*e*PN	**Pn**	**09 25 32.5**	**+1.1**
YER	**Yerkesik**	**1.04**	**224**	*e*Pn	**Pn**	**09 25 32.5**	**+1.1**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P	**Pg**	**09 25 30.2**	**-1.3**
AYDN				*i* S	**Sg**	**09 25 44.0**	**-1.3**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P	**Pg**	**09 25 30.2**	**-1.3**
AYDN				*i* S	**Sg**	**09 25 44.0**	**-1.3**
ALT	**Altintas**	**1.37**	**32**	*e*PN	**Pb**	**09 25 36.7**	**+0.2**
ALT	**Altintas**	**1.37**	**32**	*e*Pn	**Pb**	**09 25 36.7**	**+0.2**

*ISCJB **11** 09:43:34.6±0.3, 50.°27N±0.°01×7.°52E±0.°02, h13km±2km, Error ellipse: s-maj=2.6km s-min=2.3km az=162.1*
*CSEM **11** 09:43:35.8±0.1, 50.°29N×7.°49E, h15km, ML3.0/19, Error ellipse: s-maj=2.2km s-min=2.0km az=79.0*
*BGR **11** 09:43:36.3±0.3, 50.°32N×7.°50E, h10km, ML2.4/8, Error ellipse: s-maj=3.3km s-min=2.2km az=5.0*
*BNS **11** 09:43:36.9±1.3, 50.°35N×7.°46E, h3km±13km, ML2.1*
*LDG **11** 09:43:36.8±0.1, 50.°32N×7.°47E, h10km, Md3.0/2, Ml3.0/16, Error ellipse: s-maj=1.4km s-min=1.2km az=65.0*
*STR **11** 09:43:37.5±0.8, 50.°21N×7.°52E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*UCC **11** 09:43:37.6±0.7, 50.°29N×7.°41E, h16km±4km, ML1.9*

ISC 11 09:43:36.4±0.8, 50.°32N±0.°02×7.°46E±0.°02, h17km±5km, n104, σ1s57/164, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.14**	**214**	*e*Pg	**Pg**	**09 43 40.1**	**-0.1**
BGG				*e*Sg	**Sg**	**09 43 42.4**	**-0.6**
	1µm,0.1s						
BGG	**Burgeitz**	**0.14**	**214**	Pg	**Pg**	**09 43 40.2**	**-0.1**
BGG				Sg	**Sg**	**09 43 42.3**	**-0.6**
	1µm,0.1s						
KOE	**Koeppel**	**0.21**	**59**	*i* Pg	**Pg**	**09 43 40.6**	**-0.7**
KOE				*i* Sg	**Sg**	**09 43 43.2**	**-1.5**
KOE	**Koeppel**	**0.21**	**59**	Pg	**Pg**	**09 43 40.7**	**-0.7**
KOE				Sg	**Sg**	**09 43 43.2**	**-1.5**
ABH	**Alteburg**	**0.44**	**172**	Pg	**Pg**	**09 43 45.4**	**+0.1**
ABH				Sg	**Sg**	**09 43 50.3**	**-1.1**
STB	**Steinbach**	**0.48**	**305**	*e*Pg	**Pg**	**09 43 46.3**	**+0.3**
STB				*e*Sg	**Sg**	**09 43 52.2**	**-0.4**
	53nm,0.3s						
STB	**Steinbach**	**0.48**	**305**	Pg	**Pg**	**09 43 46.3**	**+0.3**
STB				Sg	**Sg**	**09 43 52.2**	**-0.4**
	53nm,0.3s						
HILG	**Hillesheim**	**0.50**	**267**	*e*Pg	**Pg**	**09 43 46.8**	**+0.4**
HILG				*e*Sg	**Sg**	**09 43 53.4**	**+0.3**
	117nm,0.2s						
HILG	**Hillesheim**	**0.50**	**267**	Pg	**Pg**	**09 43 46.8**	**+0.4**
HILG				Sg	**Sg**	**09 43 53.4**	**+0.3**
	117nm,0.2s						
TNS	**Taunus Mts**	**0.64**	**98**	*e*Pg	**Pg**	**09 43 48.5**	**-0.6**
TNS				*e*Sg	**Sg**	**09 43 56.5**	**-1.2**
TNS	**Taunus Mts**	**0.64**	**98**	Pg	**Pg**	**09 43 48.5**	**-0.6**
TNS				Sg	**Sg**	**09 43 56.5**	**-1.2**
RUP	**Ruppelstein**	**0.67**	**203**	Pg	**Pg**

ECH	**Echery**	**2.11 185**	Pg	**Pb**	**09 44 14.9 +0.6**			
ECH	**Echery**	**2.11 185**	Pg	**Pb**	**09 44 14.9 +0.6**			
THEF	**They Montfort**	**2.30 205**	Pg	**Pb**	**09 44 18.3 +0.8**			
THEF	**They Montfort**	**2.30 205**	Pg	**Pb**	**09 44 18.3 +0.8**			
MEZF	**Maizieres J'vi** baz=48	**2.40 222**	*e*Pn	**Pn**	**09 44 14.9 -0.1**			
MEZF	**Maizieres J'vi** baz=50	**2.40 222**	*e*Pg	Pb	09 44 21.8 +2.6			
MEZF			*e*Sg	**Sg**	**09 44 52.7 -0.9**			
	comp=E,16nm,0.3s							
MEZF	**Maizieres J'vi** baz=48	**2.40 222**	*e*Pn	**Pn**	**09 44 14.9 -0.1**			
MEZF	**Maizieres J'vi** baz=50	**2.40 222**	*e*Pg	Pb	09 44 21.8 +2.6			
MEZF			*e*Sg	**Sg**	**09 44 52.7 -0.9**			
	comp=E,8.1nm,0.3s							
HAU	**Haudompre**	**2.43 198**	*e*Pn	**Pn**	**09 44 15.2 -0.1**			
HAU	**Haudompre**	**2.43 198**	*e*Pg	**Pb**	**09 44 21.9 +2.3**			
HAU			*e*Sg	**Sb**	**09 44 52.8 +3.6**			
	comp=E,15nm,0.2s							
HAU	**Haudompre**	**2.43 198**	*e*Pn	**Pn**	**09 44 15.2 -0.1**			
HAU	**Haudompre**	**2.43 198**	*e*Pg	**Pb**	**09 44 21.9 +2.3**			
HAU			*e*Sg	**Sb**	**09 44 52.8 +3.6**			
	comp=E,7.6nm,0.2s							
HINF	**Hinteralfeld**	**2.54 189**	*e*Pn	**Pn**	**09 44 16.3 -0.5**			
HINF	**Hinteralfeld**	**2.54 189**	*e*Pg	Pb	09 44 24.0 +2.5			
HINF			*e*Sn	**Sn**	**09 44 44.7 -2.7**			
HINF			*e*Sg	**Sb**	**09 44 56.2 +3.8**			
	comp=E,12nm,0.2s							
HINF	**Hinteralfeld**	**2.54 189**	*e*Pn	**Pn**	**09 44 16.3 -0.5**			
HINF	**Hinteralfeld**	**2.54 189**	*e*Pg	Pb	09 44 24.0 +2.5			
HINF			*e*Sn	**Sn**	**09 44 44.7 -2.7**			
HINF			*e*Sg	**Sb**	**09 44 56.2 +3.8**			
	comp=E,5.8nm,0.2s							
SFTF	**Sexfontaines**	**2.64 218**	*e*Pn	**Pn**	**09 44 18.3 0.0**			
SFTF	**Sexfontaines**	**2.64 218**	*e*Pg	Pb	09 44 26.1 +2.8			
SFTF			*e*Sg	**Sg**	**09 45 00.1 -1.2**			
	comp=E,11nm,0.2s							
SFTF	**Sexfontaines**	**2.64 218**	*e*Pn	**Pn**	**09 44 18.3 0.0**			
SFTF	**Sexfontaines**	**2.64 218**	*e*Pg	Pb	09 44 26.1 +2.8			
SFTF			*e*Sg	**Sg**	**09 45 00.1 -1.2**			
	comp=E,5.6nm,0.2s							
MOX	**Moxa**	**2.68 81**	*e*Sg	**Sb**	**09 45 00.5 +4.0**			
MOX	**Moxa**	**2.68 81**	Sg	**Sb**	**09 45 00.5 +4.0**			
CABF	**La Chapelle**	**3.82 194**	*e*Pn	**Pn**	**09 44 34.1 -0.5**			
CABF	**La Chapelle**	**3.82 194**	*e*Pg	Pb	09 44 47.9 +4.5			
CABF			*e*Sg	**Sg**	**09 45 36.9 -2.1**			
	comp=E,4.5nm,0.4s							
CABF	**La Chapelle**	**3.82 194**	*e*Pn	**Pn**	**09 44 34.1 -0.5**			
CABF	**La Chapelle**	**3.82 194**	*e*Pg	Pb	09 44 47.9 +4.5			
CABF			*e*Sg	**Sg**	**09 45 36.9 -2.1**			
	comp=E,2.2nm,0.4s							
LOR	**Lormes** baz=34	**3.87 219**	*e*Pn	**Pn**	**09 44 34.2 -1.0**			
LOR			*e*Sn	**Sn**	**09 45 17.6 -2.6**			
LOR			*e*Sg	**Sg**	**09 45 38.4 -2.2**			
	comp=E,4.5nm,0.2s							
LOR	**Lormes** baz=34	**3.87 219**	*e*Pn	**Pn**	**09 44 34.2 -1.0**			
LOR			*e*Sn	**Sn**	**09 45 17.6 -2.6**			
LOR			*e*Sg	**Sg**	**09 45 38.4 -2.2**			
	comp=E,2.2nm,0.2s							
SSF	**Saint Saulge**	**4.18 220**	*e*Pn	**Pn**	**09 44 38.2 -1.2**			
SSF			*e*Sg	**Sg**	**09 45 47.8 -2.7**			
	comp=E,5.1nm,0.4s							
SSF	**Saint Saulge**	**4.18 220**	*e*Pn	**Pn**	**09 44 38.2 -1.2**			
SSF			*e*Sg	**Sg**	**09 45 47.8 -2.7**			
	comp=E,2.5nm,0.4s							
SMF	**Signal de Mont**	**4.39 215**	*e*Pn	**Pn**	**09 44 40.9 -1.4**			
SMF			*e*Sn	**Sn**	**09 45 29.9 -3.2**			
SMF			*e*Sg	**Sg**	**09 45 54.7 -2.6**			
	comp=E,2.9nm,0.2s							
SMF	**Signal de Mont**	**4.39 215**	*e*Pn	**Pn**	**09 44 40.9 -1.4**			
SMF			*e*Sn	**Sn**	**09 45 29.9 -3.2**			
SMF			*e*Sg	**Sg**	**09 45 54.7 -2.6**			
	comp=E,1.5nm,0.2s							
AVF	**Avril sur Loir**	**4.46 219**	*e*Pn	**Pn**	**09 44 42.2 -1.0**			
AVF	**Avril sur Loir**	**4.46 219**	*e*Pg	Pb	09 44 59.4 +5.2			
AVF			*e*Sg	**Sg**	**09 45 56.8 -2.7**			
	comp=E,1.6nm,0.2s							
AVF	**Avril sur Loir**	**4.46 219**	*e*Pn	**Pn**	**09 44 42.2 -1.0**			
AVF	**Avril sur Loir**	**4.46 219**	*e*Pg	Pb	09 44 59.4 +5.2			
AVF			*e*Sg	**Sg**	**09 45 56.8 -2.7**			
	comp=E,0.8nm,0.2s							
BGF	**Bois d'Agland**	**4.86 221**	*e*Pn	**Pn**	**09 44 47.6 -1.1**			
BGF			*e*Sg	**Sg**	**09 46 09.1 -3.1**			
	comp=E,13nm,0.4s							
BGF	**Bois d'Agland**	**4.86 221**	*e*Pn	**Pn**	**09 44 47.6 -1.1**			
BGF			*e*Sg	**Sg**	**09 46 09.1 -3.1**			
	comp=E,6.4nm,0.4s							
SGMF	**Saint Gilles**	**6.87 256**	*e*Pn	**Pn**	**09 45 16.0 -0.3**			
SGMF	**Saint Gilles**	**6.87 256**	*e*Pn	**Pn**	**09 45 16.0 -0.3**			

*NEIC **11** 09:46:30.6, 41°.70S×174°.48E, h54km, ML4.3(WEL), After WEL.*
NEIC Felt [IV] at Wellington and Whitby.
WEL 11 09:46:30.7±0.1, 41°.69S×174°.48E, h54km±1km, ML4.3/18, Error ellipse: s-maj=1.0km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.21**	**253**	PN	Pn	09 46 39.8	+0.3
CMWZ				SN	Sn	09 46 47.3	+1.4
CMWZ	**Cape Campbell**	**0.21**	**253**	Pn	Pn	09 46 39.8	+0.3
BHW	**Baring Head**	**0.41**	**47**	PN	Pn	09 46 41.0	-0.1
BHW				SN	Sn	09 46 48.4	-0.3
BHW	**Baring Head**	**0.41**	**47**	Pn	Pn	09 46 41.0	-0.1
BHW				Sn	Sn	09 46 48.1	-0.6
SNZO	**South Karori**	**0.41**	**24**	PN	Pn	09 46 41.1	-0.2
SNZO				SN	Sn	09 46 48.2	-0.6
SNZO				SN		09 46 48.5	
SNZO	**South Karori**	**0.41**	**24**	Pn	Pn	09 46 41.1	-0.2
SNZO				Sn	Sn	09 46 48.5	-0.4
BSWZ	**Blackbirch Sta**	**0.45**	**266**	PN	Pn	09 46 41.4	-0.3
BSWZ	**Blackbirch Sta**	**0.45**	**266**	Pn	Pn	09 46 41.5	-0.2
WEL	**Wellington**	**0.46**	**29**	PN	Pn	09 46 41.6	-0.1
WEL	**Wellington**	**0.46**	**29**	Pn	Pn	09 46 41.7	-0.1
TUWZ	**Tuamarina**	**0.48**	**302**	PN	Pn	09 46 41.3	-0.6
TUWZ	**Tuamarina**	**0.48**	**302**	Pn	Pn	09 46 41.3	-0.6
TCW	**Tory Channel**	**0.50**	**342**	PN	Pn	09 46 41.7	-0.5
TCW				SN	Sn	09 46 49.6	-0.9
TCW	**Tory Channel**	**0.50**	**342**	Pn	Pn	09 46 41.7	-0.5
PLWZ	**Palliser**	**0.59**	**79**	PN	Pn	09 46 43.1	-0.3
PLWZ				SN	Sn	09 46 52.7	+0.1
PLWZ	**Palliser**	**0.59**	**79**	Pn	Pn	09 46 43.1	-0.3
MSWZ	**Moikau Station**	**0.64**	**65**	PN	Pn	09 46 43.6	-0.3
MSWZ				SN	Sn	09 46 53.4	-0.1
MSWZ	**Moikau Station**	**0.64**	**65**	Pn	Pn	09 46 43.6	-0.3
CAW	**Cannon Point**	**0.73**	**38**	PN	Pn	09 46 44.7	-0.4
CAW				SN	Sn	09 46 55.3	-0.1
CAW	**Cannon Point**	**0.73**	**38**	Pn	Pn	09 46 44.7	-0.4
PAWZ	**Paruwai Farm**	**0.78**	**67**	PN	Pn	09 46 45.0	-0.6
PAWZ	**Paruwai Farm**	**0.78**	**67**	Pn	Pn	09 46 45.0	-0.6
KIW	**Kapiti Island**	**0.89**	**22**	PN	Pn	09 46 46.9	-0.1
KIW	**Kapiti Island**	**0.89**	**22**	Pn	Pn	09 46 47.0	-0.1
MTW	**Mount Morrison**	**0.93**	**56**	PN	Pn	09 46 46.9	-0.7
MTW				SN	Sn	09 46 59.5	-0.6
MTW	**Mount Morrison**	**0.93**	**56**	Pn	Pn	09 46 46.9	-0.7
NNZ	**Nelson**	**0.95**	**299**	PN	Pn	09 46 47.2	-0.7
NNZ	**Nelson**	**0.95**	**299**	Pn	Pn	09 46 47.2	-0.7
TRWZ	**Traveller**	**0.95**	**73**	PN	Pn	09 46 47.4	-0.6
TRWZ	**Traveller**	**0.95**	**73**	Pn	Pn	09 46 47.4	-0.6
DUWZ	**D'Urville Isla**	**0.98**	**334**	PN	Pn	09 46 48.0	-0.3
DUWZ	**D'Urville Isla**	**0.98**	**334**	Pn	Pn	09 46 48.0	-0.2
KHZ	**Kahutara**	**1.01**	**223**	PN	Pn	09 46 48.3	-0.3
KHZ	**Kahutara**	**1.01**	**223**	Pn	Pn	09 46 48.0	-0.7
OGWZ	**Otaki Gorge**	**1.01**	**31**	PN	Pn	09 46 48.4	-0.3
OGWZ	**Otaki Gorge**	**1.01**	**31**	Pn	Pn	09 46 48.4	-0.3
HOWZ	**Holdsworth Sta**	**1.11**	**45**	PN	Pn	09 46 49.2	-0.9
HOWZ	**Holdsworth Sta**	**1.11**	**45**	Pn	Pn	09 46 49.2	-0.9
THZ	**Tophouse**	**1.18**	**266**	PN	Pn	09 46 50.3	-0.8
THZ	**Tophouse**	**1.18**	**266**	Pn	Pn	09 46 49.9	-1.2
TMWZ	**Te Maipa**	**1.21**	**62**	PN	Pn	09 46 50.4	-1.0
TMWZ	**Te Maipa**	**1.21**	**62**	Pn	Pn	09 46 50.4	-1.0
MRZ	**Mangatainoka R**	**1.32**	**39**	PN	Pn	09 46 52.1	-0.7
MRZ	**Mangatainoka R**	**1.32**	**39**	Pn	Pn	09 46 51.7	-1.1
TIWZ	**Tintock**	**1.40**	**50**	PN	Pn	09 46 52.7	-1.2
TIWZ	**Tintock**	**1.40**	**50**	Pn	Pn	09 46 52.7	-1.2
POWZ	**Post Office Ro**	**1.62**	**37**	PN	Pn	09 46 56.0	-0.9
POWZ	**Post Office Ro**	**1.62**	**37**	Pn	Pn	09 46 56.0	-0.9
BFZ	**Birch Farm**	**1.67**	**54**	PN	Pn	09 46 56.0	-1.6
BFZ	**Birch Farm**	**1.67**	**54**	Pn	Pn	09 46 55.9	-1.7
QRZ	**Quartz Range**	**1.70**	**300**	PN	Pn	09 46 57.9	-0.1
QRZ	**Quartz Range**	**1.70**	**300**	Pn	Pn	09 46 57.9	-0.1
DVHZ	**Dannevirke**	**1.89**	**43**	PN	Pn	09 46 59.0	-1.6
DVHZ	**Dannevirke**	**1.89**	**43**	Pn	Pn	09 46 59.0	-1.6
WAZ	**Wanganui**	**1.97**	**11**	Pn	Pn	09 47 02.9	+1.2
LTZ	**Lake Taylor**	**1.97**	**236**	PN	Pn	09 47 00.9	-0.8
LTZ	**Lake Taylor**	**1.97**	**236**	Pn	Pn	09 47 00.6	-1.2
TSZ	**Takapari Road**	**1.98**	**35**	PN	Pn	09 47 00.7	-1.1
TSZ	**Takapari Road**	**1.98**	**35**	Pn	Pn	09 47 00.7	-1.1
DSZ	**Denniston Nort**	**2.00**	**267**	PN	Pn	09 47 01.6	-0.6
DSZ	**Denniston Nort**	**2.00**	**267**	Pn	Pn	09 47 01.6	-0.6
PRHZ	**Porangahau**	**2.16**	**50**	PN	Pn	09 47 02.4	-1.9
PRHZ	**Porangahau**	**2.16**	**50**	Pn	Pn	09 47 02.4	-1.9
WPHZ	**Waipukurau**	**2.20**	**43**	PN	Pn	09 47 03.4	-1.4
WPHZ	**Waipukurau**	**2.20**	**43**	Pn	Pn	09 47 03.4	-1.4
PNHZ	**Pukenui**	**2.20**	**37**	PN	Pn	09 47 03.5	-1.4
PNHZ	**Pukenui**	**2.20**	**37**	Pn	Pn	09 47 03.5	-1.4
CRLZ	**Canterbury Las**	**2.33**	**215**	PN	Pn	09 47 05.1	-1.4
CRLZ	**Canterbury Las**	**2.33**	**215**	Pn	Pn	09 47 05.0	-1.5
DFE	**Dawson Falls**	**2.38**	**353**	PN	Pn	09 47 08.6	+1.3
DFE	**Dawson Falls**	**2.38**	**353**	Pn	Pn	09 47 08.6	+1.3
NRZ	**Ngariki Road**	**2.38**	**350**	Pn	Pn	09 47 08.7	+1.3
RAEZ	**Rainy Point**	**2.40**	**358**	PN	Pn	09 47 09.1	+1.6
RAEZ	**Rainy Point**	**2.40**	**358**	Pn	Pn	09 47 09.1	+1.6
MTVZ	**Mangateitei**	**2.42**	**19**	PN	Pn	09 47 08.5	+0.6
MTVZ	**Mangateitei**	**2.42**	**19**	Pn	Pn	09 47 08.6	+0.6
MQZ	**McQueen's Vall**	**2.43**	**213**	PN	Pn	09 47 05.9	-2.0
MQZ	**McQueen's Vall**	**2.43**	**213**	Pn	Pn	09 47 05.9	-2.0
NEZ	**North Egmont**	**2.43**	**353**	PN	Pn	09 47 09.9	+1.8
NEZ	**North Egmont**	**2.43**	**353**	Pn	Pn	09 47 09.9	+1.8
PXZ	**Pawanui**	**2.45**	**48**	PN	Pn	09 47 05.8	-2.4
PXZ	**Pawanui**	**2.45**	**48**	Pn	Pn	09 47 05.8	-2.4
NWEZ	**Newall Road**	**2.45**	**349**	Pn	Pn	09 47 09.6	+1.3
MOVZ	**Moawhango**	**2.48**	**24**	PN	Pn	09 47 08.2	-0.5
MOVZ	**Moawhango**	**2.48**	**24**	Pn	Pn	09 47 08.2	-0.5
PKVZ	**Pokaka**	**2.48**	**16**	PN	Pn	09 47 09.6	+0.8
PKVZ	**Pokaka**	**2.48**	**16**	Pn	Pn	09 47 09.6	+0.8
DREZ	**Durham Road**	**2.50**	**355**	PN	Pn	09 47 10.2	+1.2
DREZ	**Durham Road**	**2.50**	**355**	Pn	Pn	09 47 10.2	+1.2
BHHZ	**Black Hill Sta**	**2.51**	**29**	PN	Pn	09 47 08.3	-0.8
BHHZ	**Black Hill Sta**	**2.51**	**29**	Pn	Pn	09 47 08.3	-0.8
WNVZ	**Wahianoa**	**2.51**	**20**	PN	Pn	09 47 09.4	+0.1
WNVZ	**Wahianoa**	**2.51**	**20**	Pn	Pn	09 47 09.4	+0.1
PKE	**Pukeiti**	**2.52**	**351**	PN	Pn	09 47 10.2	+1.0
PKE	**Pukeiti**	**2.52**	**351**	Pn	Pn	09 47 10.2	+1.0
TRVZ	**Turoa**	**2.52**	**19**	PN	Pn	09 47 09.7	+0.2
TRVZ	**Turoa**	**2.52**	**19**	Pn	Pn	09 47 09.7	+0.2
DRZ	**Dome Shelter**	**2.55**	**19**	PN	Pn	09 47 10.8	+0.9
DRZ	**Dome Shelter**	**2.55**	**19**	Pn	Pn	09 47 10.8	+0.9
FWVZ	**Far West T-bar**	**2.56**	**19**	PN	Pn	09 47 10.1	0.0
FWVZ	**Far West T-bar**	**2.56**	**19**	Pn	Pn	09 47 10.1	0.0
VRZ	**Vera Road**	**2.57**	**5**	PN	Pn	09 47 10.8	+0.9
VRZ	**Vera Road**	**2.57**	**5**	Pn	Pn	09 47 10.8	+0.9
TUVZ	**Tukino**	**2.58**	**21**	PN	Pn	09 47 10.4	+0.2
TUVZ	**Tukino**	**2.58**	**21**	Pn	Pn	09 47 10.4	+0.2
MHEZ	**Mangahewa**	**2.61**	**357**	PN	Pn	09 47 12.3	+1.9
MHEZ	**Mangahewa**	**2.61**	**357**	Pn	Pn	09 47 12.3	+1.9
WPVZ	**Whakapapa**	**2.61**	**19**	PN	Pn	09 47 11.0	+0.4
WPVZ	**Whakapapa**	**2.61**	**19**	Pn	Pn	09 47 11.0	+0.4
KAHZ	**Kahuranaki**	**2.62**	**45**	PN	Pn	09 47 08.5	-2.2
KAHZ	**Kahuranaki**	**2.62**	**45**	Pn	Pn	09 47 08.5	-2.2
NGZ	**Ngauruhoe**	**2.65**	**19**	PN	Pn	09 47 11.4	+0.2
NGZ	**Ngauruhoe**	**2.65**	**19**	Pn	Pn	09 47 11.4	+0.2
OTVZ	**Oturere**	**2.68**	**20**	PN	Pn	09 47 11.7	+0.2
OTVZ	**Oturere**	**2.68**	**20**	Pn	Pn	09 47 11.7	+0.2
WTVZ	**West Tongariro**	**2.70**	**19**	PN	Pn	09 47 12.0	+0.1
WTVZ	**West Tongariro**	**2.70**	**19**	Pn	Pn	09 47 12.0	+0.1
TWVZ	**Taurewa**	**2.71**	**16**	PN	Pn	09 47 12.1	+0.1
TWVZ	**Taurewa**	**2.71**	**16**	Pn	Pn	09 47 12.1	+0.1
KRVZ	**Karewarewa**	**2.74**	**19**	PN	Pn	09 47 12.6	+0.3
KRVZ	**Karewarewa**	**2.74**	**19**	Pn	Pn	09 47 12.6	+0.3
MCHZ	**McNeill Hill**	**2.81**	**38**	PN	Pn	09 47 11.5	-1.7
MCHZ	**McNeill Hill**	**2.81**	**38**	Pn	Pn	09 47 11.5	-1.7
KATZ	**Kakaramea**	**2.86**	**19**	PN	Pn	09 47 14.8	+0.7
KATZ	**Kakaramea**	**2.86**	**19**	Pn	Pn	09 47 14.8	+0.7
WVZ	**Waitaha Valley**	**3.10**	**242**	PN	Pn	09 47 15.7	-1.3
WVZ	**Waitaha Valley**	**3.10**	**242**	Pn	Pn	09 47 15.7	-1.3
HIZ	**Hauiti**	**3.18**	**5**	PN	Pn	09 47 19.0	+0.7
HIZ	**Hauiti**	**3.18**	**5**	Pn	Pn	09 47 19.0	+0.7
RPZ	**Rata Peaks**	**3.24**	**230**	PN	Pn	09 47 17.2	-1.8
RPZ	**Rata Peaks**	**3.24**	**230**	*e*Pn	Pn	09 47 17.2	-1.9
RPZ				*e*Sn	Sn	09 47 52.1	-4.2
ALRZ	**Allen Road**	**3.43**	**25**	Pn	Pn	09 47 20.2	-1.5
FOZ	**Fox Glacier**	**4.00**	**240**	PN	Pn	09 47 26.5	-2.9
FOZ	**Fox Glacier**	**4.00**	**240**	Pn	Pn	09 47 26.5	-2.9
TOZ	**Tahuroa Road**	**4.03**	**12**	PN	Pn	09 47 29.7	-0.1
TOZ	**Tahuroa Road**	**4.03**	**12**	Pn	Pn	09 47 29.7	-0.1
LBZ	**Lake Benmore**	**4.14**	**228**	PN	Pn	09 47 29.6	-1.9
LBZ	**Lake Benmore**	**4.14**	**228**	Pn	Pn	09 47 29.6	-1.9
ODZ	**Otahua Downs**	**4.37**	**218**	PN	Pn	09 47 32.5	-2.0
ODZ	**Otahua Downs**	**4.37**	**218**	Pn	Pn	09 47 32.5	-2.0
MKAZ	**Moumakai**	**4.60**	**7**	PN	Pn	09 47 37.8	+0.1
MKAZ	**Moumakai**	**4.60**	**7**	Pn	Pn	09 47 37.8	+0.1
JCZ	**Jackson Bay**	**4.83**	**238**	PN	Pn	09 47 38.3	-2.7
JCZ	**Jackson Bay**	**4.83**	**238**	Pn	Pn	09 47 38.3	-2.6
WKZ	**Wanaka**	**5.07**	**230**	PN	Pn	09 47 41.3	-2.9
WKZ	**Wanaka**	**5.07**	**230**	Pn	Pn	09 47 41.3	-2.9
EAZ	**Earnscleugh**	**5.17**	**225**	PN	Pn	09 47 43.7	-1.8
EAZ	**Earnscleugh**	**5.17**	**225**	Pn	Pn	09 47 43.7	-1.8
TUZ	**Tuapeka**	**5.52**	**218**	PN	Pn	09 47 48.3	-1.9
TUZ	**Tuapeka**	**5.52**	**218**	Pn	Pn	09 47 48.3	-1.9
SYZ	**Scrubby Hill**	**6.19**	**217**	PN	Pn	09 47 58.5	-0.9
SYZ	**Scrubby Hill**	**6.19**	**217**	Pn	Pn	09 47 58.5	-0.9

IDC 11 09:48:03.8±4.3, 1°.94S×139°.36E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=190.0km s-min=24.5km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.55**	**195**	P	Pn	09 52 22.4	0.0
	0.4nm,0.3s,baz=18,slow=12,SNR=25						
ASAR	**Alice Springs**	**22.23**	**193**	P	P	09 53 02.2	0.0
	1.7nm,0.6s,baz=22,slow=9.7,SNR=24						
MKAR	**Makanchi Array**	**69.59**	**322**	P	P	09 59 14.0	-0.9
	0.4nm,0.6s,baz=112,slow=6.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**71.61**	**330**	P	P	09 59 27.7	+0.7
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.7						

*ISCJB **11** 09:49:13.9±0.6, 38°.67N±0°.03×30°.61E±0°.04, h4km±7km, Error ellipse: s-maj=5.7km s-min=4.4km az=24.2*
*ISK **11** 09:49:13.3, 38°.68N×30°.60E, h8km, MD2.9*
*CSEM **11** 09:49:14.3±0.2, 38°.67N×30°.62E, h10km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.6km az=154.0*
*DDA **11** 09:49:15.1, 38°.72N×30°.56E, h7km, MD2.7*
ISC 11 09:49:14.0±1.2, 38°.67N±0°.02×30°.61E±0°.02, h8km±10km, n30, σ0°34/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.27**	**80**	*i* P	**Pb**	**09 49 21.2**	**0.0**
BOLV				*i* S	**Sb**	**09 49 26.5**	**+0.5**
BOLV	**Bolvadin**	**0.27**	**80**	*i* P	**Pb**	**09 49 21.2**	**0.0**
BOLV				*i* S	**Sb**	**09 49 26.5**	**+0.5**
ALT	**Altintas**	**0.55**	**315**	PG	**Pg**	**09 49 24.5**	**-0.1**
ALT				SG	**Sg**	**09 49 32.0**	**+0.2**
ALT	**Altintas**	**0.55**	**315**	*i* Pg	**Pg**	**09 49 24.5**	**-0.1**
ALT				*i* Sg	**Sg**	**09 49 32.0**	**+0.2**
ISP	**Isparta**	**0.85**	**185**	*e*PG	**Pg**	**09 49 30.3**	**0.0**
ISP				*e*SG	**Sb**	**09 49 42.7**	**0.0**
ISP	**Isparta**	**0.85**	**185**	*e*Pg	**Pg**	**09 49 30.3**	**0.0**
ISP				*e*Sg	**Sb**	**09 49 42.7**	**0.0**
SEYT	**Eskypehyr**	**0.87**	**12**	*i* P	**Pg**	**09 49 30.9**	**+0.2**
SEYT				*i* S	**Sb**	**09 49 43.2**	**-0.1**
SEYT	**Eskypehyr**	**0.87**	**12**	*i* P	**Pg**	**09 49 30.9**	**+0.2**
SEYT				*i* S	**Sb**	**09 49 43.2**	**-0.1**
KHAL	**Karahalli**	**0.93**	**252**	*i* P	**Pg**	**09 49 32.0**	**+0.2**
KHAL				*i* S	**Sb**	**09 49 45.4**	**+0.4**
KHAL	**Karahalli**	**0.93**	**252**	*i* P	**Pg**	**09 49 32.0**	**+0.2**
KHAL				*i* S	**Sb**	**09 49 45.4**	**+0.4**
GDZ	**Gediz**	**0.98**	**296**	*i* P	**Pb**	**09 49 33.6**	**+0.4**
GDZ				*i* S	**Sb**	**09 49 46.2**	**-0.2**
GDZ	**Gediz**	**0.98**	**296**	*i* P	**Pb**	**09 49 33.6**	**+0.4**
GDZ				*i* S	**Sb**	**09 49 46.2**	**-0.2**
KIZT	**Kizilcal**	**1.01**	**78**	*e*PG	**Pg**	**09 49 33.1**	**-0.3**
KIZT	**Kizilcal**	**1.01**	**78**	*e*Pg	**Pg**	**09 49 33.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.05**	**42**	*e*PG	**Pg**	**09 49 33.8**	**-0.4**
SVRH				*e*SG	**Sb**	**09 49 48.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.05**	**42**	*e*Pg	**Pg**	**09 49 33.8**	**-0.4**
SVRH				*e*Sg	**Sb**	**09 49 48.9**	**+0.4**
TVSB	**Tavsanli**	**1.19**	**311**	*e*PN	**Pb**	**09 49 35.9**	**-0.9**
TVSB	**Tavsanli**	**1.19**	**311**	*e*Pn	**Pb**	**09 49 35.9**	**-0.9**
BORA	**Eskisehir**	**1.21**	**354**	*i* P	**Pg**	**09 49 37.4**	**+0.1**
BORA				*i* S	**Sn**	**09 49 54.0**	**-0.1**
BORA	**Eskisehir**	**1.21**	**354**	*i* P	**Pg**	**09 49 37.4**	**+0.1**
BORA				*i* S	**Sn**	**09 49 54.0**	**-0.1**
KULA	**Kula-Manisa**	**1.54**	**265**	*e*PN	**Pn**	**09 49 41.4**	**-0.4**
KULA	**Kula-Manisa**	**1.54**	**265**	*e*Pn	**Pn**	**09 49 41.4**	**-0.4**
KONT	**Konya--Tatoy**	**1.56**	**117**	*e*PN	**Pn**	**09 49 41.9**	**-0.1**
KONT	**Konya--Tatoy**	**1.56**	**117**	*e*Pn	**Pn**	**09 49 41.9**	**-0.1**
MANT	**Manisa**	**1.62**	**264**	*i* P	**Pg**	**09 49 44.9**	**-0.1**
MANT				*i* S	**Sn**	**09 50 04.4**	**+0.1**
MANT	**Manisa**	**1.62**	**264**	*i* P	**Pg**	**09 49 44.9**	**-0.1**
MANT				*i* S	**Sn**	**09 50 04.4**	**+0.1**
GULT	**Gulveren**	**1.76**	**358**	*e*PN	**Pn**	**09 49 45.0**	**+0.1**
GULT	**Gulveren**	**1.76**	**358**	*e*Pn	**Pn**	**09 49 45.0**	**+0.1**
YLV	**Yalova**	**2.12**	**334**	*e*PN	**Pn**	**09 49 50.4**	**+0.5**
YLV	**Yalova**	**2.12**	**334**	*e*Pn	**Pn**	**09 49 50.4**	**+0.5**

*IDC **11** 09:54:50.0±0.8, 1°.87S×138°.97E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/22, mbtmp4.3/12, ML4.5/2, MS3.5/10, Ms1 3.5/10, ms1mx3.2/34, Error ellipse: s-maj=34.6km s-min=14.9km az=77.0*
*NEIC **11** 09:54:51.6±0.5, 1°.89S×138°.95E, h10km, mb4.6/3, Error ellipse: s-maj=19.5km s-min=8.2km az=80.0*
*ISCJB **11** 09:54:52.3±0.5, 1°.94S±0°.05×139°.06E±0°.04, h29km, mb4.3/11, MS3.5/9, Error ellipse: s-maj=7.1km s-min=5.3km az=34.8*
*DJA **

KU6	**Riekki**	**1.22**	**349**	PG	**Pg**	**10 00 32.4**	**-0.9**
	baz=164							
KU6				SG	**Sg**	**10 00 49.5**	**+0.4**
KU6				MSG		10 00 49.5		
	comp=Z,11nm,0.4s							
KU6				RG	Rg	10 00 59.5		
KU6	**Riekki**	**1.22**	**349**	Pg	**Pg**	**10 00 32.4**	**-0.9**
KU6				Sg	**Sg**	**10 00 49.5**	**+0.4**
MSF	**Maaselka**	**1.24**	**331**	PG	**Pg**	**10 00 33.6**	**0.0**
MSF				SG	**Sn**	**10 00 53.0**	**+1.1**
MSF				MSG		10 00 53.0		
	comp=Z,4.3nm,0.2s							
MSF				RG	Rg	10 01 01.2		
MSF	**Maaselka**	**1.24**	**331**	Pg	**Pg**	**10 00 33.6**	**0.0**
JOF	**Joensuu**	**1.96**	**169**	PN	**Pn**	**10 00 43.7**	**-0.7**
JOF				SG	**Sn**	**10 01 08.6**	**-1.1**
JOF				MSG		10 01 08.6		
	comp=Z,3.7nm,0.4s							
JOF	**Joensuu**	**1.96**	**169**	Pn	**Pn**	**10 00 43.7**	**-0.7**
OUL	**Oulu**	**1.97**	**279**	PN	**Pb**	**10 00 46.4**	**-0.2**
OUL				SG	**Sg**	**10 01 13.0**	**-0.1**
OUL				MSG		10 01 13.0		
	comp=Z,3.3nm,0.1s							
OUL	**Oulu**	**1.97**	**279**	Pn	**Pb**	**10 00 46.4**	**-0.2**
OUL				Sg	**Sg**	**10 01 13.0**	**-0.1**
RNF	**Rovaniemi**	**2.56**	**316**	PN	**Pb**	**10 00 55.7**	**-1.1**
	baz=128							
RNF				SG	**Sb**	**10 01 30.1**	**+1.3**
RNF				MSG		10 01 30.1		
	comp=Z,7.5nm,0.2s							
SUF	**Sumiainen**	**2.87**	**224**	PN	**Pn**	**10 00 58.5**	**+1.7**
SUF				SG	**Sb**	**10 01 37.0**	**-0.5**
SUF				MSG		10 01 37.0		
	comp=Z,4.1nm,0.2s							
SUF	**Sumiainen**	**2.87**	**224**	Pn	**Pn**	**10 00 58.5**	**+1.7**
VRF	**Varrio**	**2.94**	**354**	PN	**Pn**	**10 00 59.5**	**+1.5**
VRF				SG	**Sb**	**10 01 40.6**	**+0.8**
VRF				MSG		10 01 40.6		
	comp=Z,2.9nm,0.4s							
VRF	**Varrio**	**2.94**	**354**	Pn	**Pn**	**10 00 59.5**	**+1.5**
APA0	**Apatity Array**	**2.96**	**19**	Pn	**Pn**	**10 00 58.5**	**+0.3**
	baz=191,slow=14							
APA0				Sn	**Sn**	**10 01 33.8**	**-0.6**
	baz=206,slow=28							
APA0	**Apatity Array**	**2.96**	**19**	Pn	**Pn**	**10 00 58.5**	**+0.3**
	baz=191,slow=14							
APA0				Sn	**Sn**	**10 01 33.8**	**-0.6**
	baz=206,slow=28							
APA0	**Apatity Array**	**2.96**	**19**	Pn	**Pn**	**10 00 58.5**	**+0.3**
	baz=191,slow=13,SNR=50							
APA0				Sn	**Sn**	**10 01 33.8**	**-0.6**
	baz=206,slow=23,SNR=50							
KAF	**Kangasniemi**	**3.31**	**216**	PN	**Pn**	**10 01 05.1**	**+2.1**
KAF				SG	**Sb**	**10 01 50.0**	**-0.4**
KAF				MSG		10 01 50.0		
	comp=Z,3.1nm,0.2s							
KAF	**Kangasniemi**	**3.31**	**216**	Pn	**Pn**	**10 01 05.1**	**+2.1**
KEF	**Keuruu**	**3.67**	**226**	PN	**Pn**	**10 01 09.7**	**+1.7**
KEF				SG	**Sb**	**10 02 03.4**	**+2.7**
KEF				MSG		10 02 03.4		
	comp=Z,4.6nm,0.4s							
KEF	**Keuruu**	**3.67**	**226**	Pn	**Pn**	**10 01 09.7**	**+1.7**
VAF	**Ylistaro**	**3.89**	**246**	SG	**Sg**	**10 02 12.8**	**-1.9**
VAF				MSG		10 02 12.8		
	comp=Z,3.4nm,0.4s							
VAF	**Ylistaro**	**3.89**	**246**	Sg	**Sg**	**10 02 12.8**	**-1.9**
FIA0	**FINESS Array S**	**3.95**	**212**	Pn	**Pn**	**10 01 12.3**	**+0.6**
	baz=23,slow=16							
FIA0				Pg	**Pb**	**10 01 20.5**	**+0.1**
	baz=31,slow=16							
FIA0				Sn	**Sn**	**10 01 57.9**	**-0.8**
	baz=42,slow=22							
FIA0				Lg	Lg	10 02 11.5		
	baz=34,slow=37							
FIA0	**FINESS Array S**	**3.95**	**212**	Pn	**Pn**	**10 01 12.3**	**+0.6**
	baz=23,slow=16							
FIA0				Pg	**Pb**	**10 01 20.5**	**+0.1**
	baz=31,slow=16							
FIA0				Sn	**Sn**	**10 01 57.9**	**-0.8**
	baz=42,slow=22							
FIA0				Lg	Lg	10 02 11.5		
	baz=34,slow=37							
FIA0	**FINESS Array S**	**3.95**	**212**	PN	**Pn**	**10 01 11.9**	**+0.2**
	baz=26							
FIA0				SG	**Sb**	**10 02 10.7**	**+2.1**
FIA0				MSG		10 02 10.7		
	comp=Z,2.3nm,0.5s							
FIA0	**FINESS Array S**	**3.95**	**212**	Pn	**Pn**	**10 01 12.3**	**+0.6**
	baz=23,slow=15,SNR=50							
FIA0				Sn	**Sn**	**10 01 57.8**	**-0.8**
	baz=42,slow=21,SNR=50							
FIA0				Lg	Lg	10 02 11.5		
	baz=34,slow=32,SNR=91							
FINES	**FINESS Array B**	**3.95**	**212**	Pn	**Pn**	**10 01 12.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=16,SNR=8.2							
FINES				Pg	**Pb**	**10 01 20.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=22,slow=15,SNR=8.6							
FINES				Sn	**Sn**	**10 01 59.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=46,slow=22,SNR=5.7							
FINES				Lg	Lg	10 02 12.7		
	comp=Z,3.0nm,0.3s,baz=30,slow=27,SNR=22							
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**10 01 27.5**	**0.0**
	baz=155,slow=14							
ARA0				Sn	**Sn**	**10 02 24.6**	**-2.4**
	baz=158,slow=28							
ARA0				Lg	Lg	10 02 46.1		
	baz=152,slow=37							
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**10 01 27.5**	**0.0**
	baz=155,slow=14							
ARA0				Sn	**Sn**	**10 02 24.6**	**-2.4**
	baz=158,slow=28							
ARA0				Lg	Lg	10 02 46.1		
	baz=152,slow=37							
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**10 01 27.5**	**0.0**
	baz=155,slow=14,SNR=50							
ARA0				Sn	**Sn**	**10 02 24.6**	**-2.4**
	baz=158,slow=25,SNR=50							
ARA0				Lg	Lg	10 02 46.1		
	baz=152,slow=31,SNR=47							
ARCES	**ARCESS Array B**	**5.10**	**340**	Pn	**Pn**	**10 01 27.7**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=158,slow=14,SNR=52							
ARCES				Sn	**Sn**	**10 02 26.0**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=156,slow=25,SNR=8.7							
ARCES				Lg	Lg	10 02 47.5		
	comp=Z,2.1nm,0.3s,baz=156,slow=28,SNR=14							
HFS	**Hagfors**	**9.07**	**246**	Pn	**Pn**	**10 02 21.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=4.7							
HFS				Lg	Lg	10 04 54.7		
	comp=Z,0.2nm,0.3s,baz=52,slow=26,SNR=2.8							
NB2	**NORSAR Subarra**	**9.55**	**255**	Pn	**Pn**	**10 02 28.6**	**0.0**
NB2	**NORSAR Subarra**	**9.55**	**255**	Pn	**Pn**	**10 02 28.6**	**0.0**
NB2	**NORSAR Subarra**	**9.55**	**255**	Pn	**Pn**	**10 02 28.6**	**0.0**
	SNR=50							
NOA	**NORSAR Array B**	**9.55**	**255**	Pn	Pn	10 02 24.9	-3.7
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=4.0							
NOA				Lg	Lg	10 05 08.3		
	comp=Z,0.3nm,0.3s,baz=50,slow=25,SNR=3.9							

JMA 11 10:10:36.4, 35.27N×138.32E, h33km±1km, M2.5, 1C-3D Broadband fault plane solution: P waves. NP1: ϕ_s340.00000°, δ84.00000°, λ132.00000°. **NP2:** ϕ_s77.00000°, δ42.00000°, λ9.00000°. **Principal axes:** T Plg37.0000°, Azm286.0000°; N Plg41.0000°, Azm155.0000°; P Plg27.0000°, Azm38.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHZ3	**Shizuoka 3**	**0.22**	**204**	↓P	Pn	10 10 42.9	-0.3
SHZ3				S	Sb	10 10 47.8	-0.2
JYN	**Shimob**	**0.29**	**39**	P	Pb	10 10 43.4	-0.8
JYN				S	Sn	10 10 49.3	-0.1
JNY	**Yasuok**	**0.39**	**283**	↓P	Pb	10 10 45.1	-0.3
JNY				S	Sb	10 10 51.6	0.0
JOD2	**Odawara 2**	**0.63**	**90**	P	Pn	10 10 48.5	-0.5
JOD2				*e*S	Sb	10 10 57.4	-0.4
JIZS	**Izushimoda**	**0.72**	**140**	↑P	Pn	10 10 49.7	-0.5
JIZS				S	Sn	10 10 59.5	-0.6
JRY	**Ryogami san**	**0.88**	**32**	↓P	Pn	10 10 52.4	-0.2
JRY				S	Sn	10 11 04.2	-0.1
MAT	**Matsushiro**	**1.27**	**356**	P	Pn	10 10 58.8	+0.9
MAT				S	Sb	10 11 17.1	+1.1

IDC 11 10:21:22.2±1.0, 8.77S×157.46E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26 Error ellipse: s-maj=35.2km s-min=20.8km az=167.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.55**	**105**	Pn	Pn	10 22 02.6	-2.2
	13nm,0.3s,baz=224,slow=5.4,SNR=12						
HNR				Sn	Sb	10 22 38.6	-2.0
	69nm,0.3s,baz=139,slow=21,SNR=8.0						
HNR				LR	LR	10 22 51.0	
	comp=Z,393nm,20.6s,baz=335,slow=35						
WRA	**Warramunga Arr**	**24.96**	**241**	P	P	10 26 47.9	+0.3
	3.9nm,1.0s,baz=67,slow=9.2,SNR=30						
ASAR	**Alice Springs**	**26.97**	**234**	P	P	10 27 04.6	-1.2
	0.6nm,0.9s,baz=68,slow=8.2,SNR=5.9						
STKA	**Stephens Creek**	**27.31**	**210**	P	P	10 27 13.0	+4.2
	2.1nm,0.7s,baz=15,slow=13,SNR=5.9						
ILAR	**Eielson Array**	**84.14**	**21**	P	P	10 33 53.8	-1.1
	0.8nm,1.1s,baz=254,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**86.34**	**318**	P	P	10 34 06.5	+0.2
	0.7nm,0.7s,baz=86,slow=6.2,SNR=5.5						
NVAR	**Mina Array Bea**	**90.91**	**51**	P	P	10 34 29.4	+0.9
	1.3nm,1.0s,baz=275,slow=7.0,SNR=5.6						
BDFB	**Brasilia**	**145.00**	**134**	PKPbc	PKPdf	10 41 03.4	+0.7
	2.0nm,0.7s,baz=207,slow=4.5,SNR=3.4						

KRSC 11 10:54:51.4±0.0, 56.10N×163.28E, h23km±23km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.28**	**293**	*i* P	Pb	10 54 58.5	+0.5
KBTR				*i* S	Sb	10 55 03.9	+1.5
SMKR	**Semkarok**	**1.12**	**296**	*e*P	Pb	10 55 12.7	+0.5
SMKR				*e*S	Sn	10 55 28.2	+1.7
BDR	**Baidarnaya**	**1.25**	**293**	*e*P	Pb	10 55 15.0	+0.7
BDR				*i* S	Sb	10 55 31.1	+1.1
SRKR	**Sorokina**	**1.30**	**296**	*e*P	Pb	10 55 15.6	+0.4
SRKR				*i* S	Sb	10 55 34.0	+2.4
ZLN	**Zelenaya**	**1.39**	**268**	P	Pb	10 55 16.7	-0.1
ZLN				*i* S	Sb	10 55 34.5	+0.2
CIRR	**Tsirk**	**1.42**	**272**	*e*P	Pb	10 55 16.9	-0.5
CIRR				*i* S	Sb	10 55 35.8	+0.7
LGNR	**Loginova**	**1.45**	**270**	*e*P	Pn	10 55 17.1	+0.5
LGNR				*i* S	Sb	10 55 36.7	+0.3
BZGR	**Bezymyannyi-Gr**	**1.46**	**265**	P	Pn	10 55 16.7	+0.2
BZGR				*i* S	Sb	10 55 36.0	-0.2
KLY	**Klyuchi**	**1.48**	**279**	*e*P	Pn	10 55 15.6	-1.0
KLY				*i* S	Sn	10 55 33.9	-1.4
KRSR	**Krestovskiy**	**1.52**	**276**	*e*P	Pn	10 55 17.8	+0.5
KRSR				*i* S	Sn	10 55 37.1	+0.6
BZWR	**Bezymyannyi-We**	**1.57**	**266**	*e*P	Pb	10 55 19.2	-0.7
BZWR				*i* S	Sb	10 55 40.3	+0.8
BZMR	**Bezymyannaya**	**1.57**	**265**	P	Pb	10 55 19.2	-0.8
BZMR				*i* S	Sb	10 55 40.4	+0.8
KPT	**Kopyto**	**1.72**	**267**	*e*P	Pb	10 55 21.6	-0.8
KPT				*i* S	Sb	10 55 43.8	+0.1
KMNR	**Kamenistaya**	**1.75**	**260**	*e*P	Pn	10 55 21.3	+0.9
KMNR				*i* S	Sb	10 55 44.0	-0.5
BKI	**Bering**	**1.77**	**119**	P	Pb	10 55 22.0	-1.1
BKI				*i* S	Sb	10 55 44.5	-0.3
MKZ	**Mys Kozlova**	**1.78**	**210**	P	Pb	10 55 22.1	-1.2
KOZ	**Kozyrevsk**	**1.91**	**270**	P	Pb	10 55 24.1	-1.5
KOZ				*i* S	Sb	10 55 48.2	-0.8
TUMR	**Tumrok**	**1.95**	**247**	*e*P	Pn	10 55 24.1	+0.8
TUMR				*i* S	Sn	10 55 48.4	+1.2
SRDR	**Sredinnyy**	**2.00**	**278**	*e*P	Pb	10 55 25.8	-1.4
SRDR				*i* S	Sb	10 55 51.5	-0.2
ESO	**Esso**	**2.58**	**268**	P	Pn	10 55 33.0	+1.3
ESO				*i* S	Sn	10 56 03.5	+1.1
SDLR	**Sedlovina**	**3.81**	**224**	P	Pn	10 55 50.5	+1.7
SMAR	**Somma**	**3.85**	**224**	P	Pn	10 55 51.6	+2.1
UGLR	**Uglovaya**	**3.88**	**224**	P	Pn	10 55 51.4	+1.6
TILK	**Tilichiki**	**4.61**	**18**	P	Pn	10 56 02.0	+2.4

IDC 11 11:02:17.0±8.9, 10.48N×91.26E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=444.2km s-min=30.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**36.99**	**350**	P	P	11 09 28.1	-0.1
	0.3nm,0.6s,baz=166,slow=8.8,SNR=3.8						
WRA	**Warramunga Arr**	**52.08**	**125**	P	P	11 11 29.3	+0.1
	0.2nm,0.5s,baz=306,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**53.76**	**130**	P	P	11 11 41.2	-0.3
	0.3nm,0.5s,baz=304,slow=6.8,SNR=5.3						

IDC 11 11:16:25.8±1.7, 4.31N×127.10E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/23, mbtmp3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=93.8km s-min=23.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.32**	**184**	P	P	11 21 25.7	+0.4
	1.1nm,0.5s,baz=10,slow=8.8,SNR=5.6						
WRA	**Warramunga Arr**	**25.13**	**164**	P	P	11 21 52.4	-0.4
	2.0nm,0.5s,baz=344,slow=10,SNR=43						
ASAR	**Alice Springs**	**28.59**	**167**	P	P	11 22 23.6	-0.3
	0.3nm,0.5s,baz=344,slow=7.1,SNR=13						
KSRS	**Korea Array**	**32.99**	**1**	LR	LR	11 37 09.7	
	comp=Z,18nm,18.1s,baz=60,slow=38						
STKA	**Stephens Creek**	**38.55**	**160**	P	P	11 23 50.5	+0.2
	2.6nm,0.7s,baz=323,slow=7.5,SNR=7.6						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	11 26 15.4	0.0
	0.2nm,0.3s,baz=113,slow=7.3,SNR=6.3						

*ISK **11** 11:20:46.9, 39.45N×28.16E, h8km, MD2.8*
*DDA **11** 11:20:47.0, 39.47N×28.14E, h7km, MD2.9*
*ISCJB **11** 11:20:47.3±0.6, 39.46N±0.04×28.17E±0.04, h6km±7km, Error ellipse: s-maj=7.3km s-min=4.1km az=25.2*
*CSEM **11** 11:20:47.2±0.2, 39.45N×28.15E, h10km, MD2.8, Error ellipse: s-maj=4.6km s-min=2.9km az=35.0*
ISC 11 11:20:47.0±1.1, 39.44N±0.04×28.14E±0.03, h11km±9km, n32, σ0.936/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**314**	*e*PG	**Pg**	**11 20 53.1**	**+0.3**
BALB				*e*SG	**Sb**	**11 20 58.3**	**-0.5**
BALB	**Balikesir**	**0.28**	**314**	*e*Pg	**Pg**	**11 20 53.1**	**+0.3**
BALB				*e*Sg	**Sb**	**11 20 58.3**	**-0.5**
DURS	**Dursunbey**	**0.30**	**58**	*i* P	**Pg**	**11 20 52.6**	**-0.6**
DURS				*i* S	**Sg**	**11 20 57.5**	**+0.2**
DURS	**Dursunbey**	**0.30**	**58**	*i* P	**Pg**	**11 20 52.6**	**-0.6**
DST	**Dursunbey**	**0.40**	**66**	*e*PG	**Pg**	**11 20 54.7**	**-0.3**
DST	**Dursunbey**	**0.40**	**66**	*e*Pg	**Pg**	**11 20 54.7**	**-0.3**
BALY	**Balya**	**0.50**	**307**	*i* P	**Pg**	**11 20 56.1**	**-0.7**
BALY				*i* S	**Sb**	**11 21 05.4**	**+0.2**
BALY	**Balya**	**0.50**	**307**	*i* P	**Pg**	**11 20 56.1**	**-0.7**
BALY				*i* S	**Sb**	**11 21 05.4**	**+0.2**
GONE	**Gonen-Balikesi**	**0.70**	**330**	*e*PG	**Pg**	**11 21 00.1**	**-0.4**
GONE				*e*SG	**Sb**	**11 21 10.8**	**0.0**
GONE	**Gonen-Balikesi**	**0.70**	**330**	*e*Pg	**Pg**	**11 21 00.1**	**-0.4**
GONE				*e*Sg	**Sb**	**11 21 10.8**	**0.0**
ORLT	**Orhaneli**	**0.84**	**44**	*e*PG	**Pg**	**11 21 03.2**	**0.0**
ORLT	**Orhaneli**	**0.84**	**44**	*e*Pg	**Pg**	**11 21 03.2**	**0.0**
EDC	**Edincik**	**0.93**	**347**	*e*PG	**Pb**	**11 21 05.0**	**-0.1**
EDC	**Edincik**	**0.93**	**347**	*e*Pg	**Pb**	**11 21 05.0**	**-0.1**
MANT	**Manisa**	**1.00**	**161**	*i* P	**Pb**	**11 21 06.7**	**+0.1**
MANT				*i* S	**Sn**	**11 21 21.7**	**+0.2**
MANT	**Manisa**	**1.00**	**161**	*i* P	**Pb**	**11 21 06.7**	**+0.1**
KULA	**Kula-Manisa**	**1.01**	**156**	*e*PG	**Pn**	**11 21 07.0**	**-0.2**
KULA	**Kula-Manisa**	**1.01**	**156**	*e*Pg	**Pn**	**11 21 07.0**	**-0.2**
TVSB	**Tavsanli**	**1.02**	**89**	*e*PG	**Pg**	**11 21 06.9**	**+0.2**
TVSB				*e*SG	**Sn**	**11 21 21.3**	**-0.5**
TVSB	**Tavsanli**	**1.02**	**89**	*e*Pg	**Pg**	**11 21 06.9**	**+0.2**
TVSB				*e*Sg	**Sn**	**11 21 21.3**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.09**	**31**	*e*PG	**Pg**	**11 21 07.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.09**	**31**	*e*Pg	**Pg**	**11 21 07.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.15**	**326**	*e*PN	**Pg**	**11 21 09.3**	**+0.2**
KRBG	**Karabiga-Canak**	**1.15**	**326**	*e*Pn	**Pg**	**11 21 09.3**	**+0.2**
ARMT	**Armutlu**	**1.25**	**26**	*e*PN	**Pg**	**11 21 10.8**	**-0.2**
ARMT	**Armutlu**	**1.25**	**26**	*e*Pn	**Pg**	**11 21 10.8**	**-0.2**
YLV	**Yalova**	**1.47**	**40**	*e*PN	**Pb**	**11 21 14.7**	**+0.3**
YLV	**Yalova**	**1.47**	**40**	*e*Pn	**Pb**	**11 21 14.7**	**+0.3**
ALT	**Altintas**	**1.58**	**104**	*e*PN	**Pn**	**11 21 15.5**	**+0.5**
ALT	**Altintas**	**1.58**	**104**	*e*Pn	**Pn**	**11 21 15.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*PN	**Pn**	**11 21 15.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*Pn	**Pn**	**11 21 15.6**	**+0.4**

*CSEM **11** 11:42:59.4±0.2, 33.69N×36.71E, h20km, ML2.2, Error ellipse: s-maj=4.8km s-min=3.4km az=97.0*
*GRAL **11** 11:43:01.9±0.3, 33.70N×36.33E, h72km±8km, MD3.2*
NSSC 11 11:42:59.4±2.0, 33.72N×36.77E, h12km±7km, MD1.9, ML2.1, 21C-12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QASN	**Qassioun**	**0.45**	**245**	*e*P	Pg	11 43 06.7	-1.8
QASN				*e*S	Sg	11 43 14.9	+0.4
QASN				AML	AML	11 43 18.3	
	comp=E,754nm,0.3s						
QASN				AML	AML	11 43 19.6	
	comp=N,988nm,0.5s						
QASN	**Qassioun**	**0.45**	**245**	*e*P	Pg	11 43 07.7	-0.8
QASN				*e*S	Sb	11 43 15.9	-0.3
QASN				AML	AML	11 43 19.1	
	comp=E,755nm,0.4s						
QASN				AML	AML	11 43 20.5	
	comp=N,945nm,0.4s						
QASN	**Qassioun**	**0.45**	**245**	*e*P	Pg	11 43 06.8	-1.6
QASN				*e*S	Sg	11 43 14.7	+0.1
QASN				AML	AML	11 43 18.2	
	comp=E,759nm,0.3s						
QASN				AML	AML	11 43 19.6	
	comp=N,935nm,0.4s						
QASN	**Qassioun**	**0.45**	**245**	*e*P	Pg	11 43 06.8	-1.6
	SNR=106						
QASN				*e*S	Sg	11 43 14.7	+0.2
	comp=N,935nm,0.4s,SNR=108						
TOTH	**TOTAH**	**0.46**	**218**	*e*P	Pg	11 43 08.1	-0.4
TOTH				*e*S	Sg	11 43 15.4	+0.7
TOTH	**TOTAH**	**0.46**	**218**	*i*P	Pg	11 43 08.1	-0.4
TOTH				*e*S	Sg	11 43 15.4	+0.7
TOTH				AML	AML	11 43 16.5	
	comp=N,216nm,0.3s						
TOTH				AML	AML	11 43 32.6	
	comp=E,242nm,0.4s						
TOTH	**TOTAH**	**0.46**	**218**	*e*P	Pg	11 43 08.0	-0.5
TOTH				*e*S	Sg	11 43 14.3	-0.4
TOTH				AML	AML	11 43 16.4	
	comp=N,218nm,0.4s						
TOTH				AML	AML	11 43 32.7	
	comp=E,240nm,0.5s						
TOTH	**TOTAH**	**0.46**	**218**	*e*P	Pg	11 43 08.2	-0.3
	SNR=105						
TOTH				*e*S	Sg	11 43 14.3	-0.4
	comp=E,240nm,0.5s,SNR=107						
ROOS	**tl_alroos**	**0.62**	**44**	*e*P	Pg	11 43 11.7	+0.1
ROOS				*e*S	Sb	11 43 21.4	+0.3
ROOS	**tl_alroos**	**0.62**	**44**	*e*P	Pg	11 43 11.8	+0.1
ROOS				*e*S	Sb	11 43 21.5	+0.3
ROOS				AML	AML	11 43 33.1	
	comp=N,2.2nm,0.5s						
ROOS				AML	AML	11 43 44.4	
	comp=E,1.9nm,0.5s						
ROOS	**tl_alroos**	**0.62**	**44**	*e*P	Pg	11 43 11.8	+0.2
ROOS				*e*S	Sb	11 43 21.5	+0.3
ROOS				AML	AML	11 43 33.1	
	comp=N,2.2nm,0.6s						
ROOS				AML	AML	11 43 44.4	
	comp=E,1.9nm,0.5s						
ROOS	**tl_alroos**	**0.62**	**44**	*e*P	Pg	11 43 11.8	+0.1
	SNR=66						
ROOS				*e*S	Sb	11 43 21.5	+0.3
	comp=E,1.9nm,0.5s,SNR=62						
BRBR	**Barbar**	**0.75**	**246**	*e*P	Pg	11 43 13.3	-0.9
BRBR				*e*S	Sg	11 43 22.7	-1.5
BRBR				AML	AML	11 43 34.5	
	comp=N,92nm,0.6s						
BRBR				AML	AML	11 43 36.7	
	comp=E,171nm,0.5s						
BRBR	**Barbar**	**0.75**	**246**	*i*P	Pg	11 43 13.4	-0.8
BRBR				*e*S	Sg	11 43 24.5	+0.3
BRBR				AML	AML	11 43 34.2	
	comp=N,89nm,0.7s						
BRBR				AML	AML	11 43 36.5	
	comp=E,171nm,0.5s						
BRBR	**Barbar**	**0.75**	**246**	*e*P	Pg	11 43 12.9	-1.3
BRBR				*e*S	Sg	11 43 22.7	-1.5
BRBR				AML	AML	11 43 34.2	
	comp=N,88nm,0.6s						
BRBR				AML	AML	11 43 36.5	
	comp=E,173nm,0.6s						
RCY	**Rachaya**	**0.81**	**254**	*e*P	Pg	11 43 14.1	-1.1
RCY				*e*S	Sg	11 43 23.2	-2.8
HAWK	**Haweek**	**0.85**	**340**	*e*P	Pg	11 43 15.8	-0.2
HAWK				*e*S	Sb	11 43 27.9	+0.1
HAWK				AML	AML	11 43 34.5	
	comp=E,65nm,0.7s						
HAWK				AML	AML	11 43 39.0	
	comp=N,92nm,0.4s						
HAWK	**Haweek**	**0.85**	**340**	*e*P	Pg	11 43 15.4	-0.6
HAWK				*e*S	Sb	11 43 27.8	+0.1
HAWK				AML	AML	11 43 38.8	
	comp=N,92nm,0.5s						
HAWK				AML	AML	11 43 43.3	
	comp=E,66nm,0.5s						
HAWK	**Haweek**	**0.85**

comp=E,12nm,0.4s,SNR=62
TCHB **Talchebab** **1.25 213**⇑ *e*P Pn 11 43 22.4 -0.3
TCHB *e*S Sg 11 43 39.9 +0.2
TCHB AML AML 11 43 49.5
comp=N,77nm,0.5s
TCHB AML AML 11 43 49.6
comp=E,177nm,0.5s
TCHB Talchebab **1.25 213**⇑ *e*P Pn 11 43 22.1 -0.6
TCHB *e*S Sg 11 43 39.9 +0.2
TCHB AML AML 11 43 49.4
comp=E,177nm,0.5s
TCHB AML AML 11 43 49.6
comp=N,79nm,0.7s
TCHB Talchebab **1.25 213** *e*P Pn 11 43 20.8 -1.9
TCHB *e*S Sb 11 43 35.8 -3.2
TCHB AML AML 11 43 49.3
comp=N,79nm,0.4s
TCHB AML AML 11 43 49.4
comp=E,178nm,0.6s
TCHB Talchebab **1.25 213**⇑ *e*P Pn 11 43 22.3 -0.4
SNR=66
TCHB *e*S Sb 11 43 35.8 -3.2
comp=E,178nm,0.6s,SNR=62
BIDA Albida **1.34 344**⇑ *e*P Pn 11 43 23.9 -0.2
BIDA *e*S Sg 11 43 43.5 +0.7
BIDA AML AML 11 43 50.9
comp=N,260nm,0.5s
BIDA AML AML 11 43 52.3
comp=E,190nm,0.4s
BIDA Albida **1.34 344**⇑ *e*P Pn 11 43 23.8 -0.3
BIDA *e*S Sb 11 43 41.0 -0.8
BIDA AML AML 11 43 50.9
comp=N,264nm,0.5s
BIDA AML AML 11 43 52.1
comp=E,191nm,0.5s
BIDA Albida **1.34 344**⇑ *e*P Pn 11 43 23.8 -0.3
BIDA *e*S Sb 11 43 41.5 -0.3
BIDA AML AML 11 43 50.9
comp=N,261nm,0.3s
BIDA AML AML 11 43 52.1
comp=E,190nm,0.5s
BIDA Albida **1.34 344** *e*P Pn 11 43 23.9 -0.2
SNR=66
BIDA *e*S Sb 11 43 41.5 -0.3
comp=E,190nm,0.5s,SNR=62
KFRA Kufra **1.48** 1⇑ *e*P Pn 11 43 24.8 -1.3
KFRA *e*S Sn 11 43 45.7 +0.2
KFRA AML AML 11 43 56.5
comp=N,352nm,0.4s
KFRA AML AML 11 44 03.2
comp=E,298nm,0.5s
WRDH Warideh **1.80 351** *e*P Pn 11 43 31.2 +0.8
WRDH *e*S Sn 11 43 51.9 -1.4
WRDH AML AML 11 44 07.2
comp=E,34nm,0.6s
WRDH AML AML 11 44 14.7
comp=N,53nm,0.6s
WRDH Warideh **1.80 351**⇓ *e*P Pn 11 43 31.2 +0.8
SNR=51
WRDH *e*S Sn 11 43 51.9 -1.4
comp=N,53nm,0.6s,SNR=49

IDC 11 12:04:22.2±0.8**, 27°61N**×**141°00E, h355**km±18km**, mb3.1**/3**, mb1 3.0**/5**, mb1mx2.7**/25**, mbtmp2.9**/5**, Error ellipse: s-maj=84.5km s-min=18.5km az=80.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.18**	**116**	P	Pn	12 05 10.3	+1.0
	15nm,0.3s,baz=245,slow=19,SNR=8.8						
CBIJ				S	S	12 05 47.2	+0.2
	24nm,0.3s,baz=291,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**9.21**	**346**	P	Pn	12 06 30.4	-0.3
	0.2nm,0.3s,baz=148,slow=6.1,SNR=3.0						
KSRS	**Korea Array**	**14.74**	**315**	P	P	12 07 34.2	+0.5
	0.1nm,0.3s,baz=130,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**47.71**	**188**	P	P	12 12 24.6	-0.1
	0.2nm,0.4s,baz=5.9,slow=8.2,SNR=11						
ARCES	**ARCESS Array B**	**72.70**	**341**	P	P	12 15 13.4	+1.5
	1.3nm,0.7s,baz=36,slow=6.7,SNR=3.7						
FINES	**FINESS Array B**	**77.01**	**333**	P	P	12 15 35.3	-1.1
	0.5nm,0.3s,baz=68,slow=7.0,SNR=7.5						

MEX 11 12:22:34.1±1.0**, 20°73N**×**105°88W, h7**km±18km**, MD3.8, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.31**	**75**	*e*P	Pn	12 22 55.5	-3.5
ANIG				*i* S	Sb	12 23 12.2	-4.1
CJM	**Chamela**	**1.45**	**147**	*e*P	Pn	12 22 56.9	-3.9
CJM				*i* S	Sn	12 23 15.4	-4.8
MAIG	**Mazatlaan**	**2.50**	**348**	*e*P	Pn	12 23 12.3	-2.9
MAIG				*i* S	Sn	12 23 41.4	-4.6
SFJM	**Santa Fe**	**2.67**	**95**	*i* P	Pb	12 23 20.3	-2.2
SFJM				*i* S	Sn	12 23 51.5	+0.9
ZAIG	**Zacatecas**	**3.69**	**56**	*e*P	Pn	12 23 30.8	-1.2
ZAIG				*i* S	Sn	12 24 11.4	-4.5

MEX 11 12:26:33.9±0.9**, 20°71N**×**105°86W, h10km, MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.30**	**75**	*e*P	Pn	12 26 54.7	-3.6
ANIG				*i* S	Sb	12 27 11.6	-3.8
CJM	**Chamela**	**1.43**	**147**	*e*P	Pn	12 26 56.0	-3.9
CJM				*i* S	Sn	12 27 14.5	-4.3
MAIG	**Mazatlaan**	**2.52**	**348**	*i* P	Pn	12 27 11.2	-3.7
MAIG				*i* S	Sn	12 27 42.5	-3.1
SFJM	**Santa Fe**	**2.65**	**94**	*i* P	Pb	12 27 19.8	-2.0
SFJM				*i* S	Sn	12 27 51.8	+2.4
ZAIG	**Zacatecas**	**3.68**	**56**	*i* P	Pn	12 27 28.1	-3.2
ZAIG				*i* S	Sn	12 28 11.6	-3.4

IDC ***11*** *12:45:21.0*±*0.5, 50°15N*×*87°85E, h0km, mb4.0/18, mb1 4.3/24, mb1mx4.2/35, mbtmp4.2/24, ML4.7/6, MS4.0/5, Ms1 4.2/5, ms1mx3.1/55, Error ellipse: s-maj=9.8km s-min=7.8km az=168.0*
ISCJB ***11*** *12:45:20.9*±*0.7, 50°30N*±*0.0°03*×*87°69E*±*0.0°04, h7km*±*4km, mb4.1/20, MS4.6/4, Error ellipse: s-maj=5.1km s-min=4.3km az=40.3*
BJI ***11*** *12:45:21.6, 50°18N*×*87°50E, h11km, mB4.6/4, mb4.0/5, ML4.2/7*
MOS ***11*** *12:45:21.4*±*1.4, 50°16N*×*87°70E, h12km, mb4.3/13, Error ellipse: s-maj=7.6km s-min=5.9km az=82.0*
NNC ***11*** *12:45:21.4*±*3.2, 50°11N*×*87°87E, h0km, mb4.5, mpv4.7, Error ellipse: s-maj=25.0km s-min=18.1km az=82.0*
ASRS ***11*** *12:45:23.8*±*1.0, 50°30N*×*87°63E, h15km, Ms3.4/4*
ISC 11 12:45:23.5±0.8**, 50°30N**±0.0°04×**87°68E**±0.0°04**, h14km**±4km**, n86**, σ1**°71/98**, mb4.0/20**, MS4.7/4**, 10C-9D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.04**	**302**	*i* Pg	**Pg**	**12 45 25.7**	**-0.6**
AKAR				*e*Sg	**Sg**	**12 45 28.6**	**+0.4**
AKAR	**Aktash**	**0.04**	**302**	*i* PG	**Pg**	**12 45 25.7**	**-0.6**
ARTR	**Artybash**	**1.52**	**351**	*e*Pg	**Pb**	**12 45 52.4**	**+0.8**
ARTR				*i* Sg	**Sn**	**12 46 07.8**	**-2.3**
ARTR	**Artybash**	**1.52**	**351**	*e*PN	**Pb**	**12 45 52.4**	**+0.8**
ARTR				*i*		12 46 07.8	
UKR	**Ust'-Kan**	**1.96**	**290**	*e*Pg	**Pb**	**12 45 59.1**	**+0.1**
UKR				*e*Sg	**Sb**	**12 46 24.7**	**+1.3**
UKR	**Ust'-Kan**	**1.96**	**290**	*e*PN	**Pb**	**12 45 59.1**	**+0.1**
UKR				*e*		12 46 24.7	
TASR	**Tashtagol**	**2.47**	**3**	*i* Pg	**Pb**	**12 46 08.1**	**+0.4**
TASR				*e*Pg	**Sg**	**12 46 43.5**	**+0.6**
TASR	**Tashtagol**	**2.47**	**3**	*i* PN	**Pb**	**12 46 08.1**	**+0.4**
TASR				*e*		12 46 43.5	
ELT	**Yel'tsovka**	**3.10**	**344**	*e*Sn	**Sn**	**12 46 48.3**	**-0.6**
ELT				*e*Sg	**Sg**	**12 47 02.8**	**-0.3**
CERR	**Cheremushki**	**3.46**	**41**	*e*Pn	Pn	12 46 20.6	+3.6
CERR				*i* Pg	**Pb**	**12 46 26.1**	**+1.5**
CERR				*i* Sg	**Sg**	**12 47 13.6**	**-1.0**
CERR	**Cheremushki**	**3.46**	**41**	*e*PN	Pn	12 46 20.6	+3.6
CERR				*i*		12 46 26.1	
CERR				*i*		12 47 13.6	
HVS	**Khovu-Aksy**	**3.92**	**75**	*d* PN	**Pn**	**12 46 24.9**	**+1.5**
ZALV	**Zalesovo Beam**	**4.06**	**335**	Pn	**Pn**	**12 46 28.3**	**+3.1**
	34nm,0.3s,baz=156,slow=14,SNR=832						
ZALV				Sn	**Sb**	**12 47 18.9**	**-4.8**
	20nm,0.3s,baz=157,slow=24,SNR=5.8						
ZALV				Lg	Lg	12 47 36.1	
	28nm,0.3s,baz=152,slow=29,SNR=12						
ZALV	**Zalesovo Beam**	**4.06**	**335**	PN	**Pn**	**12 46 28.3**	**+3.1**
ZALV						12 47 18.9	
ZALV				pmax	pmax		
	comp=Z,34nm,0.3s						
ZALV				smax	smax		
	comp=N,20nm,0.3s						
MK31	**Makanchi Array**	**5.01**	**228**	⇑Pn	**Pn**	**12 46 40.2**	**+1.9**
	comp=N,79nm,0.5s,baz=57,slow=12,SNR=1386						
MK31				⇓Sn	**Sn**	**12 47 36.3**	**+0.3**
	comp=N,38nm,0.4s,baz=54,slow=22,SNR=5.9						
MK31				⇑Lg	Lg	12 47 56.3	
	comp=N,189nm,0.5s,baz=49,slow=31,SNR=3.2						
MK31	**Makanchi Array**	**5.01**	**228**	*i* PN	**Pn**	**12 46 40.2**	**+1.9**
MK31				pmax	pmax		
	comp=Z,149nm,0.5s						
MKAR	**Makanchi Array**	**5.01**	**228**	Pn	**Pn**	**12 46 40.2**	**+1.9**
	comp=Z,31nm,0.3s,baz=52,slow=14,SNR=987						
MKAR				Sn	**Sn**	**12 47 36.5**	**+0.5**
	comp=Z,13nm,0.3s,baz=41,slow=18,SNR=4.1						
MKAR				Lg	Lg	12 47 58.8	
	comp=Z,56nm,0.3s,baz=55,slow=24,SNR=7.9						
MKAR				LR	LR	12 48 57.7	
	comp=Z,84nm,19.5s,baz=314,slow=43						
MKAR	**Makanchi Array**	**5.01**	**228**	*i* PN	**Pn**	**12 46 40.2**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,103nm,0.5s						
NVS	**Novosibirsk**	**5.30**	**331**	*e*Pn	**Pn**	**12 46 44.5**	**+2.3**
NVS				*i* Pg	Pb	12 47 00.5	+4.7
NVS				*e*Sn	**Sn**	**12 47 44.5**	**+1.6**
NVS				*i* Sg	**Sg**	**12 48 09.4**	**-4.0**
NVS	**Novosibirsk**	**5.30**	**331**	*e*PN	**Pn**	**12 46 44.5**	**+2.3**
NVS				*i*		12 47 00.5	
NVS				*i*		12 47 44.5	
NVS				*i*		12 48 09.4	
KURK	**Kurchatov**	**5.80**	**278**	⇓Pn	**Pn**	**12 46 50.4**	**+1.4**
	comp=Z,42nm,0.5s						
KURK				⇑Sn	**Sn**	**12 48 01.0**	**+5.7**
	comp=Z,36nm,0.6s						
KURK				⇑Lg	Lg	12 48 27.4	
	comp=Z,171nm,0.6s						
KURK	**Kurchatov**	**5.80**	**278**	*c* PN	**Pn**	**12 46 50.7**	**+1.7**
KURK				pmax	pmax		
	comp=Z,66nm,0.8s						
KURBB	**Kurchatov Arra**	**5.85**	**277**	Pn	**Pn**	**12 46 51.6**	**+1.8**
	comp=Z,10.0nm,0.3s,baz=92,slow=14,SNR=163						
KURBB				Sn	**Sn**	**12 47 59.5**	**+2.8**
	comp=Z,5.8nm,0.3s,baz=88,slow=28,SNR=6.9						
KURBB				Lg	Lg	12 48 27.4	
	comp=Z,6.1nm,0.3s,baz=100,slow=33,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.85**	**277**	⇓Pn	**Pn**	**12 46 51.6**	**+1.8**
	comp=Z,20nm,0.5s						
KURBB				⇑Sn	Sn	12 48 03.8	+7.1
	comp=Z,9.4nm,0.5s						
KURBB				⇓Lg	Lg	12 48 28.6	
	comp=Z,31nm,0.6s						
WMQ	**Urumqi**	**6.48**	**180**	Pn	**Pn**	**12 46 58.8**	**+0.3**
WMQ				Sn	**Sn**	**12 48 10.2**	**-2.0**
WMQ				smax	smax		
	comp=N,140nm,1.0s						
WMQ				smax	smax		
	comp=E,140nm,0.8s						
KRAR	**Krasnoyarsk**	**6.52**	**27**	*i* PN	**Pn**	**12 47 00.4**	**+1.5**
BVA0	**Borovoye Array**	**11.08**	**291**	⇑Pn	**Pn**	**12 48 01.3**	**-0.2**
	comp=E,1.5nm,0.5s,baz=106,slow=14,SNR=137						
BVA0	**Borovoye Array**	**11.08**	**291**	*e*P	**Pn**	**12 48 01.3**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**11.08**	**291**	Pn	**Pn**	**12 48 01.5**	**0.0**
	comp=Z,7.5nm,0.3s,baz=103,slow=14,SNR=144						
BVAR				Sn	**Sn**	**12 50 02.4**	**-2.7**
	comp=Z,1.9nm,0.3s,baz=102,slow=21,SNR=8.1						
BVAR	**Borovoye Array**	**11.08**	**291**	P	**Pn**	**12 48 01.5**	**0.0**
BVAR						12 50 02.4	
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
BVAR				smax	smax		
	comp=N,2.0nm,0.3s						
TKM2	**Tokmak 2**	**11.10**	**233**	*i* P	**Pn**	**12 48 00.9**	**-1.1**
TKM2	**Tokmak 2**	**11.10**	**233**	P	**Pn**	**12 48 01.0**	**-1.1**
	SNR=14						
BRVK	**Borovoye**	**11.15**	**291**	*d* P	**Pn**	**12 48 02.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULHL	**Ulahol**	**11.28**	**229**	*i* P	Pn	12 48 08.1	+3.7
ULHL	**Ulahol**	**11.28**	**229**	P	Pn	12 48 08.1	+3.7
	SNR=8.8						
USP	**Ospenovka**	**11.44**	**237**	*i* P	**Pn**	**12 48 07.2**	**+0.7**
USP	**Ospenovka**	**11.44**	**237**	P	**Pn**	**12 48 07.2**	**+0.7**
	SNR=5.6						
CHMS	**Chumysh**	**11.49**	**236**	*i* P	**Pn**	**12 48 08.9**	**+1.8**
CHMS	**Chumysh**	**11.49**	**236**	P	**Pn**	**12 48 08.9**	**+1.8**
	SNR=6.1						
KBK	**Karagaybulak**	**11.63**	**234**	*i* P	**Pn**	**12 48 11.4**	**+2.3**
KBK	**Karagaybulak**	**11.63**	**234**	P	**Pn**	**12 48 11.4**	**+2.3**
	SNR=14						
FRU	**Bishkek**	**11.67**	**235**	*e*P	Pn	12 48 21.0	+11
FRU				*e*		12 50 22.0	
FRU				pmax	pmax		
	comp=E,120nm,1.9s						
AAK	**Ala-Archa**	**11.88**	**235**	Pn	**Pn**	**12 48 11.4**	**-1.2**
	comp=E,1.9nm,0.3s,baz=88,slow=7.0,SNR=26						
AAK				Sn	**Sn**	**12 50 20.3**	**-4.7**
	comp=E,0.4nm,0.3s,baz=253,slow=23,SNR=6.1						
AAK				Lg	Lg	12 51 37.0	
	comp=E,0.6nm,0.3s,baz=180,slow=18,SNR=5.1						
AAK				LR	LR	12 52 58.5	
	comp=E,57nm,21.5s,baz=5.0,slow=38						
AAK	**Ala-Archa**	**11.88**	**235**	P	**Pn**	**12 48 11.4**	**-1.2**
AAK						12 50 20.3	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,57nm,21.5s						
AAK	**Ala-Archa**	**11.88**	**235**	P	**Pn**	**12 48 14.4**	**+1.9**
	SNR=13						
KZA	**Kyzart**	**11.89**	**231**	*i* P	**Pn**	**12 48 13.7**	**+0.7**
KZA	**Kyzart**	**11.89**	**231**	P	**Pn**	**12 48 13.7**	**+0.7**
	SNR=9.1						
SONM	**Songino Array**	**12.52**	**94**	Pn	**Pn**	**12 48 22.1**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=273,slow=16,SNR=2.2						
SONM				Lg	Lg	12 51 53.4	
	comp=Z,0.6nm,0.3s,baz=156,slow=33,SNR=2.5						
AML	**Almayashu**	**12.65**	**235**	*i* P	**Pn**	**12 48 23.8**	**+0.4**
AML	**Almayashu**	**12.65**	**235**	P	**Pn**	**12 48 23.8**	**+0.4**
	SNR=8.7						
KK31	**Karatay Array**	**13.79**	**245**	⇑Pn	**Pn**	**12 48 35.9**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=54,slow=14,SNR=38						
KK31	**Karatay Array**	**13.79**	**245**	*i* P	**Pn**	**12 48 36.3**	**-2.2**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BOD	**Bodaibo**	**17.11**	**54**	*e*P	**Pn**	**12 49 20.6**	**-1.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SVE	**Sverdlovsk**	**17.27**	**303**	⇓*e*P	**Pn**	**12 49 22.8**	**-1.2**
SVE				*e*S	Sn	12 52 27.4	-8.3
SVE				pmax	pmax		
	comp=Z,20nm,1.1s						
AB31	**Akbulak array**	**17.91**	**277**	⇓P	**Pn**	**12 49 30.6**	**-1.4**
	comp=Z,7.2nm,0.7s,baz=79,slow=12,SNR=110						
AB31	**Akbulak array**	**17.91**	**277**	*i* P	**Pn**	**12 49 30.6**	**-1.4**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ARU	**Arti**	**18.34**	**301**	*c* P	**Pn**	**12 49 37.1**	**-0.1**
ARU				S	**Sn**	**12 53 01.8**	**+0.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AKTO	**Aktyubinsk**	**18.87**	**282**	P	**Pn**	**12 49 44.0**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=88,slow=12,SNR=61						
AKTO				Lg	Lg	12 55 23.4	
	comp=Z,0.1nm,0.3s,baz=341,slow=13,SNR=3.7						
AKTO	**Aktyubinsk**	**18.87**	**282**	⇓P	**Pn**	**12 49 43.9**	**+0.2**
	comp=Z,1.8nm,0.6s						
AKTO	**Aktyubinsk**	**18.87**	**282**	P	**Pn**	**12 49 44.1**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**25.67**	**47**	*e*P	**P**	**12 50 52.6**	**0.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
WHN	**Wuhan**	**28.07**	**125**	P	**P**	**12 51 17.3**	**+2.9**
OBN	**Obninsk**	**30.76**	**299**	*i* P	**P**	**12 51 40.3**	**+2.2**
OBN				*e*		12 54 34.5	
OBN				pmax	pmax		
	comp=Z,12nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
KSRS	**Korea Array**	**31.33**	**99**	P	**P**	**12 51 42.3**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=306,slow=7.5,SNR=6.5						
CMAR	**Chiang Mai Arr**	**33.02**	**160**	P	**P**	**12 51 56.8**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=332,slow=8.9,SNR=5.9						
CMAR				LR	LR	13 06 43.8	
	comp=Z,6μm,18.0s,baz=223,slow=39						
FINES	**FINESS Array B**	**34.97**	**312**	P	**P**	**12 52 15.4**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=69,slow=10,SNR=4.8						
AKASG	**Malin Array Be**	**36.34**	**294**	P	**P**	**12 52 27.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=62,slow=9.1,SNR=4.1						
AKASG	**Malin Array Be**	**36.34**	**294**	P	**P**	**12 52 27.5**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**38.84**	**276**	P	**P**	**12 52 49.5**	**+1.4**
	comp=Z,2.9nm,0.5s,baz=69,slow=4.4,SNR=17						
HFS	**Hagfors**	**41.17**	**313**	P	**P**	**12 53 08.5**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=94,slow=11,SNR=6.9						
NB2	**NORSAR Subarra**	**41.99**	**315**	P	**P**	**12 53 13.9**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=61,slow=7.9						
NOA	**NORSAR Array B**	**41.99**	**315**	P	**P**	**12 53 14.3**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=64,slow=7.8,SNR=9.6						
ILAR	**Eielson Array**	**57.73**	**24**	P	**P**	**12 55 13.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=323,slow=5.5,SNR=15						
ESDC	**Sonseca Array**	**61.73**	**299**	P	**P**	**12 55 41.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=48,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**66.17**	**11**	P	**P**	**12 56 10.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=340,slow=7.0,SNR=21						
MDT	**Midelt**	**66.91**	**294**	P	**P**	**12 56 16.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=52,slow=5.1,SNR=3.9						
SCHQ	**Schefferville**	**73.09**	**345**	P	**P**	**12 56 53.0**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=234,slow=8.5,SNR=3.5						
FFC	**Flin Flon**	**75.04**	**6**	*c* eP	**P**	**12 57 05.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**75.88**	**143**	P	**P**	**12 57 07.3**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=15,slow=2.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**77.46**	**275**	P	**P**	**12 57 18.6**	**0.0**
	comp=Z,2.0nm,0.8s,baz=28,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**81.14**	**136**	P	**P**	**12 57 36.6**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=341,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**84.23**	**138**	P	**P**	**12 57 52.8**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=334,slow=5.4,SNR=15						
ASAR				LR	LR	13 33 22.8	
	comp=Z,315nm,21.2s,baz=297,slow=34						
PDAR	**Pinedale Array**	**86.10**	**13**	P	**P**	**12 58 03.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=26,slow=3.0,SNR=4.5						
CTA	**Charters Tower**	**87.00**	**127**	LR	LR	13 38 18.8	
	comp=Z,419nm,21.8s,baz=283,slow=37						
NVAR	**Mina Array Bea**	**88.73**	**20**	P	**P**	**12 58 18.0**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=332,slow=4.8,SNR=9.1						
CPUP	**Villa Florida**	**144.10**	**299**	PKP	**PKPab**	**13 04 56.4**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=8.5,slow=3.6,SNR=5.9						

ATH ***11*** *12:51:01.9, 40°38N*×*19°41E, h12km*±*1km, MD3.8/18*
TIR ***11*** *12:51:04.6, 40°29N*×*19°79E, h54km, ML3.9*
THE ***11*** *12:51:05.4, 40°29N*×*19°67E, h0km*±*2km, ML3.5/5, Error ellipse: s-maj=2.9km s-min=0.9km az=267.0*
CSEM ***11*** *12:51:05.4*±*0.2, 40°27N*×*19°67E, h2km, ML3.9, Error ellipse: s-maj=4.7km s-min=2.3km az=67.0*
PDG ***11*** *12:51:05.8*±*0.3, 40°29N*×*19°58E, h12km, ML3.0/10, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
IDC ***11*** *12:51:06.5*±*2.2, 40°37N*×*19°76E, h0km, mb3.4/5, mb1 3.6/9, mb1mx3.5/30, mbtmp3.5/9, ML3.6/4, Error ellipse: s-maj=32.4km s-min=17.3km az=27.0*
SKO ***11*** *12:51:07.8, 40°25N*×*19°79E, h10km*
BEO ***11*** *12:51:18.0*±*1.3, 41°08N*×*20°28E, h0km, ML2.6/8*
ISC 11 12:51:05.5±1.2**, 40°31N**±0.0°01×**19°71E**±0.0°02**, h0km**±9km**, n208**, σ1°36/268**, mb3.6**/4**, 15C-13D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.23**	**93**	*e*PG	**Pg**	**12 51 08.5**	**-1.3**
TPE				*e*SG	**Sg**	**12 51 10.6**	**-2.2**
TPE	**Tepelena**	**0.23**	**93**	*e*Pg	**Pg**	**12 51 08.5**	**-1.3**
TPE				*e*Sg	**Sg**	**12 51 10.6**	**-2.2**
SRN	**Sarande**	**0.48**	**152**	*e*PG	**Pg**	**12 51 14.1**	**-0.5**
SRN				*e*SG	**Sg**	**12 51 22.1**	**+1.3**
SRN	**Sarande**	**0.48**	**152**	P	**Pg**	**12 51 13.6**	**-1.0**
SRN				S	**Sg**	**12 51 22.1**	**+1.3**
SRN	**Sarande**	**0.48**	**152**	P	**Pg**	**12 51 13.6**	**-1.0**
SRN	**Sarande**	**0.48**	**152**	*e*Pg	**Pg**	**12 51 14.1**	**-0.5**
SRN				S	**Sg**	**12 51 22.1**	**+1.3**
KEK	**Kerkira**	**0.60**	**174**	P	**Pg**	**12 51 16.2**	**-0.7**
KEK				S	**Sg**	**12 51 24.7**	**+0.1**
KEK	**Kerkira**	**0.60**	**174**	*e*PB	**Pg**	**12 51 16.2**	**-0.7**
KEK				*e*SB	**Sg**	**12 51 26.3**	**+1.7**
KEK	**Kerkira**	**0.60**	**174**	P	**Pg**	**12 51 16.2**	**-0.7**
KEK				S	**Sg**	**12 51 24.7**	**+0.1**
KEK				*e*Sb	**Sg**	**12 51 26.3**	**+1.7**
LSK	**Leskovik**	**0.70**	**103**	*e*PG	**Pg**	**12 51 17.6**	**-1.2**
LSK				*e*SG	**Sg**	**12 51 26.6**	**-1.2**
LSK	**Leskovik**	**0.70**	**103**	*e*Pg	**Pg**	**12 51 17.6**	**-1.2**
LSK				*e*Sg	**Sg**	**12 51 26.6**	**-1.2**
IGT	**Igoumenitsa**	**0.91**	**148**	P	**Pg**	**12 51 22.1**	**-0.7**
IGT				S	**Sg**	**12 51 36.0**	**+1.4**
IGT	**Igoumenitsa**	**0.91**	**148**	P	**Pg**	**12 51 22.1**	**-0.7**
IGT				S	**Sg**	**12 51 36.0**	**+1.4**
NEST	**Nestorio**	**1.03**	**84**	P	**Pg**	**12 51 24.3**	**-0.8**
NEST				S	**Sn**	**12 51 40.3**	**-2.1**
NEST	**Nestorio**	**1.03**	**84**	P	**Pg**	**12 51 24.3**	**-0.8**
NEST				S	**Sn**	**12 51 40.3**	**-2.1**
TIR	**Tirane**	**1.05**	**6**	*e*PG	**Pn**	**12 51 26.0**	**-1.4**
TIR				*e*SG	**Sn**	**12 51 43.2**	**+0.5**
TIR	**Tirane**	**1.05**	**6**	P	**Pb**	**12 51 25.2**	**-1.3**
TIR	**Tirane**	**1.05**	**6**	*e*Pg	**Pn**	**12 51 25.7**	**-1.7**
TIR				*e*Sg	Sg	12 51 30.4	-8.7
TIR	**Tirane**	**1.05**	**6**

ULC	**Ulcinj**			1.69	348	⇑*i*	Pn	**Pb**	12 51 36.0	-1.5
ULC						*e*	Sn	**Sg**	12 52 00.5	+0.6
PUK	**Puka**	1.74	4	*e*	PG			**Pb**	12 51 37.6	-0.7
PUK				*e*	SG			**Sg**	12 52 05.1	+3.7
PUK	**Puka**	1.74	4	*e*	Pg			**Pb**	12 51 37.6	-0.7
THL	**Klokotos Trika**			1.92	112	P		**Pb**	12 51 40.0	-1.2
THL	**Klokotos Trika**			1.92	112	*e*	PN	**Pb**	12 51 40.1	-1.2
THL						*e*	SN	**Sg**	12 52 07.6	+0.5
BCI	**Bajram Curri**	2.08	7	*e*	PG			**Pb**	12 51 42.7	-1.3
BCI				*e*	SG			**Sg**	12 52 15.4	+3.2
BCI	**Bajram Curri**	2.08	7	*e*	Pg			**Pb**	12 51 42.7	-1.3
BUM	**Brajici-Budva**			2.09	343	*e*	Pn	**Pn**	12 51 41.4	-0.3
BUM						*e*	Sn	**Sb**	12 52 09.7	-1.0
BUM	**Brajici-Budva**			2.09	343	*e*	Pn	**Pn**	12 51 41.4	-0.3
BUM						*e*	Sn	**Sb**	12 52 09.7	-1.0
SKO	**Skopje**	2.11	38	P				**Pb**	12 51 43.1	-1.6
SKO	**Skopje**	2.11	38	*e*	Pn			**Pb**	12 51 43.3	-1.4
SKO	**Skopje**	2.11	38	*e*	PN			**Pb**	12 51 43.3	-1.4
SKO	**Skopje**	2.11	38	*e*	Pn			**Pb**	12 51 43.3	-1.4
EVR	**Evrytania**			2.13	130	*e*	PN	**Pn**	12 51 43.1	+0.7
EVR	**Evrytania**			2.13	130	*e*	Pn	**Pn**	12 51 43.1	+0.7
GRG	**Griva**	2.15	72	P				**Pb**	12 51 42.9	-2.3
GRG	**Griva**	2.15	72	P				**Pb**	12 51 42.9	-2.3
TTG	**Podgorica**			2.15	351	⇓*i*	Pn	**Pn**	12 51 42.6	+0.1
TTG						*e*	Sn	**Sb**	12 52 11.2	-1.2
PDG	**Podgorica**			2.15	351	*e*	PN	**Pg**	12 51 47.1	+0.4
PDG	**Podgorica**			2.15	351	⇓*i*	Pn	**Pn**	12 51 42.6	+0.1
PDG						*e*	Sn	**Sb**	12 52 11.2	-1.2
VLS	**Valsamata**			2.23	162	P		**Pn**	12 51 42.3	-1.4
VLS	**Valsamata**			2.23	162	*e*	PB	**Pn**	12 51 42.6	-1.1
VLS	**Valsamata**			2.23	162	P		**Pn**	12 51 42.3	-1.4
VLS	**Valsamata**			2.23	162	*e*	Pb	**Pn**	12 51 42.6	-1.1
MAKR	**Makrakomi, Fth**			2.27	124	P		**Pn**	12 51 44.8	+0.6
MAKR						S		**Sb**	12 52 13.6	-2.4
PVY	**Plav**	2.29	5	⇓*i*	Pn			**Pn**	12 51 44.8	+0.1
PVY						*e*	Sn	**Sb**	12 52 15.2	-1.5
PVY	**Plav**	2.29	5	⇓*i*	Pn			**Pn**	12 51 44.8	+0.1
PVY						*e*	Sn	**Sb**	12 52 15.2	-1.5
HCY	**Herceg Novi**			2.33	337	⇑*i*	Pn	**Pn**	12 51 44.0	-1.0
HCY						*e*	Sn	**Sb**	12 52 14.6	-3.0
HCY	**Herceg Novi**			2.33	337	⇑*i*	Pn	**Pn**	12 51 44.0	-1.0
HCY						*e*	Sn	**Sb**	12 52 14.6	-3.0
VAY	**Valandovo**	2.39	64	*e*	Pn			**Pb**	12 51 46.8	-2.6
VAY	**Valandovo**	2.39	64	*e*	Pn			**Pb**	12 51 48.6	-0.8
VAY	**Valandovo**	2.39	64	*e*	Pn			**Pb**	12 51 47.2	-2.2
EFP	**Efpalio**	2.53	137	P				**Pn**	12 51 48.2	+0.4
EFP	**Efpalio**	2.53	137	*e*	PB			**Pn**	12 51 48.6	+0.8
EFP	**Efpalio**	2.53	137	*e*	Pb			**Pn**	12 51 48.6	+0.8
NKY	**Niksic**			2.56	348	⇓*i*	Pn	**Pn**	12 51 48.3	0.0
NKY						*e*	Sn	**Sb**	12 52 20.7	-3.7
NKY	**Niksic**			2.56	348	⇓*i*	Pn	**Pn**	12 51 48.3	0.0
NKY						*e*	Sn	**Sb**	12 52 20.7	-3.7
BEY	**Berane**	2.57	3	⇑*i*	Pn			**Pn**	12 51 49.0	+0.6
BEY						*e*	Sn	**Sb**	12 52 22.5	-2.1
IVA	**Berane**	2.57	3	⇑*i*	Pn			**Pn**	12 51 49.0	+0.6
IVA						*e*	Sn	**Sb**	12 52 22.5	-2.1
KNT	**Kendrikon**	2.57	70	P				**Pn**	12 51 49.0	+0.7
KNT	**Kendrikon**	2.57	70	P				**Pn**	12 51 49.0	+0.7
HORT	**Hortiatis**	2.60	82	P				**Pn**	12 51 48.7	-0.1
HORT	**Hortiatis**	2.60	82	P				**Pn**	12 51 48.7	-0.1
TRIZ	**Trizonia**	2.67	136	P				**Pn**	12 51 50.5	+0.9
KALE	**Kalithea**	2.68	135	P				**Pn**	12 51 50.9	+1.0
LAKA	**Lakka**	2.71	139	P				**Pn**	12 51 50.6	+0.3
BRY	**Bratogost**			2.74	342	⇓*i*	Pn	**Pn**	12 51 49.8	-1.0
BRY						*e*	Sn	**Sn**	12 52 24.4	-0.3
BRY	**Bratogost**			2.74	342	⇓*i*	Pn	**Pn**	12 51 49.8	-1.0
BRY						*e*	Sn	**Sn**	12 52 24.4	-0.3
SOH	**Sokhos**	2.82	78	P				**Pn**	12 51 52.4	+0.6
SOH	**Sokhos**	2.82	78	*e*	PN			**Pn**	12 51 51.8	0.0
SOH	**Sokhos**	2.82	78	*e*	Pn			**Pn**	12 51 51.8	0.0
SOH	**Sokhos**	2.82	78	P				**Pn**	12 51 52.4	+0.6
XOR	**Xorichti**	2.84	108	P				**Pn**	12 51 52.3	+0.2
XOR	**Xorichti**	2.84	108	P				**Pn**	12 51 52.3	+0.2
PLG	**Polygyros**	2.85	87	P				**Pn**	12 51 52.2	-0.1
PLG	**Polygyros**	2.85	87	*e*	PN			**Pn**	12 51 52.6	+0.3
PLG	**Polygyros**	2.85	87	P				**Pn**	12 51 52.2	-0.1
PLG	**Polygyros**	2.85	87	*e*	Pn			**Pn**	12 51 52.6	+0.3
NEO	**Neokhori**	2.88	109	*e*	PN			**Pn**	12 51 53.7	+1.0
NEO	**Neokhori**	2.88	109	*e*	Pn			**Pn**	12 51 53.7	+1.0
DSF	**Desfina**	2.89	130	P				**Pn**	12 51 53.2	+0.4
DSF	**Desfina**	2.89	130	P				**Pn**	12 51 53.2	+0.4
UPM	**Unac-Piva**			2.96	348	*e*	Pn	**Pn**	12 51 53.0	-0.8
UPM						*e*	Sn	**Sn**	12 52 30.0	-0.1
UPM	**Unac-Piva**			2.96	348	*e*	Pn	**Pn**	12 51 53.0	-0.8
UPM						*e*	Sn	**Sn**	12 52 30.0	-0.1
BARS	**Barje**	2.96	31	*e*	PN			**Pn**	12 51 54.1	+0.3
BARS	**Barje**	2.96	31	*e*	Pn			**Pn**	12 51 54.1	+0.3
STON	**Ston**			2.98	330	*e*	Pn	**Pn**	12 51 53.0	-0.9
STON							Sn	**Sn**	12 52 29.5	-0.7
STON	**Ston**			2.98	330	*e*	Pn	**Pn**	12 51 53.0	-0.9
STON							Sn	**Sn**	12 52 29.5	-0.7
PLE	**Pljevlja**			3.03	356	*e*	Pn	**Pn**	12 51 55.7	+0.9
PLE						*e*	Sn	**Sb**	12 52 33.0	-4.9
PLE	**Pljevlja**			3.03	356	*e*	Pn	**Pn**	12 51 55.7	+0.9
PLE						*e*	Sn	**Sb**	12 52 33.0	-4.9
LKR	**Lokris**			3.03	122	*e*	PN	**Pn**	12 51 55.3	+0.6
LKR	**Lokris**			3.03	122	*e*	Pn	**Pn**	12 51 55.3	+0.6
PAIG	**Paliouri**	3.06	96	P				**Pn**	12 51 54.6	-0.5
PAIG	**Paliouri**	3.06	96	P				**Pn**	12 51 54.6	-0.5
SELS	**Selova**	3.10	19	*e*	Pn			**Pn**	12 51 56.5	+0.9
GUR	**Goura**	3.13	138	P				**Pn**	12 51 56.2	+0.1
GUR	**Goura**	3.13	138	*e*	PN			**Pn**	12 51 56.2	+0.1
IVAS	**Ivanjica**	3.28	6	*e*	Pn			**Pn**	12 51 59.4	+1.2
IVAS	**Ivanjica**	3.28	6	*e*	Pn			**Pn**	12 51 59.4	+1.2
NVR	**Nevrokopi**	3.32	70	P				**Pn**	12 51 59.9	+1.3
NVR	**Nevrokopi**	3.32	70	*e*	PN			**Pn**	12 51 59.1	+0.5
NVR	**Nevrokopi**	3.32	70	*e*	Pn			**Pn**	12 51 59.1	+0.5
NVR	**Nevrokopi**	3.32	70	P				**Pn**	12 51 59.9	+1.3
MRKA	**Markates**	3.40	117	P				**Pn**	12 52 00.3	+0.6
MRKA	**Markates**	3.40	117	P				**Pn**	12 52 00.3	+0.6
LTK	**Loutraki**	3.41	131	*e*	PN			**Pn**	12 52 00.1	+0.3
LTK	**Loutraki**	3.41	131	*e*	Pn			**Pn**	12 52 00.1	+0.3
AOS	**Alonnisos**	3.41	108	P				**Pn**	12 51 59.3	-0.5
AOS	**Alonnisos**	3.41	108	P				**Pn**	12 51 59.3	-0.5
VTS	**Vitosha**	3.48	48	⇓*i*	P			**Pn**	12 52 02.4	+1.4
VTS	**Vitosha**	3.48	48	*e*	Pn			**Pn**	12 52 01.9	+0.9
VTS	**Vitosha**	3.48	48	*e*	Pn			**Pn**	12 52 01.9	+0.9
VTS	**Vitosha**	3.48	48	⇓*i*	P			**Pn**	12 52 02.4	+1.4
VTS						S		**Sb**	12 52 45.5	-5.4
BBLS	**Lazići**			3.56	356	*e*	Pn	Pb	12 52 05.5	-3.9
BBLS	**Lazići**			3.56	356	*e*	Pn	Pb	12 52 05.5	-3.9
ITM	**Ithomi**			3.57	150	P		**Pn**	12 52 02.3	+0.2
ITM	**Ithomi**			3.57	150	*e*	PN	**Pn**	12 52 02.3	+0.2
VLX	**Vlachokerasia**			3.60	144	*e*	PN	**Pn**	12 52 02.9	+0.4
GRUS	**Gruza**	3.66	11	*e*	Pn			**Pn**	12 52 04.0	+0.7
GRUS	**Gruza**	3.66	11	*e*	Pn			**Pn**	12 52 04.0	+0.7
KAVA	**Kavala**	3.72	78	P				**Pn**	12 52 04.6	+0.5
KAVA	**Kavala**	3.72	78	P				**Pn**	12 52 04.6	+0.5
PYL	**PYLOS**	3.76	154	P				**Pn**	12 52 03.6	-1.1
PYL	**PYLOS**	3.76	154	*e*	PN			**Pn**	12 52 04.6	-0.1
PYL	**PYLOS**	3.76	154	P				**Pn**	12 52 03.6	-1.1
DIVS	**Divibare**	3.79	3	*e*	Pn			**Pn**	12 52 06.5	+1.2
DIVS	**Divibare**	3.79	3	*e*	Pn			**Pn**	12 52 06.5	+1.2
NAIG	**Nisos Aigina**	3.89	130	*e*	PN			**Pn**	12 52 07.2	+0.8
NAIG	**Nisos Aigina**	3.89	130	*e*	Pn			**Pn**	12 52 07.2	+0.8
DID	**Didima**	3.92	134	P				**Pn**	12 52 06.0	-0.9
DID	**Didima**	3.92	134	*e*	PN			**Pn**	12 52 07.6	+0.7
DID	**Didima**	3.92	134	P				**Pn**	12 52 06.0	-0.9
DID	**Didima**	3.92	134	*e*	Pn			**Pn**	12 52 07.6	+0.7
SVIS	**Svilajnac**	4.11	15	*e*	Pn			**Pn**	12 52 09.2	-0.3
VLI	**Veliai**	4.38	144	P				**Pn**	12 52 13.5	+0.2
VLI	**Veliai**	4.38	144	*e*	PN			**Pn**	12 52 13.8	+0.5
VLI	**Veliai**	4.38	144	P				**Pn**	12 52 13.5	+0.2
VLI	**Veliai**	4.38	144	*e*	Pn			**Pn**	12 52 13.8	+0.5
KYTH	**Kithira**	4.79	146	*e*	PN			**Pn**	12 52 19.5	+0.6
KYTH	**Kithira**	4.79	146	*e*	Pn			**Pn**	12 52 19.5	+0.6
ALN	**Alexandroupoli**	4.86	81	P				**Pn**	12 52 19.8	+0.1
ALN	**Alexandroupoli**	4.86	81	*e*	PN			**Pn**	12 52 21.0	+1.3
ALN	**Alexandroupoli**	4.86	81	P				**Pn**	12 52 19.8	+0.1
ALN	**Alexandroupoli**	4.86	81	*e*	Pn			**Pn**	12 52 21.0	+1.3
BZS	**Buzias**	5.49	14	⇓*i*	P			**Pn**	12 52 29.4	+1.0
BZS	**Buzias**	5.49	14	⇓*i*	P			**Pn**	12 52 29.4	+1.0
NVLJ	**Novalja**	5.56	321	*e*	Pn			**Pn**	12 52 28.8	-0.6
NVLJ							Sn	**Sn**	12 53 31.8	-2.2
NVLJ	**Novalja**	5.56	321	*e*	Pn			**Pn**	12 52 28.8	-0.6
NVLJ							Sn	**Sn**	12 53 31.7	-2.2
APE	**Apeiranthos**	5.58	124	*e*	PN			**Pn**	12 52 31.7	+1.9
APE	**Apeiranthos**	5.58	124	*e*	Pn			**Pn**	12 52 31.7	+1.9
BOJS	**Bojanci**	6.14	329	*i*	Pn			**Pn**	12 52 37.8	+0.4
BOJS						*i*	Sn	**Sn**	12 53 49.0	+0.7
BOJS	**Bojanci**	6.14	329	*i*	Pn			**Pn**	12 52 37.8	+0.4
BOJS						*i*	Sn	**Sn**	12 53 49.0	+0.7
GBRS	**Gornja Briga**	6.34	327	*i*	Pn			**Pn**	12 52 40.3	+0.1
GBRS						*i*	Sn	**Sn**	12 53 50.2	-3.1
VOIR		6.45	36	⇑*i*	P			Pn	12 52 45.0	+3.2
VOIR		6.45	36	⇑*i*	P			Pn	12 52 45.0	+3.2
VISS	**Visnje**	6.55	329	*i*	Pn			**Pn**	12 52 43.6	+0.7
VISS						*i*	Sn	**Sn**	12 53 58.7	+0.3
VISS	**Visnje**	6.55	329	*i*	Pn			**Pn**	12 52 43.7	+0.7
VISS						*i*	Sn	**Sn**	12 53 58.7	+0.3
DRGR		6.84	18	⇓*i*	P			Pb	12 52 59.8	-5.4
MLR	**Muntele Rosu**	6.91	39		Pn			Pn	12 52 50.5	+2.4
	0.1nm,0.3s,baz=203,slow=14,SNR=4.5									
MLR	**Muntele Rosu**	6.91	39	⇑*i*	P			Pn	12 52 51.0	+2.9
MLR	**Muntele Rosu**	6.91	39	⇑*i*	P			Pn	12 52 51.0	+2.9
VOY	**Vojsko**	7.13	325	*e*	PN			**Pn**	12 52 51.4	+0.4
VOY						*e*			12 52 53.6	
VOY						*e*	Sn	**Sn**	12 54 13.8	+1.0
VOY	**Vojsko**	7.13	325	*e*	Pn			**Pn**	12 52 51.4	+0.4
VOY						*e*	Sn	**Sn**	12 54 13.8	+1.0
PLOR	**Plostina**	7.51	40	⇑*i*	P			Pn	12 52 59.1	+2.8
PLOR	**Plostina**	7.51	40	⇑*i*	P			Pn	12 52 59.1	+2.8
VRI	**Vrincioaia**	7.56	40	⇑*i*	P			Pn	12 52 59.0	+2.1
VRI	**Vrincioaia**	7.56	40	⇑*i*	P			Pn	12 52 59.0	+2.1
PSZ	**Piszkesteto**	7.61	1	⇑*i*	P			Pb	12 53 12.0	-6.3
VYHS	**Vyhne**	8.21	356	*e*	PN			**Pn**	12 53 03.5	-2.3
CRVS	**Cervenica-Dubn**	8.69	8	*e*	P			**Pn**	12 53 13.9	+1.6
CRVS	**Cervenica-Dubn**	8.69	8	*e*	P			**Pn**	12 53 13.9	+1.6
CRVS	**Cervenica-Dubn**	8.69	8	*e*	PN			**Pn**	12 53 13.9	+1.6
GERES	**GERESS Array B**	9.55	335		Pn			**Pn**	12 53 25.4	+1.2
	0.2nm,0.3s,baz=166,slow=13,SNR=4.1									
GERES							Sn	**Sn**	12 55 11.5	-0.8
	0.2nm,0.3s,baz=151,slow=25,SNR=4.0									
DAVOX	**Davos/Dischmat**	9.63	315		Pn			**Pn**	12 53 26.6	+1.2
	0.5nm,0.3s,baz=141,slow=14,SNR=3.3									
ESDC	**Sonseca Array**	18.15	276		P			**P**	12 55 21.8	+2.5
	0.3nm,0.3s,baz=82,slow=12,SNR=4.3									
HFS	**Hagfors**	20.20	351		P			Pn	12 55 41.8	-1.6
	1.2nm,0.7s,baz=163,slow=15,SNR=3.2									
NB2	**NORSAR Subarra**	21.41	349		P			**P**	12 55 54.6	-0.1
	comp=Z,1.6nm,0.9s,baz=162,slow=11									
NB2	**NORSAR Subarra**	21.41	349		P			**P**	12 55 54.6	-0.1
	comp=Z,1.6nm,0.9s,baz=162,slow=11,SNR=4.7									
NOA	**NORSAR Array B**	21.41	349		P			**P**	12 55 55.9	+1.3
	comp=Z,1.0nm,0.6s,baz=158,slow=8.8,SNR=5.5									
FINES	**FINESS Array B**	21.52	8		P			**P**	12 55 56.1	+0.4
	comp=Z,0.7nm,0.4s,baz=167,slow=11,SNR=7.2									
MKAR	**Makanchi Array**	44.75	60		P			**P**	12 59 19.9	-0.6
	comp=Z,0.8nm,0.6s,baz=274,slow=8.0,SNR=4.3									
ZALV	**Zalesovo Beam**	44.77	50		P			**P**	12 59 20.8	+0.3
	comp=Z,0.5nm,0.4s,baz=281,slow=8.7,SNR=2.4									

*BJI **11** 12:58:39.7, 10˚.47N×91˚.69E, h8km, mB5.2/40, mb4.7/51, Ms4.9/51, Ms7 4.6/49*

*IDC **11** 12:58:42.2±0.5, 10˚.72N×91˚.69E, h0km, mb4.4/32, mb1 4.4/34, mb1mx4.4/39, mbtmp4.3/34, ML3.3/1, MS4.4/17, Ms1 4.4/17, ms1mx4.2/43, Error ellipse: s-maj=18.1km s-min=9.8km az=47.0*

*ISCJB **11** 12:58:42.3±0.9, 10˚.67N±0˚.03×91˚.71E±0˚.03, h14km±5km, mb4.7/122, MS4.5/43, Error ellipse: s-maj=5.6km s-min=3.9km az=32.9*

*NEIC **11** 12:58:43.3±0.2, 10˚.67N×91˚.69E, h10km, mb5.0/44, Error ellipse: s-maj=6.6km s-min=4.2km az=221.0*

*DJA **11** 12:58:45.2±0.4, 10˚.N±4˚×9˚2E±˚, h10km, MS.0/25, mB5.4/10, mb5.0/25, MLv5.1/2, Mw(mB)4.8/10*

*MOS **11** 12:58:45.2±0.9, 10˚.72N×91˚.74E, h33km, mb5.1/51, MS4.5/15, Error ellipse: s-maj=10.1km s-min=4.9km az=116.8*

*GCMT **11** 12:58:47.1±0.3, 10˚.85N×91˚.95E, h15km, MW5.1, Moment Tensor Solution. s35,c50; s68,c105; Moment tensor: Scale 10^16^Nm; Mrr=2.88±.11; Mθθ=0.18±.09; Mϕϕ=3.06±.09; Mrθ=1.33±.38; Mθϕ=0.84±.09; Mϕr=-4.88±.32; Best double couple: Ms=5.90000×10^16^ NP1:ϑs=214.00000°, δ=20.00000°, λ=-47.00000°. NP2:ϑs=350.00000°, δ=76.00000°, λ=-104.00000°. Principal axes: T 5.8000, Plg29.0000°, Azm91.0000°; N 0.2400, Plg13.0000°, Azm353.0000°; P -6.0400, Plg57.0000°, Azm241.0000°; Data Used: II IC G IU CN.*

*SZGRF **11** 12:58:52.8, 12˚.80N×92˚.55E, h33km, mb4.6, Andaman Islands, India, region*

ISC 11 12:58:44.5±0.4, 10.70N±0˚.04×91.74E±0˚.04, h16km±1km, h15km:pP-P, n351, σ1s77/418, mb4.8/122, MS4.6/44, 19C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
BSI	**Banda Aceh**	**6.25**	**145**	P	**Pn**	**13 00 15.3**		**-1.0**
	62nm,1.1s,2µm0.4nm							
BSI				S	Sn	13 01 21.5	-6.0	
	62nm,1.1s,2µm0.4nm							
LHMI	**Lhok Sumawe**	**7.49**	**136**	P	Pn	13 00 28.0	-5.3	
	304nm,1.2s,1.3nm							
TPTI		**9.15**	**143**	P	Pn	13 00 51.8	-4.2	
	35nm,1.1s,68µm							
CM31	**Chiang Mai Arr**	**10.39**	**41**	*e*	Pn	**13 01 15.0**		**+1.9**
	5.8nm,0.5s							
CM31				*e*	Sn	**13 03 04.0**		**-5.4**
CMAR	**Chiang Mai Arr**	**10.39**	**41**		Pn	**13 01 13.7**		**+0.6**
	baz=229,slow=13,SNR=5.0							
CMAR					Sn	**13 03 07.0**		**-2.4**
	baz=234,slow=30,SNR=3.9							
CMAR	**Chiang Mai Arr**	**10.39**	**41**		Pn	**13 01 13.7**		**+0.6**
CMAR					Sn	**13 03 07.0**		**-2.4**
PSI	**Prapat**	**10.60**	**137**		Pn	**13 01 15.5**		**-0.5**
	0.2nm,0.3s,baz=330,slow=20,SNR=3.1							
PSI	**Prapat**	**10.60**	**137**	P	**Pn**	**13 01 15.5**		**-0.5**
PSI	**Prapat**	**10.60**	**137**	P	**Pn**	**13 01 14.9**		**-1.2**
	24nm,3.1s,830nm							
CHTO	**Chiang Mai**	**10.65**	**40**	*e*	**Pn**	**13 01 14.8**		**-1.9**
CHTO	**Chiang Mai**	**10.65**	**40**	*e*	**Pn**	**13 01 14.8**		**-1.9**
CHTO				*e*	Sn	13 03 03.4	-12	
CHTO	**Chiang Mai**	**10.65**	**40**	P	**Pn**	**13 01 16.8**		**+0.1**
	15nm,0.9s							
VIS	**Vishakhapatnam**	**10.73**	**312**	*e*	**Pn**	**13 01 15.6**		**-2.1**
VIS				*i*	Sn	13 03 07.1	-11	
IPM	**Ipoh**	**11.08**	**123**	*e*	**Pn**	**13 01 21.1**		**-1.5**
IPM	**Ipoh**	**11.08**	**123**	P	**Pn**	**13 01 22.6**		**0.0**
	77nm,1.2s,800nm							
CAL	**Calcutta**	**12.22**	**345**	*ex*	**Sn**	**13 03 54.4**		**+0.4**
CAL				*ex*	x	13 04 49.8		
PPI	**Padang Panjang**	**14.03**	**142**	P	P	13 02 18.0	+7.3	
HYB	**Hyderabad**	**14.43**	**299**	*i*	P	**Pn**	**13 02 07.0**	**-1.3**
HYB				*e*	S	**S**	**13 05 07.5**	**-0.5**
SHL	**Shillong**	**14.79**	**1**	*e*	P	Pn	13 02 09.0	-4.4
SHL				*e*	S	**Sn**	**13 04 53.0**	**-4.1**
MYKOM	**Kota Tinggi**	**14.93**	**126**	P	P	**13 02 20.7**		**0.0**
NGP	**Nagpur**	**16.02**	**312**	*e*	P	**Pn**	**13 02 29.0**	**-0.3**
NGP				*ex*	x	13 02 36.2		
	comp=Z,72nm,0.9s							
NGP				*ex*	x	13 05 13.6		
LATR	**Latur**	**16.57**	**299**	*e*	P	**Pn**	**13 02 37.2**	**+0.8**
LATR				*ex*	x	13 05 23.4		
ODAN	**Odare**	**16.59**	**346**	*e*	P	**Pn**	**13 02 36.6**	**-0.3**
	comp=Z,78nm,0.6s							
MNGI	**Mangalore**	**16.71**	**279**	*ex*	x	13 04 01.2		
MNGI				*ex*	x	13 06 46.6		
RAMN	**Ramite**	**16.88**	**344**	*e*	P	**Pn**	**13 02 39.6**	**-0.9**
	comp=Z,156nm,0.5s							
TAPN	**Taplejung**	**16.99**	**348**	*e*	P	**Pn**	**13 02 40.5**	**-1.5**
	comp=Z,81nm,0.6s							
AKL	**Akola**	**17.30**	**307**	*e*	P	**Pn**	**13 02 45.3**	**-0.4**
AKL					AMb	AMB	13 02 49.1	
	comp=Z,62nm,0.6s							
AKL				*i*	x	x	13 05 48.2	
JIRN	**Jiri**	**17.66**	**344**	*e*	P	**Pn**	**13 02 50.6**	**+0.2**
	comp=Z,15nm,0.4s							
KMI	**Kunming**	**17.74**	**35**	P	P	**13 02 51.8**		**-0.3**
KMI				pP	pP	**13 02 59.6**		**+3.2**
KMI				sP	sP	**13 03 03.4**		**+4.9**
KMI				PP	PnPn	**13 03 08.2**		**+6.1**
KMI				S	Sn	**13 06 11.4**		**+2.5**
KMI				sS	sS	**13 06 23.5**		**+0.6**
KMI				SS	SnSn	13 06 35.2	+12	
	comp=Z,18nm,1.4s			pmax	pmax			
KMI				pmax	pmax			
	comp=Z,140nm,6.1s							
KMI				LR	LR			
	comp=N,3µm,18.8s							
KMI				LR	LR			
	comp=E,2µm,15.7s							
KMI				LR	LR			
	comp=Z,3µm,16.5s							
PKI	**Pulchoki**	**17.81**	**341**	*e*	P	**Pn**	**13 02 51.6**	**-0.6**
	comp=Z,74nm,0.6s							
KSI	**Kapahiang**	**17.89**	**142**	P		**Pn**	**13 02 49.3**	**-3.7**
	comp=Z,99nm,0.8s,comp=Z,12µm							
DMN	**Daman**	**17.94**	**341**	*e*	P	**P**	**13 02 54.9**	**+0.6**
	comp=Z,91nm,0.5s							
GUN	**Gumba**	**17.99**	**343**	*e*	P	**Pn**	**13 02 53.9**	**-0.5**
	comp=Z,86nm,0.6s							
KKN	**Kakani**	**18.05**	**341**	*e*	P	**P**	**13 02 55.5**	**0.0**
	comp=Z,39nm,0.6s							
KAD	**Karad**	**18.25**	**293**	*i*	P	**P**	**13 02 58.3**	**+0.7**
GKN	**Gorkha**	**18.46**	**340**	*e*	P	**P**	**13 02 59.9**	**0.0**
	comp=Z,173nm,0.6s							
KOLN	**Koldanda**	**18.63**	**337**	*e*	P	**Pn**	**13 03 02.5**	**+0.4**
	comp=Z,104nm,0.5s							
LSA	**Lhasa**	**18.91**	**358**	P	P	**13 03 03.

KSH ep **pP** **13 05 15.8 +1.2**
KSH es **sP** **13 05 17.2 +0.6**
KSH ePP **PnPn** **13 06 16.8 +1.8**
KSH ePcP **PcP** **13 08 01.6 +1.6**
KSH S **S** **13 10 18.6 -2.1**
KSH sS **sS** **13 10 26.3 -2.3**
KSH eScP **ScP** **13 11 42.3 -0.8**
KSH PcS **PcS** **13 11 44.4 -0.4**
KSH SS **SnSn** **13 12 08.8 -0.9**
KSH pmax pmax
comp=Z,18nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.1s
KSH LR LR
comp=N,710nm,15.3s
KSH LR LR
comp=E,1μm,14.7s
KSH LR LR
comp=Z,770nm,15.6s
KAPI **Kappang** **31.96 118** P **P** **13 05 09.9 -0.2**
comp=Z,8.2nm,0.6s,baz=281,slow=9.9,SNR=10.0
KAPI **Kappang** **31.96 118** P **P** **13 05 09.9 -0.2**
comp=Z,1.4nm,1.2s
KAPI ePcP **PcP** **13 08 02.0 +1.6**
KAPI **Kappang** **31.96 118** P **P** **13 05 10.0 -0.2**
comp=Z,27nm,1.4s
BKSI **Bulukumba** **32.43 118** P **P** **13 05 14.9 +0.6**
comp=Z,98nm,1.1s,comp=Z,972nm
NJ2 **Nanjing** **32.83 46** eP **P** **13 05 16.0 -1.5**
NJ2 pP **pP** **13 05 19.5 -2.8**
NJ2 sP **sP** **13 05 21.4 -2.9**
NJ2 PP **PP** **13 06 31.0 -0.9**
NJ2 S **S** **13 10 35.0 +0.6**
NJ2 sS **sS** **13 10 41.0 -1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,6.1s
NJ2 LR LR
comp=N,1μm,19.8s
NJ2 LR LR
comp=E,1μm,14.4s
NJ2 LR LR
comp=Z,1μm,14.5s
LUWI **Luwuk** **32.99 109** P **P** **13 05 21.7 +2.5**
comp=Z,83nm,1.2s
SSE **Sheshan** **34.00 49** P **P** **13 05 26.6 -1.2**
SSE S **S** **13 10 53.2 +0.6**
SSE sS **sS** **13 10 58.4 -2.1**
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,150nm,5.1s
SSE LR LR
comp=N,640nm,13.5s
SSE LR LR
comp=E,600nm,13.5s
SSE LR LR
comp=Z,960nm,14.5s
KDI **Kendari** **34.01 114** P **P** **13 05 28.3 +0.2**
comp=Z,16nm,1.2s
KZA **Kyzart** **34.44 338** P **P** **13 05 32.9 +0.9**
SNR=7.8
KBK **Karagaybulak** **35.05 338** P **P** **13 05 38.8 +1.8**
SNR=5.9
TKM2 **Tokmak 2** **35.05 339** eP **P** **13 05 37.5 +0.5**
TKM2 pmax pmax
comp=Z,42nm,2.0s
TKM2 **Tokmak 2** **35.05 339** eP **P** **13 05 37.5 +0.5**
comp=Z,42nm,2.0s
AML **Almayashu** **35.08 336** P **P** **13 05 38.6 +1.2**
SNR=25
AAK **Ala-Archa** **35.20 338** P **P** **13 05 38.3 +0.1**
comp=Z,7.3nm,1.1s,baz=155,slow=7.7,SNR=16
AAK **Ala-Archa** **35.20 338** P **P** **13 05 38.3 +0.1**
AAK e 13 06 59.8
AAK **Ala-Archa** **35.20 338** P **P** **13 05 38.3 +0.1**
AAK ePP **PP** **13 06 59.8 +1.6**
AAK **Ala-Archa** **35.20 338** P **P** **13 05 40.0 +1.8**
SNR=9.7
FRU **Bishkek** **35.33 338** eP **P** **13 05 40.0 +0.8**
EKS2 **Erkin-Say** **35.49 337** eP **P** **13 05 41.4 +0.7**
EKS2 pmax pmax
comp=Z,17nm,0.8s
EKS2 **Erkin-Say** **35.49 337** eP **P** **13 05 41.4 +0.7**
comp=Z,17nm,0.8s
EKS2 **Erkin-Say** **35.49 337** P **P** **13 05 42.2 +1.5**
SNR=11
MMRI **Maumere** **35.91 121** P P 13 05 51.3 +6.8
BJI **Beijing** **36.37 32** P **P** **13 05 48.4 +0.3**
BJI PP **PnPn** **13 07 09.9 -0.5**
BJI S **S** **13 11 27.1 -1.8**
BJI pmax pmax
comp=Z,30nm,0.8s
BJI LR LR
comp=N,1μm,17.5s
BJI LR LR
comp=E,2μm,17.5s
BJI LR LR
comp=Z,1μm,18.9s
MK31 **Makanchi Array** **36.86 349** ceP **P** **13 05 52.0 -0.2**
MK31 pmax pmax
comp=Z,26nm,0.8s
MK31 **Makanchi Array** **36.86 349** eP **P** **13 05 52.2 0.0**
MKAR **Makanchi Array** **36.86 349** P **P** **13 05 52.2 0.0**
comp=Z,4.4nm,0.6s,baz=167,slow=7.2,SNR=43
MKAR PcP **PcP** **13 08 15.3 +1.5**
comp=Z,1.0nm,0.8s,baz=178,slow=5.2,SNR=2.7
MKAR LR LR 13 25 24.3
comp=Z,563nm,18.4s,baz=162,slow=44
MKAR **Makanchi Array** **36.86 349** P **P** **13 05 52.2 0.0**
MKAR 13 08 15.3
MKAR **Makanchi Array** **36.86 349** P **P** **13 05 52.2 0.0**
MKAR PcP **PcP** **13 08 15.3 +1.5**
KK31 **Karatay Array** **37.20 334** ceP **P** **13 05 55.3 +0.2**
KK31 pmax pmax
comp=Z,10.0nm,0.6s
KKAR **Karatay Array** **37.20 334** eP **P** **13 05 56.0 +0.9**
KKAR pmax pmax
comp=Z,11nm,0.7s
KKAR **Karatay Array** **37.20 334** eP **P** **13 05 56.0 +0.9**
comp=Z,10nm,0.7s
DL2 **Dalian** **38.72 38** eP P 13 06 14.5 +6.5
DL2 eS S 13 12 17.0 +12
DL2 LR LR
comp=N,600nm,16.7s
DL2 LR LR
comp=Z,600nm,15.4s
AAI **Ambon** **39.00 110** P **P** **13 06 11.5 +0.8**
comp=Z,71nm,1.0s
SONM **Songino Array** **39.02 16** P **P** **13 06 10.7 +0.1**
comp=Z,6.2nm,0.9s,baz=196,slow=10,SNR=4.8
SONM **Songino Array** **39.02 16** P **P** **13 06 10.7 +0.1**
ULN **Ulaanbaatar** **39.22 16** eP **P** **13 06 12.5 +0.2**
comp=Z,7.2nm,0.9s
ULN **Ulaanbaatar** **39.22 16** P **P** **13 06 13.5 +1.2**
comp=Z,11nm,0.9s
MSAI **Masohi** **39.56 109** P **P** **13 06 15.7 +0.3**
comp=Z,24nm,0.7s,comp=Z,349nm
HVS **Khovu-Aksy** **40.35 2**⇑ eP **P** **13 06 21.9 +0.4**
HVS pmax pmax
comp=Z,33nm,1.1s
ZAK **Zakamensk** **40.69 11** eP **P** **13 06 25.5 +1.1**
ZAK e 13 08 26.9
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.2s
KURBB **Kurchatov Arra** **41.27 347** P **P** **13 06 29.0 0.0**
comp=Z,4.5nm,0.9s,baz=165,slow=7.4,SNR=31
KURK **Kurchatov** **41.33 347** d iP **P** **13 06 30.1 +0.6**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK MLR MLR
comp=Z,998nm,24.0s
KURK **Kurchatov** **41.33 347** eP **P** **13 06 29.6 +0.1**
SNY **Shenyang** **41.70 36** ⇑P P 13 06 37.9 +5.2
SNY S **S** **13 12 46.9 -2.2**
SNY pmax pmax
comp=Z,14nm,1.3s
SNY pmax pmax
comp=Z,190nm,3.5s
SNY LR LR
comp=N,920nm,18.3s
SNY LR LR
comp=E,780nm,17.6s
SNY LR LR
comp=Z,690nm,17.2s
MBWA **Marble Bar** **41.94 139** eP **P** **13 06 35.0 +0.1**
comp=Z,28nm,1.5s
KSAR **Wonju Array Be** **41.98 45** P **P** **13 06 34.9 -0.2**
TLY **Talaya** **42.00 11** eP **P** **13 06 36.6 +1.5**
TLY eS S 13 12 44.2 -9.1
TLY eSSS SSS 13 16 27.2
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY MLR MLR
comp=Z,332nm,18.0s
TLY **Talaya** **42.00 11** eP **P** **13 06 35.0 -0.1**
comp=Z,5.6nm,0.9s
KSRS **Korea Array** **42.01 45** P **P** **13 06 34.9 -0.4**
comp=Z,2.6nm,0.7s,baz=239,slow=8.3,SNR=11
KSRS LR LR 13 27 11.9
comp=Z,719nm,18.9s,baz=239,slow=41
JNU **Nakatsue** **42.26 52** P **P** **13 06 37.7 +0.2**
comp=Z,9.0nm,1.0s,baz=315,slow=2.9,SNR=3.4
JNU **Nakatsue** **42.26 52** P **P** **13 06 37.7 +0.2**
IRK **Irkutsk** **42.66 11** eP P 13 06 45.8 +5.4
IRK eS **S** **13 12 59.1 -3.8**
IRK pmax pmax
comp=Z,19nm,0.8s
ZAA0 **Zalesovo Array** **43.49 354** eP **P** **13 06 47.0 -0.1**
ZALV **Zalesovo Beam** **43.49 354** P **P** **13 06 46.9 -0.1**
comp=Z,2.3nm,0.4s,baz=169,slow=8.8,SNR=25
ZALV LR LR 13 29 19.6
comp=Z,450nm,18.8s,baz=349,slow=42
ZALV **Zalesovo Beam** **43.49 354** P **P** **13 06 46.9 -0.1**
ZALV **Zalesovo Beam** **43.49 354** P **P** **13 06 46.9 -0.1**
CN2 **Changchun** **44.01 35** eP **P** **13 06 52.1 +0.7**
CN2 esP **sP** **13 06 58.0 -0.2**
CN2 eS **S** **13 13 23.1 +0.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=Z,900nm,17.0s
FITZ **Fitzroy Crossi** **44.03 130** P **P** **13 06 51.6 -0.3**
comp=Z,9.9nm,0.9s,baz=318,slow=7.6,SNR=21
FITZ LR LR 13 27 14.5
comp=Z,703nm,20.3s,baz=304,slow=39
FITZ **Fitzroy Crossi** **44.03 130** eP **P** **13 06 51.6 -0.3**
comp=Z,28nm,1.1s
NVS **Novosibirsk** **44.54 353** eP P 13 07 00.3 +4.8
RDF **Al-Radifah** **45.05 300** eP **P** **13 06 59.6 -0.3**
NAY **Al-Naaiem** **45.39 301** eP **P** **13 07 02.8 +0.1**
NAY AMb AMB 13 07 11.3
comp=Z,12nm,0.6s
MIB **Mutribah** **45.45 301** eP **P** **13 07 02.8 -0.3**
MIB AMb AMB 13 07 11.9
comp=Z,18nm,1.1s
BVAR **Borovoye Array** **45.58 342** P **P** **13 07 03.8 0.0**
comp=Z,2.5nm,1.0s,baz=147,slow=8.3,SNR=5.6
BVAR LR LR 13 28 42.1
comp=Z,442nm,19.2s,baz=334,slow=40
BVAR **Borovoye Array** **45.58 342** P **P** **13 07 03.8 0.0**
BVAR **Borovoye Array** **45.58 342** P **P** **13 07 03.8 0.0**
BRVK **Borovoye** **45.64 342**⇑ eP **P** **13 07 04.2 0.0**
BRVK pmax pmax
comp=Z,12nm,2.5s
BRVK MLR MLR
comp=Z,410nm,18.0s
BRVK **Borovoye** **45.64 342** eP **P** **13 07 04.2 0.0**
comp=Z,5.8nm,0.8s
AB31 **Akbulak array** **46.63 332** ceP **P** **13 07 12.1 0.0**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR **Akbulak array** **46.63 332** eP **P** **13 07 12.6 +0.5**
comp=Z,6.3nm,0.6s
MDJ **Mudanjiang** **46.89 37** P **P** **13 07 14.3 0.0**
MDJ pP **pP** **13 07 17.5 -1.6**
MDJ sP **sP** **13 07 18.7 -2.4**
MDJ PcP **PcP** **13 08 47.0 +0.1**
MDJ PP **PP** **13 09 02.1 -2.5**
MDJ ScP **ScP** **13 12 40.6 +0.3**
MDJ PcS **PcS** **13 12 41.9 +0.2**
MDJ S **S** **13 14 04.1 -0.5**
MDJ ScS **ScS** **13 17 09.4 +0.9**
MDJ SS **SS** **13 17 29.6 -1.8**
MDJ pmax pmax
comp=Z,7.0nm,2.3s
MDJ pmax pmax
comp=Z,190nm,5.7s
MDJ LR LR
comp=N,170nm,18.2s
MDJ LR LR
comp=E,440nm,18.7s
MDJ LR LR
comp=Z,590nm,18.6s
USRK **Ussuriysk Arra** **48.12 39** P **P** **13 07 25.1 +1.4**
comp=Z,3.2nm,0.9s,baz=262,slow=5.8,SNR=3.8
USRK LR LR 13 30 53.4
comp=Z,690nm,19.1s,baz=359,slow=40
AKTO **Aktyubinsk** **48.35 332** P **P** **13 07 25.6 +0.1**
comp=Z,3.7nm,0.5s,baz=109,slow=8.2,SNR=15
AKTO **Aktyubinsk** **48.35 332** i P **P** **13 07 25.2 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,1.1s
AKTO **Aktyubinsk** **48.35 332** P **P** **13 07 25.6 +0.1**
PQL **Pirkuli** **48.36 316** P P 13 07 21.3 -4.6
SNR=3.7
PQL **Pirkuli** **48.36 316** P P 13 07 21.3 -4.6
SNR=3.7
PQL **Pirkuli** **48.36 316** P P 13 07 21.3 -4.6
SNR=3.7
BHD **Baghdad** **48.82 305** eP **P** **13 07 27.0 -2.3**
BHD eS **S** **13 14 29.0 -3.2**
MJAR **Matsushiro Arr** **49.12 51** LR LR 13 30 27.4
comp=Z,301nm,19.3s,baz=255,slow=39
SEKA **Sheki** **49.49 316** P **P** **13 07 35.9 +1.4**
SNR=3.4
SEKA **Sheki** **49.49 316** P **P** **13 07 35.9 +1.4**
SNR=3.4
SEKA **Sheki** **49.49 316** P **P** **13 07 35.9 +1.4**
SNR=3.4
GANJ **Ganja** **49.86 315** P **P** **13 07 38.1 +0.8**
SNR=4.8
GANJ **Ganja** **49.86 315** P **P** **13 07 38.1 +0.8**
SNR=4.8
GANJ **Ganja** **49.86 315** P **P** **13 07 38.1 +0.8**
SNR=4.8
NAX **Nakhchivan** **49.88 313** P **P** **13 07 38.3 +0.8**
SNR=4.6
NAX **Nakhchivan** **49.88 313** P **P** **13 07 38.3 +0.8**
SNR=4.6
NAX **Nakhchivan** **49.88 313** P **P** **13 07 38.3 +0.8**
SNR=4.6
BOD **Bodaibo** **50.02 15** eP **P** **13 07 37.2 -0.9**
BOD pmax pmax
comp=Z,10.0nm,2.1s
MAK **Makhachkala** **50.05 318** eP P 13 07 32.2 -6.3
MAK e 13 08 59.2
MAK e 13 09 33.7
MAK ePPP PPP 13 10 35.1
MAK eS **S** **13 14 43.9 -5.2**
MAK pmax pmax
comp=Z,26nm,0.3s
MAK MLR MLR
comp=Z,419nm,14.0s
GNI **Garni** **50.78 314** P **P** **13 07 46.0 +1.6**
comp=Z,2.2nm,0.3s,baz=67,slow=7.7,SNR=4.7
GNI **Garni** **50.78 314** P **P** **13 07 46.0 +1.6**
WRA **Warramunga Arr** **51.82 126** P **P** **13 07 51.9 -0.4**
comp=Z,5.2nm,0.7s,baz=307,slow=8.3,SNR=90
WRA PcP **PcP** **13 09 07.2 +1.9**
comp=Z,1.8nm,0.9s,baz=320,slow=3.0,SNR=2.0
WRA LR LR 13 33 04.9
comp=Z,358nm,19.9s,baz=300,slow=40
WRA **Warramunga Arr** **51.82 126** P **P** **13 07 51.9 -0.4**
WRA PcP **PcP** **13 09 07.2 +1.9**
WRAB **Tennant Creek** **51.83 126** eP **P** **13 07 52.5 +0.2**
WRAB pmax pmax
comp=Z,16nm,0.5s
WRAB **Tennant Creek** **51.83 126** eP **P** **13 07 52.5 +0.2**
comp=Z,16nm,0.5s
SVE **Sverdlovsk** **51.92 339**⇓ eP **P** **13 07 53.3 +0.8**
SVE e 13 09 50.8
SVE eS **S** **13 15 19.1 +4.4**
SVE pmax pmax
comp=Z,23nm,0.9s
SVE MLR MLR
comp=Z,762nm,21.0s
HABR **Khabarovsk** **52.15 35** eP **P** **13 07 52.5 -1.8**
HABR 13 09 04.2
HABR e 13 09 50.9
HABR S **S** **13 15 17.1 -1.0**
HABR e*SS **sS** **13 15 25.2 -1.0**
HABR e 13 17 42.0
HABR eSS **SS** **13 18 55.9 +0.4**
HABR eSSS SSS 13 20 37.0
HABR pmax pmax
comp=E,60nm,2.3s
HABR pmax pmax
comp=N,14nm,1.5s
HABR pmax pmax
comp=Z,31nm,1.5s
HABR MLR MLR
comp=Z,496nm,20.0s
ZEI **Tsey** **52.37 316** eP **P** **13 07 57.2 +0.8**
ZEI pmax pmax
comp=Z,26nm,2.1s
ARU **Arti** **52.38 337** d iP **P** **13 07 56.0 +0.1**
ARU 13 09 50.6
ARU S **S** **13 15 24.2 +3.2**
ARU SS **SS** **13 18 57.7 -1.2**
ARU pmax pmax
comp=Z,22nm,2.5s
ARU MLR MLR
comp=Z,781nm,18.0s
ARU **Arti** **52.38 337** eP **P** **13 07 55.6 -0.3**
comp=Z,15nm,0.9s
CLNS **Chul'man** **52.67 22** eP **P** **13 07 59.1 +1.0**
CLNS pmax pmax
comp=Z,12nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS MLR MLR
comp=Z,467nm,15.0s
CLNS MLR MLR
comp=N,309nm,12.0s
CLNS MLR MLR
comp=E,172nm,13.0s
KBZ **Khabaz** **53.42 317** P **P** **13 08 03.6 -0.1**
comp=E,3.7nm,1.0s,baz=168,slow=10.0,SNR=3.8
KBZ **Khabaz** **53.42 317** P **P** **13 08 03.6 -0.1**
KBZ **Khabaz** **53.42 317** P **P** **13 08 03.6 -0.1**
AS31 **Alice Springs** **53.53 130** eP **P** **13 08 04.9 0.0**
ASAR **Alice Springs** **53.53 130** P **P** **13 08 04.9 0.0**
comp=E,9.5nm,1.0s,baz=304,slow=6.4,SNR=120
ASAR PcP **PcP** **13 09 13.1 +1.4**
comp=E,1.8nm,0.7s,baz=304,slow=4.3,SNR=1.8
ASAR **Alice Springs** **53.53 130** P **P** **13 08 04.9 0.0**
ASAR PcP **PcP** **13 09 13.1 +1.4**
KIV **Kislovodsk** **53.65 317** eP **P** **13 08 06.2 +0.6**
KIV eS **S** **13 15 41.3 +2.4**
KIV pmax pmax
comp=Z,13nm,0.7s
KIV **Kislovodsk** **53.65 317** eP **P** **13 08 06.6 +1.0**
comp=Z,15nm,0.8s
FORT **Forrest** **54.01 141** P **P** **13 08 11.2 +3.0**
comp=Z,24nm,0.9s
SOKR **Solikamsk** **55.33 339** eP P 13 08 23.4 +6.1
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,460nm,17.0s
KMBO **Kilima Mbogo** **55.45 261** eP **P** **13 08 21.0 +1.7**
SOC **Sochi** **55.52 316** eP **P** **13 08 17.7 -1.3**
SOC e 13 10 17.2
SOC eS **S** **13 16 01.5 -2.3**
SOC eSS **SS** **13 19 44.0 -4.8**
SOC MLR MLR
comp=Z,234nm,17.0s
VRHR **Novokhopersk** **57.28 325** eP **P** **13 08 31.0 -0.4**
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
YAK **Yakutsk** **58.12 20** eP **P** **13 08 36.7 -0.5**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK **Yakutsk** **58.12 20** eP **P** **13 08 37.3 +0.2**
comp=Z,22nm,0.6s
VSR **Storozhevoye** **58.73 324** eP **P** **13 08 40.8 -0.8**
BR131 **Keskin Array S** **58.81 310** eP **P** **13 08 44.3 +1.7**
comp=Z,3.9nm,0.9s
BRTR **Keskin Array B** **58.81 310** P **P** **13 08 41.0 -1.6**
comp=Z,1.5nm,0.7s,baz=133,slow=8.0,SNR=7.3
BRTR LR LR 13 37 02.5
comp=Z,116nm,18.9s,baz=247,slow=39
BRTR **Keskin Array B** **58.81 310** P **P** **13 08 41.0 -1.6**
OBN **Obninsk** **61.74 328**⇑ eP **P** **13 09 02.4 +0.3**
OBN e*PP **pP** **13 09 10.2 +3.0**
OBN eSS SS 13 21 27.3 +1.2
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,300nm,16.0s
CTA **Charters Tower** **61.75 120** P **P** **13 09 04.0 +1.1**
comp=Z,8.5nm,1.0s,baz=305,slow=5.1,SNR=4.7
CTA **Charters Tower** **61.75 120** P **P** **13 09 04.0 +1.1**
CTAO **Charters Tower** **61.75 120** eP **P** **13 09 03.5 +0.6**
CTAO pmax pmax
comp=Z,16nm,1.1s
CTAO **Charters Tower** **61.75 120** eP **P** **13 09 03.5 +0.6**
comp=Z,16nm,1.1s
KLMR **Klimovskoe** **62.90 334** eP **P** **13 09 07.4 -2.4**
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR MLR MLR
comp=Z,569nm,21.0s
TIRR **Tirgusor** **63.60 314**⇑ P **P** **13 09 14.0 -0.8**
TIRR **Tirgusor** **63.60 314**⇑ iP **P** **13 09 14.0 -0.8**
STKA **Stephens Creek** **63.76 134** P **P** **13 09 16.9 +0.9**
comp=Z,4.2nm,0.7s,baz=327,slow=8.5,SNR=9.6
STKA LR LR 13 38 53.1
comp=Z,370nm,19.0s,baz=117,slow=38
STKA **Stephens Creek** **63.76 134** eP **P** **13 09 16.3 +0.3**
comp=Z,5.5nm,1.3s
CFR **Carcaliu** **63.93 315**⇑ iP **P** **13 09 16.4 -0.6**
AK02 **Malin Array Si** **64.48 321** P **P** **13 09 19.9 -0.6**
AKASG **Malin Array Be** **64.48 321** P **P** **13 09 18.9 -1.5**
comp=Z,1.8nm,0.5s,baz=83,slow=5.4,SNR=6.2
AKASG LR LR 13 44 56.8
comp=Z,277nm,18.3s,baz=110,slow=43
AKASG **Malin Array Be** **64.48 321** ceP **P** **13 09 19.0 -1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG **Malin Array Be** **64.48 321** P **P** **13 09 18.9 -1.5**
AK01 **Malin Array Si** **64.49 321** P **P** **13 09 19.2 -1.3**
KIEV **Kiev** **64.49 321** eP **P** **13 09 19.1 -1.4**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV **Kiev** **64.49 321** eP **P** **13 09 19.1 -1.4**
comp=Z,2.9nm,0.6s
VRI **Vrincioaia** **65.04 316**⇑ P **P** **13 09 24.9 +0.7**
VRI **Vrincioaia** **65.04 316**⇑ iP **P** **13 09 24.9 +0.7**
PLOR **Plostina** **65.09 316**⇑ P **P** **13 09 25.2 +0.6**
PLOR **Plostina** **65.09 316**⇓ iP **P** **13 09 25.0 +0.4**
TMCR **Tamitsa** **65.12 337** eP **P** **13 09 26.3 +2.0**
TMCR pmax pmax
comp=Z,20nm,1.0s
TESR **65.21 316**⇓ iP **P** **13 09 25.4 +0.1**
MLR **Muntele Rosu** **65.51 315** P **P** **13 09 26.6 -0.8**
comp=Z,1.9nm,0.9s,baz=270,slow=0.9,SNR=7.4
MLR **Muntele Rosu** **65.51 315** P **P** **13 09 26.6 -0.8**
MLR **Muntele Rosu** **65.51 315**⇓ iP **P** **13 09 27.6 +0.1**
VOIR **66.12 315**⇓ P **P** **13 09 32.4 +1.1**
VOIR **66.12 315**⇓ iP **P** **13 09 32.4 +1.1**
BURAR **Bucovina Array** **66.38 317**⇓ iP **P** **13 09 32.0 -1.0**
BUR08 **Bucovina Ar. S** **66.39 317** eP **P** **13 09 32.9 -0.2**
PETK **Petropavlovsk-** **67.14 37** LR LR 13 42 07.5
comp=Z,273nm,19.4s,baz=51,slow=39
JOF **Joensuu** **67.29 334** eP **P** **13 09 39.2 +0.9**
JOF pmax pmax
comp=Z,28nm,0.7s
JOF **Joensuu** **67.29 334** ep **P** **13 09 39.2 +0.9**
comp=Z,28nm,0.7s
SEY **Seymchan** **67.39 26**⇑ eP **P** **13 09 39.5 +0.5**

DRGR		**67.93 316**	⇑P	**P**	**13 09 42.8**	**0.0**		
DRGR		**67.93 316**	⇑*i*P	**P**	**13 09 42.8**	**0.0**		
LVZ	**Lovozero**	**68.11 340**	*i* P	P	13 09 51.7	+8.2		
KOLS	**Kolonicke sedl**	**68.53 318**	*e*P	**P**	**13 09 47.0**	**+0.5**		
KOLS	**Kolonicke sedl**	**68.53 318**	*e*P	**P**	**13 09 47.0**	**+0.5**		
CRVS	**Cervenica-Dubn**	**69.06 318**	*e*P	**P**	**13 09 50.1**	**+0.4**		
CRVS			pmax	pmax				
	comp=Z,14nm,1.6s							
CRVS	**Cervenica-Dubn**	**69.06 318**	*e*P	**P**	**13 09 50.1**	**+0.4**		
FINES	**FINESS Array B**	**69.12 332**	P	**P**	**13 09 49.7**	**-0.2**		
	comp=Z,6.3nm,0.8s,baz=116,slow=9.0,SNR=16							
FINES			LR	LR	13 45 30.2			
	comp=Z,354nm,20.0s,baz=130,slow=41							
FINES	**FINESS Array B**	**69.12 332**	P	**P**	**13 09 49.7**	**-0.2**		
KAF	**Kangasniemi**	**69.21 333**	*e*P	**P**	**13 09 51.4**	**+1.0**		
KAF	**Kangasniemi**	**69.21 333**	*e*p	**P**	**13 09 51.4**	**+1.0**		
VYHS	**Vyhne**	**70.74 318**	*e*P	**P**	**13 10 02.3**	**+2.2**		
VYHS			pmax	pmax				
	comp=Z,10.0nm,2.1s							
VYHS	**Vyhne**	**70.74 318**	*e*P	**P**	**13 10 02.3**	**+2.2**		
ARCES	**ARCESS Array B**	**71.82 340**	P	**P**	**13 10 06.0**	**-0.3**		
	comp=Z,4.9nm,1.0s,baz=90,slow=6.1,SNR=9.0							
ARCES			LR	LR	13 43 31.6			
	comp=Z,520nm,20.4s,baz=12,slow=38							
ARCES	**ARCESS Array B**	**71.82 340**	P	**P**	**13 10 06.0**	**-0.3**		
VRAC	**Vranov**	**72.28 318**	LR	LR	13 47 12.4			
	comp=Z,162nm,19.5s,baz=163,slow=40							
BRG	**Berggiesshubel**	**74.08 320**	*e*P	P	13 10 27.8	+7.8		
	comp=Z,5.2nm,0.8s							
BRG								
	comp=N,231nm,18.8s							
BRG								
	comp=E,346nm,20.8s							
BRG								
	comp=Z,439nm,19.9s							
BRG	**Berggiesshubel**	**74.08 320**	*e*P	P	13 10 27.8	+7.8		
BRG			pmax	pmax				
	comp=Z,5.0nm,0.8s							
BRG			MLR	MLR				
	comp=N,231nm,18.8s							
BRG			MLR	MLR				
	comp=E,346nm,20.8s							
BRG			MLR	MLR				
	comp=Z,439nm,19.9s							
GERES	**GERESS Array B**	**74.16 318**	P	**P**	**13 10 19.9**	**-0.7**		
	comp=Z,2.4nm,0.9s,baz=99,slow=4.3,SNR=14							
GERES	**GERESS Array B**	**74.16 318**	P	**P**	**13 10 19.9**	**-0.7**		
CLL	**Collm**	**74.69 320**	*i* P	**P**	**13 10 23.3**	**-0.2**		
CLL			*e*		13 10 31.0			
CLL			*e*S	**S**	**13 20 02.0**	**+2.9**		
CLL	**Collm**	**74.69 320**	*i* P	**P**	**13 10 23.3**	**-0.2**		
CLL			*e*		13 10 31.0			
CLL			*e*S	**S**	**13 20 02.0**	**+2.9**		
HFS	**Hagfors**	**74.84 330**	P	**P**	**13 10 23.8**	**-0.3**		
	comp=Z,2.6nm,0.5s,baz=123,slow=7.3,SNR=15							
HFS			LR	LR	13 47 41.5			
	comp=Z,294nm,19.6s,baz=94,slow=39							
HFS	**Hagfors**	**74.84 330**	P	**P**	**13 10 23.8**	**-0.3**		
BOSA	**Boshof**	**75.11 237**	P	**P**	**13 10 28.2**	**+1.7**		
	comp=Z,3.8nm,0.7s,baz=42,slow=7.8,SNR=5.5							
BOSA	**Boshof**	**75.11 237**	P	**P**	**13 10 28.2**	**+1.7**		
GRF	**Grafenberg Arr**	**75.80 319**	*e*P	**P**	**13 10 29.5**	**-0.4**		
	comp=Z,8.0nm,1.2s							
NB2	**NORSAR Subarra**	**76.12 330**	P	**P**	**13 10 30.6**	**-1.0**		
	comp=Z,4.4nm,0.8s,baz=93,slow=6.2							
NOA	**NORSAR Array B**	**76.12 330**	P	**P**	**13 10 31.1**	**-0.5**		
	comp=Z,4.1nm,1.0s,baz=94,slow=5.5,SNR=7.7							
NOA			LR	LR	13 52 00.1			
	comp=Z,170nm,18.0s,baz=95,slow=42							
NOA	**NORSAR Array B**	**76.12 330**	P	**P**	**13 10 31.1**	**-0.5**		
DAVOX	**Davos/Dischmat**	**76.73 316**	P	**P**	**13 10 35.2**	**-0.3**		
	comp=Z,2.2nm,0.5s,baz=135,slow=17,SNR=4.0							
DAVOX	**Davos/Dischmat**	**76.73 316**	P	**P**	**13 10 35.2**	**-0.3**		
KEST	**Kesra**	**77.70 304**	P	**P**	**13 10 40.9**	**-0.1**		
	comp=Z,1.6nm,0.8s,baz=228,slow=7.2,SNR=4.2							
KEST	**Kesra**	**77.70 304**	P	**P**	**13 10 40.9**	**-0.1**		
CDF	**Champ du Feu**	**78.42 317**	*e*P	**P**	**13 10 43.3**	**-1.5**		
	comp=Z,10nm,0.8s							
CDF	**Champ du Feu**	**78.42 317**	*e*P	**P**	**13 10 43.3**	**-1.5**		
CDF			pmax	pmax				
	comp=Z,11nm,0.8s							
CDF	**Champ du Feu**	**78.42 317**	*e*P	**P**	**13 10 43.3**	**-1.5**		
	comp=Z,10nm,0.8s							
HINF	**Hinteralfeld**	**78.74 317**	*e*P	**P**	**13 10 46.0**	**-0.5**		
	comp=Z,3.5nm,0.4s							
HINF	**Hinteralfeld**	**78.74 317**	*e*P	**P**	**13 10 46.0**	**-0.5**		
HINF			pmax	pmax				
	comp=Z,4.0nm,0.4s							
HINF	**Hinteralfeld**	**78.74 317**	*e*P	**P**	**13 10 46.0**	**-0.5**		
	comp=Z,3.5nm,0.4s							
LPG	**La Plagne**	**78.96 314**	*e*P	**P**	**13 10 46.7**	**-1.4**		
	comp=Z,15nm,0.9s							
LPG	**La Plagne**	**78.96 314**	*e*P	**P**	**13 10 46.7**	**-1.4**		
LPG			pmax	pmax				
	comp=Z,15nm,0.9s							
LPG	**La Plagne**	**78.96 314**	*e*P	**P**	**13 10 46.7**	**-1.4**		
	comp=Z,15nm,0.9s							
LPL	**La Plagne**	**78.97 314**	*e*P	**P**	**13 10 47.6**	**-0.5**		
	comp=Z,14nm,0.7s							
LPL	**La Plagne**	**78.97 314**	*e*P	**P**	**13 10 47.6**	**-0.5**		
LPL			pmax	pmax				
	comp=Z,14nm,0.7s							
LPL	**La Plagne**	**78.97 314**	*e*P	**P**	**13 10 47.6**	**-0.5**		
	comp=Z,14nm,0.7s							
HAU	**Haudompre**	**79.06 317**	*e*P	**P**	**13 10 46.7**	**-1.6**		
	comp=Z,13nm,0.7s							
HAU	**Haudompre**	**79.06 317**	*e*P	**P**	**13 10 46.7**	**-1.6**		
HAU			pmax	pmax				
	comp=Z,13nm,0.7s							
HAU	**Haudompre**	**79.06 317**	*e*P	**P**	**13 10 46.7**	**-1.6**		
	comp=Z,13nm,0.7s							
LMR	**La Mourre**	**79.30 312**	*e*P	**P**	**13 10 48.1**	**-1.5**		
LMR	**La Mourre**	**79.30 312**	*e*P	**P**	**13 10 48.1**	**-1.5**		
LMR	**La Mourre**	**79.30 312**	*e*P	**P**	**13 10 48.1**	**-1.5**		
CABF	**La Chapelle**	**79.34 316**	*e*P	**P**	**13 10 49.0**	**-0.9**		
	comp=Z,20nm,1.0s							
CABF	**La Chapelle**	**79.34 316**	*e*P	**P**	**13 10 49.0**	**-0.9**		
CABF			pmax	pmax				
	comp=Z,20nm,1.0s							
CABF	**La Chapelle**	**79.34 316**	*e*P	**P**	**13 10 49.0**	**-0.9**		
	comp=Z,20nm,1.0s							
PAGF	**Fort de Pagny**	**79.44 318**	*e*P	**P**	**13 10 49.0**	**-1.3**		
	comp=Z,2.9nm,0.5s							
PAGF	**Fort de Pagny**	**79.44 318**	*e*P	**P**	**13 10 49.0**	**-1.3**		
	comp=Z,2.9nm,0.5s							
SFTF	**Sexfontaines**	**79.93 317**	*e*P	**P**	**13 10 52.4**	**-0.5**		
	comp=Z,24nm,0.8s							
SFTF	**Sexfontaines**	**79.93 317**	*e*P	**P**	**13 10 52.4**	**-0.5**		
	comp=Z,24nm,0.8s							
BAIF	**Baives**	**80.31 319**	*e*P	**P**	**13 10 54.0**	**-0.9**		
	comp=Z,12nm,0.7s							
BAIF	**Baives**	**80.31 319**	*e*P	**P**	**13 10 54.0**	**-0.9**		
BAIF			pmax	pmax				
	comp=Z,12nm,0.7s							
BAIF	**Baives**	**80.31 319**	*e*P	**P**	**13 10 54.0**	**-0.9**		
	comp=Z,12nm,0.7s							
VIVF	**Saint-Julien-l**	**80.48 314**	*e*P	**P**	**13 10 54.9**	**-1.1**		
	comp=Z,14nm,0.7s							
VIVF	**Saint-Julien-l**	**80.48 314**	*e*P	**P**	**13 10 54.9**	**-1.1**		
VIVF			pmax	pmax				
	comp=Z,14nm,0.7s							
VIVF	**Saint-Julien-l**	**80.48 314**	*e*P	**P**	**13 10 54.9**	**-1.1**		
	comp=Z,14nm,0.7s							
LOR	**Lormes**	**80.81 316**	*e*P	**P**	**13 10 56.4**	**-1.3**		
	comp=Z,14nm,0.6s							
LOR	**Lormes**	**80.81 316**	*e*P	**P**	**13 10 56.4**	**-1.3**		
	comp=Z,14nm,0.6s							
SMF	**Signal de Mont**	**80.88 316**	*e*P	**P**	**13 10 56.7**	**-1.4**		
	comp=Z,11nm,0.6s							
SMF	**Signal de Mont**	**80.88 316**	*e*P	**P**	**13 10 56.7**	**-1.4**		
SMF			pmax	pmax				
	comp=Z,11nm,0.6s							
SMF	**Signal de Mont**	**80.88 316**	*e*P	**P**	**13 10 56.7**	**-1.4**		
	comp=Z,11nm,0.6s							
SSF	**Saint Saulge**	**81.06 316**	*e*P	**P**	**13 10 57.9**	**-1.2**		
	comp=Z,4.0nm,0.6s							
SSF	**Saint Saulge**	**81.06 316**	*e*P	**P**	**13 10 57.9**	**-1.2**		
SSF			pmax	pmax				
	comp=Z,4.0nm,0.6s							
SSF	**Saint Saulge**	**81.06 316**	*e*P	**P**	**13 10 57.9**	**-1.2**		
	comp=Z,4.0nm,0.6s							
LASF	**Ste Croix**	**81.14 313**	*e*P	**P**	**13 10 59.0**	**-0.6**		
LASF	**Ste Croix**	**81.14 313**	*e*P	**P**	**13 10 59.0**	**-0.6**		
AVF	**Avril sur Loir**	**81.20 316**	*e*P	**P**	**13 10 58.5**	**-1.3**		
	comp=Z,7.1nm,0.6s							
AVF	**Avril sur Loir**	**81.20 316**	*e*P	**P**	**13 10 58.5**	**-1.3**		
AVF			pmax	pmax				
	comp=Z,7.0nm,0.6s							
AVF	**Avril sur Loir**	**81.20 316**	*e*P	**P**	**13 10 58.5**	**-1.3**		
	comp=Z,7.1nm,0.6s							
BGF	**Bois d'Agland**	**81.57 316**	*e*P	**P**	**13 11 01.6**	**-0.2**		
	comp=Z,10nm,0.5s							
BGF	**Bois d'Agland**	**81.57 316**	*e*P	**P**	**13 11 01.6**	**-0.2**		
BGF			pmax	pmax				
	comp=Z,10.0nm,0.5s							
BGF	**Bois d'Agland**	**81.57 316**	*e*P	**P**	**13 11 01.6**	**-0.2**		
	comp=Z,10nm,0.5s							
CAF	**Calviac**	**82.31 314**	*e*P	**P**	**13 11 04.2**	**-1.6**		
	comp=Z,9.0nm,0.8s							
CAF	**Calviac**	**82.31 314**	*e*P	**P**	**13 11 04.2**	**-1.6**		
CAF			pmax	pmax				
	comp=Z,9.0nm,0.8s							
CAF	**Calviac**	**82.31 314**	*e*P	**P**	**13 11 04.2**	**-1.6**		
	comp=Z,9.0nm,0.8s							
MTLF	**Montolieu**	**82.41 313**	*e*P	**P**	**13 11 05.4**	**-0.9**		
	comp=Z,14nm,0.8s							
MTLF	**Montolieu**	**82.41 313**	*e*P	**P**	**13 11 05.4**	**-0.9**		
MTLF			pmax	pmax				
	comp=Z,14nm,0.8s							
MTLF	**Montolieu**	**82.41 313**	*e*P	**P**	**13 11 05.4**	**-0.9**		
	comp=Z,14nm,0.8s							
RJF	**Les Rejaudoux**	**82.65 315**	*e*P	**P**	**13 11 06.9**	**-0.6**		
RJF	**Les Rejaudoux**	**82.65 315**	*e*P	**P**	**13 11 06.9**	**-0.6**		
RJF	**Les Rejaudoux**	**82.65 315**	*e*P	**P**	**13 11 06.9**	**-0.6**		
LFF	**La Frestale**	**83.24 314**	*e*P	**P**	**13 11 09.1**	**-1.4**		
LFF	**La Frestale**	**83.24 314**	*e*P	**P**	**13 11 09.1**	**-1.4**		
LFF	**La Frestale**	**83.24 314**	*e*P	**P**	**13 11 09.1**	**-1.4**		
LDF	**La Druitiere**	**83.30 318**	*e*P	**P**	**13 11 09.5**	**-1.2**		
	comp=Z,9.1nm,0.7s							
LDF	**La Druitiere**	**83.30 318**	*e*P	**P**	**13 11 09.5**	**-1.2**		
LDF			pmax	pmax				
	comp=Z,9.0nm,0.7s							
LDF	**La Druitiere**	**83.30 318**	*e*P	**P**	**13 11 09.5**	**-1.2**		
	comp=Z,9.1nm,0.7s							
FLN	**La Foliniere**	**83.51 318**	*e*P	**P**	**13 11 10.6**	**-1.2**		
FLN	**La Foliniere**	**83.51 318**	*e*P	**P**	**13 11 10.6**	**-1.2**		
FLN	**La Foliniere**	**83.51 316**	*e*P	**P**	**13 11 10.6**	**-1.2**		
MFF	**Saint Martin d**	**83.61 316**	*e*P	**P**	**13 11 11.9**	**-0.5**		
	comp=Z,15nm,0.8s							
MFF	**Saint Martin d**	**83.61 316**	*e*P	**P**	**13 11 11.9**	**-0.5**		
MFF			pmax	pmax				
	comp=Z,15nm,0.8s							
MFF	**Saint Martin d**	**83.61 316**	*e*P	**P**	**13 11 11.9**	**-0.5**		
	comp=Z,15nm,0.8s							
EPF	**Esparros**	**83.81 312**	*e*P	**P**	**13 11 12.1**	**-1.5**		
EPF	**Esparros**	**83.81 312**	*e*P	**P**	**13 11 12.1**	**-1.5**		
EPF	**Esparros**	**83.81 312**	*e*P	**P**	**13 11 12.1**	**-1.5**		
DAG	**Danmarks Havn**	**84.23 347**	*i* P	**P**	**13 11 14.1**	**-0.8**		
	comp=Z,31nm,0.8s							
ETSF	**Etsaut**	**84.48 312**	*e*P	**P**	**13 11 15.5**	**-1.5**		
ETSF	**Etsaut**	**84.48 312**	*e*P	**P**	**13 11 15.5**	**-1.5**		
ETSF	**Etsaut**	**84.48 312**	*e*P	**P**	**13 11 15.5**	**-1.5**		
ESDC	**Sonseca Array**	**87.60 310**	P	**P**	**13 11 32.8**	**+0.3**		
	comp=Z,0.2nm,0.4s,baz=57,slow=5.2,SNR=3.8							
ESDC	**Sonseca Array**	**87.60 310**	P	**P**	**13 11 32.8**	**+0.3**		
TORD	**Torodi Ar. Bea**	**87.66 283**	P	**P**	**13 11 32.9**	**-0.2**		
	comp=Z,1.1nm,1.0s,baz=70,slow=5.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**87.66 283**	P	**P**	**13 11 32.9**	**-0.2**		
SUMG	**Summit**	**90.87 347**	*i* P	P	13 11 55.9	+8.3		
	comp=Z,8.2nm,0.9s							
EVO	**Evora**	**90.93 309**	*e*P	**P**	**13 11 46.4**	**-1.7**		
	comp=Z,4.5nm,0.7s							
EVOP	**Sao Brissos**	**91.01 309**	*e*P	**P**	**13 11 46.4**	**-2.0**		
EVOP			pmax	pmax				
	comp=Z,5.0nm,0.7s							
EVOP	**Sao Brissos**	**91.01 309**	*e*P	**P**	**13 11 46.4**	**-2.0**		
	comp=Z,4.5nm,0.7s							
ILAR	**Eielson Array**	**93.02 21**	P	**P**	**13 11 56.4**	**-0.8**		
	comp=Z,0.7nm,0.7s,baz=298,slow=4.2,SNR=12							
ILAR			PP	**PP**	**13 15 37.5**	**-2.0**		
	comp=Z,0.4nm,0.8s,baz=289,slow=5.5,SNR=4.2							
ILAR	**Eielson Array**	**93.02 21**	P	**P**	**13 11 56.4**	**-0.8**		
ILAR			PP	**PP**	**13 15 37.5**	**-2.0**		
RES	**Resolute Bay**	**94.68 2**	*e*P	**P**	**13 12 04.7**	**+0.1**		
	comp=Z,3.4nm,0.8s							
PDAR	**Pinedale Array**	**123.33 19**	PKP	**PKPdf**	**13 17 41.5**	**0.0**		
	comp=Z,0.4nm,0.6s,baz=137,slow=1.1,SNR=3.6							
PDAR	**Pinedale Array**	**123.33 19**	PKP	**PKPdf**	**13 17 41.5**	**0.0**		
NVAR	**Mina Array Bea**	**123.64 28**	PKP	**PKPdf**	**13 17 42.4**	**+0.1**		
	comp=Z,1.0nm,0.8s,baz=307,slow=1.7,SNR=6.3							
NVAR	**Mina Array Bea**	**123.64 28**	PKP	**PKPdf**	**13 17 42.4**	**+0.1**		
MVU	**Marysvale**	**126.18 23**	*e*PKPdf	**PKPdf**	**13 17 47.2**	**0.0**		
HALT	**Halls**	**133.63 1**	*e*PKPdf	**PKPdf**	**13 18 02.4**	**+1.4**		

CSEM 11 12:59:40.4, 46.05N×13.61E, h0km, ML0.5, 1C, Mining explosion. After LJU, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRE	**Drenchia**	**0.12**	**11**	⇑*e*Pg	Pg	12 59 42.4	-0.5
VOJS	**Vojsko**	**0.19**	**95**	*i* Pg	Pg	12 59 43.8	-0.4
VOJS				*i* Sg	Sg	12 59 47.6	+0.8
VOJS							
	comp=Z,3.0nm,0.1s						
VOJS	**Vojsko**	**0.19**	**95**	*i* Pg	Pg	12 59 43.8	-0.4
VOJS				*i* Sg	Sg	12 59 47.6	+0.8
	comp=Z,3.0nm,0.1s						
CADS	**Cadrg**	**0.20**	**26**	*i* Pg	Pg	12 59 43.9	-0.5
CADS				*i* Sg	Sg	12 59 47.4	+0.4
CADS							
	comp=Z,7.0nm,0.1s						
CADS	**Cadrg**	**0.20**	**26**	*i* Pg	Pg	12 59 43.9	-0.4
CADS				*i* Sg	Sg	12 59 47.4	+0.4
	comp=Z,7.0nm,0.1s						
ROBS	**Robic**	**0.21**	**340**	*i* Pg	Pg	12 59 44.1	-0.3
ROBS	**Robic**	**0.21**	**340**	*i* Pg	Pg	12 59 44.1	-0.3
JAVS	**Javornik**	**0.35**	**116**	*i* Pg	Pg	12 59 46.8	-0.6
JAVS				*i* Sg	Sg	12 59 53.2	+1.2
JAVS	**Javornik**	**0.35**	**116**	*i* Pg	Pg	12 59 46.8	-0.5
JAVS				*i* Sg	Sg	12 59 53.2	+1.2

*IDC **11** 13:06:48.9±0.4, 31.99S×69.28W, h0km, mb5.2/23, mb1 5.2/26, mb1mx5.2/28, mbtmp5.2/26, ML4.9/3, MS4.8/25, Ms1 4.8/25, ms1mx4.7/34, Error ellipse: s-maj=12.2km s-min=11.6km az=14.0*

*BJI **11** 13:06:51.8, 31.83S×70.05W, h28km, mB5.4/17, Ms5.3/12, Ms7 5.2/19*

*ISCJB **11** 13:06:51.5±1.1, 31.82S±0.02×69.14W±0.03, h23km±7km, mb5.5/176, MS4.8/34, Error ellipse: s-maj=4.3km s-min=3.4km az=40.7*

*DJA **11** 13:06:52.8±1.5, 32.S±13×6.9W±, h17km±10km, M5.4/9, mb5.4/9*

*GUC **11** 13:06:52.3±1.0, 31.89S×69.30W, h12km±12km, ML5.5*

*MOS **11** 13:06:53.3±1.0, 31.80S×69.22W, h33km, mb5.6/49, MS4.8/7, Error ellipse: s-maj=12.6km s-min=6.0km az=98.1*

*NEIC **11** 13:06:53.5±0.1, 31.89S×69.19W, mb5.5/149, MS4.8/4, MW5.3, MD5.5(SJA), ML5.5(GUC), Error ellipse: s-maj=4.0km s-min=3.0km az=98.0, Moment Tensor Solution. s30 Moment tensor: Scale 1017Nm; Mrr=0.84; Mθθ=0.28; Mφφ=-1.12; Mrθ=-0.29; Mθφ=0.49; Mrφ=-0.05; Best double couple: M0=1.20000×1017 NP1:ϕs=318.00000°, δ=52.00000°, λ=54.00000°. NP2:ϕs=188.00000°, δ=50.00000°, λ=127.00000°. Principal axes: T 0.9900, Plg=62.0000°, Azm=164.0000°; N 0.2800, Plg=27.0000°, Azm=341.0000°; P -1.2700, Plg=0.0000°, Azm=72.0000°;*

NEIC Felt [VI] at Barreal, [V] at San Juan and [IV] at Mendoza. Also felt at Cordoba, San Luis, San Martin and San Rafael. Felt [III] at Petorca and [II] at Coquimbo, El Tabo, Illapel, La Serena, Los Andes, Ovalle, Rancagua, San Felipe, Santiago and Valparaiso, Chile. Also felt at Vina del Mar.

*GCMT **11** 13:06:56.5±0.2, 31.98S×69.29W, h37km, MW5.3, Moment Tensor Solution. s66,c95; s89,c132; Moment tensor: Scale 1017Nm; Mrr=1.03±.03; Mθθ=0.20±.02; Mφφ=-1.23±.02; Mrθ=-0.21±.02; Mθφ=0.08±.02; Mrφ=0.08±.02; Best double couple: M0=1.20000×1017 NP1:ϕs=190.00000°, δ=44.00000°, λ=109.00000°. NP2:ϕs=344.00000°, δ=49.00000°, λ=72.00000°. Principal axes: T 1.0800, Plg=76.0000°, Azm=186.0000°; N 0.1500, Plg=13.0000°, Azm=356.0000°; P -1.2400, Plg=2.0000°, Azm=87.0000°; Data Used: II IU G CN IC.*

ISC 11 13:06:53.3±0.3, 31.92S±0.03×69.28W±0.03, h29km±1km, h29km:pP-P, n900, σ1905/1104, mb5.5/178, MS4.8/34, 210C-224D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.95**	**71**	Pn	**Pb**	**13 07 11.0**	**-0.2**
	255nm,0.3s,baz=240,slow=18						
CFAA				Sn	**Sn**	**13 07 24.4**	**+1.1**
	1μm,0.3s,baz=321,slow=14,SNR=48						
CFAA	**Coronel Fontan**	**0.95**	**71**	Pn	**Pb**	**13 07 11.0**	**-0.2**
CFAA				Sn	**Sn**	**13 07 24.4**	**+1.1**
JACH	**Jahuel**	**1.34**	**235**	⇑*i*P	**Pn**	**13 07 15.8**	**-0.4**
JACH	**Jahuel**	**1.34**	**235**	⇑*i*P	**Pn**	**13 07 15.8**	**-0.4**
PTCH	**Petorca**	**1.44**	**256**	⇑*i*P	**Pn**	**13 07 17.2**	**-0.3**
PTCH				*i* S	**Sn**	**13 07 36.0**	**+0.6**
PTCH	**Petorca**	**1.44**	**256**	⇑*i*P	**Pn**	**13 07 17.2**	**-0.3**
PTCH				*i* S	**Sn**	**13 07 36.0**	**+0.6**
PTCH				AML	AML	13 07 36.5	
	comp=N,64μm,0.4s						
FCH	**Farellones**	**1.64**	**211**	⇑*i*P	**Pb**	**13 07 22.0**	**-1.1**
FCH				*i* S	**Sb**	**13 07 43.7**	**+0.3**
CMCH	**Combarbala**	**1.65**	**297**	⇑*i*P	**Pn**	**13 07 20.1**	**-0.3**
CMCH				*i* S	**Sn**	**13 07 41.4**	**+0.8**
CMCH	**Combarbala**	**1.65**	**297**	⇑*i*P	**Pn**	**13 07 20.1**	**-0.3**
CMCH				*i* S	**Sn**	**13 07 41.4**	**+0.8**
PEL	**Peldehue**	**1.70**	**224**	⇑*i*P	**Pn**	**13 07 22.0**	**+1.0**
PEL				*i* S	**Sb**	**13 07 44.4**	**-0.5**
PEL				AML	AML	13 07 50.5	
	comp=E,109μm,0.4s						
ROCH	**El Roble**	**1.80**	**234**	⇓*i*P	**Pn**	**13 07 23.4**	**+0.8**
ROCH				*i* S	**Sb**	**13 07 47.6**	**-0.3**
ROCH				AML	AML	13 07 55.1	
	comp=E,78μm,0.6s						
FSR	**Penalolen**	**1.87**	**214**	⇓*i*P	**Pb**	**13 07 26.1**	**-0.8**
FSR				*i* S	**Sb**	**13 07 50.5**	**+0.6**
FSR	**Penalolen**	**1.87**	**214**	⇓*i*P	**Pb**	**13 07 26.1**	**-0.8**
FSR				*i* S	**Sb**	**13 07 50.5**	**+0.6**
FSR				AML	AML	13 07 51.7	
	comp=N,41μm,0.6s						
CHNG	**Los Chungos**	**1.89**	**271**	⇓*i*P	**Pn**	**13 07 24.3**	**+0.8**
CHNG				*e*S	**Sn**	**13 07 48.7**	**+2.3**
CHNG	**Los Chungos**	**1.89**	**271**	⇓*i*P	**Pn**	**13 07 24.3**	**+0.8**
CHNG				*e*S	**Sn**	**13 07 48.7**	**+2.3**
SAN	**Santiago**	**1.92**	**217**	⇑*i*P	**Pb**	**13 07 26.5**	**-1.1**
SAN				*i* S	**Sb**	**13 07 51.7**	**+0.5**
SAN	**Santiago**	**1.92**	**217**	⇑*i*P	**Pb**	**13 07 26.5**	**-1.1**
SAN				*i* S	**Sb**	**13 07 51.7**	**+0.5**
SAN	**Santiago**	**1.92**	**217**	⇑*i*P	**Pb**	**13 07 26.5**	**-1.1**
SAN				*i* S	**Sb**	**13 07 51.7**	**+0.5**
ANTU	**Antumapu**	**2.00**	**214**	⇓*i*P	**Pb**	**13 07 28.1**	**-0.9**
ANTU				*e*S	**Sb**	**13 07 53.7**	**+0.2**
ANTU	**Antumapu**	**2.00**	**214**	⇓*i*P	**Pb**	**13 07 28.1**	**-0.9**
ANTU				*i* S	**Sb**	**13 07 53.7**	**+0.2**
ANTU				AML	AML	13 07 59.0	
	comp=N,121μm,0.5s						
RCDM	**Rinconada Maip**	**2.02**	**219**	*e*P	**Pb**	**13 07 28.1**	**-1.4**
RCDM				*i* S	**Sb**	**13 07 54.7**	**+0.6**
RCDM	**Rinconada Maip**	**2.02**	**219**	*e*P	**Pb**	**13 07 28.1**	**-1.4**
RCDM				*i* S	**Sb**	**13 07 54.7**	**+0.6**
RCDM				AML	AML	13 07 59.8	
	comp=E,45μm,0.5s						
TACH	**Talagante**	**2.22**	**218**	⇑*i*P	**Pb**	**13 07 31.3**	**-1.4**
TACH	**Talagante**	**2.22**	**218**	⇑*i*P	**Pb**	**13 07 31.3**	**-1.4**
CHCH	**Chadas Angostu**	**2.31**	**210**	⇑*i*P	**Pb**	**13 07 33.0**	**-1.3**
CHCH	**Chadas Angostu**	**2.31**	**210**	⇑*i*P	**Pb**	**13 07 33.0**	**-1.3**
LCO	**Las Campanas**	**3.15**	**337**	*e*Pn	**Pn**	**13 07 44.4**	**+3.1**
LCO				*e*S	**Sb**	**13 08 24.7**	**-2.2**
LCO	**Las Campanas**	**3.15**	**337**	AML	AML	13 08 31.7	
	comp=E,12μm,0.3s						
TALC	**Talca**	**3.98**	**209**	*e*P	**Pn**	**13 07 54.6**	**+2.2**
TALC	**Talca**	**3.98**	**209**	*e*P	**Pn**	**13 07 54.6**	**+2.2**
TRQA	**Tornquist**	**8.56**	**138**	*e*P	**Pn**	**13 08 56.0**	**+0.7**
	comp=E,250nm,0.5s						
PLCA	**Paso Flores**	**8.85**	**186**	Pn	**Pn**	**13 09 01.0**	**+1.7**
	comp=E,4.5nm,0.3s,baz=359,slow=15,SNR=104						
PLCA				Lg	Lg	13 11 29.7	
	comp=E,9.6nm,0.3s,baz=227,slow=18,SNR=3.4						
PLCA				LR	LR	13 12 42.8	
	comp=E,13μm,18.4s,baz=353,slow=40						
PLCA	**Paso Flores**	**8

JTS **JuntasAbangare** 44.57 338 *e*P P 13 15 03.3 +0.4
comp=Z,68nm,1.0s
FDF **Fort de France** 47.04 11 *e*P P 13 15 21.4 -1.0
FDF pmax pmax
comp=Z,149nm,1.0s
FDF **Fort de France** 47.04 11 *e*P P 13 15 21.4 -1.0
comp=Z,149nm,1.0s
CRPR **Cabo Rojo, PR** 49.69 3 *e*P P 13 15 42.3 -0.4
comp=Z,82nm,1.0s
OBIP **Obispado Ponce** 49.75 3 *e*P P 13 15 41.4 -1.7
comp=Z,204nm,1.0s
CELP **Cerrillos** 49.78 3 *e*P P 13 15 42.9 -0.5
SJG **San Juan** 49.84 4 P P 13 15 42.7 -1.0
comp=Z,93nm,1.0s,baz=270,slow=1.1,SNR=13
SJG LR LR 13 39 56.1
comp=Z,770nm,20.0s,baz=360,slow=40
SJG **San Juan** 49.84 4 *e*P P 13 15 42.8 -1.0
comp=Z,88nm,1.0s
MTP **Monte Pirata** 49.86 5 *e*P P 13 15 42.4 -1.6
comp=Z,38nm,1.3s
LRS **Lares** 49.98 3 *e*P P 13 15 43.5 -1.5
CBYP **Canovanas** 50.02 4 *e*P P 13 15 43.8 -1.4
comp=Z,179nm,1.2s
SDDR **Presa de Saban** 50.65 358 *e*P P 13 15 49.8 -0.2
comp=Z,32nm,0.8s
SNAA **Sanae** 52.65 159 *e*P P 13 16 04.5 0.0
comp=Z,30nm,0.8s
SNAA *e*pP pP 13 16 13.0 -0.3
SNAA **Sanae** 52.65 159 *e*P P 13 16 04.5 0.0
CMIG **Matias Romero** 54.57 330 P P 13 16 20.0 +1.0
comp=Z,22nm,1.0s,baz=139,slow=6.8,SNR=23
CMIG LR LR 13 36 14.3
comp=Z,282nm,18.4s,baz=137,slow=32
CMIG **Matias Romero** 54.57 330 P P 13 16 20.0 +1.0
TEIG **Tepich** 54.96 338 P P 13 16 22.7 +1.0
comp=Z,166nm,0.9s,baz=155,slow=6.7,SNR=52
TEIG **Tepich** 54.96 338 *e*P P 13 16 22.1 +0.3
comp=Z,195nm,0.6s
TEIG *e*pP pP 13 16 30.8 +0.1
NVL **N'lazarevskaya** 57.31 157 *e*P P 13 16 38.2 +0.1
NVL pmax pmax
comp=Z,37nm,0.9s
NVL MLR MLR
comp=Z,842nm,18.0s
RKT **Rikitea** 58.15 261 *e*S S 13 24 44.1 -0.2
comp=Z,481nm,33.2s
RKT *e*LQ LQ 13 31 25.8
comp=Z,266nm,27.5s
RKT *e*LR LR 13 34 02.9
comp=Z,1µm,25.0s
QSPA **South Pole Qui** 58.31 180 PKPPKP P'P'df 13 46 23.0 -8.2
comp=Z,3.6nm,1.0s,baz=90,slow=1.0,SNR=3.9
QSPA **South Pole Qui** 58.31 180 *e*P P 13 16 45.8 +0.5
comp=Z,64nm,1.0s
QSPA *e*pP pP 13 16 54.6 +0.2
QSPA P'P' 13 46 23.0
DWPF **Disney** 60.81 348 P P 13 16 59.0 -3.7
comp=Z,101nm,1.3s
DWPF *e*pP pP 13 17 11.3 -0.4
NHSC **New Hope** 65.50 350 *e*P P 13 17 34.3 +0.7
comp=Z,335nm,1.2s
NHSC *e*pP pP 13 17 43.0 +0.2
GOGA **Godfrey** 66.35 347 *e*P P 13 17 38.7 -0.4
comp=Z,72nm,1.3s
GOGA *e*pP pP 13 17 47.4 -0.9
HKT **Hockley** 66.50 335 *e*P P 13 17 41.0 +0.9
HKT *e**PP pP 13 17 49.6 +0.4
HKT pmax pmax
comp=Z,88nm,1.5s
HKT **Hockley** 66.50 335 *e*P P 13 17 41.0 +0.9
comp=Z,88nm,1.5s
HKT *e*pP pP 13 17 49.6 +0.4
VNDA **Vanda** 66.57 191 P P 13 17 40.9 +0.7
comp=Z,7.8nm,1.1s,baz=149,slow=5.8,SNR=9.6
VNDA PKPPKP P'P'df 13 46 10.6 -6.6
comp=Z,1.6nm,1.1s,baz=273,slow=4.3,SNR=4.2
VNDA **Vanda** 66.57 191 *e*P P 13 17 41.4 +1.3
comp=Z,25nm,1.3s
VNDA P'P' 13 46 10.6
LRAL **Lakeview Retre** 66.74 344 *e*P P 13 17 41.2 -0.5
comp=Z,61nm,1.4s
LRAL *e*pP pP 13 17 49.8 -1.0
JSC **Jenkinsville** 66.81 349 *e*P P 13 17 42.9 +0.8
JSC *e*pP pP 13 17 50.9 -0.3
SYO **Syowa Base** 66.94 158⇑ *e*P P 13 17 36.4 -6.2
SYO **Syowa Base** 66.94 158⇓ *e*P P 13 17 40.0 -2.6
732A **Laxson Ranch,** 67.01 331 ⇓P P 13 17 44.3 +0.8
baz=67,SNR=84
CNNC **Cliffs of the** 67.30 352 *e*P P 13 17 45.1 0.0
CNNC *e*pP pP 13 17 54.2 -0.1
632A **Uvalde** 67.62 331 ⇓P P 13 17 48.4 +1.1
baz=68,SNR=53
KMSC **Kings Mountain** 67.67 349 ⇓P P 13 17 47.5 0.0
baz=68,SNR=14
NATX **Nacogdoches** 67.74 337 *e*P P 13 17 49.7 +1.6
comp=Z,132nm,1.0s
NATX *e*pP pP 13 17 58.0 +0.8
631A **Perdido Creek** 67.86 331 ⇓P P 13 17 49.1 +0.2
baz=68,SNR=32
LPIG **La Paz** 68.13 320 LR LR 13 43 19.9
comp=Z,15nm,19.2s,baz=215,slow=32
532A **Rocksprings** 68.21 332 ⇓P P 13 17 52.2 +1.0
baz=68,SNR=88
JCT **Junction City** 68.48 332 *e*P P 13 17 53.3 +0.4
comp=Z,159nm,1.1s
JCT **Junction City** 68.48 332 ⇓P P 13 17 53.4 +0.6
baz=69,SNR=38
531A **Rocksprings** 68.51 331 ⇓P P 13 17 54.0 +1.0
baz=69
CPCT **Cooper Cave** 68.53 347 *e*P P 13 17 52.6 -0.3
CPCT *e*pP pP 13 18 01.7 -0.4
BBTS **Babate** 68.54 56 P P 13 17 54.5 +1.0
comp=Z,46nm,0.9s,baz=235,slow=2.5,SNR=6.2
BBTS **Babate** 68.54 56 P P 13 17 54.5 +1.0
TKL **Tuckaleechee C** 68.59 347 *e*P P 13 17 52.8 -0.5
TKL *e*pP pP 13 18 01.7 -0.8
SWET **Sewanee** 68.59 345 *e*P P 13 17 53.4 0.0
comp=Z,182nm,1.0s
SWET *e*pP pP 13 18 02.4 -0.2
OXF **Oxford** 68.75 342 *e*P P 13 17 54.4 +0.1
comp=Z,136nm,0.8s
OXF *e*pP pP 13 18 02.8 -0.6
OXF LR LR
comp=Z,609nm,21.0s
530A **J-C Ranch, Com** 68.82 330 ⇑P P 13 17 55.8 +0.9
baz=69,SNR=75
432A **Menard** 68.83 332 ⇓P P 13 17 55.5 +0.5
baz=69
PLAL **Pickwick Lake** 68.86 344 *e*P P 13 18 04.2 +9.2
comp=Z,42nm,0.8s
PLAL *e*pP PcP 13 18 13.3 -6.0
WHTX **Lake Whitney** 68.93 335 ⇑P P 13 17 55.9 +0.4
baz=69,SNR=7.6
431A **Sonora** 68.99 331 ⇑P P 13 17 56.4 +0.5
baz=69,SNR=27
627A **Terlingua Ranc** 69.11 328 ⇓P P 13 17 57.5 +0.7
baz=69,SNR=36
TXAR **Lajitas Array** 69.13 328 P P 13 17 58.0 +1.0
comp=Z,12nm,0.6s,baz=151,slow=8.5,SNR=86
TXAR LR LR 13 43 50.1
comp=Z,358nm,18.7s,baz=235,slow=32
TXAR PKPPKP P'P'df 13 46 07.4 +4.4
comp=Z,0.9nm,1.0s,baz=351,slow=2.8,SNR=5.4
TXAR **Lajitas Array** 69.13 328 P P 13 17 58.0 +1.0
TXAR P'P' 13 46 07.4
529A **Stev Forest Ra** 69.17 330 ⇓P P 13 17 57.7 +0.6
baz=70,SNR=111
430A **Baggett Ranch,** 69.33 331 ⇑P P 13 17 58.8 +0.6
baz=70,SNR=73
TZTN **Tazewell** 69.41 348 *e*P P 13 17 57.8 -0.7
comp=Z,75nm,1.3s
TZTN *e*pP pP 13 18 06.9 -0.7
528A **Cox Ranch, San** 69.45 329 ⇑P P 13 17 59.3 +0.4
baz=70,SNR=67
MET **Memphis--Engin** 69.46 342 P P 13 18 00.2 +1.5
429A **Davenport Ranc** 69.47 330 ⇓P P 13 17 59.8 +0.8
baz=70,SNR=56
626A **Big Bend Ranch** 69.53 328 ⇑P P 13 18 00.5 +1.1
baz=70,SNR=93
VWCC **Virginia Weste** 69.53 351 *e*P P 13 18 00.1 +1.0
VWCC *e*pP pP 13 18 08.2 -0.2
BLA **Blacksburg** 69.56 351 *e*P P 13 17 59.7 +0.4
comp=Z,49nm,1.0s
BLA *e*pP pP 13 18 08.2 -0.3
JSRW **J. Sargeant Re** 69.72 353 *e*P P 13 18 01.2 +0.9
JSRW *e*pP pP 13 18 10.0 +0.5

527A **Woodward Ranch** 69.80 329 ⇓P P 13 18 01.6 +0.4
baz=70,SNR=65
UALR **University of** 69.80 340 *e*P P 13 18 00.7 -0.1
comp=Z,48nm,1.0s
UALR *e*pP pP 13 18 09.3 -0.7
428A **Kincaid Ranch,** 69.89 330 ⇓P P 13 18 02.1 +0.5
baz=70,SNR=25
WVT **Waverly** 69.89 344 *e*P P 13 18 01.2 -0.2
comp=Z,175nm,0.8s
WVT *e*pP pP 13 18 09.7 -0.8
MIAR **Mount Ida** 69.96 339 *e*P P 13 18 01.7 -0.1
comp=Z,70nm,1.1s
HBAR **Harrisburg** 70.06 342 *e*P P 13 18 02.7 +0.3
TBI **Tubuai** 70.08 254 *e*S S 13 27 15.3 +3.1
comp=Z,177nm,34.8s
TBI *e*LR LR 13 39 26.1
comp=Z,2µm,25.5s,baz=103
CBN **Corbin** 70.18 353 P P 13 18 04.3 +1.3
329A **Wagon Wheel Ra** 70.25 331 ⇓P P 13 18 04.2 +0.4
baz=71,SNR=49
GNAR **Gosnell** 70.28 342 *e*P P 13 18 04.0 +0.3
comp=Z,4µm,1.2s
GNAR *e* 13 18 13.3
427A **Hayter Ranch,** 70.31 329 ⇓P P 13 18 04.7 +0.5
baz=71,SNR=22
ABTX **Abilene, Hawle** 70.32 333 ⇓P P 13 18 04.4 +0.3
baz=71,SNR=31
UTMT **University of** 70.34 343 *e*P P 13 18 04.6 +0.5
comp=Z,616nm,0.8s
UTMT *e*pP pP 13 18 13.2 -0.1
GLAT **Glass** 70.38 343 *e*P P 13 18 05.4 +1.1
GLAT *e*pP pP 13 18 13.6 +0.1
426A **McDonald Obser** 70.43 329 ⇓P P 13 18 05.9 +0.8
baz=71,SNR=63
328A **Wristen Ranch,** 70.51 330 ⇑P P 13 18 05.8 +0.4
baz=71,SNR=41
229A **Bryant Ranch,** 70.60 331 ⇓P P 13 18 06.1 +0.2
baz=71,SNR=10
PVMO **Pedregville** 70.62 343 *e*P P 13 18 07.2 +1.4
comp=Z,809nm,0.8s
327A **Balmorhea Ranc** 70.80 329 ⇑P P 13 18 07.9 +0.8
baz=71
PARMO **Parma** 70.87 343 *e*P P 13 18 08.4 +1.1
PARMO *e*pP pP 13 18 16.8 +0.3
425A **Indio Mountain** 70.96 328 ⇓P P 13 18 08.2 0.0
baz=71,SNR=31
326A **Caldwell Ranch** 70.96 329 ⇓P P 13 18 08.7 +0.5
baz=71,SNR=18
228A **UT Block 9, Go** 71.06 330 ⇑P P 13 18 09.1 +0.4
baz=71,SNR=47
129A **Stewart Farms,** 71.20 331 ⇓P P 13 18 09.7 +0.1
baz=72,SNR=13
227A **Bennet, Jal** 71.26 330 ⇑P P 13 18 10.7 +0.8
baz=72,SNR=34
SDMD **Soldier's Deli** 71.32 354 *e*P P 13 18 10.6 +0.6
comp=Z,59nm,0.9s
SDMD *e*pP pP 13 18 19.4 +0.2
325A **Bean Ranch, Si** 71.45 328 ⇑P P 13 18 11.3 0.0
baz=72,SNR=46
128A **Castleberry Fa** 71.45 331 ⇑P P 13 18 11.2 +0.1
baz=72,SNR=36
WCI **Wyandotte Cave** 71.57 346 *e*P P 13 18 11.3 -0.3
WCI *e**PP pP 13 18 19.7 -1.1
WCI pmax pmax
comp=Z,52nm,0.8s
WCI **Wyandotte Cave** 71.57 346 *e*P P 13 18 11.3 -0.3
comp=Z,52nm,0.8s
WCI *e*pP pP 13 18 19.7 -1.1
USIN **University of** 71.61 345 *e*P P 13 18 11.4 -0.4
comp=Z,104nm,0.9s
USIN pP pP 13 18 19.3 -1.7
Z29A **Hungry Hill Ra** 71.69 332 ⇓P P 13 18 12.2 -0.3
baz=72,SNR=32
CLNB **Carlsbad** 71.73 330 *e*P P 13 18 14.2 +1.4
comp=Z,11nm,1.0s
CLNB *e*pP pP 13 18 23.1 +1.1
SIUC **Southern Illin** 71.74 343 *e*P P 13 18 12.8 +0.3
comp=Z,88nm,0.7s
SIUC *e*pP pP 13 18 21.0 -0.7
324A **Moseley Ranch,** 71.74 328 ⇑P P 13 18 12.4 -0.5
baz=72,SNR=38
127A **Arkansas Junct** 71.86 330 ⇑P P 13 18 13.8 +0.2
baz=72,SNR=9.8
WMOK **Wichita Mounta** 71.88 335 *e*P P 13 18 13.2 -0.3
comp=Z,37nm,1.1s
WMOK *e*pP pP 13 18 21.8 -0.9
WMOK LR LR
comp=Z,235nm,19.0s
GDL2 **Guadalupe Moun** 71.89 329 *e*P P 13 18 14.2 +0.4
comp=Z,96nm,1.1s
GDL2 *e*pP pP 13 18 23.4 +0.5
MNTX **Cornudas Mount** 71.91 328 *e*P P 13 18 13.1 -0.7
comp=Z,32nm,0.9s
MNTX *e*pP pP 13 18 22.3 -0.7
TUL1 **Tulsa** 71.91 338 ⇑P P 13 18 13.5 -0.1
baz=72,SNR=15
Z28A **Tucker Farm, M** 71.99 331 ⇑P P 13 18 14.3 0.0
baz=72,SNR=27
225A **Deer Hill, Car** 72.01 329 ⇑P P 13 18 14.5 -0.1
baz=72,SNR=9.9
126A **Clayton Basin,** 72.12 330 ⇑P P 13 18 15.5 +0.3
baz=72,SNR=27
Y29A **Porterfield Fa** 72.20 332 ⇓P P 13 18 15.4 -0.1
baz=72,SNR=48
224A **Cornudas Mount** 72.29 328 ⇓P P 13 18 15.8 -0.4
baz=73,SNR=28
DBIC **Dimbokro** 72.31 70 P P 13 18 16.8 +0.2
comp=Z,30nm,1.0s,baz=209,slow=6.9,SNR=22
DBIC LR LR 13 49 34.1
comp=Z,670nm,18.0s,baz=211,slow=36
DBIC **Dimbokro** 72.31 70 *e*P P 13 18 16.2 -0.3
comp=Z,55nm,1.2s
DBIC *e*pP pP 13 18 25.2 -0.5
DBIC **Dimbokro** 72.31 70 *e*P P 13 18 16.2 -0.3
CPRX **Cap Rock** 72.39 330 *e*P P 13 18 17.4 +0.6
comp=Z,110nm,0.9s
CPRX *e*pP pP 13 18 26.0 0.0
125A **Gardner Draw,** 72.41 329 ⇑P P 13 18 16.6 -0.3
baz=73,SNR=33
KOMG **Komaggas** 72.43 114 *e*P P 13 18 17.5 +0.3
KOMG AMB AMB 13 18 18.9
comp=Z,57nm,1.4s
OLIL **Olney** 72.45 345 *e*P P 13 18 16.6 -0.2
comp=Z,121nm,1.1s
OLIL *e*pP pP 13 18 24.8 -1.2
Y28A **McKinney Farm,** 72.47 332 ⇓P P 13 18 17.0 -0.2
baz=73,SNR=8.6
BLO **Bloomington** 72.53 346 *e*P P 13 18 16.9 -0.4
BLO *e**PP pP 13 18 25.3 -1.2
BLO pmax pmax
comp=Z,68nm,0.6s
BLO **Bloomington** 72.53 346 *e*P P 13 18 16.9 -0.4
comp=Z,68nm,0.6s
BLO *e*pP pP 13 18 25.3 -1.2
SSPA **Standing Stone** 72.64 353 *e*P P 13 18 18.0 +0.1
comp=Z,46nm,1.0s
Z26A **Caprock** 72.64 330 ⇓P P 13 18 18.6 +0.4
baz=73,SNR=86
223A **Chaparral, Ant** 72.64 327 ⇑P P 13 18 18.8 +0.5
baz=73
X29A **Tulia** 72.73 332 ⇓P P 13 18 18.9 +0.2
baz=73,SNR=26
MSTX **Muleshoe** 72.74 331 ⇑P P 13 18 19.0 +0.2
baz=73,SNR=60
124A **Stringfield Ra** 72.79 329 ⇓P P 13 18 19.7 +0.4
baz=73,SNR=55
Y27A **Causey** 72.83 331 ⇓P P 13 18 19.1 -0.2
baz=73,SNR=22
PPT2 **Papeete2** 72.85 260 *e*S S 13 27 44.3 -0.3
comp=Z,334nm,28.0s
PPT2 *e*LR LR 13 40 44.6
comp=Z,821nm,26.0s
SLM **Saint Louis** 72.86 343 *e*P P 13 18 19.7 +0.4
SLM *e**PP pP 13 18 28.0 -0.4
SLM pmax pmax
comp=Z,58nm,0.9s
SLM **Saint Louis** 72.86 343 *e*P P 13 18 19.6 +0.4
comp=Z,58nm,0.9s
SLM *e*pP pP 13 18 28.0 -0.4
PPT **Papeete** 72.86 260 P P 13 18 21.1 +1.2
comp=Z,59nm,0.8s,baz=244,slow=12,SNR=5.9
PPT LR LR 13 41 24.7
comp=Z,656nm,20.4s,baz=5.7,slow=28
PPT **Papeete** 72.86 260 P P 13 18 21.1 +1.2
ACSO **Alum Creek Sta** 72.91 349 *e*P P 13 18 19.4 -0.1
comp=Z,108nm,0.8s
ACSO *e*pP pP 13 18 27.9 -0.8

YLE **Yale** 72.95 357 *e*P P 13 18 21.1 +1.4
comp=Z,161nm,1.1s
Z25A **Roswell** 72.96 329 ⇓P P 13 18 20.1 -0.1
baz=73,SNR=24
X28A **Dimmitt** 72.99 332 ⇑P P 13 18 20.5 +0.3
baz=73,SNR=8.9
222A **Williams Famil** 73.04 327 ⇓P P 13 18 21.6 +1.0
baz=73,SNR=5.4
320A **Kipp Ranch, An** 73.07 326 ⇓P P 13 18 21.9 +1.0
baz=73,SNR=38
123A **Bell Site, Whi** 73.10 328 ⇓P P 13 18 21.9 +0.9
baz=73
AMTX **Amarillo** 73.10 333 *e*P P 13 18 21.1 +0.2
comp=Z,132nm,1.1s
AMTX *e*pP pP 13 18 30.0 -0.1
Y26A **Elida** 73.14 330 ⇑P P 13 18 21.3 +0.2
baz=73,SNR=6.1
221A **Mesquite Ranch** 73.27 326 ⇓P P 13 18 23.3 +1.2
baz=74,SNR=30
Z24A **Sheeppen Canyo** 73.29 329 ⇑P P 13 18 22.8 +0.6
baz=74,SNR=29
W29A **Amraillo** 73.30 333 ⇑P P 13 18 22.4 +0.4
baz=74,SNR=18
CVNA **Calvinia** 73.41 117⇑ *i*P P 13 18 24.2 +1.1
CVNA AMB AMB 13 18 25.3
comp=Z,62nm,1.1s
X27A **F and S Farms,** 73.46 331 ⇓P P 13 18 23.2 +0.1
baz=74
319A **Douglas** 73.47 325 ⇓P P 13 18 24.3 +1.2
baz=74,SNR=42
122A **Conniff Cattle** 73.49 327 ⇑P P 13 18 24.8 +1.5
baz=74,SNR=8.2
Y25A **Mesa, Roswell** 73.50 330 ⇓P P 13 18 23.1 -0.2
baz=74,SNR=13
BRYW **Bryant College** 73.51 358 *e*P P 13 18 23.7 +0.6
comp=Z,316nm,1.4s
BRYW *e*pP pP 13 18 32.8 +0.5
220A **Playas Peak, P** 73.54 326 ⇓P P 13 18 24.7 +1.1
baz=74,SNR=70
Z23A **Rita Site, Whi** 73.61 328 ⇓P P 13 18 25.3 +1.3
baz=74,SNR=41
W28A **Vega** 73.64 332 ⇓P P 13 18 24.5 +0.4
baz=74,SNR=11
X26A **CR and CF Fran** 73.67 331 ⇑P P 13 18 24.8 +0.5
baz=74,SNR=47
121A **Cookes Peak, D** 73.71 327 ⇓P P 13 18 26.0 +1.4
baz=74,SNR=48
SUR **Sutherland** 73.78 118 P P 13 18 26.6 +1.2
comp=Z,21nm,0.6s,baz=249,slow=7.6,SNR=29
SUR **Sutherland** 73.78 118 *e*P P 13 18 26.5 +1.1
comp=Z,26nm,0.8s
SUR *e*pP pP 13 18 34.9 +0.3
SUR **Sutherland** 73.78 118 P P 13 18 26.1 +0.7
comp=Z,250nm,0.6s,SNR=13
SUR **Sutherland** 73.78 118⇑ *i*P P 13 18 26.4 +1.1
SUR AMB AMB 13 18 27.7
comp=Z,53nm,3.4s
SFIN **Scholer Farm** 73.81 346 ⇓P P 13 18 23.7 -1.1
baz=74
W27A **Bowe Ranch, En** 73.81 332 ⇓P P 13 18 25.5 +0.4
baz=74,SNR=38
Y24A **Capitan** 73.83 329 ⇓P P 13 18 26.0 +0.6
baz=74,SNR=13
ALLY **Alegheny Colle** 73.89 352 *e*P P 13 18 25.7 +0.4
comp=Z,10nm,0.4s
ALLY *e*pP pP 13 18 34.2 -0.3
QUA2 **Belchertown** 73.89 358 *e*P P 13 18 25.6 +0.4
comp=Z,83nm,1.1s
QUA2 *e*pP pP 13 18 33.6 -0.9
V29A **Stinnett** 73.91 333 ⇑P P 13 18 25.9 +0.3
baz=74
Z22A **Elephant Butte** 73.94 328 ⇓P P 13 18 27.3 +1.4
baz=74,SNR=23
WES **Weston** 73.97 358 *e*P P 13 18 26.6 +0.9
WES pmax pmax
comp=Z,45nm,1.0s
WES **Weston** 73.97 358 *e*P P 13 18 26.6 +0.9
comp=Z,45nm,1.0s
X25A **Clemmons Ranch** 74.01 330 ⇑P P 13 18 26.4 +0.1
baz=74,SNR=13
BINY **Binghamton** 74.02 355 *e*P P 13 18 26.2 +0.2
comp=Z,31nm,0.8s
BINY *e*pP pP 13 18 35.3 +0.1
V28A **Channing** 74.07 333 ⇑P P 13 18 27.2 +0.6
baz=74,SNR=13
HRV **Adam Dziewonsk** 74.10 358 *e*P P 13 18 27.6 +1.2
HRV pmax pmax
comp=Z,38nm,1.0s
HRV **Adam Dziewonsk** 74.10 358 *e*P P 13 18 27.6 +1.2
comp=Z,38nm,1.0s
Y23A **Lovelace Mesa,** 74.10 329 ⇓P P 13 18 28.0 +1.1
baz=74,SNR=26
W26A **Owens Ranch, T** 74.12 331 ⇓P P 13 18 27.6 +0.7
baz=74,SNR=38
120A **U Bar Ranch, L** 74.12 326 ⇓P P 13 18 28.4 +1.4
baz=74,SNR=31
Z21A **St. Cloud Mine** 74.30 327 ⇓P P 13 18 29.4 +1.3
baz=75,SNR=14
ERPA **Erie** 74.33 352 *e*P P 13 18 28.4 +0.5
comp=Z,77nm,1.3s
ERPA *e*pP pP 13 18 36.8 -0.3
X24A **Lazy VL Ranch,** 74.37 330 ⇑P P 13 18 29.2 +0.7
baz=75,SNR=18
TRY **Troy** 74.40 357 *e*P P 13 18 29.7 +1.6
comp=Z,198nm,1.1s
TRY *e*pP pP 13 18 38.1 +0.7
MAW **Mawson** 74.49 163 LR LR 13 51 53.8
comp=Z,886nm,18.4s,baz=230,slow=36
Y22A **Socorro** 74.51 328 ⇑P P 13 18 30.2 +0.9
baz=75,SNR=11
W25A **X Bar L Ranch,** 74.52 331 ⇓P P 13 18 29.8 +0.6
baz=75,SNR=50
BNM **Barren Site** 74.54 329 *e*P P 13 18 30.4 +0.9
comp=Z,19nm,1.0s
Z20A **Nine Sixteen R** 74.57 327 ⇓P P 13 18 30.9 +1.3
baz=75,SNR=26
Y22D **IRIS PASSCAL I** 74.61 328 ⇑P P 13 18 31.2 +1.4
baz=75
LPM **Los Pinos Moun** 74.68 329 *e*P P 13 18 31.5 +1.2
comp=Z,24nm,0.9s
LENM **Lemitar** 74.71 328 *e*P P 13 18 32.1 +1.6
comp=Z,17nm,1.0s
X23A **Hourglass Bar** 74.71 329 ⇑P P 13 18 31.6 +1.1
baz=75
V26A **Tequesquite Ra** 74.74 331 ⇑P P 13 18 30.7 +0.2
baz=75,SNR=20
Y21A **Point of Rocks** 74.89 328 ⇓P P 13 18 33.3 +1.8
baz=75,SNR=39
W24A **Lazy 6 Ranch,** 74.91 330 ⇓P P 13 18 32.3 +0.7
baz=75,SNR=34
TUC **Tucson** 74.97 324 *e*P P 13 18 32.5 +0.7
TUC *e**PP pP 13 18 41.6 +0.5
TUC pmax pmax
comp=Z,37nm,1.5s
TUC **Tucson** 74.97 324 *e*P P 13 18 32.5 +0.7
comp=Z,37nm,1.5s
TUC *e*pP pP 13 18 41.6 +0.5
LAZ **Ladron** 74.98 328 *e*P P 13 18 33.0 +1.0
comp=Z,30nm,1.2s
LAZ *e*pP pP 13 18 42.4 +1.1
X22A **Bernardo** 75.01 328 ⇓P P 13 18 33.7 +1.6
baz=75,SNR=11
AAM **Ann Arbor** 75.04 349 *e*P P 13 18 31.7 -0.2
AAM **Ann Arbor** 75.04 349 *e*P P 13 18 31.7 -0.2
ACCN **Adirondack Com** 75.05 357 *e*P P 13 18 31.9 0.0
comp=Z,49nm,1.2s
ACCN *e*pP pP 13 18 41.3 +0.1
FFD **Franklin Falls** 75.06 358 *e*P P 13 18 33.4 +1.4
comp=Z,99nm,0.9s
FFD *e*pP pP 13 18 42.1 +0.9
KSU1 **Kansas State U** 75.09 338 *e*P P 13 18 32.5 +0.1
comp=Z,60nm,0.8s
KSU1 *e*pP pP 13 18 41.0 -0.6
V25A **Rancho No Teng** 75.11 331 ⇓P P 13 18 33.4 +0.7
baz=75,SNR=54
Y20A **Horse Springs,** 75.13 327 ⇑P P 13 18 34.2 +1.3
baz=75,SNR=31
ANMO **Albuquerque** 75.14 329 LR LR 13 47 58.8
comp=Z,421nm,18.8s,baz=143,slow=33
ANMO **Albuquerque** 75.14 329 *e*P P 13 18 33.9 +1.0
comp=Z,59nm,1.2s
W23A **Werner Place,** 75.18 329 ⇑P P 13 18 34.3 +1.1
baz=76,SNR=51
T28A **Walsh** 75.23 333 ⇑P P 13 18 33.7 +0.4
baz=76,SNR=30
U26A **Atchley Ranch,** 75.24 332 ⇓P P 13 18 33.8 +0.4
baz=76,SNR=41

V24A	Rampart Ranch,	75.29	330	⇑P		P	13 18 34.4 +0.6
	baz=76,SNR=17						
X21A	Alamocita Cree	75.31	328	⇓P		P	13 18 35.5 +1.6
	baz=76,SNR=45						
HNH	Hanover	75.31	358	*e*P		P	13 18 34.3 +0.9
	comp=Z,68nm,0.9s						
HNH				*ep*P		pP	13 18 43.2 +0.5
T27A	Campo	75.41	333	⇓P		P	13 18 34.8 +0.4
	baz=76,SNR=31						
W22A	Albuquerque	75.42	329	⇓P		P	13 18 35.9 +1.4
	baz=76,SNR=8.1						
U25A	Circle Dot Ran	75.51	331	⇓P		P	13 18 35.9 +0.8
	baz=76,SNR=41						
MDV	Middlebury	75.64	357	*e*P		P	13 18 36.5 +1.2
	comp=Z,11µm,1.0s						
MDV				*ep*P		pP	13 18 44.7 +0.2
NCB	Newcomb	75.67	356	*e*P		P	13 18 36.3 +0.8
	comp=Z,22nm,1.0s						
NCB				*ep*P		pP	13 18 44.6 -0.1
V23A	Ortiz Mt. (NFS	75.69	330	⇑P		P	13 18 37.7 +1.6
	baz=76,SNR=9.3						
214A	Organ Pipe Nat	75.71	323	⇑P		P	13 18 37.3 +1.2
	baz=76,SNR=38						
X20A	Quemado	75.71	327	⇑P		P	13 18 37.4 +1.1
	baz=76,SNR=28						
W21A	San Fidel	75.81	328	⇑P		P	13 18 38.1 +1.3
	baz=76,SNR=7.3						
LBNH	Lisbon	75.84	358	*e*P		P	13 18 37.8 +1.3
LBNH				*e**PP		pP	13 18 46.4 +0.7
LBNH				pmax		pmax	
	comp=Z,52nm,0.9s						
LBNH	Lisbon	75.84	358	*e*P		P	13 18 37.8 +1.3
	comp=Z,52nm,0.9s						
LBNH				*ep*P		pP	13 18 46.4 +0.7
T26A	Comanche Natio	75.85	332	⇑P		P	13 18 37.8 +0.9
	baz=76,SNR=14						
U24A	Moreno Valley	75.88	331	⇓P		P	13 18 38.4 +1.1
	baz=76,SNR=9.0						
UPI	Upington	76.02	115	*e*P		P	13 18 37.7 -0.5
UPI				AMB		AMB	13 18 39.4
	comp=Z,41nm,1.2s						
S27A	Las Animas	76.03	333	⇓P		P	13 18 38.4 +0.5
	baz=76						
T25A	Trinidad	76.15	332	⇑P		P	13 18 40.0 +1.3
	baz=76,SNR=59						
V22A	San Miguel Ran	76.15	329	⇑P		P	13 18 40.5 +1.7
	baz=76,SNR=96						
U23A	El Rito	76.19	330	⇑P		P	13 18 40.2 +1.2
	baz=76,SNR=30						
S26A	Kim	76.19	333	⇑P		P	13 18 40.0 +1.2
	baz=76,SNR=60						
W20A	Ramah	76.20	328	⇓P		P	13 18 40.1 +1.0
	baz=76,SNR=27						
EMMW	East Machias	76.29	1	*e*P		P	13 18 40.2 +1.3
	comp=Z,128nm,1.0s						
EMMW				*ep*P		pP	13 18 49.1 +0.9
T24A	Torres, Weston	76.35	331	⇑P		P	13 18 41.3 +1.4
	baz=77,SNR=40						
X18A	Snowflake	76.37	326	⇑P		P	13 18 41.1 +1.1
	baz=77,SNR=16						
V21A	Milan	76.38	329	⇑P		P	13 18 41.5 +1.4
	baz=77,SNR=8.9						
FRNY	Flat Rock	76.50	357	*e*P		P	13 18 40.2 0.0
	comp=Z,48nm,0.9s						
FRNY				*ep*P		pP	13 18 49.5 +0.1
R27A	Eads	76.51	333	⇓P		P	13 18 41.1 +0.5
	baz=77,SNR=36						
U22A	Llaves	76.52	330	⇓P		P	13 18 42.6 +1.8
	baz=77,SNR=39						
S25A	Robets Cordova	76.61	332	⇑P		P	13 18 42.2 +1.0
	baz=77,SNR=36						
SCIA	State Center	76.70	342	*e*P		P	13 18 42.0 +0.6
	comp=Z,63nm,1.0s						
SCIA				*ep*P		pP	13 18 50.4 -0.3
T23A	Casias Ranch,	76.73	331	⇓P		P	13 18 43.0 +1.0
	baz=77,SNR=8.0						
V20A	Brimhall	76.74	328	⇓P		P	13 18 43.1 +1.1
	baz=77,SNR=20						
W18A	Petrified Fore	76.76	327	⇑P		P	13 18 43.2 +1.1
	baz=77,SNR=19						
R26A	Arlington	76.78	333	⇓P		P	13 18 42.8 +0.7
	baz=77,SNR=31						
113A	Mohawk Valley,	76.84	323	⇓P		P	13 18 43.4 +1.0
	baz=77,SNR=13						
Z14A	Wintersburg	76.89	324	⇓P		P	13 18 43.6 +0.9
	baz=77,SNR=6.8						
S24A	Houchin Ranch,	76.90	331	⇓P		P	13 18 44.4 +1.3
	baz=77,SNR=65						
U21A	Nageezi	76.91	329	⇓P		P	13 18 44.3 +1.3
	baz=77,SNR=64						
R25A	Fountain Ranch	76.97	332	⇑P		P	13 18 43.9 +0.7
	baz=77,SNR=13						
X16A	Lo Mia Camp, P	77.00	325	⇓P		P	13 18 44.9 +1.4
	baz=77,SNR=53						
T22A	Edith	77.08	330	⇑P		P	13 18 45.6 +1.6
	baz=77,SNR=61						
KSCO	Kaye Shedlock'	77.08	334	⇓P		P	13 18 44.9 +1.1
	baz=77,SNR=22						
U20A	Newcomb	77.24	328	⇑P		P	13 18 45.8 +0.9
	baz=78,SNR=26						
S23A	Nye Farm, Mont	77.28	331	⇑P		P	13 18 46.2 +1.1
	baz=78,SNR=8.9						
T21A	Navajo Lake	77.33	329	⇑P		P	13 18 46.4 +1.0
	baz=78,SNR=30						
Q26A	Hugo	77.34	333	⇑P		P	13 18 46.3 +1.0
	baz=78,SNR=9.3						
R24A	Sanders Place,	77.37	332	⇑P		P	13 18 46.7 +1.2
	baz=78,SNR=49						
Y14A	Wickenburg	77.38	324	⇑P		P	13 18 46.4 +0.9
	baz=78,SNR=25						
U19A	Dine' College,	77.48	328	⇓P		P	13 18 46.8 +0.6
	baz=78,SNR=25						
TSUM	Tsumeb	77.53	105	⇑*i*P		P	13 18 47.8 +0.9
GRM	Grahamstown	77.54	121	*e*P		P	13 18 46.2 -0.5
GRM				AMB		AMB	13 18 47.7
	comp=Z,58nm,1.4s						
P27A	Ficken Ranch,	77.54	334	⇑P		P	13 18 47.3 +0.9
	baz=78,SNR=8.2						
GLA	Glamis	77.61	322	*e*P		P	13 18 47.9 +1.0
GLA				*e**PP		PcP	13 18 57.0 +0.1
GLA				pmax		pmax	
	comp=Z,32nm,0.9s						
GLA	Glamis	77.61	322	*e*P		P	13 18 47.9 +1.0
	comp=Z,32nm,0.9s						
GLA				*ep*P		PcP	13 18 57.0 +0.1
GLA	Glamis	77.61	322	⇓P		P	13 18 47.8 +1.0
	baz=78,SNR=14						
Q25A	Bedland, Calha	77.62	333	⇓P		P	13 18 47.5 +0.6
	baz=78,SNR=12						
R23A	Moffat	77.62	331	⇓P		P	13 18 48.0 +0.9
	baz=78,SNR=36						
S22A	4UR Ranch, Cre	77.66	330	⇑P		P	13 18 48.5 +1.2
	baz=78,SNR=43						
BGNE	Belgrade	77.68	338	⇑P		P	13 18 47.3 +0.3
	baz=78,SNR=8.7						
P26A	Davis Ranch, A	77.83	334	⇓P		P	13 18 48.9 +0.8
	baz=78,SNR=15						
WUAZ	Wupatki	77.85	326	*e*P		P	13 18 49.1 +0.8
	comp=Z,62nm,1.1s						
WUAZ				*ep*P		PcP	13 18 58.5 +0.4
WUAZ	Wupatki	77.85	326	⇓P		P	13 18 49.4 +1.1
	baz=78,SNR=37						
MVCO	Mesa Verde	77.93	329	*e*P		P	13 18 49.6 +0.8
	comp=Z,58nm,0.9s						
MVCO	Mesa Verde	77.93	329	⇑P		P	13 18 49.7 +0.9
	baz=78,SNR=36						
DVTC	Desert V Tower	77.98	321	⇑P		P	13 18 50.0 +1.1
	baz=78,SNR=13						
S21A	Coal Bank Pass	78.00	330	⇑P		P	13 18 50.3 +1.1
	baz=78,SNR=34						
Y12C	Blythe	78.00	323	⇓P		P	13 18 50.0 +1.1
	baz=78,SNR=13						
Q24A	Divide	78.02	332	⇑P		P	13 18 50.2 +1.0
	baz=78,SNR=40						
SWSC	Sam W. Stewart	78.04	321	⇑P		P	13 18 50.3 +1.2
	baz=78,SNR=8.2						
R22A	Saguache, Gunn	78.04	331	⇓P		P	13 18 50.5 +1.0
	baz=78,SNR=22						
O27A	Beecher Island	78.06	335	⇑P		P	13 18 50.4 +1.1
	baz=78,SNR=15						
P25A	Willow Gulch B	78.11	333	⇓P		P	13 18 50.8 +1.2
	baz=78,SNR=22						
HVD	Gariep Dam	78.14	119	*e*P		P	13 18 51.0 +0.8
HVD				AMB		AMB	13 18 51.6
	comp=Z,68nm,1.2s						
Q23A	Hartsel	78.24	332	⇓P		P	13 18 51.2 +0.7
	baz=79						
PDMCI	Parker Dam,Lak	78.24	323	⇑P		P	13 18 51.3 +1.1
	baz=78						
PQI	Presque Isle	78.24	1	*e*P		P	13 18 51.2 +1.3
	comp=Z,66nm,0.8s						
BAR	Barrett	78.30	321	*e*P		P	13 18 51.7 +1.0
	comp=Z,54nm,1.2s						
BAR				*ep*P		PcP	13 19 00.8 +0.9
MONP	Monument Peak	78.33	321	⇑P		P	13 18 52.4 +1.4
	baz=79,SNR=15						
S20A	Disappointment	78.39	329	⇓P		P	13 18 52.7 +1.4
	baz=79,SNR=12						
P24A	Kohler Place,	78.39	333	⇑P		P	13 18 52.4 +1.2
	baz=79						
BC3	Big Chuckawall	78.41	322	⇓P		P	13 18 52.3 +0.9
	baz=79,SNR=32						
O26A	Horse Wrangler	78.42	334	⇑P		P	13 18 52.4 +1.2
	baz=79,SNR=6.7						
R21A	Cimarron	78.49	330	⇓P		P	13 18 53.1 +1.2
	baz=79,SNR=25						
OGNE	Ogallala	78.57	335	*e*P		P	13 18 52.9 +0.9
	comp=Z,26nm,1.0s						
OGNE				*ep*P		PcP	13 19 01.9 +1.0
OGNE	Ogallala	78.57	335	⇓P		P	13 18 52.8 +0.9
	baz=79						
O25A	Wiggins	78.61	333	⇑P		P	13 18 53.5 +1.3
	baz=79						
P23A	Jefferson	78.64	332	⇑P		P	13 18 54.1 +1.3
	baz=79,SNR=11						
Q22A	Crested Butte,	78.64	331	⇓P		P	13 18 53.9 +1.2
	baz=79,SNR=26						
IRM	Iron Mountain	78.65	323	⇑P		P	13 18 53.4 +0.9
	baz=79,SNR=22						
R20A	Redvale	78.69	330	⇓P		P	13 18 54.4 +1.5
	baz=79,SNR=41						
109C	Camp Elliot, M	78.70	321	⇑P		P	13 18 53.8 +1.0
	baz=79						
PV01	Padox Valley	78.73	329	*e*P		P	13 18 53.7 +0.6
	comp=Z,5µm,1.3s						
PV01				*ep*P		pP	13 19 02.8 +0.3
W13A	Hualapai Mount	78.74	324	⇑P		P	13 18 54.4 +1.1
	baz=79,SNR=29						
N26A	Koester Ranch,	78.89	334	⇓P		P	13 18 54.8 +1.0
	baz=79,SNR=7.7						
Q21A	Lamborn Mesa,	78.89	330	⇓P		P	13 18 54.9 +1.0
	baz=79,SNR=8.3						
PFO	Pinyon Flat Ob	78.90	321	*e*P		P	13 18 55.2 +1.2
	comp=Z,90nm,1.4s						
PFO	Pinyon Flat Ob	78.90	321	P		P	13 18 55.9 +1.8
	comp=Z,191nm,1.1s,SNR=12						
PFO	Pinyon Flat Ob	78.90	321	⇓P		P	13 18 55.5 +1.4
	baz=79,SNR=22						
ISCO	Idaho Springs	78.92	332	*e*P		P	13 18 54.8 +0.6
ISCO				*e**PP		PcP	13 19 03.2 +0.4
ISCO				pmax		pmax	
	comp=Z,89nm,1.3s						
ISCO	Idaho Springs	78.92	332	*e*P		P	13 18 54.8 +0.6
	comp=Z,89nm,1.3s						
ISCO				*ep*P		PcP	13 19 03.2 +0.4
ISCO	Idaho Springs	78.92	332	⇑P		P	13 18 55.2 +1.0
	baz=79,SNR=37						
SMCO	Snowmass	78.94	331	*e*P		P	13 18 55.1 +0.7
	comp=Z,107nm,1.1s						
SMCO				*ep*P		pP	13 19 04.9 +1.2
BOSA	Boshof	78.96	117	P		P	13 18 54.8 +0.1
	comp=Z,42nm,1.0s,baz=240,slow=6.1,SNR=40						
BOSA				LR		LR	13 49 55.2
	comp=Z,647nm,18.2s,baz=216,slow=33						
BOSA	Boshof	78.96	117	*e*P		P	13 18 54.7 +0.1
	comp=Z,35nm,0.8s						
BOSA				*ep*P		PcP	13 19 02.7 -0.6
BOSA	Boshof	78.96	117	*e*P		P	13 18 54.1 -0.5
BOSA				AMB		AMB	13 18 55.4
	comp=Z,54nm,1.1s						
BELC	Belle Mtn. Jos	78.96	322	⇑P		P	13 18 55.6 +1.2
	baz=79,SNR=11						
O24A	Longmont	78.98	333	⇑P		P	13 18 55.3 +0.9
	baz=79						
S18A	Hurst Farm, Bl	78.99	328	⇓P		P	13 18 55.9 +1.3
	baz=79,SNR=71						
U15A	North Rim	79.03	326	⇓P		P	13 18 56.3 +1.4
	baz=79,SNR=33						
PV04	Paradox Valley	79.09	329	*e*P		P	13 18 55.6 +0.5
P22A	Eagle	79.20	331	⇓P		P	13 18 56.8 +1.1
	baz=80,SNR=24						
N25A	Grover	79.20	334	⇑P		P	13 18 56.7 +1.2
	baz=80						
M27A	Rerse DX Ran	79.21	335	⇑P		P	13 18 56.6 +1.1
	baz=80,SNR=19						
MURC	Murrieta	79.29	321	⇑P		P	13 18 57.3 +1.2
	baz=80,SNR=11						
Q20A	Ridgley Place,	79.30	330	⇑P		P	13 18 56.9 +0.8
	baz=80,SNR=7.3						
S17A	Black Ridge (B	79.31	328	⇑P		P	13 18 57.2 +1.0
	baz=80,SNR=26						
ECSD	ERDS Data Cent	79.33	340	*e*P		P	13 18 55.9 -0.1
	comp=Z,105nm,0.8s						
ECSD				*ep*P		PcP	13 19 04.7 +0.6
LDFC	Landfair	79.34	323	*e*P		P	13 18 58.3 +1.9
	comp=Z,80nm,1.3s						
LDFC				*ep*P		pP	13 19 07.1 +1.4
O23A	Lake Granby, G	79.39	332	⇓P		P	13 18 57.9 +1.1
	baz=80,SNR=38						
GMRC	Granite Mounta	79.39	323	⇑P		P	13 18 58.1 +1.4
	baz=80,SNR=28						
M26A	McRoberts Ranc	79.42	335	⇓P		P	13 18 57.6 +0.9
	baz=80						
P21A	Newcastle	79.42	331	⇑P		P	13 18 58.1 +1.3
	baz=80,SNR=23						
RAR	Rarotonga	79.48	252	LR		LR	13 47 22.3
	comp=Z,516nm,21.0s,baz=258,slow=31						
N24A	Carr	79.52	333	⇓P		P	13 18 58.5 +1.2
	baz=80,SNR=10						
SCI	San Clemente I	79.55	320	⇑P		P	13 18 58.5 +1.0
	baz=80						
O22A	Kremmling	79.60	332	⇓P		P	13 18 58.8 +0.8
	baz=80,SNR=38						
BBRC	Big Bear Solar	79.65	322	⇓P		P	13 18 59.8 +1.5
	baz=80,SNR=8.4						
L27A	T5 Ranch, Ells	79.67	336	⇓P		P	13 18 59.1 +1.1
	baz=80,SNR=5.7						
SPMN	St. Paul	79.71	343	⇓P		P	13 18 57.5 -0.5
	baz=80						
Q19A	Hogan Spring (	79.72	329	⇑P		P	13 18 59.2 +0.8
	baz=80,SNR=15						
M25A	Palm-Egli Farm	79.73	334	⇓P		P	13 18 59.3 +0.9
	baz=80,SNR=7.5						
SWZ	Schweizer	79.74	116	*e*P		P	13 18 58.6 -0.4
SWZ				AMB		AMB	13 18 59.9
	comp=Z,33nm,4.0s						
S16A	Weppner Ranch,	79.75	327	⇓P		P	13 18 59.2 +0.5
	baz=80,SNR=17						
HEC	Hector,Ludlow	79.78	322	⇑P		P	13 19 00.0 +1.3
	baz=80,SNR=5.7						
CIS	Catalina Islan	79.80	320	⇑P		P	13 18 59.8 +1.0
	baz=80,SNR=6.8						
P20A	De Beque	79.80	330	⇑P		P	13 18 59.7 +0.9
	baz=80,SNR=12						
L26A	Underwood Farm	79.90	335	⇑P		P	13 19 00.5 +1.2
	baz=80						
FMP	Fort Macarthur	79.97	320	⇑P		P	13 19 00.9 +1.3
	baz=80						
N23A	Red Feather La	79.98	333	⇓P		P	13 19 00.8 +0.8
	baz=80,SNR=20						
BFSC	Mount Baldy Ra	80.03	321	⇓P		P	13 19 01.2 +1.0
	baz=80,SNR=18						
TUQ	Turquoise Moun	80.04	323	⇓P		P	13 19 01.4 +1.2
	baz=80,SNR=22						
M24A	Cheyenne	80.05	334	⇓P		P	13 19 01.4 +1.2
	baz=80,SNR=23						
N22A	Wattenberg Ran	80.11	332	⇓P		P	13 19 01.8 +1.2
	baz=80,SNR=28						
PHWY	Pilot Hill	80.14	333	*e*P		P	13 19 01.4 +0.5
PHWY				*ep*P		pP	13 19 10.5 +0.3
P19A	Cripple Cowboy	80.16	330	⇑P		P	13 19 01.9 +1.1
	baz=80,SNR=46						
K27A	Flueckinger Fa	80.19	336	⇓P		P	13 19 01.9 +1.1
	baz=80,SNR=21						
MWC	Mount Wilson	80.23	321	*e*P		P	13 19 02.0 +0.7
MWC				*e**PP		pP	13 19 11.1 +0.5
MWC				pmax		pmax	
	comp=Z,46nm,1.1s						
MWC	Mount Wilson	80.23	321	*e*P		P	13 19 02.0 +0.7
	comp=Z,46nm,1.1s						
MWC				*ep*P		pP	13 19 11.1 +0.5
PASC	Pasadena Art C	80.26	321	*e*P		P	13 19 02.8 +1.5
	comp=Z,74nm,1.3s						
PASC				*ep*P		pP	13 19 11.5 +0.9
O20A	White River Ci	80.27	331	⇓P		P	13 19 02.4 +1.0
	baz=81,SNR=17						
L25A	Engebretsen Ra	80.32	335	⇓P		P	13 19 02.8 +1.2
	baz=81						
GSC	Goldstone	80.39	322	*e*P		P	13 19 03.0 +1.0
GSC				*e**PP		pP	13 19 12.2 +0.8
GSC				pmax		pmax	
	comp=Z,61nm,1.5s						
GSC	Goldstone	80.39	322	*e*P		P	13 19 03.0 +1.0
	comp=Z,61nm,1.5s						
GSC				*ep*P		pP	13 19 12.2 +0.8
GSC	Goldstone	80.39	322	⇑P		P	13 19 03.1 +1.0
	baz=81,SNR=14						
M23A	Laramie	80.39	333	⇑P		P	13 19 02.9 +0.9
	baz=81,SNR=35						
DECC	Green Verdugo	80.39	321	⇓P		P	13 19 03.3 +1.3
	baz=81						
SRU	San Rafael	80.40	329	*e*P		P	13 19 02.4 +0.3
SRU				*e**PP		pP	13 19 11.6 +0.2
SRU				pmax		pmax	
	comp=Z,46nm,0.9s						
SRU	San Rafael	80.40	329	*e*P		P	13 19 02.4 +0.3
	comp=Z,46nm,0.9s						
SRU				*ep*P		pP	13 19 11.6 +0.2
SRU	San Rafael	80.40	329	⇓P		P	13 19 02.6 +0.5
	baz=81,SNR=34						
CCUT	Cedar City	80.44	326	*e*P		P	13 19 03.7 +1.3
	comp=Z,82nm,1.3s						
CCUT				*ep*P		pP	13 19 13.1 +1.4
R15A	Junction	80.46	327	⇑P		P	13 19 03.4 +0.9
	baz=81,SNR=18						
N21A	Black Mountain	80.50	332	⇑P		P	13 19 03.9 +1.2
	baz=81,SNR=23						
K26A	Motz Farm, Whi	80.52	335	⇑P		P	13 19 03.4 +0.8
	baz=81,SNR=9.4						
Q16A	Castle Valley	80.53	328	⇑P		P	13 19 03.6 +0.7
	baz=81,SNR=9.5						
SHOC	Shoshone	80.58	323	⇓P		P	13 19 03.9 +0.9
	baz=81						
L24A	Wheatland	80.58	334	⇑P		P	13 19 04.1 +1.1
	baz=81,SNR=7.5						
MSU	Marysvale	80.65	327	*e*P		P	13 19 04.5 +0.9
MSU				*e**PP		pP	13 19 13.7 +0.8
MSU				pmax		pmax	
	comp=Z,30nm,0.9s						
MSU	Marysvale	80.65	327	*e*P		P	13 19 04.5 +0.9
	comp=Z,30nm,0.9s						
MSU				*ep*P		pP	13 19 13.7 +0.8
ARUT	Antelope Range	80.66	326	*e*P		P	13 19 04.7 +1.1
ARUT				*e**PP		pP	13 19 13.1 +0.2
ARUT				pmax		pmax	
	comp=Z,67nm,1.3s						
ARUT	Antelope Range	80.66	326	*e*P		P	13 19 04.7 +1.1
	comp=Z,67nm,1.3s						
ARUT				*ep*P		pP	13 19 13.1 +0.2
MVU	Marysvale	80.66	327	*e*P		P	13 19 04.5 +0.9
	comp=Z,30nm,1.0s						
MVU				*ep*P		pP	13 19 13.6 +0.6
M22A	Cedar Creek Ra	80.67	332	⇓P		P	13 19 04.4 +0.8
	baz=81,SNR=17						
BRSD	Miller	80.68	339	⇑P		P	13 19 03.2 -0.1
	baz=81						
BLG	Laguna Peak	80.69	320	⇑P		P	13 19 04.5 +0.9
	baz=81						
K25A	Mack Ranch, Ha	80.69	335	⇓P		P	13 19 04.8 +1.3
	baz=81,SNR=7.0						
EDW2	Edwards Air Fo	80.69	321	⇓P		P	13 19 04.1 +0.5
	baz=81,SNR=18						
P18A	Preston Nutter	80.70	329	⇓P		P	13 19 04.7 +0.8
	baz=81,SNR=44						
O19A	Miners Draw (B	80.77	330	⇓P		P	13 19 04.6 +0.5
	baz=81,SNR=26						
P17A	Butcher Ranch,	80.79	329	⇓P		P	13 19 04.7 +0.5
	baz=81,SNR=17						
TMUT	Trail Mountain	80.85	328	*e*P		P	13 19 05.2 +0.5
	comp=Z,51nm,1.2s						
N20A	Spence Gulch,	80.86	331	⇓P		P	13 19 05.4 +0.8
	baz=81,SNR=22						
OSI	Osito Adit	80.88	321	*e*P		P	13 19 06.1 +1.5
	comp=Z,90nm,1.2s						
OSI				*ep*P		pP	13 19 14.3 +0.3
OSI	Osito Adit	80.88	321	⇓P		P	13 19 05.6 +0.9
	baz=81						
BSC	Santa Cruz Isl	80.91	320	⇑P		P	13 19 05.8 +1.0
	baz=81,SNR=5.3						
L23A	Garrett	80.94	333	⇑P		P	13 19 05.5 +0.5
	baz=81,SNR=15						
LRMC	Laurel Mountai	80.99	322	⇓P		P	13 19 06.2 +0.9
	baz=81,SNR=20						
LBTB	Lobatse	81.05	114	*e*P		P	13 19 05.7 -0.3
	comp=Z,39nm,0.8s						
LBTB				*ep*P		pP	13 19 14.1 -1.2
LBTB	Lobatse	81.05	114	⇑*i*P		P	13 19 05.9 -0.1
LBTB				AMB		AMB	13 19 06.6
	comp=Z,42nm,1.1s						
O18A	Roosevelt	81.12	330	⇑P		P	13 19 06.9 +0.9
	baz=81,SNR=18						
K24A	Anderson Ranch	81.13	334	⇑P		P	13 19 07.2 +1.3
	baz=82,SNR=6.8						
L22A	Ellis Ranch, M	81.15	333	⇓P		P	13 19 07.1 +1.0
	baz=82,SNR=12						
M21A	Separation Pea	81.15	332	⇑P		P	13 19 06.8 +0.6
	baz=82,SNR=20						
R13A	O'Grain Ranch,	81.23	326	⇓P		P	13 19 07.8 +1.2
	baz=82,SNR=23						
N19A	John Jarvie Ra	81.29	331	⇑P		P	13 19 07.2 +0.4
	baz=82,SNR=32						
SBC	Santa Barbara	81.29	320	⇑P		P	13 19 07.4 +0.7
	baz=82						
P16A	Fountain Green	81.31	328	⇓P		P	13 19 07.9 +0.9
	baz=82,SNR=6.1						
TORD	Torodi Ar. Bea	81.31	69	P		P	13 19 07.3 0.0
	comp=Z,30nm,0.8s,baz=255,slow=4.8,SNR=133						
TORD				LR		LR	13 51 45.2
	comp=Z,973nm,21.7s,baz=200,slow=33						
TORD	Torodi Ar. Bea	81.31	69	P		P	13 19 07.3 0.0
FURC	Furnace Creek,	81.32	323	⇓P		P	13 19 07.9 +1.1
	baz=82,SNR=8.6						
ARVC	Arvin	81.33	321	⇑P		P	13 19 07.9 +1.0
	baz=82						
MPMC	Manual Prospec	81.33	322	⇓P		P	13 19 07.9 +0.7
	baz=82,SNR=8.6						
O17A	Robinson Place	81.38	329	⇓P		P	13 19 08.2 +0.8
	baz=82,SNR=24						
M20A	Sweetwater, Wa	81.38	331	⇓P		P	13 19 08.1 +0.7
	baz=82,SNR=15						
PRYS	Parys	81.42	116	*e*P		P	13 19 07.4 -0.6
PRYS				AMB		AMB	13 19 08.3
	comp=Z,32nm,1.1s	

DAU **Daniels Canyon** 81.78 329 *e*P P 13 19 10.2 +0.5
comp=Z,28nm,1.0s
DAU *e*pP pP 13 19 19.4 +0.4
M19A **Rock Springs** 81.79 331 ⇓P P 13 19 09.9 +0.3
baz=82,SNR=10
L20A **Wamsutter** 81.88 332 ⇑P P 13 19 10.4 +0.4
baz=82,SNR=15
CWC **Cottonwood Cre** 81.92 322 ⇓P P 13 19 11.2 +0.9
baz=82
EYMN **Ely** 81.97 345 *e*P P 13 19 09.8 -0.2
comp=Z,73nm,1.3s
EYMN *e*pP pP 13 19 18.0 -1.4
K21A **Alcova** 81.98 333 ⇓P P 13 19 11.0 +0.6
baz=82,SNR=38
GRAC **Grapevine Rang** 81.99 323 ⇑P P 13 19 11.5 +1.0
baz=82
J23A **Dilts Ranch, B** 81.99 334 ⇑P P 13 19 11.2 +0.8
baz=82
VES **Vestal, Richgr** 82.00 321 ⇓P P 13 19 11.3 +0.8
baz=82,SNR=22
JLU **Jordanelle** 82.03 329 *e*P P 13 19 11.2 +0.4
comp=Z,21nm,0.9s
JLU *e*pP pP 13 19 19.8 -0.4
N17A **Moffit Pass** 82.03 330 ⇑P P 13 19 11.5 +0.7
baz=82,SNR=20
I24A **Kuemmerle Ranc** 82.05 335 ⇓P P 13 19 11.3 +0.6
baz=82,SNR=22
RSSD **Black Hills** 82.06 336 *e*P P 13 19 11.3 +0.4
RSSD *e**PP pP 13 19 20.2 0.0
RSSD pmax pmax
comp=Z,104nm,1.3s
RSSD **Black Hills** 82.06 336 *e*P P 13 19 11.3 +0.4
comp=Z,104nm,1.3s
RSSD *e*pP pP 13 19 20.2 0.0
SMMC **Simmler** 82.09 320 ⇓P P 13 19 12.4 +1.3
baz=82,SNR=6.4
M18A **Lyman** 82.11 330 ⇑P P 13 19 11.4 +0.2
baz=82
CASY **Casey** 82.11 180 *e*P P 13 19 10.8 +0.1
comp=Z,23nm,1.0s
CASY *e*pP pP 13 19 19.7 -0.3
R11A **Troy Canyon, C** 82.14 325 ⇓P P 13 19 12.7 +1.3
baz=82,SNR=43
O15A **The Old Anders** 82.22 328 ⇑P P 13 19 12.5 +0.8
baz=82
N16A **Rees Ranch, Co** 82.25 329 ⇓P P 13 19 12.6 +0.6
baz=83,SNR=10
DUG **Dugway** 82.30 328 *e*P P 13 19 12.5 +0.4
DUG *e**PP pP 13 19 21.6 +0.1
DUG pmax pmax
comp=Z,68nm,1.4s
DUG **Dugway** 82.30 328 *e*P P 13 19 12.5 +0.4
comp=Z,68nm,1.4s
DUG *e*pP pP 13 19 21.6 +0.1
DUG **Dugway** 82.30 328 ⇓P P 13 19 12.6 +0.5
baz=83,SNR=27
J22A **Midwest** 82.34 334 ⇓P P 13 19 12.3 0.0
baz=83,SNR=36
L19A **Farson** 82.37 331 ⇓P P 13 19 13.0 +0.4
baz=83,SNR=43
ERPM **east rand prop** 82.40 116 *e*P P 13 19 13.8 +0.6
ERPM AMB AMB 13 19 14.7
comp=Z,28nm,1.5s
M17A **Scullys Gap (B** 82.40 330 ⇑P P 13 19 12.5 -0.2
baz=83,SNR=6.7
K20A **Yellowstone Ra** 82.43 332 ⇓P P 13 19 12.8 0.0
baz=83,SNR=19
I23A **Meade Ranch, G** 82.44 335 ⇑P P 13 19 13.0 +0.2
baz=83
RCTC **Rector, Farmer** 82.44 321 ⇓P P 13 19 12.8 +0.1
baz=83
TIN **Tinemaha** 82.47 323 ⇑P P 13 19 13.8 +0.7
baz=83
L18A **Fontenelle, Gr** 82.51 331 ⇑P P 13 19 13.5 +0.2
baz=83,SNR=22
J21A **Lysite** 82.66 333 ⇓P P 13 19 14.2 +0.2
baz=83,SNR=11
N15A **Stansbury Isla** 82.73 328 ⇓P P 13 19 14.3 0.0
baz=83
K19A **Absolon Red Bu** 82.77 332 ⇓P P 13 19 14.5 0.0
baz=83,SNR=25
H24A **Dirks Ranch, A** 82.79 335 ⇓P P 13 19 14.6 +0.1
baz=83,SNR=46
J20A **Shoshoni** 82.91 333 ⇑P P 13 19 15.9 +0.7
baz=83,SNR=36
H23A **Clabaugh Cattl** 82.93 335 ⇓P P 13 19 15.2 -0.1
baz=83
I21A **Big Trails, Te** 82.99 333 ⇓P P 13 19 15.6 0.0
baz=83,SNR=38
L17A **Cokeville** 83.00 330 ⇓P P 13 19 15.5 -0.3
baz=83,SNR=9.6
PDAR **Pinedale Array** 83.01 331 P P 13 19 16.3 +0.4
comp=Z,14nm,1.0s,baz=142,slow=4.6,SNR=38
PDAR PKKP PKKPbc 13 37 35.7 -3.9
comp=Z,0.5nm,0.7s,baz=160,slow=2.9,SNR=3.8
PDAR LR LR 13 53 17.7
comp=Z,241nm,18.3s,baz=40,slow=34
PDAR **Pinedale Array** 83.01 331 P P 13 19 16.3 +0.4
PDAR PKKP PKKPbc 13 37 35.7 -3.9
K18A **Toltan Ranch,** 83.10 331 ⇑P P 13 19 17.0 +0.7
baz=83,SNR=42
M15A **Larsen Ranch,** 83.16 329 ⇑P P 13 19 16.7 +0.2
baz=84,SNR=11
L16A **Fish Haven** 83.17 330 ⇑P P 13 19 16.7 0.0
baz=84,SNR=18
J19A **Crowheart** 83.22 332 ⇑P P 13 19 17.2 +0.3
baz=84,SNR=44
MLAC **Mammoth Lakes** 83.22 323 ⇓P P 13 19 17.9 +0.8
baz=84,SNR=15
G24A **Alzada** 83.25 336 ⇑P P 13 19 17.0 +0.1
baz=84,SNR=30
H22A **Clearmont** 83.31 334 ⇓P P 13 19 17.1 -0.1
baz=84,SNR=20
AGMN **Agassiz Nation** 83.33 342 *e*P P 13 19 17.3 +0.2
comp=Z,42nm,0.8s
AGMN *e*pP pP 13 19 25.6 -0.8
I20A **Worland** 83.43 333 ⇑P P 13 19 18.2 +0.4
baz=84,SNR=30
NV11 **Mina Array Sit** 83.48 323 *e*P P 13 19 18.8 +0.5
NVAR **Mina Array Bea** 83.56 323 P P 13 19 19.6 +0.8
comp=Z,14nm,0.9s,baz=148,slow=5.3,SNR=52
NVAR **Mina Array Bea** 83.56 323 P P 13 19 19.6 +0.8
K17A **Gardner Place,** 83.56 330 ⇓P P 13 19 18.5 -0.1
baz=84,SNR=11
HVU **Hansel Valley** 83.56 329 *e*P P 13 19 18.6 -0.1
HVU *e**PP pP 13 19 27.7 -0.3
HVU pmax pmax
comp=Z,32nm,0.9s
HVU **Hansel Valley** 83.56 329 *e*P P 13 19 18.6 -0.1
comp=Z,32nm,0.9s
HVU *e*pP pP 13 19 27.7 -0.3
J18A **Kendall Valley** 83.57 331 ⇑P P 13 19 18.7 -0.1
baz=84,SNR=34
L15A **Malad City** 83.58 329 ⇓P P 13 19 18.7 0.0
baz=84,SNR=24
H21A **Big Horn, Sher** 83.59 334 ⇓P P 13 19 18.4 -0.3
baz=84,SNR=14
AHID **Auburn Hatcher** 83.65 330 *e*P P 13 19 19.8 +0.7
comp=Z,56nm,1.3s
AHID *e*pP pP 13 19 28.0 -0.4
F24A **Ekalaka** 83.71 336 ⇑P P 13 19 19.2 0.0
baz=84,SNR=14
G22A **Birney** 83.82 335 ⇓P P 13 19 19.8 -0.1
baz=84,SNR=19
I19A **Meeteetse** 83.84 332 ⇓P P 13 19 20.3 +0.2
baz=84,SNR=12
ELK **Elko** 83.86 327 *e*P P 13 19 20.2 -0.1
ELK *e*pP pP 13 19 29.6 -0.1
I18A **Diamond G Ranc** 83.89 332 ⇑P P 13 19 20.9 +0.5
baz=84,SNR=36
K16A **Soda Springs** 83.91 330 ⇑P P 13 19 21.1 +0.6
baz=84,SNR=28
F23A **Volborg** 83.94 335 ⇑P P 13 19 20.4 0.0
baz=84,SNR=49
MDND **Maddock** 83.95 340 ⇓P P 13 19 20.5 +0.2
baz=84,SNR=12
L14A **Malta** 83.97 329 ⇑P P 13 19 20.9 +0.1
baz=84,SNR=20
J17A **Brown Place, J** 83.97 331 ⇓P P 13 19 21.0 +0.2
baz=84,SNR=13
REDW **Red Top Meadow** 84.03 331 *e*P P 13 19 21.1 -0.1
comp=Z,18nm,0.9s
REDW *e*pP pP 13 19 30.1 -0.3
SNOW **Snow King Moun** 84.08 331 *e*P P 13 19 21.9 +0.6
comp=Z,15nm,0.7s
SNOW *e*pP pP 13 19 30.6 -0.1
G21A **Lodge Grass** 84.16 334 ⇑P P 13 19 21.6 +0.1
baz=84,SNR=21
TPAW **Teton Pass** 84.18 331 *e*P P 13 19 21.9 0.0
comp=Z,36nm,1.3s
K15A **Arbon** 84.19 329 ⇓P P 13 19 22.0 +0.1
baz=84,SNR=22
RRI2 **Red Ridge** 84.22 331 *e*P P 13 19 21.6 -0.5
comp=Z,14nm,0.7s
J16A **Bone** 84.28 330 ⇓P P 13 19 22.5 +0.2
baz=85,SNR=16
E24A **Baker** 84.28 337 ⇑P P 13 19 22.5 +0.4
baz=85,SNR=9.3
F22A **Rosebud** 84.29 335 ⇓P P 13 19 22.2 +0.1
baz=85,SNR=14
CMB **Columbia Colle** 84.33 322 *e*P P 13 19 21.5 -1.0
CMB pmax pmax
comp=Z,35nm,1.3s
CMB **Columbia Colle** 84.33 322 *e*P P 13 19 21.5 -1.0
comp=Z,35nm,1.3s
K14A **Jones Ranch, D** 84.36 329 ⇓P P 13 19 22.7 0.0
baz=85,SNR=9.8
DCID1 **Drake Creek** 84.36 331 *e*P P 13 19 23.5 +0.8
comp=Z,67nm,1.2s
H19A **Powell** 84.37 333 ⇑P P 13 19 22.9 +0.2
baz=85,SNR=15
I17A **Pilgrim Ck.** 84.38 331 ⇓P P 13 19 23.5 +0.6
baz=85,SNR=19
IMW **Indian Meadow** 84.51 331 *e*P P 13 19 23.7 +0.1
comp=Z,41nm,1.0s
IMW *e*pP pP 13 19 32.4 -0.5
G20A **Bridger** 84.54 334 ⇑P P 13 19 23.4 -0.1
baz=85,SNR=39
FLWY **Flagg Ranch** 84.56 331 *e*P P 13 19 23.1 -0.6
comp=Z,23nm,0.7s
E23A **Ismay** 84.57 336 ⇑P P 13 19 23.2 -0.3
baz=85,SNR=7.9
F21A **Absaloka Mine,** 84.64 334 ⇑P P 13 19 24.0 +0.1
baz=85,SNR=11
H18A **Shoshone NF, C** 84.64 332 ⇓P P 13 19 24.1 0.0
baz=85,SNR=42
I16A **Newdale** 84.72 331 ⇑P P 13 19 24.7 +0.2
baz=85,SNR=16
J15A **Blackfoot** 84.73 330 ⇑P P 13 19 25.0 +0.5
baz=85,SNR=20
E22A **Miles City** 84.75 336 ⇑P P 13 19 24.3 -0.1
baz=85
D24A **Glendive** 84.77 337 ⇓P P 13 19 24.9 +0.4
baz=85,SNR=5.4
LKWY **Lake** 84.84 332 *e*P P 13 19 26.8 +1.6
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY **Lake** 84.84 332 *e*P P 13 19 26.8 +1.6
comp=Z,12nm,0.9s
RLMT **Red Lodge** 84.86 333 *e*P P 13 19 25.2 0.0
comp=Z,25nm,0.8s
RLMT *e*pP pP 13 19 34.6 0.0
YFT **Old Faithful** 84.92 332 *e*P P 13 19 27.6 +1.9
comp=Z,33nm,1.1s
WCN **Washoe City** 84.95 323 *e*P P 13 19 26.5 +0.7
WCN *e**PP pP 13 19 35.5 +0.3
WCN pmax pmax
comp=Z,22nm,1.3s
WCN **Washoe City** 84.95 323 *e*P P 13 19 26.5 +0.7
comp=Z,22nm,1.3s
WCN *e*pP pP 13 19 35.5 +0.3
F20A **Billings** 85.00 334 ⇑P P 13 19 25.7 0.0
baz=85,SNR=8.2
YNR **Norris Junctio** 85.08 332 *e*P P 13 19 27.5 +1.1
comp=Z,14nm,0.9s
G18A **Lazy EL Ranch,** 85.14 333 ⇓P P 13 19 26.6 0.0
baz=86,SNR=31
ULM **Lac du Bonnet** 85.14 343 P P 13 19 26.3 +0.1
comp=Z,29nm,0.9s,baz=163,slow=4.6,SNR=43
ULM **Lac du Bonnet** 85.14 343 P P 13 19 26.3 +0.1
YMR **Madison River** 85.16 332 *e*P P 13 19 27.6 +0.8
comp=Z,66nm,0.9s
C24A **Savage** 85.17 337 ⇑P P 13 19 27.0 +0.6
baz=86,SNR=9.7
E21A **Keefer Ranch,** 85.23 335 ⇑P P 13 19 27.2 +0.3
baz=86,SNR=15
I15A **Monteview** 85.24 330 ⇑P P 13 19 27.9 +0.8
baz=86,SNR=16
H16A **Russell Place,** 85.30 331 ⇓P P 13 19 28.0 +0.5
baz=86,SNR=13
F19A **Roth Farm, Mol** 85.35 333 ⇑P P 13 19 27.6 0.0
baz=86,SNR=28
D22A **Cougen** 85.44 336 ⇑P P 13 19 28.2 +0.4
baz=86,SNR=11
QLMT **Earthquake Lak** 85.48 331 *e*P P 13 19 29.6 +1.3
comp=Z,4.6nm,1.2s
QLMT *e*pP pP 13 19 38.3 +0.6
J13A **Cove Ranch, Pi** 85.48 329 ⇓P P 13 19 29.0 +0.7
baz=86,SNR=41
GCMT **Greycliff** 85.57 333 *e*P P 13 19 28.9 +0.2
comp=Z,48nm,1.4s
GCMT *e*pP pP 13 19 36.4 -1.6
E20A **Meyer Farm, Mu** 85.59 334 ⇓P P 13 19 28.9 +0.3
baz=86,SNR=51
G17A **Pierce Place,** 85.60 332 ⇓P P 13 19 29.3 +0.4
baz=86
D21A **La Casta Ranch** 85.65 335 ⇑P P 13 19 29.2 +0.3
baz=86,SNR=15
C23A **Lambert** 85.66 337 ⇑P P 13 19 29.3 +0.3
baz=86,SNR=20
F18A **Big Timber** 85.68 333 ⇑P P 13 19 29.4 +0.2
baz=86,SNR=31
HLID **Hailey** 85.72 329 *e*P P 13 19 30.2 +0.7
comp=Z,46nm,1.1s
HLID *e*pP pP 13 19 39.1 +0.2
HLID LR LR
comp=Z,399nm,19.0s
HLID **Hailey** 85.72 329 ⇓P P 13 19 30.4 +0.9
baz=86,SNR=44
E19A **Rath Farm, Rou** 85.80 334 ⇑P P 13 19 30.0 +0.3
baz=86,SNR=54
H15A **Lima** 85.80 331 ⇓P P 13 19 30.9 +1.0
baz=86,SNR=13
C22A **Vida** 85.85 336 ⇑P P 13 19 30.1 +0.2
baz=86,SNR=15
I13A **Wildhorse Cree** 85.87 329 ⇑P P 13 19 31.3 +1.0
baz=86,SNR=56
MSNA **Messina** 85.89 114 *e*P P 13 19 31.6 +0.7
MSNA AMB AMB 13 19 32.3
comp=Z,37nm,1.3s
DGMT **Dagmar** 85.91 338 *e*P P 13 19 30.9 +0.7
comp=Z,118nm,0.8s
DGMT *e*pP pP 13 19 39.5 -0.1
DGMT **Dagmar** 85.91 338 ⇑P P 13 19 30.7 +0.5
baz=86,SNR=6.2
G16A **Moss Hill, Enn** 85.95 331 ⇑P P 13 19 30.8 +0.2
baz=86,SNR=8.1
F17A **Fitzpatrick Pl** 86.05 332 ⇑P P 13 19 31.6 +0.5
baz=86,SNR=11
MCMT **McKenzie Canyo** 86.06 331 *e*P P 13 19 32.1 +0.8
comp=Z,26nm,0.8s
MCMT *e*pP pP 13 19 41.1 +0.4
D20A **Manuel Ranch,** 86.09 335 ⇓P P 13 19 31.3 +0.2
baz=86,SNR=17
H14A **Leadore** 86.11 330 ⇑P P 13 19 32.2 +0.7
baz=86,SNR=20
B23A **Brockton** 86.17 337 ⇑P P 13 19 31.9 +0.5
baz=86,SNR=11
G15A **Dillon** 86.18 331 ⇓P P 13 19 32.1 +0.3
baz=86,SNR=20
BOZ **Bozeman (W)** 86.23 332 *e*P P 13 19 31.9 -0.1
BOZ *e**PP pP 13 19 40.7 -0.6
BOZ pmax pmax
comp=Z,16nm,1.1s
BOZ **Bozeman (W)** 86.23 332 *e*P P 13 19 31.9 -0.1
comp=Z,16nm,1.1s
BOZ *e*pP pP 13 19 40.7 -0.6
MFID **Camas Ranch** 86.23 328 *e*P P 13 19 32.3 +0.3
comp=Z,36nm,1.3s
MFID **Camas Ranch** 86.23 328 ⇓P P 13 19 32.3 +0.3
baz=86,SNR=12
A24A **Westby** 86.25 338 ⇓P P 13 19 32.2 +0.3
baz=87,SNR=12
E18A **Harlowton** 86.31 333 ⇓P P 13 19 32.5 +0.1
baz=87,SNR=22
F16A **Kennard Place,** 86.34 332 ⇑P P 13 19 32.7 +0.2
baz=87,SNR=8.8
C21A **Desert Coulee** 86.34 336 ⇑P P 13 19 32.3 0.0
baz=87,SNR=30
B22A **Reddig Ranch S** 86.36 336 ⇑P P 13 19 32.7 +0.2
baz=87,SNR=39
DLMT **Dillon** 86.39 331 *e*P P 13 19 33.0 +0.2
comp=Z,52nm,1.3s
DLMT *e*pP pP 13 19 42.3 +0.2
D19A **Cripps Ranch,** 86.42 334 ⇓P P 13 19 32.6 -0.1
baz=87,SNR=19
SCHQ **Schefferville** 86.43 1 P P 13 19 32.1 -0.4
comp=Z,46nm,1.2s,baz=157,slow=4.6,SNR=28
SCHQ **Schefferville** 86.43 1 *e*P P 13 19 31.9 -0.7
comp=Z,87nm,1.4s
SCHQ *e*pP pP 13 19 40.9 -1.0
H13A **Challis** 86.44 330 ⇓P P 13 19 33.5 +0.4
baz=87,SNR=60
A23A **Redstone** 86.56 337 ⇑P P 13 19 33.8 +0.5
baz=87,SNR=9.7
C20A **Veseth Ranch,** 86.56 335 ⇑P P 13 19 33.2 -0.2
baz=87,SNR=16
E17A **Martinsdale** 86.59 333 ⇓P P 13 19 33.9 +0.2
baz=87,SNR=15
G14A **Jackson** 86.65 330 ⇓P P 13 19 34.6 +0.4
baz=87,SNR=15
H12A **Diamond D Ranc** 86.69 329 ⇑P P 13 19 34.6 +0.3
baz=87,SNR=16
LRM **Limekiln Ridge** 86.70 331 *e*P P 13 19 34.8 +0.4
comp=Z,238nm,0.9s
LRM *e*pP pP 13 19 43.9 +0.1
F15A **Butte** 86.73 331 ⇑P P 13 19 34.9 +0.4
baz=87,SNR=30
D18A **Linhart Farms,** 86.79 334 ⇓P P 13 19 34.9 +0.2
baz=87,SNR=37
B21A **Ellsworth Farm** 86.82 336 ⇓P P 13 19 34.7 0.0
baz=87,SNR=20
G13A **Cobalt** 86.86 330 ⇑P P 13 19 35.6 +0.6
baz=87,SNR=44
A22A **Carney Farms,** 86.93 337 ⇑P P 13 19 35.6 +0.4
baz=87,SNR=41
C19A **Slack Wire Ran** 86.96 334 ⇓P P 13 19 35.4 0.0
baz=87,SNR=23
E16A **East Helena** 86.97 332 ⇓P P 13 19 36.0 +0.4
baz=87,SNR=26
F14A **Wisdom** 87.07 331 ⇓P P 13 19 36.9 +0.8
baz=87,SNR=44
D17A **Six Diamond Ra** 87.09 333 ⇓P P 13 19 36.5 +0.3
baz=87,SNR=73
MOD **Modoc** 87.18 324 *e*P P 13 19 37.0 +0.3
comp=Z,28nm,0.8s
MOD *e*pP pP 13 19 46.3 +0.2
B20A **Solberg Farm,** 87.19 335 ⇑P P 13 19 36.4 0.0
baz=88,SNR=17
E15A **Deer Lodge** 87.27 332 ⇑P P 13 19 37.4 +0.4
baz=88,SNR=16
D16A **Dana Ranch, Ca** 87.33 333 ⇓P P 13 19 37.7 +0.5
baz=88,SNR=40
WDC **Whiskeytown Da** 87.34 322 *e*P P 13 19 37.0 -0.3
WDC *e**PP pP 13 19 45.2 -1.5
WDC pmax pmax
comp=Z,8.0nm,0.6s
WDC **Whiskeytown Da** 87.34 322 *e*P P 13 19 37.0 -0.3
comp=Z,7.8nm,0.6s
WDC *e*pP pP 13 19 45.2 -1.5
J08A **Circle Bar Ran** 87.40 326 P P 13 19 38.6 +0.9
F13A **Darby** 87.45 330 ⇓P P 13 19 38.1 +0.1
baz=88,SNR=27
EGMT **Eagleton** 87.47 334 *e*P P 13 19 37.4 -0.5
comp=Z,34nm,0.9s
EGMT *e*pP pP 13 19 46.6 -0.7
EGMT **Eagleton** 87.47 334 ⇓P P 13 19 37.7 -0.1
baz=88,SNR=22
C17A **Wharram Farm,** 87.52 333 ⇑P P 13 19 38.0 -0.2
baz=88,SNR=32
A20A **Cobblestone Ra** 87.53 336 ⇑P P 13 19 38.0 0.0
baz=88,SNR=34
B19A **Brinkman Farms** 87.53 335 ⇓P P 13 19 38.2 +0.1
baz=88,SNR=21
E14A **Clinton** 87.61 331 ⇓P P 13 19 39.4 +0.7
baz=88,SNR=15
D15A **Lincoln** 87.72 332 ⇓P P 13 19 39.5 +0.4
baz=88,SNR=22
B18A **Beardsley Farm** 87.78 334 ⇓P P 13 19 39.4 0.0
baz=88,SNR=40
A19A **Klindworth Far** 87.86 335 ⇑P P 13 19 39.5 -0.2
baz=88,SNR=22
CHMT **Chamberlain Mo** 87.91 332 *e*P P 13 19 40.4 +0.2
comp=Z,10nm,0.9s
CHMT *e*pP pP 13 19 49.4 -0.2
E13A **Victor** 87.92 331 ⇓P P 13 19 40.6 +0.5
baz=88,SNR=27
BMO **Blue Mountains** 88.01 328 *e*P P 13 19 40.6 +0.1
comp=Z,14nm,1.2s
BMO *e*pP pP 13 19 49.5 -0.5
B17A **L&G Farms, Che** 88.08 334 ⇓P P 13 19 40.6 -0.2
baz=88,SNR=24
MSO **Missoula** 88.12 331 *e*P P 13 19 42.0 +0.9
comp=Z,18nm,1.3s
HOG **Hogback Mounta** 88.13 324 P P 13 19 42.3 +1.0
LSZ **Lusaka** 88.22 107 *e*P P 13 19 43.2 +0.8
comp=Z,53nm,1.5s
LSZ *e*pP pP 13 19 52.5 +0.7
LSZ **Lusaka** 88.22 107 *e*P P 13 19 43.6 +1.2
A18A **Metzger Ranch,** 88.25 335 ⇓P P 13 19 41.2 -0.3
baz=89,SNR=33
SLMT **Seeley Lake** 88.27 332 *e*P P 13 19 42.0 +0.1
comp=Z,21nm,0.8s
SLMT *e*pP pP 13 19 51.0 -0.3
C15A **Salmond Ranch,** 88.35 332 ⇓P P 13 19 42.4 +0.3
baz=89,SNR=37
B16A **M & M Farms, S** 88.52 333 ⇑P P 13 19 42.5 -0.3
baz=89,SNR=14
D13A **Huson** 88.55 331 ⇑P P 13 19 43.4 +0.4
baz=89,SNR=24
A17A **Triple J Farms** 88.58 334 ⇓P P 13 19 43.0 -0.1
baz=89,SNR=44
SWMT **Swartz Lake** 88.69 332 *e*P P 13 19 42.8 -0.9
comp=Z,7.8nm,0.8s
SWMT *e*pP pP 13 19 53.0 -0.2
B15A **Bradely Ranch,** 88.77 333 ⇑P P 13 19 43.5 -0.5
baz=89,SNR=30
JTMT **Jette** 89.00 331 P P 13 19 44.3 -0.9
comp=Z,17nm,1.5s
JTMT *e*pP pP 13 19 54.5 -0.1
C13A **Hot Springs** 89.06 331 ⇓P P 13 19 45.6 +0.2
baz=89,SNR=12
B14A **Marquette Ranc** 89.09 332 ⇓P P 13 19 45.3 -0.3
baz=89,SNR=7.9
BLMT **Blacktail Moun** 89.24 332 *e*P P 13 19 47.0 +0.6
comp=Z,26nm,0.9s
BLMT *e*pP pP 13 19 55.6 -0.2
VIPM **Ingram Point** 89.28 326 P P 13 19 48.1 +1.4
VIPM **Ingram Point** 89.28 326 P P 13 19 48.1 +1.4
BSMT **Bassoo Peak** 89.29 331 *e*P P 13 19 46.8 +0.2
comp=Z,26nm,1.3s
BSMT *e*pP pP 13 19 56.0 -0.1
A15A **Johnson Ranch,** 89.38 333 ⇓P P 13 19 46.3 -0.6
baz=90
B13A **Whitefish** 89.57 332 ⇑P P 13 19 47.6 -0.2
baz=90,SNR=5.3
A14A **Double T Ranch** 89.64 333 ⇓P P 13 19 47.9 -0.2
baz=90,SNR=8.8
WALA **Waterton Lakes** 89.90 332 *e*P P 13 19 49.4 0.0
comp=Z,1.5nm,1.2s
WALA *e*pP pP 13 19 58.5 -0.3
BROR **Big Rock Looko** 89.99 325 P P 13 19 50.5 +0.8
B12A **Libby** 90.11 331 ⇑P P 13 19 50.4 +0.1
baz=90
HAWA **Hanford** 90.20 328 *e*P P 13 19 50.8 +0.2
comp=Z,18nm,0.9s
HAWA *e*pP pP 13 20 00.0 0.0
A12A **Yaak River Ran** 90.50 331 ⇓P P 13 19 52.1 0.0
baz=91
NEW **Newport** 90.58 330 LR LR 13 58 30.8
comp=Z,291nm,18.2s,baz=242,slow=34
NEW **Newport** 90.58 330 ⇓P P 13 19 51.8 -0.7
baz=91
OD2 **Odessa Site #2** 90.59 329 P P 13 19 53.1 +0.6
FFC **Flin Flon** 90.78 342 *e*P P 13 19 52.6 -0.5
FFC *e**PP pP 13 20 01.3 -1.2
FFC pmax pmax
comp=Z,17nm,0.9s
FFC **Flin Flon** 90.78 342 *i*P P 13 19 53.2 +0.1
FFC **Flin Flon** 90.78 342 *e*P P 13 19 52.6 -0.5
comp=Z,17nm,0.9s
FFC *e*pP pP 13 20 01.3 -1.2
FFC **Flin Flon** 90.78 342 P P 13 19 53.7 +0.6
comp=Z,108nm,0.8s,SNR=9.1
EBG **Ellensburg** 91.06 328 P P 13 19 55.8 +1.1
ESDC **Sonseca Array** 93.47 45 P P 13 20 05.6 -0.5
comp=Z,1.7nm,0.7s,baz=231,slow=5.5,SNR=7.6
ESDC LR LR 14 00 40.1
comp=Z,396nm,18.6s,baz=155,slow=35
ESDC **Sonseca Array** 93.47 45 P P 13 20 05.6 -0.5
KEST **Kesra** 99.76 54 LR LR 14 08 22.1

comp=Z,513nm,18.4s,baz=186,slow=37
YKA Yellowknife Ar 100.86 340 P **Pdif 13 20 38.4 -0.4**
comp=Z,1.4nm,0.9s,baz=143,slow=4.4,SNR=19
YKA PKKP **PKKPdf 13 36 59.0 -0.5**
comp=Z,0.3nm,0.8s,baz=321,slow=3.2,SNR=4.4
YKA Yellowknife Ar 100.86 340 P **Pdif 13 20 38.5 -0.4**
YKA PKKP **PKKPdf 13 36 59.0 -0.5**
YKW3 Yellowknife Ar 100.92 340 *eP* **Pdif 13 20 37.9 -1.1**
comp=Z,0.1nm,1.0s
YKW3 *ep*P pP 13 20 47.7 -0.9
DZM Mont Dzumac 104.33 232 eLR LR 13 55 19.3
comp=Z,602nm,22.5s
VYHS Vyhne 111.98 46 *eP* **Pdif 13 21 31.3 +2.6**
VYHS Vyhne 111.98 46 PDIF **Pdif 13 21 31.3 +2.6**
ILAR Eielson Array 113.40 333 PKiKP **PKiKP 13 25 26.8 -0.7**
comp=Z,1.1nm,0.9s,baz=136,slow=1.0,SNR=8.7
ILAR PKKPbc **PKKPab 13 36 16.9 -0.4**
comp=Z,0.5nm,0.9s,baz=297,slow=3.7,SNR=4.4
ILAR Eielson Array 113.40 333 PKiKP **PKiKP 13 25 26.8 -0.7**
ILAR PKKPbc **PKKPab 13 36 16.9 -0.4**
CRVS Cervenica-Dubn 113.75 46 *eP* **Pdif 13 21 41.1 +4.6**
CRVS Cervenica-Dubn 113.75 46 PDIF **Pdif 13 21 41.0 +4.6**
HFS Hagfors 113.80 33 PKKPbc PKKPbc 13 36 17.1 +4.7
comp=Z,2.5nm,0.8s,baz=58,slow=3.6,SNR=4.5
HFS Hagfors 113.80 33 PKKPbc PKKPbc 13 36 17.1 +4.7
UZH Uzhgorod 114.16 47 *e*PKIKP PKPdf 13 25 35.3 +5.9
KOLS Kolonicke sedl 114.26 46 *eP* **Pdif 13 21 46.4 +7.6**
KOLS Kolonicke sedl 114.26 46 PDIF **Pdif 13 21 46.4 +7.6**
BRTR Keskin Array B 118.79 59 PKP **PKPdf 13 25 37.7 -1.2**
comp=Z,2.2nm,0.8s,baz=212,slow=3.2,SNR=8.0
BRTR Keskin Array B 118.79 59 PKP **PKPdf 13 25 37.7 -1.2**
AKASG Malin Array Be 119.09 46 PKP **PKPdf 13 25 37.5 -1.3**
comp=Z,1.8nm,0.6s,baz=267,slow=1.8,SNR=6.3
AKASG Malin Array Be 119.09 46 PKIKP **PKPdf 13 25 37.5 -1.3**
AKASG Malin Array Be 119.09 46 PKP **PKPdf 13 25 37.5 -1.3**
VSU Vasula 119.64 37 *i* PKIKP **PKPdf 13 25 38.8 -0.8**
VSU MLR MLR
comp=Z,275nm,24.0s
FINES FINESS Array B 119.98 34 PKP **PKPdf 13 25 39.8 -0.4**
comp=Z,1.2nm,0.7s,baz=321,slow=1.8,SNR=4.6
FINES PKKPbc **PKKPab 13 35 48.9 +0.2**
comp=Z,5.4nm,1.1s,baz=320,slow=4.1,SNR=4.0
FINES FINESS Array B 119.98 34 PKP **PKPdf 13 25 39.8 -0.4**
FINES PKKPbc **PKKPab 13 35 48.9 +0.2**
AS31 Alice Springs 120.44 205 *e*PKPdf **PKPdf 13 25 40.7 -1.8**
ASAR Alice Springs 120.44 205 PKP **PKPdf 13 25 41.0 -1.5**
comp=Z,3.5nm,0.7s,baz=134,slow=1.6,SNR=54
ASAR PKKPbc **PKKPbc 13 35 48.1 -0.1**
comp=Z,1.2nm,0.6s,baz=340,slow=3.5,SNR=24
ASAR Alice Springs 120.44 205 PKP **PKPdf 13 25 41.0 -1.5**
ASAR PKKPbc **PKKPbc 13 35 48.1 -0.1**
ARCES ARCESS Array B 121.17 24 PKP **PKPdf 13 25 42.3 -0.1**
comp=Z,1.7nm,0.8s,baz=224,slow=3.8,SNR=3.9
ARCES ARCESS Array B 121.17 24 PKP **PKPdf 13 25 42.3 -0.1**
TNA Tin City 122.12 331 *e*PKPdf **PKPdf 13 25 45.3 +1.1**
TNA *ep*PKPdf **pPKPdf 13 25 54.5 +0.6**
ANN Anapa 122.94 54 *i* PKIKP PKPdf 13 25 51.9 +5.5
ANN *e* 13 32 51.6
ANN *e*SS SS 13 44 32.9 +25
ANN pmax pmax
comp=Z,73nm,1.3s
WRA Warramunga Arr 123.68 207 PKP **PKPdf 13 25 47.5 -1.3**
comp=Z,6.4nm,0.5s,baz=162,slow=1.6,SNR=142
WRA PKKPbc **PKKPbc 13 35 36.0 +0.3**
comp=Z,1.1nm,0.6s,baz=342,slow=4.4,SNR=15
WRA PKKPab PKKPab 13 35 44.8 +6.2
comp=Z,1.0nm,0.6s,baz=343,slow=4.5,SNR=10
WRA Warramunga Arr 123.68 207 PKP **PKPdf 13 25 47.5 -1.3**
WRA PKKPbc **PKKPbc 13 35 36.0 +0.3**
WRA PKKPab PKKPab 13 35 44.8 +6.2
WRAB Tennant Creek 123.68 207 *e*PKIKP **PKPdf 13 25 47.1 -1.7**
WRAB Tennant Creek 123.68 207 *e*PKPdf **PKPdf 13 25 47.1 -1.7**
OBN Obninsk 124.34 42 ⇑ *i* PKIKP **PKPdf 13 25 49.0 +0.2**
OBN *e* 13 32 57.3
OBN pmax pmax
comp=Z,34nm,1.2s
VSR Storozhevoye 125.34 47 *e*PKIKP **PKPdf 13 25 50.5 -0.3**
VORD Divnogorie 125.38 47 *e*PKIKP **PKPdf 13 25 50.5 -0.4**
PMG Port Moresby 126.12 227 PKP **PKPdf 13 25 52.5 -1.0**
comp=Z,2.8nm,0.5s,baz=226,slow=1.2,SNR=4.0
PMG Port Moresby 126.12 227 PKP **PKPdf 13 25 52.5 -1.0**
PMG Port Moresby 126.12 227 PKP **PKPdf 13 25 53.0 -0.5**
KLMR Klimovskoe 126.37 35 *e*PKIKP **PKPdf 13 25 51.3 -1.2**
KLMR pmax pmax
comp=Z,37nm,1.3s
KIV Kislovodsk 126.42 56 *i* PKIKP **PKPdf 13 25 54.1 +0.8**
KIV MLR MLR
comp=Z,144nm,21.0s
KBZ Khabaz 126.53 57 PKP **PKPdf 13 25 53.1 -0.2**
comp=Z,1.8nm,0.3s,baz=242,slow=3.2,SNR=4.5
KBZ Khabaz 126.53 57 PKIKP **PKPdf 13 25 53.2 -0.2**
KBZ Khabaz 126.53 57 PKP **PKPdf 13 25 53.1 -0.2**
VRHR Novokhopersk 126.86 47 *e*PKIKP **PKPdf 13 25 53.4 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
ZEI Tsey 127.05 58 *i* PKIKP **PKPdf 13 25 54.2 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
FITZ Fitzroy Crossi 128.24 198 PKP **PKPdf 13 25 56.9 -0.6**
comp=Z,6.2nm,0.8s,baz=213,slow=5.4,SNR=14
FITZ Fitzroy Crossi 128.24 198 PKP **PKPdf 13 25 56.9 -0.6**
FITZ *e*PKPdf **PKiKP 13 25 57.1 -1.0**
FITZ *ep*PKPdf **pPKPdf 13 26 06.1 -1.1**
JAY Jayapura 135.47 225 PKP PKPdf 13 26 03.2 -8.1
ARU Arti 136.67 40 *i* PKIKP **PKPdf 13 26 12.5 +0.4**
ARU 13 28 50.3
ARU Arti 136.67 40 *e*PKPdf **PKPdf 13 26 12.7 +0.5**
SVE Sverdlovsk 137.69 39 *e*PKIKP **PKPdf 13 26 14.9 +0.9**
SVE pmax pmax
comp=Z,13nm,1.3s
AB31 Akbulak array 138.58 50 *i* PKHKP PKPpre 13 26 06.4
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 138.58 50 *e*PKPpre PKPpre 13 26 06.4
ABKAR *e*PKPdf **PKPdf 13 26 15.6 -0.2**
ABKAR *ep*PKPdf pPKPdf 13 26 24.8 -0.8
SEY Seymchan 139.34 332 ⇓ *i* PKIKP **PKPdf 13 26 17.9 +1.1**
PWJI Pagerwojo 140.27 182 PKP pPKPdf 13 26 39.3 +10
PETK Petropavlovsk- 140.32 316 PKP **PKPdf 13 26 19.1 +0.2**
comp=Z,5.3nm,0.8s,baz=118,slow=4.6,SNR=4.0
PETK Petropavlovsk- 140.32 316 PKIKP **PKPdf 13 26 19.1 +0.2**
PETK Petropavlovsk- 140.32 316 PKP **PKPdf 13 26 19.1 +0.2**
CISI Cisompet, Garu 140.65 175 PKP **PKPdf 13 26 19.5 -1.4**
AAI Ambon 140.88 208 PKP **PKPdf 13 26 16.5 -4.7**
MSAI Masohi 140.88 210 PKP **PKPdf 13 26 20.4 -0.8**
BKSI Bulukumba 141.89 195 PKP **PKPdf 13 26 22.1 -0.9**
TNG Tangerang 141.92 173 PKP pPKPdf 13 26 40.4 +7.7
KAPI Kappang 142.27 195 PKhKP PKPpre 13 26 18.1
comp=Z,7.3nm,0.9s,baz=297,slow=2.3,SNR=4.2
KAPI Kappang 142.27 195 *e*PKPpre PKPpre 13 26 15.0
KAPI PKPpre PKPpre 13 26 18.1
KAPI Kappang 142.27 195 PKP **PKPdf 13 26 23.2 -0.5**
KASI Kota Agung 142.29 170 PKP **PKPdf 13 26 20.4 -3.3**
MNAI Manna 143.17 167 PKP PKPbc 13 26 22.9 +0.7
SPSI Sidrap Palu 143.28 195 PKP PKPbc 13 26 23.1 +0.6
GUMO Guam 143.81 248 PKhKP PKPpre 13 26 21.8
comp=Z,66nm,0.9s,baz=140,slow=2.8,SNR=4.0
GUMO Guam 143.81 248 PKPpre PKPpre 13 26 21.9
BRVK Borovoye 144.12 42 ⇓ *i* PKIKP PKPbc 13 26 24.6 +0.8
BRVK MLR MLR
comp=Z,340nm,19.0s
BRVK Borovoye 144.12 42 *e*PKPdf PKPbc 13 26 24.1 +0.3
TTSI Tana Toraja 144.16 196 PKP **PKPdf 13 26 28.1 +1.1**
BVA0 Borovoye Array 144.19 42 PKIKP PKPbc 13 26 24.0 -0.1
BVA0 pmax pmax
comp=Z,4.0nm,1.9s
BVAR Borovoye Array 144.19 42 PKP PKPbc 13 26 24.6 +0.5
comp=Z,3.7nm,0.7s,baz=280,slow=2.5,SNR=2.1
BVAR Borovoye Array 144.19 42 PKIKP PKPbc 13 26 24.6 +0.5
BVAR Borovoye Array 144.19 42 PKP PKPbc 13 26 24.6 +0.5
POO Poona 144.26 103 ⇓ *iP* **PKPab 13 26 23.0 -2.0**
comp=Z,40nm,1.0s
KBL Kabul 145.22 74 *e*PKIKP **PKPbc 13 26 27.6 -0.6**
KBL Kabul 145.22 74 *e*PKP **PKPbc 13 26 27.6 -0.6**
LUWI Luwuk 145.28 202 PKP **PKPdf 13 26 29.5 +0.5**
PPBI Pangkal Pinang 145.82 172 PKP **PKPdf 13 26 29.7 -0.2**
PLKI Palangkaraya 145.90 186 PKP **PKPab 13 26 32.5 +1.5**
PDSI Padang 145.93 161 PKP **PKPdf 13 26 29.8 -0.3**
KMSI Cibinong 146.39 204 PKP **PKPab 13 26 34.6 +1.7**

LATR Latur 146.44 105 *eP* **PKPbc 13 26 31.7 -0.4**
KK31 Karatay Array 146.51 59 *i* PKP2 **PKPdf 13 26 30.9 +0.7**
KK31 pmax pmax
comp=Z,21nm,1.0s
KKAR Karatay Array 146.51 59 *e*PKP2 **PKPbc 13 26 31.1 -0.5**
KKAR Karatay Array 146.51 59 *e*PKPbc **PKPbc 13 26 31.1 -0.5**
SMKI Samarinda 147.22 192 PKP **PKPab 13 26 36.2 0.0**
YAK Yakutsk 147.48 343 *e*PKIKP **PKPdf 13 26 31.5 +0.4**
YAK pmax pmax
comp=Z,136nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 147.48 343 *e*PKPdf **PKPdf 13 26 31.8 +0.7**
YAK *ep*PKPbc **PKPbc 13 26 34.1 +0.4**
HYB Hyderabad 147.54 109 *i* PKP **PKPdf 13 26 32.0 -0.7**
AJM Ajmer 148.15 90 *i* P **PKPdf 13 26 33.0 -0.4**
EKS2 Erkin-Say 148.94 59 *e*PKIKP **PKPdf 13 26 35.3 +0.9**
EKS2 Erkin-Say 148.94 59 *e*PKPdf **PKPdf 13 26 35.3 +0.9**
EKS2 Erkin-Say 148.94 59 P **PKPdf 13 26 35.8 +1.5**
SNR=61
AML Almayashu 148.95 60 P **PKPdf 13 26 36.0 +1.2**
SNR=42
USP Ospenovka 149.38 58 P **PKPbc 13 26 40.4 +1.0**
SNR=11
AAK Ala-Archa 149.47 59 *e*PKHKP **PKPdf 13 26 36.2 +1.0**
AAK *e* 13 26 40.6
AAK Ala-Archa 149.47 59 *e*PKPdf **PKPdf 13 26 36.2 +1.0**
AAK *e*PKPbc **PKiKP 13 26 40.6 -0.3**
AAK Ala-Archa 149.47 59 P **PKPdf 13 26 36.6 +1.3**
SNR=64
FRU Bishkek 149.53 59 *i* PKP2 **PKPbc 13 26 40.0 +0.3**
FRU pmax pmax
comp=Z,240nm,1.6s
UCH Uchtor 149.54 60 P **PKPbc 13 26 41.8 +1.5**
SNR=5.2
CHMS Chumysh 149.60 58 P **PKPbc 13 26 40.5 +0.6**
SNR=23
KHET Khetri 149.60 88 *eP* **PKPdf 13 26 35.1 -0.7**
KSM Kuching 149.71 179 *e*PKPbc **PKPbc 13 26 40.7 -0.3**
KURBB Kurchatov Arra 149.78 42 PKP **PKPdf 13 26 35.7 +0.5**
comp=Z,14nm,1.1s,baz=301,slow=3.0,SNR=23
KURBB PKPbc **PKPbc 13 26 40.1 +0.1**
comp=Z,52nm,1.1s,baz=301,slow=3.0,SNR=67
KURK Kurchatov 149.79 42 *d* PKHKP **PKPdf 13 26 36.1 +0.9**
KURK MLR MLR
comp=Z,230nm,22.0s
KURK Kurchatov 149.79 42 *e*PKPdf **PKPdf 13 26 35.5 +0.3**
KURK PKP **PKPbc 13 26 35.8 -4.3**
KURK PKPbc **PKiKP 13 26 40.1 -0.8**
KURK *e*PKPbc PKPab 13 26 40.3 -5.2
KBK Karagaybulak 149.80 59 P **PKPbc 13 26 41.4 +0.8**
SNR=26
NVS Novosibirsk 149.96 32 *i* PKHKP **PKPdf 13 26 35.0 -0.4**
NVS pmax pmax
comp=Z,148nm,1.4s
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,42nm,1.3s
BSI Banda Aceh 150.01 148 PKP **PKPbc 13 26 40.6 -1.1**
KZA Kyzart 150.10 60 P **PKPdf 13 26 39.0 +2.4**
SNR=5.2
TKM2 Tokmak 2 150.23 58 *e*PKIKP **PKPdf 13 26 37.2 +0.7**
TKM2 *e* 13 26 42.2
TKM2 Tokmak 2 150.23 58 *e*PKPdf **PKPdf 13 26 37.2 +0.7**
TKM2 *e*PKPbc **PKiKP 13 26 42.2 -0.3**
TKM2 Tokmak 2 150.23 58 P **PKPbc 13 26 42.6 +1.0**
SNR=18
SONA Sohna 150.74 88 *eP* **PKPdf 13 26 36.5 -0.9**
ULHL Ulahol 150.81 60 P **PKPbc 13 26 44.2 +1.1**
SNR=19
AYAN Aya Nagar 150.84 88 *eP* **PKPdf 13 26 37.3 -0.3**
KSH Kashi 150.93 65 *e*PKPbc **PKPdf 13 26 36.7 -0.9**
KSH *ep*PKP **PKPab 13 26 48.9 -1.9**
KSH *es*PKP 13 26 51.0
KSH PKS **PKSdf 13 30 10.4 -2.0**
KSH *e*PP **PP 13 30 23.3 +1.9**
KSH SKS **SKSdf 13 33 39.6 -3.7**
KSH SKKS **SKKSac 13 37 06.5 -3.4**
KSH SS **SS 13 49 37.0 -4.7**
KSH AMB AMB
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,320nm,22.2s
KKR Kurukshetra 150.93 85 *eP* **PKPdf 13 26 37.6 -0.1**
NDI New Delhi 150.96 88 *ex* **PKPbc 13 26 42.0 -1.6**
BISR Bishrakh 151.12 88 *eP* **PKPdf 13 26 38.2 +0.2**
AGRA Agra 151.18 91 *eP* **PKPdf 13 26 37.8 -0.4**
AGRA AMb AMB 13 26 46.6
comp=Z,29nm,0.2s
IPM Ipoh 151.22 160 *e*PKPbc **PKPbc 13 26 43.8 -0.8**
ZAA0 Zalesovo Array 151.24 32 *e*PKPdf **PKPdf 13 26 37.3 -0.1**
ZAA0 *e*PKPbc **PKPbc 13 26 43.1 -0.3**
ZALV Zalesovo Beam 151.24 32 PKP **PKPdf 13 26 37.3 -0.1**
comp=Z,1.3nm,0.6s,baz=298,slow=3.2,SNR=15
ZALV PKPbc **PKPbc 13 26 43.4 +0.1**
comp=Z,42nm,0.8s,baz=300,slow=3.0,SNR=120
ZALV Zalesovo Beam 151.24 32 PKIKP **PKPdf 13 26 37.3 -0.1**
ZALV 13 26 43.4
ZALV Zalesovo Beam 151.24 32 PKP **PKPdf 13 26 37.3 -0.1**
ZALV PKPbc **PKPbc 13 26 43.4 +0.1**
YSS Yuzh-Sakhalins 151.30 311 ⇓ *i* PKIKP **PKPbc 13 26 44.8 +1.1**
YSS *i* 13 26 53.4
YSS Yuzh-Sakhalins 151.30 311 *e*PKPbc **PKPbc 13 26 44.1 +0.3**
DDI Dehra Dun 152.05 85 *eP* **PKPdf 13 26 40.0 +0.5**
DDI *ex* x 13 27 32.5
ASAJ Asahikawa 152.27 305 PKPbc **PKPbc 13 26 45.8 -0.2**
comp=Z,23nm,0.9s,baz=166,slow=4.2,SNR=5.2
ASAJ Asahikawa 152.27 305 PKPbc **PKPbc 13 26 45.8 -0.2**
CLNS Chul'man 153.22 343 *e*PKIKP **PKPbc 13 26 47.9 +0.1**
CLNS pmax pmax
comp=Z,37nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,0.8s
MK31 Makanchi Array 153.66 47 PKIKP **PKPdf 13 26 40.5 -0.8**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 153.66 47 *e*PKPdf **PKPdf 13 26 40.9 -0.4**
MK31 *e*PKPbc **PKPbc 13 26 48.2 -0.9**
MKAR Makanchi Array 153.66 47 PKP **PKPdf 13 26 41.2 -0.1**
comp=Z,2.0nm,1.0s,baz=284,slow=2.4,SNR=14
MKAR PKPbc **PKPbc 13 26 48.6 -0.5**
comp=Z,5.6nm,0.9s,baz=302,slow=1.6,SNR=30
MKAR Makanchi Array 153.66 47 PKIKP **PKPdf 13 26 41.2 -0.1**
MKAR 13 26 48.6
MKAR Makanchi Array 153.66 47 PKP **PKPdf 13 26 41.2 -0.1**
MKAR PKPbc **PKPbc 13 26 48.6 -0.5**
BOD Bodaibo 154.01 356 *e*PKIKP **PKPdf 13 26 40.3 -1.1**
BOD pmax pmax
comp=Z,26nm,1.3s
HABR Khabarovsk 155.28 319 *e*PKIKP **PKPdf 13 26 43.0 -0.4**
HABR *e* 13 26 53.9
HABR 13 27 08.5
HABR 13 30 45.0
HABR *e* 13 33 46.9
HABR *e*SS SS 13 50 28.3 +0.5
HABR *e*SSS SSS 13 56 24.1
HABR pmax pmax
comp=E,46nm,1.4s
HABR pmax pmax
comp=N,46nm,2.8s
HABR pmax pmax
comp=Z,26nm,1.6s
MJAR Matsushiro Arr 156.84 289 PKPab **PKPab 13 27 16.1 +0.3**
comp=Z,9.8nm,0.8s,baz=96,slow=2.4,SNR=14
MJAR Matsushiro Arr 156.84 289 PKPab **PKPab 13 27 16.1 +0.3**
MAT Matsushiro 156.84 289 PKP **PKPab 13 27 16.7 +0.9**
HVS Khovu-Aksy 157.07 28 *d* iPKIKP **PKPdf 13 26 45.7 -0.1**
WMQ Urumqi 158.37 50 PKP **PKPdf 13 26 48.1 +0.4**
WMQ LR LR
comp=N,170nm,23.0s
WMQ LR LR
comp=E,220nm,24.0s
WMQ LR LR
comp=Z,200nm,19.0s
MOY Mondy 159.02 17 *e*PKIKP **PKPdf 13 26 49.6 +1.4**
IRK Irkutsk 159.16 11 *e*PKP2 **PKPab 13 27 24.2 -1.0**
IRK pmax pmax
comp=Z,31nm,0.9s
TLY Talaya 159.59 13 *i* PKIKP **PKPdf 13 26 48.0 -0.8**
TLY *e* 13 27 26.2
TLY pmax pmax
comp=Z,7.0nm,1.4s
TLY Talaya 159.59 13 *e*PKPdf **PKPdf 13 26 49.5 +0.7**
TLY *e*PKPab **PKPab 13 27 28.2 +1.1**
ZAK Zakamensk 160.75 15 *e*PKIKP **PKPdf 13 26 48.8 -1.4**
ZAK *e* 13 27 31.7
ZAK pmax pmax
comp=Z,3.0nm,1.6s
CMAR Chiang Mai Arr 162.89 139 PKP **PKPdf 13 26 53.6 +0.4**
comp=Z,7.6nm,1.0s,baz=253,slow=2.4,SNR=34
CMAR PKPab **PKPab 13 27 42.4 -0.1**
comp=Z,6.0nm,1.0s,baz=226,slow=4.2,SNR=8.8
CMAR Chiang Mai Arr 162.89 139 PKP **PKPdf 13 26 53.6 +0.4**
CMAR PKPab **PKPab 13 27 42.4 -0.1**
LSA Lhasa 163.04 92 PKIKP **PKPdf 13 26 53.6 -0.1**
LSA *e* 13 27 02.9
LSA Lhasa 163.04 92 PKPdf **PKPdf 13 26 53.6 -0.1**
LSA *ep*PKPdf **pPKPdf 13 27 02.9 -0.6**
CHTO Chiang Mai 163.18 138 *e*PKIKP **PKPdf 13 26 52.6 -0.9**
CHTO *e* 13 27 02.5
CHTO *e* 13 27 43.0
CHTO Chiang Mai 163.18 138 *e*PKPdf **PKPdf 13 26 52.6 -0.9**
CHTO *ep*PKPdf **pPKPdf 13 27 02.5 -0.8**
CHTO *e*PKPab **PKPab 13 27 43.0 -0.6**
CHTO *e*PKPab **pPKPab 13 27 51.6 -1.5**
CN2 Changchun 163.42 320 *e*PKP **PKPdf 13 26 53.1 +0.1**
CN2 *ep*PKP **pPKPdf 13 27 03.0 +0.3**
CN2 *e*PP **PP 13 31 33.0 +3.7**
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,500nm,22.0s
SONM Songino Array 163.77 10 PKPab **PKPab 13 27 45.9 +0.3**
comp=Z,4.4nm,0.7s,baz=345,slow=4.9,SNR=4.5
SONM Songino Array 163.77 10 PKPab **PKPab 13 27 45.9 +0.3**
ULN Ulaanbaatar 163.84 9 *e*PKPdf **PKPdf 13 26 52.7 -0.8**
ULN *e*PKPab **PKPab 13 27 46.5 +0.6**
ULN LR LR
comp=Z,368nm,19.0s
KSRS Korea Array 164.81 296 PKP **PKPdf 13 26 54.2 -0.2**
comp=Z,3.8nm,1.1s,baz=19,slow=1.8,SNR=12
KSRS PKPab **PKPab 13 27 51.3 +0.8**
comp=Z,4.1nm,1.1s,baz=82,slow=2.8,SNR=7.8
KSAR Wonju Array Be 164.85 296 PKP **PKPdf 13 26 54.2 -0.3**
KSAR PKPab **PKPab 13 27 51.3 +0.6**
GTA Gaotai 168.41 47 PKP **PKPdf 13 26 57.8 +0.5**
GTA pPKP **pPKPdf 13 27 08.6 +1.5**
GTA sPKP 13 27 12.2
GTA PKPab **PKPab 13 28 08.5 +2.0**
GTA PP **PP 13 31 59.7 +4.1**
GTA SKS **SKSdf 13 33 56.3 -2.8**
GTA SKKS **SKKSac 13 38 41.6 +0.8**
GTA SS **SS 13 52 45.0 -0.3**
GTA AMB AMB
comp=Z,230nm,7.8s
GTA LR LR
comp=N,180nm,19.0s
GTA LR LR
comp=E,210nm,20.0s
GTA LR LR
comp=Z,320nm,20.4s
KMI Kunming 170.25 132 PKP **PKPdf 13 26 59.5 +0.5**
KMI pPKP **pPKPdf 13 27 06.3 -2.4**
KMI sPKP 13 27 10.1
KMI PP **PP 13 32 07.5 +2.5**
KMI AMB AMB
comp=Z,160nm,5.7s
KMI LR LR
comp=N,170nm,26.5s
KMI LR LR
comp=E,190nm,25.0s
KMI LR LR
comp=Z,290nm,20.5s
BJI Beijing 170.77 333 PKP **PKPdf 13 26 58.6 +0.1**
BJI PP **PP 13 32 08.1 +1.5**
BJI LR LR
comp=Z,100nm,27.8s
LZH Lanzhou 172.94 52 *e*PKP **PKPdf 13 27 00.4 +0.5**
LZH pPKP **pPKPdf 13 27 11.0 +1.4**
LZH sPKP 13 27 14.5
LZH PP **PP 13 32 21.0 +2.6**
LZH SKS **SKSdf 13 33 58.5 -2.7**
LZH SKKS **SKKSac 13 39 03.1 0.0**
LZH SS **SS 13 53 28.0 -2.4**
LZH AMB AMB
comp=Z,270nm,8.5s
LZH LR LR
comp=Z,610nm,20.3s
NJ2 Nanjing 173.09 273 *e*PKP **PKPdf 13 27 00.0 +0.2**
GYA Guiyang 173.50 146 PKP **PKPdf 13 26 59.0 -1.4**
GYA PKPab **PKPab 13 28 30.8 +1.5**
GYA PKS **PKSdf 13 30 30.6 -2.2**
GYA PP **PP 13 32 22.0 +1.5**
GYA SKKS 13 39 04.3
GYA SS **SS 13 53 33.2 -1.4**
GYA AMB AMB
comp=Z,140nm,8.0s
GYA LR LR
comp=N,210nm,24.8s
GYA LR LR
comp=E,200nm,25.8s
GYA LR LR
comp=Z,310nm,24.9s
CD2 Chengdu 173.97 98 PKP **PKPdf 13 27 00.6 +0.3**
CD2 pPKP **pPKPdf 13 27 11.4 +1.4**
CD2 sPKP 13 27 15.0
CD2 PKPab **PKPab 13 28 33.1 +1.7**
CD2 PKS **PKSdf 13 30 31.4 -1.2**
CD2 PP **PP 13 32 26.2 +2.2**
CD2 SKS **SKSdf 13 33 59.1 -2.4**
CD2 SKKS **SKKSac 13 39 07.8 -0.4**
CD2 SS **SS 13 53 38.3 -3.1**
CD2 LR LR
comp=N,350nm,10.1s
CD2 LR LR
comp=Z,320nm,20.8s
WHN Wuhan 176.60 247 PKP **PKPdf 13 26 56.6 -4.3**
WHN PP **PP 13 32 34.4 -1.8**
WHN LR LR
comp=Z,490nm,15.9s
XAN Xi'an 177.41 35 PKP **PKPdf 13 27 00.7 -0.4**

MEX 11 13:10:45.4±1.0, 16.89N×100.17W, h4km±6km, MD3.6,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CAIG	**El Cayaco**	**0.18**	**330**	*e*P		Pg	13	10 48.5	-0.6
CAIG				*i* S		Sg	13	10 52.3	+0.8
ACX	**Acapulco**	**0.30**	**93**	*i* P		Pg	13	10 49.3	-2.0
ACX				*i* S		Sg	13	10 54.2	-1.1
MEIG	**Mezcala**	**1.16**	**27**	*e*P		Pg	13	11 04.0	-3.8
MEIG				*i* S		Sg	13	11 19.6	-3.4
ARIG	**Puente Sto Nin**	**1.40**	**353**	*i* P		Pn	13	11 08.3	-3.4
ARIG				*i* S		Sb	13	11 26.0	-4.3
ZIIG	**Zihuatanejo**	**1.43**	**300**	*i* P		Pn	13	11 08.9	-3.2
ZIIG				*i* S		Sb	13	11 26.3	-4.8
PLIG	**Platanillo**	**1.63**	**23**	*i* P		Pn	13	11 11.2	-3.8
PLIG				*i* S		Sn	13	11 32.0	-4.5
PNIG	**Pinotepa**	**2.02**	**104**	*i* P		Pn	13	11 17.9	-2.4
PNIG				*i* S		Sn	13	11 40.7	-5.3
YAIG	**Yautepec**	**2.23**	**28**	*eP*		Pn	13	11 20.8	-2.5
YAIG				*i* S		Sn	13	11 46.9	-4.6
UTMO	**Huajuapan**	**2.45**	**67**	*i* P		Pn	13	11 23.1	-3.3
UTMO				*i* S		Sn	13	11 51.9	-5.1
PPM	**Popocatepetl**	**2.62**	**34**	*i* P		Pn	13	11 25.8	-3.3
PPM				*i* S		Sn	13	11 57.0	-4.9

IDC **11** *13:12:37.2±2.2, 6.96S×130.98E, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=82.8km s-min=27.8km az=79.0*
ISCJB **11** *13:12:41.5±0.8, 7.30S±0.05×131.10E±0.09, h47km, mb3.6/1, Error ellipse: s-maj=12.7km s-min=6.0km az=14.4*
DJA **11** *13:12:43.8±0.3, 7.3S±4×13.2E±, h180km±10km, M3.6/6, mb3.5/5, mB4.8/2, MLv3.7/6, Mw(mB)4.0/2*
ISC 11 13:12:42.2±0.9, 7.16S±0.06×131.14E±0.09, h47km, n9,

σ3^{9}07/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.20**	**46**	P	**Pn**	**13 13 18.1**	**+1.8**
TLE				S	**Sn**	**13 13 45.1**	**+2.9**
BNDI	**Bandanaira**	**2.90**	**335**	P	**Pn**	**13 13 28.8**	**+2.9**
FAKI	**Fak Fak**	**4.36**	**15**	P	**Pn**	**13 13 44.3**	**-1.7**
FAKI				S	**Sn**	**13 14 29.7**	**-5.8**
MSAI	**Masohi**	**4.38**	**330**	P	Pn	13 13 51.8	+5.5
SWI	**Sorong**	**6.26**	**1**	P	Pn	13 14 08.6	-3.5
	16nm,0.7s,839nm0.1nm						
FITZ	**Fitzroy Crossi**	**12.12**	**206**	Pn	**Pn**	**13 15 34.2**	**+1.9**
	1.1nm,0.3s,baz=31,slow=12,SNR=28						
FITZ				Sn	**Sn**	**13 17 43.5**	**-2.6**
	1.0nm,0.3s,baz=286,slow=18,SNR=7.5						
WRA	**Warramunga Arr**	**13.08**	**167**	Pn	**Pn**	**13 15 46.4**	**+1.0**
	0.3nm,0.3s,baz=348,slow=13,SNR=19						
WRA				Sn	**Sn**	**13 18 08.2**	**-1.3**
	0.9nm,0.3s,baz=343,slow=24,SNR=12						
ASAR	**Alice Springs**	**16.62**	**171**	Pn	**P**	**13 16 34.5**	**+0.6**
	0.3nm,0.3s,baz=351,slow=9.9,SNR=30						
ASAR				Sn	**Sn**	**13 19 32.0**	**-3.8**
	0.2nm,0.3s,baz=0.0,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**68.98**	**326**	P	**P**	**13 23 42.9**	**+0.2**
	0.3nm,0.4s,baz=119,slow=8.1,SNR=10						

MEX 11 13:25:17.6±0.6, 17°49N×101°01W, h5^{km}±14^{km}, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**285**	*i* P	Pg	13 25 25.7	-0.7
ZIIG				*i* S	Sg	13 25 32.8	+0.6
CAIG	**El Cayaco**	**0.83**	**121**	*i* P	Pg	13 25 32.6	-1.0
CAIG				*i* S	Sg	13 25 42.2	-2.3
ARIG	**Puente Sto Nin**	**1.01**	**38**	*eP*	Pg	13 25 34.3	-2.8
ARIG				*i* S	Sg	13 25 47.8	-2.4
PLIG	**Platanillo**	**1.69**	**58**	*i* P	Pn	13 25 44.7	-3.3
PLIG				*i* S	Sn	13 26 05.3	-4.9

*DDA **11** 13:36:13.6, 40°46N×34°88E, h6^{km}, MD2.9*
*CSEM **11** 13:36:13.6, 40°46N×34°88E, h6^{km}, MD2.9, After DDA*
ISC 11 13:36:14.7±1.6, 40°47N±0°04×34°82E±0°07, h1^{km}±16^{km}, n9, σ0^{s}91/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.16**	**352**	*i* P	**Pg**	**13 36 16.8**	**-1.0**
CTKT				*i* S	**Sg**	**13 36 21.2**	**+1.3**
CTKT	**Corum**	**0.16**	**352**	*i* P	**Pg**	**13 36 16.8**	**-1.0**
CTKT				*i* S	**Sg**	**13 36 21.2**	**+1.3**
CDAG	**Cicekdag**	**0.91**	**202**	*i* P	**Pg**	**13 36 31.8**	**-0.4**
CDAG	**Cicekdag**	**0.91**	**202**	*i* P	**Pg**	**13 36 31.8**	**-0.4**
ILGA	**Ilgaz**	**1.02**	**305**	*i* P	**Pg**	**13 36 33.7**	**-0.6**
ILGA				*i* S	**Sb**	**13 36 49.9**	**+0.5**
ILGA	**Ilgaz**	**1.02**	**305**	*i* P	**Pg**	**13 36 33.7**	**-0.6**
ILGA				*i* S	**Sb**	**13 36 49.9**	**+0.5**
ELDT	**Eldivan**	**1.06**	**272**	*i* P	Pg	13 36 28.9	-6.2
ELDT				*i* S	**Sb**	**13 36 50.1**	**-0.5**
ELDT	**Eldivan**	**1.06**	**272**	*i* P	Pg	13 36 28.9	-6.2
ELDT				*i* S	**Sb**	**13 36 50.1**	**-0.5**
KVT	**Kavak**	**1.11**	**56**	*e*PN	**Pn**	**13 36 37.6**	**0.0**

*ISK **11** 13:38:23.3, 37°56N×35°54E, h20^{km}, MD2.8*
*DDA **11** 13:38:23.2, 37°59N×35°46E, h3^{km}, MD2.8*
*ISCJB **11** 13:38:24.8±0.5, 37°52N±0°05×35°51E±0°05, h26^{km}±7^{km}, Error ellipse: s-maj=9.3km s-min=5.9km az=165.6*
*CSEM **11** 13:38:24.2±0.3, 37°53N×35°49E, h20^{km}, MD2.8*
ISC 11 13:38:23.8±0.9, 37°55N±0°03×35°50E±0°03, h17^{km}±7^{km}, n19, σ0^{s}50/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.27**	**104**	*e*Pg	**Pg**	**13 38 29.6**	**-0.1**
KOZT				*e*SG	**Sg**	**13 38 33.8**	**+0.1**
KOZT	**Kozan**	**0.27**	**104**	*e*Pg	**Pg**	**13 38 29.6**	**-0.1**
KOZT				*e*Sg	**Sg**	**13 38 33.8**	**+0.1**
CEYT	**Ceyhan**	**0.57**	**160**	*e*PG	**Pb**	**13 38 35.2**	**-0.1**
CEYT				*e*SG	**Sb**	**13 38 43.9**	**+0.8**
CEYT	**Ceyhan**	**0.57**	**160**	*e*Pg	**Pb**	**13 38 35.2**	**-0.1**
CEYT				*e*Sg	**Sb**	**13 38 43.9**	**+0.8**
GULE	**Gulek**	**0.63**	**246**	*i* P	**Pg**	**13 38 36.2**	**-0.2**
GULE				*i* S	**Sn**	**13 38 47.3**	**-0.6**
GULE	**Gulek**	**0.63**	**246**	*i* P	**Pg**	**13 38 36.2**	**-0.2**
GULE				*i* S	**Sn**	**13 38 47.3**	**-0.6**
ANDN	**Andirin**	**0.67**	**87**	*i* P	**Pn**	**13 38 39.2**	**+0.6**
ANDN				*i* S	**Sn**	**13 38 48.3**	**-0.5**
ANDN	**Andirin**	**0.67**	**87**	*i* P	**Pn**	**13 38 39.2**	**+0.6**
ANDN				*i* S	**Sn**	**13 38 48.3**	**-0.5**
NIG	**Nigde**	**0.90**	**309**	*e*PG	**Pn**	**13 38 41.4**	**+0.2**
NIG	**Nigde**	**0.90**	**309**	*e*Pg	**Pb**	**13 38 41.4**	**+0.2**
MERS	**Mersin**	**1.03**	**229**	*e*PG	**Pn**	**13 38 43.5**	**0.0**
MERS	**Mersin**	**1.03**	**229**	*e*Pg	**Pn**	**13 38 43.5**	**0.0**
KMRS	**Kahramanmaras**	**1.11**	**92**	*e*PN	**Pb**	**13 38 43.9**	**-0.7**
KMRS	**Kahramanmaras**	**1.11**	**92**	*e*Pn	**Pb**	**13 38 43.9**	**-0.7**
AVNT	**Avonos**	**1.33**	**338**	*i* P	**Pn**	**13 38 47.8**	**0.0**
AVNT				*i* S	**Sg**	**13 39 06.8**	**-0.1**
AVNT	**Avonos**	**1.33**	**338**	*i* P	**Pn**	**13 38 47.8**	**0.0**
AVNT				*i* S	**Sg**	**13 39 06.8**	**-0.1**
PINB	**Pinarbasi**	**1.33**	**32**	*i* P	**Pn**	**13 38 47.6**	**-0.3**
PINB				*i* S	**Sb**	**13 39 06.4**	**+1.0**
PINB	**Pinarbasi**	**1.33**	**32**	*i* P	**Pn**	**13 38 47.6**	**-0.3**
PINB				*i* S	**Sb**	**13 39 06.4**	**+1.0**
AYKD	**Aykdinkavak**	**2.23**	**232**	*i* P	x	13 38 43.8	

IDC 11 13:45:21.3±11.0, 16°01S×178°50W, h0^{km}, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=521.4km s-min=37.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.92**	**258**	P	P	13 53 38.7	+0.4
	0.1nm,0.4s,baz=88,slow=7.0,SNR=5.5						
ASAR	**Alice Springs**	**45.25**	**252**	P	P	13 53 40.2	-0.6
	0.3nm,0.6s,baz=82,slow=8.3,SNR=8.1						
ILAR	**Eielson Array**	**84.07**	**13**	P	P	13 57 53.5	0.0
	0.1nm,0.4s,baz=202,slow=4.7,SNR=5.0						

IDC 11 13:51:10.0±6.7, 15°41S×172°98W, h0^{km}, mb3.6/3, mb1 3.9/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=306.0km s-min=23.1km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**38**	Pn	Pn	13 51 41.8	-1.8
	18nm,0.3s,baz=9.8,slow=2.8,SNR=41						
AFI				Sn	Sn	13 52 03.1	-5.2
	55nm,0.3s,baz=117,slow=18,SNR=14						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	14 00 07.8	-0.5
	0.3nm,0.4s,baz=91,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**50.49**	**252**	P	P	14 00 09.8	-0.4
	1.1nm,0.6s,baz=86,slow=8.3,SNR=28						
ILAR	**Eielson Array**	**82.38**	**11**	P	P	14 03 34.9	+1.5
	0.2nm,0.4s,baz=215,slow=4.4,SNR=1.8						

IGQ 11 13:54:34.5, 0.79S×78.86W, h13^{km}±176^{km}, Mb4.2, Ms4.0, 20C-16D, Error ellipse: s-maj=1.1km s-min=0.5km az=1.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**0.38**	**73**	⇑P	Pg	13 54 42.8	+0.2
BMOR	**Cotopaxi Volca**	**0.41**	**82**	⇓P	Pg	13 54 43.2	-0.2
NAS2	**Nasa**	**0.42**	**71**	⇓P	Pg	13 54 43.9	+0.3
MOV1	**Cotopaxi Vol s**	**0.43**	**80**	⇓P	Pg	13 54 43.4	-0.4
BREF	**Cotopaxi Volca**	**0.44**	**75**	⇓P	Pg	13 54 44.4	+0.3
BVC2	**Cotopaxi Volca**	**0.47**	**74**	⇓P	Pg	13 54 44.6	+0.1
BTAM	**Cotopaxi Volca**	**0.48**	**77**	⇓P	Pg	13 54 44.6	-0.1
VC1	**Cotopaxi 1**	**0.48**	**73**	⇓P	Pg	13 54 44.8	+0.1
PITA	**Cotopaxi Volc**	**0.49**	**62**	⇓P	Pg	13 54 44.8	+0.1
TAMB	**Tambo**	**0.50**	**80**	⇓P	Pg	13 54 44.9	-0.2
COV1	**Cotopaxi Volc**	**0.53**	**77**	⇓P	Pg	13 54 44.4	-1.5
PISA	**Pisayambo**	**0.55**	**120**	⇓P	Pg	13 54 45.8	-0.2
JUA2	**San Juan 2**	**0.62**	**24**	⇑P	Pg	13 54 47.2	-0.1
TERV	**Terraza Guagua**	**0.66**	**23**	⇑P	Pg	13 54 48.0	-0.1
GGP	**Refugio Guagua**	**0.66**	**24**	⇓P	Pg	13 54 48.1	-0.1
PINO	**Pino**	**0.67**	**22**	⇓P	Pg	13 54 47.9	-0.5
YANA	**Yana**	**0.72**	**24**	P	Pg	13 54 48.7	-0.6
IGUA	**Igualata**	**0.73**	**162**	S	Sb	13 55 01.3	+1.0
IGUA	**Igualata**	**0.73**	**162**	P	Pg	13 54 49.4	-0.1
JUI6	**Juive**	**0.75**	**148**	⇑P	Pg	13 54 49.0	-0.4
BIL2	**Estacion Bilba**	**0.76**	**152**	S	Sb	13 55 00.7	+0.3
BIL2	**Estacion Bilba**	**0.76**	**152**	P	Pg	13 54 49.7	+0.1
BBIL	**Ulba Tungurahu**	**0.76**	**150**	⇓P	Pg	13 54 48.9	-0.8
RUN5	**Runtun**	**0.76**	**145**	S	Sg	13 55 00.4	+0.2
RUN5	**Runtun**	**0.76**	**145**	P	Pg	13 54 49.4	-0.4
BRUN	**Tungurahua Vol**	**0.78**	**144**	⇑P	Pg	13 54 49.4	-0.7
BRUN	**Tungurahua Vol**	**0.78**	**144**	⇑S	Sg	13 54 59.9	-0.7
ANTI	**Antisana**	**0.78**	**65**	⇓P	Pg	13 54 49.3	-1.1
RETU	**Refugio**	**0.78**	**148**	⇑S	Sb	13 55 01.4	-0.2
RETU	**Refugio**	**0.78**	**148**	⇑P	Pg	13 54 50.0	-0.4
BULB	**Ulba Tungurahu**	**0.79**	**145**	⇑S	Sg	13 55 00.8	-0.3
BULB	**Ulba Tungurahu**	**0.79**	**145**	⇑P	Pg	13 54 49.8	-0.6
ULBA	**Ulba**	**0.80**	**145**	⇑P	Pg	13 54 49.8	-0.7
BMAS	**Trigal station**	**0.81**	**152**	⇑S	Sb	13 55 02.8	+0.7
BMAS	**Trigal station**	**0.81**	**152**	⇑P	Pg	13 54 50.2	-0.5
ARRY	**Arrayan**	**0.82**	**150**	⇑P	Pg	13 54 50.3	-0.7
PAT1	**Patacocha**	**0.83**	**149**	⇑S	Sg	13 55 02.5	-0.1
PAT1	**Patacocha**	**0.83**	**149**	⇑P	Pg	13 54 50.7	-0.6
RIOE	**Riobamba**	**0.99**	**166**	P	Pb	13 54 53.5	-0.4
GOLV	**Golondrinas**	**1.02**	**345**	S	Sg	13 55 08.1	+0.3
GOLV	**Golondrinas**	**1.02**	**345**	P	Pb	13 54 54.1	-0.1
OTAV	**Otavalo**	**1.10**	**22**	⇑S	Sg	13 55 11.0	0.0
OTAV	**Otavalo**	**1.10**	**22**	⇑P	Pb	13 54 55.6	-0.3
CAYR	**Refugio Cayamb**	**1.17**	**47**	S	Sn	13 55 13.8	+0.1
CAYR	**Refugio Cayamb**	**1.17**	**47**	P	Pb	13 54 57.4	0.0
CAYA	**Cayambe**	**1.22**	**46**	⇑P	Pn	13 54 57.7	-0.2
CAYA	**Cayambe**	**1.22**	**46**	⇑S	Sb	13 55 13.9	-0.4
COTA	**Cotacachi**	**1.23**	**25**	⇓P	Pg	13 54 58.9	-0.1
CHAR	**Charly**	**1.38**	**60**	P	Pb	13 55 01.1	+0.4
CONE	**Cono NE Rev Vo**	**1.41**	**60**	P	Pb	13 55 01.5	+0.3
LAV4	**Lava4-Reventad**	**1.41**	**61**	P	Pg	13 55 01.6	-0.4
JAMA	**Jama**	**1.44**	**291**	P	Pn	13 55 00.3	-0.1

*IDC **11** 14:07:30.3±2.0, 1°99S×138°57E, h0^{km}, mb3.8/3, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML4.0/2, MS4.7/1, Ms1 4.7/1, ms1mx3.0/29, Error ellipse: s-maj=79.6km s-min=24.5km az=76.0*
*ISCJB **11** 14:07:33.9±1.0, 2°0S±0°1×138°90E±0°08, h44^{km}±11^{km}, mb3.7/3, MS4.7/1, Error ellipse: s-maj=24.9km s-min=10.6km az=24.7*
*DJA **11** 14:07:33.4±0.9, 2°S±8°×13°9E±°, h21^{km}±6^{km}, M4.1/5, mb4.0/3, MLv4.1/5*
ISC 11 14:07:34.1±1.6, 2°0S±0°2×138°95E±0°08, h30^{km}±10^{km}, n10, σ0^{s}86/10, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.24**	**262**	P	**Pb**	**14 07 40.6**	**-0.3**
JAY	**Jayapura**	**1.84**	**108**	P	**Pn**	**14 08 04.4**	**+0.7**
BAKI	**Biak**	**2.94**	**285**	P	**Pn**	**14 08 20.1**	**+1.2**
BAKI				S	**Sn**	**14 08 52.7**	**-0.5**
FAKI	**Fak Fak**	**6.76**	**262**	P	**Pn**	**14 09 12.2**	**+0.8**
	20nm,1.3s,0.1nm						
WRA	**Warramunga Arr**	**18.44**	**194**	P	**P**	**14 11 46.8**	**-0.6**
	0.9nm,0.3s,baz=17,slow=12,SNR=23						
CTA	**Charters Tower**	**19.39**	**159**	P	**Pn**	**14 11 59.5**	**+0.4**
	0.1nm,0.3s,baz=326,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.13**	**192**	P	**P**	**14 12 26.8**	**-0.7**
	3.1nm,0.6s,baz=20,slow=10,SNR=33						
STKA	**Stephens Creek**	**29.87**	**175**	P	**P**	**14 13 39.2**	**+0.2**
	1.2nm,0.2s,baz=342,slow=6.4,SNR=2.9						
AFI	**Afiamalu**	**50.11**	**106**	LR	LR	14 33 32.2	
	comp=Z,714nm,19.3s,baz=101,slow=31						
MKAR	**Makanchi Array**	**69.34**	**322**	P	**P**	**14 18 38.2**	**-0.7**
	0.5nm,0.6s,baz=128,slow=6.1,SNR=6.0						

*IDC **11** 14:19:27.4±1.1, 32°14S×69°28W, h0^{km}, mb3.9/3, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/25, Error ellipse: s-maj=39.8km s-min=19.9km az=158.0*
*ISCJB **11** 14:19:31.9±1.4, 31°80S±0°03×69°32W±0°04, h15^{km}±9^{km}, mb3.8/3, Error ellipse: s-maj=6.5km s-min=4.7km az=44.8*
*GUC **11** 14:19:32.8±0.9, 31°90S×69°48W, h2^{km}±5^{km}, ML4.1*
ISC 11 14:19:30.9±1.2, 32°01S±0°05×69°32W±0°04, h17^{km}±9^{km}, n29, σ1^{s}06/45, mb3.8/3, 5C-4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.01**	**67**	Pn	**Pb**	**14 19 49.8**	**-0.1**
	3.3nm,0.3s,baz=231,slow=16,SNR=325						
CFAA				Sn	**Sb**	**14 20 03.5**	**+0.7**
	20nm,0.3s,baz=155,slow=19,SNR=56						
JACH	**Jahuel**	**1.27**	**238**	⇑*i*P	**Pg**	**14 19 55.4**	**0.0**
JACH				*i* S	**Sn**	**14 20 12.9**	**+2.2**
PTCH	**Petorca**	**1.39**	**259**	⇑*i*P	**Pb**	**14 19 56.5**	**+0.1**
PTCH				*i* S	**Sn**	**14 20 14.6**	**+1.0**
PTCH				AML	AML	14 20 15.2	
	comp=E,13μm,0.2s						
FCH	**Farellones**	**1.55**	**212**	*i* P	**Pg**	**14 20 02.4**	**+1.6**
FCH				*i* S	**Sg**	**14 20 20.4**	**-0.5**
PEL	**Peldehue**	**1.61**	**225**	⇓*i*P	**Pg**	**14 20 01.4**	**-0.6**
PEL				*i* S	**Sg**	**14 20 23.4**	**+0.4**
PEL				AML	AML	14 20 30.0	
	comp=E,4μm,0.5s						
CMCH	**Combarbala**	**1.66**	**300**	⇑*i*P	**Pn**	**14 19 59.5**	**+0.2**
CMCH				*e*S	**Sn**	**14 20 20.4**	**0.0**
CMCH				AML	AML	14 20 28.5	
	comp=N,11μm,0.5s						
CLCH	**Cerro Calan**	**1.72**	**216**	⇑*i*P	**Pg**	**14 20 04.1**	**+0.1**
CLCH				*i* S	**Sg**	**14 20 27.7**	**+1.3**
CLCH				AML	AML	14 20 30.6	
	comp=E,5μm,0.3s						
ROCH	**El Roble**	**1.72**	**236**	⇓*i*P	**Pg**	**14 20 02.9**	**-1.1**
ROCH				*i* S	**Sg**	**14 20 26.1**	**-0.3**
FSR	**Penalolen**	**1.78**	**215**	*eP*	**Pg**	**14 20 05.2**	**0.0**
FSR				*i* S	**Sg**	**14 20 29.7**	**+1.3**
FSR				AML	AML	14 20 30.6	
	comp=N,2μm,0.4s						
CHNG	**Los Chungos**	**1.86**	**273**	⇓*i*P	**Pb**	**14 20 03.5**	**-0.8**
CHNG				*e*S	**Sb**	**14 20 26.8**	**-0.6**
ANTU	**Antumapu**	**1.91**	**215**	*i* S	**Sg**	**14 20 32.9**	**+0.6**
ANTU				AML	AML	14 20 34.1	
	comp=N,1μm,0.7s						
RCDM	**Rinconada Maip**	**1.94**	**220**	*eP*	**Pg**	**14 20 07.4**	**-0.7**
RCDM				*e*S	**Sg**	**14 20 34.0**	**+0.8**
RCDM				AML	AML	14 20 35.1	
	comp=E,2μm,0.1s						
LMEL	**Las Melosas**	**1.98**	**202**	⇓*i*P	**Pg**	**14 20 08.6**	**-0.3**
LMEL				*e*S	**Sg**	**14 20 35.8**	**+1.2**
LMEL				AML	AML	14 20 38.3	
	comp=N,669nm,0.1s						
IHA	**Instituto Hidr**	**2.21**	**242**	*eP*	**Pb**	**14 20 10.2**	**-0.2**
IHA				*e*S	**Sb**	**14 20 38.1**	**+0.7**
CHCH	**Chadas Angostu**	**2.22**	**210**	*eP*	**Pg**	**14 20 12.6**	**-0.9**
CHCH				*e*S	**Sg**	**14 20 42.4**	**+0.1**
TLL	**Tololo Astrono**	**2.24**	**325**	*eP*	**Pb**	**14 20 09.8**	**-1.2**
TLL				*e*S	**Sb**	**14 20 39.0**	**+0.4**
TLL				AML	AML	14 20 44.8	
	comp=N,6μm,0.6s						
CACH	**El Canelo**	**2.36**	**207**	*eP*	**Pg**	**14 20 14.9**	**-1.3**
CACH				*i* S	**Sg**	**14 20 46.8**	**-0.1**
LCO	**Las Campanas**	**3.22**	**338**	⇑*i*P	**Pn**	**14 20 23.2**	**+2.2**
LCO				*i* S	**Sn**	**14 21 02.6**	**+3.5**
LCO				AML	AML	14 21 11.0	
	comp=E,585nm,0.5s						
PLCA	**Paso Flores**	**8.76**	**186**	Pn	Pn	14 21 40.8	+4.0
	comp=E,0.1nm,0.3s,baz=6.5,slow=12,SNR=3.8						
PLCA				Lg	Lg	14 24 11.9	
	comp=E,0.6nm,0.3s,baz=38,slow=10,SNR=5.2						
PLCA				LR	LR	14 25 17.9	
	comp=E,279nm,18.8s,baz=332,slow=41						
CPUP	**Villa Florida**	**11.90**	**65**	Pn	**Pn**	**14 22 18.7**	**-1.2**
	comp=E,0.6nm,0.3s,baz=240,slow=14,SNR=4.7						
LPAZ	**La Paz**	**15.69**	**4**	Pn	**Pn**	**14 23 12.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=190,slow=9.6,SNR=8.6						
SIV	**San Ignacio**	**17.62**	**27**	Pn	**Pn**	**14 23 35.7**	**-0.1**
	comp=E,0.3nm,0.3s,baz=222,slow=16,SNR=6.6						
TXAR	**Lajitas Array**	**69.19**	**328**	P	**P**	**14 30 36.3**	**-0.4**
	comp=E,0.5nm,0.6s,baz=159,slow=7.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**81.37**	**69**	P	**P**	**14 31 46.5**	**-0.6**
	comp=E,1.2nm,0.6s,baz=238,slow=4.9,SNR=12						
PDAR	**Pinedale Array**	**83.07**	**331**	P	**P**	**14 31 56.0**	**+0.4**
	comp=E,0.6nm,0.8s,baz=150,slow=7.3,SNR=3.9						
WRA	**Warramunga Arr**	**123.59**	**207**	PKP	**PKPdf**	**14 38 26.7**	**-1.4**
	comp=E,0.4nm,0.5s,baz=168,slow=1.7,SNR=15						
KURBB	**Kurchatov Arra**	**149.86**	**42**	PKPbc	**PKPbc**	**14 39 19.1**	**-0.6**
	comp=E,0.7nm,0.6s,baz=295,slow=3.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**151.33**	**33**	PKPbc	**PKPbc**	**14 39 22.4**	**-0.6**
	comp=E,1.3nm,0.5s,baz=298,slow=3.1,SNR=7.4						
MKAR	**Makanchi Array**	**153.74**	**48**	PKPab	**PKPab**	**14 39 41.2**	**-0.5**
	comp=E,0.6nm,0.7s,baz=286,slow=3.9,SNR=4.4						

CASC 11 14:19:43.8±4.5, 12°52N×88°19W, h3^{km}±16^{km}, MD3.8, ML3.7, 2C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.83**	**25**	*eP*	Pg	14 20 00.1	+0.2
CNCH				*e*S	Sb	14 20 11.9	-0.7
VSM	**San Miguel**	**0.90**	**355**	*eP*	Pb	14 20 02.4	-0.1
VSM				*e*S	Sb	14 20 14.8	-0.3
BLLM	**Bellamira**	**0.92**	**357**	*eP*	Pb	14 20 02.3	-0.1
BLLM				⇑*e*S	Sb	14 20 14.7	-0.4
CAHU	**Cacacuatique**	**1.24**	**359**	*eP*	Pg	14 20 07.3	-0.7
CAHU				*e*S	Sb	14 20 24.5	-0.2
SNVI	**San Vicente**	**1.25**	**330**	⇓*eP*	Pg	14 20 07.9	-0.2
SNVI				*e*S	Sb	14 20 25.5	+0.4
LBRS	**Las Brisas**	**1.47**	**326**	*eP*	Pn	14 20 11.4	+0.1
LBRS				*e*S	Sb	14 20 30.7	-0.3
LFU	**La Fuente**	**1.52**	**324**	*eP*	Pn	14 20 12.0	0.0
LFU				*e*S	Sn	14 20 31.5	-0.7
SNET	**Serv Nac Est T**	**1.54**	**319**	AML	AML	14 20 36.4	
	comp=Z,1μm,0.4s						
BOQS	**Boqueron**	**1.61**	**319**	*eP*	Pn	14 20 13.3	0.0
BOQS				*e*S	Sb	14 20 35.1	-0.2
SBLS	**San Blas**	**1.91**	**313**	*eP*	Pn	14 20 17.7	+0.1
SBLS				⇑*e*S	Sn	14 20 43.1	+0.7
SNJE	**San Jose**	**1.92**	**314**	*eP*	Pn	14 20 17.8	+0.1
SNJE				*e*S	Sn	14 20 42.6	+0.1
MTO2	**Montecristo 2**	**2.19**	**329**	*eP*	Pn	14 20 21.0	-0.3
LAJ	**Bijagual**	**4.79**	**123**	*eP*	Pn	14 20 48.8	-8.3
LAJ				*e*S	Sn	14 21 54.5	+1.2
URSC	**Urasca**	**5.08**	**121**	*eP*	Pn	14 20 59.7	-1.5

ISK 11 14:19:54.0, 40°00N×29°54E, h4^{km}, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	**Cavuskoy**	**0.31**	**49**	*e*PG	Pg	14 20 00.8	+0.7
CAVI				*e*SG	Sg	14 20 05.7	+1.4
TVSB	**Tavsanli**	**0.55**	**186**	*e*PG	Pg	14 20 05.3	+0.6
GULT	**Gulveren**	**0.87**	**60**	*e*PG	Pb	14 20 11.3	-0.4
GULT				*e*SG	Sb	14 20 23.9	+0.1
YER	**Yerkesik**	**3.02**	**199**	*e*PG	Pb	14 20 46.9	-1.6
YER				*e*SG	Sn	14 20 52.3	-27
MLSB	**Milas**	**3.03**	**208**	*e*PG	Pg	14 20 50.5	-1.6
BODT	**Bodrum**	**3.41**	**211**	*e*PG	Pg	14 20 57.8	-1.7

*ISCJB **11** 14:24:08.3±0.6, 39°50N±0°04×28°01E±0°05, h14^{km}±5^{km}, Error ellipse: s-maj=6.7km s-min=5.9km az=142.2*
*ISK **11** 14:24:08.1, 39°50N×28°01E, h16^{km}, MD2.5*
*DDA **11** 14:24:08.4, 39°48N×28°00E, h7^{km}, MD2.6*
*CSEM **11** 14:24:08.4±0.1, 39°49N×28°01E, h15^{km}, MD2.5, Error ellipse: s-maj=1.8km s-min=1.5km az=76.0*
ISC 11 14:24:08.5±1.0, 39°49N±0°03×28°00E±0°03, h17^{km}±8^{km}, n18, σ0^{s}91/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.18**	**329**	*e*PG	**Pg**	**14 24 12.7**	**-0.2**
BALB				*e*SG	**Sg**	**14 24 16.2**	**+0.4**
BALB	**Balikesir**	**0.18**	**329**	*e*Pg	**Pg**	**14 24 12.7**	**-0.2**
BALB				*e*Sg	**Sg**	**14 24 16.3**	**+0.4**
BALY	**Balya**	**0.39**

FINES	FINESS Array B	69.11	332	P		P		14 42 56.5	+1.1
	1.8nm,0.7s,baz=99,slow=6.1,SNR=5.9								
FINES	FINESS Array B	69.11	332	P		P		14 42 56.5	+1.1

IDC 11 14:48:45.8±3.1, 1°90S×137°49E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=119.9km s-min=29.3km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.20	190	P	P	14 53 01.2	+0.8
	0.2nm,0.3s,baz=10,slow=12,SNR=18						
ASAR	Alice Springs	21.92	189	P	P	14 53 39.9	-1.0
	1.1nm,0.9s,baz=25,slow=9.6,SNR=14						
MKAR	Makanchi Array	68.41	323	P	P	14 59 49.9	+0.3
	0.2nm,0.6s,baz=111,slow=6.7,SNR=4.0						

IDC 11 14:54:34.1±42.0, 15°19S×171°95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.9/3, Error ellipse: s-maj=825.3km s-min=179.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.36	240	P	P	15 02 54.1	-0.3
	1.2nm,0.6s,baz=82,slow=7.5,SNR=5.2						
WRA	Warramunga Arr	51.26	256	P	P	15 03 40.0	-0.2
	0.2nm,0.5s,baz=92,slow=7.0,SNR=14						
ASAR	Alice Springs	51.51	252	P	P	15 03 42.1	+0.1
	3.2nm,0.5s,baz=89,slow=8.1,SNR=136						

IDC ***11*** *15:03:52.7±3.4, 7°33S×128°78E, h107km±32km, mb3.9/10, mb1 4.1/13, mb1mx4.0/19, mbtmp4.0/13, Error ellipse: s-maj=28.0km s-min=12.8km az=81.0*
NEIC ***11*** *15:03:53.5±1.9, 7°29S×128°80E, h116km±19km, mb4.6/12, Error ellipse: s-maj=14.4km s-min=9.6km az=53.0*
ISCJB ***11*** *15:03:53.5±0.3, 7°35S±0°03×128°85E±0°05, h131km, mb4.2/24, Error ellipse: s-maj=7.1km s-min=3.8km az=163.8*
AUST ***11*** *15:03:54.4, 7°49S×128°54E, h100km*
BJI ***11*** *15:03:55.7, 7°50S×128°70E, h157km, mB4.6/4, mb4.6/11*
DJA ***11*** *15:03:59.0±0.4, 7°S±4°×12°9E±°, h196km±16km, M4.4/11, mb4.2/8, mB5.1/3, MLv4.5/11, Mw(mB)4.5/3*
ISC 11 15:03:55.2±0.4, 7°48S±0°04×128°83E±0°06, h131km, n86, σ2°12/78, mb4.3/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.13	20	P	Pn	15 04 47.0	+3.5
BNDI				S	Sn	15 05 26.6	+5.8
AAI	Ambon	3.82	350	P	Pn	15 04 57.1	+4.4
	baz=3.8,SNR=18						
AAI	Ambon	3.82	350	P	Pn	15 04 56.8	+4.1
MSAI	Masohi	4.11	1	P	Pn	15 05 01.3	+4.8
TLE	Tual	4.29	65	P	Pn	15 05 03.8	+4.9
	baz=4.6,SNR=148						
TLE				S	Sn	15 05 52.3	+4.0
	baz=4.6,SNR=8.4						
TLE	Tual	4.29	65	P	Pn	15 05 02.9	+4.1
TLE				S	Sn	15 05 52.7	+4.4
FAKI	Fak Fak	5.67	37	P	Pn	15 05 22.7	+5.4
	40nm,0.7s,2µm0.3nm						
FAKI				S	Sn	15 06 19.9	-1.4
	40nm,0.7s,2µm0.3nm						
MTN	Manton Dam	5.79	157	P	Pn	15 05 22.4	+3.5
	baz=5.9,SNR=216						
MTN				S	Sn	15 06 24.8	+0.6
	baz=5.9,SNR=7.7						
KDU	Kakadu	6.29	146	P	Pn	15 05 29.0	+3.3
	baz=6.5,SNR=268						
KDU				S	Sn	15 06 36.9	+0.5
	baz=6.5,SNR=9.8						
BBSI	Bau Bau	6.53	287	P	Pn	15 05 33.2	+4.3
	45nm,0.8s,0.2nm						
BBSI				S	Sn	15 06 50.4	+8.2
	45nm,0.8s,0.2nm						
MMRI	Maumere	6.63	260	P	Pn	15 05 33.5	+3.2
	54nm,1.0s,0.1nm						
LBMI	Labuha	6.93	349	P	Pn	15 05 38.3	+4.0
	32nm,1.1s,0.1nm						
SWI	Sorong	7.00	20	P	Pn	15 05 37.6	+2.3
	baz=7.2,SNR=6.7						
SWI				S	Sn	15 06 52.9	-0.7
	baz=7.2,SNR=6.4						
SWI	Sorong	7.00	20	P	Pn	15 05 39.2	+3.9
	21nm,0.6s,2µm0.3nm						
SWI				S	Sn	15 06 52.8	-0.8
	21nm,0.6s,2µm0.3nm						
KDI	Kendari	7.11	299	P	Pn	15 05 39.0	+2.4
	44nm,1.1s,0.1nm						
BKSI	Bulukumba	8.92	283	P	Pn	15 06 04.8	+3.7
APSI	Ampana	9.69	312	P	Pn	15 06 32.1	+21
FITZ	Fitzroy Crossi	11.01	196	P	Pn	15 06 28.4	-0.6
	1.0nm,0.3s,baz=28,slow=9.3,SNR=33						
FITZ				S	Sn	15 08 20.3	-10
	1.3nm,0.3s,baz=65,slow=19,SNR=4.0						
FITZ	Fitzroy Crossi	11.01	196	eP	Pn	15 06 28.6	-0.4
FITZ				S	Sn	15 08 20.3	-10
FITZ	Fitzroy Crossi	11.01	196	P	Pn	15 06 28.8	-0.2
	baz=11,SNR=29						
WRAB	Tennant Creek	13.48	157	eP	Pn	15 07 00.8	-0.6
	26nm,0.8s						
WRAB				eS	Sn	15 09 23.4	-7.0
WRA	Warramunga Arr	13.49	157	P	Pn	15 07 00.4	-1.0
	1.4nm,0.3s,baz=341,slow=12,SNR=108						
WRA				S	Sn	15 09 22.1	-8.3
	2.9nm,0.3s,baz=326,slow=23,SNR=12						
WRA	Warramunga Arr	13.49	157	P	Pn	15 07 00.4	-1.0
WRA				S	Sn	15 09 22.1	-8.3
COEN	Coen	15.48	116	eP	P	15 07 27.7	-0.6
	87nm,0.6s						
COEN				S	Sn	15 10 07.4	-11
COEN	Coen	15.48	116	P	P	15 07 27.9	-0.3
	baz=16,SNR=29						
COEN				S	Sn	15 10 12.4	-6.2
	baz=16,SNR=4.7						
MBWA	Marble Bar	16.20	212	P	P	15 07 38.4	+2.4
QIS	Mount Isa	16.66	142	P	P	15 07 43.2	+1.9
	baz=17,SNR=16						
QIS				S	Sn	15 10 38.0	-8.9
	baz=17,SNR=6.3						
AS31	Alice Springs	16.81	164	eP	Pn	15 07 45.1	+2.2
ASAR	Alice Springs	16.81	164	P	Pn	15 07 44.4	+1.4
	2.1nm,0.3s,baz=337,slow=9.7,SNR=387						
ASAR				S	Sn	15 10 46.5	-3.9
	0.7nm,0.3s,baz=355,slow=27,SNR=7.8						
ASAR	Alice Springs	16.81	164	P	Pn	15 07 44.4	+1.4
ASAR				S	Sn	15 10 46.5	-3.9
PMG	Port Moresby	18.23	97	P	Pn	15 08 04.0	+4.0
	1.2nm,0.3s,baz=288,slow=4.4,SNR=17						
PMG	Port Moresby	18.23	97	P	Pn	15 08 04.0	+4.0
KSM	Kuching	20.51	295	eP	P	15 08 22.7	-0.5
	20nm,0.9s						
KSM	Kuching	20.51	295	P	P	15 08 24.1	+0.9
	baz=20,SNR=5.7						
CTA	Charters Tower	21.02	128	P	P	15 08 32.0	+3.4
	4.6nm,0.6s,baz=299,slow=7.5,SNR=3.7						
CTA	Charters Tower	21.02	128	P	P	15 08 32.0	+3.4
CTAO	Charters Tower	21.02	128	eP	P	15 08 32.1	+3.4
MEEK	Meekatharra	21.39	206	P	P	15 08 35.5	+3.0
	baz=21,SNR=7.5						
QLP	Quilpie	23.98	144	P	P	15 09 00.6	+2.9
	baz=24,SNR=25						
MORW	Morawa	24.63	208	P	P	15 09 06.7	+3.1
	baz=25,SNR=5.8						
STKA	Stephens Creek	27.03	156	P	P	15 09 27.0	+1.8
	1.6nm,0.5s,baz=318,slow=8.7,SNR=5.6						
STKA	Stephens Creek	27.03	156	P	P	15 09 27.0	+1.8
NWAO	Narrogin (SRO)	27.51	201	P	P	15 09 30.9	+1.4
	3.3nm,0.4s,baz=58,slow=9.2,SNR=4.9						
NWAO	Narrogin (SRO)	27.51	201	P	P	15 09 30.9	+1.4
CMSA	Cobar Meteorol	28.64	149	P	P	15 09 41.9	+2.3
	baz=29,SNR=9.5						
ARPS	Mount Arapiles	31.47	160	P	P	15 10 07.1	+2.7
	baz=32,SNR=7.0						
GSI	Gunungsitoli	32.38	284	S	S	15 15 41.6	+24
	baz=32,SNR=8.1						
CMAR	Chiang Mai Arr	39.17	311	P	P	15 11 09.6	-1.0
	2.0nm,1.0s,baz=143,slow=6.2,SNR=12						
CMAR	Chiang Mai Arr	39.17	311	P	P	15 11 09.6	-1.0
ENH	Enshi	41.88	335	eP	P	15 11 29.2	-3.5
	7.8nm,0.6s						
NFK	Norfolk Island	42.59	125	P	P	15 11 37.4	-1.1
	baz=43,SNR=4.0						
MJAR	Matsushiro Arr	44.67	11	P	P	15 11 53.0	-2.0
	2.5nm,0.8s,baz=189,slow=8.8,SNR=4.6						
MJAR	Matsushiro Arr	44.67	11	P	P	15 11 53.0	-2.0
KSAR	Wonju Array Be	44.70	359	P	P	15 11 55.0	-0.1
KSRS	Korea Array	44.71	359	P	P	15 11 55.0	-0.2
	0.5nm,0.7s,baz=171,slow=9.6,SNR=4.8						
XAN	Xi'an	45.40	337	P	P	15 11 59.0	-1.9
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,14nm,4.2s						
LZH	Lanzhou	49.30	333	eP	P	15 12 30.5	-0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
USRK	Ussuriysk Arra	51.52	3	P	P	15 12 46.0	-1.5
	comp=Z,1.8nm,0.6s,baz=184,slow=6.3,SNR=4.2						
LSA	Lhasa	51.76	317	eP	P	15 12 49.8	-0.2
	comp=Z,4.6nm,0.6s						
GTA	Gaotai	53.85	332	eP	P	15 13 04.6	-0.2
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	58.37	343	eP	P	15 13 35.1	-1.7
PETK	Petropavlovsk-	65.14	19	P	P	15 14 21.7	-0.3
	comp=Z,5.1nm,0.5s,baz=175,slow=4.8,SNR=16						
PETK	Petropavlovsk-	65.14	19	P	P	15 14 21.7	-0.3
MK31	Makanchi Array	68.00	327	eP	P	15 14 39.3	-1.0
MKAR	Makanchi Array	68.00	327	P	P	15 14 39.5	-0.7
	comp=Z,3.3nm,0.5s,baz=123,slow=7.7,SNR=72						
MKAR	Makanchi Array	68.00	327	P	P	15 14 39.5	-0.7
YAK	Yakutsk	69.31	0	P	P	15 14 45.6	-2.3
	comp=Z,18nm,0.8s						
AAK	Ala-Archa	70.17	320	eP	P	15 14 53.6	-0.3
	comp=Z,27nm,1.0s						
EKS2	Erkin-Say	70.63	320	eP	P	15 14 56.4	-0.3
	comp=Z,10.0nm,1.1s						
ZAA0	Zalesovo Array	71.51	334	eP	P	15 14 59.5	-2.0
ZALV	Zalesovo Beam	71.51	334	P	P	15 14 59.9	-1.6
	comp=Z,4.0nm,0.6s,baz=130,slow=5.4,SNR=24						
ZALV	Zalesovo Beam	71.51	334	P	P	15 14 59.9	-1.6
VNDA	Vanda	72.11	173	P	P	15 15 05.7	+0.8
	comp=Z,0.9nm,0.8s,baz=332,slow=9.7,SNR=2.3						
VNDA	Vanda	72.11	173	P	P	15 15 05.7	+0.8
KURK	Kurchatov	72.33	329	eP	P	15 15 05.3	-1.2
	comp=Z,5.4nm,0.6s						
KKAR	Karatay Array	72.94	319	eP	P	15 15 09.4	-1.0
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	77.93	328	eP	P	15 15 37.0	-1.6
	comp=Z,4.0nm,0.8s						
ABKAR	Akbulak array	82.17	322	eP	P	15 15 59.8	-1.7
	comp=Z,1.5nm,0.6s						
ILAR	Eielson Array	94.27	25	P	P	15 16 56.0	-3.3
	comp=Z,0.3nm,0.6s,baz=270,slow=4.4,SNR=8.4						
ILAR	Eielson Array	94.27	25	P	P	15 16 56.0	-3.3
TORD	Torodi Ar. Bea	127.77	281	PKP	PKPdf	15 22 45.9	-0.3
	comp=Z,0.5nm,0.7s,baz=93,slow=2.7,SNR=3.0						
TORD	Torodi Ar. Bea	127.77	281	PKP	PKPdf	15 22 45.9	-0.3
CPUP	Villa Florida	145.86	170	PKPbc	PKPab	15 23 20.1	-0.4
	comp=Z,2.7nm,0.6s,baz=131,slow=4.4,SNR=5.8						
CPUP	Villa Florida	145.86	170	PKPbc	PKPab	15 23 20.1	-0.4
LPAZ	La Paz	151.02	145	PKPbc	PKPbc	15 23 35.2	+0.8
	comp=Z,1.7nm,0.8s,baz=128,slow=3.1,SNR=5.3						
LPAZ	La Paz	151.02	145	PKPbc	PKPbc	15 23 35.2	+0.8

IDC 11 15:09:03.0±3.2, 22°32N×11°90W, h0km, mb1 3.5/2, mb1mx3.2/26, mbtmp3.5/2, ML3.4/2, Error ellipse: s-maj=148.1km s-min=43.7km az=67.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.83	123	Pn	Pn	15 12 47.7	+0.3
	0.1nm,0.3s,baz=312,slow=13,SNR=5.2						
DBIC	Dimbokro	16.98	155	Pn	P	15 13 03.1	-0.9
	0.3nm,0.3s,baz=328,slow=16,SNR=4.8						
DBIC				Sn	Sn	15 16 10.3	-1.3
	0.2nm,0.3s,baz=169,slow=10,SNR=2.5						
WRA	Warramunga Arr	148.46	92	PKPbc	PKPbc	15 28 51.5	-0.9
	0.2nm,0.7s,baz=302,slow=1.4,SNR=3.1						
ASAR	Alice Springs	148.53	99	PKPbc	PKPbc	15 28 52.1	-0.4
	0.2nm,0.6s,baz=286,slow=2.3,SNR=4.9						

ISK ***11*** *15:32:26.4, 38°02N×37°60E, h5km, MD3.4*
DDA ***11*** *15:32:27.0, 38°03N×37°57E, h6km, MD3.3*
CSEM ***11*** *15:32:27.9±0.1, 38°01N×37°65E, h2km, MD3.3, Error ellipse: s-maj=4.2km s-min=2.7km az=138.0*
ISC 11 15:32:27.8±1.2, 38°02N±0°03×37°60E±0°02, h3km±10km, n59, σ0°57/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.38	42	*i* P	Pg	15 32 34.9	-0.2
AKCD				*i* S	Sg	15 32 41.0	+1.0
AKCD	Akcadag	0.38	42	*i* P	Pg	15 32 34.9	-0.2
AKCD				*i* S	Sg	15 32 41.0	+1.0
MYA	Malataya	0.72	64	PG	Pg	15 32 41.0	-0.6
MYA	Malataya	0.72	64	*i* Pg	Pg	15 32 41.0	-0.6
KMRS	Kahramanmaras	0.75	228	PG	Pg	15 32 41.4	-0.8
KMRS	Kahramanmaras	0.75	228	*i* Pg	Pg	15 32 41.4	-0.8
ATAB	Bozova	0.77	134	*i* P	Pg	15 32 42.6	0.0
ATAB				*i* S	Sn	15 32 57.0	-0.8
ATAB	Bozova	0.77	134	*i* P	Pg	15 32 42.6	0.0
GAZ	Gaziantep	0.90	200	*e*PG	Pg	15 32 44.9	-0.1
GAZ				*e*SG	Sb	15 32 58.6	+0.2
GAZ	Gaziantep	0.90	200	*e*Pg	Pg	15 32 44.9	-0.1
GAZ				*e*Sg	Sb	15 32 58.6	+0.2
ANDN	Andirin	1.09	247	*i* P	Pn	15 32 50.7	+0.7
ANDN				*i* S	Sn	15 33 06.0	+0.4
ANDN	Andirin	1.09	247	*i* P	Pn	15 32 50.7	+0.7
ANDN				*i* S	Sn	15 33 06.0	+0.4
URFA	Urfa	1.12	120	*e*PN	Pg	15 32 49.2	-0.1
URFA				*e*SN	Sn	15 33 05.8	-0.7
URFA	Urfa	1.12	120	*e*Pn	Pg	15 32 49.2	-0.1
URFA				*e*Sn	Sn	15 33 05.8	-0.7
ELZG	Elazig	1.19	66	*i* P	Pg	15 32 49.7	-0.9
ELZG				*i* S	Sg	15 33 06.1	+0.1
ELZG	Elazig	1.19	66	*i* P	Pg	15 32 49.7	-0.9
ELZG				*i* S	Sg	15 33 06.1	+0.1
KUZU	Kuzuini	1.31	199	*i* P	Pg	15 32 52.1	-0.8
KUZU				*i* S	Sn	15 33 10.5	-0.5
KUZU	Kuzuini	1.31	199	*i* P	Pg	15 32 52.1	-0.8
KUZU				*i* S	Sn	15 33 10.5	-0.5
SVRC	Sivrice-ELAZID	1.39	74	*e*PN	Pn	15 32 54.0	-0.3
SVRC	Sivrice-ELAZID	1.39	74	*e*Pn	Pn	15 32 54.0	-0.3
KOZT	Kozan	1.50	250	*e*PN	Pn	15 32 55.5	-0.2
KOZT	Kozan	1.50	250	*e*Pn	Pn	15 32 55.5	-0.2
BNN	Bunyan	1.61	302	*e*PN	Pn	15 32 56.7	-0.6
BNN	Bunyan	1.61	302	*e*Pn	Pn	15 32 56.7	-0.6
ILIC	ilic-Erzincan	1.62	27	*e*PN	Pn	15 32 57.3	-0.1
ILIC	ilic-Erzincan	1.62	27	*e*Pn	Pn	15 32 57.3	-0.1
CEYT	Ceyhan	1.78	236	*e*PN	Pn	15 32 59.7	+0.3
CEYT	Ceyhan	1.78	236	*e*Pn	Pn	15 32 59.7	+0.3
COBT	Iskenderun	1.84	216	*i* P	Pg	15 33 02.7	-0.3
COBT				*i* S	Sg	15 33 26.8	0.0
COBT	Iskenderun	1.84	216	*i* P	Pg	15 33 02.7	-0.3
COBT				*i* S	Sg	15 33 26.8	0.0
DIY	Diyarbakir	2.08	92	*e*PN	Pn	15 33 03.9	+0.3
DIY	Diyarbakir	2.08	92	*e*Pn	Pn	15 33 03.9	+0.3
EZC	Erzincan	2.21	38	*e*PN	Pn	15 33 05.7	+0.2
EZC	Erzincan	2.21	38	*e*Pn	Pn	15 33 05.7	+0.2
HTY	Hatay	2.22	212	*e*PN	Pn	15 33 06.0	+0.6
HTY	Hatay	2.22	212	*e*Pn	Pn	15 33 06.1	+0.6
ERZN	Erzincan	2.28	46	*e*PN	Pn	15 33 06.9	+0.4
KRTS	Karatas	2.29	232	*e*PN	Pn	15 33 07.2	+0.8
KRTS	Karatas	2.29	232	*e*Pn	Pn	15 33 07.2	+0.8
AVNT	Avonos	2.29	290	*e*P	Pn	15 33 07.6	+1.0
AVNT				*e*S	Sg	15 33 40.4	-1.0
AVNT	Avonos	2.29	290	*e*P	Pn	15 33 07.6	+1.0
NIG	Nigde	2.36	273	*e*PN	Pn	15 33 07.8	+0.1
NIG	Nigde	2.36	273	*e*Pn	Pn	15 33 07.8	+0.1
RSDY	Resadiye-TOKAT	2.39	355	*e*PN	Pn	15 33 08.1	+0.3
RSDY	Resadiye-TOKAT	2.39	355	*e*Pn	Pn	15 33 08.1	+0.3
YOZ	Yozgat	2.41	313	*e*PN	Pn	15 33 08.5	+0.3
YOZ	Yozgat	2.41	313	*e*Pn	Pn	15 33 08.5	+0.3
MERS	Mersin	2.71	246	*e*PN	Pn	15 33 12.9	+0.7
MERS	Mersin	2.71	246	*e*Pn	Pn	15 33 12.9	+0.7
GUMT	Gumushane	2.84	30	*e*PN	Pn	15 33 14.7	+0.5
GUMT	Gumushane	2.84	30	*e*Pn	Pn	15 33 14.7	+0.5
ESPY	Espiye-Giresun	3.03	16	*e*PN	Pn	15 33 17.4	+0.8
ESPY	Espiye-Giresun	3.03	16	*e*Pn	Pn	15 33 17.4	+0.8
BAYT	Ayd¯–ntepe-Bay	3.09	39	*e*PN	Pn	15 33 18.2	+0.6
BAYT	Ayd¯–ntepe-Bay	3.09	39	*e*Pn	Pn	15 33 18.2	+0.6
CORM	Corum	3.16	314	*e*PN	Pn	15 33 19.3	+0.7
CORM	Corum	3.16	314	*e*Pn	Pn	15 33 19.3	+0.7
KVT	Kavak	3.29	339	*e*PN	Pn	15 33 21.0	+0.8
KVT	Kavak	3.29	339	*e*Pn	Pn	15 33 21.0	+0.8

IDC 11 15:32:43.4±1.8, 7°70S×125°82E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=109.7km s-min=26.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.34	181	Pn	Pn	15 35 11.9	-1.2
	0.1nm,0.3s,baz=348,slow=13,SNR=4.6						
FITZ				Sn	Sn	15 36 55.0	-15
	0.5nm,0.3s,baz=154,slow=13,SNR=8.9						
WRA	Warramunga Arr	14.70	147	Pn	Pn	15 36 12.4	-0.4
	0.2nm,0.3s,baz=323,slow=14,SNR=9.8						
WRA				Sn	Sn	15 38 44.1	-13
	0.4nm,0.3s,baz=308,slow=24,SNR=12						
ASAR	Alice Springs	17.66	155	P	P	15 36 52.4	+0.2
	0.1nm,0.3s,baz=339,slow=12,SNR=12						
ASAR				S	Sn	15 39 56.3	-12
	0.1nm,0.3s,baz=319,slow=21,SNR=6.4						
MKAR	Makanchi Array	66.61	329	P	P	15 43 35.7	0.0
	0.2nm,0.5s,baz=127,slow=8.9,SNR=2.6						

IDC 11 15:33:21.2±11.0, 11°26N×92°95E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.3/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/25, Error ellipse: s-maj=647.7km s-min=23.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	36.55	348	P	P	15 40 27.3	-1.3
	0.2nm,0.6s,baz=179,slow=5.8,SNR=3.2						
KURBB	Kurchatov Arra	40.99	346	P	P	15 41 06.9	+1.1
	0.3nm,0.5s,baz=165,slow=7.6,SNR=2.7						
ATD	Arta Tunnel	49.06	276	LR	LR	15 59 23.3	
	comp=Z,109nm,21.7s,baz=90,slow=32						
WRA	Warramunga Arr	51.20	127	P	P	15 42 26.8	0.0
	0.2nm,0.6s,baz=301,slow=10.0,SNR=5.7						
ASAR	Alice Springs	53.00	131	P	P	15 42 39.9	-0.2
	0.5nm,0.7s,baz=301,slow=6.9,SNR=4.8						

IDC 11 15:42:49.4±1.7, 4°47S×137°00E, h0km, mb3.7/1, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.4/4, Error ellipse: s-maj=44.7km s-min=28.0km az=77.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	11.21	116	Pn	Pn	15 45 31.4	+0.3
	0.7nm,0.3s,baz=310,slow=7.9,SNR=4.7						
WRA	Warramunga Arr	15.60	189	Pn	Pn	15 46 29.8	-1.0
	0.2nm,0.3s,baz=10,slow=13,SNR=11						
WRA				Sn	Sn	15 49 20.2	-4.3
	0.3nm,0.3s,baz=11,slow=22,SNR=6.3						
FITZ	Fitzroy Crossi	17.53	218	P	P	15 46 56.0	-0.6
	0.2nm,0.3s,baz=56,slow=14,SNR=7.9						
FITZ				S	Sn	15 50 07.5	-3.7
	0.2nm,0.3s,baz=142,slow=19,SNR=3.5						
ASAR	Alice Springs	19.32	189	P	P	15 47 16.4	0.0
	0.1nm,0.3s,baz=14,slow=9.8,SNR=18						
ASAR				S	Sn	15 50 49.7	-5.1
	0.1nm,0.3s,baz=3.8,slow=28,SNR=4.3						
MKAR	Makanchi Array	70.15	323	P	P	15 54 03.9	0.0
	0.5nm,0.6s,baz=111,slow=7.8,SNR=8.2						

BEO ***11*** *15:45:36.9±0.9, 40°93N×20°55E, h8km±3km, ML2.4/5*
ISCJB ***11*** *15:45:40.4±0.6, 41°23N±0°03×20°51E±0°04, h3km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=41.7*
SKO ***11*** *15:45:40.1, 41°27N×20°50E, h11km, M2.0, ML2.5*
CSEM ***11*** *15:45:40.7±0.2, 41°23N×20°48E, h10km, ML3.1/1, Error ellipse: s-maj=5.0km s-min=3.5km az=47.0*
THE ***11*** *15:45:41.0, 41°25N×20°51E, h2km±1km, ML3.1/1, Error ellipse: s-maj=1.6km s-min=0.5km az=300.0*
ISC 11 15:45:41.1±1.0, 41°26N±0°02×20°52E±0°02, h9km±9km, n42, σ0°83/70, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.43	352	P	Pg	15 45 49.4	-0.1
PHP				S	Sg	15 45 59.9	+0.7
PHP	Peshkopia	0.43	352	P	Pg	15 45 49.4	-0.1
PHP				S	Sg	15 45 55.9	+0.7
TIR	Tirane	0.50	281	P	Pg	15 45 49.8	-1.0
TIR				S	Sg	15 45 57.5	+0.1
TIR	Tirane	0.50	281	*e*Pg	Pg	15 45 49.8	-1.0
TIR				*e*Sg	Sg	15 45 57.8	+0.4
TIR	Tirane	0.50	281	P	Pg	15 45 49.8	-1.0
TIR				S	Sg	15 45 57.5	+0.1
BIA	Bitola	0.65	111	P	Pg	15 45 53.0	-0.7
BIA				S	Sg	15 46 02.5	+0.2
BIA	Bitola	0.65	111	*e*Pg	Pg	15 45 53.1	-0.7
BIA				*e*Sg	Sb	15 46 03.6	-0.2
BIA	Bitola	0.65	111	P	Pg	15 45 53.0	-0.7
BIA				S	Sg	15 46 02.5	+0.2
FNA	Florina	0.80	126	P	P

VTS				*e*Sn	**Sn**	**15 46 50.5**	**0.0**
ZAPS	**Zavoj**	**2.55**	**37**	*e*Pn	**Pn**	**15 46 22.2**	**-0.5**
ZAPS				*e*Sn	**Sb**	**15 46 56.2**	**-2.4**
GRUS	**Gruza**	**2.63**	**3**	*e*Pn	**Pn**	**15 46 24.8**	**+1.1**
GRUS	**Gruza**	**2.63**	**3**	*e*Pn	**Pn**	**15 46 24.8**	**+1.1**
DIVS	**Divibare**	**2.87**	**352**	*e*Pn	**Pn**	**15 46 26.8**	**-0.2**
DIVS	**Divibare**	**2.87**	**352**	*e*Pn	**Pn**	**15 46 26.8**	**-0.2**

IDC 11 15:49:57.6±3.5, 5°94S×146°55E, h53km±33km, mb3.6/7, mb1 3.9/10, mb1mx3.7/20, mbtmp3.7/10, ML3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=29.8km s-min=20.5km az=80.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.50**	**170**	P	Pn	15 50 49.9	+0.3
	9.7nm,0.3s,baz=335,slow=6.1,SNR=34						
PMG				S	Sn	15 51 30.3	+0.5
	14nm,0.3s,baz=1.0,slow=15,SNR=3.4						
CTA	**Charters Tower**	**14.07**	**181**	P	Pn	15 53 16.0	+1.7
	0.4nm,0.3s,baz=29,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**18.30**	**219**	P	P	15 54 06.5	-0.9
	0.2nm,0.3s,baz=40,slow=12,SNR=10						
GUMO	**Guam**	**19.47**	**355**	LR	LR	16 01 45.2	
	comp=Z,80nm,18.2s,baz=321,slow=36						
ASAR	**Alice Springs**	**21.42**	**213**	P	P	15 54 42.1	+0.7
	0.9nm,0.7s,baz=50,slow=8.7,SNR=8.3						
FITZ	**Fitzroy Crossi**	**23.72**	**238**	P	P	15 55 04.5	-0.6
	4.9nm,0.8s,baz=94,slow=6.6,SNR=8.3						
STKA	**Stephens Creek**	**26.22**	**190**	P	P	15 55 27.5	-0.2
	1.7nm,0.6s,baz=358,slow=10.0,SNR=6.0						
KSRS	**Korea Array**	**46.53**	**340**	P	P	15 58 19.7	-0.3
	5.3nm,1.2s,baz=158,slow=8.8,SNR=6.7						
CMAR	**Chiang Mai Arr**	**52.82**	**298**	P	P	15 59 08.2	0.0
	0.7nm,0.7s,baz=122,slow=6.0,SNR=7.1						
VNDA	**Vanda**	**72.00**	**177**	P	P	16 01 15.2	-0.2
	0.8nm,0.7s,baz=353,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**85.60**	**23**	P	P	16 02 29.9	-0.2
	1.6nm,0.8s,baz=254,slow=4.9,SNR=18						
TORD	**Torodi Ar. Bea**	**144.64**	**284**	PKP	PKPdf	16 09 29.0	-0.5
	1.1nm,0.7s,baz=59,slow=3.8,SNR=5.9						
DBIC	**Dimbokro**	**151.57**	**273**	PKPbc	PKPbc	16 09 48.0	+0.9
	2.5nm,0.7s,baz=72,slow=3.2,SNR=3.2						

PGC 11 16:00:54.7±0.9, 50°59N×130°46W, h10km, ML2.9/10, Mw3.5, 4D, 214km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.48**	**87**	↑P	Pn	16 01 19.3	-2.2
HOLB				↓S	Sn	16 01 37.0	-4.0
BPBC	**Brooks Peninsu**	**1.77**	**103**	↑P	Pn	16 01 23.0	-2.5
PHC	**Port Hardy**	**1.93**	**85**	Pn	Pn	16 01 25.8	-1.7
PHC				↓S	Sn	16 01 47.6	-4.2
MAYB	**Maynard**	**2.11**	**94**	↓P	Pn	16 01 28.3	-1.9
MAYB				↑S	Sn	16 01 52.6	-4.0
BNB	**Barry Inlet**	**2.15**	**338**	↑P	Pn	16 01 28.7	-2.0
BNB				↑S	Sn	16 01 53.9	-3.6
BBB	**Bella Bella**	**2.17**	**42**	↓P	Pn	16 01 28.7	-2.1
BBB				↑S	Sn	16 01 54.0	-3.8
EDB	**Eliza Dome**	**2.26**	**107**	Pn	Pn	16 01 30.2	-1.9
WOSB	**Woss**	**2.52**	**98**	↑P	Pn	16 01 34.5	-1.4
MOBC	**Moresby Island**	**2.73**	**341**	↑P	Pn	16 01 36.6	-2.0
MOBC				↑S	Sn	16 02 08.8	-2.9
DIB	**Dawson Inlet,**	**2.91**	**335**	↑P	Pn	16 01 39.2	-1.7
DIB				↑S	Sn	16 02 12.6	-3.3
GDR	**Gold River**	**2.96**	**104**	↑P	Pn	16 01 40.2	-1.4
BTB	**Buttle Lake**	**3.37**	**107**	Pn	Pn	16 01 46.2	-1.4
OZB	**Mount Ozzard**	**3.60**	**115**	↑P	Pn	16 01 49.8	-0.8

IDC 11 16:03:08.6±3.9, 1°65S×139°75E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=149.2km s-min=29.0km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.94**	**196**	P	Pn	16 07 31.9	-0.1
	0.1nm,0.3s,baz=18,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**22.61**	**194**	P	P	16 08 10.4	-0.8
	0.4nm,0.8s,baz=26,slow=9.2,SNR=4.7						
MKAR	**Makanchi Array**	**69.59**	**322**	P	P	16 14 19.9	+0.2
	0.2nm,0.7s,baz=106,slow=8.1,SNR=3.0						

IDC 11 16:16:18.8±0.5, 3°50N×126°43E, h0km, mb4.3/20, mb1 4.4/20, mb1mx4.3/28, mbtmp4.3/20, MS3.6/11, Ms1 3.6/11, ms1mx3.3/44, Error ellipse: s-maj=27.5km s-min=11.3km az=77.0

ISCJB 11 16:16:24.2±0.3, 3°58N±0°03×126°63E±0°05, h53km, mb4.3/23, MS3.6/11, Error ellipse: s-maj=7.2km s-min=4.2km az=163.4

BJI 11 16:16:28.5, 4°05N×126°16E, h60km, mB4.8/5, mb4.7/9, Ms4.7/3, MS7 4.2/4

AUST 11 16:16:30.2±0.7, 3°53N×126°88E, h102km, Error ellipse: s-maj=1.3km s-min=1.2km az=256.0

DJA 11 16:16:34.1±1.1, 3°N±9°×12°7E±°, h103km±14km, M4.4/5, mb4.6/4, mB4.9/2, MLv4.3/5, Mw(mB)4.2/2

ISC 11 16:16:26.1±0.4, 3°58N±0°05×126°58E±0°06, h53km, n68, σ1°44/62, mb4.4/23, MS3.6/11, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.05**	**276**	P	**Sn**	**16 16 59.3**	**+0.9**
MNI	**Ternate**	**2.74**	**219**	P	**Pn**	**16 17 08.1**	**+0.4**
TNTI	**Ternate**	**2.89**	**164**	P	**Pn**	**16 17 09.5**	**-0.3**
GSPH	**General Santos**	**2.98**	**327**	*e*P	**Pn**	**16 17 08.9**	**-2.1**
MATI	**Mati**	**3.36**	**355**	*e*P	**Pn**	**16 17 17.5**	**+1.3**
DAV	**Davao City (W)**	**3.61**	**344**	LR	LR	16 19 09.0	
	comp=Z,1μm,18.4s,baz=181,slow=47						
DMPH	**Davao City--Mi**	**3.64**	**343**	↑*e*P	**Pn**	**16 17 20.6**	**+0.6**
KMSI	**Cibinong**	**3.95**	**221**	P	**Pn**	**16 17 26.2**	**+1.9**
LBMI	**Labuha**	**4.29**	**168**	P	**Pn**	**16 17 31.4**	**+2.5**
CTBH	**Cotabato--PC H**	**4.30**	**327**	↑*e*P	**Pn**	**16 17 28.8**	**-0.3**
BUKP	**Musuan**	**4.53**	**341**	*e*P	**Pn**	**16 17 33.5**	**+1.1**
PAGZ	**Pagadian**	**5.30**	**323**	*e*P	**Pn**	**16 17 43.2**	**+0.4**
MRSI	**Marisa**	**5.56**	**237**	P	**Pn**	**16 17 48.3**	**+1.9**
	214nm,0.7s,2μm						
IPIL	**Ipil**	**5.78**	**317**	*e*P	**Pn**	**16 17 49.0**	**-0.4**
SWI	**Sorong**	**6.43**	**133**	P	**Pn**	**16 17 57.8**	**-0.4**
	baz=6.2,SNR=9.4						
SWI				S	**Sn**	**16 19 10.2**	**-0.1**
	baz=6.2,SNR=5.7						
SWI	**Sorong**	**6.43**	**133**	P	**Pn**	**16 17 57.6**	**-0.6**
	44nm,0.6s,799nm0.2nm						
MSLP	**Maasin**	**6.74**	**345**	*e*P	**Pn**	**16 18 03.4**	**+0.9**
AAI	**Ambon**	**7.39**	**167**	P	Pn	16 18 16.2	+4.8
	baz=7.3,SNR=3.5						
AAI				S	Sn	16 19 59.2	+25
	baz=7.3,SNR=4.0						
PCI	**Palu**	**8.08**	**237**	P	Pn	16 18 41.2	+20
	baz=8.3,SNR=3.0						
KDI	**Kendari**	**8.46**	**208**	P	**Pn**	**16 18 26.3**	**+0.1**
	33nm,1.0s						
PALU	**Palau**	**8.70**	**64**	P	**Pn**	**16 18 28.8**	**-0.6**
	baz=8.5,SNR=3.1						
TTSI	**Tana Toraja**	**9.43**	**226**	P	**Pn**	**16 18 42.3**	**+2.9**
KAPI	**Kappang**	**10.92**	**219**	Pn	**Pn**	**16 18 59.1**	**-0.7**
	baz=217,slow=20,SNR=1.9						
KSM	**Kuching**	**16.39**	**263**	P	**P**	**16 20 17.9**	**+3.1**
	baz=17,SNR=4.1						
MTN	**Manton Dam**	**16.93**	**165**	P	**Pn**	**16 20 16.5**	**-3.0**
	baz=17,SNR=6.0						
KDU	**Kakadu**	**17.18**	**160**	P	**P**	**16 20 27.4**	**+3.8**
	baz=17,SNR=5.4						
GUMO	**Guam**	**20.62**	**60**	LR	LR	16 27 31.8	
	comp=Z,179nm,20.0s,baz=78,slow=32						
FITZ	**Fitzroy Crossi**	**21.56**	**182**	P	**P**	**16 21 09.0**	**-2.3**
	8.6nm,1.0s,baz=16,slow=15,SNR=15						
FITZ	**Fitzroy Crossi**	**21.56**	**182**	P	**P**	**16 21 09.3**	**-2.0**
	baz=22,SNR=13						
QIZ	**Qiongzhong**	**22.44**	**314**	P	**P**	**16 21 17.9**	**-2.9**
QIZ				pmax	pmax		
	comp=Z,41nm,2.7s						
QIZ				LR	LR		
	comp=Z,330nm,17.1s						
WRA	**Warramunga Arr**	**24.58**	**162**	P	**P**	**16 21 39.7**	**-1.7**
	comp=Z,18nm,0.8s,baz=344,slow=10.0,SNR=92						
WRA				PcP	**PcP**	**16 25 19.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=321,slow=2.3,SNR=7.6						
QIS	**Mount Isa**	**27.18**	**152**	P	**P**	**16 22 04.2**	**-0.7**
	baz=27,SNR=5.6						
PSI	**Prapat**	**27.62**	**269**	LR	LR	16 34 19.0	
	comp=Z,153nm,20.0s,baz=267,slow=39						
ASAR	**Alice Springs**	**28.00**	**166**	P	**P**	**16 22 10.8**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=343,slow=6.7,SNR=42						
ASAR				PcP	**PcP**	**16 25 27.1**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=351,slow=2.2,SNR=17						
JNU	**Nakatsue**	**29.67**	**7**	P	**P**	**16 22 25.3**	**-1.7**
	comp=Z,6.6nm,0.8s,baz=116,slow=6.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.82**	**301**	P	**P**	**16 22 37.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=110,slow=6.4,SNR=14						
CMAR				LR	LR	16 37 17.2	
	comp=Z,80nm,18.3s,baz=120,slow=41						
MEEK	**Meekatharra**	**31.01**	**194**	P	**P**	**16 22 38.4**	**-0.4**
	baz=31,SNR=4.7						
KSRS	**Korea Array**	**33.74**	**2**	P	**P**	**16 23 02.6**	**0.0**
	comp=Z,5.0nm,0.7s,baz=181,slow=9.4,SNR=25						
KSRS				LR	LR	16 37 29.0	
	comp=Z,63nm,18.0s,baz=62,slow=38						
XAN	**Xi'an**	**34.49**	**334**	P	**P**	**16 23 07.0**	**-2.2**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,20nm,5.0s						
MJAR	**Matsushiro Arr**	**34.51**	**17**	LR	LR	16 37 37.2	
	comp=Z,83nm,18.4s,baz=230,slow=37						
HNR	**Honiara**	**35.67**	**111**	LR	LR	16 37 49.7	
	comp=Z,240nm,18.1s,baz=304,slow=36						
BJI	**Beijing**	**37.50**	**347**	P	**P**	**16 23 34.1**	**-0.7**
BJI				pmax	pmax		
	comp=Z,25nm,0.9s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**16 23 38.6**	**-0.9**
	comp=Z,5.7nm,0.6s,baz=334,slow=6.9,SNR=23						
STKA				PcP	**PcP**	**16 25 54.9**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=330,slow=5.9,SNR=9.7						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**16 23 38.8**	**-0.7**
	baz=38,SNR=15						
USRK	**Ussuriysk Arra**	**40.74**	**6**	P	**P**	**16 24 02.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=207,slow=11,SNR=3.3						
ARMA	**Armidale**	**41.42**	**146**	P	**P**	**16 24 08.3**	**+0.6**
	baz=41,SNR=4.1						
ARPS	**Mount Arapiles**	**42.59**	**162**	P	**P**	**16 24 19.1**	**+2.1**
	baz=43,SNR=6.1						
ASAJ	**Asahikawa**	**42.78**	**17**	P	**P**	**16 24 20.1**	**+1.6**
	comp=Z,9.1nm,0.8s,baz=192,slow=9.3,SNR=3.6						
PETK	**Petropavlovsk-**	**55.63**	**22**	P	**P**	**16 25 57.9**	**+1.3**
	comp=Z,4.5nm,0.8s,baz=180,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**16 26 09.5**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=124,slow=7.9,SNR=23						
MKAR				PcP	**PcP**	**16 27 04.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=121,slow=3.6,SNR=3.3						
MKAR				ScP	ScP	16 31 08.4	+9.2
	comp=Z,0.2nm,0.5s,baz=122,slow=5.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**16 26 31.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=126,slow=7.7,SNR=5.2						
ZALV				LR	LR	16 54 48.5	
	comp=Z,46nm,19.5s,baz=42,slow=38						
KURBB	**Kurchatov Arra**	**61.79**	**327**	P	**P**	**16 26 38.9**	**-0.4**
	comp=Z,4.9nm,0.7s,baz=128,slow=6.6,SNR=13						
FX1	**Attu Island--F**	**62.29**	**30**	LR	LR	16 49 00.2	
	comp=Z,46nm,20.8s,baz=40,slow=31						
AFI	**Afiamalu**	**63.54**	**107**	LR	LR	16 52 11.1	
	comp=Z,104nm,18.6s,baz=318,slow=34						
BVAR	**Borovoye Array**	**67.37**	**327**	P	**P**	**16 27 16.3**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=126,slow=7.7,SNR=15						
VNDA	**Vanda**	**83.29**	**173**	P	**P**	**16 28 46.8**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=333,slow=4.9,SNR=5.6						
PPT	**Papeete**	**85.21**	**108**	LR	LR	17 00 50.8	
	comp=Z,9.2nm,18.9s,baz=239,slow=31						
ILAR	**Eielson Array**	**85.31**	**25**	P	**P**	**16 28 58.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=262,slow=7.1,SNR=8.0						
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**16 29 18.9**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=99,slow=7.6,SNR=3.6						
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**16 29 21.8**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=78,slow=7.6,SNR=5.0						
SPITS	**Spitsbergen Ar**	**90.60**	**349**	P	**P**	**16 29 23.2**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=54,slow=3.3,SNR=3.2						
AKASG	**Malin Array Be**	**91.92**	**321**	P	**P**	**16 29 27.1**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=68,slow=4.1,SNR=5.2						
KOLS	**Kolonicke sedl**	**96.67**	**320**	*e*P	**P**	**16 29 51.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**97.19**	**320**	*e*P	**P**	**16 29 53.1**	**0.0**
VYHS	**Vyhne**	**98.98**	**320**	PDIF	Pdif	16 30 01.6	+0.4
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**16 35 17.9**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=70,slow=1.7,SNR=6.6						
PLCA	**Paso Flores**	**139.91**	**160**	PKP	**PKPdf**	**16 35 50.1**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=202,slow=3.7,SNR=4.7						
CPUP	**Villa Florida**	**157.06**	**171**	PKPab	**PKPab**	**16 36 47.8**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=121,slow=5.9,SNR=5.0						

DDA 11 16:27:36.8, 37°77N×34°66E, h9km, MD3.0

ISK 11 16:27:37.4, 37°77N×34°60E, h6km, MD3.0

CSEM 11 16:27:37.7±0.2, 37°78N×34°63E, h2km, MD3.0, Error ellipse: s-maj=6.2km s-min=3.8km az=71.0

ISC 11 16:27:37.6±1.2, 37.77N±0.02×34.61E±0.03, h5km±13km, n26, σ0s51/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIG	**Nigde**	**0.34**	**0**	*e*PG	**Pg**	**16 27 44.0**	**-0.3**
NIG	**Nigde**	**0.34**	**0**	*e*Pg	**Pg**	**16 27 44.0**	**-0.3**
GULE	**Gulek**	**0.50**	**165**	*e*P	**Pg**	**16 27 46.6**	**-0.7**
GULE				*e*S	**Sg**	**16 27 54.3**	**+0.4**
GULE	**Gulek**	**0.50**	**165**	*e*P	**Pg**	**16 27 46.6**	**-0.7**
GULE				*e*S	**Sg**	**16 27 54.3**	**+0.4**
MERS	**Mersin**	**0.90**	**184**	*e*PG	**Pb**	**16 27 55.5**	**-0.3**
MERS				*e*SG	**Sb**	**16 28 07.8**	**-0.4**
MERS	**Mersin**	**0.90**	**184**	*e*Pg	**Pb**	**16 27 55.5**	**-0.3**
MERS				*e*Sg	**Sb**	**16 28 07.8**	**-0.4**
SULT	**Sultanhani-AKS**	**0.96**	**297**	*e*PG	**Pg**	**16 27 56.2**	**+0.1**
SULT				*e*SG	**Sb**	**16 28 10.0**	**0.0**
SULT	**Sultanhani-AKS**	**0.96**	**297**	*e*Pg	**Pg**	**16 27 56.2**	**+0.1**
SULT				*e*Sg	**Sb**	**16 28 10.0**	**0.0**
KOZT	**Kozan**	**1.01**	**106**	*e*PG	**Pb**	**16 27 57.4**	**-0.2**
KOZT				*e*SG	**Sb**	**16 28 11.9**	**+0.7**
KOZT	**Kozan**	**1.01**	**106**	*e*Pg	**Pb**	**16 27 57.4**	**-0.2**
KOZT				*e*Sg	**Sb**	**16 28 11.9**	**+0.7**
AVNT	**Avonos**	**1.03**	**11**	*e*P	**Pg**	**16 27 56.3**	**-1.0**
AVNT				*e*S	**Sb**	**16 28 11.7**	**-0.2**
AVNT	**Avonos**	**1.03**	**11**	*e*P	**Pg**	**16 27 56.3**	**-1.0**
AVNT				*e*S	**Sb**	**16 28 11.7**	**-0.2**
CEYT	**Ceyhan**	**1.18**	**130**	*e*PN	**Pn**	**16 28 00.7**	**-0.1**
CEYT	**Ceyhan**	**1.18**	**130**	*e*Pn	**Pn**	**16 28 00.7**	**-0.1**
KRTS	**Karatas**	**1.34**	**153**	*e*PN	**Pg**	**16 28 03.5**	**+0.2**
KRTS	**Karatas**	**1.34**	**153**	*e*Pn	**Pg**	**16 28 03.5**	**+0.2**
BNN	**Bunyan**	**1.45**	**42**	*e*PN	**Pn**	**16 28 04.8**	**+0.1**
BNN	**Bunyan**	**1.45**	**42**	*e*Pn	**Pn**	**16 28 04.8**	**+0.1**
KMRS	**Kahramanmaras**	**1.84**	**98**	*e*PN	**Pn**	**16 28 10.5**	**+0.6**
KMRS	**Kahramanmaras**	**1.84**	**98**	*e*Pn	**Pn**	**16 28 10.5**	**+0.6**
CDAG	**Cicekdag**	**1.86**	**354**	*e*P	**Pg**	**16 28 13.3**	**0.0**
CDAG				*e*S	**Sb**	**16 28 35.5**	**-0.3**
CDAG	**Cicekdag**	**1.86**	**354**	*e*P	**Pg**	**16 28 13.3**	**0.0**
CDAG				*e*S	**Sb**	**16 28 35.5**	**-0.3**
YOZ	**Yozgat**	**1.95**	**16**	*e*PN	**Pn**	**16 28 11.8**	**+0.3**
YOZ	**Yozgat**	**1.95**	**16**	*e*Pn	**Pn**	**16 28 11.8**	**+0.3**
BBAL	**Bala**	**2.12**	**327**	*e*P	**Pb**	**16 28 16.1**	**-0.5**
BBAL				*e*S	**Sg**	**16 28 47.1**	**+1.5**
BBAL	**Bala**	**2.12**	**327**	*e*P	**Pb**	**16 28 16.1**	**-0.5**

ISCJB 11 16:30:05.8±0.8, 4°88S±0°09×153°75E±0°06, h56km, mb3.9/7, MS3.0/1, Error ellipse: s-maj=12.8km s-min=9.0km az=8.2

IDC 11 16:30:10.8±3.3, 4°93S×153°74E, h91km±31km, mb3.7/7, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=27.2km s-min=16.5km az=179.0

ISC 11 16:30:09.9±1.3, 4.9S±0°2×153.70E±0°08, h56km, n12, σ2s00/9, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.66**	**126**	P	**Pn**	**16 32 00.8**	**+1.9**
	5.6nm,0.3s,baz=134,slow=7.5,SNR=4.1						
HNR				S	**Sn**	**16 33 22.3**	**-2.0**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.3						
PMG	**Port Moresby**	**7.88**	**235**	P	**Pn**	**16 32 03.6**	**+1.7**
	16nm,0.3s,baz=67,slow=7.1,SNR=55						
PMG				S	**Sn**	**16 33 28.9**	**-0.7**
	12nm,0.3s,baz=25,slow=19,SNR=5.4						
MMPI	**Merauke**	**13.68**	**254**	P	**P**	**16 33 28.4**	**+0.1**
	baz=12,SNR=5.1						
DZM	**Mont Dzumac**	**21.06**	**145**	P	**P**	**16 34 48.5**	**-1.0**
	3.2nm,0.5s,baz=352,slow=15,SNR=5.8						
WRA	**Warramunga Arr**	**24.05**	**230**	P	**P**	**16 35 18.3**	**-1.8**
	14nm,0.5s,baz=54,slow=10.0,SNR=16						
STKA	**Stephens Creek**	**29.13**	**201**	P	P	16 36 02.9	-2.8
	1.0nm,0.5s,baz=39,slow=15,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.39**	**242**	LR	LR	16 49 42.2	
	comp=Z,35nm,21.2s,baz=342,slow=38						
CMAR	**Chiang Mai Arr**	**58.73**	**295**	P	**P**	**16 40 00.7**	**-1.8**
	0.3nm,0.4s,baz=109,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**80.99**	**319**	P	P	16 42 16.0	-2.7
	0.8nm,0.8s,baz=116,slow=7.9,SNR=4.2						
ILAR	**Eielson Array**	**81.92**	**22**	P	P	16 42 19.1	-4.1
	0.3nm,0.5s,baz=247,slow=5.0,SNR=9.5						
AAK	**Ala-Archa**	**85.39**	**313**	P	P	16 42 39.1	-2.5
	0.9nm,0.7s,baz=151,slow=13,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.19**	**288**	PKPbc	**PKPdf**	**16 49 54.4**	**+2.2**
	0.6nm,0.4s,baz=77,slow=2.3,SNR=15						

ISCJB 11 16:30:54.0±0.5, 7°92S±0°03×128°23E±0°05, h44km, mb4.2/9, MS4.6/1, Error ellipse: s-maj=6.9km s-min=4.0km az=174.4

IDC 11 16:30:55.1±4.0, 7°52S×128°24E, h106km±39km, mb3.9/9, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, MS4.7/1, Ms1 4.7/1, ms1mx2.8/36, Error ellipse: s-maj=36.5km s-min=17.4km az=62.0

DJA 11 16:30:59.9±0.3, 8°S±4°×12°8E±°, h126km±17km, M4.4/12, mB5.1/4, mb4.4/12, MLv4.3/11, Mw(mB)4.4/4

AUST 11 16:31:00.1, 7°98S×128°54E, h100km

ISC 11 16:30:56.1±0.7, 7°91S±0°04×128°32E±0°06, h44km, n40, σ2s17/31, mb4.2/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.71**	**25**	P	**Pn**	**16 31 52.5**	**+1.6**
AAI	**Ambon**	**4.19**	**358**	P	**Pn**	**16 31 59.0**	**+1.5**
	baz=4.3,SNR=16						
AAI	**Ambon**	**4.19**	**358**	P	**Pn**	**16 31 58.4**	**+0.8**
MSAI	**Masohi**	**4.57**	**8**	P	**Pn**	**16 32 02.8**	**+0.1**
TLE	**Tual**	**4.93**	**63**	P	Pn	16 32 10.6	+2.9
	baz=4.8,SNR=22						
TLE				S	**Sn**	**16 33 06.8**	**+3.3**
	baz=4.8,SNR=4.9						
TLE	**Tual**	**4.93**	**63**	P	**Pn**	**16 32 09.8**	**+2.1**
MTN	**Manton Dam**	**5.63**	**151**	P	Pn	16 32 24.5	+7.3
	baz=5.5,SNR=132						
MTN				S	**Sn**	**16 33 22.9**	**+2.2**
	baz=5.5,SNR=5.0						
MMRI	**Maumere**	**6.07**	**263**	P	Pn	16 32 28.4	+5.1
	26nm,1.0s,0.2nm						
BBSI	**Bau Bau**	**6.20**	**292**	P	Pn	16 32 29.0	+3.9
	33nm,0.9s,0.1nm						
KDU	**Kakadu**	**6.26**	**140**	P	Pn	16 32 32.1	+6.2
	baz=6.1,SNR=262						
KDU				S	**Sn**	**16 33 37.9**	**+1.6**
	baz=6.1,SNR=8.3						
FAKI	**Fak Fak**	**6.31**	**38**	P	**Pn**	**16 32 26.1**	**-0.5**
	26nm,1.3s,782nm0.2nm						
KDI	**Kendari**	**6.90**	**304**	P	**Pn**	**16 32 36.1**	**+1.4**
	12nm,1.2s,0.0nm						
LBMI	**Labuha**	**7.27**	**353**	P	**Pn**	**16 32 40.4**	**+0.6**
	42nm,1.0s,0.2nm						
SWI	**Sorong**	**7.58**	**23**	P	**Pn**	**16 32 44.1**	**0.0**
	baz=7.6,SNR=9.6						
SWI				S	**Sn**	**16 34 11.3**	**+2.5**
	baz=7.6,SNR=3.2						
SWI	**Sorong**	**7.58**	**23**	P	**Pn**	**16 32 43.0**	**-1.1**
	56nm,0.8s,635nm						
WSI	**Waingapu**	**8.12**	**257**	P	Pn	16 32 57.6	+6.1
	131nm,0.5s,4μm						
BKSI	**Bulukumba**	**8.54**	**287**	P	Pn	16 33 01.6	+4.4
	9.4nm,1.4s						
TNTI	**Ternate**	**8.67**	**354**	P	**Pn**	**16 32 59.3**	**+0.2**
	35nm,1.5s						
FITZ	**Fitzroy

SBA	**Scott Base**	**42.66**	**184**	*eP*	**P**	**16**	**51**	**21.8 -2.3**
WRAB	**Tennant Creek**	**43.40**	**279**	*eP*	**P**	**16**	**51**	**29.4 -1.4**
	8.0nm,0.6s							
WRA	**Warramunga Arr**	**43.40**	**279**	P	**P**	**16**	**51**	**29.9 -1.0**
	6.4nm,0.5s,baz=119,slow=7.7,SNR=99							
WRA	**Warramunga Arr**	**43.40**	**279**	P	**P**	**16**	**51**	**29.9 -1.0**
FITZ	**Fitzroy Crossi**	**51.39**	**275**	P	**P**	**16**	**52**	**31.9 -1.0**
	3.1nm,0.8s,baz=159,slow=8.7,SNR=6.8							
FITZ				LR	LR	17	15	19.3
	comp=Z,93nm,18.4s,baz=227,slow=37							
FITZ	**Fitzroy Crossi**	**51.39**	**275**	*eP*	**P**	**16**	**52**	**31.9 -1.0**
	2.8nm,0.8s							
QSPA	**South Pole Qui**	**54.41**	**180**	P	**P**	**16**	**52**	**57.8 +3.0**
	2.3nm,1.0s,baz=2.7,slow=4.5,SNR=4.6							
QSPA	**South Pole Qui**	**54.41**	**180**	P	**P**	**16**	**52**	**57.8 +3.0**
PETK	**Petropavlovsk-**	**90.67**	**346**	P	**P**	**16**	**56**	**30.5 +0.7**
	10nm,0.9s,baz=116,slow=7.4,SNR=6.3							
PETK	**Petropavlovsk-**	**90.67**	**346**	P	**P**	**16**	**56**	**30.5 +0.7**
MKAR	**Makanchi Array**	**120.19**	**306**	PKP	**PKPdf**	**17**	**02**	**17.6 -0.5**
	0.3nm,0.6s,baz=66,slow=2.9,SNR=3.9							
MKAR	**Makanchi Array**	**120.19**	**308**	PKP	**PKPdf**	**17**	**02**	**17.6 -0.5**
KURK	**Kurchatov Array**	**123.77**	**312**	PKP	**PKPdf**	**17**	**02**	**24.3 -0.5**
KURBB	**Kurchatov Arra**	**123.80**	**311**	PKP	**PKPdf**	**17**	**02**	**24.3 -0.6**
	1.1nm,0.6s,baz=122,slow=1.6,SNR=9.8							
BVAR	**Borovoye Array**	**129.26**	**313**	PKP	**PKPdf**	**17**	**02**	**35.1 -0.2**
	0.4nm,0.7s,baz=95,slow=3.3,SNR=3.8							
BVAR	**Borovoye Array**	**129.26**	**313**	PKP	**PKPdf**	**17**	**02**	**35.1 -0.2**
ARCES	**ARCESS Array B**	**143.47**	**346**	PKP	**PKPdf**	**17**	**03**	**00.8 -0.3**
	3.4nm,1.0s,baz=30,slow=5.9,SNR=3.7							
ARCES	**ARCESS Array B**	**143.47**	**346**	PKP	**PKPdf**	**17**	**03**	**00.8 -0.3**
JOF	**Joensuu**	**146.81**	**335**	*ep*	**PKPbc**	**17**	**03**	**08.7 -0.1**
	4.8nm,0.5s							
KAF	**Kangasniemi**	**149.05**	**337**	*ep*	**PKPbc**	**17**	**03**	**13.9 -0.9**
	3.0nm,0.5s							
FIA1	**FINESS Array S**	**149.61**	**336**	*e*PKPbc	**PKPbc**	**17**	**03**	**15.6 -0.6**
FINES	**FINESS Array B**	**149.61**	**336**	PKPbc	**PKPbc**	**17**	**03**	**16.3 +0.1**
	3.5nm,0.6s,baz=82,slow=4.0,SNR=15							
FINES	**FINESS Array B**	**149.61**	**336**	PKPbc	**PKPbc**	**17**	**03**	**16.3 +0.1**
BRTR	**Keskin Array B**	**153.63**	**289**	PKPbc	**PKPbc**	**17**	**03**	**26.9 +0.5**
	0.8nm,0.9s,baz=90,slow=2.9,SNR=3.3							
BRTR	**Keskin Array B**	**153.63**	**289**	PKPbc	**PKPbc**	**17**	**03**	**26.9 +0.5**
NB2	**NORSAR Subarra**	**153.76**	**348**	PKP	PKPbc	17	03	31.4 +5.6
	comp=Z,5.3nm,1.4s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**153.76**	**348**	PKPab	**PKPab**	**17**	**03**	**37.0 -1.9**
	comp=Z,1.5nm,0.9s,baz=22,slow=3.2,SNR=4.5							
NOA	**NORSAR Array B**	**153.76**	**348**	PKPab	**PKPab**	**17**	**03**	**37.0 -1.9**
AKASG	**Malin Array Be**	**154.51**	**315**	PKPbc	**PKPbc**	**17**	**03**	**27.7 0.0**
	comp=Z,0.6nm,0.6s,baz=50,slow=2.0,SNR=3.2							
AKASG	**Malin Array Be**	**154.51**	**315**	PKPbc	**PKPbc**	**17**	**03**	**27.7 0.0**
TORD	**Torodi Ar. Bea**	**157.51**	**183**	PKPab	**PKPab**	**17**	**03**	**56.5 +0.6**
	comp=Z,0.4nm,0.7s,baz=168,slow=2.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**157.51**	**183**	PKPab	**PKPab**	**17**	**03**	**56.5 +0.6**

GUC 11 16:53:53.4±0.8, 34°51'S×72°12'W, h29km±4km, MD3.6, ML2.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.81**	**47**	*i*	*P*	Pn	16 54 08.0	-0.9
LNV				*i*	S	Sb	16 54 19.6	+0.1
CACH	**El Canelo**	**1.32**	**73**	*i*	*P*	Pn	16 54 16.8	+0.7
CACH				*i*	S	Sb	16 54 34.5	+0.1
CHCH	**Chadas Angostu**	**1.35**	**65**	*i*	*P*	Pn	16 54 16.9	+0.6
CHCH				*i*	S	Sb	16 54 34.8	-0.2
RCDM	**Rinconada Maip**	**1.49**	**47**	*e*	*P*	Pn	16 54 18.6	+0.2
RCDM				*e*	S	Sn	16 54 38.0	+1.1
RCDM					AML	AML	16 54 42.6	
	comp=E,144nm,0.5s							
LMEL	**Las Melosas**	**1.72**	**68**	*i*	*P*	Pn	16 54 23.0	+1.3
LMEL				*e*	S	Sb	16 54 45.7	-0.3
LMEL					AML	AML	16 54 49.2	
	comp=N,347nm,0.1s							
CLCH	**Cerro Calan**	**1.72**	**50**	*e*	*P*	Pn	16 54 22.9	+1.3
CLCH				*e*	S	Sb	16 54 44.7	-1.1
CLCH					AML	AML	16 54 56.1	
	comp=E,162nm,0.7s							
PEL	**Peldehue**	**1.81**	**42**	*i*	*P*	Pb	16 54 24.5	-1.5
PEL				*i*	S	Sb	16 54 47.9	-0.5
PEL					AML	AML	16 54 53.4	
	comp=E,190nm,0.4s							
FCH	**Farellones**	**1.93**	**53**	*e*	*P*	Pn	16 54 26.0	+1.3
FCH				*e*	S	Sb	16 54 50.9	-1.3
FCH					AML	AML	16 54 54.9	
	comp=E,115nm,0.2s							

IDC 11 16:59:10.8±1.8, 0°15'S×125°57'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/16, Error ellipse: s-maj=181.4km s-min=25.1km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.46**	**157**	P	P	P	17 04 00.9	-0.1
	0.5nm,0.7s,baz=335,slow=11,SNR=9.9							
ASAR	**Alice Springs**	**24.74**	**161**	P	P	P	17 04 34.2	+0.1
	0.3nm,0.7s,baz=346,slow=9.8,SNR=9.1							
DZM	**Mont Dzumac**	**45.38**	**121**	LR	LR		17 24 57.6	
	comp=Z,136nm,20.3s,baz=211,slow=34							
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	P	17 09 20.1	-0.1
	0.2nm,0.6s,baz=132,slow=8.3,SNR=3.4							

IDC 11 17:02:20.1±4.6, 2°26'S×138°31'E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=190.8km s-min=27.6km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**192**	P	P	P	17 06 33.2	+0.8
	0.2nm,0.3s,baz=13,slow=12,SNR=16							
ASAR	**Alice Springs**	**21.70**	**191**	P	P	P	17 07 12.1	-0.8
	1.6nm,0.9s,baz=24,slow=10,SNR=22							
MKAR	**Makanchi Array**	**69.19**	**322**	P	P	P	17 13 28.7	0.0
	0.1nm,0.5s,baz=117,slow=6.9,SNR=3.4							

IDC 11 17:04:43.1±2.0, 3°64'N×126°73'E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.4/21, Error ellipse: s-maj=161.8km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.60**	**163**	P	P	P	17 10 04.2	-1.0
	1.4nm,0.8s,baz=342,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.02**	**166**	P	P	P	17 10 37.2	+1.1
	0.1nm,0.5s,baz=342,slow=8.9,SNR=3.7							
CTA	**Charters Tower**	**30.39**	**142**	LR	LR		17 22 34.1	
	comp=Z,120nm,18.9s,baz=24,slow=35							
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	P	17 14 35.0	-0.1
	0.3nm,0.6s,baz=120,slow=9.3,SNR=3.3							

IDC 11 17:09:45.9±2.1, 4°12N×126°49'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=177.6km s-min=26.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**162**	P	P	P	17 15 12.9	+0.1
	0.5nm,0.6s,baz=343,slow=10,SNR=7.1							
ASAR	**Alice Springs**	**28.55**	**166**	P	P		17 15 43.5	-0.1
	0.2nm,0.8s,baz=336,slow=7.8,SNR=4.5							
MKAR	**Makanchi Array**	**57.10**	**325**	P	P	P	17 19 34.1	-0.1
	0.2nm,0.6s,baz=128,slow=9.8,SNR=3.3							

IDC ***11*** *17:11:32.8±1.2, 18°33'S×167°68'E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/20, mbtmp4.3/10, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/24, Error ellipse: s-maj=36.1km s-min=20.5km az=142.0*

ISCJB ***11*** *17:11:35.5±0.9, 18°40S±0°08×167°5E±0°1, h25km, mb4.1/8, MS3.4/2, Error ellipse: s-maj=18.5km s-min=10.9km az=3.3*

AUST ***11*** *17:11:53.2, 17°48'S×167°39'E, h200km*

ISC 11 17:11:36.9±1.0, 18°40'S±0°08×167°6'E±0°1, h25km, n22, σ1f99/21, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**196**	Pn	**P**	**Pn**	**17 12 33.1**	**-1.0**
	6.5nm,0.3s,baz=36,slow=18,SNR=59							
DZM				Sn		**Sn**	**17 13 16.6**	**-1.6**
	8.0nm,0.3s,baz=121,slow=23,SNR=8.9							
DZM	**Mont Dzumac**	**3.81**	**196**	*e*P	**P**	**Pn**	**17 12 32.4**	**-1.7**
DZM				*e*S		**Sn**	**17 13 14.2**	**-4.0**
LASL	**Noumea**	**3.94**	**195**	*e*P	**P**	**Pn**	**17 12 35.6**	**-0.1**
HNR	**Honiara**	**11.61**	**319**	Pn	**P**	**Pn**	**17 14 19.2**	**-1.9**
	2.4nm,0.3s,baz=190,slow=5.7,SNR=3.7							
HNR				LR	LR		17 17 23.2	
	comp=Z,95nm,19.3s,baz=214,slow=30							
LHI	**Lord Howe Isla**	**15.18**	**209**	P	P		17 15 31.5	+17
	baz=16,SNR=3.4							
RMQ	**Roma**	**19.18**	**242**	*P*	**Pn**	**17**	**16 04.1**	**+4.3**
	baz=20,SNR=5.0							
CTA	**Charters Tower**	**20.23**	**262**	P	Pn		17 16 12.0	-0.4
	13nm,0.8s,baz=85,slow=12,SNR=9.4							
AFI	**Afiamalu**	**20.29**	**80**	LR	LR		17 22 55.9	
	comp=Z,137nm,18.6s,baz=288,slow=34							
QLP	**Quilpie**	**23.05**	**245**	P	**P**	**17**	**16 41.4**	**+0.9**
	baz=23,SNR=8.1							
STKA	**Stephens Creek**	**27.02**	**235**	P	**P**	**17**	**17 18.3**	**+1.3**
	7.4nm,1.0s,baz=60,slow=9.0,SNR=13							
STKA	**Stephens Creek**	**27.02**	**235**	P	**P**	**17**	**17 18.4**	**+1.3**
	baz=27,SNR=11							
WRA	**Warramunga Arr**	**31.43**	**262**	P	**P**	**17**	**17 55.3**	**-1.2**
	1.7nm,0.9s,baz=95,slow=8.9,SNR=12							
ASAR	**Alice Springs**	**31.84**	**255**	P	**P**	**17**	**17 59.7**	**-0.4**
	4.1nm,0.8s,baz=83,slow=8.6,SNR=34							
ASAR				LR	LR		17 31 23.1	
	comp=Z,83nm,19.8s,baz=258,slow=37							
KDU	**Kakadu**	**34.29**	**274**	P	**P**	**17**	**18 18.6**	**-2.8**
	baz=34,SNR=4.2							
FITZ	**Fitzroy Crossi**	**39.80**	**264**	P	**P**	**17**	**19 08.5**	**+0.3**
	9.3nm,0.8s,baz=120,slow=7.5,SNR=17							
FITZ	**Fitzroy Crossi**	**39.80**	**264**	P	**P**	**17**	**19 08.6**	**+0.3**
	baz=40,SNR=13							
MEEK	**Meekatharra**	**45.77**	**251**	P	**P**	**17**	**19 57.1**	**+0.4**
	baz=46,SNR=3.5							
QSPA	**South Pole Qui**	**71.64**	**180**	P	**P**	**17**	**22 58.8**	**+2.5**
	1.8nm,1.0s,baz=81,slow=3.0,SNR=3.1							
CMAR	**Chiang Mai Arr**	**76.75**	**295**	P	**P**	**17**	**23 28.0**	**+1.3**
	0.5nm,0.8s,baz=154,slow=4.3,SNR=4.9							
NVAR	**Mina Array Bea**	**89.41**	**49**	P	**P**	**17**	**24 32.6**	**+0.6**
	0.9nm,0.7s,baz=229,slow=9.3,SNR=5.9							
ILAR	**Eielson Array**	**89.90**	**18**	P	**P**	**17**	**24 31.2**	**-2.1**
	0.6nm,0.7s,baz=238,slow=4.6,SNR=11							
YKA	**Yellowknife Ar**	**100.64**	**27**	P		**Pdif**	**17 25 22.0**	**-0.3**
	0.1nm,0.4s,baz=259,slow=4.4,SNR=3.5							

IDC 11 17:16:57.5±1.6, 4°42N×127°05'E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=153.7km s-min=19.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.25**	**164**	P	P	P	17 22 25.4	-0.1
	0.8nm,0.6s,baz=344,slow=11,SNR=9.7							
ASAR	**Alice Springs**	**28.70**	**167**	P	P	P	17 22 56.7	+0.1
	0.1nm,0.3s,baz=340,slow=7.8,SNR=6.4							
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	P	17 26 46.9	+0.5
	0.3nm,0.4s,baz=118,slow=7.6,SNR=6.5							
ZALV	**Zalesovo Beam**	**60.13**	**333**	P	P	P	17 27 06.2	-0.5
	0.3nm,0.4s,baz=138,slow=6.9,SNR=2.9							
KURBB	**Kurchatov Arra**	**61.34**	**327**	P	P	P	17 27 15.0	-0.1
	0.6nm,0.5s,baz=124,slow=6.5,SNR=8.2							

IDC 11 17:20:08.7±1.1, 59°58S×25°42W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=32.9km s-min=21.1km az=67.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**30.66**	**180**	P	P	P	17 26 24.2	-0.4
	0.9nm,0.6s,baz=129,slow=13,SNR=7.9							
PLCA	**Paso Flores**	**33.65**	**284**	P	P		17 26 52.0	+1.1
	1.6nm,0.7s,baz=138,slow=5.7,SNR=7.3							
CFAA	**Coronel Fontan**	**39.87**	**295**	P	P		17 27 44.4	+0.5
	1.0nm,0.6s,baz=149,slow=14,SNR=18							
VNDA	**Vanda**	**43.08**	**182**	P	P		17 28 09.5	-0.1
	0.8nm,0.6s,baz=158,slow=5.4,SNR=2.2							
SIV	**San Ignacio**	**50.70**	**314**	P	P		17 29 08.0	-1.9
	0.6nm,0.5s,baz=203,slow=13,SNR=3.4							
LPAZ	**La Paz**	**53.20**	**306**	P	P		17 29 28.7	-0.5
	1.9nm,0.6s,baz=143,slow=4.3,SNR=7.6							
TORD	**Torodi Ar. Bea**	**75.72**	**27**	P	P		17 31 56.3	+0.5
	1.6nm,0.7s,baz=201,slow=6.5,SNR=12							

IDC 11 17:22:32.7±1.9, 4°98S×152°29'E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML2.6/1, Error ellipse: s-maj=75.7km s-min=22.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.72**	**229**	Pn	Pn		17 24 13.8	+1.0
	0.7nm,0.3s,baz=42,slow=5.4,SNR=4.2							
PMG				Sn	Sn		17 25 27.0	-3.1
	1.6nm,0.3s,baz=94,slow=10,SNR=6.7							
WRA	**Warramunga Arr**	**22.94**	**228**	P	P		17 27 37.5	-1.3
	0.6nm,0.5s,baz=50,slow=10.0,SNR=8.0							
ASAR	**Alice Springs**	**25.67**	**222**	P	P		17 28 03.5	-1.1
	0.5nm,0.7s,baz=54,slow=9.9,SNR=8.7							
FITZ	**Fitzroy Crossi**	**29.12**	**241**	P	P		17 28 37.0	+1.4
	1.8nm,0.6s,baz=60,slow=6.2,SNR=8.4							
MKAR	**Makanchi Array**	**80.12**	**319**	P	P		17 34 45.5	+0.7
	0.1nm,0.5s,baz=90,slow=7.8,SNR=2.9							
ILAR	**Eielson Array**	**82.52**	**22**	P	P		17 34 56.6	-0.5
	0.4nm,0.7s,baz=243,slow=5.6,SNR=4.0							

SZGRF ***11*** *17:24:31.1, 7°92N×84°67W, h26km, mb6.1, MS5.9, Off coast of Costa Rica*

IDC ***11*** *17:24:34.4±0.4, 8°62N×83°28W, h0km, mb5.2/32, mb1 5.4/36, mb1mx5.4/38, mbtmp5.2/36, ML4.7/2, MS5.6/23, Ms1 5.6/23, ms1mx5.4/32, Error ellipse: s-maj=11.3km s-min=8.1km az=70.0*

ISCJB ***11*** *17:24:37.0±0.1, 8°65N±0°03×83°19W±0°01, h23km, mb5.7/340, MS5.6/214, Error ellipse: s-maj=3.8km s-min=1.6km az=21.4*

NEIC ***11*** *17:24:36.6±0.2, 8°50N×83°22W, h14km, mb5.8/230, ME5.6, MS5.6/153, MW5.9, MW5.7, Error ellipse: s-maj=4.3km s-min=2.4km az=202.0 Broadband fault plane solution: P waves. NP1:φs115.00000°, δ75.00000°, λ90.00000°. NP2:φs295.00000°, δ15.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm25.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm205.0000°; Moment Tensor Solution. s79 Moment tensor: Scale 10¹⁷ Nm; Mrr4.10; Mθθ-2.20; Mφφ-1.89; Mrθ2.20; Mθφ1.00; Mφr-1.62; Best double couple: M₀4.60000×10¹⁷ NP1: φs311.00000°, δ26.00000°, λ93.00000°. NP2: φs128.00000°, δ64.00000°, λ89.00000°. Principal axes: T 5.0300, Plg71.0000°, Azm34.0000°; N -1.0400, Plg1.0000°, Azm128.0000°; P -3.9800, Plg18.0000°, Azm219.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VI] at San Vito; [V] at Golfito, Puerto Jimenez and Rio Claro; [IV] at Alajuela, Almirante, Jaco, Sabanilla, San Antonio and San Isidro. Felt in much of Costa Rica and in western Panama.

CASC ***11*** *17:24:37.6±3.2, 8°76N×83°09W, h0km±8km, MD5.2, ML5.2, mb5.8(NEIC)*

MOS ***11*** *17:24:38.3±0.9, 8°61N×83°19W, h33km, mb6.1/87, MS5.5/51, Error ellipse: s-maj=5.6km s-min=4.0km az=90.3*

BGS ***11*** *17:24:40.8±2.0, 9°61N×82°96W, h14km, mb5.4, MS5.6*

GCMT ***11*** *17:24:42.9±0.1, 8°55N×83°18W, h19km, MW5.9, Moment Tensor Solution. s110,c249; s82,c105; Moment tensor: Scale 10¹⁷Nm; Mrr6.89±.07; Mθθ-6.36±.06; Mφφ-0.53±.06; Mrθ5.32±.15; Mθφ3.08±.04; Mφr-2.65±.15; Best double couple: M₀9.40000×10¹⁷ NP1:φs291.00000°, δ25.00000°, λ86.00000°. NP2:φs115.00000°, δ65.00000°, λ92.00000°. Principal axes: T 9.0100, Plg70.0000°, Azm30.0000°; N 0.7900, Plg2.0000°, Azm295.0000°; P -9.8000, Plg20.0000°, Azm204.0000°; Data Used: II IU CN IC G. Surface waves: sta=118, comp=263, per= 50.*

NEIC ***11*** *17:24:52.0±0.0, 8°84N×82°81W, h10km, Moment Tensor Solution. s180 Moment tensor: Scale 10¹⁷Nm; Mrr5.26; Mθθ-4.41; Mφφ-0.85; Mrθ5.59; Mθφ2.29; Mφr0.54; Best double couple: M₀7.80000×10¹⁷ NP1:φs95.00000°, δ69.00000°, λ74.00000°. NP2:φs314.00000°, δ27.00000°, λ126.00000°. Principal axes: T 8.0600, Plg62.0000°, Azm338.0000°; N -0.5600, Plg15.0000°, Azm100.0000°; P -7.5000, Plg22.0000°, Azm197.0000°;*

ISC 11 17:24:37.3±0.5, 8°50N±0°03×83°22W±0°03, h18km±1km, h18km:pP-P, n1532, σ1f937/1582, mb5.8/340, MS5.6/218, 361C-220D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.16**	**17**	*i*	*P*	**Pb**	**17 24 40.3**	**-0.6**
ACR	**Cerro Adams**	**0.16**	**17**	*i*	*P*	**Pb**	**17 24 40.3**	**-0.6**
BRU2	**Volcan**	**0.60**	**60**	*i*	*P*	**Pb**	**17 24 47.5**	**-1.7**
BUS	**Buena Vista**	**1.18**	**333**	*e*	*P*	**Pn**	**17 24 56.9**	**-2.4**
BUS	**Buena Vista**	**1.18**	**333**	*i*	*P*	**Pn**	**17 24 56.9**	**-2.4**
QCR	**Quepos**	**1.32**	**315**	*i*	*P*	**Pn**	**17 24 58.3**	**-2.4**
LAJ	**Bijagual**	**1.63**	**327**	*i*	*P*	**Pb**	**17 25 06.6**	**-0.3**
LAJ	**Bijagual**	**1.63**	**327**	*i*	*P*	**Pb**	**17 25 06.6**	**-0.3**
CGA2	**Cerro Gallo 2**	**1.95**	**321**	*e*	*P*	**Pn**	**17 25 08.8**	**-0.8**
CGA2	**Cerro Gallo 2**	**1.95**	**321**	*i*	*P*	**Pn**	**17 25 08.8**	**-0.8**
CASO	**Castillo**	**2.44**	**322**	*i*	*P*	**Pn**	**17 25 17.8**	**+1.6**
JTS	**JuntasAbangare**	**2.47**	**316**	Pn		**Pn**	**17 25 16.2**	**-0.4**
	448nm,0.3s,baz=138,slow=7.5,SNR=241							
JTS				Sn		**Sn**	**17 25 47.6**	**+1.2**
	baz=308,slow=19							
JTS	**JuntasAbangare**	**2.47**	**316**	*e*Pn		**Pn**	**17 25 15.9**	**-0.8**
JTS				Sn		**Sn**	**17 25 47.6**	**+1.2**
JTS	**JuntasAbangare**	**2.47**	**316**	*e*P		**Pn**	**17 25 17.4**	**+0.7**
JTS				*e*S		**Sn**	**17 25 46.4**	**-0.1**
CHPA	**Chiripa**	**2.56**	**319**	*e*P		**Pn**	**17 25 20.0**	**+2.1**
CHPA				*i*	S	**Sb**	**17 25 53.9**	**+0.1**
AMAS	**Alto Masis**	**2.74**	**320**	*i*	*P*	**Pn**	**17 25 21.3**	**+0.9**
PTEN	**Parque Tenorio**	**2.81**	**322**	*i*	*P*	**Pn**	**17 25 22.1**	**+0.7**
PTEN				*i*	S	**Sb**	**17 25 59.5**	**-1.6**
CUI	**Cuipilapa**	**2.88**	**318**	*i*	*P*	**Pn**	**17 25 24.0**	**+1.7**
CUI				*i*	S	**Sb**	**17 26 01.3**	**-1.9**
COLC	**Colonia**	**2.91**	**318**	*i*	*P*	**Pn**	**17 25 24.4**	**+1.6**
GUAB	**Guayabo de Bag**	**2.96**	**318**	*e*	*P*	**Pn**	**17 25 24.7**	**+1.3**
MESS	**Mesas**	**2.96**	**319**	*i*	*P*	**Pn**	**17 25 26.0**	**+2.5**
GPS3	**Bodega del ICE**	**3.09**	**317**	*i*	*P*	**Pn**	**17 25 27.7**	**+2.5**
GPS1	**Guardaparques**	**3.09**	**317**	*i*	*P*	**Pn**	**17 25 27.8**	**+2.6**
NY14	**Universidad de**	**3.13**	**313**	*i*	*P*	**Pn**	**17 25 27.9**	**+2.2**
LAPC	**Finca la Perla**	**3.14**	**316**	*i*	*P*	**Pn**	**17 25 27.7**	**+1.8**
GB1A	**Borinquen Arri**	**3.16**	**317**	*i*	*P*	**Pn**	**17 25 28.0**	**+1.8**
GBS3	**Finca Las Im¯¡**	**3.17**	**316**	*i*	*P*	**Pn**	**17 25 28.1**	**+1.9**
GBS2	**Las Lilas**	**3.21**	**317**	*i*	*P*	**Pn**	**17 25 28.8**	**+2.0**
BCIP	**Isla Barro Col**	**3.40**	**78**	*e*Pn		**Pn**	**17 25 30.3**	**+0.9**
BCIP	**Isla Barro Col**	**3.40**	**78**	*e*P		**Pn**	**17 25 30.6**	**+1.1**
BCIP				*e*S		**Sn**	**17 26 08.2**	**-1.2**
UPIG		**3.67**	**82**	*e*P		**Pn**	**17 25 34.0**	**+0.9**
CNCH	**Conchagua**	**6.57**	**317**	*e*P		**Pn**	**17 26 14.3**	**+1.2**
CNCH				*e*S		**Sn**	**17 27 25.1**	**-2.5**
TGUH	**Tegucigalpa,Un**	**6.81**	**325**	*e*P		**Pn**	**17 26 18.6**	**+2.4**
	5μm,0.9s							
BLLM	**Bellamira**	**6.96**	**315**	*e*P		**Pn**	**17 26 19.9**	**+1.5**
VSM	**San Miguel**	**6.98**	**315**	*e*P		**Pn**	**17 26 20.7**	**+1.8**
VSM				*e*S		**Sn**	**17 27 36.1**	**-1.8**
CAHU	**Cacacuatique**	**7.18**	**317**	*e*P		**Pn**	**17 26 23.3**	**+1.8**
LFU	**La Fuente**	**7.79**	**313**	*e*P		**Pn**	**17 26 32.1**	**+2.2**
SNET	**Serv Nac Est T**	**7.84**	**312**	*e*P		**Pn**	**17 26 31.8**	**+1.3**
SNET					AML	AML	17 26 39.4	
	comp=Z,2μm,0.7s							
BOQS	**Boqueron**	**7.91**	**312**	*e*P		**Pn**	**17 26 33.2**	**+1.6**
BOQS				*e*S		**Sn**	**17 27 58.2**	**-2.5**
SBLS	**San Blas**	**8.23**	**311**	*e*P		**Pn**	**17 26 38.1**	**+2.1**
SNJE	**San Jose**	**8.23**	**311**	*e*P		**Pn**	**17 26 38.2**	**+2.2**
RTR	**El Retiro**	**8.28**	**311**	*e*P		**Pn**	**17 26 38.6**	**+1.9**
RBDL	**Robledal**	**8.45**	**312**	*e*P		**Pn**	**17 26 41.0**	**+2.0**
ROSC	**El Rosal**	**9.54**	**112**	Pn		**Pn**	**17 26 58.4**	**+4.3**
	comp=Z,1.8nm,0.3s,baz=101,slow=0.9,SNR=23							
ROSC				Sn		Sn	17 29 05.4	+24
	comp=Z,1.3nm,0.3s,baz=294,slow=20,SNR=1.8							
ROSC	**El Rosal**	**9.54**	**112**	Pn		Pn	17 26 58.4	+4.3
ROSC				Sn		Sn	17 29 05.4	+24
MCJ	**Malvern**	**10.80**	**29**

comp=E,1.8nm,0.3s,baz=270,slow=18,SNR=2.6
SJG LR LR 17 35 52.0
comp=E,18µm,19.7s,baz=270,slow=35
SJG San Juan 19.14 58 *e*Pn **Pn 17 29 01.2 +0.6**
SJG S **S 17 32 38.1 +2.0**
DEIG Demacu 19.28 309 P **Pn 17 29 02.5 +0.1**
HUMP Col San Antoni 19.41 59 *e*Pn **Pn 17 29 05.6 +1.8**
CBYP Canovanas 19.46 58 *e*Pn **Pn 17 29 04.1 -0.4**
comp=E,2µm,1.8s
DWPF Disney 19.58 5 *e*Pn **Pn 17 29 05.4 -0.3**
comp=E,1µm,1.4s
MTP Monte Pirata 19.64 59 *e*P **Pn 17 29 06.1 -0.5**
comp=E,2µm,1.8s
PTP Ponta Puerca 19.65 59 *e*P x 17 24 50.6
ZIIG Zihuatanejo 19.93 299 P **Pn 17 29 09.7 -0.3**
CDVI St. Croix 20.17 61 *e*P Pn 17 29 11.9 -0.9
comp=E,739nm,1.0s
STVI Saint Thomas 20.27 59 *e*P **P 17 29 11.6 -0.3**
comp=E,3µm,2.3s
NNA Nana 21.31 163 P **P 17 29 26.3 +3.0**
comp=E,164nm,1.2s,baz=334,slow=13,SNR=13
NNA S Sn 17 33 24.8 -2.4
comp=E,3.5nm,0.4s,baz=65,slow=16,SNR=1.6
NNA Nana 21.31 163 *e*P **P 17 29 25.6 +2.4**
comp=E,200nm,1.1s
NNA S Sn 17 33 24.8 -2.4
NNA LR LR
comp=Z,11µm,20.0s
GRW Mount Saint Ca 21.51 78 *e* **P 17 29 27.9 +2.4**
GRW Mount Saint Ca 21.51 78 *e* **P 17 29 29.7 +4.2**
GRGR Grenville 21.52 79 *e*P **P 17 29 27.8 +2.3**
comp=Z,1µm,1.3s
GRGR LR LR
comp=Z,11µm,20.0s
GRSS Sisters 21.58 78 *e* **P 17 29 29.1 +3.0**
GRIC Isle de Caille 21.60 78 *e* **P 17 29 29.6 +3.2**
TRN Trinidad (W) 21.61 83 *e* **P 17 29 27.0 +0.5**
TBH Brigand Hill 21.93 83 *e* **P 17 29 30.0 0.0**
TPR Prospect 22.27 81 *e* **P 17 29 32.8 -0.8**
DOG Dongo Capester 22.38 68 *e*P **P 17 29 32.5 -2.3**
MDN Morne-Daniel 22.39 70 *e*P **P 17 29 36.0 +1.1**
MCLT Moule a Chique 22.45 75 *e*P **P 17 29 36.3 +0.7**
FDF Fort de France 22.47 72 *e*P **P 17 29 37.4 +1.6**
FDF pmax pmax
comp=Z,633nm,1.4s
FDF MLR MLR
comp=Z,8µm,19.0s
FDF Fort de France 22.47 72 *e*P **P 17 29 37.4 +1.6**
comp=Z,633nm,1.4s
FDF LR LR
comp=Z,8µm,19.0s
BPA Boggy Peak 22.48 66 *e*P **P 17 29 35.8 -0.1**
LNIG Linares 22.50 318 P **P 17 29 34.1 -1.9**
TOSP Speyside 22.51 81 *e*P **P 17 29 38.0 +1.8**
SEG Port Louis 22.59 68 *e*P **P 17 29 38.6 +1.6**
MGG Marie-Galante 22.62 69 *e*P **P 17 29 39.1 +1.8**
BRAL Brewton 22.69 351 *e*P **P 17 29 40.3 +2.5**
BRAL LR LR
comp=Z,12µm,19.0s
ANWB Willy Bob 22.75 64 *e*P **P 17 29 39.4 +0.7**
comp=Z,555nm,1.4s
ANWB LR LR
comp=Z,8µm,20.0s
ZAIG Zacatecas 23.38 310 P **P 17 29 44.2 -1.2**
KVTX Kingsville 23.49 326 P **P 17 29 45.4 -0.7**
comp=Z,228nm,1.1s
KVTX LR LR
comp=Z,10µm,19.0s
BBGH Gun Hill 23.68 77 PFAKE 17 30 00.0 +12
BBGH LR LR
comp=Z,14µm,20.0s
CJM Chamela 23.80 300 P **P 17 29 49.0 -0.3**
ANIG Ahuacatlan 24.05 304 P **P 17 29 50.6 -1.1**
HKT Hockley 24.40 333 *e*P **P 17 29 55.0 +0.4**
HKT pmax pmax
comp=Z,758nm,1.6s
HKT Hockley 24.40 333 *e*P **P 17 29 55.0 +0.4**
comp=Z,758nm,1.6s
VBMS Vicksburg 24.56 345 *e*P **P 17 29 56.8 +0.7**
VBMS LR LR
comp=Z,10µm,22.0s
NHSC New Hope 24.65 6 *e*P **P 17 29 58.5 +1.6**
comp=Z,3µm,1.4s
NHSC LR LR
comp=Z,19µm,19.0s
LRAL Lakeview Retre 24.67 352 *e*P **P 17 29 57.9 +0.9**
LRAL LR LR
comp=Z,11µm,22.0s
GOGA Godfrey 24.80 359 *e*P **P 17 29 58.3 +0.1**
GOGA pmax pmax
comp=Z,1µm,1.4s
GOGA MLR MLR
comp=Z,25µm,19.0s
GOGA Godfrey 24.80 359 *e*P **P 17 29 58.2 +0.1**
comp=Z,1µm,1.4s
GOGA LR LR
comp=Z,25µm,19.0s
COW Cow Castle Cre 24.87 5 *e*P **P 17 30 00.4 +1.5**
NATX Nacogdoches 25.48 337 *e*P **P 17 30 03.6 -0.9**
NATX LR LR
comp=Z,9µm,22.0s
732A Laxson Ranch, 25.57 324 ⇑P **P 17 30 03.9 -1.4**
baz=26,SNR=23
JSC Jenkinsville 25.73 4 *e*P **P 17 30 07.7 +1.1**
JSC Jenkinsville 25.73 4 *e*P **P 17 30 07.7 +1.1**
632A Uvalde 26.05 326 ⇓P **P 17 30 08.4 -1.3**
baz=26,SNR=25
SAML Samuel 26.43 131 *e*P **P 17 30 13.1 -0.1**
comp=Z,160nm,1.6s
SAML LR LR
comp=Z,9µm,19.0s
631A Perdido Creek 26.43 324 ⇑P **P 17 30 11.4 -1.7**
baz=26,SNR=40
OXF Oxford 26.51 348 *e*P **P 17 30 13.2 -0.6**
OXF pmax pmax
comp=Z,1µm,1.4s
OXF MLR MLR
comp=Z,12µm,22.0s
OXF Oxford 26.51 348 *e*P **P 17 30 13.2 -0.6**
comp=Z,1µm,1.4s
OXF LR LR
comp=Z,12µm,22.0s
KMSC Kings Mountain 26.58 3 ⇓P **P 17 30 15.2 +0.8**
baz=27,SNR=150
532A Rocksprings 26.60 326 ⇑P **P 17 30 13.8 -0.8**
baz=27,SNR=32
SWET Sewanee 26.71 355 *e*P **P 17 30 15.8 +0.2**
comp=Z,496nm,1.4s
PLAL Pickwick Lake 26.74 351 PFAKE 17 30 30.0 +14
PLAL LR LR
comp=Z,12µm,19.0s
JCT Junction City 26.81 327 *e*P **P 17 30 15.3 -1.3**
JCT pmax pmax
comp=Z,188nm,1.3s
JCT MLR MLR
comp=Z,7µm,20.0s
JCT Junction City 26.81 327 *e*P **P 17 30 15.3 -1.3**
comp=Z,188nm,1.3s
JCT LR LR
comp=Z,7µm,20.0s
JCT Junction City 26.81 327 ⇑P **P 17 30 14.9 -1.7**
baz=27,SNR=34
CPCT Cooper Cave 26.86 358 *e*P **P 17 30 17.8 +0.9**
WHTX Lake Whitney 26.86 332 ⇓P **P 17 30 15.5 -1.5**
baz=27,SNR=9.8
531A Rocksprings 26.98 325 ⇓P **P 17 30 17.2 -1.0**
baz=27,SNR=7.7
TKL Tuckaleechee C 27.04 359 P **P 17 30 19.2 +0.7**
comp=Z,202nm,1.2s,baz=173,slow=9.4,SNR=78
TKL LR LR 17 41 39.6
comp=Z,28µm,18.3s,baz=264,slow=38
TKL Tuckaleechee C 27.04 359 *e*P **P 17 30 19.2 +0.7**
CNNC Cliffs of the 27.06 10 *e*P **P 17 30 19.6 +0.9**
comp=Z,950nm,1.6s
CNNC LR LR
comp=Z,28µm,19.0s
432A Menard 27.12 327 ⇑P **P 17 30 17.9 -1.4**
baz=27,SNR=20
MET Memphis--Engin 27.21 348 *e*P **P 17 30 21.4 +1.4**
comp=Z,2µm,1.8s
431A Sonora 27.41 326 ⇓P **P 17 30 21.2 -0.8**
baz=28,SNR=36
431A ⇓S **S 17 35 05.0 +3.5**
baz=28
431A ⇓S **S 17 35 05.0 +3.5**
baz=28
431A ⇓S **S 17 35 05.0 +3.5**
baz=28
530A J-C Ranch, Com 27.42 324 ⇓P **P 17 30 21.0 -1.1**
baz=28,SNR=27
UALR University of 27.46 344 *e*P **P 17 30 21.7 -0.6**
comp=Z,530nm,1.3s
MIAR Mount Ida 27.62 341 *e*P **P 17 30 22.9 -0.8**
MIAR pmax pmax
comp=Z,622nm,1.4s
MIAR MLR MLR
comp=Z,7µm,20.0s
MIAR Mount Ida 27.62 341 *e*P **P 17 30 22.9 -0.8**
comp=Z,622nm,1.4s
MIAR LR LR
comp=Z,7µm,20.0s
HBAR Harrisburg 27.78 347 *e*P **P 17 30 25.1 -0.1**
WVT Waverly 27.83 352 *e*P **P 17 30 24.6 -1.0**
WVT pmax pmax
comp=Z,185nm,1.4s
WVT Waverly 27.83 352 *e*P **P 17 30 24.6 -1.0**
comp=Z,185nm,1.4s
430A Baggett Ranch, 27.84 325 ⇓P **P 17 30 24.5 -1.3**
baz=28,SNR=22
HALT Halls 27.86 349 *e*P **P 17 30 25.2 -0.6**
529A Stev Forest Ra 27.92 323 ⇑P **P 17 30 25.7 -0.9**
baz=28,SNR=22
TZTN Tazewell 27.92 359 *e*P **P 17 30 27.1 +0.7**
comp=Z,613nm,1.5s
GNAR Gosnell 28.04 348 *e*P **P 17 30 27.6 +0.2**
HPIG 28.08 314 P **P 17 30 25.6 -2.6**
429A Davenport Ranc 28.09 324 ⇑P **P 17 30 27.0 -1.1**
baz=28,SNR=20
627A Terlingua Ranc 28.16 320 ⇑P **P 17 30 28.4 -0.4**
baz=28,SNR=38
UTMT University of 28.19 350 *e*P **P 17 30 28.4 -0.4**
comp=Z,1µm,1.4s
GLAT Glass 28.20 350 *e*P **P 17 30 28.4 -0.5**
TXAR Lajitas Array 28.26 320 P **P 17 30 28.9 -0.7**
comp=Z,4.6nm,0.8s,baz=139,slow=9.4,SNR=15
TXAR PcP **PcP 17 33 43.4 +0.5**
comp=Z,2.5nm,0.6s,baz=151,slow=5.4,SNR=3.9
TXAR ScP **ScP 17 37 27.4 +4.1**
comp=Z,21nm,1.3s,baz=123,slow=4.6,SNR=11
TXAR Lajitas Array 28.26 320 P **P 17 30 28.9 -0.7**
TXAR PcP **PcP 17 33 43.4 +0.5**
TXAR ScP **ScP 17 37 27.4 +4.1**
528A Cox Ranch, San 28.29 322 ⇑P **P 17 30 29.1 -0.9**
baz=28,SNR=38
ABTX Abilene, Hawle 28.43 330 ⇓P **P 17 30 29.9 -1.2**
baz=28,SNR=13
428A Kincaid Ranch, 28.63 323 ⇑P **P 17 30 32.7 -0.3**
baz=29,SNR=50
PARMO Parma 28.66 349 *e*P **P 17 30 33.5 +0.5**
BLA Blacksburg 28.70 5 *e*P **P 17 30 34.5 +1.1**
BLA pmax pmax
comp=Z,800nm,1.4s
BLA MLR MLR
comp=Z,18µm,22.0s
BLA Blacksburg 28.70 5 *e*P **P 17 30 34.5 +1.1**
comp=Z,800nm,1.4s
BLA LR LR
comp=Z,18µm,22.0s
626A Big Bend Ranch 28.71 320 ⇑P **P 17 30 33.0 -0.6**
baz=29,SNR=17
VWCC Virginia Weste 28.77 5 *e*P **P 17 30 35.1 +1.1**
527A Woodward Ranch 28.78 321 ⇑P **P 17 30 33.7 -0.7**
baz=29,SNR=35
329A Wagon Wheel Ra 28.79 325 ⇑P **P 17 30 33.1 -1.2**
baz=29,SNR=31
LPAZ La Paz 28.80 149 P **P 17 30 37.1 +2.0**
comp=Z,5.0nm,0.7s,baz=314,slow=6.0,SNR=14
LPAZ PcP **PcP 17 33 46.1 +1.0**
comp=Z,8.0nm,0.9s,baz=354,slow=6.5,SNR=2.7
LPAZ LR LR 17 43 23.0
comp=Z,11µm,20.1s,baz=314,slow=39
LPAZ La Paz 28.80 149 *e*P **P 17 30 37.5 +2.4**
LPAZ PcP **PcP 17 33 46.1 +1.0**
526A Mary Lane Ranc 29.02 320 ⇓P **P 17 30 36.3 -0.2**
baz=29,SNR=33
229A Bryant Ranch, 29.05 326 ⇓P **P 17 30 35.2 -1.4**
baz=29
427A Hayter Ranch, 29.15 322 ⇓P **P 17 30 36.7 -0.8**
baz=29
328A Wristen Ranch, 29.18 324 ⇓P **P 17 30 37.1 -0.7**
baz=29,SNR=27
BBSR BB Station 29.32 33 PFAKE 17 30 50.0 +11
BBSR LR LR
comp=Z,7µm,20.0s
426A McDonald Obser 29.41 321 ⇑P **P 17 30 39.0 -1.0**
baz=30,SNR=30
JSRW J. Sargeant Re 29.47 9 *e*P **P 17 30 40.9 +0.8**
327A Balmorhea Ranc 29.57 323 ⇑P **P 17 30 40.7 -0.6**
baz=30
129A Stewart Farms, 29.59 327 ⇓P **P 17 30 40.1 -1.3**
baz=30,SNR=6.9
SIUC Southern Illin 29.59 350 *e*P **P 17 30 40.9 -0.3**
comp=Z,472nm,1.4s
228A UT Block 9, Go 29.60 325 ⇓P **P 17 30 40.1 -1.5**
baz=30,SNR=16
TUL1 Tulsa 29.61 339 ⇓P **P 17 30 39.8 -1.6**
baz=30,SNR=12
USIN University of 29.61 353 *e*P **P 17 30 40.8 -0.7**
WCI Wyandotte Cave 29.73 355 *e*P **P 17 30 42.3 -0.2**
WCI Wyandotte Cave 29.73 355 *e*P **P 17 30 42.3 -0.2**
WMOK Wichita Mounta 29.77 334 *e*P **P 17 30 40.8 -2.1**
WMOK pmax pmax
comp=Z,94nm,1.3s
WMOK MLR MLR
comp=Z,7µm,22.0s
WMOK Wichita Mounta 29.77 334 *e*P **P 17 30 40.8 -2.1**
comp=Z,94nm,1.3s
WMOK LR LR
comp=Z,7µm,22.0s
326A Caldwell Ranch 29.83 322 ⇓P **P 17 30 42.8 -0.8**
baz=30,SNR=16
128A Castleberry Fa 29.92 326 ⇓P **P 17 30 42.5 -1.8**
baz=30,SNR=16
227A Bennet, Jal 29.92 324 ⇓P **P 17 30 43.4 -1.0**
baz=30
Z29A Hungry Hill Ra 29.99 328 ⇓P **P 17 30 43.2 -1.8**
baz=30,SNR=12
CBN Corbin 30.04 9 *e*P **P 17 30 46.5 +1.3**
comp=Z,833nm,1.5s
CBN LR LR
comp=Z,33µm,19.0s
425A Indio Mountain 30.08 320 ⇑P **P 17 30 45.2 -0.7**
baz=30,SNR=46
LPIG La Paz 30.19 304 P **P 17 30 48.8 +2.1**
comp=Z,2.9nm,0.5s,baz=208,slow=10.0,SNR=7.6
LPIG LR LR 17 43 11.3
comp=Z,401nm,20.4s,baz=2.0,slow=37
LPIG La Paz 30.19 304 P **P 17 30 48.8 +2.1**
Z28A Tucker Farm, M 30.37 327 ⇑P **P 17 30 46.6 -1.8**
baz=30
OLIL Olney 30.43 352 *e*P **P 17 30 48.3 -0.3**
Y29A Porterfield Fa 30.44 329 ⇓P **P 17 30 47.7 -1.2**
baz=30,SNR=15
CLNB Carlsbad 30.45 324 *e*P **P 17 30 48.5 -0.5**
comp=Z,19nm,1.4s
127A Arkansas Junct 30.45 325 ⇓P **P 17 30 47.3 -1.7**
baz=30
325A Bean Ranch, Si 30.47 321 ⇓P **P 17 30 48.2 -1.2**
baz=30
SLM Saint Louis 30.67 349 *e*P **P 17 30 50.3 -0.4**
SLM Saint Louis 30.67 349 *e*P **P 17 30 50.3 -0.4**
GDL2 Guadalupe Moun 30.69 323 *e*P **P 17 30 50.8 -0.4**
BLO Bloomington 30.69 355 *e*P **P 17 30 50.5 -0.4**
BLO Bloomington 30.69 355 *e*P **P 17 30 50.5 -0.4**
Y28A McKinney Farm, 30.77 328 ⇑P **P 17 30 50.1 -1.8**
baz=31
126A Clayton Basin, 30.81 324 ⇑P **P 17 30 50.6 -1.6**
baz=31
324A Moseley Ranch, 30.84 321 ⇑P **P 17 30 51.7 -0.9**
baz=31,SNR=61
225A Deer Hill, Car 30.90 323 ⇑P **P 17 30 52.5 -0.7**
baz=31
X29A Tulia 30.91 329 ⇓P **P 17 30 51.4 -1.7**
baz=31
MNTX Cornudas Mount 30.95 321 *e*P **P 17 30 52.5 -0.9**
comp=Z,157nm,2.0s
MNTX LR LR
comp=Z,3µm,20.0s
MNTX Cornudas Mount 30.95 321 ⇓P **P 17 30 52.7 -0.7**
baz=31,SNR=54
CPRX Cap Rock 31.00 325 *e*P **P 17 30 53.4 -0.6**
comp=Z,27nm,1.1s
MSTX Muleshoe 31.10 327 ⇑P **P 17 30 52.9 -1.9**
baz=31,SNR=15
125A Gardner Draw, 31.19 323 ⇓P **P 17 30 55.3 -0.3**
baz=31,SNR=63
X28A Dimmitt 31.22 329 ⇑P **P 17 30 54.1 -1.8**
baz=31
Z26A Caprock 31.24 325 ⇓P **P 17 30 54.9 -1.1**
baz=31,SNR=7.1
Y27A Causey 31.24 327 ⇓P **P 17 30 54.1 -2.0**
baz=31,SNR=9.2
AMTX Amarillo 31.25 330 *e*P **P 17 30 54.5 -1.6**
comp=Z,50nm,1.0s
AMTX LR LR
comp=Z,7µm,22.0s
AMTX Amarillo 31.25 330 ⇑P **P 17 30 54.4 -1.7**
baz=31,SNR=7.9
224A Cornudas Mount 31.30 322 ⇓P **P 17 30 55.7 -0.9**
baz=31,SNR=20
SDMD Soldier's Deli 31.31 10 *e*P **P 17 30 57.5 +1.1**
W29A Amraillo 31.42 330 ⇓P **P 17 30 55.4 -2.2**
baz=32
ACSO Alum Creek Sta 31.60 0 *e*P **P 17 30 59.2 +0.3**
ACSO LR LR
comp=Z,18µm,20.0s
Y26A Elida 31.64 326 ⇑P **P 17 30 57.8 -1.7**
baz=32
Z25A Roswell 31.67 324 ⇑P **P 17 30 59.2 -0.7**
baz=32,SNR=28
124A Stringfield Ra 31.69 323 ⇓P **P 17 31 00.1 -0.1**
baz=32,SNR=38
CGIG 31.77 317 P P 17 30 57.2 -3.6
X27A F and S Farms, 31.79 328 ⇓P **P 17 30 59.3 -1.6**
baz=32
W28A Vega 31.81 330 ⇑P **P 17 30 59.4 -1.6**
baz=32
223A Chaparral, Ant 31.81 321 ⇑P **P 17 31 00.2 -0.9**
baz=32
SFIN Scholer Farm 31.94 354 ⇓P **P 17 31 00.9 -1.0**
baz=32,SNR=26
V29A Stinnett 31.97 331 ⇓P **P 17 31 00.7 -1.7**
baz=32
Z24A Sheeppen Canyo 32.08 324 ⇓P **P 17 31 03.0 -0.5**
baz=32,SNR=28
W27A Bowe Ranch, En 32.09 328 ⇓P **P 17 31 02.1 -1.4**
baz=32,SNR=13
X26A CR and CF Fran 32.10 327 ⇑P **P 17 31 02.0 -1.6**
baz=32
Y25A Mesa, Roswell 32.12 325 ⇓P **P 17 31 03.3 -0.5**
baz=32,SNR=24
123A Bell Site, Whi 32.14 322 ⇑P **P 17 31 04.0 0.0**
baz=32
V28A Channing 32.21 330 ⇑P **P 17 31 03.4 -1.1**
baz=32
222A Williams Famil 32.30 320 ⇑P **P 17 31 05.4 -0.1**
baz=32,SNR=9.3
SSPA Standing Stone 32.35 8 *e*P **P 17 31 06.5 +0.9**
comp=Z,79nm,1.5s
HDIL Hopedale 32.38 351 *e*P **P 17 31 05.0 -0.8**
HDIL LR LR
comp=Z,5µm,19.0s
W26A Owens Ranch, T 32.48 328 ⇓P **P 17 31 05.6 -1.3**
baz=33
X25A Clemmons Ranch 32.55 326 ⇓P **P 17 31 06.9 -0.7**
baz=33,SNR=20
Y24A Capitan 32.55 324 ⇑P **P 17 31 07.5 -0.1**
baz=33,SNR=32
Z23A Rita Site, Whi 32.55 322 ⇑P **P 17 31 07.8 +0.3**
baz=33,SNR=22
122A Conniff Cattle 32.64 321 ⇓P **P 17 31 08.4 +0.1**
baz=33
221A Mesquite Ranch 32.68 319 ⇓P **P 17 31 09.7 +1.0**
baz=33,SNR=25
320A Kipp Ranch, An 32.74 317 ⇓P **P 17 31 10.8 +1.5**
baz=33,SNR=13
SIV San Ignacio 32.75 138 P **P 17 31 10.4 +1.0**
comp=Z,12nm,0.7s,baz=322,slow=11,SNR=26
SIV San Ignacio 32.75 138 P **P 17 31 10.4 +1.0**
KSU1 Kansas State U 32.76 341 *e*P **P 17 31 08.4 -0.8**
KSU1 LR LR
comp=Z,6µm,19.0s
Y23A Lovelace Mesa, 32.91 324 ⇑P **P 17 31 10.3 -0.5**
baz=33,SNR=33
W25A X Bar L Ranch, 32.95 327 ⇓P **P 17 31 10.1 -1.0**
baz=33,SNR=17
BRNJ Basking Ridge 32.97 12 *e*P **P 17 31 12.2 +1.3**
Z22A Elephant Butte 32.99 322 ⇓P **P 17 31 11.8 +0.3**
baz=33,SNR=23
X24A Lazy VL Ranch, 33.01 325 ⇑P **P 17 31 11.2 -0.5**
baz=33
121A Cookes Peak, D 33.02 320 ⇑P **P 17 31 12.8 +1.0**
baz=33,SNR=52
V26A Tequesquite Ra 33.03 328 ⇓P **P 17 31 10.0 -1.8**
baz=33,SNR=7.4
220A Playas Peak, P 33.10 318 ⇑P **P 17 31 13.4 +1.0**
baz=33,SNR=132
HSIG 33.11 312 P **P 17 31 13.0 +0.7**
ALLY Alegheny Colle 33.13 4 *e*P **P 17 31 12.1 -0.3**
comp=Z,624nm,1.6s
CPNY Central Park 33.20 13 *e*P **P 17 31 14.1 +1.2**
comp=Z,562nm,1.7s
SRIG Santa Rosalia 33.22 308 P **P 17 31 15.6 +2.2**
T28A Walsh 33.26 332 ⇑P **P 17 31 11.6 -2.1**
baz=33,SNR=12
BNM Barren Site 33.40 323 *e*P **P 17 31 15.3 +0.1**
comp=Z,36nm,1.3s
PAL Palisades 33.41 13 *e*P **P 17 31 15.7 +0.9**
PAL pmax pmax
comp=Z,589nm,1.4s
PAL Palisades 33.41 13 *e*P **P 17 31 15.7 +0.9**
comp=Z,589nm,1.4s
X23A Hourglass Bar 33.45 324 ⇓P **P 17 31 14.3 -1.3**
baz=34
Y22A Socorro 33.46 323 ⇑P **P 17 31 16.1 +0.6**
baz=34,SNR=30
Z21A St. Cloud Mine 33.46 321 ⇑P **P 17 31 16.4 +0.7**
baz=34,SNR=6.6
W24A Lazy 6 Ranch, 33.46 326 ⇑P **P 17 31 15.2 -0.5**
baz=34,SNR=18
U26A Atchley Ranch, 33.47 329 ⇓P **P 17 31 14.4 -1.3**
baz=34,SNR=8.2
T27A Campo 33.49 331 ⇓P **P 17 31 13.7 -2.1**
baz=34,SNR=5.7
V25A Rancho Ne Teng 33.50 328 ⇑P **P 17 31 15.3 -0.7**
baz=34,SNR=21
LPM Los Pinos Moun 33.52 323 *e*P **P 17 31 17.5 +1.3**
Y22D IRIS PASSCAL I 33.53 323 ⇑P **P 17 31 16.1 0.0**
baz=34
120A U Bar Ranch, L 33.58 319 ⇑P **P 17 31 17.6 +1.0**
baz=34,SNR=80
ERPA Erie 33.61 4 *e*P **P 17 31 16.7 +0.2**
comp=Z,848nm,1.7s
ERPA LR LR
comp=Z,19µm,19.0s
LENM Lemitar 33.62 323 *e*P **P 17 31 17.9 +1.0**
AAM Ann Arbor 33.67 359 *e*P **P 17 31 17.4 +0.3**
AAM MLR MLR
comp=Z,23µm,21.0s
AAM Ann Arbor 33.67 359 *e*P **P 17 31 17.4 +0.3**
AAM LR LR
comp=Z,23µm,21.0s
V24A Rampart Ranch, 33.77 327 ⇑P **P 17 31 17.5 -0.9**
baz=34,SNR=15
U25A Circle Dot Ran 33.82 328 ⇓P **P 17 31 17.8 -0.9**
baz=34,SNR=16
W23A Werner Place, 33.84 325 ⇑P **P 17 31 18.2 -0.8**
baz=34
ANMO Albuquerque 33.87 324 P **P 17 31 19.0 -0.2**
comp=Z,15nm,1.0s,baz=141,slow=12,SNR=26
ANMO Albuquerque 33.87 324 *e*P **P 17 31 18.9 -0.2**
comp=Z,55nm,1.3s
ANMO LR LR
comp=Z,5µm,20.0s
X22A Bernardo 33.88 323 ⇓P **P 17 31 19.6 +0.3**
baz=34,SNR=5.7
LAZ Ladron 33.88 323 *e*P **P 17 31 19.8 +0.5**
comp=Z,42nm,1.5s
Z20A Nine Sixteen R 33.91 320 ⇑P **P 17 31 20.5 +1.0**
baz=34,SNR=81
YLE Yale 33.93 14 *e*P **P 17 31 20.4 +1.1**
comp=Z,2µm,1.6s
Y21A Point of Rocks 33.94 322 ⇑P **P 17 31 21.0 +1.2**
baz=34,SNR=55
LVC Limon Verde 33.94 156 P P 17 31 23.4 +3.4
comp=Z,4.4nm,1.2s
LVC LR LR
comp=Z,234nm,20.0s
T26A Comanche Natio 34.01 330 ⇑P **P 17 31 19.0 -1.4**
baz=34
S27A Las Animas 34.08 332 ⇓P **P 17 31 19.0 -1.9**

baz=34
BINY Binghamton 34.17 10 eP P 17 31 22.4 +1.0
comp=Z,1µm,1.6s
BINY LR LR
comp=Z,20µm,20.0s
W22A Albuquerque 34.19 324 ⇓P P 17 31 21.3 -0.7
baz=34
U24A Moreno Valley 34.28 327 ⇓P P 17 31 22.5 -0.3
baz=34
V23A Ortiz Mt. (NFS 34.29 326 ⇓P P 17 31 22.6 -0.1
baz=34
X21A Alamocita Cree 34.30 322 ⇓P P 17 31 23.4 +0.5
baz=34,SNR=40
Y20A Horse Springs, 34.30 321 ⇓P P 17 31 24.2 +1.2
baz=34,SNR=62
S26A Kim 34.30 331 ⇑P P 17 31 22.0 -0.8
baz=34,SNR=24
T25A Trinidad 34.39 329 ⇑P P 17 31 23.4 -0.3
baz=34,SNR=36
SCIA State Center 34.43 347 eP P 17 31 22.7 -1.0
comp=Z,1µm,1.5s
SCIA LR LR
comp=Z,6µm,19.0s
R27A Eads 34.52 332 ⇑P P 17 31 23.6 -1.1
baz=35,SNR=28
T24A Torres, Weston 34.67 328 ⇑P P 17 31 26.0 -0.1
baz=35,SNR=24
W21A San Fidel 34.68 323 ⇓P P 17 31 26.4 +0.2
baz=35,SNR=9.7
U23A El Rito 34.72 326 ⇑P P 17 31 26.6 +0.1
baz=35
X20A Quemado 34.80 322 ⇓P P 17 31 28.6 +1.3
baz=35,SNR=12
S25A Robets Cordova 34.80 330 ⇑P P 17 31 26.9 -0.4
baz=35,SNR=20
V22A San Miguel Ran 34.81 325 ⇑P P 17 31 26.6 -0.8
baz=35,SNR=12
R26A Arlington 34.83 332 ⇑P P 17 31 26.7 -0.6
baz=35,SNR=15
BRYW Bryant College 34.85 15 eP P 17 31 26.8 -0.6
comp=Z,159nm,1.2s
TUC Tucson 34.86 317 eP P 17 31 28.7 +1.1
TUC pmax pmax
comp=Z,80nm,1.1s
TUC MLR MLR
comp=Z,5µm,19.0s
TUC Tucson 34.86 317 eP P 17 31 28.7 +1.1
comp=Z,80nm,1.1s
TUC LR LR
comp=Z,5µm,19.0s
QUA2 Belchertown 34.98 14 eP P 17 31 29.0 +0.5
comp=Z,100nm,1.3s
KSCO Kaye Shedlock' 35.03 333 ⇑P P 17 31 28.4 -0.7
baz=35,SNR=15
R25A Fountain Ranch 35.11 330 ⇑P P 17 31 29.8 -0.1
baz=35,SNR=37
TRY Troy 35.12 12 eP P 17 31 30.9 +1.3
comp=Z,2µm,1.6s
U22A Llaves 35.12 326 ⇓P P 17 31 29.8 -0.2
baz=35,SNR=16
V21A Milan 35.15 324 ⇑P P 17 31 30.6 +0.3
baz=35,SNR=22
T23A Casias Ranch, 35.16 327 ⇑P P 17 31 30.4 +0.1
baz=35,SNR=7.3
S24A Houchin Ranch, 35.18 329 ⇑P P 17 31 30.6 0.0
baz=35,SNR=30
W20A Ramah 35.19 323 ⇑P P 17 31 31.3 +0.6
baz=35,SNR=61
WES Weston 35.34 15 eP P 17 31 32.5 +1.0
WES pmax pmax
comp=Z,210nm,1.3s
WES Weston 35.34 15 eP P 17 31 32.5 +1.0
comp=Z,210nm,1.3s
BGNE Belgrade 35.35 340 ⇑P P 17 31 30.5 -1.1
baz=36,SNR=30
Q26A Hugo 35.36 332 ⇑P P 17 31 31.5 -0.5
baz=36,SNR=28
HRV Adam Dziewonsk 35.40 15 eP P 17 31 32.8 +0.8
HRV pmax pmax
comp=Z,258nm,1.5s
HRV Adam Dziewonsk 35.40 15 eP P 17 31 32.8 +0.8
comp=Z,258nm,1.5s
P27A Ficken Ranch, 35.45 334 ⇑P P 17 31 32.3 -0.4
baz=36,SNR=19
R24A Sanders Place, 35.58 330 ⇑P P 17 31 34.3 +0.3
baz=36,SNR=28
U21A Nageezi 35.60 325 ⇓P P 17 31 34.6 +0.4
baz=36,SNR=20
T22A Edith 35.61 326 ⇑P P 17 31 34.5 +0.3
baz=36,SNR=9.7
V20A Brimhall 35.63 323 ⇓P P 17 31 34.7 +0.3
baz=36,SNR=8.1
S23A Nye Farm, Mont 35.64 328 ⇑P P 17 31 34.2 -0.3
baz=36
X18A Snowflake 35.69 320 ⇑P P 17 31 35.7 +0.8
baz=36,SNR=19
Q25A Bedland, Calha 35.70 331 ⇑P P 17 31 33.9 -1.0
baz=36,SNR=41
ACCN Adirondack Com 35.74 12 eP P 17 31 35.7 +0.7
comp=Z,509nm,1.6s
P26A Davis Ranch, A 35.80 333 ⇑P P 17 31 35.1 -0.6
baz=36,SNR=13
R23A Moffat 35.91 329 ⇑P P 17 31 36.7 -0.1
baz=36,SNR=65
O27A Beecher Island 35.94 334 ⇓P P 17 31 36.3 -0.5
baz=36,SNR=10
T21A Navajo Lake 35.94 326 ⇓P P 17 31 36.1 -0.9
baz=36,SNR=6.2
W18A Petrified Fore 35.94 321 ⇑P P 17 31 38.2 +1.1
baz=36,SNR=46
214A Organ Pipe Nat 36.06 314 ⇓P P 17 31 39.5 +1.6
baz=36,SNR=89
U20A Newcomb 36.06 324 ⇑P P 17 31 38.0 0.0
baz=36,SNR=9.6
S22A 4UR Ranch, Cre 36.10 327 ⇓P P 17 31 38.7 +0.2
baz=36,SNR=48
P25A Willow Gulch B 36.14 332 ⇑P P 17 31 38.2 -0.4
baz=36,SNR=89
Q24A Divide 36.17 330 ⇑P P 17 31 38.8 -0.3
baz=36,SNR=37
NCB Newcomb 36.20 11 eP P 17 31 38.8 -0.1
comp=Z,454nm,1.6s
NCB LR LR
comp=Z,13µm,19.0s
GLMI Grayling 36.21 358 eP P 17 31 37.9 -1.1
GLMI LR LR
comp=Z,18µm,19.0s
FFD Franklin Falls 36.28 14 eP P 17 31 40.7 +1.1
comp=Z,768nm,1.6s
SADO Sadowa 36.31 5 P P 17 31 39.2 -0.6
comp=Z,51nm,0.9s,baz=240,slow=5.3,SNR=32
SADO Sadowa 36.31 5 P P 17 31 39.2 -0.6
O26A Horse Wrangler 36.34 334 ⇑P P 17 31 39.6 -0.7
baz=36,SNR=14
HNH Hanover 36.35 13 eP P 17 31 41.4 +1.2
comp=Z,651nm,1.5s
OGNE Ogallala 36.38 336 eP P 17 31 40.1 -0.5
comp=Z,1µm,1.4s
OGNE LR LR
comp=Z,3µm,20.0s
OGNE Ogallala 36.38 336 ⇓P P 17 31 40.4 -0.2
baz=36,SNR=135
U19A Dine' College, 36.41 323 ⇑P P 17 31 41.0 -0.1
baz=36,SNR=20
R22A Saguache, Gunn 36.42 328 ⇓P P 17 31 41.6 +0.3
baz=36,SNR=21
MDV Middlebury 36.43 12 eP P 17 31 41.4 +0.6
Q23A Hartsel 36.46 330 ⇑P P 17 31 41.4 -0.2
baz=36
P24A Kohler Place, 36.49 331 ⇓P P 17 31 41.1 -0.6
baz=37
S21A Coal Bank Pass 36.56 326 ⇑P P 17 31 42.2 -0.2
baz=37,SNR=18
X16A Lo Mia Camp, P 36.57 319 ⇓P P 17 31 43.0 +0.5
baz=37
O25A Wiggins 36.60 333 ⇓P P 17 31 42.0 -0.5
baz=37,SNR=14
MVCO Mesa Verde 36.63 325 eP P 17 31 42.8 -0.2
comp=Z,132nm,1.4s
MVCO LR LR
comp=Z,4µm,20.0s
MVCO Mesa Verde 36.63 325 ⇑P P 17 31 43.2 +0.2
baz=37,SNR=30
LONY Lake Ozonia 36.76 10 eP P 17 31 43.0 -0.7
comp=Z,678nm,1.6s
LONY LR LR
comp=Z,12µm,19.0s
N26A Koester Ranch, 36.78 334 ⇓P P 17 31 43.5 -0.5
baz=37,SNR=11
P23A Jefferson 36.83 330 ⇓P P 17 31 45.1 +0.3
baz=37,SNR=64
LBNH Lisbon 36.94 14 eP P 17 31 46.3 +1.1
LBNH pmax pmax
comp=Z,659nm,1.6s
LBNH MLR MLR
comp=Z,8µm,20.0s
LBNH Lisbon 36.94 14 eP P 17 31 46.2 +1.1
comp=Z,658nm,1.6s
LBNH LR LR
comp=Z,8µm,20.0s
Z14A Wintersburg 36.95 316 ⇑P P 17 31 47.0 +1.6
baz=37,SNR=41
R21A Cimarron 36.95 327 ⇑P P 17 31 45.0 -0.6
baz=37,SNR=11
Q22A Crested Butte, 36.98 329 ⇑P P 17 31 45.8 -0.2
baz=37,SNR=36
S20A Disappointment 37.00 326 ⇑P P 17 31 46.2 0.0
baz=37,SNR=30
ECSD EROS Data Cent 37.00 344 eP P 17 31 43.6 -2.2
comp=Z,301nm,1.0s
ECSD LR LR
comp=Z,8µm,20.0s
M27A Reverse DX Ran 37.02 336 ⇑P P 17 31 45.7 -0.4
baz=37,SNR=22
O24A Lomont 37.04 332 ⇑P P 17 31 46.2 -0.2
baz=37,SNR=5.9
ISCO Idaho Springs 37.05 331 eP P 17 31 45.9 -0.7
ISCO pmax pmax
comp=Z,130nm,1.7s
ISCO MLR MLR
comp=Z,3µm,21.0s
ISCO Idaho Springs 37.05 331 eP P 17 31 45.9 -0.7
comp=Z,130nm,1.7s
ISCO LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 37.05 331 ⇓P P 17 31 46.2 -0.4
baz=37,SNR=20
N25A Grover 37.15 333 ⇑P P 17 31 47.1 -0.1
baz=37
FRNY Flat Rock 37.15 11 eP P 17 31 47.1 +0.2
comp=Z,376nm,1.5s
113A Mohawk Valley, 37.18 315 ⇑P P 17 31 48.9 +1.5
baz=37,SNR=71
WUAZ Wupatki 37.22 320 eP P 17 31 48.4 +0.5
comp=Z,63nm,1.1s
WUAZ LR LR
comp=Z,3µm,21.0s
WUAZ Wupatki 37.22 320 ⇓P P 17 31 48.7 +0.7
baz=37,SNR=33
SMCO Snowmass 37.25 329 eP P 17 31 48.2 -0.1
comp=Z,110nm,1.4s
R20A Redvale 37.27 326 ⇓P P 17 31 49.4 +1.1
baz=37,SNR=8.0
M26A McRoberts Ranc 37.28 335 ⇓P P 17 31 47.7 -0.5
baz=37,SNR=6.7
Q21A Lamborn Mesa, 37.30 328 ⇓P P 17 31 48.7 0.0
baz=37,SNR=17
Y14A Wickenburg 37.32 317 ⇓P P 17 31 50.1 +1.4
baz=37,SNR=53
PV01 Paradox Valley 37.33 326 eP P 17 31 49.2 +0.3
comp=Z,5µm,1.5s
P22A Eagle 37.45 330 ⇑P P 17 31 49.9 -0.1
baz=38,SNR=60
L27A T5 Ranch, Ells 37.46 336 ⇓P P 17 31 49.2 -0.6
baz=38,SNR=19
SPIG San Pedro Mart 37.50 311 P P 17 31 52.9 +2.3
O23A Lake Granby, G 37.51 331 ⇑P P 17 31 50.4 -0.1
baz=38,SNR=45
N24A Carr 37.52 333 ⇑P P 17 31 50.5 +0.1
baz=38
SPMN St. Paul 37.52 349 ⇓P P 17 31 48.2 -1.9
baz=38,SNR=39
M25A Palm-Egli Farm 37.64 334 ⇑P P 17 31 50.8 -0.6
baz=38,SNR=15
PV04 Paradox Valley 37.70 326 eP P 17 31 51.3 -0.6
L26A Underwood Farm 37.73 336 ⇑P P 17 31 51.7 -0.4
baz=38,SNR=14
P21A Newcastle 37.75 329 ⇓P P 17 31 52.7 +0.3
baz=38,SNR=26
Q20A Ridgley Place, 37.77 327 ⇑P P 17 31 52.5 -0.1
baz=38,SNR=9.1
O22A Kremmling 37.78 330 ⇓P P 17 31 52.0 -0.8
baz=38,SNR=37
COWI Conover 37.81 353 eP P 17 31 51.1 -1.5
comp=Z,181nm,1.4s
COWI LR LR
comp=Z,7µm,19.0s
S18A Hurst Farm, Bl 37.82 324 ⇓P P 17 31 53.0 -0.1
baz=38,SNR=27
K27A Flueckinger Fa 37.95 337 ⇓P P 17 31 53.1 -0.8
baz=38,SNR=72
M24A Cheyenne 38.00 333 ⇓P P 17 31 54.5 0.0
baz=38,SNR=36
N23A Red Feather La 38.06 332 ⇓P P 17 31 54.4 -0.7
baz=38,SNR=34
GLA Glamis 38.08 314 eP P 17 31 57.0 +1.9
GLA pmax pmax
comp=Z,570nm,1.3s
GLA Glamis 38.08 314 eP P 17 31 57.0 +1.9
comp=Z,570nm,1.3s
GLA Glamis 38.08 314 ⇓P P 17 31 57.0 +1.9
baz=38,SNR=118
PHWY Pilot Hill 38.16 333 eP P 17 31 55.0 -0.9
comp=Z,86nm,1.5s
L25A Engebretsen Ra 38.19 335 ⇓P P 17 31 55.6 -0.4
baz=38
P20A De Beque 38.22 328 ⇑P P 17 31 56.4 +0.1
baz=38,SNR=27
N22A Wattenberg Ran 38.23 331 ⇑P P 17 31 56.6 0.0
baz=38,SNR=20
Y12C Blythe 38.25 316 ⇑P P 17 31 58.4 +1.9
baz=38,SNR=31
S17A Black Ridge (B 38.26 324 ⇑P P 17 31 57.1 +0.5
baz=38,SNR=25
O21A Pagoda 38.28 329 ⇑P P 17 31 57.3 +0.4
baz=38,SNR=11
Q19A Hogan Spring (38.30 326 ⇓P P 17 31 56.5 -0.4
baz=38,SNR=19
PDMCI Parker Dam,Lak 38.30 317 ⇑P P 17 31 58.2 +1.4
baz=38,SNR=48
K26A Motz Farm, Whi 38.32 336 ⇓P P 17 31 56.6 -0.5
baz=38,SNR=42
BRSD Miller 38.34 342 ⇓P P 17 31 55.3 -1.7
baz=38,SNR=32
U15A North Rim 38.37 321 ⇓P P 17 31 59.0 +1.2
baz=38,SNR=63
M23A Laramie 38.41 332 ⇓P P 17 31 57.5 -0.5
baz=38,SNR=15
L24A Wheatland 38.52 334 ⇑P P 17 31 58.5 -0.2
baz=39,SNR=12
K25A Mack Ranch, Ha 38.53 335 ⇓P P 17 31 58.6 -0.3
baz=39,SNR=31
EMMW East Machias 38.58 18 eP P 17 32 00.0 +1.0
comp=Z,654nm,1.5s
W13A Hualapai Mount 38.59 318 ⇓P P 17 32 01.3 +1.7
baz=39,SNR=81
O20A White River Ci 38.61 329 ⇑P P 17 31 60.0 +0.3
baz=39
P19A Cripple Cowboy 38.63 327 ⇑P P 17 31 59.7 -0.1
baz=39,SNR=13
SWSC Sam W. Stewart 38.71 314 ⇓P P 17 32 02.4 +2.1
baz=39,SNR=43
N21A Black Mountain 38.72 330 ⇓P P 17 32 01.0 +0.4
baz=39,SNR=34
M22A Cedar Creek Ra 38.76 332 ⇑P P 17 32 00.7 -0.3
baz=39,SNR=16
DVTC Desert V Tower 38.78 313 ⇓P P 17 32 03.2 +2.1
baz=39,SNR=37
S16A Weppner Ranch, 38.78 323 ⇑P P 17 32 01.8 +0.7
baz=39,SNR=34
BC3 Big Chuckawall 38.85 315 ⇑P P 17 32 03.6 +2.0
baz=39,SNR=92
IRM Iron Mountain 38.91 316 ⇓P P 17 32 03.9 +1.8
baz=39,SNR=92
L23A Garrett 38.91 333 ⇑P P 17 32 01.8 -0.3
baz=39,SNR=97
K24A Anderson Ranch 39.02 334 ⇓P P 17 32 02.2 -0.7
baz=39,SNR=12
SRU San Rafael 39.10 326 eP P 17 32 03.5 -0.3
SRU e 17 34 14.1
SRU pmax pmax
comp=Z,65nm,1.2s
SRU San Rafael 39.10 326 eP P 17 32 03.5 -0.3
comp=Z,65nm,1.2s
SRU ePcP PcP 17 34 14.1 +0.7
SRU San Rafael 39.10 326 ⇑P P 17 32 03.8 0.0
baz=39,SNR=35
MONP Monument Peak 39.13 313 ⇓P P 17 32 06.0 +1.8
baz=39,SNR=40
N20A Spence Gulch, 39.14 329 ⇑P P 17 32 04.3 +0.2
baz=39,SNR=40
L22A Ellis Ranch, M 39.18 332 ⇓P P 17 32 04.9 +0.5
baz=39,SNR=30
O19A Miners Draw (B 39.19 328 ⇓P P 17 32 04.2 -0.3
baz=39
LCO Las Campanas 39.19 163 eP P 17 32 06.4 +1.7
comp=Z,146nm,1.5s
LCO LR LR
comp=Z,3µm,20.0s
BAR Barrett 39.21 313 eP P 17 32 06.3 +1.8
comp=Z,145nm,1.4s
M21A Separation Pea 39.29 331 ⇑P P 17 32 05.2 -0.2
baz=39,SNR=49
P18A Preston Nutter 39.31 326 ⇑P P 17 32 05.8 +0.1
baz=39,SNR=17
Q16A Castle Valley 39.34 325 ⇓P P 17 32 06.2 +0.4
baz=39,SNR=17
K23A Bowen Ranch, D 39.39 334 ⇓P P 17 32 05.6 -0.5
baz=40,SNR=31
LDFC Landfair 39.40 317 eP P 17 32 09.1 +2.9
comp=Z,183nm,1.1s
BELC Belle Mtn. Jos 39.41 315 ⇓P P 17 32 08.2 +1.8
baz=40,SNR=107
J24A Dixon Ranch, L 39.45 335 ⇑P P 17 32 06.7 +0.2
baz=40,SNR=25
P17A Butcher Ranch, 39.48 326 ⇑P P 17 32 06.9 0.0
baz=40,SNR=16
R15A Junction 39.51 323 ⇑P P 17 32 07.7 +0.5
baz=40
PFO Pinyon Flat Ob 39.53 314 eP P 17 32 09.0 +1.6
comp=Z,240nm,1.3s
PFO LR LR
comp=Z,8µm,21.0s
PFO Pinyon Flat Ob 39.53 314 ⇑P P 17 32 09.6 +2.2
baz=40,SNR=49
L21A Rawlins 39.56 331 ⇓P P 17 32 07.1 -0.5
baz=40,SNR=68
M20A Sweetwater, Wa 39.60 330 ⇑P P 17 32 07.5 -0.4
baz=40,SNR=9.4
GMRC Granite Mounta 39.60 316 ⇓P P 17 32 09.6 +1.7
baz=40,SNR=59
TMUT Trail Mountain 39.62 325 eP P 17 32 08.7 +0.5
comp=Z,85nm,1.5s
109C Camp Elliot, M 39.63 313 ⇑P P 17 32 10.0 +2.0
baz=40,SNR=12
O18A Roosevelt 39.63 327 ⇓P P 17 32 08.7 +0.6
baz=40,SNR=7.8
MSU Marysvale 39.65 323 eP P 17 32 08.6 +0.2
MSU pmax pmax
comp=Z,84nm,1.6s
MSU Marysvale 39.65 323 eP P 17 32 08.6 +0.2
comp=Z,84nm,1.6s
N19A John Jarvie Ra 39.65 329 ⇓P P 17 32 07.8 -0.5
baz=40,SNR=11
MVU Marysvale 39.66 323 eP P 17 32 08.9 +0.4
comp=Z,93nm,1.6s
MVU LR LR
comp=Z,7µm,20.0s
K22A Casper 39.71 333 ⇑P P 17 32 08.5 -0.3
baz=40,SNR=20
CCUT Cedar City 39.74 321 eP P 17 32 09.4 +0.2
comp=Z,46nm,1.6s
RSSD Black Hills 39.85 336 eP P 17 32 09.4 -0.6
RSSD pmax pmax
comp=Z,281nm,1.4s
RSSD Black Hills 39.85 336 eP P 17 32 09.3 -0.6
comp=Z,281nm,1.4s
I24A Kuemmerle Ranc 39.87 336 ⇑P P 17 32 09.8 -0.3
baz=40,SNR=9.7
J23A Dilts Ranch, B 39.88 334 ⇓P P 17 32 10.1 -0.1
baz=40,SNR=9.6
EYMN Ely 39.94 351 eP P 17 32 08.2 -2.2
comp=Z,214nm,1.5s
EYMN LR LR
comp=Z,5µm,20.0s
ARUT Antelope Range 39.94 322 eP P 17 32 11.6 +0.8
ARUT pmax pmax
comp=Z,10.0nm,0.5s
ARUT Antelope Range 39.94 322 eP P 17 32 11.6 +0.8
comp=Z,10nm,0.5s
N18A Larsen Ranch, 39.97 328 ⇓P P 17 32 10.7 -0.3
baz=40,SNR=14
O17A Robinson Place 39.98 327 ⇓P P 17 32 11.6 +0.5
baz=40,SNR=22
K21A Alcova 40.03 332 ⇓P P 17 32 10.9 -0.6
baz=40,SNR=27
MURC Murrieta 40.06 314 ⇑P P 17 32 13.8 +2.1
baz=40,SNR=47
L20A Wamsutter 40.06 331 ⇑P P 17 32 11.3 -0.5
baz=40,SNR=19
P16A Fountain Green 40.08 325 ⇓P P 17 32 12.4 +0.5
baz=40,SNR=7.1
HEC Hector,Ludlow 40.09 316 ⇑P P 17 32 14.2 +2.2
baz=40,SNR=37
M19A Rock Springs 40.09 329 ⇓P P 17 32 10.6 -1.4
baz=40
TUQ Turquoise Moun 40.15 317 ⇑P P 17 32 14.2 +1.8
baz=40,SNR=55
BBRC Big Bear Solar 40.20 315 ⇑P P 17 32 15.5 +2.5
baz=40
PQI Presque Isle 40.20 16 eP P 17 32 13.2 +0.7
comp=Z,2µm,1.6s
J22A Midwest 40.29 334 ⇑P P 17 32 13.1 -0.5
baz=40,SNR=91
I23A Meade Ranch, G 40.30 335 ⇑P P 17 32 13.5 -0.1
baz=40
MPU Maple Canyon 40.35 326 eP P 17 32 14.2 +0.1
comp=Z,93nm,1.3s
P15A Leamington 40.41 325 ⇓P P 17 32 15.0 +0.4
baz=40,SNR=34
DAU Daniels Canyon 40.41 326 eP P 17 32 15.0 +0.2
DAU pmax pmax
comp=Z,122nm,1.4s
DAU Daniels Canyon 40.41 326 eP P 17 32 15.0 +0.2
comp=Z,122nm,1.4s
M18A Lyman 40.50 328 ⇓P P 17 32 14.7 -0.7
baz=41,SNR=5.6
R13A O'Grain Ranch, 40.51 322 ⇓P P 17 32 16.7 +1.2
baz=41,SNR=26
N17A Moffit Pass 40.56 327 ⇓P P 17 32 15.9 -0.1
baz=41,SNR=25
K20A Yellowstone Ra 40.56 331 ⇓P P 17 32 15.2 -0.6
baz=41,SNR=19
H24A Dirks Ranch, A 40.58 337 ⇓P P 17 32 15.4 -0.5
baz=41,SNR=124
RRX Edison Barstow 40.58 315 ⇑P P 17 32 18.1 +2.2
baz=41,SNR=7.9
L19A Farson 40.63 330 ⇓P P 17 32 16.0 -0.5
baz=41
SHOC Shoshone 40.65 317 ⇑P P 17 32 18.1 +1.6
baz=41,SNR=24
JLU Jordanelle 40.65 326 eP P 17 32 16.5 -0.2
comp=Z,81nm,1.5s
J21A Lysite 40.67 333 ⇓P P 17 32 17.0 +0.2
baz=41,SNR=67
GSC Goldstone 40.67 316 eP P 17 32 18.5 +1.7
GSC pmax pmax
comp=Z,310nm,1.4s
GSC Goldstone 40.67 316 eP P 17 32 18.5 +1.7
comp=Z,310nm,1.4s
GSC Goldstone 40.67 316 ⇓P P 17 32 18.8 +2.0
baz=41,SNR=87
BFSC Mount Baldy Ra 40.71 314 ⇓P P 17 32 19.1 +1.9
baz=41,SNR=26
SCI San Clemente I 40.73 312 ⇓P P 17 32 19.2 +2.0
baz=41,SNR=10
H23A Clabaugh Cattl 40.77 336 ⇑P P 17 32 16.9 -0.5
baz=41
CIS Catalina Islan 40.83 313 ⇑P P 17 32 20.5 +2.4
baz=41,SNR=37
N16A Rees Ranch, Co 40.84 327 ⇑P P 17 32 18.6 +0.4
baz=41,SNR=13
M17A Scullys Gap (B 40.85 328 ⇓P P 17 32 17.8 -0.5
baz=41,SNR=26
L18A Fontenelle, Gr 40.85 329 ⇓P P 17 32 17.7 -0.6
baz=41,SNR=33
FMP Fort Macarthur 40.90 313 ⇑P P 17 32 20.8 +2.2
baz=41
K19A Absolon Red Bu 40.93 331 ⇓P P 17 32 18.0 -0.9
baz=41,SNR=71
I21A Big Trails, Te 40.97 333 ⇓P P 17 32 18.7 -0.5
baz=41,SNR=52
J20A Shoshoni 40.97 332 ⇑P P 17 32 19.3 +0.1
baz=41,SNR=51

MWC **Mount Wilson** 40.99 314 *e*P P 17 32 21.3 +1.8
MWC pmax pmax
comp=Z,196nm,1.4s
MWC **Mount Wilson** 40.99 314 *e*P P 17 32 21.3 +1.8
comp=Z,196nm,1.4s
O15A **The Old Anders** 41.00 325 ⇑P P 17 32 20.1 +0.6
baz=41,SNR=9.8
G24A **Alzada** 41.01 337 ⇑P P 17 32 18.8 -0.6
baz=41,SNR=21
PASC **Pasadena Art C** 41.05 314 *e*P P 17 32 22.1 +2.3
comp=Z,324nm,1.5s
AGMN **Agassiz Nation** 41.08 347 *e*P P 17 32 18.1 -1.7
comp=Z,715nm,1.6s
AGMN LR LR
comp=Z,5µm,19.0s
DUG **Dugway** 41.13 325 *e*P P 17 32 20.7 +0.1
DUG pmax pmax
comp=Z,59nm,1.4s
DUG MLR MLR
comp=Z,5µm,20.0s
DUG **Dugway** 41.13 325 *e*P P 17 32 20.7 +0.1
comp=Z,59nm,1.4s
DUG LR LR
comp=Z,5µm,20.0s
DUG **Dugway** 41.13 325 ⇑P P 17 32 21.3 +0.8
baz=41,SNR=30
H22A **Clearmont** 41.19 335 ⇓P P 17 32 20.1 -0.8
baz=41,SNR=20
DECC **Green Verdugo** 41.20 314 ⇑P P 17 32 23.0 +2.0
baz=41,SNR=7.8
PDAR **Pinedale Array** 41.23 330 P P 17 32 20.4 -1.0
comp=Z,46nm,1.2s,baz=139,slow=7.5,SNR=51
PDAR PcP PcP 17 34 19.9 -0.3
comp=Z,13nm,1.1s,baz=139,slow=7.3,SNR=5.3
PDAR **Pinedale Array** 41.23 330 P P 17 32 20.4 -1.0
PDAR PcP PcP 17 34 19.9 -0.3
BW06 **Boulder Array** 41.23 330 *e*P P 17 32 20.2 -1.2
comp=Z,99nm,0.9s
BW06 LR LR
comp=Z,5µm,21.0s
BW06 **Boulder Array** 41.23 330 ⇑P P 17 32 20.6 -0.8
baz=41,SNR=68
M16A **Huntsville** 41.24 327 ⇑P P 17 32 21.3 -0.2
baz=41,SNR=14
G23A **Biddle** 41.29 336 ⇑P P 17 32 21.2 -0.5
baz=41,SNR=39
FURC **Furnace Creek,** 41.35 317 ⇓P P 17 32 24.3 +2.1
baz=41,SNR=59
J19A **Crowheart** 41.36 331 ⇑P P 17 32 22.1 -0.3
baz=41,SNR=24
K18A **Toltan Ranch,** 41.37 330 ⇓P P 17 32 22.6 +0.1
baz=42,SNR=47
LRMC **Laurel Mountai** 41.38 316 ⇑P P 17 32 24.6 +2.0
baz=41,SNR=168
L17A **Cokeville** 41.40 329 ⇓P P 17 32 22.0 -0.8
baz=42,SNR=15
HWUT **Hardware Ranch** 41.42 327 PFAKE 17 32 30.0 +7.1
HWUT LR LR
comp=Z,5µm,19.0s
N15A **Stansbury Isla** 41.44 326 ⇓P P 17 32 23.0 -0.1
baz=42
I20A **Worland** 41.45 333 ⇓P P 17 32 23.0 -0.1
baz=42,SNR=78
F24A **Ekalaka** 41.45 338 ⇓P P 17 32 22.4 -0.7
baz=42,SNR=34
H21A **Big Horn, Sher** 41.51 334 ⇓P P 17 32 22.5 -1.1
baz=42,SNR=6.9
MPMC **Manual Prospec** 41.55 317 ⇓P P 17 32 25.9 +1.8
baz=42,SNR=175
MDND **Maddock** 41.61 343 ⇓P P 17 32 23.0 -1.2
baz=42,SNR=103
R11A **Troy Canyon, C** 41.62 321 ⇓P P 17 32 25.8 +1.2
baz=42,SNR=62
L16A **Fish Haven** 41.63 328 ⇑P P 17 32 24.1 -0.6
baz=42,SNR=17
BLG **Laguna Peak** 41.65 313 ⇓P P 17 32 26.5 +1.7
baz=42,SNR=8.3
OSI **Osito Adit** 41.66 314 *e*P P 17 32 26.5 +1.6
comp=Z,213nm,1.0s
OSI **Osito Adit** 41.66 314 ⇓P P 17 32 26.8 +1.9
baz=42
G22A **Birney** 41.67 335 ⇑P P 17 32 24.1 -0.8
baz=42,SNR=17
F23A **Volborg** 41.72 337 ⇑P P 17 32 24.5 -0.7
baz=42,SNR=62
DAC **Darwin (Calif)** 41.74 317 *e*P P 17 32 27.2 +1.5
DAC pmax pmax
comp=Z,97nm,1.3s
DAC MLR MLR
comp=Z,7µm,21.0s
DAC **Darwin (Calif)** 41.74 317 *e*P P 17 32 27.2 +1.5
comp=Z,97nm,1.3s
DAC LR LR
comp=Z,7µm,21.0s
J18A **Kendall Valley** 41.79 330 ⇑P P 17 32 25.7 -0.3
baz=42,SNR=96
M15A **Larsen Ranch,** 41.79 327 ⇑P P 17 32 25.6 -0.3
baz=42,SNR=28
K17A **Gardner Place,** 41.90 329 ⇓P P 17 32 26.3 -0.6
baz=42,SNR=13
I19A **Meeteetse** 41.92 332 ⇑P P 17 32 26.7 -0.4
baz=42,SNR=22
GRAC **Grapevine Rang** 41.99 318 ⇑P P 17 32 29.1 +1.6
baz=42,SNR=17
ARVC **Arvin** 41.99 314 ⇓P P 17 32 29.9 +2.4
baz=42,SNR=41
AHID **Auburn Hatcher** 42.00 329 *e*P P 17 32 27.1 -0.6
comp=Z,95nm,1.5s
AHID LR LR
comp=Z,3µm,19.0s
E24A **Baker** 42.01 338 ⇑P P 17 32 26.9 -0.6
baz=42,SNR=30
BSC **Santa Cruz Isl** 42.01 313 ⇓P P 17 32 29.7 +2.0
baz=42,SNR=12
ISA **Isabella** 42.02 315 *e*P P 17 32 29.8 +2.0
ISA pmax pmax
comp=Z,294nm,1.4s
ISA **Isabella** 42.02 315 *e*P P 17 32 29.8 +2.0
comp=Z,294nm,1.4s
ISA **Isabella** 42.02 315 ⇓P P 17 32 30.0 +2.2
baz=42,SNR=97
I18A **Diamond G Ranc** 42.05 331 ⇑P P 17 32 27.7 -0.4
baz=42,SNR=32
G21A **Lodge Grass** 42.05 335 ⇑P P 17 32 26.8 -1.2
baz=42,SNR=8.2
F22A **Rosebud** 42.11 336 ⇑P P 17 32 27.6 -0.8
baz=42,SNR=25
L15A **Malad City** 42.13 327 ⇑P P 17 32 28.5 -0.2
baz=42,SNR=42
CWC **Cottonwood Cre** 42.16 317 ⇑P P 17 32 31.0 +2.0
baz=42,SNR=19
HVU **Hansel Valley** 42.19 327 *e*P P 17 32 28.6 -0.6
HVU pmax pmax
comp=Z,36nm,1.3s
HVU **Hansel Valley** 42.19 327 *e*P P 17 32 28.6 -0.6
comp=Z,36nm,1.3s
J17A **Brown Place, J** 42.24 330 ⇓P P 17 32 29.5 -0.2
baz=42,SNR=11
SBC **Santa Barbara** 42.28 313 ⇑P P 17 32 32.1 +2.2
baz=42
K16A **Soda Springs** 42.30 329 ⇑P P 17 32 29.9 -0.2
baz=42,SNR=15
REDW **Red Top Meadow** 42.31 330 *e*P P 17 32 29.6 -0.6
comp=Z,140nm,1.3s
BDFB **Brasilia** 42.32 124 P P 17 32 29.8 -0.7
comp=Z,20nm,0.8s,baz=290,slow=8.7,SNR=11
BDFB LR LR 17 52 28.9
comp=Z,5µm,18.4s,baz=114,slow=40
BDFB **Brasilia** 42.32 124 P P 17 32 29.8 -0.7
E23A **Ismay** 42.33 337 ⇓P P 17 32 29.0 -1.1
baz=42
SNOW **Snow King Moun** 42.33 330 *e*P P 17 32 30.2 -0.2
comp=Z,126nm,1.3s
CFAA **Coronel Fontan** 42.37 161 P P 17 32 32.2 +1.6
comp=Z,1.1nm,0.8s,baz=341,slow=8.5,SNR=9.2
CFAA **Coronel Fontan** 42.37 161 P P 17 32 32.2 +1.6
H19A **Powell** 42.40 333 ⇑P P 17 32 30.1 -0.8
baz=42,SNR=10
TPAW **Teton Pass** 42.45 330 *e*P P 17 32 30.7 -0.8
comp=Z,91nm,1.4s
G20A **Bridger** 42.48 334 ⇓P P 17 32 30.4 -1.1
baz=43,SNR=90
D24A **Glendive** 42.49 339 ⇑P P 17 32 30.9 -0.5
baz=43,SNR=69
F21A **Absaloka Mine,** 42.50 335 ⇑P P 17 32 30.7 -0.9
baz=43,SNR=8.2
TPH **Tonopah** 42.50 319 PFAKE 17 32 40.0 +8.1
TPH LR LR
comp=Z,7µm,20.0s
E22A **Miles City** 42.53 337 ⇑P P 17 32 31.1 -0.7
baz=43,SNR=42
RRI2 **Red Ridge** 42.53 329 *e*P P 17 32 31.1 -1.0
comp=Z,108nm,1.4s
VES **Vestal, Richgr** 42.54 315 ⇓P P 17 32 34.1 +2.1
baz=43,SNR=56
PKM **Peak Mountain** 42.58 314 ⇑P P 17 32 34.3 +1.8
baz=43,SNR=52
I17A **Pilgrim Ck.** 42.58 331 ⇑P P 17 32 32.4 0.0
baz=43,SNR=69
TIN **Tinemaha** 42.59 317 ⇑P P 17 32 34.4 +1.9
baz=43,SNR=32
L14A **Malta** 42.61 327 ⇓P P 17 32 32.0 -0.7
baz=43,SNR=23
J16A **Bone** 42.63 329 ⇑P P 17 32 32.5 -0.3
baz=43,SNR=31
K15A **Arbon** 42.68 328 ⇑P P 17 32 33.0 -0.2
baz=43,SNR=24
H18A **Shoshone NF, C** 42.72 332 ⇓P P 17 32 32.4 -1.1
baz=43,SNR=9.6
FLWY **Flagg Ranch** 42.76 331 *e*P P 17 32 33.7 -0.2
comp=Z,101nm,1.3s
CPUP **Villa Florida** 42.79 145 P P 17 32 35.4 +1.4
comp=Z,3.5nm,0.8s,baz=327,slow=10,SNR=5.5
CPUP LR LR 17 53 03.2
comp=Z,7µm,19.0s,baz=306,slow=40
CPUP **Villa Florida** 42.79 145 P P 17 32 35.4 +1.4
C24A **Savage** 42.87 339 ⇓P P 17 32 34.0 -0.6
baz=43,SNR=26
RLMT **Red Lodge** 42.88 333 *e*P P 17 32 33.6 -1.2
comp=Z,105nm,1.3s
RLMT LR LR
comp=Z,6µm,22.0s
RLMT **Red Lodge** 42.88 333 ⇑P P 17 32 34.1 -0.7
baz=43,SNR=76
RCTC **Rector, Farmer** 42.89 316 ⇑P P 17 32 36.5 +1.8
baz=43,SNR=17
ELK **Elko** 42.89 324 *e*P P 17 32 35.2 +0.1
SMMC **Simmler** 42.91 314 ⇓P P 17 32 37.5 +2.4
baz=43,SNR=12
F20A **Billings** 42.91 334 ⇑P P 17 32 34.4 -0.5
baz=43,SNR=51
K14A **Jones Ranch, D** 42.93 327 ⇑P P 17 32 34.8 -0.4
baz=43,SNR=51
ULM **Lac du Bonnet** 42.94 348 P P 17 32 32.8 -2.2
comp=Z,235nm,1.2s,baz=164,slow=7.7,SNR=138
ULM LR LR 17 51 42.8
comp=Z,5µm,19.3s,baz=266,slow=38
ULM **Lac du Bonnet** 42.94 348 P P 17 32 32.8 -2.2
H17A **Grant Village** 42.94 331 ⇓P P 17 32 35.2 -0.2
baz=43,SNR=28
LKWY **Lake** 42.98 331 *e*P P 17 32 36.3 +0.6
LKWY pmax pmax
comp=Z,16nm,0.7s
LKWY MLR MLR
comp=Z,5µm,21.0s
LKWY **Lake** 42.98 331 *e*P P 17 32 36.3 +0.6
comp=Z,16nm,0.7s
LKWY LR LR
comp=Z,5µm,21.0s
I16A **Newdale** 43.00 330 ⇓P P 17 32 35.5 -0.3
baz=43,SNR=5.7
E21A **Keefer Ranch,** 43.06 336 ⇓P P 17 32 35.4 -0.7
baz=43
YFT **Old Faithful** 43.10 331 *e*P P 17 32 37.9 +1.2
comp=Z,104nm,1.2s
J15A **Blackfoot** 43.14 329 ⇑P P 17 32 36.8 0.0
baz=43,SNR=60
G18A **Lazy EL Ranch,** 43.16 333 ⇑P P 17 32 36.6 -0.4
baz=43,SNR=60
D22A **Cohagen** 43.20 337 ⇓P P 17 32 36.7 -0.5
baz=43,SNR=60
YNR **Norris Junctio** 43.22 331 *e*P P 17 32 37.5 -0.2
comp=Z,38nm,1.4s
F19A **Roth Farm, Mol** 43.30 334 ⇓P P 17 32 37.3 -0.8
baz=43,SNR=90
NV11 **Mina Array Sit** 43.31 319 *e*P P 17 32 39.5 +1.2
MLAC **Mammoth Lakes** 43.31 318 ⇑P P 17 32 40.3 +1.8
baz=43,SNR=11
YMR **Madison River** 43.33 331 *e*P P 17 32 38.5 +0.1
comp=Z,81nm,1.3s
FCH **Farellones** 43.37 164 *e*P P 17 32 42.4 +3.4
C23A **Lambert** 43.38 338 ⇑P P 17 32 38.5 -0.1
baz=44,SNR=71
NVAR **Mina Array Bea** 43.40 319 P P 17 32 40.6 +1.4
comp=Z,76nm,1.1s,baz=132,slow=5.9,SNR=200
NVAR PP PcP 17 34 26.1 -1.5
comp=Z,6.5nm,0.9s,baz=126,slow=9.3,SNR=2.2
NVAR **Mina Array Bea** 43.40 319 P P 17 32 40.6 +1.4
NVAR PP PcP 17 34 26.1 -1.5
D21A **La Casta Ranch** 43.45 336 ⇑P P 17 32 39.0 -0.3
baz=44,SNR=20
E20A **Meyer Farm, Mu** 43.46 335 ⇑P P 17 32 39.0 -0.4
baz=44,SNR=65
H16A **Russell Place,** 43.49 331 ⇓P P 17 32 40.0 +0.2
baz=44,SNR=26
RPN **Rapa Nui** 43.53 215 PFAKE
RPN LR LR
comp=Z,12µm,19.0s
GCMT **Greycliff** 43.57 333 *e*P P 17 32 39.2 -1.1
comp=Z,70nm,1.3s
C22A **Vida** 43.59 338 ⇓P P 17 32 40.1 -0.2
baz=44,SNR=65
I15A **Monteview** 43.59 329 ⇓P P 17 32 40.6 +0.1
baz=44
DGMT **Dagmar** 43.60 340 *e*P P 17 32 39.7 -0.7
comp=Z,443nm,1.4s
DGMT LR LR
comp=Z,6µm,22.0s
DGMT **Dagmar** 43.60 340 ⇑P P 17 32 40.1 -0.3
baz=44,SNR=47
QLMT **Earthquake Lak** 43.67 331 *e*P P 17 32 41.4 +0.2
comp=Z,8.4nm,1.2s
F18A **Big Timber** 43.68 333 ⇓P P 17 32 40.6 -0.6
baz=44,SNR=106
G17A **Pierce Place,** 43.70 332 ⇓P P 17 32 41.9 +0.4
baz=44,SNR=24
E19A **Rath Farm, Rou** 43.71 334 ⇑P P 17 32 40.7 -0.6
baz=44,SNR=46
B23A **Brockton** 43.87 339 ⇓P P 17 32 42.5 -0.1
baz=44,SNR=104
BMN **Battle Mountai** 43.88 322 *e*P P 17 32 43.6 +0.6
BMN pmax pmax
comp=Z,106nm,1.0s
BMN MLR MLR
comp=Z,6µm,20.0s
BMN **Battle Mountai** 43.88 322 *e*P P 17 32 43.5 +0.6
comp=Z,106nm,1.0s
BMN LR LR
comp=Z,6µm,20.0s
A24A **Westby** 43.92 340 ⇑P P 17 32 42.8 -0.2
baz=44,SNR=58
D20A **Manuel Ranch,** 43.94 335 ⇓P P 17 32 42.8 -0.3
baz=44,SNR=48
J13A **Cove Ranch, Pi** 44.05 327 ⇑P P 17 32 44.1 -0.1
baz=44,SNR=22
B22A **Reddig Ranch S** 44.09 338 ⇑P P 17 32 44.1 -0.3
baz=44,SNR=25
F17A **Fitzpatrick Pl** 44.11 332 ⇓P P 17 32 44.6 0.0
baz=44,SNR=63
H15A **Lina** 44.11 330 ⇓P P 17 32 45.4 +0.7
baz=44,SNR=92
C21A **Desert Coulee** 44.12 337 ⇓P P 17 32 44.2 -0.4
baz=44,SNR=29
G16A **Moss Hill, Enn** 44.14 331 ⇑P P 17 32 45.4 +0.4
baz=44,SNR=52
A23A **Redstone** 44.25 340 ⇓P P 17 32 45.4 -0.2
baz=44,SNR=21
E18A **Harlowton** 44.28 334 ⇓P P 17 32 45.4 -0.6
baz=44,SNR=47
HLID **Hailey** 44.29 327 *e*P P 17 32 45.8 -0.4
comp=Z,122nm,1.8s
HLID LR LR
comp=Z,3µm,19.0s
HLID **Hailey** 44.29 327 ⇓P P 17 32 46.2 0.0
baz=44,SNR=30
D19A **Cripps Ranch,** 44.30 335 ⇓P P 17 32 45.6 -0.5
baz=44,SNR=41
MCMT **McKenzie Canyo** 44.36 330 *e*P P 17 32 47.1 +0.2
comp=Z,30nm,1.2s
BOZ **Bozeman (W)** 44.37 331 *e*P P 17 32 45.7 -1.0
BOZ pmax pmax
comp=Z,70nm,1.4s
BOZ MLR MLR
comp=Z,3µm,19.0s
BOZ **Bozeman (W)** 44.37 331 *e*P P 17 32 45.7 -1.0
comp=Z,70nm,1.4s
BOZ LR LR
comp=Z,3µm,19.0s
BOZ **Bozeman (W)** 44.37 331 ⇓P P 17 32 46.5 -0.2
baz=44,SNR=63
I13A **Wildhorse Cree** 44.37 328 ⇑P P 17 32 46.7 -0.1
baz=44,SNR=80
C20A **Veseth Ranch,** 44.38 336 ⇑P P 17 32 46.5 -0.2
baz=44,SNR=47
G15A **Dillon** 44.43 330 ⇓P P 17 32 47.6 +0.4
baz=44,SNR=58
F16A **Kennard Place,** 44.47 332 ⇑P P 17 32 47.3 -0.1
baz=44,SNR=30
H14A **Leadore** 44.47 329 ⇓P P 17 32 48.0 +0.3
baz=45,SNR=47
CMB **Columbia Colle** 44.56 317 *e*P P 17 32 49.6 +1.3
CMB pmax pmax
comp=Z,4.0nm,0.6s
CMB **Columbia Colle** 44.56 317 *e*P P 17 32 49.6 +1.3
comp=Z,3.9nm,0.6s
B21A **Ellsworth Farm** 44.58 337 ⇓P P 17 32 47.7 -0.5
baz=45,SNR=6.7
E17A **Martinsdale** 44.62 333 ⇑P P 17 32 48.2 -0.6
baz=45,SNR=32
DLMT **Dillon** 44.62 330 *e*P P 17 32 48.5 -0.3
comp=Z,65nm,1.2s
A22A **Carney Farms,** 44.64 339 ⇓P P 17 32 48.7 -0.1
baz=45,SNR=54
SAO **San Andreas Ge** 44.65 315 *e*P P 17 32 50.0 +1.1
SAO pmax pmax
comp=Z,237nm,1.7s
SAO **San Andreas Ge** 44.65 315 *e*P P 17 32 50.0 +1.1
comp=Z,237nm,1.7s
D18A **Linhart Farms,** 44.72 334 ⇓P P 17 32 49.0 -0.4
baz=45,SNR=38
C19A **Slack Wire Ran** 44.82 335 ⇓P P 17 32 49.9 -0.4
baz=45,SNR=75
WCN **Washoe City** 44.83 319 *e*P P 17 32 51.7 +1.1
WCN pmax pmax
comp=Z,69nm,1.3s
WCN **Washoe City** 44.83 319 *e*P P 17 32 51.7 +1.1
comp=Z,69nm,1.3s
LRM **Limekiln Ridge** 44.88 331 *e*P P 17 32 50.5 -0.5
comp=Z,341nm,1.0s
H13A **Challis** 44.89 329 ⇑P P 17 32 50.5 -0.4
baz=45,SNR=43
F15A **Butte** 44.92 331 ⇑P P 17 32 50.8 -0.4
baz=45,SNR=28
MFID **Camas Ranch** 44.95 326 *e*P P 17 32 51.3 -0.1
comp=Z,76nm,1.4s
MFID **Camas Ranch** 44.95 326 ⇓P P 17 32 51.4 -0.1
baz=45,SNR=30
G14A **Jackson** 44.96 330 ⇑P P 17 32 51.1 -0.5
baz=45,SNR=20
B20A **Solberg Farm,** 44.97 337 ⇑P P 17 32 51.2 -0.2
baz=45,SNR=23
A21A **Bergtoll Ranch** 45.01 338 ⇑P P 17 32 51.6 -0.1
baz=45,SNR=94
E16A **East Helena** 45.05 332 ⇑P P 17 32 51.6 -0.5
baz=45,SNR=39
D17A **Six Diamond Ra** 45.07 334 ⇑P P 17 32 51.6 -0.7
baz=45,SNR=66
H12A **Diamond D Ranc** 45.19 328 ⇑P P 17 32 53.2 -0.2
baz=45,SNR=43
G13A **Cobalt** 45.24 329 ⇓P P 17 32 53.2 -0.5
baz=45,SNR=16
HRY **Holter Researc** 45.25 332 *e*P P 17 32 53.1 -0.6
comp=Z,89nm,0.7s
A20A **Cobblestone Ra** 45.30 337 ⇑P P 17 32 53.9 0.0
baz=45,SNR=59
F14A **Wisdom** 45.32 330 ⇓P P 17 32 54.0 -0.4
baz=45,SNR=15
EGMT **Eagleton** 45.34 335 *e*P P 17 32 53.7 -0.7
comp=Z,235nm,1.7s
B19A **Brinkman Farms** 45.35 336 ⇑P P 17 32 53.9 -0.6
baz=45,SNR=26
D16A **Dana Ranch, Ca** 45.36 333 ⇑P P 17 32 54.4 -0.2
baz=45,SNR=29
E15A **Deer Lodge** 45.41 331 ⇓P P 17 32 54.6 -0.4
baz=46,SNR=27
C17A **Wharram Farm,** 45.47 334 ⇓P P 17 32 54.9 -0.5
baz=46,SNR=72
B18A **Beardsley Farm** 45.64 335 ⇑P P 17 32 56.4 -0.3
baz=46,SNR=36
A19A **Klindworth Far** 45.65 337 ⇓P P 17 32 56.2 -0.6
baz=46,SNR=35
F13A **Darby** 45.78 330 ⇓P P 17 32 57.2 -0.7
baz=46,SNR=47
D15A **Lincoln** 45.81 332 ⇓P P 17 32 57.7 -0.5
baz=46,SNR=33
E14A **Clinton** 45.81 331 ⇑P P 17 32 57.5 -0.7
baz=46,SNR=23
B17A **L&G Farms, Che** 45.99 335 ⇓P P 17 32 58.5 -1.0
baz=46,SNR=32
C16A **Fuhringer Ranc** 46.03 333 ⇓P P 17 32 59.3 -0.6
baz=46,SNR=29
CHMT **Chamberlain Mo** 46.06 332 *e*P P 17 32 59.3 -1.0
comp=Z,18nm,1.4s
A18A **Metzger Ranch,** 46.09 336 ⇓P P 17 32 59.4 -0.8
baz=46,SNR=32
E13A **Victor** 46.17 330 ⇑P P 17 33 00.1 -0.9
baz=46,SNR=28
F12A **Elk City** 46.22 329 ⇑P P 17 33 01.0 -0.5
baz=46,SNR=88
MCCM **Marconi Confer** 46.32 316 *e*P P 17 33 03.7 +1.6
comp=Z,180nm,1.1s
MSO **Missoula** 46.33 331 *e*P P 17 33 01.3 -0.9
comp=Z,49nm,1.3s
MSO LR LR
comp=Z,2µm,20.0s
MSO **Missoula** 46.33 331 ⇑P P 17 33 01.6 -0.7
baz=46,SNR=20
C15A **Salmond Ranch,** 46.40 333 ⇓P P 17 33 02.1 -0.6
baz=46,SNR=65
SLMT **Seeley Lake** 46.41 332 *e*P P 17 33 02.4 -0.6
comp=Z,28nm,1.3s
A17A **Triple J Farms** 46.46 335 ⇓P P 17 33 02.3 -0.9
baz=46,SNR=33
B16A **M & M Farms, S** 46.48 334 ⇓P P 17 33 02.7 -0.7
baz=47,SNR=8.1
MOD **Modoc** 46.63 322 *e*P P 17 33 04.1 -0.6
comp=Z,42nm,1.1s
BMO **Blue Mountains** 46.70 327 *e*P P 17 33 03.3 -1.9
comp=Z,32nm,1.3s
BMO LR LR
comp=Z,3µm,20.0s
D13A **Huson** 46.76 331 ⇓P P 17 33 05.1 -0.5
baz=47,SNR=27
B15A **Bradely Ranch,** 46.77 333 ⇑P P 17 33 04.8 -0.9
baz=47,SNR=37
A16A **West Butte Ran** 46.84 335 ⇑P P 17 33 05.6 -0.6
baz=47,SNR=29
SWMT **Swartz Lake** 46.84 332 *e*P P 17 33 05.2 -1.1
comp=Z,17nm,1.1s
YBMT **Yellow Bay** 47.10 332 *e*P P 17 33 09.4 +1.1
comp=Z,14nm,0.9s
B14A **Marquette Ranc** 47.13 333 ⇓P P 17 33 08.2 -0.3
baz=47,SNR=55
JTMT **Jette** 47.15 332 *e*P P 17 33 08.0 -0.7
comp=Z,13nm,0.9s
C13A **Hot Springs** 47.24 331 ⇓P P 17 33 08.7 -0.6
baz=47,SNR=13
WDC **Whiskeytown Da** 47.32 319 *e*P P 17 33 08.8 -1.1
WDC pmax pmax
comp=Z,45nm,1.4s
WDC **Whiskeytown Da** 47.32 319 *e*P P 17 33 08.8 -1.1
comp=Z,45nm,1.4s
SPB **Sao Paulo** 47.33 133 *e*P P 17 33 10.7 +0.4
SPB LR LR
comp=Z,7µm,21.0s
A15A **Johnson Ranch,** 47.35 334 ⇑P P 17 33 09.2 -0.9
baz=47,SNR=70
BLMT **Blacktail Moun** 47.37 332 *e*P P 17 33 10.1 -0.4
comp=Z,35nm,1.3s
BSMT **Bassoo Peak** 47.46 331 P P 17 33 10.8 -0.3
KIPM **Iron Peak** 47.55 318 *e*P P 17 33 13.2 +1.3
comp=Z,435nm,1.4s
KCPM **Cahto Peak** 47.55 317 *e*P P 17 33 13.6 +1.7
comp=Z,185nm,1.3s
A14A **Double T Ranch** 47.65 333 ⇓P P 17 33 11.8 -0.7
baz=48,SNR=51
B13A **Whitefish** 47.68 332 ⇑P P 17 33 12.2 -0.6
baz=48,SNR=42
HOG **Hogback Mounta** 47.68 321 P P 17 33 13.7 +0.7
C12B **Naegeli Ranch,** 47.69 331 ⇑P P 17 33 12.3 -0.5
baz=48,SNR=28
WALA **Waterton Lakes** 47.93 333 *e*P P 17 33 14.0 -0.7
comp=Z,1.4nm,1.1s
SCHQ **Schefferville** 48.03 13 P P 17 33 14.2 -1.0

comp=Z,98nm,1.0s,baz=204,slow=6.5,SNR=76
SCHQ PP **PP** **17 35 10.3 +2.9**
comp=Z,40nm,1.2s,baz=188,slow=6.8,SNR=4.7
SCHQ LR LR 17 54 18.1
comp=Z,8μm,19.7s,baz=208,slow=37
SCHQ Schefferville 48.03 13 P **P**
SCHQ PP **PP** **17 35 10.3 +2.9**
YBH Yreka Blue Hor 48.04 320 *e*P **P** **17 33 14.0 -1.6**
comp=Z,24nm,1.0s
E09A Wood Farm, Sta 48.22 328 P **P** **17 33 16.2 -0.6**
KHMM Horse Mountain 48.25 319 *e*P **P** **17 33 18.2 +0.9**
comp=Z,267nm,1.3s
B12A Libby 48.28 331 ⇑P **P** **17 33 17.1 -0.2**
baz=48,SNR=12
FFC Flin Flon 48.48 346 *i* P **P** **17 33 17.9 -0.8**
FFC Flin Flon 48.48 346 *e*P **P** **17 33 17.9 -0.8**
comp=Z,153nm,1.2s
FFC LR LR
comp=Z,5μm,20.0s
A12A Yaak River Ran 48.63 332 ⇓P **P** **17 33 20.0 -0.1**
baz=49,SNR=7.8
HUMO Hull Mountain 48.66 321 *e*P **P** **17 33 20.0 -0.3**
comp=Z,14nm,1.4s
KRMB Red Mountain 48.69 319 *e*P **P** **17 33 22.1 +1.4**
comp=Z,211nm,1.4s
NEW Newport 48.87 330 *e*P **P** **17 33 20.9 -1.0**
comp=Z,29nm,1.0s
NEW LR LR
comp=Z,4μm,22.0s
NEW Newport 48.87 330 ⇑P **P** **17 33 21.2 -0.7**
baz=49,SNR=14
HAWA Hanford 48.88 327 *e*P **P** **17 33 21.2 -0.8**
comp=Z,50nm,1.1s
HAWA LR LR
comp=Z,3μm,20.0s
PRLK Prince Lake 48.95 323 P **P** **17 33 23.0 +0.3**
IRO Indian Ridge 49.00 323 P **P** **17 33 22.9 -0.2**
KBO Bosley Butte 49.25 320 *e*P **P** **17 33 26.6 +1.6**
comp=Z,566nm,1.3s
RCBR Riachuelo 49.28 105 P **P** **17 33 25.9 +0.4**
comp=Z,17nm,0.9s,baz=277,slow=10,SNR=6.7
RCBR LR LR 17 56 20.3
comp=Z,7μm,18.2s,baz=100,slow=39
RCBR Riachuelo 49.28 105 P **P** **17 33 25.9 +0.4**
VFP Flag Point 49.30 325 P **P** **17 33 25.9 +0.5**
LPA La Plata 49.35 152 *e*P **P** **17 33 28.0 +2.4**
LPA pP **pP** **17 33 32.0 +0.6**
LPA S **S** **17 40 36.0 +4.6**
TRW Toppenish Ridg 49.37 326 P **P** **17 33 26.4 +0.7**
TCBU Trout Butte 49.38 323 P P 17 33 22.7 -3.3
VLL Laurance Lake 49.51 325 P **P** **17 33 27.7 +0.8**
KEBM Edson Butte 49.66 321 *e*P **P** **17 33 28.9 +0.9**
comp=Z,379nm,1.3s
NAC Naches 49.80 327 P **P** **17 33 29.7 +0.7**
WTV Waterville 49.93 328 P **P** **17 33 30.2 +0.2**
COR Corvallis 49.95 323 *e*P **P** **17 33 31.9 +1.8**
COR pmax pmax
comp=Z,126nm,1.3s
COR Corvallis 49.95 323 *e*P **P** **17 33 31.9 +1.8**
comp=Z,126nm,1.3s
ETW Entiat 50.07 328 P **P** **17 33 30.9 -0.2**
WPW White Pass 50.17 326 P **P** **17 33 32.0 +0.1**
LON Longmire 50.34 326 *e*P **P** **17 33 32.7 -0.5**
LON pmax pmax
comp=Z,14nm,0.9s
LON Longmire 50.34 326 *e*P **P** **17 33 32.6 -0.5**
comp=Z,14nm,0.9s
PLCA Paso Flores 50.36 168 P **P** **17 33 35.0 +1.7**
comp=Z,21nm,0.9s,baz=342,slow=10,SNR=8.0
PLCA LR LR 17 51 59.9
comp=Z,4μm,18.0s,baz=10,slow=33
PLCA Paso Flores 50.36 168 *e*P **P** **17 33 34.7 +1.5**
TRQA Tornquist 50.38 158 *e*P **P** **17 33 35.4 +2.0**
comp=Z,157nm,1.5s
TRQA LR LR
comp=Z,3μm,21.0s
E03A Lebam 51.20 325 P **P** **17 33 39.6 +0.1**
NLWA Neilton Lookou 51.86 326 *e*P **P** **17 33 44.6 +0.1**
comp=Z,62nm,1.1s
NLWA LR LR
comp=Z,7μm,19.0s
ROSA Rosais 57.62 49 *e*P **P** **17 34 27.9 +1.5**
comp=Z,545nm,1.6s
YKA Yellowknife Ar 58.53 344 P **P** **17 34 31.2 -1.1**
comp=Z,68nm,1.1s,baz=138,slow=7.2,SNR=236
YKA Yellowknife Ar 58.53 344 P **P** **17 34 31.2 -1.1**
SACV Santiago Islan 58.58 78 PFAKE 17 34 50.0 +17
SACV LR LR
comp=Z,2μm,19.0s
PSET Sete Cidades 59.30 51 *e*P **P** **17 34 35.7 -2.5**
comp=Z,440nm,1.5s
CMLA Cha da Macela 59.44 51 *e*P **P** **17 34 37.1 -2.0**
comp=Z,291nm,1.5s
CMLA Cha da Macela 59.44 51 PFAKE 17 34 50.0 +11
CMLA LR LR
comp=Z,4μm,21.0s
RKT Rikitea 59.58 237 *e*S **S** **17 42 49.4 -0.3**
comp=Z,5μm,28.8s
RKT *e*SS **SS** **17 46 48.4 +2.8**
comp=Z,3μm,33.8s
RKT *e*LQ LQ 17 49 49.5
comp=Z,3μm,30.2s
RKT *e*LR LR 17 52 20.7
comp=Z,9μm,23.5s,baz=57
PSMN Pico do Norte, 59.61 52 *e*P **P** **17 34 40.0 -0.3**
comp=Z,407nm,1.7s
WRAK Wrangell Islan 61.20 331 PFAKE 17 35 00.0 +9.2
WRAK LR LR
comp=Z,2μm,20.0s
DLBC Dease Lake 61.26 334 *e*P **P** **17 34 51.8 +0.5**
SFJD Kangerlussuaq 62.45 14 P **P** **17 34 57.1 -1.9**
comp=Z,36nm,0.9s,baz=213,slow=7.9,SNR=17
SFJD LR LR 18 03 33.8
comp=Z,6μm,18.7s,baz=224,slow=38
SFJD Kangerlussuaq 62.45 14 *e*P **P** **17 34 56.8 -2.2**
comp=Z,191nm,1.5s
SFJD Kangerlussuaq 62.45 14 *i* P **P** **17 34 56.3 -2.7**
comp=Z,31nm,1.0s
EFI East Falkland 63.72 163 PFAKE 17 35 20.0 +12
EFI LR LR
comp=Z,5μm,19.0s
SKAG Skagway 64.13 333 *e*P **P** **17 35 10.0 -0.2**
comp=Z,59nm,1.5s
PMOZ Porto Moniz, M 65.31 58 *e*P **P** **17 35 19.1 +0.5**
comp=Z,227nm,1.5s
PMOZ *e*S **S** **17 44 06.3 +4.3**
PMOZ *e*LR LR 17 51 43.5
comp=Z,1μm,18.0s
BBTS Babate 65.43 78 P **P** **17 35 19.0 -0.5**
comp=Z,7.6nm,0.3s,baz=78,slow=1.6,SNR=7.1
BBTS Babate 65.43 78 P **P** **17 35 19.0 -0.5**
PMPS Porto Santo 66.06 58 *e*P **P** **17 35 24.9 +1.6**
comp=Z,359nm,1.5s
PMPST Porto Santo, M 66.06 58 *e*P **P** **17 35 24.0 +0.7**
comp=Z,351nm,1.7s
RES Resolute Bay 66.49 357 *e*P **P** **17 35 23.5 -1.8**
comp=Z,622nm,2.2s
DAWY Dawson 68.04 337 *e*P **P** **17 35 34.9 -0.5**
INK Inuvik 68.21 342 *e*P **P** **17 35 36.3 0.0**
comp=Z,250nm,1.4s
BMRM Bremner River 68.95 333 *e*P **P** **17 35 41.4 +0.2**
comp=Z,142nm,1.4s
EGAK Eagle 69.05 337 PFAKE 17 35 50.0 +8.4
EGAK LR LR
comp=Z,3μm,20.0s
SUMG Summit 69.42 13 *e*P **P** **17 35 43.1 -1.2**
SUMG pmax pmax
comp=Z,488nm,1.5s
SUMG Summit 69.42 13 *e*P **P** **17 35 43.1 -1.2**
comp=Z,488nm,1.5s
SUMG Summit 69.42 13 *i* P **P** **17 35 43.1 -1.2**
comp=Z,101nm,1.0s
DOT Dot Lake 69.73 335 *e*P **P** **17 35 46.5 +0.6**
comp=Z,64nm,1.3s
PAX Paxson 70.06 335 *e*P **P** **17 35 48.1 0.0**
PAX pmax pmax
comp=Z,157nm,1.6s
PAX Paxson 70.06 335 *e*P **P** **17 35 48.1 0.0**
comp=Z,157nm,1.6s
PPT Papeete 70.47 248 LR LR 17 59 06.4
comp=Z,3μm,18.6s,baz=68,slow=29
PPT2 Papeete2 70.47 248 *e*PP PP 17 38 14.7 -13
comp=Z,198nm,25.8s
PPT2 *e*S **S** **17 45 03.2 -0.9**
comp=Z,3μm,24.0s
PPT2 *e*SS **SS** **17 49 36.4 +0.8**
comp=Z,1μm,27.2s
PPT2 *e*LR LR 17 57 23.7
comp=Z,3μm,24.2s,baz=57
BORG Borgarnes 70.58 24 LR LR 18 01 20.9
comp=Z,3μm,21.7s,baz=156,slow=31
SML Sawmill 70.92 333 *e*P **P** **17 35 53.1 -0.2**
SML pmax pmax
comp=Z,48nm,1.5s
SML Sawmill 70.92 333 *e*P **P** **17 35 53.1 -0.2**
comp=Z,48nm,1.5s
SEW Seward 70.93 331 *e*P **P** **17 35 53.0 -0.2**
comp=Z,54nm,1.1s
PMR Palmer 71.22 333 *e*P **P** **17 35 54.9 0.0**
PMR pmax pmax
comp=Z,91nm,1.6s
PMR Palmer 71.22 333 *e*P **P** **17 35 54.9 0.0**
comp=Z,91nm,1.6s
ILAR Eielson Array 71.30 336 P **P** **17 35 55.5 +0.1**
comp=Z,32nm,0.9s,baz=110,slow=4.0,SNR=170
ILAR LR LR 18 12 09.4
comp=Z,4μm,18.1s,baz=110,slow=40
ILAR Eielson Array 71.30 336 P **P** **17 35 55.5 +0.1**
COLA College 71.72 336 *e*P **P** **17 35 57.5 -0.4**
COLA pmax pmax
comp=Z,63nm,1.3s
COLA MLR MLR
comp=Z,4μm,19.0s
COLA College 71.72 336 *e*P **P** **17 35 57.5 -0.4**
comp=Z,63nm,1.3s
COLA LR LR
comp=Z,4μm,19.0s
TBI Tubuai 72.04 242 *e*PP PP 17 38 38.5 -2.4
comp=Z,181nm,31.0s
TBI *e*S **S** **17 45 20.7 -1.2**
comp=Z,3μm,30.8s
TBI *e*LQ LQ 17 55 01.7
comp=Z,2μm,30.0s
TBI *e*LR LR 17 58 08.5
comp=Z,2μm,24.8s
PMAFR Mafra 72.22 52 *e*P **P** **17 36 01.6 +0.1**
comp=Z,146nm,1.9s
TRF Thorofare Moun 72.28 334 *e*P **P** **17 36 01.1 -0.5**
comp=Z,184nm,1.6s
LIS Lisbon 72.31 52 *e*P **P** **17 36 03.0 +1.0**
LIS *e*S **S** **17 45 27.1 +2.5**
LIS AMS AMS 18 02 30.6
comp=Z,2μm,21.9s
LIS Lisbon 72.31 52 *e*P **P** **17 36 03.0 +1.0**
LIS *e*S **S** **17 45 27.1 +2.5**
LIS A A 18 02 30.6
comp=Z,2μm,21.9s
LIS Lisbon 72.31 52 *e*P **P** **17 36 02.9 +1.0**
LIS *e*S **S** **17 45 27.0 +2.5**
PFVI Vila Bisbo 72.48 54 *i* P **P** **17 36 03.6 +0.5**
comp=Z,272nm,1.7s
PTEO Sao Teotonio 72.58 53 *e*P **P** **17 36 04.7 +1.0**
comp=Z,278nm,1.8s
RSO Redoubt South 72.61 331 *e*P **P** **17 36 03.5 -0.1**
comp=Z,175nm,1.0s
MORF Marmelete 72.63 54 *i* P **P** **17 36 04.9 +0.9**
comp=Z,312nm,1.6s
MORF Marmelete 72.63 54 *e*P **P** **17 36 04.9 +0.9**
MORF *e*S **S** **17 45 30.5 +2.0**
PNCL Nicolau / Gran 72.77 53 *i* P **P** **17 36 05.2 +0.5**
comp=Z,176nm,1.7s
PTOM Tomar 72.93 51 *e*P **P** **17 36 05.8 +0.1**
comp=Z,199nm,1.7s
MESJ Messejana 73.00 53 *e*P **P** **17 36 06.8 +0.6**
MESJ *e*S **S** **17 45 34.8 +2.3**
MESJ AMS AMS 18 03 07.8
comp=Z,3μm,20.4s
MESJ Messejana 73.00 53 *e*P **P** **17 36 06.8 +0.6**
MESJ *e*S **S** **17 45 34.8 +2.3**
MESJ A A 18 03 07.8
comp=Z,3μm,20.4s
MESJ Messejana 73.00 53 *e*P **P** **17 36 06.7 +0.6**
PMTG Montargil 73.05 52 *i* P **P** **17 36 06.6 +0.2**
comp=Z,171nm,1.7s
EVOP Sao Brissos 73.10 52⇑ *i*P **P** **17 36 07.0 +0.3**
EVOP pmax pmax
comp=Z,255nm,1.4s
EVOP Sao Brissos 73.10 52⇑ *i*P **P** **17 36 07.0 +0.3**
comp=Z,255nm,1.4s
PCVE Castro Verde 73.13 53 *i* P **P** **17 36 07.5 +0.6**
comp=Z,153nm,1.7s
PGAV Gavieira, Arco 73.18 49 *i* P **P** **17 36 07.5 +0.2**
comp=Z,193nm,1.7s
PGAV *e*S **SKiKP** **17 45 41.5 +2.7**
PGAV *e*LR LR 17 58 03.3
comp=Z,2μm,18.0s
EVO Evora 73.19 52⇑ *i*P **P** **17 36 07.0 -0.3**
comp=Z,255nm,1.4s
EVO *e*R
comp=Z,2μm,20.2s
EVO Evora 73.19 52 *i* P **P** **17 36 07.6 +0.3**
comp=Z,132nm,1.9s
PBDV Barranco-do-Ve 73.20 54 *i* P **P** **17 36 08.1 +0.7**
comp=Z,205nm,1.7s
PBEJ Beja 73.28 53 *e*P **P** **17 36 08.6 +0.8**
comp=Z,117nm,1.8s
PCAB Cabril 73.34 49 *e*P **P** **17 36 08.1 -0.1**
comp=Z,115nm,1.6s
PVAQ Vaqueiros 73.38 54 *i* P **P** **17 36 09.2 +0.8**
comp=Z,165nm,1.7s
PVAQ *e*S **SKiKP** **17 45 39.9 +0.8**
PVAQ *e*LR LR 17 58 40.6
comp=Z,3μm,22.0s
PVIS Viseu 73.39 50 *i* P **P** **17 36 08.3 -0.2**
comp=Z,169nm,1.7s
COLD Coldfoot 73.40 338 *e*P **P** **17 36 08.8 +0.9**
comp=Z,131nm,1.3s
POLO Lamas de Olo 73.50 49 *i* P **P** **17 36 09.0 -0.2**
comp=Z,78nm,1.8s
PESTR Estremoz 73.53 52 *i* P **P** **17 36 09.5 +0.2**
comp=Z,230nm,1.7s
PVRL Vila Real 73.55 50 *e*P **P** **17 36 10.2 +0.8**
comp=Z,155nm,1.6s
MTE Manteigas 73.64 50 *i* P **P** **17 36 10.1 +0.1**
comp=Z,131nm,1.8s
MTE *e*S S 17 45 47.1 +7.3
MTE *e*LR LR 17 58 50.5
comp=Z,3μm,20.0s
MTE Manteigas 73.64 50 *e*P **P** **17 36 09.7 -0.2**
comp=Z,188nm,1.8s
MTE LR LR
comp=Z,4μm,20.0s
PCBR Castelo Branco 73.66 51 *i* P **P** **17 36 10.0 0.0**
comp=Z,135nm,1.8s
PMRV Marv??o 73.71 51 *i* P **P** **17 36 10.0 -0.3**
comp=Z,121nm,1.8s
PMRV *e*S **SKiKP** **17 45 37.1 -2.4**
PMRV *e*LR LR 17 58 58.1
comp=Z,2μm,20.0s
PBAR Barrancos 73.94 53 *i* P **P** **17 36 12.3 +0.6**
comp=Z,177nm,1.8s
RTC Rabat Centre 74.01 57 PFAKE 17 36 20.0 +7.9
RTC LR LR
comp=Z,2μm,20.0s
MVO Moncorvo 74.06 50 *i* P **P** **17 36 12.8 +0.4**
comp=Z,158nm,1.8s
MVO *e*S S 17 45 53.4 +8.8
MVO *e*LR LR 17 59 10.9
comp=Z,2μm,20.0s
PBRG Braganca 74.31 49 *e*P **P** **17 36 14.2 +0.4**
comp=Z,150nm,1.7s
PMSA Palmer Station 74.47 172 PFAKE 17 36 30.0 +16
PMSA LR LR
comp=Z,1μm,19.0s
ALE Alert 74.52 3 P **P** **17 36 12.7 -1.6**
comp=Z,194nm,1.6s,SNR=6.5
CHGN Chignik 74.77 326 *e*P **P** **17 36 16.5 +0.4**
SDPT Sand Point 75.81 325 *e*P **P** **17 36 23.0 +0.9**
comp=Z,724nm,1.4s
MDT Midelt 75.89 58 P **P** **17 36 24.0 +0.8**
comp=Z,6.5nm,0.5s,baz=276,slow=6.2,SNR=34
MDT Midelt 75.89 58 P **P** **17 36 24.0 +0.8**
PAB San Pablo 76.07 51 *e*P **P** **17 36 24.0 -0.1**
PAB pmax pmax
comp=Z,203nm,1.7s
PAB MLR MLR
comp=Z,3μm,20.0s
PAB San Pablo 76.07 51 *e*P **P** **17 36 24.0 -0.1**
comp=Z,203nm,1.7s
PAB LR LR
comp=Z,3μm,20.0s
DAG Danmarks Havn 76.07 12⇑ *i*P **P** **17 36 21.5 -1.7**
comp=Z,298nm,1.0s
DAG comp=Z,11μm,19.0s
KPL Plockton 76.18 33 *e*P **P** **17 36 22.5 -1.6**
KPL AMB AMB 17 36 24.8
comp=Z,166nm,1.9s
KPL AMS AMS 18 02 46.6
comp=Z,3μm,25.4s
KPL Plockton 76.18 33 P **P** **17 36 22.5 -1.6**
KPL AMB AMB 17 36 24.8
comp=Z,166nm,1.9s
KPL AMS AMS 18 02 46.6
comp=Z,3μm,25.4s
ESDC Sonseca Array 76.37 51 P **P** **17 36 26.1 +0.3**
comp=Z,43nm,1.0s,baz=278,slow=5.3,SNR=60
ESDC Sonseca Array 76.37 51 P **P** **17 36 26.1 +0.3**
ESLA Sonseca Array 76.37 51 *e*P **P** **17 36 25.8 0.0**
comp=Z,148nm,1.7s
KAC Achnashellach 76.39 33 *e*P **P** **17 36 24.0 -1.4**
KAC Achnashellach 76.39 33 P **P** **17 36 24.0 -1.4**
YRE Yr Eifl 76.52 38 *e*P **P** **17 36 25.1 -1.1**
YRE Yr Eifl 76.52 38 P **P** **17 36 25.1 -1.1**
DYA Yadsworthy 76.68 40 AMS AMS 18 03 40.6
comp=Z,3μm,23.6s
EAB Aberfoyle 76.80 34 *e*P **P** **17 36 26.2 -1.5**
EAB Aberfoyle 76.80 34 P **P** **17 36 26.2 -1.5**
ROSF Rostrenen 77.02 42⇑ *i*P **P** **17 36 28.5 -0.6**
comp=Z,197nm,1.6s
ROSF Rostrenen 77.02 42⇑ *i*P **P** **17 36 28.5 -0.6**
ROSF pmax pmax
comp=Z,197nm,1.6s
ROSF Rostrenen 77.02 42⇑ *i*P **P** **17 36 28.5 -0.6**
comp=Z,197nm,1.6s
QUIF Quistinic 77.08 43⇑ *i*P **P** **17 36 29.0 -0.5**
comp=Z,175nm,1.4s
QUIF Quistinic 77.08 43⇑ *i*P **P** **17 36 29.0 -0.5**
QUIF pmax pmax
comp=Z,175nm,1.4s
QUIF Quistinic 77.08 43⇑ *i*P **P** **17 36 29.0 -0.5**
comp=Z,175nm,1.4s
FOEL Foel Wylfa 77.25 38 AMS AMS 18 06 08.8
comp=Z,3μm,19.9s
MCH1 Michaelchurch 77.33 39 *e*P **P** **17 36 29.5 -1.3**
MCH1 AMB AMB 17 36 30.6
comp=Z,78nm,2.1s
MCH1 AMS AMS 18 07 08.1
comp=Z,5μm,21.8s
MCH1 Michaelchurch 77.33 39 P **P** **17 36 29.5 -1.3**
MCH1 AMB AMB 17 36 30.6
comp=Z,78nm,2.1s
MCH1 AMS AMS 18 07 08.1
comp=Z,5μm,21.8s
ESK Eskdalemuir 77.38 35 *e*P **P** **17 36 28.6 -2.4**
ESK AMB AMB 17 36 31.8
comp=Z,95nm,2.3s
ESK Eskdalemuir 77.38 35 P **P** **17 36 28.6 -2.4**
ESK AMB AMB 17 36 31.8
comp=Z,95nm,2.3s
ESK Eskdalemuir 77.38 35 *e*P **P** **17 36 29.4 -1.6**
ESK pmax pmax
comp=Z,50nm,1.4s
ESK MLR MLR
comp=Z,2μm,21.0s
ESK Eskdalemuir 77.38 35 *e*P **P** **17 36 29.4 -1.6**
comp=Z,50nm,1.4s
ESK LR LR
comp=Z,2μm,21.0s
ECK Cauldkaine Hil 77.42 35 *e*P **P** **17 36 29.8 -1.4**
ECK Cauldkaine Hil 77.42 35 P **P** **17 36 29.8 -1.4**
HLM1 Long Mynd 77.43 38 *e*P **P** **17 36 29.6 -1.7**
HLM1 AMB AMB 17 36 31.2
comp=Z,99nm,2.0s
HLM1 Long Mynd 77.43 38 P **P** **17 36 29.6 -1.7**
HLM1 AMB AMB 17 36 31.2
comp=Z,99nm,2.0s
LIC Lamto 77.46 85⇑ *i*P **P** **17 36 33.1 +0.8**
comp=Z,235nm,1.0s,baz=268
LIC *e*R
comp=Z,2μm,18.5s
LIC Lamto 77.46 85⇑ *i*P **P** **17 36 33.1 +0.8**
comp=Z,235nm,1.0s
MCD Coleburn Disti 77.49 33 *e*P **P** **17 36 30.5 -1.1**
MCD Coleburn Disti 77.49 33 P **P** **17 36 30.5 -1.1**
SGMF Saint Gilles 77.50 42⇑ *i*P **P** **17 36 31.1 -0.7**
comp=Z,312nm,1.8s
SGMF Saint Gilles 77.50 42⇑ *i*P **P** **17 36 31.1 -0.7**
SGMF pmax pmax
comp=Z,312nm,1.8s
SGMF Saint Gilles 77.50 42⇑ *i*P **P** **17 36 31.1 -0.7**
comp=Z,312nm,1.8s
DBIC Dimbokro 77.57 85 P **P** **17 36 33.2 +0.3**
comp=Z,64nm,1.1s,baz=270,slow=6.4,SNR=27
DBIC LR LR 18 08 35.7
comp=Z,1μm,20.7s,baz=255,slow=34
DBIC Dimbokro 77.57 85 *e*P **P** **17 36 33.4 +0.5**
comp=Z,218nm,1.4s
ESY Stoneypath 77.75 35 *e*P **P** **17 36 31.8 -1.2**
ESY Stoneypath 77.75 35 P **P** **17 36 31.8 -1.2**
JSA Saint Aubin 77.77 42 AMS AMS 18 04 45.5
comp=Z,5μm,21.0s
SSW Stow on the Wo 78.04 39 *e*P **P** **17 36 33.9 -0.8**
SSW Stow on the Wo 78.04 39 P **P** **17 36 33.9 -0.8**
LHO Holmfirth 78.09 37 *e*P **P** **17 36 33.9 -1.2**
LHO Holmfirth 78.09 37 P **P** **17 36 33.9 -1.2**
OSSF Osses 78.38 48 *e*P **P** **17 36 36.5 -0.4**
OSSF Osses 78.38 48 *e*P **P** **17 36 36.5 -0.4**
SJPF Ste Jean 78.41 48⇑ *i*P **P** **17 36 37.2 +0.1**
comp=Z,443nm,1.6s
SJPF Ste Jean 78.41 48⇑ *i*P **P** **17 36 37.2 +0.1**
SJPF pmax pmax
comp=Z,443nm,1.6s
SJPF Ste Jean 78.41 48⇑ *i*P **P** **17 36 37.2 +0.1**
comp=Z,443nm,1.6s
LARF Larrau 78.59 48 *e*P **P** **17 36 38.5 +0.4**
LARF Larrau 78.59 48 *e*P **P** **17 36 38.5 +0.4**
GRR Gorron 78.63 42⇑ *i*P **P** **17 36 37.5 -0.6**
comp=Z,422nm,1.6s
GRR Gorron 78.63 42⇑ *i*P **P** **17 36 37.5 -0.6**
GRR pmax pmax
comp=Z,422nm,1.6s
GRR Gorron 78.63 42⇑ *i*P **P** **17 36 37.5 -0.6**
comp=Z,422nm,1.6s
SKP1 Kophill 78.68 39 *e*P **P** **17 36 37.0 -1.3**
SKP1 Kophill 78.68 39 P **P** **17 36 37.0 -1.3**
LRW Lerwick 78.72 30 AMS AMS 18 07 56.9
comp=Z,3μm,22.9s
FLN La Foliniere 78.88 42⇑ *i*P **P** **17 36 38.9 -0.6**
comp=Z,548nm,1.8s
FLN *e*R
comp=Z,8μm,21.8s
FLN La Foliniere 78.88 42⇑ *i*P **P** **17 36 38.9 -0.6**
FLN pmax pmax
comp=Z,548nm,1.8s
FLN La Foliniere 78.88 42⇑ *i*P **P** **17 36 38.9 -0.6**
comp=Z,548nm,1.8s
ETSF Etsaut 78.90 48⇑ *i*P **P** **17 36 40.1 +0.3**
comp=Z,104nm,1.3s
ETSF Etsaut 78.90 48⇑ *i*P **P** **17 36 40.1 +0.3**
ETSF pmax pmax
comp=Z,104nm,1.3s
ETSF Etsaut 78.90 48⇑ *i*P **P** **17 36 40.1 +0.3**
comp=Z,104nm,1.3s
REYF Montagne du Re 79.02 48 *e*P **P** **17 36 40.7 +0.2**
REYF Montagne du Re 79.02 48 *e*P **P** **17 36 40.7 +0.2**
LDF La Druitiere 79.12 42⇑ *i*P **P** **17 36 40.1 -0.7**
comp=Z,436nm,1.6s
LDF La Druitiere 79.12 42⇑ *i*P **P** **17 36 40.1 -0.7**
LDF pmax pmax
comp=Z,437nm,1.6s
LDF La Druitiere 79.12 42⇑ *i*P **P** **17 36 40.1 -0.7**
comp=Z,436nm,1.6s
MFF Saint Martin d 79.13 44⇑ *i*P **P** **17 36 40.4 -0.5**
comp=Z,257nm,1.4s
MFF Saint Martin d 79.13 44⇑ *i*P **P** **17 36 40.4 -0.5**
MFF pmax pmax
comp=Z,257nm,1.4s
MFF Saint Martin d 79.13 44⇑ *i*P **P** **17 36 40.4 -0.5**
comp=Z,257nm,1.4s
UNV Unalaska Valle 79.24 323 *e*P **P** **17 36 41.9 +0.6**
comp=Z,252nm,1.3s
LABF Labassere 79.36 48 *e*P **P** **17 36 42.6 +0.3**
LABF Labassere 79.36 48 *e*P **P** **17 36 42.6 +0.3**
EPF Esparros 79.56 48⇑ *i*P **P** **17 36 43.4 0.0**
comp=Z,558nm,1.8s
EPF Esparros 79.56 48⇑ *i*P **P** **17 36 43.4 0.0**
EPF pmax pmax
comp=Z,558nm,1.8s
EPF Esparros 79.56 48⇑ *i*P **P** **17 36 43.4 0.0**

	comp=Z,558nm,1.8s								
RESF	**Ens**	**79.57**	**48**	*eP*	**P**	**17 36 43.9**	**+0.4**		
RESF	**Ens**	**79.57**	**48**	*eP*	**P**	**17 36 43.9**	**+0.4**		
LFF	**La Frestale**	**79.79**	**46⇑**	*iP*	**P**	**17 36 44.1**	**-0.4**		
	comp=Z,253nm,1.4s								
LFF	**La Frestale**	**79.79**	**46⇑**	*iP*	**P**	**17 36 44.1**	**-0.4**		
LFF				pmax	pmax				
	comp=Z,253nm,1.4s								
LFF	**La Frestale**	**79.79**	**46⇑**	*iP*	**P**	**17 36 44.1**	**-0.4**		
	comp=Z,253nm,1.4s								
MELF	**Melles**	**79.87**	**48**	*eP*	**P**	**17 36 45.4**	**+0.3**		
MELF	**Melles**	**79.87**	**48**	*eP*	**P**	**17 36 45.4**	**+0.3**		
ELSH	**Elham, Standar**	**79.90**	**40**	AMS	AMS	18 05 42.9			
	comp=Z,4µm,22.1s								
MLS	**Moulis**	**80.12**	**48**	*eP*	**P**	**17 36 46.4**	**0.0**		
MLS	**Moulis**	**80.12**	**48**	*eP*	**P**	**17 36 46.4**	**0.0**		
TNA	**Tin City**	**80.13**	**335**	*eP*	**P**	**17 36 47.8**	**+1.9**		
	comp=Z,147nm,1.4s								
SALF	**Salau**	**80.19**	**48**	*eP*	**P**	**17 36 47.5**	**+0.6**		
SALF	**Salau**	**80.19**	**48**	*eP*	**P**	**17 36 47.5**	**+0.6**		
RJF	**Les Rejaudoux**	**80.32**	**45⇑**	*iP*	**P**	**17 36 46.9**	**-0.5**		
	comp=Z,466nm,1.8s								
RJF				*eR*					
	comp=Z,4µm,20.0s								
RJF	**Les Rejaudoux**	**80.32**	**45⇑**	*iP*	**P**	**17 36 46.9**	**-0.5**		
RJF				pmax	pmax				
	comp=Z,466nm,1.8s								
RJF	**Les Rejaudoux**	**80.32**	**45⇑**	*iP*	**P**	**17 36 46.9**	**-0.5**		
	comp=Z,466nm,1.8s								
RAR	**Rarotonga**	**80.69**	**247**	PFAKE		17 37 00.0	+10		
RAR				LR	LR				
	comp=Z,5µm,20.0s								
CAF	**Calviac**	**80.73**	**46⇑**	*iP*	**P**	**17 36 49.0**	**-0.6**		
	comp=Z,377nm,1.8s								
CAF	**Calviac**	**80.73**	**46⇑**	*iP*	**P**	**17 36 49.0**	**-0.6**		
CAF				pmax	pmax				
	comp=Z,377nm,1.8s								
CAF	**Calviac**	**80.73**	**46⇑**	*iP*	**P**	**17 36 49.0**	**-0.6**		
	comp=Z,377nm,1.8s								
TCF	**Toulx Ste Croi**	**80.77**	**44⇑**	*iP*	**P**	**17 36 48.9**	**-0.9**		
	comp=Z,121nm,1.3s								
TCF	**Toulx Ste Croi**	**80.77**	**44⇑**	*iP*	**P**	**17 36 48.9**	**-0.9**		
TCF				pmax	pmax				
	comp=Z,121nm,1.3s								
TCF	**Toulx Ste Croi**	**80.77**	**44⇑**	*iP*	**P**	**17 36 48.9**	**-0.9**		
	comp=Z,121nm,1.3s								
MTLF	**Montolieu**	**80.92**	**47⇑**	*iP*	**P**	**17 36 50.2**	**-0.5**		
	comp=Z,443nm,1.8s								
MTLF	**Montolieu**	**80.92**	**47⇑**	*iP*	**P**	**17 36 50.2**	**-0.5**		
MTLF				pmax	pmax				
	comp=Z,443nm,1.8s								
MTLF	**Montolieu**	**80.92**	**47⇑**	*iP*	**P**	**17 36 50.2**	**-0.5**		
	comp=Z,443nm,1.8s								
VERF	**Verneugheol**	**80.98**	**45**	*eP*	**P**	**17 36 50.3**	**-0.7**		
VERF	**Verneugheol**	**80.98**	**45**	*eP*	**P**	**17 36 50.3**	**-0.7**		
HYF	**Humbligny**	**81.02**	**43⇑**	*iP*	**P**	**17 36 50.4**	**-0.7**		
HYF	**Humbligny**	**81.02**	**43⇑**	*iP*	**P**	**17 36 50.4**	**-0.7**		
BGF	**Bois d'Agland**	**81.19**	**44⇑**	*iP*	**P**	**17 36 51.2**	**-0.8**		
	comp=Z,469nm,1.9s								
BGF	**Bois d'Agland**	**81.19**	**44⇑**	*iP*	**P**	**17 36 51.2**	**-0.8**		
BGF				pmax	pmax				
	comp=Z,469nm,1.9s								
BGF	**Bois d'Agland**	**81.19**	**44⇑**	*iP*	**P**	**17 36 51.2**	**-0.8**		
	comp=Z,469nm,1.9s								
PYM	**Petit Puy Mans**	**81.35**	**45**	*eP*	**P**	**17 36 52.2**	**-0.8**		
PYM	**Petit Puy Mans**	**81.35**	**45**	*eP*	**P**	**17 36 52.2**	**-0.8**		
PYM	**Petit Puy Mans**	**81.35**	**45**	*eP*	**P**	**17 36 52.2**	**-0.8**		
AGO	**Saint Agoulin**	**81.42**	**45**	*eP*	**P**	**17 36 52.2**	**-1.1**		
AGO	**Saint Agoulin**	**81.42**	**45**	*eP*	**P**	**17 36 52.2**	**-1.1**		
SJAF	**Saint Jean de**	**81.46**	**48**	*eP*	**P**	**17 36 53.6**	**0.0**		
SJAF	**Saint Jean de**	**81.46**	**48**	*eP*	**P**	**17 36 53.6**	**0.0**		
AVF	**Avril sur Loir**	**81.53**	**44⇑**	*iP*	**P**	**17 36 52.6**	**-1.2**		
	comp=Z,202nm,1.8s								
AVF	**Avril sur Loir**	**81.53**	**44⇑**	*iP*	**P**	**17 36 52.6**	**-1.2**		
AVF				pmax	pmax				
	comp=Z,202nm,1.8s								
AVF	**Avril sur Loir**	**81.53**	**44⇑**	*iP*	**P**	**17 36 52.6**	**-1.2**		
	comp=Z,202nm,1.8s								
LBL	**Lubilhac**	**81.55**	**45**	*eP*	**P**	**17 36 53.4**	**-0.7**		
LBL	**Lubilhac**	**81.55**	**45**	*eP*	**P**	**17 36 53.4**	**-0.7**		
LBL	**Lubilhac**	**81.55**	**45**	*eP*	**P**	**17 36 53.4**	**-0.7**		
SSF	**Saint Saulge**	**81.62**	**44⇑**	*iP*	**P**	**17 36 53.0**	**-1.3**		
	comp=Z,105nm,1.4s								
SSF	**Saint Saulge**	**81.62**	**44⇑**	*iP*	**P**	**17 36 53.0**	**-1.3**		
SSF				pmax	pmax				
	comp=Z,105nm,1.4s								
SSF	**Saint Saulge**	**81.62**	**44⇑**	*iP*	**P**	**17 36 53.0**	**-1.3**		
	comp=Z,105nm,1.4s								
FOO	**Floro**	**81.76**	**29**	*eP*	**P**	**17 36 54.1**	**-0.6**		
PLDF	**La Plantade**	**81.76**	**45**	*eP*	**P**	**17 36 54.3**	**-0.9**		
PLDF	**La Plantade**	**81.76**	**45**	*eP*	**P**	**17 36 54.3**	**-0.9**		
PLDF	**La Plantade**	**81.76**	**45**	*eP*	**P**	**17 36 54.3**	**-0.9**		
LOR	**Lormes**	**81.84**	**43**	*eP*	**P**	**17 36 54.4**	**-1.1**		
	comp=Z,145nm,1.4s								
LOR				*eR*					
	comp=Z,7µm,19.5s								
LOR	**Lormes**	**81.84**	**43**	*eP*	**P**	**17 36 54.4**	**-1.1**		
	comp=Z,145nm,1.4s								
SMF	**Signal de Mont**	**81.87**	**44⇑**	*iP*	**P**	**17 36 54.4**	**-1.3**		
	comp=Z,83nm,1.2s								
SMF	**Signal de Mont**	**81.87**	**44⇑**	*iP*	**P**	**17 36 54.4**	**-1.3**		
SMF				pmax	pmax				
	comp=Z,83nm,1.2s								
SMF	**Signal de Mont**	**81.87**	**44⇑**	*iP*	**P**	**17 36 54.4**	**-1.3**		
	comp=Z,83nm,1.2s								
BAIF	**Baives**	**81.90**	**41⇑**	*iP*	**P**	**17 36 54.8**	**-0.9**		
	comp=Z,168nm,1.7s								
BAIF	**Baives**	**81.90**	**41⇑**	*iP*	**P**	**17 36 54.8**	**-0.9**		
BAIF				pmax	pmax				
	comp=Z,168nm,1.7s								
BAIF	**Baives**	**81.90**	**41⇑**	*iP*	**P**	**17 36 54.8**	**-0.9**		
	comp=Z,168nm,1.7s								
SNF	**Seneffe**	**81.92**	**40**	P	P	**17 36 55.4**	**-0.4**		
UCC	**Uccle**	**81.95**	**40**	P	P	**17 36 56.1**	**+0.1**		
BER	**Bergen**	**81.96**	**30**	*eP*	**P**	**17 36 53.8**	**-1.9**		
BER				AMS	AMS	18 10 43.1			
	comp=Z,3µm,20.8s								
LASF	**Ste Croix**	**82.06**	**47⇑**	*iP*	**P**	**17 36 56.8**	**+0.1**		
	comp=Z,322nm,1.8s								
LASF	**Ste Croix**	**82.06**	**47⇑**	*iP*	**P**	**17 36 56.8**	**+0.1**		
	comp=Z,322nm,1.8s								
DOU	**Dourbes**	**82.15**	**41**	P	P	**17 36 56.2**	**-0.7**		
	comp=Z,27nm,1.8s								
GIVF	**Givet**	**82.29**	**40⇑**	*iP*	**P**	**17 36 56.9**	**-0.9**		
	comp=Z,327nm,1.8s								
GIVF	**Givet**	**82.29**	**40⇑**	*iP*	**P**	**17 36 56.9**	**-0.9**		
GIVF				pmax	pmax				
	comp=Z,327nm,1.8s								
GIVF	**Givet**	**82.29**	**40⇑**	*iP*	**P**	**17 36 56.9**	**-0.9**		
	comp=Z,327nm,1.8s								
SSB	**Saint Sauveur**	**82.46**	**45**	*eP*	**P**	**17 36 58.4**	**-0.4**		
SSB				pmax	pmax				
	comp=Z,135nm,1.8s								
SSB				MLR	MLR				
	comp=Z,2µm,20.0s								
SSB	**Saint Sauveur**	**82.46**	**45**	*eP*	**P**	**17 36 58.4**	**-0.4**		
	comp=Z,135nm,1.8s								
SSB				LR	LR				
	comp=Z,2µm,20.0s								
SSB	**Saint Sauveur**	**82.46**	**45**	*eP*	**P**	**17 36 58.0**	**-0.8**		
MEZF	**Maizieres J'vi**	**82.56**	**42⇑**	*iP*	**P**	**17 36 58.4**	**-0.8**		
	comp=Z,342nm,1.6s								
MEZF	**Maizieres J'vi**	**82.56**	**42⇑**	*iP*	**P**	**17 36 58.4**	**-0.8**		
	comp=Z,342nm,1.6s								
SFTF	**Sexfontaines**	**82.57**	**42**	*eP*	**P**	**17 36 58.3**	**-1.0**		
	comp=Z,113nm,1.2s								
SFTF	**Sexfontaines**	**82.57**	**42**	*eP*	**P**	**17 36 58.3**	**-1.0**		
	comp=Z,113nm,1.2s								
BCLA	**Clavier**	**82.58**	**40**	P	P	**17 36 58.7**	**-0.5**		
	comp=Z,62nm,2.5s								
VIVF	**Saint-Julien-l**	**82.58**	**46⇑**	*iP*	**P**	**17 36 59.5**	**+0.1**		
	comp=Z,274nm,1.5s								
VIVF	**Saint-Julien-l**	**82.58**	**46⇑**	*iP*	**P**	**17 36 59.5**	**+0.1**		
VIVF				pmax	pmax				
	comp=Z,274nm,1.5s								
VIVF	**Saint-Julien-l**	**82.58**	**46⇑**	*iP*	**P**	**17 36 59.5**	**+0.1**		
	comp=Z,274nm,1.5s								
ODD1	**Odda**	**82.64**	**31**	*eP*	**P**	**17 36 59.5**	**+0.1**		
KBS	**Kingsbay**	**82.71**	**11**	*eP*	**P**	**17 36 59.2**	**-0.2**		
KBS				AMB	AMB	17 37 02.3			
	comp=Z,216nm,1.3s								
KBS				AMS	AMS	18 11 25.9			
	comp=Z,5µm,19.2s								
KBS	**Kingsbay**	**82.71**	**11**	*c iP*	**P**	**17 36 59.9**	**+0.5**		
KBS				pmax	pmax				
	comp=Z,145nm,1.2s								
KBS	**Kingsbay**	**82.71**	**11**	*eP*	**P**	**17 36 59.9**	**+0.5**		
KBS				LR	LR				
	comp=Z,194nm,1.4s								
BEBN	**Eben Emael**	**82.79**	**40**	P	P	**17 36 59.6**	**-0.7**		
	comp=Z,23nm,2.3s								
PAGF	**Fort de Pagny**	**83.00**	**42**	*eP*	**P**	**17 37 00.8**	**-0.7**		
	comp=Z,58nm,1.3s								
PAGF	**Fort de Pagny**	**83.00**	**42**	*eP*	**P**	**17 37 00.8**	**-0.7**		
	comp=Z,58nm,1.3s								
MEM	**Membach**	**83.01**	**40**	P	P	**17 37 00.8**	**-0.7**		
	comp=Z,28nm,1.6s								
OCF	**Saint Nazaire**	**83.05**	**46**	*eP*	**P**	**17 37 01.8**	**-0.1**		
OG26	**St.-Nazaire-De**	**83.05**	**46**	*eP*	**P**	**17 37 01.8**	**-0.1**		
TOA0	**Torodi Ar. Sit**	**83.19**	**78**	*eP*	**P**	**17 37 02.6**	**-0.4**		
TORD	**Torodi Ar. Bea**	**83.19**	**78**	P	P	**17 37 03.1**	**0.0**		
	comp=Z,7.2nm,0.9s,baz=268,slow=1.7,SNR=48								
TORD	**Torodi Ar. Bea**	**83.19**	**78**	P	P	**17 37 03.1**	**0.0**		
WLF	**Walferdange**	**83.19**	**41**	P	P	**17 37 02.2**	**-0.2**		
	comp=Z,80nm,2.4s								
WLF	**Walferdange**	**83.19**	**41**	*eP*	**P**	**17 37 01.7**	**-0.7**		
WLF				pmax	pmax				
	comp=Z,51nm,1.3s								
WLF				MLR	MLR				
	comp=Z,6µm,22.0s								
WLF	**Walferdange**	**83.19**	**41**	*eP*	**P**	**17 37 02.2**	**-0.2**		
	comp=Z,298nm,2.1s								
WLF				*eSS*	SS	17 53 06.3	+20		
WLF	**Walferdange**	**83.19**	**41**	*eP*	**P**	**17 37 01.7**	**-0.7**		
	comp=Z,51nm,1.3s								
WLF				LR	LR				
	comp=Z,6µm,22.0s								
THEF	**They Montfort**	**83.20**	**42**	*eP*	**P**	**17 37 01.5**	**-1.1**		
THEF	**They Montfort**	**83.20**	**42**	*eP*	**P**	**17 37 01.5**	**-1.1**		
THEF	**They Montfort**	**83.20**	**42**	*eP*	**P**	**17 37 01.5**	**-1.1**		
CABF	**La Chapelle**	**83.42**	**44⇑**	*iP*	**P**	**17 37 03.1**	**-0.7**		
	comp=Z,279nm,1.7s								
CABF	**La Chapelle**	**83.42**	**44⇑**	*iP*	**P**	**17 37 03.1**	**-0.7**		
CABF				pmax	pmax				
	comp=Z,279nm,1.7s								
CABF	**La Chapelle**	**83.42**	**44⇑**	*iP*	**P**	**17 37 03.1**	**-0.7**		
	comp=Z,279nm,1.7s								
ORIF	**Oris-en-Rattie**	**83.43**	**46⇑**	*iP*	**P**	**17 37 04.1**	**+0.2**		
	comp=Z,320nm,1.9s								
ORIF				*eR*					
	comp=Z,2µm,19.8s								
ORIF	**Oris-en-Rattie**	**83.43**	**46⇑**	*iP*	**P**	**17 37 04.1**	**+0.2**		
ORIF				pmax	pmax				
	comp=Z,320nm,1.9s								
ORIF	**Oris-en-Rattie**	**83.43**	**46⇑**	*iP*	**P**	**17 37 04.1**	**+0.2**		
	comp=Z,320nm,1.9s								
HAU	**Haudompre**	**83.47**	**43⇑**	*iP*	**P**	**17 37 03.0**	**-0.9**		
	comp=Z,299nm,1.9s								
HAU				*eR*					
	comp=Z,6µm,22.2s								
HAU	**Haudompre**	**83.47**	**43⇑**	*iP*	**P**	**17 37 03.0**	**-0.9**		
HAU				pmax	pmax				
	comp=Z,299nm,1.9s								
HAU	**Haudompre**	**83.47**	**43⇑**	*iP*	**P**	**17 37 03.0**	**-0.9**		
	comp=Z,299nm,1.9s								
OG25	**Le Caire**	**83.62**	**46**	*eP*	**P**	**17 37 05.3**	**+0.4**		
OG25	**Le Caire**	**83.62**	**46**	*eP*	**P**	**17 37 05.3**	**+0.4**		
SPITS	**Spitsbergen Ar**	**83.70**	**12**	P	P	**17 37 04.1**	**-0.5**		
	comp=Z,101nm,1.3s,baz=167,slow=4.1,SNR=29								
SPITS				PP	PP	**17 40 20.3**	**+3.1**		
	comp=Z,22nm,1.2s,baz=268,slow=11,SNR=3.9								
SPITS	**Spitsbergen Ar**	**83.70**	**12**	P	P	**17 37 04.1**	**-0.5**		
SPITS				PP	PP	**17 40 20.3**	**+3.1**		
BUG	**Bochum--Univer**	**83.73**	**39**	*eP*	**P**	**17 37 04.5**	**-0.6**		
	comp=Z,187nm,1.7s								
BUG				*eSS*	SS	17 53 13.3	+19		
RUP	**Ruppelstein**	**83.77**	**41**	*eP*	**P**	**17 37 05.0**	**-0.5**		
RUP	**Ruppelstein**	**83.77**	**41**	*eP*	**P**	**17 37 05.0**	**-0.5**		
HINF	**Hinteralfeld**	**83.82**	**43⇑**	*iP*	**P**	**17 37 04.7**	**-1.1**		
	comp=Z,130nm,1.4s								
HINF	**Hinteralfeld**	**83.82**	**43⇑**	*iP*	**P**	**17 37 04.7**	**-1.1**		
HINF				pmax	pmax				
	comp=Z,130nm,1.4s								
HINF	**Hinteralfeld**	**83.82**	**43⇑**	*iP*	**P**	**17 37 04.7**	**-1.1**		
	comp=Z,130nm,1.4s								
LOMF	**Lomont**	**83.85**	**43**	*eP*	**P**	**17 37 05.0**	**-1.0**		
LOMF	**Lomont**	**83.85**	**43**	*eP*	**P**	**17 37 05.0**	**-1.0**		
LOMF	**Lomont**	**83.85**	**43**	*eP*	**P**	**17 37 05.0**	**-1.0**		
RSL	**Roselend**	**83.88**	**45**	*eP*	**P**	**17 37 06.8**	**+0.5**		
RSL	**Roselend**	**83.88**	**45**	*eP*	**P**	**17 37 06.8**	**+0.5**		
RSL	**Roselend**	**83.88**	**45**	*eP*	**P**	**17 37 06.8**	**+0.5**		
SET	**Setif**	**83.94**	**54**	P	P	**17 37 08.0**	**+1.3**		
IBBN	**Ibbenburen**	**83.94**	**38**	*eP*	**P**	**17 37 05.8**	**-0.4**		
	comp=Z,360nm,2.0s								
IBBN				*eSS*	SS	17 53 14.8	+18		
LPL	**La Plagne**	**83.97**	**45⇑**	*iP*	**P**	**17 37 06.8**	**0.0**		
	comp=Z,124nm,1.7s								
LPL	**La Plagne**	**83.97**	**45⇑**	*iP*	**P**	**17 37 06.8**	**0.0**		
LPL				pmax	pmax				
	comp=Z,124nm,1.7s								
LPL	**La Plagne**	**83.97**	**45⇑**	*iP*	**P**	**17 37 06.8**	**0.0**		
	comp=Z,124nm,1.7s								
BNI	**Bardonecchia**	**83.98**	**45**	*eP*	**P**	**17 37 06.7**	**-0.1**		
BNI				pmax	pmax				
	comp=Z,123nm,1.9s								
BNI				MLR	MLR				
	comp=Z,3µm,19.0s								
BNI	**Bardonecchia**	**83.98**	**45**	*eP*	**P**	**17 37 06.7**	**-0.1**		
	comp=Z,123nm,1.9s								
BNI				LR	LR				
	comp=Z,3µm,19.0s								
ECH	**Echery**	**83.98**	**42**	*eP*	**P**	**17 37 05.7**	**-0.9**		
ECH				pmax	pmax				
	comp=Z,172nm,1.8s								
ECH				MLR	MLR				
	comp=Z,4µm,22.0s								
ECH	**Echery**	**83.98**	**42**	*eP*	**P**	**17 37 05.7**	**-0.9**		
	comp=Z,172nm,1.8s								
ECH				LR	LR				
	comp=Z,4µm,22.0s								
ECH	**Echery**	**83.98**	**42**	*eP*	**P**	**17 37 05.5**	**-1.1**		
LPG	**La Plagne**	**83.99**	**45**	*eP*	**P**	**17 37 07.0**	**0.0**		
	comp=Z,177nm,1.8s								
LPG	**La Plagne**	**83.99**	**45**	*eP*	**P**	**17 37 07.0**	**0.0**		
LPG				pmax	pmax				
	comp=Z,177nm,1.8s								
LPG	**La Plagne**	**83.99**	**45**	*eP*	**P**	**17 37 07.0**	**0.0**		
	comp=Z,177nm,1.8s								
MOF	**Molkenrain**	**84.00**	**43**	*eP*	**P**	**17 37 05.7**	**-1.1**		
MOF	**Molkenrain**	**84.00**	**43**	*eP*	**P**	**17 37 05.7**	**-1.1**		
MOF	**Molkenrain**	**84.00**	**43**	*eP*	**P**	**17 37 05.7**	**-1.1**		
LMR	**La Mourre**	**84.04**	**47**	*eP*	**P**	**17 37 06.4**	**-0.5**		
	comp=Z,170nm,1.6s								
LMR	**La Mourre**	**84.04**	**47**	*eP*	**P**	**17 37 06.4**	**-0.5**		
LMR				pmax	pmax				
	comp=Z,170nm,1.6s								
LMR	**La Mourre**	**84.04**	**47**	*eP*	**P**	**17 37 06.4**	**-0.5**		
	comp=Z,170nm,1.6s								
CDF	**Champ du Feu**	**84.04**	**42⇑**	*iP*	**P**	**17 37 06.0**	**-1.0**		
	comp=Z,335nm,1.9s								
CDF	**Champ du Feu**	**84.04**	**42⇑**	*iP*	**P**	**17 37 06.0**	**-1.0**		
CDF				pmax	pmax				
	comp=Z,335nm,1.9s								
CDF	**Champ du Feu**	**84.04**	**42⇑**	*iP*	**P**	**17 37 06.0**	**-1.0**		
	comp=Z,335nm,1.9s								
ABH	**Alteburg**	**84.06**	**41**	*eP*	**P**	**17 37 07.1**	**+0.1**		
MBDF	**Montbardon**	**84.08**	**46⇑**	*iP*	**P**	**17 37 07.3**	**0.0**		
	comp=Z,197nm,1.8s								
MBDF	**Montbardon**	**84.08**	**46⇑**	*iP*	**P**	**17 37 07.3**	**0.0**		
MBDF				pmax	pmax				
	comp=Z,197nm,1.8s								
MBDF	**Montbardon**	**84.08**	**46⇑**	*iP*	**P**	**17 37 07.3**	**0.0**		
	comp=Z,197nm,1.8s								
FRF	**La Foret Royal**	**84.12**	**47**	*eP*	**P**	**17 37 06.8**	**-0.5**		
	comp=Z,242nm,1.7s								
FRF	**La Foret Royal**	**84.12**	**47**	*eP*	**P**	**17 37 06.8**	**-0.5**		
FRF				pmax	pmax				
	comp=Z,242nm,1.7s								
FRF	**La Foret Royal**	**84.12**	**47**	*eP*	**P**	**17 37 06.8**	**-0.5**		
	comp=Z,242nm,1.7s								
KONO	**Kongsberg**	**84.16**	**31**	AMS	AMS	18 12 10.9			
	comp=Z,2µm,18.9s								
KONO	**Kongsberg**	**84.16**	**31**	*eP*	**P**	**17 37 06.6**	**-0.6**		
KONO				pmax	pmax				
	comp=Z,45nm,1.4s								
KONO				MLR	MLR				
	comp=Z,2µm,20.0s								
KONO	**Kongsberg**	**84.16**	**31**	*eP*	**P**	**17 37 06.6**	**-0.6**		
	comp=Z,45nm,1.4s								
KONO				LR	LR				
	comp=Z,2µm,20.0s								
CALN	**Calern**	**84.27**	**47**	*eP*	**P**	**17 37 08.5**	**+0.2**		
CALN	**Calern**	**84.27**	**47**	*eP*	**P**	**17 37 08.5**	**+0.2**		
CALN	**Calern**	**84.27**	**47**	*eP*	**P**	**17 37 08.5**	**+0.2**		
LIBD	**Limburg**	**84.29**	**42**	*eP*	**P**	**17 37 07.6**	**-0.5**		
LIBD	**Limburg**	**84.29**	**42**	*eP*	**P**	**17 37 07.6**	**-0.5**		
BBS	**Basel-Blauen**	**84.30**	**43**	*eP*	**P**	**17 37 07.8**	**-0.4**		
BBS	**Basel-Blauen**	**84.30**	**43**	*eP*	**P**	**17 37 07.8**	**-0.4**		
MUD	**Monsted U'grnd**	**84.31**	**34⇑**	*iP*	**P**	**17 37 07.8**	**-0.2**		
	comp=Z,19nm,1.2s								
MUD									
	comp=Z,2µm,18.0s								
LANF	**Langenberg**	**84.33**	**41**	*eP*	**P**	**17 37 07.8**	**-0.5**		
LANF	**Langenberg**	**84.33**	**41**	*eP*	**P**	**17 37 07.8**	**-0.5**		
LANF	**Langenberg**	**84.33**	**41**	*eP*	**P**	**17 37 07.8**	**-0.5**		
MVIF	**Mont Vial**	**84.44**	**47**	*eP*	**P**	**17 37 09.0**	**-0.2**		
MVIF	**Mont Vial**	**84.44**	**47**	*eP*	**P**	**17 37 09.0**	**-0.2**		
MVIF	**Mont Vial**	**84.44**	**47**	*eP*	**P**	**17 37 09.0**	**-0.2**		
TOUF	**Mont Tournerai**	**84.50**	**46**	*eP*	**P**	**17 37 09.3**	**-0.2**		
TOUF	**Mont Tournerai**	**84.50**	**46**	*eP*	**P**	**17 37 09.3**	**-0.2**		
TOUF	**Mont Tournerai**	**84.50**	**46**	*eP*	**P**	**17 37 09.3**	**-0.2**		
FELD	**Feldberg im Sc**	**84.58**	**43**	*eP*	**P**	**17 37 09.0**	**-0.8**		
TNS	**Taunus Mts**	**84.60**	**40**	*eP*	**P**	**17 37 09.3**	**-0.4**		
	comp=Z,201nm,1.7s								
TNS				*eSS*	SS	17 53 27.9	+21		
REVF	**Revere**	**84.62**	**47**	*eP*	**P**	**17 37 09.4**	**-0.5**		
REVF	**Revere**	**84.62**	**47**	*eP*	**P**	**17 37 09.4**	**-0.5**		
REVF	**Revere**	**84.62**	**47**	*eP*	**P**	**17 37 09.4**	**-0.5**		
AUTN	**L'Aution**	**84.63**	**46**	*eP*	**P**	**17 37 10.0**	**-0.2**		
AUTN	**L'Aution**	**84.63**	**46**	*eP*	**P**	**17 37 10.0**	**-0.2**		
AUTN	**L'Aution**	**84.63**	**46**	*eP*	**P**	**17 37 10.0**	**-0.2**		
NAO01	**NORSAR Array S**	**84.64**	**29**	*eP*	**P**	**17 37 09.3**	**-0.4**		
	comp=Z,192nm,1.4s								
SBF	**Sospel**	**84.65**	**47**	*eP*	**P**	**17 37 09.5**	**-0.6**		
	comp=Z,367nm,1.6s								
SBF	**Sospel**	**84.65**	**47**	*eP*	**P**	**17 37 09.5**	**-0.6**		
SBF				pmax	pmax				
	comp=Z,367nm,1.6s								
SBF	**Sospel**	**84.65**	**47**	*eP*	**P**	**17 37 09.5**	**-0.6**		
	comp=Z,367nm,1.6s								
SAOF	**Saorge**	**84.72**	**46**	*eP*	**P**	**17 37 10.2**	**-0.2**		
SAOF	**Saorge**	**84.72**	**46**	*eP*	**P**	**17 37 10.2**	**-0.2**		
SAOF	**Saorge**	**84.72**	**46**	*eP*	**P**	**17 37 10.2**	**-0.2**		
BFO	**Black Forest**	**84.75**	**42**	*eP*	**P**	**17 37 09.1**	**-1.4**		
BFO				pmax	pmax				
	comp=Z,72nm,1.6s								
BFO				MLR	MLR				
	comp=Z,5µm,21.0s								
BFO	**Black Forest**	**84.75**	**42**	*eP*	**P**	**17 37 09.5**	**-1.0**		
	comp=Z,83nm,1.6s								
BFO				*eSS*	SS	17 53 28.7	+19		
BFO	**Black Forest**	**84.75**	**42**	*eP*	**P**	**17 37 09.1**	**-1.4**		
	comp=Z,72nm,1.6s								
BFO				LR	LR				
	comp=Z,5µm,21.0s								
NB2	**NORSAR Subarra**	**84.78**	**29**	P	P	**17 37 09.8**	**-0.6**		
	baz=278,slow=5.1								
NB2	**NORSAR Subarra**	**84.78**	**29**	P	P	**17 37 09.8**	**-0.6**		
	comp=Z,383nm,1.7s,baz=278,slow=5.1								
NOA	**NORSAR Array B**	**84.78**	**29**	P	P	**17 37 10.0**	**-0.4**		
	comp=Z,81nm,1.3s,baz=276,slow=4.8,SNR=22								
NOA				LR	LR	18 11 50.8			
	comp=Z,2µm,21

FUR eS SKSac 17 47 45.1 -1.3
FUR eSS SS 17 53 59.1 +21
MOTA Moosalm 86.73 43⇑ iP P 17 37 20.0 -0.6
comp=Z,31nm,1.3s,SNR=8.6
WATA Walderalm 87.05 43⇑ iP P 17 37 21.3 -0.8
comp=Z,16nm,1.2s
ROTZ Rotzenmuhle 87.07 40 eP P 17 37 22.2 +0.3
comp=Z,252nm,2.1s
ROTZ eS SKSac 17 47 50.0 +1.6
ROTZ eSS SS 17 54 04.7 +22
WTTA Wattenberg 87.11 43⇑ iP P 17 37 21.8 -0.6
comp=Z,48nm,1.4s,SNR=13
TANN Tannenbergstha 87.12 40 eP P 17 37 22.1 -0.1
comp=Z,224nm,1.6s
TANN eS SKSac 17 47 49.9 +1.1
TANN eSS SS 17 54 06.0 +22
NKC Novy Kostel 87.14 40 eP P 17 37 22.6 +0.3
NKC eS S 17 47 54.2 -6.8
NKC MLR MLR
comp=Z,5µm,23.1s
NKC Novy Kostel 87.14 40 eP P 17 37 22.6 +0.3
NKC eSKS S 17 47 54.2 -6.8
NKC ex x 17 54 06.0
NKC AMS AMS 18 09 50.0
comp=Z,5µm,23.1s
KEST Kesra 87.17 54 P P 17 37 23.0 +0.2
comp=Z,2.8nm,0.8s,baz=149,slow=6.6,SNR=4.7
KEST Kesra 87.17 54 eP P 17 37 22.7 -0.1
CLL Collm 87.31 39⇑ iP P 17 37 22.8 -0.2
CLL e 17 37 30.0
CLL eS SKKSac 17 47 58.0 -0.9
CLL pmax pmax
comp=Z,199nm,1.6s
CLL MLR MLR
comp=Z,2µm,19.7s
CLL Collm 87.31 39 eP P 17 37 22.7 -0.2
comp=Z,202nm,1.6s
CLL eS SKSac 17 47 50.7 +0.9
CLL eSS SS 17 54 06.1 +20
CLL Collm 87.31 39⇑ iP P 17 37 22.8 -0.2
comp=Z,199nm,1.6s
CLL eSP sP 17 37 30.0 -1.3
CLL ePP PP 17 40 49.0 +2.0
CLL ePPP PPP 17 42 37.0
CLL eS SKKSac 17 47 58.0 -0.9
CLL ePS PnS 17 49 03.0 -0.7
CLL eSS SS 17 53 52.0 +5.5
CLL e 17 57 48.0
CLL e(SSS) 17 58 00.0
CLL eSSSS 18 00 24.0
CLL LmH 18 13 00.0
comp=N,1µm,20.1s
CLL LmH 18 13 00.0
comp=E,2µm,21.1s
CLL LmV 18 16 00.0
comp=Z,2µm,19.7s
WET Wettzell 87.61 41 eP P 17 37 24.6 0.0
comp=Z,264nm,1.6s
WET eS SKSac 17 47 54.6 +2.8
WET eSS SS 17 54 13.2 +22
BSD Bornholm Skovb 87.72 35⇑ iP P 17 37 23.7 -1.2
BSD
comp=Z,2µm,18.0s
ABTA Abfaltersbach 87.78 43⇑ iP P 17 37 25.0 -0.6
comp=Z,76nm,1.4s,SNR=21
RJOB Jochberg 87.80 42 eP P 17 37 25.3 -0.3
comp=Z,159nm,1.8s
RJOB eS SKSac 17 47 56.7 +3.6
RJOB eSS SS 17 54 16.3 +22
KTK1 Kautokeino 87.94 20 eP P 17 37 24.7 -1.0
KTK1 AMB AMB 17 37 27.0
comp=Z,396nm,1.1s
KTK1 ePP PP 17 40 51.8 +0.2
KTK1 e 17 47 44.9
KTK1 eSS SS 17 53 59.4 +4.6
KTK1 AMS AMS 18 17 06.3
comp=Z,2µm,19.0s
BRG Berggiesshubel 87.97 39 eP P 17 37 25.9 -0.2
comp=Z,179nm,1.6s
BRG e 17 37 55.4
comp=Z,45nm,1.4s
BRG e 17 39 41.5
comp=Z,29nm,1.6s
BRG PP PP 17 40 32.0 -20
BRG S SKSac 17 47 58.0 +4.2
BRG SS SS 17 53 40.0 -16
BRG ePKPPKP P'P'df 18 03 32.3 +11
comp=Z,2.8nm,1.0s
BRG
comp=N,3µm,21.1s
BRG
comp=E,2µm,25.4s
BRG
comp=Z,2µm,19.9s
BRG Berggiesshubel 87.97 39 eP P 17 37 26.0 -0.2
BRG S SKSac 17 47 58.0 +4.2
BRG pmax pmax
comp=Z,179nm,1.6s
BRG pmax pmax
comp=Z,45nm,1.4s
BRG pmax pmax
comp=Z,29nm,1.7s
BRG Berggiesshubel 87.97 39 eP P 17 37 26.1 -0.1
comp=Z,179nm,1.6s
BRG epP pP 17 37 33.8 +1.5
BRG eS SKSac 17 47 58.2 +4.4
BRG eSS SS 17 54 17.9 +22
KHC Kasperske Hory 88.06 41 eP P 17 37 26.6 -0.1
KHC eS S 17 48 08.4 -1.5
KHC MLR MLR
comp=Z,6µm,22.4s
KHC Kasperske Hory 88.06 41 eP P 17 37 26.0 -0.7
comp=Z,137nm,1.6s
KHC Kasperske Hory 88.06 41 eP P 17 37 26.6 -0.1
KHC eS S 17 48 08.4 -1.5
KHC eSS SS 17 54 06.0 +8.3
KHC AMS AMS 18 10 00.0
comp=Z,6µm,22.4s
GEC2 GERESS Array S 88.19 41 eP P 17 37 27.2 -0.2
comp=Z,156nm,1.6s
GEC2 epP pP 17 37 34.7 +1.1
GEC2 eS SKSac 17 48 00.7 +5.2
GEC2 eSS SS 17 54 17.9 +18
GERES GERESS Array B 88.19 41 P P 17 37 27.0 -0.5
comp=Z,46nm,1.3s,baz=259,slow=2.7,SNR=50
GERES LR LR 18 10 52.6
comp=Z,5µm,21.5s,baz=282,slow=32
GERES GERESS Array B 88.19 41 P P 17 37 27.0 -0.5
KBA Koelnbreinsper 88.29 43⇑ iP P 17 37 27.6 -0.5
comp=Z,119nm,1.5s,SNR=33
PVCC Panska Ves 88.42 39 eP P 17 37 28.3 -0.1
PVCC MLR MLR
comp=Z,3µm,23.7s
PVCC Panska Ves 88.42 39 eP P 17 37 28.3 -0.1
PVCC AMS AMS 18 10 20.0
comp=Z,3µm,23.7s
PRA Prague 88.43 40 P P 17 37 29.0 +0.6
PRA AMS AMS 18 11 00.0
PRU Pruhonice 88.51 40 eP P 17 37 28.9 +0.1
PRU e 17 37 36.2
PRU eS SKSac 17 48 03.3 +6.2
PRU MLR MLR
comp=Z,6µm,22.4s
PRU Pruhonice 88.51 40 eP P 17 37 28.9 +0.1
PRU epP pP 17 37 36.2 +1.2
PRU eSKS SKSac 17 48 03.3 +6.2
PRU ex x 17 54 21.8
PRU AMS AMS 18 10 10.0
comp=Z,6µm,22.4s
ARCES ARCESS Array B 88.53 19 P P 17 37 27.3 -1.2
comp=Z,17nm,0.9s,baz=302,slow=2.6,SNR=19
ARCES LR LR 18 16 25.2
comp=Z,2µm,21.4s,baz=302,slow=35
ARCES ARCESS Array B 88.53 19 P P 17 37 27.3 -1.2
ARE0 ARCESS Array S 88.53 19 eP P 17 37 27.4 -1.1
ARE0 ARCESS Array S 88.53 19 eP P 17 37 27.2 -1.3
MYKA Terra Mystica 88.57 43⇑ iP P 17 37 28.7 -0.6
comp=Z,68nm,1.6s
CADS Cadrg 88.71 44 i P P 17 37 29.4 -0.4
MOA Molln 88.75 42 i P P 17 37 29.5 -0.6
comp=Z,31nm,1.4s,SNR=12
KEV Kevo 88.94 19 PFAKE 17 37 40.0 +10
KEV LR LR
comp=Z,2µm,20.0s

AQU L'Aquila 89.20 47 PFAKE 17 37 40.0 +7.7
AQU LR LR
comp=Z,2µm,21.0s
OBKA Obir 89.21 43⇓ iP P 17 37 31.0 -1.3
comp=Z,58nm,1.6s
TREC Trest 89.26 40 eP P 17 37 32.4 +0.1
TREC MLR MLR
comp=Z,7µm,23.3s
TREC Trest 89.26 40 eP P 17 37 32.4 +0.1
TREC AMS AMS 18 10 40.0
comp=Z,7µm,23.3s
LJU Ljubljana 89.28 44 i P P 17 37 32.7 +0.2
LJU eSKSac SKSac 17 48 02.1 +0.2
LJU e 17 54 38.8
UPC Upice 89.33 39 eP P 17 37 32.8 +0.2
UPC Upice 89.33 39 eP P 17 37 32.8 +0.2
KSP Ksiaz 89.43 39 eP P 17 37 33.4 +0.2
comp=Z,300nm,2.1s
KSP eSKSac SKSac 17 48 04.4 +1.9
KSP ePS PS 17 49 36.4 +6.7
KSP LMZ LR 18 10 28.8
comp=Z,2µm,23.6s
KSP Ksiaz 89.43 39⇑ eP P 17 37 33.3 +0.2
KSP e 17 48 01.0
KSP eSS SS 17 54 20.0 +2.5
KSP MLR MLR
comp=Z,4µm,20.8s
KSP Ksiaz 89.43 39 eP P 17 37 33.3 +0.2
KSP eSKSac SKSac 17 48 04.4 +1.9
KSP ePS PS 17 49 36.4 +6.7
KSP LMZ LR 18 10 28.7
GKP Gorka Klasztor 89.45 36 eP P 17 37 33.3 +0.2
comp=Z,100nm,1.2s
GKP ePS PS 17 49 50.4 +21
GKP LMZ LR 18 14 26.3
comp=Z,3µm,20.8s
GKP Gorka Klasztor 89.45 36 eP P 17 37 33.3 +0.2
GKP ePS PS 17 49 50.4 +21
GKP LMZ LR 18 14 26.3
SOKA Soboth 89.50 43⇓ iP P 17 37 32.8 -0.8
comp=Z,50nm,1.6s
DPC Dobruska-Polom 89.56 39 eP P 17 37 34.0 +0.2
DPC e 17 37 41.7
DPC eS SKSac 17 48 03.7 +0.3
DPC MLR MLR
comp=Z,3µm,22.4s
DPC Dobruska-Polom 89.56 39 eP P 17 37 34.0 +0.2
DPC epP pP 17 37 41.7 +1.8
DPC eSKS SKSac 17 48 03.7 +0.3
DPC ex x 17 54 36.4
DPC AMS AMS 18 11 00.0
comp=Z,3µm,22.4s
MIDW Midway 89.67 298 PFAKE 17 37 50.0 +15
MIDW LR LR
comp=Z,690nm,19.0s
BILL Bilibino 89.68 339 PFAKE 17 37 50.0 +16
BILL LR LR
comp=Z,2µm,19.0s
ARSA Arzberg 89.71 42⇑ iP P 17 37 33.7 -0.8
comp=Z,33nm,1.6s,SNR=14
CONA Conrad Observa 89.79 42⇑ iP P 17 37 34.7 -0.2
comp=Z,74nm,1.5s
KRLC Kraliky 89.91 39 eP P 17 37 36.2 +0.8
VRAC Vranov 89.96 40 P P 17 37 35.8 +0.2
comp=Z,72nm,1.4s,baz=286,slow=6.4,SNR=35
VRAC Vranov 89.96 40 P P 17 37 35.8 +0.2
VRAC Vranov 89.96 40⇑ iP P 17 37 35.8 +0.2
SOP Sopron 90.30 42⇓ eP P 17 37 37.0 -0.2
KOGS Kog 90.37 43 eP P 17 37 37.3 -0.3
MORC Moravsky Berou 90.45 40 ⇑P P 17 37 38.3 +0.3
MORC Moravsky Berou 90.45 40 eP P 17 37 38.1 +0.2
comp=Z,108nm,1.7s
MORC Moravsky Berou 90.45 40⇑ iP P 17 37 38.3 +0.3
AFI Afiamalu 90.63 256 LR LR 18 10 02.4
comp=Z,1µm,19.5s,baz=82,slow=30
SMOL Smolenice 90.68 41 eP P 17 37 40.3 +1.3
SMOL Smolenice 90.68 41 eP P 17 37 40.3 +1.3
BEHE Becsehely 90.72 43⇑ eP P 17 37 39.2 0.0
OKC Ostrava-Krasne 90.82 39 eP P 17 37 40.2 +0.6
OKC e 17 37 46.9
OKC MLR MLR
comp=Z,4µm,21.2s
OKC Ostrava-Krasne 90.82 39 eP P 17 37 40.2 +0.6
OKC epP pP 17 37 46.9 +1.1
OKC eSKS SKSac 17 48 14.2 +3.6
OKC ePKKP PKKPdf 17 54 56.5 -6.0
OKC AMS AMS 18 12 00.0
comp=Z,4µm,21.2s
WDD Wield Dalam 91.29 54 PFAKE 17 37 50.0 +7.9
WDD LR LR
comp=Z,864nm,19.0s
PKSG 91.58 42⇑ eP P 17 37 42.6 -0.5
VYHS Vyhne 91.59 41 eP P 17 37 43.3 0.0
VYHS pmax pmax
comp=Z,61nm,1.8s
VYHS Vyhne 91.59 41 eP P 17 37 43.2 0.0
FINES FINESS Array B 91.62 27 P P 17 37 41.8 -1.3
comp=Z,24nm,1.1s,baz=325,slow=3.0,SNR=23
FINES LR LR 18 13 52.9
comp=Z,3µm,21.6s,baz=278,slow=32
FINES FINESS Array B 91.62 27 P P 17 37 41.8 -1.3
FIA1 FINESS Array S 91.62 27 eP P 17 37 41.8 -1.3
PKS9 Tamasi 91.70 43⇓ eP P 17 37 44.1 +0.4
OJC Ojcow 91.75 39 eP P 17 37 44.2 +0.3
OJC e 17 41 24.5
OJC eS S 17 48 41.7 -2.3
OJC MLR MLR
comp=Z,2µm,19.1s
OJC Ojcow 91.75 39 eP P 17 37 44.2 +0.3
OJC ePP PP 17 41 24.5 +2.0
OJC eS S 17 48 41.7 -2.3
OJC L L 18 18 47.6
comp=Z,2µm,19.1s
RHK3 Tenkes 91.85 43⇑ eP P 17 37 44.3 -0.2
BEL Belsk 91.92 37 eP P 17 37 44.8 +0.1
comp=Z,500nm,1.8s
BEL eSKSac SKSac 17 48 26.6 +10
BEL ePS PnS 17 49 59.8 +1.8
BEL LMZ LR 18 16 40.0
comp=Z,4µm,20.1s
BEL Belsk 91.92 37 eP P 17 37 44.7 +0.1
BEL eSKSac SKSac 17 48 26.6 +10
BEL ePS PnS 17 49 59.8 +1.8
BEL LMZ LR 18 16 40.0
APA Apatity 91.98 20 eP P 17 37 46.4 +1.8
PKSM Moragy 92.03 43 ⇑P P 17 37 45.1 -0.2
PKSM Moragy 92.03 43⇑ iP P 17 37 45.1 -0.2
PKSM Moragy 92.03 43⇑ eP P 17 37 44.9 -0.4
PKS7 Kunszentmiklos 92.17 42⇓ eP P 17 37 45.7 -0.2
LVZ Lovozero 92.24 20c iP P 17 37 44.9 -1.0
LVZ pmax pmax
comp=Z,78nm,1.9s
LVZ MLR MLR
comp=Z,2µm,22.0s
LVZ Lovozero 92.24 20 eP P 17 37 45.4 -0.5
comp=Z,107nm,1.7s
LVZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 92.42 41 ⇑P P 17 37 47.8 +0.6
PSZ Piszkesteto 92.42 41 eP P 17 37 47.7 +0.6
comp=Z,192nm,1.8s
PSZ LR LR
comp=Z,3µm,21.0s
PSZ Piszkesteto 92.42 41⇑ iP P 17 37 47.8 +0.6
PSZ Piszkesteto 92.42 41⇑ eP P 17 37 47.5 +0.3
SUW Suwalki 92.65 35 eP P 17 37 47.0 -1.0
comp=Z,100nm,1.7s
SUW eSKSac SKSac 17 48 23.8 +3.0
SUW ePS PnS 17 50 06.5 +0.1
SUW LMZ LR 18 14 25.9
comp=Z,2µm,23.4s
SUW Suwalki 92.65 35 eP P 17 37 46.0 -2.0
SUW pmax pmax
comp=Z,64nm,1.2s
SUW Suwalki 92.65 35 eP P 17 37 46.0 -2.0
comp=Z,64nm,1.2s
SUW Suwalki 92.65 35 eP P 17 37 46.9 -1.0
SUW eSKSac SKSac 17 48 23.8 +3.0
SUW ePS PnS 17 50 06.5 +0.1
SUW LMZ LR 18 14 25.9
VSU Vasula 93.01 30c iP P 17 37 47.5 -2.0
VSU pmax pmax
comp=Z,98nm,1.5s
CRVS Cervenica-Dubn 93.16 40 eP P 17 37 51.0 +0.5

CRVS pmax pmax
comp=Z,72nm,1.7s
CRVS Cervenica-Dubn 93.16 40 eP P 17 37 51.0 +0.5
JOF Joensuu 93.29 25 eP P 17 37 49.7 -1.0
JOF Joensuu 93.29 25 ep P 17 37 49.7 -1.0
KOLS Kolonicke sedl 93.66 40 eP P 17 37 53.4 +0.6
KOLS pmax pmax
comp=Z,54nm,1.7s
KOLS Kolonicke sedl 93.66 40 eP P 17 37 53.3 +0.5
KWP Kalwaria Pacla 93.72 39 eP P 17 37 53.1 +0.1
comp=Z,200nm,1.7s
KWP eSKSac SKSac 17 48 29.5 +2.6
KWP ePS PS 17 50 21.2 +3.9
KWP LMZ LR 18 15 18.6
comp=Z,2µm,21.9s
KWP Kalwaria Pacla 93.72 39 eP P 17 37 53.8 +0.7
KWP pmax pmax
comp=Z,78nm,1.5s
KWP MLR MLR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 93.72 39 eP P 17 37 53.8 +0.7
comp=Z,78nm,1.5s
KWP LR LR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 93.72 39 eP P 17 37 53.1 +0.1
KWP eSKSac SKSac 17 48 29.5 +2.6
KWP ePS PS 17 50 21.1 +3.9
KWP LMZ LR 18 15 18.5
UZH Uzhgorod 93.76 40⇑ iP P 17 37 53.8 +0.6
UZH e 17 38 01.4
UZH e 17 41 33.2
UZH e 17 48 24.2
UZH eS S 17 48 57.0 -4.9
UZH MLR MLR
comp=N,1µm,20.0s
UZH MLR MLR
comp=E,4µm,20.0s
UZH MLR MLR
comp=Z,2µm,20.0s
TRPA Tarpa 94.07 40⇑ iP P 17 37 54.4 -0.2
TIR Tirane 94.13 47 PFAKE 17 38 10.0 +15
TIR LR LR
comp=Z,1µm,20.0s
BZS Buzias 94.20 43 ⇑P P 17 37 55.2 -0.1
BZS Buzias 94.20 43⇑ iP P 17 37 55.2 -0.1
LVV L'vov 94.48 38 eP P 17 37 56.6 +0.1
LVV e 17 41 44.0
LVV ePPP PPP 17 43 56.0
LVV eS S 17 49 08.0 -0.1
LVV ePS PS 17 50 24.6 -1.0
LVV eSS SS 17 55 28.6 -1.4
LVV MLR MLR
comp=N,900nm,18.0s
LVV MLR MLR
comp=E,900nm,18.0s
LVV MLR MLR
comp=Z,2µm,18.0s
SNAA Sanae 94.99 162 eP P 17 37 57.2 -1.2
comp=Z,13nm,1.4s
SKO Skopje 95.10 46 eP P 17 37 59.5 0.0
BIA Bitola 95.28 47 eP P 17 38 00.2 -0.2
TMCR Tamitsa 95.33 22 eP P 17 37 59.3 -0.7
TMCR pmax pmax
comp=Z,42nm,1.4s
BUR08 Bucovina Ar. S 95.92 40 eP P 17 38 04.0 +0.7
BURAR Bucovina Array 95.94 40⇑ iP P 17 38 02.2 -1.2
VAY Valandovo 96.09 47 eP P 17 38 00.4 -3.6
VTS Vitosha 96.17 45 ⇓P P 17 38 05.7 +1.1
VTS Vitosha 96.17 45⇓ iP P 17 38 05.7 +1.1
VOIR 96.55 42 ⇑P P 17 38 06.7 +0.6
VOIR 96.55 42⇑ iP P 17 38 06.7 +0.6
MLR Muntele Rosu 97.13 42 P P 17 38 08.0 -0.8
comp=Z,5.9nm,1.2s,baz=295,slow=1.9,SNR=17
MLR Muntele Rosu 97.13 42 P P 17 38 08.0 -0.8
MLR Muntele Rosu 97.13 42⇑ iP P 17 38 08.5 -0.3
SEY Seymchan 97.19 338⇑ eP Pdif 17 38 08.8 +0.2
KIEV Kiev 97.28 36 PFAKE 17 38 20.0 +11
KIEV LR LR
comp=Z,4µm,20.0s
AKASG Malin Array Be 97.29 36 P P 17 38 07.1 -2.1
comp=Z,0.4nm,0.4s,baz=300,slow=4.4,SNR=7.9
AKASG PP PP 17 42 00.3 -5.1
comp=Z,0.5nm,0.5s,baz=291,slow=6.5,SNR=6.3
AKASG Malin Array Be 97.29 36 P P 17 38 07.1 -2.1
AKASG 17 42 00.3
AKASG Malin Array Be 97.29 36 P P 17 38 07.1 -2.1
AKASG PP PP 17 42 00.3 -5.1
KLMR Klimovskoe 97.69 25c iP P 17 38 09.8 -1.0
KLMR e*PP pP 17 38 15.9 -1.1
KLMR e 17 42 04.3
KLMR pmax pmax
comp=Z,161nm,1.6s
KLMR pmax pmax
comp=Z,78nm,4.1s
KIS Kishinev 98.45 40 eP P 17 38 13.0 -1.6
KIS e 17 42 14.0
KIS e 17 51 05.0
KIS MLR MLR
comp=N,2µm,20.0s
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,4µm,20.0s
KIS MLR MLR
comp=Z,3µm,24.0s
KIS Kishinev 98.45 40 eP P 17 38 13.0 -1.6
KIS LRM MLR 18 16 30.0
comp=Z,4µm,20.0s
QSPA South Pole Qui 98.49 180 LR LR 18 14 50.8
comp=Z,1µm,20.3s,baz=350,slow=31
OBN Obninsk 99.33 30c iP Pdif 17 38 16.8 -1.5
OBN e*PP pP 17 38 25.5 +1.0
OBN e 17 42 19.6
OBN eS SKSac 17 48 53.2 -2.6
OBN pmax pmax
comp=Z,87nm,1.9s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 99.33 30 eP Pdif 17 38 18.1 -0.1
comp=Z,10nm,0.6s
OBN LR LR
comp=Z,2µm,21.0s
MSVF Nonsavu 100.81 254 eP Pdif 17 38 20.5 -5.3
MSVF pmax pmax
comp=Z,13nm,0.7s
MSVF Nonsavu 100.81 254 ePdif Pdif 17 38 20.5 -5.3
comp=Z,13nm,0.7s
SBA Scott Base 102.43 192 PFAKE 17 38 40.0 +8.5
SBA LR LR
comp=Z,2µm,20.0s
TSUM Tsumeb 102.89 108 PFAKE 17 38 50.0 +15
TSUM LR LR
comp=Z,3µm,20.0s
ISP Isparta 103.04 48 PFAKE 17 38 50.0 +15
ISP LR LR
comp=Z,1µm,19.0s
TARA Tarawa 103.50 273 PFAKE 17 38 50.0 +12
TARA LR LR
comp=Z,4µm,21.0s
BRTR Keskin Array B 104.55 45 PP PP 17 43 00.1 -0.8
comp=Z,1.3nm,1.0s,baz=249,slow=6.2,SNR=4.5
BRTR Keskin Array B 104.55 45 PP PP 17 43 00.1 -0.8
SNZO South Karori 104.62 230 PFAKE 17 38 50.0 +7.9
SNZO LR LR
comp=Z,4µm,19.0s
YAK Yakutsk 105.20 345 PFAKE 17 43 10.0
YAK LR LR
comp=Z,2µm,20.0s
CSS Prodhromos 106.22 50 PFAKE 17 43 10.0
CSS LR LR
comp=Z,643nm,22.0s
SUR Sutherland 106.33 121 PFAKE 17 43 10.0
SUR LR LR
comp=Z,3µm,21.0s
ARU Arti 108.04 21 PFAKE 17 43 20.0
ARU LR LR
comp=Z,2µm,21.0s
KIV Kislovodsk 108.50 38 eP Pdif 17 38 55.0 -4.5
KIV e 17 43 26.3
KIV e 17 49 34.8
KIV ePS PS 17 52 50.0 -5.0
KIV eSS SS 17 58 43.0 -1.7
KIV pmax pmax
comp=Z,7.0nm,1.1s

KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 108.50 38 PFAKE 17 43 20.0
KIV LR LR
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 111.35 328 PFAKE 17 43 20.0
YSS LR LR
comp=Z,746nm,20.0s
YUK Yuzh-Kuril'sk 111.45 324 *i* PKIKP **PKiKP 17 43 11.8 +1.2**
YUK 17 43 48.9
GNI Garni 111.84 41 PFAKE 17 43 20.0
GNI LR LR
comp=Z,2μm,20.0s
DZM Mont Dzumac 111.95 250 *e*PP PP 17 43 55.3 -0.5
comp=Z,152nm,27.1s
DZM *e*SP SP 17 53 25.3 -1.5
comp=Z,1μm,28.6s
DZM *e*SS **SS 17 59 33.6 +0.5**
comp=Z,1μm,25.3s
DZM *e*LR LR 18 16 36.5
comp=Z,1μm,23.1s
MAK Makhachkala 111.97 37 *i* PKIKP **PKiKP 17 43 11.8 +0.2**
MAK *e* 17 44 00.8
MAK *e* 17 49 50.0
MAK pmax pmax
comp=Z,100nm,0.9s
BOD Bodaibo 112.44 350 *e*PKIKP PKiKP 17 43 18.2 +6.1
BOD pmax pmax
comp=Z,6.0nm,2.1s
BOD pmax pmax
comp=Z,30nm,2.3s
LSZ Lusaka 112.76 103 PFAKE 17 43 30.0
LSZ LR LR
comp=Z,1μm,21.0s
MBAR Mbarara 113.77 87 PFAKE 17 43 30.0
MBAR LR LR
comp=Z,890nm,21.0s
HABR Khabarovsk 114.03 333 P **Pdif 17 39 21.5 -2.3**
HABR *i* 17 43 13.4
HABR *e* 17 44 07.3
HABR *e*PS **PS 17 53 45.1 -1.6**
HABR *e*SS SS 17 59 57.8 +0.3
HABR *e*SSS SSS 18 04 11.6
HABR pmax pmax
comp=Z,23nm,1.8s
HABR pmax pmax
comp=N,11nm,1.3s
HABR pmax pmax
comp=E,29nm,1.8s
HABR MLR MLR
comp=Z,1μm,23.0s
ABKAR Akbulak array 114.07 25 *e*PKiKP PKPdf 17 43 16.2 +0.7
ERM Erimo 114.25 324 PFAKE 17 43 30.0 +14
ERM LR LR
comp=Z,1μm,19.0s
BRVK Borovoye 114.66 17 *i* PKIKP PKPdf 17 43 17.0 +0.5
BRVK Borovoye 114.66 17 PFAKE 17 43 30.0 +13
BRVK LR LR
comp=Z,3μm,19.0s
BVAR Borovoye Array 114.72 17 PKP PKPdf 17 43 16.3 -0.4
comp=Z,0.3nm,0.5s,baz=321,slow=2.0,SNR=4.5
BVAR PP PP 17 44 02.2 -11
comp=Z,2.9nm,1.1s,baz=318,slow=1.9,SNR=3.7
BVAR Borovoye Array 114.72 17 PKIKP PKPdf 17 43 16.3 -0.4
BVAR Borovoye Array 114.72 17 PKP PKPdf 17 43 16.3 -0.4
BVAR PP PP 17 44 02.2 -11
DRV Dumont d'Urvil 114.94 198 SKKS **SP 17 53 49.0 -2.3**
DRV SS SS 18 00 00.0 -9.4
BHD Baghdad 115.18 47 *i* PKP **PP 17 44 17.0 -0.7**
NVS Novosibirsk 115.88 9 *e*PKIKP PKPdf 17 43 35.0 +16
ZAA0 Zalesovo Array 116.97 8 *e*PKPdf **PKPdf 17 43 20.4 -0.6**
ZALV Zalesovo Beam 116.97 8 PKP **PKPdf 17 43 20.5 -0.5**
comp=Z,0.6nm,0.4s,baz=349,slow=1.5,SNR=6.7
ZALV PP **PP 17 44 26.5 -2.7**
comp=Z,7.8nm,1.0s,baz=339,slow=6.3,SNR=16
ZALV Zalesovo Beam 116.97 8 PKIKP **PKPdf 17 43 20.5 -0.5**
ZALV 17 44 26.5
ZALV Zalesovo Beam 116.97 8 PKP **PKPdf 17 43 20.5 -0.5**
ZALV PP **PP 17 44 26.5 -2.7**
HNR Honiara 117.68 264 PFAKE 17 43 40.0 +17
HNR LR LR
comp=Z,3μm,20.0s
KURK Kurchatov 118.96 13 ⇑ *i* PKIKP **PKPdf 17 43 23.9 -0.9**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 118.96 13 PKPpre PKPpre 17 43 14.1
KURK PKP **PKPdf 17 43 24.2 -0.6**
KURK PP **PP 17 44 40.9 -2.0**
KURK PKKPbc **PKKPbc 17 53 40.0 -1.0**
KURK LR LR
comp=Z,5μm,20.0s
KURBB Kurchatov Arra 119.03 13 PKhKP PKPpre 17 43 14.1
comp=Z,0.3nm,0.4s,baz=130,slow=5.8,SNR=5.4
KURBB PKP **PKPdf 17 43 24.2 -0.8**
comp=Z,1.3nm,0.8s,baz=336,slow=2.2,SNR=9.8
KURBB PP **PP 17 44 40.9 -2.5**
comp=Z,0.8nm,0.2s,baz=344,slow=5.8,SNR=6.0
KURBB PKKPbc **PKKPbc 17 53 40.0 -0.8**
comp=Z,0.2nm,0.2s,baz=155,slow=3.6,SNR=4.1
HIA Hailar 119.06 343 PFAKE 17 43 40.0 +15
HIA LR LR
comp=Z,3μm,20.0s
MDJ Mudanjiang 119.41 334 PKP **PKPdf 17 43 25.3 -0.6**
MDJ sPKP 17 43 30.6
MDJ PKS **PKSdf 17 47 01.6 -0.9**
MDJ SKS **SKSdf 17 50 37.2 -0.1**
MDJ AMB AMB
comp=Z,670nm,9.2s
MDJ LR LR
comp=N,1μm,25.3s
MDJ LR LR
comp=E,710nm,21.7s
MDJ LR LR
comp=Z,2μm,23.8s
MDJ Mudanjiang 119.41 334 PFAKE 17 43 40.0 +14
MDJ LR LR
comp=Z,2μm,19.0s
TLY Talaya 119.78 355 *e*P **Pdif 17 39 55.5 +6.1**
TLY *i* 17 43 25.4
TLY *e*SS SS 18 01 05.8 -5.9
TLY pmax pmax
comp=Z,2.0nm,1.0s
TLY MLR MLR
comp=Z,2μm,22.0s
TLY Talaya 119.78 355 PFAKE 17 43 40.0 +14
TLY LR LR
comp=Z,2μm,22.0s
MOY Mondy 119.97 357 *e*PKIKP **PKPdf 17 43 27.3 +0.3**
KMBO Kilima Mbogo 120.29 86 PFAKE 17 43 40.0 +11
KMBO LR LR
comp=Z,1μm,20.0s
HVS Khovu-Aksy 120.55 2 *i* PKIKP **PKPdf 17 43 27.7 -0.3**
MAJO Matsushiro 120.69 322 PFAKE 17 43 40.0 +11
MAJO LR LR
comp=Z,1μm,20.0s
MJAR Matsushiro Arr 120.69 322 PKP **PKPdf 17 43 28.7 +0.1**
comp=Z,2.6nm,0.9s,baz=136,slow=0.7,SNR=5.6
MJAR PP **PP 17 44 57.8 +2.1**
comp=Z,1.4nm,0.9s,baz=29,slow=8.7,SNR=4.5
MJAR Matsushiro Arr 120.69 322 PKP **PKPdf 17 43 28.7 +0.1**
MJAR PP **PP 17 44 57.8 +2.1**
ZAK Zakamensk 121.09 355 *e*PKIKP **PKPdf 17 43 28.4 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
CASY Casey 121.53 186 PFAKE 17 43 40.0 +11
CASY LR LR
comp=Z,5μm,21.0s
CN2 Changchun 121.82 336 *e*PKP **PKPdf 17 43 27.7 -2.9**
CN2 *e*PP **PP 17 45 03.9 +1.1**
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,2μm,18.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 123.15 352 *e*PKPdf **PKPdf 17 43 33.1 -0.1**
ULN LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 123.15 352 PKPdf **PKPdf 17 43 33.9 +0.6**
SNR=5.6
SONM Songino Array 123.27 352 PKP **PKPdf 17 43 33.7 +0.3**
comp=Z,4.1nm,0.8s,baz=242,slow=3.2,SNR=3.6
SONM Songino Array 123.27 352 PKP **PKPdf 17 43 33.7 +0.3**

MK31 Makanchi Array 123.46 12 *e*PKIKP **PKPdf 17 43 32.1 -1.6**
MK31 Makanchi Array 123.46 12 *e*PKPdf **PKPdf 17 43 32.1 -1.6**
MKAR Makanchi Array 123.46 12 PKP **PKPdf 17 43 32.8 -0.9**
comp=Z,0.6nm,0.5s,baz=304,slow=2.1,SNR=12
MKAR PP **PP 17 45 08.7 -5.1**
comp=Z,5.9nm,1.3s,baz=318,slow=1.6,SNR=4.3
MKAR Makanchi Array 123.46 12 PKIKP **PKPdf 17 43 32.8 -0.9**
MKAR Makanchi Array 123.46 12 PKP **PKPdf 17 43 32.8 -0.9**
MKAR PP **PP 17 45 08.7 -5.1**
TAU Tasmania Unive 124.16 223 PFAKE 17 43 50.0 +15
TAU LR LR
comp=Z,3μm,19.0s
EKS2 Erkin-Say 124.92 21 PFAKE 17 43 50.0 +13
EKS2 LR LR
comp=Z,2μm,21.0s
FRU Bishkek 125.06 20 *e*PKIKP **PKPdf 17 43 35.0 -1.9**
FRU *e* 17 45 22.0
AAK Ala-Archa 125.20 20 PKP **PKPdf 17 43 37.3 0.0**
comp=Z,0.9nm,0.3s,baz=228,slow=2.9,SNR=10
AAK Ala-Archa 125.20 20 PKIKP **PKPdf 17 43 37.3 0.0**
AAK MLR MLR
comp=Z,4μm,19.0s
AAK Ala-Archa 125.20 20 PKP **PKPdf 17 43 37.3 0.0**
AAK LR LR
comp=Z,4μm,19.0s
TKM2 Tokmak 2 125.30 19 PFAKE 17 43 50.0 +12
TKM2 LR LR
comp=Z,2μm,19.0s
CAN Canberra 125.46 233 PFAKE 17 43 50.0 +12
CAN LR LR
comp=Z,2μm,19.0s
KSRS Korea Array 125.80 330 PKP **PKPdf 17 43 38.4 0.0**
comp=Z,12nm,0.8s,baz=12,slow=1.2,SNR=38
KSAR Wonju Array Be 125.82 330 PKP **PKPdf 17 43 38.4 -0.1**
INCN Inchon 126.41 331 PFAKE 17 43 50.0 +10
INCN LR LR
comp=Z,2μm,20.0s
WMQ Urumqi 127.28 8 *e*Pdif **Pdif 17 40 23.4 +0.4**
WMQ PKP **PKiKP 17 43 41.5 -0.2**
WMQ PP PP 17 45 44.4 +5.2
WMQ PKS **PKSdf 17 47 16.9 -0.9**
WMQ SKKS **SKKSac 17 52 36.5 -1.0**
WMQ S **Sdif 17 53 41.5 -2.0**
WMQ SS **SS 18 02 50.9 +4.1**
WMQ LR LR
comp=N,4μm,21.0s
WMQ LR LR
comp=E,1μm,20.0s
WMQ LR LR
comp=Z,4μm,22.0s
GUMO Guam 127.47 294 PFAKE 17 43 50.0 +7.9
GUMO LR LR
comp=Z,810nm,20.0s
KSH Kashi 128.48 21 *e*PKP **PKPdf 17 43 44.9 +1.3**
KSH *e*PP PP 17 45 54.7 +7.3
KSH PKS **PKSdf 17 47 21.0 +0.7**
KSH SKS **SKSdf 17 50 56.4 +1.6**
KSH SKKS **SKKSac 17 52 46.4 +1.0**
KSH SS **SS 18 03 08.8 +6.5**
KSH AMB AMB
comp=Z,510nm,6.0s
KSH LR LR
comp=N,710nm,15.2s
KSH LR LR
comp=E,850nm,16.8s
KSH LR LR
comp=Z,2μm,21.3s
BJI Beijing 128.48 341 PKP **PKPdf 17 43 42.9 -0.5**
BJI SKS **SKSdf 17 50 51.5 -3.0**
BJI SS **SS 18 03 07.3 +5.4**
BJI AMB AMB
comp=Z,620nm,7.6s
BJI LR LR
comp=E,480nm,19.5s
BJI LR LR
comp=N,3μm,18.9s
BJI LR LR
comp=Z,2μm,18.7s
BJT Baijiatuan 128.50 341 PFAKE 17 44 00.0 +17
BJT LR LR
comp=Z,3μm,19.0s
HHC Hu-ho-hao-te 129.04 346 *e*PKP **PKPdf 17 43 45.0 +0.3**
HHC SKS **SKSdf 17 50 49.2 -6.6**
HHC AMB AMB
comp=Z,480nm,13.7s
HHC LR LR
comp=N,2μm,18.6s
HHC LR LR
comp=E,930nm,15.2s
HHC LR LR
comp=Z,3μm,19.6s
ARQ Araqi 129.49 50 PKPdf **PKPdf 17 43 45.5 -0.4**
SNR=5.2
ABTO Aybut 129.93 59 PKPdf **PKPdf 17 43 47.5 +0.7**
SNR=8.9
PMG Port Moresby 130.26 265 PFAKE 17 44 00.0 +13
PMG LR LR
comp=Z,2μm,19.0s
BSY Bisya 130.34 51 PKPdf **PKPdf 17 43 47.2 -0.3**
SNR=16
SMDO Samad 130.81 50 PKPdf **PKPdf 17 43 48.5 0.0**
SNR=24
CTAO Charters Tower 130.87 251 PFAKE 17 44 00.0 +12
CTAO LR LR
comp=Z,1μm,20.0s
ABPO Ambohimpanom 130.89 108 PFAKE 17 44 00.0 +11
ABPO LR LR
comp=Z,2μm,22.0s
OPO Ambohidratompo 130.89 107 PKP **PKPdf 17 43 50.9 +2.1**
comp=Z,2.3nm,0.8s,baz=0.0,slow=6.1,SNR=3.1
OPO Ambohidratompo 130.89 107 PKP **PKPdf 17 43 50.9 +2.1**
WSAR Wadi Sarin 131.14 49 PKP **PKPdf 17 43 48.3 -0.6**
comp=Z,14nm,1.1s,baz=235,slow=1.7,SNR=11
WSAR Wadi Sarin 131.14 49 PKP **PKPdf 17 43 48.3 -0.6**
WBK Wadi Bani Khal 131.76 49 PKPdf **PKPdf 17 43 50.9 +0.7**
SNR=6.5
GTA Gaotai 132.25 357 PKP **PKPdf 17 43 50.9 +0.1**
GTA sPKP 17 43 56.1
GTA PP **PP 17 46 15.3 +3.6**
GTA PKS **PKSdf 17 47 25.7 -1.7**
GTA SKS **SKSdf 17 51 00.5 -1.2**
GTA SKKS **SKKSac 17 53 06.4 -2.3**
GTA SS **SS 18 03 49.0 +0.9**
GTA AMB AMB
comp=Z,1μm,8.6s
GTA LR LR
comp=N,3μm,20.4s
GTA LR LR
comp=E,2μm,20.4s
GTA LR LR
comp=Z,3μm,20.9s
STKA Stephens Creek 132.39 234 PKP **PKPdf 17 43 49.4 -1.7**
comp=Z,1.6nm,0.7s,baz=93,slow=6.5,SNR=6.4
STKA Stephens Creek 132.39 234 PKP **PKPdf 17 43 49.4 -1.7**
SSE Sheshan 134.21 330 PKP **PKPdf 17 43 55.4 +0.9**
SSE PP PP 17 46 30.8 +6.3
SSE PKS **PKSdf 17 47 31.3 +0.3**
SSE SS SS 18 04 15.7 +3.1
SSE AMB AMB
comp=Z,430nm,11.9s
SSE LR LR
comp=N,1μm,21.1s
SSE LR LR
comp=E,1μm,21.1s
SSE LR LR
comp=Z,2μm,20.1s
NJ2 Nanjing 134.50 333 *e*PKP **PKPdf 17 43 56.0 +1.0**
NJ2 sPKP 17 43 57.6
NJ2 PKS **PKSdf 17 47 30.0 -1.5**
NJ2 AMB AMB
comp=Z,740nm,10.9s
NJ2 LR LR
comp=N,1μm,32.2s
NJ2 LR LR
comp=E,1μm,26.6s
NJ2 LR LR
comp=Z,240nm,17.4s
LZH Lanzhou 135.16 352 *e*PKP **PKPdf 17 43 57.2 +0.8**
LZH sPKP 17 44 01.8
LZH PKS **PKSdf 17 47 32.0 -0.9**
LZH SKS **SKSdf 17 51 03.0 -4.1**
LZH SKKS **SKKSac 17 53 20.5 -6.0**
LZH AMB AMB
comp=Z,720nm,7.8s
LZH LR LR
comp=N,2μm,16.5s
LZH LR LR
comp=E,2μm,16.3s
LZH LR LR
comp=Z,3μm,19.5s
XAN Xi'an 136.16 345 PKP **PKPdf 17 43 57.7 -0.5**
XAN AMB AMB
comp=Z,150nm,8.7s
XAN LR LR
comp=N,2μm,20.1s
XAN LR LR
comp=E,420nm,19.1s
XAN LR LR
comp=Z,840nm,19.1s
DDI Dehra Dun 137.42 24 *ex* PKPdf 17 43 54.0 -6.6
WHN Wuhan 137.68 337 PKPbc PKPdf 17 43 52.4 -8.6
WHN PP **PP 17 46 42.3 -3.8**
WHN PKS **PKSdf 17 47 33.4 -3.9**
WHN SS SS 18 04 46.4 -7.2
WHN LR LR
comp=Z,5μm,18.0s
RER Riviere de l'E 138.51 112 PFAKE 17 44 10.0 +7.1
RER LR LR
comp=Z,1μm,21.0s
MSEY Mahe Island 138.81 87 PFAKE 17 44 20.0 +16
MSEY LR LR
comp=Z,1μm,20.0s
TATO Taipei 138.93 325 PFAKE 17 44 20.0 +17
TATO LR LR
comp=Z,1μm,20.0s
YHNB Yeheng 139.24 325 PFAKE 17 44 20.0 +16
YHNB LR LR
comp=Z,2μm,22.0s
ENH Enshi 139.57 343 PFAKE 17 44 20.0 +15
ENH LR LR
comp=Z,3μm,21.0s
SSLB Suanglung 140.16 324 *e*PKPdf **PKPdf 17 44 05.0 -0.7**
CD2 Chengdu 140.25 351 PKPbc PKPdf 17 43 58.2 -7.6
CD2 sPKP 17 44 12.6
CD2 PP **PP 17 46 58.6 -3.2**
CD2 PKS PKSdf 17 47 33.0 -8.9
CD2 SKS SKSdf 17 51 05.6 -10
CD2 SKKS SKKSac 17 53 47.4 -9.2
CD2 SS **SS 18 05 17.0 -6.6**
CD2 LR LR
comp=N,2μm,24.4s
CD2 LR LR
comp=Z,2μm,23.2s
QZH Quanzhou 140.55 328 PKPbc PKPdf 17 43 59.1 -7.3
QZH PP PP 17 46 58.6 -5.6
QZH SS SS 18 05 20.1 -8.0
QZH LR LR
comp=N,2μm,18.9s
QZH LR LR
comp=E,3μm,17.1s
QZH LR LR
comp=Z,3μm,18.6s
PYUN Piuthan 141.25 20 *e*P PKPdf 17 44 02.6 -5.3
comp=Z,218nm,1.5s
DANN Dangsing 141.27 19 *e*P **PKPdf 17 44 02.9 -5.1**
comp=Z,92nm,1.1s
ASAR Alice Springs 141.42 243 PKhKP PKPpre 17 44 03.1
comp=Z,1.4nm,0.8s,baz=112,slow=3.3,SNR=26
ASAR PKP **PKPdf 17 44 08.1 +0.1**
comp=Z,13nm,1.0s,baz=108,slow=3.4,SNR=35
ASAR Alice Springs 141.42 243 PKPpre PKPpre 17 44 03.1
ASAR PKP **PKPdf 17 44 08.1 +0.1**
LSA Lhasa 141.64 8 PFAKE 17 44 20.0 +11
LSA LR LR
comp=Z,2μm,20.0s
KOLN Koldanda 141.76 19 *e*P PKPdf 17 44 02.8 -6.0
comp=Z,54nm,1.4s
GKN Gorkha 141.86 18 *e*P PKPdf 17 44 02.9 -6.0
comp=Z,96nm,1.3s
WRAB Tennant Creek 141.94 249 *e*PKHKP PKPpre 17 44 04.1
WRAB MLR MLR
comp=Z,2μm,19.0s
WRAB Tennant Creek 141.94 249 *e*PKPpre PKPpre 17 44 04.1
WRAB LR LR
comp=Z,2μm,19.0s
WRA Warramunga Arr 141.95 248 PKhKP PKPpre 17 44 04.2
comp=Z,4.0nm,0.9s,baz=95,slow=2.7,SNR=33
WRA PKP **PKPdf 17 44 09.6 +0.6**
comp=Z,35nm,1.2s,baz=98,slow=2.9,SNR=30
WRA Warramunga Arr 141.95 248 PKPpre PKPpre 17 44 04.2
WRA PKP **PKPdf 17 44 09.6 +0.6**
KKN Kakani 142.25 17 *e*P PKPdf 17 44 04.4 -5.3
comp=Z,114nm,1.3s
GUN Gumba 142.30 16 *e*P PKPdf 17 44 04.7 -5.2
comp=Z,195nm,1.5s
DMN Daman 142.37 17 *e*P PKPdf 17 44 04.8 -5.2
comp=Z,88nm,1.1s
PKI Pulchoki 142.49 17 *e*P PKPdf 17 44 04.8 -5.5
comp=Z,60nm,1.1s
JIRN Jiri 142.62 16 *e*P **PKPdf 17 44 05.4 -5.2**
comp=Z,27nm,1.4s
TAPN Taplejung 143.30 14 *e*P PKPab 17 44 07.0 -0.5
comp=Z,95nm,1.2s
RAMN Ramite 143.41 15 *e*P PKPab 17 44 06.5 -1.3
comp=Z,199nm,1.4s
ODAN Odare 143.69 14 *e*P PKPab 17 44 07.1 -1.8
comp=Z,151nm,1.3s
GYA Guiyang 143.95 345 *i* PKP PKPab 17 44 09.3 -0.5
GYA PP **PP 17 47 28.8 +4.3**
GYA PKS **PKSdf 17 47 46.3 -2.2**
GYA SKKS 17 54 16.0
GYA SS **SS 18 06 08.5 +1.6**
GYA AMB AMB
comp=Z,1μm,10.2s
GYA LR LR
comp=N,710nm,25.9s
GYA LR LR
comp=E,620nm,26.0s
GYA LR LR
comp=Z,820nm,25.4s
CAUP Cauayan 144.62 316 *e*P **PKPdf 17 44 13.3 -0.5**
ABRA Dolores 144.88 318 *e*P **PKPdf 17 44 14.2 0.0**
POO Poona 144.88 40 ⇓ *i*P **PKPab 17 44 12.0 -1.3**
AKL Akola 145.07 34 *e*P **PKPbc 17 44 13.0 -0.9**
AKL *i* x x 17 47 32.5
BALP Baler 145.61 314 *e*P **PKPbc 17 44 15.8 +0.1**
NGP Nagpur 145.77 30 *e*P **PKPdf 17 44 13.3 -2.4**
NGP *ex* x 17 44 23.4
comp=Z,174nm,1.4s
NGP *ex* x 17 47 57.1
SHL Shillong 145.81 8 *i* PKP **PKPdf 17 44 16.0 +0.1**
SHL *e*PP **PP 17 47 37.0 +1.5**
PLP Palo 145.82 304 ⇓ *e*P **PKPdf 17 44 15.8 -0.1**
KAD Karad 145.99 41 *i* P **PKPdf 17 44 15.0 -1.2**
KAD *i* x x 17 46 23.1
KMI Kunming 146.08 350 PKPbc **PKPdf 17 44 16.5 +0.1**
KMI PP **PP 17 47 38.0 +0.8**
KMI SKKS 17 54 28.9
KMI SS **SS 18 06 32.2 +0.9**
KMI AMB AMB
comp=Z,350nm,5.3s
KMI LR LR
comp=N,2μm,18.2s
KMI LR LR
comp=E,320nm,19.1s
KMI LR LR
comp=Z,2μm,17.9s
MSLP Maasin 146.48 303 *e*P **PKPbc 17 44 18.1 -0.4**
LATR Latur 146.63 37 *e*P **PKPdf 17 44 17.9 +0.7**
SCZP Santa Cruz 146.74 316 *e*P **PKPdf 17 44 17.8 +0.4**
IMP Imphal 146.81 5 *e*P **PKPdf 17 44 18.0 +0.5**
IMP *ex* x 17 46 35.0
DAV Davao City (W) 147.40 297 PKPbc **PKPab 17 44 23.1 +0.1**
comp=Z,68nm,0.4s,baz=261,slow=5.6,SNR=9.8
DAV Davao City (W) 147.40 297 PKPbc **PKPab 17 44 23.1 +0.1**
DAV LR LR
comp=Z,1μm,20.0s
DAV Davao City (W) 147.40 297 PKPdf **PKPab 17 44 23.7 +0.8**
SNR=8.6
DMPH Davao City--Mi 147.45 298 *e*P **PKPdf 17 44 16.1 -2.6**
BUKP Musuan 147.46 299 *e*P **PKPab 17 44 23.2 0.0**
CAL Calcutta 148.06 15 *e*P **PKPdf 17 44 18.1 -1.3**
SJMP San Jose 148.09 310 *e*P **PKPdf 17 44 20.6 +0.9**
CTBH Cotabato--PC H 148.49 299 ⇑ *e*P **PKPdf 17 44 20.7 +0.3**
HYB Hyderabad 148.57 35 *i* PKP **PKPdf 17 44 19.5 -1.0**
HYB *ep*PKP **PKPab 17 44 30.0 +2.5**
NWAO Narrogin (SRO) 149.19 215 PFAKE 17 44 30.0 +0.4
NWAO LR LR
comp=Z,2μm,20.0s
QIZ Qiongzhong 149.77 335 PKPbc **PKPdf 17 44 21.3 -1.1**

QIZ PP **PP** 17 47 59.1 +0.2
QIZ SS SS 18 07 17.2 +4.1
QIZ AMB AMB
comp=Z,2µm,9.6s
QIZ LR LR
comp=N,2µm,19.2s
QIZ LR LR
comp=Z,3µm,18.8s
QIZ Qiongzhong 149.77 335 PFAKE 17 44 30.0 -2.2
QIZ LR LR
comp=Z,3µm,19.0s
ENPP El Nido 150.16 311 *e*P **PKPdf 17 44 24.4 +1.4**
FITZ Fitzroy Crossi 150.38 248 PKP **PKPdf 17 44 24.1 +0.8**
comp=Z,7.4nm,1.1s,baz=167,slow=0.6,SNR=8.6
FITZ PKPbc **PKiKP 17 44 29.0 -0.3**
comp=Z,20nm,0.9s,baz=165,slow=2.4,SNR=21
FITZ Fitzroy Crossi 150.38 248 PKP **PKPdf 17 44 24.1 +0.8**
FITZ PKPbc **PKiKP 17 44 29.0 -0.3**
CHTO Chiang Mai 152.78 356 *e*PKIKP **PKPdf 17 44 26.7 -0.3**
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO Chiang Mai 152.78 356 *e*PKPbc **PKPdf 17 44 26.7 -0.3**
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 152.78 356 PKPdf **PKPdf 17 44 27.2 +0.3**
SNR=25
CM31 Chiang Mai Arr 153.13 355 *e*PKPbc **PKPdf 17 44 27.8 +0.3**
CMAR Chiang Mai Arr 153.13 355 PKP **PKPdf 17 44 27.8 +0.3**
comp=Z,12nm,1.1s,baz=323,slow=1.6,SNR=32
CMAR PKPbc **PKPbc 17 44 33.0 -1.8**
comp=Z,30nm,1.1s,baz=312,slow=1.8,SNR=28
CMAR Chiang Mai Arr 153.13 355 PKP **PKPdf 17 44 27.8 +0.3**
CMAR PKPbc **PKPbc 17 44 33.0 -1.8**
MBWA Marble Bar 154.54 238 *e*PKPbc **PKPdf 17 44 28.8 -0.6**
MBWA LR LR
comp=Z,2µm,20.0s
KKM Kota Kinabalu 155.83 306 PFAKE 17 44 40.0 +8.5
KKM LR LR
comp=Z,1µm,22.0s
DGAR Diego Garcia 155.88 89 PFAKE 17 44 40.0 +8.6
DGAR LR LR
comp=Z,1µm,21.0s
KAPI Kappang 156.94 277 PFAKE 17 44 40.0 +7.2
KAPI LR LR
comp=Z,992nm,19.0s
KSM Kuching 163.27 306 *e*PKPbc **PKPdf 17 44 39.7 -0.2**
KSM LR LR
comp=Z,1µm,19.0s
IPM Ipoh 166.43 342 *e*PKPdf **PKPdf 17 44 40.5 -2.1**
PSI Prapat 168.58 349 PKP **PKPdf 17 44 43.5 -0.8**
comp=Z,7.9nm,0.9s,baz=253,slow=9.8,SNR=6.2
PSI PKPab **PKPab 17 45 52.0 -1.5**
comp=Z,3.4nm,0.5s,baz=262,slow=4.8,SNR=4.4
PSI Prapat 168.58 349 PKP **PKPdf 17 44 43.5 -0.8**
PSI PKPab **PKPab 17 45 52.0 -1.5**
COCO West Island 176.33 181 PFAKE 17 45 00.0 +13
COCO LR LR
comp=Z,1µm,21.0s

AZER ***11*** *17:26:00.5,38˚09N×40˚43E,h0km*
IDC ***11*** *17:26:03.4±0.8,38˚96N×41˚91E,h0km,mb3.8/8,*
mb1 3.8/15,mb1mx3.8/31,mbtmp3.8/15,ML3.1/6,MS3.8/12,
Ms1 3.8/12,ms1mx3.7/51,Error ellipse: s-maj=15.3km
s-min=10.2km az=149.0
NEIC ***11*** *17:26:03.8,39˚00N×41˚89E,h5km,mb4.4/24,ML4.3(ISK),*
After ISK.
ISK ***11*** *17:26:03.7,39˚03N×41˚88E,h5km,MD4.3,ML4.3*
DDA ***11*** *17:26:04.4,39˚06N×41˚86E,h31km,ML4.3*
CSEM ***11*** *17:26:05.2±0.1,39˚05N×41˚95E,h2km,mb4.4/11,Error*
ellipse: s-maj=3.7km s-min=3.5km az=169.0
ISC 11 17:26:06.2±0.6,**39˚04N**±0˚02×**41˚86E**±0˚02,**h11**km±3km,
n284,σ1°**59**/**287**,**mb4.3**/28,**MS4.1**/10,**23C-13D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.33**	**290**	*e*PG	**Pg**	**17 26 11.4**	**-1.5**
VRTB				eSg	**Sg**	**17 26 18.0**	**+0.6**
VRTB	**Varto-Mus**	**0.33**	**290**	*e*Pg	**Pg**	**17 26 11.4**	**-1.5**
VRTB				eSg	**Sg**	**17 26 18.0**	**+0.6**
BNGL	**BINGOL**	**0.56**	**261**	*i* P	**Pg**	**17 26 14.9**	**-2.2**
BNGL				*i* S	**Sb**	**17 26 25.8**	**-0.3**
TATV	**Tatvan**	**0.62**	**149**	*i* P	**Pg**	**17 26 15.2**	**-3.1**
TATV				*i* S	**Sb**	**17 26 27.2**	**-0.8**
TATV	**Tatvan**	**0.62**	**149**	*i* P	**Pg**	**17 26 15.2**	**-3.1**
TATV				*i* S	**Sb**	**17 26 27.2**	**-0.8**
BTMT	**Batman**	**0.90**	**199**	*e*PG	**Pn**	**17 26 24.2**	**-0.6**
BTMT	**Batman**	**0.90**	**199**	*e*Pg	**Pn**	**17 26 24.2**	**-0.6**
BNGB	**Bing¶l**	**0.92**	**267**	*e*PG	**Pg**	**17 26 22.0**	**-1.9**
ERZM	**Erzurum**	**0.94**	**336**	*i* P	**Pg**	**17 26 21.6**	**-2.7**
ERZM				*i* S	**Sn**	**17 26 39.7**	**+0.6**
ERZM	**Erzurum**	**0.94**	**336**	*i* P	**Pg**	**17 26 21.6**	**-2.7**
ERZM				*i* S	**Sn**	**17 26 39.7**	**+0.6**
EZM	**Erzurum**	**0.94**	**336**	*e*PG	**Pg**	**17 26 22.4**	**-1.9**
EZM	**Erzurum**	**0.94**	**336**	Pg	**Pg**	**17 26 22.2**	**-2.2**
HOMI	**Horasan**	**1.00**	**2**	*i* P	**Pg**	**17 26 30.8**	**-2.9**
HOMI				*i* S	**Sg**	**17 26 38.1**	**-0.4**
AGRB	**Hanur-Agry**	**1.03**	**59**	*e*PG	**Pg**	**17 26 24.0**	**-2.0**
AGRB	**Hanur-Agry**	**1.03**	**59**	*e*Pg	**Pg**	**17 26 24.0**	**-2.0**
GEVA	**Gevas**	**1.19**	**127**	*i* P	Pb	17 26 25.4	-3.4
GEVA				*i* S	**Sb**	**17 26 43.7**	**-0.6**
GEVA	**Gevas**	**1.19**	**127**	*i* P	Pb	17 26 25.4	-3.4
GEVA				*i* S	**Sb**	**17 26 43.7**	**-0.6**
BEST	**Besiri**	**1.24**	**202**	*i* P	**Pn**	**17 26 27.9**	**-1.6**
BEST				*i* S	**Sn**	**17 26 48.9**	**+2.6**
VANT	**Van**	**1.27**	**119**	*e*PN	**Pn**	**17 26 28.5**	**-1.4**
VANT	**Van**	**1.27**	**119**	Pn	**Pn**	**17 26 28.5**	**-1.4**
VANT	**Van**	**1.27**	**119**	*e*Pn	**Pn**	**17 26 28.5**	**-1.4**
VANB	**Van**	**1.28**	**110**	*e*PN	**Pn**	**17 26 28.6**	**-1.4**
VANB	**Van**	**1.28**	**110**	Pn	**Pn**	**17 26 29.0**	**-1.1**
VANB	**Van**	**1.28**	**110**	Pn	**Pn**	**17 26 29.0**	**-1.1**
KOPT	**Kop Dagi**	**1.43**	**313**	*i* P	**Pn**	**17 26 30.8**	**-1.5**
KOPT				*i* S	**Sg**	**17 26 55.0**	**+2.7**
KOPT	**Kop Dagi**	**1.43**	**313**	*i* P	**Pn**	**17 26 30.8**	**-1.5**
DYDN	**Diyadin**	**1.51**	**70**	*i* P	**Pn**	**17 26 31.1**	**-2.2**
DYDN				*i* S	**Sb**	**17 26 53.5**	**0.0**
DYDN	**Diyadin**	**1.51**	**70**	*i* P	**Pn**	**17 26 31.1**	**-2.2**
DYDN				*i* S	**Sb**	**17 26 53.5**	**0.0**
CLDR	**Caldiran**	**1.61**	**86**	*e*PN	**Pn**	**17 26 33.8**	**-0.9**
CLDR	**Caldiran**	**1.61**	**86**	Pn	**Pn**	**17 26 33.3**	**-1.3**
CLDR	**Caldiran**	**1.61**	**86**	Pn	**Pn**	**17 26 33.3**	**-1.3**
DIY	**Diyarbakir**	**1.72**	**229**	*e*PN	**Pn**	**17 26 36.2**	**+0.2**
DIY	**Diyarbakir**	**1.72**	**229**	Pn	**Pn**	**17 26 35.7**	**-0.4**
DIY	**Diyarbakir**	**1.72**	**229**	Pn	**Pn**	**17 26 35.7**	**-0.4**
ERZN	**Erzincan**	**1.74**	**289**	*e*PN	**Pn**	**17 26 36.6**	**+0.1**
DIYA	**Diyarbakir**	**1.76**	**231**	*i* P	**Pn**	**17 26 36.4**	**-0.3**
DIYA				*i* S	**Sn**	**17 26 58.7**	**-0.4**
DIYA	**Diyarbakir**	**1.76**	**231**	*i* P	**Pn**	**17 26 36.4**	**-0.3**
DIYA				*i* S	**Sn**	**17 26 58.7**	**-0.4**
KARS	**Kars**	**1.84**	**30**	*e*PN	**Pn**	**17 26 37.9**	**+0.1**
KARS	**Kars**	**1.84**	**30**	Pn	**Pn**	**17 26 38.1**	**+0.3**
KARS	**Kars**	**1.84**	**30**	Pn	**Pn**	**17 26 38.1**	**+0.3**
DDEM	**Demirkent**	**1.85**	**358**	*i* P	**Pn**	**17 26 36.8**	**-1.1**
DDEM				*i* S	**Sg**	**17 27 09.0**	**+3.4**
DDEM	**Demirkent**	**1.85**	**358**	*i* P	**Pn**	**17 26 36.8**	**-1.1**
BAYT	**Ayd¨¬ntepe-Bay**	**1.89**	**316**	*e*PN	**Pn**	**17 26 39.0**	**+0.5**
BAYT	**Ayd¨¬ntepe-Bay**	**1.89**	**316**	*e*Pn	**Pn**	**17 26 39.0**	**+0.5**
MARD	**Mardin**	**1.93**	**207**	*i* P	**Pn**	**17 26 38.2**	**-0.7**
MARD				*i* S	**Sn**	**17 27 04.0**	**+0.8**
DBAD	**Bademkaya**	**1.98**	**356**	*i* P	**Pn**	**17 26 38.5**	**-1.1**
DBAD				*i* S	**Sb**	**17 27 07.7**	**+0.9**
DBAD	**Bademkaya**	**1.98**	**356**	*i* P	**Pn**	**17 26 38.5**	**-1.1**
DAGI	**Agillar**	**2.03**	**1**	*i* P	**Pn**	**17 26 39.0**	**-1.4**
DAGI				*i* S	**Sg**	**17 27 11.5**	**0.0**
EZC	**Erzincan**	**2.06**	**291**	*e*PN	**Pn**	**17 26 41.4**	**+0.5**
EZC	**Erzincan**	**2.06**	**291**	Pn	**Pn**	**17 26 42.0**	**+1.1**
EZC	**Erzincan**	**2.06**	**291**	Pn	**Pn**	**17 26 42.0**	**+1.1**
HAKT	**HAKKARI**	**2.08**	**135**	*i* P	**Pn**	**17 26 41.6**	**+0.4**
HAKT				*i* S	**Sg**	**17 27 17.9**	**+4.9**
HAKT	**HAKKARI**	**2.08**	**135**	*i* P	**Pn**	**17 26 41.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.10**	**252**	*e*PN	**Pn**	**17 26 41.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.10**	**252**	*e*Pn	**Pn**	**17 26 41.5**	**0.0**
CUKT	**Cukurca**	**2.26**	**142**	*e*PN	**Pn**	**17 26 43.3**	**-0.3**
CUKT	**Cukurca**	**2.26**	**142**	*e*Pn	**Pn**	**17 26 43.3**	**-0.3**
KELT	**Kelkit**	**2.29**	**300**	*i* P	**Pn**	**17 26 44.0**	**-0.1**
KELT				*i* S	**Sg**	**17 27 20.6**	**+0.8**
KELT	**Kelkit**	**2.29**	**300**	*i* P	**Pn**	**17 26 44.0**	**-0.1**
DBOC	**Borcka**	**2.30**	**356**	*e*P	**Pn**	**17 26 44.6**	**+0.5**
DBOC				*i* S	**Sg**	**17 27 19.2**	**-1.0**
DBOC	**Borcka**	**2.30**	**356**	*e*P	**Pn**	**17 26 44.6**	**+0.5**
GUMT	**Gumushane**	**2.31**	**308**	*e*PN	**Pn**	**17 26 45.1**	**+0.8**
GUMT	**Gumushane**	**2.31**	**308**	*e*Pn	**Pn**	**17 26 45.1**	**+0.8**
BCA	**Borcka**	**2.41**	**356**	*e*PN	**Pn**	**17 26 46.2**	**+0.8**
BCA	**Borcka**	**2.41**	**356**	Pn	**Pn**	**17 26 47.4**	**+1.9**
BCA	**Borcka**	**2.41**	**356**	Pn	**Pn**	**17 26 47.4**	**+1.9**
MACK	**Trabzon**	**2.48**	**320**	*i* P	**Pb**	**17 26 49.3**	**-1.5**
MACK				*i* S	**Sg**	**17 27 27.3**	**+1.3**
MACK	**Trabzon**	**2.48**	**320**	*i* P	**Pb**	**17 26 49.3**	**-1.5**
GNI	**Garni**	**2.49**	**63**	Pn	**Pn**	**17 26 45.7**	**-1.0**
	6.7nm,0.3s,baz=296,slow=1.7,SNR=19						
GNI				LR	LR	17 27 32.3	
	comp=Z,476nm,19.1s,baz=345,slow=36						
GNI	**Garni**	**2.49**	**63**	*e*PN	**Pn**	**17 26 46.9**	**+0.2**
GNI	**Garni**	**2.49**	**63**	Pn	**Pn**	**17 26 45.6**	**-1.0**
GNI	**Garni**	**2.49**	**63**	Pn	**Pn**	**17 26 45.7**	**-1.0**
ILIC	**ilic-Erzincan**	**2.59**	**280**	*e*PN	**Pn**	**17 26 48.8**	**+0.7**
ILIC	**ilic-Erzincan**	**2.59**	**280**	*e*Pn	**Pn**	**17 26 48.8**	**+0.7**
KEMA	**Kemaliye**	**2.62**	**276**	*i* P	**Pn**	**17 26 48.3**	**-0.2**
KEMA				*e*S	**Sg**	**17 27 30.0**	**-0.4**
KEMA	**Kemaliye**	**2.62**	**276**	*i* P	**Pn**	**17 26 48.3**	**-0.2**
AKH	**Akhalkalaki**	**2.67**	**27**	P	**Pn**	**17 26 49.0**	**-0.3**
AKH				S	**Sb**	**17 27 28.8**	**+1.8**
AKH	**Akhalkalaki**	**2.67**	**27**	P	**Pn**	**17 26 49.0**	**-0.3**
MYA	**Malataya**	**2.78**	**256**	*e*PN	**Pn**	**17 26 51.9**	**+1.2**
MYA	**Malataya**	**2.78**	**256**	*e*Pn	**Pn**	**17 26 51.9**	**+1.2**
NAX	**Nakhchivan**	**2.83**	**86**	⇑P	**Pg**	**17 27 02.7**	**+2.2**
NAX	**Nakhchivan**	**2.83**	**86**	P	**Pg**	**17 27 02.7**	**+2.2**
URFA	**Urfa**	**2.88**	**237**	*e*PN	**Pn**	**17 26 52.5**	**+0.5**
URFA	**Urfa**	**2.88**	**237**	Pn	**Pn**	**17 26 52.5**	**+0.5**
URFA	**Urfa**	**2.88**	**237**	*e*Pn	**Pn**	**17 26 52.5**	**+0.5**
ESPY	**Espiye-Giresun**	**3.05**	**309**	*e*PN	**Pn**	**17 26 55.4**	**+1.2**
ESPY	**Espiye-Giresun**	**3.05**	**309**	*e*Pn	**Pn**	**17 26 55.4**	**+1.2**
KZR	**Kazreti**	**3.05**	**39**	P	**Pn**	**17 26 53.8**	**-0.5**
KZR	**Kazreti**	**3.05**	**39**	P	**Pn**	**17 26 53.8**	**-0.5**
SUSE	**Susehri**	**3.05**	**294**	*e*P	**Pb**	**17 26 59.1**	**-1.4**
SUSE				*e*S	**Sg**	**17 27 42.0**	**-2.2**
SUSE	**Susehri**	**3.05**	**294**	*e*P	**Pb**	**17 26 59.1**	**-1.4**
AKCD	**Akcadag**	**3.17**	**258**	*e*P	**Pn**	**17 26 58.5**	**+2.4**
AKCD	**Akcadag**	**3.17**	**258**	*e*P	**Pn**	**17 26 58.5**	**+2.4**
ATAB	**Bozova**	**3.21**	**242**	*e*P	**Pb**	**17 27 00.7**	**-2.5**
ATAB				*e*S	**Sg**	**17 27 49.5**	**+0.1**
ATAB	**Bozova**	**3.21**	**242**	*e*P	**Pb**	**17 27 00.7**	**-2.5**
GOR	**Gori**	**3.40**	**30**	P	**Pn**	**17 26 59.8**	**+0.6**
GOR	**Gori**	**3.40**	**30**	P	**Pn**	**17 26 59.8**	**+0.6**
TBLG	**Delisi**	**3.47**	**38**	P	**Pn**	**17 26 59.7**	**-0.4**
TBLG	**Delisi**	**3.47**	**38**	P	**Pn**	**17 26 59.7**	**-0.4**
DGRG	**David-gareji**	**3.61**	**47**	P	**Pn**	**17 27 02.4**	**+0.4**
DGRG	**David-gareji**	**3.61**	**47**	P	**Pn**	**17 27 02.4**	**+0.4**
ONI	**Oni**	**3.74**	**18**	P	**Pn**	**17 27 04.0**	**+0.1**
ONI				S	**Sg**	**17 28 03.9**	**-2.5**
RSDY	**Resadiye-TOKAT**	**3.75**	**293**	*e*PN	**Pn**	**17 27 05.3**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.75**	**293**	*e*Pn	**Pn**	**17 27 05.3**	**+1.4**
GANJ	**Ganja**	**3.79**	**64**	⇑S	Sg	17 28 19.0	+11
GANJ	**Ganja**	**3.79**	**64**	S	Sg	17 28 19.0	+11
GAZ	**Gaziantep**	**4.11**	**244**	*e*PN	**Pn**	**17 27 10.2**	**+1.2**
GAZ	**Gaziantep**	**4.11**	**244**	*e*Pn	**Pn**	**17 27 10.2**	**+1.2**
KMRS	**Kahramanmaras**	**4.19**	**250**	*e*PN	**Pn**	**17 27 11.4**	**+1.4**
KMRS	**Kahramanmaras**	**4.19**	**250**	*e*Pn	**Pn**	**17 27 11.4**	**+1.4**
BRDA	**Brd**	**4.29**	**72**	⇓P	**Pb**	**17 27 19.3**	**-2.2**
BRDA				⇓S	Sg	17 28 36.3	+13
BRDA	**Brd**	**4.29**	**72**	P	**Pb**	**17 27 19.3**	**-2.2**
BRDA				S	Sg	17 28 36.3	+13
SEKA	**Sheki**	**4.63**	**60**	⇑P	**Pg**	**17 27 33.8**	**-1.0**
SEKA				⇑S	Sg	17 28 42.7	+7.9
SEKA	**Sheki**	**4.63**	**60**	P	**Pg**	**17 27 33.8**	**-1.0**
SEKA				S	Sg	17 28 42.7	+7.9
BNN	**Bunyan**	**4.69**	**270**	*e*PN	**Pn**	**17 27 18.7**	**+1.7**
BNN	**Bunyan**	**4.69**	**270**	*e*Pn	**Pn**	**17 27 18.7**	**+1.7**
KBZ	**Khabaz**	**4.75**	**9**	Pn	**Pn**	**17 27 20.4**	**+2.9**
	0.2nm,0.3s,baz=196,slow=3.5,SNR=7.2						
KBZ				Lg	Lg	17 28 37.8	
	baz=288,slow=19,SNR=1.6						
KBZ				LR	LR	17 29 28.3	
	comp=Z,4µm,18.1s,baz=209,slow=42						
KBZ	**Khabaz**	**4.75**	**9**	Pn	**Pn**	**17 27 20.4**	**+2.9**
KBZ				Lg	Lg	17 28 37.8	
KBZ	**Khabaz**	**4.75**	**9**	Pn	**Pn**	**17 27 20.4**	**+2.9**
KBZ				Lg	Lg	17 28 37.8	
KIV	**Kislovodsk**	**4.95**	**7**	*e*P	**Pn**	**17 27 21.3**	**+0.9**
KIV	**Kislovodsk**	**4.95**	**7**	*e*P	**Pn**	**17 27 21.3**	**+0.9**
KOZT	**Kozan**	**5.00**	**254**	*e*PN	**Pn**	**17 27 22.9**	**+1.9**
KOZT	**Kozan**	**5.00**	**254**	*e*Pn	**Pn**	**17 27 23.0**	**+1.9**
GLBA	**Clilabad**	**5.09**	**86**	⇑P	Pg	17 27 39.3	-4.2
GLBA				⇓S	**Sg**	**17 28 52.2**	**+2.8**
GLBA	**Clilabad**	**5.09**	**86**	P	Pg	17 27 39.3	-4.2
GLBA				S	**Sg**	**17 28 52.2**	**+2.8**
IML	**Ismayilli**	**5.17**	**68**	⇓P	Pb	17 27 39.7	+3.1
IML				⇓S	Sg	17 28 58.3	+6.3
IML	**Ismayilli**	**5.17**	**68**	P	Pb	17 27 39.7	+3.1
IML				S	Sg	17 28 58.3	+6.3
LKRN	**Lenkeran, Azer**	**5.41**	**91**	⇑P	**Pb**	**17 27 41.3**	**+0.6**
LKRN				⇑S	Sg	17 28 52.3	-7.6
LKRN	**Lenkeran, Azer**	**5.41**	**91**	P	**Pb**	**17 27 41.3**	**+0.6**
LKRN				S	Sg	17 28 52.3	-7.6
PQL	**Pirkuli**	**5.46**	**69**	⇓P	**Pb**	**17 27 44.0**	**+2.4**
PQL	**Pirkuli**	**5.46**	**69**	P	**Pb**	**17 27 44.0**	**+2.4**
QUBA	**Quba, Azerbaij**	**5.58**	**63**	⇓P	**Pb**	**17 27 41.3**	**-2.2**
QUBA	**Quba, Azerbaij**	**5.58**	**63**	P	**Pb**	**17 27 41.3**	**-2.2**
ALIB	**Äli-Bayra**	**5.61**	**78**	⇑P	Pb	17 27 39.0	-4.9
ALIB	**Äli-Bayra**	**5.61**	**78**	P	Pb	17 27 39.0	-4.9
BR131	**Keskin Array S**	**6.40**	**279**	*e*P	**Pn**	**17 27 41.5**	**+1.0**
	24nm,1.1s						
BR131	**Keskin Array S**	**6.40**	**279**	*e*P	**Pn**	**17 27 41.5**	**+1.0**
	24nm,1.1s						
BRTR	**Keskin Array B**	**6.40**	**279**	Pn	**Pn**	**17 27 41.8**	**+1.3**
	0.2nm,0.3s,baz=100,slow=14,SNR=18						
BRTR				Lg	Lg	17 29 30.9	
	0.1nm,0.3s,baz=94,slow=19,SNR=2.1						
BRTR				LR	LR	17 30 05.8	
	comp=Z,175nm,18.5s,baz=253,slow=38						
BRTR	**Keskin Array B**	**6.40**	**279**	Pn	**Pn**	**17 27 41.8**	**+1.3**
BRTR				Lg	Lg	17 29 30.9	
BRTR	**Keskin Array B**	**6.40**	**279**	Pn	**Pn**	**17 27 41.8**	**+1.3**
ASF	**Jabal al Asfar**	**7.96**	**212**	Pn	**Pn**	**17 28 00.1**	**-1.6**
	0.3nm,0.3s,baz=262,slow=8.0,SNR=11						
ASF				Lg	Lg	17 30 12.4	
	0.2nm,0.3s,baz=151,slow=19,SNR=2.7						
ASF	**Jabal al Asfar**	**7.96**	**212**	Pn	**Pn**	**17 28 00.1**	**-1.6**
ASF				Lg	Lg	17 30 12.4	
MMAI	**Mount Meron Ar**	**7.97**	**223**	Pn	**Pn**	**17 28 04.0**	**+2.1**
	1.9nm,0.3s,baz=65,slow=16,SNR=9.5						
MMAI				Lg	Lg	17 30 21.5	
	0.3nm,0.3s,baz=26,slow=20,SNR=2.0						
MMAI	**Mount Meron Ar**	**7.97**	**223**	Pn	**Pn**	**17 28 04.0**	**+2.1**
MMAI				Lg	Lg	17 30 21.5	
MMAI	**Mount Meron Ar**	**7.97**	**223**	Pn	**Pn**	**17 28 04.1**	**+2.1**
EIL	**Elat**	**10.95**	**213**	Pn	**Pn**	**17 28 41.4**	**-1.3**
	0.2nm,0.3s,baz=339,slow=17,SNR=2.2						
EIL				Lg	Lg	17 31 51.4	
	0.4nm,0.3s,baz=11,slow=9.9,SNR=2.5						
EIL				LR	LR	17 32 57.2	
	comp=Z,371nm,20.5s,baz=46,slow=38						
EIL	**Elat**	**10.95**	**213**	Pn	**Pn**	**17 28 41.4**	**-1.3**
EIL				Lg	Lg	17 31 51.4	
EIL	**Elat**	**10.95**	**213**	Pn	**Pn**	**17 28 41.4**	**-1.3**
CFR	**Carcaliu**	**11.88**	**305**	⇑*i*P	Pn	17 28 59.3	+3.9
KIS	**Kishinev**	**12.41**	**314**	*e*P	P	17 29 19.0	+4.4
KIS				LRM	MLR	17 35 46.0	
	600nm,16.0s						
VRI	**Vrincioaia**	**13.08**	**306**	⇑*i*P	**P**	**17 29 22.9**	**+0.8**
PLOR	**Plostina**	**13.12**	**306**	⇑*i*P	P	17 29 18.8	-3.8
MLR	**Muntele Rosu**	**13.42**	**304**	LR	LR	17 35 17.0	
	comp=Z,58nm,20.6s,baz=347,slow=41						
MLR	**Muntele Rosu**	**13.42**	**304**	⇑*i*P	**P**	**17 29 27.8**	**+1.8**
TESR		**13.42**	**309**	⇑*i*P	**P**	**17 29 22.9**	**-3.0**
VOIR		**13.98**	**303**	⇓*i*P	**Pn**	**17 29 27.0**	**+2.8**
VOIR		**13.98**	**303**	⇓*i*P	**Pn**	**17 29 27.0**	**+2.8**
VTS	**Vitosha**	**14.56**	**290**	⇑*i*P	**P**	**17 29 38.6**	**-0.1**
VTS	**Vitosha**	**14.56**	**290**	⇑*i*P	**P**	**17 29 38.6**	**-0.1**
AK02	**Malin Array Si**	**14.65**	**327**	*e*P	**Pn**	**17 29 34.1**	**+0.9**
AK01	**Malin Array Si**	**14.67**	**327**	*e*P	**Pn**	**17 29 32.1**	**-1.4**
AKASG	**Malin Array Be**	**14.67**	**327**	Pn	**Pn**	**17 29 31.7**	**-1.8**
	0.3nm,0.3s,baz=134,slow=12,SNR=16						
AKASG	**Malin Array Be**	**14.67**	**327**	Pn	**Pn**	**17 29 31.7**	**-1.8**
AKASG	**Malin Array Be**	**14.67**	**327**	Pn	**Pn**	**17 29 31.7**	**-1.8**
KIEV	**Kiev**	**14.67**	**327**	*e*P	**Pn**	**17 29 32.3**	**-1.3**
	42nm,1.6s						
BURAR	**Bucovina Array**	**14.81**	**311**	⇓*i*P	**Pn**	**17 29 37.9**	**+2.4**
BUR08	**Bucovina Ar. S**	**14.83**	**311**	*e*P	**Pn**	**17 29 38.3**	**+2.5**
AKTO	**Aktyubinsk**	**16.13**	**40**	Pn	**Pn**	**17 29 49.5**	**-3.1**
	0.1nm,0.3s,baz=236,slow=13,SNR=8.4						
AKTO				LR	LR	17 37 44.8	
	comp=Z,428nm,18.3s,baz=232,slow=43						
AKTO	**Aktyubinsk**	**16.13**	**40**	Pn	**Pn**	**17 29 49.5**	**-3.1**
OBN	**Obninsk**	**16.47**	**349**	*e*P	**P**	**17 29 59.2**	**-0.4**
	21nm,0.9s						
OBN	**Obninsk**	**16.47**	**349**	*e*P	**P**	**17 29 59.2**	**-0.4**
	21nm,0.9s						
ABKAR	**Akbulak array**	**16.47**	**46**	*e*P	**Pn**	**17 29 56.5**	**-0.6**
	6.0nm,1.0s						
TRPA	**Tarpa**	**16.65**	**309**	*e*P	**P**	**17 30 02.5**	**+0.8**
TRPA	**Tarpa**	**16.65**	**309**	*e*Pn	**P**	**17 30 02.5**	**+0.8**
KOLS	**Kolonicke sedl**	**17.17**	**312**	*e*P	**P**	**17 30 09.4**	**+1.9**
KOLS	**Kolonicke sedl**	**17.17**	**312**	*e*P	**P**	**17 30 09.4**	**+1.9**
	37nm,1.7s						
KWP	**Kalwaria Pacla**	**17.26**	**314**	*e*P	**Pn**	**17 30 06.8**	**-0.2**
KWP	**Kalwaria Pacla**	**17.26**	**314**	*e*P	**Pn**	**17 30 06.7**	**-0.3**
	31nm,1.1s						
KWP	**Kalwaria Pacla**	**17.26**	**314**	*e*P	**Pn**	**17 30 06.8**	**-0.2**
CRVS	**Cervenica-Dubn**	**17.63**	**311**	*e*P	**P**	**17 30 14.7**	**+2.1**
CRVS	**Cervenica-Dubn**	**17.63**	**311**	*e*P	**P**	**17 30 14.7**	**+2.1**
	26nm,1.5s						
PSZ	**Piszkesteto**	**18.19**	**306**	*e*P	Pn	17 30 13.4	-5.2
	7.0nm,0.9s						
PSZ	**Piszkesteto**	**18.19**	**306**	*e*	P	17 30 26.2	+7.4
PKSM	**Moragy**	**18.48**	**300**	⇑*e*P	**Pn**	**17 30 24.6**	**+2.5**
PKSM	**Moragy**	**18.48**	**300**	⇑*e*P	**Pn**	**17 30 24.6**	**+2.5**
BUD	**Budapest**	**18.59**	**304**	*e*P	**Pn**	**17 30 26.9**	**+3.5**
VYHS	**Vyhne**	**19.06**	**307**	*e*P	**Pn**	**17 30 30.2**	**+1.1**
VYHS	**Vyhne**	**19.06**	**307**	*e*P	**Pn**	**17 30 30.2**	**+1.1**
	37nm,2.3s						
SUW	**Suwalki**	**19.64**	**326**	*e*P	**Pn**	**17 30 35.9**	**0.0**
SUW	**Suwalki**	**19.64**	**326**	*e*P	**Pn**	**17 30 35.7**	**-0.2**
	50nm,1.1s						
SUW	**Suwalki**	**19.64**	**326**	*e*P	**Pn**	**17 30 35.7**	**-0.2**
	50nm,1.1s						
SUW	**Suwalki**	**19.64**	**326**	*e*P	**Pn**	**17 30 35.9**	**0.0**
SMOL	**Smolenice**	**19.94**	**306**	*e*P	**Pn**	**17 30 40.6**	**+0.9**
SMOL	**Smolenice**	**19.94**	**306**	*e*P	**Pn**	**17 30 40.6**	**+0.9**
OKC	**Ostrava-Krasne**	**19.99**	**310**	AMS	AMS	17 41 30.0	
	comp=Z,500nm,10.7s						
SOP	**Sopron**	**20.25**	**303**	*e*P	Pn	17 30 42.5	-0.7
SOP	**Sopron**	**20.25**	**303**	*e*P	Pn	17 30 42.5	-0.7
MORC	**Moravsky Berou**	**20.32**	**310**	*e*P	**P**	**17 30 43.0**	**+0.8**
	13nm,1.4s						
MORC	**Moravsky

HFS	Hagfors	27.53	329	P		P		17 31 55.8	+3.3
HFS	Hagfors	27.53	329	P		P		17 31 55.8	+3.3
KURBB	Kurchatov Arra	28.18	54	P		P		17 31 58.1	-0.3
	comp=Z,3.8nm,1.0s,baz=266,slow=9.0,SNR=20								
KURBB				PcP		PcP		17 35 11.9	-0.1
	comp=Z,0.3nm,0.6s,baz=280,slow=3.0,SNR=4.4								
KURK	Kurchatov	28.25	53	*e*P		P		17 31 59.4	+0.3
	comp=Z,6.6nm,1.0s								
KURK				PcP		PcP		17 35 11.9	-0.2
KURK	Kurchatov	28.25	53	*e*P		P		17 31 59.4	+0.3
	comp=Z,6.6nm,1.0s								
NOA	NORSAR Array B	29.06	329	LR		LR		17 44 54.9	
	comp=Z,391nm,19.6s,baz=265,slow=39								
MK31	Makanchi Array	30.34	62	*e*P		P		17 32 17.5	-0.1
MK31	Makanchi Array	30.34	62	*e*P		P		17 32 17.5	-0.1
MKAR	Makanchi Array	30.34	62	P		P		17 32 17.8	+0.1
	comp=Z,0.4nm,0.8s,baz=262,slow=8.1,SNR=2.9								
MKAR	Makanchi Array	30.34	62	P		P		17 32 17.8	+0.1
MKAR	Makanchi Array	30.34	62	P		P		17 32 17.8	+0.1
TAM	Tamanrasset	34.86	253	*e*P		P		17 32 58.1	+0.5
	comp=Z,3.4nm,0.8s								
TAM	Tamanrasset	34.86	253	*e*P		P		17 32 58.1	+0.5
	comp=Z,3.4nm,0.8s								
ESDC	Sonseca Array	35.14	286	P		P		17 32 58.2	-1.5
	comp=Z,0.5nm,0.5s,baz=90,slow=8.2,SNR=3.5								
ESDC	Sonseca Array	35.14	286	P		P		17 32 58.2	-1.5
MDT	Midelt	37.81	275	LR		LR		17 50 41.8	
	comp=Z,301nm,21.7s,baz=284,slow=39								
TORD	Torodi Ar. Bea	43.82	245	P		P		17 34 10.7	-1.6
	comp=Z,0.9nm,1.0s,baz=37,slow=6.0,SNR=4.2								
TORD	Torodi Ar. Bea	43.82	245	P		P		17 34 10.7	-1.6
TORD	Torodi Ar. Bea	43.82	245	P		P		17 34 10.7	-1.6
GTA	Gaotai	44.21	70	*e*P		P		17 34 18.8	+3.4
GTA				pP		pP		17 34 23.6	+4.7
GTA				sP		sP		17 34 25.8	+5.5
LZH	Lanzhou	48.38	73	*e*P		P		17 34 47.7	-0.5
LZH				pP		pP		17 34 52.5	+0.7
LZH				sP		sP		17 34 55.0	+1.8
LZH				pmax		pmax			
	comp=Z,17nm,1.4s								
KSAR	Wonju Array Be	64.99	61	P		P		17 36 46.4	+0.3
KSRS	Korea Array	65.01	61	P		P		17 36 46.4	+0.2
	comp=Z,1.5nm,1.0s,baz=302,slow=5.7,SNR=4.3								

*IDC **11** 17:26:50.8±0.7, 8.72N×83.05W, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.7/27, mbtmp4.7/20, Error ellipse: s-maj=28.1km s-min=12.9km az=59.0*
*ISCJB **11** 17:26:52.8±0.8, 8.55N±0.05×83.13W±0.04, h24km±5km, mb4.9/46, Error ellipse: s-maj=9.4km s-min=6.4km az=28.4*
*NEIC **11** 17:26:52.4±0.3, 8.62N×83.09W, h10km, mb5.3/31, Error ellipse: s-maj=7.8km s-min=6.9km az=56.0*
*CASC **11** 17:26:53.4± 1.9, 8.64N×83.20W, h14km±11km, MD4.6, mb5.3(NEIC)*

ISC 11 17:26:53.2±1.1, 8.65N±0.06×83.10W±0.05, h16km±6km, n143, σ0.87/145, mb5.0/46, 5C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.07	277	*e*P	Pg	17 26 55.9	-0.5
BRU2	Volcan	0.43	70	*e*P	Pb	17 27 02.8	+0.3
BRU2				*e*S	Sn	17 27 13.3	+0.7
QCR	Quepos	1.31	306	*e*P	Pn	17 27 15.0	-1.9
LAJ	Bijagual	1.58	320	*e*P	Pb	17 27 22.6	+0.4
CGA2	Cerro Gallo 2	1.92	315	*e*P	Pn	17 27 25.2	-0.2
JTS	JuntasAbangare	2.46	312	Pn	Pn	17 27 34.1	+1.4
	baz=300,slow=20						
JTS				Sn	Sn	17 28 02.7	+0.2
	baz=135,slow=17						
JTS	JuntasAbangare	2.46	312	Pn	Pn	17 27 34.1	+1.4
JTS				Sn	Sn	17 28 02.7	+0.2
PAYG	Puerto Ayora	11.71	218	*e*P	Pn	17 29 40.8	+1.0
	395nm,1.6s						
SDDR	Presa de Saban	15.39	47	*e*P	P	17 30 34.0	-0.5
	263nm,1.4s						
OBIP	Obispado Ponce	18.55	58	*e*P	Pn	17 31 10.6	+0.8
	147nm,1.0s						
SJG	San Juan	18.97	59	*e*P	Pn	17 31 18.1	+3.3
	146nm,1.2s						
CBYP	Canovanas	19.29	58	*e*P	Pn	17 31 20.7	+2.0
	126nm,1.3s						
MTP	Monte Pirata	19.47	59	*e*P	Pn	17 31 21.7	+0.9
	158nm,1.1s						
CDVI	St. Croix	19.99	61	*e*P	Pn	17 31 26.8	-0.3
NNA	Nana	21.42	163	P	P	17 31 41.7	+0.9
	34nm,1.1s,baz=352,slow=14,SNR=2.5						
NNA	Nana	21.42	163	*e*P	P	17 31 41.6	+0.9
	165nm,1.3s						
SAML	Samuel	26.44	131	*e*P	P	17 32 28.1	-1.6
	43nm,1.3s						
SIV	San Ignacio	32.78	138	P	P	17 33 26.9	+0.8
	18nm,1.0s,baz=327,slow=11,SNR=5.6						
SIV	San Ignacio	32.78	138	P	P	17 33 26.9	+0.8
GLA	Glamis	38.06	314	*e*P	P	17 34 12.6	+1.3
	169nm,1.6s						
BDFB	Brasilia	42.31	125	P	P	17 34 46.9	+0.1
	14nm,1.0s,baz=285,slow=3.2						
BDFB	Brasilia	42.31	125	P	P	17 34 46.9	+0.1
ULM	Lac du Bonnet	42.81	348	P	P	17 34 49.0	-1.4
	6.1nm,0.6s,baz=195,slow=12,SNR=4.0						
ULM	Lac du Bonnet	42.81	348	P	P	17 34 49.0	-1.4
CPUP	Villa Florida	42.84	145	P	P	17 34 50.2	-0.6
	0.4nm,0.3s,baz=339,slow=16,SNR=1.9						
CPUP	Villa Florida	42.84	145	P	P	17 34 50.2	-0.6
NVAR	Mina Array Bea	43.37	319	P	P	17 34 57.6	+2.3
	3.1nm,0.8s,baz=128,slow=5.8,SNR=2.8						
NVAR	Mina Array Bea	43.37	319	P	P	17 34 57.6	+2.3
SCHQ	Schefferville	47.86	13	P	P	17 35 28.8	-1.5
	10nm,0.8s,baz=149,slow=7.6,SNR=2.0						
SCHQ	Schefferville	47.86	13	P	P	17 35 28.8	-1.5
RCBR	Riachuelo	49.20	105	P	P	17 35 40.4	-0.9
	12nm,1.1s,baz=302,slow=12,SNR=2.1						
RCBR	Riachuelo	49.20	105	P	P	17 35 40.4	-0.9
PLCA	Paso Flores	50.48	168	P	P	17 35 51.0	+0.4
	13nm,0.8s,baz=338,slow=10,SNR=4.6						
PLCA	Paso Flores	50.48	168	P	P	17 35 51.0	+0.4
YKA	Yellowknife Ar	58.42	343	P	P	17 36 47.2	-0.7
	3.4nm,0.6s,baz=138,slow=7.0,SNR=5.9						
YKA	Yellowknife Ar	58.42	343	P	P	17 36 47.2	-0.7
INK	Inuvik	68.11	342	*e*P	P	17 37 51.0	-1.1
	66nm,1.4s						
SUMG	Summit	69.25	13	*e*P	P	17 37 58.8	-0.9
	76nm,1.2s						
DOT	Dot Lake	69.65	335	*e*P	P	17 38 04.0	+2.1
	7.1nm,0.9s						
PAX	Paxson	69.98	334	*e*P	P	17 38 04.9	+1.0
	9.3nm,0.9s						
ILAR	Eielson Array	71.21	336	P	P	17 38 11.6	+0.2
	4.0nm,0.6s,baz=113,slow=2.9,SNR=9.8						
ILAR	Eielson Array	71.21	336	P	P	17 38 11.6	+0.2
EVOP	Sao Brissos	72.92	52	*i*P	P	17 38 22.7	+0.6
	40nm,1.1s						
EVO	Evora	73.01	52	*i*P	P	17 38 22.7	+0.1
	40nm,1.1s						
MTE	Manteigas	73.45	50	*e*P	P	17 38 26.3	+1.0
	38nm,1.4s						
CHGN	Chignik	74.71	326	*e*P	P	17 38 31.9	-0.3
ESDC	Sonseca Array	76.18	51	P	P	17 38 41.8	+0.7
	14nm,1.0s,baz=278,slow=5.5,SNR=4.9						
ESDC	Sonseca Array	76.18	51	P	P	17 38 41.8	+0.7
ESLA	Sonseca Array	76.18	51	*e*P	P	17 38 42.5	+1.4
ROSF	Rostrenen	76.83	42	*e*P	P	17 38 44.6	+0.1
ROSF	Rostrenen	76.83	42	*e*P	P	17 38 44.6	+0.1
QUIF	Quistinic	76.89	43	*e*P	P	17 38 44.7	-0.1
QUIF	Quistinic	76.89	43	*e*P	P	17 38 44.7	-0.1
SGMF	Saint Gilles	77.31	43	*e*P	P	17 38 46.7	-0.5
	53nm,1.4s						
SGMF	Saint Gilles	77.31	43	*e*P	P	17 38 46.7	-0.5
	53nm,1.4s						
LIC	Lamto	77.33	86	*i*P	P	17 38 48.4	+0.4
	305nm,1.5s,baz=271						
LIC	Lamto	77.33	86	*i*P	P	17 38 48.4	+0.4
	305nm,1.5s						
DBIC	Dimbokro	77.44	85	P	P	17 38 49.0	+0.4
	10nm,0.8s,baz=291,slow=6.7,SNR=4.3						
DBIC	Dimbokro	77.44	85	*e*P	P	17 38 49.0	+0.4
	82nm,1.5s						
SJPF	Ste Jean	78.23	48	*e*P	P	17 38 53.2	+0.7
	37nm,1.2s						
SJPF	Ste Jean	78.23	48	*e*P	P	17 38 53.2	+0.7
	37nm,1.2s						
GRR	Gorron	78.44	42	*e*P	P	17 38 53.5	0.0
	50nm,1.2s						
GRR	Gorron	78.44	42	*e*P	P	17 38 53.5	0.0
	50nm,1.2s						
FLN	La Foliniere	78.69	42	*e*P	P	17 38 55.0	+0.1
FLN	La Foliniere	78.69	42	*e*P	P	17 38 55.0	+0.1
ETSF	Etsaut	78.72	48	*e*P	P	17 38 56.0	+0.7
ETSF	Etsaut	78.72	48	*e*P	P	17 38 56.0	+0.7
LDF	La Druitiere	78.93	42	*e*P	P	17 38 56.1	-0.1
	51nm,1.2s						
LDF	La Druitiere	78.93	42	*e*P	P	17 38 56.1	-0.1
	51nm,1.2s						
MFF	Saint Martin d	78.94	44	*e*P	P	17 38 56.0	-0.3
	18nm,1.0s						
MFF	Saint Martin d	78.94	44	*e*P	P	17 38 56.0	-0.3
	18nm,1.0s						
EPF	Esparros	79.37	48	*e*P	P	17 38 59.3	+0.5
	57nm,1.4s						
EPF	Esparros	79.37	48	*e*P	P	17 38 59.3	+0.5
	57nm,1.4s						
LFF	La Frestale	79.60	46	*e*P	P	17 39 00.3	+0.4
LFF	La Frestale	79.60	46	*e*P	P	17 39 00.3	+0.4
TNA	Tin City	80.05	335	*e*P	P	17 39 03.7	+1.8
	20nm,1.4s						
RJF	Les Rejaudoux	80.14	45	*e*P	P	17 39 02.8	-0.1
RJF	Les Rejaudoux	80.14	45	*e*P	P	17 39 02.8	-0.1
CAF	Calviac	80.54	46	*e*P	P	17 39 05.0	-0.1
	41nm,1.4s						
CAF	Calviac	80.54	46	*e*P	P	17 39 05.0	-0.1
	41nm,1.4s						
TCF	Toulx Ste Croi	80.58	44	*e*P	P	17 39 04.9	-0.3
	28nm,1.2s						
TCF	Toulx Ste Croi	80.58	44	*e*P	P	17 39 04.9	-0.3
	28nm,1.2s						
MTLF	Montolieu	80.73	47	*e*P	P	17 39 06.1	0.0
MTLF	Montolieu	80.73	47	*e*P	P	17 39 06.1	0.0
BGF	Bois d'Agland	81.00	44	*e*P	P	17 39 07.4	-0.1
BGF	Bois d'Agland	81.00	44	*e*P	P	17 39 07.4	-0.1
SSF	Saint Saulge	81.43	44	*e*P	P	17 39 09.0	-0.7
SSF	Saint Saulge	81.43	44	*e*P	P	17 39 09.0	-0.7
LOR	Lormes	81.66	43	*e*P	P	17 39 10.4	-0.6
	18nm,1.2s						
LOR	Lormes	81.66	43	*e*P	P	17 39 10.4	-0.6
	18nm,1.2s						
BAIF	Baives	81.71	41	*e*P	P	17 39 10.7	-0.4
BAIF	Baives	81.71	41	*e*P	P	17 39 10.7	-0.4
LASF	Ste Croix	81.87	47	*e*P	P	17 39 12.5	+0.3
	48nm,1.3s						
LASF	Ste Croix	81.87	47	*e*P	P	17 39 12.5	+0.3
	48nm,1.3s						
GIVF	Givet	82.11	41	*e*P	P	17 39 13.0	-0.2
GIVF	Givet	82.11	41	*e*P	P	17 39 13.0	-0.2
MEZF	Maizieres J'vi	82.37	42	*e*P	P	17 39 14.3	-0.3
	23nm,0.9s						
MEZF	Maizieres J'vi	82.37	42	*e*P	P	17 39 14.3	-0.3
	23nm,0.9s						
SFTF	Sexfontaines	82.39	42	*e*P	P	17 39 14.2	-0.5
SFTF	Sexfontaines	82.39	42	*e*P	P	17 39 14.2	-0.5
VIVF	Saint-Julien-l	82.40	46	*e*P	P	17 39 15.6	+0.7
	44nm,1.3s						
VIVF	Saint-Julien-l	82.40	46	*e*P	P	17 39 15.6	+0.7
	44nm,1.3s						
PAGF	Fort de Pagny	82.81	42	*e*P	P	17 39 16.8	-0.2
PAGF	Fort de Pagny	82.81	42	*e*P	P	17 39 16.8	-0.2
TOA0	Torodi Ar. Sit	83.04	78	*e*P	P	17 39 18.4	-0.4
TORD	Torodi Ar. Bea	83.04	78	P	P	17 39 18.6	-0.2
	1.8nm,0.8s,baz=294,slow=1.6,SNR=4.4						
TORD	Torodi Ar. Bea	83.04	78	P		17 39 18.6	-0.2
CABF	La Chapelle	83.23	44	*e*P	P	17 39 19.1	-0.2
CABF	La Chapelle	83.23	44	*e*P	P	17 39 19.1	-0.2
ORIF	Oris-en-Rattie	83.25	46	*e*P	P	17 39 20.0	+0.6
ORIF	Oris-en-Rattie	83.25	46	*e*P	P	17 39 20.0	+0.6
SPITS	Spitsbergen Ar	83.54	12	P	P	17 39 20.9	+0.8
	13nm,1.1s,baz=318,slow=5.5,SNR=5.0						
SPITS	Spitsbergen Ar	83.54	12	P	P	17 39 20.9	+0.8
HINF	Hinteralfeld	83.63	43	*e*P	P	17 39 20.8	-0.5
HINF	Hinteralfeld	83.63	43	*e*P	P	17 39 20.8	-0.5
CDF	Champ du Feu	83.85	42	*e*P	P	17 39 22.1	-0.3
CDF	Champ du Feu	83.85	42	*e*P	P	17 39 22.1	-0.3
FRF	La Foret Royal	83.93	47	*e*P	P	17 39 22.8	0.0
	63nm,1.2s						
FRF	La Foret Royal	83.93	47	*e*P	P	17 39 22.8	0.0
	63nm,1.2s						
NOA	NORSAR Array B	84.59	29	P	P	17 39 26.3	+0.4
	4.3nm,1.0s,baz=276,slow=4.9,SNR=3.4						
NOA	NORSAR Array B	84.59	29	P	P	17 39 26.3	+0.4
TAM	Tamanrasset	85.44	68	*e*P	P	17 39 32.4	+1.4
HFS	Hagfors	85.94	30	P	P	17 39 32.0	-0.6
	5.2nm,0.9s,baz=254,slow=8.9,SNR=6.1						
HFS	Hagfors	85.94	30	P	P	17 39 32.0	-0.6
CLL	Collm	87.12	39	*e*P	P	17 39 35.0	-3.5
	comp=Z,11nm,1.3s						
CLL				*i* P(2)		17 39 38.9	
	comp=Z,47nm,1.6s						
CLL				*i* sP	sP	17 39 43.0	-2.6
GERES	GERESS Array B	88.01	41	P	P	17 39 41.7	-1.3
	comp=Z,2.7nm,1.0s,baz=244,slow=5.8,SNR=4.6						
GERES	GERESS Array B	88.01	41	P	P	17 39 41.7	-1.3
ARCES	ARCESS Array B	88.35	19	P	P	17 39 43.5	-0.5
	comp=Z,3.7nm,1.0s,baz=292,slow=5.7,SNR=2.9						
ARCES	ARCESS Array B	88.35	19	P	P	17 39 43.5	-0.5
BILL	Bilbino	89.58	339	*e*P	P	17 39 50.2	+0.4
	comp=Z,21nm,1.0s						
FINES	FINESS Array B	91.44	27	P	P	17 40 00.2	+1.6
	comp=Z,5.5nm,1.0s,baz=270,slow=1.9,SNR=3.4						
FINES	FINESS Array B	91.44	27	P	P	17 40 00.2	+1.6
SNAA	Sanae	95.09	162	*e*P	P	17 40 12.9	-2.4
MKAR	Makanchi Array	123.29	12	PKP	PKPdf	17 45 48.6	-1.2
	comp=Z,0.8nm,0.8s,baz=317,slow=3.7,SNR=2.6						
MKAR	Makanchi Array	123.29	12	PKP	PKPdf	17 45 48.6	-1.2
KSRS	Korea Array	125.73	330	PKP	PKPdf	17 45 54.2	-0.4
	comp=Z,1.0nm,0.6s,baz=15,slow=1.3,SNR=3.9						
KSAR	Wonju Array Be	125.76	330	PKP	PKPdf	17 45 54.2	-0.5
ASAR	Alice Springs	141.59	243	PKP	PKPdf	17 46 24.8	0.0
	comp=Z,4.9nm,1.1s,baz=112,slow=2.3,SNR=3.5						
ASAR	Alice Springs	141.59	243	PKP	PKPdf	17 46 24.8	0.0
WRA	Warramunga Arr	142.12	249	PKP	PKPdf	17 46 26.1	+0.4
	comp=Z,7.2nm,1.0s,baz=101,slow=2.7,SNR=4.5						
WRA	Warramunga Arr	142.12	249	PKP	PKPdf	17 46 26.1	+0.4
CMAR	Chiang Mai Arr	153.00	356	PKPbc	PKPbc	17 46 49.9	-1.1
	comp=Z,6.1nm,1.1s,baz=327,slow=2.4,SNR=3.6						
CMAR	Chiang Mai Arr	153.00	356	PKPbc	PKPbc	17 46 49.9	-1.1

ROM 11 17:27:45.0±0.6, 43.39N×13.22E, h9km±3km, Md1.8/3, Ml1.3/2, Error ellipse: s-maj=10.5km s-min=3.8km az=160.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CING	Cingoli	0.03	229	Pg	Pg	17 27 47.2	+0.5
CING				Sg	Sg	17 27 48.1	+0.2
	233nm,0.1s						
SNTG	Esanatoglia	0.25	236	Pg	Pg	17 27 50.9	+0.8
SNTG				Sg	Sg	17 27 55.1	+1.6
	7.0nm,0.2s						
NRCA	Norcia	0.57	188	Pg	Pg	17 27 56.1	0.0
NRCA				Sg	Sb	17 28 05.1	-0.4
	9.0nm,0.1s						

*DDA **11** 17:40:50.5, 39.16N×41.93E, h7km, MD3.1*
*CSEM **11** 17:40:50.9±0.5, 39.00N×41.86E, h2km, MD3.0*
*ISK **11** 17:40:51.7, 39.11N×41.86E, h6km, MD3.0*

ISC 11 17:40:50.4±1.6, 39.15N±0.04×41.85E±0.05, h8km±14km, n18, σ0.86/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRTB	Varto-Mus	0.31	272	*e*PG	Pb	17 40 58.5	+0.1
VRTB	Varto-Mus	0.31	272	*e*Pg	Pb	17 40 58.5	+0.1
BNGL	BINGOL	0.58	250	*e*P	Pb	17 41 02.7	-0.3
BNGL				*e*S	Sb	17 41 12.7	+1.2
BNGB	Bing¨¶l	0.93	261	*e*PG	Pn	17 41 09.8	-0.1
AGRB	Hanur-Agry	0.98	64	*e*PG	Pn	17 41 11.0	+0.3
AGRB				*e*SG	Sn	17 41 25.3	+0.5
AGRB	Hanur-Agry	0.98	64	*e*Pg	Pn	17 41 11.0	+0.3
AGRB				*e*Sg	Sn	17 41 25.3	+0.5
BINT	Bingol	1.10	256	*e*Pg	Pb	17 41 09.8	-2.0
GEVA	Gevas	1.26	131	*e*P	Pn	17 41 13.3	-1.2
GEVA				*e*S	Sn	17 41 31.7	0.0
GEVA	Gevas	1.26	131	*e*P	Pn	17 41 13.3	-1.2
GEVA				*e*S	Sn	17 41 31.7	0.0
BEST	Besiri	1.34	200	*e*P	Pg	17 41 16.8	+0.7
BEST				*e*S	Sg	17 41 35.5	+2.0
ERZN	Erzincan	1.71	285	*e*PN	Pg	17 41 23.0	-0.3
BAYT	Ayd¨–ntepe-Bay	1.81	314	*e*PN	Pg	17 41 24.6	-0.7
BAYT	Ayd¨–ntepe-Bay	1.81	314	*e*Pn	Pg	17 41 24.6	-0.7
MARD	Mardin	2.02	205	*e*P	Pg	17 41 29.1	-0.1
MARD				*e*S	Sg	17 41 54.6	-0.7
EZC	Erzincan	2.03	288	*e*PN	Pb	17 41 27.6	0.0
EZC	Erzincan	2.03	288	*e*Pn	Pb	17 41 27.6	0.0
SVRC	Sivrice-ELAZID	2.13	250	*e*PN	Pb	17 41 28.9	-0.6
SVRC	Sivrice-ELAZID	2.13	250	*e*Pn	Pb	17 41 28.9	-0.6

CASC 11 17:47:17.9±2.9, 8.57N×83.17W, h10km±11km, MD3.6, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.08	1	*i*P	Pg	17 47 20.9	+0.5
BRU2	Volcan	0.52	65	*i*P	Pg	17 47 28.0	-0.3
BRU2				*e*S	Sb	17 47 37.0	-0.2
BUS	Buena Vista	1.14	329	*e*P	Pb	17 47 37.3	-2.9
QCR	Quepos	1.30	311	*e*P	Pn	17 47 40.0	-2.1
QCR				*e*S	Sb	17 47 57.0	-2.1
LAJ	Bijagual	1.59	324	*e*P	Pg	17 47 48.4	-0.3
SJS	Escuela Geolog	1.61	327	*e*P	Pn	17 47 46.8	+0.2
SJS				*e*S	Sb	17 48 09.3	+0.7
CGA2	Cerro Gallo 2	1.92	318	*e*P	Pn	17 47 50.4	-0.5
CGA2				*e*S	Sn	17 48 15.4	+0.2

*CASC **11** 17:52:57.9±3.9, 8.56N×83.12W, h22km±10km, MD4.1*
*IDC **11** 17:52:58.1±3.7, 9.40N×82.81W, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.7/24, mbtmp3.7/5, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx3.4/29, Error ellipse: s-maj=88.7km s-min=36.4km az=6.0*

ISC 11 17:52:58.2±1.1, 8.75N±0.05×83.07W±0.03, h18km±4km, n23, σ2.05/33, mb3.7/3, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.14	226	*i*P	Pb	17 52 59.8	-1.6
ACR				*e*S	Sg	17 53 07.3	+2.2
BRU2	Volcan	0.38	83	*i*P	Pb	17 53 07.0	+0.5
BRU2				*e*S	Sn	17 53 15.9	+0.2
CNI	Changuinola	0.86	39	*e*P	Pb	17 53 08.0	-6.6
BUS	Buena Vista	1.05	320	*e*P	Pb	17 53 16.3	-1.8
BUS				*e*S	Sn	17 53 35.7	+2.8
QCR	Quepos	1.27	302	*e*P	Pn	17 53 19.2	-1.9
QCR				*e*S	Sb	17 53 36.7	-1.1
LAJ	Bijagual	1.52	317	*e*P	Pg	17 53 27.3	-0.2
LAJ				*e*S	Sg	17 53 51.7	+4.3
SJS	Escuela Geolog	1.53	321	*e*P	Pn	17 53 24.5	-0.3
CGA2	Cerro Gallo 2	1.87	313	*e*P	Pn	17 53 29.3	-0.1
CGA2				*e*S	Sg	17 53 55.7	-2.8
JTS	JuntasAbangare	2.41	310	Pn	Pn	17 53 37.5	+0.8
	28nm,0.3s,baz=116,slow=18,SNR=22						
JTS				Sn	Sn	17 54 05.5	-0.3
	13nm,0.3s,baz=26,slow=19,SNR=9.1						
JTS				LR	LR	17 54 35.9	
	comp=Z,1µm,19.0s,baz=91,slow=43						
AMAS	Alto Masis	2.65	314	*i*P	Pb	17 53 42.1	-3.1
AMAS				*i*S	Sb	17 54 18.5	+1.0
PTEN	Parque Tenorio	2.72	316	*i*P	Pn	17 53 42.7	+1.6
COLC	Colonia	2.84	312	*i*P	Pn	17 53 44.8	+2.1
COLC				*i*S	Sb	17 54 24.5	+1.7
MESS	Mesas	2.88	314	*i*P	Pb	17 53 46.1	-3.1
LAPC	Finca la Perla	3.08	311	*i*P	Pn	17 53 47.3	+1.4
BUEV	Buena Vista	3.08	312	*i*P	Pn	17 53 48.1	+2.2
NY14	Universidad de	3.08	308	*i*P	Pn	17 53 47.8	+1.9
BCIP	Isla Barro Col	3.22	82	*e*P	Pb	17 53 52.5	-2.4
BCIP				*e*S	Sb	17 54 33.7	-0.1
UPIG		3.50	86	*e*P	Pg	17 54 02.2	-2.5
UPIG				*e*S	Sb	17 54 42.6	+0.8
CMIG	Matias Romero	14.18	307	Pn	Pn	17 56 17.9	-0.5
	0.1nm,0.3s,baz=93,slow=15,SNR=2.4						
NVAR	Mina Array Bea	43.31	319	P	P	18 01 00.7	+1.2
	0.5nm,0.7s,baz=148,slow=7.2,SNR=4.7						
YKA	Yellowknife Ar	58.33	343	P	P	18 02 51.1	-0.7
	0.6nm,0.9s,baz=137,slow=7.5,SNR=8.9						
ILAR	Eielson Array	71.13	336	P	P	18 04 14.2	-1.2
	0.7nm,0.8s,baz=120,slow=4.7,SNR=6.7						
WRA	Warramunga Arr	142.18	249	PKP	PKPdf	18 12 34.3	+3.9
	0.3nm,0.8s,baz=112,slow=1.9,SNR=4.1						

*ISK **11** 18:21:24.2, 39.02N×41.88E, h5km, MD3.5, ML3.4*
*DDA **11** 18:21:25.0, 39.02N×41.89E, h12km, MD3.5*
*CSEM **11** 18:21

GAZ	**Gaziantep**	**4.13**	**245**	*e*PN	**Pn**	**18**	**22**	**30.7**	**+1.0**
GAZ	**Gaziantep**	**4.13**	**245**	*e*Pn	**Pn**	**18**	**22**	**30.7**	**+1.0**
KMRS	**Kahramanmaras**	**4.21**	**251**	*e*PN	**Pn**	**18**	**22**	**31.8**	**+1.0**
KMRS	**Kahramanmaras**	**4.21**	**251**	*e*Pn	**Pn**	**18**	**22**	**31.8**	**+1.0**
BNN	**Bunyan**	**4.72**	**270**	*e*PN	**Pn**	**18**	**22**	**39.0**	**+1.1**
BNN	**Bunyan**	**4.72**	**270**	*e*Pn	**Pn**	**18**	**22**	**39.1**	**+1.1**
BHD	**Baghdad**	**6.07**	**160**	*e*Pn	**Pn**	**18**	**22**	**54.8**	**-1.4**
BHD				*e*Sn	**Sn**	**18**	**24**	**05.8**	**-0.3**
BHD				*e*Sg	**Sg**	**18**	**24**	**42.8**	**+2.4**
BHD	**Baghdad**	**6.07**	**160**	*e*Pn	**Pn**	**18**	**22**	**54.8**	**-1.4**
BHD				*e*Sn	**Sn**	**18**	**24**	**05.8**	**-0.3**

IDC 11 18:25:40.6±14.0, 6°.59S×128°.84E, h170km±150km, mb2.9/2, mb1 2.7/5, mb1mx2.7/20, mbtmp2.6/5, ML3.0/3, Error ellipse: s-maj=111.3km s-min=53.7km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**195**	P	Pn	18 28 24.7	+0.2
	0.1nm,0.3s,baz=32,slow=13,SNR=7.7						
FITZ				S	Sn	18 30 26.8	-9.4
	0.1nm,0.3s,baz=3.2,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**14.31**	**159**	P	Pn	18 28 56.8	+1.1
	0.1nm,0.3s,baz=337,slow=13,SNR=4.1						
WRA				S	Sn	18 31 25.8	-9.2
	0.1nm,0.3s,baz=327,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**17.66**	**165**	P	P	18 29 34.2	-0.7
	0.0nm,0.3s,baz=338,slow=9.7,SNR=9.3						
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	18 36 17.1	+0.2
	0.1nm,0.3s,baz=118,slow=8.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**71.56**	**329**	P	P	18 36 42.9	-0.2
	0.2nm,0.4s,baz=135,slow=5.3,SNR=5.0						

*DDA **11** 18:42:18.4, 37°.77N×30°.99E, h8km, MD2.8*
*ISK **11** 18:42:21.1, 37°.24N×30°.90E, h101km, MD2.9*
*ISCJB **11** 18:42:22.4±0.8, 37°.29N±0°.04×30°.71E±0°.04, h102km±7km, Error ellipse: s-maj=7.0km s-min=5.5km az=7.1*
*CSEM **11** 18:42:22.8±0.2, 37°.27N×30°.69E, h100km, MD2.9, Error ellipse: s-maj=6.0km s-min=5.5km az=13.0*
ISC 11 18:42:24.2±1.4, 37°.28N±0°.04×30°.71E±0°.03, h87km±8km, n38, σ0°.92/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.20**	**331**	*e*PG	**Pn**	**18 42 36.3**	**-0.7**
BCK				*e*SG	**Sn**	**18 42 47.5**	**+1.0**
BCK	**Bucak**	**0.20**	**331**	*e*Pg	**Pn**	**18 42 36.3**	**-0.7**
BCK				*e*Sg	**Sn**	**18 42 47.5**	**+1.0**
KORT	**Korkueli**	**0.40**	**226**	*i* P	**Pn**	**18 42 37.0**	**-1.1**
KORT				*i* S	**Sn**	**18 42 49.1**	**+0.7**
KORT	**Korkueli**	**0.40**	**226**	*i* P	**Pn**	**18 42 37.0**	**-1.1**
KORT				*i* S	**Sn**	**18 42 49.1**	**+0.7**
ISP	**Isparta**	**0.56**	**345**	*e*PG	**Pn**	**18 42 39.5**	**+0.3**
ISP	**Isparta**	**0.56**	**345**	*e*Pg	**Pn**	**18 42 39.6**	**+0.3**
ELL	**Elmali**	**0.83**	**230**	*e*PG	**Pn**	**18 42 41.4**	**-0.6**
ELL				*e*SG	**Sn**	**18 42 56.4**	**+1.1**
ELL	**Elmali**	**0.83**	**230**	*e*Pg	**Pn**	**18 42 41.4**	**-0.6**
ELL				*e*Sg	**Sn**	**18 42 56.4**	**+1.1**
GOLH	**Golhisar**	**0.92**	**267**	*i* P	**Pn**	**18 42 41.9**	**-1.0**
GOLH				*i* S	**Sn**	**18 42 57.6**	**+0.7**
GOLH	**Golhisar**	**0.92**	**267**	*i* P	**Pn**	**18 42 41.9**	**-1.0**
GOLH				*i* S	**Sn**	**18 42 57.6**	**+0.7**
SHUT	**Suhut-Afyon**	**1.27**	**354**	*e*PN	**Pn**	**18 42 46.1**	**-1.0**
SHUT	**Suhut-Afyon**	**1.27**	**354**	*e*Pn	**Pn**	**18 42 46.1**	**-1.0**
AKAS	**Kas**	**1.37**	**221**	*i* P	Pn	18 42 46.2	-2.2
AKAS				*i* S	**Sn**	**18 43 06.1**	**-0.5**
AKAS	**Kas**	**1.37**	**221**	*i* P	Pn	18 42 46.2	-2.2
AKAS				*i* S	**Sn**	**18 43 06.1**	**-0.5**
DNZL	**Cakiroluk**	**1.38**	**288**	*e*P	**Pn**	**18 42 47.1**	**-1.5**
DNZL				*e*S	**Sn**	**18 43 07.2**	**+0.3**
DNZL	**Cakiroluk**	**1.38**	**288**	*e*P	**Pn**	**18 42 47.1**	**-1.5**
DNZL				*e*S	**Sn**	**18 43 07.2**	**+0.3**
KHL	**Karahalli**	**1.40**	**318**	*e*PN	**Pn**	**18 42 48.1**	**-0.6**
KHL	**Karahalli**	**1.40**	**318**	*e*Pn	**Pn**	**18 42 48.1**	**-0.6**
KHAL	**Karahalli**	**1.45**	**319**	*i* P	**Pn**	**18 42 48.5**	**-0.9**
KHAL				*i* S	**Sn**	**18 43 08.9**	**+0.6**
KHAL	**Karahalli**	**1.45**	**319**	*i* P	**Pn**	**18 42 48.5**	**-0.9**
KHAL				*i* S	**Sn**	**18 43 08.9**	**+0.6**
KONT	**Konya--Tatoy**	**1.47**	**63**	*e*PN	Pn	18 42 46.2	-3.2
KONT				*e*SN	**Sn**	**18 43 05.3**	**-3.3**
LADK	**Ladik-KONYA**	**1.60**	**55**	*e*PN	Pn	18 42 48.3	-2.9
GAZI	**Gazipasa**	**1.66**	**129**	*i* P	**Pn**	**18 42 51.9**	**-0.1**
GAZI				*i* S	**Sn**	**18 43 13.3**	**+0.3**
GAZI	**Gazipasa**	**1.66**	**129**	*i* P	**Pn**	**18 42 51.9**	**-0.1**
GAZI				*i* S	**Sn**	**18 43 13.3**	**+0.3**
KDHN	**Kadinhani**	**1.66**	**42**	*i* P	**Pn**	**18 42 51.7**	**-0.3**
KDHN				*i* S	**Sn**	**18 43 14.2**	**+1.1**
KDHN	**Kadinhani**	**1.66**	**42**	*i* P	**Pn**	**18 42 51.7**	**-0.3**
KDHN				*i* S	**Sn**	**18 43 14.2**	**+1.1**
ALT	**Altintas**	**1.83**	**345**	*e*PN	**Pn**	**18 42 53.4**	**-0.8**
ALT	**Altintas**	**1.83**	**345**	*e*Pn	**Pn**	**18 42 53.4**	**-0.8**
KIZT	**Kizilcal**	**1.84**	**30**	*e*PN	Pn	18 42 52.2	-2.2
KIZT	**Kizilcal**	**1.84**	**30**	*e*Pn	Pn	18 42 52.2	-2.2
ERMK	**Ermenek**	**1.88**	**109**	*e*P	**Pn**	**18 42 54.7**	**-0.2**
ERMK				*i* S	**Sn**	**18 43 19.3**	**+1.0**
ERMK	**Ermenek**	**1.88**	**109**	*e*P	**Pn**	**18 42 54.7**	**-0.2**
ERMK				*i* S	**Sn**	**18 43 19.3**	**+1.0**
YER	**Yerkesik**	**1.94**	**266**	*e*PN	**Pn**	**18 42 55.8**	**+0.2**
YER	**Yerkesik**	**1.94**	**266**	*e*Pn	**Pn**	**18 42 55.8**	**+0.2**
KULA	**Kula-Manisa**	**2.03**	**308**	*e*PN	**Pn**	**18 42 57.5**	**+0.7**
KULA	**Kula-Manisa**	**2.03**	**308**	*e*Pn	**Pn**	**18 42 57.5**	**+0.7**
TVSB	**Tavsanli**	**2.38**	**336**	*e*PN	**Pn**	**18 43 01.2**	**-0.2**
TVSB	**Tavsanli**	**2.38**	**336**	*e*Pn	**Pn**	**18 43 01.2**	**-0.2**

*ISCJB **11** 18:50:46.5±1.3, 45°.37N±0°.05×142°.8E±0°.2, h10km, Error ellipse: s-maj=19.7km s-min=5.1km az=14.7*
*JMA **11** 18:50:46.6±0.2, 45°.35N×142°.76E, h3km, MS3.9*
JMA Felt I J1.
*SKHL **11** 18:50:47.7±0.4, 45°.20N×142°.90E, h46km±13km, mb4.4/1*
ISC 11 18:50:46.2±1.4, 45°.35N±0°.05×142°.8E±0°.1, h10km, n7, σ1°.54/10, 3C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.42**	**202**	⇓P	**Pb**	**18 50 55.0**	**-0.6**
JSE				*e*S	**Sb**	**18 51 00.5**	**-1.5**
JWK2	**Keihoku**	**0.64**	**268**	⇑P	**Pg**	**18 50 58.6**	**+0.1**
JRR	**Rishiri**	**1.07**	**259**	P	Pn	**18 51 06.5**	**-0.3**
JSS	**Shosan**	**1.16**	**216**	P	**Pn**	**18 51 09.0**	**+0.5**
JSS				*e*S	**Sn**	**18 51 26.2**	**+1.8**
YSS	**Yuzh-Sakhalins**	**1.61**	**359**	⇑*i*P	**Pn**	**18 51 15.4**	**+0.8**
YSS				AMB	AMB	18 51 16.5	
	130nm,0.3s						
YSS				AMB	AMB	18 51 16.5	
	70nm,0.3s						
YSS				*e*S	**Sn**	**18 51 35.9**	**+0.5**
YSS				A	A	18 51 38.0	
	380nm,0.3s						
YSS				A	A	18 51 38.0	
	520nm,0.3s						
UGL	**Uglegorsk**	**3.77**	**353**	*e*S	**Sn**	**18 52 26.0**	**-2.6**
TYV	**Tymovskoe**	**5.52**	**359**	⇑*i*P	**Pn**	**18 52 10.0**	**+1.6**

IDC 11 18:57:24.4±3.6, 21°.57S×175°.62W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, MS3.5/2, Ms1 3.5/2, ms1mx3.1/38, Error ellipse: s-maj=154.0km s-min=39.8km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.45**	**26**	LR	LR	19 01 54.7	
	comp=Z,38nm,19.3s,baz=344,slow=32						
CTA	**Charters Tower**	**35.61**	**265**	P	P	19 04 25.4	+1.2
	2.5nm,0.5s,baz=90,slow=13,SNR=4.8						
PMG	**Port Moresby**	**37.75**	**283**	LR	LR	19 17 19.1	
	comp=Z,704nm,21.9s,baz=284,slow=32						
STKA	**Stephens Creek**	**39.35**	**246**	P	P	19 04 54.3	-1.5
	0.8nm,0.5s,baz=86,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**46.45**	**257**	P	P	19 05 53.1	-0.4
	0.4nm,0.3s,baz=84,slow=7.0,SNR=18						
WRA	**Warramunga Arr**	**46.66**	**263**	P	P	19 05 54.5	-0.6
	0.3nm,0.3s,baz=97,slow=8.0,SNR=21						
FITZ	**Fitzroy Crossi**	**55.09**	**262**	P	P	19 06 58.9	+0.1
	1.7nm,0.9s,baz=56,slow=7.3,SNR=2.2						
AKASG	**Malin Array Be**	**145.01**	**332**	PKPbc	PKPbc	19 17 00.7	-2.2
	0.3nm,0.3s,baz=35,slow=3.9,SNR=3.6						
BRTR	**Keskin Array B**	**149.20**	**313**	PKPbc	PKPbc	19 17 16.2	+0.8
	0.6nm,0.8s,baz=30,slow=4.3,SNR=2.8						

*IDC **11** 18:59:27.9±7.6, 24°.66N×125°.50E, h30km±56km, mb3.6/10, mb1 3.7/13, mb1mx3.6/26, mbtmp3.7/13, ML3.7/3, MS3.7/2, Ms1 3.8/2, ms1mx3.1/40, Error ellipse: s-maj=25.7km s-min=18.7km az=72.0*
*ISCJB **11** 18:59:28.2±0.6, 24°.66N±0°.08×125°.62E±0°.06, h53km±4km, mb3.7/10, MS4.1/1, Error ellipse: s-maj=15.9km s-min=5.0km az=151.2*
*JMA **11** 18:59:28.0, 24°.55N×125°.67E, h48km±1km, M4.1*
JMA Felt I J1.
ISC 11 18:59:29.0±0.8, 24°.59N±0°.08×125°.65E±0°.06, h46km±7km, n31, σ0°.88/37, mb3.7/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.28**	**308**	P	**Pn**	**18 59 37.1**	**-0.4**
JOGS				S	**Sn**	**18 59 43.7**	**+0.1**
JMJ	**Miyako jima 2**	**0.39**	**305**	P	**Pn**	**18 59 38.3**	**-0.4**
JMJ				S	**Sn**	**18 59 45.6**	**0.0**
JTJ	**Tarama**	**0.86**	**274**	P	**Pn**	**18 59 44.4**	**-0.3**
JTJ				S	**Sn**	**18 59 56.3**	**0.0**
JIJ	**Ishigaki jima**	**1.39**	**261**	P	**Pn**	**18 59 51.6**	**-0.3**
JIJ				S	**Sn**	**19 00 07.9**	**-1.2**
JKRS	**Kuro-shima**	**1.53**	**257**	P	**Pn**	**18 59 53.5**	**-0.4**
JKRS				S	**Sn**	**19 00 12.7**	**0.0**
HATJ	**Hateruma jima**	**1.76**	**253**	P	**Pn**	**18 59 56.5**	**-0.5**
IRIF	**Iriomote-Funau**	**1.77**	**262**	P	**Pn**	**18 59 56.8**	**-0.3**
JKE	**Kume jima 2**	**2.01**	**30**	P	**Pn**	**19 00 00.3**	**-0.2**
YOJ	**Yonaguni jima**	**2.41**	**268**	P	**Pn**	**19 00 05.1**	**-0.8**
JJT2	**Tamagusuku 2**	**2.45**	**50**	P	**Pn**	**19 00 06.9**	**+0.4**
JAGN	**Aguni-jima**	**2.46**	**36**	P	**Pn**	**19 00 07.2**	**+0.6**
JIH	**Iheya**	**3.21**	**40**	P	**Pn**	**19 00 17.1**	**+0.2**
JOW	**Kunigami**	**3.26**	**46**	Pn	**Pn**	**19 00 17.5**	**-0.1**
	22nm,0.3s,baz=186,slow=14,SNR=36						
JOW				Sn	**Sn**	**19 00 55.0**	**-0.1**
	8.5nm,0.3s,baz=139,slow=19,SNR=2.2						
JOW				LR	LR	19 01 59.3	
	comp=Z,426nm,18.4s,baz=355,slow=46						
JOW	**Kunigami**	**3.26**	**46**	P	**Pn**	**19 00 17.4**	**-0.1**
JTK	**Tokunoshima**	**4.35**	**42**	P	**Pn**	**19 00 31.5**	**-1.1**
JMZ	**Minamidaito 2**	**5.20**	**75**	P	**Pn**	**19 00 41.2**	**-3.0**
JAM	**Amami Oshima**	**5.20**	**42**	P	**Pn**	**19 00 42.9**	**-1.4**
JNU	**Nakatsue**	**9.66**	**27**	Pn	**Pn**	**19 01 45.0**	**-0.5**
	0.4nm,0.3s,baz=45,slow=20,SNR=3.8						
MJAR	**Matsushiro Arr**	**16.07**	**39**	Pn	**P**	**19 03 14.2**	**-0.3**
	0.4nm,0.3s,baz=230,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**25.56**	**261**	pP	pP	19 05 06.7	+1.0
	0.7nm,0.8s,baz=64,slow=8.5,SNR=5.2						
SONM	**Songino Array**	**27.77**	**332**	P	**P**	**19 05 12.4**	**-1.2**
	0.8nm,0.4s,baz=142,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**40.94**	**314**	P	**P**	**19 07 06.5**	**-0.5**
	0.7nm,0.5s,baz=99,slow=9.4,SNR=18						
ZALV	**Zalesovo Beam**	**42.19**	**325**	P	**P**	**19 07 15.6**	**-1.5**
	1.4nm,0.5s,baz=112,slow=8.9,SNR=6.7						
WRA	**Warramunga Arr**	**45.06**	**168**	P	**P**	**19 07 41.4**	**+0.7**
	0.7nm,0.8s,baz=350,slow=8.3,SNR=5.1						
WRA				pP	**pP**	**19 07 53.6**	**+0.5**
	2.2nm,1.0s,baz=348,slow=8.7,SNR=8.8						
ASAR	**Alice Springs**	**48.63**	**170**	P	**P**	**19 08 09.9**	**+1.4**
	0.1nm,0.4s,baz=354,slow=8.6,SNR=5.0						
ASAR				pP	**pP**	**19 08 22.1**	**+1.0**
	0.5nm,0.5s,baz=354,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**66.98**	**28**	P	**P**	**19 10 17.4**	**+0.7**
	0.2nm,0.4s,baz=267,slow=6.6,SNR=3.4						
INK	**Inuvik**	**71.31**	**23**	P	**P**	**19 10 44.0**	**+0.6**
	2.4nm,1.1s,baz=320,slow=5.1,SNR=3.0						
FINES	**FINESS Array B**	**73.13**	**330**	P	**P**	**19 10 54.6**	**+0.1**
	0.7nm,0.4s,baz=48,slow=4.9,SNR=7.6						
AKASG	**Malin Array Be**	**75.25**	**319**	P	**P**	**19 11 07.6**	**+0.6**
	0.9nm,0.6s,baz=352,slow=4.7,SNR=4.2						
BRTR	**Keskin Array B**	**76.19**	**307**	P	**P**	**19 11 13.1**	**+0.3**
	0.5nm,0.5s,baz=68,slow=4.1,SNR=3.1						
NOA	**NORSAR Array B**	**79.73**	**333**	LR	LR	19 46 04.5	
	comp=Z,96nm,20.7s,baz=105,slow=35						

IDC 11 19:01:15.2±4.5, 1°.68S×140°.16E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=172.9km s-min=28.7km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.03**	**197**	P	P	19 05 38.5	-0.4
	0.1nm,0.3s,baz=20,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**22.69**	**195**	P	P	19 06 18.4	-0.1
	0.5nm,0.8s,baz=24,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**69.87**	**322**	P	P	19 12 28.2	+0.2
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.8						

*IDC **11** 19:12:02.7±0.6, 8°.72S×108°.82E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/22, mbtmp4.4/16, ML3.9/1, Error ellipse: s-maj=26.3km s-min=12.9km az=60.0*
*BJI **11** 19:12:03.4, 8°.90S×108°.60E, h30km, mB5.1/8, mb4.7/13, Ms5.0/1, Ms7 4.7/2*
*AUST **11** 19:12:06.5±2.0, 8°.89S×108°.50E, h33km, Error ellipse: s-maj=1.0km s-min=0.7km az=354.0*
*ISCJB **11** 19:12:06.7±0.5, 8°.96S±0°.04×108°.62E±0°.03, h53km±4km, mb4.6/43, Error ellipse: s-maj=6.4km s-min=3.9km az=17.9*
*MOS **11** 19:12:06.2±1.1, 8°.57S×109°.02E, h33km, mb5.0/19, Error ellipse: s-maj=16.8km s-min=7.8km az=113.8*
*DJA **11** 19:12:06.9±0.8, 9°.S±2°×10°.9E±°, h13km±7km, M4.7/33, mb4.9/25, mB5.2/14, MLv4.8/33, Mw(mB)4.6/14*
*NEIC **11** 19:12:07.8±0.3, 8°.74S×108°.79E, h35km, mb4.7/14, Error ellipse: s-maj=11.7km s-min=4.8km az=53.0*
ISC 11 19:12:09.2±0.9, 8°.84S±0°.06×108°.68E±0°.04, h49km±8km, n167, σ1°27/163, mb4.7/42, 4C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**1.16**	**17**	P	**Pn**	**19 12 28.3**	**-0.8**
CLJI				S	**Sn**	**19 12 45.6**	**+1.8**
CISI	**Cisompet, Garu**	**1.53**	**326**	P	**Pn**	**19 12 31.9**	**-2.3**
CISI				S	**Sn**	**19 12 55.3**	**+2.3**
BJII	**Banjamegara**	**1.81**	**34**	P	**Pn**	**19 12 36.8**	**-1.2**
BJII				S	**Sn**	**19 13 01.7**	**+1.9**
YOGI	**Yogyakarta**	**1.89**	**58**	P	**Pn**	**19 12 38.6**	**-0.5**
TGJI	**Tegal**	**2.00**	**13**	P	**Pn**	**19 12 39.0**	**-1.6**
UGM	**Wanagama**	**2.04**	**63**	P	**Pn**	**19 12 38.5**	**-2.7**
	baz=2.2,SNR=73						
UGM	**Wanagama**	**2.04**	**63**	P	**Pn**	**19 12 39.3**	**-1.9**
UGM				S	**Sn**	**19 13 07.3**	**+1.8**
LEM	**Lembang**	**2.26**	**332**	P	**Pn**	**19 12 44.8**	**+0.6**
	baz=2.2,SNR=132						
LEM	**Lembang**	**2.26**	**332**	P	**Pn**	**19 12 44.6**	**+0.4**
SMRI	**Semarang**	**2.49**	**45**	P	**Pn**	**19 12 49.0**	**+1.7**
PCJI	**Pacitan**	**2.55**	**76**	P	**Pn**	**19 12 46.8**	**-1.3**
SKJI	**Sukabumi**	**2.78**	**311**	P	**Pn**	**19 12 52.8**	**+1.5**
DBJI	**Dramaga**	**2.96**	**320**	P	**Pn**	**19 12 54.3**	**+0.5**
PWJI	**Pagerwojo**	**3.20**	**76**	P	**Pn**	**19 12 54.7**	**-2.3**
SJI	**Sawahan**	**3.25**	**71**	P	**Pn**	**19 12 56.8**	**-0.9**
XMI	**Christmas Isla**	**3.35**	**241**	P	Pn	19 12 54.8	-4.4
	baz=3.2,SNR=44						
XMI				S	Sn	19 13 29.5	-8.3
	baz=3.2,SNR=5.0						
XMIS	**Christmas Isla**	**3.40**	**241**	P	Pn	19 12 55.1	-4.7
	baz=3.2,SNR=43						
XMIS				S	Sn	19 13 29.9	-9.0
	baz=3.2,SNR=7.5						
CGJI	**Cibinong**	**3.69**	**307**	P	**Pn**	**19 13 03.4**	**-0.4**
SBJI	**Serang**	**3.70**	**317**	P	**Pn**	**19 13 04.8**	**+1.0**
KRKI	**Karangkates**	**3.79**	**80**	P	**Pn**	**19 13 06.6**	**+1.4**
GMJI	**Gumukmas**	**4.75**	**84**	P	**Pn**	**19 13 21.2**	**+2.9**
BWJI	**Bawean**	**4.94**	**53**	P	**Pn**	**19 13 20.4**	**-0.5**
BLJI	**Banyuglugur**	**4.99**	**78**	P	**Pn**	**19 13 20.0**	**-1.5**
	156nm,0.7s,3μm0.9nm						
KASI	**Kota Agung**	**5.29**	**308**	P	**Pn**	**19 13 27.4**	**+1.6**
	74nm,1.1s,1μm						
JAGI	**Jajag, Banyuwa**	**5.42**	**87**	P	**Pn**	**19 13 28.3**	**+0.7**
	112nm,0.8s,3μm1.2nm						
KMMI	**Kalianget**	**5.53**	**72**	P	**Pn**	**19 13 28.1**	**-0.9**
	41nm,1.3s,0.4nm						
NBBI	**Negara**	**5.89**	**86**	P	**Pn**	**19 13 34.6**	**+0.6**
	215nm,0.7s,3μm0.9nm						
LWLI	**Liwa**	**5.95**	**309**	P	**Pn**	**19 13 35.6**	**+0.7**
	84nm,0.7s,1μm0.4nm						
IGBI	**Denpasar**	**6.39**	**90**	P	**Pn**	**19 13 41.2**	**+0.4**
	48nm,0.6s,21μm0.3nm						
DNP	**Denpasar**	**6.46**	**89**	P	**Pn**	**19 13 42.6**	**+0.8**
	297nm,0.8s,8μm2.0nm						
SRBI	**Singaraja**	**6.51**	**84**	P	**Pn**	**19 13 43.0**	**+0.6**
	91nm,0.8s,1μm0.5nm						
PBKI	**Pangkalan Bun**	**6.78**	**26**	P	**Pn**	**19 13 47.1**	**+0.9**
	196nm,1.0s,2μm0.6nm						
KHKI	**Kahang-Kahang**	**6.87**	**87**	P	**Pn**	**19 13 48.7**	**+1.3**
	72nm,0.7s,1μm0.4nm						
PPBI	**Pangkal Pinang**	**7.10**	**339**	P	**Pn**	**19 13 53.7**	**+3.2**
	66nm,1.0s,1μm0.2nm						
MNAI	**Manna**	**7.22**	**308**	P	**Pn**	**19 13 52.3**	**+0.1**
	80nm,0.9s,0.4nm						
KSI	**Kapahiang**	**7.94**	**310**	P	**Pn**	**19 14 03.4**	**+1.2**
	84nm,0.6s,0.3nm						
WSI	**Waingapu**	**11.50**	**95**	S	**Sn**	**19 16 56.1**	**-1.8**
	baz=12,SNR=3.0						
KAPI	**Kappang**	**11.63**	**72**	Pn	**Pn**	**19 14 53.6**	**+1.0**
	1.7nm,0.3s,baz=157,slow=22,SNR=7.6						
KAPI	**Kappang**	**11.63**	**72**	Pn	**Pn**	**19 14 53.6**	**+1.0**
KAPI	**Kappang**	**11.63**	**72**	P	Pn	19 14 56.2	+3.6
SBUM	**Sibu**	**11.76**	**18**	P	Pn	19 15 00.8	+6.5
TTSI	**Tana Toraja**	**12.48**	**63**	P	**P**	**19 15 12.9**	**-1.8**
MMRI	**Maumere**	**13.40**	**90**	P	**P**	**19 15 24.5**	**-0.5**
PCI	**Palu**	**13.62**	**55**	P	Pn	19 15 11.7	-8.1
	baz=14,SNR=4.1						
PCI				S	**Sn**	**19 17 54.0**	**+4.3**
	baz=14,SNR=6.0						
KDI	**Kendari**	**14.68**	**72**	P	**P**	**19 15 41.4**	**+2.3**
GIRL	**Giralia**	**14.73**	**159**	S	Sn	19 17 57.9	-19
	baz=15,SNR=5.4						
GSI	**Gunungsitoli**	**14.96**	**312**	P	Pn	19 15 32.9	-4.9
	baz=15,SNR=4.2						
MRSI	**Marisa**	**16.13**	**56**	P	**P**	**19 15 54.5**	**-0.8**
	73nm,0.9s,679nm						
MYLDM	**Lahad Datu**	**17.02**	**35**	P	**P**	**19 16 08.2**	**+3.0**
	33nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.88**	**121**	P	**P**	**19 16 25.4**	**-0.2**
	0.3nm,0.3s,baz=274,slow=7.3,SNR=17						
FITZ				S	Sn	19 19 39.1	-18
	0.2nm,0.3s,baz=342,slow=20,SNR=3.1						
FITZ	**Fitzroy Crossi**	**18.88**	**121**	P	**P**	**19 16 25.4**	**-0.2**
FITZ				S	Sn	19 19 39.1	-18
FITZ	**Fitzroy Crossi**	**18.88**	**121**	P	**P**	**19 16 25.6**	**0.0**
	baz=19,SNR=8.8						
MEEK	**Meekatharra**	**20.05**	**153**	P	**P**	**19 16 38.9**	**+0.5**
	baz=20,SNR=6.3						
MEEK				S	S	19 20 04.8	-17
	baz=20,SNR=16						
AAI	**Ambon**	**20.06**	**76**	P	**P**	**19 16 38.0**	**-0.5**
	baz=20,SNR=3.9						
AAI	**Ambon**	**20.06**	**76**	P	**P**	**19 16 38.0**	**-0.5**
	100nm,0.9s,1μm						
LBMI	**Labuha**	**20.44**	**68**	P	**P**	**19 16 43.1**	**+0.4**
	258nm,0.9s,2μm						
TNTI	**Ternate**	**20.93**	**64**	P	**P**	**19 16 48.6**	**+0.7**
	72nm,1.7s						
MORW	**Morawa**	**21.28**	**162**	S	S	19 20 35.4	-10
	baz=21,SNR=3.5						
MTN	**Manton Dam**	**22.41**	**102**	P	**P**	**19 17 03.8**	**0.0**
	baz=23,SNR=8.6						
TLE	**Tual**	**24.07**	**84**	P	**P**	**19 17 21.7**	**+1.4**
	34nm,0.8s						
FAKI	**Fak Fak**	**24.16**	**77**	P	**P**	**19 17 22.9**	**+1.8**
	17nm,1.3s						
WRA	**Warramunga Arr**	**27.15**	**117**	P	**P**	**19 17 47.4**	**-0.7**
	4.2nm,0.7s,baz=287,slow=11,SNR=23						
WRA				PcP	**PcP**	**19 21 08.7**	**+0.8**
	0.7nm,0.6s,baz=303,slow=2.1,SNR=5.1						
WRA	**Warramunga Arr**	**27.15**	**117**	P	**P**	**19 17 47.4**	**-0.7**
WRA				PcP	**PcP**	**19 21 08.7**	**+0.8**
WRAB	**Tennant Creek**	**27.16**	**117**	*e*P	**P**	**19 17 47.8**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**27.16**	**117**	*e*P	**P**	**19 17 47.8

	comp=Z,8.0nm,0.8s								
TKM2	**Tokmak 2**	**59.69**	**332**	*e*P		**P**	**19 22 08.2**	**-0.7**
	comp=Z,8.3nm,0.8s								
AAK	**Ala-Archa**	**59.98**	**331**	*e*P		**P**	**19 22 10.7**	**-0.2**
AAK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
AAK	**Ala-Archa**	**59.98**	**331**	*e*P		**P**	**19 22 10.7**	**-0.2**
	comp=Z,5.7nm,0.8s								
MK31	**Makanchi Array**	**60.17**	**339**	*e*P		**P**	**19 22 11.7**	**-0.2**
MK31	**Makanchi Array**	**60.17**	**339**	*e*P		**P**	**19 22 11.7**	**-0.2**
MKAR	**Makanchi Array**	**60.17**	**339**	P		**P**	**19 22 12.1**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=153,slow=8.0,SNR=54								
MKAR	**Makanchi Array**	**60.17**	**339**	P		**P**	**19 22 12.1**	**+0.1**
MKAR	**Makanchi Array**	**60.17**	**339**	P		**P**	**19 22 12.1**	**+0.1**
EKS2	**Erkin-Say**	**60.34**	**331**	*e*P		**P**	**19 22 13.2**	**-0.1**
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**60.34**	**331**	*e*P		**P**	**19 22 13.2**	**-0.1**
	comp=Z,5.0nm,0.8s								
MOY	**Mondy**	**60.62**	**355**	*e*P		**P**	**19 22 15.6**	**+0.6**
HVS	**Khovu-Aksy**	**61.12**	**349**	*i* P		**P**	**19 22 17.3**	**-1.1**
KLR	**Kul'dur**	**61.26**	**17**	*e*P		P	19 22 13.6	-5.6
KURK	**Kurchatov**	**64.79**	**339**	*e*P		**P**	**19 22 42.5**	**-0.1**
KURK				pmax	pmax				
	comp=Z,12nm,0.8s								
KURK	**Kurchatov**	**64.79**	**339**	*e*P		**P**	**19 22 42.5**	**-0.1**
	comp=Z,12nm,0.8s								
ZAA0	**Zalesovo Array**	**65.72**	**345**	*e*P		**P**	**19 22 48.0**	**-0.6**
ZALV	**Zalesovo Beam**	**65.72**	**345**	P		**P**	**19 22 48.2**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=134,slow=4.3,SNR=30								
ZALV	**Zalesovo Beam**	**65.72**	**345**	P		**P**	**19 22 48.2**	**-0.4**
ZALV	**Zalesovo Beam**	**65.72**	**345**	P		**P**	**19 22 48.2**	**-0.4**
KRAR	**Krasnoyarsk**	**65.94**	**350**	⫷ *e*P		**P**	**19 22 49.9**	**0.0**
KRAR				pmax	pmax				
	comp=Z,16nm,0.9s								
BOD	**Bodaibo**	**66.57**	**3**	*e*P		**P**	**19 22 53.1**	**-0.8**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.1s								
NVS	**Novosibirsk**	**66.94**	**344**	*e*P		**P**	**19 22 54.7**	**-1.6**
BRVK	**Borovoye**	**69.77**	**336**	*c i*P		**P**	**19 23 14.0**	**-0.1**
BRVK				pmax	pmax				
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**69.77**	**336**	*e*P		**P**	**19 23 14.1**	**0.0**
	comp=Z,15nm,1.1s								
ABKAR	**Akbulak array**	**71.83**	**329**	*e*P		**P**	**19 23 26.6**	**-0.1**
	comp=Z,6.8nm,0.6s								
YAK	**Yakutsk**	**72.52**	**10**	*e*P		**P**	**19 23 29.2**	**-1.3**
YAK				pmax	pmax				
	comp=Z,26nm,0.9s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,11nm,1.2s								
YAK	**Yakutsk**	**72.52**	**10**	*e*P		**P**	**19 23 29.6**	**-0.9**
	comp=N,51nm,1.0s								
VNDA	**Vanda**	**73.87**	**170**	P		**P**	**19 23 38.6**	**+0.2**
	comp=N,2.8nm,0.8s,baz=308,slow=5.1,SNR=7.5								
VNDA	**Vanda**	**73.87**	**170**	P		**P**	**19 23 38.6**	**+0.2**
BHD	**Baghdad**	**73.99**	**308**	*e*P		**P**	**19 23 37.3**	**-2.6**
BHD				*e*S		**SKiKP**	**19 33 03.7**	**-0.7**
PETK	**Petropavlovsk-**	**74.40**	**28**	P		**P**	**19 23 41.0**	**-0.7**
	comp=N,12nm,1.0s,baz=174,slow=1.5,SNR=7.3								
PETK	**Petropavlovsk-**	**74.40**	**28**	P		**P**	**19 23 41.1**	**-0.7**
PETK	**Petropavlovsk-**	**74.40**	**28**	P		**P**	**19 23 41.0**	**-0.7**
SVE	**Sverdlovsk**	**76.36**	**335**	⫷ *i*P		**P**	**19 23 53.8**	**+0.8**
SVE				pmax	pmax				
	comp=Z,19nm,1.1s								
ARU	**Arti**	**76.99**	**334**	*d i*P		**P**	**19 23 57.2**	**+0.7**
ARU							19 26 46.9		
ARU				S		**S**	**19 33 41.9**	**+0.8**
ARU				pmax	pmax				
	comp=Z,21nm,1.7s								
ARU	**Arti**	**76.99**	**334**	*e*P		**P**	**19 23 56.4**	**-0.1**
	comp=Z,25nm,1.2s								
SEY	**Seymchan**	**78.98**	**19**	⫷ *e*P		**P**	**19 24 07.3**	**-0.1**
KBZ	**Khabaz**	**79.12**	**318**	P		**P**	**19 24 09.8**	**+1.3**
	comp=Z,4.9nm,0.9s,baz=156,slow=6.1,SNR=6.2								
KBZ	**Khabaz**	**79.12**	**318**	P		**P**	**19 24 09.9**	**+1.3**
KBZ	**Khabaz**	**79.12**	**318**	P		**P**	**19 24 09.8**	**+1.3**
VRHR	**Novokhopersk**	**82.85**	**324**	*e*P		**P**	**19 24 28.1**	**-0.2**
VRHR				pmax	pmax				
	comp=N,20nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ANN	**Anapa**	**83.16**	**317**	*e*P		P	19 24 36.0	+5.9	
ANN				*e*S		S	19 34 56.2	+10	
ANN				pmax	pmax				
	comp=Z,67nm,1.1s								
BRTR	**Keskin Array B**	**84.28**	**312**	P		**P**	**19 24 36.9**	**+0.7**
	comp=Z,4.1nm,1.2s,baz=132,slow=7.3,SNR=7.0								
BRTR	**Keskin Array B**	**84.28**	**312**	P		**P**	**19 24 36.9**	**+0.7**
VSR	**Storozhevoye**	**84.32**	**324**	*e*P		**P**	**19 24 36.1**	**+0.2**
OBN	**Obninsk**	**87.16**	**327**	⫷ *e*P		**P**	**19 24 52.0**	**+2.2**
OBN				*e*			19 28 14.8		
OBN				*e*			19 35 21.8		
OBN				pmax	pmax				
	comp=Z,11nm,1.2s								
KLMR	**Klimovskoe**	**87.76**	**333**	*e*P		**P**	**19 24 52.4**	**-0.2**
KLMR				pmax	pmax				
	comp=Z,18nm,1.3s								
FINES	**FINESS Array B**	**94.17**	**331**	P		**P**	**19 25 22.9**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=111,slow=7.6,SNR=2.5								
FINES	**FINESS Array B**	**94.17**	**331**	P		**P**	**19 25 22.9**	**+0.5**
KOLS	**Kolonicke sedl**	**94.23**	**319**	*e*P		P	19 25 29.3	+6.2	
KOLS	**Kolonicke sedl**	**94.23**	**319**	*e*P		P	19 25 29.3	+6.2	
CRVS	**Cervenica-Dubn**	**94.76**	**319**	*e*P		P	19 25 33.7	+8.2	
CRVS	**Cervenica-Dubn**	**94.76**	**319**	*e*P		P	19 25 33.7	+8.2	
VYHS	**Vyhne**	**96.44**	**318**	*e*P		pP	19 25 48.7	+1.0	
VYHS	**Vyhne**	**96.44**	**318**	*e*pP		pP	19 25 48.7	+1.0	
YKA	**Yellowknife Ar**	**117.98**	**21**	PKP		**PKPdf**	**19 30 49.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=322,slow=1.8,SNR=4.8								
YKA	**Yellowknife Ar**	**117.98**	**21**	PKP		**PKPdf**	**19 30 49.9**	**-0.3**
SCHQ	**Schefferville**	**133.99**	**356**	PKP		**PKPdf**	**19 31 22.4**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=52,slow=16,SNR=4.3								
SCHQ	**Schefferville**	**133.99**	**356**	PKP		**PKPdf**	**19 31 22.4**	**+1.4**
BDFB	**Brasilia**	**146.47**	**224**	PKPbc		**PKPbc**	**19 31 46.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=104,slow=4.3,SNR=5.8								
BDFB	**Brasilia**	**146.47**	**224**	PKPbc		**PKPbc**	**19 31 46.4**	**+0.3**
LPAZ	**La Paz**	**154.84**	**187**	PKPab		**PKPab**	**19 32 22.7**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=200,slow=5.2,SNR=6.0								
LPAZ	**La Paz**	**154.84**	**187**	PKPab		**PKPab**	**19 32 22.7**	**+0.8**

*UCR **11** 19:16:47.9, 8°.89N×83°.04W, h28km, MD3.4*
*UPA **11** 19:16:51.7, 8°.54N×83°.18W, h15km*
CASC 11 19:16:52.6±4.7, 8°.65N×83°.14W, h50km±33km, MD3.5, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.03**	**282**	⫷ *i*P	Pn	19 16 55.6	-4.7
BRU2	**Volcan**	**0.47**	**72**	*e*P	Pn	19 17 02.9	-0.8
BRU2				*e*S	Sn	19 17 13.1	+1.5
TBS2		**0.50**	**73**	*e*S	Sn	19 17 15.7	+3.4
BUS	**Buena Vista**	**1.09**	**326**	*e*P	Pn	19 17 12.1	0.0
BUS				*e*S	Sn	19 17 27.2	+0.6
QCR	**Quepos**	**1.27**	**307**	*e*P	Pn	19 17 14.1	0.0
LAJ	**Bijagual**	**1.55**	**321**	*e*P	Pn	19 17 22.7	+4.6
CGA2	**Cerro Gallo 2**	**1.89**	**316**	*e*P	Pn	19 17 23.6	+1.0
CGA2				*e*S	Sn	19 17 48.4	+3.0

*ISCJB **11** 19:39:12.6±0.9, 35°.86N±0°.04×27°.38E±0°.04, h1km±7km, Error ellipse: s-maj=7.5km s-min=3.3km az=143.6*
*ATH **11** 19:39:12.8, 35°.78N×27°.49E, h24km, MD3.5/12*
*CSEM **11** 19:39:13.8±0.2, 35°.81N×27°.41E, h8km, MD3.5, Error ellipse: s-maj=6.9km s-min=3.0km az=148.0*
*THE **11** 19:39:15.4, 35°.83N×27°.55E, h29km±26km, ML2.5/1, Error ellipse: s-maj=27.1km s-min=0.8km az=94.0*
ISC 11 19:39:13.6±1.0, 35°.80N±0°.04×27°.46E±0°.03, h13km±9km, n53, σ0s72/78, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.35**	**224**	*e*Pb	**Pg**	**19 39 20.5**	**-0.3**
KARP				*e*Sb	**Sg**	**19 39 26.5**	**+1.0**
KARP	**Karpathos**	**0.35**	**224**	*e*Pb	**Pg**	**19 39 20.5**	**-0.3**
KARP				*e*Sb	**Sg**	**19 39 26.5**	**+1.0**
ARG	**Arkhangelos**	**0.68**	**52**	P	**Pg**	**19 39 26.3**	**-0.6**
ARG				S	**Sg**	**19 39 36.0**	**+0.2**
ARG	**Arkhangelos**	**0.68**	**52**	*e*PN	**Pg**	**19 39 26.5**	**-0.4**
ARG				*e*SN	**Sg**	**19 39 36.1**	**+0.2**
ARG	**Arkhangelos**	**0.68**	**52**	P	**Pg**	**19 39 26.3**	**-0.6**
ARG				*e*Sn	**Sg**	**19 39 36.1**	**+0.2**
ZKR	**Zakros**	**1.23**	**236**	P	**Pn**	**19 39 36.0**	**-0.5**
ZKR				S	**Sn**	**19 39 52.9**	**0.0**
ZKR	**Zakros**	**1.23**	**236**	*e*PN	**Pn**	**19 39 36.2**	**-0.3**
ZKR				*e*SN	**Sg**	**19 39 53.9**	**+0.8**
ZKR	**Zakros**	**1.23**	**236**	*e*Pn	**Pn**	**19 39 36.2**	**-0.3**
ZKR				S	**Sn**	**19 39 52.9**	**0.0**
ZKR				*e*Sn	**Sg**	**19 39 53.9**	**+0.8**
TURN	**Turunc**	**1.41**	**40**	*i* P	Pn	19 39 35.0	-4.0
TURN				*i* S	Sn	19 39 51.1	-6.4
TURN	**Turunc**	**1.41**	**40**	*i* P	Pn	19 39 35.0	-4.0
TURN				*i* S	Sn	19 39 51.1	-6.4
NPS	**Neapolis**	**1.60**	**251**	P	**Pn**	**19 39 41.9**	**+0.2**
NPS				S	**Sn**	**19 40 02.4**	**+0.2**
NPS	**Neapolis**	**1.60**	**251**	*e*PN	**Pn**	**19 39 41.9**	**+0.2**
NPS				*e*SN	**Sn**	**19 40 02.3**	**+0.1**
NPS	**Neapolis**	**1.60**	**251**	P	**Pn**	**19 39 41.9**	**+0.2**
NPS				*e*Sn	**Sn**	**19 40 02.3**	**+0.1**
THR1	**Thera Island**	**1.72**	**290**	P	**Pn**	**19 39 42.9**	**-0.4**
THR1	**Thera Island**	**1.72**	**290**	P	**Pn**	**19 39 42.9**	**-0.4**
LAST	**Lasithi**	**1.74**	**249**	P	**Pn**	**19 39 44.4**	**+0.8**
LAST				S	**Sn**	**19 40 05.5**	**-0.2**
LAST	**Lasithi**	**1.74**	**249**	*e*PN	**Pn**	**19 39 44.3**	**+0.7**
LAST				*e*SN	**Sn**	**19 40 06.6**	**+0.9**
LAST	**Lasithi**	**1.74**	**249**	*e*Pn	**Pn**	**19 39 44.3**	**+0.7**
LAST				S	**Sn**	**19 40 05.5**	**-0.2**
LAST				*e*Sn	**Sn**	**19 40 06.6**	**+0.9**
KSL	**Kastellorizon**	**1.76**	**78**	*e*PN	**Pn**	**19 39 43.5**	**-0.3**
KSL	**Kastellorizon**	**1.76**	**78**	*e*Pn	**Pn**	**19 39 43.5**	**-0.3**
THR2	**Thira island,**	**1.76**	**292**	P	**Pn**	**19 39 43.8**	**-0.1**
THR2	**Thira island,**	**1.76**	**292**	P	**Pn**	**19 39 43.8**	**-0.1**
AKAS	**Kas**	**1.79**	**75**	*i* P	**Pb**	**19 39 45.6**	**-0.8**
AKAS				*i* S	**Sg**	**19 40 11.4**	**+0.1**
AKAS	**Kas**	**1.79**	**75**	*i* P	**Pb**	**19 39 45.6**	**-0.8**
AYDN	**Tasoluk**	**1.89**	**10**	*i* P	**Pn**	**19 39 46.4**	**+0.8**
AYDN				*i* S	**Sn**	**19 40 08.6**	**-0.7**
AYDN	**Tasoluk**	**1.89**	**10**	*i* P	**Pn**	**19 39 46.4**	**+0.8**
AYDN				*i* S	**Sn**	**19 40 08.6**	**-0.7**
APE	**Apeiranthos**	**2.01**	**310**	P	**Pn**	**19 39 47.0**	**-0.3**
APE				S	**Sn**	**19 40 11.2**	**-1.1**
APE	**Apeiranthos**	**2.01**	**310**	*e*PB	**Pn**	**19 39 47.0**	**-0.3**
APE	**Apeiranthos**	**2.01**	**310**	P	**Pn**	**19 39 47.0**	**-0.3**
APE				S	**Sn**	**19 40 11.2**	**-1.1**
IDI	**Anoyia**	**2.16**	**257**	P	**Pn**	**19 39 49.2**	**-0.2**
IDI				S	**Sn**	**19 40 16.2**	**+0.1**
IDI	**Anoyia**	**2.16**	**257**	*e*PN	**Pn**	**19 39 49.2**	**-0.2**
IDI	**Anoyia**	**2.16**	**257**	P	**Pn**	**19 39 49.2**	**-0.2**
IDI				S	**Sn**	**19 40 16.2**	**+0.1**
GOLH	**Golhisar**	**2.22**	**49**	*i* P	**Pb**	**19 39 53.0**	**-0.7**
GOLH				*i* S	**Sg**	**19 40 24.5**	**-0.4**
GOLH	**Golhisar**	**2.22**	**49**	*i* P	**Pb**	**19 39 53.0**	**-0.7**
DNZL	**Cakiroluk**	**2.27**	**34**	*i* P	**Pb**	**19 39 53.8**	**-0.9**
DNZL				*e*S	**Sg**	**19 40 28.1**	**+1.3**
DNZL	**Cakiroluk**	**2.27**	**34**	*i* P	**Pb**	**19 39 53.8**	**-0.9**
SIVA	**Sivas**	**2.30**	**251**	P	**Pn**	**19 39 51.9**	**+0.6**
SIVA	**Sivas**	**2.30**	**251**	P	**Pn**	**19 39 51.9**	**+0.6**
VAM	**Vamos**	**2.69**	**263**	P	**Pn**	**19 39 56.3**	**-0.3**
VAM	**Vamos**	**2.69**	**263**	P	**Pn**	**19 39 56.3**	**-0.3**
KARN	**Karanos**	**2.92**	**263**	P	**Pn**	**19 39 59.8**	**0.0**
KARN	**Karanos**	**2.92**	**263**	*e*PN	**Pn**	**19 39 59.7**	**0.0**
KARN	**Karanos**	**2.92**	**263**	P	**Pn**	**19 39 59.8**	**0.0**
KHAL	**Karahalli**	**3.04**	**32**	*e*P	**Pn**	**19 40 02.9**	**+1.4**
KHAL				*i* S	**Sn**	**19 40 40.0**	**+2.3**
KHAL	**Karahalli**	**3.04**	**32**	*e*P	**Pn**	**19 40 02.9**	**+1.4**
KHAL				*i* S	**Sn**	**19 40 40.0**	**+2.3**
KYTH	**Kithira**	**3.62**	**279**	P	**Pn**	**19 40 10.1**	**+0.7**
KYTH	**Kithira**	**3.62**	**279**	*e*PN	**Pn**	**19 40 10.3**	**+0.9**
KYTH	**Kithira**	**3.62**	**279**	P	**Pn**	**19 40 10.1**	**+0.7**
VLI	**Veliai**	**3.77**	**285**	P	**Pn**	**19 40 12.3**	**+0.8**
VLI	**Veliai**	**3.77**	**285**	*e*PN	**Pn**	**19 40 12.3**	**+0.8**
VLI	**Veliai**	**3.77**	**285**	P	**Pn**	**19 40 12.3**	**+0.8**
DID	**Didima**	**3.80**	**298**	*e*PN	**Pn**	**19 40 12.7**	**+0.8**
DID	**Didima**	**3.80**	**298**	*e*Pn	**Pn**	**19 40 12.7**	**+0.8**

*ISCJB **11** 19:41:25.2±0.6, 6°.87N±0°.06×73°.02W±0°.07, h171km±6km, mb3.7/4, Error ellipse: s-maj=12.9km s-min=7.2km az=40.0*
*FUNV **11** 19:41:26.1, 6°.77N×73°.12W, h171km, MW3.7*
*IDC **11** 19:41:26.9±3.5, 6°.75N×73°.12W, h170km±26km, mb3.4/4, mb1 3.8/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=65.6km s-min=24.1km az=85.0*
ISC 11 19:41:26.2±0.9, 6°.87N±0°.07×73°.02W±0°.08, h166km±8km, n27, σ0s84/31, mb3.8/4, 11C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**35**	⫷ *i*P	**Pn**	**19 41 55.2**	**+0.6**
CAPV				*e*S	**Sn**	**19 42 16.7**	**+0.2**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**19 42 07.0**	**-0.2**
	60nm,0.3s,baz=92,slow=18,SNR=143						
ROSC				S	**Sn**	**19 42 37.2**	**-1.6**
	65nm,0.3s,baz=102,slow=17,SNR=6.4						
VIGV	**El Vigia**	**2.56**	**40**	⫷ *i*P	**Pn**	**19 42 09.7**	**+0.7**
VIGV				*e*S	**Sn**	**19 42 41.3**	**-0.7**
SOCV	**Socops**	**2.57**	**57**	⫷ *i*P	**Pn**	**19 42 09.9**	**+0.8**
SOCV				*e*S	**Sn**	**19 42 42.0**	**-0.2**
ELOV	**Elorza**	**3.52**	**88**	⫷ *i*P	**Pn**	**19 42 21.4**	**+0.6**
VIRV	**Villa del Rosa**	**3.67**	**10**	⫷ *i*P	**Pn**	**19 42 21.9**	**-0.7**
VIRV				*e*S	**Sn**	**19 43 04.9**	**-1.8**
QARV	**Quebrada Arrib**	**4.14**	**37**	*e*P	**Pn**	**19 42 28.8**	**0.0**
CURV	**Curarigua**	**4.36**	**44**	⫷ *e*P	**Pn**	**19 42 31.9**	**+0.3**
DABV	**Dabajuro**	**4.67**	**30**	⫷ *e*P	**Pn**	**19 42 36.0**	**+0.4**
TEPV	**Terepaima**	**4.88**	**51**	⫷ *i*P	**Pn**	**19 42 38.6**	**+0.1**
SIQV	**Siquisique**	**4.92**	**40**	⫷ *i*P	**Pn**	**19 42 39.0**	**0.0**
BAUV	**El Baul**	**5.35**	**67**	⫷ *i*P	**Pn**	**19 42 43.3**	**-1.2**
MAPV	**Macapo**	**5.39**	**57**	⫷ *i*P	**Pn**	**19 42 45.0**	**-0.2**
IMOV	**Isla Los Monje**	**5.85**	**21**	*e*P	**Pn**	**19 42 50.9**	**-0.2**
MONV	**Montecano**	**5.89**	**31**	*e*P	**Pn**	**19 42 51.2**	**-0.4**
TURV	**Turiamo**	**6.24**	**55**	*e*P	**Pn**	**19 42 55.3**	**-1.0**
MERV	**Las Mercedes**	**7.07**	**70**	*e*P	**Pn**	**19 43 05.9**	**-1.4**
CUPV	**Cœpira**	**7.83**	**66**	*e*P	**Pn**	**19 43 16.2**	**-1.2**
PCRV	**Puerto La Cruz**	**8.92**	**68**	*e*P	**Pn**	**19 43 31.7**	**-0.2**
LPAZ	**La Paz**	**23.51**	**168**	pP	pP	19 46 54.1	+0.5
	1.2nm,0.7s,baz=338,slow=12,SNR=3.3						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**19 49 42.6**	**-0.1**
	1.9nm,0.3s,baz=117,slow=4.5,SNR=4.5						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**19 49 49.9**	**+0.4**
	0.6nm,0.5s,baz=123,slow=9.5,SNR=4.7						
NVAR	**Mina Array Bea**	**51.52**	**315**	P	**P**	**19 50 16.5**	**+1.1**
	0.3nm,0.6s,baz=111,slow=4.9,SNR=3.9						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**19 51 37.3**	**+0.6**
	1.3nm,0.6s,baz=132,slow=6.7,SNR=30						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**20 00 55.2**	**-0.8**
	0.4nm,0.6s,baz=101,slow=3.8,SNR=6.9						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**20 00 58.4**	**-0.7**
	0.4nm,0.4s,baz=107,slow=2.3,SNR=7.9						
CMAR	**Chiang Mai Arr**	**153.62**	**17**	PKPbc	**PKPbc**	**20 01 07.2**	**+0.9**
	0.2nm,0.5s,baz=329,slow=3.5,SNR=3.7						

IDC 11 19:45:08.8±16.0, 6°.70S×129°.71E, h106km±178km, mb3.2/1, mb1 3.0/4, mb1mx2.9/19, mbtmp2.9/4, ML2.9/3, Error ellipse: s-maj=135.1km s-min=62.3km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.01**	**199**	P	Pn	19 47 57.5	+1.0
	0.1nm,0.3s,baz=14,slow=12,SNR=6.2						
FITZ				S	Sn	19 50 01.4	-7.3
	0.1nm,0.3s,baz=282,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**13.91**	**162**	P	Pn	19 48 19.5	-1.9
	0.0nm,0.3s,baz=341,slow=13,SNR=3.0						
WRA				S	Sn	19 50 43.9	-11
	0.2nm,0.3s,baz=331,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**17.35**	**167**	P	Pn	19 49 04.7	+0.3
	0.1nm,0.3s,baz=344,slow=10,SNR=5.6						
ASAR				S	Sn	19 52 10.5	-7.2
	0.1nm,0.3s,baz=351,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	19 55 55.4	0.0
	0.2nm,0.3s,baz=131,slow=7.8,SNR=6.7						

IDC 11 19:52:03.6±1.2, 3°.63N×126°.71E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/23, mbtmp3.9/6, MS4.1/1, Ms1 4.1/1, ms1mx2.7/37, Error ellipse: s-maj=93.8km s-min=17.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**4.52**	**339**	*e*P	Pn	19 53 13.5	0.0
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P	P	19 56 54.8	-0.7
	2.0nm,0.8s,baz=14,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**24.60**	**163**	P	P	19 57 25.2	-0.5
	7.9nm,0.7s,baz=344,slow=10,SNR=60						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	19 57 56.9	+0.1
	0.5nm,0.4s,baz=345,slow=7.5,SNR=18						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	19 59 24.5	+0.5
	1.7nm,0.3s,baz=331,slow=9.7,SNR=14						
PETK	**Petropavlovsk-**	**55.53**	**22**	LR	LR	20 24 51.8	
	comp=Z,144nm,18.7s,baz=106,slow=35						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	20 01 55.0	-0.6
	0.4nm,0.5s,baz=119,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	P	20 02 17.0	+0.5
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.5						

MAN 11 19:52:46, 9°.27N×125°.39E, h1km, mb4.6, ML3.5, MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.38**	**143**	*e*P	Pg	19 52 53.3	0.0
MSLP	**Maasin**	**1.01**	**329**	*e*P	Pg	19 53 05.1	-0.2
CGP	**Cagayan de Oro**	**1.06**	**220**	*e*P	Pb	19 53 07.5	+0.3
CGP				*i* S	Sn	19 53 24.5	+1.0
TBP	**Tagbilaran**	**1.56**	**286**	*e*P	Pb	19 53 15.5	-0.3
PAGZ	**Pagadian**	**2.44**	**235**	*e*P	Pb	19 53 29.5	-1.1
IPIL	**Ipil**	**3.15**	**242**	*e*P	Pn	19 53 35.8	-1.0

IDC 11 20:01:38.8±4.8, 1°.79S×140°.10E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx2.9/21, Error ellipse: s-maj=184.8km s-min=27.7km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.32**	**137**	LR	LR	20 08 25.7	
	comp=Z,988nm,21.2s,baz=59,slow=39						
WRA	**Warramunga Arr**	**18.90**	**197**	P	P	20 06 00.8	-0.3
	0.2nm,0.3s,baz=19,slow=12,SNR=17						
ASAR	**Alice Springs**	**22.56**	**195**	P	P	20 06 41.3	+0.4
	1.6nm,0.9s,baz=27,slow=9.8,SNR=20						
MKAR	**Makanchi Array**	**69.92**	**322**	P	P	20 12 51.8	-0.1
	0.2nm,0.5s,baz=106,slow=7.8,SNR=3.7						

IDC 11 20:02:52.8±2.1, 0°.45S×132°.97E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=97.8km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**202**	P	P	20 07 15.3	-0.5
	0.2nm,0.3s,baz=31,slow=9.4,SNR=8.0						
FITZ				S	Sn	20 10 31.3	-18
	0.1nm,0.3s,baz=225,slow=17,SNR=1.9						
WRA	**Warramunga Arr**	**19.42**	**176**	P	Pn	20 07 21.4	-0.5
	0.2nm,0.3s,baz=356,slow=12,SNR=9.9						
WRA				S	Sn	20 10 44.7	-16
	0.0nm,0.3s,

Error ellipse: s-maj=20.0km s-min=8.8km az=13.2

ISC 11 20:21:21.3±1.3,1°38'S±0°2'×139°12'E±0'08,h27km,n7,σ1°44/7,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.45**	**246**	P	**Pb**	**20 21 31.4**	**+0.7**
SMPI				S	Sn	20 21 47.6	+8.5
JAY	**Jayapura**	**1.73**	**114**	P	**Pn**	**20 21 49.2**	**-0.5**
JAY				S	**Sb**	**20 22 12.5**	**-1.4**
BAKI	**Biak**	**3.07**	**282**	P	**Pn**	**20 22 06.2**	**-1.9**
WRA	**Warramunga Arr**	**18.62**	**194**	P	**P**	**20 25 36.9**	**0.0**
	0.4nm,0.3s,baz=20,slow=12,SNR=42						
FITZ	**Fitzroy Crossi**	**20.91**	**218**	P	Pn	20 26 05.6	+1.2
	0.8nm,0.6s,baz=57,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**22.31**	**193**	P	**P**	**20 26 17.2**	**+0.4**
	2.8nm,0.9s,baz=24,slow=10,SNR=29						
MKAR	**Makanchi Array**	**69.33**	**322**	P	**P**	**20 32 27.9**	**+1.4**
	0.2nm,0.3s,baz=104,slow=7.0,SNR=5.9						

IDC 11 20:31:06.4±4.8,1°91'S×139°03'E,h0km,mb3.1/2,mb1 3.3/3,mb1mx3.2/18,mbtmp3.1/3,ML3.2/1,Error ellipse: s-maj=192.7km s-min=28.6km az=86.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.50**	**194**	P	Pn	20 35 24.7	+0.3
	0.1nm,0.3s,baz=18,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**22.19**	**193**	P	P	20 36 04.8	+0.2
	0.6nm,0.8s,baz=24,slow=9.6,SNR=5.5						
MKAR	**Makanchi Array**	**69.36**	**322**	P	P	20 42 15.8	-0.2
	0.1nm,0.5s,baz=107,slow=6.6,SNR=2.5						

IDC 11 20:52:07.4±0.8,13°69N×144°95E,h103km±7km,mb3.1/4,mb1 3.4/4,mb1mx3.1/25,mbtmp3.1/4,MS3.3/1,Ms1 3.3/1,ms1mx2.4/18,Error ellipse: s-maj=47.9km s-min=25.2km az=108.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.12**	**217**	P	Pn	20 52 22.9	+1.1
	516nm,0.3s,baz=174,slow=2.3,SNR=309						
GUMO				S	Sn	20 52 33.3	+0.7
	753nm,0.3s,baz=0.0,slow=20,SNR=73						
MJAR	**Matsushiro Arr**	**23.54**	**346**	LR	LR	21 05 06.0	
	comp=Z,65nm,19.0s,baz=0.0,slow=33						
WRA	**Warramunga Arr**	**35.01**	**198**	P	P	20 58 49.9	-0.3
	0.4nm,0.9s,baz=18,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**61.47**	**316**	P	P	21 02 13.4	+0.1
	0.2nm,0.3s,baz=92,slow=8.8,SNR=5.6						
ILAR	**Eielson Array**	**68.44**	**25**	P	P	21 02 56.8	-1.2
	0.3nm,0.4s,baz=241,slow=6.1,SNR=8.3						
YKA	**Yellowknife Ar**	**82.74**	**27**	P	P	21 04 20.3	+0.7
	0.1nm,0.5s,baz=280,slow=5.0,SNR=3.3						

IDC 11 20:56:27.9±2.1,3°14N×125°94E,h0km,mb3.3/3,mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,Error ellipse: s-maj=192.9km s-min=25.9km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.38**	**161**	P	P	21 01 47.6	-0.4
	0.8nm,0.6s,baz=340,slow=11,SNR=10						
ASAR	**Alice Springs**	**27.75**	**164**	P	P	21 02 19.3	+0.7
	0.2nm,0.6s,baz=343,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.59**	**326**	P	P	21 06 19.4	-0.3
	0.1nm,0.4s,baz=121,slow=7.7,SNR=6.3						

IDC 11 21:00:00.5±1.9,1°83S×139°21E,h0km,mb3.9/6,mb1 4.2/7,mb1mx3.9/19,mbtmp4.0/7,ML4.4/1,MS4.3/1,Ms1 4.5/1,ms1mx2.8/39,Error ellipse: s-maj=64.2km s-min=19.0km az=82.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.62**	**194**	P	P	21 04 19.4	-0.3
	1.4nm,0.3s,baz=12,slow=12,SNR=58						
WRA				S	S	21 07 53.9	+0.9
	0.1nm,0.3s,baz=15,slow=19,SNR=3.5						
FITZ	**Fitzroy Crossi**	**20.95**	**219**	P	P	21 04 45.4	+0.3
	1.3nm,0.6s,baz=39,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.30**	**193**	P	P	21 04 59.6	-0.2
	6.8nm,0.8s,baz=26,slow=10,SNR=70						
ASAR				S	S	21 09 10.2	+3.9
	0.9nm,1.1s,baz=18,slow=16,SNR=3.4						
STKA	**Stephens Creek**	**29.97**	**176**	P	P	21 06 10.7	0.0
	0.8nm,0.5s,baz=0.0,slow=11,SNR=5.7						
CMAR	**Chiang Mai Arr**	**44.45**	**299**	P	P	21 08 13.3	-0.4
	0.6nm,0.3s,baz=124,slow=6.6,SNR=4.2						
CMAR				LR	LR	21 28 04.4	
	comp=Z,310nm,18.8s,baz=94,slow=38						
MKAR	**Makanchi Array**	**69.41**	**322**	P	P	21 11 11.0	+0.5
	0.9nm,0.5s,baz=100,slow=8.6,SNR=17						
ZALV	**Zalesovo Beam**	**71.44**	**330**	P	P	21 11 22.3	-0.4
	0.5nm,0.5s,baz=132,slow=8.6,SNR=3.5						

*IDC **11** 21:03:56.2±0.3,8°66N×83°05W,h0km,mb5.4/36,mb1 5.5/39,mb1mx5.5/41,mbtmp5.4/39,ML4.7/3,MS5.5/39,Ms1 5.5/39,ms1mx5.5/48,Error ellipse: s-maj=15.3km s-min=8.9km az=57.0*

*BJI **11** 21:03:57.1,8°50N×83°20W,h10km,mB5.9/39,Ms6.2/46,Ms7 5.9/47*

*NEIC **11** 21:03:59.0±0.2,8°49N×83°21W,h17km,mb5.7/243,ME5.4,MS5.6/152,MW5.8,MW5.7,Error ellipse: s-maj=4.1km s-min=2.5km az=203.0 Broadband fault plane solution: P waves. NP1:φ=305.00000°,δ60.00000°,λ90.00000°. NP2:φ=125.00000°,δ30.00000°,λ90.00000°. Principal axes: T Plg75.0000°, Azm215.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm35.0000°; Moment Tensor Solution. s90 Moment tensor: Scale 10¹⁷ Nm; Mrr=3.93; Mθθ=-1.33; Mφφ=-2.60; Mrθ=-1.75; Mθφ=1.87; Mφr=1.00; Best double couple: M₀=4.40000×10¹⁷ NP1:φ=314.00000°,δ58.00000°,λ79.00000°. NP2: φ=155.00000°,δ33.00000°,λ108.00000°. Principal axes: T 4.4900, Plg73.0000°, Azm193.0000°; N -0.1300, Plg9.0000°, Azm319.0000°; P -4.3500, Plg12.0000°, Azm51.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Golfito, Quepos and San Vito; [III] at Cartago, Escazu, Heredia, Palmar, Puerto Cortes, San Francisco, San Jose, and Santa Ana; [II] at Alajuela, Atenas, Jaco, San Pedro, San Rafael and San Ramon. Also felt at Angeles, Asuncion, Buenos Aires, Cahuita, Calle Blancos, Colima, Curridabat, Grecia, Mercedes, Orosi, Palmares, Paraiso, Quesada, San Antonio, San Isidro, Santo Domingo and Turrialba. Felt [III] at Almirante and David; [II] at Bocas del Toro, Boquete and Volcan, Panama. Also felt at Ancon, Cerro Punta, Changuinola, Chiriqui, Panama, Potrerillos Abajo, Potrerillos Arriba, Puerto Armuelles, Rio Hato and San Carlos.

*ISCJB **11** 21:03:58.2±0.1,8°60N±0°02×83°22W±0°01,h18km,mb5.6/339,MS5.6/225 Error ellipse: s-maj=3.5km s-min=1.7km az=22.5*

*CASC **11** 21:03:59.3±3.5,8°59N×83°18W,h4km±8km,MD4.7,ML4.9,mb5.7(NEIC)*

*MOS **11** 21:04:00.7±0.9,8°67N×83°17W,h33km,mb5.9/100,MS5.7/49,Error ellipse: s-maj=5.6km s-min=4.1km az=92.5*

*GCMT **11** 21:04:04.0±0.1,8°52N×83°22W,h22km,MW5.9,Moment Tensor Solution. s108,c232; s79,c100; Moment tensor: Scale 10¹⁷Nm; Mrr=7.18±.07; Mθθ=-3.81±.06; Mφφ=-3.37±.07; Mrθ=-2.26±.11; Mθφ=4.24±.05; Mφr=-0.91±.12; Best double couple: M₀=7.90000×10¹⁷ NP1:φ=150.00000°,δ44.00000°,λ115.00000°. NP2:φ=297.00000°,δ51.00000°,λ68.00000°. Principal axes: T 7.9200, Plg73.0000°, Azm145.0000°; N -0.0200, Plg17.0000°, Azm311.0000°; P -7.9100, Plg4.0000°, Azm42.0000°; Data Used: II IU CN IC G. Surface waves: sta=112, comp=239, per= 50.*

*SZGRF **11** 21:04:04.1,8°77N×82°00W,h20km,mb5.7,MS6.0, Panama-Costa Rica border region*

*NEIC **11** 21:04:18.6±0.0,8°86N×82°89W,h10km,Moment Tensor Solution. s168 Moment tensor: Scale 10¹⁷Nm; Mrr=5.48; Mθθ=2.28; Mφφ=-3.19; Mrθ=0.30; Mθφ=3.23; Mφr=-0.56; Best double couple: M₀=5.80000×10¹⁷ NP1:φ=317.00000°, δ42.00000°,λ88.00000°. NP2:φ=141.00000°,δ48.00000°, λ92.00000°. Principal axes: T 5.5200, Plg86.0000°, Azm77.0000°; N 0.5200, Plg1.0000°, Azm319.0000°; P -6.0300, Plg3.0000°, Azm229.0000°;*

ISC 11 21:03:59.0±0.5,8°49N±0°03×83°25W±0°02,h15km±2km,n1526,σ1°32/1600,mb5.7/339,MS5.6/228,249C-257D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.18**	**26**	*i* P	Pg	21 03 59.2	-4.2
ACR	**Cerro Adams**	**0.18**	**26**	*i* P	**Pg**	**21 04 02.3**	**-1.0**
BRU2	**Volcan**	**0.63**	**61**	↓*e*P	**Pg**	**21 04 09.5**	**-1.9**
BRU2				*e*S	**Sb**	**21 04 20.0**	**-0.6**
BRU2	**Volcan**	**0.63**	**61**	↓*e*P	**Pg**	**21 04 09.5**	**-1.9**
BRU2				*e*S	**Sb**	**21 04 19.9**	**-0.6**
TBS2		**0.66**	**63**	*e*P	**Pb**	**21 04 12.0**	**-0.4**
BUS	**Buena Vista**	**1.17**	**335**	↓*i*P	Pg	21 04 18.6	-3.2
BUS	**Buena Vista**	**1.17**	**335**	↓*i*P	Pg	21 04 18.6	-3.2
QCR	**Quepos**	**1.30**	**316**	*e*P	Pg	21 04 20.0	-4.1
LAJ	**Bijagual**	**1.62**	**328**	*e*P	**Pn**	**21 04 27.7**	**+0.4**
LAJ	**Bijagual**	**1.62**	**328**	*e*P	**Pn**	**21 04 27.7**	**+0.4**
HDC	**Heredia**	**1.73**	**330**	*e*P	**Pn**	**21 04 27.6**	**-1.1**
HDC				*e*S	**Sn**	**21 04 50.0**	**-0.7**
CGA2	**Cerro Gallo 2**	**1.94**	**322**	*e*P	**Pn**	**21 04 30.6**	**-0.9**
CGA2	**Cerro Gallo 2**	**1.94**	**322**	‖*e*P	**Pn**	**21 04 30.6**	**-0.9**
CASO	**Castillo**	**2.43**	**323**	*i* P	**Pb**	**21 04 41.6**	**-0.9**
CASO				*i* S	**Sb**	**21 05 11.8**	**-0.5**
JTS	**JuntasAbangare**	**2.46**	**317**	Pn	**Pn**	**21 04 37.4**	**-1.2**
	465nm,0.3s,baz=337,slow=20,SNR=182						
JTS				Pg	**Pb**	**21 04 41.0**	**-2.0**
	1μm,0.3s,baz=112,slow=13,SNR=279						
JTS				Sn	**Sn**	**21 05 08.6**	**+0.1**
	926nm,0.3s,baz=342,slow=23,SNR=6.5						
JTS	**JuntasAbangare**	**2.46**	**317**	*e*Pn	**Pn**	**21 04 37.8**	**-0.9**
JTS				Pg	**Pb**	**21 04 41.0**	**-2.0**
JTS				*e*Sn	**Sn**	**21 05 04.3**	**-4.2**
JTS	**JuntasAbangare**	**2.46**	**317**	↑*i*P	**Pn**	**21 04 37.8**	**-0.9**
CHPA	**Chiripa**	**2.54**	**320**	*e*P	Pn	21 04 42.5	+2.6
CHPA				*e*S	**Sn**	**21 05 13.5**	**+2.9**
AMAS	**Alto Masis**	**2.72**	**321**	*i* P	**Pn**	**21 04 43.7**	**+1.3**
PTEN	**Parque Tenorio**	**2.80**	**322**	*i* P	**Pn**	**21 04 44.2**	**+0.8**
PTEN				*i* S	**Sn**	**21 05 20.7**	**+3.7**
CUI	**Cuipilapa**	**2.87**	**319**	*i* P	**Pn**	**21 04 45.9**	**+1.6**
COLC	**Colonia**	**2.90**	**318**	*i* P	**Pn**	**21 04 46.4**	**+1.7**
COLC				*i* S	**Sn**	**21 05 22.0**	**+2.6**
GUAB	**Guayabo de Bag**	**2.95**	**319**	*i* P	**Pn**	**21 04 47.2**	**+1.8**
GUAB				*e*S	**Sn**	**21 05 22.4**	**+1.8**
MESS	**Mesas**	**2.95**	**320**	↑*i*P	Pn	21 04 48.3	+2.9
GPS2	**Hotel Rincˆ‡n**	**3.06**	**317**	*i* P	**Pn**	**21 04 48.3**	**+1.3**
GPS3	**Bodega del ICE**	**3.07**	**317**	*e*P	**Pn**	**21 04 49.0**	**+1.9**
GPS3				*i* P	Pb	21 04 49.6	-3.8
GPS3				*e*S	**Sn**	**21 05 25.4**	**+1.7**
GPS1	**Guardaparques**	**3.08**	**318**	*i* P	Pn	21 04 49.7	+2.5
LAPC	**Finca la Perla**	**3.12**	**317**	*i* P	**Pn**	**21 04 49.4**	**+1.5**
LAPC				*i* S	**Sn**	**21 05 25.8**	**+0.8**
GB1A	**Borinquen Arri**	**3.14**	**318**	*i* P	Pn	21 04 50.5	+2.4
GBS3	**Finca Las Imˆ¡**	**3.15**	**316**	*i* P	**Pn**	**21 04 50.2**	**+2.0**
GBS2	**Las Lilas**	**3.19**	**317**	*i* P	**Pn**	**21 04 50.3**	**+1.6**
PINA	**Piqa, Costa Ab**	**3.24**	**76**	*e*P	**Pn**	**21 04 49.5**	**+0.2**
PINA	**Piqa, Costa Ab**	**3.24**	**76**	*e*P	**Pn**	**21 04 49.4**	**+0.1**
BCIP	**Isla Barro Col**	**3.44**	**78**	*e*Pn	**Pn**	**21 04 51.9**	**-0.2**
BCIP	**Isla Barro Col**	**3.44**	**78**	*e*P	**Pn**	**21 04 51.5**	**-0.6**
BCIP				↓*e*P	**Pn**	**21 04 52.0**	**-0.2**
BCIP				*e*S	**Sn**	**21 05 32.3**	**-0.4**
UPIG		**3.71**	**82**	↓*i*P	**Pn**	**21 04 55.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**6.80**	**325**	*e*Pn	**Pn**	**21 05 39.8**	**+1.4**
VSM	**San Miguel**	**6.96**	**315**	*e*P	**Pn**	**21 05 42.4**	**+1.6**
VSM				*e*S	**Sn**	**21 06 58.8**	**-1.2**
SNVI	**San Vicente**	**7.49**	**313**	*e*P	**Pn**	**21 05 49.5**	**+1.6**
LFU	**La Fuente**	**7.78**	**313**	*e*P	**Pn**	**21 05 53.6**	**+1.8**
SNET	**Serv Nac Est T**	**7.82**	**312**	AML	AML	21 06 12.8	
	comp=Z,1μm,0.4s						
BOQS	**Boqueron**	**7.89**	**312**	*e*P	**Pn**	**21 05 55.1**	**+1.6**
SBLS	**San Blas**	**8.21**	**311**	*e*P	**Pn**	**21 05 59.8**	**+1.9**
SNJE	**San Jose**	**8.21**	**311**	*e*P	**Pn**	**21 05 59.9**	**+1.9**
RBDL	**Robledal**	**8.43**	**312**	*e*P	**Pn**	**21 06 02.5**	**+1.5**
IXG	**Ixpaco**	**9.05**	**309**	*e*P	Pn	21 06 12.5	+3.1
MRL	**Marmol**	**9.08**	**317**	*e*P	Pn	21 06 12.8	+2.9
NBG	**Las Nubes**	**9.22**	**312**	*e*P	Pn	21 06 16.3	+4.4
PCG	**Pacaya**	**9.30**	**310**	*e*P	Pn	21 06 17.9	+5.0
OTAV	**Otavalo**	**9.49**	**150**	↑*e*Pn	**Pn**	**21 06 17.8**	**+2.1**
FUG	**Fuego 3**	**9.51**	**309**	*e*P	Pn	21 06 20.3	+4.6
ROSC	**El Rosal**	**9.56**	**112**	Pn	Pn	21 06 21.1	+4.4
	comp=Z,4.3nm,0.3s,baz=98,slow=20,SNR=54						
ROSC				LR	LR	21 09 50.3	
	comp=Z,21μm,18.6s,baz=344,slow=37						
ROSC	**El Rosal**	**9.56**	**112**	*e*Pn	Pn	21 06 20.4	+3.7
FG6		**9.61**	**310**	*e*P	Pn	21 06 21.6	+4.3
JAT	**Jato**	**10.06**	**306**	*e*P	Pn	21 06 28.5	+5.4
MCJ	**Malvern**	**10.83**	**29**	*i* P	**Pn**	**21 06 33.8**	**+0.1**
THIG		**10.89**	**307**	P	Pn	21 06 39.8	+5.3
MTDJ	**Mount Denham**	**11.16**	**29**	*e*Pn	**Pn**	**21 06 36.7**	**-1.6**
HOJ	**Hope**	**11.38**	**33**	*e*P	**Pn**	**21 06 39.8**	**-1.4**
STH	**Stony Hill**	**11.40**	**33**	*i* P	**Pn**	**21 06 39.8**	**-1.8**
BBJ	**Bamboo Saint A**	**11.42**	**30**	*i* P	**Pn**	**21 06 41.8**	**0.0**
YHJ	**Yallahs**	**11.43**	**34**	*i* P	**Pn**	**21 06 41.9**	**0.0**
GWJ	**Greenwich**	**11.45**	**33**	*i* P	**Pn**	**21 06 42.1**	**-0.1**
PAYG	**Puerto Ayora**	**11.49**	**218**	*e*Pn	Pn	21 06 47.3	+4.5
	comp=Z,1μm,1.6s						
CCIG	**Comitan**	**11.63**	**313**	P	**Pn**	**21 06 45.9**	**+1.1**
CMJ	**Castle Mountai**	**11.69**	**34**	*i* P	**Pn**	**21 06 46.3**	**+0.9**
PCIG		**12.10**	**307**	P	**Pn**	**21 06 51.1**	**+0.1**
TEIG	**Tepich**	**12.64**	**338**	Pn	Pn	21 07 01.8	+3.3
	comp=Z,1.9nm,0.3s,baz=154,slow=10,SNR=14						
TEIG				LR	LR	21 12 02.4	
	comp=Z,41μm,18.3s,baz=13,slow=39						
TEIG	**Tepich**	**12.64**	**338**	*e*Pn	Pn	21 07 01.4	+2.9
TGIG		**12.67**	**312**	P	**Pn**	**21 06 58.1**	**-0.8**
GTBY	**Guantanamo Bay**	**13.83**	**34**	*e*Pn	**Pn**	**21 07 14.5**	**-0.2**
CMIG	**Matias Romero**	**14.20**	**308**	Pn	**Pn**	**21 07 18.2**	**-1.6**
	comp=Z,7.3nm,0.3s,baz=121,slow=9.6,SNR=49						
CMIG				Sn	**Sn**	**21 09 53.7**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=270,slow=20,SNR=4.0						
CMIG	**Matias Romero**	**14.20**	**308**	Pn	**Pn**	**21 07 18.2**	**-1.6**
CMIG				Sn	**Sn**	**21 09 53.7**	**-3.5**
HUIG	**Huatulco**	**14.50**	**301**	P	**Pn**	**21 07 21.3**	**-2.6**
SDDR	**Presa de Saban**	**15.60**	**47**	*e*Pn	**Pn**	**21 07 37.4**	**-1.2**
	comp=Z,329nm,0.8s						
VHO	**Vista Hermosa**	**15.67**	**304**	P	**Pn**	**21 07 39.4**	**-0.2**
ATAH	**Atahualpa**	**16.26**	**163**	Pn	**Pn**	**21 07 50.0**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=345,slow=11,SNR=27						
ATAH				LR	LR	21 13 25.1	
	comp=Z,54μm,19.7s,baz=339,slow=35						
ATAH	**Atahualpa**	**16.26**	**163**	Pn	**Pn**	**21 07 50.0**	**+2.6**
PNIG	**Pinotepa**	**16.51**	**300**	P	**Pn**	**21 07 47.3**	**-3.0**
TPIG	**Tehuac#an**	**16.89**	**307**	P	**Pn**	**21 07 55.0**	**-0.3**
UTMO	**Huajuapan**	**16.93**	**305**	P	**Pn**	**21 07 57.5**	**+1.7**
LVIG	**Laguna Verde**	**16.95**	**313**	P	Pn	21 07 49.7	-6.1
GRTK	**Grand Turk**	**17.43**	**41**	*e*Pn	**P**	**21 08 02.5**	**-0.5**
	comp=Z,389nm,1.0s						
PPM	**Popocatepetl**	**18.25**	**307**	P	**Pn**	**21 08 11.3**	**-1.1**
PPM	**Popocatepetl**	**18.25**	**307**	P	**Pn**	**21 08 11.3**	**-1.1**
CRPR	**Cabo Rojo, PR**	**18.32**	**57**	*e*P	**P**	**21 08 13.1**	**+0.2**
	comp=Z,564nm,1.4s						
MPR	**Mayaguez**	**18.40**	**57**	*e*P	**P**	**21 08 15.2**	**+1.5**
	comp=Z,190nm,0.9s						
LSP	**Las Mesas**	**18.43**	**57**	*e*P	**Pn**	**21 08 13.1**	**-1.1**
MEIG	**Mezcala**	**18.48**	**302**	P	**P**	**21 08 12.9**	**-1.8**
YAIG	**Yautepec**	**18.49**	**306**	P	**P**	**21 08 15.7**	**+0.7**
AGPR	**Aguadilla, PR**	**18.55**	**56**	*e*P	**Pn**	**21 08 16.1**	**+0.5**
	comp=Z,1μm,1.4s						
CAIG	**El Cayaco**	**18.64**	**299**	P	P	21 08 11.8	-4.6
LRS	**Lares**	**18.68**	**57**	*e*P	**Pn**	**21 08 17.6**	**+0.3**
LRS				*e*S	Sn	21 11 36.3	-10
OBIP	**Obispado Ponce**	**18.76**	**58**	*e*Pn	**Pn**	**21 08 19.8**	**+1.6**
	comp=Z,386nm,1.1s						
AOPR	**Arecibo Observ**	**18.78**	**57**	*e*Pn	**Pn**	**21 08 19.3**	**+0.8**
	comp=Z,300nm,0.8s						
CELP	**Cerrillos**	**18.80**	**58**	*e*Pn	**Pn**	**21 08 19.5**	**+0.9**
SJG	**San Juan**	**19.18**	**58**	P	**P**	**21 08 22.9**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=270,slow=7.0,SNR=39						
SJG				S	Sn	21 11 46.3	-12
	comp=Z,1.7nm,0.3s,baz=90,slow=20,SNR=3.5						
SJG				LR	LR	21 15 10.4	
	comp=Z,28μm,20.0s,baz=270,slow=36						
SJG	**San Juan**	**19.18**	**58**	*e*P	**P**	**21 08 22.9**	**+0.7**
SJG				S	Sn	21 11 46.4	-12
DEIG	**Demacu**	**19.26**	**309**	P	**P**	**21 08 24.3**	**+0.8**
HUMP	**Col San Antoni**	**19.44**	**59**	*e*Pn	**Pn**	**21 08 28.2**	**+1.8**
DWPF	**Disney**	**19.59**	**5**	*e*P	**P**	**21 08 27.0**	**+0.3**
	comp=Z,391nm,1.3s						
MTP	**Monte Pirata**	**19.68**	**59**	↓*e*P	**P**	**21 08 28.1**	**+0.4**
	comp=Z,976nm,1.4s						
MTP				*e*S	**S**	**21 12 09.8**	**+0.3**
ZIIG	**Zihuatanejo**	**19.91**	**299**	P	P	21 08 24.0	-6.3
CDVI	**St. Croix**	**20.20**	**61**	*e*P	**P**	**21 08 34.0**	**+0.5**
	comp=Z,854nm,0.9s						
CDVI				*e*Pn	Pn	21 08 35.9	+0.5
STVI	**Saint Thomas**	**20.30**	**59**	*e*P	**P**	**21 08 35.1**	**+0.6**
	comp=Z,289nm,0.9s						
MOIG	**Morelia**	**20.63**	**305**	P	**P**	**21 08 40.4**	**+2.0**
NNA	**Nana**	**21.32**	**163**	P	**P**	**21 08 47.4**	**+1.8**
	comp=Z,292nm,1.2s,baz=334,slow=10,SNR=39						
NNA	**Nana**	**21.32**	**163**	*e*P	**P**	**21 08 47.6**	**+2.0**
	comp=Z,595nm,1.3s						
NNA				LR	LR		
	comp=Z,10μm,19.0s						
GRW	**Mount Saint Ca**	**21.55**	**78**	*e*	**P**	**21 08 49.8**	**+1.6**
GRW	**Mount Saint Ca**	**21.55**	**78**	*e*P	**P**	**21 08 51.2**	**+3.0**
GRGR	**Grenville**	**21.55**	**78**	*e*P	**P**	**21 08 49.4**	**+1.2**
	comp=Z,4μm,1.5s						
GRGR				*e*S	Sn	21 12 52.3	-3.0
GRGR				LR	LR		
	comp=Z,6μm,19.0s						
GRHS	**Sauteurs**	**21.57**	**78**	*e*	**P**	**21 08 50.6**	**+2.2**
GRSS	**Sisters**	**21.61**	**78**	*e*P	**P**	**21 08 51.0**	**+2.2**
GRIC	**Isle de Caille**	**21.64**	**78**	*e*	**P**	**21 08 51.9**	**+2.8**
TRN	**Trinidad (W)**	**21.65**	**83**	*e*	**P**	**21 08 48.9**	**-0.3**
TBH	**Brigand Hill**	**21.97**	**83**	*e*	**P**	**21 08 54.7**	**+2.1**
LZG	**Guadaloupe-1**	**22.30**	**68**	*e*P	**P**	**21 08 57.2**	**+1.0**
TBG	**Guadaloupe-3**	**22.34**	**69**	*e*P	**P**	**21 08 57.8**	**+1.2**
PHG	**Guadaloupe-2**	**22.38**	**68**	*e*P	**P**	**21 08 58.6**	**+1.5**
DOG	**Dongo Capester**	**22.41**	**68**	*e*P	**P**	**21 08 58.6**	**+1.2**
FDF	**Fort de France**	**22.51**	**72**	*e*P	**P**	**21 08 58.5**	**0.0**
FDF				*e*S	**S**	**21 13 06.0**	**+0.8**
FDF				pmax	pmax		
	comp=Z,740nm,1.3s						
FDF				MLR	MLR		
	comp=Z,6μm,21.0s						
FDF	**Fort de France**	**22.51**	**72**	*e*P	**P**	**21 08 58.5**	**0.0**
	comp=Z,740nm,1.3s						
FDF				*e*S	**S**	**21 13 06.0**	**+0.8**
FDF				LR	LR		
	comp=Z,6μm,21.0s						
FDF	**Fort de France**	**22.51**	**72**	*e*P	**P**	**21 08 59.5**	**+1.0**
BPA	**Boggy Peak**	**22.51**	**66**	*e*P	**P**	**21 08 59.2**	**+0.7**
SEG	**Port Louis**	**22.62**	**68**	*e*P	**P**	**21 09 00.5**	**+0.8**
MGG	**Marie-Galante**	**22.66**	**69**	*e*P	**P**	**21 09 01.9**	**+2.0**
BRAL	**Brewton**	**22.69**	**351**	*e*P	**P**	**21 09 03.5**	**+3.4**
	comp=Z,3μm,2.1s						
BRAL				LR	LR		
	comp=Z,13μm,21.0s						
ANWB	**Willy Bob**	**22.79**	**64**	*e*P	**P**	**21 09 00.5**	**-0.8**
	comp=Z,336nm,0.9s						
ANWB				*e*S	**S**	**21 13 09.3**	**-0.8**
ANWB				LR	LR		
	comp=Z,10μm,21.0s						
KVTX	**Kingsville**	**23.48**	**326**	PFAKE		21 09 20.0	+12
KVTX				LR	LR		
	comp=Z,7μm,19.0s						
BBGH	**Gun Hill**	**23.72**	**77**	PFAKE		21 09 20.0	+9.2
BBGH				LR	LR		
	comp=Z,21μm,20.0s						
CJM	**Chamela**	**23.78**	**300**	P	**P**	**21 09 10.1**	**-1.2**
HKT	**Hockley**	**24.39**	**333**	*e*P	**P**	**21 09 16.7**	**-0.2**
HKT				pmax	pmax		
	comp=Z,613nm,2.2s						
HKT	**Hockley**	**24.39**	**333**	*e*P	**P**	**21 09 16.7**	**-0.2**
	comp=Z,613nm,2.2s						
VBMS	**Vicksburg**	**24.56**	**345**	*e*P	**P**	**21 09 19.2**	**+0.8**
	comp=Z,631nm,1.3s						
VBMS				LR	LR		
	comp=Z,8μm,22.0s						
NHSC	**New Hope**	**24.66**	**6**	*e*P	**P**	**21 09 20.4**	**+1.0**
	comp=Z,2μm,1.2s						
NHSC				LR	LR		
	comp=Z,22μm,20.0s						
LRAL	**Lakeview Retre**	**24.67**	**352**	*e*P	**P**	**21 09 19.6**	**+0.1**
	comp=Z,1μm,2.0s						
LRAL				LR	LR		
	comp=Z,9μm,20.0s						
GOGA	**Godfrey**	**24.80**	**360**

ARE	Arequipa	27.39	155	⇓	iP	P	21 09 47.0	+2.6	
ARE	Arequipa	27.39	155	⇓	iP	P	21 09 47.0	+2.6	
431A	Sonora	27.40	326	⇑	P	P	21 09 42.4	-1.8	
	baz=28,SNR=52								
530A	J-C Ranch, Com	27.41	324	⇓	P	P	21 09 43.1	-1.2	
	baz=28,SNR=34								
UALR	University of	27.46	344		eP	P	21 09 43.1	-1.5	
	comp=Z,268nm,1.1s								
MIAR	Mount Ida	27.61	341		eP	P	21 09 44.9	-1.1	
MIAR					pmax	pmax			
	comp=Z,224nm,1.1s								
MIAR					MLR	MLR			
	comp=Z,6µm,20.0s								
MIAR	Mount Ida	27.61	341		eP	P	21 09 44.9	-1.1	
	comp=Z,224nm,1.1s								
MIAR					LR	LR			
	comp=Z,6µm,20.0s								
HBAR	Harrisburg	27.78	347		eP	P	21 09 47.0	-0.5	
HBAR					ePcP	PcP	21 13 03.9	0.0	
HBAR					eS	S	21 14 30.0	+0.2	
430A	Baggett Ranch,	27.83	325	⇑	P	P	21 09 46.1	-2.0	
	baz=28,SNR=22								
WVT	Waverly	27.83	352		eP	P	21 09 46.1	-1.8	
WVT					e		21 13 02.8		
WVT					pmax	pmax			
	comp=Z,119nm,1.4s								
WVT	Waverly	27.83	352		eP	P	21 09 46.1	-1.8	
	comp=Z,119nm,1.4s								
WVT					ePcP	PcP	21 13 02.8	-1.2	
HALT	Halls	27.86	349		eP	P	21 09 47.6	-0.6	
529A	Stev Forest Ra	27.91	323	⇓	P	P	21 09 47.4	-1.4	
	baz=28,SNR=42								
TZTN	Tazewell	27.93	359		eP	P	21 09 48.6	-0.2	
	comp=Z,108nm,1.3s								
GNAR	Gosnell	28.04	348		eP	P	21 09 49.5	-0.3	
	comp=Z,4µm,1.2s								
429A	Davenport Ranc	28.08	324	⇑	P	P	21 09 48.9	-1.5	
	baz=28,SNR=47								
627A	Terlingua Ranc	28.15	320	⇑	P	P	21 09 50.4	-0.6	
	baz=28,SNR=35								
UTMT	University of	28.20	350		eP	P	21 09 49.7	-1.4	
	comp=Z,277nm,1.1s								
TXAR	Lajitas Array	28.24	320		P	P	21 09 51.9	+0.1	
	comp=Z,5.8nm,0.8s,baz=138,slow=9.6,SNR=19								
TXAR					PcP	PcP	21 13 05.9	+0.6	
	comp=Z,12nm,1.0s,baz=132,slow=3.5,SNR=6.9								
TXAR					ScP	ScP	21 16 47.0	+1.0	
	comp=Z,11nm,1.2s,baz=151,slow=2.9,SNR=11								
TXAR					LR	LR	21 25 01.9		
	comp=Z,4µm,18.2s,baz=25,slow=45								
TXAR	Lajitas Array	28.24	320		P	P	21 09 51.9	+0.1	
TXAR					PcP	PcP	21 13 05.9	+0.6	
TXAR					ScP	ScP	21 16 47.0	+1.0	
528A	Cox Ranch, San	28.27	322	⇑	P	P	21 09 51.3	-0.8	
	baz=28,SNR=46								
ABTX	Abilene, Hawle	28.42	330	⇑	P	P	21 09 51.8	-1.5	
	baz=28								
428A	Kincaid Ranch,	28.62	323	⇓	P	P	21 09 55.0	-0.2	
	baz=29,SNR=45								
PARMO	Parma	28.66	349		eP	P	21 09 54.1	-1.3	
626A	Big Bend Ranch	28.69	320	⇓	P	P	21 09 55.4	-0.5	
	baz=29,SNR=11								
BLA	Blacksburg	28.71	5		eP	P	21 09 55.8	0.0	
BLA					pmax	pmax			
	comp=Z,328nm,1.1s								
BLA					MLR	MLR			
	comp=Z,19µm,21.0s								
BLA	Blacksburg	28.71	5		eP	P	21 09 55.8	0.0	
	comp=Z,328nm,1.1s								
BLA					LR	LR			
	comp=Z,19µm,21.0s								
527A	Woodward Ranch	28.77	321	⇓	P	P	21 09 55.7	-0.9	
	baz=29,SNR=32								
329A	Wagon Wheel Ra	28.77	325	⇑	P	P	21 09 54.7	-1.8	
	baz=29,SNR=31								
VWCC	Virginia Weste	28.78	5		eP	P	21 09 56.5	+0.1	
LPAZ	La Paz	28.81	149		P	P	21 09 57.7	+0.2	
	comp=Z,30nm,1.1s,baz=339,slow=8.7,SNR=63								
LPAZ					LR	LR	21 23 10.1		
	comp=Z,11µm,18.8s,baz=307,slow=40								
LPAZ	La Paz	28.81	149		eP	P	21 09 58.4	+0.9	
	comp=Z,104nm,1.4s								
526A	Mary Lane Ranc	29.01	321	⇓	P	P	21 09 58.1	-0.6	
	baz=29,SNR=29								
229A	Bryant Ranch,	29.04	326	⇓	P	P	21 09 57.5	-1.3	
	baz=29								
427A	Hayter Ranch,	29.14	323	⇓	P	P	21 09 59.2	-0.5	
	baz=29,SNR=14								
328A	Wristen Ranch,	29.17	324	⇓	P	P	21 09 58.8	-1.2	
	baz=29,SNR=17								
BBSR	BB Station	29.34	33		PFAKE		21 10 10.0	+8.6	
BBSR					LR	LR			
	comp=Z,10µm,19.0s								
426A	McDonald Obser	29.39	321	⇑	P	P	21 10 01.2	-0.9	
	baz=30,SNR=33								
JSRW	J. Sargeant Re	29.48	9		eP	P	21 10 01.6	-0.9	
327A	Balmorhea Ranc	29.56	323	⇑	P	P	21 10 02.7	-0.8	
	baz=30								
129A	Stewart Farms,	29.58	327	⇓	P	P	21 10 01.5	-2.2	
	baz=30								
228A	UT Block 9, Go	29.59	325	⇓	P	P	21 10 01.4	-2.3	
	baz=30								
SIUC	Southern Illin	29.59	350		eP	P	21 10 02.4	-1.2	
	comp=Z,114nm,1.3s								
TUL1	Tulsa	29.60	339	⇓	P	P	21 10 01.9	-1.8	
	baz=30,SNR=6.4								
USIN	University of	29.62	353		eP	P	21 10 03.1	-0.7	
	comp=Z,517nm,1.7s								
WCI	Wyandotte Cave	29.74	355		eP	P	21 10 03.9	-1.0	
WCI					pmax	pmax			
	comp=Z,423nm,1.4s								
WCI	Wyandotte Cave	29.74	355		eP	P	21 10 03.9	-1.0	
	comp=Z,423nm,1.4s								
WMOK	Wichita Mounta	29.76	334		eP	P	21 10 04.7	-0.5	
WMOK					e		21 13 09.5		
WMOK					pmax	pmax			
	comp=Z,141nm,1.8s								
WMOK					MLR	MLR			
	comp=Z,5µm,20.0s								
WMOK	Wichita Mounta	29.76	334		eP	P	21 10 04.7	-0.5	
	comp=Z,141nm,1.8s								
WMOK					ePcP	PcP	21 13 09.5	+0.6	
WMOK					LR	LR			
	comp=Z,5µm,20.0s								
326A	Caldwell Ranch	29.82	322	⇓	P	P	21 10 04.8	-1.0	
	baz=30,SNR=19								
128A	Castleberry Fa	29.91	326	⇑	P	P	21 10 04.2	-2.3	
	baz=30,SNR=11								
227A	Bennet, Jal	29.91	324	⇓	P	P	21 10 04.6	-2.0	
	baz=30								
Z29A	Hungry Hill Ra	29.98	328	⇓	P	P	21 10 04.6	-2.5	
	baz=30								
CBN	Corbin	30.06	9		eP	P	21 10 09.0	+1.3	
	comp=Z,383nm,1.2s								
CBN					LR	LR			
	comp=Z,36µm,20.0s								
425A	Indio Mountain	30.07	320	⇓	P	P	21 10 07.3	-0.7	
	baz=30,SNR=27								
LPIG	La Paz	30.17	304		P	P	21 10 10.5	+1.7	
	comp=Z,6.0nm,0.7s,baz=130,slow=4.6,SNR=8.9								
LPIG	La Paz	30.17	304		P	P	21 10 10.5	+1.7	
Z28A	Tucker Farm, M	30.36	327	⇓	P	P	21 10 09.4	-1.2	
	baz=30								
Y29A	Porterfield Fa	30.43	329	⇑	P	P	21 10 10.0	-1.2	
	baz=30								
OLIL	Olney	30.43	352		eP	P	21 10 10.3	-0.7	
	comp=Z,454nm,1.4s								
OLIL					ePcP	PcP	21 13 12.4	+2.0	
127A	Arkansas Junct	30.44	325	⇑	P	P	21 10 09.3	-2.0	
	baz=30								
325A	Bean Ranch, Si	30.46	321	⇓	P	P	21 10 11.2	-0.4	
	baz=31,SNR=7.2								
SLM	Saint Louis	30.67	349		eP	P	21 10 11.8	-1.3	
SLM					pmax	pmax			
	comp=Z,126nm,0.8s								
SLM	Saint Louis	30.67	349		eP	P	21 10 11.8	-1.3	
	comp=Z,126nm,0.8s								
GDL2	Guadalupe Moun	30.67	323		eP	P	21 10 13.6	+0.2	
BLO	Bloomington	30.69	355		eP	P	21 10 12.4	-0.9	
BLO					pmax	pmax			
	comp=Z,122nm,0.9s								
BLO	Bloomington	30.69	355		eP	P	21 10 12.4	-0.9	
	comp=Z,122nm,0.9s								
Y28A	McKinney Farm,	30.76	328	⇓	P	P	21 10 11.7	-2.4	
	baz=31								
126A	Clayton Basin,	30.79	324	⇑	P	P	21 10 12.6	-1.9	
	baz=31,SNR=7.1								
324A	Moseley Ranch,	30.83	321	⇑	P	P	21 10 12.8	-2.0	
	baz=31,SNR=54								
Z27A	Tatum	30.83	326	⇑	P	P	21 10 12.9	-1.9	
	baz=31								
225A	Deer Hill, Car	30.88	323	⇓	P	P	21 10 14.8	-0.5	
	baz=31,SNR=16								
X29A	Tulia	30.90	329	⇓	P	P	21 10 13.3	-2.0	
	baz=31								
MNTX	Cornudas Mount	30.94	321		eP	P	21 10 13.1	-2.5	
	comp=Z,21nm,1.1s								
MNTX					LR	LR			
	comp=Z,2µm,20.0s								
MNTX	Cornudas Mount	30.94	321	⇑	P	P	21 10 13.8	-1.8	
	baz=31,SNR=20								
MSTX	Muleshoe	31.09	327	⇓	P	P	21 10 15.2	-1.8	
	baz=31								
125A	Gardner Draw,	31.17	323	⇑	P	P	21 10 15.9	-1.9	
	baz=31,SNR=38								
X28A	Dimmitt	31.21	329	⇑	P	P	21 10 16.2	-1.9	
	baz=31								
Z26A	Caprock	31.23	325	⇑	P	P	21 10 16.4	-1.9	
	baz=31,SNR=10								
AMTX	Amarillo	31.24	330		eP	P	21 10 19.4	+1.1	
	comp=Z,32nm,1.1s								
AMTX					LR	LR			
	comp=Z,4µm,21.0s								
AMTX	Amarillo	31.24	330	⇓	P	P	21 10 16.7	-1.6	
	baz=31								
224A	Cornudas Mount	31.28	322	⇓	P	P	21 10 17.6	-1.2	
	baz=31,SNR=20								
SDMD	Soldier's Deli	31.32	10		eP	P	21 10 19.4	+0.5	
	comp=Z,223nm,1.0s								
SDMD					ePcP	PcP	21 13 15.9	+3.1	
W29A	Amraillo	31.41	330	⇓	P	P	21 10 17.7	-2.1	
	baz=32								
ACSO	Alum Creek Sta	31.61	0		eP	P	21 10 20.8	-0.6	
	comp=Z,194nm,1.0s								
ACSO					LR	LR			
	comp=Z,18µm,21.0s								
Y26A	Elida	31.62	326	⇑	P	P	21 10 19.5	-2.3	
	baz=32								
Z25A	Roswell	31.66	324	⇓	P	P	21 10 20.6	-1.4	
	baz=32,SNR=14								
124A	Stringfield Ra	31.68	323	⇑	P	P	21 10 21.3	-1.1	
	baz=32,SNR=67								
X27A	F and S Farms,	31.78	328	⇑	P	P	21 10 21.5	-1.6	
	baz=32								
223A	Chaparral, Ant	31.80	321	⇑	P	P	21 10 22.1	-1.2	
	baz=32								
W28A	Vega	31.80	330	⇑	P	P	21 10 21.4	-1.9	
	baz=32								
SFIN	Scholer Farm	31.94	354	⇓	P	P	21 10 22.7	-1.5	
	baz=32,SNR=25								
V29A	Stinnett	31.96	331	⇓	P	P	21 10 22.6	-2.0	
	baz=32								
MVL	Millersville	31.98	10		eP	P	21 10 25.2	+0.6	
	comp=Z,389nm,1.1s								
Z24A	Sheeppen Canyo	32.07	324	⇓	P	P	21 10 24.9	-0.9	
	baz=32,SNR=16								
W27A	Bowe Ranch, En	32.08	328	⇑	P	P	21 10 24.2	-1.6	
	baz=32								
X26A	CR and CF Fran	32.09	327	⇓	P	P	21 10 24.5	-1.4	
	baz=32								
Y25A	Mesa, Roswell	32.11	325	⇓	P	P	21 10 24.4	-1.7	
	baz=32,SNR=8.5								
123A	Bell Site, Whi	32.12	322	⇓	P	P	21 10 26.0	-0.2	
	baz=32								
V28A	Channing	32.20	330	⇓	P	P	21 10 25.1	-1.7	
	baz=32								
222A	Williams Famil	32.29	320	⇓	P	P	21 10 27.3	-0.4	
	baz=32,SNR=16								
SSPA	Standing Stone	32.37	8		eP	P	21 10 28.2	+0.2	
	comp=Z,323nm,1.1s								
HDIL	Hopedale	32.38	351		eP	P	21 10 26.9	-1.2	
	comp=Z,682nm,1.7s								
HDIL					LR	LR			
	comp=Z,4µm,20.0s								
W26A	Owens Ranch, T	32.47	328	⇑	P	P	21 10 28.1	-1.1	
	baz=33								
X25A	Clemmons Ranch	32.53	326	⇑	P	P	21 10 27.6	-2.2	
	baz=33,SNR=22								
Y24A	Capitan	32.53	324	⇓	P	P	21 10 29.0	-0.9	
	baz=33,SNR=40								
Z23A	Rita Site, Whi	32.54	323	⇑	P	P	21 10 29.6	-0.2	
	baz=33,SNR=7.6								
122A	Conniff Cattle	32.62	321	⇓	P	P	21 10 29.8	-0.7	
	baz=33								
221A	Mesquite Ranch	32.66	319	⇓	P	P	21 10 30.9	0.0	
	baz=33								
320A	Kipp Ranch, An	32.73	317	⇑	P	P	21 10 32.7	+1.2	
	baz=33,SNR=55								
KSU1	Kansas State U	32.76	341		eP	P	21 10 30.6	-0.9	
	comp=Z,190nm,0.9s								
KSU1					LR	LR			
	comp=Z,6µm,19.0s								
Y23A	Lovelace Mesa,	32.90	324	⇓	P	P	21 10 32.5	-0.5	
	baz=33,SNR=31								
W25A	X Bar L Ranch,	32.94	327	⇓	P	P	21 10 31.7	-1.6	
	baz=33,SNR=16								
Z22A	Elephant Butte	32.98	322	⇓	P	P	21 10 33.3	-0.4	
	baz=33,SNR=18								
BRNJ	Basking Ridge	32.98	12		eP	P	21 10 34.3	+0.9	
X24A	Lazy VL Ranch,	32.99	325	⇓	P	P	21 10 33.1	-0.8	
	baz=33								
121A	Cookes Peak, D	33.01	320	⇑	P	P	21 10 34.0	+0.1	
	baz=33,SNR=27								
V26A	Tequesquite Ra	33.02	328	⇓	P	P	21 10 33.0	-1.0	
	baz=33								
220A	Playas Peak, P	33.08	318	⇑	P	P	21 10 34.6	-0.1	
	baz=33,SNR=76								
ALLY	Alegheny Colle	33.14	4		eP	P	21 10 35.2	+0.4	
	comp=Z,173nm,1.1s								
CPNY	Central Park	33.21	13		eP	P	21 10 37.6	+2.2	
	comp=Z,556nm,2.1s								
T28A	Walsh	33.25	332	⇓	P	P	21 10 34.3	-1.6	
	baz=33								
BNM	Barren Site	33.39	323		eP	P	21 10 37.5	+0.1	
	comp=Z,21nm,1.0s								
BNM					ePcP	PcP	21 13 19.6	+0.7	
PAL	Palisades	33.43	13		eP	P	21 10 38.4	+1.1	
PAL					pmax	pmax			
	comp=Z,340nm,1.2s								
PAL	Palisades	33.43	13		eP	P	21 10 38.4	+1.1	
	comp=Z,340nm,1.2s								
X23A	Hourglass Bar	33.44	324	⇓	P	P	21 10 37.4	-0.4	
	baz=34								
Y22A	Socorro	33.44	323	⇑	P	P	21 10 38.0	+0.2	
	baz=34,SNR=34								
Z21A	St. Cloud Mine	33.45	321	⇑	P	P	21 10 38.5	+0.7	
	baz=34,SNR=9.9								
W24A	Lazy 6 Ranch,	33.45	326	⇓	P	P	21 10 37.6	-0.2	
	baz=34,SNR=7.1								
U26A	Atchley Ranch,	33.46	329	⇑	P	P	21 10 36.8	-1.2	
	baz=34								
T27A	Campo	33.49	331	⇓	P	P	21 10 36.4	-1.7	
	baz=34								
V25A	Rancho No Teng	33.49	328	⇓	P	P	21 10 37.2	-1.0	
	baz=34,SNR=23								
LPM	Los Pinos Moun	33.51	323		eP	P	21 10 40.1	+1.8	
LPM					ePcP	PcP	21 13 21.4	+2.2	
Y22D	IRIS PASSCAL I	33.51	323	⇓	P	P	21 10 39.0	+0.6	
	baz=34								
120A	U Bar Ranch, L	33.56	319	⇓	P	P	21 10 39.7	+0.9	
	baz=34,SNR=68								
LENM	Lemitar	33.61	323		eP	P	21 10 42.5	+3.3	
LENM					ePcP	PcP	21 13 21.7	+2.2	
ERPA	Erie	33.62	4		eP	P	21 10 39.6	+0.7	
	comp=Z,176nm,1.3s								
ERPA					LR	LR			
	comp=Z,23µm,21.0s								
AAM	Ann Arbor	33.68	359		eP	P	21 10 41.8	+2.3	
AAM					pmax	pmax			
	comp=Z,63nm,1.1s								
AAM					MLR	MLR			
	comp=Z,23µm,20.0s								
AAM	Ann Arbor	33.68	359		eP	P	21 10 41.8	+2.3	
	comp=Z,63nm,1.1s								
AAM					LR	LR			
	comp=Z,23µm,20.0s								
V24A	Rampart Ranch,	33.76	327	⇓	P	P	21 10 39.7	-0.9	
	baz=34,SNR=8.4								
U25A	Circle Dot Ran	33.81	328	⇓	P	P	21 10 40.7	-0.2	
	baz=34,SNR=6.9								
W23A	Werner Place,	33.83	325	⇑	P	P	21 10 41.0	-0.2	
	baz=34								
ANMO	Albuquerque	33.85	324		P	P	21 10 40.8	-0.6	
	comp=Z,20nm,1.1s,baz=147,slow=8.7,SNR=13								
ANMO					PcP	PcP	21 13 20.7	+0.5	
	comp=Z,11nm,1.1s,baz=184,slow=9.4,SNR=3.1								
ANMO	Albuquerque	33.85	324		eP	P	21 10 41.1	-0.3	
	comp=Z,34nm,1.0s								
ANMO					PcP	PcP	21 13 20.7	+0.5	
ANMO					LR	LR			
	comp=Z,4µm,19.0s								
X22A	Bernardo	33.87	323	⇑	P	P	21 10 41.4	0.0	
	baz=34								
LAZ	Ladron	33.87	323		eP	P	21 10 41.6	+0.1	
	comp=Z,12nm,1.0s								
LAZ					ePP	PP	21 11 57.8	-0.5	
LAZ					ePcP	PcP	21 13 20.2	-0.1	
Z20A	Nine Sixteen R	33.90	320	⇓	P	P	21 10 42.9	+1.2	
	baz=34,SNR=86								
Y21A	Point of Rocks	33.92	322	⇓	P	P	21 10 41.9	-0.1	
	baz=34,SNR=56								
YLE	Yale	33.95	14		eP	P	21 10 41.2	-0.5	
	comp=Z,205nm,1.0s								
YLE					ePcP	PcP	21 13 20.0	0.0	
LVC	Limon Verde	33.95	156		eP	P	21 10 41.3	-1.0	
	comp=Z,18nm,1.4s								
LVC					LR	LR			
	comp=Z,226nm,19.0s								
T26A	Comanche Natio	34.00	330	⇑	P	P	21 10 41.3	-1.3	
	baz=34								
S27A	Las Animas	34.07	332	⇑	P	P	21 10 41.4	-1.7	
	baz=34								
W22A	Albuquerque	34.18	324	⇓	P	P	21 10 43.9	-0.3	
	baz=34								
BINY	Binghamton	34.18	10		eP	P	21 10 44.0	+0.2	
	comp=Z,360nm,1.3s								
BINY					LR	LR			
	comp=Z,22µm,19.0s								
U24A	Moreno Valley	34.27	327	⇓	P	P	21 10 44.8	-0.3	
	baz=34								
V23A	Ortiz Mt. (NFS	34.27	326	⇓	P	P	21 10 44.5	-0.5	
	baz=34								
X21A	Alamocita Cree	34.29	322	⇓	P	P	21 10 45.6	+0.4	
	baz=34,SNR=54								
Y20A	Horse Springs,	34.29	321	⇓	P	P	21 10 45.4	+0.2	
	baz=34,SNR=71								
S26A	Kim	34.29	331	⇓	P	P	21 10 43.9	-1.2	
	baz=34,SNR=7.9								
T25A	Trinidad	34.38	329	⇑	P	P	21 10 45.5	-0.5	
	baz=34								
SCIA	State Center	34.43	347		eP	P	21 10 44.7	-1.3	
	comp=Z,221nm,0.9s								
SCIA					ePcP	PcP	21 13 27.1	+5.7	
SCIA					LR	LR			
	comp=Z,6µm,20.0s								
R27A	Eads	34.51	332	⇓	P	P	21 10 45.5	-1.4	
	baz=35								
T24A	Torres, Weston	34.66	329	⇓	P	P	21 10 48.0	-0.4	
	baz=35								
W21A	San Fidel	34.67	323	⇓	P	P	21 10 48.5	+0.1	
	baz=35,SNR=11								
U23A	El Rito	34.70	326	⇓	P	P	21 10 48.4	-0.4	
	baz=35,SNR=5.2								
X20A	Quemado	34.78	322	⇑	P	P	21 10 50.4	+0.9	
	baz=35,SNR=12								
S25A	Robets Cordova	34.80	330	⇓	P	P	21 10 48.4	-1.0	
	baz=35,SNR=6.2								
V22A	San Miguel Ran	34.80	325	⇑	P	P	21 10 49.3	-0.3	
	baz=35								
R26A	Arlington	34.82	332	⇑	P	P	21 10 48.4	-1.2	
	baz=35								
TUC	Tucson	34.84	317		eP	P	21 10 50.6	+0.8	
TUC					pmax	pmax			
	comp=Z,77nm,1.1s								
TUC					MLR	MLR			
	comp=Z,7µm,19.0s								
TUC	Tucson	34.84	317		eP	P	21 10 50.5	+0.8	
	comp=Z,77nm,1.1s								
TUC					LR	LR			
	comp=Z,7µm,19.0s								
BRYW	Bryant College	34.87	15		eP	P	21 10 50.5	+0.8	
	comp=Z,118nm,1.1s								
KSCO	Kaye Shedlock'	35.02	333	⇑	P	P	21 10 50.3	-1.0	
	baz=35								
R25A	Fountain Ranch	35.10	331	⇓	P	P	21 10 51.2	-0.8	
	baz=35,SNR=7.4								
U22A	Llaves	35.11	326	⇑	P	P	21 10 51.9	-0.3	
	baz=35,SNR=27								
TRY	Troy	35.13	12		eP	P	21 10 51.9	-0.2	
	comp=Z,571nm,1.2s								
V21A	Milan	35.14	324	⇓	P	P	21 10 52.2	-0.3	
	baz=35,SNR=6.4								
T23A	Casias Ranch,	35.14	327	⇑	P	P	21 10 52.0	-0.6	
	baz=35								
S24A	Houchin Ranch,	35.17	329	⇓	P	P	21 10 52.3	-0.6	
	baz=35,SNR=5.1								
W20A	Ramah	35.18	323	⇑	P	P	21 10 52.9	0.0	
	baz=35,SNR=35								
BGNE	Belgrade	35.34	340	⇑	P	P	21 10 52.3	-1.7	
	baz=36,SNR=27								
Q26A	Hugo	35.35	332	⇓	P	P	21 10 53.5	-0.7	
	baz=36								
WES	Weston	35.36	15		eP	P	21 10 53.4	-0.6	
WES					e		21 13 23.8		
WES					pmax	pmax			
	comp=Z,156nm,1.1s								
WES	Weston	35.36	15		eP	P	21 10 53.4	-0.6	
	comp=Z,156nm,1.1s								
WES					ePcP	PcP	21 13 23.8	-0.3	
P27A	Ficken Ranch,	35.45	334	⇓	P	P	21 10 54.0	-1.0	
	baz=36								
R24A	Sanders Place,	35.57	330	⇓	P	P	21 10 55.0	-1.2	
	baz=36								
U21A	Nageezi	35.59	325	⇓	P	P	21 10 56.2	-0.2	
	baz=36,SNR=15								
T22A	Edith	35.59	327	⇑	P	P	21 10 56.1	-0.3	
	baz=36								
V20A	Brimhall	35.62	324	⇓	P	P	21 10 56.8	+0.2	
	baz=36,SNR=9.7								
S23A	Nye Farm, Mont	35.63	328	⇑	P	P	21 10 56.9	+0.2	
	baz=36								
X18A	Snowflake	35.68	320	⇑	P	P	21 10 57.3	+0.2	
	baz=36,SNR=16								
Q25A	Bedland, Calha	35.69	331	⇑	P	P	21 10 56.0	-1.2	
	baz=36								
ACCN	Adirondack Com	35.76	12		eP	P	21 10 57.9	+0.

U19A Dine' College, 36.39 323 ⇑P P 21 11 02.8 -0.5
baz=36,SNR=14
R22A Saguache, Gunn 36.41 328 ⇓P P 21 11 03.4 -0.1
baz=36
MDV Middlebury 36.45 12 eP P 21 11 04.0 +0.7
Q23A Hartsel 36.45 330 ⇑P P 21 11 03.7 -0.2
baz=37
N27A Anderson Farm, 36.47 335 ⇓P P 21 11 02.7 -1.0
baz=37,SNR=17
P24A Kohler Place, 36.48 331 ⇑P P 21 11 03.6 -0.3
baz=37
S21A Coal Bank Pass 36.55 326 ⇑P P 21 11 03.8 -0.9
baz=37
X16A Lo Mia Camp, P 36.56 319 ⇑P P 21 11 05.7 +1.0
baz=37,SNR=19
O25A Wiggins 36.59 333 ⇓P P 21 11 04.0 -0.8
baz=37
MVCO Mesa Verde 36.62 325 eP P 21 11 04.5 -0.8
MVCO LR LR
comp=Z,4µm,20.0s
MVCO Mesa Verde 36.62 325 ⇓P P 21 11 04.4 -0.8
baz=37,SNR=26
LONY Lake Ozonia 36.77 10 eP P 21 11 06.5 +0.4
comp=Z,203nm,1.3s
LONY LR LR
comp=Z,11µm,19.0s
N26A Koester Ranch, 36.78 334 ⇑P P 21 11 05.6 -0.7
baz=37
P23A Jefferson 36.82 330 ⇓P P 21 11 07.1 +0.1
baz=37,SNR=26
Z14A Wintersburg 36.93 316 ⇑P P 21 11 08.4 +0.8
baz=37,SNR=30
R21A Cimarron 36.94 327 ⇑P P 21 11 07.7 -0.2
baz=37
LBNH Lisbon 36.95 14 eP P 21 11 08.2 +0.5
LBNH e 21 12 34.9
LBNH e 21 13 28.5
LBNH pmax pmax
comp=Z,190nm,1.2s
LBNH MLR MLR
comp=Z,10µm,20.0s
LBNH Lisbon 36.95 14 eP P 21 11 08.2 +0.5
comp=Z,190nm,1.2s
LBNH ePP PP 21 12 34.9 +3.0
LBNH ePcP PcP 21 13 28.5 -0.3
LBNH LR LR
comp=Z,10µm,20.0s
Q22A Crested Butte, 36.97 329 ⇓P P 21 11 08.1 -0.1
baz=37,SNR=21
S20A Disappointment 36.98 326 ⇑P P 21 11 08.1 -0.2
baz=37,SNR=7.3
ECSD EROS Data Cent 37.00 344 eP P 21 11 05.5 -2.6
comp=Z,266nm,1.1s
ECSD LR LR
comp=Z,9µm,20.0s
M27A Reverse DX Ran 37.01 336 ⇑P P 21 11 07.7 -0.6
baz=37
O24A Longmont 37.03 332 ⇑P P 21 11 08.0 -0.6
baz=37
ISCO Idaho Springs 37.04 331 eP P 21 11 08.3 -0.5
ISCO pmax pmax
comp=Z,39nm,1.3s
ISCO MLR MLR
comp=Z,4µm,20.0s
ISCO Idaho Springs 37.04 331 eP P 21 11 08.3 -0.5
comp=Z,40nm,1.3s
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 37.04 331 ⇑P P 21 11 08.0 -0.8
baz=37,SNR=20
N25A Grover 37.14 333 ⇓P P 21 11 09.2 -0.3
baz=37
113A Mohawk Valley, 37.16 315 ⇑P P 21 11 10.7 +1.2
baz=37,SNR=40
FRNY Flat Rock 37.17 11 eP P 21 11 09.8 +0.3
comp=Z,212nm,1.4s
FRNY ePcP PcP 21 13 30.9 +1.4
WUAZ Wupatki 37.20 321 eP P 21 11 10.6 +0.5
comp=Z,35nm,0.9s
WUAZ ePP PP 21 12 34.7 -0.3
WUAZ LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 37.20 321 ⇓P P 21 11 11.2 +1.0
baz=37,SNR=22
SMCO Snowmass 37.24 329 eP P 21 11 10.9 +0.3
comp=Z,46nm,1.2s
R20A Redvale 37.25 326 ⇓P P 21 11 10.5 0.0
baz=37
M26A McRoberts Ranc 37.27 335 ⇓P P 21 11 09.8 -0.7
baz=37
Q21A Lamborn Mesa, 37.29 328 ⇓P P 21 11 10.3 -0.6
baz=37
Y14A Wickenburg 37.30 317 ⇑P P 21 11 11.6 +0.7
baz=37,SNR=74
PV01 Paradox Valley 37.32 326 eP P 21 11 11.1 -0.1
comp=Z,6µm,1.7s
PV01 ePP PP 21 12 36.6 +0.3
PV01 ePcP PcP 21 13 31.5 +1.1
P22A Eagle 37.44 330 ⇑P P 21 11 11.6 -0.6
baz=38,SNR=23
L27A T5 Ranch, Ells 37.45 336 ⇑P P 21 11 10.6 -1.4
baz=38,SNR=16
O23A Lake Granby, G 37.51 331 ⇓P P 21 11 12.1 -0.6
baz=38,SNR=6.5
N24A Carr 37.51 333 ⇓P P 21 11 12.5 -0.1
baz=38,SNR=17
SPMN St. Paul 37.52 349 ⇑P P 21 11 09.9 -2.6
baz=38,SNR=31
M25A Palm-Egli Farm 37.63 334 ⇓P P 21 11 13.0 -0.7
baz=38
PV04 Paradox Valley 37.69 326 eP P 21 11 14.6 +0.4
L26A Underwood Farm 37.72 336 ⇑P P 21 11 12.6 -1.7
baz=38,SNR=6.3
P21A Newcastle 37.74 329 ⇓P P 21 11 14.2 -0.5
baz=38,SNR=6.7
Q20A Ridgley Place, 37.76 327 ⇑P P 21 11 14.0 -0.8
baz=38
O22A Kremmling 37.77 330 ⇓P P 21 11 14.1 -0.9
baz=38,SNR=18
S18A Hurst Farm, Bl 37.81 324 ⇓P P 21 11 14.2 -1.1
baz=38,SNR=16
COWI Conover 37.82 353 eP P 21 11 12.8 -2.2
comp=Z,119nm,1.2s
COWI ePcP PcP 21 13 31.2 -0.2
COWI LR LR
comp=Z,8µm,21.0s
K27A Flueckinger Fa 37.95 337 ⇑P P 21 11 15.4 -0.8
baz=38,SNR=52
M24A Cheyenne 38.00 333 ⇑P P 21 11 15.7 -1.1
baz=38,SNR=13
N23A Red Feather La 38.05 332 ⇓P P 21 11 16.9 -0.5
baz=38,SNR=11
GLA Glamis 38.06 314 eP P 21 11 18.5 +1.2
GLA pmax pmax
comp=Z,294nm,1.2s
GLA Glamis 38.06 314 eP P 21 11 18.4 +1.2
comp=Z,294nm,1.2s
GLA Glamis 38.06 314 ⇑P P 21 11 18.5 +1.2
baz=38,SNR=116
PHWY Pilot Hill 38.15 333 eP P 21 11 17.6 -0.6
comp=Z,94nm,1.9s
PHWY ePcP PcP 21 13 34.4 +1.4
L25A Engebretsen Ra 38.18 335 ⇓P P 21 11 17.8 -0.5
baz=38
P20A De Beque 38.21 328 ⇓P P 21 11 18.2 -0.4
baz=38,SNR=13
N22A Wattenberg Ran 38.22 331 ⇑P P 21 11 18.0 -0.7
baz=38,SNR=7.3
Y12C Blythe 38.23 316 ⇑P P 21 11 19.9 +1.3
baz=38,SNR=53
S17A Black Ridge (B 38.24 324 ⇑P P 21 11 18.7 -0.1
baz=38,SNR=18
O21A Pagoda 38.27 330 ⇑P P 21 11 18.9 -0.3
baz=38
PDMCI Parker Dam,Lak 38.28 317 ⇑P P 21 11 20.2 +1.2
baz=38,SNR=62
Q19A Hogan Spring (38.28 326 ⇓P P 21 11 18.3 -0.9
baz=38,SNR=15
K26A Motz Farm, Whi 38.31 336 ⇑P P 21 11 17.9 -1.4
baz=38
BRSD Miller 38.33 342 ⇑P P 21 11 17.1 -2.2
baz=38,SNR=26
U15A North Rim 38.36 321 ⇑P P 21 11 20.5 +0.5
baz=38,SNR=42
M23A Laramie 38.40 332 ⇓P P 21 11 19.8 -0.4
baz=38
L24A Wheatland 38.51 334 ⇓P P 21 11 20.5 -0.5
baz=39,SNR=5.5

K25A Mack Ranch, Ha 38.52 335 ⇑P P 21 11 20.5 -0.6
baz=39,SNR=14
W13A Hualapai Mount 38.57 318 ⇑P P 21 11 23.1 +1.3
baz=39,SNR=80
O20A White River Ci 38.60 329 ⇓P P 21 11 21.9 0.0
baz=39
P19A Cripple Cowboy 38.62 328 ⇑P P 21 11 21.5 -0.6
baz=39
SWSC Sam W. Stewart 38.69 314 ⇑P P 21 11 24.0 +1.5
baz=39,SNR=31
N21A Black Mountain 38.71 330 ⇑P P 21 11 22.8 0.0
baz=39,SNR=14
M22A Cedar Creek Ra 38.76 332 ⇑P P 21 11 22.9 -0.3
baz=39,SNR=7.0
DVTC Desert V Tower 38.76 313 ⇓P P 21 11 25.2 +1.9
baz=39,SNR=38
BC3 Big Chuckawall 38.83 315 ⇓P P 21 11 24.5 +0.7
baz=39,SNR=67
IRM Iron Mountain 38.89 316 ⇓P P 21 11 25.2 +0.9
baz=39,SNR=62
L23A Garrett 38.91 333 ⇓P P 21 11 23.4 -1.0
baz=39,SNR=35
K24A Anderson Ranch 39.01 335 ⇓P P 21 11 24.6 -0.7
baz=39
SRU San Rafael 39.09 326 eP P 21 11 25.7 -0.3
SRU pmax pmax
comp=Z,29nm,0.9s
SRU San Rafael 39.09 326 eP P 21 11 25.7 -0.3
comp=Z,29nm,0.9s
SRU San Rafael 39.09 326 ⇓P P 21 11 25.4 -0.6
baz=39,SNR=22
MONP Monument Peak 39.11 313 ⇑P P 21 11 27.8 +1.5
baz=39,SNR=39
N20A Spence Gulch, 39.13 329 ⇑P P 21 11 25.9 -0.5
baz=39,SNR=18
L22A Ellis Ranch, M 39.17 332 ⇓P P 21 11 26.4 -0.3
baz=39,SNR=7.9
O19A Miners Draw (B 39.18 328 ⇓P P 21 11 25.5 -1.2
baz=39
BAR Barrett 39.19 313 eP P 21 11 28.6 +1.8
comp=Z,178nm,1.5s
LCO Las Campanas 39.20 162 eP P 21 11 27.2 +0.2
comp=Z,111nm,1.1s
LCO ePcP PcP 21 13 36.7 +0.4
LCO LR LR
comp=Z,3µm,20.0s
M21A Separation Pea 39.28 331 ⇑P P 21 11 27.1 -0.5
baz=39,SNR=20
P18A Preston Nutter 39.30 326 ⇓P P 21 11 26.0 -1.9
baz=39
Q16A Castle Valley 39.32 325 ⇑P P 21 11 27.6 -0.4
baz=39
LDFC Landfair 39.38 317 eP P 21 11 30.3 +1.9
comp=Z,148nm,1.0s
LDFC ePcP PcP 21 13 36.8 +0.1
K23A Bowen Ranch, D 39.38 334 ⇓P P 21 11 27.4 -0.9
baz=40,SNR=13
BELC Belle Mtn. Jos 39.40 315 ⇑P P 21 11 29.7 +1.1
baz=40,SNR=89
J24A Dixon Ranch, L 39.44 335 ⇓P P 21 11 28.3 -0.5
baz=40,SNR=9.3
P17A Butcher Ranch, 39.46 326 ⇑P P 21 11 28.9 -0.2
baz=40,SNR=5.6
PFO Pinyon Flat Ob 39.51 314 eP P 21 11 29.7 +0.2
comp=Z,201nm,1.1s
PFO LR LR
comp=Z,7µm,20.0s
PFO Pinyon Flat Ob 39.51 314 P P 21 11 31.5 +2.0
comp=Z,602nm,1.1s,SNR=26
PFO Pinyon Flat Ob 39.51 314 ⇓P P 21 11 31.0 +1.5
baz=40,SNR=91
L21A Rawlins 39.56 331 ⇓P P 21 11 29.0 -0.9
baz=40,SNR=37
GMRC Granite Mounta 39.59 316 ⇑P P 21 11 31.3 +1.1
baz=40,SNR=43
M20A Sweetwater, Wa 39.59 330 ⇑P P 21 11 29.7 -0.5
baz=40
TMUT Trail Mountain 39.60 325 eP P 21 11 30.9 +0.5
comp=Z,25nm,1.0s
109C Camp Elliot, M 39.61 313 ⇑P P 21 11 31.4 +1.2
baz=40,SNR=9.3
O18A Roosevelt 39.62 327 ⇓P P 21 11 30.5 +0.1
baz=40
MSU Marysvale 39.63 323 eP P 21 11 31.3 +0.7
MSU Marysvale 39.63 323 eP P 21 11 31.3 +0.7
N19A John Jarvie Ra 39.64 329 ⇑P P 21 11 29.4 -1.2
baz=40
MVU Marysvale 39.65 323 eP P 21 11 31.3 +0.5
comp=Z,22nm,0.9s
MVU LR LR
comp=Z,3µm,19.0s
K22A Casper 39.70 333 ⇑P P 21 11 30.7 -0.3
baz=40,SNR=15
CCUT Cedar City 39.73 321 eP P 21 11 32.9 +1.5
comp=Z,31nm,1.3s
RSSD Black Hills 39.84 336 eP P 21 11 31.7 -0.6
RSSD pmax pmax
comp=Z,97nm,1.3s
RSSD Black Hills 39.84 336 eP P 21 11 31.7 -0.6
comp=Z,97nm,1.3s
I24A Kuemmerle Ranc 39.86 336 ⇑P P 21 11 31.6 -0.7
baz=40
J23A Dilts Ranch, B 39.88 334 ⇓P P 21 11 32.0 -0.4
baz=40
ARUT Antelope Range 39.93 322 eP P 21 11 33.2 +0.2
ARUT pmax pmax
comp=Z,40nm,1.0s
ARUT Antelope Range 39.93 322 eP P 21 11 33.2 +0.2
comp=Z,40nm,1.0s
EYMN Ely 39.94 351 eP P 21 11 29.7 -3.0
comp=Z,72nm,1.1s
EYMN LR LR
comp=Z,5µm,21.0s
N18A Larsen Ranch, 39.96 328 ⇑P P 21 11 32.3 -1.0
baz=40
O17A Robinson Place 39.97 327 ⇓P P 21 11 33.2 -0.2
baz=40,SNR=12
K21A Alcova 40.02 332 ⇓P P 21 11 33.0 -0.8
baz=40
MURC Murrieta 40.04 314 ⇑P P 21 11 35.0 +1.2
baz=40,SNR=28
L20A Wauwatter 40.05 331 ⇑P P 21 11 33.2 -0.8
baz=40,SNR=6.8
P16A Fountain Green 40.07 325 ⇓P P 21 11 34.4 +0.2
baz=40
HEC Hector,Ludlow 40.07 316 ⇑P P 21 11 35.5 +1.3
baz=40,SNR=33
M19A Rock Springs 40.08 329 ⇑P P 21 11 32.9 -1.3
baz=40
TUQ Turquoise Moun 40.13 317 ⇓P P 21 11 35.4 +0.7
baz=40,SNR=34
BBRC Big Bear Solar 40.18 315 ⇑P P 21 11 36.8 +1.6
baz=40
TLL Tololo Astrono 40.25 163 eP P 21 11 37.1 +1.3
J22A Midwest 40.29 334 ⇑P P 21 11 34.9 -0.9
baz=40,SNR=53
I23A Meade Ranch, G 40.29 335 ⇑P P 21 11 35.5 -0.4
baz=40
MPU Maple Canyon 40.34 326 eP P 21 11 37.2 +0.8
comp=Z,35nm,1.1s
MPU ePcP PcP 21 13 41.8 +2.0
P15A Leamington 40.40 325 ⇓P P 21 11 36.7 -0.1
baz=40,SNR=11
DAU Daniels Canyon 40.40 326 eP P 21 11 37.1 0.0
DAU Daniels Canyon 40.40 326 eP P 21 11 37.1 0.0
M18A Lyman 40.49 328 ⇓P P 21 11 36.6 -1.1
baz=41,SNR=6.4
R13A O'Grain Ranch, 40.50 322 ⇑P P 21 11 38.1 +0.4
baz=41,SNR=60
N17A Moffit Pass 40.55 327 ⇓P P 21 11 38.2 0.0
baz=41
K20A Yellowstone Ra 40.55 331 ⇓P P 21 11 36.8 -1.3
baz=41,SNR=13
RRX Edison Barstow 40.56 315 ⇓P P 21 11 39.7 +1.6
baz=41
H24A Dirks Ranch, A 40.57 337 ⇓P P 21 11 37.0 -1.2
baz=41,SNR=50
L19A Farson 40.62 330 ⇓P P 21 11 38.2 -0.6
baz=41
SHOC Shoshone 40.63 317 ⇑P P 21 11 39.7 +1.0
baz=41,SNR=12
JLU Jordanelle 40.64 326 eP P 21 11 39.6 +0.7
comp=Z,123nm,2.1s
GSC Goldstone 40.66 316 eP P 21 11 40.6 +1.6
GSC pmax pmax
comp=Z,139nm,1.2s
GSC Goldstone 40.66 316 eP P 21 11 40.6 +1.6
comp=Z,139nm,1.2s

GSC Goldstone 40.66 316 ⇑P P 21 11 40.4 +1.4
baz=41,SNR=31
J21A Lysite 40.67 333 ⇓P P 21 11 38.6 -0.5
baz=41,SNR=38
I22A 9 Mile Ranch, 40.67 334 ⇓P P 21 11 38.2 -0.8
baz=41,SNR=6.9
BFSC Mount Baldy Ra 40.69 314 ⇑P P 21 11 40.4 +1.1
baz=41,SNR=27
SCI San Clemente I 40.71 312 ⇓P P 21 11 40.5 +1.2
baz=41,SNR=13
H23A Clabaugh Cattl 40.76 336 ⇓P P 21 11 39.0 -0.7
baz=41
CIS Catalina Islan 40.81 313 ⇓P P 21 11 40.9 +0.7
baz=41,SNR=52
N16A Rees Ranch, Co 40.83 327 ⇓P P 21 11 39.7 -0.8
baz=41
M17A Scullys Gap (B 40.84 328 ⇓P P 21 11 39.6 -0.9
baz=41,SNR=22
L18A Fontenelle, Gr 40.84 329 ⇓P P 21 11 40.0 -0.5
baz=41,SNR=11
CTU Camp Tracy 40.87 326 eP P 21 11 43.8 +3.0
comp=Z,40nm,1.0s
FMP Fort Macarthur 40.88 313 ⇓P P 21 11 42.0 +1.2
baz=41
K19A Absolon Red Bu 40.92 331 ⇓P P 21 11 39.4 -1.8
baz=41,SNR=39
I21A Big Trails, Te 40.96 333 ⇓P P 21 11 39.8 -1.7
baz=41,SNR=26
J20A Shoshoni 40.96 332 ⇑P P 21 11 41.0 -0.5
baz=41,SNR=7.2
MWC Mount Wilson 40.97 314 eP P 21 11 43.5 +1.8
MWC pmax pmax
comp=Z,171nm,1.3s
MWC Mount Wilson 40.97 314 eP P 21 11 43.5 +1.8
comp=Z,171nm,1.3s
O15A The Old Anders 40.98 325 ⇓P P 21 11 41.7 0.0
baz=41,SNR=8.0
G24A Alzada 41.00 337 ⇓P P 21 11 40.9 -0.8
baz=41,SNR=8.3
PASC Pasadena Art C 41.03 314 eP P 21 11 43.5 +1.5
comp=Z,365nm,1.6s
AGMN Agassiz Nation 41.08 347 eP P 21 11 38.5 -3.7
comp=Z,214nm,1.4s
AGMN LR LR
comp=Z,5µm,20.0s
DUG Dugway 41.12 325 eP P 21 11 43.0 +0.2
DUG e 21 13 44.3
DUG pmax pmax
comp=Z,43nm,1.4s
DUG MLR MLR
comp=Z,5µm,19.0s
DUG Dugway 41.12 325 eP P 21 11 43.0 +0.2
comp=Z,43nm,1.4s
DUG ePcP PcP 21 13 44.2 +2.0
DUG LR LR
comp=Z,5µm,19.0s
DUG Dugway 41.12 325 ⇓P P 21 11 43.1 +0.2
baz=41,SNR=20
DECC Green Verdugo 41.18 314 ⇑P P 21 11 44.9 +1.7
baz=41
H22A Clearmont 41.18 335 ⇑P P 21 11 42.2 -1.0
baz=41,SNR=5.6
BW06 Boulder Array 41.22 330 eP P 21 11 42.5 -1.2
comp=Z,43nm,1.4s
BW06 LR LR
comp=Z,5µm,21.0s
BW06 Boulder Array 41.22 330 ⇑P P 21 11 42.5 -1.2
baz=41,SNR=32
PDAR Pinedale Array 41.22 330 P P 21 11 42.2 -1.5
comp=Z,22nm,1.2s,baz=138,slow=9.1,SNR=25
PDAR PcP PcP 21 13 42.5 -0.1
comp=Z,27nm,1.1s,baz=134,slow=4.3,SNR=10
PDAR LR LR 21 32 08.3
comp=Z,4µm,20.4s,baz=132,slow=41
PDAR Pinedale Array 41.22 330 P P 21 11 42.2 -1.5
PDAR PcP PcP 21 13 42.5 -0.1
EDW2 Edwards Air Fo 41.26 315 ⇑P P 21 11 44.7 +0.8
baz=41,SNR=61
G23A Biddle 41.28 336 ⇑P P 21 11 43.9 -0.1
baz=41,SNR=20
FURC Furnace Creek, 41.34 318 ⇑P P 21 11 45.9 +1.5
baz=41,SNR=30
J19A Crowheart 41.35 331 ⇓P P 21 11 43.7 -1.0
baz=42,SNR=14
LRMC Laurel Mountai 41.36 316 ⇓P P 21 11 46.0 +1.2
baz=41,SNR=126
K18A Toltan Ranch, 41.36 330 ⇓P P 21 11 44.5 -0.3
baz=42,SNR=39
L17A Cokeville 41.39 329 ⇑P P 21 11 43.9 -1.2
baz=42,SNR=15
HWUT Hardware Ranch 41.40 327 eP P 21 11 44.6 -0.6
comp=Z,39nm,0.9s
HWUT LR LR
comp=Z,4µm,20.0s
N15A Stansbury Isla 41.43 326 ⇓P P 21 11 44.9 -0.4
baz=42
I20A Worland 41.45 333 ⇑P P 21 11 44.5 -0.9
baz=42
F24A Ekalaka 41.45 338 ⇓P P 21 11 44.1 -1.3
baz=42,SNR=17
H21A Big Horn, Sher 41.50 334 ⇓P P 21 11 44.7 -1.1
baz=42
MPMC Manual Prospec 41.54 317 ⇑P P 21 11 47.4 +1.0
baz=42,SNR=107
R11A Troy Canyon, C 41.60 321 ⇓P P 21 11 47.5 +0.6
baz=42,SNR=53
MDND Maddock 41.61 343 ⇓P P 21 11 44.8 -1.7
baz=42,SNR=127
L16A Fish Haven 41.62 328 ⇓P P 21 11 46.2 -0.7
baz=42,SNR=23
BLG Laguna Peak 41.63 313 ⇓P P 21 11 47.7 +0.7
baz=42
OSI Osito Adit 41.64 314 eP P 21 11 47.6 +0.6
comp=Z,125nm,0.9s
OSI Osito Adit 41.64 314 ⇓P P 21 11 48.5 +1.4
baz=42,SNR=11
G22A Birney 41.66 335 ⇓P P 21 11 45.9 -1.2
baz=42
F23A Volborg 41.72 337 ⇑P P 21 11 46.4 -1.1
baz=42,SNR=37
DAC Darwin (Calif) 41.73 317 eP P 21 11 48.6 +0.7
DAC e 21 13 24.6
DAC e 21 13 44.5
DAC pmax pmax
comp=Z,75nm,1.0s
DAC MLR MLR
comp=Z,5µm,20.0s
DAC Darwin (Calif) 41.73 317 eP P 21 11 48.6 +0.7
comp=Z,75nm,1.0s
DAC ePP PP 21 13 24.6 +0.2
DAC ePcP PcP 21 13 44.5 +0.1
DAC LR LR
comp=Z,5µm,20.0s
J18A Kendall Valley 41.78 330 ⇓P P 21 11 47.4 -0.9
baz=42,SNR=46
M15A Larsen Ranch, 41.78 327 ⇓P P 21 11 47.5 -0.7
baz=42,SNR=18
H20A Greybull 41.81 333 ⇓P P 21 11 46.8 -1.5
baz=42,SNR=25
K17A Gardner Place, 41.89 329 ⇓P P 21 11 48.3 -0.8
baz=42
I19A Meeteetse 41.91 332 ⇑P P 21 11 48.5 -0.8
baz=42,SNR=20
GRAC Grapevine Rang 41.97 318 ⇓P P 21 11 51.2 +1.4
baz=42,SNR=19
ARVC Arvin 41.98 315 ⇓P P 21 11 51.6 +1.9
baz=42,SNR=25
AHID Auburn Hatcher 41.99 329 eP P 21 11 50.4 +0.4
comp=Z,34nm,1.2s
AHID LR LR
comp=Z,4µm,21.0s
BSC Santa Cruz Isl 41.99 313 ⇑P P 21 11 51.3 +1.4
baz=42,SNR=23
ISA Isabella 42.00 315 eP P 21 11 51.1 +1.1
ISA pmax pmax
comp=Z,844nm,2.4s
ISA Isabella 42.00 315 eP P 21 11 51.1 +1.1
comp=Z,844nm,2.4s
ISA Isabella 42.00 315 ⇓P P 21 11 51.3 +1.3
baz=42,SNR=69
E24A Baker 42.00 338 ⇓P P 21 11 48.4 -1.5
baz=42,SNR=26
I18A Diamond G Ranc 42.05 331 ⇓P P 21 11 49.8 -0.6
baz=42
G21A Lodge Grass 42.05 335 ⇑P P 21 11 48.8 -1.5
baz=42,SNR=5.1
F22A Rosebud 42.10 336 ⇑P P 21 11 49.8 -0.9
baz=42,SNR=39

L15A **Malad City** 42.12 327 ⇑P P 21 11 50.4 -0.6
baz=42,SNR=31
CWC **Cottonwood Cre** 42.14 317 ⇑P P 21 11 52.6 +1.3
baz=42,SNR=20
HVU **Hansel Valley** 42.17 327 eP P 21 11 51.8 +0.4
HVU pmax pmax
comp=Z,20nm,1.0s
HVU **Hansel Valley** 42.17 327 eP P 21 11 51.8 +0.4
comp=Z,20nm,1.0s
SBC **Santa Barbara** 42.27 313 ⇓P P 21 11 52.2 +0.1
baz=42
K16A **Soda Springs** 42.29 329 ⇓P P 21 11 51.4 -1.0
baz=42,SNR=5.7
REDW **Red Top Meadow** 42.30 330 eP P 21 11 52.0 -0.5
comp=Z,75nm,1.3s
E23A **Ismay** 42.32 337 ⇓P P 21 11 51.1 -1.4
baz=42,SNR=7.5
SNOW **Snow King Moun** 42.32 330 eP P 21 11 52.5 -0.3
comp=Z,51nm,1.2s
BDFB **Brasilia** 42.34 124 P P 21 11 52.3 -0.7
comp=Z,64nm,1.0s,baz=283,slow=9.6,SNR=44
BDFB LR LR 21 30 04.1
comp=Z,11µm,19.6s,baz=115,slow=37
BDFB **Brasilia** 42.34 124 P P 21 11 52.3 -0.7
H19A **Powell** 42.39 333 ⇓P P 21 11 51.6 -1.6
baz=42
TPAW **Teton Pass** 42.44 330 eP P 21 11 53.6 -0.1
comp=Z,40nm,1.2s
G20A **Bridger** 42.48 334 ⇑P P 21 11 52.3 -1.5
baz=43,SNR=51
D24A **Glendive** 42.48 339 ⇓P P 21 11 52.6 -1.1
baz=43,SNR=72
TPH **Tonopah** 42.48 319 PFAKE 21 12 10.0 +16
TPH LR LR
comp=Z,5µm,20.0s
F21A **Absaloka Mine,** 42.49 335 ⇑P P 21 11 52.3 -1.6
baz=43
VES **Vestal, Richgr** 42.52 315 ⇑P P 21 11 55.4 +1.3
baz=43,SNR=32
RRI2 **Red Ridge** 42.52 329 eP P 21 11 53.8 -0.6
comp=Z,110nm,1.8s
E22A **Miles City** 42.52 337 ⇓P P 21 11 52.2 -1.9
baz=43,SNR=15
PKM **Peak Mountain** 42.56 314 ⇓P P 21 11 55.0 +0.3
baz=43,SNR=69
I17A **Pilgrim Ck.** 42.57 331 ⇓P P 21 11 54.0 -0.7
baz=43,SNR=27
TIN **Tinemaha** 42.58 317 ⇑P P 21 11 55.6 +0.9
baz=43,SNR=28
L14A **Malta** 42.60 327 ⇓P P 21 11 53.8 -1.1
baz=43,SNR=20
J16A **Bone** 42.62 329 ⇓P P 21 11 54.6 -0.5
baz=43,SNR=28
DCID1 **Drake Creek** 42.63 330 eP P 21 11 58.8 +3.6
comp=Z,34nm,1.0s
K15A **Arbon** 42.67 328 ⇑P P 21 11 54.9 -0.6
baz=43,SNR=18
H18A **Shoshone NF, C** 42.71 332 ⇑P P 21 11 54.5 -1.3
baz=43
IMW **Indian Meadow** 42.73 330 eP P 21 11 55.3 -0.8
comp=Z,34nm,1.3s
IMW ePcP PcP 21 13 48.4 +0.7
FLWY **Flagg Ranch** 42.75 331 eP P 21 11 55.7 -0.5
comp=Z,42nm,1.0s
CPUP **Villa Florida** 42.80 145 P P 21 11 55.3 -1.1
comp=Z,27nm,1.1s,baz=315,slow=8.5,SNR=13
CPUP PcP PcP 21 13 47.4 -0.3
comp=Z,8.9nm,0.8s,baz=70,slow=1.3,SNR=3.6
CPUP LR LR 21 31 38.3
comp=Z,7µm,19.5s,baz=200,slow=39
CPUP **Villa Florida** 42.80 145 P P 21 11 55.3 -1.1
CPUP PcP PcP 21 13 47.4 -0.3
C24A **Savage** 42.87 339 ⇓P P 21 11 56.3 -0.6
baz=43,SNR=19
RCTC **Rector, Farmer** 42.87 316 ⇑P P 21 11 58.1 +1.2
baz=43,SNR=14
RLMT **Red Lodge** 42.87 333 eP P 21 11 56.0 -1.1
comp=Z,36nm,0.9s
RLMT LR LR
comp=Z,7µm,22.0s
RLMT **Red Lodge** 42.87 333 ⇓P P 21 11 56.1 -1.1
baz=43,SNR=42
ELK **Elko** 42.88 324 eP P 21 11 57.5 +0.3
SMMC **Simmler** 42.90 314 ⇑P P 21 11 58.4 +1.2
baz=43,SNR=60
F20A **Billings** 42.91 334 ⇑P P 21 11 56.0 -1.2
baz=43,SNR=8.2
K14A **Jones Ranch, D** 42.92 327 ⇓P P 21 11 56.5 -0.9
baz=43,SNR=19
H17A **Grant Village** 42.93 331 ⇑P P 21 11 57.4 -0.2
baz=43
ULM **Lac du Bonnet** 42.94 348 P P 21 11 54.0 -3.2
comp=Z,154nm,1.1s,baz=163,slow=7.4,SNR=63
ULM PcP PcP 21 13 48.0 +0.2
comp=Z,26nm,0.9s,baz=182,slow=4.9,SNR=3.6
ULM LR LR 21 31 57.7
comp=Z,4µm,18.1s,baz=159,slow=39
ULM **Lac du Bonnet** 42.94 348 eP P 21 11 54.0 -3.2
comp=Z,146nm,0.9s
ULM PcP PcP 21 13 48.0 +0.2
MTUM **Tungsten Hills** 42.96 317 eP P 21 11 59.5 +1.6
LKWY **Lake** 42.97 331 PFAKE 21 12 10.0 +12
LKWY LR LR
comp=Z,8µm,21.0s
I16A **Newdale** 42.99 330 ⇓P P 21 11 57.6 -0.4
baz=43
E21A **Keefer Ranch,** 43.05 336 ⇑P P 21 11 57.1 -1.3
baz=43
YFT **Old Faithful** 43.09 331 eP P 21 11 59.3 +0.3
comp=Z,43nm,1.2s
YFT ePcP PcP 21 13 51.6 +2.8
J15A **Blackfoot** 43.12 329 ⇓P P 21 11 58.5 -0.6
baz=43,SNR=56
G18A **Lazy EL Ranch,** 43.15 333 ⇓P P 21 11 58.2 -1.1
baz=43,SNR=37
D22A **Cohagen** 43.20 337 ⇑P P 21 11 58.7 -0.9
baz=43,SNR=51
PTRM **Twissleman Ran** 43.22 314 eP P 21 12 04.0 +4.2
YNR **Norris Junctio** 43.22 331 eP P 21 12 00.1 +0.2
comp=Z,20nm,1.2s
YNR ePcP PcP 21 13 50.3 +1.1
NV11 **Mina Array Sit** 43.29 319 eP P 21 12 01.5 +1.0
NV11 ePcP PcP 21 13 50.2 +0.7
F19A **Roth Farm, Mol** 43.29 334 ⇓P P 21 11 59.0 -1.4
baz=43,SNR=69
MLAC **Mammoth Lakes** 43.30 318 ⇓P P 21 12 01.3 +0.6
baz=43
YMR **Madison River** 43.32 331 eP P 21 12 00.3 -0.4
comp=Z,42nm,1.1s
YMR ePcP PcP 21 13 50.6 +1.1
C23A **Lambert** 43.37 338 ⇑P P 21 12 00.2 -0.7
baz=44,SNR=81
FCH **Farellones** 43.37 164⇑iP P 21 12 02.0 +0.6
NVAR **Mina Array Bea** 43.39 319 P P 21 12 02.7 +1.3
comp=Z,84nm,1.0s,baz=135,slow=6.5,SNR=150
NVAR PcP PcP 21 13 50.6 +0.7
comp=Z,8.9nm,0.8s,baz=140,slow=2.8,SNR=3.8
NVAR LR LR 21 31 38.2
comp=Z,5µm,19.9s,baz=230,slow=38
NVAR **Mina Array Bea** 43.39 319 P P 21 12 02.7 +1.3
NVAR PcP PcP 21 13 50.6 +0.7
D21A **La Casta Ranch** 43.45 336 ⇓P P 21 12 01.0 -0.5
baz=44,SNR=13
E20A **Meyer Farm, Mu** 43.46 335 ⇓P P 21 12 00.9 -0.8
baz=44,SNR=77
H16A **Russell Place,** 43.48 331 ⇓P P 21 12 01.5 -0.6
baz=44
RPN **Rapa Nui** 43.51 215 PFAKE 21 12 10.0 +7.8
RPN LR LR
comp=Z,13µm,19.0s
GCMT **Greycliff** 43.56 333 eP P 21 12 01.4 -1.2
comp=Z,35nm,1.1s
GCMT ePcP PcP 21 13 50.2 0.0
C22A **Vida** 43.58 338 ⇓P P 21 12 01.6 -1.0
baz=44,SNR=84
DGMT **Dagmar** 43.59 340 eP P 21 11 54.5 -8.2
comp=Z,262nm,0.9s
DGMT LR LR
comp=Z,5µm,20.0s
DGMT **Dagmar** 43.59 340 ⇑P P 21 12 01.4 -1.3
baz=44,SNR=34
QLMT **Earthquake Lak** 43.66 331 eP P 21 12 03.9 +0.4
QLMT ePcP PcP 21 13 53.2 +2.6
F18A **Big Timber** 43.67 333 ⇑P P 21 12 02.6 -0.9
baz=44,SNR=65
G17A **Pierce Place,** 43.70 332 ⇓P P 21 12 03.5 -0.2
baz=44,SNR=19
E19A **Rath Farm, Rou** 43.70 334 ⇑P P 21 12 02.9 -0.7
baz=44,SNR=31
B23A **Brockton** 43.86 339 ⇓P P 21 12 04.2 -0.7
baz=44,SNR=63
BMN **Battle Mountai** 43.87 322 eP P 21 12 05.8 +0.6
BMN pmax pmax
comp=Z,104nm,0.9s
BMN MLR MLR
comp=Z,4µm,19.0s
BMN **Battle Mountai** 43.87 322 eP P 21 12 05.8 +0.6
comp=Z,104nm,0.9s
BMN LR LR
comp=Z,4µm,19.0s
A24A **Westby** 43.92 340 ⇓P P 21 12 04.6 -0.7
baz=44,SNR=41
D20A **Manuel Ranch,** 43.93 336 ⇑P P 21 12 04.4 -1.0
baz=44,SNR=40
J13A **Cove Ranch, Pi** 44.04 327 ⇑P P 21 12 05.8 -0.7
baz=44,SNR=32
B22A **Reddig Ranch S** 44.09 338 ⇓P P 21 12 06.0 -0.7
baz=44,SNR=41
F17A **Fitzpatrick Pl** 44.10 332 ⇑P P 21 12 06.5 -0.5
baz=44,SNR=52
H15A **Lima** 44.10 330 ⇓P P 21 12 06.9 -0.1
baz=44,SNR=95
C21A **Desert Coulee** 44.11 337 ⇓P P 21 12 06.1 -0.7
baz=44,SNR=31
G16A **Moss Hill, Enn** 44.13 331 ⇑P P 21 12 06.8 -0.4
baz=44,SNR=16
A23A **Redstone** 44.25 340 ⇑P P 21 12 07.2 -0.7
baz=44,SNR=21
E18A **Harlowton** 44.27 334 ⇓P P 21 12 07.2 -1.0
baz=44,SNR=25
HLID **Hailey** 44.27 327 eP P 21 12 08.1 -0.3
comp=Z,21nm,0.9s
HLID LR LR
comp=Z,3µm,19.0s
HLID **Hailey** 44.27 327 ⇓P P 21 12 07.9 -0.5
baz=44,SNR=33
D19A **Cripps Ranch,** 44.30 335 ⇑P P 21 12 07.7 -0.7
baz=44,SNR=42
MCMT **McKenzie Canyo** 44.35 330 eP P 21 12 08.8 -0.3
comp=Z,20nm,1.1s
MCMT ePP PP 21 13 53.0 +0.5
BOZ **Bozeman (W)** 44.36 332 eP P 21 12 08.0 -1.0
BOZ pmax pmax
comp=Z,30nm,1.1s
BOZ MLR MLR
comp=Z,5µm,22.0s
BOZ **Bozeman (W)** 44.36 332 eP P 21 12 08.0 -1.0
comp=Z,30nm,1.1s
BOZ LR LR
comp=Z,5µm,22.0s
BOZ **Bozeman (W)** 44.36 332 ⇑P P 21 12 08.3 -0.7
baz=44,SNR=35
I13A **Wildhorse Cree** 44.36 328 ⇑P P 21 12 08.6 -0.5
baz=44,SNR=72
C20A **Veseth Ranch,** 44.38 336 ⇑P P 21 12 08.1 -0.9
baz=44,SNR=25
G15A **Dillon** 44.42 330 ⇑P P 21 12 09.0 -0.5
baz=44,SNR=30
F16A **Kennard Place,** 44.46 332 ⇓P P 21 12 09.3 -0.4
baz=45
H14A **Leadore** 44.46 329 ⇑P P 21 12 09.7 -0.2
baz=45,SNR=75
CMB **Columbia Colle** 44.55 317 eP P 21 12 11.9 +1.4
CMB pmax pmax
comp=Z,73nm,1.3s
CMB **Columbia Colle** 44.55 317 eP P 21 12 11.9 +1.4
comp=Z,73nm,1.3s
B21A **Ellsworth Farm** 44.57 338 ⇓P P 21 12 09.6 -1.0
baz=45,SNR=6.1
E17A **Martinsdale** 44.61 333 ⇑P P 21 12 09.8 -1.2
baz=45,SNR=31
DLMT **Dillon** 44.61 331 eP P 21 12 10.8 -0.2
comp=Z,32nm,1.1s
SAO **San Andreas Ge** 44.63 315 eP P 21 12 12.2 +1.0
SAO pmax pmax
comp=Z,747nm,2.4s
SAO **San Andreas Ge** 44.63 315 eP P 21 12 12.2 +1.0
comp=Z,747nm,2.4s
A22A **Carney Farms,** 44.64 339 ⇓P P 21 12 10.6 -0.5
baz=45,SNR=56
D18A **Linhart Farms,** 44.71 334 ⇓P P 21 12 10.8 -1.0
baz=45,SNR=26
WCN **Washoe City** 44.81 319 eP P 21 12 14.4 +1.6
WCN pmax pmax
comp=Z,153nm,1.9s
WCN **Washoe City** 44.81 319 eP P 21 12 14.4 +1.6
comp=Z,153nm,1.9s
C19A **Slack Wire Ran** 44.82 335 ⇓P P 21 12 11.9 -0.7
baz=45,SNR=45
LRM **Limekiln Ridge** 44.88 331 eP P 21 12 12.7 -0.5
H13A **Challis** 44.88 329 ⇑P P 21 12 12.8 -0.4
baz=45
F15A **Butte** 44.91 331 ⇓P P 21 12 12.4 -1.0
baz=45,SNR=29
MFID **Camas Ranch** 44.94 326 eP P 21 12 13.5 -0.2
comp=Z,430nm,2.8s
MFID **Camas Ranch** 44.94 326 ⇓P P 21 12 13.0 -0.7
baz=45,SNR=17
G14A **Jackson** 44.95 330 ⇓P P 21 12 12.5 -1.3
baz=45,SNR=11
B20A **Solberg Farm,** 44.97 337 ⇑P P 21 12 12.8 -0.9
baz=45,SNR=5.2
A21A **Bergtoll Ranch** 45.00 338 ⇑P P 21 12 13.5 -0.5
baz=45,SNR=64
E16A **East Helena** 45.04 332 ⇑P P 21 12 13.7 -0.7
baz=45,SNR=36
D17A **Six Diamond Ra** 45.06 334 ⇑P P 21 12 13.4 -1.2
baz=45,SNR=87
H12A **Diamond D Ranc** 45.18 328 ⇓P P 21 12 15.3 -0.3
baz=45,SNR=58
G13A **Cobalt** 45.23 329 ⇓P P 21 12 14.9 -1.1
baz=45,SNR=30
HRY **Holter Researc** 45.24 332 eP P 21 12 15.4 -0.6
A20A **Cobblestone Ra** 45.29 337 ⇓P P 21 12 15.3 -1.0
baz=45,SNR=52
F14A **Wisdom** 45.31 330 ⇓P P 21 12 16.0 -0.7
baz=45
EGMT **Eagleton** 45.34 335 eP P 21 12 15.9 -0.8
comp=Z,48nm,0.9s
EGMT **Eagleton** 45.34 335 ⇑P P 21 12 15.7 -0.9
baz=46,SNR=29
B19A **Brinkman Farms** 45.35 336 ⇑P P 21 12 16.2 -0.5
baz=46,SNR=14
D16A **Dana Ranch, Ca** 45.35 333 ⇑P P 21 12 16.3 -0.5
baz=46,SNR=40
E15A **Deer Lodge** 45.41 332 ⇓P P 21 12 16.4 -1.0
baz=46,SNR=20
C17A **Wharram Farm,** 45.46 334 ⇑P P 21 12 16.8 -0.8
baz=46,SNR=69
B18A **Beardsley Farm** 45.64 335 ⇓P P 21 12 18.4 -0.7
baz=46,SNR=31
A19A **Klindworth Far** 45.65 337 ⇑P P 21 12 18.3 -0.8
baz=46,SNR=19
SAC **San Andreas** 45.71 315 eP P 21 12 20.0 +0.3
SAC pmax pmax
comp=Z,114nm,0.9s
SAC **San Andreas** 45.71 315 eP P 21 12 20.0 +0.3
comp=Z,114nm,0.9s
F13A **Darby** 45.77 330 ⇑P P 21 12 19.5 -0.7
baz=46,SNR=59
D15A **Lincoln** 45.80 332 ⇑P P 21 12 19.6 -0.8
baz=46,SNR=24
E14A **Clinton** 45.81 331 ⇑P P 21 12 19.4 -1.1
baz=46,SNR=26
G12A **Big Creek, Yel** 45.82 328 ⇑P P 21 12 19.4 -1.3
baz=46,SNR=27
OHCM **Honcut** 45.96 318 eP P 21 12 22.6 +1.0
B17A **L&G Farms, Che** 45.98 335 ⇓P P 21 12 20.5 -1.3
baz=46,SNR=38
DRLN **Deer Lake** 46.01 23 eP P 21 12 21.0 -0.8
comp=Z,182nm,1.3s
C16A **Fuhringer Ranc** 46.02 333 ⇑P P 21 12 21.4 -0.8
baz=46,SNR=30
CHMT **Chamberlain Mo** 46.05 332 eP P 21 12 21.4 -1.1
A18A **Metzger Ranch,** 46.08 336 ⇓P P 21 12 21.4 -1.1
baz=46,SNR=34
E13A **Victor** 46.16 330 ⇓P P 21 12 22.3 -0.9
baz=46,SNR=32
F12A **Elk City** 46.21 329 ⇓P P 21 12 23.0 -0.8
baz=46,SNR=106
D14A **Greenough** 46.29 332 ⇑P P 21 12 23.4 -0.9
baz=46,SNR=6.3
MCCM **Marconi Confer** 46.30 316 eP P 21 12 24.5 +0.2
comp=Z,196nm,1.1s
MSO **Missoula** 46.32 331 eP P 21 12 23.7 -0.8
comp=Z,18nm,1.0s
MSO LR LR
comp=Z,4µm,22.0s
MSO **Missoula** 46.32 331 ⇑P P 21 12 23.4 -1.1
baz=46
C15A **Salmond Ranch,** 46.39 333 ⇑P P 21 12 24.2 -0.8
baz=46,SNR=66
SLMT **Seeley Lake** 46.40 332 eP P 21 12 23.8 -1.5
A17A **Triple J Farms** 46.45 335 ⇓P P 21 12 24.3 -1.2
baz=47,SNR=35
B16A **M & M Farms, S** 46.47 334 ⇓P P 21 12 24.1 -1.5
baz=47,SNR=38
MOD **Modoc** 46.62 322 eP P 21 12 27.0 +0.1
comp=Z,57nm,1.2s
LBCM **Butte Creek Ri** 46.67 320 P P 21 12 27.9 +0.5
BMO **Blue Mountains** 46.69 327 eP P 21 12 25.8 -1.6
comp=Z,23nm,1.1s
BMO LR LR
comp=Z,3µm,19.0s
D13A **Huson** 46.76 331 ⇑P P 21 12 27.1 -0.8
baz=47,SNR=27
B15A **Bradely Ranch,** 46.77 333 ⇑P P 21 12 27.1 -0.9
baz=47,SNR=55
E12A **Beaver Dam Sad** 46.83 330 ⇓P P 21 12 27.4 -1.1
baz=47,SNR=41
SWMT **Swartz Lake** 46.83 332 eP P 21 12 28.9 +0.3
HOPS **Hopland** 46.85 317 eP P 21 12 28.5 -0.2
comp=Z,70nm,1.3s
HOPS ePcP PcP 21 14 02.2 +0.7
C14A **Swan Lake** 46.90 332 ⇓P P 21 12 28.2 -0.9
baz=47
YBMT **Yellow Bay** 47.09 332 eP P 21 12 30.2 -0.4
comp=Z,9.4nm,0.8s
YBMT ePcP PcP 21 14 01.1 -1.3
B14A **Marquette Ranc** 47.12 333 ⇓P P 21 12 29.5 -1.3
baz=47,SNR=22
JTMT **Jette** 47.14 332 eP P 21 12 30.1 -0.8
C13A **Hot Springs** 47.23 331 ⇑P P 21 12 31.0 -0.5
baz=47,SNR=20
WDC **Whiskeytown Da** 47.30 319 eP P 21 12 30.3 -1.9
WDC e 21 14 02.9
WDC pmax pmax
comp=Z,26nm,1.1s
WDC **Whiskeytown Da** 47.30 319 eP P 21 12 30.3 -1.9
comp=Z,26nm,1.1s
WDC ePcP PcP 21 14 02.9 -0.2
A15A **Johnson Ranch,** 47.34 334 ⇓P P 21 12 31.3 -1.1
baz=47,SNR=68
SPB **Sao Paulo** 47.35 133 eP P 21 12 31.4 -1.4
comp=Z,53nm,1.3s
SPB ePcP PcP 21 14 04.3 +0.7
SPB LR LR
comp=Z,5µm,21.0s
BLMT **Blacktail Moun** 47.37 332 eP P 21 12 32.9 +0.1
BSMT **Bassoo Peak** 47.45 331 eP P 21 12 32.4 -1.0
KIPM **Iron Peak** 47.53 318 eP P 21 12 35.4 +1.2
comp=Z,148nm,1.0s
KCPM **Cahto Peak** 47.54 317 eP P 21 12 35.3 +1.1
comp=Z,119nm,1.4s
KCPM ePcP PcP 21 14 04.9 +0.8
A14A **Double T Ranch** 47.64 333 ⇑P P 21 12 34.0 -0.8
baz=48,SNR=50
HOG **Hogback Mounta** 47.67 321 P P 21 12 36.1 +0.9
B13A **Whitefish** 47.67 332 ⇑P P 21 12 34.3 -0.7
baz=48,SNR=36
C12B **Naegeli Ranch,** 47.68 331 ⇓P P 21 12 34.4 -0.6
baz=48,SNR=35
WALA **Waterton Lakes** 47.92 333 eP P 21 12 36.1 -0.9
comp=Z,1.3nm,1.0s
WALA e 21 12 51.0
WALA ePcP PcP 21 14 05.0 -0.3
YBH **Yreka Blue Hor** 48.02 320 eP P 21 12 36.8 -1.0
comp=Z,36nm,1.1s
YBH ePcP PcP 21 14 05.8 0.0
SCHQ **Schefferville** 48.04 13 P P 21 12 35.5 -2.2
comp=Z,111nm,1.0s,baz=201,slow=6.2,SNR=58
SCHQ PcP PcP 21 14 05.7 +0.2
comp=Z,18nm,0.6s,baz=197,slow=3.6,SNR=4.8
SCHQ LR LR 21 33 45.4
comp=Z,8µm,19.7s,baz=204,slow=37
SCHQ **Schefferville** 48.04 13 eP P 21 12 35.5 -2.2
comp=Z,167nm,1.1s
SCHQ PcP PcP 21 14 05.7 +0.2
SCHQ ePcP PcP 21 14 05.9 +0.4
SCHQ ePP PP 21 14 31.2 +1.4
KHMM **Horse Mountain** 48.23 319 eP P 21 12 40.8 +1.3
comp=Z,815nm,2.2s
B12A **Libby** 48.27 332 ⇓P P 21 12 39.1 -0.5
baz=48,SNR=12
FFC **Flin Flon** 48.48 346 eP P 21 12 38.6 -2.4
FFC pmax pmax
comp=Z,62nm,0.9s
FFC MLR MLR
comp=Z,5µm,19.0s
FFC **Flin Flon** 48.48 346 eP P 21 12 38.6 -2.4
comp=Z,62nm,0.9s
FFC LR LR
comp=Z,5µm,19.0s
A12A **Yaak River Ran** 48.63 332 ⇑P P 21 12 42.2 -0.1
baz=49,SNR=13
KRMB **Red Mountain** 48.68 319 eP P 21 12 44.3 +1.3
comp=Z,397nm,1.9s
NEW **Newport** 48.86 330 P P 21 12 42.8 -1.3
comp=Z,22nm,0.9s,baz=144,slow=8.1,SNR=28
NEW LR LR 21 35 24.2
comp=Z,4µm,20.8s,baz=144,slow=39
NEW **Newport** 48.86 330 eP P 21 12 43.0 -1.2
comp=Z,25nm,0.9s
NEW **Newport** 48.86 330 ⇑P P 21 12 43.0 -1.2
baz=49,SNR=24
HAWA **Hanford** 48.87 327 eP P 21 12 43.9 -0.3
comp=Z,241nm,2.6s
HAWA LR LR
comp=Z,3µm,20.0s
KBO **Bosley Butte** 49.23 320 eP P 21 12 47.8 +0.6
comp=Z,301nm,1.0s
BROR **Big Rock Looko** 49.25 323 P P 21 12 47.5 +0.3
VFP **Flag Point** 49.29 325 P P 21 12 47.6 0.0
RCBR **Riachuelo** 49.31 105 eP P 21 12 47.1 -0.9
comp=Z,86nm,1.2s
RCBR LR LR
comp=Z,8µm,20.0s
LPA **La Plata** 49.36 152ceP P 21 12 48.0 0.0
LPA PPP PPP 21 15 44.0
LPA PSP PSP 21 20 12.0
LPA SS SS 21 23 41.0 +15
VLL **Laurance Lake** 49.49 325 P P 21 12 49.0 -0.1
KEBM **Edson Butte** 49.65 321 eP P 21 12 52.4 +2.1
comp=Z,175nm,1.1s
RNO **Roman Nose** 49.83 322 P P 21 12 52.7 +1.0
COR **Corvallis** 49.94 323 eP P 21 12 54.1 +1.7
COR pmax pmax
comp=Z,94nm,1.0s
COR **Corvallis** 49.94 323 eP P 21 12 54.1 +1.7
comp=Z,94nm,1.0s
MPOR **Mary's Peak** 50.04 323 P P 21 12 54.4 +1.1
ETW **Entiat** 50.06 328 P P 21 12 53.5 +0.1
LON **Longmire** 50.33 326 eP P 21 12 54.8 -0.6
LON pmax pmax
comp=Z,17nm,0.9s
LON **Longmire** 50.33 326 eP P 21 12 54.8 -0.6
comp=Z,17nm,0.9s
PLCA **Paso Flores** 50.36 167 P P 21 12 55.8 +0.2
comp=Z,90nm,0.9s,baz=341,slow=8.7,SNR=96
PLCA **Paso Flores** 50.36 167 eP P 21 12 55.8 +0.2
comp=Z,224nm,1.2s
PLCA ePcP PcP 21 14 14.5 +0.3
TRQA **Tornquist** 50.38 158⇑eP P 21 12 55.2 -0.6
comp=Z,199nm,1.5s
TRQA ePcP PcP 21 14 14.6 +0.4
TRQA LR LR
comp=Z,4µm,21.0s
NLWA **Neilton Lookou** 51.85 326 eP P 21 13 06.3 -0.4
comp=Z,54nm,1.0s
NLWA LR LR
comp=Z,5µm,21.0s
PGC **Sidney** 52.35 327 eP P 21 13 10.6 +0.1
comp=Z,1.2nm,0.8s
COYC **Coyhaique** 54.74 170 eP P 21 13 28.2 +0.3
FRB **Frobisher Bay** 56.16 8 P P 21 13 34.9 -3.0
comp=Z,115nm,1.2s,baz=207,slow=7.8,SNR=51
FRB LR LR 21 37 59.6
comp=Z,10µm,19.7s,baz=82,slow=36
FRB **Frobisher Bay** 56.16 8 P P 21 13 34.9 -3.0
BBB **Bella Bella** 56.82 329 P P 21 13 43.7 +0.9
comp=Z,23nm,0.8s,baz=102,slow=2.6,SNR=6.5

BBB Bella Bella 56.82 329 P **P** 21 13 43.7 +0.9
YKA Yellowknife Ar 58.53 344 P **P** 21 13 52.6 -2.1
comp=Z,34nm,0.7s,baz=139,slow=7.2,SNR=122
YKA PcP **PcP** 21 14 45.3 +0.4
comp=Z,14nm,0.8s,baz=142,slow=4.7,SNR=6.4
YKA PKPPKP **P'P'df** 21 43 33.0 -1.5
comp=Z,1.2nm,1.0s,baz=311,slow=2.4,SNR=6.3
YKA PKP2bc 21 43 42.7
comp=Z,2.0nm,1.1s,baz=307,slow=8.2,SNR=8.9
YKA Yellowknife Ar 58.53 344 P **P** 21 13 52.6 -2.1
YKA PcP **PcP** 21 14 45.4 +0.4
YKA P'P' 21 43 33.0
YKA ⇑*e* 21 43 42.8
YKW3 Yellowknife Ar 58.59 344 *e*P P 21 13 52.8 -2.3
comp=Z,1.0nm,0.8s
YKW3 *e*PcP **PcP** 21 14 45.0 -0.2
YKW3 *e*PP **PP** 21 16 03.5 -1.2
SACV Santiago Islan 58.61 78 PFAKE 21 14 10.0 +14
SACV LR LR
comp=Z,2µm,22.0s
CMLA Cha da Macela 59.47 51 PFAKE 21 14 10.0 +8.3
CMLA LR LR
comp=Z,3µm,19.0s
RKT Rikitea 59.55 237 *e*P **P** 21 14 04.8 +2.4
comp=Z,116nm,1.3s
RKT *e*S **S** 21 22 11.7 -0.4
comp=Z,6µm,29.5s
RKT *e*LQ LQ 21 29 11.7
comp=Z,1µm,37.0s
RKT *e*LR LR 21 31 38.5
comp=Z,10µm,25.8s,baz=58
DLBC Dease Lake 61.25 334 P **P** 21 14 13.8 +0.3
comp=Z,28nm,0.9s,baz=119,slow=4.5,SNR=30
DLBC LR LR 21 44 13.0
comp=Z,5µm,20.4s,baz=120,slow=40
DLBC Dease Lake 61.25 334 *e*P **P** 21 14 13.9 +0.4
DLBC *e*PcP **PcP** 21 14 57.0 +1.0
DLBC *e*PP **PP** 21 16 28.4 0.0
SFJD Kangerlussuaq 62.47 14 P P 21 14 18.0 -3.5
comp=Z,34nm,1.0s,baz=203,slow=6.9,SNR=10
SFJD LR LR 21 42 35.4
comp=Z,8µm,18.9s,baz=218,slow=37
SFJD Kangerlussuaq 62.47 14 *e*P P 21 14 18.7 -2.8
comp=Z,59nm,1.1s
SFJD Kangerlussuaq 62.47 14 *i*P P 21 14 18.3 -3.2
comp=Z,26nm,0.9s
EFI East Falkland 63.73 163 PFAKE 21 14 40.0 +10
EFI LR LR
comp=Z,4µm,19.0s
PMOZ Porto Moniz, M 65.34 58 *e*S **S** 21 23 30.5 +5.4
PMOZ *e*LR LR 21 34 42.2
comp=Z,2µm,22.0s
BBTS Babate 65.46 78 LR LR 21 40 18.4
comp=Z,2µm,21.4s,baz=271,slow=34
PMPST Porto Santo, M 66.09 58 *e*P **P** 21 14 46.3 +0.4
comp=Z,209nm,1.4s
RES Resolute Bay 66.50 357 P P 21 14 45.4 -2.3
comp=Z,79nm,1.1s,baz=188,slow=8.1,SNR=50
RES Resolute Bay 66.50 357 *e*P P 21 14 45.3 -2.4
comp=Z,72nm,1.0s
DAWY Dawson 68.03 337 *e*P **P** 21 14 57.0 -0.8
DAWY *e*PcP **PcP** 21 15 23.3 -0.6
DAWY *e*PP PP 21 17 33.4 +5.7
PMOR Pomariorio Ree 68.19 250 *e*P **P** 21 15 00.3 +0.9
comp=Z,131nm,1.1s
INK Inuvik 68.21 342 P **P** 21 14 57.8 -0.8
comp=Z,53nm,0.9s,baz=124,slow=6.1,SNR=66
INK PKP2bc 21 43 17.7
comp=Z,3.2nm,1.1s,baz=283,slow=4.5,SNR=3.4
INK LR LR 21 47 48.9
comp=Z,8µm,18.3s,baz=119,slow=39
INK Inuvik 68.21 342 P **P** 21 14 57.8 -0.8
INK ⇑*e* 21 43 17.7
BMRM Bremner River 68.94 333 *e*P **P** 21 15 03.2 -0.2
comp=Z,84nm,1.0s
EGAK Eagle 69.04 337 *e*P **P** 21 15 02.7 -1.3
comp=Z,67nm,0.9s
EGAK *e*PcP **PcP** 21 15 28.0 0.0
EGAK LR LR
comp=Z,3µm,22.0s
SUMG Summit 69.43 13 *e*P **P** 21 15 04.7 -2.0
SUMG pmax pmax
comp=Z,89nm,0.8s
SUMG Summit 69.43 13 *e*P **P** 21 15 04.7 -2.0
comp=Z,89nm,0.8s
SUMG Summit 69.43 13 *i*P P 21 15 04.3 -2.4
comp=Z,105nm,0.9s
DIV Divide 69.53 333 *e*P **P** 21 15 07.3 +0.2
comp=Z,69nm,0.9s
DOT Dot Lake 69.73 335 *e*P **P** 21 15 08.5 +0.2
comp=Z,64nm,0.8s
DOT *e*PcP **PcP** 21 15 31.4 +0.5
PAX Paxson 70.06 335 *e*P **P** 21 15 09.8 -0.6
PAX pmax pmax
comp=Z,54nm,0.9s
PAX Paxson 70.06 335 *e*P **P** 21 15 09.8 -0.6
comp=Z,54nm,0.9s
TIAR Tiarei 70.22 248 *e*P **P** 21 15 13.6 +1.5
comp=Z,69nm,1.0s
PPT Papeete 70.44 248 LR LR 21 39 25.3
comp=Z,3µm,18.2s,baz=32,slow=30
PPT2 Papeete2 70.44 248 *e*PP PP 21 17 47.9 -1.8
comp=Z,258nm,24.5s
PPT2 *e*S **S** 21 24 25.5 -1.0
comp=Z,2µm,25.5s
PPT2 *e*SS **SS** 21 28 57.3 -0.5
comp=Z,1µm,28.8s
PPT2 *e*LR LR 21 36 43.8
comp=Z,3µm,21.0s,baz=52
PAE Paea 70.46 248 *e*P **P** 21 15 15.1 +1.6
comp=Z,20nm,1.1s
BORG Borgarnes 70.60 24 PFAKE 21 15 20.0 +6.5
BORG LR LR
comp=Z,9µm,19.0s
SML Sawmill 70.92 333 *e*P **P** 21 15 15.2 -0.4
SML pmax pmax
comp=Z,28nm,1.0s
SML Sawmill 70.92 333 *e*P **P** 21 15 15.2 -0.4
comp=Z,28nm,1.0s
SEW Seward 70.92 331 *e*P **P** 21 15 14.8 -0.8
comp=Z,109nm,0.9s
SEW *e*PcP **PcP** 21 15 35.7 -0.3
PMR Palmer 71.21 333 *e*P **P** 21 15 16.8 -0.5
PMR pmax pmax
comp=Z,28nm,0.8s
PMR Palmer 71.21 333 *e*P **P** 21 15 16.8 -0.5
comp=Z,28nm,0.8s
ILAR Eielson Array 71.29 336 P **P** 21 15 16.7 -1.1
comp=Z,89nm,0.9s,baz=113,slow=4.5,SNR=137
ILAR PKPPKP **P'P'df** 21 43 10.8 -2.9
comp=Z,0.5nm,1.1s,baz=314,slow=5.6,SNR=4.1
ILAR LR LR 21 51 54.4
comp=Z,3µm,18.4s,baz=112,slow=40
ILAR Eielson Array 71.29 336 P **P** 21 15 16.7 -1.1
ILAR P'P' 21 43 10.8
COLA College 71.72 336 *e*P **P** 21 15 19.0 -1.3
COLA *e* 21 15 40.3
COLA pmax pmax
comp=Z,67nm,0.8s
COLA MLR MLR
comp=Z,3µm,19.0s
COLA College 71.72 336 *e*P **P** 21 15 19.0 -1.3
comp=Z,66nm,0.8s
COLA *e*PcP **PcP** 21 15 40.3 +1.0
COLA LR LR
comp=Z,3µm,19.0s
KDAK Kodiak Island 71.89 328 P **P** 21 15 20.7 -0.7
comp=Z,48nm,0.8s,baz=85,slow=4.4,SNR=21
KDAK LR LR 21 52 59.6
comp=Z,3µm,18.3s,baz=95,slow=41
KDAK Kodiak Island 71.89 328 P **P** 21 15 20.7 -0.7
KDAK Kodiak Island 71.89 328 P **P** 21 15 23.6 +2.2
comp=Z,360nm,0.9s,SNR=6.0
TBI Tubuai 72.01 242 *e*PP PP 21 17 59.4 -3.5
comp=Z,319nm,27.5s
TBI *e*S **S** 21 24 43.8 -0.5
comp=Z,2µm,28.0s
TBI *e*SS **SS** 21 29 19.5 -2.1
comp=Z,971nm,33.0s
TBI *e*LR LR 21 37 28.5
comp=Z,3µm,24.5s,baz=65
TRF Thorofare Moun 72.28 334 *e*P **P** 21 15 22.5 -1.4
comp=Z,88nm,1.0s
LIS Lisbon 72.34 52 *e*P **P** 21 15 24.7 +0.2
LIS *e*S **S** 21 24 47.3 -0.4
LIS AMS AMS 21 40 42.0
comp=Z,4µm,19.6s
LIS Lisbon 72.34 52 *e*P **P** 21 15 24.7 +0.2
LIS *e*S **S** 21 24 47.3 -0.4
LIS A A 21 40 42.0
comp=Z,4µm,19.6s
LIS Lisbon 72.34 52 *e*P **P** 21 15 24.7 +0.2
LIS *e*S **S** 21 24 47.3 -0.4
PFVI Vila Bisbo 72.52 54 *e*P **P** 21 15 27.6 +2.0
comp=Z,238nm,1.3s
RSO Redoubt South 72.60 331 *e*P **P** 21 15 26.0 +0.1
comp=Z,208nm,0.9s
PTEO Sao Teotonio 72.61 53 *e*P **P** 21 15 25.6 -0.6
comp=Z,182nm,1.2s
MORF Marmelete 72.66 54 *e*P **P** 21 15 26.6 0.0
comp=Z,280nm,1.2s
MORF Marmelete 72.66 54 *e*P **P** 21 15 26.7 +0.1
MORF *e*S **S** 21 24 51.4 -0.2
PNCL Nicolau / Gran 72.80 53 *e*P **P** 21 15 27.9 +0.6
comp=Z,119nm,1.3s
PTOM Tomar 72.96 51 *e*P **P** 21 15 27.6 -0.7
comp=Z,164nm,1.3s
MESJ Messejana 73.03 53 *e*P **P** 21 15 28.8 +0.1
MESJ *e*S **S** 21 24 55.5 -0.2
MESJ AMS AMS 21 41 44.0
comp=Z,4µm,22.0s
MESJ Messejana 73.03 53 *e*P **P** 21 15 28.8 +0.1
MESJ *e*S **S** 21 24 55.5 -0.2
MESJ A A 21 41 44.0
comp=Z,4µm,22.0s
MESJ Messejana 73.03 53 *e*P **P** 21 15 28.7 +0.1
MESJ *e*S **S** 21 24 55.4 -0.2
PMTG Montargil 73.08 52 *e*P **P** 21 15 28.3 -0.7
comp=Z,146nm,1.2s
EVOP Sao Brissos 73.13 52⇑*i*P **P** 21 15 27.7 -1.6
EVOP pmax pmax
comp=Z,202nm,1.0s
EVOP Sao Brissos 73.13 52⇑*i*P **P** 21 15 27.7 -1.6
comp=Z,202nm,1.0s
PCVE Castro Verde 73.16 53 *e*P **P** 21 15 29.2 -0.3
comp=Z,97nm,1.4s
PGAV Gavieira, Arco 73.21 49 *e*P **P** 21 15 30.1 +0.3
comp=Z,120nm,1.3s
PGAV *e*S **S** 21 24 58.7 +0.9
PGAV *e*LR LR 21 39 24.3
comp=Z,3µm,18.0s
EVO Evora 73.22 52⇑*i*P **P** 21 15 27.7 -2.1
comp=Z,202nm,1.0s
EVO *e*R
comp=Z,6µm,22.8s
EVO Evora 73.22 52 *e*P **P** 21 15 29.2 -0.6
comp=Z,105nm,1.2s
PBDV Barranco-do-Ve 73.23 54 *e*P **P** 21 15 29.4 -0.6
comp=Z,156nm,1.2s
PBEJ Beja 73.31 53 *e*P **P** 21 15 29.9 -0.5
comp=Z,77nm,1.2s
PCAB Cabril 73.37 49 *e*P **P** 21 15 31.6 +0.9
comp=Z,81nm,1.9s
COLD Coldfoot 73.39 338 *e*P **P** 21 15 30.1 -0.1
comp=Z,109nm,1.0s
PVAQ Vaqueiros 73.41 54 *e*P **P** 21 15 32.0 +1.1
comp=Z,146nm,1.3s
PVAQ *e*S **S** 21 25 01.2 +1.2
PVAQ *e*LR LR 21 38 38.2
comp=Z,5µm,22.0s
PVIS Viseu 73.42 50 *e*P **P** 21 15 30.2 -0.8
comp=Z,154nm,1.2s
POLO Lamas de Olo 73.53 49 *e*P **P** 21 15 31.0 -0.7
comp=Z,79nm,1.2s
PESTR Estremoz 73.56 52 *e*P **P** 21 15 31.3 -0.6
comp=Z,111nm,1.3s
PVRL Vila Real 73.58 50 *e*P **P** 21 15 31.6 -0.4
comp=Z,134nm,1.2s
MTE Manteigas 73.67 50 *e*P **P** 21 15 31.5 -1.0
comp=Z,115nm,1.1s
MTE *e*S **S** 21 25 01.2 -1.7
MTE *e*LR LR 21 38 58.2
comp=Z,4µm,20.0s
MTE Manteigas 73.67 50 *e*P **P** 21 15 31.0 -1.5
comp=Z,80nm,1.1s
MTE LR LR
comp=Z,4µm,20.0s
PCBR Castelo Branco 73.69 51 *e*P **P** 21 15 31.7 -0.9
comp=Z,137nm,1.1s
PMRV Marv??o 73.74 51 *e*P **P** 21 15 32.8 -0.1
comp=Z,100nm,1.2s
PMRV *e*S **SKiKP** 21 25 01.2 -1.2
PMRV *e*LR LR 21 39 02.0
comp=Z,4µm,22.0s
PBAR Barrancos 73.97 53 *e*P **P** 21 15 33.8 -0.4
comp=Z,182nm,1.1s
RTC Rabat Centre 74.04 57 PFAKE 21 15 50.0 +15
RTC LR LR
comp=Z,2µm,19.0s
XMAS Kiritimati 74.07 270 PFAKE 21 15 50.0 +15
XMAS LR LR
comp=Z,4µm,19.0s
MVO Moncorvo 74.09 50 *e*P **P** 21 15 34.3 -0.7
comp=Z,154nm,1.1s
MVO *e*S **SKiKP** 21 25 07.5 +4.5
MVO *e*LR LR 21 39 19.8
comp=Z,2µm,20.0s
PBRG Braganca 74.34 49 *e*P **P** 21 15 35.7 -0.7
comp=Z,143nm,1.2s
PMSA Palmer Station 74.47 172 PFAKE 21 15 50.0 +14
PMSA LR LR
comp=Z,1µm,20.0s
ALE Alert 74.53 3 P P 21 15 34.4 -2.3
comp=Z,518nm,0.9s,SNR=20
CHGN Chignik 74.76 326 *e*P **P** 21 15 38.3 -0.1
SDPT Sand Point 75.80 325 *e*P **P** 21 15 44.1 -0.3
comp=Z,369nm,1.0s
MDT Midelt 75.92 58 P **P** 21 15 45.2 -0.6
comp=Z,46nm,0.9s,baz=277,slow=6.0,SNR=38
MDT LR LR 21 45 35.5
comp=Z,3µm,20.3s,baz=315,slow=33
MDT Midelt 75.92 58 P **P** 21 15 45.2 -0.6
DAG Danmarks Havn 76.09 12 *i*P **P** 21 15 43.8 -1.9
comp=Z,644nm,1.0s
DAG
comp=Z,12µm,18.0s
PAB San Pablo 76.10 51 *e*P **P** 21 15 45.6 -1.0
PAB pmax pmax
comp=Z,98nm,1.1s
PAB MLR MLR
comp=Z,4µm,22.0s
PAB San Pablo 76.10 51 *e*P **P** 21 15 45.6 -1.0
comp=Z,98nm,1.1s
PAB LR LR
comp=Z,4µm,22.0s
ESDC Sonseca Array 76.40 51 P **P** 21 15 47.4 -0.9
comp=Z,85nm,0.8s,baz=277,slow=5.6,SNR=83
ESDC PKPPKP **P'P'df** 21 43 04.0 -1.9
comp=Z,0.3nm,0.6s,baz=0.7,slow=2.6,SNR=4.2
ESDC LR LR 21 46 14.0
comp=Z,3µm,19.4s,baz=260,slow=33
ESDC Sonseca Array 76.40 51 P **P** 21 15 47.4 -0.9
ESDC P'P' 21 43 04.0
ESLA Sonseca Array 76.40 51 *e*P **P** 21 15 47.2 -1.0
comp=Z,40nm,1.0s
BST Brest 76.52 42 *e*P **P** 21 15 46.9 -1.8
BST Brest 76.52 42 *e*P **P** 21 15 46.9 -1.8
ROSF Rostrenen 77.05 42 *e*P **P** 21 15 50.7 -1.0
comp=Z,131nm,1.2s
ROSF Rostrenen 77.05 42 *e*P **P** 21 15 50.7 -1.0
ROSF pmax pmax
comp=Z,131nm,1.2s
ROSF Rostrenen 77.05 42 *e*P **P** 21 15 50.7 -1.0
comp=Z,131nm,1.2s
JMIC Jan Mayen 77.06 19 LR LR 21 50 02.9
comp=Z,3µm,18.9s,baz=83,slow=36
QUIF Quistinic 77.11 43 *e*P **P** 21 15 51.2 -0.8
comp=Z,61nm,0.8s
QUIF Quistinic 77.11 43 *e*P **P** 21 15 51.2 -0.8
QUIF pmax pmax
comp=Z,61nm,0.8s
QUIF Quistinic 77.11 43 *e*P **P** 21 15 51.2 -0.8
comp=Z,61nm,0.8s
ESK Eskdalemuir 77.40 35 *i*P **P** 21 15 53.6 +0.1
ESK Eskdalemuir 77.40 35 PFAKE 21 16 00.0 +6.5
ESK LR LR
comp=Z,3µm,20.0s
LIC Lamto 77.49 85⇑*i*P **P** 21 15 54.4 -0.4
comp=Z,258nm,0.9s,baz=274
LIC *e*R
comp=Z,2µm,19.2s
LIC Lamto 77.49 85⇑*i*P **P** 21 15 54.4 -0.4
comp=Z,258nm,0.9s
SGMF Saint Gilles 77.53 42 *e*P **P** 21 15 53.1 -1.2
comp=Z,54nm,1.0s
SGMF Saint Gilles 77.53 42 *e*P **P** 21 15 53.1 -1.2
SGMF pmax pmax
comp=Z,54nm,1.0s
SGMF Saint Gilles 77.53 42 *e*P **P** 21 15 53.1 -1.2
comp=Z,54nm,1.0s
DBIC Dimbokro 77.61 85 P **P** 21 15 54.9 -0.5
comp=Z,98nm,1.1s,baz=266,slow=6.9,SNR=26
DBIC LR LR 21 46 48.5
comp=Z,1µm,20.4s,baz=251,slow=33
DBIC Dimbokro 77.61 85 *e*P **P** 21 15 55.0 -0.4
comp=Z,228nm,1.4s
OSSF Osses 78.41 48 *e*P **P** 21 15 58.8 -0.6
OSSF Osses 78.41 48 *e*P **P** 21 15 58.8 -0.6
SJPF Ste Jean 78.44 48 *e*P **P** 21 15 59.5 -0.1
comp=Z,264nm,1.2s
SJPF Ste Jean 78.44 48 *e*P **P** 21 15 59.5 -0.1
SJPF pmax pmax
comp=Z,264nm,1.2s
SJPF Ste Jean 78.44 48 *e*P **P** 21 15 59.5 -0.1
comp=Z,264nm,1.2s
LARF Larrau 78.62 48 *e*P **P** 21 16 00.9 +0.3
LARF Larrau 78.62 48 *e*P **P** 21 16 00.9 +0.3
GRR Gorron 78.66 42⇑*i*P **P** 21 15 59.7 -0.9
comp=Z,171nm,1.1s
GRR Gorron 78.66 42⇑*i*P **P** 21 15 59.7 -0.9
GRR pmax pmax
comp=Z,171nm,1.1s
GRR Gorron 78.66 42⇑*i*P **P** 21 15 59.7 -0.9
comp=Z,171nm,1.1s
FLN La Foliniere 78.91 42⇑*i*P **P** 21 16 01.1 -0.9
comp=Z,166nm,1.2s,baz=261
FLN *e*R
comp=Z,12µm,22.0s
FLN La Foliniere 78.91 42⇑*i*P **P** 21 16 01.1 -0.9
FLN pmax pmax
comp=Z,166nm,1.2s
FLN La Foliniere 78.91 42⇑*i*P **P** 21 16 01.1 -0.9
comp=Z,166nm,1.2s
ETSF Etsaut 78.93 48 *e*P **P** 21 16 02.2 -0.2
comp=Z,64nm,1.1s
ETSF Etsaut 78.93 48 *e*P **P** 21 16 02.2 -0.2
ETSF pmax pmax
comp=Z,64nm,1.1s
ETSF Etsaut 78.93 48 *e*P **P** 21 16 02.2 -0.2
comp=Z,64nm,1.1s
REYF Montagne du Re 79.05 48 *e*P **P** 21 16 02.7 -0.3
REYF Montagne du Re 79.05 48 *e*P **P** 21 16 02.7 -0.3
LDF La Druitiere 79.15 42 *e*P **P** 21 16 02.4 -0.9
comp=Z,165nm,1.1s
LDF La Druitiere 79.15 42 *e*P **P** 21 16 02.4 -0.9
LDF pmax pmax
comp=Z,165nm,1.1s
LDF La Druitiere 79.15 42 *e*P **P** 21 16 02.4 -0.9
comp=Z,165nm,1.1s
MFF Saint Martin d 79.16 44 *e*P **P** 21 16 02.5 -0.9
comp=Z,116nm,1.1s
MFF Saint Martin d 79.16 44 *e*P **P** 21 16 02.5 -0.9
MFF pmax pmax
comp=Z,116nm,1.1s
MFF Saint Martin d 79.16 44 *e*P **P** 21 16 02.5 -0.9
comp=Z,116nm,1.1s
UNV Unalaska Valle 79.22 323 *e*P **P** 21 16 04.1 +0.5
comp=Z,213nm,1.1s
LABF Labassere 79.39 48 *e*P **P** 21 16 04.6 -0.3
LABF Labassere 79.39 48 *e*P **P** 21 16 04.6 -0.3
EPF Esparros 79.59 48 *e*P **P** 21 16 05.7 -0.2
comp=Z,173nm,1.1s
EPF Esparros 79.59 48 *e*P **P** 21 16 05.7 -0.2
EPF pmax pmax
comp=Z,173nm,1.1s
EPF Esparros 79.59 48 *e*P **P** 21 16 05.7 -0.2
comp=Z,173nm,1.1s
RESF Ens 79.59 48 *e*P **P** 21 16 06.0 -0.1
RESF Ens 79.59 48 *e*P **P** 21 16 06.0 -0.1
LFF La Frestale 79.82 46 *e*P **P** 21 16 06.4 -0.6
comp=Z,126nm,1.1s
LFF La Frestale 79.82 46 *e*P **P** 21 16 06.4 -0.6
LFF pmax pmax
comp=Z,125nm,1.1s
LFF La Frestale 79.82 46 *e*P **P** 21 16 06.4 -0.6
comp=Z,126nm,1.1s
TNA Tin City 80.12 335 *e*P **P** 21 16 09.2 +0.9
comp=Z,66nm,1.0s
MLS Moulis 80.14 48 *e*P **P** 21 16 07.5 -1.4
MLS Moulis 80.14 48 *e*P **P** 21 16 07.5 -1.4
SALF Salau 80.22 48 *e*P **P** 21 16 09.3 -0.1
SALF Salau 80.22 48 *e*P **P** 21 16 09.3 -0.1
RJF Les Rejaudoux 80.35 45 *e*P **P** 21 16 09.1 -0.9
comp=Z,169nm,1.3s
RJF *e*R
comp=Z,5µm,21.2s
RJF Les Rejaudoux 80.35 45 *e*P **P** 21 16 09.1 -0.9
RJF pmax pmax
comp=Z,169nm,1.3s
RJF Les Rejaudoux 80.35 45 *e*P **P** 21 16 09.1 -0.9
comp=Z,169nm,1.3s
EANR 'Ain N'Sour 80.52 55 P **P** 21 16 12.8 +1.7
NIKO Nikolski 80.64 322 *e*P **P** 21 16 11.6 +0.3
comp=Z,318nm,1.2s
RAR Rarotonga 80.66 247 LR LR 21 44 19.1
comp=Z,4µm,18.2s,baz=114,slow=30
ETRT Tiaret 80.72 56 P **P** 21 16 11.5 -0.8
ECHA Ech Chlef 80.72 55 P **P** 21 16 13.0 +0.9
CAF Calviac 80.76 46 *e*P **P** 21 16 11.3 -0.9
comp=Z,122nm,1.2s
CAF Calviac 80.76 46 *e*P **P** 21 16 11.3 -0.9
CAF pmax pmax
comp=Z,122nm,1.2s
CAF Calviac 80.76 46 *e*P **P** 21 16 11.3 -0.9
comp=Z,122nm,1.2s
TCF Toulx Ste Croi 80.80 44 *e*P **P** 21 16 11.1 -1.2
comp=Z,85nm,1.1s
TCF Toulx Ste Croi 80.80 44 *e*P **P** 21 16 11.1 -1.2
TCF pmax pmax
comp=Z,85nm,1.1s
TCF Toulx Ste Croi 80.80 44 *e*P **P** 21 16 11.1 -1.2
comp=Z,85nm,1.1s
EBNR Beni Rached 80.84 55 P **P** 21 16 13.4 +0.6
MTLF Montolieu 80.95 47 *e*P **P** 21 16 12.5 -0.7
comp=Z,201nm,1.3s
MTLF Montolieu 80.95 47 *e*P **P** 21 16 12.5 -0.7
MTLF pmax pmax
comp=Z,201nm,1.3s
MTLF Montolieu 80.95 47 *e*P **P** 21 16 12.5 -0.7
comp=Z,201nm,1.3s
VERF Verneugheol 81.01 45 *e*P **P** 21 16 12.5 -1.0
VERF Verneugheol 81.01 45 *e*P **P** 21 16 12.5 -1.0
HYF Humbligny 81.04 43 *e*P **P** 21 16 12.7 -0.9
HYF Humbligny 81.04 43 *e*P **P** 21 16 12.7 -0.9
BGF Bois d'Agland 81.22 44 *e*P **P** 21 16 13.4 -1.2
comp=Z,106nm,1.1s
BGF Bois d'Agland 81.22 44 *e*P **P** 21 16 13.4 -1.2
BGF pmax pmax
comp=Z,106nm,1.1s
BGF Bois d'Agland 81.22 44 *e*P **P** 21 16 13.4 -1.2
comp=Z,106nm,1.1s
PYM Petit Puy Mans 81.38 45 *e*P **P** 21 16 13.5 -2.0
PYM Petit Puy Mans 81.38 45 *e*P **P** 21 16 13.5 -2.0
PYM Petit Puy Mans 81.38 45 *e*P **P** 21 16 13.5 -2.0
SJAF Saint Jean de 81.49 48 *e*P **P** 21 16 14.7 -1.4
SJAF Saint Jean de 81.49 48 *e*P **P** 21 16 14.7 -1.4
AVF Avril sur Loir 81.56 44 *e*P **P** 21 16 14.8 -1.5
comp=Z,54nm,1.1s
AVF Avril sur Loir 81.56 44 *e*P **P** 21 16 14.8 -1.5
AVF pmax pmax
comp=Z,54nm,1.1s
AVF Avril sur Loir 81.56 44 *e*P **P** 21 16 14.8 -1.5
comp=Z,54nm,1.1s
LBL Lubilhac 81.58 45 *e*P P 21 16 14.5 -2.1
LBL Lubilhac 81.58 45 *e*P P 21 16 14.5 -2.1
LBL Lubilhac 81.58 45 *e*P P 21 16 14.5 -2.1
SSF Saint Saulge 81.64 44 *e*P **P** 21 16 15.2 -1.6
comp=Z,49nm,1.1s
SSF Saint Saulge 81.64 44 *e*P **P** 21 16 15.2 -1.6
SSF pmax pmax
comp=Z,49nm,1.1s
SSF Saint Saulge 81.64 44 *e*P **P** 21 16 15.2 -1.6
comp=Z,49nm,1.1s
FOO Floro 81.78 29 *e*P P 21 16 20.6 +3.4
FOO AMS AMS 21 47 08.5
comp=Z,2µm,17.7s
PLDF La Plantade 81.79 45 *e*P **P** 21 16 16.6 -1.1
PLDF La Plantade 81.79 45 *e*P **P** 21 16 16.6 -1.1
PLDF La Plantade 81.79 45 *e*P **P** 21 16 16.6 -1.1

LOR Lormes 81.87 43⇑ *i*P P 21 16 16.5 -1.5
comp=Z,80nm,1.1s
LOR *e*R
comp=Z,7µm,18.5s
LOR Lormes 81.87 43⇑ *i*P P 21 16 16.5 -1.5
comp=Z,80nm,1.1s
SMF Signal de Mont 81.90 44 *e*P P 21 16 16.7 -1.5
comp=Z,48nm,1.0s
SMF Signal de Mont 81.90 44 *e*P P 21 16 16.7 -1.5
SMF pmax pmax
comp=Z,49nm,1.0s
SMF Signal de Mont 81.90 44 *e*P P 21 16 16.7 -1.5
comp=Z,48nm,1.0s
BAIF Baives 81.93 41 *e*P P 21 16 16.9 -1.3
comp=Z,53nm,1.4s
BAIF Baives 81.93 41 *e*P P 21 16 16.9 -1.3
BAIF pmax pmax
comp=Z,53nm,1.4s
BAIF Baives 81.93 41 *e*P P 21 16 16.9 -1.3
comp=Z,53nm,1.4s
SNF Seneffe 81.95 40 P P 21 16 17.5 -0.8
UCC Uccle 81.98 40 P P 21 16 17.1 -1.3
BER Bergen 81.98 30 *e*P P 21 16 21.1 +2.9
BER AMS AMS 21 50 01.6
comp=Z,3µm,20.4s
EMHD Djebel Mahouad 82.00 55 P P 21 16 20.7 +1.6
LASF Ste Croix 82.09 47 *e*P P 21 16 18.9 -0.3
comp=Z,258nm,1.4s
LASF Ste Croix 82.09 47 *e*P P 21 16 18.9 -0.3
comp=Z,258nm,1.4s
DOU Dourbes 82.17 41 P P 21 16 18.7 -0.8
comp=Z,19nm,1.4s
GIVF Givet 82.32 40 *e*P P 21 16 19.2 -1.1
comp=Z,101nm,1.2s
GIVF Givet 82.32 40 *e*P P 21 16 19.2 -1.1
GIVF pmax pmax
comp=Z,101nm,1.2s
GIVF Givet 82.32 40 *e*P P 21 16 19.2 -1.1
comp=Z,101nm,1.2s
SSB Saint Sauveur 82.48 45 *e*P P 21 16 20.8 -0.5
SSB pmax pmax
comp=Z,157nm,1.8s
SSB MLR MLR
comp=Z,3µm,22.0s
SSB Saint Sauveur 82.48 45 *e*P P 21 16 20.8 -0.5
comp=Z,157nm,1.8s
SSB LR LR
comp=Z,3µm,22.0s
MEZF Maizieres J'vi 82.59 42 *e*P P 21 16 20.6 -1.1
comp=Z,165nm,1.2s
MEZF Maizieres J'vi 82.59 42 *e*P P 21 16 20.6 -1.1
comp=Z,165nm,1.2s
SFTF Sexfontaines 82.60 42 *e*P P 21 16 20.5 -1.3
comp=Z,140nm,1.2s
SFTF Sexfontaines 82.60 42 *e*P P 21 16 20.5 -1.3
comp=Z,140nm,1.2s
BCLA Clavier 82.61 40 P P 21 16 21.3 -0.5
comp=Z,20nm,1.3s
VIVF Saint-Julien-l 82.61 46 *e*P P 21 16 21.7 -0.3
comp=Z,177nm,1.1s
VIVF Saint-Julien-l 82.61 46 *e*P P 21 16 21.7 -0.3
VIVF pmax pmax
comp=Z,177nm,1.1s
VIVF Saint-Julien-l 82.61 46 *e*P P 21 16 21.7 -0.3
comp=Z,177nm,1.1s
ODD1 Odda 82.66 31 *e*P P 21 16 20.7 -1.2
KBS Kingsbay 82.73 11 *e*P P 21 16 21.9 0.0
KBS AMB AMB 21 16 25.4
comp=Z,150nm,1.1s
KBS *e*S S 21 26 38.4 -0.6
KBS AMS AMS 21 51 27.9
comp=Z,7µm,23.8s
KBS Kingsbay 82.73 11 *c i*P P 21 16 22.1 +0.2
KBS pmax pmax
comp=Z,87nm,2.2s
KBS Kingsbay 82.73 11 *e*P P 21 16 21.3 -0.5
comp=Z,104nm,0.9s
KBS LR LR
comp=Z,8µm,21.0s
BEBN Eben Emael 82.81 40 P P 21 16 22.3 -0.5
comp=Z,13nm,1.8s
MOL Molde 82.90 28 AMS AMS 21 45 30.2
comp=Z,5µm,29.8s
HGN Heimansgroeve 82.98 40 *e*P P 21 16 22.3 -1.3
comp=Z,54nm,1.3s
HGN Heimansgroeve 82.98 40 *e*S S 21 26 43.1 +0.7
HGN *e*SS SS 21 31 58.2 -7.3
HGN Heimansgroeve 82.98 40 *e*L L 21 47 14.1
comp=Z,6µm,21.6s
PAGF Fort de Pagny 83.03 42⇑ *i*P P 21 16 23.0 -1.0
comp=Z,49nm,1.2s
PAGF Fort de Pagny 83.03 42⇑ *i*P P 21 16 23.0 -1.0
comp=Z,49nm,1.2s
MEM Membach 83.04 40 P P 21 16 22.9 -1.1
comp=Z,23nm,1.3s
WLF Walferdange 83.21 41 P P 21 16 24.4 -0.5
comp=Z,28nm,1.2s
WLF Walferdange 83.21 41 *e*P P 21 16 24.3 -0.6
WLF pmax pmax
comp=Z,44nm,1.0s
WLF MLR MLR
comp=Z,7µm,21.0s
WLF Walferdange 83.21 41 *e*P P 21 16 24.3 -0.6
comp=Z,43nm,1.1s
WLF *e*S S 21 26 40.1 -4.7
WLF Walferdange 83.21 41 *e*P P 21 16 24.3 -0.6
comp=Z,44nm,1.0s
WLF LR LR
comp=Z,7µm,21.0s
TOA0 Torodi Ar. Sit 83.22 78 *e*P P 21 16 24.8 -0.8
TORD Torodi Ar. Bea 83.22 78 P P 21 16 24.4 -1.2
comp=Z,7.3nm,0.9s,baz=282,slow=2.7,SNR=42
TORD PKKPbc **PKKPbc** 21 34 46.3 +0.3
comp=Z,1.2nm,0.6s,baz=62,slow=2.1,SNR=7.1
TORD PKPPKP **P'P'df** 21 42 53.6 -0.2
comp=Z,1.2nm,0.9s,baz=354,slow=0.7,SNR=3.8
TORD LR LR 21 52 47.7
comp=Z,2µm,20.0s,baz=265,slow=35
TORD Torodi Ar. Bea 83.22 78 P P 21 16 24.4 -1.2
TORD PKKPbc **PKKPbc** 21 34 46.3 +0.3
TORD P'P' 21 42 53.6
THEF They Montfort 83.23 42 *e*P P 21 16 23.4 -1.7
THEF They Montfort 83.23 42 *e*P P 21 16 23.4 -1.7
THEF They Montfort 83.23 42 *e*P P 21 16 23.4 -1.7
SMRF Simiane la Rot 83.33 47 *e*P P 21 16 25.5 -0.2
comp=Z,140nm,1.4s
SMRF Simiane la Rot 83.33 47 *e*P P 21 16 25.5 -0.2
comp=Z,140nm,1.4s
WTSB Winterswijk 83.41 39 *e*P P 21 16 24.8 -1.1
comp=Z,148nm,1.2s
CABF La Chapelle 83.45 44 *e*P P 21 16 25.3 -1.0
comp=Z,105nm,1.1s
CABF La Chapelle 83.45 44 *e*P P 21 16 25.3 -1.0
CABF pmax pmax
comp=Z,105nm,1.1s
CABF La Chapelle 83.45 44 *e*P P 21 16 25.3 -1.0
comp=Z,105nm,1.1s
ORIF Oris-en-Rattie 83.46 46 *e*P P 21 16 26.2 -0.2
comp=Z,89nm,1.2s
ORIF *e*R
comp=Z,5µm,22.8s
ORIF Oris-en-Rattie 83.46 46 *e*P P 21 16 26.2 -0.2
ORIF pmax pmax
comp=Z,89nm,1.2s
ORIF Oris-en-Rattie 83.46 46 *e*P P 21 16 26.2 -0.2
comp=Z,89nm,1.2s
HAU Haudompre 83.49 43 *e*P P 21 16 25.2 -1.3
comp=Z,72nm,1.2s
HAU *e*R
comp=Z,7µm,22.0s
HAU Haudompre 83.49 43 *e*P P 21 16 25.2 -1.3
HAU pmax pmax
comp=Z,73nm,1.2s
HAU Haudompre 83.49 43 *e*P P 21 16 25.2 -1.3
comp=Z,72nm,1.2s
OG25 Le Caire 83.65 46 *e*P P 21 16 27.3 -0.1
OG25 Le Caire 83.65 46 *e*P P 21 16 27.3 -0.1
SPITS Spitsbergen Ar 83.72 12 P P 21 16 25.7 -1.3
comp=Z,40nm,0.8s,baz=242,slow=1.8,SNR=26
SPITS Spitsbergen Ar 83.72 12 P P 21 16 25.7 -1.3
BUG Bochum-Univer 83.75 39 *e*P P 21 16 26.7 -0.9
comp=Z,79nm,1.3s
BUG *e*S S 21 26 44.1 -6.1
RUP Ruppelstein 83.80 41 *e*P P 21 16 26.6 -1.4
RUP Ruppelstein 83.80 41 *e*P P 21 16 26.6 -1.4
HINF Hinteralfeld 83.85 43 *e*P P 21 16 26.8 -1.5
comp=Z,104nm,1.4s
HINF Hinteralfeld 83.85 43 *e*P pmax pmax 21 16 26.8 -1.5
HINF
comp=Z,104nm,1.4s
HINF Hinteralfeld 83.85 43 *e*P P 21 16 26.8 -1.5
comp=Z,104nm,1.4s
LOMF Lomont 83.88 43 *e*P P 21 16 27.9 -0.6
LOMF Lomont 83.88 43 *e*P P 21 16 27.9 -0.6
LOMF Lomont 83.88 43 *e*P P 21 16 27.9 -0.6
RSL Roselend 83.91 45 *e*P P 21 16 28.9 +0.1
RSL Roselend 83.91 45 *e*P P 21 16 28.9 +0.1
RSL Roselend 83.91 45 *e*P P 21 16 28.9 +0.1
IBBN Ibbenburen 83.97 38 *e*P P 21 16 27.7 -1.0
comp=Z,55nm,1.2s
IBBN *e*S S 21 26 47.1 -5.2
SET Setif 83.97 54 P P 21 16 31.0 +1.8
LPL La Plagne 84.00 45 *e*P P 21 16 28.8 -0.6
comp=Z,42nm,1.1s
LPL La Plagne 84.00 45 *e*P P 21 16 28.8 -0.6
LPL pmax pmax
comp=Z,42nm,1.1s
LPL La Plagne 84.00 45 *e*P P 21 16 28.8 -0.6
comp=Z,42nm,1.1s
BNI Bardonecchia 84.01 45 PFAKE 21 16 40.0 +11
BNI LR LR
comp=Z,4µm,20.0s
ECH Echery 84.01 42 *e*P P 21 16 28.6 -0.5
ECH pmax pmax
comp=Z,66nm,1.3s
ECH MLR MLR
comp=Z,6µm,22.0s
ECH Echery 84.01 42 *e*P P 21 16 28.6 -0.5
comp=Z,66nm,1.3s
ECH LR LR
comp=Z,6µm,22.0s
ECH Echery 84.01 42 *e*P P 21 16 28.1 -1.0
LPG La Plagne 84.02 45 *e*P P 21 16 29.1 -0.4
comp=Z,66nm,1.3s
LPG La Plagne 84.02 45 *e*P P 21 16 29.1 -0.4
LPG pmax pmax
comp=Z,66nm,1.3s
LPG La Plagne 84.02 45 *e*P P 21 16 29.1 -0.4
comp=Z,66nm,1.3s
MOF Molkenrain 84.03 43 *e*P P 21 16 27.9 -1.4
MOF Molkenrain 84.03 43 *e*P P 21 16 27.9 -1.4
MOF Molkenrain 84.03 43 *e*P P 21 16 27.9 -1.4
JOHN Johnston Islan 84.06 286 PFAKE 21 16 40.0 +10
JOHN LR LR
comp=Z,29nm,20.0s
CDF Champ du Feu 84.07 42 *e*P P 21 16 28.2 -1.3
comp=Z,44nm,0.9s
CDF Champ du Feu 84.07 42 *e*P P 21 16 28.2 -1.3
CDF pmax pmax
comp=Z,44nm,0.9s
CDF Champ du Feu 84.07 42 *e*P P 21 16 28.2 -1.3
comp=Z,44nm,0.9s
LMR La Mourre 84.07 47 *e*P P 21 16 28.7 -0.8
comp=Z,105nm,1.4s
LMR La Mourre 84.07 47 *e*P P 21 16 28.7 -0.8
LMR pmax pmax
comp=Z,105nm,1.4s
LMR La Mourre 84.07 47 *e*P P 21 16 28.7 -0.8
comp=Z,105nm,1.4s
ABH Alteburg 84.09 41 *e*P P 21 16 28.9 -0.6
MBDF Montbardon 84.11 46 *e*P P 21 16 29.5 -0.4
comp=Z,60nm,1.1s
MBDF Montbardon 84.11 46 *e*P P 21 16 29.5 -0.4
MBDF pmax pmax
comp=Z,60nm,1.1s
MBDF Montbardon 84.11 46 *e*P P 21 16 29.5 -0.4
comp=Z,60nm,1.1s
FRF La Foret Royal 84.14 47 *e*P P 21 16 28.9 -1.0
comp=Z,65nm,1.1s
FRF La Foret Royal 84.14 47 *e*P P 21 16 28.9 -1.0
FRF pmax pmax
comp=Z,65nm,1.1s
FRF La Foret Royal 84.14 47 *e*P P 21 16 28.9 -1.0
comp=Z,65nm,1.1s
KONO Kongsberg 84.18 31 *e*P P 21 16 33.1 +3.4
KONO *e*SKS **S** 21 26 50.5 -3.7
KONO *e*SS **SS** 21 32 24.7 +1.8
KONO AMS AMS 21 51 47.9
comp=Z,2µm,17.7s
KONO Kongsberg 84.18 31 *e*P P 21 16 29.6 -0.1
KONO MLR MLR
comp=Z,3µm,19.0s
KONO Kongsberg 84.18 31 *e*P P 21 16 29.6 -0.1
KONO LR LR
comp=Z,3µm,19.0s
DFRA Djebel Bou Aff 84.31 54 P P 21 16 36.7 +5.7
BBS Basel-Blauen 84.33 43 *e*P P 21 16 29.6 -1.2
BBS Basel-Blauen 84.33 43 *e*P P 21 16 29.6 -1.2
MUD Monsted U'grnd 84.33 34 *i* P P 21 16 29.5 -1.0
comp=Z,35nm,1.0s
LANF Langenberg 84.36 41 *e*P P 21 16 30.0 -0.8
LANF Langenberg 84.36 41 *e*P P 21 16 30.0 -0.8
LANF Langenberg 84.36 41 *e*P P 21 16 30.0 -0.8
MVIF Mont Vial 84.47 47 *e*P P 21 16 30.1 -1.6
MVIF Mont Vial 84.47 47 *e*P P 21 16 30.1 -1.6
MVIF Mont Vial 84.47 47 *e*P P 21 16 30.1 -1.6
TOUF Mont Tournerai 84.53 46 *e*P P 21 16 29.9 -2.1
TOUF Mont Tournerai 84.53 46 *e*P P 21 16 29.9 -2.1
TOUF Mont Tournerai 84.53 46 *e*P P 21 16 29.9 -2.1
FELD Feldberg im Sc 84.61 43 *e*P P 21 16 30.4 -1.9
TNS Taunus Mts 84.63 40 *e*P P 21 16 31.3 -0.9
comp=Z,72nm,1.3s
TNS *e*S **S** 21 26 55.0 -4.2
REVF Revere 84.64 47 *e*P P 21 16 31.5 -1.0
REVF Revere 84.64 47 *e*P P 21 16 31.5 -1.0
REVF Revere 84.64 47 *e*P P 21 16 31.5 -1.0
NAO01 NORSAR Array S 84.67 29 *e*P P 21 16 32.5 +0.3
comp=Z,80nm,1.3s
SBF Sospel 84.68 47 *e*P P 21 16 31.7 -0.9
comp=Z,249nm,1.3s
SBF Sospel 84.68 47 *e*P P 21 16 31.7 -0.9
SBF pmax pmax
comp=Z,249nm,1.3s
SBF Sospel 84.68 47 *e*P P 21 16 31.7 -0.9
comp=Z,249nm,1.3s
SAOF Saorge 84.75 46 *e*P P 21 16 30.7 -2.3
SAOF Saorge 84.75 46 *e*P P 21 16 30.7 -2.3
SAOF Saorge 84.75 46 *e*P P 21 16 30.7 -2.3
BFO Black Forest 84.78 42 *e*P P 21 16 32.5 -0.5
BFO pmax pmax
comp=Z,48nm,1.3s
BFO MLR MLR
comp=Z,6µm,22.0s
BFO Black Forest 84.78 42 *e*P P 21 16 31.6 -1.4
comp=Z,46nm,1.2s
BFO *e*S S 21 26 54.8 -5.9
BFO Black Forest 84.78 42 *e*P P 21 16 32.5 -0.5
comp=Z,48nm,1.3s
BFO LR LR
comp=Z,6µm,22.0s
BFO Black Forest 84.78 42 P P 21 16 31.9 -1.1
comp=Z,154nm,0.9s,SNR=11
NB2 NORSAR Subarra 84.80 29 P P 21 16 31.2 -1.7
baz=277,slow=5.3
NB2 NORSAR Subarra 84.80 29 P P 21 16 31.2 -1.7
comp=Z,104nm,1.4s,baz=277,slow=5.3
NOA NORSAR Array B 84.80 29 P P 21 16 31.1 -1.7
comp=Z,53nm,1.2s,baz=277,slow=5.0,SNR=22
NOA LR LR 21 54 29.4
comp=Z,3µm,18.8s,baz=275,slow=36
NOA NORSAR Array B 84.80 29 P P 21 16 31.1 -1.7
CASM Ain Smara 84.84 54 P P 21 16 34.0 +0.4
TOD Tromm 84.93 41 *e*P P 21 16 32.4 -1.3
TOD Tromm 84.93 41 *e*P P 21 16 32.4 -1.3
NC602 NORSAR Array S 85.00 29 *e*P P 21 16 33.2 -0.6
CAEH 'Ain El Ouahch 85.06 54 P P 21 16 36.0 +1.3
SPAK Spaichingen-Ko 85.11 42 *e*P P 21 16 33.6 -1.1
STU Stuttgart 85.29 42 *e*P P 21 16 34.2 -1.3
STU pmax pmax
comp=Z,92nm,1.3s
STU Stuttgart 85.29 42 *e*P P 21 16 34.6 -0.9
comp=Z,77nm,1.1s
STU *e*pP **PcP** 21 16 40.6 +2.0
STU *e*S S 21 27 00.0 -5.7
STU Stuttgart 85.29 42 *e*P P 21 16 34.2 -1.3
comp=Z,92nm,1.3s
BSEG Bad Segeberg 85.30 36 *e*P P 21 16 34.7 -0.7
comp=Z,68nm,1.1s
BSEG *e*S S 21 26 59.5 -6.0
NRDL Niedersach Rie 85.38 38 *e*P P 21 16 35.1 -0.6
comp=Z,77nm,1.3s
NRDL *e*S S 21 27 00.7 -5.5
CMAH Djebel Manchou 85.54 54 P P 21 16 37.5 +0.4
UBBA Unterbreizbach 85.54 39 *e*P P 21 16 36.2 -0.4
comp=Z,35nm,1.5s
UBBA *e*S S 21 27 03.5 -4.3
ABSA Djebel Ababsia 85.63 54 P P 21 16 39.7 +2.1
CLZ Clausthal 85.63 38 *e*P P 21 16 36.5 -0.7
comp=Z,95nm,1.2s
CLZ *e*S S 21 27 03.7 -5.3
TAM Tamanrasset 85.64 68 *e*P P 21 16 37.9 -0.1
TAM *e* 21 19 57.2
TAM pmax pmax
comp=Z,47nm,1.3s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 85.64 68 *e*P P 21 16 37.9 -0.1
comp=Z,47nm,1.3s
TAM *e*PP **PP** 21 19 57.2 +0.3
TAM LR LR
comp=Z,2µm,20.0s
DAVA Damuels 85.95 43⇑ *i*P P 21 16 37.6 -1.5
comp=Z,102nm,1.1s
PGF Pioggiola 85.98 48⇑ *i*P P 21 16 38.3 -0.9
comp=Z,224nm,1.1s
PGF Pioggiola 85.98 48⇑ *i*P P 21 16 38.3 -0.9
PGF pmax pmax
comp=Z,224nm,1.1s
PGF Pioggiola 85.98 48⇑ *i*P P 21 16 38.3 -0.9
comp=Z,224nm,1.1s
DAVOX Davos/Dischmat 86.02 43 LR LR 21 52 06.8
comp=Z,4µm,18.9s,baz=293,slow=34
HFS Hagfors 86.15 30 P P 21 16 36.9 -2.6
comp=Z,16nm,0.7s,baz=248,slow=1.6,SNR=36
HFS Hagfors 86.15 30 P P 21 16 36.9 -2.6
LLD Lille Linde 86.19 35 *i* P P 21 16 41.4 +1.6
comp=Z,86nm,0.8s
COP Copenhagen 86.25 34⇑ *i*P P 21 16 39.2 -0.9
comp=Z,28nm,1.0s
COP
comp=Z,760nm,24.0s
TRO Tromso 86.31 20 *e*P P 21 16 38.9 -1.3
TRO AMB AMB 21 16 40.7
comp=Z,100nm,2.9s
TRO *e*SS SS 21 32 56.0 +2.3
TRO AMS AMS 21 54 30.0
comp=Z,1µm,14.7s
GRFO Grafenberg 86.48 40 *e*P P 21 16 40.4 -1.0
GRFO pmax pmax
comp=Z,78nm,1.2s
GRFO Grafenberg 86.48 40 *e*P P 21 16 40.4 -1.0
comp=Z,78nm,1.2s
GRF Grafenberg Arr 86.48 40 *e*P P 21 16 40.8 -0.6
comp=Z,86nm,1.2s
GRF *e*pP **PcP** 21 16 46.6 +2.7
GRF *e*S S 21 27 12.0 -5.3
GRF *e*L L 21 49 10.6
comp=Z,9µm,22.0s
FETA Feichten 86.56 43⇓ *i*P P 21 16 39.9 -2.2
comp=Z,46nm,1.0s
MOX Moxa 86.58 39 *e*P P 21 16 41.1 -0.8
comp=Z,42nm,1.2s
MOX *e*S S 21 27 12.6 -5.7
MOX *e*L L 21 50 29.7
comp=Z,5µm,20.9s
VSL Villasalto 86.69 51 *e*P P 21 16 43.1 +0.5
comp=Z,107nm,0.9s
VSL LR LR
comp=Z,2µm,20.0s
FUR Furstenfeldbru 86.75 42 *e*P P 21 16 42.1 -0.7
comp=Z,53nm,1.3s
FUR *e*S S 21 27 13.1 -7.0
VLC Villacollemand 86.75 46 PFAKE 21 16 50.0 +7.1
VLC LR LR
comp=Z,2µm,21.0s
MOTA Moosalm 86.76 43⇑ *i*P P 21 16 41.2 -1.9
comp=Z,24nm,0.9s
ROTZ Rotzenmuhle 87.10 40 *e*P P 21 16 44.1 -0.3
comp=Z,41nm,1.5s
ROTZ *e*pP **PcP** 21 16 49.9 +3.3
ROTZ *e*S S 21 27 17.8 -5.5
WTTA Wattenberg 87.13 43⇑ *i*P P 21 16 43.4 -1.5
comp=Z,34nm,1.2s
TANN Tannenbergstha 87.15 40 *e*P P 21 16 44.1 -0.6
comp=Z,80nm,1.2s
TANN *e*S S 21 27 18.1 -5.8
NKC Novy Kostel 87.17 40 *e*P P 21 16 44.8 0.0
NKC *e*S **SKSac** 21 27 11.7 -0.2
NKC MLR MLR
comp=Z,6µm,19.9s
NKC Novy Kostel 87.17 40 *e*P P 21 16 44.8 0.0
NKC *e*SKS **SKSac** 21 27 11.7 -0.2
NKC *ex* x 21 33 21.2
NKC AMS AMS 21 49 50.0
comp=Z,6µm,19.9s
KEST Kesra 87.20 54 P P 21 16 46.0 +0.7
comp=Z,6.4nm,0.9s,baz=278,slow=2.8,SNR=9.3
KEST LR LR 21 50 51.5
comp=Z,610nm,20.3s,baz=349,slow=32
KEST Kesra 87.20 54 P P 21 16 46.0 +0.7
CLL Collm 87.33 39 *e*P P 21 16 44.0 -1.5
CLL *e* 21 16 54.0
CLL *e*S SKSac 21 27 03.0 -10
CLL pmax pmax
comp=Z,82nm,1.0s
CLL MLR MLR
comp=Z,3µm,20.0s
CLL Collm 87.33 39 *e*P P 21 16 44.7 -0.8
comp=Z,82nm,1.0s
CLL *e*S S 21 27 18.9 -6.6
CLL Collm 87.33 39 *e*P P 21 16 44.0 -1.5
comp=Z,82nm,1.0s
CLL *e*sP sP 21 16 54.0 +1.9
CLL *e*PP **PP** 21 20 12.0 +2.5
CLL *e*SKSac **SKSac** 21 27 11.0 -1.8
CLL *e*S **S** 21 27 26.0 +0.5
comp=N,400nm,20.2s
CLL *e*S **S** 21 27 26.0 +0.5
comp=E,1µm,22.9s
CLL *e*PS **PnS** 21 28 24.0 -2.2
CLL *e*PPS PPS 21 28 52.0
CLL *e* 21 30 01.0
CLL *e*SS **SS** 21 33 10.0 +0.4
CLL *e*SSS SSS 21 36 54.0
CLL *e*(SSSS) 21 39 24.0
CLL *e*SKKSdf SKKSdf 21 41 36.0 -4.8
CLL Lm MLR 21 56 00.0
comp=N,1µm,19.4s
CLL Lm MLR 21 56 00.0
comp=E,2µm,20.3s
CLL Lm MLR 21 56 00.0
comp=Z,3µm,20.0s
RUE Ruedersdorf 87.59 37 *e*P P 21 16 46.3 -0.4
comp=Z,53nm,1.0s
WET Wettzell 87.64 41 *e*P P 21 16 46.5 -0.6
comp=Z,115nm,1.2s
WET *e*S S 21 27 22.2 -6.4
BSD Bornholm Skovb 87.75 35⇑ *i*P P 21 16 46.4 -1.0
comp=Z,33nm,1.0s
BSD
comp=Z,2µm,20.0s
ABTA Abfaltersbach 87.81 43⇓ *i*P P 21 16 46.7 -1.3
comp=Z,70nm,1.1s
RJOB Jochberg 87.83 42 *e*P P 21 16 47.4 -0.7
comp=Z,62nm,1.4s
RJOB *e*S S 21 27 20.8 -10
KTK1 Kautokeino 87.96 20 *e*P P 21 16 47.6 -0.5
BRG Berggiesshubel 87.99 39 *e*P P 21 16 48.0 -0.7
comp=Z,59nm,1.2s
BRG *e*PP PP 21 20 03.5 -11
comp=Z,6.8nm,1.5s
BRG PP PP 21 20 11.0 -3.9
BRG SKS **SKSac** 21 27 14.0 -2.8
BRG S **S** 21 27 35.0 +3.2
BRG SS SS 21 33 00.0 -19
BRG
comp=N,2µm,24.1s
BRG
comp=E,2µm,20.1s
BRG
comp=Z,3µm,19.9s
BRG Berggiesshubel 87.99 39 *e*P P 21 16 48.0 -0.7
BRG 21 20 11.0
BRG 21 27 14.0
BRG S **S** 21 27 35.0 +3.2
BRG pmax pmax
comp=Z,59nm,1.2s

BRG pmax pmax
comp=Z,7.0nm,1.5s
BRG MLR MLR
comp=N,2µm,24.1s
BRG MLR MLR
comp=E,2µm,20.1s
BRG MLR MLR
comp=Z,3µm,19.9s
BRG Berggiesshubel 87.99 39 *e*P **P 21 16 48.2 -0.5**
comp=Z,60nm,1.2s
KHC Kasperske Hory 88.09 41 *e*P **P 21 16 48.8 -0.5**
KHC *e* 21 17 07.0
KHC *e*S **SKSac 21 27 14.6 -3.0**
KHC MLR MLR
comp=Z,8µm,22.0s
KHC Kasperske Hory 88.09 41 *e*P **P 21 16 48.1 -1.1**
comp=Z,59nm,1.3s
KHC Kasperske Hory 88.09 41 *e*P **P 21 16 48.8 -0.5**
KHC *ex* x 21 17 07.0
KHC *ex* x 21 17 38.5
KHC *e*SKS **SKSac 21 27 14.6 -3.0**
KHC *ex* x 21 33 31.8
KHC AMS AMS 21 49 40.0
comp=Z,8µm,22.0s
GEC2 GERESS Array S 88.22 41 *e*P **P 21 16 49.3 -0.7**
comp=Z,64nm,1.3s
GEC2 *e*pP **PcP 21 16 55.3 +3.6**
GERES GERESS Array B 88.22 41 P **P 21 16 48.6 -1.4**
comp=Z,22nm,1.0s,baz=266,slow=2.1,SNR=50
GERES PP **PP 21 20 21.0 +4.1**
comp=Z,0.2nm,0.4s,baz=298,slow=5.9,SNR=3.5
GERES PKKPbc **PKKPdf 21 34 32.6 +3.1**
comp=Z,0.2nm,0.3s,baz=91,slow=4.9,SNR=4.0
GERES PKPPKP **P'P'df 21 42 41.3 -2.6**
comp=Z,0.7nm,0.9s,baz=270,slow=0.3,SNR=4.3
GERES LR LR 21 50 21.4
comp=Z,7µm,21.6s,baz=267,slow=32
GERES GERESS Array B 88.22 41 P **P 21 16 48.6 -1.4**
GERES PP **PP 21 20 21.0 +4.1**
GERES PKKPbc **PKKPdf 21 34 32.6 +3.1**
GERES P'P' 21 42 41.3
KBA Koelnbreinsper 88.31 43⇑ *i*P **P 21 16 48.5 -2.0**
comp=Z,89nm,1.2s
PVCC Panska Ves 88.45 39 *e*P **P 21 16 50.7 -0.2**
PVCC MLR MLR
comp=Z,4µm,20.6s
PVCC Panska Ves 88.45 39 *e*P **P 21 16 50.7 -0.2**
PVCC AMS AMS 21 51 20.0
comp=Z,4µm,20.6s
PRA Prague 88.46 40 P **P 21 16 51.0 +0.1**
PRA AMS AMS 21 51 30.0
PRU Pruhonice 88.54 40 *e*P **P 21 16 49.8 -1.5**
PRU *e*S **SKSac 21 27 19.0 -1.1**
PRU MLR MLR
comp=Z,8µm,22.0s
PRU Pruhonice 88.54 40 *e*P **P 21 16 49.8 -1.5**
PRU *e*SKS **SKSac 21 27 19.0 -1.1**
PRU *ex* x 21 33 42.0
PRU AMS AMS 21 50 10.0
comp=Z,8µm,22.0s
ARCES ARCESS Array B 88.54 19 P **P 21 16 49.0 -2.0**
comp=Z,34nm,0.9s,baz=260,slow=2.9,SNR=36
ARCES LR LR 21 56 12.8
comp=Z,1µm,19.8s,baz=306,slow=36
ARCES ARCESS Array B 88.54 19 P **P 21 16 49.0 -2.0**
ARE0 ARCESS Array S 88.54 19 *e*P **P 21 16 53.5 +2.6**
ARE0 ARCESS Array S 88.54 19 *e*P **P 21 16 49.7 -1.2**
MYKA Terra Mystica 88.60 43⇓ *i*P P 21 16 49.5 -2.2
comp=Z,55nm,1.2s
CADS Cadrg 88.74 44 *i* P **P 21 16 51.5 -0.9**
CADS *e*SKSac **SKSac 21 27 23.2 +1.6**
CADS *e* 21 29 07.2
MOA Molln 88.78 42⇑ *i*P P 21 16 50.4 -2.2
comp=Z,30nm,1.1s
VOY Vojsko 88.88 44 *e*P **P 21 16 51.8 -1.3**
VOY *e* 21 17 05.7
KEV Kevo 88.95 19 *e*P **P 21 16 51.5 -1.3**
KEV pmax pmax
comp=Z,34nm,0.9s
KEV Kevo 88.95 19 *e*P **P 21 16 53.0 +0.2**
comp=Z,29nm,0.8s
KEV LR LR
comp=Z,2µm,20.0s
KEV Kevo 88.95 19 *e*p **P 21 16 51.5 -1.3**
comp=Z,34nm,0.9s
AQU L'Aquila 89.22 47 PFAKE 21 17 10.0 +15
AQU LR LR
comp=Z,3µm,21.0s
TREC Trest 89.28 40 *e*P **P 21 16 54.6 -0.3**
TREC *e*S **SKSac 21 27 23.3 -1.3**
TREC MLR MLR
comp=Z,9µm,22.1s
TREC Trest 89.28 40 *e*P **P 21 16 54.6 -0.3**
TREC *e*SKS **SKSac 21 27 23.3 -1.3**
TREC *ex* x 21 33 52.6
TREC AMS AMS 21 50 50.0
comp=Z,9µm,22.1s
LJU Ljubljana 89.31 44 *i* P **P 21 16 54.9 -0.2**
LJU *e*SKSac **SKSac 21 27 21.8 -3.1**
LJU *e* 21 27 50.0
LJU *e*SS SS 21 33 57.3 +19
UPC Upice 89.36 39 *e*P **P 21 16 55.1 0.0**
UPC Upice 89.36 39 *e*P **P 21 16 55.1 0.0**
KSP Ksiaz 89.46 39 *e*P **P 21 16 55.1 -0.5**
KSP *e*S **S 21 27 44.9 -0.9**
KSP LMZ LR 21 52 25.4
comp=Z,2µm,21.9s
KSP Ksiaz 89.46 39⇑ *e*P **P 21 16 55.2 -0.5**
KSP *e* 21 27 23.0
KSP *e*SS SS 21 33 37.0 -3.6
KSP MLR MLR
comp=Z,4µm,20.0s
KSP Ksiaz 89.46 39 *e*P **P 21 16 55.1 -0.5**
KSP *e*S **S 21 27 44.8 -0.9**
KSP LMZ LR 21 52 25.4
GKP Gorka Klasztor 89.48 36 *e*P **P 21 16 55.3 -0.3**
GKP *e*SKSac **SKSac 21 27 26.0 +0.5**
GKP *e*S **S 21 27 45.3 -0.4**
GKP LMZ LR 21 53 36.6
comp=Z,4µm,20.8s
GKP Gorka Klasztor 89.48 36 *e*P **P 21 16 55.3 -0.3**
GKP *e*SKSac **SKSac 21 27 25.9 +0.5**
GKP *e*S **S 21 27 45.3 -0.4**
GKP LMZ LR 21 53 36.5
SOKA Soboth 89.53 43⇑ *i*P **P 21 16 54.4 -1.7**
comp=Z,29nm,1.4s
DPC Dobruska-Polom 89.58 39 *e*P **P 21 16 56.0 -0.3**
DPC *e*S **SKSac 21 27 24.3 -2.1**
DPC MLR MLR
comp=Z,4µm,20.2s
DPC Dobruska-Polom 89.58 39 *e*P **P 21 16 56.0 -0.3**
DPC *e*SKS **SKSac 21 27 24.3 -2.1**
DPC *ex* x 21 33 55.4
DPC AMS AMS 21 52 00.0
comp=Z,4µm,20.2s
BILL Bilibino 89.67 339 *e*P **P 21 16 56.0 -0.2**
BILL pmax pmax
comp=Z,149nm,1.3s
BILL MLR MLR
comp=Z,2µm,19.0s
BILL Bilibino 89.67 339 *e*P **P 21 16 56.0 -0.2**
comp=Z,149nm,1.3s
BILL LR LR
comp=Z,2µm,19.0s
CONA Conrad Observa 89.82 42⇑ *i*P **P 21 16 56.1 -1.3**
comp=Z,50nm,1.0s
VRAC Vranov 89.99 40 P **P 21 16 57.4 -0.7**
comp=Z,38nm,1.2s,baz=292,slow=6.6,SNR=20
VRAC Vranov 89.99 40⇑ *i*P **P 21 16 57.7 -0.4**
VRAC Vranov 89.99 40⇑ *i*P **P 21 16 57.7 -0.4**
GOLS Golise 90.07 44 *i*P **P 21 16 58.4 -0.2**
SOP Sopron 90.33 42⇓ *e*P **P 21 16 59.7 0.0**
KOGS Kog 90.40 43 *i*P **P 21 16 59.3 -0.7**
MORC Moravsky Berou 90.48 40 *e*P **P 21 17 00.3 -0.2**
MORC *e* 21 20 31.4
MORC pmax pmax
comp=Z,30nm,1.3s
MORC Moravsky Berou 90.48 40 *e*P **P 21 17 00.3 -0.2**
comp=Z,30nm,1.3s
MORC *e*PP **PP 21 20 31.4 -3.5**
MORC Moravsky Berou 90.48 40⇑ *i*P **P 21 17 00.9 +0.4**
AFI Afiamalu 90.59 256 LR LR 21 49 27.4
comp=Z,1µm,18.9s,baz=69,slow=30
SMOL Smolenice 90.71 41 *e*P **P 21 17 02.5 +1.0**
SMOL Smolenice 90.71 41 *e*P **P 21 17 02.5 +1.0**
BEHE Becsehely 90.75 43⇓ *e*P **P 21 17 02.1 +0.4**
OKC Ostrava-Krasne 90.85 39 *e*P **P 21 17 02.1 0.0**
OKC *e*S **SKSac 21 27 32.3 -1.3**
OKC MLR MLR
comp=Z,6µm,21.0s
OKC Ostrava-Krasne 90.85 39 *e*P **P 21 17 02.1 0.0**
OKC *e*SKS **SKSac 21 27 32.3 -1.3**
OKC *ex* x 21 34 14.6
OKC AMS AMS 21 51 50.0
comp=Z,6µm,21.0s
WDD Wield Dalam 91.32 54 PFAKE 21 17 20.0 +15
WDD LR LR
comp=Z,1µm,22.0s
PKSG 91.60 42⇓ *e*P **P 21 17 05.1 -0.6**
VYHS Vyhne 91.62 41 *e*P **P 21 17 05.3 -0.4**
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 91.62 41 *e*P **P 21 17 05.3 -0.4**
FINES FINESS Array B 91.64 27 P **P 21 17 03.8 -1.8**
comp=Z,11nm,0.9s,baz=277,slow=1.5,SNR=23
FINES LR LR 21 53 10.9
comp=Z,4µm,21.9s,baz=289,slow=32
FINES FINESS Array B 91.64 27 P **P 21 17 03.8 -1.8**
FIA1 FINESS Array S 91.64 27 *e*P **P 21 17 04.3 -1.2**
PKS9 Tamasi 91.73 43⇓ *e*P **P 21 17 05.5 -0.8**
OJC Ojcow 91.78 39 *e*P **P 21 17 05.9 -0.5**
OJC *e* 21 27 37.6
OJC *e*S **S 21 28 03.0 -4.0**
OJC MLR MLR
comp=Z,4µm,20.6s
OJC Ojcow 91.78 39 *e*P **P 21 17 05.9 -0.5**
OJC *e*PcP **PcP 21 17 07.9 +0.6**
OJC *e*SKSac **SKSac 21 27 37.6 -1.4**
OJC *e*SKKSac **SKKSac 21 27 54.7 -0.6**
OJC *e*S **S 21 28 03.0 -4.0**
OJC L L 21 53 34.4
comp=Z,4µm,20.6s
RHK3 Tenkes 91.88 43⇓ *e*P **P 21 17 06.8 -0.2**
BEL Belsk 91.94 37 *e*P **P 21 17 06.7 -0.4**
BEL LMZ LR 21 56 29.9
comp=Z,5µm,20.3s
BEL Belsk 91.94 37 *e*P **P 21 17 06.7 -0.4**
BEL LMZ LR 21 56 29.8
BUD Budapest 92.00 42⇓ *e*P **P 21 17 06.2 -1.3**
APA Apatity 92.00 20⇓ *i*P **P 21 17 07.6 +0.6**
APA *i* 21 27 30.0
APA *i* S **S 21 28 08.0 -0.3**
APA *i* SS SS 21 34 24.0 +7.7
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,2µm,22.0s
PKSM Moragy 92.06 43 P **P 21 17 08.4 +0.6**
PKSM Moragy 92.06 43⇑ *i*P **P 21 17 07.2 -0.6**
PKSM Moragy 92.06 43⇓ *e*P **P 21 17 07.7 -0.1**
PKS7 Kunszentmiklos 92.20 42⇓ *e*P **P 21 17 07.7 -0.7**
LVZ Lovozero 92.26 20 *d* *i*P **P 21 17 08.5 +0.2**
LVZ pmax pmax
comp=Z,36nm,1.0s
LVZ MLR MLR
comp=Z,2µm,23.0s
LVZ Lovozero 92.26 20 PFAKE 21 17 20.0 +12
LVZ LR LR
comp=Z,2µm,21.0s
NIE Niedzica 92.32 39 *e*P **P 21 17 08.4 -0.6**
NIE Niedzica 92.32 39 *e*P **P 21 17 08.4 -0.6**
PSZ Piszkesteto 92.45 41 *e*P **P 21 17 09.8 +0.1**
PSZ 21 20 52.5
PSZ pmax pmax
comp=Z,43nm,1.3s
PSZ MLR MLR
comp=Z,4µm,21.0s
PSZ Piszkesteto 92.45 41 *e*P **P 21 17 09.8 +0.1**
comp=Z,43nm,1.3s
PSZ PP **PP 21 20 52.5 +2.0**
PSZ LR LR
comp=Z,4µm,21.0s
PSZ Piszkesteto 92.45 41⇑ *i*P **P 21 17 10.3 +0.6**
PSZ Piszkesteto 92.45 41⇓ *e*P **P 21 17 10.4 +0.7**
SUW Suwalki 92.68 35 *e*P **P 21 17 09.1 -1.4**
SUW LMZ LR 21 55 09.8
comp=Z,3µm,21.1s
SUW Suwalki 92.68 35 *e*P **P 21 17 08.5 -2.0**
SUW pmax pmax
comp=Z,17nm,0.6s
SUW Suwalki 92.68 35 *e*P **P 21 17 08.5 -2.0**
comp=Z,17nm,0.6s
SUW Suwalki 92.68 35 *e*P **P 21 17 09.0 -1.4**
SUW LMZ LR 21 55 09.7
VSU Vasula 93.03 30 *i* P **P 21 17 10.4 -1.6**
CRVS Cervenica-Dubn 93.19 40 *e*P **P 21 17 13.0 0.0**
CRVS pmax pmax
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 93.19 40 *e*P **P 21 17 13.0 0.0**
JOF Joensuu 93.31 25 *e*P P 21 17 10.9 -2.3
JOF pmax pmax
comp=Z,27nm,1.0s
JOF Joensuu 93.31 25 *e*p P 21 17 10.9 -2.3
comp=Z,27nm,1.0s
KOLS Kolonicke sedl 93.69 40 *e*P **P 21 17 15.3 0.0**
KOLS pmax pmax
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 93.69 40 *e*P **P 21 17 15.3 0.0**
KWP Kalwaria Pacla 93.75 39 *e*P **P 21 17 16.2 +0.7**
KWP *e*SKSac **SKSac 21 27 47.0 -2.9**
KWP LMZ LR 21 54 25.4
comp=Z,3µm,21.9s
KWP Kalwaria Pacla 93.75 39 ⇓P **P 21 17 17.1 +1.6**
KWP Kalwaria Pacla 93.75 39 PFAKE 21 17 30.0 +14
KWP LR LR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 93.75 39⇓ *i*P **P 21 17 17.1 +1.6**
KWP Kalwaria Pacla 93.75 39 *e*P **P 21 17 16.2 +0.7**
KWP *e*SKSac **SKSac 21 27 47.0 -2.9**
KWP LMZ LR 21 54 25.4
UZH Uzhgorod 93.79 40⇓ *i*P **P 21 17 16.1 +0.4**
UZH *i* 21 17 27.1
UZH *e* 21 27 42.7
UZH *e*S S 21 28 18.8 -6.1
UZH *e*PS **PS 21 29 32.3 -8.0**
TRPA Tarpa 94.10 40⇓ *i*P **P 21 17 18.2 +1.1**
TRPA Tarpa 94.10 40⇓ *e*P **P 21 17 16.8 -0.3**
TIR Tirane 94.16 47 PFAKE 21 17 30.0 +12
TIR LR LR
comp=Z,2µm,19.0s
BZS Buzias 94.22 43 P **P 21 17 17.9 +0.1**
BZS Buzias 94.22 43⇑ *i*P **P 21 17 18.1 +0.3**
NACGM Naroch 94.36 33 *e* P 21 17 14.0 -4.2
LVV L'vov 94.51 38 *e*P **P 21 17 18.8 -0.2**
LVV *e* 21 21 01.2
LVV *e*PPP PPP 21 23 18.2
LVV *e* 21 27 50.0
LVV *e*S S 21 28 25.4 -5.8
LVV *e*PS **PS 21 29 45.0 -3.2**
DRGR 94.61 42 P **P 21 17 18.6 -1.0**
DRGR 94.61 42⇑ *i*P **P 21 17 18.9 -0.7**
SNAA Sanae 94.99 162 *e*P **P 21 17 20.4 -0.3**
comp=Z,29nm,1.2s
SNAA *e*PP **PP 21 21 10.3 +0.3**
TMCR Tamitsa 95.35 22 *e*P P 21 17 20.0 -2.5
TMCR *e* 21 21 09.7
TMCR pmax pmax
comp=Z,33nm,1.5s
BUR08 Bucovina Ar. S 95.95 40 *e*P **P 21 17 25.9 +0.1**
BURAR Bucovina Array 95.97 40⇑ *i*P **P 21 17 27.3 +1.4**
VAY Valandovo 96.12 47 *e*P **P 21 17 25.8 -0.8**
VTS Vitosha 96.20 45⇑⇑P **P 21 17 27.8 +0.7**
VTS Vitosha 96.20 45⇑*i*P **P 21 17 27.8 +0.7**
VOIR 96.58 42⇑⇑P **P 21 17 28.8 +0.1**
VOIR 96.58 42⇑*i*P **P 21 17 28.8 +0.1**
MLR Muntele Rosu 97.15 42 LR LR 21 58 49.1
comp=Z,927nm,20.2s,baz=282,slow=34
MLR Muntele Rosu 97.15 42⇑ *i*P **P 21 17 31.6 +0.3**
SEY Seymchan 97.18 338⇑ *e*P **P 21 17 31.1 +0.2**
KIEV Kiev 97.31 36 PFAKE 21 17 40.0 +8.2
KIEV LR LR
comp=Z,4µm,20.0s
AKASG Malin Array Be 97.31 36 P **P 21 17 30.0 -1.7**
comp=Z,1.1nm,0.4s,baz=295,slow=3.5,SNR=7.8
AKASG PP **PP 21 21 31.1 +3.1**
comp=Z,0.3nm,0.3s,baz=303,slow=6.9,SNR=4.2
AKASG PKKP **PKKPbc 21 34 11.8 0.0**
comp=Z,0.3nm,0.3s,baz=168,slow=0.9,SNR=4.6
AKASG LR LR 21 59 54.0
comp=Z,4µm,19.6s,baz=280,slow=35
AKASG Malin Array Be 97.31 36 P **P 21 17 30.0 -1.7**
AKASG 21 21 31.1
AKASG Malin Array Be 97.31 36 P **P 21 17 30.0 -1.7**
AKASG PP **PP 21 21 31.1 +3.1**
AKASG PKKP **PKKPbc 21 34 11.8 0.0**
KLMR Klimovskoe 97.71 25 *e*P P 21 17 30.4 -2.9
KLMR *e* 21 21 32.5
KLMR S SKSac 21 27 59.8 -11
KLMR pmax pmax
comp=Z,78nm,1.5s
KIS Kishinev 98.48 40 *e*P Pdif 21 17 40.0 +2.9
KIS *e* 21 21 42.0
KIS *e* 21 28 10.0
KIS *e*PS **PS 21 30 24.0 -7.6**
KIS Kishinev 98.48 40 *e*P Pdif 21 17 40.0 +2.9
KIS *e*SKS SKSac 21 28 10.0 -4.8
KIS Kishinev 98.48 40 *e*PS PS 21 30 24.0 -7.6
KIS LRM MLR 21 56 40.0
comp=Z,5µm,20.0s
QSPA South Pole Qui 98.48 180 PFAKE 21 17 50.0 +13
QSPA LR LR
comp=Z,2µm,19.0s
OBN Obninsk 99.36 30 *i* P **Pdif 21 17 39.6 -1.2**
OBN *e* 21 21 42.1
OBN pmax pmax
comp=Z,37nm,1.6s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 99.36 30 PFAKE 21 17 50.0 +9.2
OBN LR LR
comp=Z,3µm,20.0s
NVL N'lazarevskaya 99.64 160 *e*P **Pdif 21 17 41.8 +0.2**
NVL *e*S **SKSac 21 28 18.7 -0.7**
NVL pmax pmax
comp=Z,9.0nm,1.0s
NVL MLR MLR
comp=Z,2µm,19.0s
PETK Petropavlovsk- 99.94 328 LR LR 22 07 28.6
comp=Z,1µm,21.4s,baz=47,slow=38
MSVF Nonsavu 100.78 254 PFAKE 21 18 00.0 +12
MSVF LR LR
comp=Z,2µm,19.0s
SBA Scott Base 102.41 192 PFAKE 21 18 00.0 +6.1
SBA LR LR
comp=Z,2µm,20.0s
TSUM Tsumeb 102.92 108 *e*Pdif **Pdif 21 17 57.1 -0.5**
comp=Z,19nm,1.3s
TSUM *e*PP **PP 21 22 12.2 +0.1**
TSUM LR LR
comp=Z,3µm,20.0s
ISP Isparta 103.07 48 PFAKE 21 18 10.0 +12
ISP LR LR
comp=Z,2µm,20.0s
TARA Tarawa 103.47 273 PFAKE 21 18 10.0 +10
TARA LR LR
comp=Z,2µm,19.0s
BRTR Keskin Array B 104.58 45 Pdiff **Pdif 21 18 12.0 +7.4**
comp=Z,0.5nm,0.7s,baz=286,slow=2.6,SNR=4.0
BRTR PP **PKiKP 21 22 18.4 -2.1**
comp=Z,1.6nm,1.1s,baz=290,slow=5.1,SNR=3.8
BRTR PKKPbc **PKKPbc 21 33 50.3 -0.5**
comp=Z,0.6nm,0.6s,baz=157,slow=6.7,SNR=4.4
BRTR Keskin Array B 104.58 45 Pdif **Pdif 21 18 12.0 +7.4**
BRTR PP **PKiKP 21 22 18.4 -2.1**
BRTR PKKPbc **PKKPbc 21 33 50.3 -0.5**
SNZO South Karori 104.59 230 PFAKE 21 18 20.0 +16
SNZO LR LR
comp=Z,4µm,21.0s
YAK Yakutsk 105.19 345 PFAKE 21 22 30.0
YAK LR LR
comp=Z,2µm,20.0s
CSS Prodhromos 106.25 50 PFAKE 21 22 30.0
CSS LR LR
comp=Z,813nm,20.0s
SUR Sutherland 106.35 121 PFAKE 21 22 40.0
SUR LR LR
comp=Z,2µm,20.0s
ARU Arti 108.06 21 PFAKE 21 22 40.0
ARU LR LR
comp=Z,3µm,21.0s
KIV Kislovodsk 108.53 38 PFAKE 21 22 40.0
KIV LR LR
comp=Z,2µm,21.0s
BOSA Boshof 110.24 117 PKiKP **PKiKP 21 22 30.7 -0.6**
comp=Z,6.7nm,1.1s,baz=33,slow=3.9,SNR=5.2
BOSA PP **PP 21 23 06.3 +0.6**
comp=Z,18nm,1.2s,baz=278,slow=6.8,SNR=4.4
BOSA Boshof 110.24 117 PKiKP **PKiKP 21 22 30.7 -0.6**
BOSA PP **PP 21 23 06.3 +0.6**
YSS Yuzh-Sakhalins 111.34 328 PFAKE 21 22 40.0
YSS LR LR
comp=Z,573nm,19.0s
YUK Yuzh-Kuril'sk 111.44 324 *i* PKIKP **PKiKP 21 22 32.2 -0.8**
YUK 21 29 42.9
YUK *e*PS **PS 21 32 37.4 -8.0**
GNI Garni 111.87 41 PFAKE 21 22 50.0
GNI LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 111.92 250 *e*Pdif **Pdif 21 18 39.7 +2.2**
comp=Z,166nm,27.2s
DZM Mont Dzumac 111.92 250 *e*PP PP 21 23 08.7 -9.2
comp=Z,373nm,25.7s
DZM *e*SP SP 21 32 51.4 +2.1
comp=Z,753nm,31.1s
DZM *e*SS **SS 21 38 55.9 +0.5**
comp=Z,788nm,28.1s
DZM *e*LR LR 21 56 00.9
comp=Z,1µm,23.7s
MAK Makhachkala 111.99 37 *i* PKIKP **PKiKP 21 22 31.9 -2.2**
MAK *e* 21 23 18.0
MAK *e*PPP PPP 21 25 44.4
MAK *e* 21 29 13.0
MAK pmax pmax
comp=Z,188nm,1.2s
BOD Bodaibo 112.44 350 *e*PKIKP PKiKP 21 22 45.1 +11
BOD pmax pmax
comp=Z,5.0nm,1.2s
BOD pmax pmax
comp=Z,18nm,1.4s
LSZ Lusaka 112.79 103 PFAKE 21 22 50.0
LSZ LR LR
comp=Z,1µm,20.0s
HABR Khabarovsk 114.03 333 *e*P **Pdif 21 18 44.1 -2.1**
HABR *e*PPP PPP 21 25 53.7
HABR *e*PS **PS 21 33 07.3 -1.7**
HABR *e*SSS SSS 21 43 33.4
HABR pmax pmax
comp=Z,76nm,2.5s
HABR pmax pmax
comp=N,75nm,2.5s
HABR pmax pmax
comp=E,75nm,2.4s
HABR MLR MLR
comp=Z,854nm,23.0s
ABKAR Akbulak array 114.09 25 *e*PKiKP **PKiKP 21 22 38.2 +0.3**
ABKAR *e*PP **PP 21 23 31.2 -0.3**
ERM Erimo 114.24 324 PFAKE 21 22 50.0 +12
ERM LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 114.68 17 PFAKE 21 22 50.0 +11
BRVK LR LR
comp=Z,3µm,20.0s
BVAR Borovoye Array 114.74 17 PKP PKPdf 21 22 38.3 -0.8
comp=Z,1.1nm,0.8s,baz=336,slow=3.3,SNR=5.1
BVAR PP PP 21 23 28.8 -7.2
comp=Z,2.2nm,0.9s,baz=321,slow=3.8,SNR=6.7
BVAR PKKPbc **PKKPbc 21 33 15.7 -2.7**
comp=Z,0.7nm,0.9s,baz=145,slow=5.4,SNR=4.0
BVAR Borovoye Array 114.74 17 PKIKP PKPdf 21 22 38.3 -0.8
BVAR 21 33 15.7
BVAR Borovoye Array 114.74 17 PKP PKPdf 21 22 38.3 -0.8
BVAR PP PP 21 23 28.8 -7.2
BVAR PKKPbc **PKKPbc 21 33 15.7 -2.7**
DRV Dumont d'Urvil 114.93 198 PP PKPdf 21 22 29.0 -10
DRV Dumont d'Urvil 114.93 198 L L 21 50 00.0
DRV R 21 57 00.0
ZAA0 Zalesovo Array 116.99 8 *e*PKPdf **PKPdf 21 22 41.7 -1.6**
ZALV Zalesovo Beam 116.99 8 Pdiff **Pdif 21 19 04.9 +5.6**
comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=2.9
ZALV PKP **PKPdf 21 22 40.4 -3.0**
comp=Z,11nm,1.1s,baz=336,slow=3.3,SNR=19
ZALV PP **PP 21 23 48.2 -3.4**

comp=Z,17nm,1.1s,baz=340,slow=7.9,SNR=14
ZALV PKKPbc **PKKPbc** **21 33 11.3 +0.7**
comp=Z,1.0nm,0.7s,baz=170,slow=4.2,SNR=5.4
ZALV Zalesovo Beam 116.99 8 P **Pdif** **21 19 04.9 +5.6**
ZALV 21 22 40.4
ZALV 21 23 48.2
ZALV Zalesovo Beam 116.99 8 Pdif **Pdif** **21 19 04.9 +5.6**
ZALV PKP **PKPdf** **21 22 40.4 -3.0**
ZALV PP **PP** **21 23 48.2 -3.4**
ZALV PKKPbc **PKKPbc** **21 33 11.3 +0.7**
HNR Honiara 117.64 264 PFAKE 21 23 00.0 +14
HNR LR LR
comp=Z,3μm,21.0s
USRK Ussuriysk Arra 118.63 332 PKP **PKPdf** **21 22 44.9 -1.8**
comp=Z,9.7nm,1.1s,baz=254,slow=1.6,SNR=11
KURK Kurchatov 118.97 13 PKIKP **PKPdf** **21 22 45.8 -1.5**
KURK MLR MLR
comp=Z,5μm,20.0s
KURK Kurchatov 118.97 13 PKP **PKPdf** **21 22 45.8 -1.5**
KURK *e*PKPdf **PKiKP** **21 22 46.1 -1.2**
KURK PP PP 21 23 58.1 -7.3
KURK PKKPbc **PKKPbc** **21 33 00.8 -2.6**
KURK LR LR
comp=Z,5μm,20.0s
KURBB Kurchatov Arra 119.04 13 PKP **PKPdf** **21 22 45.8 -1.6**
comp=Z,4.0nm,0.9s,baz=332,slow=2.3,SNR=15
KURBB PP PP 21 23 58.1 -7.8
comp=Z,2.4nm,0.9s,baz=341,slow=5.8,SNR=4.2
KURBB PKKPbc **PKKPbc** **21 33 00.8 -2.3**
comp=Z,3.8nm,1.1s,baz=166,slow=3.7,SNR=9.8
HIA Hailar 119.06 343 PFAKE 21 23 00.0 +12
HIA LR LR
comp=Z,3μm,20.0s
MDJ Mudanjiang 119.40 334 PKP **PKPdf** **21 22 48.1 -0.2**
MDJ sPKP 21 22 53.6
MDJ PP **PP** **21 24 08.9 +0.2**
MDJ PKS **PKSdf** **21 26 25.7 +0.8**
MDJ SKS **SKSdf** **21 29 58.5 -1.6**
MDJ SS **SS** **21 40 31.1 +0.8**
MDJ AMB AMB
comp=Z,520nm,8.1s
MDJ LR LR
comp=N,440nm,30.7s
MDJ LR LR
comp=E,1μm,30.7s
MDJ LR LR
comp=Z,2μm,23.9s
MDJ Mudanjiang 119.40 334 PFAKE 21 23 00.0 +12
MDJ LR LR
comp=Z,2μm,22.0s
TLY Talaya 119.78 355 PFAKE 21 23 00.0 +11
TLY LR LR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 120.32 86 PFAKE 21 23 00.0 +8.8
KMBO LR LR
comp=Z,2μm,20.0s
MJAR Matsushiro Arr 120.67 322 PKP **PKPdf** **21 22 49.0 -2.0**
comp=Z,6.8nm,0.9s,baz=298,slow=0.4,SNR=11
MJAR Matsushiro Arr 120.67 322 PKP **PKPdf** **21 22 49.0 -2.0**
MAJO Matsushiro 120.67 322 *e*PKIKP **PKPdf** **21 22 51.3 +0.3**
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 120.67 322 *e*PKPdf **PKPdf** **21 22 51.2 +0.3**
MAJO LR LR
comp=Z,1μm,19.0s
ZAK Zakamensk 121.10 355 *e*PKIKP **PKPdf** **21 22 49.2 -2.3**
ZAK *e* 21 24 18.8
ZAK pmax pmax
comp=Z,3.0nm,1.3s
CASY Casey 121.52 186 PFAKE 21 23 00.0 +8.4
CASY LR LR
comp=Z,4μm,20.0s
CN2 Changchun 121.81 336 *e*PKP **PKPdf** **21 22 49.5 -3.5**
CN2 *e*PP **PP** **21 24 25.8 +0.6**
CN2 AMB AMB
comp=Z,400nm,8.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,1μm,20.0s
CN2 LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 123.16 352 *e*PKPdf **PKPdf** **21 22 54.7 -1.0**
ULN LR LR
comp=Z,2μm,19.0s
SONM Songino Array 123.28 352 PKP **PKPdf** **21 22 53.7 -2.2**
comp=Z,7.2nm,1.0s,baz=286,slow=1.1,SNR=13
SONM PP PP 21 24 30.8 -4.1
comp=Z,2.3nm,0.8s,baz=40,slow=2.5,SNR=4.0
SONM Songino Array 123.28 352 PKP **PKPdf** **21 22 53.7 -2.2**
SONM PP PP 21 24 30.8 -4.1
MK31 Makanchi Array 123.47 12 *e*PKIKP **PKPdf** **21 22 53.8 -2.3**
MK31 Makanchi Array 123.47 12 *e*PKPdf **PKPdf** **21 22 53.8 -2.3**
MKAR Makanchi Array 123.47 12 PKP **PKPdf** **21 22 54.1 -2.0**
comp=Z,3.9nm,0.9s,baz=327,slow=2.0,SNR=17
MKAR PKKPbc **PKKPab** **21 32 43.7 -2.4**
comp=Z,1.1nm,1.1s,baz=163,slow=4.7,SNR=5.0
MKAR Makanchi Array 123.47 12 PKIKP **PKPdf** **21 22 54.1 -2.0**
MKAR Makanchi Array 123.47 12 PKP **PKPdf** **21 22 54.1 -2.0**
MKAR PKKPbc **PKKPab** **21 32 43.7 -2.4**
TAU Tasmania Unive 124.13 223 PFAKE 21 23 10.0 +13
TAU LR LR
comp=Z,3μm,19.0s
EKS2 Erkin-Say 124.94 21 *e*PKIKP **PKPdf** **21 22 59.0 -0.2**
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 124.94 21 *e*PKPdf **PKPdf** **21 22 59.0 -0.2**
EKS2 LR LR
comp=Z,3μm,20.0s
FRU Bishkek 125.08 20 *e*PKIKP **PKPdf** **21 22 59.5 +0.2**
AAK Ala-Archa 125.21 20 PKP **PKPdf** **21 22 58.6 -1.2**
comp=Z,6.3nm,0.9s,baz=121,slow=1.1,SNR=14
AAK Ala-Archa 125.21 20 PKIKP **PKPdf** **21 22 58.6 -1.2**
AAK *e* 21 24 49.1
AAK MLR MLR
comp=Z,3μm,19.0s
AAK Ala-Archa 125.21 20 PKP **PKPdf** **21 22 58.6 -1.2**
AAK *e*PKPdf **PKiKP** **21 22 59.5 -0.6**
AAK *e*PP **PP** **21 24 49.1 +0.9**
AAK LR LR
comp=Z,3μm,19.0s
TKM2 Tokmak 2 125.32 19 *e*PKIKP **PKPdf** **21 22 59.9 -0.1**
TKM2 MLR MLR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 125.32 19 *e*PKPdf **PKPdf** **21 22 59.9 -0.1**
TKM2 LR LR
comp=Z,3μm,20.0s
CAN Canberra 125.43 233 PFAKE 21 23 10.0 +10
CAN LR LR
comp=Z,2μm,20.0s
KSRS Korea Array 125.78 329 PKP **PKPdf** **21 22 60.0 -0.8**
comp=Z,32nm,0.9s,baz=20,slow=1.3,SNR=65
KSAR Wonju Array Be 125.81 330 PKP **PKPdf** **21 22 60.0 -0.9**
INCN Inchon 126.40 331 PFAKE 21 23 10.0 +8.0
INCN LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 127.29 8 PKP **PKPdf** **21 23 03.4 -0.2**
WMQ PP PP 21 25 06.9 +5.2
WMQ SKKS **SKKSac** **21 31 58.0 -2.5**
WMQ S **Sdif** **21 33 03.6 -2.8**
WMQ SS **SS** **21 42 14.5 +4.7**
WMQ LR LR
comp=N,3μm,22.0s
WMQ LR LR
comp=E,2μm,20.0s
WMQ LR LR
comp=Z,4μm,22.0s
JNU Nakatsue 127.40 324 PKP **PKPdf** **21 23 02.9 -1.2**
comp=Z,21nm,1.0s,baz=16,slow=4.9,SNR=5.9
JNU Nakatsue 127.40 324 PKP **PKPdf** **21 23 02.9 -1.2**
JNU *e*PKPdf **PKiKP** **21 23 03.7 -0.9**
DL2 Dalian 127.48 336 *e*PKP **PKPdf** **21 23 03.6 -0.3**
DL2 *e*PP PP 21 25 10.5 +7.4
DL2 LR LR
comp=E,870nm,17.7s
DL2 LR LR
comp=Z,1μm,19.6s
ASUD Al Ashush, Dub 127.90 50 P **PKPdf** **21 23 06.2 +1.0**
SNR=5.1
BJI Beijing 128.48 341 PKP **PKPdf** **21 23 03.6 -2.2**
BJI SS SS 21 42 25.9 +1.2
BJI LR LR
comp=N,3μm,18.7s
BJI LR LR
comp=E,730nm,19.8s
BJI LR LR
comp=Z,2μm,19.8s
KSH Kashi 128.50 21 *e*PKP **PKPdf** **21 23 06.7 +0.6**
KSH *e*PP PP 21 25 15.6 +5.7
KSH PKS **PKSdf** **21 26 43.9 +1.1**
KSH SKS **SKSdf** **21 30 18.5 +0.8**
KSH SKKS **SKKSac** **21 32 08.5 +0.2**
KSH SS **SS** **21 42 30.6 +5.3**
KSH AMB AMB
comp=Z,360nm,9.2s
KSH LR LR
comp=N,3μm,21.0s
KSH LR LR
comp=E,770nm,16.8s
KSH LR LR
comp=Z,3μm,20.1s
BJT Baijiatuan 128.50 341 PFAKE 21 23 20.0 +14
BJT LR LR
comp=Z,4μm,19.0s
HHC Hu-ho-hao-te 129.04 346 *e*PKP **PKPdf** **21 23 06.8 -0.3**
HHC SKS SKSdf 21 30 11.6 -7.0
HHC LR LR
comp=N,3μm,20.0s
HHC LR LR
comp=E,2μm,23.7s
HHC LR LR
comp=Z,4μm,20.1s
KBL Kabul 129.80 30 *e*PKIKP **PKPdf** **21 23 07.7 -1.1**
KBL Kabul 129.80 30 *e*PKPdf **PKPdf** **21 23 07.7 -1.1**
ABTO Aybut 129.97 59 P **PKPdf** **21 23 09.0 -0.3**
SNR=15
PMG Port Moresby 130.23 265 PKP **PKPdf** **21 23 10.4 +0.6**
comp=Z,13nm,0.9s,baz=359,slow=2.0,SNR=6.2
PMG Port Moresby 130.23 265 *e*PKPdf **PKPdf** **21 23 09.0 -0.8**
PMG PKP **PKPdf** **21 23 10.4 +0.6**
PMG LR LR
comp=Z,2μm,19.0s
BSY Bisya 130.37 50 P **PKPdf** **21 23 09.0 -0.9**
SNR=19
RBK Rabkut 130.66 58 P **PKPdf** **21 23 10.6 0.0**
SNR=5.3
CTA Charters Tower 130.83 251 PKP **PKPdf** **21 23 09.8 -1.0**
comp=Z,22nm,1.1s,baz=250,slow=1.0,SNR=5.3
CTA Charters Tower 130.83 251 PKP **PKPdf** **21 23 09.8 -1.0**
CTAO Charters Tower 130.83 251 PFAKE 21 23 20.0 +9.2
CTAO LR LR
comp=Z,2μm,19.0s
SMDO Samad 130.84 50 P **PKPdf** **21 23 09.9 -1.0**
SNR=29
ABPO Ambohimpanom 130.92 108 *e*PKIKP **PKPdf** **21 23 11.0 -0.2**
ABPO MLR MLR
comp=Z,2μm,21.0s
ABPO Ambohimpanom 130.92 108 *e*PKPdf **PKPdf** **21 23 11.0 -0.2**
ABPO LR LR
comp=Z,2μm,21.0s
WSAR Wadi Sarin 131.17 49 PKP **PKPdf** **21 23 09.2 -2.2**
comp=Z,14nm,1.0s,baz=257,slow=2.2,SNR=13
WSAR Wadi Sarin 131.17 49 PKP **PKPdf** **21 23 09.2 -2.2**
JMDO Jabal Madar 131.27 50 P **PKPdf** **21 23 10.5 -1.2**
SNR=5.2
WBK Wadi Bani Khal 131.79 49 P **PKPdf** **21 23 12.5 -0.1**
SNR=11
GTA Gaotai 132.26 357 PKP **PKPdf** **21 23 12.8 -0.4**
GTA sPKP 21 23 19.7
GTA PP **PP** **21 25 37.2 +3.1**
GTA PKS **PKSdf** **21 26 47.5 -2.3**
GTA SKS **SKSdf** **21 30 22.5 -2.1**
GTA SKKS **SKKSac** **21 32 28.4 -3.2**
GTA SS **SS** **21 43 10.9 -0.1**
GTA AMB AMB
comp=Z,800nm,8.3s
GTA LR LR
comp=N,3μm,19.9s
GTA LR LR
comp=E,2μm,20.9s
GTA LR LR
comp=Z,3μm,20.4s
STKA Stephens Creek 132.36 234 PKP **PKPdf** **21 23 11.7 -1.8**
comp=Z,12nm,0.9s,baz=98,slow=3.8,SNR=16
STKA Stephens Creek 132.36 234 PKP **PKPdf** **21 23 11.7 -1.8**
NIL Nilore 132.52 27 PFAKE 21 23 20.0 +6.2
NIL LR LR
comp=Z,25nm,19.0s
COEN Coen 134.20 259 *e*PKPdf **PKPdf** **21 23 17.0 -0.2**
NJ2 Nanjing 134.49 333 *e*PKP **PKPdf** **21 23 16.7 -0.7**
NJ2 sPKP 21 23 21.0
NJ2 PP **PP** **21 25 48.0 -0.6**
NJ2 PKS **PKSdf** **21 26 53.0 -0.9**
NJ2 SKS **SKSdf** **21 30 28.0 -0.5**
NJ2 AMB AMB
comp=Z,550nm,10.5s
NJ2 LR LR
comp=N,1μm,25.4s
NJ2 LR LR
comp=E,360nm,19.8s
NJ2 LR LR
comp=Z,460nm,21.3s
LZH Lanzhou 135.16 352 ⇑PKP **PKPdf** **21 23 18.7 -0.1**
LZH sPKP 21 23 23.4
LZH PP **PP** **21 25 51.6 -1.0**
LZH SKS SKSdf 21 30 24.3 -5.7
LZH SKKS SKKSac 21 32 42.5 -6.9
LZH AMB AMB
comp=Z,350nm,7.0s
LZH LR LR
comp=N,3μm,18.2s
LZH LR LR
comp=E,2μm,18.0s
LZH LR LR
comp=Z,3μm,20.0s
XAN Xi'an 136.16 345 PKP **PKPdf** **21 23 19.9 -0.7**
XAN PKS PKSdf 21 26 51.8 -5.2
XAN SKKS 21 32 48.0
XAN AMB AMB
comp=Z,97nm,8.8s
XAN LR LR
comp=N,2μm,19.7s
XAN LR LR
comp=E,490nm,19.3s
XAN LR LR
comp=Z,670nm,18.1s
DDI Dehra Dun 137.44 24 *e*P **PKPdf** **21 23 23.0 -0.1**
WHN Wuhan 137.67 337 PKP **PKPdf** **21 23 22.2 -1.2**
WHN PP **PP** **21 26 10.3 +1.8**
WHN PKS PKSdf 21 26 53.6 -6.1
WHN LR LR
comp=N,4μm,18.6s
WHN LR LR
comp=E,4μm,20.0s
WHN LR LR
comp=Z,5μm,18.4s
BHGR Bahadurgarh 138.38 27 *e*P **PKPdf** **21 23 22.1 -2.6**
KHET Khetri 138.39 28 *ex* PKPdf 21 23 17.6 -7.2
RER Riviere de l'E 138.54 112 PFAKE 21 23 40.0 +15
RER LR LR
comp=Z,2μm,21.0s
AYAN Aya Nagar 138.65 27 *e*P **PKPdf** **21 23 23.8 -1.5**
BISR Bishrakh 138.71 26 *e*P **PKPdf** **21 23 22.7 -2.7**
SONA Sohna 138.83 27 *ex* PKPdf 21 23 18.6 -7.0
MSEY Mahe Island 138.84 87 PFAKE 21 23 40.0 +14
MSEY LR LR
comp=Z,970nm,22.0s
TATO Taipei 138.92 325 PFAKE 21 23 40.0 +14
TATO LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 139.22 325 PFAKE 21 23 40.0 +13
YHNB LR LR
comp=Z,2μm,20.0s
ENH Enshi 139.57 343 *e*PKPpre PKPpre 21 23 19.6
ENH *e*PKPdf **PKPdf** **21 23 26.9 0.0**
ENH LR LR
comp=Z,3μm,20.0s
AGRA Agra 140.09 27 *e*P **PKPdf** **21 23 27.0 -0.9**
SSLB Suanglung 140.15 324 *e*PKPdf **PKPdf** **21 23 27.6 -0.6**
CD2 Chengdu 140.25 351 PKP PKPdf 21 23 22.0 -6.2
CD2 sPKP 21 23 36.4
CD2 PKS PKSdf 21 26 56.5 -7.9
CD2 SKS SKSdf 21 30 29.4 -9.1
CD2 AMB AMB
comp=Z,460nm,11.3s
CD2 LR LR
comp=N,2μm,22.0s
CD2 LR LR
comp=Z,3μm,23.2s
QZH Quanzhou 140.54 328 PKP **PKPdf** **21 23 25.7 -3.1**
QZH PP **PP** **21 26 27.8 +1.3**
QZH SS SS 21 44 47.4 -3.3
QZH LR LR
comp=N,2μm,17.4s
QZH LR LR
comp=E,4μm,20.5s
QZH LR LR
comp=Z,3μm,25.1s
PYUN Piuthan 141.27 20 *e*P PKPdf 21 23 22.8 -7.5
comp=Z,95nm,1.2s
DANN Dangsing 141.28 18 *e*P PKPdf 21 23 22.8 -7.7
comp=Z,73nm,0.9s
AS31 Alice Springs 141.39 243 *e*PKPpre PKPpre 21 23 23.9
AS31 *e*PKPdf **PKPdf** **21 23 30.4 0.0**
ASAR Alice Springs 141.39 243 PKhKP PKPpre 21 23 23.9
comp=Z,13nm,0.7s,baz=116,slow=3.4,SNR=66
ASAR PKP **PKPdf** **21 23 29.9 -0.4**
comp=Z,23nm,0.9s,baz=115,slow=2.1,SNR=22
ASAR Alice Springs 141.39 243 PKPpre PKPpre 21 23 23.9
ASAR PKP **PKPdf** **21 23 29.9 -0.4**
LSA Lhasa 141.65 8 PFAKE 21 23 40.0 +8.7
LSA LR LR
comp=Z,2μm,20.0s
KOLN Koldanda 141.77 19 *e*P PKPdf 21 23 24.3 -6.9
comp=Z,18nm,0.9s
GKN Gorkha 141.88 17 *e*P PKPdf 21 23 24.7 -6.6
comp=Z,63nm,1.0s
WRAB Tennant Creek 141.91 249 *e*PKHKP PKPpre 21 23 25.8
WRAB MLR MLR
comp=Z,2μm,19.0s
WRAB Tennant Creek 141.91 249 *e*PKPpre PKPpre 21 23 25.8
WRAB LR LR
comp=Z,2μm,19.0s
WRA Warramunga Arr 141.92 248 PKhKP PKPpre 21 23 24.9
comp=Z,45nm,1.0s,baz=94,slow=3.2,SNR=123
WRA PKP **PKPdf** **21 23 30.9 -0.5**
comp=Z,12nm,0.7s,baz=95,slow=3.0,SNR=26
WRA Warramunga Arr 141.92 248 PKPpre PKPpre 21 23 24.9
WRA PKP **PKPdf** **21 23 30.9 -0.5**
KKN Kakani 142.26 17 *e*P PKPdf 21 23 26.2 -5.9
comp=Z,88nm,1.0s
GUN Gumba 142.32 16 *e*P PKPdf 21 23 26.3 -6.1
comp=Z,109nm,0.9s
DMN Daman 142.39 17 *e*P PKPdf 21 23 26.5 -5.9
comp=Z,78nm,1.1s
PKI Pulchoki 142.51 17 *e*P PKPdf 21 23 27.0 -5.7
comp=Z,49nm,0.9s
JIRN Jiri 142.64 16 *e*P PKPdf 21 23 27.7 -5.3
TAPN Taplejung 143.31 14 *e*P PKPab 21 23 29.0 -0.9
comp=Z,67nm,0.9s
FORT Forrest 143.33 228 *e*PKPdf PKPab 21 23 28.8 -0.6
RAMN Ramite 143.42 15 *e*P PKPab 21 23 29.1 -1.2
comp=Z,112nm,0.8s
ODAN Odare 143.71 14 *e*P PKPab 21 23 29.9 -1.5
comp=Z,110nm,1.1s
GYA Guiyang 143.95 345⇑ *i*PKP PKPab 21 23 31.9 -0.3
GYA PKS **PKSdf** **21 27 08.4 -2.5**
GYA SKKS 21 33 38.9
GYA SS **SS** **21 45 30.2 +0.5**
GYA AMB AMB
comp=Z,1μm,7.8s
GYA LR LR
comp=N,710nm,25.0s
GYA LR LR
comp=E,620nm,25.4s
GYA LR LR
comp=Z,820nm,25.2s
POO Poona 144.91 40⇑ *i*P **PKPab** **21 23 33.0 -2.8**
comp=Z,120nm,1.0s
AKL Akola 145.10 34 *e*P **PKPab** **21 23 34.7 -1.7**
AKL AMP 21 23 38.8
comp=Z,357nm,0.9s
AKL *i* x x 21 26 38.4
NGP Nagpur 145.80 30 *e*P **PKPdf** **21 23 35.2 -3.0**
NGP *ex* x 21 23 39.2
comp=Z,250nm,0.8s
NGP *ex* x 21 27 22.2
PLP Palo 145.80 304‖ *e*P **PKPdf** **21 23 37.3 -1.0**
SHL Shillong 145.82 8 *e*PKP **PKPdf** **21 23 37.5 -0.8**
SHL *ex* x 21 27 05.0
KMI Kunming 146.09 350 PKPbc **PKPdf** **21 23 38.0 -0.9**
KMI sPKP 21 23 45.4
KMI PP **PP** **21 27 02.5 +2.9**
KMI SS SS 21 45 51.9 -2.3
KMI AMB AMB
comp=Z,370nm,6.2s
KMI LR LR
comp=N,2μm,17.3s
KMI LR LR
comp=E,650nm,19.5s
KMI LR LR
comp=Z,2μm,18.4s
LATR Latur 146.66 37 *ex* **PKPab** **21 23 40.2 -2.1**
IMP Imphal 146.82 5 *e*P **PKPdf** **21 23 39.0 -0.9**
IMP *ex* x 21 23 56.0
TGY Tagaytay City 147.14 313 PKPbc **PKPdf** **21 23 42.0 +1.4**
comp=Z,186nm,0.3s,baz=232,slow=18,SNR=9.3
TGY Tagaytay City 147.14 313 PKPbc **PKPdf** **21 23 42.0 +1.4**
DAV Davao City (W) 147.37 297 PKPbc **PKPbc** **21 23 44.0 +0.6**
comp=Z,79nm,0.3s,baz=235,slow=5.3,SNR=8.5
DAV Davao City (W) 147.37 297 PKPbc **PKPbc** **21 23 44.0 +0.6**
DAV LR LR
comp=Z,1μm,22.0s
DAV Davao City (W) 147.37 297 P **PKPbc** **21 23 45.4 +2.0**
SNR=10
CTBH Cotabato--PC H 148.46 299‖ *e*P **PKPdf** **21 23 43.6 +0.8**
HYB Hyderabad 148.60 35 *i*PKP **PKPdf** **21 23 41.0 -2.0**
NWAO Narrogin (SRO) 149.17 215 PKPbc **PKPdf** **21 23 46.7 +3.3**
comp=Z,58nm,0.8s,baz=146,slow=4.5,SNR=29
NWAO Narrogin (SRO) 149.17 215 *e*PKPbc **PKPdf** **21 23 47.4 +4.0**
NWAO LR LR
comp=Z,2μm,19.0s
QIZ Qiongzhong 149.76 335 PKPbc **PKPdf** **21 23 43.1 -1.6**
QIZ PP **PP** **21 27 20.4 -0.9**
QIZ SS SS 21 46 36.8 +1.0
QIZ AMB AMB
comp=Z,1μm,10.8s
QIZ LR LR
comp=N,2μm,19.0s
QIZ LR LR
comp=Z,3μm,20.2s
QIZ Qiongzhong 149.76 335 *e*PKPdf **PKPdf** **21 23 44.1 -0.6**
QIZ *e*PKPbc **PKPbc** **21 23 50.0 +0.5**
QIZ LR LR
comp=Z,3μm,19.0s
FITZ Fitzroy Crossi 150.35 248 PKP **PKPdf** **21 23 45.1 -0.5**
comp=Z,13nm,0.8s,baz=122,slow=0.9,SNR=23
FITZ PKPbc **PKPbc** **21 23 50.0 -0.9**
comp=Z,141nm,1.1s,baz=153,slow=2.7,SNR=72
FITZ Fitzroy Crossi 150.35 248 *e*PKPdf **PKPdf** **21 23 45.1 -0.5**
FITZ PKPbc **PKPbc** **21 23 50.0 -0.9**
FITZ *e*PKPbc **PKiKP** **21 23 52.2 +0.5**
CHTO Chiang Mai 152.78 355 *e*PKIKP **PKPdf** **21 23 48.8 -0.6**
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 152.78 355 *e*PKPdf **PKPdf** **21 23 48.8 -0.6**
CHTO LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 152.78 355 P **PKPdf** **21 23 49.8 +0.5**
SNR=14
CM31 Chiang Mai Arr 153.14 355 *e*PKPdf **PKPdf** **21 23 49.4 -0.5**
CM31 *e*PKPdf **PKPbc** **21 23 57.4 +0.1**
CMAR Chiang Mai Arr 153.14 355 PKP **PKPdf** **21 23 48.9 -1.0**
comp=Z,22nm,1.1s,baz=309,slow=1.8,SNR=59
CMAR PKPbc **PKPbc** **21 23 56.1 -1.2**
comp=Z,29nm,0.9s,baz=319,slow=2.0,SNR=35
CMAR Chiang Mai Arr 153.14 355 PKP **PKPdf** **21 23 48.9 -1.0**
CMAR PKPbc **PKPbc** **21 23 56.1 -1.2**
MBWA Marble Bar 154.51 238 *e*PKPdf **PKPdf** **21 23 50.9 -0.9**
MBWA *e*PKPab **PKPab** **21 24 14.8 +0.3**
MBWA LR LR
comp=Z,3μm,20.0s
MBWA Marble Bar 154.51 238 P **PKPab** **21 24 15.7 +1.2**
SNR=5.5
KKM Kota Kinabalu 155.81 306 PFAKE 21 24 00.0 +6.1
KKM LR LR
comp=Z,1μm,21.0s
DGAR Diego Garcia 155.91 89 PFAKE 21 24 00.0 +6.2
DGAR LR LR
comp=Z,2μm,21.0s
KAPI Kappang 156.90 277 PKP **PKPdf** **21 23 53.6 -1.6**
comp=Z,6.5nm,0.9s,baz=32,slow=19,SNR=5.1
KAPI Kappang 156.90 277 PKP **PKPdf** **21 23 53.6 -1.6**
KAPI *e*PKPdf **PKPdf** **21 23 54.4 -0.8**
KAPI LR LR

comp=Z,1μm,19.0s
SBUM Sibu 161.13 305 P **PKPdf** **21 24 00.2 +0.1**
KSM Kuching 163.25 306 *e*PKPdf **PKPdf** **21 24 01.9 -0.4**
KSM *e*PKPab **PKPab** **21 24 52.7 +0.1**
KSM LR LR
comp=Z,1μm,19.0s
KSM Kuching 163.25 306 P **PKPdf** **21 24 02.5 +0.2**
IPM Ipoh 166.43 342 *e*PKPdf **PKPdf** **21 24 04.9 -0.2**
IPM *e*PKPab **PKPab** **21 25 06.4 +0.1**
PSI Prapat 168.58 349 PKP **PKPdf** **21 24 05.3 -1.4**
comp=Z,26nm,1.2s,baz=218,slow=7.4,SNR=7.8
PSI PKPab **PKPab** **21 25 14.5 -1.5**
comp=Z,26nm,1.0s,baz=273,slow=3.9,SNR=8.5
PSI Prapat 168.58 349 PKP **PKPdf** **21 24 05.3 -1.4**
PSI PKPab **PKPab** **21 25 14.5 -1.5**
COCO West Island 176.32 181 PFAKE 21 24 20.0 +10
COCO LR LR
comp=Z,2μm,20.0s

CASC 11 21:13:23.1±1.6, 8.79N×82.97W, h0km±22km, MD4.0,1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.23**	**236**	⇑*iP*	**Pg**	21 13 28.6	+0.9
BUS	**Buena Vista**	**1.09**	**315**	*e*P	Pb	21 13 45.2	-0.3
BUS				*e*S	Sb	21 14 00.9	+0.3
QCR	**Quepos**	**1.34**	**298**	*e*P	Pg	21 13 47.5	-1.3
LAJ	**Bijagual**	**1.56**	**313**	*e*P	Pg	21 13 56.3	+3.0
LAJ				*e*S	Sg	21 14 21.9	+8.1
SJS	**Escuela Geolog**	**1.57**	**317**	*e*P	Pn	21 13 52.8	+0.4
CGA2	**Cerro Gallo 2**	**1.92**	**310**	*e*P	Pn	21 13 56.2	-1.0

*NEIC **11** 21:35:49.7±0.8, 8.36N×83.38W, h10km, mb3.9/4, Error ellipse: s-maj=19.8km s-min=10.7km az=224.0*
*IDC **11** 21:35:49.6±0.9, 8.58N×83.16W, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=36.7km s-min=13.4km az=47.0*
*ISCJB **11** 21:35:51.1±1.3, 8.37N±0.07×83.21W±0.05, h22km±9km, mb3.9/13, Error ellipse: s-maj=13.0km s-min=5.3km az=35.9*
*CASC **11** 21:35:53.8±3.0, 8.65N×83.17W, h10km±10km, MD3.8, mb3.9(NEIC)*

ISC 11 21:35:52.3±1.6, 8.50N±0.09×83.20W±0.04, h16km±8km, n44, σ1§37/49, mb3.9/13, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.15**	**10**	⇑*iP*	**Pg**	**21 35 55.9**	**-0.4**
BRU2	**Volcan**	**0.58**	**60**	*e*P	**Pg**	**21 36 02.5**	**-1.2**
BRU2				*e*S	**Sb**	**21 36 11.1**	**-1.0**
TBS2		**0.61**	**61**	*e*P	**Pb**	**21 36 05.5**	**+0.8**
TBS2				*e*S	**Sn**	**21 36 15.6**	**-0.4**
CNI	**Changuinola**	**1.13**	**36**	*e*P	Pg	21 36 06.2	-7.9
BUS	**Buena Vista**	**1.19**	**332**	⇓*eP*	**Pg**	**21 36 12.8**	**-2.4**
QCR	**Quepos**	**1.33**	**314**	*e*P	**Pn**	**21 36 14.8**	**-1.4**
LAJ	**Bijagual**	**1.63**	**326**	*e*P	**Pg**	**21 36 22.9**	**-0.8**
LAJ				*e*S	**Sg**	**21 36 46.6**	**+1.6**
SJS	**Escuela Geolog**	**1.66**	**329**	*e*P	**Pn**	**21 36 20.9**	**0.0**
SJS				*e*S	**Sb**	**21 36 42.2**	**-1.2**
CGA2	**Cerro Gallo 2**	**1.96**	**320**	⇓*eP*	**Pn**	**21 36 25.5**	**+0.4**
CGA2				*e*S	**Sn**	**21 36 49.3**	**-0.1**
JTS	**JuntasAbangare**	**2.48**	**316**	Pn	**Pn**	**21 36 33.0**	**+0.9**
	56nm,0.3s,baz=270,slow=23,SNR=63						
JTS				Sn	**Sn**	**21 37 01.7**	**-0.5**
	42nm,0.3s,baz=337,slow=22,SNR=13						
JTS				Lg	Lg	21 37 07.4	
	67nm,0.3s,baz=315,slow=19,SNR=12						
JTS	**JuntasAbangare**	**2.48**	**316**	*e*Pn	**Pn**	**21 36 32.1**	**0.0**
JTS				*e*Sg	**Sb**	**21 37 06.6**	**-0.4**
JTS				Lg	Lg	21 37 07.4	
MESS	**Mesas**	**2.97**	**319**	*i* P	**Pn**	**21 36 40.4**	**+1.4**
MESS				*i* S	**Sn**	**21 37 16.4**	**+2.1**
GPS1	**Guardaparques**	**3.10**	**317**	*i* P	**Pn**	**21 36 42.0**	**+1.3**
LAPC	**Finca la Perla**	**3.15**	**316**	*i* P	**Pn**	**21 36 43.4**	**+2.0**
LAPC				*i* S	**Sn**	**21 37 19.9**	**+1.2**
GBS3	**Finca Las lm¯¡**	**3.18**	**316**	*i* P	**Pn**	**21 36 44.6**	**+2.9**
BCIP	**Isla Barro Col**	**3.38**	**78**	*e*Pn	**Pn**	**21 36 46.0**	**+1.6**
BCIP				*e*Sn	**Sb**	**21 37 30.8**	**-2.1**
BCIP	**Isla Barro Col**	**3.38**	**78**	*e*P	**Pn**	**21 36 46.2**	**+1.7**
BCIP				*e*S	**Sb**	**21 37 31.4**	**-1.5**
TEIG	**Tepich**	**12.65**	**338**	*e*Pn	**Pn**	**21 38 50.7**	**-1.0**
SDDR	**Presa de Saban**	**15.55**	**47**	*e*Pn	**Pn**	**21 39 32.1**	**+0.9**
	14nm,1.1s						
SAML	**Samuel**	**26.42**	**131**	*e*P	**P**	**21 41 26.7**	**-1.8**
	1.8nm,0.9s						
LPAZ	**La Paz**	**28.79**	**149**	P	P	21 41 47.5	-3.0
SIV	**San Ignacio**	**32.74**	**138**	P	**P**	**21 42 24.9**	**+0.2**
	2.4nm,0.8s,baz=319,slow=10,SNR=9.7						
SIV	**San Ignacio**	**32.74**	**138**	P	**P**	**21 42 24.9**	**+0.2**
ANMO	**Albuquerque**	**33.87**	**324**	*e*P	P	21 42 33.0	-1.6
	0.8nm,0.7s						
PFO	**Pinyon Flat Ob**	**39.54**	**314**	*e*P	P	21 43 18.8	-4.0
	2.7nm,0.7s						
ULM	**Lac du Bonnet**	**42.93**	**348**	P	**P**	**21 43 53.5**	**+3.2**
	2.2nm,0.8s,baz=164,slow=13,SNR=3.1						
ULM	**Lac du Bonnet**	**42.93**	**348**	P	**P**	**21 43 53.5**	**+3.2**
PLCA	**Paso Flores**	**50.36**	**168**	P	P	21 44 47.9	-0.8
	2.5nm,0.8s,baz=8.6,slow=7.1,SNR=4.6						
FRB	**Frobisher Bay**	**56.14**	**8**	P	P	21 45 28.0	-2.8
	0.4nm,0.4s,baz=180,slow=8.1,SNR=3.7						
FRB	**Frobisher Bay**	**56.14**	**8**	P	P	21 45 28.0	-2.8
YKA	**Yellowknife Ar**	**58.53**	**344**	P	**P**	**21 45 46.7**	**-1.0**
	0.8nm,0.8s,baz=139,slow=6.9,SNR=14						
YKA	**Yellowknife Ar**	**58.53**	**344**	P	**P**	**21 45 46.8**	**-1.0**
INK	**Inuvik**	**68.22**	**342**	P	**P**	**21 46 51.9**	**+0.1**
	0.5nm,0.4s,baz=121,slow=10,SNR=3.4						
ILAR	**Eielson Array**	**71.30**	**336**	P	**P**	**21 47 10.7**	**-0.2**
	1.2nm,0.7s,baz=112,slow=4.5,SNR=19						
ILAR	**Eielson Array**	**71.30**	**336**	P	**P**	**21 47 10.7**	**-0.2**
ESDC	**Sonseca Array**	**76.35**	**51**	P	**P**	**21 47 40.4**	**-0.7**
	0.4nm,0.5s,baz=276,slow=5.3,SNR=6.1						
ESDC	**Sonseca Array**	**76.35**	**51**	P	**P**	**21 47 40.4**	**-0.7**
DBIC	**Dimbokro**	**77.55**	**85**	P	**P**	**21 47 49.0**	**+0.8**
	5.0nm,0.9s,baz=224,slow=6.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.16**	**78**	P	**P**	**21 48 18.6**	**+0.2**
	0.3nm,0.5s,baz=265,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.16**	**78**	P	**P**	**21 48 18.6**	**+0.2**
ASAR	**Alice Springs**	**141.44**	**243**	PKhKP	PKPpre	21 55 17.8	
	0.2nm,0.6s,baz=106,slow=3.4,SNR=3.5						
ASAR				PKP	**PKPdf**	**21 55 22.9**	**-0.6**
	0.3nm,0.7s,baz=100,slow=2.8,SNR=4.0						
ASAR	**Alice Springs**	**141.44**	**243**	PKPpre	PKPpre	21 55 17.8	
ASAR				PKP	**PKPdf**	**21 55 22.9**	**-0.6**
WRA	**Warramunga Arr**	**141.97**	**248**	PKhKP	PKPpre	21 55 18.6	
	1.0nm,0.9s,baz=95,slow=3.0,SNR=6.8						
WRA				PKP	**PKPdf**	**21 55 23.9**	**-0.6**
	0.4nm,0.7s,baz=94,slow=3.2,SNR=5.7						
WRA	**Warramunga Arr**	**141.97**	**248**	PKPpre	PKPpre	21 55 18.6	
WRA				PKP	**PKPdf**	**21 55 23.9**	**-0.6**

IDC 11 21:36:49.7±5.1, 1.79S×139.77E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=203.1km s-min=27.8km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**196**	P	P	21 41 10.9	-0.1
	0.1nm,0.3s,baz=16,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.48**	**194**	P	P	21 41 51.0	+0.1
	1.7nm,0.8s,baz=27,slow=9.9,SNR=20						
MKAR	**Makanchi Array**	**69.72**	**322**	P	P	21 48 01.6	0.0
	0.1nm,0.3s,baz=125,slow=7.2,SNR=5.9						

IDC 11 21:44:09.9±5.2, 1.82S×139.22E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/27, Error ellipse: s-maj=210.3km s-min=28.2km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.63**	**195**	P	Pn	21 48 29.4	-0.1
	0.3nm,0.3s,baz=17,slow=11,SNR=24						
WRA				LR	LR	21 56 41.6	
	comp=Z,179nm,18.3s,baz=145,slow=40						
ASAR	**Alice Springs**	**22.32**	**193**	P	P	21 49 09.4	+0.1
	3.4nm,0.9s,baz=24,slow=10.0,SNR=30						
MKAR	**Makanchi Array**	**69.41**	**322**	P	P	21 55 19.8	-0.1

*ISCJB **11** 21:55:49.4±0.2, 42.34N±0.02×13.35E±0.03, h12km±2km, Error ellipse: s-maj=3.3km s-min=2.6km az=155.3*
*ROM **11** 21:55:49.6±0.1, 42.33N×13.38E, h9km±1km, Ml2.9/26, Error ellipse: s-maj=1.5km s-min=1.1km az=79.0*
*CSEM **11** 21:55:49.8±0.1, 42.34N×13.34E, h2km, ML3.7/7, Ms3.5, Error ellipse: s-maj=2.7km s-min=2.1km az=68.0*
*LDG **11** 21:55:50.3±0.3, 42.32N×13.40E, h2km, Ml2.8/3, Error ellipse: s-maj=9.2km s-min=6.2km az=54.0*
*VIE **11** 21:55:50.8±0.6, 42.39N×13.44E, h10km, mb2.9/5, ML2.8/7, Ms3.5/1, Error ellipse: s-maj=9.9km s-min=4.1km az=88.0*

ISC 11 21:55:50.2±0.7, 42.34N±0.02×13.37E±0.02, h11km±4km, n113, σ1§11/151, 15C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.03**	**54**	⇓*iPg*	**Pg**	**21 55 52.0**	**-0.4**
AQU				Sg	**Sg**	**21 55 53.3**	**-0.6**
	299nm,2.4s						
AQU	**L'Aquila**	**0.03**	**54**	⇓*iPg*	**Pg**	**21 55 52.0**	**-0.4**
AQU				Sg	**Sg**	**21 55 53.3**	**-0.6**
	299nm,2.4s						
FIAM	**Fiamignano**	**0.20**	**250**	⇑*iPg*	**Pg**	**21 55 54.6**	**+0.1**
FIAM				Sg	**Sg**	**21 55 58.1**	**+0.6**
	4μm,0.5s						
FIAM	**Fiamignano**	**0.20**	**250**	⇑*iPg*	**Pg**	**21 55 54.6**	**+0.1**
FIAM				Sg	**Sg**	**21 55 58.1**	**+0.6**
	4μm,0.5s						
CAMP	**Campotosto**	**0.20**	**9**	⇑*iPg*	**Pg**	**21 55 54.4**	**-0.2**
CAMP				Sg	**Sg**	**21 55 57.8**	**+0.1**
	1μm,0.3s						
CAMP	**Campotosto**	**0.20**	**9**	⇑*iPg*	**Pg**	**21 55 54.4**	**-0.2**
CAMP				Sg	**Sg**	**21 55 57.8**	**+0.1**
	1μm,0.3s						
PTQR	**Pietraquaria**	**0.31**	**176**	Pg	**Pg**	**21 55 56.4**	**-0.2**
PTQR				Sg	**Sg**	**21 56 01.3**	**+0.5**
PTQR	**Pietraquaria**	**0.31**	**176**	Pg	**Pg**	**21 55 56.4**	**-0.2**
PTQR				Sg	**Sg**	**21 56 01.3**	**+0.5**
TERO	**Teramo**	**0.34**	**31**	Pg	**Pg**	**21 55 56.2**	**-0.8**
TERO				Sg	**Sb**	**21 56 02.4**	**-1.2**
	4μm,0.2s						
TERO	**Teramo**	**0.34**	**31**	Pg	**Pg**	**21 55 56.2**	**-0.8**
TERO				Sg	**Sb**	**21 56 02.4**	**-1.2**
	4μm,0.2s						
LNSS	**Leonessa**	**0.36**	**318**	Pg	**Pg**	**21 55 57.2**	**-0.2**
LNSS				Sg	**Sb**	**21 56 04.3**	**-0.1**
	3μm,0.4s						
LNSS	**Leonessa**	**0.36**	**318**	Pg	**Pg**	**21 55 57.2**	**-0.2**
CERT	**Cerreto**	**0.48**	**217**	⇑*iPg*	**Pg**	**21 55 59.3**	**-0.3**
CERT				Sg	**Sg**	**21 56 06.7**	**+0.7**
	2μm,0.4s						
CERT	**Cerreto**	**0.48**	**217**	⇑*iPg*	**Pg**	**21 55 59.3**	**-0.3**
CERT				Sg	**Sg**	**21 56 06.7**	**+0.7**
	2μm,0.4s						
VVLD	**Villa Vallelon**	**0.50**	**158**	Pg	**Pg**	**21 55 59.3**	**-0.7**
VVLD				Sg	**Sg**	**21 56 06.1**	**-0.5**
VVLD	**Villa Vallelon**	**0.50**	**158**	Pg	**Pg**	**21 55 59.3**	**-0.7**
VVLD				Sg	**Sg**	**21 56 06.1**	**-0.5**
INTR	**Introdacqua**	**0.51**	**129**	Pg	**Pg**	**21 55 59.8**	**-0.4**
INTR				Sg	**Sb**	**21 56 08.1**	**-0.6**
	961nm,0.3s						
INTR	**Introdacqua**	**0.51**	**129**	Pg	**Pg**	**21 55 59.8**	**-0.4**
INTR				Sg	**Sb**	**21 56 08.1**	**-0.6**
	961nm,0.3s						
NRCA	**Norcia**	**0.53**	**339**	Pg	**Pg**	**21 55 59.9**	**-0.7**
NRCA				Sg	**Sb**	**21 56 08.7**	**-0.6**
	1μm,0.1s						
NRCA	**Norcia**	**0.53**	**339**	Pg	**Pg**	**21 55 59.9**	**-0.7**
NRCA				Sg	**Sb**	**21 56 08.7**	**-0.6**
	1μm,0.1s						
MTCE	**Montecelio**	**0.56**	**236**	⇑*iPg*	**Pg**	**21 56 00.7**	**-0.4**
	308nm,0.4s						
MTCE	**Montecelio**	**0.56**	**236**	⇑*iPg*	**Pg**	**21 56 00.7**	**-0.4**
	308nm,0.4s						
TRTR	**Tortoreto Alta**	**0.62**	**40**	Pg	**Pb**	**21 56 02.6**	**-0.4**
TRTR	**Tortoreto Alta**	**0.62**	**40**	Pg	**Pb**	**21 56 02.6**	**-0.4**
OFFI	**Offida**	**0.64**	**21**	Pg	**Pg**	**21 56 02.6**	**-0.1**
	4μm,0.4s						
OFFI	**Offida**	**0.64**	**21**	Pg	**Pg**	**21 56 02.6**	**-0.1**
	4μm,0.4s						
POFI	**Posta Fibreno**	**0.67**	**157**	Pg	**Pg**	**21 56 02.7**	**-0.5**
	329nm,0.7s						
POFI	**Posta Fibreno**	**0.67**	**157**	Pg	**Pg**	**21 56 02.7**	**-0.5**
	329nm,0.7s						
LPEL	**Lama dei Pelig**	**0.67**	**115**	Pg	**Pg**	**21 56 02.2**	**-1.0**
LPEL				Sg	**Sg**	**21 56 12.4**	**+0.4**
	598nm,0.2s						
LPEL	**Lama dei Pelig**	**0.67**	**115**	Pg	**Pg**	**21 56 02.2**	**-1.0**
LPEL				Sg	**Sg**	**21 56 12.4**	**+0.4**
	598nm,0.2s						
SDI	**San Donato**	**0.71**	**152**	Pg	**Pg**	**21 56 03.0**	**-0.9**
	185nm,0.3s						
SDI	**San Donato**	**0.71**	**152**	Pg	**Pg**	**21 56 03.0**	**-0.9**
	185nm,0.3s						
FDMO	**Fiordimonte**	**0.73**	**344**	Pg	**Pg**	**21 56 03.3**	**-1.0**
	442nm,0.2s						
FDMO	**Fiordimonte**	**0.73**	**344**	Pg	**Pg**	**21 56 03.3**	**-1.0**
	442nm,0.2s						
CAFR	**Castel Frentan**	**0.73**	**98**	Pg	**Pg**	**21 56 03.9**	**-0.5**
	749nm,0.5s						
CAFR	**Castel Frentan**	**0.73**	**98**	Pg	**Pg**	**21 56 03.9**	**-0.5**
	749nm,0.5s						
CESI	**CESI - Serrava**	**0.75**	**333**	Pg	**Pg**	**21 56 03.9**	**-0.8**
	293nm,0.4s						
CESI	**CESI - Serrava**	**0.75**	**333**	Pg	**Pg**	**21 56 03.9**	**-0.8**
	293nm,0.4s						
GIUL	**Giuliano Di Ro**	**0.78**	**186**	Pg	**Pg**	**21 56 04.4**	**-0.9**
	364nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.78**	**186**	Pg	**Pg**	**21 56 04.4**	**-0.9**
	364nm,0.6s						
LAV9	**Lanuvio**	**0.82**	**217**	Pg	**Pg**	**21 56 05.5**	**-0.6**
	587nm,0.2s						
LAV9	**Lanuvio**	**0.82**	**217**	Pg	**Pg**	**21 56 05.5**	**-0.6**
	587nm,0.2s						
ASSB	**Assisi San Ben**	**0.88**	**324**	Pg	**Pg**	**21 56 06.3**	**-0.9**
	487nm,0.6s						
ASSB	**Assisi San Ben**	**0.88**	**324**	Pg	**Pg**	**21 56 06.3**	**-0.9**
	487nm,0.6s						
CERA	**Filignano**	**0.88**	**146**	Pg	**Pg**	**21 56 05.7**	**-1.5**
CERA	**Filignano**	**0.88**	**146**	Pg	**Pg**	**21 56 05.7**	**-1.5**
MIDA	**Miranda**	**0.96**	**136**	Pg	**Pg**	**21 56 07.0**	**-1.6**
	244nm,0.8s						
MIDA	**Miranda**	**0.96**	**136**	Pg	**Pg**	**21 56 07.0**	**-1.6**
	244nm,0.8s						
SNTG	**Esanatoglia**	**0.97**	**341**	Pg	**Pg**	**21 56 07.5**	**-1.4**
	209nm,0.6s						
SNTG	**Esanatoglia**	**0.97**	**341**	Pg	**Pg**	**21 56 07.5**	**-1.4**
	209nm,0.6s						
CING	**Cingoli**	**1.05**	**353**	Pg	**Pg**	**21 56 08.9**	**-1.5**
	279nm,0.6s						
CING	**Cingoli**	**1.05**	**353**	Pg	**Pg**	**21 56 08.9**	**-1.5**
	279nm,0.6s						
MGAB	**Montegabbione**	**1.09**	**302**	Pg	**Pg**	**21 56 10.7**	**-0.5**
	324nm,0.5s						
MGAB	**Montegabbione**	**1.09**	**302**	Pg	**Pg**	**21 56 10.7**	**-0.5**
	324nm,0.5s						
MURB	**Monte Urbino**	**1.12**	**326**	Pg	**Pg**	**21 56 11.1**	**-0.6**
	901nm,0.3s						
MURB	**Monte Urbino**	**1.12**	**326**	Pg	**Pg**	**21 56 11.1**	**-0.6**
	901nm,0.3s						
SACS	**San Casciano d**	**1.19**	**296**	Pg	**Pb**	**21 56 13.1**	**+0.3**
	326nm,1.1s						
ARVD	**Arcevia**	**1.20**	**345**	Pg	**Pg**	**21 56 11.9**	**-1.4**
ARVD	**Arcevia**	**1.20**	**345**	Pg	**Pg**	**21 56 11.9**	**-1.4**
AOI	**Ancona**	**1.23**	**8**	Pg	**Pg**	**21 56 13.1**	**-0.7**
	256nm,0.7s						
AOI	**Ancona**	**1.23**	**8**	Pg	**Pg**	**21 56 13.1**	**-0.7**
	256nm,0.7s						
CAFI	**Castiglion Fio**	**1.43**	**314**	Pg	**Pb**	**21 56 17.1**	**+0.2**
	135nm,1.1s						
CAFI	**Castiglion Fio**	**1.43**	**314**	Pg	**Pb**	**21 56 17.1**	**+0.2**
	135nm,1.1s						
PARC	**Parchiule**	**1.55**	**328**	Pg	**Pb**	**21 56 18.7**	**-0.2**
	241nm,1.3s						
PARC	**Parchiule**	**1.55**	**328**	Pg	**Pb**	**21 56 18.7**	**-0.2**
	241nm,1.3s						
CSNT	**Castellina Chi**	**1.90**	**307**	Pg	**Pb**	**21 56 24.2**	**-0.7**
	128nm,1.9s						
CSNT	**Castellina Chi**	**1.90**	**307**	Pg	**Pb**	**21 56 24.2**	**-0.7**
	128nm,1.9s						
MSAG	**Monte S. Angel**	**1.99**	**107**	Pg	**Pb**	**21 56 25.6**	**-0.9**
NVLJ	**Novalja**	**2.48**	**26**	*e*Pn	**Pn**	**21 56 31.0**	**+0.5**
NVLJ				Sn	**Sn**	**21 57 00.3**	**-0.4**
NVLJ	**Novalja**	**2.48**	**26**	*e*Pn	**Pn**	**21 56 30.9**	**+0.5**
NVLJ				Sn	**Sn**	**21 57 00.2**	**-0.4**
PGF	**Pioggiola**	**3.24**	**275**	*e*Pn	**Pn**	**21 56 41.8**	**+0.8**
PGF	**Pioggiola**	**3.24**	**275**	*e*Pn	**Pn**	**21 56 41.8**	**+0.8**
STON	**Ston**	**3.24**	**79**	*e*Pn	**Pn**	**21 56 41.6**	**+0.6**
STON				Sn	**Sn**	**21 57 21.4**	**+1.9**
STON	**Ston**	**3.24**	**79**	*e*Pn	**Pn**	**21 56 41.5**	**+0.6**
STON				Sn	**Sn**	**21 57 21.3**	**+1.9**
GBRS	**Gornja Briga**	**3.36**	**18**	Pn	**Pn**	**21 56 43.7**	**+1.1**
GBRS				*i* Sn	**Sn**	**21 57 25.7**	**+3.2**
BOJS	**Bojanci**	**3.45**	**23**	*i* Pn	**Pn**	**21 56 45.3**	**+1.5**
BOJS				*i* Sn	**Sn**	**21 57 25.8**	**+1.3**
BOJS	**Bojanci**	**3.45**	**23**	*i* Pn	**Pn**	**21 56 45.3**	**+1.5**
BOJS				*i* Sn	**Sn**	**21 57 25.8**	**+1.3**
CEY	**Cerknica**	**3.49**	**12**	*i* Pn	**Pn**	**21 56 45.6**	**+1.4**
CEY				*i* Sn	**Sn**	**21 57 26.9**	**+1.3**
CEY	**Cerknica**	**3.49**	**12**	*i* Pn	**Pn**	**21 56 45.7**	**+1.4**
CEY				*i* Sn	**Sn**	**21 57 26.9**	**+1.3**
BLY	**Banja Luka**	**3.68**	**48**	*e*Pn	**Pn**	**21 56 49.8**	**+2.9**
VOY	**Vojsko**	**3.71**	**6**	*e*Pn	**Pn**	**21 56 48.4**	**+0.9**
VOY	**Vojsko**	**3.71**	**6**	*e*Pn	**Pn**	**21 56 48.4**	**+0.9**
VOY				*e*Sn	**Sn**	**21 57 29.2**	**-2.1**
MOZS	**Mozjanca**	**4.03**	**11**	*i* Pn	**Pn**	**21 56 53.3**	**+1.5**
MOZS	**Mozjanca**	**4.03**	**11**	*i* Pn	**Pn**	**21 56 53.3**	**+1.5**
OBKA	**Obir**	**4.26**	**11**	⇑*i*Pn	**Pn**	**21 56 54.9**	**-0.1**
OBKA	**Obir**	**4.26**	**11**	Pn	**Pn**	**21 56 54.9**	**-0.1**
PDG	**Podgorica**	**4.36**	**87**	*e*Pn	**Pn**	**21 56 58.9**	**+2.6**
ABTA	**Abfaltersbach**	**4.45**	**352**	⇑*i*Pn	**Pn**	**21 56 58.3**	**+0.7**
ABTA				⇓*i*Sn	**Sn**	**21 57 49.9**	**+0.4**
ABTA	**Abfaltersbach**	**4.45**	**352**	Pn	**Pn**	**21 56 58.3**	**+0.7**
ABTA				Sn	**Sn**	**21 57 49.9**	**+0.4**
PERS	**Pernice**	**4.48**	**16**	*i* Pn	**Pn**	**21 57 01.1**	**+3.1**
PERS	**Pernice**	**4.48**	**16**	*i* Pn	**Pn**	**21 57 01.1**	**+3.1**
SBF	**Sospel**	**4.61**	**291**	*e*Pn	**Pn**	**21 57 00.4**	**+0.7**
SBF				*e*Sn	**Sn**	**21 57 50.0**	**-3.2**
	1.8nm,0.3s						
SBF	**Sospel**	**4.61**	**291**	*e*Pn	**Pn**	**21 57 00.4**	**+0.7**
SBF				*e*Sn	**Sn**	**21 57 50.0**	**-3.2**
	0.9nm,0.3s						
FETA	**Feichten**	**5.05**	**339**	⇑*i*Pn	**Pn**	**21 57 08.3**	**+2.4**
FETA				⇑*i*Sn	**Sn**	**21 58 05.6**	**+1.3**
FETA	**Feichten**	**5.05**	**339**	Pn	**Pn**	**21 57 08.3**	**+2.4**
FETA				Sn	**Sn**	**21 58 05.6**	**+1.3**
FRF	**La Foret Royal**	**5.08**	**286**	*e*Pn	**Pn**	**21 57 06.5**	**+0.3**
FRF	**La Foret Royal**	**5.08**	**286**	*e*Pn	**Pn**	**21 57 06.5**	**+0.3**
LMR	**La Mourre**	**5.14**	**284**	*e*Pn	**Pn**	**21 57 06.7**	**-0.3**
LMR	**La Mourre**	**5.14**	**284**	*e*Pn	**Pn**	**21 57 06.7**	**-0.3**
DIVS	**Divibare**	**5.15**	**68**	*e*Pn	**Pn**	**21 57 08.7**	**+1.5**
MBDF	**Montbardon**	**5.36**	**299**	*e*P	Pn	21 57 13.8	+3.7
MBDF	**Montbardon**	**5.36**	**299**	*e*P	Pn	21 57 13.8	+3.7
DAVA	**Damuels**	**5.54**	**335**	⇑*i*Pn	**Pn**	**21 57 13.0**	**+0.4**
DAVA				⇓*i*Sn	**Sn**	**21 58 17.8**	**+1.5**
DAVA	**Damuels**	**5.54**	**335**	Pn	**Pn**	**21 57 13.0**	**+0.4**
DAVA				Sn	**Sn**	**21 58 17.8**	**+1.5**
MOA	**Molln**	**5.55**	**6**	⇑*i*Pn	**Pn**	**21 57 12.8**	**+0.1**
MOA				⇑*i*Sn	**Sn**	**21 58 16.1**	**-0.3**
MOA	**Molln**	**5.55**	**6**	Pn	**Pn**	**21 57 12.8**	**+0.1**
MOA				Sn	**Sn**	**21 58 16.1**	**-0.3**
GRUS	**Gruza**	**5.60**	**71**	*e*Pn	**Pn**	**21 57 14.8**	**+1.5**
ORIF	**Oris-en-Rattie**	**6.02**	**298**	*e*P	Pn	21 57 22.9	+3.8
BARS	**Barje**	**6.26**	**83**	*e*Pn	**Pn**	**21 57 23.7**	**+1.4**
CDF	**Champ du Feu**	**7.44**	**327**	*e*Pn	**Pn**	**21 57 38.5**	**-0.1**
CDF				*e*Sn	Sn	21 58 57.6	-5.3
	0.9nm,0.3s						
CDF	**Champ du Feu**	**7.44**	**327**	*e*Pn	**Pn**	**21 57 38.5**	**-0.1**
HAU	**Haudompre**	**7.53**	**321**	*e*Pn	**Pn**	**21 57 39.6**	**-0.2**
HAU				*e*Sn	Sn	21 58 59.8	-5.4
	3.2nm,0.4s						
HAU	**Haudompre**	**7.53**	**321**	*e*Pn	**Pn**	**21 57 39.6**	**-0.2**

**IDC 11 21:56:47.0±3.1, 1.90S×138.23E, h0km, mb3.3/2, mb1 3.6/3, mb

PPCY	**Paphos**	**2.53**	**16**	P		**Pn**	**22 21 56.5**	**+0.2**
KOT	**Kottamia**	**2.53**	**173**	P		**Pn**	**22 21 57.8**	**+1.4**
	baz=172							
KOT				AMP			22 22 00.0	
	comp=E,70μm,0.3s,logA/T=5.3,baz=172							
KOT	**Kottamia**	**2.53**	**173**	P		**Pn**	**22 21 57.8**	**+1.4**
SZAC	**Souni-Zanaja**	**2.57**	**26**	⇑P		**Pn**	**22 21 59.5**	**+2.6**
	comp=E,6.5nm,0.2s							
SZAC				S		**Sn**	**22 22 29.8**	**+2.8**
SZAC	**Souni-Zanaja**	**2.57**	**26**	⇑P		**Pn**	**22 21 59.5**	**+2.6**
	comp=E,6.5nm,0.2s							
AKMC	**Akamas**	**2.66**	**15**	⇑P		**Pn**	**22 21 58.2**	**+0.1**
AKMC				S		**Sn**	**22 22 26.5**	**-2.6**
AKMC	**Akamas**	**2.66**	**15**	⇑P		**Pn**	**22 21 58.2**	**+0.1**
HMYD	**Mayadein**	**2.71**	**193**	P		**Pn**	**22 22 00.2**	**+1.4**
	baz=192							
HMYD	**Mayadein**	**2.71**	**193**	P		**Pn**	**22 22 00.2**	**+1.4**
HSAF	**As Saff**	**2.82**	**179**	P		**Pn**	**22 22 01.6**	**+1.3**
	baz=178							
HSAF	**As Saff**	**2.82**	**179**	P		**Pn**	**22 22 01.6**	**+1.3**
SUZ		**2.84**	**156**	P		**Pn**	**22 22 02.1**	**+1.5**
	baz=156							
SUZ		**2.84**	**156**	P		**Pn**	**22 22 02.1**	**+1.5**
ALFC	**Alevga**	**2.85**	**18**	P		**Pn**	**22 22 01.4**	**+0.7**
	comp=E,3.1nm,0.2s							
ALFC				S		**Sn**	**22 22 33.1**	**-0.7**
ALFC	**Alevga**	**2.85**	**18**	P		**Pn**	**22 22 01.4**	**+0.7**
	comp=E,3.1nm,0.2s							
ALFC				S		**Sn**	**22 22 33.1**	**-0.7**
GLL	**Jalalah**	**2.87**	**176**	P		**Pn**	**22 22 02.4**	**+1.3**
	baz=175							
GLL	**Jalalah**	**2.87**	**176**	P		**Pn**	**22 22 02.3**	**+1.3**
LEF	**Lefka**	**2.90**	**23**	ePN		**Pn**	**22 22 01.5**	**+0.1**
LEF				eSN		**Sn**	**22 22 33.9**	**-1.2**
HNAT	**Natroun**	**2.91**	**195**	P		**Pn**	**22 22 02.9**	**+1.4**
	baz=194							
HNAT	**Natroun**	**2.91**	**195**	P		**Pn**	**22 22 02.9**	**+1.4**
KZIT	**Kziot**	**2.91**	**121**	Pn		**Pn**	**22 22 02.7**	**+1.1**
KZIT				Sn		**Sn**	**22 22 35.4**	**+0.1**
CSS	**Prodhromos**	**2.94**	**31**	P		Pn	22 22 05.5	+3.6
CSS				S		**Sn**	**22 22 38.7**	**+2.8**
CSS	**Prodhromos**	**2.94**	**31**	ePN		**Pn**	**22 22 04.0**	**+2.1**
CSS				eSN		**Sn**	**22 22 37.5**	**+1.6**
OFRI	**'Ofer**	**2.95**	**86**	Pn		**Pn**	**22 22 01.9**	**-0.2**
SLTI	**Sal'it**	**3.01**	**93**	Pn		**Pn**	**22 22 03.2**	**+0.3**
SLTI				Sn		**Sn**	**22 22 38.0**	**+0.4**
RTMI	**Retamim**	**3.06**	**116**	Pn		**Pn**	**22 22 04.6**	**+1.1**
RTMI				Sn		**Sn**	**22 22 38.9**	**0.0**
MAMC	**Mammari**	**3.07**	**27**	P		**Pn**	**22 22 06.2**	**+2.5**
MAMC	**Mammari**	**3.07**	**27**	P		**Pn**	**22 22 06.2**	**+2.5**
YTIR	**Yattir**	**3.27**	**108**	Pn		**Pn**	**22 22 07.7**	**+1.2**
LFK	**Lefkose**	**3.29**	**30**	ePN		**Pn**	**22 22 08.6**	**+1.8**
LFK				eSN		**Sn**	**22 22 45.4**	**+0.7**
HNKL	**Nakhl**	**3.29**	**139**	P		**Pn**	**22 22 07.7**	**+0.9**
	baz=140							
HNKL				S		**Sn**	**22 22 43.7**	**-1.1**
	baz=140							
HNKL	**Nakhl**	**3.29**	**139**	P		**Pn**	**22 22 07.7**	**+0.9**
HNKL				S		**Sn**	**22 22 43.7**	**-1.1**
MMLI	**Mount Malkishu**	**3.32**	**89**	Pn		**Pn**	**22 22 07.7**	**+0.5**
MMLI				Sn		**Sn**	**22 22 45.7**	**+0.3**
MMC7	**Mount Meron ar**	**3.33**	**79**	Pn		**Pn**	**22 22 08.0**	**+0.6**
MMA0	**Mount Meron ar**	**3.34**	**79**	Pn		**Pn**	**22 22 08.3**	**+0.8**
MMA0				Sn		**Sn**	**22 22 46.8**	**+0.8**
DSI	**Dead Sea**	**3.42**	**104**	Pn		**Pn**	**22 22 09.0**	**+0.6**
DSI				Sn		**Sn**	**22 22 49.0**	**+1.3**
HMDT	**Nahal Hemdat**	**3.42**	**92**	Pn		**Pn**	**22 22 09.7**	**+1.2**
HMDT				Sn		**Sn**	**22 22 48.3**	**+0.6**
MZDA	**Masada**	**3.48**	**108**	Pn		**Pn**	**22 22 10.5**	**+1.2**
MZDA				Sn		**Sn**	**22 22 49.6**	**+0.4**
KSDI	**Kefar Szold**	**3.58**	**77**	Pn		**Pn**	**22 22 12.2**	**+1.5**
KSDI				Sn		**Sn**	**22 22 52.7**	**+0.9**
KRMI	**Paran Flat**	**3.61**	**129**	Pn		**Pn**	**22 22 12.0**	**+0.8**
PRNI	**Paran**	**3.66**	**124**	Pn		**Pn**	**22 22 12.2**	**+0.4**
PRNI				Sn		**Sn**	**22 22 52.9**	**-0.8**
KSHT	**Keshet**	**3.68**	**81**	Pn		**Pn**	**22 22 14.4**	**+2.3**
BHL	**Bhannes**	**3.78**	**66**	eP		**Pn**	**22 22 13.0**	**-0.5**
BHL	**Bhannes**	**3.78**	**66**	eP		**Pn**	**22 22 13.0**	**-0.5**
TCHB	**Talchebab**	**3.78**	**86**	eP		**Pn**	**22 22 15.2**	**+1.6**
TCHB				eS		**Sn**	**22 22 55.3**	**-1.5**
TCHB				AML		AML	22 23 04.8	
	comp=E,32nm,0.4s							
TCHB				AML		AML	22 23 09.4	
	comp=N,32nm,0.3s							
TCHB	**Talchebab**	**3.78**	**86**	eP		**Pn**	**22 22 15.0**	**+1.5**
TCHB				eS		Sn	22 22 52.0	-4.8
TCHB				AML		AML	22 23 04.8	
	comp=E,32nm,0.3s							
TCHB				AML		AML	22 23 09.4	
	comp=N,33nm,0.3s							
TCHB	**Talchebab**	**3.78**	**86**	eP		**Pn**	**22 22 15.0**	**+1.5**
	SNR=90							
TCHB				eS		**Sn**	**22 22 55.3**	**-1.5**
	comp=N,32nm,0.3s,SNR=40							
RCY	**Rachaya**	**3.79**	**73**	eP		**Pn**	**22 22 14.7**	**+0.9**
HRFI	**Mount Harif**	**3.87**	**128**	Pn		**Pn**	**22 22 15.5**	**+0.7**
HRFI				Sn		**Sn**	**22 22 58.2**	**-0.8**
MBRI	**Mt Berech**	**3.95**	**131**	Pn		**Pn**	**22 22 16.7**	**+0.8**
MBRI				Sn		**Sn**	**22 23 00.3**	**-0.7**
EIL	**Elat**	**4.06**	**132**	Pn		**Pn**	**22 22 18.0**	**+0.7**
EIL				Sn		**Sn**	**22 23 03.1**	**-0.5**
HWQ	**Hawqa**	**4.15**	**63**	eP		**Pn**	**22 22 18.3**	**-0.3**
HWQ	**Hawqa**	**4.15**	**63**	eP		**Pn**	**22 22 18.3**	**-0.3**
TOTH	**TOTAH**	**4.25**	**76**	eP		**Pn**	**22 22 21.3**	**+1.4**
TOTH				eS		Sn	22 23 03.7	-4.6
TOTH				AML		AML	22 23 14.6	
	comp=E,10nm,0.2s							
TOTH				AML		AML	22 23 18.7	
	comp=N,12nm,0.6s							
TOTH	**TOTAH**	**4.25**	**76**	eP		**Pn**	**22 22 22.3**	**+2.3**
TOTH				eS		Sn	22 23 01.9	-6.4
TOTH	**TOTAH**	**4.25**	**76**	eP		**Pn**	**22 22 21.3**	**+1.4**
	SNR=45							
SALA	**Sala**	**4.43**	**85**	eP		**Pn**	**22 22 23.9**	**+1.3**
SALA				eS		**Sn**	**22 23 11.0**	**-2.0**
SALA				AML		AML	22 23 22.4	
	comp=N,11nm,0.6s							
SALA				AML		AML	22 23 24.7	
	comp=E,0.8nm,0.5s							
SALA	**Sala**	**4.43**	**85**	eP		**Pn**	**22 22 23.9**	**+1.3**
	SNR=45							
SALA				eS		**Sn**	**22 23 11.0**	**-2.0**
	comp=E,0.8nm,0.5s,SNR=40							
HKAT	**Jabal Katrina**	**4.47**	**151**	P		**Pn**	**22 22 24.1**	**+1.0**
	baz=151							
HKAT	**Jabal Katrina**	**4.47**	**151**	P		**Pn**	**22 22 24.1**	**+1.0**
ELL	**Elmali**	**4.48**	**343**	ePN		Pn	22 22 21.5	-1.7
TR2		**4.49**	**154**	P		**Pn**	**22 22 24.2**	**+1.0**
	baz=154							
TR2		**4.49**	**154**	P		**Pn**	**22 22 24.2**	**+1.0**
HAWK	**Haweek**	**4.59**	**62**	eP		**Pn**	**22 22 24.7**	**-0.1**
HAWK				eS		Sn	22 23 09.8	-7.0
HAWK				AML		AML	22 23 18.7	
	comp=N,17nm,0.4s							
HAWK				AML		AML	22 23 20.4	
	comp=E,13nm,0.2s							
HAWK	**Haweek**	**4.59**	**62**	eP		**Pn**	**22 22 24.6**	**-0.1**
HAWK				eS		Sn	22 23 06.9	-10
HAWK				AML		AML	22 23 18.6	
	comp=N,16nm,0.4s							
HAWK				AML		AML	22 23 20.4	
	comp=E,13nm,0.2s							
HAWK	**Haweek**	**4.59**	**62**	eP		**Pn**	**22 22 24.7**	**-0.1**
	SNR=45							
BIDA	**Albida**	**4.76**	**56**	eP		**Pn**	**22 22 27.0**	**-0.1**
BIDA				eS		Sn	22 23 13.1	-7.9
BIDA				AML		AML	22 23 24.4	
	comp=E,16nm,0.3s							
BIDA				AML		AML	22 23 29.7	
	comp=N,44nm,0.4s							
BIDA	**Albida**	**4.76**	**56**	eP		Pn	22 22 25.5	-1.6
BIDA				eS		Sn	22 23 10.9	-10
BIDA				AML		AML	22 23 24.4	
	comp=E,16nm,0.3s							
BIDA				AML		AML	22 23 29.6	
	comp=N,44nm,0.3s							
BIDA	**Albida**	**4.76**	**56**	eP		**Pn**	**22 22 27.0**	**-0.1**
	SNR=45							
ASUT		**5.04**	**179**	P		**Pn**	**22 22 31.9**	**+1.1**
	baz=178							
ASUT		**5.04**	**179**	P		**Pn**	**22 22 31.9**	**+1.1**
SHRM		**5.08**	**153**	P		**Pn**	**22 22 32.4**	**+1.0**
	baz=153							
SHRM		**5.08**	**153**	P		**Pn**	**22 22 32.4**	**+1.0**
SLUM		**5.42**	**262**	P		**Pn**	**22 22 35.2**	**-0.9**
	baz=260							
SLUM				S		Sn	22 23 30.9	-6.3
	baz=260							
SLUM		**5.42**	**262**	P		**Pn**	**22 22 35.2**	**-0.9**
HFRF	**Wahat Farafira**	**5.96**	**208**	P		**Pn**	**22 22 44.2**	**+0.7**
	baz=208							
HFRF	**Wahat Farafira**	**5.96**	**208**	P		**Pn**	**22 22 44.2**	**+0.7**
SWA2		**6.10**	**240**	P		**Pn**	**22 22 45.3**	**0.0**
	baz=239							
SWA2		**6.10**	**240**	P		**Pn**	**22 22 45.3**	**0.0**

CASC 11 22:30:20.2±0.9, **8°.59N**×**83°.27W**, **h3**km±14km, **MD3.7, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.12**	**57**	⇑*iP*	Pg	22 30 23.5	+0.8
ACR				*eS*	Sg	22 30 25.4	+1.1
BUS	**Buena Vista**	**1.08**	**333**	*eP*	Pg	22 30 41.2	-0.2
LAJ	**Bijagual**	**1.52**	**327**	*eP*	Pg	22 30 50.5	+0.9
CGA2	**Cerro Gallo 2**	**1.85**	**320**	*eP*	Pn	22 30 51.8	-1.2
CGA2				*eS*	Sb	22 31 18.0	-0.5

*IDC **11** 22:36:40.5±0.6, 59°.58S×25°.08W, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, MS3.6/1, Ms1 3.6/1, ms1mx3.3/25, Error ellipse: s-maj=19.9km s-min=16.8km az=5.0*

*ISCJB **11** 22:36:42.6±0.5, 59°.60S±0°.10×25°.1W±0°.2, h27km, mb4.3/17, MS3.5/1, Error ellipse: s-maj=14.5km s-min=11.5km az=15.4*

*NEIC **11** 22:36:45.7±0.3, 59°.58S×25°.16W, h35km, mb4.6/13, Error ellipse: s-maj=12.6km s-min=9.6km az=190.0*

ISC 11 22:36:44.5±0.5, **59.6S**±0.1×**25.1W**±0.1, **h27**km, **n55, σ0.94/54, mb4.5/17, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.07**	**153**	*e*Pn	Pn	22 40 10.1	-5.2
	30nm,0.6s						
SNAA				*e*Sn	Sn	22 42 37.5	-24
USHA	**Ushuaia**	**23.60**	**262**	P	**P**	**22 41 52.6**	**-0.1**
	12nm,0.8s,baz=99,slow=10.0,SNR=15						
USHA				LR	LR	22 48 37.6	
	comp=Z,160nm,21.9s,baz=56,slow=30						
USHA	**Ushuaia**	**23.60**	**262**	P	**P**	**22 41 52.6**	**-0.1**
QSPA	**South Pole Qui**	**30.66**	**180**	P	**P**	**22 42 56.8**	**+0.4**
	2.7nm,0.6s,baz=187,slow=3.5,SNR=14						
QSPA	**South Pole Qui**	**30.66**	**180**	*eP*	**P**	**22 42 56.8**	**+0.4**
	2.7nm,0.5s						
TRQA	**Tornquist**	**31.80**	**296**	*eP*	**P**	**22 43 06.3**	**-0.2**
	8.5nm,0.6s						
PLCA	**Paso Flores**	**33.80**	**283**	P	**P**	**22 43 23.8**	**-0.3**
	4.7nm,0.8s,baz=126,slow=6.3,SNR=24						
PLCA	**Paso Flores**	**33.80**	**283**	*eP*	**P**	**22 43 23.7**	**-0.3**
	8.4nm,1.1s						
CPUP	**Villa Florida**	**39.99**	**312**	P	**P**	**22 44 17.6**	**+1.0**
	1.4nm,0.6s,baz=127,slow=7.0,SNR=4.6						
CFAA	**Coronel Fontan**	**40.02**	**295**	P	**P**	**22 44 16.4**	**-0.4**
	2.7nm,0.6s,baz=154,slow=7.4,SNR=54						
CFAA	**Coronel Fontan**	**40.02**	**295**	P	**P**	**22 44 16.4**	**-0.4**
VNDA	**Vanda**	**43.09**	**182**	P	**P**	**22 44 42.5**	**+1.1**
	1.1nm,0.8s,baz=186,slow=4.9,SNR=4.5						
VNDA	**Vanda**	**43.09**	**182**	*eP*	**P**	**22 44 41.5**	**+0.1**
	5.8nm,1.3s						
LCO	**Las Campanas**	**43.34**	**294**	*eP*	**P**	**22 44 43.9**	**-0.5**
	12nm,0.6s						
BOSA	**Boshof**	**45.94**	**70**	P	**P**	**22 45 03.7**	**-1.2**
	1.1nm,0.5s,baz=247,slow=5.6,SNR=5.3						
BOSA	**Boshof**	**45.94**	**70**	*eP*	**P**	**22 45 04.1**	**-0.8**
	3.8nm,0.8s						
LVC	**Limon Verde**	**48.05**	**301**	*eP*	**P**	**22 45 22.3**	**+0.8**
LBTB	**Lobatse**	**49.13**	**68**	P	**P**	**22 45 28.7**	**-1.0**
	4.4nm,1.0s,baz=264,slow=8.9,SNR=4.5						
LBTB	**Lobatse**	**49.13**	**68**	*eP*	**P**	**22 45 28.8**	**-0.9**
	14nm,1.3s						
LPAZ	**La Paz**	**53.32**	**305**	P	**P**	**22 46 01.6**	**-0.2**
	4.1nm,0.5s,baz=143,slow=4.7,SNR=10						
LPAZ	**La Paz**	**53.32**	**305**	*eP*	**P**	**22 46 01.5**	**-0.2**
	4.2nm,0.9s						
SAML	**Samuel**	**58.07**	**314**	*eP*	**P**	**22 46 33.6**	**-1.6**
	5.0nm,0.6s						
DBIC	**Dimbokro**	**67.98**	**22**	P	**P**	**22 47 41.9**	**+1.0**
	3.6nm,0.7s,baz=182,slow=8.0,SNR=5.6						
DBIC	**Dimbokro**	**67.98**	**22**	*eP*	**P**	**22 47 41.2**	**+0.4**
	4.8nm,0.6s						
OTAV	**Otavalo**	**72.52**	**303**	*eP*	**P**	**22 48 09.2**	**-0.1**
	3.4nm,0.6s						
TOA0	**Torodi Ar. Sit**	**75.65**	**27**	*eP*	**P**	**22 48 27.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**75.65**	**27**	P	**P**	**22 48 28.1**	**+1.2**
	3.6nm,0.7s,baz=192,slow=6.0,SNR=18						
TORD	**Torodi Ar. Bea**	**75.65**	**27**	P	**P**	**22 48 28.1**	**+1.2**
TAM	**Tamanrasset**	**85.84**	**28**	P	**P**	**22 49 21.0**	**-0.4**
	0.5nm,0.7s						
ASAR	**Alice Springs**	**95.28**	**161**	P	**P**	**22 50 04.5**	**-1.3**
	0.4nm,0.7s,baz=174,slow=3.1,SNR=4.9						
ASAR	**Alice Springs**	**95.28**	**161**	P		**22 50 04.5**	**-1.3**
SCHQ	**Schefferville**	**118.84**	**334**	PKP	**PKPdf**	**22 55 27.6**	**-1.3**
	1.1nm,0.6s,baz=194,slow=8.8,SNR=3.6						
SCHQ	**Schefferville**	**118.84**	**334**	PKP	**PKPdf**	**22 55 27.6**	**-1.3**
PDAR	**Pinedale Array**	**123.10**	**299**	PKP	**PKPdf**	**22 55 37.8**	**0.0**
	0.4nm,0.8s,baz=163,slow=6.3,SNR=3.0						
PDAR	**Pinedale Array**	**123.10**	**299**	PKP	**PKPdf**	**22 55 37.8**	**0.0**
NVAR	**Mina Array Bea**	**123.71**	**289**	PKP	**PKPdf**	**22 55 40.4**	**+1.4**
	0.5nm,0.6s,baz=159,slow=3.7,SNR=5.1						
NVAR	**Mina Array Bea**	**123.71**	**289**	PKP	**PKPdf**	**22 55 40.4**	**+1.4**
FINES	**FINESS Array B**	**126.99**	**28**	PKP	**PKPdf**	**22 55 44.5**	**+0.3**
	1.1nm,0.7s,baz=122,slow=1.8,SNR=4.7						
FINES	**FINESS Array B**	**126.99**	**28**	PKP	**PKPdf**	**22 55 44.5**	**+0.3**
BVAR	**Borovoye Array**	**135.69**	**59**	PKP	**PKPdf**	**22 55 60.0**	**-1.0**
	0.3nm,0.5s,baz=228,slow=1.7,SNR=2.7						
BVAR	**Borovoye Array**	**135.69**	**59**	PKP	**PKPdf**	**22 56 00.0**	**-1.0**
MKAR	**Makanchi Array**	**136.89**	**74**	PKP	**PKPdf**	**22 56 05.6**	**+2.2**
	0.2nm,0.5s,baz=229,slow=3.3,SNR=3.3						
MKAR	**Makanchi Array**	**136.89**	**74**	PKP	**PKPdf**	**22 56 05.6**	**+2.2**
YKA	**Yellowknife Ar**	**139.49**	**314**	PKhKP	PKPpre	22 56 01.7	
	0.2nm,0.6s,baz=118,slow=2.8,SNR=4.4						
YKA				PKP	**PKiKP**	**22 56 09.1**	**-0.8**
	1.1nm,0.6s,baz=129,slow=2.3,SNR=16						
YKA	**Yellowknife Ar**	**139.49**	**314**	PKPpre	PKPpre	22 56 01.8	
YKA				PKP	**PKiKP**	**22 56 09.2**	**-0.8**
ZALV	**Zalesovo Beam**	**142.84**	**67**	PKP	**PKPdf**	**22 56 15.5**	**+1.5**
	0.7nm,0.5s,baz=237,slow=4.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**142.84**	**67**	PKP	**PKPdf**	**22 56 15.5**	**+1.5**
INK	**Inuvik**	**149.19**	**316**	PKPbc	**PKPbc**	**22 56 29.2**	**+0.6**
	10nm,0.7s,baz=90,slow=2.8,SNR=47						
INK	**Inuvik**	**149.19**	**316**	PKPbc	**PKPbc**	**22 56 29.2**	**+0.6**
SONM	**Songino Array**	**149.70**	**91**	PKPbc	**PKPbc**	**22 56 30.4**	**-0.3**
	1.0nm,0.6s,baz=207,slow=0.3,SNR=4.1						
SONM	**Songino Array**	**149.70**	**91**	PKPbc	**PKPbc**	**22 56 30.4**	**-0.3**
ILAR	**Eielson Array**	**153.20**	**306**	PKPbc	**PKPbc**	**22 56 38.6**	**+0.6**
	4.1nm,1.0s,baz=138,slow=1.6,SNR=21						
ILAR	**Eielson Array**	**153.20**	**306**	PKPbc	**PKPbc**	**22 56 38.6**	**+0.6**
KDAK	**Kodiak Island**	**153.22**	**289**	PKPbc	**PKPbc**	**22 56 38.3**	**+0.1**
	9.2nm,0.9s,baz=117,slow=3.4,SNR=4.3						
KDAK	**Kodiak Island**	**153.22**	**289**	PKPbc	**PKPbc**	**22 56 38.3**	**+0.1**

*IDC **11** 22:38:37.3±2.0, 36°.80N×141°.25E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/28, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=47.5km s-min=22.5km az=69.0*

*ISCJB **11** 22:38:52.2±0.6, 36°.38N±0°.05×139°.98E±0°.06, h101km±4km, mb3.6/5, Error ellipse: s-maj=9.3km s-min=6.4km az=37.4*

*JMA **11** 22:38:54.0±0.1, 36°.41N×139°.93E, h87km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕ±335.00000°, δ57.00000°, λ-72.00000°. NP2: ϕ±124.00000°, δ37.00000°, λ-115.00000°. Principal axes: T Plg10.0000°, Azm52.0000°; N Plg15.0000°, Azm145.0000°; P Plg72.0000°, Azm289.0000°;*

JMA Felt I J1.

ISC 11 22:38:52.7±0.9, **36°.33N**±0°.05×**140°.03E**±0°.06, **h98**km±7km, **n17, σ1.915/26, mb3.7/5, 4C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.17**	**129**	⇓P	**Pn**	**22 39 07.1**	**+0.6**
JYT				S	**Sn**	**22 39 16.9**	**0.0**
JAG	**Ashikaga**	**0.47**	**281**	⇓P	**Pn**	**22 39 07.7**	**-0.4**
JAG				S	**Sn**	**22 39 17.8**	**-1.8**
JRY	**Ryogami san**	**0.97**	**251**	⇑P	**Pn**	**22 39 13.0**	**+0.4**
JRY				S	**Sn**	**22 39 27.6**	**-0.1**
JFY	**Yanaizu**	**1.10**	**346**	P	**Pn**	**22 39 13.7**	**-0.4**
JFY				S	**Sn**	**22 39 29.1**	**-1.2**
JFT	**Otama**	**1.21**	**12**	⇑P	**Pn**	**22 39 15.5**	**+0.2**
JFT				S	**Sn**	**22 39 32.5**	**+0.1**
JHK	**Hiroka**	**1.22**	**319**	⇓P	**Pn**	**22 39 15.0**	**-0.5**
JHK				S	**Sn**	**22 39 30.9**	**-1.8**
JFK	**Kawauchi**	**1.23**	**33**	⇑P	Pn	22 39 16.2	+0.6
JFK				S	**Sn**	**22 39 33.0**	**0.0**
JOD2	**Odawara 2**	**1.31**	**216**	⇑P	**Pn**	**22 39 17.5**	**+0.9**
JOD2				S	**Sn**	**22 39 35.4**	**+0.7**
MJAR	**Matsushiro Arr**	**1.48**	**279**	Pn	**Pn**	**22 39 18.2**	**-0.4**
	23nm,0.3s,baz=87,slow=6.0,SNR=118						
MJAR				Sn	**Sn**	**22 39 37.6**	**-0.8**
	15nm,0.3s,baz=66,slow=44,SNR=14						
MAT	**Matsushiro**	**1.49**	**279**	P	**Pn**	**22 39 18.7**	**0.0**
MAT				S	**Sn**	**22 39 37.7**	**-0.7**
JHJ	**Hachijo jima 2**	**3.21**	**184**	Pn	**Pn**	**22 39 38.4**	**-2.9**
	7.5nm,0.3s,baz=66,slow=19,SNR=2.2						
KSRS	**Korea Array**	**9.76**	**280**	Pn	**Pn**	**22 41 12.8**	**+2.7**
	0.3nm,0.3s,baz=45,slow=19,SNR=3.9						
SONM	**Songino Array**	**27.27**	**305**	P	**P**	**22 44 26.8**	**-1.0**
	0.7nm,0.6s,baz=65,slow=6.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.57**	**313**	P	**P**	**22 46 30.2**	**-0.3**
	1.8nm,0.5s,baz=92,slow=6.5,SNR=13						
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**22 46 47.1**	**+0.4**
	0.8nm,0.7s,baz=88,slow=9.3,SNR=11						
BVAR	**Borovoye Array**	**50.22**	**313**	P	**P**	**22 47 38.8**	**+0.4**
	0.3nm,0.5s,baz=86,slow=9.5,SNR=4.0						
WRA	**Warramunga Arr**	**56.23**	**186**	P	**P**	**22 48 23.3**	**+0.6**
	0.3nm,0.4s,baz=1.6,slow=7.5,SNR=10.0						

*ISCJB **11** 22:43:07.7±0.3, 60°.36N±0°.03×151°.93W±0°.06, h95km±4km, mb3.6/2, Error ellipse: s-maj=5.6km s-min=3.7km az=35.6*

*IDC **11** 22:43:08.2±2.2, 60°.30N×151°.97W, h78km±37km, mb3.3/2, mb1 3.4/5, mb1mx3.1/28, mbtmp3.2/5, MS3.4/1, Ms1 3.4/1, ms1mx3.0/28, Error ellipse: s-maj=46.9km s-min=17.3km az=114.0*

*NEIC **11** 22:43:10.0, 60°.36N×151°.96W, h72km, MG3.0(AEIC), After AEIC.*

ISC 11 22:43:08.6±0.9, **60°.37N**±0°.03×**151°.99W**±0°.04, **h86**km±7km, **n68, σ0.99/76, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDT	**Redoubt**	**0.29**	**315**	P	**Pn**	**22 43 21.1**	**-0.5**
RSO	**Redoubt South**	**0.39**	**284**	P	**Pn**	**22 43 22.1**	**-0.2**
RDN	**Redoubt North**	**0.41**	**291**	P	**Pn**	**22 43 21.9**	**-0.4**
NNL	**Ninilchik**	**0.48**	**133**	P	**Pn**	**22 43 23.6**	**+0.9**
NKA	**Nikishka**	**0.53**	**44**	P	**Pn**	**22 43 24.9**	**+1.8**
INE	**Iliamna NE**	**0.62**	**241**	P	**Pn**	**22 43 23.6**	**-0.5**
ILW	**Iliamna West**	**0.65**	**242**	P	**Pn**	**22 43 24.1**	**-0.3**
HOM	**Homer**	**0.73**	**166**	P	**Pn**	**22 43 25.6**	**+0.6**
BRLK	**Bradley Lake**	**0.82**	**137**	P	**Pn**	**22 43 26.0**	**0.0**
BRLK				S	**Sn**	**22 43 39.3**	**+0.3**
SLKM	**Skilak Lake**	**0.89**	**80**	P	**Pn**	**22 43 26.8**	**+0.1**
SPBG	**Spurr Blockage**	**0.92**	**348**	P	**Pn**	**22 43 27.2**	**+0.1**
SPBG				S	**Sn**	**22 43 41.3**	**+0.4**
BGL	**Barrier Glacie**	**0.92**	**348**	P	**Pn**	**22 43 27.2**	**+0.1**
CGLM	**Capps Glacier**	**0.94**	**359**	P	**Pn**	**22 43 27.7**	**+0.3**
OPT	**Oil Point**	**0.95**	**222**	P	**Pn**	**22 43 27.6**	**+0.2**
NCG	**North Capps Gl**	**1.04**	**356**	P	**Pn**	**22 43 29.1**	**+0.5**
STLK	**Strandline Lak**	**1.14**	**4**	P	**Pn**	**22 43 30.1**	**+0.5**
FIB	**Fire Island**	**1.20**	**47**	P	**Pn**	**22 43 31.8**	**+1.6**
AUL	**Augustine Lava**	**1.23**	**217**	P	**Pn**	**22 43 31.0**	**+0.3**
AUW	**Augustine West**	**1.25**	**217**	P	**Pn**	**22 43 31.3**	**+0.4**
SEW	**Seward**	**1.29**	**101**	P	**Pn**	**22 43 31.2**	**-0.3**
SEW				S	**Sn**	**22 43 48.0**	**-0

After AEIC.

ISC 11 22:49:36.8±0.9, 59.50N±0.04×152.89W±0.04, h93km±7km, n64, σ0.82/73, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	Oil Point	0.23	311	P	Pn	22 49 50.3	0.0
AUL	Augustine Lava	0.31	247	P	Pn	22 49 50.7	+0.1
AUL				S	Sn	22 50 01.1	+0.2
AUW	Augustine West	0.33	246	P	Pn	22 49 50.9	+0.1
INE	Iliamna NE	0.57	351	P	Pn	22 49 52.4	-0.1
ILW	Iliamna West	0.57	347	P	Pn	22 49 52.6	0.0
HOM	Homer	0.65	76	P	Pn	22 49 53.7	+0.6
FOSS	Fourpeaked Sta	0.82	211	P	Pn	22 49 54.8	0.0
RSO	Redoubt South	0.96	4	P	Pn	22 49 56.5	-0.1
RDN	Redoubt North	1.02	3	P	Pn	22 49 57.1	+0.1
BRLK	Bradley Lake	1.05	75	P	Pn	22 49 57.2	-0.1
BRLK				S	Sn	22 50 12.2	-0.5
KAPH	Katmai Pasha	1.18	220	P	Pn	22 49 59.1	+0.3
KAPH				S	Sn	22 50 15.1	-0.3
NKA	Nikishka	1.49	33	P	Pn	22 50 04.5	+2.0
KAKN	Katmai Knife C	1.66	224	P	Pn	22 50 04.9	+0.2
KAKN				S	Sn	22 50 25.6	-0.3
KBM	Katmai Bkd Mtn	1.72	225	P	Pn	22 50 05.9	+0.4
KDAK	Kodiak Island 28nm,0.3s,baz=8.8,slow=13,SNR=138	1.73	175	P	Pn	22 50 05.2	-0.3
KDAK				S	Sn	22 50 27.4	-0.1
KDAK	Kodiak Island 18nm,0.3s,baz=307,slow=20,SNR=21	1.73	175	P	Pn	22 50 05.3	-0.3
KDAK				S	Sn	22 50 27.2	-0.2
KDAK				S		22 50 27.4	
KCE	Katmai Mt Cerb	1.74	224	P	Pn	22 50 06.6	+0.8
KABR	Katmai Barrier	1.75	219	P	Pn	22 50 06.2	+0.3
KABU	Katmai Buttres	1.75	226	P	Pn	22 50 06.4	+0.5
KABU				S	Sn	22 50 28.4	+0.2
SPBG	Spurr Blockage	1.78	8	P	Pn	22 50 06.9	+0.6
BGL	Barrier Glacie	1.78	8	P	Pn	22 50 06.9	+0.6
KELA	Mount Kelaz	1.82	235	P	Pn	22 50 07.0	+0.2
SEW	Seward	1.84	69	P	Pn	22 50 06.8	-0.1
CGLM	Capps Glacier	1.86	13	P	Pn	22 50 08.4	+1.0
NCG	North Capps Gl	1.94	10	P	Pn	22 50 09.1	+0.7
STLK	Strandline Lak	2.07	14	P	Pn	22 50 10.5	+0.5
FIB	Fire Island	2.15	38	P	Pn	22 50 12.4	+1.5
RC01	Rabbit Creek A	2.23	43	*e*Pn	Pn	22 50 12.1	0.0
RC01				*e*Sn	Sn	22 50 39.2	+0.1
PMR	Palmer	2.80	40	P	Pn	22 50 19.7	+0.2
SML	Sawmill	3.22	42	P	Pn	22 50 25.3	0.0
PPLA	Purkeypile	3.42	5	P	Pn	22 50 29.4	+1.3
SCM	Sheep Creek Mo	3.60	47	P	Pn	22 50 30.4	0.0
VLZ	Valdez	3.65	61	P	Pn	22 50 30.6	-0.4
EYAK	Cordova Ski Ar	3.73	71	P	Pn	22 50 32.1	0.0
TT01	Tatalina	3.74	337	P	Pn	22 50 32.1	0.0
DIV	Divide	3.90	62	P	Pn	22 50 34.7	+0.3
TRF	Thorofare Moun	4.15	16	P	Pn	22 50 38.4	+0.4
RND	Reindeer	4.37	25	P	Pn	22 50 41.1	+0.3
DHY	Denali Highway	4.46	34	P	Pn	22 50 42.2	0.0
BERG	Berg Lake	4.70	75	P	Pn	22 50 45.3	0.0
HARP	HAARP	4.76	49	P	Pn	22 50 48.7	+2.7
PAX	Paxson	4.99	43	P	Pn	22 50 49.7	+0.4
VRDI	Verde Repeater	4.99	66	P	Pn	22 50 49.0	-0.4
BARK	Barkley Ridge	5.30	76	P	Pn	22 50 53.9	+0.4
KIAG	Kiagna River	5.44	70	P	Pn	22 50 56.0	+0.6
DDM	Donnelly Dome	5.45	35	P	Pn	22 50 58.1	+2.7
BALM	Baldy	5.47	69	P	Pn	22 50 55.9	+0.1
BAGL	Bagley Icefiel	5.51	75	P	Pn	22 50 57.1	+0.9
CCB	Clear Creek Bu	5.69	23	P	Pn	22 50 58.4	-0.1
BARN	Barnard Glacie	5.80	70	P	Pn	22 51 01.1	+0.8
MDM	Murphy Dome	5.89	20	P	Pn	22 51 01.2	-0.2
TABL	Table Mountain	5.97	76	P	Pn	22 51 03.3	+0.6
IL1	Eielson Array	5.99	24	P	Pn	22 51 02.8	+0.1
ILAR	Eielson Array 0.3nm,0.3s,baz=215,slow=14,SNR=12	5.99	25	P	Pn	22 51 02.2	-0.4
ILAR				S	Sn	22 52 07.3	-2.4
ILAR	Eielson Array 1.2nm,0.3s,baz=208,slow=24,SNR=17	5.99	25	P	Pn	22 51 02.2	-0.4
ILAR				S	Sn	22 52 07.3	-2.4
BCA3	Beaver Creek A	6.43	52	P	Pn	22 51 10.1	+1.3
IM3	Indian Mountai	6.52	357	P	Pn	22 51 10.6	+0.7
PNL	Peninsula	6.85	83	P	Pn	22 51 14.6	+0.1
HYT	Haines Junctio	7.79	74	P	Pn	22 51 28.6	+1.4
YKA	Yellowknife Ar 0.1nm,0.3s,baz=275,slow=9.8,SNR=4.8	18.61	64	P	Pn	22 53 47.8	+0.1
YKA	Yellowknife Ar	18.61	64	P	Pn	22 53 47.8	+0.1
NVAR	Mina Array Bea comp=Z,102nm,18.4s,baz=186,slow=37	30.43	118	LR	LR	23 08 25.6	
ZALV	Zalesovo Beam 0.3nm,0.5s,baz=23,slow=7.8,SNR=3.1	57.81	324	P	P	22 59 17.9	+0.1
ZALV	Zalesovo Beam	57.81	324	P	P	22 59 17.9	+0.1

*AUST **11** 22:55:25.8±4.7, 1.50S×139.02E, h0km, Error ellipse: s-maj=1.3km s-min=1.3km az=309.0*
*IDC **11** 22:55:28.0±0.8, 1.80S×139.20E, h0km, mb4.1/11, mb1 4.4/13,mb1mx4.2/22,mbtmp4.2/13,ML4.4/2,MS4.2/6, Ms1 4.2/6,ms1mx3.7/35,Error ellipse: s-maj=33.6km s-min=14.2km az=78.0*
*NEIC **11** 22:55:29.0±4.0, 1.78S×139.15E, h6km±26km, mb4.4/9, Error ellipse: s-maj=13.1km s-min=6.9km az=90.0*
*ISCJB **11** 22:55:30.5±0.3, 1.83S±0.04×139.18E±0.05, h29km, mb4.3/16, MS4.2/5, Error ellipse: s-maj=8.1km s-min=5.1km az=161.5*
*DJA **11** 22:55:36.1±0.8, 2°S±9°×14°0E±°, h98km±7km, M4.5/9, mB5.3/5, mb4.5/9, MLv4.5/2, Mw(mB)4.7/5*

ISC 11 22:55:32.4±0.5, 1.79S±0.05×139.23E±0.05, h29km, n83, σ1°24/75, mb4.3/16, MS4.0/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	Sarmi	0.56	249	P	Sn	22 55 55.7	+3.1
JAY	Jayapura baz=2.0,SNR=44	1.64	116	P	Pn	22 55 59.0	-0.4
JAY	Jayapura	1.64	116	P	Pn	22 55 59.5	+0.1
WAMI	Wamena	2.15	194	P	Pb	22 56 12.1	+1.5
FAKI	Fak Fak	7.06	261	P	Pn	22 57 13.0	-0.9
BNDI	Bandanaira 293nm,0.5s,5μm	9.70	254	P	Pn	22 57 55.1	+5.0
PALU	Palau baz=9.9,SNR=4.1	10.24	332	S	Sn	22 59 24.3	-27
MSAI	Masohi 20nm,0.4s,1μm	10.40	261	P	Pn	22 58 12.0	+12
PMG	Port Moresby 0.7nm,0.3s,baz=270,slow=14,SNR=3.1	10.93	134	Pn	Pn	22 58 11.0	+4.0
PMG	Port Moresby 7.1nm,0.8s	10.93	134	*e*Pn	Pn	22 58 06.8	-0.2
COEN	Coen	12.71	162	*e*Pn	Pn	22 58 31.0	-0.3
COEN				*e*Sn	Sn	23 00 52.2	+0.3
COEN	Coen baz=13,SNR=5.1	12.71	162	P	Pn	22 58 34.4	+3.2
KDU	Kakadu baz=13,SNR=5.4	12.73	211	P	Pn	22 58 30.4	-1.2
MTN	Manton Dam baz=14,SNR=11	13.60	216	P	Pn	22 58 42.3	-1.2
GUMO	Guam comp=Z,544nm,18.1s,baz=93,slow=35	16.27	20	LR	LR	23 05 01.8	
GUMO	Guam 90nm,0.9s	16.27	20	*e*Pn	Pn	22 59 17.7	-1.3
WRAB	Tennant Creek 18nm,0.6s	18.65	194	*e*P	P	22 59 46.8	-1.3
WRAB				S	Sn	23 03 16.4	-0.1
WRA	Warramunga Arr 2.3nm,0.3s,baz=22,slow=10,SNR=66	18.66	195	P	P	22 59 47.7	-0.5
WRA	Warramunga Arr	18.66	195	P	P	22 59 47.7	-0.5
BKSI	Bulukumba 15nm,1.4s	19.39	259	P	Pn	22 59 59.1	+1.6
PCI	Palu baz=19,SNR=3.8	19.41	272	P	Pn	23 00 05.2	+7.4
TTSI	Tana Toraja 22nm,1.1s,725nm	19.43	266	P	Pn	22 59 58.2	+0.2
CTA	Charters Tower 0.4nm,0.3s,baz=332,slow=9.4,SNR=6.8	19.44	160	P	Pn	22 59 57.9	-0.2
CTA	Charters Tower	19.44	160	P	Pn	22 59 57.9	-0.2
CTAO	Charters Tower 8.2nm,0.6s	19.44	160	*e*P	Pn	22 59 58.1	0.0
SPSI	Sidrap Palu 14nm,1.7s,729nm	19.55	263	P	P	22 59 58.2	+0.2
FITZ	Fitzroy Crossi 6.0nm,0.8s,baz=46,slow=12,SNR=11	20.99	219	P	P	23 00 12.5	-1.1
FITZ				LR	LR	23 09 16.3	
	comp=Z,432nm,19.9s,baz=338,slow=40						
FITZ	Fitzroy Crossi 6.7nm,0.8s	20.99	219	*e*P	P	23 00 12.6	-1.0
FITZ				*e*S	S	23 04 01.8	-4.3
FITZ	Fitzroy Crossi baz=21,SNR=6.3	20.99	219	P	P	23 00 12.4	-1.3
SMKI	Samarinda 45nm,1.3s,2μm	22.05	273	P	P	23 00 28.3	+3.2
AS31	Alice Springs	22.35	193	*e*P	P	23 00 26.9	-1.4
ASAR	Alice Springs 22nm,0.8s,baz=24,slow=10,SNR=186	22.35	193	P	P	23 00 27.6	-0.7
ASAR				LR	LR	23 10 15.0	
	comp=Z,651nm,20.2s,baz=337,slow=40						
ASAR	Alice Springs	22.35	193	P	P	23 00 27.6	-0.7
KHKI	Kahang-Kahang	24.41	254	P	P	23 00 46.9	-1.7
QLP	Quilpie baz=26,SNR=7.1	25.12	169	P	P	23 00 56.4	+1.5
EIDS	Eidsvold baz=26,SNR=4.6	26.08	155	P	P	23 01 07.8	+4.1
RMQ	Roma baz=27,SNR=5.0	26.21	160	P	P	23 01 09.3	+4.4
STKA	Stephens Creek 2.2nm,0.7s,baz=353,slow=7.7,SNR=9.5	30.01	176	P	P	23 01 38.9	+0.1
STKA	Stephens Creek baz=30,SNR=5.4	30.01	176	P	P	23 01 40.3	+1.5
FORT	Forrest baz=31,SNR=8.0	30.71	199	P	P	23 01 45.2	+0.2
BBOO	Buckleboo 111nm,0.8s	31.00	185	*e*P	P	23 01 46.9	-0.6
BBOO	Buckleboo baz=31,SNR=6.0	31.00	185	P	P	23 01 48.0	+0.5
MEEK	Meekatharra baz=32,SNR=3.9	31.66	217	P	P	23 01 53.1	-0.3
MJAR	Matsushiro Arr comp=Z,241nm,19.6s,baz=260,slow=33	38.15	359	LR	LR	23 16 23.1	
CMAR	Chiang Mai Arr 1.2nm,0.6s,baz=121,slow=6.2,SNR=13	44.44	299	P	P	23 03 41.0	-0.2
CMAR	Chiang Mai Arr	44.44	299	P	P	23 03 41.0	-0.2
PETK	Petropavlovsk- comp=Z,377nm,20.4s,baz=246,slow=32	56.85	13	LR	LR	23 25 37.5	
ULN	Ulaanbaatar	56.86	335	*e*P	P	23 05 14.8	+0.2
SONM	Songino Array 0.6nm,0.6s,baz=144,slow=10.0,SNR=2.8	57.12	334	P	P	23 05 17.1	+0.7
SONM	Songino Array	57.12	334	P	P	23 05 17.1	+0.7
TAPN	Taplejung 6.9nm,0.7s	57.38	304	*e*Pn	P	23 05 19.1	+0.2
ODAN	Odare 10nm,0.7s	57.47	304	*e*Pn	P	23 05 19.5	+0.1
RAMN	Ramite 11nm,0.8s	58.16	303	*e*Pn	P	23 05 24.7	+0.4
JIRN	Jiri	58.75	304	*e*Pn	P	23 05 28.4	-0.2
GUN	Gumba 16nm,0.8s	59.10	304	*e*Pn	P	23 05 31.3	+0.4
PKI	Pulchoki	59.37	304	*e*Pn	P	23 05 33.2	+0.4
KKN	Kakani 12nm,0.8s	59.55	304	*e*Pn	P	23 05 33.6	-0.3
DMN	Daman	59.63	304	*e*Pn	P	23 05 34.9	+0.3
GKN	Gorkha 12nm,0.6s	60.16	304	*e*Pn	P	23 05 38.2	+0.2
DANN	Dangsing 10nm,0.7s	61.00	304	*e*Pn	P	23 05 44.0	0.0
PYUN	Piuthan 21nm,0.8s	61.56	303	*e*Pn	P	23 05 47.9	+0.3
MK31	Makanchi Array	69.38	322	*e*P	P	23 06 38.1	+0.5
MKAR	Makanchi Array 3.9nm,0.7s,baz=111,slow=7.6,SNR=52	69.38	322	P	P	23 06 38.5	+0.8
MKAR	Makanchi Array	69.38	322	P	P	23 06 38.5	+0.8
ZAA0	Zalesovo Array	71.41	330	*e*P	P	23 06 49.5	-0.3
ZALV	Zalesovo Beam 1.9nm,0.6s,baz=108,slow=5.9,SNR=13	71.41	330	P	P	23 06 49.3	-0.5
ZALV	Zalesovo Beam	71.41	330	P	P	23 06 49.3	-0.5
KURK	Kurchatov 5.5nm,1.0s	73.27	325	*e*P	P	23 07 00.7	-0.3
KURBB	Kurchatov Arra 1.4nm,0.7s,baz=114,slow=5.5,SNR=22	73.28	325	P	P	23 07 01.3	+0.3
KBL	Kabul 1.3nm,0.4s	74.80	306	*e*P	P	23 07 10.6	0.0
VNDA	Vanda 1.3nm,0.7s,baz=340,slow=7.3,SNR=5.9	76.65	175	P	P	23 07 18.9	-1.1
BRVK	Borovoye 5.6nm,0.8s	78.93	325	*e*P	P	23 07 33.0	-0.1
ABKAR	Akbulak array 0.4nm,0.3s	84.36	320	*e*P	P	23 08 02.0	+0.1
ILAR	Eielson Array 1.0nm,0.9s,baz=256,slow=4.7,SNR=7.2	84.78	24	P	P	23 08 03.0	-0.8
ILAR				LR	LR	23 44 25.9	
	comp=Z,197nm,18.8s,baz=119,slow=35						
ILAR	Eielson Array	84.78	24	P	P	23 08 03.0	-0.8
QSPA	South Pole Qui 1.1nm,0.8s,baz=342,slow=2.8,SNR=5.6	88.15	180	P	P	23 08 19.9	-0.5
QSPA	South Pole Qui 2.6nm,0.8s	88.15	180	*e*P	P	23 08 20.4	0.0
TORD	Torodi Ar. Bea 0.4nm,0.7s,baz=58,slow=1.6,SNR=3.7	136.49	287	PKP	PKPdf	23 14 53.2	+0.6
TORD	Torodi Ar. Bea	136.49	287	PKP	PKPdf	23 14 53.2	+0.6
DBIC	Dimbokro 2.4nm,0.6s,baz=101,slow=9.5,SNR=6.9	143.87	279	PKP	PKPbc	23 15 04.2	+0.3
DBIC	Dimbokro	143.87	279	PKP	PKPbc	23 15 04.2	+0.3
LPAZ	La Paz 3.1nm,1.0s,baz=287,slow=2.4,SNR=7.4	147.55	125	PKPbc	PKPab	23 15 17.2	-0.6
LPAZ	La Paz	147.55	125	PKPbc	PKPab	23 15 17.2	-0.6

IDC 11 22:55:55.6±4.2, 35.13S×179.56W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.9/16, mbtmp4.1/2, Error ellipse: s-maj=263.1km s-min=51.0km az=171.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs 1.0nm,0.7s,baz=116,slow=7.9,SNR=4.2	41.79	273	P	P	23 03 46.8	-0.3
WRA	Warramunga Arr 3.2nm,0.5s,baz=120,slow=7.7,SNR=11	43.21	278	P	P	23 03 58.7	+0.1
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=111,slow=1.8,SNR=5.3	123.33	312	PKP	PKPdf	23 14 53.0	-1.0
FINES	FINESS Array B 2.0nm,0.8s,baz=17,slow=1.9,SNR=3.2	149.04	336	PKPbc	PKPbc	23 15 45.0	+0.3

IDC 11 23:17:38.0±1.3, 3.59S×124.81E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/21, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=135.8km s-min=22.5km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=330,slow=11,SNR=20	18.72	151	P	P	23 21 57.4	-1.0
ASAR	Alice Springs 0.7nm,0.7s,baz=339,slow=9.4,SNR=7.4	21.80	157	P	P	23 22 32.0	+0.1
SONM	Songino Array 0.5nm,0.4s,baz=176,slow=8.7,SNR=3.1	53.70	345	P	P	23 27 02.6	+0.8
MKAR	Makanchi Array 0.1nm,0.3s,baz=116,slow=6.6,SNR=2.6	62.60	328	P	P	23 28 03.5	-0.6

CASC 11 23:17:38.3±1.4, 8.63N×83.27W, h1km±10km, MD3.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.10	79	*i* P	Pg	23 17 40.6	+0.2
BUS	Buena Vista	1.04	332	*e*P	Pg	23 17 57.9	-0.9
QCR	Quepos	1.18	312	*e*P	Pg	23 18 00.8	-0.2
QCR				*e*S	Sg	23 18 16.8	+0.4
LAJ	Bijagual	1.48	326	*e*P	Pg	23 18 08.8	+1.8
SJS	Escuela Geolog	1.51	329	*e*P	Pn	23 18 06.0	-0.7
CGA2	Cerro Gallo 2	1.81	319	*e*P	Pn	23 18 11.5	+0.7

IDC 11 23:29:24.9±3.1, 1.92S×137.77E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=113.0km s-min=29.5km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.3nm,0.3s,baz=11,slow=11,SNR=19	18.22	190	P	P	23 33 39.8	0.0
ASAR	Alice Springs 1.4nm,0.8s,baz=27,slow=10.0,SNR=15	21.94	190	P	P	23 34 19.4	-0.8
MKAR	Makanchi Array 0.1nm,0.5s,baz=116,slow=8.2,SNR=3.8	68.60	323	P	P	23 40 30.2	+0.4

IDC 11 23:42:48.6±3.2, 3.47S×137.35E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=124.7km s-min=30.7km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=11,slow=11,SNR=9.3	16.63	190	Pn	P	23 46 45.3	-0.7
ASAR	Alice Springs 0.5nm,0.8s,baz=32,slow=11,SNR=7.6	20.35	189	P	P	23 47 25.9	-0.9
MKAR	Makanchi Array 0.2nm,0.3s,baz=134,slow=7.3,SNR=7.6	69.57	323	P	P	23 53 59.6	+0.1

DJA 11 23:43:55.5±0.5, 9°S±3°×111°1E±°, h29km±4km, M3.9/13, MLv3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	Pacitan	0.66	24	P	Pb	23 44 08.1	-0.4
PCJI				S	Sb	23 44 17.2	-0.1
UGM	Wanagama	0.96	337	P	Pn	23 44 12.6	-0.5
UGM				S	Sb	23 44 26.0	-0.1
YOGI	Yogyakarta	1.15	328	P	Pn	23 44 14.9	-0.8
YOGI				S	Sn	23 44 30.4	-0.1
PWJI	Pagerwojo	1.18	49	P	Pn	23 44 16.1	+0.1
PWJI				S	Sn	23 44 30.9	-0.1
SJI	Sawahan	1.36	39	P	Pn	23 44 18.7	+0.1
SJI				S	Sn	23 44 36.4	+0.7
NGJI	Ngawi	1.52	21	P	Pb	23 44 23.4	+0.3
NGJI				S	Sb	23 44 41.4	-0.7
KRKI	Karangkates	1.65	67	P	Pb	23 44 24.3	-1.0
KRKI				S	Sn	23 44 44.1	+1.2
SMRI	Semarang	1.80	345	P	Pn	23 44 25.5	+0.8
SMRI				S	Sn	23 44 47.4	+0.8
BJII	Banjamegara	1.88	321	P	Pn	23 44 26.5	+0.7
BJII				S	Sn	23 44 49.7	+1.0
GRJI	Gresik	2.43	40	S	Sn	23 45 02.6	+0.4
KPJI	Karang Pucung	2.44	306	P	Pn	23 44 34.0	+0.6
KPJI				S	Sn	23 45 03.9	+1.5
GMJI	Gumukmas	2.56	78	P	Pn	23 44 36.3	+1.2
GMJI				S	Sn	23 45 06.4	+1.1
TGJI	Tegal	2.61	317	P	Pn	23 44 34.7	-1.1
JAGI	Jajag, Banyuwa	3.22	84	P	Pn	23 44 44.6	+0.4
JAGI				S	Sn	23 45 21.5	-0.2
CISI	Cisompet, Garu	3.30	292	P	Pn	23 44 44.5	-0.9
CISI				S	Sn	23 45 20.6	-3.2

*ISCJB **11** 23:45:01.3±0.5, 22.58S±0.07×68.59W±0.06, h121km±5km, mb3.5/4, Error ellipse: s-maj=12.5km s-min=8.6km az=157.4*
*GUC **11** 23:45:01.3±0.9, 22.28S×68.75W, h95km±13km, ML4.4*
*IDC **11** 23:45:02.1±0.8, 22.53S×68.42W, h102km±5km, mb3.4/5, mb1 3.6/10, mb1mx3.5/21, mbtmp3.4/10, Error ellipse: s-maj=21.4km s-min=19.2km az=65.0*

ISC 11 23:45:01.7±0.6, 22.64S±0.07×68.50W±0.07, h106km±5km, n19, σ1°47/26, mb3.6/4, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.38	274	↑*i* P	Pn	23 45 19.7	+2.1
LVC				*i* S	Sn	23 45 30.8	+1.1
LVC				AML	AML	23 45 31.5	
	comp=N,6μm,0.7s						
SPCH	San Pedro de A	0.38	134	↑*i* P	Pn	23 45 20.3	+2.6
SPCH				*i* S	Sn	23 45 34.5	+4.8
SPCH				AML	AML	23 45 35.2	
	comp=N,16μm,0.6s						
CEN1	Los Morros	1.73	244	↑*i* P	Pn	23 45 31.1	-0.1
CEN1				*e*S	Sn	23 45 56.4	+2.6
CEN1				AML	AML	23 46 00.7	
	comp=N,4μm,0.4s						
MECH	Mejillones	1.86	255	↑*i* P	Pn	23 45 31.1	-1.6
MECH				*i* S	Sn	23 45 53.5	-2.7
MECH				AML	AML	23 46 00.3	
	comp=E,7μm,0.5s						
ANCH	Antofagasta	2.04	239	↓*i* P	Pn	23 45 34.8	-0.2
ANCH				*i* S	Sn	23 46 00.5	0.0
ANCH				AML	AML	23 46 06.8	
	comp=E,7μm,0.4s						
LPAZ	La Paz comp=E,2.1nm,0.3s,baz=212,slow=5.2,SNR=38	6.33	3	P	Pn	23 46 32.3	-0.9
CFAA	Coronel Fontan comp=E,0.2nm,0.3s,baz=354,slow=13,SNR=12	8.93	179	P	Pn	23 47 08.2	+0.3
CFAA				S	Sn	23 48 44.3	-2.3
	comp=E,0.1nm,0.3s,baz=242,slow=21,SNR=3.8						
SIV	San Ignacio comp=E,5.0nm,0.3s,baz=256,slow=12,SNR=105	9.64	48	P	Pn	23 47 15.4	-2.2
SIV				S	Sn	23 48 56.2	-7.8
	comp=E,0.3nm,0.3s,baz=320,slow=23,SNR=7.8						
CPUP	Villa Florida comp=E,0.3nm,0.3s,baz=288,slow=18,SNR=4.4	10.81	112	P	Pn	23 47 34.5	+1.2
PLCA	Paso Flores comp=E,0.0nm,0.3s,baz=353,slow=14,SNR=3.0	18.12	185	P	Pn	23 49 07.2	+0.7
BDFB	Brasilia comp=E,3.1nm,0.8s,baz=244,slow=11,SNR=6.1	20.55	74	P	P	23 49 32.0	-0.2
PDAR	Pinedale Array comp=E,0.2nm,0.6s,baz=94,slow=8.2,SNR=3.0	75.29	330	P	P	23 56 32.7	-0.7
NVAR	Mina Array Bea comp=E,0.3nm,0.7s,baz=151,slow=5.7,SNR=3.4	76.62	322	P	P	23 56 42.3	+1.2
TORD	Torodi Ar. Bea comp=E,1.9nm,0.8s,baz=252,slow=5.4,SNR=24	77.38	70	P	P	23 56 45.7	+0.1
TORD				pP	pP	23 57 11.0	-1.5
	comp=E,2.5nm,0.7s,baz=251,slow=5.5,SNR=7.9						
YKA	Yellowknife Ar comp=E,0.5nm,0.7s,baz=137,slow=4.7,SNR=14	92.39	340	P	P	23 57 59.3	-0.6
YKA				pP	pP	23 58 27.1	-0.4
	comp=E,0.1nm,0.5s,baz=135,slow=4.5,SNR=3.5						
YKA				sP	sP	23 58 38.0	-0.7
	comp=E,0.5nm,0.8s,baz=139,slow=4.4,SNR=4.8						
ASAR	Alice Springs comp=E,0.3nm,0.9s,baz=116,slow=2.2,SNR=3.5	129.07	207	PKP	PKPdf	00 03 59.5	+1.4
WRA	Warramunga Arr comp=E,0.2nm,0.5s,baz=150,slow=1.7,SNR=8.9	132.16	210	PKP	PKPdf	00 04 05.1	+1.2
ZALV	Zalesovo Beam comp=E,0.4nm,0.5s,baz=222,slow=1.8,SNR=4.5	142.81	26	PKP	PKPdf	00 04 24.4	+2.0
MKAR	Makanchi Array comp=E,0.5nm,0.7s,baz=300,slow=2.4,SNR=6.2	146.32	37	PKPbc	PKPbc	00 04 30.1	0.0
MKAR				pPKPbc	pPKPbc	00 04 58.5	-0.1
	comp=E,0.9nm,0.9s,baz=316,slow=3.3,SNR=5.7						

*IDC **11** 23:50:32.0±0.6, 15.72N×46.60W, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.2/30, mbtmp4.2/18, ML6.2/1, MS4.2/28, Ms1 4.2/28, ms1mx4.

BDFB					LR	LR	00 09 04.0		
	comp=Z,200nm,20.1s,baz=171,slow=36								
BDFB	**Brasilia**	**31.08**	**182**		P	**P**	**23 56 53.6**	**+1.4**	
PMOZ	**Porto Moniz, M**	**31.76**	**52**		*e*LR	LR	00 04 54.4		
	358nm,18.0s								
SIV	**San Ignacio**	**34.45**	**205**		P	**P**	**23 57 23.3**	**+1.7**	
	2.0nm,0.9s,baz=57,slow=7.1,SNR=4.1								
SIV	**San Ignacio**	**34.45**	**205**		P	**P**	**23 57 23.3**	**+1.7**	
OTAV	**Otavalo**	**34.85**	**247**		*e*P	**P**	**23 57 25.8**	**+0.1**	
	23nm,1.4s								
LPAZ	**La Paz**	**38.10**	**215**		P	**P**	**23 57 53.7**	**+0.2**	
	3.8nm,0.9s,baz=342,slow=5.6,SNR=6.9								
LPAZ					LR	LR	00 13 05.3		
	comp=Z,268nm,22.0s,baz=224,slow=35								
LPAZ	**La Paz**	**38.10**	**215**		*e*P	**P**	**23 57 51.6**	**-1.8**	
	6.3nm,1.0s								
PCVE	**Castro Verde**	**40.55**	**50**		*e*P	**P**	**23 58 14.2**	**+1.1**	
	41nm,2.0s								
PVAQ	**Vaqueiros**	**40.70**	**50**		*e*S	S	00 04 34.9	+11	
PVAQ					*e*LQ	LQ	00 07 31.9		
PVAQ					*e*LR	LR	00 08 48.2		
	367nm,18.0s								
EVOP	**Sao Brissos**	**40.84**	**48**		*e*P	**P**	**23 58 15.0**	**-0.4**	
	12nm,0.7s								
EVO	**Evora**	**40.92**	**48**		*e*P	**P**	**23 58 15.0**	**-1.1**	
	12nm,0.7s								
EVO					*e*R				
	842nm,23.0s								
EVO	**Evora**	**40.92**	**48**		A	A	23 57 57.9		
	15nm,2.0s								
EVO	**Evora**	**40.92**	**48**		*e*P	**P**	**23 58 16.0**	**-0.1**	
PMRV	**Marv??o**	**41.72**	**48**		*e*P	**P**	**23 58 21.1**	**-1.6**	
	16nm,1.8s								
PMRV					*e*LR	LR	00 09 29.7		
	552nm,20.0s								
PCBR	**Castelo Branco**	**41.82**	**47**		*e*P	**P**	**23 58 23.3**	**-0.2**	
	19nm,1.6s								
LIC	**Lamto**	**41.91**	**98**		*e*P	**P**	**23 58 22.6**	**-2.0**	
	54nm,1.5s								
LIC					*e*R				
	625nm,22.5s								
LIC	**Lamto**	**41.91**	**98**		*e*P	**P**	**23 58 22.6**	**-2.0**	
	54nm,1.5s								
DBIC	**Dimbokro**	**41.95**	**97**		LR	LR	00 12 22.7		
	comp=Z,491nm,22.0s,baz=242,slow=31								
MTE	**Manteigas**	**42.00**	**46**		*e*LQ	LQ	00 08 03.0		
MTE					*e*LR	LR	00 09 45.9		
	650nm,20.0s								
SCHQ	**Schefferville**	**42.13**	**343**		LR	LR	00 13 55.8		
	comp=Z,269nm,18.2s,baz=127,slow=33								
PGAV	**Gavieira, Arco**	**42.19**	**44**		*e*LQ	LQ	00 08 12.8		
PGAV					*e*LR	LR	00 10 05.9		
	368nm,22.0s								
MVO	**Moncorvo**	**42.68**	**45**		*e*LQ	LQ	00 07 21.3		
MVO					*e*LR	LR	00 10 03.0		
	400nm,20.0s								
CPUP	**Villa Florida**	**42.95**	**194**		P	**P**	**23 58 33.9**	**+1.2**	
	2.0nm,0.6s,baz=357,slow=7.6,SNR=6.2								
CPUP					LR	LR	00 17 35.3		
	comp=Z,188nm,21.7s,baz=20,slow=38								
CPUP	**Villa Florida**	**42.95**	**194**		P	**P**	**23 58 33.9**	**+1.2**	
ESDC	**Sonseca Array**	**44.27**	**49**		P	**P**	**23 58 43.1**	**-0.3**	
	1.3nm,0.7s,baz=245,slow=7.9,SNR=9.4								
ESDC					LR	LR	00 14 46.5		
	comp=Z,324nm,18.2s,baz=240,slow=33								
ESDC	**Sonseca Array**	**44.27**	**49**		P	**P**	**23 58 43.1**	**-0.3**	
TOA0	**Torodi Ar. Sit**	**46.88**	**86**		*e*P	**P**	**23 59 02.6**	**-1.7**	
TORD	**Torodi Ar. Bea**	**46.88**	**86**		P	**P**	**23 59 02.9**	**-1.5**	
	7.8nm,1.0s,baz=285,slow=7.2,SNR=13								
TORD					LR	LR	00 15 45.7		
	comp=Z,550nm,21.6s,baz=250,slow=32								
TORD	**Torodi Ar. Bea**	**46.88**	**86**		P	**P**	**23 59 02.9**	**-1.5**	
HKT	**Hockley**	**47.14**	**296**		*e*P	**P**	**23 59 05.3**	**-0.8**	
	4.1nm,1.0s								
SJPF	**Ste Jean**	**47.41**	**45**		*e*P	**P**	**23 59 08.5**	**+0.4**	
	23nm,1.2s								
SJPF	**Ste Jean**	**47.41**	**45**		*e*P	**P**	**23 59 08.5**	**+0.4**	
	23nm,1.2s								
ETSF	**Etsaut**	**47.79**	**46**		*e*P	**P**	**23 59 11.6**	**+0.5**	
	22nm,1.2s								
ETSF	**Etsaut**	**47.79**	**46**		*e*P	**P**	**23 59 11.6**	**+0.5**	
	22nm,1.2s								
EPF	**Esparros**	**48.46**	**46**		*e*P	**P**	**23 59 17.2**	**+0.9**	
EPF	**Esparros**	**48.46**	**46**		*e*P	**P**	**23 59 17.2**	**+0.9**	
MFF	**Saint Martin d**	**49.43**	**41**		*e*P	**P**	**23 59 25.6**	**+2.0**	
	32nm,1.2s								
MFF	**Saint Martin d**	**49.43**	**41**		*e*P	**P**	**23 59 25.6**	**+2.0**	
	32nm,1.2s								
TAM	**Tamanrasset**	**49.65**	**73**		*e*P	**P**	**23 59 25.8**	**0.0**	
	25nm,1.9s								
GRR	**Gorron**	**49.71**	**39**		*e*P	**P**	**23 59 26.3**	**+0.6**	
GRR	**Gorron**	**49.71**	**39**		*e*P	**P**	**23 59 26.3**	**+0.6**	
MTLF	**Montolieu**	**49.86**	**46**		*e*P	**P**	**23 59 27.6**	**+0.7**	
	29nm,1.3s								
MTLF	**Montolieu**	**49.86**	**46**		*e*P	**P**	**23 59 27.6**	**+0.7**	
	29nm,1.3s								
FLN	**La Foliniere**	**50.09**	**39**		*e*P	**P**	**23 59 28.9**	**+0.3**	
	36nm,1.4s								
FLN					*e*R				
	217nm,19.5s								
FLN	**La Foliniere**	**50.09**	**39**		*e*P	**P**	**23 59 28.9**	**+0.3**	
	36nm,1.4s								
WMOK	**Wichita Mounta**	**50.24**	**302**		*e*P	**P**	**23 59 29.7**	**-0.3**	
	2.0nm,0.9s								
CAF	**Calviac**	**50.26**	**44**		*e*P	**P**	**23 59 29.9**	**-0.1**	
	31nm,1.4s								
CAF	**Calviac**	**50.26**	**44**		*e*P	**P**	**23 59 29.9**	**-0.1**	
	31nm,1.4s								
FRB	**Frobisher Bay**	**50.41**	**348**		P	**P**	**23 59 31.9**	**+1.2**	
	1.4nm,0.7s,baz=151,slow=5.9,SNR=4.5								
FRB	**Frobisher Bay**	**50.41**	**348**		P	**P**	**23 59 31.9**	**+1.2**	
632A	**Uvalde**	**50.52**	**295**		⇓P	**P**	**23 59 31.1**	**-1.1**	
	baz=50								
JCT	**Junction City**	**50.61**	**297**		⇑P	**P**	**23 59 32.0**	**-0.9**	
	baz=51								
432A	**Menard**	**50.63**	**297**		⇑P	**P**	**23 59 32.1**	**-1.0**	
	baz=51								
732A	**Laxson Ranch,**	**50.64**	**294**		⇓P	**P**	**23 59 32.0**	**-1.1**	
	baz=51								
532A	**Rocksprings**	**50.67**	**296**		⇓P	**P**	**23 59 32.3**	**-1.0**	
	baz=51								
ABTX	**Abilene, Hawle**	**50.68**	**300**		⇑P	**P**	**23 59 32.7**	**-0.7**	
	baz=51								
TCF	**Toulx Ste Croi**	**50.83**	**42**		*e*P	**P**	**23 59 36.2**	**+2.0**	
	28nm,1.4s								
TCF	**Toulx Ste Croi**	**50.83**	**42**		*e*P	**P**	**23 59 36.2**	**+2.0**	
	28nm,1.4s								
LASF	**Ste Croix**	**51.21**	**46**		*e*P	**P**	**23 59 37.8**	**+0.6**	
	15nm,0.9s								
LASF	**Ste Croix**	**51.21**	**46**		*e*P	**P**	**23 59 37.8**	**+0.6**	
	15nm,0.9s								
531A	**Rocksprings**	**51.23**	**296**		⇑P	**P**	**23 59 36.5**	**-1.0**	
	baz=51								
431A	**Sonora**	**51.32**	**297**		⇓P	**P**	**23 59 37.5**	**-0.8**	
	baz=51								
BGF	**Bois d'Agland**	**51.33**	**42**		*e*P	**P**	**23 59 37.8**	**-0.2**	
BGF	**Bois d'Agland**	**51.33**	**42**		*e*P	**P**	**23 59 37.8**	**-0.2**	
530A	**J-C Ranch, Com**	**51.91**	**296**		⇑P	**P**	**23 59 41.9**	**-0.8**	
	baz=52								
SMF	**Signal de Mont**	**52.01**	**42**		*e*P	**P**	**23 59 45.0**	**+1.9**	
SMF	**Signal de Mont**	**52.01**	**42**		*e*P	**P**	**23 59 45.0**	**+1.9**	
LOR	**Lormes**	**52.23**	**42**		*e*P	**P**	**23 59 46.3**	**+1.6**	
LOR					*e*R				
	161nm,22.8s								
LOR	**Lormes**	**52.23**	**42**		*e*P	**P**	**23 59 46.3**	**+1.6**	
429A	**Davenport Ranc**	**52.42**	**297**		⇓P	**P**	**23 59 45.6**	**-0.9**	
	baz=52								
ULM	**Lac du Bonnet**	**52.44**	**322**		LR	LR	00 18 49.3		
	comp=Z,364nm,21.4s,baz=136,slow=32								
129A	**Stewart Farms,**	**52.55**	**299**		⇓P	**P**	**23 59 46.7**	**-0.7**	
	baz=52								
329A	**Wagon Wheel Ra**	**52.55**	**298**		⇑P	**P**	**23 59 46.6**	**-0.9**	
	baz=52								
529A	**Stev Forest Ra**	**52.67**	**296**		⇑P	**P**	**23 59 47.4**	**-0.9**	
	baz=53								
ORIF	**Oris-en-Rattie**	**52.84**	**45**		*e*P	**P**	**23 59 49.5**	**+0.1**	
	12nm,1.0s								
ORIF					*e*R				
	386nm,19.5s								
ORIF	**Oris-en-Rattie**	**52.84**	**45**		*e*P	**P**	**23 59 49.5**	**+0.1**	
	12nm,1.0s								
Y28A	**McKinney Farm,**	**52.98**	**301**		⇑P	**P**	**23 59 49.7**	**-1.0**	
	baz=53								
428A	**Kincaid Ranch,**	**53.10**	**297**		⇑P	**P**	**23 59 50.9**	**-0.7**	
	baz=53								
228A	**UT Block 9, Go**	**53.12**	**299**		⇑P	**P**	**23 59 51.1**	**-0.5**	
	baz=53								
528A	**Cox Ranch, San**	**53.17**	**296**		⇑P	**P**	**23 59 51.3**	**-0.7**	
	baz=53								
SFTF	**Sexfontaines**	**53.29**	**41**		*e*P	**P**	**23 59 53.9**	**+1.4**	
	60nm,1.5s								
SFTF	**Sexfontaines**	**53.29**	**41**		*e*P	**P**	**23 59 53.9**	**+1.4**	
	60nm,1.5s								
BAIF	**Baives**	**53.42**	**39**		*e*P	**P**	**23 59 53.7**	**+0.3**	
	22nm,1.3s								
BAIF	**Baives**	**53.42**	**39**		*e*P	**P**	**23 59 53.7**	**+0.3**	
	22nm,1.3s								
MSTX	**Muleshoe**	**53.42**	**301**		⇓P	**P**	**23 59 53.2**	**-0.7**	
	baz=53								
LPL	**La Plagne**	**53.59**	**45**		*e*P	**P**	**23 59 56.2**	**+1.2**	
LPL	**La Plagne**	**53.59**	**45**		*e*P	**P**	**23 59 56.2**	**+1.2**	
KEST	**Kesra**	**53.62**	**57**		LR	LR	00 20 09.7		
	comp=Z,209nm,21.5s,baz=151,slow=33								
627A	**Terlingua Ranc**	**53.66**	**295**		⇑P	**P**	**23 59 54.6**	**-1.1**	
	baz=54								
427A	**Hayter Ranch,**	**53.73**	**297**		⇓P	**P**	**23 59 55.1**	**-1.1**	
	baz=54,SNR=5.5								
PAGF	**Fort de Pagny**	**53.84**	**41**		*e*P	**P**	**23 59 58.1**	**+1.6**	
PAGF	**Fort de Pagny**	**53.84**	**41**		*e*P	**P**	**23 59 58.1**	**+1.6**	
527A	**Woodward Ranch**	**53.88**	**296**		⇑P	**P**	**23 59 56.4**	**-0.9**	
	baz=54								
TXAR	**Lajitas Array**	**53.90**	**295**		P	**P**	**23 59 58.2**	**+0.8**	
	1.9nm,0.8s,baz=112,slow=9.6,SNR=7.9								
TXAR					PcP	**PcP**	**00 01 04.3**	**+1.4**	
	0.5nm,0.8s,baz=83,slow=5.2,SNR=3.6								
TXAR					LR	LR	00 23 57.0		
	comp=Z,245nm,19.1s,baz=125,slow=37								
TXAR	**Lajitas Array**	**53.90**	**295**		P	**P**	**23 59 58.2**	**+0.8**	
TXAR					PcP	**PcP**	**00 01 04.3**	**+1.4**	
HAU	**Haudompre**	**54.06**	**42**		*e*P	**P**	**23 59 58.7**	**+0.5**	
HAU					*e*R				
	184nm,20.8s								
HAU	**Haudompre**	**54.06**	**42**		*e*P	**P**	**23 59 58.7**	**+0.5**	
426A	**McDonald Obser**	**54.26**	**297**		⇓P	**P**	**23 59 59.7**	**-0.5**	
	baz=54,SNR=18								
526A	**Mary Lane Ranc**	**54.29**	**296**		⇑P	**P**	**23 59 59.3**	**-1.0**	
	baz=54,SNR=6.4								
Z26A	**Caprock**	**54.37**	**300**		⇑P	**P**	**23 59 59.8**	**-1.0**	
	baz=54								
U26A	**Atchley Ranch,**	**54.47**	**304**		⇑P	**P**	**00 00 01.0**	**-0.6**	
	baz=54								
GDL2	**Guadalupe Moun**	**54.62**	**299**		*e*P	**P**	**00 00 02.3**	**-0.4**	
125A	**Gardner Draw,**	**54.90**	**299**		⇓P	**P**	**00 00 04.4**	**-0.3**	
	baz=55								
U25A	**Circle Dot Ran**	**55.00**	**304**		⇑P	**P**	**00 00 05.6**	**+0.1**	
	baz=55								
225A	**Deer Hill, Car**	**55.01**	**298**		⇓P	**P**	**00 00 05.0**	**-0.5**	
	baz=55								
Y25A	**Mesa, Roswell**	**55.01**	**301**		⇑P	**P**	**00 00 05.3**	**-0.2**	
	baz=55								
425A	**Indio Mountain**	**55.09**	**297**		⇑P	**P**	**00 00 05.8**	**-0.2**	
	baz=55,SNR=18								
325A	**Bean Ranch, Si**	**55.10**	**298**		⇓P	**P**	**00 00 06.3**	**+0.1**	
	baz=55,SNR=5.7								
MNTX	**Cornudas Mount**	**55.46**	**298**		⇑P	**P**	**00 00 08.1**	**-0.6**	
	baz=55								
324A	**Moseley Ranch,**	**55.54**	**298**		⇓P	**P**	**00 00 08.7**	**-0.6**	
	baz=56,SNR=5.9								
124A	**Stringfield Ra**	**55.57**	**299**		⇑P	**P**	**00 00 08.7**	**-0.9**	
	baz=56								
224A	**Cornudas Mount**	**55.60**	**298**		⇓P	**P**	**00 00 09.2**	**-0.6**	
	baz=56,SNR=5.1								
W24A	**Lazy 6 Ranch,**	**55.70**	**302**		⇑P	**P**	**00 00 10.5**	**-0.1**	
	baz=56								
Y23A	**Lovelace Mesa,**	**56.14**	**301**		⇑P	**P**	**00 00 13.4**	**-0.3**	
	baz=56								
ISCO	**Idaho Springs**	**56.36**	**308**		*e*P	**P**	**00 00 16.3**	**+1.0**	
	24nm,2.0s								
U23A	**El Rito**	**56.43**	**303**		⇑P	**P**	**00 00 15.5**	**-0.3**	
	baz=56,SNR=6.4								
DGMT	**Dagmar**	**57.02**	**318**		⇓P	**P**	**00 00 20.0**	**+0.5**	
	baz=57								
T22A	**Edith**	**57.06**	**304**		⇑P	**P**	**00 00 19.7**	**-0.5**	
	baz=57								
S22A	**4UR Ranch, Cre**	**57.07**	**305**		⇑P	**P**	**00 00 20.3**	**-0.1**	
	baz=57								
Z21A	**St. Cloud Mine**	**57.46**	**300**		⇑P	**P**	**00 00 22.2**	**-0.9**	
	baz=57								
X21A	**Alamocita Cree**	**57.60**	**301**		⇓P	**P**	**00 00 23.4**	**-0.8**	
	baz=58								
U21A	**Nageezi**	**57.62**	**303**		⇓P	**P**	**00 00 23.9**	**-0.3**	
	baz=58								
GERES	**GERESS Array B**	**59.00**	**42**		LR	LR	00 25 26.3		
	comp=Z,261nm,18.2s,baz=45,slow=36								
PDAR	**Pinedale Array**	**59.68**	**311**		P	**P**	**00 00 39.7**	**+1.2**	
	2.3nm,1.1s,baz=91,slow=7.4,SNR=7.9								
PDAR					LR	LR	00 23 21.1		
	comp=Z,405nm,21.2s,baz=116,slow=33								
PDAR	**Pinedale Array**	**59.68**	**311**		P	**P**	**00 00 39.7**	**+1.2**	
RLMT	**Red Lodge**	**59.78**	**313**		*e*P	**P**	**00 00 39.8**	**+0.7**	
	3.6nm,0.6s								
TUC	**Tucson**	**60.06**	**299**		*e*P	**P**	**00 00 42.2**	**+1.2**	
	4.8nm,1.2s								
SRU	**San Rafael**	**60.07**	**306**		*e*P	**P**	**00 00 42.1**	**+0.9**	
	3.2nm,0.9s								
PLCA	**Paso Flores**	**60.27**	**201**		LR	LR	00 26 56.4		
	comp=Z,174nm,21.3s,baz=192,slow=36								
DAU	**Daniels Canyon**	**60.73**	**308**		*e*P	**P**	**00 00 45.3**	**-0.4**	
IMW	**Indian Meadow**	**60.81**	**312**		*e*P	**P**	**00 00 47.5**	**+1.3**	
	5.4nm,1.0s								
L16A	**Fish Haven**	**60.98**	**310**		⇓P	**P**	**00 00 47.0**	**-0.3**	
	baz=61								
RRI2	**Red Ridge**	**61.03**	**311**		*e*P	**P**	**00 00 46.5**	**-1.2**	
	7.4nm,1.0s								
HWUT	**Hardware Ranch**	**61.05**	**309**		*e*P	**P**	**00 00 47.4**	**-0.4**	
	8.6nm,1.1s								
H16A	**Russell Place,**	**61.12**	**313**		⇑P	**P**	**00 00 48.6**	**+0.4**	
	baz=61								
NOA	**NORSAR Array B**	**61.15**	**28**		LR	LR	00 21 42.7		
	comp=Z,104nm,18.6s,baz=285,slow=31								
B17A	**L&G Farms, Che**	**61.29**	**317**		⇑P	**P**	**00 00 49.5**	**+0.4**	
	baz=61								
U15A	**North Rim**	**61.35**	**303**		⇑P	**P**	**00 00 49.8**	**-0.2**	
	baz=61								
E16A	**East Helena**	**61.64**	**315**		⇑P	**P**	**00 00 51.6**	**0.0**	
	baz=62								
L15A	**Malad City**	**61.69**	**310**		⇓P	**P**	**00 00 52.0**	**-0.1**	
	baz=62								
M15A	**Larsen Ranch,**	**61.70**	**309**		⇑P	**P**	**00 00 51.9**	**-0.2**	
	baz=62								
J15A	**Blackfoot**	**61.84**	**311**		⇑P	**P**	**00 00 53.0**	**-0.1**	
	baz=62								
C16A	**Fuhringer Ranc**	**61.85**	**316**		⇓P	**P**	**00 00 52.8**	**-0.2**	
	baz=62								
CCUT	**Cedar City**	**62.23**	**304**		*e*P	**P**	**00 00 56.4**	**+0.5**	
	60nm,2.7s								
C15A	**Salmond Ranch,**	**62.42**	**316**		⇓P	**P**	**00 00 56.6**	**-0.3**	
	baz=62								
B15A	**Bradely Ranch,**	**62.46**	**317**		⇑P	**P**	**00 00 57.0**	**-0.1**	
	baz=62								
D14A	**Greenough**	**62.95**	**315**		⇑P	**P**	**00 01 00.2**	**-0.2**	
	baz=63								
SLMT	**Seeley Lake**	**62.96**	**315**		*e*P	**P**	**00 01 00.7**	**+0.2**	
G13A	**Cobalt**	**63.27**	**313**		⇓P	**P**	**00 01 02.7**	**+0.1**	
	baz=63								
HLID	**Hailey**	**63.29**	**311**		*e*P	**P**	**00 01 02.8**	**0.0**	
	8.9nm,1.4s								
HLID	**Hailey**	**63.29**	**311**		⇓P	**P**	**00 01 02.3**	**-0.5**	
	baz=63								
F13A	**Darby**	**63.40**	**314**		⇓P	**P**	**00 01 03.4**	**0.0**	
	baz=63								
H12A	**Diamond D Ranc**	**63.67**	**312**		⇓P	**P**	**00 01 05.3**	**0.0**	
	baz=64								
C13A	**Hot Springs**	**63.73**	**316**		⇓P	**P**	**00 01 05.0**	**-0.4**	
	baz=64								
ELK	**Elko**	**63.77**	**308**		*e*P	**P**	**00 01 06.1**	**0.0**	
R11A	**Troy Canyon, C**	**64.00**	**305**		⇑P	**P**	**00 01 06.9**	**-0.7**	
	baz=64								
F12A	**Elk City**	**64.04**	**314**		⇓P	**P**	**00 01 07.4**	**-0.2**	
	baz=64								
G12A	**Big Creek, Yel**	**64.04**	**313**		⇓P	**P**	**00 01 07.4**	**-0.3**	
	baz=64								
A12A	**Yaak River Ran**	**64.57**	**317**		⇑P	**P**	**00 01 10.9**	**0.0**	
	baz=64								
NEW	**Newport**	**65.49**	**316**		P	**P**	**00 01 17.1**	**+0.2**	
	5.6nm,1.1s,baz=125,slow=3.5,SNR=6.5								
NEW	**Newport**	**65.49**	**316**		*e*P	**P**	**00 01 16.8**	**-0.1**	
	9.3nm,1.1s								
YKA	**Yellowknife Ar**	**66.09**	**332**		P	**P**	**00 01 19.3**	**-1.1**	
	2.3nm,1.0s,baz=103,slow=7.3,SNR=12								
YKA	**Yellowknife Ar**	**66.09**	**332**		P	**P**	**00 01 19.3**	**-1.1**	
NVAR	**Mina Array Bea**	**66.14**	**305**		P	**P**	**00 01 21.2**	**-0.3**	
	0.7nm,0.6s,baz=84,slow=6.3,SNR=6.0								
NVAR					PcP	**PcP**	**00 01 53.9**	**+2.0**	
	1.5nm,0.8s,baz=96,slow=4.6,SNR=5.9								
NVAR					LR	LR	00 30 58.7		
	comp=Z,228nm,19.4s,baz=259,slow=37								
NVAR	**Mina Array Bea**	**66.14**	**305**		P	**P**	**00 01 21.2**	**-0.3**	
NVAR					PcP	**PcP**	**00 01 53.9**	**+2.0**	
FINES	**FINESS Array B**	**68.19**	**30**		P	**P**	**00 01 32.8**	**-1.0**	
	1.7nm,0.8s,baz=242,slow=4.1,SNR=5.1								
FINES					LR	LR	00 28 45.2		
	comp=Z,136nm,19.3s,baz=310,slow=34								
FINES	**FINESS Array B**	**68.19**	**30**		P	**P**	**00 01 32.8**	**-1.0**	
AKASG	**Malin Array Be**	**69.19**	**41**		LR	LR	00 28 45.7		
	comp=Z,157nm,19.8s,baz=300,slow=33								
ARCES	**ARCESS Array B**	**69.28**	**21**		P	**P**	**00 01 39.4**	**-1.1**	
	1.4nm,0.8s,baz=248,slow=6.4,SNR=4.0								
ARCES					LR	LR	00 25 24.3		
	comp=Z,151nm,20.8s,baz=213,slow=30								
ARCES	**ARCESS Array B**	**69.28**	**21**		P	**P**	**00 01 39.4**	**-1.1**	
BRTR	**Keskin Array B**	**72.86**	**53**		P	**P**	**00 02 02.4**	**-0.5**	
	1.4nm,1.0s,baz=270,slow=4.9,SNR=5.3								
BRTR					LR	LR	00 32 10.7		
	comp=Z,75nm,21.7s,baz=60,slow=34								
BRTR	**Keskin Array B**	**72.86**	**53**		P	**P**	**00 02 02.4**	**-0.5**	
INK	**Inuvik**	**74.44**	**337**		P	**P**	**00 02 10.7**	**-0.8**	
	7.1nm,1.1s,baz=84,slow=6.6,SNR=12								
INK	**Inuvik**	**74.44**	**337**		*e*P	**P**	**00 02 11.3**	**-0.1**	
KBZ	**Khabaz**	**79.11**	**48**		LR	LR	00 32 48.2		
	comp=Z,90nm,21.4s,baz=316,slow=32								
ILAR	**Eielson Array**	**80.29**	**335**		P	**P**	**00 02 43.9**	**-0.4**	
	9.0nm,0.9s,baz=74,slow=4.4,SNR=30								
ILAR					LR	LR	00 39 15.0		
	comp=Z,107nm,18.2s,baz=92,slow=36								
ILAR	**Eielson Array**	**80.29**	**335**		P	**P**	**00 02 43.9**	**-0.4**	
BOSA	**Boshof**	**82.25**	**122**		LR	LR	00 31 50.3		
	comp=Z,190nm,19.6s,baz=314,slow=30								
ATD	**Arta Tunnel**	**86.54**	**79**		LR	LR	00 40 11.9		
	comp=Z,127nm,20.9s,baz=156,slow=34								
ABKAR	**Akbulak array**	**88.80**	**39**		*e*P	**P**	**00 03 27.1**	**-0.5**	
	4.4nm,1.1s								
BVAR	**Borovoye Array**	**92.99**	**33**		LR	LR	00 45 15.5		
	comp=Z,180nm,19.6s,baz=297,slow=35								
OPO	**Ambohidratompo**	**98.45**	**107**		LR	LR	00 40 59.6		
	comp=Z,209nm,20.8s,baz=180,slow=31								
ZALV	**Zalesovo Beam**	**99.32**	**27**		LR	LR	00 48 41.6		
	comp=Z,84nm,18.7s,baz=233,slow=35								
KSH	**Kashi**	**103.48**	**42**		*e*P	**Pdif**	**00 04 35.1**	**+0.3**	
KSH					*e*PP	**PKiKP**	**00 08 53.1**	**-0.5**	
KSH					SKS	**SKSac**	**00 15 13.3**	**-1.1**	
KSH					S	**Sdif**	**00 16 19.2**	**-3.5**	
KSH					sS	SKKSac	00 16 27.0	+31	
KSH					SS	**SS**	**00 23 35.6**	**+1.6**	
KSH					LR	LR			
	comp=N,78nm,7.6s								
KSH					LR	LR			
	comp=E,74nm,6.6s								
KSH					LR	LR			
	comp=Z,160nm,8.9s								
CEP	**Cherat**	**103.66**	**49**		P	**Pdif**	**00 04 38.8**	**+3.1**	
CHCP	**Chirah Chowk**	**104.72**	**48**		P	**Pdif**	**00 04 39.7**	**-0.6**	
HHC	**Hu-ho-hao-te**	**120.32**	**19**		*e*PKP	**PKPdf**	**00 09 25.0**	**-0.4**	
HHC					PP	**PP**	**00 10 53.7**	**+3.6**	
HHC					PKS	**PKSdf**	**00 13 00.5**	**-1.7**	
HHC					SKS	**SKSdf**	**00 16 36.6**	**-0.4**	
HHC					SKKS	**SKKSac**	**00 17 48.2**	**-2.5**	
HHC					SS	**SS**	**00 27 21.2**	**+4.4**	
HHC					LR	LR			
	comp=N,370nm,15.2s								
HHC					LR	LR			
	comp=E,360nm,21.4s								
HHC					LR	LR			
	comp=Z,330nm,12.6s								
CN2	**Changchun**	**120.45**	**7**		*e*P

ellipse: s-maj=191.6km s-min=28.1km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.39**	**192**	P	P	00 09 39.5	+0.9
	0.1nm,0.3s,baz=14,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**22.10**	**191**	P	P	00 10 18.6	-0.4
	0.8nm,0.9s,baz=23,slow=9.6,SNR=7.4						
MKAR	**Makanchi Array**	**68.87**	**322**	P	P	00 16 28.3	-0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.6						

IDC 12 00:05:40.7±4.3, 1°84S×138°37E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/26, Error ellipse: s-maj=176.1km s-min=27.7km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**192**	P	P	00 09 58.2	+0.5
	0.4nm,0.3s,baz=13,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.13**	**191**	P	P	00 10 37.6	-0.4
	2.2nm,0.8s,baz=23,slow=9.7,SNR=14						
ASAR				LR	LR	00 19 23.8	
	comp=Z,97nm,21.0s,baz=78,slow=37						
MKAR	**Makanchi Array**	**68.89**	**322**	P	P	00 16 47.4	0.0
	0.6nm,0.6s,baz=115,slow=7.3,SNR=6.9						
MKAR				LR	LR	00 48 47.4	
	comp=Z,110nm,21.4s,baz=350,slow=38						

*IDC **12** 00:17:59.7±3.7, 11°.39S×117°.30E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=243.7km s-min=24.8km az=47.0*
*ISCJB **12** 00:18:00.5±0.9, 11°.6S±0°.1×117°.3E±0°.1, h26km, mb3.6/1, Error ellipse: s-maj=23.2km s-min=11.2km az=34.7*
*AUST **12** 00:18:03.5, 11°.97S×116°.90E, h35km*
ISC 12 00:18:03.4±1.0, 11°.7S±0°.1×117°.2E±0°.1, h26km, n9, σ1°77/9, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**7.55**	**299**	P	**Pn**	**00 19 52.1**	**+0.2**
	baz=7.5,SNR=5.8						
FITZ	**Fitzroy Crossi**	**10.37**	**129**	Pn	**Pn**	**00 20 29.4**	**-1.1**
	0.7nm,0.3s,baz=305,slow=11,SNR=25						
FITZ				Sn	Sn	00 22 14.0	-12
	0.3nm,0.3s,baz=202,slow=21,SNR=1.8						
FITZ	**Fitzroy Crossi**	**10.37**	**129**	P	**Pn**	**00 20 30.0**	**-0.5**
	baz=10,SNR=10						
MTN	**Manton Dam**	**13.70**	**96**	P	**Pn**	**00 21 14.1**	**-1.9**
	baz=14,SNR=4.4						
MEEK	**Meekatharra**	**14.92**	**175**	P	**Pn**	**00 21 33.0**	**+0.3**
	baz=15,SNR=3.7						
TLE	**Tual**	**16.53**	**70**	P	**P**	**00 21 59.4**	**+3.3**
	baz=17,SNR=3.4						
WRA	**Warramunga Arr**	**18.43**	**119**	P	**P**	**00 22 16.4**	**-0.6**
	0.3nm,0.3s,baz=286,slow=14,SNR=11						
WRA				S	Sn	00 25 28.6	-14
	0.1nm,0.3s,baz=290,slow=24,SNR=1.5						
ASAR	**Alice Springs**	**19.87**	**129**	P	**Pn**	**00 22 35.3**	**+0.8**
	0.3nm,0.3s,baz=316,slow=14,SNR=23						
MKAR	**Makanchi Array**	**66.07**	**335**	P	**P**	**00 28 47.0**	**-1.1**
	0.3nm,0.5s,baz=147,slow=7.1,SNR=7.0						

*IDC **12** 00:24:40.1±0.8, 1°.77S×139°.19E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, ML4.1/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/30, Error ellipse: s-maj=35.0km s-min=15.9km az=80.0*
*ISCJB **12** 00:24:42.5±0.7, 1°.86S±0°.06×139°.1E±0°.2, h29km, mb4.0/9, MS3.7/3, Error ellipse: s-maj=23.7km s-min=8.2km az=178.4*
*NEIC **12** 00:24:45.2±0.4, 1°.82S×139°.10E, h35km, mb4.0/6, Error ellipse: s-maj=17.2km s-min=7.3km az=80.0*
ISC 12 00:24:44.5±0.7, 1°.90S±0°.08×139°.1E±0°.2, h29km, n37, σ1°22/32, mb4.0/9, MS3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**16.21**	**304**	LR	LR	00 33 42.1	
	comp=Z,98nm,21.9s,baz=264,slow=34						
GUMO	**Guam**	**16.41**	**20**	LR	LR	00 33 23.8	
	comp=Z,152nm,18.3s,baz=116,slow=32						
WRAB	**Tennant Creek**	**18.52**	**194**	*eP*	**Pn**	**00 28 59.7**	**+0.7**
	11nm,0.7s						
WRAB				*eS*	**Sn**	**00 32 21.0**	**-4.4**
WRA	**Warramunga Arr**	**18.53**	**194**	P	**P**	**00 28 59.6**	**+0.7**
	0.8nm,0.3s,baz=12,slow=11,SNR=61						
WRA				LR	LR	00 37 11.6	
	comp=Z,235nm,19.5s,baz=5.0,slow=40						
WRA	**Warramunga Arr**	**18.53**	**194**	P	**P**	**00 28 59.6**	**+0.7**
CTA	**Charters Tower**	**19.36**	**159**	P	**Pn**	**00 29 10.0**	**+0.8**
	0.3nm,0.3s,baz=339,slow=12,SNR=5.5						
CTA	**Charters Tower**	**19.36**	**159**	P	**Pn**	**00 29 10.0**	**+0.8**
CTAO	**Charters Tower**	**19.36**	**159**	*eP*	**Pn**	**00 29 09.6**	**+0.4**
	4.1nm,0.6s						
KAPI	**Kappang**	**19.60**	**260**	LR	LR	00 36 24.7	
	comp=Z,80nm,20.8s,baz=200,slow=36						
FITZ	**Fitzroy Crossi**	**20.85**	**219**	P	**P**	**00 29 25.0**	**+0.9**
	3.8nm,0.9s,baz=34,slow=11,SNR=7.7						
FITZ				LR	LR	00 38 26.8	
	comp=Z,163nm,20.9s,baz=7.6,slow=39						
FITZ	**Fitzroy Crossi**	**20.85**	**219**	*eP*	**P**	**00 29 25.0**	**+0.9**
	3.8nm,0.9s						
AS31	**Alice Springs**	**22.22**	**193**	*eP*	**P**	**00 29 38.9**	**0.0**
ASAR	**Alice Springs**	**22.22**	**193**	P	**P**	**00 29 39.4**	**+0.5**
	12nm,0.8s,baz=26,slow=10,SNR=120						
ASAR				LR	LR	00 39 07.4	
	comp=Z,260nm,18.7s,baz=134,slow=39						
ASAR	**Alice Springs**	**22.22**	**193**	P	**P**	**00 29 39.4**	**+0.5**
STKA	**Stephens Creek**	**29.90**	**176**	P	**P**	**00 30 50.4**	**+0.5**
	2.0nm,0.7s,baz=0.7,slow=9.8,SNR=7.1						
STKA	**Stephens Creek**	**29.90**	**176**	*eP*	**P**	**00 30 50.4**	**+0.5**
	0.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.09**	**211**	LR	LR	00 48 11.7	
	comp=Z,264nm,18.6s,baz=28,slow=38						
CMAR	**Chiang Mai Arr**	**44.42**	**299**	P	**P**	**00 32 53.0**	**-0.1**
	0.8nm,0.3s,baz=116,slow=6.2,SNR=5.6						
CMAR	**Chiang Mai Arr**	**44.42**	**299**	P	**P**	**00 32 53.0**	**-0.1**
MK31	**Makanchi Array**	**69.42**	**322**	*eP*	**P**	**00 35 49.2**	**-0.7**
MKAR	**Makanchi Array**	**69.42**	**322**	P	**P**	**00 35 49.9**	**0.0**
	1.6nm,0.6s,baz=113,slow=8.0,SNR=18						
MKAR	**Makanchi Array**	**69.42**	**322**	P	**P**	**00 35 49.9**	**0.0**
ZALV	**Zalesovo Beam**	**71.46**	**330**	P	**P**	**00 36 01.8**	**-0.4**
	0.8nm,0.7s,baz=95,slow=5.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.46**	**330**	P	**P**	**00 36 01.8**	**-0.4**
VNDA	**Vanda**	**76.54**	**175**	P	**P**	**00 36 32.1**	**+0.6**
	1.0nm,0.7s,baz=338,slow=5.7,SNR=4.8						
VNDA	**Vanda**	**76.54**	**175**	*eP*	**P**	**00 36 31.7**	**+0.2**
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**78.90**	**325**	P	**P**	**00 36 45.0**	**-0.1**
	2.6nm,0.8s,baz=113,slow=7.5,SNR=19						
BVAR	**Borovoye Array**	**78.90**	**325**	P	**P**	**00 36 44.6**	**-0.1**
BRVK	**Borovoye**	**78.97**	**325**	*eP*	**P**	**00 36 44.6**	**-0.8**
	2.4nm,0.7s						
ILAR	**Eielson Array**	**84.93**	**24**	P	**P**	**00 37 15.0**	**-1.5**
	0.6nm,0.9s,baz=258,slow=4.5,SNR=4.2						
ILAR	**Eielson Array**	**84.93**	**24**	P	**P**	**00 37 15.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**136.44**	**287**	PKP	**PKPdf**	**00 44 06.9**	**+2.2**
	0.2nm,0.7s,baz=45,slow=2.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**136.44**	**287**	PKP	**PKPdf**	**00 44 06.9**	**+2.2**
DBIC	**Dimbokro**	**143.80**	**279**	PKP	PKPbc	00 44 16.1	+0.4
	8.2nm,1.1s,baz=72,slow=3.1,SNR=3.3						
DBIC	**Dimbokro**	**143.80**	**279**	PKP	PKPbc	00 44 16.1	+0.4
LPAZ	**La Paz**	**147.56**	**125**	PKPbc	**PKPab**	**00 44 28.8**	**-1.1**
	1.6nm,0.9s,baz=270,slow=5.1,SNR=5.5						
LPAZ	**La Paz**	**147.56**	**125**	PKPbc	**PKPab**	**00 44 28.8**	**-1.1**

IDC 12 00:37:52.9±2.8, 1°.90S×138°.42E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=116.4km s-min=25.4km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.37**	**192**	P	P	00 42 09.4	0.0
	0.4nm,0.3s,baz=12,slow=11,SNR=30						
ASAR	**Alice Springs**	**22.08**	**191**	P	P	00 42 49.1	-0.6
	2.2nm,0.9s,baz=26,slow=10,SNR=23						
MKAR	**Makanchi Array**	**68.97**	**322**	P	P	00 49 00.7	+0.5
	0.3nm,0.4s,baz=108,slow=7.7,SNR=5.6						
BVAR	**Borovoye Array**	**78.48**	**325**	P	P	00 49 55.6	-0.2
	0.4nm,0.6s,baz=115,slow=6.8,SNR=5.2						

*ISK **12** 00:38:32.6, 35°.71N×32°.15E, h3km, MD3.4*
*DDA **12** 00:38:33.4, 35°.65N×31°.80E, h9km, MD3.3*
*ISCJB **12** 00:38:35.0±0.6, 35°.60N±0°.03×32°.08E±0°.06, h29km±6km, Error ellipse: s-maj=8.2km s-min=4.7km az=151.1*
*NIC **12** 00:38:34.8±0.3, 35°.55N×32°.01E, h40km, ML3.2, MW2.6*
*CSEM **12** 00:38:34.5±0.2, 35°.59N×32°.04E, h20km, Mw2.6, Error ellipse: s-maj=6.3km s-min=3.6km az=63.0*
ISC 12 00:38:34.5±1.1, 35°.57N±0°.03×32°.00E±0°.03, h24km±13km, n43, σ1°24/62, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.60**	**153**	P	**Pb**	**00 38 46.4**	**0.0**
AKMC				S	**Sn**	**00 38 56.4**	**-0.1**
AKMC	**Akamas**	**0.60**	**153**	P	**Pb**	**00 38 46.4**	**0.0**
AKMC				S	**Sn**	**00 38 56.4**	**-0.1**
ALFC	**Alevga**	**0.64**	**130**	P	**Pb**	**00 38 46.9**	**-0.1**
	7.0nm,0.2s						
ALFC				S	**Sb**	**00 38 56.5**	**+1.0**
ALFC	**Alevga**	**0.64**	**130**	P	**Pb**	**00 38 46.9**	**-0.1**
	7.0nm,0.2s						
ALFC				S	**Sb**	**00 38 56.5**	**+1.0**
GAZI	**Gazipasa**	**0.72**	**21**	*i* P	**Pb**	**00 38 47.9**	**-0.4**
GAZI				*i* S	**Sb**	**00 38 57.3**	**-0.5**
GAZI	**Gazipasa**	**0.72**	**21**	*i* P	**Pb**	**00 38 47.9**	**-0.4**
GAZI				*i* S	**Sb**	**00 38 57.3**	**-0.5**
PPCY	**Paphos**	**0.73**	**157**	P	**Pb**	**00 38 48.4**	**-0.2**
PPCY	**Paphos**	**0.73**	**157**	P	**Pb**	**00 38 48.4**	**-0.2**
LEF	**Lefka**	**0.85**	**121**	*e*PG	**Pb**	**00 38 49.1**	**-1.5**
LEF				*e*SG	**Sb**	**00 39 01.4**	**-0.2**
LEF	**Lefka**	**0.85**	**121**	*e*Pg	**Pb**	**00 38 49.1**	**-1.5**
LEF				*e*Sg	**Sb**	**00 39 01.4**	**-0.2**
MAMC	**Mammari**	**1.07**	**111**	P	**Pn**	**00 38 53.9**	**-0.1**
MAMC	**Mammari**	**1.07**	**111**	P	**Pn**	**00 38 53.9**	**-0.1**
CSS	**Prodhromos**	**1.24**	**119**	P	**Pb**	**00 38 57.5**	**+0.2**
CSS				S	**Sn**	**00 39 11.7**	**-0.7**
CSS	**Prodhromos**	**1.24**	**119**	*e*PN	**Pn**	**00 38 56.9**	**+0.5**
CSS	**Prodhromos**	**1.24**	**119**	*e*Pn	**Pn**	**00 38 56.9**	**+0.5**
CSS	**Prodhromos**	**1.24**	**119**	P	**Pb**	**00 38 57.5**	**+0.2**
CSS				S	**Sn**	**00 39 11.7**	**-0.7**
LFK	**Lefkose**	**1.28**	**102**	*e*PN	**Pn**	**00 38 56.3**	**-0.6**
LFK	**Lefkose**	**1.28**	**102**	*e*Pn	**Pn**	**00 38 56.3**	**-0.6**
ERMK	**Ermenek**	**1.30**	**34**	*e*P	**Pb**	**00 38 58.5**	**+0.1**
ERMK				*e*S	**Sb**	**00 39 16.1**	**+1.3**
ERMK	**Ermenek**	**1.30**	**34**	*e*P	**Pb**	**00 38 58.5**	**+0.1**
ERMK				*e*S	**Sb**	**00 39 16.1**	**+1.3**
PHNC	**Paralimni**	**1.75**	**108**	P	**Pb**	**00 39 08.3**	**+2.4**
	1.9nm,0.6s						
PHNC				S	Sb	00 39 33.8	+6.3
EREN	**Erenkoy**	**1.77**	**90**	*e*PN	**Pn**	**00 39 03.5**	**-0.1**
EREN	**Erenkoy**	**1.77**	**90**	*e*Pn	**Pn**	**00 39 03.5**	**-0.1**
KORT	**Korkueli**	**1.96**	**318**	*e*P	**Pb**	**00 39 09.3**	**-0.2**
KORT				*e*S	**Sb**	**00 39 32.2**	**-1.3**
KORT				*e*S	**Sn**	**00 39 35.5**	**+5.3**
KORT	**Korkueli**	**1.96**	**318**	*e*P	**Pb**	**00 39 09.3**	**-0.2**
KORT				*e*S	**Sb**	**00 39 32.2**	**-1.3**
AKAS	**Kas**	**2.06**	**290**	*e*P	**Pn**	**00 39 07.5**	**-0.1**
AKAS				*e*S	**Sn**	**00 39 30.0**	**-2.6**
AKAS	**Kas**	**2.06**	**290**	*e*P	**Pn**	**00 39 07.5**	**-0.1**
AKAS				*e*S	**Sn**	**00 39 30.0**	**-2.6**
ELL	**Elmali**	**2.06**	**306**	*e*PN	**Pn**	**00 39 09.5**	**+1.8**
ELL	**Elmali**	**2.06**	**306**	*e*Pn	**Pn**	**00 39 09.5**	**+1.8**
KONT	**Konya--Tatoy**	**2.39**	**7**	*e*PN	**Pn**	**00 39 11.8**	**-0.3**
KONT	**Konya--Tatoy**	**2.39**	**7**	*e*Pn	**Pn**	**00 39 11.9**	**-0.3**
MERS	**Mersin**	**2.42**	**57**	*e*PN	**Pn**	**00 39 12.0**	**-0.6**
MERS	**Mersin**	**2.42**	**57**	*e*Pn	**Pn**	**00 39 12.0**	**-0.6**
LADK	**Ladik-KONYA**	**2.65**	**6**	*e*PN	**Pn**	**00 39 15.5**	**-0.3**
LADK	**Ladik-KONYA**	**2.65**	**6**	*e*Pn	**Pn**	**00 39 15.5**	**-0.3**
SULT	**Sultanhani-AKS**	**2.90**	**24**	*e*PN	**Pn**	**00 39 17.9**	**-1.2**
SULT	**Sultanhani-AKS**	**2.90**	**24**	*e*Pn	**Pn**	**00 39 17.9**	**-1.2**
KDHN	**Kadinhani**	**2.95**	**2**	*e*P	**Pn**	**00 39 22.5**	**+2.6**
KDHN				*e*S	**Sn**	**00 39 54.0**	**-0.7**
KDHN	**Kadinhani**	**2.95**	**2**	*e*P	**Pn**	**00 39 22.5**	**+2.6**
KDHN				*e*S	**Sn**	**00 39 54.0**	**-0.7**
HTY	**Hatay**	**3.41**	**79**	*e*PN	**Pn**	**00 39 26.1**	**0.0**
HTY	**Hatay**	**3.41**	**79**	*e*Pn	**Pn**	**00 39 26.1**	**0.0**
KOZT	**Kozan**	**3.63**	**57**	*e*PN	**Pn**	**00 39 28.7**	**-0.4**
KOZT	**Kozan**	**3.63**	**57**	*e*Pn	**Pn**	**00 39 28.7**	**-0.4**

CASC 12 00:40:30.8±1.3, 8°.69N×83°.28W, h0km±5km, MD3.8, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.12**	**107**	*i* P	Pg	00 40 34.1	+0.9
BUS	**Buena Vista**	**0.98**	**332**	*i* P	Pg	00 40 50.1	-0.1
BUS				*e*S	Sb	00 41 05.2	0.0
QCR	**Quepos**	**1.14**	**310**	*e*P	Pg	00 40 51.9	-0.8
QCR				*e*S	Sb	00 41 09.1	+0.4
LAJ	**Bijagual**	**1.43**	**325**	*e*P	Pb	00 41 00.3	+1.7
LAJ				*e*S	Sn	00 41 24.3	+6.2
SJS	**Escuela Geolog**	**1.46**	**329**	*e*P	Pn	00 40 58.2	-0.4
SJS				*e*S	Sn	00 41 19.8	+1.2
CGA2	**Cerro Gallo 2**	**1.76**	**319**	*e*P	Pn	00 41 02.2	-0.6
CGA2				*e*S	Sb	00 41 27.4	+0.4

IDC 12 00:44:37.0±7.3, 18°.71S×174°.31W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=355.1km s-min=59.2km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.32**	**260**	P	P	00 53 20.0	-0.7
	0.4nm,0.5s,baz=97,slow=8.1,SNR=4.6						
ASAR	**Alice Springs**	**48.33**	**255**	P	P	00 53 21.2	+0.5
	1.2nm,0.5s,baz=93,slow=7.7,SNR=22						
FITZ	**Fitzroy Crossi**	**56.74**	**260**	P	P	00 54 22.7	-0.3
	1.5nm,1.8s,baz=90,slow=8.1,SNR=3.6						
BRTR	**Keskin Array B**	**148.07**	**317**	PKPbc	PKPbc	01 04 24.4	-0.7
	0.6nm,0.9s,baz=70,slow=1.7,SNR=2.7						

CASC 12 01:03:31.4±1.0, 8°.58N×83°.26W, h4km±8km, MD4.0, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.12**	**49**	*i* P	Pg	01 03 34.4	+0.5
QCR	**Quepos**	**1.23**	**313**	*e*P	Pg	01 03 53.5	-1.5
QCR				*e*S	Sb	01 04 11.4	-0.1
LAJ	**Bijagual**	**1.54**	**326**	*e*P	Pg	01 04 01.5	+0.3
SJS	**Escuela Geolog**	**1.57**	**330**	*e*P	Pn	01 04 00.5	+0.3
SJS				*e*S	Sb	01 04 21.5	+0.1
CGA2	**Cerro Gallo 2**	**1.86**	**320**	*e*P	Pn	01 04 04.3	+0.1
CGA2				*e*S	Sn	01 04 28.8	+0.5

IDC 12 01:15:34.7±5.1, 34°.83S×179°.77W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/16, mbtmp3.9/2, Error ellipse: s-maj=230.7km s-min=57.3km az=165.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.60**	**273**	P	P	01 23 24.2	-0.4
	0.5nm,0.6s,baz=118,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**42.99**	**278**	P	P	01 23 36.1	0.0
	1.7nm,0.5s,baz=119,slow=7.6,SNR=40						
FINES	**FINESS Array B**	**148.69**	**336**	PKPbc	PKPbc	01 35 22.5	-0.6
	0.5nm,0.5s,baz=48,slow=6.2,SNR=6.5						

*ISCJB **12** 01:18:15.7±0.5, 39°.87N±0°.03×39°.69E±0°.04, h9km±5km, Error ellipse: s-maj=5.0km s-min=4.6km az=11.8*
*ISK **12** 01:18:15.1, 39°.88N×39°.67E, h15km, MD2.9*
*CSEM **12** 01:18:15.6±0.1, 39°.87N×39°.68E, h12km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.7km az=138.0*
*DDA **12** 01:18:16.7, 39°.94N×39°.69E, h7km, MD2.8*
ISC 12 01:18:15.9±0.9, 39°.88N±0°.03×39°.68E±0°.03, h14km±8km, n24, σ0°41/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.28**	**243**	*i* Pg	**Pg**	**01 18 21.8**	**-0.1**
EZC				*i* Sg	**Sg**	**01 18 26.4**	**+0.4**
ERZN	**Erzincan**	**0.29**	**174**	PG	**Pg**	**01 18 21.8**	**-0.3**
ERZN				SG	**Sg**	**01 18 26.4**	**+0.1**
KELT	**Kelkit**	**0.42**	**310**	*e*P	**Pg**	**01 18 24.6**	**+0.2**
KELT				*e*S	**Sg**	**01 18 30.5**	**+0.2**
KELT	**Kelkit**	**0.42**	**310**	*e*P	**Pg**	**01 18 24.6**	**+0.2**
KELT				*e*S	**Sg**	**01 18 30.5**	**+0.2**
GUMT	**Gumushane**	**0.60**	**345**	*e*PG	**Pg**	**01 18 27.3**	**-0.4**
GUMT	**Gumushane**	**0.60**	**345**	*e*Pg	**Pg**	**01 18 27.3**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**0.62**	**34**	*e*PG	**Pg**	**01 18 27.8**	**-0.3**
BAYT				*e*SG	**Sg**	**01 18 36.9**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**0.62**	**34**	*e*Pg	**Pg**	**01 18 27.8**	**-0.3**
BAYT				*e*Sg	**Sg**	**01 18 36.9**	**+0.5**
KOPT	**Kop Dagi**	**0.64**	**77**	*e*P	**Pg**	**01 18 29.0**	**+0.5**
KOPT				*e*S	**Sb**	**01 18 38.1**	**+0.2**
KOPT	**Kop Dagi**	**0.64**	**77**	*e*P	**Pg**	**01 18 29.0**	**+0.5**
KOPT				*e*S	**Sb**	**01 18 38.1**	**+0.2**
ILIC	**ilic-Erzincan**	**0.96**	**244**	*e*PG	**Pb**	**01 18 33.8**	**-0.5**
ILIC	**ilic-Erzincan**	**0.96**	**244**	*e*Pg	**Pb**	**01 18 33.8**	**-0.5**
MACK	**Trabzon**	**1.06**	**4**	*e*P	**Pb**	**01 18 35.8**	**-0.3**
MACK				*e*S	**Sb**	**01 18 50.5**	**+0.6**
MACK	**Trabzon**	**1.06**	**4**	*e*P	**Pb**	**01 18 35.8**	**-0.3**
MACK				*e*S	**Sb**	**01 18 50.5**	**+0.6**
BNGB	**Bing¯¶l**	**1.18**	**139**	*e*PN	**Pn**	**01 18 37.8**	**-0.2**
BINT	**Bingol**	**1.18**	**148**	*e*Pn	**Pn**	**01 18 37.8**	**-0.3**
SUSE	**Susehri**	**1.18**	**287**	*e*P	**Pg**	**01 18 39.1**	**+0.4**
SUSE				*e*S	**Sn**	**01 18 54.1**	**0.0**
SUSE	**Susehri**	**1.18**	**287**	*e*P	**Pg**	**01 18 39.1**	**+0.4**
SUSE				*e*S	**Sn**	**01 18 54.1**	**0.0**
ESPY	**Espiye-Giresun**	**1.27**	**325**	*e*PN	**Pn**	**01 18 38.6**	**-0.6**
ESPY	**Espiye-Giresun**	**1.27**	**325**	*e*Pn	**Pn**	**01 18 38.6**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.53**	**191**	*e*PN	**Pn**	**01 18 42.4**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.53**	**191**	*e*Pn	**Pn**	**01 18 42.4**	**-0.4**
MALT	**Malatya**	**1.84**	**212**	*e*PN	**Pn**	**01 18 47.6**	**+0.5**
MALT	**Malatya**	**1.84**	**212**	*e*Pn	**Pn**	**01 18 47.6**	**+0.5**

IDC 12 01:38:51.2±6.6, 5°.73S×148°.46E, h115km±56km, mb3.4/2, mb1 3.4/4, mb1mx3.1/19, mbtmp3.2/4, Error ellipse: s-maj=92.2km s-min=49.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87**	**199**	P	Pn	01 39 50.6	+1.6
	5.6nm,0.3s,baz=17,slow=9.8,SNR=12						
PMG				S	Sn	01 40 33.1	-0.6
	5.9nm,0.3s,baz=270,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**19.70**	**223**	P	P	01 43 12.7	+1.0
	0.1nm,0.3s,baz=46,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**22.68**	**217**	P	P	01 43 44.3	+1.1
	0.4nm,0.5s,baz=53,slow=9.0,SNR=7.8						
FITZ	**Fitzroy Crossi**	**25.45**	**239**	P	P	01 44 08.2	-0.4
	2.1nm,0.3s,baz=61,slow=11,SNR=21						
TORD	**Torodi Ar. Bea**	**146.43**	**285**	PKPbc	PKPdf	01 58 18.2	-0.2
	0.1nm,0.3s,baz=73,slow=2.9,SNR=6.0						

*ISCJB **12** 01:39:30.7±0.6, 28°.72N±0°.03×103°.50E±0°.09, h10km, mb3.7/6, Error ellipse: s-maj=11.3km s-min=4.9km az=179.4*
*IDC **12** 01:39:32.6±1.1, 28°.69N×103°.56E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=40.3km s-min=18.7km az=61.0*
*BJI **12** 01:39:35.5, 28°.71N×103°.65E, h14km, ML3.8/14*
ISC 12 01:39:36.1±0.9, 28°.68N±0°.05×103°.59E±0°.08, h10km, n11, σ1°50/11, mb3.7/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.23**	**4**	Pg	**Pn**	**01 40 13.1**	**-0.1**
CD2				Sg	**Sn**	**01 40 42.2**	**+1.4**
CD2				smax	smax		
	comp=N,1μm,0.4s						
CD2				smax	smax		
	comp=E,2μm,0.4s						
GYA	**Guiyang**	**3.51**	**128**	Pn	**Pn**	**01 40 31.1**	**+0.2**
GYA				Pg	**Pb**	**01 40 39.6**	**+1.1**
GYA				Sn	**Sn**	**01 41 11.2**	**-1.5**
GYA				Sg	**Sb**	**01 41 23.1**	**+1.8**
GYA				smax	smax		
	comp=N,180nm,0.8s						
GYA				smax	smax		
	comp=E,140nm,0.8s						
KMI	**Kunming**	**3.62**	**192**	Pg	**Pb**	**01 40 42.6**	**+2.2**
KMI				Sg	**Sg**	**01 41 31.5**	**-1.1**
KMI				smax	smax		
	comp=N,26nm,0.9s						
KMI				smax	smax		
	comp=E,32nm,1.3s						
LZH	**Lanzhou**	**7.39**	**2**	*e*Pg	Pb	01 41 49.0	+4.5
LZH				Sg	Sg	01 43 28.9	-4.4
LZH				smax	smax		
	comp=N,35nm,1.1s						
LZH				smax

ACR	**Cerro Adams**	**0.10 69**	⇑*iP*	Pg	02 05 23.3	+0.9
QCR	**Quepos**	**1.20 312**	⇑*eP*	Pg	02 05 42.0	-1.5
QCR			*eS*	Sb	02 06 00.2	+0.1
LAJ	**Bijagual**	**1.50 326**	*eP*	Pg	02 05 51.2	+1.7
LAJ			*eS*	Sn	02 06 16.4	+7.0
CGA2	**Cerro Gallo 2**	**1.83 320**	*eP*	Pn	02 05 53.3	-0.1
CGA2			*eS*	Sb	02 06 18.5	-0.1

LDG **12** *02:05:29.0±0.3, 19°.13N×66°.77W, h10km, Mb5.0/38, Ms4.1/9, Error ellipse: s-maj=12.2km s-min=5.4km az=74.0*

ISCJB **12** *02:05:34.7±0.1, 19°.12N±0°.02×66°.42W±0°.01, h28km, mb5.0/261, MS4.4/55, Error ellipse: s-maj=2.4km s-min=1.6km az=32.2*

IDC **12** *02:05:34.8±2.9, 19°.05N×66°.41W, h19km±18km, mb4.7/29, mb1 4.9/31, mb1mx4.9/33, mbtmp4.7/31, ML3.9/2, MS4.2/32, Ms1 4.2/32, ms1mx4.2/39, Error ellipse: s-maj=10.7km s-min=8.7km az=70.0*

MOS **12** *02:05:35.4±1.1, 19°.14N×66°.40W, h33km, mb5.2/86, MS4.5/12, Error ellipse: s-maj=5.2km s-min=4.3km az=75.5*

BJI **12** *02:05:36.9, 19°.10N×66°.40W, h18km, mB5.8/7, Ms5.3/7, Ms7 5.0/7*

NEIC **12** *02:05:38.5, 19°.07N×66°.37W, h15km, mb5.1/177, MD5.0(RSPR), After RSPR.*

NEIC Felt [IV] at Canovanas, Florida, Gurabo, Juncos, Las Piedras, Mayaguez, Morovis, Toa Alta and Vega Alta; [III] at Aguas Buenas, Arecibo, Barceloneta, Bayamon, Caguas, Carolina, Cayey, Dorado, Hatillo, Humacao, Manati, Rio Grande, San Juan and Trujillo Alto; [II] at Cabo Rojo, Guaynabo, Luquillo, Naranjito, Ponce, Toa Baja and Vega Baja. Felt in most of Puerto Rico.

RSPR **12** *02:05:38.5, 19°.07N×66°.37W, h15km±31km, MD5.0/5*

SZGRF **12** *02:05:40.8, 18°.99N×65°.51W, h33km, mb5.2, MS4.5, Puerto Rico region*

ISC 12 02:05:36.1±0.2, 19°.08N±0°.03×66°.45W±0°.03, h28km, n1032, σ0°92/1063, mb5.0/260, MS4.4/58, 195C-248D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.79**	**201**	*e*Pn	**Pb**	**02 05 50.9**	**-0.3**
LRS	**Lares**	**0.87**	**205**	*e*Pn	**Pn**	**02 05 51.9**	**-0.6**
AGPR	**Aguadilla, PR**	**0.87**	**226**	*e*Pg	**Pn**	**02 05 51.6**	**-0.9**
AGP	**Aguadilla**	**0.94**	**224**	*e*Pn	**Pn**	**02 05 51.9**	**-1.5**
CBYP	**Canovanas**	**0.98**	**145**	⇓*e*P	**Pn**	**02 05 53.4**	**-0.7**
CBYP	**Canovanas**	**0.98**	**145**	*e*S	**Sn**	**02 06 05.5**	**-1.6**
CBYP	**Canovanas**	**0.98**	**145**	⇓*e*P	**Pn**	**02 05 53.4**	**-0.7**
CBYP				*e*S	**Sn**	**02 06 05.5**	**-1.6**
SJG	**San Juan**	**1.01**	**163**	⇑*e*P	**Pn**	**02 05 54.3**	**-0.1**
SJG	**San Juan**	**1.01**	**163**	Pn	**Pn**	**02 05 54.0**	**-0.3**
	634nm,0.3s,baz=270,slow=1.7,SNR=1065						
SJG				Sn	**Sn**	**02 06 06.9**	**-0.6**
	3μm,0.3s,baz=90,slow=2.8,SNR=72						
SJG	**San Juan**	**1.01**	**163**	⇑*e*P	**Pn**	**02 05 54.3**	**-0.1**
SJG				*e*S	**Sn**	**02 06 07.7**	**+0.1**
CELP	**Cerrillos**	**1.01**	**187**	*e*Pn	**Pn**	**02 05 54.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.04**	**188**	*e*Pn	**Pn**	**02 05 54.7**	**-0.1**
OBIP				*e*Sn	**Sn**	**02 06 08.5**	**0.0**
LSP	**Las Mesas**	**1.08**	**214**	*e*Pn	**Pn**	**02 05 55.1**	**-0.3**
MPR	**Mayaguez**	**1.08**	**217**	*e*Pn	**Pn**	**02 05 54.8**	**-0.6**
HUMP	**Col San Antoni**	**1.09**	**148**	⇓*e*P	**Pn**	**02 05 55.0**	**-0.5**
HUMP	**Col San Antoni**	**1.09**	**148**	*e*S	**Sn**	**02 06 09.2**	**-0.6**
HUMP	**Col San Antoni**	**1.09**	**148**	⇓*e*P	**Pn**	**02 05 55.0**	**-0.5**
HUMP				*e*S	**Sn**	**02 06 09.2**	**-0.6**
CPD	**Cerro la Pandu**	**1.16**	**154**	⇓*e*P	**Pn**	**02 05 55.7**	**-0.7**
CPD	**Cerro la Pandu**	**1.16**	**154**	⇓*e*P	**Pn**	**02 05 55.7**	**-0.7**
CPD	**Cerro la Pandu**	**1.16**	**154**	⇓*e*P	**Pn**	**02 05 55.7**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.24**	**210**	*e*Pn	**Pn**	**02 05 57.8**	**+0.2**
CRPR				*e*Sn	**Sn**	**02 06 13.3**	**0.0**
MTP	**Monte Pirata**	**1.30**	**139**	⇓*e*P	**Pn**	**02 05 57.6**	**-0.7**
MTP	**Monte Pirata**	**1.30**	**139**	*e*S	**Sn**	**02 06 13.6**	**-1.2**
MTP	**Monte Pirata**	**1.30**	**139**	⇓*e*P	**Pn**	**02 05 57.6**	**-0.7**
MTP				*e*S	**Sn**	**02 06 13.6**	**-1.2**
STVI	**Saint Thomas**	**1.59**	**117**	⇑*e*P	**Pn**	**02 06 01.7**	**-0.7**
STVI	**Saint Thomas**	**1.59**	**117**	*e*S	**Sn**	**02 06 20.5**	**-1.6**
STVI	**Saint Thomas**	**1.59**	**117**	⇑*e*P	**Pn**	**02 06 01.7**	**-0.7**
STVI				*e*S	**Sn**	**02 06 20.5**	**-1.6**
TBVI	**Tortola**	**1.86**	**111**	⇓*iP*	**Pn**	**02 06 05.2**	**-0.8**
TBVI	**Tortola**	**1.86**	**111**	⇓*iP*	**Pn**	**02 06 05.2**	**-0.8**
ABVI	**Anegada Island**	**2.04**	**100**	⇓*iP*	**Pn**	**02 06 08.4**	**-0.1**
ABV	**Anegada**	**2.04**	**100**	⇓*iP*	**Pn**	**02 06 08.4**	**-0.1**
CDVI	**St. Croix**	**2.08**	**129**	⇓*iP*	**Pn**	**02 06 10.4**	**+1.4**
CDVI	**St. Croix**	**2.08**	**129**	⇓*iP*	**Pn**	**02 06 10.4**	**+1.4**
SDDR	**Presa de Saban**	**4.58**	**270**	*e*Pn	**Pn**	**02 06 44.6**	**+1.1**
SDDR				*e*Pg	**Pb**	**02 06 55.2**	**-0.5**
SDDR				*e*Sn	**Sn**	**02 07 36.1**	**+0.3**
SDDR				*e*Sg	Sb	02 07 59.8	+9.3
ANWB	**Willy Bob**	**4.65**	**107**	*e*Pn	**Pn**	**02 06 45.5**	**+1.0**
GRTK	**Grand Turk**	**5.01**	**300**	*e*Pn	**Pn**	**02 06 47.8**	**-1.7**
LZG	**Guadaloupe-1**	**5.33**	**123**	*e*P	**Pn**	**02 06 54.8**	**+0.9**
SEG	**Port Louis**	**5.41**	**119**	*e*P	**Pn**	**02 06 56.6**	**+1.7**
SCG	**Saint Claude**	**5.47**	**123**	*e*P	**Pn**	**02 06 57.8**	**+2.0**
HMG	**Houelmont**	**5.48**	**123**	⇑*iP*	**Pn**	**02 06 57.2**	**+1.2**
PHG	**Guadaloupe-2**	**5.51**	**123**	*e*P	**Pn**	**02 06 57.5**	**+1.1**
DOG	**Dongo Capester**	**5.52**	**123**	*e*P	**Pn**	**02 06 58.0**	**+1.5**
TBG	**Guadaloupe-3**	**5.60**	**124**	*e*P	**Pn**	**02 06 58.7**	**+1.2**
MGG	**Marie-Galante**	**5.82**	**122**	*e*P	**Pn**	**02 07 01.1**	**+0.5**
MGG	**Marie-Galante**	**5.82**	**122**	*e*P	**Pn**	**02 07 02.1**	**+1.5**
DEG	**La Desirade**	**5.83**	**117**	*e*P	**Pn**	**02 07 03.9**	**+3.1**
DVCT	**Vielle Casse P**	**5.92**	**125**	*e*	Pn	02 07 07.9	+5.9
MDN	**Morne-Daniel**	**6.11**	**127**	*e*	Pb	02 07 18.4	-3.5
DSHT	**Scott's Head**	**6.19**	**128**	*e*	**Pb**	**02 07 23.7**	**+0.4**
FDF	**Fort de France**	**6.67**	**130**	*e*P	**Pn**	**02 07 11.3**	**-1.0**
FDF				pmax	pmax		
	comp=Z,249nm,0.8s						
FDF	**Fort de France**	**6.67**	**130**	*e*Pn	**Pn**	**02 07 11.3**	**-1.0**
	comp=Z,249nm,0.8s						
GTBY	**Guantanamo Bay**	**8.21**	**277**	*e*Pn	Pn	02 07 27.3	-6.1
GRW	**Mount Saint Ca**	**8.28**	**145**	*e*	Pb	02 07 51.5	-7.4
GRW	**Mount Saint Ca**	**8.28**	**145**	*e*	**Pb**	**02 08 01.0**	**+2.0**
GRGR	**Grenville**	**8.31**	**146**	*e*Pn	**Pn**	**02 07 36.7**	**+1.9**
	comp=Z,188nm,0.6s						
BBGH	**Gun Hill**	**8.87**	**131**	*e*Pn	Pn	02 07 47.8	+5.3
	comp=Z,727nm,1.1s						
TPR	**Prospect**	**9.57**	**144**	*e*P	Pn	02 07 58.5	+6.4
TRN	**Trinidad (W)**	**9.70**	**149**	*e*P	Pn	02 07 59.4	+5.6
TBH	**Brigand Hill**	**10.01**	**148**	*e*	Pn	02 08 05.5	+7.5
MTDJ	**Mount Denham**	**10.54**	**267**	*e*Pn	**Pn**	**02 08 05.9**	**+0.4**
BBSR	**BB Station**	**13.33**	**6**	*e*Pn	**Pn**	**02 08 40.6**	**-2.8**
ROSC	**El Rosal**	**16.09**	**210**	Pn	**Pn**	**02 09 22.5**	**+1.6**
	comp=Z,4.5nm,0.3s,baz=100,slow=22,SNR=21						
ROSC	**El Rosal**	**16.09**	**210**	Pn	**Pn**	**02 09 22.5**	**+1.6**
BCIP	**Isla Barro Col**	**16.29**	**235**	*e*Pn	**Pn**	**02 09 22.4**	**-0.5**
NHSC	**New Hope**	**18.60**	**321**	*e*Pn	**Pn**	**02 09 51.9**	**+0.3**
CNNC	**Cliffs of the**	**19.02**	**330**	*e*Pn	**Pn**	**02 09 56.8**	**+0.2**
	comp=Z,87nm,0.6s						
COW	**Cow Castle Cre**	**19.11**	**321**	*e*P	**Pn**	**02 09 58.9**	**+1.2**
JTS	**JuntasAbangare**	**19.90**	**247**	P	**P**	**02 10 05.9**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=257,slow=22,SNR=3.7						
JTS				LR	LR	02 16 56.7	
	comp=Z,328nm,20.9s,baz=184,slow=34						
JTS	**JuntasAbangare**	**19.90**	**247**	*e*P	**P**	**02 10 06.1**	**+0.5**
JSC	**Jenkinsville**	**20.07**	**322**	*e*P	**P**	**02 10 07.9**	**+0.6**
JSC	**Jenkinsville**	**20.07**	**322**	*e*P	**P**	**02 10 07.9**	**+0.6**
JSC				*e*S	S	02 13 31.7	-20
TGUH	**Tegucigalpa,Un**	**20.57**	**259**	*e*P	Pn	02 10 14.2	-1.0
TEIG	**Tepich**	**20.59**	**277**	P	**P**	**02 10 13.9**	**+1.0**
	comp=Z,16nm,0.5s,baz=41,slow=3.7,SNR=14						
TEIG				LR	LR	02 17 38.0	
	comp=Z,611nm,21.9s,baz=121,slow=35						
TEIG	**Tepich**	**20.59**	**277**	*e*P	**P**	**02 10 13.6**	**+0.6**
	comp=Z,44nm,0.7s						
KMSC	**Kings Mountain**	**20.73**	**324**	⇓P	**P**	**02 10 14.4**	**0.0**
	baz=21						
JSRW	**J. Sargeant Re**	**21.06**	**334**	*e*P	**P**	**02 10 16.9**	**-1.0**
CBN	**Corbin**	**21.30**	**336**	*e*P	**P**	**02 10 20.4**	**-0.1**
	comp=Z,148nm,0.4s						
CBN				*e*S	**S**	**02 14 13.0**	**-2.7**
VWCC	**Virginia Weste**	**21.63**	**330**	*e*P	**P**	**02 10 24.3**	**+0.2**
VWCC				*e*S	**S**	**02 14 19.1**	**-3.2**
BLA	**Blacksburg**	**21.82**	**329**	*e*P	**P**	**02 10 26.3**	**+0.1**
BLA				*e*		02 10 39.3	
BLA				*e*S	S	02 14 13.4	-13
BLA				pmax	pmax		
	comp=Z,243nm,0.8s						
BLA	**Blacksburg**	**21.82**	**329**	*e*P	**P**	**02 10 26.3**	**+0.1**
	comp=Z,243nm,0.8s						
BLA				*e*		02 10 39.3	
BLA				*e*S	S	02 14 13.3	-13
BRAL	**Brewton**	**22.08**	**307**	*e*P	**P**	**02 10 30.5**	**+1.5**
OTAV	**Otavalo**	**22.12**	**214**	*e*P	**P**	**02 10 31.3**	**+1.3**
	comp=Z,79nm,0.9s						
SDMD	**Soldier's Deli**	**22.16**	**338**	*e*P	**P**	**02 10 31.6**	**+1.9**
TKL	**Tuckaleechee C**	**22.51**	**321**	P	**P**	**02 10 33.3**	**-0.3**
	comp=Z,11nm,0.9s,baz=145,slow=11,SNR=13						
TKL				LR	LR	02 19 45.2	
	comp=Z,438nm,19.4s,baz=136,slow=38						
TKL	**Tuckaleechee C**	**22.51**	**321**	*e*P	**P**	**02 10 34.2**	**+0.6**
TKL				*e*		02 10 49.1	
TKL				*e*S	S	02 14 31.3	-7.7
MVL	**Millersville**	**22.52**	**340**	*e*P	**P**	**02 10 35.6**	**+2.0**
CPNY	**Central Park**	**22.58**	**345**	*e*P	**P**	**02 10 34.0**	**-0.2**
	comp=Z,78nm,0.6s						
CPNY				*e*		02 10 48.2	
CPNY				*e*S	S	02 14 31.0	-8.9
BRNJ	**Basking Ridge**	**22.63**	**344**	*e*P	**P**	**02 10 34.6**	**-0.1**
	comp=Z,51μm,0.9s						
BRNJ				*e*		02 10 49.6	
BRNJ				*e*S	**S**	**02 14 35.5**	**-5.3**
PAL	**Palisades**	**22.77**	**345**	*e*P	**P**	**02 10 37.6**	**+1.4**
PAL	**Palisades**	**22.77**	**345**	*e*P	**P**	**02 10 37.6**	**+1.4**
CPCT	**Cooper Cave**	**22.82**	**319**	*e*P	**P**	**02 10 37.0**	**+0.1**
CPCT				*e*		02 10 52.6	
CPCT				*e*S	**S**	**02 14 40.6**	**-3.9**
YLE	**Yale**	**22.84**	**347**	*e*P	**P**	**02 10 37.9**	**+0.9**
	comp=Z,2μm,1.9s						
YLE				*e*		02 10 53.2	
YLE				*e*S	**S**	**02 14 38.8**	**-5.8**
TZTN	**Tazewell**	**22.99**	**323**	*e*P	**P**	**02 10 38.4**	**-0.2**
TZTN				*e*S	S	02 14 38.6	-8.7
LRAL	**Lakeview Retre**	**23.05**	**311**	*e*P	**P**	**02 10 38.8**	**-0.4**
	comp=Z,32nm,1.1s						
LRAL				*e*S	**S**	**02 14 45.4**	**-2.9**
LRAL				LR	LR		
	comp=Z,272nm,20.0s						
SWET	**Sewanee**	**23.57**	**317**	*e*P	**P**	**02 10 45.7**	**+1.3**
SWET				*e*S	**S**	**02 14 56.7**	**-0.3**
SSPA	**Standing Stone**	**23.62**	**338**	*e*P	**P**	**02 10 45.1**	**+0.4**
	comp=Z,50nm,0.8s						
SSPA				*e*		02 11 03.4	
SSPA				*e*S	**S**	**02 15 00.2**	**+2.6**
HRV	**Adam Dziewonsk**	**23.75**	**351**	*e*P	**P**	**02 10 46.6**	**+0.6**
HRV				*e*S	**S**	**02 14 57.3**	**-2.3**
HRV				pmax	pmax		
	comp=Z,38nm,1.4s						
HRV	**Adam Dziewonsk**	**23.75**	**351**	*e*P	**P**	**02 10 46.6**	**+0.6**
	comp=Z,38nm,1.4s						
HRV				*e*		02 11 05.0	
HRV				*e*S	**S**	**02 14 57.3**	**-2.3**
BINY	**Binghamton**	**24.43**	**343**	*e*P	**P**	**02 10 52.4**	**+0.1**
	comp=Z,162nm,1.8s						
BINY				*e*S	**S**	**02 15 08.8**	**-1.7**
VBMS	**Vicksburg**	**25.26**	**306**	*e*P	**P**	**02 11 00.7**	**+0.7**
	comp=Z,74nm,1.0s						
ALLY	**Alegheny Colle**	**25.34**	**336**	*e*P	**P**	**02 11 01.5**	**+0.9**
	comp=Z,63nm,0.6s						
WVT	**Waverly**	**25.35**	**316**	*e*P	**P**	**02 11 00.0**	**-0.7**
WVT				*e*S	**S**	**02 15 24.9**	**-0.5**
WVT				pmax	pmax		
	comp=Z,11nm,0.6s						
WVT	**Waverly**	**25.35**	**316**	*e*P	**P**	**02 11 00.0**	**-0.7**
	comp=Z,11nm,0.6s						
WVT				*e*S	**S**	**02 15 24.9**	**-0.5**
ACSO	**Alum Creek Sta**	**25.42**	**330**	*e*P	**P**	**02 11 01.8**	**+0.5**
	comp=Z,59nm,0.8s						
ACSO				*e*S	**S**	**02 15 25.7**	**-0.8**
MDV	**Middlebury**	**25.48**	**349**	*e*P	**P**	**02 11 02.2**	**+0.4**
	comp=Z,6μm,0.3s						
OXF	**Oxford**	**25.53**	**312**	*e*P	**P**	**02 11 02.2**	**-0.2**
OXF				pmax	pmax		
	comp=Z,69nm,0.8s						
OXF	**Oxford**	**25.53**	**312**	*e*P	**P**	**02 11 02.1**	**-0.2**
	comp=Z,69nm,0.8s						
WCI	**Wyandotte Cave**	**25.73**	**322**	*e*P	**P**	**02 11 04.6**	**+0.4**
WCI				pmax	pmax		
	comp=Z,34nm,0.8s						
WCI	**Wyandotte Cave**	**25.73**	**322**	*e*P	**P**	**02 11 04.6**	**+0.4**
	comp=Z,34nm,0.8s						
USIN	**University of**	**26.38**	**320**	*e*P	**P**	**02 11 10.0**	**0.0**
	comp=Z,40nm,0.8s						
CMIG	**Matias Romero**	**27.09**	**270**	P	**P**	**02 11 17.8**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=61,slow=5.6,SNR=4.2						
CMIG				LR	LR	02 22 59.5	
	comp=Z,353nm,18.1s,baz=303,slow=38						
CMIG	**Matias Romero**	**27.09**	**270**	P	**P**	**02 11 17.8**	**+1.1**
OLIL	**Olney**	**27.13**	**321**	*e*P	**P**	**02 11 16.9**	**+0.1**
	comp=Z,34nm,0.8s						
SIUC	**Southern Illin**	**27.19**	**318**	*e*P	**P**	**02 11 17.7**	**+0.4**
	comp=Z,42nm,1.0s						
AAM	**Ann Arbor**	**27.36**	**331**	*e*P	**P**	**02 11 19.4**	**+0.6**
AAM				pmax	pmax		
	comp=Z,27nm,0.6s						
AAM	**Ann Arbor**	**27.36**	**331**	*e*P	**P**	**02 11 19.4**	**+0.6**
	comp=Z,27nm,0.6s						
SFIN	**Scholer Farm**	**27.66**	**325**	⇑P	**P**	**02 11 21.9**	**+0.5**
	baz=28						
SADO	**Sadowa**	**27.72**	**340**	P	**P**	**02 11 23.2**	**+1.3**
	comp=Z,10nm,0.9s,baz=79,slow=1.6,SNR=3.7						
SADO				LR	LR	02 21 39.1	
	comp=Z,772nm,20.7s,baz=189,slow=35						
SADO	**Sadowa**	**27.72**	**340**	P	**P**	**02 11 23.2**	**+1.3**
SAML	**Samuel**	**28.04**	**173**	*e*P	**P**	**02 11 24.3**	**-0.8**
	comp=Z,18nm,0.3s						
SAML				LR	LR		
	comp=Z,977nm,19.0s						
NATX	**Nacogdoches**	**28.34**	**302**	*e*P	**P**	**02 11 29.1**	**+1.4**
	comp=Z,52nm,0.7s						
NATX				*e*		02 11 45.3	
MIAR	**Mount Ida**	**28.57**	**308**	*e*P	**P**	**02 11 30.0**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MIAR	**Mount Ida**	**28.57**	**308**	*e*P	**P**	**02 11 30.0**	**+0.3**
	comp=Z,5.6nm,0.8s						
ATAH	**Atahualpa**	**28.59**	**205**	P	**P**	**02 11 31.6**	**+1.2**
	comp=Z,12nm,0.7s,baz=65,slow=5.4,SNR=11						
ATAH	**Atahualpa**	**28.59**	**205**	P	**P**	**02 11 31.6**	**+1.2**
HKT	**Hockley**	**28.76**	**298**	*e*P	**P**	**02 11 32.0**	**+0.6**
HKT				*e*		02 11 48.1	
HKT				pmax	pmax		
	comp=Z,11nm,1.0s						
HKT	**Hockley**	**28.76**	**298**	*e*P	**P**	**02 11 32.0**	**+0.6**
	comp=Z,11nm,1.0s						
HKT				*e*		02 11 48.1	
HDIL	**Hopedale**	**29.01**	**322**	*e*P	**P**	**02 11 33.7**	**+0.2**
	comp=Z,9.0nm,0.6s						
GLMI	**Grayling**	**29.80**	**333**	*e*P	**P**	**02 11 40.9**	**+0.4**
	comp=Z,42nm,0.8s						
WHTX	**Lake Whitney**	**30.67**	**301**	⇑P	**P**	**02 11 48.3**	**-0.1**
	baz=31						
TUL1	**Tulsa**	**30.80**	**309**	⇓P	**P**	**02 11 49.6**	**+0.1**
	baz=31						
632A	**Uvalde**	**32.01**	**295**	⇓P	**P**	**02 11 59.8**	**-0.4**
	baz=32						
732A	**Laxson Ranch,**	**32.02**	**294**	⇑P	**P**	**02 12 00.2**	**-0.1**
	baz=32,SNR=8.4						
JCT	**Junction City**	**32.22**	**297**	*e*P	**P**	**02 12 02.3**	**+0.2**
JCT				pmax	pmax		
	comp=Z,56nm,1.0s						
JCT	**Junction City**	**32.22**	**297**	*e*P	**P**	**02 12 02.3**	**+0.2**
	comp=Z,56nm,1.0s						
JCT	**Junction City**	**32.22**	**297**	⇓P	**P**	**02 12 02.1**	**0.0**
	baz=32,SNR=11						
532A	**Rocksprings**	**32.23**	**296**	⇑P	**P**	**02 12 02.3**	**+0.1**
	baz=32,SNR=11						
432A	**Menard**	**32.30**	**298**	⇓P	**P**	**02 12 02.7**	**-0.2**
	baz=32						
NNA	**Nana**	**32.53**	**199**	*e*P	**P**	**02 12 04.6**	**-0.2**
	comp=Z,14nm,0.7s						
WMOK	**Wichita Mounta**	**32.60**	**305**	*e*P	**P**	**02 12 04.8**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMOK	**Wichita Mounta**	**32.60**	**305**	*e*P	**P**	**02 12 04.8**	**-0.6**
	comp=Z,9.2nm,0.7s						
ABTX	**Abilene, Hawle**	**32.62**	**301**	⇑P	**P**	**02 12 05.9**	**+0.3**
	baz=33,SNR=23						
631A	**Perdido Creek**	**32.66**	**295**	⇓P	**P**	**02 12 05.8**	**-0.1**
	baz=33,SNR=7.2						
531A	**Rocksprings**	**32.78**	**296**	⇓P	**P**	**02 12 07.0**	**-0.1**
	baz=33,SNR=7.5						
COWI	**Conover**	**32.80**	**330**	*e*P	**P**	**02 12 07.4**	**+0.4**
	comp=Z,15nm,0.8s						
KSU1	**Kansas State U**	**32.82**	**314**	*e*P	**P**	**02 12 06.5**	**-0.8**
	comp=Z,21nm,0.9s						
431A	**Sonora**	**32.94**	**297**	⇓P	**P**	**02 12 08.6**	**+0.1**
	baz=33,SNR=13						
530A	**J-C Ranch, Com**	**33.45**	**296**	⇑P	**P**	**02 12 12.7**	**-0.2**
	baz=34,SNR=9.4						
430A	**Baggett Ranch,**	**33.49**	**297**	⇓P	**P**	**02 12 13.1**	**-0.1**
	baz=34,SNR=11						
429A	**Davenport Ranc**	**34.02**	**297**	⇓P	**P**	**02 12 17.4**	**-0.5**
	baz=34						
SPMN	**St. Paul**	**34.02**	**326**	⇑P	**P**	**02 12 17.8**	**+0.2**
	baz=34						
529A	**Stev Forest Ra**	**34.20**	**296**	⇑P	**P**	**02 12 19.1**	**-0.3**
	baz=34,SNR=22						
229A	**Bryant Ranch,**	**34.23**	**299**	⇑P	**P**	**02 12 19.6**	**-0.1**
	baz=34,SNR=12						
329A	**Wagon Wheel Ra**	**34.27**	**298**	⇓P	**P**	**02 12 19.9**	**-0.1**
	baz=34,SNR=43						
129A	**Stewart Farms,**	**34.44**	**300**	⇓P	**P**	**02 12 21.3**	**-0.2**
	baz=34,SNR=19						
Z29A	**Hungry Hill Ra**	**34.47**	**301**	⇓P	**P**	**02 12 21.5**	**-0.3**
	baz=34						
Y29A	**Porterfield Fa**	**34.60**	**302**	⇓P	**P**	**02 12 23.0**	**+0.1**
	baz=35,SNR=21						
628A	**Black Gap, Mar**	**34.66**	**294**	⇑P	**P**	**02 12 24.1**	**+0.7**
	baz=35						
528A	**Cox Ranch, San**	**34.69**	**296**	⇑P	**P**	**02 12 23.5**	**-0.3**
	baz=35,SNR=28						
428A	**Kincaid Ranch,**	**34.70**	**297**	⇓P	**P**	**02 12 23.8**	**0.0**
	baz=35,SNR=38						
X29A	**Tulia**	**34.79**	**303**	⇓P	**P**	**02 12 24.2**	**-0.4**
	baz=35						
AMTX	**Amarillo**	**34.91**	**304**	*e*P	**P**	**02 12 25.1**	**-0.4**
	comp=Z,17nm,1.0s						
AMTX				*e*		02 12 41.3	
AMTX	**Amarillo**	**34.91**	**304**	⇓P	**P**	**02 12 25.5**	**0.0**
	baz=35						
228A	**UT Block 9, Go**	**34.91**	**299**	⇓P	**P**	**02 12 25.1**	**-0.5**
	baz=35						
328A	**Wristen Ranch,**	**34.94**	**298**	⇓P	**P**	**02 12 25.5**	**-0.3**
	baz=35						
128A	**Castleberry Fa**	**34.94**	**300**	⇓P	**P**	**02 12 25.8**	**0.0**
	baz=35,SNR=7.9						
W29A	**Amraillo**	**34.95**	**304**	⇓P	**P**	**02 12 25.8**	**-0.1**
	baz=35,SNR=5.2						
BGNE	**Belgrade**	**34.98**	**316**	⇓P	**P**	**02 12 26.0**	**0.0**
	baz=35						
Z28A	**Tucker Farm, M**	**35.02**	**301**	⇑P	**P**	**02 12 26.1**	**-0.5**
	baz=35						
Y28A	**McKinney Farm,**	**35.08**	**302**	⇓P	**P**	**02 12 26.6**	**-0.4**
	baz=35						
627A	**Terlingua Ranc**	**35.09**	**294**	⇓P	**P**	**02 12 27.3**	**+0.2**
	baz=35,SNR=32						
LPAZ	**La Paz**	**35.19**	**183**	P	**P**	**02 12 27.6**	**-0.9**
	comp=Z,16nm,0.5s,baz=33,slow=5.4,SNR=38						
LPAZ				LR	LR	02 28 38.5	
	comp=Z,275nm,21.4s,baz=272,slow=39						
LPAZ	**La Paz**	**35.19**	**183**	*e*P	**P**	**02 12 27.7**	**-0.9**
	comp=Z,19nm,0.6s						
X28A	**Dimmitt**	**35.20**	**303**	⇓P	**P**	**02 12 27.9**	**-0.2**
	baz=35						
EYMN	**Ely**	**35.25**	**330**	*e*P	**P**	**02 12 27.8**	**-0.4**
	comp=Z,22nm,1.0s						
ECSD	**EROS Data Cent**	**35.26**	**321**	*e*P	**P**	**02 12 27.7**	**-0.6**
	comp=Z,38nm,1.2s						
ECSD				LR	LR		
	comp=Z,459nm,20.0s						
TXAR	**Lajitas Array**	**35.31**	**294**	P	**P**	**02 12 30.1**	**+1.0**
	comp=Z,8.3nm,0.7s,baz=112,slow=9.4,SNR=50						
TXAR				PcP	**PcP**	**02 15 00.5**	**+1.3**
	comp=Z,7.4nm,0.8s,baz=131,slow=5.0,SNR=9.2						
TXAR				ScP	**ScP**	**02 18 43.8**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=116,slow=5.7,SNR=7.7						
TXAR				LR	LR	02 31 49.2	
	comp=Z,290nm,18.5s,baz=20,slow=44						
TXAR	**Lajitas Array**	**35.31**	**294**	P	**P**	**02 12 30.1**	**+1.0**
TXAR				PcP	**PcP**	**02 15 00.

baz=38,SNR=21
V25A Rancho No Teng 37.48 304 ⇑P P 02 12 47.8 +0.2
baz=38,SNR=13
AGMN Agassiz Nation 37.63 328 *e*P P 02 12 47.6 -0.9
comp=Z,20nm,0.7s
Q26A Hugo 37.63 310 ⇓P P 02 12 49.0 +0.1
baz=38
Y24A Capitan 37.65 301 ⇓P P 02 12 49.3 +0.2
baz=38,SNR=9.0
N27A Anderson Farm, 37.66 313 ⇑P P 02 12 49.0 +0.1
baz=38
T25A Trinidad 37.70 307 ⇓P P 02 12 49.5 0.0
baz=38
P26A Davis Ranch, A 37.74 311 ⇑P P 02 12 50.3 +0.6
baz=38,SNR=9.1
X24A Lazy VL Ranch, 37.80 302 ⇑P P 02 12 50.0 -0.4
baz=38
M27A Reverse DX Ran 37.85 314 ⇓P P 02 12 50.8 +0.2
baz=38
S25A Robets Cordova 37.88 307 ⇓P P 02 12 51.5 +0.5
baz=38,SNR=9.5
W24A Lazy 6 Ranch, 37.93 303 ⇑P P 02 12 52.3 +0.8
baz=38,SNR=17
V24A Rampart Ranch, 37.96 304 ⇑P P 02 12 52.5 +0.7
baz=38,SNR=7.8
O26A Horse Wrangler 37.97 312 ⇑P P 02 12 51.8 +0.1
baz=38
L27A T5 Ranch, Ells 38.05 315 ⇓P P 02 12 52.4 +0.1
baz=38
U24A Moreno Valley 38.15 305 ⇑P P 02 12 53.5 +0.1
baz=38
Y23A Lovelace Mesa, 38.15 301 ⇑P P 02 12 53.9 +0.5
baz=38,SNR=14
Z23A Rita Site, Whi 38.16 300 ⇓P P 02 12 53.9 +0.6
baz=38,SNR=6.5
T24A Torres, Weston 38.17 306 ⇓P P 02 12 54.3 +0.8
baz=38,SNR=9.0
K27A Flueckinger Fa 38.27 316 ⇑P P 02 12 54.3 +0.2
baz=38
P25A Willow Gulch B 38.31 310 ⇑P P 02 12 54.9 +0.3
baz=38
S24A Houchin Ranch, 38.46 307 ⇓P P 02 12 56.8 +0.8
baz=38,SNR=7.1
W23A Werner Place, 38.51 303 ⇑P P 02 12 57.2 +0.8
baz=39,SNR=9.3
R24A Sanders Place, 38.57 308 ⇑P P 02 12 57.7 +0.9
baz=39,SNR=8.1
BNM Barren Site 38.66 301 *e*P P 02 12 58.5 +0.8
comp=Z,10nm,0.7s
222A Williams Famil 38.66 298 ⇓P P 02 12 58.2 +0.6
baz=39
V23A Ortiz Mt. (NFS 38.68 304 ⇑P P 02 12 58.4 +0.6
baz=39
122A Conniff Cattle 38.68 299 ⇑P P 02 12 58.7 +0.9
baz=39,SNR=14
LPM Los Pinos Moun 38.70 301 *e*P P 02 12 58.7 +0.7
comp=Z,14nm,1.1s
ANMO Albuquerque 38.70 302 *e*P P 02 12 58.4 +0.4
comp=Z,4.3nm,0.8s
ANMO LR LR
comp=Z,305nm,19.0s
Z22A Elephant Butte 38.76 300 ⇑P P 02 12 58.7 +0.3
baz=39
Q24A Divide 38.84 309 ⇓P P 02 12 59.4 +0.2
baz=39
U23A El Rito 38.84 305 ⇑P P 02 13 00.1 +1.0
baz=39,SNR=15
P24A Kohler Place, 38.85 310 ⇓P P 02 12 59.9 +0.8
baz=39
T23A Casias Ranch, 38.91 306 ⇑P P 02 13 00.1 +0.3
baz=39
ULM Lac du Bonnet 38.92 330 P P 02 12 58.1 -1.2
comp=Z,7.6nm,0.8s,baz=120,slow=8.5,SNR=21
ULM LR LR 02 29 49.2
comp=Z,414nm,19.4s,baz=156,slow=37
ULM Lac du Bonnet 38.92 330 P P 02 12 58.1 -1.2
LENM Lemitar 38.95 301 *e*P P 02 13 00.4 +0.4
comp=Z,12nm,0.8s
M25A Palm-Egli Farm 38.96 313 ⇓P P 02 13 00.4 +0.4
baz=39
RCBR Riachuelo 38.97 126 *e*P P 02 13 00.5 +0.3
comp=Z,14nm,1.0s
BDFB Brasilia 38.98 151 P P 02 12 59.4 -0.9
comp=Z,11nm,0.6s,baz=317,slow=10,SNR=26
BDFB LR LR 02 29 55.7
comp=Z,531nm,19.4s,baz=135,slow=38
BDFB Brasilia 38.98 151 P P 02 12 59.4 -0.9
S23A Nye Farm, Mont 39.08 307 ⇓P P 02 13 01.7 +0.6
baz=39
R23A Moffat 39.09 308 ⇑P P 02 13 01.6 +0.3
baz=39
LAZ Ladron 39.13 301 *e*P P 02 13 01.8 +0.3
comp=Z,3.3nm,0.8s
O24A Longmont 39.18 311 ⇑P P 02 13 02.2 +0.3
baz=39
L25A Engebretsen Ra 39.19 314 ⇓P P 02 13 02.5 +0.6
baz=39
V22A San Miguel Ran 39.29 304 ⇓P P 02 13 03.9 +1.0
baz=39,SNR=18
N24A Carr 39.30 312 ⇓P P 02 13 03.5 +0.6
baz=39,SNR=8.5
121A Cookes Peak, D 39.31 298 ⇓P P 02 13 03.8 +0.8
baz=39
K25A Mack Ranch, Ha 39.31 315 ⇑P P 02 13 03.4 +0.5
baz=39
Z21A St. Cloud Mine 39.35 300 ⇑P P 02 13 04.1 +0.7
baz=39
U22A Llaves 39.37 304 ⇓P P 02 13 04.6 +1.0
baz=39,SNR=16
ISCO Idaho Springs 39.46 310 *e*P P 02 13 04.8 +0.5
ISCO pmax pmax
comp=Z,13nm,0.8s
ISCO Idaho Springs 39.46 310 *e*P P 02 13 04.8 +0.5
comp=Z,12nm,0.8s
ISCO Idaho Springs 39.46 310 ⇑P P 02 13 05.0 +0.6
baz=40,SNR=23
P23A Jefferson 39.48 309 ⇑P P 02 13 04.9 +0.4
baz=40
Y21A Point of Rocks 39.48 301 ⇑P P 02 13 05.7 +1.2
baz=40,SNR=27
M24A Cheyenne 39.50 313 ⇑P P 02 13 05.1 +0.5
baz=40,SNR=6.9
T22A Edith 39.57 305 ⇑P P 02 13 06.1 +0.8
baz=40,SNR=10
X21A Alamocita Cree 39.66 301 ⇑P P 02 13 06.7 +0.6
baz=40
S22A 4UR Ranch, Cre 39.72 307 ⇓P P 02 13 06.9 +0.4
baz=40,SNR=9.4
320A Kipp Ranch, An 39.75 296 ⇓P P 02 13 07.2 +0.5
baz=40
L24A Wheatland 39.80 314 ⇑P P 02 13 07.6 +0.6
baz=40
R22A Saguache, Gunn 39.80 307 ⇑P P 02 13 07.9 +0.7
baz=40
O23A Lake Granby, G 39.82 311 ⇑P P 02 13 08.1 +0.7
baz=40,SNR=10
220A Playas Peak, P 39.83 297 ⇑P P 02 13 07.9 +0.6
baz=40
V21A Milan 39.84 303 ⇓P P 02 13 08.7 +1.2
baz=40,SNR=20
PHWY Pilot Hill 39.88 312 *e*P P 02 13 07.9 +0.1
comp=Z,16nm,0.9s
K24A Anderson Ranch 39.99 315 ⇓P P 02 13 09.2 +0.6
baz=40
U21A Nageezi 40.01 304 ⇑P P 02 13 09.9 +1.0
baz=40,SNR=20
Y20A Horse Springs, 40.04 300 ⇑P P 02 13 10.0 +0.9
baz=40,SNR=10
T21A Navajo Lake 40.05 305 ⇓P P 02 13 10.2 +0.9
baz=40,SNR=7.8
Z20A Nine Sixteen R 40.07 299 ⇑P P 02 13 10.3 +0.9
baz=40,SNR=8.2
N23A Red Feather La 40.08 312 ⇑P P 02 13 09.6 +0.1
baz=40
RSSD Black Hills 40.08 317 *e*P P 02 13 09.9 +0.6
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 40.08 317 *e*P P 02 13 09.8 +0.6
comp=Z,6.5nm,0.9s
Q22A Crested Butte, 40.11 308 ⇓P P 02 13 10.0 +0.2
baz=40,SNR=9.8
M23A Laramie 40.13 312 ⇑P P 02 13 10.3 +0.5
baz=40
P22A Eagle 40.22 309 ⇑P P 02 13 11.1 +0.5
baz=40
SMCO Snowmass 40.25 309 *e*P P 02 13 11.2 +0.1
comp=Z,18nm,1.4s
O22A Kremmling 40.26 310 ⇓P P 02 13 11.1 +0.1
baz=40,SNR=7.1
X20A Quemado 40.26 301 ⇓P P 02 13 11.3 +0.4
baz=40
L23A Garrett 40.36 313 ⇓P P 02 13 11.7 0.0
baz=40
W20A Ramah 40.38 302 ⇑P P 02 13 12.2 +0.3
baz=40
319A Douglas 40.40 296 ⇓P P 02 13 12.1 +0.1
baz=40
N22A Wattenberg Ran 40.41 311 ⇓P P 02 13 12.6 +0.5
baz=40,SNR=8.2
S21A Coal Bank Pass 40.43 306 ⇑P P 02 13 12.7 +0.2
baz=40,SNR=13
R21A Cimarron 40.44 307 ⇓P P 02 13 12.9 +0.4
baz=40,SNR=7.9
V20A Brimhall 40.50 303 ⇓P P 02 13 12.6 -0.3
baz=40
K23A Bowen Ranch, D 40.55 314 ⇓P P 02 13 13.6 +0.4
baz=41,SNR=6.5
H24A Dirks Ranch, A 40.69 318 ⇓P P 02 13 14.2 0.0
baz=41
P21A Newcastle 40.71 309 ⇓P P 02 13 15.0 +0.4
baz=41,SNR=13
M22A Cedar Creek Ra 40.72 312 ⇓P P 02 13 15.4 +0.7
baz=41,SNR=14
J23A Dilts Ranch, B 40.77 315 ⇓P P 02 13 15.6 +0.7
baz=41
L22A Ellis Ranch, M 40.83 313 ⇓P P 02 13 16.1 +0.5
baz=41
MVCO Mesa Verde 40.85 305 *e*P P 02 13 16.1 +0.2
comp=Z,7.8nm,0.9s
MVCO *e*PcP PcP 02 15 17.6 +1.2
MVCO Mesa Verde 40.85 305 ⇓P P 02 13 16.0 +0.2
baz=41,SNR=5.7
G24A Alzada 40.86 318 ⇑P P 02 13 16.3 +0.6
baz=41
S20A Disappointment 40.91 306 ⇑P P 02 13 16.8 +0.5
baz=41,SNR=5.9
O21A Pagoda 40.94 310 ⇓P P 02 13 16.8 +0.2
baz=41
F24A Ekalaka 41.12 319 ⇓P P 02 13 18.3 +0.6
baz=41
K22A Casper 41.12 314 ⇓P P 02 13 18.3 +0.3
baz=41,SNR=12
PV01 Paradox Valley 41.15 307 *e*P P 02 13 19.1 +0.8
comp=Z,3μm,1.5s
PV01 *e* 02 13 35.7
PV01 *e*ScP ScP 02 19 05.5 +0.1
N21A Black Mountain 41.15 311 ⇓P P 02 13 18.9 +0.6
baz=41
Q20A Ridgley Place, 41.17 308 ⇑P P 02 13 19.0 +0.7
baz=41,SNR=16
U19A Dine' College, 41.19 304 ⇑P P 02 13 18.9 +0.2
baz=41,SNR=9.4
M21A Separation Pea 41.33 312 ⇓P P 02 13 20.0 +0.3
baz=41,SNR=7.2
E24A Baker 41.37 320 ⇑P P 02 13 20.3 +0.5
baz=41
J22A Midwest 41.39 315 ⇓P P 02 13 20.0 -0.1
baz=41
P20A De Beque 41.40 309 ⇑P P 02 13 20.5 +0.3
baz=41
G23A Biddle 41.42 318 ⇓P P 02 13 20.7 +0.4
baz=42
X18A Snowflake 41.43 301 ⇓P P 02 13 21.0 +0.4
baz=42,SNR=8.2
L21A Rawlins 41.46 312 ⇓P P 02 13 21.0 +0.3
baz=42,SNR=8.6
PV04 Paradox Valley 41.47 307 *e*P P 02 13 21.2 +0.3
PV04 *e*ScP ScP 02 19 06.1 -0.5
O20A White River Ci 41.48 310 ⇑P P 02 13 21.0 +0.1
baz=42
LVC Limon Verde 41.51 183 *e*P P 02 13 22.8 +1.5
comp=Z,3.0nm,0.6s
I22A 9 Mile Ranch, 41.58 316 ⇑P P 02 13 21.6 -0.1
baz=42
K21A Alcova 41.62 313 ⇑P P 02 13 22.6 +0.6
baz=42,SNR=65
D24A Glendive 41.65 321 ⇑P P 02 13 22.3 +0.2
baz=42
F23A Volborg 41.66 319 ⇑P P 02 13 22.4 +0.2
baz=42
N20A Spence Gulch, 41.71 311 ⇓P P 02 13 23.4 +0.5
baz=42,SNR=5.6
TUC Tucson 41.78 297 *e*P P 02 13 24.6 +1.2
TUC pmax pmax
comp=Z,22nm,1.4s
TUC Tucson 41.78 297 *e*P P 02 13 24.6 +1.2
comp=Z,22nm,1.4s
M20A Sweetwater, Wa 41.87 311 ⇓P P 02 13 24.7 +0.5
baz=42,SNR=10
P19A Cripple Cowboy 41.87 309 ⇓P P 02 13 24.0 -0.2
baz=42
Q19A Hogan Spring (41.89 307 ⇑P P 02 13 24.4 +0.2
baz=42
C24A Savage 41.91 321 ⇓P P 02 13 24.7 +0.5
baz=42
E23A Ismay 41.95 320 ⇓P P 02 13 24.8 +0.3
baz=42
G22A Birney 42.00 317 ⇓P P 02 13 25.2 +0.2
baz=42
J21A Lysite 42.01 314 ⇑P P 02 13 25.2 0.0
baz=42
I21A Big Trails, Te 42.09 315 ⇓P P 02 13 25.8 0.0
baz=42
S18A Hurst Farm, Bl 42.13 305 ⇓P P 02 13 26.6 +0.3
baz=42,SNR=9.0
L20A Wamsutter 42.15 312 ⇓P P 02 13 26.8 +0.4
baz=42
O19A Miners Draw (B 42.17 309 ⇑P P 02 13 26.5 0.0
baz=42,SNR=10
D23A Lindsay 42.21 321 ⇓P P 02 13 27.3 +0.7
baz=42
F22A Rosebud 42.22 318 ⇓P P 02 13 27.0 +0.2
baz=42,SNR=8.1
H21A Big Horn, Sher 42.24 316 ⇑P P 02 13 26.8 -0.2
baz=42
DGMT Dagmar 42.25 323 ⇓P P 02 13 27.2 +0.3
baz=42
E22A Miles City 42.32 319 ⇑P P 02 13 27.8 +0.2
baz=42,SNR=16
A24A Westby 42.37 323 ⇑P P 02 13 28.5 +0.6
baz=42
K20A Yellowstone Ra 42.38 313 ⇑P P 02 13 28.4 +0.2
baz=42,SNR=8.1
N19A John Jarvie Ra 42.39 310 ⇑P P 02 13 28.3 0.0
baz=42
J20A Shoshoni 42.45 314 ⇓P P 02 13 29.3 +0.6
baz=42,SNR=29
M19A Rock Springs 42.56 311 ⇓P P 02 13 29.4 -0.4
baz=43
G21A Lodge Grass 42.59 317 ⇓P P 02 13 29.9 +0.1
baz=43
X16A Lo Mia Camp, P 42.63 300 ⇓P P 02 13 30.8 +0.4
baz=43,SNR=13
I20A Worland 42.70 315 ⇑P P 02 13 30.8 0.0
baz=43
B23A Brockton 42.70 322 ⇑P P 02 13 31.2 +0.6
baz=43
S17A Black Ridge (B 42.74 305 ⇑P P 02 13 32.0 +0.8
baz=43,SNR=8.9
WUAZ Wupatki 42.76 302 *e*P P 02 13 32.1 +0.7
comp=Z,24nm,0.8s
WUAZ *e* 02 13 49.1
WUAZ *e*PcP PcP 02 15 23.8 +1.1
WUAZ LR LR
comp=Z,390nm,20.0s
WUAZ Wupatki 42.76 302 ⇓P P 02 13 32.4 +1.0
baz=43,SNR=26
N18A Larsen Ranch, 42.77 310 ⇑P P 02 13 31.5 0.0
baz=43
D22A Cohagen 42.78 320 ⇓P P 02 13 32.2 +0.9
baz=43,SNR=10
K19A Absolon Red Bu 42.78 313 ⇑P P 02 13 31.6 +0.1
baz=43
P18A Preston Nutter 42.81 308 ⇑P P 02 13 32.1 +0.2
baz=43,SNR=13
O18A Roosevelt 42.81 309 ⇓P P 02 13 31.8 +0.1
baz=43
H20A Greybull 42.82 316 ⇓P P 02 13 31.6 -0.1
baz=43
SRU San Rafael 42.88 307 *e*P P 02 13 32.4 0.0
SRU *e* 02 15 22.5
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael 42.88 307 *e*P P 02 13 32.4 0.0
comp=Z,4.5nm,0.8s
SRU *e*PcP PcP 02 15 22.5 -0.5
SRU San Rafael 42.88 307 ⇑P P 02 13 32.5 +0.2
baz=43
C22A Vida 42.88 321 ⇑P P 02 13 32.6 +0.6
baz=43,SNR=6.8
L19A Farson 42.90 312 ⇑P P 02 13 32.6 +0.1
baz=43,SNR=12
J19A Crowheart 43.08 314 ⇓P P 02 13 33.9 0.0
baz=43
P17A Butcher Ranch, 43.13 308 ⇓P P 02 13 34.5 +0.1
baz=43
M18A Lyman 43.19 311 ⇑P P 02 13 35.0 +0.1
baz=43
D21A La Casta Ranch 43.24 320 ⇓P P 02 13 35.7 +0.7
baz=43,SNR=22
G20A Bridger 43.24 317 ⇑P P 02 13 35.0 -0.2
baz=43
BW06 Boulder Array 43.26 313 ⇑P P 02 13 35.0 -0.4
baz=43,SNR=10
PDAR Pinedale Array 43.26 313 P P 02 13 35.0 -0.4
comp=Z,5.2nm,0.8s,baz=120,slow=9.2,SNR=38
PDAR Pinedale Array 43.26 313 P P 02 13 35.0 -0.4
I19A Meeteetse 43.31 315 ⇑P P 02 13 35.8 0.0
baz=43,SNR=11
Q16A Castle Valley 43.32 307 ⇓P P 02 13 35.8 -0.2
baz=43
L18A Fontenelle, Gr 43.32 311 ⇓P P 02 13 36.0 +0.1
baz=43,SNR=14
O17A Robinson Place 43.33 309 ⇓P P 02 13 36.4 +0.4
baz=43,SNR=15
S16A Weppner Ranch, 43.37 305 ⇓P P 02 13 36.1 -0.3
baz=43
F20A Billings 43.43 317 ⇓P P 02 13 37.0 +0.3
baz=44
TMUT Trail Mountain 43.44 307 *e*P P 02 13 37.3 +0.2
comp=Z,15nm,1.0s
A22A Carney Farms, 43.50 323 ⇑P P 02 13 37.4 +0.3
baz=44
H19A Powell 43.54 316 ⇓P P 02 13 37.6 +0.1
baz=44,SNR=16
K18A Toltan Ranch, 43.55 312 ⇓P P 02 13 38.3 +0.5
baz=44,SNR=11
N17A Moffit Pass 43.60 310 ⇓P P 02 13 38.5 +0.2
baz=44
M17A Scullys Gap (B 43.63 311 ⇑P P 02 13 38.4 -0.1
baz=44
C21A Desert Coulee 43.64 321 ⇓P P 02 13 39.0 +0.8
baz=44,SNR=12
U15A North Rim 43.66 303 ⇓P P 02 13 39.5 +0.7
baz=44,SNR=11
E20A Meyer Farm, Mu 43.71 318 ⇓P P 02 13 39.3 +0.5
baz=44,SNR=9.1
Z14A Wintersburg 43.72 299 ⇑P P 02 13 40.0 +1.0
baz=44
J18A Kendall Valley 43.72 313 ⇓P P 02 13 39.3 +0.1
baz=44,SNR=31
I18A Diamond G Ranc 43.75 314 ⇑P P 02 13 39.8 +0.4
baz=44,SNR=50
DAU Daniels Canyon 43.77 309 *e*P P 02 13 39.9 +0.3
DAU pmax pmax
comp=Z,10.0nm,0.9s
DAU Daniels Canyon 43.77 309 *e*P P 02 13 39.9 +0.3
comp=Z,10nm,0.9s
Y14A Wickenburg 43.84 299 ⇓P P 02 13 41.4 +1.4
baz=44,SNR=13
P16A Fountain Green 43.86 308 ⇓P P 02 13 40.7 +0.5
baz=44
B21A Ellsworth Farm 43.87 321 ⇓P P 02 13 40.8 +0.8
baz=44
RLMT Red Lodge 43.89 316 *e*P P 02 13 40.5 0.0
comp=Z,16nm,0.6s
RLMT Red Lodge 43.89 316 ⇓P P 02 13 40.8 +0.3
baz=44,SNR=14
MPU Maple Canyon 43.94 308 *e*P P 02 13 41.1 +0.2
comp=Z,8.6nm,0.8s
D20A Manuel Ranch, 43.96 319 ⇑P P 02 13 41.4 +0.6
baz=44,SNR=8.6
JLU Jordanelle 43.96 309 *e*P P 02 13 41.2 +0.1
comp=Z,9.8nm,0.8s
F19A Roth Farm, Mol 43.96 317 ⇓P P 02 13 41.1 +0.2
baz=44
L17A Cokeville 43.97 311 ⇑P P 02 13 41.0 -0.1
baz=44,SNR=5.3
H18A Shoshone NF, C 43.99 315 ⇑P P 02 13 41.2 -0.1
baz=44
MSU Marysvale 43.99 306 *e*P P 02 13 42.2 +0.8
MSU pmax pmax
comp=Z,12nm,1.3s
MSU Marysvale 43.99 306 *e*P P 02 13 42.2 +0.8
comp=Z,12nm,1.3s
N16A Rees Ranch, Co 44.03 310 ⇓P P 02 13 41.8 +0.2
baz=44
A21A Bergtoll Ranch 44.08 322 ⇑P P 02 13 42.5 +0.8
baz=44,SNR=13
E19A Rath Farm, Rou 44.10 318 ⇑P P 02 13 42.8 +0.8
baz=44,SNR=20
C20A Veseth Ranch, 44.14 320 ⇑P P 02 13 43.0 +0.7
baz=44,SNR=8.1
G18A Lazy EL Ranch, 44.16 316 ⇓P P 02 13 42.7 +0.1
baz=44,SNR=11
K17A Gardner Place, 44.20 312 ⇓P P 02 13 43.0 +0.1
baz=44,SNR=12
J17A Brown Place, J 44.25 313 ⇓P P 02 13 44.0 +0.7
baz=44
M16A Huntsville 44.28 310 ⇓P P 02 13 43.9 +0.2
baz=44
P15A Leamington 44.31 307 ⇓P P 02 13 44.2 +0.3
baz=44
SNOW Snow King Moun 44.31 313 *e*P P 02 13 44.3 +0.4
comp=Z,35nm,1.0s
HWUT Hardware Ranch 44.32 310 *e*P P 02 13 43.3 -0.6
comp=Z,10nm,0.8s
AHID Auburn Hatcher 44.33 312 *e*P P 02 13 44.1 +0.1
comp=Z,13nm,0.8s
L16A Fish Haven 44.34 311 ⇑P P 02 13 44.2 +0.1
baz=44,SNR=40
I17A Pilgrim Ck. 44.34 314 ⇓P P 02 13 44.8 +0.7
baz=44,SNR=37
REDW Red Top Meadow 44.35 313 *e*P P 02 13 44.1 -0.1
comp=Z,106nm,1.5s
GCMT Greycliff 44.41 317 *e*P P 02 13 44.9 +0.4
comp=Z,20nm,1.1s
LKWY Lake 44.44 315 *e*P P 02 13 45.6 +0.6
LKWY pmax pmax
comp=Z,11nm,0.9s
LKWY Lake 44.44 315 *e*P P 02 13 45.6 +0.6
comp=Z,11nm,0.9s
D19A Cripps Ranch, 44.45 319 ⇑P P 02 13 45.4 +0.6
baz=44
TPAW Teton Pass 44.46 313 *e*P P 02 13 45.5 +0.4
comp=Z,18nm,0.8s
B20A Solberg Farm, 44.47 321 ⇑P P 02 13 46.0 +1.1
baz=44,SNR=10
FLWY Flagg Ranch 44.48 314 *e*P P 02 13 45.4 +0.2
comp=Z,15nm,0.8s
F18A Big Timber 44.48 317 ⇓P P 02 13 45.8 +0.7
baz=44,SNR=14
H17A Grant Village 44.50 315 ⇓P P 02 13 45.8 +0.4
baz=44,SNR=6.2
IMW Indian Meadow 44.58 314 *e*P P 02 13 46.0 -0.1
comp=Z,17nm,0.6s
A20A Cobblestone Ra 44.61 322 ⇑P P 02 13 47.0 +1.0
baz=45,SNR=18
O15A The Old Anders 44.63 308 ⇑P P 02 13 46.8 +0.4
baz=45
DCID1 Drake Creek 44.65 313 *e*P P 02 13 42.3 -4.2
comp=Z,23nm,0.8s
RRI2 Red Ridge 44.67 313 *e*P P 02 13 46.9 +0.1
comp=Z,18nm,0.8s
FFC Flin Flon 44.67 331 *e*P P 02 13 45.1 -1.2
FFC pmax pmax
comp=Z,4.0nm,0.7s
FFC Flin Flon 44.67 331 *e*P P 02 13 45.0 -1.2
comp=Z,4.3nm,0.7s
YNR Norris Junctio 44.68 315 *e*P P 02 13 48.6 +1.8
comp=Z,6.2nm,0.7s
K16A Soda Springs 44.69 312 ⇓P P 02 13 47.3 +0.4
baz=45,SNR=23
YFT Old Faithful 44.70 315 *e*P P 02 13 49.3 +2.3
comp=Z,10nm,0.8s
W13A Hualapai Mount 44.72 301 ⇓P P 02 13 48.0 +0.8
baz=45,SNR=16
C19A Slack Wire Ran 44.79 320 ⇓P P 02 13 48.1 +0.7
baz=45
ARUT Antelope Range 44.81 305 *e*P P 02 13 48.5 +0.6
ARUT pmax pmax
comp=Z,6.0nm,0.7s
ARUT Antelope Range 44.81 305 *e*P P 02 13 48.5 +0.6
comp=Z,6.1nm,0.7s

N15A **Stansbury Isla** 44.82 309 ⇓P P 02 13 48.6 +0.8
baz=45
PDMCI **Parker Dam,Lak** 44.82 300 ⇓P P 02 13 48.7 +0.9
baz=45
J16A **Bone** 44.84 313 ⇓P P 02 13 48.5 +0.4
baz=45,SNR=11
YMR **Madison River** 44.86 315 *e*P P 02 13 48.9 +0.7
comp=Z,11nm,0.7s
DUG **Dugway** 44.86 308 *e*P P 02 13 48.3 +0.1
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway** 44.86 308 *e*P P 02 13 48.3 +0.1
comp=Z,7.8nm,0.9s
DUG **Dugway** 44.86 308 ⇓P P 02 13 48.7 +0.5
baz=45,SNR=8.3
E18A **Harlowton** 44.86 318 ⇓P P 02 13 48.7 +0.6
baz=45,SNR=7.6
M15A **Larsen Ranch,** 44.92 310 ⇓P P 02 13 48.5 -0.1
baz=45,SNR=9.0
G17A **Pierce Place,** 44.93 316 ⇓P P 02 13 49.7 +1.0
baz=45,SNR=6.8
I16A **Newdale** 44.95 314 ⇓P P 02 13 49.6 +0.7
baz=45,SNR=23
L15A **Malad City** 45.02 311 ⇑P P 02 13 49.5 0.0
baz=45,SNR=18
B19A **Brinkman Farms** 45.03 321 ⇑P P 02 13 50.6 +1.3
baz=45
D18A **Linhart Farms,** 45.04 319 ⇓P P 02 13 50.6 +1.1
baz=45
H16A **Russell Place,** 45.06 315 ⇑P P 02 13 50.7 +0.9
baz=45,SNR=25
Y12C **Blythe** 45.07 299 ⇓P P 02 13 50.5 +0.7
baz=45,SNR=7.8
F17A **Fitzpatrick Pl** 45.09 317 ⇓P P 02 13 51.0 +1.0
baz=45,SNR=14
A19A **Klindworth Far** 45.12 321 ⇓P P 02 13 51.1 +1.1
baz=45,SNR=22
QLMT **Earthquake Lak** 45.22 315 *e*P P 02 13 52.6 +1.5
comp=Z,9.2nm,1.2s
HVU **Hansel Valley** 45.24 310 *e*P P 02 13 51.1 -0.1
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU **Hansel Valley** 45.24 310 *e*P P 02 13 51.1 -0.1
comp=Z,5.4nm,0.7s
GLA **Glamis** 45.25 298 ⇓P P 02 13 52.4 +1.1
baz=45
NEE2 **Needles Airpor** 45.27 300 ⇓P P 02 13 52.7 +1.3
baz=45
R13A **O'Grain Ranch,** 45.30 305 ⇓P P 02 13 52.5 +0.7
baz=45
K15A **Arbon** 45.31 312 ⇑P P 02 13 52.1 +0.4
baz=45,SNR=5.4
EGMT **Eagleton** 45.34 320 *e*P P 02 13 52.2 +0.3
comp=Z,27nm,0.4s
EGMT *e* 02 14 09.7
EGMT **Eagleton** 45.34 320 ⇓P P 02 13 52.8 +1.0
baz=45,SNR=7.7
E17A **Martinsdale** 45.42 317 ⇑P P 02 13 53.3 +0.6
baz=46,SNR=10
J15A **Blackfoot** 45.45 313 ⇓P P 02 13 53.5 +0.6
baz=46,SNR=14
B18A **Beardsley Farm** 45.51 320 ⇓P P 02 13 53.8 +0.7
baz=46
D17A **Six Diamond Ra** 45.58 318 ⇑P P 02 13 54.4 +0.6
baz=46,SNR=21
G16A **Moss Hill, Enn** 45.61 315 ⇓P P 02 13 55.1 +1.0
baz=46,SNR=23
BOZ **Bozeman (W)** 45.63 316 *e*P P 02 13 54.4 +0.1
BOZ pmax pmax
comp=Z,21nm,1.1s
BOZ **Bozeman (W)** 45.63 316 *e*P P 02 13 54.4 +0.1
comp=Z,21nm,1.1s
BOZ **Bozeman (W)** 45.63 316 ⇑P P 02 13 54.7 +0.5
baz=46,SNR=12
IRM **Iron Mountain** 45.63 299 ⇑P P 02 13 55.7 +1.3
baz=46,SNR=24
L14A **Malta** 45.64 311 ⇓P P 02 13 54.6 +0.3
baz=46,SNR=16
I15A **Monteview** 45.67 313 ⇓P P 02 13 55.9 +1.3
baz=46
F16A **Kennard Place,** 45.68 316 ⇑P P 02 13 55.2 +0.6
baz=46,SNR=8.6
LDFC **Landfair** 45.71 301 *e*P P 02 13 57.2 +2.2
comp=Z,51nm,0.8s
K14A **Jones Ranch, D** 45.73 311 ⇑P P 02 13 55.3 +0.2
baz=46,SNR=12
A18A **Metzger Ranch,** 45.77 321 ⇓P P 02 13 55.8 +0.6
baz=46,SNR=11
C17A **Wharram Farm,** 45.81 319 ⇓P P 02 13 56.0 +0.4
baz=46,SNR=18
BC3 **Big Chuckawall** 45.83 299 ⇑P P 02 13 57.1 +1.1
baz=46,SNR=14
H15A **Lima** 45.97 314 ⇓P P 02 13 58.2 +1.2
baz=46,SNR=15
E16A **East Helena** 45.98 317 ⇓P P 02 13 57.5 +0.6
baz=46,SNR=8.2
CPUP **Villa Florida** 46.00 169 P P 02 13 54.8 -2.3
comp=Z,6.4nm,0.6s,baz=332,slow=7.5,SNR=25
CPUP LR LR 02 34 01.6
comp=Z,310nm,19.6s,baz=337,slow=37
CPUP **Villa Florida** 46.00 169 P P 02 13 54.8 -2.3
G15A **Dillon** 46.04 315 ⇑P P 02 13 58.4 +0.8
baz=46
D16A **Dana Ranch, Ca** 46.08 318 ⇑P P 02 13 58.1 +0.3
baz=46,SNR=7.5
GMRC **Granite Mounta** 46.12 300 ⇓P P 02 13 59.2 +1.0
baz=46,SNR=16
HRY **Holter Researc** 46.14 317 *e*P P 02 13 58.5 +0.3
comp=Z,9.9nm,0.8s
MCMT **McKenzie Canyo** 46.18 314 *e*P P 02 13 59.7 +1.0
comp=Z,5.1nm,0.8s
DLMT **Dillon** 46.18 315 *e*P P 02 13 59.8 +1.2
comp=Z,26nm,0.8s
LRM **Limekiln Ridge** 46.23 316 *e*P P 02 13 59.4 +0.3
comp=Z,118nm,1.0s
F15A **Butte** 46.27 316 ⇓P P 02 14 00.0 +0.7
baz=46,SNR=6.5
A17A **Triple J Farms** 46.29 320 ⇓P P 02 13 59.7 +0.4
baz=46,SNR=9.5
BELC **Belle Mtn. Jos** 46.32 299 ⇑P P 02 14 00.7 +0.9
baz=46
TUQ **Turquoise Moun** 46.42 301 ⇑P P 02 14 01.6 +1.0
baz=46,SNR=27
H14A **Leadore** 46.46 314 ⇑P P 02 14 01.7 +0.8
baz=46,SNR=39
C16A **Fuhringer Ranc** 46.49 319 ⇓P P 02 14 01.3 +0.4
baz=46,SNR=17
E15A **Deer Lodge** 46.56 317 ⇑P P 02 14 01.7 +0.1
baz=47,SNR=7.1
MONP **Monument Peak** 46.57 297 ⇓P P 02 14 03.0 +1.1
baz=47,SNR=18
R11A **Troy Canyon, C** 46.58 305 ⇑P P 02 14 02.5 +0.6
baz=47
PFO **Pinyon Flat Ob** 46.66 298 *e*P P 02 14 03.9 +1.4
comp=Z,38nm,1.5s
PFO **Pinyon Flat Ob** 46.66 298 ⇑P P 02 14 02.9 +0.4
baz=47
J13A **Cove Ranch, Pi** 46.67 312 ⇓P P 02 14 03.2 +0.7
baz=47,SNR=54
HEC **Hector,Ludlow** 46.68 300 ⇑P P 02 14 03.4 +0.9
baz=47,SNR=6.2
D15A **Lincoln** 46.70 317 ⇓P P 02 14 03.4 +0.8
baz=47,SNR=9.5
G14A **Jackson** 46.72 315 ⇑P P 02 14 03.5 +0.6
baz=47,SNR=15
SHOC **Shoshone** 46.76 302 ⇓P P 02 14 04.0 +0.9
baz=47
I13A **Wildhorse Cree** 46.77 313 ⇑P P 02 14 04.5 +1.2
baz=47,SNR=55
ELK **Elko** 46.79 308 *e*P P 02 14 03.8 +0.2
F14A **Wisdom** 46.84 316 ⇓P P 02 14 04.9 +1.1
baz=47,SNR=22
HLID **Hailey** 46.88 312 *e*P P 02 14 04.6 +0.4
comp=Z,11nm,0.9s
HLID **Hailey** 46.88 312 ⇑P P 02 14 05.1 +0.9
baz=47,SNR=23
C15A **Salmond Ranch,** 47.02 318 ⇓P P 02 14 05.8 +0.7
baz=47,SNR=25
H13A **Challis** 47.05 314 ⇑P P 02 14 06.0 +0.5
baz=47,SNR=36
E14A **Clinton** 47.12 316 ⇑P P 02 14 06.3 +0.4
baz=47,SNR=10
GSC **Goldstone** 47.12 301 *e*P P 02 14 06.8 +0.8
GSC pmax pmax
comp=Z,12nm,0.8s
GSC **Goldstone** 47.12 301 *e*P P 02 14 06.8 +0.8
comp=Z,12nm,0.8s
GSC **Goldstone** 47.12 301 ⇓P P 02 14 07.1 +1.1
baz=47,SNR=10
CHMT **Chamberlain Mo** 47.13 317 *e*P P 02 14 06.4 +0.3
comp=Z,9.2nm,1.2s
B15A **Bradely Ranch,** 47.19 319 ⇓P P 02 14 06.5 +0.2
baz=47
G13A **Cobalt** 47.19 314 ⇓P P 02 14 06.7 +0.1
baz=47,SNR=8.7
MURC **Murrieta** 47.28 298 ⇑P P 02 14 08.4 +1.2
baz=47,SNR=5.4
FURC **Furnace Creek,** 47.30 302 ⇓P P 02 14 07.8 +0.5
baz=47
CAM4 **Nova Friburgo** 47.34 149 ⇑*i*P P 02 14 05.5 -2.5
CAM4 *i* 02 14 06.6
CAM4 *i* 02 14 19.9
CAM4 *i* 02 14 24.5
CAM4 *i* 02 14 25.7
CAM4 *i* 02 14 40.1
CAM4 *i* 02 14 45.1
CAM4 *i* 02 14 59.9
CAM4 *i* 02 15 19.8
D14A **Greenough** 47.35 317 ⇓P P 02 14 07.5 -0.2
baz=47
SLMT **Seeley Lake** 47.39 317 *e*P P 02 14 08.3 +0.2
comp=Z,19nm,1.3s
I12A **Atlanta** 47.45 312 ⇓P P 02 14 09.3 +0.7
baz=48,SNR=35
H12A **Diamond D Ranc** 47.46 313 ⇑P P 02 14 08.9 +0.3
baz=48,SNR=14
F13A **Darby** 47.47 315 ⇑P P 02 14 09.0 +0.3
baz=48,SNR=12
A15A **Johnson Ranch,** 47.54 320 ⇑P P 02 14 09.5 +0.4
baz=48,SNR=19
MSO **Missoula** 47.54 317 ⇓P P 02 14 09.5 +0.4
baz=48
E13A **Victor** 47.58 316 ⇑P P 02 14 10.3 +0.9
baz=48,SNR=17
B14A **Marquette Ranc** 47.65 319 ⇓P P 02 14 10.4 +0.4
baz=48
BFSC **Mount Baldy Ra** 47.71 299 ⇓P P 02 14 11.9 +1.2
baz=48
C14A **Swan Lake** 47.73 318 ⇓P P 02 14 11.3 +0.7
baz=48
MPMC **Manual Prospec** 47.76 302 ⇑P P 02 14 12.1 +1.0
baz=48,SNR=15
GRAC **Grapevine Rang** 47.78 303 ⇓P P 02 14 12.4 +1.3
baz=48
SWMT **Swartz Lake** 47.81 318 *e*P P 02 14 11.5 +0.3
comp=Z,12nm,1.1s
MFID **Camas Ranch** 47.84 312 *e*P P 02 14 11.7 +0.2
comp=Z,13nm,0.8s
MFID **Camas Ranch** 47.84 312 ⇓P P 02 14 12.0 +0.5
baz=48,SNR=15
LRMC **Laurel Mountai** 47.85 301 ⇓P P 02 14 12.6 +0.8
baz=48,SNR=8.8
DAC **Darwin (Calif)** 47.87 302 *e*P P 02 14 13.3 +1.4
DAC pmax pmax
comp=Z,20nm,0.8s
DAC **Darwin (Calif)** 47.87 302 *e*P P 02 14 13.3 +1.4
comp=Z,20nm,0.8s
YBMT **Yellow Bay** 47.93 318 *e*P P 02 14 12.3 +0.1
comp=Z,23nm,1.1s
G12A **Big Creek, Yel** 47.95 314 ⇑P P 02 14 12.7 +0.3
baz=48
A14A **Double T Ranch** 47.96 320 ⇓P P 02 14 12.7 +0.3
baz=48,SNR=19
D13A **Huson** 47.97 317 ⇑P P 02 14 12.6 +0.2
baz=48,SNR=13
LCO **Las Campanas** 47.99 185 *e*P P 02 14 11.7 -1.1
comp=Z,11nm,0.8s
EDW2 **Edwards Air Fo** 48.04 300 ⇓P P 02 14 14.2 +1.0
baz=48,SNR=13
JTMT **Jette** 48.07 318 *e*P P 02 14 13.4 +0.2
comp=Z,11nm,1.1s
F12A **Elk City** 48.08 315 ⇓P P 02 14 13.7 +0.4
baz=48,SNR=17
PASC **Pasadena Art C** 48.14 299 *e*P P 02 14 14.5 +0.6
FMP **Fort Macarthur** 48.20 298 ⇓P P 02 14 14.9 +0.6
baz=48
BLMT **Blacktail Moun** 48.21 318 *e*P P 02 14 14.7 +0.3
comp=Z,18nm,1.1s
C13A **Hot Springs** 48.23 318 ⇓P P 02 14 14.7 +0.3
baz=48,SNR=6.9
CWC **Cottonwood Cre** 48.27 302 ⇑P P 02 14 16.0 +1.0
baz=48
WALA **Waterton Lakes** 48.29 320 *e*P P 02 14 14.6 -0.4
comp=Z,0.4nm,1.1s
B13A **Whitefish** 48.40 318 ⇓P P 02 14 15.8 +0.1
baz=48
BSMT **Bassoo Peak** 48.42 318 *e*P P 02 14 16.4 +0.3
comp=Z,14nm,1.1s
TIN **Tinemaha** 48.46 303 ⇑P P 02 14 18.1 +1.6
baz=48
E12A **Beaver Dam Sad** 48.48 316 ⇓P P 02 14 17.1 +0.7
baz=48
ISA **Isabella** 48.51 301 ⇑P P 02 14 17.8 +1.1
baz=48
D12A **Red Ives Fores** 48.53 317 ⇑P P 02 14 16.8 +0.1
baz=49
A13A **Flathead Natio** 48.55 319 ⇑P P 02 14 17.2 +0.2
baz=49
NV11 **Mina Array Sit** 48.59 305 *e*P P 02 14 18.1 +0.7
NVAR **Mina Array Bea** 48.70 305 P P 02 14 19.2 +0.8
comp=Z,6.5nm,0.8s,baz=111,slow=5.7,SNR=30
NVAR ScP ScP 02 19 37.0 +0.5
comp=Z,0.2nm,0.3s,baz=179,slow=1.1,SNR=3.5
NVAR **Mina Array Bea** 48.70 305 P P 02 14 19.2 +0.8
NVAR ScP ScP 02 19 37.0 +0.5
ARVC **Arvin** 48.75 300 ⇓P P 02 14 19.9 +1.4
baz=49,SNR=5.6
SFJD **Kangerlussuaq** 48.97 8 *e*P P 02 14 19.8 0.0
comp=Z,12nm,1.3s
VES **Vestal, Richgr** 49.02 301 ⇓P P 02 14 21.6 +1.0
baz=49
B12A **Libby** 49.13 318 ⇑P P 02 14 22.1 +0.8
baz=49
RCTC **Rector, Farmer** 49.19 302 ⇓P P 02 14 22.8 +0.9
baz=49
BMO **Blue Mountains** 49.23 313 *e*P P 02 14 21.5 -0.7
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO **Blue Mountains** 49.23 313 *e*P P 02 14 21.5 -0.7
comp=Z,7.6nm,1.0s
A12A **Yaak River Ran** 49.32 319 ⇓P P 02 14 23.5 +0.7
baz=49,SNR=10
C11A **Tepee Creek (N** 49.36 317 ⇑P P 02 14 23.6 +0.5
baz=49
SBC **Santa Barbara** 49.42 299 ⇑P P 02 14 24.5 +0.8
baz=50
PKM **Peak Mountain** 49.54 300 ⇓P P 02 14 26.2 +1.4
baz=50
SMMC **Simmler** 49.72 300 ⇑P P 02 14 27.4 +1.4
baz=50
NEW **Newport** 50.04 318 *e*P P 02 14 28.1 -0.1
comp=Z,31nm,0.9s
NEW **Newport** 50.04 318 ⇓P P 02 14 28.4 +0.1
baz=50,SNR=23
CMB **Columbia Colle** 50.28 304 *e*P P 02 14 30.5 +0.3
CMB **Columbia Colle** 50.28 304 *e*P P 02 14 30.5 +0.3
HAWA **Hanford** 51.12 315 *e*P P 02 14 36.2 -0.2
comp=Z,12nm,1.3s
LON **Longmire** 52.73 315 *e*P P 02 14 47.9 -0.5
LON pmax pmax
comp=Z,5.0nm,0.9s
LON **Longmire** 52.73 315 *e*P P 02 14 47.9 -0.5
comp=Z,4.5nm,0.9s
MORF **Marmelete** 53.28 57 *e*P P 02 14 53.9 +1.3
EVOP **Sao Brissos** 53.77 56 *e*P P 02 14 54.6 -1.5
EVOP pmax pmax
comp=Z,17nm,1.0s
EVOP **Sao Brissos** 53.77 56 *e*P P 02 14 54.6 -1.5
comp=Z,16nm,1.0s
PCVE **Castro Verde** 53.78 57 *e*PcP PcP 02 16 03.6 +1.6
PBDV **Barranco-do-Ve** 53.85 57 *e*P P 02 14 59.8 +3.0
comp=Z,54nm,1.8s
EVO **Evora** 53.85 56 *e*P P 02 14 54.6 -2.2
comp=Z,16nm,1.0s
EVO *e*R
comp=Z,463nm,21.2s
EVO **Evora** 53.85 56 *e*P P 02 14 57.3 +0.5
comp=Z,12nm,2.9s
PGAV **Gavieira, Arco** 53.96 52 *e*LR LR 02 31 19.1
comp=Z,410nm,20.0s
PVAQ **Vaqueiros** 54.03 57 *e*LR LR 02 30 30.2
comp=Z,517nm,20.0s
PESTR **Estremoz** 54.21 55 *e*P P 02 15 01.9 +2.5
comp=Z,23nm,1.9s
PESTR **Estremoz** 54.21 55 *e*PcP PcP 02 16 05.3 +1.7
POLO **Lamas de Olo** 54.25 52 *e*P P 02 15 01.5 +1.7
comp=Z,13nm,1.7s
MTE **Manteigas** 54.35 54 *e*P P 02 15 00.7 +0.2
comp=Z,24nm,1.6s
MTE *e*LR LR 02 30 35.6
comp=Z,578nm,22.0s
PMRV **Marv??o** 54.40 55 *e*P P 02 15 01.0 +0.3
comp=Z,18nm,2.0s
PMRV *e*LR LR 02 30 37.9
comp=Z,331nm,22.0s
YKA **Yellowknife Ar** 54.50 335 P P 02 15 00.2 -0.8
comp=Z,8.3nm,0.8s,baz=112,slow=7.5,SNR=95
YKA **Yellowknife Ar** 54.50 335 P P 02 15 00.2 -0.8
YKW3 **Yellowknife Ar** 54.54 335 *e*P P 02 15 00.1 -1.2
comp=Z,0.2nm,0.9s
MVO **Moncorvo** 54.81 53 *e*P P 02 15 04.2 +0.4
comp=Z,19nm,1.6s
MVO **Moncorvo** 54.81 53 *e*PcP PcP 02 16 07.7 +1.8
MVO *e*LR LR 02 31 06.2
comp=Z,331nm,20.0s
SUMG **Summit** 55.84 10 *e*P P 02 15 11.3 +0.2
SUMG pmax pmax
comp=Z,98nm,1.4s
SUMG **Summit** 55.84 10 *e*P P 02 15 11.3 +0.2
comp=Z,98nm,1.4s
SUMG **Summit** 55.84 10 *i*P P 02 15 11.7 +0.6
comp=Z,27nm,0.8s
TRQA **Tornquist** 56.99 176 *e*P P 02 15 18.7 -0.4
comp=Z,3.6nm,0.7s
ESDC **Sonseca Array** 57.06 55 P P 02 15 19.7 -0.2
comp=Z,8.2nm,0.7s,baz=271,slow=6.9,SNR=40
ESDC LR LR 02 35 50.0
comp=Z,312nm,19.6s,baz=260,slow=32
ESDC **Sonseca Array** 57.06 55 P P 02 15 19.7 -0.2
ESLA **Sonseca Array** 57.06 55 *e*P P 02 15 20.4 +0.5
comp=Z,2.0nm,0.8s
RES **Resolute Bay** 57.71 351 *e*P P 02 15 22.9 -0.8
comp=Z,13nm,1.3s
ROSF **Rostrenen** 58.21 44 *e*P P 02 15 27.3 -0.5
comp=Z,47nm,1.2s
ROSF **Rostrenen** 58.21 44 *e*P P 02 15 27.3 -0.5
ROSF pmax pmax
comp=Z,47nm,1.2s
ROSF **Rostrenen** 58.21 44 *e*P P 02 15 27.3 -0.5
comp=Z,47nm,1.2s
QUIF **Quistinic** 58.24 45 *e*P P 02 15 27.4 -0.5
comp=Z,27nm,1.1s
QUIF **Quistinic** 58.24 45 *e*P P 02 15 27.4 -0.5
QUIF pmax pmax
comp=Z,27nm,1.1s
QUIF **Quistinic** 58.24 45 *e*P P 02 15 27.4 -0.5
comp=Z,27nm,1.1s
SGMF **Saint Gilles** 58.68 45 *e*P P 02 15 30.2 -0.8
comp=Z,18nm,1.0s
SGMF **Saint Gilles** 58.68 45 *e*P P 02 15 30.2 -0.8
SGMF pmax pmax
comp=Z,18nm,1.0s
SGMF **Saint Gilles** 58.68 45 *e*P P 02 15 30.2 -0.8
comp=Z,18nm,1.0s
SJPF **Ste Jean** 59.24 51 *e*P P 02 15 34.9 -0.1
comp=Z,34nm,1.1s
SJPF **Ste Jean** 59.24 51 *e*P P 02 15 34.9 -0.1
SJPF pmax pmax
comp=Z,34nm,1.1s
SJPF **Ste Jean** 59.24 51 *e*P P 02 15 34.9 -0.1
comp=Z,34nm,1.1s
ESK **Eskdalemuir** 59.34 36 *e*P P 02 15 36.0 +0.6
ESK pmax pmax
comp=Z,21nm,1.0s
ESK **Eskdalemuir** 59.34 36 *e*P P 02 15 36.0 +0.6
comp=Z,21nm,1.0s
PLCA **Paso Flores** 59.63 184 P P 02 15 36.2 -1.4
comp=Z,11nm,0.7s,baz=3.5,slow=6.8,SNR=33
PLCA LR LR 02 41 43.2
comp=Z,207nm,21.3s,baz=195,slow=36
PLCA **Paso Flores** 59.63 184 *e*P P 02 15 36.1 -1.5
comp=Z,11nm,0.8s
ETSF **Etsaut** 59.72 51 *e*P P 02 15 37.9 -0.5
ETSF **Etsaut** 59.72 51 *e*P P 02 15 37.9 -0.5
ETSF **Etsaut** 59.72 51 *e*P P 02 15 37.9 -0.5
GRR **Gorron** 59.82 45 *e*P P 02 15 38.4 -0.5
comp=Z,20nm,0.9s
GRR **Gorron** 59.82 45 *e*P P 02 15 38.4 -0.5
GRR pmax pmax
comp=Z,20nm,0.9s
GRR **Gorron** 59.82 45 *e*P P 02 15 38.4 -0.5
comp=Z,20nm,0.9s
FLN **La Foliniere** 60.10 44 *e*P P 02 15 40.3 -0.5
comp=Z,23nm,0.8s
FLN *e*R
comp=Z,184nm,17.0s
FLN **La Foliniere** 60.10 44 *e*P P 02 15 40.3 -0.5
FLN pmax pmax
comp=Z,23nm,0.8s
FLN **La Foliniere** 60.10 44 *e*P P 02 15 40.3 -0.5
comp=Z,23nm,0.8s
MFF **Saint Martin d** 60.17 47 *e*P P 02 15 40.9 -0.5
comp=Z,45nm,1.3s
MFF **Saint Martin d** 60.17 47 *e*P P 02 15 40.9 -0.5
MFF pmax pmax
comp=Z,45nm,1.3s
MFF **Saint Martin d** 60.17 47 *e*P P 02 15 40.9 -0.5
comp=Z,45nm,1.3s
LDF **La Druitiere** 60.33 44 *e*P P 02 15 41.7 -0.7
comp=Z,71nm,1.3s
LDF **La Druitiere** 60.33 44 *e*P P 02 15 41.7 -0.7
LDF pmax pmax
comp=Z,71nm,1.3s
LDF **La Druitiere** 60.33 44 *e*P P 02 15 41.7 -0.7
comp=Z,71nm,1.3s
EPF **Esparros** 60.38 51 *e*P P 02 15 42.7 -0.2
comp=Z,12nm,0.6s
EPF **Esparros** 60.38 51 *e*P P 02 15 42.7 -0.2
EPF pmax pmax
comp=Z,12nm,0.6s
EPF **Esparros** 60.38 51 *e*P P 02 15 42.7 -0.2
comp=Z,12nm,0.6s
LFF **La Frestale** 60.72 49 *e*P P 02 15 44.4 -0.7
comp=Z,14nm,0.8s
LFF **La Frestale** 60.72 49 *e*P P 02 15 44.4 -0.7
LFF pmax pmax
comp=Z,14nm,0.8s
LFF **La Frestale** 60.72 49 *e*P P 02 15 44.4 -0.7
comp=Z,14nm,0.8s
LIC **Lamto** 61.01 93 ⇓*i*P P 02 15 47.2 -0.4
comp=Z,52nm,0.7s,baz=281
LIC *e*R
comp=Z,286nm,19.8s
LIC **Lamto** 61.01 93 ⇓*i*P P 02 15 47.2 -0.4
comp=Z,52nm,0.7s
DBIC **Dimbokro** 61.03 93 P P 02 15 47.8 +0.1
comp=Z,38nm,0.7s,baz=275,slow=7.2,SNR=43
DBIC LR LR 02 37 28.8
comp=Z,227nm,21.5s,baz=247,slow=31
DBIC **Dimbokro** 61.03 93 *e*P P 02 15 47.8 +0.1
comp=Z,40nm,0.8s
RJF **Les Rejaudoux** 61.28 48 *e*P P 02 15 48.1 -0.8
comp=Z,22nm,1.0s
RJF **Les Rejaudoux** 61.28 48 *e*P P 02 15 48.1 -0.8
RJF pmax pmax
comp=Z,22nm,1.0s
RJF **Les Rejaudoux** 61.28 48 *e*P P 02 15 48.1 -0.8
comp=Z,22nm,1.0s
CAF **Calviac** 61.66 49 *e*P P 02 15 50.9 -0.6
comp=Z,18nm,0.9s
CAF **Calviac** 61.66 49 *e*P P 02 15 50.9 -0.6
CAF pmax pmax
comp=Z,18nm,0.9s
CAF **Calviac** 61.66 49 *e*P P 02 15 50.9 -0.6
comp=Z,18nm,0.9s
MTLF **Montolieu** 61.76 50 *e*P P 02 15 51.5 -0.7
comp=Z,30nm,1.0s
MTLF **Montolieu** 61.76 50 *e*P P 02 15 51.5 -0.7
MTLF pmax pmax
comp=Z,30nm,1.0s
MTLF **Montolieu** 61.76 50 *e*P P 02 15 51.5 -0.7
comp=Z,30nm,1.0s
TCF **Toulx Ste Croi** 61.79 47 *e*P P 02 15 51.4 -1.0
comp=Z,22nm,0.8s
TCF **Toulx Ste Croi** 61.79 47 *e*P P 02 15 51.4 -1.0
TCF pmax pmax
comp=Z,22nm,0.8s
TCF **Toulx Ste Croi** 61.79 47 *e*P P 02 15 51.4 -1.0
comp=Z,22nm,0.8s
BGF **Bois d'Agland** 62.23 47 *e*P P 02 15 54.2 -1.1

comp=Z,14nm,0.8s
BGF Bois d'Agland 62.23 47 *e*P **P 02 15 54.2 -1.1**
BGF pmax pmax
comp=Z,14nm,0.8s
BGF Bois d'Agland 62.23 47 *e*P **P 02 15 54.2 -1.1**
comp=Z,14nm,0.8s
DAG Danmarks Havn 62.45 11 *i* P **P 02 15 56.2 -0.1**
comp=Z,139nm,0.9s
AVF Avril sur Loir 62.59 47 *e*P **P 02 15 56.5 -1.2**
comp=Z,31nm,1.1s
AVF Avril sur Loir 62.59 47 *e*P **P 02 15 56.5 -1.2**
AVF pmax pmax
comp=Z,31nm,1.1s
AVF Avril sur Loir 62.59 47 *e*P **P 02 15 56.5 -1.2**
comp=Z,31nm,1.1s
SSF Saint Saulge 62.70 46 *e*P **P 02 15 57.2 -1.2**
comp=Z,25nm,1.1s
SSF Saint Saulge 62.70 46 *e*P **P 02 15 57.2 -1.2**
SSF pmax pmax
comp=Z,25nm,1.1s
SSF Saint Saulge 62.70 46 *e*P **P 02 15 57.2 -1.2**
comp=Z,25nm,1.1s
SMF Signal de Mont 62.92 47 *e*P **P 02 15 58.9 -1.0**
comp=Z,29nm,1.1s
SMF Signal de Mont 62.92 47 *e*P **P 02 15 58.9 -1.0**
SMF pmax pmax
comp=Z,29nm,1.1s
SMF Signal de Mont 62.92 47 *e*P **P 02 15 58.9 -1.0**
comp=Z,29nm,1.1s
LOR Lormes 62.94 46 *e*P **P 02 15 58.9 -1.2**
comp=Z,12nm,0.6s
LOR *e*R
comp=Z,258nm,18.8s
LOR Lormes 62.94 46 *e*P **P 02 15 58.9 -1.2**
comp=Z,12nm,0.6s
LASF Ste Croix 62.94 50 *e*P **P 02 15 59.9 -0.2**
comp=Z,130nm,1.6s
LASF Ste Croix 62.94 50 *e*P **P 02 15 59.9 -0.2**
comp=Z,130nm,1.6s
BAIF Baives 63.24 43 *e*P **P 02 16 00.8 -1.1**
comp=Z,12nm,1.0s
BAIF Baives 63.24 43 *e*P **P 02 16 00.8 -1.1**
BAIF pmax pmax
comp=Z,12nm,1.0s
BAIF Baives 63.24 43 *e*P **P 02 16 00.8 -1.1**
comp=Z,12nm,1.0s
SNF Seneffe 63.30 42 P **P 02 16 04.2 +1.8**
DOU Dourbes 63.49 43 P **P 02 16 03.6 0.0**
comp=Z,13nm,2.9s
ALE Alert 63.51 1 P **P 02 16 02.3 -1.0**
comp=Z,135nm,1.5s,SNR=14
VIVF Saint-Julien-l 63.51 49 *e*P **P 02 16 04.0 +0.1**
comp=Z,46nm,1.2s
VIVF Saint-Julien-l 63.51 49 *e*P **P 02 16 04.0 +0.1**
VIVF pmax pmax
comp=Z,46nm,1.2s
VIVF Saint-Julien-l 63.51 49 *e*P **P 02 16 04.0 +0.1**
comp=Z,46nm,1.2s
GIVF Givet 63.63 43 *e*P **P 02 16 03.6 -1.0**
comp=Z,45nm,1.0s
GIVF Givet 63.63 43 *e*P **P 02 16 03.6 -1.0**
GIVF pmax pmax
comp=Z,45nm,1.0s
GIVF Givet 63.63 43 *e*P **P 02 16 03.6 -1.0**
comp=Z,45nm,1.0s
SFTF Sexfontaines 63.74 45 *e*P **P 02 16 04.4 -1.0**
comp=Z,25nm,0.8s
SFTF Sexfontaines 63.74 45 *e*P **P 02 16 04.4 -1.0**
comp=Z,25nm,0.8s
MEZF Maizieres J'vi 63.76 45 *e*P **P 02 16 04.7 -0.7**
comp=Z,43nm,0.7s
MEZF Maizieres J'vi 63.76 45 *e*P **P 02 16 04.7 -0.7**
comp=Z,43nm,0.7s
BCLA Clavier 63.95 43 P **P 02 16 06.3 -0.3**
comp=Z,9.7nm,2.2s
INK Inuvik 63.98 338 P **P 02 16 05.7 -0.8**
comp=Z,16nm,1.0s,baz=99,slow=6.9,SNR=31
INK LR LR 02 40 22.2
comp=Z,117nm,21.9s,baz=321,slow=33
INK Inuvik 63.98 338 *e*P **P 02 16 05.5 -1.0**
comp=Z,28nm,1.1s
BEBN Eben Emael 64.19 42 P **P 02 16 08.6 +0.4**
comp=Z,8.1nm,1.3s
PAGF Fort de Pagny 64.20 45 *e*P **P 02 16 07.5 -0.9**
comp=Z,7.5nm,0.8s
PAGF Fort de Pagny 64.20 45 *e*P **P 02 16 07.5 -0.9**
comp=Z,7.5nm,0.8s
HGN Heimansgroeve 64.36 42 *e*P **P 02 16 09.2 -0.1**
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 64.37 49 *e*P **P 02 16 09.7 +0.1**
comp=Z,15nm,1.0s
ORIF *e*R
comp=Z,188nm,22.0s
ORIF Oris-en-Rattie 64.37 49 *e*P **P 02 16 09.7 +0.1**
ORIF pmax pmax
comp=Z,15nm,1.0s
ORIF Oris-en-Rattie 64.37 49 *e*P **P 02 16 09.7 +0.1**
comp=Z,15nm,1.0s
THEF They Montfort 64.38 45 *e*P **P 02 16 09.6 +0.1**
THEF They Montfort 64.38 45 *e*P **P 02 16 09.6 +0.1**
THEF They Montfort 64.38 45 *e*P **P 02 16 09.6 +0.1**
MEM Membach 64.40 42 P **P 02 16 10.1 +0.5**
comp=Z,16nm,1.4s
CABF La Chapelle 64.47 47 *e*P **P 02 16 09.4 -0.9**
comp=Z,14nm,0.9s
CABF La Chapelle 64.47 47 *e*P **P 02 16 09.4 -0.9**
CABF pmax pmax
comp=Z,15nm,0.9s
CABF La Chapelle 64.47 47 *e*P **P 02 16 09.4 -0.9**
comp=Z,14nm,0.9s
WLF Walferdange 64.49 43 P **P 02 16 10.7 +0.5**
comp=Z,26nm,2.1s
WLF Walferdange 64.49 43 *e*P **P 02 16 10.6 +0.4**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 64.49 43 *e*P **P 02 16 10.5 +0.4**
comp=Z,22nm,1.1s
WLF *e*L L 02 38 18.0
comp=Z,345nm,21.0s
WLF Walferdange 64.49 43 *e*P **P 02 16 10.6 +0.4**
comp=Z,9.0nm,0.8s
HAU Haudompre 64.62 45 *e*P **P 02 16 10.0 -1.2**
comp=Z,13nm,0.9s
HAU *e*R
comp=Z,219nm,20.0s
HAU Haudompre 64.62 45 *e*P **P 02 16 10.0 -1.2**
HAU pmax pmax
comp=Z,13nm,0.9s
HAU Haudompre 64.62 45 *e*P **P 02 16 10.0 -1.2**
comp=Z,13nm,0.9s
WTSB Winterswijk 64.92 41 *e*P **P 02 16 13.1 +0.2**
comp=Z,42nm,1.0s
BNI Bardonecchia 64.93 48 *e*P **P 02 16 14.0 +0.7**
BNI pmax pmax
comp=Z,11nm,1.1s
BNI Bardonecchia 64.93 48 *e*P **P 02 16 14.0 +0.7**
comp=Z,11nm,1.1s
LPL La Plagne 64.95 48 *e*P **P 02 16 13.3 -0.3**
LPL La Plagne 64.95 48 *e*P **P 02 16 13.3 -0.3**
LPL La Plagne 64.95 48 *e*P **P 02 16 13.3 -0.3**
LOMF Lomont 64.96 46 *e*P **P 02 16 13.3 -0.1**
LOMF Lomont 64.96 46 *e*P **P 02 16 13.3 -0.1**
LOMF Lomont 64.96 46 *e*P **P 02 16 13.3 -0.1**
LPG La Plagne 64.96 48 *e*P **P 02 16 13.6 -0.1**
comp=Z,16nm,1.0s
LPG La Plagne 64.96 48 *e*P **P 02 16 13.6 -0.1**
LPG pmax pmax
comp=Z,16nm,1.0s
LPG La Plagne 64.96 48 *e*P **P 02 16 13.6 -0.1**
comp=Z,16nm,1.0s
HINF Hinteralfeld 64.97 45 *e*P **P 02 16 12.0 -1.4**
comp=Z,9.1nm,0.7s
HINF Hinteralfeld 64.97 45 *e*P **P 02 16 12.0 -1.4**
HINF pmax pmax
comp=Z,9.0nm,0.7s
HINF Hinteralfeld 64.97 45 *e*P **P 02 16 12.0 -1.4**
comp=Z,9.1nm,0.7s
RUP Ruppelstein 65.08 43 *e*P **P 02 16 13.9 -0.2**
RUP Ruppelstein 65.08 43 *e*P **P 02 16 13.9 -0.2**
MOF Molkenrain 65.15 45 *e*P **P 02 16 14.1 -0.6**
MOF Molkenrain 65.15 45 *e*P **P 02 16 14.1 -0.6**
MOF Molkenrain 65.15 45 *e*P **P 02 16 14.1 -0.6**
ECH Echery 65.16 45 *e*P **P 02 16 14.5 -0.2**
ECH pmax pmax
comp=Z,52nm,1.7s
ECH Echery 65.16 45 *e*P **P 02 16 14.4 -0.2**
comp=Z,52nm,1.7s
ECH Echery 65.16 45 *e*P **P 02 16 14.2 -0.5**
BUG Bochum--Univer 65.21 41 *e*P **P 02 16 15.0 +0.2**
comp=Z,16nm,1.2s
BUG *e*L L 02 39 37.0
comp=Z,448nm,21.4s
CDF Champ du Feu 65.24 45 *e*P **P 02 16 14.2 -1.0**
comp=Z,33nm,1.3s
CDF Champ du Feu 65.24 45 *e*P **P 02 16 14.2 -1.0**
CDF pmax pmax
comp=Z,33nm,1.3s
CDF Champ du Feu 65.24 45 *e*P **P 02 16 14.2 -1.0**
comp=Z,33nm,1.3s
TOA0 Torodi Ar. Sit 65.39 84 *e*P **P 02 16 16.2 -0.5**
TORD Torodi Ar. Bea 65.39 84 P **P 02 16 16.2 -0.5**
comp=Z,16nm,0.8s,baz=289,slow=4.6,SNR=76
TORD LR LR 02 41 36.1
comp=Z,312nm,19.8s,baz=275,slow=33
TORD Torodi Ar. Bea 65.39 84 P **P 02 16 16.2 -0.5**
IBBN Ibbenburen 65.51 40 *e*P **P 02 16 17.3 +0.5**
comp=Z,51nm,1.4s
IBBN *e*L L 02 42 17.0
comp=Z,618nm,18.9s
DAWY Dawson 65.55 332 *e*P **P 02 16 17.2 +0.2**
LANF Langenberg 65.57 44 *e*P **P 02 16 17.5 +0.2**
LANF Langenberg 65.57 44 *e*P **P 02 16 17.5 +0.2**
LANF Langenberg 65.57 44 *e*P **P 02 16 17.5 +0.2**
FELD Feldberg im Sc 65.74 45 *e*P **P 02 16 18.0 -0.5**
BFO Black Forest 65.94 45 *e*P **P 02 16 19.4 -0.3**
comp=Z,9.0nm,1.3s
BFO *e*L L 02 42 03.9
comp=Z,174nm,20.8s
TNS Taunus Mts 65.96 43 *e*P **P 02 16 20.2 +0.4**
comp=Z,22nm,1.5s
TNS *e*L L 02 41 17.7
comp=Z,293nm,19.3s
MUD Monsted U'grnd 66.38 36 *i* P **P 02 16 23.0 +0.7**
comp=Z,17nm,1.1s
STU Stuttgart 66.50 44 *e*P **P 02 16 22.9 -0.3**
STU pmax pmax
comp=Z,9.0nm,0.6s
STU Stuttgart 66.50 44 *e*P **P 02 16 23.2 0.0**
comp=Z,13nm,0.9s
STU *e*L L 02 39 17.6
comp=Z,199nm,21.0s
STU Stuttgart 66.50 44 *e*P **P 02 16 22.9 -0.3**
comp=Z,9.0nm,0.6s
TAM Tamanrasset 66.72 73 *e*P **P 02 16 26.5 +1.2**
TAM pmax pmax
comp=Z,19nm,0.8s
TAM Tamanrasset 66.72 73 *e*P **P 02 16 26.5 +1.2**
comp=Z,19nm,0.8s
UBBA Unterbreizbach 66.94 42 *e*P **P 02 16 26.3 +0.5**
comp=Z,23nm,1.7s
UBBA *e*L L 02 40 30.0
comp=Z,280nm,21.6s
NRDL Niedersach Rie 66.95 40 *e*P **P 02 16 26.4 +0.5**
comp=Z,21nm,1.1s
NRDL *e*L L 02 43 02.2
comp=Z,476nm,19.6s
DAVA Damuels 67.04 46⇓ *i*P **P 02 16 27.2 +0.3**
comp=Z,22nm,1.2s
BSEG Bad Segeberg 67.04 39 *e*P **P 02 16 26.7 +0.2**
comp=Z,23nm,0.9s
BSEG *e*L L 02 43 55.1
comp=Z,394nm,19.2s
CLZ Clausthal 67.13 41 *e*P **P 02 16 27.7 +0.4**
comp=Z,14nm,0.8s
CLZ *e*L L 02 40 35.7
comp=Z,518nm,21.7s
NAO01 NORSAR Array S 67.37 31 *e*P **P 02 16 29.1 +0.5**
comp=Z,18nm,0.9s
NB2 NORSAR Subarra 67.53 31 P **P 02 16 30.0 +0.4**
baz=269,slow=6.5
NB2 NORSAR Subarra 67.53 31 P **P 02 16 30.0 +0.4**
comp=Z,20nm,1.0s,baz=269,slow=6.5
NOA NORSAR Array B 67.53 31 P **P 02 16 30.2 +0.6**
comp=Z,10nm,0.9s,baz=269,slow=6.3,SNR=27
NOA LR LR 02 44 01.7
comp=Z,242nm,18.5s,baz=275,slow=34
NOA NORSAR Array B 67.53 31 P **P 02 16 30.2 +0.6**
DOT Dot Lake 67.58 332 *e*P **P 02 16 30.1 +0.3**
comp=Z,43nm,1.6s
RETA Reutte 67.62 46⇓ *i*P **P 02 16 30.6 +0.1**
comp=Z,17nm,1.0s,SNR=5.9
FETA Feichten 67.63 46⇓ *i*P **P 02 16 31.1 +0.4**
comp=Z,25nm,1.3s,SNR=7.7
BMRM Bremner River 67.77 329 *e*P **P 02 16 31.9 +0.8**
comp=Z,41nm,1.0s
GRF Grafenberg Arr 67.78 43 *e*P **P 02 16 31.6 +0.3**
comp=Z,15nm,1.4s
GRF *e*L L 02 39 32.1
comp=Z,408nm,21.7s
KEST Kesra 67.81 58 P **P 02 16 32.5 +0.6**
comp=Z,6.4nm,0.7s,baz=197,slow=3.0,SNR=24
KEST LR LR 02 42 20.5
comp=Z,62nm,19.1s,baz=273,slow=32
KEST Kesra 67.81 58 *e*P **P 02 16 32.3 +0.4**
MOTA Moosalm 67.86 46⇓ *i*P **P 02 16 32.1 0.0**
comp=Z,7.9nm,0.8s,SNR=7.5
FUR Furstenfeldbru 67.92 45 *e*P **P 02 16 32.5 +0.2**
comp=Z,33nm,1.3s
FUR *e*L L 02 43 21.8
comp=Z,213nm,20.2s
MOX Moxa 67.97 42 *e*P **P 02 16 32.3 -0.2**
comp=Z,27nm,1.8s
MOX *e*L L 02 40 38.0
comp=Z,336nm,21.5s
PAX Paxson 68.20 331 *e*P **P 02 16 34.0 +0.1**
PAX pmax pmax
comp=Z,14nm,0.9s
PAX Paxson 68.20 331 *e*P **P 02 16 34.0 +0.1**
comp=Z,14nm,0.9s
ROTZ Rotzenmuhle 68.41 43 *e*P **P 02 16 35.8 +0.5**
comp=Z,8.0nm,0.9s
ROTZ *e*L L 02 40 51.0
comp=Z,305nm,22.0s
TANN Tannenbergstha 68.53 42 *e*P **P 02 16 36.2 +0.1**
comp=Z,12nm,1.1s
TANN *e*L L 02 41 28.8
comp=Z,280nm,21.7s
NKC Novy Kostel 68.53 43 *e*P **P 02 16 36.3 +0.2**
NKC Novy Kostel 68.53 43 *e*P **P 02 16 36.3 +0.2**
CLL Collm 68.80 41⇓ *i*P **P 02 16 37.5 -0.2**
CLL *i* 02 16 46.8
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,400nm,21.9s
CLL Collm 68.80 41 *e*P **P 02 16 37.8 +0.1**
comp=Z,10.0nm,0.9s
CLL *e*L L 02 40 50.5
comp=Z,394nm,22.0s
CLL Collm 68.80 41⇓ *i*P **P 02 16 37.5 -0.2**
comp=Z,10.0nm,0.9s
CLL *i* pP **pP 02 16 46.8 +0.3**
CLL Lm MLR 02 40 00.0
comp=Z,400nm,21.9s
ILAR Eielson Array 68.84 333 P **P 02 16 37.2 -0.5**
comp=Z,12nm,0.7s,baz=106,slow=4.7,SNR=110
ILAR LR LR 02 49 14.8
comp=Z,588nm,18.2s,baz=275,slow=38
ILAR Eielson Array 68.84 333 P **P 02 16 37.2 -0.5**
ABTA Abfaltersbach 68.87 46 *i* P **P 02 16 38.5 +0.1**
comp=Z,17nm,1.3s,SNR=9.2
WET Wettzell 68.90 44 *e*P **P 02 16 38.6 +0.2**
comp=Z,11nm,1.1s
WET *e*L L 02 40 16.7
comp=Z,278nm,20.8s
RJOB Jochberg 68.97 45 *e*L L 02 44 26.2
comp=Z,173nm,20.8s
KBS Kingsbay 69.17 12 *i* P **P 02 16 40.3 +0.8**
KBS pmax pmax
comp=Z,23nm,1.2s
KBS MLR MLR
comp=Z,233nm,19.0s
COLA College 69.25 333 *e*P **P 02 16 40.0 -0.2**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 69.25 333 *e*P **P 02 16 40.0 -0.2**
comp=Z,25nm,0.8s
KHC Kasperske Hory 69.36 44 *e*P **P 02 16 41.4 +0.1**
KHC MLR MLR
comp=Z,400nm,15.8s
KHC Kasperske Hory 69.36 44 *e*P **P 02 16 41.0 -0.2**
comp=Z,7.6nm,0.9s
KHC Kasperske Hory 69.36 44 *e*P **P 02 16 41.4 +0.1**
KHC AMS AMS 02 40 20.0
comp=Z,400nm,15.8s
KBA Koelnbreinsper 69.41 46⇑ *i*P **P 02 16 42.0 +0.2**
comp=Z,17nm,1.1s
BRG Berggiesshubel 69.43 42 *e*P **P 02 16 41.9 +0.3**
comp=Z,12nm,0.9s
BRG Berggiesshubel 69.43 42 *e*P **P 02 16 41.9 +0.3**
BRG pmax pmax
comp=Z,12nm,0.9s
BRG Berggiesshubel 69.43 42 *e*P **P 02 16 41.9 +0.3**
comp=Z,12nm,0.9s
BRG *e*L L 02 41 21.3
comp=Z,425nm,21.5s
GEC2 GERESS Array S 69.46 44 *e*P **P 02 16 42.0 0.0**
comp=Z,18nm,1.6s
GEC2 *e*L L 02 40 44.1
comp=Z,178nm,20.5s
GERES GERESS Array B 69.46 44 P **P 02 16 41.2 -0.8**
comp=Z,1.6nm,0.6s,baz=265,slow=5.0,SNR=15
GERES LR LR 02 40 54.8
comp=Z,174nm,21.6s,baz=57,slow=30
GERES GERESS Array B 69.46 44 P **P 02 16 41.2 -0.8**
SML Sawmill 69.55 330 *e*P **P 02 16 41.3 -0.9**
SML pmax pmax
comp=Z,5.0nm,0.9s
SML Sawmill 69.55 330 *e*P **P 02 16 41.3 -0.9**
comp=Z,4.7nm,0.9s
MYKA Terra Mystica 69.66 46⇑ *i*P **P 02 16 42.4 -0.8**
comp=Z,9.8nm,0.9s
PVCC Panska Ves 69.86 42 *e*P **P 02 16 45.0 +0.7**
PVCC Panska Ves 69.86 42 *e*P **P 02 16 45.0 +0.7**
PRU Pruhonice 69.89 43 *e*P **P 02 16 45.0 +0.5**
PRU MLR MLR
comp=Z,400nm,16.7s
PRU Pruhonice 69.89 43 *e*P **P 02 16 45.0 +0.5**
PRU AMS AMS 02 40 30.0
comp=Z,400nm,16.7s
PMR Palmer 69.94 330 *e*P **P 02 16 43.9 -0.6**
PMR pmax pmax
comp=Z,15nm,0.9s
PMR Palmer 69.94 330 *e*P **P 02 16 43.9 -0.6**
comp=Z,15nm,0.9s
COLD Coldfoot 70.16 336 *e*P **P 02 16 46.0 +0.2**
comp=Z,15nm,1.0s
TRF Thorofare Moun 70.37 332 *e*P **P 02 16 46.9 -0.5**
comp=Z,53nm,0.9s
TREC Trest 70.58 43 AMS AMS 02 39 40.0
comp=Z,300nm,15.8s
UPC Upice 70.78 42 *e*P **P 02 16 50.6 +0.7**
UPC Upice 70.78 42 *e*P **P 02 16 50.6 +0.7**
ARSA Arzberg 70.86 46⇑ *i*P **P 02 16 50.2 -0.4**
comp=Z,13nm,1.3s,SNR=7.6
KSP Ksiaz 70.91 42 *e*P **P 02 16 50.3 -0.4**
DPC Dobruska-Polom 70.99 42 *e*P **P 02 16 51.7 +0.4**
DPC MLR MLR
comp=Z,500nm,21.7s
DPC Dobruska-Polom 70.99 42 *e*P **P 02 16 51.7 +0.4**
DPC AMS AMS 02 42 00.0
comp=Z,500nm,21.7s
CONA Conrad Observa 71.00 45⇑ *i*P **P 02 16 51.3 -0.1**
comp=Z,11nm,1.5s
SOP Sopron 71.50 45⇓ *e*P **P 02 16 54.3 0.0**
MORC Moravsky Berou 71.85 43 ⇓P **P 02 16 57.2 +0.8**
MORC Moravsky Berou 71.85 43 *e*P **P 02 16 56.7 +0.3**
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 71.85 43⇓ *i*P **P 02 16 57.2 +0.8**
KDAK Kodiak Island 72.03 326 P **P 02 16 57.0 -0.2**
comp=Z,15nm,0.9s,baz=67,slow=7.1,SNR=6.9
KDAK Kodiak Island 72.03 326 P **P 02 16 57.0 -0.2**
OKC Ostrava-Krasne 72.22 43 *e*P **P 02 16 59.2 +0.6**
OKC MLR MLR
comp=Z,400nm,17.4s
OKC Ostrava-Krasne 72.22 43 *e*P **P 02 16 59.2 +0.6**
OKC AMS AMS 02 42 20.0
comp=Z,400nm,17.4s
VYHS Vyhne 72.88 44 *e*P **P 02 17 03.0 +0.4**
VYHS pmax pmax
comp=Z,40nm,2.4s
VYHS Vyhne 72.88 44 *e*P **P 02 17 03.0 +0.4**
ARCES ARCESS Array B 72.97 22 P **P 02 17 03.4 +0.6**
comp=Z,22nm,0.7s,baz=273,slow=3.8,SNR=76
ARCES LR LR 02 43 09.8
comp=Z,139nm,21.2s,baz=106,slow=31
ARCES ARCESS Array B 72.97 22 P **P 02 17 03.4 +0.6**
ARE0 ARCESS Array S 72.97 22 *e*P **P 02 17 03.0 +0.2**
PKSM Moragy 73.14 46 ⇓P **P 02 17 04.9 +0.8**
PKSM Moragy 73.14 46⇓ *i*P **P 02 17 04.8 +0.7**
PKSM Moragy 73.14 46⇓ *e*P **P 02 17 04.4 +0.3**
BUD Budapest 73.18 45⇓ *e*P **P 02 17 04.5 +0.2**
OJC Ojcow 73.22 42 *e*P **P 02 17 05.2 +0.7**
OJC Ojcow 73.22 42 *e*P **P 02 17 05.2 +0.7**
KEV Kevo 73.45 21 *e*P **P 02 17 04.3 -1.2**
KEV pmax pmax
comp=Z,8.0nm,0.7s
KEV Kevo 73.45 21 *e*p **P 02 17 04.3 -1.2**
comp=Z,7.6nm,0.7s
BEL Belsk 73.56 40 *e*P **P 02 17 07.9 +1.4**
BEL LMZ LR 02 42 16.5
comp=Z,300nm,27.8s
BEL Belsk 73.56 40 *e*P **P 02 17 07.8 +1.4**
BEL LMZ LR 02 42 16.4
PSZ Piszkesteto 73.68 44 ⇑P **P 02 17 08.6 +1.2**
PSZ Piszkesteto 73.68 44 *e*P **P 02 17 08.1 +0.7**
comp=Z,33nm,1.4s
PSZ Piszkesteto 73.68 44⇑ *i*P **P 02 17 08.6 +1.2**
PSZ Piszkesteto 73.68 44⇓ *e*P **P 02 17 08.2 +0.8**
NIE Niedzica 73.68 43 *e*P **P 02 17 08.7 +1.4**
NIE Niedzica 73.68 43 *e*P **P 02 17 08.7 +1.4**
SUW Suwalki 74.58 38 *e*P **P 02 17 12.7 +0.3**
SUW LMZ LR 02 44 39.7
comp=Z,300nm,22.1s
SUW Suwalki 74.58 38 *e*P **P 02 17 12.4 0.0**
SUW pmax pmax
comp=Z,29nm,1.1s
SUW Suwalki 74.58 38 *e*P **P 02 17 12.4 0.0**
comp=Z,29nm,1.1s
SUW Suwalki 74.58 38 *e*P **P 02 17 12.7 +0.3**
SUW LMZ LR 02 44 39.7
KAF Kangasniemi 74.61 29 *e*P **P 02 17 11.1 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 74.61 29 *e*p **P 02 17 11.1 -1.3**
comp=Z,10nm,0.8s
FINES FINESS Array B 74.64 30 P **P 02 17 13.0 +0.4**
comp=Z,10nm,0.6s,baz=280,slow=4.2,SNR=63
FINES LR LR 02 44 56.4
comp=Z,214nm,20.6s,baz=312,slow=32
FINES FINESS Array B 74.64 30 P **P 02 17 13.0 +0.4**
FIA1 FINESS Array S 74.64 30 *e*P **P 02 17 12.7 +0.1**
KOLS Kolonicke sedl 75.04 43 *e*P **P 02 17 16.4 +1.2**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 75.04 43 *e*P **P 02 17 16.4 +1.2**
UZH Uzhgorod 75.11 43 *e*P **P 02 17 15.2 -0.4**
UZH *i* 02 17 23.8
KWP Kalwaria Pacla 75.17 42 *e*P **P 02 17 17.5 +1.6**
KWP LMZ LR 02 42 55.8
comp=Z,300nm,27.4s
KWP Kalwaria Pacla 75.17 42 ⇑P **P 02 17 17.9 +1.9**
KWP Kalwaria Pacla 75.17 42 *e*P **P 02 17 17.3 +1.3**
comp=Z,35nm,1.0s
KWP Kalwaria Pacla 75.17 42⇑ *i*P **P 02 17 17.9 +1.9**
KWP Kalwaria Pacla 75.17 42 *e*P **P 02 17 17.5 +1.6**
KWP LMZ LR 02 42 55.7
BZS Buzias 75.30 46 ⇑P **P 02 17 17.3 +0.6**
BZS Buzias 75.30 46⇑ *i*P **P 02 17 17.3 +0.6**
TRPA Tarpa 75.38 44⇓ *i*P **P 02 17 18.2 +1.1**
TRPA Tarpa 75.38 44⇓ *e*P **P 02 17 17.9 +0.8**
CHGN Chignik 75.42 325 *e*P **P 02 17 17.6 +0.4**
VSU Vasula 75.59 33 *d i*P **P 02 17 18.0 -0.1**
VSU pmax pmax
comp=Z,50nm,1.6s
DRGR 75.78 45 ⇑P **P 02 17 20.2 +0.6**
DRGR 75.78 45⇑ *i*P **P 02 17 20.2 +0.6**
BIA Bitola 76.10 51 *e*P **P 02 17 21.5 0.0**
BMR Baia Mare 76.11 44 ⇑P **P 02 17 22.6 +1.3**
BMR Baia Mare 76.11 44⇑ *i*P **P 02 17 22.6 +1.3**
NACGM Naroch 76.44 36 *e* P 02 17 20.0 -3.0
LVZ Lovozero 76.59 22 *i* P **P 02 17 24.5 +0.8**
LVZ pmax pmax
comp=Z,80nm,2.2s
LVZ MLR MLR
comp=Z,108nm,18.0s
JOF Joensuu 76.68 28 *e*P **P 02 17 22.8 -1.4**
JOF pmax pmax
comp=Z,11nm,0.8s

JOF	**Joensuu**	**76.68**	**28**	*ep*		**P**		**02 17 22.8**	**-1.4**
	comp=Z,11nm,0.8s								
VAY	**Valandovo**	**76.94**	**51**	*eP*		**P**		**02 17 27.4**	**+1.2**
VTS	**Vitosha**	**77.10**	**49**	⇑*iP*		**P**		**02 17 28.5**	**+1.3**
VTS	**Vitosha**	**77.10**	**49**	⇑*iP*		**P**		**02 17 28.5**	**+1.3**
VTS	**Vitosha**	**77.10**	**49**	P		**P**		**02 17 27.8**	**+0.6**
BUR08	**Bucovina Ar. S**	**77.23**	**44**	*eP*		**P**		**02 17 28.9**	**+1.1**
BURAR	**Bucovina Array**	**77.25**	**44**	⇓*iP*		**P**		**02 17 29.3**	**+1.4**
MPEP	**Malo Peshtene**	**77.29**	**48**	P		**P**		**02 17 28.6**	**+0.5**
ARR	**Arges**	**77.42**	**46**	⇓*iP*		**P**		**02 17 29.8**	**+0.9**
TNA	**Tin City**	**77.45**	**335**	*eP*		**P**		**02 17 30.1**	**+1.6**
	comp=Z,19nm,0.9s								
VOIR		**77.68**	**46**	⇑*iP*		**P**		**02 17 31.2**	**+0.8**
VOIR		**77.68**	**46**	⇑*iP*		**P**		**02 17 31.2**	**+0.8**
MMB	**Musomiste**	**77.72**	**50**	P		**P**		**02 17 31.7**	**+1.1**
MLR	**Muntele Rosu**	**78.28**	**46**	⇑*iP*		**P**		**02 17 35.6**	**+1.9**
RZN	**Rozhen**	**78.41**	**50**	P		**P**		**02 17 35.5**	**+0.9**
TESR		**78.48**	**45**	⇑*iP*		**P**		**02 17 34.5**	**-0.2**
PLOR	**Plostina**	**78.66**	**45**	⇑P		**P**		**02 17 36.8**	**+1.1**
PLOR	**Plostina**	**78.66**	**45**	⇑*iP*		**P**		**02 17 36.8**	**+1.1**
VRI	**Vrincioaia**	**78.71**	**45**	⇑P		**P**		**02 17 37.3**	**+1.3**
VRI	**Vrincioaia**	**78.71**	**45**	⇑*iP*		**P**		**02 17 37.3**	**+1.3**
ISR	**Istrita**	**78.78**	**46**	⇓P		**P**		**02 17 37.1**	**+0.7**
ISR	**Istrita**	**78.78**	**46**	⇓*iP*		**P**		**02 17 37.1**	**+0.7**
SZH	**Strazhica**	**78.86**	**48**	P		**P**		**02 17 37.9**	**+1.1**
DIM	**Dimitrovgrad**	**78.91**	**49**	P		**P**		**02 17 38.1**	**+1.0**
KIEV	**Kiev**	**78.96**	**40**	*eP*		**P**		**02 17 37.4**	**+0.2**
KIEV					pmax	pmax			
	comp=Z,17nm,1.1s								
KIEV	**Kiev**	**78.96**	**40**	*eP*		**P**		**02 17 37.4**	**+0.2**
	comp=Z,17nm,1.1s								
AK01	**Malin Array Si**	**78.97**	**40**	*eP*		**P**		**02 17 37.2**	**0.0**
AKASG	**Malin Array Be**	**78.97**	**40**	P		**P**		**02 17 37.3**	**0.0**
	comp=Z,10nm,0.9s,baz=280,slow=4.6,SNR=22								
AKASG					LR	LR		02 48 07.2	
	comp=Z,346nm,21.1s,baz=265,slow=32								
AKASG	**Malin Array Be**	**78.97**	**40**	P		**P**		**02 17 37.3**	**0.0**
AKASG	**Malin Array Be**	**78.97**	**40**	P		**P**		**02 17 37.3**	**0.0**
AK02	**Malin Array Si**	**78.97**	**40**	*eP*		**P**		**02 17 37.3**	**+0.1**
TMCR	**Tamitsa**	**79.14**	**26**	*eP*		**P**		**02 17 36.9**	**-1.0**
TMCR					pmax	pmax			
	comp=Z,44nm,1.3s								
GVD	**Gavdhos**	**79.78**	**57**	*eP*		**P**		**02 17 42.1**	**+0.1**
	comp=Z,186nm,0.8s								
NEF	**NEVSHA**	**79.80**	**48**	P		**P**		**02 17 42.7**	**+0.7**
CFR	**Carcaliu**	**79.85**	**46**	⇑P		**P**		**02 17 41.7**	**-0.4**
CFR	**Carcaliu**	**79.85**	**46**	⇑*iP*		**P**		**02 17 41.7**	**-0.4**
TIRR	**Tirgusor**	**80.25**	**46**	⇓P		**P**		**02 17 43.7**	**-0.6**
TIRR	**Tirgusor**	**80.25**	**46**	*eP*		**P**		**02 17 44.5**	**+0.2**
	comp=Z,12nm,0.8s								
TIRR	**Tirgusor**	**80.25**	**46**	⇓*iP*		**P**		**02 17 43.7**	**-0.6**
IDI	**Anoyia**	**80.28**	**56**	*eP*		**P**		**02 17 45.9**	**+1.1**
	comp=Z,50nm,0.6s								
KLMR	**Klimovskoe**	**81.03**	**28**	*eP*		**P**		**02 17 46.0**	**-2.1**
KLMR					pmax	pmax			
	comp=Z,68nm,1.5s								
OBN	**Obninsk**	**81.75**	**34**	⇓*eP*		**P**		**02 17 52.5**	**+0.5**
OBN				*e*				02 20 54.8	
OBN				*e*SS		SS		02 33 20.8	+0.4
OBN					pmax	pmax			
	comp=Z,123nm,1.7s								
OBN					MLR	MLR			
	comp=Z,300nm,20.0s								
OBN	**Obninsk**	**81.75**	**34**	*eP*		**P**		**02 17 52.4**	**+0.3**
	comp=Z,91nm,1.3s								
MOS	**Moscow**	**82.07**	**34**	*eP*		**P**		**02 17 53.6**	**-0.2**
MOS					pmax	pmax			
	comp=Z,74nm,1.3s								
VSR	**Storozhevoye**	**84.69**	**37**	*eP*		**P**		**02 18 07.5**	**+0.1**
VORD	**Divnogorie**	**84.87**	**38**	*eP*		**P**		**02 18 08.6**	**+0.4**
BR131	**Keskin Array S**	**85.47**	**50**	*eP*		**P**		**02 18 12.0**	**+0.3**
	comp=Z,8.9nm,0.8s								
BRTR	**Keskin Array B**	**85.47**	**50**	P		**P**		**02 18 12.1**	**+0.3**
	comp=Z,9.5nm,0.8s,baz=271,slow=3.2,SNR=41								
BRTR					LR	LR		02 52 18.2	
	comp=Z,101nm,21.5s,baz=289,slow=33								
BRTR	**Keskin Array B**	**85.47**	**50**	P		**P**		**02 18 12.1**	**+0.3**
VRHR	**Novokhopersk**	**86.15**	**37**	*eP*		**P**		**02 18 15.1**	**+0.5**
VRHR					pmax	pmax			
	comp=N,10.0nm,0.9s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.9s								
VRHR					pmax	pmax			
	comp=Z,50nm,0.9s								
VRHR					MLR	MLR			
	comp=Z,320nm,17.0s								
VRHR					MLR	MLR			
	comp=N,30nm,8.0s								
VRHR					MLR	MLR			
	comp=E,230nm,17.0s								
CSS	**Prodhromos**	**86.94**	**54**	*eP*		**P**		**02 18 20.0**	**+1.1**
	comp=E,28nm,0.9s								
MMAI	**Mount Meron Ar**	**89.26**	**55**	LR		LR		02 58 31.1	
	comp=E,73nm,19.3s,baz=320,slow=36								
PPT	**Papeete**	**89.40**	**251**	LR		LR		02 51 13.8	
	comp=E,239nm,18.1s,baz=66,slow=31								
PPT2	**Papeete2**	**89.41**	**251**	*e*LR		LR		02 47 22.5	
	comp=E,200nm,23.0s								
KIV	**Kislovodsk**	**89.95**	**43**	*eP*		**P**		**02 18 34.3**	**+1.2**
KIV					pmax	pmax			
	comp=Z,8.0nm,1.0s								
KIV	**Kislovodsk**	**89.95**	**43**	*eP*		**P**		**02 18 33.4**	**+0.2**
	comp=Z,12nm,1.0s								
EIL	**Elat**	**90.15**	**59**	LR		LR		02 54 19.6	
	comp=Z,53nm,20.4s,baz=92,slow=32								
KBZ	**Khabaz**	**90.19**	**43**	P		**P**		**02 18 36.0**	**+1.9**
	comp=Z,8.2nm,0.9s,baz=286,slow=2.1,SNR=13								
KBZ					LR	LR		02 54 28.3	
	comp=Z,115nm,19.5s,baz=144,slow=32								
KBZ	**Khabaz**	**90.19**	**43**	P		**P**		**02 18 36.0**	**+1.9**
KBZ	**Khabaz**	**90.19**	**43**	P		**P**		**02 18 36.0**	**+1.9**
TSUM	**Tsumeb**	**90.77**	**110**	*eP*		**P**		**02 18 38.1**	**+0.8**
	comp=Z,4.3nm,0.9s								
ZEI	**Tsey**	**91.28**	**44**	*eP*		**P**		**02 18 40.5**	**+1.0**
ZEI					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**91.79**	**27**	P		**P**		**02 18 41.8**	**+0.6**
ARU								02 22 18.5	
ARU					S		**SKSac**	**02 29 12.3**	**+0.2**
ARU	**Arti**	**91.79**	**27**	*eP*		**P**		**02 18 41.9**	**+0.7**
	comp=Z,15nm,1.3s								
FX1	**Attu Island--F**	**91.80**	**328**	LR		LR		02 58 17.9	
	comp=Z,201nm,21.9s,baz=225,slow=34								
SVE	**Sverdlovsk**	**92.41**	**26**	⇓*iP*		**P**		**02 18 45.2**	**+1.1**
SVE					pmax	pmax			
	comp=Z,27nm,0.9s								
SEY	**Seymchan**	**92.75**	**343**	⇑*eP*		**P**		**02 18 46.9**	**+1.4**
GNI	**Garni**	**93.06**	**46**	LR		LR		03 01 34.6	
	comp=Z,83nm,18.6s,baz=286,slow=36								
GNI	**Garni**	**93.06**	**46**	*eP*		**P**		**02 18 47.7**	**0.0**
	comp=Z,11nm,0.9s								
AKTO	**Aktyubinsk**	**95.31**	**32**	LR		LR		03 00 43.0	
	comp=Z,255nm,18.8s,baz=141,slow=35								
ABKAR	**Akbulak array**	**97.02**	**32**	*eP*			Pdif	02 19 06.0	+0.5
	comp=Z,1.7nm,0.8s								
BRVK	**Borovoye**	**99.01**	**25**	*i* P		**Pdif**		**02 19 14.7**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BRVK					MLR	MLR			
	comp=Z,177nm,20.0s								
BVAR	**Borovoye Array**	**99.08**	**25**	LR		LR		03 02 32.3	
	comp=Z,164nm,20.5s,baz=39,slow=34								
MKAR	**Makanchi Array**	**108.62**	**22**	PKKPbc		PKKPbc		02 35 10.0	-2.9
	comp=Z,0.6nm,0.7s,baz=127,slow=3.2,SNR=4.9								
MKAR	**Makanchi Array**	**108.62**	**22**	PKKPbc		PKKPbc		02 35 10.0	-2.9
HABR	**Khabarovsk**	**110.06**	**345**	*i* PKIKP		**PKiKP**		**02 24 03.5**	**-1.6**
HABR				*e*				02 24 10.6	
HABR								02 24 37.3	
HABR				*e*PS		**PS**		**02 34 06.2**	**-0.9**
HABR				SS		SS		02 40 02.4	+2.0
HABR				*e*SSS		SSS		02 44 08.7	
HABR					pmax	pmax			
	comp=E,138nm,3.5s								
HABR					pmax	pmax			
	comp=N,64nm,2.3s								
HABR					pmax	pmax			
	comp=Z,61nm,2.0s								
HABR					MLR	MLR			
	comp=Z,238nm,22.0s								
KSH	**Kashi**	**111.95**	**31**	*e*PKP		**PKiKP**		**02 24 05.6**	**-3.5**
KSH				*es*PKP				02 24 21.8	
KSH				*e*PP		**PP**		**02 24 54.5**	**+2.8**
KSH				PKS		**PKSdf**		**02 27 42.9**	**-3.0**
KSH				AMB		AMB			
	comp=Z,72nm,5.3s								
KSH					LR	LR			
	comp=N,71nm,5.2s								
KSH					LR	LR			
	comp=E,88nm,5.0s								
KSH					LR	LR			
	comp=Z,160nm,11.6s								
WMQ	**Urumqi**	**113.07**	**20**	PKP		**PKiKP**		**02 24 10.7**	**-0.3**
WMQ					LR	LR			
	comp=N,150nm,20.0s								
WMQ					LR	LR			
	comp=E,130nm,24.0s								
MDJ	**Mudanjiang**	**114.94**	**347**	PKP		PKPdf		02 24 18.8	+4.3
CN2	**Changchun**	**116.48**	**350**	*e*PKP		**PKPdf**		**02 24 20.4**	**+2.9**
VNDA	**Vanda**	**117.00**	**191**	*e*PKPdf		**PKPdf**		**02 24 18.2**	**+0.7**
HHC	**Hu-ho-hao-te**	**120.35**	**2**	*e*PKP		**PKPdf**		**02 24 21.7**	**-3.5**
HHC				sPKP				02 24 35.3	
HHC				PKS		**PKSdf**		**02 27 57.5**	**-4.5**
HHC				AMB		AMB			
	comp=Z,390nm,9.0s								
HHC					LR	LR			
	comp=Z,450nm,20.7s								
GTA	**Gaotai**	**120.41**	**12**	*e*PKP		PKPdf		02 24 32.5	+7.1
GTA				PP		PP		02 26 02.7	+12
GTA				PKS		PKSdf		02 28 07.6	+5.4
GTA				AMB		AMB			
	comp=Z,180nm,5.9s								
GTA					LR	LR			
	comp=N,260nm,19.0s								
GTA					LR	LR			
	comp=E,200nm,18.1s								
GTA					LR	LR			
	comp=Z,290nm,18.1s								
KSRS	**Korea Array**	**122.16**	**347**	PKP		**PKPdf**		**02 24 28.3**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=31,slow=1.2,SNR=6.7								
KSAR	**Wonju Array Be**	**122.18**	**347**	PKP		**PKPdf**		**02 24 28.3**	**-0.3**
LZH	**Lanzhou**	**124.37**	**10**	*e*PKP		**PKPdf**		**02 24 32.5**	**-0.6**
LZH				sPKP				02 24 43.5	
LZH				LR		LR			
	comp=N,140nm,18.0s								
LZH				LR		LR			
	comp=E,140nm,17.9s								
LZH				LR		LR			
	comp=Z,180nm,20.0s								
CD2	**Chengdu**	**129.41**	**11**	sPKP				02 24 55.9	
CD2				PP		**PP**		**02 26 54.3**	**+3.7**
CD2				PKS		**PKSdf**		**02 28 16.6**	**-2.9**
CD2				SKS		**SKSdf**		**02 31 49.0**	**-3.8**
CD2				SKKS		**SKKSac**		**02 33 42.6**	**-4.9**
CD2				SS		**SS**		**02 44 10.2**	**+0.5**
CD2				AMB		AMB			
	comp=Z,80nm,5.9s								
CD2					LR	LR			
	comp=E,260nm,6.5s								
CD2					LR	LR			
	comp=Z,170nm,7.1s								
DZM	**Mont Dzumac**	**130.59**	**257**	*e*LR		LR		03 06 25.6	
	comp=Z,511nm,26.8s								
GYA	**Guiyang**	**134.24**	**9**	Pdif		**Pdif**		**02 21 53.9**	**+2.2**
GYA				PKP		**PKiKP**		**02 24 55.9**	**+2.5**
GYA				PP		PP		02 27 30.8	+9.1
GYA				PKS		**PKSdf**		**02 28 30.5**	**+1.8**
GYA				SKKS				02 34 19.0	
GYA				SS		**SS**		**02 45 13.6**	**+4.9**
GYA				AMB		AMB			
	comp=Z,120nm,7.6s								
GYA					LR	LR			
	comp=N,130nm,20.4s								
GYA					LR	LR			
	comp=E,120nm,21.2s								
KMI	**Kunming**	**134.82**	**14**	PKP		**PKPdf**		**02 24 55.9**	**+2.6**
KMI				sPKP				02 25 03.3	
KMI				LR		LR			
	comp=N,180nm,23.5s								
KMI					LR	LR			
	comp=E,350nm,27.6s								
KMI					LR	LR			
	comp=Z,190nm,20.0s								
CMAR	**Chiang Mai Arr**	**140.03**	**22**	PKP		**PKPdf**		**02 25 03.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=303,slow=2.3,SNR=8.4								
CMAR	**Chiang Mai Arr**	**140.03**	**22**	PKP		**PKPdf**		**02 25 03.7**	**+0.9**
PMG	**Port Moresby**	**146.09**	**282**	PKPbc		**PKPbc**		**02 25 14.9**	**+0.5**
	comp=Z,5.3nm,0.4s,baz=341,slow=4.6,SNR=4.2								
PMG	**Port Moresby**	**146.09**	**282**	*e*PKPdf		**PKPdf**		**02 25 14.2**	**+0.6**
PMG				PKPbc		**PKPbc**		**02 25 14.9**	**+0.5**
CTA	**Charters Tower**	**149.19**	**263**	PKP		**PKPdf**		**02 25 18.9**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=54,slow=9.6,SNR=4.3								
CTA				PKPbc		**PKiKP**		**02 25 23.7**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=86,slow=3.4,SNR=5.2								
CTA	**Charters Tower**	**149.19**	**263**	PKP		**PKPdf**		**02 25 18.9**	**+0.4**
CTA				PKPbc		**PKiKP**		**02 25 23.7**	**-0.3**
CTAO	**Charters Tower**	**149.19**	**263**	*e*PKHKP		PKPpre		02 25 19.0	
CTAO				*e*				02 25 23.9	
CTAO	**Charters Tower**	**149.19**	**263**	*e*PKPdf		**PKPdf**		**02 25 19.0**	**+0.4**
CTAO				*e*PKPbc		**PKiKP**		**02 25 23.9**	**-0.1**
COEN	**Coen**	**151.16**	**276**	*e*PKPbc		**PKPbc**		**02 25 27.9**	**+0.3**
COEN				*e*PKPab		**PKPab**		**02 25 35.3**	**-0.2**
STKA	**Stephens Creek**	**151.75**	**238**	PKP		**PKPdf**		**02 25 22.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=35,slow=1.7,SNR=6.8								
STKA				PKPbc		**PKPbc**		**02 25 28.6**	**+0.1**
	comp=Z,32nm,0.7s,baz=58,slow=1.8,SNR=60								
STKA	**Stephens Creek**	**151.75**	**238**	PKP		**PKPdf**		**02 25 22.2**	**0.0**
STKA				*e*PKPbc		**PKPbc**		**02 25 28.3**	**-0.3**
STKA				PKPbc		**PKPbc**		**02 25 28.6**	**+0.1**
BBOO	**Buckleboo**	**155.64**	**231**	*e*PKPbc		PKPdf		02 25 36.6	+8.9
BBOO				*e*PKPab		**PKPab**		**02 25 53.6**	**-0.3**
WRAB	**Tennant Creek**	**160.37**	**264**	*e*PKIKP		**PKPdf**		**02 25 32.9**	**-1.0**
WRAB				*e*				02 26 15.0	
WRAB	**Tennant Creek**	**160.37**	**264**	*e*PKPdf		**PKPdf**		**02 25 32.9**	**-1.0**
WRAB				*e*PKPab		**PKPab**		**02 26 15.0**	**+0.2**
WRA	**Warramunga Arr**	**160.38**	**264**	PKP		**PKPdf**		**02 25 33.0**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=72,slow=1.0,SNR=40								
WRA				PKPab		**PKPab**		**02 26 15.2**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=84,slow=4.2,SNR=9.6								
WRA	**Warramunga Arr**	**160.38**	**264**	PKP		**PKPdf**		**02 25 33.0**	**-0.9**
WRA				PKPab		**PKPab**		**02 26 15.2**	**+0.3**
ASAR	**Alice Springs**	**160.51**	**253**	PKP		**PKPdf**		**02 25 33.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=89,slow=1.2,SNR=15								
ASAR				PKPab		**PKPab**		**02 26 14.9**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=104,slow=4.3,SNR=15								
ASAR	**Alice Springs**	**160.51**	**253**	PKP		**PKPdf**		**02 25 33.4**	**-0.6**
ASAR				PKPab		**PKPab**		**02 26 14.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**168.49**	**273**	PKPab		**PKPab**		**02 26 50.3**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=25,slow=14,SNR=4.3								
FITZ	**Fitzroy Crossi**	**168.49**	**273**	PKPab		**PKPab**		**02 26 50.3**	**-0.3**

CSEM ***12*** *02:22:38.6±0.7,38°.41N×25°.47E, h2km, MD2.8, Error ellipse: s-maj=16.2km s-min=8.8km az=126.0*
DDA ***12*** *02:22:40.5,38°.57N×25°.65E, h9km, MD2.8*
ISK ***12*** *02:22:41.1,38°.31N×25°.71E, h12km, MD3.1*

ISC 12 02:22:39.5±2.1, 38°.47N±0°.04×25°.48E±0°.08, h17km±12km, n22, σ0.97/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.88**	**97**	*i* P		**Pg**	**02 22 56.9**	**+0.2**
URLA				*i* S		**Sg**	**02 23 08.0**	**-0.3**
URLA	**Izmir**	**0.88**	**97**	*i* P		**Pg**	**02 22 56.9**	**+0.2**
URLA				*i* S		**Sg**	**02 23 08.0**	**-0.3**
BLCB	**Balcova**	**1.23**	**94**	*e*PG		**Pn**	**02 23 01.9**	**0.0**
BLCB				*e*SG		**Sb**	**02 23 16.7**	**-1.2**
BLCB	**Balcova**	**1.23**	**94**	*e*Pg		**Pn**	**02 23 01.9**	**0.0**
BLCB				*e*Sg		**Sb**	**02 23 16.7**	**-1.2**
AYVA	**Ayvalik**	**1.26**	**48**	*i* P		**Pn**	**02 23 02.6**	**+0.3**
AYVA				*i* S		**Sb**	**02 23 16.7**	**-2.0**
AYVA	**Ayvalik**	**1.26**	**48**	*i* P		**Pn**	**02 23 02.6**	**+0.3**
IZM	**Izmir**	**1.40**	**93**	*e*PN		**Pn**	**02 23 04.2**	**-0.1**
IZM	**Izmir**	**1.40**	**93**	*e*Pn		**Pn**	**02 23 04.2**	**-0.1**
APE	**Apeiranthos**	**1.40**	**178**	*e*PN		**Pn**	**02 23 04.7**	**+0.4**
APE				*e*SN		**Sn**	**02 23 22.3**	**-0.2**
APE	**Apeiranthos**	**1.40**	**178**	*e*Pn		**Pn**	**02 23 04.7**	**+0.4**
APE				*e*Sn		**Sn**	**02 23 22.3**	**-0.2**
BOZC	**Bozcaada**	**1.44**	**18**	*i* P		**Pn**	**02 23 03.9**	**-0.9**
BOZC				*i* S		**Sn**	**02 23 24.0**	**+0.7**
GCAM	**G?zelcaml?**	**1.58**	**119**	*i* P		**Pn**	**02 23 04.3**	**-2.5**
GCAM				*i* S		**Sg**	**02 23 30.8**	**+0.2**
AKHS	**Akhisar**	**1.87**	**77**	*i* P		**Pb**	**02 23 13.8**	**+0.6**
AKHS				*i* S		**Sb**	**02 23 36.8**	**+0.5**
AKHS	**Akhisar**	**1.87**	**77**	*i* P		**Pb**	**02 23 13.8**	**+0.6**
AKHS				*i* S		**Sb**	**02 23 36.8**	**+0.5**
AKS	**Akhisar**	**1.87**	**77**	*e*PN		**Pn**	**02 23 11.9**	**+1.2**
AKS	**Akhisar**	**1.87**	**77**	*e*Pn		**Pn**	**02 23 12.0**	**+1.2**
BODT	**Bodrum**	**2.02**	**134**	*e*PN		**Pn**	**02 23 12.6**	**-0.3**
BODT	**Bodrum**	**2.02**	**134**	*e*Pn		**Pn**	**02 23 12.6**	**-0.3**
AYDN	**Tasoluk**	**2.06**	**112**	*i* P		**Pb**	**02 23 17.4**	**+1.0**
AYDN				*i* S		**Sg**	**02 23 44.1**	**-1.6**
BALY	**Balya**	**2.09**	**52**	*i* P		**Pn**	**02 23 12.0**	**-1.8**
BALY				*i* S		**Sb**	**02 23 42.8**	**+0.1**
KULA	**Kula-Manisa**	**2.50**	**88**	*e*PN		**Pn**	**02 23 20.6**	**+1.2**
KULA	**Kula-Manisa**	**2.50**	**88**	*e*Pn		**Pn**	**02 23 20.6**	**+1.2**

CASC 12 02:32:12.2±1.4, 8°.59N×83°.18W, h13km±6km, MD4.0, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.06**	**8**	⇑*iP*		**Pg**	**02 32 15.4**	**+0.6**
BUS	**Buena Vista**	**1.12**	**329**	*eP*		**Pb**	**02 32 32.2**	**-1.8**
BUS				*e*S		**Sb**	**02 32 48.4**	**-0.5**
QCR	**Quepos**	**1.28**	**310**	*eP*		**Pn**	**02 32 34.4**	**-1.5**
QCR				*e*S		**Sb**	**02 32 52.5**	**-0.1**
LAJ	**Bijagual**	**1.57**	**324**	*eP*		**Pg**	**02 32 42.6**	**-0.1**
LAJ				*e*S		**Sg**	**02 33 05.2**	**+1.8**
SJS	**Escuela Geolog**	**1.60**	**327**	*eP*		**Pn**	**02 32 38.9**	**-1.5**
CGA2	**Cerro Gallo 2**	**1.90**	**318**	*eP*		**Pn**	**02 32 44.7**	**0.0**
CGA2				*e*S		**Sb**	**02 33 10.2**	**-0.8**

MAN 12 02:37:56,11°.05N×124°.72E, h1km, mb4.2, ML3.0, MS2.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.11**	**269**	*eP*		**Pg**	**02 37 58.9**	**+0.8**
OCLP				*e*S		**Sg**	**02 38 00.9**	**+1.4**
PLP	**Palo**	**0.28**	**66**	⇓*eP*		**Pg**	**02 38 02.3**	**+0.9**
MSLP	**Maasin**	**0.92**	**171**	*eP*		**Pn**	**02 38 15.7**	**-0.5**
MSLP				*e*S		**Sb**	**02 38 28.4**	**+0.8**
LLP	**Lapu-Lapu**	**1.04**	**225**	*eP*		**Pb**	**02 38 16.5**	**-0.3**
LLP				*e*S		**Sb**	**02 38 31.1**	**+0.1**
TBP	**Tagbilaran**	**1.59**	**212**	*eP*		**Pb**	**02 38 26.0**	**-0.2**
TBP				*e*S		**Sg**	**02 38 50.5**	**+3.2**

ISCJB ***12*** *02:38:27.4±0.5,22°.54N±0°.02×121°.76E±0°.02, h15km±4km, Error ellipse: s-maj=3.5km s-min=3.1km az=29.4*
TAP ***12*** *02:38:29.1,22°.54N×121°.66E, h17km, ML3.8, C*
JMA ***12*** *02:38:30.2±0.4,22°.64N×121°.77E, h105km, M3.3*

ISC 12 02:38:27.7±1.1, 22°.54N±0°.02×121°.72E±0°.03, h17km±8km, n52, σ0.88/102, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.52**	**198**	⇓*iP*		**Pg**	**02 38 38.3**	**+0.2**
	baz=190							
LAY					*e*S	**Sg**	**02 38 45.5**	**+0.5**
	baz=190							
TTN	**Taitung**	**0.57**	**292**	*eP*		**Pg**	**02 38 38.7**	**-0.4**
	baz=305							
TTN					*e*S	**Sb**	**02 38 46.7**	**-0.5**
	baz=305							
CHKT	**Chengkung**	**0.65**	**330**	*i* P		**Pg**	**02 38 40.4**	**-0.1**
	baz=335							
CHKT					*e*S	**Sg**	**02 38 48.5**	**-0.7**
	baz=335							
TWG	**Pinlang**	**0.66**	**296**	*i* P		**Pg**	**02 38 40.2**	**-0.5**
	baz=307							
TWG					*i* S	**Sb**	**02 38 49.4**	**-0.4**
	baz=307							
ECL	**Taimali**	**0.71**	**275**	P		**Pg**	**02 38 41.3**	**-0.4**
	baz=292							
ECL					S	**Sb**	**02 38 50.8**	**-0.4**
	baz=292							
TAW	**Tawu**	**0.78**	**257**	*eP*		**Pb**	**02 38 42.5**	**-0.4**
	baz=255							
TAW					*e*S	**Sb**	**02 38 52.0**	**-1.2**
	baz=255							
EAST	**Anshuo**	**0.82**	**260**	P		**Pb**	**02 38 43.1**	**-0.5**
	baz=268							
EAST					S	**Sb**	**02 38 53.2**	**-1.2**
	baz=268							
TWF1	**Yuli**	**0

TYC	**Yuchr**	1.58	330	*e*P		Pn	02 38 56.2	+1.3	
	baz=345								
TYC				*e*S		Sb	02 39 16.3	+0.1	
	baz=345								
WNT	**Mingjian**	1.64	325	*e*P		Pb	02 38 58.2	+0.6	
	baz=327								
WNT				*e*S		Sb	02 39 18.5	+0.5	
	baz=327								
WHF	**Hehuan Shan**	1.66	345	*e*P		Pn	02 38 56.3	-0.1	
	baz=348								
WHF				*e*S		Sn	02 39 15.9	-1.7	
	baz=348								
TWT	**Tachien**	1.78	344	*e*P		Pn	02 38 59.0	+1.1	
	baz=345								
TWT				*e*S		Sn	02 39 19.4	-0.9	
	baz=345								
TCU	**Taichung**	1.87	329	*e*P		Pb	02 39 02.0	+0.5	
	baz=332								
TCU				*e*S		Sb	02 39 24.2	-0.4	
	baz=332								
ENA	**Nanau**	1.89	1	*e*P		Pn	02 38 59.4	+0.2	
	baz=15								
ENA				*e*S		Sn	02 39 22.8	+0.2	
	baz=15								
NNS	**Nan Shan**	1.92	351	*e*P		Pn	02 39 00.9	+1.0	
	baz=3.0								
TWQ1	**Liyutan**	2.00	334	*e*P		Pb	02 39 03.3	-0.5	
	baz=336								
TWQ1				*e*S		Sn	02 39 27.1	+1.5	
	baz=336								
WDGT	**Dungji**	2.03	291	*e*P		Pn	02 39 02.0	+0.8	
	baz=293								
WDGT				*e*S		Sn	02 39 25.7	-0.6	
	baz=293								
TWC	**Suao**	2.07	3	*e*P		Pn	02 39 02.3	+0.6	
	baz=16								
TWC				*e*S		Sn	02 39 26.8	-0.4	
	baz=16								
NSY	**Sanyi**	2.07	335	*e*P		Pn	02 39 03.7	+1.9	
	baz=337								
NSY				*e*S		Sn	02 39 28.8	+1.6	
	baz=337								
NSK	**Sanguang**	2.16	351	*e*P		Pn	02 39 04.1	+1.1	
	baz=353								
NSK				*e*S		Sn	02 39 28.1	-1.4	
	baz=353								
NSTT	**Nanjuang**	2.19	343	*e*P		Pn	02 39 05.2	+1.8	
	baz=344								
NSTT				*e*S		Sn	02 39 31.2	+1.1	
	baz=344								
PNG	**Penghu**	2.24	298	P		Pn	02 39 04.8	+0.7	
	baz=300								
PNG				*e*S		Sn	02 39 30.3	-1.1	
	baz=300								
YOJ	**Yonaguni jima**	2.25	31	P		Pn	02 39 05.0	+0.7	
YOJ				*e*S		Sn	02 39 32.7	+1.0	
HATJ	**Hateruma jima**	2.44	51	*e*S		Sn	02 39 35.8	-0.5	
NWF	**Wu-fen Shan**	2.52	1	*e*P		Pn	02 39 09.6	+1.5	
	baz=352								
NWF				*e*S		Sn	02 39 38.3	-0.3	
	baz=352								
IRIF	**Iriomote-Funau**	2.57	45	P		Pn	02 39 09.8	+1.2	
IRIF				*e*S		Sn	02 39 40.2	+0.7	
JKRS	**Kuro-shima**	2.70	51	P		Pn	02 39 11.6	+1.2	
JKRS				*e*S		Sn	02 39 42.6	-0.1	
JJ	**Ishigaki jima**	2.87	50	P		Pn	02 39 13.5	+0.7	
JJ				*e*S		Sn	02 39 45.5	-1.5	
JTJ	**Tarama**	3.45	52	P		Pn	02 39 21.6	+1.0	
JTJ				*e*S		Sn	02 40 00.6	-0.5	
QZH	**Quanzhou**	3.74	311	⇑/Pn		Pn	02 39 26.1	+1.4	
QZH				Sn		Sn	02 40 07.4	-0.9	
QZH				smax	smax				
	comp=N,80nm,0.6s								
QZH				smax	smax				
	comp=E,80nm,0.7s								
JOGS	**Gusukube**	4.04	56	P		Pn	02 39 29.4	+0.6	
JOGS				*e*S		Sn	02 40 15.2	-0.6	

BJI **12** *02:43:33.8, 4.˚25N× 123.˚94E, h521km, mB4.6/28, mb4.7/39*
ISCJB **12** *02:43:37.6± 0.2, 4.˚67N± 0.˚02× 123.˚53E± 0.˚03, h519km± 2km, mb4.6/94, Error ellipse: s-maj=5.4km s-min=3.3km az=160.2*
DJA **12** *02:43:37.7± 0.4, 5.˚1N± 5.˚1× 12.˚4E± , h507km± 4km, M5.0/30, mB5.3/15, mb4.8/30, MLv5.8/6, Mw(mB)4.7/15*
IDC **12** *02:43:38.0± 0.6, 4.˚63N× 123.˚48E, h511km± 7km, mb4.0/37, mb1 4.1/39, mb1mx4.1/42, mbtmp4.0/39, Error ellipse: s-maj=10.4km s-min=5.1km az=71.0*
NEIC **12** *02:43:38.7± 0.4, 4.˚65N× 123.˚46E, h520km± 4km, mb4.6/44, Error ellipse: s-maj=5.7km s-min=3.5km az=69.0*
TEH **12** *02:43:39.0, 4.˚64N× 123.˚48E, h524km, ML4.7*
AUST **12** *02:43:40.4± 0.5, 4.˚55N× 123.˚47E, h543km, Error ellipse: s-maj=1.2km s-min=0.9km az=227.0*

ISC 12 02:43:38.6± 0.3, 4.˚64N± 0.˚03× 123.˚55E± 0.˚05, h518km± 3km, n334, σ 18 20/423, mb4.6/90, 7C-12D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GSPH	**General Santos**	2.00	44	*e*P	**P**	02 44 44.6	-0.9
GSPH				*e*S	**S**	02 45 41.8	+2.0
CTBH	**Cotabato--PC H**	2.65	15	‖/P	**P**	02 44 47.9	-0.9
KCP	**Kidapawan**	2.81	33	‖*e*P	**P**	02 44 49.5	-0.4
KCP				*i* S	S	02 45 55.0	+7.2
DAV	**Davao City (W)**	3.14	40	P	**P**	02 44 52.7	+0.7
	48nm,0.3s,baz=61,slow=3.8,SNR=12						
DAV				S	**S**	02 45 50.0	-1.7
	344nm,0.3s,baz=343,slow=24,SNR=26						
DAV	**Davao City (W)**	3.14	40	P	**P**	02 44 52.7	+0.7
DAV				S	**S**	02 45 50.0	-1.7
DAV	**Davao City (W)**	3.14	40	P	**P**	02 44 51.3	-0.7
	SNR=8.3						
PAGZ	**Pagadian**	3.19	357	*e*P	**P**	02 44 51.8	-0.5
MNI	**Manado**	3.43	158	P	**P**	02 44 52.7	-1.3
MNI				S	**S**	02 45 51.9	-3.4
MATI	**Mati**	3.53	49	*e*P	**P**	02 44 53.3	-1.4
BUKP	**Musuan**	3.55	25	*e*P	**P**	02 44 54.5	-0.4
KMSI	**Cibinong**	4.06	174	P	**P**	02 44 58.7	-0.1
KMSI				S	**S**	02 46 06.3	+2.3
MRSI	**Marisa**	4.44	201	P	**P**	02 45 01.6	-0.2
TBP	**Tagbilaran**	5.03	3	‖*e*P	**P**	02 45 06.1	-0.7
MYLDM	**Lahad Datu**	5.06	276	P	**P**	02 45 07.9	+0.8
MYLDM	**Lahad Datu**	5.06	276	P	**P**	02 45 07.2	+0.1
	672nm,1.2s,7μm2.3nm						
TNTI	**Ternate**	5.41	135	P	**P**	02 45 09.8	-0.5
	1μm,0.8s,42μm13nm						
TSM	**Tawau**	5.67	267	P	**P**	02 45 11.9	-0.8
LUWI	**Luwuk**	5.70	188	P	**P**	02 45 13.0	+0.1
	687nm,0.6s,23μm7.9nm						
LUWI				S	**S**	02 46 28.0	-2.0
	687nm,0.6s,23μm7.9nm						
SDKM	**Sandakan**	6.41	279	P	**P**	02 45 18.6	-1.1
LBMI	**Labuha**	6.56	143	P	**P**	02 45 20.0	-1.2
	617nm,0.5s,25μm13nm						
LBMI				S	**S**	02 46 43.1	-1.9
	617nm,0.5s,25μm13nm						
KDM	**Kudat**	7.06	289	P	**P**	02 45 25.2	-0.8
KKM	**Kota Kinabalu**	7.44	281	*e*P	**P**	02 45 28.8	-1.1
	303nm,0.6s						
KKM	**Kota Kinabalu**	7.44	281	P	**P**	02 45 28.8	-1.1
	baz=7.4,SNR=68						
KKM	**Kota Kinabalu**	7.44	281	P	**P**	02 45 29.0	-0.9
KKM	**Kota Kinabalu**	7.44	281	P	**P**	02 45 29.9	0.0
	617nm,1.0s,5μm						
TTSI	**Tana Toraja**	8.50	206	P	**P**	02 45 41.4	+0.8
	89nm,0.9s,861nm						
KDI	**Kendari**	8.59	186	P	**P**	02 45 41.7	+0.1
	101nm,1.0s,1μm						
SPSI	**Sidrap Palu**	9.35	204	P	**P**	02 45 49.4	0.0
	74nm,0.7s,589nm						
AAI	**Ambon**	9.48	151	P	**P**	02 45 52.3	+1.5
	baz=9.5,SNR=9.0						
AAI	**Ambon**	9.48	151	P	**P**	02 45 51.6	+0.8
	651nm,0.7s,7μm						
MSAI	**Masohi**	9.58	146	P	**P**	02 45 53.2	+1.4
	147nm,0.7s,2μm						
LUBP	**Lubang**	9.61	340	*e*P	**P**	02 45 52.3	+0.3
TGY	**Tagaytay City**	9.75	345	P	**P**	02 45 53.2	-0.3
	114nm,0.3s,baz=111,slow=4.0,SNR=8.3						
TGY	**Tagaytay City**	9.75	345	P	**P**	02 45 53.2	-0.3
BBSI	**Bau Bau**	10.11	186	P	**P**	02 45 54.2	-3.1
	64nm,0.7s						
KAPI	**Kappang**	10.32	202	P	**P**	02 45 58.1	-1.4
	2.7nm,0.3s,baz=32,slow=6.0,SNR=29						
KAPI	**Kappang**	10.32	202	*e*P	**P**	02 45 58.7	-0.8
KAPI	**Kappang**	10.32	202	P	**P**	02 45 59.1	-0.4
	SNR=12						
KAPI				mb		02 46 01.3	
	SNR=17						
KAPI	**Kappang**	10.32	202	P	**P**	02 45 59.9	+0.4
	48nm,1.0s						
BKSI	**Bulukumba**	10.47	199	P	**P**	02 46 01.8	+0.7
	41nm,0.6s						
BTM	**Bintulu**	10.54	263	P	**P**	02 46 02.6	+0.7
BNDI	**Bandanaira**	11.10	145	P	**P**	02 46 08.4	+0.7
	2μm,0.8s,17μm						
PALU	**Palau**	11.19	76	P	**P**	02 46 10.0	+1.3
	baz=11,SNR=11						
FAKI	**Fak Fak**	11.48	131	P	**P**	02 46 12.6	+0.8
	550nm,0.8s,4μm						
SBUM	**Sibu**	11.52	259	P	**P**	02 46 13.3	+1.2
SBUM	**Sibu**	11.52	259	P	**P**	02 46 12.2	+0.1
	161nm,1.4s,2μm						
SCZP	**Santa Cruz**	11.63	342	*e*P	P	02 46 09.7	-3.5
MMRI	**Maumere**	13.26	186	P	**P**	02 46 32.8	+2.4
	83nm,1.0s						
KSM	**Kuching**	13.59	257	*e*P	**P**	02 46 33.6	-0.3
KSM	**Kuching**	13.59	257	P	**P**	02 46 34.0	+0.1
	baz=14,SNR=9.4						
KSM	**Kuching**	13.59	257	P	**P**	02 46 33.9	0.0
KSM	**Kuching**	13.59	257	P	**P**	02 46 33.6	-0.3
	61nm,1.0s,1μm						
BAKI	**Biak**	13.82	115	P	**P**	02 46 37.4	+1.1
SRBI	**Singaraja**	15.13	213	P	**P**	02 46 51.2	+1.2
	43nm,0.8s						
KHKI	**Kahang-Kahang**	15.16	212	P	P	02 46 56.6	+6.4
	18nm,1.1s						
NBBI	**Negara**	15.70	215	P	**P**	02 46 59.4	+3.5
	76nm,1.0s						
JAGI	**Jajag, Banyuwa**	16.05	216	P	**P**	02 46 56.3	-3.2
	40nm,1.0s						
GMJI	**Gumukmas**	16.32	218	P	**P**	02 47 03.8	+1.6
	50nm,0.9s						
JAY	**Jayapura**	18.55	112	P	**P**	02 47 24.7	+1.4
	baz=19,SNR=24						
JAY	**Jayapura**	18.55	112	P	**P**	02 47 25.3	+2.0
TPUB	**Ta-pu**	18.76	352	*e*P	**P**	02 47 26.1	+1.1
	123nm,0.9s						
MTN	**Manton Dam**	18.93	157	P	**P**	02 47 26.7	+0.1
	baz=19,SNR=114						
SSLB	**Suanglung**	19.20	353	*e*P	**P**	02 47 30.1	+1.1
	29nm,0.7s						
KDU	**Kakadu**	19.36	153	P	**P**	02 47 30.8	+0.2
	baz=19,SNR=96						
PMBI	**Palembang**	20.21	249	P	P	02 47 43.8	+5.4
	687nm,0.4s						
KASI	**Kota Agung**	21.54	242	P	**P**	02 47 54.3	+3.9
	33nm,0.9s						
FITZ	**Fitzroy Crossi**	22.69	175	P	**P**	02 48 00.1	-0.5
	8.0nm,0.7s,baz=5.1,slow=7.4,SNR=25						
FITZ	**Fitzroy Crossi**	22.69	175	P	**P**	02 48 00.1	-0.5
FITZ	**Fitzroy Crossi**	22.69	175	P	**P**	02 48 00.9	+0.3
	baz=23,SNR=18						
PSI	**Prapat**	24.64	267	PcP	**PcP**	02 51 38.0	-0.4
	6.8nm,0.8s,baz=101,slow=3.0,SNR=4.8						
PSI	**Prapat**	24.64	267	PcP	**PcP**	02 51 38.0	-0.4
MBWA	**Marble Bar**	25.91	188	*e*P	**P**	02 48 28.6	-0.5
WRAB	**Tennant Creek**	26.63	157	*e*P	**P**	02 48 35.4	-0.2
	34nm,0.6s						
WRA	**Warramunga Arr**	26.63	157	P	**P**	02 48 35.5	-0.1
	27nm,0.4s,baz=338,slow=9.6,SNR=371						
WRA				PcP	**PcP**	02 51 42.8	0.0
	3.1nm,0.5s,baz=322,slow=3.3,SNR=5.2						
WRA				S	**S**	02 52 31.2	-2.9
	11nm,0.8s,baz=333,slow=16,SNR=8.8						
WRA				P3KPbc		03 21 01.8	
	0.5nm,0.8s,baz=154,slow=4.2,SNR=5.4						
WRA	**Warramunga Arr**	26.63	157	P	**P**	02 48 35.5	-0.1
WRA				PcP	**PcP**	02 51 42.8	0.0
WRA				S	**S**	02 52 31.2	-2.9
WRA				*e*		03 21 01.8	
COEN	**Coen**	26.84	134	*e*P	**P**	02 48 37.0	-0.5
	115nm,0.6s						
COEN	**Coen**	26.84	134	P	**P**	02 48 37.0	-0.5
	baz=27,SNR=42						
GYA	**Guiyang**	27.05	325	P	**P**	02 48 40.2	+0.9
GYA				sP	**sP**	02 51 07.6	+1.6
GYA				PcP	**PcP**	02 51 45.0	+1.2
GYA				S	**S**	02 52 41.2	+0.6
GYA				ScP	**ScP**	02 54 35.4	+0.3
GYA				PcS	**PcS**	02 55 25.6	-0.6
GYA				ScS	**ScS**	02 58 25.4	-2.1
GYA				pmax	pmax		
	comp=Z,80nm,0.8s						
PMG	**Port Moresby**	27.36	121	P	**P**	02 48 42.0	0.0
	comp=Z,29nm,0.8s,baz=293,slow=5.8,SNR=15						
PMG	**Port Moresby**	27.36	121	*e*P	**P**	02 48 41.9	0.0
	comp=Z,41nm,1.0s						
PMG	**Port Moresby**	27.36	121	P	**P**	02 48 41.8	-0.2
	comp=Z,42nm,1.0s						
CMAR	**Chiang Mai Arr**	27.69	302	P	**P**	02 48 43.9	-1.1
	comp=Z,1.2nm,0.3s,baz=118,slow=7.4,SNR=10.0						
CMAR				PcP	**PcP**	02 51 46.1	+0.7
	comp=Z,4.2nm,0.8s,baz=165,slow=0.9,SNR=15						
CMAR	**Chiang Mai Arr**	27.69	302	P	**P**	02 48 43.9	-1.1
CMAR				PcP	**PcP**	02 51 46.1	+0.7
CHTO	**Chiang Mai**	27.85	302	*e*P	**P**	02 48 47.0	+0.7
	comp=Z,8.2nm,0.5s						
CHTO	**Chiang Mai**	27.85	302	P	**P**	02 48 46.9	+0.6
KMI	**Kunming**	28.53	318	P	P	02 48 56.8	+4.3
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
ENH	**Enshi**	28.74	334	*e*P	**P**	02 48 54.0	0.0
	comp=Z,14nm,0.9s						
JNU	**Nakatsue**	29.15	13	P	**P**	02 48 56.7	-0.7
	comp=Z,24nm,1.0s,baz=188,slow=6.8,SNR=6.4						
JNU	**Natsue**	29.15	13	*e*P	**P**	02 48 56.1	-1.4
	comp=Z,13nm,1.1s						
QIS	**Mount Isa**	29.59	148	P	**P**	02 49 02.2	+0.7
	baz=30,SNR=6.4						
AS31	**Alice Springs**	29.89	161	*e*P	**P**	02 49 04.4	+0.4
AS31				*e*S	**S**	02 53 22.9	-1.9
AS31				*e*ScP	**ScP**	02 54 43.5	-0.5
ASAR	**Alice Springs**	29.89	161	P	**P**	02 49 04.8	+0.7
	comp=Z,18nm,0.5s,baz=344,slow=7.3,SNR=219						
ASAR				S	**S**	02 53 24.3	-0.5
	comp=Z,9.0nm,0.9s,baz=342,slow=14,SNR=13						
ASAR				ScP	**ScP**	02 54 43.5	-0.5
	comp=Z,6.2nm,0.8s,baz=340,slow=3.0,SNR=8.7						
ASAR	**Alice Springs**	29.89	161	P	**P**	02 49 04.8	+0.7
ASAR				S	**S**	02 53 24.3	-0.5
ASAR				ScP	**ScP**	02 54 43.5	-0.5
MEEK	**Meekatharra**	31.46	188	P	**P**	02 49 17.5	0.0
	baz=32,SNR=8.6						
CD2	**Chengdu**	32.09	327	P	**P**	02 49 23.5	+0.6
CD2				S	**S**	02 54 00.0	+1.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,50nm,4.3s						
XAN	**Xi'an**	32.26	337	P	**P**	02 49 23.8	-0.4
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,22nm,5.7s						
KSAR	**Wonju Array Be**	32.88	6	P	**P**	02 49 30.2	+0.8
KSAR				PcP	**PcP**	02 51 59.5	+0.7
KSRS	**Korea Array**	32.90	6	P	**P**	02 49 30.2	+0.6
	comp=Z,9.8nm,0.8s,baz=184,slow=10,SNR=33						
KSRS				PcP	**PcP**	02 51 59.5	+0.7
	comp=Z,2.4nm,0.6s,baz=193,slow=3.1,SNR=7.5						
CTA	**Charters Tower**	33.19	139	P	**P**	02 49 33.2	+0.9
	comp=Z,27nm,0.9s,baz=323,slow=8.9,SNR=15						
CTA	**Charters Tower**	33.19	139	P	**P**	02 49 33.2	+0.9
CTAO	**Charters Tower**	33.19	139	*e*P	**P**	02 49 33.4	+1.0
	comp=Z,36nm,1.0s						
MORW	**Morawa**	34.28	192	P	**P**	02 49 41.5	+0.1
	baz=34,SNR=4.3						
MAT	**Matsushiro**	34.49	21	P	**P**	02 49 41.9	-1.1
MJAR	**Matsushiro Ar**	34.49	21	P	**P**	02 49 41.8	-1.2
	comp=Z,24nm,0.8s,baz=195,slow=9.9,SNR=40						
MJAR	**Matsushiro Arr**	34.49	21	P	**P**	02 49 41.8	-1.2
FORT	**Forrest**	35.48	173	*e*P	**P**	02 49 52.1	+0.8
FORT				*e*PcP	**PcP**	02 52 06.8	+0.3
FORT	**Forrest**	35.48	173	P	**P**	02 49 52.4	+1.0
	baz=36,SNR=11						
BJT	**Baijiatuan**	35.84	350	*e*P	**P**	02 49 53.2	-1.0
	comp=Z,12nm,0.4s						
BJI	**Beijing**	35.86	350	P	**P**	02 49 54.3	-0.1
BJI				pmax	pmax		
	comp=Z,34nm,0.8s						
LZH	**Lanzhou**	36.17	332	‖P	**P**	02 49 57.6	+0.4
LZH				pP	**pP**	02 51 30.5	+2.9
LZH				PP	**PP**	02 51 36.8	-0.6
LZH				sP	**sP**	02 52 28.7	+1.6
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,72nm,4.9s						
KLBR	**Kellerberrin**	36.45	188	P	**P**	02 49 59.6	+0.2
	baz=36,SNR=12						
QLP	**Quilpie**	36.94	148	P	**P**	02 50 04.7	+1.2
	baz=37,SNR=20						
HHC	**Hu-ho-hao-te**	37.62	345	*e*P	**P**	02 50 08.4	-0.6
HHC				pP	**pP**	02 51 40.4	+0.2
HHC				PP	**PP**	02 51 50.6	-0.5
HHC				PcP	**PcP**	02 52 13.2	0.0
HHC				sP	**sP**	02 52 37.3	-2.2
HHC				ScP	**ScP**	02 55 11.9	+0.6
HHC				S	**S**	02 55 23.3	+1.8
HHC				PcS	**PcS**	02 56 02.2	-0.5
HHC				SS	**SS**	02 58 29.0	-8.1
HHC				ScS	**ScS**	02 59 20.6	-1.2
HHC				pmax	pmax		
	comp=Z,26nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.1s						
NWAO	**Narrogin (SRO)**	37.84	189	P	**P**	02 50 10.3	-0.5
	comp=Z,8.3nm,0.5s,baz=22,slow=6.4,SNR=14						
NWAO	**Narrogin (SRO)**	37.84	189	P	**P**	02 50 10.3	-0.5
CN2	**Changchun**	39.03	2	*e*P	**P**	02 50 21.0	+0.7
BBOO	**Buckleboo**	39.09	163	*e*P	**P**	02 50 21.9	+1.0
	comp=Z,207nm,0.8s						
BBOO	**Buckleboo**	39.09	163	P	**P**	02 50 22.0	+1.1
	baz=39,SNR=15						
BBOO				S	**S**	02 55 45.1	+2.0
	baz=39,SNR=5.5						
RMQ	**Roma**	39.41	143	P	**P**	02 50 25.1	+1.4
	baz=40,SNR=8.6						
EIDS	**Eidsvold**	40.06	139	*e*P	**P**	02 50 29.6	+0.8
	comp=Z,36nm,0.9s						
EIDS	**Eidsvold**	40.06	139	P	**P**	02 50 29.6	+0.8
	baz=40,SNR=9.8						
USRK	**Ussuriysk Arra**	40.09	9	P	**P**	02 50 28.9	+0.2
	comp=Z,27nm,0.9s,baz=196,slow=7.3,SNR=52						
USRK				PcP	**PcP**	02 52 21.0	+0.2
	comp=Z,2.1nm,0.6s,baz=182,slow=3.3,SNR=4.1						
MDJ	**Mudanjiang**	40.16	7	P	**P**	02 50 29.2	-0.2
MDJ				pP	**pP**	02 52 01.9	-0.2
MDJ				sP	**sP**	02 53 01.1	+0.2
MDJ				S	**S**	02 55 58.3	-0.2
MDJ				PcS	**PcS**	02 56 12.3	0.0
MDJ				sS	**sS**	02 58 48.8	+0.9
MDJ				pmax	pmax		
	comp=Z,34nm,1.2s						
STKA	**Stephens Creek**	40.18	156	P	**P**	02 50 31.1	+1.4
	comp=Z,19nm,0.6s,baz=334,slow=7.9,SNR=61						
STKA				S	**S**	02 56 00.3	+1.3
	comp=Z,3.9nm,0.8s,baz=326,slow=10,SNR=9.7						
STKA	**Stephens Creek**	40.18	156	P	**P**	02 50 31.1	+1.4
	comp=Z,46nm,0.8s						
STKA				S	**S**	02 56 00.3	+1.3
STKA	**Stephens Creek**	40.18	156	P	**P**	02 50 31.1	+1.4
	baz=40,SNR=32						
STKA				S	**S**	02 56 00.3	+1.3
	baz=40,SNR=5.2						
GTA	**Gaotai**	40.74	331	‖P	**P**	02 50 35.0	+0.7
GTA				pP	**pP**	02 52 08.2	+0.9
GTA				PcP	**PcP**	02 52 24.4	+1.1
GTA				sP	**sP**	02 53 04.1	-1.9
GTA				S	**S**	02 56 09.8	+2.5
GTA				SS	**SS**	02 59 27.4	-3.6
GTA				pmax	pmax		
	comp=Z,24nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,7.4s						
TAPN	**Taplejung**	40.94	307	*e*P	**P**	02 50 36.5	+0.3
	comp=Z,16nm,0.6s						
ODAN	**Odare**	40.97	306	*e*P	**P**	02 50 36.6	+0.1
	comp=Z,43nm,0.9s						
RAMN	**Ramite**	41.65	306	*e*P	**P**	02 50 42.2	+0.4
	comp=Z,49nm,1.0s						
CMSA	**Cobar Meteorol**	41.71	151	P	**P**	02 50 44.0	+2.0
	baz=42,SNR=24						
JIRN	**Jiri**	42.28	307	*e*P	**P**	02 50 47.0	0.0
	comp=Z,7.4nm,0.6s						
GUN	**Gumba**	42.64	307	*e*P	**P**	02 50 50.0	+0.2
	comp=Z,60nm,0.8s						
ASAJ	**Asahikawa**	42.74	20	P	**P**	02 50 50.7	+0.9
	comp=Z,24nm,0.5s,baz=235,slow=14,SNR=14						
ASAJ	**Asahikawa**	42.74	20	P	**P**	02 50 50.7	+0.9
PKI	**Pulchoki**	42.87	306	*e*P	**P**	02 50 51.4	-0.1
	comp=Z,17nm,0.8s						
KKN	**Kakani**	43.07	307	*e*P	**P**	02 50 52.9	-0.1
	comp=Z,12nm,0.4s						
DMN	**Daman**	43.13	306	*e*P	**P**	02 50 53.6	+0.1
	comp=Z,40nm,0.9s						
GKN	**Gorkha**	43.67	306	*e*P	**P**	02 50 57.4	-0.2
	comp=Z,19nm,0.7s						
ARMA	**Armidale**	44.01	144	P	**P**	02 51 03.0	+2.9
	baz=44,SNR=6.5						
KOLN	**Koldanda**	44.41	306	*e*P	**P**	02 51 03.7	+0.3
	comp=Z,110nm,0.9s						
DANN	**Dangsing**	44.52	306	*e*P

SNR=8.2
KZA Kyzart 56.82 318 P P 02 52 35.1 +1.1
SNR=19
TKM2 Tokmak 2 56.98 319 eP P 02 52 35.0 +0.2
comp=Z,34nm,0.8s
TKM2 ePcP PcP 02 53 21.9 -1.0
TKM2 Tokmak 2 56.98 319 P P 02 52 35.4 +0.6
SNR=15
KBK Karagaybulak 57.28 319 P P 02 52 38.1 +1.2
SNR=8.2
YAK Yakutsk 57.44 3 eP P 02 52 37.2 -0.1
comp=Z,116nm,0.8s
AAK Ala-Archa 57.57 319 P P 02 52 39.4 +0.6
comp=Z,5.1nm,1.0s,baz=116,slow=5.9,SNR=13
AAK PcP PcP 02 53 25.3 +0.2
comp=Z,5.3nm,0.5s,baz=115,slow=4.2,SNR=12
AAK Ala-Archa 57.57 319 P P 02 52 39.4 +0.6
AAK PcP PcP 02 53 25.3 +0.2
AAK Ala-Archa 57.57 319 P P 02 52 34.9 -3.9
SNR=7.3
USP Ospenovka 57.85 319 P P 02 52 41.0 +0.4
SNR=18
AML Almayashu 57.88 318 P P 02 52 42.1 +0.9
SNR=27
EKS2 Erkin-Say 58.06 318 eP P 02 52 42.6 +0.5
comp=Z,22nm,1.2s
EKS2 ePcP PcP 02 53 26.8 -0.3
EKS2 Erkin-Say 58.06 318 P P 02 52 43.0 +0.9
SNR=13
ZAA0 Zalesovo Array 58.37 334 eP P 02 52 42.6 -1.2
ZAA0 ePcP PcP 02 53 26.1 -1.7
ZALV Zalesovo Beam 58.37 334 P P 02 52 42.8 -1.0
comp=Z,7.3nm,0.9s,baz=116,slow=6.8,SNR=26
ZALV PcP PcP 02 53 25.9 -2.0
comp=Z,2.5nm,0.6s,baz=133,slow=2.4,SNR=6.7
ZALV PKP2bc 03 22 22.6
comp=Z,0.4nm,0.3s,baz=253,slow=1.5,SNR=4.7
ZALV Zalesovo Beam 58.37 334 P P 02 52 42.8 -1.0
ZALV PcP PcP 02 53 25.9 -2.0
ZALV ⇑e 03 22 22.6
KBL Kabul 58.46 308 eP P 02 52 44.7 -0.4
comp=Z,11nm,0.6s
KURBB Kurchatov Arra 59.29 328 P P 02 52 49.8 -0.2
comp=Z,15nm,0.6s,baz=125,slow=6.3,SNR=169
KURBB PcP PcP 02 53 30.6 -1.0
comp=Z,2.8nm,0.8s,baz=117,slow=3.3,SNR=6.0
KURK Kurchatov 59.29 329 eP P 02 52 49.7 -0.3
comp=Z,47nm,0.9s
KURK PcP PcP 02 53 30.6 -1.0
KURK Kurchatov 59.29 329 ⇓P P 02 52 49.9 -0.2
SNR=14
KURK ⇑mb 02 52 50.6
SNR=36
KKAR Karatay Array 60.42 318 eP P 02 52 57.6 -0.2
comp=Z,11nm,1.0s
FX1 Attu Island--F 62.91 31 P P 02 53 14.8 +1.0
comp=Z,3.8nm,0.4s,baz=224,slow=17,SNR=6.7
FX1 Attu Island--F 62.91 31 P P 02 53 14.8 +1.0
BVAR Borovoye Array 64.85 328 P P 02 53 25.7 -0.4
comp=Z,11nm,0.9s,baz=132,slow=8.2,SNR=49
BVAR PcP PcP 02 53 53.2 -1.1
comp=Z,2.9nm,0.6s,baz=135,slow=6.0,SNR=5.5
BVAR Borovoye Array 64.85 328 P P 02 53 25.7 -0.4
BVAR PcP PcP 02 53 53.2 -1.1
BRVK Borovoye 64.92 328 eP P 02 53 26.6 -0.1
comp=Z,29nm,1.1s
BRVK Borovoye 64.92 328 P P 02 53 26.6 -0.1
SNR=8.5
BRVK mb 02 53 27.5
SNR=20
WSAR Wadi Sarin 65.16 293 P P 02 53 27.8 -0.9
comp=Z,4.9nm,0.8s,baz=70,slow=4.8,SNR=4.0
WSAR Wadi Sarin 65.16 293 P P 02 53 27.8 -0.9
IMON Monand 65.69 304 eP P 02 53 32.2 0.0
IMYA Miami 65.97 308 eP P 02 53 33.5 -0.3
ITEG Tejag 66.39 304 eP P 02 53 37.0 +0.5
IPAY Payeh 66.87 308 eP P 02 53 38.6 -0.8
IKRD Kardeh 67.31 308 eP P 02 53 37.0 -5.2
ABKAR Akbulak array 69.45 321 eP P 02 53 53.8 -0.7
comp=Z,8.6nm,0.6s
ISRV Sarvestan 70.70 299 eP P 02 54 01.6 -1.2
IANJ Anjilo 70.76 306 eP P 02 54 02.3 -0.7
IPAR Pars 70.80 300 eP P 02 54 02.4 -1.0
AKTO Aktyubinsk 70.99 322 P P 02 54 03.4 -0.3
comp=Z,16nm,0.7s,baz=105,slow=7.9,SNR=101
AKTO Aktyubinsk 70.99 322 P P 02 54 03.4 -0.3
IKIA Kiasar 71.05 307 eP P 02 54 04.4 -0.3
ISHM Shahmirzad 71.31 306 eP P 02 54 05.8 -0.4
IFIR Firoozkooh 71.72 306 eP P 02 54 07.9 -0.7
ISFB Sefidab 71.98 304 eP P 02 54 09.4 -0.5
IKLH Kolahrood 72.41 303 eP P 02 54 12.7 0.0
IVRN Varamin 72.47 305 eP P 02 54 12.0 -0.8
ARU Arti 72.48 328 eP P 02 54 11.0 -1.3
comp=Z,23nm,0.8s
IPIR Pirpir 72.92 303 eP P 02 54 15.5 -0.2
UNV Unalaska Valle 74.50 35 eP P 02 54 23.7 -0.1
comp=Z,21nm,0.8s
UMR Umm Al-Rimmam 75.41 299 eP P 02 54 28.5 -0.9
UMR AMb AMB 02 54 29.3
comp=Z,36nm,0.8s
RDF Al-Radifah 75.52 299 eP P 02 54 29.5 -0.6
RDF AMb AMB 02 54 30.7
comp=Z,48nm,1.2s
MIB Mutribah 75.75 299 eP P 02 54 30.3 -1.0
MIB AMb AMB 02 54 31.4
comp=Z,62nm,1.1s
NAY Al-Naaiem 75.81 299 eP P 02 54 30.4 -1.3
NAY AMb AMB 02 54 31.3
comp=Z,30nm,0.8s
IDHR Dehrash 76.82 304 eP P 02 54 33.1 -4.3
GNI Garni 78.47 310 eP P 02 54 46.5 +0.3
comp=Z,8.3nm,0.9s
OPO Ambohidratompo 78.61 250 P P 02 54 47.1 -0.2
comp=Z,3.0nm,0.4s,baz=52,slow=4.9,SNR=12
OPO Ambohidratompo 78.61 250 P P 02 54 47.1 -0.2
KBZ Khabaz 80.06 313 P P 02 54 54.9 +0.6
comp=Z,2.5nm,0.8s,baz=133,slow=8.5,SNR=5.6
KBZ Khabaz 80.06 313 P P 02 54 54.9 +0.6
KIV Kislovodsk 80.22 314 eP P 02 54 54.7 -0.5
comp=Z,23nm,1.3s
KDAK Kodiak Island 82.82 32 P P 02 55 08.7 +0.6
comp=Z,24nm,0.8s,baz=265,slow=3.8,SNR=16
KDAK Kodiak Island 82.82 32 P P 02 55 08.7 +0.6
TRF Thorofare Moun 84.16 27 eP P 02 55 13.9 -1.0
comp=Z,7.7nm,0.8s
COLD Coldfoot 84.29 23 eP P 02 55 16.5 +1.3
comp=Z,7.6nm,0.7s
OBN Obninsk 84.50 325 eP P 02 55 15.9 -0.6
comp=Z,69nm,1.1s
ASF Jabal al Asfar 84.73 302 P P 02 55 17.9 -0.4
comp=Z,12nm,0.9s,baz=324,slow=3.7,SNR=28
ASF Jabal al Asfar 84.73 302 P P 02 55 17.9 -0.4
VNDA Vanda 84.74 172 P P 02 55 17.9 +0.6
comp=Z,2.7nm,0.6s,baz=319,slow=6.6,SNR=12
VNDA Vanda 84.74 172 eP P 02 55 17.0 -0.2
comp=Z,5.0nm,1.0s
COLA College 85.23 25 eP P 02 55 19.1 -0.8
comp=Z,5.2nm,1.0s
ILAR Eielson Array 85.65 25 P P 02 55 20.4 -1.5
comp=Z,1.8nm,0.6s,baz=246,slow=5.1,SNR=62
ILAR Eielson Array 85.65 25 P P 02 55 20.4 -1.5
MMAI Mount Meron Ar 85.95 303 P P 02 55 24.6 +0.4
comp=Z,3.0nm,0.6s,baz=66,slow=10,SNR=8.4
MMAI Mount Meron Ar 85.95 303 P P 02 55 24.6 +0.4
KMBO Kilima Mbogo 86.40 269 eP P 02 55 27.2 +0.3
comp=Z,15nm,1.4s
EIL Elat 86.52 299 P P 02 55 26.9 0.0
baz=86,SNR=7.0
JOF Joensuu 86.92 333 ep P 02 55 24.1 -3.9
comp=Z,14nm,0.6s
BR131 Keskin Array S 87.00 309 eP P 02 55 27.3 -1.8
comp=Z,1.7nm,0.5s
BRTR Keskin Array B 87.00 309 P P 02 55 27.8 -1.3
comp=Z,4.4nm,0.7s,baz=125,slow=5.4,SNR=28
BRTR Keskin Array B 87.00 309 P P 02 55 27.8 -1.3
CSS Prodhromos 87.55 305 eP P 02 55 30.9 -0.7
comp=Z,12nm,1.1s
KEV Kevo 87.95 340 ep P 02 55 31.3 -1.3
comp=Z,4.6nm,0.8s
ARCES ARCESS Array B 88.50 340 P P 02 55 34.1 -1.1
comp=Z,3.9nm,0.6s,baz=79,slow=5.0,SNR=25
ARCES ARCESS Array B 88.50 340 P P 02 55 34.1 -1.1
AKASG Malin Array Be 89.19 321 P P 02 55 37.1 -1.7
comp=Z,3.1nm,0.5s,baz=71,slow=4.5,SNR=13
AKASG Malin Array Be 89.19 321 P P 02 55 37.1 -1.7
KIEV Kiev 89.20 321 eP P 02 55 36.7 -2.2
comp=Z,3.8nm,0.9s
AK02 Malin Array Si 89.20 321 eP P 02 55 37.4 -1.5
KAF Kangasniemi 89.32 332 ep P 02 55 36.5 -2.7
comp=Z,12nm,0.5s
FIA1 FINESS Array S 89.53 332 eP P 02 55 38.2 -2.0
FINES FINESS Array B 89.53 332 P P 02 55 38.8 -1.4
comp=Z,14nm,0.7s,baz=55,slow=5.1,SNR=81
FINES FINESS Array B 89.53 332 P P 02 55 38.8 -1.4
INK Inuvik 90.47 21 eP P 02 55 43.7 -0.7
comp=Z,9.4nm,1.2s
CFR Carcaliu 90.56 315 ⇓iP P 02 55 44.2 -1.1
TESR 91.41 317 ⇓iP P 02 55 48.2 -1.0
VRI Vrincioaia 91.45 316 ⇑iP P 02 55 47.5 -2.0
PLOR Plostina 91.50 316 ⇓iP P 02 55 47.4 -2.3
MLR Muntele Rosu 92.05 316 ⇑iP P 02 55 51.1 -1.3
BURAR Bucovina Array 92.21 318 ⇓iP P 02 55 52.8 -0.2
BUR08 Bucovina Ar. S 92.22 318 eP P 02 55 52.3 -0.8
SUW Suwalki 92.35 324 eP P 02 55 52.3 -1.1
SUW Suwalki 92.35 324 eP P 02 55 52.4 -0.9
comp=Z,40nm,1.1s
SUW Suwalki 92.35 324 eP P 02 55 52.2 -1.1
ARR Arges 92.98 316 ⇑iP P 02 55 55.0 -1.6
KWP Kalwaria Pacla 93.49 320 eP P 02 55 58.3 -0.5
KWP Kalwaria Pacla 93.49 320 eP P 02 55 57.9 -0.8
comp=Z,86nm,1.9s
KWP Kalwaria Pacla 93.49 320 ⇑iP P 02 55 58.4 -0.3
KWP Kalwaria Pacla 93.49 320 eP P 02 55 58.2 -0.5
KOLS Kolonicke sedl 93.91 320 eP P 02 56 00.3 -0.4
DRGR 94.04 317 ⇑iP P 02 56 00.8 -0.6
VTS Vitosha 94.47 313 ⇓iP P 02 56 02.2 -1.4
QSPA South Pole Qui 94.54 180 P P 02 56 03.2 -0.1
comp=Z,1.0nm,0.6s,baz=102,slow=0.9,SNR=5.2
QSPA South Pole Qui 94.54 180 P P 02 56 03.2 -0.1
OJC Ojcow 95.20 321 eP P 02 56 06.0 -0.5
PSZ Piszkesteto 95.67 319 eP P 02 56 07.6 -1.1
comp=Z,4.6nm,0.9s
VYHS Vyhne 96.22 320 eP P 02 56 10.6 -0.6
LSZ Lusaka 96.37 255 eP P 02 56 11.5 -1.1
comp=Z,4.1nm,0.9s
NB2 NORSAR Subarra 96.55 333 P P 02 56 10.6 -1.8
baz=71,slow=4.4
NB2 NORSAR Subarra 96.55 333 P P 02 56 10.6 -1.8
comp=Z,3.2nm,0.6s,baz=71,slow=4.4
NOA NORSAR Array B 96.55 333 P P 02 56 10.6 -1.8
comp=Z,3.1nm,0.7s,baz=70,slow=4.6,SNR=12
NOA NORSAR Array B 96.55 333 P P 02 56 10.6 -1.8
MORC Moravsky Berou 96.72 321 eP P 02 56 12.6 -0.8
comp=Z,4.7nm,1.1s
RES Resolute Bay 97.47 10 eP Pdif 02 56 15.9 -0.2
comp=Z,1.8nm,0.9s
BRG Berggiesshubel 98.61 323 ePKP Pdif 02 56 21.4 -0.3
comp=Z,8.1nm,1.2s
GERES GERESS Array B 99.39 321 P Pdif 02 56 25.0 -0.4
comp=Z,1.4nm,0.9s,baz=54,slow=5.3,SNR=9.2
GERES GERESS Array B 99.39 321 P Pdif 02 56 25.0 -0.4
YKA Yellowknife Ar 99.96 24 P Pdif 02 56 27.7 +0.3
comp=Z,0.4nm,0.7s,baz=298,slow=4.3,SNR=10
YKA PKiKP PKiKP 03 00 52.1 0.0
comp=Z,0.3nm,0.6s,baz=305,slow=1.7,SNR=5.6
YKA PKKPbc PKKPbc 03 12 43.0 -4.1
comp=Z,0.5nm,0.7s,baz=122,slow=2.7,SNR=8.7
YKA Yellowknife Ar 99.96 24 P Pdif 02 56 27.8 +0.3
YKA PKiKP PKiKP 03 00 52.1 0.0
YKA PKKPbc PKKPbc 03 12 43.0 -4.1
NVAR Mina Array Bea 108.63 47 PKiKP PKiKP 03 01 10.8 +1.6
comp=Z,0.7nm,0.6s,baz=267,slow=4.2,SNR=4.7
NVAR Mina Array Bea 108.63 47 PKiKP PKiKP 03 01 10.8 +1.6
HLID Hailey 109.22 41 ePKP PKiKP 03 01 10.2 +0.2
FFC Flin Flon 109.85 26 ePKP PKiKP 03 01 10.7 0.0
ELK Elko 109.89 44 ePKP PKiKP 03 01 11.6 +0.2
BOZ Bozeman (W) 109.99 38 ePKP PKiKP 03 01 11.7 +0.3
DUG Dugway 111.79 43 ePKP PKiKP 03 01 15.7 +0.7
HWUT Hardware Ranch 111.98 42 ePKP PKiKP 03 01 15.4 0.0
PDAR Pinedale Array 112.72 40 PKiKP PKiKP 03 01 16.9 +0.2
comp=Z,0.3nm,0.5s,baz=85,slow=2.0,SNR=4.4
PDAR PKKPbc PKKPab 03 12 15.1 -2.4
comp=Z,0.8nm,0.7s,baz=116,slow=5.3,SNR=8.3
PDAR Pinedale Array 112.72 40 PKiKP PKiKP 03 01 16.9 +0.2
PDAR PKKPbc PKKPab 03 12 15.1 -2.4
ULM Lac du Bonnet 115.64 27 PKP PKPdf 03 01 20.8 -1.1
comp=Z,2.1nm,0.7s,baz=270,slow=3.1,SNR=4.4
ULM Lac du Bonnet 115.64 27 PKP PKPdf 03 01 20.8 -1.1
ANMO Albuquerque 118.71 46 PKP PKPdf 03 01 29.1 +0.6
comp=Z,0.8nm,0.6s,baz=210,slow=6.0,SNR=4.8
ANMO Albuquerque 118.71 46 PKP PKPdf 03 01 29.1 +0.6
ANMO ePKPdf PKiKP 03 01 29.5 +0.9
TOA0 Torodi Ar. Sit 119.62 288 ePKPdf PKPdf 03 01 29.6 -0.9
TORD Torodi Ar. Bea 119.62 288 PKP PKPdf 03 01 29.8 -0.6
comp=Z,2.7nm,0.4s,baz=69,slow=1.6,SNR=79
TORD Torodi Ar. Bea 119.62 288 PKP PKPdf 03 01 29.8 -0.6
SCHQ Schefferville 120.11 7 PKP PKPdf 03 01 30.5 +0.2
comp=Z,3.0nm,0.4s,baz=40,slow=2.1,SNR=20
SCHQ Schefferville 120.11 7 PKP PKPdf 03 01 30.5 +0.2
TXAR Lajitas Array 123.50 50 PKP PKPdf 03 01 38.5 +0.8
comp=Z,1.7nm,0.8s,baz=270,slow=1.3,SNR=9.0
TXAR PKKPbc PKKPab 03 11 30.4 +0.5
comp=Z,0.3nm,0.6s,baz=147,slow=7.4,SNR=3.7
TXAR Lajitas Array 123.50 50 PKP PKPdf 03 01 38.5 +0.8
TXAR PKKPbc PKKPab 03 11 30.4 +0.5
WMOK Wichita Mounta 124.14 42 ePKPdf PKPdf 03 01 38.8 +0.1
JCT Junction City 125.81 47 ePKPdf PKPdf 03 01 42.6 +0.6
SADO Sadowa 126.77 20 PKP PKPdf 03 01 43.9 +0.6
comp=Z,2.3nm,0.8s,baz=269,slow=7.8,SNR=3.5
SADO Sadowa 126.77 20 PKP PKPdf 03 01 43.9 +0.6
DBIC Dimbokro 127.29 282 PKP PKPdf 03 01 45.9 +0.7
comp=Z,7.9nm,1.1s,baz=284,slow=2.2,SNR=6.6
DBIC Dimbokro 127.29 282 ePKPdf PKPdf 03 01 44.7 -0.5
DBIC PKP PKPdf 03 01 45.9 +0.7
HKT Hockley 128.95 45 ePKPdf PKPdf 03 01 48.3 +0.4
WCI Wyandotte Cave 129.15 30 ePKPdf PKPdf 03 01 48.9 +0.8
WVT Waverly 129.92 33 ePKPdf PKPdf 03 01 49.3 -0.3
TKL Tuckaleechee C 132.41 30 PKP PKPdf 03 01 54.1 -0.3
comp=Z,6.8nm,1.1s,baz=176,slow=8.7,SNR=4.5
TKL Tuckaleechee C 132.41 30 PKP PKPdf 03 01 54.1 -0.3
PLCA Paso Flores 141.90 163 PKiKP PKPpre 03 02 08.0
comp=Z,3.6nm,0.9s,baz=225,slow=5.2,SNR=7.2
PLCA Paso Flores 141.90 163 PKPpre PKPpre 03 02 08.0
PLCA ePKPdf PKPdf 03 02 08.9 -2.8
TGUH Tegucigalpa,Un 144.22 58 ePKPdf PKPdf 03 02 16.8 +0.5
TRQA Tornquist 146.36 172 ePKPbc PKPbc 03 02 21.7 0.0
JTS JuntasAbangare 147.97 62 PKPbc PKPbc 03 02 25.8 -0.8
comp=Z,6.1nm,0.4s,baz=352,slow=9.4,SNR=6.7
JTS JuntasAbangare 147.97 62 ePKPdf PKPdf 03 02 22.4 -0.3
JTS ePKPbc PKPbc 03 02 25.6 -1.0
JTS PKPbc PKPbc 03 02 25.8 -0.8
LCO Las Campanas 152.25 152 ePKPbc PKPbc 03 02 37.3 +0.7
OTAV Otavalo 157.49 78 ePKPdf PKPdf 03 02 37.3 +0.2
CPUP Villa Florida 158.42 178 PKPab PKPab 03 03 15.8 +1.0
comp=Z,2.3nm,0.6s,baz=121,slow=4.4,SNR=8.7
CPUP Villa Florida 158.42 178 PKPab PKPab 03 03 15.8 +1.0
LPAZ La Paz 163.71 136 PKP PKPdf 03 02 44.8 +1.0
comp=Z,2.3nm,0.8s,baz=334,slow=4.0,SNR=7.2
LPAZ La Paz 163.71 136 ePKPdf PKPdf 03 02 44.5 +0.7
LPAZ PKP PKPdf 03 02 44.8 +1.0
LPAZ ePKPab PKPab 03 03 37.9 -1.4
SIV San Ignacio 167.84 158 PKP PKPdf 03 02 46.8 +0.4
comp=Z,3.1nm,0.8s,baz=150,slow=0.9,SNR=13
SIV San Ignacio 167.84 158 PKP PKPdf 03 02 46.8 +0.4
SAML Samuel 172.06 123 ePKPdf PKPdf 03 02 49.1 +0.3

IDC 12 02:52:12.8±2.5,59°16S×150°97E,h0km,mb4.2/3, mb1 4.4/4,mb1mx4.2/13,mbtmp4.1/4,ML3.3/1,MS4.0/8, Ms1 4.0/8,ms1mx3.8/21,Error ellipse: s-maj=176.3km s-min=28.3km az=76.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	18.81	173	P	P	02 56 33.1	-0.3
	0.1nm,0.3s,baz=338,slow=14,SNR=3.0						
VNDA				LR	LR	03 02 45.7	
	comp=Z,504nm,19.5s,baz=350,slow=34						
STKA	Stephens Creek	28.01	343	LR	LR	03 07 36.8	
	comp=Z,142nm,21.1s,baz=202,slow=33						
QSPA	South Pole Qui	30.94	180	LR	LR	03 11 05.8	
	comp=Z,530nm,18.4s,baz=179,slow=37						
ASAR	Alice Springs	37.47	334	P	P	02 59 28.2	+0.3
	1.5nm,0.9s,baz=167,slow=9.0,SNR=8.3						
DZM	Mont Dzumac	38.67	23	LR	LR	03 12 06.9	
	comp=Z,313nm,18.4s,baz=206,slow=31						
CTA	Charters Tower	39.17	353	LR	LR	03 14 25.5	
	comp=Z,294nm,19.0s,baz=203,slow=34						
WRA	Warramunga Arr	40.98	336	P	P	02 59 56.6	-0.6
	7.0nm,1.1s,baz=165,slow=6.7,SNR=12						
FITZ Fitzroy Crossi 44.96 325 LR LR 03 15 53.1
comp=Z,132nm,20.4s,baz=184,slow=32
BOSA Boshof 81.72 226 LR LR 03 38 33.0
comp=Z,65nm,18.6s,baz=267,slow=34
CMAR Chiang Mai Arr 88.21 312 P P 03 05 04.7 -0.9
1.3nm,0.3s,baz=145,slow=3.3,SNR=2.2
MJAR Matsushiro Arr 95.94 350 LR LR 03 49 26.9
comp=Z,48nm,18.5s,baz=105,slow=36
YKA Yellowknife Ar 141.04 47 PKP PKPdf 03 11 40.8 -2.5
0.1nm,0.5s,baz=230,slow=2.6,SNR=3.8
AKASG Malin Array Be 146.49 282 PKPbc PKPdf 03 11 53.9 +0.7
0.9nm,0.6s,baz=127,slow=2.9,SNR=2.9
FINES FINESS Array B 153.28 299 PKPbc PKPbc 03 12 13.2 +2.1
1.2nm,0.8s,baz=123,slow=5.1,SNR=3.5
GERES GERESS Array B 153.31 266 PKP PKPdf 03 12 03.1 -1.1
0.2nm,0.5s,baz=155,slow=4.9,SNR=2.3
GERES PKPbc PKPbc 03 12 10.8 -1.0
0.6nm,0.8s,baz=180,slow=2.1,SNR=3.6

RSPR 12 02:53:06.9,18°97N×66°50W,h51km±12km,3C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	Arecibo Observ	0.67	201	⇓eP	Pn	02 53 18.9	-1.4
AOPR	Arecibo Observ	0.67	201	eS	Sn	02 53 29.8	-0.4
AOPR	Arecibo Observ	0.67	201	eS	Sn	02 53 30.1	0.0
CBYP	Canovanas	0.93	139	⇑eP	Pn	02 53 23.0	-0.7
CBYP	Canovanas	0.93	139	eS	Sn	02 53 34.5	-1.6
CBYP	Canovanas	0.93	139	⇓eP	Pn	02 53 24.9	+1.1
CBYP	Canovanas	0.93	139	eS	Sn	02 53 37.8	+1.7
HUMP	Col San Antoni	1.03	143	⇓eP	Pn	02 53 23.6	-1.4
HUMP	Col San Antoni	1.03	143	eS	Sn	02 53 38.2	-0.3
HUMP	Col San Antoni	1.03	143	⇑eP	Pn	02 53 26.5	+1.5
HUMP	Col San Antoni	1.03	143	eS	Sn	02 53 40.8	+2.4
CRPR	Cabo Rojo, PR	1.12	211	eS	Sn	02 53 39.7	-1.0
MTP	Monte Pirata	1.25	134	⇑eP	Pn	02 53 27.8	-0.2
MTP	Monte Pirata	1.25	134	eS	Sn	02 53 42.5	-1.3

*NEIC **12** 03:01:11.5, 19°.18N×66°.42W, h25km, MD3.1(RSPR), After RSPR.*

RSPR 12 03:01:11.5,19°.18N×66°.42W,h25km±22km,20C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	Arecibo Observ	0.89	201	⇑iP	Pb	03 01 25.7	-2.5
AOPR	Arecibo Observ	0.89	201	⇑eP	Pb	03 01 25.8	-2.5
AOPR	Arecibo Observ	0.89	201	eS	Sn	03 01 42.2	+1.7
AOPR	Arecibo Observ	0.89	201	⇑eP	Pb	03 01 25.8	-2.5
AOPR				eS	Sn	03 01 42.2	+1.7
AGPR	Aguadilla, PR	0.96	223	⇑eP	Pn	03 01 26.3	-3.1
AGPR	Aguadilla, PR	0.96	223	⇑eP	Pn	03 01 26.3	-3.1
LRS	Lares	0.97	205	⇑eP	Pn	03 01 27.3	-2.3
LRS	Lares	0.97	205	⇑eP	Pn	03 01 27.3	-2.3
CBYP	Canovanas	1.05	149	⇓iP	Pn	03 01 28.3	-2.3
CBYP	Canovanas	1.05	149	⇑eP	Pn	03 01 28.4	-2.3
CBYP				eS	Sb	03 01 41.5	-2.9
CBYP	Canovanas	1.05	149	⇑eP	Pn	03 01 28.4	-2.3
CBYP				eS	Sb	03 01 41.5	-2.9
SJG	San Juan	1.09	166	⇓eP	Pn	03 01 28.9	-2.2
SJG	San Juan	1.09	166	eS	Sn	03 01 42.0	-3.5
SJG	San Juan	1.09	166	⇓eP	Pn	03 01 29.1	-2.0
SJG	San Juan	1.09	166	eS	Sn	03 01 46.5	+1.0
SJG	San Juan	1.09	166	⇓eP	Pn	03 01 28.9	-2.2
SJG				eS	Sb	03 01 46.5	+1.0
CELP	Cerrillos	1.11	188	⇓eP	Pn	03 01 29.3	-2.1
CELP	Cerrillos	1.11	188	⇓eP	Pn	03 01 29.3	-2.1
OBIP	Obispado Ponce	1.14	189	⇑eP	Pn	03 01 30.0	-1.9
OBIP	Obispado Ponce	1.14	189	⇑eP	Pn	03 01 30.0	-1.9
OBIP				eS	Sn	03 01 43.4	-3.3
HUMP	Col San Antoni	1.16	152	⇑eP	Pn	03 01 29.8	-2.3
HUMP	Col San Antoni	1.16	152	⇓eP	Pn	03 01 30.1	-2.0
HUMP				eS	Sn	03 01 44.8	-2.4
HUMP	Col San Antoni	1.16	152	⇑eP	Pn	03 01 29.8	-2.3
HUMP				eS	Sn	03 01 44.4	-2.8
LSP	Las Mesas	1.18	213	⇑eP	Pn	03 01 30.1	-2.3
LSP	Las Mesas	1.18	213	⇑eP	Pn	03 01 30.1	-2.3
LSP				eS	Sb	03 01 49.4	+1.3
LSP	Las Mesas	1.18	213	eS	Sb	03 01 49.4	+1.3
CPD	Cerro la Pandu	1.23	157	⇓eP	Pn	03 01 31.0	-2.1
CPD	Cerro la Pandu	1.23	157	⇓eP	Pn	03 01 31.0	-2.1
CPD				eS	Sn	03 01 46.5	-2.5
CRPR	Cabo Rojo, PR	1.34	210	⇓iP	Pn	03 01 32.6	-2.0
CRPR	Cabo Rojo, PR	1.34	210	eS	Sn	03 01 49.3	-2.2
CRPR	Cabo Rojo, PR	1.34	210	⇓iP	Pn	03 01 32.6	-2.0
CRPR				eS	Sn	03 01 49.3	-2.2
MTP	Monte Pirata	1.35	142	⇑eP	Pn	03 01 32.4	-2.4
MTP	Monte Pirata	1.35	142	eS	Sn	03 01 48.5	-3.4
MTP	Monte Pirata	1.35	142	⇑eP	Pn	03 01 32.4	-2.4
MTP				eS	Sn	03 01 48.5	-3.4
STVI	Saint Thomas	1.61	120	⇑eP	Pn	03 01 34.6	-3.7
STVI	Saint Thomas	1.61	120	⇑eP	Pn	03 01 34.6	-3.7
STVI				eS	Sn	03 01 55.8	-2.6

RSPR 12 03:01:15.7,19°.20N×66°.42W,h25km±29km,MD2.7/11, 8C-3D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	Arecibo Observ	0.90	201	⇑eP	Pb	03 01 30.4	-2.4
AOPR	Arecibo Observ	0.90	201	⇓eP	Pb	03 01 30.4	-2.4
CBYP	Canovanas	1.06	150	⇓eP	Pn	03 01 32.9	-2.2
CBYP	Canovanas	1.06	150	⇑eP	Pn	03 01 33.0	-2.2
CBYP				eS	Sb	03 01 45.8	-3.3
CBYP	Canovanas	1.06	150	eS	Sb	03 01 45.9	-3.3
SJG	San Juan	1.11	167	⇑eP	Pn	03 01 34.1	-1.6
CELP	Cerrillos	1.13	188	⇑eP	Pn	03 01 34.2	-1.7
OBIP	Obispado Ponce	1.16	189	eS	Sn	03 01 48.4	-3.1
HUMP	Col San Antoni	1.18	153	⇑eP	Pn	03 01 34.7	-2.0
HUMP	Col San Antoni	1.18	153	eS	Sn	03 01 49.1	-2.8
HUMP	Col San Antoni	1.18	153	⇓eP	Pn	03 01 35.2	-1.4
HUMP				eS	Sn	03 01 49.3	-2.6
LSP	Las Mesas	1.20	212	⇑eP	Pn	03 01 34.6	-2.3
CRPR	Cabo Rojo, PR	1.35	209	⇑eP	Pn	03 01 37.0	-2.0
STVI	Saint Thomas	1.62	121	⇑eP	Pn	03 01 40.0	-2.8

IDC 12 03:05:06.3±6.4,22°.00S×178°.51W,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.7/19,mbtmp3.7/4,MS3.9/1,Ms1 3.9/1, ms1mx3.0/26,Error ellipse: s-maj=180.7km s-min=101.3km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	24.17	298	LR	LR	03 17 02.7	
	comp=Z,286nm,18.6s,baz=309,slow=30						
STKA	Stephens Creek	36.73	246	P	P	03 12 14.5	-0.9
	1.4nm,0.9s,baz=99,slow=13,SNR=2.9						
ASAR	Alice Springs	43.74	258	P	P	03 13 13.4	-0.3
	0.2nm,0.4s,baz=95,slow=7.4,SNR=5.3						
WRA	Warramunga Arr	43.95	264	P	P	03 13 16.0	+0.6
	0.5nm,0.3s,baz=97,slow=8.3,SNR=10						
FITZ	Fitzroy Crossi	52.38	264	P	P	03 14 20.4	-0.2
	0.4nm,0.3s,baz=90,slow=3.0,SNR=2.8						
HFS	Hagfors	140.94	350	PKP	PKPdf	03 24 37.4	-0.5
	0.7nm,0.4s,baz=66,slow=4.9,SNR=6.0						

*NEIC **12** 03:17:58.1, 19°.11N×66°.41W, h29km, MD3.1(RSPR), After RSPR.*

RSPR 12 03:17:58.1,19°.11N×66°.41W,h29km±12km,MD3.1/12, 17C-10D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	Arecibo Observ	0.83	203	⇓eP	Pn	03 18 11.8	-2.1
AOPR	Arecibo Observ	0.83	203	eS	Sb	03 18 22.7	-2.2
AOP

CELP			eS	Sn	03 18 27.8	-2.7
CELP	**Cerrillos**	**1.04 189**	*e*P	Pn	03 18 15.2	-1.7
CELP			eS	Sn	03 18 27.8	-2.7
OBIP	**Obispado Ponce**	**1.08 190**	*e*P	Pn	03 18 15.6	-1.8
OBIP	**Obispado Ponce**	**1.08 190**	*e*P	Pn	03 18 15.6	-1.8
HUMP	**Col San Antoni**	**1.10 151**	*e*P	Pn	03 18 15.6	-2.0
HUMP	**Col San Antoni**	**1.10 151**	*e*S	Sn	03 18 29.7	-2.3
HUMP	**Col San Antoni**	**1.10 151**	*e*P	Pn	03 18 15.6	-2.0
HUMP			eS	Sn	03 18 29.7	-2.3
LSP	**Las Mesas**	**1.13 214**	*i*P	Pn	03 18 16.1	-2.0
LSP	**Las Mesas**	**1.13 214**	*i* Pu	Pn	03 18 16.1	-2.0
CPD	**Cerro la Pandu**	**1.17 156**	*e*P	Pn	03 18 16.9	-1.7
CPD	**Cerro la Pandu**	**1.17 156**	*e*S	Sn	03 18 31.6	-2.1
CPD	**Cerro la Pandu**	**1.17 156**	*e*P	Pn	03 18 16.9	-1.7
CPD			eS	Sn	03 18 31.6	-2.1
GBPR	**Guanica, Bosqu**	**1.22 201**	*e*P	Pn	03 18 17.4	-1.8
GBPR	**Guanica, Bosqu**	**1.22 201**	*e*P	Pn	03 18 17.4	-1.8
CRPR	**Cabo Rojo, PR**	**1.28 211**	*e*P	Pn	03 18 18.6	-1.5
CRPR	**Cabo Rojo, PR**	**1.28 211**	*e*S	Sn	03 18 34.0	-2.4
CRPR	**Cabo Rojo, PR**	**1.28 211**	*e*P	Pn	03 18 18.6	-1.5
CRPR			eS	Sn	03 18 34.0	-2.4
MTP	**Monte Pirata**	**1.30 141**	*e*P	Pn	03 18 18.4	-2.0
MTP	**Monte Pirata**	**1.30 141**	*e*S	Sn	03 18 34.3	-2.5
MTP	**Monte Pirata**	**1.30 141**	*e*P	Pn	03 18 18.4	-2.0
MTP			eS	Sn	03 18 34.3	-2.5
STVI	**Saint Thomas**	**1.58 118**	*e*P	Pn	03 18 22.4	-1.8
STVI	**Saint Thomas**	**1.58 118**	*e*S	Sn	03 18 41.1	-2.5
STVI	**Saint Thomas**	**1.58 118**	*e*P	Pn	03 18 22.4	-1.8
STVI			eS	Sn	03 18 41.1	-2.5
TBVI	**Tortola**	**1.84 112**	*e*P	Pn	03 18 26.3	-1.5
TBVI	**Tortola**	**1.84 112**	*e*P	Pn	03 18 26.3	-1.5
SDDR	**Presa de Saban**	**4.61 269**	*e*Pn	Pn	03 19 06.2	+0.2
SDDR			eSn	Sn	03 19 59.0	+0.3

CASC 12 03:19:23.9±1.5, 8°.60N×83°.30W, h0km±9km, MD4.0, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.14**	**69**	*i*P	Pg	03 19 27.7	+1.0
BUS	**Buena Vista**	**1.05**	**334**	*i*P	Pg	03 19 44.3	-0.3
BUS				eS	Sb	03 19 59.8	-0.5
QCR	**Quepos**	**1.18**	**314**	*e*P	Pg	03 19 45.9	-0.7
QCR				eS	Sb	03 20 03.8	+0.7
LAJ	**Bijagual**	**1.49**	**327**	*e*P	Pg	03 19 53.9	+1.0
LAJ				eS	Sn	03 20 18.6	+5.9
SJS	**Escuela Geolog**	**1.52**	**331**	*e*P	Pn	03 19 51.8	-0.8
SJS				eS	Sn	03 20 14.4	+1.1
CGA2	**Cerro Gallo 2**	**1.81**	**321**	*e*P	Pn	03 19 56.8	+0.2
CGA2				eS	Sg	03 20 22.6	-0.1

NEIC ***12*** *03:25:49.1, 19°.15N×66°.41W, h28km, MD3.1(RSPR), After RSPR.*

RSPR 12 03:25:49.1, 19°.15N×66°.41W, h28km±17km, MD3.1/14, 33C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.86**	**203**	*e*P	Pn	03 26 03.2	-2.3
AOPR	**Arecibo Observ**	**0.86**	**203**	*e*P	Pn	03 26 03.1	-2.4
AOPR	**Arecibo Observ**	**0.86**	**203**	*e*P	Pn	03 26 03.1	-2.4
AOPR				eS	Sb	03 26 14.0	-2.8
LRS	**Lares**	**0.95**	**206**	*e*P	Pn	03 26 04.2	-2.5
LRS				eS	Sb	03 26 16.7	-2.6
LRS	**Lares**	**0.95**	**206**	*e*P	Pn	03 26 04.6	-2.1
LRS	**Lares**	**0.95**	**206**	*e*P	Pn	03 26 04.6	-2.1
LRS				eS	Sb	03 26 16.7	-2.6
AGPR	**Aguadilla, PR**	**0.95**	**225**	*e*P	Pn	03 26 03.8	-2.9
AGPR	**Aguadilla, PR**	**0.95**	**225**	*e*P	Pn	03 26 03.8	-2.9
CBYP	**Canovanas**	**1.01**	**149**	*e*P	Pn	03 26 05.5	-2.2
CBYP	**Canovanas**	**1.01**	**149**	*e*P	Pn	03 26 05.6	-2.1
CBYP	**Canovanas**	**1.01**	**149**	*e*P	Pn	03 26 05.6	-2.1
CBYP				eS	Sn	03 26 18.0	-3.0
CBYP				eS	Sb	03 26 18.3	-3.0
SJG	**San Juan**	**1.06**	**167**	*e*P	Pn	03 26 06.6	-1.6
SJG	**San Juan**	**1.06**	**167**	*e*P	Pn	03 26 06.2	-2.0
SJG				eS	Sn	03 26 19.9	-2.1
SJG	**San Juan**	**1.06**	**167**	*e*P	Pn	03 26 06.3	-1.9
SJG	**San Juan**	**1.06**	**167**	*e*P	Pn	03 26 06.2	-2.0
SJG	**San Juan**	**1.06**	**167**	*e*P	Pn	03 26 06.6	-1.6
SJG				eS	Sn	03 26 19.9	-2.1
CELP	**Cerrillos**	**1.08**	**189**	*e*P	Pn	03 26 06.6	-1.9
CELP				eS	Sn	03 26 20.0	-2.5
CELP	**Cerrillos**	**1.08**	**189**	*e*P	Pn	03 26 06.6	-1.8
CELP	**Cerrillos**	**1.08**	**189**	*e*P	Pn	03 26 06.6	-1.8
CELP				eS	Sn	03 26 20.0	-2.5
OBIP	**Obispado Ponce**	**1.11**	**190**	*e*P	Pn	03 26 07.8	-1.8
OBIP	**Obispado Ponce**	**1.11**	**190**	*e*P	Pn	03 26 07.2	-1.7
OBIP	**Obispado Ponce**	**1.11**	**190**	*e*P	Pn	03 26 07.1	-1.8
OBIP				eS	Sn	03 26 20.5	-2.9
HUMP	**Col San Antoni**	**1.13**	**152**	*e*P	Pn	03 26 07.1	-2.1
HUMP	**Col San Antoni**	**1.13**	**152**	*e*P	Pn	03 26 07.2	-2.0
HUMP	**Col San Antoni**	**1.13**	**152**	*e*P	Pn	03 26 07.1	-2.1
HUMP				eS	Sn	03 26 20.8	-2.9
HUMP				eS	Sb	03 26 21.1	-3.3
LSP	**Las Mesas**	**1.16**	**214**	*e*P	Pn	03 26 07.5	-2.1
LSP				eS	Sn	03 26 21.9	-2.7
LSP	**Las Mesas**	**1.16**	**214**	*e*P	Pn	03 26 07.7	-2.0
LSP	**Las Mesas**	**1.16**	**214**	*e*P	Pn	03 26 07.7	-2.0
LSP				eS	Sn	03 26 21.9	-2.7
CPD	**Cerro la Pandu**	**1.20**	**157**	*e*P	Pn	03 26 08.4	-1.7
CPD	**Cerro la Pandu**	**1.20**	**157**	*e*P	Pn	03 26 08.4	-1.7
CPD	**Cerro la Pandu**	**1.20**	**157**	*e*P	Pn	03 26 08.4	-1.7
CPD				eS	Sn	03 26 23.1	-2.5
CRPR	**Cabo Rojo, PR**	**1.32**	**211**	*e*P	Pn	03 26 10.0	-1.7
CRPR	**Cabo Rojo, PR**	**1.32**	**211**	*e*P	Pn	03 26 10.1	-1.6
CRPR	**Cabo Rojo, PR**	**1.32**	**211**	*e*P	Pn	03 26 10.0	-1.7
CRPR				eS	Sn	03 26 26.2	-2.1
MTP	**Monte Pirata**	**1.32**	**142**	*e*P	Pn	03 26 09.7	-2.1
MTP	**Monte Pirata**	**1.32**	**142**	*e*S	Sn	03 26 25.5	-3.0
MTP	**Monte Pirata**	**1.32**	**142**	*e*P	Pn	03 26 09.7	-2.0
MTP	**Monte Pirata**	**1.32**	**142**	*e*P	Pn	03 26 09.7	-2.1
MTP				eS	Sn	03 26 25.5	-3.0
STVI	**Saint Thomas**	**1.59**	**120**	*e*P	Pn	03 26 13.8	-1.6
STVI	**Saint Thomas**	**1.59**	**120**	*e*S	Sn	03 26 32.4	-2.7
STVI	**Saint Thomas**	**1.59**	**120**	*e*P	Pn	03 26 13.5	-1.9
STVI	**Saint Thomas**	**1.59**	**120**	*e*P	Pn	03 26 13.8	-1.6
STVI				eS	Sn	03 26 32.4	-2.7
SDDR	**Presa de Saban**	**4.62**	**269**	*e*Pn	Pn	03 26 58.8	+1.5
SDDR				eSn	Sn	03 27 49.5	-0.6

NEIC ***12*** *03:29:40.3, 19°.18N×66°.43W, h25km, MD3.2(RSPR), After RSPR.*

RSPR 12 03:29:40.3, 19°.18N×66°.43W, h25km±19km, MD3.2/25, 17C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.89**	**200**	*e*P	Pb	03 29 54.8	-2.3
AOPR	**Arecibo Observ**	**0.89**	**200**	*e*P	Pb	03 29 54.9	-2.3
AOPR				eS	Sb	03 30 06.8	-1.8
AOPR	**Arecibo Observ**	**0.89**	**200**	*e*S	Sb	03 30 06.2	-2.4
AOPR				eS	Sb	03 30 06.2	-2.4
AOPR	**Arecibo Observ**	**0.89**	**200**	*e*P	Pb	03 29 54.8	-2.3
AOPR				eS	Sb	03 30 06.8	-1.8
AGPR	**Aguadilla, PR**	**0.96**	**222**	*e*P	Pn	03 29 55.5	-2.8
AGPR	**Aguadilla, PR**	**0.96**	**222**	*e*S	Sb	03 30 07.6	-3.1
AGPR				eS	Sn	03 30 08.0	-3.2
AGPR	**Aguadilla, PR**	**0.96**	**222**	*e*P	Pn	03 29 55.5	-2.8
AGPR				eS	Sb	03 30 07.6	-3.1
LRS	**Lares**	**0.97**	**204**	*i*P	Pn	03 29 55.8	-2.7
LRS				eS	Sb	03 30 07.9	-3.1
LRS	**Lares**	**0.97**	**204**	*i* Pu	Pn	03 29 55.8	-2.7
LRS				eS	Sb	03 30 07.9	-3.1
CBYP	**Canovanas**	**1.06**	**149**	*e*P	Pn	03 29 57.4	-2.3
CBYP	**Canovanas**	**1.06**	**149**	*e*P	Pn	03 29 57.4	-2.3
CBYP				eS	Sb	03 30 10.7	-2.8
CBYP	**Canovanas**	**1.06**	**149**	*e*S	Sb	03 30 10.5	-3.0
CBYP				eS	Sn	03 30 11.9	-1.8
CBYP	**Canovanas**	**1.06**	**149**	*e*P	Pn	03 29 57.4	-2.3
CBYP				eS	Sb	03 30 10.7	-2.8
SJG	**San Juan**	**1.10**	**166**	*e*P	Pn	03 29 57.8	-2.4
SJG	**San Juan**	**1.10**	**166**	*i*P	Pn	03 29 57.8	-2.4
SJG				eS	Sn	03 30 11.4	-3.2
SJG	**San Juan**	**1.10**	**166**	*i* Pu	Pn	03 29 57.8	-2.4
SJG				eS	Sn	03 30 11.4	-3.2
CELP	**Cerrillos**	**1.11**	**187**	*i*P	Pn	03 29 58.1	-2.3
CELP				eS	Sn	03 30 11.9	-3.0
CELP	**Cerrillos**	**1.11**	**187**	*i* Pu	Pn	03 29 58.1	-2.3
CELP				eS	Sn	03 30 11.9	-3.0
OBIP	**Obispado Ponce**	**1.15**	**188**	*e*P	Pn	03 29 58.6	-2.3
OBIP	**Obispado Ponce**	**1.15**	**188**	*e*S	Sn	03 30 12.6	-3.1
OBIP	**Obispado Ponce**	**1.15**	**188**	*e*P	Pn	03 29 58.6	-2.3
OBIP				eS	Sn	03 30 12.6	-3.1
HUMP	**Col San Antoni**	**1.17**	**152**	*e*P	Pn	03 29 58.8	-2.3
HUMP	**Col San Antoni**	**1.17**	**152**	*e*P	Pn	03 29 59.1	-2.1
HUMP				eS	Sn	03 30 13.6	-2.7
HUMP	**Col San Antoni**	**1.17**	**152**	*e*P	Pn	03 29 59.1	-2.1
HUMP				eS	Sn	03 30 13.6	-2.7
LSP	**Las Mesas**	**1.18**	**212**	*e*P	Pn	03 29 59.1	-2.2
LSP				eS	Sn	03 30 14.1	-2.5
LSP	**Las Mesas**	**1.18**	**212**	*e*P	Pn	03 29 59.1	-2.2
LSP				eS	Sn	03 30 14.1	-2.5
CPD	**Cerro la Pandu**	**1.24**	**157**	*e*P	Pn	03 29 59.8	-2.3
CPD	**Cerro la Pandu**	**1.24**	**157**	*e*S	Sn	03 30 15.5	-2.7
CPD	**Cerro la Pandu**	**1.24**	**157**	*e*P	Pn	03 29 59.8	-2.3
CPD				eS	Sn	03 30 15.5	-2.7
GBPR	**Guanica, Bosqu**	**1.28**	**200**	*e*P	Pn	03 30 00.8	-1.8
GBPR	**Guanica, Bosqu**	**1.28**	**200**	*e*P	Pn	03 30 00.8	-1.8
CRPR	**Cabo Rojo, PR**	**1.34**	**209**	*e*P	Pn	03 30 01.5	-1.9
CRPR	**Cabo Rojo, PR**	**1.34**	**209**	*e*S	Sn	03 30 17.8	-2.7
CRPR	**Cabo Rojo, PR**	**1.34**	**209**	*e*P	Pn	03 30 01.5	-1.9
CRPR				eS	Sn	03 30 17.8	-2.7
MTP	**Monte Pirata**	**1.36**	**142**	*e*P	Pn	03 30 01.4	-2.4
MTP	**Monte Pirata**	**1.36**	**142**	*e*S	Sn	03 30 17.5	-3.6
MTP	**Monte Pirata**	**1.36**	**142**	*e*P	Pn	03 30 01.4	-2.4
MTP				eS	Sn	03 30 17.5	-3.6
STVI	**Saint Thomas**	**1.62**	**120**	*e*S	Sn	03 30 24.4	-3.1
STVI	**Saint Thomas**	**1.62**	**120**	*e*P	Pn	03 30 05.5	-1.8
STVI	**Saint Thomas**	**1.62**	**120**	*e*P	Pn	03 30 05.5	-1.8
STVI				eS	Sn	03 30 24.4	-3.1
TBVI	**Tortola**	**1.88**	**114**	*e*P	Pn	03 30 09.7	-1.2
TBVI				eS	Sn	03 30 30.4	-3.4
TBVI	**Tortola**	**1.88**	**114**	*e*P	Pn	03 30 09.7	-1.2
TBVI				eS	Sn	03 30 30.4	-3.4
CDVI	**St. Croix**	**2.12**	**132**	*e*P	Pn	03 30 14.7	+0.5
CDVI				eS	Sn	03 30 40.2	+0.3
CDVI	**St. Croix**	**2.12**	**132**	*e*P	Pn	03 30 14.7	+0.5
CDVI				eS	Sn	03 30 40.2	+0.3
DR12	**Loma Pena Alta**	**2.82**	**262**	*e*P	Pn	03 30 23.8	-0.1
DR12	**Loma Pena Alta**	**2.82**	**262**	*e*P	Pn	03 30 23.8	-0.1
SDDR	**Presa de Saban**	**4.60**	**268**	*e*Pn	Pn	03 30 49.7	+1.3
SDDR				eSn	Sn	03 31 39.5	-1.7

CASC 12 03:31:37.0±3.0, 8°.68N×83°.20W, h0km±14km, MD3.9, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.04**	**132**	*i*P	Pg	03 31 38.7	+0.8
BUS	**Buena Vista**	**1.02**	**328**	*e*P	Pg	03 31 55.8	-1.5
QCR	**Quepos**	**1.20**	**308**	*e*P	Pg	03 31 58.0	-2.1
QCR				eS	Sb	03 32 16.9	+0.1
LAJ	**Bijagual**	**1.48**	**322**	*e*P	Pn	03 32 05.5	-0.2
SJS	**Escuela Geolog**	**1.50**	**326**	*e*P	Pn	03 32 05.0	-0.4
SJS				eS	Sn	03 32 27.9	+2.0
CGA2	**Cerro Gallo 2**	**1.82**	**317**	*e*P	Pn	03 32 08.7	-1.1
CGA2				eS	Sg	03 32 36.0	+0.1
PTEN	**Parque Tenorio**	**2.68**	**319**	*i*P	Pn	03 32 21.9	+0.4
COLC	**Colonia**	**2.79**	**315**	*i*P	Pn	03 32 25.1	+2.1
MESS	**Mesas**	**2.83**	**316**	*i*P	Pn	03 32 24.8	+1.2
NY14	**Universidad de**	**3.02**	**311**	*i*P	Pn	03 32 27.0	+0.9
LAPC	**Finca la Perla**	**3.02**	**313**	*i*P	Pn	03 32 27.0	+0.8
LAPC				*i*S	Sn	03 33 04.6	+1.4
GBS3	**Finca Las lm˜¡**	**3.05**	**313**	*i*P	Pn	03 32 27.2	+0.7

MEX 12 03:40:24.4±0.8, 17°.13N×100°.28W, h42km±8km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.08**	**172**	*e*P	Pn	03 40 29.5	-1.6
CAIG				*i*S	Sn	03 40 34.1	-1.7
MEIG	**Mezcala**	**1.01**	**38**	*e*P	Pn	03 40 40.4	-1.9
MEIG				*i*S	Sn	03 40 53.5	-1.8
ARIG	**Puente Sto Nin**	**1.14**	**357**	*e*P	Pn	03 40 41.5	-2.5
ARIG				*i*S	Sn	03 40 56.4	-2.2
ZIIG	**Zihuatanejo**	**1.23**	**293**	*e*P	Pn	03 40 43.4	-1.7
ZIIG				*i*S	Sn	03 40 58.6	-1.9
PLIG	**Platanillo**	**1.46**	**30**	*i*P	Pn	03 40 47.1	-1.3
PLIG				*i*S	Sn	03 41 04.6	-1.8
YAIG	**Yautepec**	**2.07**	**34**	*i*P	Pn	03 40 56.2	-0.8
YAIG				*i*S	Sn	03 41 19.2	-2.5
PNIG	**Pinotepa**	**2.19**	**109**	*i*P	Pn	03 40 57.4	-1.0
PNIG				*i*S	Sn	03 41 22.2	-2.1
UTMO	**Huajuapan**	**2.46**	**73**	*i*P	Pn	03 41 02.7	+0.3
UTMO				*i*S	Sn	03 41 33.4	+1.9
PPM	**Popocatepetl**	**2.48**	**39**	*i*P	Pn	03 41 05.2	+2.2

ISCJB ***12*** *03:45:17.2±0.3, 32°.18N±0°.03×105°.14E±0°.04, h14km, mb4.0/29, MS3.4/1, Error ellipse: s-maj=4.5km s-min=3.7km az=152.8*

IDC ***12*** *03:45:17.4±0.7, 32°.24N×105°.15E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/31, mbtmp3.9/19, ML3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/51, Error ellipse: s-maj=26.4km s-min=13.6km az=52.0*

NEIC ***12*** *03:45:18.8±0.2, 32°.20N×105°.05E, h10km, mb4.1/12, Error ellipse: s-maj=6.3km s-min=4.6km az=63.0*

BJI ***12*** *03:45:19.7, 32°.26N×104°.91E, h17km, mB4.1/1, mb3.6/2, ML4.1/15, Ms3.9/5, Ms7 3.6/5*

ISC 12 03:45:19.4±0.4, 32°.20N±0°.03×105°.14E±0°.04, h14km, n71, σ1s 10/82, mb4.1/29, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.74**	**223**	Pg	**Pn**	**03 45 50.0**	**+0.7**
CD2				Sg	**Sb**	**03 46 13.4**	**+0.4**
CD2				smax	smax		
	comp=N,4μm,0.7s						
CD2				smax	smax		
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**3.67**	**59**	Pn	**Pn**	**03 46 16.7**	**+1.0**
XAN				Pg	**Pb**	**03 46 25.4**	**+1.5**
XAN				Sn	**Sb**	**03 47 05.1**	**-3.2**
XAN				Sg	**Sg**	**03 47 16.5**	**-0.6**
XAN				smax	smax		
	comp=N,390nm,0.6s						
XAN				smax	smax		
	comp=E,170nm,0.7s						
LZH	**Lanzhou**	**4.03**	**345**	Pn	**Pn**	**03 46 21.1**	**+0.3**
LZH				Pg	**Pb**	**03 46 31.1**	**+0.9**
LZH				Sn	**Sn**	**03 47 07.8**	**0.0**
LZH				Sg	**Sb**	**03 47 20.9**	**+2.1**
LZH				smax	smax		
	comp=N,470nm,1.0s						
LZH				smax	smax		
	comp=E,920nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,6.7s						
LZH				LR	LR		
	comp=E,1μm,6.8s						
LZH				LR	LR		
	comp=Z,1μm,8.0s						
ENH	**Enshi**	**4.19**	**116**	*e*Pn	**Pn**	**03 46 25.4**	**+2.5**
ENH				*e*Pg	**Pg**	**03 46 39.8**	**+0.2**
ENH				*e*Sg	**Sg**	**03 47 34.3**	**+0.5**
GYA	**Guiyang**	**5.87**	**167**	Pn	**Pn**	**03 46 47.7**	**+1.6**
GYA				Sn	**Sn**	**03 47 55.5**	**+2.3**
GYA				Sg	**Sg**	**03 48 24.6**	**-3.2**
GYA				smax	smax		
	comp=N,160nm,0.8s						
GYA				smax	smax		
	comp=E,150nm,0.8s						
GYA				LR	LR		
	comp=N,380nm,4.3s						
GYA				LR	LR		
	comp=E,280nm,4.7s						
GYA				LR	LR		
	comp=Z,460nm,5.9s						
WHN	**Wuhan**	**8.04**	**99**	P	Pb	03 47 33.9	-4.6
WHN				S	**Sn**	**03 48 45.3**	**-1.2**
GTA	**Gaotai**	**8.40**	**330**	*e*P	**Pn**	**03 47 22.1**	**+1.4**
GTA				pP	pP	03 47 25.8	
GTA				sP	sP	03 47 28.1	
GTA				S	**Sn**	**03 48 56.6**	**+1.2**
GTA				sS	sS	03 49 01.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,36nm,4.0s						
GTA				LR	LR		
	comp=N,370nm,9.5s						
GTA				LR	LR		
	comp=E,280nm,9.3s						
GTA				LR	LR		
	comp=Z,370nm,9.5s						
CHTO	**Chiang Mai**	**14.45**	**204**	*e*Pn	**Pn**	**03 48 42.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**14.78**	**204**	Pn	**Pn**	**03 48 48.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=13,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**14.78**	**204**	Pn	**Pn**	**03 48 48.0**	**-0.1**
SONM	**Songino Array**	**15.65**	**3**	Pn	**Pn**	**03 48 59.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=188,slow=8.7,SNR=2.1						
SONM	**Songino Array**	**15.65**	**3**	Pn	**Pn**	**03 48 59.6**	**+0.1**
ULN	**Ulaanbaatar**	**15.72**	**5**	*e*Pn	**Pn**	**03 49 01.0**	**+0.5**
	comp=Z,4.0nm,1.0s						
KSAR	**Wonju Array Be**	**19.38**	**68**	P	**Pn**	**03 49 45.9**	**0.0**
KSRS	**Korea Array**	**19.41**	**68**	P	**Pn**	**03 49 45.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=252,slow=10,SNR=7.8						
TLY	**Talaya**	**19.50**	**357**	*e*P	**P**	**03 49 46.4**	**+0.4**
HIA	**Hailar**	**20.27**	**28**	*e*P	**P**	**03 49 54.7**	**+0.3**
MK31	**Makanchi Array**	**22.77**	**316**	*e*P	**P**	**03 50 20.1**	**-1.2**
MKAR	**Makanchi Array**	**22.77**	**316**	P	**P**	**03 50 20.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=118,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**22.77**	**316**	P	**P**	**03 50 20.2**	**-1.1**
TKM2	**Tokmak 2**	**25.63**	**303**	*e*P	**P**	**03 50 48.8**	**+0.1**
	comp=Z,3.2nm,1.0s						
ZALV	**Zalesovo Beam**	**26.15**	**332**	P	**P**	**03 50 52.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=144,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**26.15**	**332**	P	**P**	**03 50 52.8**	**-0.2**
AAK	**Ala-Archa**	**26.35**	**302**	LR	LR	04 03 21.4	
	comp=Z,106nm,18.7s,baz=352,slow=41						
AAK	**Ala-Archa**	**26.35**	**302**	*e*P	**P**	**03 50 53.8**	**-1.3**
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**26.92**	**321**	P	**P**	**03 50 59.6**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=119,slow=11,SNR=8.5						
KURK	**Kurchatov**	**26.93**	**321**	*e*P	**P**	**03 50 59.5**	**-0.5**
	comp=Z,7.3nm,1.4s						
MAJO	**Matsushiro**	**27.55**	**72**	*e*P	**P**	**03 51 04.8**	**-1.0**
KBL	**Kabul**	**30.14**	**284**	*e*P	**P**	**03 51 26.9**	**-2.2**
BVAR	**Borovoye Array**	**32.50**	**320**	P	**P**	**03 51 50.7**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=116,slow=10,SNR=4.5						
BVAR	**Borovoye Array**	**32.50**	**320**	P	**P**	**03 51 50.7**	**+1.2**
BRVK	**Borovoye**	**32.58**	**320**	*e*P	**P**	**03 51 49.2**	**-0.9**
ABKAR	**Akbulak array**	**37.62**	**310**	*e*P	**P**	**03 52 32.9**	**-0.7**
	comp=Z,2.4nm,0.8s						
AKTO	**Aktyubinsk**	**39.05**	**312**	P	**P**	**03 52 45.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=105,slow=19,SNR=3.1						
AKTO	**Aktyubinsk**	**39.05**	**312**	P	**P**	**03 52 45.6**	**0.0**
ARU	**Arti**	**40.12**	**321**	*e*P	**P**	**03 52 54.3**	**-0.1**
	comp=Z,4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.73**	**156**	*e*P	**P**	**03 54 41.0**	**-0.1**
	comp=Z,0.8nm,0.7s						
JOF	**Joensuu**	**54.58**	**327**	*e*p	**P**	**03 54 44.0**	**-2.9**
	comp=Z,1.9nm,0.8s						
MBWA	**Marble Bar**	**54.86**	**163**	*e*P	**P**	**03 54 50.0**	**+0.6**
KEV	**Kevo**	**56.10**	**336**	*e*p	**P**	**03 54 54.9**	**-2.8**
ARCES	**ARCESS Array B**	**56.63**	**336**	P	**P**	**03 55 02.4**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=81,slow=7.6,SNR=10.0						
ARCES	**ARCESS Array B**	**56.63**	**336**	P	**P**	**03 55 02.4**	**+0.8**
BR131	**Keskin Array S**	**56.98**	**299**	*e*P	**P**	**03 55 04.7**	**+0.1**
BRTR	**Keskin Array B**	**56.98**	**299**	P	**P**	**03 55 04.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=111,slow=6.3,SNR=2.8						
BRTR	**Keskin Array B**	**56.98**	**299**	P	**P**	**03 55 04.8**	**+0.1**
FINES	**FINESS Array B**	**57.16**	**326**	P	**P**	**03 55 06.0**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=90,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**57.16**	**326**	P	**P**	**03 55 06.0**	**+0.7**
AKASG	**Malin Array Be**	**57.29**	**313**	P	**P**	**03 55 06.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=67,slow=7.4,SNR=3.2						
AKASG	**Malin Array Be**	**57.29**	**313**	P	**P**	**03 55 06.8**	**+0.3**
COEN	**Coen**	**58.58**	**136**	*e*P

CASC ***12*** *04:03:04.9±3.3, 8°.74N×83°.25W, h0km±11km, MD4.1*
IDC ***12*** *04:03:07.6±6.1, 9°.73N×82°.89W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/24, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=149.1km s-min=21.1km az=3.0*

ISC 12 04:03:03.7±2.1, 8°.83N±0°.08×83°.1W±0°.1, h3km±12km, n18, σ1§59/22, mb3.5/3, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.18**	**191**	⇑*iP*	**Pg**	**04 03 07.3**	**+0.1**
BUS	**Buena Vista**	**0.95**	**319**	*eP*	**Pg**	**04 03 21.9**	**-0.1**
BUS				*eS*	**Sn**	**04 03 38.7**	**+0.1**
QCR	**Quepos**	**1.18**	**300**	⇓*iP*	**Pb**	**04 03 25.9**	**-0.8**
QCR				*eS*	**Sb**	**04 03 41.6**	**-0.8**
LAJ	**Bijagual**	**1.41**	**316**	*eP*	Pg	04 03 34.5	+3.7
SJS	**Escuela Geolog**	**1.43**	**320**	*eP*	**Pg**	**04 03 31.4**	**+0.3**
SJS				*eS*	**Sg**	**04 03 53.0**	**+3.4**
CGA2	**Cerro Gallo 2**	**1.76**	**312**	*eP*	**Pb**	**04 03 35.8**	**-1.0**
CGA2				*eS*	**Sg**	**04 04 00.2**	**-0.2**
JTS	**JuntasAbangare**	**2.31**	**309**	Pn	**Pb**	**04 03 44.3**	**-1.7**
	75nm,0.3s,baz=274,slow=13,SNR=52						
JTS				Lg	Lg	04 04 14.1	
	35nm,0.3s,baz=330,slow=21,SNR=9.6						
AMAS	**Alto Masis**	**2.55**	**314**	*iP*	**Pb**	**04 03 49.1**	**-1.0**
PTEN	**Parque Tenorio**	**2.62**	**316**	*iP*	**Pb**	**04 03 49.7**	**-1.6**
PTEN				*i*S	**Sg**	**04 04 25.4**	**-2.4**
COLC	**Colonia**	**2.73**	**312**	*iP*	**Pb**	**04 03 51.7**	**-1.6**
MESS	**Mesas**	**2.78**	**313**	*iP*	**Pb**	**04 03 51.8**	**-2.3**
LAPC	**Finca la Perla**	**2.97**	**310**	*iP*	**Pn**	**04 03 52.1**	**+0.3**
NY14	**Universidad de**	**2.98**	**307**	*iP*	**Pn**	**04 03 53.0**	**+1.2**
GBS3	**Finca Las Mˆ¡**	**3.00**	**310**	*iP*	**Pn**	**04 03 53.8**	**+1.6**
CMIG	**Matias Romero**	**14.08**	**307**	Pn	**Pn**	**04 06 25.7**	**+1.4**
	0.3nm,0.3s,baz=143,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**43.20**	**319**	P	**P**	**04 11 07.8**	**+1.4**
	0.3nm,0.4s,baz=138,slow=7.2,SNR=3.2						
YKA	**Yellowknife Ar**	**58.23**	**343**	P	**P**	**04 12 57.4**	**-1.7**
	0.3nm,0.6s,baz=141,slow=6.8,SNR=7.0						
ILAR	**Eielson Array**	**71.03**	**336**	P	**P**	**04 14 22.3**	**-0.4**
	0.6nm,0.8s,baz=130,slow=4.6,SNR=7.5						

IDC 12 04:16:47.1±4.8, 35°.28S×179°.57W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/16, mbtmp4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx3.2/18, Error ellipse: s-maj=212.0km s-min=58.8km az=165.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.97**	**313**	LR	LR	04 26 41.3	
	comp=Z,126nm,19.2s,baz=204,slow=33						
STKA	**Stephens Creek**	**32.40**	**265**	LR	LR	04 34 01.1	
	comp=Z,76nm,21.2s,baz=25,slow=32						
ASAR	**Alice Springs**	**41.79**	**273**	P	P	04 24 38.5	0.0
	1.0nm,0.6s,baz=116,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**43.22**	**278**	P	P	04 24 49.9	-0.3
	2.9nm,0.6s,baz=120,slow=7.6,SNR=52						
FINES	**FINESS Array B**	**149.17**	**336**	PKPbc	PKPbc	04 36 36.1	-0.5
	1.6nm,0.8s,baz=64,slow=4.4,SNR=4.7						

ISCJB ***12*** *04:17:50.3±0.6, 51°.49N±0°.03×16°.18E±0°.04, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=29.6*
CSEM ***12*** *04:17:51.8±0.2, 51°.51N×16°.17E, h2km, ML3.2/8, Error ellipse: s-maj=3.6km s-min=3.6km az=35.0*
WAR ***12*** *04:17:53.5, 51°.47N×16°.10E*
VIE ***12*** *04:17:54.9±0.4, 51°.28N×16°.21E, h0km, mb2.2/4, ML2.6/4, Error ellipse: s-maj=2.5km s-min=2.4km az=32.0 59 km WNW of Wroclaw Suspected Mining induced.*
PRU ***12*** *04:17:54.0, 51°.44N×16°.16E, h0km*

ISC 12 04:17:51.7±0.9, 51°.54N±0°.03×16°.19E±0°.02, h0km, n32, σ0§67/66, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**175**	*e*Pg	**Pg**	**04 18 05.4**	**+0.4**
KSP				*e*Sg	**Sg**	**04 18 14.5**	**+0.5**
KSP	**Ksiaz**	**0.70**	**175**	⇓*i*Pg	**Pg**	**04 18 05.6**	**+0.6**
KSP				*e*Sg	**Sg**	**04 18 13.2**	**-0.8**
KSP	**Ksiaz**	**0.70**	**175**	*e*Pg	**Pg**	**04 18 05.3**	**+0.4**
KSP				*e*Sg	**Sg**	**04 18 14.5**	**+0.5**
UPC	**Upice**	**1.04**	**186**	*e*PG	**Pg**	**04 18 11.8**	**+0.3**
UPC				*e*SG	**Sg**	**04 18 23.4**	**-1.5**
	comp=Z,24nm,0.4s						
UPC	**Upice**	**1.04**	**186**	Pg	**Pg**	**04 18 11.8**	**+0.3**
UPC				Sg	**Sg**	**04 18 23.4**	**-1.5**
	24nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**176**	*e*PG	**Pg**	**04 18 14.4**	**0.0**
DPC				*e*SG	**Sg**	**04 18 29.3**	**-0.5**
	comp=Z,28nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**176**	Pg	**Pg**	**04 18 14.4**	**0.0**
DPC				Sg	**Sg**	**04 18 29.3**	**-0.5**
	28nm,0.4s						
PVCC	**Panska Ves**	**1.44**	**226**	*e*PG	**Pg**	**04 18 19.2**	**0.0**
PVCC				*e*SG	**Sg**	**04 18 37.5**	**-0.3**
	comp=Z,72nm,0.2s						
PVCC	**Panska Ves**	**1.44**	**226**	Pg	**Pg**	**04 18 19.2**	**0.0**
PVCC				Sg	**Sg**	**04 18 37.5**	**-0.3**
	72nm,0.2s						
KRLC	**Kraliky**	**1.51**	**165**	*e*PG	**Pn**	**04 18 20.1**	**+0.1**
KRLC				*e*SG	**Sg**	**04 18 39.0**	**-1.1**
KRLC	**Kraliky**	**1.51**	**165**	Pg	**Pn**	**04 18 20.1**	**+0.1**
KRLC				Sg	**Sg**	**04 18 39.0**	**-1.1**
BRG	**Berggiesshubel**	**1.56**	**246**	PN	**Pn**	**04 18 21.0**	**+0.4**
BRG				PG	**Pg**	**04 18 21.8**	**+0.3**
BRG				SG	**Sg**	**04 18 42.1**	**+0.3**
	36nm,0.2s						
PRU	**Pruhonice**	**1.87**	**215**	*e*PG	**Pb**	**04 18 26.8**	**+0.1**
PRU				*e*SG	**Sb**	**04 18 50.3**	**-0.2**
	comp=Z,13nm,0.3s						
PRU	**Pruhonice**	**1.87**	**215**	Pg	**Pb**	**04 18 26.8**	**+0.1**
PRU				Sg	**Sb**	**04 18 50.3**	**-0.2**
	13nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn	**Pn**	**04 18 26.0**	**-0.2**
MORC				*e*Sg	**Sb**	**04 18 53.6**	**+0.4**
CLL	**Collm**	**2.01**	**265**	*e*Pg	**Pb**	**04 18 29.0**	**0.0**
CLL				*i*		04 18 33.9	
CLL				*i* Sg	**Sg**	**04 18 56.9**	**+0.8**
	comp=Z,12nm,0.5s						
VRAC	**Vranov**	**2.25**	**173**	*e*Pn	**Pn**	**04 18 30.3**	**+0.2**
VRAC				*e*Sg	**Sb**	**04 19 01.5**	**+0.1**
OJC	**Ojcow**	**2.64**	**119**	*e*Pg	**Pg**	**04 18 42.1**	**-0.1**
OJC				*e*Sg	**Sg**	**04 19 16.4**	**0.0**
OJC	**Ojcow**	**2.64**	**119**	*e*Pg	**Pg**	**04 18 42.1**	**-0.1**
OJC				*e*Sg	**Sg**	**04 19 16.4**	**0.0**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PG	**Pg**	**04 18 43.1**	**-0.4**
NKC				*e*SG	**Sg**	**04 19 18.8**	**+0.3**
	comp=Z,21nm,0.3s						
NKC	**Novy Kostel**	**2.70**	**243**	Pg	**Pg**	**04 18 43.1**	**-0.4**
NKC				Sg	**Sg**	**04 19 18.8**	**+0.3**
	comp=Z,21nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN	**Pn**	**04 18 40.3**	**+0.8**
KHC				*e*PG	**Pb**	**04 18 46.0**	**+1.2**
KHC				*e*SN	**Sn**	**04 19 15.4**	**0.0**
KHC				*e*SG	**Sg**	**04 19 24.5**	**-1.3**
	comp=Z,6.3nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**216**	Pn	**Pn**	**04 18 40.3**	**+0.8**
NIE	**Niedzica**	**3.38**	**127**	*e*P	**Pg**	**04 18 57.3**	**+0.9**
NIE				*e*S	**Sg**	**04 19 42.0**	**+1.8**
VYHS	**Vyhne**	**3.49**	**150**	*e*PN	**Pn**	**04 18 47.4**	**+0.2**
VYHS				*e*SG	**Sg**	**04 19 42.6**	**-1.1**
VYHS	**Vyhne**	**3.49**	**150**	*e*Pn	**Pn**	**04 18 47.4**	**+0.2**
VYHS				*e*Sg	**Sg**	**04 19 42.6**	**-1.1**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn	**Pn**	**04 18 48.5**	**-0.5**
CONA				⇑*i*Sg	**Sg**	**04 19 46.6**	**-1.2**
	comp=Z,4.3nm,0.3s						
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**04 18 48.5**	**-0.5**
CONA				Sg	**Sg**	**04 19 46.6**	**-1.2**
	comp=Z,4.3nm,0.3s						
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**04 18 49.0**	**-0.5**
BSD				*i* S	**Sn**	**04 19 32.9**	**-0.5**
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**04 18 49.0**	**-0.5**
BSD				*i* S	**Sn**	**04 19 32.9**	**-0.5**
MOA	**Molln**	**3.90**	**199**	⇑*i*Pn	**Pn**	**04 18 53.4**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**04 19 56.1**	**-0.6**
	comp=Z,4.0nm,0.3s						
MOA	**Molln**	**3.90**	**199**	Pn	**Pn**	**04 18 53.4**	**+0.7**
MOA				Sg	**Sg**	**04 19 56.1**	**-0.6**
	comp=Z,4.0nm,0.3s						

IGQ 12 04:19:58.3, 0°.20S×80°.10W, h9km±57km, Mb4.2, Ms4.0, 13C-9D, Error ellipse: s-maj=4.5km s-min=1.6km az=3.2,

Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.12**	**240**	⇓*iP*	**Pg**	**04 20 03.1**	**+1.8**
GOLV	**Golondrinas**	**1.04**	**67**	S	Sn	04 20 35.3	+1.5
GOLV	**Golondrinas**	**1.04**	**67**	P	Pg	04 20 18.1	-0.3
CHIS	**Cerro-Chispas-**	**1.05**	**217**	⇓*iS*	Sg	04 20 30.9	-1.5
CHIS	**Cerro-Chispas-**	**1.05**	**217**	⇓*iP*	Pg	04 20 16.5	-2.1
PINO	**Pino**	**1.49**	**88**	⇓*iP*	Pn	04 20 26.3	+0.3
JUA2	**San Juan 2**	**1.49**	**91**	⇑*iP*	Pb	04 20 26.4	-0.4
TERV	**Terraza Guagua**	**1.49**	**89**	P	Pn	04 20 26.4	+0.4
GGP	**Refugio Guagua**	**1.50**	**89**	⇓*iP*	Pn	04 20 26.1	-0.1
YANA	**Yana**	**1.53**	**87**	P	Pb	04 20 27.1	-0.3
CAMI	**Rancho Maria**	**1.66**	**107**	P	Pb	04 20 30.1	+0.4
NAS2	**Nasa**	**1.69**	**105**	P	Pg	04 20 30.9	-0.6
OTAV	**Otavalo**	**1.70**	**75**	⇑S	Sn	04 20 51.3	+0.3
OTAV	**Otavalo**	**1.70**	**75**	⇑P	Pn	04 20 28.8	0.0
PITA	**Cotopaxi Volc**	**1.70**	**102**	P	Pb	04 20 30.3	-0.1
BMOR	**Cotopaxi Volca**	**1.72**	**108**	⇑P	Pb	04 20 30.9	0.0
BREF	**Cotopaxi Volca**	**1.72**	**106**	⇑P	Pb	04 20 31.2	+0.3
MOV1	**Cotopaxi Vol s**	**1.73**	**107**	P	Pb	04 20 31.1	-0.1
BVC2	**Cotopaxi Volca**	**1.75**	**105**	⇑P	Pb	04 20 31.5	+0.3
VC1	**Cotopaxi 1**	**1.75**	**105**	⇓*iP*	Pb	04 20 31.8	+0.5
BTAM	**Cotopaxi Volca**	**1.77**	**106**	⇑P	Pb	04 20 31.9	+0.3
TAMB	**Tambo**	**1.80**	**106**	⇓*iP*	Pb	04 20 32.4	+0.3
COV1	**Cotopaxi Volc**	**1.81**	**105**	P	Pn	04 20 31.3	+0.8
COTA	**Cotacachi**	**1.84**	**73**	⇑S	Sb	04 20 56.6	+0.3
COTA	**Cotacachi**	**1.84**	**73**	⇑P	Pn	04 20 31.7	+1.0
PISA	**Pisayambo**	**1.91**	**117**	P	Pb	04 20 33.9	-0.1
IGUA	**Igualata**	**1.94**	**131**	P	Pb	04 20 35.0	+0.4
ANTI	**Antisana**	**1.95**	**97**	⇑S	Sg	04 21 02.8	+0.4
ANTI	**Antisana**	**1.95**	**97**	⇑P	Pb	04 20 34.5	-0.3
LITE	**Lita**	**2.00**	**60**	⇓*iS*	Sb	04 20 59.7	-0.5
LITE	**Lita**	**2.00**	**60**	⇓*iP*	Pn	04 20 32.7	+0.2
JUI6	**Alive**	**2.03**	**127**	P	Pb	04 20 35.8	-0.1
RETU	**Refugio**	**2.07**	**127**	P	Pb	04 20 36.9	+0.2
BMAS	**Trigal station**	**2.07**	**129**	P	Pb	04 20 36.0	-0.6
BRUN	**Tungurahua Vol**	**2.08**	**126**	P	Pb	04 20 36.0	-0.7
ARRY	**Arrayan**	**2.09**	**128**	P	Pb	04 20 36.7	-0.2
ULBA	**Ulba**	**2.10**	**126**	P	Pb	04 20 36.7	-0.3
CAYR	**Refugio Cayamb**	**2.10**	**84**	S	Sb	04 21 05.1	+0.9
CAYR	**Refugio Cayamb**	**2.10**	**84**	P	Pb	04 20 36.9	-0.5
PAT1	**Patacocha**	**2.11**	**128**	P	Pb	04 20 36.9	-0.4
CAYA	**Cayambe**	**2.12**	**83**	⇑S	Sb	04 21 05.1	+0.5
CAYA	**Cayambe**	**2.12**	**83**	⇑P	Pb	04 20 36.9	-0.8
RIOE	**Riobamba**	**2.13**	**136**	P	Pn	04 20 35.2	+0.7
CHAR	**Charly**	**2.43**	**87**	P	Pb	04 20 43.2	+0.4
CONE	**Cono NE Rev Vo**	**2.46**	**87**	P	Pg	04 20 45.4	-0.6
LAV4	**Lava4-Reventad**	**2.47**	**88**	P	Pb	04 20 43.5	+0.2
MACE	**Macas**	**2.79**	**137**	P	Pb	04 20 47.4	-1.2
CATE	**Catamayo**	**3.81**	**169**	P	Pn	04 21 00.1	+2.8

IDC 12 04:37:19.6±2.0, 2°.06N×127°.82E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=144.2km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.78**	**164**	P	P	04 42 23.2	-0.7
	0.7nm,0.4s,baz=344,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.25**	**167**	P	P	04 42 57.8	+1.2
	0.1nm,0.3s,baz=339,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**36.19**	**160**	P	P	04 44 23.4	-0.8
	1.1nm,0.3s,baz=341,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**59.54**	**325**	P	P	04 47 25.1	+0.1
	0.4nm,0.7s,baz=112,slow=8.2,SNR=3.7						

CASC 12 04:40:27.5±1.1, 8°.65N×83°.27W, h0km±25km, MD3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QCR	**Quepos**	**1.17**	**311**	*eP*	Pg	04 40 49.0	-1.0
QCR				*eS*	Sn	04 41 07.2	-0.7
CGA2	**Cerro Gallo 2**	**1.80**	**319**	*eP*	Pb	04 41 00.8	-0.7
CGA2				*eS*	Sg	04 41 25.3	-0.4

ISCJB ***12*** *04:59:40.4±0.6, 50°.27N±0°.04×18°.83E±0°.03, h0km, Error ellipse: s-maj=6.0km s-min=2.9km az=14.2*
WAR ***12*** *04:59:41.8, 50°.24N×18°.94E*
CSEM ***12*** *04:59:41.6±0.2, 50°.26N×18°.86E, h2km, ML2.7/5, Error ellipse: s-maj=6.2km s-min=2.9km az=8.0*
PRU ***12*** *04:59:42.3, 50°.25N×18°.85E, h0km*

ISC 12 04:59:41.5±0.9, 50°.25N±0°.04×18°.88E±0°.02, h0km, n26, σ0§82/40, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	**04 59 52.9**	**+0.1**
OJC				*e*Sg	**Sg**	**05 00 01.1**	**+0.7**
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	**04 59 52.9**	**+0.1**
OJC				*e*Sg	**Sg**	**05 00 01.1**	**+0.7**
OKC	**Ostrava-Krasne**	**0.63**	**229**	*e*PG	**Pg**	**04 59 54.1**	**+0.6**
OKC				*e*SG	**Sg**	**05 00 02.9**	**+1.3**
	comp=Z,36nm,0.7s						
OKC	**Ostrava-Krasne**	**0.63**	**229**	Pg	**Pg**	**04 59 54.1**	**+0.6**
OKC				Sg	**Sg**	**05 00 02.9**	**+1.3**
	36nm,0.7s						
MORC	**Moravsky Berou**	**0.98**	**242**	*e*Pg	**Pb**	**05 00 01.0**	**-0.4**
MORC				*e*Sg	**Sg**	**05 00 13.6**	**+0.6**
LIKS	**Likavka**	**1.21**	**173**	*e*SN	**Sb**	**05 00 21.4**	**0.0**
LIKS	**Likavka**	**1.21**	**173**	*e*Sn	**Sb**	**05 00 21.4**	**0.0**
NIE	**Niedzica**	**1.25**	**131**	*e*Pg	**Pg**	**05 00 05.5**	**+0.1**
NIE				*e*Sg	**Sb**	**05 00 22.9**	**+0.4**
NIE	**Niedzica**	**1.25**	**131**	*e*Pg	**Pg**	**05 00 05.5**	**+0.1**
NIE				*e*Sg	**Sb**	**05 00 22.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*PG	**Pn**	**05 00 12.0**	**+0.4**
DPC				*e*SG	**Sb**	**05 00 34.1**	**+0.2**
	comp=Z,23nm,0.7s						
DPC	**Dobruska-Polom**	**1.64**	**274**	Pg	**Pn**	**05 00 12.0**	**+0.4**
DPC				Sg	**Sb**	**05 00 34.1**	**+0.2**
	23nm,0.7s						
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**05 00 15.1**	**+0.1**
KSP				*e*Sg	**Sg**	**05 00 38.8**	**+1.1**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**05 00 15.1**	**+0.1**
KSP				*e*Sg	**Sg**	**05 00 38.8**	**+1.1**
VRAC	**Vranov**	**1.76**	**238**	*e*Pn	**Pn**	**05 00 13.8**	**+0.6**
VRAC				*e*Sg	**Sn**	**05 00 35.9**	**-0.3**
VYHS	**Vyhne**	**1.76**	**181**	*e*PN	**Pn**	**05 00 13.8**	**+0.6**
VYHS				*e*SN	**Sn**	**05 00 34.8**	**-1.5**
VYHS	**Vyhne**	**1.76**	**181**	*e*Pn	**Pn**	**05 00 13.8**	**+0.6**
VYHS				*e*Sn	**Sn**	**05 00 34.8**	**-1.5**
KOLS	**Kolonicke sedl**	**2.57**	**120**	*e*PN	**Pn**	**05 00 24.4**	**0.0**
KOLS	**Kolonicke sedl**	**2.57**	**120**	*e*Pn	**Pn**	**05 00 24.4**	**0.0**
PVCC	**Panska Ves**	**2.77**	**277**	*e*SG	**Sg**	**05 01 09.5**	**-0.9**
	comp=Z,6.6nm,0.3s						
PVCC	**Panska Ves**	**2.77**	**277**	Sg	**Sg**	**05 01 09.5**	**-0.9**
	6.6nm,0.3s						
PRU	**Pruhonice**	**2.80**	**266**	*e*SG	**Sg**	**05 01 11.5**	**0.0**
	comp=Z,3.8nm,0.5s						
PRU	**Pruhonice**	**2.80**	**266**	Sg	**Sg**	**05 01 11.5**	**0.0**
	3.8nm,0.5s						
BRG	**Berggiesshubel**	**3.21**	**283**	SG	**Sg**	**05 01 26.0**	**+1.6**
	4.9nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	*e*SG	**Sg**	**05 01 36.0**	**-1.7**
	comp=Z,8.4nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	Sg	**Sg**	**05 01 36.0**	**-1.7**
	8.4nm,0.6s						
CLL	**Collm**	**3.88**	**288**	*e*Sg	**Sg**	**05 01 45.0**	**-0.9**

ISCJB ***12*** *05:10:11.0±0.8, 4°.75S±0°.07×101°.55E±0°.06, h30km, mb3.8/8, Error ellipse: s-maj=9.9km s-min=7.8km az=17.8*
IDC ***12*** *05:10:15.4±2.4, 4°.56S×101°.78E, h40km±6km, mb3.5/8, mb1 3.7/8, mb1mx3.5/24, mbtmp3.5/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/38, Error ellipse: s-maj=106.9km s-min=14.6km az=54.0*
DJA ***12*** *05:10:15.0±1.1, 5°.S±4°×10°.2E±°, h17km±8km, M4.3/5, MLv4.3/5*

ISC 12 05:10:14.3±0.9, 4°.60S±0°.07×101°.71E±0°.08, h30km, n17, σ1§12/23, mb3.8/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBSI	**MBSI**	**1.01**	**34**	P	**Pn**	**05 10 32.7**	**+0.3**
MBSI				S	**Sn**	**05 10 43.4**	**-2.1**
MNAI	**Manna**	**1.27**	**79**	P	**Pn**	**05 10 36.4**	**+0.5**
MNAI				S	**Sb**	**05 10 53.9**	**+0.4**
KSI	**Kapahiang**	**1.29**	**43**	P	**Pn**	**05 10 36.2**	**-0.2**
KSI				S	**Sb**	**05 10 55.5**	**+1.2**
LWLI	**Liwa**	**2.38**	**100**	P	**Pn**	**05 10 52.7**	**+1.3**
LWLI				S	**Sn**	**05 11 20.3**	**+0.7**
KRJI	**Kerinci**	**2.51**	**354**	S	**Sb**	**05 11 29.7**	**+0.5**
KASI	**Kota Agung**	**2.92**	**108**	P	**Pn**	**05 10 58.8**	**0.0**
KASI				S	**Sn**	**05 11 31.3**	**-1.6**
PSI	**Prapat**	**7.86**	**339**	LR	LR	05 15 07.3	
	comp=Z,249nm,18.5s,baz=216,slow=38						
FITZ	**Fitzroy Crossi**	**26.97**	**122**	P	**P**	**05 15 52.8**	**-0.8**
	0.8nm,0.5s,baz=292,slow=7.4,SNR=8.3						
WRA	**Warramunga Arr**	**35.23**	**118**	P	**P**	**05 17 05.1**	**-1.3**
	0.6nm,0.4s,baz=302,slow=9.1,SNR=18						
ASAR	**Alice Springs**	**36.37**	**125**	P	**P**	**05 17 15.6**	**-0.6**
	0.9nm,0.6s,baz=297,slow=7.8,SNR=13						
STKA	**Stephens Creek**	**46.16**	**131**	P	**P**	**05 18 36.2**	**-0.3**
	1.3nm,0.5s,baz=305,slow=8.2,SNR=3.4						
SONM	**Songino Array**	**52.38**	**4**	P	**P**	**05 19 23.2**	**-0.6**
	0.4nm,0.5s,baz=182,slow=10,SNR=2.7						
SONM				pP	**pP**	**05 19 35.2**	**+2.2**
	1.0nm,0.5s,baz=192,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**53.98**	**344**	P	**P**	**05 19 34.8**	**-0.7**
	0.3nm,0.4s,baz=151,slow=9.9,SNR=3.5						
MKAR				pP	**pP**	**05 19 46.5**	**+1.9**
	0.8nm,0.4s,baz=138,slow=7.6,SNR=10						
KURBB	**Kurchatov Arra**	**58.52**	**343**	P	**P**	**05 20 07.4**	**-0.3**
	0.2nm,0.3s,baz=163,slow=6.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.03**	**349**	P	**P**	**05 20 17.7**	**-0.4**
	0.5nm,0.3s,baz=191,slow=5.1,SNR=2.6						
ZALV				pP	**pP**	**05 20 28.3**	**+0.9**
	3.0nm,0.7s,baz=159,slow=4.6,SNR=5.4						
BVAR	**Borovoye Array**	**63.20**	**339**	pP	pP	05 20 50.1	+1.2
	0.5nm,0.4s,baz=131,slow=7.9,SNR=2.7						
TXAR	**Lajitas Array**	**145.62**	**42**	PKPbc	**PKPab**	**05 29 50.9**	**-0.2**
	0.8nm,0.6s,baz=297,slow=2.0,SNR=8.5						
TXAR				pPKPbc	pPKPbc	05 30 02.9	+2.2
	1.3nm,0.6s,baz=288,slow=0.9,SNR=11						

IDC ***12*** *05:13:02.3±3.2, 34°.72N×71°.04E, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.4/31, mbtmp3.7/7, ML3.3/5, Error ellipse: s-maj=76.0km s-min=22.6km az=130.0*
ISCJB ***12*** *05:13:06.4±0.7, 34°.77N±0°.04×71°.01E±0°.09, h60km, mb3.7/2, Error ellipse: s-maj=11.6km s-min=4.5km az=156.3*
NNC ***12*** *05:13:09.9±2.6, 35°.33N×70°.56E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=27.0km s-min=17.5km az=57.0*

ISC 12 05:13:08.5±1.0, 34°.78N±0°.07×70°.9E±0°.1, h60km, n27, σ2§04/31, 2C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.28**	**138**	⇓*iP*	**Pn**	**05 13 28.7**	**-1.6**
CEP				S	**Sn**	**05 13 49.0**	**+2.4**
THW	**Thamme Wali**	**2.11**	**160**	P	Pn	05 13 45.7	+4.3
CHCP	**Chirah Chowk**	**2.27**	**119**	P	**Pn**	**05 13 46.0**	**+2.4**
KK31	**Karatay Array**	**8.31**	**358**	⇓*iPn*	**Pn**	**05 15 06.7**	**+0.4**
	1.6nm,0.4s,baz=173,slow=12,SNR=28						
KK31				Sn	**Sn**	**05 16 39.1**	**+0.4**
	2.8nm,0.7s,baz=180,slow=26,SNR=3.7						
AAK	**Ala-Archa**	**8.33**	**19**	Pn	**Pn**	**05 15 06.5**	**-0.2**
	1.1nm,0.3s,baz=175,slow=5.4,SNR=16						
AAK				Sn	**Sn**	**05 16 40.9**	**+1.6**
	baz=315,slow=19,SNR=3.6						
TKM2	**Tokmak 2**	**8.92**	**23**	⇓*iPn*	**Pn**	**05 15 15.8**	**+1.0**
	1.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**05 16 54.6**	**+0.8**
	1.8nm,1.0s		

EFI	**East Falkland**	**20.83**	**281**	P		**P**	**05 22 50.6**	**+0.4**
	comp=Z,721nm,0.6s,SNR=18							
USHA	**Ushuaia**	**24.05**	**264**	P		**P**	**05 23 24.4**	**+0.7**
	comp=Z,44nm,1.1s,baz=101,slow=13,SNR=9.8							
USHA	**Ushuaia**	**24.05**	**264**	P		**P**	**05 23 24.4**	**+0.7**
SYO	**Syowa Base**	**26.89**	**135**	⇓*eP*		**P**	**05 23 44.6**	**-4.7**
SYO	**Syowa Base**	**26.89**	**135**	⇓*epP*		**P**	**05 23 48.5**	**-0.8**
QSPA	**South Pole Qui**	**29.42**	**180**	P		**P**	**05 24 13.0**	**+0.9**
	comp=Z,14nm,0.9s,baz=211,slow=6.3,SNR=26							
QSPA				LR		LR	05 35 31.7	
	comp=Z,968nm,19.1s,baz=191,slow=36							
QSPA	**South Pole Qui**	**29.42**	**180**	*eP*		**P**	**05 24 12.4**	**+0.2**
	comp=Z,37nm,1.0s							
TRQA	**Tornquist**	**32.89**	**296**	*eP*		**P**	**05 24 42.4**	**-0.3**
	comp=Z,24nm,0.9s							
PLCA	**Paso Flores**	**34.68**	**284**	P		**P**	**05 24 57.5**	**-0.8**
	comp=Z,11nm,0.8s,baz=148,slow=7.1,SNR=12							
PLCA				LR		LR	05 37 15.4	
	comp=Z,2μm,20.7s,baz=132,slow=33							
PLCA	**Paso Flores**	**34.68**	**284**	P		**P**	**05 24 57.5**	**-0.8**
	comp=Z,26nm,2.1s							
MAW	**Mawson**	**35.35**	**139**	LR		LR	05 38 15.4	
	comp=Z,3μm,18.7s,baz=245,slow=34							
SUR	**Sutherland**	**40.61**	**66**	P		**P**	**05 25 48.8**	**+0.1**
	comp=Z,11nm,0.8s,baz=202,slow=4.8,SNR=10							
SUR	**Sutherland**	**40.61**	**66**	P		**P**	**05 25 48.8**	**+0.1**
CFAA	**Coronel Fontan**	**41.08**	**295**	P		**P**	**05 25 51.4**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=160,slow=7.8,SNR=53							
CFAA	**Coronel Fontan**	**41.08**	**295**	P		**P**	**05 25 51.4**	**-1.0**
CPUP	**Villa Florida**	**41.26**	**311**	P		**P**	**05 25 52.8**	**-1.0**
	comp=Z,12nm,0.8s,baz=142,slow=7.2,SNR=21							
CPUP				LR		LR	05 40 53.8	
	comp=Z,2μm,21.9s,baz=145,slow=33							
CPUP	**Villa Florida**	**41.26**	**311**	*eP*		**P**	**05 25 52.9**	**-1.0**
SBA	**Scott Base**	**41.42**	**183**	*eP*		**P**	**05 25 54.7**	**0.0**
SBA				pmax		pmax		
	comp=Z,638nm,2.9s							
SBA	**Scott Base**	**41.42**	**183**	*eP*		**P**	**05 25 54.7**	**0.0**
	comp=Z,638nm,2.9s							
VNDA	**Vanda**	**41.87**	**182**	P		**P**	**05 25 58.4**	**0.0**
	comp=Z,28nm,1.4s,baz=209,slow=7.6,SNR=10							
VNDA				LR		LR	05 40 49.3	
	comp=Z,719nm,20.1s,baz=181,slow=32							
VNDA	**Vanda**	**41.87**	**182**	P		**P**	**05 25 58.4**	**0.0**
MIR	**Mirnyy**	**44.77**	**150**	⇓*iP*		**P**	**05 26 20.8**	**-1.0**
MIR				*e*			05 26 30.0	
MIR				pmax		pmax		
	comp=Z,94nm,1.0s							
MIR				MLR		MLR		
	comp=N,2μm,16.0s							
MIR				MLR		MLR		
	comp=E,1μm,16.0s							
MIR				MLR		MLR		
	comp=Z,2μm,16.0s							
BOSA	**Boshof**	**45.81**	**68**	P		**P**	**05 26 30.0**	**-0.7**
	comp=Z,21nm,0.8s,baz=208,slow=7.4,SNR=34							
BOSA				LR		LR	05 41 06.3	
	comp=Z,2μm,21.5s,baz=209,slow=30							
BOSA	**Boshof**	**45.81**	**68**	*eP*		**P**	**05 26 30.0**	**-0.7**
	comp=Z,21nm,0.8s							
BDFB	**Brasilia**	**48.34**	**328**	P		**P**	**05 26 50.2**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=131,slow=8.8,SNR=9.3							
BDFB				LR		LR	05 44 34.5	
	comp=Z,2μm,21.0s,baz=153,slow=33							
BDFB	**Brasilia**	**48.34**	**328**	P		**P**	**05 26 50.2**	**-0.3**
CASY	**Casey**	**48.83**	**157**	*eP*		**P**	**05 26 54.2**	**+0.6**
	comp=Z,32nm,1.0s							
LBTB	**Lobatse**	**49.06**	**66**	P		**P**	**05 26 55.2**	**-0.7**
	comp=Z,18nm,0.9s,baz=222,slow=8.5,SNR=28							
LBTB	**Lobatse**	**49.06**	**66**	P		**P**	**05 26 55.2**	**-0.7**
LVC	**Limon Verde**	**49.19**	**300**	*eP*		P	05 27 01.0	+3.8
	comp=Z,0.8nm,0.8s							
TSUM	**Tsumeb**	**50.81**	**54**	*eP*		**P**	**05 27 11.3**	**+2.0**
	comp=Z,11nm,1.3s							
LPAZ	**La Paz**	**54.52**	**305**	P		**P**	**05 27 37.0**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=155,slow=5.2,SNR=32							
LPAZ				LR		LR	05 50 51.2	
	comp=Z,447nm,18.6s,baz=160,slow=36							
LPAZ	**La Paz**	**54.52**	**305**	*eP*		**P**	**05 27 37.5**	**+0.1**
RCBR	**Riachuelo**	**55.60**	**346**	*eP*		**P**	**05 27 43.5**	**-1.0**
	comp=Z,17nm,1.1s							
ARE	**Arequipa**	**55.75**	**301**	*eP*		**P**	**05 27 47.0**	**+1.1**
ARE	**Arequipa**	**55.75**	**301**	*eP*		**P**	**05 27 47.0**	**+1.1**
LSZ	**Lusaka**	**58.75**	**63**	*eP*		**P**	**05 28 06.1**	**-0.8**
	comp=Z,30nm,1.1s							
SAML	**Samuel**	**59.36**	**313**	*eP*		**P**	**05 28 10.5**	**-0.5**
	comp=Z,28nm,1.1s							
OPO	**Ambohidratompo**	**64.76**	**83**	P		**P**	**05 28 46.9**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=232,slow=3.9,SNR=5.7							
OPO	**Ambohidratompo**	**64.76**	**83**	P		**P**	**05 28 46.9**	**-0.5**
DBIC	**Dimbokro**	**68.92**	**20**	P		**P**	**05 29 13.8**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=194,slow=13,SNR=6.2							
DBIC				LR		LR	05 52 32.4	
	comp=Z,1μm,18.6s,baz=177,slow=30							
DBIC	**Dimbokro**	**68.92**	**20**	P		**P**	**05 29 13.8**	**+0.2**
ROSC	**El Rosal**	**76.23**	**308**	LR		LR	06 03 32.4	
	comp=Z,740nm,19.9s,baz=27,slow=36							
TOA0	**Torodi Ar. Sit**	**76.49**	**26**	*eP*		**P**	**05 29 58.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.49**	**26**	P		**P**	**05 29 58.9**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=201,slow=6.0,SNR=27							
TORD				LR		LR	05 57 10.0	
	comp=Z,584nm,20.3s,baz=205,slow=31							
TORD	**Torodi Ar. Bea**	**76.49**	**26**	P		**P**	**05 29 58.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**81.34**	**148**	LR		LR	06 03 55.1	
	comp=Z,425nm,20.6s,baz=191,slow=34							
TBI	**Tubuai**	**85.32**	**229**	*eS*		S	05 41 08.1	-8.1
	comp=Z,157nm,26.8s							
TBI				*e*LR		LR	05 57 39.0	
	comp=Z,804nm,32.8s							
TAM	**Tamanrasset**	**86.66**	**27**	*eP*		**P**	**05 30 52.0**	**-0.4**
TAM				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TAM	**Tamanrasset**	**86.66**	**27**	*eP*		**P**	**05 30 52.0**	**-0.4**
	comp=Z,5.8nm,1.1s							
STKA	**Stephens Creek**	**86.89**	**168**	P		**P**	**05 30 53.0**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=160,slow=7.8,SNR=6.6							
STKA				LR		LR	06 08 16.0	
	comp=Z,1μm,18.4s,baz=188,slow=35							
STKA	**Stephens Creek**	**86.89**	**168**	P		**P**	**05 30 53.0**	**-0.5**
PPT2	**Papeete2**	**90.61**	**231**	*eS*		S	05 41 58.4	-8.6
	comp=Z,242nm,24.0s							
PPT2				*e*LR		LR	06 00 04.7	
	comp=Z,1μm,33.5s							
PPT	**Papeete**	**90.64**	**231**	LR		LR	06 06 49.4	
	comp=Z,480nm,18.0s,baz=352,slow=32							
MBWA	**Marble Bar**	**93.19**	**146**	*eP*		**P**	**05 31 22.0**	**-1.2**
	comp=Z,8.5nm,0.9s							
ASAR	**Alice Springs**	**93.92**	**160**	P		**P**	**05 31 24.9**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=192,slow=4.3,SNR=13							
ASAR				PP		**PP**	**05 35 12.6**	**+1.3**
	comp=Z,1.2nm,1.1s,baz=179,slow=6.5,SNR=4.3							
ASAR				LR		LR	06 10 16.8	
	comp=Z,2μm,22.0s,baz=186,slow=33							
ASAR	**Alice Springs**	**93.92**	**160**	P		**P**	**05 31 24.9**	**-1.6**
ASAR				PP		**PP**	**05 35 12.6**	**+1.3**
AS31	**Alice Springs**	**93.92**	**160**	*eP*		**P**	**05 31 24.7**	**-1.8**
DZM	**Mont Dzumac**	**96.99**	**190**	*e*LR		LR	06 03 12.0	
	comp=Z,473nm,21.4s							
DZM	**Mont Dzumac**	**96.99**	**190**	LR		LR	06 13 09.4	
	comp=Z,514nm,20.9s,baz=208,slow=34							
WRA	**Warramunga Ar**	**97.63**	**159**	P		**P**	**05 31 42.0**	**-1.4**
	comp=Z,1.6nm,1.1s,baz=194,slow=4.0,SNR=6.9							
WRA				LR		LR	06 12 33.6	
	comp=Z,1μm,21.6s,baz=190,slow=34							
WRA	**Warramunga Ar**	**97.63**	**159**	P		**P**	**05 31 42.0**	**-1.4**
WRAB	**Tennant Creek**	**97.64**	**159**	*eP*		**P**	**05 31 42.0**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,12nm,1.6s							
WRAB	**Tennant Creek**	**97.64**	**159**	*eP*		**P**	**05 31 42.0**	**-1.5**
	comp=Z,12nm,1.6s							
KEST	**Kesra**	**99.98**	**27**	LR		LR	06 13 26.7	
	comp=Z,273nm,18.6s,baz=196,slow=33							
VYHS	**Vyhne**	**114.29**	**30**	*eP*		**Pdif**	**05 32 59.8**	**+3.2**
VYHS	**Vyhne**	**114.29**	**30**	PDIF		**Pdif**	**05 32 59.8**	**+3.2**
KOLS	**Kolonicke sedl**	**115.56**	**32**	*eP*		**Pdif**	**05 33 03.5**	**+1.2**
KOLS	**Kolonicke sedl**	**115.56**	**32**	PDIF		**Pdif**	**05 33 03.5**	**+1.2**
CLL	**Collm**	**115.63**	**25**	*e*PS		PS	05 47 42.0	+9.4
CLL				*e*PSS		PSS	05 54 13.0	
CLL				Lm		MLR	06 20 00.0	
	comp=Z,300nm,20.7s							
KIV	**Kislovodsk**	**117.54**	**48**	*i* PKIKP		**PKPdf**	**05 36 53.8**	**0.0**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**121.79**	**110**	PKP		**PKPdf**	**05 37 01.3**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=238,slow=3.4,SNR=4.9							
CMAR	**Chiang Mai Arr**	**121.79**	**110**	PKP		**PKPdf**	**05 37 01.3**	**-1.4**
PDAR	**Pinedale Array**	**124.21**	**297**	PKP		**PKPdf**	**05 37 07.5**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=245,slow=1.9,SNR=2.6							
PDAR	**Pinedale Array**	**124.21**	**297**	PKP		**PKPdf**	**05 37 07.5**	**+0.6**
L16A	**Fish Haven**	**124.43**	**295**	⇑P		**PKPdf**	**05 37 10.2**	**+2.9**
	baz=125							
NOA	**NORSAR Array B**	**124.50**	**20**	PKP		**PKPdf**	**05 37 06.4**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=350,slow=11,SNR=2.6							
NOA	**NORSAR Array B**	**124.50**	**20**	PKP		**PKPdf**	**05 37 06.4**	**-0.2**
J18A	**Kendall Valley**	**124.77**	**297**	⇓P		**PKPdf**	**05 37 10.7**	**+2.7**
	baz=125							
CMB	**Columbia Colle**	**125.34**	**286**	*e*PKIKP		**PKPdf**	**05 37 12.0**	**+3.0**
CMB	**Columbia Colle**	**125.34**	**286**	*e*PKPdf		**PKPdf**	**05 37 12.0**	**+3.0**
QIZ	**Qiongzhong**	**127.10**	**121**	PKP		**PKPdf**	**05 37 12.9**	**0.0**
QIZ				PP		**PP**	**05 39 12.1**	**+0.7**
QIZ				SS		SS	05 56 21.4	+2.1
QIZ				LR		LR		
	comp=N,260nm,22.2s							
QIZ				LR		LR		
	comp=Z,450nm,37.4s							
E17A	**Martinsdale**	**127.72**	**299**	⇑P		**PKPdf**	**05 37 15.4**	**+2.0**
	baz=128							
FINES	**FINESS Array B**	**127.81**	**28**	PKP		**PKPdf**	**05 37 12.2**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=153,slow=1.3,SNR=4.3							
FINES	**FINESS Array B**	**127.81**	**28**	PKP		**PKPdf**	**05 37 12.2**	**-0.6**
G14A	**Jackson**	**127.89**	**296**	⇑P		**PKPdf**	**05 37 15.1**	**+1.2**
	baz=128							
C19A	**Slack Wire Ran**	**127.95**	**301**	⇑P		**PKPdf**	**05 37 17.0**	**+3.3**
	baz=128							
H12A	**Diamond D Ranc**	**127.96**	**295**	⇑P		**PKPdf**	**05 37 16.8**	**+2.8**
	baz=128							
KSH	**Kashi**	**128.14**	**76**	*e*PKP		**PKPdf**	**05 37 16.8**	**+2.4**
KSH				*e*PP		**PP**	**05 39 22.3**	**+3.6**
KSH				PKS		**PKSdf**	**05 40 51.4**	**+0.4**
KSH				SKS		**SKSdf**	**05 44 26.0**	**+0.2**
KSH				SKKS		**SKKSac**	**05 46 14.0**	**-1.2**
KSH				SS		**SS**	**05 56 31.9**	**-1.0**
KSH				AMB		AMB		
	comp=Z,160nm,4.7s							
KSH				LR		LR		
	comp=N,95nm,6.2s							
KSH				LR		LR		
	comp=E,130nm,9.9s							
KSH				LR		LR		
	comp=Z,240nm,20.5s							
KAF	**Kangasniemi**	**128.45**	**27**	*e*PKIKP		**PKPdf**	**05 37 11.4**	**-2.6**
KAF	**Kangasniemi**	**128.45**	**27**	*e*pkp		**PKPdf**	**05 37 11.4**	**-2.6**
EGMT	**Eagleton**	**128.47**	**301**	⇓P		**PKPdf**	**05 37 17.3**	**+2.6**
	baz=129							
C17A	**Wharram Farm,**	**128.59**	**300**	⇓P		**PKPdf**	**05 37 18.0**	**+3.1**
	baz=129							
ABKAR	**Akbulak array**	**128.62**	**56**	*e*PKPdf		**PKPdf**	**05 37 13.2**	**-1.6**
AKTO	**Aktyubinsk**	**128.76**	**54**	PKP		**PKPdf**	**05 37 14.1**	**-0.9**
	comp=Z,3.3nm,1.1s,baz=181,slow=0.2,SNR=5.9							
AKTO	**Aktyubinsk**	**128.76**	**54**	PKIKP		**PKPdf**	**05 37 14.1**	**-0.9**
AKTO	**Aktyubinsk**	**128.76**	**54**	PKP		**PKPdf**	**05 37 14.1**	**-0.9**
E14A	**Clinton**	**128.82**	**297**	⇓P		**PKPdf**	**05 37 18.1**	**+2.6**
	baz=129							
F12A	**Elk City**	**129.08**	**296**	⇓P		**PKPdf**	**05 37 18.9**	**+3.0**
	baz=129							
CHMT	**Chamberlain Mo**	**129.10**	**298**	*e*PKPdf		**PKPdf**	**05 37 14.2**	**-1.9**
MSO	**Missoula**	**129.33**	**297**	⇓P		**PKPdf**	**05 37 19.6**	**+3.2**
	baz=130							
AAK	**Ala-Archa**	**129.88**	**72**	PKP		**PKPdf**	**05 37 16.9**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=178,slow=5.6,SNR=6.3							
AAK	**Ala-Archa**	**129.88**	**72**	PKIKP		**PKPdf**	**05 37 16.9**	**-0.8**
AAK	**Ala-Archa**	**129.88**	**72**	PKP		**PKPdf**	**05 37 16.9**	**-0.8**
JOF	**Joensuu**	**130.32**	**30**	*e*PKIKP		PKPdf	05 37 25.7	+8.1
JOF	**Joensuu**	**130.32**	**30**	*e*pkp		PKPdf	05 37 25.7	+8.1
GYA	**Guiyang**	**132.23**	**113**	Pdif		**Pdif**	**05 34 18.0**	**+0.8**
GYA				PKP		**PKiKP**	**05 37 23.4**	**-0.2**
GYA				PP		**PP**	**05 39 49.8**	**+4.7**
GYA				PKS		**PKSdf**	**05 40 58.2**	**-1.0**
GYA				SS		SS	05 57 25.0	+2.1
GYA				AMB		AMB		
	comp=Z,30nm,7.9s							
GYA				LR		LR		
	comp=N,130nm,20.4s							
GYA				LR		LR		
	comp=E,120nm,21.2s							
GYA				LR		LR		
	comp=Z,140nm,20.8s							
TMCR	**Tamitsa**	**133.04**	**32**	*e*PKIKP		PKPdf	05 37 31.6	+9.0
TMCR				pmax		pmax		
	comp=Z,14nm,1.2s							
CD2	**Chengdu**	**134.67**	**107**	PKP		**PKPdf**	**05 37 27.3**	**+0.4**
CD2				PP		**PP**	**05 40 05.2**	**+4.6**
CD2				PKS		**PKSdf**	**05 41 02.2**	**-1.1**
CD2				SKS		**SKSdf**	**05 44 35.6**	**-2.2**
CD2				SKKS		**SKKSac**	**05 46 54.9**	**-0.7**
CD2				SS		**SS**	**05 57 54.8**	**+2.4**
CD2				AMB		AMB		
	comp=Z,110nm,5.4s							
CD2				LR		LR		
	comp=Z,310nm,16.6s							
APA	**Apatity**	**134.69**	**27**	⇑*i* PKIKP		PKPdf	05 37 33.0	+7.3
APA				MLR		MLR		
	comp=Z,600nm,19.0s							
ARCES	**ARCESS Array B**	**134.73**	**22**	PKP		**PKPdf**	**05 37 26.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=318,slow=1.6,SNR=3.9							
ARCES	**ARCESS Array B**	**134.73**	**22**	PKP		**PKPdf**	**05 37 26.1**	**+0.4**
KEV	**Kevo**	**135.20**	**23**	*e*PKIKP		**PKPdf**	**05 37 24.8**	**-1.8**
KEV	**Kevo**	**135.20**	**23**	*e*pkp		**PKPdf**	**05 37 24.8**	**-1.8**
BRVK	**Borovoye**	**135.78**	**60**	*i* PKIKP		**PKPdf**	**05 37 30.7**	**+2.5**
BVAR	**Borovoye Array**	**135.80**	**60**	PKP		**PKPdf**	**05 37 28.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=270,slow=0.9,SNR=4.8							
BVAR	**Borovoye Array**	**135.80**	**60**	PKIKP		**PKPdf**	**05 37 28.0**	**-0.2**
BVAR	**Borovoye Array**	**135.80**	**60**	PKP		**PKPdf**	**05 37 28.0**	**-0.2**
MKAR	**Makanchi Array**	**136.66**	**74**	PKP		**PKPdf**	**05 37 30.6**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=256,slow=3.1,SNR=8.9							
MKAR				SKPbc		**SKPbc**	**05 41 01.1**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=180,slow=1.3,SNR=3.8							
MKAR	**Makanchi Array**	**136.66**	**74**	PKIKP		**PKPdf**	**05 37 30.7**	**+0.6**
MKAR	**Makanchi Array**	**136.66**	**74**	PKP		**PKPdf**	**05 37 30.6**	**+0.6**
MKAR				SKPbc		**SKPbc**	**05 41 01.1**	**-1.2**
MK31	**Makanchi Array**	**136.66**	**74**	*e*PKIKP		**PKPdf**	**05 37 30.5**	**+0.4**
MK31	**Makanchi Array**	**136.66**	**74**	*e*PKPdf		**PKPdf**	**05 37 30.4**	**+0.4**
WMQ	**Urumqi**	**137.06**	**81**	*eP*		**PKPdf**	**05 37 26.4**	**-4.6**
WMQ				LR		LR		
	comp=N,210nm,24.0s							
WMQ				LR		LR		
	comp=E,260nm,23.0s							
WMQ				LR		LR		
	comp=Z,270nm,25.0s							
KURBB	**Kurchatov Arra**	**137.67**	**67**	PKP		**PKPdf**	**05 37 31.7**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=232,slow=3.1,SNR=9.8							
KURK	**Kurchatov**	**137.77**	**67**	PKIKP		**PKPdf**	**05 37 31.7**	**-0.2**
KURK	**Kurchatov**	**137.77**	**67**	*e*PKIKP		**PKPdf**	**05 37 32.1**	**+0.2**
KURK	**Kurchatov**	**137.77**	**67**	PKP		**PKPdf**	**05 37 31.7**	**-0.2**
LZH	**Lanzhou**	**138.96**	**103**	*e*PKP		**PKPdf**	**05 37 34.0**	**-0.9**
LZH				sPKP			05 37 38.7	
LZH				*e*PP		**PP**	**05 40 30.5**	**+2.9**
LZH				SKKS			05 47 18.9	
LZH				SS		**SS**	**05 58 43.5**	**-0.3**
LZH				AMB		AMB		
	comp=Z,120nm,7.5s							
LZH				LR		LR		
	comp=Z,280nm,20.3s							
YKA	**Yellowknife Ar**	**140.78**	**313**	PKP		**PKPdf**	**05 37 37.8**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=128,slow=2.4,SNR=8.5							
YKA				PP		**PP**	**05 40 38.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=124,slow=6.7,SNR=6.0							
YKA	**Yellowknife Ar**	**140.78**	**313**	PKP		**PKPdf**	**05 37 37.8**	**+0.8**
YKA				PP		**PP**	**05 40 38.6**	**+0.2**
NVS	**Novosibirsk**	**142.62**	**66**	*e*PKIKP		PKPdf	05 37 48.8	+8.2
ZALV	**Zalesovo Beam**	**142.76**	**68**	PKP		**PKPdf**	**05 37 40.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=242,slow=3.1,SNR=2.8							
ZALV	**Zalesovo Beam**	**142.76**	**68**	PKIKP		**PKPdf**	**05 37 40.7**	**-0.1**
ZALV	**Zalesovo Beam**	**142.76**	**68**	PKP		**PKPdf**	**05 37 40.7**	**-0.1**
RES	**Resolute Bay**	**142.92**	**335**	*e*PKPdf		**PKPdf**	**05 37 37.9**	**-2.6**
HVS	**Khovu-Aksy**	**145.09**	**77**	*de*PKP2		**PKPbc**	**05 37 43.2**	**-1.5**
HHC	**Hu-ho-hao-te**	**146.41**	**106**	*e*PKPbc		**PKPdf**	**05 37 48.2**	**+0.4**
HHC				PP		**PP**	**05 41 16.9**	**+4.3**
HHC				PKS		**PKSdf**	**05 41 22.0**	**-1.1**
HHC				SKS		**SKSdf**	**05 44 55.2**	**-1.2**
HHC				SKKS		**SKKSac**	**05 48 05.7**	**+1.8**
HHC				SS		**SS**	**06 00 13.2**	**+3.4**
HHC				AMB		AMB		
	comp=Z,130nm,9.3s							
HHC				LR		LR		
	comp=Z,230nm,19.4s							
JNU	**Nakatsue**	**147.80**	**138**	PKPbc		**PKPbc**	**05 37 54.0**	**+0.8**
	comp=Z,9.3nm,0.9s,baz=288,slow=8.6,SNR=3.5							
JNU	**Nakatsue**	**147.80**	**138**	PKPbc		**PKPbc**	**05 37 54.0**	**+0.8**
BJI	**Beijing**	**147.91**	**112**	PKPbc		**PKPab**	**05 37 57.3**	**+1.5**
BJI				SS		SS	06 00 32.0	+5.7
BJI				LR		LR		
	comp=Z,230nm,33.4s							
MOY	**Mondy**	**148.94**	**82**	*e*PKP2		**PKPbc**	**05 37 55.5**	**-0.2**
SONM	**Songino Array**	**149.07**	**92**	PKPbc		**PKPbc**	**05 37 55.2**	**-1.0**
	comp=Z,6.8nm,0.9s,baz=216,slow=2.8,SNR=13							
SONM	**Songino Array**	**149.07**	**92**	PKPbc		**PKPbc**	**05 37 55.2**	**-1.0**
ZAK	**Zakamensk**	**149.24**	**86**	*e*PKHKP		PKPpre	05 37 54.6	
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.6s							
TLY	**Talaya**	**150.24**	**84**	*i* PKIKP		**PKPbc**	**05 37 56.3**	**-2.4**
TLY				*e*			05 38 07.4	
TLY				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KSAR	**Wonju Array Be**	**150.63**	**130**	PKPbc		**PKPbc**	**05 37 59.5**	**-0.5**
KSRS	**Korea Array**	**150.66**	**130**	PKPbc		**PKPbc**	**05 37 59.5**	**-0.6**
	comp=Z,6.9nm,0.9s,baz=193,slow=2.5,SNR=11							
MJAR	**Matsushiro Arr**	**153.18**	**147**	PKPbc		**PKPbc**	**05 38 04.9**	**-1.1**
	comp=Z,0.9nm,0.2s,baz=199,slow=3.3,SNR=4.8							
MJAR	**Matsushiro Arr**	**153.18**	**147**	PKPbc		**PKPbc**	**05 38 04.9**	**-1.1**
CN2	**Changchun**	**155.04**	**119**	*e*PKPbc		**PKPdf**	**05 38 04.9**	**+4.0**
CN2				PP		PP	05 42 08.4	+6.5
CN2				SS		SS	06 01 47.9	+3.0
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=Z,200nm,20.0s							
MDJ	**Mudanjiang**	**157.43**	**124**	PKP		**PKPdf**	**05 38 03.5**	**-0.5**
KLR	**Kul'dur**	**161.99**	**119**	*e*PKIKP		PKPdf	05 38 15.0	+6.0

*PGC **12** 05:37:04.0±4.8, 65°.50N×144°.37W, h1km, ML3.3/2, 172km east of Fairbanks, Ak Alaska*
*NEIC **12** 05:37:04.2, 65°.54N×144°.28W, h8km, ML3.1(AEIC), After AEIC.*

ISC 12 05:37:03.8±1.8, 65°.56N±0°.04×144°.31W±0°.03, h7km±14km, n33, σ0°76/45, 10D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PRP	**Porcupine Dome**	**0.51**	**266**	P		**Pg**	**05 37 14.0**	**+0.3**
IL1	**Eielson Array**	**1.35**	**235**	P		**Pn**	**05 37 28.4**	**-0.6**
GLM	**Gilmore Dome**	**1.42**	**247**	P		**Pn**	**05 37 29.8**	**-0.3**
EGAK	**Eagle**	**1.55**	**119**	*e*Pn		**Pn**	**05 37 31.3**	**-0.5**
EGAK				*e*Sn		**Sn**	**05 37 51.7**	**-0.4**
HDA	**Harding Lake**	**1.62**	**225**	P		**Pn**	**05 37 32.6**	**-0.1**
COLA	**College**	**1.65**	**247**	P		**Pn**	**05 37 33.8**	**+0.7**
COLA				S		**Sb**	**05 37 56.1**	**+0.8**
CCB	**Clear Creek Bu**	**1.74**	**240**	P		**Pn**	**05 37 33.8**	**-0.7**
MDM	**Murphy Dome**	**1.76**	**252**	P		**Pn**	**05 37 33.9**	**-0.9**
MDM				S		**Sb**	**05 37 58.7**	**+0.1**
BM3	**Burnt Mountain**	**1.87**	**356**	P		**Pn**	**05 37 36.9**	**+0.6**
DDM	**Donnelly Dome**	**1.90**	**201**	P		**Pn**	**05 37 36.6**	**-0.2**
DOT	**Dot Lake**	**1.92**	**177**	P		**Pn**	**05 37 36.9**	**-0.2**

MTP	**Monte Pirata**	**1.17**	**140**	*e*P		Pn	05 43 43.0	-0.9
MTP				*e*S		Sn	05 44 03.2	+2.8
CRPR	**Cabo Rojo, PR**	**1.24**	**217**	*e*P		Pn	05 43 46.3	+1.6
CRPR	**Cabo Rojo, PR**	**1.24**	**217**	*e*S		Sn	05 44 03.4	+1.6
CRPR	**Cabo Rojo, PR**	**1.24**	**217**	*e*P		Pn	05 43 46.3	+1.6
CRPR				*e*S		Sn	05 44 03.4	+1.6

KRSC 12 05:58:01.6±0.8, 53°.52N×161°.39E, h10km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SPN	**Mys Shipunski**	**0.92**	**243**	S	Sg		05 58 30.8	-0.6
MKZ	**Mys Kozlova**	**1.06**	**11**	*e*P	Pg		05 58 20.9	-1.0
MKZ				S	Sb		05 58 35.8	0.0
KII	**Karymskiy**	**1.26**	**295**	P	Pn		05 58 24.7	-0.7
KII				S	Sb		05 58 41.0	-1.0
SDLR	**Sedlovina**	**1.52**	**262**	*e*P	Pn		05 58 29.5	+0.5
SDLR				S	Sb		05 58 49.6	+0.1
UGLR	**Uglovaya**	**1.57**	**260**	*e*P	Pb		05 58 30.4	-0.5
UGLR				*e*S	Sb		05 58 51.1	+0.2
SMAR	**Somma**	**1.57**	**262**	*e*P	Pn		05 58 30.2	+0.4
SMAR				S	Sb		05 58 51.1	-0.1
KRER	**Koryakskii**	**1.60**	**263**	*e*P	Pb		05 58 30.8	-0.6
KRER				S	Sb		05 58 52.3	+0.5
AVH	**Avacha**	**1.61**	**262**	*e*P	Pb		05 58 31.0	-0.5
AVH				S	Sb		05 58 52.5	+0.6
KOK	**Koryaka**	**1.66**	**263**	*e*P	Pn		05 58 31.6	+0.6
KOK				S	Sb		05 58 53.1	-0.5
PET	**Petropavlovsk**	**1.72**	**254**	P	Pb		05 58 32.4	-0.8
PET				S	Sb		05 58 54.6	-0.2
TUMR	**Tumrok**	**1.91**	**338**	P	Pn		05 58 35.3	+0.9
TUMR				S	Sb		05 59 00.3	-0.4
RUS	**Russkaya**	**2.05**	**239**	S	Sn		05 59 02.3	+0.6
MTVR	**Mutnovka**	**2.20**	**243**	*e*P	Pn		05 58 39.6	+1.2
MTVR				*e*S	Sb		05 59 07.4	-1.6
KMNR	**Kamenistaya**	**2.34**	**344**	*e*P	Pb		05 58 42.0	+1.8
KMNR				*e*S	Sb		05 59 11.6	-1.4
ASAK	**Asacha**	**2.40**	**243**	*e*P	Pb		05 58 43.2	-1.8
ASAK				*e*S	Sb		05 59 14.0	-0.7
BZGR	**Bezymyannyi-Gr**	**2.46**	**351**	P	Pn		05 58 43.8	+1.9
BZMR	**Bezymyannaya**	**2.48**	**348**	P	Pb		05 58 44.5	-1.9
BZWR	**Bezymyannyi-We**	**2.50**	**348**	P	Pb		05 58 44.8	-2.1
KPT	**Kopyto**	**2.54**	**345**	P	Pn		05 58 45.0	+2.0
KPT				S	Sb		05 59 16.6	-2.3
APC	**Apacha**	**2.61**	**259**	P	Pb		05 58 46.8	-1.7
KOZ	**Kozyrevsk**	**2.69**	**342**	P	Pn		05 58 46.7	+1.7
KOZ				S	Sn		05 59 19.7	+2.1
KBTR	**Krutoberegovo**	**2.82**	**16**	P	Pb		05 58 50.0	-2.0
KBTR				S	Sb		05 59 24.9	-1.6
ESO	**Esso**	**2.87**	**328**	P	Pn		05 58 49.4	+2.0
SRDR	**Sredinnyy**	**2.96**	**342**	P	Pn		05 58 50.9	+2.1
SMKR	**Semkarok**	**3.07**	**1**	P	Pb		05 58 53.5	-2.9
MIPR	**Malaya Ipel'ka**	**3.07**	**248**	P	Pb		05 58 53.5	-2.8

WEL 12 06:06:23.3±0.6, 37°.05S×177°.07E, h212km±5km, ML4.2/17, Error ellipse: s-maj=6.9km s-min=5.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**1.11**	**118**	PN	Pn		06 06 55.0	-0.1
MXZ				SN	S		06 07 19.8	+0.1
TARZ	**Mount Tarawera**	**1.26**	**201**	PN	Pn		06 06 56.7	+0.3
MWZ	**Matawai**	**1.33**	**164**	PN	Pn		06 06 56.3	-0.5
MWZ				eSN	S		06 07 22.2	-0.6
PUZ	**Puketiti**	**1.39**	**138**	PN	Pn		06 06 57.3	+0.7
PUZ				SN	S		06 07 23.3	-0.2
PRRZ	**Plateau Road**	**1.54**	**200**	PN	Pn		06 06 58.2	-0.3
CNGZ	**Carnagh Statio**	**1.69**	**148**	PN	Pn		06 07 00.4	+0.6
RAHZ	**Arahi**	**1.86**	**180**	PN	Pn		06 07 01.3	-0.1
PRGZ	**Paritu Road**	**1.98**	**161**	PN	Pn		06 07 02.5	-0.1
KNZ	**Kokohu**	**2.02**	**167**	PN	Pn		06 07 02.4	-0.5
NMHZ	**Naumai**	**2.05**	**186**	PN	Pn		06 07 02.9	-0.4
BKZ	**Black Stump Fm**	**2.16**	**192**	PN	Pn		06 07 03.0	-1.4
BKZ				eSN	S		06 07 33.6	-2.8
MHGZ	**Mahia Peninsul**	**2.20**	**163**	PN	Pn		06 07 04.4	-0.3
TWVZ	**Taurewa**	**2.39**	**212**	PN	Pn		06 07 06.1	-0.8
MCHZ	**McNeill Hill**	**2.41**	**187**	PN	Pn		06 07 06.3	-0.6
TUVZ	**Tukino**	**2.48**	**206**	PN	Pn		06 07 06.7	-1.2
FWVZ	**Far West T-bar**	**2.50**	**208**	PN	Pn		06 07 07.3	-1.0
TRVZ	**Turoa**	**2.54**	**208**	PN	Pn		06 07 07.4	-1.3
BHHZ	**Black Hill Sta**	**2.56**	**198**	PN	Pn		06 07 07.0	-1.7
MOVZ	**Moawhango**	**2.57**	**203**	PN	Pn		06 07 06.9	-1.9
CKHZ	**Cape Kidnapper**	**2.60**	**180**	PN	Pn		06 07 08.2	-0.9
PKVZ	**Pokaka**	**2.62**	**211**	PN	Pn		06 07 08.1	-1.2
KAHZ	**Kahuranaki**	**2.74**	**183**	PN	Pn		06 07 09.5	-1.2
PNHZ	**Pukenui**	**2.94**	**193**	PN	Pn		06 07 10.8	-2.1
PXZ	**Pawanui**	**2.98**	**183**	PN	Pn		06 07 11.5	-1.8
WPHZ	**Waipukurau**	**3.05**	**189**	PN	Pn		06 07 12.1	-2.1
TSZ	**Takapari Road**	**3.13**	**196**	PN	Pn		06 07 12.7	-2.4
WAZ	**Wanganui**	**3.16**	**211**	PN	Pn		06 07 13.9	-1.5
PRHZ	**Porangahau**	**3.23**	**186**	PN	Pn		06 07 14.2	-2.1
DVHZ	**Dannevirke**	**3.32**	**192**	PN	Pn		06 07 14.6	-2.7
POWZ	**Post Office Ro**	**3.49**	**197**	PN	Pn		06 07 16.9	-2.4
BFZ	**Birch Farm**	**3.68**	**190**	PN	Pn		06 07 19.0	-2.6
MRZ	**Mangatainoka R**	**3.79**	**197**	PN	Pn		06 07 19.7	-3.3
MRZ				SN	S		06 08 05.6	-4.0
TIWZ	**Tintock**	**3.83**	**194**	PN	Pn		06 07 20.5	-3.0
HOWZ	**Holdsworth Sta**	**4.03**	**197**	PN	Pn		06 07 22.3	-3.6
OGWZ	**Otaki Gorge**	**4.04**	**201**	PN	Pn		06 07 22.7	-3.3
TMWZ	**Te Maipa**	**4.15**	**192**	PN	Pn		06 07 24.2	-3.2
KIW	**Kapiti Island**	**4.16**	**203**	PN	Pn		06 07 23.8	-3.6
MTW	**Mount Morrison**	**4.28**	**196**	PN	Pn		06 07 25.1	-3.8
CAW	**Cannon Point**	**4.34**	**200**	PN	Pn		06 07 25.8	-3.9
TRWZ	**Traveller**	**4.47**	**193**	PN	Pn		06 07 28.3	-3.0
DUWZ	**D'Urville Isla**	**4.48**	**212**	PN	Pn		06 07 27.9	-3.6
PAWZ	**Paruwai Farm**	**4.51**	**196**	PN	Pn		06 07 28.1	-3.7
MSWZ	**Moikau Station**	**4.58**	**197**	PN	Pn		06 07 28.6	-4.1
WEL	**Wellington**	**4.59**	**202**	PN	Pn		06 07 28.9	-3.9
SNZO	**South Karori**	**4.63**	**203**	PN	Pn		06 07 29.1	-4.2
BHW	**Baring Head**	**4.67**	**201**	PN	Pn		06 07 29.5	-4.3
TCW	**Tory Channel**	**4.69**	**207**	PN	Pn		06 07 30.2	-3.8
PLWZ	**Palliser**	**4.73**	**197**	PN	Pn		06 07 30.4	-4.2
TUWZ	**Tuamarina**	**5.00**	**208**	PN	Pn		06 07 33.5	-4.4
NNZ	**Nelson**	**5.05**	**213**	PN	Pn		06 07 34.0	-4.6
QRZ	**Quartz Range**	**5.17**	**222**	PN	Pn		06 07 35.6	-4.5
BSWZ	**Blackbirch Sta**	**5.27**	**207**	PN	Pn		06 07 37.3	-4.1

KRSC 12 06:06:55.8±1.6, 50°.02N×157°.30E, h10km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.29**	**352**	P	Pb		06 07 35.7	-1.4
ASAK	**Asacha**	**2.40**	**9**	P	Pn		06 07 36.2	+1.0
MTVR	**Mutnovka**	**2.53**	**12**	P	Pn		06 07 36.9	-0.2
MTVR				*e*S	Sn		06 08 06.9	-1.2
RUS	**Russkaya**	**2.53**	**17**	P	Pn		06 07 37.0	+0.1
RUS				S	Sn		06 08 07.1	-0.7
PET	**Petropavlovsk**	**3.12**	**15**	S	Sn		06 08 21.7	-0.7
UGLR	**Uglovaya**	**3.33**	**16**	P	Pn		06 07 49.9	+1.8
AVH	**Avacha**	**3.37**	**15**	P	Pn		06 07 50.3	+1.7
SMAR	**Somma**	**3.38**	**15**	P	Pn		06 07 50.2	+1.3
KOK	**Koryaka**	**3.38**	**14**	P	Pn		06 07 49.8	+1.1
SDLR	**Sedlovina**	**3.41**	**16**	P	Pn		06 07 50.3	+1.1
KRER	**Koryakskii**	**3.41**	**15**	P	Pn		06 07 49.9	+0.6

*ISK **12** 06:18:37.0, 39°.05N×32°.38E, h5km, ML3.4*
*DDA **12** 06:18:37, 39°.05N×32°.39E, h4km, MD3.5*
*CSEM **12** 06:18:38.1±0.2, 39°.04N×32°.40E, h2km, MD3.5, Error ellipse: s-maj=4.4km s-min=3.4km az=151.0*

ISC 12 06:18:38.1±1.1, 39°.06N±0°.02×32°.38E±0°.02, h5km±10km, n72, σ1§14/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KDHN	**Kadinhani**	**0.57**	**201**	*i* P	**Pg**		**06 18 48.9**	**-0.3**
KDHN				*i* S	**Sg**		**06 18 57.6**	**+0.9**
KDHN	**Kadinhani**	**0.57**	**201**	*i* P	**Pg**		**06 18 48.9**	**-0.3**
KDHN				*i* S	**Sg**		**06 18 57.6**	**+0.9**
AFSR	**Af ar-Bala (A**	**0.66**	**54**	*e*PG	**Pb**		**06 18 51.1**	**-1.1**
AFSR				*e*SG	**Sb**		**06 19 01.5**	**-0.2**
AFSR	**Af ar-Bala (A**	**0.66**	**54**	*e*Pg	**Pb**		**06 18 51.1**	**-1.1**
AFSR				*e*Sg	**Sb**		**06 19 01.5**	**-0.2**
BBAL	**Bala**	**0.75**	**50**	*i* P	**Pg**		**06 18 51.8**	**-0.8**
BBAL				*i* S	**Sn**		**06 19 05.9**	**-1.4**
BBAL	**Bala**	**0.75**	**50**	*i* P	**Pg**		**06 18 51.8**	**-0.8**
SVRH	**Sivrihisar-ESK**	**0.77**	**300**	*e*PG	**Pb**		**06 18 52.7**	**-1.3**
SVRH				*e*SG	**Sb**		**06 19 04.8**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.77**	**300**	*e*Pg	**Pb**		**06 18 52.7**	**-1.3**
SVRH				*e*Sg	**Sb**		**06 19 04.8**	**0.0**
LADK	**Ladik-KONYA**	**0.86**	**181**	*e*PG	**Pg**		**06 18 54.4**	**-0.2**
LADK				*e*SG	**Sb**		**06 19 07.4**	**+0.1**
LADK	**Ladik-KONYA**	**0.86**	**181**	*e*Pg	**Pg**		**06 18 54.4**	**-0.2**
LADK				*e*Sg	**Sb**		**06 19 07.4**	**+0.1**
LOD	**Lodumlu**	**0.88**	**20**	*e*PG	**Pb**		**06 18 55.2**	**-0.6**
LOD				*e*SG	**Sb**		**06 19 08.7**	**+0.7**
LOD	**Lodumlu**	**0.88**	**20**	*e*Pg	**Pb**		**06 18 55.3**	**-0.6**
LOD				*e*Sg	**Sb**		**06 19 08.7**	**+0.7**
KAMT	**Kaman**	**1.08**	**73**	*e*PN	**Pb**		**06 18 58.6**	**-0.7**
KAMT	**Kaman**	**1.08**	**73**	*e*Pn	**Pb**		**06 18 58.6**	**-0.7**
KONT	**Konya--Tatoy**	**1.11**	**181**	*e*PN	**Pg**		**06 18 58.8**	**-0.6**
KONT	**Konya--Tatoy**	**1.11**	**181**	*e*Pn	**Pg**		**06 18 58.8**	**-0.6**
BOLV	**Bolvadin**	**1.17**	**253**	*i* P	**Pg**		**06 18 59.1**	**-1.4**
BOLV				*i* S	**Sn**		**06 19 19.4**	**+1.9**
BOLV	**Bolvadin**	**1.17**	**253**	*i* P	**Pg**		**06 18 59.1**	**-1.4**
BOLV				*i* S	**Sn**		**06 19 19.4**	**+1.9**
SULT	**Sultanhani-AKS**	**1.24**	**134**	*e*PN	**Pn**		**06 19 01.7**	**-0.4**
SULT	**Sultanhani-AKS**	**1.24**	**134**	*e*Pn	**Pn**		**06 19 01.7**	**-0.4**
SEYT	**Eskypehyr**	**1.27**	**292**	*i* P	**Pg**		**06 19 01.0**	**-1.5**
SEYT				*i* S	**Sn**		**06 19 19.9**	**-0.2**
SEYT	**Eskypehyr**	**1.27**	**292**	*i* P	**Pg**		**06 19 01.0**	**-1.5**
SEYT				*i* S	**Sn**		**06 19 19.9**	**-0.2**
SHUT	**Suhut-Afyon**	**1.52**	**251**	*e*PN	**Pg**		**06 19 06.4**	**-0.7**
SHUT	**Suhut-Afyon**	**1.52**	**251**	*e*Pn	**Pg**		**06 19 06.4**	**-0.7**
ELDT	**Eldivan**	**1.64**	**29**	*i* P	**Pn**		**06 19 07.3**	**-0.4**
ELDT				*i* S	**Sg**		**06 19 33.0**	**+2.2**
ELDT	**Eldivan**	**1.64**	**29**	*i* P	**Pn**		**06 19 07.3**	**-0.4**
CDAG	**Cicekdag**	**1.65**	**69**	*i* P	**Pn**		**06 19 06.8**	**-0.9**
CDAG				*i* S	**Sg**		**06 19 32.1**	**+1.1**
CDAG	**Cicekdag**	**1.65**	**69**	*i* P	**Pn**		**06 19 06.8**	**-0.9**
CDAG				*i* S	**Sg**		**06 19 32.1**	**+1.1**
MDUB	**Mudurnu**	**1.68**	**328**	*e*PN	**Pb**		**06 19 08.7**	**-0.8**
MDUB	**Mudurnu**	**1.68**	**328**	*e*Pn	**Pb**		**06 19 08.7**	**-0.8**
BORA	**Eskisehir**	**1.70**	**299**	*i* P	**Pn**		**06 19 07.8**	**-0.7**
BORA				*i* S	**Sg**		**06 19 35.0**	**+2.2**
BORA	**Eskisehir**	**1.70**	**299**	*i* P	**Pn**		**06 19 07.8**	**-0.7**
ALT	**Altintas**	**1.77**	**271**	*e*PN	**Pn**		**06 19 09.4**	**0.0**
ALT	**Altintas**	**1.77**	**271**	*e*Pn	**Pn**		**06 19 09.4**	**0.0**
CANT	**Cankiri**	**1.82**	**31**	*e*PN	**Pn**		**06 19 10.4**	**+0.3**
ISP	**Isparta**	**1.91**	**230**	*e*PN	**Pb**		**06 19 12.5**	**-0.9**
ISP	**Isparta**	**1.91**	**230**	*e*Pn	**Pb**		**06 19 12.5**	**-0.9**
AVNT	**Avonos**	**1.95**	**97**	*i* P	**Pb**		**06 19 12.7**	**-1.5**
AVNT				*i* S	**Sg**		**06 19 44.2**	**+3.4**
AVNT	**Avonos**	**1.95**	**97**	*i* P	**Pb**		**06 19 12.7**	**-1.5**
GULT	**Gulveren**	**1.99**	**314**	*e*PN	**Pb**		**06 19 13.4**	**-1.3**
GULT	**Gulveren**	**1.99**	**314**	*e*Pn	**Pb**		**06 19 13.4**	**-1.3**
GPA	**Golpazari**	**2.01**	**308**	*e*PN	**Pb**		**06 19 14.3**	**-0.9**
GPA	**Golpazari**	**2.01**	**308**	*e*Pn	**Pb**		**06 19 14.3**	**-0.9**
CORM	**Corum**	**2.07**	**57**	*e*PN	**Pb**		**06 19 14.4**	**-1.7**
CORM	**Corum**	**2.07**	**57**	*e*Pn	**Pb**		**06 19 14.4**	**-1.7**
BCK	**Bucak**	**2.13**	**222**	*e*PN	**Pn**		**06 19 15.2**	**+0.9**
BCK	**Bucak**	**2.13**	**222**	*e*Pn	**Pn**		**06 19 15.2**	**+0.9**
CAVI	**Cavuskoy**	**2.27**	**301**	*e*PN	**Pb**		**06 19 18.1**	**-1.4**
CAVI	**Cavuskoy**	**2.27**	**301**	*e*Pn	**Pb**		**06 19 18.1**	**-1.4**
SPNC	**Sapanca-Adapaz**	**2.27**	**316**	*e*PN	**Pn**		**06 19 17.4**	**+1.1**
SPNC	**Sapanca-Adapaz**	**2.27**	**316**	*e*Pn	**Pn**		**06 19 17.4**	**+1.1**
TVSB	**Tavsanli**	**2.30**	**281**	*e*PN	**Pn**		**06 19 17.4**	**+0.8**
TVSB	**Tavsanli**	**2.30**	**281**	*e*Pn	**Pn**		**06 19 17.5**	**+0.8**
TOS	**Tosya**	**2.34**	**32**	*e*PN	**Pn**		**06 19 18.5**	**+1.2**
TOS	**Tosya**	**2.34**	**32**	*e*Pn	**Pn**		**06 19 18.5**	**+1.2**
KHL	**Karahalli**	**2.35**	**253**	*e*PN	**Pb**		**06 19 19.1**	**-1.9**
KHL	**Karahalli**	**2.35**	**253**	*e*Pn	**Pb**		**06 19 19.1**	**-1.9**
YOZ	**Yozgat**	**2.35**	**75**	*e*PN	**Pn**		**06 19 18.2**	**+0.7**
YOZ	**Yozgat**	**2.35**	**75**	*e*Pn	**Pn**		**06 19 18.2**	**+0.7**
KDZE	**Karadeniz Ereo**	**2.36**	**343**	*e*PN	**Pn**		**06 19 18.6**	**+1.2**
KDZE	**Karadeniz Ereo**	**2.36**	**343**	*e*Pn	**Pn**		**06 19 18.7**	**+1.2**
CTKT	**Corum**	**2.43**	**49**	*i* P	**Pn**		**06 19 18.5**	**0.0**
CTKT				*i* S	**Sg**		**06 19 56.8**	**+0.8**
CTKT	**Corum**	**2.43**	**49**	*i* P	**Pn**		**06 19 18.5**	**0.0**
BNN	**Bunyan**	**2.71**	**93**	*e*PN	**Pn**		**06 19 23.5**	**+1.1**
BNN	**Bunyan**	**2.71**	**93**	*e*Pn	**Pn**		**06 19 23.5**	**+1.1**
GEMT	**Gemlik**	**2.82**	**300**	*e*PN	**Pn**		**06 19 25.2**	**+1.5**
GEMT	**Gemlik**	**2.82**	**300**	*e*Pn	**Pn**		**06 19 25.2**	**+1.5**
GAZI	**Gazipasa**	**2.82**	**181**	*i* P	**Pn**		**06 19 24.8**	**+1.0**
GAZI				*i* S	**Sb**		**06 20 02.6**	**-1.1**
GAZI	**Gazipasa**	**2.82**	**181**	*i* P	**Pn**		**06 19 24.8**	**+1.0**
KULA	**Kula-Manisa**	**2.96**	**261**	*e*PN	**Pn**		**06 19 27.1**	**+1.4**
KULA	**Kula-Manisa**	**2.96**	**261**	*e*Pn	**Pn**		**06 19 27.1**	**+1.4**
AKAS	**Kas**	**3.58**	**219**	*i* P	Pb		06 19 38.4	-3.5
AKAS				*i* S	**Sb**		**06 20 24.0**	**-1.7**

IDC 12 06:26:07.0±1.6, 12°.99N×125°.77E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/24, mbtmp4.0/6, MS3.8/2, Ms1 3.8/2, ms1mx2.9/47, 1C, Error ellipse: s-maj=78.1km s-min=18.9km az=60.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PVCP	**Virac**	**1.69**	**291**	*e*P	Pn		06 26 37.1	-0.7
PVCP				*e*S	Sn		06 26 57.3	-2.9
DAV	**Davao City (W)**	**5.88**	**182**	LR	LR		06 29 20.2	
	comp=Z,237nm,18.9s,baz=318,slow=33							
CMAR	**Chiang Mai Arr**	**26.38**	**285**	P	P		06 31 46.0	+0.7
	0.7nm,0.3s,baz=98,slow=8.0,SNR=5.6							
WRA	**Warramunga Arr**	**33.79**	**165**	P	P		06 32 49.3	-1.7
	0.6nm,0.8s,baz=341,slow=9.6,SNR=5.5							
ASAR	**Alice Springs**	**37.29**	**168**	P	P		06 33 21.4	+0.3
	0.6nm,0.9s,baz=335,slow=7.7,SNR=7.3							
STKA	**Stephens Creek**	**47.12**	**162**	P	P		06 34 41.8	+0.8
	1.9nm,0.7s,baz=334,slow=7.9,SNR=5.3							
MKAR	**Makanchi Array**	**49.59**	**322**	P	P		06 34 59.5	-0.6
	1.2nm,0.8s,baz=109,slow=9.6,SNR=7.0							
KURBB	**Kurchatov Arra**	**53.58**	**324**	P	P		06 35 29.6	-0.2
	2.3nm,0.3s,baz=119,slow=7.5,SNR=4.3							
FINES	**FINESS Array B**	**83.28**	**332**	LR	LR		07 21 59.0	
	comp=Z,171nm,19.3s,baz=319,slow=40							

IDC 12 06:35:11.2±1.7, 51°.56N×176°.67E, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.6/29, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=43.3km s-min=12.0km az=13.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
FX1	**Attu Island--F**	**2.53**	**303**	Pn	Pn		06 35 52.8	-0.8
	20nm,0.3s,baz=187,slow=8.3,SNR=49							
FX1				Sn	Sn		06 36 21.4	-3.7
	56nm,0.3s,baz=92,slow=21,SNR=10							
ILAR	**Eielson Array**	**22.92**	**41**	P	P		06 40 14.4	-2.0
	0.8nm,0.8s,baz=251,slow=8.4,SNR=9.4							
YKA	**Yellowknife Ar**	**37.15**	**46**	P	P		06 42 23.0	-0.2
	0.6nm,0.6s,baz=285,slow=8.4,SNR=11							
RES	**Resolute Bay**	**40.74**	**24**	P	P		06 42 54.4	+1.3
	11nm,0.3s,baz=237,slow=1.5,SNR=61							
SONM	**Songino Array**	**44.01**	**294**	P	P		06 43 20.1	-0.2
	0.3nm,0.5s,baz=66,slow=8.0,SNR=2.9							
NVAR	**Mina Array Bea**	**46.32**	**80**	P	P		06 43 39.5	+0.6
	0.2nm,0.5s,baz=299,slow=8.1,SNR=2.9							
MKAR	**Makanchi Array**	**57.67**	**306**	P	P		06 45 01.0	-2.0
	0.3nm,0.4s,baz=47,slow=7.1,SNR=3.6							
TXAR	**Lajitas Array**	**61.41**	**78**	P	P		06 45 28.7	-0.5
	0.2nm,0.4s,baz=286,slow=4.3,SNR=5.4							

IDC 12 07:00:42.6±3.8, 1°.63S×140°.23E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=137.5km s-min=29.2km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**197**	P	P		07 05 06.8	-0.2
	0.4nm,0.3s,baz=19,slow=12,SNR=27							
ASAR	**Alice Springs**	**22.75**	**195**	P	P		07 05 46.5	-0.1
	2.1nm,0.8s,baz=25,slow=10,SNR=31							
MKAR	**Makanchi Array**	**69.88**	**322**	P	P		07 11 55.7	+0.2
	0.5nm,0.6s,baz=108,slow=4.7,SNR=5.0							

IDC 12 07:10:48.9±1.8, 14°.65S×167°.74E, h29km±6km, mb3.8/7, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML3.9/1, MS3.7/4, Ms1 3.6/4, ms1mx3.2/29, Error ellipse: s-maj=50.2km s-min=22.0km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**7.48**	**189**	Pn	Pn		07 12 34.8	-1.4
	2.0nm,0.3s,baz=214,slow=22,SNR=16							
DZM				Sn	Sn		07 13 55.9	-4.3
	0.6nm,0.3s,baz=249,slow=10.0,SNR=2.3							
DZM				LR	LR		07 14 46.6	
	comp=Z,289nm,19.4s,baz=86,slow=32							
STKA	**Stephens Creek**	**29.39**	**230**	P	P		07 16 50.3	+0.5
	2.6nm,0.9s,baz=40,slow=7.1,SNR=8.7							
STKA				LR	LR		07 28 07.2	
	comp=Z,123nm,18.2s,baz=19,slow=35							
WRA	**Warramunga Arr**	**32.29**	**256**	P	P		07 17 15.2	-0.3
	1.2nm,0.8s,baz=85,slow=9.2,SNR=9.1							
ASAR	**Alice Springs**	**33.13**	**249**	P	P		07 17 23.2	+0.4
	2.6nm,0.7s,baz=81,slow=8.9,SNR=26							
ASAR				pP	pP		07 17 31.1	-0.2
	2.1nm,0.8s,baz=82,slow=9.0,SNR=7.3							
ASAR				LR			07 30 28.6	
	comp=Z,107nm,20.9s,baz=331,slow=36							
FITZ	**Fitzroy Crossi**	**40.48**	**259**	P	P		07 18 24.9	-0.5
	1.6nm,0.8s,baz=76,slow=17,SNR=4.0							
FITZ				LR	LR		07 34 30.1	
	comp=Z,174nm,19.2s,baz=312,slow=35							
SONM	**Songino Array**	**82.71**	**323**	P	P		07 23 09.5	-0.5
	0.3nm,0.7s,baz=73,slow=4.8,SNR=2.8							
SONM				pP	pP		07 23 19.5	+0.2
	2.2nm,1.2s,baz=123,slow=5.5,SNR=4.4							
ILAR	**Eielson Array**	**86.31**	**18**	P	P		07 23 28.1	+0.4
	0.3nm,0.8s,baz=234,slow=4.3,SNR=5.7							
MKAR	**Makanchi Array**	**97.46**	**316**	P	P		07 24 19.3	-0.7
	0.5nm,0.8s,baz=93,slow=10,SNR=4.3							
MKAR				pP	pP		07 24 29.4	-0.1
	0.7nm,0.8s,baz=97,slow=6.6,SNR=4.7							
ZALV	**Zalesovo Beam**	**97.60**	**324**	pP	pP		07 24 28.7	-1.1
	0.5nm,0.4s,baz=86,slow=4.8,SNR=2.5							

*BJI **12** 07:41:29.9, 2°.51S×139°.34E, h25km, mB5.0/10, mb4.7/19, Ms4.7/4, Ms7 4.5/5*
*IDC **12** 07:41:31.8±0.7, 1°.91S×139°.18E, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/24, mbtmp4.4/15, ML4.4/3, MS3.7/6, Ms1 3.7/6, ms1mx3.2/36, Error ellipse: s-maj=22.9km s-min=9.3km az=90.0*
*AUST **12** 07:41:32.5±3.1, 1°.87S×139°.08E, h0km, Error ellipse: s-maj=1.4km s-min=0.9km az=14.0*
*DJA **12** 07:41:34.0±1

110nm,0.9s
BBOO Buckleboo 30.84 185 P **P** **07 47 51.9 +0.6**
baz=31,SNR=5.6
MEEK Meekatharra 31.47 217 P **P** **07 47 56.7 -0.2**
baz=32,SNR=5.1
YNG Young 33.34 166 P **P** **07 48 15.5 +2.3**
baz=34,SNR=8.4
ARPS Mount Arapiles 34.75 176 P **P** **07 48 27.9 +2.5**
baz=35,SNR=4.6
MORW Morawa 34.80 217 P **P** **07 48 25.8 -0.1**
baz=35,SNR=3.6
LHI Lord Howe Isla 34.94 149 S S 07 53 37.6 -19
baz=35,SNR=3.3
BLDU Ballidu 35.55 214 P **P** **07 48 32.4 0.0**
baz=36,SNR=5.1
KLBR Kellerberrin 35.73 212 P **P** **07 48 33.6 -0.2**
baz=36,SNR=7.7
JNU Nakatsue 35.73 348 LR LR 08 00 31.1
comp=Z,60nm,18.2s,baz=53,slow=32
IPM Ipoh 38.59 280 *e*P **P** **07 48 57.4 -1.1**
11nm,0.6s
KULM Kulim 39.09 281 P **P** **07 49 02.3 -0.3**
23nm,1.2s
PSI Prapat 40.45 277 P **P** **07 49 13.1 -1.1**
baz=40,SNR=9.8
PSI Prapat 40.45 277 P **P** **07 49 12.2 -1.9**
GYA Guiyang 42.17 314 *e*P **P** **07 49 28.6 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KMI Kunming 44.33 310 P **P** **07 49 45.5 -0.2**
KMI pmax pmax
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 44.41 299 P **P** **07 49 45.5 -0.6**
comp=Z,2.9nm,0.7s,baz=120,slow=6.6,SNR=16
CMAR Chiang Mai Arr 44.41 299 P **P** **07 49 45.5 -0.6**
ASAJ Asahikawa 45.95 3 LR LR 08 07 23.2
comp=Z,122nm,21.1s,baz=234,slow=34
CD2 Chengdu 46.89 317 P **P** **07 50 05.6 0.0**
CD2 pP **pP** **07 50 15.9 +1.5**
CD2 sP **sP** **07 50 20.1 +2.2**
CD2 PP **PP** **07 51 55.6 -0.7**
CD2 S **S** **07 56 53.0 -1.9**
CD2 sS **sS** **07 57 10.3 +1.0**
CD2 SS SS 08 00 12.6 -9.4
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,150nm,5.4s
CD2 LR LR
comp=Z,230nm,5.9s
MDJ Mudanjiang 47.12 351 P **P** **07 50 08.0 +0.9**
MDJ pP **pP** **07 50 17.0 +1.1**
MDJ sP **sP** **07 50 20.9 +1.5**
MDJ ScP **ScP** **07 55 30.4 -0.3**
MDJ PcS **PcS** **07 55 34.1 +0.5**
MDJ S **S** **07 56 59.7 +2.1**
MDJ sS **sS** **07 57 15.0 +2.9**
MDJ pmax pmax
comp=Z,18nm,2.3s
CN2 Changchun 47.16 347 *e*P **P** **07 50 07.7 +0.3**
HHC Hu-ho-hao-te 49.43 332 *e*P **P** **07 50 25.9 +0.7**
HHC sP **sP** **07 50 39.3 +1.8**
HHC PcP **PcP** **07 51 47.5 +0.3**
HHC PP **PP** **07 52 20.7 +1.1**
HHC ScP **ScP** **07 55 39.3 -1.4**
HHC PcS **PcS** **07 55 43.0 -0.8**
HHC S **S** **07 57 30.1 -0.6**
HHC sS **sS** **07 57 46.5 +1.3**
HHC ScS **ScS** **08 00 12.7 -2.6**
HHC SS **SS** **08 00 58.6 -4.3**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.2s
HHC LR LR
comp=Z,180nm,15.9s
LZH Lanzhou 50.11 322 *e*P **P** **07 50 30.5 0.0**
LZH pP **pP** **07 50 41.0 +1.7**
LZH sP **sP** **07 50 45.1 +2.3**
LZH PP **PP** **07 52 28.2 +2.3**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,52nm,6.7s
LZH LR LR
comp=N,280nm,14.5s
LZH LR LR
comp=E,230nm,15.2s
LZH LR LR
comp=Z,290nm,18.3s
GTA Gaotai 54.70 323 *e*P **P** **07 51 04.0 -0.4**
GTA pP **pP** **07 51 14.1 +0.8**
GTA sP **sP** **07 51 18.0 +1.2**
GTA S **S** **07 58 40.5 -2.5**
GTA sS **sS** **07 58 57.6 -0.1**
GTA SS **SS** **08 02 23.7 -2.7**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.7s
GTA LR LR
comp=N,150nm,19.5s
GTA LR LR
comp=E,250nm,21.8s
SONM Songino Array 57.20 334 P **P** **07 51 19.5 -2.7**
comp=E,0.2nm,0.5s,baz=100,slow=4.4,SNR=3.2
SONM Songino Array 57.20 334 P **P** **07 51 19.5 -2.7**
WMQ Urumqi 64.66 321 P **P** **07 52 12.7 -0.2**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 69.43 322 *e*P **P** **07 52 42.2 -0.9**
MKAR Makanchi Array 69.43 322 P **P** **07 52 42.4 -0.7**
comp=Z,5.7nm,0.7s,baz=112,slow=8.0,SNR=50
MKAR Makanchi Array 69.43 322 P **P** **07 52 42.4 -0.7**
KSH Kashi 70.85 313 P **P** **07 52 52.9 +0.8**
KSH *e*pP **pP** **07 53 04.4 +3.1**
KSH *e*sP **sP** **07 53 08.5 +3.8**
KSH *e*PcP **PcP** **07 53 14.8 +2.1**
KSH *e*PP **PP** **07 55 32.3 +2.9**
KSH S **S** **08 02 05.5 -0.2**
KSH sS **sS** **08 02 23.0 +2.2**
KSH SKS **SKSac** **08 02 48.6 -4.2**
KSH ScS **SKKSac** **08 02 51.7 -1.2**
KSH SS **SS** **08 06 41.3 +2.6**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,39nm,4.1s
KSH LR LR
comp=Z,140nm,7.2s
ZAA0 Zalesovo Array 71.48 330 *e*P **P** **07 52 53.5 -1.9**
ZALV Zalesovo Beam 71.48 330 P **P** **07 52 53.7 -1.7**
comp=Z,1.7nm,0.6s,baz=112,slow=6.6,SNR=10
ZALV Zalesovo Beam 71.48 330 P **P** **07 52 53.7 -1.7**
TKM2 Tokmak 2 72.27 316 *e*P **P** **07 52 59.9 -0.8**
comp=Z,1.8nm,0.7s
KURK Kurchatov 73.32 325 *e*P **P** **07 53 03.5 -3.0**
comp=Z,4.2nm,0.8s
VNDA Vanda 76.51 175 P **P** **07 53 23.8 -0.7**
comp=Z,1.8nm,0.5s,baz=326,slow=7.9,SNR=10
VNDA LR LR 08 28 07.2
comp=Z,139nm,18.4s,baz=38,slow=36
VNDA Vanda 76.51 175 P **P** **07 53 23.8 -0.7**
BVAR Borovoye Array 78.91 325 P **P** **07 53 37.4 -0.9**
comp=Z,6.2nm,0.7s,baz=114,slow=7.8,SNR=34
BVAR Borovoye Array 78.91 325 P **P** **07 53 37.4 -0.9**
BRVK Borovoye 78.98 325 *e*P **P** **07 53 37.5 -1.2**
comp=Z,6.9nm,0.8s
ABKAR Akbulak array 84.39 320 *e*P **P** **07 54 05.8 -1.5**
comp=Z,2.3nm,0.9s
ILAR Eielson Array 84.97 24 P **P** **07 54 07.2 -2.7**
comp=Z,1.1nm,1.0s,baz=256,slow=4.4,SNR=7.4
ILAR Eielson Array 84.97 24 P **P** **07 54 07.2 -2.7**
AKTO Aktyubinsk 85.81 321 P **P** **07 54 13.2 -1.2**
comp=Z,1.5nm,0.7s,baz=96,slow=6.6,SNR=7.6
AKTO Aktyubinsk 85.81 321 P **P** **07 54 13.2 -1.2**
QSPA South Pole Qui 88.00 180 *e*P **P** **07 54 24.3 -0.6**
comp=Z,7.1nm,1.1s
KOLS Kolonicke sedl 108.83 322 PDIF **Pdif** **07 55 58.0 -1.5**
VYHS Vyhne 111.12 322 PDIF **Pdif** **07 56 11.3 +1.7**
DBIC Dimbokro 143.78 279 PKP PKPab 08 01 08.0 0.0
comp=Z,5.3nm,0.7s,baz=94,slow=2.9,SNR=9.8
DBIC Dimbokro 143.78 279 PKP PKPab 08 01 08.0 0.0
LPAZ La Paz 147.56 125 PKPbc **PKPbc** **08 01 19.4 -1.6**
comp=Z,4.8nm,1.1s,baz=32,slow=1.1,SNR=6.3
LPAZ La Paz 147.56 125 PKPbc **PKPbc** **08 01 19.4 -1.6**
CPUP Villa Florida 147.72 152 PKPbc **PKPdf** **08 01 18.4 +0.9**
comp=Z,2.4nm,0.8s,baz=185,slow=4.4,SNR=4.7
CPUP Villa Florida 147.72 152 PKPbc **PKPdf** **08 01 18.4 +0.9**

CASC 12 07:43:34.0±1.1, 8.60N×83.29W, h8km±12km, MD3.6, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.13**	**66**	↑*i*P	Pg	07 43 37.4	+0.4
ACR				*e*S	Sg	07 43 40.2	+1.1
QCR	**Quepos**	**1.19**	**314**	*e*P	Pb	07 43 55.0	-1.9
QCR				*e*S	Sb	07 44 12.4	0.0
LAJ	**Bijagual**	**1.50**	**327**	*e*P	Pg	07 44 04.2	+1.1
CGA2	**Cerro Gallo 2**	**1.82**	**321**	*e*P	Pn	07 44 04.9	-1.0
CGA2				*e*S	Sn	07 44 29.6	+0.2

CASC 12 07:47:59.1±1.7, 8.64N×83.31W, h0km±5km, MD3.9, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.14**	**83**	↓*i*P	Pg	07 48 02.4	+0.4
BUS	**Buena Vista**	**1.01**	**334**	↓*i*P	Pg	07 48 18.8	-0.4
QCR	**Quepos**	**1.15**	**313**	*e*P	Pg	07 48 20.1	-1.1
QCR				*e*S	Sb	07 48 37.8	+0.4
LAJ	**Bijagual**	**1.46**	**327**	*e*P	Pb	07 48 29.8	+2.4
SJS	**Escuela Geolog**	**1.49**	**331**	↓*e*P	Pn	07 48 27.0	-0.3
SJS				*e*S	Sn	07 48 47.9	+0.3
CGA2	**Cerro Gallo 2**	**1.78**	**320**	*e*P	Pn	07 48 31.0	-0.4
CGA2				*e*S	Sb	07 48 56.1	+0.2

IDC 12 07:56:30.7±2.3, 1.88S×138.11E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=81.0km s-min=23.5km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.32**	**191**	P	Pn	08 00 45.6	-1.0
	0.6nm,0.3s,baz=11,slow=11,SNR=35						
FITZ	**Fitzroy Crossi**	**20.24**	**216**	P	P	08 01 07.7	0.0
	1.1nm,0.9s,baz=46,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**22.04**	**190**	P	P	08 01 27.0	-0.1
	4.5nm,0.8s,baz=25,slow=10,SNR=57						
MKAR	**Makanchi Array**	**68.77**	**322**	P	P	08 07 37.9	+1.2
	0.5nm,0.6s,baz=114,slow=8.5,SNR=5.5						
BVAR	**Borovoye Array**	**78.29**	**325**	P	P	08 08 31.8	-0.9
	0.8nm,0.6s,baz=102,slow=6.7,SNR=4.7						

IDC 12 08:09:29.0±1.8, 1.96S×138.51E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/32, Error ellipse: s-maj=66.6km s-min=21.3km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.33**	**193**	P	P	08 13 46.1	+1.1
	0.7nm,0.3s,baz=11,slow=11,SNR=39						
FITZ	**Fitzroy Crossi**	**20.41**	**217**	P	P	08 14 07.6	-0.2
	1.5nm,0.9s,baz=8.8,slow=12,SNR=2.0						
FITZ				LR	LR	08 22 11.0	
	comp=Z,90nm,18.8s,baz=333,slow=37						
ASAR	**Alice Springs**	**22.03**	**191**	P	P	08 14 25.6	+0.3
	7.4nm,0.8s,baz=25,slow=11,SNR=44						
STKA	**Stephens Creek**	**29.90**	**175**	P	P	08 15 36.7	-1.8
	0.6nm,0.4s,baz=5.6,slow=19,SNR=2.9						
MKAR	**Makanchi Array**	**69.08**	**322**	P	P	08 20 37.5	+0.6
	0.6nm,0.6s,baz=98,slow=8.0,SNR=5.8						
BVAR	**Borovoye Array**	**78.59**	**325**	P	P	08 21 32.5	0.0
	0.5nm,0.5s,baz=94,slow=5.8,SNR=3.2						

DJA 12 08:10:09.3±0.5, 8°S±3°×10°E±°, h28km, M3.8/5, MLv3.8/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.29**	**347**	P	Pb	08 10 32.5	-0.5
CGJI				S	Sn	08 10 47.4	-0.5
DBJI	**Dramaga**	**1.52**	**30**	P	Pn	08 10 34.7	+0.1
DBJI				S	Sn	08 10 53.3	-0.2
CISI	**Cisompet, Garu**	**1.84**	**80**	P	Pn	08 10 38.5	-0.6
LEM	**Lembang**	**1.92**	**57**	P	Pb	08 10 42.5	-1.4

WEL 12 08:15:13.1±0.2, 37.37S×177.31E, h148km±1km, ML3.9/13, Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.77**	**231**	PN	Pn	08 15 35.6	-0.1
OPRZ				SN	Sn	08 15 53.0	0.0
MARZ	**Manawahe**	**0.80**	**219**	PN	Pn	08 15 36.1	+0.1
MARZ				SN	Sn	08 15 53.5	-0.1
MXZ	**Matakaoa Point**	**0.82**	**104**	PN	Pn	08 15 36.1	0.0
MXZ				SN	Sn	08 15 53.7	+0.1
MXZ				SN		08 15 53.9	
URZ	**Urewera**	**0.90**	**190**	PN	Pn	08 15 36.4	-0.3
URZ				SN	Sn	08 15 54.5	-0.4
TGRZ	**Tauranga**	**0.91**	**246**	PN	Pn	08 15 37.0	+0.2
MWZ	**Matawai**	**0.98**	**170**	PN	Pn	08 15 37.4	-0.1
PUZ	**Puketiti**	**1.03**	**133**	PN	Pn	08 15 37.8	0.0
RRRZ	**Republican Roa**	**1.16**	**213**	PN	Pn	08 15 39.1	+0.1
CNGZ	**Carnagh Statio**	**1.32**	**148**	PN	Pn	08 15 41.2	+0.6
RAHZ	**Arahi**	**1.56**	**186**	PN	Pn	08 15 43.0	0.0
RAHZ				SN	Sn	08 16 05.5	-0.6
PRGZ	**Paritu Road**	**1.62**	**164**	PN	Pn	08 15 43.7	0.0
KNZ	**Kokohu**	**1.67**	**170**	PN	Pn	08 15 44.0	-0.2
NMHZ	**Naumai**	**1.77**	**193**	PN	Pn	08 15 45.5	0.0
NMHZ				SN	Sn	08 16 11.0	+0.5
MHGZ	**Mahia Peninsul**	**1.84**	**165**	PN	Pn	08 15 46.1	-0.1
BKZ	**Black Stump Fm**	**1.91**	**199**	PN	Pn	08 15 46.1	-0.9
BKZ				SN	Sn	08 16 12.1	-1.0
MCHZ	**McNeill Hill**	**2.13**	**193**	PN	Pn	08 15 49.2	-0.3
CKHZ	**Cape Kidnapper**	**2.29**	**184**	PN	Pn	08 15 50.7	-0.8
BHHZ	**Black Hill Sta**	**2.33**	**204**	SN	Sn	08 16 20.2	-1.9
MOVZ	**Moawhango**	**2.38**	**211**	PN	Pn	08 15 51.4	-1.2
KAHZ	**Kahuranaki**	**2.45**	**188**	PN	Pn	08 15 52.7	-0.8
PKVZ	**Pokaka**	**2.46**	**218**	PN	Pn	08 15 53.5	-0.2
PXZ	**Pawanui**	**2.68**	**187**	PN	Pn	08 15 54.6	-1.6
PNHZ	**Pukenui**	**2.69**	**199**	PN	Pn	08 15 54.8	-1.6
WPHZ	**Waipukurau**	**2.78**	**194**	PN	Pn	08 15 56.0	-1.5
TSZ	**Takapari Road**	**2.89**	**201**	PN	Pn	08 15 57.0	-1.9
PRHZ	**Porangahau**	**2.94**	**190**	PN	Pn	08 15 57.9	-1.7
DVHZ	**Dannevirke**	**3.06**	**197**	PN	Pn	08 15 58.7	-2.3
BFZ	**Birch Farm**	**3.41**	**194**	PN	Pn	08 16 03.0	-2.5
MRZ	**Mangatainoka R**	**3.55**	**202**	PN	Pn	08 16 04.6	-2.8
TIWZ	**Tintock**	**3.58**	**198**	PN	Pn	08 16 05.1	-2.6
HOWZ	**Holdsworth Sta**	**3.79**	**201**	PN	Pn	08 16 06.8	-3.7
OGWZ	**Otaki Gorge**	**3.83**	**205**	PN	Pn	08 16 08.1	-2.8
TMWZ	**Te Maipa**	**3.89**	**196**	PN	Pn	08 16 08.8	-3.0
KIWZ	**Kapiti Island**	**3.96**	**207**	PN	Pn	08 16 09.5	-3.2
MTW	**Mount Morrison**	**4.04**	**200**	PN	Pn	08 16 10.2	-3.4
CAW	**Cannon Point**	**4.12**	**204**	PN	Pn	08 16 11.3	-3.5
MSWZ	**Moikau Station**	**4.34**	**201**	PN	Pn	08 16 13.9	-3.8
SNZO	**South Karori**	**4.42**	**206**	PN	Pn	08 16 14.8	-3.9
PLWZ	**Palliser**	**4.49**	**200**	PN	Pn	08 16 15.6	-4.1
TCW	**Tory Channel**	**4.50**	**211**	PN	Pn	08 16 15.9	-3.9
TUWZ	**Tuamarina**	**4.82**	**212**	PN	Pn	08 16 20.1	-3.9
NNZ	**Nelson**	**4.91**	**217**	PN	Pn	08 16 21.9	-3.2
QRZ	**Quartz Range**	**5.07**	**226**	PN	Pn	08 16 23.3	-4.0
THZ	**Tophouse**	**5.55**	**216**	PN	Pn	08 16 29.5	-4.3
KHZ	**Kahutara**	**5.81**	**209**	PN	Pn	08 16 32.8	-4.3
LTZ	**Lake Taylor**	**6.64**	**214**	PN	Pn	08 16 43.3	-5.1
ODZ	**Otahua Downs**	**9.16**	**211**	PN	Pn	08 17 16.4	-5.4

VIE 12 08:19:13.2±0.8, 45.82N×15.51E, h0km, mb1.1/1, ML1.6/2, 2C-2D, Error ellipse: s-maj=5.0km s-min=2.7km az=132.0 16 km S of Krsko Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOKA	**Soboth**	**0.92**	**339**	↑*i*Pg	Pg	08 19 30.3	-0.7
SOKA				↓*i*Sg	Sg	08 19 43.7	+0.7
	2.6nm,0.4s						
OBKA	**Obir**	**0.96**	**316**	↑*i*Pg	Pg	08 19 31.6	-0.2
OBKA				↓*i*Sg	Sg	08 19 44.8	+0.5
	9.9nm,0.5s						

SZGRF ***12*** *08:25:34.3, 31.55N×105.22E, h33km, mb5.4, Sichuan, China*
ISCJB ***12*** *08:25:36.6±0.1, 32.40N±0.02×105.05E±0.02, h9km, mb5.1/232, MS3.9/15, Error ellipse: s-maj=2.4km s-min=2.3km az=10.7*
BJI ***12*** *08:25:37.8, 32.42N×105.04E, h16km, mB4.9/23, mb4.9/34, ML4.9/21, Ms4.7/44, Ms7 4.4/43*
NEIC ***12*** *08:25:38.0±0.1, 32.39N×105.10E, h10km, mb5.3/92, Error ellipse: s-maj=3.5km s-min=2.6km az=225.0*
NEIC Felt [II] at Chengdu. Also felt at Guangyuan, Mianyang and Qincheng.
MOS ***12*** *08:25:39.6±0.8, 32.37N×105.13E, h33km, mb5.4/98, Error ellipse: s-maj=7.2km s-min=3.6km az=121.0*
IDC ***12*** *08:25:40.9±4.2, 32.39N×105.16E, h29km±29km, mb4.8/46, mb1 4.8/49, mb1mx4.8/49, mbtmp4.7/49, ML4.2/3, MS3.7/12, Ms1 3.7/12, ms1mx3.4/48, Error ellipse: s-maj=11.5km s-min=7.8km az=47.0*
DJA ***12*** *08:25:43.7±1.2, 32°N±5′×10°5E±°, h49km±13km, M5.1/12, mB5.5/1, mb5.1/12, Mw(mB)5.0/1*
ISC 12 08:25:39.5±0.4, 32.35N±0.02×105.08E±0.03, h18km±1km, h18km:pP-P, n804, σ1°11/860, mb5.2/233, MS3.8/15, 190C-66D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.82**	**218**	Pn	**Pb**	**08 26 11.8**	**-0.5**
CD2				Pg	**Pg**	**08 26 13.8**	**-0.7**
CD2				Sn	**Sg**	**08 26 37.3**	**-0.8**
CD2				Sg	**Sb**	**08 26 40.0**	**+5.2**
CD2				smax	smax		
	comp=N,104μm,0.6s						
CD2				smax	smax		
	comp=E,42μm,0.6s						
XAN	**Xi'an**	**3.64**	**61**	Pn	**Pn**	**08 26 34.4**	**-0.6**
XAN				Pg	**Pb**	**08 26 44.2**	**+0.9**
XAN				Sn	**Sn**	**08 27 16.5**	**-1.0**
XAN				Sg	**Sb**	**08 27 30.8**	**+3.6**
XAN				smax	smax		
	comp=N,3μm,0.8s						
XAN				smax	smax		
	comp=E,2μm,0.7s						
XAN				LR	LR		
	comp=N,3μm,6.9s						
XAN				LR	LR		
	comp=E,2μm,7.3s						
XAN				LR	LR		
	comp=Z,2μm,7.3s						
LZH	**Lanzhou**	**3.87**	**345**	Pn	**Pn**	**08 26 39.5**	**+1.3**
LZH				Pg	**Pb**	**08 26 49.4**	**+2.1**
LZH				Sn	**Sn**	**08 27 23.5**	**+0.2**
LZH				Sg	**Sb**	**08 27 37.7**	**+3.8**
LZH				smax	smax		
	comp=N,9μm,1.0s						
LZH				smax	smax		
	comp=E,8μm,1.1s						
LZH				LR	LR		
	comp=N,10μm,4.1s						
LZH				LR	LR		
	comp=E,13μm,5.6s						
LZH				LR	LR		
	comp=Z,12μm,7.0s						
ENH	**Enshi**	**4.30**	**118**	*e*Pn	**Pn**	**08 26 45.5**	**+1.4**
ENH				*e*Sg	**Sg**	**08 27 56.3**	**-1.4**
GYA	**Guiyang**	**6.03**	**166**	↑*i*Pn	**Pn**	**08 27 08.9**	**+1.0**
GYA				Sn	**Sn**	**08 28 17.2**	**+0.7**
GYA				Sg	**Sg**	**08 28 47.8**	**-5.2**
GYA				smax	smax		
	comp=N,1μm,0.8s						
GYA				smax	smax		
	comp=E,810nm,0.7s						
GYA				LR	LR		
	comp=N,2μm,7.4s						
GYA				LR	LR		
	comp=E,1μm,6.2s						
GYA				LR	LR		
	comp=Z,2μm,9.6s						
KMI	**Kunming**	**7.48**	**196**	Pn	**Pn**	**08 27 29.3**	**+1.3**
KMI				Sn	**Sn**	**08 28 55.3**	**+2.8**
KMI				smax	smax		
	comp=N,270nm,1.3s						
KMI				smax	smax		
	comp=E,280nm,1.5s						
KMI				LR	LR		
	comp=N,3μm,8.8s						
KMI				LR	LR		
	comp=E,2μm,11.4s						
KMI				LR	LR		
	comp=Z,2μm,8.0s						
WHN	**Wuhan**	**8.13**	**100**	P	Pn	08 27 40.0	+3.5
WHN				S	**Sn**	**08 29 02.8**	**-5.1**
WHN				LR	LR		
	comp=N,12μm,9.2s						
WHN				LR	LR		
	comp=E,7μm,5.3s						
WHN				LR	LR		
	comp=Z,6μm,3.7s						
GTA	**Gaotai**	**8.24**	**330**	↑P	**Pn**	**08 27 37.3**	**-0.9**
GTA				pP	pP	08 27 40.7	
GTA				sP	sP	08 27 43.3	
GTA				S	**Sn**	**08 29 09.7**	**-1.2**
GTA				pmax	pmax		
	comp=Z,33nm,1.1s						
GTA				pmax	pmax		
	comp=Z,42nm,5.9s						
GTA				LR	LR		
	comp=N,3μm,8.3s						
GTA				LR	LR		
	comp=E,2μm,8.8s						
GTA				LR	LR		
	comp=Z,3μm,9.7s						
BTO	**Baotou**	**9.15**	**24**	*e*P	**Pn**	**08 27 49.5**	**-1.2**
BTO				S	Sn	08 29 41.0	+7.7
HHC	**Hu-ho-hao-te**	**9.96**	**30**	*e*P	**Pn**	**08 28 02.4**	**+0.6**
HHC				sP		08 28 07.9	
HHC				PP	**PnPn**	**08 28 11.1**	**+1.6**
HHC				S	**Sn**	**08 29 55.1**	**+2.0**
HHC				sS		08 29 59.5	
HHC				PcS	**PcS**	**08 37 45.6**	**-0.9**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,360nm,5.5s						
HHC				LR	LR		
	comp=N,8μm,7.6s						
HHC				LR	LR		
	comp=E,3μm,7.3s						
HHC				LR	LR		
	comp=Z,2μm,7.1s						
TIA	**Tai'an**	**10.69**	**66**	*e*P	**Pn**	**08 28 11.6**	**-0.1**
TIA				LR	LR		
	comp=N,2μm,13.1s						
TIA				LR	LR		
	comp=E,1μm,7.4s						
TIA				LR	LR		
	comp=Z,600nm,7.1s						
NJ2	**Nanjing**	**11.68**	**88**	*e*P	**Pn**	**08 28 26.0**	**+0.8**
NJ2				S	**Sn**	**08 30 37.5**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,400nm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,15.0s						
NJ2				LR	LR		
	comp=E,2μm,10.1s						
NJ2				LR	LR		
	comp=Z,3μm,16.7s						
GZH	**Guangzhou**	**11.77**	**140**	P	Pn	08 28 23.2	-3.3
GZH				S	Sn	08 30 29.4	-8.1
GZH				LR	LR		
	comp=N,2μm,9.1s						
GZH				LR	LR		
	comp=E,2μm,9.1s						
BJI	**Beijing**	**11.80**	**46**	P	**Pn**	**08 28 25.3**	**-1.5**
BJI				LR	LR		
	comp=N,3μm,4.8s						
BJI				LR	LR		
	comp=E,3μm,5.4s						

SHL Shillong 13.37 243 *e*P Pn 08 28 47.0 -1.6
SHL *e*S x 08 32 50.0
QIZ Qiongzhong 13.94 161 P Pn 08 28 56.6 +0.5
QIZ S Sn 08 31 33.3 +2.8
QIZ LR LR
comp=N,2μm,10.2s
QIZ LR LR
comp=Z,2μm,11.1s
QZH Quanzhou 13.97 118 P Pn 08 28 57.9 +1.4
QZH *e*S Sn 08 31 33.9 +2.8
QZH LR LR
comp=N,4μm,8.2s
QZH LR LR
comp=E,4μm,11.0s
QZH LR LR
comp=Z,6μm,10.9s
CHTO Chiang Mai 14.56 204 *e*P Pn 08 29 05.7 +1.0
CHTO Chiang Mai 14.56 204 *e*Pn Pn 08 29 05.7 +1.0
CHTO Chiang Mai 14.56 204 P P 08 29 10.9 -0.2
SNR=10
CHTO Chiang Mai 14.56 204 P P 08 29 08.4 -2.7
comp=Z,24nm,1.1s
CHTO Chiang Mai 14.56 204 P Pn 08 29 06.3 +1.6
comp=Z,24nm,1.1s
CM31 Chiang Mai Arr 14.89 203 *e*Pn Pn 08 29 10.4 +1.2
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 14.89 203 Pn Pn 08 29 08.1 -1.1
comp=Z,0.7nm,0.3s,baz=14,slow=12,SNR=38
CMAR Lg Lg 08 33 40.0
comp=Z,0.5nm,0.3s,baz=55,slow=33,SNR=3.1
CMAR LR LR 08 35 50.9
comp=Z,219nm,20.5s,baz=186,slow=41
CMAR Chiang Mai Arr 14.89 203 Pn Pn 08 29 08.1 -1.1
CMAR Lg Lg 08 33 40.0
SONM Songino Array 15.50 3 Pn Pn 08 29 15.2 -2.0
comp=Z,0.4nm,0.3s,baz=184,slow=14,SNR=37
SONM Sn Sn 08 32 08.3 -0.3
comp=Z,0.2nm,0.3s,baz=183,slow=22,SNR=2.9
SONM Lg Lg 08 33 54.4
comp=Z,0.3nm,0.3s,baz=211,slow=31,SNR=4.1
SONM LR LR 08 35 23.7
comp=Z,227nm,20.0s,baz=184,slow=38
SONM Songino Array 15.50 3 Pn Pn 08 29 15.2 -2.0
SONM Sn Sn 08 32 08.3 -0.3
SONM Lg Lg 08 33 54.4
ULN Ulaanbaatar 15.57 5 *e*Pn Pn 08 29 16.9 -1.3
comp=Z,60nm,1.2s
ULN Ulaanbaatar 15.57 5 P Pn 08 29 17.4 -0.8
SNR=27
ULN Ulaanbaatar 15.57 5 P Pn 08 29 16.8 -1.4
comp=Z,44nm,1.2s
ULN Ulaanbaatar 15.57 5 P Pn 08 29 16.6 -1.6
comp=Z,44nm,1.2s
TAPN Taplejung 15.86 256 *e*P Pn 08 29 21.6 -0.6
comp=Z,243nm,1.1s
YHNB Yeheng 16.23 114 *e*P P 08 29 31.2 +1.5
ODAN Odare 16.32 255 *e*P Pn 08 29 27.6 -0.4
comp=Z,125nm,0.6s
SSLB Suanglung 16.39 117 *e*P P 08 29 33.2 +1.8
comp=Z,40nm,1.0s
NACB Ningan̂chiao 16.66 115 *e*Pn Pn 08 29 30.2 -1.9
comp=Z,25nm,0.8s
RAMN Ramite 16.93 256 *e*P Pn 08 29 34.3 -1.4
comp=Z,336nm,1.2s
JIRN Jiri 17.01 259 *e*P Pn 08 29 36.2 -0.6
comp=Z,15nm,0.6s
GUN Gumba 17.18 260 *e*P Pn 08 29 37.2 -1.8
PKI Pulchoki 17.69 259 *e*P Pn 08 29 44.0 -1.3
comp=Z,156nm,0.9s
KKN Kakani 17.72 260 *e*P Pn 08 29 44.2 -1.4
comp=Z,237nm,1.1s
WMQ Urumqi 17.80 315 P P 08 29 48.8 +1.8
WMQ sP sP 08 29 54.2 -0.2
WMQ PP PnPn 08 30 03.5 +6.4
WMQ S Sn 08 33 04.5 +0.1
WMQ sS S 08 33 08.7 -2.4
WMQ PcP PcP 08 34 27.8 +4.7
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,270nm,7.2s
WMQ LR LR
comp=N,750nm,14.0s
WMQ LR LR
comp=E,730nm,11.0s
WMQ LR LR
comp=Z,240nm,13.0s
DMN Daman 17.93 260 *e*P Pn 08 29 46.5 -1.7
comp=Z,224nm,1.0s
ZAK Zakamensk 18.07 356⇑ *i*P P 08 29 50.7 +0.8
ZAK *e* 08 33 15.3
ZAK pmax pmax
comp=Z,16nm,1.1s
GKN Gorkha 18.19 262 *e*P Pn 08 29 49.5 -1.8
comp=Z,232nm,0.9s
DANN Dangsing 18.82 263 *e*P P 08 29 57.3 -1.2
comp=Z,215nm,0.7s
KOLN Koldanda 19.13 262 *e*P P 08 30 00.9 -1.0
comp=Z,273nm,0.9s
TLY Talaya 19.35 357 *e*P P 08 30 04.1 +0.2
TLY pmax pmax
comp=Z,12nm,1.1s
TLY MLR MLR
comp=Z,262nm,12.0s
TLY Talaya 19.35 357 *e*Pn Pn 08 30 05.1 +0.1
TLY Talaya 19.35 357 P Pn 08 30 05.8 +0.8
SNR=8.0
KSAR Wonju Array Be 19.37 68 P Pn 08 30 04.8 -0.6
KSRS Korea Array 19.41 68 P P 08 30 04.8 +0.2
comp=Z,1.1nm,0.3s,baz=258,slow=11,SNR=19
KSRS LR LR 08 38 42.3
comp=Z,104nm,19.4s,baz=100,slow=40
MOY Mondy 19.54 352 *e*P Pn 08 30 07.3 -0.1
MOY pmax pmax
comp=Z,49nm,1.8s
PYUN Piuthan 19.54 263 *e*P P 08 30 06.4 0.0
comp=Z,286nm,0.8s
CN2 Changchun 19.64 49 *e*P Pn 08 30 08.4 -0.2
CN2 *e*S S 08 33 45.8 -2.2
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=N,1μm,11.0s
CN2 LR LR
comp=E,900nm,11.0s
CN2 LR LR
comp=Z,500nm,10.0s
IRK Irkutsk 19.89 359⇑ *i*P Pn 08 30 11.3 -0.2
IRK pmax pmax
comp=Z,140nm,1.4s
HVS Khovu-Aksy 20.56 339 *c i*P P 08 30 18.0 +0.9
JOW Kunigami 20.89 99 P Pn 08 30 23.1 -0.3
comp=Z,11nm,0.4s,baz=93,slow=30,SNR=3.3
JOW Kunigami 20.89 99 P Pn 08 30 23.1 -0.3
JNU Nakatsue 21.71 81 P P 08 30 31.5 +1.9
comp=Z,8.6nm,0.7s,baz=30,slow=6.9,SNR=5.3
JNU Nakatsue 21.71 81 P P 08 30 31.5 +1.9
MK31 Makanchi Array 22.62 316 *ce*P P 08 30 39.1 -0.2
MK31 pmax pmax
comp=Z,4.0nm,0.2s
MK31 Makanchi Array 22.62 316 *e*P P 08 30 39.1 -0.2
MKAR Makanchi Array 22.62 316 P P 08 30 39.1 -0.2
comp=Z,46nm,1.0s,baz=117,slow=12,SNR=140
MKAR LR LR 08 40 45.8
comp=Z,166nm,19.1s,baz=172,slow=40
MKAR Makanchi Array 22.62 316 *ce*P P 08 30 39.2 -0.1
MKAR pmax pmax
comp=Z,46nm,1.0s
MKAR Makanchi Array 22.62 316 P P 08 30 39.1 -0.2
MDJ Mudanjiang 22.67 50 P P 08 30 38.0 -1.8
MDJ S S 08 34 45.7 -1.4
MDJ ScP ScP 08 38 08.9 +0.2
MDJ PcS PcS 08 38 10.1 -0.6
MDJ pmax pmax
comp=Z,98nm,4.4s
DDI Dehra Dun 23.15 272 *ex* P 08 30 44.0 -0.9
SDNR Sundarnagar 23.85 276 *e*P P 08 30 52.6 +0.8
AGRA Agra 24.06 265 *e*P P 08 30 53.9 +0.1
BISR Bishrakh 24.09 268 *e*P P 08 30 54.7 +0.7
USRK Ussuriysk Arra 24.11 53 P P 08 30 53.4 -0.7
comp=Z,4.8nm,0.6s,baz=250,slow=12,SNR=14
KKR Kurukshetra 24.27 272 *e*P P 08 30 56.2 +0.5
AYAN Aya Nagar 24.38 268 *e*P P 08 30 56.8 +0.1
AYAN AMb AMB 08 30 59.1
comp=Z,88nm,0.6s
SONA Sohna 24.48 268 *e*P P 08 30 57.7 +0.1
SONA AMb AMB 08 31 00.6
comp=Z,103nm,1.3s
BHGR Bahadurgarh 24.48 269 *e*P P 08 30 58.3 +0.6
DLH Dalhousie 24.54 278 *e*P P 08 30 57.5 -0.9
KSH Kashi 24.56 295⇑ *i*P P 08 31 02.4 +4.0
KSH pP pP 08 31 06.2 +2.4
KSH *e*sP sP 08 31 08.6 +2.5
KSH PP PnPn 08 31 38.3 +8.7
KSH *e*PcP PcP 08 34 39.5 +3.3
KSH S S 08 35 22.2 +3.8
KSH sS sS 08 35 27.9 +0.5
KSH SS SnSn 08 36 18.3 +15
KSH *e*ScP ScP 08 38 15.2 +1.1
KSH PcS PcS 08 38 16.9 +0.6
KSH ScS ScS 08 42 02.7 +0.8
KSH pmax pmax
comp=Z,100nm,0.7s
KSH LR LR
comp=N,210nm,7.0s
KSH LR LR
comp=E,560nm,16.4s
KSH LR LR
comp=Z,490nm,12.3s
ULHL Ulahol 24.87 302 P P 08 31 02.6 +1.3
SNR=75
TKM2 Tokmak 2 25.50 303 *i*P P 08 31 08.1 +1.1
TKM2 Tokmak 2 25.50 303 *e*P P 08 31 08.1 +1.1
TKM2 Tokmak 2 25.50 303 P P 08 31 08.1 +1.1
SNR=58
KZA Kyzart 25.55 301 P P 08 31 09.3 +1.6
SNR=98
KHET Khetri 25.61 268 *e*P P 08 31 08.4 +0.5
KHET AMb AMB 08 31 09.0
comp=Z,76nm,0.8s
KBK Karagaybulak 25.90 302 P P 08 31 11.9 +1.3
SNR=30
ZAA0 Zalesovo Array 25.99 332 *e*P P 08 31 10.6 -0.5
ZALV Zalesovo Beam 25.99 332 P P 08 31 10.7 -0.3
comp=Z,28nm,0.8s,baz=131,slow=9.8,SNR=108
ZALV Zalesovo Beam 25.99 332 P P 08 31 10.7 -0.3
ZALV pmax pmax
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 25.99 332 P P 08 31 10.7 -0.3
KLR Kul'dur 26.11 42 *e*P P 08 31 07.3 -4.9
KLR pmax pmax
comp=Z,72nm,2.0s
KLR MLR MLR
comp=E,700nm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s
UCH Uchtor 26.12 301 P P 08 31 14.7 +1.8
SNR=17
CHMS Chumysh 26.12 303 P P 08 31 13.3 +0.9
SNR=8.2
FRU Bishkek 26.18 302 *e*P P 08 31 14.6 +1.7
FRU pmax pmax
comp=Z,40nm,2.0s
BOD Bodaibo 26.20 11⇑ *i*P P 08 31 13.1 +0.3
BOD pmax pmax
comp=Z,27nm,1.2s
BOD pmax pmax
comp=Z,22nm,1.8s
AAK Ala-Archa 26.22 302 P P 08 31 14.3 +0.8
comp=Z,16nm,0.8s,baz=106,slow=6.3,SNR=24
AAK Ala-Archa 26.22 302 P P 08 31 14.3 +0.8
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 26.22 302 P P 08 31 14.3 +0.8
AAK Ala-Archa 26.22 302 P P 08 31 14.0 +0.5
comp=Z,125nm,0.7s,SNR=21
AAK Ala-Archa 26.22 302 P P 08 31 14.2 +0.7
SNR=27
USP Ospenovka 26.36 303 P P 08 31 15.6 +0.9
SNR=34
AML Almayashu 26.70 300 P P 08 31 19.5 +1.5
SNR=94
EKS2 Erkin-Say 26.74 302 *e*P P 08 31 19.3 +1.2
EKS2 pmax pmax
comp=Z,22nm,0.8s
EKS2 Erkin-Say 26.74 302 *e*P P 08 31 19.3 +1.2
comp=Z,22nm,0.8s
EKS2 Erkin-Say 26.74 302 P P 08 31 19.4 +1.2
SNR=21
KURBB Kurchatov Arra 26.77 321 P P 08 31 18.2 +0.1
comp=Z,35nm,0.9s,baz=132,slow=8.4,SNR=84
KURBB PcP PcP 08 34 40.0 -0.8
comp=Z,5.3nm,0.8s,baz=124,slow=2.0,SNR=5.4
KURK Kurchatov 26.77 321 *ce*P P 08 31 18.0 -0.1
KURK pmax pmax
comp=Z,61nm,1.0s
KURK Kurchatov 26.77 321 *e*P P 08 31 17.8 -0.3
comp=Z,44nm,0.9s
KURK PcP PcP 08 34 40.0 -0.8
KURK Kurchatov 26.77 321 P P 08 31 18.6 +0.4
SNR=21
KURK mb 08 31 19.5
SNR=39
KURK Kurchatov 26.77 321 P P 08 31 18.1 -0.1
comp=Z,316nm,0.9s,SNR=26
AJM Ajmer 27.09 265 *i*P P 08 31 21.0 -0.3
NVS Novosibirsk 27.27 332 *i*P P 08 31 22.1 -0.5
NVS *e*S S 08 36 02.8 +1.9
NVS pmax pmax
comp=Z,29nm,1.8s
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax smax
comp=E,13nm,2.0s
MJAR Matsushiro Arr 27.57 72 P P 08 31 24.1 -1.4
comp=E,1.2nm,0.5s,baz=270,slow=10,SNR=4.6
MJAR LR LR 08 43 36.9
comp=E,72nm,19.2s,baz=310,slow=39
MJAR Matsushiro Arr 27.57 72 P P 08 31 24.1 -1.4
HABR Khabarovsk 27.70 46 *e*P P 08 31 22.8 -3.7
HABR *e**PP pP 08 31 32.3 +0.3
HABR *e**SP sP 08 31 36.6 +2.4
HABR *e*PPP PPP 08 32 17.3
HABR *e* 08 34 39.7
HABR *e*S S 08 36 02.8 -5.0
HABR *e**SS sS 08 36 19.3 +2.5
HABR *e*SSS SSS 08 37 31.5
HABR *e* 08 42 09.7
HABR pmax pmax
comp=E,106nm,2.2s
HABR pmax pmax
comp=N,42nm,2.9s
HABR pmax pmax
comp=Z,53nm,2.2s
HABR MLR MLR
comp=Z,107nm,12.0s
HYB Hyderabad 28.18 245 *i*P P 08 31 33.0 +1.9
KK31 Karatay Array 29.18 302 *ce*P P 08 31 39.9 +0.1
KK31 pmax pmax
comp=Z,7.0nm,0.4s
MYLDM Lahad Datu 29.80 152 P P 08 31 51.1 +5.7
comp=Z,52nm,1.1s
MYLDM Lahad Datu 29.80 152 P P 08 31 48.0 +2.6
comp=Z,52nm,1.1s
PSI Prapat 29.95 192 P P 08 31 47.9 +1.0
comp=Z,15nm,0.9s,baz=356,slow=8.1,SNR=12
PSI PcP PcP 08 34 49.3 -0.1
comp=Z,4.2nm,0.7s,baz=288,slow=2.3,SNR=6.3
PSI Prapat 29.95 192 P P 08 31 47.9 +1.0
PSI PcP PcP 08 34 49.3 -0.1
PSI Prapat 29.95 192 P P 08 31 48.2 +1.3
comp=Z,22nm,0.9s
PSI Prapat 29.95 192 P P 08 31 48.2 +1.3
comp=Z,22nm,0.9s
KBL Kabul 30.05 284 *e*P P 08 31 48.8 +1.0
KBL pmax pmax
comp=Z,41nm,0.9s
KBL Kabul 30.05 284 *e*P P 08 31 48.8 +1.0
comp=Z,41nm,0.9s
MYKOM Kota Tinggi 30.42 182 P P 08 31 54.0 +3.1
comp=Z,28nm,1.0s
MYKOM Kota Tinggi 30.42 182 P P 08 31 52.5 +1.6
comp=Z,28nm,1.0s
SBUM Sibu 30.49 166 P P 08 31 53.3 +1.8
comp=Z,30nm,0.8s
SBUM Sibu 30.49 166 P P 08 31 52.9 +1.4
comp=Z,30nm,0.8s
KSM Kuching 31.10 170 *e*P P 08 31 57.5 +0.6
comp=Z,5.1nm,0.4s
KSM Kuching 31.10 170 P P 08 31 58.4 +1.5
comp=Z,19nm,0.8s
KSM Kuching 31.10 170 P P 08 31 58.1 +1.2
comp=Z,19nm,0.8s
ASAJ Asahikawa 31.47 57 P P 08 31 59.4 -0.6
comp=Z,9.5nm,0.8s,baz=260,slow=20,SNR=3.4
ASAJ Asahikawa 31.47 57 P P 08 31 59.4 -0.6
YSS Yuzh-Sakhalins 32.13 52 *e*P P 08 32 05.0 -0.7
BVA0 Borovoye Array 32.35 320 *i*P P 08 32 07.7 +0.1
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 32.35 320 P P 08 32 07.9 +0.2
comp=Z,12nm,0.7s,baz=117,slow=9.8,SNR=72
BVAR PcP PcP 08 34 54.5 -0.5
comp=Z,4.3nm,0.7s,baz=115,slow=5.6,SNR=7.5
BVAR LR LR 08 46 19.9
comp=Z,204nm,18.9s,baz=308,slow=38
BVAR Borovoye Array 32.35 320 P P 08 32 07.9 +0.2
BVAR 08 34 54.5
BVAR pmax pmax
comp=Z,12nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR MLR MLR
comp=Z,204nm,18.9s
BVAR Borovoye Array 32.35 320 P P 08 32 07.9 +0.2
BVAR PcP PcP 08 34 54.5 -0.5
BRVK Borovoye 32.42 320 *ce*P P 08 32 08.6 +0.3
BRVK pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 32.42 320 *e*P P 08 32 08.7 +0.3
comp=Z,25nm,0.9s
BRVK Borovoye 32.42 320 P P 08 32 08.5 +0.3
comp=Z,182nm,0.9s,SNR=19
BRVK Borovoye 32.42 320 P P 08 32 09.0 +0.7
SNR=9.3
BRVK mb 08 32 12.2
SNR=23
YAK Yakutsk 33.65 21 *e*P P 08 32 20.1 +1.3
YAK *e**PP pP 08 32 31.3 +6.9
YAK *e* 08 33 34.8
YAK *e*PPP PPP 08 33 48.9
YAK *e* 08 34 59.7
YAK *e*S S 08 37 45.0 +4.4
YAK *e*SS SnSn 08 39 49.0 +4.5
YAK *e* 08 42 39.7
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.8s
YAK smax smax
comp=E,147nm,4.9s
YAK smax smax
comp=N,96nm,4.3s
YAK MLR MLR
comp=Z,130nm,10.0s
YAK MLR MLR
comp=N,126nm,12.0s
PPBI Pangkal Pinang 34.33 178 P P 08 32 26.5 +1.3
comp=N,27nm,1.1s
MRSI Marisa 35.47 150 P P 08 32 35.9 +0.9
comp=N,47nm,0.6s,comp=N,799nm
BBKI Banjar Baru 36.80 164 P P 08 32 50.9 +4.5
LUWI Luwuk 37.19 150 P P 08 32 51.7 +2.0
comp=N,62nm,0.6s,comp=N,1μm
AB31 Akbulak array 37.48 310 *ce*P P 08 32 52.2 +0.3
AB31 pmax pmax
comp=Z,28nm,0.5s
ABKAR Akbulak array 37.48 310 *e*P P 08 32 52.4 +0.4
comp=Z,47nm,0.8s
TTSI Tana Toraja 37.88 156 P P 08 32 56.0 +0.5
comp=Z,36nm,0.9s
ABKT Ailbek 38.48 292 P P 08 33 02.2 +1.6
comp=Z,374nm,1.1s,SNR=9.7
SPSI Sidrap Palu 38.72 156 P P 08 33 03.4 +0.8
comp=Z,40nm,0.8s
AKTO Aktyubinsk 38.91 312 P P 08 33 04.5 +0.5
comp=Z,18nm,0.6s,baz=94,slow=8.7,SNR=83
AKTO LR LR 08 50 25.1
comp=Z,142nm,20.4s,baz=271,slow=38
AKTO Aktyubinsk 38.91 312 *i*P P 08 33 03.9 -0.1
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 38.91 312 P P 08 33 04.5 +0.5
SVE Sverdlovsk 39.01 322‖ *e*P P 08 33 05.1 +0.4
SVE pmax pmax
comp=Z,62nm,1.1s
LBMI Labuha 39.06 143 P P 08 33 08.9 +3.4
comp=Z,129nm,1.0s,comp=Z,1μm
TGJI Tegal 39.19 174 P P 08 33 11.2 +4.7
comp=Z,43nm,1.3s
KAPI Kappang 39.69 157 P P 08 33 09.8 -1.0
comp=Z,29nm,0.7s,baz=336,slow=7.8,SNR=19
KAPI Kappang 39.69 157 P P 08 33 09.8 -1.0
comp=Z,3.3nm,1.1s
KAPI Kappang 39.69 157 P P 08 33 10.8 0.0
SNR=9.7
KAPI mb 08 33 14.0
SNR=20
KAPI Kappang 39.69 157 P P 08 33 10.7 0.0
comp=Z,288nm,0.8s,SNR=10.0
KAPI Kappang 39.69 157 P P 08 33 10.3 -0.5
comp=Z,55nm,1.0s
KAPI Kappang 39.69 157 P P 08 33 10.2 -0.5
comp=Z,55nm,1.0s
BJII Banjamegara 39.70 173 P P 08 33 14.7 +3.8
comp=Z,43nm,1.4s
ARU Arti 39.97 321 *c i*P P 08 33 12.9 +0.2
ARU 08 34 42.9
ARU S S 08 39 19.0 +1.9
ARU pmax pmax
comp=Z,93nm,1.0s
ARU Arti 39.97 321 *e*P P 08 33 12.9 +0.2
comp=Z,80nm,0.9s
KMMI Kalianget 40.08 166 P P 08 33 17.0 +3.0
comp=Z,40nm,1.0s
BKSI Bulukumba 40.10 156 P P 08 33 17.0 +2.8
comp=Z,29nm,0.7s,comp=Z,710nm
SJI Sawahan 40.36 170 P P 08 33 22.8 +6.4
comp=Z,75nm,0.5s,comp=Z,12μm
PWJI Pagerwojo 40.65 170 P P 08 33 21.6 +2.9
comp=Z,50nm,0.9s
GUMO Guam 40.83 108 P P 08 33 20.0 -0.3
comp=Z,87nm,0.8s,baz=51,slow=4.5,SNR=3.0
GUMO LR LR 08 47 47.7
comp=Z,87nm,20.6s,baz=312,slow=32
GUMO Guam 40.83 108 P P 08 33 20.0 -0.3
KRKI Karangkates 40.89 169 P P 08 33 26.4 +5.8
comp=Z,161nm,0.8s,comp=Z,25μm
SRBI Singaraja 41.35 165 P P 08 33 28.2 +3.7
comp=Z,30nm,0.7s
JAGI Jajag, Banyuwa 41.50 166 P P 08 33 28.8 +3.1
comp=Z,76nm,0.8s
KHKI Kahang-Kahang 41.71 164 P P 08 33 28.7 +1.3
comp=Z,65nm,0.9s
SOKR Solikamsk 41.84 325 *d i*P P 08 33 28.8 +0.8
SOKR pmax pmax
comp=Z,40nm,0.8s
SMDO Samad 42.37 270 P P 08 33 34.2 +1.2
SNR=8.1
SEY Seymchan 42.60 30 *e*P P 08 33 33.1 -1.1
PETK Petropavlovsk- 42.73 45 P P 08 33 35.0 -0.4
comp=Z,3.5nm,0.7s,baz=286,slow=2.0,SNR=3.8
PETK LR LR 08 52 52.6
comp=Z,142nm,18.4s,baz=70,slow=38
PETK Petropavlovsk- 42.73 45 P P 08 33 35.0 -0.4
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK MLR MLR
comp=Z,142nm,18.4s
PETK Petropavlovsk- 42.73 45 P P 08 33 35.0 -0.4
BSY Bisya 43.21 270 P P 08 33 41.4 +1.6
SNR=13
ASHO Ashiyiah 43.44 273 P P 08 33 43.5 +1.9
SNR=7.3
ASHO mb 08 33 43.7
SNR=16
TLE Tual 46.04 140 P P 08 34 04.3 +2.0
comp=Z,47nm,1.3s
DGRG David-gareji 47.77 299 P P 08 34 17.1 +1.4
TBLG Delisi 48.19 299 *e*P P 08 34 17.1 -1.8
TBLG Delisi 48.19 299 P P 08 34 17.1 -1.8
GNI Garni 48.46 297 P P 08 34 21.3 +0.2
comp=Z,17nm,0.6s,baz=48,slow=3.4,SNR=8.3

GNI Garni 48.46 297 P P 08 34 21.3 +0.2
GNI ePcP PcP 08 35 44.1 -3.1
GNI ePP PP 08 36 11.3 -2.5
GOR Gori 48.61 300 P P 08 34 23.4 +1.2
ZEI Tsey 48.64 301 eP P 08 34 20.8 -1.8
ZEI pmax pmax
comp=Z,24nm,0.8s
KBD Kabd 48.91 282 eP P 08 34 24.5 0.0
KBD AMb AMB 08 34 28.7
comp=Z,20nm,0.6s
ONI Oni 48.99 301 P P 08 34 26.4 +1.3
MIB Mutribah 49.00 283 eP P 08 34 24.9 -0.4
MIB AMb AMB 08 34 26.3
comp=Z,77nm,0.7s
RDF Al-Radifah 49.11 282 eP P 08 34 26.2 +0.1
RDF AMb AMB 08 34 27.4
comp=Z,67nm,0.8s
AKH Akhalkalaki 49.17 299 P P 08 34 28.1 +1.5
KBZ Khabaz 49.22 302 P P 08 34 26.8 +0.1
comp=Z,25nm,0.8s,baz=113,slow=5.4,SNR=52
KBZ Khabaz 49.22 302 P P 08 34 26.8 +0.1
KBZ pmax pmax
comp=Z,25nm,0.8s
KBZ Khabaz 49.22 302 P P 08 34 26.8 +0.1
NAY Al-Naaiem 49.26 282 eP P 08 34 26.9 -0.3
NAY AMb AMB 08 34 27.6
comp=Z,72nm,0.6s
VRHR Novokhopersk 49.32 312 eP P 08 34 26.6 -0.7
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s
KIV Kislovodsk 49.34 302 eP P 08 34 26.5 -1.2
KIV pmax pmax
comp=Z,78nm,1.1s
KIV MLR MLR
comp=Z,109nm,16.0s
KIV Kislovodsk 49.34 302 P P 08 34 28.3 +0.6
comp=Z,400nm,1.1s,SNR=6.8
HAKT HAKKARI 49.79 294 *i* P P 08 34 31.9 +0.4
DAGI Agillar 50.40 299 *i* P P 08 34 37.0 +1.1
KLMR Klimovskoe 50.52 325 eP P 08 34 33.7 -2.6
KLMR pmax pmax
comp=Z,95nm,1.2s
DDEM Demirkent 50.56 299 *i* P P 08 34 38.3 +1.3
DBAD Bademkaya 50.57 299 *i* P P 08 34 37.8 +0.6
VORD Divnogorie 50.80 312 eP P 08 34 37.9 -0.6
VSR Storozhevoye 50.86 312 eP P 08 34 38.6 -0.4
TMCR Tamitsa 51.44 329 eP P 08 34 40.4 -2.8
TMCR pmax pmax
comp=Z,78nm,1.3s
MOS Moscow 51.49 318 eP P 08 34 42.7 -0.9
MOS pmax pmax
comp=Z,193nm,0.8s
MOS pmax pmax
comp=Z,81nm,0.9s
FX1 Attu Island--F 52.05 45 eP P 08 34 48.1 +0.1
OBN Obninsk 52.12 317⇑ *i*P P 08 34 48.0 -0.3
OBN *e* 08 36 45.9
OBN eS S 08 42 27.7 +16
OBN pmax pmax
comp=Z,120nm,1.7s
OBN MLR MLR
comp=Z,100nm,21.0s
OBN Obninsk 52.12 317 eP P 08 34 48.1 -0.3
comp=Z,87nm,1.1s
KELT Kelkit 52.57 298 *i* P P 08 34 52.4 +0.1
RAYN Ar Rayn 52.78 276 P P 08 34 53.5 -0.4
comp=Z,84nm,0.5s,SNR=5.0
ANN Anapa 52.90 304 eP P 08 34 53.7 -0.7
ANN *e* 08 36 51.9
ANN eS S 08 42 20.9 -1.6
ANN pmax pmax
comp=Z,96nm,1.0s
LVZ Lovozero 53.12 334 eP P 08 34 55.2 -0.4
LVZ pmax pmax
comp=Z,21nm,0.8s
LVZ Lovozero 53.12 334 eP P 08 34 54.8 -0.8
comp=Z,22nm,0.8s
SUSE Susehri 53.34 299 *i* P P 08 34 58.2 +0.3
KEMA Kemaliye 53.36 297 *i* P P 08 34 58.5 +0.6
FITZ Fitzroy Crossi 53.89 156 P P 08 35 01.7 -0.1
comp=Z,16nm,0.9s,baz=337,slow=5.9,SNR=16
FITZ Fitzroy Crossi 53.89 156 P P 08 35 01.7 -0.1
comp=Z,12nm,1.0s
JOF Joensuu 54.43 327 eP P 08 35 03.3 -1.9
JOF pmax pmax
comp=Z,18nm,0.7s
JOF Joensuu 54.43 327 *e*p P 08 35 03.3 -1.9
comp=Z,18nm,0.7s
GZT Gaziantep 54.57 295 *i* P P 08 35 07.1 +0.2
HAVZ Havza 54.96 300 *i* P P 08 35 10.4 +0.9
MBWA Marble Bar 55.02 163 eP P 08 35 09.8 -0.2
comp=Z,16nm,0.8s
PUL Pulkovo 55.12 323*ce*P P 08 35 10.4 +0.1
PUL pmax pmax
comp=Z,74nm,0.4s
SIM Simferopol' 55.18 305*d* *i*P P 08 35 11.0 0.0
SIM pmax pmax
comp=Z,52nm,0.7s
ANDN Andirin 55.44 296 *i* P P 08 35 16.6 +3.5
CTKT Corum 55.76 300 *i* P P 08 35 16.1 +0.6
KEV Kevo 55.94 336 eP P 08 35 14.7 -1.3
KEV pmax pmax
comp=Z,33nm,0.6s
KEV Kevo 55.94 336 eP P 08 35 15.8 -0.3
comp=Z,32nm,0.8s
KEV Kevo 55.94 336 *e*p P 08 35 14.7 -1.3
comp=Z,33nm,0.6s
ARCES ARCESS Array B 56.47 335 P P 08 35 19.5 -0.4
comp=Z,24nm,0.8s,baz=84,slow=8.6,SNR=89
ARCES LR LR 09 00 42.6
comp=Z,76nm,19.0s,baz=359,slow=37
ARCES ARCESS Array B 56.47 335 P P 08 35 19.5 -0.4
ARE0 ARCESS Array S 56.47 335 eP P 08 35 19.4 -0.5
ARE0 ARCESS Array S 56.47 335 eP P 08 35 19.6 -0.3
BALT Daday 56.54 301 *i* P P 08 35 21.6 +0.5
ASF Jabal al Asfar 56.70 290 P P 08 35 23.1 +0.9
comp=Z,23nm,0.7s,baz=307,slow=5.0,SNR=42
ASF Jabal al Asfar 56.70 290 P P 08 35 23.1 +0.9
GULE Gulek 56.72 296 *i* P P 08 35 23.0 +0.7
ELDT Eldivan 56.79 300 *i* P P 08 35 22.6 -0.2
KAF Kangasniemi 56.81 327 eP P 08 35 20.2 -2.2
KAF pmax pmax
comp=Z,17nm,0.7s
KAF Kangasniemi 56.81 327 *e*p P 08 35 20.2 -2.2
comp=Z,17nm,0.7s
BR131 Keskin Array S 56.85 299 eP P 08 35 23.1 -0.3
comp=Z,24nm,0.8s
BRTR Keskin Array B 56.85 299 P P 08 35 22.9 -0.3
comp=Z,24nm,0.8s,baz=99,slow=6.9,SNR=107
BRTR Keskin Array B 56.85 299 P P 08 35 22.9 -0.3
FIA1 FINESS Array S 57.00 326 eP P 08 35 23.2 -0.5
FINES FINESS Array B 57.00 326 P P 08 35 23.3 -0.5
comp=Z,32nm,0.6s,baz=90,slow=7.5,SNR=125
FINES FINESS Array B 57.00 326 P P 08 35 23.3 -0.5
VSU Vasula 57.12 322*c* *i*P P 08 35 24.3 -0.3
VSU pmax pmax
comp=Z,156nm,0.9s
AKASG Malin Array Be 57.15 313 P P 08 35 24.3 -0.6
comp=Z,19nm,0.4s,baz=67,slow=7.5,SNR=54
AKASG Malin Array Be 57.15 313*ce*P P 08 35 24.2 -0.7
AKASG pmax pmax
comp=Z,19nm,0.4s
AKASG Malin Array Be 57.15 313 P P 08 35 24.3 -0.6
AK01 Malin Array Si 57.15 313 eP P 08 35 24.3 -0.7
KIEV Kiev 57.16 313 eP P 08 35 24.3 -0.7
KIEV pmax pmax
comp=Z,32nm,0.6s
KIEV Kiev 57.16 313 eP P 08 35 24.3 -0.7
comp=Z,32nm,0.6s
AK02 Malin Array Si 57.17 313 eP P 08 35 24.4 -0.7
MICGM Minsk 57.19 317⇓ eP P 08 35 14.0 -11
MNK Minsk 57.21 317⇓ eP P 08 35 14.0 -11
MNK pmax pmax
comp=Z,140nm,1.0s
KTK1 Kautokeino 57.32 335 eP P 08 35 25.5 -0.4
MMAI Mount Meron Ar 57.60 291 P P 08 35 29.5 +1.0
comp=Z,1.6nm,0.3s,baz=56,slow=10,SNR=9.6
MMAI Mount Meron Ar 57.60 291 P P 08 35 29.5 +1.0
NACGM Naroch 57.73 318 *e* P 08 35 24.0 -5.0
PMG Port Moresby 57.76 129 P P 08 35 29.7 0.0
comp=Z,11nm,0.8s,baz=0.9,slow=16,SNR=3.1

PMG Port Moresby 57.76 129 P P 08 35 29.7 0.0
SPA0 Spitsbergen Ar 58.33 346 eP P 08 35 32.8 -0.2
SPITS Spitsbergen Ar 58.33 346 P P 08 35 32.5 -0.4
comp=Z,8.8nm,0.6s,baz=107,slow=10.0,SNR=36
SPITS Spitsbergen Ar 58.33 346 P P 08 35 32.5 -0.4
HENT Hendek 58.54 301 *i* P P 08 35 35.0 +0.1
CSS Prodhromos 58.56 294 eP P 08 35 35.1 -0.1
comp=Z,33nm,0.8s
COEN Coen 58.73 136 eP P 08 35 36.0 -0.4
comp=Z,119nm,0.8s
TRO Tromso 58.76 336 eP P 08 35 35.9 0.0
SEYT Eskypehyr 58.97 300 *i* P P 08 35 37.6 -0.5
WRAB Tennant Creek 59.06 148 eP P 08 35 38.7 +0.1
WRAB pmax pmax
comp=Z,41nm,0.8s
WRAB Tennant Creek 59.06 148 eP P 08 35 38.7 +0.1
comp=Z,41nm,0.8s
WRAB Tennant Creek 59.06 148 P P 08 35 38.0 -0.6
comp=Z,341nm,0.7s,SNR=51
WRA Warramunga Arr 59.06 148 P P 08 35 38.6 0.0
comp=Z,24nm,0.6s,baz=341,slow=7.3,SNR=141
WRA Warramunga Arr 59.06 148 P P 08 35 38.6 0.0
SBS Kingsbay 59.10 347 eP P 08 35 37.6 -0.6
EIL Elat 59.16 288 P P 08 35 39.3 -0.1
comp=Z,24nm,0.8s,baz=62,slow=2.3,SNR=18
EIL LR LR 09 03 41.8
comp=Z,66nm,20.8s,baz=270,slow=38
EIL Elat 59.16 288 P P 08 35 39.3 -0.1
CFR Carcaliu 59.22 307⇑ *i*P P 08 35 39.0 -0.5
CFR Carcaliu 59.22 307⇑ *i*P P 08 35 39.0 -0.5
TIRR Tirgusor 59.24 306⇓ *i*P P 08 35 39.6 -0.1
TIRR Tirgusor 59.24 306 eP P 08 35 39.2 -0.5
comp=Z,17nm,0.9s
TIRR Tirgusor 59.24 306⇓ *i*P P 08 35 39.6 -0.1
ISP Isparta 59.76 298⇑ P P 08 35 42.8 -0.7
ISP Isparta 59.76 298 eP P 08 35 42.9 -0.7
comp=Z,43nm,0.8s
ISP Isparta 59.76 298⇑ *i*P P 08 35 42.8 -0.7
TNA Tin City 59.83 29 eP P 08 35 43.2 -0.2
comp=Z,3.5nm,0.8s
TESR 59.84 309⇑ *i*P P 08 35 43.5 -0.4
VRI Vrincioaia 59.98 308⇑ P P 08 35 45.4 +0.6
VRI Vrincioaia 59.98 308⇑ *i*P P 08 35 45.4 +0.6
SUW Suwalki 59.98 318 eP P 08 35 44.1 -0.5
SUW Suwalki 59.98 318 eP P 08 35 43.9 -0.7
SUW pmax pmax
comp=Z,43nm,0.3s
SUW Suwalki 59.98 318 eP P 08 35 43.9 -0.7
comp=Z,43nm,0.3s
SUW Suwalki 59.98 318 eP P 08 35 44.1 -0.5
PLOR Plostina 60.03 308 ⇓P P 08 35 46.0 +0.8
PLOR Plostina 60.03 308⇓ *i*P P 08 35 46.0 +0.8
GDZ Gediz 60.12 300 *i* P P 08 35 45.4 -0.6
ISR Istrita 60.32 307⇑ P P 08 35 48.2 +1.0
ISR Istrita 60.32 307⇑ *i*P P 08 35 48.2 +1.0
STEI Steigen 60.40 334 eP P 08 35 46.6 -0.7
BURAR Bucovina Array 60.47 310⇑ *i*P P 08 35 48.0 -0.2
BUR08 Bucovina Ar. S 60.47 310 eP P 08 35 48.0 -0.2
LVV L'vov 60.59 313 eP P 08 35 48.3 -0.6
MLR Muntele Rosu 60.61 308 P P 08 35 49.5 +0.2
comp=Z,2.0nm,0.5s,baz=350,slow=3.0,SNR=18
MLR Muntele Rosu 60.61 308 ⇓P P 08 35 49.5 +0.2
MLR Muntele Rosu 60.61 308⇑ *i*P P 08 35 49.4 +0.1
GOLH Golhisar 60.67 298 *i* P P 08 35 47.3 -2.5
MOR8 Moi Rana 61.14 332 eP P 08 35 50.0 -2.4
VOIR 61.23 308 ⇓P P 08 35 53.5 +0.1
VOIR 61.23 308⇓ *i*P P 08 35 53.5 +0.1
BALY Balya 61.26 301 *i* P P 08 35 53.1 -0.6
KWP Kalwaria Pacla 61.47 313 eP P 08 35 55.5 +0.5
KWP Kalwaria Pacla 61.47 313 ⇑P P 08 35 55.4 +0.5
KWP Kalwaria Pacla 61.47 313⇑ *i*P P 08 35 55.4 +0.5
KWP Kalwaria Pacla 61.47 313 *e*P P 08 35 55.4 +0.5
ARR Arges 61.53 308⇑ *i*P P 08 35 55.5 +0.1
KOLS Kolonicke sedl 61.95 312 eP P 08 35 58.0 -0.2
KOLS pmax pmax
comp=Z,12nm,0.8s
KOLS Kolonicke sedl 61.95 312 eP P 08 35 58.0 -0.2
BEL Belsk 61.97 316 eP P 08 35 58.2 0.0
BEL Belsk 61.97 316 eP P 08 35 58.2 0.0
ALN Alexandroupoli 62.01 303 eP P 08 35 58.2 -0.4
TRPA Tarpa 62.03 311⇑ *i*P P 08 35 59.0 +0.3
TRPA Tarpa 62.03 311⇓ eP P 08 35 59.3 +0.6
UZH Uzhgorod 62.03 312 eP P 08 35 55.8 -2.9
UZH *i* 08 36 03.0
UZH *i* 08 36 11.2
LOT Lotru 62.08 308⇓ *i*P P 08 35 59.6 +0.4
AS31 Alice Springs 62.13 150 eP P 08 35 59.8 +0.2
ASAR Alice Springs 62.14 150 P P 08 35 59.8 +0.2
comp=Z,14nm,0.8s,baz=329,slow=6.1,SNR=98
ASAR Alice Springs 62.14 150 P P 08 35 59.8 +0.2
DRGR 62.34 310 ⇓P P 08 36 01.2 +0.3
DRGR 62.34 310⇓ *i*P P 08 36 01.2 +0.3
NSS Namsos 62.60 331 eP P 08 35 59.1 -3.1
CHOS Chios island 62.87 300 eP P 08 36 04.3 -0.3
NIE Niedzica 63.02 313 eP P 08 36 06.1 +0.8
NIE Niedzica 63.02 313 eP P 08 36 06.1 +0.8
OJC Ojcow 63.07 314 eP P 08 36 05.8 +0.2
OJC Ojcow 63.07 314 eP P 08 36 05.8 +0.2
KARP Karpathos 63.08 297 eP P 08 36 05.4 -0.6
HFS Hagfors 63.21 326 P P 08 36 05.7 -0.6
comp=Z,19nm,0.4s,baz=90,slow=5.9,SNR=134
HFS Hagfors 63.21 326 P P 08 36 05.7 -0.6
VTS Vitosha 63.42 305 ⇑P P 08 36 08.2 0.0
VTS Vitosha 63.42 305⇑ *i*P P 08 36 08.2 0.0
BZS Buzias 63.45 309 ⇑P P 08 36 07.8 -0.4
BZS Buzias 63.45 309⇑ *i*P P 08 36 07.8 -0.4
GKP Gorka Klasztor 63.58 318 eP P 08 36 09.0 0.0
GKP Gorka Klasztor 63.58 318 eP P 08 36 08.9 0.0
PSZ Piszkesteto 63.78 312 ⇑P P 08 36 11.3 +0.8
PSZ Piszkesteto 63.78 312⇑ *i*P P 08 36 11.3 +0.8
PSZ Piszkesteto 63.78 312⇓ eP P 08 36 11.2 +0.8
NC602 NORSAR Array S 64.02 327 eP P 08 36 10.5 -1.1
PLG Polygyros 64.04 303 eP P 08 36 11.7 -0.5
NB2 NORSAR Subarra 64.06 327 P P 08 36 10.8 -1.2
baz=71,slow=6.9
NB2 NORSAR Subarra 64.06 327 P P 08 36 10.8 -1.2
comp=Z,30nm,0.6s,baz=71,slow=6.9
NOA NORSAR Array B 64.06 327 P P 08 36 10.8 -1.2
comp=Z,31nm,0.7s,baz=72,slow=6.8,SNR=111
NOA NORSAR Array B 64.06 327 P P 08 36 10.8 -1.2
OKC Ostrava-Krasne 64.20 314 eP P 08 36 13.0 -0.1
OKC Ostrava-Krasne 64.20 314 eP P 08 36 13.0 -0.1
OKC epP pP 08 36 16.0 -2.9
VYHS Vyhne 64.25 313 eP P 08 36 13.8 +0.4
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 64.25 313 eP P 08 36 13.8 +0.4
BSD Bornholm Skovb 64.25 320⇑ *i*P P 08 36 12.3 -0.9
comp=Z,33nm,0.8s
NAO01 NORSAR Array 64.28 327 eP P 08 36 11.9 -1.5
comp=Z,8.3nm,0.3s
BUD Budapest 64.48 311⇓ eP P 08 36 15.7 +0.8
MORC Moravsky Berou 64.59 314 ⇑P P 08 36 15.9 +0.2
MORC Moravsky Berou 64.59 314 eP P 08 36 15.8 +0.1
comp=Z,34nm,1.0s
MORC Moravsky Berou 64.59 314⇑ *i*P P 08 36 15.9 +0.2
IDI Anoyia 64.90 297 eP P 08 36 16.5 -1.4
comp=Z,26nm,0.7s
KSP Ksiaz 64.96 316 eP P 08 36 18.6 +0.6
KSP Ksiaz 64.96 316 eP P 08 36 18.0 0.0
KSP Ksiaz 64.96 316 eP P 08 36 18.6 +0.6
LKR Lokris 65.00 301 eP P 08 36 17.1 -1.4
DPC Dobruska-Polom 65.12 315 eP P 08 36 19.6 +0.5
DPC Dobruska-Polom 65.12 315 eP P 08 36 19.6 +0.5
PKSM Moragy 65.18 310 ⇑P P 08 36 19.4 -0.1
PKSM Moragy 65.18 310⇑ *i*P P 08 36 19.4 -0.1
PKSM Moragy 65.18 310⇓ eP P 08 36 19.4 -0.1
UPC Upice 65.25 315 eP P 08 36 20.5 +0.6
UPC Upice 65.25 315 eP P 08 36 20.5 +0.6
VRAC Vranov 65.34 314 P P 08 36 21.0 +0.5
comp=Z,15nm,0.7s,baz=70,slow=6.9,SNR=12
VRAC Vranov 65.34 314 P P 08 36 21.0 +0.5
VRAC Vranov 65.34 314⇓ *i*P P 08 36 20.3 -0.2
VAM Vamos 65.37 297 eP P 08 36 21.2 +0.3
COP Copenhagen 65.37 322 *i* P P 08 36 20.5 0.0
LLD Lille Linde 65.62 321 *i* P P 08 36 22.2 +0.1
comp=Z,67nm,0.8s
EVR Evrytania 65.76 302 eP P 08 36 23.6 +0.1
VLI Veliai 65.80 299 eP P 08 36 21.5 -2.1
DAG Danmarks Havn 65.80 348 *i* P P 08 36 21.6 -1.4
comp=Z,21nm,0.7s
DAG *i* 08 38 11.1

EFP Efpalio 65.88 301 eP P 08 36 23.8 -0.4
VLX Vlachokerasia 65.95 300 eP P 08 36 22.2 -2.6
SOP Sopron 65.96 312⇓ eP P 08 36 25.2 +0.7
TREC Trest 66.02 314 eP P 08 36 25.3 +0.4
TREC Trest 66.02 314 eP P 08 36 25.3 +0.4
PVCC Panska Ves 66.10 316 eP P 08 36 25.5 +0.1
PVCC Panska Ves 66.10 316 eP P 08 36 25.5 +0.1
HYA Hoyanger 66.28 328 eP P 08 36 25.8 -0.4
BEHE Becsehely 66.29 311⇓ eP P 08 36 27.3 +0.7
CONA Conrad Observa 66.31 313⇑ *i*pP P 08 36 27.1 +0.3
comp=Z,18nm,1.1s,SNR=5.1
PRU Pruhonice 66.32 315 eP P 08 36 27.1 +0.3
PRU Pruhonice 66.32 315 eP P 08 36 27.1 +0.3
PRU epP pP 08 36 30.0 -2.6
BRG Berggiesshubel 66.34 316 *i* P P 08 36 26.9 0.0
comp=Z,23nm,0.8s
BRG *i* 08 36 30.2
comp=Z,19nm,0.8s
BRG ePP PP 08 38 53.7 +1.1
comp=Z,3.0nm,0.8s
BRG S S 08 45 15.0 -0.6
BRG Berggiesshubel 66.34 316 *i* P P 08 36 26.9 0.0
BRG *e* 08 38 53.7
BRG S S 08 45 15.0 -0.6
BRG pmax pmax
comp=Z,23nm,0.8s
BRG pmax pmax
comp=Z,19nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 66.34 316 eP P 08 36 26.9 0.0
comp=Z,23nm,0.8s
RLS Riolos of Patr 66.34 301 eP P 08 36 25.5 -1.6
ITM Ithomi 66.36 300 eP P 08 36 25.0 -2.3
FORT Forrest 66.45 158 eP P 08 36 27.9 +0.3
comp=Z,23nm,0.6s
FORT ePcP PcP 08 36 57.6 +0.4
ODD1 Odda 66.59 327 eP P 08 36 27.3 -1.1
PYL PYLOS 66.60 300 eP P 08 36 26.4 -2.4
LKD2 Lefkada island 66.64 302 eP P 08 36 27.6 -1.5
CLL Collm 66.72 317⇑ *i*P P 08 36 28.9 -0.4
CLL pmax pmax
comp=Z,23nm,1.0s
CLL Collm 66.72 317 eP P 08 36 29.0 -0.4
comp=Z,23nm,1.0s
CLL Collm 66.72 317⇑ *i*P P 08 36 28.9 -0.4
comp=Z,23nm,1.0s
CLL ePcP PcP 08 36 57.0 -1.2
MUD Monsted U'grnd 66.76 323⇑ *i*P P 08 36 29.5 +0.1
comp=Z,35nm,0.9s
ARSA Arzberg 66.78 312⇑ *i*P P 08 36 29.5 -0.3
comp=Z,8.9nm,0.8s
KEK Kerkira 66.88 303 eP P 08 36 30.5 -0.1
VLS Valsamata 66.93 301 eP P 08 36 28.6 -2.3
BSEG Bad Segeberg 67.18 320 eP P 08 36 32.8 +0.7
comp=Z,101nm,0.9s
GOLS Golise 67.20 311 *i* P P 08 36 32.5 -0.1
KHC Kasperske Hory 67.23 315 eP P 08 36 32.7 0.0
KHC *e* 08 36 56.0
KHC Kasperske Hory 67.23 315 eP P 08 36 32.6 -0.1
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 67.23 315 eP P 08 36 32.7 0.0
KHC epP pP 08 36 35.8 -2.7
KHC ePCP PcP 08 36 56.0 -4.5
GEC2 GERESS Array S 67.27 314 eP P 08 36 33.0 0.0
comp=Z,21nm,1.1s
GERES GERESS Array B 67.27 314 P P 08 36 33.2 +0.2
comp=Z,14nm,0.9s,baz=74,slow=5.7,SNR=66
GERES LR LR 09 07 07.4
comp=Z,146nm,18.6s,baz=327,slow=37
GERES GERESS Array B 67.27 314 P P 08 36 33.2 +0.2
PERS Pernice 67.28 312 *i* P P 08 36 32.7 -0.3
SOKA Soboth 67.31 312⇑ *i*P P 08 36 33.1 -0.2
comp=Z,17nm,0.7s
MOA Molln 67.32 313⇑ *i*pP P 08 36 33.5 +0.2
comp=Z,15nm,0.9s
TANN Tannenbergstha 67.38 316 eP P 08 36 33.6 -0.1
comp=Z,15nm,0.9s
NKC Novy Kostel 67.47 316 eP P 08 36 34.2 +0.1
NKC Novy Kostel 67.47 316 eP P 08 36 34.2 +0.1
BOJS Bojanci 67.64 310 *i* P P 08 36 35.2 -0.1
WET Wettzell 67.65 315 eP P 08 36 35.5 +0.2
comp=Z,21nm,1.3s
TRF Thorofare Moun 67.69 28 eP P 08 36 35.3 -0.2
comp=Z,9.5nm,1.1s
MOX Moxa 67.78 317 eP P 08 36 36.0 -0.1
comp=Z,20nm,1.3s
VISS Visnje 67.79 311 *i* P P 08 36 36.0 -0.2
ROTZ Rotzenmuhle 67.80 316 eP P 08 36 36.7 +0.5
comp=Z,34nm,0.9s
NRDL Niederach Rie 67.88 319 eP P 08 36 37.0 +0.4
comp=Z,43nm,0.9s
CLZ Clausthal 68.00 318 eP P 08 36 37.7 +0.2
comp=Z,54nm,0.9s
KBA Koelnbreinsper 68.21 313⇓ *i*P P 08 36 38.7 -0.3
comp=Z,10nm,0.7s
RJOB Jochberg 68.28 313 eP P 08 36 39.4 +0.1
comp=Z,30nm,1.8s
ILAR Eielson Array 68.36 26 P P 08 36 37.5 -1.9
comp=Z,0.8nm,0.5s,baz=301,slow=3.0,SNR=20
ILAR Eielson Array 68.36 26 P P 08 36 37.5 -1.9
GRF Grafenberg Arr 68.41 316 eP P 08 36 40.6 +0.5
comp=Z,34nm,1.0s
GRFO Grafenberg 68.41 316 eP P 08 36 40.4 +0.3
GRFO pmax pmax
comp=Z,26nm,0.9s
GRFO Grafenberg 68.41 316 eP P 08 36 40.4 +0.3
comp=Z,26nm,0.9s
UBBA Unterbreizbach 68.64 317 eP P 08 36 41.5 +0.2
comp=Z,41nm,1.9s
FUR Furstenfeldbru 69.02 314 eP P 08 36 44.5 +0.6
comp=Z,118nm,1.4s
PMR Palmer 69.06 30 eP P 08 36 42.5 -1.3
PMR pmax pmax
comp=Z,6.0nm,0.6s
PMR Palmer 69.06 30 eP P 08 36 42.5 -1.3
comp=Z,6.1nm,0.6s
WTTA Wattenberg 69.19 313⇓ *i*P P 08 36 44.7 -0.5
comp=Z,20nm,0.8s
WATA Walderalm 69.19 313⇓ *i*P P 08 36 44.5 -0.7
comp=Z,24nm,1.1s
IBBN Ibbenburen 69.26 319 eP P 08 36 45.5 +0.2
comp=Z,35nm,1.1s
SML Sawmill 69.28 29 eP P 08 36 44.3 -1.0
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 69.28 29 eP P 08 36 44.3 -1.0
comp=Z,2.5nm,0.7s
MOTA Moosalm 69.48 314 *i* P P 08 36 46.3 -0.6
comp=Z,15nm,0.8s,SNR=6.8
TNS Taunus Mts 69.80 317 eP P 08 36 48.5 -0.2
comp=Z,15nm,1.0s
PAX Paxson 69.83 27 eP P 08 36 47.6 -1.1
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 69.83 27 eP P 08 36 47.6 -1.1
comp=Z,7.2nm,1.2s
FETA Feichten 69.85 313 *i* P P 08 36 48.8 -0.5
comp=Z,21nm,0.9s,SNR=16
TOD Tromm 69.86 316 eP P 08 36 48.4 -0.7
TOD Tromm 69.86 316 eP P 08 36 48.4 -0.7
BUG Bochum--Univer 69.92 319 eP P 08 36 49.5 +0.2
comp=Z,29nm,0.9s
DOT Dot Lake 70.00 26 eP P 08 36 49.1 -0.6
comp=Z,1.2nm,0.7s
STU Stuttgart 70.01 316 eP P 08 36 49.9 -0.1
comp=Z,30nm,1.1s
AQU L'Aquila 70.18 308⇑ *i*P P 08 36 51.5 +0.3
DAVA Damuels 70.25 314⇓ *i*P P 08 36 51.2 -0.5
comp=Z,8.7nm,0.8s
DAVOX Davos/Dischmat 70.48 313 P P 08 36 52.8 -0.3
comp=Z,28nm,0.7s,baz=74,slow=4.0,SNR=35
DAVOX Davos/Dischmat 70.48 313 P P 08 36 52.8 -0.3
MENT Mentasta 70.52 27 eP P 08 36 52.2 -0.7
SPAK Spaichingen-Ko 70.55 315 eP P 08 36 52.9 -0.5
INK Inuvik 70.71 20 eP P 08 36 52.8 -1.1
comp=Z,11nm,0.8s
BFO Black Forest 70.72 315 eP P 08 36 53.8 -0.6
BFO pmax pmax
comp=Z,20nm,1.3s
BFO Black Forest 70.72 315 eP P 08 36 53.9 -0.5
comp=Z,17nm,1.1s
BFO Black Forest 70.72 315 eP P 08 36 53.8 -0.6
comp=Z,20nm,1.3s
RUP Ruppelstein 70.83 317 eP P 08 36 55.1 0.0

RUP **Ruppelstein** 70.83 317 *e*P **P** 08 36 55.1 0.0
TUE **Stuetta** 70.95 313 *e*P **P** 08 36 55.5 -0.5
comp=Z,20nm,0.6s
MEM **Membach** 71.01 318 P **P** 08 36 56.1 +0.1
comp=Z,10.0nm,1.3s
BBOO **Buckleboo** 71.10 153 *e*P **P** 08 36 56.0 -0.6
comp=Z,275nm,1.1s
FELD **Feldberg im Sc** 71.12 315 *e*P **P** 08 36 56.2 -0.7
BMRM **Bremner River** 71.25 29 *e*P **P** 08 36 57.1 -0.3
comp=Z,19nm,0.8s
CDF **Champ du Feu** 71.30 316⇑*i*P **P** 08 36 57.6 -0.4
comp=Z,36nm,0.8s
CDF **Champ du Feu** 71.30 316⇑*i*P **P** 08 36 57.6 -0.4
CDF pmax pmax
comp=Z,36nm,0.8s
CDF **Champ du Feu** 71.30 316⇑*i*P **P** 08 36 57.6 -0.4
comp=Z,36nm,0.8s
WLF **Walferdange** 71.37 317 P **P** 08 36 59.0 +0.7
comp=Z,45nm,1.3s
WLF AP **pP** 08 37 01.2 -2.9
WLF **Walferdange** 71.37 317 *e*P **P** 08 36 59.1 +0.9
WLF pmax pmax
comp=Z,49nm,1.0s
WLF **Walferdange** 71.37 317 *e*P **P** 08 36 58.9 +0.7
comp=Z,67nm,1.0s
WLF **Walferdange** 71.37 317 *e*P **P** 08 36 59.1 +0.9
comp=Z,49nm,1.0s
ECH **Echery** 71.47 316 *e*P **P** 08 36 58.3 -0.6
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH **Echery** 71.47 316 *e*P **P** 08 36 58.3 -0.6
comp=Z,10nm,0.9s
ECH **Echery** 71.47 316 *e*P **P** 08 36 58.3 -0.6
DAWY **Dawson** 71.47 25 *e*P **P** 08 36 57.6 -1.0
BCLA **Clavier** 71.50 318 P **P** 08 36 58.7 -0.3
comp=Z,9.0nm,0.9s
MOF **Molkenrain** 71.65 315 *e*P **P** 08 36 59.4 -0.7
MOF **Molkenrain** 71.65 315 *e*P **P** 08 36 59.4 -0.7
MOF **Molkenrain** 71.65 315 *e*P **P** 08 36 59.4 -0.7
HINF **Hinteralfeld** 71.83 315⇑*i*P **P** 08 37 00.5 -0.6
comp=Z,28nm,0.9s
HINF **Hinteralfeld** 71.83 315⇑*i*P **P** 08 37 00.5 -0.6
HINF pmax pmax
comp=Z,28nm,0.9s
HINF **Hinteralfeld** 71.83 315⇑*i*P **P** 08 37 00.5 -0.6
comp=Z,28nm,0.9s
GIVF **Givet** 71.92 318⇑*i*P **P** 08 37 01.4 -0.1
comp=Z,46nm,0.9s
GIVF **Givet** 71.92 318⇑*i*P **P** 08 37 01.4 -0.1
GIVF pmax pmax
comp=Z,46nm,0.9s
GIVF **Givet** 71.92 318⇑*i*P **P** 08 37 01.4 -0.1
comp=Z,46nm,0.9s
KMBO **Kilima Mbogo** 72.00 257 *e*P **P** 08 37 03.4 +0.5
comp=Z,11nm,1.1s
HAU **Haudompre** 72.04 316⇑*i*P **P** 08 37 01.8 -0.6
comp=Z,18nm,0.8s
HAU **Haudompre** 72.04 316⇑*i*P **P** 08 37 01.8 -0.6
HAU pmax pmax
comp=Z,18nm,0.8s
HAU **Haudompre** 72.04 316⇑*i*P **P** 08 37 01.8 -0.6
comp=Z,18nm,0.8s
DOU **Dourbes** 72.05 318 P **P** 08 37 02.2 -0.1
comp=Z,8.1nm,1.2s
DOU AP **pP** 08 37 05.3 -2.9
LOMF **Lomont** 72.07 315 *e*P **P** 08 37 01.4 -1.2
LOMF **Lomont** 72.07 315 *e*P **P** 08 37 01.4 -1.2
LOMF **Lomont** 72.07 315 *e*P **P** 08 37 01.4 -1.2
PAGF **Fort de Pagny** 72.15 316⇑*i*P **P** 08 37 03.0 +0.1
comp=Z,14nm,0.9s
PAGF **Fort de Pagny** 72.15 316⇑*i*P **P** 08 37 03.0 +0.1
comp=Z,14nm,0.9s
BAIF **Baives** 72.29 318⇑*i*P **P** 08 37 03.8 +0.1
comp=Z,36nm,0.8s
BAIF **Baives** 72.29 318⇑*i*P **P** 08 37 03.8 +0.1
BAIF pmax pmax
comp=Z,36nm,0.8s
BAIF **Baives** 72.29 318⇑*i*P **P** 08 37 03.8 +0.1
comp=Z,36nm,0.8s
SUMG **Summit** 72.38 349 *i*P **P** 08 37 04.1 -0.3
comp=Z,10.0nm,0.7s
RES **Resolute Bay** 72.43 5 *e*P **P** 08 37 03.5 -0.6
comp=Z,9.6nm,1.0s
RES *e*PcP **PcP** 08 37 21.5 -0.4
MEZF **Maizieres J'vi** 72.56 317 *e*P **P** 08 37 05.3 -0.1
MEZF **Maizieres J'vi** 72.56 317 *e*P **P** 08 37 05.3 -0.1
STKA **Stephens Creek** 72.61 148 P **P** 08 37 05.6 -0.1
comp=Z,10nm,0.8s,baz=343,slow=5.4,SNR=24
STKA **Stephens Creek** 72.61 148 P **P** 08 37 05.6 -0.1
comp=Z,24nm,1.0s
OG01 **Vacheresse** 72.64 314 *e*P **P** 08 37 05.6 -0.5
OG01 **Vacheresse** 72.64 314 *e*P **P** 08 37 05.6 -0.5
SFTF **Sexfontaines** 72.72 316⇑*i*P **P** 08 37 05.9 -0.4
comp=Z,38nm,0.8s
SFTF **Sexfontaines** 72.72 316⇑*i*P **P** 08 37 05.9 -0.4
comp=Z,38nm,0.8s
CABF **La Chapelle** 72.87 315 *e*P **P** 08 37 06.9 -0.5
comp=Z,36nm,1.0s
CABF **La Chapelle** 72.87 315 *e*P **P** 08 37 06.9 -0.5
CABF pmax pmax
comp=Z,37nm,1.0s
CABF **La Chapelle** 72.87 315 *e*P **P** 08 37 06.9 -0.5
comp=Z,36nm,1.0s
RSL **Roselend** 72.99 314 *e*P **P** 08 37 08.8 +0.6
RSL **Roselend** 72.99 314 *e*P **P** 08 37 08.8 +0.6
RSL **Roselend** 72.99 314 *e*P **P** 08 37 08.8 +0.6
PGF **Pioggiola** 72.99 310⇑*i*P **P** 08 37 08.3 +0.1
comp=Z,78nm,0.8s
PGF **Pioggiola** 72.99 310⇑*i*P **P** 08 37 08.3 +0.1
PGF pmax pmax
comp=Z,78nm,0.8s
PGF **Pioggiola** 72.99 310⇑*i*P **P** 08 37 08.3 +0.1
comp=Z,78nm,0.8s
LPG **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.2
comp=Z,123nm,0.7s
LPG **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.2
LPG pmax pmax
comp=Z,123nm,0.7s
LPG **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.2
comp=Z,123nm,0.7s
LPL **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.3
comp=Z,93nm,0.6s
LPL **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.3
LPL pmax pmax
comp=Z,93nm,0.6s
LPL **La Plagne** 73.00 313⇑*i*P **P** 08 37 08.7 +0.3
comp=Z,93nm,0.6s
SAOF **Saorge** 73.23 312 *e*P **P** 08 37 09.4 -0.1
SAOF **Saorge** 73.23 312 *e*P **P** 08 37 09.4 -0.1
SAOF **Saorge** 73.23 312 *e*P **P** 08 37 09.4 -0.1
BNI **Bardonecchia** 73.26 313 *e*P **P** 08 37 07.7 -2.1
BNI *e* 08 37 24.5
BNI pmax pmax
comp=Z,7.0nm,0.6s
BNI **Bardonecchia** 73.26 313 *e*P **P** 08 37 07.7 -2.1
comp=Z,7.2nm,0.6s
BNI *e*PcP **PcP** 08 37 24.5 -1.8
AUTN **L'Aution** 73.31 312 *e*P **P** 08 37 13.1 +2.9
AUTN **L'Aution** 73.31 312 *e*P **P** 08 37 13.1 +2.9
AUTN **L'Aution** 73.31 312 *e*P **P** 08 37 09.7 -0.5
MBDF **Montbardon** 73.36 313⇑*i*P **P** 08 37 09.9 -0.5
comp=Z,36nm,0.8s
MBDF **Montbardon** 73.36 313⇑*i*P **P** 08 37 09.9 -0.5
MBDF pmax pmax
comp=Z,36nm,0.8s
MBDF **Montbardon** 73.36 313⇑*i*P **P** 08 37 09.9 -0.5
comp=Z,36nm,0.8s
SBF **Sospel** 73.36 312⇑*i*P **P** 08 37 10.1 -0.2
comp=Z,54nm,0.7s
SBF **Sospel** 73.36 312⇑*i*P **P** 08 37 10.1 -0.2
SBF pmax pmax
comp=Z,54nm,0.7s
SBF **Sospel** 73.36 312⇑*i*P **P** 08 37 10.1 -0.2
comp=Z,54nm,0.7s
TOUF **Mont Tournerai** 73.41 312 *e*P **P** 08 37 11.3 +0.5
TOUF **Mont Tournerai** 73.41 312 *e*P **P** 08 37 11.3 +0.5
TOUF **Mont Tournerai** 73.41 312 *e*P **P** 08 37 11.3 +0.5
MVIF **Mont Vial** 73.53 312 *e*P **P** 08 37 11.1 -0.3
MVIF **Mont Vial** 73.53 312 *e*P **P** 08 37 11.1 -0.3
MVIF **Mont Vial** 73.53 312 *e*P **P** 08 37 11.1 -0.3
ORIF **Oris-en-Rattie** 73.82 313⇑*i*P **P** 08 37 13.0 -0.1
comp=Z,47nm,0.7s
ORIF **Oris-en-Rattie** 73.82 313⇑*i*P **P** 08 37 13.0 -0.1
ORIF pmax pmax
comp=Z,47nm,0.7s
ORIF **Oris-en-Rattie** 73.82 313⇑*i*P **P** 08 37 13.0 -0.1
comp=Z,47nm,0.7s
LOR **Lormes** 73.87 316⇑*i*P **P** 08 37 12.3 -0.9
comp=Z,22nm,0.9s
LOR **Lormes** 73.87 316⇑*i*P **P** 08 37 12.3 -0.9
comp=Z,22nm,0.9s
FRF **La Foret Royal** 74.01 312⇑*i*P **P** 08 37 13.5 -0.6
comp=Z,19nm,0.6s
FRF **La Foret Royal** 74.01 312⇑*i*P **P** 08 37 13.5 -0.6
FRF pmax pmax
comp=Z,19nm,0.6s
FRF **La Foret Royal** 74.01 312⇑*i*P **P** 08 37 13.5 -0.6
comp=Z,19nm,0.6s
SSF **Saint Saulge** 74.19 316⇑*i*P **P** 08 37 14.3 -0.7
comp=Z,16nm,0.8s
SSF **Saint Saulge** 74.19 316⇑*i*P **P** 08 37 14.3 -0.7
SSF pmax pmax
comp=Z,16nm,0.8s
SSF **Saint Saulge** 74.19 316⇑*i*P **P** 08 37 14.3 -0.7
comp=Z,16nm,0.8s
SMF **Signal de Mont** 74.20 315⇑*i*P **P** 08 37 14.6 -0.5
comp=Z,58nm,0.9s
SMF **Signal de Mont** 74.20 315⇑*i*P **P** 08 37 14.6 -0.5
SMF pmax pmax
comp=Z,58nm,0.9s
SMF **Signal de Mont** 74.20 315⇑*i*P **P** 08 37 14.6 -0.5
comp=Z,58nm,0.9s
LMR **La Mourre** 74.21 311⇑*i*P **P** 08 37 15.0 -0.2
comp=Z,20nm,0.6s
LMR **La Mourre** 74.21 311⇑*i*P **P** 08 37 15.0 -0.2
LMR pmax pmax
comp=Z,20nm,0.6s
LMR **La Mourre** 74.21 311⇑*i*P **P** 08 37 15.0 -0.2
comp=Z,20nm,0.6s
AVF **Avril sur Loir** 74.41 316⇑*i*P **P** 08 37 15.9 -0.4
comp=Z,62nm,1.0s
AVF **Avril sur Loir** 74.41 316⇑*i*P **P** 08 37 15.9 -0.4
AVF pmax pmax
comp=Z,62nm,1.0s
AVF **Avril sur Loir** 74.41 316⇑*i*P **P** 08 37 15.9 -0.4
comp=Z,62nm,1.0s
SMRF **Simiane la Rot** 74.48 312 *e*P **P** 08 37 15.8 -1.0
SMRF **Simiane la Rot** 74.48 312 *e*P **P** 08 37 15.8 -1.0
HYF **Humbligny** 74.59 316 *e*P **P** 08 37 17.3 -0.1
HYF **Humbligny** 74.59 316 *e*P **P** 08 37 17.3 -0.1
VIVF **Saint-Julien-l** 74.60 313⇑*i*P **P** 08 37 17.1 -0.4
comp=Z,34nm,0.9s
VIVF **Saint-Julien-l** 74.60 313⇑*i*P **P** 08 37 17.1 -0.4
VIVF pmax pmax
comp=Z,34nm,0.9s
VIVF **Saint-Julien-l** 74.60 313⇑*i*P **P** 08 37 17.1 -0.4
comp=Z,34nm,0.9s
BORG **Borgarnes** 74.60 339 P **P** 08 37 17.3 +0.2
comp=Z,40nm,1.1s,baz=344,slow=6.9,SNR=3.0
BORG **Borgarnes** 74.60 339 P **P** 08 37 17.3 +0.2
PLDF **La Plantade** 74.67 315 *e*P **P** 08 37 17.5 -0.5
PLDF **La Plantade** 74.67 315 *e*P **P** 08 37 17.5 -0.5
PLDF **La Plantade** 74.67 315 *e*P **P** 08 37 17.5 -0.5
BGF **Bois d'Agland** 74.83 316 *e*P **P** 08 37 18.2 -0.6
BGF **Bois d'Agland** 74.83 316 *e*P **P** 08 37 18.2 -0.6
BGF **Bois d'Agland** 74.83 316 *e*P **P** 08 37 18.2 -0.6
AGO **Saint Agoulin** 74.92 315 *e*P **P** 08 37 19.0 -0.3
AGO **Saint Agoulin** 74.92 315 *e*P **P** 08 37 19.0 -0.3
PYM **Petit Puy Mans** 75.15 315 *e*P **P** 08 37 20.4 -0.3
PYM **Petit Puy Mans** 75.15 315 *e*P **P** 08 37 20.4 -0.3
PYM **Petit Puy Mans** 75.15 315 *e*P **P** 08 37 20.4 -0.3
LBL **Lubilhac** 75.28 314 *e*P **P** 08 37 21.1 -0.4
LBL **Lubilhac** 75.28 314 *e*P **P** 08 37 21.1 -0.4
LBL **Lubilhac** 75.28 314 *e*P **P** 08 37 21.1 -0.4
TCF **Toulx Ste Croi** 75.35 316⇑*i*P **P** 08 37 21.6 -0.2
comp=Z,29nm,0.9s
TCF **Toulx Ste Croi** 75.35 316⇑*i*P **P** 08 37 21.6 -0.2
TCF pmax pmax
comp=Z,29nm,0.9s
TCF **Toulx Ste Croi** 75.35 316⇑*i*P **P** 08 37 21.6 -0.2
comp=Z,29nm,0.9s
LDF **La Druitiere** 75.47 319⇑*i*P **P** 08 37 22.0 -0.4
comp=Z,40nm,0.9s
LDF **La Druitiere** 75.47 319⇑*i*P **P** 08 37 22.0 -0.4
LDF pmax pmax
comp=Z,40nm,0.9s
LDF **La Druitiere** 75.47 319⇑*i*P **P** 08 37 22.0 -0.4
comp=Z,40nm,0.9s
LASF **Ste Croix** 75.50 313⇑*i*P **P** 08 37 22.8 +0.1
comp=Z,36nm,0.9s
LASF **Ste Croix** 75.50 313⇑*i*P **P** 08 37 22.8 +0.1
comp=Z,36nm,0.9s
FLN **La Foliniere** 75.58 319⇑*i*P **P** 08 37 22.6 -0.4
comp=Z,52nm,1.1s
FLN **La Foliniere** 75.58 319⇑*i*P **P** 08 37 22.6 -0.4
FLN pmax pmax
comp=Z,52nm,1.1s
FLN **La Foliniere** 75.58 319⇑*i*P **P** 08 37 22.6 -0.4
comp=Z,52nm,1.1s
SKAG **Skagway** 75.86 27 *e*P **P** 08 37 24.5 +0.1
comp=Z,27nm,0.8s
KEST **Kesra** 76.06 303 P **P** 08 37 26.1 0.0
comp=Z,4.1nm,0.9s,baz=4.9,slow=5.8,SNR=5.8
KEST **Kesra** 76.06 303 P **P** 08 37 26.1 0.0
CAF **Calvac** 76.15 315⇑*i*P **P** 08 37 26.7 +0.3
comp=Z,16nm,0.8s
CAF **Calvac** 76.15 315⇑*i*P **P** 08 37 26.7 +0.3
CAF pmax pmax
comp=Z,17nm,0.8s
CAF **Calvac** 76.15 315⇑*i*P **P** 08 37 26.7 +0.3
comp=Z,16nm,0.8s
RJF **Les Rejaudoux** 76.28 315⇑*i*P **P** 08 37 27.4 +0.3
comp=Z,10nm,0.6s
RJF **Les Rejaudoux** 76.28 315⇑*i*P **P** 08 37 27.4 +0.3
RJF pmax pmax
comp=Z,10.0nm,0.6s
RJF **Les Rejaudoux** 76.28 315⇑*i*P **P** 08 37 27.4 +0.3
comp=Z,10nm,0.6s
MFF **Saint Martin d** 76.56 317⇑*i*P **P** 08 37 28.6 -0.1
comp=Z,62nm,1.1s
MFF **Saint Martin d** 76.56 317⇑*i*P **P** 08 37 28.6 -0.1
MFF pmax pmax
comp=Z,62nm,1.1s
MFF **Saint Martin d** 76.56 317⇑*i*P **P** 08 37 28.6 -0.1
comp=Z,62nm,1.1s
MTLF **Montolieu** 76.89 313⇑*i*P **P** 08 37 30.5 -0.1
comp=Z,15nm,0.9s
MTLF **Montolieu** 76.89 313⇑*i*P **P** 08 37 30.5 -0.1
MTLF pmax pmax
comp=Z,15nm,0.9s
MTLF **Montolieu** 76.89 313⇑*i*P **P** 08 37 30.5 -0.1
comp=Z,15nm,0.9s
LFF **La Frestale** 76.94 315⇑*i*P **P** 08 37 31.2 +0.4
LFF **La Frestale** 76.94 315⇑*i*P **P** 08 37 31.2 +0.4
LFF **La Frestale** 76.94 315⇑*i*P **P** 08 37 31.2 +0.4
SGMF **Saint Gilles** 77.01 319⇑*i*P **P** 08 37 31.2 0.0
comp=Z,81nm,1.0s
SGMF **Saint Gilles** 77.01 319⇑*i*P **P** 08 37 31.2 0.0
SGMF pmax pmax
comp=Z,81nm,1.0s
SGMF **Saint Gilles** 77.01 319⇑*i*P **P** 08 37 31.2 0.0
comp=Z,81nm,1.0s
ROSF **Rostrenen** 77.36 320 *e*P **P** 08 37 33.1 0.0
comp=Z,49nm,1.0s
ROSF **Rostrenen** 77.36 320 *e*P **P** 08 37 33.1 0.0
ROSF pmax pmax
comp=Z,49nm,1.0s
ROSF **Rostrenen** 77.36 320 *e*P **P** 08 37 33.1 0.0
comp=Z,49nm,1.0s
QUIF **Quistinic** 77.54 319⇑*i*P **P** 08 37 33.9 -0.2
comp=Z,50nm,1.1s
QUIF **Quistinic** 77.54 319⇑*i*P **P** 08 37 33.9 -0.2
QUIF pmax pmax
comp=Z,50nm,1.1s
QUIF **Quistinic** 77.54 319⇑*i*P **P** 08 37 33.9 -0.2
comp=Z,50nm,1.1s
ETSF **Etsaut** 78.84 314⇑*i*P **P** 08 37 42.0 +0.4
comp=Z,20nm,0.9s
ETSF **Etsaut** 78.84 314⇑*i*P **P** 08 37 42.0 +0.4
ETSF pmax pmax
comp=Z,20nm,0.9s
ETSF **Etsaut** 78.84 314⇑*i*P **P** 08 37 42.0 +0.4
comp=Z,20nm,0.9s
SJPF **Ste Jean** 79.13 314⇑*i*P **P** 08 37 43.7 +0.7
comp=Z,23nm,0.9s
SJPF **Ste Jean** 79.13 314⇑*i*P **P** 08 37 43.7 +0.7
SJPF pmax pmax
comp=Z,23nm,0.9s
SJPF **Ste Jean** 79.13 314⇑*i*P **P** 08 37 43.7 +0.7
comp=Z,23nm,0.9s
SFJD **Kangerlussuaq** 79.26 351 P **P** 08 37 42.5 -0.7
comp=Z,14nm,0.6s,baz=36,slow=5.3,SNR=12
SFJD **Kangerlussuaq** 79.26 351 P **P** 08 37 42.5 -0.7
SFJD **Kangerlussuaq** 79.26 351 *i*P **P** 08 37 42.3 -0.9
comp=Z,12nm,0.7s
YKW3 **Yellowknife Ar** 80.20 17 *e*P **P** 08 37 47.6 -0.8
comp=Z,0.1nm,0.6s
YKA **Yellowknife Ar** 80.26 18 P **P** 08 37 48.0 -0.7
comp=Z,11nm,0.6s,baz=329,slow=5.1,SNR=252
YKA PKKPbc **PKKPbc** 08 56 29.0 -2.9
comp=Z,0.6nm,0.6s,baz=150,slow=2.2,SNR=12
YKA **Yellowknife Ar** 80.26 18 P **P** 08 37 48.0 -0.7
YKA PKKPbc **PKKPbc** 08 56 29.1 -2.9
ESDC **Sonseca Array** 82.79 313 P **P** 08 38 02.9 +0.2
comp=Z,1.7nm,0.6s,baz=43,slow=5.5,SNR=14
ESDC **Sonseca Array** 82.79 313 P **P** 08 38 02.9 +0.2
PBRG **Braganca** 83.20 316 *e*P **P** 08 38 04.9 +0.1
comp=Z,14nm,1.3s
MVO **Moncorvo** 83.76 315 *e*P **P** 08 38 08.1 +0.4
comp=Z,17nm,0.8s
POLO **Lamas de Olo** 84.09 316 *e*P **P** 08 38 10.1 +0.7
comp=Z,10nm,1.8s
PMRV **Marv??o** 85.05 314 *e*P **P** 08 38 14.3 +0.1
comp=Z,14nm,2.3s
TAM **Tamanrasset** 85.67 294 *e*P **P** 08 38 18.4 +0.6
TAM pmax pmax
comp=Z,4.0nm,0.9s
TAM **Tamanrasset** 85.67 294 *e*P **P** 08 38 18.4 +0.6
comp=Z,4.3nm,0.9s
EVO **Evora** 85.99 314 *e*P **P** 08 38 19.3 +0.4
comp=Z,32nm,1.3s
EVO **Evora** 85.99 314 *e*P **P** 08 38 19.3 +0.4
comp=Z,23nm,1.5s
EVOP **Sao Brissos** 86.06 314 *e*P **P** 08 38 19.3 +0.1
EVOP pmax pmax
comp=Z,32nm,1.3s
EVOP **Sao Brissos** 86.06 314 *e*P **P** 08 38 19.3 +0.1
comp=Z,32nm,1.3s
PNCL **Nicolau / Gran** 86.56 314 *e*P **P** 08 38 22.2 +0.5
comp=Z,30nm,1.7s
LSZ **Lusaka** 87.37 250 *e*P **P** 08 38 25.9 -0.1
comp=Z,9.9nm,1.0s
FFC **Flin Flon** 90.20 15 *e*P **P** 08 38 37.9 -0.8
FFC pmax pmax
comp=Z,18nm,0.8s
FFC **Flin Flon** 90.20 15 *e*P **P** 08 38 37.9 -0.8
comp=Z,18nm,0.8s
FFC **Flin Flon** 90.20 15 P **P** 08 38 38.5 -0.2
comp=Z,128nm,0.8s,SNR=11
A12A **Yaak River Ran** 91.30 25 ⇑P **P** 08 38 44.4 +0.4
baz=91
NEW **Newport** 91.31 27 *e*P **P** 08 38 44.6 +0.6
comp=Z,10nm,1.3s
NEW **Newport** 91.31 27 ⇑P **P** 08 38 44.6 +0.6
baz=91
B12A **Libby** 91.71 26 ⇑P **P** 08 38 45.8 -0.1
baz=91
A13A **Flathead Natio** 91.75 25 ⇑P **P** 08 38 46.0 -0.2
baz=91
HAWA **Hanford** 91.88 29 *e*P **P** 08 38 47.4 +0.7
comp=Z,5.2nm,1.0s
C11A **Tepee Creek (N** 91.99 26 ⇓P **P** 08 38 47.1 -0.1
baz=92
A14A **Double T Ranch** 92.06 24 ⇑P **P** 08 38 47.4 -0.2
baz=92
B13A **Whitefish** 92.20 25 ⇑P **P** 08 38 48.3 +0.1
baz=92
A15A **Johnson Ranch,** 92.30 24 ⇑P **P** 08 38 48.9 +0.2
baz=92
C12B **Naegeli Ranch,** 92.39 26 ⇓P **P** 08 38 49.7 +0.6
baz=92
BSMT **Bassoo Peak** 92.52 26 *e*P **P** 08 38 50.2 +0.4
comp=Z,4.6nm,1.0s
BLMT **Blacktail Moun** 92.54 25 *e*P **P** 08 38 49.9 0.0
comp=Z,6.9nm,0.7s
A16A **West Butte Ran** 92.71 23 ⇓P **P** 08 38 50.2 -0.3
baz=92
C13A **Hot Springs** 92.75 26 ⇑P **P** 08 38 50.9 +0.2
baz=92,SNR=6.5
SCHQ **Schefferville** 92.90 355 P **P** 08 38 50.7 -0.5
comp=Z,9.3nm,0.8s,baz=19,slow=4.7,SNR=14
SCHQ **Schefferville** 92.90 355 P **P** 08 38 50.7 -0.5
B15A **Bradely Ranch,** 92.92 24 ⇓P **P** 08 38 51.0 -0.6
baz=93
C14A **Swan Lake** 92.97 25 ⇑P **P** 08 38 52.0 +0.2
baz=93,SNR=8.0
D12A **Red Ives Fores** 92.98 26 ⇓P **P** 08 38 51.5 -0.3
baz=93
A17A **Triple J Farms** 93.00 23 ⇑P **P** 08 38 51.2 -0.6
baz=93,SNR=6.2
B16A **M & M Farms, S** 93.13 24 ⇓P **P** 08 38 51.9 -0.5
baz=93
D13A **Huson** 93.28 26 ⇓P **P** 08 38 52.7 -0.5
baz=93
A18A **Metzger Ranch,** 93.30 22 ⇑P **P** 08 38 52.8 -0.4
baz=93
C15A **Salmond Ranch,** 93.37 24 ⇑P **P** 08 38 53.3 -0.4
baz=93,SNR=7.5
E12A **Beaver Dam Sad** 93.43 27 ⇑P **P** 08 38 53.6 -0.4
baz=93
SLMT **Seeley Lake** 93.51 25 *e*P **P** 08 38 54.3 -0.1
comp=Z,3.8nm,0.8s
B17A **L&G Farms, Che** 93.54 23 ⇑P **P** 08 38 54.1 -0.3
baz=93,SNR=8.4
D14A **Greenough** 93.64 25 ⇓P **P** 08 38 54.2 -0.8
baz=93,SNR=5.3
A19A **Klindworth Far** 93.64 22 ⇑P **P** 08 38 54.5 -0.3
baz=93,SNR=7.7
C16A **Fuhringer Ranc** 93.64 24 ⇑P **P** 08 38 54.2 -0.7
baz=93
MSO **Missoula** 93.70 26 *e*P **P** 08 38 54.9 -0.3
comp=Z,2.5nm,1.1s
MSO **Missoula** 93.70 26 ⇑P **P** 08 38 54.9 -0.3
baz=93,SNR=5.8
B18A **Beardsley Farm** 93.78 22 ⇓P **P** 08 38 54.7 -0.8
baz=93
E13A **Victor** 93.93 26 ⇓P **P** 08 38 55.6 -0.6
baz=94,SNR=7.9
A20A **Cobblestone Ra** 93.94 21 ⇓P **P** 08 38 55.7 -0.4
baz=94,SNR=6.9
B19A **Brinkman Farms** 94.00 22 ⇑P **P** 08 38 56.0 -0.4
baz=94
TORD **Torodi Ar. Bea** 94.04 288 P **P** 08 38 56.7 -0.4
comp=Z,2.1nm,0.8s,baz=48,slow=4.0,SNR=13
TORD **Torodi Ar. Bea** 94.04 288 P **P** 08 38 56.7 -0.4
F12A **Elk City** 94.10 27 ⇑P **P** 08 38 56.4 -0.6
baz=94
EGMT **Eagleton** 94.12 23 *e*P **P** 08 38 56.6 -0.5
comp=Z,6.1nm,0.9s
EGMT **Eagleton** 94.12 23 ⇑P **P** 08 38 56.6 -0.5
baz=94,SNR=5.1
C17A **Wharram Farm,** 94.12 23 ⇑P **P** 08 38 56.7 -0.3
baz=94
A21A **Bergtoll Ranch** 94.14 20 ⇑P **P** 08 38 57.2 +0.1
baz=94
E14A **Clinton** 94.21 26 ⇓P **P** 08 38 57.3 -0.3
baz=94
B20A **Solberg Farm,** 94.30 21 ⇑P **P** 08 38 56.9 -0.9
baz=94
D16A **Dana Ranch, Ca** 94.38 24 ⇓P **P** 08 38 57.8 -0.5
baz=94,SNR=5.6
F13A **Darby** 94.43 26 ⇑P **P** 08 38 58.2 -0.4
baz=94
A22A **Carney Farms,** 94.43 20 ⇑P **P** 08 38 57.8 -0.7
baz=94
E15A **Deer Lodge** 94.51 25 ⇑P **P** 08 38 58.4 -0.5
baz=94,SNR=5.7
HRY **Holter Researc** 94.55 24 *e*P **P** 08 38 59.3 +0.2
comp=Z,3.6nm,0.8s
D17A **Six Diamond Ra** 94.57 24 ⇓P **P** 08 38 58.4 -0.8
baz=94
C19A **Slack Wire Ran** 94.60 22 ⇓P **P** 08 38 58.9 -0.3
baz=94,SNR=6.3
G12A **Big Creek, Yel** 94.60 27 ⇑P **P** 08 38 59.1 -0.3
baz=94
B21A **Ellsworth Farm** 94.62 21 ⇓P **P** 08 38 59.1 -0.2
baz=94
E16A **East Helena** 94.76 24 ⇑P **P** 08 38 59.7 -0.4
baz=94,SNR=5.7
F14A **Wisdom** 94.77 26 ⇓P **P** 08 38 59.7 -0.5
baz=94
D18A **Linhart Farms,** 94.83 23 ⇓P **P** 08 39 00.3 0.0
baz=94
A24A **Westby** 95.03 19 ⇓P **P** 08 39 01.0 -0.2
baz=95
B22A **Reddig Ranch S** 95.03 20 ⇑P **P** 08 39 01.0 -0.2
baz=95
G13A **Cobalt** 95.05 27 ⇓P **P** 08 39 01.3 -0.2
baz=95
F15A **Butte** 95.06 25 ⇓P **P** 08 39 01.4 -0.1

baz=95
E17A **Martinsdale** 95.11 24 ⇑P P 08 39 01.6 -0.1
baz=95
D19A **Cripps Ranch,** 95.16 22 ⇓P P 08 39 01.3 -0.5
baz=95,SNR=8.3
B23A **Brockton** 95.17 20 ⇓P P 08 39 01.5 -0.3
baz=95
G14A **Jackson** 95.22 26 ⇓P P 08 39 02.0 -0.3
baz=95,SNR=5.8
H12A **Diamond D Ranc** 95.27 27 ⇓P P 08 39 02.4 -0.1
baz=95
E18A **Harlowton** 95.34 23 ⇑P P 08 39 02.7 -0.1
baz=95
DGMT **Dagmar** 95.39 19 ⇓P P 08 39 02.2 -0.6
baz=95
F16A **Kennard Place,** 95.42 25 ⇑P P 08 39 02.6 -0.6
baz=95
BOZ **Bozeman (W)** 95.54 25 ⇑P P 08 39 03.1 -0.6
baz=95
C22A **Vida** 95.56 20 ⇓P P 08 39 03.2 -0.5
baz=95
G15A **Dillon** 95.64 26 ⇑P P 08 39 03.9 -0.3
baz=95
F17A **Fitzpatrick Pl** 95.66 24 ⇓P P 08 39 03.9 -0.3
baz=95,SNR=5.8
ULM **Lac du Bonnet** 95.69 13 P P 08 39 02.6 -1.5
comp=Z,1.2nm,0.4s,baz=332,slow=3.9,SNR=4.5
ULM **Lac du Bonnet** 95.69 13 P P 08 39 02.6 -1.5
C23A **Lambert** 95.72 20 ⇓P P 08 39 04.3 0.0
baz=95
I12A **Atlanta** 95.79 28 ⇓P P 08 39 04.6 -0.3
baz=95
E19A **Rath Farm, Rou** 95.81 23 ⇓P P 08 39 05.0 +0.2
baz=95
G16A **Moss Hill, Enn** 95.84 25 ⇑P P 08 39 04.8 -0.3
baz=96
D21A **La Casta Ranch** 95.84 21 ⇓P P 08 39 04.5 -0.4
baz=96
E20A **Meyer Farm, Mu** 95.98 22 ⇑P P 08 39 05.2 -0.4
baz=96
F18A **Big Timber** 95.98 24 ⇓P P 08 39 05.1 -0.6
baz=96,SNR=5.6
D22A **Cohagen** 96.01 21 ⇓P P 08 39 05.1 -0.6
baz=96
I13A **Whitehorse Cree** 96.09 27 ⇑P P 08 39 05.9 -0.5
baz=96
HLID **Hailey** 96.27 28 ⇓P P 08 39 07.5 +0.5
baz=96,SNR=6.4
D23A **Lindsay** 96.28 20 ⇓P P 08 39 06.6 -0.3
baz=96
F19A **Roth Farm, Mol** 96.29 23 ⇓P P 08 39 06.7 -0.3
baz=96
J13A **Cove Ranch, Pi** 96.50 28 ⇑P P 08 39 08.0 -0.1
baz=96,SNR=5.7
E22A **Miles City** 96.72 21 ⇓P P 08 39 08.8 -0.1
baz=96
RLMT **Red Lodge** 96.82 24 ⇑P P 08 39 08.7 -0.9
baz=96
BOSA **Boshof** 97.02 241 P P 08 39 09.3 -1.2
comp=Z,1.3nm,0.6s,baz=2.6,slow=8.6,SNR=4.5
BOSA **Boshof** 97.02 241 P P 08 39 09.3 -1.2
H18A **Shoshone NF, C** 97.07 24 ⇑P P 08 39 10.5 -0.3
baz=97
G20A **Bridger** 97.09 23 ⇓P P 08 39 10.6 -0.1
baz=97
F22A **Rosebud** 97.22 22 ⇑P P 08 39 10.8 -0.4
baz=97
F23A **Volborg** 97.53 21 ⇓P P 08 39 12.2 -0.5
baz=97
I19A **Meeteetse** 97.87 24 ⇓P P 08 39 13.6 -0.8
baz=98
I20A **Worland** 98.24 24 ⇓P Pdif 08 39 16.0 0.0
baz=98
I21A **Big Trails, Te** 98.64 23 ⇑P P 08 39 17.4 -0.4
baz=98
PDAR **Pinedale Array** 98.78 25 P Pdif 08 39 18.9 +0.4
comp=Z,0.3nm,0.7s,baz=302,slow=2.0,SNR=3.2
PDAR **Pinedale Array** 98.78 25 P Pdif 08 39 18.9 +0.4
NVAR **Mina Array Bea** 98.84 33 P P 08 39 18.1 -0.7
comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=2.5
NVAR **Mina Array Bea** 98.84 33 P P 08 39 18.1 -0.7
RSSD **Black Hills** 99.39 21 *e*P **Pdif** 08 39 21.4 +0.2
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD **Black Hills** 99.39 21 *e*P **Pdif** 08 39 21.4 +0.2
comp=Z,3.4nm,0.9s
TXAR **Lajitas Array** 112.86 27 PKKPbc PKKPbc 08 55 02.9 +0.1
comp=Z,0.4nm,0.8s,baz=164,slow=7.4,SNR=5.6
TXAR **Lajitas Array** 112.86 27 PKKPbc PKKPbc 08 55 02.9 +0.1
VNDA **Vanda** 114.76 168 PKP PKPdf 08 44 17.2 -0.5
comp=Z,1.0nm,0.8s,baz=324,slow=3.3,SNR=3.2
VNDA **Vanda** 114.76 168 PKP PKPdf 08 44 17.1 -0.5
SJG **San Juan** 129.13 349 PKP **PKPdf** 08 44 46.0 -1.1
comp=Z,7.7nm,0.3s,baz=270,slow=18,SNR=3.2
SJG **San Juan** 129.13 349 PKP **PKPdf** 08 44 46.0 -1.1
JTS **JuntasAbangare** 136.53 14 PKP **PKPdf** 08 44 58.4 -2.7
comp=Z,4.7nm,0.9s,baz=156,slow=21,SNR=2.5
JTS **JuntasAbangare** 136.53 14 PKP **PKPdf** 08 44 58.4 -2.7
ROSC **El Rosal** 143.00 359 PKhKP PKPpre 08 45 10.3
comp=Z,4.3nm,0.3s,baz=92,slow=14,SNR=3.7
ROSC **El Rosal** 143.00 359 PKPpre PKPpre 08 45 10.3
OTAV **Otavalo** 147.42 7 *e*PKPbc **PKPbc** 08 45 23.6 +0.1
BDFB **Brasilia** 150.44 298 PKPbc **PKPbc** 08 45 30.0 -0.6
comp=Z,5.6nm,1.0s,baz=128,slow=3.2,SNR=4.8
BDFB PKPab **PKPab** 08 45 37.6 +0.5
comp=Z,3.8nm,0.9s,baz=49,slow=9.1,SNR=3.6
BDFB **Brasilia** 150.44 298 PKPbc **PKPbc** 08 45 30.1 -0.6
BDFB PKPab **PKPab** 08 45 37.6 +0.5
SAML **Samuel** 154.30 332 *e*PKPdf **PKPdf** 08 45 30.5 -0.5
SAML *e*PKPbc **PKPbc** 08 45 38.5 -0.7
SAML *e*PKPab **PKPab** 08 45 52.5 -0.6
ATAH **Atahualpa** 154.71 8 PKPbc **PKPbc** 08 45 40.4 -0.2
comp=Z,3.8nm,0.8s,baz=128,slow=18,SNR=1.8
ATAH PKPab **PKPab** 08 45 56.2 +0.9
comp=Z,9.4nm,0.9s,baz=159,slow=3.7,SNR=4.1
ATAH **Atahualpa** 154.71 8 PKPbc **PKPbc** 08 45 40.5 -0.2
ATAH PKPab **PKPab** 08 45 56.2 +0.9
SIV **San Ignacio** 159.43 319 PKP **PKPdf** 08 45 37.2 -0.3
comp=Z,1.4nm,0.9s,baz=344,slow=4.1,SNR=4.8
SIV PKPab **PKPab** 08 46 14.8 -0.3
comp=Z,3.7nm,0.8s,baz=73,slow=5.2,SNR=11
SIV **San Ignacio** 159.43 319 PKP **PKPdf** 08 45 37.2 -0.3
SIV PKPab **PKPab** 08 46 14.8 -0.3
LPAZ **La Paz** 162.87 337 PKP **PKPdf** 08 45 41.6 -0.3
comp=Z,1.2nm,0.7s,baz=10,slow=9.4,SNR=3.9
LPAZ PKPab **PKPab** 08 46 29.6 -1.3
comp=Z,0.9nm,0.7s,baz=251,slow=4.8,SNR=3.8
LPAZ **La Paz** 162.87 337 PKP **PKPdf** 08 45 41.6 -0.3
LPAZ PKPab **PKPab** 08 46 29.6 -1.3
PLCA **Paso Flores** 170.92 202 PKPab **PKPab** 08 47 03.7 -1.5
comp=Z,0.7nm,0.8s,baz=37,slow=8.2,SNR=3.1
PLCA **Paso Flores** 170.92 202 PKPab **PKPab** 08 47 03.7 -1.5

IDC 12 08:37:21.3±1.8, 0.°13S×125.°34E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=188.4km s-min=25.2km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**156**	P	P	08 42 11.7	-1.0
	0.3nm,0.4s,baz=334,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**24.83**	**161**	P	P	08 42 46.2	+0.7
	0.4nm,0.6s,baz=345,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**59.97**	**327**	P	P	08 47 29.5	-0.1
	0.1nm,0.3s,baz=116,slow=7.4,SNR=2.5						

MAN 12 08:43:38, 9.°10N×122.°49E, h29km, mb3.8, ML2.5, MS2.1, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.31**	**176**	*e*P	Pb	08 44 07.7	+5.7
TBP	**Tagbilaran**	**1.48**	**67**	*e*P	Pb	08 44 03.8	-1.0
TBP				*e*S	Sn	08 44 21.6	+0.6
GUIM	**Jordan**	**1.52**	**4**	*e*P	Pn	08 44 02.2	-1.0
GUIM				*e*S	Sn	08 44 21.6	-0.4
PAGZ	**Pagadian**	**1.53**	**145**	*e*P	Pb	08 44 11.4	+5.7

IDC 12 08:44:21.9±0.9, 2.°21S×67.°57E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, MS3.7/3, Ms1 3.7/3, ms1mx3.2/41, Error ellipse: s-maj=31.5km s-min=23.8km az=95.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**25.76**	**229**	LR	LR	08 57 56.9	
	comp=Z,201nm,18.2s,baz=253,slow=32						
WSAR	**Wadi Sarin**	**26.75**	**341**	LR	LR	08 59 03.3	
	comp=Z,52nm,20.2s,baz=133,slow=33						
AAK	**Ala-Archa**	**45.07**	**7**	P	P	08 52 41.4	+1.5
	0.4nm,0.4s,baz=189,slow=16,SNR=2.5						
BOSA	**Boshof**	**48.09**	**233**	P	P	08 53 03.9	+0.1
	1.8nm,0.8s,baz=82,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**50.49**	**13**	P	P	08 53 20.9	-0.9
	0.4nm,0.7s,baz=190,slow=6.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**57.78**	**12**	P	P	08 54 14.2	-0.5
	0.7nm,0.4s,baz=190,slow=7.3,SNR=2.9						
SONM	**Songino Array**	**60.25**	**29**	P	P	08 54 32.0	-0.3
	1.0nm,0.9s,baz=249,slow=4.1,SNR=7.0						
SONM				LR	LR	09 19 55.3	
	comp=Z,106nm,19.9s,baz=254,slow=35						
WRA	**Warramunga Arr**	**67.43**	**111**	P	P	08 55 20.7	+0.7
	0.7nm,0.7s,baz=284,slow=5.8,SNR=6.7						
ASAR	**Alice Springs**	**67.47**	**115**	P	P	08 55 19.8	-0.4
	0.4nm,0.7s,baz=281,slow=6.2,SNR=7.5						
TXAR	**Lajitas Array**	**151.77**	**344**	PKPbc	PKPbc	09 04 18.7	-0.8
	0.4nm,1.0s,baz=98,slow=2.5,SNR=2.6						

IDC 12 08:56:12.2±1.6, 1.°20S×137.°31E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=121.1km s-min=25.4km az=101.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.85**	**189**	P	Pn	09 00 34.7	+0.2
	0.1nm,0.3s,baz=11,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**22.58**	**188**	P	P	09 01 13.9	-0.5
	0.3nm,0.6s,baz=22,slow=10,SNR=6.5						
PETK	**Petropavlovsk-**	**56.74**	**15**	P	P	09 05 57.7	-0.1
	1.8nm,0.5s,baz=201,slow=7.6,SNR=2.8						

*ISCJB **12** 08:57:12.6±0.5, 32.°71S±0.°04×66.°94W±0.°05, h167km±4km, mb4.2/37, Error ellipse: s-maj=7.5km s-min=6.0km az=157.6*
*NEIC **12** 08:57:14.0±0.2, 32.°76S×66.°97W, mb4.5/26, Error ellipse: s-maj=5.0km s-min=4.2km az=76.0*
*GUC **12** 08:57:14.5±1.1, 32.°53S×67.°01W, h15km, ML4.9*
*IDC **12** 08:57:14.4±0.5, 32.°76S×67.°15W, h174km±4km, mb3.9/12, mb1 4.0/15, mb1mx3.9/22, mbtmp3.9/15, Error ellipse: s-maj=15.5km s-min=9.2km az=65.0*
ISC 12 08:57:13.5±0.4, 32.°77S±0.°04×66.°95W±0.°06, h172km±3km, h172km:pP-P, n378, σ1°17/419, mb4.3/37, 131C-148D, San Luis Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.59**	**316**	P	Pn	08 57 46.1	+0.2
	44nm,0.3s,baz=138,slow=8.8,SNR=3538						
CFAA				S	Sn	08 58 09.6	-1.2
	117nm,0.3s,baz=232,slow=22,SNR=89						
CFAA	**Coronel Fontan**	**1.59**	**316**	P	Pn	08 57 46.1	+0.2
CFAA				S	Sn	08 58 09.6	-1.2
FCH	**Farellones**	**2.86**	**258**	⇑*i*P	Pn	08 57 53.7	-6.7
FCH				*i* S	Sn	08 58 28.5	-8.3
CLCH	**Cerro Calan**	**3.07**	**257**	⇑*i*P	Pn	08 58 03.6	+0.8
CLCH				*i* S	Sn	08 58 41.1	0.0
CLCH				AML	AML	08 58 50.3	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**3.16**	**262**	⇓*i*P	Pn	08 58 04.2	+0.4
PEL				*e*S	Sn	08 58 43.2	+0.2
PEL				AML	AML	08 58 49.4	
	comp=N,3μm,0.4s						
SAN	**Santiago**	**3.19**	**257**	*e*P	Pn	08 58 04.9	+0.8
SAN				*e*S	Sn	08 58 44.1	+0.6
SAN	**Santiago**	**3.19**	**257**	*e*P	Pn	08 58 04.9	+0.8
SAN				*e*S	Sn	08 58 44.1	+0.6
PTCH	**Petorca**	**3.40**	**277**	*e*P	Pn	08 58 07.1	+0.3
PTCH				*i* S	Sn	08 58 47.1	-1.2
PTCH	**Petorca**	**3.40**	**277**	*e*P	Pn	08 58 07.1	+0.3
PTCH				*i* S	Sn	08 58 47.1	-1.2
PTCH				AML	AML	08 58 51.0	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**3.42**	**266**	⇑*i*P	Pn	08 58 06.8	-0.5
ROCH				*e*S	Sn	08 58 48.4	-0.7
CMCH	**Combarbala**	**3.79**	**294**	⇓*i*P	Pn	08 58 11.6	-0.2
CMCH				*i* S	Sn	08 58 54.8	-2.5
CMCH	**Combarbala**	**3.79**	**294**	⇓*i*P	Pn	08 58 11.6	-0.2
CMCH				*i* S	Sn	08 58 54.8	-2.5
CHNG	**Los Chungos**	**3.95**	**282**	*e*P	Pn	08 58 13.1	-0.7
CHNG				*e*S	Sn	08 58 56.3	-4.5
CHNG	**Los Chungos**	**3.95**	**282**	*e*P	Pn	08 58 13.1	-0.7
CHNG				*e*S	Sn	08 58 56.3	-4.5
TLL	**Tololo Astrono**	**4.19**	**307**	*e*P	Pn	08 58 17.1	0.0
TLL				*e*S	Sn	08 59 04.0	-2.8
TLL	**Tololo Astrono**	**4.19**	**307**	*e*P	Pn	08 58 17.1	0.0
TLL				*e*S	Sn	08 59 04.0	-2.8
TLL				AML	AML	08 59 14.6	
	comp=N,2μm,0.8s						
LCO	**Las Campanas**	**4.94**	**318**	*e*Pn	Pn	08 58 26.6	-0.3
LCO				*e*Sn	Sn	08 59 18.9	-5.3
LCO	**Las Campanas**	**4.94**	**318**	⇓*e*P	Pn	08 58 26.6	-0.3
LCO				*i* S	Sn	08 59 20.3	-4.0
VACH	**Vallenar**	**5.31**	**321**	*e*P	Pn	08 58 25.5	-6.0
VACH	**Vallenar**	**5.31**	**321**	*e*P	Pn	08 58 25.5	-6.0
CCHI	**Chillan**	**5.70**	**226**	*e*P	Pn	08 58 36.7	+0.3
CCHI	**Chillan**	**5.70**	**226**	*e*P	Pn	08 58 36.7	+0.3
TRQA	**Tornquist**	**6.65**	**144**	*e*Pn	Pn	08 58 49.5	+0.5
TRQA				*e*Sn	Sn	08 59 59.0	-5.3
PLCA	**Paso Flores**	**8.45**	**199**	P	Pn	08 59 13.2	+0.4
	comp=N,1.1nm,0.3s,baz=7.6,slow=11,SNR=37						
PLCA	**Paso Flores**	**8.45**	**199**	*e*Pn	Pn	08 59 13.0	+0.2
CPUP	**Villa Florida**	**10.55**	**55**	P	Pn	08 59 38.6	-1.8
	comp=N,0.8nm,0.3s,baz=202,slow=12,SNR=6.6						
CPUP	**Villa Florida**	**10.55**	**55**	P	Pn	08 59 38.6	-1.8
LPAZ	**La Paz**	**16.45**	**356**	P	Pn	09 00 56.0	+0.8
	comp=N,1.3nm,0.3s,baz=165,slow=7.1,SNR=28						
LPAZ				S	Sn	09 04 02.5	+2.8
	baz=41,slow=20,SNR=2.5						
LPAZ	**La Paz**	**16.45**	**356**	P	Pn	09 00 56.0	+0.8
LPAZ				*e*Pn	P	09 00 56.3	+1.4
LPAZ				S	Sn	09 04 02.5	+2.8
SIV	**San Ignacio**	**17.54**	**19**	P	P	09 01 06.4	+0.1
	comp=N,1.6nm,0.3s,baz=217,slow=13,SNR=49						
SIV	**San Ignacio**	**17.54**	**19**	P	P	09 01 06.4	+0.1
EFI	**East Falkland**	**19.98**	**164**	*e*Pn	Pn	09 01 32.6	-3.5
	comp=N,83nm,0.7s						
USHA	**Ushuaia**	**22.08**	**182**	P	P	09 01 54.6	+0.2
	comp=N,20nm,0.7s,baz=0.7,slow=6.8,SNR=18						
USHA	**Ushuaia**	**22.08**	**182**	P	P	09 01 54.6	+0.2
NNA	**Nana**	**22.59**	**334**	P	P	09 01 51.5	-8.2
	comp=N,7.0nm,0.7s,baz=323,slow=18,SNR=2.9						
NNA	**Nana**	**22.59**	**334**	P	P	09 01 51.5	-8.2
SAML	**Samuel**	**23.96**	**9**	*e*P	P	09 02 11.3	-0.8
SAML				*e*pP	pP	09 02 44.0	-1.6
BDFB	**Brasilia**	**24.20**	**50**	P	P	09 02 16.5	+2.1
	comp=N,1.1nm,0.3s,baz=232,slow=21,SNR=2.8						
BDFB	**Brasilia**	**24.20**	**50**	P	P	09 02 16.5	+2.1
VNA3	**Neumayer Olymp**	**48.92**	**159**	*e*P	P	09 05 43.2	+1.6
VNA2	**Neumayer--Watz**	**49.53**	**158**	*e*P	P	09 05 47.7	+1.5
	baz=289,slow=9.6						
TGUH	**Tegucigalpa,Un**	**50.46**	**334**	*e*P	P	09 05 54.2	+0.4
CMIG	**Matias Romero**	**56.32**	**327**	P	P	09 06 36.6	+0.1
	comp=N,1.0nm,0.7s,baz=85,slow=4.0,SNR=4.0						
CMIG	**Matias Romero**	**56.32**	**327**	P	P	09 06 36.6	+0.1
TEIG	**Tepich**	**56.51**	**336**	P	P	09 06 37.6	-0.1
	comp=N,16nm,0.5s,baz=157,slow=1.7,SNR=29						
TEIG				pP	pP	09 07 18.8	+1.5
	comp=N,3.7nm,0.5s,baz=129,slow=19,SNR=1.8						
TEIG	**Tepich**	**56.51**	**336**	P	P	09 06 37.6	-0.1
TEIG				pP	pP	09 07 18.8	+1.5
QSPA	**South Pole Qui**	**57.47**	**180**	P	P	09 06 45.5	+1.3
	comp=N,9.0nm,0.5s,baz=164,slow=1.8,SNR=82						
QSPA	**South Pole Qui**	**57.47**	**180**	*e*P	P	09 06 45.2	+1.0
	comp=N,11nm,0.7s						
SYO	**Syowa Base**	**65.41**	**158**	⇓*e*P	P	09 07 36.6	-0.6
VNDA	**Vanda**	**66.10**	**190**	P	P	09 07 41.3	-0.2
	comp=N,1.4nm,0.9s,baz=41,slow=5.3,SNR=5.2						
VNDA	**Vanda**	**66.10**	**190**	P	P	09 07 41.3	-0.2
732A	**Laxson Ranch,**	**68.73**	**329**	⇑P	P	09 07 59.0	+0.4
	baz=69,SNR=5.5						
631A	**Perdido Creek**	**69.58**	**329**	⇑P	P	09 08 04.0	+0.2
	baz=70						
532A	**Rocksprings**	**69.91**	**330**	⇓P	P	09 08 06.2	+0.3
	baz=70,SNR=8.7						
SWET	**Sewanee**	**69.94**	**344**	*e*P	P	09 08 05.4	-0.5
	comp=N,9.3nm,0.9s						
JCT	**Junction City**	**70.18**	**330**	*e*P	P	09 08 07.1	-0.4
	comp=N,8.1nm,0.6s						
JCT	**Junction City**	**70.18**	**330**	⇓P	P	09 08 07.5	0.0
	baz=70						
531A	**Rocksprings**	**70.22**	**329**	⇓P	P	09 08 07.8	0.0
	baz=70						
432A	**Menard**	**70.52**	**330**	⇓P	P	09 08 10.2	+0.7
	baz=71						
530A	**J-C Ranch, Com**	**70.55**	**329**	⇑P	P	09 08 10.6	+0.9
	baz=71						
628A	**Black Gap, Mar**	**70.67**	**327**	⇓P	P	09 08 11.0	+0.5
	baz=71						
431A	**Sonora**	**70.69**	**330**	⇓P	P	09 08 10.5	-0.1
	baz=71						
627A	**Terlingua Ranc**	**70.88**	**327**	⇑P	P	09 08 12.2	+0.4
	baz=71						
TXAR	**Lajitas Array**	**70.91**	**326**	P	P	09 08 12.2	+0.2
	comp=N,0.8nm,0.5s,baz=149,slow=7.5,SNR=19						
TXAR				pP	pP	09 08 54.0	+0.7
	comp=N,0.2nm,0.5s,baz=135,slow=47,SNR=2.0						
TXAR	**Lajitas Array**	**70.91**	**326**	P	P	09 08 12.2	+0.2
TXAR				pP	pP	09 08 54.0	+0.7
529A	**Stev Forest Ra**	**70.92**	**328**	⇓P	P	09 08 12.6	+0.6
	baz=71						
430A	**Baggett Ranch,**	**71.05**	**329**	⇑P	P	09 08 12.9	+0.1
	baz=71,SNR=8.0						
429A	**Davenport Ranc**	**71.20**	**329**	⇑P	P	09 08 14.0	+0.4
	baz=72,SNR=7.6						
528A	**Cox Ranch, San**	**71.20**	**328**	⇓P	P	09 08 13.9	+0.2
	baz=72,SNR=5.5						
WVT	**Waverly**	**71.28**	**342**	*e*P	P	09 08 13.2	-0.7
	comp=N,9.8nm,0.9s						
WVT				*e*pP	pP	09 08 54.1	-1.2
626A	**Big Bend Ranch**	**71.31**	**326**	⇑P	P	09 08 15.1	+0.7
	baz=72,SNR=10						
527A	**Woodward Ranch**	**71.56**	**327**	⇓P	P	09 08 16.3	+0.4
	baz=72						
428A	**Kincaid Ranch,**	**71.64**	**328**	⇓P	P	09 08 16.9	+0.6
	baz=72						
526A	**Mary Lane Ranc**	**71.71**	**327**	⇓P	P	09 08 17.6	+0.7
	baz=72,SNR=6.4						
329A	**Wagon Wheel Ra**	**71.98**	**329**	⇓P	P	09 08 18.4	+0.1
	baz=72,SNR=5.1						
ABTX	**Abilene, Hawel**	**71.98**	**331**	⇓P	P	09 08 18.9	+0.6
	baz=72						
427A	**Hayter Ranch,**	**72.06**	**328**	⇓P	P	09 08 19.3	+0.4
	baz=72						
426A	**McDonald Obser**	**72.20**	**327**	⇑P	P	09 08 20.5	+0.6
	baz=72,SNR=12						
328A	**Wristen Ranch,**	**72.25**	**328**	⇑P	P	09 08 20.3	+0.4
	baz=72,SNR=5.7						
326A	**Caldwell Ranch**	**72.72**	**327**	⇓P	P	09 08 23.1	+0.3
	baz=73,SNR=5.5						
425A	**Indio Mountain**	**72.74**	**326**	⇑P	P	09 08 23.1	+0.1
	baz=73						
228A	**UT Block 9, Go**	**72.78**	**329**	⇓P	P	09 08 23.3	+0.2
	baz=73						
227A	**Bennet, Jal**	**73.00**	**328**	⇓P	P	09 08 24.9	+0.5
	baz=73						
128A	**Castleberry Fa**	**73.17**	**329**	⇑P	P	09 08 25.5	+0.1
	baz=74,SNR=6.1						
325A	**Bean Ranch, Si**	**73.22**	**327**	⇓P	P	09 08 25.8	-0.1
	baz=74,SNR=6.1						
Z29A	**Hungry Hill Ra**	**73.39**	**330**	⇑P	P	09 08 26.2	-0.4
	baz=74,SNR=5.1						
324A	**Moseley Ranch,**	**73.52**	**326**	⇑P	P	09 08 26.8	-0.8
	baz=74,SNR=8.7						
127A	**Arkansas Junct**	**73.60**	**329**	⇑P	P	09 08 28.1	+0.2
	baz=74						
GDL2	**Guadalupe Moun**	**73.64**	**328**	*e*P	P	09 08 28.6	+0.4
MNTX	**Cornudas Mount**	**73.69**	**326**	*e*P	P	09 08 27.5	-0.8
	comp=N,2.9nm,0.8s						
MNTX	**Cornudas Mount**	**73.69**	**326**	⇓P	P	09 08 27.7	-0.6
	baz=74,SNR=5.9						
Z28A	**Tucker Farm, M**	**73.70**	**330**	⇑P	P	09 08 28.3	-0.1
	baz=74						
225A	**Deer Hill, Car**	**73.78**	**327**	⇓P	P	09 08 29.5	+0.5
	baz=74						
126A	**Clayton Basin,**	**73.86**	**328**	⇓P	P	09 08 29.9	+0.5
	baz=74						
Y29A	**Porterfield Fa**	**73.89**	**330**	⇑P	P	09 08 29.3	-0.2
	baz=74,SNR=8.0						
224A	**Cornudas Mount**	**74.07**	**327**	⇑P	P	09 08 30.6	-0.1
	baz=74,SNR=5.3						
Z27A	**Tatum**	**74.08**	**329**	⇑P	P	09 08 30.9	+0.2
	baz=74						
125A	**Gardner Draw,**	**74.16**	**328**	⇓P	P	09 08 30.7	-0.5
	baz=74						
Y28A	**McKinney Farm,**	**74.17**	**330**	⇑P	P	09 08 30.8	-0.4
	baz=74						
Z26A	**Caprock**	**74.38**	**328**	⇓P	P	09 08 32.6	+0.2
	baz=75,SNR=12						
X29A	**Tulia**	**74.41**	**331**	⇑P	P	09 08 32.9	+0.4
	baz=75						
MSTX	**Muleshoe**	**74.45**	**330**	⇓P	P	09 08 32.9	+0.1
	baz=75,SNR=5.5						
Y27A	**Causey**	**74.54**	**329**	⇓P	P	09 08 33.3	-0.1
	baz=75						
124A	**Stringfield Ra**	**74.56**	**327**	⇑P	P	09 08 34.4	+0.8
	baz=75,SNR=5.2						
X28A	**Dimmitt**	**74.68**	**330**	⇑P	P	09 08 34.5	+0.4
	baz=75						
Z25A	**Roswell**	**74.71**	**328**	⇓P	P	09 08 34.9	+0.5
	baz=75						
AMTX	**Amarillo**	**74.78**	**331**	⇑P	P	09 08 34.7	0.0
	baz=75						
222A	**Williams Famil**	**74.84**	**325**	⇓P	P	09 08 36.0	+0.9
	baz=75						
Y26A	**Elida**	**74.86**	**329**	⇑P	P	09 08 36.0	+0.8
	baz=75						
320A	**Kipp Ranch, An**	**74.90**	**324**	⇓P	P	09 08 36.7	+1.2
	baz=75						
Z24A	**Sheeppen Canyo**	**75.05**	**327**	⇑P	P	09 08 36.9	+0.6
	baz=75,SNR=8.7						
221A	**Mesquite Ranch**	**75.08**	**325**	⇓P	P	09 08 37.6	+1.1
	baz=75						
319A	**Douglas**	**75.31**	**323**	⇓P	P	09 08 38.5	+0.7
	baz=76						
220A	**Playas Peak, P**	**75.36**	**324**	⇑P	P	09 08 39.2	+1.1
	baz=76						
Z23A	**Rita Site, Whi**	**75.39**	**327**	⇑P	P	09 08 39.5	+1.3
	baz=76						
X26A	**CR and CF Fran**	**75.39**	**329**	⇓P	P	09 08 38.9	+0.7
	baz=76,SNR=5.1						
W27A	**Bowe Ranch, En**	**75.51**	**330**	⇓P	P	09 08 39.2	+0.3
	baz=76,SNR=6.1						
121A	**Cookes Peak, D**	**75.52**	**325**	⇑P	P	09 08 40

T28A	Walsh	76.89	332	⇑P	P	09 08 47.2 +0.6
	baz=77					
Y20A	Horse Springs,	76.92	326	⇓P	P	09 08 48.3 +1.2
	baz=77,SNR=5.2					
U26A	Atchley Ranch,	76.93	330	⇓P	P	09 08 48.0 +1.0
	baz=77					
W23A	Werner Place,	76.93	328	⇓P	P	09 08 47.9 +0.9
	baz=77,SNR=8.4					
V24A	Rampart Ranch,	77.02	329	⇑P	P	09 08 48.5 +1.0
	baz=77					
T27A	Campo	77.08	331	⇓P	P	09 08 48.5 +0.8
	baz=77					
X21A	Alamocita Cree	77.09	326	⇓P	P	09 08 49.4 +1.5
	baz=77					
EMMW	East Machias	77.11	360	eP	P	09 08 48.1 +0.7
U25A	Circle Dot Ran	77.22	330	⇑P	P	09 08 49.2 +0.6
	baz=78,SNR=5.8					
V23A	Ortiz Mt. (NFS	77.44	328	⇓P	P	09 08 51.2 +1.4
	baz=78					
X20A	Quemado	77.50	326	⇑P	P	09 08 51.8 +1.6
	baz=78					
T26A	Comanche Natio	77.54	331	⇑P	P	09 08 51.4 +1.1
	baz=78					
214A	Organ Pipe Nat	77.58	321	⇑P	P	09 08 52.1 +1.6
	baz=78					
U24A	Moreno Valley	77.60	329	⇓P	P	09 08 52.4 +1.6
	baz=78					
T25A	Trinidad	77.84	330	⇓P	P	09 08 53.2 +1.2
	baz=78,SNR=6.4					
S26A	Kim	77.87	331	⇑P	P	09 08 52.9 +0.8
	baz=78					
V22A	San Miguel Ran	77.90	328	⇓P	P	09 08 54.0 +1.6
	baz=78,SNR=10.0					
U23A	El Rito	77.93	329	⇑P	P	09 08 54.1 +1.5
	baz=78					
W20A	Ramah	77.98	326	⇑P	P	09 08 54.1 +1.2
	baz=78					
T24A	Torres, Weston	78.06	330	⇓P	P	09 08 54.7 +1.4
	baz=78					
V21A	Milan	78.14	327	⇓P	P	09 08 55.6 +1.9
	baz=78					
R27A	Eads	78.17	332	⇑P	P	09 08 54.5 +0.9
	baz=78					
U22A	Llaves	78.26	328	⇑P	P	09 08 55.8 +1.4
	baz=78					
S25A	Robets Cordova	78.30	330	⇓P	P	09 08 55.5 +1.0
	baz=79					
R26A	Arlington	78.44	331	⇓P	P	09 08 56.5 +1.3
	baz=79					
S24A	Houchin Ranch,	78.61	330	⇓P	P	09 08 57.8 +1.5
	baz=79,SNR=7.0					
U21A	Nageezi	78.66	328	⇓P	P	09 08 57.5 +0.9
	baz=79,SNR=7.2					
T22A	Edith	78.81	328	⇓P	P	09 08 58.9 +1.5
	baz=79					
X16A	Lo Mia Camp, P	78.83	324	⇓P	P	09 08 58.5 +1.0
	baz=79					
R24A	Sanders Place,	79.06	330	⇓P	P	09 08 59.6 +1.0
	baz=79,SNR=7.8					
T21A	Navajo Lake	79.07	328	⇑P	P	09 09 00.4 +1.7
	baz=79					
BGNE	Belgrade	79.22	337	⇓P	P	09 09 00.5 +1.3
	baz=80					
Y14A	Wickenburg	79.24	322	⇓P	P	09 09 00.4 +0.9
	baz=80					
U19A	Dine' College,	79.26	326	⇑P	P	09 09 00.3 +0.5
	baz=80					
Q25A	Bedland, Calha	79.29	331	⇑P	P	09 09 01.0 +1.1
	baz=80					
R23A	Moffat	79.33	330	⇓P	P	09 09 01.3 +1.1
	baz=80					
S22A	4UR Ranch, Cre	79.39	329	⇓P	P	09 09 01.6 +1.1
	baz=80					
WUAZ	Wupatki	79.67	325	eP	P	09 09 02.5 +0.5
	comp=N,4.1nm,1.0s					
WUAZ	Wupatki	79.67	325	⇓P	P	09 09 03.0 +1.0
	baz=80					
MVCO	Mesa Verde	79.69	327	⇑P	P	09 09 03.2 +1.1
	baz=80					
O27A	Beecher Island	79.69	333	⇑P	P	09 09 03.4 +1.5
	baz=80					
Q24A	Divide	79.70	331	⇑P	P	09 09 03.4 +1.2
	baz=80					
S21A	Coal Bank Pass	79.74	328	⇑P	P	09 09 03.8 +1.3
	baz=80					
R22A	Saguache, Gunn	79.76	329	⇓P	P	09 09 03.9 +1.3
	baz=80					
P25A	Willow Gulch B	79.77	332	⇓P	P	09 09 04.4 +2.0
	baz=80					
TORD	Torodi Ar. Bea	79.80	67	P	P	09 09 04.0 +1.1
	comp=N,0.6nm,0.6s,baz=284,slow=6.0,SNR=4.9					
TORD				pP	pP	09 09 46.3 +1.2
	comp=N,0.5nm,0.8s,baz=253,slow=4.6,SNR=2.3					
TORD	Torodi Ar. Bea	79.80	67	P	P	09 09 04.0 +1.1
TORD				pP	pP	09 09 46.3 +1.2
S20A	Disappointment	80.14	328	⇓P	P	09 09 06.1 +1.6
	baz=80					
R21A	Cimarron	80.22	329	⇓P	P	09 09 06.0 +1.0
	baz=80					
O25A	Wiggins	80.26	332	⇓P	P	09 09 06.7 +1.7
	baz=81					
BC3	Big Chuckawall	80.30	321	⇑P	P	09 09 06.7 +1.4
	baz=81					
P23A	Jefferson	80.33	330	⇑P	P	09 09 07.3 +1.7
	baz=81					
Q22A	Crested Butte,	80.36	329	⇓P	P	09 09 06.9 +1.2
	baz=81					
R20A	Redvale	80.44	328	⇑P	P	09 09 07.3 +1.2
	baz=81,SNR=5.4					
IRM	Iron Mountain	80.53	321	⇓P	P	09 09 07.4 +1.0
	baz=81					
ISCO	Idaho Springs	80.60	331	eP	P	09 09 07.7 +0.7
	comp=N,3.3nm,0.8s					
ISCO	Idaho Springs	80.60	331	⇑P	P	09 09 07.9 +0.8
	baz=81,SNR=5.5					
SMCO	Snowmass	80.65	330	eP	P	09 09 08.9 +1.5
	comp=N,5.2nm,0.8s					
S18A	Hurst Farm, Bl	80.77	327	⇑P	P	09 09 09.1 +1.2
	baz=81,SNR=6.2					
PFO	Pinyon Flat Ob	80.81	320	⇓P	P	09 09 09.4 +1.4
	baz=81					
ECSD	EROS Data Cent	80.82	339	eP	P	09 09 07.6 -0.1
	comp=N,9.5nm,1.0s					
U15A	North Rim	80.85	324	⇓P	P	09 09 09.6 +1.2
	baz=81					
BELC	Belle Mtn. Jos	80.86	321	⇓P	P	09 09 09.5 +1.2
	baz=81					
PV10	Paradox Valley	80.89	328	eP	P	09 09 08.9 +0.4
P22A	Eagle	80.91	330	⇑P	P	09 09 09.7 +1.2
	baz=81					
S17A	Black Ridge (B	81.10	326	⇓P	P	09 09 10.7 +1.2
	baz=81					
P21A	Newcastle	81.14	329	⇓P	P	09 09 11.1 +1.3
	baz=81					
N24A	Carr	81.17	332	⇑P	P	09 09 11.6 +1.8
	baz=82					
MURC	Murrieta	81.20	320	⇓P	P	09 09 11.6 +1.6
	baz=82					
GMRC	Granite Mounta	81.27	321	⇑P	P	09 09 11.6 +1.1
	baz=82					
O22A	Kremmling	81.29	330	⇑P	P	09 09 11.5 +0.8
	baz=82					
M25A	Palm-Egli Farm	81.37	333	⇓P	P	09 09 12.8 +1.9
	baz=82					
Q19A	Hogan Spring (	81.46	328	⇓P	P	09 09 13.6 +2.3
	baz=82					
P20A	De Beque	81.53	329	⇑P	P	09 09 12.7 +1.0
	baz=82,SNR=5.6					
N23A	Red Feather La	81.66	331	⇑P	P	09 09 13.8 +1.2
	baz=82					
M24A	Cheyenne	81.70	332	⇓P	P	09 09 13.9 +1.2
	baz=82					
N22A	Wattenberg Ran	81.79	331	⇓P	P	09 09 14.5 +1.2
	baz=82					
PHWY	Pilot Hill	81.81	332	eP	P	09 09 14.2 +0.9
P19A	Cripple Cowboy	81.89	329	⇑P	P	09 09 14.6 +0.9
	baz=82,SNR=5.4					
BFSC	Mount Baldy Ra	81.94	320	⇑P	P	09 09 15.7 +1.7
	baz=82					
O20A	White River Ci	81.98	329	⇓P	P	09 09 15.6 +1.4
	baz=82					
M23A	Laramie	82.05	332	⇑P	P	09 09 15.5 +0.9
	baz=82,SNR=5.6					
SRU	San Rafael	82.16	327	eP	P	09 09 15.7 +0.6
	comp=N,3.5nm,0.9s					
SRU	San Rafael	82.16	327	⇓P	P	09 09 16.0 +0.9
	baz=82					
N21A	Black Mountain	82.20	330	⇓P	P	09 09 17.2 +1.9
	baz=82					
GSC	Goldstone	82.28	321	⇑P	P	09 09 16.8 +1.1
	baz=82					
MSU	Marysvale	82.45	326	eP	P	09 09 17.3 +0.6
P18A	Preston Nutter	82.45	328	⇓P	P	09 09 17.5 +0.8
	baz=83,SNR=5.7					
MVU	Marysvale	82.46	326	eP	P	09 09 17.7 +1.0
	comp=N,46nm,2.8s					
N20A	Spence Gulch,	82.57	330	⇑P	P	09 09 18.5 +1.3
	baz=83					
EDW2	Edwards Air Fo	82.60	320	⇓P	P	09 09 17.4 +0.1
	baz=83					
O18A	Roosevelt	82.86	328	⇓P	P	09 09 19.8 +1.1
	baz=83					
LRMC	Laurel Mountai	82.88	320	⇑P	P	09 09 19.9 +1.1
	baz=83					
N19A	John Jarvie Ra	83.01	329	⇑P	P	09 09 20.6 +1.2
	baz=83					
R13A	O'Grain Ranch,	83.05	324	⇑P	P	09 09 21.4 +1.7
	baz=83					
K23A	Bowen Ranch, D	83.10	332	⇓P	P	09 09 21.2 +1.4
	baz=83					
L21A	Rawlins	83.14	331	⇑P	P	09 09 20.9 +0.8
	baz=83					
MPMC	Manual Prospec	83.22	321	⇓P	P	09 09 21.6 +1.0
	baz=84					
J24A	Dixon Ranch, L	83.22	333	⇑P	P	09 09 22.0 +1.6
	baz=84					
K22A	Casper	83.37	332	⇓P	P	09 09 22.6 +1.4
	baz=84					
ISA	Isabella	83.44	320	⇓P	P	09 09 23.2 +1.5
	baz=84					
L20A	Wamsutter	83.58	330	⇑P	P	09 09 23.1 +0.8
	baz=84					
PKM	Peak Mountain	83.61	319	⇑P	P	09 09 24.0 +1.3
	baz=84					
K21A	Alcova	83.65	331	⇑P	P	09 09 23.2 +0.6
	baz=84,SNR=5.6					
I24A	Kuemmerle Ranc	83.66	334	⇑P	P	09 09 23.4 +0.8
	baz=84					
N17A	Moffit Pass	83.78	328	⇑P	P	09 09 24.3 +0.8
	baz=84					
VES	Vestal, Richgr	83.91	320	⇑P	P	09 09 25.2 +1.4
	baz=84					
R11A	Troy Canyon, C	83.98	324	⇓P	P	09 09 25.7 +1.3
	baz=84					
J22A	Midwest	83.99	332	⇓P	P	09 09 24.7 +0.4
	baz=84					
L19A	Farson	84.08	330	⇓P	P	09 09 26.2 +1.2
	baz=84					
DUG	Dugway	84.08	326	eP	P	09 09 25.9 +1.0
	comp=N,44nm,2.8s					
DUG	Dugway	84.08	326	⇑P	P	09 09 26.2 +1.3
	baz=84					
K20A	Yeewstone Ra	84.11	331	⇓P	P	09 09 25.2 +0.2
	baz=84					
L18A	Fontenelle, Gr	84.23	329	⇓P	P	09 09 26.5 +0.9
	baz=84					
J21A	Lysite	84.32	332	⇓P	P	09 09 26.9 +0.8
	baz=85					
H24A	Dirks Ranch, A	84.39	334	⇑P	P	09 09 26.5 +0.2
	baz=85					
I22A	9 Mile Ranch,	84.40	332	⇑P	P	09 09 26.6 +0.3
	baz=85,SNR=6.0					
K19A	Absolon Red Bu	84.46	330	⇓P	P	09 09 27.2 +0.4
	baz=85					
N15A	Stansbury Isla	84.50	327	⇑P	P	09 09 27.6 +0.7
	baz=85					
J20A	Shoshoni	84.59	331	⇓P	P	09 09 28.9 +1.6
	baz=85					
HWUT	Hardware Ranch	84.64	328	eP	P	09 09 27.6 -0.1
	comp=N,62nm,2.8s					
I21A	Big Trails, Te	84.65	332	⇓P	P	09 09 28.3 +0.6
	baz=85					
PDAR	Pinedale Array	84.71	330	P	P	09 09 28.2 +0.2
	comp=N,1.1nm,0.7s,baz=131,slow=7.3,SNR=8.0					
PDAR				pP	pP	09 10 11.7 +1.0
	comp=N,0.1nm,0.4s,baz=72,slow=42,SNR=2.7					
PDAR	Pinedale Array	84.71	330	P	P	09 09 28.2 +0.2
PDAR				pP	pP	09 10 11.7 +1.0
BW06	Boulder Array	84.71	330	⇓P	P	09 09 28.7 +0.6
	baz=85					
K18A	Toltan Ranch,	84.81	330	⇓P	P	09 09 29.3 +0.7
	baz=85					
G24A	Alzada	84.84	334	⇓P	P	09 09 29.0 +0.5
	baz=85					
J19A	Crowheart	84.91	331	⇓P	P	09 09 29.8 +0.8
	baz=85					
L16A	Fish Haven	84.91	328	⇓P	P	09 09 29.8 +0.7
	baz=85					
H22A	Clearmont	84.94	333	⇓P	P	09 09 29.2 +0.2
	baz=85					
G23A	Biddle	85.09	334	⇑P	P	09 09 29.9 +0.2
	baz=85					
I20A	Worland	85.10	331	⇓P	P	09 09 30.1 +0.3
	baz=85					
H21A	Big Horn, Sher	85.24	333	⇓P	P	09 09 30.8 +0.3
	baz=86					
J18A	Kendall Valley	85.27	330	⇑P	P	09 09 31.1 +0.2
	baz=86,SNR=6.1					
L15A	Maid City	85.33	328	⇑P	P	09 09 31.5 +0.4
	baz=86					
NVAR	Mina Array Bea	85.42	322	P	P	09 09 32.7 +1.0
	comp=N,1.9nm,0.8s,baz=145,slow=5.1,SNR=12					
NVAR	Mina Array Bea	85.42	322	P	P	09 09 32.7 +1.0
MDND	Maddock	85.43	339	⇑P	P	09 09 32.1 +0.9
	baz=86					
H20A	Greybull	85.49	332	⇓P	P	09 09 32.2 +0.4
	baz=86					
F23A	Vodnq	85.54	334	⇓P	P	09 09 32.4 +0.5
	baz=86					
I18A	Diamond G Ranc	85.59	330	⇓P	P	09 09 33.1 +0.7
	baz=86,SNR=7.2					
K16A	Soda Springs	85.64	329	⇓P	P	09 09 33.6 +1.0
	baz=86,SNR=5.7					
J17A	Brown Place, J	85.69	330	⇑P	P	09 09 33.5 +0.6
	baz=86					
L14A	Malta	85.74	327	⇓P	P	09 09 33.7 +0.6
	baz=86					
REDW	Red Top Meadow	85.75	330	eP	P	09 09 33.8 +0.5
	comp=N,4.7nm,1.2s					
TPAW	Teton Pass	85.89	330	eP	P	09 09 34.7 +0.7
	comp=N,15nm,1.8s					
F22A	Rosebud	85.91	334	⇑P	P	09 09 34.6 +0.9
	baz=86					
K15A	Arbon	85.94	328	⇑P	P	09 09 34.7 +0.7
	baz=86					
RRI2	Red Ridge	85.94	329	eP	P	09 09 34.8 +0.6
	comp=N,1.6nm,0.7s					
J16A	Bone	86.00	329	⇓P	P	09 09 35.2 +0.7
	baz=86					
H19A	Powell	86.04	331	⇑P	P	09 09 34.9 +0.3
	baz=86					
I17A	Pilgrim Ck.	86.08	330	⇑P	P	09 09 35.8 +1.0
	baz=86,SNR=5.9					
K14A	Jones Ranch, D	86.11	328	⇑P	P	09 09 35.2 +0.3
	baz=86					
G20A	Bridger	86.19	332	⇓P	P	09 09 35.2 0.0
	baz=86,SNR=6.7					
IMW	Indian Meadow	86.22	330	eP	P	09 09 36.0 +0.4
	comp=N,4.7nm,1.0s					
FLWY	Flagg Ranch	86.27	330	eP	P	09 09 36.3 +0.6
	comp=N,78nm,2.8s					
H18A	Shoshone NF, C	86.32	331	⇑P	P	09 09 36.6 +0.6
	baz=87,SNR=14					
I16A	Newdale	86.43	329	⇓P	P	09 09 37.0 +0.5
	baz=87,SNR=5.1					
J15A	Blackfoot	86.46	329	⇑P	P	09 09 37.4 +0.8
	baz=87					
RLMT	Red Lodge	86.53	331	eP	P	09 09 37.4 +0.5
	comp=N,4.6nm,0.5s					
RLMT	Red Lodge	86.53	331	⇓P	P	09 09 37.6 +0.6
	baz=87,SNR=7.8					
ULM	Lac du Bonnet	86.54	342	P	P	09 09 36.9 +0.3
	comp=N,3.0nm,0.8s,baz=179,slow=3.1,SNR=7.2					
ULM	Lac du Bonnet	86.54	342	P	P	09 09 36.9 +0.3
G18A	Lazy EL Ranch,	86.81	331	⇓P	P	09 09 38.2 -0.1
	baz=87,SNR=5.9					
YMR	Madison River	86.85	330	eP	P	09 09 39.5 +0.9
	comp=N,6.9nm,0.9s					
I15A	Monteview	86.96	329	⇓P	P	09 09 39.8 +0.8
	baz=87					
H16A	Russell Place,	87.00	330	⇓P	P	09 09 40.2 +0.9
	baz=87					
F19A	Roth Farm, Mol	87.00	332	⇑P	P	09 09 39.5 +0.4
	baz=87					
E20A	Meyer Farm, Mu	87.22	333	⇓P	P	09 09 40.8 +0.7
	baz=88,SNR=8.2					
C23A	Lambert	87.23	335	⇑P	P	09 09 41.2 +1.1
	baz=88					
J13A	Cove Ranch, Pi	87.23	328	⇑P	P	09 09 41.1 +0.7
	baz=88					
GCMT	Greycliff	87.24	332	eP	P	09 09 40.8 +0.6
D21A	La Casta Ranch	87.26	334	⇑P	P	09 09 40.8 +0.5
	baz=88					
F18A	Big Timber	87.35	332	⇓P	P	09 09 41.2 +0.5
	baz=88,SNR=9.4					
C22A	Vida	87.43	335	⇑P	P	09 09 41.4 +0.3
	baz=88					
E19A	Rath Farm, Rou	87.44	333	⇑P	P	09 09 41.5 +0.4
	baz=88,SNR=9.7					
DGMT	Dagmar	87.47	336	eP	P	09 09 41.4 +0.2
	comp=N,11nm,0.8s					
DGMT	Dagmar	87.47	336	⇑P	P	09 09 42.1 +1.0
	baz=88					
HLID	Hailey	87.47	328	eP	P	09 09 42.5 +1.0
	comp=N,4.3nm,1.1s					
HLID	Hailey	87.47	328	⇑P	P	09 09 42.3 +0.8
	baz=88					
H15A	Lima	87.53	329	⇓P	P	09 09 43.1 +1.3
	baz=88					
I13A	Wildhorse Cree	87.61	328	⇑P	P	09 09 43.7 +1.5
	baz=88					
G16A	Moss Hill, Enn	87.66	330	⇓P	P	09 09 42.9 +0.6
	baz=88					
D20A	Manuel Ranch,	87.71	333	⇑P	P	09 09 42.9 +0.5
	baz=88,SNR=5.7					
F17A	Fitzpatrick Pl	87.73	331	⇑P	P	09 09 43.8 +1.1
	baz=88					
MCMT	McKenzie Canyo	87.78	329	eP	P	09 09 43.7 +0.6
H14A	Leadore	87.84	329	⇑P	P	09 09 44.4 +1.2
	baz=88					
G15A	Dillon	87.90	330	⇓P	P	09 09 44.4 +0.9
	baz=88					
BOZ	Bozeman (W)	87.92	330	⇓P	P	09 09 44.2 +0.6
	baz=88					
B22A	Reddig Ranch S	87.94	335	⇓P	P	09 09 44.4 +0.9
	baz=88					
E18A	Harlowton	87.97	332	⇑P	P	09 09 44.7 +0.9
	baz=88					
I12A	Atlanta	87.98	327	⇑P	P	09 09 44.9 +1.0
	baz=88					
MFID	Camas Ranch	88.00	327	⇑P	P	09 09 44.9 +1.0
	baz=88					
DLMT	Dillon	88.10	330	eP	P	09 09 45.6 +1.2
	comp=N,9.3nm,1.4s					
H13A	Challis	88.19	328	⇑P	P	09 09 45.8 +1.0
	baz=88					
E17A	Martinsdale	88.26	331	⇓P	P	09 09 46.0 +0.9
	baz=89					
G14A	Jackson	88.37	329	⇑P	P	09 09 46.3 +0.5
	baz=89					
B21A	Ellsworth Farm	88.42	335	⇑P	P	09 09 46.7 +1.1
	baz=89					
F15A	Butte	88.44	330	⇑P	P	09 09 46.7 +0.7
	baz=89					
D18A	Linhart Farms,	88.44	332	⇑P	P	09 09 46.9 +1.0
	baz=89					
A22A	Carney Farms,	88.50	336	⇓P	P	09 09 46.6 +0.6
	baz=89					
G13A	Cobalt	88.59	329	⇑P	P	09 09 47.7 +1.0
	baz=89					
E16A	East Helena	88.65	331	⇓P	P	09 09 47.5 +0.5
	baz=89					
D17A	Six Diamond Ra	88.76	332	⇑P	P	09 09 48.2 +0.8
	baz=89,SNR=6.1					
F14A	Wisdom	88.79	330	⇓P	P	09 09 48.7 +1.1
	baz=89					
B20A	Solberg Farm,	88.79	334	⇓P	P	09 09 47.8 +0.3
	baz=89					
A21A	Bergtoll Ranch	88.86	335	⇓P	P	09 09 48.1 +0.3
	baz=89					
D16A	Dana Ranch, Ca	89.00	331	⇑P	P	09 09 49.6 +1.0
	baz=89					
A20A	Cobblestone Ra	89.13	334	⇓P	P	09 09 49.4 +0.4
	baz=89,SNR=6.0					
F13A	Darby	89.18	329	⇓P	P	09 09 50.2 +0.7
	baz=90					
E14A	Clinton	89.32	330	⇓P	P	09 09 50.9 +0.8
	baz=90					
D15A	Lincoln	89.41	331	⇑P	P	09 09 51.5 +1.0
	baz=90					
B18A	Beardsley Farm	89.42	333	⇑P	P	09 09 50.9 +0.5
	baz=90					
A19A	Klindworth Far	89.47	334	⇓P	P	09 09 50.8 +0.2
	baz=90					
F12A	Elk City	89.56	328	⇑P	P	09 09 51.5 +0.2
	baz=90					
E13A	Victor	89.63	329	⇓P	P	09 09 52.0 +0.5
	baz=90					
C16A	Fuhringer Ranc	89.70	332	⇑P	P	09 09 52.4 +0.6
	baz=90					
MSO	Missoula	89.83	330	⇓P	P	09 09 53.2 +0.8
	baz=90					
D14A	Greenough	89.85	330	⇑P	P	09 09 53.0 +0.5
	baz=90					
C15A	Salmond Ranch,	90.03	331	⇑P	P	09 09 54.2 +0.9
	baz=90					
D13A	Huson	90.26	330	⇓P	P	09 09 55.1 +0.7
	baz=90					
B15A	Bradely Ranch,	90.44	332	⇑P	P	09 09 55.4 +0.2
	baz=91					
C14A	Swan Lake	90.49	331	⇓P	P	09 09 55.9 +0.4
	baz=91					
A16A	West Butte Ran	90.57	332	⇑P	P	09 09 56.2 +0.4
	baz=91					
D12A	Red Ives Fores	90.61	329	⇑P	P	09 09 56.3 +0.3
	baz=91					
C13A	Hot Springs	90.77	330	⇓P	P	09 09 57.4 +0.7
	baz=91					
A13A	Flathead Natio	91.68	331	⇑P	P	09 10 01.6 +0.7
	baz=92					
B12A	Libby	91.81	330	⇑P	P	09 10 02.0 +0.5
	baz=92					
CHGN	Chignik	117.34	321	ePKPdf	PKPdf	09 15 39.1 +1.4
HYB	Hyderabad	145.40	108	/ PKP	PKPbc	09 16 31.0 -0.7
KSH	Kashi	149.47	67	ePKPbc	PKPdf	09 16 38.3 +0.6
KSH				epPKP	pPKPdf	09 17 20.1 -2.9
KSH				sPKP		09 17 37.6
KSH				PKS	PKSdf	09 20 10.9 -1.7
KSH				PP	PP	09 20 17.3 +0.3
KSH				SKS	SKSdf	09 23 28.8 -0.7
KSH				SKKS	SKKSac	09 26 49.1 -1.7
KSH				SS	SS	09 39 13.3 -3.9
KSH				AMB	AMB	
	comp=Z,84nm,6.7s					
KSH				LR	LR	
	comp=N,65nm,6.9s					
KSH				LR	LR	
	comp=E,63nm,5.0s					
KSH				LR	LR	
	comp=Z,170nm,6.5s					
ZALV	Zalesovo Beam	150.84	35	PKPbc	PKPbc	09 16 45.8 +0.8
	comp=Z,2.7nm,0.5s,baz=305,slow=3.1,SNR=12					
ZALV				pPKPbc	pPKPbc	09 17 31.6 +1.7
	comp=Z,1.2nm,0.5s,baz=305,slow=2.8,SNR=2.6					
ZALV	Zalesovo Beam	150.84	35	PKPbc	PKPbc	09 16 45.8 +0.8
ZALV				pPKPbc	pPKPbc	09 17 31.6 +1.7
MKAR	Makanchi Array	152.73	50	PKPbc	PKPbc	09 16 50.3 +0.8
	comp=Z,0.2nm,0.6s,baz=293,slow=1.8,SNR=3.6					
MKAR				pPKPbc	pPKPbc	09 17 36.8 +2.2
	comp=Z,0.5nm,0.6s,baz=291,slow=2.5,SNR=4.2					
MKAR	Makanchi Array	152.73	50	PKPbc	PKPbc	09 16 50.3 +0.8
MKAR				pPKPbc	pPKPbc	09 17 36.8 +2.2
WMQ	Urumqi	157.34	54	ePKP	PKPdf	09 16 47.7 -1.0
MJAR	Matsushiro Arr	158.98	287	PKPab	PKPab	09 17 27.9 -0.4
	comp=Z,1.0nm,0.7s,baz=119,slow=1.9,SNR=4.0					
MJAR	Matsushiro Arr	158.98	287	PKPab	PKPab	09 17 27.9 -0.4
LZH	Lanzhou	171.71	64	ePKP	PKPdf	09 17 02.0 +0.4
LZH				pPKP	pPKPdf	09 17 44.9 -2.3
LZH				sPKP		09 18 01.5
HHC	Hu-ho-hao-te	171.85	8	ePKP	PKPdf	09 16 59.3 -2.2
HHC				pPKP	pPKPdf	09 17 41.7 -5.3
HHC				sPKP		09 17 59.9
HHC				PKS	PKSdf	09 20 31.1 -2.7
HHC				PP	PP	09 22 17.2 +1.9
HHC

CSEM **12** *08:58:21.7±0.7, 80.31N×1.63E, h10km, ML2.4, Error ellipse: s-maj=27.2km s-min=11.7km az=19.0*
NAO **12** *08:58:23.2±7.4, 80.67N×4.02E, ML2.4*
BER 12 08:58:19.7±4.6**, 80.89N×2.50E, h10**km**, ML2.4**(NAO), **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.58**	**135**	Pn	Pn	08 58 59.6	-1.8
KBS				Sn	Sn	08 59 28.6	-4.2
KBS	**Kingsbay**	**2.58**	**135**	Pn	Pn	08 58 59.6	-1.8
KBS				Sn	Sn	08 59 28.6	-4.2
KBS	**Kingsbay**	**2.58**	**135**	Pn	Pn	08 58 59.6	-1.8
KBS				Sn	Sn	08 59 28.6	-4.2
SPA0	**Spitsbergen Ar** baz=309,slow=5.9	**3.71**	**130**	Pn	Pn	08 59 16.4	-0.6
SPA0	baz=346,slow=11			Sn	Sn	08 59 57.3	-3.3
SPA0	**Spitsbergen Ar** baz=309,slow=5.9	**3.71**	**130**	Pn	Pn	08 59 16.4	-0.6
SPA0	baz=346,slow=11			Sn	Sn	08 59 57.3	-3.3
SPA0	**Spitsbergen Ar** baz=309,slow=5.8,SNR=5.0	**3.71**	**130**	Pn	Pn	08 59 16.4	-0.6
SPA0	baz=346,slow=11,SNR=8.6			Sn	Sn	08 59 57.3	-3.3
ARA0	**ARCESS Array S**	**12.65**	**141**	Pn	Pn	09 01 16.9	-2.4
ARA0	**ARCESS Array S**	**12.65**	**141**	Pn	Pn	09 01 16.9	-2.4
ARA0	**ARCESS Array S**	**12.65**	**141**	Pn	Pn	09 01 16.9	-2.4

ISCJB **12** *09:00:30.4±0.6, 6.87N±0.06×73.00W±0.07, h167km±6km, mb3.3/4, Error ellipse: s-maj=13.0km s-min=7.1km az=42.1*
FUNV **12** *09:00:31.1, 6.78N×73.11W, h168km, MW3.7*
IDC **12** *09:00:31.2±3.0, 6.70N×72.94W, h169km±22km, mb3.2/5, mb1 3.5/6, mb1mx3.2/24, mbtmp3.3/6, Error ellipse: s-maj=46.5km s-min=22.6km az=82.0*
ISC 12 09:00:31.3±0.9**, 6.87N**±0.07×**73.00W**±0.08**, h164**km±8km**, n23,** σ0**92**/28**, mb3.2**/4**, 5C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**34**	*eP*	**Pn**	**09 01 00.1**	**+0.6**
CAPV				*eS*	**Sn**	**09 01 21.1**	**0.0**
ROSC	**El Rosal** 103nm,0.3s,baz=285,slow=16,SNR=388	**2.40**	**214**	P	**Pn**	**09 01 11.3**	**-1.0**
ROSC	120nm,0.3s,baz=229,slow=1.7,SNR=17			S	**Sn**	**09 01 42.8**	**-1.3**
VIGV	**El Vigia**	**2.54**	**39**	*iP*	**Pn**	**09 01 14.5**	**+0.7**
VIGV				*eS*	**Sn**	**09 01 45.9**	**-0.8**
SOCV	**Socops**	**2.55**	**56**	*eP*	**Pn**	**09 01 14.6**	**+0.8**
SOCV				*eS*	**Sn**	**09 01 46.5**	**-0.2**
ELOV	**Elorza**	**3.49**	**88**	*eP*	**Pn**	**09 01 26.1**	**+0.6**
VIRV	**Villa del Rosa**	**3.66**	**9**	*iP*	**Pn**	**09 01 26.7**	**-1.0**
VIRV				*eS*	**Sn**	**09 02 09.7**	**-1.9**
QARV	**Quebrada Arrib**	**4.12**	**36**	*eP*	**Pn**	**09 01 34.0**	**+0.3**
CURV	**Curarigua**	**4.34**	**44**	*eP*	**Pn**	**09 01 36.6**	**+0.1**
TEPV	**Terepaima**	**4.87**	**50**	*eP*	**Pn**	**09 01 43.5**	**+0.1**
SIQV	**Siquisique**	**4.91**	**40**	*iP*	**Pn**	**09 01 43.7**	**-0.2**
BAUV	**El Baul**	**5.33**	**67**	*eP*	**Pn**	**09 01 48.2**	**-1.2**
MAPV	**Macapo**	**5.37**	**56**	*eP*	**Pn**	**09 01 50.0**	**0.0**
MONV	**Montecano**	**5.87**	**30**	*eP*	**Pn**	**09 01 56.0**	**-0.6**
TURV	**Turiamo**	**6.22**	**55**	*eP*	**Pn**	**09 02 00.7**	**-0.5**
MERV	**Las Mercedes**	**7.05**	**70**	*eP*	**Pn**	**09 02 10.7**	**-1.4**
CUPV	**Cecpira**	**7.81**	**66**	*eP*	**Pn**	**09 02 21.7**	**-0.6**
TEIG	**Tepich** 13nm,1.0s,baz=138,slow=16,SNR=5.4	**19.90**	**313**	P	**P**	**09 04 51.7**	**+1.4**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=126,slow=8.9,SNR=9.9	**36.52**	**312**	P	**P**	**09 07 21.6**	**+0.3**
SCHQ	**Schefferville** 1.3nm,0.5s,baz=209,slow=9.5,SNR=4.3	**48.09**	**5**	P	**P**	**09 08 54.8**	**+0.6**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=121,slow=11,SNR=3.6	**48.11**	**324**	P	**P**	**09 08 55.3**	**+0.4**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=145,slow=9.7,SNR=2.5	**51.54**	**315**	P	**P**	**09 09 21.7**	**+0.9**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=122,slow=3.9,SNR=4.1	**149.23**	**234**	PKPbc	**PKPbc**	**09 20 00.2**	**-1.2**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=107,slow=2.8,SNR=8.7	**150.46**	**241**	PKPbc	**PKPbc**	**09 20 03.2**	**-1.2**

IDC **12** *09:03:03.6±0.5, 13.15N×125.87E, h0km, mb4.4/22, mb1 4.5/24, mb1mx4.5/30, mbtmp4.4/24, ML4.8/2, MS3.8/17, Ms1 3.8/17, ms1mx3.6/41, Error ellipse: s-maj=16.4km s-min=10.8km az=81.0*
BJI **12** *09:03:05.4, 12.89N×126.04E, h33km, mB4.9/20, mb4.6/29, Ms4.5/20, Ms7 4.0/19*
MOS **12** *09:03:06.9±1.4, 13.11N×125.83E, h33km, mb4.8/10, Error ellipse: s-maj=12.8km s-min=7.2km az=119.1*
ISCJB **12** *09:03:08.1±0.3, 13.15N±0.03×125.82E±0.04, h40km, mb4.5/50, MS3.9/26, Error ellipse: s-maj=5.6km s-min=3.8km az=4.1*
NEIC **12** *09:03:09.1±0.4, 13.14N×125.86E, h35km, mb4.7/15, Error ellipse: s-maj=11.6km s-min=7.7km az=79.0*
MAN **12** *09:03:10, 13.07N×125.54E, h68km, mb5.3, ML4.3, MS4.6*
ISC 12 09:03:10.1±0.3**, 13.13N**±0.04×**125.85E**±0.04**, h40**km**, n161,** σ1**78**/192**, mb4.5**/50**, MS3.9**/27**, 4C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.31**	**242**	*eP*	**Pn**	**09 03 29.6**	**-2.4**
BESP	**Borongan**	**1.57**	**195**	*eP*	**Pn**	**09 03 35.9**	**+0.4**
PLP	**Palo**	**2.13**	**204**	*eP*	**Pn**	**09 03 42.6**	**-0.6**
PLP				*eS*	Sn	09 04 01.7	-6.7
OCLP	**Ormoc**	**2.39**	**211**	*eP*	**Pn**	**09 03 46.7**	**-0.1**
AUQP	**San Andres**	**3.10**	**274**	*eP*	**Pn**	**09 03 55.7**	**-0.9**
MSLP	**Maasin**	**3.13**	**198**	*eP*	**Pn**	**09 03 57.3**	**+0.4**
LLP	**Lapu-Lapu**	**3.35**	**214**	*eP*	**Pn**	**09 03 58.5**	**-1.4**
LLP				*eS*	Sn	09 04 29.9	-8.6
GQP	**Guinayangan**	**3.40**	**284**	*eP*	**Pn**	**09 03 57.9**	**-2.8**
GQP				*i* S	**Sn**	**09 04 35.0**	**-4.8**
OTRP	**Odiongan**	**3.82**	**259**	*eP*	**Pn**	**09 04 04.3**	**-2.1**
TBP	**Tagbilaran**	**3.93**	**210**	*eP*	**Pn**	**09 04 06.3**	**-1.7**
GUIM	**Jordan**	**4.05**	**232**	*eP*	**Pn**	**09 04 08.3**	**-1.3**
TGY	**Tagaytay City** 53nm,0.3s,baz=219,slow=13,SNR=2.3	**4.88**	**282**	Pn	Pn	09 04 17.6	-3.4
TGY	68nm,0.3s,baz=209,slow=19,SNR=3.2			Sn	**Sn**	**09 05 15.3**	**-1.0**
TGY	**Tagaytay City**	**4.88**	**282**	Pn	Pn	09 04 17.6	-3.4
TGY				Sn	**Sn**	**09 05 15.3**	**-1.0**
CAUP	**Cauayan**	**5.44**	**315**	*eP*	Pn	09 04 24.4	-4.2
LUBP	**Lubang**	**5.49**	**277**	*eP*	**Pn**	**09 04 27.6**	**-1.8**
DAV	**Davao City (W)**	**6.02**	**183**	*eP*	**Pn**	**09 04 35.0**	**-1.7**
MYLDM	**Lahad Datu**	**10.72**	**223**	P	Pn	09 05 51.2	+10
MRSI	**Marisa** 33nm,0.7s,0.1nm	**13.15**	**197**	P	P	09 06 29.9	+6.2
LUWI	**Luwuk** 52nm,1.4s,0.2nm	**14.40**	**192**	P	P	09 06 47.0	+9.4
QIZ	**Qiongzhong**	**16.46**	**293**	P	**Pn**	**09 06 58.3**	**0.0**
QIZ				S	**Sn**	**09 10 02.3**	**+2.2**
QIZ	comp=N,360nm,14.2s			LR	LR		
QIZ	comp=Z,410nm,17.0s			LR	LR		
TTSI	**Tana Toraja** comp=Z,198nm,1.0s,comp=Z,2μm	**17.15**	**201**	P	**P**	**09 07 08.7**	**+0.6**
SBUM	**Sibu** comp=Z,18nm,0.6s,comp=Z,0.1nm	**17.16**	**233**	P	**P**	**09 07 08.9**	**+0.6**
KDI	**Kendari** comp=Z,14nm,1.1s	**17.27**	**191**	P	P	09 07 22.9	+13
SPSI	**Sidrap Palu** comp=Z,148nm,0.9s,comp=Z,1μm	**18.02**	**200**	P	**P**	**09 07 18.9**	**+1.1**
GUMO	**Guam** comp=Z,395nm,19.8s,baz=258,slow=31	**18.51**	**86**	LR	LR	09 12 33.0	
KAPI	**Kappang** comp=Z,1.9nm,0.3s,baz=42,slow=8.9,SNR=17	**19.01**	**199**	P	**Pn**	**09 07 28.9**	**-0.7**
KAPI	**Kappang** comp=Z,61nm,0.9s	**19.01**	**199**	*eP*	**Pn**	**09 07 30.2**	**+0.5**
KAPI	**Kappang** comp=Z,71nm,1.1s,comp=Z,676nm	**19.01**	**199**	P	**Pn**	**09 07 29.6**	**-0.1**
BKSI	**Bulukumba**	**19.19**	**198**	P	**Pn**	**09 07 34.5**	**+2.7**
BBKI	**Banjar Baru**	**19.78**	**214**	P	**Pn**	**09 07 37.7**	**-1.1**
JNU	**Nakatsue** comp=Z,11nm,0.8s,baz=202,slow=9.5,SNR=6.5	**20.43**	**12**	P	**P**	**09 07 43.1**	**-1.0**
JNU	**Nakatsue**	**20.43**	**12**	P	**P**	**09 07 43.1**	**-1.0**
GYA	**Guiyang**	**22.36**	**309**	P	**P**	**09 08 05.6**	**+0.6**
GYA				pP	**pP**	**09 08 14.8**	**-0.3**
GYA				PP	**PnPn**	**09 08 34.2**	**+5.4**
GYA				S	**S**	**09 12 04.6**	**-4.0**
GYA				sS	Sn	09 12 21.0	-1.5
GYA				SS	**SnSn**	**09 12 46.5**	**+8.0**
GYA				ScP	**ScP**	**09 15 34.7**	**+0.8**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,4.8s			pmax	pmax		
GYA	comp=N,480nm,17.4s			LR	LR		
GYA	comp=E,440nm,16.9s			LR	LR		
GYA	comp=Z,460nm,17.8s			LR	LR		
KMMI	**Kalianget**	**23.26**	**211**	P	**P**	**09 08 15.1**	**+0.8**
KSAR	**Wonju Array Be**	**24.28**	**4**	P	**P**	**09 08 22.1**	**-1.5**
KSRS	**Korea Array** comp=Z,7.5nm,1.0s,baz=189,slow=11,SNR=13	**24.30**	**4**	P	**P**	**09 08 22.1**	**-1.6**
JAGI	**Jajag, Banyuwa**	**24.40**	**209**	P	**P**	**09 08 24.9**	**0.0**
KMI	**Kunming**	**24.84**	**302**	P	**P**	**09 08 26.9**	**-2.2**
KMI	comp=Z,17nm,1.0s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,1.7nm,0.8s,baz=195,slow=8.7,SNR=4.2	**25.82**	**23**	P	**P**	**09 08 38.2**	**+0.5**
MJAR	**Matsushiro Arr**	**25.82**	**23**	P	**P**	**09 08 38.2**	**+0.5**
XAN	**Xi'an**	**25.89**	**326**	P	**P**	**09 08 37.7**	**-0.7**
XAN	comp=Z,7.0nm,1.0s			pmax	pmax		
XAN	comp=Z,23nm,4.0s			pmax	pmax		
IPM	**Ipoh** comp=Z,20nm,0.7s	**25.97**	**253**	*eP*	**P**	**09 08 37.1**	**-2.2**
CM31	**Chiang Mai Arr** comp=Z,32nm,0.9s	**26.42**	**285**	*eP*	**P**	**09 08 42.9**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,19nm,0.8s,baz=98,slow=6.8,SNR=48	**26.42**	**285**	P	**P**	**09 08 42.2**	**-1.0**
CMAR	comp=Z,136nm,18.9s,baz=268,slow=37			LR	LR	09 19 20.3	
CMAR	**Chiang Mai Arr**	**26.42**	**285**	P	**P**	**09 08 42.2**	**-1.0**
CHTO	**Chiang Mai**	**26.46**	**286**	*eP*	**P**	**09 08 42.2**	**-1.5**
CHTO	comp=Z,9.0nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,9.2nm,1.0s	**26.46**	**286**	*eP*	**P**	**09 08 42.2**	**-1.5**
CD2	**Chengdu**	**26.98**	**315**	P	**P**	**09 08 50.0**	**+1.7**
CD2				pP	**pP**	**09 08 59.8**	**+0.6**
CD2				sP	**sP**	**09 09 04.0**	**0.0**
CD2				PP	**PnPn**	**09 09 36.5**	**+4.7**
CD2				S	**S**	**09 13 23.6**	**+0.5**
CD2				sS	**sS**	**09 13 40.0**	**-1.4**
CD2				SS	**SnSn**	**09 14 39.0**	**+7.8**
CD2	comp=Z,40nm,1.1s			pmax	pmax		
CD2	comp=Z,200nm,4.9s			pmax	pmax		
CD2	comp=N,300nm,10.7s			LR	LR		
CD2	comp=Z,190nm,10.7s			LR	LR		
BJI	**Beijing**	**28.13**	**344**	P	**P**	**09 08 59.2**	**+0.8**
BJI				S	**S**	**09 13 43.4**	**+2.5**
BJI	comp=Z,9.0nm,1.1s			pmax	pmax		
BJI	comp=N,220nm,11.9s			LR	LR		
BJI	comp=E,250nm,16.6s			LR	LR		
BJI	comp=Z,67nm,18.4s			LR	LR		
PSI	**Prapat** comp=Z,14nm,0.7s,baz=67,slow=5.7,SNR=9.7	**28.54**	**251**	P	**P**	**09 09 01.1**	**-1.4**
PSI	comp=Z,297nm,18.9s,baz=246,slow=34			LR	LR	09 19 18.5	
PSI	**Prapat**	**28.54**	**251**	P	**P**	**09 09 01.1**	**-1.4**
LZH	**Lanzhou**	**30.24**	**323**	*eP*	**P**	**09 09 18.0**	**+0.6**
LZH				pP	**pP**	**09 09 27.6**	**-0.8**
LZH				sP	**sP**	**09 09 32.0**	**-1.2**
LZH				PP	**PnPn**	**09 10 16.9**	**+0.8**
LZH	comp=Z,20nm,1.1s			pmax	pmax		
LZH	comp=Z,55nm,4.6s			pmax	pmax		
LZH	comp=N,410nm,13.0s			LR	LR		
LZH	comp=E,400nm,13.2s			LR	LR		
LZH	comp=Z,460nm,17.0s			LR	LR		
HHC	**Hu-ho-hao-te**	**30.32**	**338**	*eP*	**P**	**09 09 19.3**	**+1.3**
HHC				sP	**sP**	**09 09 33.6**	**-0.2**
HHC				PP	**PnPn**	**09 10 18.5**	**+1.4**
HHC				PcP	**PcP**	**09 12 18.8**	**+1.2**
HHC				S	**S**	**09 14 16.5**	**+0.9**
HHC				sS	**sS**	**09 14 33.8**	**-0.1**
HHC				SS	**ScP**	**09 15 56.5**	**-0.5**
HHC				PcS	**PcS**	**09 16 00.0**	**-1.2**
HHC				ScS	**ScS**	**09 19 51.8**	**-1.1**
HHC	comp=Z,15nm,0.5s			pmax	pmax		
HHC	comp=Z,110nm,5.5s			pmax	pmax		
HHC	comp=Z,220nm,11.0s			LR	LR		
CN2	**Changchun**	**30.57**	**359**	*eP*	**P**	**09 09 21.1**	**+1.1**
FITZ	**Fitzroy Crossi** comp=Z,9.5nm,0.6s,baz=14,slow=9.0,SNR=24	**31.03**	**180**	P	**P**	**09 09 24.1**	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,13nm,0.8s	**31.03**	**180**	*eP*	**P**	**09 09 23.6**	**-0.6**
USRK	**Ussuriysk Arra** comp=Z,2.5nm,0.6s,baz=197,slow=12,SNR=5.4	**31.41**	**8**	P	**P**	**09 09 26.2**	**-1.2**
MDJ	**Mudanjiang**	**31.55**	**5**	P	**P**	**09 09 28.6**	**+0.1**
MDJ				pP	**pP**	**09 09 37.4**	**-2.2**
MDJ				sP	**sP**	**09 09 41.2**	**-3.2**
MDJ				S	**S**	**09 14 36.0**	**+1.6**
MDJ				sS	**sS**	**09 14 51.0**	**-1.7**
MDJ				ScP	**ScP**	**09 16 01.3**	**+0.5**
MDJ				PcS	**PcS**	**09 16 04.9**	**0.0**
MDJ	comp=Z,7.0nm,1.3s			pmax	pmax		
MDJ	comp=Z,49nm,4.5s			pmax	pmax		
MDJ	comp=N,140nm,27.4s			LR	LR		
MDJ	comp=E,46nm,27.8s			LR	LR		
MDJ	comp=Z,130nm,22.3s			LR	LR		
WRAB	**Tennant Creek**	**33.90**	**166**	*eP*	**P**	**09 09 49.8**	**+0.4**
WRAB	comp=Z,1.0nm,0.6s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,1.3nm,0.6s	**33.90**	**166**	*eP*	**P**	**09 09 49.8**	**+0.4**
WRA	**Warramunga Arr** comp=Z,1.2nm,0.6s,baz=346,slow=9.1,SNR=13	**33.90**	**166**	P	**P**	**09 09 47.2**	**-2.3**
WRA	**Warramunga Arr**	**33.90**	**166**	P	**P**	**09 09 47.2**	**-2.3**
GTA	**Gaotai**	**34.84**	**323**	*eP*	**P**	**09 09 59.3**	**+1.8**
GTA				pP	**pP**	**09 10 09.0**	**+0.4**
GTA				sP	**sP**	**09 10 12.9**	**-0.5**
GTA				S	**S**	**09 15 26.5**	**+0.6**
GTA				sS	**sS**	**09 15 42.9**	**-1.4**
GTA				SS	**SnSn**	**09 17 40.7**	**-1.5**
GTA	comp=Z,6.0nm,1.2s			pmax	pmax		
GTA	comp=Z,51nm,4.0s			pmax	pmax		
GTA	comp=N,220nm,21.4s			LR	LR		
GTA	comp=E,320nm,19.5s			LR	LR		
GTA	comp=Z,180nm,18.1s			LR	LR		
AS31	**Alice Springs**	**37.40**	**168**	*eP*	**P**	**09 10 20.2**	**+0.8**
ASAR	**Alice Springs** comp=Z,1.4nm,0.4s,baz=347,slow=7.7,SNR=29	**37.40**	**168**	P	**P**	**09 10 18.8**	**-0.6**
ASAR	comp=Z,140nm,18.7s,baz=327,slow=40			LR	LR	09 27 52.9	
ASAR	**Alice Springs**	**37.40**	**168**	P	**P**	**09 10 18.8**	**-0.6**
ULN	**Ulaanbaatar** comp=Z,7.5nm,1.0s	**38.02**	**339**	*eP*	**P**	**09 10 23.7**	**-0.9**
SONM	**Songino Array** comp=Z,8.5nm,1.0s,baz=152,slow=6.0,SNR=20	**38.22**	**339**	P	**P**	**09 10 24.3**	**-2.0**
SONM	**Songino Array**	**38.22**	**339**	P	**P**	**09 10 24.3**	**-2.0**
TAPN	**Taplejung** comp=Z,40nm,1.1s	**38.31**	**298**	*eP*	**P**	**09 10 26.5**	**-1.0**
ODAN	**Odare** comp=Z,47nm,1.0s	**38.48**	**297**	*eP*	**P**	**09 10 27.8**	**-1.0**
CTA	**Charters Tower**	**38.63**	**148**	P	**P**	**09 10 29.4**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=331,slow=9.0,SNR=2.4						
CTA	**Charters Tower**	**38.63**	**148**	P	**P**	**09 10 29.4**	**-0.5**
RAMN	**Ramite** comp=Z,46nm,1.0s	**39.19**	**297**	*eP*	**P**	**09 10 33.7**	**-1.1**
JIRN	**Jiri**	**39.70**	**298**	*eP*	**P**	**09 10 38.1**	**-1.1**
GUN	**Gumba** comp=Z,50nm,1.0s	**40.02**	**298**	*eP*	**P**	**09 10 40.5**	**-1.4**
PKI	**Pulchoki** comp=Z,36nm,1.1s	**40.36**	**297**	*eP*	**P**	**09 10 43.0**	**-1.6**
DMN	**Daman** comp=Z,50nm,1.1s	**40.63**	**297**	*eP*	**P**	**09 10 45.1**	**-1.7**
GKN	**Gorkha** comp=Z,35nm,1.0s	**41.12**	**298**	*eP*	**P**	**09 10 48.5**	**-2.2**
ZAK	**Zakamensk**	**41.48**	**338**	*eP*	**P**	**09 10 51.9**	**-1.3**
ZAK	comp=Z,1.0nm,1.0s			pmax	pmax		
DANN	**Dangsing** comp=Z,38nm,0.9s	**41.95**	**298**	*eP*	**P**	**09 10 55.7**	**-1.9**
KOLN	**Koldanda** comp=Z,32nm,0.9s	**41.97**	**297**	*eP*	**P**	**09 10 55.8**	**-1.9**
TLY	**Talaya**	**42.43**	**340**	*eP*	**P**	**09 10 57.8**	**-3.1**
TLY	comp=Z,4.0nm,1.0s			pmax	pmax		
TLY	comp=Z,51nm,15.0s			MLR	MLR		
TLY	**Talaya** comp=Z,3.1nm,0.6s	**42.43**	**340**	*eP*	**P**	**09 11 02.4**	**+1.5**
PYUN	**Piuthan** comp=Z,56nm,1.0s	**42.56**	**297**	*eP*	**P**	**09 11 01.0**	**-1.5**
FORT	**Forrest** comp=Z,67nm,0.6s	**43.70**	**177**	*eP*	**P**	**09 11 11.4**	**+0.1**
WMQ	**Urumqi**	**44.75**	**321**	*eP*	**P**	**09 11 22.1**	**+2.3**
WMQ	comp=N,110nm,24.0s			LR	LR		
WMQ	comp=Z,76nm,17.0s			LR	LR		
BOD	**Bodaibo**	**45.50**	**351**	*eP*	P	09 11 20.1	-5.3
HYB	**Hyderabad**	**45.74**	**282**	*i* P	**P**	**09 11 28.5**	**+0.5**
HVS	**Khovu-Aksy**	**45.98**	**332**	*eP*	**P**	**09 11 31.1**	**+1.7**
STKA	**Stephens Creek** comp=Z,5.3nm,0.7s,baz=332,slow=7.0,SNR=17	**47.22**	**162**	P	**P**	**09 11 38.6**	**-0.6**
PETK	**Petropavlovsk-** comp=Z,5.5nm,0.8s,baz=225,slow=3.9,SNR=4.3	**47.24**	**26**	P	**P**	**09 11 38.0**	**-1.1**
PETK	comp=Z,90nm,21.7s,baz=34,slow=34			LR	LR	09 29 57.1	
PETK	**Petropavlovsk-**	**47.24**	**26**	P	**P**	**09 11 38.0**	**-1.1**
PETK	**Petropavlovsk-**	**47.24**	**26**	P	**P**	**09 11 38.0**	**-1.1**
MK31	**Makanchi Array**	**49.54**	**322**	*eP*	**P**	**09 11 55.2**	**-1.8**
MK31	**Makanchi Array**	**49.54**	**322**	*eP*	**P**	**09 11 55.2**	**-1.8**
MKAR	**Makanchi Array** comp=Z,11nm,0.9s,baz=113,slow=8.9,SNR=26	**49.54**	**322**	P	**P**	**09 11 55.6**	**-1.4**
MKAR	comp=Z,35nm,21.1s,baz=353,slow=38			LR	LR	09 34 52.0	
MKAR	**Makanchi Array**	**49.54**	**322**	*ceP*	**P**	**09 11 56.0**	**-1.0**
MKAR	comp=Z,11nm,0.9s			pmax	pmax		
MKAR	**Makanchi Array**	**49.54**	**322**	*eP*	**P**	**09 11 55.9**	**-1.1**
KSH	**Kashi**	**51.05**	**310**	*eP*	**P**	**09 12 11.6**	**+2.9**
KSH				pP	**pP**	**09 12 21.5**	**+1.3**
KSH				*es*P	**sP**	**09 12 25.5**	**+0.6**
KSH				PcP	**PcP**	**09 13 26.6**	**+2.4**
KSH				*ePP*	**PP**	**09 14 08.6**	**+3.1**
KSH				*es*ScP	**ScP**	**09 17 19.3**	**+1.7**
KSH				PcS	**PcS**	**09 17 23.3**	**+1.3**
KSH				S	**S**	**09 19 26.6**	**+3.0**
KSH				sS	**sS**	**09 19 42.5**	**-0.2**
KSH				ScS	**ScS**	**09 21 56.4**	**0.0**
KSH				SS	**SS**	**09 22 59.6**	**+0.6**
KSH	comp=Z,6.0nm,0.9s			pmax	pmax		
KSH	comp=Z,85nm,6.0s			pmax	pmax		
KSH	comp=N,190nm,8.5s			LR	LR		
KSH	comp=E,150nm,6.0s			LR	LR		
KSH	comp=Z,140nm,8.1s			LR	LR		
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.5s,baz=116,slow=6.8,SNR=6.9	**51.95**	**330**	P	**P**	**09 12 15.6**	**+0.7**
ZALV	comp=Z,76nm,18.2s,baz=155,slow=37			LR	LR	09 35 19.3	
ZALV	**Zalesovo Beam**	**51.95**	**330**	P	**P**	**09 12 15.6**	**+0.7**
ZALV	**Zalesovo Beam**	**51.95**	**330**	P	**P**	**09 12 15.6**	**+0.7**
TKM2	**Tokmak 2**	**52.37**	**314**	*eP*	**P**	**09 12 18.7**	**+0.2**
TKM2	comp=Z,2.0nm,0.8s			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,1.5nm,0.8s	**52.37**	**314**	*eP*	**P**	**09 12 18.7**	**+0.2**
AAK	**Ala-Archa** comp=Z,56nm,18.2s,baz=102,slow=39	**53.05**	**314**	LR	LR	09 37 38.7	
SEY	**Seymchan**	**53.17**	**15**	*eP*	**P**	**09 12 22.7**	**-1.2**
NVS	**Novosibirsk**	**53.22**	**331**	*eP*	**P**	**09 12 23.7**	**-0.6**
KURK	**Kurchatov**	**53.51**	**325**	*eP*	**P**	**09 12 25.3**	**-1.2**
KURK	comp=Z,31nm,1.0s			pmax	pmax		
KURK	**Kurchatov** comp=Z,29nm,1.0s	**53.51**	**325**	*eP*	**P**	**09 12 25.1**	**-1.5**
EKS2	**Erkin-Say**	**53.56**	**314**	*eP*	**P**	**09 12 29.6**	**+2.4**
EKS2	comp=Z,5.0nm,1.0s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,4.8nm,1.0s	**53.56**	**314**	*eP*	**P**	**09 12 29.6**	**+2.4**
KBL	**Kabul**	**55.42**	**303**	*eP*	**P**	**09 12 43.2**	**+2.2**
KBL	**Kabul**	**55.42**	**303**	*eP*	**P**	**09 12 43.2**	**+2.2**
KKAR	**Karatay Array**	**55.99**	**313**	*eP*	**P**	**09 12 46.2**	**+1.5**
KKAR	**Karatay Array**	**55.99**	**313**	*eP*	**P**	**09 12 46.2**	**+1.5**
BRVK	**Borovoye**	**59.18**	**325**	*ceP*	**P**	**09 13 06.1**	**-0.8**
BRVK	comp=Z,11nm,1.0s			pmax	pmax		
BRVK	**Borovoye** comp=Z,10nm,1.0s	**59.18**	**325**	*eP*	**P**	**09 13 05.8**	**-1.1**
WSAR	**Wadi Sarin** comp=Z,2.6nm,0.6s,baz=107,slow=10,SNR=2.5	**64.19**	**290**	P	**P**	**09 13 41.0**	**-0.3**
WSAR	**Wadi Sarin**	**64.19**	**290**	P	**P**	**09 13 41.0**	**-0.3**
ABKAR	**Akbulak array**	**64.47**	**318**	*eP*	**P**	**09 13 41.0**	**-1.6**
AKTO	**Aktyubinsk** comp=Z,67nm,19.0s,baz=298,slow=38	**65.89**	**320**	LR	LR	09 44 49.9	
ARU	**Arti**	**66.64**	**326**	*d iP*	**P**	**09 13 58.1**	**+1.7**
ARU						09 16 24.1	
ARU				S	**S**	**09 22 48.3**	**+3.4**
ARU				SS	**SS**	**09 26 59.2**	**-3.4**
ARU	comp=Z,15nm,2.5s			pmax	pmax		
ZEI	**Tsey**	**75.34**	**311**	*eP*	**P**	**09 14 50.8**	**+1.0**
ZEI	comp=Z,7.0nm,1.0s			pmax	pmax		
COLD	**Coldfoot** comp=Z,8.2nm,0.8s	**75.65**	**24**	*eP*	**P**	**09 14 50.7**	**-0.1**
KBZ	**Khabaz** comp=Z,1.8nm,0.6s,baz=88,slow=4.5,SNR=4.8	**75.99**	**312**	P	**P**	**09 14 54.8**	**+1.6**
KBZ	**Khabaz**	**75.99**	**312**	P	**P**	**09 14 54.8**	**+1.6**
KBZ	**Khabaz**	**75.99**	**312**	P	**P**	**09 14 54.8**	**+1.6**
KIV	**Kislovodsk**	**76.13**	**312**	*eP*	**P**	**09 14 52.4**	**-1.7**
KIV	comp=Z,8.0nm,0.8s			pmax	pmax		
KIV	comp=Z,73nm,19.0s			MLR	MLR		
RAYN	**Ar Rayn**	**76.15**	**291**	*eP*	**P**	**09 14 57.1**	**+2.5**
ILAR	**Eielson Array** comp=Z,1.7nm,0.7s,baz=240,slow=5.5,SNR=35	**77.07**	**26**	P	**

FINES	**FINES Array B**	**83.20**	**332**	P		**P**		**09 15 30.4**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=75,slow=8.7,SNR=7.1								
FINES	**FINES Array B**	**83.20**	**332**	P		**P**		**09 15 30.4**	**-1.6**
BRTR	**Keskin Array B**	**83.42**	**309**	LR		LR		10 00 05.5	
	comp=Z,32nm,18.9s,baz=271,slow=41								
AKASG	**Malin Array Be**	**84.11**	**321**	P		**P**		**09 15 38.1**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=64,slow=4.8,SNR=5.5								
AKASG	**Malin Array Be**	**84.11**	**321**	*i* P		P		09 15 31.0	-5.9
AKASG	**Malin Array Be**	**84.11**	**321**	P		**P**		**09 15 38.1**	**+1.3**
RES	**Resolute Bay**	**88.77**	**10**	*e*P		**P**		**09 15 58.1**	**-1.1**
PPT	**Papeete**	**88.84**	**108**	LR		LR		09 48 47.4	
	comp=Z,165nm,20.3s,baz=309,slow=31								
UZH	**Uzhgorod**	**89.01**	**320**	*e*P		**P**		**09 15 59.0**	**-1.9**
UZH				*i*				09 16 08.0	
BBB	**Bella Bella**	**89.31**	**36**	LR		LR		09 52 17.7	
	comp=Z,58nm,19.3s,baz=116,slow=33								
NOA	**NORSAR Array B**	**90.03**	**334**	LR		LR		09 59 23.3	
	comp=Z,53nm,20.2s,baz=270,slow=38								
YKA	**Yellowknife Ar**	**91.33**	**24**	P		**P**		**09 16 09.9**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=300,slow=4.7,SNR=8.6								
YKA	**Yellowknife Ar**	**91.33**	**24**	P		**P**		**09 16 09.9**	**-1.4**
YBH	**Yreka Blue Hor**	**96.71**	**45**	LR		LR		09 54 35.7	
	comp=Z,77nm,21.7s,baz=256,slow=32								
NEW	**Newport**	**97.35**	**37**	LR		LR		10 00 31.3	
	comp=Z,73nm,18.6s,baz=273,slow=35								
NVAR	**Mina Array Bea**	**101.18**	**46**	P		**Pdif**		**09 16 56.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=271,slow=4.2,SNR=3.2								
NVAR	**Mina Array Bea**	**101.18**	**46**	P		**Pdif**		**09 16 56.0**	**-0.9**
TXAR	**Lajitas Array**	**116.25**	**48**	PKP		**PKPdf**		**09 21 49.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=337,slow=2.9,SNR=3.6								
TXAR	**Lajitas Array**	**116.25**	**48**	PKP		**PKPdf**		**09 21 49.2**	**-0.8**
PLCA	**Paso Flores**	**148.97**	**155**	PKPbc		**PKPbc**		**09 22 54.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=150,slow=9.1,SNR=4.5								
PLCA	**Paso Flores**	**148.97**	**155**	PKPbc		**PKPbc**		**09 22 54.3**	**+0.1**

IDC 12 09:46:24.9±3.7, 2°04'S×140°00'E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=137.9km s-min=28.7km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.63**	**197**	P	Pn	09 50 44.5	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.29**	**195**	P	P	09 51 23.4	-0.7
	0.7nm,0.9s,baz=25,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**70.05**	**322**	P	P	09 57 39.1	+0.2
	0.2nm,0.5s,baz=91,slow=7.9,SNR=3.4						

GUC 12 09:54:58.1±0.9, 24°78S×70°43W, h20km, MD4.0, ML3.4, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.09**	**1**	*e*P	Pn	09 55 17.9	-0.3
ANCH				*e*S	Sb	09 55 31.9	-0.1
ANCH				AML	AML	09 55 34.1	
	comp=E,4µm,0.3s						
CEN1	**Los Morros**	**1.40**	**9**	*e*P	Pn	09 55 19.1	-3.5
CEN1				*i* S	Sn	09 55 34.1	-6.5
CEN1				AML	AML	09 55 36.7	
	comp=E,562nm,0.3s						
MECH	**Mejillones**	**1.66**	**359**	*e*P	Pn	09 55 26.3	+0.2
MECH				*e*S	Sb	09 55 47.9	-0.7
MECH				AML	AML	09 56 07.3	
	comp=N,821nm,0.2s						
PB06	**Plate Boundary**	**2.21**	**21↑**	*e*P	Pn	09 55 35.3	+1.4
PB06				*e*S	Sb	09 56 04.4	-0.2
PB06				AML	AML	09 56 11.6	
	comp=N,593nm,0.4s						
PB04	**Plate Boundary**	**2.64**	**19**	*e*P	Pn	09 55 36.1	-3.5
PB04				*e*S	Sn	09 56 07.9	-3.2

BJI ***12*** *10:05:00.9, 4°.05N×94°.90E, h30km, mB5.0/34, mb5.0/50, Ms4.6/40, Ms7 4.3/39*

AUST ***12*** *10:05:03.2, 4°.40N×94°.46E, h15km*

MOS ***12*** *10:05:06.7±1.0, 4°.78N×95°.20E, h33km, mb5.4/48, MS4.3/4, Error ellipse: s-maj=9.7km s-min=4.7km az=116.0*

SZGRF ***12*** *10:05:08.9, 4°.27N×95°.20E, h51km, mb5.1, Northern Sumatera, Indonesia*

NEIC ***12*** *10:05:08.6±0.2, 4°.67N×95°.05E, h35km, mb5.2/41, Error ellipse: s-maj=5.9km s-min=3.9km az=33.0*

NEIC Felt at Banda Aceh.

ISCJB ***12*** *10:05:09.2±0.6, 4°.70N±0°.03×95°.12E±0°.03, h55km±6km, mb5.0/150, MS4.2/45, Error ellipse: s-maj=6.3km s-min=4.1km az=42.5*

DJA ***12*** *10:05:10.9±0.9, 5°N±4°×9°5E±°, h44km±5km, M5.1/28, mB5.6/14, mb5.1/28, MLv5.1/13, Mw(mB)5.0/14*

IDC ***12*** *10:05:10.5±0.5, 4°.81N×95°.11E, h48km±3km, mb4.5/34, mb1 4.5/35, mb1mx4.5/38, mbtmp4.5/35, MS4.1/29, Ms1 4.1/29, ms1mx4.0/43, Error ellipse: s-maj=15.2km s-min=8.5km az=40.0*

GCMT ***12*** *10:05:11.3±0.3, 4°.43N×95°.03E, h48km±1km, MW5.0, Moment Tensor Solution. s43,c58; s66,c84; Moment tensor: Scale 10^16Nm; Mrr3.02±.20; Mθθ-2.47±.14; Mφφ-0.56±.18; Mrθ2.06±.12; Mrφ1.64±.13; Mθφ-1.39±.13; Best double couple: M0 4.10000×10^16 NP1:φs297.00000°, δ26.00000°, λ85.00000°. NP2:φs123.00000°, δ64.00000°, λ93.00000°. Principal axes: T 3.8700, Plg71.0000°, Azm38.0000°; N 0.3800, Plg2.0000°, Azm301.0000°; P -4.2600, Plg19.0000°, Azm211.0000°; Data Used: II IU IC CN G.*

ISC 12 10:05:09.4±0.3, 4°.68N±0°.04×94°.99E±0°.04, h42km±1km, h41km:pP-P, n591, σ1°34/677, mb5.0/150, MS4.3/46, 84C-93D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**0.86**	**21**	P	**Pn**	**10 05 26.0**	**+0.9**
LHMI	**Lhok Sumawe**	**2.02**	**74**	P	**Pn**	**10 05 43.8**	**+2.8**
TPTI		**2.60**	**123**	P	**Pn**	**10 05 49.2**	**+0.2**
TSI	**Tuntungan**	**3.75**	**108**	P	**Pn**	**10 06 07.4**	**+2.6**
GSI	**Gunungsitoli**	**4.24**	**142**	P	**Pn**	**10 06 11.3**	**-0.2**
	baz=4.4,SNR=11						
GSI	**Gunungsitoli**	**4.24**	**142**	P	**Pn**	**10 06 09.2**	**-2.3**
PSI	**Prapat**	**4.35**	**115**	P	**Pn**	**10 06 14.8**	**+1.7**
	9.6nm,0.3s,baz=316,slow=8.5,SNR=36						
PSI				S	**Sn**	**10 07 07.9**	**+5.3**
	13nm,0.3s,baz=336,slow=16,SNR=3.7						
PSI				LR	LR	10 08 17.0	
	comp=Z,3µm,20.0s,baz=274,slow=43						
PSI	**Prapat**	**4.35**	**115**	P	**Pn**	**10 06 14.8**	**+1.7**
PSI				S	**Sn**	**10 07 07.9**	**+5.3**
PSI	**Prapat**	**4.35**	**115**	P	**Pn**	**10 06 14.8**	**+1.7**
	baz=4.8,SNR=28						
PSI	**Prapat**	**4.35**	**115**	P	**Pn**	**10 06 16.3**	**+3.2**
KULM	**Kulim**	**5.67**	**84**	*e*Pn	**Pn**	**10 06 30.6**	**-0.6**
KULM				*e*Sn	**Sn**	**10 07 34.2**	**-0.8**
KULM	**Kulim**	**5.67**	**84**	P	**Pn**	**10 06 31.3**	**+0.2**
KULM	**Kulim**	**5.67**	**84**	P	**Pn**	**10 06 30.6**	**-0.6**
	127nm,0.7s,2µm0.7nm						
MNSI	**Mandailing Nat**	**5.99**	**130**	P	**Pn**	**10 06 36.2**	**+0.6**
	209nm,0.5s,7µm1.4nm						
IPM	**Ipoh**	**6.02**	**92**	*e*Pn	**Pn**	**10 06 36.0**	**+0.1**
IPM				*e*Sn	**Sn**	**10 07 44.1**	**+0.4**
IPM	**Ipoh**	**6.02**	**92**	P	**Pn**	**10 06 36.1**	**+0.1**
IPM	**Ipoh**	**6.02**	**92**	P	**Pn**	**10 06 36.1**	**+0.1**
	127nm,0.8s,2µm0.5nm						
FRIM	**Kepong**	**6.77**	**102**	P	**Pn**	**10 06 45.9**	**-0.4**
BKNI	**Bangkinang**	**7.43**	**125**	P	**Pn**	**10 06 55.2**	**-0.2**
	212nm,0.9s,2µm1.3nm						
PPI	**Padang Panjang**	**7.43**	**133**	P	**Pn**	**10 06 55.9**	**+0.5**
	76nm,1.1s,1µm0.3nm						
KGM	**Kluang**	**8.72**	**107**	P	**Pn**	**10 07 13.7**	**+0.5**
RGRI	**Rengat**	**8.88**	**124**	P	**Pn**	**10 07 17.0**	**+1.8**
	201nm,0.9s,224µm17nm						
MYKOM	**Kota Tinggi**	**9.30**	**108**	P	**Pn**	**10 07 20.8**	**-0.2**
MYKOM	**Kota Tinggi**	**9.30**	**108**	P	**Pn**	**10 07 23.4**	**+2.4**
	26nm,1.0s						
KSI	**Kapahiang**	**11.24**	**137**	P	**Pn**	**10 07 47.5**	**-0.1**
	145nm,1.0s						
PPBI	**Pangkal Pinang**	**13.05**	**121**	P	**Pn**	**10 08 10.2**	**-2.1**
LWLI	**Liwa**	**13.22**	**137**	P	P	10 08 30.3	+6.4
KASI	**Kota Agung**	**13.89**	**137**	P	**P**	**10 08 30.3**	**-0.9**
CM31	**Chiang Mai Arr**	**14.22**	**15**	*e*Pn	**Pn**	**10 08 28.3**	**0.0**
	42nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.22**	**15**	P	**P**	**10 08 32.1**	**-2.8**
	3.1nm,0.3s,baz=207,slow=13,SNR=119						
CMAR				LR	LR	10 13 57.1	
	comp=Z,898nm,20.9s,baz=197,slow=37						
CMAR	**Chiang Mai Arr**	**14.22**	**15**	P	**P**	**10 08 32.1**	**-2.8**
CHTO	**Chiang Mai**	**14.56**	**15**	*e*P	**Pn**	**10 08 32.3**	**-0.6**
CHTO	**Chiang Mai**	**14.56**	**15**	*e*Pn	**Pn**	**10 08 32.3**	**-0.6**
CHTO	**Chiang Mai**	**14.56**	**15**	P	**P**	**10 08 38.7**	**0.0**
	59nm,0.8s,704nm						
CGJI	**Cibinong**	**15.49**	**136**	P	**P**	**10 08 50.7**	**+1.7**
	71nm,1.0s,4µm						
KSM	**Kuching**	**15.62**	**101**	*e*Pn	**Pn**	**10 08 44.2**	**-2.6**
	30nm,0.7s						
KSM	**Kuching**	**15.62**	**101**	P	**P**	**10 08 50.4**	**-0.1**
	baz=16,SNR=5.3						
KSM	**Kuching**	**15.62**	**101**	P	**P**	**10 08 50.0**	**-0.4**
KSM	**Kuching**	**15.62**	**101**	P	**P**	**10 08 50.8**	**+0.3**
	46nm,0.9s						
SBUM	**Sibu**	**17.34**	**97**	P	**Pn**	**10 09 08.0**	**-0.5**
SBUM	**Sibu**	**17.34**	**97**	P	**P**	**10 09 09.8**	**+0.3**
	18nm,1.4s,370nm						
BTM	**Bintulu**	**18.11**	**94**	P	**Pn**	**10 09 19.2**	**+1.2**
TGJI	**Tegal**	**18.18**	**129**	P	Pn	10 09 26.1	+7.2
	104nm,0.6s,7µm						
QIZ	**Qiongzhong**	**20.33**	**44**	P	Pn	10 09 44.7	+0.1
QIZ				pP	pP	10 09 52.7	+0.2
QIZ				sP	sP	10 09 56.9	-0.9
QIZ				S	Sn	10 13 34.1	+1.2
QIZ				LR	LR		
	comp=N,510nm,16.2s						
QIZ				LR	LR		
	comp=Z,700nm,24.1s						
HYB	**Hyderabad**	**20.48**	**309**	*i* P	Pn	10 09 46.5	+0.2
HYB				*e*S	**S**	**10 13 29.0**	**-2.0**
SHL	**Shillong**	**20.98**	**352**	*e*P	**P**	**10 09 47.0**	**-2.4**
KKM	**Kota Kinabalu**	**21.17**	**85**	P	**P**	**10 09 51.7**	**+0.1**
BBKI	**Banjar Baru**	**21.42**	**112**	P	**P**	**10 09 55.1**	**+1.0**
	comp=Z,121nm,1.3s,comp=Z,2µm						
KMI	**Kunming**	**21.64**	**19**	P	**P**	**10 10 00.4**	**+3.8**
KMI				pP	**pP**	**10 10 08.7**	**+1.8**
KMI				sP	**sP**	**10 10 12.1**	**-0.1**
KMI				PP	PnPn	10 10 27.0	+8.5
KMI				S	**S**	**10 13 58.3**	**+4.0**
KMI				sS	**sS**	**10 14 13.1**	**+2.3**
KMI				pmax	pmax		
	comp=Z,38nm,1.1s						
KMI				LR	LR		
	comp=N,780nm,15.5s						
KMI				LR	LR		
	comp=E,380nm,12.6s						
KMI				LR	LR		
	comp=Z,980nm,14.0s						
SDKM	**Sandakan**	**22.13**	**87**	P	**P**	**10 10 01.5**	**-0.3**
KMMI	**Kalianget**	**22.24**	**121**	P	**P**	**10 10 04.0**	**+1.2**
	comp=Z,77nm,1.0s						
TSM	**Tawau**	**22.81**	**90**	P	**P**	**10 10 08.6**	**-0.5**
ODAN	**Odare**	**23.22**	**343**	*e*P	**P**	**10 10 13.6**	**+0.4**
MYLDM	**Lahad Datu**	**23.43**	**88**	P	**P**	**10 10 14.9**	**-0.2**
MYLDM	**Lahad Datu**	**23.43**	**88**	P	**P**	**10 10 14.9**	**-0.2**
	comp=Z,36nm,1.0s						
RAMN	**Ramite**	**23.55**	**341**	*e*P	**P**	**10 10 17.9**	**+1.5**
	comp=Z,46nm,0.6s						
TAPN	**Taplejung**	**23.59**	**344**	*e*P	**P**	**10 10 17.1**	**+0.3**
SRBI	**Singaraja**	**23.83**	**122**	P	**P**	**10 10 18.9**	**0.0**
	comp=Z,156nm,1.4s,comp=Z,2µm						
KHKI	**Kahang-Kahang**	**24.31**	**122**	P	**P**	**10 10 25.5**	**+2.2**
	comp=Z,52nm,1.1s						
JIRN	**Jiri**	**24.34**	**341**	*e*P	**P**	**10 10 23.9**	**0.0**
	comp=Z,11nm,0.5s						
GYA	**Guiyang**	**24.36**	**26↑**	*i*P	**P**	**10 10 23.5**	**-0.3**
GYA				pP	**pP**	**10 10 36.4**	**+1.3**
GYA				PP	PnPn	10 11 04.0	+8.5
GYA				PcP	**PcP**	**10 14 03.8**	**+1.1**
GYA				S	**S**	**10 14 44.6**	**+3.9**
GYA				sS	**sS**	**10 15 01.2**	**+1.8**
GYA				SS	SnSn	10 15 42.0	+15
GYA				ScP	**ScP**	**10 17 38.4**	**+0.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,680nm,17.6s						
GYA				LR	LR		
	comp=E,540nm,16.5s						
GYA				LR	LR		
	comp=Z,760nm,17.0s						
PKI	**Pulchoki**	**24.52**	**339**	*e*P	**P**	**10 10 26.0**	**+0.5**
	comp=Z,23nm,0.6s						
DMN	**Daman**	**24.67**	**339**	*e*P	**P**	**10 10 27.6**	**+0.8**
GUN	**Gumba**	**24.67**	**340**	*e*P	**P**	**10 10 27.1**	**+0.2**
	comp=Z,54nm,0.5s						
KKN	**Kakani**	**24.77**	**339**	*e*P	**P**	**10 10 28.0**	**+0.4**
POO	**Poona**	**24.82**	**305↓**	*i*P	**P**	**10 10 30.0**	**+2.0**
	comp=Z,68nm,1.2s						
LSA	**Lhasa**	**25.14**	**352**	P	**P**	**10 10 31.7**	**+0.4**
LSA				pmax	pmax		
	comp=Z,30nm,1.0s						
GKN	**Gorkha**	**25.20**	**338**	*e*P	**P**	**10 10 31.4**	**-0.1**
	comp=Z,16nm,0.3s						
KOLN	**Koldanda**	**25.39**	**336**	*e*P	**P**	**10 10 33.7**	**+0.4**
	comp=Z,87nm,0.6s						
DANN	**Dangsing**	**25.84**	**337**	*e*P	**P**	**10 10 37.7**	**+0.2**
	comp=Z,118nm,0.7s						
PYUN	**Piuthan**	**25.93**	**335**	*e*P	**P**	**10 10 38.4**	**+0.2**
	comp=Z,90nm,0.6s						
TTSI	**Tana Toraja**	**25.97**	**107**	P	**P**	**10 10 38.7**	**+0.3**
	comp=Z,31nm,1.3s						
KAPI	**Kappang**	**26.54**	**111**	P	**P**	**10 10 41.0**	**-2.7**
	comp=Z,7.8nm,0.6s,baz=298,slow=6.5,SNR=9.2						
KAPI	**Kappang**	**26.54**	**111**	*e*P	**P**	**10 10 40.7**	**-2.9**
	comp=Z,8.6nm,0.6s						
KAPI				P	**P**	**10 10 41.0**	**-2.7**
KAPI	**Kappang**	**26.54**	**111**	P	**P**	**10 10 40.9**	**-2.7**
	comp=Z,24nm,1.6s						
BKSI	**Bulukumba**	**27.00**	**111**	P	**P**	**10 10 47.6**	**-0.1**
	comp=Z,36nm,0.8s						
CD2	**Chengdu**	**27.36**	**17**	pP	**pP**	**10 10 59.3**	**-2.8**
CD2				sP	sP	10 11 03.5	-3.6
CD2				PP	**PnPn**	**10 11 38.9**	**+2.5**
CD2				S	**S**	**10 15 28.4**	**+0.3**
CD2				sS	sS	10 15 45.0	-2.0
CD2				SS	**SnSn**	**10 16 49.7**	**+10**
CD2				pmax	pmax		
	comp=Z,80nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,4.8s						
CD2				LR	LR		
	comp=N,890nm,16.1s						
CD2				LR	LR		
	comp=Z,640nm,20.2s						
LUWI	**Luwuk**	**28.33**	**101**	P	P	10 11 03.1	+3.4
	comp=Z,81nm,1.3s						
ENH	**Enshi**	**28.90**	**27**	*e*P	**P**	**10 11 03.5**	**-1.0**
	comp=Z,6.5nm,0.6s						
QZH	**Quanzhou**	**30.33**	**46**	*e*P	P	10 11 21.7	+4.5
QZH				S	S	10 16 21.5	+6.7
QZH				LR	LR		
	comp=Z,830nm,16.6s						
WHN	**Wuhan**	**31.54**	**33**	*e*P	P	10 11 24.5	-3.3
XAN	**Xi'an**	**31.95**	**22**	P	**P**	**10 11 29.7**	**-1.8**
XAN				pP	**pP**	**10 11 39.7**	**-3.1**
XAN				sP	**sP**	**10 11 43.7**	**-4.1**
XAN				pmax	pmax		
	comp=Z,27nm,0.7s						
XAN				pmax	pmax		
	comp=Z,23nm,4.0s						
XAN				LR	LR		
	comp=N,340nm,15.1s						
XAN				LR	LR		
	comp=E,150nm,15.4s						
XAN				LR	LR		
	comp=Z,230nm,15.9s						
LZH	**Lanzhou**	**32.30**	**13**	*e*P	**P**	**10 11 33.5**	**-1.1**
LZH				pP	**pP**	**10 11 44.0**	**-2.0**
LZH				sP	**sP**	**10 11 48.1**	**-2.9**
LZH				PP	**PnPn**	**10 12 43.4**	**+1.3**
LZH				*e*S	**S**	**10 16 47.2**	**+1.5**
LZH				sS	**sS**	**10 17 03.7**	**-0.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.3s						
LZH				LR	LR		
	comp=N,290nm,12.3s						
LZH				LR	LR		
	comp=E,560nm,15.0s						
LZH				LR	LR		
	comp=Z,700nm,17.5s						
AAI	**Ambon**	**34.20**	**104**	P	**P**	**10 11 50.5**	**-0.8**
	comp=Z,56nm,0.9s,comp=Z,2µm						
GTA	**Gaotai**	**34.84**	**7**	P	**P**	**10 11 54.5**	**-2.2**
GTA				pP	**pP**	**10 12 04.2**	**-3.9**
GTA				sP	sP	10 12 08.3	-4.8
GTA				PcP	**PcP**	**10 14 30.2**	**+1.0**
GTA				S	**S**	**10 17 23.9**	**-1.1**
GTA				pmax	pmax		
	comp=Z,26nm,1.0s						
GTA				pmax	pmax		
	comp=Z,72nm,4.3s						
GTA				LR	LR		
	comp=N,310nm,20.4s						
GTA				LR	LR		
	comp=E,310nm,17.1s						
GTA				LR	LR		
	comp=Z,220nm,18.5s						
NJ2	**Nanjing**	**35.23**	**37**	*e*P	**P**	**10 11 59.8**	**-0.2**
NJ2				pP	**pP**	**10 12 12.5**	**+1.1**
NJ2				sP	**sP**	**10 12 16.9**	**+0.5**
NJ2				S	**S**	**10 17 35.0**	**+4.2**
NJ2				sS	sS	10 17 55.5	+5.7
NJ2				pmax	pmax		
	comp=Z,70nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,170nm,9.3s						
NJ2				LR	LR		
	comp=N,800nm,15.4s						
NJ2				LR	LR		
	comp=E,530nm,14.8s						
NJ2				LR	LR		
	comp=Z,570nm,16.5s						
FITZ	**Fitzroy Crossi**	**37.77**	**128**	*e*P	**P**	**10 12 20.3**	**-1.5**
	comp=Z,12nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.77**	**128**	P	**P**	**10 12 20.3**	**-1.5**
	baz=38,SNR=9.5						
KSH	**Kashi**	**38.71**	**336**	P	**P**	**10 12 29.0**	**-0.6**
KSH				pP	**pP**	**10 12 39.7**	**-1.5**
KSH				sP	**sP**	**10 12 43.6**	**-2.5**
KSH				*e*PP	**PnPn**	**10 14 05.0**	**+3.8**
KSH				*e*PcP	**PcP**	**10 14 41.7**	**+0.8**
KSH				S	**S**	**10 18 24.2**	**+0.3**
KSH				PcS	**PcS**	**10 18 30.5**	**+0.1**
KSH				sS	**sS**	**10 18 42.5**	**-0.6**
KSH				SS	**SS**	**10 21 08.0**	**-7.4**
KSH				ScS	**ScS**	**10 22 36.2**	**-0.5**
KSH				pmax	pmax		
	comp=Z,45nm,0.6s						
KSH				LR	LR		
	comp=N,190nm,7.2s						
KSH				LR	LR		
	comp=E,150nm,5.5s						
KSH				LR	LR		
	comp=Z,190nm,7.6s						
HHC	**Hu-ho-hao-te**	**38.96**	**20**	*e*P	**P**	**10 12 32.1**	**+0.4**
HHC				sP	**sP**	**10 12 46.7**	**-1.5**
HHC				PP	**PnPn**	**10 14 07.9**	**+3.7**
HHC				PcP	**PcP**	**10 14 40.8**	**-0.9**
HHC				ScP	**ScP**	**10 18 25.7**	**-1.2**
HHC				PcS	**PcS**	**10 18 29.8**	**-1.5**
HHC				S	**S**	**10 18 31.5**	**+3.8**
HHC				sS	**sS**	**10 18 47.1**	**+0.2**
HHC				SS	**SS**	**10 21 18.9**	**-1.8**
HHC				ScS	**ScS**	**10 22 36.0**	**-2.1**
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,6.1s						
HHC				LR	LR		
	comp=Z,670nm,16.0s						
TLE	**Tual**	**39.06**	**105**	P	**P**	**10 12 32.6**	**-0.2**
	comp=Z,102nm,1.3s						
WMQ	**Urumqi**	**39.51**	**352**	P	**P**	**10 12 37.1**	**+1.0**
WMQ				LR	LR		
	comp=N,140nm,24.0s						
WMQ				LR	LR		
	comp=E,260nm,32.0s						
WMQ				LR	LR		
	comp=Z,130nm,29.0s						
MTN	**Manton Dam**	**39.91**	**116**	P	**P**	**10 12 37.6**	**-2.1**
	baz=40,SNR=7.7						
BJT	**Baijiatuau**	**40.03**	**26**	*e*P	**P**	**10 12 40.6**	**+0.1**
	comp=Z,64nm,0.7s						
BJI	**Beijing**	**40.05**	**26**	P	**P**	**10 12 40.8**	**+0.2**
BJI				S	S	10 18 49.9	+6.1
BJI				sS	**sS**	**10 19 06.5**	**+3.5**
BJI				SS	**SS**	**10 21 41.5**	**-0.8**
BJI				pmax	pmax		
	comp=Z,84nm,0.8s						
BJI				LR	LR		
	comp=N,380nm,19.1s						
BJI				LR	LR		
	comp=E,230nm,17.5s						
BJI				LR	LR		
	comp=Z,310nm,26.0s						
ULHL	**Ulahol**	**40.96**	**339**	P	**P**	**10 12 49.0**	**+0.6**
	SNR=36						
KZA	**Kyzart**	**41.19**	**338**	P	**P**	**10 12 52.4**	**+1.8**
	SNR=35						
UCH	**Uchtor**	**41.60**	**337**	P	**P**	**10 12 55.5**	**+1.5**
	SNR=9.4						
TKM2	**Tokmak 2**	**41.78**	**339**	*e*P	**P**	**10 12 55.7**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,91nm,1.2s						
TKM2	**Tokmak 2**	**41.78**	**339**	*e*P	**P**	**10 12 55.7**	**+0.6**
	comp=Z,91nm,1.2s						
TKM2	**Tokmak 2**	**41.78**	**339**	P	**P**	**10 12 56.0**	**+0.9**
	SNR=43						
KBK	**Karagaybulak**	**41.80**	**338**	P	**P**	**10 12 56.8**	**+1.5**
	SNR=57						
AML	**Almayashu**	**41.84**	**336**	P	**P**	**10 12 57.6**	**+1.7**
	SNR=9.0						
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**10 12 58.1**	**+1.6**
	comp=Z,23nm,0.7s,baz=152,slow=6.0,SNR=53						
AAK				LR	LR	10 32 27.6	
	comp=Z,150nm,19.3s,baz=144,slow=39						
AAK	**Ala-Archa**	**41.95**	**337**	*e*P	**P**	**10 12 58.4**	**+2.0**
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**10 12 58.1**	**+1.6**
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**10 12 58.5**	**+2.0**
	comp=Z,274nm,0.8s,SNR=11						
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**10 12 58.4**	**+2.0**
	SNR=18						
FRU	**Bishkek**	**42.08**	**338**	*e*P	**P**	**10 12 58.0**	**+0.7**
FRU				*e*		10 13 16.0	
FRU				pmax	pmax		
	comp=Z,80nm,2.0s						
CHMS	**Chumysh**	**42.17**	**338**	P	**P**	**10 12 59.2**	**+1.1**
	SNR=14						
EKS2	**Erkin-Say**	**42.26**	**337**	*e*P	**P**	**10 13 00.1**	**+1.2**
EKS2				pmax	pmax		
	comp=

comp=Z,226nm,18.2s,baz=185,slow=40
SONM Songino Array 44.09 11 P **P** **10 13 12.4 -1.3**
SONM sP **sP** **10 13 31.0 +0.7**
SONM PcP **PcP** **10 14 58.6 +0.2**
ULN Ulaanbaatar 44.25 12 *eP* **P** **10 13 13.9 -1.1**
comp=Z,2.2nm,0.7s
ULN Ulaanbaatar 44.25 12 P **P** **10 13 13.7 -1.3**
comp=Z,5.5nm,1.5s
KSAR Wonju Array Be 44.34 38 P **P** **10 13 15.1 -0.5**
KSRS Korea Array 44.37 38 P **P** **10 13 15.1 -0.7**
comp=Z,7.1nm,0.7s,baz=220,slow=8.9,SNR=21
KSRS LR LR 10 35 28.0
comp=Z,133nm,19.7s,baz=202,slow=41
SNY Shenyang 44.93 30 ⇑P **P** **10 13 19.4 -0.8**
SNY pmax pmax
comp=Z,42nm,0.7s
SNY pmax pmax
comp=Z,250nm,4.3s
SNY LR LR
comp=N,190nm,22.1s
SNY LR LR
comp=E,350nm,20.1s
SNY LR LR
comp=Z,370nm,21.6s
WRA Warramunga Arr 45.77 124 P **P** **10 13 25.9 -1.3**
comp=Z,38nm,0.7s,baz=302,slow=9.2,SNR=300
WRA LR LR 10 32 39.0
comp=Z,340nm,21.3s,baz=240,slow=36
WRA Warramunga Arr 45.77 124 P **P** **10 13 25.9 -1.3**
WRAB Tennant Creek 45.77 124 *eP* **P** **10 13 26.1 -1.2**
WRAB pmax pmax
comp=Z,28nm,0.5s
WRAB Tennant Creek 45.77 124 *eP* **P** **10 13 26.1 -1.2**
comp=Z,28nm,0.5s
WRAB Tennant Creek 45.77 124 P **P** **10 13 26.2 -1.1**
comp=Z,385nm,1.3s,SNR=24
ZAK Zakamensk 46.07 7 *eP* **P** **10 13 26.8 -2.5**
ZAK *e* 10 15 04.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s
HVS Khovu-Aksy 46.31 359*d* iP **P** **10 13 30.5 -0.6**
ABKT Ailbek 47.14 320 P **P** **10 13 38.8 +0.9**
comp=Z,189nm,0.7s,SNR=5.1
AS31 Alice Springs 47.26 128 *eP* **P** **10 13 38.3 -0.6**
ASAR Alice Springs 47.26 128 P **P** **10 13 37.9 -1.1**
comp=Z,6.0nm,0.5s,baz=300,slow=7.6,SNR=80
ASAR PcP **PcP** **10 15 09.8 0.0**
comp=Z,3.3nm,0.7s,baz=303,slow=3.6,SNR=4.5
ASAR LR LR 10 36 09.4
comp=Z,77nm,19.0s,baz=160,slow=39
ASAR Alice Springs 47.26 128 P **P** **10 13 37.9 -1.1**
ASAR PcP **PcP** **10 15 09.8 0.0**
CN2 Changchun 47.31 30 *eP* **P** **10 13 37.8 -1.2**
CN2 *eS* **S** **10 20 31.2 +1.5**
CN2 SS **SS** **10 23 54.0 -3.6**
CN2 pmax pmax
comp=Z,40nm,0.6s
CN2 LR LR
comp=N,3μm,20.0s
CN2 LR LR
comp=E,1μm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
FORT Forrest 47.35 140 *eP* **P** **10 13 39.6 +0.1**
comp=Z,31nm,0.7s
TLY Talaya 47.39 7 *eP* **P** **10 13 37.5 -2.0**
TLY *e* 10 15 25.5
TLY *e*PPP PPP 10 16 23.0
TLY *e*S S 10 20 22.1 -8.6
TLY *e*SS **ScS** **10 23 32.2 +2.3**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,378nm,23.0s
KURBB Kurchatov Arra 47.83 346 P **P** **10 13 42.9 +0.1**
comp=Z,18nm,0.6s,baz=169,slow=7.0,SNR=89
KURBB PcP **PcP** **10 15 11.7 +0.5**
comp=Z,6.3nm,0.6s,baz=156,slow=3.2,SNR=6.2
KURK Kurchatov 47.89 346*ceP* **P** **10 13 43.0 -0.4**
KURK pmax pmax
comp=Z,36nm,1.2s
KURK Kurchatov 47.89 346 P **P** **10 13 43.0 -0.4**
KURK PcP **PcP** **10 15 11.7 +0.3**
KURK Kurchatov 47.89 346 P **P** **10 13 43.5 +0.2**
comp=Z,157nm,0.6s,SNR=9.5
HIA Hailar 49.14 21 *eP* **P** **10 13 52.6 -0.5**
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 49.81 352 *eP* **P** **10 13 57.1 -0.9**
ZALV Zalesovo Beam 49.81 352 P **P** **10 13 57.4 -0.6**
comp=Z,12nm,0.5s,baz=185,slow=7.5,SNR=74
ZALV ScP **ScP** **10 19 09.5 -1.2**
comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=3.4
ZALV LR LR 10 38 58.0
comp=Z,172nm,20.1s,baz=203,slow=41
ZALV Zalesovo Beam 49.81 352 P **P** **10 13 57.4 -0.6**
ZALV Zalesovo Beam 49.81 352 P **P** **10 13 57.4 -0.6**
ZALV ScP **ScP** **10 19 09.5 -1.2**
GUMO Guam 49.95 76 LR LR 10 35 18.6
comp=Z,98nm,20.2s,baz=269,slow=36
MDJ Mudanjiang 50.01 32 P **P** **10 13 59.8 +0.1**
MDJ pP **pP** **10 14 08.2 -3.3**
MDJ sP **sP** **10 14 12.3 -4.1**
MDJ ScP **ScP** **10 19 12.1 +0.3**
MDJ PcS **PcS** **10 19 15.9 -0.2**
MDJ S **S** **10 21 10.8 +3.1**
MDJ pmax pmax
comp=Z,24nm,1.4s
MDJ pmax pmax
comp=Z,180nm,5.6s
MDJ LR LR
comp=N,240nm,24.0s
MDJ LR LR
comp=E,180nm,23.7s
MDJ LR LR
comp=Z,310nm,24.8s
MDJ Mudanjiang 50.01 32 *eP* **P** **10 14 00.1 +0.4**
comp=Z,23nm,1.0s
JHJ Hachijo jima 2 50.38 50 LR LR 10 37 36.0
comp=Z,160nm,18.7s,baz=94,slow=39
QIS Mount Isa 50.47 121 P **P** **10 14 02.8 -0.8**
baz=51,SNR=13
MAT Matsushiro 50.72 45 P **P** **10 14 03.9 -1.4**
MAT *eS* S 10 21 25.0 +7.0
MJAR Matsushiro Arr 50.73 45 P **P** **10 14 05.2 -0.1**
comp=Z,4.4nm,0.9s,baz=242,slow=8.9,SNR=10
MJAR PcP **PcP** **10 15 21.0 -1.1**
comp=Z,4.2nm,0.9s,baz=242,slow=3.7,SNR=6.9
MJAR LR LR 10 36 42.5
comp=Z,212nm,21.2s,baz=265,slow=37
MJAR Matsushiro Arr 50.73 45 P **P** **10 14 05.2 -0.1**
MJAR PcP **PcP** **10 15 21.0 -1.1**
NVS Novosibirsk 50.90 351 ⇓*i*P **P** **10 14 05.2 -1.1**
NVS *e**PP **pP** **10 14 18.0 -0.1**
NVS *eS* **S** **10 21 17.3 -2.5**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,14nm,1.0s
NVS smax smax
comp=N,10.0nm,2.0s
NVS smax smax
comp=E,16nm,2.0s
RDF Al-Radifah 50.95 304 *eP* **P** **10 14 08.8 +1.6**
RDF AMb AMB 10 14 10.6
comp=Z,49nm,1.0s
USRK Ussuriysk Arra 51.04 34 P **P** **10 14 06.9 -0.5**
comp=Z,9.1nm,0.6s,baz=244,slow=7.5,SNR=33
USRK LR LR 10 37 50.4
comp=Z,260nm,18.9s,baz=194,slow=38
COEN Coen 51.26 112 *eP* **P** **10 14 08.1 -1.5**
comp=Z,58nm,0.8s
COEN Coen 51.26 112 P **P** **10 14 08.1 -1.5**
baz=52,SNR=8.0
NAY Al-Naaiem 51.31 304 *eP* **P** **10 14 11.1 +1.3**
NAY AMb AMB 10 14 12.2
comp=Z,25nm,0.8s
MIB Mutribah 51.41 305 *eP* **P** **10 14 11.7 +1.2**
MIB AMb AMB 10 14 13.2
comp=Z,34nm,0.9s
BVAR Borovoye Array 52.26 341 P **P** **10 14 16.1 -0.4**
comp=Z,30nm,0.6s,baz=143,slow=8.5,SNR=128
BVAR sP **sP** **10 14 34.0 +0.8**
comp=Z,13nm,0.7s,baz=140,slow=9.5,SNR=6.0
BVAR Borovoye Array 52.26 341 P **P** **10 14 16.1 -0.4**
BVAR *SP **sP** **10 14 34.0 +0.8**
BVAR Borovoye Array 52.26 341 P **P** **10 14 16.1 -0.4**
BVAR sP **sP** **10 14 34.0 +0.8**
BRVK Borovoye 52.32 341*ceP* **P** **10 14 16.5 -0.5**
BRVK pmax pmax
comp=Z,69nm,1.2s
BRVK Borovoye 52.32 341 *eP* **P** **10 14 16.1 -0.8**
comp=Z,36nm,0.6s
BRVK Borovoye 52.32 341 P **P** **10 14 16.4 -0.5**
comp=Z,354nm,0.6s,SNR=19
ABKAR Akbulak array 53.42 332 *eP* **P** **10 14 25.1 0.0**
comp=Z,10nm,0.6s
PMG Port Moresby 53.84 105 P **P** **10 14 27.4 -1.4**
comp=Z,11nm,0.6s,baz=179,slow=15,SNR=3.7
PMG Port Moresby 53.84 105 P **P** **10 14 27.4 -1.4**
KLR Kul'dur 54.22 29 *eP* P 10 14 25.7 -5.2
KLR pmax pmax
comp=E,37nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s
BOD Bodaibo 55.05 12 *eP* **P** **10 14 34.7 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.0s
AKTO Aktyubinsk 55.14 332 P **P** **10 14 37.4 -0.2**
comp=Z,4.5nm,0.6s,baz=127,slow=8.3,SNR=15
AKTO Aktyubinsk 55.14 332 P **P** **10 14 37.4 -0.2**
AKTO Aktyubinsk 55.14 332 P **P** **10 14 37.4 -0.2**
HABR Khabarovsk 55.38 31 *eP* P 10 14 36.1 -3.2
HABR *PP pP 10 14 45.8 -5.5
HABR *e*SP sP 10 14 50.0 -6.1
HABR *e* 10 15 35.7
HABR PPP PPP 10 17 52.3
HABR *eS* **S** **10 22 18.8 -2.0**
HABR *e*SS sS 10 22 35.8 -4.9
HABR *e* 10 24 22.4
HABR *eSS **SS** **10 26 05.0 -0.8**
HABR pmax pmax
comp=Z,79nm,2.4s
HABR pmax pmax
comp=E,105nm,2.4s
HABR pmax pmax
comp=N,55nm,2.4s
HABR MLR MLR
comp=Z,314nm,20.0s
CTA Charters Tower 56.05 118 LR LR 10 39 56.2
comp=Z,281nm,19.0s,baz=289,slow=37
CTAO Charters Tower 56.05 118 *eP* **P** **10 14 43.8 -0.9**
CTAO pmax pmax
comp=Z,22nm,1.3s
CTAO Charters Tower 56.05 118 *eP* **P** **10 14 43.8 -0.9**
comp=Z,22nm,1.3s
GNI Garni 57.27 316 P **P** **10 14 54.6 +1.4**
comp=Z,7.6nm,0.7s,baz=41,slow=4.5,SNR=3.1
GNI Garni 57.27 316 P **P** **10 14 54.6 +1.4**
ASAJ Asahikawa 57.30 39 LR LR 10 37 42.2
comp=Z,202nm,21.8s,baz=227,slow=34
STKA Stephens Creek 57.32 133 P **P** **10 14 52.7 -0.7**
comp=Z,2.8nm,0.7s,baz=300,slow=7.9,SNR=8.2
STKA LR LR 10 38 32.2
comp=Z,230nm,19.8s,baz=224,slow=35
STKA Stephens Creek 57.32 133 P **P** **10 14 52.7 -0.7**
STKA Stephens Creek 57.32 133 P **P** **10 14 52.7 -0.7**
baz=58,SNR=6.7
KMBO Kilima Mbogo 57.97 266 *eP* **P** **10 14 57.0 -1.7**
comp=Z,8.3nm,1.1s
SVE Sverdlovsk 58.66 339⇑*eP* **P** **10 15 03.1 +0.7**
SVE pmax pmax
comp=Z,42nm,1.3s
YSS Yuzh-Sakhalins 58.80 36⇓*eP* **P** **10 15 04.0 +0.5**
YSS *e* 10 15 14.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 58.80 36 *eP* **P** **10 15 03.8 +0.2**
comp=Z,21nm,0.8s
ZEI Tsey 58.95 318 *eP* **P** **10 15 05.0 0.0**
ZEI pmax pmax
comp=Z,12nm,0.7s
ARU Arti 59.14 337*d* iP **P** **10 15 05.8 +0.1**
ARU 10 17 14.5
ARU S **S** **10 23 13.9 +3.8**
ARU SS **SS** **10 27 00.1 -4.7**
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 59.14 337 *eP* **P** **10 15 06.1 +0.4**
comp=Z,7.9nm,0.3s
KBZ Khabaz 60.01 319 P **P** **10 15 12.7 +0.7**
comp=Z,7.1nm,0.9s,baz=130,slow=6.5,SNR=13
KBZ Khabaz 60.01 319 P **P** **10 15 12.7 +0.7**
KBZ Khabaz 60.01 319 P **P** **10 15 12.7 +0.7**
CMSA Cobar Meteorol 60.21 130 P **P** **10 15 13.4 -0.1**
baz=60,SNR=21
KIV Kislovodsk 60.25 319 *eP* **P** **10 15 13.5 -0.2**
KIV *eS* **S** **10 23 27.7 +2.7**
KIV pmax pmax
comp=Z,23nm,1.1s
RMQ Roma 60.53 124 P **P** **10 15 16.8 +1.0**
baz=61,SNR=6.4
EIL Elat 61.76 301 P **P** **10 15 26.0 +1.9**
comp=Z,5.6nm,0.7s,baz=23,slow=5.0,SNR=3.4
EIL Elat 61.76 301 P **P** **10 15 26.0 +1.9**
SOKR Solikamsk 62.06 339*d* iP **P** **10 15 26.1 +0.6**
SOKR pmax pmax
comp=Z,20nm,0.7s
YAK Yakutsk 62.75 18 *eP* **P** **10 15 27.9 -2.2**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK MLR MLR
comp=Z,628nm,21.0s
YAK MLR MLR
comp=E,359nm,19.0s
YAK MLR MLR
comp=N,244nm,19.0s
VRHR Novokhopersk 64.03 326 *eP* **P** **10 15 38.0 -0.8**
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
ANN Anapa 64.05 318 *eP* **P** **10 15 38.3 -0.7**
ANN *eS* **S** **10 24 14.1 +1.5**
ANN pmax pmax
comp=Z,35nm,1.3s
BR131 Keskin Array S 65.16 312 *eP* **P** **10 15 45.9 -0.6**
comp=Z,6.3nm,0.6s
BRTR Keskin Array B 65.16 312 P **P** **10 15 46.0 -0.6**
comp=Z,7.7nm,0.6s,baz=132,slow=7.5,SNR=47
BRTR LR LR 10 43 25.8
comp=Z,73nm,21.3s,baz=265,slow=35
BRTR Keskin Array B 65.16 312 P **P** **10 15 46.0 -0.6**
VORD Divnogorie 65.29 325 *eP* **P** **10 15 46.0 -1.0**
VSR Storozhevoye 65.47 325 *eP* **P** **10 15 47.1 -1.1**
MOS Moscow 68.23 329 *eP* **P** **10 16 03.9 -1.8**
MOS *e* 10 16 18.0
OBN Obninsk 68.52 328⇓*iP* **P** **10 16 07.4 0.0**
OBN *e* 10 18 41.5
OBN *eS* **S** **10 25 06.0 -0.5**
OBN *eSS **SS** **10 29 28.7 -2.3**
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,100nm,18.0s
LSZ Lusaka 69.04 252 *eP* **P** **10 16 11.4 -0.2**
comp=Z,5.4nm,0.9s
KLMR Klimovskoe 69.68 335 *eP* **P** **10 16 12.0 -2.6**
KLMR pmax pmax
comp=Z,32nm,1.5s
TIRR Tirgusor 70.10 316⇓P **P** **10 16 17.6 +0.1**
TIRR Tirgusor 70.10 316 *eP* **P** **10 16 17.3 -0.2**
comp=Z,16nm,0.8s
TIRR Tirgusor 70.10 316⇓*iP* **P** **10 16 17.6 +0.1**
PETK Petropavlovsk- 70.11 35 P **P** **10 16 15.9 -1.5**
comp=Z,1.2nm,0.6s,baz=247,slow=5.6,SNR=4.3
PETK LR LR 10 46 24.0
comp=Z,190nm,20.2s,baz=56,slow=35
PETK Petropavlovsk- 70.11 35 P **P** **10 16 15.9 -1.5**
PETK Petropavlovsk- 70.11 35 P **P** **10 16 15.8 -1.5**
CFR Carcaliu 70.46 316⇓P **P** **10 16 20.3 +0.6**
CFR Carcaliu 70.46 316*i*P **P** **10 16 20.3 +0.6**
AK02 Malin Array Si 71.17 322 *eP* **P** **10 16 22.9 -1.0**
AKASG Malin Array Be 71.17 322 P **P** **10 16 22.9 -1.0**
comp=Z,11nm,0.6s,baz=93,slow=5.4,SNR=40
AKASG Malin Array Be 71.17 322*ceP* **P** **10 16 22.8 -1.0**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 71.17 322 P **P** **10 16 22.9 -1.0**
AK01 Malin Array Si 71.17 322 *eP* **P** **10 16 22.9 -1.0**
KIEV Kiev 71.18 322 *eP* **P** **10 16 23.1 -0.8**
KIEV pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 71.18 322 *eP* **P** **10 16 23.1 -0.8**
comp=Z,10nm,0.6s
SEY Seymchan 71.47 24 *eP* **P** **10 16 23.3 -2.1**
VRI Vrincioaia 71.58 317⇓P **P** **10 16 27.3 +0.8**
VRI Vrincioaia 71.58 317⇓*i*P **P** **10 16 27.3 +0.8**
PLOR Plostina 71.63 317⇓P **P** **10 16 28.2 +1.3**
PLOR Plostina 71.63 317⇓*i*P **P** **10 16 28.2 +1.3**
TESR 71.78 317⇑*i*P **P** **10 16 28.1 +0.4**
TMCR Tamitsa 71.88 337 *eP* **P** **10 16 27.2 -0.6**
TMCR pmax pmax
comp=Z,26nm,0.5s
MLR Muntele Rosu 72.04 316 P **P** **10 16 30.0 +0.6**
comp=Z,4.3nm,0.9s,baz=64,slow=1.2,SNR=24
MLR Muntele Rosu 72.04 316 *i*P **P** **10 16 30.1 +0.6**
MLR Muntele Rosu 72.04 316⇓*i*P **P** **10 16 31.0 +1.6**
BURAR Bucovina Array 72.97 318⇑*i*P **P** **10 16 36.0 +1.1**
BUR08 Bucovina Ar. S 72.99 318 *eP* **P** **10 16 35.2 +0.2**
LBTB Lobatse 73.49 242 *eP* **P** **10 16 37.5 -0.9**
comp=Z,10nm,0.8s
JOF Joensuu 74.07 335 *eP* **P** **10 16 40.0 -0.9**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 74.07 335 *ep* **P** **10 16 40.0 -0.9**
comp=Z,12nm,0.6s
LVV L'vov 74.19 320 *eP* **P** **10 16 41.9 0.0**
DRGR 74.49 317⇓P **P** **10 16 44.6 +0.8**
DRGR 74.49 317⇓*i*P **P** **10 16 44.6 +0.8**
BOSA Boshof 74.64 239 P **P** **10 16 46.4 +1.4**
comp=Z,1.8nm,0.6s,baz=149,slow=6.0,SNR=6.2
BOSA LR LR 10 42 52.1
comp=Z,263nm,21.9s,baz=74,slow=30
BOSA Boshof 74.64 239 P **P** **10 16 46.4 +1.4**
DZM Mont Dzumac 74.71 114 LR LR 10 52 17.4
comp=Z,192nm,18.2s,baz=228,slow=38
TRPA Tarpa 74.84 319⇓*eP* **P** **10 16 46.8 +1.2**
KWP Kalwaria Pacla 75.00 320 *eP* **P** **10 16 47.5 +0.9**
KWP Kalwaria Pacla 75.00 320⇑P **P** **10 16 47.5 +0.9**
KWP Kalwaria Pacla 75.00 320 *eP* **P** **10 16 47.6 +1.0**
comp=Z,77nm,1.4s
KWP Kalwaria Pacla 75.00 320⇑*iP* **P** **10 16 47.5 +0.9**
KWP Kalwaria Pacla 75.00 320 *eP* **P** **10 16 47.4 +0.9**
UZH Uzhgorod 75.09 319 *eP* **P** **10 16 47.8 +0.7**
UZH *i* 10 16 58.2
APA Apatity 75.11 340⇑*iP* **P** **10 16 46.0 -0.8**
APA pmax pmax
comp=Z,30nm,0.7s
KOLS Kolonicke sedl 75.15 319 *eP* **P** **10 16 48.1 +0.6**
KOLS pmax pmax
comp=Z,23nm,1.3s
KOLS Kolonicke sedl 75.15 319 *eP* **P** **10 16 48.1 +0.6**
SUW Suwalki 75.58 325 *eP* **P** **10 16 49.9 +0.1**
SUW Suwalki 75.58 325 *eP* **P** **10 16 49.9 +0.1**
MAW Mawson 75.61 192 LR LR 10 43 30.1
comp=Z,390nm,18.7s,baz=311,slow=30
FINES FINESS Array B 75.91 332 P **P** **10 16 51.0 -0.5**
comp=Z,7.3nm,0.4s,baz=97,slow=5.7,SNR=42
FINES LR LR 10 51 35.3
comp=Z,101nm,19.1s,baz=316,slow=37
FINES FINESS Array B 75.91 332 P **P** **10 16 51.0 -0.5**
KAF Kangasniemi 76.00 333 *eP* **P** **10 16 51.4 -0.6**
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF Kangasniemi 76.00 333 *ep* **P** **10 16 51.4 -0.6**
comp=Z,8.4nm,0.5s
NIE Niedzica 76.50 320 *eP* **P** **10 16 56.6 +1.4**
NIE Niedzica 76.50 320 *eP* **P** **10 16 56.6 +1.4**
PSZ Piszkesteto 76.56 318⇓*eP* **P** **10 16 56.5 +0.9**
OJC Ojcow 76.95 320 *eP* **P** **10 16 58.3 +0.6**
OJC Ojcow 76.95 320 *eP* **P** **10 16 58.7 +1.0**
comp=Z,25nm,0.8s
OJC Ojcow 76.95 320 *eP* **P** **10 16 58.3 +0.6**
PKSM Moragy 77.19 316⇓*eP* **P** **10 16 59.6 +0.5**
VYHS Vyhne 77.34 319 *eP* **P** **10 17 00.1 +0.2**
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 77.34 319 *eP* **P** **10 17 00.1 +0.2**
VYHS *es*P **sP** **10 17 15.4 -1.7**
OKC Ostrava-Krasne 77.95 320 *eP* **P** **10 17 04.4 +1.1**
OKC *e* 10 17 19.2
OKC Ostrava-Krasne 77.95 320 *eP* **P** **10 17 04.5 +1.1**
comp=Z,22nm,1.2s
OKC Ostrava-Krasne 77.95 320 *eP* **P** **10 17 04.4 +1.1**
OKC *es*P **sP** **10 17 19.2 -1.3**
KEV Kevo 78.11 341 *eP* **P** **10 17 01.3 -2.4**
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 78.11 341 *ep* **P** **10 17 01.3 -2.4**
comp=Z,12nm,0.7s
MORC Moravsky Berou 78.33 320 *eP* **P** **10 17 05.8 +0.3**
MORC pmax pmax
comp=Z,29nm,1.5s
MORC Moravsky Berou 78.33 320 *eP* **P** **10 17 06.6 +1.1**
comp=Z,29nm,1.5s
MORC *epP **pP** **10 17 21.5 +3.5**
MORC Moravsky Berou 78.33 320 *eP* **P** **10 17 05.8 +0.3**
comp=Z,29nm,1.5s
ARCES ARCESS Array B 78.53 340 P **P** **10 17 05.9 -0.2**
comp=Z,6.9nm,0.5s,baz=100,slow=6.0,SNR=76
ARCES LR LR 10 55 06.9
comp=Z,133nm,18.9s,baz=141,slow=38
ARCES ARCESS Array B 78.53 340 P **P** **10 17 05.9 -0.2**
VRAC Vranov 78.90 319 P **P** **10 17 09.4 +0.8**
comp=Z,2.2nm,0.4s,baz=80,slow=9.6,SNR=3.2
VRAC Vranov 78.90 319 P **P** **10 17 09.3 +0.8**
DPC Dobruska-Polom 79.18 320 *eP* **P** **10 17 11.3 +1.2**
DPC *e* 10 17 26.5
DPC Dobruska-Polom 79.18 320 *eP* **P** **10 17 11.7 +1.6**
comp=Z,27nm,1.7s
DPC Dobruska-Polom 79.18 320 *eP* **P** **10 17 11.3 +1.2**
DPC *es*P **sP** **10 17 26.5 -0.8**
KSP Ksiaz 79.25 321 *eP* **P** **10 17 11.2 +0.8**
KSP *e**PP **pP** **10 17 26.2 +3.3**
CSNA Conrad Observa 79.26 318⇑*iP* **P** **10 17 11.0 +0.3**
comp=Z,4.7nm,0.9s
UPC Upice 79.39 320 *eP* **P** **10 17 12.3 +1.1**
UPC *e* 10 17 27.2
UPC Upice 79.39 320 *eP* **P** **10 17 12.3 +1.1**
UPC *es*P **sP** **10 17 27.2 -1.2**
ARSA Arzberg 79.43 317⇑*iP* **P** **10 17 12.2 +0.7**
comp=Z,15nm,1.3s
TSUM Tsumeb 79.70 250 *eP* **P** **10 17 13.9 +0.3**
comp=Z,4.6nm,0.9s
PRU Pruhonice 80.29 320 *eP* **P** **10 17 17.1 +1.0**
PRU *e* 10 17 31.8
PRU Pruhonice 80.29 320 *eP* **P** **10 17 17.1 +1.0**
comp=Z,38nm,2.0s
PRU Pruhonice 80.29 320 *eP* **P** **10 17 17.1 +1.0**
BRG Berggiesshubel 80.73 321 *eP* **P** **10 17 19.2 +0.8**
comp=Z,12nm,1.1s
BRG *epP **pP** **10 17 33.8 +2.8**
BRG comp=Z,7.8nm,1.2s *e* 10 35 14.6
BRG comp=Z,4.1nm,1.0s *e*PKPPKP P'P'df 10 43 30.1 -33
BRG comp=Z,4.3nm,1.0s *e**PP **pP** **10 17 33.8 +2.8**
BRG Berggiesshubel 80.73 321 *eP* **P** **10 17 19.2 +0.8**
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 80.73 321 *eP* **P** **10 17 19.4 +1.0**
comp=Z,27nm,1.7s
GEC2 GERESS Array S 80.76 319 *eP* **P** **10 17 19.8 +1.1**
comp=Z,15nm,0.9s
GEC2 *epP **pP** **10 17 34.8 +3.5**
GEC2 *es*P **sP** **10 17 39.0 +3.0**
GERES GERESS Array B 80.76 319 P **P** **10 17 19.0 +0.3**
comp=Z,5.2nm,0.6s,baz=92,slow=6.7,SNR=39
GERES pP **pP** **10 17 34.5 +3.3**

comp=Z,7.1nm,0.7s,baz=110,slow=4.4,SNR=6.2
GERES sP **sP** **10 17 38.7 +2.8**
comp=Z,6.2nm,0.7s,baz=76,slow=5.6,SNR=9.7
GERES GERESS Array B 80.76 319 P **P** **10 17 19.0 +0.3**
GERES pP **pP** **10 17 34.5 +3.3**
GERES sP **sP** **10 17 38.7 +2.8**
KHC Kasperske Hory 80.86 319 *eP* **P** **10 17 19.9 +0.7**
KHC *e* 10 17 34.9
KHC Kasperske Hory 80.86 319 *eP* **P** **10 17 19.9 +0.7**
KHC *esP* **sP** **10 17 34.9 -1.5**
KBA Koelnbreinsper 80.90 317⇑ *iP* **P** **10 17 19.4 -0.2**
comp=Z,5.0nm,0.6s
RJOB Jochberg 81.30 317 *eP* **P** **10 17 21.9 +0.3**
comp=Z,5.0nm,0.9s
WET Wettzell 81.32 319 *eP* **P** **10 17 22.5 +0.9**
comp=Z,34nm,1.8s
CLL Collm 81.35 321 *eP* **P** **10 17 21.0 -0.7**
CLL Collm 81.35 321 *eP* **P** **10 17 22.3 +0.6**
comp=Z,14nm,1.3s
CLL Collm 81.35 321 *eP* **P** **10 17 21.0 -0.7**
HFS Hagfors 81.62 330 P **P** **10 17 22.8 -0.1**
comp=Z,5.2nm,0.5s,baz=104,slow=6.3,SNR=23
HFS pP **pP** **10 17 37.3 +1.9**
comp=Z,4.0nm,0.5s,baz=104,slow=5.0,SNR=5.3
HFS Hagfors 81.62 330 P **P** **10 17 22.8 -0.1**
HFS pP **pP** **10 17 37.3 +1.9**
TANN Tannenbergstha 81.65 320 *eP* **P** **10 17 24.1 +0.7**
comp=Z,16nm,1.6s
ROTZ Rotzenmuhle 81.78 319 *eP* **P** **10 17 25.4 +1.4**
comp=Z,11nm,1.5s
WTTA Wattenberg 82.07 317⇑ *iP* **P** **10 17 25.1 -0.7**
comp=Z,10.0nm,0.5s
MOX Moxa 82.20 320 *eP* **P** **10 17 26.9 +0.7**
comp=Z,11nm,1.5s
GRF Grafenberg Arr 82.42 319 *eP* **P** **10 17 28.6 +1.2**
comp=Z,9.0nm,0.8s
MOTA Moosalm 82.44 317⇑ *iP* **P** **10 17 26.8 -0.9**
comp=Z,6.8nm,0.6s
RETA Reutte 82.67 317⇑ *iP* **P** **10 17 28.8 0.0**
comp=Z,13nm,0.5s
FETA Feichten 82.68 317⇓ *iP* **P** **10 17 29.0 0.0**
comp=Z,3.8nm,0.6s
NB2 NORSAR Subarra 82.91 331 P **P** **10 17 29.1 -0.6**
comp=Z,1.1nm,0.6s,baz=95,slow=5.3
NOA NORSAR Array B 82.91 331 P **P** **10 17 29.7 0.0**
comp=Z,4.6nm,1.0s,baz=93,slow=6.2,SNR=4.0
NOA pP **pP** **10 17 44.3 +2.0**
comp=Z,3.2nm,0.8s,baz=94,slow=5.2,SNR=3.5
NOA sP **sP** **10 17 48.3 +1.3**
comp=Z,3.1nm,0.8s,baz=93,slow=5.4,SNR=3.9
NOA NORSAR Array B 82.91 331 P **P** **10 17 29.7 0.0**
NOA pP **pP** **10 17 44.3 +2.0**
NOA sP **sP** **10 17 48.3 +1.3**
BSEG Bad Segeberg 83.10 324 *eP* **P** **10 17 31.9 +1.1**
comp=Z,25nm,0.9s
SPITS Spitsbergen Ar 83.11 348 P **P** **10 17 30.2 -0.2**
comp=Z,7.1nm,0.6s,baz=110,slow=10.0,SNR=28
SPITS Spitsbergen Ar 83.11 348 P **P** **10 17 30.2 -0.2**
NRDL Niedersach Rie 83.19 322 *eP* **P** **10 17 32.2 +1.0**
comp=Z,31nm,1.4s
UBBA Unterbreizbach 83.23 320 *eP* **P** **10 17 32.7 +1.3**
comp=Z,36nm,2.2s
DAVOX Davos/Dischmat 83.26 316 P **P** **10 17 32.7 +0.6**
comp=Z,14nm,0.5s,baz=149,slow=3.7,SNR=30
DAVOX Davos/Dischmat 83.26 316 P **P** **10 17 32.7 +0.6**
KEST Kesra 83.76 305 P **P** **10 17 36.4 +1.7**
comp=Z,2.3nm,0.6s,baz=63,slow=5.8,SNR=6.4
KEST LR LR 10 58 39.4
comp=Z,31nm,19.4s,baz=242,slow=38
KEST Kesra 83.76 305 P **P** **10 17 36.4 +1.7**
CDF Champ du Feu 85.01 318 *eP* **P** **10 17 40.6 -0.2**
comp=Z,8.0nm,0.8s
CDF *epP* pP 10 18 00.1 +6.7
CDF Champ du Feu 85.01 318 *eP* **P** **10 17 40.6 -0.2**
CDF pmax pmax
comp=Z,8.0nm,0.8s
CDF Champ du Feu 85.01 318 *eP* **P** **10 17 40.6 -0.2**
comp=Z,8.0nm,0.8s
CDF *epP* pP 10 18 00.1 +6.7
SBF Sospel 85.02 313 *eP* **P** **10 17 41.3 +0.4**
comp=Z,34nm,0.8s
SBF *epP* pP 10 18 00.9 +7.4
SBF Sospel 85.02 313 *eP* **P** **10 17 41.3 +0.4**
SBF pmax pmax
comp=Z,34nm,0.8s
SBF Sospel 85.02 313 *eP* **P** **10 17 41.3 +0.4**
comp=Z,34nm,0.8s
SBF *epP* pP 10 18 00.9 +7.4
LPG La Plagne 85.46 315 *eP* **P** **10 17 43.6 +0.3**
comp=Z,16nm,0.8s
LPG *epP* pP 10 18 03.3 +7.4
LPG La Plagne 85.46 315 *eP* **P** **10 17 43.6 +0.3**
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 85.46 315 *eP* **P** **10 17 43.6 +0.3**
comp=Z,16nm,0.8s
LPG *epP* pP 10 18 03.3 +7.4
LPL La Plagne 85.47 315 *eP* **P** **10 17 43.7 +0.4**
LPL La Plagne 85.47 315 *eP* **P** **10 17 43.7 +0.4**
LPL La Plagne 85.47 315 *eP* **P** **10 17 43.7 +0.4**
MBDF Montbardon 85.47 314 *eP* **P** **10 17 43.0 -0.2**
MBDF Montbardon 85.47 314 *eP* **P** **10 17 43.0 -0.2**
MBDF Montbardon 85.47 314 *eP* **P** **10 17 43.0 -0.2**
FRF La Foret Royal 85.61 313 *eP* **P** **10 17 44.2 +0.5**
comp=Z,43nm,1.0s
FRF La Foret Royal 85.61 313 *eP* **P** **10 17 44.2 +0.5**
FRF pmax pmax
comp=Z,43nm,1.0s
FRF La Foret Royal 85.61 313 *eP* **P** **10 17 44.2 +0.5**
comp=Z,43nm,1.0s
HAU Haudompre 85.64 318 *eP* **P** **10 17 43.8 -0.1**
comp=Z,20nm,0.7s
HAU *epP* pP 10 18 03.2 +6.7
HAU Haudompre 85.64 318 *eP* **P** **10 17 43.8 -0.1**
HAU pmax pmax
comp=Z,20nm,0.7s
HAU Haudompre 85.64 318 *eP* **P** **10 17 43.8 -0.1**
comp=Z,20nm,0.7s
HAU *epP* pP 10 18 03.2 +6.7
LMR La Mourre 85.71 313 *eP* **P** **10 17 44.5 +0.2**
LMR La Mourre 85.71 313 *eP* **P** **10 17 44.5 +0.2**
LMR La Mourre 85.71 313 *eP* **P** **10 17 44.5 +0.2**
CABF La Chapelle 85.88 316 *eP* **P** **10 17 45.5 +0.4**
CABF La Chapelle 85.88 316 *eP* **P** **10 17 45.5 +0.4**
CABF La Chapelle 85.88 316 *eP* **P** **10 17 45.5 +0.4**
PAGF Fort de Pagny 86.04 318 *eP* **P** **10 17 45.8 0.0**
PAGF Fort de Pagny 86.04 318 *eP* **P** **10 17 45.8 0.0**
SMRF Simiane la Rot 86.36 314 *eP* **P** **10 17 47.7 +0.2**
SMRF Simiane la Rot 86.36 314 *eP* **P** **10 17 47.7 +0.2**
SFTF Sexfontaines 86.51 318 *eP* **P** **10 17 48.1 0.0**
comp=Z,15nm,0.7s
SFTF Sexfontaines 86.51 318 *eP* **P** **10 17 48.1 0.0**
comp=Z,15nm,0.7s
BAIF Baives 86.95 320 *eP* **P** **10 17 50.8 +0.6**
comp=Z,7.9nm,0.7s
BAIF *epP* pP 10 18 10.3 +7.5
BAIF Baives 86.95 320 *eP* **P** **10 17 50.8 +0.6**
BAIF pmax pmax
comp=Z,8.0nm,0.7s
BAIF Baives 86.95 320 *eP* **P** **10 17 50.8 +0.6**
comp=Z,7.9nm,0.7s
BAIF *epP* pP 10 18 10.3 +7.5
VIVF Saint-Julien-l 86.96 315 *eP* **P** **10 17 50.8 +0.4**
comp=Z,8.0nm,0.7s
VIVF *epP* pP 10 18 10.3 +7.2
VIVF Saint-Julien-l 86.96 315 *eP* **P** **10 17 50.8 +0.4**
VIVF pmax pmax
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 86.96 315 *eP* **P** **10 17 50.8 +0.4**
comp=Z,8.0nm,0.7s
VIVF *epP* pP 10 18 10.3 +7.2
LOR Lormes 87.36 317 *eP* **P** **10 17 52.5 +0.2**
comp=Z,12nm,0.7s
LOR *epP* pP 10 18 11.9 +6.9
LOR Lormes 87.36 317 *eP* **P** **10 17 52.5 +0.2**
comp=Z,12nm,0.7s
LOR *epP* pP 10 18 11.9 +6.9
SMF Signal de Mont 87.42 316 *eP* **P** **10 17 52.7 +0.1**
comp=Z,24nm,0.8s
SMF *epP* pP 10 18 12.2 +7.0
SMF Signal de Mont 87.42 316 *eP* **P** **10 17 52.7 +0.1**
SMF pmax pmax
comp=Z,24nm,0.8s
SMF Signal de Mont 87.42 316 *eP* **P** **10 17 52.7 +0.1**
comp=Z,24nm,0.8s
SMF *epP* pP 10 18 12.2 +7.0
SSF Saint Saulge 87.62 317 *eP* **P** **10 17 53.7 +0.2**
SSF Saint Saulge 87.62 317 *eP* **P** **10 17 53.7 +0.2**
SSF Saint Saulge 87.62 317 *eP* **P** **10 17 53.7 +0.2**
AVF Avril sur Loir 87.74 317 *eP* **P** **10 17 54.2 +0.1**
comp=Z,9.1nm,0.9s
AVF *epP* pP 10 18 13.7 +6.9
AVF Avril sur Loir 87.74 317 *eP* **P** **10 17 54.2 +0.1**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 87.74 317 *eP* **P** **10 17 54.2 +0.1**
comp=Z,9.1nm,0.9s
AVF *epP* pP 10 18 13.7 +6.9
BGF Bois d'Agland 88.11 316 *eP* **P** **10 17 56.4 +0.5**
comp=Z,19nm,0.9s
BGF Bois d'Agland 88.11 316 *eP* **P** **10 17 56.4 +0.5**
BGF pmax pmax
comp=Z,19nm,0.9s
BGF Bois d'Agland 88.11 316 *eP* **P** **10 17 56.4 +0.5**
comp=Z,19nm,0.9s
TNA Tin City 88.70 24 *eP* **P** **10 17 58.2 0.0**
comp=Z,3.9nm,0.7s
VNDA Vanda 89.66 168 LR LR 10 56 35.0
comp=Z,196nm,18.7s,baz=35,slow=34
LDF La Druitiere 89.90 319 *eP* **P** **10 18 04.8 +0.6**
comp=Z,26nm,1.0s
LDF *epP* pP 10 18 24.9 +8.0
LDF La Druitiere 89.90 319 *eP* **P** **10 18 04.8 +0.6**
LDF pmax pmax
comp=Z,27nm,1.0s
LDF La Druitiere 89.90 319 *eP* **P** **10 18 04.8 +0.6**
comp=Z,26nm,1.0s
LDF *epP* pP 10 18 24.9 +8.0
JMIC Jan Mayen 89.98 341 P **P** **10 18 02.0 -2.1**
comp=Z,70nm,0.3s,baz=14,slow=5.5,SNR=2.9
JMIC Jan Mayen 89.98 341 P **P** **10 18 02.0 -2.1**
FLN La Foliniere 90.12 319 *eP* **P** **10 18 05.8 +0.6**
FLN La Foliniere 90.12 319 *eP* **P** **10 18 05.8 +0.6**
FLN La Foliniere 90.12 319 *eP* **P** **10 18 05.8 +0.6**
MFF Saint Martin d 90.16 317 *eP* **P** **10 18 06.0 +0.5**
MFF Saint Martin d 90.16 317 *eP* **P** **10 18 06.0 +0.5**
MFF Saint Martin d 90.16 317 *eP* **P** **10 18 06.0 +0.5**
GRR Gorron 90.42 318 *eP* **P** **10 18 07.2 +0.6**
GRR Gorron 90.42 318 *eP* **P** **10 18 07.2 +0.6**
GRR Gorron 90.42 318 *eP* **P** **10 18 07.2 +0.6**
SGMF Saint Gilles 91.56 318 *eP* **P** **10 18 12.4 +0.5**
comp=Z,107nm,1.7s
SGMF Saint Gilles 91.56 318 *eP* **P** **10 18 12.4 +0.5**
SGMF pmax pmax
comp=Z,107nm,1.7s
SGMF Saint Gilles 91.56 318 *eP* **P** **10 18 12.4 +0.5**
comp=Z,107nm,1.7s
QUIF Quistinic 92.01 318 *eP* **P** **10 18 14.3 +0.3**
QUIF Quistinic 92.01 318 *eP* **P** **10 18 14.3 +0.3**
QUIF Quistinic 92.01 318 *eP* **P** **10 18 14.3 +0.3**
ROSF Rostrenen 92.02 319 *eP* **P** **10 18 14.6 +0.5**
ROSF Rostrenen 92.02 319 *eP* **P** **10 18 14.6 +0.5**
ROSF Rostrenen 92.02 319 *eP* **P** **10 18 14.6 +0.5**
TORD Torodi Ar. Bea 92.15 283 P **P** **10 18 16.3 +0.9**
comp=Z,0.8nm,0.7s,baz=89,slow=4.3,SNR=6.4
TORD LR LR 10 59 03.9
comp=Z,110nm,18.5s,baz=105,slow=35
TORD Torodi Ar. Bea 92.15 283 P **P** **10 18 16.3 +0.9**
ESDC Sonseca Array 93.91 310 P **P** **10 18 24.0 +0.9**
comp=Z,0.5nm,0.5s,baz=47,slow=5.2,SNR=2.7
ESDC Sonseca Array 93.91 310 P **P** **10 18 24.0 +0.9**
ILAR Eielson Array 97.36 22 P **P** **10 18 36.3 -1.9**
comp=Z,0.3nm,0.7s,baz=298,slow=4.7,SNR=5.9
ILAR LR LR 11 05 37.3
comp=Z,128nm,20.8s,baz=291,slow=37
ILAR Eielson Array 97.36 22 P **P** **10 18 36.3 -1.9**
DBIC Dimbokro 99.20 277 LR LR 11 01 41.2
comp=Z,98nm,18.3s,baz=79,slow=34
RES Resolute Bay 100.53 3 P **Pdif** **10 18 52.9 +0.8**
comp=Z,1.5nm,0.4s,baz=339,slow=7.1,SNR=5.1
RES Resolute Bay 100.53 3 P **Pdif** **10 18 52.9 +0.8**
SCHQ Schefferville 118.80 348 PKP **PKPdf** **10 23 53.0 -0.3**
comp=Z,1.5nm,0.5s,baz=32,slow=2.5,SNR=6.3
SCHQ Schefferville 118.80 348 PKP **PKPdf** **10 23 53.0 -0.3**
A13A Flathead Natio 120.77 22⇑P **PKPdf** **10 23 57.1 -0.2**
baz=121
B13A Whitefish 121.21 23⇑P **PKPdf** **10 23 57.8 -0.4**
baz=121
A15A Johnson Ranch, 121.35 21⇑P **PKPdf** **10 23 58.0 -0.5**
baz=121
A16A West Butte Ran 121.78 20⇓P **PKPdf** **10 23 58.9 -0.4**
baz=122
B15A Bradely Ranch, 121.97 21⇓P **PKPdf** **10 23 59.1 -0.6**
baz=122
C14A Swan Lake 121.98 22⇑P **PKPdf** **10 23 59.2 -0.5**
baz=122
B16A M & M Farms, S 122.19 21⇓P **PKPdf** **10 23 59.8 -0.3**
baz=122
D13A Huson 122.26 23⇑P **PKPdf** **10 23 59.6 -0.6**
baz=122
A18A Metzger Ranch, 122.39 19⇑P **PKPdf** **10 24 00.0 -0.4**
baz=122
C15A Salmond Ranch, 122.41 22⇓P **PKPdf** **10 24 00.2 -0.4**
baz=122
B17A L&G Farms, Che 122.61 20⇑P **PKPdf** **10 24 00.7 -0.2**
baz=122
D14A Greenough 122.64 23⇓P **PKPdf** **10 24 00.5 -0.6**
baz=122
MSO Missoula 122.68 23⇓P **PKPdf** **10 24 00.6 -0.5**
baz=122
A19A Klindworth Far 122.73 18⇑P **PKPdf** **10 24 00.8 -0.3**
baz=122
E13A Victor 122.90 24⇓P **PKPdf** **10 24 00.9 -0.6**
baz=123
A20A Cobblestone Ra 123.03 18⇓P **PKPdf** **10 24 01.4 -0.2**
baz=123
D15A Lincoln 123.05 22⇓P **PKPdf** **10 24 01.6 -0.3**
baz=123
C17A Wharram Farm, 123.19 21⇓P **PKPdf** **10 24 01.5 -0.5**
baz=123
E14A Clinton 123.20 23⇓P **PKPdf** **10 24 01.9 -0.3**
baz=123
EGMT Eagleton 123.20 20⇓P **PKPdf** **10 24 01.7 -0.3**
baz=123
A21A Bergtoll Ranch 123.23 17⇓P **PKPdf** **10 24 01.5 -0.5**
baz=123
F13A Darby 123.37 24⇓P **PKPdf** **10 24 01.7 -0.8**
baz=123
B20A Solberg Farm, 123.39 18⇓P **PKPdf** **10 24 02.0 -0.3**
baz=123
D16A Dana Ranch, Ca 123.42 21⇓P **PKPdf** **10 24 02.2 -0.3**
baz=123
G12A Big Creek, Yel 123.49 25⇓P **PKPdf** **10 24 02.2 -0.5**
baz=123
A22A Carney Farms, 123.52 16⇑P **PKPdf** **10 24 02.0 -0.5**
baz=123
D17A Six Diamond Ra 123.63 21⇑P **PKPdf** **10 24 02.6 -0.3**
baz=123
C19A Slack Wire Ran 123.68 19⇑P **PKPdf** **10 24 02.5 -0.4**
baz=124
H12A Diamond D Ranc 124.15 25⇑P **PKPdf** **10 24 03.7 -0.4**
baz=124
G14A Jackson 124.17 24⇓P **PKPdf** **10 24 03.8 -0.4**
baz=124
C21A Desert Coulee 124.22 18⇑P **PKPdf** **10 24 03.7 -0.3**
baz=124
D19A Cripps Ranch, 124.24 20⇑P **PKPdf** **10 24 03.9 -0.1**
baz=124
B23A Brockton 124.26 16⇑P **PKPdf** **10 24 03.7 -0.2**
baz=124
H13A Challis 124.40 25⇓P **PKPdf** **10 24 04.2 -0.3**
baz=124
ULM Lac du Bonnet 124.48 8 PKP **PKPdf** **10 24 03.7 -0.6**
comp=Z,0.8nm,0.4s,baz=1.3,slow=1.7,SNR=6.7
ULM Lac du Bonnet 124.48 8 PKP **PKPdf** **10 24 03.7 -0.6**
BOZ Bozeman (W) 124.56 22⇑P **PKPdf** **10 24 04.2 -0.6**
baz=124
MFID Camas Ranch 124.62 27⇓P **PKPdf** **10 24 05.4 +0.4**
baz=124
G15A Dillon 124.62 23⇓P **PKPdf** **10 24 05.0 0.0**
baz=124
I12A Atlanta 124.63 26⇓P **PKPdf** **10 24 05.2 +0.2**
baz=124
C22A Vida 124.66 17⇑P **PKPdf** **10 24 04.7 0.0**
baz=124
F17A Fitzpatrick Pl 124.70 22⇑P **PKPdf** **10 24 05.1 0.0**
baz=124
H14A Leadore 124.72 24⇓P **PKPdf** **10 24 05.0 -0.2**
baz=124
G16A Moss Hill, Enn 124.84 23⇑P **PKPdf** **10 24 05.6 +0.3**
baz=125
E19A Rath Farm, Rou 124.88 20⇑P **PKPdf** **10 24 04.9 -0.4**
baz=125
I13A Wildhorse Cree 124.98 25⇑P **PKPdf** **10 24 06.3 +0.6**
baz=125
E20A Meyer Farm, Mu 125.06 19⇑P **PKPdf** **10 24 05.8 +0.1**
baz=125
D22A Cohagen 125.11 18⇑P **PKPdf** **10 24 06.1 +0.5**
baz=125
HLID Hailey 125.13 26⇓P **PKPdf** **10 24 06.2 +0.2**
baz=125
F19A Roth Farm, Mol 125.36 20⇓P **PKPdf** **10 24 06.4 +0.1**
baz=125
D23A Lindsay 125.37 17⇓P **PKPdf** **10 24 06.8 +0.6**
baz=125
J13A Cove Ranch, Pi 125.37 26⇓P **PKPdf** **10 24 06.9 +0.5**
baz=125
J14A Carey 125.71 25⇑P **PKPdf** **10 24 07.9 +0.8**
baz=126
E22A Miles City 125.81 18⇑P **PKPdf** **10 24 07.2 +0.2**
baz=126
E23A Ismay 125.95 17⇓P **PKPdf** **10 24 07.9 +0.6**
baz=126
I16A Newdale 126.10 24⇓P **PKPdf** **10 24 08.1 +0.3**
baz=126
J15A Blackfoot 126.11 25⇓P **PKPdf** **10 24 08.1 +0.3**
baz=126
G20A Bridger 126.16 20⇓P **PKPdf** **10 24 08.2 +0.4**
baz=126
H19A Powell 126.37 21⇓P **PKPdf** **10 24 09.0 +0.7**
baz=126
K14A Jones Ranch, D 126.49 26⇑P **PKPdf** **10 24 08.4 -0.2**
baz=126
J16A Bone 126.55 24⇓P **PKPdf** **10 24 08.8 0.0**
baz=126
RRI2 Red Ridge 126.60 24 *e*PKPdf **PKPdf** **10 24 09.5 +0.6**
F23A Volborg 126.62 18⇑P **PKPdf** **10 24 08.4 -0.2**
baz=126
REDW Red Top Meadow 126.78 23 *e*PKPdf **PKPdf** **10 24 09.2 0.0**
L14A Malta 126.88 26⇑P **PKPdf** **10 24 09.9 +0.5**
baz=127
G23A Biddle 127.10 18⇓P **PKPdf** **10 24 09.7 +0.1**
baz=127
NVAR Mina Array Bea 127.16 33 PKP **PKPdf** **10 24 11.0 +0.9**
comp=Z,0.8nm,0.6s,baz=297,slow=2.8,SNR=8.2
NVAR Mina Array Bea 127.16 33 PKP **PKPdf** **10 24 11.0 +0.9**
G24A Alzada 127.28 17⇑P **PKPdf** **10 24 10.0 0.0**
baz=127
EYMN Ely 127.28 5 *e*PKPdf **PKPdf** **10 24 10.0 +0.3**
I20A Worland 127.30 21⇑P **PKPdf** **10 24 09.8 -0.3**
baz=127
J19A Crowheart 127.55 22⇓P **PKPdf** **10 24 10.3 -0.3**
baz=127
K18A Toltan Ranch, 127.71 23⇑P **PKPdf** **10 24 09.4 -1.6**
baz=128
I21A Big Trails, Te 127.71 20⇑P **PKPdf** **10 24 10.7 -0.2**
baz=128
PDAR Pinedale Array 127.79 23 PKP **PKPdf** **10 24 11.1 -0.1**
comp=Z,1.6nm,0.8s,baz=90,slow=1.5,SNR=11
PDAR Pinedale Array 127.79 23 PKP **PKPdf** **10 24 11.1 -0.1**
K20A Yellowstone Ra 128.34 22⇑P **PKPdf** **10 24 11.1 -1.1**
baz=128
J22A Midwest 128.34 20⇓P **PKPdf** **10 24 11.5 -0.6**
baz=128
I24A Kuemmerle Ranc 128.54 18⇑P **PKPdf** **10 24 11.9 -0.5**
baz=128
R11A Troy Canyon, C 128.65 31⇓P **PKPdf** **10 24 13.1 +0.3**
baz=128
K21A Alcova 128.76 21⇑P **PKPdf** **10 24 12.7 -0.3**
baz=129
L21A Rawlins 129.30 22⇓P **PKPdf** **10 24 14.1 0.0**
baz=129
MPMC Manual Prospec 129.33 34⇓P **PKPdf** **10 24 14.3 +0.1**
baz=129
O17A Robinson Place 129.47 26⇑P **PKPdf** **10 24 14.6 +0.2**
baz=129
N19A John Jarvie Ra 129.53 24⇑P **PKPdf** **10 24 14.3 -0.2**
baz=129
M21A Separation Pea 129.61 22⇓P **PKPdf** **10 24 14.6 -0.1**
baz=129
O18A Roosevelt 129.72 25⇓P **PKPdf** **10 24 14.4 -0.5**
baz=130
L23A Garrett 129.76 20⇑P **PKPdf** **10 24 14.1 -0.9**
baz=130
N20A Spence Gulch, 129.94 23⇓P **PKPdf** **10 24 14.3 -1.0**
baz=130
K26A Motz Farm, Whi 130.04 17⇓P **PKPdf** **10 24 15.1 -0.2**
baz=130
P18A Preston Nutter 130.15 26⇓P **PKPdf** **10 24 15.6 -0.3**
baz=130
N21A Black Mountain 130.29 22⇓P **PKPdf** **10 24 15.9 -0.1**
baz=130
O20A White River Ci 130.55 23⇑P **PKPdf** **10 24 16.6 +0.1**
baz=130
S16A Weppner Ranch, 131.10 28⇓P **PKPdf** **10 24 17.5 -0.1**
baz=131
Q19A Hogan Spring (131.13 25⇑P **PKPdf** **10 24 17.7 +0.2**
baz=131
O23A Lake Granby, G 131.37 21⇓P **PKPdf** **10 24 18.2 0.0**
baz=131
P22A Eagle 131.59 23⇓P **PKPdf** **10 24 18.3 -0.1**
baz=131
U15A North Rim 131.79 30⇑P **PKPdf** **10 24 20.2 +1.2**
baz=132
S18A Hurst Farm, Bl 131.86 27⇑P **PKPdf** **10 24 19.6 +0.5**
baz=132
W13A Hualapai Mount 132.01 32⇓P **PKPdf** **10 24 21.2 +1.8**
baz=132
P23A Jefferson 132.13 22⇓P **PKPdf** **10 24 19.8 +0.2**
baz=132
P25A Willow Gulch B 132.60 20⇑P **PKPdf** **10 24 20.7 +0.4**
baz=132
R22A Saguache, Gunn 132.77 23⇑P **PKPdf** **10 24 22.0 +1.1**
baz=133
P26A Davis Ranch, A 132.84 19⇓P **PKPdf** **10 24 21.1 +0.4**
baz=133
S21A Coal Bank Pass 132.84 25⇑P **PKPdf** **10 24 21.8 +0.8**
baz=133
X16A Lo Mia Camp, P 133.80 31⇓P **PKPdf** **10 24 23.6 +0.9**
baz=134
U21A Nageezi 133.94 26⇓P **PKPdf** **10 24 24.4 +1.4**
baz=134
U22A Llaves 134.32 25⇓P **PKPdf** **10 24 24.3 +0.6**
baz=134
S26A Kim 134.54 21⇑P **PKPdf** **10 24 24.1 +0.2**
baz=134
T25A Trinidad 134.63 22⇑P **PKPdf** **10 24 25.4 +1.2**
baz=134
W20A Ramah 134.65 27⇓P **PKPdf** **10 24 25.5 +1.1**
baz=134
V22A San Miguel Ran 134.69 25⇑P **PKPdf** **10 24 25.3 +0.8**
baz=134
V23A Ortiz Mt. (NFS 135.14 25⇑P **PKPdf** **10 24 27.0 +1.7**
baz=135
V24A Rampart Ranch, 135.53 24⇑P **PKPdf** **10 24 27.0 +1.0**
baz=135
U26A Atchley Ranch, 135.53 22⇑P **PKPdf** **10 24 26.4 +0.4**
baz=135
X21A Alamocita Cree 135.54 27⇑P **PKPdf** **10 24 27.4 +1.3**
baz=135
V25A Rancho No Teng 135.69 23⇓P **PKPdf** **10 24 27.1 +0.9**
baz=136
W24A Lazy 6 Ranch, 135.92 24⇓P **PKPdf** **10 24 27.9 +1.2**
baz=136
Y21A Point of Rocks 135.96 27⇓P **PKPdf** **10 24 27.5 +0.7**
baz=136
BNM Barren Site 136.31 26 *e*PKPdf **PKPdf** **10 24 29.8 +2.3**
Y22A Socorro 136.34 27⇑P **PKPdf** **10 24 28.2 +0.7**
baz=136
X24A Lazy VL Ranch, 136.47 25⇓P **PKPdf** **10 24 28.8 +1.1**
baz=136
120A U Bar Ranch, L 136.70 30⇓P **PKPdf** **10 24 29.1 +0.9**
baz=136
Y23A Lovelace Mesa, 136.75 26⇑P **PKPdf** **10 24 29.6 +1.4**
baz=137
Z22A Elephant Butte 136.91 27⇓P **PKPdf** **10 24 29.2 +0.7**
baz=137
W27A Bowe Ranch, En 136.97 22⇑P **PKPdf** **10 24 29.2 +0.6**
baz=137
Y24A Capitan 137.02 25⇑P **PKPdf** **10 24 29.9 +1.2**
baz=137
121A Cookes Peak, D 137.13 29⇑P **PKPdf** **10 24 29.0 0.0**
baz=137
X26A CR and CF Fran 137.14 23⇑P **PKPdf** **10 24 29.5 +0.6**
baz=137
220A Playas Peak, P 137.28 30⇓P **PKPdf** **10 24 30.5 +1.3**
baz=137
Y25A Mesa, Roswell 137.33 24⇑P **PKPdf** **10 24 30.0 +0.7**
baz=137

Z24A	**Sheeppen Canyo**	**137.56**	**26**	⇑P		**PKPdf**	**10 24 30.6**	**+0.8**		
	baz=137									
320A	**Kipp Ranch, An**	**137.73**	**31**	⇓P		**PKPdf**	**10 24 31.3**	**+1.2**		
	baz=138									
Z25A	**Roswell**	**137.88**	**25**	⇓P		**PKPdf**	**10 24 31.3**	**+1.1**		
	baz=138									
Y27A	**Causey**	**137.98**	**23**	⇑P		**PKPdf**	**10 24 30.9**	**+0.5**		
	baz=138									
MSTX	**Muleshoe**	**138.05**	**22**	⇓P		**PKPdf**	**10 24 30.9**	**+0.3**		
	baz=138									
Z26A	**Caprock**	**138.19**	**24**	⇓P		**PKPdf**	**10 24 31.8**	**+1.0**		
	baz=138									
Z27A	**Tatum**	**138.46**	**23**	⇑P		**PKPdf**	**10 24 31.8**	**+0.5**		
	baz=138									
Z29A	**Hungry Hill Ra**	**139.08**	**22**	⇓P		**PKPdf**	**10 24 32.8**	**+0.3**		
	baz=139									
427A	**Hayter Ranch,**	**140.53**	**25**	⇓P		**PKPdf**	**10 24 35.4**	**+0.2**		
	baz=140									
TXAR	**Lajitas Array**	**141.72**	**27**	PKhKP		PKPpre	10 24 31.2			
	comp=Z,0.5nm,0.6s,baz=227,slow=0.9,SNR=10									
TXAR	**Lajitas Array**	**141.72**	**27**	PKPpre		PKPpre	10 24 31.2			
627A	**Terlingua Ranc**	**141.75**	**26**	⇓P		PKPdf	10 24 30.9	-6.5		
	baz=142									
431A	**Sonora**	**141.80**	**22**	⇓P		PKPdf	10 24 30.8	-6.6		
	baz=142									
PLCA	**Paso Flores**	**141.83**	**198**	PKP		**PKPdf**	**10 24 36.2**	**-0.9**		
	comp=Z,1.4nm,1.1s,baz=193,slow=7.7,SNR=3.2									
PLCA	**Paso Flores**	**141.83**	**198**	PKP		**PKPdf**	**10 24 36.2**	**-0.9**		
628A	**Black Gap, Mar**	**141.94**	**26**	⇑P		PKPdf	10 24 31.8	-5.9		
	baz=142									
530A	**J-C Ranch, Com**	**142.00**	**23**	⇑P		**PKPdf**	**10 24 40.6**	**+2.9**		
	baz=142									
JCT	**Junction City**	**142.28**	**21**	⇓P		**PKPdf**	**10 24 41.2**	**+3.0**		
	baz=142									
531A	**Rocksprings**	**142.29**	**22**	⇑P		PKPdf	10 24 31.9	-6.3		
	baz=142									
532A	**Rocksprings**	**142.56**	**21**	⇑P		PKPdf	10 24 33.4	-5.4		
	baz=142									
CPUP	**Villa Florida**	**145.88**	**228**	PKPbc		**PKPab**	**10 24 45.6**	**0.0**		
	comp=Z,2.2nm,0.6s,baz=78,slow=3.3,SNR=9.4									
CPUP	**Villa Florida**	**145.88**	**228**	PKPbc		**PKPab**	**10 24 45.6**	**0.0**		
CFAA	**Coronel Fontan**	**148.93**	**208**	PKP		**PKPdf**	**10 24 50.6**	**+1.1**		
	comp=Z,0.5nm,0.4s,baz=199,slow=0.8,SNR=12									
CFAA				PKPbc		**PKPbc**	**10 24 53.9**	**+0.3**		
	comp=Z,0.5nm,0.4s,baz=168,slow=1.0,SNR=12									
CFAA	**Coronel Fontan**	**148.93**	**208**	PKP		**PKPdf**	**10 24 50.6**	**+1.1**		
CFAA				PKPbc		**PKPbc**	**10 24 53.9**	**+0.3**		
SJG	**San Juan**	**150.69**	**321**	PKPbc		**PKPbc**	**10 24 57.9**	**-0.2**		
	comp=Z,7.7nm,0.3s,baz=270,slow=23,SNR=4.1									
SJG	**San Juan**	**150.69**	**321**	PKPbc		**PKPbc**	**10 24 57.9**	**-0.2**		
CELP	**Cerrillos**	**150.98**	**322**	*e*PKPdf		**PKPdf**	**10 24 53.2**	**+0.2**		
CELP				*e*PKPbc		**PKiKP**	**10 24 59.1**	**-0.3**		
LPAZ	**La Paz**	**159.81**	**234**	PKP		**PKPdf**	**10 25 06.0**	**+0.2**		
	comp=Z,2.8nm,1.2s,baz=49,slow=12,SNR=3.7									
LPAZ	**La Paz**	**159.81**	**234**	PKP		**PKPdf**	**10 25 06.0**	**+0.2**		
OTAV	**Otavalo**	**171.83**	**307**	*e*PKPdf		**PKPdf**	**10 25 15.4**	**+0.1**		

NAO ***12*** *10:09:33.8±1.0, 59˚.30N×26˚.83E, ML2.4*
BER ***12*** *10:09:34.3±2.2, 59˚.32N×27˚.06E, h0km, ML2.4(NAO), Suspected explosion*
HEL ***12*** *10:09:34.2±0.6, 59˚.30N×27˚.13E, h0km, ML1.9, Explosion*
CSEM ***12*** *10:09:34.0±0.4, 59˚.33N×26˚.98E, h2km, ML2.4, Error ellipse: s-maj=8.7km s-min=6.0km az=107.0, Mining explosion.*
IDC ***12*** *10:09:35.5±1.9, 59˚.41N×27˚.22E, h0km, mb1 3.1/4, mb1mx3.0/27, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=16.6km s-min=9.7km az=125.0*

ISC 12 10:09:32.6±1.1, 59˚.31N±0˚.04×27˚.18E±0˚.05, h0km, n36, σ1=58/52, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**195**	Pg	**Pg**	**10 09 50.1**	**+0.6**
VSU				Lg	Lg	10 10 01.2	
VSU	**Vasula**	**0.89**	**195**	Pg	**Pg**	**10 09 50.1**	**+0.6**
VSU				Lg	Lg	10 10 01.2	
VSU	**Vasula**	**0.89**	**195**	Pg	**Pg**	**10 09 50.1**	**+0.6**
VSU				Lg	Lg	10 10 01.2	
	SNR=50						
VJF	**Virojoki**	**1.24**	**9**	PG	**Pg**	**10 09 56.6**	**+0.2**
VJF				SG	**Sg**	**10 10 12.9**	**+0.4**
VJF				MSG		10 10 12.9	
	comp=Z,12nm,0.4s						
VJF				RG	Rg	10 10 18.0	
VJF	**Virojoki**	**1.24**	**9**	Pg	**Pg**	**10 09 56.6**	**+0.2**
VJF				Sg	**Sg**	**10 10 12.9**	**+0.4**
PVF	**Pernaja**	**1.40**	**332**	PG	**Pn**	**10 09 59.2**	**-0.1**
PVF				SG	**Sg**	**10 10 17.2**	**-0.3**
PVF				MSG		10 10 17.2	
	comp=Z,4.5nm,0.4s						
PVF	**Pernaja**	**1.40**	**332**	Pg	**Pn**	**10 09 59.2**	**-0.1**
PVF				Sg	**Sg**	**10 10 17.2**	**-0.3**
MEF	**Metsahovi**	**1.67**	**304**	PG	**Pn**	**10 10 04.2**	**+1.1**
MEF				SG	**Sn**	**10 10 25.7**	**+0.5**
MEF				MSG		10 10 25.7	
	comp=Z,6.1nm,0.1s						
MEF	**Metsahovi**	**1.67**	**304**	Pg	**Pn**	**10 10 04.2**	**+1.1**
MEF				Sg	**Sn**	**10 10 25.7**	**+0.5**
MTSE	**Matsula**	**1.84**	**252**	PN	**Pn**	**10 10 06.7**	**+1.3**
MTSE				SG	**Sn**	**10 10 29.3**	**0.0**
MTSE	**Matsula**	**1.84**	**252**	Pn	**Pn**	**10 10 06.6**	**+1.3**
MTSE				Sg	**Sn**	**10 10 29.3**	**0.0**
FIA0	**FINESS Array S**	**2.21**	**346**	Pn	**Pn**	**10 10 11.8**	**+1.4**
	baz=164,slow=16						
FIA0				Lg	Lg	10 10 42.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 10 54.9	
	baz=155,slow=37						
FIA0	**FINESS Array S**	**2.21**	**346**	Pn	**Pn**	**10 10 11.8**	**+1.4**
	baz=164,slow=16						
FIA0				Lg	Lg	10 10 42.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 10 54.9	
	baz=155,slow=37						
FIA0	**FINESS Array S**	**2.21**	**346**	PN	**Pn**	**10 10 11.8**	**+1.4**
	baz=165						
FIA0				SG	**Sb**	**10 10 42.6**	**+1.5**
FIA0				MSG		10 10 42.6	
	comp=Z,5.8nm,0.4s						
FIA0				RG	Rg	10 10 55.0	
FIA0	**FINESS Array S**	**2.21**	**346**	Pn	**Pn**	**10 10 11.8**	**+1.4**
	baz=164,slow=16,SNR=3.0						
FIA0				Lg	Lg	10 10 42.2	
	baz=168,slow=28,SNR=50						
FIA0				Sg	**Sb**	**10 10 42.6**	**+1.5**
FINES	**FINESS Array B**	**2.21**	**346**	Pn	**Pn**	**10 10 11.7**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=164,slow=16,SNR=31						
FINES				Pg	**Pb**	**10 10 13.1**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=164,slow=16,SNR=33						
FINES				Lg	Lg	10 10 42.8	
	comp=Z,3.6nm,0.3s,baz=164,slow=22,SNR=28						
FINES				Rg	Rg	10 10 55.0	
	comp=Z,56nm,1.2s,baz=166,slow=31,SNR=12						
KAF	**Kangasniemi**	**2.84**	**352**	PN	**Pn**	**10 10 21.6**	**+2.4**
KAF				SG	**Sb**	**10 11 01.4**	**+2.0**
KAF				MSG		10 11 01.4	
	comp=Z,4.0nm,0.4s						
KAF	**Kangasniemi**	**2.84**	**352**	Pn	**Pn**	**10 10 21.5**	**+2.4**
KAF				Sg	**Sb**	**10 11 01.4**	**+2.0**
KEF	**Keuruu**	**3.08**	**339**	PN	**Pn**	**10 10 25.1**	**+2.7**
KEF				SG	**Sb**	**10 11 07.3**	**+1.1**
KEF				MSG		10 11 07.3	
	comp=Z,2.0nm,0.4s						
KEF	**Keuruu**	**3.08**	**339**	Pn	**Pn**	**10 10 25.1**	**+2.7**
KEF				Sg	**Sb**	**10 11 07.3**	**+1.1**
RAF	**Rauma**	**3.20**	**305**	PN	**Pn**	**10 10 26.9**	**+2.8**
RAF				SG	**Sb**	**10 11 09.9**	**+0.2**
RAF				MSG		10 11 09.9	
	comp=Z,2.2nm,0.4s						
RAF	**Rauma**	**3.20**	**305**	Pn	**Pn**	**10 10 26.8**	**+2.8**
RAF				Sg	**Sb**	**10 11 09.9**	**+0.2**
SUF	**Sumiainen**	**3.45**	**352**	SG	**Sb**	**10 11 19.1**	**+2.1**
SUF				MSG		10 11 19.1	
	comp=Z,5.3nm,0.4s						
AAL	**Aland**	**3.74**	**286**	SG	**Sb**	**10 11 28.2**	**+3.1**
AAL	**Aland**	**3.74**	**286**	Sg	**Sb**	**10 11 28.2**	**+3.1**
JOF	**Joensuu**	**4.13**	**27**	PN	**Pn**	**10 10 39.0**	**+2.1**
JOF				SG	**Sg**	**10 11 42.6**	**-2.7**
JOF				MSG		10 11 42.6	
	comp=Z,3.4nm,0.4s						
JOF	**Joensuu**	**4.13**	**27**	Pn	**Pn**	**10 10 39.0**	**+2.1**
HFS	**Hagfors**	**6.87**	**283**	Lg	Lg	10 13 03.6	
	baz=88,slow=28						
HFS	**Hagfors**	**6.87**	**283**	Pn	**Pn**	**10 11 14.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=2.6						
HFS				Sn	**Sn**	**10 12 31.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=94,slow=21,SNR=1.5						
HFS				Lg	Lg	10 13 08.1	
	comp=Z,0.8nm,0.3s,baz=90,slow=31,SNR=5.8						
HFS	**Hagfors**	**6.87**	**283**	Lg	Lg	10 13 03.6	
	baz=88,slow=28						
HFS	**Hagfors**	**6.87**	**283**	Lg	Lg	10 13 03.6	
	baz=88,slow=26,SNR=4.4						
NOA	**NORSAR Array B**	**8.14**	**289**	Pn	**Pn**	**10 11 31.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=106,slow=18,SNR=3.3						
NOA				Sn	Sn	10 13 00.3	-4.2
	comp=Z,0.1nm,0.3s,baz=316,slow=19,SNR=1.8						
NOA				Lg	Lg	10 13 51.1	
	comp=Z,0.4nm,0.3s,baz=201,slow=20,SNR=2.2						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 12 00.5**	**-0.7**
	baz=173,slow=14						
ARA0				Sn	Sn	10 13 49.8	-7.3
	baz=178,slow=22						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 12 00.5**	**-0.7**
	baz=173,slow=14						
ARA0				Sn	Sn	10 13 49.8	-7.3
	baz=178,slow=22						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 12 00.5**	**-0.7**
	baz=173,slow=13,SNR=2.2						
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	**Pn**	**10 12 00.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=175,slow=13,SNR=6.9						
ARCES				Sn	Sn	10 13 50.8	-6.3
	comp=Z,0.1nm,0.3s,baz=178,slow=23,SNR=1.0						
ARCES				Lg	Lg	10 14 52.1	
	comp=Z,0.2nm,0.3s,baz=175,slow=29,SNR=5.1						

IDC 12 10:28:58.9±2.3, 4.˚44N×127˚.26E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.1/24, Error ellipse: s-maj=168.5km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.46**	**184**	LR	LR	10 42 18.0	
	comp=Z,56nm,21.0s,baz=157,slow=36						
WRA	**Warramunga Arr**	**25.21**	**164**	P	P	10 34 25.6	-0.9
	0.5nm,0.5s,baz=344,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**28.68**	**167**	P	P	10 34 58.7	+0.9
	0.2nm,0.6s,baz=347,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	10 38 48.4	0.0
	0.2nm,0.5s,baz=132,slow=7.1,SNR=3.8						

ISK ***12*** *10:35:49.7, 38˚.03N×37˚.95E, h13km, MD2.7*
DDA ***12*** *10:35:50.5, 37˚.97N×38˚.01E, h7km, MD2.8*
CSEM ***12*** *10:35:50.5±0.5, 38˚.02N×37˚.98E, h17km±3km, MD2.8, Error ellipse: s-maj=12.1km s-min=7.0km az=70.0*
ISCJB ***12*** *10:35:51.1±1.4, 38˚.01N±0˚.05×38˚.02E±0˚.10, h9km, Error ellipse: s-maj=12.4km s-min=5.7km az=152.5*

ISC 12 10:35:50.0±1.8, 38˚.02N±0˚.05×37˚.92E±0˚.10, h9km, n10, σ0=36/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.28**	**0**	*i* P	**Pb**	**10 35 57.2**	**-0.1**
AKCD				*i* S	**Sb**	**10 36 02.6**	**+0.4**
AKCD	**Akcadag**	**0.28**	**0**	*i* P	**Pb**	**10 35 57.2**	**-0.1**
AKCD				*i* S	**Sb**	**10 36 02.6**	**+0.4**
MALT	**Malatya**	**0.50**	**53**	PG	**Pg**	**10 35 59.5**	**-0.2**
MALT				SG	**Sg**	**10 36 06.5**	**+0.2**
MALT	**Malatya**	**0.50**	**53**	*i* Pg	**Pg**	**10 35 59.5**	**-0.2**
MALT				*i* Sg	**Sg**	**10 36 06.5**	**+0.2**
MYA	**Malataya**	**0.50**	**52**	*e*PG	**Pg**	**10 35 59.6**	**-0.2**
MYA	**Malataya**	**0.50**	**52**	*e*Pg	**Pg**	**10 35 59.6**	**-0.2**
URFA	**Urfa**	**0.92**	**129**	*e*PG	**Pg**	**10 36 07.4**	**-0.2**
URFA				*e*SG	**Sb**	**10 36 20.9**	**+0.4**
URFA	**Urfa**	**0.92**	**129**	*e*Pg	**Pg**	**10 36 07.4**	**-0.2**
URFA				*e*Sg	**Sb**	**10 36 20.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.15**	**71**	*e*PN	**Pg**	**10 36 11.6**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.15**	**71**	*e*Pn	**Pg**	**10 36 11.6**	**-0.5**

ISK ***12*** *10:40:29.1, 38˚.68N×30˚.61E, h13km, MD2.7*
CSEM ***12*** *10:40:29.6±0.1, 38˚.69N×30˚.57E, h10km, MD2.7, Error ellipse: s-maj=3.7km s-min=3.1km az=127.0*
DDA ***12*** *10:40:30.6, 38˚.75N×30˚.57E, h7km, MD2.7*

ISC 12 10:40:29.7±1.0, 38˚.69N±0˚.04×30˚.57E±0˚.03, h12km±10km, n14, σ0=40/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.14**	**186**	*e*PG	**Pg**	**10 40 32.7**	**-0.4**
SHUT				*e*SG	**Sg**	**10 40 35.7**	**+0.1**
SHUT	**Suhut-Afyon**	**0.14**	**186**	*e*Pg	**Pg**	**10 40 32.7**	**-0.4**
SHUT				*e*Sg	**Sg**	**10 40 35.7**	**+0.1**
BOLV	**Bolvadin**	**0.30**	**84**	*i* P	**Pg**	**10 40 36.5**	**+0.6**
BOLV				*i* S	**Sb**	**10 40 41.8**	**-0.3**
BOLV	**Bolvadin**	**0.30**	**84**	*i* P	**Pg**	**10 40 36.5**	**+0.6**
BOLV				*i* S	**Sb**	**10 40 41.8**	**-0.3**
SEYT	**Eskypehyr**	**0.86**	**15**	*i* P	**Pg**	**10 40 45.8**	**-0.6**
SEYT				*i* S	**Sg**	**10 40 57.6**	**0.0**
SEYT	**Eskypehyr**	**0.86**	**15**	*i* P	**Pg**	**10 40 45.8**	**-0.6**
SEYT				*i* S	**Sg**	**10 40 57.6**	**0.0**
KHL	**Karahalli**	**0.90**	**246**	*e*PG	**Pg**	**10 40 47.0**	**-0.1**
KHL	**Karahalli**	**0.90**	**246**	*e*Pg	**Pg**	**10 40 47.0**	**-0.1**
KIZT	**Kizilcal**	**1.04**	**79**	*e*PG	**Pg**	**10 40 49.2**	**-0.7**
KIZT				*e*SG	**Sg**	**10 41 03.6**	**+0.2**
KIZT	**Kizilcal**	**1.04**	**79**	*e*Pg	**Pg**	**10 40 49.2**	**-0.7**
KIZT				*e*Sg	**Sg**	**10 41 03.6**	**+0.2**
TVSB	**Tavsanli**	**1.15**	**312**	*e*PN	**Pb**	**10 40 51.9**	**+0.3**
TVSB	**Tavsanli**	**1.15**	**312**	*e*Pn	**Pb**	**10 40 51.9**	**+0.3**
BORA	**Eskisehir**	**1.19**	**356**	*i* P	**Pb**	**10 40 52.6**	**+0.2**
BORA				*i* S	**Sb**	**10 41 08.1**	**+0.3**
BORA	**Eskisehir**	**1.19**	**356**	*i* P	**Pb**	**10 40 52.6**	**+0.2**
BORA				*i* S	**Sb**	**10 41 08.1**	**+0.3**

NIED ***12*** *10:43:00, 24˚.00N×122˚.50E, h26km, Mw4.3 Best double couple: Mo3.26000×10^15 NP1:φs68.00000°, δ85.00000°, λ84.00000°. NP2:φs294.00000°, δ8.00000°, λ136.00000°.*
BJI ***12*** *10:43:46.4, 23˚.99N×122˚.39E, h6km, mB4.6/20, mb4.4/25, ML4.3/5, Ms4.2/18, Ms7 3.9/19*
NEIC ***12*** *10:43:46.4±0.3, 24˚.03N×122˚.56E, h10km, mb4.6/8, Error ellipse: s-maj=6.8km s-min=5.9km az=169.0*
TAP ***12*** *10:43:48.8, 23˚.96N×122˚.51E, h25km, ML4.6, C*
ISCJB ***12*** *10:43:48.9±0.5, 23˚.95N±0˚.02×122˚.55E±0˚.01, h31km±3km, mb4.2/37, MS3.7/7, Error ellipse: s-maj=3.2km s-min=2.0km az=162.7*
JMA ***12*** *10:43:49.4±0.4, 24˚.01N×122˚.49E, h26km, M4.4*
IDC ***12*** *10:43:51.2±0.7, 24˚.14N×122˚.66E, h46km±7km, mb3.9/23, mb1 4.1/25, mb1mx4.0/31, mbtmp3.9/25, ML3.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/57, Error ellipse: s-maj=16.2km s-min=10.3km az=65.0*

ISC 12 10:43:47.5±0.4, 23˚.91N±0˚.02×122˚.52E±0˚.02, h16km±2km, n167, σ1=54/258, mb4.3/37, MS3.7/9, 6C-17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**39**	⇓*i*P	**Pg**	**10 44 01.9**	**+0.5**
	baz=50						
YOJ				*i* S	**Sb**	**10 44 10.7**	**-0.4**
	baz=50						
YOJ	**Yonaguni jima**	**0.71**	**39**	P	**Pg**	**10 44 02.0**	**+0.5**
YOJ				S	**Sb**	**10 44 10.7**	**-0.4**
HWA	**Hwalien**	**0.84**	**275**	*e*P	**Pg**	**10 44 03.8**	**+0.1**
	baz=258						
TWD	**Chiawan**	**0.86**	**282**	⇓*i*P	**Pg**	**10 44 04.3**	**+0.1**
	baz=278						
TWD				S	**Sg**	**10 44 15.4**	**-0.1**
	baz=278						
ENA	**Nanau**	**0.88**	**306**	⇑*i*P	**Pg**	**10 44 04.7**	**+0.1**
	baz=304						
ENA				*e*S	**Sg**	**10 44 16.7**	**+0.6**
	baz=304						
NACB	**Ninganchiao**	**0.88**	**288**	*e*Pg	**Pg**	**10 44 04.6**	**0.0**
NACB				*e*Sg	**Sb**	**10 44 15.7**	**-0.3**
TEGC	**Jichi Village**	**0.92**	**258**	*e*P	**Pb**	**10 44 04.6**	**-0.4**
	baz=254						
TWC	**Suao**	**0.93**	**319**	⇑*i*P	**Pb**	**10 44 05.1**	**-0.1**
	baz=318						
TWC				*e*S	**Sb**	**10 44 17.2**	**-0.1**
	baz=318						
ESL	**Shilin**	**1.00**	**265**	⇓*i*P	**Pb**	**10 44 06.1**	**-0.3**
	baz=261						
ESL				*e*S	**Sb**	**10 44 18.3**	**-0.9**
	baz=261						
ILA	**Ilan**	**1.11**	**321**	*e*P	**Pg**	**10 44 09.1**	**+0.2**
	baz=311						
ILA				*e*S	**Sg**	**10 44 24.4**	**+1.0**
	baz=311						
TWE	**Neicheng**	**1.12**	**317**	P	**Pb**	**10 44 08.9**	**+0.4**
	baz=315						
TWE				S	**Sg**	**10 44 24.1**	**+0.2**
	baz=315						
ENTT	**Nioudou**	**1.14**	**310**	⇓*i*P	**Pb**	**10 44 09.1**	**+0.4**
	baz=292						
EHY	**Hungye**	**1.17**	**250**	⇓*i*P	**Pb**	**10 44 09.2**	**0.0**
	baz=256						
EHY				*e*S	**Sb**	**10 44 23.8**	**-0.2**
	baz=256						
WHF	**Hehuan Shan**	**1.17**	**282**	⇓*i*P	**Pn**	**10 44 09.4**	**-0.1**
	baz=266						
WHF				*e*S	**Sb**	**10 44 24.5**	**-0.1**
	baz=266						
NNS	**Nan Shan**	**1.17**	**297**	⇓*i*P	**Pb**	**10 44 09.5**	**+0.1**
	baz=295						
NNS				*e*S	**Sb**	**10 44 24.6**	**+0.2**
	baz=295						
HATJ	**Hateruma jima**	**1.19**	**82**	P	**Pg**	**10 44 10.4**	**0.0**
HATJ				S	**Sg**	**10 44 26.2**	**+0.3**
IRIF	**Iriomote-Funau**	**1.19**	**69**	P	**Pg**	**10 44 10.8**	**+0.4**
IRIF				S	**Sg**	**10 44 26.8**	**+0.8**
TWB1	**Santiao Chiao**	**1.20**	**336**	*e*P	**Pn**	**10 44 09.4**	**-0.2**
	baz=353						
TWB1				*e*S	**Sg**	**10 44 26.2**	**-0.1**
	baz=353						
YULB	**Yu-li**	**1.23**	**246**	*e*Pn	**Pn**	**10 44 09.8**	**-0.2**
TWF1	**Yuli**	**1.25**	**244**	*e*P	**Pb**	**10 44 10.4**	**-0.2**
	baz=229						
TWT	**Tachien**	**1.27**	**286**	⇓P	**Pb**	**10 44 11.4**	**+0.2**
	baz=271						
YHNB	**Yeheng**	**1.29**	**306**	*e*Pn	**Pn**	**10 44 10.7**	**-0.2**
NSK	**Sanguang**	**1.31**	**306**	⇓*i*P	**Pb**	**10 44 11.6**	**-0.1**
	baz=304						
CHKT	**Chengkung**	**1.33**	**233**	*e*P	**Pn**	**10 44 10.3**	**-1.0**
	baz=230						
NWF	**Wu-fen Shan**	**1.34**	**330**	⇓*i*P	**Pn**	**10 44 11.9**	**+0.3**
	baz=329						
NWF				S	**Sb**	**10 44 30.2**	**+1.0**
	baz=329						
JKRS	**Kuro-shima**	**1.40**	**76**	P	**Pb**	**10 44 13.6**	**+0.3**
JKRS				S	**Sb**	**10 44 31.6**	**+0.7**
TATO	**Taipei**	**1.42**	**319**	*e*Pg	**Pb**	**10 44 13.4**	**-0.1**
SSLB	**Suanglung**	**1.44**	**266**	*e*Pn	**Pn**	**10 44 13.0**	**+0.1**
TAP1	**Taipei**	**1.45**	**321**	*e*P	**Pb**	**10 44 13.7**	**-0.3**
	baz=320						
TAP1				*e*S	**Sb**	**10 44 32.5**	**+0.4**
	baz=320						
TAP	**Taipei**	**1.46**	**321**	*e*P	**Pb**	**10 44 14.1**	**-0.1**
	baz=319						
SMLT	**Sun Moon Lake**	**1.48**	**269**	⇓*i*P	**Pb**	**10 44 14.3**	**-0.3**
	baz=267						
SMLT				*e*S	**Sb**	**10 44 32.9**	**-0.3**
	baz=267						
TYC	**Yuchr**	**1.52**	**270**	⇓*i*P	**Pb**	**10 44 14.8**	**-0.4**
	baz=267						
ELDTW	**Lidau**	**1.55**	**243**	⇑*i*P	**Pn**	**10 44 14.6**	**+0.1**
	baz=240						
JIJ	**Ishigaki jima**	**1.55**	**73**	P	**Pn**	**10 44 15.0**	**+0.6**
JIJ				S	**Sn**	**10 44 34.3**	**0.0**
TWS1	**Kuangyinshan**	**1.56**	**320**	*e*P	**Pn**	**10 44 14.9**	**+0.4**
	baz=336						
NSTT	**Nanjuang**	**1.56**	**298**	⇓*i*P	**Pb**	**10 44 16.2**	**+0.2**
	baz=283						
NSTT				S	**Sb**	**10 44 35.3**	**-0.2**
	baz=283						
TWY	**Chenhua**	**1.60**	**329**	*e*P	**Pb**	**10 44 16.7**	**+0.1**
	baz=328						
TWY				*e*S	**Sg**	**10 44 38.5**	**-0.5**
	baz=328						
NCU	**National Centr**	**1.61**	**311**	*e*P	**Pn**	**10 44 16.0**	**+0.8**
	baz=309						
ALS	**Alishan**	**1.62**	**256**	P	**Pb**	**10 44 16.8**	**-0.3**
	baz=254						
ALS				*e*S	**Sn**	**10 44 36.6**	**+0.4**
	baz=254						
TWQ1	**Liyutan**	**1.65**	**286**	⇓*i*P	**Pb**	**10 44 17.9**	**+0.4**
	baz=284						
TWQ1				*e*S	**Sb**	**10 44 38.9**	**+0.8**
	baz=284						
HSN	**Hsinchu**	**1.67**	**303**	*e*P	**Pn**	**10 44 16.4**	**+0.4**
	baz=301						
WNT	**Mingjian**	**1.68**	**269**	*e*P	**Pb**	**10 44 18.2**	**+0.3**
	baz=267						
WNT				*e*S	**Sb**	**10 44 39.3**	**+0.5**
	baz=267						
NSY	**Sanyi**	**1.68**	**288**	P	**Pb**	**10 44 18.4**	**+0.3**
	baz=286						
NSY				*e*S	**Sb**	**10 44 40.2**	**+1.2**
	baz=286						
TCU	**Taichung**	**1.70**	**279**	⇓P	**Pb**	**10 44 18.8**	**+0.5**
	baz=276						
TCU				*e*S	**Sb**	**10 44

SCLT				*eS*	**Sb**	**10 44 54.9**	**-0.5**	
	baz=250							
TAI1	**Yung-k'ang**	**2.27**	**248**	*eP*	**Pb**	**10 44 27.6**	**-0.5**	
	baz=246							
TAI1				*eS*	**Sb**	**10 44 54.5**	**-1.4**	
	baz=246							
SCZT	**Fangliau**	**2.32**	**229**	*eP*	**Pb**	**10 44 27.0**	**-1.9**	
	baz=219							
TSEB	**Hengchuen, Pin**	**2.49**	**217**	*eP*	**Pb**	**10 44 31.7**	**-0.1**	
	baz=225							
TSEB				*eS*	**Sn**	**10 44 59.4**	**+2.0**	
	baz=225							
HEN	**Hengchun**	**2.50**	**221**	*eP*	**Pn**	**10 44 28.4**	**+0.9**	
	baz=219							
TWK1	**Hengchun**	**2.51**	**219**	*eP*	**Pn**	**10 44 28.1**	**+0.5**	
	baz=217							
TWK1				*eS*	**Sn**	**10 44 58.2**	**+0.4**	
	baz=217							
TWP	**Hsiaoliuchiu**	**2.52**	**232**	*eP*	**Pb**	**10 44 31.6**	**-0.6**	
	baz=245							
JMJ	**Miyako jima 2**	**2.69**	**70**	P	**Pn**	**10 44 32.3**	**+2.2**	
JMJ				*eS*	**Sn**	**10 45 03.6**	**+1.3**	
WDGT	**Dungji**	**2.70**	**257**	*eP*	**Pn**	**10 44 31.6**	**+1.5**	
	baz=255							
WDGT				*eS*	**Sn**	**10 45 02.5**	**+0.1**	
	baz=255							
PNG	**Penghu**	**2.73**	**264**	*eP*	**Pn**	**10 44 31.3**	**+0.7**	
	baz=262							
PNG				*eS*	**Sn**	**10 45 03.5**	**+0.1**	
	baz=262							
JOGS	**Gusukube**	**2.77**	**72**	P	**Pn**	**10 44 33.8**	**+2.6**	
JOGS				*eS*	**Sn**	**10 45 05.4**	**+1.1**	
QZH	**Quanzhou**	**3.72**	**287**	⇑ *i*Pn	**Pn**	**10 44 45.4**	**+1.1**	
QZH				Sn	**Sn**	**10 45 26.1**	**-1.7**	
QZH				smax	smax			
	comp=N,500nm,0.4s							
QZH				smax	smax			
	comp=E,490nm,0.4s							
QZH				LR	LR			
	comp=N,1μm,11.4s							
QZH				LR	LR			
	comp=E,2μm,13.3s							
QZH				LR	LR			
	comp=Z,2μm,13.3s							
KNM	**Kinmen**	**3.76**	**279**	*eP*	**Pn**	**10 44 46.5**	**+1.7**	
	baz=276							
KNM				*eS*	**Sn**	**10 45 29.3**	**+0.5**	
	baz=276							
JKE	**Kume jima 2**	**4.56**	**57**	P	**Pn**	**10 44 56.4**	**+0.6**	
JOW	**Kunigami**	**5.97**	**60**	P	**Pn**	**10 45 14.6**	**-0.6**	
	comp=Z,5.0nm,0.3s,baz=196,slow=21,SNR=6.2							
JOW	**Kunigami**	**5.97**	**60**	P	**Pn**	**10 45 14.6**	**-0.6**	
NJ2	**Nanjing**	**8.74**	**339**	*eP*	**Pn**	**10 45 51.6**	**-1.5**	
NJ2				S	**Sn**	**10 47 31.3**	**0.0**	
NJ2				pmax	pmax			
	comp=Z,30nm,0.9s							
NJ2				smax	smax			
	comp=N,60nm,0.7s							
NJ2				smax	smax			
	comp=E,70nm,0.9s							
NJ2				LR	LR			
	comp=N,700nm,12.6s							
NJ2				LR	LR			
	comp=E,1μm,11.0s							
NJ2				LR	LR			
	comp=Z,730nm,10.2s							
JNU	**Nakatsue**	**11.76**	**37**	P	**Pn**	**10 46 35.3**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=178,slow=7.4,SNR=2.6							
JNU				LR	LR	10 51 07.0		
	comp=Z,201nm,19.6s,baz=228,slow=38							
JNU	**Nakatsue**	**11.76**	**37**	P	**Pn**	**10 46 35.3**	**+0.7**	
KSAR	**Wonju Array Be**	**14.26**	**18**	P	**Pn**	**10 47 11.0**	**+2.4**	
KSRS	**Korea Array**	**14.28**	**18**	P	**Pn**	**10 47 11.0**	**+2.1**	
	comp=Z,3.9nm,0.3s,baz=199,slow=13,SNR=49							
KSRS				LR	LR	10 53 19.6		
	comp=Z,196nm,18.5s,baz=178,slow=41							
GYA	**Guiyang**	**14.58**	**283**	*eP*	**Pn**	**10 47 13.4**	**+0.2**	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
JHJ	**Hachijo jima 2**	**17.72**	**55**	LR	LR	10 53 12.2		
	comp=Z,77nm,20.5s,baz=19,slow=32							
KMI	**Kunming**	**18.04**	**278**	P	**P**	**10 47 59.2**	**+1.0**	
KMI				pP	**pP**	**10 48 03.4**	**+0.6**	
KMI				sP	**sP**	**10 48 05.4**	**+0.5**	
KMI				PP	**PnPn**	**10 48 14.1**	**+5.3**	
KMI				S	**Sn**	**10 51 18.4**	**-0.5**	
KMI				SS	**SnSn**	**10 51 40.5**	**+8.0**	
KMI				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KMI				pmax	pmax			
	comp=Z,100nm,3.6s							
KMI				LR	LR			
	comp=N,390nm,15.0s							
KMI				LR	LR			
	comp=E,110nm,14.3s							
CD2	**Chengdu**	**18.05**	**297**	P	**P**	**10 47 58.5**	**+0.5**	
CD2				pP	**pP**	**10 48 02.1**	**-0.5**	
CD2				sP	**sP**	**10 48 05.5**	**+0.8**	
CD2				PP	**PnPn**	**10 48 13.4**	**+4.7**	
CD2				S	**Sn**	**10 51 17.3**	**-1.4**	
CD2				sS	**S**	**10 51 22.7**	**-1.8**	
CD2				SS	**SnSn**	**10 51 40.3**	**+7.9**	
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,90nm,6.4s							
CD2				LR	LR			
	comp=N,380nm,7.1s							
CD2				LR	LR			
	comp=Z,390nm,14.3s							
MJAR	**Matsushiro Arr**	**18.48**	**43**	P	**P**	**10 48 01.8**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=164,slow=10.0,SNR=2.3							
MJAR				LR	LR	10 55 24.8		
	comp=Z,59nm,19.5s,baz=225,slow=38							
MJAR	**Matsushiro Arr**	**18.48**	**43**	P	**P**	**10 48 01.8**	**-0.9**	
HHC	**Hu-ho-hao-te**	**19.23**	**334**	*eP*	**P**	**10 48 11.6**	**+0.5**	
HHC				sP	**sP**	**10 48 17.8**	**0.0**	
HHC				PP	**PnPn**	**10 48 28.6**	**+3.6**	
HHC				S	**Sn**	**10 51 41.7**	**-5.6**	
HHC				sS	**S**	**10 51 47.0**	**-1.5**	
HHC				SS	**SnSn**	**10 52 07.7**	**+6.0**	
HHC				PcP	**PcP**	**10 52 35.4**	**+1.4**	
HHC				ScS	**ScS**	**10 59 49.0**	**-2.1**	
HHC				pmax	pmax			
	comp=Z,23nm,0.5s							
HHC				pmax	pmax			
	comp=Z,140nm,5.5s							
HHC				LR	LR			
	comp=Z,320nm,11.6s							
LZH	**Lanzhou**	**20.18**	**311**	*eP*	**P**	**10 48 21.6**	**+0.1**	
LZH				pP	Pn	10 48 24.3	+0.9	
LZH				PP	**PnPn**	**10 48 41.5**	**+3.4**	
LZH				*eS*	**S**	**10 52 02.5**	**-5.1**	
LZH				sS	Sn	10 52 08.7	-1.7	
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,150nm,5.8s							
LZH				LR	LR			
	comp=N,340nm,10.0s							
LZH				LR	LR			
	comp=E,200nm,11.6s							
LZH				LR	LR			
	comp=Z,390nm,12.5s							
MDJ	**Mudanjiang**	**21.45**	**14**	P	**P**	**10 48 33.4**	**-1.6**	
MDJ				S	**S**	**10 52 31.4**	**-1.0**	
MDJ				sS	**sS**	**10 52 36.3**	**-3.5**	
MDJ				pmax	pmax			
	comp=Z,5.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,100nm,4.4s							
MDJ				LR	LR			
	comp=N,94nm,24.4s							
MDJ				LR	LR			
	comp=E,82nm,18.3s							
MDJ				LR	LR			
	comp=Z,130nm,19.1s							
USRK	**Ussuriysk Arra**	**21.68**	**19**	P	**P**	**10 48 35.2**	**-2.2**	
	comp=Z,3.7nm,0.7s,baz=199,slow=11,SNR=10							
USRK				LR	LR	10 57 43.1		
	comp=Z,145nm,18.9s,baz=278,slow=39							
CMAR	**Chiang Mai Arr**	**22.63**	**261**	P	**P**	**10 48 50.0**	**+2.2**	
	comp=Z,1.3nm,0.7s,baz=61,slow=8.3,SNR=8.7							
CMAR	**Chiang Mai Arr**	**22.63**	**261**	P	**P**	**10 48 50.0**	**+2.2**	
GUMO	**Guam**	**23.49**	**112**	LR	LR	10 57 46.6		
	comp=Z,120nm,19.0s,baz=279,slow=36							

GTA	**Gaotai**	**24.65**	**314**	*eP*	**P**	**10 49 07.7**	**+0.2**	
GTA				pP	**pP**	**10 49 11.9**	**-0.5**	
GTA				sP	**sP**	**10 49 14.8**	**+0.3**	
GTA				S	**S**	**10 53 30.0**	**+1.6**	
GTA				sS	**sS**	**10 53 37.1**	**+0.6**	
GTA				pmax	pmax			
	comp=Z,13nm,1.3s							
GTA				pmax	pmax			
	comp=Z,120nm,5.0s							
GTA				LR	LR			
	comp=N,170nm,18.8s							
GTA				LR	LR			
	comp=E,270nm,19.9s							
GTA				LR	LR			
	comp=Z,180nm,18.1s							
ASAJ	**Asahikawa**	**26.02**	**34**	P	**P**	**10 49 16.3**	**-3.4**	
	comp=Z,3.3nm,0.4s,baz=237,slow=10,SNR=6.2							
ASAJ	**Asahikawa**	**26.02**	**34**	P	**P**	**10 49 16.3**	**-3.4**	
ULN	**Ulaanbaatar**	**26.89**	**337**	*eP*	**P**	**10 49 26.3**	**-1.5**	
SONM	**Songino Array**	**27.11**	**336**	P	**P**	**10 49 28.0**	**-1.7**	
	comp=Z,2.4nm,0.8s,baz=150,slow=9.2,SNR=17							
SONM				PcP	**PcP**	**10 52 49.7**	**-0.6**	
	comp=Z,0.4nm,0.5s,baz=150,slow=5.0,SNR=3.8							
SONM				LR	LR	11 01 22.8		
	comp=Z,192nm,18.5s,baz=179,slow=39							
SONM	**Songino Array**	**27.11**	**336**	P	**P**	**10 49 28.0**	**-1.7**	
SONM				PcP	**PcP**	**10 52 49.7**	**-0.6**	
WMQ	**Urumqi**	**34.73**	**313**	*eP*	**P**	**10 50 38.2**	**+1.4**	
MK31	**Makanchi Array**	**39.39**	**316**	*eP*	**P**	**10 51 15.6**	**-0.7**	
MKAR	**Makanchi Array**	**39.39**	**316**	P	**P**	**10 51 15.6**	**-0.7**	
	comp=Z,3.4nm,0.5s,baz=99,slow=9.9,SNR=78							
MKAR				PcP	**PcP**	**10 53 23.6**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=84,slow=5.4,SNR=4.4							
MKAR	**Makanchi Array**	**39.39**	**316**	*eP*	**P**	**10 51 15.7**	**-0.7**	
MKAR				PcP	**PcP**	**10 53 23.6**	**-0.9**	
ZAA0	**Zalesovo Array**	**41.14**	**327**	*eP*	**P**	**10 51 28.7**	**-2.0**	
ZALV	**Zalesovo Beam**	**41.14**	**327**	P	**P**	**10 51 28.8**	**-1.9**	
	comp=Z,4.8nm,0.6s,baz=112,slow=8.4,SNR=24							
ZALV				pP	pP	10 51 42.6	+6.8	
	comp=Z,3.2nm,0.6s,baz=113,slow=8.5,SNR=5.6							
ZALV				PcP	**PcP**	**10 53 28.6**	**-1.2**	
	comp=Z,1.3nm,0.5s,baz=111,slow=3.6,SNR=5.2							
ZALV				LR	LR	11 09 19.0		
	comp=Z,91nm,20.5s,baz=57,slow=37							
ZALV	**Zalesovo Beam**	**41.14**	**327**	P	**P**	**10 51 28.8**	**-1.9**	
ZALV				pP	pP	10 51 42.6	+6.8	
ZALV				PcP	**PcP**	**10 53 28.6**	**-1.2**	
KSH	**Kashi**	**42.07**	**303**	*eP*	P	10 51 42.2	+3.5	
KSH				*ep*	pP	10 51 46.8	+3.0	
KSH				*eS*	sP	10 51 49.0	+3.2	
KSH				*eP*	PP	10 53 23.4	+7.3	
KSH				*ePcP*	**PcP**	**10 53 36.9**	**+3.5**	
KSH				*eScP*	**ScP**	**10 57 25.6**	**+2.2**	
KSH				PcS	**PcS**	**10 57 26.6**	**+1.4**	
KSH				S	**S**	**10 58 00.9**	**+3.3**	
KSH				sS	sS	10 58 09.7	+3.8	
KSH				SS	**SS**	**11 01 04.0**	**-1.0**	
KSH				ScS	**ScS**	**11 01 41.5**	**+0.5**	
KSH				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KSH				pmax	pmax			
	comp=Z,140nm,4.5s							
KSH				LR	LR			
	comp=N,280nm,10.3s							
KSH				LR	LR			
	comp=E,150nm,6.2s							
KSH				LR	LR			
	comp=Z,220nm,5.8s							
ULHL	**Ulahol**	**42.30**	**307**	P	**P**	**10 51 41.7**	**+1.1**	
	SNR=7.5							
TKM2	**Tokmak 2**	**42.89**	**308**	*eP*	**P**	**10 51 45.8**	**+0.3**	
	comp=Z,18nm,1.1s							
TKM2	**Tokmak 2**	**42.89**	**308**	P	**P**	**10 51 45.9**	**+0.3**	
	SNR=17							
KZA	**Kyzart**	**43.00**	**307**	P	**P**	**10 51 47.9**	**+1.4**	
	SNR=6.1							
KURK	**Kurchatov**	**43.09**	**320**	*eP*	**P**	**10 51 45.3**	**-1.3**	
	comp=Z,6.1nm,1.0s							
KURK				P	pP	10 51 45.6	-6.1	
KURK				PcP	**PcP**	**10 53 35.9**	**-0.5**	
KURBB	**Kurchatov Arra**	**43.11**	**320**	P	**P**	**10 51 45.6**	**-1.2**	
	comp=Z,1.1nm,0.4s,baz=107,slow=8.1,SNR=16							
KURBB				PcP	**PcP**	**10 53 35.9**	**-0.5**	
	comp=Z,0.2nm,0.4s,baz=109,slow=3.2,SNR=6.7							
AAK	**Ala-Archa**	**43.64**	**307**	P	**P**	**10 51 52.0**	**+0.5**	
	comp=Z,4.0nm,0.8s,baz=98,slow=7.1,SNR=12							
AAK	**Ala-Archa**	**43.64**	**307**	P	**P**	**10 51 52.0**	**+0.5**	
AML	**Almayashu**	**44.15**	**307**	P	**P**	**10 51 56.8**	**+1.0**	
	SNR=15							
EKS2	**Erkin-Say**	**44.17**	**307**	*eP*	**P**	**10 51 55.9**	**+0.2**	
	comp=Z,4.4nm,0.8s							
EKS2	**Erkin-Say**	**44.17**	**307**	P	**P**	**10 51 56.1**	**+0.5**	
	SNR=5.6							
WRAB	**Tennant Creek**	**45.07**	**164**	*eP*	**P**	**10 52 03.8**	**+0.9**	
	comp=Z,7.1nm,1.1s							
WRA	**Warramunga Arr**	**45.08**	**164**	P	**P**	**10 52 03.5**	**+0.6**	
	comp=Z,2.5nm,0.6s,baz=346,slow=8.7,SNR=44							
WRA				pP	pP	10 52 15.9	+7.9	
	comp=Z,2.8nm,0.7s,baz=346,slow=8.8,SNR=8.8							
WRA				PcP	**PcP**	**10 53 42.7**	**-0.9**	
	comp=Z,0.4nm,0.8s,baz=342,slow=4.8,SNR=2.5							
WRA	**Warramunga Arr**	**45.08**	**164**	P	**P**	**10 52 03.5**	**+0.6**	
WRA				pP	pP	10 52 15.9	+7.9	
WRA				PcP	**PcP**	**10 53 42.7**	**-0.9**	
KKAR	**Karatay Array**	**46.61**	**307**	*eP*	**P**	**10 52 15.8**	**+1.0**	
KBL	**Kabul**	**47.38**	**296**	*eP*	**P**	**10 52 22.7**	**+1.4**	
	comp=Z,7.7nm,0.8s							
AS31	**Alice Springs**	**48.56**	**166**	*eP*	**P**	**10 52 31.5**	**+1.4**	
ASAR	**Alice Springs**	**48.56**	**166**	P	**P**	**10 52 31.1**	**+1.0**	
	comp=Z,2.3nm,0.5s,baz=353,slow=13,SNR=62							
ASAR				pP	pP	10 52 45.0	+10	
	comp=Z,2.5nm,0.8s,baz=347,slow=7.0,SNR=9.8							
ASAR	**Alice Springs**	**48.56**	**166**	P	**P**	**10 52 31.1**	**+1.0**	
ASAR				pP	pP	10 52 45.0	+10	
BVAR	**Borovoye Array**	**48.66**	**321**	P	**P**	**10 52 29.5**	**-1.2**	
	comp=Z,2.6nm,0.5s,baz=120,slow=6.7,SNR=12							
BVAR				PcP	**PcP**	**10 53 54.7**	**-1.1**	
	comp=Z,1.7nm,0.7s,baz=102,slow=5.1,SNR=5.1							
BVAR	**Borovoye Array**	**48.66**	**321**	P	**P**	**10 52 29.5**	**-1.2**	
BVAR				PcP	**PcP**	**10 53 54.7**	**-1.1**	
CTA	**Charters Tower**	**49.47**	**150**	P	**P**	**10 52 38.6**	**+1.5**	
	comp=Z,4.4nm,1.0s,baz=109,slow=22,SNR=2.3							
CTA	**Charters Tower**	**49.47**	**150**	P	**P**	**10 52 38.6**	**+1.5**	
ABKAR	**Akbulak array**	**54.51**	**314**	*eP*	**P**	**10 53 13.8**	**-0.6**	
STKA	**Stephens Creek**	**58.39**	**161**	P	**P**	**10 53 44.0**	**+1.9**	
	comp=Z,1.1nm,0.5s,baz=264,slow=1.0,SNR=8.3							
STKA	**Stephens Creek**	**58.39**	**161**	P	**P**	**10 53 44.0**	**+1.9**	
KBZ	**Khabaz**	**66.60**	**309**	P	**P**	**10 54 37.1**	**+0.1**	
	comp=Z,0.9nm,0.4s,baz=103,slow=2.5,SNR=6.6							
KBZ	**Khabaz**	**66.60**	**309**	P	**P**	**10 54 37.1**	**+0.1**	
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	**10 54 48.9**	**-2.3**	
	comp=Z,0.3nm,0.4s,baz=289,slow=6.3,SNR=14							
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	**10 54 48.9**	**-2.3**	
JOF	**Joensuu**	**69.55**	**331**	*ep*	**P**	**10 54 52.8**	**-2.4**	
	comp=Z,3.2nm,0.5s							
KEV	**Kevo**	**69.69**	**338**	*ep*	**P**	**10 54 53.8**	**-2.1**	
	comp=Z,6.0nm,0.8s							
ARCES	**ARCESS Array B**	**70.25**	**338**	P	**P**	**10 54 57.6**	**-1.8**	
	comp=Z,1.6nm,0.7s,baz=64,slow=8.4,SNR=6.7							
ARCES	**ARCESS Array B**	**70.25**	**338**	P	**P**	**10 54 57.6**	**-1.8**	
KAF	**Kangasniemi**	**72.00**	**331**	*ep*	**P**	**10 55 08.4**	**-1.7**	
	comp=Z,1.2nm,0.4s							
FINES	**FINESS Array B**	**72.30**	**330**	P	**P**	**10 55 11.2**	**-0.7**	
	comp=Z,1.6nm,0.3s,baz=49,slow=6.0,SNR=21							
FINES				LR	LR	11 30 04.6		
	comp=Z,119nm,18.2s,baz=130,slow=38							
FINES	**FINESS Array B**	**72.30**	**330**	P	**P**	**10 55 11.2**	**-0.7**	
INK	**Inuvik**	**73.02**	**22**	*eP*	**P**	**10 55 14.9**	**-1.2**	
	comp=Z,3.0nm,0.4s							
AKASG	**Malin Array Be**	**73.89**	**319**	P	**P**	**10 55 19.9**	**-1.7**	
	comp=Z,0.2nm,0.3s,baz=54,slow=6.4,SNR=4.1							
AKASG	**Malin Array Be**	**73.89**	**319**	P	**P**	**10 55 19.9**	**-1.7**	
BR131	**Keskin Array S**	**74.32**	**307**	*eP*	**P**	**10 55 24.1**	**-0.4**	
	comp=Z,1.4nm,0.6s							
BRTR	**Keskin Array B**	**74.32**	**307**	P	**P**	**10 55 24.2**	**-0.3**	
	comp=Z,2.4nm,0.6s,baz=107,slow=6.6,SNR=14							
BRTR	**Keskin Array B**	**74.32**	**307**	P	**P**	**10 55 24.2**	**-0.3**	
NOA	**NORSAR Array B**	**79.04**	**332**	P	**P**	**10 55 49.4**	**-1.2**	
	comp=Z,1.2nm,0.7s,baz=56,slow=5.6,SNR=4.7							
NOA	**NORSAR Array B**	**79.04**	**332**	P	**P**	**10 55 49.4**	**-1.2**	
YKW3	**Yellowknife Ar**	**82.70**	**23**	*eP*	**P**	**10 56 08.6**	**-1.5**	
	comp=Z,0.1nm,0.7s							
YKA	**Yellowknife Ar**	**82.75**	**23**	P	**P**	**10 56 08.9**	**-1.4**	
	comp=Z,1.9nm,0.7s,baz=311,slow=5.1,SNR=42							
YKA	**Yellowknife Ar**	**82.75**	**23**	P	**P**	**10 56 08.9**	**-1.4**	

GERES	**GERESS Array B**	**83.83**	**321**	P	**P**	**10 56 15.3**	**-1.0**	
	comp=Z,1.2nm,0.7s,baz=59,slow=6.4,SNR=8.4							
GERES	**GERESS Array B**	**83.83**	**321**	P	**P**	**10 56 15.3**	**-1.0**	
FFC	**Flin Flon**	**92.89**	**24**	*eP*	**P**	**10 56 57.9**	**-1.7**	
	comp=Z,5.9nm,1.1s							
NVAR	**Mina Array Bea**	**95.80**	**44**	P	**P**	**10 57 13.3**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=298,slow=4.1,SNR=4.1							
NVAR	**Mina Array Bea**	**95.80**	**44**	P	**P**	**10 57 13.3**	**-0.2**	

IDC ***12*** *11:03:09.2±0.6, 45.04S×78.00W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.8/1, MS4.2/13, Ms1 4.2/13, ms1mx4.0/27, Error ellipse: s-maj=27.6km s-min=21.1km az=106.0*

NEIC ***12*** *11:03:10.6±0.4, 45.02S×78.06W, h10km, mb4.8/4, Error ellipse: s-maj=13.2km s-min=10.1km az=120.0*

GCMT ***12*** *11:03:12.7±0.3, 45.27S×78.35W, h17km±1km, MW5.0, Moment Tensor Solution. s30,c36; s77,c98; Moment tensor: Scale 10^16Nm; Mrr=3.72±.21; Mθθ0.44±.12; Mϕϕ3.28±.15; Mrθ-1.44±.38; Mrϕ-0.35±.09; Mθϕ-0.76±.33; Best double couple: M0 3.80000×10^16 NP1:ϕs 157.00000°, δ43.00000°, λ-117.00000°. NP2:ϕs 12.00000°, δ53.00000°, λ-67.00000°. Principal axes: T 3.3800, Plg5.0000°, Azm86.0000°; N 0.8800, Plg18.0000°, Azm177.0000°; P -4.2600, Plg71.0000°, Azm340.000°; Data Used: II IU IC G CN.*

ISCJB ***12*** *11:03:13.4±0.6, 44.97S±0.08×77.78W±0.1, h33km, mb4.2/11, MS4.2/11 Error ellipse: s-maj=14.2km s-min=10.9km az=18.6*

ISC 12 11:03:14.8±0.5, 44.97S±0.09×77.9W±0.1, h35km, n56, σ0.86/50, mb4.3/11, MS4.2/11, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.87**	**54**	P	n	**Pn**	**11 04 52.9**	**-0.1**
	0.4nm,0.3s,baz=229,slow=14,SNR=27							
PLCA				LR		LR	11 07 27.2	
	comp=Z,4μm,20.3s,baz=240,slow=37							
PLCA	**Paso Flores**	**6.87**	**54**	*e*P	n	**Pn**	**11 04 52.7**	**-0.3**
	12nm,0.8s							
USHA	**Ushuaia**	**11.59**	**152**	LR		LR	11 10 23.4	
	comp=Z,748nm,19.4s,baz=220,slow=38							
TRQA	**Tornquist**	**13.78**	**65**	*e*Pn		**Pn**	**11 06 28.2**	**+0.7**
CFAA	**Coronel Fontan**	**15.34**	**33**	Pn		**P**	**11 06 52.5**	**-0.4**
	0.0nm,0.3s,baz=209,slow=12,SNR=5.5							
CFAA				LR		LR	11 12 40.4	
	comp=Z,67nm,20.0s,baz=206,slow=37							
CFAA	**Coronel Fontan**	**15.34**	**33**	Pn		**P**	**11 06 52.5**	**-0.4**
PMSA	**Palmer Station**	**21.29**	**164**	LR		LR	11 13 57.6	
	comp=Z,281nm,22.0s,baz=347,slow=30							
PMSA	**Palmer Station**	**21.29**	**164**	*e*P		**P**	**11 07 57.1**	**-0.8**
	50nm,1.1s							
CPUP	**Villa Florida**	**24.89**	**49**	P		**P**	**11 08 33.8**	**-0.4**
	3.0nm,0.7s,baz=213,slow=8.2,SNR=8.7							
CPUP				LR		LR	11 18 46.9	
	comp=Z,574nm,19.2s,baz=196,slow=38							
CPUP	**Villa Florida**	**24.89**	**49**	P		**P**	**11 08 33.8**	**-0.4**
LPAZ	**La Paz**	**29.76**	**19**	P		**P**	**11 09 19.6**	**+1.0**
	0.9nm,0.7s,baz=182,slow=11,SNR=4.1							
LPAZ	**La Paz**	**29.76**	**19**	P		**P**	**11 09 19.6**	**+1.0**
RPN	**Rapa Nui**	**30.77**	**295**	LR		LR	11 18 27.0	
	comp=Z,1μm,19.8s,baz=319,slow=30							
SAML	**Samuel**	**38.08**	**24**	*e*P		**P**	**11 10 29.6**	**-0.5**
	7.3nm,1.1s							
BDFB	**Brasilia**	**38.59**	**50**	LR		LR	11 27 34.8	
	comp=Z,1μm,19.3s,baz=186,slow=38							
VNA3	**Neumayer Olymp**	**41.27**	**153**	*e*P		**P**	**11 10 57.0**	**+0.9**
VNA2	**Neumayer--Watz**	**42.01**	**152**	*e*P		**P**	**11 11 03.2**	**+1.1**
	baz=278,slow=12							
QSPA	**South Pole Qui**	**45.27**	**180**	P		**P**	**11 11 28.5**	**-0.2**
	3.4nm,0.8s,baz=124,slow=4.3,SNR=13							
QSPA				PcP		**PcP**	**11 13 07.9**	**0.0**
	2.0nm,0.9s,baz=202,slow=3.5,SNR=4.0							
QSPA				LR		LR	11 27 19.5	
	comp=Z,207nm,18.8s,baz=8.6,slow=32							
QSPA	**South Pole Qui**	**45.27**	**180**	P		**P**	**11 11 28.5**	**-0.2**
QSPA				PcP		**PcP**	**11 13 07.9**	**0.0**
ROSC	**El Rosal**	**49.71**	**5**	LR		LR	11 31 16.4	
	comp=Z,234nm,19.0s,baz=174,slow=34							
RKT	**Rikitea**	**50.93**	**276**	*e*LR		LR	11 26 48.5	
	1μm,28.8s							
VNDA	**Vanda**	**52.43**	**194**	LR		LR	11 31 28.8	
	comp=Z,170nm,20.7s,baz=270,slow=32							
TBI	**Tubuai**	**61.05**	**265**	*e*LR		LR	11 31 25.9	
	681nm,26.5s,baz=146							
PPT2	**Papeete2**	**64.88**	**270**	*e*S		**S**	**11 22 31.3**	**+1.6**
	119nm,31.0s							
PPT2				*e*LR		LR	11 33 05.9	
	350nm,26.5s,baz=136							
PPT	**Papeete**	**64.90**	**270**	LR		LR	11 35 15.1	
	comp=Z,175nm,19.2s,baz=178,slow=30							
TXAR	**Lajitas Array**	**77.59**	**337**	P		**P**	**11 15 07.5**	**+0.4**
	2.2nm,1.1s,baz=170,slow=7.6,SNR=12							
TXAR	**Lajitas Array**	**77.59**	**337**	P		**P**	**11 15 07.5**	**+0.4**
**

IDC 12 11:07:06.0±1.4, 13°67'N×146°43'E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=29.4km s-min=17.1km az=173.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**267**	Pn	Pn	11 07 34.9	+0.3
	24nm,0.3s,baz=104,slow=6.0,SNR=13						
GUMO				Lg	Lg	11 07 54.3	
	30nm,0.3s,baz=156,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**35.46**	**200**	P	P	11 14 04.1	-0.3
	0.2nm,0.6s,baz=22,slow=9.5,SNR=6.7						
ASAR	**Alice Springs**	**39.08**	**198**	P	P	11 14 35.1	0.0
	0.1nm,0.5s,baz=15,slow=10,SNR=6.1						
ILAR	**Eielson Array**	**67.85**	**25**	P	P	11 18 05.9	-0.1
	0.2nm,0.5s,baz=255,slow=5.6,SNR=5.7						

IDC 12 11:16:18.0±3.9, 11°49N×85°84W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/22, mbtmp3.6/2, Error ellipse: s-maj=81.3km s-min=63.8km az=169.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**24.32**	**320**	P	P	11 21 37.5	-0.1
	0.3nm,0.5s,baz=145,slow=9.4,SNR=7.2						
SCHQ	**Schefferville**	**45.77**	**15**	P	P	11 24 41.0	-0.2
	0.9nm,0.4s,baz=210,slow=8.1,SNR=5.8						
ASAR	**Alice Springs**	**140.36**	**247**	PKP	PKPdf	11 35 50.1	+0.1
	0.3nm,0.4s,baz=91,slow=1.6,SNR=5.9						
WRA	**Warramunga Arr**	**140.50**	**253**	PKP	PKPdf	11 35 49.9	-0.4
	0.5nm,0.6s,baz=89,slow=2.1,SNR=7.4						

CSEM 12 11:19:20.6, 42°37N×2°97E, h0km, ML1.2, Mining explosion. After MDD, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EJON	**La Jonguera**	**0.10**	**321**	Pg	Pg	11 19 22.3	-0.2
	54nm,0.5s,SNR=86						
EJON				Lg	Lg	11 19 24.3	
	38nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.73**	**213**	Pg	Pg	11 19 34.6	-0.1
	SNR=7.9						
CFON				Lg	Lg	11 19 44.3	
	2.9nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**0.74**	**278**	Pg	Pg	11 19 33.7	-1.4
	SNR=7.9						
CLLI				Lg	Lg	11 19 44.2	
	0.8nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.17**	**247**	Pg	Pg	11 19 41.0	-2.1
	SNR=7.9						
EMIR				Lg	Lg	11 19 55.7	
	0.1nm,0.0s,SNR=7.9						
CSOR	**Sort**	**1.36**	**271**	Pg	Pg	11 19 46.5	-0.4
	4.6nm,0.8s,SNR=7.0						
CSOR				Lg	Lg	11 20 03.3	
	0.5nm,0.1s,SNR=7.9						

ISCJB ***12*** *11:24:11.2±0.3, 32°39N±0°03×105°08E±0°05, h15km, mb4.3/25, MS4.1/1, Error ellipse: s-maj=6.0km s-min=4.0km az=15.6*

BJI ***12*** *11:24:12.5, 32°44N×105°06E, h20km, mB4.6/7, mb4.1/8, ML4.0/17, Ms3.7/8, Ms7 3.6/9*

NEIC ***12*** *11:24:12.9±0.4, 32°49N×104°98E, h10km, mb4.3/8, Error ellipse: s-maj=10.0km s-min=7.3km az=53.0*

MOS ***12*** *11:24:13.9±1.1, 32°47N×105°08E, h33km±50km, mb4.0/15, mb1 4.1/17, mb1mx3.9/31, mbtmp3.9/17, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx2.5/60, Error ellipse: s-maj=30.7km s-min=14.3km az=59.0*

IDC ***12*** *11:24:15.4±6.6, 32°49N×105°22E, h33km±50km, mb4.0/15, mb1 4.1/17, mb1mx3.9/31, mbtmp3.9/17, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx2.5/60, Error ellipse: s-maj=30.7km s-min=14.3km az=59.0*

ISC 12 11:24:13.3±0.5, 32°46N±0°03×105°06E±0°04, h15km, n91, σ1§30/104, mb4.3/25, 3C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.90**	**216**	Pn	**Pn**	**11 24 45.4**	**+0.2**
CD2				Pg	**Pb**	**11 24 47.3**	**-0.4**
CD2				Sn	**Sb**	**11 25 11.2**	**0.0**
CD2				Sg	**Sg**	**11 25 13.4**	**-1.0**
CD2				smax	smax		
	comp=N,6μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
XAN	**Xi'an**	**3.60**	**63**	Pn	**Pn**	**11 25 09.0**	**+0.4**
XAN				Pg	**Pb**	**11 25 17.6**	**+0.9**
XAN				Sn	**Sn**	**11 25 50.4**	**-0.4**
XAN				Sg	**Sb**	**11 26 01.0**	**+0.8**
XAN				smax	smax		
	comp=N,510nm,0.9s						
XAN				smax	smax		
	comp=E,280nm,0.7s						
LZH	**Lanzhou**	**3.76**	**345**	Pn	**Pn**	**11 25 13.1**	**+2.2**
LZH				Pg	**Pb**	**11 25 21.0**	**+1.5**
LZH				Sn	**Sn**	**11 25 58.5**	**+3.5**
LZH				Sg	**Sg**	**11 26 10.5**	**-3.6**
LZH				smax	smax		
	comp=N,1μm,1.0s						
LZH				smax	smax		
	comp=E,2μm,1.0s						
LZH				LR	LR		
	comp=N,2μm,6.7s						
LZH				LR	LR		
	comp=E,680nm,7.0s						
LZH				LR	LR		
	comp=Z,870nm,7.6s						
ENH	**Enshi**	**4.37**	**119**	*e*Pn	Pn	11 25 22.6	+3.5
GYA	**Guiyang**	**6.14**	**166**	Pn	**Pn**	**11 25 45.1**	**+1.6**
GYA				Sn	**Sn**	**11 26 50.0**	**-3.5**
GYA				Sg	**Sb**	**11 27 18.0**	**+4.7**
GYA				smax	smax		
	comp=N,150nm,0.7s						
GYA				smax	smax		
	comp=E,140nm,0.9s						
KMI	**Kunming**	**7.58**	**196**	Pn	**Pn**	**11 26 04.3**	**+0.8**
KMI				Sn	**Sn**	**11 27 28.7**	**-0.6**
KMI				smax	smax		
	comp=N,30nm,0.8s						
KMI				smax	smax		
	comp=E,30nm,0.9s						
KMI				LR	LR		
	comp=N,290nm,9.6s						
KMI				LR	LR		
	comp=E,310nm,8.4s						
KMI				LR	LR		
	comp=Z,190nm,9.9s						
GTA	**Gaotai**	**8.14**	**330**	*e*P	**Pn**	**11 26 10.9**	**-0.1**
GTA				pP	pP	11 26 14.2	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,4.0s						
GTA				LR	LR		
	comp=N,260nm,9.0s						
GTA				LR	LR		
	comp=E,240nm,9.0s						
GTA				LR	LR		
	comp=Z,320nm,9.5s						
WHN	**Wuhan**	**8.16**	**101**	P	Pn	11 26 17.9	+6.8
WHN				S	**Sn**	**11 27 37.3**	**-5.7**
CMAR	**Chiang Mai Arr**	**14.99**	**203**	Pn	**Pn**	**11 27 47.1**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=11,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**14.99**	**203**	Pn	**Pn**	**11 27 47.1**	**+2.4**
SONM	**Songino Array**	**15.40**	**3**	Pn	**Pn**	**11 27 49.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=179,slow=13,SNR=11						
SONM				Lg	Lg	11 32 21.3	
	comp=Z,0.2nm,0.3s,baz=168,slow=29,SNR=4.2						
SONM	**Songino Array**	**15.40**	**3**	Pn	**Pn**	**11 27 49.8**	**-0.2**
SONM				Lg	Lg	11 32 21.3	
ULN	**Ulaanbaatar**	**15.47**	**5**	*e*Pn	**Pn**	**11 27 51.7**	**+0.7**
	comp=Z,4.3nm,1.0s						
ZAK	**Zakamensk**	**17.96**	**356**	*e*P	**Pn**	**11 28 18.8**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KSAR	**Wonju Array Be**	**19.34**	**69**	P	**Pn**	**11 28 40.5**	**+1.2**
KSRS	**Korea Array**	**19.38**	**69**	P	**Pn**	**11 28 40.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=256,slow=10,SNR=5.2						
HIA	**Hailar**	**20.07**	**29**	*e*P	**P**	**11 28 46.3**	**+0.3**
	comp=Z,4.6nm,0.6s						
MK31	**Makanchi Array**	**22.53**	**316**	*e*P	**P**	**11 29 12.9**	**+0.3**
MK31	**Makanchi Array**	**22.53**	**316**	*e*P	**P**	**11 29 12.9**	**+0.3**
MKAR	**Makanchi Array**	**22.53**	**316**	P	**P**	**11 29 13.0**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=118,slow=12,SNR=26						
MKAR	**Makanchi Array**	**22.53**	**316**	P	**P**	**11 29 13.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**22.53**	**316**	P	**P**	**11 29 13.0**	**+0.4**
TKM2	**Tokmak 2**	**25.43**	**303**	*e*P	**P**	**11 29 41.0**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,38nm,0.9s						
TKM2	**Tokmak 2**	**25.43**	**303**	*e*P	**P**	**11 29 41.0**	**+0.4**
	comp=Z,38nm,0.9s						
ZALV	**Zalesovo Beam**	**25.89**	**332**	P	**P**	**11 29 44.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=125,slow=9.5,SNR=9.6						
ZALV	**Zalesovo Beam**	**25.89**	**332**	P	**P**	**11 29 44.5**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**25.89**	**332**	P	**P**	**11 29 44.5**	**+0.1**
AAK	**Ala-Archa**	**26.15**	**302**	P	**P**	**11 29 48.3**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=157,slow=7.1,SNR=6.2						
AAK	**Ala-Archa**	**26.15**	**302**	P	**P**	**11 29 48.3**	**+1.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**26.15**	**302**	P	**P**	**11 29 48.3**	**+1.2**
KURBB	**Kurchatov Arra**	**26.68**	**321**	P	**P**	**11 29 52.3**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=130,slow=8.6,SNR=9.0						
KURK	**Kurchatov**	**26.68**	**321**	*ce*P	**P**	**11 29 52.8**	**+1.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**26.68**	**321**	*e*P	**P**	**11 29 50.9**	**-0.7**
	comp=Z,1.2nm,1.3s						
BVAR	**Borovoye Array**	**32.26**	**320**	P	**P**	**11 30 41.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=115,slow=11,SNR=7.4						
BVAR	**Borovoye Array**	**32.26**	**320**	P	**P**	**11 30 41.5**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**32.26**	**320**	P	**P**	**11 30 41.5**	**+0.4**
BRVK	**Borovoye**	**32.33**	**320**	*ce*P	**P**	**11 30 42.4**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ABKAR	**Akbulak array**	**37.41**	**310**	*e*P	**P**	**11 31 25.9**	**+0.4**
	comp=Z,5.2nm,0.8s						
ARU	**Arti**	**39.88**	**321**	*d* i P	**P**	**11 31 46.9**	**+0.7**
ARU						11 33 18.0	
ARU				S	**S**	**11 37 50.3**	**0.0**
ARU				SS	**SS**	**11 40 46.3**	**-0.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JOF	**Joensuu**	**54.33**	**327**	*e*P	**P**	**11 33 37.4**	**-1.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	**Joensuu**	**54.33**	**327**	*ep*	**P**	**11 33 37.4**	**-1.4**
	comp=Z,1.7nm,0.6s						
KEV	**Kevo**	**55.84**	**336**	*e*P	**P**	**11 33 47.6**	**-2.0**
KEV	**Kevo**	**55.84**	**336**	*ep*	**P**	**11 33 47.6**	**-2.0**
ARCES	**ARCESS Array B**	**56.37**	**335**	P	**P**	**11 33 52.5**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=98,slow=8.7,SNR=12						
ARCES	**ARCESS Array B**	**56.37**	**335**	P	**P**	**11 33 52.5**	**-0.9**
BR131	**Keskin Array S**	**56.79**	**299**	*e*P	**P**	**11 33 56.7**	**-0.3**
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**56.79**	**299**	P	**P**	**11 33 57.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=99,slow=7.2,SNR=8.8						
BRTR	**Keskin Array B**	**56.79**	**299**	P	**P**	**11 33 57.0**	**0.0**
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**11 33 57.5**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=92,slow=7.4,SNR=18						
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**11 33 57.5**	**+0.2**
AKASG	**Malin Array Be**	**57.06**	**313**	P	**P**	**11 33 58.0**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=67,slow=7.6,SNR=9.1						
AKASG	**Malin Array Be**	**57.06**	**313**	*ce*P	**P**	**11 33 58.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**57.06**	**313**	P	**P**	**11 33 58.0**	**-0.6**
AK02	**Malin Array Si**	**57.08**	**313**	*e*P	**P**	**11 33 57.9**	**-0.9**
SPITS	**Spitsbergen Ar**	**58.23**	**346**	P	**P**	**11 34 06.1**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=107,slow=11,SNR=6.6						
SPITS	**Spitsbergen Ar**	**58.23**	**346**	P	**P**	**11 34 06.1**	**-0.3**
WRAB	**Tennant Creek**	**59.15**	**148**	*e*P	**P**	**11 34 13.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**59.15**	**148**	*e*P	**P**	**11 34 13.4**	**-0.1**
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**59.16**	**148**	P	**P**	**11 34 12.4**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=340,slow=7.5,SNR=22						
WRA				LR	LR	11 57 49.2	
	comp=Z,149nm,20.4s,baz=155,slow=34						
WRA	**Warramunga Arr**	**59.16**	**148**	P	**P**	**11 34 12.4**	**-1.2**
ASAR	**Alice Springs**	**62.23**	**150**	P	**P**	**11 34 33.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=336,slow=6.4,SNR=16						
ASAR	**Alice Springs**	**62.23**	**150**	P	**P**	**11 34 33.8**	**-0.7**
NB2	**NORSAR Subarra**	**63.96**	**327**	P	**P**	**11 34 44.4**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=71,slow=6.9						
NOA	**NORSAR Array B**	**63.96**	**327**	P	**P**	**11 34 44.7**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=72,slow=6.7,SNR=11						
NOA	**NORSAR Array B**	**63.96**	**327**	P	**P**	**11 34 44.7**	**-1.0**
GERES	**GERESS Array B**	**67.19**	**314**	P	**P**	**11 35 06.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=90,slow=6.7,SNR=7.0						
GERES	**GERESS Array B**	**67.19**	**314**	P	**P**	**11 35 06.0**	**-0.7**
CDF	**Champ du Feu**	**71.22**	**316**	*e*P	**P**	**11 35 31.3**	**-0.4**
CDF	**Champ du Feu**	**71.22**	**316**	*e*P	**P**	**11 35 31.3**	**-0.4**
CDF	**Champ du Feu**	**71.22**	**316**	*e*P	**P**	**11 35 31.3**	**-0.4**
CABF	**La Chapelle**	**72.78**	**315**	*e*P	**P**	**11 35 40.5**	**-0.7**
CABF	**La Chapelle**	**72.78**	**315**	*e*P	**P**	**11 35 40.5**	**-0.7**
CABF	**La Chapelle**	**72.78**	**315**	*e*P	**P**	**11 35 40.5**	**-0.7**
PGF	**Pioggiola**	**72.91**	**310**	*e*P	**P**	**11 35 42.0**	**0.0**
	comp=Z,5.9nm,0.6s						
PGF	**Pioggiola**	**72.91**	**310**	*e*P	**P**	**11 35 42.0**	**0.0**
PGF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PGF	**Pioggiola**	**72.91**	**310**	*e*P	**P**	**11 35 42.0**	**0.0**
	comp=Z,5.9nm,0.6s						
LPG	**La Plagne**	**72.92**	**313**	*e*P	**P**	**11 35 42.4**	**+0.2**
	comp=Z,9.0nm,0.5s						
LPL	**La Plagne**	**72.92**	**313**	*e*P	**P**	**11 35 42.3**	**+0.1**
	comp=Z,9.5nm,0.5s						
MBDF	**Montbardon**	**73.28**	**313**	*e*P	**P**	**11 35 43.6**	**-0.6**
LASF	**Ste Croix**	**75.42**	**313**	*e*P	**P**	**11 35 56.5**	**0.0**
FLN	**La Foliniere**	**75.49**	**319**	*e*P	**P**	**11 35 56.6**	**-0.2**
FLN	**La Foliniere**	**75.49**	**319**	*e*P	**P**	**11 35 56.6**	**-0.2**
FLN	**La Foliniere**	**75.49**	**319**	*e*P	**P**	**11 35 56.6**	**-0.2**
MTLF	**Montolieu**	**76.81**	**313**	*e*P	**P**	**11 36 04.3**	**-0.1**
MTLF	**Montolieu**	**76.81**	**313**	*e*P	**P**	**11 36 04.3**	**-0.1**
MTLF	**Montolieu**	**76.81**	**313**	*e*P	**P**	**11 36 04.3**	**-0.1**
ETSF	**Etsaut**	**78.76**	**314**	*e*P	**P**	**11 36 15.8**	**+0.4**
ETSF	**Etsaut**	**78.76**	**314**	*e*P	**P**	**11 36 15.8**	**+0.4**
ETSF	**Etsaut**	**78.76**	**314**	*e*P	**P**	**11 36 15.8**	**+0.4**
YKA	**Yellowknife Ar**	**80.16**	**18**	P	**P**	**11 36 22.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=329,slow=5.1,SNR=27						
YKA	**Yellowknife Ar**	**80.16**	**18**	P	**P**	**11 36 22.1**	**-0.5**

IDC ***12*** *11:25:16.2±2.3, 60°45N×154°31W, h151km±11km, mb3.6/6, mb1 3.9/11, mb1mx3.5/31, mbtmp3.7/11, Error ellipse: s-maj=34.3km s-min=10.5km az=101.0*

BJI ***12*** *11:25:17.0, 60°30N×153°60W, h170km, mB4.9/4, mb4.6/4*

ISCJB ***12*** *11:25:19.4±0.2, 60°40N±0°02×153°74W±0°05, h177km±1km, mb4.2/14, Error ellipse: s-maj=4.7km s-min=3.2km az=37.5*

NEIC ***12*** *11:25:20.3, 60°30N×153°56W, h192km, mb4.4/9, After AEIC.*

ISC 12 11:25:20.6±0.4, 60°33N±0°04×153°68W±0°04, h178km±3km, n361, σ1§19/390, mb4.2/15, 113C-119D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.38**	**135**	P	Pn	**11 25 45.3**	**+0.3**
INE	**Iliamna NE**	**0.41**	**131**	P	Pn	**11 25 45.4**	**+0.3**
NCT	**North Crescent**	**0.44**	**58**	P	Pn	**11 25 45.5**	**+0.5**
RSO	**Redoubt South**	**0.48**	**73**	*e*Pn	Pn	**11 25 45.3**	**0.0**
RDN	**Redoubt North**	**0.49**	**67**	P	Pn	**11 25 45.6**	**+0.3**
OPT	**Oil Point**	**0.72**	**161**	P	Pn	**11 25 46.8**	**+0.4**
AUW	**Augustine West**	**0.97**	**174**	P	Pn	**11 25 48.4**	**+0.5**
BGL	**Barrier Glacie**	**1.13**	**33**	P	Pn	**11 25 50.0**	**+0.8**
SPU	**Mount Spurr**	**1.17**	**42**	*e*Pn	Pn	**11 25 49.4**	**-0.1**
MCNL	**McNeil River**	**1.20**	**196**	P	Pn	**11 25 49.7**	**0.0**
SVW2	**Sparrevohn**	**1.21**	**310**	*e*Pn	Pn	**11 25 49.9**	**+0.1**
SVW2				*e*Sn	**Sn**	**11 26 12.1**	**-0.4**
CGLM	**Capps Glacier**	**1.28**	**39**	P	Pn	**11 25 50.7**	**+0.3**
NCG	**North Capps Gl**	**1.31**	**34**	P	Pn	**11 25 51.2**	**+0.5**
STLK	**Strandline Lak**	**1.48**	**37**	P	Pn	**11 25 52.4**	**+0.1**
BRLK	**Bradley Lake**	**1.51**	**111**	P	Pn	**11 25 52.3**	**-0.2**
BRLK				S	**Sn**	**11 26 16.6**	**-0.6**
FOSS	**Fourpeaked Sta**	**1.54**	**180**	P	Pn	**11 25 52.6**	**-0.2**
KAPH	**Katmai Pasha**	**1.77**	**191**	P	Pn	**11 25 54.9**	**-0.3**
SUA	**Susitna One**	**1.83**	**50**	P	Pn	**11 25 55.1**	**-0.7**
SUA				S	**Sn**	**11 26 22.9**	**-0.3**
FIB	**Fire Island**	**1.92**	**62**	P	Pn	**11 25 56.4**	**-0.1**
FIB				S	**Sn**	**11 26 24.8**	**+0.4**
SKT	**Skwentna**	**1.96**	**31**	P	Pn	**11 25 57.1**	**+0.1**
RC01	**Rabbit Creek A**	**2.08**	**67**	P	Pn	**11 25 57.1**	**-1.3**
RC01				S	**Sn**	**11 26 26.5**	**-1.3**
SEW	**Seward**	**2.12**	**94**	*e*Pn	Pn	**11 25 58.1**	**-0.7**
SEW				*e*Sn	**Sn**	**11 26 26.8**	**-1.7**
KAKN	**Katmai Knife C**	**2.16**	**200**	P	Pn	**11 25 58.8**	**-0.6**
KAKN				S	**Sn**	**11 26 28.3**	**-1.1**
KELA	**Mount Kelaz**	**2.17**	**210**	P	Pn	**11 25 59.2**	**-0.3**
KBM	**Katmai Bkd Mtn**	**2.20**	**201**	P	Pn	**11 25 59.8**	**-0.1**
KABU	**Katmai Buttres**	**2.22**	**202**	P	Pn	**11 25 59.8**	**-0.3**
KCE	**Katmai Mt Cerb**	**2.23**	**201**	P	Pn	**11 25 59.9**	**-0.2**
KABR	**Katmai Barrier**	**2.30**	**197**	P	Pn	**11 25 59.9**	**-1.1**
PMR	**Palmer**	**2.56**	**58**	*e*Pn	Pn	**11 26 01.8**	**-1.9**
TRAP	**Trapper Creek**	**2.61**	**38**	P	Pn	**11 26 03.3**	**-1.0**
KDAK	**Kodiak Island**	**2.62**	**167**	P	Pn	**11 26 02.5**	**-2.0**
	12nm,0.3s,baz=32,slow=5.7,SNR=352						
KDAK				S	**Sn**	**11 26 36.0**	**-2.6**
	67nm,0.3s,baz=8.7,slow=10,SNR=44						
KDAK	**Kodiak Island**	**2.62**	**167**	P	Pn	**11 26 02.5**	**-2.0**
KDAK				S	**Sn**	**11 26 35.7**	**-2.9**
PPLA	**Purkeypile**	**2.67**	**15**	P	Pn	**11 26 05.7**	**+0.4**
TT01	**Tatalina**	**2.82**	**338**	P	Pn	**11 26 06.5**	**-0.4**
SMI	**Sawmill**	**2.99**	**58**	*e*Pn	Pn	**11 26 07.0**	**-2.0**
HUR	**Hurricane**	**3.28**	**34**	P	Pn	**11 26 11.5**	**-1.1**
TRF	**Thorofare Moun**	**3.52**	**26**	*e*Pn	Pn	**11 26 14.0**	**-1.7**
CHUM	**Lake Minchumin**	**3.62**	**10**	P	Pn	**11 26 16.2**	**-0.5**
VLZ	**Valdez**	**3.70**	**74**	P	Pn	**11 26 16.4**	**-1.2**
MID	**Middleton Isla**	**3.81**	**101**	*e*Pn	Pn	**11 26 18.5**	**-0.6**
RND	**Reindeer**	**3.84**	**34**	P	Pn	**11 26 18.2**	**-1.4**
EYAK	**Cordova Ski Ar**	**3.94**	**83**	P	Pn	**11 26 20.1**	**-0.7**
DIV	**Divide**	**3.97**	**75**	*e*Pn	Pn	**11 26 20.4**	**-0.8**
DHY	**Denali Highway**	**4.08**	**45**	P	Pn	**11 26 21.4**	**-1.3**
ANNW	**Aniakchak Nort**	**4.12**	**217**	P	Pn	**11 26 22.9**	**-0.3**
ANPK	**Aniakchak Peak**	**4.20**	**216**	P	Pn	**11 26 23.0**	**-1.3**
ANPB	**Aniakchak Plen**	**4.28**	**216**	P	Pn	**11 26 23.8**	**-1.4**
GOAT	**Goat Mountain**	**4.44**	**83**	P	Pn	**11 26 26.2**	**-1.0**
RAGM	**Ragged Mountai**	**4.47**	**85**	P	Pn	**11 26 26.6**	**-1.1**
BMRM	**Bremner River**	**4.51**	**78**	*e*Pn	Pn	**11 26 28.1**	**-0.1**
HARP	**HAARP**	**4.60**	**59**	P	Pn	**11 26 29.0**	**-0.3**
PAX	**Paxson**	**4.73**	**52**	*e*Pn	Pn	**11 26 30.3**	**-0.7**
CHGN	**Chignik**	**4.75**	**214**	*e*Pn	Pn	**11 26 28.7**	**-2.4**
NEA	**Nenana**	**4.77**	**25**	P	Pn	**11 26 30.1**	**-1.2**
NICHA	**Nichawak Mount**	**4.83**	**87**	P	Pn	**11 26 32.2**	**-0.1**
WRH	**Wood River Hil**	**4.90**	**30**	P	Pn	**11 26 31.7**	**-1.4**
MLY	**Manley**	**4.91**	**15**	P	Pn	**11 26 31.8**	**-1.4**
SUCK	**Suckling Hills**	**4.95**	**89**	P	Pn	**11 26 33.5**	**-0.3**
BERG	**Berg Lake**	**4.96**	**85**	P	Pn	**11 26 33.6**	**-0.3**
VNHG	**Veniaminof 1**	**5.03**	**217**	P	Pn	**11 26 34.6**	**-0.4**
DDM	**Donnelly Dome**	**5.05**	**43**	P	Pn	**11 26 35.4**	**+0.3**
VNSG	**Veniaminof 6**	**5.09**	**216**	P	Pn	**11 26 34.6**	**-1.1**
VRDI	**Verde Repeater**	**5.09**	**75**	P	Pn	**11 26 35.2**	**-0.6**
CCB	**Clear Creek Bu**	**5.12**	**30**	P	Pn	**11 26 34.0**	**-1.9**
HDA	**Harding Lake**	**5.15**	**35**	P	Pn	**11 26 35.1**	**-1.2**
GRIN	**Grindle Hills**	**5.15**	**86**	P	Pn	**11 26 36.5**	**0.0**
KHIT	**Khitrov Hills**	**5.18**	**84**	P	Pn	**11 26 36.5**	**-0.3**
MDM	**Murphy Dome**	**5.28**	**26**	P	Pn	**11 26 36.0**	**-2.0**
COLA	**College**	**5.29**	**28**	*e*Pn	Pn	**11 26 36.6**	**-1.5**
MENT	**Mentasta**	**5.42**	**57**	*e*Pn	Pn	**11 26 39.2**	**-0.7**
IL1	**Eielson Array**	**5.45**	**32**	P	Pn	**11 26 38.5**	**-1.8**
ILAR	**Eielson Array**	**5.45**	**32**	P	Pn	**11 26 38.4**	**-1.9**
	23nm,0.3s,baz=223,slow=12,SNR=1694						
ILAR				S	**Sn**	**11 27 38.0**	**-4.9**
	16nm,0.3s,baz=210,slow=17,SNR=5.2						
KULT	**Kultieth River**	**5.45**	**86**	P	Pn	**11 26 40.3**	**0.0**
GLM	**Gilmore Dome**	**5.50**	**29**	P	Pn	**11 26 39.5**	**-1.4**
BARK	**Barkley Ridge**	**5.55**	**84**	P	Pn	**11 26 41.1**	**-0.6**
KIAG	**Kiagna River**	**5.61**	**79**	P	Pn	**11 26 42.0**	**-0.4**
BALM	**Baldy**	**5.62**	**78**	P	Pn	**11 26 42.2**	**-0.4**
ISLE	**Juniper Island**	**5.62**	**82**	P	Pn	**11 26 42.0**	**-0.6**
DOT	**Dot Lake**	**5.62**	**50**	*e*Pn	Pn	**11 26 41.4**	**-1.1**
IM3	**Indian Mountai**	**5.68**	**360**	P	Pn	**11 26 42.5**	**-0.7**
BAGL	**Bagley Icefi

	baz=28,SNR=5.8						
HRY	Holter Researc	27.82	100	eP	P	11 30 52.2	-0.8
	3.5nm,0.4s						
A19A	Klindworth Far	27.83	94	⇓P	P	11 30 53.5	+0.5
	baz=28						
H12A	Diamond D Ranc	27.92	107	⇓P	P	11 30 54.8	+0.7
	baz=28						
EGMT	Eagleton	27.93	96	⇓P	P	11 30 54.8	+0.9
	baz=28						
E16A	East Helena	28.02	100	⇑P	P	11 30 55.9	+1.1
	baz=28						
B19A	Brinkman Farms	28.04	95	⇑P	P	11 30 55.6	+0.6
	baz=28						
D17A	Six Diamond Ra	28.07	98	⇓P	P	11 30 55.6	+0.3
	baz=28						
G14A	Jackson	28.08	104	⇓P	P	11 30 56.6	+1.1
	baz=28						
F15A	Butte	28.11	102	⇓P	P	11 30 57.2	+1.5
	baz=28						
H13A	Challis	28.20	106	⇓P	P	11 30 57.5	+1.1
	baz=28,SNR=8.8						
MFID	Camas Ranch	28.32	110	⇑P	P	11 30 58.4	+0.9
	baz=28						
E17A	Martinsdale	28.47	100	⇑P	P	11 30 59.6	+0.8
	baz=28						
D18A	Linhart Farms,	28.48	98	⇓P	P	11 30 59.2	+0.4
	baz=28						
C19A	Slack Wire Ran	28.48	96	⇑P	P	11 30 59.8	+1.0
	baz=28						
F16A	Kennard Place,	28.57	101	⇓P	P	11 31 00.7	+1.0
	baz=28						
H14A	Leadore	28.58	105	⇓P	P	11 31 00.7	+0.8
	baz=28						
G15A	Dillon	28.60	103	⇑P	P	11 31 01.1	+1.1
	baz=28						
BOZ	Bozeman (W)	28.67	102	⇓P	P	11 31 02.2	+1.6
	baz=28						
A21A	Bergtoll Ranch	28.69	92	⇑P	P	11 31 01.5	+0.9
	baz=28						
I13A	Wildhorse Cree	28.75	107	⇑P	P	11 31 02.2	+0.8
	baz=29						
HLID	Hailey	28.87	108	⇑P	P	11 31 03.0	+0.6
	baz=29						
G16A	Moss Hill, Enn	28.89	102	⇑P	P	11 31 03.3	+0.7
	baz=29						
H15A	Lima	28.93	104	⇓P	P	11 31 03.4	+0.4
	baz=29						
D19A	Cripps Ranch,	28.95	97	⇑P	P	11 31 03.6	+0.6
	baz=29						
F17A	Fitzpatrick Pl	28.96	100	⇑P	P	11 31 04.7	+1.5
	baz=29						
J13A	Cove Ranch, Pi	29.11	108	⇓P	P	11 31 04.9	+0.4
	baz=29						
F18A	Big Timber	29.42	99	⇓P	P	11 31 08.5	+1.3
	baz=29						
I15A	Monteview	29.46	105	⇓P	P	11 31 08.6	+1.0
	baz=29						
E19A	Rath Farm, Rou	29.49	98	⇑P	P	11 31 08.6	+0.9
	baz=29						
H16A	Russell Place,	29.54	103	⇓P	P	11 31 09.8	+1.4
	baz=29						
E20A	Meyer Farm, Mu	29.78	97	⇑P	P	11 31 10.8	+0.5
	baz=30						
F19A	Roth Farm, Mol	29.84	99	⇑P	P	11 31 11.9	+1.0
	baz=30						
G18A	Lazy EL Ranch,	29.92	100	⇓P	P	11 31 12.6	+0.9
	baz=30						
J15A	Blackfoot	29.94	106	⇓P	P	11 31 13.2	+1.4
	baz=30						
D21A	La Casta Ranch	29.95	95	⇑P	P	11 31 12.4	+0.6
	baz=30						
B23A	Brockton	30.00	91	⇓P	P	11 31 12.6	+0.3
	baz=30						
I16A	Newdale	30.04	104	⇑P	P	11 31 14.3	+1.6
	baz=30						
A24A	Westby	30.19	90	⇓P	P	11 31 14.2	+0.3
	baz=30						
RLMT	Red Lodge	30.20	100	eP	P	11 31 16.3	+2.0
	3.9nm,0.8s						
RLMT	Red Lodge	30.20	100	⇓P	P	11 31 15.6	+1.4
	baz=30,SNR=5.8						
K14A	Jones Ranch, D	30.23	108	⇓P	P	11 31 16.6	+2.2
	baz=30						
FLWY	Flagg Ranch	30.27	103	eP	P	11 31 17.0	+2.3
IMW	Indian Meadow	30.29	103	eP	P	11 31 17.1	+2.0
D22A	Cohagen	30.30	94	⇓P	P	11 31 15.3	+0.4
	baz=30						
H18A	Shoshone NF, C	30.33	101	⇑P	P	11 31 16.1	+0.7
	baz=30						
C23A	Lambert	30.35	92	⇑P	P	11 31 16.1	+0.8
	baz=30						
I17A	Pilgrim Ck.	30.45	103	⇓P	P	11 31 19.2	+2.8
	baz=30						
TPAW	Teton Pass	30.59	104	eP	P	11 31 19.2	+1.5
	3.8nm,0.8s						
L14A	Malta	30.60	108	⇑P	P	11 31 18.8	+1.2
	baz=30						
G20A	Bridger	30.65	99	⇑P	P	11 31 19.5	+1.4
	baz=30						
H19A	Powell	30.67	100	⇓P	P	11 31 19.8	+1.5
	baz=30						
J17A	Brown Place, J	30.80	104	⇑P	P	11 31 20.8	+1.4
	baz=31						
C24A	Savage	30.91	92	⇑P	P	11 31 21.5	+1.3
	baz=31						
I18A	Diamond G Ranc	30.98	102	⇑P	P	11 31 22.7	+1.7
	baz=31						
L15A	Malad City	31.02	107	⇓P	P	11 31 22.3	+0.9
	baz=31						
I19A	Meeteetse	31.13	101	⇓P	P	11 31 23.1	+0.8
	baz=31						
NVAR	Mina Array Bea	31.18	119	P	P	11 31 24.5	+1.7
	1.1nm,0.6s,baz=312,slow=8.9,SNR=12						
F22A	Rosebud	31.22	96	⇓P	P	11 31 23.7	+0.8
	baz=31						
J18A	Kendall Valley	31.24	103	⇑P	P	11 31 24.9	+1.5
	baz=31						
D24A	Glendive	31.24	92	⇑P	P	11 31 24.8	+1.6
	baz=31,SNR=5.2						
H20A	Greybull	31.29	100	⇓P	P	11 31 24.6	+1.0
	baz=31						
I20A	Worland	31.62	100	⇑P	P	11 31 27.4	+0.8
	baz=31						
J19A	Crowheart	31.67	102	⇑P	P	11 31 28.4	+1.4
	baz=32						
L17A	Cokeville	31.67	106	⇑P	P	11 31 29.3	+2.1
	baz=32						
F23A	Volborg	31.68	95	⇓P	P	11 31 27.8	+0.8
	baz=32						
BW06	Boulder Array	31.80	103	⇑P	P	11 31 29.5	+1.3
	baz=32						
PDAR	Pinedale Array	31.80	103	P	P	11 31 29.4	+1.2
	1.0nm,0.7s,baz=311,slow=5.9,SNR=7.2						
N15A	Stansbury Isla	31.83	109	⇑P	P	11 31 29.9	+1.5
	baz=32						
G23A	Biddle	32.06	96	⇑P	P	11 31 30.9	+0.6
	baz=32						
F24A	Ekalaka	32.07	94	⇓P	P	11 31 31.4	+1.0
	baz=32,SNR=5.8						
J20A	Shoshoni	32.08	101	⇓P	P	11 31 31.6	+1.0
	baz=32						
K19A	Absolon Red Bu	32.10	103	⇑P	P	11 31 31.6	+0.7
	baz=32						
I21A	Big Trails, Te	32.13	100	⇓P	P	11 31 32.3	+1.2
	baz=32						
L18A	Fontenelle, Gr	32.21	105	⇓P	P	11 31 32.4	+0.6
	baz=32						
DUG	Dugway	32.24	110	⇑P	P	11 31 32.5	+0.5
	baz=32						
J21A	Lysite	32.40	100	⇑P	P	11 31 34.7	+1.3
	baz=32,SNR=6.7						
L19A	Farson	32.40	104	⇓P	P	11 31 34.4	+0.9
	baz=32						
G24A	Alzada	32.45	95	⇑P	P	11 31 34.3	+0.6
	baz=32						
R11A	Troy Canyon, C	32.45	115	⇓P	P	11 31 35.1	+1.2
	baz=32						
I22A	9 Mile Ranch,	32.47	99	⇓P	P	11 31 34.6	+0.6
	baz=32						
K20A	Yellowstone Ra	32.47	102	⇑P	P	11 31 34.3	+0.2
	baz=32						
H24A	Dirks Ranch, A	32.80	96	⇓P	P	11 31 37.7	+0.9
	baz=33						
J22A	Midwest	32.82	99	⇑P	P	11 31 38.1	+1.0
	baz=33						
K21A	Alcova	33.02	101	⇑P	P	11 31 39.2	+0.3
	baz=33						
MDND	Maddock	33.09	87	⇑P	P	11 31 39.6	+0.4
	baz=33						
N18A	Larsen Ranch,	33.11	106	⇑P	P	11 31 40.5	+0.9
	baz=33						
R13A	O'Grain Ranch,	33.32	114	⇑P	P	11 31 42.4	+0.9
	baz=33						
ULM	Lac du Bonnet	33.36	81	P	P	11 31 41.7	+0.3
	2.0nm,0.4s,baz=306,slow=7.8,SNR=4.3						
I24A	Kuemmerle Ranc	33.41	97	⇑P	P	11 31 43.1	+1.1
	baz=33						
N19A	John Jarvie Ra	33.41	105	⇓P	P	11 31 42.8	+0.6
	baz=33						
ISA	Isabella	33.43	122	⇓P	P	11 31 42.8	+0.5
	baz=33						
L21A	Rawlins	33.47	102	⇓P	P	11 31 43.4	+0.6
	baz=33						
MPMC	Manual Prospec	33.52	120	⇑P	P	11 31 44.6	+1.4
	baz=33						
PKM	Peak Mountain	33.53	124	⇑P	P	11 31 44.9	+1.6
	baz=33						
CLC	China Lake	33.68	120	esP	sP	11 32 42.8	+0.8
M21A	Separation Pea	33.74	102	⇓P	P	11 31 46.0	+0.8
	baz=34						
L22A	Ellis Ranch, M	33.88	101	⇓P	P	11 31 47.5	+1.2
	baz=34						
P18A	Preston Nutter	33.89	108	⇑P	P	11 31 48.0	+1.5
	baz=34						
LRMC	Laurel Mountai	33.92	121	⇑P	P	11 31 47.6	+1.0
	baz=34						
Q16A	Castle Valley	34.02	110	⇓P	P	11 31 48.6	+1.0
	baz=34						
L23A	Garrett	34.17	100	⇑P	P	11 31 49.0	+0.2
	baz=34						
SRU	San Rafael	34.17	109	eP	P	11 31 47.7	-1.1
	6.3nm,0.7s						
SRU	San Rafael	34.17	109	⇓P	P	11 31 50.3	+1.5
	baz=34,SNR=9.0						
N21A	Black Mountain	34.32	104	⇓P	P	11 31 50.3	+0.2
	baz=34						
O20A	White River Ci	34.45	105	⇓P	P	11 31 52.1	+0.9
	baz=34						
GSC	Goldstone	34.45	120	⇑P	P	11 31 52.0	+0.9
	baz=34						
P19A	Cripple Cowboy	34.49	106	⇓P	P	11 31 52.5	+0.9
	baz=34						
AGMN	Agassiz Nation	34.65	84	eP	P	11 31 53.0	+0.4
	5.2nm,0.6s						
S16A	Weppner Ranch,	34.78	111	⇑P	P	11 31 55.8	+1.7
	baz=35						
N22A	Wattenberg Ran	34.80	102	⇓P	P	11 31 54.9	+0.6
	baz=35						
Q19A	Hogan Spring (	34.89	107	⇑P	P	11 31 55.1	+0.2
	baz=35						
M24A	Cheyenne	35.09	100	⇑P	P	11 31 57.5	+0.9
	baz=35						
S17A	Black Ridge (B	35.22	111	⇓P	P	11 31 59.2	+1.4
	baz=35						
Q20A	Ridgley Place,	35.35	106	⇓P	P	11 31 59.7	+0.8
	baz=35						
K27A	Flueckinger Fa	35.44	96	⇓P	P	11 31 60.0	+0.5
	baz=35						
M25A	Palm-Egli Farm	35.49	99	⇓P	P	11 32 00.8	+0.7
	baz=35						
O23A	Lake Granby, G	35.52	103	⇑P	P	11 32 02.0	+1.6
	baz=35						
U15A	North Rim	35.52	113	⇓P	P	11 32 02.0	+1.5
	baz=35						
S18A	Hurst Farm, Bl	35.56	110	⇓P	P	11 32 01.5	+0.7
	baz=35						
P22A	Eagle	35.59	104	⇑P	P	11 32 01.9	+0.9
	baz=35						
R20A	Redvale	35.92	107	⇑P	P	11 32 04.7	+0.9
	baz=36,SNR=5.8						
Q22A	Cressed Butte,	36.09	105	⇓P	P	11 32 06.1	+0.7
	baz=36						
IRM	Iron Mountain	36.14	119	⇑P	P	11 32 07.3	+1.8
	baz=36						
R21A	Cimarron	36.17	106	⇓P	P	11 32 07.0	+1.1
	baz=36						
P23A	Jefferson	36.20	103	⇓P	P	11 32 07.4	+1.1
	baz=36						
S20A	Disappointment	36.22	108	⇓P	P	11 32 07.3	+1.0
	baz=36						
S21A	Coal Bank Pass	36.62	107	⇑P	P	11 32 10.7	+0.9
	baz=36						
MVCO	Mesa Verde	36.65	108	⇑P	P	11 32 10.2	+0.2
	baz=36						
WUAZ	Wupatki	36.69	113	eP	P	11 32 12.2	+1.9
WUAZ	Wupatki	36.69	113	⇑P	P	11 32 11.9	+1.6
	baz=36						
O26A	Horse Wrangler	36.76	100	⇓P	P	11 32 11.1	+0.3
	baz=37						
S22A	4UR Ranch, Cre	37.01	106	⇑P	P	11 32 14.1	+1.0
	baz=37						
EYMN	Ely	37.04	81	eP	P	11 32 13.3	+0.5
	116nm,3.0s						
U19A	Dine' College,	37.06	110	⇑P	P	11 32 13.8	+0.4
	baz=37						
R23A	Moffat	37.14	105	⇓P	P	11 32 14.5	+0.3
	baz=37						
P26A	Davis Ranch, A	37.27	101	⇓P	P	11 32 16.3	+1.1
	baz=37						
Y14A	Wickenburg	37.27	117	⇑P	P	11 32 16.3	+1.2
	baz=37						
R24A	Sanders Place,	37.45	104	⇑P	P	11 32 18.2	+1.4
	baz=37						
T22A	Edith	37.56	107	⇓P	P	11 32 19.3	+1.6
	baz=37						
U21A	Nageezi	37.67	108	⇑P	P	11 32 19.9	+1.3
	baz=38						
Q26A	Hugo	37.68	102	⇑P	P	11 32 19.7	+1.1
	baz=38						
V20A	Brimhall	37.81	110	⇑P	P	11 32 20.8	+1.1
	baz=38						
S24A	Houchin Ranch,	37.87	105	⇓P	P	11 32 21.7	+1.4
	baz=38						
R25A	Fountain Ranch	37.92	103	⇓P	P	11 32 22.0	+1.4
	baz=38						
X18A	Snowflake	38.16	113	⇓P	P	11 32 23.9	+1.3
	baz=38						
V21A	Milan	38.19	109	⇑P	P	11 32 24.0	+1.1
	baz=38						
R26A	Arlington	38.20	102	⇓P	P	11 32 23.6	+0.7
	baz=38						
S25A	Robets Cordova	38.23	104	⇓P	P	11 32 23.7	+0.5
	baz=38						
W20A	Ramah	38.34	110	⇑P	P	11 32 25.2	+1.0
	baz=38,SNR=5.2						
T24A	Torres, Weston	38.40	105	⇓P	P	11 32 25.8	+1.0
	baz=38						
V22A	San Miguel Ran	38.45	108	⇑P	P	11 32 26.3	+1.2
	baz=38						
U23A	El Rito	38.45	107	⇓P	P	11 32 26.8	+1.7
	baz=38						
T25A	Trinidad	38.66	104	⇑P	P	11 32 27.9	+1.1
	baz=38						
S26A	Kim	38.73	103	⇑P	P	11 32 27.8	+0.5
	baz=39						
X20A	Quemado	38.82	111	⇑P	P	11 32 28.8	+0.6
	baz=39						
T26A	Comanche Natio	39.02	103	⇓P	P	11 32 30.6	+0.8
	baz=39						
X21A	Alamocita Cree	39.23	110	⇓P	P	11 32 33.1	+1.5
	baz=39						
U25A	Circle Dot Ran	39.25	105	⇑P	P	11 32 33.5	+1.8
	baz=39						
V24A	Rampart Ranch,	39.38	106	⇑P	P	11 32 34.1	+1.3
	baz=39						
Y20A	Horse Springs,	39.40	111	⇑P	P	11 32 34.2	+1.2
	baz=39						
W23A	Werner Place,	39.42	108	⇓P	P	11 32 34.1	+0.9
	baz=39						
T27A	Campo	39.53	103	⇑P	P	11 32 35.0	+1.0
	baz=39						
U26A	Atchley Ranch,	39.57	104	⇑P	P	11 32 35.4	+1.1
	baz=39						
Y21A	Point of Rocks	39.65	111	⇑P	P	11 32 36.1	+1.1
	baz=40						
W24A	Lazy 6 Ranch,	39.73	107	⇑P	P	11 32 36.8	+1.1
	baz=40						
Z20A	Nine Sixteen R	39.96	112	⇓P	P	11 32 38.5	+1.0
	baz=40						
V26A	Tequesquite Ra	40.03	105	⇓P	P	11 32 39.0	+0.9
	baz=40						
Y22A	Socorro	40.04	110	⇑P	P	11 32 39.1	+0.9
	baz=40						
Y23A	Lovelace Mesa,	40.47	109	⇓P	P	11 32 42.8	+1.0
	baz=40						
Z22A	Elephant Butte	40.60	110	⇓P	P	11 32 43.8	+1.1
	baz=40						
W26A	Owens Ranch, T	40.61	105	⇑P	P	11 32 43.8	+1.0
	baz=40						
Y24A	Capitan	40.76	108	⇓P	P	11 32 44.9	+0.8
	baz=41						
121A	Cookes Peak, D	40.82	112	⇑P	P	11 32 45.8	+1.1
	baz=41						
220A	Playas Peak, P	41.01	113	⇑P	P	11 32 47.0	+0.9
	baz=41						
X26A	CR and CF Fran	41.03	106	⇓P	P	11 32 47.2	+1.0
	baz=41						
319A	Douglas	41.11	114	⇑P	P	11 32 48.1	+1.1
	baz=41						
Y25A	Mesa, Roswell	41.12	107	⇓P	P	11 32 48.1	+1.1
	baz=41						
Z24A	Sheeppen Canyo	41.29	109	⇑P	P	11 32 49.9	+1.4
	baz=41						
X27A	F and S Farms,	41.29	105	⇓P	P	11 32 48.9	+0.5
	baz=41						
320A	Kipp Ranch, An	41.48	114	⇓P	P	11 32 51.2	+1.2
	baz=41						
Y26A	Elida	41.53	107	⇓P	P	11 32 51.3	+1.0
	baz=41						
Z25A	Roswell	41.63	108	⇑P	P	11 32 52.3	+1.1
	baz=42						
AMTX	Amarillo	41.78	104	⇑P	P	11 32 53.4	+1.0
	baz=42						
Y27A	Causey	41.88	106	⇓P	P	11 32 53.9	+0.7
	baz=42						
Z26A	Caprock	41.99	107	⇓P	P	11 32 54.7	+0.7
	baz=42						
MSTX	Muleshoe	42.00	105	⇑P	P	11 32 55.0	+0.9
	baz=42						
125A	Gardner Draw,	42.17	108	⇓P	P	11 32 56.3	+0.8
	baz=42						
224A	Cornudas Mount	42.25	110	⇑P	P	11 32 56.9	+0.7
	baz=42						
Y28A	McKinney Farm,	42.30	105	⇑P	P	11 32 57.4	+0.9
	baz=42						
Z27A	Tatum	42.32	106	⇑P	P	11 32 57.6	+0.8
	baz=42						
225A	Deer Hill, Car	42.55	109	⇓P	P	11 32 59.7	+1.1
	baz=42						
Y29A	Porterfield Fa	42.62	104	⇑P	P	11 33 00.0	+0.9
	baz=42						
MNTX	Cornudas Mount	42.63	110	⇓P	P	11 33 00.6	+1.4
	baz=42						
324A	Moseley Ranch,	42.80	110	⇓P	P	11 33 01.4	+0.7
	baz=43						
Z29A	Hungry Hill Ra	43.09	105	⇑P	P	11 33 03.1	+0.3
	baz=43						
325A	Bean Ranch, Si	43.10	110	⇓P	P	11 33 03.8	+0.8
	baz=43						
128A	Castleberry Fa	43.24	106	⇓P	P	11 33 04.0	-0.1
	baz=43						
425A	Indio Mountain	43.58	110	⇓P	P	11 33 08.0	+1.2
	baz=43						
326A	Caldwell Ranch	43.61	109	⇑P	P	11 33 07.9	+0.8
	baz=44						
SCHQ	Schefferville	43.67	57	P	P	11 33 06.1	-1.1
	1.2nm,0.5s,baz=280,slow=8.6,SNR=6.0						
426A	McDonald Obser	44.12	109	⇓P	P	11 33 12.0	+0.7
	baz=44						
427A	Hayter Ranch,	44.27	109	⇓P	P	11 33 13.1	+0.7
	baz=44						
329A	Wagon Wheel Ra	44.41	107	⇓P	P	11 33 13.9	+0.4
	baz=44						
ABTX	Abilene, Hawle	44.60	103	⇑P	P	11 33 15.0	+0.1
	baz=44						
526A	Mary Lane Ranc	44.61	110	⇓P	P	11 33 15.8	+0.7
	baz=44						
SFIN	Scholer Farm	44.70	85	⇑P	P	11 33 15.6	+0.1
	baz=44						
428A	Kincaid Ranch,	44.71	108	⇓P	P	11 33 16.7	+0.9
	baz=45						
626A	Big Bend Ranch	45.01	110	⇓P	P	11 33 18.5	+0.3
	baz=45						
528A	Cox Ranch, San	45.13	109	⇑P	P	11 33 20.0	+0.8
	baz=45						
429A	Davenport Ranc	45.17	107	⇓P	P	11 33 19.7	+0.3
	baz=45						
430A	Baggett Ranch,	45.35	106	⇓P	P	11 33 20.9	+0.1
	baz=45						
TXAR	Lajitas Array	45.41	110	P	P	11 33 22.3	+0.9
	1.0nm,0.8s,baz=331,slow=6.4,SNR=12						
627A	Terlingua Ranc	45.45	110	⇑P	P	11 33 21.8	+0.1
	baz=45						
628A	Black Gap, Mar	45.65	109	⇑P	P	11 33 23.8	+0.6
	baz=46						
431A	Sonora	45.74	106	⇓P	P	11 33 24.1	+0.2
	baz=46						
530A	J-C Ranch, Com	45.83	107	⇓P	P	11 33 24.7	+0.2
	baz=46						
531A	Rocksprings	46.20	106	⇑P	P	11 33 27.6	+0.2
	baz=46						
JCT	Junction City	46.29	105	eP	P	11 33 28.1	0.0
	17nm,0.9s						
JCT	Junction City	46.29	105	⇓P	P	11 33 28.9	+0.7
	baz=46,SNR=11						
532A	Rocksprings	46.53	106	⇓P	P	11 33 30.6	+0.5
	baz=46						
631A	Perdido Creek	46.81	107	⇓P	P	11 33 31.9	-0.2
	baz=47						
WMQ	Urumqi	64.79	315	eP	P	11 35 40.3	+0.6
LZH	Lanzhou	65.06	299	eP	P	11 35 40.2	-1.6
LZH				pP	pP	11 36 23.1	-0.4
LZH				sP	sP	11 36 42.5	-0.3
LZH				PP	PP	11 38 07.3	+0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
LZH				pmax	pmax		
	comp=Z,47nm,6.5s						
SGMF	Saint Gilles	69.26	20	eP	P	11 36 04.9	-2.8
SGMF	Saint Gilles	69.26	20	eP	P	11 36 04.9	-2.8
QUIF	Quistinic	69.48	21	eP	P	11 36 07.6	-1.5
QUIF	Quistinic	69.48	21	eP	P	11 36 07.6	-1.5
CD2	Chengdu	69.49	296	P	P	11 36 08.4	-1.1
CD2				pP	pP	11 36 51.4	-0.4
CD2				sP	sP	11 37 10.9	0.0
CD2				PP	PP	11 38 46.2	+1.2
CD2				S	S	11 44 58.5	-3.8
CD2				sS	sS	11 46 13.3	-2.5
CD2				SS	SS	11 49 30.8	-1.7
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,4.3s						
KSH	Kashi	72.51	322	eP	P	11 36 29.9	+2.3
KSH				ePcP	PcP	11 36 46.9	+2.6
KSH				epP	pP	11 37 11.2	+0.9
KSH				esP	sP	11 37 30.3	+1.0
KSH				ePP	PP	11 39 15.6	+5.0
KSH				S	S	11 45 38.3	+1.3
KSH				SKS	SKSac	11 46 12.2	-3.1
KSH				ScS	SKKSac	11 46 16.1	+0.7
KSH				sS	sS	11 46 51.3	+0.3
KSH				SS	SS	11 50 23.1	+4.8
KSH				pmax	pmax		
	comp=Z,110nm,5.5s						
KSH				LR	LR		
	comp=N,80nm,6.2s						
KSH				LR	LR		
	comp=E,61nm,8.9s						
KSH				LR	LR		
	comp=Z,140nm,7.6s						
QSPA	South Pole Qui	150.13	180	PKPbc	PKPbc	11 44 46.8	-1.7
	comp=Z,0.7nm,0.7s,baz=259,slow=6.2,SNR=4.6						

ISCJB ***12*** *11:47:45.0± 0.2, 52.93S± 0.03 × 27.32E± 0.08, h10km, mb5.3/77, MS4.8/123, Error ellipse: s-maj=6.9km s-min=4.6km az=175.3*

NEIC ***12*** *11:47:45.9± 0.1, 52.93S × 27.20E, h10km, mb5.5/38, MS4.8/91, Error ellipse: s-maj=6.8km s-min=5.8km az=85.0*

MOS ***12*** *11:47:45.3± 1.3, 52.97S × 27.39E, h10km, mb5.4/32, MS4.7/15, Error ellipse: s-maj=19.9km s-min=7.6km az=91.0*

IDC ***12*** *11:47:46.2± 3.3, 52.99S × 27.22E, h12km± 20km, mb5.1/29, mb1 5.2/29, mb1mx5.2/29, mbtmp5.1/29, MS4.5/23, Ms1 4.4/23, ms1mx4.4/28, Error ellipse: s-maj=13.2km s-min=11.2km az=71.0*

GCMT ***12*** *11:47:47.6± 0.2, 52.88S × 27.45E, h12km, MW5.2, Moment Tensor Solution. s56,c88; s90,c144;

Scale 10^{16}Nm; M_{rr}-8.16±.15; $M_{\theta\theta}$7.62±.14; $M_{\phi\phi}$0.54±.16; $M_{r\theta}$1.32±.40; $M_{r\phi}$-2.96±.13; $M_{\theta\phi}$-0.20±.41; Best double couple: $M_0$8.50000×10^{16} NP1:ϑ₁112.00000°, δ41.00000°, λ-87.00000°. NP2:ϑ₂288.00000°, δ49.00000°, λ-93.00000°. Principal axes: T 8.8000, Plg4.0000°, Azm20.0000°; N -0.5200, Plg2.0000°, Azm290.0000°; P -8.2700, Plg85.0000°, Azm176.0000°; Data Used: II IU G CN IC.

DJA ***12*** *11:47:57.5±3.7, 53°S±5°×2°7E±1°7, h113km±42km, M5.2/10, mB5.4/4, mb5.4/10, Mw(mB)4.8/4*

ISC 12 11:47:46.7±1.5, 52.96S±0.05×27.20E±0.06, h14km±8km, n786, σ1°28/787, mb5.4/78, MS4.8/124, 149C-163D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SYO	**Syowa Base**	**17.12**	**165**	⇓*i*	Pn	**Pn**	**11 51 43.0**	**-2.2**
BUFB	**Buffelsbos**	**18.88**	**354**	⇑*i*	P	**P**	**11 52 03.7**	**-2.8**
ELIM	**Elim**	**19.11**	**341**	*e*	P	**Pn**	**11 52 10.1**	**+0.3**
ELIM					AMB	AMB	11 52 15.7	
	comp=Z,9μm,5.5s							
NVL	**N'lazarevskaya**	**19.16**	**196**	⇓*i*	P	**P**	**11 52 09.4**	**+0.1**
MAIT	**Maitri**	**19.19**	**196**	*e*	P	P	11 51 59.7	-10
MAIT				*e*			11 52 02.4	
GRM	**Grahamstown**	**19.64**	**358**	⇑*i*	P	**Pn**	**11 52 16.3**	**0.0**
GRM					AMB	AMB	11 52 17.5	
	comp=Z,162nm,1.2s							
CER	**Ceres**	**20.39**	**341**	⇑*i*	P	**P**	**11 52 23.1**	**0.0**
CER					AMB	AMB	11 52 27.2	
	comp=Z,100nm,1.9s							
SUR	**Sutherland**	**21.08**	**345**		P	**P**	**11 52 31.2**	**+0.6**
	comp=Z,85nm,0.8s,baz=158,slow=10,SNR=61							
SUR					LR	LR	11 58 45.8	
	comp=Z,3μm,21.5s,baz=172,slow=31							
SUR	**Sutherland**	**21.08**	**345**	*e*	P	**P**	**11 52 30.6**	**-0.1**
	comp=Z,304nm,1.1s							
SUR	**Sutherland**	**21.08**	**345**		P	**P**	**11 52 31.7**	**+1.0**
	SNR=12							
SUR					mb		11 52 40.2	
	SNR=20							
SUR	**Sutherland**	**21.08**	**345**		P	**P**	**11 52 31.8**	**+1.2**
	comp=Z,1μm,0.9s,SNR=31							
SUR	**Sutherland**	**21.08**	**345**	⇓*i*	P	**P**	**11 52 31.0**	**+0.4**
SUR					AMB	AMB	11 52 40.1	
	comp=Z,156nm,1.1s							
HVD	**Gariep Dam**	**22.37**	**356**	*e*	P	**P**	**11 52 43.7**	**-0.8**
HVD					AMB	AMB	11 52 49.3	
	comp=Z,127nm,1.1s							
MAW	**Mawson**	**22.51**	**144**		P	**P**	**11 52 47.7**	**+2.2**
	comp=Z,103nm,0.9s,baz=281,slow=15,SNR=7.2							
MAW					LR	LR	11 59 26.0	
	comp=Z,1μm,19.9s,baz=198,slow=31							
MAW	**Mawson**	**22.51**	**144**		P	**P**	**11 52 47.7**	**+2.2**
SNAA	**Sanae**	**22.92**	**204**	*e*	P	**P**	**11 52 52.0**	**+2.1**
	comp=Z,170nm,0.8s							
SNAA				*e*	PcP	**PcP**	**11 56 39.0**	**-0.6**
SNAA	**Sanae**	**22.92**	**204**	⇓*i*	P	**P**	**11 52 52.3**	**+2.4**
VNA2	**Neumayer--Watz**	**23.69**	**208**	*e*	P	**P**	**11 52 59.8**	**+2.3**
	baz=44,slow=11							
VNA2	**Neumayer--Watz**	**23.69**	**208**	*e*	PcP	**PcP**	**11 56 41.0**	**-0.1**
	baz=44,slow=11							
VNA1	**Neumayer--Stat**	**23.80**	**209**	*e*	P	**P**	**11 53 01.6**	**+3.1**
KOMG	**Komaggas**	**24.22**	**339**	*e*	P	**P**	**11 53 02.7**	**-0.1**
KOMG					AMB	AMB	11 53 12.7	
	comp=Z,82nm,2.0s							
BOSA	**Boshof**	**24.36**	**356**		P	**P**	**11 53 03.6**	**-0.7**
	comp=Z,22nm,0.8s,baz=180,slow=9.2,SNR=15							
BOSA					PcP	**PcP**	**11 56 43.8**	**+0.3**
	comp=Z,6.1nm,0.8s,baz=129,slow=2.8,SNR=4.7							
BOSA					LR	LR	12 00 44.5	
	comp=Z,2μm,21.4s,baz=168,slow=32							
BOSA	**Boshof**	**24.36**	**356**	*e*	P	**P**	**11 53 03.5**	**-0.8**
	comp=Z,50nm,0.9s							
BOSA					PcP	**PcP**	**11 56 43.8**	**+0.3**
BOSA	**Boshof**	**24.36**	**356**	⇑*i*	P	**P**	**11 53 03.4**	**-1.0**
BOSA					AMB	AMB	11 53 12.3	
	comp=Z,74nm,2.6s							
VNA3	**Neumayer Olymp**	**24.49**	**208**	*e*	P	**P**	**11 53 07.0**	**+2.0**
VNA3	**Neumayer Olymp**	**24.49**	**208**	*e*	PcP	**PcP**	**11 56 42.5**	**-0.4**
UPI	**Upington**	**24.96**	**348**	⇓*i*	P	**P**	**11 53 08.9**	**-0.8**
UPI					AMB	AMB	11 53 11.3	
	comp=Z,107nm,1.1s							
SWZ	**Schweizer**	**25.79**	**356**	⇑*i*	P	**P**	**11 53 16.1**	**-1.2**
SWZ					AMB	AMB	11 53 19.5	
	comp=Z,37nm,1.1s							
PRYS	**Parys**	**26.00**	**0**	⇑*i*	P	**P**	**11 53 17.9**	**-1.3**
PRYS					AMB	AMB	11 53 29.1	
	comp=Z,46nm,2.2s							
ERPM	**east rand prop**	**26.59**	**2**	*e*	P	**P**	**11 53 24.7**	**+0.2**
ERPM					AMB	AMB	11 53 25.7	
	comp=Z,76nm,1.2s							
KSR	**Koster**	**27.07**	**359**	*e*	P	**P**	**11 53 27.8**	**-1.1**
KSR					AMB	AMB	11 53 36.9	
	comp=Z,54nm,1.1s							
SLR	**Silverton**	**27.20**	**2**	*e*	P	**P**	**11 53 28.9**	**-1.1**
SLR					AMB	AMB	11 53 30.0	
	comp=Z,103nm,1.2s							
LBTB	**Lobatse**	**27.93**	**357**		P	**P**	**11 53 35.4**	**-1.2**
	comp=Z,18nm,0.8s,baz=189,slow=8.7,SNR=15							
LBTB					LR	LR	12 02 40.7	
	comp=Z,2μm,21.0s,baz=185,slow=32							
LBTB	**Lobatse**	**27.93**	**357**	*e*	P	**P**	**11 53 35.5**	**-1.1**
	comp=Z,50nm,1.1s							
LBTB	**Lobatse**	**27.93**	**357**	⇑*i*	P	**P**	**11 53 35.0**	**-1.5**
LBTB					AMB	AMB	11 53 43.1	
	comp=Z,45nm,2.5s							
MOPA	**Mopani**	**29.57**	**8**	⇑*i*	P	**P**	**11 53 49.9**	**-1.1**
MOPA					AMB	AMB	11 53 50.8	
	comp=Z,22nm,0.9s							
MSNA	**Messina**	**30.64**	**5**	*e*	P	**P**	**11 53 59.5**	**-1.0**
MSNA					AMB	AMB	11 54 00.1	
	comp=Z,63nm,1.0s							
MIR	**Mirnyy**	**34.02**	**139**	⇓*i*	P	**P**	**11 54 30.5**	**+0.9**
MIR					pmax	pmax		
	comp=Z,147nm,1.8s							
TSUM	**Tsumeb**	**34.51**	**344**	*e*	P	**P**	**11 54 33.6**	**-0.9**
	comp=Z,30nm,0.8s							
TSUM					LR	LR		
	comp=Z,1μm,21.0s							
HOPE	**Hope Point**	**36.65**	**242**	*e*	P	**P**	**11 54 53.2**	**+0.9**
	comp=Z,123nm,1.0s							
QSPA	**South Pole Qui**	**37.26**	**180**		P	**P**	**11 54 57.8**	**+0.1**
	comp=Z,81nm,0.6s,baz=250,slow=5.6,SNR=243							
QSPA					PcP	**PcP**	**11 57 16.4**	**-0.4**
	comp=Z,41nm,0.7s,baz=259,slow=3.8,SNR=4.8							
QSPA	**South Pole Qui**	**37.26**	**180**	*e*	P	**P**	**11 54 58.0**	**+0.3**
	comp=Z,107nm,0.9s							
QSPA				*e*	PcP	**PcP**	**11 57 15.8**	**-1.1**
QSPA					PcP	**PcP**	**11 57 16.4**	**-0.4**
QSPA					LR	LR		
	comp=Z,1μm,19.0s							
ABPO	**Ambohimpanom**	**37.28**	**32**	*e*	P	**P**	**11 54 59.3**	**+1.0**
ABPO					pmax	pmax		
	comp=Z,15nm,0.8s							
ABPO					MLR	MLR		
	comp=Z,945nm,19.0s							
ABPO	**Ambohimpanom**	**37.28**	**32**	*e*	P	**P**	**11 54 59.2**	**+1.0**
	comp=Z,15nm,0.8s							
ABPO					LR	LR		
	comp=Z,945nm,19.0s							
LSZ	**Lusaka**	**37.60**	**2**	*e*	P	**P**	**11 54 59.7**	**-1.2**
	comp=Z,32nm,0.8s							
LSZ					LR	LR		
	comp=Z,2μm,22.0s							
LSZ	**Lusaka**	**37.60**	**2**		P	**P**	**11 55 00.2**	**-0.8**
	SNR=9.2							
LSZ					mb		11 55 01.0	
	SNR=20							
LSZ	**Lusaka**	**37.60**	**2**	⇑*i*	P	**P**	**11 54 59.8**	**-1.2**
OPO	**Ambohidratompo**	**37.69**	**32**		P	**P**	**11 55 02.5**	**+0.7**
	comp=Z,2.6nm,0.6s							
OPO					PcP	**PcP**	**11 57 19.4**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=181,slow=6.6,SNR=3.0							
OPO					LR	LR	12 07 04.2	
	comp=Z,621nm,22.0s,baz=177,slow=31							
OPO	**Ambohidratompo**	**37.69**	**32**		P	**P**	**11 55 02.5**	**+0.7**
OPO					PcP	**PcP**	**11 57 19.4**	**+0.6**
RER	**Riviere de l'E**	**38.58**	**46**		PFAKE		11 55 20.0	+11
RER					LR	LR		
	comp=Z,2μm,19.0s							
CASY	**Casey**	**40.84**	**142**	*e*	P	**P**	**11 55 28.1**	**+0.7**
	comp=Z,79nm,0.8s							
PMSA	**Palmer Station**	**44.45**	**218**		P	**P**	**11 55 58.7**	**+2.0**
	comp=Z,64nm,0.9s,baz=100,slow=6.0,SNR=11							
PMSA	**Palmer Station**	**44.45**	**218**	*e*	P	**P**	**11 55 57.4**	**+0.7**
	comp=Z,53nm,0.8s							
PMSA					LR	LR		
	comp=Z,1μm,20.0s							
VNDA	**Vanda**	**46.79**	**168**		P	**P**	**11 56 15.7**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=231,slow=7.4,SNR=25							
VNDA					PcP	**PcP**	**11 57 48.1**	**+0.2**
	comp=Z,8.9nm,1.1s,baz=291,slow=2.9,SNR=4.2							
VNDA					LR	LR	12 14 29.4	
	comp=Z,1μm,20.0s,baz=214,slow=34							
VNDA	**Vanda**	**46.79**	**168**	*e*	P	**P**	**11 56 15.6**	**+0.5**
	comp=Z,12nm,0.8s							
VNDA					PcP	**PcP**	**11 57 48.1**	**+0.2**
SBA	**Scott Base**	**47.11**	**169**	*e*	P	**P**	**11 56 19.2**	**+1.7**
SBA					pmax	pmax		
	comp=Z,550nm,3.0s							
SBA					MLR	MLR		
	comp=Z,1μm,19.0s							
SBA	**Scott Base**	**47.11**	**169**	*e*	P	**P**	**11 56 19.2**	**+1.7**
	comp=Z,550nm,3.0s							
SBA					LR	LR		
	comp=Z,1μm,19.0s							
EFI	**East Falkland**	**49.14**	**235**	*e*	P	**P**	**11 56 33.8**	**+0.3**
KMBO	**Kilima Mbogo**	**52.33**	**13**	*e*	P	**P**	**11 56 59.2**	**+0.9**
	comp=Z,18nm,1.0s							
KMBO					LR	LR		
	comp=Z,484nm,21.0s							
KMBO	**Kilima Mbogo**	**52.33**	**13**		P	**P**	**11 56 59.9**	**+1.7**
	SNR=6.7							
KMBO					mb		11 57 01.0	
	SNR=7.0							
MSEY	**Mahe Island**	**53.46**	**36**		PFAKE			
MSEY					LR	LR		
	comp=Z,816nm,21.0s							
TRQA	**Tornquist**	**60.29**	**245**	*e*	P	**P**	**11 57 54.4**	**-0.2**
	comp=Z,61nm,0.8s							
TRQA					LR	LR		
	comp=Z,429nm,21.0s							
CAM4	**Nova Friburgo**	**60.34**	**272**	⇓*i*	P	**P**	**11 57 55.0**	**-0.4**
CAM4				*i*			11 57 56.9	
CAM4				*i*			11 57 59.0	
CAM4				*i*			11 58 03.1	
CAM4				*i*			11 58 09.9	
CAM4				*i*			11 58 32.7	
CAM4				*i*			11 58 34.7	
CAM4				*i*			11 58 41.7	
SPB	**Sao Paulo**	**62.35**	**267**		PFAKE		11 58 20.0	+11
SPB					LR	LR		
	comp=Z,350nm,21.0s							
PLCA	**Paso Flores**	**62.90**	**238**		P	**P**	**11 58 12.2**	**0.0**
	comp=Z,40nm,1.0s,baz=135,slow=7.2,SNR=62							
PLCA					PcP	**PcP**	**11 58 49.7**	**-0.7**
	comp=Z,12nm,0.9s,baz=128,slow=5.8,SNR=4.2							
PLCA					LR	LR	12 20 22.8	
	comp=Z,228nm,18.9s,baz=113,slow=31							
PLCA	**Paso Flores**	**62.90**	**238**	*e*	P	**P**	**11 58 12.2**	**0.0**
	comp=Z,54nm,1.0s							
PLCA					PcP	**PcP**	**11 58 49.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**64.50**	**111**		P	**P**	**11 58 22.5**	**-0.3**
	comp=Z,18nm,1.0s,baz=225,slow=6.9,SNR=6.1							
NWAO	**Narrogin (SRO)**	**64.50**	**111**		P	**P**	**11 58 22.5**	**-0.3**
LIC	**Lamto**	**64.97**	**324**	*e*	P	**P**	**11 58 24.8**	**-1.2**
	comp=Z,105nm,0.9s,baz=154							
LIC	**Lamto**	**64.97**	**324**	*e*	P	**P**	**11 58 24.8**	**-1.2**
	comp=Z,105nm,0.9s							
DBIC	**Dimbokro**	**65.33**	**325**		P	**P**	**11 58 27.2**	**-1.0**
	comp=Z,46nm,0.8s,baz=140,slow=8.3,SNR=54							
DBIC					LR	LR	12 19 53.1	
	comp=Z,253nm,21.7s,baz=148,slow=30							
DBIC	**Dimbokro**	**65.33**	**325**	*e*	P	**P**	**11 58 27.2**	**-1.0**
	comp=Z,78nm,1.0s							
DBIC	**Dimbokro**	**65.33**	**325**	⇓*i*	P	**P**	**11 58 27.2**	**-1.0**
CPUP	**Villa Florida**	**66.23**	**257**		P	**P**	**11 58 33.8**	**-0.2**
	comp=Z,65nm,0.7s,baz=117,slow=5.7,SNR=169							
CPUP					LR	LR	12 23 22.7	
	comp=Z,228nm,18.8s,baz=138,slow=32							
CPUP	**Villa Florida**	**66.23**	**257**	*e*	P	**P**	**11 58 33.8**	**-0.2**
BDFB	**Brasilia**	**68.77**	**272**		P	**P**	**11 58 50.9**	**+0.5**
	comp=Z,44nm,0.9s,baz=120,slow=4.0,SNR=42							
BDFB					LR	LR	12 23 00.9	
	comp=Z,317nm,19.6s,baz=293,slow=31							
BDFB	**Brasilia**	**68.77**	**272**		P	**P**	**11 58 50.9**	**+0.5**
RCBR	**Riachuelo**	**69.35**	**289**	*e*	P	**P**	**11 58 54.3**	**+0.4**
	comp=Z,45nm,1.1s							
TORD	**Torodi Ar. Bea**	**69.39**	**333**		P	**P**	**11 58 53.4**	**-0.6**
	comp=Z,42nm,0.7s,baz=172,slow=6.8,SNR=288							
TORD					LR	LR	12 23 03.1	
	comp=Z,158nm,20.4s,baz=140,slow=30							
TORD					PKPPKP	P'P'df	12 27 05.5	+9.0
	comp=Z,1.0nm,1.0s,baz=359,slow=1.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**69.39**	**333**		P	**P**	**11 58 53.4**	**-0.6**
TORD					P'P'		12 27 05.5	
LCO	**Las Campanas**	**71.86**	**246**	*e*	P	**P**	**11 59 09.0**	**-0.4**
	comp=Z,106nm,1.1s							
FORT	**Forrest**	**72.10**	**117**	*e*	P	**P**	**11 59 09.9**	**-0.5**
	comp=Z,25nm,0.8s							
ABTO	**Aybut**	**73.57**	**26**		P	**P**	**11 59 19.9**	**+0.7**
	SNR=9.4							
RBK	**Rabkut**	**73.96**	**27**		P	**P**	**11 59 22.2**	**+0.8**
	SNR=6.4							
BBOO	**Buckleboo**	**74.65**	**124**	*e*	P	**P**	**11 59 25.0**	**-0.5**
	comp=Z,223nm,0.9s							
MBWA	**Marble Bar**	**74.89**	**105**	*e*	P	**P**	**11 59 26.3**	**-0.7**
	comp=Z,8.9nm,0.4s							
TAM	**Tamanrasset**	**77.75**	**340**	*e*	P	**P**	**11 59 43.5**	**+0.4**
TAM					pmax	pmax		
	comp=Z,15nm,1.0s							
TAM					MLR	MLR		
	comp=Z,398nm,19.0s							
TAM	**Tamanrasset**	**77.75**	**340**	*e*	P	**P**	**11 59 43.5**	**+0.4**
	comp=Z,15nm,1.0s							
TAM					LR	LR		
	comp=Z,398nm,19.0s							
RAYN	**Ar Rayn**	**77.81**	**17**		P	**P**	**11 59 44.5**	**+1.2**
	comp=Z,106nm,0.7s,SNR=7.4							
RAYN	**Ar Rayn**	**77.81**	**17**	*e*	P	**P**	**11 59 44.1**	**+0.8**
STKA	**Stephens Creek**	**78.12**	**128**		P	**P**	**11 59 45.0**	**-0.2**
	comp=Z,34nm,0.9s,baz=216,slow=3.9,SNR=47							
STKA					LR	LR	12 30 17.1	
	comp=Z,91nm,18.4s,baz=204,slow=33							
RPZ	**Rata Peaks**	**78.81**	**154**		P	**P**	**11 59 48.7**	**-0.1**
JMDO	**Jabal Madar**	**79.68**	**29**		P	**P**	**11 59 53.6**	**0.0**
	SNR=6.3							
BSY	**Bisya**	**79.77**	**28**		P	**P**	**11 59 54.2**	**+0.1**
	SNR=8.8							
ARQ	**Araqi**	**80.14**	**27**		P	**P**	**11 59 56.3**	**+0.2**
	SNR=12							
WBK	**Wadi Bani Khal**	**80.16**	**30**		P	**P**	**11 59 56.5**	**+0.3**
	SNR=23							
WBK					mb		11 59 57.3	
	SNR=22							
SMDO	**Samad**	**80.31**	**29**		P	**P**	**11 59 56.7**	**-0.4**
	SNR=22							
LPAZ	**La Paz**	**80.33**	**256**		P	**P**	**11 59 58.1**	**-0.1**
	comp=Z,8.8nm,0.6s,baz=132,slow=3.9,SNR=25							
LPAZ					LR	LR	12 29 26.4	
	comp=Z,161nm,20.4s,baz=130,slow=31							
LPAZ	**La Paz**	**80.33**	**256**	*e*	P	**P**	**11 59 58.1**	**-0.1**
	comp=Z,34nm,1.3s							
HOQ	**Hoqain**	**80.60**	**28**		P	**P**	**11 59 58.2**	**-0.3**
	SNR=23							
WSAR	**Wadi Sarin**	**80.65**	**29**		P	**P**	**11 59 58.2**	**-0.6**
	comp=Z,45nm,0.7s,baz=219,slow=7.0,SNR=50							
WSAR					LR	LR	12 28 21.9	
	comp=Z,277nm,20.5s,baz=203,slow=30							
WSAR	**Wadi Sarin**	**80.65**	**29**		P	**P**	**11 59 58.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**80.71**	**108**		P	**P**	**11 59 58.8**	**-0.6**
	comp=Z,17nm,0.8s,baz=215,slow=5.1,SNR=19							
FITZ					LR	LR	12 28 03.9	
	comp=Z,132nm,21.2s,baz=68,slow=30							
FITZ	**Fitzroy Crossi**	**80.71**	**108**	*e*	P	**P**	**11 59 58.9**	**-0.5**
	comp=Z,9.1nm,0.6s							
KAD	**Karad**	**80.86**	**45**	*i*	P	**P**	**11 59 59.5**	**-0.6**
ASAR	**Alice Springs**	**80.89**	**117**		P	**P**	**11 59 59.8**	**-0.7**
	comp=Z,32nm,0.8s,baz=209,slow=5.4,SNR=152							
ASAR					PKiKP	**PKiKP**	**12 05 25.4**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=200,slow=1.2,SNR=7.5							
ASAR					PKKPbc	**PKKPbc**	**12 18 36.5**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=43,slow=2.2,SNR=17							
ASAR					LR	LR	12 32 22.2	
	comp=Z,172nm,19.3s,baz=258,slow=33							
ASAR	**Alice Springs**	**80.89**	**117**		P	**P**	**11 59 59.8**	**-0.7**
ASAR					PKiKP	**PKiKP**	**12 05 25.4**	**-1.8**
ASAR					PKKPbc	**PKKPbc**	**12 18 36.5**	**+0.9**
AS31	**Alice Springs**	**80.89**	**117**	*e*	P	**P**	**11 59 59.7**	**-0.7**
ASHO	**Ashiyiah**	**81.30**	**26**		P	**P**	**12 00 02.1**	**-0.1**
	SNR=12							
ASHO					mb		12 00 02.5	
	SNR=31							
PSI	**Prapat**	**81.33**	**74**		P	**P**	**12 00 02.3**	**-0.6**
	comp=Z,35nm,0.8s,baz=218,slow=3.7,SNR=32							
PSI					LR	LR	12 31 29.0	
	comp=Z,372nm,18.2s,baz=117,slow=32							
PSI	**Prapat**	**81.33**	**74**		P	**P**	**12 00 02.3**	**-0.6**
HATD	**Hatta, Dubai**	**81.45**	**26**		P	**P**	**12 00 02.9**	**-0.2**
	SNR=9.8							
HATD					mb		12 00 03.3	
	SNR=26							
EIL	**Elat**	**82.56**	**7**		P	**P**	**12 00 10.3**	**+1.6**
	comp=Z,14nm,0.8s,baz=297,slow=4.8,SNR=12							
EIL	**Elat**	**82.56**	**7**		P	**P**	**12 00 10.3**	**+1.6**
HYB	**Hyderabad**	**82.89**	**49**	*i*	P	**P**	**12 00 11.5**	**+0.7**
SAML	**Samuel**	**83.16**	**264**	*e*	P	**P**	**12 00 12.2**	**-0.2**
	comp=Z,67nm,0.9s							
SAML					LR	LR		
	comp=Z,511nm,19.0s							
KGM	**Kluang**	**83.27**	**78**		P	**P**	**12 00 12.7**	**-0.2**
MYKOM	**Kota Tinggi**	**83.40**	**78**		P	**P**	**12 00 13.6**	**+0.1**
RDF	**Al-Radifah**	**83.45**	**18**	*e*	P	**P**	**12 00 13.9**	**+0.6**
RDF					AMb	AMB	12 00 15.1	
	comp=Z,79nm,0.9s							
NAY	**Al-Naaiem**	**83.71**	**18**	*e*	P	**P**	**12 00 14.3**	**-0.4**
NAY					AMb	AMB	12 00 15.4	
	comp=Z,38nm,0.7s							
KBD	**Kabd**	**83.72**	**18**	*e*	P	**P**	**12 00 14.7**	**0.0**
KBD					AMb	AMB	12 00 15.6	
	comp=Z,66nm,0.5s							
IPM	**Ipoh**	**83.90**	**74**	*e*	P	**P**	**12 00 15.4**	**-0.7**
	comp=Z,12nm,0.7s							
IPM	**Ipoh**	**83.90**	**74**		P	**P**	**12 00 15.6**	**-0.6**
UMR	**Umm Al-Rimmam**	**84.09**	**18**	*e*	P	**P**	**12 00 16.6**	**+0.1**
UMR					AMb	AMB	12 00 17.4	
	comp=Z,134nm,0.6s							
WRA	**Warramunga Arr**	**84.13**	**115**		P	**P**	**12 00 16.6**	**-0.8**
	comp=Z,21nm,0.8s,baz=211,slow=4.1,SNR=87							
WRA					PKiKP	**PKiKP**	**12 05 30.2**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=234,slow=1.5,SNR=7.9							
WRA					PKKPbc	**PKKPbc**	**12 18 29.6**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=24,slow=2.4,SNR=19							
WRA					PKPPKP	**P'P'df**	**12 26 35.7**	**-4.6**
	comp=Z,0.5nm,0.9s,baz=30,slow=2.8,SNR=4.5							
WRA					LR	LR	12 32 18.9	
	comp=Z,127nm,21.0s,baz=300,slow=32							
WRA	**Warramunga Arr**	**84.13**	**115**		P	**P**	**12 00 16.6**	**-0.8**
WRA					PKiKP	**PKiKP**	**12 05 30.2**	**-2.1**
WRA					PKKPbc	**PKKPbc**	**12 18 29.6**	**+1.4**
WRA					P'P'		12 26 35.7	
WRAB	**Tennant Creek**	**84.15**	**115**	*e*	P	**P**	**12 00 16.7**	**-0.7**
WRAB					MLR	MLR		
	comp=Z,257nm,19.0s							
WRAB	**Tennant Creek**	**84.15**	**115**	*e*	P	**P**	**12 00 16.6**	**-0.7**
WRAB					LR	LR		
	comp=Z,257nm,19.0s							
WRAB	**Tennant Creek**	**84.15**	**115**		P	**P**	**12 00 16.0**	**-1.4**
	comp=Z,216nm,1.0s,SNR=16							
MIB	**Mutribah**	**84.27**	**18**	*e*	P	**P**	**12 00 17.3**	**-0.2**
MIB					AMb	AMB	12 00 18.6	
	comp=Z,66nm,1.4s							
KULM	**Kulim**	**84.34**	**74**	*e*	P	**P**	**12 00 17.6**	**-0.7**
KULM					LR	LR		
	comp=Z,351nm,19.0s							
KULM	**Kulim**	**84.34**	**74**		P	**P**	**12 00 18.5**	**+0.2**
ASF	**Jabal al Asfar**	**85.19**	**8**		P	**P**	**12 00 23.3**	**+1.1**
	comp=Z,15nm,0.8s,baz=268,slow=16,SNR=18							
ASF	**Jabal al Asfar**	**85.19**	**8**		P	**P**	**12 00 23.3**	**+1.1**
MMAI	**Mount Meron Ar**	**85.91**	**7**		P	**P**	**12 00 27.4**	**+1.7**
	comp=Z,3.6nm,0.5s,baz=162,slow=3.2,SNR=7.9							
MMAI	**Mount Meron Ar**	**85.91**	**7**		P	**P**	**12 00 27.4**	**+1.7**
KSM	**Kuching**	**87.01**	**84**	*e*	P	**P**	**12 00 31.4**	**-0.2**
	comp=Z,14nm,0.9s							
KSM					LR	LR		
	comp=Z,351nm,19.0s							
KSM	**Kuching**	**87.01**	**84**		P	**P**	**12 00 31.9**	**+0.3**
OUZ	**Omahuta**	**87.44**	**153**	*e*	P	**P**	**12 00 34.8**	**+1.3**
KAPI	**Kappang**	**87.58**	**95**	*e*	P	**P**	**12 00 33.1**	**-1.4**
	comp=Z,16nm,0.7s							
KAPI					LR	LR		
	comp=Z,205nm,21.0s							
KAPI	**Kappang**	**87.58**	**95**		P	**P**	**12 00 33.8**	**-0.6**
	SNR=8.6							
KAPI					mb		12 00 34.7	
	SNR=14							
KAPI	**Kappang**	**87.58**	**95**		P	**P**	**12 00 33.4**	**-1.0**
	comp=Z,231nm,1.1s,SNR=7.1							
CSS	**Prodhromos**	**87.72**	**5**		PFAKE		12 00 50.0	+16
CSS					LR	LR		
	comp=Z,262nm,21.0s							
VAM	**Vamos**	**88.04**	**358**	*e*	P	**P**	**12 00 37.2**	**+1.2**
KARP	**Karpathos**

PYUN Piuthan 94.17 47 *e*P **P 12 01 03.9 -1.0**
comp=Z,46nm,1.1s
KKM Kota Kinabalu 94.19 86 PFAKE 12 01 20.0 +15
KKM LR LR
comp=Z,228nm,20.0s
CHTO Chiang Mai 94.34 64 *e*P **P 12 01 05.0 -0.8**
CHTO MLR MLR
comp=Z,237nm,19.0s
CHTO Chiang Mai 94.34 64 *e*P **P 12 01 05.0 -0.8**
CHTO LR LR
comp=Z,237nm,19.0s
SDKM Sandakan 94.46 87 P **P 12 01 06.0 -0.5**
DANN Dangsing 94.72 48 *e*P **P 12 01 06.5 -1.1**
comp=Z,34nm,1.0s
GKN Gorkha 94.82 48 *e*P **P 12 01 06.7 -1.2**
comp=Z,20nm,0.8s
RAMN Ramite 94.82 50 *e*P **P 12 01 07.1 -0.9**
comp=Z,43nm,1.0s
PBDV Barranco-do-Ve 94.88 333 *e*P **P 12 01 07.9 +0.2**
comp=Z,45nm,1.5s
KKN Kakani 94.93 49 *e*P **P 12 01 07.3 -1.2**
NIL Nilore 95.10 37 PFAKE 12 01 20.0 +11
NIL LR LR
comp=Z,22nm,22.0s
ODAN Odare 95.12 51 *e*P **P 12 01 08.3 -1.1**
comp=Z,48nm,0.9s
VTS Vitosha 95.23 357 ⇓P **P 12 01 09.6 +0.2**
VTS Vitosha 95.23 357 ⇓*i*P **P 12 01 09.6 +0.2**
JIRN Jiri 95.24 50 *e*P **P 12 01 09.0 -1.1**
PCVE Castro Verde 95.27 333 *e*P **P 12 01 10.9 +1.4**
comp=Z,27nm,1.9s
GUN Gumba 95.31 49 *e*P **P 12 01 09.3 -1.1**
comp=Z,74nm,1.2s
AQU L'Aquila 95.68 350 PFAKE 12 01 20.0 +8.7
AQU LR LR
comp=Z,754nm,20.0s
AQU L'Aquila 95.68 350 ⇑*i*P **P 12 01 13.1 +1.8**
TAPN Taplejung 95.68 51 *e*P **P 12 01 10.6 -1.4**
comp=Z,24nm,1.1s
PNCL Nicolau / Gran 95.85 332 *e*P **P 12 01 13.4 +1.3**
comp=Z,21nm,1.4s
ESDC Sonseca Array 96.13 336 P **P 12 01 13.9 +0.5**
comp=Z,3.0nm,0.7s,baz=160,slow=4.6,SNR=9.5
ESDC Sonseca Array 96.13 336 P **P 12 01 13.9 +0.5**
PGF Pioggiola 96.42 347 *e*P **P 12 01 17.3 +2.6**
PGF Pioggiola 96.42 347 *e*P **P 12 01 17.3 +2.6**
PGF Pioggiola 96.42 347 *e*P **P 12 01 17.3 +2.6**
PMRV Marv??o 96.77 334 *e*P **P 12 01 17.6 +1.3**
comp=Z,15nm,1.2s
TIRR Tirgusor 97.05 1 ⇓P Pdif 12 01 18.1 +0.7
TIRR Tirgusor 97.05 1 ⇓*i*P Pdif 12 01 18.1 +0.7
KBZ Khabaz 97.25 11 P **P 12 01 18.3 0.0**
comp=Z,5.0nm,1.0s,baz=168,slow=3.5,SNR=11
KBZ LR LR 12 45 09.1
comp=Z,250nm,19.8s,baz=213,slow=35
KBZ Khabaz 97.25 11 P **P 12 01 18.3 0.0**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ MLR MLR
comp=Z,250nm,19.8s
KBZ Khabaz 97.25 11 P **P 12 01 18.3 0.0**
DZM Mont Dzumac 97.33 142 *e*LR LR 12 32 44.0
comp=Z,206nm,31.9s
KIV Kislovodsk 97.45 11 *e*P **P 12 01 19.3 -0.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,186nm,19.0s
KIV Kislovodsk 97.45 11 PFAKE 12 01 30.0 +11
KIV LR LR
comp=Z,273nm,22.0s
CFR Carcaliu 97.76 1 ⇑P Pdif 12 01 21.7 +1.1
CFR Carcaliu 97.76 1 ⇑*i*P Pdif 12 01 21.7 +1.1
VLC Villacollemand 97.81 348 PFAKE 12 01 30.0 +9.0
VLC LR LR
comp=Z,335nm,22.0s
ARR Arges 97.97 358 ⇓*i*P Pdif 12 01 23.4 +1.7
VOIR 98.03 358 ⇑P **P 12 01 21.8 -0.1**
VOIR 98.03 358 ⇑*i*P **P 12 01 21.8 -0.1**
LOT Lotru 98.07 358 ⇑*i*P Pdif 12 01 23.5 +1.3
MLR Muntele Rosu 98.08 359 ⇓*i*P Pdif 12 01 22.6 +0.4
BZS Buzias 98.31 356 ⇓P Pdif 12 01 24.1 +1.0
BZS Buzias 98.31 356 ⇓*i*P Pdif 12 01 24.1 +1.0
EPF Esparros 98.37 340 *e*P Pdif 12 01 25.2 +1.7
comp=Z,18nm,1.1s
EPF Esparros 98.37 340 *e*P Pdif 12 01 25.2 +1.7
EPF pmax pmax
comp=Z,18nm,1.1s
EPF Esparros 98.37 340 *e*P Pdif 12 01 25.2 +1.7
comp=Z,18nm,1.1s
ETSF Etsaut 98.43 340 *e*P Pdif 12 01 26.0 +2.2
comp=Z,26nm,1.2s
ETSF Etsaut 98.43 340 *e*P Pdif 12 01 26.0 +2.2
ETSF pmax pmax
comp=Z,26nm,1.2s
ETSF Etsaut 98.43 340 *e*P Pdif 12 01 26.0 +2.2
comp=Z,26nm,1.2s
PLOR Plostina 98.43 360 ⇑P Pdif 12 01 24.9 +1.2
PLOR Plostina 98.43 360 ⇑*i*P Pdif 12 01 24.9 +1.2
VRI Vrincioaia 98.45 360 ⇑P Pdif 12 01 23.9 +0.2
VRI Vrincioaia 98.45 360 ⇑*i*P Pdif 12 01 23.9 +0.2
BOJS Bojanci 98.62 352 *i* P Pdif 12 01 28.6 +4.1
SKDS Skadanscina 98.78 351 *i* P Pdif 12 01 29.6 +4.4
SJPF Ste Jean 98.78 339 *e*P Pdif 12 01 27.9 +2.6
comp=Z,9.2nm,0.8s
SJPF Ste Jean 98.78 339 *e*P Pdif 12 01 27.9 +2.6
SJPF pmax pmax
comp=Z,9.0nm,0.8s
SJPF Ste Jean 98.78 339 *e*P Pdif 12 01 27.9 +2.6
comp=Z,9.2nm,0.8s
MBDF Montbardon 98.88 345 *e*P Pdif 12 01 27.4 +1.6
comp=Z,19nm,1.0s
MBDF Montbardon 98.88 345 *e*P Pdif 12 01 27.4 +1.6
MBDF pmax pmax
comp=Z,19nm,1.0s
MBDF Montbardon 98.88 345 *e*P Pdif 12 01 27.4 +1.6
comp=Z,19nm,1.0s
PKSM Moragy 99.06 354 ⇑P **Pdif 12 01 30.4 +4.0**
PKSM Moragy 99.06 354 ⇑*i*P **Pdif 12 01 30.4 +4.0**
TESR 99.09 360 ⇓*i*P **Pdif 12 01 31.1 +4.6**
JAVS Javornik 99.11 351 *i* P **Pdif 12 01 28.2 +1.5**
BNI Bardonecchia 99.21 345 PFAKE 12 01 40.0 +13
BNI LR LR
comp=Z,1µm,22.0s
VIVF Saint-Julien-l 99.34 344 *e*P **Pdif 12 01 30.6 +2.9**
VIVF Saint-Julien-l 99.34 344 *e*P **Pdif 12 01 30.6 +2.9**
VIVF Saint-Julien-l 99.34 344 *e*P **Pdif 12 01 30.6 +2.9**
DRGR 99.45 357 ⇑P **Pdif 12 01 29.2 +1.0**
DRGR 99.45 357 ⇑*i*P **Pdif 12 01 29.2 +1.0**
OTAV Otavalo 99.58 258 PFAKE 12 01 40.0 +10
OTAV LR LR
comp=Z,283nm,20.0s
KIS Kishinev 99.59 1 *e* SKKPdf 12 21 20.0 -10
LPL La Plagne 99.65 346 *e*P **Pdif 12 01 33.1 +3.8**
LPL La Plagne 99.65 346 *e*P **Pdif 12 01 33.1 +3.8**
LPL La Plagne 99.65 346 *e*P **Pdif 12 01 33.1 +3.8**
ABTA Abfaltersbach 100.12 350 ⇑*i*Pdiff **Pdif 12 01 32.5 +1.3**
comp=Z,6.8nm,1.0s
BURAR Bucovina Array 100.21 359 ⇑*i*P **Pdif 12 01 32.7 +1.1**
TUE Stuetta 100.22 348 PFAKE 12 01 40.0 +8.2
TUE LR LR
comp=Z,436nm,19.0s
KBA Koelnbreinsper 100.36 350 ⇓*i*Pdiff **Pdif 12 01 34.8 +2.4**
comp=Z,7.2nm,1.1s
SENIN Lac Senin/Sane 100.40 346 *e*Pdif **Pdif 12 01 33.2 +0.6**
PSMN Pico do Norte, 100.41 320 *e*P **Pdif 12 01 28.1 -4.6**
FETA Feichten 100.59 349 ⇑*i*Pdiff **Pdif 12 01 33.7 +0.3**
comp=Z,6.2nm,1.0s
QIZ Qiongzhong 100.65 73 PFAKE 12 01 50.0 +16
QIZ LR LR
comp=Z,211nm,21.0s
PSZ Piszkesteto 100.69 355 ⇓P **Pdif 12 01 30.7 -3.0**
PSZ Piszkesteto 100.69 355 PFAKE 12 01 40.0 +6.3
PSZ LR LR
comp=Z,411nm,20.0s
PSZ Piszkesteto 100.69 355 ⇓*i*P **Pdif 12 01 30.6 -3.1**
CABF La Chapelle 100.82 345 *e*P **Pdif 12 01 37.6 +3.3**
comp=Z,19nm,1.1s
CABF La Chapelle 100.82 345 *e*P **Pdif 12 01 37.6 +3.3**
CABF pmax pmax
comp=Z,19nm,1.1s
CABF La Chapelle 100.82 345 *e*P **Pdif 12 01 37.6 +3.3**
comp=Z,19nm,1.1s
MOA Molln 101.03 351 ⇑*i*Pdiff **Pdif 12 01 35.1 0.0**
comp=Z,6.3nm,1.1s

RETA Reutte 101.05 349 ⇑*i*Pdiff **Pdif 12 01 35.7 +0.5**
comp=Z,6.5nm,1.0s
SMF Signal de Mont 101.22 344 *e*P **Pdif 12 01 39.6 +3.6**
comp=Z,11nm,0.9s
SMF Signal de Mont 101.22 344 *e*P **Pdif 12 01 39.6 +3.6**
SMF pmax pmax
comp=Z,11nm,0.9s
SMF Signal de Mont 101.22 344 *e*P **Pdif 12 01 39.6 +3.6**
comp=Z,11nm,0.9s
CMLA Cha da Macela 101.25 320 *e*P **Pdif 12 01 33.4 -3.0**
KSH Kashi 101.32 36 *e*P **Pdif 12 01 35.0 -1.8**
KSH *e*pP pP 12 01 39.8 -1.8
KSH *e*PP **PP 12 05 48.2 +1.4**
KSH SKS 12 12 14.4
KSH S **Sdif 12 13 11.1 -4.7**
KSH sS sS 12 13 17.9 -5.7
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,53nm,3.8s
KSH LR LR
comp=N,140nm,6.1s
KSH LR LR
comp=E,140nm,5.7s
KSH LR LR
comp=Z,220nm,6.7s
VYHS Vyhne 101.33 354 *e*P **Pdif 12 01 38.7 +2.3**
VYHS Vyhne 101.33 354 PDIF **Pdif 12 01 38.6 +2.2**
PSET Sete Cidades 101.38 320 *e*P **Pdif 12 01 34.5 -2.5**
KMI Kunming 101.50 64 P **Pdif 12 01 40.3 +2.2**
KMI S **Sdif 12 13 17.5 -0.6**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=N,140nm,20.6s
KMI LR LR
comp=E,180nm,19.5s
KMI LR LR
comp=Z,240nm,24.7s
KOLS Kolonicke sedl 101.60 357 *e*P **Pdif 12 01 44.1 +6.5**
KOLS Kolonicke sedl 101.60 357 PDIF **Pdif 12 01 44.1 +6.5**
LOR Lormes 101.82 344 *e*P **Pdif 12 01 41.5 +2.8**
comp=Z,10nm,1.0s
LOR Lormes 101.82 344 *e*P **Pdif 12 01 41.5 +2.8**
comp=Z,10nm,1.0s
GERES GERESS Array B 102.07 351 P **Pdif 12 01 40.2 +0.3**
comp=Z,0.2nm,0.3s,baz=31,slow=5.4,SNR=3.6
GERES PP **PP 12 05 53.1 +0.8**
comp=Z,0.7nm,0.6s,baz=216,slow=4.3,SNR=4.1
GERES PKKPab PKKPdf 12 18 03.3 +12
comp=Z,0.2nm,0.2s,baz=347,slow=4.8,SNR=3.4
GERES GERESS Array B 102.07 351 P **Pdif 12 01 40.2 +0.3**
GERES PP **PP 12 05 53.1 +0.8**
GERES PKKPab PKKPdf 12 18 03.3 +12
HAU Haudompre 102.14 346 *e*P **Pdif 12 01 43.0 +2.9**
HAU Haudompre 102.14 346 *e*P **Pdif 12 01 43.0 +2.9**
HAU Haudompre 102.14 346 *e*P **Pdif 12 01 43.0 +2.9**
BFO Black Forest 102.18 347 PFAKE 12 01 50.0 +10
BFO LR LR
comp=Z,457nm,20.0s
KWP Kalwaria Pacla 102.28 357 PFAKE 12 01 50.0 +9.3
KWP LR LR
comp=Z,327nm,19.0s
RKT Rikitea 102.67 197 *e*LR LR 12 35 15.0
comp=Z,702nm,28.0s
KKAR Karatay Array 102.69 31 *e*P **Pdif 12 01 43.1 +0.4**
KKAR Karatay Array 102.69 31 *e*Pdif **Pdif 12 01 43.1 +0.4**
ROSA Rosais 103.15 319 *e*P **Pdif 12 01 38.7 -6.1**
KIEV Kiev 103.29 1 PFAKE 12 02 00.0 +15
KIEV LR LR
comp=Z,339nm,21.0s
AKASG Malin Array Be 103.30 1 Pdiff **Pdif 12 01 46.4 +1.3**
comp=Z,0.7nm,0.4s,baz=171,slow=4.2,SNR=5.0
AKASG Malin Array Be 103.30 1 P **Pdif 12 01 46.4 +1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 103.30 1 Pdif **Pdif 12 01 46.4 +1.3**
EKS2 Erkin-Say 103.35 33 PFAKE 12 02 00.0 +14
EKS2 LR LR
comp=Z,306nm,22.0s
AAK Ala-Archa 103.57 34 Pdiff **Pdif 12 01 47.1 +0.3**
comp=Z,3.4nm,0.7s,baz=205,slow=5.4,SNR=13
AAK Ala-Archa 103.57 34 P **Pdif 12 01 47.1 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 103.57 34 Pdif **Pdif 12 01 47.1 +0.3**
AAK LR LR
comp=Z,277nm,22.0s
WLF Walferdange 103.79 346 PFAKE 12 02 00.0 +13
WLF LR LR
comp=Z,588nm,19.0s
TBI Tubuai 103.96 183 *e*SS SS 12 20 52.5 +1.1
comp=Z,111nm,35.0s
TBI *e*LR LR 12 35 59.5
comp=Z,434nm,37.0s
TKM2 Tokmak 2 104.20 35 PFAKE 12 02 00.0 +10
TKM2 LR LR
comp=Z,203nm,19.0s
CLL Collm 104.58 351 *e*SS SS 12 21 00.0 -1.7
CLL *e*SSSS 12 28 24.0
CLL Lm MLR 12 52 00.0
comp=N,400nm,18.3s
CLL Lm MLR 12 52 00.0
comp=E,200nm,18.9s
CLL Lm MLR 12 52 00.0
comp=Z,300nm,18.3s
HNR Honiara 106.00 131 PFAKE 12 06 20.0
HNR LR LR
comp=Z,923nm,20.0s
CD2 Chengdu 106.63 61 Pdif **Pdif 12 02 02.8 +2.3**
CD2 PP PP 12 06 31.7 +5.4
CD2 SS SS 12 21 33.7 +3.3
CD2 LR LR
comp=N,270nm,12.5s
CD2 LR LR
comp=Z,230nm,11.3s
BCIP Isla Barro Col 107.52 262 PFAKE 12 06 20.0
BCIP LR LR
comp=Z,198nm,21.0s
OBN Obninsk 107.99 6 PFAKE 12 06 20.0
OBN LR LR
comp=Z,174nm,19.0s
ENH Enshi 109.22 65 PFAKE 12 06 30.0
ENH LR LR
comp=Z,221nm,22.0s
WMQ Urumqi 109.50 42 *e*Pdif **Pdif 12 02 14.4 +1.4**
WMQ PP **PP 12 06 51.4 +4.2**
WMQ S **Sdif 12 14 22.9 -0.8**
WMQ SS **SS 12 22 10.7 +1.7**
WMQ LR LR
comp=N,170nm,23.0s
WMQ LR LR
comp=E,130nm,26.0s
WMQ LR LR
comp=Z,200nm,28.0s
PPT2 Papeete2 109.69 183 *e*SS SS 12 22 14.5 +5.0
comp=Z,153nm,31.2s
PPT2 *e*LR LR 12 38 41.5
comp=Z,358nm,23.0s
MKAR Makanchi Array 109.92 37 Pdiff **Pdif 12 02 15.5 +0.8**
comp=Z,1.0nm,0.8s,baz=197,slow=3.8,SNR=6.0
MKAR PKiKP **PKiKP 12 06 16.3 -0.3**
comp=Z,0.4nm,0.5s,baz=205,slow=2.6,SNR=7.9
MKAR PKKPbc **PKKPbc 12 17 18.8 -0.1**
comp=Z,0.7nm,0.5s,baz=38,slow=4.9,SNR=7.3
MKAR PKKPab **PKKPab 12 17 29.4 +1.9**
comp=Z,1.9nm,0.9s,baz=38,slow=6.1,SNR=7.4
MKAR Makanchi Array 109.92 37 Pdif **Pdif 12 02 15.5 +0.8**
MKAR PKiKP **PKiKP 12 06 16.3 -0.3**
MKAR PKKPbc **PKKPbc 12 17 18.8 -0.1**
MKAR PKKPab **PKKPab 12 17 29.4 +1.9**
SDDR Presa de Saban 109.99 275 PFAKE 12 06 30.0
SDDR LR LR
comp=Z,128nm,21.0s
MUD Monsted U'grnd 110.05 349 *i* P PP 12 07 02.2 +11
comp=Z,15nm,0.9s
LZH Lanzhou 110.72 57 *e*PKP **PKiKP 12 06 20.5 +1.9**
LZH sPKP 12 06 25.0
LZH *e*PP PP 12 07 03.2 +7.0
LZH SKKS 12 13 55.6
LZH *e*SS **SS 12 22 29.7 +4.0**
LZH AMB AMB
comp=Z,130nm,7.6s
LZH LR LR
comp=N,440nm,19.5s
LZH LR LR
comp=E,420nm,19.2s
LZH LR LR
comp=Z,470nm,20.4s
GTA Gaotai 111.31 53 *e*PKP **PKiKP 12 06 21.5 +1.9**
GTA sPKP 12 06 27.4
GTA PP PP 12 07 07.4 +7.0
GTA SKS **SKSdf 12 13 32.8 +1.8**
GTA SKKS **SKKSac 12 14 00.6 -1.2**
GTA AMB AMB
comp=Z,78nm,4.8s
GTA LR LR
comp=N,340nm,21.8s
GTA LR LR
comp=E,550nm,19.0s
GTA LR LR
comp=Z,260nm,20.4s
BVAR Borovoye Array 111.60 26 Pdiff **Pdif 12 02 23.3 +1.3**
comp=Z,1.2nm,0.8s,baz=168,slow=7.6,SNR=5.8
BVAR PKiKP **PKiKP 12 06 18.7 -0.8**
comp=Z,1.1nm,0.4s,baz=212,slow=4.0,SNR=8.4
BVAR PKKPab **PKKPab 12 17 22.7 +3.1**
comp=Z,4.4nm,0.7s,baz=33,slow=1.9,SNR=21
BVAR Borovoye Array 111.60 26 P **Pdif 12 02 23.3 +1.3**
BVAR *i* 12 06 18.7
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 111.60 26 Pdif **Pdif 12 02 23.3 +1.3**
BVAR PKiKP **PKiKP 12 06 18.7 -0.8**
BVAR PKKPab **PKKPab 12 17 22.7 +3.1**
BRVK Borovoye 111.60 26 PFAKE 12 06 30.0
BRVK LR LR
comp=Z,270nm,21.0s
KURBB Kurchatov Arra 111.91 32 Pdiff **Pdif 12 02 23.9 +0.5**
comp=Z,0.6nm,0.7s,baz=225,slow=4.6,SNR=4.2
KURBB PKiKP **PKiKP 12 06 19.0 -1.2**
comp=Z,0.5nm,0.5s,baz=220,slow=2.9,SNR=5.7
KURBB PKKPbc **PKKPbc 12 17 11.9 -0.4**
comp=Z,1.0nm,0.7s,baz=25,slow=3.3,SNR=7.1
KURBB PKKPab **PKKPab 12 17 21.9 +3.4**
comp=Z,0.5nm,0.6s,baz=23,slow=4.1,SNR=4.8
KURK Kurchatov 112.01 32 P **Pdif 12 02 23.9 0.0**
KURK *i* 12 06 19.0
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 112.01 32 Pdif **Pdif 12 02 23.9 0.0**
KURK PKiKP **PKiKP 12 06 19.0 -1.4**
KURK PKKPbc **PKKPbc 12 17 11.9 -0.1**
KURK PKKPab **PKKPab 12 17 21.9 +3.9**
KURK LR LR
comp=Z,212nm,21.0s
ARU Arti 112.03 18 PFAKE 12 06 30.0
ARU LR LR
comp=Z,174nm,19.0s
FINES FINESS Array B 114.06 359 PKP PKPdf 12 06 22.8 -1.1
comp=Z,1.7nm,0.5s,baz=104,slow=3.9,SNR=5.6
FINES FINESS Array B 114.06 359 PKP PKPdf 12 06 22.8 -1.1
ZALV Zalesovo Beam 116.79 34 PKP **PKPdf 12 06 27.2 -2.1**
comp=Z,0.9nm,0.3s,baz=232,slow=3.3,SNR=6.4
ZALV PKKPab **PKKPab 12 17 00.2 +3.1**
comp=Z,1.7nm,0.7s,baz=29,slow=5.0,SNR=9.8
ZALV Zalesovo Beam 116.79 34 PKiKP **PKPdf 12 06 27.3 -2.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 116.79 34 PKP **PKPdf 12 06 27.2 -2.1**
ZALV PKKPab **PKKPab 12 17 00.2 +3.1**
HHC Hu-ho-hao-te 118.28 59 *e*PKP **PKPdf 12 06 32.6 -0.3**
HHC PP **PP 12 07 53.6 +4.0**
HHC PKS **PKSdf 12 10 08.3 -1.3**
HHC SKS **SKSdf 12 13 43.9 -0.4**
HHC SKKS **SKKSac 12 14 46.0 -2.7**
HHC SS **SS 12 24 07.0 +1.9**
HHC AMB AMB
comp=Z,50nm,9.1s
HHC LR LR
comp=Z,130nm,19.1s
BJT Baijiatuau 120.11 63 PFAKE 12 06 50.0 +14
BJT LR LR
comp=Z,163nm,19.0s
BJI Beijing 120.13 63 PKP **PKPdf 12 06 37.3 +1.0**
BJI LR LR
comp=Z,120nm,24.7s
APA Apatity 120.30 3 ⇓*i*PKIKP PKPpre 12 06 20.8
APA MLR MLR
comp=Z,900nm,20.0s
SONM Songino Array 120.80 50 PKP **PKPdf 12 06 36.0 -1.5**
comp=Z,1.5nm,0.6s,baz=211,slow=2.1,SNR=17
SONM PKKPab **PKKPbc 12 16 41.0 0.0**
comp=Z,3.2nm,0.7s,baz=64,slow=1.9,SNR=21
SONM Songino Array 120.80 50 PKP **PKPdf 12 06 36.0 -1.5**
SONM PKKPab **PKKPbc 12 16 41.0 0.0**
ULN Ulaanbaatar 121.13 51 PFAKE 12 06 50.0 +12
ULN LR LR
comp=Z,182nm,19.0s
TEIG Tepich 121.20 262 PFAKE 12 06 50.0 +11
TEIG LR LR
comp=Z,177nm,22.0s
ZAK Zakamensk 121.23 47 *e*PKIKP **PKPdf 12 06 35.8 -2.5**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
ARCES ARCESS Array B 122.19 359 PKP **PKPdf 12 06 38.1 -1.2**
comp=Z,3.0nm,0.5s,baz=186,slow=4.0,SNR=33
ARCES ARCESS Array B 122.19 359 PKP **PKPdf 12 06 38.1 -1.2**
TLY Talaya 122.33 46 *i* PKIKP **PKPdf 12 06 37.9 -2.3**
TLY *e* 12 08 27.5
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 122.33 46 PFAKE 12 06 50.0 +10
TLY LR LR
comp=Z,175nm,20.0s
KSAR Wonju Array Be 124.84 72 PKP **PKPdf 12 06 44.5 -1.0**
KSRS Korea Array 124.88 72 PKP **PKPdf 12 06 44.5 -1.0**
comp=Z,4.6nm,0.9s,baz=255,slow=1.7,SNR=10
CNNC Cliffs of the 125.89 283 PFAKE 12 07 00.0 +12
CNNC LR LR
comp=Z,765nm,21.0s
JSC Jenkinsville 127.23 279 *e*PKIKP **PKPdf 12 06 49.1 -1.0**
JSC Jenkinsville 127.23 279 *e*PKPdf **PKPdf 12 06 49.1 -1.0**
NRS Narsarsuaq 127.50 324 *i* P **PKPdf 12 06 51.2 +1.5**
comp=Z,6.9nm,1.1s
CBN Corbin 127.61 286 PFAKE 12 07 00.0 +9.3
CBN LR LR
comp=Z,273nm,21.0s
GOGA Godfrey 127.95 277 PFAKE 12 07 00.0 +8.5
GOGA LR LR
comp=Z,176nm,20.0s
HIA Hailar 128.26 56 PFAKE 12 07 00.0 +8.3
HIA LR LR
comp=Z,260nm,20.0s
BRAL Brewton 128.43 272 PFAKE 12 07 00.0 +7.5
BRAL LR LR
comp=Z,192nm,19.0s
NCB Newcomb 129.60 293 PFAKE 12 07 10.0 +16
NCB LR LR
comp=Z,430nm,19.0s
LRAL Lakeview Retre 129.81 274 PFAKE 12 07 10.0 +15
LRAL LR LR
comp=Z,91nm,19.0s
MAT Matsushiro 130.30 80 PKP PKPdf 12 06 49.8 -6.1
MJAR Matsushiro Arr 130.30 80 PKP **PKPdf 12 06 57.4 +1.5**
comp=Z,1.1nm,0.5s,baz=161,slow=4.0,SNR=6.1
MJAR SKPbc **SKPab 12 10 18.1 -0.2**
comp=Z,1.9nm,1.0s,baz=229,slow=4.9,SNR=6.0
MJAR Matsushiro Arr 130.30 80 PKP **PKPdf 12 06 57.4 +1.5**
MJAR SKPbc **SKPab 12 10 18.1 -0.2**
MDJ Mudanjiang 130.55 67 PKP **PKPdf 12 06 56.6 +0.5**
BOD Bodaibo 130.89 45 *e*PKIKP **PKPdf 12 06 54.1 -2.2**
BOD pmax pmax
comp=Z,10.0nm,1.7s
SPITS Spitsbergen Ar 131.04 357 PKP **PKPdf 12 06 56.4 +0.3**
comp=Z,5.6nm,0.8s,baz=160,slow=7.6,SNR=4.1
SPITS Spitsbergen Ar 131.04 357 PKP **PKPdf 12 06 56.4 +0.3**
VBMS Vicksburg 131.37 271 PFAKE 12 07 10.0 +12

VBMS LR LR
comp=Z,359nm,19.0s
USRK Ussuriysk Arra 131.63 68 PKP **PKPdf** 12 06 57.6 -0.5
comp=Z,1.7nm,0.8s,baz=281,slow=3.6,SNR=6.0
ERPA Erie 131.68 288 PFAKE 12 07 10.0 +12
ERPA LR LR
comp=Z,302nm,20.0s
PLAL Pickwick Lake 131.80 275 PFAKE 12 07 10.0 +11
PLAL LR LR
comp=Z,163nm,20.0s
OXF Oxford 132.28 274 PFAKE 12 07 10.0 +10
OXF LR LR
comp=Z,283nm,19.0s
SCHQ Schefferville 132.38 309 PKP **PKPdf** 12 06 58.9 -0.4
comp=Z,17nm,0.7s,baz=56,slow=2.4,SNR=32
SCHQ Schefferville 132.38 309 *e*PKPdf **PKPdf** 12 06 58.8 -0.4
WVT Waverly 132.42 276 *e*PKIKP **PKPdf** 12 06 58.1 -1.9
WVT Waverly 132.42 276 *e*PKPdf **PKPdf** 12 06 58.1 -1.9
DAG Danmarks Havn 132.67 347 *i* P PKPpre 12 06 43.2
comp=Z,40nm,1.0s
WCI Wyandotte Cave 132.89 280 *e*PKIKP **PKPdf** 12 06 59.8 -1.0
WCI Wyandotte Cave 132.89 280 *e*PKPdf **PKPdf** 12 06 59.8 -1.0
SUMG Summit 133.16 338 *i* P **PKPdf** 12 06 57.2 -3.5
comp=Z,8.6nm,0.9s
NATX Nacogdoches 133.56 267 PFAKE 12 07 10.0 +7.8
NATX LR LR
comp=Z,289nm,19.0s
OLIL Olney 134.29 279 *e*PKPdf **PKPdf** 12 07 03.0 -0.4
JCT Junction City 135.74 261 *e*PKIKP **PKPdf** 12 07 05.6 -0.8
JCT Junction City 135.74 261 *e*PKPdf **PKPdf** 12 07 05.6 -0.8
HDIL Hopedale 136.16 280 PFAKE 12 07 20.0 +13
HDIL LR LR
comp=Z,264nm,20.0s
TXAR Lajitas Array 137.20 256 PKhKP PKPpre 12 06 56.8
comp=Z,0.6nm,0.5s,baz=147,slow=5.8,SNR=5.0
TXAR PKP **PKPdf** 12 07 08.8 -0.4
comp=Z,11nm,1.2s,baz=151,slow=2.9,SNR=16
TXAR Lajitas Array 137.20 256 PKP **PKPdf** 12 07 08.8 -0.4
FRB Frobisher Bay 137.74 319 PKhKP PKPpre 12 07 00.5
comp=Z,5.3nm,0.9s,baz=121,slow=4.2,SNR=6.3
FRB PKP **PKPdf** 12 07 09.4 +0.5
FRB Frobisher Bay 137.74 319 PKPpre PKPpre 12 07 00.5
FRB PKP **PKPdf** 12 07 09.4 +0.5
WMOK Wichita Mounta 138.10 266 PFAKE 12 07 20.0 +9.4
WMOK LR LR
comp=Z,212nm,20.0s
SCIA State Center 139.33 279 PFAKE 12 07 20.0 +7.4
SCIA LR LR
comp=Z,260nm,19.0s
GDL2 Guadalupe Moun 139.69 259 *e*PKPdf **PKPdf** 12 07 14.5 +0.8
YAK Yakutsk 139.81 45 PFAKE 12 07 20.0 +7.2
YAK LR LR
comp=Z,242nm,20.0s
MNTX Cornudas Mount 139.93 257 *e*PKPdf PKPdf 12 07 07.3 -6.8
MNTX LR LR
comp=Z,235nm,20.0s
AMTX Amarillo 139.95 264 PFAKE 12 07 30.0 +16
AMTX LR LR
comp=Z,221nm,20.0s
JOHN Johnston Islan 141.53 154 PFAKE 12 07 30.0 +13
JOHN LR LR
comp=Z,23nm,22.0s
ECSD EROS Data Cent 142.42 279 PFAKE 12 07 30.0 +12
ECSD LR LR
comp=Z,171nm,19.0s
LPM Los Pinos Moun 142.52 259 *e*PKPdf **PKPdf** 12 07 14.0 -4.8
ANMO Albuquerque 142.85 260 PKhKP PKPpre 12 07 15.1
comp=Z,4.4nm,1.0s,baz=142,slow=7.0,SNR=11
ANMO SKPbc **SKiKP** 12 11 01.1 +3.0
comp=Z,1.1nm,0.5s,baz=64,slow=4.6,SNR=4.4
ANMO Albuquerque 142.85 260 PKPpre PKPpre 12 07 15.1
ANMO *e*PKPdf **PKPdf** 12 07 16.0 -3.4
ANMO SKPbc **SKiKP** 12 11 01.1 +3.0
ANMO LR LR
comp=Z,163nm,20.0s
LAZ Ladron 142.88 259 *e*PKPdf **PKPdf** 12 07 16.4 -3.1
OGNE Ogallala 144.06 271 PFAKE 12 07 30.0 +8.8
OGNE LR LR
comp=Z,319nm,21.0s
AGMN Agassiz Nation 144.40 286 *e*PKPdf **PKPab** 12 07 18.7 -1.0
AGMN LR LR
comp=Z,125nm,19.0s
O26A Horse Wrangler 144.41 269 ⇑PKPbc PKPbc 12 07 20.4 0.0
baz=144
S23A Nye Farm, Mont 144.43 264 ⇑PKPbc **PKPab** 12 07 20.3 -0.1
baz=144
P25A Willow Gulch B 144.47 268 ⇑PKPbc **PKPab** 12 07 20.4 -0.1
baz=145
T22A Edith 144.51 262 ⇑PKPbc PKPbc 12 07 20.9 -0.1
baz=145
U21A Nageezi 144.58 261 ⇓PKPbc **PKPab** 12 07 21.0 0.0
baz=145
M27A Reverse DX Ran 144.62 272 ⇓PKPbc **PKPab** 12 07 20.4 -0.5
baz=145
X18A Snowflake 144.63 256 ⇓PKPbc **PKPab** 12 07 21.2 0.0
baz=145
V20A Brimhall 144.63 259 ⇑PKPbc **PKPab** 12 07 20.8 -0.4
baz=145
R23A Moffat 144.64 264 ⇓PKPbc **PKPab** 12 07 21.0 -0.3
baz=145
N26A Koester Ranch, 144.71 270 ⇓PKPbc **PKPab** 12 07 20.6 -0.6
baz=145
Q24A Divide 144.72 266 ⇓PKPbc **PKPab** 12 07 20.9 -0.7
baz=145
O25A Wiggins 144.82 269 ⇑PKPbc **PKPab** 12 07 21.5 -0.1
baz=145
T21A Navajo Lake 144.88 261 ⇑PKPbc **PKPab** 12 07 21.7 -0.4
baz=145
W18A Petrified Fore 144.91 257 ⇓PKPbc **PKPab** 12 07 21.8 -0.4
baz=145
P24A Kohler Place, 144.92 267 ⇑PKPbc **PKPab** 12 07 21.9 -0.3
baz=145
S22A 4UR Ranch, Cre 144.95 263 ⇑PKPbc **PKPab** 12 07 22.2 -0.2
baz=145
M26A McRoberts Ranc 145.04 271 ⇑PKPbc **PKPbc** 12 07 22.0 -0.5
baz=145
U20A Newcomb 145.06 260 ⇑PKPbc **PKPbc** 12 07 22.5 -0.2
baz=145
Q23A Hartsel 145.10 265 ⇓PKPbc **PKPbc** 12 07 22.6 -0.3
baz=145
K27A Flueckinger Fa 145.22 274 ⇑PKPbc **PKPbc** 12 07 22.3 -0.6
baz=145
R22A Saguache, Gunn 145.22 264 ⇑PKPbc **PKPab** 12 07 23.4 -0.1
baz=145
N25A Grover 145.22 270 ⇓PKPbc **PKPbc** 12 07 22.8 -0.3
baz=145
ULM Lac du Bonnet 145.33 289 PKPbc **PKPbc** 12 07 21.2 -1.7
comp=Z,94nm,0.9s,baz=96,slow=2.4,SNR=99
ULM Lac du Bonnet 145.33 289 PKPbc **PKPbc** 12 07 21.2 -1.7
L26A Underwood Farm 145.34 272 ⇑PKPbc **PKPbc** 12 07 23.2 -0.2
baz=146
P23A Jefferson 145.40 266 ⇑PKPbc **PKPbc** 12 07 23.8 -0.2
baz=146
O24A Longmont 145.40 268 ⇓PKPbc **PKPbc** 12 07 23.6 -0.1
baz=146
U19A Dine' College, 145.41 259 ⇓PKPbc **PKPbc** 12 07 23.4 -0.5
baz=146
X16A Lo Mia Camp, P 145.42 254 ⇓PKPbc **PKPdf** 12 07 24.0 0.0
baz=146
S21A Coal Bank Pass 145.47 262 ⇑PKPbc **PKPbc** 12 07 24.2 0.0
baz=146
ISCO Idaho Springs 145.53 267 *e*PKIKP **PKPdf** 12 07 23.8 -0.3
ISCO Idaho Springs 145.53 267 *e*PKPdf **PKPdf** 12 07 23.8 -0.3
ISCO Idaho Springs 145.53 267 ⇓PKPbc **PKPdf** 12 07 24.0 -0.1
baz=146
Z14A Wintersburg 145.54 251 ⇑PKPbc **PKPbc** 12 07 24.1 0.0
baz=146
113A Mohawk Valley, 145.57 250 ⇓PKPbc **PKPbc** 12 07 24.1 -0.1
baz=146
M25A Palm-Egli Farm 145.57 270 ⇑PKPbc **PKPbc** 12 07 24.0 -0.1
baz=146
MVCO Mesa Verde 145.60 261 *e*PKPdf **PKPdf** 12 07 23.9 -0.4
MVCO Mesa Verde 145.60 261 ⇑PKPbc **PKPdf** 12 07 24.2 0.0
baz=146
N24A Carr 145.71 269 ⇑PKPbc **PKPbc** 12 07 24.6 -0.1
baz=146
Q22A Crested Butte, 145.72 264 ⇓PKPbc **PKPbc** 12 07 24.9 0.0
baz=146
K26A Motz Farm, Whi 145.78 273 ⇑PKPbc **PKPab** 12 07 25.0 -0.2
baz=146
R21A Cimarron 145.79 263 ⇑PKPbc **PKPbc** 12 07 24.9 -0.1
baz=146
S20A Disappointment 145.93 262 ⇑PKPbc **PKPbc** 12 07 25.4 -0.1
baz=146
L25A Engebretsen Ra 145.94 272 ⇓PKPbc **PKPbc** 12 07 25.3 +0.1
baz=146

SMCO Snowmass 145.96 265 *e*PKPdf **PKPdf** 12 07 25.0 0.0
O23A Lake Granby, G 145.96 267 ⇓PKPbc **PKPbc** 12 07 25.5 -0.1
baz=146
Y14A Wickenburg 145.99 252 ⇓PKPbc **PKPbc** 12 07 25.4 -0.2
baz=146
M24A Cheyenne 146.06 270 ⇑PKPbc **PKPbc** 12 07 25.5 -0.2
baz=146
P22A Eagle 146.09 266 ⇓PKPbc **PKPbc** 12 07 25.7 -0.2
baz=146
K25A Mack Ranch, Ha 146.15 272 ⇑PKPbc **PKPbc** 12 07 25.8 -0.1
baz=146
WUAZ Wupatki 146.15 256 *e*PKPdf **PKPdf** 12 07 25.4 +0.3
WUAZ Wupatki 146.15 256 ⇓PKPbc **PKPbc** 12 07 26.0 -0.2
baz=146
R20A Redvale 146.17 262 ⇑PKPbc **PKPbc** 12 07 26.2 0.0
baz=146
PV01 Paradox Valley 146.25 262 *e*PKPdf **PKPdf** 12 07 25.2 -0.1
O22A Kremmling 146.31 267 ⇓PKPbc **PKPbc** 12 07 26.2 -0.5
baz=146
PHWY Pilot Hill 146.34 269 *e*PKPdf **PKPdf** 12 07 25.3 -0.1
MDND Maddock 146.37 283 ⇓PKPdf **PKPbc** 12 07 25.6 -0.6
baz=146
GLA Glamis 146.38 249 *e*PKP2 **PKPbc** 12 07 26.5 -0.2
GLA Glamis 146.38 249 *e*PKPdf **PKPbc** 12 07 26.5 -0.2
GLA Glamis 146.38 249 ⇑PKPbc **PKPbc** 12 07 26.6 -0.2
baz=146
N23A Red Feather La 146.40 268 ⇓PKPbc **PKPbc** 12 07 26.5 -0.4
baz=146
P21A Newcastle 146.46 265 ⇑PKPdf **PKPdf** 12 07 24.7 -0.9
baz=147
L24A Wheatland 146.46 271 ⇓PKPdf **PKPdf** 12 07 24.9 -0.5
baz=147
M23A Laramie 146.60 269 ⇑PKPdf **PKPdf** 12 07 25.1 -0.7
baz=147
Q20A Ridgley Place, 146.61 263 ⇑PKPdf **PKPdf** 12 07 25.4 -0.4
baz=147
PV04 Paradox Valley 146.62 262 *e*PKPdf **PKPbc** 12 07 26.9 -0.5
N22A Wattenberg Ran 146.65 268 ⇑PKPdf **PKPdf** 12 07 25.5 -0.5
baz=147
Y12C Blythe 146.72 250 ⇓PKPdf **PKPdf** 12 07 25.7 -0.2
baz=147
DVTC Desert V Tower 146.80 247 ⇓PKPdf **PKPdf** 12 07 26.1 -0.1
baz=147
S18A Hurst Farm, Bl 146.81 260 ⇓PKPdf **PKPdf** 12 07 26.1 -0.2
baz=147
SWSC Sam W. Stewart 146.84 248 ⇑PKPdf **PKPdf** 12 07 26.0 -0.1
baz=147
PDMCI Parker Dam,Lak 146.90 251 ⇓PKPdf **PKPdf** 12 07 26.1 0.0
baz=147
O21A Pagoda 146.90 266 ⇓PKPdf **PKPdf** 12 07 26.3 -0.1
baz=147
L23A Garrett 146.97 270 ⇑PKPdf **PKPdf** 12 07 26.4 0.0
baz=147
P20A De Beque 147.01 264 ⇓PKPdf **PKPdf** 12 07 26.1 -0.4
baz=147
J24A Dixon Ranch, L 147.04 273 ⇓PKPdf **PKPdf** 12 07 26.2 -0.1
baz=147
M22A Cedar Creek Ra 147.09 268 ⇓PKPdf **PKPdf** 12 07 26.3 -0.3
baz=147
RSSD Black Hills 147.10 274 *e*PKIKP **PKPdf** 12 07 25.7 -0.8
RSSD Black Hills 147.10 274 *e*PKPdf **PKPdf** 12 07 25.7 -0.8
BAR Barrett 147.13 246 *e*PKPbc **PKPbc** 12 07 28.2 -0.7
MONP Monument Peak 147.15 247 ⇓PKPdf **PKPdf** 12 07 26.2 -0.8
baz=147
BC3 Big Chuckawall 147.18 249 ⇓PKPdf **PKPdf** 12 07 26.1 -0.7
baz=147
Q19A Hogan Spring (147.19 262 ⇓PKPdf **PKPdf** 12 07 26.3 -0.4
baz=147
S17A Black Ridge (B 147.25 259 ⇑PKPdf **PKPdf** 12 07 26.2 -0.6
baz=147
N21A Black Mountain 147.27 267 ⇓PKPdf **PKPdf** 12 07 26.3 -0.6
baz=147
K23A Bowen Ranch, D 147.29 271 ⇑PKPdf **PKPdf** 12 07 26.3 -0.5
baz=147
I24A Kuemmerle Ranc 147.31 274 ⇑PKPdf **PKPdf** 12 07 26.1 -0.7
baz=147
O20A White River Ci 147.32 265 ⇑PKPdf **PKPdf** 12 07 26.4 -0.6
baz=147
U15A North Rim 147.32 256 ⇑PKPdf **PKPdf** 12 07 26.3 -0.9
baz=147
W13A Hualapai Mount 147.32 253 ⇓PKPdf **PKPdf** 12 07 26.3 -0.9
baz=147
L22A Ellis Ranch, M 147.37 269 ⇑PKPdf **PKPdf** 12 07 26.4 -0.6
baz=148
IRM Iron Mountain 147.37 250 ⇑PKPdf **PKPdf** 12 07 26.3 -0.7
baz=147
P19A Cripple Cowboy 147.45 264 ⇓PKPdf **PKPdf** 12 07 26.3 -0.9
baz=148
M21A Separation Pea 147.68 268 ⇑PKPdf **PKPdf** 12 07 26.7 -0.9
baz=148
PFO Pinyon Flat Ob 147.71 248 *e*PKPbc **PKPbc** 12 07 30.2 -0.3
PFO Pinyon Flat Ob 147.71 248 ⇑PKPdf **PKPdf** 12 07 26.4 -1.4
baz=148
BELC Belle Mtn. Jos 147.74 249 ⇓PKPdf **PKPdf** 12 07 26.5 -1.3
baz=148
H24A Dick Ranch, A 147.75 275 ⇑PKPdf **PKPdf** 12 07 26.6 -0.8
baz=148
N20A Spence Gulch, 147.76 266 ⇑PKPdf **PKPdf** 12 07 26.4 -1.3
baz=148
K22A Casper 147.78 270 ⇓PKPdf **PKPdf** 12 07 26.7 -0.9
baz=148
S16A Weppner Ranch, 147.78 258 ⇓PKPdf **PKPdf** 12 07 26.5 -1.3
baz=148
L21A Rawlins 147.89 269 ⇑PKPdf **PKPdf** 12 07 28.0 +0.1
baz=148
G24A Alzada 147.97 276 ⇓PKPdf **PKPdf** 12 07 27.5 -0.2
baz=148
LDFC Landfair 148.01 251 *e*PKPbc **PKPbc** 12 07 31.4 +0.1
SRU San Rafael 148.05 261 *e*PKIKP **PKPdf** 12 07 28.0 -0.2
SRU *e* 12 07 30.1
SRU San Rafael 148.05 261 *e*PKPdf **PKPdf** 12 07 28.0 -0.2
SRU *e*PKPbc **PKPbc** 12 07 30.1 -1.2
SRU San Rafael 148.05 261 ⇑PKPdf **PKPdf** 12 07 27.9 -0.3
baz=148
M20A Sweetwater, Wa 148.11 267 ⇓PKPdf **PKPdf** 12 07 28.6 +0.3
baz=148
GMRC Granite Mounta 148.11 250 ⇓PKPdf **PKPdf** 12 07 28.7 +0.3
baz=148
MURC Murrieta 148.12 247 ⇓PKPdf **PKPdf** 12 07 28.3 0.0
baz=148
H23A Clabaugh Cattl 148.16 274 ⇓PKPdf **PKPdf** 12 07 28.7 +0.6
baz=148
HON Honolulu 148.17 171 *e*PKP2 **PKPbc** 12 07 32.0 +0.1
HON Honolulu 148.17 171 *e*PKPbc **PKPbc** 12 07 32.0 +0.1
J22A Midwest 148.18 271 ⇓PKPdf **PKPdf** 12 07 27.6 -0.6
baz=148
K21A Arova 148.21 270 ⇓PKPdf **PKPdf** 12 07 28.3 -0.1
baz=148
P18A Preston Nutter 148.21 263 ⇑PKPdf **PKPdf** 12 07 28.3 -0.3
baz=148
F24A Ekalaka 148.25 277 ⇑PKPdf **PKPdf** 12 07 28.6 +0.4
baz=148
KIP Kipapa 148.26 171 *i* PKIKP **PKPbc** 12 07 30.7 -1.5
KIP pmax pmax
comp=Z,228nm,1.7s
N19A John Jarvie Ra 148.35 265 ⇓PKPdf **PKPdf** 12 07 29.5 +0.9
baz=148
I22A 9 Mile Ranch, 148.45 272 ⇓PKPdf **PKPdf** 12 07 27.4 -1.2
baz=149
G23A Biddle 148.49 275 ⇓PKPdf **PKPdf** 12 07 28.4 -0.2
baz=149
L20A Wamsutter 148.50 268 ⇓PKPdf **PKPdf** 12 07 28.4 -0.5
baz=149
HEC Hector,Ludlow 148.53 250 ⇓PKPdf **PKPdf** 12 07 28.5 -0.5
baz=149
E24A Baker 148.53 278 ⇑PKPdf **PKPdf** 12 07 28.2 -0.4
baz=149
RES Resolute Bay 148.54 334 PKP **PKPdf** 12 07 24.8 -2.8
comp=Z,5.7nm,1.1s,baz=118,slow=2.1,SNR=8.2
RES PKPbc **PKPbc** 12 07 31.3 0.0
comp=Z,53nm,0.8s,baz=60,slow=4.4,SNR=123
RES Resolute Bay 148.54 334 PKP **PKPdf** 12 07 24.8 -2.8
RES *e*PKPdf PKPbc 12 07 25.7 -5.6
RES PKPbc **PKPbc** 12 07 31.3 0.0
TMUT Trail Mountain 148.57 261 *e*PKPbc **PKPbc** 12 07 32.0 -0.9
CIS Catalina Islan 148.64 245 ⇓PKPdf **PKPdf** 12 07 28.9 -0.2
baz=149
MSU Marysvale 148.65 259 *e*PKIKP **PKPdf** 12 07 29.5 +0.2
MSU *e* 12 07 32.7
MSU Marysvale 148.65 259 *e*PKPdf **PKPdf** 12 07 29.5 +0.2
MSU *e*PKPbc **PKPbc** 12 07 32.7 -0.3
MVU Marysvale 148.66 259 *e*PKPdf **PKPdf** 12 07 29.9 +0.5
MVU *e*PKPbc **PKPbc** 12 07 33.2 +0.2
MVU LR LR
comp=Z,248nm,19.0s
N18A Larsen Ranch, 148.70 265 ⇑PKPdf **PKPdf** 12 07 28.7 -0.5
baz=149

M19A Rock Springs 148.70 266 ⇓PKPdf **PKPdf** 12 07 28.5 -0.8
baz=149
CCUT Cedar City 148.71 256 *e*PKPdf **PKPdf** 12 07 30.2 +0.8
CCUT *e*PKPbc **PKPbc** 12 07 33.2 0.0
J21A Lysite 148.73 271 ⇓PKPdf **PKPdf** 12 07 28.0 -1.2
baz=149
TUQ Turquoise Moun 148.73 251 ⇑PKPdf **PKPdf** 12 07 28.5 -0.9
baz=149
H22A Clearmont 148.75 273 ⇓PKPdf **PKPdf** 12 07 28.0 -1.0
baz=149
F23A Volborg 148.77 276 ⇑PKPdf **PKPdf** 12 07 28.8 -0.2
baz=149
FMP Fort Macarthur 148.81 246 ⇓PKPdf **PKPdf** 12 07 28.6 -0.8
baz=149
D24A Glendive 148.82 279 ⇓PKPdf **PKPdf** 12 07 29.0 0.0
baz=149
BFSC Mount Baldy Ra 148.84 247 ⇓PKPdf **PKPdf** 12 07 28.4 -1.2
baz=149
O17A Robinson Place 148.86 263 ⇑PKPdf **PKPdf** 12 07 29.1 -0.5
baz=149
K20A Yellowstone Ra 148.88 269 ⇑PKPdf **PKPdf** 12 07 28.5 -0.9
baz=149
I21A Big Trails, Te 148.89 271 ⇑PKPdf **PKPdf** 12 07 28.5 -0.9
baz=149
ARUT Antelope Range 148.91 257 *e*PKP2 **PKPbc** 12 07 33.2 -0.4
ARUT Antelope Range 148.91 257 *e*PKPbc **PKPbc** 12 07 33.2 -0.4
G22A Birney 149.04 275 ⇑PKPdf **PKPdf** 12 07 28.5 -1.0
baz=149
P16A Fountain Green 149.04 261 ⇑PKPdf **PKPdf** 12 07 28.7 -1.1
baz=149
MWC Mount Wilson 149.06 247 *e*PKP2 **PKPbc** 12 07 33.9 -0.2
MWC Mount Wilson 149.06 247 *e*PKPbc **PKPbc** 12 07 33.9 -0.2
C24A Savage 149.07 280 ⇓PKPdf **PKPdf** 12 07 29.1 -0.3
baz=149
PASC Pasadena Art C 149.09 246 *e*PKPbc **PKPbc** 12 07 33.4 -0.6
E23A Ismay 149.10 277 ⇓PKPdf **PKPdf** 12 07 29.4 -0.1
baz=149
J20A Shoshoni 149.12 270 ⇑PKPdf **PKPdf** 12 07 29.5 -0.3
baz=149
GSC Goldstone 149.14 250 *e*PKP2 **PKPbc** 12 07 33.3 -0.9
GSC Goldstone 149.14 250 *e*PKPbc **PKPbc** 12 07 33.3 -0.9
GSC Goldstone 149.14 250 *e*PKPdf **PKPdf** 12 07 29.6 -0.4
baz=149
L19A Farson 149.17 267 ⇑PKPdf **PKPdf** 12 07 29.3 -0.6
baz=149
H21A Big Horn, Sher 149.18 273 ⇑PKPdf **PKPdf** 12 07 29.0 -0.8
baz=149
K19A Absolon Red Bu 149.28 269 ⇓PKPdf **PKPdf** 12 07 28.9 -1.2
baz=149
MPU Maple Canyon 149.28 262 *e*PKPbc **PKPbc** 12 07 34.1 -0.5
DAU Daniels Canyon 149.30 263 *e*PKHKP PKPpre 12 07 30.8
DAU Daniels Canyon 149.30 263 *e*PKPdf **PKPdf** 12 07 30.8 +0.4
DAU *e*PKPbc **PKPbc** 12 07 34.4 -0.4
F22A Rosebud 149.31 275 ⇓PKPdf **PKPdf** 12 07 29.4 -0.4
baz=149
N17A Moffit Pass 149.37 264 ⇑PKPdf **PKPdf** 12 07 30.6 +0.2
baz=150
DGMT Dagmar 149.38 281 *e*PKPdf **PKPdf** 12 07 29.7 -0.2
DGMT *e*PKPbc **PKPbc** 12 07 33.6 -0.6
DGMT Dagmar 149.38 281 ⇑PKPdf **PKPdf** 12 07 29.5 -0.3
baz=150
P15A Leamington 149.39 261 ⇑PKPdf **PKPdf** 12 07 29.7 -0.7
baz=150
E22A Miles City 149.46 277 ⇓PKPdf **PKPdf** 12 07 29.5 -0.5
baz=150
A24A Westby 149.46 282 ⇓PKPdf **PKPdf** 12 07 29.8 -0.2
baz=150
I20A Worland 149.47 271 ⇓PKPdf **PKPdf** 12 07 29.3 -1.0
baz=150
L18A Fontenelle, Gr 149.48 266 ⇓PKPdf **PKPdf** 12 07 29.9 -0.5
baz=150
R13A O'Grain Ranch, 149.49 257 ⇑PKPdf **PKPdf** 12 07 29.8 -0.8
baz=150
EDW2 Edwards Air Fo 149.50 248 ⇓PKPdf **PKPdf** 12 07 29.6 -1.0
baz=150
BLG Laguna Peak 149.53 245 ⇑PKPdf **PKPdf** 12 07 30.0 -0.6
baz=150
JLU Jordanelle 149.54 263 *e*PKPdf **PKPdf** 12 07 30.7 +0.1
JLU *e*PKPbc **PKPbc** 12 07 34.7 -0.5
M17A Scullys Gap (B 149.59 265 ⇑PKPdf **PKPdf** 12 07 29.4 -1.3
baz=150
G21A Lodge Grass 149.60 274 ⇑PKPdf **PKPdf** 12 07 29.6 -0.8
baz=150
J19A Crowheart 149.66 269 ⇑PKPdf **PKPdf** 12 07 29.6 -1.1
baz=150
C23A Lambert 149.66 280 ⇑PKPdf **PKPdf** 12 07 30.0 -0.3
baz=150
BW06 Boulder Array 149.68 268 ⇓PKPdf **PKPdf** 12 07 29.8 -1.0
baz=150
PDAR Pinedale Array 149.68 268 PKP **PKPdf** 12 07 29.1 -1.7
comp=Z,14nm,0.8s,baz=128,slow=3.4,SNR=38
PDAR PKPbc **PKPbc** 12 07 33.9 -1.6
comp=Z,28nm,1.0s,baz=121,slow=3.7,SNR=53
PDAR PP **PP** 12 11 09.6 +0.1
comp=Z,1.9nm,0.9s,baz=96,slow=6.0,SNR=3.9
PDAR Pinedale Array 149.68 268 PKP **PKPdf** 12 07 29.1 -1.7
PDAR PKPbc **PKPbc** 12 07 33.9 -1.6
PDAR PP **PP** 12 11 09.6 +0.1
H20A Greybull 149.69 272 ⇑PKPdf **PKPdf** 12 07 30.0 -0.6
baz=150
N16A Rees Ranch, Co 149.70 263 ⇓PKPdf **PKPdf** 12 07 30.8 -0.1
baz=150
OSI Osito Adit 149.71 246 *e*PKPbc **PKPbc** 12 07 35.8 +0.2
BSC Santa Cruz Isl 149.75 244 ⇓PKPdf **PKPdf** 12 07 30.9 0.0
baz=150
LRMC Laurel Mountai 149.76 249 ⇓PKPdf **PKPdf** 12 07 31.0 0.0
baz=150
B23A Brockton 149.84 281 ⇑PKPdf **PKPdf** 12 07 30.6 +0.1
baz=150
F21A Absaloka Mine, 149.85 275 ⇑PKPdf **PKPdf** 12 07 30.8 0.0
baz=150
K18A Toltan Ranch, 149.90 267 ⇓PKPdf **PKPdf** 12 07 30.7 -0.4
baz=150
D22A Cohagen 149.94 278 ⇓PKPdf **PKPdf** 12 07 31.2 +0.4
baz=150
FURC Furnace Creek, 150.00 251 ⇓PKPdf **PKPdf** 12 07 31.8 +0.7
baz=150
I19A Meeteetse 150.05 271 ⇓PKPdf **PKPdf** 12 07 30.6 -0.7
baz=150
C22A Vida 150.05 279 ⇑PKPdf **PKPdf** 12 07 30.8 -0.1
baz=150
MPMC Manual Prospec 150.07 250 ⇓PKPdf **PKPdf** 12 07 31.8 +0.2
baz=150
L17A Cokeville 150.09 266 ⇑PKPdf **PKPdf** 12 07 30.9 -0.5
baz=150
DUG Dugway 150.10 261 *e*PKIKP **PKPdf** 12 07 31.7 +0.3
DUG *e* 12 07 35.9
DUG MLR MLR
comp=Z,144nm,19.0s
DUG Dugway 150.10 261 *e*PKPdf **PKPdf** 12 07 31.7 +0.3
DUG *e*PKPbc **PKPbc** 12 07 35.9 -0.5
DUG LR LR
comp=Z,144nm,19.0s
DUG Dugway 150.10 261 ⇓PKPdf **PKPdf** 12 07 31.5 +0.1
baz=150
ARVC Arvin 150.15 247 ⇓PKPdf **PKPdf** 12 07 30.7 -0.8
baz=150
SEY Seymchan 150.17 49*c* *i*PKIKP **PKPbc** 12 07 35.0 -0.7
G20A Bridger 150.20 273 ⇓PKPdf **PKPdf** 12 07 31.1 -0.3
baz=150
J18A Kendall Valley 150.21 268 ⇓PKPdf **PKPdf** 12 07 31.3 -0.3
baz=150
HWUT Hardware Ranch 150.21 264 *e*PKPdf **PKPdf** 12 07 31.0 -0.7
HWUT *e*PKPbc **PKPbc** 12 07 35.8 -1.0
HWUT *e*PKPab **PKPab** 12 07 43.1 +0.1
HWUT LR LR
comp=Z,118nm,19.0s
DAC Darwin (Calif) 150.28 250 *e*PKIKP **PKPbc** 12 07 36.2 -0.9
DAC MLR MLR
comp=Z,321nm,21.0s
DAC Darwin (Calif) 150.28 250 *e*PKPbc **PKPbc** 12 07 36.2 -0.9
DAC LR LR
comp=Z,321nm,21.0s
ISA Isabella 150.34 248 *e*PKIKP **PKPdf** 12 07 32.6 +0.8
ISA *e* 12 07 36.7
ISA Isabella 150.34 248 *e*PKPdf **PKPdf** 12 07 32.6 +0.8
ISA *e*PKPbc **PKPbc** 12 07 36.7 -0.4
ISA Isabella 150.34 248 ⇑PKPdf **PKPdf** 12 07 31.7 -0.1
baz=150
N15A Stansbury Isla 150.35 262 ⇑PKPdf **PKPdf** 12 07 31.4 -0.4
baz=150
I18A Diamond G Ranc 150.36 269 ⇓PKPdf **PKPdf** 12 07 31.3 -0.5
baz=150
B22A Reddig Ranch S 150.37 280 ⇓PKPdf **PKPdf** 12 07 31.2 -0.2
baz=150
L16A Fish Haven 150.38 265 ⇑PKPdf **PKPdf** 12 07 31.2 -0.7

	baz=150						
H19A	**Powell**	**150.38**	**272**	⇑PKPdf	**PKPdf**	**12 07 31.2**	**-0.5**
	baz=150						
D21A	**La Casta Ranch**	**150.39**	**277**	⇓PKPdf	**PKPdf**	**12 07 31.5**	**0.0**
	baz=150						
FFC	**Flin Flon**	**150.49**	**294***c*	*i*PKIKP	**PKPbc**	**12 07 35.9**	**-0.8**
FFC	**Flin Flon**	**150.49**	**294**	*e*PKPbc	**PKPbc**	**12 07 35.5**	**-1.2**
FFC				LR	LR		
	comp=Z,219nm,20.0s						
K17A	**Gardner Place,**	**150.49**	**267**	⇓PKPdf	**PKPdf**	**12 07 31.3**	**-0.8**
	baz=151						
PKM	**Peak Mountain**	**150.53**	**245**	⇓PKPdf	**PKPdf**	**12 07 31.4**	**-0.9**
	baz=151						
R11A	**Troy Canyon, C**	**150.55**	**255**	⇓PKPdf	**PKPdf**	**12 07 31.6**	**-0.7**
	baz=151						
AHID	**Auburn Hatcher**	**150.61**	**267**	*e*PKPdf	**PKPdf**	**12 07 32.3**	**+0.1**
AHID				LR	LR		
	comp=Z,160nm,19.0s						
A22A	**Carney Farms,**	**150.63**	**281**	⇓PKPdf	**PKPdf**	**12 07 31.2**	**-0.6**
	baz=151						
CWC	**Cottonwood Cre**	**150.68**	**250**	⇓PKPdf	**PKPdf**	**12 07 32.0**	**-0.4**
	baz=151						
PEA0B	**Petropavlovsk-**	**150.71**	**70**	*e*PKPdf	**PKPdf**	**12 07 31.0**	**-0.7**
PEA0B				*e*PKPbc	**PKPbc**	**12 07 35.6**	**-1.7**
PETK	**Petropavlovsk-**	**150.71**	**70**	PKPbc	**PKPbc**	**12 07 36.1**	**-1.2**
	comp=Z,34nm,0.9s,baz=197,slow=4.5,SNR=19						
PETK	**Petropavlovsk-**	**150.71**	**70**	PKIKP	**PKPbc**	**12 07 36.1**	**-1.2**
PETK				pmax	pmax		
	comp=Z,34nm,0.9s						
PETK	**Petropavlovsk-**	**150.71**	**70**	PKPbc	**PKPbc**	**12 07 36.1**	**-1.2**
J17A	**Brown Place, J**	**150.71**	**268**	⇑PKPdf	**PKPdf**	**12 07 32.1**	**-0.2**
	baz=151						
RLMT	**Red Lodge**	**150.79**	**272**	*e*PKPdf	**PKPdf**	**12 07 32.3**	**-0.1**
RLMT				*e*PKPbc	**PKPbc**	**12 07 37.4**	**-0.7**
RLMT	**Red Lodge**	**150.79**	**272**	⇑PKPdf	**PKPdf**	**12 07 32.4**	**-0.1**
	baz=151						
H18A	**Shoshone NF, C**	**150.79**	**271**	⇑PKPdf	**PKPdf**	**12 07 32.0**	**-0.5**
	baz=151						
SNOW	**Snow King Moun**	**150.79**	**268**	*e*PKPdf	**PKPdf**	**12 07 33.6**	**+1.0**
SNOW				*e*PKPbc	**PKPbc**	**12 07 37.6**	**-0.6**
REDW	**Red Top Meadow**	**150.80**	**268**	*e*PKPdf	**PKPdf**	**12 07 33.3**	**+0.8**
REDW				*e*PKPbc	**PKPbc**	**12 07 37.2**	**-0.9**
E20A	**Meyer Farm, Mu**	**150.80**	**275**	⇑PKPdf	**PKPdf**	**12 07 32.2**	**0.0**
	baz=151						
C21A	**Desert Coulee**	**150.81**	**279**	⇓PKPdf	**PKPdf**	**12 07 32.1**	**0.0**
	baz=151						
VES	**Vestal, Richgr**	**150.81**	**248**	⇓PKPdf	**PKPdf**	**12 07 32.1**	**-0.4**
	baz=151						
TPAW	**Teton Pass**	**150.93**	**268**	*e*PKPdf	**PKPdf**	**12 07 33.0**	**+0.2**
TPAW				*e*PKPbc	**PKPbc**	**12 07 37.8**	**-0.7**
SMMC	**Simmler**	**150.93**	**246**	⇑PKPdf	**PKPdf**	**12 07 32.5**	**-0.2**
	baz=151						
I17A	**Pilgrim Ck.**	**150.94**	**269**	⇓PKPdf	**PKPdf**	**12 07 32.7**	**0.0**
	baz=151						
K16A	**Soda Springs**	**150.94**	**266**	⇓PKPdf	**PKPdf**	**12 07 32.7**	**0.0**
	baz=151						
L15A	**Malad City**	**150.94**	**264**	⇑PKPdf	**PKPdf**	**12 07 32.6**	**-0.1**
	baz=151						
F19A	**Roth Farm, Mol**	**150.97**	**274**	⇓PKPdf	**PKPdf**	**12 07 32.5**	**0.0**
	baz=151						
B21A	**Ellsworth Farm**	**151.03**	**280**	⇓PKPdf	**PKPdf**	**12 07 33.3**	**+0.9**
	baz=151						
G18A	**Lazy EL Ranch,**	**151.07**	**272**	⇑PKPdf	**PKPdf**	**12 07 33.4**	**+0.6**
	baz=151						
RRI2	**Red Ridge**	**151.07**	**267**	*e*PKPdf	**PKPdf**	**12 07 33.8**	**+0.8**
RRI2				*e*PKPbc	**PKPbc**	**12 07 38.0**	**-0.9**
D20A	**Manuel Ranch,**	**151.09**	**277**	⇓PKPdf	**PKPdf**	**12 07 33.6**	**+0.9**
	baz=151						
FLWY	**Flagg Ranch**	**151.10**	**269**	*e*PKPdf	**PKPdf**	**12 07 32.8**	**-0.1**
FLWY				*e*PKPbc	**PKPbc**	**12 07 38.0**	**-0.8**
DCID1	**Drake Creek**	**151.13**	**268**	*e*PKPbc	**PKPbc**	**12 07 38.1**	**-0.7**
IMW	**Indian Meadow**	**151.15**	**269**	*e*PKPdf	**PKPdf**	**12 07 32.6**	**-0.6**
E19A	**Rath Farm, Rou**	**151.18**	**275**	⇓PKPdf	**PKPdf**	**12 07 32.2**	**-0.6**
	baz=151						
LKWY	**Lake**	**151.18**	**270**	*e*PKIKP	**PKPdf**	**12 07 33.3**	**+0.2**
LKWY				*e*		12 07 38.8	
LKWY				MLR	MLR		
	comp=Z,220nm,19.0s						
LKWY	**Lake**	**151.18**	**270**	*e*PKPdf	**PKPdf**	**12 07 33.3**	**+0.2**
LKWY				*e*PKPbc	**PKPbc**	**12 07 38.8**	**-0.2**
LKWY				LR	LR		
	comp=Z,220nm,19.0s						
TIN	**Tinemaha**	**151.19**	**250**	⇑PKPdf	**PKPdf**	**12 07 33.8**	**+0.6**
	baz=151						
H17A	**Grant Village**	**151.20**	**270**	⇓PKPdf	**PKPdf**	**12 07 32.7**	**-0.4**
	baz=151						
J16A	**Bone**	**151.21**	**267**	⇓PKPdf	**PKPdf**	**12 07 32.4**	**-0.8**
	baz=151						
PET	**Petropavlovsk**	**151.22**	**70**	*e*PKIKP	**PKPbc**	**12 07 37.3**	**-1.1**
PET	**Petropavlovsk**	**151.22**	**70**	*e*PKPbc	**PKPbc**	**12 07 37.3**	**-1.1**
A21A	**Bergtoll Ranch**	**151.23**	**281**	⇓PKPdf	**PKPdf**	**12 07 32.6**	**-0.1**
	baz=151						
C20A	**Veseth Ranch,**	**151.30**	**278**	⇓PKPdf	**PKPdf**	**12 07 32.8**	**-0.1**
	baz=151						
TPH	**Tonopah**	**151.32**	**253**	PFAKE		12 07 40.0	+0.5
TPH				LR	LR		
	comp=Z,261nm,19.0s						
GCMT	**Greycliff**	**151.37**	**273**	*e*PKPbc	**PKPbc**	**12 07 38.4**	**-0.9**
GCMT				*e*PKPab	**PKPab**	**12 07 45.0**	**-2.6**
YFT	**Old Faithful**	**151.38**	**270**	*e*PKPdf	**PKPdf**	**12 07 34.1**	**+0.8**
YFT				*e*PKPbc	**PKPbc**	**12 07 39.5**	**0.0**
K15A	**Arbon**	**151.43**	**265**	⇑PKPdf	**PKPdf**	**12 07 32.9**	**-0.5**
	baz=152						
YNR	**Norris Junctio**	**151.43**	**270**	*e*PKPdf	**PKPdf**	**12 07 32.7**	**-0.8**
F18A	**Big Timber**	**151.46**	**273**	⇑PKPdf	**PKPdf**	**12 07 32.9**	**-0.4**
	baz=152						
I16A	**Newdale**	**151.47**	**268**	⇓PKPdf	**PKPdf**	**12 07 33.0**	**-0.4**
	baz=152						
L14A	**Malta**	**151.47**	**264**	⇓PKPdf	**PKPdf**	**12 07 33.3**	**-0.2**
	baz=152						
D19A	**Cripps Ranch,**	**151.57**	**276**	⇓PKPdf	**PKPdf**	**12 07 33.2**	**-0.2**
	baz=152						
YMR	**Madison River**	**151.58**	**270**	*e*PKPdf	**PKPdf**	**12 07 35.2**	**+1.5**
YMR				*e*PKPbc	**PKPbc**	**12 07 39.3**	**-0.6**
B20A	**Solberg Farm,**	**151.64**	**279**	⇓PKPdf	**PKPdf**	**12 07 33.3**	**-0.1**
	baz=152						
K14A	**Jones Ranch, D**	**151.74**	**264**	⇑PKPdf	**PKPdf**	**12 07 33.9**	**+0.1**
	baz=152						
H16A	**Russell Place,**	**151.77**	**270**	⇓PKPdf	**PKPdf**	**12 07 34.0**	**0.0**
	baz=152						
A20A	**Cobblestone Ra**	**151.77**	**280**	⇓PKPdf	**PKPdf**	**12 07 33.2**	**-0.4**
	baz=152						
J15A	**Blackfoot**	**151.77**	**267**	⇓PKPdf	**PKPdf**	**12 07 33.5**	**-0.4**
	baz=152						
G17A	**Pierce Place,**	**151.78**	**271**	⇑PKPdf	**PKPdf**	**12 07 33.7**	**-0.1**
	baz=152						
ELK	**Elko**	**151.89**	**259**	*e*PKPdf	**PKPdf**	**12 07 34.6**	**+0.4**
ELK				*e*PKPbc	**PKPbc**	**12 07 40.4**	**-0.3**
ELK				*e*PKPab	**PKPab**	**12 07 48.9**	**-1.1**
E18A	**Harlowton**	**151.91**	**274**	⇓PKPdf	**PKPdf**	**12 07 33.5**	**-0.4**
	baz=152						
C19A	**Slack Wire Ran**	**151.94**	**277**	⇓PKPdf	**PKPdf**	**12 07 33.7**	**-0.2**
	baz=152						
QLMT	**Earthquake Lak**	**151.94**	**270**	*e*PKPdf	**PKPdf**	**12 07 34.4**	**+0.2**
QLMT				*e*PKPbc	**PKPbc**	**12 07 40.8**	**+0.1**
QLMT				*e*PKPab	**PKPab**	**12 07 50.1**	**0.0**
F17A	**Fitzpatrick Pl**	**152.03**	**273**	⇓PKPdf	**PKPdf**	**12 07 33.7**	**-0.5**
	baz=152						
NV11	**Mina Array Sit**	**152.10**	**253**	*e*PKPdf	**PKPdf**	**12 07 35.4**	**+0.8**
NV11				*e*PKPbc	**PKPbc**	**12 07 41.1**	**0.0**
I15A	**Monteview**	**152.14**	**268**	⇓PKPdf	**PKPdf**	**12 07 34.1**	**-0.3**
	baz=152						
D18A	**Linhart Farms,**	**152.14**	**276**	⇑PKPdf	**PKPdf**	**12 07 33.9**	**-0.4**
	baz=152						
NVAR	**Mina Array Bea**	**152.18**	**252**	PKP	**PKPdf**	**12 07 35.5**	**+0.8**
	comp=Z,8.4nm,1.0s,baz=153,slow=3.2,SNR=28						
NVAR				PKPbc	**PKiKP**	**12 07 41.9**	**+0.1**
	comp=Z,21nm,0.7s,baz=148,slow=3.4,SNR=77						
NVAR	**Mina Array Bea**	**152.18**	**252**	PKP	**PKPdf**	**12 07 35.5**	**+0.8**
NVAR				PKPbc	**PKiKP**	**12 07 41.9**	**+0.1**
B19A	**Brinkman Farms**	**152.20**	**279**	⇑PKPdf	**PKPdf**	**12 07 33.7**	**-0.5**
	baz=152						
A19A	**Klindworth Far**	**152.28**	**280**	⇑PKPdf	**PKPdf**	**12 07 34.0**	**-0.4**
	baz=152						
G16A	**Moss Hill, Enn**	**152.38**	**270**	⇓PKPdf	**PKPdf**	**12 07 34.1**	**-0.7**
	baz=152						
E17A	**Martinsdale**	**152.43**	**273**	⇑PKPdf	**PKPdf**	**12 07 33.9**	**-0.9**
	baz=152						
BOZ	**Bozeman (W)**	**152.49**	**271**	*e*PKIKP	**PKPdf**	**12 07 34.4**	**-0.5**
BOZ				*e*		12 07 41.0	
BOZ				MLR	MLR		
	comp=Z,163nm,20.0s						
BOZ	**Bozeman (W)**	**152.49**	**271**	*e*PKPdf	**PKPdf**	**12 07 34.4**	**-0.5**
BOZ				*e*PKPbc	**PKPbc**	**12 07 41.0**	**-0.8**
BOZ				LR	LR		
	comp=Z,163nm,20.0s						
BOZ	**Bozeman (W)**	**152.49**	**271**	⇓PKPdf	**PKPdf**	**12 07 34.3**	**-0.6**
	baz=153						
EGMT	**Eagleton**	**152.49**	**277**	*e*PKPbc	**PKPbc**	**12 07 41.2**	**-0.5**
EGMT				LR	LR		
	comp=Z,163nm,19.0s						
EGMT	**Eagleton**	**152.49**	**277**	⇓PKPdf	**PKPdf**	**12 07 34.3**	**-0.4**
	baz=153						
F16A	**Kennard Place,**	**152.56**	**272**	⇓PKPdf	**PKPdf**	**12 07 34.4**	**-0.6**
	baz=153						
H15A	**Lima**	**152.57**	**269**	⇓PKPdf	**PKPdf**	**12 07 34.5**	**-0.6**
	baz=153						
D17A	**Six Diamond Ra**	**152.65**	**275**	⇓PKPdf	**PKPdf**	**12 07 34.5**	**-0.6**
	baz=153						
B18A	**Beardsley Farm**	**152.67**	**278**	⇓PKPdf	**PKPdf**	**12 07 34.4**	**-0.5**
	baz=153						
G15A	**Dillon**	**152.76**	**270**	⇑PKPdf	**PKPdf**	**12 07 34.5**	**-0.8**
	baz=153						
MCMT	**McKenzie Canyo**	**152.80**	**269**	*e*PKPbc	**PKPbc**	**12 07 40.0**	**-2.6**
MCMT				*e*PKPab	**PKPab**	**12 07 53.2**	**-0.6**
J13A	**Cove Ranch, Pi**	**152.82**	**265**	⇑PKPdf	**PKPdf**	**12 07 34.6**	**-0.8**
	baz=153						
BMN	**Battle Mountai**	**152.87**	**257**	*e*PKIKP	**PKPdf**	**12 07 35.4**	**-0.2**
BMN				MLR	MLR		
	comp=Z,338nm,20.0s						
BMN	**Battle Mountai**	**152.87**	**257**	*e*PKPdf	**PKPdf**	**12 07 35.4**	**-0.2**
BMN				LR	LR		
	comp=Z,338nm,20.0s						
C17A	**Wharram Farm,**	**152.92**	**276**	⇑PKPdf	**PKPdf**	**12 07 34.7**	**-0.7**
	baz=153						
DLMT	**Dillon**	**152.93**	**270**	*e*PKPdf	**PKPdf**	**12 07 35.6**	**0.0**
DLMT				*e*PKPbc	**PKPbc**	**12 07 42.4**	**-0.4**
A18A	**Metzger Ranch,**	**152.94**	**279**	⇓PKPdf	**PKPdf**	**12 07 34.4**	**-0.9**
	baz=153						
E16A	**East Helena**	**152.96**	**273**	⇑PKPdf	**PKPdf**	**12 07 34.5**	**-1.1**
	baz=153						
H14A	**Leadore**	**153.00**	**268**	⇓PKPdf	**PKPdf**	**12 07 35.5**	**-0.2**
	baz=153						
HLID	**Hailey**	**153.06**	**265**	*e*PKPdf	**PKPdf**	**12 07 35.5**	**-0.4**
HLID	**Hailey**	**153.06**	**265**	⇓PKPdf	**PKPdf**	**12 07 35.6**	**-0.2**
	baz=153						
LRM	**Limekiln Ridge**	**153.07**	**271**	*e*PKPdf	**PKPdf**	**12 07 35.2**	**-0.7**
LRM				*e*PKPbc	**PKPbc**	**12 07 41.3**	**-1.9**
I13A	**Wildhorse Cree**	**153.08**	**266**	⇓PKPdf	**PKPdf**	**12 07 35.7**	**-0.2**
	baz=153						
CMB	**Columbia Colle**	**153.10**	**249**	*e*PKIKP	**PKPdf**	**12 07 35.8**	**-0.1**
CMB				*e*		12 07 43.3	
CMB	**Columbia Colle**	**153.10**	**249**	*e*PKPdf	**PKPdf**	**12 07 35.8**	**-0.1**
CMB				*e*PKPbc	**PKiKP**	**12 07 43.3**	**-0.1**
F15A	**Butte**	**153.11**	**271**	⇑PKPdf	**PKPdf**	**12 07 35.5**	**-0.3**
	baz=153						
D16A	**Dana Ranch, Ca**	**153.12**	**274**	⇑PKPdf	**PKPdf**	**12 07 35.8**	**+0.1**
	baz=153						
B17A	**L&G Farms, Che**	**153.24**	**277**	⇑PKPdf	**PKPdf**	**12 07 35.6**	**-0.2**
	baz=153						
G14A	**Jackson**	**153.39**	**269**	⇑PKPdf	**PKPdf**	**12 07 36.1**	**-0.2**
	baz=154						
A17A	**Triple J Farms**	**153.46**	**278**	⇑PKPdf	**PKPdf**	**12 07 36.3**	**+0.2**
	baz=154						
E15A	**Deer Lodge**	**153.49**	**272**	⇑PKPdf	**PKPdf**	**12 07 36.2**	**-0.1**
	baz=154						
H13A	**Challis**	**153.51**	**267**	⇓PKPdf	**PKPdf**	**12 07 35.9**	**-0.5**
	baz=154						
C16A	**Fuhringer Ranc**	**153.59**	**275**	⇓PKPdf	**PKPdf**	**12 07 36.0**	**-0.4**
	baz=154						
WCN	**Washoe City**	**153.61**	**252**	*e*PKIKP	**PKPdf**	**12 07 37.4**	**+0.7**
WCN	**Washoe City**	**153.61**	**252**	*e*PKPdf	**PKPdf**	**12 07 37.4**	**+0.7**
F14A	**Wisdom**	**153.62**	**270**	⇑PKPdf	**PKPdf**	**12 07 36.4**	**-0.2**
	baz=154						
D15A	**Lincoln**	**153.71**	**273**	⇑PKPdf	**PKPdf**	**12 07 36.9**	**+0.3**
	baz=154						
G13A	**Colt**	**153.78**	**268**	⇓PKPdf	**PKPdf**	**12 07 36.8**	**0.0**
	baz=154						
MFID	**Camas Ranch**	**153.83**	**264**	⇓PKPdf	**PKPdf**	**12 07 36.8**	**0.0**
	baz=154						
B16A	**M & M Farms, S**	**153.84**	**277**	⇑PKPdf	**PKPdf**	**12 07 36.8**	**+0.2**
	baz=154						
H12A	**Diamond D Ranc**	**153.87**	**267**	⇑PKPdf	**PKPdf**	**12 07 36.6**	**-0.3**
	baz=154						
A16A	**West Butte Ran**	**154.00**	**278**	⇑PKPdf	**PKPdf**	**12 07 36.7**	**-0.2**
	baz=154						
E14A	**Clinton**	**154.00**	**271**	⇓PKPdf	**PKPdf**	**12 07 36.8**	**-0.2**
	baz=154						
CHMT	**Chamberlain Mo**	**154.09**	**273**	*e*PKPbc	**PKPbc**	**12 07 43.7**	**-1.6**
C15A	**Salmond Ranch,**	**154.10**	**275**	⇓PKPdf	**PKPdf**	**12 07 37.1**	**0.0**
	baz=154						
F13A	**Darby**	**154.19**	**269**	⇑PKPdf	**PKPdf**	**12 07 37.2**	**-0.1**
	baz=154						
B15A	**Bradely Ranch,**	**154.31**	**276**	⇑PKPdf	**PKPdf**	**12 07 37.2**	**-0.1**
	baz=154						
D14A	**Greenough**	**154.32**	**273**	⇓PKPdf	**PKPdf**	**12 07 36.9**	**-0.6**
	baz=154						
E13A	**Victor**	**154.43**	**271**	⇑PKPdf	**PKPdf**	**12 07 36.9**	**-0.7**
	baz=154						
G12A	**Big Creek, Yel**	**154.46**	**267**	⇑PKPdf	**PKPdf**	**12 07 37.8**	**+0.1**
	baz=155						
MSO	**Missoula**	**154.47**	**272**	*e*PKPdf	**PKPdf**	**12 07 36.5**	**-1.2**
MSO				LR	LR		
	comp=Z,107nm,20.0s						
MSO	**Missoula**	**154.47**	**272**	⇓PKPdf	**PKPdf**	**12 07 37.6**	**0.0**
	baz=155						
A15A	**Johnson Ranch,**	**154.69**	**277**	⇓PKPdf	**PKPdf**	**12 07 37.3**	**-0.6**
	baz=155						
F12A	**Elk City**	**154.74**	**269**	⇓PKPdf	**PKPdf**	**12 07 37.3**	**-0.7**
	baz=155						
B14A	**Marquette Ranc**	**154.75**	**276**	⇓PKPdf	**PKPdf**	**12 07 37.2**	**-0.8**
	baz=155						
D13A	**Huson**	**154.90**	**272**	⇑PKPdf	**PKPdf**	**12 07 37.6**	**-0.6**
	baz=155						
A14A	**Double T Ranch**	**155.10**	**277**	⇓PKPdf	**PKPdf**	**12 07 37.1**	**-1.4**
	baz=155						
C13A	**Hot Springs**	**155.24**	**273**	⇑PKPab	**PKPab**	**12 08 03.7**	**-0.1**
	baz=155						
D12A	**Red Ives Fores**	**155.42**	**271**	⇑PKPab	**PKPab**	**12 08 04.0**	**-0.6**
	baz=156						
BSMT	**Bassoo Peak**	**155.44**	**273**	*e*PKPdf	**PKPdf**	**12 07 37.6**	**-1.5**
BILL	**Bilibino**	**155.47**	**36**	PFAKE		12 07 50.0	+12
BILL				LR	LR		
	comp=Z,236nm,20.0s						
B13A	**Whitefish**	**155.48**	**275**	⇑PKPab	**PKPab**	**12 08 05.2**	**+0.4**
	baz=156						
BMO	**Blue Mountains**	**155.51**	**265**	*e*PKIKP	**PKPdf**	**12 07 37.6**	**-1.5**
BMO				MLR	MLR		
	comp=Z,238nm,19.0s						
BMO	**Blue Mountains**	**155.51**	**265**	*e*PKPdf	**PKPdf**	**12 07 37.6**	**-1.5**
BMO				LR	LR		
	comp=Z,238nm,19.0s						
MOD	**Modoc**	**155.60**	**256**	*e*PKPdf	**PKPdf**	**12 07 39.1**	**-0.3**
A13A	**Flathead Natio**	**155.68**	**276**	⇑PKPab	**PKPab**	**12 08 05.8**	**+0.1**
	baz=156						
C12B	**Naegeli Ranch,**	**155.80**	**273**	⇑PKPab	**PKPab**	**12 08 06.1**	**-0.1**
	baz=156						
B12A	**Libby**	**156.20**	**274**	⇓PKPab	**PKPab**	**12 08 07.8**	**-0.1**
	baz=156						
C11A	**Tepee Creek (N**	**156.33**	**272**	⇓PKPab	**PKPab**	**12 08 07.9**	**-0.5**
	baz=156						
A12A	**Yaak River Ran**	**156.43**	**275**	⇓PKPab	**PKPab**	**12 08 09.3**	**+0.4**
	baz=156						
YBH	**Yreka Blue Hor**	**156.90**	**253**	PKPab	**PKPab**	**12 08 10.2**	**-0.9**
	comp=Z,4.6nm,0.6s,baz=47,slow=6.2,SNR=7.2						
YBH	**Yreka Blue Hor**	**156.90**	**253**	PKPab	**PKPab**	**12 08 10.2**	**-0.9**
NEW	**Newport**	**157.04**	**273**	PKP	**PKPdf**	**12 07 38.3**	**-2.6**
	comp=Z,2.7nm,1.0s,baz=242,slow=4.7,SNR=4.5						
NEW				PKPab	**PKPab**	**12 08 10.3**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=50,slow=1.4,SNR=4.2						
NEW	**Newport**	**157.04**	**273**	PKP	**PKPdf**	**12 07 38.3**	**-2.6**
NEW				PKPab	**PKPab**	**12 08 10.3**	**-1.2**
NEW				LR	LR		
	comp=Z,181nm,21.0s						
HUMO	**Hull Mountain**	**157.59**	**255**	*e*PKPdf	**PKPdf**	**12 07 41.0**	**-0.8**
YKA	**Yellowknife Ar**	**157.81**	**311**	PKP	PKPdf	12 07 35.9	-5.4
	comp=Z,1.2nm,1.1s,baz=32,slow=1.6,SNR=8.4						
YKA				PKPab	**PKPab**	**12 08 13.3**	**-1.0**
	comp=Z,15nm,0.8s,baz=82,slow=5.4,SNR=47						
YKA				PP	**PP**	**12 11 56.7**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=72,slow=6.4,SNR=5.4						
YKA	**Yellowknife Ar**	**157.81**	**311**	PKP	PKPdf	12 07 35.9	-5.4
YKA				PKPab	**PKPab**	**12 08 13.3**	**-1.0**
YKA				PP	**PP**	**12 11 56.7**	**+2.1**
INK	**Inuvik**	**162.08**	**336**	PKPab	**PKPab**	**12 08 32.9**	**+0.2**
	comp=Z,8.7nm,0.9s,baz=37,slow=8.0,SNR=7.1						
INK	**Inuvik**	**162.08**	**336**	PKPab	**PKPab**	**12 08 32.9**	**+0.2**
EGAK	**Eagle**	**166.74**	**338**	PFAKE		12 08 00.0	+10
EGAK				LR	LR		
	comp=Z,238nm,20.0s						
ILAR	**Eielson Array**	**167.77**	**348**	PKP	**PKPdf**	**12 07 49.2**	**-1.8**
	comp=Z,1.2nm,1.2s,baz=15,slow=2.7,SNR=5.1						
ILAR				PKPab	**PKPab**	**12 08 57.9**	**0.0**
	comp=Z,6.4nm,0.9s,baz=352,slow=3.9,SNR=21						
ILAR	**Eielson Array**	**167.77**	**348**	PKP	**PKPdf**	**12 07 49.2**	**-1.8**
ILAR				PKPab	**PKPab**	**12 08 57.9**	**0.0**
COLA	**College**	**167.78**	**350**	PFAKE		12 08 00.0	+9.0
COLA				LR	LR		
	comp=Z,310nm,19.0s						
KDAK	**Kodiak Island**	**175.16**	**359**	PKPab	**PKPab**	**12 09 31.3**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=67,slow=13,SNR=5.0						
KDAK	**Kodiak Island**	**175.16**	**359**	PKPab	**PKPab**	**12 09 31.4**	**+0.6**

DJA ***12*** *11:50:23.6±1.4,8˚S±10˚×12˚0E±˚, h559km±19km, M4.4/9, mb4.5/5, mB4.9/2, MLv4.4/9, Mw(mB)4.2/2*
ISCJB ***12*** *11:50:24.6±0.2, 7˚.35S±0˚.05×119˚.97E±0˚.04, h587km, mb4.0/22, Error ellipse: s-maj=6.6km s-min=4.5km az=34.5*
AUST ***12*** *11:50:24.6±0.0, 7˚.44S×119˚.99E, h551km, Error ellipse: s-maj=1.6km s-min=0.8km az=30.0*
IDC ***12*** *11:50:25.1±0.5, 7˚.30S×120˚.08E, h559km±6km, mb3.5/22, mb1 3.6/25, mb1mx3.5/34, mbtmp3.5/25, Error ellipse: s-maj=12.9km s-min=7.5km az=64.0*

ISC 12 11:50:26.6±0.4, 7˚.46S±0˚.07×119˚.81E±0˚.07, h587km, n78, σ1§36/67, mb4.0/21, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKSI	**Bulukumba**	**2.15**	**8**	P	P	11 51 35.5	-5.0
WSI	**Waingapu**	**2.25**	**168**	P	P	11 51 31.5	-9.3
	baz=2.2,SNR=4.3						
WSI				S	S	11 52 32.1	-9.1
	baz=2.2,SNR=21						
WSI	**Waingapu**	**2.25**	**168**	P	P	11 51 31.6	-9.3
KAPI	**Kappang**	**2.43**	**359**	P	P	11 51 37.6	-4.2
	35nm,0.3s,baz=181,slow=2.4,SNR=179						
KAPI				S	S	11 52 35.9	-6.8
	baz=316,slow=22,SNR=12						
MMRI	**Maumere**	**2.68**	**116**	P	P	11 51 36.5	-6.5
BBSI	**Bau Bau**	**3.37**	**55**	P	P	11 51 43.1	-3.9
SPSI	**Sidrap Palu**	**3.47**	**359**	P	P	11 51 43.6	-4.1
KHKI	**Kahang-Kahang**	**4.25**	**258**	P	P	11 51 48.7	-4.3
TTSI	**Tana Toraja**	**4.38**	**0**	P	**P**	**11 51 54.3**	**+0.3**
KDI	**Kendari**	**4.47**	**39**	P	**P**	11 51 49.8	-4.8
SRBI	**Singaraja**	**4.59**	**262**	P	**P**	**11 51 53.2**	**-2.3**
DNP	**Denpasar**	**4.71**	**255**	P	**P**	**11 51 54.8**	**-1.6**
IGBI	**Denpasar**	**4.81**	**253**	P	**P**	**11 51 54.7**	**-2.5**
NBBI	**Negara**	**5.22**	**260**	P	P	11 51 54.9	-5.6
JAGI	**Jajag, Banyuwa**	**5.69**	**259**	P	**P**	**11 52 01.4**	**-3.1**
	122nm,0.7s,4μm						
KMMI	**Kalianget**	**5.81**	**274**	P	**P**	**11 52 04.9**	**-0.6**
	52nm,1.1s						
BBKI	**Banjar Baru**	**6.34**	**309**	P	**P**	**11 52 09.4**	**-0.8**
	114nm,0.8s						
GMJI	**Gumukmas**	**6.35**	**262**	P	**P**	**11 52 07.2**	**-3.1**
	59nm,0.9s						
LUWI	**Luwuk**	**7.03**	**25**	P	P	11 52 12.7	-3.7
UGM	**Wanagama**	**9.21**	**267**	P	**P**	**11 52 37.3**	**-0.1**
	baz=9.4,SNR=5.8						
UGM				S	**S**	**11 54 21.4**	**-3.3**
	baz=9.4,SNR=5.1						
FITZ	**

AKTO	**Aktyubinsk**	**78.43**	**325**	P		**P**	**12 01 27.6**	**+0.2**
	1.2nm,0.7s,baz=74,slow=11,SNR=3.1							
QSPA	**South Pole Qui**	**82.52**	**180**	P		**P**	**12 01 49.9**	**+1.3**
	2.2nm,0.8s,baz=90,slow=13,SNR=3.5							
ILAR	**Eielson Array**	**98.11**	**26**	P		Pdif	12 02 59.2	-1.7
	0.1nm,0.4s,baz=264,slow=3.6,SNR=4.1							
PLCA	**Paso Flores**	**131.11**	**170**	PKP		**PKPdf**	**12 08 35.3**	**+2.3**
	1.4nm,1.0s,baz=129,slow=7.1,SNR=3.0							
SCHQ	**Schefferville**	**132.46**	**5**	PKP		**PKPdf**	**12 08 36.7**	**+1.7**
	0.8nm,0.5s,baz=141,slow=17,SNR=1.9							
TKL	**Tuckaleechee C**	**144.59**	**34**	PKP		PKPbc	12 08 58.1	+0.2
	5.1nm,0.5s,baz=157,slow=2.9,SNR=13							
CMIG	**Matias Romero**	**144.84**	**71**	PKP		**PKPab**	**12 09 00.1**	**+0.1**
	3.6nm,0.5s,baz=20,slow=2.9,SNR=6.1							
CPUP	**Villa Florida**	**146.30**	**185**	PKPbc		**PKPab**	**12 09 04.5**	**-0.9**
	1.0nm,0.5s,baz=130,slow=13,SNR=3.1							

IDC 12 11:50:29.5±0.6, 7°.31S×120°.05E, h560km±6km, mb3.4/19, mb1 3.5/22, mb1mx3.4/31, mbtmp3.4/22, Error ellipse: s-maj=15.5km s-min=9.1km az=62.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**2.29**	**353**	P		P	11 51 41.7	+0.2
	43nm,0.3s,baz=155,slow=2.0,SNR=41							
KAPI				S		S	11 52 40.5	+0.4
	baz=176,slow=22,SNR=5.4							
FITZ	**Fitzroy Crossi**	**12.03**	**154**	P		P	11 53 07.5	-0.9
	1.0nm,0.3s,baz=332,slow=6.8,SNR=11							
FITZ				S		S	11 55 22.8	+3.7
	0.3nm,0.3s,baz=146,slow=12,SNR=5.0							
WRA	**Warramunga Arr**	**18.70**	**134**	P		P	11 54 13.1	-0.3
	1.8nm,0.3s,baz=311,slow=10,SNR=5.8							
ASAR	**Alice Springs**	**21.01**	**142**	P		P	11 54 33.8	-0.5
	3.9nm,0.4s,baz=321,slow=7.6,SNR=6.8							
ASAR				PcP		PcP	11 58 16.7	-0.3
	1.0nm,0.5s,baz=306,slow=0.8,SNR=6.7							
PSI	**Prapat**	**23.35**	**295**	P		P	11 54 55.8	+0.3
	2.8nm,0.3s,baz=24,slow=20,SNR=4.8							
PMG	**Port Moresby**	**26.90**	**96**	P		P	11 55 26.5	-0.1
	3.2nm,0.4s,baz=218,slow=19,SNR=5.1							
CTA	**Charters Tower**	**28.40**	**119**	PcP		PcP	11 58 34.2	+0.3
	3.4nm,0.8s,baz=95,slow=16,SNR=3.3							
STKA	**Stephens Creek**	**31.64**	**143**	P		P	11 56 07.3	-0.1
	2.5nm,0.5s,baz=330,slow=11,SNR=4.6							
STKA				PcP		PcP	11 58 41.5	-0.8
	1.2nm,0.4s,baz=339,slow=4.8,SNR=3.3							
CMAR	**Chiang Mai Arr**	**33.00**	**321**	P		P	11 56 19.5	+0.4
	2.3nm,0.8s,baz=143,slow=6.8,SNR=10							
MJAR	**Matsushiro Arr**	**46.83**	**20**	P		P	11 58 07.9	-1.4
	1.1nm,0.6s,baz=199,slow=9.4,SNR=6.3							
USRK	**Ussuriysk Arra**	**52.39**	**11**	P		P	11 58 49.7	-0.3
	1.2nm,0.4s,baz=197,slow=6.4,SNR=6.2							
SONM	**Songino Array**	**56.21**	**349**	P		P	11 59 17.4	+0.4
	0.2nm,0.5s,baz=163,slow=7.9,SNR=4.9							
MKAR	**Makanchi Array**	**63.45**	**332**	P		P	12 00 04.9	0.0
	3.6nm,0.5s,baz=148,slow=7.4,SNR=37							
AAK	**Ala-Archa**	**64.70**	**324**	P		P	12 00 13.3	+0.2
	0.4nm,0.4s,baz=63,slow=6.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**67.85**	**338**	P		P	12 00 31.1	-1.0
	1.7nm,0.4s,baz=136,slow=5.6,SNR=9.7							
PETK	**Petropavlovsk-**	**68.11**	**23**	P		P	12 00 34.1	+0.3
	7.6nm,0.9s,baz=218,slow=9.3,SNR=3.3							
OPO	**Ambohidratompo**	**71.50**	**253**	P		P	12 00 54.6	-0.3
	0.5nm,0.4s,baz=4.0,slow=7.1,SNR=2.2							
BVAR	**Borovoye Array**	**73.31**	**331**	P		P	12 01 04.0	-0.4
	0.3nm,0.3s,baz=104,slow=6.3,SNR=3.8							
VNDA	**Vanda**	**73.49**	**171**	P		P	12 01 04.9	-0.1
	2.2nm,0.5s,baz=316,slow=6.4,SNR=6.8							
FX1	**Attu Island--F**	**74.91**	**30**	P		P	12 01 14.5	+1.2
	18nm,0.9s,baz=79,slow=20,SNR=2.0							
AKTO	**Aktyubinsk**	**78.44**	**325**	P		P	12 01 31.6	-1.1
	1.2nm,0.7s,baz=109,slow=3.8,SNR=4.4							
QSPA	**South Pole Qui**	**82.68**	**180**	P		P	12 01 54.1	-0.5
	1.5nm,0.6s,baz=185,slow=11,SNR=6.5							
ILAR	**Eielson Array**	**97.86**	**26**	P		Pdif	12 03 04.0	-1.1
	0.1nm,0.5s,baz=321,slow=33,SNR=3.5							
PLCA	**Paso Flores**	**131.21**	**169**	PKP		PKPdf	12 08 39.6	+0.9
	1.4nm,1.0s,baz=200,slow=11,SNR=2.2							
SCHQ	**Schefferville**	**132.28**	**5**	PKP		PKPdf	12 08 40.9	+0.7
	0.7nm,0.4s,baz=140,slow=17,SNR=1.7							
TKL	**Tuckaleechee C**	**144.32**	**34**	PKP		PKPbc	12 09 02.5	0.0
	3.2nm,0.4s,baz=111,slow=5.2,SNR=5.4							
CMIG	**Matias Romero**	**144.56**	**71**	PKP		PKPab	12 09 04.2	-0.1
	2.7nm,0.5s,baz=273,slow=10,SNR=3.9							
CPUP	**Villa Florida**	**146.47**	**184**	PKPbc		PKPbc	12 09 09.0	0.0
	1.0nm,0.6s,baz=108,slow=3.3,SNR=4.1							

CSEM 12 11:59:31.2, 41°.80N×2°.25E, h0km, ML1.1, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CFON	**Fontmartina**	**0.14**	**103**	Pg		Pg	11 59 33.2	-0.8
	SNR=7.9							
CFON				Lg		Lg	11 59 36.4	
	52nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**0.56**	**283**	Pg		Pg	11 59 40.5	-1.5
	10nm,0.4s,SNR=5.9							
EMIR				Lg		Lg	11 59 51.3	
	7.1nm,0.4s,SNR=6.3							
CLLI	**Llivia**	**0.71**	**343**	Pg		Pg	11 59 43.4	-1.8
	4.0nm,1.1s,SNR=7.9							
CLLI				Lg		Lg	11 59 55.5	
	1.8nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**0.81**	**36**	Lg		Lg	12 00 00.6	
	4.1nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**0.99**	**244**	Pg		Pg	11 59 50.4	+0.2
	SNR=7.9							
EPOB				Lg		Lg	12 00 02.0	
	2.2nm,0.2s,SNR=7.9							

*JMA **12** 12:02:09.3±0.5, 23°.96N×122°.49E, h0km, M2.2*
*ISCJB **12** 12:02:10.0±0.8, 23°.93N±0°.04×122°.50E±0°.02, h4km±5km, Error ellipse: s-maj=6.0km s-min=2.8km az=168.7*
*TAP **12** 12:02:12.2, 23°.99N×122°.49E, h35km±2km, ML2.9, D*
ISC 12 12:02:10.8±1.4, 23°.92N±0°.04×122°.50E±0°.02, h19km±3km, n28, σ0°.74/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.71**	**41**	P		**Pb**	**12 02 23.2**	**-1.5**
YOJ				S		**Sb**	**12 02 33.1**	**-1.0**
TWD	**Chiawan**	**0.84**	**281**	*e*P		**Pn**	**12 02 28.0**	**+0.3**
	baz=276							
TWD				*e*S		**Sg**	**12 02 38.3**	**-0.1**
	baz=276							
ENA	**Nanau**	**0.85**	**306**	*e*P		**Pb**	**12 02 27.4**	**+0.3**
	baz=303							
TWC	**Suao**	**0.91**	**319**	P		**Pb**	**12 02 27.8**	**-0.1**
	baz=317							
TWC				S		**Sb**	**12 02 39.5**	**-0.2**
	baz=317							
ESL	**Shilin**	**0.98**	**264**	*e*P		**Pb**	**12 02 28.8**	**-0.5**
	baz=249							
ESL				*e*S		**Sb**	**12 02 40.7**	**-1.2**
	baz=249							
TWE	**Neicheng**	**1.10**	**317**	*e*P		**Pn**	**12 02 31.9**	**+0.6**
	baz=305							
TWE				*e*S		**Sg**	**12 02 46.6**	**0.0**
	baz=305							
ENTT	**Nioudou**	**1.11**	**310**	*e*P		**Pg**	**12 02 32.3**	**-0.1**
	baz=295							
NNS	**Nan Shan**	**1.15**	**297**	*e*P		**Pb**	**12 02 32.4**	**+0.2**
	baz=283							
NNS				*e*S		**Sn**	**12 02 47.1**	**-0.3**
	baz=283							
WHF	**Hehuan Shan**	**1.15**	**281**	P		**Pn**	**12 02 32.1**	**-0.2**
	baz=268							
EHY	**Hungye**	**1.15**	**249**	*e*P		**Pn**	**12 02 32.0**	**-0.1**
	baz=245							
EHY				*e*S		**Sb**	**12 02 46.4**	**-0.5**
	baz=245							
IRIF	**Iriomote-Funau**	**1.20**	**70**	P		**Pn**	**12 02 32.0**	**-0.6**
IRIF				S		**Sb**	**12 02 48.6**	**+0.5**
HATJ	**Hateruma jima**	**1.20**	**83**	*e*S		**Sb**	**12 02 48.4**	**+0.1**
TWF1	**Yuli**	**1.24**	**243**	P		**Pn**	**12 02 33.3**	**+0.1**
	baz=239							
TWF1				*e*S		**Sb**	**12 02 49.1**	**-0.2**
	baz=239							
NSK	**Sanguang**	**1.28**	**306**	*e*P		**Pn**	**12 02 34.1**	**+0.2**
	baz=290							
NSK				*e*S		**Sb**	**12 02 50.2**	**-0.4**
	baz=290							
CHKT	**Chengkung**	**1.32**	**232**	*e*S		**Sn**	**12 02 49.5**	**-2.0**
	baz=219							
JKRS	**Kuro-shima**	**1.42**	**77**	P		**Pb**	**12 02 37.3**	**+0.6**
JKRS				*e*S		**Sb**	**12 02 55.4**	**+1.0**
SMLT	**Sun Moon Lake**	**1.46**	**269**	*e*P		**Pb**	**12 02 38.2**	**+0.7**
	baz=265							
SMLT				*e*S		**Sb**	**12 02 56.5**	**+0.7**
	baz=265							
TYC	**Yuchr**	**1.50**	**270**	*e*P		**Pg**	**12 02 39.9**	**+0.1**
	baz=267							
NSTT	**Nanjuang**	**1.54**	**298**	*e*P		**Pn**	**12 02 38.2**	**+0.9**
	baz=295							
NSTT				*e*S		**Sb**	**12 02 58.2**	**+0.3**
	baz=295							
ELDTW	**Lidau**	**1.54**	**242**	*e*P		**Pn**	**12 02 37.0**	**-0.5**
	baz=238							
ELDTW				*e*S		**Sn**	**12 02 55.5**	**-1.5**
	baz=238							
JIJ	**Ishigaki jima**	**1.57**	**73**	P		**Pn**	**12 02 38.2**	**+0.5**
JIJ				S		**Sn**	**12 02 58.7**	**+1.2**
ALS	**Alishan**	**1.60**	**256**	*e*P		**Pn**	**12 02 39.7**	**+1.2**
	baz=252							
ALS				*e*S		**Sn**	**12 02 59.3**	**+0.4**
	baz=252							
CHN5	**Tsauling**	**1.70**	**259**	*e*P		**Pn**	**12 02 40.4**	**+0.8**
	baz=256							
CHN5				*e*S		**Sb**	**12 03 02.7**	**+0.1**
	baz=256							
CHN4	**Tsaushan**	**1.84**	**252**	*e*P		**Pb**	**12 02 45.1**	**+1.2**
	baz=249							
CHN4				*e*S		**Sb**	**12 03 07.9**	**+1.4**
	baz=249							
WTP	**Ta-pu**	**1.85**	**249**	*e*P		**Pb**	**12 02 44.2**	**0.0**
	baz=246							
WTP				*e*S		**Sb**	**12 03 07.9**	**+0.9**
	baz=246							
SGST	**Jiashian**	**1.95**	**245**	*e*P		**Pb**	**12 02 45.3**	**-0.5**
	baz=235							
SGST				*e*S		**Sb**	**12 03 09.8**	**+0.1**
	baz=235							
CHN1	**Nanshi**	**1.95**	**248**	*e*P		**Pb**	**12 02 45.5**	**-0.3**
	baz=245							
CHN1				*e*S		**Sb**	**12 03 10.1**	**+0.2**
	baz=245							
TWK	**Hsinying**	**1.96**	**251**	*e*P		**Pb**	**12 02 45.5**	**-0.5**
	baz=247							
TWK				*e*S		**Sb**	**12 03 10.3**	**+0.3**
	baz=247							

*IDC **12** 12:11:52.8±1.1, 28°.61N×104°.88E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=43.9km s-min=18.3km az=68.0*
*ISCJB **12** 12:11:55.6±0.5, 28°.61N±0°.05×105°.19E±0°.07, h19km, mb3.7/6, Error ellipse: s-maj=9.3km s-min=5.6km az=33.7*
*BJI **12** 12:11:55.4, 28°.74N×105°.00E, h20km, ML3.7/14, Ms3.5/1, Ms7 3.4/1*
ISC 12 12:11:56.1±0.6, 28°.73N±0°.04×105°.10E±0°.06, h19km, n15, σ1s65/23, mb3.9/6, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**2.47**	**332**	Pg		**Pb**	**12 12 39.1**	**-0.9**
CD2				Pg		**Pg**	**12 12 42.5**	**-1.1**
CD2				Sn		**Sb**	**12 13 09.7**	**-0.3**
CD2				Sg		**Sg**	**12 13 14.6**	**-1.0**
CD2				smax	smax			
	comp=N,370nm,0.8s							
CD2				smax	smax			
	comp=E,630nm,0.8s							
GYA	**Guiyang**	**2.65**	**148**	*i*Pn		**Pn**	**12 12 39.6**	**+1.6**
GYA				Pg		**Pg**	**12 12 47.3**	**+0.3**
GYA				Sn		**Sb**	**12 13 12.0**	**-3.3**
GYA				Sg		**Sg**	**12 13 19.0**	**-2.5**
GYA				smax	smax			
	comp=N,430nm,0.7s							
GYA				smax	smax			
	comp=E,400nm,0.7s							
KMI	**Kunming**	**4.16**	**211**	Pn		**Pn**	**12 12 59.6**	**+0.7**
KMI				Sn		**Sn**	**12 13 48.8**	**+1.7**
KMI				smax	smax			
	comp=N,30nm,1.0s							
KMI				smax	smax			
	comp=E,47nm,1.0s							
KMI				LR	LR			
	comp=N,360nm,8.1s							
KMI				LR	LR			
	comp=E,420nm,8.3s							
KMI				LR	LR			
	comp=Z,370nm,6.9s							
XAN	**Xi'an**	**6.22**	**31**	Pn		**Pn**	**12 13 29.6**	**+2.6**
XAN				Sn		Sn	12 14 44.0	+6.3
XAN				Sg		**Sg**	**12 15 14.4**	**-1.4**
XAN				smax	smax			
	comp=N,67nm,1.0s							
XAN				smax	smax			
	comp=E,35nm,1.0s							
LZH	**Lanzhou**	**7.42**	**352**	*e*Pg		**Pg**	**12 14 15.7**	**-2.4**
LZH				Sg		**Sg**	**12 15 53.2**	**-0.9**
LZH				smax	smax			
	comp=N,35nm,1.2s							
LZH				smax	smax			
	comp=E,120nm,1.2s							
LZH				LR	LR			
	comp=N,200nm,5.9s							
LZH				LR	LR			
	comp=E,220nm,6.1s							
LZH				LR	LR			
	comp=Z,250nm,8.0s							
WHN	**Wuhan**	**8.25**	**75**	P		Pn	12 13 57.4	+2.6
WHN				S		**Sn**	**12 15 30.3**	**+2.8**
CMAR	**Chiang Mai Arr**	**11.67**	**210**	Pn		**Pn**	**12 14 43.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=16,slow=11,SNR=7.3							
SONM	**Songino Array**	**19.11**	**3**	P		**Pn**	**12 16 20.3**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=178,slow=11,SNR=10.0							
KSRS	**Korea Array**	**20.97**	**60**	P		Pn	12 16 39.1	-1.6
	comp=Z,5.1nm,1.2s,baz=233,slow=12,SNR=4.8							
ZALV	**Zalesovo Beam**	**29.23**	**335**	P		**P**	**12 17 56.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=124,slow=8.0,SNR=5.1							
KURBB	**Kurchatov Arra**	**29.66**	**325**	P		**P**	**12 17 59.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=127,slow=9.6,SNR=4.2							
WRA	**Warramunga Arr**	**56.02**	**146**	P		**P**	**12 21 33.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=338,slow=8.2,SNR=25							
ASAR	**Alice Springs**	**59.02**	**149**	P		**P**	**12 21 55.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=335,slow=6.8,SNR=19							
STKA	**Stephens Creek**	**69.55**	**147**	P		**P**	**12 23 03.6**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=9.4,slow=3.9,SNR=3.6							
YKA	**Yellowknife Ar**	**83.70**	**17**	P		**P**	**12 24 23.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=328,slow=5.3,SNR=3.3							

*NEIC **12** 12:13:27.8, 19°.24N×64°.85W, h33km, MD3.5(RSPR), After RSPR.*
RSPR 12 12:13:27.8, 19°.24N×64°.85W, h33km±17km, MD3.5/4, 21C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ABVI	**Anegada Island**	**0.71**	**136**	*i*eP		Pn	12 13 39.7	-1.8
ABVI				*e*S		Sn	12 13 49.8	-1.5
ABV	**Anegada**	**0.71**	**136**	*i*eP		Pn	12 13 39.7	-1.8
ABV				*e*S		Sn	12 13 49.8	-1.5
ABV	**Anegada**	**0.71**	**136**	*i*eP		Pn	12 13 39.7	-1.8
ABV				*e*S		Sn	12 13 49.8	-1.5
TBVI	**Tortola**	**0.85**	**165**	*i*eP		Pn	12 13 41.4	-2.1
TBVI	**Tortola**	**0.85**	**165**	*i*eP		Pn	12 13 41.4	-2.1
TBVI	**Tortola**	**0.85**	**165**	*i*eP		Pn	12 13 41.4	-2.1
STVI	**Saint Thomas**	**0.89**	**186**	*i*eP		Pn	12 13 41.8	-2.3
STVI	**Saint Thomas**	**0.89**	**186**	*e*S		Sn	12 13 53.5	-2.4
STVI	**Saint Thomas**	**0.89**	**186**	*i*eP		Pn	12 13 41.8	-2.3
STVI				*e*S		Sn	12 13 53.5	-2.4
STVI	**Saint Thomas**	**0.89**	**186**	*i*eP		Pn	12 13 41.8	-2.3
STVI				*e*S		Sn	12 13 53.5	-2.4
MTP	**Monte Pirata**	**1.32**	**210**	*i*eP		Pn	12 13 48.8	-1.2
MTP	**Monte Pirata**	**1.32**	**210**	*e*S		Sn	12 14 05.3	-1.2
MTP	**Monte Pirata**	**1.32**	**210**	*i*eP		Pn	12 13 48.8	-1.2
MTP				*e*S		Sn	12 14 05.3	-1.2
MTP	**Monte Pirata**	**1.32**	**210**	*i*eP		Pn	12 13 48.8	-1.2
MTP				*e*S		Sn	12 14 05.3	-1.2
CBYP	**Canovanas**	**1.36**	**225**	*i*eP		Pn	12 13 48.7	-1.9
CBYP	**Canovanas**	**1.36**	**225**	*e*S		Sn	12 14 06.0	-1.6
CBYP	**Canovanas**	**1.36**	**225**	*i*eP		Pn	12 13 48.7	-1.9
CBYP				*e*S		Sn	12 14 06.0	-1.6
CBYP	**Canovanas**	**1.36**	**225**	*i*eP		Pn	12 13 48.7	-1.9
CBYP				*e*S		Sn	12 14 06.0	-1.6
HUMP	**Col San Antoni**	**1.45**	**221**	*i*eP		Pn	12 13 50.6	-1.2
HUMP	**Col San Antoni**	**1.45**	**221**	*i*eP		Pn	12 13 50.6	-1.2
HUMP	**Col San Antoni**	**1.45**	**221**	*i*eP		Pn	12 13 50.6	-1.2
CDVI	**St. Croix**	**1.49**	**177**	*i*eP		Pn	12 13 51.8	-0.4
CDVI	**St. Croix**	**1.49**	**177**	*e*S		Sn	12 14 08.7	-1.8
CDVI	**St. Croix**	**1.49**	**177**	*i*eP		Pn	12 13 51.8	-0.4
CDVI				*e*S		Sn	12 14 08.7	-1.8
CDVI	**St. Croix**	**1.49**	**177**	*i*eP		Pn	12 13 51.8	-0.4
CDVI				*e*S		Sn	12 14 08.7	-1.8

IDC 12 12:14:48.9±64.0, 20°.02S×176°.02W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/28, Error ellipse: s-maj=1189.0km s-min=180.1km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.39**	**263**	LR		LR	12 34 12.7	
	comp=Z,90nm,20.9s,baz=204,slow=33							
STKA	**Stephens Creek**	**39.67**	**244**	P		P	12 22 22.4	-0.5
	0.9nm,0.7s,baz=100,slow=8.7,SNR=3.3							
ASAR	**Alice Springs**	**46.44**	**256**	P		P	12 23 17.5	-0.4
	0.3nm,0.6s,baz=94,slow=8.2,SNR=6.5							
WRA	**Warramunga Arr**	**46.51**	**261**	P		P	12 23 18.7	+0.3
	0.3nm,0.3s,baz=95,slow=8.1,SNR=21							

IDC 12 12:19:04.3±1.9, 1°.86S×139°.42E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/33, Error ellipse: s-maj=58.7km s-min=22.4km az=77.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**16.27**	**19**	LR		LR	12 27 59.0	
	comp=Z,30nm,21.1s,baz=270,slow=33							
WRA	**Warramunga Arr**	**18.64**	**195**	P		P	12 23 23.2	-0.6
	0.6nm,0.3s,baz=18,slow=10,SNR=16							
FITZ	**Fitzroy Crossi**	**21.06**	**219**	P		P	12 23 49.9	-0.3
	1.0nm,0.7s,baz=32,slow=9.5,SNR=3.0							
ASAR	**Alice Springs**	**22.32**	**193**	P		P	12 24 02.9	-1.0
	4.9nm,0.9s,baz=24,slow=10,SNR=48							
STKA	**Stephens Creek**	**29.93**	**176**	P		P	12 25 15.9	+1.8
	1.1nm,0.7s,baz=316,slow=10,SNR=4.2							
CMAR	**Chiang Mai Arr**	**44.65**	**299**	P		P	12 27 20.2	+1.1
	0.5nm,0.3s,baz=134,slow=6.2,SNR=4.7							
SONM	**Songino Array**	**57.27**	**334**	LR		LR	12 50 46.9	
	comp=Z,114nm,21.2s,baz=89,slow=33							
MKAR	**Makanchi Array**	**69.56**	**322**	P		P	12 30 14.4	-0.8
	0.5nm,0.6s,baz=112,slow=6.9,SNR=5.9							
QSPA	**South Pole Qui**	**88.08**	**180**	P		P	12 31 56.1	-0.5
	4.3nm,1.2s,baz=304,slow=8.3,SNR=4.7							

*ISK **12** 12:19:36.6, 39°.43N×33°.12E, h5km, MD3.1*
*DDA **12** 12:19:37.1, 39°.43N×33°.10E, h13km, MD3.1*
*CSEM **12** 12:19:37.7±0.1, 39°.40N×33°.12E, h2km, MD3.1, Error ellipse: s-maj=4.0km s-min=3.6km az=164.0*
ISC 12 12:19:37.5±0.9, 39°.43N±0°.02×33°.11E±0°.02, h3km±7km, n56, σ0°.77/80, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFSR	**Afar-Bala (A**	**0.03**	**308**	PG		**Pg**	**12 19 37.6**	**-0.8**
AFSR	**Afar-Bala (A**	**0.03**	**308**	*i*Pg		**Pg**	**12 19 37.7**	**-0.7**
BBAL	**Bala**	**0.12**	**7**	*i*P		**Pg**	**12 19 40.3**	**+0.4**
BBAL				*i*S		**Sg**	**12 19 42.8**	**+1.3**
BBAL	**Bala**	**0.12**	**7**	*i*P		**Pg**	**12 19 40.3**	**+0.4**
BBAL				*i*S		**Sg**	**12 19 42.8**	**+1.3**
KAMT	**Kaman**	**0.47**	**97**	PG		**Pg**	**12 19 46.9**	**+0.3**
KAMT				SG		**Sg**	**12 19 53.9**	**+1.1**
KAMT	**Kaman**	**0.47**	**97**	*i*Pg		**Pg**	**12 19 46.9**	**+0.3**
KAMT				*i*Sg		**Sg**	**12 19 53.9**	**+1.1**
LOD	**Lodumlu**	**0.53**	**330**	PG		**Pg**	**12 19 47.8**	**0.0**
LOD				SG		**Sb**	**12 19 56.8**	**-0.9**
LOD	**Lodumlu**	**0.53**	**330**	*i*Pg		**Pg**	**12 19 47.8**	**0.0**
LOD				*i*Sg		**Sb**	**12 19 56.8**	**-0.9**
CDAG	**Cicekdag**	**1.00**	**78**	*i*P		**Pg**	**12 19 56.0**	**-0.7**
CDAG				*i*S		**Sg**	**12 20 09.5**	**-0.1**
CDAG	**Cicekdag**	**1.00**	**78**	*i*P		**Pg**	**12 19 56.0**	**-0.7**
CDAG				*i*S		**Sg**	**12 20 09.5**	**-0.1**
ELDT	**Eldivan**	**1.09**	**13**	*i*P		**Pg**	**12 19 58.4**	**-0.1**
ELDT				*i*S		**Sn**	**12 20 14.5**	**-1.1**
ELDT	**Eldivan**	**1.09**	**13**	*i*P		**Pg**	**12 19 58.4**	**-0.1**
ELDT				*i*S		**Sn**	**12 20 14.5**	**-1.1**
KIZT	**Kizilcal**	**1.10**	**241**	PN		**Pg**	**12 19 58.8**	**+0.3**
KIZT	**Kizilcal**	**1.10**	**241**	*i*Pn		**Pg**	**12 19 58.8**	**+0.3**
KDHN	**Kadinhani**	**1.19**	**221**	*i*P		**Pg**	**12 19 59.5**	**-0.8**
KDHN				*i*S		**Sg**	**12 20 16.1**	**+0.4**
KDHN	**Kadinhani**	**1.19**	**221**	*i*P		**Pg**	**12 19 59.5**	**-0.8**
KDHN				*i*S

comp=Z,335nm,19.7s,baz=215,slow=33

VNDA	**Vanda**	**57.55**	**166**	LR	LR	12 59 47.2	
	comp=Z,270nm,18.1s,baz=46,slow=34						
TORD	**Torodi Ar. Bea**	**67.11**	**310**	P	P	12 37 43.9	+0.6
	0.8nm,0.9s,baz=145,slow=8.3,SNR=4.2						
ASAR	**Alice Springs**	**72.73**	**107**	P	P	12 38 18.1	0.0
	1.7nm,0.8s,baz=232,slow=5.7,SNR=16						
STKA	**Stephens Creek**	**73.60**	**118**	P	P	12 38 23.3	+0.3
	1.2nm,0.6s,baz=291,slow=3.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**74.25**	**50**	P	P	12 38 27.2	+0.4
	0.6nm,0.6s,baz=228,slow=6.8,SNR=6.5						
WRA	**Warramunga Arr**	**75.21**	**104**	P	P	12 38 33.0	+0.4
	3.1nm,0.8s,baz=228,slow=4.8,SNR=27						
CTA	**Charters Tower**	**84.04**	**111**	P	P	12 39 20.5	-0.1
	4.2nm,0.8s,baz=231,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**90.42**	**23**	P	P	12 39 50.3	-0.4
	0.3nm,0.8s,baz=218,slow=9.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**97.52**	**21**	P	Pdif	12 40 23.2	0.0
	0.3nm,0.4s,baz=177,slow=5.3,SNR=4.7						
INK	**Inuvik**	**150.20**	**1**	PKPbc	PKPbc	12 46 39.5	-0.1
	1.6nm,0.9s,baz=48,slow=3.1,SNR=3.7						
ULM	**Lac du Bonnet**	**151.84**	**306**	PKPbc	PKPbc	12 46 43.3	-0.7
	3.0nm,0.6s,baz=45,slow=2.9,SNR=7.0						
ILAR	**Eielson Array**	**152.37**	**14**	PKPbc	PKPbc	12 46 43.5	-1.2
	0.6nm,0.9s,baz=297,slow=3.8,SNR=5.8						
YKA	**Yellowknife Ar**	**153.75**	**342**	PKPbc	PKPbc	12 46 47.0	-0.8
	0.3nm,0.7s,baz=45,slow=2.0,SNR=4.4						
TXAR	**Lajitas Array**	**154.69**	**257**	PKPbc	PKPbc	12 46 51.4	+0.3
	0.6nm,0.9s,baz=98,slow=5.5,SNR=5.5						

ISCJB ***12*** *12:28:03.7±0.7,25°.2S±0°.1×178°.4E±0°.1, h579km, mb4.0/15, Error ellipse: s-maj=18.5km s-min=10.4km az=139.1*

AUST ***12*** *12:28:04.2,25°.22S×178°.85E, h600km*

IDC ***12*** *12:28:07.3±2.2,25°.25S×178°.29E, h607km±24km, mb3.5/15, mb1 3.5/16, mb1mx3.4/23, mbtmp3.5/16, Error ellipse: s-maj=17.3km s-min=15.6km az=140.0*

ISC 12 12:28:05.1±0.8, 25°.2S±0°.2×178°.4E±0°.1, h579km, n35, σ1°12/32, mb3.9/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.36**	**284**	P		**P**		**12 30 39.5**	**+2.2**
	0.7nm,0.3s,baz=118,slow=19,SNR=7.1								
AFI	**Afiamalu**	**14.58**	**41**	P		P		12 31 06.6	-3.4
	3.4nm,0.3s,baz=36,slow=5.5,SNR=9.0								
HNR	**Honiara**	**23.51**	**309**	P		**P**		**12 32 30.9**	**-0.4**
	26nm,0.4s,baz=150,slow=6.1,SNR=2.3								
MGCD	**Mangrove Creek**	**25.03**	**245**	P		**P**		**12 32 46.1**	**+1.6**
	baz=25,SNR=4.5								
CNB	**Canberra Magne**	**26.91**	**241**	P		**P**		**12 33 02.6**	**+1.5**
	baz=27,SNR=9.0								
YNG	**Young**	**27.46**	**244**	P		**P**		**12 33 07.1**	**+1.1**
	baz=28,SNR=5.9								
CTA	**Charters Tower**	**30.02**	**273**	P		**P**		**12 33 29.1**	**+0.8**
	5.3nm,0.3s,baz=104,slow=9.4,SNR=14								
TOO	**Toolangi**	**30.49**	**238**	P		**P**		**12 33 32.7**	**+0.6**
	baz=31,SNR=15								
STKA	**Stephens Creek**	**32.86**	**250**	P		**P**		**12 33 52.4**	**+0.1**
	1.9nm,0.3s,baz=84,slow=9.4,SNR=17								
STKA	**Stephens Creek**	**32.86**	**250**	P		**P**		**12 33 52.6**	**+0.3**
	baz=33,SNR=9.5								
ARPS	**Mount Arapiles**	**33.17**	**241**	P		**P**		**12 33 55.0**	**+0.2**
	baz=34,SNR=8.5								
PMG	**Port Moresby**	**33.56**	**292**	P		**P**		**12 33 58.7**	**+0.4**
	17nm,0.8s,baz=79,slow=4.6,SNR=9.0								
COEN	**Coen**	**34.88**	**282**	P		**P**		**12 34 10.1**	**+0.7**
	baz=35,SNR=19								
BBOO	**Buckleboo**	**37.56**	**248**	P		**P**		**12 34 30.5**	**-0.7**
	baz=38,SNR=5.3								
ASAR	**Alice Springs**	**40.36**	**263**	P		**P**		**12 34 53.7**	**-0.2**
	1.4nm,0.4s,baz=92,slow=7.2,SNR=123								
ASAR				S		**S**		**12 40 19.3**	**-2.0**
	1.8nm,1.1s,baz=104,slow=16,SNR=9.7								
WRA	**Warramunga Arr**	**40.85**	**268**	P		**P**		**12 34 57.1**	**-0.7**
	4.7nm,0.3s,baz=99,slow=6.9,SNR=186								
WRA				S		**S**		**12 40 24.8**	**-3.5**
	2.2nm,0.8s,baz=99,slow=14,SNR=16								
KDU	**Kakadu**	**44.94**	**277**	S		S		12 41 19.9	-6.8
	baz=45,SNR=3.5								
MTN	**Manton Dam**	**46.09**	**276**	S		S		12 41 26.4	-16
	baz=46,SNR=3.8								
FITZ	**Fitzroy Crossi**	**49.26**	**267**	P		**P**		**12 36 01.9**	**-0.1**
	4.4nm,0.5s,baz=111,slow=7.6,SNR=22								
FITZ	**Fitzroy Crossi**	**49.26**	**267**	P		**P**		**12 36 01.9**	**-0.1**
	baz=50,SNR=10								
PCI	**Palu**	**61.34**	**284**	P		P		12 37 30.4	+4.6
	baz=62,SNR=4.0								
QSPA	**South Pole Qui**	**64.88**	**180**	P		**P**		**12 37 47.6**	**-0.2**
	4.1nm,0.9s,baz=74,slow=3.2,SNR=14								
MJAR	**Matsushiro Arr**	**72.15**	**327**	P		**P**		**12 38 31.1**	**-0.8**
	2.3nm,0.8s,baz=159,slow=6.1,SNR=5.9								
KSRS	**Korea Array**	**78.31**	**321**	P		**P**		**12 39 06.3**	**+0.3**
	2.0nm,0.7s,baz=127,slow=6.1,SNR=7.4								
PETK	**Petropavlovsk-**	**80.03**	**348**	P		**P**		**12 39 15.0**	**+0.2**
	2.8nm,0.6s,baz=145,slow=7.4,SNR=4.5								
USRK	**Ussuriysk Arra**	**81.06**	**328**	P		**P**		**12 39 20.8**	**+0.6**
	3.6nm,0.7s,baz=150,slow=3.9,SNR=7.4								
NVAR	**Mina Array Bea**	**86.73**	**45**	P		**P**		**12 39 49.1**	**+0.5**
	0.4nm,0.6s,baz=214,slow=6.9,SNR=4.5								
CMAR	**Chiang Mai Arr**	**88.59**	**291**	P		**P**		**12 39 58.5**	**+1.1**
	1.2nm,0.8s,baz=143,slow=4.0,SNR=7.0								
ILAR	**Eielson Array**	**93.65**	**14**	P		**P**		**12 40 18.2**	**-1.6**
	0.2nm,0.6s,baz=217,slow=5.3,SNR=1.4								
ARCES	**ARCESS Array B**	**132.84**	**347**	PKP		**PKPdf**		**12 46 14.3**	**+0.2**
	2.0nm,0.8s,baz=64,slow=2.1,SNR=5.4								
FINES	**FINESS Array B**	**139.18**	**349**	PKhKP		PKPpre		12 46 17.0	
	0.5nm,0.4s,baz=48,slow=5.9,SNR=1.5								
FINES				PKP		**PKPdf**		**12 46 26.5**	**+0.4**
	0.8nm,0.3s,baz=346,slow=38,SNR=1.9								
NB2	**NORSAR Subarra**	**143.12**	**350**	PKP		PKPab		12 46 29.9	-1.2
	comp=Z,8.6nm,0.8s,baz=15,slow=3.2								
NOA	**NORSAR Array B**	**143.12**	**350**	PKP		PKPab		12 46 30.5	-0.7
	comp=Z,5.7nm,0.7s,baz=22,slow=3.8,SNR=19								
AKASG	**Malin Array Be**	**145.22**	**325**	PKPbc		**PKPdf**		**12 46 36.9**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=45,slow=4.0,SNR=7.1								
BRTR	**Keskin Array B**	**147.13**	**305**	PKPbc		**PKPbc**		**12 46 43.0**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=139,slow=4.6,SNR=6.1								
BRTR				PKPab		**PKPab**		**12 46 47.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=111,slow=3.9,SNR=3.8								

NEIC ***12*** *12:28:39.4, 15°.54N×93°.65W, h71km, MD4.1(MEX), After MEX.*

MEX 12 12:28:39.4±0.6, 15°.54N×93°.65W, h71km±7km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.45**	**68**	*e*P			Pn	12 28 50.4	-1.5
PCIG				*e*S			Sn	12 28 59.4	-1.6
PCIG		**0.45**	**68**	*e*P			Pn	12 28 50.4	-1.5
PCIG				*e*S			Sn	12 28 59.4	-1.6
TGIG		**1.33**	**22**	*i* P			Pn	12 29 01.0	-1.3
TGIG				*i* S			Sn	12 29 17.7	-1.8
TGIG		**1.33**	**22**	*i* P			Pn	12 29 01.0	-1.3
TGIG				*i* S			Sn	12 29 17.7	-1.8
THIG		**1.48**	**115**	*i* P			Pn	12 29 02.9	-1.2
THIG				*i* S			Sn	12 29 20.1	-2.5
THIG		**1.48**	**115**	*i* P			Pn	12 29 02.9	-1.2
THIG				*i* S			Sn	12 29 20.1	-2.5
CCIG	**Comitan**	**1.63**	**63**	*e*P			Pn	12 29 05.0	-1.5
CCIG				*i* S			Sn	12 29 24.7	-2.1
CCIG	**Comitan**	**1.63**	**63**	*e*P			Pn	12 29 05.0	-1.5
CCIG				*i* S			Sn	12 29 24.7	-2.1
CMIG	**Matias Romero**	**1.95**	**323**	*e*P			Pn	12 29 09.7	-0.7
CMIG				*i* S			Sn	12 29 31.8	-2.2
CMIG	**Matias Romero**	**1.95**	**323**	*e*P			Pn	12 29 09.7	-0.7
CMIG				*i* S			Sn	12 29 31.8	-2.2
VHO	**Vista Hermosa**	**3.33**	**298**	*i* P			Pn	12 29 26.8	-2.7
VHO				*i* S			Sn	12 30 05.2	-2.8
VHO	**Vista Hermosa**	**3.33**	**298**	*i* P			Pn	12 29 26.8	-2.7
VHO				*i* S			Sn	12 30 05.2	-2.8
PNIG	**Pinotepa**	**4.39**	**282**	*e*P			Pn	12 29 44.4	+0.7
PNIG				*i* S			Sn	12 30 32.2	-1.3
PNIG	**Pinotepa**	**4.39**	**282**	*e*P			Pn	12 29 44.4	+0.7
PNIG				*i* S			Sn	12 30 32.2	-1.3
UTMO	**Huajuapan**	**4.59**	**300**	*i* P			Pn	12 29 36.7	-10
UTMO				*i* S			Sn	12 30 40.9	+2.1
UTMO	**Huajuapan**	**4.59**	**300**	*i* P			Pn	12 29 36.7	-10
UTMO				*i* S			Sn	12 30 40.9	+2.1
TEIG	**Tepich**	**6.92**	**47**	*i* P			Pn	12 30 15.6	-2.7
TEIG	**Tepich**	**6.92**	**47**	*i* P			Pn	12 30 15.6	-2.7

MAN 12 12:30:05.7±45N×124°.80E, h1km, mb4.6, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.50**	**31**	*e*P			Pb	12 30 15.8	-0.8
BUKP				*e*S			Sb	12 30 27.2	+2.8
CTBH	**Cotabato--PC H**	**0.60**	**248**	⇑*i*P			Pg	12 30 17.0	+0.5
CGP	**Cagayan de Oro**	**1.00**	**354**	*e*P			Pb	12 30 25.5	+0.2
CGP				*e*S			Sn	12 30 41.8	+0.7
PAGZ	**Pagadian**	**1.46**	**286**	*e*P			Pg	12 30 33.7	+0.6
MATI	**Mati**	**1.53**	**109**	*e*P			Pg	12 30 40.3	+6.0

IDC 12 12:38:20.0±2.0, 1°.92S×138°.92E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML4.1/1, Error ellipse: s-maj=83.7km s-min=19.4km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.46**	**194**	P		P	Pn	12 42 37.1	-0.4
	0.6nm,0.3s,baz=14,slow=11,SNR=24								
FITZ	**Fitzroy Crossi**	**20.70**	**218**	P		P		12 43 02.7	+0.7
	1.2nm,0.7s,baz=38,slow=12,SNR=3.2								
ASAR	**Alice Springs**	**22.16**	**192**	P		P		12 43 16.7	-1.0
	3.8nm,0.8s,baz=24,slow=9.9,SNR=27								
STKA	**Stephens Creek**	**29.90**	**175**	P		P		12 44 30.2	+0.6
	0.6nm,0.5s,baz=346,slow=12,SNR=3.2								
SONM	**Songino Array**	**57.10**	**334**	P		P		12 48 07.6	-0.8
	0.1nm,0.4s,baz=142,slow=4.9,SNR=1.8								
MKAR	**Makanchi Array**	**69.30**	**322**	P		P		12 49 28.9	-0.4
	0.4nm,0.6s,baz=116,slow=8.1,SNR=5.8								
ZALV	**Zalesovo Beam**	**71.37**	**330**	P		P		12 49 42.5	+0.8
	0.3nm,0.5s,baz=131,slow=4.0,SNR=2.7								

IDC 12 12:43:36.3±2.1, 3°.99N×124°.10E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=218.5km s-min=27.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.82**	**157**	P		P		12 49 09.5	0.0
	0.3nm,0.5s,baz=336,slow=10,SNR=8.2								
ASAR	**Alice Springs**	**29.10**	**161**	P		P		12 49 39.0	0.0
	0.2nm,0.5s,baz=342,slow=8.0,SNR=7.2								
MKAR	**Makanchi Array**	**55.87**	**326**	P		P		12 53 15.7	-0.1
	0.2nm,0.4s,baz=130,slow=7.0,SNR=4.5								

NSSP ***12*** *12:52:39.0, 40°.55N×42°.33E, h10km, Ms3.0*

ISK ***12*** *12:52:42.1, 40°.46N×42°.32E, h5km, MD3.1*

TIF ***12*** *12:52:43.1, 40°.49N×42°.24E, h8km±4km*

DDA ***12*** *12:52:43.4, 40°.45N×42°.32E, h15km, MD3.1*

CSEM ***12*** *12:52:43.7±0.2, 40°.43N×42°.30E, h5km, MD3.1, Error ellipse: s-maj=5.1km s-min=4.1km az=6.0*

ISC 12 12:52:44.0±1.0, 40°.44N±0°.02×42°.30E±0°.02, h11km±10km, n56, σ0°.85/83, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.50**	**218**	*i* P			Pg	12 52 52.7	-1.0
HOMI				*i* S			Sb	12 53 01.9	-0.4
DDEM	**Demirkent**	**0.61**	**317**	*i* P			Pg	12 52 55.6	-0.4
DDEM				*i* S			Sb	12 53 05.9	+0.4
DDEM	**Demirkent**	**0.61**	**317**	*i* P			Pg	12 52 55.6	-0.4
DDEM				*i* S			Sb	12 53 05.9	+0.4
KARS	**Kars**	**0.62**	**72**	PG			Pg	12 52 55.1	-1.0
KARS				SG			Sg	12 53 04.6	+0.3
KARS	**Kars**	**0.62**	**72**	*i* Pg			Pg	12 52 55.1	-1.0
KARS				*i* Sg			Sg	12 53 04.6	+0.3
DAGI	**Agillar**	**0.70**	**335**	*i* P			Pg	12 52 57.2	-0.4
DAGI				*i* S			Sb	12 53 08.0	0.0
ARTV	**Artvin**	**0.79**	**339**	*i* P			Pg	12 52 58.9	-0.4
ARTV				*i* S			Sb	12 53 11.0	+0.2
ARTV	**Artvin**	**0.79**	**339**	*i* P			Pg	12 52 58.9	-0.4
ARTV				*i* S			Sb	12 53 11.0	+0.2
ERZM	**Erzurum**	**0.90**	**233**	*i* P			Pg	12 53 01.0	-0.3
ERZM				*i* S			Sb	12 53 14.2	+0.5
ERZM	**Erzurum**	**0.90**	**233**	*i* P			Pg	12 53 01.0	-0.3
ERZM				*i* S			Sb	12 53 14.2	+0.5
EZM	**Erzurum**	**0.90**	**234**	PG			Pg	12 53 01.0	-0.3
AGRB	**Hanur-Agry**	**1.02**	**148**	PG			Pb	12 53 02.4	-1.3
AGRB				SG			Sn	12 53 18.1	-0.6
AGRB	**Hanur-Agry**	**1.02**	**148**	*i* Pg			Pb	12 53 02.4	-1.3
AGRB				*i* Sg			Sn	12 53 18.1	-0.6
BCA	**Borcka**	**1.13**	**333**	*e*PN			Pb	12 53 04.6	-0.9
BCA	**Borcka**	**1.13**	**333**	*e*Pn			Pb	12 53 04.6	-0.9
VNNZ	**Vanand**	**1.21**	**106**	P			Pg	12 53 07.4	+0.1
PZAR	**Pazar-Rize**	**1.29**	**305**	*e*PN			Pb	12 53 07.8	-0.5
PZAR	**Pazar-Rize**	**1.29**	**305**	*e*Pn			Pb	12 53 07.8	-0.5
AKH	**Akhalkalaki**	**1.32**	**43**	P			Pn	12 53 08.3	-0.2
AKH				S			Sg	12 53 26.5	-0.1
AKH	**Akhalkalaki**	**1.32**	**43**	P			Pn	12 53 08.3	-0.2
AKH				S			Sg	12 53 26.5	-0.1
ARUZ	**Aruch**	**1.38**	**96**	P			Pg	12 53 13.2	+2.8
DYDN	**Diyadin**	**1.39**	**130**	*i* P			Pn	12 53 08.9	-0.6
DYDN				*i* S			Sg	12 53 29.7	+0.9
DYDN	**Diyadin**	**1.39**	**130**	*i* P			Pn	12 53 08.9	-0.6
DYDN				*i* S			Sg	12 53 29.7	+0.9
VRTB	**Varto-Mus**	**1.44**	**207**	*e*PN			Pb	12 53 10.5	-0.3
VRTB	**Varto-Mus**	**1.44**	**207**	*e*Pn			Pb	12 53 10.5	-0.3
KOPT	**Kop Dagi**	**1.45**	**254**	*i* P			Pb	12 53 11.2	+0.1
KOPT				*i* S			Sg	12 53 31.8	+1.3
KOPT	**Kop Dagi**	**1.45**	**254**	*i* P			Pb	12 53 11.2	+0.1
KOPT				*i* S			Sg	12 53 31.8	+1.3
AMBZ	**Amberd**	**1.50**	**91**	P			Pg	12 53 15.9	+3.2
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**269**	*e*PN			Pb	12 53 13.7	-0.8
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**269**	*e*Pn			Pb	12 53 13.7	-0.8
STE	**Stepanavan**	**1.67**	**70**	P			Pn	12 53 13.0	-0.3
ERE	**Yerevan**	**1.68**	**99**	*e*P			Pg	12 53 16.0	-0.2
ERE				*e*S			Sg	12 53 39.0	+1.0
ERE	**Yerevan**	**1.68**	**99**	P			Pg	12 53 16.0	-0.2
ERE				S			Sg	12 53 39.0	+1.0
BNGL	**BINGOL**	**1.73**	**211**	*i* P			Pb	12 53 15.7	-0.2
BNGL				*i* S			Sb	12 53 37.6	-0.2
CLDR	**Caldiran**	**1.80**	**136**	*e*PN			Pn	12 53 15.6	+0.5
CLDR	**Caldiran**	**1.80**	**136**	*e*Pn			Pn	12 53 15.6	+0.5
GNI	**Garni**	**1.89**	**98**	*e*PN			Pn	12 53 16.6	+0.3
GNI	**Garni**	**1.89**	**98**	⇑*i*P			Pb	12 53 17.5	-1.0
GNI				⇓*i*S			Sg	12 53 45.4	+0.7
GNI	**Garni**	**1.89**	**98**	*e*Pn			Pn	12 53 16.6	+0.3
GNI	**Garni**	**1.89**	**98**	⇑P			Pb	12 53 17.5	-1.0
BNGB	**Bing¨ll**	**1.92**	**221**	*e*PN			Pb	12 53 17.8	-1.2
MACK	**Trabzon**	**1.99**	**285**	*i* P			Pb	12 53 20.0	-0.2
MACK				*i* S			Sb	12 53 45.6	+0.6
MACK	**Trabzon**	**1.99**	**285**	*i* P			Pb	12 53 20.0	-0.2
MACK				*i* S			Sb	12 53 45.6	+0.6
VANB	**Van**	**2.03**	**155**	*e*PN			Pn	12 53 18.8	+0.6
VANB	**Van**	**2.03**	**155**	*e*Pn			Pn	12 53 18.8	+0.6
GOR	**Gori**	**2.06**	**41**	P			Pg	12 53 22.6	-0.8
GOR				S			Sg	12 53 52.6	+2.5
GOR	**Gori**	**2.06**	**41**	P			Pg	12 53 22.6	-0.8
BINT	**Bingol**	**2.10**	**222**	*e*Pn			Pn	12 53 17.8	-1.4
GUMT	**Gumushane**	**2.15**	**271**	*e*PN			Pn	12 53 20.7	+0.8
GUMT	**Gumushane**	**2.15**	**271**	*e*Pn			Pn	12 53 20.7	+0.8
TBLG	**Delisi**	**2.25**	**54**	P			Pb	12 53 24.7	+0.1
TBLG				S			Sg	12 53 57.0	+0.9
TBLG	**Delisi**	**2.25**	**54**	P			Pb	12 53 24.7	+0.1
ONI	**Oni**	**2.31**	**22**	P			Pb	12 53 23.9	-1.9
ONI				S			Sg	12 53 57.9	-0.4
DGRG	**David-gareji**	**2.54**	**66**	P			Pn	12 53 27.0	+1.9
DGRG	**David-gareji**	**2.54**	**66**	P			Pn	12 53 27.0	+1.9
BEST	**Besiri**	**2.67**	**198**	*i* P			Pb	12 53 32.1	+0.3
BEST				*i* S			Sg	12 54 09.2	-0.5

ISK ***12*** *12:59:44.9, 40°.47N×42°.35E, h10km, MD3.0*

DDA ***12*** *12:59:44.6, 40°.46N×42°.41E, h7km, MD2.9*

ISCJB ***12*** *12:59:45.1±1.1, 40°.45N±0°.03×42°.34E±0°.07, h6km±12km, Error ellipse: s-maj=8.8km s-min=5.1km az=11.9*

CSEM ***12*** *12:59:45.3±0.2, 40°.45N×42°.33E, h12km, MD3.0, Error ellipse: s-maj=5.8km s-min=5.1km az=44.0*

ISC 12 12:59:45.6±1.3, 40°.46N±0°.03×42°.36E±0°.03, h14km±11km, n28, σ0°.85/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.57**	**73**	*e*PG			Pb	12 59 56.8	-0.7
KARS				*e*Sg			Sb	13 00 05.2	-0.3
KARS	**Kars**	**0.57**	**73**	*e*Pg			Pb	12 59 56.8	-0.7
KARS				*e*Sg			Sb	13 00 05.2	-0.3
ARTV	**Artvin**	**0.79**	**336**	*i* P			Pb	13 00 00.8	-0.5
ARTV				*i* S			Sb	13 00 12.4	+0.3
ARTV	**Artvin**	**0.79**	**336**	*i* P			Pb	13 00 00.8	-0.5
ARTV				*i* S			Sb	13 00 12.4	+0.3
ERZM	**Erzurum**	**0.94**	**234**	*i* P			Pg	13 00 02.9	-1.0
ERZM				*i* S			Sb	13 00 16.4	0.0
ERZM	**Erzurum**	**0.94**	**234**	*i* P			Pg	13 00 02.9	-1.0
ERZM				*i* S			Sb	13 00 16.4	0.0
AGRB	**Hanur-Agry**	**1.01**	**151**	*e*PG			Pb	13 00 04.8	-0.2
AGRB				*e*SG			Sn	13 00 19.6	0.0
AGRB	**Hanur-Agry**	**1.01**	**151**	*e*Pg			Pb	13 00 04.8	-0.2
AGRB				*e*Sg			Sn	13 00 19.6	0.0
DBOC	**Borcka**	**1.03**	**329**	*i* P			Pg	13 00 04.5	-1.0
DBOC				*i* S			Sb	13 00 18.9	+0.3
DBOC	**Borcka**	**1.03**	**329**	*i* P			Pg	13 00 04.5	-1.0
DBOC				*i* S			Sb	13 00 18.9	+0.3
BCA	**Borcka**	**1.13**	**331**	*e*PN			Pb	13 00 06.7	-0.3
BCA				*e*SN			Sn	13 00 22.8	+0.3
BCA	**Borcka**	**1.13**	**331**	*e*Pn			Pb	13 00 06.7	-0.3
BCA				*e*Sn			Sn	13 00 22.8	+0.3
VRTB	**Varto-Mus**	**1.48**	**209**	*e*PN			Pn	13 00 12.1	+0.2
VRTB	**Varto-Mus**	**1.48**	**209**	*e*Pn			Pn	13 00 12.1	+0.2
KOPT	**Kop Dagi**	**1.50**	**253**	*i* P			Pg	13 00 13.7	-0.6
KOPT				*i* S			Sg	13 00 35.8	+2.0
KOPT	**Kop Dagi**	**1.50**	**253**	*i* P			Pg	13 00 13.7	-0.6
KOPT				*i* S			Sg	13 00 35.8	+2.0
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**268**	*e*PN			Pn	13 00 15.1	+0.1
BAYT	**Ayd¨–ntepe-Bay**	**1.70**	**268**	*e*Pn			Pn	13 00 15.1	+0.1
CLDR	**Caldiran**	**1.78**	**137**	*e*PN			Pn	13 00 16.7	+0.5
CLDR	**Caldiran**	**1.78**	**137**	*e*Pn			Pn	13 00 16.7	+0.5
GNI	**Garni**	**1.85**	**99**	*e*PN			Pn	13 00 17.9	+0.9
GNI	**Garni**	**1.85**	**99**	*e*Pn			Pn	13 00 17.9	+0.9
BNGB	**Bing¨ll**	**1.96**	**222**	*e*PN			Pn	13 00 19.0	+0.4
BINT	**Bingol**	**2.15**	**223**	*e*Pn			Pn	13 00 19.0	-2.1
GUMT	**Gumushane**	**2.20**	**271**	*e*PN			Pn	13 00 22.3	+0.4
GUMT	**Gumushane**	**2.20**	**271**	*e*Pn			Pn	13 00 22.3	+0.4
ERZN	**Erzincan**	**2.21**	**248**	*e*PN			Pn	13 00 22.6	+0.6
EZC	**Erzincan**	**2.41**	**254**	*e*Pn			Pn	13 00 22.6	-2.2

IDC 12 13:05:53.4±2.1, 0°.68S×127°.82E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/23, Error ellipse: s-maj=160.0km s-min=25.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.18**	**162**	P		P	P	13 10 30.1	+0.2
	0.3nm,0.4s,baz=341,slow=12,SNR=11								
ASAR	**Alice Springs**	**23.60**	**166**	P		P	P	13 11 06.0	-0.2

ASAR	**Alice Springs**	**59.79**	**184**	P	**P**	**14 00 27.4**	**-0.6**
	0.5nm,0.5s,baz=358,slow=6.0,SNR=39							
ARCES	**ARCESS Array B**	**63.43**	**339**	P	**P**	**14 00 50.6**	**-0.9**
	2.3nm,0.7s,baz=49,slow=12,SNR=5.1							
YKA	**Yellowknife Ar**	**66.03**	**29**	P	**P**	**14 01 08.6**	**+0.2**
	0.3nm,0.5s,baz=306,slow=6.6,SNR=6.7							
FINES	**FINESS Array B**	**67.82**	**331**	P	**P**	**14 01 18.7**	**-1.0**
	2.3nm,0.8s,baz=103,slow=6.7,SNR=5.9							
PDAR	**Pinedale Array**	**80.47**	**43**	P	**P**	**14 02 33.9**	**+0.6**
	1.2nm,0.7s,baz=308,slow=2.5,SNR=9.8							
LPAZ	**La Paz**	**149.86**	**55**	PKPbc	**PKPbc**	**14 10 11.0**	**+0.6**
	0.8nm,0.5s,baz=243,slow=5.2,SNR=3.1							

CSEM ***12*** *13:57:29.7±0.6,38.43N×39.48E,h8km,MD2.8,Error ellipse: s-maj=10.8km s-min=8.1km az=113.0*
ISK ***12*** *13:57:30.9,38.47N×39.31E,h4km,MD2.8*
ISCJB ***12*** *13:57:32.4±0.6,38.39N±0.05×39.29E±0.05,h7km±4km, Error ellipse: s-maj=10.2km s-min=4.3km az=29.7*
DDA ***12*** *13:57:32.2,38.41N×39.35E,h7km,MD2.8*

ISC 12 13:57:31.0±1.0,38.42N±0.04×39.35E±0.03,h9km±5km, n18,σ0.72/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**216**	PG	**Pg**	**13 57 33.2**	**0.0**
SVRC				SG	**Sg**	**13 57 34.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.06**	**216**	*i* Pg	**Pg**	**13 57 33.2**	**0.0**
SVRC				*i* Sg	**Sg**	**13 57 34.9**	**+0.1**
ELZG	**Elazig**	**0.30**	**284**	*i* P	**Pg**	**13 57 37.9**	**+0.9**
ELZG				*i* S	**Sb**	**13 57 43.2**	**-0.4**
ELZG	**Elazig**	**0.30**	**284**	*i* P	**Pg**	**13 57 37.9**	**+0.9**
ELZG				*i* S	**Sb**	**13 57 43.2**	**-0.4**
MALT	**Malatya**	**0.73**	**262**	*e*PG	**Pg**	**13 57 45.4**	**+0.2**
MALT				*e*SG	**Sb**	**13 57 55.6**	**-0.6**
MALT	**Malatya**	**0.73**	**262**	*e*Pg	**Pg**	**13 57 45.4**	**+0.2**
MALT				*e*Sg	**Sb**	**13 57 55.6**	**-0.6**
MYA	**Malataya**	**0.73**	**263**	*e*PG	**Pg**	**13 57 45.2**	**0.0**
MYA	**Malataya**	**0.73**	**263**	*e*Pg	**Pg**	**13 57 45.2**	**0.0**
DIYA	**Diyarbakir**	**0.79**	**129**	*i* P	**Pn**	**13 57 48.4**	**+0.1**
DIYA				*i* S	**Sn**	**13 57 59.3**	**-0.9**
DIYA	**Diyarbakir**	**0.79**	**129**	*i* P	**Pn**	**13 57 48.4**	**+0.1**
DIYA				*i* S	**Sn**	**13 57 59.3**	**-0.9**
URFA	**Urfa**	**1.07**	**203**	*e*PN	**Pn**	**13 57 52.5**	**+0.3**
URFA	**Urfa**	**1.07**	**203**	*e*Pn	**Pn**	**13 57 52.5**	**+0.3**
KEMA	**Kemaliye**	**1.08**	**322**	*i* P	**Pn**	**13 57 52.5**	**+0.2**
KEMA				*i* S	**Sn**	**13 58 08.0**	**+0.6**
KEMA	**Kemaliye**	**1.08**	**322**	*i* P	**Pn**	**13 57 52.5**	**+0.2**
KEMA				*i* S	**Sn**	**13 58 08.0**	**+0.6**
ERZN	**Erzincan**	**1.20**	**14**	*e*PN	**Pn**	**13 57 53.7**	**-0.3**
EZC	**Erzincan**	**1.33**	**0**	*e*Pn	**Pn**	**13 57 53.7**	**-2.1**
MARD	**Mardin**	**1.58**	**134**	*i* P	**Pg**	**13 58 01.2**	**-0.2**
MARD				*i* S	**Sg**	**13 58 22.0**	**+0.1**
BEST	**Besiri**	**1.60**	**109**	*i* P	**Pg**	**13 58 03.0**	**+1.2**
BEST				*i* S	**Sg**	**13 58 24.1**	**+1.5**

CASC 12 13:57:59.5±4.3,8.71N×83.24W,h0km±15km,MD4.1, 1C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.09**	**131**	⇑*i*P	Pg	13 58 02.4	+1.1
BUS	**Buena Vista**	**0.98**	**328**	⇓*e*P	Pg	13 58 18.2	-0.8
QCR	**Quepos**	**1.16**	**308**	*e*P	Pg	13 58 20.3	-1.5
QCR				*e*S	Sb	13 58 38.0	-0.1
URSC	**Urasca**	**1.24**	**334**	⇓*e*P	Pg	13 58 22.1	-1.4
LAJ	**Bijagual**	**1.44**	**323**	*e*P	Pb	13 58 28.2	+0.7
SJS	**Escuela Geolog**	**1.46**	**327**	*e*P	Pn	13 58 26.1	-1.3
SJS				*e*S	Sn	13 58 48.7	+1.3
CGA2	**Cerro Gallo 2**	**1.77**	**317**	*e*P	Pn	13 58 30.7	-1.0
CGA2				*e*S	Sn	13 58 55.2	+0.1
CHPA	**Chiripa**	**2.38**	**316**	*i* P	Pb	13 58 42.5	-1.0
CHPA				*i* S	Sg	13 59 15.8	-0.6
PTEN	**Parque Tenorio**	**2.63**	**319**	*i* P	Pn	13 58 44.6	+1.2
PTEN				*i* S	Sb	13 59 20.1	-0.6
A494	**Palo Verde**	**2.64**	**308**	*i* P	Pb	13 58 46.9	-0.9
LAPC	**Finca la Perla**	**2.98**	**313**	*i* P	Pn	13 58 49.9	+1.8

ISCJB ***12*** *13:59:42.9±0.9,36.10N±0.03×120.18W±0.05,h20km±8km, Error ellipse: s-maj=6.8km s-min=5.3km az=158.7*
NEIC ***12*** *13:59:43.2,36.12N×120.19W,h9km,MW3.4(BRK),After NCEDC.*

ISC 12 13:59:42.2±1.3,36.10N±0.04×120.19W±0.04,h8km±11km, n19,σ0.95/30,13C-6D,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCTC	**Rector, Farmer**	**0.80**	**74**	⇑P	**Pg**	**13 59 57.2**	**-0.3**
	baz=0.8						
RCTC				⇑S	**Sg**	**14 00 07.5**	**-0.3**
	baz=0.8						
SMMC	**Simmler**	**0.80**	**169**	⇑P	**Pg**	**13 59 58.8**	**+1.2**
	baz=0.8						
VES	**Vestal, Richgr**	**0.93**	**106**	⇓P	**Pg**	**13 59 59.6**	**-0.5**
	baz=0.9						
VES				⇑S	**Sg**	**14 00 11.3**	**-0.8**
	baz=0.9						
SAO	**San Andreas Ge**	**1.22**	**304**	*e*Pn	**Pb**	**14 00 05.8**	**+0.3**
SAO				*e*Sn	**Sb**	**14 00 20.3**	**-1.1**
PKM	**Peak Mountain**	**1.23**	**166**	⇓P	**Pn**	**14 00 05.7**	**-0.2**
	baz=1.3						
ISA	**Isabella**	**1.46**	**107**	*e*Pn	**Pn**	**14 00 08.6**	**-0.3**
ISA				*e*Sn	**Sn**	**14 00 26.6**	**-1.6**
ISA	**Isabella**	**1.46**	**107**	⇑P	**Pn**	**14 00 08.3**	**-0.7**
	baz=1.5						
ISA				⇓S	**Sn**	**14 00 26.8**	**-1.5**
	baz=1.5						
ARVC	**Arvin**	**1.47**	**131**	⇑P	**Pn**	**14 00 08.2**	**-0.8**
	baz=1.5						
CWC	**Cottonwood Cre**	**1.74**	**78**	⇑Pb	**Pn**	**14 00 13.3**	**+0.5**
	baz=1.7						
CWC				⇑Sb	**Sn**	**14 00 35.1**	**-0.2**
	baz=1.7						
TIN	**Tinemaha**	**1.84**	**58**	⇑Pb	**Pn**	**14 00 15.2**	**+0.9**
	baz=1.8						
TIN				⇓Sb	**Sn**	**14 00 38.8**	**+1.0**
	baz=1.8						
MLAC	**Mammoth Lakes**	**1.88**	**35**	⇑Pb	**Pn**	**14 00 15.9**	**+1.1**
	baz=1.9						
CMB	**Columbia Colle**	**1.94**	**355**	*e*Pn	**Pn**	**14 00 15.8**	**+0.3**
CMB				*e*Sn	**Sn**	**14 00 40.0**	**-0.2**
LRMC	**Laurel Mountai**	**2.12**	**106**	⇑Sb	**Sn**	**14 00 46.6**	**+1.9**
	baz=2.1						
MPMC	**Manual Prospec**	**2.19**	**90**	⇑Pb	**Pn**	**14 00 21.3**	**+2.2**
	baz=2.2						
MPMC				⇓Sb	**Sb**	**14 00 49.2**	**-0.2**
	baz=2.2						
BLG	**Laguna Peak**	**2.19**	**155**	⇓P	**Pn**	**14 00 18.4**	**-0.5**
	baz=2.2						
NV11	**Mina Array Sit**	**2.84**	**34**	*e*Pn	**Pn**	**14 00 27.2**	**-0.8**
NV11				*e*Sn	**Sn**	**14 01 02.5**	**0.0**
GSC	**Goldstone**	**2.86**	**105**	⇑Sb	**Sb**	**14 01 09.2**	**+0.3**
	baz=2.9						
WCN	**Washoe City**	**3.22**	**6**	*e*Pn	**Pn**	**14 00 33.5**	**+0.2**
WCN				*e*Sn	**Sn**	**14 01 11.4**	**-0.5**
BAR	**Barrett**	**4.48**	**139**	*e*Pn	**Pn**	**14 00 51.4**	**+1.0**
BAR				*e*Sn	Sn	14 01 37.2	-5.6

CASC 12 14:33:17.5±2.8,8.59N×83.07W,h20km±9km,MD4.0,1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.12**	**302**	⇓*i*P	Pb	14 33 22.5	-1.1
ACR				*e*S	Sb	14 33 25.1	-2.7
BUS	**Buena Vista**	**1.18**	**325**	*e*P	Pn	14 33 38.4	-1.0
QCR	**Quepos**	**1.37**	**307**	*e*P	Pn	14 33 40.6	-0.8
QCR				*e*S	Sn	14 33 57.3	-1.6
URSC	**Urasca**	**1.42**	**330**	*e*P	Pn	14 33 42.1	-0.4
URSC				*e*S	Sb	14 34 02.3	+0.8
LAJ	**Bijagual**	**1.64**	**321**	*e*P	Pb	14 33 48.8	+1.4
LAJ				*e*S	Sb	14 34 14.1	+6.3
CGA2	**Cerro Gallo 2**	**1.98**	**316**	*e*P	Pn	14 33 50.0	-0.1
CGA2				*e*S	Sn	14 34 15.7	+1.3

MEX 12 14:51:20.5±0.5,17.84N×102.59W,h20km±27km,MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.85**	**302**	*e*P	Pb	14 51 34.3	-2.3
MMIG				*i* S	Sb	14 51 44.2	-3.3
ZIIG	**Zihuatanejo**	**1.09**	**102**	*i* P	Pn	14 51 37.2	-3.5
ZIIG				*i* S	Sb	14 51 50.8	-3.7
ARIG	**Puente Sto Nin**	**2.17**	**78**	*i* P	Pn	14 51 53.2	-2.4
ARIG				*i* S	Sn	14 52 18.2	-3.8
MOIG	**Morelia**	**2.26**	**36**	*i* P	Pn	14 51 53.6	-3.4
MOIG				*i* S	Sn	14 52 21.1	-3.4
CAIG	**El Cayaco**	**2.35**	**109**	*i* P	Pn	14 51 56.3	-1.6
CAIG				*i* S	Sn	14 52 21.8	-4.5
SFJM	**Santa Fe**	**2.67**	**351**	*i* P	Pn	14 52 02.3	-0.3
SFJM				*i* S	Sn	14 52 33.5	-1.0
PLIG	**Platanillo**	**2.98**	**79**	*i* P	Pn	14 52 05.0	-1.8
PLIG				*i* S	Sn	14 52 38.4	-3.7
YAIG	**Yautepec**	**3.49**	**73**	*i* P	Pn	14 52 11.7	-2.3
YAIG				*i* S	Sn	14 52 51.5	-3.3

IDC 12 14:54:28.6±8.1,4.95S×152.03E,h121km±55km,mb3.2/3, mb1 3.3/4,mb1mx3.0/20,mbtmp3.1/4,Error ellipse: s-maj=110.0km s-min=53.9km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.55**	**227**	P	Pn	14 56 02.8	+0.3
	0.6nm,0.3s,baz=14,slow=11,SNR=2.1						
PMG				S	Sn	14 57 17.0	+1.1
	1.4nm,0.3s,baz=164,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**22.77**	**228**	P	P	14 59 20.6	-0.4
	0.8nm,0.5s,baz=53,slow=10.0,SNR=21						
ASAR	**Alice Springs**	**25.52**	**221**	P	P	14 59 46.5	+0.4
	0.3nm,0.6s,baz=55,slow=8.9,SNR=7.7						
FITZ	**Fitzroy Crossi**	**28.92**	**241**	P	P	15 00 15.9	-0.6
	1.6nm,0.9s,baz=40,slow=7.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**149.63**	**288**	PKPbc	PKPbc	15 14 04.7	-0.3
	0.5nm,0.7s,baz=68,slow=2.3,SNR=3.7						

GUC 12 14:55:32.2±0.8,35.16S×70.26W,h166km±8km,MD3.5, ML3.4,4C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACH	**El Canelo**	**1.08**	**345**	⇑*i*P	Pn	14 55 59.5	+0.2
CACH				*e*S	Sn	14 56 20.8	+0.6
TALC	**Talca**	**1.15**	**258**	*i* S	Sn	14 56 20.7	-0.1
TALC				AML	AML	14 56 22.3	
	comp=E,3μm,0.1s						
CHCH	**Chadas Angostu**	**1.27**	**345**	*e*P	Pn	14 56 01.2	+0.3
CHCH				*e*S	Sn	14 56 23.2	+0.3
LMEL	**Las Melosas**	**1.31**	**2**	⇑*i*P	Pn	14 56 01.7	+0.2
LMEL				*e*S	Sn	14 56 24.1	+0.2
LMEL				AML	AML	14 56 33.8	
	comp=N,141nm,0.2s						
RCDM	**Rinconada Maip**	**1.73**	**345**	*e*P	Pn	14 56 05.9	+0.5
RCDM				*e*S	Sn	14 56 31.3	+0.3
RCDM				AML	AML	14 56 32.7	
	comp=E,230nm,0.4s						
CLCH	**Cerro Calan**	**1.78**	**353**	*e*P	Pn	14 56 06.3	+0.3
CLCH				*e*S	Sn	14 56 32.2	+0.1
CLCH				AML	AML	14 56 34.9	
	comp=E,150nm,0.3s						
PEL	**Peldehue**	**2.04**	**350**	⇑*i*P	Pn	14 56 10.0	+1.1
PEL				*i* S	Sn	14 56 37.6	+0.3
PEL				AML	AML	14 56 39.8	
	comp=N,288nm,0.2s						
ROCH	**El Roble**	**2.27**	**344**	⇑*i*P	Pn	14 56 12.3	+0.5
ROCH				AML	AML	14 56 48.1	
	comp=N,158nm,0.3s						

JMA 12 14:59:05.5±0.1,35.49N×139.17E,h20km±1km,M0.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.24**	**196**	P	Pb	14 59 11.0	-0.2
JOD2				S	Sb	14 59 15.0	-0.1
JYN	**Shimob**	**0.51**	**271**	S	Sb	14 59 23.2	+0.2
JRY	**Ryogami san**	**0.57**	**338**	S	Sb	14 59 24.6	0.0

IDC 12 15:07:20.3±1.4,27.20S×74.95E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.8/22,mbtmp3.8/7,Error ellipse: s-maj=54.4km s-min=24.3km az=32.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**52.94**	**100**	P	P	15 16 38.5	-0.4
	1.2nm,0.9s,baz=246,slow=6.6,SNR=22						
WRA	**Warramunga Arr**	**54.49**	**96**	P	P	15 16 50.0	-0.2
	1.7nm,0.8s,baz=254,slow=7.4,SNR=17						
STKA	**Stephens Creek**	**57.36**	**112**	P	P	15 17 10.8	+0.2
	1.7nm,1.0s,baz=245,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**73.94**	**5**	P	P	15 18 55.5	-1.8
	0.5nm,0.6s,baz=188,slow=5.9,SNR=6.9						
SONM	**Songino Array**	**79.86**	**21**	P	P	15 19 32.5	+1.8
	0.6nm,1.0s,baz=190,slow=3.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.26**	**6**	P	P	15 19 38.6	+0.8
	0.2nm,0.3s,baz=198,slow=4.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**81.53**	**289**	P	P	15 19 40.3	0.0
	0.5nm,0.7s,baz=116,slow=5.0,SNR=3.2						

IDC ***12*** *15:13:18.8±0.6,9.81S×159.87E,h0km,mb4.9/22, mb1 5.0/22,mb1mx5.0/24,mbtmp4.9/22,MS3.9/11, Ms1 3.9/11,ms1mx3.7/33,Error ellipse: s-maj=20.4km s-min=10.9km az=113.0*
ISCJB ***12*** *15:13:20.7±1.7,9.79S±0.04×159.77E±0.03,h17km±11km, mb5.0/96,MS4.1/18,Error ellipse: s-maj=7.0km s-min=5.0km az=161.0*
GCMT ***12*** *15:13:22.7±0.4,10.23S×160.07E,h29km±1km,MW5.0, Moment Tensor Solution. s31,c34; s64,c73; Moment tensor: Scale 10^16Nm; Mrr3.05±.21; Mθθ-2.09±.15; Mφφ-0.96±.16; Mrθ1.90±.20; Mθφ1.69±.09; Mφr0.19±.20; Best double couple: M0 3.70000×10^16 NP1:θ=324.00000°, δ36.00000°,λ122.00000°. NP2:θ=107.00000°,δ60.00000°, λ69.00000°. Principal axes: T 3.7900, Plg68.0000°, Azm335.0000°; N -0.1500, Plg18.0000°, Azm117.0000°; P -3.6300, Plg13.0000°, Azm211.0000°; Data Used: IU II G CN IC.*
BJI ***12*** *15:13:22.4,9.63S×159.99E,h30km,mB5.2/30,mb5.0/43, Ms5.1/25,Ms7 4.6/24*
MOS ***12*** *15:13:23.7±1.4,9.66S×159.59E,h33km,mb5.3/25,Error ellipse: s-maj=10.5km s-min=8.6km az=90.1*
NEIC ***12*** *15:13:24.2±0.2,9.81S×159.82E,h35km,mb5.0/50,Error ellipse: s-maj=8.0km s-min=5.5km az=121.0*
NEIC Felt at Honiara.
DJA ***12*** *15:13:40.5±3.6,10°S±9°×16°0E±2°6,h160km±19km, M4.9/25,mB5.5/5,mb4.9/25,Mw(mB)4.9/5*

ISC 12 15:13:23.8±0.4,9.84S±0.04×159.95E±0.06,h33km±1km, h33km:pP-P,n388,σ1.935/428,mb5.1/96,MS4.1/18, 58C-46D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.41**	**0**	Pn	**Pb**	**15 13 30.6**	**-2.4**
	23μm,0.3s,baz=175,slow=6.1						
HNR				Sn	**Sb**	**15 13 37.7**	**-1.6**
	23μm,0.3s,baz=296,slow=19,SNR=30						
HNR	**Honiara**	**0.41**	**0**	*e*Pn	**Pb**	**15 13 30.2**	**-2.8**
HNR				Sn	**Sb**	**15 13 37.8**	**-1.6**
HNR				*e*Sn	**Sn**	**15 13 38.8**	**-1.0**
PMG	**Port Moresby**	**12.62**	**271**	Pn	Pn	15 16 25.3	+4.2
	0.3nm,0.3s,baz=113,slow=6.2,SNR=8.4						
PMG				LR	LR	15 20 52.7	
	comp=Z,1μm,19.9s,baz=104,slow=36						
PMG	**Port Moresby**	**12.62**	**271**	Pn	Pn	15 16 25.3	+4.2
PMG	**Port Moresby**	**12.62**	**271**	P	P	15 16 26.9	-5.2
	25nm,1.1s						
DZM	**Mont Dzumac**	**13.67**	**154**	*e*Pn	**Pn**	**15 16 37.6**	**+2.0**
	3.4nm,0.3s						
DZM	**Mont Dzumac**	**13.67**	**154**	Pn	**Pn**	**15 16 37.7**	**+2.2**
	0.5nm,0.3s,baz=317,slow=19,SNR=5.6						
DZM	**Mont Dzumac**	**13.67**	**154**	Pn	**Pn**	**15 16 37.7**	**+2.2**
CTA	**Charters Tower**	**16.68**	**231**	Pn	**P**	**15 17 16.9**	**-0.5**
	0.5nm,0.3s,baz=66,slow=12,SNR=11						
CTA				LR	LR	15 22 48.2	
	comp=Z,234nm,19.1s,baz=49,slow=34						
CTA	**Charters Tower**	**16.68**	**231**	Pn	**P**	**15 17 16.9**	**-0.5**
CTAO	**Charters Tower**	**16.68**	**231**	*e*P	**Pn**	**15 17 13.0**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,58nm,1.1s						
CTAO	**Charters Tower**	**16.68**	**231**	*e*Pn	**Pn**	**15 17 13.0**	**-2.3**
	comp=Z,58nm,1.1s						
COEN	**Coen**	**16.91**	**254**	*e*Pn	**Pn**	**15 17 18.6**	**+0.4**
	comp=Z,146nm,1.0s						
EIDS	**Eidsvold**	**17.59**	**207**	*e*Pn	**Pn**	**15 17 26.8**	**+0.2**
	comp=Z,43nm,1.1s						
JAY	**Jayapura**	**20.45**	**290**	P	Pn	15 18 00.9	-0.2
	comp=Z,119nm,1.0s,comp=Z,7μm						
ARMA	**Armidale**	**21.89**	**200**	*e*P	**P**	**15 18 14.2**	**-0.2**
	comp=Z,24nm,1.0s						
SMPI	**Sarmi**	**22.50**	**289**	P	**P**	**15 18 22.1**	**+1.3**
	comp=Z,193nm,1.2s,comp=Z,2μm						
BAKI	**Biak**	**25.21**	**288**	P	**P**	**15 18 47.7**	**+0.8**
	comp=Z,199nm,1.3s,comp=Z,2μm						
WRAB	**Tennant Creek**	**26.66**	**245**	*e*P	**P**	**15 18 59.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**26.66**	**245**	*e*P	**P**	**15 18 59.0**	**-0.9**
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**26.66**	**245**	P	**P**	**15 18 59.0**	**-0.9**
	comp=Z,222nm,0.8s,SNR=15						
WRA	**Warramunga Arr**	**26.67**	**245**	P	**P**	**15 18 59.4**	**-0.6**
	comp=Z,16nm,0.8s,baz=72,slow=9.8,SNR=113						
WRA				LR	LR	15 28 57.2	
	comp=Z,137nm,18.9s,baz=80,slow=35						
WRA	**Warramunga Arr**	**26.67**	**245**	P	**P**	**15 18 59.4**	**-0.6**
TLE	**Tual**	**27.27**	**277**	P	**P**	**15 19 06.7**	**+1.2**
	comp=Z,28nm,1.0s						
STKA	**Stephens Creek**	**27.75**	**215**	P	**P**	**15 19 08.9**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=48,slow=11,SNR=13						
STKA				LR	LR	15 29 19.8	
	comp=Z,227nm,20.6s,baz=19,slow=35						
STKA	**Stephens Creek**	**27.75**	**215**	*e*P	**P**	**15 19 07.4**	**-2.2**
	comp=Z,2.6nm,0.9s						
AFI	**Afiamalu**	**27.96**	**101**	LR	LR	15 28 53.5	
	comp=Z,311nm,19.0s,baz=277,slow=33						
AS31	**Alice Springs**	**28.40**	**238**	*e*P	**P**	**15 19 13.8**	**-1.8**
AS31				*e*PcP	**PcP**	**15 22 27.7**	**+0.1**
ASAR	**Alice Springs**	**28.41**	**238**	P	**P**	**15 19 14.1**	**-1.5**
	comp=Z,5.2nm,0.9s,baz=62,slow=10,SNR=36						
ASAR				PcP	**PcP**	**15 22 28.2**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=61,slow=2.5,SNR=9.1						
ASAR				LR	LR	15 29 30.1	
	comp=Z,180nm,20.9s,baz=265,slow=34						
ASAR	**Alice Springs**	**28.41**	**238**	P	**P**	**15 19 14.1**	**-1.5**
ASAR				PcP	**PcP**	**15 22 28.2**	**+0.6**
BNDI	**Bandanaira**	**30.26**	**278**	P	**P**	**15 19 35.0**	**+3.0**
	comp=Z,62nm,1.3s						
BBOO	**Buckleboo**	**31.75**	**220**	*e*P	**P**	**15 19 44.0**	**-1.0**
	comp=Z,511nm,1.1s						
AAI	**Ambon**	**32.10**	**279**	P	**P**	**15 19 50.8**	**+2.5**
	comp=Z,18nm,0.9s						
URZ	**Urewera**	**32.23**	**154**	LR	LR	15 29 19.0	
	comp=Z,120nm,21.0s,baz=171,slow=30						
FITZ	**Fitzroy Crossi**	**34.24**	**252**	P	**P**	**15 20 05.9**	**-1.1**
	comp=Z,9.7nm,0.7s,baz=94,slow=6.3,SNR=26						
FITZ	**Fitzroy Crossi**	**34.24**	**252**	*e*P	**P**	**15 20 05.5**	**-1.5**
	comp=Z,7.4nm,0.6s						
MMRI	**Maumere**	**37.23**	**269**	P	**P**	**15 20 31.5**	**-1.1**
	comp=Z,44nm,1.0s						
LUWI	**Luwuk**	**37.98**	**281**	P	**P**	**15 20 39.1**	**+0.1**
	comp=Z,52nm,1.5s,comp=Z,792nm						
MRSI	**Marisa**	**39.19**	**283**	P	P	15 21 00.0	+11
KAPI	**Kappang**	**40.12**	**274**	*e*P	**P**	**15 20 55.3**	**-1.6**
	comp=Z,19nm,0.8s						
KAPI	**Kappang**	**40.12**	**274**	P	**P**	**15 20 56.7**	**-0.2**
	comp=Z,23nm,0.9s						
MBWA	**Marble Bar**	**40.24**	**249**	*e*P	**P**	**15 20 56.4**	**-1.5**
	comp=Z,21nm,1.0s						
SPSI	**Sidrap Palu**	**40.28**	**275**	P	P	15 21 09.8	+12
JAGI	**Jajag, Banyuwa**	**45.20**	**268**	P	**P**	**15 21 35.6**	**-2.6**
	comp=Z,73nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.51**	**233**	P	**P**	**15 21 38.5**	**-1.8**
	comp=Z,6.2nm,0.6s,baz=57,slow=8.6,SNR=6.6						
NWAO				LR	LR	15 39 44.5	
	comp=Z,311nm,19.3s,baz=207,slow=35						
NWAO	**Narrogin (SRO)**	**45.51**	**233**	P	**P**	**15 21 38.4**	**-2.0**
	comp=Z,19nm,1.1s						
BLJI	**Banyuglugur**	**45.83**	**269**	P	**P**	**15 21 41.7**	**-1.4**
	comp=Z,31nm,1.0s						
KKM	**Kota Kinabalu**	**46.34**	**288**	*e*P	**P**	**15 21 46.6**	**-0.6**
	comp=Z,21nm,0.8s						
KKM	**Kota Kinabalu**	**46.34**	**288**	P	P	15 21 52.2	+4.9
	comp=Z,31nm,1.4s						
PWJI	**Pagerwojo**	**47.56**	**268**	P	P	15 22 00.0	+3.3
	comp=Z,35nm,0.9s						
SJI	**Sawahan**	**47.63**	**268**	P	**P**	**15 21 56.9**	**-0.5**
	comp=Z,44nm,1.4s						
SBUM	**Sibu**	**49.07**	**282**	P	**P**	**15 22 09.2**	**+0.8**
	comp=Z,11nm,1.6s						
PPT	**Papeete**	**49.52**	**105**	LR	LR	15 38 55.6	
	comp=Z,162nm,18.3s,baz=184,slow=31						
PPT2	**Papet2**	**49.52**	**105**	*e*LR	LR	15 37 24.6	
	comp=Z,119nm,23.8s						
YULB	**Yu-li**	**50.20**	**312**	*e*P	**P**	**15 22 15.9**	**-1.0**
	comp=Z,26nm,0.7s						
NACB	**Ninganchiao**	**50.45**	**313**	*e*P	**P**	**15 22 18.8**	**+0.1**
	comp=Z,29nm,0.7s						
MJAR	**Matsushiro Arr**	**50.46**	**337**	P	**P**	**15 22 17.7**	**-0.9**
	comp=Z,11nm,0.8s,ba

HABR **Khabarovsk** 62.09 342 *e*P **P** 15 23 39.3 -1.9
HABR *e**PP **pP** 15 23 49.2 -2.2
HABR *e**SP **sP** 15 23 53.4 -1.9
HABR 15 24 20.1
HABR *e* 15 25 55.7
HABR *e*S **S** 15 32 01.8 -2.1
HABR *e* 15 32 13.8
HABR *e* 15 33 28.0
HABR *e*SS **SS** 15 36 05.1 -2.2
HABR pmax pmax
comp=E,50nm,2.7s
HABR pmax pmax
comp=N,50nm,2.7s
HABR pmax pmax
comp=Z,64nm,2.7s
HABR MLR MLR
comp=Z,113nm,18.0s
PETK Petropavlovsk- 62.73 358 P **P** 15 23 45.9 +0.4
comp=Z,22nm,0.8s,baz=160,slow=8.1,SNR=35
PETK LR LR 15 49 00.3
comp=Z,51nm,19.4s,baz=149,slow=34
PETK Petropavlovsk- 62.73 358 P **P** 15 23 45.9 +0.4
PETK Petropavlovsk- 62.73 358 P **P** 15 23 45.9 +0.4
GYA Guiyang 63.07 306 P **P** 15 23 50.0 +1.6
GYA pP **pP** 15 24 01.2 +2.6
GYA sP **sP** 15 24 05.8 +3.3
GYA PP **PP** 15 26 11.3 +3.8
GYA ScP 15 28 25.0
GYA S **S** 15 32 16.4 -1.0
GYA sS **sS** 15 32 33.7 -0.5
GYA SS **SS** 15 36 24.8 +1.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,540nm,18.6s
GYA LR LR
comp=E,510nm,19.5s
GYA LR LR
comp=Z,500nm,18.0s
KLR Kul'dur 63.82 340 *e*P **P** 15 23 49.7 -3.1
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
XAN Xi'an 65.16 315 P **P** 15 24 01.6 -0.3
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,23nm,5.4s
KMI Kunming 65.66 303 P **P** 15 24 06.6 +1.0
KMI pP **pP** 15 24 16.7 +0.9
KMI sP **sP** 15 24 20.8 +1.1
KMI S **S** 15 32 49.6 -0.1
KMI pmax pmax
comp=Z,21nm,1.3s
KMI LR LR
comp=N,160nm,17.4s
KMI LR LR
comp=E,140nm,18.9s
KMI LR LR
comp=Z,200nm,17.0s
CM31 Chiang Mai Arr 66.42 295 *e*P **P** 15 24 11.1 +0.8
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Ar 66.42 295 P **P** 15 24 11.0 +0.7
comp=Z,6.4nm,0.7s,baz=124,slow=5.2,SNR=50
CMAR Chiang Mai Arr 66.42 295 P **P** 15 24 11.0 +0.7
CHTO Chiang Mai 66.54 295 *e*P **P** 15 24 11.0 -0.1
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 66.54 295 *e*P **P** 15 24 11.0 -0.1
comp=Z,13nm,1.1s
HHC Hu-ho-hao-te 67.30 322 *e*P **P** 15 24 16.1 +0.5
HHC sP **sP** 15 24 30.5 +0.8
HHC PcP **PcP** 15 24 43.5 +0.3
HHC PP **PP** 15 26 46.2 +1.8
HHC ScP 15 28 44.0
HHC PcS 15 28 46.7
HHC S **S** 15 33 08.3 -0.5
HHC sS **sS** 15 33 25.9 +0.2
HHC ScS **SKSac** 15 34 07.5 -3.4
HHC SS **SS** 15 37 30.0 +0.8
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,96nm,6.5s
HHC LR LR
comp=N,570nm,16.4s
HHC LR LR
comp=E,570nm,16.6s
HHC LR LR
comp=Z,86nm,16.2s
CD2 Chengdu 67.38 309 P **P** 15 24 17.0 +0.7
CD2 pP **pP** 15 24 27.8 +1.3
CD2 sP **sP** 15 24 31.9 +1.5
CD2 PP **PP** 15 26 47.6 +2.4
CD2 S **S** 15 33 08.9 -1.1
CD2 sS **sS** 15 33 26.7 -0.3
CD2 SS **SS** 15 37 30.9 +0.2
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,140nm,3.5s
CD2 LR LR
comp=N,230nm,7.1s
CD2 LR LR
comp=Z,150nm,7.1s
VNDA Vanda 67.67 180 P **P** 15 24 18.7 +1.5
comp=Z,10nm,0.8s,baz=340,slow=7.3,SNR=29
VNDA Vanda 67.67 180 *e*P **P** 15 24 18.0 +0.8
comp=Z,9.9nm,0.8s
SBA Scott Base 68.09 178 *e*P **P** 15 24 21.5 +1.6
SBA pmax pmax
comp=Z,10.0nm,1.1s
SBA Scott Base 68.09 178 *e*P **P** 15 24 21.5 +1.6
comp=Z,9.7nm,1.1s
HIA Hailar 68.61 333 *e*P **P** 15 24 23.8 +0.3
comp=Z,28nm,0.8s
LZH Lanzhou 69.78 314 *e*P **P** 15 24 32.3 +1.0
LZH pP **pP** 15 24 43.4 +1.8
LZH sP **sP** 15 24 47.5 +2.1
LZH *e*PP **PP** 15 27 09.0 +3.0
LZH *e*S **S** 15 33 38.1 -0.5
LZH sS **sS** 15 33 55.8 +0.2
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,140nm,6.8s
LZH LR LR
comp=N,480nm,15.0s
LZH LR LR
comp=E,300nm,16.0s
LZH LR LR
comp=Z,570nm,19.1s
SEY Seymchan 72.79 356 *ce*P **P** 15 24 48.8 +0.2
ULN Ulaanbaatar 74.05 326 *e*P **P** 15 24 57.3 +0.6
comp=Z,36nm,1.2s
GTA Gaotai 74.17 316 ⇑P **P** 15 24 58.6 +1.1
GTA pP **pP** 15 25 08.9 +1.1
GTA sP **sP** 15 25 13.0 +1.3
GTA PP **PP** 15 27 46.0 +2.5
GTA S **S** 15 34 28.6 -0.2
GTA sS **sS** 15 34 46.2 +0.3
GTA SS **SS** 15 39 16.1 +1.3
GTA pmax pmax
comp=Z,37nm,0.6s
GTA pmax pmax
comp=Z,150nm,5.5s
GTA LR LR
comp=N,150nm,18.5s
GTA LR LR
comp=E,160nm,17.6s
GTA LR LR
comp=Z,120nm,17.1s
SONM Songino Array 74.39 326 P **P** 15 24 59.3 +0.7
comp=Z,14nm,1.0s,baz=135,slow=4.4,SNR=64
SONM LR LR 15 59 17.8
comp=Z,90nm,18.4s,baz=179,slow=37
SONM Songino Array 74.39 326 P **P** 15 24 59.3 +0.7
YAK Yakutsk 75.43 346 *e*P **P** 15 25 04.0 -0.1
YAK *e**PP **pP** 15 25 12.2 -2.2
YAK *e* 15 25 15.3
YAK *e* 15 28 00.7
YAK *e*PPP PPP 15 29 45.1
YAK *e*S **S** 15 34 44.6 +3.0
YAK *e* 15 35 12.2
YAK pmax pmax
comp=Z,61nm,0.8s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,181nm,4.8s
YAK pmax pmax
comp=N,101nm,5.4s
YAK pmax pmax
comp=E,53nm,2.6s
YAK smax smax
comp=N,96nm,4.7s
YAK smax smax
comp=E,111nm,4.4s
YAK MLR MLR
comp=Z,86nm,18.0s
YAK MLR MLR
comp=N,67nm,19.0s
YAK Yakutsk 75.43 346 *e*P **P** 15 25 04.2 +0.1
comp=N,84nm,0.8s
LSA Lhasa 76.91 304 P **P** 15 25 14.7 +0.9
LSA pmax pmax
comp=Z,50nm,1.0s
BOD Bodaibo 77.09 337 *e*P **P** 15 25 12.2 -1.4
BOD pmax pmax
comp=Z,10.0nm,1.6s
ZAK Zakamensk 77.51 327 *e*P **P** 15 25 15.8 -0.5
ZAK pmax pmax
comp=Z,10.0nm,1.1s
BILL Bilibino 77.81 2 *e*P **P** 15 25 17.9 +0.4
BILL pmax pmax
comp=Z,25nm,1.0s
BILL Bilibino 77.81 2 *e*P **P** 15 25 17.9 +0.4
comp=Z,25nm,1.0s
TLY Talaya 78.02 328 *e*P **P** 15 25 18.0 -1.0
TLY pmax pmax
comp=Z,11nm,0.9s
TLY Talaya 78.02 328 *e*P **P** 15 25 19.1 +0.1
comp=Z,10nm,1.0s
TNA Tin City 78.88 13 *e*P **P** 15 25 24.2 +0.9
comp=Z,13nm,1.1s
TAPN Taplejung 79.06 300 *e*P **P** 15 25 25.6 0.0
comp=Z,63nm,1.2s
ODAN Odare 79.19 300 *e*P **P** 15 25 26.3 +0.1
comp=Z,72nm,1.1s
MOY Mondy 79.41 327 *e*P **P** 15 25 27.0 +0.2
RSO Redoubt South 79.42 22 *e*P **P** 15 25 25.9 -0.8
comp=Z,31nm,0.8s
RAMN Ramite 79.89 300 *e*P **P** 15 25 30.0 -0.1
comp=Z,13nm,0.8s
QSPA South Pole Qui 80.16 180 *e*P **P** 15 25 31.1 +0.5
comp=Z,20nm,1.2s
SEW Seward 80.42 23 *e*P **P** 15 25 31.6 -0.2
comp=Z,26nm,1.1s
JIRN Jiri 80.44 300 *e*P **P** 15 25 33.3 +0.1
GUN Gumba 80.77 300 *e*P **P** 15 25 35.0 +0.1
comp=Z,67nm,1.1s
PKI Pulchoki 81.08 300 *e*P **P** 15 25 36.4 -0.2
KKN Kakani 81.25 300 *e*P **P** 15 25 37.3 0.0
comp=Z,30nm,0.9s
DMN Daman 81.35 300 *e*P **P** 15 25 38.1 +0.2
comp=Z,114nm,1.1s
PMR Palmer 81.49 22 *e*P **P** 15 25 37.5 0.0
PMR pmax pmax
comp=Z,19nm,0.8s
PMR Palmer 81.49 22 *e*P **P** 15 25 37.5 0.0
comp=Z,19nm,0.8s
GKN Gorkha 81.85 300 *e*P **P** 15 25 40.2 -0.2
comp=Z,85nm,1.1s
TRF Thorofare Moun 82.28 20 *e*P **P** 15 25 40.6 -1.3
comp=Z,25nm,0.7s
KOLN Koldanda 82.68 300 *e*P **P** 15 25 44.4 -0.4
comp=Z,18nm,0.6s
DANN Dangsing 82.69 300 *e*P **P** 15 25 44.6 -0.4
comp=Z,38nm,0.9s
PYUN Piuthan 83.28 300 *e*P **P** 15 25 47.1 -0.9
comp=Z,91nm,0.9s
PAX Paxson 83.69 22 *e*P **P** 15 25 48.6 -0.5
PAX pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 83.69 22 *e*P **P** 15 25 48.6 -0.5
comp=Z,3.7nm,0.8s
COLA College 84.01 20 *e*P **P** 15 25 49.8 -0.7
COLA pmax pmax
comp=Z,29nm,0.7s
COLA College 84.01 20 *e*P **P** 15 25 49.8 -0.7
comp=Z,28nm,0.7s
WMQ Urumqi 84.24 316 P **P** 15 25 52.5 +0.2
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ pmax pmax
comp=Z,120nm,5.4s
ILAR Eielson Array 84.27 20 P **P** 15 25 51.4 -0.6
comp=Z,13nm,0.5s,baz=248,slow=5.1,SNR=289
ILAR Eielson Array 84.27 20 P **P** 15 25 51.4 -0.6
MENT Mentasta 84.33 22 *e*P **P** 15 25 52.6 +0.4
DOT Dot Lake 84.60 22 *e*P **P** 15 25 53.9 +0.2
comp=Z,5.8nm,0.7s
COLD Coldfoot 84.78 17 *e*P **P** 15 25 53.6 -0.9
comp=Z,6.4nm,0.9s
HYB Hyderabad 84.82 289 *i*P **P** 15 25 55.5 -0.3
EGAK Eagle 86.29 22 *e*P **P** 15 26 02.7 +0.8
comp=Z,18nm,1.1s
DAWY Dawson 86.57 23 *e*P **P** 15 26 04.2 +0.8
MK31 Makanchi Array 88.77 318 ⇑*i*P **P** 15 26 13.9 -0.5
MK31 Makanchi Array 88.77 318 ⇑*i*P **P** 15 26 13.8 -0.5
MKAR Makanchi Array 88.77 318 P **P** 15 26 14.1 -0.3
comp=Z,20nm,0.7s,baz=100,slow=6.0,SNR=258
MKAR PP **PP** 15 29 47.8 +4.0
comp=Z,1.2nm,1.0s,baz=91,slow=9.7,SNR=3.7
MKAR Makanchi Array 88.77 318 *ce*P **P** 15 26 14.1 -0.3
MKAR pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 88.77 318 P **P** 15 26 14.1 -0.3
MKAR PP **PP** 15 29 47.8 +4.0
ISA Isabella 88.91 54 ⇓P **P** 15 26 16.4 +1.0
baz=89
EDW2 Edwards Air Fo 89.13 55 ⇓P **P** 15 26 17.5 +1.1
baz=89
BFSC Mount Baldy Ra 89.26 55 ⇑P **P** 15 26 18.3 +1.1
baz=89
ZAA0 Zalesovo Array 89.28 325 *e*P **P** 15 26 14.6 -1.9
ZALV Zalesovo Beam 89.28 325 P **P** 15 26 15.0 -1.5
comp=Z,8.4nm,0.9s,baz=108,slow=4.8,SNR=33
ZALV PKKP **PKKPdf** 15 43 47.5 -3.3
comp=Z,0.6nm,0.3s,baz=267,slow=4.5,SNR=4.2
ZALV Zalesovo Beam 89.28 325 P **P** 15 26 15.0 -1.5
ZALV Zalesovo Beam 89.28 325 P **P** 15 26 15.0 -1.5
ZALV PKKP **PKKPdf** 15 43 47.5 -3.3
CWC Cottonwood Cre 89.40 53 ⇑P **P** 15 26 18.9 +1.2
baz=90
LRMC Laurel Mountai 89.50 54 ⇑P **P** 15 26 19.7 +1.5
baz=90
NVAR Mina Array Bea 89.66 51 P **P** 15 26 20.5 +1.5
comp=Z,3.5nm,0.8s,baz=237,slow=7.3,SNR=18
NVAR Mina Array Bea 89.66 51 P **P** 15 26 20.5 +1.5
MPMC Manual Prospec 89.78 53 ⇑P **P** 15 26 20.7 +1.1
baz=90,SNR=6.7
MONP Monument Peak 89.99 57 ⇓P **P** 15 26 21.8 +1.1
baz=90
GRAC Grapevine Rang 90.07 53 ⇑P **P** 15 26 21.8 +1.1
baz=90
PFO Pinyon Flat Ob 90.11 56 ⇑P **P** 15 26 22.2 +1.1
baz=90
FURC Furnace Creek, 90.36 53 ⇓P **P** 15 26 23.5 +1.5
baz=90
NVS Novosibirsk 90.43 326 *i*P P 15 26 18.7 -3.2
HEC Hector,Ludlow 90.45 55 ⇓P **P** 15 26 24.2 +1.5
baz=91
SWSC Sam W. Stewart 90.52 57 ⇑P **P** 15 26 23.8 +1.0
baz=91
BELC Belle Mtn. Jos 90.56 56 ⇑P **P** 15 26 24.3 +1.1
baz=91,SNR=5.1
SHOC Shoshone 90.71 54 ⇑P **P** 15 26 25.3 +1.6
baz=91
TUQ Turquoise Moun 90.90 54 ⇓P **P** 15 26 26.0 +1.2
baz=91
BC3 Big Chuckawall 90.93 56 ⇓P **P** 15 26 26.2 +1.2
baz=91
GMRC Granite Mounta 90.98 55 ⇑P **P** 15 26 26.3 +1.1
baz=91,SNR=6.3
IRM Iron Mountain 91.28 56 ⇑P **P** 15 26 28.0 +1.6
baz=91
GLA Glamis 91.33 57 ⇓P **P** 15 26 28.1 +1.4
baz=92
LDFC Landfair 91.48 55 *e*P **P** 15 26 26.1 -1.3
comp=Z,17nm,1.1s
KSH Kashi 91.58 310 P **P** 15 26 29.3 +1.5
KSH *e*pP **pP** 15 26 39.1 +0.7
KSH *e*sP **sP** 15 26 43.0 +0.8
KSH *e*PP **PP** 15 30 09.9 +3.5
KSH SKS **SKSac** 15 36 57.5 -0.8
KSH S **S** 15 37 25.5 -0.4
KSH sS **sS** 15 37 42.3 -1.1
KSH SS **SS** 15 43 36.4 +3.3
KSH pmax pmax
comp=Z,12nm,0.8s
KSH LR LR
comp=N,130nm,7.0s
KSH LR LR
comp=E,150nm,8.1s
KSH LR LR
comp=Z,190nm,7.8s
R11A Troy Canyon, C 91.73 52 ⇑P **P** 15 26 29.6 +1.0
baz=92,SNR=5.6
BMO Blue Mountains 91.77 45 *e*P **P** 15 26 29.2 +0.7
BMO pmax pmax
comp=Z,8.0nm,1.4s
BMO Blue Mountains 91.77 45 *e*P **P** 15 26 29.2 +0.7
comp=Z,8.5nm,1.4s
KURK Kurchatov 92.09 321 *ce*P **P** 15 26 28.6 -1.1
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 92.09 321 *e*P **P** 15 26 28.0 -1.7
comp=Z,16nm,1.1s
KURK Kurchatov 92.09 321 P **P** 15 26 29.7 0.0
comp=Z,70nm,1.0s,SNR=9.3
KURBB Kurchatov Arra 92.13 321 P **P** 15 26 28.7 -1.2
comp=Z,7.7nm,0.8s,baz=107,slow=3.3,SNR=78
W13A Hualapai Mount 92.47 55 ⇓P **P** 15 26 33.4 +1.2
baz=93
TKM2 Tokmak 2 92.52 313 *e*P **P** 15 26 31.0 -1.2
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 92.52 313 *e*P **P** 15 26 30.9 -1.2
comp=Z,5.0nm,0.6s
MFID Camas Ranch 92.52 47 ⇑P **P** 15 26 33.4 +1.3
baz=93
NEW Newport 92.59 42 ⇓P **P** 15 26 32.5 +0.3
baz=93
R13A O'Grain Ranch, 92.95 52 ⇓P **P** 15 26 35.4 +1.2
baz=93
C11A Tepee Creek (N 93.08 42 ⇓P **P** 15 26 35.3 +0.8
baz=93
AAK Ala-Archa 93.26 313 *e*P **P** 15 26 34.7 -0.8
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 93.26 313 *e*P **P** 15 26 34.7 -0.8
comp=Z,17nm,0.9s
F12A Elk City 93.36 44 ⇑P **P** 15 26 36.6 +0.7
baz=94,SNR=8.8
H12A Diamond D Ranc 93.42 46 ⇓P **P** 15 26 36.6 +0.3
baz=94
HLID Hailey 93.56 47 *e*P **P** 15 26 38.3 +1.4
comp=Z,3.3nm,1.0s
HLID Hailey 93.56 47 ⇑P **P** 15 26 37.9 +0.9
baz=94,SNR=6.3
J13A Cove Ranch, Pi 93.70 47 ⇑P **P** 15 26 39.0 +1.5
baz=94
EKS2 Erkin-Say 93.79 312 *e*P **P** 15 26 36.4 -1.5
EKS2 pmax pmax
comp=Z,4.0nm,1.0s
EKS2 Erkin-Say 93.79 312 *e*P **P** 15 26 36.4 -1.5
comp=Z,3.8nm,1.0s
I13A Wildhorse Cree 93.83 46 ⇓P **P** 15 26 39.2 +1.0
baz=94,SNR=13
H13A Challis 93.85 46 ⇓P **P** 15 26 39.2 +1.0
baz=94
G13A Cobalt 93.95 45 ⇓P **P** 15 26 39.4 +0.7
baz=94,SNR=5.5
U15A North Rim 93.98 54 ⇑P **P** 15 26 40.6 +1.5
baz=94
F13A Darby 94.01 44 ⇓P **P** 15 26 39.3 +0.4
baz=94,SNR=8.4
D13A Huson 94.14 43 ⇑P **P** 15 26 40.5 +1.1
baz=94
L14A Malta 94.16 48 ⇑P **P** 15 26 40.6 +0.9
baz=94,SNR=5.2
K14A Jones Ranch, D 94.28 48 ⇑P **P** 15 26 41.9 +1.7
baz=94
H14A Leadore 94.48 46 ⇑P **P** 15 26 41.9 +0.8
baz=95
N15A Stansbury Isla 94.51 49 ⇓P **P** 15 26 42.0 +0.8
baz=95
F14A Wisdom 94.67 44 ⇑P **P** 15 26 42.8 +0.8
baz=95
K15A Arbon 94.78 48 ⇑P **P** 15 26 44.1 +1.6
baz=95
L15A Malad City 94.78 48 ⇓P **P** 15 26 44.0 +1.5
baz=95
J15A Blackfoot 94.96 47 ⇑P **P** 15 26 45.0 +1.7
baz=95
A14A Double T Ranch 95.14 41 ⇓P **P** 15 26 44.5 +0.6
baz=95
G15A Dillon 95.19 45 ⇑P **P** 15 26 45.2 +0.9
baz=95
E15A Deer Lodge 95.27 44 ⇑P **P** 15 26 45.4 +0.7
baz=95
F15A Butte 95.28 45 ⇑P **P** 15 26 45.4 +0.6
baz=95
D15A Lincoln 95.44 43 ⇑P **P** 15 26 46.5 +1.1
baz=96
K16A Soda Springs 95.49 48 ⇓P **P** 15 26 46.7 +0.9
baz=96
C15A Salmond Ranch, 95.49 43 ⇓P **P** 15 26 45.9 +0.2
baz=96
J16A Bone 95.53 47 ⇑P **P** 15 26 47.1 +1.0
baz=96
G16A Moss Hill, Enn 95.67 45 ⇓P **P** 15 26 47.8 +1.2
baz=96
SRU San Rafael 95.76 51 ⇓P **P** 15 26 48.1 +1.0
baz=96
BOZ Bozeman (W) 95.85 45 *e*P **P** 15 26 48.1 +0.7
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 95.85 45 *e*P **P** 15 26 48.1 +0.7
comp=Z,1.5nm,0.8s
BOZ Bozeman (W) 95.85 45 ⇓P **P** 15 26 48.3 +0.9
baz=96
HRY Holter Researc 95.86 44 P **P** 15 26 47.6 +0.3
comp=Z,2.8nm,0.7s
E16A East Helena 95.94 44 ⇑P **P** 15 26 48.2 +0.5
baz=96
H16A Russell Place, 95.99 46 ⇓P **P** 15 26 48.9 +0.8
baz=96
C16A Fuhringer Ranc 96.07 43 ⇑P **P** 15 26 48.9 +0.6
baz=96
D16A Dana Ranch, Ca 96.10 43 ⇓P **P** 15 26 48.9 +0.5
baz=96
KBL Kabul 96.24 304 *e*P **P** 15 26 47.6 -1.8
KBL Kabul 96.24 304 *e*P **P** 15 26 47.6 -1.8
I17A Pilgrim Ck. 96.36 47 ⇓P **P** 15 26 50.4 +0.6
baz=96
H17A Grant Village 96.43 46 ⇑P **P** 15 26 52.0 +1.8
baz=97
G17A Pierce Place, 96.43 45 ⇓P **P** 15 26 51.4 +1.4
baz=97
E17A Martinsdale 96.50 44 ⇑P **P** 15 26 51.0 +0.7
baz=97
Z20A Nine Sixteen R 96.51 58 ⇑P **P** 15 26 51.9 +1.2
baz=97
YKA Yellowknife Ar 96.55 28 P **P** 15 26 49.7 -0.1
comp=Z,3.6nm,0.7s,baz=259,slow=4.7,SNR=38
YKA PKKP **PKKPbc** 15 43 33.7 -2.8
comp=Z,0.1nm,0.5s,baz=83,slow=3.8,SNR=4.4
YKA Yellowknife Ar 96.55 28 P **P** 15 26 49.8 -0.1
YKA PKKP **PKKPbc** 15 43 33.7 -2.8
YKW3 Yellowknife Ar 96.55 28 *e*P **P** 15 26 49.1 -0.8
comp=Z,0.1nm,0.6s
F17A Fitzpatrick Pl 96.56 45 ⇓P **P** 15 26 51.9 +1.4
baz=97
J18A Kendall Valley 96.68 47 ⇓P **P** 15 26 52.1 +0.8
baz=97
D17A Six Diamond Ra 96.70 43 ⇓P **P** 15 26 52.2 +1.0
baz=97
C17A Wharram Farm, 96.71 43 ⇓P **P** 15 26 51.7 +0.6
baz=97
B17A L&G Farms, Che 96.77 42 ⇑P **P** 15 26 52.3 +1.0
baz=97
Y20A Horse Springs, 96.79 57 ⇑P **P** 15 26 53.0 +1.0

baz=97
I18A **Diamond G Ranc** 96.88 47 ⇓P P 15 26 53.3 +1.1
baz=97
A17A **Triple J Farms** 96.91 42 ⇓P P 15 26 53.4 +1.4
baz=97
BW06 **Boulder Array** 96.96 48 ⇑P P 15 26 53.3 +0.8
baz=97
PDAR **Pinedale Array** 96.96 48 P P 15 26 53.7 +1.1
comp=Z,2.3nm,1.1s,baz=219,slow=1.6,SNR=9.5
PDAR **Pinedale Array** 96.96 48 P P 15 26 53.7 +1.1
E18A **Harlowton** 97.16 44 ⇑P Pdif 15 26 54.3 +1.0
baz=97
F18A **Big Timber** 97.22 45 ⇓P Pdif 15 26 54.7 +1.2
baz=97
G18A **Lazy EL Ranch,** 97.25 45 ⇑P Pdif 15 26 54.9 +1.1
baz=97
J19A **Crowheart** 97.38 47 ⇑P Pdif 15 26 56.0 +1.5
baz=98
EGMT **Eagleton** 97.43 43 *e*P P 15 26 53.2 -1.1
comp=Z,5.3nm,1.1s
EGMT **Eagleton** 97.43 43 ⇓P Pdif 15 26 55.1 +0.6
baz=98
K19A **Absolon Red Bu** 97.48 48 ⇓P Pdif 15 26 56.2 +1.2
baz=98
BRVK **Borovoye** 97.58 322 *ce*P P 15 26 53.1 -1.7
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK **Borovoye** 97.58 322 *e*P P 15 26 53.2 -1.6
comp=Z,5.5nm,0.9s
F19A **Roth Farm, Mol** 97.75 45 ⇓P Pdif 15 26 56.7 +0.8
baz=98
M20A **Sweetwater, Wa** 97.83 49 ⇓P Pdif 15 26 56.8 +0.3
baz=98
SNAA **Sanae** 97.86 185 *e*P P 15 26 55.7 -0.2
C19A **Slack Wire Ran** 97.87 43 ⇓P Pdif 15 26 57.0 +0.6
baz=98
E19A **Rath Farm, Rou** 97.92 44 ⇓P Pdif 15 26 57.6 +1.0
baz=98
D19A **Cripps Ranch,** 97.93 44 ⇑P Pdif 15 26 57.6 +1.0
baz=98
B19A **Brinkman Farms** 98.01 42 ⇑P Pdif 15 26 57.4 +0.4
baz=98
E20A **Meyer Farm, Mu** 98.37 44 ⇓Pdiff Pdif 15 26 59.6 +1.0
baz=98
D20A **Manuel Ranch,** 98.42 44 ⇑Pdiff Pdif 15 26 60.0 +1.1
baz=99
M21A **Separation Pea** 98.45 49 ⇑Pdiff Pdif 15 26 59.6 +0.3
baz=99
S22A **4UR Ranch, Cre** 98.48 53 ⇑Pdiff P 15 26 59.6 0.0
baz=99
I21A **Big Trails, Te** 98.71 47 ⇑Pdiff Pdif 15 27 00.5 +0.2
baz=99
VNA3 **Neumayer Olymp** 98.80 183 *e*P P 15 26 59.9 -0.1
VNA2 **Neumayer--Watz** 98.96 184 *e*P Pdif 15 27 02.3 +1.6
baz=186,slow=3.2
A21A **Bergtoll Ranch** 99.39 42 ⇑Pdiff Pdif 15 27 03.5 +0.4
baz=100
D22A **Cohagen** 99.76 44 ⇓Pdiff Pdif 15 27 05.4 +0.6
baz=100
626A **Big Bend Ranch** 99.90 62 ⇓Pdiff Pdif 15 27 05.7 -0.2
baz=100
V25A **Rancho No Teng** 100.07 55 ⇑Pdiff Pdif 15 27 06.2 -0.5
baz=101
B23A **Brockton** 100.64 42 ⇑Pdiff Pdif 15 27 09.3 +0.6
baz=101
ARCES **ARCESS Array B** 113.68 344 PKiKP PKiKP 15 31 57.9 -0.5
comp=Z,2.6nm,0.7s,baz=98,slow=3.7,SNR=13
ARCES **ARCESS Array B** 113.68 344 PKiKP PKiKP 15 31 57.9 -0.5
OBN **Obninsk** 116.77 327 *e*PKiKP PKPdf 15 32 02.4 -2.3
OBN *e* 15 35 45.6
OBN *e*S SKSac 15 38 54.1 +0.5
OBN pmax pmax
comp=Z,25nm,2.0s
FINES **FINESS Array B** 118.49 337 PKP PKPdf 15 32 06.9 -0.9
comp=Z,2.9nm,0.8s,baz=340,slow=2.8,SNR=7.3
FINES **FINESS Array B** 118.49 337 PKP PKPdf 15 32 06.9 -0.9
BOSA **Boshof** 121.90 227 PKP PKPdf 15 32 15.6 0.0
comp=Z,2.4nm,0.9s,baz=101,slow=14,SNR=3.5
BOSA **Boshof** 121.90 227 PKP PKPdf 15 32 15.6 0.0
AKASG **Malin Array Be** 122.67 325 PKP PKPdf 15 32 15.3 -0.9
comp=Z,3.3nm,0.7s,baz=68,slow=2.0,SNR=7.2
AKASG **Malin Array Be** 122.67 325 PKiKP PKPdf 15 32 15.3 -0.9
AKASG **Malin Array Be** 122.67 325 PKP PKPdf 15 32 15.3 -0.9
AK01 **Malin Array Si** 122.68 325 *e*PKPdf PKPdf 15 32 15.0 -1.2
AK02 **Malin Array Si** 122.70 325 *e*PKPdf PKPdf 15 32 15.1 -1.2
LBTB **Lobatse** 123.61 231 *e*PKPdf PKPdf 15 32 19.1 +0.1
BR131 **Keskin Array S** 123.92 311 *e*PKPdf PKPdf 15 32 18.0 -1.1
BRTR **Keskin Array B** 123.92 311 PKP PKPdf 15 32 18.6 -0.6
comp=Z,1.8nm,0.6s,baz=125,slow=2.7,SNR=9.3
BRTR **Keskin Array B** 123.92 311 PKP PKPdf 15 32 18.6 -0.6
NB2 **NORSAR Subarra** 123.94 342 PKPdf PKPdf 15 32 17.2 -1.2
comp=Z,2.1nm,0.8s,baz=39,slow=1.9
NOA **NORSAR Array B** 123.94 342 PKP PKPdf 15 32 17.9 -0.5
comp=Z,3.4nm,0.7s,baz=40,slow=2.0,SNR=11
NOA **NORSAR Array B** 123.94 342 PKP PKPdf 15 32 17.9 -0.5
LPAZ **La Paz** 125.81 118 PKP PKPdf 15 32 24.2 +0.2
comp=Z,1.4nm,0.8s,baz=201,slow=2.1,SNR=5.6
LPAZ **La Paz** 125.81 118 PKP PKPdf 15 32 24.2 +0.2
LSZ **Lusaka** 126.08 243 PKPdf PKPdf 15 32 23.7 -0.3
KOLS **Kolonicke sedl** 127.45 326 *e*P Pdif 15 29 07.4 -0.4
KOLS **Kolonicke sedl** 127.45 326 PDIF Pdif 15 29 07.4 -0.4
CLL **Collm** 130.59 333 *e*PKiKP PKPdf 15 32 33.0 +1.7
CLL **Collm** 130.59 333 *e*PKPdf PKPdf 15 32 33.0 +1.7
KHC **Kasperske Hory** 131.83 331 *e*PKiKP PKPdf 15 32 31.5 -2.3
KHC **Kasperske Hory** 131.83 331 *e*PKPdf PKPdf 15 32 31.5 -2.3
GERES **GERESS Array B** 131.97 330 PKP PKPdf 15 32 33.7 -0.4
comp=Z,1.7nm,0.7s,baz=126,slow=2.3,SNR=7.1
GERES **GERESS Array B** 131.97 330 PKP PKPdf 15 32 33.7 -0.4
GIVF **Givet** 134.88 338 *e*PKiKP PKPdf 15 32 40.6 +1.2
GIVF **Givet** 134.88 338 *e*PKiKP PKPdf 15 32 40.6 +1.2
GIVF **Givet** 134.88 338 *e*PKPdf PKPdf 15 32 40.6 +1.2
CABF **La Chapelle** 137.13 333 *e*PKiKP PKPdf 15 32 44.3 +0.4
CABF **La Chapelle** 137.13 333 *e*PKiKP PKPdf 15 32 44.3 +0.4
CABF **La Chapelle** 137.13 333 *e*PKPdf PKPdf 15 32 44.3 +0.4
LOR **Lormes** 137.55 336 *e*PKiKP PKPdf 15 32 46.0 +1.5
LOR **Lormes** 137.55 336 *e*PKPdf PKPdf 15 32 46.0 +1.5
SSF **Saint Saulge** 137.86 336 *e*PKiKP PKPdf 15 32 47.4 +2.3
comp=Z,13nm,1.0s
SSF **Saint Saulge** 137.86 336 *e*PKiKP PKPdf 15 32 47.4 +2.3
SSF **Saint Saulge** 137.86 336 *e*PKPdf PKPdf 15 32 47.4 +2.3
GRR **Gorron** 138.32 341 *e*PKiKP PKPdf 15 32 48.2 +2.3
GRR **Gorron** 138.32 341 *e*PKiKP PKPdf 15 32 48.2 +2.3
GRR **Gorron** 138.32 341 *e*PKPdf PKPdf 15 32 48.2 +2.3
ORIF **Oris-en-Rattie** 138.51 332 *e*PKiKP PKPdf 15 32 48.2 +1.7
comp=Z,10nm,0.7s
ORIF **Oris-en-Rattie** 138.51 332 *e*PKiKP PKPdf 15 32 48.2 +1.7
ORIF **Oris-en-Rattie** 138.51 332 *e*PKPdf PKPdf 15 32 48.2 +1.7
SBF **Sospel** 138.55 330 *e*PKiKP PKPdf 15 32 48.6 +2.0
SBF **Sospel** 138.55 330 *e*PKiKP PKPdf 15 32 48.6 +2.0
SBF **Sospel** 138.55 330 *e*PKPdf PKPdf 15 32 48.6 +2.0
PGF **Pioggiola** 138.68 327 *e*PKiKP PKPdf 15 32 48.5 +1.6
comp=Z,8.3nm,0.6s
PGF **Pioggiola** 138.68 327 *e*PKiKP PKPdf 15 32 48.5 +1.6
PGF **Pioggiola** 138.68 327 *e*PKPdf PKPdf 15 32 48.5 +1.6
TCF **Toulx Ste Croi** 139.00 336 *e*PKiKP PKPdf 15 32 49.2 +1.9
comp=Z,5.6nm,0.6s
TCF **Toulx Ste Croi** 139.00 336 *e*PKiKP PKPdf 15 32 49.2 +1.9
TCF **Toulx Ste Croi** 139.00 336 *e*PKPdf PKPdf 15 32 49.2 +1.9
MFF **Saint Martin d** 139.63 339 *e*PKiKP PKPdf 15 32 50.3 +2.0
comp=Z,16nm,0.8s
MFF **Saint Martin d** 139.63 339 *e*PKiKP PKPdf 15 32 50.3 +2.0
MFF **Saint Martin d** 139.63 339 *e*PKPdf PKPdf 15 32 50.3 +2.0
BDFB **Brasilia** 142.48 132 PKhKP PKPpre 15 32 49.6
comp=Z,4.6nm,0.7s,baz=246,slow=2.9,SNR=8.0
BDFB **Brasilia** 142.48 132 PKPpre PKPpre 15 32 49.6
SJPF **Ste Jean** 143.00 337 *e*PKiKP PKPdf 15 32 57.4 +2.9
SJPF **Ste Jean** 143.00 337 *e*PKiKP PKPdf 15 32 57.4 +2.9
SJPF **Ste Jean** 143.00 337 *e*PKPdf PKPdf 15 32 57.4 +2.9
PBRG **Braganca** 146.07 342 *e*PKiKPab PKPbc 15 33 01.0 +0.2
PGAV **Gavieira, Arco** 146.36 344 *e*PKiKPab PKPbc 15 33 01.5 -0.2
PCAB **Cabril** 146.53 344 *e*PKPdf PKPdf 15 32 57.5 -3.2
PCAB **Cabril** 146.53 344 *e*PKPab PKPbc 15 33 02.4 +0.2
MVO **Moncorvo** 146.74 342 *e*PKiKPab PKPbc 15 33 02.7 -0.1
POLO **Lamas de Olo** 146.78 343 *e*PKiKPab PKPbc 15 33 03.5 +0.5
PVRL **Vila Real** 146.85 343 *e*PKiKPab PKPab 15 33 03.9 -0.5
ESDC **Sonseca Array** 147.01 337 PKPbc PKPbc 15 33 02.7 -0.9
comp=Z,0.9nm,0.6s,baz=12,slow=2.7,SNR=7.8
ESDC PP PP 15 36 28.6 +1.3
comp=Z,0.3nm,0.3s,baz=23,slow=8.0,SNR=4.3
ESDC **Sonseca Array** 147.01 337 PKPbc PKPbc 15 33 02.7 -0.9
ESDC PP PP 15 36 28.6 +1.3
PVIS **Viseu** 147.41 343 *e*PKiKPab PKPbc 15 33 05.2 +0.5
MTE **Manteigas** 147.60 342 *e*PKiKPab PKPbc 15 33 06.0 +0.7
MTE **Manteigas** 147.60 342 *e*PKPbc PKPbc 15 33 05.4 +0.2
PCBR **Castelo Branco** 148.09 342 *e*PKiKPab PKPbc 15 33 07.3 +0.8
PMRV **Marv??o** 148.44 341 *e*PKPab PKPbc 15 33 07.9 +0.4
PTOM **Tomar** 148.58 343 *e*PKPab PKPbc 15 33 08.6 +0.8
PESTR **Estremoz** 149.01 341 *e*PKPab PKPbc 15 33 08.8 -0.1
PMTG **Montargil** 149.03 342 *e*PKPab PKPbc 15 33 09.1 +0.2
EVO **Evora** 149.45 341 *e*PKIKP PKPbc 15 33 09.8 -0.2
comp=Z,13nm,0.6s
EVO **Evora** 149.45 341 *e*PKPab PKPbc 15 33 10.5 +0.5
EVOP **Sao Brissos** 149.49 341 *e*PKP2 PKPbc 15 33 09.8 -0.3
EVOP **Sao Brissos** 149.49 341 *e*PKPdf PKPbc 15 33 09.8 -0.3
PBEJ **Beja** 149.87 341 *e*PKPab PKPbc 15 33 12.0 +0.9
PNCL **Nicolau / Gran** 150.00 342 *e*PKPab PKPbc 15 33 12.1 +0.7
PCVE **Castro Verde** 150.28 341 *e*PKPab PKPbc 15 33 12.7 +0.6
PCED **Cedros** 150.30 14 *e*PKP PKPbc 15 33 10.7 -1.4
ROSA **Rosais** 150.32 13 *e*PKP PKPbc 15 33 15.0 +2.9
PCAN **Candelaria** 150.51 14 *e*PKP PKPbc 15 33 10.4 -2.2
PTEO **Sao Teotonio** 150.58 341 *e*PKPab PKPbc 15 33 13.5 +0.7
ADH **Angra Heroismo** 150.59 11 *e*PKP PKPbc 15 33 10.4 -2.4
PBDV **Barranco-do-Ve** 150.60 340 *e*PKPab PKPbc 15 33 14.4 +1.5
MORF **Marmelete** 150.78 341 *e*PKPab PKPbc 15 33 14.0 +0.7
PSET **Sete Cidades** 151.67 9 *e*PKP PKPdf 15 33 11.9 +2.8
PDA **Ponta Delgada** 151.76 9 *e*PKP PKPdf 15 33 10.4 +1.3
TAM **Tamanrasset** 152.34 301 *e*PKIKP PKPdf 15 33 10.3 -0.4
TAM 15 33 17.7
TAM **Tamanrasset** 152.34 301 *e*PKPdf PKPdf 15 33 10.3 -0.4
TAM PKPbc PKiKP 15 33 17.7 0.0
TORD **Torodi Ar. Bea** 158.44 281 PKP PKPdf 15 33 18.1 -0.7
comp=Z,1.5nm,1.0s,baz=57,slow=0.8,SNR=4.9
TORD PKPab PKPab 15 33 53.0 -0.6
comp=Z,2.5nm,0.9s,baz=85,slow=4.0,SNR=7.5
TORD **Torodi Ar. Bea** 158.44 281 PKP PKPdf 15 33 18.1 -0.7
TORD PKPab PKPab 15 33 53.0 -0.6
DBIC **Dimbokro** 164.63 259 *e*PKPab PKPab 15 34 20.7 -0.1

JMA 12 15:15:37.6, 36°69N × 137°89E, h5km ±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.29**	**120**	P	Pg	15 15 43.2	-0.2
MAT				S	Sg	15 15 47.3	0.0
MAT	**Matsushiro**	**0.29**	**120**	P	Pg	15 15 43.2	-0.2
MAT				S	Sg	15 15 47.3	0.0
JNG	**Nsakai**	**0.33**	**149**	P	Pg	15 15 44.1	0.0
JNG				S	Sg	15 15 48.8	+0.2

*DDA **12** 15:45:23.8, 36°.98N × 28°.20E, h7km, MD2.9*
*ISCJB **12** 15:45:25.4±0.6, 37°.07N±0°.04 × 28°.15E±0°.03, h6km±4km, Error ellipse: s-maj=6.0km s-min=3.8km az=6.7*
*ISK **12** 15:45:25.0, 37°.14N × 28°.18E, h14km, MD2.9*
*CSEM **12** 15:45:25.3±0.3, 37°.08N × 28°.17E, h10km, MD2.9, Error ellipse: s-maj=6.7km s-min=4.0km az=7.0*

ISC 12 15:45:25.0±0.9, 37°.07N±0°.03 × 28°.16E±0°.02, h10km±6km, n43, σ0°61/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.12**	**57**	*e*PG	**Pg**	**15 45 27.4**	**-0.5**
YER				*e*SG	**Sg**	**15 45 30.6**	**+0.6**
YER	**Yerkesik**	**0.12**	**57**	*e*Pg	**Pg**	**15 45 27.4**	**-0.5**
YER				*e*Sg	**Sg**	**15 45 30.6**	**+0.6**
MLSB	**Milas**	**0.38**	**306**	*e*PG	**Pg**	**15 45 32.8**	**+0.2**
MLSB				*e*SG	**Sg**	**15 45 38.5**	**+0.9**
MLSB	**Milas**	**0.38**	**306**	*e*Pg	**Pg**	**15 45 32.8**	**+0.2**
MLSB				*e*Sg	**Sg**	**15 45 38.5**	**+0.9**
TURN	**Turunc**	**0.41**	**119**	*i* P	Pg	15 45 28.1	-4.9
TURN				*i* S	Sg	15 45 31.4	-6.9
BDRM	**Kayabasi**	**0.57**	**270**	*i* P	**Pg**	**15 45 35.1**	**-1.0**
BDRM				*i* S	**Sb**	**15 45 45.4**	**0.0**
BDRM	**Kayabasi**	**0.57**	**270**	*i* P	**Pg**	**15 45 35.1**	**-1.0**
BDRM				*i* S	**Sb**	**15 45 45.4**	**0.0**
AYDN	**Tasoluk**	**0.63**	**339**	*i* P	**Pb**	**15 45 38.3**	**+0.1**
AYDN				*i* S	**Sb**	**15 45 48.3**	**+1.2**
AYDN	**Tasoluk**	**0.63**	**339**	*i* P	**Pb**	**15 45 38.3**	**+0.1**
AYDN				*i* S	**Sb**	**15 45 48.3**	**+1.2**
BODT	**Bodrum**	**0.68**	**270**	*e*PG	**Pb**	**15 45 38.9**	**-0.1**
BODT				*e*SG	**Sb**	**15 45 49.0**	**+0.5**
BODT	**Bodrum**	**0.68**	**270**	*e*Pg	**Pb**	**15 45 38.9**	**-0.1**
BODT				*e*Sg	**Sb**	**15 45 49.0**	**+0.5**
DNZL	**Cakiroluk**	**0.94**	**49**	*i* P	**Pg**	**15 45 42.7**	**-0.4**
DNZL				*i* S	**Sn**	**15 45 57.3**	**-0.8**
DNZL	**Cakiroluk**	**0.94**	**49**	*i* P	**Pg**	**15 45 42.7**	**-0.4**
DNZL				*i* S	**Sn**	**15 45 57.3**	**-0.8**
GCAM	**G?zelcaml?**	**0.97**	**311**	*i* P	**Pn**	**15 45 44.4**	**-0.3**
GCAM				*i* S	**Sn**	**15 45 58.5**	**0.0**
GCAM	**G?zelcaml?**	**0.97**	**311**	*i* P	**Pn**	**15 45 44.4**	**-0.3**
GCAM				*i* S	**Sn**	**15 45 58.5**	**0.0**
DENT	**Denizli**	**0.97**	**45**	*e*PG	**Pg**	**15 45 43.2**	**-0.6**
DENT	**Denizli**	**0.97**	**45**	*e*Pg	**Pg**	**15 45 43.2**	**-0.6**
GOLH	**Golhisar**	**1.13**	**81**	*i* P	**Pg**	**15 45 47.3**	**+0.5**
GOLH				*i* S	**Sn**	**15 46 04.0**	**+1.3**
GOLH	**Golhisar**	**1.13**	**81**	*i* P	**Pg**	**15 45 47.3**	**+0.5**
GOLH				*i* S	**Sn**	**15 46 04.0**	**+1.3**
AKAS	**Kas**	**1.43**	**125**	*i* P	**Pn**	**15 45 50.9**	**-0.3**
AKAS				*i* S	**Sg**	**15 46 11.6**	**+0.5**
AKAS	**Kas**	**1.43**	**125**	*i* P	**Pn**	**15 45 50.9**	**-0.3**
AKAS				*i* S	**Sg**	**15 46 11.6**	**+0.5**
ELL	**Elmali**	**1.44**	**102**	*e*PN	**Pb**	**15 45 51.9**	**-0.1**
ELL	**Elmali**	**1.44**	**102**	*e*Pn	**Pb**	**15 45 51.9**	**-0.1**
MANT	**Manisa**	**1.45**	**12**	*i* P	**Pg**	**15 45 52.7**	**-0.2**
MANT				*i* S	**Sg**	**15 46 11.6**	**-0.2**
MANT	**Manisa**	**1.45**	**12**	*i* P	**Pg**	**15 45 52.7**	**-0.2**
MANT				*i* S	**Sg**	**15 46 11.6**	**-0.2**
KULA	**Kula-Manisa**	**1.50**	**15**	*e*PN	**Pn**	**15 45 51.2**	**-0.7**
KULA	**Kula-Manisa**	**1.50**	**15**	*e*Pn	**Pn**	**15 45 51.3**	**-0.7**
IZM	**Izmir**	**1.50**	**332**	*e*PN	**Pn**	**15 45 51.3**	**-0.8**
IZM	**Izmir**	**1.50**	**332**	*e*Pn	**Pn**	**15 45 51.3**	**-0.8**
BLCB	**Balcova**	**1.58**	**326**	*e*PN	**Pn**	**15 45 52.7**	**-0.5**
BLCB	**Balcova**	**1.58**	**326**	*e*Pn	**Pn**	**15 45 52.7**	**-0.5**
KHL	**Karahalli**	**1.65**	**40**	*e*PN	**Pn**	**15 45 53.5**	**-0.7**
KHL	**Karahalli**	**1.65**	**40**	*e*Pn	**Pn**	**15 45 53.5**	**-0.7**
KHAL	**Karahalli**	**1.67**	**39**	*i* P	**Pb**	**15 45 55.5**	**-0.5**
KHAL	**Karahalli**	**1.67**	**39**	*i* P	**Pb**	**15 45 55.5**	**-0.5**
KORT	**Korkueli**	**1.75**	**92**	*i* P	**Pg**	**15 45 58.0**	**-0.7**
KORT				*i* S	**Sg**	**15 46 21.9**	**+0.4**
KORT	**Korkueli**	**1.75**	**92**	*i* P	**Pg**	**15 45 58.0**	**-0.7**
KORT				*i* S	**Sg**	**15 46 21.9**	**+0.4**
AKHS	**Akhisar**	**1.83**	**352**	*i* P	**Pn**	**15 45 56.9**	**+0.4**
AKHS	**Akhisar**	**1.83**	**352**	*i* P	**Pn**	**15 45 56.9**	**+0.4**
AKS	**Akhisar**	**1.83**	**351**	*e*PN	**Pn**	**15 45 55.9**	**-0.6**
AKS	**Akhisar**	**1.83**	**351**	*e*Pn	**Pn**	**15 45 55.9**	**-0.6**
TVSB	**Tavsanli**	**2.59**	**23**	*e*PN	**Pn**	**15 46 06.7**	**-0.3**
TVSB	**Tavsanli**	**2.59**	**23**	*e*Pn	**Pn**	**15 46 06.7**	**-0.3**

IDC 12 15:46:51.7±4.6, 1°75S × 139°.06E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/18, mbtmp3.1/3, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=186.3km s-min=28.0km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.67**	**194**	P	Pn	15 51 12.2	+0.5
	0.1nm,0.3s,baz=18,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**22.36**	**193**	P	P	15 51 51.6	0.0
	0.6nm,0.8s,baz=24,slow=9.8,SNR=8.9						
KSRS	**Korea Array**	**40.35**	**346**	LR	LR	16 10 41.8	
	comp=Z,29nm,19.1s,baz=225,slow=35						
MKAR	**Makanchi Array**	**69.25**	**322**	P	P	15 58 00.4	-0.3
	0.1nm,0.6s,baz=98,slow=7.6,SNR=2.7						

*ISCJB **12** 15:47:03.6±0.9, 30°.5N±0°.1 × 68°.05E±0°.09, h13km, mb3.6/8, Error ellipse: s-maj=17.6km s-min=8.0km az=30.7*
*IDC **12** 15:47:03.5±1.1, 30°.53N × 67°.81E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/31, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=31.9km s-min=23.2km az=87.0*

ISC 12 15:47:05.2±1.1, 30°.4N±0°.1 × 68°.0E±0°.1, h13km, n21, σ1°34/21, mb3.7/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**10.99**	**232**	Pn	Pn	15 49 36.0	-6.2
	0.3nm,0.3s,baz=69,slow=8.6,SNR=3.2						
AAK	**Ala-Archa**	**13.26**	**21**	Pn	**Pn**	**15 50 13.8**	**+0.5**
	0.7nm,0.3s,baz=197,slow=3.3,SNR=13						
PYUN	**Piuthan**	**13.30**	**96**	*e*P	**Pn**	**15 50 14.0**	**0.0**
	14nm,0.5s						
PYUN				*e*S	**Sn**	**15 52 41.6**	**-0.4**
KOLN	**Koldanda**	**13.91**	**97**	*e*P	**Pn**	**15 50 22.2**	**-0.1**
	15nm,0.7s						
DANN	**Dangsing**	**13.91**	**95**	*e*P	**Pn**	**15 50 22.3**	**-0.1**
	29nm,0.8s						
GKN	**Gorkha**	**14.74**	**95**	*e*P	**Pn**	**15 50 32.3**	**-1.4**
	15nm,0.8s						
KKN	**Kakani**	**15.35**	**96**	*e*P	**Pn**	**15 50 41.6**	**-0.2**
	12nm,0.5s						
GUN	**Gumba**	**15.83**	**95**	*e*P	**Pn**	**15 50 46.5**	**-1.7**
	58nm,0.8s						
JIRN	**Jiri**	**16.16**	**95**	*e*P	**Pn**	**15 50 51.7**	**-0.8**
	5.4nm,0.7s						
RAMN	**Ramite**	**16.70**	**97**	*e*P	**Pn**	**15 50 58.4**	**-0.8**
	27nm,0.8s						
ODAN	**Odare**	**17.40**	**97**	*e*P	**Pn**	**15 51 06.3**	**-1.7**
	16nm,0.8s						
TAPN	**Taplejung**	**17.54**	**95**	*e*P	**Pn**	**15 51 09.9**	**0.0**
	14nm,0.9s						
MKAR	**Makanchi Array**	**19.75**	**30**	P	**P**	**15 51 33.8**	**-1.0**
	0.2nm,0.3s,baz=210,slow=10,SNR=18						
AKTO	**Aktyubinsk**	**21.35**	**342**	P	**P**	**15 51 52.2**	**+0.2**
	0.4nm,0.5s,baz=146,slow=14,SNR=3.3						
KURBB	**Kurchatov Arra**	**21.67**	**18**	P	**P**	**15 51 58.8**	**+3.3**
	2.2nm,0.2s,baz=204,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	**22.66**	**4**	P	**P**	**15 52 04.7**	**-1.3**
	0.8nm,0.6s,baz=186,slow=13,SNR=4.5						
ZALV	**Zalesovo Beam**	**26.48**	**23**	P	**P**	**15 52 42.4**	**+0.5**
	1.4nm,0.5s,baz=222,slow=9.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**63.11**	**270**	P	**P**	**15 57 32.0**	**-0.9**
	0.7nm,0.8s,baz=52,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**81.08**	**119**	P	**P**	**15 59 21.8**	**+1.4**
	0.3nm,0.9s,baz=323,slow=4.4,SNR=3.5						
ASAR	**Alice Springs**	**82.99**	**122**	P	**P**	**15 59 32.5**	**+2.1**
	0.3nm,0.7s,baz=297,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**87.39**	**1**	P	**P**	**15 59 50.6**	**-1.2**
	0.3nm,0.6s,baz=350,slow=5.0,SNR=6.6						

IDC 12 15:57:07.3±2.0, 3°.19N × 125°.17E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=191.2km s-min=26.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.69**	**159**	P	P	16 02 29.2	-1.1
	0.3nm,0.5s,baz=337,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**28.02**	**163**	P	P	16 03 01.5	+1.1
	0.1nm,0.7s,baz=341,slow=9.4,SNR=3.1						
MKAR	**Makanchi Array**	**57.12**	**326**	P	P	16 06 55.6	-0.2
	0.2nm,0.4s,baz=123,slow=7.4,SNR=5.1						

*IDC **12** 16:10:53.9±2.0, 7°.33S × 133°.33E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/17, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=77.4km s-min=27.2km az=76.0*
*AUST **12** 16:11:36.7±99.0, 9°.96S × 132°.02E, h1km, Error ellipse: s-maj=2.7km s-min=1.1km az=270.0*

ISC 12 16:10:57.9±1.2, 7°.45S±0°.07 × 133°.2E±0°.1, h35km, n10, σ2°53/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**5.26**	**188**	P	Pn	16 12 20.3	+6.2
	baz=2.8,SNR=38						
MTN	**Manton Dam**	**5.74**	**201**	P	Pn	16 12 27.4	+6.6
	baz=3.0,SNR=6.0						
SWI	**Sorong**	**6.83**	**343**	P	**Sn**	**16 13 49.0**	**-3.3**
	baz=9.1,SNR=4.7						
WRA	**Warramunga Arr**	**12.47**	**175**	Pn	**Pn**	**16 13 53.0**	**0.0**
	0.1nm,0.3s,baz=354,slow=13,SNR=17						
WRA					Sn	**Sn**	**16 16 08.2**	**-2.5**
	0.5nm,0.3s,baz=3.9,slow=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.91**	**214**	Pn	**Pn**	**16 14 01.5**	**+2.4**
	0.2nm,0.3s,baz=47,slow=13,SNR=16						
FITZ					Sn	**Sn**	**16 16 18.7**	**-2.9**
	0.8nm,0.3s,baz=199,slow=14,SNR=9.7						
FITZ	**Fitzroy Crossi**	**12.91**	**214**	P	Pn	16 14 02.8	+3.7
	baz=10,SNR=6.6						
FITZ					S	**Sn**	**16 16 20.9**	**-0.7**
	baz=10,SNR=4.7						
WSI	**Waingapu**	**12.98**	**259**	S	Sn	16 16 12.8	-10
	baz=12,SNR=3.1						
ASAR	**Alice Springs**	**16.14**	**178**	Pn	**Pn**	**16 14 43.1**	**+0.8**
	0.1nm,0.3s,baz=4.4,slow=12,SNR=12						
ASAR					Sn	**Sn**	**16 17 37.8**	**-2.5**
	0.1nm,0.3s,baz=2.1,slow=28,SNR=4.0						
STKA	**Stephens Creek**	**25.53**	**163**	P	**P**	**16 16 25.6**	**+2.3**
	0.6nm,0.3s,baz=337,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**70.38**	**326**	P	**P**	**16 22 09.5**	**+1.1**
	0.2nm,0.5s,baz=106,slow=7.9,SNR=4.5						

*ISCJB **12** 16:19:54.5±0.5, 39°.50N±0°.02 × 23°.65E±0°.04, h12km±4km, Error ellipse: s-maj=5.5km s-min=3.4km az=11.6*
*THE **12** 16:19:54.6, 39°.51N × 23°.66E, h4km±1km, ML2.3/5, Error ellipse: s-maj=1.7km s-min=0.5km az=138.0*
*ATH **12** 16:19:54.6, 39°.51N × 23°.67E, h15km±5km, MD3.1/7*
*CSEM **12** 16:19:54.5±0.1, 39°.50N × 23°.66E, h15km, ML2.3/5, Error ellipse: s-maj=3.8km s-min=2.3km az=101.0*

**ISC 12 16:19:54.3±0.9, 39°.50N±0°.02 × 23°.68E±0°.03, h17km±7km, n30, σ0°35/

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.53**	**70**	Pn	Pn	16 21 05.0	+0.2
	5.3nm,0.3s,baz=279,slow=3.5,SNR=16						
AFI				Sn	Sn	16 21 39.1	-8.2
	18nm,0.3s,baz=56,slow=21,SNR=18						
WRA	**Warramunga Arr**	**48.22**	**257**	P	P	16 28 51.7	+0.2
	0.2nm,0.7s,baz=92,slow=7.4,SNR=7.5						
ASAR	**Alice Springs**	**48.55**	**252**	P	P	16 28 53.8	-0.3
	0.6nm,0.6s,baz=91,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**82.54**	**12**	P	P	16 32 32.8	-0.2
	0.1nm,0.5s,baz=218,slow=5.7,SNR=4.3						

NDI 12 16:21:36.1±2.5, 32.50N×76.36E, h10km, ML3.6, 1D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.33**	**278**	*e*P	Pg	16 21 42.0	-1.1
DLH				*e*S	Sb	16 21 50.0	-0.1
THN	**Thein Dam**	**0.55**	**264**	*e*P	Pg	16 21 46.0	-0.7
THN				*ex*	Sn	16 21 59.0	-0.1
BHK	**Bhakra**	**1.08**	**177**	*e*P	Pg	16 21 56.8	-0.1
BHK				*ex*	Sn	16 22 16.2	+3.9
SDNR	**Sundarnagar**	**1.12**	**152**	*e*P	Pb	16 21 56.6	-1.0
SDNR				*e*S	Sb	16 22 12.0	-0.3
SMLA	**Simla**	**1.53**	**153**	*i* P	Pb	16 22 04.3	-0.1
SMLA				*i* S	Sg	16 22 25.4	+0.2
SMLA				⇓AML	AML	16 22 26.5	
	comp=E,3μm,0.3s						
SMLA				AML	AML	16 22 26.8	
	comp=N,3μm,0.2s						
KKR	**Kurukshetra**	**2.56**	**171**	*e*S	Sn	16 22 47.9	-1.0
AYAN	**Aya Nagar**	**4.05**	**170**	*e*S	Sn	16 23 22.7	-3.0
KHET	**Khetri**	**4.43**	**186**	*e*P	Pg	16 22 59.3	-1.8
KHET				*e*S	Sb	16 23 47.9	+0.3
AGRA	**Agra**	**5.42**	**165**	*e*S	Sn	16 23 56.6	-2.9
AGRA				AML	AML	16 24 43.2	
	comp=N,23nm,0.3s						
AGRA				AML	AML	16 24 43.7	
	comp=E,32nm,0.3s						

DJA 12 16:21:36.4±0.4, 1°S±2°×12°3E±°, h10km, M3.7/3, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.52**	**164**	P	Pg	16 21 44.4	-2.1
LUWI				S	Sb	16 21 54.6	-0.6
APSI	**Ampana**	**1.05**	**249**	P	Pn	16 21 59.8	+2.6
APSI				S	Sn	16 22 23.6	+12
MRSI	**Marisa**	**1.22**	**326**	P	Pn	16 21 57.7	-1.9
MRSI				S	Sn	16 22 17.1	+0.9
KMSI	**Cibinong**	**1.75**	**51**	P	Pb	16 22 08.1	-0.5
KMSI				S	Sb	16 22 30.7	+0.1

*ISCJB **12** 16:28:27.7±0.7, 36°.99N±0°.05×28°.08E±0°.03, h0km, Error ellipse: s-maj=7.1km s-min=3.9km az=6.3*
*CSEM **12** 16:28:27.6±0.4, 36°.96N×28°.08E, h1km, MD2.6, Error ellipse: s-maj=9.8km s-min=5.3km az=4.0*
*DDA **12** 16:28:28.7, 37°.07N×28°.05E, h7km, MD2.5*
*ISK **12** 16:28:28.6, 37°.10N×28°.03E, h5km, MD2.6*

ISC 12 16:28:26.9±1.0, 36.93N±0°.05×28.03E±0°.03, h0km, n13, σ0.72/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**44**	*e*PG	**Pg**	**16 28 33.3**	**+0.9**
YER				*e*SG	**Sg**	**16 28 36.6**	**+0.4**
YER	**Yerkesik**	**0.29**	**44**	*e*Pg	**Pg**	**16 28 33.3**	**+0.9**
YER				*e*Sg	**Sg**	**16 28 36.6**	**+0.4**
MLSB	**Milas**	**0.42**	**331**	*e*PG	**Pg**	**16 28 34.8**	**-0.1**
MLSB	**Milas**	**0.42**	**331**	*e*Pg	**Pg**	**16 28 34.8**	**-0.1**
TURN	**Turunc**	**0.46**	**97**	*i* P	**Pg**	**16 28 35.4**	**-0.3**
TURN				*i* S	**Sg**	**16 28 40.6**	**-1.2**
TURN	**Turunc**	**0.46**	**97**	*i* P	**Pg**	**16 28 35.4**	**-0.3**
TURN				*i* S	**Sg**	**16 28 40.6**	**-1.2**
BDRM	**Kayabasi**	**0.49**	**286**	*i* P	**Pg**	**16 28 36.9**	**+0.6**
BDRM				*i* S	**Sb**	**16 28 45.5**	**-0.6**
BDRM	**Kayabasi**	**0.49**	**286**	*i* P	**Pg**	**16 28 36.9**	**+0.6**
BDRM				*i* S	**Sb**	**16 28 45.5**	**-0.6**
BODT	**Bodrum**	**0.59**	**283**	*e*PG	**Pb**	**16 28 40.4**	**+0.2**
BODT				*e*SG	**Sb**	**16 28 48.9**	**-0.2**
BODT	**Bodrum**	**0.59**	**283**	*e*Pg	**Pb**	**16 28 40.4**	**+0.2**
BODT				*e*Sg	**Sb**	**16 28 48.9**	**-0.2**
AYDN	**Tasoluk**	**0.74**	**351**	*i* P	**Pg**	**16 28 40.9**	**-0.2**
AYDN				*i* S	**Sg**	**16 28 49.5**	**-1.2**
AYDN	**Tasoluk**	**0.74**	**351**	*i* P	**Pg**	**16 28 40.9**	**-0.2**
AYDN				*i* S	**Sg**	**16 28 49.5**	**-1.2**
FETY	**Fethiye**	**0.90**	**109**	*e*PG	**Pn**	**16 28 47.5**	**+0.8**

CASC 12 16:30:14.3±3.3, 8.66N×83.28W, h0km±12km, MD3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.11**	**94**	⇓*i*P	Pg	16 30 17.0	+0.5
BUS	**Buena Vista**	**1.01**	**332**	*i*P	Pg	16 30 33.2	-1.1
BUS				*e*S	Sb	16 30 49.1	-0.3
QCR	**Quepos**	**1.16**	**311**	⇓*e*P	Pg	16 30 34.8	-1.8
QCR				*e*S	Sg	16 30 52.0	+0.4
LAJ	**Bijagual**	**1.46**	**325**	*e*P	Pb	16 30 43.6	+1.0
SJS	**Escuela Geolog**	**1.48**	**329**	⇓*e*P	Pn	16 30 41.4	-1.1
CGA2	**Cerro Gallo 2**	**1.78**	**319**	*e*P	Pn	16 30 45.6	-1.0
AMAS	**Alto Masis**	**2.57**	**319**	*i* P	Pn	16 30 59.4	+2.0
PTEN	**Parque Tenorio**	**2.65**	**321**	*i* P	Pn	16 30 59.6	+1.2
CUI	**Cuipilapa**	**2.72**	**317**	*i* P	Pn	16 31 00.7	+1.3
MESS	**Mesas**	**2.80**	**318**	*i* P	Pn	16 31 01.3	+0.8
NY14	**Universidad de**	**2.97**	**312**	*i* P	Pn	16 31 02.8	0.0

*IDC **12** 16:34:42.7±0.8, 10°.97N×91°.75E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/27, mbtmp3.7/12, Error ellipse: s-maj=33.5km s-min=15.1km az=56.0*
*ISCJB **12** 16:34:44.8±0.6, 11°.00N±0°.09×91°.8E±0°.1, h27km, mb3.9/16, Error ellipse: s-maj=16.9km s-min=9.7km az=139.1*
*NEIC **12** 16:34:44.3±0.4, 10°.96N×91°.78E, h10km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=7.7km az=56.0*

ISC 12 16:34:47.0±0.7, 11.0N±0°.1×91.8E±0°.1, h27km, n31, σ0.65/33, mb3.9/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.13**	**42**	Pn	**Pn**	**16 37 10.5**	**-0.3**
	baz=215,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**10.13**	**42**	Pn	**Pn**	**16 37 10.5**	**-0.3**
VIS	**Vishakhapatnam**	**10.58**	**310**	*i* P	**Pn**	**16 37 16.8**	**-0.1**
VIS				*i* S	Sn	16 39 03.1	-12
VIS				*i* S	Sn	16 39 04.0	-11
VIS				*ex*	x	16 39 05.4	
	comp=E,38nm,0.4s						
VIS				*ex*	x	16 39 05.4	
	comp=N,36nm,0.4s						
ENH	**Enshi**	**25.26**	**38**	P	**P**	**16 40 11.2**	**+0.1**
	comp=N,5.0nm,0.6s						
AAK	**Ala-Archa**	**34.95**	**337**	P	**P**	**16 41 38.1**	**+1.2**
	comp=N,3.4nm,0.7s						
EKS2	**Erkin-Say**	**35.24**	**337**	P	**P**	**16 41 38.5**	**-0.9**
	comp=N,0.8nm,0.6s						
MK31	**Makanchi Array**	**36.58**	**349**	*e*P	**P**	**16 41 50.6**	**0.0**
MKAR	**Makanchi Array**	**36.58**	**349**	P	**P**	**16 41 50.8**	**+0.2**
	comp=N,0.9nm,0.6s,baz=173,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**36.58**	**349**	P	**P**	**16 41 50.8**	**+0.2**
SONM	**Songino Array**	**38.71**	**16**	P	**P**	**16 42 09.6**	**+0.7**
	comp=N,0.5nm,0.8s,baz=206,slow=6.6,SNR=6.4						
SONM	**Songino Array**	**38.71**	**16**	P	**P**	**16 42 09.6**	**+0.7**
ZALV	**Zalesovo Beam**	**43.20**	**354**	P	**P**	**16 42 44.3**	**-1.2**
	comp=N,0.6nm,0.4s,baz=167,slow=8.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**43.20**	**354**	P	**P**	**16 42 44.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**44.18**	**131**	P	**P**	**16 42 53.4**	**-0.5**
	comp=N,2.0nm,0.7s,baz=310,slow=8.6,SNR=6.6						
FITZ	**Fitzroy Crossi**	**44.18**	**131**	P	**P**	**16 42 53.4**	**-0.5**
ABKAR	**Akbulak array**	**46.40**	**331**	*e*P	**P**	**16 43 11.6**	**+0.5**
	comp=N,0.7nm,0.4s						
WRA	**Warramunga Arr**	**51.95**	**126**	P	**P**	**16 43 53.5**	**-0.6**
	comp=N,0.5nm,0.4s,baz=300,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**51.95**	**126**	P	**P**	**16 43 53.5**	**-0.6**
WRAB	**Tennant Creek**	**51.95**	**126**	*e*P	**P**	**16 43 53.5**	**-0.5**
	comp=N,3.1nm,0.6s						
ASAR	**Alice Springs**	**53.68**	**130**	P	**P**	**16 44 07.0**	**+0.2**
	comp=N,0.9nm,0.9s,baz=305,slow=6.9,SNR=19						
ASAR				PcP	**PcP**	**16 45 13.3**	**+0.4**
	comp=N,0.6nm,0.7s,baz=310,slow=3.5,SNR=6.7						
ASAR	**Alice Springs**	**53.68**	**130**	P	**P**	**16 44 07.0**	**+0.2**
ASAR				PcP	**PcP**	**16 45 13.3**	**+0.4**
BRTR	**Keskin Array B**	**58.66**	**310**	P	**P**	**16 44 41.2**	**-1.2**
	comp=N,0.6nm,0.6s,baz=90,slow=3.7,SNR=4.0						
BRTR	**Keskin Array B**	**58.66**	**310**	P	**P**	**16 44 41.2**	**-1.2**
STKA	**Stephens Creek**	**63.92**	**134**	P	**P**	**16 45 18.0**	**+0.2**
	comp=N,1.3nm,0.9s,baz=315,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**63.92**	**134**	P	**P**	**16 45 18.0**	**+0.2**
FINES	**FINESS Array B**	**68.89**	**332**	P	**P**	**16 45 49.0**	**-0.1**
	comp=N,1.5nm,0.9s,baz=42,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**68.89**	**332**	P	**P**	**16 45 49.0**	**-0.1**
ARCES	**ARCESS Array B**	**71.56**	**340**	P	**P**	**16 46 05.8**	**+0.4**
	comp=N,1.5nm,0.7s,baz=61,slow=10.0,SNR=4.4						
ARCES	**ARCESS Array B**	**71.56**	**340**	P	**P**	**16 46 05.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**87.65**	**283**	P	**P**	**16 47 34.4**	**+0.6**
	comp=N,0.3nm,0.6s,baz=90,slow=4.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.65**	**283**	P	**P**	**16 47 34.4**	**+0.6**

IDC 12 16:51:22.4±1.7, 24.28S×67.07W, h161km±17km, mb3.3/3, mb1 3.5/6, mb1mx3.4/18, mbtmp3.3/6, Error ellipse: s-maj=23.4km s-min=15.1km az=85.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.37**	**188**	P	Pn	16 53 08.8	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=5.1						
CFAA				S	Sn	16 54 28.3	-1.8
	0.1nm,0.3s,baz=282,slow=20,SNR=3.0						
LPAZ	**La Paz**	**8.02**	**353**	P	Pn	16 53 18.0	+1.1
	1.2nm,0.3s,baz=170,slow=8.0,SNR=24						
LPAZ				S	Sn	16 54 44.4	-2.6
	0.1nm,0.3s,baz=180,slow=2.0,SNR=2.4						
CPUP	**Villa Florida**	**9.05**	**105**	P	Pn	16 53 30.5	+0.8
	0.3nm,0.3s,baz=291,slow=17,SNR=2.4						
BDFB	**Brasilia**	**19.85**	**68**	P	P	16 55 41.0	-0.3
	0.8nm,0.3s,baz=219,slow=9.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	P	17 02 56.1	-0.2
	0.3nm,0.5s,baz=261,slow=5.3,SNR=5.4						
PDAR	**Pinedale Array**	**77.36**	**329**	P	P	17 02 59.8	+0.2
	0.3nm,0.8s,baz=110,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**94.36**	**340**	P	P	17 04 23.6	+0.4
	0.3nm,0.6s,baz=132,slow=4.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**143.67**	**28**	PKP	PKPbc	17 10 36.2	+0.5
	0.8nm,0.6s,baz=308,slow=4.9,SNR=4.3						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc	PKPbc	17 10 44.5	-0.9
	0.7nm,0.6s,baz=307,slow=3.3,SNR=11						

*IDC **12** 16:56:46.3±1.2, 23°.05N×95°.98E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML4.3/1, MS3.5/2, Ms1 3.6/2, ms1mx2.9/42, Error ellipse: s-maj=65.7km s-min=14.1km az=62.0*
*ISCJB **12** 16:56:48.7±0.8, 23°.0N±0°.1×95°.9E±0°.1, h32km, mb3.5/6, MS3.7/1, Error ellipse: s-maj=26.6km s-min=7.7km az=41.9*

ISC 12 16:56:51.0±0.8, 23°.0N±0°.1×95°.9E±0°.2, h32km, n10, σ0.93/12, mb3.5/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.53**	**314**	*e*P	**Pn**	**16 57 30.0**	**0.0**
IMP				*e*S	**Sn**	**16 58 00.0**	**+0.2**
SHL	**Shillong**	**4.47**	**305**	*i* PN	**Pn**	**16 57 57.0**	**+0.2**
SHL				*e*SN	**Sn**	**16 58 47.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**5.35**	**148**	Pn	**Pn**	**16 58 07.5**	**-1.2**
	2.3nm,0.3s,baz=324,slow=13,SNR=38						
CMAR				Pg	**Pb**	**16 58 25.2**	**+1.5**
	5.8nm,0.3s,baz=324,slow=17,SNR=29						
CMAR				Lg	Lg	16 59 35.1	
	10nm,0.3s,baz=323,slow=30,SNR=7.8						
CMAR				LR	LR	17 00 26.0	
	comp=Z,274nm,19.5s,baz=328,slow=41						
SONM	**Songino Array**	**26.14**	**16**	P	**P**	**17 02 21.5**	**-0.8**
	0.4nm,0.7s,baz=200,slow=8.7,SNR=5.4						
MKAR	**Makanchi Array**	**26.14**	**338**	P	**P**	**17 02 21.3**	**-1.0**
	1.0nm,0.7s,baz=154,slow=10,SNR=12						
AAK	**Ala-Archa**	**26.45**	**323**	P	**P**	**17 02 25.4**	**+0.1**
	1.2nm,0.6s,baz=157,slow=5.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**32.00**	**348**	P	**P**	**17 03 15.2**	**+0.9**
	0.5nm,0.2s,baz=165,slow=12,SNR=2.8						
FITZ	**Fitzroy Crossi**	**50.14**	**142**	LR	LR	17 28 17.8	
	comp=Z,88nm,21.9s,baz=307,slow=38						
WRA	**Warramunga Arr**	**56.82**	**136**	P	**P**	**17 06 33.2**	**+0.6**
	0.4nm,0.8s,baz=322,slow=7.1,SNR=2.8						
ASAR	**Alice Springs**	**59.29**	**139**	P	**P**	**17 06 49.2**	**-0.8**
	0.2nm,0.6s,baz=318,slow=6.7,SNR=4.8						

IDC 12 17:02:31.3±7.9, 35.01S×179.11E, h149km±78km, mb3.6/2, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, Error ellipse: s-maj=87.1km s-min=44.9km az=3.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.62**	**206**	P	Pn	17 03 27.5	+0.9
	25nm,0.3s,baz=325,slow=6.4,SNR=210						
URZ				S	Sn	17 04 09.5	0.0
	26nm,0.3s,baz=342,slow=19,SNR=11						
ASAR	**Alice Springs**	**40.69**	**274**	P	P	17 09 57.4	0.0
	0.9nm,0.3s,baz=114,slow=7.8,SNR=46						
WRA	**Warramunga Arr**	**42.11**	**279**	P	P	17 10 08.7	-0.2
	0.8nm,0.3s,baz=118,slow=7.8,SNR=16						
FINES	**FINESS Array B**	**148.48**	**335**	PKPbc	PKPbc	17 21 58.7	-0.8
	1.1nm,0.5s,baz=20,slow=4.4,SNR=14						

*ISCJB **12** 17:11:55.4±0.5, 31°.72N±0°.03×116°.49W±0°.03, h12km±4km, Error ellipse: s-maj=5.8km s-min=3.7km az=34.4*
*NEIC **12** 17:11:56.4, 31°.70N×116°.48W, h7km, ML3.7(ECX), ML3.5(PAS), After ECX.*
*ECX **12** 17:11:56.4±0.5, 31°.70N×116°.48W, h7km, MD3.5, ML3.7, Fault plane solution: NP1:φs20.00000°, δ90.00000°, λ0.00000°.*

ISC 12 17:11:55.5±0.9, 31.72N±0°.03×116.48W±0°.03, h12km±8km, n31, σ1.07/52, 20C-15D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.12**	**239**	⇑*i*P	**Pg**	**17 11 58.9**	**+0.2**
ECNX				*e*S	**Sg**	**17 12 00.7**	**-0.4**
PBX	**Punta Banda**	**0.21**	**276**	⇑*i*P	**Pg**	**17 12 00.6**	**+0.5**
PBX	**Punta Banda**	**0.21**	**276**	⇑*i*P	**Pg**	**17 12 00.6**	**+0.5**
CCX	**Cicese**	**0.22**	**313**	⇓*e*P	**Pg**	**17 12 00.8**	**+0.6**
RDX	**Rancho Dawling**	**0.50**	**65**	⇑*e*P	**Pb**	**17 12 06.1**	**-0.2**
RDX				*e*S	**Sb**	**17 12 13.2**	**-0.3**
RDX				⇑*e*		17 12 15.0	
	comp=N,5μm,0.3s						
CBX	**Cerro Bola**	**0.61**	**345**	⇓*e*P	**Pg**	**17 12 07.7**	**+0.3**
CBX				*e*S	**Sg**	**17 12 16.0**	**+0.5**
CBX				*e*		17 12 16.9	
	comp=N,4μm,0.3s						
RMX	**La Rumorosa**	**0.94**	**21**	⇓*e*P	**Pg**	**17 12 13.4**	**-0.3**
RMX				*e*S	**Sg**	**17 12 25.9**	**-0.1**
RMX				*e*		17 12 27.3	
	comp=E,1μm,0.2s						
BAR	**Barrett**	**0.97**	**350**	*e*Pg	**Pg**	**17 12 13.4**	**-0.8**
BAR				*e*Sg	**Sg**	**17 12 26.0**	**-0.9**
DVTC	**Desert V Tower**	**0.99**	**19**	⇑P	**Pg**	**17 12 14.2**	**-0.4**
	baz=1.0						
DVTC				⇑S	**Sg**	**17 12 27.1**	**-0.3**
	baz=1.0						
EMX	**El Mayor**	**1.08**	**75**	⇑*e*P	**Pg**	**17 12 15.4**	**-0.9**
EMX				*e*S	**Sg**	**17 12 29.9**	**-0.5**
EMX				⇓*e*		17 12 30.5	
	comp=N,792nm,0.2s						
EMX				*e*		17 12 31.0	
	comp=E,1μm,0.2s						
SPX	**San Pedro Mart**	**1.10**	**128**	⇓*e*P	**Pb**	**17 12 15.6**	**-0.9**
SPX				*e*S	**Sg**	**17 12 30.2**	**-0.8**
SPX				⇓*e*		17 12 33.3	
	comp=E,1μm,0.5s						
SPX				*e*		17 12 33.4	
	comp=N,824nm,0.2s						
MONP	**Monument Peak**	**1.17**	**2**	⇑P	**Pb**	**17 12 16.9**	**-0.8**
	baz=1.2						
MONP				⇑S	**Sb**	**17 12 32.1**	**-0.8**
	baz=1.2						
CPBX	**Cerro Prieto**	**1.21**	**55**	*e*PN	**Pg**	**17 12 19.7**	**+0.9**
CPBX				*e*S	**Sg**	**17 12 34.3**	**-0.3**
109C	**Camp Elliot, M**	**1.28**	**336**	⇓P	**Pn**	**17 12 18.5**	**-0.7**
	baz=1.3						
109C				⇓S	**Sb**	**17 12 35.0**	**-0.9**
	baz=1.3						
SWSC	**Sam W. Stewart**	**1.35**	**25**	⇑P	**Pb**	**17 12 20.6**	**0.0**
	baz=1.4						
PFO	**Pinyon Flat Ob**	**1.88**	**1**	*e*Pn	**Pn**	**17 12 28.4**	**+0.8**
PFO				*e*Sn	**Sn**	**17 12 52.2**	**+0.9**
PFO	**Pinyon Flat Ob**	**1.88**	**1**	⇓Pb	**Pb**	**17 12 28.6**	**+1.1**
	baz=1.9						
PFO				⇓Sb	**Sb**	**17 12 53.6**	**+0.2**
	baz=1.9						
GLA	**Glamis**	**1.93**	**46**	*e*Pn	**Pn**	**17 12 28.7**	**+0.6**
GLA				*e*Sn	**Sn**	**17 12 52.7**	**+0.5**
GLA	**Glamis**	**1.93**	**46**	⇑P	**Pn**	**17 12 28.8**	**+0.7**
	baz=1.9						
GLA				⇑S	**Sn**	**17 12 52.5**	**+0.3**
	baz=1.9						
MURC	**Murrieta**	**1.97**	**342**	⇑Pb	**Pn**	**17 12 30.0**	**+1.3**
	baz=2.0						
MURC				⇓Sb	**Sb**	**17 12 55.2**	**-0.6**
	baz=2.0						
BC3	**Big Chuckawall**	**2.11**	**24**	⇑P	**Pn**	**17 12 31.6**	**+0.9**
	baz=2.1						
SCI	**San Clemente I**	**2.16**	**306**	⇑P	**Pn**	**17 12 30.2**	**-1.0**
	baz=2.2						
113A	**Mohawk Valley,**	**2.52**	**65**	⇑P	**Pn**	**17 12 37.1**	**+0.9**
	baz=2.5						
113A				⇑S	**Sn**	**17 13 06.9**	**0.0**
	baz=2.5						
BBRC	**Big Bear Solar**	**2.56**	**352**	⇓Sb	**Sb**	**17 13 13.9**	**+0.8**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.70**	**339**	⇓Pb	**Pb**	**17 12 42.5**	**-1.3**
	baz=2.7						
BFSC				⇑Sb	**Sb**	**17 13 17.0**	**+0.1**
	baz=2.7						
MWC	**Mount Wilson**	**2.83**	**332**	Pn	**Pn**	**17 12 43.2**	**+2.6**
MWC				*e*Sg	**Sb**	**17 13 21.3**	**+0.6**
EDW2	**Edwards Air Fo**	**3.40**	**338**	⇓Sb	**Sb**	**17 13 38.0**	**+1.1**
	baz=3.4						
Z14A	**Wintersburg**	**3.40**	**60**	⇑P	**Pn**	**17 12 49.7**	**+1.4**
	baz=3.4						
BSC	**Santa Cruz Isl**	**3.49**	**311**	⇓P	**Pn**	**17 12 49.3**	**-0.3**
	baz=3.5						
GSC	**Goldstone**	**3.58**	**356**	*e*Pn	**Pn**	**17 12 51.8**	**+0.9**
GSC				*e*Sg	**Sg**	**17 13 46.7**	**-3.8**
ISA	**Isabella**	**4.27**	**338**	*e*Pn	**Pn**	**17 13 01.6**	**+1.3**
ISA				*e*Sg	**Sb**	**17 14 04.8**	**+2.8**

IDC 12 17:13:13.9±0.8, 55.99S×27.36W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, Error ellipse: s-maj=44.0km s-min=23.5km az=87.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.26**	**180**	P	P	17 20 02.2	+0.8
	1.9nm,0.6s,baz=198,slow=4.5,SNR=15						
VNDA	**Vanda**	**46.63**	**183**	P	P	17 21 44.0	+0.8
	1.2nm,0.7s,baz=200,slow=6.4,SNR=7.0						
LPAZ	**La Paz**	**50.27**	**305**	P	P	17 22 13.4	+0.7
	1.3nm,0.4s,baz=125,slow=6.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**73.05**	**30**	P	P	17 24 47.5	+2.0
	0.5nm,0.9s,baz=195,slow=6.2,SNR=2.5						
ASAR	**Alice Springs**	**99.08**	**163**	P	Pdif	17 26 54.9	-2.0
	0.3nm,0.8s,baz=190,slow=4.0,SNR=6.2						
FINES	**FINESS Array B**	**124.37**	**28**	PKP	PKPdf	17 32 11.3	-1.9
	1.4nm,0.9s,baz=224,slow=3.8,SNR=3.2						
YKA	**Yellowknife Ar**	**136.06**	**318**	PKP	PKPdf	17 32 33.8	-1.6
	0.3nm,0.4s,baz=131,slow=2.3,SNR=8.3						
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	PKPbc	17 33 03.5	-1.3
	2.3nm,0.8s,baz=137,slow=1.6,SNR=27						
SONM	**Songino Array**	**150.82**	**86**	PKPbc	PKPbc	17 33 06.4	-1.0
	0.7nm,0.5s,baz=220,slow=3.9,SNR=15						

IDC 12 17:13:53.1±1.9, 8.75S×127.05E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, ML3.0/3, MS2.2/1, Ms1 2.2/1, ms1mx2.2/16, Error ellipse: s-maj=93.1km s-min=27.4km az=71.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.40**	**188**	Pn	Pn	17 16 10.2	+0.4
	0.1nm,0.3s,baz=331,slow=19,SNR=1.6						
FITZ				Sn	Sn	17 17 50.6	-5.7
	0.2nm,0.3s,baz=81,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**13.17**	**148**	Pn	Pn	17 17 01.6	+0.1
	0.1nm,0.3s,baz=324,slow=16,SNR=4.6						
WRA				Sn	Sn	17 19 22.4	-6.5
	0.3nm,0.3s,baz=317,slow=25,SNR=7.5						
ASAR	**Alice Springs**	**16.22**	**157**	Pn	Pn	17 17 41.9	-0.6
	0.1nm,0.3s,baz=333,slow=10,SNR=3.5						
ASAR				Sn	Sn	17 20 34.0	-9.3
	0.1nm,0.3s,baz=187,slow=30,SNR=4.1						
TGY	**Tagaytay City**	**23.50**	**345**	LR	LR	17 28 31.3	
	comp=Z,6.3nm,20.4s,baz=4.4,slow=37						

VLZ	**Valdez**	**2.90**	**135**	P		**Pn**	**17 14 37.9**	**-0.9**
DOT	**Dot Lake**	**2.93**	**79**	P		**Pn**	**17 14 39.1**	**-0.2**
RSO	**Redoubt South**	**2.99**	**202**	P		**Pn**	**17 14 41.0**	**+0.8**
IM3	**Indian Mountai**	**3.07**	**335**	P		**Pn**	**17 14 40.6**	**-0.4**
DIV	**Divide**	**3.08**	**132**	P		**Pn**	**17 14 40.3**	**-1.0**
MENT	**Mentasta**	**3.11**	**93**	P		**Pn**	**17 14 41.7**	**+0.1**
SEW	**Seward**	**3.20**	**170**	P		**Pn**	**17 14 42.5**	**-0.2**
WANC	**Wrangell North**	**3.24**	**110**	P		**Pn**	**17 14 44.4**	**+0.8**
BRLK	**Bradley Lake**	**3.50**	**183**	P		**Pn**	**17 14 46.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.53**	**138**	P		**Pn**	**17 14 47.0**	**0.0**
BMRM	**Bremner River**	**3.61**	**127**	P		**Pn**	**17 14 47.0**	**-1.0**
GOAT	**Goat Mountain**	**3.83**	**132**	P		**Pn**	**17 14 50.6**	**-0.4**
VRDI	**Verde Repeater**	**3.88**	**118**	P		**Pn**	**17 14 51.5**	**-0.4**
BCA3	**Beaver Creek A**	**3.97**	**89**	P		**Pn**	**17 14 52.4**	**-0.4**
RAGM	**Ragged Mountai**	**4.00**	**133**	P		**Pn**	**17 14 52.8**	**-0.3**
COLD	**Coldfoot**	**4.00**	**2**	P		**Pn**	**17 14 53.0**	**0.0**
BERG	**Berg Lake**	**4.33**	**128**	P		**Pn**	**17 14 57.3**	**-0.1**
NICHA	**Nichawak Mount**	**4.34**	**131**	P		**Pn**	**17 14 57.4**	**-0.3**
EGAK	**Eagle**	**4.40**	**65**	*e*Pn		**Pn**	**17 14 57.8**	**-0.6**
EGAK				*e*Sn		Sn	17 15 38.3	-11
BALM	**Baldy**	**4.44**	**116**	P		**Pn**	**17 14 58.8**	**-0.3**
KHIT	**Khitrov Hills**	**4.45**	**126**	P		**Pn**	**17 14 58.8**	**-0.5**
KIAG	**Kiagna River**	**4.50**	**118**	P		**Pn**	**17 14 59.2**	**-0.7**
GRIN	**Grindle Hills**	**4.54**	**128**	P		**Pn**	**17 15 00.5**	**+0.1**
ISLE	**Juniper Island**	**4.69**	**121**	P		**Pn**	**17 15 01.7**	**-0.8**
BARN	**Barnard Glacie**	**4.71**	**114**	P		**Pn**	**17 15 03.1**	**+0.4**
BARK	**Barkley Ridge**	**4.76**	**123**	P		**Pn**	**17 15 03.6**	**+0.2**
KULT	**Kultieth River**	**4.78**	**126**	P		**Pn**	**17 15 03.8**	**+0.2**
BAGL	**Bagley Icefiel**	**4.86**	**121**	P		**Pn**	**17 15 04.1**	**-0.4**
BM3	**Burnt Mountain**	**4.87**	**28**	P		**Pn**	**17 15 04.5**	**-0.1**
DAWY	**Dawson**	**5.03**	**76**	P		**Pn**	**17 15 06.8**	**0.0**
MESA	**MESA**	**5.11**	**123**	P		**Pn**	**17 15 08.7**	**+0.6**
TABL	**Table Mountain**	**5.26**	**118**	P		**Pn**	**17 15 09.9**	**-0.3**
KAKN	**Katmai Knife C**	**5.44**	**206**	P		**Pn**	**17 15 13.5**	**+1.1**
KBM	**Katmai Bkd Mtn**	**5.49**	**207**	P		**Pn**	**17 15 14.4**	**+1.4**
CHX	**Chaix Hills**	**5.51**	**121**	P		**Pn**	**17 15 14.3**	**+1.0**
KABR	**Katmai Barrier**	**5.58**	**205**	P		**Pn**	**17 15 15.0**	**+0.8**
KDAK	**Kodiak Island** 1.8nm,0.3s,baz=2.5,slow=8.7,SNR=83	**5.58**	**191**	P		**Pn**	**17 15 13.3**	**-0.8**
KDAK	4.8nm,0.3s,baz=120,slow=23,SNR=16			S		**Sn**	**17 16 13.7**	**-3.4**
KDAK	**Kodiak Island**	**5.58**	**191**	P		**Pn**	**17 15 13.3**	**-0.8**
KDAK				S		**Sn**	**17 16 13.7**	**-3.4**
PNL	**Peninsula**	**6.43**	**119**	P		**Pn**	**17 15 25.8**	**+0.2**
ANNW	**Aniakchak Nort**	**7.38**	**215**	P		**Pn**	**17 15 39.4**	**+1.0**
WHY	**Whitehorse**	**7.82**	**102**	P		**Pn**	**17 15 44.5**	**+0.2**
TNA	**Tin City**	**7.87**	**295**	P		**Pn**	**17 15 46.4**	**+1.5**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=290,slow=13,SNR=5.3	**16.27**	**76**	P		**P**	**17 17 34.9**	**+0.5**
YKA	**Yellowknife Ar**	**16.27**	**76**	P		**P**	**17 17 34.9**	**+0.5**
ARCES	**ARCESS Array B** 3.9nm,0.9s,baz=3.8,slow=7.3,SNR=5.2	**47.47**	**2**	P		**P**	**17 22 13.9**	**0.0**
ARCES	**ARCESS Array B**	**47.47**	**2**	P		**P**	**17 22 13.9**	**0.0**
KSRS	**Korea Array** comp=Z,54nm,19.0s,baz=252,slow=38	**53.63**	**282**	LR		LR	17 47 35.3	
SONM	**Songino Array** 0.6nm,0.7s,baz=24,slow=7.2,SNR=7.3	**53.84**	**306**	P		**P**	**17 23 03.2**	**+1.1**
SONM	**Songino Array**	**53.84**	**306**	P		**P**	**17 23 03.2**	**+1.1**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=30,slow=8.5,SNR=7.2	**55.44**	**324**	P		**P**	**17 23 12.8**	**-0.6**
ZALV	**Zalesovo Beam**	**55.44**	**324**	P		**P**	**17 23 12.8**	**-0.6**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=1.4,slow=7.8,SNR=4.7	**55.60**	**2**	P		**P**	**17 23 13.6**	**-0.7**
FINES	**FINESS Array B**	**55.60**	**2**	P		**P**	**17 23 13.6**	**-0.7**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=37,slow=7.0,SNR=9.8	**62.61**	**322**	P		**P**	**17 24 02.0**	**-0.8**
MKAR	**Makanchi Array**	**62.61**	**322**	P		**P**	**17 24 02.0**	**-0.8**
ABKAR	**Akbulak array** 1.9nm,0.8s	**65.28**	**339**	*e*P		**P**	**17 24 19.9**	**-0.3**
AKASG	**Malin Array Be** 1.5nm,0.5s,baz=1.6,slow=6.0,SNR=5.0	**66.39**	**0**	P		**P**	**17 24 26.8**	**-0.4**
AKASG	**Malin Array Be**	**66.39**	**0**	P		**P**	**17 24 26.8**	**-0.4**
AAK	**Ala-Archa** 0.2nm,0.3s,baz=300,slow=5.0,SNR=4.4	**68.55**	**326**	P		**P**	**17 24 41.1**	**-0.1**
AAK	**Ala-Archa**	**68.55**	**326**	P		**P**	**17 24 41.1**	**-0.1**
KBZ	**Khabaz** 0.7nm,0.6s,baz=239,slow=7.0,SNR=4.2	**72.83**	**350**	P		**P**	**17 25 07.7**	**+0.9**
KBZ	**Khabaz**	**72.83**	**350**	P		**P**	**17 25 07.7**	**+0.9**
BRTR	**Keskin Array B** 0.7nm,1.0s,baz=19,slow=7.9,SNR=4.0	**77.31**	**357**	P		**P**	**17 25 33.0**	**+0.2**
BRTR	**Keskin Array B**	**77.31**	**357**	P		**P**	**17 25 33.0**	**+0.2**
CMAR	**Chiang Mai Arr** 0.2nm,0.4s,baz=9.9,slow=4.9,SNR=4.5	**82.53**	**296**	P		**P**	**17 26 00.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**82.53**	**296**	P		**P**	**17 26 00.7**	**-0.3**

IDC ***12*** *17:49:04.3±1.1,28°.43N×105°.19E, h0km, mb3.4/4, mb1 3.4/6, mb1mx3.3/26, mbtmp3.3/6, ML3.4/2, Error ellipse: s-maj=49.8km s-min=20.2km az=69.0*

ISC 12 17:49:07.5±0.7, 28°.44N±0°.08×105°.2E±0°.1, h19km, n8, σ0s67/14, mb3.4/4, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GYA	**Guiyang**	**2.38**	**145**	⇑*i*	Pn	**Pn**	**17 49 46.9**	**+1.2**
GYA					Pg	**Pg**	**17 49 52.9**	**-0.4**
GYA					Sn	**Sb**	**17 50 19.0**	**0.0**
GYA					Sg	**Sg**	**17 50 24.8**	**+0.5**
GYA	comp=N,90nm,0.7s				smax	smax		
GYA	comp=E,60nm,0.7s				smax	smax		
CD2	**Chengdu**	**2.75**	**334**		Pn	**Pb**	**17 49 56.7**	**+0.6**
CD2					Pg	**Pg**	**17 50 00.2**	**0.0**
CD2					Sn	**Sb**	**17 50 29.1**	**-0.3**
CD2					Sg	**Sg**	**17 50 36.5**	**+0.6**
CD2	comp=N,140nm,0.9s				smax	smax		
CD2	comp=E,200nm,0.7s				smax	smax		
CMAR	**Chiang Mai Arr** comp=E,0.1nm,0.3s,baz=19,slow=12,SNR=2.8	**11.45**	**211**		Pn	**Pn**	**17 51 50.0**	**-0.1**
SONM	**Songino Array** comp=E,0.2nm,0.3s,baz=188,slow=12,SNR=9.7	**19.39**	**3**	P		**Pn**	**17 53 33.3**	**-0.3**
MKAR	**Makanchi Array** comp=E,0.5nm,0.6s,baz=131,slow=11,SNR=6.2	**25.61**	**322**	P		**P**	**17 54 36.0**	**+0.3**
ZALV	**Zalesovo Beam** comp=E,0.2nm,0.3s,baz=116,slow=13,SNR=3.0	**29.52**	**335**	P		**P**	**17 55 09.2**	**-1.3**
WRA	**Warramunga Arr** comp=E,0.4nm,0.7s,baz=337,slow=8.2,SNR=4.8	**55.76**	**146**	P		**P**	**17 58 42.9**	**-0.4**
ASAR	**Alice Springs** comp=E,0.1nm,0.5s,baz=336,slow=6.9,SNR=4.5	**58.74**	**149**	P		**P**	**17 59 03.8**	**-0.6**

IDC 12 17:49:35.9±43.0, 18°.27S×173°.29W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/20, mbtmp4.0/3, Error ellipse: s-maj=826.4km s-min=174.7km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek** 0.9nm,0.5s,baz=112,slow=10,SNR=4.0	**42.76**	**243**	P		P	17 57 35.0	-0.2
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=97,slow=6.9,SNR=57	**49.35**	**259**	P		P	17 58 27.4	-0.1
ASAR	**Alice Springs** 1.2nm,0.5s,baz=88,slow=8.5,SNR=71	**49.38**	**254**	P		P	17 58 27.5	-0.1

KRSC 12 17:52:28.5±1.4, 50°.60N×157°.23E, h10km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.70**	**350**	P		Pn	17 52 57.8	-0.5
ASAK	**Asacha**	**1.83**	**13**	*e*P		Pn	17 53 00.7	+0.5
MTVR	**Mutnovka**	**1.98**	**17**	*e*P		Pn	17 53 02.7	+0.5
MTVR				*i* S		Sn	17 53 27.6	+0.4
RUS	**Russkaya**	**2.00**	**23**	P		Pn	17 53 02.5	+0.1
RUS				*i* S		Sn	17 53 27.2	-0.2
PET	**Petropavlovsk**	**2.58**	**19**	P		Pn	17 53 10.9	+0.6
PET				*i* S		Sn	17 53 42.0	+0.3
UGLR	**Uglovaya**	**2.79**	**20**	*e*P		Pn	17 53 15.3	+1.9
AVH	**Avacha**	**2.83**	**19**	P		Pn	17 53 15.7	+1.9
KOK	**Koryaka**	**2.83**	**17**	*e*P		Pn	17 53 15.5	+1.6
SMAR	**Somma**	**2.84**	**19**	*e*P		Pn	17 53 15.7	+1.5
KRER	**Koryakskii**	**2.87**	**19**	*e*P		Pn	17 53 16.1	+1.6
SDLR	**Sedlovina**	**2.87**	**20**	*e*P		Pn	17 53 15.4	+0.9

IDC ***12*** *18:01:20.6±0.9,39°.28N×73°.85E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.7/30, mbtmp3.8/13, ML3.2/5, Error ellipse: s-maj=16.4km s-min=12.3km az=106.0*
BJI ***12*** *18:01:22.8,39°.27N×73°.66E, h10km, mB4.4/2, mb3.9/5, ML3.9/6*
ISCJB ***12*** *18:01:23.6±0.7,39°.16N±0°.06×73°.55E±0°.08, h29km, mb3.6/11, Error ellipse: s-maj=8.7km s-min=8.6km az=147.7*
MOS ***12*** *18:01:24.2±1.6,39°.24N×73°.50E, h33km, mb4.1/5, Error ellipse: s-maj=18.3km s-min=7.5km az=83.7*
NNC ***12*** *18:01:28.3±2.5,39°.74N×73°.40E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=23.5km s-min=10.4km az=12.0*

ISC 12 18:01:25.4±0.9, 39°.28N±0°.09×73°.71E±0°.07, h29km, n51, σ1s70/51, mb3.6/11, 18C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.77**	**82**	⇑*i*	Pg	Pn	18 01 48.1	-6.0
KSH					Sg	Sn	18 02 06.2	-10
KSH	comp=N,2μm,0.6s				smax	smax		
KSH	comp=E,2μm,0.7s				smax	smax		
AML	**Almayashu** SNR=50	**2.85**	**360**		P	**Pn**	**18 02 09.8**	**+0.6**
UCH	**Uchtor** SNR=24	**3.01**	**11**		P	**Pn**	**18 02 12.8**	**+1.3**
KZA	**Kyzart** SNR=14	**3.03**	**22**		P	**Pn**	**18 02 13.4**	**+1.6**
EKS2	**Erkin-Say** SNR=79	**3.38**	**1**		P	**Pn**	**18 02 17.5**	**+1.2**
AAK	**Ala-Archa** comp=E,4.5nm,0.3s,baz=166,slow=6.5,SNR=99	**3.40**	**10**		Pn	**Pn**	**18 02 18.1**	**+1.5**
AAK	comp=E,23nm,0.3s,baz=190,slow=12,SNR=66				Pg	**Pb**	**18 02 22.2**	**-2.8**
AAK	comp=E,15nm,0.3s,baz=107,slow=22,SNR=14				Lg	Lg	18 03 06.9	
AAK	**Ala-Archa**	**3.40**	**10**		PN	**Pn**	**18 02 18.1**	**+1.5**
AAK							18 03 06.9	
AAK	comp=Z,5.0nm,0.3s				pmax	pmax		
AAK	comp=Z,23nm,0.3s				pmax	pmax		
AAK	**Ala-Archa** SNR=48	**3.40**	**10**		P	**Pn**	**18 02 18.2**	**+1.6**
KBK	**Karagaybulak** SNR=34	**3.50**	**15**		P	**Pn**	**18 02 19.5**	**+1.5**
ULHL	**Ulahol** SNR=42	**3.53**	**32**		P	**Pn**	**18 02 19.7**	**+1.2**
FRU	**Bishkek**	**3.62**	**11**	*e*	PN	**Pn**	**18 02 22.0**	**+2.6**
FRU				*e*			18 03 13.5	
FRU	comp=Z,210nm,1.6s				pmax	pmax		
FRU	comp=E,1μm,1.8s				smax	smax		
CHMS	**Chumysh** SNR=6.8	**3.80**	**12**		P	**Pn**	**18 02 23.9**	**+2.0**
TKM2	**Tokmak 2** comp=E,5.8nm,0.6s	**3.91**	**21**	⇑	Pn	**Pn**	**18 02 24.5**	**+0.9**
TKM2	comp=E,32nm,0.7s			⇑	Pg	**Pb**	**18 02 31.7**	**-2.0**
TKM2	comp=E,156nm,0.6s			⇑	Lg	Lg	18 03 22.7	
TKM2	**Tokmak 2**	**3.91**	**21**	*i*	PN	**Pn**	**18 02 25.0**	**+1.4**
TKM2	**Tokmak 2** SNR=32	**3.91**	**21**		P	**Pn**	**18 02 25.0**	**+1.4**
USP	**Ospenovka** SNR=10	**4.03**	**8**		P	**Pn**	**18 02 27.0**	**+1.9**
KK31	**Karatay Array** comp=E,1.4nm,0.2s,baz=122,slow=13,SNR=227	**4.52**	**329**	⇑	Pn	**Pn**	**18 02 33.1**	**+1.2**
KK31	comp=E,22nm,0.5s,baz=147,slow=18,SNR=36				Pg	**Pb**	**18 02 43.2**	**-0.7**
KK31	comp=E,15nm,0.4s			⇓	Sn	**Sn**	**18 03 26.0**	**+2.6**
KK31	comp=E,42nm,0.6s			⇑	Lg	Lg	18 03 37.7	
KNDC	**Almaty** comp=E,13nm,0.5s	**4.63**	**31**	⇓	Pn	Pn	18 02 37.5	+4.0
KNDC	comp=E,100nm,1.1s			⇑	Pg	**Pb**	**18 02 46.5**	**+0.6**
KNDC	comp=E,605nm,0.9s			⇑	Lg	Lg	18 03 46.4	
AAA	**Alma-Ata**	**4.67**	**30**	*e*	PN	**Pb**	**18 02 47.1**	**+0.5**
MK31	**Makanchi Array** comp=E,1.9nm,0.7s	**9.78**	**37**	⇑	Pn	Pn	18 03 52.4	+8.3
MK31	comp=E,7.6nm,0.8s			⇓	Lg	Lg	18 06 26.5	
MKAR	**Makanchi Array** comp=E,0.0nm,0.3s,baz=220,slow=16,SNR=2.8	**9.78**	**37**		P	**Pn**	**18 03 42.8**	**-1.3**
MKAR	comp=E,0.1nm,0.3s,baz=233,slow=28,SNR=3.6				Lg	Lg	18 06 26.9	
MKAR	**Makanchi Array**	**9.78**	**37**		P	**Pn**	**18 03 42.8**	**-1.3**
KURBB	**Kurchatov Arra** comp=E,0.3nm,0.7s	**11.84**	**15**	⇑	Pn	**Pn**	**18 04 11.4**	**-0.8**
KURBB	comp=E,11nm,1.6s			⇓	Lg	Lg	18 07 28.5	
KURK	**Kurchatov** comp=E,2.3nm,1.1s	**11.95**	**15**	⇑	Pn	**Pn**	**18 04 15.2**	**+1.6**
KURK	comp=E,75nm,1.4s			⇓	Lg	Lg	18 07 33.3	
KURK	**Kurchatov**	**11.95**	**15**	*e*	P	Pn	18 04 18.3	+4.7
KURK	comp=Z,1.0nm,1.0s				pmax	pmax		
VOSK	**Vostochnaya** comp=Z,3.4nm,1.0s	**13.58**	**353**	⇑	Pn	**Pn**	**18 04 33.3**	**-2.5**
VOSK	comp=Z,6.4nm,0.9s			⇑	Lg	Lg	18 08 25.7	
BVA0	**Borovoye Array** comp=E,0.8nm,0.8s,baz=163,slow=10,SNR=5.3	**13.94**	**352**	⇑	Pn	**Pn**	**18 04 37.8**	**-3.0**
BVA0	comp=Z,2.0nm,1.1s,baz=154,slow=30,SNR=4.1			⇑	Lg	Lg	18 08 39.4	
BVAR	**Borovoye Array** comp=E,0.1nm,0.3s,baz=159,slow=13,SNR=17	**13.94**	**352**		Pn	**Pn**	**18 04 38.8**	**-2.0**
BVAR	comp=Z,0.2nm,0.3s,baz=159,slow=25,SNR=4.4				Lg	Lg	18 08 42.7	
BVAR	**Borovoye Array**	**13.94**	**352**		P	**Pn**	**18 04 38.8**	**-2.0**
BRVK	**Borovoye** comp=Z,6.5nm,1.0s	**13.98**	**351**	⇑	Pn	**Pn**	**18 04 38.7**	**-2.7**
BRVK	comp=Z,32nm,1.6s			⇓	Lg	Lg	18 08 39.1	
BRVK	**Borovoye**	**13.98**	**351**	*e*	P	**Pn**	**18 04 41.0**	**-0.4**
BRVK	comp=Z,4.0nm,0.8s				pmax	pmax		
AB31	**Akbulak array** comp=Z,2.1nm,0.6s,baz=133,slow=12,SNR=32	**14.00**	**320**		Pn	**Pn**	**18 04 38.9**	**-2.8**
AB31				⇑	Sn	Sn	18 07 08.4	-7.6
	comp=Z,6.3nm,1.0s,baz=136,slow=22,SNR=7.9							
ZRNK	**Zerenda** comp=Z,4.8nm,1.2s	**14.05**	**348**	⇓	Pn	**Pn**	**18 04 39.7**	**-2.7**
ZRNK	comp=Z,14nm,1.4s			⇑	Lg	Lg	18 08 39.6	
AKTO	**Aktyubinsk** comp=E,0.1nm,0.3s,baz=124,slow=14,SNR=13	**15.72**	**320**		Pn	**Pn**	**18 05 03.3**	**-1.3**
AKTO	**Aktyubinsk**	**15.72**	**320**		P	**Pn**	**18 05 03.3**	**-1.3**
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.3s,baz=211,slow=12,SNR=9.8	**16.50**	**24**		Pn	**Pn**	**18 05 14.7**	**+0.1**
ZALV	**Zalesovo Beam**	**16.50**	**24**	*e*	P	**P**	**18 05 17.5**	**+0.5**
NVS	**Novosibirsk**	**16.84**	**19**	*e*	P	**Pn**	**18 05 19.2**	**+0.4**
ARU	**Arti**	**19.86**	**335**	*d*	P	**Pn**	**18 05 59.6**	**+3.9**
ARU	comp=Z,17nm,2.5s				pmax	pmax		
GTA	**Gaotai**	**20.17**	**81**	*e*	P	Pn	18 06 02.3	+2.7
GTA					pP	pP	18 06 06.8	+1.4
GTA					sP	sP	18 06 09.4	+0.3
GTA	comp=E,6.0nm,1.1s				pmax	pmax		
ZAK	**Zakamensk**	**23.57**	**52**	*e*	P	**P**	**18 06 35.6**	**+2.2**
ZAK	comp=Z,1.0nm,1.5s				pmax	pmax		
KIV	**Kislovodsk**	**23.58**	**291**	*e*	P	**P**	**18 06 33.2**	**-0.4**
KIV	comp=Z,4.0nm,0.6s				pmax	pmax		
SONM	**Songino Array** comp=Z,1.2nm,0.8s,baz=267,slow=11,SNR=13	**25.03**	**59**		P	**P**	**18 06 47.5**	**+0.5**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.7s,baz=72,slow=9.3,SNR=3.2	**30.75**	**284**		P	**P**	**18 07 39.5**	**+1.3**
FINES	**FINESS Array B** comp=Z,1.0nm,0.5s,baz=96,slow=5.7,SNR=7.9	**36.46**	**323**		P	**P**	**18 08 27.1**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.9s,baz=113,slow=9.3,SNR=9.8	**39.45**	**336**		P	**P**	**18 08 52.9**	**+0.4**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.8s,baz=93,slow=8.0,SNR=2.8	**43.51**	**321**		P	**P**	**18 09 25.2**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=46,slow=5.9,SNR=4.8	**67.92**	**269**		P	**P**	**18 12 20.7**	**-0.9**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=346,slow=5.8,SNR=6.8	**78.35**	**4**		P	**P**	**18 13 22.4**	**-0.1**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,baz=326,slow=5.1,SNR=5.9	**81.70**	**124**		P	**P**	**18 13 40.0**	**-1.2**
ASAR	**Alice Springs**	**84.14**	**127**		P	**P**	**18 13 53.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=320,slow=5.0,SNR=6.5							

IDC ***12*** *18:06:28.7±2.2,3°.06N×96°.71E, h0km, mb3.2/5, mb1 3.3/7, mb1mx3.2/26, mbtmp3.1/7, ML2.8/2, Error ellipse: s-maj=67.5km s-min=20.1km az=55.0*
DJA ***12*** *18:06:36.6±2.6,2°.N±8°×9°.6E±1°.7, h27km±46km, M3.7/5, mb4.1/3, MLv3.5/5*

ISC 12 18:06:32.6±1.6, 2°.9N±0°.2×96°.2E±0°.2, h37km, n15, σ1s14/10, mb3.2/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**2.15**	**139**	P		**Pn**	**18 07 06.0**	**+0.2**
LHMI	**Lhok Sumawe**	**2.41**	**19**	P		Pn	18 07 20.8	+11
TSI	**Tuntungan**	**2.46**	**77**	P		Pn	18 07 17.3	+7.2
PSI	**Prapat** 0.6nm,0.3s,baz=319,slow=20,SNR=3.1	**2.75**	**93**	Pn		Pn	18 07 05.5	-8.8
PSI	**Prapat**	**2.75**	**93**	P		Pn	18 07 17.9	+3.6
MNSI	**Mandailing Nat**	**4.02**	**122**	P		**Pn**	**18 07 32.4**	**+0.8**
MNSI						S	**Sn**	**18 08 18.1**	**+0.7**
KULM	**Kulim** 19nm,1.1s	**5.04**	**62**	P		Pn	18 07 51.0	+5.3
IPM	**Ipoh** 12nm,1.2s	**5.08**	**72**	P		Pn	18 07 52.8	+6.5
BKNI	**Bangkinang**	**5.52**	**118**	P		**Pn**	**18 07 52.0**	**-0.2**
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=202,slow=9.3,SNR=2.9	**15.66**	**10**	Pn		**Pn**	**18 10 09.0**	**-1.7**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=297,slow=9.5,SNR=2.5	**43.83**	**123**	P		**P**	**18 14 34.1**	**-1.3**
ASAR	**Alice Springs** 0.1nm,0.8s,baz=302,slow=7.6,SNR=4.3	**45.26**	**128**	P		**P**	**18 14 45.8**	**-1.1**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=154,slow=8.6,SNR=5.3	**45.32**	**347**	P		**P**	**18 14 47.2**	**+0.3**
SONM	**Songino Array** 0.2nm,0.6s,baz=194,slow=8.5,SNR=3.5	**45.59**	**10**	P		**P**	**18 14 50.5**	**+1.4**
ZALV	**Zalesovo Beam** 0.4nm,0.6s,baz=178,slow=6.6,SNR=3.5	**51.70**	**351**	P		**P**	**18 15 36.4**	**+0.6**

DDA 12 18:11:40.1, 37°.37N×36°.89E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.14**	**2**	*e*	PG	Pg	18 11 43.2	+0.1
KMRS				*e*	SG	Sg	18 11 45.5	+0.4
GAZ	**Gaziantep**	**0.32**	**128**	*e*	PG	Pg	18 11 47.1	+0.6
GZT	**Gaziantep**	**0.53**	**91**	*e*	P	Pg	18 11 49.7	-1.0

IDC 12 18:29:36.4±17.0, 21°.15S×179°.14W, h578km±168km, mb3.2/3, mb1 3.4/3, mb1mx2.9/18, mbtmp3.2/3, Error ellipse: s-maj=120.9km s-min=90.6km az=104.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek** 1.6nm,0.4s,baz=86,slow=9.3,SNR=15	**36.55**	**245**	P		P	18 35 54.4	-0.1
ASAR	**Alice Springs** 3.1nm,0.6s,baz=96,slow=7.9,SNR=84	**43.34**	**258**	P		P	18 36 48.7	-0.1
ASAR				PcP		PcP	18 38 24.1	-0.3
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=110,slow=3.9,SNR=8.3	**43.46**	**263**	P		P	18 36 49.3	-0.4
ARCES	**ARCESS Array B** 1.3nm,0.3s,baz=95,slow=7.7,SNR=104	**129.35**	**349**	PKP		PKPdf	18 47 38.2	-1.0
FINES	**FINESS Array B** 0.8nm,0.6s,baz=32,slow=1.7,SNR=8.1	**136.08**	**343**	PKP		PKPdf	18 47 53.1	+1.1
AKASG	**Malin Array Be** 1.5nm,0.5s,baz=66,slow=6.7,SNR=4.0	**143.05**	**330**	PKP		PKPab	18 48 02.4	-0.3
BRTR	**Keskin Array B** 0.6nm,0.5s,baz=138,slow=4.4,SNR=5.3	**146.47**	**311**	PKPbc		PKPbc	18 48 13.7	-0.2
GERES	**GERESS Array B** 0.4nm,0.3s,baz=346,slow=1.2,SNR=3.8	**150.51**	**343**	PKPbc		PKPbc	18 48 23.5	0.0

ISCJB ***12*** *18:44:00.6±0.6,39°.10N±0°.04×29°.03E±0°.04, h2km±8km, Error ellipse: s-maj=6.8km s-min=4.1km az=156.2*
ISK ***12*** *18:44:00.1,39°.09N×29°.05E, h5km, MD2.7*
DDA ***12*** *18:44:00.5,39°.12N×29°.03E, h7km, MD2.4*
CSEM ***12*** *18:44:00.8±0.1,39°.10N×29°.03E, h4km±1km, MD2.4, Error ellipse: s-maj=2.8km s-min=1.9km az=143.0*

ISC 12 18:44:01.0±1.0, 39°.09N±0°.03×29°.04E±0°.02, h8km±9km, n26, σ0s35/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**259**	*i*	P	**Pg**	**18 44 06.2**	**+0.1**
DEMI				*i*	S	**Sg**	**18 44 09.7**	**+0.2**
DEMI	**Demirci**	**0.26**	**259**	*i*	P	**Pg**	**18 44 06.2**	**+0.1**
DEMI				*i*	S	**Sg**	**18 44 09.7**	**+0.2**
GDZ	**Gediz**	**0.35**	**90**	*i*	P	**Pg**	**18 44 08.1**	**+0.3**
GDZ				*i*	S	**Sg**	**18 44 12.9**	**+0.5**
GDZ	**Gediz**	**0.35**	**90**	*i*	P	**Pg**	**18 44 08.1**	**+0.3**
GDZ				*i*	S	**Sg**	**18 44 12.9**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**43**	*e*	PG	**Pg**	**18 44 09.9**	**-0.5**
T

ULC				*e*Sg		**Sg**	**18 56 16.6 +0.8**
ULC	**Ulcinj**	**0.88**	**318**	⇑*i*Pg		**Pb**	**18 56 02.4 -1.8**
ULC				*e*Sg		**Sg**	**18 56 16.6 +0.8**
BIA	**Bitola**	**1.02**	**106**	*i* Pg		**Pb**	**18 56 04.9 -1.8**
BIA				*i* Sg		**Sb**	**18 56 18.9 -1.0**
BIA				*e*Lg		Lg	18 56 20.5
	comp=N,83nm,0.3s						
BIA				*e*Lg		Lg	18 56 21.9
	comp=E,108nm,0.3s						
BIA	**Bitola**	**1.02**	**106**	*i* Pg		**Pb**	**18 56 04.8 -1.8**
BIA				*i* Sg		**Sb**	**18 56 18.8 -1.0**
BIA				*e*Lg		Lg	18 56 21.8
	comp=E,108nm,0.3s						
BCI	**Bajram Curri**	**1.06**	**2**	*e*PG		**Pb**	**18 56 07.3 +0.1**
BCI				*e*SG		**Sn**	**18 56 22.0 0.0**
BCI	**Bajram Curri**	**1.06**	**2**	*e*Pg		**Pb**	**18 56 07.3 +0.1**
BCI				*e*Sg		**Sn**	**18 56 22.0 0.0**
SKO	**Skopje**	**1.25**	**57**	*i* Pg		**Pn**	**18 56 09.9 -0.3**
SKO				*i* Sg		**Sb**	**18 56 26.0 -0.3**
SKO				*e*Lg		Lg	18 56 28.0
	comp=N,289nm,0.4s						
SKO				*e*Lg		Lg	18 56 28.7
	comp=E,356nm,0.7s						
SKO	**Skopje**	**1.25**	**57**	*e*Pg		**Pn**	**18 56 09.8 -0.3**
SKO				*e*Sg		**Sb**	**18 56 25.9 -0.5**
SKO	**Skopje**	**1.25**	**57**	*e*Pg		**Pn**	**18 56 09.8 -0.3**
SKO				*e*Sg		**Sb**	**18 56 25.9 -0.5**
SKO				*e*Lg		Lg	18 56 29.1
	comp=E,356nm,0.7s						
TTG	**Podgorica**	**1.26**	**333**	⇑*i*Pg		**Pn**	**18 56 09.8 -0.4**
TTG				*e*Sg		**Sg**	**18 56 29.2 +1.4**
PDG	**Podgorica**	**1.26**	**333**	*e*Pg		**Pn**	**18 56 10.0 -0.3**
PDG				*e*Sg		**Sg**	**18 56 28.6 +0.7**
PDG	**Podgorica**	**1.26**	**333**	*e*Pg		**Pn**	**18 56 10.0 -0.3**
PDG				*e*Sg		**Sg**	**18 56 28.6 +0.7**
PVY	**Plav**	**1.29**	**358**	⇑*i*Pg		**Pn**	**18 56 10.9 +0.1**
PVY				*e*Sg		**Sg**	**18 56 30.6 +1.8**
PVY	**Plav**	**1.29**	**358**	⇑*i*Pg		**Pn**	**18 56 10.9 +0.1**
PVY				*e*Sg		**Sg**	**18 56 30.6 +1.8**
BUM	**Brajici-Budva**	**1.30**	**320**	⇓*i*Pg		**Pn**	**18 56 10.2 -0.8**
BUM				*e*Sg		**Sg**	**18 56 30.1 +0.8**
BUM	**Brajici-Budva**	**1.30**	**320**	⇓*i*Pg		**Pn**	**18 56 10.2 -0.8**
BUM				*e*Sg		**Sg**	**18 56 30.1 +0.8**
SRN	**Sarande**	**1.43**	**181**	*e*PG		**Pg**	**18 56 14.7 +0.1**
SRN	**Sarande**	**1.43**	**181**	*e*Pg		**Pg**	**18 56 14.7 +0.1**
BEY	**Berane**	**1.56**	**356**	⇓*i*Pg		**Pb**	**18 56 16.2 +0.3**
BEY				*e*Sg		**Sg**	**18 56 38.6 +1.0**
IVA	**Berane**	**1.56**	**356**	⇓*i*Pg		**Pb**	**18 56 16.2 +0.3**
IVA				*e*Sg		**Sg**	**18 56 38.6 +1.0**
KEK	**Kerkira**	**1.60**	**186**	*e*P		**Pn**	**18 56 15.2 +0.2**
KEK				*e*S		**Sb**	**18 56 37.2 +0.6**
KEK	**Kerkira**	**1.60**	**186**	*e*Pn		**Pn**	**18 56 15.3 +0.2**
KEK				*e*Sn		**Sb**	**18 56 37.2 +0.6**
HCY	**Herceg Novi**	**1.61**	**315**	⇑*i*Pn		**Pb**	**18 56 16.1 -0.6**
HCY				*e*Sn		**Sb**	**18 56 38.1 +1.2**
HCY	**Herceg Novi**	**1.61**	**315**	⇑*i*Pn		**Pb**	**18 56 16.1 -0.6**
HCY				*e*Sn		**Sb**	**18 56 38.1 +1.2**
KZN	**Kozani**	**1.66**	**127**	*e*P		**Pn**	**18 56 16.5 +0.7**
KZN	**Kozani**	**1.66**	**127**	*e*Pn		**Pn**	**18 56 16.5 +0.7**
NKY	**Niksic**	**1.69**	**333**	*e*Pn		**Pb**	**18 56 17.6 -0.4**
NKY				*e*Sn		**Sb**	**18 56 40.2 +1.0**
NKY	**Niksic**	**1.69**	**333**	*e*Pn		**Pb**	**18 56 17.6 -0.4**
NKY				*e*Sn		**Sb**	**18 56 40.2 +1.0**
SCTE	**Santa Cesarea**	**1.71**	**224**	*e*Pn		**Pn**	**18 56 15.6 -0.9**
SCTE				*e*Sn		**Sn**	**18 56 37.8 -0.3**
JAN	**Janina**	**1.77**	**159**	*e*P		**Pb**	**18 56 19.1 -0.2**
JAN	**Janina**	**1.77**	**159**	*e*Pb		**Pb**	**18 56 19.1 -0.2**
VAY	**Valandovo**	**1.91**	**89**	*i* Pg		**Pb**	**18 56 20.9 -0.9**
VAY				*e*Sg		**Sn**	**18 56 42.7 -0.4**
VAY				*e*Lg		Lg	18 56 45.7
	comp=E,41nm,0.7s						
VAY				*e*Lg		Lg	18 56 48.2
	comp=N,71nm,0.8s						
VAY	**Valandovo**	**1.91**	**89**	*i* Pg		**Pb**	**18 56 21.4 -0.4**
VAY				*e*Sg		**Sn**	**18 56 43.1 0.0**
VAY				*e*Lg		Lg	18 56 48.7
	comp=N,71nm,0.8s						
BRY	**Bratogost**	**1.94**	**326**	⇑*i*Pn		**Pn**	**18 56 20.5 +0.7**
BRY				*e*Sn		**Sb**	**18 56 46.0 -0.4**
BRY	**Bratogost**	**1.94**	**326**	⇑*i*Pn		**Pn**	**18 56 20.5 +0.7**
BRY				*e*Sn		**Sb**	**18 56 46.0 -0.4**
SJES	**Sjenica**	**1.95**	**359**	*e*Pn		**Pn**	**18 56 20.4 +0.5**
SJES				*e*Sn		**Sn**	**18 56 44.4 +0.2**
BARS	**Barje**	**2.01**	**41**	*e*Pn		**Pn**	**18 56 20.7 +0.1**
BARS				*e*Sn		**Sn**	**18 56 46.0 +0.5**
BARS	**Barje**	**2.01**	**41**	*e*Pn		**Pn**	**18 56 20.7 +0.1**
BARS				*e*Sn		**Sn**	**18 56 46.0 +0.5**
UPM	**Unac-Piva**	**2.07**	**337**	⇓*i*Pn		**Pn**	**18 56 22.9 +1.3**
UPM				*e*Sn		**Sb**	**18 56 50.2 0.0**
UPM	**Unac-Piva**	**2.07**	**337**	⇓*i*Pn		**Pn**	**18 56 22.9 +1.3**
UPM				*e*Sn		**Sb**	**18 56 50.2 0.0**
SELS	**Selova**	**2.07**	**23**	*e*Pn		**Pn**	**18 56 21.4 -0.1**
SELS				*e*Sn		**Sn**	**18 56 47.0 -0.1**
PLE	**Pljevlja**	**2.08**	**347**	⇑*i*Pn		**Pn**	**18 56 23.2 +1.6**
PLE				*e*Sn		**Sb**	**18 56 50.2 -0.1**
PLE	**Pljevlja**	**2.08**	**347**	⇑*i*Pn		**Pn**	**18 56 23.2 +1.6**
PLE				*e*Sn		**Sb**	**18 56 50.2 -0.1**
LIT	**Litokhoron**	**2.23**	**122**	*e*P		**Pn**	**18 56 23.4 -0.2**
LIT	**Litokhoron**	**2.23**	**122**	*e*Pn		**Pn**	**18 56 23.4 -0.2**
IVAS	**Ivanjica**	**2.27**	**2**	*e*Pn		**Pn**	**18 56 24.9 +0.7**
IVAS				*e*Sn		**Sn**	**18 56 53.4 +1.5**
IVAS	**Ivanjica**	**2.27**	**2**	*e*Pn		**Pn**	**18 56 24.9 +0.7**
IVAS				*e*Sn		**Sn**	**18 56 53.4 +1.5**
THL	**Klokotos Trika**	**2.31**	**138**	*e*P		**Pn**	**18 56 25.8 +1.1**
THL	**Klokotos Trika**	**2.31**	**138**	*e*Pn		**Pn**	**18 56 25.8 +1.1**
STON	**Ston**	**2.33**	**313**	*e*Pn		**Pn**	**18 56 24.4 -0.6**
STON					Sn	**Sn**	**18 56 52.4 -1.0**
SOH	**Sokhos**	**2.56**	**100**	*e*P		**Pn**	**18 56 29.3 +1.1**
SOH	**Sokhos**	**2.56**	**100**	*e*Pn		**Pn**	**18 56 29.3 +1.1**
LKD2	**Lefkada island**	**2.56**	**169**	*e*P		**Pn**	**18 56 28.2 0.0**
LKD2	**Lefkada island**	**2.56**	**169**	*e*Pn		**Pn**	**18 56 28.2 0.0**
GRUS	**Gruza**	**2.63**	**11**	*e*Pn		**Pn**	**18 56 29.6 +0.5**
GRUS				*e*Sn		**Sn**	**18 57 01.8 +1.1**
GRUS	**Gruza**	**2.63**	**11**	*e*Pn		**Pn**	**18 56 29.6 +0.5**
GRUS				*e*Sn		**Sn**	**18 57 01.8 +1.1**
VTS	**Vitosha**	**2.70**	**61**	⇑*i*P		**Pn**	**18 56 30.4 +0.2**
VTS	**Vitosha**	**2.70**	**61**	*e*Pn		**Pn**	**18 56 30.1 -0.1**
VTS				*e*Sn		**Sn**	**18 57 03.6 +1.0**
VTS	**Vitosha**	**2.70**	**61**	*e*Pn		**Pn**	**18 56 30.1 -0.1**
VTS				*e*Sn		**Sn**	**18 57 03.6 +1.0**
EVR	**Evrytania**	**2.75**	**150**	*e*P		**Pn**	**18 56 31.9 +1.0**
EVR	**Evrytania**	**2.75**	**150**	*e*Pn		**Pn**	**18 56 31.9 +1.0**
PLG	**Polygyros**	**2.75**	**109**	*e*P		**Pn**	**18 56 31.8 +0.9**
PLG	**Polygyros**	**2.75**	**109**	*e*Pn		**Pn**	**18 56 31.8 +0.9**
ZAPS	**Zavoj**	**2.75**	**44**	*e*Pn		**Pn**	**18 56 32.3 +1.4**
ZAPS				*e*Sn		**Sn**	**18 57 05.2 +1.3**
DIVS	**Divibare**	**2.79**	**359**	*e*Pn		**Pn**	**18 56 32.2 +0.8**
DIVS				*e*Sn		**Sn**	**18 57 05.7 +0.9**
DIVS	**Divibare**	**2.79**	**359**	*e*Pn		**Pn**	**18 56 32.2 +0.8**
DIVS				*e*Sn		**Sn**	**18 57 05.7 +0.9**
MMB	**Musomiste**	**2.79**	**83**	*i* P		**Pn**	**18 56 31.4 0.0**
MMB				*i* Sg		**Sn**	**18 57 06.4 +1.5**
NVR	**Nevrokopi**	**2.89**	**88**	*e*P		**Pn**	**18 56 32.1 -0.6**
NVR	**Nevrokopi**	**2.89**	**88**	*e*Pn		**Pn**	**18 56 32.1 -0.6**
SVIS	**Svilajnac**	**3.08**	**16**	*e*Pn		**Pn**	**18 56 35.0 -0.3**
RZN	**Rozhen**	**3.54**	**82**	*e*P		**Pn**	**18 56 42.6 +0.8**
RZN				*i* Sg		**Sn**	**18 57 25.8 +2.3**
BZS	**Buzias**	**4.46**	**14**	⇓*i*P		**Pn**	**18 56 54.1 -0.1**
BZS	**Buzias**	**4.46**	**14**	*e*Pn		**Pn**	**18 56 54.1 -0.1**
BZS				*e*Sn		**Sn**	**18 57 44.2 -1.6**
BZS	**Buzias**	**4.46**	**14**	*e*Pn		**Pn**	**18 56 54.1 -0.1**
BZS				*e*Sn		**Sn**	**18 57 44.2 -1.6**
NVLJ	**Novalja**	**4.99**	**312**	*i* Pn		**Pn**	**18 57 00.4 -1.1**
PKSM	**Moragy**	**5.00**	**349**	⇓*i*P		**Pn**	**18 57 03.4 +1.7**
VOIR		**5.51**	**40**	⇑*i*P		**Pn**	**18 57 09.6 +0.8**
VYHS	**Vyhne**	**7.23**	**354**	*e*PN		**Pn**	**18 57 30.4 -2.0**
VYHS				*e*SN		**Sn**	**18 58 49.3 -4.9**
KOLS	**Kolonicke sedl**	**7.79**	**11**	*e*PN		**Pn**	**18 57 41.6 +1.7**

*ISCJB **12** 19:22:47.4±0.6,21°.21S±0°.08×68°.77W±0°.09,h117km, mb4.1/4,Error ellipse: s-maj=14.9km s-min=6.4km az=42.5*

*IDC **12** 19:22:49.3±0.7,21°.12S×68°.70W,h116km±5km,mb4.0/5, mb1 3.9/9,mb1mx3.7/21,mbtmp3.8/9,Error ellipse: s-maj=21.4km s-min=18.3km az=124.0*

*GUC **12** 19:22:49.0±0.4,21°.31S×68°.97W,h120km,ML4.2*

ISC 12 19:22:48.5±0.6,21°.23S±0°.07×68°.76W±0°.09,h117km,n19,σ1§59/30,mb4.1/4,2C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACH	**Maria Elena**	**1.34**	**224**	⇓*i*P	**Pn**	**19 23 13.4**	**-0.7**
MACH				*i* S	**Sn**	**19 23 32.1**	**-1.4**
MECH	**Mejillones**	**2.44**	**220**	*e*P	**Pn**	**19 23 26.8**	**-0.6**
MECH				*i* S	**Sn**	**19 23 54.7**	**-2.5**
MECH				AML	AML	19 23 55.4	
	comp=N,2µm,0.3s						
CEN1	**Los Morros**	**2.53**	**212**	⇑*i*P	**Pn**	**19 23 31.0**	**+2.3**
CEN1				*i* S	**Sn**	**19 24 03.1**	**+3.5**
CEN1				AML	AML	19 24 10.1	
	comp=E,563nm,0.6s						
ANCH	**Antofagasta**	**2.88**	**212**	⇑*i*P	**Pn**	**19 23 32.3**	**-0.8**
LPAZ	**La Paz**	**4.95**	**7**	P	**Pn**	**19 24 02.4**	**+1.1**
	comp=E,1.3nm,0.3s,baz=183,slow=5.1,SNR=39						
SIV	**San Ignacio**	**8.96**	**56**	P	**Pn**	**19 24 52.4**	**-2.5**
	comp=E,10nm,0.3s,baz=258,slow=11,SNR=128						
CFAA	**Coronel Fontan**	**10.35**	**178**	P	**Pn**	**19 25 15.8**	**+2.0**
	comp=E,0.1nm,0.3s,baz=346,slow=8.0,SNR=3.2						
CPUP	**Villa Florida**	**11.63**	**118**	P	**Pn**	**19 25 30.2**	**-0.7**
	comp=E,0.5nm,0.3s,baz=281,slow=11,SNR=6.4						
PLCA	**Paso Flores**	**19.50**	**184**	P	**Pn**	**19 27 10.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=353,slow=12,SNR=5.6						
BDFB	**Brasilia**	**20.44**	**78**	P	**P**	**19 27 17.5**	**+0.6**
	comp=E,14nm,0.5s,baz=255,slow=12,SNR=14						
RCBR	**Riachuelo**	**35.31**	**69**	P	**P**	**19 29 34.4**	**+1.8**
	comp=E,10.0nm,0.7s,baz=236,slow=11,SNR=12						
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**19 33 38.8**	**0.0**
	comp=E,1.8nm,0.5s,baz=215,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**	**19 34 29.4**	**-0.3**
	comp=E,0.8nm,0.4s,baz=257,slow=5.5,SNR=26						
TORD				pP	**pP**	**19 34 59.4**	**+0.1**
	comp=E,1.2nm,0.6s,baz=246,slow=5.4,SNR=3.3						
TORD				sP	**sP**	**19 35 12.2**	**+0.4**
	comp=E,0.9nm,0.7s,baz=254,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**90.98**	**341**	P	**P**	**19 35 38.7**	**-0.1**
	comp=E,0.7nm,0.7s,baz=137,slow=4.6,SNR=12						
YKA				pP	**pP**	**19 36 10.1**	**+1.0**
	comp=E,0.9nm,0.9s,baz=133,slow=4.6,SNR=4.3						
ASAR	**Alice Springs**	**130.22**	**208**	PKP	**PKPdf**	**19 41 45.8**	**+0.1**
	comp=E,0.4nm,1.0s,baz=140,slow=1.6,SNR=4.2						
WRA	**Warramunga Arr**	**133.26**	**210**	PKP	**PKPdf**	**19 41 52.0**	**+0.6**
	comp=E,0.3nm,0.6s,baz=160,slow=1.9,SNR=8.6						
WRA				pPKP	**pPKPdf**	**19 42 24.1**	**+1.0**
	comp=E,0.3nm,0.8s,baz=143,slow=1.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**141.65**	**25**	PKhKP	PKPpre	19 42 03.3	
	comp=E,0.5nm,0.5s,baz=262,slow=5.4,SNR=4.2						
ZALV				PKP	**PKPdf**	**19 42 05.3**	**-0.4**
	comp=E,0.5nm,0.5s,baz=266,slow=3.9,SNR=3.8						
ZALV				pPKP	pPKPdf	19 42 38.8	+1.4
	comp=E,0.3nm,0.4s,baz=243,slow=2.6,SNR=2.3						
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPab**	**19 42 13.4**	**+0.6**
	comp=E,1.3nm,0.7s,baz=326,slow=3.4,SNR=13						
MKAR				pPKP	**pPKPdf**	**19 42 45.0**	**+0.8**
	comp=E,1.4nm,0.7s,baz=329,slow=4.0,SNR=8.3						
SONM	**Songino Array**	**153.17**	**7**	PKP	**PKPdf**	**19 42 25.3**	**+0.2**
	comp=E,0.3nm,0.7s,baz=131,slow=4.0,SNR=2.8						
SONM				PKPbc	**PKiKP**	**19 42 32.8**	**+0.1**
	comp=E,0.2nm,0.4s,baz=304,slow=2.2,SNR=4.7						
SONM				pPKP	**pPKPdf**	**19 42 52.8**	**-4.1**
	comp=E,0.3nm,0.5s,baz=299,slow=1.9,SNR=3.3						
SONM				pPKPbc	**pPKPbc**	**19 43 02.6**	**-1.6**
	comp=E,0.4nm,0.9s,baz=329,slow=1.1,SNR=3.3						

IDC 12 19:25:49.0±1.7,10°.41S×124°.14E,h0km,mb3.4/1, mb1 3.9/4,mb1mx3.5/19,mbtmp3.6/4,ML3.6/3,Error ellipse: s-maj=95.5km s-min=23.9km az=66.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.78**	**169**	Pn	Pn	19 27 45.5	+1.9
	0.5nm,0.3s,baz=0.9,slow=11,SNR=14						
FITZ				Sn	Sn	19 29 12.0	-0.5
	1.8nm,0.3s,baz=163,slow=5.2,SNR=14						
WRA	**Warramunga Arr**	**13.66**	**135**	Pn	Pn	19 29 02.5	-1.7
	0.3nm,0.3s,baz=309,slow=14,SNR=13						
WRA				Sn	Sn	19 31 29.7	-7.1
	0.3nm,0.3s,baz=308,slow=24,SNR=7.0						
ASAR	**Alice Springs**	**16.14**	**146**	Pn	Pn	19 29 37.4	-0.1
	0.3nm,0.3s,baz=318,slow=12,SNR=34						
ASAR				Sn	Sn	19 32 30.9	-6.4
	0.2nm,0.3s,baz=309,slow=20,SNR=11						
MKAR	**Makanchi Array**	**68.10**	**330**	P	P	19 36 50.7	-0.1
	0.2nm,0.5s,baz=126,slow=7.0,SNR=2.8						

*IDC **12** 19:28:20.8±1.4,24°.00N×125°.80E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/24,mbtmp3.6/7,ML3.5/1,Error ellipse: s-maj=54.9km s-min=24.4km az=67.0*

*JMA **12** 19:28:22.5±0.2,24°.10N×126°.30E,h75km,M3.2*

ISC 12 19:28:23.9±1.1,24°.03N±0°.08×126°.06E±0°.08,h34km,n14, σ1§87/17,mb3.5/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.94**	**321**	P	**Pb**	**19 28 42.0**	**+0.1**
JOGS				*e*S	**Sb**	**19 28 56.8**	**+2.7**
JMJ	**Miyako jima 2**	**1.05**	**318**	P	**Pb**	**19 28 43.8**	**+0.1**
JMJ				*e*S	**Sb**	**19 28 59.2**	**+2.0**
JTJ	**Tarama**	**1.38**	**296**	P	**Pb**	**19 28 48.7**	**-0.5**
JIJ	**Ishigaki jima**	**1.78**	**281**	P	**Pb**	**19 29 54.5**	**-1.5**
JIJ				*e*S	**Sb**	**19 29 18.0**	**0.0**
JKRS	**Kuro-shima**	**1.89**	**277**	P	**Pb**	**19 28 56.6**	**-1.2**
IRIF	**Iriomote-Funau**	**2.15**	**279**	P	**Pb**	**19 28 59.7**	**-2.5**
JKE	**Kume jima 2**	**2.38**	**16**	P	**Pn**	**19 28 58.6**	**-2.0**
JKE				*e*S	**Sn**	**19 29 24.6**	**-4.0**
MJAR	**Matsushiro Arr**	**16.28**	**37**	Pn	**P**	**19 32 13.9**	**+1.2**
	0.2nm,0.3s,baz=214,slow=12,SNR=3.7						
SONM	**Songino Array**	**28.44**	**332**	P	**P**	**19 34 16.1**	**+0.4**
	0.6nm,0.7s,baz=148,slow=9.4,SNR=7.0						
MKAR	**Makanchi Array**	**41.59**	**314**	P	**P**	**19 36 10.2**	**+1.6**
	0.5nm,0.7s,baz=95,slow=11,SNR=7.3						
ZALV	**Zalesovo Beam**	**42.86**	**325**	P	**P**	**19 36 18.4**	**-0.3**
	0.5nm,0.5s,baz=110,slow=7.1,SNR=4.9						
WRA	**Warramunga Arr**	**44.44**	**169**	P	**P**	**19 36 33.6**	**+1.8**
	0.2nm,0.6s,baz=350,slow=9.3,SNR=5.2						
KBZ	**Khabaz**	**69.03**	**310**	P	**P**	**19 39 26.3**	**+0.1**
	1.6nm,0.9s,baz=81,slow=13,SNR=3.7						
BRTR	**Keskin Array B**	**76.82**	**308**	P	P	19 40 15.5	+2.8
	0.8nm,0.9s,baz=79,slow=6.4,SNR=4.8						

IDC 12 19:47:05.7±6.1,8°.36S×155°.61E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/18,mbtmp3.5/3,MS3.4/2,Ms1 3.4/2, ms1mx2.8/20,Error ellipse: s-maj=101.0km s-min=76.1km az=13.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.76**	**217**	LR	LR	19 54 03.0	
	comp=Z,99nm,21.2s,baz=326,slow=28						
DZM	**Mont Dzumac**	**17.17**	**144**	LR	LR	19 56 41.7	
	comp=Z,192nm,18.2s,baz=207,slow=34						
WRA	**Warramunga Arr**	**23.59**	**239**	P	P	19 52 17.6	-0.8
	0.6nm,0.5s,baz=65,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**25.77**	**231**	P	P	19 52 39.2	+0.8
	0.4nm,0.7s,baz=65,slow=8.5,SNR=5.9						
STKA	**Stephens Creek**	**26.79**	**207**	P	P	19 52 47.4	-0.1
	1.8nm,0.8s,baz=19,slow=8.4,SNR=5.4						

MEX 12 19:55:42.9±0.9,15°.79N×94°.26W,h86km±12km,MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.01**	**95**	*e*P	Pn	19 56 01.7	-0.7
PCIG				*i* S	Sn	19 56 15.7	-1.3
CMIG	**Matias Romero**	**1.42**	**335**	*e*P	Pn	19 56 06.7	-0.9
CMIG				*i* S	Sn	19 56 24.4	-1.8
TGIG		**1.47**	**48**	*e*P	Pn	19 56 06.5	-1.7
TGIG				*i* S	Sn	19 56 25.2	-2.1
HUIG	**Huatulco**	**1.78**	**269**	*e*P	Pn	19 56 10.5	-1.6
HUIG				*e*S	Sn	19 56 32.1	-2.2
CCIG	**Comitan**	**2.10**	**76**	*e*P	Pn	19 56 14.8	-1.7
CCIG				*i* S	Sn	19 56 41.2	-1.1
THIG		**2.12**	**114**	*i* P	Pn	19 56 15.2	-1.3
THIG				*i* S	Sn	19 56 40.1	-2.2
VHO	**Vista Hermosa**	**2.69**	**299**	*i* P	Pn	19 56 24.0	-0.5
VHO				*i* S	Sn	19 56 55.2	-1.2
PNIG	**Pinotepa**	**3.76**	**280**	*e*P	Pn	19 56 38.7	-0.1
PNIG				*i* S	Sn	19 57 20.4	-1.7

IDC 12 20:03:23.0±2.0,2°.98N×99°.44E,h140km±50km,mb2.9/4, mb1 3.1/4,mb1mx2.9/24,mbtmp2.9/4,Error ellipse: s-maj=182.7km s-min=21.0km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.55**	**251**	P	Pn	20 03 45.8	+2.1
	5.2nm,0.3s,baz=232,slow=1.7,SNR=9.5						
PSI				S	Sn	20 04 00.9	+1.6
	14nm,0.3s,baz=307,slow=22,SNR=53						
WRA	**Warramunga Arr**	**41.15**	**125**	P	P	20 10 52.9	-1.0
	0.3nm,0.6s,baz=303,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**42.75**	**130**	P	P	20 11 06.3	-0.6
	0.3nm,0.7s,baz=301,slow=8.2,SNR=6.0						
MKAR	**Makanchi Array**	**46.12**	**344**	P	P	20 11 32.8	-0.4
	0.1nm,0.4s,baz=167,slow=9.8,SNR=3.0						
STKA	**Stephens Creek**	**52.94**	**134**	P	P	20 12 26.8	+1.6
	0.7nm,0.8s,baz=311,slow=11,SNR=3.0						

IDC 12 20:09:15.8±1.3,3°.76N×126°.91E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/23,mbtmp3.7/7,1D,Error ellipse: s-maj=72.7km s-min=16.6km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.34**	**322**	⇓*i*P	Pn	20 10 24.0	+0.9
FITZ	**Fitzroy Crossi**	**21.76**	**183**	P	P	20 14 11.1	+1.9
	0.5nm,0.3s,baz=12,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**24.66**	**163**	P	P	20 14 37.0	-1.5
	2.2nm,0.8s,baz=336,slow=11,SNR=24						
ASAR	**Alice Springs**	**28.10**	**166**	P	P	20 15 10.8	+1.2
	0.3nm,0.3s,baz=354,slow=8.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**31.01**	**300**	P	P	20 15 34.3	-1.1
	0.6nm,0.8s,baz=117,slow=7.5,SNR=4.4						
STKA	**Stephens Creek**	**38.10**	**160**	P	P	20 16 35.8	-0.7
	2.5nm,0.6s,baz=341,slow=8.9,SNR=19						
SONM	**Songino Array**	**47.32**	**341**	P	P	20 17 52.6	+1.1
	0.2nm,0.5s,baz=150,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	20 19 07.7	-0.1
	0.7nm,0.4s,baz=118,slow=8.3,SNR=16						

*DDA **12** 20:15:33.5,39°.36N×32°.48E,h5km,MD3.2*

*ISK **12** 20:15:34.0,39°.36N×32°.48E,h5km,MD3.6*

*CSEM **12** 20:15:35.1±0.1,39°.34N×32°.48E,h2km,MD3.5,Error ellipse: s-maj=4.8km s-min=3.0km az=163.0*

ISC 12 20:15:35.2±1.0,39°.38N±0°.02×32°.46E±0°.02,h13km±9km, n63,σ0§96/89,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Af˙ar-Bala (A**	**0.48**	**82**	*e*PG	**Pg**	**20 15 44.0**	**-0.7**
AFSR				*e*SG	**Sg**	**20 15 51.7**	**+0.6**
AFSR	**Af˙ar-Bala (A**	**0.48**	**82**	*e*Pg	**Pg**	**20 15 44.0**	**-0.7**
AFSR				*e*Sg	**Sg**	**20 15 51.7**	**+0.6**
LOD	**Lodumlu**	**0.56**	**25**	*e*PG	**Pg**	**20 15 46.0**	**-0.2**
LOD				*e*SG	**Sb**	**20 15 55.3**	**+0.4**
LOD	**Lodumlu**	**0.56**	**25**	*e*Pg	**Pg**	**20 15 46.0**	**-0.2**
LOD				*e*Sg	**Sb**	**20 15 55

IDC 12 20:26:43.6±12.0, 29°64S×178°06W, h242km±115km, mb2.7/2, mb1 3.1/3, mb1mx2.9/18, mbtmp2.9/3, Error ellipse: s-maj=100.6km s-min=56.4km az=12.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**9.48**	**204**	P	Pn	20 28 56.1	+0.4
	0.5nm,0.3s,baz=220,slow=16,SNR=3.3						
URZ				S	S	20 30 41.7	-0.7
	0.9nm,0.3s,baz=139,slow=17,SNR=7.1						
ASAR	**Alice Springs**	**43.10**	**266**	P	P	20 34 20.5	+0.1
	0.2nm,0.5s,baz=98,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**44.02**	**271**	P	P	20 34 27.5	-0.2
	0.2nm,0.3s,baz=110,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	**144.41**	**340**	PKP	PKPbc	20 45 49.5	+0.1
	1.2nm,0.7s,baz=15,slow=5.8,SNR=8.3						
BRG	**Berggiesshubel**	**156.96**	**340**	*e*P	PKPdf	20 46 13.5	+3.7
	4.0nm,0.9s						

IDC 12 20:29:39.8±4.4, 14°61S×167°38E, h181km±41km, mb3.6/9, mb1 3.8/10, mb1mx3.6/21, mbtmp3.6/10, Error ellipse: s-maj=30.5km s-min=24.8km az=157.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.47**	**187**	P	Pn	20 31 27.3	+1.0
	1.4nm,0.3s,baz=52,slow=19,SNR=8.5						
DZM				S	Sn	20 32 50.7	+0.2
	0.2nm,0.3s,baz=105,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**29.15**	**229**	P	P	20 35 25.1	+1.0
	5.6nm,0.5s,baz=42,slow=8.4,SNR=40						
WRA	**Warramunga Arr**	**31.95**	**256**	P	P	20 35 47.7	-1.2
	1.1nm,0.7s,baz=86,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**32.81**	**249**	P	P	20 35 55.1	-1.2
	2.2nm,0.6s,baz=78,slow=8.9,SNR=39						
FITZ	**Fitzroy Crossi**	**40.14**	**259**	P	P	20 36 58.4	0.0
	2.9nm,0.8s,baz=105,slow=10,SNR=6.5						
VNDA	**Vanda**	**62.98**	**181**	P	P	20 39 46.2	-0.5
	0.9nm,0.5s,baz=8.3,slow=2.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**75.00**	**294**	P	P	20 41 02.7	+1.0
	0.6nm,0.6s,baz=131,slow=3.5,SNR=5.1						
SONM	**Songino Array**	**82.47**	**324**	P	P	20 41 43.0	+1.0
	0.3nm,0.6s,baz=155,slow=5.6,SNR=3.8						
ILAR	**Eielson Array**	**86.38**	**18**	P	P	20 42 00.0	-1.1
	0.6nm,0.7s,baz=236,slow=4.8,SNR=8.1						
MKAR	**Makanchi Array**	**97.19**	**316**	P	Pdif	20 42 52.4	+0.6
	0.7nm,0.7s,baz=93,slow=6.9,SNR=9.3						
TORD	**Torodi Ar. Bea**	**166.02**	**266**	PKPab	PKPab	20 50 25.3	0.0
	0.9nm,0.9s,baz=105,slow=4.1,SNR=4.9						

IDC 12 20:44:51.0±7.6, 15°34S×172°97W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.5/3, Error ellipse: s-maj=354.9km s-min=23.7km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.83**	**39**	Pn	Pn	20 45 21.9	-2.0
	27nm,0.3s,baz=174,slow=4.4,SNR=9.7						
AFI				Sn	Sn	20 45 40.2	-7.7
	32nm,0.3s,baz=65,slow=22,SNR=17						
WRA	**Warramunga Arr**	**50.26**	**257**	P	P	20 53 48.6	-1.0
	0.3nm,0.6s,baz=90,slow=6.7,SNR=10.0						
ASAR	**Alice Springs**	**50.52**	**252**	P	P	20 53 51.0	-0.6
	0.4nm,0.5s,baz=89,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**82.31**	**11**	P	P	20 57 14.8	+0.6
	0.3nm,0.8s,baz=220,slow=6.0,SNR=4.1						
BRTR	**Keskin Array B**	**146.38**	**321**	PKPbc	PKPab	21 04 36.1	+0.8
	0.6nm,0.8s,baz=157,slow=4.1,SNR=4.4						

IDC 12 21:00:06.4±17.0, 17°88S×177°97W, h413km±160km, mb3.1/4, mb1 3.4/4, mb1mx3.1/19, mbtmp3.1/4, Error ellipse: s-maj=99.9km s-min=43.7km az=117.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.05**	**259**	P	P	21 07 43.4	-0.3
	0.3nm,0.5s,baz=94,slow=7.5,SNR=8.2						
ASAR	**Alice Springs**	**45.20**	**254**	P	P	21 07 44.9	0.0
	4.5nm,0.5s,baz=88,slow=8.2,SNR=67						
MJAR	**Matsushiro Arr**	**68.13**	**323**	P	P	21 10 23.6	-0.1
	0.9nm,0.5s,baz=158,slow=6.2,SNR=4.6						
ILAR	**Eielson Array**	**85.76**	**13**	P	P	21 11 59.9	-0.1
	0.3nm,0.4s,baz=220,slow=5.7,SNR=9.1						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	PKPdf	21 18 55.4	-0.5
	0.5nm,0.6s,baz=153,slow=3.9,SNR=4.6						
GERES	**GERESS Array B**	**147.69**	**346**	PKPbc	PKPbc	21 19 02.8	-0.6
	1.0nm,0.6s,baz=11,slow=2.0,SNR=4.1						

*ISCJB **12** 21:03:30.0±0.4, 22°24S±0°04×68°89W±0°06, h112km±4km, mb4.4/6, Error ellipse: s-maj=8.5km s-min=5.9km az=176.8*
*NEIC **12** 21:03:31.5, 22°26S×68°94W, h98km, mb4.7/3, After GUC.*
*GUC **12** 21:03:31.5±0.5, 22°26S×68°94W, h98km±2km, ML4.5*
*IDC **12** 21:03:32.0±0.7, 22°34S×68°62W, h98km±4km, mb4.1/6, mb1 3.8/12, mb1mx3.7/22, mbtmp3.8/12, Error ellipse: s-maj=19.6km s-min=18.2km az=106.0*

ISC 12 21:03:31.2±0.4, 22°24S±0°04×68°86W±0°04, h100km±3km, h99km:pP-P, n59, σ1s32/83, mb4.5/6, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.37**	**187**	↑*e*P	x	21 04 12.6	
LVC				*i* S	x	21 04 24.2	
LVC				AML	AML	21 04 25.0	
	comp=N,24μm,0.2s						
PB09	**Plate Boundary**	**0.57**	**321**	↑*i*P	**Pn**	**21 03 48.1**	**+0.5**
PB09				*i* S	**Sn**	**21 04 00.4**	**+0.5**
PB09				AML	AML	21 04 02.1	
	comp=E,58μm,0.5s						
PB04	**Plate Boundary**	**0.58**	**267**	↑*i*P	Pn	21 03 53.7	+6.2
PB04				*i* S	Sn	21 04 10.9	+11
PB04				AML	AML	21 04 13.5	
	comp=E,13μm,0.4s						
MACH	**Maria Elena**	**0.83**	**273**	↑*i*P	**Pn**	**21 03 49.9**	**-0.2**
MACH				*i* S	**Sn**	**21 04 03.9**	**-0.3**
MACH	**Maria Elena**	**0.83**	**273**	↑*i*P	**Pn**	**21 03 49.9**	**-0.2**
MACH				*i* S	**Sn**	**21 04 03.9**	**-0.3**
SPCH	**San Pedro de A**	**0.90**	**138**	*e*P	**Pn**	**21 03 52.0**	**+1.2**
SPCH				*i* S	**Sn**	**21 04 07.6**	**+2.0**
SPCH	**San Pedro de A**	**0.90**	**138**	*e*P	**Pn**	**21 03 52.0**	**+1.2**
SPCH				*i* S	**Sn**	**21 04 07.6**	**+2.0**
SPCH				AML	AML	21 04 20.5	
	comp=N,14μm,0.5s						
PB07	**Plate Boundary**	**1.08**	**298**	↑*i*P	**Pn**	**21 03 52.7**	**+0.1**
PB07				*i* S	**Sn**	**21 04 08.8**	**-0.1**
PB07				AML	AML	21 04 10.1	
	comp=N,15μm,0.2s						
PB01	**Plate Boundary**	**1.33**	**334**	↑*i*P	**Pn**	**21 03 55.7**	**+0.3**
PB01				*i* S	**Sn**	**21 04 14.2**	**+0.5**
PB01				AML	AML	21 04 15.9	
	comp=N,7μm,0.4s						
CEN1	**Los Morros**	**1.68**	**227**	*e*P	**Pn**	**21 04 02.7**	**+2.9**
CEN1				*i* S	**Sn**	**21 04 25.5**	**+4.0**
CEN1				AML	AML	21 04 31.0	
	comp=N,3μm,0.3s						
MECH	**Mejillones**	**1.70**	**239**	*e*P	**Pn**	**21 03 59.8**	**-0.1**
MECH				*e*S	**Sn**	**21 04 21.2**	**-0.6**
MECH	**Mejillones**	**1.70**	**239**	*e*P	**Pn**	**21 03 59.8**	**-0.1**
MECH				*e*S	**Sn**	**21 04 21.2**	**-0.6**
MECH				AML	AML	21 04 34.7	
	comp=N,8μm,0.5s						
ANCH	**Antofagasta**	**2.02**	**225**	*e*P	**Pn**	**21 04 04.0**	**0.0**
ANCH				*e*S	**Sn**	**21 04 28.6**	**-0.5**
ANCH	**Antofagasta**	**2.02**	**225**	*e*P	**Pn**	**21 04 04.0**	**0.0**
ANCH				*e*S	**Sn**	**21 04 28.6**	**-0.5**
ANCH				AML	AML	21 04 35.5	
	comp=E,4μm,0.4s						
HMBC	**Humberstone**	**2.17**	**334**	*e*P	**Pn**	**21 04 05.6**	**-0.5**
HMBC				*i* S	**Sn**	**21 04 32.7**	**-0.2**
HMBC	**Humberstone**	**2.17**	**334**	*e*P	**Pn**	**21 04 05.6**	**-0.5**
HMBC				*i* S	**Sn**	**21 04 32.7**	**-0.2**
HMBC				AML	AML	21 04 36.8	
	comp=N,5μm,0.6s						
PSGC	**Pisagua**	**2.88**	**336**	*e*P	**Pn**	**21 04 13.8**	**-1.6**
PSGC				AML	AML	21 05 11.8	
	comp=N,1μm,0.3s						
MNMC	**Minimini**	**3.17**	**347**	↓*e*P	**Pn**	**21 04 19.0**	**-0.5**
MNMC				AML	AML	21 05 22.7	
	comp=N,2μm,0.6s						
LPAZ	**La Paz**	**5.96**	**7**	P	**Pn**	**21 05 00.4**	**+2.9**
	comp=N,2.3nm,0.3s,baz=203,slow=7.5,SNR=32						
LPAZ	**La Paz**	**5.96**	**7**	*e*Pn	**Pn**	**21 05 00.2**	**+2.7**
LCO	**Las Campanas**	**6.94**	**193**	*e*Pn	Pn	21 05 07.0	-3.6
LCO				*e*Sn	Sn	21 06 14.8	-14
CFAA	**Coronel Fontan**	**9.34**	**177**	P	**Pn**	**21 05 40.4**	**-2.6**
	comp=N,0.3nm,0.3s,baz=5.1,slow=12,SNR=11						
CFAA				S	Sn	21 07 18.1	-8.2
	comp=N,0.2nm,0.3s,baz=1.4,slow=16,SNR=1.8						
CFAA	**Coronel Fontan**	**9.34**	**177**	P	**Pn**	**21 05 40.4**	**-2.6**
CFAA				S	Sn	21 07 18.1	-8.2
SIV	**San Ignacio**	**9.63**	**51**	P	**Pn**	**21 05 44.7**	**-2.3**
	comp=N,2.7nm,0.3s,baz=248,slow=13,SNR=66						
SIV				S	Sn	21 07 25.5	-8.0
	comp=N,0.2nm,0.3s,baz=312,slow=21,SNR=1.2						
SIV	**San Ignacio**	**9.63**	**51**	P	**Pn**	**21 05 44.7**	**-2.3**
SIV				S	Sn	21 07 25.5	-8.0
CPUP	**Villa Florida**	**11.28**	**113**	P	**Pn**	**21 06 07.7**	**-1.5**
	comp=N,0.5nm,0.3s,baz=267,slow=11,SNR=7.3						
CPUP	**Villa Florida**	**11.28**	**113**	P	**Pn**	**21 06 07.7**	**-1.5**
TRQA	**Tornquist**	**16.84**	**161**	*e*Pn	**Pn**	**21 07 21.0**	**+0.2**
	comp=N,5.7nm,0.3s						
TRQA				*es*P	**sP**	**21 07 53.5**	**+1.0**
ATAH	**Atahualpa**	**17.61**	**327**	P	**Pn**	**21 07 33.5**	**+2.8**
	comp=N,0.5nm,0.3s,baz=104,slow=22,SNR=6.1						
ATAH	**Atahualpa**	**17.61**	**327**	P	**Pn**	**21 07 33.5**	**+2.8**
PLCA	**Paso Flores**	**18.49**	**184**	P	**P**	**21 07 39.7**	**+0.2**
	comp=N,0.2nm,0.3s,baz=5.6,slow=13,SNR=4.4						
PLCA	**Paso Flores**	**18.49**	**184**	*e*P	**P**	**21 07 39.7**	**+0.2**
BDFB	**Brasilia**	**20.77**	**75**	P	**P**	**21 08 03.1**	**-1.4**
	comp=N,4.0nm,0.6s,baz=239,slow=13,SNR=7.5						
BDFB	**Brasilia**	**20.77**	**75**	P	**P**	**21 08 03.1**	**-1.4**
EFI	**East Falkland**	**30.55**	**167**	*e*P	**P**	**21 09 34.0**	**-1.0**
	comp=N,38nm,1.2s						
RCBR	**Riachuelo**	**35.77**	**68**	P	**P**	**21 10 20.8**	**-0.1**
	comp=N,9.9nm,0.8s,baz=311,slow=8.7,SNR=8.1						
RCBR	**Riachuelo**	**35.77**	**68**	*e*P	**P**	**21 10 20.5**	**-0.4**
	comp=N,8.2nm,0.6s						
DBIC	**Dimbokro**	**68.90**	**73**	P	**P**	**21 14 25.8**	**0.0**
	comp=N,5.0nm,0.8s,baz=185,slow=8.4,SNR=7.5						
DBIC	**Dimbokro**	**68.90**	**73**	P	**P**	**21 14 25.8**	**0.0**
NVAR	**Mina Array Bea**	**76.10**	**322**	pP	pP	21 15 34.5	+0.6
	comp=N,0.6nm,0.7s,baz=131,slow=5.8,SNR=4.4						
NVAR	**Mina Array Bea**	**76.10**	**322**	pP	pP	21 15 34.5	+0.6
TORD	**Torodi Ar. Bea**	**77.56**	**70**	P	**P**	**21 15 16.2**	**-0.5**
	comp=N,5.1nm,0.5s,baz=254,slow=5.2,SNR=93						
TORD				pP	**pP**	**21 15 41.6**	**-0.7**
	comp=N,0.7nm,0.5s,baz=252,slow=5.0,SNR=1.4						
TORD				sP	**sP**	**21 15 51.7**	**-1.4**
	comp=N,1.1nm,0.5s,baz=250,slow=5.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.56**	**70**	P	**P**	**21 15 16.2**	**-0.5**
TORD				pP	**pP**	**21 15 41.6**	**-0.7**
TORD				sP	**sP**	**21 15 51.7**	**-1.4**
BOSA	**Boshof**	**83.06**	**118**	P	**P**	**21 15 46.5**	**+0.2**
	comp=N,2.5nm,0.6s,baz=265,slow=10.0,SNR=6.0						
BOSA	**Boshof**	**83.06**	**118**	P	**P**	**21 15 46.5**	**+0.2**
YKA	**Yellowknife Ar**	**91.90**	**341**	P	**P**	**21 16 28.6**	**+0.8**
	comp=N,0.3nm,0.7s,baz=136,slow=4.8,SNR=8.9						
YKA				pP	**pP**	**21 16 54.7**	**+0.7**
	comp=N,1.4nm,0.9s,baz=137,slow=4.5,SNR=8.7						
YKA				sP	**sP**	**21 17 05.6**	**+1.0**
	comp=N,0.6nm,0.8s,baz=135,slow=4.7,SNR=4.0						
YKA	**Yellowknife Ar**	**91.90**	**341**	P	**P**	**21 16 28.6**	**+0.8**
YKA				pP	**pP**	**21 16 54.7**	**+0.7**
YKA				sP	**sP**	**21 17 05.6**	**+1.0**
BHD	**Baghdad**	**120.78**	**64**	*e*P	**PKPdf**	**21 22 11.0**	**-0.9**
ASAR	**Alice Springs**	**129.28**	**207**	PKP	**PKPdf**	**21 22 29.4**	**+0.8**
	comp=N,0.1nm,0.4s,baz=74,slow=9.9,SNR=3.9						
ASAR				pPKP	**pPKPdf**	**21 22 56.7**	**+0.6**
	comp=N,0.3nm,0.6s,baz=151,slow=2.1,SNR=2.7						
ASAR	**Alice Springs**	**129.28**	**207**	PKP	**PKPdf**	**21 22 29.4**	**+0.8**
ASAR				pPKP	**pPKPdf**	**21 22 56.7**	**+0.6**
WRA	**Warramunga Arr**	**132.34**	**210**	PKP	**PKPdf**	**21 22 35.5**	**+0.9**
	comp=N,0.4nm,0.3s,baz=228,slow=3.1,SNR=21						
WRA				pPKP	**pPKPdf**	**21 23 02.6**	**+0.7**
	comp=N,0.4nm,0.8s,baz=149,slow=1.7,SNR=2.5						
WRA	**Warramunga Arr**	**132.34**	**210**	PKP	**PKPdf**	**21 22 35.5**	**+0.9**
WRA				pPKP	**pPKPdf**	**21 23 02.6**	**+0.7**
ZALV	**Zalesovo Beam**	**142.60**	**26**	PKhKP	PKPpre	21 22 49.1	
	comp=N,1.0nm,0.6s,baz=298,slow=6.4,SNR=2.9						
ZALV				PKP	**PKPdf**	**21 22 53.4**	**+1.1**
	comp=N,1.1nm,0.6s,baz=293,slow=2.7,SNR=7.7						
ZALV				pPKP	pPKPdf	21 23 20.9	+1.3
	comp=N,0.4nm,0.5s,baz=285,slow=2.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**142.60**	**26**	PKPpre	PKPpre	21 22 49.1	
ZALV				PKP	**PKPdf**	**21 22 53.4**	**+1.1**
ZALV				pPKP	pPKPdf	21 23 20.9	+1.3
MK31	**Makanchi Array**	**146.20**	**37**	*e*PKPdf	**PKPbc**	**21 22 59.8**	**-0.2**
MKAR	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**21 23 00.0**	**0.0**
	comp=N,3.2nm,0.8s,baz=312,slow=2.8,SNR=40						
MKAR				pPKPbc	pPKPbc	21 23 28.6	+1.6
	comp=N,0.6nm,0.7s,baz=323,slow=3.0,SNR=1.9						
MKAR				sPKPbc	sPKPbc	21 23 38.9	+1.5
	comp=N,1.0nm,0.8s,baz=305,slow=4.3,SNR=4.6						
MKAR	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**21 23 00.0**	**0.0**
MKAR				pPKPbc	pPKPbc	21 23 28.6	+1.6
MKAR				sPKPbc	sPKPbc	21 23 38.9	+1.5
SONM	**Songino Array**	**154.18**	**7**	PKPbc	**PKPbc**	**21 23 20.5**	**+1.0**
	comp=N,0.1nm,0.4s,baz=286,slow=1.0,SNR=3.5						
SONM				pPKPbc	**pPKPbc**	**21 23 44.4**	**-2.5**
	comp=N,0.2nm,0.4s,baz=265,slow=1.7,SNR=2.8						
SONM	**Songino Array**	**154.18**	**7**	PKPbc	**PKPbc**	**21 23 20.6**	**+1.0**
SONM				pPKPbc	**pPKPbc**	**21 23 44.4**	**-2.5**

*ISCJB **12** 21:10:19.3±0.4, 34°75S±0°03×71°16W±0°07, h90km±4km, mb3.8/3, Error ellipse: s-maj=10.6km s-min=3.6km az=21.8*
*GUC **12** 21:10:20.2±0.6, 34°74S×71°19W, h80km±4km, ML4.2*
*IDC **12** 21:10:20.9±2.8, 34°82S×70°97W, h88km±21km, mb3.6/5, mb1 3.6/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=51.3km s-min=15.4km az=106.0*
*NEIC **12** 21:10:20.0, 34°73S×71°19W, h80km, MG4.2(GUC), After GUC.*
NEIC Felt [III] at San Fernando and Santa Cruz; [II] at Curico, Rancagua, Santiago and Talca.

ISC 12 21:10:20.0±0.8, 34°73S±0°03×71°20W±0°06, h87km±7km, n54, σ0s74/82, mb3.9/3, 14C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.76**	**208**	↓*i*P	**Pn**	**21 10 36.6**	**-0.2**
TALC				*i* S	**Sn**	**21 10 48.8**	**-0.5**
TALC	**Talca**	**0.76**	**208**	↓*i*P	**Pn**	**21 10 36.6**	**-0.2**
TALC				*i* S	**Sn**	**21 10 48.8**	**-0.5**
TALC				AML	AML	21 10 49.4	
	comp=N,30μm,0.4s						
CACH	**El Canelo**	**0.79**	**39**	↓*i*P	**Pn**	**21 10 37.1**	**-0.1**
CACH	**El Canelo**	**0.79**	**39**	↓*i*P	**Pn**	**21 10 37.1**	**-0.1**
LNV	**Longovilo**	**0.79**	**347**	↑*i*P	**Pn**	**21 10 37.4**	**+0.2**
LNV	**Longovilo**	**0.79**	**347**	↑*i*P	**Pn**	**21 10 37.4**	**+0.2**
CHCH	**Chadas Angostu**	**0.91**	**30**	↑*i*P	**Pn**	**21 10 38.3**	**-0.2**
CHCH	**Chadas Angostu**	**0.91**	**30**	↑*i*P	**Pn**	**21 10 38.3**	**-0.2**
TACH	**Talagante**	**1.09**	**11**	↑*i*P	**Pn**	**21 10 40.7**	**+0.1**
TACH				*i* S	**Sn**	**21 10 55.7**	**-0.4**
TACH	**Talagante**	**1.09**	**11**	↑*i*P	**Pn**	**21 10 40.7**	**+0.1**
TACH				*i* S	**Sn**	**21 10 55.7**	**-0.4**
CTCH	**Constitucion**	**1.16**	**239**	*e*P	**Pn**	**21 10 41.5**	**+0.1**
CTCH				*i* S	**Sn**	**21 10 57.5**	**+0.1**
CTCH	**Constitucion**	**1.16**	**239**	*e*P	**Pn**	**21 10 41.5**	**+0.1**
CTCH				*i* S	**Sn**	**21 10 57.5**	**+0.1**
LNCH	**Linares**	**1.16**	**196**	↓*i*P	**Pn**	**21 10 41.2**	**-0.2**
LNCH				*i* S	**Sn**	**21 10 57.2**	**-0.2**
LNCH	**Linares**	**1.16**	**196**	↓*i*P	**Pn**	**21 10 41.2**	**-0.2**
LNCH				*i* S	**Sn**	**21 10 57.2**	**-0.2**
ANTU	**Antumapu**	**1.25**	**22**	*e*P	**Pn**	**21 10 42.7**	**+0.2**
ANTU				*i* S	**Sn**	**21 10 59.9**	**+0.5**
ANTU	**Antumapu**	**1.25**	**22**	*e*P	**Pn**	**21 10 42.7**	**+0.2**
ANTU				*i* S	**Sn**	**21 10 59.9**	**+0.5**
ANTU				AML	AML	21 11 01.3	
	comp=E,6μm,0.3s						
RCDM	**Rinconada Maip**	**1.28**	**15**	*e*P	**Pn**	**21 10 42.9**	**0.0**
RCDM				*e*S	**Sn**	**21 10 60.0**	**-0.1**
RCDM	**Rinconada Maip**	**1.28**	**15**	*e*P	**Pn**	**21 10 42.9**	**0.0**
RCDM				*e*S	**Sn**	**21 10 60.0**	**-0.1**
RCDM				AML	AML	21 11 00.9	
	comp=E,6μm,0.2s						
LCCH	**Las Cruces**	**1.29**	**346**	*e*P	**Pn**	**21 10 43.5**	**+0.6**
LCCH				*e*S	**Sn**	**21 11 00.4**	**+0.2**
LCCH	**Las Cruces**	**1.29**	**346**	*e*P	**Pn**	**21 10 43.5**	**+0.6**
LCCH				*e*S	**Sn**	**21 11 00.4**	**+0.2**
SJCH	**San Jose de Ma**	**1.29**	**33**	*e*P	**Pn**	**21 10 42.6**	**-0.4**
SJCH				*i* S	**Sn**	**21 11 00.6**	**+0.2**
SJCH	**San Jose de Ma**	**1.29**	**33**	*e*P	**Pn**	**21 10 42.6**	**-0.4**
SJCH				*i* S	**Sn**	**21 11 00.6**	**+0.2**
SAN	**Santiago**	**1.35**	**19**	↑*i*P	**Pn**	**21 10 43.9**	**+0.2**
SAN				*i* S	**Sn**	**21 11 02.0**	**+0.4**
SAN	**Santiago**	**1.35**	**19**	↑*i*P	**Pn**	**21 10 43.9**	**+0.2**
SAN				*i* S	**Sn**	**21 11 02.0**	**+0.4**
FSR	**Penalolen**	**1.36**	**24**	↑*i*P	**Pn**	**21 10 44.3**	**+0.4**
FSR				*i* S	**Sn**	**21 11 02.5**	**+0.5**
FSR	**Penalolen**	**1.36**	**24**	↑*i*P	**Pn**	**21 10 44.3**	**+0.4**
FSR				*i* S	**Sn**	**21 11 02.5**	**+0.5**
STL	**Santa Lucia**	**1.37**	**20**	↑*i*P	**Pn**	**21 10 44.1**	**+0.1**
STL				*i* S	**Sn**	**21 11 02.5**	**+0.4**
LACH	**Col Las Americ**	**1.39**	**24**	*e*P	**Pn**	**21 10 44.6**	**+0.3**
LACH				*e*S	**Sn**	**21 11 02.9**	**+0.4**
LACH	**Col Las Americ**	**1.39**	**24**	*e*P	**Pn**	**21 10 44.6**	**+0.3**
LACH				*e*S	**Sn**	**21 11 02.9**	**+0.4**
CLCH	**Cerro Calan**	**1.44**	**23**	↓*i*P	**Pn**	**21 10 45.2**	**+0.3**
CLCH				*i* S	**Sn**	**21 11 04.2**	**+0.5**
CLCH				AML	AML	21 11 05.7	
	comp=E,4μm,0.3s						
FCH	**Farellones**	**1.59**	**29**	AML	AML	21 11 29.9	
	comp=N,4μm,0.2s						
PEL	**Peldehue**	**1.64**	**15**	↑*i*P	**Pn**	**21 10 48.0**	**+0.6**
PEL				*i* S	**Sn**	**21 11 08.8**	**+0.6**
PEL				AML	AML	21 11 10.0	
	comp=N,4μm,0.6s						
IHA	**Instituto Hidr**	**1.74**	**348**	*e*P	**Pn**	**21 10 49.3**	**+0.6**
IHA	**Instituto Hidr**	**1.74**	**348**	*e*P	**Pn**	**21 10 49.3**	**+0.6**
ROCH	**El Roble**	**1.76**	**5**	↓*i*P	**Pn**	**21 10 49.5**	**+0.4**
ROCH				AML	AML	21 11 15.0	
	comp=N,3μm,0.4s						
CCHI	**Chillan**	**2.00**	**201**	↑*i*P	**Pn**	**21 10 52.6**	**+0.5**
CCHI				*i* S	**Sn**	**21 11 17.2**	**+0.7**
CCHI	**Chillan**	**2.00**	**201**	↑*i*P	**Pn**	**21 10 52.6**	**+0.5**
CCHI				*i* S	**Sn**	**21 11 17.2**	**+0.7**
PACH	**Papudo**	**2.19**	**355**	*i* P	**Pn**	**21 10 55.1**	**+0.4**
PACH	**Papudo**	**2.19**	**355**	*i* P	**Pn**	**21 10 55.1**	**+0.4**
CHNG	**Los Chungos**	**2.85**	**355**	*e*P	**Pn**	**21 11 03.7**	**+0.3**
CHNG	**Los Chungos**	**2.85**	**355**	*e*P	**Pn**	**21 11 03.7**	**+0.3**
CFAA	**Coronel Fontan**	**3.98**	**39**	P	**Pn**	**21 11 19.1**	**+0.3**
	comp=N,1.9nm,0.3s,baz=213,slow=12,SNR=38						
CFAA				S	**Sn**	**21 12 04.7**	**+0.3**
	comp=N,0.9nm,0.3s,baz=210,slow=9.6,SNR=2.3						
LCO	**Las Campanas**	**5.72**	**4**	*e*Pn	**Pn**	**21 11 42.0**	**-0.7**
LCO				*e*Sn	**Sn**	**21 12 42.2**	**-4.7**
PLCA	**Paso Flores**	**6.02**	**175**	P	**Pn**	**21 11 47.5**	**+1.1**
	comp=N,1.2nm,0.3s,baz=335,slow=11,SNR=32						
PLCA	**Paso Flores**	**6.02**	**175**	*e*P	**Pn**	**21 11 47.4**	**+0.9**
TRQA	**Tornquist**	**8.14**	**117**	*e*P	**Pn**	**21 12 15.3**	**-0.1**
LPAZ	**La Paz**	**18.57**	**9**	P	**Pn**	**21 14 33.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=179,slow=7.4,SNR=3.8						
USHA	**Ushuaia**	**20.19**	**175**	P	**P**	**21 14 45.2**	**-2.3**
	comp=N,3.4nm,0.7s,baz=354,slow=10,SNR=5.8						
SIV	**San Ignacio**	**20.75**	**28**	P	**P**	**21 14 53.7**	**-0.2**
	comp=N,2.7nm,0.8s,baz=218,slow=12,SNR=9.0						
BOSA	**Boshof**	**79.12**	**117**	P	**P**	**21 22 16.0**	**+0.6**
	comp=N,1.6nm,0.8s,baz=207,slow=9.0,SNR=4.1						
LBTB	**Lobatse**	**81.37**	**114**	P	**P**	**21 22 26.6**	**-0.9**
	comp=N,1.8nm,0.8s,baz=254,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.81**	**69**	P	**P**	**21 22 40.7**	**+0.6**
	comp=N,0.5nm,0.7s,baz

SNR=4.7
PRU ePg Pn 21 15 18.1 +0.7
SNR=21
PRU eSg Sb 21 15 42.8 +1.2
PRU Pruhonice 1.78 213 ePG Pn 21 15 18.0 +0.7
PRU eSG Sb 21 15 42.4 +0.8
comp=Z,59nm,0.5s
PRU Pruhonice 1.78 213 Pn Pn 21 15 16.0 -1.3
SNR=4.7
PRU Pruhonice 1.78 213 Pg Pn 21 15 18.1 +0.7
SNR=21
PRU Sg Sb 21 15 42.4 +0.8
59nm,0.5s
FBE Freiberg 1.79 253 ePg Pn 21 15 17.6 +0.1
SNR=9.3
FBE eSg Sn 21 15 41.4 +0.6
FBE Freiberg 1.79 253 Pg Pn 21 15 17.6 +0.1
SNR=9.3
FBE Sg Sn 21 15 41.4 +0.6
CLL Collm 1.92 266 ePn Pn 21 15 16.2 -3.1
SNR=12
CLL ePg Pb 21 15 19.3 -1.9
SNR=4.1
CLL eSg Sn 21 15 44.2 +0.1
CLL Collm 1.92 266 *i* Pn Pn 21 15 16.1 -3.1
CLL *i* Pg Pb 21 15 19.0 -2.2
CLL *i* 21 15 23.0
CLL eSg Sn 21 15 45.0 +1.0
comp=Z,30nm,0.5s
CLL Collm 1.92 266 Pn Pn 21 15 16.2 -3.1
SNR=12
GKP Gorka Klasztor 1.93 22 ePn Pg 21 15 24.6 +2.2
GKP eSn Sn 21 15 45.9 +1.5
GKP Gorka Klasztor 1.93 22 ePn Pn 21 15 16.5 -2.9
SNR=1.2
GKP eSg Sn 21 15 43.8 -0.6
GKP Gorka Klasztor 1.93 22 Pn Pn 21 15 16.5 -2.9
SNR=1.2
GKP Sg Sn 21 15 43.8 -0.6
GKP Gorka Klasztor 1.93 22 ePn Pg 21 15 24.5 +2.2
GKP eSn Sn 21 15 45.8 +1.5
MORC Moravsky Berou 1.96 150 ePn Pn 21 15 18.8 -1.0
SNR=14
MORC eSg Sg 21 15 48.8 +0.6
MORC Moravsky Berou 1.96 150 Pn Pn 21 15 18.8 -1.0
SNR=14
MORC Sg Sg 21 15 48.8 +0.6
OKC Ostrava-Krasne 2.12 140 ePg Pb 21 15 25.4 +0.7
SNR=5.3
OKC eSg Sg 21 15 53.0 -0.5
OKC Ostrava-Krasne 2.12 140 Pg Pb 21 15 25.4 +0.7
SNR=5.3
OKC Sg Sg 21 15 53.0 -0.5
VRAC Vranov 2.21 171 ePn Pn 21 15 22.6 -0.7
VRAC eSg Sg 21 15 56.4 +0.2
comp=Z,25nm,0.3s,baz=352
TREC Trest 2.22 190 ePN Pn 21 15 23.5 0.0
TREC eSN Sn 21 15 52.3 +0.7
TREC eSG Sg 21 15 57.3 +0.6
comp=Z,41nm,0.4s
TREC Trest 2.22 190 Pn Pn 21 15 23.5 0.0
TREC Sn Sn 21 15 52.3 +0.7
TREC Sg Sg 21 15 57.3 +0.6
comp=Z,41nm,0.4s
KRUC Moravsky 2.44 175 ePn Pn 21 15 25.6 -0.8
baz=356
KRUC eSg Sg 21 16 03.6 0.0
comp=Z,50nm,0.9s,baz=356
TANN Tannenbergstha 2.51 246 ePn Pn 21 15 25.5 -1.9
SNR=6.6
TANN ePg Pb 21 15 32.3 +1.0
SNR=3.0
TANN eSg Sb 21 16 04.0 +1.3
TANN Tannenbergstha 2.51 246 Pn Pn 21 15 25.5 -1.9
SNR=6.6
TANN Tannenbergstha 2.51 246 Pg Pb 21 15 32.3 +1.0
SNR=3.0
TANN Sg Sb 21 16 04.0 +1.3
NKC Novy Kostel 2.60 243 ePG Pb 21 15 32.9 0.0
NKC eSG Sb 21 16 08.1 +2.7
comp=Z,62nm,0.4s
NKC Novy Kostel 2.60 243 Pg Pb 21 15 32.9 0.0
NKC Sg Sb 21 16 08.1 +2.7
comp=Z,62nm,0.4s
OJC Ojcow 2.69 117 ePn Pn 21 15 28.5 -1.4
SNR=2.7
OJC ePg Pg 21 15 36.2 -0.8
SNR=4.5
OJC eSg Sg 21 16 12.4 +0.6
OJC Ojcow 2.69 117 Pn Pn 21 15 28.5 -1.4
SNR=2.7
OJC Ojcow 2.69 117 ePn Pn 21 15 26.8 -3.1
OJC ePg Pg 21 15 36.1 -0.8
OJC eSg Sg 21 16 12.1 +0.3
NEUB Neuenburg 2.69 266 ePn Pn 21 15 28.1 -1.8
SNR=1.4
NEUB ePg Pb 21 15 34.3 -0.1
SNR=3.0
NEUB eSg Sb 21 16 09.8 +1.9
NEUB Neuenburg 2.69 266 Pn Pn 21 15 28.1 -1.8
SNR=1.4
TRIB Obertriebel 2.72 247 ePn Pn 21 15 28.4 -1.9
SNR=3.3
TRIB eSg Sb 21 16 10.4 +1.6
TRIB Obertriebel 2.72 247 Pn Pn 21 15 28.4 -1.9
SNR=3.3
TRIB Sg Sb 21 16 10.4 +1.6
KHC Kasperske Hory 2.84 215 ePn Pn 21 15 30.9 -1.1
SNR=4.5
KHC ePg Pb 21 15 37.3 +0.4
SNR=3.0
KHC eSg Sg 21 16 16.0 -0.5
KHC Kasperske Hory 2.84 215 ePN Pn 21 15 30.5 -1.5
KHC ePG Pb 21 15 36.9 0.0
KHC eSN Sn 21 16 06.8 -0.1
KHC eSG Sg 21 16 15.8 -0.7
comp=Z,18nm,0.4s
KHC Kasperske Hory 2.84 215 Pn Pn 21 15 30.9 -1.1
SNR=4.5
KHC Kasperske Hory 2.84 215 Pg Pb 21 15 37.3 +0.4
SNR=3.0
KHC Sn Sn 21 16 06.8 -0.1
KHC Sg Sg 21 16 16.0 -0.5
MOX Moxa 2.92 255 ePn Pn 21 15 30.6 -2.4
SNR=3.1
MOX ePg Pb 21 15 38.9 +0.6
SNR=3.7
MOX eSg Sb 21 16 16.3 +1.7
MOX Moxa 2.92 255 Pn Pn 21 15 30.6 -2.4
SNR=3.1
ROTZ **Rotzenmuhle 2.99 236** ePn Pn 21 15 32.6 -1.4
SNR=9.8
ROTZ eSg Sb 21 16 19.9 +3.4
ROTZ Rotzenmuhle 2.99 236 Pn Pn 21 15 32.6 -1.4
SNR=9.8
ROTZ Sg Sb 21 16 19.9 +3.4
GEC2 GERESS Array S 3.04 211 ePn Pn 21 15 33.9 -0.9
SNR=6.4
GEC2 eSg Sb 21 16 21.5 +3.4
GEC2 GERESS Array S 3.04 211 Pn Pn 21 15 33.9 -0.9
SNR=6.4
GEC2 Sg Sb 21 16 21.5 +3.4
WET Wettzell 3.10 222 ePn Pn 21 15 33.5 -2.1
SNR=9.4
WET Wettzell 3.10 222 Pn Pn 21 15 33.5 -2.1
SNR=9.4
SMOL Smolenice 3.10 163 eSG Sg 21 16 26.3 +1.2
SMOL Smolenice 3.10 163 eSg Sg 21 16 26.3 +1.2
LIKS Likavka 3.13 140 eSG Sg 21 16 29.1 +3.3
LIKS Likavka 3.13 140 eSg Sg 21 16 29.1 +3.3
NIE Niedzica 3.42 126 eP Pg 21 15 50.2 -0.7
NIE eS Sg 21 16 35.9 +0.7
VYHS Vyhne 3.49 148 ePN Pn 21 15 39.8 -1.1
VYHS eSG Sg 21 16 37.2 -0.3
VYHS Vyhne 3.49 148 ePn Pn 21 15 39.8 -1.1
VYHS eSg Sg 21 16 37.2 -0.3
CLZ Clausthal 3.55 278 ePn Pn 21 15 39.7 -2.1
SNR=4.0
CLZ Clausthal 3.55 278 Pn Pn 21 15 39.7 -2.1
SNR=4.0
GRA1 Grafenberg Arr 3.56 242 Sg Sg 21 16 38.6 -1.1
GRF Grafenberg Arr 3.56 242 eSg Sg 21 16 38.6 -1.1
CONA Conrad Observa 3.56 182 ⇓ *i* Pn Pn 21 15 42.0 +0.1
CONA ⇑ *i* Sg Sg 21 16 39.6 -0.1
comp=Z,32nm,0.4s
BSD Bornholm Skovb 3.70 350 *i* P Pn 21 15 38.8 -4.9
BSD *i* S Sn 21 16 19.3 -8.6
BSD Bornholm Skovb 3.70 350 *i* P Pn 21 15 38.8 -4.9
BSD *i* S Sn 21 16 19.3 -8.6
NRDL Niedersach Rie 3.81 288 ePn Pn 21 15 43.1 -2.1
SNR=2.0
NRDL Niedersach Rie 3.81 288 Pn Pn 21 15 43.1 -2.1
SNR=2.0
MOA Molln 3.82 198 ⇓ *i* Pn Pn 21 15 44.8 -0.6
MOA ⇑ *i* Sg Sg 21 16 48.0 0.0
comp=Z,18nm,0.6s
MOA Molln 3.82 198 Pn Pn 21 15 44.8 -0.6
MOA Sg Sg 21 16 48.0 0.0
comp=Z,18nm,0.6s
UBBA Unterbreizbach 3.87 262 ePn Pn 21 15 43.9 -2.0
SNR=2.2
UBBA ePg Pb 21 15 55.9 +1.6
SNR=1.4
UBBA Unterbreizbach 3.87 262 Pn Pn 21 15 43.9 -2.0
SNR=2.2
ARSA Arzberg 4.25 185 ⇓ *i* Pn Pn 21 15 50.6 -0.8
ARSA ⇑ *i* Sg Sg 21 17 02.3 +0.4
comp=Z,6.9nm,0.5s
ARSA Arzberg 4.25 185 Pn Pn 21 15 50.6 -0.8
ARSA Sg Sg 21 17 02.3 +0.4
comp=Z,6.9nm,0.5s
CRVS Cervenica-Dubn 4.33 125 ePN Pn 21 15 50.9 -1.6
CRVS eSG Sg 21 17 04.1 -0.4
CRVS Cervenica-Dubn 4.33 125 ePn Pn 21 15 50.9 -1.6
CRVS eSg Sg 21 17 04.1 -0.4
KOLS Kolonicke sedl 4.74 120 ePN Pn 21 15 56.7 -1.4
KOLS eSN Sn 21 16 50.4 -3.4
KOLS eSG Sg 21 17 17.7 0.0
KOLS Kolonicke sedl 4.74 120 ePn Pn 21 15 56.7 -1.4
KOLS eSn Sn 21 16 50.4 -3.4
KOLS eSg Sg 21 17 17.7 0.0
KBA Koelnbreinsper 4.75 203 ⇑ *i* Pn Pn 21 15 58.2 -0.2
KBA ⇓ *i* Sg Sg 21 17 19.1 +1.1
comp=Z,9.0nm,0.5s
KBA Koelnbreinsper 4.75 203 Pn Pn 21 15 58.2 -0.2
KBA Sg Sg 21 17 19.1 +1.1
comp=Z,9.0nm,0.5s
TNS Taunus Mts 4.98 258 ePn Pn 21 15 59.9 -1.5
SNR=2.1
TNS Taunus Mts 4.98 258 Pn Pn 21 15 59.9 -1.5
SNR=2.1

MEX 12 21:16:52.8±0.8, 15°.67N×93°.17W, h113km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PCIG		**0.06**	**303**	*e*P	Pn		21 17 06.9	-1.4
PCIG				*i* S	Sn		21 17 18.3	-1.6
TGIG		**1.10**	**2**	*e*P	Pn		21 17 14.2	-1.2
TGIG				*i* S	Sn		21 17 30.2	-2.2
THIG		**1.16**	**131**	*i* P	Pn		21 17 14.2	-1.7
THIG				*i* S	Sn		21 17 31.0	-2.3
CCIG	**Comitan**	**1.16**	**58**	*i* P	Pn		21 17 14.8	-1.3
CCIG				*i* S	Sn		21 17 32.3	-1.5
CMIG	**Matias Romero**	**2.17**	**311**	*i* P	Pn		21 17 27.7	-0.4
CMIG				*i* S	Sn		21 17 53.2	-1.9
HUIG	**Huatulco**	**2.83**	**272**	*e*P	Pn		21 17 35.0	-1.7
HUIG				*i* S	Sn		21 18 07.5	-3.0
HUIG				*i* S	Sn		21 18 08.6	-1.9
PNIG	**Pinotepa**	**4.82**	**279**	*i* P	Pn		21 18 02.4	-0.9
PNIG				*i* S	Sn		21 18 56.6	-1.5

DDA 12 21:49:03.6, 37°.10N×43°.36E, h7km, MD3.5
ISCJB 12 21:49:04.6±0.8, 37°.06N±0°.03×43°.56E±0°.06, h8km±6km, Error ellipse: s-maj=8.2km s-min=5.2km az=167.0
CSEM 12 21:49:05.4±0.3, 37°.13N×43°.76E, h10km, MD3.6, Error ellipse: s-maj=9.5km s-min=4.9km az=68.0
ISK 12 21:49:06.6, 37°.23N×43°.46E, h3km, MD3.6
ISC 12 21:49:05.8±1.0, 37°.13N±0°.04×43°.50E±0°.04, h10km±7km, n46, σ1°63/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CUKT	**Cukurca**	**0.14**	**37**	*e*PG	Pg		21 49 09.3	+0.1
CUKT				*e*SG	Sg		21 49 12.0	+0.5
CUKT	**Cukurca**	**0.14**	**37**	*e*Pg	Pg		21 49 09.3	+0.1
CUKT				*e*Sg	Sg		21 49 12.0	+0.5
HAKT	**HAKKARI**	**0.46**	**21**	*i* P	Pg		21 49 13.7	-1.1
HAKT				*i* S	Sg		21 49 21.1	+0.2
HAKT	**HAKKARI**	**0.46**	**21**	*i* P	Pg		21 49 13.7	-1.1
HAKT				*i* S	Sg		21 49 21.1	+0.2
GEVA	**Gevas**	**1.23**	**344**	*i* P	Pg		21 49 27.5	-1.9
GEVA				*i* S	Sg		21 49 47.3	+1.9
GEVA	**Gevas**	**1.23**	**344**	*i* P	Pg		21 49 27.5	-1.9
GEVA				*i* S	Sg		21 49 47.3	+1.9
VANT	**Van**	**1.30**	**352**	*e*PN	Pg		21 49 30.3	-0.5
VANT	**Van**	**1.30**	**352**	*e*Pn	Pg		21 49 30.3	-0.5
VANB	**Van**	**1.46**	**357**	*e*PN	Pn		21 49 32.6	+0.2
VANB				*e*SN	Sn		21 49 52.7	+1.0
VANB	**Van**	**1.46**	**357**	*e*Pn	Pn		21 49 32.6	+0.2
VANB				*e*Sn	Sn		21 49 52.7	+1.0
TATV	**Tatvan**	**1.68**	**325**	*i* P	Pn		21 49 35.9	+0.4
TATV				*i* S	Sn		21 49 59.7	+2.5
TATV	**Tatvan**	**1.68**	**325**	*i* P	Pn		21 49 35.9	+0.4
TATV				*i* S	Sn		21 49 59.7	+2.5
BEST	**Besiri**	**1.93**	**294**	*i* P	Pn		21 49 36.5	-2.2
BEST				*i* S	Sn		21 50 03.4	+0.4
CLDR	**Caldiran**	**2.03**	**9**	*e*PN	Pn		21 49 41.6	+1.2
CLDR	**Caldiran**	**2.03**	**9**	*e*Pn	Pn		21 49 41.6	+1.2
MARD	**Mardin**	**2.18**	**276**	*i* P	Pn		21 49 41.8	-0.4
MARD				*i* S	Sn		21 50 10.0	+0.6
AGRB	**Hanur-Agry**	**2.47**	**351**	*e*PN	Pn		21 49 47.6	+1.3
AGRB	**Hanur-Agry**	**2.47**	**351**	*e*Pn	Pn		21 49 47.6	+1.3
VRTB	**Varto-Mus**	**2.59**	**322**	*e*PN	Pn		21 49 49.1	+1.2
VRTB	**Varto-Mus**	**2.59**	**322**	*e*Pn	Pn		21 49 49.1	+1.2
BNGL	**BINGOL**	**2.59**	**315**	*i* P	Pn		21 49 46.5	-1.5
BNGL				*i* S	Sn		21 50 18.9	-0.9
DIY	**Diyarbakir**	**2.71**	**287**	*e*PN	Pn		21 49 52.1	+2.6
DIY	**Diyarbakir**	**2.71**	**287**	*e*Pn	Pn		21 49 52.1	+2.6
DIYA	**Diyarbakir**	**2.80**	**287**	*e*P	Pb		21 49 54.6	-1.3
DIYA				*e*S	Sn		21 50 24.1	-0.4
DIYA	**Diyarbakir**	**2.80**	**287**	*e*P	Pb		21 49 54.6	-1.3
BNGB	**Bingˆl**	**2.90**	**311**	*e*PN	Pn		21 49 53.6	+1.5
BINT	**Bingol**	**2.94**	**307**	*e*Pn	Pn		21 49 53.6	+0.8
GNI	**Garni**	**3.17**	**18**	*e*PN	Pn		21 49 58.1	+2.3
EZM	**Erzurum**	**3.23**	**329**	*e*PN	Pn		21 49 58.3	+1.4
SVRC	**Sivrice-ELAZID**	**3.55**	**292**	*e*PN	Pn		21 50 03.4	+2.3
SVRC	**Sivrice-ELAZID**	**3.55**	**292**	*e*Pn	Pn		21 50 03.4	+2.3
URFA	**Urfa**	**3.74**	**276**	*e*PN	Pn		21 50 06.5	+2.8
URFA	**Urfa**	**3.74**	**276**	*e*Pn	Pn		21 50 06.5	+2.8
ERZN	**Erzincan**	**3.85**	**311**	*e*PN	Pn		21 50 07.7	+2.5
BHD	**Baghdad**	**3.92**	**169**	*e*P	Pn		21 50 05.0	-1.1
BHD				*e*S	Sn		21 50 54.0	+1.9
BHD	**Baghdad**	**3.92**	**169**	*e*P	Pn		21 50 05.0	-1.1
BHD				*e*S	Sn		21 50 54.0	+1.9
MALT	**Malatya**	**4.19**	**288**	*e*PN	Pn		21 50 13.3	+3.4
MALT	**Malatya**	**4.19**	**288**	*e*Pn	Pn		21 50 13.3	+3.4
MYA	**Malataya**	**4.19**	**288**	*e*PN	Pn		21 50 12.7	+2.8
MYA	**Malataya**	**4.19**	**288**	*e*Pn	Pn		21 50 12.7	+2.8
MIB	**Mutribah**	**7.98**	**155**	*e*P	Pn		21 51 00.2	-1.7
MIB				AML	AML		21 52 26.5	
comp=Z,1.9nm,0.6s								
MIB	**Mutribah**	**7.98**	**155**	*e*P	Pn		21 51 00.2	-1.7
NAY	**Al-Naaiem**	**8.46**	**157**	*e*P	Pn		21 51 06.5	-2.0
NAY				AML	AML		21 52 40.4	
comp=Z,1.0nm,0.5s								
NAY	**Al-Naaiem**	**8.46**	**157**	*e*P	Pn		21 51 06.5	-2.0
RDF	**Al-Radifah**	**8.86**	**156**	*e*P	Pn		21 51 12.7	-1.3
RDF				AML	AML		21 52 48.9	
comp=Z,2.4nm,0.6s								
RDF	**Al-Radifah**	**8.86**	**156**	*e*P	Pn		21 51 12.7	-1.3

IDC 12 22:06:41.2±54.0, 14°.23S×167°.63E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=920.5km s-min=112.0km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**29.58**	**229**	P	P		22 12 47.8	-0.2
1.1nm,0.5s,baz=35,slow=9.1,SNR=5.0								
WRA	**Warramunga Arr**	**32.29**	**255**	P	P		22 13 12.4	+0.3
0.8nm,0.5s,baz=86,slow=9.0,SNR=33								
ASAR	**Alice Springs**	**33.18**	**248**	P	P		22 13 19.6	-0.3
1.6nm,0.5s,baz=75,slow=9.1,SNR=24								

TIR 12 22:25:47.1, 41°.05N×20°.19E, h3km, ML2.6
CSEM 12 22:25:47.8±0.6, 41°.07N×20°.16E, h15km, ML2.6, Error ellipse: s-maj=13.3km s-min=5.4km az=30.0
SKO 12 22:25:49.0, 41°.13N×20°.19E, h8km
ISC 12 22:25:47.8±1.9, 41°.06N±0°.08×20°.13E±0°.06, h7km±13km, n8, σ0s62/15, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TIR	**Tirane**	**0.35**	**325**	*e*PG	Pg		22 25 54.8	+0.1
TIR				*e*SG	Sb		22 26 01.3	-0.8
TIR	**Tirane**	**0.35**	**325**	*e*Pg	Pg		22 25 54.8	+0.1
TIR				*e*Sg	Sb		22 26 01.3	-0.8
PHP	**Peshkopia**	**0.66**	**20**	*e*PG	Pg		22 26 00.2	-0.4
PHP				*e*SG	Sg		22 26 09.9	+0.6
PHP	**Peshkopia**	**0.66**	**20**	*e*Pg	Pg		22 26 00.2	-0.4
PHP				*e*Sg	Sg		22 26 09.9	+0.6
BIA	**Bitola**	**0.90**	**92**	*e*Pg	Pg		22 26 05.6	+0.4
BIA				*e*Sg	Sg		22 26 16.2	-0.6
BIA	**Bitola**	**0.90**	**92**	*e*Pg	Pg		22 26 05.5	+0.4
BIA				*e*Sg	Sg		22 26 16.2	-0.6
PUK	**Puka**	**1.00**	**350**	*e*PG	Pg		22 26 07.0	+0.1
PUK				*e*SG	Sn		22 26 23.5	+0.9
PUK	**Puka**	**1.00**	**350**	*e*Pg	Pg		22 26 07.0	+0.1

AUST 12 23:04:09.2, 17°.11S×173°.83W, h100km
BJI 12 23:04:11.1, 16°.99S×174°.07W, h100km, mB5.1/11, mb4.9/17
ISCJB 12 23:04:12.1±0.2, 17°.51S±0°.05×174°.38W±0°.03, h113km, mb4.7/66, Error ellipse: s-maj=8.2km s-min=3.6km az=155.9
NEIC 12 23:04:13.4±0.2, 17°.54S×174°.31W, mb4.6/38, Error ellipse: s-maj=9.5km s-min=4.8km az=155.0
IDC 12 23:04:14.0±0.5, 17°.48S×174°.40W, h121km±4km, mb4.2/17, mb1 4.4/18, mb1mx4.4/22, mbtmp4.3/18, MS3.9/4, Ms1 3.9/4, ms1mx3.5/36, Error ellipse: s-maj=13.4km s-min=9.8km az=141.0
SZGRF 12 23:04:15.8, 17°.08S×174°.99W, h119km, Tonga Islands
GCMT 12 23:04:18.0±0.4, 17°.36S×173°.80W, h129km±3km, MW5.1, Moment Tensor Solution. s24,c36; s40,c63; Moment tensor: Scale 10^16 Nm; Mrr-0.68±.31; Mθθ 0.67±.34; Mφφ 0.00±.32; Mrθ-1.39±.24; Mrφ 1.49±.32; Mθφ-4.95±.19; Best double couple: M0 5.40000×10^16 NP1:φs 271.00000°, δ 16.00000°, λ-15.00000°. NP2:φs 16.00000°, δ 86.00000°, λ-105.00000°. Principal axes: T 5.4900, Plg 39.0000°, Azm 120.0000°; N -0.1900, Plg 15.0000°, Azm 17.0000°; P -5.3000, Plg 47.0000°, Azm 270.0000°; Data Used: Il IU G IC CN.
ISC 12 23:04:13.5±0.3, 17°.55S±0°.07×174°.31W±0°.05, h114km±2km, h113km:pP-P, n445, σ0s96/495, mb4.7/66, 109C-127D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**4.36**	**34**	P	Pn		23 05 10.8	-7.2
24nm,0.3s,baz=198,slow=3.1,SNR=20								
AFI				S	Sn		23 05 53.5	-14
248nm,0.3s,baz=30,slow=23,SNR=13								
AFI	**Afiamalu**	**4.36**	**34**	*e*Pn	Pn		23 05 10.2	-7.7
AFI				*e*Sn	Sn		23 05 53.8	-14
NIUE	**Niue**	**4.44**	**111**	P	Pn		23 05 15.2	-3.5
baz=4.2,SNR=261								
NIUE				S	Sn		23 06 01.3	-8.2
baz=4.2,SNR=12								
MSVF	**Nonsavu**	**7.28**	**267**	*e*Pn	Pn		23 06 04.2	+6.8
RAR	**Rarotonga**	**14.20**	**107**	P	Pn		**23 07 29.2**	**-0.2**
3.2nm,0.3s,baz=278,slow=10,SNR=9.5								
RAR				S	Sn		23 09 56.7	-9.4
3.8nm,0.3s,baz=137,slow=19,SNR=5.5								
RAR				LR	LR		23 12 01.2	
comp=Z,250nm,18.9s,baz=268,slow=33								
RAR	**Rarotonga**	**14.20**	**107**	*e*Pn	Pn		**23 07 27.0**	**-2.5**
RAR				*e*Sn	Sn		23 09 55.3	-11
DZM	**Mont Dzumac**	**18.65**	**253**	*e*P	Pn		**23 08 25.4**	**+1.1**
292nm,1.4s								
DZM				*e*LR	LR		23 12 45.1	
912nm,30.1s								
DZM	**Mont Dzumac**	**18.65**	**253**	*e*P	Pn		**23 08 25.4**	**+1.1**
292nm,1.4s								
DZM				*e*LR	LR		23 13 06.2	
912nm,30.1s								
DZM	**Mont Dzumac**	**18.65**	**253**	P	Pn		**23 08 24.5**	**+0.2**
0.6nm,0.3s,baz=80,slow=18,SNR=5.8								
DZM				LR	LR		23 13 25.0	
comp=Z,424nm,18.3s,baz=44,slow=30								
DZM	**Mont Dzumac**	**18.65**	**253**	*e*P	Pn		**23 08 25.1**	**+0.8**
DZM	**Mont Dzumac**	**18.65**	**253**	P	Pn		**23 08 24.5**	**+0.2**
NOUC	**Port Laguerre**	**18.79**	**253**	*e*P	P		**23 08 23.4**	**-0.6**
NFK	**Norfolk Island**	**19.89**	**232**	P	Pn		**23 08 39.4**	**+0.8**
baz=20,SNR=3.6								
URZ	**Urewera**	**21.96**	**198**	P	P		**23 08 58.0**	**0.0**
15nm,0.3s,baz=30,slow=7.4,SNR=24								
URZ				S	S		**23 12 53.1**	**-0.1**
11nm,0.6s,baz=73,slow=19,SNR=4.4								
URZ	**Urewera**	**21.96**	**198**	*e*P	P		**23 08 57.3**	**-0.6**
349nm,2.2s								
URZ				S	S		**23 12 53.1**	**-0.1**
PAE	**Paea**	**23.57**	**94**	*e*P	P		**23 09 14.0**	**+0.1**
20nm,1.1s								
PPT2	**Papeete2**	**23.58**	**94**	*e*P	P		**23 09 13.9**	**-0.2**
46nm,1.0s								
PPT2				*e*LR	LR		23 14 25.8	
880nm,33.2s								
PPT	**Papeete**	**23.58**	**94**	P	P		**23 09 16.2**	**+2.1**
23nm,0.7s,baz=315,slow=7.1,SNR=3.8								
PPT				LR	LR		23 15 20.1	
comp=Z,349nm,20.7s,baz=2.9,slow=28								
PPT	**Papeete**	**23.58**	**94**	P	P		**23 09 16.2**	**+2.1**
TIAR	**Tiarei**	**23.80**	**94**	*e*P	P		**23 09 15.6**	**-0.4**
77nm,0.8s								
TVO	**Taravao**	**23.88**	**94**	*e*P	P		**23 09 16.8**	**0.0**
79nm,0.8s								
TBI	**Tubuai**	**23.98**	**108**	*e*P	P		**23 09 19.3**	**+1.8**
279nm,1.1s								
TBI				*e*LR	LR		23 15 02.7	
762nm,33.8s								
PMOR	**Pomariorio Ree**	**25.48**	**88**	*e*P	P		**23 09 30.6**	**-0.6**
200nm,1.1s								
HNR	**Honiara**	**26.27**	**285**	P	P		**23 09 41.3**	**+2.9**
36nm,0.3s,baz=163,slow=14,SNR=9.0								
HNR				LR	LR		23 17 25.8	
comp=Z,215nm,20.2s,baz=281,slow=30								
HNR	**Honiara**	**26.27**	**285**	*e*P	P		**23 09 40.6**	**+2.2**
116nm,1.0s								
EIDS	**Eidsvold**	**33.06**	**250**	P	P		**23 10 39.3**	**+1.0**
baz=34,SNR=4.0								
ARMA	**Armidale**	**33.52**	**241**	*e*P	P		**23 10 42.8**	**+0.4**
8.9nm,0.4s								
ARMA	**Armidale**	**33.52**	**241**	P	P		**23 10 43.2**	**+0.9**
baz=34,SNR=12								
RMQ	**Roma**	**35.27**	**249**	P	P		**23 10 58.9**	**+1.4**
baz=36,SNR=5.8								
PATS	**Pohnpei**	**36.31**	**310**	P	P		23 10 51.1	-15
baz=36,SNR=3.2								
CNB	**Canberra Magne**	**36.77**	**234**	P	P		**23 11 10.5**	**+0.4**
baz=37,SNR=5.2								
RKT	**Rikitea**	**37.22**	**105**	*e*P	P		**23 11 15.6**	**+1.5**
97nm,1.3s								
RKT				*e*LR	LR		23 21 07.3	
445nm,33.5s								
CTAO	**Charters Tower**	**37.35**	**260**	*e*P	P		**23 11 14.7**	**-0.5**
12nm,0.8s								
PMG	**Port Moresby**	**38.27**	**277**	P	P		**23 11 23.3**	**+0.3**
12nm,0.8s,baz=115,slow=4.4,SNR=7.0								
PMG	**Port Moresby**	**38.27**	**277**	*e*P	P		**23 11 23.5**	**+0.5**
26nm,1.2s								
CMSA	**Cobar Meteorol**	**38.73**	**241**	P	P		**23 11 26.6**	**-0.1**
baz=39,SNR=39								
QLP	**Quilpie**	**39.31**	**249**	P	P		**23 11 31.8**	**+0.2**
baz=40,SNR=4.9								
TOO	**Toolangi**	**40.45**	**232**	P	P		**23 11 40.7**	**-0.1**
baz=41,SNR=4.3								
COEN	**Coen**	**41.01**	**269**	*e*P	P		**23 11 44.8**	**-0.9**
59nm,0.8s								

COEN esP sP 23 12 18.0 -6.7
COEN ePP PP 23 13 23.2 +0.7
COEN Coen 41.01 269 P P 23 11 46.0 +0.2
baz=42,SNR=9.7
STKA Stephens Creek 42.23 242 P P 23 11 55.7 +0.2
32nm,0.9s,baz=78,slow=10,SNR=74
STKA Stephens Creek 42.23 242 eP P 23 11 55.4 -0.1
8.0nm,0.9s
STKA Stephens Creek 42.23 242 P P 23 11 55.8 +0.3
baz=43,SNR=52
ARPS Mount Arapiles 43.02 235 P P 23 12 01.6 -0.2
baz=44,SNR=14
BBOO Buckleboo 47.00 241 eP P 23 12 33.1 -0.3
1µm,0.9s
BBOO Buckleboo 47.00 241 P P 23 12 33.1 -0.3
baz=48,SNR=81
WRAB Tennant Creek 48.52 259 eP P 23 12 44.0 -1.3
16nm,0.8s
WRA Warramunga Arr 48.53 259 P P 23 12 44.0 -1.4
9.0nm,0.3s,baz=97,slow=7.1,SNR=395
WRA PcP PcP 23 14 09.5 -0.2
3.2nm,0.8s,baz=86,slow=3.9,SNR=5.3
WRA S S 23 19 35.9 -2.6
0.5nm,0.8s,baz=95,slow=14,SNR=4.2
WRA Warramunga Arr 48.53 259 P P 23 12 44.0 -1.4
WRA PcP PcP 23 14 09.5 -0.2
WRA S S 23 19 35.9 -2.6
AS31 Alice Springs 48.64 254 eP P 23 12 45.6 -0.6
AS31 esP sP 23 13 18.8 -7.0
ASAR Alice Springs 48.64 254 P P 23 12 45.8 -0.4
73nm,0.7s,baz=89,slow=8.2,SNR=570
ASAR S S 23 19 36.6 -3.3
1.1nm,0.8s,baz=91,slow=16,SNR=7.8
ASAR Alice Springs 48.64 254 P P 23 12 45.8 -0.4
ASAR S S 23 19 36.6 -3.3
KDU Kakadu 51.47 268 P P 23 13 09.2 +1.7
baz=52,SNR=3.1
MTN Manton Dam 52.71 267 P P 23 13 16.1 -0.7
baz=53,SNR=10
FORT Forrest 53.69 244 eP P 23 13 22.7 -1.1
FORT Forrest 53.69 244 P P 23 13 23.4 -0.3
baz=54,SNR=9.1
FITZ Fitzroy Crossi 56.93 260 eP P 23 13 46.8 -0.4
2.6nm,0.6s
FITZ Fitzroy Crossi 56.93 260 P P 23 13 47.2 0.0
baz=57,SNR=9.9
VNDA Vanda 61.16 186 P P 23 14 17.1 +1.6
2.7nm,1.0s,baz=8.1,slow=7.1,SNR=5.6
VNDA Vanda 61.16 186 P P 23 14 17.1 +1.6
MBWA Marble Bar 61.94 255 eP P 23 14 21.0 -0.6
5.3nm,0.4s
MEEK Meekatharra 62.21 249 P P 23 14 22.5 -0.9
baz=63,SNR=4.0
KLBR Kellerberrin 62.48 243 P P 23 14 24.8 -0.3
baz=63,SNR=9.8
BLDU Ballidu 63.45 244 P P 23 14 31.2 -0.4
baz=64,SNR=7.9
KAPI Kappang 65.57 272 eP P 23 14 44.5 -1.0
11nm,1.1s
PCI Palu 66.73 277 P P 23 14 56.7 +3.7
baz=67,SNR=3.3
MJAR Matsushiro Arr 70.02 321 P P 23 15 11.7 -1.3
2.8nm,0.8s,baz=164,slow=6.2,SNR=7.3
MJAR Matsushiro Arr 70.02 321 P P 23 15 11.7 -1.3
ASAJ Asahikawa 72.90 329 eP P 23 15 30.4 +0.4
8.3nm,0.9s
UGM Wanagama 73.56 267 P P 23 15 34.9 +0.2
baz=74,SNR=7.2
PETK Petropavlovsk- 74.40 343 P P 23 15 37.6 -1.1
14nm,0.8s,baz=140,slow=9.4,SNR=13
PETK Petropavlovsk- 74.40 343 P P 23 15 37.6 -1.1
EDW2 Edwards Air Fo 74.67 45 ⇑P P 23 15 41.2 +0.5
baz=75
ISA Isabella 74.79 44 ⇑P P 23 15 42.5 +1.1
baz=75
BELC Belle Mtn. Jos 75.55 47 ⇑P P 23 15 45.7 -0.2
baz=76
MPMC Manual Prospec 75.67 44 ⇓P P 23 15 46.3 -0.3
baz=76
GSC Goldstone 75.71 45 eP P 23 15 46.1 -0.6
BC3 Big Chuckawall 75.75 47 ⇓P P 23 15 47.5 +0.5
baz=76
HEC Hector,Ludlow 75.78 46 ⇑P P 23 15 46.9 -0.2
baz=76
GLA Glamis 75.87 48 ⇓P P 23 15 48.3 +0.7
baz=76
IRM Iron Mountain 76.23 47 ⇓P P 23 15 49.8 +0.2
baz=76
GRAC Grapevine Rang 76.29 44 ⇓P P 23 15 50.3 +0.4
baz=76
NVAR Mina Array Bea 76.50 42 P P 23 15 51.1 -0.2
2.0nm,0.8s,baz=225,slow=8.9,SNR=11
NVAR pP pP 23 16 20.4 +0.2
5.3nm,1.0s,baz=230,slow=8.9,SNR=7.7
NVAR Mina Array Bea 76.50 42 P P 23 15 51.1 -0.2
NVAR pP pP 23 16 20.4 +0.2
KSM Kuching 76.52 276 eP P 23 15 51.8 +0.1
63nm,1.3s
KSM esP sP 23 16 27.4 -5.5
KSM Kuching 76.52 276 P P 23 15 52.6 +1.0
baz=77,SNR=5.4
LEM Lembang 76.63 267 P P 23 15 53.5 +1.0
baz=77,SNR=4.4
KSRS Korea Array 77.08 316 P P 23 15 54.9 +0.7
5.5nm,0.9s,baz=128,slow=7.0,SNR=11
KSAR Wonju Array Be 77.10 316 P P 23 15 54.9 +0.6
MOD Modoc 77.34 38 eP P 23 15 55.1 -0.8
R11A Troy Canyon, C 78.21 43 ⇑P P 23 16 00.8 0.0
baz=78
TUC Tucson 78.42 51 eP P 23 16 01.1 -0.9
319A Douglas 79.09 52 ⇓P P 23 16 06.4 +0.7
baz=79
CCUT Cedar City 79.26 45 eP P 23 16 07.1 +0.5
4.1nm,1.3s
U15A North Rim 79.41 46 ⇑P P 23 16 08.1 +0.6
baz=80,SNR=5.3
WUAZ Wupatki 79.59 48 ⇓P P 23 16 08.2 -0.2
baz=80
320A Kipp Ranch, An 79.64 52 ⇑P P 23 16 08.8 +0.1
baz=80
220A Playas Peak, P 79.91 52 ⇓P P 23 16 10.4 +0.2
baz=80,SNR=6.5
MDJ Mudanjiang 80.19 323 P P 23 16 11.4 +0.2
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,140nm,4.4s
Z20A Nine Sixteen R 80.43 51 ⇑P P 23 16 13.4 +0.5
baz=81
HAWA Hanford 80.53 35 eP P 23 16 12.4 -0.5
comp=Z,11nm,1.2s
MVU Marysvale 80.53 45 eP P 23 16 13.3 -0.2
MSU Marysvale 80.56 45 eP P 23 16 15.0 +1.4
121A Cookes Peak, D 80.76 52 ⇑P P 23 16 15.3 +0.6
baz=81
BMO Blue Mountains 80.86 37 eP P 23 16 14.7 -0.2
comp=Z,11nm,1.3s
MFID Camas Ranch 80.90 39 eP P 23 16 14.8 -0.4
Y20A Horse Springs, 80.96 50 ⇓P P 23 16 16.4 +0.5
baz=81,SNR=6.3
S17A Black Ridge (B 81.05 46 ⇑P P 23 16 16.5 +0.4
baz=81
Z21A St. Cloud Mine 81.20 51 ⇑P P 23 16 17.4 +0.3
baz=81,SNR=6.5
W20A Ramah 81.44 49 ⇑P P 23 16 18.4 0.0
baz=82
Y21A Point of Rocks 81.52 50 ⇓P P 23 16 18.4 -0.4
baz=82
I12A Atlanta 81.53 39 ⇑P P 23 16 18.8 +0.2
baz=82
S18A Hurst Farm, Bl 81.63 46 ⇑P P 23 16 19.9 +0.6
baz=82
X21A Alamocita Cree 81.64 50 ⇓P P 23 16 19.8 +0.3
baz=82
Z22A Elephant Butte 81.70 51 ⇑P P 23 16 19.8 +0.1
baz=82,SNR=5.6
HLID Hailey 81.83 39 eP P 23 16 20.1 -0.1
comp=Z,14nm,1.4s
HLID Hailey 81.83 39 ⇓P P 23 16 20.8 +0.7
baz=82
HVU Hansel Valley 81.89 42 eP P 23 16 18.9 -1.5
comp=Z,8.0nm,1.0s
J13A Cove Ranch, Pi 81.89 40 ⇑P P 23 16 20.8 +0.4
baz=82
SRU San Rafael 81.98 45 eP P 23 16 21.0 -0.1
comp=Z,7.1nm,1.2s
324A Moseley Ranch, 82.01 54 ⇓P P 23 16 21.8 +0.5
baz=82
K14A Jones Ranch, D 82.04 41 ⇑P P 23 16 21.8 +0.6
baz=82
425A Indio Mountain 82.11 54 ⇑P P 23 16 22.1 +0.3
baz=82,SNR=10.0
H12A Diamond D Ranc 82.12 38 ⇓P P 23 16 21.9 +0.3
baz=82,SNR=5.9
G12A Big Creek, Yel 82.17 38 ⇓P P 23 16 22.3 +0.4
baz=82,SNR=10
I13A Wildhorse Cree 82.21 39 ⇓P P 23 16 21.9 -0.2
baz=82
J14A Carey 82.25 40 ⇑P P 23 16 22.9 +0.6
baz=82
626A Big Bend Ranch 82.25 56 ⇓P P 23 16 22.5 0.0
baz=82,SNR=5.5
Z23A Rita Site, Whi 82.25 52 ⇓P P 23 16 22.6 +0.1
baz=82
224A Cornudas Mount 82.26 53 ⇓P P 23 16 23.2 +0.6
baz=82,SNR=6.7
325A Bean Ranch, Si 82.38 54 ⇑P P 23 16 23.0 -0.3
baz=82,SNR=7.6
O17A Robinson Place 82.38 44 ⇑P P 23 16 23.1 -0.1
baz=82
V21A Milan 82.39 49 ⇑P P 23 16 23.3 0.0
baz=82
H13A Challis 82.48 39 ⇓P P 23 16 23.5 0.0
baz=83
526A Mary Lane Ranc 82.50 55 ⇓P P 23 16 23.8 -0.1
baz=83,SNR=5.3
TXAR Lajitas Array 82.53 56 P P 23 16 24.4 +0.4
comp=Z,2.3nm,0.9s,baz=213,slow=6.5,SNR=14
TXAR pP pP 23 16 54.3 +1.0
comp=Z,4.2nm,1.2s,baz=226,slow=3.3,SNR=4.5
TXAR Lajitas Array 82.53 56 P P 23 16 24.4 +0.4
TXAR pP pP 23 16 54.3 +1.0
F12A Elk City 82.56 37 ⇑P P 23 16 23.5 -0.3
baz=83,SNR=7.6
124A Stringfield Ra 82.59 52 ⇓P P 23 16 24.6 +0.2
baz=83
U21A Nageezi 82.66 48 ⇓P P 23 16 25.4 +0.7
baz=83,SNR=9.4
Y23A Lovelace Mesa, 82.69 51 ⇑P P 23 16 24.7 -0.1
baz=83
PV04 Paradox Valley 82.72 46 eP P 23 16 25.1 +0.2
Q19A Hogan Spring (82.75 45 ⇑P P 23 16 25.1 +0.1
baz=83
E12A Beaver Dam Sad 82.75 37 ⇓P P 23 16 25.1 +0.2
baz=83
G13A Cobalt 82.79 38 ⇑P P 23 16 24.6 -0.4
baz=83
627A Terlingua Ranc 82.80 56 ⇑P P 23 16 25.5 +0.1
baz=83,SNR=7.6
426A McDonald Obser 82.81 55 ⇑P P 23 16 25.4 -0.2
baz=83,SNR=9.0
225A Deer Hill, Car 82.81 53 ⇓P P 23 16 26.0 +0.5
baz=83,SNR=6.2
S20A Disappointment 82.83 47 ⇓P P 23 16 25.7 +0.2
baz=83
ANMO Albuquerque 82.84 50 eP P 23 16 25.8 +0.1
comp=Z,6.9nm,1.4s
L16A Fish Haven 82.86 42 ⇓P P 23 16 25.9 +0.3
baz=83
527A Woodward Ranch 82.91 55 ⇑P P 23 16 26.3 +0.2
baz=83
Z24A Sheeppen Canyo 82.93 52 ⇓P P 23 16 26.2 0.0
baz=83
J15A Blackfoot 82.96 40 ⇑P P 23 16 26.6 +0.6
baz=83,SNR=5.6
V22A San Miguel Ran 82.96 49 ⇓P P 23 16 26.5 +0.3
baz=83
T21A Navajo Lake 83.01 48 ⇓P P 23 16 26.7 +0.2
baz=83
H14A Leadore 83.04 39 ⇓P P 23 16 26.4 -0.1
baz=83
F13A Darby 83.11 38 ⇓P P 23 16 26.6 -0.1
baz=83
326A Caldwell Ranch 83.12 54 ⇑P P 23 16 27.0 0.0
baz=83
Y24A Capitan 83.14 51 ⇓P P 23 16 27.3 +0.1
baz=83
S21A Coal Bank Pass 83.15 47 ⇑P P 23 16 27.9 +0.6
baz=83,SNR=7.1
W23A Werner Place, 83.17 50 ⇑P P 23 16 27.6 +0.2
baz=83
125A Gardner Draw, 83.17 53 ⇓P P 23 16 27.4 +0.1
baz=83
K16A Soda Springs 83.19 41 ⇓P P 23 16 27.2 0.0
baz=83
C11A Tepee Creek (N 83.19 35 ⇑P P 23 16 27.2 +0.3
baz=83
GDL2 Guadalupe Moun 83.20 53 eP P 23 16 28.4 +1.0
628A Black Gap, Mar 83.21 56 ⇓P P 23 16 27.6 +0.2
baz=83
U22A Llaves 83.21 49 ⇓P P 23 16 28.0 +0.5
baz=83
D12A Red Ives Fores 83.24 36 ⇓P P 23 16 27.2 -0.1
baz=83
L17A Cokeville 83.26 42 ⇓P P 23 16 27.2 -0.5
baz=83
P19A Cripple Cowboy 83.28 45 ⇓P P 23 16 28.3 +0.5
baz=83
G14A Jackson 83.33 38 ⇑P P 23 16 28.0 0.0
baz=84
427A Hayter Ranch, 83.37 55 ⇓P P 23 16 28.2 -0.2
baz=84,SNR=5.1
Z25A Roswell 83.40 52 ⇓P P 23 16 28.6 +0.2
baz=84
J16A Bone 83.40 41 ⇑P P 23 16 28.5 +0.2
baz=84
V23A Ortiz Mt. (NFS 83.41 49 ⇓P P 23 16 28.9 +0.3
baz=84
Q20A Ridgley Place, 83.41 46 ⇓P P 23 16 28.6 +0.2
baz=84
M18A Lyman 83.44 43 ⇓P P 23 16 28.6 0.0
baz=84
AHID Auburn Hatcher 83.46 41 eP P 23 16 28.8 +0.1
comp=Z,8.5nm,1.0s
MCMT McKenzie Canyo 83.47 39 eP P 23 16 28.5 -0.2
comp=Z,2.8nm,1.1s
T22A Edith 83.47 48 ⇓P P 23 16 29.1 +0.2
baz=84
H15A Lima 83.48 39 ⇑P P 23 16 28.9 +0.2
baz=84
E13A Victor 83.56 37 ⇓P P 23 16 28.8 -0.1
baz=84
528A Cox Ranch, San 83.57 56 ⇑P P 23 16 29.5 +0.2
baz=84
P20A De Beque 83.61 45 ⇓P P 23 16 29.5 0.0
baz=84
RRI2 Red Ridge 83.62 41 eP P 23 16 29.4 -0.1
comp=Z,18nm,1.5s
R21A Cimarron 83.65 47 ⇑P P 23 16 30.5 +0.7
baz=84
126A Clayton Basin, 83.65 53 ⇓P P 23 16 29.9 +0.2
baz=84
U23A El Rito 83.67 49 ⇑P P 23 16 30.4 +0.6
baz=84,SNR=6.9
F14A Wisdom 83.69 38 ⇓P P 23 16 29.8 +0.1
baz=84
Y25A Mesa, Roswell 83.70 52 ⇓P P 23 16 29.8 -0.1
baz=84
W24A Lazy 6 Ranch, 83.73 50 ⇓P P 23 16 30.1 -0.1
baz=84
N19A John Jarvie Ra 83.76 44 ⇑P P 23 16 30.1 -0.1
baz=84
D13A Huson 83.77 36 ⇓P P 23 16 30.0 0.0
baz=84
I16A Newdale 83.79 40 ⇓P P 23 16 30.3 +0.1
baz=84
Q21A Lamborn Mesa, 83.85 46 ⇑P P 23 16 31.0 +0.3
baz=84
S22A 4UR Ranch, Cre 83.86 47 ⇑P P 23 16 31.1 +0.2
baz=84
G15A Dillon 83.86 39 ⇓P P 23 16 30.7 +0.1
baz=84,SNR=5.9
428A Kincaid Ranch, 83.88 55 ⇓P P 23 16 31.3 +0.4
baz=84
DLMT Dillon 83.90 39 eP P 23 16 31.1 +0.4
comp=Z,9.0nm,1.1s
MSO Missoula 83.92 37 ⇓P P 23 16 30.8 +0.1
baz=84
REDW Red Top Meadow 83.92 41 eP P 23 16 30.4 -0.6
comp=Z,11nm,1.5s
TPAW Teton Pass 83.93 41 eP P 23 16 31.0 0.0
comp=Z,6.0nm,1.0s
Z26A Caprock 83.95 52 ⇓P P 23 16 31.2 0.0
baz=84,SNR=8.8
X25A Clemmons Ranch 83.98 51 ⇑P P 23 16 31.2 -0.2
baz=84
529A Stev Forest Ra 84.00 56 ⇑P P 23 16 31.3 -0.2
baz=84
BSMT Bassoo Peak 84.01 36 eP P 23 16 29.5 -1.8
C13A Hot Springs 84.03 36 ⇓P P 23 16 31.5 +0.3
baz=84
328A Wristen Ranch, 84.06 55 ⇑P P 23 16 31.9 +0.2
baz=84
V24A Rampart Ranch, 84.06 50 ⇓P P 23 16 31.6 -0.3
baz=84,SNR=5.8
K18A Toltan Ranch, 84.07 42 ⇑P P 23 16 31.9 +0.2
baz=84
M19A Rock Springs 84.07 43 ⇓P P 23 16 31.4 -0.4
baz=84
R22A Saguache, Gunn 84.14 47 ⇑P P 23 16 33.1 +0.7
baz=84
IMW Indian Meadow 84.14 41 eP P 23 16 31.7 -0.5
comp=Z,2.9nm,0.8s
MOOW Moose Ponds 84.19 41 eP P 23 16 31.7 -0.6
comp=Z,7.3nm,1.6s
LOHW Long Hollow 84.20 41 eP P 23 16 32.2 -0.2
LRM Limekiln Ridge 84.24 38 eP P 23 16 31.7 -0.8
L19A Farson 84.24 43 ⇓P P 23 16 32.7 0.0
baz=84
P21A Newcastle 84.26 46 ⇑P P 23 16 33.1 +0.2
baz=84
DOT Dot Lake 84.28 13 eP P 23 16 31.0 -1.1
comp=Z,9.1nm,1.0s
D14A Greenough 84.30 37 ⇑P P 23 16 32.8 +0.1
baz=84
Q22A Crested Butte, 84.32 46 ⇓P P 23 16 33.0 -0.3
baz=84
QLMT Earthquake Lak 84.33 40 eP P 23 16 33.7 +0.7
N20A Spence Gulch, 84.34 44 ⇑P P 23 16 32.9 -0.3
baz=84
Y26A Elida 84.35 52 ⇓P P 23 16 33.3 0.0
baz=84
CHMT Chamberlain Mo 84.36 37 eP P 23 16 32.8 -0.3
J18A Kendall Valley 84.37 41 ⇓P P 23 16 32.6 -0.7
baz=84,SNR=8.6
H16A Russell Place, 84.37 40 ⇓P P 23 16 33.5 +0.2
baz=84,SNR=7.6
I17A Pilgrim Ck. 84.38 41 ⇑P P 23 16 33.1 -0.2
baz=85
FLWY Flagg Ranch 84.39 40 eP P 23 16 34.0 +0.6
comp=Z,15nm,1.1s
SMCO Snowmass 84.42 46 eP P 23 16 33.9 +0.1
comp=Z,3.1nm,0.3s
W25A X Bar L Ranch, 84.43 51 ⇑P P 23 16 33.2 -0.5
baz=85
BW06 Boulder Array 84.44 42 eP P 23 16 32.6 -1.1
BW06 Boulder Array 84.44 42 ⇑P P 23 16 33.4 -0.3
baz=85
PDAR Pinedale Array 84.44 42 P P 23 16 32.8 -0.9
comp=Z,3.1nm,0.7s,baz=208,slow=2.9,SNR=30
PDAR pP pP 23 17 02.5 -0.6
comp=Z,5.0nm,0.9s,baz=224,slow=4.1,SNR=7.7
PDAR Pinedale Array 84.44 42 P P 23 16 32.8 -0.9
PDAR pP pP 23 17 02.5 -0.6
E15A Deer Lodge 84.45 38 ⇑P P 23 16 33.5 +0.1
baz=85
429A Davenport Ranc 84.46 56 ⇑P P 23 16 33.4 -0.4
baz=85,SNR=7.3
B13A Whitefish 84.48 35 ⇑P P 23 16 33.7 +0.2
baz=85
228A UT Block 9, Go 84.53 54 ⇑P P 23 16 34.1 -0.1
baz=85
V25A Rancho No Teng 84.59 50 ⇑P P 23 16 34.2 -0.3
baz=85
H17A Grant Village 84.62 40 ⇓P P 23 16 34.7 +0.1
baz=85
COLA College 84.62 11 eP P 23 16 32.5 -1.2
comp=Z,27nm,1.3s
X26A CR and CF Fran 84.63 51 ⇑P P 23 16 34.0 -0.6
baz=85
BOZ Bozeman (W) 84.63 39 eP P 23 16 34.6 +0.2
comp=Z,13nm,1.4s
BOZ Bozeman (W) 84.63 39 ⇑P P 23 16 33.8 -0.7
baz=85,SNR=6.5
M20A Sweetwater, Wa 84.70 44 ⇓P P 23 16 35.1 +0.1
baz=85
530A J-C Ranch, Com 84.71 56 ⇑P P 23 16 35.1 +0.1
baz=85
ILAR Eielson Array 84.71 11 P P 23 16 32.7 -1.5
comp=Z,4.5nm,1.0s,baz=214,slow=5.4,SNR=22
ILAR pP pP 23 17 03.4 -0.3
comp=Z,4.3nm,1.1s,baz=217,slow=5.6,SNR=4.7
ILAR Eielson Array 84.71 11 P P 23 16 32.7 -1.5
ILAR pP pP 23 17 03.4 -0.3
I18A Diamond G Ranc 84.74 41 ⇓P P 23 16 35.0 -0.2
baz=85
329A Wagon Wheel Ra 84.74 55 ⇑P P 23 16 35.2 -0.1
baz=85
R23A Moffat 84.77 47 ⇓P P 23 16 35.5 +0.1
baz=85
N21A Black Mountain 84.80 45 ⇓P P 23 16 35.4 -0.1
baz=85
T24A Torres, Weston 84.82 49 ⇓P P 23 16 35.3 -0.4
baz=85
128A Castleberry Fa 84.82 54 ⇑P P 23 16 35.4 -0.2
baz=85,SNR=5.7
LKWY Lake 84.82 40 eP P 23 16 36.6 +1.1
comp=Z,5.3nm,1.1s
A13A Flathead Natio 84.82 35 ⇓P P 23 16 35.3 +0.1
baz=85
Y27A Causey 84.83 52 ⇓P P 23 16 35.5 -0.2
baz=85
D15A Lincoln 84.85 37 ⇓P P 23 16 35.2 -0.2
baz=85
L20A Wamsutter 84.85 43 ⇑P P 23 16 36.3 +0.6
baz=85,SNR=7.5
K19A Absolon Red Bu 84.92 42 ⇓P P 23 16 36.3 +0.2
baz=85
S24A Houchin Ranch, 84.95 48 ⇓P P 23 16 36.3 -0.1
baz=85
U25A Circle Dot Ran 84.98 50 ⇓P P 23 16 35.9 -0.6
baz=85
J19A Crowheart 85.01 42 ⇑P P 23 16 35.7 -0.8
baz=85
430A Baggett Ranch, 85.05 56 ⇑P P 23 16 36.6 -0.1
baz=85
E16A East Helena 85.07 38 ⇓P P 23 16 36.7 +0.1
baz=85
229A Bryant Ranch, 85.07 54 ⇓P P 23 16 36.6 -0.2
baz=85
B14A Marquette Ranc 85.14 36 ⇑P P 23 16 36.4 -0.5
baz=85
MSTX Muleshoe 85.16 52 ⇓P P 23 16 37.2 -0.1
baz=85
K20A Yellowstone Ra 85.17 43 ⇑P P 23 16 36.4 -0.8
baz=85
O22A Kremmling 85.17 45 ⇑P P 23 16 37.1 -0.4
baz=85
V26A Tequesquite Ra 85.18 50 ⇓P P 23 16 37.3 -0.1
baz=85
C15A Salmond Ranch, 85.19 37 ⇓P P 23 16 37.2 0.0
baz=85
X27A F and S Farms, 85.20 52 ⇑P P 23 16 37.4 -0.1
baz=85
R24A Sanders Place, 85.29 48 ⇑P P 23 16 38.1 +0.1
baz=85
129A Stewart Farms, 85.30 54 ⇓P P 23 16 38.1 +0.1
baz=85
M21A Separation Pea 85.30 44 ⇑P P 23 16 37.7 -0.3
baz=86
330A Mertzon 85.34 55 ⇓P P 23 16 38.0 -0.2
baz=86
531A Rocksprings 85.34 57 ⇓P P 23 16 38.1 -0.2
baz=86,SNR=5.1
F17A Fitzpatrick Pl 85.35 39 ⇓P P 23 16 37.9 -0.1
baz=86
A14A Double T Ranch 85.39 35 ⇓P P 23 16 38.1 0.0
baz=86
W27A Bowe Ranch, En 85.40 51 ⇓P P 23 16 38.3 -0.2
baz=86
D16A Dana Ranch, Ca 85.41 38 ⇓P P 23 16 38.4 +0.2
baz=86
I19A Meeteetse 85.43 41 ⇑P P 23 16 38.4 -0.1
baz=86
B15A Bradely Ranch, 85.51 36 ⇑P P 23 16 39.0 +0.3
baz=86
N22A Wattenberg Ran 85.53 45 ⇑P P 23 16 39.3 +0.1
baz=86
J20A Shoshoni 85.67 42 ⇓P P 23 16 39.2 -0.5
baz=86
Z29A Hungry Hill Ra 85.68 53 ⇓P P 23 16 40.0 +0.1
baz=86
C16A Fuhringer Ranc 85.70 37 ⇑P P 23 16 39.8 +0.2

	baz=86								
DAWY	**Dawson**	**85.71**	**15**	*e*P		**P**	**23 16 38.6**	**-0.6**	
G18A	**Lazy EL Ranch,**	**85.71**	**40**	⇑P		**P**	**23 16 40.0**	**+0.2**	
	baz=86								
H19A	**Powell**	**85.74**	**41**	⇑P		**P**	**23 16 40.3**	**+0.3**	
	baz=86								
A15A	**Johnson Ranch,**	**85.77**	**36**	⇑P		**P**	**23 16 40.3**	**+0.3**	
	baz=86								
532A	**Rocksprings**	**85.84**	**57**	⇓P		**P**	**23 16 40.4**	**-0.3**	
	baz=86								
331A	**San Angelo**	**85.89**	**56**	⇑P		**P**	**23 16 40.7**	**-0.2**	
	baz=86								
N23A	**Red Feather La**	**85.92**	**45**	⇑P		**P**	**23 16 41.1**	**0.0**	
	baz=86								
I20A	**Worland**	**85.93**	**41**	⇓P		**P**	**23 16 40.9**	**0.0**	
	baz=86								
D17A	**Six Diamond Ra**	**85.97**	**38**	⇓P		**P**	**23 16 41.4**	**+0.3**	
	baz=86								
B16A	**M & M Farms, S**	**86.04**	**36**	⇓P		**P**	**23 16 40.8**	**-0.5**	
	baz=86								
J21A	**Lysite**	**86.07**	**42**	⇑P		**P**	**23 16 41.6**	**-0.1**	
	baz=86								
L22A	**Ellis Ranch, M**	**86.11**	**44**	⇑P		**P**	**23 16 41.7**	**-0.3**	
	baz=86								
E18A	**Harlowton**	**86.13**	**39**	⇑P		**P**	**23 16 41.9**	**0.0**	
	baz=86								
Z30A	**Sanderson Ranc**	**86.13**	**53**	⇑P		**P**	**23 16 41.6**	**-0.4**	
	baz=86								
C17A	**Wharram Farm,**	**86.18**	**37**	⇓P		**P**	**23 16 41.7**	**-0.3**	
	baz=86								
S26A	**Kim**	**86.19**	**49**	⇑P		**P**	**23 16 41.3**	**-1.1**	
	baz=86								
231A	**Bronte**	**86.22**	**55**	⇓P		**P**	**23 16 42.1**	**-0.4**	
	baz=86								
M23A	**Laramie**	**86.33**	**45**	⇓P		**P**	**23 16 42.7**	**-0.4**	
	baz=86								
A16A	**West Butte Ran**	**86.39**	**36**	⇑P		**P**	**23 16 42.7**	**-0.3**	
	baz=87								
COLD	**Coldfoot**	**86.39**	**9**	*e*P		**P**	**23 16 42.1**	**-0.4**	
	comp=Z,6.4nm,1.0s								
I21A	**Big Trails, Te**	**86.39**	**42**	⇓P		**P**	**23 16 42.6**	**-0.6**	
	baz=87								
332A	**Millersview**	**86.46**	**56**	⇓P		**P**	**23 16 43.5**	**-0.2**	
	baz=87								
R26A	**Arlington**	**86.50**	**48**	⇓P		**P**	**23 16 43.2**	**-0.7**	
	baz=87								
P25A	**Willow Gulch B**	**86.52**	**47**	⇑P		**P**	**23 16 43.0**	**-1.0**	
	baz=87								
N24A	**Carr**	**86.61**	**45**	⇑P		**P**	**23 16 43.4**	**-1.0**	
	baz=87								
L23A	**Garrett**	**86.64**	**44**	⇓P		**P**	**23 16 43.9**	**-0.7**	
	baz=87								
E19A	**Rath Farm, Rou**	**86.75**	**39**	⇑P		**P**	**23 16 44.8**	**0.0**	
	baz=87								
A17A	**Triple J Farms**	**86.89**	**36**	⇑P		**P**	**23 16 46.0**	**+0.6**	
	baz=87								
ABTX	**Abilene, Hawle**	**87.02**	**55**	⇓P		**P**	**23 16 46.2**	**-0.2**	
	baz=87								
C19A	**Slack Wire Ran**	**87.23**	**38**	⇑P		**P**	**23 16 47.9**	**+0.8**	
	baz=87								
ENH	**Enshi**	**87.33**	**303**	*e*P		**P**	**23 16 48.5**	**+0.6**	
	comp=Z,9.8nm,0.8s								
C20A	**Veseth Ranch,**	**87.83**	**38**	⇓P		**P**	**23 16 50.1**	**+0.1**	
	baz=88								
A19A	**Klindworth Far**	**88.00**	**37**	⇓P		**P**	**23 16 50.5**	**-0.2**	
	baz=88								
B20A	**Solberg Farm,**	**88.17**	**38**	⇑P		**P**	**23 16 51.7**	**+0.1**	
	baz=88								
GYA	**Guiyang**	**88.28**	**298**	*e*P		**P**	**23 16 52.8**	**+0.2**	
GYA				pP		**pP**	**23 17 21.6**	**-0.7**	
GYA				sP		**sP**	**23 17 33.0**	**-1.4**	
GYA				PP		**PP**	**23 20 23.8**	**+2.0**	
GYA				SKS		**SKSac**	**23 27 09.4**	**-2.0**	
GYA				S		**S**	**23 27 26.7**	**-1.7**	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
A20A	**Cobblestone Ra**	**88.44**	**37**	⇓P		**P**	**23 16 52.9**	**+0.1**	
	baz=89								
PLCA	**Paso Flores**	**88.72**	**132**	P		**P**	**23 16 53.4**	**-1.1**	
	comp=Z,2.3nm,0.9s,baz=225,slow=5.7,SNR=4.2								
PLCA	**Paso Flores**	**88.72**	**132**	P		**P**	**23 16 53.4**	**-1.1**	
C23A	**Lambert**	**89.55**	**39**	⇓P		**P**	**23 16 57.8**	**-0.2**	
	baz=90								
HHC	**Hu-ho-hao-te**	**89.84**	**313**	*e*P		**P**	**23 16 59.2**	**-0.4**	
HHC				pP		**pP**	**23 17 27.7**	**-1.6**	
HHC				sP		**sP**	**23 17 39.0**	**-2.4**	
HHC				PP		**PP**	**23 20 35.4**	**+1.5**	
HHC				SKS		**SKSac**	**23 27 17.2**	**-2.7**	
HHC				S		**S**	**23 27 40.4**	**-2.0**	
HHC				sS		**sS**	**23 28 31.5**	**-2.1**	
HHC				SS		**SS**	**23 33 45.3**	**+2.4**	
HHC				pmax		pmax			
	comp=Z,13nm,0.7s								
HHC				pmax		pmax			
	comp=Z,120nm,7.2s								
HHC				LR		LR			
	comp=E,310nm,17.3s								
HHC				LR		LR			
	comp=Z,290nm,17.4s								
INK	**Inuvik**	**90.55**	**14**	P		**P**	**23 17 01.1**	**-1.0**	
	comp=Z,2.7nm,1.0s,baz=199,slow=4.3,SNR=3.9								
INK	**Inuvik**	**90.55**	**14**	P		**P**	**23 17 01.1**	**-1.0**	
VNA3	**Neumayer Olymp**	**90.81**	**175**	*e*P		**P**	**23 17 04.9**	**+1.4**	
SNAA	**Sanae**	**90.82**	**177**	*e*P		**P**	**23 17 05.3**	**+1.6**	
	comp=Z,2.9nm,1.0s								
KMI	**Kunming**	**91.16**	**296**	P		**P**	**23 17 07.0**	**+0.7**	
KMI				pmax		pmax			
	comp=Z,11nm,1.1s								
VNA2	**Neumayer--Watz**	**91.29**	**176**	*e*P		**P**	**23 17 05.5**	**-0.3**	
CMAR	**Chiang Mai Arr**	**92.45**	**288**	P		**P**	**23 17 13.0**	**+0.9**	
	comp=Z,3.8nm,0.8s,baz=98,slow=2.3,SNR=23								
CMAR	**Chiang Mai Arr**	**92.45**	**288**	P		**P**	**23 17 13.0**	**+0.9**	
CHTO	**Chiang Mai**	**92.56**	**289**	*e*P		**P**	**23 17 13.6**	**+1.1**	
	comp=Z,5.1nm,0.9s								
LZH	**Lanzhou**	**93.79**	**307**	*e*P		**P**	**23 17 19.1**	**+1.0**	
LZH				pP		**pP**	**23 17 48.2**	**+0.4**	
LZH				sP		**sP**	**23 18 00.3**	**+0.4**	
LZH				*e*PP		**PP**	**23 21 09.5**	**+4.3**	
LZH				pmax		pmax			
	comp=Z,17nm,1.2s								
LZH				pmax		pmax			
	comp=Z,52nm,8.6s								
LZH				LR		LR			
	comp=N,120nm,17.5s								
LZH				LR		LR			
	comp=E,140nm,18.2s								
LZH				LR		LR			
	comp=Z,170nm,19.8s								
SONM	**Songino Array**	**95.85**	**318**	P		**P**	**23 17 25.7**	**-1.4**	
	comp=Z,0.4nm,0.8s,baz=97,slow=6.0,SNR=3.3								
SONM	**Songino Array**	**95.85**	**318**	P		**P**	**23 17 25.8**	**-1.4**	
MK31	**Makanchi Array**	**111.69**	**314**	*e*PKPdf		**PKiKP**	**23 22 33.4**	**-1.3**	
MKAR	**Makanchi Array**	**111.69**	**314**	PKiKP		**PKiKP**	**23 22 33.6**	**-1.1**	
	comp=Z,1.3nm,0.8s,baz=64,slow=1.8,SNR=13								
MKAR	**Makanchi Array**	**111.69**	**314**	PKiKP		**PKiKP**	**23 22 33.6**	**-1.1**	
MDN	**Morne-Daniel**	**115.93**	**81**	*e*			23 32 59.0		
KSH	**Kashi**	**116.03**	**306**	*e*PKP		**PKPdf**	**23 22 44.0**	**+0.6**	
KSH				*es*PKP			23 23 21.9		
KSH				*e*PP		PP	23 23 56.8	+7.1	
KSH				PKS		**PKSdf**	**23 26 19.1**	**-1.1**	
KSH				SKS		**SKSdf**	**23 29 44.8**	**-0.4**	
KSH				SKKS		**SKKSac**	**23 30 39.9**	**+0.3**	
KSH				SS		**SS**	**23 39 49.7**	**+6.2**	
KSH				AMB		AMB			
	comp=Z,28nm,4.1s								
KSH				LR		LR			
	comp=N,320nm,13.4s								
KSH				LR		LR			
	comp=E,250nm,10.4s								
KSH				LR		LR			
	comp=Z,330nm,8.4s								
KBL	**Kabul**	**121.48**	**300**	*e*PKPdf		**PKPdf**	**23 22 53.8**	**-0.4**	
ABKAR	**Akbulak array**	**126.26**	**319**	*e*PKPdf		**PKPdf**	**23 23 02.1**	**-0.5**	
ARCES	**ARCESS Array B**	**126.59**	**351**	PKP		**PKPdf**	**23 23 01.9**	**-0.7**	
	comp=Z,2.8nm,0.8s,baz=0,0,slow=0.9,SNR=8.8								
ARCES	**ARCESS Array B**	**126.59**	**351**	PKP		**PKPdf**	**23 23 01.9**	**-0.7**	
FINES	**FINESS Array B**	**133.83**	**347**	PKP		**PKPdf**	**23 23 15.9**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=35,slow=5.3,SNR=5.3								
FINES	**FINESS Array B**	**133.83**	**347**	PKP		**PKPdf**	**23 23 15.9**	**-0.6**	
AKASG	**Malin Array Be**	**141.95**	**336**	PKhKP		PKPpre	23 23 20.6		
	comp=Z,0.4nm,0.4s,baz=29,slow=2.1,SNR=3.7								
AKASG				PKP		**PKPdf**	**23 23 30.8**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=39,slow=3.3,SNR=4.3								
AKASG	**Malin Array Be**	**141.95**	**336**	PKPpre		PKPpre	23 23 20.6		
AKASG				PKP		**PKPdf**	**23 23 30.8**	**-1.0**	
KMBO	**Kilima Mbogo**	**143.79**	**242**	*e*PKPdf		PKPbc	23 23 34.4	-0.1	
KWP	**Kalwaria Pacla**	**145.17**	**341**	*e*PKP		**PKPab**	**23 23 37.4**	**-0.1**	
KWP	**Kalwaria Pacla**	**145.17**	**341**	*e*PKPdf		**PKPbc**	**23 23 36.8**	**-0.5**	
KWP	**Kalwaria Pacla**	**145.17**	**341**	⇑*i*P		**PKPab**	**23 23 37.4**	**-0.1**	
KWP	**Kalwaria Pacla**	**145.17**	**341**	*e*PKP		**PKPab**	**23 23 37.3**	**-0.1**	
OJC	**Ojcow**	**145.49**	**344**	*e*PKP		**PKPdf**	**23 23 38.0**	**0.0**	
CLZ	**Clausthal**	**145.58**	**355**	*e*PKPbc		**PKPdf**	**23 23 38.3**	**+0.1**	
KSP	**Ksiaz**	**145.72**	**348**	*e*PKP		**PKPbc**	**23 23 38.7**	**-0.3**	
KSP	**Ksiaz**	**145.72**	**348**	*e*PKP		**PKPbc**	**23 23 38.6**	**-0.3**	
CLL	**Collm**	**145.82**	**352**	*e*PKPbc		**PKPbc**	**23 23 38.9**	**-0.3**	
CLL				*es*PKPbc		sPKPbc	23 24 22.6	+0.8	
CLL	**Collm**	**145.82**	**352**	⇑*i*PKPbc		**PKPbc**	**23 23 39.0**	**-0.3**	
	comp=Z,27nm,1.1s								
CLL				*e*(pPKPbc)			23 24 11.0		
CLL				*ep*PKiKP		**pPKiKP**	**23 24 14.0**	**+0.3**	
CLL				*es*PKPbc		sPKPbc	23 24 23.0	+1.2	
KOLS	**Kolonicke sedl**	**145.92**	**340**	*e*PKP		**PKPbc**	**23 23 39.8**	**+0.1**	
BUR08	**Bucovina Ar. S**	**145.98**	**336**	*e*PKPdf		**PKPdf**	**23 23 39.4**	**+0.3**	
BURAR	**Bucovina Array**	**146.00**	**336**	⇑*i*P		**PKPab**	**23 23 40.8**	**0.0**	
NIE	**Niedzica**	**146.07**	**343**	*e*PKP		**PKPbc**	**23 23 40.4**	**+0.2**	
UPC	**Upice**	**146.09**	**348**	*e*PKP		**PKPbc**	**23 23 40.3**	**+0.2**	
UPC				*ex*		x	23 23 45.5		
BRG	**Berggiesshubel**	**146.10**	**351**	*e*PKP		**PKPbc**	**23 23 39.7**	**-0.4**	
	comp=Z,27nm,1.4s								
BRG				*e*			23 24 11.5		
	comp=Z,13nm,1.2s								
BRG	**Berggiesshubel**	**146.10**	**351**	*e*PKPbc		**PKPbc**	**23 23 39.9**	**-0.2**	
BRG				*ep*PKPbc		pPKPbc	23 24 11.4	+0.6	
BRG				*es*PKPbc		sPKPbc	23 24 23.3	+0.7	
DPC	**Dobruska-Polom**	**146.18**	**348**	*e*PKP		**PKPbc**	**23 23 40.7**	**+0.3**	
DPC				*ep*PKP		**pPKPdf**	**23 24 12.2**	**+1.9**	
CRVS	**Cervenica-Dubn**	**146.20**	**341**	*e*PKP		**PKPbc**	**23 23 40.0**	**-0.5**	
OKC	**Ostrava-Krasne**	**146.26**	**345**	*e*PKP		**PKPbc**	**23 23 40.5**	**-0.1**	
OKC				*ep*PKP		**pPKPdf**	**23 24 11.8**	**+1.4**	
TESR		**146.30**	**334**	⇓*i*P		**PKPbc**	**23 23 40.6**	**-0.3**	
GHRR		**146.33**	**332**	⇓*i*P		**PKPab**	**23 23 41.9**	**0.0**	
PVCC	**Panska Ves**	**146.33**	**350**	*e*PKP		**PKPbc**	**23 23 40.9**	**+0.1**	
PVCC				*ep*PKP		**pPKPdf**	**23 24 12.5**	**+2.0**	
TLCR		**146.34**	**330**	⇓*i*P		**PKPbc**	**23 23 41.3**	**+0.3**	
KRLC	**Kraliky**	**146.34**	**347**	*e*PKP		**PKPbc**	**23 23 41.2**	**+0.3**	
KRLC				*ex*		x	23 23 49.6		
KRLC				*ep*PKP		**pPKPdf**	**23 24 12.5**	**+1.9**	
MORC	**Moravsky Berou**	**146.46**	**346**	⇑*i*P		**PKPbc**	**23 23 41.5**	**+0.2**	
TRPA	**Tarpa**	**146.53**	**339**	⇓*i*P		**PKPbc**	**23 23 41.5**	**+0.1**	
MOX	**Moxa**	**146.64**	**353**	*e*PKPbc		**PKPbc**	**23 23 41.6**	**-0.1**	
MOX				*ep*PKPbc		pPKPbc	23 24 12.9	+0.5	
CFR	**Carcaliu**	**146.66**	**331**	⇑*i*P		**PKPdf**	**23 23 40.2**	**+0.1**	
PETR		**146.66**	**332**	⇓*i*P		**PKPab**	**23 23 44.3**	**+1.1**	
TANN	**Tannenbergstha**	**146.76**	**352**	*e*PKPbc		**PKPbc**	**23 23 42.2**	**0.0**	
TANN				*ep*PKPbc		pPKPbc	23 24 14.8	+2.0	
VRI	**Vrincioaia**	**146.78**	**333**	⇓*i*P		**PKPbc**	**23 23 41.3**	**-1.0**	
PLOR	**Plostina**	**146.82**	**333**	⇓*i*P		**PKPbc**	**23 23 42.8**	**+0.3**	
PRU	**Pruhonice**	**146.86**	**350**	*e*PKP		**PKPbc**	**23 23 42.2**	**-0.2**	
PRU				*ex*		x	23 23 47.2		
PRU				*ep*PKP		**pPKPdf**	**23 24 13.4**	**+2.0**	
MEM	**Membach**	**147.01**	**360**	PKPbc		**PKPbc**	**23 23 42.5**	**-0.2**	
TIRR	**Tirgusor**	**147.07**	**329**	*e*PKPbc		**PKPbc**	**23 23 42.5**	**-0.5**	
TIRR	**Tirgusor**	**147.07**	**329**	⇑*i*P		**PKPbc**	**23 23 42.6**	**-0.5**	
VRAC	**Vranov**	**147.11**	**347**	⇓*i*P		**PKPab**	**23 23 44.8**	**-0.1**	
BCLA	**Clavier**	**147.20**	**0**	PKPbc		**PKPdf**	**23 23 41.9**	**+1.0**	
BRTR	**Keskin Array B**	**147.21**	**318**	PKPbc		**PKPbc**	**23 23 43.3**	**-0.6**	
	comp=Z,14nm,1.0s,baz=137,slow=1.9,SNR=40								
BRTR				*ep*PKPbc		**pPKPbc**	**23 24 16.2**	**+1.6**	
	comp=Z,3.0nm,0.8s,baz=48,slow=2.1,SNR=2.3								
BRTR	**Keskin Array B**	**147.21**	**318**	PKPbc		**PKPbc**	**23 23 43.3**	**-0.6**	
BRTR				*ep*PKPbc		**pPKPbc**	**23 24 16.2**	**+1.6**	
VYHS	**Vyhne**	**147.32**	**344**	*e*PKP		**PKPbc**	**23 23 43.5**	**-0.2**	
TNS	**Taunus Mts**	**147.33**	**357**	*e*PKPbc		**PKPbc**	**23 23 43.7**	**0.0**	
MLR	**Muntele Rosu**	**147.41**	**333**	⇓*i*P		**PKPdf**	**23 23 40.4**	**-1.2**	
ROTZ	**Rotzenmuhle**	**147.43**	**352**	*e*PKPbc		**PKPbc**	**23 23 44.3**	**+0.3**	
ROTZ				*ep*PKPbc		**pPKPbc**	**23 24 17.0**	**+2.3**	
ISR	**Istrita**	**147.44**	**332**	⇑*i*P		**PKPbc**	**23 23 44.7**	**+0.5**	
MANR	**Mangalia**	**147.45**	**328**	⇓*i*P		**PKPbc**	**23 23 44.8**	**+0.6**	
DOU	**Dourbes**	**147.52**	**1**	PKPbc		**PKPbc**	**23 23 43.3**	**-0.8**	
DOU				APKP		**pPKPdf**	**23 24 16.4**	**+3.9**	
PSZ	**Piszkesteto**	**147.55**	**342**	*e*PKPbc		**PKPbc**	**23 23 44.3**	**-0.1**	
PSZ	**Piszkesteto**	**147.55**	**342**	⇓*i*P		**PKPbc**	**23 23 45.0**	**+0.6**	
DRGR		**147.62**	**338**	⇓*i*P		**PKPbc**	**23 23 44.6**	**-0.1**	
GRF	**Grafenberg Arr**	**147.62**	**353**	*e*PKPbc		**PKPbc**	**23 23 44.9**	**+0.4**	
VOIR		**147.83**	**334**	⇑*i*P		**PKPdf**	**23 23 42.7**	**+0.5**	
KHC	**Kasperske Hory**	**147.85**	**350**	*e*PKPbc		**PKPbc**	**23 23 45.5**	**+0.3**	
KHC				*es*PKPdf		sPKPdf	23 24 17.1	-7.9	
KHC	**Kasperske Hory**	**147.85**	**350**	*e*PKP		**PKPbc**	**23 23 45.3**	**+0.1**	
KHC				*ex*		x	23 23 51.1		
KHC				*ep*PKP		**pPKPdf**	**23 24 17.2**	**+4.0**	
WET	**Wettzell**	**147.95**	**351**	*e*PKPbc		**PKPbc**	**23 23 45.6**	**+0.2**	
WLF	**Walferdange**	**147.96**	**359**	PKPbc		**PKPbc**	**23 23 45.6**	**+0.2**	
WLF				APKP		**pPKPdf**	**23 24 17.8**	**+4.5**	
WLF	**Walferdange**	**147.96**	**359**	*e*PKPbc		**PKPbc**	**23 23 46.1**	**+0.7**	
ARR	**Arges**	**148.06**	**334**	⇓*i*P		**PKPbc**	**23 23 46.8**	**+0.9**	
GEC2	**GERESS Array S**	**148.11**	**350**	*e*PKPbc		**PKPbc**	**23 23 45.9**	**0.0**	
GERES	**GERESS Array B**	**148.11**	**350**	PKPbc		**PKPbc**	**23 23 45.3**	**-0.6**	
	comp=Z,6.4nm,1.0s,baz=29,slow=2.2,SNR=22								
GERES				*ep*PKPbc		**pPKPbc**	**23 24 18.9**	**+2.1**	
	comp=Z,1.9nm,0.8s,baz=27,slow=1.5,SNR=3.3								
GERES	**GERESS Array B**	**148.11**	**350**	PKPbc		**PKPbc**	**23 23 45.3**	**-0.6**	
GERES				*ep*PKPbc		**pPKPbc**	**23 24 18.9**	**+2.1**	
LOT	**Lotru**	**148.35**	**335**	⇓*i*P		**PKPbc**	**23 23 46.8**	**+0.1**	
CONA	**Conrad Observa**	**148.57**	**347**	⇑*i*PKiKP		**PKPbc**	**23 23 47.2**	**0.0**	
	comp=Z,25nm,1.6s,SNR=9.4								
BZS	**Buzias**	**149.02**	**338**	⇓*i*P		**PKPbc**	**23 23 48.1**	**-0.1**	
FUR	**Furstenfeldbru**	**149.12**	**353**	*e*PKPbc		**PKPbc**	**23 23 48.8**	**+0.4**	
BFO	**Black Forest**	**149.22**	**357**	*e*PKPbc		**PKPbc**	**23 23 48.6**	**-0.1**	
BFO	**Black Forest**	**149.22**	**357**	*e*PKPbc		**PKPbc**	**23 23 48.4**	**-0.3**	
BFO				*es*PKPdf		**sPKPdf**	**23 24 21.3**	**-5.9**	
RJOB	**Jochberg**	**149.33**	**351**	*e*PKPbc		**PKPbc**	**23 23 49.0**	**0.0**	
THEF	**They Montfort**	**149.40**	**360**	PKP		**PKPbc**	**23 23 49.7**	**+0.6**	
PKSM	**Moragy**	**149.46**	**342**	⇑*i*P		**PKPbc**	**23 23 49.0**	**-0.3**	
RETA	**Reutte**	**149.85**	**353**	⇓*i*PKPbc		**PKPbc**	**23 23 49.7**	**-0.6**	
	comp=Z,12nm,1.1s								
KBA	**Koelnbreinsper**	**149.88**	**350**	⇑*i*PKiKP		**PKPbc**	**23 23 50.3**	**-0.3**	
	comp=Z,5.3nm,0.9s								
CSS	**Prodhromos**	**149.89**	**311**	*e*PKPbc		**PKPbc**	**23 23 49.8**	**-1.0**	
SOKA	**Soboth**	**149.94**	**347**	⇑*i*PKiKP		**PKPbc**	**23 23 49.7**	**-0.8**	
	comp=Z,12nm,1.1s								
MOTA	**Moosalm**	**149.95**	**353**	⇑*i*PKiKP		**PKPbc**	**23 23 50.1**	**-0.5**	
	comp=Z,15nm,1.0s								
WTTA	**Wattenberg**	**149.96**	**352**	⇓*i*PKiKP		**PKPbc**	**23 23 50.7**	**-0.1**	
	comp=Z,12nm,0.9s								
DAVA	**Damuels**	**150.14**	**354**	⇑*i*PKiKP		**PKPbc**	**23 23 51.5**	**+0.4**	
	comp=Z,24nm,1.1s,SNR=6.7								
LOMF	**Lomont**	**150.26**	**358**	PKP		**PKPbc**	**23 23 51.9**	**+0.6**	
FETA	**Feichten**	**150.31**	**353**	⇓*i*PKiKP		**PKPbc**	**23 23 51.4**	**-0.2**	
	comp=Z,21nm,1.2s,SNR=7.6								
ABTA	**Abfaltersbach**	**150.34**	**350**	⇓*i*PKiKP		**PKPbc**	**23 23 51.0**	**-0.6**	
	comp=Z,22nm,1.0s								
VTS	**Vitosha**	**150.91**	**333**	⇑*i*P		**PKPbc**	**23 23 52.8**	**-0.3**	
TUE	**Stuetta**	**151.00**	**355**	*e*PKPbc		**PKPbc**	**23 23 52.9**	**-0.3**	
TUE				*es*PKPdf		**sPKPdf**	**23 24 26.7**	**-3.6**	
AGO	**Saint Agoulin**	**151.50**	**4**	PKP		**PKPbc**	**23 23 54.7**	**+0.5**	
PLDF	**La Plantade**	**151.61**	**3**	PKP		**PKPbc**	**23 23 54.8**	**+0.3**	
PYM	**Petit Puy Mans**	**151.79**	**4**	PKP		**PKPbc**	**23 23 55.4**	**+0.5**	
LBL	**Lubilhac**	**152.32**	**4**	PKP		**PKPbc**	**23 23 56.4**	**+0.3**	
TORD	**Torodi Ar. Bea**	**174.17**	**138**	PKP		**PKPdf**	**23 24 09.3**	**-1.2**	
	comp=Z,1.4nm,0.9s,baz=323,slow=1.8,SNR=6.4								
TORD				*ep*PKP		**pPKPdf**	**23 24 42.5**	**+0.7**	
	comp=Z,1.7nm,0.9s,baz=328,slow=0.8,SNR=5.5								
TORD				PKPab		**PKPab**	**23 25 43.8**	**+1.2**	
	comp=Z,3.2nm,1.1s,baz=243,slow=5.8,SNR=8.6								
TORD				*ep*PKPab		**pPKPab**	**23 26 13.2**	**+0.7**	
	comp=Z,3.6nm,1.1s,baz=231,slow=2.0,SNR=7.3								
TORD	**Torodi Ar. Bea**	**174.17**	**138**	PKP		**PKPdf**	**23 24 09.3**	**-1.2**	
TORD				*ep*PKP		**pPKPdf**	**23 24 42.5**	**+0.7**	
TORD				PKPab		**PKPab**	**23 25 43.8**	**+1.2**	
TORD				*ep*PKPab		**pPKPab**	**23 26 13.2**	**+0.7**	

BGS ***12*** *23:23:21.4±2.3, 4.°01N×84.°82W, h10km, mb5.5, MS5.9*
IDC ***12*** *23:23:30.2±0.4, 5.°51N×82.°37W, h0km, mb4.9/23, mb1 5.0/26, mb1mx5.0/27, mbtmp4.9/26, ML4.4/4, MS5.8/36, Ms1 5.8/36, ms1mx5.7/45, Error ellipse: s-maj=17.8km s-min=8.0km az=67.0*
CASC ***12*** *23:23:34.5±3.6, 5.°59N×82.°63W, h21km±41km, MD5.4, ML5.4, mb6.1(NEIC)*
MOS ***12*** *23:23:34.9±1.4, 5.°90N×82.°84W, h10km, mb6.2/89, MS5.9/46, Error ellipse: s-maj=6.3km s-min=4.3km az=87.7*
BJI ***12*** *23:23:34.5, 5.°90N×82.°80W, h10km, mB6.2/39, Ms6.3/48, Ms7 6.1/44*
NEIC ***12*** *23:23:34.8±0.2, 5.°69N×82.°77W, h9km, mb6.1/238, ME6.8, MS5.9/157, MW6.2, MW6.2, MW6.2(USGS), Error ellipse: s-maj=5.9km s-min=3.7km az=20.0 Broadband fault plane solution: P waves. NP1:φ=15.00000°, δ=80.00000°, λ=-175.00000°. NP2:φ=284.00000°, δ=85.00000°, λ=-10.00000°. Principal axes: T Plg4.0000°, Azm330.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm239.0000°; Moment Tensor Solution. s109 Moment tensor: Scale 10¹⁸ Nm; Mrr=0.54; Mθθ=-0.37; Mφφ=-0.17; Mrθ=0.06; Mrφ=2.46; Mθφ=0.46; Best double couple: Mo=2.50000×10¹⁸ NP1:φ=89.00000°, δ=78.00000°, λ=5.00000°. NP2:φ=358.00000°, δ=85.00000°, λ=168.00000°. Principal axes: T 2.2700, Plg12.0000°, Azm313.0000°; N 0.4800, Plg76.0000°, Azm154.0000°; P -2.7600, Plg4.0000°, Azm44.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Boquete. Also felt at Bocas del Toro, David, Panama, Potrerillos Arriba and Santiago. Felt [II] at San Jose, Costa Rica. Also felt at Alajuela, Cartago, Colon, Escazu, Golfito, Ipis, Quepos, Sabanilla, San Francisco, San Pablo, San Rafael, Santa Ana, Santo Domingo and Turrialba.
ISCJB ***12*** *23:23:35.3±0.2, 5.°80N±0.°02×82.°61W±0.°02, h10km, mb5.8/324, MS5.9/229 Error ellipse: s-maj=3.6km s-min=1.9km az=22.5*
GCMT ***12*** *23:23:40.3±0.1, 5.°51N×82.°60W, h23km, MW6.3, Moment Tensor Solution. s108,c250; s99,c173; Moment tensor: Scale 10¹⁸Nm; Mrr=0.13±.02; Mθθ0.27±.02; Mφφ=-0.14±.02; Mrθ0.31±.04; Mφφ3.43±.02; Mrr0.01±.04; Best double couple: Mo3.50000×10¹⁸ NP1:φ=2.00000°, δ85.00000°, λ180.00000°. NP2:φ=92.00000°, δ90.00000°, λ5.00000°. Principal axes: T 3.5200, Plg4.0000°, Azm317.0000°; N -0.1300, Plg85.0000°, Azm93.0000°; P -3.3800, Plg4.0000°, Azm227.0000°; Data Used: II IU CN IC G. Surface waves: sta=123, comp=290, per= 50.*
SZGRF ***12*** *23:23:45.4, 6.°22N×81.°77W, h33km, mb5.9, MS6.0, South of Panama*
NEIC ***12*** *23:23:47.9±0.0, 5.°66N×82.°09W, h10km, Moment Tensor Solution. s171 Moment tensor: Scale 10¹⁸Nm; Mrr-0.11; Mθθ0.27; Mφφ-0.16; Mrθ0.20; Mθφ2.51; M

TEIG LR LR 23 32 47.8
comp=E,85µm,20.1s,baz=358,slow=36
TEIG Tepich 15.59 340 ePn **Pn 23 27 14.5 +0.2**
comp=E,1µm,1.3s
TEIG Sn **Sn 23 30 12.9 +5.7**
RCC Rio Carpintero 15.93 25 eP **Pn 23 27 19.4 +0.7**
RCC eS **Sn 23 30 19.7 +4.3**
comp=N,37µm,21.3s
RCC e
comp=E,72µm,19.1s
GTBY Guantanamo Bay 16.12 27 ePn **Pn 23 27 20.5 -0.7**
comp=E,15µm,2.0s
CMIG Matias Romero 16.56 315 Pn **Pn 23 27 27.1 +0.3**
comp=E,1.6nm,0.3s,baz=110,slow=9.7,SNR=45
CMIG Sn **Sn 23 30 35.4 +4.6**
comp=E,0.9nm,0.3s,baz=338,slow=11,SNR=2.6
CMIG LR LR 23 32 46.3
comp=E,77µm,21.9s,baz=115,slow=33
CMIG Matias Romero 16.56 315 Pn **Pn 23 27 27.1 +0.3**
CMIG Sn **Sn 23 30 35.4 +4.6**
MGV Manicaragua 16.71 9 eP **Pn 23 27 29.2 +0.5**
MGV eS **Sn 23 30 33.1 -1.1**
comp=N,980nm,4.4s
MGV e
comp=E,2µm,5.8s
MASC Masc 16.74 29 eP **P 23 27 31.3 -0.1**
SOR Soroa 17.18 359 eP **Pn 23 27 34.3 -0.3**
SOR eS **Sn 23 30 43.6 -2.1**
comp=N,1µm,7.2s
SOR e
comp=E,2µm,9.6s
SDDR Presa de Saban 17.41 39 ePn **Pn 23 27 37.0 -0.7**
comp=E,8µm,1.7s
NNA Nana 18.35 161 P **Pn 23 27 44.6 -4.6**
comp=E,1.1nm,0.3s,baz=348,slow=12,SNR=6.7
NNA S **Sn 23 31 10.0 -4.2**
comp=E,0.9nm,0.3s,baz=290,slow=15,SNR=1.6
NNA LR LR 23 34 19.7
comp=E,21µm,20.0s,baz=320,slow=36
NNA Nana 18.35 161 eP **Pn 23 27 44.9 -4.2**
comp=E,382nm,1.1s
NNA S **Sn 23 31 10.0 -4.2**
NNA Nana 18.35 161 P **Pn 23 27 44.5 -4.6**
comp=E,860nm,0.9s,SNR=5.4
UTMO Huajuapan 19.16 311 P **Pn 23 27 59.5 +0.3**
GRTK Grand Turk 19.46 34 eP **P 23 28 01.5 +0.2**
comp=E,17µm,2.3s
CRPR Cabo Rojo, PR 19.66 50 eP **P 23 28 03.9 +0.3**
comp=E,31µm,2.8s
MPR Mayaguez 19.76 49 eP **P 23 28 03.7 -1.0**
comp=E,2µm,1.1s
LSP Las Mesas 19.78 49 eP **P 23 28 04.2 -0.8**
AGP Aguadilla 19.88 49 ePn **Pn 23 28 08.9 +1.3**
AGPR Aguadilla, PR 19.94 48 eP **Pn 23 28 08.0 -0.3**
comp=E,2µm,1.1s
LRS Lares 20.03 49 eP **P 23 28 06.1 -1.6**
OBIP Obispado Ponce 20.07 50 eP **P 23 28 07.7 -0.3**
comp=E,2µm,1.0s
CELP Cerrillos 20.11 50 eP **P 23 28 08.2 -0.3**
AOPR Arecibo Observ 20.14 49 ePn Pn 23 28 10.4 -0.2
comp=E,3µm,1.0s
SJG San Juan 20.46 51 P **P 23 28 10.3 -1.9**
comp=E,331nm,0.8s,baz=270,slow=7.2,SNR=21
SJG S Sn 23 32 04.7 -0.5
comp=E,13nm,0.9s,baz=270,slow=19,SNR=2.2
SJG LR LR 23 36 46.0
comp=E,21µm,18.3s,baz=271,slow=39
SJG San Juan 20.46 51 eP **P 23 28 10.4 -1.8**
comp=E,1µm,0.8s
SJG S Sn 23 32 04.7 -0.5
SJG LR LR
comp=Z,28µm,21.0s
PPM Popocatepetl 20.54 312 P Pn 23 28 17.5 +1.5
PPM Popocatepetl 20.54 312 P Pn 23 28 17.5 +1.5
HUMP Col San Antoni 20.71 51 eP **P 23 28 13.6 -1.4**
CBYP Canovanas 20.78 51 eP **P 23 28 13.6 -2.2**
comp=Z,3µm,1.2s
MTP Monte Pirata 20.91 52 eP **P 23 28 14.8 -2.4**
comp=Z,2µm,1.2s
IIO Organos 20.94 313 P Pn 23 28 21.4 +0.9
PTP Ponta Puerca 20.94 51 eP x 23 24 15.5
PBVM Pinon 21.11 312 P **P 23 28 22.3 +3.0**
PTVM Pico Tres Padr 21.23 313 P **P 23 28 23.9 +3.1**
CDVI St. Croix 21.35 54 eP **P 23 28 21.7 -0.2**
comp=Z,3µm,0.9s
TCE Chacachacare 21.38 75 e **P 23 28 25.6 +3.4**
STVI Saint Thomas 21.53 52 eP **P 23 28 24.6 +0.9**
comp=Z,8µm,1.6s
TPP Pointe-a-Pierr 21.59 76 e **P 23 28 24.2 -0.3**
TPP Pointe-a-Pierr 21.59 76 e P 23 28 36.3 +12
TRN Trinidad (W) 21.70 75 e **P 23 28 25.1 -0.6**
TRN Trinidad (W) 21.70 75 e **P 23 28 27.3 +1.6**
GRGR Grenville 21.82 71 eP **P 23 28 28.7 +1.7**
comp=Z,860nm,1.0s
GRGR LR LR
comp=Z,23µm,20.0s
GRW Mount Saint Ca 21.82 71 eP **P 23 28 30.3 +3.2**
GRW Mount Saint Ca 21.82 71 e **P 23 28 30.5 +3.4**
GRHS Sauteurs 21.85 71 eP **P 23 28 28.0 +0.6**
GRSS Sisters 21.90 71 eP **P 23 28 25.7 -2.1**
TBH Brigand Hill 21.99 76 e **P 23 28 28.6 -0.2**
SLB Belfond 22.89 67 eP **P 23 28 39.7 +1.2**
DSHT Scott's Head 23.08 64 eP **P 23 28 43.4 +3.1**
DPMT Pointe Michel 23.09 64 eP **P 23 28 44.1 +3.7**
FDF Fort de France 23.10 65 eP **P 23 28 40.9 +0.3**
FDF pmax pmax
comp=Z,992nm,1.0s
FDF MLR MLR
comp=Z,21µm,20.0s
FDF Fort de France 23.10 65 eP **P 23 28 40.9 +0.3**
comp=Z,992nm,1.0s
FDF LR LR
comp=Z,21µm,20.0s
FDF Fort de France 23.10 65 eP **P 23 28 40.7 0.0**
MDN Morne-Daniel 23.10 63 eP **P 23 28 43.3 +2.8**
DFBT Forest Bistro 23.10 64 eP **P 23 28 43.4 +2.8**
BPA Boggy Peak 23.41 59 e **P 23 28 43.3 -0.5**
ANWB Willy Bob 23.76 58 eP **P 23 28 46.4 -0.7**
comp=Z,2µm,1.5s
ANWB LR LR
comp=Z,18µm,19.0s
BBGH Gun Hill 24.06 70 PFAKE 23 29 00.0 +10
BBGH LR LR
comp=Z,45µm,21.0s
BBSP Saint Philip 24.14 70 e **P 23 28 52.2 +1.5**
SAML Samuel 24.20 126 eP P 23 28 45.0 -6.3
comp=Z,18nm,1.1s
SAML LR LR
comp=Z,38µm,22.0s
ARE Arequipa 24.50 153 eP **P 23 28 57.0 +2.6**
ARE Arequipa 24.50 153 eP **P 23 28 57.0 +2.6**
LNIG Linares 25.09 322 P **P 23 28 59.8 +0.4**
BRAL Brewton 25.69 351 eP **P 23 29 07.2 +2.6**
comp=Z,3µm,1.3s
BRAL LR LR
comp=Z,14µm,20.0s
LPAZ La Paz 26.03 147 P P 23 29 03.7 -4.9
comp=Z,5.8nm,0.8s,baz=331,slow=11,SNR=17
LPAZ LR LR 23 40 33.2
comp=Z,64µm,20.0s,baz=311,slow=40
LPAZ La Paz 26.03 147 eP P 23 29 03.7 -4.9
comp=Z,100nm,1.2s
ANIG Ahuacatlan 26.18 308 P **P 23 29 10.3 +0.8**
KVTX Kingsville 26.24 328 eP **P 23 29 12.9 +3.2**
comp=Z,4µm,1.6s
KVTX LR LR
comp=Z,36µm,19.0s
HKT Hockley 27.27 335 eP **P 23 29 19.6 +0.7**
HKT pmax pmax
comp=Z,5µm,2.5s
HKT Hockley 27.27 335 eP **P 23 29 19.6 +0.7**
comp=Z,5µm,2.5s
VBMS Vicksburg 27.55 346 eP **P 23 29 21.8 +0.4**
comp=Z,1µm,1.4s
VBMS LR LR
comp=Z,9µm,21.0s
NHSC New Hope 27.55 5 eP **P 23 29 23.3 +1.8**
comp=Z,1µm,1.1s
NHSC LR LR
comp=Z,18µm,19.0s
LRAL Lakeview Retre 27.67 352 eP **P 23 29 20.4 -2.1**
comp=Z,322nm,1.0s
LRAL LR LR
comp=Z,8µm,19.0s
COW Cow Castle Cre 27.79 4 eP **P 23 29 21.8 -1.7**
732A Laxson Ranch, 28.29 327 ⇓P **P 23 29 28.7 +0.5**
baz=28,SNR=162
732A ⇓S **S 23 34 16.7 +2.3**
baz=28
732A ⇓S **S 23 34 16.7 +2.3**
baz=28
732A ⇓S **S 23 34 16.7 +2.3**
baz=28
NATX Nacogdoches 28.40 338 eP **P 23 29 29.6 +0.5**
comp=Z,971nm,1.3s
NATX LR LR
comp=Z,16µm,20.0s
JSC Jenkinsville 28.65 3 eP **P 23 29 29.5 -1.8**
JSC Jenkinsville 28.65 3 eP **P 23 29 29.5 -1.8**
631A Perdido Creek 29.15 327 ⇑P **P 23 29 36.7 +0.9**
baz=29,SNR=22
532A Rocksprings 29.36 329 ⇑P **P 23 29 39.2 +1.5**
baz=29,SNR=50
KMSC Kings Mountain 29.51 2 ⇑P **P 23 29 39.5 +0.6**
baz=30,SNR=40
OXF Oxford 29.51 349 eP **P 23 29 36.2 -2.7**
OXF pmax pmax
comp=Z,445nm,1.1s
OXF MLR MLR
comp=Z,10µm,19.0s
OXF Oxford 29.51 349 eP **P 23 29 36.2 -2.7**
comp=Z,445nm,1.1s
OXF LR LR
comp=Z,10µm,19.0s
JCT Junction City 29.58 329 eP **P 23 29 38.4 -1.3**
JCT pmax pmax
comp=Z,754nm,1.4s
JCT MLR MLR
comp=Z,19µm,20.0s
JCT Junction City 29.58 329 eP **P 23 29 38.4 -1.3**
comp=Z,754nm,1.4s
JCT LR LR
comp=Z,19µm,20.0s
JCT Junction City 29.58 329 ⇓P **P 23 29 41.0 +1.3**
baz=30,SNR=94
SWET Sewanee 29.70 355 eP **P 23 29 38.3 -2.4**
comp=Z,507nm,1.4s
531A Rocksprings 29.72 328 ⇑P **P 23 29 42.4 +1.5**
baz=30,SNR=49
WHTX Lake Whitney 29.73 334 ⇓P **P 23 29 41.7 +0.8**
baz=30,SNR=46
PLAL Pickwick Lake 29.74 351 eP P 23 29 47.4 +6.5
comp=Z,232nm,1.2s
PLAL LR LR
comp=Z,9µm,20.0s
CPCT Cooper Cave 29.83 357 eP **P 23 29 40.0 -1.7**
432A Menard 29.90 330 ⇓P **P 23 29 43.3 +0.8**
baz=30,SNR=42
CNNC Cliffs of the 29.91 8 eP **P 23 29 43.8 +1.4**
comp=Z,425nm,1.5s
CNNC LR LR
comp=Z,12µm,22.0s
TKL Tuckaleechee C 30.01 358 LR LR 23 43 51.0
comp=Z,16µm,18.1s,baz=178,slow=41
TKL Tuckaleechee C 30.01 358 eP **P 23 29 41.6 -1.7**
530A J-C Ranch, Com 30.14 327 ⇑P **P 23 29 46.5 +1.9**
baz=30,SNR=63
431A Sonora 30.16 328 ⇑P **P 23 29 46.4 +1.5**
baz=30,SNR=54
MET Memphis--Engin 30.20 348 eP **P 23 29 44.1 -0.9**
comp=Z,1µm,1.3s
332A Millerview 30.29 330 ⇑P **P 23 29 47.1 +1.2**
baz=30,SNR=103
UALR University of 30.45 344 eP **P 23 29 44.6 -2.6**
comp=Z,329nm,1.1s
628A Black Gap, Mar 30.52 324 ⇑P **P 23 29 50.3 +2.3**
baz=30,SNR=52
HPIG 30.53 317 P **P 23 29 49.6 +1.3**
331A San Angelo 30.57 329 ⇑P **P 23 29 49.8 +1.4**
baz=30,SNR=55
430A Baggett Ranch, 30.58 327 ⇑P **P 23 29 50.1 +1.6**
baz=30,SNR=52
MIAR Mount Ida 30.58 342 eP **P 23 29 48.5 +0.1**
MIAR MLR MLR
comp=Z,9µm,21.0s
MIAR Mount Ida 30.58 342 eP **P 23 29 48.5 +0.1**
MIAR LR LR
comp=Z,9µm,21.0s
529A Stev Forest Ra 30.61 325 ⇑P **P 23 29 49.9 +1.1**
baz=30,SNR=52
627A Terlingua Ranc 30.79 323 ⇑P **P 23 29 52.8 +2.3**
baz=31,SNR=93
429A Davenport Ranc 30.81 326 ⇓P **P 23 29 52.2 +1.6**
baz=31,SNR=66
WVT Waverly 30.83 352 eP P 23 29 46.9 -3.6
WVT pmax pmax
comp=Z,165nm,0.7s
WVT Waverly 30.83 352 eP P 23 29 46.9 -3.6
comp=Z,165nm,0.7s
TXAR Lajitas Array 30.88 323 P **P 23 29 50.2 -1.0**
comp=Z,3.0nm,0.8s,baz=142,slow=8.9,SNR=28
TXAR ScS ScS 23 40 30.9 +2.9
comp=Z,0.3nm,0.6s,baz=33,slow=6.9,SNR=2.4
TXAR LR LR 23 42 34.5
comp=Z,14µm,20.6s,baz=5.0,slow=37
TXAR Lajitas Array 30.88 323 P **P 23 29 50.2 -1.0**
TXAR ScS ScS 23 40 30.9 +2.9
TZTN Tazewell 30.89 359 eP **P 23 29 49.4 -1.7**
comp=Z,532nm,1.3s
528A Cox Ranch, San 30.96 325 ⇑P **P 23 29 53.8 +1.9**
baz=31,SNR=36
231A Bronte 31.02 330 ⇑P **P 23 29 52.9 +0.6**
baz=31,SNR=52
330A Mertzon 31.03 328 ⇑P **P 23 29 53.5 +1.0**
baz=31,SNR=39
GNAR Gosnell 31.04 348 eP **P 23 29 50.8 -1.6**
comp=Z,9µm,1.2s
LVC Limon Verde 31.05 155 PFAKE 23 30 10.0 +17
LVC LR LR
comp=Z,805nm,22.5s
UTMT University of 31.19 350 eP **P 23 29 53.4 -0.3**
comp=Z,798nm,1.0s
ABTX Abilene, Hawle 31.25 332 ⇓P **P 23 29 55.0 +0.5**
baz=31,SNR=113
626A Big Bend Ranch 31.32 322 ⇓P **P 23 29 57.0 +2.0**
baz=31,SNR=55
428A Kincaid Ranch, 31.33 326 ⇑P **P 23 29 57.3 +2.2**
baz=31,SNR=34
230A Sterling City 31.38 329 ⇑P **P 23 29 56.5 +0.9**
baz=31,SNR=8.5
PVMO Portageville 31.41 349 eP **P 23 29 56.7 +1.0**
comp=Z,1µm,1.2s
527A Woodward Ranch 31.43 324 ⇑P **P 23 29 58.2 +2.1**
baz=31,SNR=89
329A Wagon Wheel Ra 31.52 327 ⇓P **P 23 29 58.1 +1.2**
baz=32,SNR=37
BBSR BB Station 31.58 30 eP **P 23 29 58.8 +1.6**
comp=Z,845nm,1.8s
BBSR LR LR
comp=Z,24µm,22.0s
BLA Blacksburg 31.61 3 eP **P 23 29 57.0 -0.5**
BLA pmax pmax
comp=Z,226nm,0.9s
BLA MLR MLR
comp=Z,19µm,22.0s
BLA Blacksburg 31.61 3 eP **P 23 29 57.0 -0.5**
comp=Z,226nm,0.9s
BLA LR LR
comp=Z,19µm,22.0s
526A Mary Lane Ranc 31.65 323 ⇑P **P 23 29 59.8 +1.7**
baz=32,SNR=64
VWCC Virginia Weste 31.68 4 eP **P 23 29 57.1 -1.0**
229A Bryant Ranch, 31.81 328 ⇑P **P 23 30 00.1 +0.8**
baz=32,SNR=33
427A Hayter Ranch, 31.83 325 ⇑P **P 23 30 01.1 +1.5**
baz=32,SNR=28
328A Wristen Ranch, 31.89 326 ⇑P **P 23 30 01.8 +1.7**
baz=32,SNR=67
426A McDonald Obser 32.06 324 ⇓P **P 23 30 03.3 +1.6**
baz=32,SNR=80
327A Balmorhea Ranc 32.27 325 ⇑P **P 23 30 05.6 +2.2**
baz=32
JSRW J. Sargeant Re 32.33 7 eP **P 23 30 03.6 -0.1**
LPIG La Paz 32.33 308 P **P 23 30 05.5 +1.6**
228A UT Block 9, Go 32.34 327 ⇓P **P 23 30 04.5 +0.5**
baz=32,SNR=27
129A Stewart Farms, 32.36 329 ⇑P **P 23 30 05.2 +1.0**
baz=32,SNR=19
326A Caldwell Ranch 32.50 325 ⇑P **P 23 30 07.3 +1.8**
baz=32,SNR=44
Z30A Sanderson Ranc 32.51 331 ⇑P **P 23 30 06.3 +0.8**
baz=32,SNR=111
TUL1 Tulsa 32.55 340 ⇓P **P 23 30 05.5 -0.2**
baz=32,SNR=40
SIUC Southern Illin 32.59 350 eP **P 23 30 03.1 -2.9**
comp=Z,959nm,1.4s
USIN University of 32.61 353 eP **P 23 30 03.6 -2.6**
comp=Z,2µm,1.5s
227A Bennet, Jal 32.64 326 ⇑P **P 23 30 08.1 +1.5**
baz=33,SNR=12
WMOK Wichita Mounta 32.65 335 eP **P 23 30 03.9 -2.8**
WMOK pmax pmax
comp=Z,222nm,1.1s
WMOK MLR MLR
comp=Z,15µm,22.0s
WMOK Wichita Mounta 32.65 335 eP **P 23 30 03.9 -2.8**
comp=Z,222nm,1.1s
WMOK LR LR
comp=Z,15µm,22.0s
128A Castleberry Fa 32.67 328 ⇓P **P 23 30 07.8 +0.9**
baz=33,SNR=33
425A Indio Mountain 32.71 323 ⇓P **P 23 30 09.4 +2.0**
baz=33,SNR=108
WCI Wyandotte Cave 32.72 355 eP **P 23 30 04.4 -2.8**
WCI pmax pmax
comp=Z,1µm,1.5s
WCI Wyandotte Cave 32.72 355 eP **P 23 30 04.4 -2.8**
comp=Z,1µm,1.5s
Z29A Hungry Hill Ra 32.78 330 ⇑P **P 23 30 08.6 +0.8**
baz=33,SNR=20
CBN Corbin 32.90 8 eP **P 23 30 08.9 +0.2**
comp=Z,421nm,1.4s
CBN LR LR
comp=Z,17µm,19.0s
325A Bean Ranch, Si 33.12 324 ⇓P **P 23 30 12.7 +1.6**
baz=33,SNR=58
Z28A Tucker Farm, M 33.14 329 ⇑P **P 23 30 11.8 +0.8**
baz=33,SNR=23
CLNB Carlsbad 33.15 326 eP **P 23 30 11.2 +0.1**
comp=Z,48nm,1.2s
127A Arkansas Junct 33.18 327 ⇓P **P 23 30 12.1 +0.7**
baz=33
Y29A Porterfield Fa 33.24 330 ⇓P **P 23 30 12.8 +0.9**
baz=33,SNR=11
GDL2 Guadalupe Moun 33.38 325 eP **P 23 30 12.6 -0.6**
OLIL Olney 33.42 352 eP **P 23 30 10.5 -2.8**
comp=Z,2µm,1.5s
324A Moseley Ranch, 33.48 323 ⇑P **P 23 30 15.6 +1.5**
baz=33,SNR=99
126A Clayton Basin, 33.52 326 ⇑P **P 23 30 15.8 +1.4**
baz=34,SNR=22
Y28A McKinney Farm, 33.56 330 ⇓P **P 23 30 15.5 +0.8**
baz=34
225A Deer Hill, Car 33.57 325 ⇑P **P 23 30 16.9 +1.9**
baz=34,SNR=36
SLM Saint Louis 33.67 349 eP **P 23 30 12.9 -2.5**
SLM pmax pmax
comp=Z,2µm,1.5s
SLM Saint Louis 33.67 349 eP **P 23 30 12.9 -2.5**
comp=Z,2µm,1.5s
BLO Bloomington 33.68 355 eP **P 23 30 12.5 -3.0**
BLO pmax pmax
comp=Z,1µm,1.6s
BLO Bloomington 33.68 355 eP **P 23 30 12.5 -3.0**
comp=Z,1µm,1.6s
CPRX Cap Rock 33.73 327 eP **P 23 30 17.6 +1.4**
comp=Z,110nm,0.9s
X29A Tulia 33.73 331 ⇑P **P 23 30 17.0 +0.8**
baz=34,SNR=16
MSTX Muleshoe 33.88 329 ⇑P **P 23 30 18.2 +0.7**
baz=34,SNR=64
125A Gardner Draw, 33.88 326 ⇑P **P 23 30 19.4 +1.9**
baz=34,SNR=65
224A Cornudas Mount 33.95 324 ⇓P **P 23 30 19.9 +1.7**
baz=34,SNR=67
Z26A Caprock 33.97 327 ⇑P **P 23 30 19.7 +1.4**
baz=34,SNR=35
X28A Dimmitt 34.03 331 ⇓P **P 23 30 19.4 +0.6**
baz=34,SNR=23
AMTX Amarillo 34.07 332 eP **P 23 30 17.4 -1.7**
comp=Z,352nm,1.0s
AMTX LR LR
comp=Z,23µm,22.0s
AMTX Amarillo 34.07 332 ⇑P **P 23 30 19.6 +0.4**
baz=34,SNR=38
SDMD Soldier's Deli 34.16 8 eP **P 23 30 19.5 -0.2**
comp=Z,315nm,1.4s
W29A Amarillo 34.25 332 ⇑P **P 23 30 21.3 +0.6**
baz=34,SNR=9.1
CGIG 34.30 319 P **P 23 30 23.8 +2.6**
124A Stringfield Ra 34.37 325 ⇓P **P 23 30 24.6 +2.7**
baz=34,SNR=91
Z25A Roswell 34.38 326 ⇓P **P 23 30 23.9 +2.0**
baz=34,SNR=77
Y26A Elida 34.39 328 ⇑P **P 23 30 23.2 +1.3**
baz=34,SNR=24
223A Chaparral, Ant 34.44 323 ⇓P **P 23 30 23.6 +1.2**
baz=34
ACSO Alum Creek Sta 34.56 360 eP **P 23 30 21.0 -2.2**
comp=Z,435nm,0.9s
ACSO LR LR
comp=Z,12µm,19.0s
X27A F and S Farms, 34.58 330 ⇓P **P 23 30 24.7 +1.1**
baz=34,SNR=16
W28A Vega 34.63 331 ⇓P **P 23 30 24.6 +0.7**
baz=35,SNR=12
Z24A Sheeppen Canyo 34.78 326 ⇑P **P 23 30 27.7 +2.3**
baz=35,SNR=48
123A Bell Site, Whi 34.79 324 ⇓P **P 23 30 27.5 +2.1**
baz=35,SNR=7.8
MVL Millersville 34.80 9 eP **P 23 30 25.9 +0.6**
comp=Z,427nm,1.3s
V29A Stinnett 34.81 333 ⇓P **P 23 30 26.3 +0.7**
baz=35,SNR=24
Y25A Mesa, Roswell 34.85 327 ⇑P **P 23 30 28.1 +2.1**
baz=35,SNR=60
X26A CR and CF Fran 34.87 329 ⇑P **P 23 30 27.4 +1.3**
baz=35,SNR=56
W27A Bowe Ranch, En 34.89 330 ⇑P **P 23 30 27.3 +1.0**
baz=35,SNR=64
222A Williams Famil 34.92 322 ⇓P **P 23 30 28.3 +1.8**
baz=35
SFIN Scholer Farm 34.93 354 ⇑P **P 23 30 25.3 -1.1**
baz=35,SNR=28
V28A Channing 35.04 332 ⇓P **P 23 30 28.2 +0.7**
baz=35,SNR=21
Z23A Rita Site, Whi 35.22 325 ⇓P **P 23 30 31.6 +2.5**
baz=35,SNR=45
SSPA Standing Stone 35.23 6 eP **P 23 30 27.4 -1.6**
comp=Z,258nm,1.1s
Y24A Capitan 35.26 326 ⇑P **P 23 30 32.1 +2.5**
baz=35,SNR=64
W26A Owens Ranch, T 35.26 329 ⇑P **P 23 30 30.9 +1.5**
baz=35,SNR=21
221A Mesquite Ranch 35.27 321 ⇑P P 23 30 33.0 +3.4
baz=35,SNR=54
122A Conniff Cattle 35.27 323 ⇓P **P 23 30 32.4 +2.8**
baz=35
320A Kipp Ranch, An 35.29 320 ⇓P **P 23 30 32.4 +2.5**
baz=35,SNR=42
X25A Clemmons Ranch 35.29 328 ⇓P **P 23 30 31.4 +1.6**
baz=35,SNR=46
HDIL Hopedale 35.38 351 eP P 23 30 26.9 -3.3
comp=Z,880nm,0.6s
HDIL LR LR
comp=Z,8µm,22.0s
Y23A Lovelace Mesa, 35.61 326 ⇓P **P 23 30 34.7 +2.1**
baz=36,SNR=76
121A Cookes Peak, D 35.63 322 ⇑P **P 23 30 35.6 +2.8**
baz=36,SNR=117
Z22A Elephant Butte 35.65 324 ⇑P **P 23 30 35.4 +2.5**
baz=36,SNR=60
220A Playas Peak, P 35.67 321 ⇑P **P 23 30 35.9 +2.8**
baz=36,SNR=104
KSU1 Kansas State U 35.72 341 eP **P 23 30 30.6 -2.6**
comp=Z,323nm,0.9s
KSU1 LR LR
comp=Z,9µm,20.0s
W25A X Bar L Ranch, 35.72 329 ⇑P **P 23 30 35.1 +1.7**
baz=36,SNR=75
X24A Lazy VL Ranch, 35.74 327 ⇑P **P 23 30 35.5 +1.8**
baz=36,SNR=29
BRNJ Basking Ridge 35.77 11 eP **P 23 30 34.8 +1.3**
comp=Z,97µm,1.4s
319A Douglas 35.80 319 ⇓P **P 23 30 36.9 +2.7**
baz=36,SNR=31
V26A Tequesquite Ra 35.83 330 ⇑P **P 23 30 36.1 +1.7**
baz=36,SNR=96
CPNY Central Park 35.99 11 eP **P 23 30 36.7 +1.3**
comp=Z,587nm,2.1s
ALLY Alegheny Colle 36.05 3 eP **P 23 30 36.8 +0.8**
comp=Z,522nm,1.5s

BNM **Barren Site** 36.09 325 *e*P P 23 30 36.8 0.0
comp=Z,334nm,1.5s
Z21A **St. Cloud Mine** 36.10 323 ⇑P P 23 30 39.8 +2.9
baz=36,SNR=68
T28A **Walsh** 36.11 333 ⇑P P 23 30 37.2 +0.5
baz=36,SNR=42
Y22A **Socorro** 36.13 325 ⇑P P 23 30 39.7 +2.6
baz=36,SNR=42
X23A **Hourglass Bar** 36.16 326 ⇓P P 23 30 39.8 +2.5
baz=36,SNR=28
120A **U Bar Ranch, L** 36.16 321 ⇓P P 23 30 40.4 +3.1
baz=36,SNR=45
PAL **Palisades** 36.20 11 *e*P P 23 30 38.7 +1.4
PAL pmax pmax
comp=Z,285nm,1.4s
PAL **Palisades** 36.20 11 *e*P P 23 30 38.7 +1.4
comp=Z,285nm,1.4s
Y22D **IRIS PASSCAL I** 36.21 325 ⇓P P 23 30 40.6 +2.9
baz=36
W24A **Lazy 6 Ranch,** 36.21 328 ⇓P P 23 30 39.7 +1.9
baz=36,SNR=53
LPM **Los Pinos Moun** 36.21 325 *e*P P 23 30 37.6 -0.1
LCO **Las Campanas** 36.23 162 *e*P P 23 30 39.3 +1.4
comp=Z,49nm,1.1s
LCO LR LR
comp=Z,14µm,22.0s
V25A **Rancho No Teng** 36.28 329 ⇓P P 23 30 40.3 +2.0
baz=36,SNR=92
U26A **Atchley Ranch,** 36.28 331 ⇓P P 23 30 40.0 +1.7
baz=36,SNR=73
LENM **Lemitar** 36.30 325 *e*P P 23 30 38.9 +0.4
T27A **Campo** 36.34 332 ⇑P P 23 30 39.3 +0.7
baz=36,SNR=37
Z20A **Nine Sixteen R** 36.52 322 ⇓P P 23 30 43.2 +2.8
baz=36,SNR=97
ERPA **Erie** 36.53 3 *e*P P 23 30 39.0 -1.0
comp=Z,228nm,1.1s
ERPA LR LR
comp=Z,15µm,22.0s
V24A **Rampart Ranch,** 36.53 328 ⇓P P 23 30 41.9 +1.4
baz=36,SNR=68
LAZ **Ladron** 36.57 325 *e*P P 23 30 40.8 0.0
comp=Z,552nm,0.8s
X22A **Bernardo** 36.57 325 ⇓P P 23 30 43.4 +2.7
baz=36,SNR=10
W23A **Warner Place,** 36.57 327 ⇓P P 23 30 43.2 +2.4
baz=36,SNR=57
ANMO **Albuquerque** 36.58 326 LR LR 23 47 07.5
comp=Z,21µm,19.2s,baz=135,slow=38
ANMO **Albuquerque** 36.58 326 *e*P P 23 30 39.7 -1.2
comp=Z,405nm,1.3s
Y21A **Point of Rocks** 36.60 324 ⇓P P 23 30 43.6 +2.5
baz=36,SNR=82
U25A **Circle Dot Ran** 36.61 330 ⇓P P 23 30 43.2 +2.0
baz=37,SNR=52
AAM **Ann Arbor** 36.64 359 *e*P P 23 30 40.9 -0.1
AAM pmax pmax
comp=Z,569nm,1.6s
AAM MLR MLR
comp=Z,13µm,21.0s
AAM **Ann Arbor** 36.64 359 *e*P P 23 30 40.9 -0.1
comp=Z,569nm,1.6s
AAM LR LR
comp=Z,13µm,21.0s
T26A **Comanche Natio** 36.84 332 ⇓P P 23 30 44.6 +1.6
baz=37,SNR=45
W22A **Albuquerque** 36.90 326 ⇓P P 23 30 45.9 +2.3
baz=37,SNR=26
S27A **Las Animas** 36.93 333 ⇓P P 23 30 44.8 +1.0
baz=37,SNR=8.4
Y20A **Horse Springs,** 36.94 323 ⇓P P 23 30 46.4 +2.4
baz=37,SNR=84
X21A **Alamocita Cree** 36.97 324 ⇓P P 23 30 46.8 +2.6
baz=37,SNR=79
BINY **Binghamton** 37.01 8 *e*P P 23 30 43.5 -0.8
comp=Z,542nm,1.2s
BINY LR LR
comp=Z,11µm,20.0s
V23A **Ortiz Mt. (NFS** 37.03 327 ⇓P P 23 30 47.4 +2.7
baz=37,SNR=32
U24A **Moreno Valley** 37.06 329 ⇓P P 23 30 47.7 +2.6
baz=37,SNR=30
S26A **Kim** 37.14 332 ⇑P P 23 30 47.0 +1.5
baz=37,SNR=146
T25A **Trinidad** 37.20 331 ⇓P P 23 30 48.1 +2.0
baz=37,SNR=182
TLL **Tololo Astrono** 37.27 163 *e*P P 23 30 39.1 -7.8
W21A **San Fidel** 37.37 325 ⇑P P 23 30 49.8 +2.1
baz=37,SNR=33
R27A **Eads** 37.38 334 ⇑P P 23 30 48.7 +1.2
baz=37,SNR=74
TUC **Tucson** 37.38 319 *e*P P 23 30 46.7 -0.9
TUC pmax pmax
comp=Z,397nm,1.8s
TUC MLR MLR
comp=Z,44µm,20.0s
TUC **Tucson** 37.38 319 *e*P P 23 30 46.7 -0.9
comp=Z,397nm,1.8s
TUC LR LR
comp=Z,44µm,20.0s
SCIA **State Center** 37.42 347 *e*P P 23 30 44.6 -3.1
comp=Z,505nm,0.9s
SCIA LR LR
comp=Z,8µm,21.0s
X20A **Quemado** 37.45 324 ⇑P P 23 30 51.2 +2.8
baz=37,SNR=44
T24A **Torres, Weston** 37.46 330 ⇓P P 23 30 50.6 +2.2
baz=37,SNR=95
U23A **El Rito** 37.47 328 ⇑P P 23 30 50.7 +2.2
baz=37,SNR=110
V22A **San Miguel Ran** 37.55 327 ⇑P P 23 30 51.6 +2.5
baz=38,SNR=55
BRYW **Bryant College** 37.59 14 *e*P P 23 30 49.1 0.0
comp=Z,344nm,1.2s
S25A **Robets Cordova** 37.62 331 ⇓P P 23 30 51.8 +2.1
baz=38,SNR=87
R26A **Arlington** 37.68 333 ⇑P P 23 30 51.5 +1.4
baz=38,SNR=80
QUA2 **Belchertown** 37.75 13 *e*P P 23 30 50.0 -0.4
comp=Z,866nm,1.7s
U22A **Llaves** 37.86 327 ⇑P P 23 30 54.2 +2.4
baz=38,SNR=59
V21A **Milan** 37.87 326 ⇑P P 23 30 54.2 +2.4
baz=38,SNR=46
W20A **Ramah** 37.87 324 ⇑P P 23 30 54.2 +2.3
baz=38,SNR=72
KSCO **Kaye Shedlock'** 37.90 334 ⇓P P 23 30 53.6 +1.6
baz=38,SNR=26
TRY **Troy** 37.92 11 *e*P P 23 30 53.2 +1.3
comp=Z,946nm,1.4s
T23A **Casias Ranch,** 37.93 329 ⇑P P 23 30 54.3 +1.9
baz=38,SNR=23
R25A **Fountain Ranch** 37.94 332 ⇓P P 23 30 54.3 +2.0
baz=38,SNR=80
S24A **Houchin Ranch,** 37.99 330 ⇓P P 23 30 55.4 +2.5
baz=38,SNR=72
WES **Weston** 38.08 14 *e*P P 23 30 54.2 +1.0
WES pmax pmax
comp=Z,869nm,1.5s
WES **Weston** 38.08 14 *e*P P 23 30 54.2 +1.0
comp=Z,869nm,1.5s
HRV **Adam Dziewonsk** 38.14 13 *e*P P 23 30 55.4 +1.6
HRV pmax pmax
comp=Z,281nm,1.4s
HRV **Adam Dziewonsk** 38.14 13 *e*P P 23 30 55.4 +1.6
comp=Z,281nm,1.4s
Q26A **Hugo** 38.22 333 ⇑P P 23 30 56.3 +1.7
baz=38,SNR=178
BGNE **Belgrade** 38.31 341 ⇑P P 23 30 54.8 -0.4
baz=38,SNR=12
X18A **Snowflake** 38.31 322 ⇓P P 23 30 57.8 +2.2
baz=38,SNR=50
V20A **Brimhall** 38.33 325 ⇓P P 23 30 58.1 +2.4
baz=38,SNR=30
U21A **Nageezi** 38.33 327 ⇑P P 23 30 58.1 +2.4
baz=38,SNR=83
P27A **Ficken Ranch,** 38.34 335 ⇓P P 23 30 57.1 +1.5
baz=38,SNR=45
T22A **Edith** 38.36 328 ⇓P P 23 30 58.4 +2.4
baz=38,SNR=42
R24A **Sanders Place,** 38.40 331 ⇓P P 23 30 58.4 +2.2
baz=38,SNR=93
S23A **Nye Farm, Mont** 38.43 330 ⇑P P 23 30 58.8 +2.2
baz=38,SNR=20
214A **Organ Pipe Nat** 38.52 317 ⇓P P 23 30 59.4 +2.2
baz=38,SNR=53
Q25A **Bedland, Calha** 38.54 333 ⇓P P 23 30 59.3 +1.8
baz=38,SNR=137

ACCN **Adirondack Com** 38.55 11 *e*P P 23 30 56.4 -0.8
comp=Z,401nm,1.4s
W18A **Petrified Fore** 38.59 323 ⇓P P 23 31 00.3 +2.5
baz=38,SNR=62
P26A **Davis Ranch, A** 38.67 334 ⇑P P 23 31 00.2 +1.8
baz=39,SNR=56
T21A **Navajo Lake** 38.68 327 ⇓P P 23 31 00.8 +2.2
baz=39,SNR=61
R23A **Moffat** 38.72 330 ⇑P P 23 31 00.7 +1.7
baz=39,SNR=77
U20A **Newcomb** 38.77 326 ⇓P P 23 31 01.5 +2.2
baz=39,SNR=29
O27A **Beecher Island** 38.83 336 ⇑P P 23 31 01.1 +1.4
baz=39,SNR=32
S22A **4UR Ranch, Cre** 38.88 329 ⇑P P 23 31 02.4 +2.0
baz=39,SNR=64
P25A **Willow Gulch B** 38.99 333 ⇑P P 23 31 03.2 +2.0
baz=39,SNR=233
Q24A **Divide** 39.00 332 ⇓P P 23 31 03.4 +1.9
baz=39,SNR=42
NCB **Newcomb** 39.02 10 *e*P P 23 31 02.2 +1.1
comp=Z,345nm,1.4s
NCB LR LR
comp=Z,15µm,22.0s
FFD **Franklin Falls** 39.04 13 *e*P P 23 31 03.0 +1.8
comp=Z,489nm,1.4s
U19A **Dine' College,** 39.10 325 ⇑P P 23 31 03.8 +1.6
baz=39,SNR=23
HNH **Hanover** 39.13 12 *e*P P 23 31 01.7 -0.3
X16A **Lo Mia Camp, P** 39.16 321 ⇓P P 23 31 04.7 +2.0
baz=39,SNR=75
GLMI **Grayling** 39.19 358 *e*P P 23 31 01.5 -1.0
comp=Z,357nm,0.8s
GLMI LR LR
comp=Z,16µm,21.0s
R22A **Saguache, Gunn** 39.21 330 ⇑P P 23 31 05.2 +2.0
baz=39,SNR=28
O26A **Horse Wrangler** 39.22 335 ⇓P P 23 31 04.4 +1.3
baz=39,SNR=34
SADO **Sadowa** 39.22 4 S S 23 37 03.2 +0.1
comp=Z,8.0nm,1.0s,baz=278,slow=19,SNR=2.1
SADO LR LR 23 47 20.7
comp=Z,14µm,18.8s,baz=184,slow=36
SADO **Sadowa** 39.22 4 S S 23 37 03.2 +0.1
MDV **Middlebury** 39.23 11 *e*P P 23 31 01.7 -1.1
Q23A **Hartsel** 39.28 331 ⇑P P 23 31 05.3 +1.5
baz=39,SNR=11
OGNE **Ogallala** 39.29 337 *e*P P 23 31 02.8 -0.8
comp=Z,991nm,1.0s
OGNE LR LR
comp=Z,12µm,21.0s
OGNE **Ogallala** 39.29 337 ⇓P P 23 31 05.0 +1.4
baz=39,SNR=35
S21A **Coal Bank Pass** 39.32 328 ⇑P P 23 31 05.9 +1.8
baz=39,SNR=54
P24A **Kohler Place,** 39.33 333 ⇑P P 23 31 06.0 +2.0
baz=39,SNR=22
MVCO **Mesa Verde** 39.36 327 *e*P P 23 31 03.6 -0.8
comp=Z,513nm,1.1s
MVCO LR LR
comp=Z,15µm,20.0s
MVCO **Mesa Verde** 39.36 327 ⇑P P 23 31 06.0 +1.6
baz=39,SNR=106
N27A **Anderson Farm,** 39.37 336 ⇑P P 23 31 05.8 +1.5
baz=39,SNR=71
Z14A **Wintersburg** 39.46 318 ⇑P P 23 31 07.0 +2.1
baz=39,SNR=22
O25A **Wiggins** 39.46 334 ⇓P P 23 31 06.9 +1.8
baz=39,SNR=31
LONY **Lake Ozonia** 39.59 9 *e*P P 23 31 05.3 -0.7
comp=Z,261nm,1.1s
LONY LR LR
comp=Z,16µm,21.0s
113A **Mohawk Valley,** 39.65 317 ⇓P P 23 31 08.7 +2.2
baz=40,SNR=38
P23A **Jefferson** 39.65 332 ⇑P P 23 31 08.8 +1.9
baz=40,SNR=112
N26A **Koester Ranch,** 39.67 335 ⇓P P 23 31 08.5 +1.8
baz=40,SNR=18
LBNH **Lisbon** 39.72 12 *e*P P 23 31 04.5 -2.4
LBNH pmax pmax
comp=Z,251nm,1.3s
LBNH MLR MLR
comp=Z,12µm,21.0s
LBNH **Lisbon** 39.72 12 *e*P P 23 31 04.5 -2.4
comp=Z,251nm,1.3s
LBNH LR LR
comp=Z,12µm,21.0s
R21A **Cimarron** 39.72 329 ⇓P P 23 31 08.8 +1.4
baz=40,SNR=61
S20A **Disappointment** 39.74 328 ⇑P P 23 31 09.2 +1.6
baz=40,SNR=91
Q22A **Crested Butte,** 39.77 330 ⇑P P 23 31 09.6 +1.8
baz=40,SNR=98
WUAZ **Wupatki** 39.84 322 *e*P P 23 31 08.3 0.0
comp=Z,349nm,1.1s
WUAZ LR LR
comp=Z,23µm,19.0s
WUAZ **Wupatki** 39.84 322 ⇓P P 23 31 10.2 +1.8
baz=40,SNR=82
Y14A **Wickenburg** 39.85 319 ⇑P P 23 31 09.9 +1.6
baz=40,SNR=22
SPIG **San Pedro Mart** 39.86 314 P P 23 31 11.4 +2.6
ISCO **Idaho Springs** 39.88 332 *e*P P 23 31 08.1 -0.7
ISCO pmax pmax
comp=Z,669nm,1.8s
ISCO MLR MLR
comp=Z,12µm,20.0s
ISCO **Idaho Springs** 39.88 332 *e*P P 23 31 08.1 -0.7
comp=Z,669nm,1.8s
ISCO LR LR
comp=Z,12µm,20.0s
ISCO **Idaho Springs** 39.88 332 ⇓P P 23 31 10.7 +1.9
baz=40,SNR=105
O24A **Longmont** 39.89 333 ⇑P P 23 31 10.4 +1.8
baz=40,SNR=27
M27A **Reverse DX Ran** 39.93 337 ⇓P P 23 31 10.0 +1.2
baz=40,SNR=13
FRNY **Flat Rock** 39.97 10 *e*P P 23 31 09.7 +0.7
comp=Z,266nm,1.3s
ECSD **EROS Data Cent** 39.98 344 *e*P P 23 31 05.6 -3.6
comp=Z,504nm,1.4s
ECSD LR LR
comp=Z,10µm,21.0s
R20A **Redvale** 40.02 328 ⇓P P 23 31 12.5 +2.7
baz=40,SNR=72
N25A **Grover** 40.02 335 ⇓P P 23 31 11.4 +1.7
baz=40
SMCO **Snowmass** 40.05 330 *e*P P 23 31 09.3 -1.0
comp=Z,427nm,1.4s
PV01 **Paradox Valley** 40.08 328 *e*P P 23 31 09.9 -0.5
comp=Z,18µm,1.2s
Q21A **Lamborn Mesa,** 40.09 329 ⇑P P 23 31 12.3 +2.0
baz=40,SNR=14
CPUP **Villa Florida** 40.10 143 P P 23 31 04.5 -5.8
comp=Z,5.1nm,0.9s,baz=308,slow=12,SNR=11.1
CPUP S S 23 37 12.9 -3.8
comp=Z,0.4nm,0.4s,baz=101,slow=16,SNR=1.7
CPUP LR LR 23 50 43.6
comp=Z,16µm,18.2s,baz=304,slow=41
CPUP **Villa Florida** 40.10 143 P P 23 31 04.5 -5.8
CPUP S S 23 37 12.9 -3.8
M26A **McRoberts Ranc** 40.17 336 ⇓P P 23 31 12.6 +1.6
baz=40,SNR=18
P22A **Eagle** 40.27 331 ⇓P P 23 31 13.9 +2.0
baz=40,SNR=42
BDFB **Brasilia** 40.28 122 P P 23 31 06.3 -5.8
comp=Z,2.4nm,0.6s,baz=281,slow=14,SNR=5.3
BDFB S S 23 37 15.4 -4.6
comp=Z,3.8nm,0.9s,baz=23,slow=18,SNR=2.0
BDFB LR LR 23 48 10.3
comp=Z,24µm,20.6s,baz=95,slow=37
BDFB **Brasilia** 40.28 122 P P 23 31 06.3 -5.8
BDFB S S 23 37 15.4 -4.6
O23A **Lake Granby, G** 40.35 332 ⇑P P 23 31 14.6 +2.0
baz=40,SNR=57
L27A **T5 Ranch, Ells** 40.37 337 ⇓P P 23 31 14.1 +1.6
baz=40,SNR=8.7
N24A **Carr** 40.38 334 ⇑P P 23 31 14.7 +2.0
baz=40,SNR=54
FCH **Farellones** 40.39 164 *e*P P 23 31 09.7 -3.4
PV04 **Paradox Valley** 40.45 328 *e*P P 23 31 12.9 -0.4
SPMN **St. Paul** 40.52 349 ⇓P P 23 31 11.8 -1.8
baz=40,SNR=150
M25A **Palm-Egli Farm** 40.52 335 ⇓P P 23 31 15.3 +1.4
baz=40,SNR=23
S18A **Hurst Farm, Bl** 40.53 326 ⇑P P 23 31 15.7 +1.6
baz=40,SNR=50

GLA **Glamis** 40.54 317 *e*P P 23 31 13.7 -0.3
GLA pmax pmax
comp=Z,377nm,1.2s
GLA **Glamis** 40.54 317 *e*P P 23 31 13.7 -0.3
comp=Z,377nm,1.2s
GLA **Glamis** 40.54 317 ⇓P P 23 31 16.3 +2.3
baz=40,SNR=40
Q20A **Ridgley Place,** 40.55 329 ⇓P P 23 31 15.8 +1.6
baz=40,SNR=30
P21A **Newcastle** 40.55 330 ⇓P P 23 31 16.6 +2.4
baz=40,SNR=42
O22A **Kremmling** 40.61 332 ⇓P P 23 31 15.8 +1.1
baz=41,SNR=74
L26A **Underwood Farm** 40.63 337 ⇓P P 23 31 15.9 +1.2
baz=41,SNR=6.6
Y12C **Blythe** 40.74 318 ⇑P P 23 31 17.9 +2.3
baz=41,SNR=18
COWI **Conover** 40.81 353 *e*P P 23 31 12.1 -3.9
comp=Z,222nm,1.1s
COWI LR LR
comp=Z,11µm,19.0s
PDMCI **Parker Dam,Lak** 40.82 319 ⇓P P 23 31 18.4 +2.2
baz=41,SNR=24
K27A **Flueckinger Fa** 40.88 338 ⇑P P 23 31 17.7 +1.0
baz=41,SNR=26
M24A **Cheyenne** 40.88 334 ⇑P P 23 31 18.6 +1.8
baz=41,SNR=39
N23A **Red Feather La** 40.91 333 ⇑P P 23 31 18.6 +1.4
baz=41,SNR=41
S17A **Black Ridge (B** 40.95 325 ⇑P P 23 31 19.3 +1.8
baz=41,SNR=66
U15A **North Rim** 41.00 323 ⇑P P 23 31 20.1 +2.1
baz=41,SNR=104
P20A **De Beque** 41.01 329 ⇑P P 23 31 19.8 +1.9
baz=41,SNR=20
PHWY **Pilot Hill** 41.02 334 *e*P P 23 31 17.4 -0.8
comp=Z,734nm,2.0s
Q19A **Hogan Spring (** 41.05 328 ⇓P P 23 31 19.9 +1.7
baz=41,SNR=84
N22A **Wattenberg Ran** 41.07 332 ⇑P P 23 31 20.8 +2.2
baz=41,SNR=49
L25A **Engebretsen Ra** 41.09 336 ⇑P P 23 31 20.5 +2.0
baz=41,SNR=20
O21A **Pagoda** 41.09 331 ⇑P P 23 31 20.9 +2.2
baz=41,SNR=11
SWSC **Sam W. Stewart** 41.14 316 ⇓P P 23 31 20.7 +1.7
baz=41,SNR=30
W13A **Hualapai Mount** 41.14 320 ⇑P P 23 31 20.6 +1.5
baz=41,SNR=73
DVTC **Desert V Tower** 41.20 315 ⇓P P 23 31 22.4 +2.9
baz=41,SNR=21
K26A **Motz Farm, Whi** 41.23 337 ⇓P P 23 31 21.1 +1.5
baz=41
EMMW **East Machias** 41.26 17 *e*P P 23 31 21.5 +1.9
comp=Z,536nm,1.3s
M23A **Laramie** 41.27 334 ⇓P P 23 31 21.5 +1.3
baz=41,SNR=59
BRSD **Miller** 41.30 342 ⇓P P 23 31 19.3 -0.8
baz=41,SNR=13
BC3 **Big Chuckawall** 41.31 317 ⇓P P 23 31 22.0 +1.5
baz=41,SNR=52
L24A **Wheatland** 41.40 335 ⇑P P 23 31 23.0 +2.0
baz=41,SNR=26
IRM **Iron Mountain** 41.40 318 ⇓P P 23 31 22.9 +1.8
baz=41,SNR=64
P19A **Cripple Cowboy** 41.41 329 ⇓P P 23 31 23.0 +1.7
baz=41,SNR=44
O20A **White River Ci** 41.41 330 ⇓P P 23 31 23.4 +2.1
baz=41,SNR=26
NEE2 **Needles Airpor** 41.41 319 ⇓P P 23 31 23.3 +2.2
baz=41
RPN **Rapa Nui** 41.42 217 LR LR 23 44 12.7
comp=Z,13µm,18.6s,baz=39,slow=30
K25A **Mack Ranch, Ha** 41.43 336 ⇑P P 23 31 23.3 +2.0
baz=41,SNR=23
N21A **Black Mountain** 41.54 331 ⇓P P 23 31 24.5 +2.1
baz=42,SNR=38
MONP **Monument Peak** 41.55 315 ⇓P P 23 31 25.3 +2.7
baz=42,SNR=21
M22A **Cedar Creek Ra** 41.61 333 ⇓P P 23 31 24.5 +1.5
baz=42,SNR=24
BAR **Barrett** 41.61 315 *e*P P 23 31 21.9 -1.0
comp=Z,317nm,1.8s
L23A **Garrett** 41.78 334 ⇑P P 23 31 25.9 +1.6
baz=42,SNR=124
SRU **San Rafael** 41.84 327 *e*P P 23 31 24.2 -0.6
SRU pmax pmax
comp=Z,312nm,1.0s
SRU **San Rafael** 41.84 327 *e*P P 23 31 24.1 -0.6
comp=Z,312nm,1.0s
SRU **San Rafael** 41.84 327 ⇓P P 23 31 26.2 +1.4
baz=42,SNR=123
BELC **Belle Mtn. Jos** 41.88 317 ⇑P P 23 31 27.0 +1.8
baz=42,SNR=76
K24A **Anderson Ranch** 41.91 335 ⇑P P 23 31 27.0 +1.7
baz=42
LDFC **Landfair** 41.92 319 *e*P P 23 31 29.2 +3.7
comp=Z,349nm,1.5s
N20A **Spence Gulch,** 41.95 331 ⇑P P 23 31 27.6 +1.9
baz=42,SNR=47
PFO **Pinyon Flat Ob** 41.98 316 PFAKE 23 31 40.0 +14
PFO LR LR
comp=Z,27µm,19.0s
PFO **Pinyon Flat Ob** 41.98 316 ⇓P P 23 31 27.9 +2.0
baz=42,SNR=28
O19A **Miners Draw (B** 41.98 329 ⇑P P 23 31 27.5 +1.7
baz=42,SNR=12
109C **Camp Elliot, M** 42.03 315 ⇓P P 23 31 28.2 +2.0
baz=42,SNR=7.3
L22A **Ellis Ranch, M** 42.04 333 ⇑P P 23 31 28.5 +2.1
baz=42,SNR=62
Q16A **Castle Valley** 42.06 326 ⇑P P 23 31 28.4 +1.8
baz=42,SNR=38
P18A **Preston Nutter** 42.06 328 ⇓P P 23 31 28.4 +1.7
baz=42,SNR=63
GMRC **Granite Mounta** 42.11 318 ⇓P P 23 31 29.5 +2.5
baz=42,SNR=29
M21A **Separation Pea** 42.12 332 ⇑P P 23 31 29.0 +1.9
baz=42,SNR=36
P17A **Butcher Ranch,** 42.22 327 ⇑P P 23 31 30.1 +2.2
baz=42,SNR=26
K23A **Bowen Ranch, D** 42.27 335 ⇓P P 23 31 29.7 +1.4
baz=42,SNR=70
MSU **Marysvale** 42.34 325 *e*P P 23 31 28.8 -0.1
MSU **Marysvale** 42.34 325 *e*P P 23 31 28.8 -0.1
TMUT **Trail Mountain** 42.34 327 *e*P P 23 31 31.7 +2.6
comp=Z,366nm,1.7s
J24A **Dixon Ranch, L** 42.35 336 ⇑P P 23 31 30.4 +1.6
baz=42,SNR=43
MVU **Marysvale** 42.35 325 *e*P P 23 31 28.4 -0.7
comp=Z,384nm,1.6s
MVU LR LR
comp=Z,26µm,21.0s
CCUT **Cedar City** 42.39 323 *e*P P 23 31 29.5 +0.2
comp=Z,318nm,1.4s
O18A **Roosevelt** 42.41 329 ⇓P P 23 31 30.9 +1.5
baz=42,SNR=39
L21A **Rawlins** 42.41 333 ⇑P P 23 31 30.6 +1.2
baz=42,SNR=57
M20A **Sweetwater, Wa** 42.42 331 ⇑P P 23 31 30.9 +1.4
baz=42,SNR=24
N19A **John Jarvie Ra** 42.45 330 ⇑P P 23 31 31.0 +1.3
baz=42,SNR=52
MURC **Murrieta** 42.49 316 ⇑P P 23 31 32.0 +2.0
baz=42,SNR=17
K22A **Casper** 42.58 334 ⇑P P 23 31 32.1 +1.4
baz=42,SNR=68
HEC **Hector,Ludlow** 42.59 318 ⇑P P 23 31 32.5 +1.7
baz=42,SNR=53
ARUT **Antelope Range** 42.59 323 *e*P P 23 31 31.1 +0.2
ARUT pmax pmax
comp=Z,257nm,1.2s
ARUT **Antelope Range** 42.59 323 *e*P P 23 31 31.1 +0.2
comp=Z,257nm,1.2s
BBRC **Big Bear Solar** 42.66 317 ⇑P P 23 31 33.8 +2.2
baz=43
TUQ **Turquoise Moun** 42.67 319 ⇑P P 23 31 33.7 +2.1
baz=43,SNR=24
O17A **Robinson Place** 42.73 328 ⇓P P 23 31 34.2 +2.0
baz=43,SNR=33
N18A **Larsen Ranch,** 42.76 330 ⇓P P 23 31 33.4 +1.1
baz=43,SNR=65
RSSD **Black Hills** 42.77 337 *e*P P 23 31 31.1 -1.2
RSSD pmax pmax
comp=Z,271nm,1.1s
RSSD **Black Hills** 42.77 337 *e*P P 23 31 31.1 -1.2
comp=Z,271nm,1.1s
J23A **Dilts Ranch, B** 42.77 335 ⇓P P 23 31 34.0 +1.7

baz=43
I24A Kuemmerle Ranc 42.78 337 ⇑P P 23 31 33.8 +1.5
baz=43,SNR=18
P16A Fountain Green 42.81 327 ⇑P P 23 31 34.4 +1.7
baz=43,SNR=7.3
K21A Alcova 42.88 333 ⇓P P 23 31 34.4 +1.1
baz=43,SNR=34
L20A Wamsutter 42.89 332 ⇑P P 23 31 34.3 +0.9
baz=43,SNR=32
M19A Rock Springs 42.90 331 ⇑P P 23 31 34.3 +0.9
baz=43,SNR=13
EYMN Ely 42.94 351 *eP* P 23 31 29.2 -4.2
comp=Z,146nm,0.8s
EYMN LR LR
comp=Z,11µm,19.0s
RRX Edison Barstow 43.06 317 ⇑P P 23 31 36.6 +2.0
baz=43
MPU Maple Canyon 43.09 327 *eP* P 23 31 34.3 -0.6
comp=Z,187nm,1.0s
SCI San Clemente I 43.11 314 ⇓P P 23 31 36.6 +1.7
baz=43,SNR=12
P15A Leamington 43.13 326 ⇓P P 23 31 36.8 +1.6
baz=43,SNR=48
BFSC Mount Baldy Ra 43.16 316 ⇑P P 23 31 37.2 +1.7
baz=43,SNR=19
R13A O'Grain Ranch, 43.16 323 ⇑P P 23 31 37.1 +1.6
baz=43,SNR=79
DAU Daniels Canyon 43.17 328 *eP* P 23 31 35.3 -0.4
DAU Daniels Canyon 43.17 328 *eP* P 23 31 35.3 -0.4
J22A Midwest 43.17 335 ⇑P P 23 31 36.8 +1.3
baz=43,SNR=106
GSC Goldstone 43.18 318 *eP* P 23 31 36.1 +0.5
GSC pmax pmax
comp=Z,293nm,1.5s
GSC Goldstone 43.18 318 *eP* P 23 31 36.1 +0.5
comp=Z,293nm,1.5s
GSC Goldstone 43.18 318 ⇑P P 23 31 37.5 +1.9
baz=43,SNR=15
SHOC Shoshone 43.18 319 ⇓P P 23 31 37.3 +1.8
baz=43
I23A Meade Ranch, G 43.20 336 ⇓P P 23 31 37.6 +1.9
baz=43
CIS Catalina Islan 43.23 315 ⇓P P 23 31 38.4 +2.4
baz=43,SNR=19
M18A Lyman 43.29 330 ⇑P P 23 31 37.9 +1.2
baz=43,SNR=56
FMP Fort Macarthur 43.31 315 ⇓P P 23 31 38.8 +2.2
baz=43
N17A Moffit Pass 43.33 329 ⇓P P 23 31 38.6 +1.6
baz=43,SNR=45
K20A Yellowstone Ra 43.40 332 ⇓P P 23 31 38.6 +1.2
baz=43,SNR=77
JLU Jordanelle 43.41 328 *eP* P 23 31 36.9 -0.7
comp=Z,516nm,1.7s
MWC Mount Wilson 43.42 316 *eP* P 23 31 38.6 +0.9
MWC pmax pmax
comp=Z,187nm,1.4s
MWC Mount Wilson 43.42 316 *eP* P 23 31 38.6 +0.9
comp=Z,187nm,1.4s
L19A Farson 43.45 331 ⇑P P 23 31 39.3 +1.4
baz=43,SNR=16
PASC Pasadena Art C 43.48 316 *eP* P 23 31 39.3 +1.3
comp=Z,366nm,1.6s
H24A Dirks Ranch, A 43.49 337 ⇓P P 23 31 39.0 +1.0
baz=43,SNR=72
J21A Lysite 43.54 334 ⇓P P 23 31 40.0 +1.5
baz=44,SNR=76
I22A 9 Mile Ranch, 43.56 335 ⇓P P 23 31 40.3 +1.6
baz=44,SNR=37
N16A Rees Ranch, Co 43.60 328 ⇑P P 23 31 41.2 +2.1
baz=44,SNR=18
DECC Green Verdugo 43.63 316 ⇓P P 23 31 41.7 +2.5
baz=44,SNR=6.7
CTU Camp Tracy 43.63 328 *eP* P 23 31 39.9 +0.6
comp=Z,318nm,1.2s
M17A Scullys Gap (B 43.63 329 ⇑P P 23 31 40.1 +0.7
baz=44,SNR=68
L18A Fontenelle, Gr 43.65 330 ⇑P P 23 31 40.4 +0.9
baz=44,SNR=82
H23A Clabaugh Cattl 43.67 336 ⇓P P 23 31 40.9 +1.4
baz=44
O15A The Old Anders 43.73 327 ⇑P P 23 31 41.9 +1.8
baz=44
EDW2 Edwards Air Fo 43.74 317 ⇑P P 23 31 41.3 +1.2
baz=44,SNR=65
K19A Absolon Red Bu 43.76 332 ⇑P P 23 31 41.3 +1.0
baz=44,SNR=116
J20A Shoshoni 43.83 333 ⇓P P 23 31 42.7 +1.9
baz=44,SNR=39
I21A Big Trails, Te 43.84 334 ⇓P P 23 31 41.9 +0.9
baz=44,SNR=57
DUG Dugway 43.85 326 *eP* P 23 31 40.5 -0.6
DUG pmax pmax
comp=Z,90nm,1.1s
DUG MLR MLR
comp=Z,31µm,19.0s
DUG Dugway 43.85 326 *eP* P 23 31 40.5 -0.6
comp=Z,90nm,1.1s
DUG LR LR
comp=Z,31µm,19.0s
DUG Dugway 43.85 326 ⇑P P 23 31 42.9 +1.8
baz=44,SNR=35
LRMC Laurel Mountai 43.87 318 ⇑P P 23 31 42.1 +0.8
baz=44,SNR=56
FURC Furnace Creek, 43.90 319 ⇑P P 23 31 42.9 +1.6
baz=44,SNR=29
G24A Alzada 43.93 338 ⇓P P 23 31 42.9 +1.4
baz=44,SNR=9.0
BW06 Boulder Array 44.05 331 *eP* P 23 31 41.2 -1.5
comp=Z,271nm,1.3s
BW06 LR LR
comp=Z,18µm,21.0s
BW06 Boulder Array 44.05 331 ⇓P P 23 31 43.4 +0.6
baz=44,SNR=84
PDAR Pinedale Array 44.05 331 P P 23 31 40.9 -1.9
comp=Z,50nm,1.2s,baz=133,slow=10.0,SNR=40
PDAR S S 23 38 18.0 +2.7
comp=Z,0.9nm,0.9s,baz=71,slow=35,SNR=2.4
PDAR ScS ScS 23 41 42.8 +0.7
comp=Z,0.7nm,0.9s,baz=58,slow=26,SNR=2.3
PDAR LR LR 23 51 41.9
comp=Z,15µm,19.8s,baz=243,slow=38
PDAR Pinedale Array 44.05 331 P P 23 31 40.9 -1.9
PDAR S S 23 38 18.0 +2.7
PDAR ScS ScS 23 41 42.8 +0.7
BLG Laguna Peak 44.07 315 ⇓P P 23 31 44.6 +1.9
baz=44
MPMC Manual Prospec 44.07 318 ⇓P P 23 31 44.5 +1.5
baz=44,SNR=33
AGMN Agassiz Nation 44.08 347 *eP* P 23 31 39.1 -3.5
comp=Z,277nm,1.0s
AGMN LR LR
comp=Z,13µm,21.0s
H22A Clearmont 44.08 336 ⇓P P 23 31 43.8 +1.0
baz=44,SNR=27
OSI Osito Adit 44.10 316 *eP* P 23 31 41.8 -1.2
comp=Z,120nm,1.1s
OSI Osito Adit 44.10 316 ⇓P P 23 31 44.4 +1.4
baz=44
N15A Stansbury Isla 44.18 327 ⇓P P 23 31 44.9 +1.3
baz=44,SNR=25
HWUT Hardware Ranch 44.19 329 *eP* P 23 31 42.2 -1.6
comp=Z,348nm,1.1s
HWUT LR LR
comp=Z,25µm,20.0s
K18A Toltan Ranch, 44.19 331 ⇓P P 23 31 44.7 +0.9
baz=44,SNR=117
L17A Cokeville 44.20 330 ⇑P P 23 31 44.5 +0.6
baz=44,SNR=75
G23A Biddle 44.20 337 ⇓P P 23 31 45.0 +1.3
baz=44,SNR=44
J19A Crowheart 44.20 332 ⇓P P 23 31 44.8 +1.0
baz=44,SNR=19
R11A Troy Canyon, C 44.24 322 ⇓P P 23 31 45.6 +1.3
baz=44,SNR=80
DAC Darwin (Calif) 44.26 319 *eP* P 23 31 42.9 -1.6
DAC pmax pmax
comp=Z,162nm,1.8s
DAC MLR MLR
comp=Z,22µm,19.0s
DAC Darwin (Calif) 44.26 319 *eP* P 23 31 42.9 -1.6
comp=Z,162nm,1.8s
DAC LR LR
comp=Z,22µm,19.0s
I20A Worland 44.32 334 ⇓P P 23 31 45.5 +0.8
baz=44,SNR=83
F24A Ekalaka 44.38 338 ⇓P P 23 31 46.1 +1.0
baz=44,SNR=35
H21A Big Horn, Sher 44.39 335 ⇓P P 23 31 46.2 +0.9
baz=44,SNR=29
BSC Santa Cruz Isl 44.41 315 ⇑P P 23 31 46.6 +1.2
baz=44
L16A Fish Haven 44.42 329 ⇑P P 23 31 46.6 +1.0
baz=44,SNR=33
ARVC Arvin 44.45 316 ⇓P P 23 31 47.1 +1.4
baz=44,SNR=14
ISA Isabella 44.50 317 *eP* P
ISA pmax pmax
comp=Z,230nm,1.6s
ISA Isabella 44.50 317 *eP* P 23 31 46.3 0.0
comp=Z,230nm,1.6s
ISA Isabella 44.50 317 ⇑P P 23 31 48.2 +1.9
baz=44,SNR=17
GRAC Grapevine Rang 44.54 320 ⇑P P 23 31 48.6 +2.1
baz=44,SNR=37
M15A Larsen Ranch, 44.55 328 ⇓P P 23 31 48.0 +1.4
baz=44,SNR=50
G22A Birney 44.57 336 ⇓P P 23 31 47.7 +1.1
baz=44,SNR=25
MDND Maddock 44.59 344 ⇓P P 23 31 46.6 0.0
baz=45,SNR=34
J18A Kendall Valley 44.61 331 ⇓P P 23 31 48.1 +0.9
baz=45,SNR=140
F23A Volborg 44.64 337 ⇓P P 23 31 48.1 +0.9
baz=45,SNR=84
CWC Cottonwood Cre 44.68 318 ⇑P P 23 31 49.3 +1.6
baz=45,SNR=15
H20A Greybull 44.69 334 ⇑P P 23 31 48.4 +0.7
baz=45,SNR=69
SBC Santa Barbara 44.70 315 ⇓P P 23 31 49.3 +1.6
baz=45
K17A Gardner Place, 44.70 330 ⇓P P 23 31 48.8 +0.9
baz=45,SNR=26
I19A Meeteetse 44.77 333 ⇑P P 23 31 49.4 +1.0
baz=45,SNR=67
AHID Auburn Hatcher 44.80 330 *eP* P 23 31 47.1 -1.6
comp=Z,579nm,1.8s
AHID LR LR
comp=Z,17µm,19.0s
I18A Diamond G Ranc 44.89 332 ⇓P P 23 31 50.3 +0.9
baz=45,SNR=39
L15A Malad City 44.90 328 ⇑P P 23 31 50.0 +0.5
baz=45,SNR=119
E24A Baker 44.94 339 ⇓P P 23 31 50.9 +1.3
baz=45,SNR=12
HVU Hansel Valley 44.95 328 *eP* P 23 31 50.0 +0.2
HVU pmax pmax
comp=Z,1µm,2.6s
HVU Hansel Valley 44.95 328 *eP* P 23 31 50.0 +0.2
comp=Z,1µm,2.6s
G21A Lodge Grass 44.95 336 ⇑P P 23 31 50.6 +0.9
baz=45,SNR=30
SPB Sao Paulo 44.97 131 *eP* P 23 31 50.0 -0.1
comp=Z,21nm,0.8s
SPB LR LR
comp=Z,32µm,19.0s
PKM Peak Mountain 45.01 315 ⇑P P 23 31 52.1 +1.7
baz=45,SNR=22
VES Vestal, Richgr 45.01 317 ⇑P P 23 31 51.8 +1.5
baz=45,SNR=20
F22A Rosebud 45.02 337 ⇓P P 23 31 51.1 +0.9
baz=45,SNR=68
J17A Brown Place, J 45.06 331 ⇓P P 23 31 51.5 +0.8
baz=45,SNR=45
TPH Tonopah 45.09 321 PFAKE
TPH LR LR
comp=Z,23µm,19.0s
K16A Soda Springs 45.09 330 ⇑P P 23 31 51.9 +0.9
baz=45,SNR=31
REDW Red Top Meadow 45.13 331 *eP* P 23 31 49.8 -1.5
comp=Z,496nm,1.1s
TIN Tinemaha 45.13 319 ⇑P P 23 31 53.4 +2.2
baz=45
SNOW Snow King Moun 45.15 331 *eP* P 23 31 51.1 -0.4
comp=Z,428nm,1.1s
LOHW Long Hollow 45.20 331 *eP* P 23 31 50.4 -1.5
comp=Z,352nm,1.5s
E23A Ismay 45.25 338 ⇑P P 23 31 52.7 +0.7
baz=45,SNR=6.5
H19A Powell 45.27 334 ⇓P P 23 31 53.0 +0.7
baz=45,SNR=22
TPAW Teton Pass 45.27 331 *eP* P 23 31 51.2 -1.2
comp=Z,226nm,1.0s
RRI2 Red Ridge 45.34 331 *eP* P 23 31 51.9 -1.2
comp=Z,298nm,1.1s
SMMC Simmler 45.35 316 ⇓P P 23 31 55.1 +2.0
baz=45
MOOW Moose Ponds 45.36 331 *eP* P 23 31 51.6 -1.6
comp=Z,147nm,1.1s
G20A Bridger 45.37 335 ⇑P P 23 31 53.5 +0.5
baz=45,SNR=85
L14A Malta 45.37 328 ⇑P P 23 31 53.8 +0.6
baz=45,SNR=20
RCTC Rector, Farmer 45.38 318 ⇓P P 23 31 54.9 +1.8
baz=45
F21A Absaloka Mine, 45.40 336 ⇑P P 23 31 53.8 +0.6
baz=45,SNR=11
I17A Pilgrim Ck. 45.41 332 ⇓P P 23 31 54.1 +0.5
baz=45,SNR=52
D24A Glendive 45.42 339 ⇓P P 23 31 54.7 +1.3
baz=45,SNR=34
J16A Bone 45.43 330 ⇓P P 23 31 54.2 +0.5
baz=45,SNR=100
E22A Miles City 45.45 337 ⇓P P 23 31 54.5 +0.9
baz=45,SNR=31
DCID1 Drake Creek 45.46 331 *eP* P 23 31 56.2 +2.3
comp=Z,281nm,1.2s
K15A Arbon 45.46 329 ⇓P P 23 31 54.7 +0.8
baz=45,SNR=41
MTUM Tungsten Hills 45.52 319 *eP* P 23 31 54.1 -0.3
IMW Indian Meadow 45.57 331 *eP* P 23 31 53.4 -1.5
comp=Z,1µm,2.5s
H18A Shoshone NF, C 45.57 333 ⇓P P 23 31 55.6 +0.8
baz=46,SNR=36
ELK Elko 45.59 325 *eP* P 23 31 54.1 -0.9
FLWY Flagg Ranch 45.59 332 *eP* P 23 31 53.9 -1.0
comp=Z,384nm,1.1s
K14A Jones Ranch, D 45.70 328 ⇓P P 23 31 56.2 +0.4
baz=46,SNR=81
RLMT Red Lodge 45.74 334 *eP* P 23 31 54.3 -1.9
comp=Z,158nm,1.0s
RLMT LR LR
comp=Z,13µm,22.0s
RLMT Red Lodge 45.74 334 ⇓P P 23 31 56.7 +0.6
baz=46,SNR=64
H17A Grant Village 45.77 332 ⇓P P 23 31 58.2 +1.7
baz=46,SNR=33
D23A Lindsay 45.79 339 ⇓P P 23 31 57.9 +1.7
baz=46
F20A Billings 45.80 335 ⇓P P 23 31 57.4 +0.9
baz=46,SNR=54
I16A Newdale 45.81 331 ⇓P P 23 31 57.9 +1.2
baz=46,SNR=33
C24A Savage 45.82 340 ⇓P P 23 31 57.8 +1.3
baz=46,SNR=80
LKWY Lake 45.82 332 *eP* P 23 31 56.5 -0.3
LKWY pmax pmax
comp=Z,144nm,1.1s
LKWY MLR MLR
comp=Z,42µm,20.0s
LKWY Lake 45.82 332 *eP* P 23 31 56.5 -0.3
comp=Z,144nm,1.1s
LKWY LR LR
comp=Z,42µm,20.0s
MLAC Mammoth Lakes 45.85 319 ⇓P P 23 31 59.2 +2.0
baz=46
J15A Blackfoot 45.93 330 ⇓P P 23 31 58.6 +1.1
baz=46,SNR=90
ULM Lac du Bonnet 45.93 348 P P 23 31 53.4 -3.9
comp=Z,116nm,0.9s,baz=159,slow=9.5,SNR=41
ULM S S 23 38 38.3 -3.5
comp=Z,1.9nm,0.6s,baz=65,slow=18,SNR=2.5
ULM LR LR 23 52 18.2
comp=Z,7µm,19.6s,baz=343,slow=38
ULM Lac du Bonnet 45.93 348 P P 23 31 53.4 -3.9
ULM S S 23 38 38.3 -3.5
YFT Old Faithful 45.94 332 *eP* P 23 31 57.9 +0.2
comp=Z,269nm,1.1s
E21A Keefer Ranch, 45.97 337 ⇓P P 23 31 58.6 +0.9
baz=46,SNR=7.2
NVAR Mina Array Bea 45.98 321 P P 23 31 56.9 -1.2
comp=Z,24nm,0.8s,baz=129,slow=7.1,SNR=49
NVAR S S 23 38 46.4 +3.2
comp=Z,0.2nm,0.4s,baz=107,slow=18,SNR=1.8
NVAR LR LR 23 51 32.9
comp=Z,24µm,18.4s,baz=240,slow=36
NVAR Mina Array Bea 45.98 321 P P 23 31 56.9 -1.2
NVAR S S 23 38 46.5 +3.2
G18A Lazy EL Ranch, 46.03 334 ⇓P P 23 31 59.1 +0.8
baz=46,SNR=52
YNR Norris Junctio 46.07 332 *eP* P 23 31 58.1 -0.7
comp=Z,114nm,1.1s
D22A Cohagen 46.13 338 ⇑P P 23 32 00.5 +1.5
baz=46,SNR=85
YMR Madison River 46.16 332 *eP* P 23 31 58.7 -0.8
comp=Z,213nm,0.8s
F19A Roth Farm, Mol 46.18 335 ⇓P P 23 32 00.3 +0.9
baz=46,SNR=74
C23A Lambert 46.31 339 ⇓P P 23 32 01.3 +1.0
baz=46,SNR=80
H16A Russell Place, 46.32 332 ⇑P P 23 32 01.9 +1.2
baz=46,SNR=64
E20A Meyer Farm, Mu 46.36 336 ⇑P P 23 32 01.3 +0.5
baz=46,SNR=35
D21A La Casta Ranch 46.37 337 ⇑P P 23 32 02.1 +1.2
baz=46,SNR=47
I15A Monteview 46.39 330 ⇑P P 23 32 02.3 +1.1
baz=46,SNR=14
GCMT Greycliff 46.44 334 *eP* P 23 32 00.1 -1.5
comp=Z,105nm,0.5s
LPA La Plata 46.50 152 *ceP* P 23 32 04.0 +2.1
LPA pP pP 23 32 07.0 +1.7
LPA PP PP 23 33 56.0 +4.6
LPA PPP PPP 23 34 35.0
LPA S S 23 38 52.0 +1.7
LPA SS SS 23 42 20.0 +3.5
LPA
comp=Z,30µm,22.0s
QLMT Earthquake Lak 46.50 332 *eP* P 23 32 01.4 -0.7
C22A Vida 46.52 339 ⇓P P 23 32 03.2 +1.2
baz=46,SNR=90
BMN Battle Mountai 46.54 323 *eP* P 23 32 01.5 -0.9
BMN MLR MLR
comp=Z,14µm,20.0s
BMN Battle Mountai 46.54 323 *eP* P 23 32 01.5 -0.9
BMN LR LR
comp=Z,14µm,20.0s
DGMT Dagmar 46.55 340 *eP* P 23 32 00.9 -1.3
comp=Z,512nm,1.3s
DGMT LR LR
comp=Z,9µm,20.0s
DGMT Dagmar 46.55 340 ⇓P P 23 32 02.8 +0.6
baz=46,SNR=12
F18A Big Timber 46.55 334 ⇓P P 23 32 03.1 +0.7
baz=46,SNR=137
G17A Pierce Place, 46.56 333 ⇓P P 23 32 02.9 +0.4
baz=46,SNR=54
E19A Rath Farm, Rou 46.60 335 ⇑P P 23 32 03.4 +0.7
baz=46,SNR=84
B23A Brockton 46.81 340 ⇓P P 23 32 05.4 +1.1
baz=47,SNR=69
J13A Cove Ranch, Pi 46.82 329 ⇑P P 23 32 04.7 +0.2
baz=47,SNR=54
D20A Manuel Ranch, 46.84 336 ⇑P P 23 32 05.6 +1.1
baz=47,SNR=93
A24A Westby 46.88 341 ⇑P P 23 32 05.8 +1.0
baz=47,SNR=37
H15A Lima 46.92 331 ⇑P P 23 32 06.3 +0.9
baz=47,SNR=108
F17A Fitzpatrick Pl 46.97 333 ⇓P P 23 32 06.7 +1.1
baz=47,SNR=60
G16A Moss Hill, Enn 46.98 332 ⇓P P 23 32 06.8 +1.0
baz=47,SNR=85
B22A Reddig Ranch S 47.03 339 ⇓P P 23 32 07.2 +1.2
baz=47,SNR=11
C21A Desert Coulee 47.04 338 ⇓P P 23 32 07.1 +1.0
baz=47,SNR=123
HLID Hailey 47.06 329 *eP* P 23 32 05.3 -1.2
comp=Z,136nm,1.1s
HLID LR LR
comp=Z,35µm,20.0s
HLID Hailey 47.06 329 ⇑P P 23 32 07.7 +1.2
baz=47,SNR=105
CMB Columbia Colle 47.09 319 *eP* P 23 32 06.8 +0.1
CMB *e* 23 33 55.9
CMB pmax pmax
comp=Z,63nm,1.1s
CMB Columbia Colle 47.09 319 *eP* P 23 32 06.8 +0.1
comp=Z,63nm,1.1s
CMB *ePP* PP 23 33 55.9 -1.5
SAO San Andreas Ge 47.12 317 *eP* P 23 32 07.9 +1.1
SAO *e* 23 33 54.7
SAO pmax pmax
comp=Z,52nm,1.0s
SAO San Andreas Ge 47.12 317 *eP* P 23 32 07.9 +1.1
comp=Z,52nm,1.0s
SAO *ePP* PP 23 33 54.7 -3.0
I13A Wildhorse Cree 47.15 329 ⇑P P 23 32 08.4 +1.2
baz=47,SNR=86
E18A Harlowton 47.16 335 ⇓P P 23 32 08.2 +1.1
baz=47,SNR=75
MCMT McKenzie Canyo 47.18 331 *eP* P 23 32 06.8 -0.6
comp=Z,88nm,1.3s
MCMT *ePP* PP 23 34 06.2 +7.8
D19A Cripps Ranch, 47.20 336 ⇑P P 23 32 08.2 +0.8
baz=47,SNR=76
A23A Redstone 47.20 340 ⇓P P 23 32 08.8 +1.5
baz=47,SNR=11
BOZ Bozeman (W) 47.21 332 *eP* P 23 32 05.6 -2.0
BOZ *e* 23 33 58.1
BOZ pmax pmax
comp=Z,194nm,1.2s
BOZ MLR MLR
comp=Z,17µm,20.0s
BOZ Bozeman (W) 47.21 332 *eP* P 23 32 05.6 -2.0
comp=Z,194nm,1.2s
BOZ *ePP* PP 23 33 58.1 -0.5
BOZ LR LR
comp=Z,17µm,20.0s
BOZ Bozeman (W) 47.21 332 ⇑P P 23 32 08.3 +0.8
baz=47,SNR=111
G15A Dillon 47.25 331 ⇑P P 23 32 09.3 +1.3
baz=47,SNR=57
H14A Leadore 47.28 330 ⇓P P 23 32 09.3 +1.1
baz=47,SNR=63
C20A Veseth Ranch, 47.29 337 ⇓P P 23 32 09.3 +1.3
baz=47,SNR=73
F16A Kennard Place, 47.31 333 ⇑P P 23 32 09.4 +1.1
baz=47,SNR=56
PLCA Paso Flores 47.36 167 P P 23 32 03.9 -4.7
comp=Z,6.7nm,1.1s,baz=340,slow=9.8,SNR=7.9
PLCA Paso Flores 47.36 167 *eP* P 23 32 03.7 -5.0
comp=Z,105nm,1.5s
PLCA *ePP* PP 23 34 02.2 +2.2
WCN Washoe City 47.41 321 *eP* P 23 32 09.5 +0.2
WCN pmax pmax
comp=Z,79nm,1.3s
WCN Washoe City 47.41 321 *eP* P 23 32 09.5 +0.2
comp=Z,79nm,1.3s
TRQA Tornquist 47.45 158 *eP* P 23 32 06.6 -2.7
comp=Z,109nm,1.6s
TRQA LR LR
comp=Z,7µm,19.0s
DLMT Dillon 47.45 332 *eP* P 23 32 09.8 +0.4
comp=Z,366nm,1.6s
DLMT *ePP* PP 23 33 59.7 -1.1
E17A Martinsdale 47.48 334 ⇑P P 23 32 10.8 +1.0
baz=47,SNR=21
B21A Ellsworth Farm 47.51 338 ⇑P P 23 32 10.9 +1.2
baz=48
A22A Carney Farms, 47.58 339 ⇑P P 23 32 11.3 +0.9
baz=48,SNR=21
I12A Atlanta 47.59 328 ⇓P P 23 32 11.5 +0.9
baz=48,SNR=64
D18A Linhart Farms, 47.60 335 ⇓P P 23 32 11.5 +0.9
baz=48,SNR=31
H13A Challis 47.68 330 ⇑P P 23 32 11.8 +0.6
baz=48,SNR=48
MFID Camas Ranch 47.70 327 *eP* P 23 32 10.3 -1.1
comp=Z,538nm,1.8s
MFID Camas Ranch 47.70 327 ⇓P P 23 32 12.4 +1.0
baz=48,SNR=41
LRM Limekiln Ridge 47.72 332 *eP* P 23 32 10.4 -1.3
LRM *ePP* PP 23 34 05.8 +2.4
C19A Slack Wire Ran 47.72 336 ⇓P P 23 32 12.5 +1.1
baz=48,SNR=128
F15A Butte 47.76 332 ⇑P P 23 32 12.8 +0.9
baz=48,SNR=46
G14A Jackson 47.78 331 ⇑P P 23 32 13.1 +1.0
baz=48,SNR=16
B20A Solberg Farm, 47.89 337 ⇓P P 23 32 14.0 +1.3
baz=48,SNR=161
E16A East Helena 47.90 333 ⇓P P 23 32 14.0 +1.1

baz=48,SNR=80
A21A Bergtoll Ranch 47.94 339 ⇓P P 23 32 14.4 +1.3
baz=48,SNR=126
D17A Six Diamond Ra 47.95 334 ⇑P P 23 32 14.0 +0.7
baz=48,SNR=115
H12A Diamond D Ranc 47.98 329 ⇑P P 23 32 14.5 +0.9
baz=48,SNR=60
G13A Cobalt 48.05 330 ⇓P P 23 32 14.8 +0.7
baz=48,SNR=26
CAM4 Nova Friburgo 48.07 127 ⇓*i*P P 23 32 15.3 +0.6
CAM4 *i* 23 32 19.3
CAM4 *i* 23 32 25.8
CAM4 *i* 23 32 31.5
CAM4 *i* 23 32 36.9
CAM4 *i* 23 32 38.8
CAM4 *i* 23 32 47.8
CAM4 *i* 23 32 51.8
CAM4 *i* 23 32 57.8
CAM4 *i* 23 33 02.3
CAM4 *i* 23 33 09.0
CAM4 *i* 23 33 14.2
RCBR Riachuelo 48.08 103 *e*P P 23 32 14.9 +0.2
comp=Z,54nm,1.0s
RCBR LR LR
comp=Z,10µm,20.0s
HRY Holter Researc 48.11 333 *e*P P 23 32 12.8 -1.7
F14A Wisdom 48.15 331 ⇓P P 23 32 15.7 +0.8
baz=48,SNR=25
A20A Cobblestone Ra 48.22 338 ⇓P P 23 32 16.1 +0.9
baz=48,SNR=104
D16A Dana Ranch, Ca 48.23 334 ⇑P P 23 32 16.4 +1.0
baz=48,SNR=70
EGMT Eagleton 48.24 336 *e*P P 23 32 14.1 -1.3
comp=Z,367nm,1.4s
EGMT LR LR
comp=Z,10µm,21.0s
EGMT Eagleton 48.24 336 ⇓P P 23 32 16.7 +1.2
baz=48,SNR=67
E15A Deer Lodge 48.26 332 ⇓P P 23 32 16.9 +1.2
baz=48,SNR=27
B19A Brinkman Farms 48.26 337 ⇓P P 23 32 16.3 +0.8
baz=48,SNR=79
C17A Wharram Farm, 48.35 335 ⇓P P 23 32 17.0 +0.7
baz=48,SNR=136
DRLN Deer Lake 48.53 22 *e*P P 23 32 20.0 +2.5
comp=Z,278nm,1.0s
OHCM Honcut 48.53 320 *e*P P 23 32 16.6 -1.1
B18A Beardsley Farm 48.55 336 ⇓P P 23 32 18.6 +0.8
baz=48,SNR=109
A19A Klindworth Far 48.57 337 ⇑P P 23 32 18.8 +0.9
baz=48,SNR=72
F13A Darby 48.59 331 ⇑P P 23 32 18.9 +0.6
baz=48,SNR=39
G12A Big Creek, Yel 48.62 329 ⇓P P 23 32 18.8 +0.3
baz=49,SNR=65
E14A Clinton 48.65 332 ⇑P P 23 32 19.2 +0.5
baz=49,SNR=56
D15A Lincoln 48.67 333 ⇑P P 23 32 19.4 +0.5
baz=49,SNR=35
MCCM Marconi Confer 48.81 317 *e*P P 23 32 19.5 -0.4
comp=Z,102nm,1.0s
B17A L&G Farms, Che 48.88 335 ⇑P P 23 32 20.8 +0.5
baz=49,SNR=26
C16A Fuhringer Ranc 48.90 334 ⇓P P 23 32 21.2 +0.6
baz=49,SNR=71
CHMT Chamberlain Mo 48.91 332 *e*P P 23 32 19.4 -1.4
CHMT *e*PP PP 23 34 18.1 +3.9
A18A Metzger Ranch, 48.99 337 ⇑P P 23 32 21.9 +0.8
baz=49,SNR=81
E13A Victor 49.00 331 ⇓P P 23 32 21.9 +0.5
baz=49,SNR=31
F12A Elk City 49.03 330 ⇓P P 23 32 22.0 +0.4
baz=49,SNR=101
D14A Greenough 49.15 332 ⇑P P 23 32 23.0 +0.5
baz=49,SNR=29
MSO Missoula 49.16 332 *e*P P 23 32 21.0 -1.6
MSO LR LR
comp=Z,12µm,20.0s
MSO Missoula 49.16 332 ⇑P P 23 32 23.3 +0.7
baz=49,SNR=20
C15A Salmond Ranch, 49.26 334 ⇑P P 23 32 24.1 +0.7
baz=49,SNR=65
SLMT Seeley Lake 49.26 333 *e*P P 23 32 23.0 -0.4
SLMT *e*PP PP 23 34 15.2 -2.2
MOD Modoc 49.28 323 *e*P P 23 32 25.2 +1.6
comp=Z,106nm,1.3s
A17A Triple J Farms 49.35 336 ⇑P P 23 32 24.7 +0.7
baz=49,SNR=88
B16A M & M Farms, S 49.36 335 ⇓P P 23 32 24.6 +0.6
baz=49,SNR=33
HOPS Hopland 49.38 318 *e*P P 23 32 23.1 -1.2
comp=Z,47nm,1.0s
BMO Blue Mountains 49.46 328 *e*P P 23 32 22.2 -2.6
comp=Z,72nm,1.1s
BMO *e*PP PP 23 34 22.9 +3.8
BMO LR LR
comp=Z,16µm,22.0s
D13A Huson 49.60 332 ⇑P P 23 32 26.6 +0.7
baz=50,SNR=26
E12A Beaver Dam Sad 49.65 330 ⇑P P 23 32 26.7 +0.3
baz=50,SNR=52
B15A Bradely Ranch, 49.65 334 ⇑P P 23 32 27.1 +0.9
baz=50,SNR=108
SWMT Swartz Lake 49.69 333 *e*P P 23 32 25.1 -1.5
WDC Whiskeytown Da 49.90 320 *e*P P 23 32 25.9 -2.3
WDC pmax pmax
comp=Z,40nm,1.3s
WDC Whiskeytown Da 49.90 320 *e*P P 23 32 25.9 -2.3
comp=Z,40nm,1.3s
YBMT Yellow Bay 49.95 333 *e*P P 23 32 27.1 -1.5
comp=Z,64nm,1.1s
JTMT Jette 49.99 333 *e*P P 23 32 27.5 -1.4
JTMT *e*PcP PcP 23 33 53.5 +4.5
B14A Marquette Ranc 49.99 334 ⇑P P 23 32 29.9 +0.9
baz=50,SNR=45
C13A Hot Springs 50.08 332 ⇑P P 23 32 30.4 +0.9
baz=50,SNR=27
KIPM Iron Peak 50.08 319 *e*P P 23 32 29.3 -0.5
comp=Z,259nm,1.4s
KCPM Cahto Peak 50.09 319 *e*P P 23 32 28.8 -0.9
comp=Z,229nm,1.8s
KCPM *e*PcP PcP 23 33 50.0 +0.6
KCPM *e*PP PP 23 34 22.8 -2.2
BLMT Blacktail Moun 50.22 333 *e*P P 23 32 29.6 -1.2
A15A Johnson Ranch, 50.23 335 ⇑P P 23 32 31.6 +0.9
baz=50,SNR=95
BSMT Bassoo Peak 50.30 332 *e*P P 23 32 30.1 -1.2
A14A Double T Ranch 50.52 334 ⇑P P 23 32 34.0 +1.1
baz=50,SNR=43
C12B Naegeli Ranch, 50.52 332 ⇓P P 23 32 33.7 +0.9
baz=50,SNR=13
B13A Whitefish 50.54 333 ⇓P P 23 32 34.1 +1.1
baz=50,SNR=33
YBH Yreka Blue Hor 50.64 322 *e*P P 23 32 30.8 -3.1
comp=Z,32nm,1.0s
WALA Waterton Lakes 50.80 334 *e*P P 23 32 33.6 -1.4
comp=Z,6.6nm,1.2s
SCHQ Schefferville 50.81 12 P P 23 32 32.2 -2.7
comp=Z,123nm,1.0s,baz=209,slow=8.2,SNR=29
SCHQ S S 23 39 48.9 -1.8
comp=Z,6.3nm,0.9s,baz=121,slow=19,SNR=3.2
SCHQ LR LR 23 53 15.4
comp=Z,14µm,20.6s,baz=203,slow=35
SCHQ Schefferville 50.81 12 *e*P P 23 32 32.0 -2.9
comp=Z,348nm,1.3s
SCHQ S S 23 39 48.9 -1.8
KHMM Horse Mountain 50.81 320 *e*P P 23 32 33.8 -1.5
comp=Z,408nm,1.4s
A13A Flathead Natio 50.93 333 ⇑P P 23 32 36.9 +1.0
baz=51
VIPM Ingram Point 51.04 326 P P 23 32 38.4 +1.4
VIPM Ingram Point 51.04 326 P P 23 32 38.4 +1.4
KRMB Red Mountain 51.28 321 *e*P P 23 32 36.1 -2.6
comp=Z,958nm,1.9s
HUMO Hull Mountain 51.29 322 *e*P P 23 32 37.8 -0.9
FFC Flin Flon 51.47 346 *ce*P P 23 32 37.6 -2.2
FFC Flin Flon 51.47 346 *e*P P 23 32 36.6 -3.2
comp=Z,85nm,1.0s
FFC LR LR
comp=Z,9µm,19.0s
FFC Flin Flon 51.47 346 P P 23 32 37.6 -2.2
comp=Z,486nm,1.2s,SNR=10
A12A Yaak River Ran 51.48 333 ⇓P P 23 32 41.4 +1.3
baz=51,SNR=14
F07A Phinny Hill Vi 51.54 327 P P 23 32 41.6 +1.2
HAWA Hanford 51.65 328 *e*P P 23 32 39.6 -1.7
comp=Z,196nm,1.4s
HAWA LR LR
comp=Z,14µm,21.0s
NEW Newport 51.70 331 S S 23 40 06.2 +3.0
comp=Z,1.0nm,0.6s,baz=94,slow=14,SNR=2.0
NEW LR LR 23 56 11.8
comp=Z,9µm,18.7s,baz=129,slow=38
NEW Newport 51.70 331 *e*P P 23 32 39.8 -1.9
comp=Z,62nm,0.9s
NEW S S 23 40 06.2 +3.0
NEW Newport 51.70 331 ⇑P P 23 32 42.5 +0.9
baz=52,SNR=22
COYC Coyhaique 51.74 170 *e*P P 23 32 32.4 -9.5
KBO Bosley Butte 51.85 321 *e*P P 23 32 42.4 -0.6
comp=Z,489nm,1.3s
OD2 Odessa Site #2 51.88 329 P P 23 32 44.3 +1.3
C09A Chrisman Ranch 51.94 330 P P 23 32 44.6 +1.2
BROR Big Rock Looko 51.95 324 P P 23 32 44.7 +1.2
VLL Laurance Lake 52.22 326 P P 23 32 48.3 +2.6
KEBM Edson Butte 52.28 322 *e*P P 23 32 47.3 +1.2
comp=Z,314nm,1.3s
KEBM *e*PcP PcP 23 33 58.4 +1.0
KEBM *e*PP PP 23 34 45.6 +0.9
ASR Mount Adams--S 52.60 327 P P 23 32 51.3 +2.8
COR Corvallis 52.63 324 *e*P P 23 32 50.0 +1.4
COR Corvallis 52.63 324 *e*P P 23 32 50.0 +1.4
WPW White Pass 52.91 327 P P 23 32 53.3 +2.5
LON Longmire 53.09 327 *e*P P 23 32 50.4 -1.6
LON *e* 23 34 53.6
LON pmax pmax
comp=Z,56nm,1.0s
LON Longmire 53.09 327 *e*P P 23 32 50.4 -1.6
comp=Z,56nm,1.0s
LON *e*PP PP 23 34 53.6 +1.6
SQM Sequim 54.57 328 P P 23 33 04.7 +2.0
NLWA Neilton Lookou 54.60 327 *e*P P 23 33 02.6 -0.5
comp=Z,226nm,1.3s
NLWA LR LR
comp=Z,24µm,22.0s
A05A Maple Falls 54.64 329 P P 23 33 01.0 -2.3
PGC Sidney 55.13 328 *e*P P 23 33 05.7 -1.1
comp=Z,14nm,1.4s
RKT Rikitea 58.42 239 *e*P P 23 33 37.1 +6.5
comp=Z,125nm,1.2s
RKT *e*S S 23 41 49.6 +16
comp=Z,15µm,30.5s
RKT *e*LQ LQ 23 48 27.4
comp=Z,7µm,28.0s
RKT *e*LR LR 23 51 30.0
comp=Z,29µm,28.0s,baz=65
SACV Santiago Islan 58.77 76 PFAKE
SACV LR LR
comp=Z,3µm,20.0s
FRB Frobisher Bay 59.02 7 P P 23 33 29.7 -4.3
comp=Z,30nm,0.9s,baz=208,slow=10,SNR=41
FRB S S 23 41 37.3 -3.1
comp=Z,2.2nm,0.9s,baz=127,slow=19,SNR=2.1
FRB LR LR 00 01 25.3
comp=Z,5µm,18.8s,baz=202,slow=39
FRB Frobisher Bay 59.02 7 P P 23 33 29.7 -4.3
FRB S S 23 41 37.3 -3.1
EFI East Falkland 60.75 163 *e*P P 23 33 47.0 +0.9
EFI East Falkland 60.75 163 PFAKE 23 34 00.0 +14
EFI LR LR
comp=Z,10µm,22.0s
CMLA Cha da Macela 60.94 50 PFAKE
CMLA LR LR 23 34 00.0 +12
comp=Z,7µm,19.0s
YKA Yellowknife Ar 61.51 344 P P 23 33 48.8 -2.3
comp=Z,59nm,0.7s,baz=140,slow=6.5,SNR=134
YKA PKPPKP P'P'df 00 02 51.6 -14
comp=Z,0.4nm,1.0s,baz=321,slow=2.6,SNR=5.0
YKA PKP2bc 00 03 04.3
comp=Z,1.0nm,1.1s,baz=335,slow=3.1,SNR=7.5
YKA Yellowknife Ar 61.51 344 P P 23 33 48.9 -2.3
YKA P'P' 00 02 51.6
YKA ⇑*e* 00 03 04.3
WRAK Wrangell Islan 64.04 332 PFAKE 23 34 20.0 +12
WRAK LR LR
comp=Z,9µm,21.0s
SFJD Kangerlussuaq 65.21 13 P P 23 34 12.6 -3.0
comp=Z,37nm,0.9s,baz=203,slow=11,SNR=2.9
SFJD Kangerlussuaq 65.21 13 *e*P P 23 34 12.8 -2.8
comp=Z,134nm,1.2s
SFJD LR LR
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 65.21 13 ⇓*i*P P 23 34 16.5 +0.9
comp=Z,50nm,1.0s
PMOZ Porto Moniz, M 66.49 57 *e*P P 23 34 26.2 +1.5
comp=Z,204nm,1.3s
PMOZ *e*S S 23 43 17.2 +1.5
PMOZ *e*LQ LQ 23 51 14.0
PMOZ *e*LR LR 23 54 36.3
comp=Z,3µm,20.0s
PMAR Madeira 66.72 57 *e*P P 23 34 28.1 +1.9
comp=Z,141nm,1.3s
SKAG Skagway 67.00 334 *e*P P 23 34 29.4 +2.1
PMPS Porto Santo 67.25 57 *e*P P 23 34 32.1 +2.8
comp=Z,227nm,1.6s
PMOR Pomariorio Ree 67.71 251 *e*P P 23 34 37.6 +5.1
comp=Z,234nm,1.1s
MEH Mehetia 68.52 248 *e*P P 23 34 43.5 +5.9
comp=Z,218nm,1.1s
RES Resolute Bay 69.47 357 P P 23 34 37.9 -4.6
comp=Z,5.2nm,0.8s,baz=190,slow=12,SNR=1.8
RES S S 23 43 49.1 -0.5
comp=Z,5.2nm,1.1s,baz=286,slow=20,SNR=2.6
RES LR LR 00 06 08.6
comp=Z,9µm,18.8s,baz=166,slow=37
RES Resolute Bay 69.47 357 *e*P P 23 34 38.4 -4.1
comp=Z,1.0nm,0.5s
RES S S 23 43 49.1 -0.5
TIAR Tiarei 69.63 249 *e*P P 23 34 50.5 +6.0
comp=Z,229nm,1.2s
PPT Papeete 69.85 249 LR LR 23 58 21.9
comp=Z,7µm,19.3s,baz=78,slow=30
PPT2 Papeete2 69.85 249 *e*S S 23 44 09.2 +13
comp=Z,7µm,26.8s
PPT2 *e*LQ LQ 23 53 44.8
comp=Z,7µm,24.2s
PPT2 *e*LR LR 23 56 32.5
comp=Z,12µm,24.8s,baz=68
PAE Paea 69.87 249 *e*P P 23 34 52.0 +6.0
comp=Z,34nm,1.2s
DAWY Dawson 70.96 337 *e*P P 23 34 50.0 -1.8
TBI Tubuai 71.12 243 *e*S SKiKP 23 44 23.5 -12
comp=Z,9µm,30.0s
TBI *e*LQ LQ 23 54 03.5
comp=Z,13µm,32.2s
TBI *e*LR LR 23 57 23.2
comp=Z,26µm,29.8s,baz=72
INK Inuvik 71.18 342 S S 23 44 13.8 +4.1
comp=Z,1.2nm,0.9s,baz=234,slow=33,SNR=7.0
INK LR LR 00 09 22.3
comp=Z,11µm,18.5s,baz=117,slow=39
INK Inuvik 71.18 342 *e*P P 23 34 51.8 -1.2
comp=Z,282nm,1.1s
INK S S 23 44 13.8 +4.1
SUMG Summit 72.19 13 *e*P P 23 34 57.2 -2.4
SUMG pmax pmax
comp=Z,331nm,1.0s
SUMG Summit 72.19 13 *e*P P 23 34 57.1 -2.4
comp=Z,331nm,1.0s
SUMG Summit 72.19 13 *i*P P 23 34 57.9 -1.7
comp=Z,234nm,1.0s
SUMG *i*S S 23 44 20.0 -2.1
MENT Mentasta 72.20 335 *e*P P 23 34 59.0 -0.3
DIV Divide 72.40 333 *e*P P 23 35 01.6 +1.0
comp=Z,93nm,1.0s
DOT Dot Lake 72.63 336 *e*P P 23 35 00.3 -1.6
comp=Z,59nm,0.9s
PAX Paxson 72.95 335 *e*P P 23 35 04.1 +0.2
PAX pmax pmax
comp=Z,61nm,0.9s
PAX Paxson 72.95 335 *e*P P 23 35 04.1 +0.2
comp=Z,61nm,0.9s
BORG Borgarnes 73.10 23 P P 23 35 02.4 -2.2
comp=Z,23nm,1.0s,baz=202,slow=2.9,SNR=2.0
BORG Borgarnes 73.10 23 P P 23 35 02.4 -2.2
BORG LR LR
comp=Z,8µm,22.0s
PMAFR Mafra 73.67 51 *e*P P 23 35 09.9 +1.4
comp=Z,110nm,1.2s
LIS Lisbon 73.75 51 *e*P P 23 35 09.2 +0.2
LIS *e*S S 23 44 41.3 +1.1
LIS A A 00 02 57.9
comp=Z,4µm,19.3s
LIS Lisbon 73.75 51 *e*P P 23 35 09.1 +0.2
LIS *e*S S 23 44 41.3 +1.1
SEW Seward 73.76 331 *e*P P 23 35 09.6 +1.1
comp=Z,112nm,0.9s
PFVI Vila Bisbo 73.85 53 *e*P P 23 35 10.8 +1.2
comp=Z,218nm,1.4s
PTEO Sao Teotonio 73.97 53 *e*P P 23 35 12.1 +1.8
comp=Z,179nm,2.5s
MORF Marmelete 74.00 53 *e*P P 23 35 11.5 +0.9
comp=Z,253nm,1.4s
MORF Marmelete 74.00 53 *e*P P 23 35 10.6 0.0
MORF *e*S S 23 44 44.3 +1.0
PMR Palmer 74.08 333 *e*P P 23 35 11.7 +1.3
PMR *e* 23 38 00.0
PMR pmax pmax
comp=Z,310nm,1.7s
PMR Palmer 74.08 333 *e*P P 23 35 11.7 +1.3
comp=Z,310nm,1.7s
PMR *e*PP PP 23 37 60.0 +4.3
PNCL Nicolau / Gran 74.18 52 *e*P P 23 35 12.7 +1.2
comp=Z,123nm,1.5s
ILAR Eielson Array 74.21 336 P P 23 35 08.6 -2.5
comp=Z,48nm,0.9s,baz=122,slow=4.4,SNR=33
ILAR LR LR 00 11 03.1
comp=Z,9µm,19.1s,baz=115,slow=38
ILAR Eielson Array 74.21 336 P P 23 35 08.6 -2.5
ALMR Almeirim 74.24 51 *e*P P 23 35 12.4 +0.5
ALMR Almeirim 74.24 51 *e*P P 23 35 12.4 +0.5
ALMR Almeirim 74.24 51 *e*P P 23 35 12.3 +0.5
KIP Kipapa 74.33 291 PFAKE 23 35 20.0 +7.3
KIP LR LR
comp=Z,10µm,19.0s
MESJ Messejana 74.39 52 *e*P P 23 35 13.4 +0.7
MESJ *e*S S 23 44 48.2 +0.7
MESJ AMS AMS 00 03 02.3
comp=Z,5µm,21.1s
MESJ Messejana 74.39 52 *e*P P 23 35 13.4 +0.7
MESJ *e*S S 23 44 48.2 +0.7
MESJ A A 00 03 02.3
comp=Z,5µm,21.1s
MESJ Messejana 74.39 52 *e*P P 23 35 13.4 +0.7
MESJ *e*S S 23 44 48.2 +0.7
PTOM Tomar 74.42 51 *e*P P 23 35 12.9 0.0
comp=Z,191nm,1.4s
PTO Porto 74.43 49 *e*P P 23 35 16.4 +3.5
PMTG Montargil 74.50 51 *e*P P 23 35 13.8 +0.4
comp=Z,122nm,1.3s
PCVE Castro Verde 74.52 53 *e*P P 23 35 15.3 +1.8
comp=Z,119nm,1.5s
EVOP Sao Brissos 74.53 52 *e*P P 23 35 12.8 -0.7
EVOP pmax pmax
comp=Z,180nm,0.9s
EVOP Sao Brissos 74.53 52 *e*P P 23 35 12.8 -0.7
comp=Z,180nm,0.9s
PBDV Barranco-do-Ve 74.57 53 *e*P P 23 35 15.8 +1.9
comp=Z,120nm,1.2s
EVO Evora 74.62 52 *e*P P 23 35 12.8 -1.3
comp=Z,180nm,0.9s
EVO *e*R
comp=Z,7µm,22.8s
EVO Evora 74.62 52 *e*P P 23 35 15.6 +1.5
comp=Z,107nm,1.4s
COLA College 74.63 336 *e*P P 23 35 14.1 +0.6
COLA *e* 23 37 58.8
COLA pmax pmax
COLA comp=Z,62nm,0.9s MLR MLR
comp=Z,9µm,20.0s
COLA College 74.63 336 *e*P P 23 35 14.1 +0.6
comp=Z,62nm,0.9s
COLA *e*PP PP 23 37 58.8 -1.4
COLA LR LR
comp=Z,9µm,20.0s
PBEJ Beja 74.69 52 *e*P P 23 35 17.1 +2.6
comp=Z,127nm,1.9s
PVAQ Vaqueiros 74.75 53 *e*P P 23 35 16.9 +2.0
comp=Z,121nm,1.5s
PVAQ *e*S S 23 44 50.9 -0.7
PVAQ *e*LQ LQ 23 54 57.5
PVAQ *e*LR LR 23 58 28.5
comp=Z,6µm,22.0s
PGAV Gavieira, Arco 74.77 48 *e*P P 23 35 16.4 +1.4
comp=Z,104nm,1.7s
PGAV *e*S S 23 44 58.5 +6.7
PGAV *e*LQ LQ 23 54 57.2
PGAV *e*LR LR 23 58 47.9
comp=Z,5µm,22.0s
VAL Valentia 74.89 38 *e*P P 23 35 02.7 -13
VAL Valentia 74.89 38 ⇑*i*S S 23 44 53.6 +1.1
VAL *e*LQ LQ 23 55 14.1
PVIS Viseu 74.92 49 *e*P P 23 35 16.0 +0.2
comp=Z,126nm,1.3s
PCAB Cabril 74.92 48 *e*P P 23 35 16.6 +0.8
comp=Z,82nm,1.5s
PESTR Estremoz 74.98 51 *e*P P 23 35 16.8 +0.6
comp=Z,258nm,1.2s
POLO Lamas de Olo 75.06 49 *e*P P 23 35 19.2 +2.5
comp=Z,47nm,1.9s
PVRL Vila Real 75.11 49 *e*P P 23 35 17.5 +0.6
comp=Z,110nm,1.6s
PCBR Castelo Branco 75.15 50 *e*P P 23 35 17.4 +0.3
comp=Z,151nm,1.4s
MTE Manteigas 75.16 50 *e*P P 23 35 17.5 +0.3
comp=Z,107nm,1.4s
MTE *e*S S 23 44 58.4 +2.3
MTE *e*LQ LQ 23 55 21.1
MTE *e*LR LR 23 58 43.1
comp=Z,9µm,22.0s
MTE Manteigas 75.16 50 *e*P P 23 35 16.8 -0.5
comp=Z,84nm,1.2s
MTE LR LR
comp=Z,9µm,22.0s
PMRV Marv??o 75.18 51 *e*P P 23 35 18.7 +1.4
comp=Z,91nm,1.2s
PMRV *e*S S 23 44 57.8 +1.5
PMRV *e*LQ LQ 23 55 10.0
PMRV *e*LR LR 23 58 13.1
comp=Z,5µm,22.0s
RTC Rabat Centre 75.21 56 PFAKE 23 35 30.0 +12
RTC LR LR
comp=Z,7µm,21.0s
PBAR Barrancos 75.35 52 *e*P P 23 35 19.0 +0.7
comp=Z,169nm,1.2s
RSO Redoubt South 75.44 331 *e*P P 23 35 19.5 +0.9
comp=Z,364nm,0.9s
MVO Moncorvo 75.62 49 *e*P P 23 35 21.3 +1.4
comp=Z,117nm,1.5s
MVO *e*S S 23 45 05.2 +4.0
MVO *e*LQ LQ 23 55 21.4
MVO *e*LR LR 23 58 51.6
comp=Z,5µm,22.0s
PBRG Braganca 75.89 48 *e*P P 23 35 22.7 +1.3
comp=Z,106nm,1.5s
COLD Coldfoot 76.33 338 *e*P P 23 35 22.2 -1.1
comp=Z,133nm,1.0s
COLD *e*PP PP 23 38 16.1 +1.5
LIC Lamto 77.22 85 *e*P P 23 35 27.7 -1.6
comp=Z,242nm,1.2s,baz=269
LIC *e*R
comp=Z,6µm,19.0s
LIC Lamto 77.22 85 *e*P P 23 35 27.7 -1.6
comp=Z,242nm,1.2s
DBIC Dimbokro 77.35 84 P P 23 35 26.8 -3.3
comp=Z,15nm,1.0s,baz=253,slow=11,SNR=3.8
DBIC S S 23 45 19.5 -1.5
comp=Z,2.9nm,1.1s,baz=328,slow=18,SNR=2.2
DBIC LR LR 00 06 28.2
comp=Z,4µm,21.7s,baz=256,slow=34
DBIC Dimbokro 77.35 84 *e*P P 23 35 28.6 -1.6
comp=Z,128nm,1.3s
DBIC S S 23 45 19.5 -1.5
ALE Alert 77.45 3 P P 23 35 26.1 -3.3
comp=Z,340nm,1.1s,SNR=11
CHGN Chignik 77.50 326 *e*P P 23 35 28.4 -1.6
CHGN *e*PP PP 23 38 19.7 -5.0
PAB San Pablo 77.54 51 *e*P P 23 35 31.6 +0.8
PAB pmax pmax
comp=Z,187nm,1.5s
PAB MLR MLR
comp=Z,4µm,21.0s
PAB San Pablo 77.54 51 *e*P P 23 35 31.6 +0.8
comp=Z,187nm,1.5s

PAB LR LR
comp=Z,4µm,21.0s
ESDC Sonseca Array 77.84 51 P **P 23 35 29.3 -3.2**
comp=Z,29nm,1.0s,baz=271,slow=5.4,SNR=34
ESDC S **S 23 45 27.1 +1.6**
comp=Z,0.1nm,0.4s,baz=225,slow=1.5,SNR=2.5
ESDC LR LR 00 05 22.1
comp=Z,3µm,21.6s,baz=285,slow=32
ESDC Sonseca Array 77.84 51 P **P 23 35 29.3 -3.2**
ESDC S **S 23 45 27.1 +1.6**
ESLA Sonseca Array 77.84 51 *e*P **P 23 35 33.6 +1.1**
comp=Z,31nm,1.1s
TRIS Tristan da Cun 77.89 130 PFAKE 23 35 50.0 +17
TRIS LR LR
comp=Z,9µm,22.0s
HTL Hartland 78.33 39 *e*P **P 23 35 36.3 +1.5**
HTL AMB AMB 23 35 40.3
comp=Z,161nm,3.0s
HTL AMS AMS 00 02 29.4
comp=Z,7µm,21.0s
HTL Hartland 78.33 39 P **P 23 35 36.3 +1.5**
HTL AMB AMB 23 35 40.3
comp=Z,161nm,3.0s
HTL AMS AMS 00 02 29.4
comp=Z,7µm,21.0s
KPL Plockton 78.40 33 AMS AMS 00 01 35.7
comp=Z,7µm,22.4s
YRC Rhoscolyn 78.51 37 *e*P **P 23 35 36.5 +0.7**
YRC Rhoscolyn 78.51 37 P **P 23 35 36.5 +0.7**
SDPT Sand Point 78.53 325 *e*P **P 23 35 37.5 +1.7**
comp=Z,364nm,1.2s
YRE Yr Eifl 78.57 37 *e*P **P 23 35 35.4 -0.7**
YRE Yr Eifl 78.57 37 P **P 23 35 35.4 -0.7**
GAL1 Galloway 78.61 35 AMS AMS 00 04 00.3
comp=Z,6µm,17.8s
WLF1 Llynfaes 78.62 37 AMS AMS 00 02 44.5
comp=Z,6µm,21.3s
DYA Yadsworthy 78.62 40 AMS AMS 00 02 23.4
comp=Z,7µm,25.4s
HEX Exmoor 78.76 39 *e*P **P 23 35 38.3 +1.1**
HEX Exmoor 78.76 39 P **P 23 35 38.3 +1.1**
PGBU Glenifferbraes 78.85 34 *e*P **P 23 35 38.1 +0.5**
PGBU AMS AMS 00 01 59.5
comp=Z,4µm,23.3s
PGBU Glenifferbraes 78.85 34 P **P 23 35 38.1 +0.5**
PGBU AMS AMS 00 01 59.5
comp=Z,4µm,23.3s
DAG Danmarks Havn 78.86 12⇧ *i*P **P 23 35 36.8 -0.4**
comp=Z,320nm,1.0s
DAG *i*S **S 23 45 29.1 -5.9**
ROSF Rostrenen 78.88 42 *e*P **P 23 35 38.7 +0.8**
comp=Z,167nm,1.1s
ROSF Rostrenen 78.88 42 *e*P **P 23 35 38.7 +0.8**
ROSF pmax pmax
comp=Z,167nm,1.1s
ROSF Rostrenen 78.88 42 *e*P **P 23 35 38.7 +0.8**
comp=Z,167nm,1.1s
WPM1 Penmaenmawr 78.91 37 *e*P **P 23 35 39.5 +1.5**
WPM1 Penmaenmawr 78.91 37 P **P 23 35 39.5 +1.5**
QUIF Quistinic 78.92 42 *e*P **P 23 35 38.9 +0.8**
QUIF Quistinic 78.92 42 *e*P **P 23 35 38.9 +0.8**
QUIF Quistinic 78.92 42 *e*P **P 23 35 38.9 +0.8**
EAB Aberfoyle 78.97 34 *e*P **P 23 35 40.2 +1.9**
EAB Aberfoyle 78.97 34 P **P 23 35 40.2 +1.9**
GCD Castle Douglas 79.05 35 *e*P **P 23 35 39.1 +0.5**
GCD Castle Douglas 79.05 35 P **P 23 35 39.1 +0.5**
SHEL Horse Pasture 79.06 107 PFAKE 23 35 50.0 +10
SHEL LR LR
comp=Z,7µm,20.0s
MDO Dochfour 79.11 33 *e*P **P 23 35 39.5 +0.5**
MDO Dochfour 79.11 33 P **P 23 35 39.5 +0.5**
MVH1 Achvaich 79.26 32 *e*P **P 23 35 39.3 -0.4**
MVH1 Achvaich 79.26 32 P **P 23 35 39.3 -0.4**
FOEL Foel Wylfa 79.30 37 *e*P **P 23 35 39.4 -0.7**
FOEL AMB AMB 23 35 43.4
comp=Z,109nm,3.0s
FOEL AMS AMS 00 04 12.8
comp=Z,7µm,25.1s
FOEL Foel Wylfa 79.30 37 P **P 23 35 39.4 -0.7**
FOEL AMB AMB 23 35 43.4
comp=Z,109nm,3.0s
FOEL AMS AMS 00 04 12.8
comp=Z,7µm,25.1s
MCH1 Michaelchurch 79.34 38 *e*P **P 23 35 39.4 -1.0**
MCH1 AMB AMB 23 35 45.2
comp=Z,135nm,3.4s
MCH1 AMS AMS 00 04 39.8
comp=Z,5µm,22.8s
MCH1 Michaelchurch 79.34 38 P **P 23 35 39.4 -1.0**
MCH1 AMB AMB 23 35 45.2
comp=Z,135nm,3.4s
MCH1 AMS AMS 00 04 39.8
comp=Z,5µm,22.8s
SGMF Saint Gilles 79.35 42 *e*P **P 23 35 41.0 +0.5**
comp=Z,209nm,1.2s
SGMF Saint Gilles 79.35 42 *e*P **P 23 35 41.0 +0.5**
SGMF pmax pmax
comp=Z,209nm,1.2s
SGMF Saint Gilles 79.35 42 *e*P **P 23 35 41.0 +0.5**
comp=Z,209nm,1.2s
EAU Auchinoon 79.43 34 *e*P **P 23 35 41.1 +0.4**
EAU Auchinoon 79.43 34 P **P 23 35 41.1 +0.4**
HLM1 Long Mynd 79.46 38 *e*P **P 23 35 41.5 +0.5**
HLM1 AMB AMB 23 35 44.6
comp=Z,113nm,2.8s
HLM1 Long Mynd 79.46 38 P **P 23 35 41.5 +0.5**
HLM1 AMB AMB 23 35 44.6
comp=Z,113nm,2.8s
KESW Keswick, Cumbr 79.50 36 AMS AMS 00 01 49.2
comp=Z,5µm,32.6s
ESK Eskdalemuir 79.52 35 *e*P **P 23 35 40.8 -0.5**
ESK AMB AMB 23 35 48.2
comp=Z,106nm,2.8s
ESK AMS AMS 00 04 07.4
comp=Z,5µm,21.5s
ESK Eskdalemuir 79.52 35 P **P 23 35 40.8 -0.5**
ESK AMB AMB 23 35 48.2
comp=Z,106nm,2.8s
ESK AMS AMS 00 04 07.4
comp=Z,5µm,21.5s
ESK Eskdalemuir 79.52 35 *e*P **P 23 35 41.1 -0.2**
ESK pmax pmax
comp=Z,64nm,0.8s
ESK MLR MLR
comp=Z,7µm,21.0s
ESK Eskdalemuir 79.52 35 *e*P **P 23 35 41.1 -0.2**
comp=Z,64nm,0.8s
ESK LR LR
comp=Z,7µm,21.0s
ESK Eskdalemuir 79.52 35 P **P 23 35 42.2 +1.0**
comp=Z,460nm,0.9s,SNR=10
ECK Cauldkaine Hil 79.55 35 *e*P **P 23 35 41.9 +0.5**
ECK Cauldkaine Hil 79.55 35 P **P 23 35 41.9 +0.5**
EBL Broad Law 79.65 34 *e*P **P 23 35 43.7 +1.7**
EBL Broad Law 79.65 34 P **P 23 35 43.7 +1.7**
JSA Saint Aubin 79.67 41 *e*P **P 23 35 43.5 +1.4**
JSA AMB AMB 23 35 47.7
comp=Z,136nm,3.2s
JSA AMS AMS 00 03 18.3
comp=Z,8µm,26.0s
JSA Saint Aubin 79.67 41 P **P 23 35 43.5 +1.4**
JSA AMB AMB 23 35 47.7
comp=Z,136nm,3.2s
JSA AMS AMS 00 03 18.3
comp=Z,8µm,26.0s
ESY Stoneypath 79.91 34 *e*P **P 23 35 43.1 -0.3**
ESY Stoneypath 79.91 34 P **P 23 35 43.1 -0.3**
RAR Rarotonga 80.00 247 LR LR 00 03 22.8
comp=Z,6µm,18.1s,baz=79,slow=30
OSSF Osses 80.02 47 *e*P **P 23 35 44.6 +0.3**
OSSF Osses 80.02 47 *e*P **P 23 35 44.6 +0.3**
SJPF Ste Jean 80.04 47 *e*P **P 23 35 45.8 +1.4**
comp=Z,518nm,1.8s
SJPF Ste Jean 80.04 47 *e*P **P 23 35 45.8 +1.4**
SJPF pmax pmax
comp=Z,518nm,1.8s
SJPF Ste Jean 80.04 47 *e*P **P 23 35 45.8 +1.4**
comp=Z,518nm,1.8s
SSW Stow on the Wo 80.05 38 *e*P **P 23 35 44.4 +0.2**
SSW Stow on the Wo 80.05 38 P **P 23 35 44.4 +0.2**
SWN1 Swindon 80.05 39 *e*P **P 23 35 44.8 +0.6**
SWN1 AMB AMB 23 35 49.4
comp=Z,286nm,2.7s
SWN1 AMS AMS 00 05 13.5
comp=Z,8µm,22.3s
SWN1 Swindon 80.05 39 P **P 23 35 44.8 +0.6**
SWN1 AMB AMB 23 35 49.4
comp=Z,286nm,2.7s
SWN1 AMS AMS 00 05 13.5
comp=Z,8µm,22.3s
LHO Holmfirth 80.16 37 *e*P **P 23 35 45.6 +0.8**
LHO Holmfirth 80.16 37 P **P 23 35 45.6 +0.8**
LARF Larrau 80.22 47 *e*P **P 23 35 46.8 +1.4**
LARF Larrau 80.22 47 *e*P **P 23 35 46.8 +1.4**
KBI1 Birley Grange 80.33 37 *e*P **P 23 35 46.6 +0.9**
KBI1 Birley Grange 80.33 37 P **P 23 35 46.6 +0.9**
GRR Gorron 80.49 42 *e*P **P 23 35 47.3 +0.6**
comp=Z,248nm,1.0s
GRR Gorron 80.49 42 *e*P **P 23 35 47.3 +0.6**
GRR pmax pmax
comp=Z,249nm,1.0s
GRR Gorron 80.49 42 *e*P **P 23 35 47.3 +0.6**
comp=Z,248nm,1.0s
ETSF Etsaut 80.53 48 *e*P **P 23 35 48.5 +1.4**
comp=Z,346nm,1.8s
ETSF Etsaut 80.53 48 *e*P **P 23 35 48.5 +1.4**
ETSF pmax pmax
comp=Z,346nm,1.8s
ETSF Etsaut 80.53 48 *e*P **P 23 35 48.5 +1.4**
comp=Z,346nm,1.8s
REYF Montagne du Re 80.65 47 *e*P **P 23 35 48.7 +0.9**
REYF Montagne du Re 80.65 47 *e*P **P 23 35 48.7 +0.9**
SKP1 Kophill 80.68 39 *e*P **P 23 35 47.7 +0.1**
SKP1 Kophill 80.68 39 P **P 23 35 47.7 +0.1**
FLN La Foliniere 80.76 42 *e*P **P 23 35 48.9 +0.8**
comp=Z,280nm,1.2s
FLN *e*R
comp=Z,5µm,22.5s
FLN La Foliniere 80.76 42 *e*P **P 23 35 48.9 +0.8**
FLN pmax pmax
comp=Z,280nm,1.2s
FLN La Foliniere 80.76 42 *e*P **P 23 35 48.9 +0.8**
comp=Z,280nm,1.2s
MFF Saint Martin d 80.91 44 *e*P **P 23 35 49.7 +0.7**
comp=Z,172nm,1.1s
MFF Saint Martin d 80.91 44 *e*P **P 23 35 49.7 +0.7**
MFF pmax pmax
comp=Z,172nm,1.1s
MFF Saint Martin d 80.91 44 *e*P **P 23 35 49.7 +0.7**
comp=Z,172nm,1.1s
VIEF Viey 80.95 48 *e*P **P 23 35 51.1 +1.7**
VIEF Viey 80.95 48 *e*P **P 23 35 51.1 +1.7**
LDF La Druitiere 80.99 42 *e*P **P 23 35 50.0 +0.7**
comp=Z,243nm,1.0s
LDF La Druitiere 80.99 42 *e*P **P 23 35 50.0 +0.7**
LDF pmax pmax
comp=Z,243nm,1.0s
LDF La Druitiere 80.99 42 *e*P **P 23 35 50.0 +0.7**
comp=Z,243nm,1.0s
LABF Labassere 80.99 47 *e*P **P 23 35 50.2 +0.6**
LABF Labassere 80.99 47 *e*P **P 23 35 50.2 +0.6**
RESF Ens 81.19 48 *e*P **P 23 35 51.6 +0.9**
RESF Ens 81.19 48 *e*P **P 23 35 51.6 +0.9**
EPF Esparros 81.19 47 *e*P **P 23 35 51.8 +1.2**
comp=Z,373nm,1.5s
EPF Esparros 81.19 47 *e*P **P 23 35 51.8 +1.2**
EPF pmax pmax
comp=Z,373nm,1.5s
EPF Esparros 81.19 47 *e*P **P 23 35 51.8 +1.2**
comp=Z,373nm,1.5s
LFF La Frestale 81.50 46 *e*P **P 23 35 52.9 +0.8**
comp=Z,500nm,1.8s
LFF La Frestale 81.50 46 *e*P **P 23 35 52.9 +0.8**
LFF pmax pmax
comp=Z,500nm,1.8s
LFF La Frestale 81.50 46 *e*P **P 23 35 52.9 +0.8**
comp=Z,500nm,1.8s
EANR 'Ain N'Sour 81.79 55 P **P 23 35 54.0 +0.1**
SALF Salau 81.81 48 *e*P **P 23 35 54.7 +0.8**
SALF Salau 81.81 48 *e*P **P 23 35 54.7 +0.8**
ELSH Elham, Standar 81.87 39 AMS AMS 00 04 27.5
comp=Z,8µm,21.3s
UNV Unalaska Valle 81.91 323 *e*P **P 23 35 53.6 -0.4**
comp=Z,170nm,1.2s
ETRT Tiaret 81.96 55 P **P 23 35 54.9 0.0**
RJF Les Rejaudoux 82.05 45 *e*P **P 23 35 55.7 +0.6**
comp=Z,358nm,1.6s
RJF *e*R
comp=Z,6µm,22.5s
RJF Les Rejaudoux 82.05 45 *e*P **P 23 35 55.7 +0.6**
RJF pmax pmax
comp=Z,358nm,1.6s
RJF Les Rejaudoux 82.05 45 *e*P **P 23 35 55.7 +0.6**
comp=Z,358nm,1.6s
CAF Calviac 82.44 46 *e*P **P 23 35 57.7 +0.6**
comp=Z,298nm,1.7s
CAF Calviac 82.44 46 *e*P **P 23 35 57.7 +0.6**
CAF pmax pmax
comp=Z,298nm,1.7s
CAF Calviac 82.44 46 *e*P **P 23 35 57.7 +0.6**
comp=Z,298nm,1.7s
CARF Carcanieres 82.49 48 *e*P **P 23 35 57.9 +0.4**
CARF Carcanieres 82.49 48 *e*P **P 23 35 57.9 +0.4**
TCF Toulx Ste Croi 82.54 44 *e*P **P 23 35 57.9 +0.3**
comp=Z,128nm,1.2s
TCF Toulx Ste Croi 82.54 44 *e*P **P 23 35 57.9 +0.3**
TCF pmax pmax
comp=Z,128nm,1.2s
TCF Toulx Ste Croi 82.54 44 *e*P **P 23 35 57.9 +0.3**
comp=Z,128nm,1.2s
MTLF Montolieu 82.56 47 *e*P **P 23 35 58.4 +0.6**
comp=Z,184nm,1.4s
MTLF Montolieu 82.56 47 *e*P **P 23 35 58.4 +0.6**
MTLF pmax pmax
comp=Z,184nm,1.4s
MTLF Montolieu 82.56 47 *e*P **P 23 35 58.4 +0.6**
comp=Z,184nm,1.4s
FILF Fillols 82.82 48 *e*P **P 23 35 59.4 +0.2**
FILF Fillols 82.82 48 *e*P **P 23 35 59.4 +0.2**
HYF Humbligny 82.83 43 *e*P **P 23 35 59.7 +0.6**
HYF Humbligny 82.83 43 *e*P **P 23 35 59.7 +0.6**
BGF Bois d'Agland 82.98 44 *e*P **P 23 36 00.3 +0.4**
comp=Z,494nm,1.7s
BGF Bois d'Agland 82.98 44 *e*P **P 23 36 00.3 +0.4**
BGF pmax pmax
comp=Z,494nm,1.7s
BGF Bois d'Agland 82.98 44 *e*P **P 23 36 00.3 +0.4**
comp=Z,494nm,1.7s
SJAF Saint Jean de 83.06 48 *e*P **P 23 36 00.3 -0.1**
SJAF Saint Jean de 83.06 48 *e*P **P 23 36 00.3 -0.1**
PYM Petit Puy Mans 83.10 45 *e*P **P 23 36 02.2 +1.6**
PYM Petit Puy Mans 83.10 45 *e*P **P 23 36 02.2 +1.6**
PYM Petit Puy Mans 83.10 45 *e*P **P 23 36 02.2 +1.6**
AGO Saint Agoulin 83.18 44 *e*P **P 23 36 02.2 +1.3**
AGO Saint Agoulin 83.18 44 *e*P **P 23 36 02.2 +1.3**
LBL Lubilhac 83.28 45 *e*P **P 23 36 02.5 +1.0**
LBL Lubilhac 83.28 45 *e*P **P 23 36 02.5 +1.0**
LBL Lubilhac 83.28 45 *e*P **P 23 36 02.5 +1.0**
EMHD Djebel Mahouad 83.28 54 P **P 23 36 03.0 +1.2**
AVF Avril sur Loir 83.32 44 *e*P **P 23 36 01.6 0.0**
comp=Z,127nm,1.4s
AVF Avril sur Loir 83.32 44 *e*P **P 23 36 01.6 0.0**
AVF pmax pmax
comp=Z,127nm,1.4s
AVF Avril sur Loir 83.32 44 *e*P **P 23 36 01.6 0.0**
comp=Z,127nm,1.4s
ABA Alger-Bouzarea 83.33 54 P P 23 36 10.7 +8.8
TORD Torodi Ar. Sit 83.34 77 *e*P **P 23 36 02.3 0.0**
TORD Torodi Ar. Bea 83.34 77 P P 23 35 57.5 -4.9
comp=Z,5.9nm,0.8s,baz=254,slow=4.4,SNR=16
TORD S **S 23 46 24.1 +0.2**
comp=Z,0.3nm,0.7s,baz=290,slow=4.3,SNR=2.5
TORD PKKPbc **PKKPbc 23 54 23.8 +1.8**
comp=Z,1.0nm,0.8s,baz=44,slow=2.2,SNR=3.1
TORD PKPPKP P'P'df 00 02 35.6 +6.1
comp=Z,2.7nm,1.2s,baz=54,slow=2.2,SNR=5.5
TORD LR LR 00 13 17.5
comp=Z,3µm,18.3s,baz=285,slow=36
TORD Torodi Ar. Bea 83.34 77 P P 23 35 57.5 -4.9
TORD S **S 23 46 24.1 +0.2**
TORD PKKPbc **PKKPbc 23 54 23.8 +1.8**
TORD P'P' 00 02 35.6
SSF Saint Saulge 83.42 43 *e*P **P 23 36 02.1 0.0**
comp=Z,66nm,1.0s
SSF Saint Saulge 83.42 43 *e*P **P 23 36 02.1 0.0**
SSF pmax pmax
comp=Z,66nm,1.0s
SSF Saint Saulge 83.42 43 *e*P **P 23 36 02.1 0.0**
comp=Z,66nm,1.0s
PLDF La Plantade 83.52 44 *e*P **P 23 36 03.4 +0.6**
PLDF La Plantade 83.52 44 *e*P **P 23 36 03.4 +0.6**
LOR Lormes 83.66 43 *e*P **P 23 36 03.4 0.0**
comp=Z,99nm,1.2s
LOR *e*R
comp=Z,6µm,17.8s
LOR Lormes 83.66 43 *e*P **P 23 36 03.4 0.0**
comp=Z,99nm,1.2s
SMF Signal de Mont 83.66 44 *e*P **P 23 36 03.4 0.0**
comp=Z,192nm,1.5s
SMF Signal de Mont 83.66 44 *e*P **P 23 36 03.4 0.0**
SMF pmax pmax
comp=Z,192nm,1.5s
SMF Signal de Mont 83.66 44 *e*P **P 23 36 03.4 0.0**
comp=Z,192nm,1.5s
ADJB Djebel Djouab 83.68 54 P P 23 36 07.1 +3.3
LASF Ste Croix 83.74 46 *e*P **P 23 36 05.1 +1.2**
comp=Z,170nm,1.5s
LASF Ste Croix 83.74 46 *e*P **P 23 36 05.1 +1.2**
comp=Z,170nm,1.5s
BAIF Baives 83.83 40 *e*P **P 23 36 04.4 +0.2**
comp=Z,185nm,1.7s
BAIF Baives 83.83 40 *e*P **P 23 36 04.4 +0.2**
BAIF pmax pmax
comp=Z,185nm,1.7s
BAIF Baives 83.83 40 *e*P **P 23 36 04.4 +0.2**
comp=Z,185nm,1.7s
SNF Seneffe 83.87 40 P **P 23 36 05.9 +1.6**
comp=Z,60nm,2.3s
DOU Dourbes 84.08 40 P **P 23 36 06.0 +0.6**
comp=Z,52nm,2.3s
SSB Saint Sauveur 84.19 45 *e*P **P 23 36 07.6 +1.4**
SSB pmax pmax
comp=Z,194nm,1.8s
SSB MLR MLR
comp=Z,5µm,21.0s
SSB Saint Sauveur 84.19 45 *e*P **P 23 36 07.6 +1.4**
comp=Z,194nm,1.8s
SSB LR LR
comp=Z,5µm,21.0s
GIVF Givet 84.23 40 *e*P **P 23 36 06.7 +0.5**
comp=Z,573nm,1.9s
GIVF Givet 84.23 40 *e*P **P 23 36 06.7 +0.5**
GIVF pmax pmax
comp=Z,573nm,1.9s
GIVF Givet 84.23 40 *e*P **P 23 36 06.7 +0.5**
comp=Z,573nm,1.9s
BER Bergen 84.28 30 *e*SKS S 23 46 25.4 -6.2
BER AMS AMS 00 05 25.6
comp=Z,5µm,21.4s
VIVF Saint-Julien-l 84.30 46 *e*P **P 23 36 08.0 +1.3**
comp=Z,476nm,1.6s
VIVF Saint-Julien-l 84.30 46 *e*P **P 23 36 08.0 +1.3**
VIVF pmax pmax
comp=Z,476nm,1.6s
VIVF Saint-Julien-l 84.30 46 *e*P **P 23 36 08.0 +1.3**
comp=Z,476nm,1.6s
MEZF Maizieres J'vi 84.43 42 *e*P **P 23 36 07.7 +0.5**
comp=Z,111nm,0.9s
MEZF Maizieres J'vi 84.43 42 *e*P **P 23 36 07.7 +0.5**
comp=Z,111nm,0.9s
SFTF Sexfontaines 84.43 42 *e*P **P 23 36 07.5 +0.2**
comp=Z,111nm,1.0s
SFTF Sexfontaines 84.43 42 *e*P **P 23 36 07.5 +0.2**
comp=Z,111nm,1.0s
BCLA Clavier 84.52 40 P **P 23 36 09.5 +1.8**
comp=Z,88nm,2.9s
AKF Akfadou 84.57 54 P P 23 36 15.9 +7.5
BEBN Eben Emael 84.75 40 P **P 23 36 10.8 +2.0**
PAGF Fort de Pagny 84.87 42 *e*P **P 23 36 10.2 +0.7**
comp=Z,97nm,1.4s
PAGF Fort de Pagny 84.87 42 *e*P **P 23 36 10.2 +0.7**
comp=Z,97nm,1.4s
HGN Heimansgroeve 84.91 40 *e*P **P 23 36 11.1 +1.5**
comp=Z,252nm,1.9s
HGN Heimansgroeve 84.91 40 *e*S **S 23 46 39.0 +0.7**
HGN *e*SS SS 23 52 27.0 +16
ODD1 Odda 84.94 30 *e* **P 23 36 12.7 +3.0**
MEM Membach 84.97 40 P **P 23 36 10.1 +0.2**
comp=Z,70nm,2.2s
SMRF Simiane la Rot 84.98 46 *e*P **P 23 36 11.4 +1.2**
comp=Z,69nm,1.3s
SMRF Simiane la Rot 84.98 46 *e*P **P 23 36 11.4 +1.2**
comp=Z,69nm,1.3s
GRN Grenoble 85.04 45 *e*P **P 23 36 12.4 +1.9**
GRN Grenoble 85.04 45 *e*P **P 23 36 12.4 +1.9**
GRN Grenoble 85.04 45 *e*P **P 23 36 12.4 +1.9**
THEF They Montfort 85.06 42 *e*P **P 23 36 11.8 +1.3**
THEF They Montfort 85.06 42 *e*P **P 23 36 11.8 +1.3**
THEF They Montfort 85.06 42 *e*P **P 23 36 11.8 +1.3**
WLF Walferdange 85.10 41 P **P 23 36 10.2 -0.4**
comp=Z,98nm,1.8s
WLF Walferdange 85.10 41 *e*P **P 23 36 10.3 -0.4**
WLF pmax pmax
comp=Z,93nm,0.9s
WLF MLR MLR
comp=Z,7µm,21.0s
WLF Walferdange 85.10 41 *e*P **P 23 36 12.5 +1.9**
comp=Z,218nm,1.6s
WLF Walferdange 85.10 41 *e*L L 00 08 26.1
comp=Z,8µm,21.2s
WLF Walferdange 85.10 41 *e*P **P 23 36 10.2 -0.4**
comp=Z,93nm,0.9s
WLF LR LR
comp=Z,7µm,21.0s
ORIF Oris-en-Rattie 85.15 45 *e*P **P 23 36 12.5 +1.4**
comp=Z,750nm,1.7s
ORIF *e*R
comp=Z,6µm,22.0s
ORIF Oris-en-Rattie 85.15 45 *e*P **P 23 36 12.5 +1.4**
ORIF pmax pmax
comp=Z,750nm,1.7s
ORIF Oris-en-Rattie 85.15 45 *e*P **P 23 36 12.5 +1.4**
comp=Z,750nm,1.7s
CABF La Chapelle 85.21 44 *e*P **P 23 36 11.9 +0.6**
comp=Z,193nm,1.1s
CABF La Chapelle 85.21 44 *e*P **P 23 36 11.9 +0.6**
CABF pmax pmax
comp=Z,193nm,1.1s
CABF La Chapelle 85.21 44 *e*P **P 23 36 11.9 +0.6**
comp=Z,193nm,1.1s
SET Setif 85.26 54 P P 23 36 16.0 +4.2
GDM Grand'Maison 85.30 45 *e*P **P 23 36 13.1 +1.2**
GDM Grand'Maison 85.30 45 *e*P **P 23 36 13.1 +1.2**
HAU Haudompre 85.31 42 *e*P **P 23 36 12.1 +0.3**
comp=Z,360nm,1.7s
HAU *e*R
comp=Z,7µm,22.8s
HAU Haudompre 85.31 42 *e*P **P 23 36 12.1 +0.3**
HAU pmax pmax
comp=Z,360nm,1.7s
HAU Haudompre 85.31 42 *e*P **P 23 36 12.1 +0.3**
comp=Z,360nm,1.7s
WTSB Winterswijk 85.40 38 *e*P **P 23 36 12.6 +0.6**
comp=Z,142nm,1.5s
KBS Kingsbay 85.52 11 *e*P **P 23 36 13.4 +1.3**
KBS AMB AMB 23 36 34.3
comp=Z,347nm,1.4s
KBS *e*S **S 23 46 42.9 -0.5**
KBS AMS AMS 00 14 41.1
comp=Z,8µm,20.3s
KBS Kingsbay 85.52 11 *ce*P **P 23 36 13.3 +1.2**
KBS pmax pmax
comp=Z,222nm,1.7s
KBS Kingsbay 85.52 11 *e*P **P 23 36 12.6 +0.5**
comp=Z,97nm,0.9s
KBS LR LR
comp=Z,9µm,20.0s
HINF Hinteralfeld 85.66 43 *e*P **P 23 36 13.5 0.0**
comp=Z,309nm,1.7s
HINF Hinteralfeld 85.66 43 *e*P **P 23 36 13.5 0.0**
HINF pmax pmax
comp=Z,309nm,1.7s
HINF Hinteralfeld 85.66 43 *e*P **P 23 36 13.5 0.0**
comp=Z,309nm,1.7s
LOMF Lomont 85.67 43 *e*P **P 23 36 15.0 +1.4**
LOMF Lomont 85.67 43 *e*P **P 23 36 15.0 +1.4**
LOMF Lomont 85.67 43 *e*P **P 23 36 15.0 +1.4**
RUP Ruppelstein 85.69 41 *e*P **P 23 36 14.4 +0.8**
RUP Ruppelstein 85.69 41 *e*P **P 23 36 14.4 +0.8**
LMR La Mourre 85.69 47 *e*P **P 23 36 14.4 +0.7**
comp=Z,293nm,1.5s
LMR La Mourre 85.69 47 *e*P **P 23 36 14.4 +0.7**
LMR pmax pmax
comp=Z,293nm,1.5s
LMR La Mourre 85.69 47 *e*P **P 23 36 14.4 +0.7**

comp=Z,293nm,1.5s
BNI Bardonecchia 85.71 45 *e*P **P 23 36 15.9 +2.0**
BNI pmax pmax
comp=Z,325nm,1.9s
BNI MLR MLR
comp=Z,5µm,20.0s
BNI Bardonecchia 85.71 45 *e*P **P 23 36 15.9 +2.0**
comp=Z,325nm,1.9s
BNI LR LR
comp=Z,5µm,20.0s
BUG Bochum--Univer 85.72 39 *e*P **P 23 36 15.2 +1.6**
comp=Z,280nm,1.8s
BUG Bochum--Univer 85.72 39 *e*L L 00 08 46.2
comp=Z,7µm,22.0s
LPL La Plagne 85.72 45 *e*P **P 23 36 15.3 +1.2**
comp=Z,133nm,1.2s
LPL La Plagne 85.72 45 *e*P **P 23 36 15.3 +1.2**
LPL pmax pmax
comp=Z,133nm,1.2s
LPL La Plagne 85.72 45 *e*P **P 23 36 15.3 +1.2**
comp=Z,133nm,1.2s
LPG La Plagne 85.73 45 *e*P **P 23 36 15.6 +1.4**
comp=Z,239nm,1.4s
LPG La Plagne 85.73 45 *e*P **P 23 36 15.6 +1.4**
LPG pmax pmax
comp=Z,239nm,1.4s
LPG La Plagne 85.73 45 *e*P **P 23 36 15.6 +1.4**
comp=Z,239nm,1.4s
FRF La Foret Royal 85.78 47 *e*P **P 23 36 14.7 +0.6**
comp=Z,214nm,1.4s
FRF La Foret Royal 85.78 47 *e*P **P 23 36 14.7 +0.6**
FRF pmax pmax
comp=Z,214nm,1.4s
FRF La Foret Royal 85.78 47 *e*P **P 23 36 14.7 +0.6**
comp=Z,214nm,1.4s
MBDF Montbardon 85.80 46 *e*P **P 23 36 15.6 +1.2**
comp=Z,220nm,1.1s
MBDF Montbardon 85.80 46 *e*P **P 23 36 15.6 +1.2**
MBDF pmax pmax
comp=Z,221nm,1.1s
MBDF Montbardon 85.80 46 *e*P **P 23 36 15.6 +1.2**
comp=Z,220nm,1.1s
SURF Saint Ours 85.84 46 *e*P **P 23 36 16.9 +2.2**
SURF Saint Ours 85.84 46 *e*P **P 23 36 16.9 +2.2**
ECH Echery 85.84 42 *e*P **P 23 36 13.8 -0.6**
ECH pmax pmax
comp=Z,83nm,1.0s
ECH MLR MLR
comp=Z,4µm,20.0s
ECH Echery 85.84 42 *e*P **P 23 36 13.8 -0.6**
comp=Z,83nm,1.0s
ECH LR LR
comp=Z,4µm,20.0s
ECH Echery 85.84 42 *e*P **P 23 36 14.8 +0.4**
MOF Molkenrain 85.85 42 *e*P **P 23 36 15.5 +1.0**
MOF Molkenrain 85.85 42 *e*P **P 23 36 15.5 +1.0**
MOF Molkenrain 85.85 42 *e*P **P 23 36 15.5 +1.0**
CDF Champ du Feu 85.91 42 *e*P **P 23 36 15.1 +0.3**
comp=Z,574nm,1.9s
CDF Champ du Feu 85.91 42 *e*P **P 23 36 15.1 +0.3**
CDF pmax pmax
comp=Z,574nm,1.9s
CDF Champ du Feu 85.91 42 *e*P **P 23 36 15.1 +0.3**
comp=Z,574nm,1.9s
CALN Calern 85.94 47 *e*P **P 23 36 18.0 +2.9**
CALN Calern 85.94 47 *e*P **P 23 36 18.0 +2.9**
CALN Calern 85.94 47 *e*P **P 23 36 18.0 +2.9**
IBBN Ibbenburen 85.97 38 *e*P **P 23 36 16.5 +1.7**
comp=Z,481nm,2.2s
IBBN Ibbenburen 85.97 38 *e*L L 00 09 14.4
comp=Z,7µm,21.8s
ABH Alteburg 85.99 40 *e*P **P 23 36 16.8 +1.7**
MVIF Mont Vial 86.12 46 *e*P **P 23 36 17.7 +1.7**
MVIF Mont Vial 86.12 46 *e*P **P 23 36 17.7 +1.7**
MVIF Mont Vial 86.12 46 *e*P **P 23 36 17.7 +1.7**
BBS Basel-Blauen 86.13 43 *e*P **P 23 36 16.7 +0.9**
BBS Basel-Blauen 86.13 43 *e*P **P 23 36 16.7 +0.9**
CASM Ain Smara 86.14 54 P **P 23 36 18.0 +1.9**
LIBD Limburg 86.15 42 *e*P **P 23 36 17.8 +2.0**
LIBD Limburg 86.15 42 *e*P **P 23 36 17.8 +2.0**
TOUF Mont Tournerai 86.18 46 *e*P **P 23 36 17.8 +1.4**
TOUF Mont Tournerai 86.18 46 *e*P **P 23 36 17.8 +1.4**
TOUF Mont Tournerai 86.18 46 *e*P **P 23 36 17.8 +1.4**
LANF Langenberg 86.22 41 *e*P **P 23 36 16.7 +0.5**
LANF Langenberg 86.22 41 *e*P **P 23 36 16.7 +0.5**
LANF Langenberg 86.22 41 *e*P **P 23 36 16.7 +0.5**
TAM Tamanrasset 86.27 68 *e*P **P 23 36 18.8 +1.6**
TAM pmax pmax
comp=Z,110nm,1.6s
TAM MLR MLR
comp=Z,5µm,21.0s
TAM Tamanrasset 86.27 68 *e*P **P 23 36 18.8 +1.6**
comp=Z,110nm,1.6s
TAM LR LR
comp=Z,5µm,21.0s
REVF Revere 86.29 47 *e*P **P 23 36 18.6 +1.9**
REVF Revere 86.29 47 *e*P **P 23 36 18.6 +1.9**
REVF Revere 86.29 47 *e*P **P 23 36 18.6 +1.9**
SBF Sospel 86.33 46 *e*P **P 23 36 17.5 +0.6**
SBF Sospel 86.33 46 *e*P **P 23 36 17.5 +0.6**
SBF Sospel 86.33 46 *e*P **P 23 36 17.5 +0.6**
CAEH 'Ain El Ouahch 86.39 54 P P 23 36 21.0 +3.7
SAOF Saorge 86.41 46 *e*P **P 23 36 18.1 +0.8**
SAOF Saorge 86.41 46 *e*P **P 23 36 18.1 +0.8**
SAOF Saorge 86.41 46 *e*P **P 23 36 18.1 +0.8**
FELD Feldberg im Sc 86.43 42 *e*P **P 23 36 16.7 -0.8**
KONO Kongsberg 86.45 31 *e*SKS **SKSac 23 46 42.9 -0.6**
KONO *e*SS **SS 23 52 34.4 +1.5**
KONO AMS AMS 00 07 16.6
comp=Z,7µm,25.0s
KONO Kongsberg 86.45 31 PFAKE 23 36 30.0 +13
KONO LR LR
comp=Z,6µm,22.0s
TBLU Trondheim 86.46 27 *e*P P 23 36 05.9 -11
TBLU AMS AMS 00 07 14.0
comp=Z,6µm,25.7s
MUD Monsted U'grnd 86.49 34 *i* P **P 23 36 19.0 +1.7**
comp=Z,48nm,1.1s
SPA0 Spitsbergen Ar 86.50 12 *e*P P 23 36 20.8 +3.8
SPA0 *e*SKS **SKSac 23 46 44.0 +0.8**
SPA0 *e*SS **SS 23 52 31.9 -1.0**
SPITS Spitsbergen Ar 86.50 12 P **P 23 36 14.2 -2.8**
comp=Z,19nm,0.9s,baz=194,slow=6.6,SNR=6.4
SPITS Spitsbergen Ar 86.50 12 P **P 23 36 14.2 -2.8**
TNS Taunus Mts 86.55 40 *e*P **P 23 36 19.5 +1.6**
comp=Z,408nm,2.1s
TNS Taunus Mts 86.55 40 *e*L L 00 09 00.9
comp=Z,9µm,21.7s
BFO Black Forest 86.62 42 *e*P **P 23 36 16.9 -1.3**
BFO pmax pmax
comp=Z,45nm,1.0s
BFO MLR MLR
comp=Z,4µm,22.0s
BFO Black Forest 86.62 42 *e*P **P 23 36 19.2 +1.0**
comp=Z,53nm,1.0s
BFO Black Forest 86.62 42 *e*L L 00 10 31.9
comp=Z,4µm,21.9s
BFO Black Forest 86.62 42 *e*P **P 23 36 16.9 -1.3**
comp=Z,45nm,1.0s
BFO LR LR
comp=Z,4µm,22.0s
BFO Black Forest 86.62 42 P **P 23 36 19.5 +1.3**
comp=Z,252nm,0.9s,SNR=10
TOD Tromm 86.83 41 *e*P **P 23 36 20.2 +1.0**
TOD Tromm 86.83 41 *e*P **P 23 36 20.2 +1.0**
CMAH Djebel Manchou 86.86 54 P **P 23 36 21.7 +2.0**
ABSA Djebel Ababsia 86.93 54 P P 23 36 24.0 +3.9
SPAK Spaichingen-Ko 86.94 42 *e*P **P 23 36 20.6 +0.7**
NAO01 NORSAR Array S 86.98 29 *e*P **P 23 36 21.3 +1.6**
comp=Z,198nm,1.3s
NSS Namsos 87.08 26 *e*SKS **SKSac 23 46 47.7 +0.5**
NSS AMS AMS 00 08 30.0
comp=Z,2µm,23.6s
NB2 NORSAR Subarra 87.12 29 P **P 23 36 20.9 +0.5**
baz=277,slow=4.8
NB2 NORSAR Subarra 87.12 29 P **P 23 36 20.9 +0.5**
comp=Z,151nm,1.2s,baz=277,slow=4.8
NOA NORSAR Array B 87.12 29 P **P 23 36 18.2 -2.2**
comp=Z,10.0nm,0.9s,baz=93,slow=17,SNR=11
NOA LR LR 00 11 11.4
comp=Z,2µm,21.5s,baz=270,slow=33
NOA NORSAR Array B 87.12 29 P **P 23 36 18.2 -2.2**
STU Stuttgart 87.15 41 *e*P **P 23 36 21.5 +0.7**
STU pmax pmax
comp=Z,118nm,1.0s
STU Stuttgart 87.15 41 *e*P **P 23 36 22.2 +1.4**
comp=Z,132nm,1.4s
STU Stuttgart 87.15 41 *e*L L 00 09 46.0
comp=Z,6µm,21.1s
STU Stuttgart 87.15 41 *e*P **P 23 36 21.5 +0.7**
comp=Z,118nm,1.0s
NC602 NORSAR Array S 87.31 29 *e*P P 23 36 25.5 +4.3
BSEG Bad Segeberg 87.37 36 *e*P **P 23 36 23.3 +1.6**
comp=Z,243nm,1.6s
BSEG Bad Segeberg 87.37 36 *e*L L 00 10 26.5
comp=Z,8µm,21.8s
NRDL Niedersach Rie 87.39 38 *e*P **P 23 36 23.7 +2.0**
comp=Z,128nm,1.5s
TUE Stuetta 87.46 44 *e*P **P 23 36 23.5 +0.9**
comp=Z,130nm,1.4s
TUE LR LR
comp=Z,4µm,19.0s
UBBA Unterbreizbach 87.48 39 *e*P **P 23 36 24.0 +1.8**
comp=Z,119nm,1.8s
PGF Pioggiola 87.57 48 *e*P **P 23 36 23.7 +0.6**
comp=Z,138nm,1.4s
PGF Pioggiola 87.57 48 *e*P **P 23 36 23.7 +0.6**
PGF pmax pmax
comp=Z,138nm,1.4s
PGF Pioggiola 87.57 48 *e*P **P 23 36 23.7 +0.6**
comp=Z,138nm,1.4s
CLZ Clausthal 87.61 38 *e*P **P 23 36 25.0 +2.0**
comp=Z,177nm,1.4s
CLZ Clausthal 87.61 38 *e*L L 00 10 05.2
comp=Z,7µm,21.9s
DAVA Damuels 87.75 43⇑ *i*PcP **P 23 36 24.8 +0.9**
comp=Z,96nm,1.0s,SNR=13
BJO Bjornoya 87.89 15 *e*P **P 23 36 22.8 -1.0**
STEI Steigen 87.92 22 *e*P **P 23 36 25.4 +1.4**
VSL Villasalto 88.15 51 *e*P **P 23 36 26.8 +1.1**
comp=Z,70nm,1.1s
VSL LR LR
comp=Z,4µm,22.0s
LLD Lille Linde 88.31 35 *i* P P 23 36 37.4 +11
comp=Z,43nm,0.9s
RETA Reutte 88.33 43⇑ *i*PcP **PcP 23 36 28.0 -0.2**
comp=Z,48nm,1.0s,SNR=21
FETA Feichten 88.35 43⇑ *i*PcP **PcP 23 36 28.5 0.0**
comp=Z,77nm,1.1s,SNR=18
GRF Grafenberg Arr 88.38 40 *e*P **P 23 36 28.5 +1.8**
comp=Z,106nm,1.3s
GRF Grafenberg Arr 88.38 40 *e*L L 00 10 16.6
comp=Z,9µm,21.8s
COP Copenhagen 88.39 34 *i* P P 23 36 33.5 +7.0
comp=Z,51nm,0.9s
VLC Villacollemand 88.42 46 *e*P **P 23 36 26.7 -0.3**
comp=Z,72nm,1.3s
VLC LR LR
comp=Z,2µm,21.0s
HFS Hagfors 88.45 30 P P 23 36 23.4 -3.3
comp=Z,4.6nm,0.9s,baz=212,slow=5.1,SNR=2.6
HFS Hagfors 88.45 30 P P 23 36 23.4 -3.3
KEST Kesra 88.49 54 P **P 23 36 26.8 -0.8**
comp=Z,5,8nm,1.1s,baz=243,slow=12,SNR=2.4
KEST S **SKSac 23 46 58.2 +1.1**
comp=Z,0.6nm,0.8s,baz=293,slow=18,SNR=1.7
KEST LR LR 00 11 33.3
comp=Z,791nm,21.2s,baz=221,slow=33
KEST Kesra 88.49 54 *e*P **P 23 36 27.5 0.0**
KEST S **SKSac 23 46 58.2 +1.1**
MOX Moxa 88.52 39 *e*P **P 23 36 29.0 +1.7**
comp=Z,72nm,1.4s
MOX Moxa 88.52 39 *e*L L 00 10 22.7
comp=Z,10µm,22.0s
MOTA Moosalm 88.57 43⇑ *i*PcP **PcP 23 36 29.0 -0.5**
comp=Z,34nm,0.9s,SNR=8.9
FUR Furstenfeldbru 88.59 42 *e*P **P 23 36 29.4 +1.7**
comp=Z,325nm,2.1s
FUR Furstenfeldbru 88.59 42 *e*L L 00 10 19.8
comp=Z,3µm,21.6s
WATA Walderalm 88.89 43⇑ *i*PcP **PcP 23 36 30.7 -0.1**
comp=Z,30nm,1.1s
TRO Tromso 88.90 20 *e*P P 23 36 33.4 +4.8
TRO *e*SKS **SKSac 23 46 55.3 -2.7**
TRO *e*SS **SS 23 53 07.2 -0.9**
TRO AMS AMS 00 09 03.4
comp=Z,4µm,23.8s
WTTA Wattenberg 88.94 43⇑ *i*pP **P 23 36 31.3 +1.8**
comp=Z,44nm,1.1s
ROTZ Rotzenmuhle 89.01 40 *e*P **P 23 36 31.7 +2.1**
comp=Z,155nm,2.0s
ROTZ Rotzenmuhle 89.01 40 *e*L L 00 10 36.2
comp=Z,10µm,22.0s
TANN Tannenbergstha 89.09 40 *e*P **P 23 36 32.0 +2.0**
comp=Z,88nm,1.4s
TANN Tannenbergstha 89.09 40 *e*L L 00 10 28.5
comp=Z,10µm,22.0s
NKC Novy Kostel 89.10 40 AMS AMS 00 08 40.0
comp=Z,12µm,23.5s
CLL Collm 89.31 39 *i* P **P 23 36 32.7 +1.8**
CLL *e* 23 36 40.0
CLL *e*S **ScS 23 47 26.0 +0.5**
CLL pmax pmax
comp=Z,67nm,1.3s
CLL Collm 89.31 39 *e*P **P 23 36 32.8 +1.8**
comp=Z,67nm,1.3s
CLL Collm 89.31 39 *e*L L 00 11 07.2
comp=Z,6µm,22.0s
CLL Collm 89.31 39 *i* P **P 23 36 32.7 +1.8**
comp=Z,67nm,1.3s
CLL *e* 23 36 40.0
CLL *e* 23 36 47.0
CLL *e*PP **PP 23 40 00.0 -1.5**
CLL *e* 23 40 11.0
CLL *e*SKSac **SKSac 23 47 07.0 +5.9**
CLL *e*S **ScS 23 47 26.0 +0.5**
CLL *e*PS **PS 23 48 28.0 +1.5**
CLL *e*SS **SS 23 53 17.0 +2.1**
CLL *e*SSS SSS 23 56 58.0
CLL *e*PKPPKPdf **P'P'df 00 02 14.0 -3.2**
CLL Lm MLR 00 10 00.0
comp=Z,6µm,22.0s
WET Wettzell 89.52 41 *e*P **P 23 36 34.1 +2.0**
comp=Z,166nm,1.7s
WET Wettzell 89.52 41 *e*L L 00 10 39.1
comp=Z,5µm,21.3s
ABTA Abfaltersbach 89.60 43⇑ *i*PcP **PcP 23 36 34.0 +0.1**
comp=Z,44nm,1.1s,SNR=12
RJOB Jochberg 89.66 42 *e*P **P 23 36 34.3 +1.5**
comp=Z,99nm,1.8s
RJOB Jochberg 89.66 42 *e*L L 00 13 23.5
comp=Z,2µm,19.9s
VNA3 Neumayer Olymp 89.80 162 *e*P **P 23 36 33.8 +1.0**
BSD Bornholm Skovb 89.87 35⇓ *i*P **P 23 36 36.4 +2.9**
BRG Berggiesshubel 89.96 39 *e*P **P 23 36 34.8 +0.8**
comp=Z,50nm,1.2s
BRG *e*PP PP 23 40 12.6 +6.0
comp=Z,280nm,2.6s
BRG SKS **SKSac 23 47 10.0 +5.0**
BRG S ScS 23 47 48.0 +17
BRG SS SS 23 53 36.0 +12
BRG *e* 23 57 20.1
comp=Z,2.7nm,0.8s
BRG
comp=N,5µm,22.7s
BRG
comp=E,5µm,20.7s
BRG
comp=Z,8µm,21.6s
BRG Berggiesshubel 89.96 39 *e*P **P 23 36 34.8 +0.8**
BRG *e* 23 40 12.6
BRG **SKSac 23 47 10.0 +5.0**
BRG pmax pmax
comp=Z,50nm,1.2s
BRG pmax pmax
comp=Z,280nm,2.6s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,5µm,22.7s
BRG MLR MLR
comp=E,5µm,20.7s
BRG MLR MLR
comp=Z,8µm,21.6s
BRG Berggiesshubel 89.96 39 *e*P **P 23 36 35.8 +1.8**
comp=Z,50nm,1.2s
KHC Kasperske Hory 89.98 41 *e*P **P 23 36 36.5 +2.3**
KHC *e* 23 40 07.6
KHC *e* 23 47 08.7
KHC *e* 23 48 34.3
KHC *e*SS SS 23 53 24.4 -0.5
KHC MLR MLR
comp=Z,10µm,24.8s
KHC Kasperske Hory 89.98 41 *e*P **P 23 36 34.4 +0.2**
comp=Z,25nm,1.0s
KHC Kasperske Hory 89.98 41 *e*P **P 23 36 36.5 +2.3**
KHC *e*x x 23 36 47.5
KHC *e*x x 23 36 55.2
KHC *e*PP **PP 23 40 07.6 +0.6**
KHC *e*SKS **SKSac 23 47 08.7 +3.4**
KHC *e*SP **SP 23 48 34.3 +1.9**
KHC *e*SS **SS 23 53 24.4 -0.5**
KHC AMS AMS 00 08 20.0
comp=Z,10µm,24.8s
GEC2 GERESS Array S 90.10 41 *e*P **P 23 36 36.3 +1.4**
comp=Z,90nm,1.9s
GERES GERESS Array B 90.10 41 P **P 23 36 32.5 -2.3**
comp=Z,7.1nm,0.8s,baz=259,slow=2.6,SNR=16
GERES S **SKSac 23 47 07.6 +1.5**
comp=Z,0.1nm,0.3s,baz=302,slow=2.2,SNR=2.2
GERES LR LR 00 09 46.6
comp=Z,7µm,22.0s,baz=280,slow=31
GERES GERESS Array B 90.10 41 P **P 23 36 32.5 -2.3**
GERES S **SKSac 23 47 07.6 +1.5**
KBA Koelnbreinsper 90.12 43⇓ *i*PcP **PcP 23 36 36.4 +0.1**
comp=Z,63nm,1.6s,SNR=9.9
MYKA Terra Mystica 90.39 43⇑ *i*PcP **PcP 23 36 37.4 +0.1**
comp=Z,28nm,1.2s
PRA Prague 90.39 40 P **P 23 36 38.0 +2.0**
PRA PP **PP 23 40 11.0 +0.9**
PRA SKS **SKSac 23 47 12.0 +4.5**
PRA S **ScS 23 47 35.0 +0.4**
PRA AMS AMS 00 10 30.0
AFI Afiamalu 90.40 256 P **P 23 36 39.9 +3.1**
comp=Z,24nm,0.6s,baz=49,slow=4.0,SNR=9.0
AFI LR LR 00 08 30.0
comp=Z,4µm,19.4s,baz=78,slow=30
AFI Afiamalu 90.40 256 *e*P P 23 36 40.5 +3.7
comp=Z,110nm,1.2s
AFI LR LR
comp=Z,5µm,20.0s
PVCC Panska Ves 90.40 39 *e*P **P 23 36 38.5 +2.4**
PVCC MLR MLR
comp=Z,10µm,22.4s
PVCC Panska Ves 90.40 39 *e*P **P 23 36 38.5 +2.4**
PVCC AMS AMS 00 11 10.0
comp=Z,10µm,22.4s
VNA2 Neumayer--Watz 90.42 161 *e*P **P 23 36 34.6 -1.1**
PRU Pruhonice 90.47 40 *e*P **P 23 36 38.2 +1.8**
PRU *e* 23 40 12.3
PRU *e* 23 47 12.5
PRU *e* 23 48 37.7
PRU *e*SS SS 23 53 39.0 +7.2
PRU MLR MLR
comp=Z,12µm,23.6s
PRU Pruhonice 90.47 40 *e*P **P 23 36 38.2 +1.8**
PRU *e*PP **PP 23 40 12.3 +1.5**
PRU *e*SKS **SKSac 23 47 12.5 +4.5**
PRU *e*SP **SP 23 48 37.7 0.0**
PRU *e*SS SS 23 53 39.0 +7.2
PRU AMS AMS 00 09 30.0
comp=Z,12µm,23.6s
KTK1 Kautokeino 90.54 20 *e*P **P 23 36 38.7 +2.4**
KTK1 *e*SKS **SKSac 23 47 06.9 -0.8**
MOA Molln 90.62 42⇑ *i*PcP **PcP 23 36 38.7 +0.3**
comp=Z,24nm,1.3s
VOY Vojsko 90.65 44 *e*P P 23 36 41.7 +4.2
VOY *e* 23 36 57.8
JAVS Javornik 90.79 44 *i* P **P 23 36 40.7 +2.6**
AQU L'Aquila 90.83 47 PFAKE 23 36 50.0 +12
AQU LR LR
comp=Z,4µm,21.0s
LJU Ljubljana 91.08 44 *i* P **P 23 36 40.7 +1.3**
LJU *i* PP **PP 23 40 17.9 +2.2**
LJU *e*SKSac **SKSac 23 47 18.9 +7.2**
LJU *e*S **S 23 47 38.9 +1.5**
ARCES ARCESS Array B 91.15 20 P **P 23 36 36.7 -2.4**
comp=Z,18nm,0.9s,baz=316,slow=5.0,SNR=11
ARCES PP **PP 23 40 15.7 +0.1**
comp=Z,23nm,1.2s,baz=300,slow=4.1,SNR=7.1
ARCES LR LR 00 11 49.0
comp=Z,3µm,21.3s,baz=290,slow=32
ARCES ARCESS Array B 91.15 20 P **P 23 36 36.7 -2.4**
ARCES PP **PP 23 40 15.7 +0.1**
ARE0 ARCESS Array S 91.15 20 *e*P **P 23 36 41.4 +2.3**
ARE0 *e*SKS **SKSac 23 47 06.0 -5.2**
ARE0 *e*SS **SS 23 53 40.1 -0.5**
TREC Trest 91.19 40 *e*P **P 23 36 41.7 +1.9**
TREC MLR MLR
comp=Z,10µm,23.1s
TREC Trest 91.19 40 *e*P **P 23 36 41.7 +1.9**
TREC AMS AMS 00 09 50.0
comp=Z,10µm,23.1s
UPC Upice 91.31 39 *e*P **P 23 36 42.8 +2.5**
UPC *e* 23 40 16.7
UPC Upice 91.31 39 *e*P **P 23 36 42.8 +2.5**
UPC *e*PP **PP 23 40 16.7 -0.7**
SOKA Soboth 91.33 43⇑ *i*P **P 23 36 40.5 -0.1**
comp=Z,22nm,0.9s
PERS Pernice 91.39 43 *i* P **P 23 36 41.2 +0.3**
KSP Ksiaz 91.43 39 *e*P **P 23 36 43.0 +2.1**
KSP *e* 23 40 16.3
KSP *e* 23 47 15.0
KSP *e*S **S 23 47 40.0 -0.3**
KSP *e*SP **SPn 23 48 49.0 +0.1**
KSP *e*SS **SS 23 53 51.0 +5.4**
MIDW Midway 91.51 298 PFAKE 23 36 50.0 +8.3
MIDW LR LR
comp=Z,7µm,20.0s
DPC Dobruska-Polom 91.54 39 *e*P **P 23 36 41.5 +0.1**
DPC *e* 23 40 17.4
DPC *e* 23 47 18.7
DPC *e* 23 48 52.1
DPC *e*SS SS 23 53 51.0 +3.7
DPC MLR MLR
comp=Z,10µm,22.8s
DPC Dobruska-Polom 91.54 39 *e*P **P 23 36 41.5 +0.1**
DPC *e*PP **PP 23 40 17.4 -1.9**
DPC *e*SKS **SKSac 23 47 18.7 +4.5**
DPC *e*SP **SPn 23 48 52.1 +1.8**
DPC *e*SS **SS 23 53 51.0 +3.7**
DPC AMS AMS 00 12 00.0
comp=Z,10µm,22.8s
ARSA Arzberg 91.56 42⇑ *i*PcP **PcP 23 36 42.9 +0.5**
comp=Z,38nm,1.9s,SNR=7.1
KEV Kevo 91.57 19 *e*P **P 23 36 40.2 -0.9**
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 91.57 19 PFAKE 23 36 50.0 +8.9
KEV LR LR
comp=Z,4µm,21.0s
KEV Kevo 91.57 19 *e*p **P 23 36 40.2 -0.9**
comp=Z,10nm,0.9s
BOJS Bojanci 91.67 44 *i* P **P 23 36 43.5 +1.4**
BOJS *i* PP **PP 23 40 22.1 +1.7**
BOJS *e*SKSac **SKSac 23 47 20.7 +5.6**
BOJS *i* S **S 23 47 43.3 +0.6**
CONA Conrad Observa 91.67 42⇑ *i*PcP **PcP 23 36 42.8 -0.2**
comp=Z,43nm,1.3s,SNR=8.7
KRLC Kraliky 91.88 39 *e*P **P 23 36 45.8 +2.8**
KRLC *e*x x 23 36 59.2
KRLC *e*x x 23 37 04.0
VRAC Vranov 91.90 40⇑ *i*P **P 23 36 45.2 +2.1**
SNAA Sanae 92.02 162 *e*P **P 23 36 42.2 -1.0**
comp=Z,9.9nm,0.9s
SOP Sopron 92.18 42⇓ *e* **P 23 36 46.7 +2.3**
MORC Moravsky Berou 92.42 40⇑ P **P 23 36 48.5 +3.0**
MORC Moravsky Berou 92.42 40 *e*P **P 23 36 44.0 -1.5**
comp=Z,18nm,1.0s
MORC Moravsky Berou 92.42 40⇑ *i*P **P 23 36 48.5 +3.0**
BEHE Becsehely 92.55 43⇑ *e*P P 23 36 49.6 +3.5
SMOL Smolenice 92.59 41 *e*P P 23 36 49.9 +3.6
SMOL Smolenice 92.59 41 *e*P P 23 36 49.8 +3.5
WDD Wield Dalam 92.65 54 PFAKE 23 37 00.0 +13
WDD LR LR
comp=Z,2µm,20.0s
OKC Ostrava-Krasne 92.79 40 *e*P **P 23 36 49.7 +2.5**
OKC *e* 23 40 35.1
OKC *e* 23 47 24.6
OKC *e* 23 49 11.6
OKC *e*SS SS 23 54 15.9 +11
OKC MLR MLR
comp=Z,9µm,22.3s
OKC Ostrava-Krasne 92.79 40 *e*P **P 23 36 49.7 +2.5**

OKC ex x 23 37 08.2
OKC ePP PP 23 40 35.1 +6.0
OKC eSKS **SKSac** **23 47 24.6 +3.5**
OKC ex x 23 49 11.6
OKC eSS SS 23 54 15.9 +11
OKC AMS AMS 00 12 40.0
comp=Z,9µm,22.3s
CUC Castrocucco 93.00 50 eP **P** **23 36 50.3 +1.9**
CUC LR LR
comp=Z,3µm,22.0s
VYHS Vyhne 93.51 41 eP **P** **23 36 52.5 +1.9**
VYHS pmax pmax
comp=Z,28nm,1.7s
VYHS Vyhne 93.51 41 eP **P** **23 36 52.5 +1.9**
VYHS ePP **PP** **23 40 35.8 +1.0**
OJC Ojcow 93.75 39 eP **P** **23 36 54.0 +2.4**
OJC e 23 40 37.1
OJC e 23 47 28.2
OJC eS **S** **23 48 00.6 -0.4**
OJC Ojcow 93.75 39 eP **P** **23 36 54.0 +2.4**
OJC L L 00 13 43.5
comp=Z,9µm,21.9s
OJC ePP **PP** **23 40 37.1 +0.5**
OJC eSKSac **SKSac** **23 47 28.2 +1.8**
OJC eS **S** **23 48 00.6 -0.4**
BUD Budapest 93.85 42⇓ eP **P** **23 36 53.4 +1.3**
PKSM Moragy 93.86 43⇑ iP **P** **23 36 52.7 +0.5**
PKSM Moragy 93.86 43⇑ iP **P** **23 36 52.7 +0.5**
PKSM Moragy 93.86 43⇓ eP **P** **23 36 54.4 +2.2**
KAF Kangasniemi 93.91 26 eP **P** **23 36 51.3 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.9s
KAF Kangasniemi 93.91 26 ep **P** **23 36 51.3 -0.8**
comp=Z,6.1nm,0.9s
FINES FINESS Array B 94.03 27 P P 23 36 48.9 -3.7
comp=Z,2.6nm,0.9s,baz=316,slow=5.8,SNR=2.9
FINES PP **PP** **23 40 39.4 +1.0**
comp=Z,5.9nm,0.9s,baz=282,slow=7.0,SNR=4.8
FINES LR LR 00 18 00.9
comp=Z,3µm,18.9s,baz=282,slow=35
FINES FINESS Array B 94.03 27 P P 23 36 48.9 -3.7
FINES PP **PP** **23 40 39.4 +1.0**
FIA1 FINESS Array S 94.03 27 eP **P** **23 36 51.1 -1.5**
FX1 Attu Island--F 94.08 324 LR LR 00 24 22.9
comp=Z,1µm,18.7s,baz=82,slow=39
NIE Niedzica 94.26 40 eP **P** **23 36 56.9 +2.9**
NIE Niedzica 94.26 40 eP **P** **23 36 56.9 +2.9**
PSZ Piszkesteto 94.33 41⇑ P P 23 37 03.6 +9.2
PSZ Piszkesteto 94.33 41 eP **P** **23 36 56.4 +2.0**
comp=Z,79nm,1.6s
PSZ LR LR
comp=Z,3µm,22.0s
PSZ Piszkesteto 94.33 41⇑ iP P 23 37 03.6 +9.2
PSZ Piszkesteto 94.33 41⇓ eP **P** **23 36 57.1 +2.7**
LVZ Lovozero 94.86 20 PFAKE 23 37 10.0 +14
LVZ LR LR
comp=Z,4µm,21.0s
CRVS Cervenica-Dubn 95.11 40 eP **P** **23 37 00.1 +2.2**
CRVS pmax pmax
comp=Z,104nm,2.7s
CRVS Cervenica-Dubn 95.11 40 eP **P** **23 37 00.1 +2.2**
CRVS ePP **PP** **23 40 49.0 +1.7**
VSU Vasula 95.33 30 eP **P** **23 36 58.7 +0.1**
VSU pmax pmax
comp=Z,40nm,1.0s
QSPA South Pole Qui 95.53 180 PFAKE 23 37 10.0 +11
QSPA LR LR
comp=Z,2µm,20.0s
KOLS Kolonicke sedl 95.62 40 eP **P** **23 37 02.7 +2.5**
KOLS pmax pmax
comp=Z,96nm,2.7s
KOLS Kolonicke sedl 95.62 40 eP **P** **23 37 02.7 +2.5**
UZH Uzhgorod 95.71 40 eP **P** **23 36 58.6 -2.0**
UZH i 23 37 02.4
UZH e 23 40 53.2
UZH e 23 47 30.6
UZH eS S 23 48 08.8 -9.4
KWP Kalwaria Pacla 95.72 39⇓ P **P** **23 37 03.7 +3.1**
KWP Kalwaria Pacla 95.72 39 eP **P** **23 36 59.9 -0.7**
comp=Z,50nm,1.6s
KWP LR LR
comp=Z,5µm,22.0s
KWP Kalwaria Pacla 95.72 39⇓ iP **P** **23 37 03.7 +3.1**
TIR Tirane 95.76 48 PFAKE 23 37 10.0 +9.0
TIR LR LR
comp=Z,4µm,22.0s
JOF Joensuu 95.77 25 eP **P** **23 36 58.6 -1.9**
JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF Joensuu 95.77 25 ep **P** **23 36 58.6 -1.9**
comp=Z,8.8nm,0.7s
TRPA Tarpa 96.00 41⇓ iP P 23 37 09.6 +7.7
TRPA Tarpa 96.00 41⇑ eP P 23 37 06.2 +4.3
BZS Buzias 96.02 43⇑ P **P** **23 37 02.5 +0.4**
BZS Buzias 96.02 43⇑ iP **P** **23 37 02.5 +0.4**
DRGR 96.46 42⇑ P P 23 37 07.6 +3.4
DRGR 96.46 42⇑ iP P 23 37 07.6 +3.4
LVV L'vov 96.49 39 iP **P** **23 37 05.7 +1.6**
LVV e 23 41 07.0
LVV e 23 47 42.7
LVV eS **S** **23 48 24.1 -0.8**
LVV ePS **PS** **23 49 46.1 +0.2**
NVL N'lazarevskaya 96.68 161 ePPP PPP 23 43 13.3
NVL eSS SS 23 55 06.6 +6.8
NVL pmax pmax
comp=Z,19nm,1.1s
NVL MLR MLR
comp=Z,3µm,20.0s
BUR08 Bucovina Ar. S 97.86 41 eP Pdif 23 37 15.6 +5.0
BURAR Bucovina Array 97.88 41⇓ iP Pdif 23 37 16.2 +5.6
TMCR Tamitsa 97.88 22 eP Pdif 23 37 11.9 +1.8
TMCR e 23 41 06.7
TMCR pmax pmax
comp=Z,28nm,1.4s
ARR Arges 98.14 43⇓ iP Pdif 23 37 14.1 +2.3
VOIR 98.40 43⇓ P Pdif 23 37 15.9 +2.9
VOIR 98.40 43⇓ iP Pdif 23 37 15.9 +2.9
MLR Muntele Rosu 98.98 42⇑ iP Pdif 23 37 17.1 +1.5
KIEV Kiev 99.36 37 PFAKE 23 37 30.0 +13
KIEV LR LR
comp=Z,3µm,20.0s
AKASG Malin Array Be 99.37 37 P **Pdif** **23 37 15.2 -1.8**
comp=Z,0.3nm,0.3s,baz=294,slow=3.5,SNR=3.2
AKASG PP PP 23 41 25.2 +5.4
comp=Z,0.5nm,0.4s,baz=292,slow=6.2,SNR=7.4
AKASG LR LR 00 17 35.5
comp=Z,3µm,21.0s,baz=305,slow=33
AKASG Malin Array Be 99.37 37 ceP **Pdif** **23 37 20.7 +3.7**
AKASG Malin Array Be 99.37 37 P **Pdif** **23 37 15.2 -1.8**
AKASG PP PP 23 41 25.2 +5.4
SBA Scott Base 99.63 192 PFAKE 23 37 30.0 +12
SBA LR LR
comp=Z,2µm,19.0s
SEY Seymchan 100.11 338 ceP **Pdif** **23 37 22.2 +2.1**
KLMR Klimovskoe 100.17 25 eP **Pdif** **23 37 16.6 -3.8**
KLMR PS **PS** **23 50 17.7 -7.6**
KLMR pmax pmax
comp=Z,32nm,1.5s
KLMR pmax pmax
comp=Z,174nm,8.2s
KIS Kishinev 100.40 40 eP **Pdif** **23 37 24.0 +2.3**
KIS e 23 48 04.0
KIS e 23 48 52.0
KIS ePS **PS** **23 50 26.0 -2.3**
KIS Kishinev 100.40 40 eP **Pdif** **23 37 24.0 +2.3**
KIS Kishinev 100.40 40 ePP PP 23 41 40.0 +12
KIS Kishinev 100.40 40 ePS PS 23 50 26.0 -2.3
KIS Kishinev 100.40 40 ePPS PPS 23 51 30.0
KIS LRM MLR 00 14 38.0
comp=Z,6µm,25.0s
MSVF Nonsavu 100.44 253 PFAKE 23 37 30.0 +7.4
MSVF LR LR
comp=Z,2µm,20.0s
CFR Carcaliu 100.55 42⇓ P **Pdif** **23 37 23.6 +1.2**
CFR Carcaliu 100.55 42⇓ iP **Pdif** **23 37 23.6 +1.2**
EDRB Edirne 100.62 46 eP **PP** **23 41 30.1 +0.4**
TKR Tekirdag 101.44 46 eP **PP** **23 41 38.6 +2.6**
KRBG Karabiga-Canak 101.45 47 eP **PP** **23 41 37.4 +1.4**
TSUM Tsumeb 101.50 108 PFAKE 23 37 40.0 +13
TSUM LR LR
comp=Z,4µm,20.0s
OBN Obninsk 101.63 31⇑ iP **Pdif** **23 37 28.8 +1.9**
OBN i 23 41 43.1
OBN i S **SKSac** **23 48 07.9 +1.5**
OBN i SS **SS** **23 56 03.9 -5.3**
OBN pmax pmax
comp=Z,12nm,1.4s
OBN Obninsk 101.63 31 PFAKE 23 37 40.0 +13
OBN LR LR
comp=Z,5µm,22.0s
GONE Gonen-Balikesi 101.84 47 eP **PP** **23 41 40.1 +1.1**
BLCB Balcova 101.85 49 eP **PP** **23 41 42.2 +3.1**
MOS Moscow 101.86 30 e **PP** **23 41 41.9 +3.4**
MOS e 23 48 01.4
MOS e 23 56 06.2
BALB Balikesir 102.11 48 eP **PP** **23 41 42.2 +1.3**
PET Petropavlovsk 102.24 327 eP **Pdif** **23 37 28.8 -0.9**
PET e 23 41 42.8
PET e 23 48 10.2
PET eS **Sdif** **23 49 04.1 -9.1**
PET eSS SS 23 56 31.1 +13
PET pmax pmax
comp=Z,300nm,27.4s
PET pmax pmax
comp=Z,2µm,12.6s
PET pmax pmax
comp=Z,1µm,23.4s
PET MLR MLR
comp=Z,3µm,19.0s
PET MLR MLR
comp=Z,3µm,18.0s
PET Petropavlovsk 102.24 327 PFAKE 23 37 40.0 +10
PET LR LR
comp=Z,3µm,20.0s
BGKT Bogazkoy 102.27 46 eP **PP** **23 41 42.7 +0.6**
ISK Istanbul-Kandi 102.52 46 eP **PP** **23 41 45.4 +1.4**
ARMT Armutlu 102.53 47 eP **PP** **23 41 44.9 +0.7**
MDNY Mudanya-Bursa 102.61 47 eP **PP** **23 41 45.9 +1.2**
MLSB Milas 102.73 50 eP **PP** **23 41 48.6 +2.9**
GEMT Gemlik 102.81 47 eP **PP** **23 41 46.5 +0.3**
KULA Kula-Manisa 103.03 49 eP **PP** **23 41 50.2 +2.2**
HRT Hereke 103.03 46 eP **PP** **23 41 48.1 +0.2**
SNZO South Karori 103.07 229 PFAKE 23 37 50.0 +16
SNZO LR LR
comp=Z,3µm,19.0s
TVSB Tavsanli 103.33 47 eP **PP** **23 41 52.4 +2.1**
CAVI Cavuskoy 103.36 47 eP **PP** **23 41 51.3 +0.9**
GULT Gulveren 103.77 46 eP **PP** **23 41 53.4 0.0**
ALT Altintas 103.93 48 eP **PP** **23 41 56.6 +1.9**
KDZE Karadeniz Ereo 104.13 45 eP **PP** **23 41 57.2 +1.2**
TARA Tarawa 104.16 273 PFAKE 23 37 50.0 +11
TARA LR LR
comp=Z,3µm,20.0s
MDUB Mudurnu 104.25 46 eP **PP** **23 41 58.8 +1.7**
SUR Sutherland 104.36 122 PFAKE 23 37 50.0 +10
SUR LR LR
comp=Z,8µm,20.0s
ELL Elmali 104.52 50 eP **PP** **23 42 00.9 +1.7**
ISP Isparta 104.64 49 eP **PP** **23 42 01.2 +1.1**
ISP Isparta 104.64 49 PFAKE 23 37 50.0 +9.1
ISP LR LR
comp=Z,2µm,19.0s
BCK Bucak 104.81 49 eP **PP** **23 42 04.2 +2.9**
SAFT Safranbolu 105.03 45 eP **PP** **23 42 04.7 +2.0**
ANTB Antalya 105.04 50 eP **PP** **23 42 06.3 +3.4**
LADK Ladik-KONYA 105.88 48 eP **PP** **23 42 11.6 +2.4**
AFSR Af˘ar-Bala (A 105.95 46 eP **PP** **23 42 10.6 +0.8**
BRTR Keskin Array B 106.26 46 Pdiff **Pdif** **23 37 50.4 +2.2**
comp=Z,0.5nm,0.8s,baz=297,slow=1.0,SNR=3.1
BRTR PKKPbc **PKKPbc** **23 53 20.8 -1.1**
comp=Z,0.5nm,0.6s,baz=110,slow=3.4,SNR=4.7
BRTR Keskin Array B 106.26 46 Pdif **Pdif** **23 37 50.4 +2.2**
BRTR PKKPbc **PKKPbc** **23 53 20.8 -1.1**
DIKM Dikmen 106.66 44 eP **PP** **23 42 17.0 +2.3**
CORM Corum 106.80 45 eP **PP** **23 42 17.5 +1.6**
LEF Lefka 107.34 51 eP **PP** **23 42 20.7 +0.8**
KVT Kavak 107.43 44 eP **PP** **23 42 21.8 +1.4**
WAKE Wake Island 107.45 292 PFAKE 23 42 10.0
WAKE LR LR
comp=Z,4µm,20.0s
CSS Prodhromos 107.73 51 PFAKE 23 42 10.0
CSS LR LR
comp=Z,2µm,22.0s
MERS Mersin 107.96 49 eP **PP** **23 42 26.1 +1.6**
EREN Erenkoy 108.17 50 eP **PP** **23 42 27.7 +1.7**
YAK Yakutsk 108.18 345 PFAKE 23 42 10.0
YAK LR LR
comp=Z,3µm,19.0s
RSDY Resadiye-TOKAT 108.60 44 eP **PP** **23 42 29.8 +0.9**
KRTS Karatas 108.70 49 eP **PP** **23 42 32.5 +2.7**
ESPY Espiye-Giresun 109.34 43 eP **PP** **23 42 35.7 +1.4**
KMRS Kahramanmaras 109.47 47 eP **PP** **23 42 36.8 +1.4**
GAZ Gaziantep 109.83 47 eP **PP** **23 42 42.1 +4.1**
KIV Kislovodsk 110.51 39 iPKIKP **PKiKP** **23 42 08.1 +0.6**
KIV e 23 42 44.3
KIV ePS **PS** **23 52 07.3 -6.0**
KIV eSS SS 23 58 12.6 +1.5
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 110.51 39 PFAKE 23 42 20.0
KIV LR LR
comp=Z,5µm,22.0s
BAYT Ayd˘ın-tepe-Bay 110.54 43 eP **PP** **23 42 44.3 +1.1**
ARU Arti 110.61 22 iPKIKP **PKiKP** **23 42 06.4 -0.8**
ARU 23 42 43.2
ARU 23 48 45.5
ARU SP SP 23 52 05.7 -5.5
ARU PS **PS** **23 52 11.8 -1.6**
ARU Arti 110.61 22 PFAKE 23 42 20.0
ARU LR LR
comp=Z,3µm,19.0s
PZAR Pazar-Rize 110.69 42 eP **PP** **23 42 44.8 +0.9**
URFA Urfa 110.89 47 eP **PP** **23 42 48.0 +2.3**
DZM Mont Dzumac 111.36 249 eSP SP 23 52 22.4 +1.7
comp=Z,1µm,34.6s
DZM eSS SS 23 58 32.4 +8.1
comp=Z,8µm,30.1s
DZM eLR LR 00 16 00.5
comp=Z,4µm,26.2s
LSZ Lusaka 111.58 104 PFAKE 23 42 20.0
LSZ LR LR
comp=Z,7µm,20.0s
ONI Oni 111.68 40 P **PP** **23 42 51.5 +0.4**
DRV Dumont d'Urvil 112.27 197 Pdif Pdif 23 38 27.0 +13
DRV Dumont d'Urvil 112.27 197 PP PP 23 43 18.0 +23
DRV SKKS 23 51 59.0
DRV SS SS 23 58 16.0 -17
AKH Akhalkalaki 112.30 41 P **PP** **23 42 54.6 -1.1**
KARS Kars 112.41 42 eP **PP** **23 42 58.2 +1.7**
AGRB Hanur-Agry 112.86 43 eP **PP** **23 43 02.4 +2.6**
TBLG Delisi 112.94 40 P PP 23 42 53.7 -6.4
MBAR Mbarara 113.40 88 PFAKE 23 42 30.0
MBAR LR LR
comp=Z,649nm,19.0s
DGRG David-gareji 113.49 40 P **PP** **23 42 58.9 -5.1**
VANB Van 113.60 44 eP **PP** **23 43 08.4 +3.4**
CLDR Caldiran 113.69 43 eP **PP** **23 43 03.0 -2.8**
GNI Garni 113.75 42 eP **PP** **23 43 08.2 +2.1**
GNI Garni 113.75 42 PFAKE 23 42 30.0
GNI LR LR
comp=Z,2µm,22.0s
MAK Makhachkala 114.02 38 ePKIKP PKiKP 23 42 04.1 -10
MAK e 23 43 07.7
MAK e 23 48 57.1
MAK ePS **PS** **23 52 43.9 -1.4**
MAK eSS SS 23 58 59.6 +2.3
MAK pmax pmax
comp=Z,24nm,0.6s
YSS Yuzh-Sakhalins 114.12 328 PFAKE 23 42 30.0 +16
YSS LR LR
comp=Z,1µm,20.0s
YUK Yuzh-Kuril'sk 114.13 324 diPKIKP PKPdf 23 42 13.8 -0.4
YUK i 23 43 06.3
YUK i PPP PPP 23 45 29.4
YUK i PS **PS** **23 52 44.0 -2.3**
YUK i SS SS 23 58 58.8 +0.1
YUK i SSS SSS 00 03 16.9
YUK MLR MLR
comp=Z,1µm,22.0s
YUK MLR MLR
comp=N,639nm,22.0s
YUK MLR MLR
comp=E,810nm,22.0s
CUKT Cukurca 114.39 45 eP **PP** **23 43 10.5 -0.2**
BOD Bodaibo 115.44 350 eP **Pdif** **23 38 26.5 -1.9**
BOD pmax pmax
comp=Z,43nm,1.9s
BHD Baghdad 116.80 48 iPKP PP 23 43 16.0 -12
ERM Erimo 116.92 323 PFAKE 23 42 30.0 +10
ERM LR LR
comp=Z,2µm,20.0s
BRVK Borovoye 117.33 18 iPKIKP **PKPdf** **23 42 20.3 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye 117.33 18 PFAKE 23 42 30.0 +10
BRVK LR LR
comp=Z,5µm,21.0s
KLR Kul'dur 117.77 335 ePKIKP **PKPdf** **23 42 20.8 -0.3**
HNR Honiara 117.81 262 PFAKE 23 42 30.0 +7.9
HNR LR LR
comp=Z,2µm,21.0s
CASY Casey 118.64 186 PFAKE 23 42 30.0 +7.8
CASY LR LR
comp=Z,5µm,22.0s
NVS Novosibirsk 118.73 9⇑ iPKIKP **PKPdf** **23 42 26.3 +3.5**
NVS pmax pmax
comp=Z,36nm,2.4s
NVS pmax pmax
comp=E,13nm,2.2s
ZAA0 Zalesovo Array 119.83 8 ePKPdf **PKPdf** **23 42 24.3 -0.7**
ZALV Zalesovo Beam 119.83 8 PKP **PKPdf** **23 42 21.7 -3.2**
comp=E,1.7nm,0.5s,baz=290,slow=2.3,SNR=12
ZALV PP **PP** **23 43 43.3 -4.1**
comp=E,4.7nm,1.0s,baz=1.9,slow=4.3,SNR=2.3
ZALV PKKPbc **PKKPbc** **23 52 35.1 -1.4**
comp=E,0.8nm,0.6s,baz=155,slow=3.4,SNR=5.3
ZALV Zalesovo Beam 119.83 8 PKIKP **PKPdf** **23 42 21.7 -3.2**
ZALV Zalesovo Beam 119.83 8 PKP **PKPdf** **23 42 21.7 -3.2**
ZALV PP **PP** **23 43 43.3 -4.1**
ZALV PKKPbc **PKKPbc** **23 52 35.1 -1.4**
KMBO Kilima Mbogo 119.94 88 ePKPdf **PKPdf** **23 42 28.8 +2.2**
KMBO LR LR
comp=Z,4µm,19.0s
MIB Mutribah 120.63 51 eP **PKPdf** **23 42 28.7 +1.5**
MIB AMb AMB 23 42 42.9
comp=Z,40nm,0.9s
NAY Al-Naaiem 120.81 51 eP **PKPdf** **23 42 28.8 +1.3**
NAY AMb AMB 23 42 43.2
comp=Z,14nm,1.2s
UMR Umm Al-Rimmam 121.04 51 eP **PKPdf** **23 42 29.2 +1.3**
UMR AMb AMB 23 42 43.8
comp=Z,38nm,0.9s
USRK Ussuriysk Arra 121.48 331 PKP **PKPdf** **23 42 27.3 -1.0**
comp=Z,0.7nm,0.8s,baz=306,slow=0.6,SNR=2.6
KURK Kurchatov 121.72 14 iPKIKP **PKPdf** **23 42 27.9 -0.8**
KURK Kurchatov 121.72 14 ePKPdf **PKPdf** **23 42 28.7 +0.1**
KURK LR LR
comp=Z,3µm,19.0s
MDJ Mudanjiang 122.28 333 PKP **PKPdf** **23 42 29.6 -0.3**
MDJ PP **PP** **23 44 02.5 -2.0**
MDJ SS SS 00 00 44.3 +0.6
MDJ LR LR
comp=N,3µm,33.5s
MDJ LR LR
comp=E,7µm,32.5s
MDJ LR LR
comp=Z,3µm,32.5s
MDJ Mudanjiang 122.28 333 PFAKE 23 42 40.0 +10
MDJ LR LR
comp=Z,3µm,22.0s
TAU Tasmania Unive 122.31 222 PFAKE 23 42 40.0 +10
TAU LR LR
comp=Z,2µm,20.0s
TLY Talaya 122.77 355 iPKIKP **PKPdf** **23 42 33.5 +2.8**
TLY e 23 49 24.9
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,4µm,24.0s
TLY Talaya 122.77 355 PFAKE 23 42 40.0 +9.3
TLY LR LR
comp=Z,3µm,20.0s
MOY Mondy 122.95 357 ePKIKP **PKPdf** **23 42 32.1 +0.9**
MOY e 23 44 06.1
MJAR Matsushiro Arr 123.30 321 PKP **PKPdf** **23 42 32.0 -0.1**
comp=Z,2.3nm,0.6s,baz=133,slow=1.8,SNR=2.7
MJAR Matsushiro Arr 123.30 321 PKP **PKPdf** **23 42 32.0 -0.1**
MAJO Matsushiro 123.30 321 PFAKE 23 42 40.0 +7.8
MAJO LR LR
comp=Z,3µm,22.0s
CAN Canberra 124.01 231 PFAKE 23 42 50.0 +16
CAN LR LR
comp=Z,2µm,20.0s
ZAK Zakamensk 124.08 355 ePKIKP **PKPdf** **23 42 32.3 -1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
CN2 Changchun 124.72 335 ePKP PKPdf 23 42 28.0 -6.6
CN2 PP **PP** **23 44 20.6 -0.3**
CN2 SS SS 00 01 09.5 -5.0
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
KKAR Karatay Array 125.86 24 ePKIKP **PKPdf** **23 42 37.7 +0.8**
KKAR Karatay Array 125.86 24 ePKPdf **PKPdf** **23 42 37.7 +0.8**
ULN Ulaanbaatar 126.15 352 ePKPdf **PKPdf** **23 42 36.0 -1.5**
ULN LR LR
comp=Z,4µm,20.0s
MK31 Makanchi Array 126.25 13 ePKIKP **PKPdf** **23 42 37.4 -0.1**
MK31 Makanchi Array 126.25 13 ePKPdf **PKPdf** **23 42 37.4 -0.1**
MKAR Makanchi Array 126.25 13 PKP **PKPdf** **23 42 34.5 -3.0**
comp=Z,2.0nm,0.7s,baz=40,slow=4.7,SNR=7.9
MKAR PP PP 23 44 21.2 -10
comp=Z,2.5nm,0.8s,baz=16,slow=6.3,SNR=3.0
MKAR Makanchi Array 126.25 13 PKIKP **PKPdf** **23 42 34.6 -3.0**
MKAR Makanchi Array 126.25 13 PKP **PKPdf** **23 42 34.5 -3.0**
MKAR PP PP 23 44 21.2 -10
SONM Songino Array 126.27 352 PKP **PKPdf** **23 42 33.9 -3.8**
comp=Z,1.5nm,0.9s,baz=354,slow=1.8,SNR=6.2
SONM PP PP 23 44 15.1 -16
comp=Z,3.2nm,1.0s,baz=356,slow=5.8,SNR=3.1
SONM Songino Array 126.27 352 PKP **PKPdf** **23 42 33.9 -3.8**
SONM PP PP 23 44 15.1 -16
EKS2 Erkin-Say 127.50 22 ePKIKP **PKPdf** **23 42 41.4 +1.2**
EKS2 MLR MLR
comp=Z,3µm,21.0s
EKS2 Erkin-Say 127.50 22 ePKPdf **PKPdf** **23 42 41.4 +1.2**
EKS2 LR LR
comp=Z,3µm,21.0s
FRU Bishkek 127.66 21 ePKIKP **PKPdf** **23 42 44.0 +3.6**
AAK Ala-Archa 127.79 21 PFAKE 23 42 50.0 +9.2
AAK LR LR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 127.93 20 ePKIKP **PKPdf** **23 42 41.6 +0.5**
TKM2 MLR MLR
comp=Z,3µm,21.0s
TKM2 Tokmak 2 127.93 20 ePKPdf **PKPdf** **23 42 41.6 +0.5**
TKM2 LR LR
comp=Z,3µm,21.0s
AAA Alma-Ata 128.06 19 ePKIKP PKPdf 23 42 46.6 +5.5
AAA pmax pmax
comp=Z,1µm,5.6s
KSRS Korea Array 128.59 329 PKP **PKPdf** **23 42 40.3 -1.9**
comp=Z,2.7nm,0.7s,baz=357,slow=1.5,SNR=5.1
KSAR Wonju Array Be 128.62 329 PKP **PKPdf** **23 42 40.3 -2.0**
GUMO Guam 129.09 292 PFAKE 23 43 00.0 +16
GUMO LR LR
comp=Z,4µm,22.0s
INCN Inchon 129.22 330 PFAKE 23 43 00.0 +17
INCN LR LR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 129.46 110 PFAKE 23 43 00.0 +15
ABPO LR LR
comp=Z,5µm,21.0s
WMQ Urumqi 130.13 9 ePdif **Pdif** **23 39 34.4 +0.2**
WMQ PKP **PKiKP** **23 42 45.8 -0.1**
WMQ PP **PP** **23 45 00.8 +4.5**
WMQ PKS **PKSdf** **23 46 20.8 -0.8**
WMQ SKS **SKSdf** **23 49 55.8 -1.2**
WMQ SKKS **SKKSac** **23 51 54.0 -0.7**
WMQ S **Sdif** **23 53 03.5 -3.1**
WMQ SS SS **00 02 23.3 +1.9**
WMQ LR LR
comp=N,2µm,23.0s
WMQ LR LR
comp=E,4µm,20.0s
WMQ LR LR
comp=Z,5µm,23.0s
CTA Charters Towers 130.30 248 PKP **PKPdf** **23 42 46.7 +0.7**

	comp=Z,222nm,1.2s,baz=18,slow=4.0,SNR=6.5								
CTA	**Charters Tower**	**130.30**	**248**	PKP	**PKPdf**	**23**	**42**	**46.7**	**+0.7**
CTAO	**Charters Tower**	**130.30**	**248**	*e*PKIKP	**PKPdf**	**23**	**42**	**47.3**	**+1.4**
CTAO				MLR	MLR				
	comp=Z,2μm,19.0s								
CTAO	**Charters Tower**	**130.30**	**248**	*e*PKPdf	**PKPdf**	**23**	**42**	**47.3**	**+1.4**
CTAO				LR	LR				
	comp=Z,2μm,19.0s								
DL2	**Dalian**	**130.38**	**335**	*e*PKP	**PKPdf**	**23**	**42**	**40.9**	**-4.7**
DL2				PP	**PP**	**23**	**45**	**02.1**	**+3.9**
DL2				AMB	AMB				
	comp=Z,590nm,6.8s								
DL2				LR	LR				
	comp=N,2μm,19.0s								
DL2				LR	LR				
	comp=E,1μm,18.1s								
DL2				LR	LR				
	comp=Z,2μm,19.9s								
PMG	**Port Moresby**	**130.43**	**262**	PFAKE		23	43	00.0	+14
PMG				LR	LR				
	comp=Z,2μm,19.0s								
PAF	**Port-aux-Franc**	**130.69**	**157**	PFAKE		23	43	00.0	+14
PAF				LR	LR				
	comp=Z,3μm,20.0s								
ARQ	**Araqi**	**130.95**	**53**	PKPdf	**PKPdf**	**23**	**42**	**51.0**	**+3.9**
	SNR=5.9								
ABTO	**Aybut**	**130.97**	**61**	PKPdf	**PKPdf**	**23**	**42**	**51.0**	**+3.6**
	SNR=21								
STKA	**Stephens Creek**	**131.01**	**232**	PKP	**PKPdf**	**23**	**42**	**46.9**	**0.0**
	comp=Z,5.5nm,0.9s,baz=110,slow=3.5,SNR=8.2								
STKA	**Stephens Creek**	**131.01**	**232**	PKP	**PKPdf**	**23**	**42**	**46.9**	**0.0**
STKA				*e*PKPdf	**PKiKP**	**23**	**42**	**47.7**	**-0.2**
KSH	**Kashi**	**131.06**	**22**	*e*PKP	**PKPdf**	**23**	**42**	**49.3**	**+2.3**
KSH				*e*PP	PP	23	45	08.9	+6.2
KSH				PKS	**PKSdf**	**23**	**46**	**23.2**	**-0.5**
KSH				SKS	SKSdf	23	49	50.1	-8.9
KSH				SKKS	**SKKSac**	**23**	**52**	**00.9**	**+0.1**
KSH				SS	**SS**	**00**	**02**	**36.2**	**+2.8**
KSH				LR	LR				
	comp=N,3μm,19.8s								
KSH				LR	LR				
	comp=E,3μm,19.5s								
KSH				LR	LR				
	comp=Z,6μm,26.7s								
BJI	**Beijing**	**131.44**	**341**	PKP	**PKPdf**	**23**	**42**	**46.3**	**-1.2**
BJI				SS	SS	00	02	37.2	-0.4
BJI				AMB	AMB				
	comp=Z,1μm,4.0s								
BJI				LR	LR				
	comp=N,2μm,21.0s								
BJI				LR	LR				
	comp=E,4μm,22.3s								
BJI				LR	LR				
	comp=Z,3μm,37.7s								
BJT	**Baijiatuan**	**131.46**	**341**	PFAKE		23	43	00.0	+12
BJT				LR	LR				
	comp=Z,4μm,21.0s								
BSY	**Bisya**	**131.79**	**53**	PKPdf	**PKPdf**	**23**	**42**	**51.4**	**+2.7**
	SNR=17								
HHC	**Hu-ho-hao-te**	**132.03**	**345**	*e*PKP	**PKPdf**	**23**	**42**	**47.8**	**-1.0**
HHC				PP	**PP**	**23**	**45**	**11.8**	**+3.0**
HHC				PKS	**PKSdf**	**23**	**46**	**22.0**	**-3.4**
HHC				SKS	**SKSdf**	**23**	**49**	**57.1**	**-3.5**
HHC				SKKS	**SKKSac**	**23**	**52**	**03.6**	**-3.0**
HHC				SS	**SS**	**00**	**02**	**44.9**	**0.0**
HHC				AMB	AMB				
	comp=Z,1μm,9.2s								
HHC				LR	LR				
	comp=N,3μm,19.1s								
HHC				LR	LR				
	comp=E,4μm,20.6s								
HHC				LR	LR				
	comp=Z,2μm,21.1s								
KBL	**Kabul**	**132.07**	**32**	*e*PKIKP	**PKPdf**	**23**	**42**	**49.4**	**+0.2**
KBL	**Kabul**	**132.07**	**32**	*e*PKPdf	**PKPdf**	**23**	**42**	**49.4**	**+0.2**
SMDO	**Samad**	**132.29**	**52**	PKPdf	**PKPdf**	**23**	**42**	**52.8**	**+3.1**
	SNR=26								
WBK	**Wadi Bani Khal**	**133.25**	**52**	PKPdf	PKPdf	23	42	56.9	+5.4
	SNR=11								
BBOO	**Buckleboo**	**134.83**	**228**	*e*PKPdf	**PKPdf**	**23**	**42**	**57.9**	**+3.7**
GTA	**Gaotai**	**135.24**	**357**	PKP	**PKPdf**	**23**	**42**	**58.5**	**+3.6**
GTA				PKS	**PKSdf**	**23**	**46**	**33.4**	**+2.0**
GTA				SKS	**SKSdf**	**23**	**50**	**03.8**	**-2.6**
GTA				SKKS	**SKKSac**	**23**	**52**	**24.4**	**-1.7**
GTA				SS	**SS**	**00**	**03**	**26.7**	**+3.3**
GTA				AMB	AMB				
	comp=Z,690nm,5.7s								
GTA				LR	LR				
	comp=N,2μm,22.8s								
GTA				LR	LR				
	comp=E,3μm,20.9s								
GTA				LR	LR				
	comp=Z,4μm,23.8s								
RER	**Riviere de l'E**	**136.87**	**115**	PFAKE		23	43	10.0	+12
RER				LR	LR				
	comp=Z,3μm,20.0s								
SSE	**Sheshan**	**137.02**	**329**	PKP	**PKPdf**	**23**	**42**	**54.8**	**-3.5**
SSE				PP	**PP**	**23**	**45**	**41.4**	**+0.7**
SSE				LR	LR				
	comp=N,3μm,29.8s								
SSE				LR	LR				
	comp=E,5μm,29.2s								
SSE				LR	LR				
	comp=Z,3μm,21.3s								
THN	**Thein Dam**	**137.04**	**27**	*e*P	**PKPdf**	**23**	**43**	**00.1**	**+1.8**
NJ2	**Nanjing**	**137.36**	**333**	*e*PKP	**PKPdf**	**23**	**42**	**59.0**	**+0.1**
NJ2				PP	**PP**	**23**	**45**	**39.5**	**-3.2**
NJ2				PKS	**PKSdf**	**23**	**46**	**35.5**	**+0.4**
NJ2				SKS	**SKSdf**	**23**	**50**	**10.0**	**0.0**
NJ2				AMB	AMB				
	comp=Z,850nm,8.9s								
NJ2				LR	LR				
	comp=N,5μm,30.4s								
NJ2				LR	LR				
	comp=E,8μm,31.1s								
NJ2				LR	LR				
	comp=Z,3μm,26.8s								
LZH	**Lanzhou**	**138.16**	**352**	*e*PKP	PKPdf	23	42	54.0	-6.5
LZH				sPKP		23	42	58.5	
LZH				PP	**PP**	**23**	**45**	**45.6**	**-1.9**
LZH				PKS	PKSdf	23	46	29.3	-7.5
LZH				AMB	AMB				
	comp=Z,1μm,5.4s								
LZH				LR	LR				
	comp=N,3μm,18.0s								
LZH				LR	LR				
	comp=E,3μm,18.2s								
LZH				LR	LR				
	comp=Z,5μm,20.3s								
MSEY	**Mahe Island**	**138.36**	**91**	PFAKE		23	43	10.0	+8.7
MSEY				LR	LR				
	comp=Z,3μm,19.0s								
AS31	**Alice Springs**	**140.41**	**239**	*e*PKPdf	**PKPdf**	**23**	**43**	**02.3**	**-2.5**
ASAR	**Alice Springs**	**140.41**	**239**	PKP	**PKPdf**	**23**	**43**	**03.1**	**-1.6**
	comp=Z,3.9nm,0.7s,baz=120,slow=2.8,SNR=10								
ASAR	**Alice Springs**	**140.41**	**239**	PKP	**PKPdf**	**23**	**43**	**03.1**	**-1.6**
NDI	**New Delhi**	**140.89**	**29**	*e*P	**PKPdf**	**23**	**43**	**02.5**	**-2.9**
NDI				*ex*	x	23	46	05.5	
WRAB	**Tennant Creek**	**141.23**	**245**	*e*PKIKP	**PKPdf**	**23**	**43**	**03.3**	**-3.0**
WRAB				MLR	MLR				
	comp=Z,3μm,19.0s								
WRAB	**Tennant Creek**	**141.23**	**245**	*e*PKPdf	**PKPdf**	**23**	**43**	**03.3**	**-3.0**
WRAB				LR	LR				
	comp=Z,3μm,19.0s								
WRA	**Warramunga Arr**	**141.24**	**245**	PKP	**PKPdf**	**23**	**43**	**05.2**	**-1.1**
	comp=Z,10nm,1.0s,baz=95,slow=2.2,SNR=20								
WRA	**Warramunga Arr**	**141.24**	**245**	PKP	**PKPdf**	**23**	**43**	**05.2**	**-1.1**
AJM	**Ajmer**	**141.36**	**34**	*e*P	**PKPdf**	**23**	**43**	**06.4**	**0.0**
AJM				AMb	AMB	23	43	21.2	
	comp=Z,24nm,0.6s								
TATO	**Taipei**	**141.62**	**323**	PFAKE		23	43	20.0	+13
TATO				LR	LR				
	comp=Z,2μm,21.0s								
YHNB	**Yeheng**	**141.91**	**323**	PFAKE		23	43	20.0	+13
YHNB				LR	LR				
	comp=Z,2μm,22.0s								
ENH	**Enshi**	**142.54**	**343**	*e*PKPdf	PKPdf	23	43	03.0	-5.4
ENH				LR	LR				
	comp=Z,4μm,22.0s								
SSLB	**Suanglung**	**142.83**	**323**	*e*PKPdf	**PKPdf**	**23**	**43**	**09.6**	**+0.5**
CD2	**Chengdu**	**143.25**	**351**	PKP	PKPbc	23	43	08.0	+1.5
CD2				PP	**PP**	**23**	**46**	**21.1**	**+2.6**
CD2				PKS	**PKSdf**	**23**	**46**	**42.3**	**-3.2**
CD2				SKS	**SKSdf**	**23**	**50**	**15.0**	**-4.8**
CD2				SKKS	**SKKSac**	**23**	**53**	**09.9**	**-3.5**
CD2				SS	**SS**	**00**	**04**	**56.5**	**-1.3**
CD2				AMB	AMB				
	comp=Z,970nm,9.5s								
CD2				LR	LR				
	comp=N,4μm,22.0s								
CD2				LR	LR				
	comp=E,5μm,21.4s								
QZH	**Quanzhou**	**143.30**	**326**	PKP	PKPbc	23	43	08.0	+1.2
QZH				PP	**PP**	**23**	**46**	**23.0**	**+3.6**
QZH				SS	SS	00	05	01.0	+1.5
QZH				LR	LR				
	comp=N,4μm,19.9s								
QZH				LR	LR				
	comp=E,4μm,17.2s								
QZH				LR	LR				
	comp=Z,4μm,17.4s								
PYUN	**Piuthan**	**143.84**	**22**	*e*P	PKPab	23	43	06.8	-1.1
DANN	**Dangsing**	**143.89**	**20**	*e*P	PKPab	23	43	07.1	-1.1
LSA	**Lhasa**	**144.49**	**9**	PKP	PKPbc	23	43	11.3	+0.4
GKN	**Gorkha**	**144.51**	**19**	*e*P	**PKPab**	**23**	**43**	**06.8**	**-3.5**
KKN	**Kakani**	**144.92**	**19**	*e*P	**PKPab**	**23**	**43**	**08.7**	**-3.2**
GUN	**Gumba**	**144.99**	**18**	*e*P	**PKPab**	**23**	**43**	**09.2**	**-3.1**
DMN	**Daman**	**145.03**	**19**	*e*P	**PKPbc**	**23**	**43**	**09.7**	**-2.7**
PKI	**Pulchoki**	**145.16**	**19**	*e*P	**PKPbc**	**23**	**43**	**09.9**	**-3.0**
JIRN	**Jiri**	**145.32**	**17**	*e*P	**PKPbc**	**23**	**43**	**10.3**	**-3.2**
TAPN	**Taplejung**	**146.04**	**15**	*e*P	**PKPdf**	**23**	**43**	**12.3**	**-2.6**
RAMN	**Ramite**	**146.11**	**17**	*e*P	**PKPbc**	**23**	**43**	**15.4**	**-0.4**
GTK	**Gangtok**	**146.28**	**14**	*e*P	**PKPdf**	**23**	**43**	**15.0**	**-0.2**
ODAN	**Odare**	**146.42**	**16**	*e*P	**PKPdf**	**23**	**43**	**14.4**	**-1.1**
POO	**Poona**	**146.76**	**44**	*e*P	**PKPdf**	**23**	**43**	**13.6**	**-2.4**
POO				AMb	AMB	23	43	25.5	
	comp=Z,139nm,1.6s								
GYA	**Guiyang**	**146.94**	**344**	⇑*i*PKPbc	**PKPdf**	**23**	**43**	**15.6**	**-0.6**
GYA				PP	**PP**	**23**	**46**	**42.8**	**+2.1**
GYA				PKS	**PKSdf**	**23**	**46**	**47.5**	**-4.3**
GYA				SKKS		23	53	31.0	
GYA				SS	**SS**	**00**	**05**	**38.9**	**-1.4**
GYA				AMB	AMB				
	comp=Z,320nm,7.9s								
GYA				LR	LR				
	comp=N,6μm,22.6s								
GYA				LR	LR				
	comp=E,4μm,23.5s								
GYA				LR	LR				
	comp=Z,6μm,22.0s								
NWAO	**Narrogin (SRO)**	**146.99**	**212**	PKPbc	**PKPbc**	**23**	**43**	**17.4**	**-0.6**
	comp=Z,28nm,1.1s,baz=123,slow=3.6,SNR=4.6								
NWAO	**Narrogin (SRO)**	**146.99**	**212**	*e*PKPbc	**PKPab**	**23**	**43**	**20.1**	**+0.8**
NWAO				LR	LR				
	comp=Z,2μm,21.0s								
GZH	**Guangzhou**	**147.53**	**332**	PKPbc	**PKPbc**	**23**	**43**	**18.7**	**-0.9**
GZH				PP	**PP**	**23**	**46**	**43.1**	**-1.3**
GZH				SS	SS	00	05	49.9	+2.6
GZH				LR	LR				
	comp=N,3μm,21.2s								
GZH				LR	LR				
	comp=E,3μm,21.0s								
KAD	**Karad**	**147.83**	**45**	*i* P	**PKPbc**	**23**	**43**	**19.3**	**-1.4**
NGP	**Nagpur**	**148.02**	**33**	*i* P	**PKPdf**	**23**	**43**	**17.5**	**-0.5**
NGP				*ex*	x	23	54	25.8	
LATR	**Latur**	**148.64**	**40**	*ex*	**PKPbc**	**23**	**43**	**25.6**	**+2.8**
SHL	**Shillong**	**148.66**	**9**	*e*P	**PKPdf**	**23**	**43**	**20.0**	**+0.8**
SHL				*ex*	x	23	50	06.0	
KMI	**Kunming**	**149.08**	**350**	PKPbc	**PKPdf**	**23**	**43**	**18.9**	**-1.0**
KMI				pPKP	**pPKPdf**	**23**	**43**	**22.6**	**-1.0**
DAV	**Davao City (W)**	**149.12**	**294**	PFAKE		23	43	30.0	+1.6
DAV				LR	LR				
	comp=Z,3μm,22.0s								
FITZ	**Fitzroy Crossi**	**149.62**	**243**	PKPbc	**PKPdf**	**23**	**43**	**21.4**	**+0.8**
	comp=Z,7.8nm,1.1s,baz=166,slow=4.2,SNR=5.0								
FITZ				PKPab	**PKPab**	**23**	**43**	**30.3**	**0.0**
	comp=Z,85nm,1.1s,baz=59,slow=2.4,SNR=30								
FITZ	**Fitzroy Crossi**	**149.62**	**243**	*e*PKPdf	**PKPdf**	**23**	**43**	**22.6**	**+2.0**
FITZ				*e*PKPbc	**PKiKP**	**23**	**43**	**27.9**	**+1.7**
FITZ				PKPab	**PKPab**	**23**	**43**	**30.3**	**0.0**
IMP	**Imphal**	**149.71**	**6**	*e*P	**PKPdf**	**23**	**43**	**20.0**	**-0.7**
IMP				*ex*	x	23	47	07.0	
CTBH	**Cotabato--PC H**	**150.27**	**295**	⇑*e*P	**PKPbc**	**23**	**43**	**28.6**	**+1.7**
HYB	**Hyderabad**	**150.65**	**39**	*i* PKP	**PKPbc**	**23**	**43**	**26.0**	**-1.8**
HYB				*es*PKP		23	43	42.0	
QIZ	**Qiongzhong**	**152.65**	**333**	PKPbc	**PKPdf**	**23**	**43**	**23.8**	**-1.5**
QIZ				PP	**PP**	**23**	**47**	**11.9**	**-2.0**
QIZ				SKS	**SKSdf**	**23**	**50**	**31.3**	**-1.7**
QIZ				SS	**SS**	**00**	**06**	**44.0**	**-0.3**
QIZ				AMB	AMB				
	comp=Z,1μm,9.8s								
QIZ				LR	LR				
	comp=E,990nm,27.2s								
QIZ				LR	LR				
	comp=Z,2μm,33.2s								
QIZ	**Qiongzhong**	**152.65**	**333**	*e*PKPbc	**PKPbc**	**23**	**43**	**33.5**	**+1.2**
QIZ				LR	LR				
	comp=Z,2μm,21.0s								
VIS	**Vishakhapatnam**	**153.11**	**31**	*e*P	**PKPdf**	**23**	**43**	**26.6**	**+0.7**
VIS				AMb	AMB	23	43	53.9	
	comp=Z,154nm,0.5s								
MBWA	**Marble Bar**	**153.25**	**232**	PFAKE		23	43	40.0	-5.3
MBWA				LR	LR				
	comp=Z,3μm,20.0s								
MDRS	**Chennai**	**154.95**	**42**	*e*P	**PKPdf**	**23**	**43**	**27.4**	**-1.2**
DGAR	**Diego Garcia**	**155.26**	**96**	PFAKE		23	43	40.0	+11
DGAR				LR	LR				
	comp=Z,3μm,19.0s								
CHTO	**Chiang Mai**	**155.77**	**356**	*e*PKIKP	**PKPdf**	**23**	**43**	**31.7**	**+2.0**
CHTO				MLR	MLR				
	comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**155.77**	**356**	*e*PKPdf	**PKPdf**	**23**	**43**	**31.7**	**+2.0**
CHTO				LR	LR				
	comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**155.77**	**356**	PKPdf	**PKPdf**	**23**	**43**	**32.6**	**+2.9**
	SNR=11								
CMAR	**Chiang Mai Arr**	**156.12**	**356**	PKP	**PKPdf**	**23**	**43**	**26.9**	**-3.2**
	comp=Z,1.5nm,0.7s,baz=292,slow=2.1,SNR=4.7								
CMAR				PKPab	**PKPab**	**23**	**43**	**54.7**	**-2.6**
	comp=Z,9.5nm,0.8s,baz=325,slow=1.8,SNR=7.9								
CMAR	**Chiang Mai Arr**	**156.12**	**356**	PKP	**PKPdf**	**23**	**43**	**26.9**	**-3.2**
CMAR				PKPab	**PKPab**	**23**	**43**	**54.7**	**-2.6**
MYLDM	**Lahad Datu**	**156.30**	**296**	P	PKPdf	23	43	40.1	+10
SDKM	**Sandakan**	**157.24**	**299**	P	**PKPdf**	**23**	**43**	**36.0**	**+4.3**
KAPI	**Kappang**	**157.62**	**270**	PKPab	**PKPab**	**23**	**44**	**03.8**	**-0.5**
	baz=319,slow=2.8								
KAPI	**Kappang**	**157.62**	**270**	*e*PKPdf	**PKPdf**	**23**	**43**	**30.1**	**-2.1**
KAPI				PKPab	**PKPab**	**23**	**44**	**03.8**	**-0.5**
KAPI				LR	LR				
	comp=Z,2μm,20.0s								
KKM	**Kota Kinabalu**	**157.88**	**301**	PFAKE		23	43	40.0	+7.4
KKM				LR	LR				
	comp=Z,2μm,20.0s								
SBUM	**Sibu**	**163.11**	**298**	P	**PKPdf**	**23**	**43**	**36.0**	**-2.2**
KSM	**Kuching**	**165.25**	**298**	*e*PKPdf	**PKPdf**	**23**	**43**	**43.3**	**+3.1**
KSM				LR	LR				
	comp=Z,2μm,20.0s								
KSM	**Kuching**	**165.25**	**298**	P	**PKPdf**	**23**	**43**	**44.6**	**+4.4**
KULM	**Kulim**	**168.75**	**343**	*e*PKPdf	**PKPdf**	**23**	**43**	**46.9**	**+4.1**
KULM				LR	LR				
	comp=Z,3μm,21.0s								
KULM	**Kulim**	**168.75**	**343**	P	**PKPdf**	**23**	**43**	**46.0**	**+3.2**
IPM	**Ipoh**	**169.39**	**339**	*e*PKPdf	**PKPdf**	**23**	**43**	**43.7**	**+0.4**
IPM	**Ipoh**	**169.39**	**339**	P	**PKPdf**	**23**	**43**	**47.3**	**+4.1**
MYKOM	**Kota Tinggi**	**170.22**	**318**	P	**PKPdf**	**23**	**43**	**42.5**	**-1.2**
FRIM	**Kepong**	**170.28**	**333**	P	**PKPdf**	**23**	**43**	**47.6**	**+3.8**
KGM	**Kluang**	**170.39**	**321**	P	**PKPdf**	**23**	**43**	**46.6**	**+2.8**
COCO	**West Island**	**173.36**	**176**	PFAKE		23	44	00.0	+15
COCO				LR	LR				
	comp=Z,3μm,20.0s								

*CSEM **12** 23:34:41.8, 42°.98N×13°.28E, h23km, MD2.2/14, After ROM*

ROM 12 23:34:41.8±0.2, 42°.98N×13°.28E, h23km±3km, Md2.2/14, **Ml1.9**/13, **4C-2D, Error ellipse: s-maj=1.8km s-min=1.3km az=87.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
FDMO	**Fiordimonte**	**0.15**	**292**	⇑*i*Pg	Pb	23	34	46.6	-0.1
FDMO				Sg	Sb	23	34	50.5	+0.5
	180nm,0.1s								
FDMO	**Fiordimonte**	**0.15**	**292**	⇑*i*Pg	Pb	23	34	46.6	-0.1
FDMO				Sg	Sb	23	34	50.5	+0.5
	180nm,0.1s								
NRCA	**Norcia**	**0.19**	**219**	Pg	Pb	23	34	47.1	-0.1
NRCA				Sg	Sb	23	34	51.3	+0.4
	719nm,0.1s								
CESI	**CESI - Serrava**	**0.27**	**275**	⇑*i*Pg	Pb	23	34	48.3	-0.1
CESI				Sg	Sb	23	34	53.5	+0.6
	79nm,0.3s								
CESI	**CESI - Serrava**	**0.27**	**275**	⇑*i*Pg	Pb	23	34	48.3	-0.1
CESI				Sg	Sb	23	34	53.5	+0.6
	79nm,0.3s								
SNTG	**Esanatoglia**	**0.37**	**318**	Pg	Pb	23	34	49.6	-0.2
SNTG				Sg	Sb	23	34	55.8	+0.5
	31nm,0.2s								
SNTG	**Esanatoglia**	**0.37**	**318**	Pg	Pb	23	34	49.6	-0.2
SNTG				Sg	Sb	23	34	55.8	+0.5
	31nm,0.2s								
CING	**Cingoli**	**0.40**	**352**	⇓*i*Pg	Pb	23	34	50.2	-0.1
CING				Sg	Sb	23	34	57.1	+1.0
	170nm,0.2s								
CING	**Cingoli**	**0.40**	**352**	⇓*i*Pg	Pb	23	34	50.2	-0.1
CING				Sg	Sb	23	34	57.1	+1.0
	170nm,0.2s								
LNSS	**Leonessa**	**0.42**	**205**	Pg	Pb	23	34	50.5	-0.2
LNSS				Sg	Sb	23	34	57.5	+0.8
	232nm,0.4s								
LNSS	**Leonessa**	**0.42**	**205**	Pg	Pb	23	34	50.5	-0.2
LNSS				Sg	Sb	23	34	57.5	+0.8
	232nm,0.4s								
TERO	**Teramo**	**0.43**	**146**	Pg	Pb	23	34	50.9	0.0
TERO				Sg	Sb	23	34	58.3	+1.3
	41nm,0.2s								
TERO	**Teramo**	**0.43**	**146**	Pg	Pb	23	34	50.9	0.0
TERO				Sg	Sb	23	34	58.3	+1.3
	41nm,0.2s								
CAMP	**Campotosto**	**0.46**	**168**	Pg	Pb	23	34	50.9	-0.5
	7.0nm,0.6s								
CAMP	**Campotosto**	**0.46**	**168**	Pg	Pb	23	34	50.9	-0.5
	7.0nm,0.6s								
ASSB	**Assisi San Ben**	**0.46**	**278**	Pg	Pb	23	34	50.9	-0.4
ASSB				Sg	Sb	23	34	58.3	+0.5
	92nm,0.2s								
ASSB	**Assisi San Ben**	**0.46**	**278**	Pg	Pb	23	34	50.9	-0.4
ASSB				Sg	Sb	23	34	58.3	+0.5
	92nm,0.2s								
ARVD	**Arcevia**	**0.57**	**335**	Pg	Pb	23	34	53.0	-0.2
ARVD				Sg	Sn	23	35	02.2	-1.2
	32nm,0.5s								
ARVD	**Arcevia**	**0.57**	**335**	Pg	Pb	23	34	53.0	-0.2
ARVD				Sg	Sn	23	35	02.2	-1.2
	32nm,0.5s								
AOI	**Ancona**	**0.62**	**23**	Pg	Pb	23	34	54.3	+0.3
	31nm,0.5s								
AOI	**Ancona**	**0.62**	**23**	Pg	Pb	23	34	54.3	+0.3
	31nm,0.5s								
MURB	**Monte Urbino**	**0.62**	**297**	Pg	Pb	23	34	53.7	-0.4
MURB				Sg	Sn	23	35	03.7	-0.9
	144nm,0.2s								
MURB	**Monte Urbino**	**0.62**	**297**	Pg	Pb	23	34	53.7	-0.4
MURB				Sg	Sn	23	35	03.7	-0.9
	144nm,0.2s								
FSSB	**Fossombrone**	**0.80**	**333**	Pg	Pn	23	34	57.5	-0.2
	66nm,0.3s								
FSSB	**Fossombrone**	**0.80**	**333**	Pg	Pn	23	34	57.5	-0.2
	66nm,0.3s								
MGAB	**Montegabbione**	**0.86**	**266**	Pg	Pn	23	34	59.2	+0.7
	29nm,0.5s								
MGAB	**Montegabbione**	**0.86**	**266**	Pg	Pn	23	34	59.2	+0.7
	29nm,0.5s								

IDC 12 23:35:45.7±27.0, 34°.81S×178°.34E, h464km±260km, mb3.4/4, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=169.7km s-min=43.0km az=78.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
STKA	**Stephens Creek**	**30.73**	**265**	P	P	23	41	20.7	-0.9
	0.5nm,0.4s,baz=100,slow=13,SNR=2.5								
CTA	**Charters Tower**	**31.87**	**289**	P	P	23	41	31.7	+0.2
	7.2nm,0.9s,baz=112,slow=11,SNR=4.7								
ASAR	**Alice Springs**	**40.05**	**274**	P	P	23	42	39.4	-0.2
	1.3nm,0.5s,baz=113,slow=7.5,SNR=17								
WRA	**Warramunga Arr**	**41.45**	**279**	P	P	23	42	51.1	+0.2
	4.6nm,0.4s,baz=117,slow=7.8,SNR=133								
MKAR	**Makanchi Array**	**118.20**	**309**	PKP	PKPdf	23	53	38.7	-0.3
	0.2nm,0.5s,baz=188,slow=1.8,SNR=3.0								
ARCES	**ARCESS Array B**	**142.13**	**345**	PKP	PKPdf	23	54	20.3	-3.0
	3.5nm,1.1s,baz=58,slow=3.6,SNR=3.9								
FINES	**FINESS Array B**	**148.03**	**335**	PKPbc	PKPbc	23	54	37.2	-0.1
	2.2nm,0.6s,baz=37,slow=4.4,SNR=18								
TORD	**Torodi Ar. Bea**	**158.22**	**189**	PKPab	PKPab	23	55	26.2	+0.1
	0.5nm,0.6s,baz=162,slow=4.7,SNR=5.0								

*IDC **12** 23:37:18.2±0.5, 26°.83S×176°.34W, h0km, mb4

5.9nm,0.8s
KSRS Korea Array 82.61 318 P **P** **23 49 44.2 +1.1**
3.4nm,0.8s,baz=132,slow=6.0,SNR=7.3
KSAR Wonju Array Be 82.63 318 P **P** **23 49 44.2 +1.0**
PETK Petropavlovsk- 82.73 345 P **P** **23 49 42.9 -0.4**
4.3nm,0.8s,baz=132,slow=6.0,SNR=4.6
PETK Petropavlovsk- 82.73 345 P **P** **23 49 42.9 -0.4**
PLCA Paso Flores 83.86 133 P **P** **23 49 49.6 -0.2**
1.9nm,0.9s,baz=338,slow=2.9,SNR=4.1
PLCA Paso Flores 83.86 133 P **P** **23 49 49.6 -0.2**
NVAR Mina Array Bea 84.60 42 P **P** **23 49 54.5 +0.9**
1.8nm,0.7s,baz=220,slow=9.0,SNR=10
NVAR Mina Array Bea 84.60 42 P **P** **23 49 54.5 +0.9**
USRK Ussuriysk Arra 85.01 326 P **P** **23 49 56.9 +1.7**
1.3nm,0.6s,baz=301,slow=4.0,SNR=4.3
TXAR Lajitas Array 89.20 56 P **P** **23 50 16.3 +0.4**
0.4nm,0.7s,baz=212,slow=10,SNR=5.6
TXAR Lajitas Array 89.20 56 P **P** **23 50 16.4 +0.4**
ENH Enshi 90.82 304 *e*P **P** **23 50 22.9 -0.5**
9.5nm,0.6s
NEW Newport 91.61 35 P **P** **23 50 26.7 0.0**
1.3nm,0.7s,baz=191,slow=5.2,SNR=4.4
NEW Newport 91.61 35 P **P** **23 50 26.7 0.0**
PDAR Pinedale Array 92.52 43 P **P** **23 50 31.4 +0.1**
0.9nm,0.9s,baz=98,slow=1.8,SNR=5.9
PDAR Pinedale Array 92.52 43 P **P** **23 50 31.4 +0.1**
CMAR Chiang Mai Arr 93.63 289 P **P** **23 50 38.6 +1.9**
3.3nm,0.8s,baz=144,slow=4.1,SNR=12
CMAR Chiang Mai Arr 93.63 289 P **P** **23 50 38.6 +1.9**
CHTO Chiang Mai 93.79 289 *e*P **P** **23 50 38.6 +1.2**
3.6nm,0.7s
ILAR Eielson Array 94.11 12 P **P** **23 50 37.6 -0.2**
0.7nm,0.7s,baz=217,slow=5.6,SNR=9.4
ILAR Eielson Array 94.11 12 P **P** **23 50 37.6 -0.2**
ZALV Zalesovo Beam 116.31 319 PKP **PKPdf** **23 56 00.9 -1.9**
0.7nm,0.6s,baz=247,slow=0.3,SNR=5.3
ZALV Zalesovo Beam 116.31 319 PKP **PKPdf** **23 56 00.9 -1.9**
MKAR Makanchi Array 116.56 311 PKP **PKPdf** **23 56 03.0 -0.6**
1.5nm,0.8s,baz=61,slow=3.9,SNR=6.0
MKAR Makanchi Array 116.56 311 PKP **PKPdf** **23 56 03.0 -0.6**
KURK Kurchatov 119.59 315 *e*PKPdf **PKPdf** **23 56 08.7 -0.6**
ARCES ARCESS Array B 135.38 349 PKP **PKPdf** **23 56 37.8 -1.1**
2.4nm,0.8s,baz=356,slow=3.9,SNR=5.0
ARCES ARCESS Array B 135.38 349 PKP **PKPdf** **23 56 37.8 -1.1**
JOF Joensuu 139.57 341 *e*pkp Pdif 23 54 29.1 +29
2.4nm,0.5s
KAF Kangasniemi 141.61 343 *e*pkp Pdif 23 54 34.8 +25
2.3nm,0.6s
FINES FINESS Array B 142.23 343 PKP **PKPdf** **23 56 49.9 -1.7**
1.4nm,0.7s,baz=45,slow=4.3,SNR=4.3
FINES FINESS Array B 142.23 343 PKP **PKPdf** **23 56 49.9 -1.7**
KBZ Khabaz 144.19 308 PKP PKPbc 23 56 54.4 +0.6
1.0nm,0.7s,baz=111,slow=9.7,SNR=3.9
KBZ Khabaz 144.19 308 PKP PKPbc 23 56 54.4 +0.6
NB2 NORSAR Subarra 145.40 354 PKP **PKPbc** **23 56 57.0 -0.1**
comp=Z,0.6nm,0.8s,baz=16,slow=4.1
NOA NORSAR Array B 145.40 354 PKPbc **PKPbc** **23 56 56.9 -0.3**
comp=Z,4.8nm,0.8s,baz=7.2,slow=2.6,SNR=16
NOA NORSAR Array B 145.40 354 PKPbc **PKPbc** **23 56 56.9 -0.3**
HFS Hagfors 145.98 351 PKPbc **PKPbc** **23 56 58.6 -0.3**
comp=Z,8.3nm,0.7s,baz=74,slow=6.2,SNR=11
HFS Hagfors 145.98 351 PKPbc **PKPbc** **23 56 58.6 -0.3**
AKASG Malin Array Be 149.20 328 PKPbc **PKPbc** **23 57 07.1 -0.9**
comp=Z,4.9nm,0.7s,baz=38,slow=3.6,SNR=9.4
AKASG Malin Array Be 149.20 328 PKPbc **PKPbc** **23 57 07.1 -0.9**
BRTR Keskin Array B 151.97 305 PKPbc **PKPbc** **23 57 14.8 -0.3**
comp=Z,1.3nm,0.9s,baz=147,slow=4.4,SNR=6.4
BRTR PKPab **PKPab** **23 57 24.6 0.0**
comp=Z,1.9nm,0.8s,baz=111,slow=6.3,SNR=6.4
BRTR Keskin Array B 151.97 305 PKPbc **PKPbc** **23 57 14.8 -0.3**
BRTR PKPab **PKPab** **23 57 24.6 0.0**
KWP Kalwaria Pacla 152.90 332⇑ *i*P **PKPbc** **23 57 17.0 +0.3**
CFR Carcaliu 153.19 320⇓ *i*P **PKPbc** **23 57 17.4 -0.1**
BURAR Bucovina Array 153.22 327⇓ *i*P **PKPbc** **23 57 18.5 +0.8**
CSS Prodhromos 153.35 295 *e*PKPab **PKPab** **23 57 30.3 -0.1**
ARR Arges 155.03 323⇑ *i*P PKPdf 23 57 22.2 +9.5
TORD Torodi Ar. Bea 166.28 172 PKP **PKPdf** **23 57 24.9 -0.8**
comp=Z,0.7nm,0.8s,baz=192,slow=2.8,SNR=3.8
TORD PKPab **PKPab** **23 58 26.1 -0.6**
comp=Z,2.4nm,0.8s,baz=179,slow=3.4,SNR=12
TORD Torodi Ar. Bea 166.28 172 PKP **PKPdf** **23 57 24.9 -0.8**
TORD PKPab **PKPab** **23 58 26.1 -0.6**

TAP ***12*** *23:39:59.5,25.°01N×122.°24E,h136km,ML4.4,C*
JMA ***12*** *23:40:00.9±0.3,24.°94N×122.°27E,h126km,M3.5*
IDC ***12*** *23:40:04.1±6.1,23.°82N×124.°32E,h380km±181km, mb3.4/3,mb1 3.3/4,mb1mx2.9/24,mbtmp3.4/4,Error ellipse: s-maj=275.4km s-min=90.3km az=112.0*

ISC 12 23:39:59.4±0.9,24.°99N±0.°04×122.°25E±0.°03,h138km±5km, n69,σ0s79/125,mb4.0/3,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.24**	**274**	P	**Pn**	**23 40 18.5**	**+0.2**
	baz=263						
TWB1				*i* S	**Sn**	**23 40 32.0**	**-0.6**
	baz=263						
NWF	**Wu-fen Shan**	**0.43**	**281**	⇑ *i*P	**Pn**	**23 40 19.4**	**+0.3**
NWF	baz=269			S	**Sn**	**23 40 33.7**	**-0.4**
	baz=269						
ILA	**Ilan**	**0.51**	**244**	P	**Pn**	**23 40 19.8**	**+0.5**
ILA	baz=239			S	**Sn**	**23 40 34.0**	**-0.5**
	baz=239						
TWC	**Suao**	**0.52**	**224**	P	**Pn**	**23 40 19.4**	**0.0**
TWC	baz=224			*e*S	**Sn**	**23 40 33.6**	**-1.1**
	baz=224						
TWE	**Neicheng**	**0.59**	**243**	*i* P	**Pn**	**23 40 20.0**	**+0.1**
TWE	baz=235			*e*S	**Sn**	**23 40 35.3**	**0.0**
	baz=235						
TWY	**Chenhua**	**0.65**	**296**	P	**Pn**	**23 40 20.6**	**+0.3**
TWY	baz=289			S	**Sn**	**23 40 35.8**	**-0.4**
	baz=289						
TAP1	**Taipei**	**0.66**	**274**	P	**Pn**	**23 40 20.5**	**+0.2**
TAP1	baz=269			*e*S	**Sn**	**23 40 34.9**	**-1.2**
	baz=269						
TAP	**Taipei**	**0.67**	**274**	*e*P	**Pn**	**23 40 20.2**	**-0.2**
TAP	baz=269			*e*S	**Sn**	**23 40 35.4**	**-1.0**
	baz=269						
ENTT	**Nioudou**	**0.71**	**241**	⇑ *i*P	**Pn**	**23 40 21.1**	**+0.4**
ENTT	baz=237			S	**Sn**	**23 40 37.0**	**+0.2**
	baz=237						
ENA	**Nanau**	**0.72**	**220**	P	**Pn**	**23 40 21.3**	**+0.5**
ENA	baz=213			S	**Sn**	**23 40 36.7**	**-0.4**
	baz=213						
TWS1	**Kuangyinshan**	**0.76**	**278**	*e*P	**Pn**	**23 40 21.6**	**+0.6**
TWS1	baz=278			*e*S	**Sn**	**23 40 36.9**	**-0.5**
	baz=278						
NSK	**Sanguang**	**0.87**	**249**	*i* P	**Pn**	**23 40 22.2**	**+0.3**
NSK	baz=237			*e*S	**Sn**	**23 40 37.9**	**-1.2**
	baz=237						
YOJ	**Yonaguni jima**	**0.87**	**127**	P	**Pn**	**23 40 22.0**	**+0.1**
YOJ				S	**Sn**	**23 40 38.3**	**-0.7**
NCU	**National Centr**	**0.96**	**269**	*e*P	**Pn**	**23 40 23.4**	**+0.8**
NCU	baz=257			*e*S	**Sn**	**23 40 40.4**	**0.0**
	baz=257						
NNS	**Nan Shan**	**0.96**	**236**	*e*P	**Pn**	**23 40 23.8**	**+0.9**
NNS	baz=233			*e*S	**Sn**	**23 40 40.4**	**-0.3**
	baz=233						
TWD	**Chiawan**	**1.08**	**213**	P	**Pn**	**23 40 23.8**	**0.0**
TWD	baz=209			*e*S	**Sn**	**23 40 41.1**	**-1.3**
	baz=209						
HWA	**Hwalien**	**1.17**	**210**	*e*P	**Pn**	**23 40 24.9**	**+0.3**
HWA	baz=202			*e*S	**Sn**	**23 40 44.0**	**+0.2**
	baz=202						
HSN	**Hsinchu**	**1.18**	**261**	*e*P	**Pn**	**23 40 25.1**	**+0.5**
HSN	baz=252			*e*S	**Sn**	**23 40 43.5**	**-0.4**
	baz=252						
NSTT	**Nanjuang**	**1.19**	**253**	P	**Pn**	**23 40 25.2**	**+0.4**
	baz=244						
NSTT				*e*S	**Sn**	**23 40 43.0**	**-1.2**
	baz=244						
TWT	**Tachien**	**1.22**	**233**	*e*P	**Pn**	**23 40 26.8**	**+1.5**
	baz=231						
TWT				*e*S	**Sn**	**23 40 45.4**	**+0.4**
	baz=231						
WHF	**Hehuan Shan**	**1.23**	**227**	P	**Pn**	**23 40 26.2**	**+0.5**
	baz=224						
WHF				*e*S	**Sn**	**23 40 45.0**	**-0.6**
	baz=224						
ESL	**Shilin**	**1.39**	**213**	*e*P	**Pn**	**23 40 27.4**	**+0.5**
	baz=216						
ESL				*e*S	**Sn**	**23 40 47.0**	**-0.8**
	baz=216						
NSY	**Sanyi**	**1.47**	**247**	*e*P	**Pn**	**23 40 28.5**	**+0.8**
	baz=245						
NSY				*e*S	**Sn**	**23 40 49.1**	**-0.2**
	baz=245						
TWQ1	**Liyutan**	**1.49**	**245**	*e*P	**Pn**	**23 40 28.4**	**+0.5**
	baz=242						
TWQ1				*e*S	**Sn**	**23 40 49.0**	**-0.7**
	baz=242						
IRIF	**Iriomote-Funau**	**1.50**	**116**	P	**Pn**	**23 40 28.3**	**+0.3**
IRIF				*e*S	**Sn**	**23 40 48.8**	**-1.1**
SMLT	**Sun Moon Lake**	**1.65**	**228**	*e*P	**Pn**	**23 40 30.9**	**+1.1**
	baz=232						
SMLT				*e*S	**Sn**	**23 40 53.2**	**+0.1**
	baz=232						
TCU	**Taichung**	**1.66**	**240**	*e*P	**Pn**	**23 40 30.6**	**+0.8**
	baz=237						
TCU				*e*S	**Sn**	**23 40 52.9**	**-0.2**
	baz=237						
TYC	**Yuchr**	**1.67**	**230**	*e*P	**Pn**	**23 40 30.8**	**+0.9**
	baz=235						
TYC				*e*S	**Sn**	**23 40 53.5**	**+0.3**
	baz=235						
HATJ	**Hateruma jima**	**1.70**	**123**	P	**Pn**	**23 40 31.0**	**+0.8**
HATJ				*e*S	**Sn**	**23 40 53.7**	**-0.1**
EHY	**Hungye**	**1.70**	**210**	*e*P	**Pn**	**23 40 30.0**	**-0.3**
	baz=208						
EHY				*e*S	**Sn**	**23 40 53.9**	**-0.1**
	baz=208						
JKRS	**Kuro-shima**	**1.77**	**115**	P	**Pn**	**23 40 31.7**	**+0.6**
JKRS				*e*S	**Sn**	**23 40 55.4**	**+0.1**
WNT	**Mingjian**	**1.80**	**232**	*e*P	**Pn**	**23 40 32.8**	**+1.3**
	baz=237						
WNT				*e*S	**Sn**	**23 40 56.4**	**+0.3**
	baz=237						
JIJ	**Ishigaki jima**	**1.83**	**109**	P	**Pn**	**23 40 32.1**	**+0.3**
JIJ				S	**Sn**	**23 40 56.4**	**-0.2**
TWF1	**Yuli**	**1.85**	**208**	*e*P	**Pn**	**23 40 31.7**	**-0.4**
	baz=213						
TWF1				*e*S	**Sn**	**23 40 55.4**	**-1.6**
	baz=213						
ALS	**Alishan**	**1.98**	**222**	*e*P	**Pn**	**23 40 34.7**	**+0.9**
	baz=228						
ALS				*e*S	**Sn**	**23 41 00.2**	**0.0**
	baz=228						
CHN5	**Tsauling**	**1.99**	**226**	P	**Pn**	**23 40 34.6**	**+0.8**
	baz=224						
CHN5				*e*S	**Sn**	**23 41 00.4**	**+0.2**
	baz=224						
WGK	**Gukeng**	**2.01**	**230**	*e*P	**Pn**	**23 40 34.8**	**+0.8**
	baz=228						
WGK				*e*S	**Sn**	**23 41 00.7**	**+0.3**
	baz=228						
CHKT	**Chengkung**	**2.05**	**203**	*e*P	**Pn**	**23 40 34.4**	**0.0**
	baz=194						
CHKT				*e*S	**Sn**	**23 40 59.7**	**-1.5**
	baz=194						
ELDTW	**Lidau**	**2.12**	**212**	*e*P	**Pn**	**23 40 35.5**	**+0.2**
	baz=205						
ELDTW				*e*S	**Sn**	**23 41 02.4**	**-0.5**
	baz=205						
CHN4	**Tsaushan**	**2.22**	**223**	*e*P	**Pn**	**23 40 37.9**	**+1.3**
	baz=221						
CHN4				*e*S	**Sn**	**23 41 04.5**	**-0.5**
	baz=221						
CHY	**Chiayi**	**2.23**	**229**	*e*P	**Pn**	**23 40 37.3**	**+0.7**
	baz=226						
CHY				*e*S	**Sn**	**23 41 04.5**	**-0.7**
	baz=226						
JTJ	**Tarama**	**2.26**	**98**	P	**Pn**	**23 40 37.8**	**+0.9**
JTJ				*e*S	**Sn**	**23 41 05.8**	**+0.1**
WSF	**Szhu**	**2.29**	**234**	*e*S	**Sn**	**23 41 06.4**	**0.0**
	baz=232						
WTP	**Ta-pu**	**2.29**	**221**	*e*P	**Pn**	**23 40 37.9**	**+0.5**
	baz=219						
WTP				*e*S	**Sn**	**23 41 06.7**	**+0.2**
	baz=219						
TWK	**Hsinying**	**2.35**	**223**	*e*P	**Pn**	**23 40 39.2**	**+1.0**
	baz=221						
TWK				*e*S	**Sn**	**23 41 07.9**	**0.0**
	baz=221						
CHN1	**Nanshi**	**2.39**	**222**	*e*P	**Pn**	**23 40 39.2**	**+0.7**
	baz=220						
CHN1				*e*S	**Sn**	**23 41 08.4**	**-0.3**
	baz=220						
TWG	**Pinlang**	**2.41**	**207**	*e*P	**Pn**	**23 40 39.0**	**+0.2**
	baz=199						
TWG				*e*S	**Sn**	**23 41 07.6**	**-1.7**
	baz=199						
SGST	**Jiashian**	**2.43**	**219**	*e*P	**Pn**	**23 40 40.1**	**+1.0**
	baz=224						
SGST				*e*S	**Sn**	**23 41 09.8**	**+0.1**
	baz=224						
CHN8	**Yiju**	**2.48**	**229**	*e*P	**Pn**	**23 40 40.7**	**+1.1**
	baz=227						
CHN8				*e*S	**Sn**	**23 41 10.8**	**+0.2**
	baz=227						
SCLT	**Jiali**	**2.60**	**226**	*e*P	**Pn**	**23 40 41.9**	**+0.7**
	baz=224						
SCLT				*e*S	**Sn**	**23 41 13.3**	**-0.1**
	baz=224						
JMJ	**Miyako jima**	**2.77**	**93**	P	**Pn**	**23 40 45.6**	**+2.3**
PNG	**Penghu**	**2.84**	**241**	P	**Pn**	**23 40 43.7**	**-0.5**
	baz=231						
PNG				*e*S	**Sn**	**23 41 16.5**	**-2.2**
	baz=231						
JOGS	**Gusukube**	**2.88**	**94**	P	**Pn**	**23 40 46.4**	**+1.7**
EAST	**Anshuo**	**2.90**	**207**	*e*P	**Pn**	**23 40 45.6**	**+0.6**
	baz=199						
EAST				*e*S	**Sn**	**23 41 19.9**	**-0.3**
	baz=199						
WDGT	**Dungji**	**2.92**	**234**	*e*P	**Pn**	**23 40 45.1**	**-0.2**
	baz=226						
WDGT				*e*S	**Sn**	**23 41 19.4**	**-1.4**
	baz=226						
SCZT	**Fangliau**	**3.00**	**210**	*e*P	**Pn**	**23 40 47.4**	**+1.1**
	baz=217						
SCZT				*e*S	**Sn**	**23 41 22.4**	**-0.2**
	baz=217						
LAY	**Lan-yu**	**3.01**	**192**	P	**Pn**	**23 40 46.1**	**-0.3**
	baz=191						
LAY				*e*S	**Sn**	**23 41 21.8**	**-1.0**
	baz=191						
QZH	**Quanzhou**	**3.32**	**270**	⇑ *i*Pn	**Pn**	**23 40 51.4**	**+1.0**
QZH				Sn	**Sn**	**23 41 28.5**	**-1.3**
QZH				smax	smax		
	comp=N,110nm,0.4s						
QZH				smax	smax		
	comp=E,80nm,0.5s						
JKE	**Kume jima 2**	**4.31**	**71**	P	**Pn**	**23 41 04.4**	**+1.1**
JAGN	**Aguni-jima**	**4.78**	**69**	P	**Pn**	**23 41 10.5**	**+0.9**
JJT2	**Tamagusuku 2**	**5.10**	**76**	P	**Pn**	**23 41 14.3**	**+0.4**
JIH	**Iheya**	**5.53**	**67**	P	**Pn**	**23 41 19.8**	**+0.1**
JOW	**Kunigami**	**5.73**	**70**	P	**Pn**	**23 41 22.0**	**-0.3**
	comp=E,11nm,0.3s,baz=210,slow=12,SNR=22						
JOW				S	**Sn**	**23 42 24.9**	**-2.2**
	baz=116,slow=27,SNR=1.9						
JOW	**Kunigami**	**5.73**	**70**	P	**Pn**	**23 41 22.0**	**-0.3**
JTK	**Tokunoshima**	**6.62**	**64**	P	**Pn**	**23 41 33.5**	**-0.8**
JAM	**Amami Oshima**	**7.41**	**61**	P	**Pn**	**23 41 43.7**	**-1.1**
SONM	**Songino Array**	**26.02**	**335**	P	**P**	**23 45 20.5**	**+0.9**
	comp=E,2.5nm,0.6s,baz=151,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**38.45**	**315**	P	**P**	**23 47 08.2**	**+0.5**
	comp=E,0.8nm,0.4s,baz=98,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**40.11**	**326**	P	**P**	**23 47 20.9**	**-0.3**
	comp=E,2.1nm,0.5s,baz=120,slow=8.3,SNR=8.0						

IDC 12 23:49:05.7±3.0,18.°00S×175.°08W,h168km±28km, mb3.8/5,mb1 3.9/6,mb1mx3.5/21,mbtmp3.8/6,Error ellipse: s-maj=32.6km s-min=19.8km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.16**	**38**	P	Pn	23 50 21.7	+0.1
	4.3nm,0.3s,baz=39,slow=14,SNR=4.2						
AFI				S	Sn	23 51 14.9	-6.2
	9.4nm,0.3s,baz=38,slow=19,SNR=4.8						
STKA	**Stephens Creek**	**41.37**	**242**	P	P	23 56 35.9	+0.5
	2.3nm,0.8s,baz=84,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**47.73**	**259**	P	P	23 57 25.5	-0.5
	3.3nm,0.4s,baz=98,slow=7.0,SNR=186						
ASAR	**Alice Springs**	**47.81**	**254**	P	P	23 57 26.5	-0.1
	12nm,0.6s,baz=90,slow=8.1,SNR=197						
QSPA	**South Pole Qui**	**72.06**	**180**	P	P	00 00 11.3	0.0
	1.6nm,0.7s,baz=22,slow=2.1,SNR=9.6						
ILAR	**Eielson Array**	**85.30**	**12**	P	P	00 01 22.6	-0.6
	0.2nm,0.5s,baz=231,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**111.48**	**314**	PKiKP	PKiKP	00 07 18.2	-1.7
	0.1nm,0.5s,baz=45,slow=0.2,SNR=3.0						
BRTR	**Keskin Array B**	**147.05**	**317**	PKPbc	PKPbc	00 08 29.0	-0.2
	0.8nm,0.8s,baz=132,slow=2.1,SNR=4.8						
GERES	**GERESS Array B**	**148.42**	**349**	PKPbc	PKPbc	00 08 32.8	+0.4
	0.5nm,0.8s,baz=350,slow=4.3,SNR=2.8						

CASC 13 00:01:01.2±3.7,5.°66N×82.°79W,h35km±123km,MD4.2,3C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**3.00**	**353**	*e*P	Pn	00 01 46.3	0.0
ACR				*e*S	Sn	00 02 20.9	-0.2
BRU2	**Volcan**	**3.12**	**2**	*e*P	Pn	00 01 47.6	-0.5
BRU2				*e*S	Sn	00 02 25.0	+0.7
QCR	**Quepos**	**3.98**	**340**⇑	*e*P	Pn	00 02 01.0	+1.2
BUS	**Buena Vista**	**3.99**	**346**	*e*P	Pn	00 02 01.9	+1.4
BUS				*e*S	Sn	00 02 49.8	+3.4
LAJ	**Bijagual**	**4.38**	**343**⇑	*e*P	Pn	00 02 06.4	+0.8
LAJ				*e*S	Sn	00 02 53.4	-2.2
SJS	**Escuela Geolog**	**4.43**	**344**⇑	*i*P	Pn	00 02 08.3	+2.1
SJS				*e*S	Sn	00 02 56.2	-0.5
BCIP	**Isla Barro Col**	**4.55**	**40**	*e*P	Pn	00 02 06.4	-1.2
BCIP				*e*S	Sn	00 02 58.6	-0.7
UPIG		**4.62**	**44**	*e*P	Pn	00 02 09.4	+0.8
UPIG				*e*S	Sn	00 03 02.4	+1.3

WEL 13 00:01:34.5±0.5,36.°36S×178.°88E,h12km,ML3.6/7,1C-2D, Error ellipse: s-maj=4.3km s-min=2.9km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.28**	**201**	P*	Pn	00 01 56.6	-1.6
MXZ				S*	Sb	00 02 11.4	-3.6
PUZ	**Puketiti**	**1.78**	**196**	⇑PN	Pn	00 02 04.1	-1.0
PUZ				SN	Sn	00 02 25.1	-2.6
CNGZ	**Carnagh Statio**	**2.18**	**194**	PN	Pn	00 02 09.7	-0.9
MWZ	**Matawai**	**2.24**	**208**	P*	Pn	00 02 10.9	-0.6
MWZ				S*	Sn	00 02 37.0	-2.2
MYRZ	**Mayor Island**	**2.30**	**246**	P*	Pn	00 02 11.3	-1.0
KUZ	**Kuaotunu**	**2.57**	**261**	⇓PN	Pn	00 02 15.0	-1.0
KUZ				SN	Sn	00 02 45.1	-2.0
MHGZ	**Mahia Peninsul**	**2.89**	**195**	PN	Pn	00 02 18.1	-2.3
TOZ	**Tahuroa Road**	**3.02**	**242**	P*	Pn	00 02 21.3	-0.9
MKAZ	**Moumakai**	**3.07**	**255**	⇓PN	Pn	00 02 22.6	-0.2
MCHZ	**McNeill Hill**	**3.52**	**209**	PN	Pn	00 02 27.3	-1.8
KAHZ	**Kahuranaki**	**3.77**	**204**	PN	Pn	00 02 29.5	-3.0

IDC 13 00:01:57.0±4.3,5.°64S×154.°38E,h157km±38km,mb3.3/7, mb1 3.5/8,mb1mx3.3/21,mbtmp3.4/8,Error ellipse: s-maj=29.7km s-min=19.8km az=50.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.08**	**242**	P	Pn	00 03 52.0	+0.5
	16nm,0.3s,baz=50,slow=10,SNR=27						
PMG				S	Sn	00 05 21.7	0.0
	1.5nm,0.3s,baz=117,slow=16,SNR=4.2						
DZM	**Mont Dzumac**	**20.08**	**146**	P	P	00 06 18.3	-0.1
	7.5nm,0.4s,baz=193,slow=14,SNR=17						
WRA	**Warramunga Arr**	**24.13**	**232**	P	P	00 06 58.5	0.0
	0.9nm,0.7s,baz=55,slow=9.7,SNR=12						
WRA				pP	pP	00 07 30.3	+0.5
	0.4nm,0.5s,baz=46,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**26.65**	**226**	P	P	00 07 21.1	-0.2
	0.1nm,0.3s,baz=56,slow=9.0,SNR=3.1						
ASAR				pP	pP	00 07 51.5	-2.5
	0.3nm,0.5s,baz=56,slow=9.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**59.66**	**295**	P	P	00 11 45.7	+0.6
	0.5nm,0.3s,baz=112,slow=4.5,SNR=4.2						
SONM	**Songino Array**	**67.87**	**327**	P	P	00 12 38.2	-0.3
	0.3nm,0.4s,baz=136,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**81.99**	**319**	P	P	00 13 59.4	0.0
	0.1nm,0.3s,baz=111,slow=6.7,SNR=4.5						
QSPA	**South Pole Qui**	**84.33**	**180**	P	P	00 14 11.2	+0.1
	0.6nm,0.5s,baz=159,slow=8.6,SNR=6.3						

IDC ***13*** *00:14:20.4±0.8,50.°07S×162.°88E,h0km,mb4.4/7, mb1 4.5/7,mb1mx4.4/15,mbtmp4.4/7,MS4.9/4,Ms1 4.9/4, ms1mx4.3/29,Error ellipse: s-maj=45.1km s-min=18.7km az=62.0*

ISCJB ***13*** *00:14:21.3±0.6,49.°84S±0.°08×163.°7E±0.°2,h33km, mb4.4/10,MS4.8/4,Error ellipse: s-maj=16.2km s-min=10.9km az=165.3*

NEIC ***13*** *00:14:22.7±0.7,49.°79S×163.°63E,h25km,mb4.7/4,Error ellipse: s-maj=18.7km s-min=18.2km az=182.0*

ISC 13 00:14:24.6±0.6,49.°9S±0.°1×163.°4E±0.°1,h35km,n53, σ1s71/55,mb4.5/10,MS4.9/4,2C-2D,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODZ	**Otahua Downs**	**6.87**	**48**	*e*Pn	Pn	00 15 56.7	-6.1
ODZ				*e*Sn	Sn	00 17 06.0	-14
TAU	**Tasmania Unive**	**13.09**	**296**	*e*Pn	**Pn**	**00 17 25.8**	**-2.1**
TAU				*e*Sn	Sn	00 19 43.8	-8.3
URZ	**Urewera**	**15.18**	**45**	Pn	**Pn**	**00 17 53.4**	**-2.8**
	1.0nm,0.3s,baz=164,slow=14,SNR=5.9						
URZ	**Urewera**	**15.18**	**45**	*e*Pn	**Pn**	**00 17 53.0**	**-3.2**
	50nm,0.9s						
STKA	**Stephens Creek**	**24.25**	**310**	P	**P**	**00 19 39.1**	**+1.0**
	5.0nm,0.9s,baz=146,slow=10,SNR=8.0						
STKA				LR	LR	00 27 47.5	
	comp=Z,1μm,19.4s,baz=57,slow=34						
STKA	**Stephens Creek**	**24.25**	**310**	P	**P**	**00 19 39.1**	**+1.0**
VNDA	**Vanda**	**27.77**	**181**	P	**P**	**00 20 07.8**	**-1.7**
	5.9nm,1.2s,baz=343,slow=11,SNR=5.9						
VNDA	**Vanda**	**27.77**	**181**	P	**P**	**00 20 07.8**	**-1.7**
ASAR	**Alice Springs**	**34.85**	**308**	P	**P**	**00 21 12.3**	**0.0**
	6.1nm,1.0s,baz=147,slow=8.5,SNR=25						
ASAR				LR	LR	00 35 19.2	
	comp=Z,3μm,20.1s,baz=155,slow=36						
ASAR	**Alice Springs**	**34.85**	**308**	P

CMAR	**Chiang Mai Arr**	**88.58**	**301**	P	**P**	**00 27 14.8**	**+1.2**
	0.5nm,0.4s,baz=150,slow=4.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**88.58**	**301**	P	**P**	**00 27 14.8**	**+1.2**
MKAR	**Makanchi Array**	**119.03**	**309**	PKP	**PKPdf**	**00 33 10.1**	**+1.4**
	0.7nm,0.8s,baz=116,slow=3.4,SNR=6.0						
MKAR	**Makanchi Array**	**119.03**	**309**	PKP	**PKPdf**	**00 33 10.1**	**+1.4**
ILAR	**Eielson Array**	**120.62**	**22**	PKP	**PKPdf**	**00 33 13.1**	**+2.0**
	0.5nm,0.9s,baz=286,slow=3.7,SNR=4.7						
ILAR	**Eielson Array**	**120.62**	**22**	PKP	**PKPdf**	**00 33 13.1**	**+2.0**
ZALV	**Zalesovo Beam**	**122.63**	**317**	PKP	**PKPdf**	**00 33 18.4**	**+3.1**
	0.2nm,0.3s,baz=132,slow=2.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**122.63**	**317**	PKP	**PKPdf**	**00 33 18.4**	**+3.1**
YKA	**Yellowknife Ar**	**129.29**	**36**	PKP	**PKPdf**	**00 33 30.2**	**+2.5**
	0.1nm,0.6s,baz=241,slow=2.1,SNR=3.3						
YKA	**Yellowknife Ar**	**129.29**	**36**	PKP	**PKPdf**	**00 33 30.2**	**+2.5**
TORD	**Torodi Ar. Bea**	**140.44**	**209**	PKhKP	PKPpre	00 33 42.4	
	0.6nm,0.9s,baz=161,slow=2.7,SNR=3.0						
TORD				PKP	**PKPdf**	**00 33 50.6**	**+0.5**
	0.7nm,0.8s,baz=102,slow=1.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**140.44**	**209**	PKPpre	PKPpre	00 33 42.4	
TORD				PKP	**PKPdf**	**00 33 50.6**	**+0.5**
BRTR	**Keskin Array B**	**143.57**	**273**	PKhKP	PKPpre	00 33 51.6	
	0.8nm,0.9s,baz=153,slow=4.1,SNR=2.9						
BRTR				PKP	**PKiKP**	**00 33 56.9**	**-1.7**
	2.1nm,0.9s,baz=144,slow=4.4,SNR=7.8						
BRTR	**Keskin Array B**	**143.57**	**273**	PKPpre	PKPpre	00 33 51.6	
BRTR				PKP	**PKiKP**	**00 33 56.9**	**-1.7**
TAM	**Tamanrasset**	**147.88**	**221**	*e*PKPbc	**PKPbc**	**00 34 06.2**	**+0.1**
SPITS	**Spitsbergen Ar**	**149.09**	**347**	PKPbc	**PKPbc**	**00 34 07.5**	**+0.1**
	6.6nm,0.8s,baz=330,slow=6.7,SNR=6.3						
SPITS	**Spitsbergen Ar**	**149.09**	**347**	PKPbc	**PKPbc**	**00 34 07.5**	**+0.1**
CFR	**Carcaliu**	**149.79**	**279**	*i*P	**PKPab**	**00 34 13.7**	**-1.8**
VRI	**Vrincioaia**	**150.97**	**279**	*i*P	**PKPab**	**00 34 19.7**	**-0.8**
AKASG	**Malin Array Be**	**151.07**	**290**	PKPbc	**PKPbc**	**00 34 11.9**	**-0.9**
	0.4nm,0.4s,baz=87,slow=2.5,SNR=3.2						
AKASG				PKPab	**PKPab**	**00 34 19.0**	**-1.7**
	3.4nm,0.8s,baz=83,slow=2.4,SNR=9.1						
AKASG	**Malin Array Be**	**151.07**	**290**	PKPbc	**PKPbc**	**00 34 11.9**	**-0.9**
AKASG				PKPab	**PKPab**	**00 34 19.0**	**-1.7**
MLR	**Muntele Rosu**	**151.32**	**278**	*i*P	**PKPab**	**00 34 18.3**	**-3.8**
VOIR		**151.88**	**277**	*i*P	**PKPab**	**00 34 20.9**	**-3.4**
ARCES	**ARCESS Array B**	**151.95**	**330**	PKPbc	**PKPbc**	**00 34 14.1**	**-0.2**
	8.6nm,1.2s,baz=48,slow=1.3,SNR=4.2						
ARCES	**ARCESS Array B**	**151.95**	**330**	PKPbc	**PKPbc**	**00 34 14.1**	**-0.2**
FINES	**FINESS Array B**	**153.80**	**312**	PKPbc	**PKPbc**	**00 34 20.5**	**+1.9**
	1.6nm,0.9s,baz=69,slow=2.7,SNR=5.8						
FINES				PKPab	**PKPab**	**00 34 31.1**	**-0.7**
	0.8nm,0.5s,baz=48,slow=2.8,SNR=5.4						
FINES	**FINESS Array B**	**153.80**	**312**	PKPbc	**PKPbc**	**00 34 20.5**	**+1.9**
FINES				PKPab	**PKPab**	**00 34 31.1**	**-0.7**
GERES	**GERESS Array B**	**160.30**	**279**	PKPab	**PKPab**	**00 34 59.8**	**-0.6**
	0.1nm,0.2s,baz=120,slow=3.9,SNR=2.4						
GERES	**GERESS Array B**	**160.30**	**279**	PKPab	**PKPab**	**00 34 59.8**	**-0.6**

*ISCJB **13** 00:21:02.2±0.4,51°52N±0°02×16°17E±0°03,h0km, Error ellipse: s-maj=3.3km s-min=2.6km az=18.8*
*IPEC **13** 00:21:03.0±0.3,51°59N×16°19E,h0km,ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.5km az=35.0*
*WAR **13** 00:21:05.9,51°48N×16°08E*
*CSEM **13** 00:21:05.1±0.2,51°45N×16°11E,h1km,ML3.3/11, Error ellipse: s-maj=3.9km s-min=3.5km az=177.0*
*PRU **13** 00:21:05.2,51°49N×16°14E,h0km*
*VIE **13** 00:21:07.1±0.4,51°29N×16°13E,h0km,mb2.2/3,ML2.8/4, Error ellipse: s-maj=2.5km s-min=2.3km az=172.0 65 km WNW of Wroclaw Suspected Mining induced.*
*IDC **13** 00:21:08.1±1.6,51°41N×16°10E,h12km±11km,mb1 3.2/6, mb1mx3.0/27,mbtmp3.1/6,ML2.7/5, Error ellipse: s-maj=15.9km s-min=9.8km az=113.0*

ISC 13 00:21:04.6±0.7,51°49N±0°02×16°10E±0°02,h0km,n54, σ1℗35/93,4C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg		**Pg**	**00 21 18.0**	**+0.8**
KSP				*e*Sg		**Sg**	**00 21 27.2**	**+1.5**
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg		**Pg**	**00 21 17.6**	**+0.4**
	baz=355							
KSP				*i* Sg		**Sg**	**00 21 27.2**	**+1.5**
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg		**Pg**	**00 21 18.0**	**+0.8**
KSP				*e*Sg		**Sg**	**00 21 27.1**	**+1.5**
UPC	**Upice**	**0.98**	**183**	*e*PG		**Pg**	**00 21 24.1**	**+0.7**
UPC				*e*SG		**Sb**	**00 21 37.3**	**-0.7**
	comp=Z,28nm,0.2s							
UPC	**Upice**	**0.98**	**183**	Pg		**Pg**	**00 21 24.1**	**+0.7**
UPC				Sg		**Sb**	**00 21 37.3**	**-0.7**
	28nm,0.2s							
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG		**Pg**	**00 21 26.8**	**+0.2**
DPC				*e*SG		**Sg**	**00 21 42.1**	**+0.7**
	comp=Z,34nm,0.3s							
DPC	**Dobruska-Polom**	**1.15**	**173**	Pg		**Pg**	**00 21 26.8**	**+0.2**
DPC				Sg		**Sg**	**00 21 42.1**	**+0.7**
	34nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG		**Pg**	**00 21 30.9**	**+0.2**
PVCC				*e*SG		**Sn**	**00 21 49.8**	**+0.2**
	comp=Z,135nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pn		**Pg**	**00 21 30.7**	**0.0**
	baz=43							
PVCC				*e*Sg		**Sn**	**00 21 49.4**	**-0.2**
	baz=43							
KRLC	**Kraliky**	**1.48**	**163**	*e*PG		**Pn**	**00 21 32.3**	**-0.2**
KRLC				*e*SG		**Sg**	**00 21 52.4**	**+0.3**
KRLC	**Kraliky**	**1.48**	**163**	Pg		**Pn**	**00 21 32.3**	**-0.2**
KRLC				Sg		**Sg**	**00 21 52.4**	**+0.3**
BRG	**Berggiesshubel**	**1.49**	**246**	PG		**Pg**	**00 21 33.1**	**0.0**
BRG				SG		**Sn**	**00 21 53.9**	**+1.2**
	54nm,0.3s							
PRU	**Pruhonice**	**1.79**	**214**	*e*PG		**Pb**	**00 21 38.5**	**+0.2**
PRU				*e*SG		**Sg**	**00 22 03.4**	**+1.2**
	comp=Z,32nm,0.4s							
PRU	**Pruhonice**	**1.79**	**214**	Sg		**Sg**	**00 22 03.4**	**+1.2**
	32nm,0.4s							
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pg		**Pg**	**00 21 44.3**	**+2.9**
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pg		**Pg**	**00 21 44.3**	**+2.9**
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pg		**Pg**	**00 21 44.2**	**+2.9**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg		**Pb**	**00 21 41.1**	**+0.4**
RAC				*e*Sg		**Sg**	**00 22 07.0**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn		**Pn**	**00 21 38.3**	**-0.6**
	baz=335							
MORC				*e*Sg		**Sb**	**00 22 06.0**	**+0.3**
	43nm,0.5s,baz=335							
CLL	**Collm**	**1.94**	**266**	*e*Pn		**Pn**	**00 21 38.0**	**-0.9**
CLL				*e*Pg		**Pb**	**00 21 41.0**	**+0.1**
CLL				*i*			00 21 44.2	
CLL				*i*			00 21 45.3	
CLL				*i* Sg		**Sg**	**00 22 07.8**	**+0.7**
	comp=Z,29nm,0.8s							
VRAC	**Vranov**	**2.20**	**171**	Pn		**Pn**	**00 21 43.2**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=348,slow=12,SNR=15							
VRAC				Pg		**Pg**	**00 21 47.9**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=353,slow=16,SNR=17							
VRAC				Lg			00 22 16.7	
	comp=Z,6.7nm,0.3s,baz=270,slow=20,SNR=8.9							
VRAC	**Vranov**	**2.20**	**171**	*e*Pn		**Pn**	**00 21 42.4**	**-0.1**
	baz=354							
VRAC				*e*Sg		**Sg**	**00 22 15.1**	**-0.3**
	comp=Z,18nm,0.3s,baz=354							
TREC	**Trest**	**2.23**	**190**	*e*PN		**Pn**	**00 21 44.2**	**+1.4**
TREC				*e*PG		**Pb**	**00 21 46.1**	**+0.4**
TREC				*e*SG		**Sg**	**00 22 16.6**	**+0.5**
	comp=Z,17nm,0.3s							
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn		**Pn**	**00 21 45.4**	**-0.2**
	baz=357							
KRUC				*e*Sg		**Sg**	**00 22 22.2**	**-0.6**
	comp=Z,9.1nm,0.3s,baz=357							
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN		**Pn**	**00 21 48.9**	**+0.6**
NKC				*e*PG		**Pg**	**00 21 54.1**	**-0.9**
NKC				*e*SG		**Sg**	**00 22 30.3**	**+1.3**
	comp=Z,32nm,0.4s							
NKC	**Novy Kostel**	**2.63**	**243**	Pn		**Pn**	**00 21 48.9**	**+0.6**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg		**Pb**	**00 21 54.8**	**+1.6**
OJC				*e*Sn		**Sn**	**00 22 19.6**	**-2.2**
OJC				*e*Sg		**Sg**	**00 22 30.1**	**-0.2**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg		**Pb**	**00 21 54.8**	**+1.6**
OJC				*e*Sn		**Sn**	**00 22 19.6**	**-2.2**
OJC				*e*Sg		**Sg**	**00 22 30.1**	**-0.2**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN		**Pn**	**00 21 52.0**	**+0.5**
KHC				*e*PG		**Pb**	**00 21 57.6**	**+1.1**
KHC				*e*SG		**Sg**	**00 22 37.0**	**+0.7**
	comp=Z,11nm,0.3s							
KHC	**Kasperske Hory**	**2.86**	**215**	Pg		**Pb**	**00 21 57.6**	**+1.1**
KHC				Sg		**Sg**	**00 22 37.0**	**+0.7**
	comp=Z,11nm,0.3s							

GERES	**GERESS Array B**	**3.06**	**211**	Pn		**Pn**	**00 21 55.4**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=19							
GERES				Pg		**Pg**	**00 22 03.0**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=28,slow=15,SNR=27							
GERES				Sn		**Sn**	**00 22 31.5**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=32,slow=23,SNR=5.8							
GERES				Lg			00 22 42.0	
	comp=Z,2.6nm,0.3s,baz=26,slow=27,SNR=5.1							
SMOL	**Smolenice**	**3.10**	**163**	*e*SG		**Sg**	**00 22 44.0**	**-0.1**
SMOL	**Smolenice**	**3.10**	**163**	*e*Sg		**Sg**	**00 22 44.0**	**-0.1**
NIE	**Niedzica**	**3.40**	**126**	*e*P		**Pg**	**00 22 08.7**	**-1.0**
NIE				*e*S		**Sg**	**00 22 53.0**	**-0.7**
VYHS	**Vyhne**	**3.48**	**148**	*e*PN		**Pn**	**00 21 59.3**	**-0.7**
VYHS				*e*			00 22 12.7	
VYHS	**Vyhne**	**3.48**	**148**	*e*SG		**Sb**	**00 22 53.4**	**+3.6**
VYHS	**Vyhne**	**3.48**	**148**	*e*Sg		**Sb**	**00 22 53.4**	**+3.6**
CONA	**Conrad Observa**	**3.56**	**183**	*i*Pn		**Pn**	**00 22 01.2**	**-0.1**
CONA				*i*Sg		**Sg**	**00 22 58.7**	**-0.4**
	comp=Z,14nm,0.4s							
CONA	**Conrad Observa**	**3.56**	**183**	Pn		**Pn**	**00 22 01.2**	**-0.1**
CONA				Sg		**Sg**	**00 22 58.7**	**-0.4**
	comp=Z,14nm,0.4s							
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P		**Pn**	**00 22 00.8**	**-2.2**
BSD				*i* S		**Sn**	**00 22 43.9**	**-3.4**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* S		**Sn**	**00 22 43.9**	**-3.4**
MOA	**Molln**	**3.83**	**199**	*i*Pn		**Pg**	**00 22 05.0**	**+0.2**
MOA				*i*Sg		**Sg**	**00 23 07.7**	**+0.1**
	comp=Z,19nm,0.7s							
MOA	**Molln**	**3.83**	**199**	Pn		**Pn**	**00 22 05.0**	**+0.2**
MOA				Sg		**Sg**	**00 23 07.7**	**+0.1**
	comp=Z,19nm,0.7s							
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*		**Pg**	**00 22 25.1**	**-2.1**
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*SG		**Sg**	**00 23 22.8**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*Sg		**Sg**	**00 23 22.8**	**-0.2**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pb		**Pb**	**00 22 29.2**	**+2.9**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pb		**Pb**	**00 22 29.2**	**+2.9**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pb		**Pb**	**00 22 29.2**	**+2.9**
KOLS	**Kolonicke sedl**	**4.72**	**120**	*e*SN		Sn	00 22 53.8	-19
KOLS				*e*SG		**Sg**	**00 23 36.8**	**+0.7**
DAVOX	**Davos/Dischmat**	**6.23**	**223**	Pn		**Pn**	**00 22 39.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=45,slow=8.6,SNR=4.6							
FINES	**FINESS Array B**	**11.39**	**25**	Pn		**Pn**	**00 23 46.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=213,slow=10,SNR=4.8							
BRTR	**Keskin Array B**	**16.95**	**127**	Pn		**Pn**	**00 25 02.3**	**-0.8**
	baz=317,slow=12,SNR=2.7							
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn		**P**	**00 25 22.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=2.8							

*IDC **13** 00:34:15.0±1.2,35°92N×72°99E,h0km,mb3.5/7, mb1 3.6/11,mb1mx3.5/29,mbtmp3.5/11,ML3.4/3, Error ellipse: s-maj=26.0km s-min=22.7km az=82.0*
*ISCJB **13** 00:34:18.0±0.5,35°84N±0°04×73°26E±0°10,h48km, mb3.4/7, Error ellipse: s-maj=11.7km s-min=3.8km az=162.0*

ISC 13 00:34:20.3±0.7,35°90N±0°06×73°37E±0°09,h48km,n28, σ1℗91/30,mb3.3/7,2C-2D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THN	**Thein Dam**	**3.97**	**150**	*e*P		Pn	00 35 24.5	+5.8
THN				*ex*		x	00 36 25.7	
DLH	**Dalhousie**	**3.98**	**147**	*e*P		Pn	00 35 25.0	+5.9
DLH				*e*S		Sn	00 36 14.0	+9.4
AAK	**Ala-Archa**	**6.78**	**7**	Pn		Pn	00 36 00.3	+2.9
	0.5nm,0.3s,baz=168,slow=7.3,SNR=11							
AAK				Sn		Sn	00 37 18.1	+4.8
	0.3nm,0.3s,baz=240,slow=10,SNR=2.9							
TKM2	**Tokmak 2**	**7.22**	**13**	Pn		**Pn**	**00 36 02.9**	**-0.6**
	1.4nm,0.6s							
TKM2				Sn		**Sn**	**00 37 25.7**	**+1.6**
	1.8nm,0.7s							
KK31	**Karatay Array**	**7.52**	**344**	Pn		**Pn**	**00 36 07.3**	**-0.1**
	1.2nm,0.3s,baz=150,slow=11,SNR=4.7							
KK31				Sn		**Sn**	**00 37 31.6**	**+0.2**
	1.2nm,0.3s,baz=159,slow=22,SNR=4.0							
AYAN	**Aya Nagar**	**8.05**	**156**	*e*S		**Sn**	**00 37 47.9**	**+3.5**
KHET	**Khetri**	**8.07**	**164**	*e*P		**Pn**	**00 36 13.7**	**-1.3**
KHET				*e*S		**Sn**	**00 37 44.2**	**-0.8**
KHET				AML		AML	00 38 41.9	
	comp=N,4.4nm,0.1s							
KHET				AML		AML	00 38 42.3	
	comp=E,3.4nm,0.1s							
SONA	**Sohna**	**8.25**	**157**	*e*S		**Sn**	**00 37 51.8**	**+2.5**
SONA				AML		AML	00 38 24.4	
	comp=N,10nm,0.5s							
SONA				AML		AML	00 38 24.4	
	comp=E,14nm,0.3s							
AGRA	**Agra**	**9.48**	**154**	*e*S		**Sn**	**00 38 17.6**	**-1.8**
AGRA				AML		AML	00 39 26.1	
	comp=E,54nm,0.3s							
AGRA				AML		AML	00 39 26.5	
	comp=N,92nm,0.7s							
PYUN	**Piuthan**	**11.27**	**131**	*e*P		**Pn**	**00 36 59.9**	**+0.9**
	comp=N,14nm,0.4s							
PYUN				*e*S		**Sn**	**00 39 01.8**	**-1.8**
DANN	**Dangsing**	**11.58**	**128**	*e*P		**Pn**	**00 37 04.9**	**+1.6**
	comp=N,8.8nm,0.3s							
DANN				*e*S		**Sn**	**00 39 09.2**	**-2.1**
GKN	**Gorkha**	**12.38**	**126**	*e*P		**Pn**	**00 37 14.7**	**+0.6**
	comp=N,9.9nm,0.2s							
GKN				*e*S		**Sn**	**00 39 27.3**	**-3.4**
MKAR	**Makanchi Array**	**12.77**	**29**	Pn		**P**	**00 37 29.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=210,slow=12,SNR=9.2							
PKI	**Pulchoki**	**13.18**	**126**	*e*P		**Pn**	**00 37 24.6**	**-0.5**
	comp=N,4.1nm,0.2s							
GUN	**Gumba**	**13.27**	**123**	*e*P		**Pn**	**00 37 25.5**	**-0.9**
	comp=N,8.9nm,0.4s							
JIRN	**Jiri**	**13.64**	**123**	*e*P		**Pn**	**00 37 30.4**	**-1.1**
	comp=N,4.1nm,0.3s							
TAPN	**Taplejung**	**14.88**	**121**	*e*P		**Pn**	**00 37 45.3**	**-2.7**
	comp=N,12nm,0.8s							
KURBB	**Kurchatov Arra**	**15.18**	**13**	Pn		**Pn**	**00 37 52.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=6.9							
BVAR	**Borovoye Array**	**17.25**	**354**	Pn		**Pn**	**00 38 14.1**	**-3.6**
	comp=N,0.1nm,0.3s,baz=163,slow=11,SNR=2.9							
AKTO	**Aktyubinsk**	**18.29**	**327**	P		**P**	**00 38 27.8**	**-2.2**
	comp=N,0.1nm,0.3s,baz=145,slow=12,SNR=2.8							
ZALV	**Zalesovo Beam**	**19.74**	**20**	P		**Pn**	**00 38 46.6**	**-1.0**
	comp=N,0.3nm,0.3s,baz=204,slow=12,SNR=7.9							
SONM	**Songino Array**	**27.12**	**54**	P		**P**	**00 40 02.2**	**+3.3**
	comp=N,0.2nm,0.5s,baz=264,slow=7.6,SNR=2.3							
FINES	**FINESS Array B**	**39.05**	**326**	P		**P**	**00 41 42.0**	**-0.1**
	comp=N,0.9nm,0.7s,baz=113,slow=17,SNR=2.4							
ARCES	**ARCESS Array B**	**42.43**	**337**	P		**P**	**00 42 10.6**	**+0.6**
	comp=N,5.5nm,1.1s,baz=116,slow=7.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**67.63**	**270**	P		**P**	**00 45 11.3**	**-1.2**
	comp=N,0.2nm,0.5s,baz=51,slow=5.4,SNR=4.5							
ILAR	**Eielson Array**	**74.82**	**17**	P		**P**	**00 45 56.4**	**+1.2**
	comp=N,0.3nm,0.8s,baz=316,slow=3.8,SNR=3.8							
WRA	**Warramunga Arr**	**80.05**	**123**	P		P	00 46 28.6	+3.5
	comp=N,0.1nm,0.3s,baz=324,slow=4.8,SNR=5.5							
YKA	**Yellowknife Ar**	**81.73**	**4**	P		**P**	**00 46 35.3**	**+1.9**
	comp=N,0.1nm,0.4s,baz=347,slow=5.2,SNR=4.0							

*ISK **13** 00:49:18.7,38°42N×39°14E,h6km,MD2.8*
*DDA **13** 00:49:18.9,38°40N×39°13E,h13km,MD3.0*
*CSEM **13** 00:49:18.9±0.2,38°44N×39°15E,h8km,MD2.8, Error ellipse: s-maj=3.7km s-min=3.3km az=19.0*
*ISCJB **13** 00:49:19.1±0.5,38°42N±0°03×39°16E±0°04,h6km±5km, Error ellipse: s-maj=5.4km s-min=4.9km az=15.6*

ISC 13 00:49:19.0±0.9,38°41N±0°03×39°16E±0°03,h9km±6km, n24,σ0℗45/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.12**	**105**	*e*PG		**Pg**	**00 49 21.9**	**-0.1**
SVRC				*e*SG		**Sg**	**00 49 23.7**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.12**	**105**	*e*Pg		**Pg**	**00 49 21.9**	**-0.1**
SVRC				*e*Sg		**Sg**	**00 49 23.7**	**-0.4**
ELZG	**Elazig**	**0.16**	**303**	*i* Pg		**Pg**	**00 49 22.9**	**+0.3**
ELZG				*i* Sg		**Sg**	**00 49 25.8**	**+0.6**
MYA	**Malataya**	**0.58**	**262**	*e*PG		**Pg**	**00 49 29.6**	**-0.7**
MYA	**Malataya**	**0.58**	**262**	*e*Pg		**Pg**	**00 49 29.6**	**-0.7**
MALT	**Malatya**	**0.58**	**261**	*e*PG		**Pg**	**00 49 30.0**	**-0.3**
MALT	**Malatya**	**0.58**	**261**	*e*Pg		**Pg**	**00 49 30.0**	**-0.3**
AKCD	**Akcadag**	**0.98**	**264**	*e*P		**Pg**	**00 49 37.2**	**-0.6**
AKCD				*e*S		**Sg**	**00 49 50.8**	**+0.2**
AKCD	**Akcadag**	**0.98**	**264**	*e*P		**Pg**	**00 49 37.2**	**-0.6**
AKCD				*e*S		**Sg**	**00 49 50.8**	**+0.2**
DIY	**Diyarbakir**	**0.99**	**121**	*e*PG		**Pn**	**00 49 39.0**	**0.0**
DIY	**Diyarbakir**	**0.99**	**121**	*e*Pg		**Pn**	**00 49 39.1**	**0.0**
KEMA	**Kemaliye**	**1.00**	**329**	*e*P		**Pb**	**00 49 38.5**	**-0.1**
KEMA				*e*S		**Sb**	**00 49 52.1**	**+0.2**
KEMA	**Kemaliye**	**1.00**	**329**	*e*P		**Pb**	**00 49 38.5**	**-0.1**
KEMA				*e*S		**Sb**	**00 49 52.1**	**+0.2**
URFA	**Urfa**	**1.00**	**195**	*e*PG		**Pb**	**00 49 38.9**	**+0.3**
URFA				*e*SG		**Sn**	**00 49 52.9**	**-0.7**
URFA	**Urfa**	**1.00**	**195**	*e*Pg		**Pb**	**00 49 38.9**	**+0.3**
URFA				*e*Sg		**Sn**	**00 49 52.9**	**-0.7**
ILIC	**ilic-Erzincan**	**1.14**	**336**	*e*PN		**Pb**	**00 49 41.0**	**+0.1**
ILIC	**ilic-Erzincan**	**1.14**	**336**	*e*Pn		**Pb**	**00 49 41.0**	**+0.1**
ATAB	**Bozova**	**1.16**	**216**	*e*P		**Pn**	**00 49 42.0**	**+0.6**
ATAB				*e*S		**Sn**	**00 49 57.9**	**+0.5**
ATAB	**Bozova**	**1.16**	**216**	*e*P		**Pn**	**00 49 42.0**	**+0.6**
ATAB				*e*S		**Sn**	**00 49 57.9**	**+0.5**
ERZN	**Erzincan**	**1.25**	**20**	*e*PN		**Pg**	**00 49 43.4**	**+0.3**
BNGB	**Bing℁ll**	**1.32**	**64**	*e*PN		**Pg**	**00 49 44.6**	**+0.1**
EZC	**Erzincan**	**1.35**	**6**	*e*Pn		**Pn**	**00 49 43.4**	**-0.8**
BTMT	**Batman**	**1.85**	**96**	*e*PN		**Pn**	**00 49 51.0**	**+0.1**
BTMT	**Batman**	**1.85**	**96**	*e*Pn		**Pn**	**00 49 51.0**	**+0.1**

*DJA **13** 00:52:52.5±0.6,8°S±3°×107°E±°,h14km±4km,M4.8/12, mb4.8/2,MLv4.7/12*
*IDC **13** 00:52:52.5±5.5,7°27S×106°97E,h49km±52km,mb3.9/15, mb1 4.0/15,mb1mx3.9/23,mbtmp3.9/15, Error ellipse: s-maj=35.6km s-min=14.1km az=51.0*
*ISCJB **13** 00:52:54.9±0.8,7°5S±0°1×106°98E±0°05,h89km±6km, mb4.2/20, Error ellipse: s-maj=18.7km s-min=5.2km az=24.1*

ISC 13 00:52:54.8±1.2,7°6S±0°1×106°92E±0°06,h74km±9km,n47, σ1℗61/47,mb4.2/20,1C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CISI	**Cisompet, Garu**	**0.89**	**91**	P		Pn	00 53 10.1	-2.1
CISI				S		**Sn**	**00 53 21.5**	**-3.7**
LEM	**Lembang**	**1.00**	**44**	P		**Pn**	**00 53 13.3**	**-0.3**
LEM				S		**Sn**	**00 53 30.8**	**+3.2**
DBJI	**Dramaga**	**1.00**	**350**	P		**Pn**	**00 53 13.8**	**+0.3**
TNG	**Tangerang**	**1.39**	**349**	P		**Pn**	**00 53 18.6**	**+0.1**
TNG				S		Sn	00 53 48.6	+12
CGJI	**Cibinong**	**1.53**	**307**	P		**Pn**	**00 53 19.6**	**-0.7**
CGJI				S		**Sn**	**00 53 37.7**	**-1.8**
SBJI	**Serang**	**1.62**	**331**	P		**Pn**	**00 53 22.6**	**+1.1**
TGJI	**Tegal**	**2.29**	**73**	P		Pn	00 53 38.4	+8.0
BLSI	**Bandar Lampung**	**2.73**	**322**	P		**Pn**	**00 53 37.7**	**+1.3**
BLSI				S		Sn	00 54 18.8	+10
BJII	**Banjamegara**	**2.78**	**86**	P		**Pn**	**00 53 38.3**	**+1.2**
KASI	**Kota Agung**	**3.13**	**310**	P		**Pn**	**00 53 44.4**	**+2.5**

s-maj=189.3km s-min=126.6km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.56**	**159**	P	P	01 08 13.2	-0.9
	0.3nm,0.4s,baz=338,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**26.89**	**163**	P	P	01 08 44.0	-0.6
	0.2nm,0.5s,baz=340,slow=8.1,SNR=3.9						
STKA	**Stephens Creek**	**37.08**	**157**	P	P	01 10 14.9	+1.0
	0.7nm,0.5s,baz=324,slow=8.7,SNR=3.3						

*ISCJB **13** 01:28:02.7±0.7, 40°56N±0°.03×32°.97E±0°.04, h6km±6km, Error ellipse: s-maj=5.7km s-min=4.8km az=138.9*
*ISK **13** 01:28:02.3, 40°.56N×32°.96E, h5km, MD3.1*
*CSEM **13** 01:28:02.7±0.1, 40°.55N×32°.98E, h5km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.4km az=135.0*
*DDA **13** 01:28:03.4, 40°.56N×33°.12E, h7km, MD3.0*

ISC 13 01:28:03.0±1.0, 40°.56N±0°.03×32°.99E±0°.03, h11km±9km, n33, σ0°59/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.34**	**101**	*e*P	**Pg**	**01 28 09.6**	**-0.4**
ELDT				*e*S	**Sg**	**01 28 14.9**	**+0.3**
ELDT	**Eldivan**	**0.34**	**101**	*e*P	**Pg**	**01 28 09.6**	**-0.4**
ELDT				*e*S	**Sg**	**01 28 14.9**	**+0.3**
CANT	**Cankiri**	**0.49**	**84**	PG	**Pg**	**01 28 12.6**	**0.0**
CANT				SG	**Sg**	**01 28 20.1**	**-0.6**
LOD	**Lodumlu**	**0.69**	**194**	*e*PG	**Pg**	**01 28 15.9**	**-0.5**
LOD				*e*SG	**Sg**	**01 28 25.7**	**+0.3**
LOD	**Lodumlu**	**0.69**	**194**	*e*Pg	**Pg**	**01 28 15.9**	**-0.5**
LOD				*e*Sg	**Sg**	**01 28 25.7**	**+0.3**
SAFT	**Safranbolu**	**0.72**	**342**	*e*PG	**Pg**	**01 28 16.5**	**-0.4**
SAFT	**Safranbolu**	**0.72**	**342**	*e*Pg	**Pg**	**01 28 16.5**	**-0.4**
TOS	**Tosya**	**0.92**	**58**	*e*PG	**Pg**	**01 28 20.5**	**-0.3**
TOS	**Tosya**	**0.92**	**58**	*e*Pg	**Pg**	**01 28 20.5**	**-0.3**
BALT	**Daday**	**1.02**	**17**	*e*P	**Pb**	**01 28 22.6**	**-0.2**
BALT				*e*S	**Sb**	**01 28 36.1**	**-0.2**
BALT	**Daday**	**1.02**	**17**	*e*P	**Pb**	**01 28 22.6**	**-0.2**
BALT				*e*S	**Sb**	**01 28 36.1**	**-0.2**
AFSR	**Af˙ar-Bala (A**	**1.11**	**177**	*e*PN	**Pb**	**01 28 24.1**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.11**	**177**	*e*Pn	**Pb**	**01 28 24.2**	**-0.1**
CORM	**Corum**	**1.31**	**106**	*e*PN	**Pg**	**01 28 28.3**	**0.0**
CORM	**Corum**	**1.31**	**106**	*e*Pn	**Pg**	**01 28 28.3**	**0.0**
KAMT	**Kaman**	**1.31**	**155**	*e*PN	**Pg**	**01 28 28.1**	**-0.1**
KAMT	**Kaman**	**1.31**	**155**	*e*Pn	**Pg**	**01 28 28.1**	**-0.1**
MDUB	**Mudurnu**	**1.36**	**267**	*e*PN	**Pb**	**01 28 28.6**	**0.0**
MDUB	**Mudurnu**	**1.36**	**267**	*e*Pn	**Pb**	**01 28 28.6**	**0.0**
CTKT	**Corum**	**1.38**	**87**	*e*P	**Pn**	**01 28 28.4**	**+0.2**
CTKT				*e*S	**Sb**	**01 28 45.6**	**-0.9**
CTKT	**Corum**	**1.38**	**87**	*e*P	**Pn**	**01 28 28.4**	**+0.2**
CTKT				*e*S	**Sb**	**01 28 45.6**	**-0.9**
CDAG	**Cicekdag**	**1.42**	**131**	*e*P	**Pn**	**01 28 28.6**	**-0.1**
CDAG				*e*S	**Sn**	**01 28 46.9**	**-0.5**
CDAG	**Cicekdag**	**1.42**	**131**	*e*P	**Pn**	**01 28 28.6**	**-0.1**
CDAG				*e*S	**Sn**	**01 28 46.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*PN	**Pn**	**01 28 31.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*Pn	**Pn**	**01 28 31.3**	**+0.3**
GULT	**Gulveren**	**1.89**	**267**	*e*PN	**Pn**	**01 28 35.8**	**+0.6**
GULT	**Gulveren**	**1.89**	**267**	*e*Pn	**Pn**	**01 28 35.8**	**+0.6**
DIKM	**Dikmen**	**2.03**	**57**	*e*PN	**Pn**	**01 28 38.3**	**+1.1**
DIKM	**Dikmen**	**2.03**	**57**	*e*Pn	**Pn**	**01 28 38.3**	**+1.1**
SULT	**Sultanhani-AKS**	**2.39**	**170**	*e*PN	**Pn**	**01 28 43.2**	**+1.1**
SULT	**Sultanhani-AKS**	**2.39**	**170**	*e*Pn	**Pn**	**01 28 43.2**	**+1.1**
BNN	**Bunyan**	**2.79**	**127**	*e*PN	**Pn**	**01 28 49.0**	**+1.4**
BNN	**Bunyan**	**2.79**	**127**	*e*Pn	**Pn**	**01 28 49.1**	**+1.4**

*ISCJB **13** 01:36:42.9±0.8, 37°.41N±0°.05×38°.58E±0°.04, h6km±5km, Error ellipse: s-maj=8.0km s-min=4.7km az=176.0*
*ISK **13** 01:36:42.4, 37°.40N×38°.62E, h10km, MD3.0*
*CSEM **13** 01:36:42.8±0.2, 37°.41N×38°.59E, h8km, MD3.0, Error ellipse: s-maj=4.9km s-min=3.3km az=165.0*
*DDA **13** 01:36:43.3, 37°.47N×38°.58E, h7km, MD2.8*

ISC 13 01:36:43.3±1.2, 37°.43N±0°.04×38°.60E±0°.02, h3km±12km, n25, σ0°51/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17**	**86**	*e*PG	**Pg**	**01 36 46.3**	**-0.4**
URFA				*e*SG	**Sg**	**01 36 49.7**	**+0.6**
URFA	**Urfa**	**0.17**	**86**	*e*Pg	**Pg**	**01 36 46.3**	**-0.4**
URFA				*e*Sg	**Sg**	**01 36 49.7**	**+0.6**
ATAB	**Bozova**	**0.25**	**280**	*e*P	**Pg**	**01 36 47.6**	**-0.5**
ATAB				*e*S	**Sg**	**01 36 51.3**	**0.0**
ATAB	**Bozova**	**0.25**	**280**	*e*P	**Pg**	**01 36 47.6**	**-0.5**
ATAB				*e*S	**Sg**	**01 36 51.3**	**0.0**
MALT	**Malatya**	**0.89**	**351**	*e*PG	**Pg**	**01 37 00.5**	**0.0**
MALT				*e*SG	**Sb**	**01 37 14.2**	**+0.3**
MALT	**Malatya**	**0.89**	**351**	*e*Pg	**Pg**	**01 37 00.5**	**0.0**
MALT				*e*Sg	**Sb**	**01 37 14.2**	**+0.3**
MYA	**Malataya**	**0.91**	**351**	*e*PG	**Pg**	**01 37 00.6**	**-0.1**
MYA	**Malataya**	**0.91**	**351**	*e*Pg	**Pg**	**01 37 00.6**	**-0.1**
AKCD	**Akcadag**	**1.02**	**328**	*e*P	**Pg**	**01 37 03.1**	**+0.3**
AKCD				*e*S	**Sg**	**01 37 16.2**	**+0.1**
AKCD	**Akcadag**	**1.02**	**328**	*e*P	**Pg**	**01 37 03.1**	**+0.3**
AKCD				*e*S	**Sg**	**01 37 16.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.10**	**30**	*e*PN	**Pg**	**01 37 04.3**	**-0.1**
SVRC				*e*SN	**Sb**	**01 37 20.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.10**	**30**	*e*Pn	**Pg**	**01 37 04.3**	**-0.1**
SVRC				*e*Sn	**Sb**	**01 37 20.2**	**+0.3**
ELZG	**Elazig**	**1.11**	**16**	*e*P	**Pg**	**01 37 04.2**	**-0.4**
ELZG				*e*S	**Sg**	**01 37 19.0**	**0.0**
ELZG	**Elazig**	**1.11**	**16**	*e*P	**Pg**	**01 37 04.2**	**-0.4**
ELZG				*e*S	**Sg**	**01 37 19.0**	**0.0**
GAZ	**Gaziantep**	**1.14**	**257**	*e*PN	**Pg**	**01 37 04.9**	**-0.2**
GAZ	**Gaziantep**	**1.14**	**257**	*e*Pn	**Pg**	**01 37 04.9**	**-0.2**
DIYA	**Diyarbakir**	**1.30**	**67**	*e*P	**Pn**	**01 37 08.4**	**-0.1**
DIYA				*e*S	**Sb**	**01 37 26.1**	**+0.5**
DIYA	**Diyarbakir**	**1.30**	**67**	*e*P	**Pn**	**01 37 08.4**	**-0.1**
DIYA				*e*S	**Sb**	**01 37 26.1**	**+0.5**
KMRS	**Kahramanmaras**	**1.36**	**274**	*e*PN	**Pn**	**01 37 08.3**	**-0.9**
KMRS	**Kahramanmaras**	**1.36**	**274**	*e*Pn	**Pn**	**01 37 08.3**	**-0.9**
ANDN	**Andirin**	**1.80**	**276**	*e*P	**Pg**	**01 37 19.5**	**+1.7**
ANDN				*e*S	**Sg**	**01 37 41.9**	**+0.8**
ILIC	**ilic-Erzincan**	**2.02**	**359**	*e*PN	**Pn**	**01 37 17.8**	**-0.6**
ILIC	**ilic-Erzincan**	**2.02**	**359**	*e*Pn	**Pn**	**01 37 17.8**	**-0.6**
KOZT	**Kozan**	**2.21**	**272**	*e*PN	**Pn**	**01 37 20.3**	**-0.6**
KOZT	**Kozan**	**2.21**	**272**	*e*Pn	**Pn**	**01 37 20.3**	**-0.6**

IDC 13 01:39:34.7±1.1, 30°.87N×140°.75E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/25, mbtmp3.6/7, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/46, Error ellipse: s-maj=42.1km s-min=27.4km az=98.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.04**	**340**	Pn	Pn	01 41 05.0	-0.3
	0.4nm,0.3s,baz=155,slow=14,SNR=6.3						
MAT	**Matsushiro**	**6.04**	**340**	P	Pn	01 41 04.9	-0.4
PSI	**Prapat**	**48.34**	**243**	LR	LR	02 08 18.4	
	comp=Z,124nm,19.1s,baz=37,slow=36						
WRA	**Warramunga Arr**	**50.90**	**188**	P	P	01 48 37.5	-0.1
	0.7nm,0.9s,baz=2.9,slow=7.5,SNR=6.2						
ILAR	**Eielson Array**	**55.04**	**30**	P	P	01 49 07.6	-0.2
	0.4nm,0.9s,baz=245,slow=7.5,SNR=4.4						
YKA	**Yellowknife Ar**	**69.43**	**29**	P	P	01 50 44.4	+0.1
	0.3nm,0.9s,baz=297,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**78.85**	**323**	P	P	01 51 39.6	0.0
	0.7nm,0.5s,baz=54,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**79.17**	**52**	P	P	01 51 41.8	-0.1
	0.6nm,0.7s,baz=291,slow=5.5,SNR=2.4						
TXAR	**Lajitas Array**	**94.32**	**52**	P	P	01 52 57.0	+0.4
	0.4nm,0.8s,baz=298,slow=2.7,SNR=3.5						

IDC 13 01:46:21.3±1.4, 31°.22N×140°.78E, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.6/25, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=63.1km s-min=26.6km az=100.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.72**	**339**	Pn	Pn	01 47 48.0	+0.5
	0.9nm,0.3s,baz=150,slow=14,SNR=6.6						
MAT	**Matsushiro**	**5.72**	**339**	P	Pn	01 47 48.6	+1.1
WRA	**Warramunga Arr**	**51.25**	**188**	P	P	01 55 26.7	-0.2
	0.5nm,0.7s,baz=4.6,slow=7.5,SNR=7.3						
ILAR	**Eielson Array**	**54.73**	**30**	P	P	01 55 51.6	-0.5
	0.4nm,0.8s,baz=272,slow=7.1,SNR=5.7						
YKA	**Yellowknife Ar**	**69.12**	**29**	P	P	01 57 28.1	-0.8
	0.4nm,0.9s,baz=303,slow=6.0,SNR=5.3						
NVAR	**Mina Array Bea**	**78.94**	**52**	P	P	01 58 28.6	+1.4
	0.4nm,0.6s,baz=286,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**94.09**	**52**	P	P	01 59 41.9	-0.2
	0.4nm,0.8s,baz=302,slow=6.9,SNR=3.5						

IDC 13 01:47:31.6±3.1, 6°.11S×147°.24E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=67.0km s-min=33.5km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**181**	Pn	Pn	01 48 25.4	+1.1
	3.8nm,0.3s,baz=353,slow=12,SNR=6.5						
PMG				Sn	Sn	01 49 03.7	-0.4
	8.0nm,0.3s,baz=18,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**18.61**	**221**	P	P	01 51 50.8	0.0
	0.1nm,0.3s,baz=47,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.67**	**215**	P	P	01 52 24.1	0.0
	0.8nm,0.7s,baz=42,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	P	01 52 49.2	-1.1
	2.4nm,0.9s,baz=50,slow=7.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**145.35**	**284**	PKPbc	PKPbc	02 07 12.2	-0.2
	0.2nm,0.5s,baz=64,slow=4.9,SNR=3.6						

*ISCJB **13** 02:02:27.1±0.7, 27°.87N±0°.08×129°.3E±0°.1, h57km±4km, mb3.5/9, Error ellipse: s-maj=20.4km s-min=4.9km az=38.4*
*JMA **13** 02:02:27.7±0.1, 28°.04N×129°.10E, h49km±1km, M3.9*
JMA Felt II J1.
*IDC **13** 02:02:28.9±1.9, 27°.68N×129°.45E, h75km±12km, mb3.3/9, mb1 3.5/11, mb1mx3.4/26, mbtmp3.4/11, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=37.0km s-min=11.9km az=123.0*

ISC 13 02:02:27.8±1.1, 27°.86N±0°.08×129°.3E±0°.1, h47km±8km, n21, σ1°53/28, mb3.5/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.31**	**257**	P	**Pn**	**02 02 36.5**	**-0.2**
JTK				S	**Sn**	**02 02 43.1**	**+0.1**
JAM	**Amami Oshima**	**0.62**	**27**	P	**Pn**	**02 02 39.8**	**-0.5**
JAM				S	**Sn**	**02 02 48.5**	**-0.8**
JZK	**Kikaishima**	**0.76**	**53**	P	**Pn**	**02 02 43.3**	**+1.2**
JOW	**Kunigami**	**1.36**	**222**	P	**Pn**	**02 02 51.2**	**+0.8**
	253nm,0.3s,baz=78,slow=14,SNR=83						
JOW				S	**Sn**	**02 03 09.5**	**+2.2**
	184nm,0.3s,baz=126,slow=28,SNR=12						
JOW	**Kunigami**	**1.36**	**222**	P	**Pn**	**02 02 51.1**	**+0.8**
JOW				*e*S	**Sn**	**02 03 08.7**	**+1.4**
JIH	**Iheya**	**1.43**	**235**	P	**Pn**	**02 02 51.8**	**+0.5**
JIH				*e*S	**Sn**	**02 03 09.5**	**+0.5**
JNN	**Nakanoshima**	**2.04**	**14**	P	**Pn**	**02 02 59.6**	**-0.1**
JNN				*e*S	**Sn**	**02 03 23.8**	**-0.2**
JAGN	**Aguni-jima**	**2.22**	**236**	P	**Pn**	**02 03 02.9**	**+0.8**
JKE	**Kume jima 2**	**2.70**	**236**	P	**Pn**	**02 03 09.4**	**+0.7**
JKE				*e*S	**Sn**	**02 03 40.6**	**+0.4**
JTN	**Tanegashima 3**	**3.15**	**27**	P	**Pn**	**02 03 15.1**	**+0.2**
JNU	**Nakatsue**	**5.42**	**14**	P	**Pn**	**02 03 48.5**	**+2.4**
	3.9nm,0.3s,baz=200,slow=18,SNR=21						
JNU				S	**Sn**	**02 04 52.3**	**+5.0**
	baz=210,slow=20,SNR=2.2						
JNU				LR	LR	02 05 46.8	
	comp=Z,146nm,19.6s,baz=323,slow=36						
KSRS	**Korea Array**	**9.64**	**353**	P	Pn	02 04 47.4	+3.5
	0.2nm,0.3s,baz=175,slow=14,SNR=3.7						
SONM	**Songino Array**	**26.74**	**324**	P	**P**	**02 08 05.2**	**+2.1**
	0.6nm,0.5s,baz=136,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**41.18**	**310**	P	**P**	**02 10 07.5**	**-0.3**
	0.4nm,0.5s,baz=93,slow=11,SNR=6.7						
ZALV	**Zalesovo Beam**	**41.55**	**321**	P	**P**	**02 10 09.9**	**-0.7**
	0.5nm,0.5s,baz=103,slow=9.0,SNR=3.5						
BVAR	**Borovoye Array**	**49.71**	**317**	P	**P**	**02 11 15.0**	**0.0**
	0.2nm,0.3s,baz=82,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**62.56**	**29**	P	**P**	**02 12 46.9**	**+0.3**
	0.3nm,0.8s,baz=250,slow=6.6,SNR=3.4						
ARCES	**ARCESS Array B**	**68.84**	**339**	P	**P**	**02 13 25.5**	**-1.4**
	1.0nm,0.8s,baz=54,slow=9.1,SNR=2.9						
KBZ	**Khabaz**	**68.87**	**309**	P	**P**	**02 13 27.1**	**-0.4**
	1.4nm,0.6s,baz=90,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**71.92**	**331**	P	**P**	**02 13 44.8**	**-1.0**
	0.6nm,0.4s,baz=68,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**76.66**	**25**	P	**P**	**02 14 11.2**	**-2.1**
	0.1nm,0.5s,baz=302,slow=5.5,SNR=3.2						

*BJI **13** 02:03:12.6, 7°.35S×129°.63E, h163km, mB5.2/27, mb5.2/59*
*IDC **13** 02:03:15.8±0.9, 7°.08S×129°.33E, h144km±7km, mb5.0/30, mb1 4.9/32, mb1mx4.9/34, mbtmp5.0/32, MS3.9/9, Ms1 4.0/9, ms1mx3.6/37, Error ellipse: s-maj=10.5km s-min=7.0km az=60.0*
*GCMT **13** 02:03:15.9±0.2, 7°.25S×129°.43E, h140km±4km, MW5.2, Moment Tensor Solution. s19,c19; s85,c137; Moment tensor: Scale 10^16 Nm; Mrr=3.32±.38; Mθθ=4.27±.50; Mφφ=0.95±.45; Mrθ=7.60±.27; Mrφ=-2.95±.44; Mθφ=1.05±.26; Best double couple: Mo=9.00000×10^16 NP1:φs=217.00000°, δ=19.00000°, λ=46.00000°. NP2:φs=83.00000°, δ=76.00000°, λ=104.00000°. Principal axes: T 8.0900, Plg57.0000°, Azm10.0000°; N 1.7600, Plg13.0000°, Azm259.0000°; P -9.8400, Plg30.0000°, Azm162.0000°; Data Used: II G IU IC.*
*MOS **13** 02:03:15.2±1.0, 6°.91S×129°.38E, h147km, mb5.4/54 Error ellipse: s-maj=9.8km s-min=5.3km az=116.9*
*ISCJB **13** 02:03:16.1±0.4, 7°.10S±0°.03×129°.47E±0°.03, h167km±3km, mb5.3/132, Error ellipse: s-maj=4.4km s-min=3.9km az=140.5*
*DJA **13** 02:03:16.6±0.2, 7°.3S×13°.0E±°, h126km±5km, M5.5/48, mb5.5/48, mB5.8/36, MLv5.9/12, Mw(mB)5.4/36*
*NEIC **13** 02:03:16.2±0.7, 7°.08S×129°.34E, h151km±5km, mb5.3/65, Error ellipse: s-maj=5.0km s-min=3.3km az=59.0*
NEIC Felt [II] at Darwin, Australia.

ISC 13 02:03:16.8±0.3, 7°.08S±0°.04×129°.37E±0°.04, h157km±2km, h157km:pP-P, n947, σ1°§10/1027, mb5.3/130, 190C-176D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.59**	**12**	P	**Pn**	**02 03 59.4**	**0.0**
AAI	**Ambon**	**3.56**	**341**	P	**Pn**	**02 04 12.8**	**+1.2**
TLE	**Tual**	**3.64**	**67**	P	**Pn**	**02 04 11.7**	**-0.9**
MSAI	**Masohi**	**3.73**	**353**	P	**Pn**	**02 04 14.2**	**+0.4**
FAKI	**Fak Fak**	**5.03**	**35**	P	Pn	02 04 27.5	-3.3
	1μm,0.9s,44μm14nm						
LBMI	**Labuha**	**6.66**	**344**	P	**Pn**	**02 04 54.2**	**+1.8**
	2μm,1.3s,21μm5.9nm						
BBSI	**Bau Bau**	**6.94**	**283**	P	**Pn**	**02 04 58.6**	**+2.5**
	726nm,1.2s,7μm2.4nm						
MMRI	**Maumere**	**7.23**	**257**	P	**Pn**	**02 04 59.8**	**-0.2**
	411nm,1.1s,4μm2.3nm						
KDI	**Kendari**	**7.39**	**294**	P	**Pn**	**02 05 04.1**	**+1.9**
	238nm,1.1s,2μm0.7nm						
TNTI	**Ternate**	**8.05**	**346**	P	**Pn**	**02 05 12.3**	**+1.4**
	796nm,0.8s,7μm2.3nm						
LUWI	**Luwuk**	**8.90**	**312**	P	Pn	02 05 25.7	+3.5
	374nm,1.1s,3μm						
BAKI	**Biak**	**8.91**	**49**	P	**Pn**	**02 05 22.0**	**-0.3**
	2μm,1.0s,20μm8.8nm						
KMSI	**Cibinong**	**9.31**	**325**	P	Pn	02 05 32.6	+5.0
	1μm,1.0s,12μm						
WSI	**Waingapu**	**9.34**	**253**	P	**Pn**	**02 05 28.2**	**+0.2**
	2μm,0.5s,27μm						
BKSI	**Bulukumba**	**9.35**	**280**	P	**Pn**	**02 05 29.2**	**+1.0**
	176nm,0.9s,2μm						
MNI	**Manado**	**9.59**	**332**	P	**Pn**	**02 05 33.8**	**+2.4**
	2μm,1.0s,13μm						
KAPI	**Kappang**	**9.78**	**282**	P	**Pn**	**02 05 33.7**	**-0.1**
	2.4nm,0.3s,baz=119,slow=5.8,SNR=30						
KAPI				S	**Sn**	**02 07 19.6**	**-2.8**
	1.8nm,0.3s,baz=97,slow=16,SNR=1.6						
KAPI				LR	LR	02 09 59.4	
	comp=Z,329nm,21.7s,baz=113,slow=41						
KAPI	**Kappang**	**9.78**	**282**	P	**Pn**	**02 05 33.7**	**-0.1**
KAPI				S	**Sn**	**02 07 19.6**	**-2.8**
KAPI	**Kappang**	**9.78**	**282**	Pn	**Pn**	**02 05 34.5**	**+0.7**
	SNR=20						
KAPI	**Kappang**	**9.78**	**282**	Pn	**Pn**	**02 05 34.2**	**+0.3**
	402nm,1.3s,SNR=10						
KAPI	**Kappang**	**9.78**	**282**	P	**Pn**	**02 05 34.9**	**+1.0**
	103nm,1.0s,988nm						
WAMI	**Wamena**	**9.83**	**72**	P	Pn	02 05 39.3	+4.8
	701nm,0.7s						
SPSI	**Sidrap Palu**	**10.04**	**287**	P	**Pn**	**02 05 38.6**	**+1.3**
	138nm,0.8s,2μm						
TTSI	**Tana Toraja**	**10.32**	**292**	P	**P**	**02 05 48.5**	**-1.9**
	317nm,0.9s,3μm						
MRSI	**Marisa**	**10.54**	**315**	P	Pn	02 05 47.3	+3.4
	323nm,1.0s,3μm						
SMPI	**Sarmi**	**10.59**	**62**	P	**Pn**	**02 05 42.7**	**-1.9**
	261nm,1.1s,84μm						
FITZ	**Fitzroy Crossi**	**11.55**	**198**	P	Pn	02 05 52.1	-5.0
	33nm,0.3s,baz=31,slow=11,SNR=317						
FITZ				S	Sn	02 07 50.5	-14
	55nm,0.3s,baz=52,slow=16,SNR=5.1						
FITZ				LR	LR	02 10 44.1	
	comp=Z,540nm,21.9s,baz=24,slow=39						
FITZ	**Fitzroy Crossi**	**11.55**	**198**	*e*Pn	Pn	02 05 50.8	-6.3
	138nm,0.6s						
FITZ				*e*Sn	Sn	02 07 47.2	-18
WRAB	**Tennant Creek**	**13.67**	**160**	*e*P	Pn	02 06 17.4	-6.9
WRAB				pmax	pmax		
	comp=Z,713nm,1.0s						
WRAB	**Tennant Creek**	**13.67**	**160**	*e*Pn	Pn	02 06 17.4	-6.9
	comp=Z,713nm,1.0s						
WRAB				*e*Sn	Sn	02 08 41.3	-15
WRAB	**Tennant Creek**	**13.67**	**160**	Pn	Pn	02 06 17.0	-7.3
	comp=Z,3μm,0.6s						
WRA	**Warramunga Arr**	**13.67**	**160**	P	Pn	02 06 17.8	-6.6
	comp=Z,23nm,0.3s,baz=344,slow=13,SNR=303						
WRA				S	Sn	02 08 39.7	-16
	comp=Z,75nm,0.3s,baz=340,slow=22,SNR=13						
WRA	**Warramunga Arr**	**13.67**	**160**	P	Pn	02 06 17.8	-6.6
WRA				S	Sn	02 08 39.7	-16
KHKI	**Kahang-Kahang**	**13.69**	**264**	P	**P**	**02 06 27.1**	**-1.1**
	comp=Z,32nm,0.6s						
GSPH	**General Santos**	**13.80**	**341**	*e*P	**Pn**	**02 06 25.4**	**-0.7**
SMKI	**Samarinda**	**13.80**	**298**	P	P	02 06 34.2	+4.9
	comp=Z,460nm,0.8s,comp=Z,9μm						
MATI	**Mati**	**14.27**	**347**	*e*P	P	02 06 38.6	+4.1
DAV	**Davao City (W)**	**14.55**	**345**	P	**P**	**02 06 37.3**	**-0.4**
	comp=Z,142nm,0.3s,baz=154,slow=7.8,SNR=9.4						
DAV	**Davao City (W)**	**14.55**	**345**	P	**P**	**02 06 37.3**	**-0.4**
DAV	**Davao City (W)**	**14.55**	**345**	Pn	**P**	**02 06 37.2**	**-0.4**
	SNR=14						
DAV	**Davao City (W)**	**14.55**	**345**	P	P	02 06 40.9	+3.2
	comp=Z,1μm,0.9s,comp=Z,13μm						
DMPH	**Davao City--Mi**	**14.58**	**345**	*e*P	**P**	**02 06 37.7**	**-0.3**
BBKI	**Banjar Baru**	**14.90**	**283**	P	**P**	**02 06 44.5**	**+2.9**
	comp=Z,1μm,0.9s,comp=Z,10μm						
CTBH	**Cotabato--PC H**	**15.09**	**340**	*e*P	**Pn**	**02 06 42.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**15.14**	**264**	P	**Pn**	**02 06 42.1**	**-0.7**
	comp=Z,58nm,0.6s						
COEN	**Coen**	**15.20**	**118**	*e*Pn	**Pn**	**02 06 38.8**	**-4.7**
	comp=Z,2μm,0.8s						
COEN				*e*Sn	Sn	02 09 15.0	-18
KMMI	**Kalianget**	**15.28**	**269**	P	**P**	**02 06 46.3**	**+0.5**
	comp=Z,109nm,1.3s						
BUKP	**Musuan**	**15.46**	**344**	*e*P	**P**	**02 06 47.5**	**-0.3**
BLJI	**Banyuglugur**	**15.65**	**267**	P	**P**	**02 06 50.1**	**+0.2**
	comp=Z,118nm,1.1s,comp=Z,3μm						
TSM	**Tawau**	**16.10**	**314**	P	**P**	**02 06 56.3**	**+1.5**
PLKI	**Palangkaraya**	**16.10**	**287**	P	**P**	**02 06 57.5**	**+2.6**
	comp=Z,1μm,1.0s,comp=Z,14μm						
CGP	**Cagayan de Oro**	**16.11**	**343**	*e*P	**P**	**02 06 55.3**	**+0.3**
MYLDM	**Lahad Datu**	**16.30**	**318**	P	**P**	**02 06 58.9**	**+1.9**
MYLDM	**Lahad Datu**	**16.30**	**318**	P	**P**	**02 07 00.9**	**+3.8**
	comp=Z,578nm,1.0s,comp=Z,8μm						
BUTP	**Butuan**	**16.37**	**347**	*e*P	**Pn**	**02 06 59.5**	**+1.7**
BWJI	**Bawean**	**16.65**	**273**	P	Pn	02 07 16.1	+15
KRKI	**Karangkates**	**16.80**	**265**	P	Pn	02 07 10.6	+7.6
	comp=Z,235nm,0.6s,comp=Z,14μm						
MBWA	**Marble Bar**	**16.82**	**213**	*e*P	**P**	**02 07 00.4**	**-2.3**
	comp=Z,125nm,0.8s				

BBOO Buckleboo 26.35 167 *e*P **P** **02 08 37.3 -1.0**
comp=Z,3μm,0.8s
MYKOM Kota Tinggi 26.94 288 P **P** **02 08 45.7 +1.8**
STKA Stephens Creek 27.19 157 P **P** **02 08 45.0 -0.8**
comp=Z,100nm,0.6s,baz=330,slow=8.6,SNR=260
STKA Stephens Creek 27.19 157 *e*P **P** **02 08 44.8 -1.0**
KGM Kluang 27.52 288 P **P** **02 08 50.6 +1.6**
NWAO Narrogin (SRO) 28.08 202 P **P** **02 08 53.6 -0.2**
comp=Z,101nm,1.3s,baz=27,slow=8.3,SNR=14
NWAO Narrogin (SRO) 28.08 202 *e*P **P** **02 08 53.7 -0.1**
comp=Z,40nm,0.7s
FRIM Kepong 29.52 289 P **P** **02 09 08.5 +1.7**
HNR Honiara 30.35 97 P **P** **02 09 14.3 +0.2**
comp=Z,52nm,0.5s,baz=262,slow=7.1,SNR=2.5
HNR Honiara 30.35 97 P **P** **02 09 14.3 +0.2**
IPM Ipoh 30.52 291 *e*P **P** **02 09 16.9 +1.3**
IPM Ipoh 30.52 291 P **P** **02 09 17.2 +1.6**
TWG Pinlang 30.80 345 *e*P P 02 09 14.6 -3.3
comp=Z,136nm,0.4s
KULM Kulim 31.18 292 *e*P **P** **02 09 21.2 -0.1**
comp=Z,83nm,1.3s
KULM Kulim 31.18 292 P **P** **02 09 21.6 +0.3**
ARMA Armidale 31.23 141 *e*P **P** **02 09 22.3 +0.5**
YULB Yu-li 31.29 346 *e*P **P** **02 09 19.2 -3.0**
comp=Z,18nm,0.3s
TPUB Ta-pu 31.37 344 *e*P **P** **02 09 21.2 -1.7**
comp=Z,74nm,1.0s
SSLB Suanglung 31.75 345 *e*P **P** **02 09 23.6 -2.6**
comp=Z,43nm,0.8s
PSI Prapat 31.93 287 P **P** **02 09 27.6 -0.5**
comp=Z,44nm,0.8s,baz=132,slow=3.8,SNR=32
PSI Prapat 31.93 287 P **P** **02 09 27.6 -0.5**
NACB Ninganchiao 31.97 347 *e*P **P** **02 09 26.3 -1.8**
comp=Z,46nm,1.1s
QIZ Qiongzhong 32.30 324 P **P** **02 09 30.7 -0.4**
QIZ pP **pP** **02 10 04.5 +0.2**
QIZ S **S** **02 14 33.8 +0.5**
QIZ pmax pmax
comp=Z,31nm,1.1s
QIZ LR LR
comp=Z,330nm,20.3s
YHNB Yeheng 32.50 346 *e*P **P** **02 09 31.4 -1.4**
comp=Z,94nm,0.7s
TATO Taipei 32.77 347 *e*P **P** **02 09 33.0 -2.1**
comp=Z,50nm,0.7s
CAN Canberra 33.40 150 *e*P **P** **02 09 40.8 +0.2**
CAN pmax pmax
comp=Z,146nm,1.2s
CAN Canberra 33.40 150 *e*P **P** **02 09 40.8 +0.2**
comp=Z,146nm,1.2s
QZH Quanzhou 33.51 342⇑ *i*P **P** **02 09 42.2 +0.7**
QZH sP **sP** **02 10 31.6 -1.2**
QZH S **S** **02 14 53.0 +1.1**
QZH pmax pmax
comp=Z,230nm,0.7s
JOW Kunigami 33.72 358 P **P** **02 09 43.8 +0.5**
comp=Z,122nm,0.7s,baz=184,slow=7.8,SNR=15
JOW LR LR 02 21 53.3
comp=Z,320nm,19.0s,baz=43,slow=33
JOW Kunigami 33.72 358 *e*P **P** **02 09 44.1 +0.8**
comp=Z,68nm,0.9s
CBIJ Chichi jima 36.17 20 P **P** **02 10 04.3 0.0**
comp=Z,70nm,0.5s,baz=354,slow=18,SNR=6.1
CBIJ Chichi jima 36.17 20 P **P** **02 10 04.3 0.0**
DZM Mont Dzumac 38.72 117 P **P** **02 10 26.6 +0.5**
comp=Z,19nm,0.6s,baz=281,slow=8.6,SNR=15
DZM Mont Dzumac 38.72 117 P **P** **02 10 26.6 +0.5**
TAU Tasmania Unive 39.04 159 *e*P **P** **02 10 29.2 +0.9**
TAU Tasmania Unive 39.04 159 *e*P **P** **02 10 29.2 +0.9**
TAU Tasmania Unive 39.04 159 P **P** **02 10 29.0 +0.7**
comp=Z,282nm,1.3s,SNR=6.8
CM31 Chiang Mai Arr 39.30 311 *e*P **P** **02 10 31.4 +0.7**
comp=Z,101nm,0.9s
CMAR Chiang Mai Arr 39.30 311 P **P** **02 10 31.5 +0.8**
comp=Z,84nm,0.8s,baz=143,slow=7.5,SNR=304
CMAR PcP **PcP** **02 12 37.8 +1.3**
comp=Z,5.9nm,0.9s,baz=156,slow=2.1,SNR=4.1
CMAR ScP **ScP** **02 16 12.6 +2.2**
comp=Z,11nm,1.0s,baz=160,slow=3.4,SNR=16
CMAR LR LR 02 28 00.1
comp=Z,117nm,18.1s,baz=137,slow=38
CMAR Chiang Mai Arr 39.30 311 P **P** **02 10 31.5 +0.8**
CMAR PcP **PcP** **02 12 37.8 +1.3**
CMAR ScP **ScP** **02 16 12.6 +2.2**
CHTO Chiang Mai 39.52 311 *e*P **P** **02 10 33.0 +0.5**
CHTO pmax pmax
comp=Z,179nm,0.9s
CHTO Chiang Mai 39.52 311 *e*P **P** **02 10 33.0 +0.5**
comp=Z,179nm,0.9s
CHTO Chiang Mai 39.52 311 P **P** **02 10 33.3 +0.8**
SNR=52
GYA Guiyang 39.95 327 P **P** **02 10 38.0 +1.8**
GYA pP **pP** **02 11 13.6 +3.2**
GYA sP **sP** **02 11 31.2 +3.0**
GYA PP **PnPn** **02 12 15.8 -0.6**
GYA ScP **ScP** **02 16 12.4 -0.6**
GYA PcS **PcS** **02 16 29.0 -0.2**
GYA S S 02 16 36.9 +7.0
GYA sS **sS** **02 17 33.2 +3.5**
GYA SS **SS** **02 19 29.0 -4.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.2s
JNU Nakatsue 40.00 2 P **P** **02 10 36.1 -0.2**
comp=Z,64nm,0.9s,baz=166,slow=2.6,SNR=12
JNU Nakatsue 40.00 2 P **P** **02 10 36.1 -0.2**
WHN Wuhan 40.08 340⇑ P **P** **02 10 37.4 +0.4**
WHN pmax pmax
comp=Z,180nm,0.9s
NJ2 Nanjing 40.18 346 *e*P **P** **02 10 38.6 +0.8**
NJ2 pP **pP** **02 11 12.8 +0.8**
NJ2 sP **sP** **02 11 30.0 +0.2**
NJ2 pmax pmax
comp=Z,160nm,0.8s
KMI Kunming 41.18 322 P **P** **02 10 47.3 +0.9**
KMI pP **pP** **02 11 18.6 -2.2**
KMI S **S** **02 16 49.4 +1.0**
KMI SS SS 02 19 50.8 -7.2
KMI pmax pmax
comp=Z,54nm,1.3s
KMI LR LR
comp=N,280nm,14.4s
KMI LR LR
comp=E,230nm,10.4s
KMI LR LR
comp=Z,280nm,20.7s
ENH Enshi 41.75 334 *e*P **P** **02 10 49.9 -0.8**
comp=Z,25nm,0.8s
MAT Matsushiro 44.17 10 P **P** **02 11 08.7 -1.4**
MJAR Matsushiro Arr 44.17 10 P **P** **02 11 08.8 -1.3**
comp=Z,105nm,0.9s,baz=193,slow=10,SNR=134
MJAR ScP **ScP** **02 16 30.3 +0.8**
comp=Z,2.2nm,0.6s,baz=201,slow=6.0,SNR=4.3
MJAR Matsushiro Arr 44.17 10 P **P** **02 11 08.8 -1.3**
MJAR ScP **ScP** **02 16 30.3 +0.8**
KSAR Wonju Array Be 44.31 358 P **P** **02 11 11.6 +0.5**
KSAR ScP **ScP** **02 16 31.6 +1.6**
KSRS Korea Array 44.32 358 P **P** **02 11 11.6 +0.4**
comp=Z,25nm,0.8s,baz=178,slow=10,SNR=47
KSRS ScP **ScP** **02 16 31.6 +1.6**
comp=Z,2.2nm,0.8s,baz=191,slow=5.7,SNR=4.3
KSRS LR LR 02 28 51.4
comp=Z,126nm,20.3s,baz=168,slow=35
CD2 Chengdu 45.03 328 P **P** **02 11 16.2 -0.8**
CD2 pP **pP** **02 11 51.5 -0.5**
CD2 sP **sP** **02 12 09.6 +0.1**
CD2 PP **PP** **02 13 04.5 -1.1**
CD2 S **S** **02 17 42.8 -1.3**
CD2 sS **sS** **02 18 45.0 +0.1**
CD2 SS **ScS** **02 21 01.8 +3.9**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,230nm,3.5s
XAN Xi'an 45.25 336 P **P** **02 11 17.6 -1.1**
XAN pmax pmax
comp=Z,12nm,1.1s
DL2 Dalian 46.31 352 P **P** **02 11 26.9 +0.1**
DL2 pmax pmax
comp=Z,50nm,0.8s
IMP Imphal 46.84 314 *ex* x 02 11 29.0
BJT Baijiatuau 48.42 346 *e*P **P** **02 11 42.9 -0.3**
comp=Z,164nm,0.7s
BJI Beijing 48.44 346 P **P** **02 11 43.0 -0.2**
BJI pmax pmax
comp=Z,210nm,0.8s
BJI pmax pmax
comp=Z,350nm,3.2s
BJI LR LR
comp=Z,99nm,23.7s
MSVF Nonsavu 48.58 107 *e*P **P** **02 11 46.5 +1.6**
MSVF pmax pmax
comp=Z,16nm,0.8s
MSVF Nonsavu 48.58 107 *e*P **P** **02 11 46.5 +1.6**
comp=Z,16nm,0.8s
SHL Shillong 48.79 313 *i*P **P** **02 11 46.0 -0.4**
SHL *e*S S 02 18 55.0 +17
SNY Shenyang 48.95 354⇑⇑ P **P** **02 11 46.9 -0.2**
SNY pmax pmax
comp=Z,42nm,1.1s
LZH Lanzhou 49.18 333⇑ P **P** **02 11 49.4 +0.2**
LZH pP **pP** **02 12 25.5 +0.8**
LZH sP **sP** **02 12 43.4 +1.3**
LZH PcP **PcP** **02 13 10.2 +0.1**
LZH PP **PP** **02 13 46.0 +1.4**
LZH ScP **ScP** **02 16 50.0 -0.7**
LZH S **S** **02 18 42.0 -0.9**
LZH sS **sS** **02 19 45.3 +0.8**
LZH SS **SS** **02 22 12.5 -4.1**
LZH pmax pmax
comp=Z,190nm,1.5s
LZH pmax pmax
comp=Z,340nm,4.1s
LZH LR LR
comp=N,560nm,17.0s
LZH LR LR
comp=E,550nm,17.2s
LZH LR LR
comp=Z,670nm,18.5s
OUZ Omahuta 49.27 131 *e*P **P** **02 11 51.7 +1.9**
comp=Z,52nm,1.4s
VLA Vladivostok 50.01 2*c i*P **P** **02 11 55.6 +0.5**
VLA pmax pmax
comp=Z,258nm,1.2s
HHC Hu-ho-hao-te 50.42 342 *e*P **P** **02 11 58.5 +0.1**
HHC pP **pP** **02 12 35.0 +0.9**
HHC sP **sP** **02 12 53.2 +1.7**
HHC PP **PP** **02 13 57.2 +1.5**
HHC S **S** **02 18 58.5 -1.4**
HHC sS **sS** **02 20 03.5 +1.7**
HHC ScS **ScS** **02 21 30.3 -3.2**
HHC SS **SS** **02 22 33.0 -3.1**
HHC pmax pmax
comp=Z,90nm,1.0s
HHC pmax pmax
comp=Z,390nm,6.7s
ERM Erimo 50.45 13*ce*P **P** **02 11 58.4 -0.1**
ERM pmax pmax
comp=Z,28nm,0.8s
ERM Erimo 50.45 13 *e*P **P** **02 11 58.8 +0.3**
comp=Z,33nm,0.8s
ERM Erimo 50.45 13 P **P** **02 11 59.5 +1.0**
comp=Z,279nm,0.8s,SNR=5.7
CN2 Changchun 50.76 356⇑ *i*P **P** **02 12 00.2 -0.6**
CN2 *e*pP **pP** **02 12 33.9 -2.6**
CN2 *e*S **S** **02 19 03.3 -0.9**
CN2 pmax pmax
comp=Z,40nm,0.7s
USRK Ussuriysk Arra 51.09 2 P **P** **02 12 03.4 +0.2**
comp=Z,66nm,0.8s,baz=186,slow=7.2,SNR=118
USRK LR LR 02 35 05.8
comp=Z,122nm,18.1s,baz=140,slow=37
MDJ Mudanjiang 51.45 0 P **P** **02 12 06.1 +0.2**
MDJ pP **pP** **02 12 41.2 -0.5**
MDJ S **S** **02 19 11.1 -2.6**
MDJ sS **sS** **02 20 14.2 -1.6**
MDJ pmax pmax
comp=Z,72nm,1.2s
MDJ pmax pmax
comp=Z,130nm,3.4s
MDJ LR LR
comp=E,110nm,32.7s
MDJ Mudanjiang 51.45 0 *e*P **P** **02 12 06.3 +0.4**
comp=E,85nm,1.1s
LSA Lhasa 51.82 317 P **P** **02 12 10.3 +0.8**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 51.82 317 *e*P **P** **02 12 10.0 +0.5**
LSA pmax pmax
comp=Z,48nm,0.7s
LSA Lhasa 51.82 317 *e*P **P** **02 12 10.0 +0.5**
comp=Z,48nm,0.7s
ASAJ Asahikawa 52.34 12 P **P** **02 12 12.7 +0.2**
comp=Z,39nm,0.4s,baz=221,slow=10,SNR=30
ASAJ Asahikawa 52.34 12 *e*P **P** **02 12 12.4 -0.1**
comp=Z,23nm,0.7s
KHZ Kahutara 52.46 139 *e*P **P** **02 12 13.6 +0.2**
comp=Z,65nm,0.9s
ODAN Odare 52.83 311 *e*P **P** **02 12 16.8 +0.1**
comp=Z,175nm,0.6s
TAPN Taplejung 52.87 312 *e*P **P** **02 12 17.2 +0.1**
comp=Z,138nm,0.4s
URZ Urewera 53.07 133 *e*P **P** **02 12 17.3 -0.7**
comp=Z,11nm,0.5s
RAMN Ramite 53.47 311 *e*P **P** **02 12 21.8 +0.4**
comp=Z,466nm,0.7s
GTA Gaotai 53.74 332⇑⇑ P **P** **02 12 23.5 +0.5**
GTA pP **pP** **02 12 56.0 -3.1**
GTA PcP **PcP** **02 13 28.6 +1.6**
GTA PcS **PcS** **02 17 26.6 +0.1**
GTA S S 02 19 52.6 +7.3
GTA ScS **ScS** **02 21 56.4 -0.4**
GTA pmax pmax
comp=Z,35nm,0.8s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=N,260nm,16.6s
GTA LR LR
comp=E,290nm,15.7s
GTA LR LR
comp=Z,330nm,19.5s
JIRN Jiri 54.16 312 *e*P **P** **02 12 26.6 0.0**
comp=Z,38nm,0.7s
GUN Gumba 54.53 312 *e*P **P** **02 12 29.2 0.0**
comp=Z,384nm,0.7s
PKI Pulchoki 54.70 311 *e*P **P** **02 12 30.1 -0.3**
comp=Z,59nm,0.6s
KKN Kakani 54.91 311 *e*P **P** **02 12 31.8 0.0**
comp=Z,90nm,0.7s
DMN Daman 54.95 311 *e*P **P** **02 12 32.2 +0.1**
comp=Z,167nm,0.9s
YSS Yuzh-Sakhalins 55.09 11⇑ *i*P **P** **02 12 33.0 +0.6**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS Yuzh-Sakhalins 55.09 11 *e*P **P** **02 12 32.3 -0.2**
comp=Z,69nm,0.8s
GKN Gorkha 55.51 311 *e*P **P** **02 12 35.9 -0.1**
comp=Z,140nm,0.3s
HABR Khabarovsk 55.54 5*ce*P **P** **02 12 35.4 -0.2**
HABR *e**PP **pP** **02 13 09.2 -2.6**
HABR *e*SP **sP** **02 13 26.0 -3.1**
HABR *e* 02 13 31.8
HABR *e*S **S** **02 20 10.7 +2.1**
HABR *e* 02 22 08.4
HABR *e*SS **SS** **02 23 58.2 +2.0**
HABR pmax pmax
comp=Z,195nm,1.1s
HABR pmax pmax
comp=N,62nm,1.2s
HABR pmax pmax
comp=E,38nm,1.2s
HABR MLR MLR
comp=Z,144nm,15.0s
HYB Hyderabad 55.78 297 *i*P **P** **02 12 38.0 0.0**
KLR Kul'dur 56.11 2⇓ *i*P P 02 12 36.1 -3.5
KLR pmax pmax
comp=N,57nm,1.6s
KLR pmax pmax
comp=Z,250nm,1.6s
KOLN Koldanda 56.17 310 *e*P **P** **02 12 40.9 +0.1**
comp=Z,343nm,0.8s
DANN Dangsing 56.35 311 *e*P **P** **02 12 42.0 -0.1**
HIA Hailar 56.73 352 *e*P **P** **02 12 44.1 -0.1**
comp=Z,15nm,0.7s
PYUN Piuthan 56.80 310 *e*P **P** **02 12 45.3 +0.1**
comp=Z,520nm,0.9s
ULN Ulaanbaatar 58.14 342 *e*P **P** **02 12 54.9 +0.7**
comp=Z,46nm,0.8s
ULN Ulaanbaatar 58.14 342 P **P** **02 12 55.4 +1.2**
SNR=24
AFI Afiamalu 58.15 102 P **P** **02 12 56.7 +1.9**
comp=Z,10.0nm,0.3s,baz=262,slow=9.3,SNR=4.0
AFI Afiamalu 58.15 102 P **P** **02 12 56.7 +1.9**
SONM Songino Array 58.31 342 P **P** **02 12 56.0 +0.7**
comp=Z,24nm,0.6s,baz=156,slow=6.5,SNR=147
SONM ScP **ScP** **02 17 31.2 +0.9**
comp=Z,1.5nm,0.8s,baz=151,slow=5.0,SNR=4.1
SONM PKP2bc 02 42 45.6
comp=Z,0.8nm,0.8s,baz=283,slow=1.9,SNR=4.4
SONM Songino Array 58.31 342 P **P** **02 12 56.0 +0.7**
SONM ScP **ScP** **02 17 31.2 +0.9**
SONM ⇑ *e* 02 42 45.6
CIT Chita 60.40 349 *e*P **P** **02 13 08.5 -1.0**
CIT *e* 02 13 53.4
CIT pmax pmax
comp=Z,111nm,1.3s
ZAK Zakamensk 61.53 341⇓ *i*P **P** **02 13 17.3 +0.1**
ZAK pmax pmax
comp=Z,19nm,1.2s
TLY Talaya 62.55 342 *e*P **P** **02 13 23.5 -0.4**
TLY pmax pmax
comp=Z,40nm,1.0s
TLY Talaya 62.55 342 *e*P **P** **02 13 24.1 +0.2**
comp=Z,45nm,1.1s
TLY Talaya 62.55 342 P **P** **02 13 25.3 +1.4**
SNR=21
TLY Talaya 62.55 342 P **P** **02 13 24.3 +0.4**
comp=Z,244nm,1.1s,SNR=10.0
IRK Irkutsk 62.86 343⇑ *i*P **P** **02 13 26.6 +0.7**
IRK *e* 02 14 07.4
IRK *e* 02 17 20.6
IRK pmax pmax
comp=Z,146nm,1.1s
WMQ Urumqi 63.12 327 P **P** **02 13 28.4 +0.6**
WMQ pmax pmax
comp=Z,37nm,1.0s
WMQ LR LR
comp=N,130nm,26.0s
WMQ LR LR
comp=E,94nm,21.0s
WMQ LR LR
comp=Z,130nm,19.0s
MOY Mondy 63.38 341 *e*P **P** **02 13 30.5 +1.1**
MOY pmax pmax
comp=Z,109nm,3.2s
THN Thein Dam 64.39 311 *i*x P **02 13 35.3 -1.0**
PEA0B Petropavlovsk- 64.59 18 *e*P **P** **02 13 37.7 +0.5**
PETK Petropavlovsk- 64.59 18 P **P** **02 13 37.9 +0.7**
comp=Z,60nm,0.8s,baz=193,slow=6.1,SNR=50
PETK LR LR 02 41 14.1
comp=Z,69nm,18.3s,baz=23,slow=35
PETK Petropavlovsk- 64.59 18 P **P** **02 13 37.9 +0.7**
PETK pmax pmax
comp=Z,60nm,0.8s
PETK Petropavlovsk- 64.59 18 P **P** **02 13 37.9 +0.7**
HVS Khovu-Aksy 65.61 336*c i*P **P** **02 13 44.6 +0.7**
BOD Bodaibo 65.87 351⇓ *i*P **P** **02 13 45.4 +0.1**
BOD pmax pmax
comp=Z,68nm,1.4s
KSH Kashi 67.65 318 P **P** **02 13 58.1 +0.9**
KSH *e*PcP **PcP** **02 14 22.6 -0.4**
KSH *e*pP **pP** **02 14 36.1 +1.3**
KSH *e*sP **sP** **02 14 55.0 +3.3**
KSH *e*PP **PP** **02 16 31.2 +2.7**
KSH PcS 02 18 27.1
KSH S **S** **02 22 40.6 -1.4**
KSH ScS **SKiKP** **02 23 37.2 -1.6**
KSH sS **sS** **02 23 49.5 +2.4**
KSH SS **SS** **02 27 08.9 +2.6**
KSH pmax pmax
comp=Z,31nm,0.7s
KSH LR LR
comp=N,170nm,6.5s
KSH LR LR
comp=E,140nm,4.9s
KSH LR LR
comp=Z,180nm,11.1s
MK31 Makanchi Array 67.94 327 *i*P **P** **02 13 59.2 +0.5**
MK31 pmax pmax
comp=Z,14nm,0.3s
MK31 Makanchi Array 67.94 327 *e*P **P** **02 13 58.8 +0.1**
MKAR Makanchi Array 67.94 327 P **P** **02 13 59.2 +0.4**
comp=Z,42nm,0.5s,baz=116,slow=8.2,SNR=562
MKAR Makanchi Array 67.94 327 P **P** **02 13 59.2 +0.4**
MKAR pmax pmax
comp=Z,43nm,0.5s
MKAR Makanchi Array 67.94 327 P **P** **02 13 59.2 +0.4**
ULHL Ulahol 68.88 320 P **P** **02 14 06.1 +1.2**
SNR=6.2
YAK Yakutsk 68.90 0 *e*P **P** **02 14 04.3 +0.1**
YAK *e* 02 14 27.3
YAK *e**PP **pP** **02 14 39.5 -2.5**
YAK *e* 02 16 38.8
YAK *e*S **S** **02 22 56.7 +1.1**
YAK *e* 02 23 51.4
YAK *e*SS **SS** **02 27 21.9 -2.5**
YAK pmax pmax
comp=Z,256nm,0.9s
YAK pmax pmax
comp=N,76nm,1.0s
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=E,1.0nm,0.3s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK smax smax
comp=N,117nm,3.6s
YAK smax smax
comp=E,64nm,2.9s
YAK Yakutsk 68.90 0 *e*P **P** **02 14 04.3 +0.1**
comp=E,308nm,0.8s
KZA Kyzart 69.43 320 P **P** **02 14 09.8 +1.3**
SNR=12
TKM2 Tokmak 2 69.64 321 *i*P **P** **02 14 10.2 +0.7**
TKM2 Tokmak 2 69.64 321 *e*P **P** **02 14 10.0 +0.5**
comp=E,17nm,0.6s
TKM2 Tokmak 2 69.64 321 P **P** **02 14 10.2 +0.7**
SNR=25
KBK Karagaybulak 69.92 320 P **P** **02 14 11.9 +0.7**
SNR=13
AAK Ala-Archa 70.19 320 *i*P **P** **02 14 13.9 +1.0**
AAK Ala-Archa 70.19 320 *e*P **P** **02 14 13.4 +0.5**
comp=E,109nm,1.0s
AAK Ala-Archa 70.19 320 P **P** **02 14 13.0 +0.1**
comp=E,144nm,1.0s,SNR=27
AAK Ala-Archa 70.19 320 P **P** **02 14 13.9 +1.0**
SNR=23
CHMS Chumysh 70.21 321 P **P** **02 14 13.3 +0.5**
SNR=6.3
FRU Bishkek 70.22 320⇑ *i*P **P** **02 14 14.0 +1.2**
FRU *e* 02 14 34.0
FRU pmax pmax
comp=Z,40nm,2.0s
FX1 Attu Island--F 70.32 26 P **P** **02 14 13.7 +0.5**
comp=Z,46nm,0.8s,baz=42,slow=2.8,SNR=4.8
FX1 Attu Island--F 70.32 26 P **P** **02 14 13.7 +0.5**
KBL Kabul 70.33 310 *e*P **P** **02 14 14.1 +0.2**
KBL pmax pmax
comp=Z,28nm,0.9s
KBL Kabul 70.33 310 *e*P **P** **02 14 14.1 +0.2**
comp=Z,28nm,0.9s
AML Almayashu 70.45 319 P **P** **02 14 15.7 +1.0**
SNR=42
USP Ospenovka 70.51 321 P **P** **02 14 15.2 +0.6**
SNR=37
EKS2 Erkin-Say 70.66 320 *e*P **P** **02 14 16.4 +0.7**
EKS2 pmax pmax
comp=Z,27nm,0.9s
EKS2 Erkin-Say 70.66 320 *e*P **P** **02 14 16.4 +0.7**
comp=Z,27nm,0.9s
EKS2 Erkin-Say 70.66 320 P **P** **02 14 16.8 +1.1**
SNR=49
ZAA0 Zalesovo Array 71.37 334 *e*P **P** **02 14 18.9 -0.6**
ZALV Zalesovo Beam 71.37 334 P **P** **02 14 19.1 -0.4**
comp=Z,22nm,0.3s,baz=117,slow=5.2,SNR=181
ZALV PKPPKP **P'P'df** **02 42 14.4 +3.6**
comp=Z,0.5nm,0.6s,baz=298,slow=3.2,SNR=4.4
ZALV Zalesovo Beam 71.37 334 P **P** **02 14 19.1 -0.4**
ZALV pmax pmax
comp=Z,22nm,0.3s
ZALV Zalesovo Beam 71.37 334 P **P** **02 14 19.1 -0.4**
ZALV P'P' 02 42 14.4

SEY	Seymchan	72.00	11	*ce*	P		P	02 14 24.0	+1.0	
KURK	Kurchatov	72.25	329	*ce*	P		P	02 14 25.0	+0.1	
KURK						pmax	pmax			
	comp=Z,95nm,0.9s									
KURK	Kurchatov	72.25	329	*e*	P		P	02 14 24.9	+0.1	
	comp=Z,92nm,0.8s									
KURK	Kurchatov	72.25	329		P		P	02 14 25.4	+0.6	
	SNR=48									
KURK	Kurchatov	72.25	329		P		P	02 14 25.4	+0.6	
	comp=Z,540nm,0.8s,SNR=73									
VNDA	Vanda	72.45	173		P		P	02 14 25.6	0.0	
	comp=Z,7.5nm,0.6s,baz=318,slow=6.4,SNR=28									
VNDA						LR	LR	02 41 42.8		
	comp=Z,220nm,20.5s,baz=341,slow=32									
VNDA	Vanda	72.45	173		*e* P		P	02 14 25.0	-0.6	
	comp=Z,8.1nm,0.8s									
NVS	Novosibirsk	72.66	334	⇑	*i* P		P	02 14 26.2	-0.9	
NVS					*i* *PP		pP	02 15 15.5	+10	
NVS					*i* S		S	02 23 37.1	-2.2	
NVS						pmax	pmax			
	comp=N,38nm,1.0s									
NVS						pmax	pmax			
	comp=E,37nm,1.0s									
NVS						pmax	pmax			
	comp=Z,86nm,1.0s									
NVS						smax	smax			
	comp=N,7.0nm,1.2s									
NVS						smax	smax			
	comp=E,12nm,1.3s									
KK31	Karatay Array	72.98	319	*i*	P		P	02 14 29.4	0.0	
KK31						pmax	pmax			
	comp=Z,3.0nm,0.3s									
KKAR	Karatay Array	72.98	319	*e*	P		P	02 14 29.4	0.0	
KKAR						pmax	pmax			
	comp=Z,26nm,0.9s									
KKAR	Karatay Array	72.98	319	*e*	P		P	02 14 29.4	0.0	
	comp=Z,26nm,0.9s									
WBK	Wadi Bani Khal	74.87	296		P		P	02 14 41.6	+0.8	
	SNR=7.2									
JMDO	Jabal Madar	75.59	295		P		P	02 14 45.4	+0.5	
	SNR=5.3									
SMDO	Samad	75.81	296		P		P	02 14 46.7	+0.5	
	SNR=12									
BSY	Bisya	76.49	295		P		P	02 14 50.5	+0.5	
	SNR=5.6									
HOQ	Hoqain	76.59	296		P		P	02 14 51.3	+0.7	
	SNR=15									
BVA0	Borovoye Array	77.79	328	*i*	P		P	02 14 55.9	-0.7	
BVA0						pmax	pmax			
	comp=Z,22nm,1.3s									
BVAR	Borovoye Array	77.79	328		P		P	02 14 56.6	0.0	
	comp=Z,31nm,0.8s,baz=123,slow=5.5,SNR=165									
BVAR	Borovoye Array	77.79	328		P		P	02 14 56.6	0.0	
BVAR						pmax	pmax			
	comp=Z,31nm,0.8s									
BVAR	Borovoye Array	77.79	328		P		P	02 14 56.6	0.0	
BRVK	Borovoye	77.86	328	*ce*	P		P	02 14 57.0	0.0	
BRVK						pmax	pmax			
	comp=Z,84nm,1.1s									
BRVK	Borovoye	77.86	328	*e*	P		P	02 14 56.9	0.0	
	comp=Z,67nm,1.0s									
BRVK	Borovoye	77.86	328		P		P	02 14 57.7	+0.8	
	comp=Z,390nm,1.1s,SNR=52									
BRVK	Borovoye	77.86	328		P		P	02 14 57.3	+0.4	
	SNR=32									
HATD	Hatta, Dubai	77.93	297		P		P	02 14 58.3	+0.3	
	SNR=5.3									
ABTO	Aybut	78.94	289		P		P	02 15 03.9	+0.2	
	SNR=5.7									
BILL	Bilibino	79.33	13		*e* P		P	02 15 03.8	-0.9	
BILL						pmax	pmax			
	comp=Z,13nm,1.1s									
BILL	Bilibino	79.33	13		*e* P		P	02 15 03.8	-0.9	
	comp=Z,13nm,1.1s									
ABKT	Ailbek	79.78	310		P		P	02 15 08.0	+0.2	
	comp=Z,166nm,1.5s,SNR=7.1									
UNV	Unalaska Valle	80.91	33		*e* P		P	02 15 14.2	+0.8	
AB31	Akbulak array	82.18	322		*i* P		P	02 15 19.7	-0.5	
AB31						pmax	pmax			
	comp=Z,23nm,0.6s									
ABKAR	Akbulak array	82.18	322		*e* P		P	02 15 19.7	-0.5	
	comp=Z,60nm,0.9s									
QSPA	South Pole Qui	82.90	180		P		P	02 15 23.7	-0.1	
	comp=Z,18nm,0.8s,baz=322,slow=1.9,SNR=51									
QSPA	South Pole Qui	82.90	180		*e* P		P	02 15 23.5	-0.3	
	comp=Z,17nm,0.8s									
SYO	Syowa Base	83.36	201	⇑	*e* P		P	02 15 25.0	-0.9	
SYO	Syowa Base	83.36	201	⇑	*e* PcP		PcP	02 15 30.0	0.0	
AKTO	Aktyubinsk	83.75	322		P		P	02 15 28.1	-0.2	
AKTO						pmax	pmax			
	comp=Z,7.0nm,0.9s									
SVE	Sverdlovsk	84.51	329	*de*	P		P	02 15 32.1	+0.2	
SVE						pmax	pmax			
	comp=Z,192nm,1.2s									
SDPT	Sand Point	84.72	33		*e* P		P	02 15 32.9	-0.1	
	comp=Z,137nm,0.8s									
ARU	Arti	85.44	328	*d*	*i* P		P	02 15 36.1	-0.5	
ARU								02 18 50.7		
ARU						PPP	PPP	02 20 48.3		
ARU						S	S	02 25 46.3	-8.1	
ARU						SS	SS	02 31 30.0	-3.4	
ARU						pmax	pmax			
	comp=Z,110nm,1.0s									
ARU	Arti	85.44	328		*e* P		P	02 15 35.8	-0.8	
	comp=Z,108nm,0.9s									
ARU	Arti	85.44	328		P		P	02 15 35.3	-1.3	
	comp=Z,604nm,0.7s,SNR=28									
TNA	Tin City	85.52	22		*e* P		P	02 15 37.4	+0.6	
	comp=Z,16nm,1.2s									
CHGN	Chignik	86.14	32		*e* P		P	02 15 39.5	-0.5	
RDF	Al-Radifah	86.28	300		*e* P		P	02 15 41.0	-0.4	
RDF						AMb	AMB	02 15 45.9		
	comp=Z,38nm,0.5s									
NAY	Al-Naaiem	86.60	300		*e* P		P	02 15 42.1	-0.9	
NAY						AMb	AMB	02 15 45.7		
	comp=Z,58nm,1.0s									
MIB	Mutribah	86.61	300		*e* P		P	02 15 41.8	-1.1	
MIB						AMb	AMB	02 15 46.4		
	comp=Z,88nm,1.2s									
RAYN	Ar Rayn	87.20	294		P		P	02 15 46.5	+0.5	
	comp=Z,239nm,0.9s,SNR=25									
SOKR	Solikamsk	87.36	331	*d*	*i* P		P	02 15 45.4	-0.4	
SOKR						pmax	pmax			
	comp=Z,40nm,0.9s									
DGRG	David-gareji	90.15	312		P		P	02 16 01.0	+1.5	
GNI	Garni	90.42	310		P		P	02 16 01.5	+0.6	
	comp=Z,2.6nm,0.6s,baz=323,slow=5.3,SNR=5.0									
GNI						LR	LR	03 03 07.1		
	comp=Z,85nm,18.3s,baz=269,slow=40									
GNI	Garni	90.42	310		*e* P		P	02 16 01.9	+1.0	
	comp=Z,12nm,1.0s									
TBLG	Delisi	90.66	312		*e* P		P	02 16 02.9	+1.0	
TBLG	Delisi	90.66	312		P		P	02 16 02.9	+1.0	
ZEI	Tsey	91.43	313		*e* P		P	02 16 05.5	-0.2	
ZEI						pmax	pmax			
	comp=Z,17nm,1.0s									
ONI	Oni	91.73	313		P		P	02 16 10.4	+3.6	
KMBO	Kilima Mbogo	91.96	269		*e* P		P	02 16 09.5	+0.7	
	comp=Z,7.7nm,1.4s									
KBZ	Khabaz	92.29	314		P		P	02 16 08.5	-0.8	
	comp=Z,3.9nm,1.0s,baz=87,slow=0.4,SNR=7.8									
KBZ	Khabaz	92.29	314		P		P	02 16 08.5	-0.8	
KBZ						pmax	pmax			
	comp=Z,4.0nm,1.0s									
KBZ	Khabaz	92.29	314		P		P	02 16 08.5	-0.8	
SML	Sawmill	92.55	28		*e* P		P	02 16 09.9	-0.3	
SML						pmax	pmax			
	comp=Z,16nm,1.2s									
SML	Sawmill	92.55	28		*e* P		P	02 16 09.9	-0.3	
	comp=Z,16nm,1.2s									
COLD	Coldfoot	92.78	23		*e* P		P	02 16 11.0	0.0	
	comp=Z,23nm,1.0s									
COLA	College	93.29	25		*e* P		P	02 16 12.1	-1.3	
COLA						pmax	pmax			
	comp=Z,15nm,0.9s									
COLA	College	93.29	25		*e* P		P	02 16 12.1	-1.3	
	comp=Z,15nm,0.9s									
DIV	Divide	93.66	29		*e* P		P	02 16 15.3	0.0	
	comp=Z,53nm,1.0s									
ILAR	Eielson Array	93.68	25		P		P	02 16 13.2	-2.0	
	comp=Z,15nm,0.9s,baz=272,slow=4.2,SNR=111									
ILAR						PP	PP	02 19 55.9	-6.5	
	comp=Z,5.2nm,1.1s,baz=251,slow=6.2,SNR=12									
ILAR	Eielson Array	93.68	25		P		P	02 16 13.2	-2.0	
ILAR						PP	PP	02 19 55.9	-6.5	
VRHR	Novokhopersk	94.03	321		*e* P		P	02 16 15.1	-2.0	
VRHR					*e*			02 26 35.6		
VRHR						pmax	pmax			
	comp=N,10.0nm,0.9s									
VRHR						pmax	pmax			
	comp=E,10.0nm,0.9s									
VRHR						pmax	pmax			
	comp=Z,20nm,0.9s									
PAX	Paxson	94.05	27		*e* P		P	02 16 16.4	-0.7	
PAX						pmax	pmax			
	comp=Z,50nm,1.1s									
PAX	Paxson	94.05	27		*e* P		P	02 16 16.4	-0.7	
	comp=Z,50nm,1.1s									
BMRM	Bremner River	94.20	29		*e* P		P	02 16 17.7	-0.1	
	comp=Z,22nm,0.9s									
DOT	Dot Lake	94.76	27		*e* P		P	02 16 19.6	-0.6	
	comp=Z,13nm,0.9s									
SNAA	Sanae	95.44	194		*e* P		P	02 16 23.8	+0.4	
	comp=Z,4.0nm,1.0s									
VORD	Divnogorie	95.48	321		*e* P		P	02 16 22.3	-1.4	
VSR	Storozhevoye	95.58	321		*e* P		P	02 16 22.7	-1.5	
VSR					*e*			02 26 44.4		
ASF	Jabal al Asfar	95.80	302		P		P	02 16 26.9	+1.1	
	comp=Z,3.8nm,1.0s,baz=33,slow=0.2,SNR=7.0									
ASF	Jabal al Asfar	95.80	302		P		P	02 16 26.9	+1.1	
KLMR	Klimovskoe	96.05	331		*e* P		P	02 16 22.2	-3.9	
KLMR						pmax	pmax			
	comp=Z,44nm,1.5s									
EGAK	Eagle	96.12	26		*e* P		P	02 16 25.9	-0.4	
	comp=Z,90nm,0.6s									
MOS	Moscow	96.77	325		*e* P		P	02 16 24.2	-5.3	
MOS					*e*			02 17 03.5		
MOS						pmax	pmax			
	comp=Z,50nm,1.1s									
DAWY	Dawson	96.86	26		*e* P		P	02 16 29.7	-0.1	
TMCR	Tamitsa	96.90	334		*e* P		P	02 16 27.5	-2.3	
TMCR						pmax	pmax			
	comp=Z,25nm,0.8s									
VNA2	Neumayer--Watz	97.02	193		*e* S		SKSac	02 26 52.4	+0.1	
	baz=122,slow=2.7									
VNA2	Neumayer--Watz	97.02	193		*e* P		Pdif	02 16 31.2	+0.8	
	baz=122,slow=2.7									
MMAI	Mount Meron Ar	97.12	302		P		Pdif	02 16 31.9	+0.1	
	comp=Z,4.8nm,0.9s,baz=90,slow=4.6,SNR=5.1									
MMAI	Mount Meron Ar	97.12	302		P		Pdif	02 16 31.9	+0.1	
VNA3	Neumayer Olymp	97.28	192		*e* P		Pdif	02 16 32.2	+0.6	
VNA3	Neumayer Olymp	97.28	192		*ep* P		pP	02 17 06.2	-5.1	
OBN	Obninsk	97.35	325	⇑	*i* P		P	02 16 30.6	-1.5	
OBN					*e*			02 20 31.3		
OBN					*e* S		SKSac	02 26 55.9	+1.5	
OBN						pmax	pmax			
	comp=Z,33nm,1.0s									
OBN	Obninsk	97.35	325		*e* P		P	02 16 30.5	-1.5	
	comp=Z,17nm,0.8s									
LVZ	Lovozero	98.29	338	*ce*	P		P	02 16 35.1	-1.0	
LVZ						pmax	pmax			
	comp=Z,14nm,0.9s									
LSZ	Lusaka	98.84	253		*e* P		P	02 16 39.7	-0.2	
	comp=Z,1.6nm,0.6s									
BRTR	Keskin Array B	98.87	309		P		P	02 16 38.2	-1.3	
	comp=Z,1.2nm,0.8s,baz=87,slow=3.2,SNR=7.1									
BRTR	Keskin Array B	98.87	309		P		P	02 16 38.2	-1.3	
BOSA	Boshof	98.88	240		P		P	02 16 39.7	-0.2	
	comp=Z,2.1nm,0.9s,baz=121,slow=5.9,SNR=3.1									
BOSA	Boshof	98.88	240		P		P	02 16 39.7	-0.2	
CSS	Prodhromos	98.95	304		*e* P		P	02 16 39.0	-0.8	
	comp=Z,7.1nm,1.0s									
INK	Inuvik	99.17	22		*e* P		Pdif	02 16 39.0	-0.9	
	comp=Z,13nm,1.2s									
ARCES	ARCESS Array B	101.43	340		P		Pdif	02 16 49.1	-1.0	
	comp=Z,15nm,0.8s,baz=83,slow=5.1,SNR=20									
ARCES						PKiKP	PKiKP	02 21 14.2	+0.9	
	comp=Z,1.9nm,0.8s,baz=106,slow=2.0,SNR=22									
ARCES						PKKPbc	PKKPbc	02 32 57.8	-3.3	
	comp=Z,1.0nm,0.5s,baz=245,slow=2.6,SNR=10									
ARCES	ARCESS Array B	101.43	340		P		Pdif	02 16 49.1	-1.0	
ARCES						PKiKP	PKiKP	02 21 14.2	+0.9	
ARCES						PKKPbc	PKKPbc	02 32 57.8	-3.3	
ARE0	ARCESS Array S	101.43	340		*e* Pdif		Pdif	02 16 49.2	-0.8	
AKASG	Malin Array Be	101.86	320		P		Pdif	02 16 50.5	-1.9	
	comp=Z,1.8nm,0.6s,baz=79,slow=3.7,SNR=7.9									
AKASG	Malin Array Be	101.86	320		*i* P		Pdif	02 16 51.2	-1.1	
AKASG						pmax	pmax			
	comp=Z,2.0nm,0.6s									
AKASG	Malin Array Be	101.86	320		P		Pdif	02 16 50.5	-1.9	
KIEV	Kiev	101.87	320		*e* P		Pdif	02 16 51.6	-0.8	
KIEV	Kiev	101.87	320		*e* Pdif		Pdif	02 16 51.6	-0.8	
FINES	FINESS Array B	102.53	331		Pdiff		Pdif	02 16 53.3	-1.7	
	comp=Z,3.0nm,0.9s,baz=81,slow=8.6,SNR=6.3									
FINES						PKiKP	PKiKP	02 21 16.8	+1.4	
	comp=Z,1.0nm,0.5s,baz=94,slow=4.5,SNR=3.5									
FINES	FINESS Array B	102.53	331		Pdif		Pdif	02 16 53.3	-1.7	
FINES						PKiKP	PKiKP	02 21 16.8	+1.4	
CFR	Carcaliu	102.90	315	⇓	*i* P		Pdif	02 16 56.8	-0.3	
CFR	Carcaliu	102.90	315	⇓	*i* P		Pdif	02 16 56.8	-0.3	
NACGM	Naroch	102.99	325		*e*		Pdif	02 16 53.0	-4.3	
VRI	Vrincioaia	103.84	315	⇑	P		Pdif	02 16 59.7	-1.6	
VRI	Vrincioaia	103.84	315	⇑	*i* P		Pdif	02 16 59.7	-1.6	
VRI	Vrincioaia	103.84	315	⇓	*i* P		PKiKP	02 22 17.3	-1.1	
TESR		103.85	316	⇓	*i* P		Pdif	02 16 58.8	-2.5	
PLOR	Plostina	103.90	315	⇑	P		Pdif	02 17 01.2	-0.4	
PLOR	Plostina	103.90	315	⇑	*i* P		Pdif	02 17 01.2	-0.4	
PLOR	Plostina	103.90	315	⇑	*i* P		PKiKP	02 21 18.4	-0.1	
MLR	Muntele Rosu	104.42	315		Pdiff		Pdif	02 17 03.0	-1.0	
	comp=Z,0.8nm,1.0s,baz=76,slow=5.0,SNR=5.1									
MLR						PKiKP	PKiKP	02 21 19.4	-0.2	
	comp=Z,2.2nm,1.0s,baz=90,slow=1.0,SNR=4.2									
MLR	Muntele Rosu	104.42	315		Pdif		Pdif	02 17 03.0	-1.0	
MLR						PKiKP	PKiKP	02 21 19.4	-0.2	
MLR	Muntele Rosu	104.42	315	⇑	*i* P		Pdif	02 17 03.1	-0.9	
MLR	Muntele Rosu	104.42	315	⇑	*i* P		PKiKP	02 21 21.2	+1.6	
BUR08	Bucovina Ar. S	104.74	317		*e* Pdif		Pdif	02 17 05.2	-0.2	
SUW	Suwalki	105.19	324		*e* P		Pdif	02 17 05.8	-1.2	
SUW	Suwalki	105.19	324		*e* P		Pdif	02 17 05.8	-1.2	
KWP	Kalwaria Pacla	106.14	320	⇑	P		Pdif	02 17 11.4	0.0	
KWP	Kalwaria Pacla	106.14	320	⇑	*i* P		Pdif	02 17 11.4	0.0	
UZH	Uzhgorod	106.55	319	⇓	*i* P		Pdif	02 17 12.6	-0.6	
VTS	Vitosha	106.65	312	⇑	*i* P		PKiKP	02 21 26.8	+3.0	
CRVS	Cervenica-Dubn	107.05	319		*e* P		Pdif	02 17 16.1	+0.6	
CRVS	Cervenica-Dubn	107.05	319		PDIF		Pdif	02 17 16.1	+0.6	
RES	Resolute Bay	107.87	11		*e* Pdif		Pdif	02 17 19.1	+0.5	
	comp=Z,16nm,1.7s									
YKW3	Yellowknife Ar	108.07	26		*e* PKP			02 21 25.4		
YKA	Yellowknife Ar	108.09	26		Pdiff		Pdif	02 17 19.4	-0.4	
	comp=Z,0.6nm,0.7s,baz=293,slow=4.9,SNR=9.5									
YKA						PKiKP	PKiKP	02 21 25.5	-0.2	
	comp=Z,0.5nm,0.5s,baz=292,slow=2.0,SNR=11									
YKA						PKKPbc	PKKPbc	02 32 37.6	-3.0	
	comp=Z,0.2nm,0.3s,baz=107,slow=3.3,SNR=5.3									
YKA						PKKPab	PKKPab	02 32 51.2	-1.1	
	comp=Z,0.2nm,0.6s,baz=109,slow=5.3,SNR=3.9									
YKA	Yellowknife Ar	108.09	26		Pdif		Pdif	02 17 19.4	-0.4	
YKA						PKiKP	PKiKP	02 21 25.5	-0.2	
YKA						PKKPbc	PKKPbc	02 32 37.6	-3.0	
YKA						PKKPab	PKKPab	02 32 51.2	-1.1	
VYHS	Vyhne	108.84	319		*e* P		Pdif	02 17 22.9	-0.6	
VYHS	Vyhne	108.84	319		PDIF		Pdif	02 17 22.9	-0.6	
NB2	NORSAR Subarra	109.56	333		P		Pdif	02 17 25.3	-1.1	
	baz=66,slow=4.6									
NB2	NORSAR Subarra	109.56	333		P		Pdif	02 17 25.3	-1.1	
	comp=Z,6.2nm,1.1s,baz=66,slow=4.6									
NOA	NORSAR Array B	109.56	333		Pdiff		Pdif	02 17 25.1	-1.3	
	comp=Z,2.8nm,0.9s,baz=68,slow=4.7,SNR=5.3									
NOA						PKiKP	PKiKP	02 21 28.5	0.0	
	comp=Z,1.1nm,0.8s,baz=151,slow=0.7,SNR=3.7									
NOA	NORSAR Array B	109.56	333		Pdif		Pdif	02 17 25.1	-1.3	
NOA						PKiKP	PKiKP	02 21 28.5	0.0	
VRAC	Vranov	110.12	320		PP		PP	02 22 08.4	+2.4	
	comp=Z,2.2nm,0.5s,baz=85,slow=12,SNR=3.4									
VRAC	Vranov	110.12	320		PP		PP	02 22 08.4	+2.4	
NEW	Newport	110.83	41		*e* PKP		PKiKP	02 21 31.1	-0.3	
NVAR	Mina Array Bea	111.83	52		Pdiff		Pdif	02 17 41.4	+4.1	
	comp=Z,0.5nm,0.6s,baz=264,slow=6.4,SNR=5.2									
NVAR						pPdiff	pPdif	02 18 15.5	-1.6	
	comp=Z,0.4nm,0.7s,baz=260,slow=2.7,SNR=2.2									
NVAR						PKiKP	PKiKP	02 21 35.1	+1.3	
	comp=Z,0.9nm,0.9s,baz=226,slow=0.4,SNR=4.6									
NVAR						PP	PP	02 22 14.1	-4.8	
	comp=Z,3.1nm,1.0s,baz=262,slow=6.0,SNR=6.6									
NVAR	Mina Array Bea	111.83	52		Pdif		Pdif	02 17 41.4	+4.1	
NVAR					*e*			02 18 15.5		
NVAR						PKiKP	PKiKP	02 21 35.1	+1.3	
NVAR						PP	PP	02 22 14.1	-4.8	
GERES	GERESS Array B	112.07	320		PKiKP		PKiKP	02 21 33.4	-0.4	
	comp=Z,0.9nm,0.5s,baz=106,slow=1.3,SNR=9.0									
GERES						PP	PP	02 22 15.6	-4.4	
	comp=Z,0.7nm,0.6s,baz=50,slow=3.1,SNR=2.8									
GERES						SKiKP	SKiKP	02 24 55.0	+0.4	
	comp=Z,0.7nm,0.6s,baz=101,slow=1.4,SNR=5.6									
GERES	GERESS Array B	112.07	320		PKiKP		PKiKP	02 21 33.4	-0.4	
GERES						PP	PP	02 22 15.6	-4.4	
GERES					*e*			02 24 55.0		
D12A	Red Ives Fores	112.28	42	⇑	P		PKiKP	02 21 34.0	-0.2	
	baz=112									
A13A	Flathead Natio	112.41	40	⇓	P		PKiKP	02 21 34.8	+0.4	
	baz=112									
BSMT	Bassoo Peak	112.45	41		*e* PKP		PKiKP	02 21 34.5	-0.2	
B13A	Whitefish	112.52	40	⇓	P		PKiKP	02 21 34.7	+0.1	
	baz=112									
EDW2	Edwards Air Fo	112.57	55	⇑	P		PKiKP	02 21 35.9	+0.8	
	baz=113									
C13A	Hot Springs	112.63	41	⇑	P		PKiKP	02 21 35.0	+0.1	
	baz=113									
F12A	Elk City	112.66	43	⇓	P		PKiKP	02 21 35.0	0.0	
	baz=113									
LRMC	Laurel Mountai	112.74	55	⇓	P		PKiKP	02 21 36.2	+0.7	
	baz=113									
G12A	Big Creek, Yel	112.75	44	⇑	P		PKiKP	02 21 35.8	+0.5	
	baz=113									
MFID	Camas Ranch	112.78	46	⇑	P		PKiKP	02 21 36.3	+0.9	
	baz=113									
MPMC	Manual Prospec	112.82	54	⇓	P		PKiKP	02 21 36.4	+0.6	
	baz=113									
D13A	Huson	112.86	42	⇑	P		PKiKP	02 21 35.4	+0.1	
	baz=113									
C14A	Swan Lake	113.15	41	⇑	P		PKiKP	02 21 36.3	+0.5	
	baz=113									
I12A	Atlanta	113.19	45	⇑	P		PKiKP	02 21 36.5	+0.4	
	baz=113,SNR=7.3									
H12A	Diamond D Ranc	113.21	44	⇑	P		PKiKP	02 21 36.8	+0.6	
	baz=113									
MSO	Missoula	113.27	42	⇓	P		PKiKP	02 21 36.2	0.0	
	baz=113									
F13A	Darby	113.27	43	⇑	P		PKiKP	02 21 36.1	-0.1	
	baz=113									
B14A	Marquette Ranc	113.29	40	⇑	P		PKiKP	02 21 36.5	+0.3	
	baz=113									
ABTA	Abfaltersbach	113.40	318	⇑	*i* PKiKP		PKiKP	02 21 36.0	-0.3	
	comp=Z,5.8nm,1.0s									
GSC	Goldstone	113.47	55	⇑	P		PKiKP	02 21 37.1	+0.3	
	baz=114									
D14A	Greenough	113.49	42	⇓	P		PKiKP	02 21 36.7	+0.1	
	baz=114									
G13A	Cobalt	113.51	44	⇓	P		PKiKP	02 21 37.1	+0.4	
	baz=114									
H13A	Challis	113.63	44	⇓	P		PKiKP	02 21 37.2	+0.3	
	baz=114,SNR=5.1									
E14A	Clinton	113.68	42	⇑	P		PKiKP	02 21 37.3	+0.3	
	baz=114									
CHMT	Chamberlain Mo	113.70	42		*e* PKP		PKiKP	02 21 36.7	-0.4	
HLID	Hailey	113.75	45		*e* PKP		PKiKP	02 21 38.1	+0.8	
HLID	Hailey	113.75	45	⇑	P		PKiKP	02 21 38.2	+1.0	
	baz=114,SNR=8.8									
B15A	Bradely Ranch,	113.76	40	⇓	P		PKiKP	02 21 36.9	-0.2	
	baz=114									
WTTA	Wattenberg	113.83	319	⇓	*i* PKiKP		PKiKP	02 21 36.9	-0.4	
	comp=Z,3.7nm,0.4s									
I13A	Wildhorse Cree	113.88	45	⇑	P		PKiKP	02 21 38.6	+1.1	
	baz=114,SNR=7.1									
C15A	Salmond Ranch,	113.88	41	⇑	P		PKiKP	02 21 37.6	+0.3	
	baz=114									

RRI2 **Red Ridge** 115.99 45 ePKPdf **PKPdf** 02 21 42.8 +1.1
E18A **Harlowton** 116.00 41 ⇑P **PKPdf** 02 21 41.8 +0.3
baz=116
B19A **Brinkman Farms** 116.00 39 ⇓P **PKPdf** 02 21 41.5 +0.2
baz=116
IMW **Indian Meadow** 116.10 44 ePKPdf **PKPdf** 02 21 42.7 +0.8
C19A **Slack Wire Ran** 116.18 40 ⇓P **PKPdf** 02 21 41.8 +0.2
baz=116,SNR=6.6
TPAW **Teton Pass** 116.21 45 ePKPdf **PKPdf** 02 21 43.2 +1.1
P15A **Leamington** 116.23 49 ⇑P **PKPdf** 02 21 42.7 +0.6
baz=116
L16A **Fish Haven** 116.26 46 ⇓P **PKPdf** 02 21 42.7 +0.5
baz=116
HWUT **Hardware Ranch** 116.27 47 ePKPdf **PKPdf** 02 21 42.2 +0.1
MOOW **Moose Ponds** 116.28 44 ePKPdf **PKPdf** 02 21 42.8 +0.6
REDW **Red Top Meadow** 116.31 45 ePKPdf **PKPdf** 02 21 42.8 +0.6
REDW eSKPdf **SKiKP** 02 25 04.8 +1.4
F18A **Big Timber** 116.34 42 ⇑P **PKPdf** 02 21 42.8 +0.7
baz=116
113A **Mohawk Valley,** 116.35 57 ⇓P **PKPdf** 02 21 43.0 +0.7
baz=116
I17A **Pilgrim Ck.** 116.35 44 ⇓P **PKPdf** 02 21 43.2 +0.9
baz=116
SNOW **Snow King Moun** 116.35 45 ePKPdf **PKPdf** 02 21 43.7 +1.3
J17A **Brown Place, J** 116.41 45 ⇓P **PKPdf** 02 21 43.6 +1.1
baz=116,SNR=6.0
LOHW **Long Hollow** 116.42 45 ePKPdf **PKPdf** 02 21 42.3 -0.1
LOHW eSKPdf **SKiKP** 02 25 04.9 +1.3
D19A **Cripps Ranch,** 116.48 40 ⇓P **PKPdf** 02 21 42.4 +0.2
baz=116
A20A **Cobblestone Ra** 116.48 38 ⇓P **PKPdf** 02 21 42.4 +0.2
baz=116
WLF **Walferdange** 116.50 323 ePKIKP **PKPdf** 02 21 41.9 -0.2
WLF **Walferdange** 116.50 323 ePKPdf **PKPdf** 02 21 41.9 -0.2
B20A **Solberg Farm,** 116.58 39 ⇑P **PKPdf** 02 21 42.5 +0.1
baz=117,SNR=5.1
HINF **Hinteralfeld** 116.74 320 ePKIKP **PKPdf** 02 21 42.1 -0.6
HINF **Hinteralfeld** 116.74 320 ePKIKP **PKPdf** 02 21 42.1 -0.6
HINF **Hinteralfeld** 116.74 320 ePKPdf **PKPdf** 02 21 42.1 -0.6
E19A **Rath Farm, Rou** 116.77 41 ⇓P **PKPdf** 02 21 43.5 +0.6
baz=117
Y14A **Wickenburg** 116.78 56 ⇑P **PKPdf** 02 21 43.5 +0.2
baz=117
C20A **Veseth Ranch,** 116.85 40 ⇓P **PKPdf** 02 21 43.0 +0.1
baz=117,SNR=5.1
F19A **Roth Farm, Mol** 116.87 42 ⇓P **PKPdf** 02 21 43.5 +0.5
baz=117
RLMT **Red Lodge** 116.88 43 ⇓P **PKPdf** 02 21 44.2 +0.9
baz=117
U15A **North Rim** 116.89 53 ⇓P **PKPdf** 02 21 44.6 +1.0
baz=117
I18A **Diamond G Ranc** 116.94 44 ⇓P **PKPdf** 02 21 43.7 +0.2
baz=117
J18A **Kendall Valley** 116.94 45 ⇑P **PKPdf** 02 21 44.3 +0.8
baz=117
M17A **Scullys Gap (B** 116.95 47 ⇑P **PKPdf** 02 21 43.9 +0.3
baz=117
N17A **Moffit Pass** 116.97 48 ⇓P **PKPdf** 02 21 43.9 +0.2
baz=117
D20A **Manuel Ranch,** 116.98 40 ⇑P **PKPdf** 02 21 43.5 +0.3
baz=117
HAU **Haudompre** 116.99 321 ePKIKP **PKPdf** 02 21 43.0 -0.1
comp=Z,7.4nm,0.7s
HAU **Haudompre** 116.99 321 ePKIKP **PKPdf** 02 21 43.0 -0.1
HAU **Haudompre** 116.99 321 ePKPdf **PKPdf** 02 21 43.0 -0.1
A21A **Bergtoll Ranch** 117.06 38 ⇑P **PKPdf** 02 21 43.6 +0.4
baz=117
K18A **Toltan Ranch,** 117.08 46 ⇓P **PKPdf** 02 21 44.5 +0.7
baz=117,SNR=8.2
GIVF **Givet** 117.13 323 ePKIKP **PKPdf** 02 21 43.6 +0.3
GIVF **Givet** 117.13 323 ePKIKP **PKPdf** 02 21 43.6 +0.3
GIVF **Givet** 117.13 323 ePKPdf **PKPdf** 02 21 43.6 +0.3
PAGF **Fort de Pagny** 117.18 322 ePKIKP **PKPdf** 02 21 44.1 +0.7
PAGF **Fort de Pagny** 117.18 322 ePKPdf **PKPdf** 02 21 44.1 +0.7
E20A **Meyer Farm, Mu** 117.19 41 ⇑P **PKPdf** 02 21 44.4 +0.8
baz=117
B21A **Ellsworth Farm** 117.21 39 ⇓P **PKPdf** 02 21 44.1 +0.5
baz=117
Q16A **Castle Valley** 117.22 50 ⇓P **PKPdf** 02 21 44.7 +0.6
baz=117
O17A **Robinson Place** 117.23 48 ⇓P **PKPdf** 02 21 44.6 +0.5
baz=117
214A **Organ Pipe Nat** 117.27 58 ⇓P **PKPdf** 02 21 45.0 +0.8
baz=117
L18A **Fontenelle, Gr** 117.29 46 ⇑P **PKPdf** 02 21 44.7 +0.6
baz=117,SNR=6.3
FFC **Flin Flon** 117.34 31 ePKIKP **PKPdf** 02 21 43.3 -0.3
FFC **Flin Flon** 117.34 31 ePKPdf **PKPdf** 02 21 43.3 -0.3
C21A **Desert Coulee** 117.38 39 ⇓P **PKPdf** 02 21 44.5 +0.6
baz=117,SNR=8.3
BW06 **Boulder Array** 117.39 45 ePKPdf **PKPdf** 02 21 44.6 +0.2
BW06 **Boulder Array** 117.39 45 ⇑P **PKPdf** 02 21 44.7 +0.3
baz=117
PDAR **Pinedale Array** 117.39 45 PKP **PKPdf** 02 21 44.4 0.0
comp=Z,1.1nm,0.5s,baz=50,slow=2.9,SNR=14
PDAR PP **PP** 02 22 59.6 +1.9
comp=Z,1.7nm,0.9s,baz=285,slow=8.2,SNR=2.8
PDAR SKP 02 25 06.4
comp=Z,0.9nm,0.8s,baz=166,slow=0.6,SNR=3.9
PDAR **Pinedale Array** 117.39 45 PKP **PKPdf** 02 21 44.4 0.0
PDAR PP **PP** 02 22 59.6 +1.9
PDAR SKP 02 25 06.4
M18A **Lyman** 117.40 47 ⇑P **PKPdf** 02 21 44.8 +0.4
baz=117
P17A **Butcher Ranch,** 117.41 49 ⇑P **PKPdf** 02 21 44.7 +0.3
baz=117
BAIF **Baives** 117.51 324 ePKIKP **PKPdf** 02 21 44.3 +0.3
BAIF **Baives** 117.51 324 ePKIKP **PKPdf** 02 21 44.3 +0.3
BAIF **Baives** 117.51 324 ePKPdf **PKPdf** 02 21 44.3 +0.3
G20A **Bridger** 117.56 42 ⇑P **PKPdf** 02 21 45.1 +0.6
baz=118,SNR=8.8
LPG **La Plagne** 117.59 318 ePKIKP **PKPdf** 02 21 44.8 +0.1
LPG **La Plagne** 117.59 318 ePKIKP **PKPdf** 02 21 44.8 +0.1
LPG **La Plagne** 117.59 318 ePKPdf **PKPdf** 02 21 44.8 +0.1
J19A **Crowheart** 117.60 45 ⇓P **PKPdf** 02 21 45.4 +0.8
baz=118,SNR=6.8
CABF **La Chapelle** 117.65 319 ePKIKP **PKPdf** 02 21 44.8 +0.3
comp=Z,10nm,0.5s
CABF **La Chapelle** 117.65 319 ePKIKP **PKPdf** 02 21 44.8 +0.3
CABF **La Chapelle** 117.65 319 ePKPdf **PKPdf** 02 21 44.8 +0.3
SRU **San Rafael** 117.66 49 ⇑P **PKPdf** 02 21 45.1 +0.2
baz=118
A22A **Carney Farms,** 117.67 38 ⇑P **PKPdf** 02 21 45.1 +0.6
baz=118
D21A **La Casta Ranch** 117.72 40 ⇓P **PKPdf** 02 21 45.3 +0.6
baz=118
L19A **Farson** 117.72 46 ⇓P **PKPdf** 02 21 45.3 +0.3
baz=118
P18A **Preston Nutter** 117.74 49 ⇓P **PKPdf** 02 21 45.6 +0.4
baz=118
BNI **Bardonecchia** 117.79 318 ePKIKP **PKPdf** 02 21 44.8 -0.1
BNI **Bardonecchia** 117.79 318 ePKPdf **PKPdf** 02 21 44.8 -0.1
S17A **Black Ridge (B** 117.80 51 ⇑P **PKPdf** 02 21 45.7 +0.6
baz=118
WUAZ **Wupatki** 117.81 54 ePKPdf **PKPdf** 02 21 46.2 +0.9
WUAZ ePP **PP** 02 22 58.9 -2.0
WUAZ **Wupatki** 117.81 54 ⇓P **PKPdf** 02 21 46.0 +0.7
baz=118
N18A **Larsen Ranch,** 117.81 47 ⇓P **PKPdf** 02 21 45.7 +0.6
baz=118
MBDF **Montbardon** 117.83 317 ePKIKP **PKPdf** 02 21 45.3 +0.3
comp=Z,7.7nm,0.7s
MBDF **Montbardon** 117.83 317 ePKIKP **PKPdf** 02 21 45.3 +0.3
MBDF **Montbardon** 117.83 317 ePKPdf **PKPdf** 02 21 45.3 +0.3
K19A **Absolon Red Bu** 117.87 45 ⇑P **PKPdf** 02 21 45.4 +0.1
baz=118,SNR=7.9
H20A **Greybull** 117.94 43 ⇓P **PKPdf** 02 21 45.7 +0.5
baz=118,SNR=5.3
X16A **Lo Mia Camp, P** 117.97 55 ⇑P **PKPdf** 02 21 46.3 +0.7
baz=118
I20A **Worland** 118.02 44 ⇓P **PKPdf** 02 21 46.1 +0.7
baz=118,SNR=5.6
C22A **Vida** 118.17 39 ⇓P **PKPdf** 02 21 45.9 +0.4
baz=118,SNR=5.3
N19A **John Jarvie Ra** 118.19 47 ⇓P **PKPdf** 02 21 46.7 +0.8
baz=118
D22A **Cohagen** 118.21 40 ⇓P **PKPdf** 02 21 46.0 +0.4
baz=118,SNR=14
J20A **Shoshoni** 118.24 44 ⇑P **PKPdf** 02 21 46.2 +0.3
baz=118,SNR=9.5
K20A **Yellowstone Ra** 118.28 45 ⇓P **PKPdf** 02 21 46.1 +0.1
baz=118,SNR=5.3
FRF **La Foret Royal** 118.29 316 ePKIKP **PKPdf** 02 21 45.9 +0.2
FRF **La Foret Royal** 118.29 316 ePKIKP **PKPdf** 02 21 45.9 +0.2
FRF **La Foret Royal** 118.29 316 ePKPdf **PKPdf** 02 21 45.9 +0.2
KEST **Kesra** 118.37 307 PKP **PKPdf** 02 21 46.7 +0.5
comp=Z,1.6nm,0.9s,baz=0.5,slow=1.7,SNR=6.8
KEST PP **PP** 02 23 00.7 -4.0
comp=Z,3.5nm,0.9s,baz=342,slow=4.6,SNR=7.9
KEST **Kesra** 118.37 307 ePKPdf **PKPdf** 02 21 46.5 +0.2
KEST PKP **PKPdf** 02 21 46.7 +0.5
KEST PP **PP** 02 23 00.7 -4.0
ORIF **Oris-en-Rattie** 118.37 318 ePKIKP **PKPdf** 02 21 45.9 -0.1
comp=Z,6.2nm,0.6s
ORIF **Oris-en-Rattie** 118.37 318 ePKIKP **PKPdf** 02 21 45.9 -0.1
ORIF **Oris-en-Rattie** 118.37 318 ePKPdf **PKPdf** 02 21 45.9 -0.1
O19A **Miners Draw (B** 118.40 48 ⇓P **PKPdf** 02 21 46.9 +0.6
baz=118
S18A **Hurst Farm, Bl** 118.41 51 ⇓P **PKPdf** 02 21 47.3 +0.8
baz=118
B23A **Brockton** 118.44 38 ⇑P **PKPdf** 02 21 46.0 +0.1
baz=118
LMR **La Mourre** 118.46 316 ePKIKP **PKPdf** 02 21 46.0 -0.1
LMR **La Mourre** 118.46 316 ePKIKP **PKPdf** 02 21 46.0 -0.1
LMR **La Mourre** 118.46 316 ePKPdf **PKPdf** 02 21 46.0 -0.1
L20A **Wamsutter** 118.47 46 ⇓P **PKPdf** 02 21 46.9 +0.4
baz=118
H21A **Big Horn, Sher** 118.54 43 ⇑P **PKPdf** 02 21 46.7 +0.4
baz=118
C23A **Lambert** 118.58 39 ⇓P **PKPdf** 02 21 47.2 +0.9
baz=119,SNR=7.1
E22A **Miles City** 118.62 40 ⇓P **PKPdf** 02 21 46.6 +0.3
baz=119
I21A **Big Trails, Te** 118.64 44 ⇑P **PKPdf** 02 21 46.3 -0.3
baz=119,SNR=5.8
Q19A **Hogan Spring (** 118.65 49 ⇑P **PKPdf** 02 21 47.4 +0.6
baz=119
F22A **Rosebud** 118.66 41 ⇓P **PKPdf** 02 21 46.6 +0.1
baz=119
P19A **Cripple Cowboy** 118.68 49 ⇓P **PKPdf** 02 21 47.3 +0.4
baz=119
J21A **Lysite** 118.69 44 ⇑P **PKPdf** 02 21 47.0 +0.2
baz=119
M20A **Sweetwater, Wa** 118.74 46 ⇑P **PKPdf** 02 21 47.4 +0.4
baz=119
D23A **Lindsay** 118.81 39 ⇑P **PKPdf** 02 21 47.4 +0.6
baz=119,SNR=5.5
LOR **Lormes** 118.83 321 ePKIKP **PKPdf** 02 21 46.6 -0.1
comp=Z,10.0nm,1.1s
LOR **Lormes** 118.83 321 ePKPdf **PKPdf** 02 21 46.6 -0.1
G22A **Birney** 118.83 42 ⇑P **PKPdf** 02 21 46.7 -0.2
baz=119
A24A **Westby** 118.85 37 ⇓P **PKPdf** 02 21 46.9 +0.2
baz=119,SNR=5.1
N20A **Spence Gulch,** 118.88 47 ⇑P **PKPdf** 02 21 47.9 +0.6
baz=119,SNR=8.4
SMRF **Simiane la Rot** 118.89 317 ePKIKP **PKPdf** 02 21 47.6 +0.7
SMRF **Simiane la Rot** 118.89 317 ePKPdf **PKPdf** 02 21 47.6 +0.7
TUC **Tucson** 118.91 57 ePKIKP **PKPdf** 02 21 48.4 +1.0
TUC **Tucson** 118.91 57 ePKPdf **PKPdf** 02 21 48.4 +1.0
DGMT **Dagmar** 118.92 38 ⇑P **PKPdf** 02 21 48.1 +1.2
baz=119
E23A **Ismay** 119.01 40 ⇓P **PKPdf** 02 21 47.6 +0.5
baz=119,SNR=5.9
H22A **Clearmont** 119.01 42 ⇓P **PKPdf** 02 21 47.3 0.0
baz=119,SNR=5.1
K21A **Alcova** 119.05 45 ⇑P **PKPdf** 02 21 47.5 0.0
baz=119,SNR=7.8
SMF **Signal de Mont** 119.08 320 ePKIKP **PKPdf** 02 21 47.1 -0.1
SMF **Signal de Mont** 119.08 320 ePKIKP **PKPdf** 02 21 47.1 -0.1
SMF **Signal de Mont** 119.08 320 ePKPdf **PKPdf** 02 21 47.1 -0.1
O20A **White River Ci** 119.09 48 ⇓P **PKPdf** 02 21 48.3 +0.6
baz=119,SNR=8.7
SSF **Saint Saulge** 119.13 321 ePKIKP **PKPdf** 02 21 47.4 +0.1
comp=Z,7.9nm,0.8s
SSF **Saint Saulge** 119.13 321 ePKIKP **PKPdf** 02 21 47.4 +0.1
SSF **Saint Saulge** 119.13 321 ePKPdf **PKPdf** 02 21 47.4 +0.1
X18A **Snowflake** 119.16 54 ⇓P **PKPdf** 02 21 48.5 +0.5
baz=119
P20A **De Beque** 119.16 49 ⇓P **PKPdf** 02 21 48.3 +0.5
baz=119
C24A **Savage** 119.16 39 ⇑P **PKPdf** 02 21 48.0 +0.7
baz=119,SNR=5.9
I22A **9 Mile Ranch,** 119.17 43 ⇑P **PKPdf** 02 21 48.1 +0.5
baz=119
L21A **Rawlins** 119.18 46 ⇓P **PKPdf** 02 21 48.0 +0.2
baz=119,SNR=7.5
VIVF **Saint-Julien-l** 119.20 318 ePKIKP **PKPdf** 02 21 47.5 0.0
comp=Z,16nm,1.1s
VIVF **Saint-Julien-l** 119.20 318 ePKIKP **PKPdf** 02 21 47.5 0.0
VIVF **Saint-Julien-l** 119.20 318 ePKPdf **PKPdf** 02 21 47.5 0.0
W18A **Petrified Fore** 119.20 54 ⇓P **PKPdf** 02 21 48.8 +0.8
baz=119
F23A **Volborg** 119.23 41 ⇓P **PKPdf** 02 21 47.6 0.0
baz=119,SNR=5.4
M21A **Separation Pea** 119.29 46 ⇑P **PKPdf** 02 21 48.2 +0.1
baz=119,SNR=6.0
AVF **Avril sur Loir** 119.33 320 ePKIKP **PKPdf** 02 21 47.3 -0.3
AVF **Avril sur Loir** 119.33 320 ePKIKP **PKPdf** 02 21 47.3 -0.3
AVF **Avril sur Loir** 119.33 320 ePKPdf **PKPdf** 02 21 47.3 -0.3
J22A **Midwest** 119.33 44 ⇓P **PKPdf** 02 21 48.0 0.0
baz=119,SNR=17
U19A **Dine' College,** 119.35 52 ⇑P **PKPdf** 02 21 49.3 +1.0
baz=119
Q20A **Ridgley Place,** 119.38 49 ⇑P **PKPdf** 02 21 49.1 +0.9
baz=119
PV01 **Paradox Valley** 119.39 50 ePKPdf **PKPdf** 02 21 49.0 +0.7
D24A **Glendive** 119.39 39 ⇑P **PKPdf** 02 21 48.7 +0.9
baz=119
G23A **Biddle** 119.44 42 ⇓P **PKPdf** 02 21 48.4 +0.4
baz=119
N21A **Black Mountain** 119.44 47 ⇓P **PKPdf** 02 21 48.8 +0.5
baz=119,SNR=7.9
R20A **Redvale** 119.52 50 ⇑P **PKPdf** 02 21 49.5 +0.9
baz=120
K22A **Casper** 119.55 45 ⇓P **PKPdf** 02 21 48.7 +0.2
baz=120
E24A **Baker** 119.62 40 ⇓P **PKPdf** 02 21 49.0 +0.7
baz=120
S20A **Disappointment** 119.63 50 ⇑P **PKPdf** 02 21 49.4 +0.5
baz=120,SNR=5.4
O21A **Pagoda** 119.63 48 ⇓P **PKPdf** 02 21 49.2 +0.4
baz=120
MVCO **Mesa Verde** 119.68 51 ePKPdf **PKPdf** 02 21 49.7 +0.8
MVCO **Mesa Verde** 119.68 51 ⇓P **PKPdf** 02 21 49.7 +0.8
baz=120,SNR=7.6
BGF **Bois d'Agland** 119.74 320 ePKIKP **PKPdf** 02 21 48.7 +0.2
comp=Z,15nm,0.7s
BGF **Bois d'Agland** 119.74 320 ePKIKP **PKPdf** 02 21 48.7 +0.2
BGF **Bois d'Agland** 119.74 320 ePKPdf **PKPdf** 02 21 48.7 +0.2
L22A **Ellis Ranch, M** 119.82 45 ⇓P **PKPdf** 02 21 49.9 +0.9
baz=120
P21A **Newcastle** 119.85 48 ⇑P **PKPdf** 02 21 50.4 +1.2
baz=120
M22A **Cedar Creek Ra** 119.90 46 ⇑P **PKPdf** 02 21 50.0 +0.7
baz=120
Q21A **Lamborn Mesa,** 119.95 49 ⇑P **PKPdf** 02 21 50.3 +1.0
baz=120
LASF **Ste Croix** 120.02 317 ePKIKP **PKPdf** 02 21 49.4 +0.3
LASF **Ste Croix** 120.02 317 ePKPdf **PKPdf** 02 21 49.4 +0.3
G24A **Alzada** 120.03 41 ⇑P **PKPdf** 02 21 48.8 -0.3
baz=120,SNR=6.1
V20A **Brimhall** 120.05 53 ⇓P **PKPdf** 02 21 50.3 +0.6
baz=120
S21A **Coal Bank Pass** 120.11 50 ⇓P **PKPdf** 02 21 51.0 +1.2
baz=120,SNR=14
H24A **Dirks Ranch, A** 120.16 42 ⇓P **PKPdf** 02 21 48.9 -0.5
baz=120,SNR=5.4
W20A **Ramah** 120.19 53 ⇑P **PKPdf** 02 21 50.7 +0.7
baz=120,SNR=9.7
N22A **Wattenberg Ran** 120.19 47 ⇓P **PKPdf** 02 21 50.3 +0.4
baz=120
TCF **Toulx Ste Croi** 120.25 320 ePKIKP **PKPdf** 02 21 49.5 0.0
comp=Z,17nm,1.1s
TCF **Toulx Ste Croi** 120.25 320 ePKIKP **PKPdf** 02 21 49.5 0.0
TCF **Toulx Ste Croi** 120.25 320 ePKPdf **PKPdf** 02 21 49.5 0.0
SMCO **Snowmass** 120.30 49 ePKPdf **PKPdf** 02 21 51.2 +0.9
SMCO ePP **PP** 02 23 16.4 -1.8
L23A **Garrett** 120.31 45 ⇑P **PKPdf** 02 21 49.7 -0.2
baz=120
O22A **Kremmling** 120.32 47 ⇓P **PKPdf** 02 21 50.3 +0.1
baz=120
319A **Douglas** 120.34 58 ⇑P **PKPdf** 02 21 50.6 +0.4
baz=120
P22A **Eagle** 120.34 48 ⇓P **PKPdf** 02 21 51.2 +1.1
baz=120,SNR=5.0
Q22A **Crested Butte,** 120.44 49 ⇑P **PKPdf** 02 21 51.6 +1.2
baz=120,SNR=13
T21A **Navajo Lake** 120.48 51 ⇓P **PKPdf** 02 21 51.2 +0.8
baz=120
M23A **Laramie** 120.50 46 ⇑P **PKPdf** 02 21 50.6 +0.2
baz=120
N23A **Red Feather La** 120.53 46 ⇓P **PKPdf** 02 21 51.4 +0.9
baz=120
U21A **Nageezi** 120.53 52 ⇑P **PKPdf** 02 21 51.6 +1.0
baz=120,SNR=7.6
Z20A **Nine Sixteen R** 120.56 56 ⇑P **PKPdf** 02 21 51.7 +1.0
baz=121,SNR=6.9
Y20A **Horse Springs,** 120.56 55 ⇓P **PKPdf** 02 21 51.7 +0.9
baz=121
J24A **Dixon Ranch, L** 120.60 43 ⇑P **PKPdf** 02 21 50.5 +0.2
baz=121
V21A **Milan** 120.70 52 ⇓P **PKPdf** 02 21 51.7 +0.7
baz=121
RSSD **Black Hills** 120.73 42 ePKIKP **PKPdf** 02 21 50.3 -0.4
RSSD **Black Hills** 120.73 42 ePKPdf **PKPdf** 02 21 50.3 -0.4
R22A **Saguache, Gunn** 120.74 50 ⇓P **PKPdf** 02 21 52.3 +1.3
baz=121,SNR=5.8
O23A **Lake Granby, G** 120.77 47 ⇓P **PKPdf** 02 21 51.8 +0.7
baz=121,SNR=6.8
S22A **4UR Ranch, Cre** 120.82 50 ⇑P **PKPdf** 02 21 52.2 +1.1
baz=121,SNR=10
FLN **La Foliniere** 120.83 324 ePKIKP **PKPdf** 02 21 50.7 +0.2
comp=Z,12nm,0.8s
FLN **La Foliniere** 120.83 324 ePKIKP **PKPdf** 02 21 50.7 +0.2
FLN **La Foliniere** 120.83 324 ePKPdf **PKPdf** 02 21 50.7 +0.2
220A **Playas Peak, P** 120.86 57 ⇓P **PKPdf** 02 21 52.1 +0.9
baz=121,SNR=7.4
W21A **San Fidel** 120.87 53 ⇑P **PKPdf** 02 21 52.0 +0.7
baz=121
CAF **Calviac** 120.89 319 ePKIKP **PKPdf** 02 21 51.3 +0.5
CAF **Calviac** 120.89 319 ePKIKP **PKPdf** 02 21 51.3 +0.5
CAF **Calviac** 120.89 319 ePKPdf **PKPdf** 02 21 51.3 +0.5
X21A **Alamocita Cree** 120.92 54 ⇑P **PKPdf** 02 21 52.6 +1.2
baz=121,SNR=12
T22A **Edith** 120.96 51 ⇓P **PKPdf** 02 21 52.9 +1.5
baz=121,SNR=6.3
320A **Kipp Ranch, An** 120.98 58 ⇑P **PKPdf** 02 21 52.7 +1.2
baz=121,SNR=9.5
P23A **Jefferson** 121.08 48 ⇓P **PKPdf** 02 21 52.7 +1.0
baz=121
RJF **Les Rejaudoux** 121.09 319 ePKIKP **PKPdf** 02 21 51.6 +0.5
RJF **Les Rejaudoux** 121.09 319 ePKIKP **PKPdf** 02 21 51.6 +0.5
RJF **Les Rejaudoux** 121.09 319 ePKPdf **PKPdf** 02 21 51.6 +0.5
Y21A **Point of Rocks** 121.11 54 ⇑P **PKPdf** 02 21 52.8 +1.0
baz=121
ISCO **Idaho Springs** 121.12 47 ⇓P **PKPdf** 02 21 52.3 +0.6
baz=121,SNR=5.6
M24A **Cheyenne** 121.14 45 ⇑P **PKPdf** 02 21 53.1 +1.5
baz=121
U22A **Llaves** 121.17 52 ⇓P **PKPdf** 02 21 52.8 +1.0
baz=121,SNR=8.7
Q23A **Hartsel** 121.23 49 ⇓P **PKPdf** 02 21 53.1 +1.2
baz=121
V22A **San Miguel Ran** 121.25 52 ⇑P **PKPdf** 02 21 53.1 +1.1
baz=121,SNR=6.9
Z21A **St. Cloud Mine** 121.27 55 ⇑P **PKPdf** 02 21 53.1 +1.0
baz=121
N24A **Carr** 121.31 46 ⇑P **PKPdf** 02 21 52.5 +0.7
baz=121
121A **Cookes Peak, D** 121.35 56 ⇑P **PKPdf** 02 21 52.9 +0.7
baz=121,SNR=9.1
MTLF **Montolieu** 121.40 317 ePKIKP **PKPdf** 02 21 51.8 +0.1
comp=Z,3.0nm,0.5s
MTLF **Montolieu** 121.40 317 ePKIKP **PKPdf** 02 21 51.8 +0.1
MTLF **Montolieu** 121.40 317 ePKPdf **PKPdf** 02 21 51.8 +0.1
R23A **Moffat** 121.45 49 ⇓P **PKPdf** 02 21 53.4 +1.1
baz=121,SNR=8.1
221A **Mesquite Ranch** 121.47 57 ⇑P **PKPdf** 02 21 53.6 +1.3
baz=122
L25A **Engebretsen Ra** 121.50 44 ⇓P **PKPdf** 02 21 52.9 +0.7
baz=122
X22A **Bernardo** 121.52 54 ⇑P **PKPdf** 02 21 53.1 +0.6
baz=122
MFF **Saint Martin d** 121.60 321 ePKIKP **PKPdf** 02 21 52.1 +0.1
comp=Z,7.1nm,0.6s
MFF **Saint Martin d** 121.60 321 ePKIKP **PKPdf** 02 21 52.1 +0.1
MFF **Saint Martin d** 121.60 321 ePKPdf **PKPdf** 02 21 52.1 +0.1
T23A **Casias Ranch,** 121.62 51 ⇓P **PKPdf** 02 21 54.0 +1.3
baz=122,SNR=6.7
M25A **Palm-Egli Farm** 121.69 45 ⇓P **PKPdf** 02 21 53.3 +0.7
baz=122
Y22A **Socorro** 121.70 54 ⇓P **PKPdf** 02 21 53.8 +1.0
baz=122,SNR=8.0
U23A **El Rito** 121.70 52 ⇓P **PKPdf** 02 21 53.9 +1.1
baz=122,SNR=7.5
LFF **La Frestale** 121.75 319 ePKIKP **PKPdf** 02 21 52.1 -0.2
LFF **La Frestale** 121.75 319 ePKIKP **PKPdf** 02 21 52.1 -0.2
LFF **La Frestale** 121.75 319 ePKPdf **PKPdf** 02 21 52.1 -0.2
ANMO **Albuquerque** 121.86 53 PKP **PKPdf** 02 21 54.2 +1.1
comp=Z,6.7nm,1.0s,baz=224,slow=3.3,SNR=16
ANMO SKP 02 25 15.7
comp=Z,2.3nm,1.0s,baz=252,slow=3.2,SNR=3.4
ANMO **Albuquerque** 121.86 53 ePKPdf **PKPdf** 02 21 53.8 +0.6
ANMO PKP **PKPdf** 02 21 54.2 +1.1
ANMO SKP 02 25 15.7
Z22A **Elephant Butte** 121.86 55 ⇑P **PKPdf** 02 21 54.0 +0.9
baz=122
V23A **Ortiz Mt. (NFS** 121.86 52 ⇑P **PKPdf** 02 21 54.6 +1.5
baz=122,SNR=5.1
LPM **Los Pinos Moun** 121.88 54 ePKPdf **PKPdf** 02 21 53.9 +0.7
BNM **Barren Site** 121.92 54 ePKPdf **PKPdf** 02 21 53.9 +0.6
R24A **Sanders Place,** 121.98 49 ⇑P **PKPdf** 02 21 54.3 +1.0
baz=122
W23A **Werner Place,** 122.04 53 ⇓P **PKPdf** 02 21 54.3 +0.8
baz=122,SNR=5.6
S24A **Houchin Ranch,** 122.08 50 ⇑P **PKPdf** 02 21 54.9 +1.3
baz=122
O25A **Wiggins** 122.10 47 ⇓P **PKPdf** 02 21 53.9 +0.5
baz=122
X23A **Hourglass Bar** 122.16 53 ⇓P **PKPdf** 02 21 54.4 +0.7
baz=122,SNR=6.6
P25A **Willow Gulch B** 122.27 47 ⇑P **PKPdf** 02 21 55.0 +1.2
baz=122
SGMF **Saint Gilles** 122.29 324 ePKIKP **PKPdf** 02 21 53.3 0.0
SGMF **Saint Gilles** 122.29 324 ePKIKP **PKPdf** 02 21 53.3 0.0
SGMF **Saint Gilles** 122.29 324 ePKPdf **PKPdf** 02 21 53.3 0.0
T24A **Torres, Weston** 122.37 50 ⇓P **PKPdf** 02 21 55.4 +1.3
baz=122
Q25A **Bedland, Calha** 122.40 48 ⇑P **PKPdf** 02 21 54.9 +0.8
baz=122
Y23A **Lovelace Mesa,** 122.43 54 ⇓P **PKPdf** 02 21 54.7 +0.4
baz=122,SNR=6.9
V24A **Rampart Ranch,** 122.58 52 ⇑P **PKPdf** 02 21 55.9 +1.3
baz=123,SNR=11
W24A **Lazy 6 Ranch,** 122.62 53 ⇓P **PKPdf** 02 21 55.8 +1.2
baz=123,SNR=12
S25A **Robets Cordova** 122.66 50 ⇑P **PKPdf** 02 21 55.2 +0.7
baz=123,SNR=5.9
ROSF **Rostrenen** 122.66 324 ePKIKP **PKPdf** 02 21 54.1 +0.1
ROSF **Rostrenen** 122.66 324 ePKIKP **PKPdf** 02 21 54.1 +0.1
ROSF **Rostrenen** 122.66 324 ePKPdf **PKPdf** 02 21 54.1 +0.1
EPF **Esparros** 122.78 317 ePKIKP **PKPdf** 02 21 54.6 +0.1
EPF **Esparros** 122.78 317 ePKIKP **PKPdf** 02 21 54.6 +0.1
EPF **Esparros** 122.78 317 ePKPdf **PKPdf** 02 21 54.6 +0.1
QUIF **Quistinic** 122.81 324 ePKIKP **PKPdf** 02 21 54.2 -0.1
QUIF **Quistinic** 122.81 324 ePKIKP **PKPdf** 02 21 54.2 -0.1
QUIF **Quistinic** 122.81 324 ePKPdf **PKPdf** 02 21 54.2 -0.1
T25A **Trinidad** 122.84 50 ⇑P **PKPdf** 02 21 55.5 +0.5
baz=123
P26A **Davis Ranch, A** 122.85 47 ⇓P **PKPdf** 02 21 55.6 +0.7
baz=123,SNR=8.2
ULM **Lac du Bonnet** 122.85 33 PKP **PKPdf** 02 21 53.9 -0.4
comp=Z,4.6nm,0.5s,baz=315,slow=3.0,SNR=9.6
ULM **Lac du Bonnet** 122.85 33 PKP **PKPdf** 02 21 53.9 -0.4
Y24A **Capitan** 122.93 54 ⇓P **PKPdf** 02 21 56.2 +0.9
baz=123,SNR=19
Q26A **Hugo** 122.94 48 ⇑P **PKPdf** 02 21 55.9 +0.9
baz=123
N27A **Anderson Farm,** 122.99 45 ⇑P **PKPdf** 02 21 55.6 +0.6
baz=123
U25A **Circle Dot Ran** 123.06 51 ⇑P **PKPdf** 02 21 56.4 +1.0
baz=123
V25A **Rancho No Teng** 123.06 52 ⇓P **PKPdf** 02 21 56.5 +1.1
baz=123,SNR=11
Z24A **Sheeppen Canyo** 123.14 55 ⇑P **PKPdf** 02 21 56.7 +1.0
baz=123,SNR=15
R26A **Arlington** 123.19 49 ⇑P **PKPdf** 02 21 56.1 +0.6
baz=123
124A **Stringfield Ra** 123.22 55 ⇑P **PKPdf** 02 21 57.0 +1.1
baz=123,SNR=10
O27A **Beecher Island** 123.25 46 ⇑P **PKPdf** 02 21 56.1 +0.6
baz=123
OGNE **Ogallala** 123.29 45 ⇑P **PKPdf** 02 21 56.2 +0.6
baz=123
224A **Cornudas Mount** 123.32 56 ⇑P **PKPdf** 02 21 56.9 +0.9
baz=123,SNR=7.2
W25A **X Bar L Ranch,** 123.36 52 ⇓P **PKPdf** 02 21 57.0 +1.0
baz=123,SNR=7.4

S26A	**Kim**	**123.40**	**49**	⇓P		**PKPdf**	**02 21 56.6**	**+0.7**
	baz=123,SNR=6.5							
P27A	**Ficken Ranch,**	**123.41**	**47**	⇓P		**PKPdf**	**02 21 56.7**	**+0.8**
	baz=123							
ETSF	**Etsaut**	**123.44**	**318**	*e*PKIKP		**PKPdf**	**02 21 56.7**	**+0.9**
ETSF	**Etsaut**	**123.44**	**318**	*e*PKIKP		**PKPdf**	**02 21 56.7**	**+0.9**
ETSF	**Etsaut**	**123.44**	**318**	*e*PKPdf		**PKPdf**	**02 21 56.7**	**+0.9**
T26A	**Comanche Natio**	**123.45**	**50**	⇓P		**PKPdf**	**02 21 57.1**	**+1.0**
	baz=123,SNR=9.8							
324A	**Moseley Ranch,**	**123.50**	**57**	⇓P		**PKPdf**	**02 21 56.9**	**+0.6**
	baz=124,SNR=13							
MNTX	**Cornudas Mount**	**123.52**	**57**	*e*PKPdf		**PKPdf**	**02 21 56.9**	**+0.7**
MNTX	**Cornudas Mount**	**123.52**	**57**	⇓P		**PKPdf**	**02 21 57.7**	**+1.5**
	baz=124,SNR=22							
Y25A	**Mesa, Roswell**	**123.53**	**54**	⇑P		**PKPdf**	**02 21 57.1**	**+0.8**
	baz=124,SNR=5.8							
U26A	**Atchley Ranch,**	**123.57**	**51**	⇑P		**PKPdf**	**02 21 57.1**	**+0.7**
	baz=124							
Z25A	**Roswell**	**123.68**	**55**	⇑P		**PKPdf**	**02 21 57.5**	**+0.9**
	baz=124,SNR=6.2							
R27A	**Eads**	**123.68**	**48**	⇓P		**PKPdf**	**02 21 57.2**	**+0.8**
	baz=124							
V26A	**Tequesquite Ra**	**123.72**	**51**	⇑P		**PKPdf**	**02 21 57.0**	**+0.4**
	baz=124,SNR=6.3							
SJPF	**Ste Jean**	**123.79**	**318**	*e*PKIKP		**PKPdf**	**02 21 56.4**	**0.0**
SJPF	**Ste Jean**	**123.79**	**318**	*e*PKIKP		**PKPdf**	**02 21 56.4**	**0.0**
SJPF	**Ste Jean**	**123.79**	**318**	*e*PKPdf		**PKPdf**	**02 21 56.4**	**0.0**
TAM	**Tamanrasset**	**123.86**	**293**	*e*PKIKP		**PKPdf**	**02 21 58.2**	**+0.9**
TAM	**Tamanrasset**	**123.86**	**293**	*e*PKPdf		**PKPdf**	**02 21 58.2**	**+0.9**
125A	**Gardner Draw,**	**123.89**	**55**	⇑P		**PKPdf**	**02 21 57.5**	**+0.5**
	baz=124,SNR=5.6							
225A	**Deer Hill, Car**	**123.89**	**56**	⇓P		**PKPdf**	**02 21 57.7**	**+0.6**
	baz=124,SNR=5.9							
325A	**Bean Ranch, Si**	**123.94**	**57**	⇓P		**PKPdf**	**02 21 57.6**	**+0.4**
	baz=124,SNR=6.9							
W26A	**Owens Ranch, T**	**123.94**	**52**	⇓P		**PKPdf**	**02 21 57.6**	**+0.5**
	baz=124							
X26A	**CR and CF Fran**	**124.06**	**53**	⇓P		**PKPdf**	**02 21 57.8**	**+0.5**
	baz=124,SNR=6.5							
425A	**Indio Mountain**	**124.06**	**58**	⇑P		**PKPdf**	**02 21 58.1**	**+0.7**
	baz=124,SNR=7.8							
GDL2	**Guadalupe Moun**	**124.24**	**56**	*e*PKPdf		**PKPdf**	**02 21 58.2**	**+0.5**
Z26A	**Caprock**	**124.28**	**54**	⇓P		**PKPdf**	**02 21 57.9**	**+0.1**
	baz=124							
126A	**Clayton Basin,**	**124.41**	**55**	⇑P		**PKPdf**	**02 21 58.5**	**+0.5**
	baz=124							
W27A	**Bowe Ranch, En**	**124.50**	**52**	⇓P		**PKPdf**	**02 21 58.4**	**+0.3**
	baz=124							
T28A	**Walsh**	**124.58**	**49**	⇓P		**PKPdf**	**02 21 58.9**	**+0.7**
	baz=125,SNR=5.4							
Y27A	**Causey**	**124.76**	**53**	⇑P		**PKPdf**	**02 21 59.0**	**+0.4**
	baz=125,SNR=9.9							
326A	**Caldwell Ranch**	**124.78**	**57**	⇓P		**PKPdf**	**02 21 59.3**	**+0.6**
	baz=125							
Z27A	**Tatum**	**124.88**	**54**	⇑P		**PKPdf**	**02 21 59.5**	**+0.6**
	baz=125							
426A	**McDonald Obser**	**124.89**	**57**	⇓P		**PKPdf**	**02 21 59.2**	**+0.1**
	baz=125							
V28A	**Channing**	**124.94**	**51**	⇓P		**PKPdf**	**02 21 59.3**	**+0.4**
	baz=125							
526A	**Mary Lane Ranc**	**124.98**	**58**	⇑P		**PKPdf**	**02 22 00.1**	**+0.9**
	baz=125,SNR=12							
MSTX	**Muleshoe**	**125.05**	**53**	⇓P		**PKPdf**	**02 21 59.6**	**+0.4**
	baz=125							
626A	**Big Bend Ranch**	**125.06**	**59**	⇓P		**PKPdf**	**02 21 59.6**	**+0.3**
	baz=125							
X28A	**Dimmitt**	**125.34**	**52**	⇓P		**PKPdf**	**02 22 00.6**	**+0.9**
	baz=125							
527A	**Woodward Ranch**	**125.36**	**58**	⇑P		**PKPdf**	**02 22 00.6**	**+0.6**
	baz=125,SNR=13							
427A	**Hayter Ranch,**	**125.37**	**57**	⇑P		**PKPdf**	**02 22 00.6**	**+0.7**
	baz=125,SNR=11							
V29A	**Stinnett**	**125.44**	**51**	⇓P		**PKPdf**	**02 22 00.7**	**+0.8**
	baz=125							
Y28A	**McKinney Farm,**	**125.48**	**53**	⇓P		**PKPdf**	**02 22 00.6**	**+0.6**
	baz=126							
TXAR	**Lajitas Array**	**125.51**	**59**	PKP		**PKPdf**	**02 22 01.1**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=199,slow=3.5,SNR=24							
TXAR				PP		**PP**	**02 23 50.3**	**-2.9**
	comp=Z,0.8nm,0.8s,baz=295,slow=9.0,SNR=4.2							
TXAR				SKPbc	SKiKP		02 25 02.8	-19
	comp=Z,0.5nm,0.6s,baz=237,slow=3.6,SNR=6.7							
TXAR	**Lajitas Array**	**125.51**	**59**	PKP		**PKPdf**	**02 22 01.1**	**+0.9**
TXAR				PP		**PP**	**02 23 50.3**	**-2.9**
TXAR				SKPbc	SKiKP		02 25 02.8	-19
Z28A	**Tucker Farm, M**	**125.55**	**54**	⇑P		**PKPdf**	**02 21 59.9**	**-0.2**
	baz=126							
W29A	**Amarillo**	**125.59**	**52**	⇑P		**PKPdf**	**02 22 00.8**	**+0.7**
	baz=126							
AMTX	**Amarillo**	**125.64**	**52**	*e*PKPdf		**PKPdf**	**02 22 00.8**	**+0.6**
AMTX	**Amarillo**	**125.64**	**52**	⇑P		**PKPdf**	**02 22 00.9**	**+0.7**
	baz=126							
128A	**Castleberry Fa**	**125.66**	**55**	⇓P		**PKPdf**	**02 22 00.9**	**+0.5**
	baz=126							
228A	**UT Block 9, Go**	**125.71**	**55**	⇑P		**PKPdf**	**02 22 01.2**	**+0.7**
	baz=126							
627A	**Terlingua Ranc**	**125.72**	**59**	⇓P		**PKPdf**	**02 22 00.9**	**+0.3**
	baz=126							
328A	**Wristen Ranch,**	**125.73**	**56**	⇓P		**PKPdf**	**02 22 01.0**	**+0.5**
	baz=126,SNR=8.1							
ECSD	**EROS Data Cent**	**125.75**	**40**	*e*PKPdf		**PKPdf**	**02 22 00.1**	**0.0**
X29A	**Tulia**	**125.76**	**52**	⇓P		**PKPdf**	**02 22 01.3**	**+0.8**
	baz=126							
BGNE	**Belgrade**	**125.79**	**43**	⇓P		**PKPdf**	**02 22 00.2**	**-0.1**
	baz=126							
Y29A	**Porterfield Fa**	**125.96**	**53**	⇓P		**PKPdf**	**02 22 01.7**	**+0.8**
	baz=126,SNR=10							
428A	**Kincaid Ranch,**	**126.00**	**57**	⇓P		**PKPdf**	**02 22 02.0**	**+0.9**
	baz=126,SNR=6.0							
528A	**Cox Ranch, San**	**126.05**	**58**	⇓P		**PKPdf**	**02 22 02.0**	**+0.8**
	baz=126,SNR=6.5							
Z29A	**Hungry Hill Ra**	**126.11**	**54**	⇑P		**PKPdf**	**02 22 01.6**	**+0.4**
	baz=126,SNR=7.4							
628A	**Black Gap, Mar**	**126.13**	**59**	⇑P		**PKPdf**	**02 22 01.8**	**+0.5**
	baz=126							
129A	**Stewart Farms,**	**126.16**	**55**	⇓P		**PKPdf**	**02 22 01.3**	**0.0**
	baz=126,SNR=11							
329A	**Wagon Wheel Ra**	**126.38**	**56**	⇓P		**PKPdf**	**02 22 02.5**	**+0.7**
	baz=126,SNR=7.5							
229A	**Bryant Ranch,**	**126.39**	**55**	⇑P		**PKPdf**	**02 22 02.2**	**+0.5**
	baz=126							
EYMN	**Ely**	**126.53**	**33**	*e*PKPdf		**PKPdf**	**02 22 01.3**	**-0.2**
529A	**Stev Forest Ra**	**126.54**	**58**	⇓P		**PKPdf**	**02 22 02.5**	**+0.5**
	baz=126,SNR=9.7							
Z30A	**Sanderson Ranc**	**126.56**	**54**	⇓P		**PKPdf**	**02 22 02.1**	**0.0**
	baz=127							
429A	**Davenport Ranc**	**126.69**	**57**	⇑P		**PKPdf**	**02 22 02.7**	**+0.3**
	baz=127,SNR=8.9							
230A	**Sterling City**	**126.98**	**55**	⇓P		**PKPdf**	**02 22 03.0**	**+0.1**
	baz=127							
330A	**Mertzon**	**127.07**	**56**	⇑P		**PKPdf**	**02 22 03.3**	**+0.2**
	baz=127,SNR=5.2							
ESDC	**Sonseca Array**	**127.11**	**315**	PKP		**PKPdf**	**02 22 03.3**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=32,slow=3.3,SNR=7.0							
ESDC				PP		**PP**	**02 24 03.1**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=58,slow=7.0,SNR=8.2							
ESDC				SKPab	SKiKP		02 25 04.5	-20
	comp=Z,2.8nm,1.0s,baz=52,slow=3.1,SNR=5.8							
ESDC	**Sonseca Array**	**127.11**	**315**	PKP		**PKPdf**	**02 22 03.3**	**+0.4**
ESDC				PP		**PP**	**02 24 03.1**	**-0.1**
ESDC				SKPab	SKiKP		02 25 04.5	-20
430A	**Baggett Ranch,**	**127.19**	**57**	⇑P		**PKPdf**	**02 22 03.9**	**+0.6**
	baz=127,SNR=18							
530A	**J-C Ranch, Com**	**127.27**	**57**	⇓P		**PKPdf**	**02 22 04.2**	**+0.7**
	baz=127,SNR=9.0							
SPMN	**St. Paul**	**127.33**	**37**	⇑P		**PKPdf**	**02 22 03.8**	**+0.7**
	baz=127							
231A	**Bronte**	**127.62**	**55**	⇑P		**PKPdf**	**02 22 04.8**	**+0.8**
	baz=128,SNR=7.2							
331A	**San Angelo**	**127.71**	**56**	⇑P		**PKPdf**	**02 22 04.6**	**+0.4**
	baz=128,SNR=7.2							
431A	**Sonora**	**127.74**	**57**	⇓P		**PKPdf**	**02 22 05.0**	**+0.7**
	baz=128,SNR=7.8							
531A	**Rocksprings**	**127.93**	**57**	⇑P		**PKPdf**	**02 22 05.3**	**+0.6**
	baz=128,SNR=11							
WMOK	**Wichita Mounta**	**127.94**	**51**	*e*PKIKP		**PKPdf**	**02 22 04.7**	**+0.1**
WMOK				*e*			02 24 07.5	
WMOK	**Wichita Mounta**	**127.94**	**51**	*e*PKPdf		**PKPdf**	**02 22 04.7**	**+0.1**
WMOK				*e*PP		**PP**	**02 24 07.5**	**-1.3**
ABTX	**Abilene, Hawle**	**127.95**	**54**	⇑P		**PKPdf**	**02 22 05.2**	**+0.5**
	baz=128,SNR=5.9							
631A	**Perdido Creek**	**128.10**	**58**	⇓P		**PKPdf**	**02 22 05.5**	**+0.5**
	baz=128,SNR=11							
TOA0	**Torodi Ar. Sit**	**128.21**	**281**	*e*PKPdf		**PKPdf**	**02 22 05.5**	**0.0**
TORD	**Torodi Ar. Bea**	**128.21**	**281**	PKhKP		PKPpre	02 21 53.3	
	comp=Z,0.9nm,1.1s,baz=84,slow=1.0,SNR=5.3							
TORD				PKP		**PKPdf**	**02 22 05.5**	**0.0**
	comp=Z,4.5nm,0.8s,baz=70,slow=1.4,SNR=20							
TORD				SKPbc	SKiKP		02 25 10.2	-17
	comp=Z,9.6nm,0.9s,baz=77,slow=3.5,SNR=17							
TORD				SKP			02 25 27.2	
	comp=Z,2.3nm,0.7s,baz=82,slow=2.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**128.21**	**281**	PKPpre		PKPpre	02 21 53.3	
TORD				PKP		**PKPdf**	**02 22 05.5**	**0.0**
TORD				SKPbc	SKiKP		02 25 10.2	-17
TORD				SKP			02 25 27.2	
332A	**Millersview**	**128.25**	**55**	⇑P		**PKPdf**	**02 22 05.9**	**+0.6**
	baz=128,SNR=9.0							
432A	**Menard**	**128.35**	**56**	⇓P		**PKPdf**	**02 22 06.2**	**+0.7**
	baz=128							
JCT	**Junction City**	**128.46**	**57**	*e*PKIKP		**PKPdf**	**02 22 05.8**	**+0.1**
JCT	**Junction City**	**128.46**	**57**	*e*PKPdf		**PKPdf**	**02 22 05.8**	**+0.1**
JCT	**Junction City**	**128.46**	**57**	⇑P		**PKPdf**	**02 22 06.7**	**+1.0**
	baz=128,SNR=11							
532A	**Rocksprings**	**128.47**	**57**	⇓P		**PKPdf**	**02 22 06.1**	**+0.3**
	baz=128,SNR=6.2							
MVO	**Moncorvo**	**128.52**	**318**	*e*PP		SKPdf	02 25 12.4	-14
732A	**Laxson Ranch,**	**128.79**	**59**	⇑P		**PKPdf**	**02 22 07.3**	**+1.0**
	baz=129,SNR=6.1							
PCAB	**Cabril**	**128.91**	**319**	*e*PP		SKPdf	02 25 13.6	-13
COWI	**Conover**	**128.93**	**34**	*e*PKPdf		**PKPdf**	**02 22 06.2**	**+0.2**
PLCA	**Paso Flores**	**129.02**	**161**	PKP		**PKPdf**	**02 22 05.2**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=234,slow=9.4,SNR=10							
PLCA				SKPbc		SKPbc	02 25 13.2	-0.2
	comp=Z,8.4nm,1.0s,baz=188,slow=2.5,SNR=10							
PLCA				SKP			02 25 28.8	
	comp=Z,2.2nm,0.8s,baz=236,slow=6.1,SNR=4.1							
PLCA	**Paso Flores**	**129.02**	**161**	*e*PKPdf		**PKPdf**	**02 22 07.5**	**+0.9**
PLCA				SKPbc		SKPbc	02 25 13.2	-0.2
PLCA				SKP			02 25 28.8	
MTE	**Manteigas**	**129.24**	**318**	*e*PP		SKPbc	02 25 14.6	+0.6
PVIS	**Viseu**	**129.31**	**318**	*e*PP		SKPbc	02 25 14.7	+0.5
PCBR	**Castelo Branco**	**129.46**	**317**	*e*PP		SKPbc	02 25 15.5	+0.8
PMRV	**Marv??o**	**129.59**	**316**	*e*PP		SKPbc	02 25 15.7	+0.5
TUL1	**Tulsa**	**129.76**	**48**	⇑P		**PKPdf**	**02 22 08.7**	**+0.7**
	baz=130							
PESTR	**Estremoz**	**129.99**	**316**	*e*PP		SKPbc	02 25 17.0	+0.4
PTOM	**Tomar**	**130.20**	**317**	*e*PP		**SKPbc**	**02 25 18.3**	**+1.0**
MDT	**Midelt**	**130.26**	**307**	PKhKP		PKPpre	02 21 53.2	
	comp=Z,1.3nm,1.0s,baz=45,slow=8.6,SNR=2.3							
MDT				PKP		**PKiKP**	**02 22 10.1**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=336,slow=2.1,SNR=5.6							
MDT	**Midelt**	**130.26**	**307**	PKPpre		PKPpre	02 21 53.2	
MDT				PKP		**PKiKP**	**02 22 10.1**	**+0.1**
PMTG	**Montargil**	**130.34**	**316**	*e*PP		**SKPbc**	**02 25 18.5**	**+0.7**
EVO	**Evora**	**130.44**	**316**	*e*PKIKP		**PKPdf**	**02 22 08.8**	**-0.4**
	comp=Z,29nm,1.4s							
EVO	**Evora**	**130.44**	**316**	*e*PP		**SKPbc**	**02 25 19.2**	**+1.0**
EVOP	**Sao Brissos**	**130.52**	**316**	*e*PKIKP		**PKPdf**	**02 22 08.8**	**-0.5**
EVOP	**Sao Brissos**	**130.52**	**316**	*e*PKPdf		**PKPdf**	**02 22 08.8**	**-0.5**
PBEJ	**Beja**	**130.58**	**315**	*e*PP		**SKPbc**	**02 25 20.0**	**+1.3**
SCHQ	**Schefferville**	**130.63**	**12**	PKP		**PKPdf**	**02 22 09.9**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=333,slow=9.0,SNR=2.6							
SCHQ				SKPbc		**SKPab**	**02 25 19.2**	**+0.7**
	comp=Z,14nm,0.9s,baz=325,slow=6.7,SNR=7.9							
SCHQ	**Schefferville**	**130.63**	**12**	PKP		**PKPdf**	**02 22 09.9**	**+0.8**
SCHQ				SKPbc		**SKPab**	**02 25 19.2**	**+0.7**
PVAQ	**Vaqueiros**	**130.75**	**314**	*e*PP		**SKPbc**	**02 25 20.4**	**+1.0**
PCVE	**Castro Verde**	**130.88**	**315**	*e*PP		**SKPbc**	**02 25 20.9**	**+1.0**
PBDV	**Barranco-do-Ve**	**130.98**	**314**	*e*PP		**SKPbc**	**02 25 22.4**	**+2.1**
PNCL	**Nicolau / Gran**	**131.00**	**316**	*e*PP		**SKPbc**	**02 25 21.6**	**+1.3**
PTEO	**Sao Teotonio**	**131.40**	**315**	*e*PP		**SKPbc**	**02 25 24.3**	**+2.6**
MIAR	**Mount Ida**	**131.98**	**49**	*e*PKIKP		**PKPdf**	**02 22 13.4**	**+1.2**
MIAR	**Mount Ida**	**131.98**	**49**	*e*PKPdf		**PKPdf**	**02 22 13.4**	**+1.2**
MIAR				*e*SKP			02 25 26.0	
OLIL	**Olney**	**133.82**	**41**	*e*PKPdf		**PKPdf**	**02 22 16.8**	**+1.3**
TRQA	**Tornquist**	**133.87**	**168**	*e*PKPdf		**PKPdf**	**02 22 15.8**	**+0.1**
TRQA				*e*SKP			02 25 30.5	
DBIC	**Dimbokro**	**134.56**	**272**	PKhKP		PKPpre	02 22 05.9	
	comp=Z,1.5nm,0.5s,baz=109,slow=1.8,SNR=5.5							
DBIC				PKP		**PKiKP**	**02 22 19.1**	**0.0**
	comp=Z,3.9nm,0.4s,baz=95,slow=2.4,SNR=17							
DBIC				SKPbc		**SKPbc**	**02 25 33.1**	**-0.1**
	comp=Z,33nm,1.0s,baz=86,slow=3.6,SNR=24							
DBIC	**Dimbokro**	**134.56**	**272**	PKPpre		PKPpre	02 22 05.9	
DBIC				*e*PKPdf		**PKPdf**	**02 22 17.1**	**-0.5**
DBIC				PKP		**PKiKP**	**02 22 19.1**	**0.0**
DBIC				*e*SKP			02 25 32.8	
DBIC				SKPbc		**SKPbc**	**02 25 33.1**	**-0.1**
LIC	**Lamto**	**134.71**	**272**	*e*PKIKP		**PKPdf**	**02 22 17.7**	**-0.2**
	comp=Z,10.0nm,0.4s							
LIC	**Lamto**	**134.71**	**272**	*e*PKPdf		**PKPdf**	**02 22 17.7**	**-0.2**
SADO	**Sadowa**	**135.00**	**29**	PKP		**PKPdf**	**02 22 19.1**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=339,slow=3.2,SNR=3.9							
SADO	**Sadowa**	**135.00**	**29**	PKP		**PKPdf**	**02 22 19.1**	**+1.5**
WCI	**Wyandotte Cave**	**135.27**	**41**	*e*PKIKP		**PKPdf**	**02 22 19.7**	**+1.4**
WCI	**Wyandotte Cave**	**135.27**	**41**	*e*PKPdf		**PKPdf**	**02 22 19.7**	**+1.4**
WCI				*e*SKP			02 25 35.4	
LRAL	**Lakeview Retre**	**137.54**	**48**	*e*PKPpre		PKPpre	02 22 12.8	
LRAL				*e*PKPdf		**PKPdf**	**02 22 23.4**	**+0.8**
LRAL				*e*SKP			02 25 42.4	
CFAA	**Coronel Fontan**	**138.02**	**157**	SKPbc		**SKPbc**	**02 25 42.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=213,slow=4.2,SNR=5.6							
CFAA	**Coronel Fontan**	**138.02**	**157**	SKPbc		**SKPbc**	**02 25 42.9**	**-0.4**
TKL	**Tuckaleechee C**	**138.40**	**42**	PKhKP		PKPpre	02 22 14.1	
	comp=Z,1.1nm,0.4s,baz=270,slow=7.1,SNR=3.7							
TKL				PKP		**PKPdf**	**02 22 24.5**	**+0.3**
	comp=Z,5.7nm,0.4s,baz=319,slow=0.6,SNR=5.1							
TKL				SKPbc		**SKPbc**	**02 25 45.0**	**+0.9**
	comp=Z,15nm,1.1s,baz=163,slow=2.7,SNR=5.9							
TKL	**Tuckaleechee C**	**138.40**	**42**	PKPpre		PKPpre	02 22 14.1	
TKL				PKP		**PKPdf**	**02 22 24.5**	**+0.3**
TKL				SKPbc		**SKPbc**	**02 25 45.0**	**+0.9**
BBTS	**Babate**	**145.71**	**286**	PKPbc		**PKPab**	**02 22 39.1**	**+0.2**
	comp=Z,59nm,0.7s,baz=134,slow=1.2,SNR=12							
BBTS	**Babate**	**145.71**	**286**	PKPbc		**PKPab**	**02 22 39.1**	**+0.2**
JTS	**JuntasAbangare**	**145.94**	**82**	*e*PKPbc		**PKPbc**	**02 22 39.1**	**0.0**
CPUP	**Villa Florida**	**146.16**	**169**	PKPbc		**PKPbc**	**02 22 39.5**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=170,slow=1.4,SNR=31							
CPUP				SKPbc		**SKiKP**	**02 26 04.9**	**+0.8**
	comp=Z,17nm,1.0s,baz=175,slow=2.6,SNR=7.3							
CPUP	**Villa Florida**	**146.16**	**169**	PKPbc		**PKPbc**	**02 22 39.5**	**+0.2**
CPUP				SKPbc		**SKiKP**	**02 26 04.9**	**+0.8**
NNA	**Nana**	**147.78**	**126**	PKPbc		**PKPbc**	**02 22 45.3**	**+1.0**
	comp=Z,20nm,0.3s,baz=310,slow=2.9,SNR=14							
NNA	**Nana**	**147.78**	**126**	*e*PKPbc		**PKPbc**	**02 22 45.1**	**+0.8**
ATAH	**Atahualpa**	**148.92**	**116**	PKPbc		**PKPab**	**02 22 50.1**	**-2.0**
	comp=Z,19nm,0.7s,baz=203,slow=1.2,SNR=8.4							
ATAH	**Atahualpa**	**148.92**	**116**	PKPbc		**PKPab**	**02 22 50.1**	**-2.0**
CAM4	**Nova Friburgo**	**149.70**	**195**	⇑*i*P		**PKPbc**	**02 22 49.9**	**+0.7**
CAM4				*i*			02 22 50.8	
CAM4				*i*			02 22 54.3	
CAM4				*i*			02 22 55.3	
CAM4				*i*			02 22 59.8	
CAM4				*i*			02 23 02.9	
CAM4				*i*			02 23 05.9	
LPAZ	**La Paz**	**151.04**	**143**	PKP		**PKPdf**	**02 22 48.6**	**+1.4**
	comp=Z,5.8nm,1.1s,baz=33,slow=1.6,SNR=12							
LPAZ				PKPbc		**PKiKP**	**02 22 54.0**	**+0.5**
	comp=Z,15nm,0.4s,baz=209,slow=1.3,SNR=142							
LPAZ	**La Paz**	**151.04**	**143**	*e*PKPdf		**PKPdf**	**02 22 48.5**	**+1.4**
LPAZ				PKPbc		**PKiKP**	**02 22 54.0**	**+0.5**
LPAZ				*e*PKPbc		**PKPbc**	**02 22 54.1**	**+1.1**
OTAV	**Otavalo**	**151.44**	**103**	*e*PKPdf		**PKPdf**	**02 22 48.3**	**+0.6**
OTAV				*e*PKPbc		**PKiKP**	**02 22 54.9**	**+0.7**
SIV	**San Ignacio**	**154.86**	**156**	PKP		**PKPdf**	**02 22 51.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=202,slow=5.4,SNR=5.8							
SIV				PKPbc		**PKiKP**	**02 23 01.4**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=168,slow=1.7,SNR=6.5							
SIV				PKPab		**PKPab**	**02 23 16.2**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=209,slow=3.9,SNR=18							
SIV	**San Ignacio**	**154.86**	**156**	PKP		**PKPdf**	**02 22 51.9**	**0.0**
SIV				PKPbc		**PKiKP**	**02 23 01.4**	**+0.7**
SIV				PKPab		**PKPab**	**02 23 16.2**	**-0.1**
BDFB	**Brasilia**	**157.28**	**187**	PKP		**PKPdf**	**02 22 55.4**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=180,slow=7.1,SNR=3.4							
BDFB	**Brasilia**	**157.28**	**187**	PKP		**PKPdf**	**02 22 55.4**	**+0.2**
SAML	**Samuel**	**159.76**	**142**	*e*PKPdf		**PKPdf**	**02 22 58.3**	**+0.2**
SAML				*e*PKPab		**PKPab**	**02 23 37.5**	**0.0**
SJG	**San Juan**	**161.32**	**53**	PKP		**PKPdf**	**02 22 59.9**	**+0.3**
	comp=Z,4.4nm,0.3s,baz=270,slow=1.6,SNR=3.0							
SJG				PKPab		**PKPab**	**02 23 44.4**	**+0.1**
	comp=Z,37nm,0.9s,baz=270,slow=1.8,SNR=6.8							
SJG	**San Juan**	**161.32**	**53**	PKP		**PKPdf**	**02 22 59.9**	**+0.3**
SJG				PKPab		**PKPab**	**02 23 44.5**	**+0.1**

*IDC **13** 02:05:06.6±1.3,36°82N×21°67E,h0km,mb3.6/7, mb1 3.6/7,mb1mx3.5/27,mbtmp3.6/7, Error ellipse: s-maj=40.5km s-min=23.8km az=127.0*

*ISCJB **13** 02:05:09.0±1.0,36°63N±0°04×21°52E±0°06,h18km±6km, mb3.5/7, Error ellipse: s-maj=8.5km s-min=6.0km az=138.7*

*THE **13** 02:05:09.8,36°66N×21°50E,h6km±2km,ML3.4/6, Error ellipse: s-maj=2.5km s-min=1.1km az=125.0*

*CSEM **13** 02:05:09.5±0.5,36°71N×21°51E,h10km,ML3.1, Error ellipse: s-maj=10.3km s-min=6.0km az=37.0*

*ATH **13** 02:05:12.3,36°86N×21°73E,h24km, ML3.1*

ISC 13 02:05:10.3±0.8,36°75N±0°04×21°57E±0°03,h20km±1km, n77,σ1s70/114,mb3.5/7,2C,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.20**	**44**	P	**Pb**	**02 05 16.0**	**+0.2**
PYL				S	**Sb**	**02 05 19.8**	**+0.1**
PYL	**PYLOS**	**0.20**	**44**	*e*PB	**Pb**	**02 05 16.1**	**+0.2**
PYL				*e*SB	**Sb**	**02 05 19.7**	**+0.1**
PYL	**PYLOS**	**0.20**	**44**	*e*Pb	**Pb**	**02 05 16.1**	**+0.2**
PYL				*e*Sb	**Sb**	**02 05 19.7**	**+0.1**
ITM	**Ithomi**	**0.52**	**34**	P	**Pb**	**02 05 20.4**	**-0.4**
ITM				S	**Sb**	**02 05 28.0**	**+0.2**
ITM	**Ithomi**	**0.52**	**34**	*e*PB	**Pb**	**02 05 20.3**	**-0.5**
ITM				*e*SB	**Sb**	**02 05 26.3**	**-1.5**
ITM	**Ithomi**	**0.52**	**34**	*e*Pb	**Pb**	**02 05 20.3**	**-0.5**
ITM				*e*Sb	**Sb**	**02 05 26.3**	**-1.5**
ITM				S	**Sb**	**02 05 28.0**	**+0.2**
DYR	**Agios Nikonas**	**0.62**	**89**	P	**Pb**	**02 05 22.6**	**+0.1**
DYR				S	**Sn**	**02 05 32.3**	**-1.0**
DYR	**Agios Nikonas**	**0.62**	**89

DEMI	**Demirci**	**0.75**	**271**	*i* P	**Pg**	**02 13 56.5**	**+0.2**
DEMI				*i* S	**Sg**	**02 14 06.1**	**-0.1**
DST	**Dursunbey**	**1.00**	**305**	*e*PG	**Pb**	**02 14 01.1**	**0.0**
MANT	**Manisa**	**1.03**	**239**	*i* P	**Pb**	**02 14 01.6**	**0.0**
MANT				*i* S	**Sb**	**02 14 14.9**	**-0.2**
MANT	**Manisa**	**1.03**	**239**	*i* P	**Pb**	**02 14 01.6**	**0.0**
MANT				*i* S	**Sb**	**02 14 14.9**	**-0.2**
BORA	**Eskisehir**	**1.04**	**35**	*i* P	**Pb**	**02 14 01.5**	**-0.1**
BORA				*i* S	**Sg**	**02 14 15.7**	**+0.5**
BORA	**Eskisehir**	**1.04**	**35**	*i* P	**Pb**	**02 14 01.5**	**-0.1**
BORA				*i* S	**Sg**	**02 14 15.7**	**+0.5**

IDC ***13*** *02:19:15.5±1.2,0.˝37S×124.˝71E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/21,mbtmp3.7/5, Error ellipse: s-maj=149.0km s-min=20.8km az=66.0*

DJA ***13*** *02:19:17.9±2.4,2.˝5±6.˝×12.˝6E±.˚,h10km,M4.3/6,mb4.2/1, mB5.2/1,MLv4.3/6,Mw(mB)4.7/1*

ISC 13 02:19:19.2±1.0,0.˚4S±0.˚1×125.˚42E±0.˝06,h10km,n13, σ1§68/9,mb3.6/5,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.70**	**303**	P	**Sn**	**02 20 13.1**	**+2.2**
MNI	**Manado**	**1.87**	**342**	P	Sn	02 20 18.4	+3.3
LBMI	**Labuha**	**2.10**	**98**	P	**Pn**	**02 19 54.1**	**-0.4**
LBMI				S	**Sn**	**02 20 21.9**	**+1.2**
LUWI	**Luwuk**	**2.73**	**255**	P	**Pg**	**02 20 12.8**	**+1.2**
MRSI	**Marisa**	**3.57**	**283**	P	Pg	02 20 32.0	+4.3
SPSI	**Sidrap Palu**	**6.69**	**237**	P	**Pn**	**02 20 55.8**	**-1.7**
BLJI	**Banyuglugur**	**13.89**	**238**	P	P	02 22 49.6	+5.1
WRA	**Warramunga Arr**	**21.34**	**156**	P	**P**	**02 24 06.5**	**-0.2**
	2.0nm,0.7s,baz=336,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**24.60**	**161**	P	**P**	**02 24 39.4**	**-0.4**
	1.3nm,0.8s,baz=341,slow=7.7,SNR=5.2						
SISI	**Saibi**	**26.34**	**268**	P	P	02 25 16.0	+20
STKA	**Stephens Creek**	**34.89**	**156**	P	**P**	**02 26 12.2**	**+1.2**
	2.7nm,0.8s,baz=346,slow=7.5,SNR=5.1						
SONM	**Songino Array**	**50.77**	**344**	P	**P**	**02 28 17.6**	**-2.1**
	0.8nm,0.9s,baz=160,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	02 29 21.4	-6.1
	0.2nm,0.5s,baz=126,slow=6.2,SNR=4.2						

ISCJB ***13*** *02:22:54.6±0.9,39.˝53N±0.˝05×32.˝84E±0.˝06,h10km±6km, Error ellipse: s-maj=10.7km s-min=5.0km az=143.9*

ISK ***13*** *02:22:54.8,39.˝47N×32.˝88E,h16km, MD2.8*

DDA ***13*** *02:22:54.2,39.˝50N×32.˝90E,h7km,MD3.0*

CSEM ***13*** *02:22:54.3±0.3,39.˝56N×32.˝85E,h15km,MD2.8, Error ellipse: s-maj=10.6km s-min=5.0km az=140.0*

ISC 13 02:22:54.8±1.0,39.˚50N±0.˝05×32.˚90E±0.˝05,h17km±7km, n16,σ0§91/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Af ar-Bala (A**	**0.14**	**112**	*e*PG	**Pg**	**02 22 58.5**	**-0.4**
AFSR				*e*SG	**Sg**	**02 23 02.3**	**+0.6**
AFSR	**Af ar-Bala (A**	**0.14**	**112**	*e*Pg	**Pg**	**02 22 58.5**	**-0.4**
AFSR				*e*Sg	**Sg**	**02 23 02.3**	**+0.6**
KIZT	**Kizilcal**	**1.01**	**232**	*e*PG	**Pg**	**02 23 14.2**	**-0.1**
KIZT				*e*SG	**Sn**	**02 23 28.1**	**+0.1**
KIZT	**Kizilcal**	**1.01**	**232**	*e*Pg	**Pg**	**02 23 14.2**	**-0.1**
KIZT				*e*Sg	**Sn**	**02 23 28.1**	**+0.1**
ELDT	**Eldivan**	**1.07**	**22**	*i* P	**Pb**	**02 23 13.5**	**-1.4**
ELDT				*i* S	**Sg**	**02 23 31.3**	**+1.8**
ELDT	**Eldivan**	**1.07**	**22**	*i* P	**Pb**	**02 23 13.5**	**-1.4**
CDAG	**Cicekdag**	**1.14**	**83**	*i* P	**Pn**	**02 23 15.5**	**-0.6**
CDAG				*i* S	**Sg**	**02 23 33.0**	**+1.1**
CDAG	**Cicekdag**	**1.14**	**83**	*i* P	**Pn**	**02 23 15.5**	**-0.6**
CDAG				*i* S	**Sg**	**02 23 33.0**	**+1.1**
KDHN	**Kadinhani**	**1.15**	**212**	*i* P	**Pn**	**02 23 15.6**	**-0.6**
KDHN				*i* S	**Sg**	**02 23 33.3**	**+1.1**
KDHN	**Kadinhani**	**1.15**	**212**	*i* P	**Pn**	**02 23 15.6**	**-0.6**
KDHN				*i* S	**Sg**	**02 23 33.3**	**+1.1**
LADK	**Ladik-KONYA**	**1.36**	**198**	*e*PN	**Pn**	**02 23 19.3**	**+0.2**
LADK				*e*SN	**Sb**	**02 23 37.2**	**+0.1**
LADK	**Ladik-KONYA**	**1.36**	**198**	*e*Pn	**Pn**	**02 23 19.3**	**+0.2**
LADK				*e*Sn	**Sb**	**02 23 37.2**	**+0.1**
CORM	**Corum**	**1.49**	**62**	*e*PN	**Pn**	**02 23 22.2**	**+1.3**
CORM	**Corum**	**1.49**	**62**	*e*Pn	**Pn**	**02 23 22.2**	**+1.3**
KONT	**Konya--Tatoy**	**1.61**	**195**	*e*PN	**Pn**	**02 23 23.2**	**+0.8**
KONT	**Konya--Tatoy**	**1.61**	**195**	*e*Pn	**Pn**	**02 23 23.2**	**+0.8**

IDC ***13*** *02:30:52.9±3.0,28.˝90S×177.˝29W,h17km±17km,mb4.5/19, mb1 4.7/20,mb1mx4.7/23,mbtmp4.5/20,ML3.5/1,MS4.2/13, Ms1 4.2/13,ms1mx3.9/33,Error ellipse: s-maj=17.4km s-min=15.2km az=5.0*

MOS ***13*** *02:30:54.2±1.5,28.˝93S×177.˝27W,h33km,mb5.1/18, Error ellipse: s-maj=12.5km s-min=9.9km az=142.7*

BJI ***13*** *02:30:55.9,29.˝21S×176.˝81W,h61km,mB5.6/8,mb5.3/16, Ms5.3/8,Ms7 5.1/8*

ISCJB ***13*** *02:30:57.8±0.8,29.˝12S±0.˝06×177.˝43W±0.˝06,h66km±6km, mb4.7/53,Error ellipse: s-maj=10.4km s-min=8.5km az=137.6*

NEIC ***13*** *02:30:57.1±0.9,29.˝07S×177.˝38W,h51km±7km,mb4.9/31, Error ellipse: s-maj=8.8km s-min=6.2km az=143.0*

ISC 13 02:30:57.4±0.5,29.˚12S±0.˝06×177.˚20W±0.˝06,h54km±3km, h53km:pP-P,n325,σ1§42/330,mb4.8/53,MS4.3/13, 20C-15D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.64**	**258**	*e*Pn	**Pn**	**02 31 09.5**	**-1.0**
RAO				*e*Sn	**Sn**	**02 31 20.1**	**0.0**
OUZ	**Omahuta**	**9.89**	**230**	*e*Pn	**Pn**	**02 33 15.3**	**-1.4**
URZ	**Urewera**	**10.27**	**206**	Pn	Pn	02 33 14.9	-7.1
	1.0nm,0.3s,baz=348,slow=14,SNR=11						
URZ				Sn	Sn	02 35 07.7	-7.9
	6.8nm,0.3s,baz=323,slow=20,SNR=14						
URZ	**Urewera**	**10.27**	**206**	Pn	Pn	02 33 14.9	-7.1
URZ				Sn	Sn	02 35 07.7	-7.9
MSVF	**Nonsavu**	**12.14**	**338**	*e*P	**Pn**	**02 33 50.4**	**+2.6**
MSVF	**Nonsavu**	**12.14**	**338**	*e*Pn	**Pn**	**02 33 50.4**	**+2.6**
MSVF				*e*		02 34 17.6	
AFI	**Afiamalu**	**15.95**	**20**	Pn	**Pn**	**02 34 37.4**	**-1.1**
	2.1nm,0.3s,baz=196,slow=18,SNR=2.1						
AFI				Sn	Sn	02 37 10.8	-24
	1.9nm,0.3s,baz=150,slow=20,SNR=2.5						
AFI	**Afiamalu**	**15.95**	**20**	Pn	**Pn**	**02 34 37.4**	**-1.1**
AFI				Sn	Sn	02 37 10.8	-24
DZM	**Mont Dzumac**	**16.33**	**292**	*e*LR	LR	02 38 34.3	
	2µm,24.4s						
DZM	**Mont Dzumac**	**16.33**	**292**	Pn	**Pn**	**02 34 40.6**	**-2.7**
	0.2nm,0.3s,baz=147,slow=18,SNR=1.9						
DZM				LR	LR	02 39 27.5	
	comp=Z,1µm,21.8s,baz=18,slow=32						
DZM	**Mont Dzumac**	**16.33**	**292**	Pn	**Pn**	**02 34 40.6**	**-2.7**
RPZ	**Rata Peaks**	**17.33**	**210**	*e*Pn	**Pn**	**02 34 52.2**	**-3.3**
	60nm,1.2s						
RAR	**Rarotonga**	**17.62**	**67**	P	**Pn**	**02 34 55.0**	**-4.1**
	1.5nm,0.3s,baz=245,slow=14,SNR=3.9						
RAR	**Rarotonga**	**17.62**	**67**	P	**Pn**	**02 34 55.0**	**-4.1**
ODZ	**Otahua Downs**	**18.58**	**208**	*e*P	**P**	**02 35 07.4**	**-2.5**
	341nm,1.4s						
TBI	**Tubuai**	**25.50**	**83**	*e*LR	LR	02 42 40.9	
	988nm,26.8s,baz=250						
ARMA	**Armidale**	**27.05**	**259**	*e*P	**P**	**02 36 37.0**	**+2.1**
	12nm,0.6s						
PPT2	**Papeete2**	**27.77**	**72**	*e*LR	LR	02 43 41.7	
	952nm,25.8s,baz=232						
TAU	**Tasmania Unive**	**31.58**	**235**	*e*P	**P**	**02 37 14.6**	**-0.2**
TAU				pmax	pmax		
	comp=Z,26nm,1.1s						
TAU	**Tasmania Unive**	**31.58**	**235**	*e*P	**P**	**02 37 14.6**	**-0.2**
	comp=Z,26nm,1.1s						
CTA	**Charters Tower**	**34.31**	**277**	P	**P**	**02 37 39.6**	**+0.7**
	comp=Z,25nm,0.7s,baz=100,slow=11,SNR=26						
CTA				LR	LR	02 50 17.5	
	comp=Z,554nm,18.2s,baz=53,slow=34						
CTA	**Charters Tower**	**34.31**	**277**	P	**P**	**02 37 39.6**	**+0.7**
CTAO	**Charters Tower**	**34.31**	**277**	*e*P	**P**	**02 37 39.9**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,28nm,0.8s						
CTAO	**Charters Tower**	**34.31**	**277**	*e*P	**P**	**02 37 39.9**	**+1.0**
	comp=Z,28nm,0.8s						
STKA	**Stephens Creek**	**35.46**	**255**	P	**P**	**02 37 48.4**	**-0.3**
	comp=Z,29nm,1.0s,baz=92,slow=8.7,SNR=34						
STKA				ScP	**ScP**	**02 44 03.5**	**+4.7**
	comp=Z,2.4nm,0.9s,baz=120,slow=2.8,SNR=4.0						
STKA				LR	LR	02 50 37.3	
	comp=Z,478nm,19.8s,baz=286,slow=33						
STKA	**Stephens Creek**	**35.46**	**255**	*e*P	**P**	**02 37 48.0**	**-0.8**
	comp=Z,6.6nm,1.0s						
STKA				ScP	**ScP**	**02 44 03.5**	**+4.7**
PMG	**Port Moresby**	**38.72**	**293**	P	**P**	**02 38 15.5**	**-1.0**
	comp=Z,4.2nm,0.5s,baz=153,slow=2.3,SNR=3.1						
PMG	**Port Moresby**	**38.72**	**293**	P	**P**	**02 38 15.5**	**-1.0**
BBOO	**Buckleboo**	**40.00**	**253**	*e*P	**P**	**02 38 25.4**	**-1.7**
ASAR	**Alice Springs**	**43.89**	**265**	P	**P**	**02 38 57.7**	**-1.2**
	comp=Z,10nm,0.8s,baz=107,slow=7.4,SNR=79						
ASAR				ScP	**ScP**	**02 44 36.5**	**+4.9**
	comp=Z,0.7nm,0.8s,baz=93,slow=4.7,SNR=3.6						
ASAR				LR	LR	02 56 39.8	
	comp=Z,399nm,18.5s,baz=119,slow=35						
ASAR	**Alice Springs**	**43.89**	**265**	P	**P**	**02 38 57.7**	**-1.2**
ASAR				ScP	**ScP**	**02 44 36.5**	**+4.9**
WRAB	**Tennant Creek**	**44.76**	**270**	*e*P	**P**	**02 39 04.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**44.76**	**270**	*e*P	**P**	**02 39 04.6**	**-1.3**
	comp=Z,22nm,0.9s						
WRA	**Warramunga Arr**	**44.76**	**270**	P	**P**	**02 39 04.8**	**-1.1**
	comp=Z,13nm,0.8s,baz=109,slow=6.4,SNR=85						
WRA				ScP	**ScP**	**02 44 38.0**	**+2.8**
	comp=Z,0.4nm,0.8s,baz=118,slow=3.5,SNR=2.5						
WRA				LR	LR	02 58 29.7	
	comp=Z,232nm,18.2s,baz=150,slow=37						
WRA	**Warramunga Arr**	**44.76**	**270**	P	**P**	**02 39 04.8**	**-1.1**
WRA				ScP	**ScP**	**02 44 38.0**	**+2.8**
SBA	**Scott Base**	**49.36**	**184**	*e*P	P	02 39 44.9	+4.0
SBA				pmax	pmax		
	comp=Z,49nm,1.0s						
SBA	**Scott Base**	**49.36**	**184**	*e*P	P	02 39 44.9	+4.0
	comp=Z,49nm,1.0s						
VNDA	**Vanda**	**49.43**	**186**	P	**P**	**02 39 43.7**	**+2.3**
	comp=Z,3.7nm,0.7s,baz=20,slow=5.4,SNR=9.6						
VNDA	**Vanda**	**49.43**	**186**	P	**P**	**02 39 43.7**	**+2.3**
FITZ	**Fitzroy Crossi**	**53.07**	**269**	*e*P	**P**	**02 40 08.6**	**-1.0**
	comp=Z,12nm,0.9s,baz=132,slow=6.9,SNR=15						
FITZ	**Fitzroy Crossi**	**53.07**	**269**	*e*P	**P**	**02 40 08.3**	**-1.2**
	comp=Z,31nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.51**	**248**	LR	LR	03 00 38.7	
	comp=Z,225nm,19.2s,baz=288,slow=32						
MBWA	**Marble Bar**	**57.07**	**263**	*e*P	**P**	**02 40 36.6**	**-1.8**
	comp=Z,20nm,0.9s						
QSPA	**South Pole Qui**	**60.98**	**180**	P	**P**	**02 41 06.9**	**+2.0**
	comp=Z,16nm,0.9s,baz=51,slow=2.4,SNR=33						
QSPA	**South Pole Qui**	**60.98**	**180**	*e*P	**P**	**02 41 06.8**	**+1.8**
	comp=Z,21nm,0.8s						
KAPI	**Kappang**	**64.08**	**279**	P	**P**	**02 41 23.9**	**-2.3**
	comp=Z,3.6nm,0.3s,baz=143,slow=11,SNR=5.4						
KAPI	**Kappang**	**64.08**	**279**	*e*P	**P**	**02 41 24.3**	**-1.9**
MJAR	**Matsushiro Arr**	**77.60**	**325**	P	**P**	**02 42 46.8**	**-1.0**
	comp=Z,4.8nm,0.9s,baz=168,slow=5.4,SNR=8.9						
MJAR				LR	LR	03 12 26.6	
	comp=Z,71nm,18.4s,baz=200,slow=32						
MJAR	**Matsushiro Arr**	**77.60**	**325**	P	**P**	**02 42 46.8**	**-1.0**
MAT	**Matsushiro**	**77.60**	**325**	P	**P**	**02 42 47.0**	**-0.8**
MAT				*e*S	**S**	**02 52 38.6**	**+3.3**
SYO	**Syowa Base**	**78.51**	**193**	*e*P	**P**	**02 42 51.5**	**-0.9**
SYO	**Syowa Base**	**78.51**	**193**	*e*X	**PcP**	**02 43 03.7**	**+2.3**
SNAA	**Sanae**	**79.41**	**178**	*e*P	**P**	**02 42 57.0**	**-0.4**
	comp=Z,4.7nm,0.8s						
VNA3	**Neumayer Olymp**	**79.53**	**176**	*e*P	**P**	**02 42 58.7**	**+0.7**
VNA3	**Neumayer Olymp**	**79.53**	**176**	*e*PcP	**PcP**	**02 43 05.5**	**-0.3**
VNA3	**Neumayer Olymp**	**79.53**	**176**	*e*pP	pP	02 43 18.9	+5.7
VNA2	**Neumayer--Watz**	**79.97**	**177**	*e*P	**P**	**02 43 01.6**	**+1.2**
	baz=304,slow=0.2						
VNA2	**Neumayer--Watz**	**79.97**	**177**	*e*PcP	**PcP**	**02 43 08.2**	**+0.5**
	baz=304,slow=0.2						
VNA2	**Neumayer--Watz**	**79.97**	**177**	*e*pP	pP	02 43 15.1	-0.5
	baz=304,slow=0.2						
VNA1	**Neumayer--Stat**	**80.19**	**176**	*e*P	**P**	**02 43 02.8**	**+1.2**
PLCA	**Paso Flores**	**82.86**	**133**	P	**P**	**02 43 18.1**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=209,slow=3.9,SNR=6.5						
PLCA				LR	LR	03 10 39.8	
	comp=Z,180nm,20.2s,baz=12,slow=29						
PLCA	**Paso Flores**	**82.86**	**133**	P	**P**	**02 43 18.1**	**+1.7**
KSRS	**Korea Array**	**83.83**	**319**	P	**P**	**02 43 21.4**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=127,slow=7.8,SNR=5.4						
KSRS				LR	LR	03 17 02.2	
	comp=Z,72nm,19.4s,baz=355,slow=33						
KSAR	**Wonju Array Be**	**83.85**	**319**	P	**P**	**02 43 21.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**83.91**	**334**	*e*P	**P**	**02 43 22.0**	**+0.8**
PETK	**Petropavlovsk-**	**84.76**	**345**	P	**P**	**02 43 25.3**	**-0.1**
	comp=Z,5.7nm,0.7s,baz=151,slow=9.4,SNR=6.1						
PETK	**Petropavlovsk-**	**84.76**	**345**	P	**P**	**02 43 25.3**	**-0.1**
PETK	**Petropavlovsk-**	**84.76**	**345**	P	**P**	**02 43 25.3**	**-0.1**
QIZ	**Qiongzhong**	**85.09**	**295**	*e*P	**P**	**02 43 27.3**	**-0.5**
CMB	**Columbia Colle**	**85.35**	**42**	*e*P	**P**	**02 43 29.4**	**+0.7**
CMB	**Columbia Colle**	**85.35**	**42**	*e*P	**P**	**02 43 29.4**	**+0.7**
GSC	**Goldstone**	**85.70**	**45**	*e*P	**P**	**02 43 31.8**	**+1.2**
GSC	**Goldstone**	**85.70**	**45**	*e*P	**P**	**02 43 31.8**	**+1.2**
NJ2	**Nanjing**	**85.95**	**310**	*e*P	**P**	**02 43 34.0**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
PSI	**Prapat**	**86.00**	**275**	P	**P**	**02 43 33.6**	**+0.9**
	comp=Z,3.4nm,0.5s,baz=170,slow=6.2,SNR=3.6						
PSI	**Prapat**	**86.00**	**275**	P	**P**	**02 43 33.6**	**+0.9**
USRK	**Ussuriysk Arra**	**86.48**	**326**	P	**P**	**02 43 34.4**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=146,slow=3.2,SNR=11						
YBH	**Yreka Blue Hor**	**86.60**	**38**	LR	LR	03 12 38.1	
	comp=Z,174nm,19.6s,baz=180,slow=29						
NVAR	**Mina Array Bea**	**86.83**	**42**	P	**P**	**02 43 36.6**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=222,slow=8.1,SNR=19						
NVAR	**Mina Array Bea**	**86.83**	**42**	P	**P**	**02 43 36.6**	**+0.4**
TUC	**Tucson**	**87.77**	**51**	*e*P	**P**	**02 43 43.2**	**+2.4**
TUC				pmax	pmax		
	comp=Z,20nm,2.0s						
TUC	**Tucson**	**87.77**	**51**	*e*P	**P**	**02 43 43.1**	**+2.4**
	comp=Z,20nm,2.0s						
MDJ	**Mudanjiang**	**87.98**	**325**	P	**P**	**02 43 41.6**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,16nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.9s						
MOD	**Modoc**	**88.02**	**39**	*e*P	**P**	**02 43 42.3**	**+0.5**
	comp=Z,4.4nm,1.0s						
WUAZ	**Wupatki**	**89.30**	**48**	*e*P	**P**	**02 43 49.4**	**+1.4**
	comp=Z,3.8nm,0.8s						
CFAA	**Coronel Fontan**	**89.43**	**126**	P	**P**	**02 43 51.0**	**+2.2**
	comp=Z,0.1nm,0.7s,baz=214,slow=11,SNR=2.4						
CFAA	**Coronel Fontan**	**89.43**	**126**	P	**P**	**02 43 51.0**	**+2.2**
CN2	**Changchun**	**89.55**	**322**	*e*P	**P**	**02 43 48.7**	**-0.1**
CN2				*e*pP	**pP**	**02 44 05.7**	**+1.4**
CN2				*e*S	**S**	**02 54 34.0**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TRQA	**Tornquist**	**89.83**	**134**	*e*P	**P**	**02 43 51.0**	**+0.4**
	comp=Z,16nm,1.8s						
ELK	**Elko**	**90.13**	**42**	*e*P	**P**	**02 43 52.3**	**+0.4**
KLR	**Kul'dur**	**90.29**	**329**	*e*P	**P**	02 43 48.6	-3.5
MVU	**Marysvale**	**90.57**	**45**	*e*P	**P**	**02 43 55.7**	**+1.7**
MSU	**Marysvale**	**90.60**	**45**	*e*P	**P**	**02 43 54.7**	**+0.6**
MSU	**Marysvale**	**90.60**	**45**	*e*P	**P**	**02 43 54.7**	**+0.6**
TXAR	**Lajitas Array**	**91.11**	**57**	P	**P**	**02 43 57.0**	**+0.5**
	comp=Z,0.7nm,1.1s,baz=214,slow=6.4,SNR=4.0						
TXAR	**Lajitas Array**	**91.11**	**57**	P	**P**	**02 43 57.0**	**+0.5**
MNTX	**Cornudas Mount**	**91.17**	**54**	*e*P	**P**	**02 43 56.4**	**-0.3**
ENH	**Enshi**	**91.46**	**304**	*e*P	**P**	**02 43 58.2**	**+0.1**
	comp=Z,19nm,1.0s						
HAWA	**Hanford**	**91.47**	**36**	*e*P	**P**	**02 43 58.6**	**+1.0**
	comp=Z,9.5nm,1.0s						
HAWA				*e*pP	PcP	02 44 05.7	+7.2
MFID	**Camas Ranch**	**91.50**	**40**	*e*P	**P**	**02 43 58.6**	**+0.6**
	comp=Z,6.1nm,1.1s						
MFID				*e*pP	**pP**	**02 44 12.6**	**-0.9**
GYA	**Guiyang**	**91.53**	**299**	P	**P**	**02 43 58.5**	**-0.1**
GYA				sP	**sP**	**02 44 23.0**	**+3.1**
GYA				PP	**PP**	**02 47 41.2**	**+3.7**
GYA				SKS	**SKSac**	**02 54 25.8**	**-1.1**
GYA				S	**S**	**02 54 52.3**	**-2.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,5.8s						
BMO	**Blue Mountains**	**91.61**	**38**	*e*P	**P**	**02 43 58.7**	**+0.2**
BMO				pmax	pmax		
	comp=Z,17nm,2.0s						
BMO	**Blue Mountains**	**91.61**	**38**	*e*P	**P**	**02 43 58.7**	**+0.2**
	comp=Z,17nm,2.0s						
ANMO	**Albuquerque**	**92.24**	**51**	*e*P	**P**	**02 44 01.9**	**+0.1**
	comp=Z,1.3nm,0.8s						
HLID	**Hailey**	**92.39**	**40**	*e*P	**P**	**02 44 03.0**	**+0.8**
	comp=Z,2.9nm,0.8s						
HWUT	**Hardware Ranch**	**92.84**	**43**	*e*P	**P**	**02 44 04.1**	**-0.3**
	comp=Z,2.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.64**	**289**	P	**P**	**02 44 11.1**	**+2.7**
	comp=Z,1.2nm,0.3s,baz=123,slow=3.3,SNR=6.1						
CMAR				LR	LR	03 25 50.7	
	comp=Z,76nm,18.4s,baz=190,slow=35						
CMAR	**Chiang Mai Arr**	**93.64**	**289**	P	**P**	**02 44 11.1**	**+2.7**
KMI	**Kunming**	**93.87**	**297**	P	**P**	**02 44 09.7**	**+0.1**
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
NEW	**Newport**	**93.94**	**35**	LR	LR	03 22 02.4	
	comp=Z,115nm,18.8s,baz=164,slow=33						
RRI2	**Red Ridge**	**94.03**	**42**	*e*P	**P**	**02 44 10.5**	**+0.5**
	comp=Z,3.6nm,0.8s						
REDW	**Red Top Meadow**	**94.32**	**42**	*e*P	**P**	**02 44 11.7**	**+0.5**
TPAW	**Teton Pass**	**94.33**	**42**	*e*P	**P**	**02 44 12.0**	**+0.7**
	comp=Z,2.8nm,0.8s						
SNOW	**Snow King Moun**	**94.43**	**42**	*e*P	**P**	**02 44 13.0**	**+1.2**
	comp=Z,7.0nm,0.8s						
IMW	**Indian Meadow**	**94.58**	**42**	*e*P	**P**	**02 44 13.1**	**+0.6**
MOOW	**Moose Ponds**	**94.61**	**42**	*e*P	**P**	**02 44 12.8**	**+0.3**
	comp=Z,8.7nm,1.7s						
LOHW	**Long Hollow**	**94.61**	**42**	*e*P	**P**	**02 44 12.5**	**0.0**
	comp=Z,1.6nm,0.8s						
BW06	**Boulder Array**	**94.73**	**43**	*e*P	**P**	**02 44 12.9**	**-0.2**
BW06				*e*pP	**pP**	**02 44 27.4**	**-1.2**
PDAR	**Pinedale Array**	**94.73**	**43**	P	**P**	**02 44 12.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=200,slow=2.7,SNR=12						
PDAR				PKKPbc	**PKKPbc**	**03 01 08.9**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=90,slow=5.0,SNR=5.8						
PDAR				LR	LR	03 23 18.4	
	comp=Z,99nm,18.1s,baz=260,slow=33						
PDAR	**Pinedale Array**	**94.73**	**43**	P	**P**	**02 44 12.8**	**-0.3**
PDAR				PKKPbc	**PKKPbc**	**03 01 08.9**	**-2.2**
FLWY	**Flagg Ranch**	**94.83**	**42**	*e*P	**P**	**02 44 14.5**	**+1.0**
	comp=Z,88nm,2.8s						
FLWY				*e*pP	**pP**	**02 44 28.1**	**-0.9**
SEY	**Seymchan**	**94.90**	**347**	*de*P	**P**	**02 44 12.6**	**-0.4**
BOZ	**Bozeman (W)**	**95.24**	**40**	*e*P	**P**	**02 44 15.0**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOZ	**Bozeman (W)**	**95.24**	**40**	*e*P	**P**	**02 44 15.0**	**-0.3**
	comp=Z,2.1nm,1.0s						
HHC	**Hu-ho-hao-te**	**95.85**	**314**	*e*P	P	02 44 21.4	+3.3
HHC				PP	PP	02 48 17.5	+6.4
HHC				S	**S**	**02 55 36.4**	**+4.5**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				LR	LR		
	comp=N,400nm,15.5s						
HHC				LR	LR		
	comp=E,790nm,15.5s						
HHC				LR	LR		
	comp=Z,2µm,14.3s						
CD2	**Chengdu**	**96.00**	**302**	P	**P**	**02 44 19.5**	**+0.5**
CD2				pP	**pP**	**02 44 36.6**	**+2.1**
CD2				sP	**sP**	**02 44 43.3**	**+3.0**
CD2				PP	**PP**	**02 48 15.4**	**+3.0**
CD2				SKS	**SKSac**	**02 54 49.4**	**-1.6**
CD2				S	**S**	**02 55 30.5**	**-3.0**
CD2				sS	**sS**	**02 55 59.8**	**-0.1**
CD2				SS	**SS**	**03 02 07.3**	**+1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.6s						
CD2				LR	LR		
	comp=E,480nm,4.8s						
CD2				LR	LR		
	comp=Z,290nm,5.4s						
ILAR	**Eielson Array**	**96.53

KAF	**Kangasniemi**	**143.57**	**342**	*e*pkp	PKPab	02 50 21.7	-0.3
VRHR	**Novokhopersk**	**143.67**	**318**	*e*PKHKP	PKPab	02 50 21.8	-0.9
VRHR	comp=N,5.0nm,0.8s			pmax	pmax		
VRHR	comp=E,2.0nm,0.8s			pmax	pmax		
VRHR	comp=Z,10.0nm,0.8s			pmax	pmax		
GNI	**Garni**	**144.08**	**299**	*e*PKPdf	**PKPdf**	**02 50 27.7**	**+0.4**
FINES	**FINESS Array B**	**144.18**	**341**	PKP	**PKPab**	**02 50 23.9**	**-0.4**
	comp=Z,7.9nm,0.7s,baz=64,slow=4.4,SNR=25						
FINES	**FINESS Array B**	**144.18**	**341**	PKP	**PKPab**	**02 50 23.9**	**-0.4**
ZEI	**Tsey**	**144.40**	**304**	*i* PKIKP	**PKPdf**	**02 50 28.3**	**+0.5**
ZEI	comp=Z,5.0nm,0.7s			pmax	pmax		
OBN	**Obninsk**	**144.51**	**327**	⇑*i*PKIKP	**PKPab**	**02 50 25.1**	**-0.6**
OBN				*i*		02 50 32.0	
OBN	comp=Z,34nm,0.9s			pmax	pmax		
OBN	**Obninsk**	**144.51**	**327**	*e*PKPdf	**PKPab**	**02 50 25.3**	**-0.4**
ONI	**Oni**	**144.76**	**304**	P	PKPbc	02 50 27.5	+0.2
CLDR	**Caldiran**	**144.79**	**298**	*e*P	**PKPab**	**02 50 27.1**	**-0.5**
DYDN	**Diyadin**	**144.94**	**298**	*i* P	**PKPdf**	**02 50 28.8**	**0.0**
KBZ	**Khabaz**	**144.96**	**306**	PKP	PKPbc	02 50 27.6	-0.1
	comp=Z,3.9nm,0.8s,baz=158,slow=2.2,SNR=18						
KBZ	**Khabaz**	**144.96**	**306**	PKIKP	PKPbc	02 50 27.6	-0.1
KBZ	**Khabaz**	**144.96**	**306**	PKP	PKPbc	02 50 27.6	-0.1
HAKT	**HAKKARI**	**145.03**	**295**	*i* P	**PKPab**	**02 50 28.7**	**+0.1**
VSR	**Storozhevoye**	**145.04**	**319**	*e*PKIKP	**PKPbc**	**02 50 26.9**	**-0.9**
KIV	**Kislovodsk**	**145.06**	**306**	⇓*i*PKIKP	**PKPbc**	**02 50 28.0**	**-0.3**
KIV	comp=Z,6.0nm,0.7s			pmax	pmax		
KIV	**Kislovodsk**	**145.06**	**306**	*e*PKPbc	**PKPbc**	**02 50 27.6**	**-0.7**
CUKT	**Cukurca**	**145.12**	**294**	*e*P	**PKPbc**	**02 50 27.7**	**-0.9**
VANB	**Van**	**145.23**	**297**	*e*P	**PKPbc**	**02 50 29.0**	**0.0**
VANT	**Van**	**145.34**	**296**	*e*P	**PKPbc**	**02 50 29.3**	**-0.2**
AGRB	**Hanur-Agry**	**145.47**	**298**	*e*P	**PKPdf**	**02 50 29.2**	**-0.5**
GEVA	**Gevas**	**145.51**	**296**	*i* P	**PKPdf**	**02 50 29.5**	**-0.2**
ARTV	**Artvin**	**146.09**	**301**	*i* P	**PKPbc**	**02 50 31.9**	**+0.1**
DAGI	**Agillar**	**146.12**	**301**	*i* P	**PKPbc**	**02 50 32.0**	**+0.3**
DBOC	**Borcka**	**146.26**	**302**	*i* P	**PKPbc**	**02 50 31.8**	**-0.2**
BCA	**Borcka**	**146.28**	**302**	*e*P	**PKPbc**	**02 50 31.5**	**-0.6**
VSU	**Vasula**	**146.33**	**337***c*	*i* PKP2	**PKPdf**	**02 50 30.7**	**+0.5**
EZM	**Erzurum**	**146.69**	**299**	*e*P	**PKPdf**	**02 50 31.8**	**-0.1**
VRTB	**Varto-Mus**	**146.69**	**298**	*e*P	**PKPdf**	**02 50 32.6**	**+0.9**
BNGL	**BINGOL**	**146.95**	**297**	*i* P	**PKPab**	**02 50 35.5**	**-0.3**
BNGB	**Bingˆll**	**147.31**	**298**	*e*P	**PKPbc**	**02 50 35.3**	**+0.1**
KOPT	**Kop Dagi**	**147.33**	**300**	*i* P	**PKPab**	**02 50 36.5**	**-0.8**
BAYT	**Aydˆ–ntepe-Bay**	**147.55**	**300**	*e*P	**PKPbc**	**02 50 36.3**	**+0.4**
NB2	**NORSAR Subarra**	**147.59**	**352**	PKP	**PKPbc**	**02 50 34.1**	**-1.1**
	comp=Z,24nm,0.9s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**147.59**	**352**	PKPbc	**PKPbc**	**02 50 34.0**	**-1.1**
	comp=Z,14nm,0.8s,baz=15,slow=4.5,SNR=43						
NOA	**NORSAR Array B**	**147.59**	**352**	PKPbc	**PKPbc**	**02 50 34.0**	**-1.1**
MACK	**Trabzon**	**147.74**	**301**	*i* P	**PKPbc**	**02 50 36.5**	**+0.3**
ERZN	**Erzincan**	**147.98**	**299**	*e*P	**PKPbc**	**02 50 36.2**	**-0.8**
GUMT	**Gumushane**	**148.04**	**301**	*e*P	**PKPbc**	**02 50 37.0**	**-0.1**
EZC	**Erzincan**	**148.24**	**299**	*e*P	**PKPbc**	**02 50 38.4**	**+0.7**
KELT	**Kelkit**	**148.25**	**300**	*i* P	**PKPbc**	**02 50 38.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**148.44**	**297**	*e*P	**PKPbc**	**02 50 37.0**	**-1.3**
ANN	**Anapa**	**148.49**	**309**	*i* PKP2	**PKPbc**	**02 50 37.0**	**-0.9**
ANN	comp=Z,49nm,0.9s			pmax	pmax		
ESPY	**Espiye-Giresun**	**148.52**	**302**	*e*P	**PKPbc**	**02 50 37.1**	**-1.1**
ELZG	**Elazig**	**148.68**	**297**	*i* P	**PKPbc**	**02 50 39.9**	**+1.0**
MICGM	**Minsk**	**148.82**	**331**	*e*	PKPpre	02 50 26.0	
MNK	**Minsk**	**148.84**	**332**	*e*PKHKP	PKPpre	02 50 26.0	
ILIC	**ilic-Erzincan**	**148.88**	**299**	*e*P	**PKPbc**	**02 50 37.8**	**-1.5**
URFA	**Urfa**	**148.91**	**295**	*e*P	**PKPbc**	**02 50 38.7**	**-0.7**
KEMA	**Kemaliye**	**148.97**	**299**	*i* P	**PKPbc**	**02 50 40.4**	**+0.9**
NACGM	**Naroch**	**148.98**	**333**	*e*	**PKPdf**	**02 50 35.0**	**+0.2**
MALT	**Malatya**	**149.14**	**297**	*e*P	**PKPbc**	**02 50 39.7**	**-0.3**
MYA	**Malatya**	**149.14**	**297**	*e*P	**PKPbc**	**02 50 39.0**	**-0.9**
AKCD	**Akcadag**	**149.53**	**297**	*i* P	**PKPbc**	**02 50 42.0**	**+1.0**
RSDY	**Resadiye-TOKAT**	**149.67**	**301**	*e*P	**PKPbc**	**02 50 40.4**	**-0.7**
GZT	**Gaziantep**	**149.92**	**295**	*i* P	**PKPbc**	**02 50 42.3**	**+0.3**
ERBA	**Erbaa**	**150.04**	**302**	*i* P	**PKPbc**	**02 50 42.6**	**+0.5**
GAZ	**Gaziantep**	**150.22**	**295**	*e*P	**PKPbc**	**02 50 42.0**	**-0.6**
KUZU	**Kuzuini**	**150.36**	**294**	*i* P	**PKPbc**	**02 50 43.4**	**+0.4**
KMRS	**Kahramanmaras**	**150.43**	**295**	*e*P	**PKPbc**	**02 50 41.7**	**-1.3**
KVT	**Kavak**	**150.47**	**303**	*e*P	**PKPbc**	**02 50 41.7**	**-1.3**
SIM	**Simferopol'**	**150.66**	**311**	*e*PKIKP	**PKPbc**	**02 50 42.2**	**-1.1**
SIM				*i*		02 50 49.2	
SIM	comp=Z,22nm,0.8s			pmax	pmax		
SIM	comp=Z,16nm,0.8s			pmax	pmax		
AKASG	**Malin Array Be**	**150.69**	**325**	PKPbc	**PKPbc**	**02 50 42.5**	**-0.7**
	comp=Z,21nm,0.7s,baz=46,slow=2.8,SNR=54						
AKASG	**Malin Array Be**	**150.69**	**325**	PKIKP	**PKPbc**	**02 50 42.5**	**-0.7**
AKASG	**Malin Array Be**	**150.69**	**325**	PKPbc	**PKPbc**	**02 50 42.5**	**-0.7**
KIEV	**Kiev**	**150.70**	**325**	*e*PKIKP	**PKPbc**	**02 50 42.4**	**-0.7**
KIEV	**Kiev**	**150.70**	**325**	*e*PKPbc	**PKPbc**	**02 50 42.4**	**-0.7**
ANDN	**Andirin**	**150.86**	**296**	*i* P	**PKPab**	**02 50 48.1**	**-3.5**
DIKM	**Dikmen**	**150.91**	**304**	*e*P	**PKPbc**	**02 50 43.6**	**-0.3**
COBT	**Iskenderun**	**151.04**	**293**	*i* P	**PKPbc**	**02 50 45.4**	**+0.7**
SUW	**Suwalki**	**151.04**	**335**	*e*PKP	**PKPbc**	**02 50 43.5**	**-0.3**
SUW	**Suwalki**	**151.04**	**335**	*e*PKIKP	**PKPbc**	**02 50 43.1**	**-0.8**
SUW	**Suwalki**	**151.04**	**335**	*e*PKPbc	**PKPbc**	**02 50 43.1**	**-0.8**
SUW	**Suwalki**	**151.04**	**335**	*e*PKP	**PKPbc**	**02 50 43.5**	**-0.3**
BNN	**Bunyan**	**151.07**	**298**	*e*P	**PKPbc**	**02 50 42.8**	**-1.9**
YAYL	**Yayladag**	**151.20**	**293**	*i* P	**PKPbc**	**02 50 45.0**	**0.0**
KOZT	**Kozan**	**151.28**	**296**	*e*P	**PKPbc**	**02 50 44.4**	**-0.6**
CORM	**Corum**	**151.73**	**301**	*e*P	**PKPbc**	**02 50 45.2**	**-0.9**
KRTS	**Karatas**	**151.74**	**294**	*e*P	**PKPbc**	**02 50 46.1**	**+0.1**
CDAG	**Cicekdag**	**152.04**	**300**	*i* P	**PKPbc**	**02 50 46.6**	**-0.2**
GULE	**Gulek**	**152.13**	**295**	*i* P	**PKPbc**	**02 50 47.5**	**+0.3**
MERS	**Mersin**	**152.39**	**295**	*e*P	**PKPbc**	**02 50 45.8**	**-1.9**
BRTR	**Keskin Array B**	**152.57**	**301**	PKPbc	**PKPbc**	**02 50 47.4**	**-0.7**
	comp=Z,7.5nm,0.9s,baz=132,slow=2.8,SNR=3.7						
BRTR	**Keskin Array B**	**152.57**	**301**	PKPbc	**PKPbc**	**02 50 47.4**	**-0.7**
KAMT	**Kaman**	**152.60**	**300**	*e*P	**PKPbc**	**02 50 47.3**	**-0.8**
LOD	**Lodumlu**	**153.19**	**302**	*e*P	**PKPbc**	**02 50 46.4**	**-2.9**
LFK	**Lefkose**	**153.35**	**291**	*e*P	**PKPbc**	**02 50 49.8**	**0.0**
CSS	**Prodhromos**	**153.54**	**291**	*e*P	**PKPbc**	**02 50 49.5**	**-0.7**
CSS	**Prodhromos**	**153.54**	**291**	*e*PKPbc	**PKPbc**	**02 50 50.0**	**-0.1**
LEF	**Lefka**	**153.88**	**291**	*e*P	**PKPdf**	**02 50 46.8**	**+3.9**
TLCR		**153.95**	**315**	⇑PKIKP	**PKPbc**	**02 50 49.4**	**-1.2**
TLCR		**153.95**	**315**	⇑*i*P	**PKPbc**	**02 50 49.4**	**-1.2**
CFR	**Carcaliu**	**154.37**	**316**	⇑PKIKP	**PKPbc**	**02 50 51.3**	**-0.2**
CFR	**Carcaliu**	**154.37**	**316**	⇑*i*P	**PKPbc**	**02 50 51.3**	**-0.2**
KWP	**Kalwaria Pacla**	**154.53**	**329**	⇓PKIKP	**PKPbc**	**02 50 51.3**	**-0.5**
KWP	**Kalwaria Pacla**	**154.53**	**329**	*e*PKPbc	**PKPbc**	**02 50 52.2**	**+0.4**
KWP				*e*PKPab	**PKPab**	**02 51 06.1**	**-0.3**
KWP	**Kalwaria Pacla**	**154.53**	**329**	⇓*i*P	**PKPbc**	**02 50 51.3**	**-0.5**
TESR		**154.54**	**319**	⇓*i*P	**PKPab**	**02 51 06.1**	**-0.5**
TIRR	**Tirgusor**	**154.55**	**314**	⇑PKIKP	**PKPbc**	**02 50 52.3**	**+0.4**
TIRR	**Tirgusor**	**154.55**	**314**	⇑*i*P	**PKPbc**	**02 50 52.3**	**+0.4**
VRI	**Vrincioaia**	**154.85**	**318**	⇑PKIKP	**PKPbc**	**02 50 52.2**	**-0.4**
VRI	**Vrincioaia**	**154.85**	**318**	⇑*i*P	**PKPbc**	**02 50 52.2**	**-0.4**
PLOR	**Plostina**	**154.91**	**318**	⇑PKP2	**PKPab**	**02 51 08.9**	**+0.7**
PLOR	**Plostina**	**154.91**	**318**	⇑*i*P	**PKPab**	**02 51 08.9**	**+0.7**
KOLS	**Kolonicke sedl**	**155.23**	**328**	*e*PKIKP	PKPdf	02 50 53.6	+9.3
KOLS				*e*		02 51 09.2	
KOLS	**Kolonicke sedl**	**155.23**	**328**	*e*PKP	PKPdf	02 50 53.6	+9.3
KOLS				*e*		02 51 09.2	
UZH	**Uzhgorod**	**155.44**	**328**	*e*PKP2	**PKPab**	**02 51 09.4**	**-0.9**
CRVS	**Cervenica-Dubn**	**155.62**	**329**	*e*PKP2	**PKPab**	**02 51 10.4**	**-0.7**
CRVS	**Cervenica-Dubn**	**155.62**	**329**	*e*PKP	**PKPab**	**02 51 10.4**	**-0.7**
TRPA	**Tarpa**	**155.67**	**327**	⇓*i*P	**PKPab**	**02 51 10.8**	**-0.5**
KSP	**Ksiaz**	**156.04**	**339**	*e*PKP2	**PKPab**	**02 51 11.9**	**-0.9**
OKC	**Ostrava-Krasne**	**156.25**	**335**	*e*PKP2	**PKPab**	**02 51 13.4**	**-0.4**
OKC	**Ostrava-Krasne**	**156.25**	**335**	*e*PKPAB	**PKPab**	**02 51 13.4**	**-0.4**
ARR	**Arges**	**156.34**	**319**	⇓*i*P	**PKPdf**	**02 50 46.2**	**+0.2**
UPC	**Upice**	**156.43**	**339**	*e*PKP2	**PKPab**	**02 51 14.5**	**0.0**
UPC	**Upice**	**156.43**	**339**	*e*PKPAB	**PKPab**	**02 51 14.5**	**0.0**
DPC	**Dobruska-Polom**	**156.46**	**338**	*e*PKP2	**PKPab**	**02 51 14.5**	**-0.2**
DPC	**Dobruska-Polom**	**156.46**	**338**	*e*PKPAB	**PKPab**	**02 51 14.5**	**-0.2**
DPC				*ex*	x	02 51 18.7	
MORC	**Moravsky Berou**	**156.52**	**336**	*e*PKIKP	**PKPdf**	**02 50 46.0**	**-0.1**
MORC				*e*		02 51 14.2	
MORC	**Moravsky Berou**	**156.52**	**336**	⇓PKP2	**PKPab**	**02 51 14.4**	**-0.6**
MORC	**Moravsky Berou**	**156.52**	**336**	*e*PKPdf	**PKPdf**	**02 50 46.0**	**-0.1**
MORC				*e*PKPab	**PKPab**	**02 51 14.2**	**-0.8**
MORC	**Moravsky Berou**	**156.52**	**336**	⇓*i*P	**PKPab**	**02 51 14.4**	**-0.6**
CLL	**Collm**	**156.56**	**344**	⇓*i*PKIKP	PKPdf	02 50 56.0	+10
CLL				*i*		02 51 13.8	
CLL	comp=Z,5.0nm,1.0s			pmax	pmax		
CLL	comp=Z,15nm,1.6s			pmax	pmax		
CLL	**Collm**	**156.56**	**344**	*i* PKPdiff	PKPdf	02 50 56.0	+10
CLL				⇓*i*PKPab	**PKPab**	**02 51 13.8**	**-1.2**
CLL				*e*pPKPab	pPKPab	02 51 14.0	-17
BRG	**Berggiesshubel**	**156.71**	**342**	*e*PKP	**PKPab**	**02 51 15.1**	**-0.6**
BRG	comp=Z,14nm,1.4s						
BRG	**Berggiesshubel**	**156.71**	**342**	*e*PKP2	**PKPab**	**02 51 15.1**	**-0.6**
BRG	comp=Z,15nm,1.4s			pmax	pmax		
LOT	**Lotru**	**156.79**	**320**	⇑*i*P	**PKPab**	**02 51 15.7**	**-0.7**
PVCC	**Panska Ves**	**156.85**	**341**	*e*PKP2	**PKPab**	**02 51 16.2**	**-0.1**
PVCC	**Panska Ves**	**156.85**	**341**	*e*PKPAB	**PKPab**	**02 51 16.2**	**-0.1**
PSZ	**Piszkesteto**	**157.05**	**330**	*e*PKP2	**PKPab**	**02 51 17.0**	**-0.4**
PSZ	**Piszkesteto**	**157.05**	**330**	*e*PKPab	**PKPab**	**02 51 17.0**	**-0.4**
VYHS	**Vyhne**	**157.06**	**332**	*e*PKP2	**PKPab**	**02 51 16.6**	**-0.7**
VYHS	**Vyhne**	**157.06**	**332**	*e*PKP	**PKPab**	**02 51 16.6**	**-0.7**
PRU	**Pruhonice**	**157.34**	**340**	*e*PKP2	**PKPab**	**02 51 18.1**	**-0.3**
PRU	**Pruhonice**	**157.34**	**340**	*e*PKPAB	**PKPab**	**02 51 18.1**	**-0.3**
NKC	**Novy Kostel**	**157.69**	**344**	*e*PKP2	**PKPab**	**02 51 19.4**	**-0.5**
NKC	**Novy Kostel**	**157.69**	**344**	*e*PKPAB	**PKPab**	**02 51 19.4**	**-0.5**
KHC	**Kasperske Hory**	**158.38**	**341**	*e*PKP2	**PKPab**	**02 51 22.4**	**-0.6**
KHC	**Kasperske Hory**	**158.38**	**341**	*e*PKPAB	**PKPab**	**02 51 22.4**	**-0.6**
GRF	**Grafenberg Arr**	**158.48**	**345**	*e*PKP	**PKPab**	**02 51 22.6**	**-0.8**
GERES	**GERESS Array B**	**158.60**	**340**	PKP	**PKPdf**	**02 50 47.5**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=48,slow=9.5,SNR=2.7						
GERES				PKPab	**PKPab**	**02 51 22.9**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=39,slow=5.1,SNR=7.9						
GERES	**GERESS Array B**	**158.60**	**340**	PKP	**PKPdf**	**02 50 47.5**	**-1.2**
GERES				PKPab	**PKPab**	**02 51 22.9**	**-1.1**
CSNA	**Conrad Observa**	**158.68**	**335**	⇑*i*PKPab	**PKPab**	**02 51 24.0**	**-0.5**
	comp=Z,7.6nm,1.0s						
VTS	**Vitosha**	**158.76**	**315**	⇓PKP2	**PKPab**	**02 51 25.0**	**-0.1**
VTS	**Vitosha**	**158.76**	**315**	⇓*i*P	**PKPab**	**02 51 25.0**	**-0.1**
ABTA	**Abfaltersbach**	**160.84**	**339**	⇓*i*PKPab	**PKPab**	**02 51 32.6**	**-1.2**
	comp=Z,9.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**164.07**	**176**	PKP	**PKPdf**	**02 50 55.5**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=237,slow=1.3,SNR=6.7						
TORD				PKPab	**PKPab**	**02 51 48.6**	**0.0**
	comp=Z,3.6nm,0.9s,baz=179,slow=3.5,SNR=13						
TORD	**Torodi Ar. Bea**	**164.07**	**176**	PKP	**PKPdf**	**02 50 55.5**	**+0.1**
TORD				PKPab	**PKPab**	**02 51 48.6**	**0.0**
ESDC	**Sonseca Array**	**168.09**	**26**	PKP	**PKPdf**	**02 50 58.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=1.3,SNR=3.0						
ESDC				PKPab	**PKPab**	**02 52 05.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=293,slow=3.1,SNR=4.3						
ESDC	**Sonseca Array**	**168.09**	**26**	PKP	**PKPdf**	**02 50 58.5**	**+0.6**
ESDC				PKPab	**PKPdf**	**02 52 05.2**	**-0.7**

MAN 13 02:33:26,17′.01N×120′.05E,h31km,mb4.5,ML3.3,MS3.2, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.64**	**192**	*e*P	Pn	02 33 40.0	+1.1
BOLP				*e*S	Sn	02 33 50.2	+2.3
BCPH	**Baguio City Da**	**0.80**	**141**	⇑*i*P	Pb	02 33 42.4	+0.7
BCPH				*i* S	Sn	02 33 52.7	+0.2
ABRA	**Dolores**	**0.90**	**44**	*e*P	Pb	02 33 43.8	+0.7
ABRA				*e*S	Sb	02 33 58.0	+3.2
SIPP	**Brgy, Tapao**	**0.99**	**23**	⇓*e*P	Pn	02 33 43.0	-0.8
SIPP				*i* S	Sb	02 33 57.7	+0.3
PIP	**Pasuquin**	**1.42**	**22**	⇓*i*P	Pn	02 33 50.7	+1.0
PIP				*e*S	Sb	02 34 11.0	+1.3
CAUP	**Cauayan**	**1.69**	**92**	*e*P	Pb	02 33 57.6	+1.1

DDA ***13*** *02:41:07.8, 36′.98N×29′.16E, h6km, MD2.9*
ISCJB ***13*** *02:41:08.4±0.6, 37′.00N±0′.03×29′.18E±0′.03, h4km±5km, Error ellipse: s-maj=4.9km s-min=4.1km az=19.5*
ISK ***13*** *02:41:08.2, 37′.01N×29′.18E, h7km, MD2.9*
CSEM ***13*** *02:41:08.6±0.2, 37′.00N×29′.17E, h8km, MD2.9, Error ellipse: s-maj=3.5km s-min=3.0km az=24.0*
ISC 13 02:41:08.9±1.0, 37°.02N±0°.02×29°.17E±0°.02, h10km±9km, n40, σ0°74/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.38**	**55**	*i* P	**Pg**	**02 41 15.5**	**-1.0**
GOLH				*i* S	**Sg**	**02 41 22.3**	**+0.7**
GOLH	**Golhisar**	**0.38**	**55**	*i* P	**Pg**	**02 41 15.5**	**-1.0**
GOLH				*i* S	**Sg**	**02 41 22.3**	**+0.7**
FETY	**Fethiye**	**0.39**	**190**	*e*PG	**Pg**	**02 41 15.8**	**-0.7**
FETY	**Fethiye**	**0.39**	**190**	*e*Pg	**Pg**	**02 41 15.8**	**-0.7**
TURN	**Turunc**	**0.48**	**253**	*i* P	**Pn**	**02 41 22.1**	**+0.4**
TURN				*i* S	Sb	02 41 32.7	+6.3
TURN	**Turunc**	**0.48**	**253**	*i* P	**Pn**	**02 41 22.1**	**+0.4**
ELL	**Elmali**	**0.65**	**114**	*e*PG	**Pg**	**02 41 21.2**	**-0.3**
ELL				*e*SG	**Sb**	**02 41 30.5**	**-1.1**
ELL	**Elmali**	**0.65**	**114**	*e*Pg	**Pg**	**02 41 21.2**	**-0.3**
ELL				*e*Sg	**Sb**	**02 41 30.5**	**-1.1**
DNZL	**Cakiroluk**	**0.68**	**352**	*i* P	**Pg**	**02 41 21.9**	**-0.2**
DNZL				*i* S	**Sg**	**02 41 32.1**	**+1.1**
DNZL	**Cakiroluk**	**0.68**	**352**	*i* P	**Pg**	**02 41 21.9**	**-0.2**
DNZL				*i* S	**Sg**	**02 41 32.1**	**+1.1**
YER	**Yerkesik**	**0.72**	**280**	*e*PG	**Pg**	**02 41 22.6**	**-0.2**
YER				*e*SG	**Sb**	**02 41 33.2**	**-0.3**
YER	**Yerkesik**	**0.72**	**280**	*e*Pg	**Pg**	**02 41 22.6**	**-0.2**
YER				*e*Sg	**Sb**	**02 41 33.2**	**-0.3**
DENT	**Denizli**	**0.74**	**352**	*e*PG	**Pg**	**02 41 23.1**	**-0.2**
DENT				*e*SG	**Sb**	**02 41 34.0**	**-0.3**
DENT	**Denizli**	**0.74**	**352**	*e*Pg	**Pg**	**02 41 23.1**	**-0.2**
DENT				*e*Sg	**Sb**	**02 41 34.0**	**-0.3**
AKAS	**Kas**	**0.86**	**156**	*i* P	**Pg**	**02 41 25.2**	**-0.2**
AKAS				*i* S	**Sn**	**02 41 42.1**	**+2.4**
AKAS	**Kas**	**0.86**	**156**	*i* P	**Pg**	**02 41 25.2**	**-0.2**
MLSB	**Milas**	**1.15**	**284**	*e*PN	**Pn**	**02 41 30.9**	**+0.1**
MLSB	**Milas**	**1.15**	**284**	*e*Pn	**Pb**	**02 41 30.9**	**+0.1**
ANTB	**Antalya**	**1.20**	**95**	*e*PN	**Pn**	**02 41 31.5**	**-0.1**
ANTB	**Antalya**	**1.20**	**95**	*e*Pn	**Pn**	**02 41 31.5**	**-0.1**
AYDN	**Tasoluk**	**1.21**	**302**	*i* P	**Pn**	**02 41 31.9**	**-0.1**
AYDN				*i* S	**Sn**	**02 41 49.0**	**+0.5**
AYDN	**Tasoluk**	**1.21**	**302**	*i* P	**Pn**	**02 41 31.9**	**-0.1**
AYDN				*i* S	**Sn**	**02 41 49.0**	**+0.5**
BCK	**Bucak**	**1.22**	**68**	*e*PN	**Pn**	**02 41 31.8**	**-0.2**
BCK	**Bucak**	**1.22**	**68**	*e*Pn	**Pn**	**02 41 31.8**	**-0.2**
KHL	**Karahalli**	**1.33**	**12**	*e*PN	**Pb**	**02 41 33.9**	**-0.2**
KHL	**Karahalli**	**1.33**	**12**	*e*Pn	**Pb**	**02 41 33.9**	**-0.2**
ISP	**Isparta**	**1.34**	**53**	*e*PN	**Pg**	**02 41 34.6**	**-0.1**
ISP	**Isparta**	**1.34**	**53**	*e*Pn	**Pg**	**02 41 34.6**	**-0.1**
KHAL	**Karahalli**	**1.38**	**11**	*i* P	**Pb**	**02 41 34.7**	**-0.1**
KHAL				*i* S	**Sg**	**02 41 54.8**	**+1.6**
KHAL	**Karahalli**	**1.38**	**11**	*i* P	**Pb**	**02 41 34.7**	**-0.1**
KHAL				*i* S	**Sg**	**02 41 54.8**	**+1.6**
BDRM	**Kayabasi**	**1.38**	**273**	*i* P	**Pn**	**02 41 33.5**	**-0.7**
BDRM				*i* S	**Sg**	**02 41 53.8**	**+0.5**
BDRM	**Kayabasi**	**1.38**	**273**	*i* P	**Pn**	**02 41 33.5**	**-0.7**
BDRM				*i* S	**Sg**	**02 41 53.8**	**+0.5**
BODT	**Bodrum**	**1.49**	**272**	*e*PN	**Pb**	**02 41 36.3**	**-0.3**
BODT	**Bodrum**	**1.49**	**272**	*e*Pn	**Pb**	**02 41 36.3**	**-0.3**
KULA	**Kula-Manisa**	**1.55**	**345**	*e*PN	**Pn**	**02 41 36.8**	**+0.2**
KULA	**Kula-Manisa**	**1.55**	**345**	*e*Pn	**Pn**	**02 41 36.8**	**+0.2**
MANT	**Manisa**	**1.55**	**342**	*i* P	**Pn**	**02 41 35.0**	**-1.7**
MANT				*i* S	**Sn**	**02 41 56.4**	**-0.7**
MANT	**Manisa**	**1.55**	**342**	*i* P	**Pn**	**02 41 35.0**	**-1.7**
MANT				*i* S	**Sn**	**02 41 56.4**	**-0.7**
SHUT	**Suhut-Afyon**	**1.89**	**35**	*e*PN	**Pn**	**02 41 41.6**	**+0.3**
SHUT	**Suhut-Afyon**	**1.89**	**35**	*e*Pn	**Pn**	**02 41 41.6**	**+0.3**

SKHL 13 02:42:12.8±0.7, 53°.12N×128°.86E, h5km, mb3.5/5, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YASR	**Yasnyy**	**0.56**	**288**	⇓*i*Pg	Pg	02 42 22.4	-1.1
YASR				AMB	AMB	02 42 22.4	
YASR	7.0nm,0.5s			AMB	AMB	02 42 22.4	
YASR	15nm,0.5s			AMB	AMB	02 42 22.4	
YASR	16nm,0.5s			*e*Sg	Sg	02 42 29.2	-1.6
YASR				A	A	02 42 31.1	
YASR	220nm,0.7s			A	A	02 42 31.1	
ZEA	100nm,0.7s **Zeya**	**1.15**	**303**	*e*Pg	Pg	02 42 34.1	-0.7
ZEA				AMB	AMB	02 42 34.7	
ZEA	27nm,0.2s			*e*Sg	Sg	02 42 49.1	-0.6
ZEA	127nm,0.2s			A	A	02 42 52.0	
BMKR	**Bomnak**	**1.59**	**360**	*e*Pg	Pn	02 42 41.3	-0.4
BMKR				AMB	AMB	02 42 42.3	
BMKR	51nm,0.4s			AMB	AMB	02 42 42.3	
BMKR	12nm,0.4s			AMB	AMB	02 42 42.3	
BMKR	66nm,0.4s			*e*Sg	Sn	02 43 02.1	-0.6
BMKR	101nm,0.5s			A	A	02 43 04.9	
BMKR	134nm,0.5s			A	A	02 43 04.9	
KROS	**Kirovskiy**	**1.73**	**320**	*e*Pg	Pn	02 42 43.5	0.0
KROS				AMB	AMB	02 42 44.5	
KROS	10.0nm,0.4s			AMB	AMB	02 42 44.5	
KROS	8.0nm,0.4s			AMB	AMB	02 42 44.5	
KROS	11nm,0.4s			*e*Sg	Sn	02 43 05.5	-0.5
KROS				A	A	02 43 08.5	
KROS	37nm,0.4s			A	A	02 43 08.5	
EKMR	82nm,0.4s **Ekimchan**	**2.47**	**90**	*e*Pn	Pn	02 42 53.0	-0.7
EKMR				*e*Pg	Pb	02 42 58.5	+0.9
EKMR				AMB	AMB	02 42 59.1	
EKMR	5.0nm,0.4s			*e*Sg	Sb	02 43 28.5	+0.1
EKMR				A	A	02 43 36.5	
EKMR	44nm,0.6s			A	A	02 43 36.5	
TUP	30nm,0.6s **Tupik**	**5.44**	**287**	*e*Sg	Sg	02 45 06.3	-1.3

CSEM ***13*** *02:48:35.0, 41′.39N×14′.82E, h11km, MD1.7/6, After ROM*
**ROM 13 02:48:35.0±0.2, 41°.39N×14°.82E, h11km, Md1

0.5nm,0.9s,baz=52,slow=5.7,SNR=5.1
ILAR PcP PcP 03 03 28.5 -1.4
0.4nm,0.8s,baz=19,slow=3.8,SNR=3.7
BVAR Borovoye Array 57.58 44 P P 03 03 00.5 0.0
0.3nm,0.5s,baz=308,slow=4.7,SNR=3.7
KURBB Kurchatov Arra 62.71 41 P P 03 03 34.8 -0.8
0.6nm,0.9s,baz=323,slow=6.8,SNR=4.2
MKAR Makanchi Array 67.27 41 P P 03 04 05.1 -0.3
0.5nm,0.7s,baz=337,slow=5.8,SNR=7.2
WRA Warramunga Arr 146.06 18 PKPbc PKPdf 03 12 50.4 +0.1
1.9nm,1.0s,baz=344,slow=3.2,SNR=12
ASAR Alice Springs 149.60 20 PKPbc PKPbc 03 13 00.2 -0.5
0.6nm,0.6s,baz=354,slow=2.5,SNR=11

*BJI **13** 03:11:28.5, 1.°04S×132.°59E, h34km, mB5.0/11, mb4.7/23, Ms4.8/8, Ms7 4.4/8*
*MOS **13** 03:11:30.8±0.9, 0.°54S×132.°61E, h33km, mb4.8/11, Error ellipse: s-maj=19.9km s-min=8.2km az=119.9*
*ISCJB **13** 03:11:30.4±0.3, 0.°45S±0.°03×132.°80E±0.°04, h30km, mb4.6/43, MS4.0/4, Error ellipse: s-maj=5.4km s-min=3.9km az=179.5*
*IDC **13** 03:11:31.4±0.7, 0.°50S×132.°71E, h25km±4km, mb4.3/12, mb1 4.4/15, mb1mx4.2/27, mbtmp4.3/15, ML4.2/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/40, Error ellipse: s-maj=28.2km s-min=11.2km az=63.0*
*NEIC **13** 03:11:32.8±0.2, 0.°57S×132.°65E, h35km, mb4.5/14, Error ellipse: s-maj=8.6km s-min=4.0km az=61.0*
*DJA **13** 03:11:35.3±1.2, 1.°1S±3.°3×13.°3E±.°1, h28km±12km, M4.9/25, mB5.4/8, mb4.8/25, MLv5.0/9, Mw(mB)4.9/8*

ISC 13 03:11:33.1±0.4, 0.°50S±0.°04×132.°78E±0.°04, h34km±1km, h34km:pP-P, n123, σ1°69/158, mb4.7/43, MS4.1/4, 6C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.46**	**193**	P	**Pn**	**03 12 10.5**	**-0.4**
FAKI				S	**Sn**	**03 12 41.4**	**+1.6**
BAKI	**Biak**	**3.39**	**102**	P	**Pn**	**03 12 23.5**	**-0.2**
BAKI				S	**Sn**	**03 13 05.5**	**+2.7**
MSAI	**Masohi**	**4.78**	**234**	P	**Pn**	**03 12 45.0**	**+2.2**
BNDI	**Bandanaira**	**4.92**	**216**	P	**Pn**	**03 12 44.7**	**0.0**
BNDI				S	**Sn**	**03 13 41.2**	**+0.6**
TLE	**Tual**	**5.11**	**181**	P	**Pn**	**03 12 46.5**	**-0.7**
TLE				S	**Sn**	**03 13 48.7**	**+3.7**
LBMI	**Labuha**	**5.29**	**268**	P	**Pn**	**03 12 49.7**	**0.0**
	148nm,0.7s,2µm0.5nm						
TNTI	**Ternate**	**5.56**	**283**	P	Pn	03 12 58.1	+4.6
	111nm,0.8s,5µm19nm						
AAI	**Ambon**	**5.57**	**235**	P	**Pn**	**03 12 54.5**	**+0.8**
	594nm,0.8s,9µm2.3nm						
AAI				S	**Sn**	**03 13 56.5**	**-0.1**
	594nm,0.8s,9µm2.3nm						
KDI	**Kendari**	**10.72**	**251**	P	**Pn**	**03 14 07.0**	**+2.7**
	28nm,0.9s,728nm						
MRSI	**Marisa**	**10.89**	**275**	P	Pn	03 14 12.8	+6.2
	28nm,0.8s						
TTSI	**Tana Toraja**	**13.20**	**259**	P	Pn	03 14 42.5	+4.2
	30nm,1.0s,2µm						
SPSI	**Sidrap Palu**	**13.45**	**255**	P	**Pn**	**03 14 44.1**	**+2.4**
	25nm,0.9s						
BKSI	**Bulukumba**	**13.52**	**249**	P	**Pn**	**03 14 44.5**	**+1.9**
	42nm,1.0s,659nm						
KAPI	**Kappang**	**13.77**	**251**	Pn	**Pn**	**03 14 47.7**	**+1.7**
	1.2nm,0.3s,baz=128,slow=7.5,SNR=12						
KAPI				LR	LR	03 19 52.8	
	comp=Z,128nm,19.1s,baz=92,slow=37						
KAPI	**Kappang**	**13.77**	**251**	Pn	**Pn**	**03 14 47.7**	**+1.7**
KAPI				*e*Pn	Pn	03 14 49.2	+3.2
KAPI	**Kappang**	**13.77**	**251**	P	Pn	03 14 49.1	+3.2
	28nm,1.4s						
PMG	**Port Moresby**	**16.82**	**122**	Pn	**P**	**03 15 27.8**	**-0.3**
	0.6nm,0.3s,baz=278,slow=9.8,SNR=6.5						
PMG	**Port Moresby**	**16.82**	**122**	*e*Pn	**Pn**	**03 15 26.8**	**+0.6**
	12nm,0.9s						
PMG	**Port Moresby**	**16.82**	**122**	P	**P**	**03 15 28.4**	**+0.4**
	15nm,1.2s						
COEN	**Coen**	**16.87**	**143**	*e*Pn	**Pn**	**03 15 26.3**	**-0.5**
KKM	**Kota Kinabalu**	**17.77**	**292**	*e*Pn	**Pn**	**03 15 35.6**	**-2.5**
GUMO	**Guam**	**18.42**	**40**	LR	LR	03 21 02.5	
	comp=Z,113nm,21.6s,baz=88,slow=31						
KHKI	**Kahang-Kahang**	**18.81**	**245**	P	**Pn**	**03 15 50.4**	**-0.3**
	36nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.85**	**201**	P	**P**	**03 15 48.6**	**-1.8**
	0.5nm,0.3s,baz=35,slow=13,SNR=16						
FITZ				S	Sn	03 19 07.3	-14
	0.4nm,0.3s,baz=323,slow=20,SNR=5.1						
FITZ				LR	LR	03 22 54.7	
	comp=Z,160nm,21.9s,baz=9.8,slow=36						
FITZ	**Fitzroy Crossi**	**18.85**	**201**	*e*P	**P**	**03 15 47.0**	**-3.4**
	1.3nm,0.4s						
FITZ				S	Sn	03 19 07.3	-14
SRBI	**Singaraja**	**19.06**	**246**	P	**Pn**	**03 15 57.0**	**+3.3**
	40nm,1.2s						
WRAB	**Tennant Creek**	**19.38**	**176**	*e*P	**P**	**03 15 54.9**	**-1.3**
WRAB				*e*		03 19 22.6	
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**19.38**	**176**	*e*P	**P**	**03 15 54.9**	**-1.3**
	comp=Z,15nm,0.6s						
WRAB				*e*Sn	S	03 19 22.6	-11
WRA	**Warramunga Arr**	**19.38**	**176**	P	**P**	**03 15 55.7**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=354,slow=11,SNR=77						
WRA				S	S	03 19 23.4	-10
	comp=Z,0.7nm,0.3s,baz=355,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**19.38**	**176**	P	**P**	**03 15 55.7**	**-0.6**
WRA				S	S	03 19 23.4	-10
KMMI	**Kalianget**	**19.86**	**250**	P	**Pn**	**03 16 06.2**	**+2.9**
	comp=Z,35nm,1.1s,comp=Z,2µm						
BYJI	**Banyuwangi**	**19.90**	**247**	P	**Pn**	**03 16 05.8**	**+2.1**
	comp=Z,194nm,1.1s,comp=Z,12µm						
SBUM	**Sibu**	**20.77**	**278**	P	Pn	03 16 15.9	+2.0
	comp=Z,32nm,1.2s						
SJI	**Sawahan**	**22.15**	**251**	P	P	03 16 36.0	+10
KSM	**Kuching**	**22.56**	**275**	P	**P**	**03 16 32.8**	**+2.2**
	comp=Z,22nm,1.2s						
AS31	**Alice Springs**	**23.05**	**177**	*e*P	**P**	**03 16 34.9**	**-0.9**
ASAR	**Alice Springs**	**23.06**	**177**	P	**P**	**03 16 35.1**	**-0.6**
	comp=Z,29nm,0.5s,baz=356,slow=11,SNR=213						
ASAR				S	**S**	**03 20 49.5**	**+5.0**
	comp=Z,2.9nm,0.8s,baz=359,slow=29,SNR=4.3						
ASAR	**Alice Springs**	**23.06**	**177**	P	**P**	**03 16 35.1**	**-0.6**
ASAR				S	**S**	**03 20 49.5**	**+5.0**
CTA	**Charters Tower**	**23.51**	**147**	P	**P**	**03 16 40.8**	**+0.6**
	comp=Z,16nm,0.8s,baz=332,slow=12,SNR=14						
CTA				pP	**pP**	**03 16 48.1**	**-1.5**
	comp=Z,21nm,0.8s,baz=328,slow=9.6,SNR=10						
CTA				LR	LR	03 27 12.3	
	comp=Z,334nm,19.0s,baz=44,slow=40						
CTA	**Charters Tower**	**23.51**	**147**	P	**P**	**03 16 40.8**	**+0.6**
CTA				pP	**pP**	**03 16 48.1**	**-1.5**
CTAO	**Charters Tower**	**23.51**	**147**	*e*P	**P**	**03 16 40.0**	**-0.3**
CTAO				*e**PP	**pP**	**03 16 48.2**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,27nm,0.9s						
CTAO	**Charters Tower**	**23.51**	**147**	*e*P	**P**	**03 16 40.0**	**-0.3**
	comp=Z,27nm,0.9s						
CTAO				*e*pP	**pP**	**03 16 48.2**	**-1.5**
BJII	**Banjamegara**	**23.99**	**253**	P	**P**	**03 16 47.1**	**+2.2**
	comp=Z,56nm,1.6s						
MBWA	**Marble Bar**	**24.17**	**211**	*e*P	**P**	**03 16 45.2**	**-1.2**
	comp=Z,13nm,0.9s						
TGJI	**Tegal**	**24.43**	**254**	P	**P**	**03 16 49.7**	**+0.8**
	comp=Z,42nm,1.0s						
CISI	**Cisompet, Garu**	**25.86**	**254**	P	**P**	**03 17 01.6**	**-0.3**
	comp=Z,78nm,0.8s						
IPM	**Ipoh**	**32.11**	**279**	*e*P	**P**	**03 17 56.4**	**-1.2**
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**32.29**	**175**	*e*P	**P**	**03 17 57.9**	**-0.9**
	comp=Z,121nm,0.7s						
STKA	**Stephens Creek**	**32.30**	**166**	P	**P**	**03 17 57.8**	**-1.1**
	comp=Z,18nm,0.7s,baz=341,slow=8.9,SNR=56						
STKA	**Stephens Creek**	**32.30**	**166**	*e*P	**P**	**03 17 57.9**	**-1.1**
SISI	**Saibi**	**33.70**	**268**	P	P	03 18 25.3	+14
PSI	**Prapat**	**34.01**	**276**	P	**P**	**03 18 12.7**	**-1.6**
	comp=Z,5.4nm,0.8s,baz=98,slow=8.4,SNR=6.8						
PSI	**Prapat**	**34.01**	**276**	P	**P**	**03 18 12.7**	**-1.6**
ARMA	**Armidale**	**34.73**	**151**	*e*P	**P**	**03 18 20.2**	**-0.1**
	comp=Z,136nm,2.6s						
NJ2	**Nanjing**	**34.95**	**339**	*e*P	**P**	**03 18 23.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**36.77**	**319**	*e*P	**P**	**03 18 38.8**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**37.20**	**7**	LR	LR	03 32 35.0	
	comp=Z,28nm,20.4s,baz=120,slow=34						
ENH	**Enshi**	**37.80**	**326**	*e*P	**P**	**03 18 46.1**	**-0.3**
	comp=Z,4.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.22**	**301**	P	**P**	**03 18 50.1**	**0.0**
	comp=Z,2.1nm,0.5s,baz=124,slow=6.8,SNR=16						
CMAR	**Chiang Mai Arr**	**38.22**	**301**	P	**P**	**03 18 50.1**	**0.0**
CHTO	**Chiang Mai**	**38.38**	**302**	*e*P	**P**	**03 18 50.2**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**38.38**	**302**	*e*P	**P**	**03 18 50.2**	**-1.2**
	comp=Z,4.8nm,0.7s						
KMI	**Kunming**	**38.65**	**313**	P	**P**	**03 18 50.9**	**-3.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
CD2	**Chengdu**	**41.66**	**321**	P	**P**	**03 19 19.5**	**+0.9**
CD2				pP	**pP**	**03 19 29.8**	**+1.3**
CD2				sP	**sP**	**03 19 34.0**	**+1.4**
CD2				PP	**PnPn**	**03 20 59.8**	**-0.5**
CD2				S	**S**	**03 25 34.3**	**+1.1**
CD2				sS	**sS**	**03 25 51.3**	**+1.7**
CD2				SS	**SS**	**03 28 35.4**	**-4.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,70nm,3.9s						
CD2				LR	LR		
	comp=N,500nm,4.8s						
CD2				LR	LR		
	comp=Z,230nm,4.8s						
CN2	**Changchun**	**44.59**	**352**	*e*P	P	03 19 46.1	+4.1
MDJ	**Mudanjiang**	**45.01**	**357**	P	**P**	**03 19 47.8**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,200nm,4.2s						
LZH	**Lanzhou**	**45.27**	**327**	*e*P	**P**	**03 19 46.5**	**-1.3**
LZH				pP	**pP**	**03 19 57.0**	**-0.8**
LZH				sP	**sP**	**03 20 01.1**	**-0.7**
LZH				*e*PP	**PP**	**03 21 35.6**	**+1.5**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,54nm,5.6s						
LZH				LR	LR		
	comp=N,230nm,14.0s						
LZH				LR	LR		
	comp=E,260nm,13.7s						
LZH				LR	LR		
	comp=Z,280nm,17.6s						
HHC	**Hu-ho-hao-te**	**45.45**	**337**	*e*P	**P**	**03 19 50.1**	**+1.1**
HHC				pP	**pP**	**03 20 00.0**	**+0.9**
HHC				sP	**sP**	**03 20 04.1**	**+1.0**
HHC				PP	**PP**	**03 21 37.6**	**+1.8**
HHC				S	S	03 26 37.3	+8.8
HHC				sS	**sS**	**03 26 48.0**	**+3.0**
HHC				SS	**ScS**	**03 29 47.6**	**+4.3**
HHC				pmax	pmax		
	comp=Z,58nm,0.7s						
HHC				LR	LR		
	comp=N,380nm,15.5s						
HHC				LR	LR		
	comp=E,810nm,15.5s						
HHC				LR	LR		
	comp=Z,360nm,17.8s						
GTA	**Gaotai**	**49.88**	**327**	*e*P	**P**	**03 20 23.6**	**+0.2**
GTA				pP	**pP**	**03 20 33.4**	**-0.2**
GTA				sP	**sP**	**03 20 37.6**	**0.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TAPN	**Taplejung**	**51.38**	**306**	*e*P	**P**	**03 20 32.5**	**-2.7**
	comp=Z,24nm,1.2s						
GUN	**Gumba**	**53.09**	**306**	*e*P	**P**	**03 20 46.5**	**-1.5**
ULN	**Ulaanbaatar**	**53.12**	**339**	*e*P	**P**	**03 20 47.6**	**0.0**
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**03 20 49.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=149,slow=7.2,SNR=6.6						
SONM				PcP	**PcP**	**03 21 55.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=146,slow=7.7,SNR=6.7						
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**03 20 49.0**	**-0.1**
SONM				PcP	**PcP**	**03 21 55.7**	**-0.6**
GKN	**Gorkha**	**54.13**	**306**	*e*P	**P**	**03 20 54.1**	**-1.3**
KOLN	**Koldanda**	**54.89**	**305**	*e*P	**P**	**03 20 58.7**	**-2.3**
	comp=Z,20nm,0.6s						
DANN	**Dangsing**	**54.98**	**306**	*e*P	**P**	**03 21 00.3**	**-1.4**
	comp=Z,22nm,1.0s						
PYUN	**Piuthan**	**55.51**	**305**	*e*P	**P**	**03 21 03.6**	**-1.9**
	comp=Z,34nm,1.0s						
WMQ	**Urumqi**	**59.67**	**324**	P	**P**	**03 21 34.8**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MK31	**Makanchi Array**	**64.48**	**324**	*ce*P	**P**	**03 22 06.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**64.48**	**324**	*e*P	**P**	**03 22 05.7**	**-0.8**
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**03 22 06.2**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=112,slow=8.8,SNR=66						
MKAR				pP	**pP**	**03 22 13.6**	**-3.2**
	comp=Z,2.1nm,0.6s,baz=119,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**64.48**	**324**	*e*P	**P**	**03 22 06.3**	**-0.2**
MKAR				*PP	**pP**	**03 22 13.6**	**-3.2**
MKAR	**Makanchi Array**	**64.48**	**324**	*e*P	**P**	**03 22 06.3**	**-0.2**
MKAR				pP	**pP**	**03 22 13.6**	**-3.2**
SEY	**Seymchan**	**64.96**	**10**	*ce*P	**P**	**03 22 10.4**	**+1.2**
KSH	**Kashi**	**65.30**	**315**	P	**P**	**03 22 13.1**	**+1.1**
KSH				*e*pP	**pP**	**03 22 23.8**	**+1.4**
KSH				*e*sP	**sP**	**03 22 28.6**	**+2.2**
KSH				*e*PcP	**PcP**	**03 22 45.8**	**+1.7**
KSH				*e*PP	**PP**	**03 24 40.4**	**+4.4**
KSH				*e*ScP		03 26 44.6	
KSH				PcS		03 26 48.0	
KSH				S	**S**	**03 30 53.8**	**+0.1**
KSH				sS	**sS**	**03 31 10.6**	**-0.3**
KSH				ScS	**SKSac**	**03 32 02.3**	**-2.7**
KSH				SS	**SS**	**03 35 09.8**	**+2.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,100nm,4.6s						
KSH				LR	LR		
	comp=N,190nm,8.4s						
KSH				LR	LR		
	comp=E,100nm,7.4s						
KSH				LR	LR		
	comp=Z,190nm,7.4s						
ZALV	**Zalesovo Beam**	**67.12**	**332**	P	**P**	**03 22 22.1**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=122,slow=4.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**67.12**	**332**	P	**P**	**03 22 22.1**	**-1.1**
ZALV	**Zalesovo Beam**	**67.12**	**332**	P	**P**	**03 22 22.1**	**-1.1**
AAK	**Ala-Archa**	**67.54**	**317**	P	**P**	**03 22 26.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=335,slow=3.7,SNR=3.6						
AAK	**Ala-Archa**	**67.54**	**317**	P	**P**	**03 22 26.1**	**-0.3**
AAK	**Ala-Archa**	**67.54**	**317**	P	**P**	**03 22 26.1**	**-0.3**
EKS2	**Erkin-Say**	**68.04**	**317**	*e*P	**P**	**03 22 29.6**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKS2	**Erkin-Say**	**68.04**	**317**	*e*P	**P**	**03 22 29.6**	**+0.1**
	comp=Z,2.8nm,0.7s						
KURK	**Kurchatov**	**68.56**	**326**	*ce*P	**P**	**03 22 31.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KURK	**Kurchatov**	**68.56**	**326**	*e*P	**P**	**03 22 31.3**	**-1.1**
	comp=Z,5.2nm,0.8s						
KURK				pP	**pP**	**03 22 39.5**	**-3.4**
KURK				PcP	**PcP**	**03 22 55.5**	**-1.8**
KURBB	**Kurchatov Arra**	**68.56**	**326**	P	**P**	**03 22 31.9**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=122,slow=5.9,SNR=40						
KURBB				pP	**pP**	**03 22 39.5**	**-3.4**
	comp=Z,5.2nm,1.1s,baz=120,slow=6.0,SNR=12						
KURBB				PcP	**PcP**	**03 22 55.5**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=122,slow=5.8,SNR=4.2						
KK31	**Karatay Array**	**70.44**	**317**	*ce*P	**P**	**03 22 43.2**	**-1.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VOSK	**Vostochnaya**	**73.71**	**326**	P	**P**	**03 23 01.3**	**-2.3**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVA0	**Borovoye Array**	**74.16**	**326**	*i* P	**P**	**03 23 04.5**	**-1.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**74.16**	**326**	P	**P**	**03 23 05.8**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=122,slow=7.7,SNR=29						
BVAR	**Borovoye Array**	**74.16**	**326**	P	**P**	**03 23 05.8**	**-0.4**
BVAR	**Borovoye Array**	**74.16**	**326**	P	**P**	**03 23 05.8**	**-0.4**
BRVK	**Borovoye**	**74.23**	**326**	*ce*P	**P**	**03 23 06.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**74.23**	**326**	*e*P	**P**	**03 23 06.3**	**-0.3**
	comp=Z,5.6nm,0.8s						
ZRNK	**Zerenda**	**74.90**	**326**	*i* P	**P**	**03 23 08.6**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VNDA	**Vanda**	**78.55**	**174**	*e*P	**P**	**03 23 30.2**	**-0.4**
	comp=Z,6.7nm,0.5s						
ABKAR	**Akbulak array**	**79.24**	**320**	*e*P	**P**	**03 23 33.9**	**-1.1**
	comp=Z,2.1nm,0.8s						
ARU	**Arti**	**81.73**	**327**	*d* iP	**P**	**03 23 47.2**	**-0.9**
ARU						03 26 51.5	
ARU				S	**S**	**03 33 57.4**	**-1.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**86.32**	**25**	P	**P**	**03 24 10.3**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=240,slow=4.3,SNR=5.5						
ILAR	**Eielson Array**	**86.32**	**25**	P	**P**	**03 24 10.3**	**-1.1**
INK	**Inuvik**	**91.83**	**22**	*e*P	**P**	**03 24 37.1**	**-0.2**
VYHS	**Vyhne**	**106.05**	**321**	*e*P	**Pdif**	**03 25 40.3**	**-1.6**
VYHS	**Vyhne**	**106.05**	**321**	PDIF	**Pdif**	**03 25 40.3**	**-1.6**
FFC	**Flin Flon**	**109.98**	**30**	*c* iPKIKP	**PKiKP**	**03 30 02.4**	**+1.4**
TORD	**Torodi Ar. Bea**	**129.95**	**287**	PKP	**PKPdf**	**03 30 38.5**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=80,slow=1.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**129.95**	**287**	PKP	**PKPdf**	**03 30 38.5**	**-1.8**
PLCA	**Paso Flores**	**133.80**	**155**	PKP	**PKPdf**	**03 30 46.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=317,slow=4.6,SNR=4.5						
PLCA	**Paso Flores**	**133.80**	**155**	PKP	**PKPdf**	**03 30 46.6**	**-0.4**
CPUP	**Villa Florida**	**151.60**	**161**	PKPbc	**PKPbc**	**03 31 24.6**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=223,slow=1.4,SNR=14						
CPUP	**Villa Florida**	**151.60**	**161**	PKPbc	**PKPbc**	**03 31 24.6**	**-0.1**
LPAZ	**La Paz**	**153.46**	**130**	PKPbc	**PKPbc**	**03 31 28.9**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=216,slow=5.8,SNR=4.1						
LPAZ	**La Paz**	**153.46**	**130**	PKPbc	**PKPbc**	**03 31 28.9**	**-1.0**

*IDC **13** 03:26:26.1±0.4, 21.°13S×175.°39W, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.5/28, mbtmp4.4/20, ML4.3/1, Error ellipse: s-maj=19.6km s-min=13.5km az=143.0*
*ISCJB **13** 03:26:32.9±0.2, 21.°25S±0.°06×175.°50W±0.°06, h58km, mb4.6/45, MS4.5/1, Error ellipse: s-maj=10.4km s-min=5.6km az=145.6*
*SZGRF **13** 03:26:34.4, 21.°23S×175.°96W, h53km, Tonga Islands*
*NEIC **13** 03:26:37.2±2.5, 21.°21S×175.°53W, h84km±22km, mb4.6/29, Error ellipse: s-maj=9.5km s-min=6.1km az=149.0*
NEIC Felt at Nuku'alofa.

ISC 13 03:26:35.0±0.6, 21.°25S±0.°08×175.°33W±0.°08, h64km±4km, h63km:pP-P, n428, σ0°99/436, mb4.5/45, 134C-119D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.16**	**298**	*e*Pn	Pn	03 28 25.0	+7.8
AFI	**Afiamalu**	**8.05**	**25**	Sn	Sn	03 29 45.8	-13
	6.2nm,0.3s,baz=252,slow=20,SNR=3.5						
AFI	**Afiamalu**	**8.05**	**25**	Sn	Sn	03 29 45.8	-13
RAR	**Rarotonga**	**14.50**	**93**	Pn	Pn	03 29 50.2	-6.7
	1.4nm,0.3s,baz=276,slow=16,SNR=3.0						
RAR				Sn	Sn	03 32 13.6	-23
	2.6nm,0.3s,baz=112,slow=19,SNR=4.1						
RAR				T	T	03 44 23.3	
	40nm,0.3s,baz=228,slow=7.0,SNR=9.9						
RAR	**Rarotonga**	**14.50**	**93**	Pn	Pn	03 29 50.2	-6.7
RAR				Sn	Sn	03 32 13.6	-23
RAR				TT		03 44 23.4	
DZM	**Mont Dzumac**	**16.97**	**264**	*e*P	P	03 30 34.3	+5.0
	87nm,0.9s						
DZM				*e*LR	LR	03 34 36.3	
	808nm,25.9s						
DZM	**Mont Dzumac**	**16.97**	**264**	Pn	**P**	**03 30 33.7**	**+4.4**
	0.9nm,0.3s,baz=82,slow=16,SNR=12						
DZM	**Mont Dzumac**	**16.97**	**264**	*e*P	**P**	**03 30 33.0**	**+3.7**
	63nm,1.0s						
URZ	**Urewera**	**18.16**	**199**	P	**P**	**03 30 40.8**	**-1.5**
	1.1nm,0.3s,baz=310,slow=7.9,SNR=6.9						
URZ				S	Sn	03 33 50.0	-15
	0.6nm,0.3s,baz=0.0,slow=20,SNR=4.4						
URZ	**Urewera**	**18.16**	**199**	P	**P**	**03 30 40.8**	**-1.5**
URZ				S	Sn	03 33 50.0	-15
TBI	**Tubuai**	**24.01**	**100**	*e*LR	LR	03 37 25.9	
	519nm,28.0s						
TBI				*e*T	T	03 55 54.2	
	20nm,0.3s						
PAE	**Paea**	**24.53**	**86**	*e*T	T	03 56 36.3	
	17nm,0.3s						
PPT2	**Papeete2**	**24.55**	**86**	*e*LR	LR	03 37 36.3	
	650nm,26.0s,baz=258						
PPT2				*e*T	T	03 56 38.7	
	15nm,0.3s						
TIAR	**Tiarei**	**24.77**	**86**	*e*T	T	03 56 54.5	
	16nm,0.2s						
TVO	**Taravao**	**24.81**	**87**	*e*T	T	03 56 57.3	
	18nm,0.3s						
MEH	**Mehetia**	**25.89**	**87**	*e*T	T	03 58 18.4	
	188nm,0.2s						
CTA	**Charters Tower**	**35.91**	**265**	P	**P**	**03 33 28.9**	**-0.4**
	1.7nm,0.4s,baz=84,slow=10,SNR=4.6						
CTA	**Charters Tower**	**35.91**	**265**	P	**P**	**03 33 28.9**	**-0.4**
CTAO	**Charters Tower**	**35.91**	**265**	*e*P	**P**	**03 33 28.8**	**-0.6**
	9.3nm,1.0s						
RKT	**Rikitea**	**37.33**	**101**	*e*T	T	04 12 31.7	
	15nm,0.3s						
PMG	**Port Moresby**	**37.95**	**282**	P	**P**	**03 33 45.6**	**-1.1**

BELC	Belle Mtn. Jos baz=79	78.77	47	⇓P	P	03 38 31.4	+0.2
CWC	Cottonwood Cre baz=79	78.82	44	⇓P	P	03 38 32.1	+0.8
BC3	Big Chuckawall baz=79	78.94	47	⇓P	P	03 38 32.9	+0.8
MPMC	Manual Prospec baz=79,SNR=8.6	78.98	44	⇑P	P	03 38 32.6	+0.4
GSC	Goldstone 8.2nm,1.3s	78.98	45	eP	P	03 38 31.4	-0.8
GSC	Goldstone baz=79	78.98	45	⇓P	P	03 38 32.5	+0.3
HEC	Hector,Ludlow baz=79	79.02	46	⇑P	P	03 38 33.0	+0.5
MTUM	Tungsten Hills	79.06	43	eP	P	03 38 33.2	+0.5
YBH	Yreka Blue Hor 11nm,0.9s,baz=296,slow=1.8,SNR=9.3	79.34	37	P	P	03 38 34.8	+0.8
YBH	Yreka Blue Hor 6.3nm,1.0s	79.34	37	eP	P	03 38 34.9	+0.9
IRM	Iron Mountain baz=80	79.44	47	⇑P	P	03 38 35.2	+0.6
GMRC	Granite Mounta baz=80	79.45	46	⇑P	P	03 38 35.3	+0.6
WCN	Washoe City 13nm,1.1s	79.52	41	eP	P	03 38 35.5	+0.4
GRAC	Grapevine Rang baz=80,SNR=10.0	79.61	44	⇑P	P	03 38 36.1	+0.6
113A	Mohawk Valley, baz=80	79.62	49	⇑P	P	03 38 36.2	+0.6
FURC	Furnace Creek, baz=80	79.63	44	⇑P	P	03 38 36.2	+0.7
Y12C	Blythe baz=80	79.64	48	⇓P	P	03 38 36.7	+1.0
TUQ	Turquoise Moun baz=80	79.65	46	⇓P	P	03 38 36.8	+0.9
HUMO	Hull Mountain	79.78	36	eP	P	03 38 37.5	+1.2
NVAR	Mina Array Bea 9.5nm,1.0s,baz=223,slow=8.8,SNR=31	79.88	42	P	P	03 38 37.7	+0.6
NVAR	Mina Array Bea	79.88	42	P	P	03 38 37.7	+0.6
MOD	Modoc 12nm,0.9s	80.83	38	eP	P	03 38 42.4	+0.4
W13A	Hualapai Mount baz=81	80.83	47	⇓P	P	03 38 43.3	+1.0
R11A	Troy Canyon, C baz=82	81.55	43	⇓P	P	03 38 46.6	+0.6
319A	Douglas baz=82	82.11	52	⇑P	P	03 38 49.5	+0.5
X16A	Lo Mia Camp, P baz=82,SNR=5.4	82.14	49	⇑P	P	03 38 50.0	+0.7
NJ2	Nanjing	82.29	309	eP	P	03 38 50.3	+0.5
NJ2	comp=Z,10.0nm,0.8s			pmax	pmax		
VIPM	Ingram Point	82.31	36	P	P	03 38 50.2	+0.4
VFP	Flag Point	82.37	35	P	P	03 38 50.6	+0.5
R13A	O'Grain Ranch, baz=83	82.50	44	⇓P	P	03 38 51.5	+0.5
U15A	North Rim baz=83,SNR=16	82.64	46	⇑P	P	03 38 52.7	+0.8
320A	Kipp Ranch, An baz=83	82.65	52	⇑P	P	03 38 52.6	+0.7
TDL	Tradedollar La	82.65	34	P	P	03 38 52.6	+1.0
VTHM	Trough	82.77	36	P	P	03 38 52.8	+0.7
WUAZ	Wupatki baz=83	82.78	48	⇓P	P	03 38 53.1	+0.6
220A	Playas Peak, P baz=83	82.93	52	⇓P	P	03 38 54.5	+1.1
LON	Longmire	83.12	34	eP	P	03 38 54.2	+0.4
120A	U Bar Ranch, L baz=84	83.18	51	⇓P	P	03 38 55.0	+0.4
WPW	White Pass	83.22	34	P	P	03 38 55.1	+0.6
X18A	Snowflake baz=84	83.25	49	⇓P	P	03 38 55.3	+0.3
FMW	Mount Fremont	83.31	34	P	P	03 38 55.8	+0.7
Z20A	Nine Sixteen R baz=84	83.49	51	⇓P	P	03 38 56.6	+0.3
W18A	Petrified Fore baz=84	83.70	49	⇑P	P	03 38 58.3	+1.0
121A	Cookes Peak, D baz=84	83.79	52	⇑P	P	03 38 58.3	+0.5
MSU	Marysvale	83.85	45	eP	P	03 38 58.8	+0.7
Y20A	Horse Springs, baz=84,SNR=5.3	84.05	50	⇓P	P	03 39 00.0	+0.8
HAWA	Hanford	84.09	35	eP	P	03 38 59.3	+0.5
H2OWA	Water	84.16	35	P	P	03 38 59.8	+0.7
Z21A	St. Cloud Mine baz=84,SNR=7.5	84.26	51	⇑P	P	03 39 01.4	+1.2
X20A	Quemado baz=85,SNR=6.8	84.28	50	⇑P	P	03 39 01.1	+0.8
S17A	Black Ridge (B baz=85	84.29	46	⇑P	P	03 39 00.7	+0.5
MFID	Camas Ranch comp=Z,9.3nm,1.1s	84.36	39	eP	P	03 39 00.5	+0.2
MFID				epP	pP	03 39 15.8	-2.3
MFID	Camas Ranch baz=85	84.36	39	⇓P	P	03 39 00.6	+0.2
BMO	Blue Mountains comp=Z,1.9nm,0.7s	84.37	37	eP	P	03 38 59.9	-0.5
DUG	Dugway baz=85	84.37	43	⇑P	P	03 39 00.9	+0.4
CN2	Changchun	84.43	321	eP	P	03 39 03.3	+2.8
ETW	Entiat	84.44	34	P	P	03 39 00.8	+0.1
W20A	Ramah baz=85,SNR=10	84.58	49	⇓P	P	03 39 02.7	+0.9
Y21A	Point of Rocks baz=85,SNR=9.4	84.61	51	⇓P	P	03 39 03.1	+1.1
U19A	Dine' College, baz=85	84.68	48	⇓P	P	03 39 02.9	+0.6
Q16A	Castle Valley baz=85	84.73	45	⇑P	P	03 39 03.2	+0.7
X21A	Alamocita Cree baz=85	84.74	50	⇓P	P	03 39 03.2	+0.5
Z22A	Elephant Butte baz=85	84.75	51	⇓P	P	03 39 03.3	+0.7
P16A	Fountain Green baz=85	84.79	44	⇑P	P	03 39 03.3	+0.6
WHN	Wuhan	84.91	305	eP	P	03 39 07.3	+4.1
324A	Moseley Ranch, baz=85	84.97	54	⇓P	P	03 39 04.0	+0.2
I12A	Atlanta baz=85	84.99	39	⇑P	P	03 39 04.1	+0.5
425A	Indio Mountain baz=85	85.03	54	⇑P	P	03 39 04.2	+0.1
626A	Big Bend Ranch baz=85	85.11	56	⇑P	P	03 39 04.8	+0.4
L14A	Malta baz=85	85.13	41	⇑P	P	03 39 04.7	+0.4
MNTX	Cornudas Mount comp=Z,5.6nm,1.2s	85.17	53	eP	P	03 39 03.9	-0.6
MNTX	Cornudas Mount baz=86	85.17	53	⇑P	P	03 39 05.0	+0.4
W21A	San Fidel baz=86	85.18	50	⇓P	P	03 39 05.3	+0.5
LAZ	Ladron comp=Z,4.5nm,1.6s	85.19	50	eP	P	03 39 05.5	+0.7
LAZ				epP	pP	03 39 21.0	-1.5
224A	Cornudas Mount baz=86	85.24	53	⇓P	P	03 39 05.6	+0.5
SRU	San Rafael baz=86	85.26	45	⇑P	P	03 39 05.4	+0.3
HLID	Hailey	85.28	40	eP	P	03 39 05.3	+0.2
HLID	Hailey baz=86	85.28	40	⇓P	P	03 39 05.6	+0.6
Z23A	Rita Site, Whi baz=86	85.29	52	⇑P	P	03 39 05.7	+0.4
M15A	Larsen Ranch, baz=86	85.30	42	⇑P	P	03 39 05.2	+0.1
325A	Bean Ranch, Si baz=86	85.32	54	⇓P	P	03 39 05.8	+0.2
J13A	Cove Ranch, Pi baz=86	85.33	40	⇓P	P	03 39 06.0	+0.7
TXAR	Lajitas Array comp=Z,2.8nm,1.1s,baz=227,slow=5.0,SNR=13	85.37	56	P	P	03 39 06.0	+0.3
TXAR	Lajitas Array	85.37	56	P	P	03 39 06.0	+0.3
526A	Mary Lane Ranc baz=86	85.38	55	⇓P	P	03 39 06.2	+0.3
K14A	Jones Ranch, D baz=86	85.45	41	⇓P	P	03 39 06.6	+0.7
LPM	Los Pinos Moun comp=Z,2.9nm,1.0s	85.51	51	eP	P	03 39 06.6	+0.2
124A	Stringfield Ra baz=86,SNR=6.0	85.59	53	⇑P	P	03 39 07.3	+0.4
H12A	Diamond D Ranc baz=86	85.60	39	⇑P	P	03 39 06.9	+0.3
N16A	Rees Ranch, Co baz=86	85.62	43	⇓P	P	03 39 07.3	+0.4
L15A	Malad City baz=86	85.64	42	⇓P	P	03 39 07.0	+0.1
627A	Terlingua Ranc baz=86	85.64	56	⇓P	P	03 39 07.4	+0.2
G12A	Big Creek, Yel baz=86	85.66	38	⇑P	P	03 39 07.6	+0.6
I13A	Wildhorse Cree baz=86	85.66	39	⇓P	P	03 39 08.0	+1.0
J14A	Carey baz=86	85.69	40	⇓P	P	03 39 07.9	+0.9
O17A	Robinson Place baz=86	85.70	44	⇓P	P	03 39 07.8	+0.6
426A	McDonald Obser baz=86,SNR=7.0	85.71	55	⇓P	P	03 39 07.5	-0.1
W22A	Albuquerque baz=86	85.71	50	⇑P	P	03 39 07.9	+0.4
P18A	Preston Nutter baz=86	85.72	45	⇓P	P	03 39 07.9	+0.3
Y23A	Lovelace Mesa, baz=86	85.74	51	⇑P	P	03 39 07.9	+0.3
225A	Deer Hill, Car baz=86	85.78	53	⇑P	P	03 39 08.2	+0.4
527A	Woodward Ranch baz=86	85.79	56	⇑P	P	03 39 07.9	+0.1
U21A	Nageezi baz=86,SNR=6.8	85.83	48	⇓P	P	03 39 08.3	+0.3
ANMO	Albuquerque comp=Z,6.0nm,1.1s,baz=228,slow=5.7,SNR=16	85.94	50	P	P	03 39 08.9	+0.3
ANMO	Albuquerque comp=Z,7.6nm,1.2s	85.94	50	eP	P	03 39 08.4	-0.2
H13A	Challis baz=86	85.95	39	⇓P	P	03 39 09.1	+0.7
Z24A	Sheeppen Canyo baz=86	85.95	52	⇓P	P	03 39 09.0	+0.3
Q19A	Hogan Spring (baz=86	86.02	46	⇑P	P	03 39 09.1	+0.3
N17A	Moffit Pass baz=86	86.04	43	⇑P	P	03 39 09.6	+0.6
628A	Black Gap, Mar baz=86	86.05	56	⇓P	P	03 39 09.6	+0.5
S20A	Disappointment baz=86	86.05	47	⇑P	P	03 39 09.4	+0.3
F12A	Elk City baz=86	86.07	37	⇑P	P	03 39 08.8	0.0
125A	Gardner Draw, baz=86	86.16	53	⇑P	P	03 39 09.8	+0.2
GDL2	Guadalupe Moun	86.17	53	eP	P	03 39 10.3	+0.6
Y24A	Capitan baz=86,SNR=9.5	86.19	51	⇓P	P	03 39 09.9	+0.1
O18A	Roosevelt baz=86	86.21	44	⇓P	P	03 39 10.2	+0.4
L16A	Fish Haven baz=86	86.24	42	⇓P	P	03 39 09.7	-0.2
W23A	Werner Place, baz=87	86.27	50	⇑P	P	03 39 10.4	+0.2
427A	Hayter Ranch, baz=87,SNR=7.9	86.27	55	⇑P	P	03 39 10.3	+0.1
G13A	Cobalt baz=87	86.27	38	⇓P	P	03 39 10.5	+0.6
S21A	Coal Bank Pass baz=87	86.35	47	⇑P	P	03 39 11.0	+0.3
J15A	Blackfoot baz=87	86.38	41	⇓P	P	03 39 11.1	+0.6
Z25A	Roswell baz=87,SNR=5.2	86.41	52	⇑P	P	03 39 11.0	+0.2
528A	Cox Ranch, San baz=87	86.43	56	⇑P	P	03 39 11.0	0.0
V23A	Ortiz Mt. (NFS baz=87	86.53	50	⇓P	P	03 39 11.5	+0.1
NEW	Newport comp=Z,1.5nm,0.7s,baz=269,slow=5.1,SNR=5.1	86.54	35	P	P	03 39 10.8	-0.2
NEW	Newport	86.54	35	P	P	03 39 10.8	-0.2
NEW	Newport baz=87	86.54	35	⇑P	P	03 39 10.9	-0.2
P19A	Cripple Cowboy baz=87	86.56	45	⇑P	P	03 39 11.4	-0.1
K16A	Soda Springs baz=87	86.59	41	⇑P	P	03 39 11.8	+0.3
F13A	Darby baz=87	86.61	38	⇑P	P	03 39 11.4	-0.2
126A	Clayton Basin, baz=87	86.63	53	⇓P	P	03 39 12.1	+0.2
T22A	Edith baz=87	86.64	48	⇑P	P	03 39 12.0	0.0
Q20A	Ridgley Place, baz=87	86.66	46	⇑P	P	03 39 12.2	+0.2
I15A	Monteview baz=87	86.69	40	⇑P	P	03 39 12.3	+0.4
Y25A	Mesa, Roswell baz=87	86.73	52	⇑P	P	03 39 12.3	-0.1
C11A	Tepee Creek (N baz=87	86.75	35	⇑P	P	03 39 12.3	+0.2
428A	Kincaid Ranch, baz=87	86.76	55	⇑P	P	03 39 12.7	+0.1
D12A	Red Ives Fores baz=87	86.78	36	⇓P	P	03 39 12.7	+0.5
M18A	Lyman baz=87	86.79	43	⇓P	P	03 39 12.9	+0.3
N18A	Larsen Ranch, baz=87	86.80	44	⇑P	P	03 39 12.6	0.0
U23A	El Rito baz=87	86.80	49	⇑P	P	03 39 12.9	+0.1
O19A	Miners Draw (B baz=87	86.81	44	⇑P	P	03 39 12.8	+0.1
J16A	Bone baz=87	86.81	41	⇑P	P	03 39 12.9	+0.2
W24A	Lazy 6 Ranch, baz=87	86.82	50	⇓P	P	03 39 13.1	+0.2
529A	Stev Forest Ra baz=87	86.85	56	⇓P	P	03 39 12.9	-0.1
R21A	Cimarron baz=87	86.87	47	⇓P	P	03 39 13.1	0.0
P20A	De Beque baz=87	86.88	45	⇑P	P	03 39 13.4	+0.3
PLCA	Paso Flores comp=Z,1.7nm,1.1s,baz=212,slow=9.6,SNR=2.9	86.94	133	P	P	03 39 13.5	+0.2
PLCA	Paso Flores	86.94	133	P	P	03 39 13.5	+0.2
Z26A	Caprock baz=87,SNR=6.8	86.95	53	⇓P	P	03 39 13.6	+0.1
328A	Wristen Ranch, baz=87	86.96	55	⇓P	P	03 39 13.6	+0.1
X25A	Clemmons Ranch baz=87	87.04	51	⇓P	P	03 39 14.1	+0.2
S22A	4UR Ranch, Cre baz=87	87.06	48	⇓P	P	03 39 13.7	-0.4
N19A	John Jarvie Ra baz=87	87.08	44	⇑P	P	03 39 13.9	0.0
C12B	Naegeli Ranch, baz=87	87.10	36	⇑P	P	03 39 14.1	+0.3
127A	Arkansas Junct baz=87	87.14	53	⇓P	P	03 39 14.8	+0.4
SNAA	Sanae comp=Z,5.0nm,1.4s	87.18	178	eP	P	03 39 12.9	-1.0
VNA3	Neumayer Olymp	87.21	175	eP	P	03 39 13.1	-0.9
I16A	Newdale baz=88	87.22	41	⇓P	P	03 39 15.0	+0.4
D13A	Huson baz=88	87.30	37	⇑P	P	03 39 14.9	+0.1
O20A	White River Ci baz=88	87.30	45	⇑P	P	03 39 14.8	-0.4
429A	Davenport Ranc baz=88,SNR=9.0	87.33	56	⇑P	P	03 39 15.2	-0.1
G15A	Dillon baz=88	87.33	39	⇑P	P	03 39 15.3	+0.2
TPAW	Teton Pass comp=Z,1.8nm,0.8s	87.34	41	eP	P	03 39 15.1	-0.2
R22A	Saguache, Gunn baz=88	87.34	47	⇑P	P	03 39 15.7	+0.2
J17A	Brown Place, J baz=88	87.41	41	⇑P	P	03 39 15.7	+0.1
MSO	Missoula baz=88	87.44	37	⇑P	P	03 39 15.5	+0.1
SNOW	Snow King Moun comp=Z,2.8nm,0.7s	87.44	41	eP	P	03 39 15.7	-0.1
K18A	Toltan Ranch, baz=88	87.44	42	⇓P	P	03 39 15.8	+0.1
E14A	Clinton baz=88	87.45	38	⇑P	P	03 39 15.2	-0.4
228A	UT Block 9, Go baz=88	87.46	54	⇑P	P	03 39 15.8	-0.1
B12A	Libby baz=88	87.48	35	⇓P	P	03 39 16.1	+0.6
W25A	X Bar L Ranch, baz=88	87.51	51	⇓P	P	03 39 16.4	+0.3
P21A	Newcastle baz=88	87.52	46	⇓P	P	03 39 16.3	+0.1
Z27A	Tatum baz=88	87.54	53	⇓P	P	03 39 16.3	0.0
530A	J-C Ranch, Com baz=88	87.55	56	⇓P	P	03 39 16.6	+0.3
Q22A	Crested Butte, baz=88	87.55	47	⇓P	P	03 39 16.6	+0.1
L19A	Farson baz=88	87.59	43	⇑P	P	03 39 16.7	+0.2
LOHW	Long Hollow comp=Z,0.7nm,0.7s	87.61	41	eP	P	03 39 15.9	-0.6
N20A	Spence Gulch, baz=88	87.64	44	⇑P	P	03 39 16.9	+0.1
329A	Wagon Wheel Ra baz=88	87.64	55	⇓P	P	03 39 17.1	+0.3
VNA2	Neumayer--Watz baz=203,slow=3.0	87.68	176	eP	P	03 39 15.7	-0.6
V25A	Rancho No Teng baz=88	87.69	50	⇑P	P	03 39 17.1	0.0
A12A	Yaak River Ran baz=88	87.72	35	⇑P	P	03 39 17.0	+0.2
J18A	Kendall Valley baz=88	87.76	42	⇑P	P	03 39 17.6	+0.2
G16A	Moss Hill, Enn baz=88	87.77	39	⇓P	P	03 39 17.3	+0.1
128A	Castleberry Fa baz=88	87.77	54	⇓P	P	03 39 17.7	+0.4
I17A	Pilgrim Ck. baz=88	87.80	41	⇑P	P	03 39 17.7	+0.3
H16A	Russell Place, baz=88	87.81	40	⇑P	P	03 39 18.0	+0.5
BW06	Boulder Array baz=88	87.81	42	⇑P	P	03 39 17.2	-0.4
PDAR	Pinedale Array comp=Z,2.1nm,0.8s,baz=223,slow=2.9,SNR=16	87.81	42	P	P	03 39 16.9	-0.7
PDAR	Pinedale Array	87.81	42	P	P	03 39 16.9	-0.7
631A	Perdido Creek baz=88	87.82	57	⇑P	P	03 39 17.3	-0.3
D14A	Greenough baz=88	87.82	37	⇓P	P	03 39 16.8	-0.6
Y27A	Causey baz=88	87.84	52	⇓P	P	03 39 17.1	-0.6
VNA1	Neumayer--Stat	87.90	176	eP	P	03 39 17.7	+0.5
P22A	Eagle baz=88	88.02	46	⇓P	P	03 39 18.5	-0.1
M20A	Sweetwater, Wa baz=88	88.03	44	⇑P	P	03 39 18.7	+0.1
B13A	Whitefish baz=88	88.03	36	⇓P	P	03 39 18.1	-0.1
N21A	Black Mountain baz=88	88.09	45	⇓P	P	03 39 19.0	+0.1
BOZ	Bozeman (W) baz=88	88.10	39	⇓P	P	03 39 18.9	+0.2
U25A	Circle Dot Ran baz=88	88.10	50	⇑P	P	03 39 18.8	-0.2
I18A	Diamond G Ranc baz=88	88.14	41	⇑P	P	03 39 19.3	+0.2
Z28A	Tucker Farm, M baz=88	88.14	53	⇑P	P	03 39 19.4	+0.2
MSTX	Muleshoe baz=88	88.17	52	⇓P	P	03 39 19.3	0.0
531A	Rocksprings baz=88	88.17	57	⇓P	P	03 39 19.5	+0.2
L20A	Wamsutter baz=88	88.19	43	⇓P	P	03 39 19.5	+0.2
330A	Mertzon baz=88	88.22	55	⇑P	P	03 39 19.4	-0.2
X27A	F and S Farms, baz=88	88.23	52	⇓P	P	03 39 19.8	+0.2
D15A	Lincoln baz=89	88.36	37	⇑P	P	03 39 20.3	+0.4
A13A	Flathead Natio baz=89	88.39	35	⇑P	P	03 39 20.3	+0.4
J19A	Crowheart baz=89	88.39	42	⇑P	P	03 39 20.3	+0.1
O22A	Kremmling baz=89	88.44	46	⇓P	P	03 39 20.7	0.0
ILAR	Eielson Array comp=Z,0.9nm,0.7s,baz=215,slow=4.8,SNR=9.0	88.51	12	P	P	03 39 19.0	-1.0
ILAR	Eielson Array	88.51	12	P	P	03 39 19.0	-1.0
U26A	Atchley Ranch, baz=89	88.57	50	⇓P	P	03 39 21.1	-0.1
M21A	Separation Pea baz=89	88.62	44	⇑P	P	03 39 21.3	-0.1
Z29A	Hungry Hill Ra baz=89	88.64	54	⇑P	P	03 39 21.4	-0.1
532A	Rocksprings baz=89	88.66	57	⇓P	P	03 39 21.6	0.0
S25A	Robets Cordova baz=89	88.68	49	⇓P	P	03 39 21.4	-0.2
B14A	Marquette Ranc baz=89	88.68	36	⇓P	P	03 39 21.6	+0.2
Q24A	Divide baz=89	88.80	47	⇑P	P	03 39 22.0	-0.5
F17A	Fitzpatrick Pl baz=89	88.81	39	⇑P	P	03 39 22.1	+0.1
D16A	Dana Ranch, Ca baz=89	88.91	38	⇑P	P	03 39 22.4	0.0
Y29A	Porterfield Fa baz=89	88.93	53	⇑P	P	03 39 22.6	-0.2
A14A	Double T Ranch baz=89	88.94	36	⇑P	P	03 39 22.8	+0.2
J20A	Shoshoni baz=89	89.04	42	⇑P	P	03 39 23.6	+0.4
GYA	Guiyang	89.20	299	eP	P	03 39 24.0	-0.3
GYA				pP	pP	03 40 02.4	+20
GYA				sP	sP	03 40 18.6	+30
GYA				PP	PP	03 42 58.0	+2.3
GYA				SKS	SKSac	03 49 38.3	-11
GYA				S	SKKSac	03 49 58.8	-2.5
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
K21A	Alcova baz=90	89.21	43	⇑P	P	03 39 24.2	+0.1
C16A	Fuhringer Ranc baz=90	89.22	37	⇓P	P	03 39 23.7	-0.2
332A	Millersview baz=90	89.32	56	⇓P	P	03 39 24.4	-0.2
I20A	Worland baz=90	89.32	42	⇑P	P	03 39 24.5	0.0
A15A	Johnson Ranch, baz=90	89.32	36	⇑P	P	03 39 24.1	-0.2
S26A	Kim baz=90	89.33	49	⇑P	P	03 39 24.6	-0.1
F18A	Big Timber baz=90	89.37	39	⇓P	P	03 39 24.8	+0.2
L22A	Ellis Ranch, M baz=90	89.43	44	⇑P	P	03 39 25.4	+0.2
J21A	Lysite baz=90	89.44	43	⇓P	P	03 39 25.2	0.0
D17A	Six Diamond Ra baz=90	89.47	38	⇓P	P	03 39 25.3	+0.2
E18A	Harlowton baz=90	89.60	39	⇓P	P	03 39 25.9	+0.2
C17A	Wharram Farm, baz=90	89.68	38	⇑P	P	03 39 26.3	+0.2
I21A	Big Trails, Te baz=90	89.77	42	⇓P	P	03 39 26.5	-0.1
ABTX	Abilene, Hawle baz=90	89.92	55	⇓P	P	03 39 27.5	0.0
A16A	West Butte Ran baz=90	89.93	36	⇑P	P	03 39 27.3	+0.1
L23A	Garrett baz=90	89.95	44	⇑P	P	03 39 27.6	0.0
B17A	L&Q Farms, Che baz=90	90.02	37	⇑P	P	03 39 27.5	0.0
J22A	Midwest baz=90	90.08	43	⇓P	P	03 39 27.9	-0.2
E19A	Rath Farm, Rou baz=90	90.21	39	⇑P	P	03 39 28.9	+0.4
A17A	Triple J Farms baz=91	90.42	37	⇓P	P	03 39 29.9	+0.4
EGMT	Eagleton baz=91	90.47	38	⇓P	P	03 39 29.9	+0.2
D19A	Cripps Ranch, baz=91	90.52	39	⇓P	P	03 39 30.2	+0.2
B18A	Beardsley Farm baz=91	90.65	37	⇑P	P	03 39 30.8	+0.3
C19A	Slack Wire Ran baz=91	90.72	38	⇑P	P	03 39 31.5	+0.6
A18A	Metzger Ranch, baz=91	90.89	37	⇑P	P	03 39 31.7	+0.1
C20A	Veseth Ranch, baz=92	91.31	39	⇓P	P	03 39 34.0	+0.5
A19A	Klindworth Far baz=92	91.51	37	⇓P	P	03 39 34.7	+0.2
B20A	Solberg Farm, baz=92	91.67	38	⇓P	P	03 39 35.5	+0.2
HHC	Hu-ho-hao-te	91.67	313	eP	P	03 39 36.1	+0.6
HHC				pP	pP	03 40 12.6	+19
HHC				sP	sP	03 40 26.9	+27
HHC				PP	PP	03 43 18.8	+3.7
HHC				SKS	SKSac	03 49 53.6	-9.2

HHC					S		**SKKSac**	03 50 22.0	+2.9
HHC					pmax	pmax			
	comp=Z,19nm,0.8s								
HHC					pmax	pmax			
	comp=Z,460nm,4.8s								
LCO	**Las Campanas**	**91.86**	**122**	*e*P	**P**		03 39 35.7	-1.3	
	comp=Z,7.9nm,0.7s								
F23A	**Volborg**	**91.88**	**41**	⇑P	**P**		03 39 36.5	+0.2	
	baz=92								
E22A	**Miles City**	**91.90**	**40**	⇑P	**P**		03 39 36.6	+0.3	
	baz=92								
C21A	**Desert Coulee**	**91.90**	**39**	⇑P	**P**		03 39 36.6	+0.3	
	baz=92								
H24A	**Dirks Ranch, A**	**91.94**	**42**	⇓P	**P**		03 39 36.8	+0.2	
	baz=92								
A20A	**Cobblestone Ra**	**91.95**	**38**	⇓P	**P**		03 39 36.9	+0.4	
	baz=92								
G24A	**Alzada**	**92.30**	**42**	⇓P	**P**		03 39 38.6	+0.3	
	baz=93								
A21A	**Bergtoll Ranch**	**92.58**	**38**	⇑P	**P**		03 39 40.2	+0.8	
	baz=93								
B22A	**Reddig Ranch S**	**92.77**	**39**	⇓P	**P**		03 39 41.0	+0.7	
	baz=93								
C23A	**Lambert**	**93.01**	**39**	⇑P	**P**		03 39 42.0	+0.6	
	baz=93								
D24A	**Glendive**	**93.20**	**40**	⇑P	**P**		03 39 43.2	+0.9	
	baz=94								
CD2	**Chengdu**	**93.30**	**302**	P	**P**		03 39 42.8	-0.4	
C24A	**Savage**	**93.33**	**40**	⇓P	**P**		03 39 43.5	+0.6	
	baz=94								
B23A	**Brockton**	**93.44**	**39**	⇓P	**P**		03 39 44.0	+0.7	
	baz=94								
DGMT	**Dagmar**	**93.91**	**39**	*e*P	**P**		03 39 46.0	+0.5	
	comp=Z,10nm,0.9s								
DGMT	**Dagmar**	**93.91**	**39**	⇓P	**P**		03 39 46.2	+0.7	
	baz=94								
JTS	**JuntasAbangare**	**94.01**	**81**	*e*P	**P**		03 39 47.9	+1.1	
	comp=Z,16nm,1.1s								
A24A	**Westby**	**94.23**	**39**	⇓P	**P**		03 39 47.8	+0.8	
	baz=94								
INK	**Inuvik**	**94.36**	**14**	*e*P	**P**		03 39 46.2	-0.8	
	comp=Z,3.1nm,1.1s								
LZH	**Lanzhou**	**95.22**	**307**	*e*P	**P**		03 39 50.0	-2.0	
LZH				pP	pP		03 40 28.3	+18	
LZH				sP	sP		03 40 44.6	+28	
LZH				*e*PP	**PP**		**03 43 43.5**	**+0.5**	
LZH				pmax	pmax				
	comp=Z,15nm,1.5s								
LZH				pmax	pmax				
	comp=Z,49nm,8.7s								
LZH				LR	LR				
	comp=N,100nm,18.1s								
LZH				LR	LR				
	comp=E,110nm,18.5s								
LZH				LR	LR				
	comp=Z,130nm,20.0s								
LVC	**Limon Verde**	**96.07**	**117**	*e*P	**P**		03 39 58.8	+2.4	
	comp=Z,0.1nm,0.7s								
YKA	**Yellowknife Ar**	**96.16**	**24**	P	**P**		03 39 55.1	-0.3	
	comp=Z,1.0nm,0.8s,baz=238,slow=4.4,SNR=19								
YKA	**Yellowknife Ar**	**96.16**	**24**	P	**P**		03 39 55.1	-0.3	
ZALV	**Zalesovo Beam**	**112.65**	**321**	PKiKP	**PKiKP**		**03 45 02.7**	**-1.2**	
	comp=Z,0.7nm,0.5s,baz=134,slow=1.8,SNR=6.8								
ZALV	**Zalesovo Beam**	**112.65**	**321**	PKiKP	**PKiKP**		03 45 02.7	-1.2	
MKAR	**Makanchi Array**	**113.53**	**313**	PKiKP	**PKiKP**		03 45 04.6	-1.3	
	comp=Z,0.6nm,0.6s,baz=53,slow=2.3,SNR=9.0								
MKAR	**Makanchi Array**	**113.53**	**313**	PKiKP	**PKiKP**		03 45 04.6	-1.3	
KURK	**Kurchatov**	**116.24**	**317**	*e*PKPdf	**PKPdf**		03 45 09.8	-1.2	
KURBB	**Kurchatov Arra**	**116.30**	**317**	PKP	**PKPdf**		03 45 09.7	-1.3	
	comp=Z,1.4nm,0.6s,baz=95,slow=1.8,SNR=15								
KSH	**Kashi**	**117.37**	**304**	*e*PKP	**PKPdf**		03 45 12.0	-1.6	
KSH				*es*PKP			03 46 09.9		
KSH				*e*PP	**PP**		**03 46 30.5**	**+4.5**	
KSH				PKS	**PKSdf**		**03 48 46.8**	**-3.6**	
KSH				SKS	**SKSac**		**03 52 05.8**	**+4.9**	
KSH				SKKS	SKKSac		03 53 05.8	-15	
KSH				SS	**SS**		**04 02 25.5**	**-6.6**	
KSH				AMB	AMB				
	comp=Z,45nm,7.1s								
KSH				LR	LR				
	comp=N,110nm,6.4s								
KSH				LR	LR				
	comp=E,78nm,9.8s								
KSH				LR	LR				
	comp=Z,260nm,6.3s								
EKS2	**Erkin-Say**	**119.26**	**308**	*e*PKPdf	**PKPdf**		**03 45 17.0**	**-0.2**	
BVAR	**Borovoye Array**	**121.26**	**320**	PKP	**PKPdf**		**03 45 19.8**	**-0.7**	
	comp=Z,2.9nm,0.7s,baz=112,slow=1.6,SNR=17								
BVAR	**Borovoye Array**	**121.26**	**320**	PKP	**PKPdf**		03 45 19.8	-0.7	
BRVK	**Borovoye**	**121.32**	**320**	*e*PKPdf	**PKPdf**		03 45 19.8	-0.9	
KBR	**Kabul**	**122.44**	**298**	*e*PKPdf	**PKPdf**		03 45 23.3	-0.4	
ARU	**Arti**	**127.23**	**326**	*e*PKPdf	**PKPdf**		03 45 31.7	-0.1	
ABKAR	**Akbulak array**	**128.35**	**317**	*e*PKPdf	**PKPdf**		03 45 34.0	-0.2	
AKTO	**Aktyubinsk**	**129.29**	**318**	PKP	**PKPdf**		03 45 33.8	-2.1	
	comp=Z,1.4nm,0.8s,baz=341,slow=0.9,SNR=6.4								
AKTO	**Aktyubinsk**	**129.29**	**318**	PKP	**PKPdf**		**03 45 33.8**	**-2.1**	
ARCES	**ARCESS Array B**	**130.09**	**351**	PKhKP	PKPpre		03 45 28.4		
	comp=Z,2.1nm,0.9s,baz=0.3,slow=16,SNR=2.4								
ARCES				PKP	**PKPdf**		**03 45 37.1**	**+0.2**	
	comp=Z,1.9nm,0.8s,baz=329,slow=1.4,SNR=8.8								
ARCES	**ARCESS Array B**	**130.09**	**351**	PKPpre	PKPpre		03 45 28.4		
ARCES				PKP	**PKPdf**		**03 45 37.1**	**+0.2**	
LSZ	**Lusaka**	**136.98**	**214**	*e*PKPdf	**PKPdf**		**03 45 52.9**	**+1.3**	
FINES	**FINESS Array B**	**137.17**	**345**	PKhKP	PKPpre		03 45 39.3		
	comp=Z,1.3nm,0.9s,baz=275,slow=16,SNR=3.4								
FINES				PKP	**PKPdf**		**03 45 49.3**	**-1.1**	
	comp=Z,3.0nm,1.0s,baz=2.9,slow=8.4,SNR=4.2								
FINES	**FINESS Array B**	**137.17**	**345**	PKPpre	PKPpre		03 45 39.3		
FINES				PKP	**PKPdf**		**03 45 49.3**	**-1.1**	
GNI	**Garni**	**141.13**	**308**	*e*PKPdf	**PKPdf**		**03 45 59.4**	**+0.8**	
SUW	**Suwalki**	**144.39**	**341**	*e*P	PKPbc		03 46 02.0	-0.2	
SUW	**Suwalki**	**144.39**	**341**	*e*P	PKPbc		03 46 02.0	-0.2	
AKASG	**Malin Array Be**	**144.85**	**333**	PKP	**PKPab**		**03 46 02.6**	**-1.1**	
	comp=Z,1.2nm,0.3s,baz=40,slow=4.2,SNR=12								
AKASG	**Malin Array Be**	**144.85**	**333**	PKP	**PKPab**		**03 46 02.6**	**-1.1**	
KIEV	**Kiev**	**144.86**	**333**	*e*PKPdf	**PKPab**		**03 46 02.4**	**-1.4**	
ESK	**Eskdalemuir**	**145.47**	**8**	*e*PKPbc	**PKPdf**		**03 46 04.7**	**-0.8**	
BSEG	**Bad Segeberg**	**147.09**	**354**	*e*PKPbc	**PKPbc**		**03 46 10.3**	**-0.1**	
KWP	**Kalwaria Pacla**	**148.27**	**337**	*e*P	**PKPbc**		**03 46 13.7**	**-0.2**	
KWP	**Kalwaria Pacla**	**148.27**	**337**	*e*PKPbc	**PKPbc**		**03 46 13.4**	**-0.4**	
KWP	**Kalwaria Pacla**	**148.27**	**337**	⇓*i*P	**PKPbc**		**03 46 13.9**	**+0.1**	
KWP	**Kalwaria Pacla**	**148.27**	**337**	*e*P	**PKPbc**		**03 46 13.6**	**-0.2**	
NRDL	**Niedersach Rie**	**148.53**	**354**	*e*PKPbc	**PKPbc**		**03 46 14.2**	**-0.1**	
BUR08	**Bucovina Ar. S**	**148.89**	**333**	*e*PKPbc	**PKPbc**		**03 46 15.9**	**+0.3**	
IBBN	**Ibbenburen**	**148.91**	**356**	*e*PKPab	**PKPab**		**03 46 19.1**	**-0.3**	
TESR		**149.10**	**330**	⇑*i*P	**PKPbc**		**03 46 16.0**	**0.0**	
CLZ	**Clausthal**	**149.15**	**353**	*e*PKPbc	**PKPbc**		**03 46 16.1**	**+0.1**	
BR131	**Keskin Array S**	**149.18**	**313**	*e*PKPbc	**PKPbc**		**03 46 16.2**	**-0.5**	
BRTR	**Keskin Array B**	**149.18**	**313**	PKPbc	**PKPbc**		**03 46 16.1**	**-0.5**	
	comp=Z,5.0nm,0.8s,baz=136,slow=4.1,SNR=25								
BRTR	**Keskin Array B**	**149.18**	**313**	PKPbc	**PKPbc**		**03 46 16.1**	**-0.5**	
CLL	**Collm**	**149.30**	**350**	*e*PKPbc	**PKPbc**		**03 46 16.3**	**-0.1**	
CLL				*ep*PKPbc	**pPKPbc**		**03 46 32.2**	**-2.6**	
CLL	**Collm**	**149.30**	**350**	*e*PKPdf	**PKPdf**		**03 46 13.0**	**+1.0**	
CLL				⇓*i*PKPbc	**PKPbc**		**03 46 16.3**	**-0.1**	
	comp=Z,18nm,0.9s								
CLL				*i* PKPab	**PKPab**		**03 46 20.2**	**-0.9**	
	comp=Z,7.0nm,1.0s								
CLL	**Collm**	**149.30**	**350**	⇓*i*(P)	pPKPdf		03 46 32.0	+1.5	
	comp=Z,8.0nm,0.8s								
CFR	**Carcaliu**	**149.31**	**327**	⇑*i*P	**PKPbc**		**03 46 16.5**	**-0.1**	
UPC	**Upice**	**149.47**	**346**	*e*PKP	**PKPbc**		**03 46 17.2**	**+0.4**	
UPC				*ep*PKP	**pPKPdf**		**03 46 35.8**	**+5.0**	
VRI	**Vrincioaia**	**149.53**	**329**	⇓*i*P	**PKPbc**		**03 46 17.0**	**-0.1**	
DPC	**Dobruska-Polom**	**149.54**	**345**	⇑*e*PKP	**PKPbc**		**03 46 17.5**	**+0.4**	
DPC				*ep*PKP	**pPKPdf**		**03 46 32.8**	**+1.8**	
OKC	**Ostrava-Krasne**	**149.54**	**343**	⇑*e*PKP	**PKPbc**		**03 46 17.1**	**+0.1**	
BRG	**Berggiesshubel**	**149.55**	**348**	*i* PKP	**PKPbc**		**03 46 17.0**	**0.0**	
	comp=Z,14nm,1.1s								
BRG	**Berggiesshubel**	**149.55**	**348**	*e*PKPbc	**PKPbc**		**03 46 17.2**	**+0.2**	
TRPA	**Tarpa**	**149.58**	**336**	⇓*i*P	**PKPbc**		**03 46 17.1**	**0.0**	
PVCC	**Panska Ves**	**149.76**	**347**	⇑*e*PKP	**PKPbc**		**03 46 17.9**	**+0.4**	
PVCC				*e*PKPAB	**PKPab**		**03 46 23.3**	**+0.3**	
MORC	**Moravsky Berou**	**149.76**	**343**	*e*PKPbc	**PKPbc**		**03 46 17.7**	**+0.1**	
MORC	**Moravsky Berou**	**149.76**	**343**	⇓*i*P	**PKPbc**		**03 46 17.7**	**+0.1**	
MOX	**Moxa**	**150.16**	**351**	*e*PKPbc	**PKPbc**		**03 46 18.5**	**0.0**	
MOX				*ep*PKPbc	**pPKPbc**		**03 46 34.3**	**-2.6**	
MLR	**Muntele Rosu**	**150.18**	**329**	⇓*i*P	**PKPbc**		**03 46 18.2**	**-0.7**	
TANN	**Tannenbergstha**	**150.25**	**350**	*e*PKPbc	**PKPbc**		**03 46 18.8**	**0.0**	
TANN				*e*PKPab	**PKPab**		**03 46 24.6**	**-0.5**	
PRU	**Pruhonice**	**150.28**	**347**	⇑*e*PKP	**PKPbc**		**03 46 18.9**	**+0.1**	
PRU				*ep*PKP	**pPKPdf**		**03 46 34.5**	**+2.4**	
NKC	**Novy Kostel**	**150.43**	**350**	⇑*e*PKP	**PKPbc**		**03 46 19.4**	**+0.2**	
NKC				*e*PKPAB	**PKPab**		**03 46 25.6**	**-0.2**	
DRGR			**150.60**	**334**	⇑*i*P	**PKPbc**	**03 46 20.0**	**+0.2**	
VOIR			**150.64**	**330**	⇓*i*P	**PKPbc**	**03 46 19.9**	**0.0**	
MEM	**Membach**		**150.68**	**358**	PKPbc	**PKPbc**	**03 46 19.8**	**0.0**	
PSZ	**Piszkesteto**		**150.70**	**339**	*e*PKPbc	**PKPbc**	**03 46 19.2**	**-0.8**	
PSZ					*e*PKPab	**PKPab**	**03 46 26.6**	**-0.4**	
BCLA	**Clavier**		**150.89**	**359**	PKPbc	**PKPbc**	**03 46 21.5**	**+1.3**	
ARR	**Arges**		**150.89**	**330**	⇓*i*P	**PKPbc**	**03 46 21.2**	**+0.7**	
ROTZ	**Rotzenmuhle**		**150.92**	**350**	*e*PKPbc	**PKPbc**	**03 46 20.2**	**-0.1**	
TNS	**Taunus Mts**		**150.94**	**355**	*e*PKPbc	**PKPbc**	**03 46 20.5**	**+0.1**	
GRF	**Grafenberg Arr**		**151.15**	**351**	*e*PKPbc	**PKPbc**	**03 46 20.9**	**0.0**	
DOU	**Dourbes**		**151.22**	**0**	PKPbc	**PKPbc**	**03 46 21.2**	**+0.2**	
KHC	**Kasperske Hory**		**151.29**	**348**	*e*PKPbc	**PKPbc**	**03 46 21.3**	**+0.1**	
KHC	**Kasperske Hory**		**151.29**	**348**	⇓*e*PKP	**PKPbc**	**03 46 21.4**	**+0.1**	
KHC					*ep*PKP	**pPKPdf**	**03 46 37.6**	**+3.8**	
CSS	**Prodhromos**		**151.39**	**305**	*e*PKPbc	**PKPbc**	**03 46 21.7**	**-0.3**	
WET	**Wettzell**		**151.41**	**349**	*e*PKPbc	**PKPbc**	**03 46 21.3**	**-0.2**	
GEC2	**GERESS Array S**		**151.54**	**347**	*e*PKPbc	**PKPbc**	**03 46 21.6**	**-0.3**	
GERES	**GERESS Array B**		**151.54**	**347**	PKPbc	**PKPbc**	**03 46 21.3**	**-0.6**	
	comp=Z,2.5nm,0.8s,baz=16,slow=1.9,SNR=18								
GERES	**GERESS Array B**		**151.54**	**347**	PKPbc	**PKPbc**	**03 46 21.3**	**-0.6**	
WLF	**Walferdange**		**151.62**	**358**	PKPbc	**PKPbc**	**03 46 22.1**	**+0.2**	
WLF	**Walferdange**		**151.62**	**358**	*e*PKPbc	**PKPbc**	**03 46 21.3**	**-0.7**	
CONA	**Conrad Observa**		**151.90**	**344**	⇑*i*PKiKP	**PKiKP**	**03 46 23.1**	**-0.1**	
	comp=Z,6.1nm,0.9s								
BZS	**Buzias**		**152.00**	**334**	⇓*i*P	**PKPbc**	**03 46 22.8**	**-0.1**	
PKSM	**Moragy**		**152.61**	**339**	⇑*i*P	**PKPbc**	**03 46 24.2**	**-0.1**	
BFO	**Black Forest**		**152.82**	**355**	*e*PKPbc	**PKPbc**	**03 46 24.5**	**-0.2**	
VTS	**Vitosha**		**153.65**	**328**	⇑*i*P	**PKPdf**	**03 46 21.9**	**+2.8**	
ABTA	**Abfaltersbach**		**153.78**	**348**	⇑*i*PKPbc	**PKPbc**	**03 46 26.1**	**-0.8**	
	comp=Z,4.2nm,0.7s								
ESDC	**Sonseca Array**		**160.21**	**20**	PKPab	**PKPab**	**03 47 07.9**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=332,slow=3.0,SNR=5.9								
ESDC	**Sonseca Array**		**160.21**	**20**	PKPab	**PKPab**	**03 47 07.9**	**+0.1**	
DBIC	**Dimbokro**		**162.82**	**146**	PKP	**PKPdf**	**03 46 30.0**	**-0.8**	
	comp=Z,2.3nm,0.8s,baz=180,slow=2.0,SNR=3.4								
DBIC	**Dimbokro**		**162.82**	**146**	PKP	**PKPdf**	**03 46 30.0**	**-0.8**	
TORD	**Torodi Ar. Bea**		**171.45**	**160**	PKP	**PKPdf**	**03 46 35.7**	**-1.4**	
	comp=Z,0.7nm,1.0s,baz=196,slow=2.1,SNR=3.2								
TORD					PKPab	**PKPab**	**03 47 56.6**	**-1.1**	
	comp=Z,2.1nm,1.1s,baz=209,slow=4.4,SNR=6.1								
TORD	**Torodi Ar. Bea**		**171.45**	**160**	PKP	**PKPdf**	**03 46 35.7**	**-1.4**	
TORD					PKPab	**PKPab**	**03 47 56.6**	**-1.1**	

MAN 13 03:30:16, 17.70N×120.76E, h95km, mb 4.2, ML 3.0, MS 2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.36**	**307**	⇑*i*P		Pn		03 30 29.6	-0.7
SIPP				*i* S		Sn		03 30 36.5	-4.5
PIP	**Pasuquin**	**0.63**	**348**	⇓*i*P		Pn		03 30 34.0	+1.7
PIP				*e*S		Sn		03 30 44.5	-0.1
CAUP	**Cauayan**	**1.27**	**127**	*e*P		Pn		03 30 40.4	+1.3
BOLP	**Bolinao**	**1.54**	**212**	*e*P		Pn		03 30 44.4	+1.8
BOLP				*e*S		Sn		03 31 03.2	+0.5
BALP	**Baler**	**2.10**	**158**	*e*P		Pn		03 30 50.8	+1.0

IDC ***13*** *03:32:26.2±0.5, 26.°82S×176.°36W, h0km, mb 4.4/20, mb1 4.6/20, mb1mx4.6/23, mbtmp4.4/20, MS4.4/18, Ms1 4.4/18, ms1mx4.3/33, Error ellipse: s-maj=18.8km s-min=16.0km az=163.0*

MOS ***13*** *03:32:30.7±1.2, 26.°81S×176.°50W, h33km, mb 5.0/9, Error ellipse: s-maj=12.6km s-min=11.4km az=103.3*

ISCJB ***13*** *03:32:30.2±0.3, 26.°87S±0.°06×176.°44W±0.°07, h31km, mb 4.8/45, MS 4.6/23, Error ellipse: s-maj=9.5km s-min=8.0km az=139.2*

BJI ***13*** *03:32:31.9, 26.°82S×176.°07W, h50km, mB 5.7/16, mb 5.0/17, Ms 5.3/12, Ms7 4.9/14*

GCMT ***13*** *03:32:31.0±0.3, 26.°82S×175.°93W, h28km±1km, MW 5.2, Moment Tensor Solution. s42,c51; s70,c90; Moment tensor: Scale 10^16 Nm; Mrr 5.17±.30; Mθθ -0.90±.22; Mφφ -4.27±.22; Mrθ 3.17±.37; Mθφ -2.44±.13; Mφr 2.30±.31; Best double couple: M0 6.70000×10^16 NP1: φs 193.00000°, δ 30.00000°, λ 63.00000°. NP2: φs 43.00000°, δ 63.00000°, λ 105.00000°. Principal axes: T 6.6600, Plg 68.0000°, Azm 342.0000°; N -0.0300, Plg 13.0000°, Azm 216.0000°; P -6.6300, Plg 17.0000°, Azm 122.0000°; Data Used: II IU G IC.*

NEIC ***13*** *03:32:33.6±1.2, 26.°90S×176.°44W, h51km±10km, mb 4.9/23 Error ellipse: s-maj=9.2km s-min=7.4km az=145.0*

ISC 13 03:32:31.4±0.4, 26.°84S±0.°06×176.°25W±0.°08, h31km, n170, σ1 58/173, mb 4.8/45, MS 4.6/23, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.82**	**211**	*e*Pn		**Pn**		**03 33 13.3**	**-1.0**
RAO				*e*Sn		**Sn**		**03 33 49.1**	**+1.8**
MSVF	**Nonsavu**	**10.48**	**329**	*e*P		**Pn**		**03 35 01.3**	**+1.6**
MSVF	**Nonsavu**	**10.48**	**329**	*e*Pn		**Pn**		**03 35 01.3**	**+1.6**
URZ	**Urewera**	**12.69**	**204**	Sn		Sn		03 37 38.0	-12
URZ	**Urewera**	**12.69**	**204**	Sn		Sn		03 37 38.0	-12
RAR	**Rarotonga**	**16.06**	**73**	Pn		Pn		03 36 05.4	-10
	1.3nm,0.3s,baz=250,slow=12,SNR=2.8								
RAR				Sn		Sn		03 38 48.3	-24
	2.3nm,0.3s,baz=49,slow=20,SNR=3.4								
RAR				LR		LR		03 39 49.1	
	comp=Z,333nm,21.7s,baz=255,slow=27								
RAR	**Rarotonga**	**16.06**	**73**	Pn		Pn		03 36 05.4	-10
RAR				Sn		Sn		03 38 48.3	-24
DZM	**Mont Dzumac**	**16.45**	**283**	*e*P		**P**		**03 36 25.0**	**+2.4**
	121nm,1.4s								
DZM				*e*LQ		LQ		03 39 35.6	
	4μm,27.4s								
DZM				*e*LR		LR		03 40 20.1	
	4μm,23.9s								
DZM	**Mont Dzumac**	**16.45**	**283**	Pn		**P**		**03 36 23.5**	**+0.9**
	0.4nm,0.3s,baz=94,slow=13,SNR=4.6								
DZM				LR		LR		03 41 22.3	
	comp=Z,3μm,20.4s,baz=289,slow=33								
DZM	**Mont Dzumac**	**16.45**	**283**	*e*P		**P**		**03 36 24.1**	**+1.4**
	59nm,1.2s								
TBI	**Tubuai**	**24.49**	**88**	*e*LQ		LQ		03 42 22.6	
	2μm,26.8s								
TBI				*e*LR		LR		03 43 40.9	
	1μm,28.5s,baz=252								
PPT2	**Papeete2**	**26.31**	**75**	*e*LQ		LQ		03 43 04.9	
	3μm,23.8s								
PPT2				*e*LR		LR		03 44 31.9	
	906nm,24.5s,baz=245								
CTA	**Charters Tower**	**34.95**	**273**	P		**P**		**03 39 20.9**	**+0.1**
	3.4nm,0.3s,baz=96,slow=11,SNR=11								
CTA	**Charters Tower**	**34.95**	**273**	P		**P**		**03 39 20.9**	**+0.1**
CTAO	**Charters Tower**	**34.95**	**273**	*e*P		**P**		**03 39 20.4**	**-0.5**
CTAO				pmax		pmax			
	comp=Z,14nm,1.1s								
CTAO	**Charters Tower**	**34.95**	**273**	*e*P		**P**		**03 39 20.4**	**-0.5**
	comp=Z,14nm,1.1s								
STKA	**Stephens Creek**	**36.91**	**252**	P		**P**		**03 39 36.1**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=102,slow=11,SNR=4.3								
STKA				LR		LR		03 53 53.4	
	comp=Z,887nm,18.7s,baz=80,slow=35								
STKA	**Stephens Creek**	**36.91**	**252**	P		**P**		**03 39 36.1**	**-1.4**
PMG	**Port Moresby**	**38.67**	**290**	P		**P**		**03 39 50.7**	**-1.8**
	comp=Z,5.8nm,0.6s,baz=122,slow=5.8,SNR=5.2								
PMG	**Port Moresby**	**38.67**	**290**	*e*P		**P**		**03 39 51.1**	**-1.4**
	comp=Z,10nm,0.9s								
COEN	**Coen**	**39.96**	**280**	*e*P		**P**		**03 40 02.8**	**-0.5**
	comp=Z,80nm,1.0s								
AS31	**Alice Springs**	**44.97**	**263**	*e*P		**P**		**03 40 41.8**	**-2.3**
ASAR	**Alice Springs**	**44.97**	**263**	P		**P**		**03 40 41.4**	**-2.7**
	comp=Z,1.7nm,0.5s,baz=91,slow=6.3,SNR=17								
ASAR				LR		LR		03 58 13.9	
	comp=Z,675nm,18.1s,baz=112,slow=34								
ASAR	**Alice Springs**	**44.97**	**263**	P		**P**		**03 40 41.4**	**-2.7**
WRAB	**Tennant Creek**	**45.63**	**268**	*e*P		P		03 40 46.6	-2.7
WRAB				pmax		pmax			
	comp=Z,20nm,1.3s								
WRAB	**Tennant Creek**	**45.63**	**268**	*e*P		P		03 40 46.6	-2.7
	comp=Z,20nm,1.3s								
WRA	**Warramunga Arr**	**45.64**	**268**	P		P		03 40 46.3	-3.1
	comp=Z,8.2nm,0.8s,baz=106,slow=7.6,SNR=41								
WRA				LR		LR		03 58 08.8	
	comp=Z,520nm,21.4s,baz=140,slow=34								
WRA	**Warramunga Arr**	**45.64**	**268**	P		P		03 40 46.3	-3.1
FORT	**Forrest**	**48.54**	**252**	*e*P		**P**		**03 41 12.1**	**+0.3**
	comp=Z,25nm,1.0s								
SBA	**Scott Base**	**51.69**	**185**	*e*P		**P**		**03 41 37.9**	**+2.8**
SBA				pmax		pmax			
	comp=Z,217nm,2.3s								
SBA	**Scott Base**	**51.69**	**185**	*e*P		**P**		**03 41 37.9**	**+2.8**
	comp=Z,217nm,2.3s								
VNDA	**Vanda**	**51.78**	**186**	P		**P**		**03 41 36.8**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=9.3,slow=7.4,SNR=5.0								
VNDA				LR		LR		04 01 17.6	
	comp=Z,521nm,18.2s,baz=108,slow=33								
VNDA	**Vanda**	**51.78**	**186**	*e*P		**P**		**03 41 37.0**	**+1.3**
	comp=Z,5.1nm,1.0s								
FITZ	**Fitzroy Crossi**	**54.01**	**266**	P		**P**		**03 41 51.2**	**-1.8**
	comp=Z,5.5nm,1.0s,baz=119,slow=7.7,SNR=5.9								
FITZ				LR		LR		04 04 27.0	
	comp=Z,379nm,18.1s,baz=111,slow=36								
FITZ	**Fitzroy Crossi**	**54.01**	**266**	P		**P**		**03 41 51.2**	**-1.8**
GUMO	**Guam**	**55.15**	**312**	LR		LR		04 02 39.3	
	comp=Z,451nm,20.3s,baz=99,slow=33								
QSPA	**South Pole Qui**	**63.26**	**180**	P		**P**		**03 42 56.8**	**-0.1**
	comp=Z,14nm,1.0s,baz=27,slow=3.5,SNR=30								
QSPA	**South Pole Qui**	**63.26**	**180**	*e*P		**P**		**03 42 56.7**	**-0.1**
	comp=Z,17nm,1.1s								
MAW	**Mawson**	**76.17**	**200**	LR		LR		04 18 08.6	
	comp=Z,608nm,18.4s,baz=116,slow=36								
MJAR	**Matsushiro Arr**	**76.25**	**324**	P		**P**		**03 44 16.0**	**-0.9**
	comp=Z,12nm,1.1s,baz=164,slow=5.9,SNR=15								
MJAR				LR		LR		04 12 14.5	
	comp=Z,190nm,21.7s,baz=125,slow=31								
MJAR	**Matsushiro Arr**	**76.25**	**324**	P		**P**		**03 44 16.0**	**-0.9**
MAJO	**Matsushiro**	**76.25**	**324**	*e*P		**P**		**03 44 16.2**	**-0.8**
MAJO				pmax		pmax			
	comp=Z,21nm,1.0s								
MAJO	**Matsushiro**	**76.25**	**324**	*e*P		**P**		**03 44 16.2**	**-0.8**
	comp=Z,21nm,1.0s								
MAT	**Matsushiro**	**76.25**	**324**	P		**P**		**03 44 15.9**	**-1.1**
MAT				*e*S		**S**		**03 53 56.2**	**-3.1**
SNAA	**Sanae**	**81.65**	**178**	*e*P		**P**		**03 44 45.8**	**-0.5**
	comp=Z,3.6nm,0.9s								
VNA3	**Neumayer Olymp**	**81.73**	**176**	*e*P		**P**		**03 44 45.3**	**-1.3**
VNA3

HHC				SS	**SS**	**04 03 28.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,170nm,4.4s						
HHC				LR	LR		
	comp=N,450nm,16.7s						
HHC				LR	LR		
	comp=E,160nm,14.3s						
HHC				LR	LR		
	comp=Z,360nm,15.5s						
CD2	**Chengdu**	**95.51**	**302**	P	**P**	**03 45 54.5**	**+0.9**
CD2				pP	**pP**	**03 46 08.0**	**+4.4**
CD2				sP	sP	03 46 13.3	+6.2
CD2				PP	**PP**	**03 49 48.3**	**+3.2**
CD2				SKS	**SKSac**	**03 56 25.3**	**-2.3**
CD2				S	**S**	**03 57 04.5**	**-3.8**
CD2				sS	**sS**	**03 57 27.6**	**+2.7**
CD2				SS	**SS**	**04 03 37.6**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,210nm,3.6s						
CD2				LR	LR		
	comp=E,550nm,4.7s						
CD2				LR	LR		
	comp=Z,260nm,8.3s						
LZH	**Lanzhou**	**97.85**	**306**	*e*P	Pdif	03 46 05.3	+1.0
LZH				pP	pP	03 46 18.8	+4.6
LZH				sP	sP	03 46 24.0	+6.3
LZH				*e*PP	**PP**	**03 50 07.1**	**+3.9**
LZH				*e*S	**S**	**03 57 24.5**	**-3.9**
LZH				sS	sS	03 57 47.3	+2.3
LZH				pmax	pmax		
	comp=Z,14nm,1.5s						
LZH				pmax	pmax		
	comp=Z,91nm,8.6s						
LZH				LR	LR		
	comp=N,210nm,18.0s						
LZH				LR	LR		
	comp=E,200nm,18.5s						
LZH				LR	LR		
	comp=Z,370nm,20.0s						
LPAZ	**La Paz**	**98.14**	**113**	LR	LR	04 20 44.5	
	comp=Z,101nm,18.6s,baz=168,slow=30						
SONM	**Songino Array**	**101.54**	**318**	P	**Pdif**	**03 46 20.5**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=103,slow=6.4,SNR=3.0						
SONM	**Songino Array**	**101.54**	**318**	P	**Pdif**	**03 46 20.5**	**+0.2**
YKA	**Yellowknife Ar**	**101.58**	**25**	P	**Pdif**	**03 46 18.9**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=238,slow=4.4,SNR=5.5						
YKA	**Yellowknife Ar**	**101.58**	**25**	P	**Pdif**	**03 46 18.9**	**-1.0**
WMQ	**Urumqi**	**112.22**	**309**	*e*PKP	**PKiKP**	**03 51 03.6**	**-0.4**
WMQ				LR	LR		
	comp=Z,98nm,25.0s						
ZALV	**Zalesovo Beam**	**116.37**	**319**	PKP	**PKPdf**	**03 51 09.8**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=238,slow=1.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**116.37**	**319**	PKIKP	**PKPdf**	**03 51 09.8**	**-1.7**
ZALV	**Zalesovo Beam**	**116.37**	**319**	PKP	**PKPdf**	**03 51 09.8**	**-1.7**
MKAR	**Makanchi Array**	**116.63**	**311**	PKP	**PKPdf**	**03 51 10.7**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=84,slow=1.5,SNR=6.7						
MKAR	**Makanchi Array**	**116.63**	**311**	PKIKP	**PKPdf**	**03 51 10.7**	**-1.6**
MKAR	**Makanchi Array**	**116.63**	**311**	PKP	**PKPdf**	**03 51 10.7**	**-1.6**
KURK	**Kurchatov**	**119.66**	**315**	PKIKP	**PKPdf**	**03 51 15.9**	**-2.0**
KURK	**Kurchatov**	**119.66**	**315**	PKP	**PKPdf**	**03 51 15.9**	**-2.0**
KURK				*e*PKPdf	**PKiKP**	**03 51 16.6**	**-1.4**
KURBB	**Kurchatov Arra**	**119.71**	**315**	PKP	**PKPdf**	**03 51 15.9**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=93,slow=1.8,SNR=8.0						
KSH	**Kashi**	**119.71**	**302**	*e*PKP	**PKPdf**	**03 51 18.4**	**-0.2**
KSH				*es*PKP		03 51 35.3	
KSH				*e*PP	PP	03 52 49.8	+7.6
KSH				PKS	**PKSdf**	**03 54 55.6**	**+0.3**
KSH				SS	SS	04 09 10.8	+5.6
KSH				AMB	AMB		
	comp=Z,58nm,5.1s						
KSH				LR	LR		
	comp=N,160nm,7.0s						
KSH				LR	LR		
	comp=E,140nm,9.5s						
KSH				LR	LR		
	comp=Z,180nm,12.5s						
KBL	**Kabul**	**124.18**	**295**	*e*PKIKP	**PKPdf**	**03 51 26.6**	**-0.9**
KBL	**Kabul**	**124.18**	**295**	*e*PKPdf	**PKPdf**	**03 51 26.6**	**-0.9**
BVAR	**Borovoye Array**	**124.88**	**317**	PKP	**PKPdf**	**03 51 26.6**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=96,slow=3.0,SNR=6.2						
BVAR	**Borovoye Array**	**124.88**	**317**	PKIKP	**PKPdf**	**03 51 26.6**	**-1.3**
BVAR	**Borovoye Array**	**124.88**	**317**	PKP	**PKPdf**	**03 51 26.6**	**-1.3**
BRVK	**Borovoye**	**124.95**	**318**	*e*PKIKP	**PKPdf**	**03 51 27.1**	**-0.9**
BRVK	**Borovoye**	**124.95**	**318**	*e*PKPdf	**PKPdf**	**03 51 27.1**	**-0.9**
LSZ	**Lusaka**	**131.87**	**212**	*e*PKPdf	**PKPdf**	**03 51 41.7**	**-0.8**
TSUM	**Tsumeb**	**132.31**	**198**	*e*PKPdf	**PKPdf**	**03 51 43.1**	**-0.3**
ARCES	**ARCESS Array B**	**135.42**	**349**	PKP	**PKPdf**	**03 51 48.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=12,slow=2.2,SNR=4.5						
ARCES	**ARCESS Array B**	**135.42**	**349**	PKP	**PKPdf**	**03 51 48.0**	**+0.6**
FINES	**FINESS Array B**	**142.28**	**343**	PKP	**PKPdf**	**03 52 00.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=20,slow=4.4,SNR=4.4						
FINES	**FINESS Array B**	**142.28**	**343**	PKP	**PKPdf**	**03 52 00.4**	**+0.3**
OBN	**Obninsk**	**143.03**	**329**	*i* PKIKP	PKPdf	03 52 09.0	+7.4
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	**NORSAR Subarra**	**145.43**	**354**	PKP	**PKPdf**	**03 52 04.1**	**-1.7**
	comp=Z,33nm,1.2s,baz=18,slow=4.0						
NOA	**NORSAR Array B**	**145.43**	**354**	PKPbc	**PKPdf**	**03 52 04.7**	**-1.1**
	comp=Z,8.4nm,1.0s,baz=14,slow=2.5,SNR=11						
NOA	**NORSAR Array B**	**145.43**	**354**	PKPbc	**PKPdf**	**03 52 04.7**	**-1.1**
MICGM	**Minsk**	**147.18**	**334**	*e*	PKPpre	03 52 01.0	
MNK	**Minsk**	**147.20**	**334**	*e*PKHKP	PKPpre	03 52 01.0	
NACGM	**Naroch**	**147.30**	**335**	*e*	**PKPdf**	**03 52 08.0**	**-1.0**
AKASG	**Malin Array Be**	**149.26**	**328**	PKPbc	**PKPdf**	**03 52 15.1**	**+2.7**
	comp=Z,4.7nm,0.8s,baz=37,slow=2.8,SNR=12						
AKASG	**Malin Array Be**	**149.26**	**328**	PKP2	**PKPdf**	**03 52 15.1**	**+2.7**
AKASG	**Malin Array Be**	**149.26**	**328**	PKPbc	**PKPdf**	**03 52 15.1**	**+2.7**
KIEV	**Kiev**	**149.28**	**328**	*e*PKIKP	**PKPdf**	**03 52 14.6**	**+2.2**
KIEV	**Kiev**	**149.28**	**328**	*e*PKPbc	**PKPdf**	**03 52 14.6**	**+2.2**
SUW	**Suwalki**	**149.30**	**337**	*e*PKP	**PKPbc**	**03 52 15.6**	**-1.1**
SUW	**Suwalki**	**149.30**	**337**	*e*PKP2	**PKPbc**	**03 52 15.5**	**-1.1**
SUW	**Suwalki**	**149.30**	**337**	*e*PKPbc	**PKPbc**	**03 52 15.5**	**-1.1**
SUW	**Suwalki**	**149.30**	**337**	*e*PKP	**PKPbc**	**03 52 15.5**	**-1.1**
BR131	**Keskin Array S**	**152.04**	**305**	*e*PKPbc	**PKPbc**	**03 52 22.8**	**-1.1**
BR131				*e*PKPab	**PKPab**	**03 52 32.6**	**-0.7**
BRTR	**Keskin Array B**	**152.04**	**305**	PKPbc	**PKPbc**	**03 52 22.8**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=153,slow=1.4,SNR=8.4						
BRTR				PKPab	**PKPab**	**03 52 33.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=97,slow=1.0,SNR=7.4						
BRTR	**Keskin Array B**	**152.04**	**305**	PKPbc	**PKPbc**	**03 52 22.8**	**-1.1**
BRTR				PKPab	**PKPab**	**03 52 33.6**	**+0.3**
KWP	**Kalwaria Pacla**	**152.95**	**332**	*e*PKP	**PKPbc**	**03 52 25.1**	**-0.3**
KWP	**Kalwaria Pacla**	**152.95**	**332**	*e*PKP	**PKPbc**	**03 52 25.1**	**-0.3**
CSS	**Prodhromos**	**153.43**	**295**	*e*PKPab	**PKPab**	**03 52 38.6**	**-0.6**
KOLS	**Kolonicke sedl**	**153.67**	**332**	*e*PKIKP	**PKPdf**	**03 52 19.0**	**-0.2**
KOLS				*e*		03 52 27.5	
KOLS	**Kolonicke sedl**	**153.67**	**332**	*e*PKP	**PKPdf**	**03 52 19.0**	**-0.2**
KOLS				*e*		03 52 27.5	
UZH	**Uzhgorod**	**153.90**	**331**	*i*PKIKP	PKPdf	03 52 11.0	-8.4
UZH				*i*		03 52 39.8	
CRVS	**Cervenica-Dubn**	**154.03**	**333**	*e*PKIKP	**PKPdf**	**03 52 21.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**154.03**	**333**	*e*PKP	**PKPdf**	**03 52 21.0**	**+1.3**
CLL	**Collm**	**154.57**	**346**	*e*PKIKP	**PKPbc**	**03 52 28.0**	**-0.8**
CLL				*e*		03 52 42.0	
CLL				MLR	MLR		
	comp=Z,200nm,20.1s						
CLL	**Collm**	**154.57**	**346**	*e*PKPbc	**PKPbc**	**03 52 28.0**	**-0.8**
CLL				*e*PKPab	**PKPab**	**03 52 42.0**	**-1.4**
CLL				*i*		03 52 54.9	
CLL				Lm	MLR	04 55 00.0	
	comp=Z,200nm,20.1s						
VYHS	**Vyhne**	**155.39**	**335**	*e*PKP	PKPdf	03 52 34.2	+13
VYHS				*e*		03 52 45.6	
KHC	**Kasperske Hory**	**156.47**	**344**	*e*PKP2	**PKPab**	**03 52 50.5**	**-1.2**
KHC	**Kasperske Hory**	**156.47**	**344**	*e*PKPAB	**PKPab**	**03 52 50.5**	**-1.2**
CONA	**Conrad Observa**	**156.91**	**339**	*i* PKPab	**PKPab**	**03 52 53.5**	**-0.2**
	comp=Z,7.7nm,1.4s						
WLF	**Walferdange**	**157.13**	**356**	*e*PKIKP	**PKPdf**	**03 52 24.1**	**+0.3**
WLF	**Walferdange**	**157.13**	**356**	*e*PKPdf	**PKPdf**	**03 52 24.1**	**+0.3**
AQU	**L'Aquila**	**162.62**	**335**	*e*PKPdf	**PKPdf**	**03 52 29.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**166.24**	**172**	PKP	**PKPdf**	**03 52 33.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=178,slow=3.9,SNR=3.1						
TORD				PKPab	**PKPab**	**03 53 34.5**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=199,slow=2.2,SNR=11						
TORD	**Torodi Ar. Bea**	**166.24**	**172**	PKP	**PKPdf**	**03 52 33.4**	**-0.8**
TORD				PKPab	**PKPab**	**03 53 34.5**	**-0.5**

CASC 13 03:53:17.5±2.8, 8.52N×83.11W, h0km±7km, MD4.1, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.15**	**338**	↓*i*P	Pg	03 53 21.5	+1.1
ACR				*e*S	Sg	03 53 24.9	+2.5
BRU2	**Volcan**	**0.50**	**56**	↓*i*P	Pg	03 53 27.9	+0.6
BRU2				*e*S	Sb	03 53 37.0	-0.4
TBS2		**0.53**	**58**	*e*P	Pb	03 53 31.0	+1.1
TBS2				*e*S	Sb	03 53 40.3	+2.1
BUS	**Buena Vista**	**1.21**	**328**	*e*P	Pg	03 53 39.5	-1.9
QCR	**Quepos**	**1.38**	**311**	*e*P	Pg	03 53 41.8	-2.1
QCR				*e*S	Sg	03 54 01.1	-0.7
LAJ	**Bijagual**	**1.67**	**323**	*e*P	Pg	03 53 49.7	-0.1
LAJ				*e*S	Sg	03 54 16.3	+4.6
SJS	**Escuela Geolog**	**1.69**	**327**	*e*S	Sb	03 54 12.0	+0.3
PTEN	**Parque Tenorio**	**2.86**	**320**	*i* P	Pn	03 54 06.5	+1.9
PTEN				*i* S	Sg	03 54 48.5	-1.2
MESS	**Mesas**	**3.02**	**317**	*i* P	Pn	03 54 08.4	+1.7
NY14	**Universidad de**	**3.19**	**312**	*i* P	Pn	03 54 09.6	+0.6
LAPC	**Finca la Perla**	**3.20**	**315**	*i* P	Pn	03 54 10.0	+0.8
GBS3	**Finca Las lm˜¡**	**3.23**	**314**	*i* P	Pn	03 54 09.5	0.0
BCIP	**Isla Barro Col**	**3.30**	**78**	*e*P	Pn	03 54 10.3	-0.2
BCIP				*e*S	Sn	03 54 54.0	+3.5

IDC 13 03:54:37.5±3.0, 2.04S×137.34E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.6/1, MS4.1/3, Ms1 4.1/3, ms1mx3.3/21, Error ellipse: s-maj=114.0km s-min=29.2km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.03**	**189**	P	Pn	03 58 49.9	+0.1
	0.2nm,0.3s,baz=9.5,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.75**	**189**	P	P	03 59 30.1	-0.7
	1.3nm,0.6s,baz=30,slow=10,SNR=13						
SONM	**Songino Array**	**56.54**	**335**	LR	LR	04 29 15.6	
	comp=Z,100nm,19.3s,baz=358,slow=37						
MKAR	**Makanchi Array**	**68.43**	**321**	P	P	04 05 41.8	+0.4
	0.6nm,0.9s,baz=118,slow=5.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**70.68**	**330**	LR	LR	04 41 14.2	
	comp=Z,174nm,18.2s,baz=41,slow=40						
KURBB	**Kurchatov Arra**	**72.40**	**325**	LR	LR	04 41 22.0	
	comp=Z,103nm,19.2s,baz=40,slow=39						

*ISCJB **13** 04:29:42.6±0.5, 38.31N±0.04×22.35E±0.04, h23km±4km, Error ellipse: s-maj=6.9km s-min=5.2km az=25.4*
*CSEM **13** 04:29:42.7±0.1, 38.31N×22.32E, h18km±1km, ML1.9/3, Error ellipse: s-maj=4.3km s-min=3.2km az=16.0*
*THE **13** 04:29:43.3, 38.29N×22.35E, h14km±1km, ML1.9/3, Error ellipse: s-maj=1.6km s-min=0.4km az=345.0*
*ATH **13** 04:29:43.5, 38.31N×22.33E, h19km±2km, MD2.8/6*
ISC 13 04:29:43.2±0.9, 38.30N±0.03×22.34E±0.02, h17km±6km, n23, σ0838/41, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.18**	**300**	P	**Pg**	**04 29 47.8**	**0.0**
KALE				S	**Sg**	**04 29 51.1**	**+0.3**
KALE	**Kalithea**	**0.18**	**300**	P	**Pg**	**04 29 47.8**	**0.0**
KALE				S	**Sg**	**04 29 51.1**	**+0.3**
DSF	**Desfina**	**0.18**	**54**	P	**Pb**	**04 29 47.7**	**-0.5**
DSF				S	**Sg**	**04 29 50.9**	**-0.1**
DSF	**Desfina**	**0.18**	**54**	P	**Pb**	**04 29 47.7**	**-0.5**
DSF				S	**Sg**	**04 29 50.9**	**-0.1**
TRIZ	**Trizonia**	**0.22**	**287**	P	**Pb**	**04 29 48.4**	**-0.3**
TRIZ				S	**Sg**	**04 29 52.1**	**+0.4**
TRIZ	**Trizonia**	**0.22**	**287**	P	**Pb**	**04 29 48.4**	**-0.3**
TRIZ				S	**Sg**	**04 29 52.1**	**+0.4**
EFP	**Efpalio**	**0.36**	**290**	P	**Pb**	**04 29 51.0**	**-0.1**
EFP				S	**Sb**	**04 29 56.6**	**0.0**
EFP	**Efpalio**	**0.36**	**290**	*e*PB	**Pb**	**04 29 51.1**	**-0.1**
EFP				*e*SB	**Sb**	**04 29 56.2**	**-0.4**
EFP	**Efpalio**	**0.36**	**290**	P	**Pb**	**04 29 51.0**	**-0.1**
EFP				*e*Sb	**Sb**	**04 29 56.2**	**-0.4**
EFP				S	**Sb**	**04 29 56.6**	**0.0**
GUR	**Goura**	**0.37**	**179**	P	**Pg**	**04 29 50.4**	**-0.4**
GUR				S	**Sg**	**04 29 55.7**	**-0.3**
GUR	**Goura**	**0.37**	**179**	P	**Pg**	**04 29 50.4**	**-0.4**
GUR				S	**Sg**	**04 29 55.7**	**-0.3**
LTK	**Loutraki**	**0.57**	**119**	*e*PN	**Pb**	**04 29 55.0**	**+0.3**
LTK				*e*SN	**Sb**	**04 30 03.1**	**+0.5**
LTK	**Loutraki**	**0.57**	**119**	*e*Pn	**Pb**	**04 29 55.0**	**+0.3**
LTK				*e*Sn	**Sb**	**04 30 03.1**	**+0.5**
LKR	**Lokris**	**0.62**	**56**	P	**Pb**	**04 29 54.9**	**-0.8**
LKR	**Lokris**	**0.62**	**56**	*e*PB	**Pb**	**04 29 55.4**	**-0.3**
LKR				*e*SN	**Sb**	**04 30 04.9**	**+0.7**
LKR	**Lokris**	**0.62**	**56**	P	**Pb**	**04 29 54.9**	**-0.8**
LKR	**Lokris**	**0.62**	**56**	*e*Pb	**Pb**	**04 29 55.4**	**-0.3**
LKR				*e*Sn	**Sb**	**04 30 04.9**	**+0.7**
RLS	**Riolos of Patr**	**0.73**	**251**	*e*PN	**Pg**	**04 29 57.6**	**+0.2**
RLS	**Riolos of Patr**	**0.73**	**251**	*e*Pn	**Pg**	**04 29 57.6**	**+0.2**
EVR	**Evrytania**	**0.74**	**326**	*e*PN	**Pg**	**04 29 57.6**	**-0.1**
EVR				*e*SN	**Sg**	**04 30 07.8**	**+0.3**
EVR	**Evrytania**	**0.74**	**326**	*e*Pn	**Pg**	**04 29 57.6**	**-0.1**
EVR				*e*Sn	**Sg**	**04 30 07.8**	**+0.3**
DID	**Didima**	**1.07**	**138**	*e*PN	**Pg**	**04 30 03.9**	**0.0**
DID	**Didima**	**1.07**	**138**	*e*Pn	**Pg**	**04 30 03.9**	**0.0**

IDC 13 04:45:08.0±0.8, 55.97S×26.81W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=38.1km s-min=23.5km az=86.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.28**	**180**	P	P	04 51 56.3	+0.7
	1.3nm,0.7s,baz=203,slow=3.6,SNR=14						
VNDA	**Vanda**	**46.67**	**183**	P	P	04 53 38.0	+0.4
	1.6nm,0.6s,baz=180,slow=4.6,SNR=8.3						
LPAZ	**La Paz**	**50.50**	**305**	P	P	04 54 09.3	+0.9
	1.1nm,0.5s,baz=97,slow=6.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**72.88**	**29**	P	P	04 56 40.6	+2.0
	0.4nm,0.5s,baz=201,slow=6.3,SNR=8.3						
FINES	**FINESS Array B**	**124.21**	**28**	PKP	PKPdf	05 04 06.0	-1.0
	0.5nm,0.5s,baz=252,slow=0.4,SNR=5.8						
YKA	**Yellowknife Ar**	**136.25**	**318**	PKP	PKPdf	05 04 27.5	-2.3
	0.1nm,0.4s,baz=129,slow=2.3,SNR=6.8						
ILAR	**Eielson Array**	**150.22**	**312**	PKPbc	PKPbc	05 04 57.3	-2.0
	1.1nm,0.8s,baz=124,slow=1.2,SNR=12						
ILAR				PKPab	PKPab	05 05 04.9	-0.6
	0.3nm,0.6s,baz=96,slow=1.8,SNR=4.3						
SONM	**Songino Array**	**150.51**	**86**	PKPbc	PKPbc	05 04 59.8	-0.9
	0.5nm,0.4s,baz=218,slow=4.0,SNR=6.3						
SONM				PKPab	PKPab	05 05 05.6	-1.8
	0.2nm,0.4s,baz=231,slow=3.3,SNR=2.8						

IDC 13 04:55:32.9±0.6, 20.85N×121.35E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML3.8/1, MS3.5/5, Ms1 3.6/5, ms1mx3.1/35, 1D, Error ellipse: s-maj=23.4km s-min=13.6km az=73.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.61**	**195**	↓*i*P	Pn	04 56 16.5	+0.2
DAV	**Davao City (W)**	**14.30**	**163**	LR	LR	05 05 00.0	
	comp=Z,142nm,19.4s,baz=262,slow=40						
JNU	**Nakatsue**	**14.87**	**33**	LR	LR	05 04 57.8	
	comp=Z,131nm,21.3s,baz=326,slow=38						
KSRS	**Korea Array**	**17.50**	**18**	P	P	04 59 39.8	+0.2
	0.3nm,0.3s,baz=195,slow=10,SNR=9.4						
CMAR	**Chiang Mai Arr**	**21.23**	**267**	P	P	05 00 21.1	+0.5
	2.9nm,0.7s,baz=72,slow=9.4,SNR=22						
CMAR				LR	LR	05 09 36.6	
	comp=Z,149nm,19.2s,baz=90,slow=40						
GUMO	**Guam**	**23.58**	**104**	LR	LR	05 07 56.1	
	comp=Z,102nm,18.6s,baz=98,slow=32						
USRK	**Ussuriysk Arra**	**24.91**	**18**	P	P	05 00 58.4	+0.9
	2.1nm,0.8s,baz=200,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**29.51**	**339**	P	P	05 01 38.9	-0.1
	2.0nm,0.6s,baz=155,slow=9.8,SNR=15						
MKAR	**Makanchi Array**	**40.88**	**319**	P	P	05 03 16.9	+0.2
	0.9nm,0.6s,baz=112,slow=9.1,SNR=12						
MKAR				PcP	PcP	05 05 16.9	-0.6
	0.4nm,0.7s,baz=94,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**42.49**	**162**	P	P	05 03 29.6	-0.5
	5.1nm,0.6s,baz=343,slow=9.0,SNR=68						
WRA				PcP	PcP	05 05 23.1	+0.1
	0.8nm,0.6s,baz=346,slow=3.6,SNR=4.6						
PETK	**Petropavlovsk-**	**42.57**	**32**	P	P	05 03 31.0	+0.6
	1.1nm,0.6s,baz=201,slow=7.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**43.14**	**329**	P	P	05 03 34.7	-0.3
	0.7nm,0.3s,baz=112,slow=7.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**44.78**	**322**	P	P	05 03 48.4	+0.1
	1.2nm,0.8s,baz=123,slow=7.2,SNR=8.8						
ASAR	**Alice Springs**	**45.91**	**164**	P	P	05 03 57.1	-0.3
	2.8nm,0.6s,baz=350,slow=7.2,SNR=33						
ASAR				PcP	PcP	05 05 34.2	-0.5
	0.5nm,0.6s,baz=341,slow=3.7,SNR=3.4						
BVAR	**Borovoye Array**	**50.37**	**322**	P	P	05 04 31.1	-0.6
	0.2nm,0.4s,baz=117,slow=5.0,SNR=2.0						
BVAR				PcP	PcP	05 05 49.7	-0.5
	1.4nm,0.6s,baz=111,slow=3.7,SNR=6.2						
STKA	**Stephens Creek**	**55.90**	**159**	P	P	05 05 13.3	+0.7
	3.6nm,0.7s,baz=330,slow=6.2,SNR=12						
ILAR	**Eielson Array**	**72.10**	**27**	P	P	05 06 57.8	-1.0
	0.5nm,0.6s,baz=273,slow=5.3,SNR=12						
ILAR				LR	LR	05 42 12.5	
	comp=Z,44nm,21.1s,baz=332,slow=39						
FINES	**FINESS Array B**	**74.39**	**330**	P	P	05 07 17.2	+4.8
	2.1nm,0.7s,baz=56,slow=5.2,SNR=5.9						
YKA	**Yellowknife Ar**	**85.97**	**23**	P	P	05 08 14.3	-0.5
	0.7nm,0.5s,baz=308,slow=4.9,SNR=25						

WEL 13 05:26:32.2±0.5, 47.77S×165.31E, h33km, ML4.0/6, 1D, Error ellipse: s-maj=5.8km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.86**	**31**	PN	Pn	05 26 59.8	-2.0
PYZ				SN	Sn	05 27 21.7	-2.3
APZ	**The Paps**	**2.05**	**64**	↓PN	Pn	05 27 03.3	-1.1
APZ				SN	Sn	05 27 25.8	-3.0
DCZ	**Deep Cove**	**2.62**	**30**	PN	Pn	05 27 11.8	-0.4
DCZ				SN	Sn	05 27 41.7	-1.1
SYZ	**Scrubby Hill**	**2.89**	**66**	PN	Pn	05 27 16.0	+0.2
SYZ				SN	Sn	05 27 47.4	-2.0
MLZ	**Mavora Lakes**	**3.13**	**40**	PN	Pn	05 27 18.0	-1.2
MLZ				SN	Sn	05 27 53.2	-2.2
TUZ	**Tuapeka**	**3.48**	**60**	PN	Pn	05 27 23.4	-0.5
TUZ				SN	Sn	05 28 02.8	-1.1
EAZ	**Earnscleugh**	**3.75**	**49**	PN	Pn	05 27 27.2	-0.5
EAZ				SN	Sn	05 28 08.9	-1.8
WKZ	**Wanaka**	**3.91**	**42**	PN	Pn	05 27 29.6	-0.3
JCZ	**Jackson Bay**	**4.41**	**34**	PN	Pn	05 27 35.5	-1.5
ODZ	**Otahua Downs**	**4.59**	**55**	PN	Pn	05 27 36.7	-2.5

WEL 13 05:43:06.4±0.7, 36.30S×177.07E, h265km±7km, ML3.7/10, 1D, Error ellipse: s-maj=11.2km s-min=9.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.60**	**142**	PN	Pn	05 43 47.0	+0.3
MXZ				SN	S	05 44 18.1	-0.6
URZ	**Urewera**	**1.95**	**179**	PN	Pn	05 43 49.8	+0.2
URZ				SN	S	05 44 23.6	-0.3
PUZ	**Puketiti**	**2.00**	**152**	↓PN	Pn	05 43 50.0	-0.1
PUZ				SN	S	05 44 23.6	-1.2
MWZ	**Matawai**	**2.06**	**170**	PN	Pn	05 43 51.0	+0.3
MWZ				SN	S	05 44 25.3	-0.5
CNZZ	**Carnagh Statio**	**2.36**	**158**	PN	Pn	05 43 53.6	+0.3
RAHZ	**Arahi**	**2.61**	**180**	PN	Pn	05 43 55.8	+0.1
KNZ	**Kokohu**	**2.75**	**170**	PN	Pn	05 43 56.6	-0.5
NMHZ	**Naumai**	**2.80**	**184**	PN	Pn	05 43 58.4	+0.7
BKZ	**Black Stump Fm**	**2.90**	**189**	PN	Pn	05 43 58.1	-0.6
BHHZ	**Black Hill Sta**	**3.28**	**194**	PN	Pn	05 44 02.4	-0.4
KAHZ	**Kahuranaki**	**3.49**	**183**	PN	Pn	05 44 04.4	-0.6
PNHZ	**Pukenui**	**3.67**	**191**	PN	Pn	05 44 05.8	-1.3
TSZ	**Takapari Road**	**3.85**	**193**	PN	Pn	05 44 08.0	-1.1

3.3nm,0.8s,baz=182,slow=9.1,SNR=21
MKAR Makanchi Array 53.70 344 P **P** **06 19 59.9 +1.0**
1.5nm,0.8s,baz=150,slow=8.6,SNR=17
USRK Ussuriysk Arra 55.90 27 P **P** **06 20 13.7 -1.1**
2.5nm,0.7s,baz=216,slow=7.6,SNR=5.7
ZALV Zalesovo Beam 59.80 349 P **P** **06 20 42.4 +0.4**
0.9nm,0.4s,baz=190,slow=4.5,SNR=5.3
BVAR Borovoye Array 62.87 340 P **P** **06 21 02.5 -0.3**
0.9nm,0.7s,baz=155,slow=7.4,SNR=5.8
TXAR Lajitas Array 145.99 41 PKPbc **PKPbc** **06 30 17.9 +0.5**
1.5nm,0.9s,baz=297,slow=0.8,SNR=12

ISCJB ***13*** *06:11:12.3±1.3, 8.4′41.N±0.0′07.×83.′33.W±0.0′03, h14km±7km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=12.7km s-min=5.0km az=10.2*

IDC ***13*** *06:11:12.1±2.0, 8.6′64.N×83.′31.W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML4.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=68.8km s-min=15.5km az=34.0*

CASC ***13*** *06:11:16.0±4.3, 8.′96.N×83.′16.W, h0km±10km, MD4.2*

ISC 13 06:11:13.7±1.9, 8.′6N±0.′1×83.′35W±0.′05, h11km±9km, n29, σ1§34, mb3.8/7, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.18**	**76**	⇓*i*P			**Pg**	**06 11 17.7**	**0.0**
BRU2	**Volcan**	**0.67**	**74**	*e*P			**Pg**	**06 11 25.4**	**-1.4**
BRU2				*e*S			**Sb**	**06 11 37.0**	**0.0**
TBS2		**0.70**	**75**	*e*P			**Pb**	**06 11 28.3**	**+0.1**
TBS2				*e*S			**Sg**	**06 11 37.0**	**+0.4**
BUS	**Buena Vista**	**1.03**	**337**	⇓*e*P			**Pg**	**06 11 32.9**	**-0.6**
CNI	**Changuinola**	**1.15**	**45**	*e*P			Pg	06 11 28.8	-7.0
QCR	**Quepos**	**1.15**	**315**	⇓*e*P			**Pg**	**06 11 34.0**	**-1.8**
QCR				*e*S			**Sb**	**06 11 51.5**	**+1.0**
LAJ	**Bijagual**	**1.46**	**328**	*e*P			**Pg**	**06 11 41.8**	**-0.1**
SJS	**Escuela Geolog**	**1.50**	**332**	⇑*e*P			**Pn**	**06 11 40.7**	**0.0**
SJS				*e*S			**Sg**	**06 12 02.5**	**+0.5**
CGA2	**Cerro Gallo 2**	**1.78**	**322**	*e*P			**Pn**	**06 11 45.3**	**+0.6**
CGA2				*e*S			**Sg**	**06 12 11.0**	**-0.1**
JTS	**JuntasAbangare**	**2.31**	**317**	Pn			**Pn**	**06 11 51.6**	**-0.1**
	103nm,0.3s,baz=104,slow=8.8,SNR=249								
JTS				Pg			**Pb**	**06 11 53.9**	**-1.5**
	103nm,0.3s,baz=284,slow=23,SNR=347								
JTS				Lg			Lg	06 12 26.2	
	130nm,0.3s,baz=327,slow=21,SNR=19								
CHPA	**Chiripa**	**2.39**	**320**	*i*P			**Pb**	**06 11 56.4**	**-0.4**
PTEN	**Parque Tenorio**	**2.65**	**322**	*i*P			**Pn**	**06 11 58.9**	**+2.4**
CUI	**Cuipilapa**	**2.71**	**319**	*i*P			**Pn**	**06 11 59.9**	**+2.5**
COLC	**Colonia**	**2.75**	**318**	*i*P			**Pb**	**06 12 01.1**	**-1.8**
MESS	**Mesas**	**2.80**	**319**	*i*P			**Pn**	**06 12 00.4**	**+1.9**
NY14	**Universidad de**	**2.96**	**313**	*i*P			**Pn**	**06 12 03.5**	**+2.8**
LAPC	**Finca la Perla**	**2.97**	**316**	*i*P			**Pn**	**06 12 03.5**	**+2.6**
BCIP	**Isla Barro Col**	**3.51**	**81**	*e*P			**Pn**	**06 12 08.9**	**+0.7**
BCIP				*e*S			**Sn**	**06 12 49.1**	**-0.7**
CMIG	**Matias Romero**	**14.05**	**308**	Pn			**Pn**	**06 14 34.6**	**+1.7**
	0.7nm,0.3s,baz=116,slow=11,SNR=10								
TKL	**Tuckaleechee C**	**26.93**	**359**	LR			LR	06 28 15.8	
	comp=Z,72nm,19.3s,baz=53,slow=38								
TXAR	**Lajitas Array**	**28.09**	**320**	P			**P**	**06 17 05.6**	**-0.1**
	0.3nm,0.8s,baz=142,slow=10,SNR=2.5								
ULM	**Lac du Bonnet**	**42.80**	**348**	P			**P**	**06 19 09.8**	**-1.6**
	2.0nm,0.6s,baz=159,slow=5.0,SNR=6.8								
NVAR	**Mina Array Bea**	**43.23**	**319**	P			**P**	**06 19 15.9**	**+0.4**
	0.5nm,0.5s,baz=132,slow=7.6,SNR=5.4								
YKA	**Yellowknife Ar**	**58.39**	**344**	P			**P**	**06 21 08.5**	**-0.5**
	0.5nm,0.6s,baz=139,slow=6.7,SNR=17								
ILAR	**Eielson Array**	**71.14**	**336**	P			**P**	**06 22 32.2**	**0.0**
	0.6nm,0.8s,baz=120,slow=4.7,SNR=8.4								
ESDC	**Sonseca Array**	**76.40**	**51**	P			**P**	**06 23 04.8**	**+1.2**
	0.3nm,0.3s,baz=261,slow=5.2,SNR=2.6								
TORD	**Torodi Ar. Bea**	**83.29**	**78**	P			**P**	**06 23 41.0**	**-0.3**
	0.3nm,0.5s,baz=291,slow=6.7,SNR=3.4								
ASAR	**Alice Springs**	**141.36**	**243**	PKP			**PKPdf**	**06 30 45.4**	**-0.3**
	0.2nm,0.4s,baz=312,slow=38,SNR=2.8								
WRA	**Warramunga Arr**	**141.87**	**249**	PKP			**PKPdf**	**06 30 45.2**	**-1.5**
	0.5nm,0.9s,baz=98,slow=2.5,SNR=5.8								

SKHL 13 07:12:56.5±0.1, 52.′80N×142.′30E, h10km, mb4.3/3, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.84**	**27**	⇑*i*P	g		Pn	07 13 14.5	+0.1
OKH					AMB		AMB	07 13 14.9	
	1μm,0.2s								
OKH				⇑*i*S	g		Sn	07 13 27.0	+0.2
OKH					A		A	07 13 28.6	
	2μm,0.5s								
OKH					A		A	07 13 28.6	
	3μm,1.0s								
NKL	**Nikolayevsk**	**1.04**	**290**	*e*P	g		Pn	07 13 18.0	+0.9
NKL					AMB		AMB	07 13 19.2	
	21nm,0.3s								
NKL					AMB		AMB	07 13 19.2	
	76nm,0.3s								
NKL				*e*S	g		Sn	07 13 36.0	+4.3
NKL					A		A	07 13 39.0	
	180nm,0.4s								
TYV	**Tymovskoe**	**1.95**	**173**	*e*P	g		Pg	07 13 35.0	+1.1
TYV					AMB		AMB	07 13 36.0	
	7.0nm,0.8s								
TYV					AMB		AMB	07 13 36.0	
	13nm,0.8s								
TYV				*e*S	g		Sg	07 14 02.0	+2.8
GRNR	**Gornyy**	**4.18**	**243**	*e*S	g		Sg	07 15 21.0	+10
EKMR	**Ekimchan**	**5.66**	**276**	*e*P	g		Pg	07 14 48.5	+3.6
EKMR					AMB		AMB	07 14 54.7	
	3.0nm,0.4s								
EKMR				*e*S	g		Sg	07 16 06.5	+8.2
EKMR					A		A	07 16 18.0	
	8.0nm,0.7s								
EKMR					A		A	07 16 18.0	
	4.0nm,0.7s								
EKMR					A		A	07 16 18.0	
	5.0nm,0.7s								

NIED ***13*** *07:18:00, 45.′50N×151.′20E, h35km, Mw4.7 Best double couple: M0 1.43000×10^16 NP1:φ=9.00000°, δ=60.00000°, λ=70.00000°. NP2:φ=225.00000°, δ=35.00000°, λ=120.00000°.*

DJA ***13*** *07:18:05.4±1.2, 46.′N±12.′×15.′2E±2.′3, h10km, M5.1/9, mB5.5/1, mb5.1/9, Mw(mB)5.0/1*

JMA ***13*** *07:18:08.3±0.9, 45.′52N×151.′15E, h30km, M5.5*

BJI ***13*** *07:18:09.5, 45.′60N×151.′09E, h60km, mB5.1/34, mb5.0/47, Ms4.6/41, Ms7 4.3/40*

ISCJB ***13*** *07:18:09.3±0.4, 45.′45N±0.′03×150.′94E±0.′02, h46km±3km, mb4.9/221, MS4.3/45, Error ellipse: s-maj=5.3km s-min=2.3km az=169.1*

MOS ***13*** *07:18:09.7±0.8, 45.′54N×150.′95E, h47km, mb5.3/80, MS4.2/18, Error ellipse: s-maj=7.1km s-min=4.6km az=106.9*

SKHL ***13*** *07:18:09.4±0.5, 45.′21N×151.′07E, h39km±4km, mb5.5/1, Ms4.3/4*

IDC ***13*** *07:18:10.5±2.2, 45.′58N×150.′96E, h41km±19km, mb4.4/30, mb1 4.6/37, mb1mx4.6/38, mbtmp4.4/37, ML4.5/6, MS4.2/37, Ms1 4.2/37, ms1mx4.0/52, Error ellipse: s-maj=12.1km s-min=9.5km az=145.0*

NEIC ***13*** *07:18:11.8±0.5, 45.′53N×150.′90E, h53km±4km, mb5.0/127, Error ellipse: s-maj=4.7km s-min=2.8km az=157.0*

BGS ***13*** *07:18:17.0±1.9, 46.′44N×151.′06E, h60km, mb4.9*

SZGRF ***13*** *07:18:23.6, 47.′94N×149.′38E, h33km, mb5.1, Northwest of Kuril Islands, Russia*

ISC 13 07:18:12.0±0.4, 45.′45N±0.′05×150.′99E±0.′04, h58km±2km, h57km:pP-P, n1002, σ1§08/1064, mb5.0/222, MS4.3/45, 302C-191D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.21**	**265**	⇓*i*P			**Pn**	**07 18 44.0**	**-2.2**
KUR					*e*S		**Sn**	**07 19 10.0**	**-2.4**
KUR					smax		smax		
	comp=N,20μm,1.5s								
KUR					smax		smax		
	comp=E,12μm,1.0s								
KUR	**Kuril'sk**	**2.21**	**265**	⇑*i*P			**Pn**	**07 18 44.0**	**-2.2**
KUR				⇓*i*P			**Pn**	**07 18 44.0**	**-2.2**
KUR					AMB		AMB	07 18 52.8	
	comp=E,4μm,1.4s								
KUR					*e*S		**Sn**	**07 19 10.0**	**-2.4**
	comp=E,12μm,1.0s								
KUR					A		A	07 19 15.0	
	comp=E,20μm,1.5s								
KUR					A		A	07 19 15.0	
	comp=E,2μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.92**	**251**	*c i*P			**Pn**	**07 19 09.0**	**-0.6**
YUK				*i*S			**Sn**	**07 19 54.0**	**-0.2**
YUK					pmax		pmax		
	comp=N,358nm,0.3s								
YUK					pmax		pmax		
	comp=Z,2μm,0.3s								
YUK					pmax		pmax		
	comp=E,558nm,0.3s								
YUK					smax		smax		
	comp=N,2μm,0.5s								
YUK					smax		smax		
	comp=E,4μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.92**	**251**	⇑*i*P			**Pn**	**07 19 09.0**	**-0.6**
YUK				*i*S			**Sn**	**07 19 54.0**	**-0.2**
YUK					A		A	07 19 57.3	
	comp=E,2μm,0.5s								
YUK					A		A	07 19 57.3	
	comp=E,4μm,0.5s								
NEM2	**Nemuro 2**	**4.30**	**243**	⇑P			**Pn**	**07 19 11.9**	**-2.9**
NEM2				*e*S			**Sn**	**07 19 59.1**	**-4.5**
JRA	**Rausu**	**4.45**	**252**	⇑P			**Pn**	**07 19 16.6**	**-0.2**
JNK	**Nakash**	**4.85**	**250**	P			**Pn**	**07 19 21.9**	**-0.5**
JNK				*e*S			**Sn**	**07 20 15.7**	**-1.6**
JAK	**Akkeshi**	**5.14**	**244**	P			**Pn**	**07 19 24.9**	**-1.5**
JAK				*e*S			**Sn**	**07 20 22.1**	**-2.2**
JTKR	**Abashiri--Toko**	**5.26**	**256**	⇑P			**Pn**	**07 19 27.8**	**-0.1**
JAR	**Ashorobuto**	**5.60**	**250**	P			**Pn**	**07 19 32.8**	**+0.1**
JAR				*e*S			**Sn**	**07 20 35.6**	**-0.1**
JMP	**Maruseppu**	**5.62**	**258**	P			**Pn**	**07 19 33.4**	**+0.4**
JOB	**Onbets**	**5.74**	**246**	P			**Pn**	**07 19 33.6**	**-0.9**
JOB				*e*S			**Sn**	**07 20 35.7**	**-3.3**
YSS	**Yuzh-Sakhalins**	**5.91**	**288**	⇓*i*PN			**Pn**	**07 19 38.0**	**+1.2**
YSS				*e*S			**Sn**	**07 20 44.0**	**+0.9**
YSS					pmax		pmax		
	comp=Z,50nm,0.7s								
YSS					smax		smax		
	comp=E,140nm,0.9s								
YSS					MLR		MLR		
	comp=E,2μm,16.0s								
YSS					MLR		MLR		
	comp=Z,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**5.91**	**288**	*e*Pn			**Pn**	**07 19 37.3**	**+0.5**
	comp=Z,189nm,0.6s								
YSS	**Yuzh-Sakhalins**	**5.91**	**288**	⇓*i*P			**Pn**	**07 19 38.0**	**+1.2**
YSS					AMB		AMB	07 19 39.0	
	comp=Z,50nm,0.7s								
YSS					sP		sP	07 19 57.0	
YSS				*e*S			**Sn**	**07 20 44.0**	**+0.9**
YSS					A		A	07 20 48.8	
	comp=Z,140nm,0.9s								
YSS					eLQ		LQ	07 21 12.0	
YSS					AMS		AMS	07 21 54.0	
	comp=Z,2μm,16.0s								
YSS					AMS		AMS	07 21 54.0	
	comp=Z,2μm,16.0s								
JSE	**Soyaes**	**5.96**	**268**	P			**Pn**	**07 19 39.7**	**+2.2**
JKK2	**Kamakawa 2**	**6.08**	**258**	P			**Pn**	**07 19 40.0**	**+0.7**
ASAJ	**Asahikawa**	**6.12**	**260**	P			**Pn**	**07 19 39.9**	**+0.2**
	comp=Z,22nm,0.3s,baz=77,slow=15,SNR=69								
ASAJ					S		**Sn**	**07 20 53.1**	**+4.8**
	baz=201,slow=20,SNR=2.0								
ASAJ					LR		LR	07 22 07.7	
	comp=Z,2μm,20.4s,baz=169,slow=39								
ASAJ	**Asahikawa**	**6.12**	**260**	*e*Pn			**Pn**	**07 19 40.6**	**+0.9**
ASAJ	**Asahikawa**	**6.12**	**260**	P			**Pn**	**07 19 40.6**	**+0.9**
JCH	**Churui**	**6.18**	**245**	P			**Pn**	**07 19 39.5**	**-1.1**
JCH				*e*S			**Sn**	**07 20 47.2**	**-2.7**
SKR	**Severo-Kuril's**	**6.26**	**31**	*e*PN			Pn	07 19 50.6	+9.0
SKR				*e*S			Sn	07 20 58.0	+6.3
SKR					pmax		pmax		
	comp=Z,140nm,0.5s								
SKR					smax		smax		
	comp=N,170nm,0.5s								
SKR					smax		smax		
	comp=E,110nm,0.5s								
SKR					MLR		MLR		
	comp=E,3μm,14.0s								
SKR					MLR		MLR		
	comp=Z,3μm,14.0s								
SKR	**Severo-Kuril's**	**6.26**	**31**	*e*P			Pn	07 19 50.6	+9.0
SKR					AMB		AMB	07 19 52.8	
	comp=Z,140nm,0.5s								
SKR					sP		sP	07 20 06.0	
SKR				*e*S			Sn	07 20 58.0	+6.3
SKR					A		A	07 21 18.9	
	comp=Z,170nm,0.5s								
SKR					A		A	07 21 18.9	
	comp=Z,110nm,0.5s								
SKR					A		A	07 21 18.9	
	comp=Z,80nm,0.5s								
SKR					AMS		AMS	07 22 38.0	
	comp=Z,3μm,14.0s								
SKR					AMS		AMS	07 22 38.0	
	comp=Z,3μm,14.0s								
SKR					AMS		AMS	07 22 38.0	
	comp=Z,3μm,14.0s								
SKR					AMS		AMS	07 22 38.0	
	comp=Z,3μm,14.0s								
JWK2	**Keihoku**	**6.40**	**272**	P			**Pn**	**07 19 46.2**	**+2.6**
JFR	**Furan**	**6.44**	**252**	P			**Pn**	**07 19 44.8**	**+0.6**
JSS	**Shosan**	**6.57**	**264**	P			**Pn**	**07 19 48.5**	**+2.6**
JEM	**Erimo**	**6.63**	**242**	*e*S			**Sn**	**07 20 56.6**	**-4.2**
ERM	**Erimo**	**6.63**	**242**	*de*PN			**Pn**	**07 19 47.3**	**+0.6**
ERM					pmax		pmax		
	comp=Z,344nm,1.0s								
ERM	**Erimo**	**6.63**	**242**	*e*Pn			**Pn**	**07 19 47.2**	**+0.4**
JNBK	**Urakawa-nobuka**	**6.74**	**245**	P			**Pn**	**07 19 46.4**	**-1.9**
JBT2	**Biratori 2**	**6.76**	**250**	P			**Pn**	**07 19 47.8**	**-0.7**
JBT2				*e*S			**Sn**	**07 21 01.5**	**-2.5**
JHR	**Hokuryu**	**6.83**	**259**	P			**Pn**	**07 19 51.4**	**+1.9**
UGL	**Uglegorsk**	**7.07**	**304**	*e*PN			**Pn**	**07 19 54.5**	**+1.8**
UGL				*e*				07 21 13.5	
UGL					pmax		pmax		
	comp=Z,130nm,0.5s								
UGL					MLR		MLR		
	comp=N,1μm,16.0s								
UGL					MLR		MLR		
	comp=E,1μm,16.0s								
UGL	**Uglegorsk**	**7.07**	**304**	*e*P			**Pn**	**07 19 54.5**	**+1.8**
UGL					AMB		AMB	07 19 55.5	
	comp=E,130nm,0.5s								
UGL					sP		**sPn**	**07 20 09.9**	**+0.5**
UGL				*e*L			L	07 21 46.0	
UGL					AMS		AMS	07 22 53.0	
	comp=E,1μm,16.0s								
UGL					AMS		AMS	07 22 53.0	
	comp=E,1μm,16.0s								
JEW	**Eniwo**	**7.34**	**253**	P			**Pn**	**07 19 57.0**	**+0.6**
TYV	**Tymovskoe**	**7.76**	**317**	*e*P			**Pn**	**07 20 02.8**	**+0.6**
TYV					AMB		AMB	07 20 03.8	
	comp=E,31nm,0.8s								
TYV					AMB		AMB	07 20 03.8	
	comp=E,40nm,0.8s								
TYV					AMB		AMB	07 20 03.8	
	comp=E,57nm,0.8s								
TYV					sP			07 20 19.0	
TYV					AMS		AMS	07 22 42.0	
	comp=E,2μm,20.0s								
TYV					AMS		AMS	07 22 42.0	
	comp=E,2μm,20.0s								
JNB	**Noboribetsu**	**7.77**	**251**	P			**Pn**	**07 20 01.5**	**-0.9**
JNB				*e*S			**Sn**	**07 21 26.4**	**-2.5**
JKB	**Kayabe**	**8.04**	**247**	*e*S			Sn	07 21 29.1	-6.5
JYM2	**Yakumo 2**	**8.37**	**250**	P			**Pn**	**07 20 09.6**	**-1.0**
JANG	**Nango**	**8.60**	**237**	*e*S			Sn	07 21 39.9	-9.4
JTM	**Tenmabayashi**	**8.62**	**241**	*e*S			Sn	07 21 41.9	-7.8
JSR	**Shiriuchi**	**8.62**	**247**	*e*S			Sn	07 21 42.6	-7.1
JTH	**Tanohata**	**8.68**	**234**	*e*S			Sn	07 21 40.7	-11
PEA0B	**Petropavlovsk-**	**8.83**	**27**	*e*Pn			**Pn**	**07 20 15.7**	**-1.0**
PETK	**Petropavlovsk-**	**8.83**	**27**	P			**Pn**	**07 20 14.9**	**-1.8**
	comp=E,2.8nm,0.3s,baz=202,slow=11,SNR=24								
PETK					S		Sn	07 22 04.5	+10
	comp=E,0.4nm,0.3s,baz=135,slow=17,SNR=2.1								
PETK					LR		LR	07 23 34.4	
	comp=E,611nm,22.0s,baz=73,slow=37								
PETK	**Petropavlovsk-**	**8.83**	**27**	PN			**Pn**	**07 20 15.0**	**-1.8**
PETK					S		Sn	07 22 04.5	+10
PETK					pmax		pmax		
	comp=Z,3.0nm,0.3s								
PETK					MLR		MLR		
	comp=Z,611nm,22.0s								
PETK	**Petropavlovsk-**	**8.83**	**27**	P			**Pn**	**07 20 14.9**	**-1.8**
PETK					S		Sn	07 22 04.5	+10
JKZ	**Kuzumaki**	**8.96**	**236**	P			Pn	07 20 14.9	-3.8
JOSM	**Okushiri--Mats**	**8.98**	**252**	P			**Pn**	**07 20 17.7**	**-1.2**
JOM	**Ohasama**	**9.32**	**234**	P			Pn	07 20 19.9	-3.7
OFUJ	**Ofunato**	**9.39**	**231**	P			Pn	07 20 20.3	-4.2
OKH	**Okha**	**9.64**	**330**	*e*PN			**Pn**	**07 20 28.2**	**+0.3**
OKH					pmax		pmax		
	comp=Z,1μm,0.9s								
OKH	**Okha**	**9.64**	**330**	*e*P			**Pn**	**07 20 28.0**	**+0.1**
OKH				*e*P			**Pn**	**07 20 28.2**	**+0.3**
OKH					AMB		AMB	07 20 30.0	
	comp=Z,400nm,1.0s								
OKH					AMB		AMB	07 20 30.0	
	comp=Z,1μm,0.9s								
OKH				*e*LQ			LQ	07 23 30.0	
OKH					AMS		AMS	07 25 20.6	
	comp=Z,1μm,11.0s								
OKH					AMS		AMS	07 25 20.6	
	comp=Z,1μm,12.0s								
JRG	**Rokugo**	**9.75**	**235**	P			**Pn**	**07 20 26.3**	**-3.2**
JOG2	**Oga 2**	**9.92**	**240**	P			**Pn**	**07 20 29.7**	**-2.1**
JIO	**Ouri**	**10.01**	**229**	*e*S			Sn	07 22 14.0	-10
TEY	**Ternei**	**10.16**	**273**	*e*P			**Pn**	**07 20 40.1**	**+5.2**
TEY					AMB		AMB	07 20 40.8	
	comp=E,65nm,1.0s								
TEY				*e*L			L	07 23 54.0	
NKL	**Nikolayevsk**	**10.22**	**323**	*e*P			Pn	07 20 30.5	-5.3
NKL					AMB		AMB	07 20 33.0	
	comp=Z,400nm,3.0s								
NKL					AMB		AMB	07 20 34.0	
	comp=Z,50nm,1.0s								
NKL					AMB		AMB	07 20 34.0	
	comp=Z,60nm,1.0s								
NKL					AMB		AMB	07 20 34.0	
	comp=Z,110nm,1.0s								
JFK	**Kawauchi**	**11.08**	**227**	*e*S			Sn	07 22 40.1	-10
HABR	**Khabarovsk**	**11.30**	**291**	*de*PN			**Pn**	**07 20 53.5**	**+2.9**
HABR				*e*S			**Sn**	**07 22 58.7**	**+3.5**
HABR					pmax		pmax		
	comp=Z,108nm,1.3s								
HABR					MLR		MLR		
	comp=Z,878nm,17.0s								
MAJO	**Matsushiro**	**13.11**	**232**	*e*PN			**Pn**	**07 21 12.3**	**-3.1**
MAJO	**Matsushiro**	**13.11**	**232**	*e*Pn			**Pn**	**07 21 12.3**	**-3.1**
MJAR	**Matsushiro Arr**	**13.11**	**232**	P			**Pn**	**07 21 12.8**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=28,slow=13,SNR=19								
MJAR					S		**Sn**	**07 23 43.9**	**+4.3**
	comp=Z,0.6nm,0.3s,baz=311,slow=16,SNR=3.1								
MJAR	**Matsushiro Arr**	**13.11**	**232**	P			**Pn**	**07 21 12.8**	**-2.6**
MJAR					S		**Sn**	**07 23 43.9**	**+4.3**
USRK	**Ussuriysk Arra**	**13.54**	**271**	P			**Pn**	**07 21 19.5**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=88,slow=12,SNR=32								
USRK					LR		LR	07 26 44.9	
	comp=Z,899nm,18.4s,baz=229,slow=38								
KLR	**Kul'dur**	**13.57**	**293**	*e*P			**Pn**	**07 21 20.0**	**-1.6**
KLR					pmax		pmax		
	comp=E,110nm,1.4s								
KLR					pmax		pmax		
	comp=Z,130nm,1.4s								
KLR					MLR		MLR		
	comp=Z,2μm,13.0s								
VLA	**Vladivostok**	**13.88**	**267**	*de*P			**Pn**	**07 21 25.2**	**-0.4**
VLA					pmax		pmax		
	comp=Z,93nm,1.2s								
JHJ	**Hachijo jima 2**	**15.04**	**219**	LR			LR	07 27 21.0	
	comp=Z,119nm,20.7s,baz=314,slow=36								
MDJ	**Mudanjiang**	**15.15**	**274**	P			**Pn**	**07 21 43.1**	**+0.8**
MDJ				pP			**pP**	**07 21 54.3**	**-4.4**
MDJ				PP			PP	07 21 57.1	
MDJ				S			**Sn**	**07 24 30.5**	**+1.6**
MDJ				SS			**S**	**07 24 49.4**	**+6.3**
MDJ					pmax		pmax		
	comp=Z,41nm,0.9s								
MDJ					pmax		pmax		
	comp=Z,160nm,3.9s								
MDJ					LR		LR		
	comp=N,340nm,25.2s								
MDJ					LR		LR		
	comp=E,380nm,26.2s								
MDJ					LR		LR		
	comp=Z,680nm,21.4s								
MDJ	**Mudanjiang**	**15.15**	**274**	*e*P			**Pn**	**07 21 42.8**	**+0.5**
	comp=Z,36nm,0.9s								
FX1	**Attu Island--F**	**16.26**	**55**	P			**Pn**	**07 21 54.9**	**-1.5**
	comp=Z,3.8nm,0.3s,baz=162,slow=23,SNR=5.2								
FX1					LR		LR	07 27 07.8	
	comp=Z,396nm,20.8s,baz=281,slow=33								
FX1	**Attu Island--F**	**16.26**	**55**	*e*P			**P**	**07 21 58.3**	**-0.2**
ZEA	**Zeya**	**17.41**	**307**	*e*P			**Pn**	**07 22 07.1**	**-3.6**
ZEA					AMB		AMB	07 22 10.4	
	comp=Z,72nm,1.2s								
ZEA					AMB		AMB	07 22 10.4	
	comp=Z,85nm,1.2s								
ZEA					AMB		AMB	07 22 10.4	
	comp=Z,83nm,1.4s								
ZEA					sP		**sP**	**07 22 28.6**	**-2.4**
SEY	**Seymchan**	**17.54**	**2**	⇑*e*P			**Pn**	**07 22 11.8**	**-0.3**
CN2	**Changchun**	**18.23**	**274**	*e*P			**P**	**07 22 18.9**	**-1.5**
CN2				*e*S			Sn	07 25 36.0	-7.5
CN2					pmax		pmax		
	comp=Z,40nm,0.7s								
CN2					LR		LR		
	comp=N,900nm,18.0s								
CN2					LR		LR		
	comp=E,800nm,18.0s								
CN2					LR		LR		
	comp=Z,900nm,16.0s								
KSRS	**Korea Array**	**19.00**	**253**	P			**P**	**07 22 27.1**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=60,slow=11,SNR=51								
KSAR	**Wonju Array Be**	**19.03**	**253**	P			**P**	**07 22

	comp=Z,68nm,0.9s								
NJ2	**Nanjing**	**28.20**	**253**	*e*P		**P**	**07**	**23**	**59.1 0.0**
NJ2				pmax		pmax			
	comp=Z,20nm,0.9s								
HHC	**Hu-ho-hao-te**	**28.92**	**275**	*e*P		**P**	**07**	**24**	**05.9 +0.3**
HHC				pP		**pP**	**07**	**24**	**20.8 +0.9**
HHC				sP		**sP**	**07**	**24**	**28.3 +1.6**
HHC				PP		**PnPn**	**07**	**25**	**00.3 +0.8**
HHC				S		**S**	**07**	**28**	**49.0 -3.1**
HHC				pmax		pmax			
	comp=Z,30nm,0.8s								
HHC				pmax		pmax			
	comp=Z,180nm,3.7s								
HHC				LR		LR			
	comp=N,630nm,15.9s								
HHC				LR		LR			
	comp=E,460nm,13.5s								
HHC				LR		LR			
	comp=Z,510nm,11.8s								
ULN	**Ulaanbaatar**	**29.95**	**291**	*e*P		**P**	**07**	**24**	**14.6 -0.1**
	comp=Z,10nm,1.1s								
ULN				*e*PcP		**PcP**	**07**	**27**	**16.8 +0.9**
ULN	**Ulaanbaatar**	**29.95**	**291**	P		**P**	**07**	**24**	**17.6 +2.9**
	comp=Z,11nm,1.1s								
SONM	**Songino Array**	**30.39**	**291**	P		**P**	**07**	**24**	**18.9 +0.3**
	comp=Z,2.0nm,0.5s,baz=82,slow=8.0,SNR=12								
SONM				PcP		**PcP**	**07**	**27**	**17.5 +0.5**
	comp=Z,2.2nm,0.6s,baz=102,slow=1.9,SNR=7.2								
SONM				LR		LR	07	37	25.4
	comp=Z,423nm,19.1s,baz=245,slow=38								
SONM	**Songino Array**	**30.39**	**291**	P		**P**	**07**	**24**	**18.9 +0.3**
SONM				PcP		**PcP**	**07**	**27**	**17.5 +0.5**
TLY	**Talaya**	**31.48**	**299**	*e*P		P	07	24	33.1 +5.1
TLY				pmax		pmax			
	comp=Z,2.0nm,0.7s								
TLY				MLR		MLR			
	comp=Z,478nm,18.0s								
ZAK	**Zakamensk**	**31.91**	**296**	*e*P		P	07	24	28.3 -3.5
WHN	**Wuhan**	**32.17**	**255**	P		**P**	**07**	**24**	**34.3 +0.1**
GUMO	**Guam**	**32.18**	**191**	LR		LR	07	36	42.2
	comp=Z,138nm,18.6s,baz=90,slow=34								
TPUB	**Ta-pu**	**33.09**	**238**	*e*P		**P**	**07**	**24**	**43.3 +1.0**
	comp=Z,84nm,1.4s								
XAN	**Xi'an**	**33.93**	**265**	P		**P**	**07**	**24**	**49.5 -0.1**
XAN				pmax		pmax			
	comp=Z,7.0nm,0.8s								
XAN				pmax		pmax			
	comp=Z,36nm,4.6s								
ENH	**Enshi**	**35.67**	**259**	*e*P		**P**	**07**	**25**	**04.0 -0.6**
	comp=Z,24nm,0.9s								
ENH				*e*PcP		**PcP**	**07**	**27**	**32.8 +0.9**
KDAK	**Kodiak Island**	**36.07**	**49**	P		**P**	**07**	**25**	**06.1 -1.5**
	comp=Z,20nm,0.9s,baz=352,slow=7.7,SNR=4.7								
KDAK	**Kodiak Island**	**36.07**	**49**	P		**P**	**07**	**25**	**06.1 -1.5**
LZH	**Lanzhou**	**36.45**	**272**	⇑P		**P**	**07**	**25**	**12.3 +0.9**
LZH				pP		**pP**	**07**	**25**	**27.8 +1.9**
LZH				sP		**sP**	**07**	**25**	**35.3 +2.6**
LZH				PP		**PnPn**	**07**	**26**	**37.0 +1.8**
LZH				*e*S		**S**	**07**	**30**	**48.1 -1.1**
LZH				sS		**sS**	**07**	**31**	**13.0 -0.8**
LZH				pmax		pmax			
	comp=Z,35nm,1.3s								
LZH				pmax		pmax			
	comp=Z,130nm,5.2s								
LZH				LR		LR			
	comp=N,310nm,14.0s								
LZH				LR		LR			
	comp=E,340nm,15.2s								
LZH				LR		LR			
	comp=Z,450nm,16.0s								
COLD	**Coldfoot**	**37.23**	**33**	*e*P		**P**	**07**	**25**	**17.7 +0.2**
	comp=Z,8.8nm,1.1s								
HVS	**Khovu-Aksy**	**37.69**	**300**⇓	*e*P		**P**	**07**	**25**	**19.7 -2.0**
HVS				pmax		pmax			
	comp=Z,34nm,0.9s								
GTA	**Gaotai**	**37.72**	**279**	*e*P		**P**	**07**	**25**	**22.9 +0.9**
GTA				pP		**pP**	**07**	**25**	**37.5 +0.9**
GTA				sP		**sP**	**07**	**25**	**45.5 +2.1**
GTA				PP		**PnPn**	**07**	**26**	**52.1 +1.7**
GTA				PcP		**PcP**	**07**	**27**	**39.8 +1.7**
GTA				S		**S**	**07**	**31**	**09.6 +1.3**
GTA				PcS		**PcS**	**07**	**31**	**27.8 +0.9**
GTA				sS		**sS**	**07**	**31**	**35.3 +2.4**
GTA				SS		**SnSn**	**07**	**33**	**46.8 -5.5**
GTA				pmax		pmax			
	comp=Z,16nm,0.6s								
GTA				pmax		pmax			
	comp=Z,150nm,4.8s								
GTA				LR		LR			
	comp=N,260nm,15.7s								
GTA				LR		LR			
	comp=E,330nm,15.2s								
GTA				LR		LR			
	comp=Z,300nm,15.7s								
COLA	**College**	**38.07**	**37**	*e*P		**P**	**07**	**25**	**24.5 0.0**
COLA				pmax		pmax			
	comp=Z,17nm,0.9s								
COLA	**College**	**38.07**	**37**	*e*P		**P**	**07**	**25**	**24.5 0.0**
	comp=Z,17nm,0.9s								
ILAR	**Eielson Array**	**38.48**	**38**	P		**P**	**07**	**25**	**27.6 -0.5**
	comp=Z,13nm,1.2s,baz=270,slow=7.1,SNR=33								
ILAR				LR		LR	07	39	19.0
	comp=Z,119nm,21.3s,baz=274,slow=33								
ILAR	**Eielson Array**	**38.48**	**38**	P		**P**	**07**	**25**	**27.6 -0.5**
CD2	**Chengdu**	**39.29**	**265**	P		**P**	**07**	**25**	**35.8 +0.5**
CD2				pP		**pP**	**07**	**25**	**52.1 +2.2**
CD2				sP		**sP**	**07**	**25**	**59.8 +3.2**
CD2				PP		**PnPn**	**07**	**27**	**11.0 +1.7**
CD2				S		**S**	**07**	**31**	**30.8 -1.2**
CD2				sS		**sS**	**07**	**31**	**58.4 +1.6**
CD2				SS		**SS**	**07**	**34**	**18.3 -8.8**
CD2				pmax		pmax			
	comp=Z,140nm,0.6s								
CD2				pmax		pmax			
	comp=Z,280nm,4.1s								
CD2				LR		LR			
	comp=N,530nm,4.8s								
CD2				LR		LR			
	comp=Z,520nm,4.3s								
DOT	**Dot Lake**	**39.77**	**39**	*e*P		**P**	**07**	**25**	**37.6 -1.2**
	comp=Z,1.5nm,0.7s								
GYA	**Guiyang**	**39.98**	**257**⇑	*i*P		**P**	**07**	**25**	**40.9 -0.2**
GYA				pP		**pP**	**07**	**25**	**58.6 +2.8**
GYA				sP		**sP**	**07**	**26**	**06.4 +3.9**
GYA				PP		**PnPn**	**07**	**27**	**18.0 +0.3**
GYA				PcP		**PcP**	**07**	**27**	**46.3 +0.9**
GYA				ScP		**ScP**	**07**	**31**	**29.0 -0.3**
GYA				PcS		**PcS**	**07**	**31**	**35.4 -0.5**
GYA				S		**S**	**07**	**31**	**41.0 -1.6**
GYA				sS		**sS**	**07**	**32**	**10.5 +3.1**
GYA				SS		**SS**	**07**	**34**	**33.8 -7.4**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=N,480nm,17.6s								
GYA				LR		LR			
	comp=E,450nm,18.5s								
GYA				LR		LR			
	comp=Z,520nm,17.0s								
ZALV	**Zalesovo Beam**	**42.18**	**306**	P		**P**	**07**	**25**	**58.7 0.0**
	comp=Z,1.1nm,0.4s,baz=46,slow=6.4,SNR=3.1								
ZALV				PcP		**PcP**	**07**	**27**	**52.0 +0.1**
	comp=Z,14nm,0.9s,baz=75,slow=3.2,SNR=20								
ZALV				LR		LR	07	44	40.0
	comp=Z,434nm,18.7s,baz=61,slow=38								
ZALV	**Zalesovo Beam**	**42.18**	**306**	P		**P**	**07**	**25**	**58.7 0.0**
ZALV							07	27	52.0
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV				MLR		MLR			
	comp=Z,434nm,18.7s								
ZALV	**Zalesovo Beam**	**42.18**	**306**	P		**P**	**07**	**25**	**58.7 0.0**
ZALV				PcP		**PcP**	**07**	**27**	**52.0 +0.1**
NVS	**Novosibirsk**	**42.81**	**308**	*e*P		**P**	**07**	**26**	**04.1 +0.3**
QIZ	**Qiongzhong**	**42.97**	**246**	P		**P**	**07**	**26**	**05.0 -0.5**
QIZ				S		**S**	**07**	**32**	**24.8 -1.9**
QIZ				LR		LR			
	comp=Z,270nm,17.4s								
INK	**Inuvik**	**43.54**	**32**	*e*P		**P**	**07**	**26**	**09.5 +0.1**
	comp=Z,24nm,1.0s								
KMI	**Kunming**	**43.55**	**259**	P		**P**	**07**	**26**	**11.0 +0.7**
KMI				pP		**pP**	**07**	**26**	**20.8 -4.4**
KMI				pmax		pmax			
	comp=Z,23nm,1.3s								
WMQ	**Urumqi**	**44.02**	**291**	P		**P**	**07**	**26**	**14.5 +0.7**
WMQ				pmax		pmax			
	comp=Z,10.0nm,1.0s								
WMQ				LR		LR			
	comp=N,220nm,20.0s								
WMQ				LR		LR			
	comp=E,190nm,24.0s								
WMQ				LR		LR			
	comp=Z,200nm,22.0s								
MK31	**Makanchi Array**	**46.23**	**298**	*e*P		**P**	**07**	**26**	**29.2 -2.0**
MK31				*e*			07	28	06.3
MK31	**Makanchi Array**	**46.23**	**298**	*e*P		**P**	**07**	**26**	**29.2 -2.0**
MK31				*e*PcP		**PcP**	**07**	**28**	**06.3 +0.4**
MKAR	**Makanchi Array**	**46.23**	**298**	P		**P**	**07**	**26**	**29.9 -1.3**
	comp=Z,5.5nm,0.8s,baz=74,slow=7.8,SNR=46								
MKAR				PcP		**PcP**	**07**	**28**	**05.8 -0.1**
	comp=Z,3.2nm,0.6s,baz=82,slow=1.0,SNR=8.5								
MKAR				LR		LR	07	47	05.8
	comp=Z,496nm,18.4s,baz=2.7,slow=38								
MKAR	**Makanchi Array**	**46.23**	**298**	P		**P**	**07**	**26**	**29.9 -1.3**
MKAR							07	28	05.8
MKAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MKAR				MLR		MLR			
	comp=Z,496nm,18.4s								
MKAR	**Makanchi Array**	**46.23**	**298**	*e*P		**P**	**07**	**26**	**29.4 -1.8**
MKAR				PcP		**PcP**	**07**	**28**	**05.8 -0.1**
KURK	**Kurchatov**	**46.85**	**304**	P		**P**	**07**	**26**	**36.4 +0.4**
KURK							07	28	08.3
KURK				pmax		pmax			
	comp=Z,11nm,0.7s								
KURK	**Kurchatov**	**46.85**	**304**	*e*P		**P**	**07**	**26**	**34.9 -1.0**
	comp=Z,10nm,0.7s								
KURK				PcP		**PcP**	**07**	**28**	**08.3 +0.3**
KURBB	**Kurchatov Arra**	**46.94**	**304**	P		**P**	**07**	**26**	**36.4 -0.2**
	comp=Z,11nm,0.7s,baz=70,slow=8.5,SNR=31								
KURBB				PcP		**PcP**	**07**	**28**	**08.3 0.0**
	comp=Z,4.7nm,0.8s,baz=70,slow=3.2,SNR=9.8								
LSA	**Lhasa**	**48.86**	**273**	*e*P		**P**	**07**	**26**	**53.6 +1.2**
LSA				pmax		pmax			
	comp=Z,30nm,0.8s								
LSA	**Lhasa**	**48.86**	**273**	*e*P		**P**	**07**	**26**	**53.6 +1.2**
	comp=Z,30nm,0.8s								
CHTO	**Chiang Mai**	**50.37**	**256**	*e*P		**P**	**07**	**27**	**03.6 +0.2**
CHTO				pmax		pmax			
	comp=Z,18nm,1.0s								
CHTO	**Chiang Mai**	**50.37**	**256**	*e*P		**P**	**07**	**27**	**03.6 +0.2**
	comp=Z,18nm,1.0s								
CHTO	**Chiang Mai**	**50.37**	**256**	P		**P**	**07**	**27**	**04.2 +0.8**
	comp=Z,24nm,1.4s								
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**07**	**27**	**03.3 -0.9**
	comp=Z,1.0nm,0.4s,baz=65,slow=8.4,SNR=8.5								
BVAR				PcP		**PcP**	**07**	**28**	**21.6 +0.2**
	comp=Z,6.3nm,0.8s,baz=72,slow=4.8,SNR=11								
BVAR				LR		LR	07	50	00.8
	comp=Z,300nm,20.5s,baz=82,slow=38								
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**07**	**27**	**03.3 -0.9**
BVAR							07	28	21.6
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
BVAR				MLR		MLR			
	comp=Z,300nm,20.5s								
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**07**	**27**	**03.3 -0.9**
BVAR				PcP		**PcP**	**07**	**28**	**21.6 +0.2**
BRVK	**Borovoye**	**50.58**	**310**⇓	*e*P		**P**	**07**	**27**	**04.2 -0.3**
BRVK				pmax		pmax			
	comp=Z,8.0nm,1.7s								
BRVK	**Borovoye**	**50.58**	**310**	*e*P		**P**	**07**	**27**	**02.7 -1.9**
	comp=Z,8.8nm,1.4s								
BRVK				*e*			07	27	17.8
BRVK				*e*PcP		**PcP**	**07**	**28**	**21.9 +0.4**
CMAR	**Chiang Mai Arr**	**50.62**	**256**	P		**P**	**07**	**27**	**06.1 +0.9**
	comp=Z,4.6nm,0.8s,baz=36,slow=7.9,SNR=25								
CMAR				PcP		**PcP**	**07**	**28**	**23.0 +0.9**
	comp=Z,2.9nm,0.7s,baz=8.6,slow=3.0,SNR=6.7								
CMAR				LR		LR	07	51	42.4
	comp=Z,144nm,18.4s,baz=40,slow=40								
CMAR	**Chiang Mai Arr**	**50.62**	**256**	P		**P**	**07**	**27**	**06.1 +0.9**
CMAR				PcP		**PcP**	**07**	**28**	**23.0 +0.9**
SHL	**Shillong**	**50.85**	**268**	*i*P		**P**	**07**	**27**	**08.0 +0.9**
ULHL	**Ulahoi**	**52.17**	**295**	P		**P**	**07**	**27**	**17.6 +0.8**
	SNR=6.5								
TKM2	**Tokmak 2**	**52.24**	**296**	*i*P		**P**	**07**	**27**	**18.9 +1.6**
TKM2	**Tokmak 2**	**52.24**	**296**	P		**P**	**07**	**27**	**18.9 +1.6**
	SNR=8.8								
RES	**Resolute Bay**	**52.53**	**18**	*e*P		**P**	**07**	**27**	**18.1 -0.6**
	comp=Z,17nm,1.2s								
TAPN	**Taplejung**	**52.69**	**273**	*e*P		**P**	**07**	**27**	**21.9 +0.9**
	comp=Z,35nm,0.5s								
USP	**Ospenovka**	**52.75**	**297**	P		**P**	**07**	**27**	**22.4 +1.5**
	SNR=18								
KBK	**Karagaybulak**	**52.78**	**296**	P		**P**	**07**	**27**	**22.9 +1.5**
	SNR=5.3								
YKA	**Yellowknife Ar**	**52.84**	**36**	P		**P**	**07**	**27**	**21.1 -0.1**
	comp=Z,4.6nm,0.8s,baz=298,slow=7.0,SNR=57								
YKA				PcP		**PcP**	**07**	**28**	**29.6 -0.1**
	comp=Z,0.6nm,0.6s,baz=302,slow=3.2,SNR=3.9								
YKA	**Yellowknife Ar**	**52.84**	**36**	P		**P**	**07**	**27**	**21.1 -0.1**
YKA				PcP		**PcP**	**07**	**28**	**29.6 -0.1**
KZA	**Kyzart**	**52.89**	**295**	P		**P**	**07**	**27**	**23.5 +1.1**
	SNR=5.9								
AAK	**Ala-Archa**	**53.08**	**296**	P		**P**	**07**	**27**	**23.0 -0.5**
	comp=Z,4.3nm,0.7s,baz=84,slow=4.1,SNR=20								
AAK				PcP		**PcP**	**07**	**28**	**32.8 +1.6**
	comp=Z,2.3nm,0.6s,baz=178,slow=3.2,SNR=3.7								
AAK				LR		LR	07	51	18.4
	comp=Z,332nm,18.9s,baz=48,slow=38								
AAK	**Ala-Archa**	**53.08**	**296**	P		**P**	**07**	**27**	**23.0 -0.5**
AAK							07	28	32.8
AAK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AAK				MLR		MLR			
	comp=Z,332nm,18.9s								
AAK	**Ala-Archa**	**53.08**	**296**	P		**P**	**07**	**27**	**23.0 -0.5**
AAK				PcP		**PcP**	**07**	**28**	**32.8 +1.6**
AAK	**Ala-Archa**	**53.08**	**296**	P		**P**	**07**	**27**	**24.7 +1.2**
	SNR=6.3								
ODAN	**Odare**	**53.21**	**272**	*e*P		**P**	**07**	**27**	**25.0 +0.2**
EKS2	**Erkin-Say**	**53.52**	**297**	*e*P		**P**	**07**	**27**	**26.6 -0.1**
EKS2				pmax		pmax			
	comp=Z,8.0nm,0.6s								
EKS2	**Erkin-Say**	**53.52**	**297**	*e*P		**P**	**07**	**27**	**26.6 -0.1**
	comp=Z,7.9nm,0.6s								
EKS2	**Erkin-Say**	**53.52**	**297**	P		**P**	**07**	**27**	**26.7 -0.1**
	SNR=13								
KBS	**Kingsbay**	**53.55**	**351**⇓	*e*P		**P**	**07**	**27**	**25.5 -0.7**
KBS				pmax		pmax			
	comp=Z,44nm,2.5s								
JIRN	**Jiri**	**53.57**	**274**	*e*P		**P**	**07**	**27**	**28.3 +0.8**
	comp=Z,14nm,0.5s								
SPITS	**Spitsbergen Ar**	**53.62**	**349**	LR		LR	07	52	33.2
	comp=Z,158nm,18.0s,baz=45,slow=39								
GUN	**Gumba**	**53.63**	**274**	*e*P		**P**	**07**	**27**	**28.4 +0.4**
	comp=Z,49nm,0.6s								
RAMN	**Ramite**	**53.71**	**273**	*e*P		**P**	**07**	**27**	**28.8 +0.4**
	comp=Z,103nm,0.5s								
KSH	**Kashi**	**53.77**	**292**	P		P	07	27	33.3 +4.7
KSH				pP		pP	07	27	49.6 +5.8
KSH				*e*sP		sP	07	27	56.0 +5.6
KSH				*e*PcP		**PcP**	**07**	**28**	**37.8 +3.9**
KSH				*e*PP		PP	07	29	37.1 +7.3
KSH				*e*ScP		**ScP**	**07**	**32**	**30.3 +3.6**
KSH				PcS		**PcS**	**07**	**32**	**35.0 +1.8**
KSH				S		**S**	**07**	**35**	**03.1 +4.2**
KSH				sS		sS	07	35	30.6 +6.0
KSH				ScS		**ScS**	**07**	**37**	**13.1 +0.3**
KSH				SS		**SS**	**07**	**38**	**44.3 +4.5**
KSH				pmax		pmax			
	comp=Z,14nm,1.3s								
KSH				pmax		pmax			
	comp=Z,130nm,6.1s								
KSH				LR		LR			
	comp=N,140nm,9.8s								
KSH				LR		LR			
	comp=E,180nm,5.1s								
KSH				LR		LR			
	comp=Z,200nm,12.6s								
SVE	**Sverdlovsk**	**53.77**	**317**	*e*P		**P**	**07**	**27**	**28.7 +0.6**
SVE				pmax		pmax			
	comp=Z,15nm,0.7s								
AML	**Almayashu**	**53.85**	**296**	P		**P**	**07**	**27**	**30.4 +0.9**
	SNR=6.8								
KKN	**Kakani**	**54.13**	**275**	*e*P		**P**	**07**	**27**	**32.0 +0.6**
	comp=Z,86nm,0.9s								
PKI	**Pulchoki**	**54.17**	**274**	*e*P		**P**	**07**	**27**	**32.3 +0.4**
DMN	**Daman**	**54.36**	**275**	*e*P		**P**	**07**	**27**	**33.8 +0.7**
	comp=Z,180nm,1.1s								
GKN	**Gorkha**	**54.45**	**275**	*e*P		**P**	**07**	**27**	**34.3 +0.6**
	comp=Z,139nm,0.8s								
DANN	**Dangsing**	**54.85**	**276**	*e*P		**P**	**07**	**27**	**37.6 +0.8**
	comp=Z,77nm,0.4s								
ARU	**Arti**	**54.97**	**317**	*c i*P		**P**	**07**	**27**	**34.7 -2.1**
ARU							07	28	36.7
ARU							07	29	35.1
ARU				S		**S**	**07**	**35**	**13.6 -0.5**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ARU	**Arti**	**54.97**	**317**	*e*P		**P**	**07**	**27**	**34.3 -2.5**
	comp=Z,12nm,0.6s								
ARU				*e*PcP		**PcP**	**07**	**28**	**38.0 +0.1**
HNR	**Honiara**	**55.22**	**169**	LR		LR	07	48	17.0
	comp=Z,262nm,18.4s,baz=322,slow=33								
KOLN	**Koldanda**	**55.32**	**276**	*e*P		**P**	**07**	**27**	**40.7 +0.7**
	comp=Z,97nm,1.0s								
KKAR	**Karatay Array**	**55.32**	**299**	*e*P		**P**	**07**	**27**	**40.0 +0.4**
KKAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**55.32**	**299**	*e*P		**P**	**07**	**27**	**40.0 +0.4**
	comp=Z,7.5nm,0.8s								
PYUN	**Piuthan**	**55.54**	**277**	*e*P		**P**	**07**	**27**	**42.3 +0.7**
	comp=Z,225nm,1.0s								
KSM	**Kuching**	**56.51**	**231**	*e*P		**P**	**07**	**27**	**50.0 +1.7**
	comp=Z,23nm,1.1s								
KSM	**Kuching**	**56.51**	**231**	P		**P**	**07**	**27**	**50.0 +1.7**
	comp=Z,26nm,0.9s								
KAPI	**Kappang**	**57.46**	**218**	P		**P**	**07**	**27**	**54.8 -0.2**
	comp=Z,5.0nm,0.8s,baz=49,slow=10,SNR=4.0								
KAPI	**Kappang**	**57.46**	**218**	*e*P		**P**	**07**	**27**	**54.7 -0.2**
	comp=Z,9.8nm,1.0s								
KAPI	**Kappang**	**57.46**	**218**	P		P	07	28	00.2 +5.2
	comp=Z,10nm,1.2s								
DAG	**Danmarks Havn**	**57.88**	**357**	*i* P		**P**	**07**	**27**	**55.7 -1.5**
	comp=Z,57nm,1.1s								
DAG				*i*			07	28	47.4
KEV	**Kevo**	**58.07**	**340**	*e*P		**P**	**07**	**27**	**56.2 -2.4**
KEV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**58.07**	**340**	*e*p		**P**	**07**	**27**	**56.2 -2.4**
	comp=Z,0.5nm,0.3s								
AKTO	**Aktyubinsk**	**58.48**	**311**	P		**P**	**07**	**28**	**00.5 -1.4**
	comp=Z,2.0nm,0.6s,baz=72,slow=5.5,SNR=9.6								
AKTO				PcP		**PcP**	**07**	**28**	**51.9 +0.1**
	comp=Z,4.3nm,0.7s,baz=50,slow=3.3,SNR=6.2								
AKTO	**Aktyubinsk**	**58.48**	**311**	P		**P**	**07**	**28**	**00.5 -1.4**
AKTO							07	28	51.9
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.6s								
AKTO	**Aktyubinsk**	**58.48**	**311**	P		**P**	**07**	**28**	**00.5 -1.4**
AKTO				PcP		**PcP**	**07**	**28**	**51.9 +0.1**
ARCES	**ARCESS Array B**	**58.59**	**340**	P		**P**	**07**	**28**	**01.6 -0.6**
	comp=Z,2.6nm,0.8s,baz=38,slow=7.7,SNR=10.0								
ARCES				PcP		**PcP**	**07**	**28**	**51.6 -0.3**
	comp=Z,8.7nm,0.9s,baz=12,slow=6.2,SNR=8.3								
ARCES				LR		LR	07	58	18.2
	comp=Z,213nm,19.0s,baz=200,slow=41								
ARCES	**ARCESS Array B**	**58.59**	**340**	P		**P**	**07**	**28**	**01.6 -0.6**
ARCES				PcP		**PcP**	**07**	**28**	**51.6 -0.3**
TMCR	**Tamitsa**	**58.79**	**332**	*e*P		**P**	**07**	**28**	**01.5 -2.2**
TMCR				pmax		pmax			
	comp=Z,15nm,0.8s								
NEW	**Newport**	**59.14**	**51**	*e*P		**P**	**07**	**28**	**06.6 +0.1**
	comp=Z,5.1nm,1.0s								
NEW	**Newport**	**59.14**	**51**	⇓P		**P**	**07**	**28**	**06.6 +0.1**
	baz=59,SNR=5.5								
KULM	**Kulim**	**59.17**	**243**	*e*P		**P**	**07**	**28**	**08.3 +1.3**
	comp=Z,15nm,1.0s								
A12A	**Yaak River Ran**	**59.55**	**50**	⇑P		**P**	**07**	**28**	**09.6 +0.2**
	baz=59								
C11A	**Tepee Creek (N**	**59.86**	**51**	⇑P		**P**	**07**	**28**	**11.6 +0.2**
	baz=60								
A13A	**Flathead Natio**	**60.22**	**49**	⇓P		**P**	**07**	**28**	**14.4 +0.4**
	baz=60,SNR=7.5								
C12B	**Naegeli Ranch,**	**60.36**	**51**	⇑P		**P**	**07**	**28**	**15.6 +0.7**
	baz=60								
WALA	**Waterton Lakes**	**60.41**	**49**	*e*P		**P**	**07**	**28**	**15.6 +0.3**
	comp=Z,0.3nm,1.0s								
B13A	**Whitefish**	**60.52**	**50**	⇓P		**P**	**07**	**28**	**16.8 +0.9**
	baz=60,SNR=12								
A14A	**Double T Ranch**	**60.72**	**49**	⇑P		**P**	**07**	**28**	**17.6 +0.1**
	baz=60								
C13A	**Hot Springs**	**60.87**	**50**	⇑P		**P**	**07**	**28**	**19.2 +0.7**
	baz=61,SNR=5.1								
JTMT	**Jette**	**60.99**	**50**	*e*P		**P**	**07**	**28**	**20.3 +1.0**
MOD	**Modoc**	**61.02**	**59**	*e*P		**P**	**07**	**28**	**20.0 +0.3**
	comp=Z,2.5nm,0.7s								
BMO	**Blue Mountains**	**61.03**	**54**	*e*P		**P**	**07**	**28**	**20.3 +0.7**
BMO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BMO	**Blue Mountains**	**61.03**	**54**	*e*P		**P**	**07**	**28**	**20.2 +0.7**
	comp=Z,3.0nm,1.0s								
E12A	**Beaver Dam Sad**	**61.08**	**52**	⇓P		**P**	**07**	**28**	**20.4 +0.4**
	baz=61,SNR=11								
A15A	**Johnson Ranch,**	**61.08**	**48**	⇓

comp=Z,15nm,1.0s
FFC **Flin Flon** 62.68 39 *e*P P 07 28 30.6 +0.3
comp=Z,15nm,1.0s
E15A **Deer Lodge** 62.68 51 ⇓P P 07 28 30.9 +0.2
baz=62,SNR=5.8
MFID **Camas Ranch** 62.75 55 ⇓P P 07 28 31.4 +0.3
baz=62
D16A **Dana Ranch, Ca** 62.90 50 ⇑P P 07 28 32.1 0.0
baz=63
I12A **Atlanta** 62.91 54 ⇓P P 07 28 32.4 +0.1
baz=63
H13A **Challis** 62.94 53 ⇑P P 07 28 32.6 +0.2
baz=63,SNR=7.1
C17A **Wharram Farm,** 62.94 49 ⇑P P 07 28 32.6 +0.3
baz=63,SNR=9.7
HRY **Holter Researc** 62.95 50 *e*P P 07 28 33.1 +0.7
B18A **Beardsley Farm** 62.98 48 ⇓P P 07 28 33.0 +0.4
baz=63,SNR=7.2
F15A **Butte** 63.13 51 ⇑P P 07 28 33.9 +0.2
baz=63,SNR=9.6
E16A **East Helena** 63.14 50 ⇑P P 07 28 33.9 +0.2
baz=63
LRM **Limekiln Ridge** 63.16 51 *e*P P 07 28 34.8 +0.8
A19A **Klindworth Far** 63.18 47 ⇓P P 07 28 34.0 +0.2
baz=63,SNR=6.4
EGMT **Eagleton** 63.23 48 *e*P P 07 28 34.5 +0.3
comp=Z,22nm,1.3s
EGMT **Eagleton** 63.23 48 ⇓P P 07 28 34.5 +0.3
baz=63,SNR=9.3
D17A **Six Diamond Ra** 63.28 49 ⇓P P 07 28 34.9 +0.3
baz=63
B19A **Brinkman Farms** 63.38 47 ⇑P P 07 28 35.7 +0.6
baz=63,SNR=9.4
H14A **Leadore** 63.40 53 ⇑P P 07 28 35.2 -0.3
baz=63
I13A **Wildhorse Cree** 63.42 54 ⇑P P 07 28 35.7 0.0
baz=63
HLID **Hailey** 63.47 54 *e*P P 07 28 36.9 +1.0
comp=Z,4.2nm,0.9s
HLID **Hailey** 63.47 54 ⇑P P 07 28 36.3 +0.3
baz=63
G15A **Dillon** 63.55 52 ⇓P P 07 28 36.8 +0.3
baz=63,SNR=6.1
MCMT **McKenzie Canyo** 63.56 52 *e*P P 07 28 36.5 -0.1
comp=Z,0.7nm,0.7s
E17A **Martinsdale** 63.63 50 ⇑P P 07 28 37.7 +0.7
baz=63,SNR=9.1
A20A **Cobblestone Ra** 63.63 46 ⇑P P 07 28 37.2 +0.4
baz=63,SNR=9.6
F16A **Kennard Place,** 63.64 51 ⇑P P 07 28 37.3 +0.3
baz=63,SNR=5.4
J13A **Cove Ranch, Pi** 63.70 54 ⇓P P 07 28 38.0 +0.5
baz=64
BOZ **Bozeman (W)** 63.72 51 *e*P P 07 28 38.4 +0.8
BOZ pmax pmax
comp=Z,4.0nm,0.7s
BOZ **Bozeman (W)** 63.72 51 *e*P P 07 28 38.4 +0.8
comp=Z,3.6nm,0.7s
BOZ **Bozeman (W)** 63.72 51 ⇑P P 07 28 38.2 +0.7
baz=64,SNR=8.4
C19A **Slack Wire Ran** 63.78 48 ⇑P P 07 28 38.5 +0.7
baz=64,SNR=14
H15A **Lima** 63.81 52 ⇑P P 07 28 38.5 +0.3
baz=64
B20A **Solberg Farm,** 63.86 47 ⇑P P 07 28 38.6 +0.3
baz=64,SNR=12
G16A **Moss Hill, Enn** 63.89 51 ⇓P P 07 28 39.2 +0.5
baz=64,SNR=11
KAF **Kangasniemi** 63.99 335 *e*P P 07 28 35.9 -2.9
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF **Kangasniemi** 63.99 335 *e*p P 07 28 35.9 -2.9
comp=Z,5.2nm,0.7s
A21A **Bergoll Ranch** 64.07 46 ⇑P P 07 28 40.3 +0.7
baz=64,SNR=9.8
F17A **Fitzpatrick Pl** 64.08 50 ⇓P P 07 28 40.6 +0.7
baz=64
J14A **Carey** 64.12 54 ⇑P P 07 28 41.6 +1.3
baz=64
D19A **Cripps Ranch,** 64.23 48 ⇑P P 07 28 41.5 +0.7
baz=64
C20A **Veseth Ranch,** 64.34 47 ⇑P P 07 28 42.4 +1.0
baz=64,SNR=12
NVAR **Mina Array Bea** 64.35 61 P P 07 28 42.2 +0.3
comp=Z,2.3nm,0.8s,baz=294,slow=6.9,SNR=15
NVAR **Mina Array Bea** 64.35 61 P P 07 28 42.2 +0.3
G17A **Pierce Place,** 64.41 51 ⇑P P 07 28 42.8 +0.7
baz=64
H16A **Russell Place,** 64.53 52 ⇑P P 07 28 43.7 +0.7
baz=64,SNR=5.1
FIA1 **FINESS Array S** 64.57 334 *e*P P 07 28 41.2 -1.4
A22A **Carney Farms,** 64.57 45 ⇓P P 07 28 43.5 +0.5
baz=64,SNR=12
FINES **FINESS Array B** 64.57 334 P P 07 28 40.7 -1.9
comp=Z,8.0nm,0.6s,baz=28,slow=8.6,SNR=22
FINES LR LR 07 59 00.5
comp=Z,258nm,18.1s,baz=321,slow=38
FINES **FINESS Array B** 64.57 334 P P 07 28 40.7 -1.9
F18A **Big Timber** 64.59 50 ⇓P P 07 28 44.2 +0.9
baz=64,SNR=6.8
D20A **Manuel Ranch,** 64.67 48 ⇑P P 07 28 44.5 +0.8
baz=64,SNR=12
J15A **Blackfoot** 64.69 53 ⇓P P 07 28 44.9 +1.0
baz=64,SNR=7.3
C21A **Desert Coulee** 64.73 47 ⇓P P 07 28 44.6 +0.6
baz=64,SNR=5.4
E19A **Rath Farm, Rou** 64.73 49 ⇑P P 07 28 44.9 +0.8
baz=64,SNR=5.5
K14A **Jones Ranch, D** 64.81 54 ⇓P P 07 28 45.6 +0.9
baz=65
I16A **Newdale** 64.92 52 ⇓P P 07 28 46.3 +0.8
baz=65
F19A **Roth Farm, Mol** 65.04 49 ⇑P P 07 28 47.2 +1.1
baz=65,SNR=7.7
E20A **Meyer Farm, Mu** 65.05 48 ⇓P P 07 28 47.1 +1.0
baz=65
G18A **Lazy EL Ranch,** 65.05 50 ⇑P P 07 28 47.0 +0.7
baz=65
LKWY **Lake** 65.08 51 *e*P P 07 28 49.0 +2.4
LKWY **Lake** 65.08 51 *e*P P 07 28 49.0 +2.4
K15A **Arbon** 65.09 54 ⇑P P 07 28 47.8 +1.2
baz=65
H17A **Grant Village** 65.09 51 ⇑P P 07 28 48.6 +1.9
baz=65,SNR=6.0
L14A **Malta** 65.10 55 ⇓P P 07 28 47.9 +1.3
baz=65
IMW **Indian Meadow** 65.21 52 *e*P P 07 28 48.7 +1.2
comp=Z,9.0nm,1.2s
J16A **Bone** 65.23 53 ⇓P P 07 28 48.7 +1.1
baz=65,SNR=8.3
D21A **La Casta Ranch** 65.28 47 ⇑P P 07 28 48.4 +0.8
baz=65,SNR=5.7
RLMT **Red Lodge** 65.34 50 *e*P P 07 28 49.0 +0.8
comp=Z,2.4nm,0.4s
RLMT **Red Lodge** 65.34 50 ⇓P P 07 28 49.1 +0.9
baz=65,SNR=6.4
RRI2 **Red Ridge** 65.35 53 *e*P P 07 28 49.6 +1.3
comp=Z,9.7nm,0.9s
B23A **Brockton** 65.38 45 ⇓P P 07 28 48.8 +0.5
baz=65,SNR=5.4
I17A **Pilgrim Ck.** 65.40 52 ⇑P P 07 28 49.6 +1.0
baz=65
C22A **Vida** 65.40 46 ⇓P P 07 28 48.4 +0.1
baz=65
H18A **Shoshone NF, C** 65.41 51 ⇑P P 07 28 49.6 +0.9
baz=65
MOOW **Moose Ponds** 65.41 52 *e*P P 07 28 49.8 +1.1
comp=Z,8.2nm,1.2s
TPAW **Teton Pass** 65.47 52 *e*P P 07 28 50.4 +1.2
comp=Z,13nm,1.1s
K16A **Soda Springs** 65.53 53 ⇓P P 07 28 50.5 +1.0
baz=65
OBN **Obninsk** 65.53 325⇑ *e*P P 07 28 48.3 -0.6
OBN *e* 07 31 12.2
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,200nm,17.0s
HYB **Hyderabad** 65.53 270 *i*P P 07 28 49.0 -0.6
A24A **Westby** 65.57 44 ⇑P P 07 28 49.9 +0.5
baz=65
LOHW **Long Hollow** 65.58 52 *e*P P 07 28 50.7 +0.9
comp=Z,2.9nm,0.8s
SNOW **Snow King Moun** 65.59 52 *e*P P 07 28 51.3 +1.4
comp=Z,11nm,1.3s
REDW **Red Top Meadow** 65.60 52 *e*P P 07 28 51.1 +1.2
comp=Z,11nm,1.3s
D22A **Cohagen** 65.64 47 ⇓P P 07 28 50.5 +0.6
baz=65
J17A **Brown Place, J** 65.68 52 ⇑P P 07 28 51.6 +1.1
baz=65,SNR=7.1
C23A **Lambert** 65.72 46 ⇑P P 07 28 51.0 +0.6
baz=65
DGMT **Dagmar** 65.77 45 *e*P P 07 28 50.5 -0.2
comp=Z,16nm,1.1s
DGMT **Dagmar** 65.77 45 ⇑P P 07 28 50.8 +0.1
baz=66
H19A **Powell** 65.78 50 ⇓P P 07 28 51.7 +0.7
baz=66
GRAC **Grapevine Rang** 65.83 61 ⇑P P 07 28 52.3 +1.0
baz=66
G20A **Bridger** 65.84 50 ⇓P P 07 28 51.8 +0.4
baz=66
M15A **Larsen Ranch,** 65.92 55 ⇓P P 07 28 52.6 +0.7
baz=66
I18A **Diamond G Ranc** 65.96 52 ⇓P P 07 28 53.2 +0.9
baz=66,SNR=5.2
K17A **Gardner Place,** 65.96 53 ⇓P P 07 28 52.6 +0.4
baz=66
ISA **Isabella** 65.99 63 ⇓P P 07 28 52.3 -0.1
baz=66
R11A **Troy Canyon, C** 66.06 59 ⇓P P 07 28 53.3 +0.4
baz=66,SNR=6.7
ARVC **Arvin** 66.11 64 ⇑P P 07 28 54.3 +1.2
baz=66
D23A **Lindsay** 66.13 46 ⇓P P 07 28 53.5 +0.4
baz=66,SNR=6.3
L16A **Fish Haven** 66.14 54 ⇑P P 07 28 53.7 +0.3
baz=66
J18A **Kendall Valley** 66.16 52 ⇓P P 07 28 54.0 +0.4
baz=66
VRHR **Novokhopersk** 66.16 319 *e*P P 07 28 49.7 -3.4
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=E,6.0nm,0.4s
I19A **Meeteetse** 66.19 51 ⇑P P 07 28 54.3 +0.6
baz=66
E22A **Miles City** 66.23 47 ⇑P P 07 28 54.4 +0.7
baz=66
C24A **Savage** 66.29 46 ⇓P P 07 28 54.8 +0.8
baz=66
HWUT **Hardware Ranch** 66.33 54 *e*P P 07 28 55.6 +1.0
comp=E,4.4nm,1.1s
MPMC **Manual Prospec** 66.35 62 ⇑P P 07 28 55.4 +0.6
baz=66
G21A **Lodge Grass** 66.38 49 ⇑P P 07 28 54.8 +0.1
baz=66
L17A **Cokeville** 66.41 54 ⇓P P 07 28 55.3 +0.2
baz=66
H20A **Greybull** 66.44 50 ⇑P P 07 28 55.2 +0.1
baz=66
FURC **Furnace Creek,** 66.48 61 ⇓P P 07 28 56.6 +1.2
baz=66
F22A **Rosebud** 66.51 48 ⇓P P 07 28 56.0 +0.5
baz=66,SNR=8.0
DUG **Dugway** 66.52 56 *e*P P 07 28 56.6 +0.8
DUG pmax pmax
comp=Z,4.0nm,1.1s
DUG **Dugway** 66.52 56 *e*P P 07 28 56.6 +0.8
comp=Z,3.8nm,1.1s
DUG **Dugway** 66.52 56 ⇑P P 07 28 56.5 +0.8
baz=66,SNR=5.9
K18A **Toltan Ranch,** 66.52 53 ⇓P P 07 28 56.4 +0.5
baz=66
E23A **Ismay** 66.53 47 ⇓P P 07 28 56.2 +0.6
baz=66
D24A **Glendive** 66.61 46 ⇓P P 07 28 56.7 +0.6
baz=66,SNR=8.9
J19A **Crowheart** 66.66 52 ⇓P P 07 28 57.6 +0.9
baz=66,SNR=7.2
SFJD **Kangerlussuaq** 66.68 9 LR LR 07 57 53.5
comp=Z,161nm,18.8s,baz=347,slow=36
SFJD **Kangerlussuaq** 66.68 9 *i*P P 07 28 55.5 -0.6
comp=Z,6.9nm,0.8s
BW06 **Boulder Array** 66.71 52 *e*P P 07 28 57.1 0.0
comp=Z,8.1nm,1.1s
BW06 **Boulder Array** 66.71 52 ⇓P P 07 28 57.3 +0.2
baz=66,SNR=7.5
PDAR **Pinedale Array** 66.71 52 P P 07 28 56.8 -0.3
comp=Z,4.3nm,0.8s,baz=302,slow=2.0,SNR=34
PDAR **Pinedale Array** 66.71 52 P P 07 28 56.8 -0.3
I20A **Worland** 66.72 51 ⇑P P 07 28 57.5 +0.6
baz=66
EDW2 **Edwards Air Fo** 66.80 63 ⇑P P 07 28 58.4 +0.9
baz=67
WRAB **Tennant Creek** 66.81 197 *e*P P 07 28 57.5 0.0
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 66.81 197 *e*P P 07 28 57.5 0.0
comp=Z,18nm,0.9s
WRA **Warramunga Arr** 66.82 197 P P 07 28 57.9 +0.3
comp=Z,13nm,0.8s,baz=16,slow=6.8,SNR=73
WRA LR LR 07 54 37.8
comp=Z,95nm,20.0s,baz=160,slow=33
WRA **Warramunga Arr** 66.82 197 P P 07 28 57.9 +0.3
H21A **Big Horn, Sher** 66.86 49 ⇓P P 07 28 58.3 +0.4
baz=67,SNR=10.0
G22A **Birney** 66.86 49 ⇓P P 07 28 58.1 +0.3
baz=67
N16A **Rees Ranch, Co** 66.87 55 ⇑P P 07 28 58.8 +0.7
baz=67
F23A **Volborg** 66.99 48 ⇑P P 07 28 59.1 +0.4
baz=67,SNR=11
L18A **Fontenelle, Gr** 66.99 53 ⇑P P 07 28 59.6 +0.8
baz=67
K19A **Alton Red Bu** 67.07 52 ⇑P P 07 28 59.1 -0.2
baz=67
J20A **Shoshoni** 67.14 51 ⇓P P 07 29 00.2 +0.6
baz=67,SNR=7.7
R13A **O'Grain Ranch,** 67.14 58 ⇓P P 07 29 00.0 +0.2
baz=67
N17A **Moffit Pass** 67.18 54 ⇑P P 07 29 00.5 +0.4
baz=67,SNR=9.2
VSR **Storozhevoye** 67.19 321 *e*P P 07 28 58.9 -0.7
P15A **Leamington** 67.24 56 ⇓P P 07 29 01.0 +0.6
baz=67
L19A **Farson** 67.26 53 ⇓P P 07 29 00.8 +0.3
baz=67
I21A **Big Trails, Te** 67.26 50 ⇑P P 07 29 00.9 +0.4
baz=67,SNR=10
M18A **Lyman** 67.30 54 ⇓P P 07 29 01.2 +0.4
baz=67
FITZ **Fitzroy Crossi** 67.31 206 P P 07 29 01.7 +1.1
comp=Z,7.0nm,0.7s,baz=349,slow=1.3,SNR=5.4
FITZ **Fitzroy Crossi** 67.31 206 P P 07 29 01.7 +1.1
G23A **Biddle** 67.35 48 ⇑P P 07 29 01.1 +0.2
baz=67,SNR=7.0
F24A **Ekalaka** 67.41 47 ⇓P P 07 29 01.4 +0.2
baz=67,SNR=7.8
K20A **Yellowstone Ra** 67.46 52 ⇑P P 07 29 01.5 -0.2
baz=67
J21A **Lysite** 67.49 51 ⇓P P 07 29 02.1 +0.1
baz=67,SNR=5.3
I22A **9 Mile Ranch,** 67.65 50 ⇓P P 07 29 03.3 +0.4
baz=67,SNR=5.9
O17A **Robinson Place** 67.73 55 ⇑P P 07 29 04.0 +0.4
baz=68
TUQ **Turquoise Moun** 67.73 62 ⇓P P 07 29 03.8 +0.3
baz=68
G24A **Alzada** 67.77 48 ⇓P P 07 29 03.6 0.0
baz=68
N18A **Larsen Ranch,** 67.82 54 ⇓P P 07 29 04.2 +0.1
baz=68
HEC **Hecor,Ludlow** 67.87 63 ⇑P P 07 29 04.8 +0.5
baz=68
CCUT **Cedar City** 67.92 59 *e*P P 07 29 05.8 +1.0
comp=Z,5.6nm,1.2s
J22A **Midwest** 67.97 50 ⇓P P 07 29 05.5 +0.5
baz=68,SNR=7.6
AFI **Afiamalu** 68.01 141 LR LR 07 56 19.2
comp=Z,110nm,20.3s,baz=302,slow=34
K21A **Alcova** 68.07 51 ⇑P P 07 29 05.8 +0.1
baz=68,SNR=8.9
H24A **Dirks Ranch, A** 68.09 48 ⇓P P 07 29 05.4 -0.2
baz=68,SNR=6.3
POO **Poona** 68.10 274⇑ *i*x P 07 29 04.0 -1.9
comp=Z,40nm,1.0s
O18A **Roosevelt** 68.10 55 ⇑P P 07 29 06.6 +0.8
baz=68,SNR=5.4
MURC **Murrieta** 68.12 64 ⇑P P 07 29 06.2 +0.4
baz=68
N19A **John Jarvie Ra** 68.16 54 ⇓P P 07 29 06.0 -0.2
baz=68
P17A **Butcher Ranch,** 68.20 56 ⇑P P 07 29 06.7 +0.3
baz=68
M20A **Sweetwater, Wa** 68.32 53 ⇓P P 07 29 07.6 +0.4
baz=68
Q16A **Castle Valley** 68.32 56 ⇓P P 07 29 07.9 +0.6
baz=68
GMRC **Granite Mounta** 68.32 62 ⇓P P 07 29 07.6 +0.4
baz=68
P18A **Preston Nutter** 68.39 55 ⇑P P 07 29 07.8 0.0
baz=68
MDND **Maddock** 68.44 43 ⇑P P 07 29 07.8 +0.2
baz=68
L21A **Rawlins** 68.46 52 ⇑P P 07 29 08.4 +0.4
baz=68
ULM **Lac du Bonnet** 68.47 39 P P 07 29 07.2 -0.5
comp=Z,3.3nm,0.5s,baz=303,slow=7.0,SNR=9.1
ULM **Lac du Bonnet** 68.47 39 P P 07 29 07.2 -0.5
SRU **San Rafael** 68.57 56 *e*P P 07 29 09.6 +0.8
SRU pmax pmax
comp=Z,8.0nm,1.0s
SRU **San Rafael** 68.57 56 *e*P P 07 29 09.6 +0.8
comp=Z,8.5nm,1.0s
SRU **San Rafael** 68.57 56 ⇑P P 07 29 09.0 +0.3
baz=68,SNR=8.1
O19A **Miners Draw (B** 68.58 54 ⇑P P 07 29 08.8 0.0
baz=68
BELC **Belle Mtn. Jos** 68.62 63 ⇑P P 07 29 08.9 -0.2
baz=68
DZM **Mont Dzumac** 68.66 165 *e*LR LR 07 50 03.0
comp=Z,200nm,23.9s
DZM **Mont Dzumac** 68.66 165 LR LR 07 59 48.8
comp=Z,238nm,18.3s,baz=30,slow=36
KAD **Karad** 68.68 273 *i*x P 07 29 09.5 -0.1
M21A **Separation Pea** 68.70 52 ⇓P P 07 29 09.5 -0.2
baz=68
N20A **Spence Gulch,** 68.72 53 ⇑P P 07 29 10.6 +0.9
baz=68,SNR=6.9
RSSD **Black Hills** 68.79 48 *e*P P 07 29 09.6 -0.5
RSSD pmax pmax
comp=Z,1nm,1.3s
RSSD **Black Hills** 68.79 48 *e*P P 07 29 09.6 -0.5
comp=Z,1nm,1.3s
K23A **Bowen Ranch, D** 68.88 50 ⇑P P 07 29 10.1 -0.5
baz=69
L22A **Ellis Ranch, M** 68.93 51 ⇑P P 07 29 11.7 +0.7
baz=69,SNR=6.5
NB2 **NORSAR Subarra** 68.97 340 P P 07 29 09.6 -1.1
comp=Z,4.8nm,0.6s,baz=28,slow=6.5
NOA **NORSAR Array B** 68.97 340 P P 07 29 09.6 -1.1
comp=Z,5.3nm,0.5s,baz=28,slow=6.4,SNR=29
NOA **NORSAR Array B** 68.97 340 P P 07 29 09.6 -1.1
IRM **Iron Mountain** 69.04 62 ⇓P P 07 29 12.1 +0.4
baz=69
P19A **Cripple Cowboy** 69.11 54 ⇑P P 07 29 12.5 +0.3
baz=69,SNR=6.6
HFS **Hagfors** 69.14 339 LR LR 08 02 29.2
comp=Z,258nm,21.3s,baz=28,slow=38
N21A **Black Mountain** 69.18 53 ⇑P P 07 29 12.6 0.0
baz=69
BC3 **Big Chuckawall** 69.19 63 ⇑P P 07 29 12.8 +0.2
baz=69
O20A **White River Ci** 69.20 54 ⇓P P 07 29 12.6 -0.1
baz=69
W13A **Hualapai Mount** 69.21 61 ⇓P P 07 29 13.4 +0.5
baz=69
M22A **Cedar Creek Ra** 69.26 52 ⇓P P 07 29 13.7 +0.6
baz=69,SNR=9.0
L23A **Garrett** 69.27 51 ⇑P P 07 29 12.8 -0.3
baz=69
U15A **North Rim** 69.30 59 ⇑P P 07 29 14.3 +0.9
baz=69,SNR=9.0
S17A **Black Ridge (B** 69.39 57 ⇑P P 07 29 14.4 +0.6
baz=69,SNR=6.2
Q19A **Hogan Spring (** 69.40 55 ⇑P P 07 29 14.1 +0.2
baz=69,SNR=8.0
P20A **De Beque** 69.54 54 ⇑P P 07 29 14.8 0.0
baz=69
PDMCI **Parker Dam,Lak** 69.58 62 ⇓P P 07 29 15.3 +0.4
baz=69
Y12C **Blythe** 69.70 62 ⇓P P 07 29 16.5 +0.8
baz=70
S18A **Hurst Farm, Bl** 69.82 57 ⇑P P 07 29 16.9 +0.2
baz=70,SNR=5.7
AGMN **Jagasse Nation** 69.88 41 *e*P P 07 29 16.0 -0.6
comp=Z,21nm,1.3s
PV10 **Paradox Valley** 69.92 56 *e*P P 07 29 18.0 +0.8
comp=Z,272nm,0.9s
Q20A **Ridgley Place,** 69.96 55 ⇓P P 07 29 17.5 +0.1
baz=70,SNR=5.3
N23A **Red Feather La** 69.97 52 ⇓P P 07 29 18.1 +0.5
baz=70,SNR=5.0
BORG **Borgarnes** 69.98 356 LR LR 08 02 13.6
comp=Z,118nm,18.4s,baz=315,slow=38
P21A **Newcastle** 70.06 54 ⇑P P 07 29 18.6 +0.5
baz=70,SNR=10
O22A **Kremmling** 70.13 53 ⇑P P 07 29 18.4 -0.2
baz=70
M24A **Cheyenne** 70.19 51 ⇓P P 07 29 19.4 +0.6
baz=70
K26A **Motz Farm, Whi** 70.22 49 ⇑P P 07 29 19.0 +0.2
baz=70
PV01 **Paradox Valley** 70.36 55 *e*P P 07 29 20.1 +0.2
comp=Z,221nm,0.8s
P22A **Eagle** 70.40 53 ⇓P P 07 29 20.1 0.0
baz=70
R20A **Redvale** 70.43 55 ⇑P P 07 29 20.7 +0.3
baz=70
O23A **Lake Granby, G** 70.45 52 ⇓P P 07 29 21.7 +1.2
baz=70,SNR=10.0
Q21A **Lamborn Mesa,** 70.45 54 ⇑P P 07 29 20.8 +0.3
baz=70
WUAZ **Wupatki** 70.46 59 ⇓P P 07 29 21.1 +0.6
baz=70
Y14A **Wickenburg** 70.52 61 ⇑P P 07 29 21.3 +0.6
baz=70
AS31 **Alice Springs** 70.52 197 *e*P P 07 29 22.0 +1.4
ASAR **Alice Springs** 70.52 197 P P 07 29 21.9 +1.4
comp=Z,9.4nm,0.8s,baz=13,slow=5.8,SNR=73
ASAR LR LR 07 55 38.0
comp=Z,145nm,20.7s,baz=357,slow=32
ASAR **Alice Springs** 70.52 197 P P 07 29 21.9 +1.4
SMCO **Snowmass** 70.56 54 *e*P P 07 29 21.7 +0.4
comp=Z,4.9nm,0.8s
KIV **Kislovodsk** 70.63 313⇓ *i*P P 07 29 22.0 +0.7
KIV pmax pmax
comp=Z,29nm,0.8s
KIV MLR MLR
comp=Z,200nm,17.0s
M25A **Palm-Egli Farm** 70.63 50 ⇑P P 07 29 21.8 +0.4
baz=70
KBZ **Khabaz** 70.68 313 P P 07 29 22.5 +1.1
comp=Z,22nm,0.8s,baz=66,slow=3.0,SNR=40
KBZ LR LR 08 04 22.8
comp=Z,461nm,19.8s,baz=50,slow=39
KBZ **Khabaz** 70.68 313 P P 07 29 22.5 +1.1
KBZ pmax pmax
comp=Z,22nm,0.9s
KBZ MLR MLR
comp=Z,461nm,19.8s
KBZ **Khabaz** 70.68 313 P P 07 29 22.5 +1.1
S20A **Disappointment** 70.69 56 ⇑P P 07 29 22.3 +0.4
baz=70,SNR=5.3
K27A **Flueckinger Fa** 70.72 48 ⇑P P 07 29 21.9 +0.1
baz=70
R21A **Cimarron** 70.79 55 ⇑P P 07 29 23.3 +0.8
baz=70,SNR=14
Q22A **Crested Butte,** 70.81 54 ⇑P P 07 29 23.4 +0.7
baz=71,SNR=9.4
ZEI **Tsey** 70.83 312 *e*P P 07 29 21.9 -0.8
ZEI pmax pmax
comp=Z,17nm,1.2s
ISCO **Idaho Springs** 70.90 52 *e*P P 07 29 24.3 +1.0
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO **Idaho Springs** 70.90 52 *e*P P 07 29 24.3 +1.0
comp=Z,5.8nm,0.8s
ISCO **Idaho Springs** 70.90 52 ⇑P P 07 29 24.0 +0.8
baz=71,SNR=8.2
Z14A **Wintersburg** 70.94 62 ⇑P P 07 29 24.1 +0.8
baz=71
O24A **Longmont** 70.98 52 ⇓P P 07 29 24.3 +0.7
baz=71
MVCO **Mesa Verde** 71.03 56 *e*P P 07 29 24.6 +0.6
comp=Z,3.4nm,0.8s
MVCO **Mesa Verde** 71.03 56 ⇑P P 07 29 24.3 +0.3
baz=71
PALK **Pallekele** 71.04 261 *e*P P 07 29 24.5 +0.4
comp=Z,16nm,1.0s

PALK **Pallekele** 71.04 261 P P 07 29 24.8 +0.7
comp=Z,20nm,1.3s
N25A **Grover** 71.04 51 ⇓P P 07 29 24.5 +0.5
baz=71
P23A **Jefferson** 71.07 53 ⇑P P 07 29 25.2 +0.9
baz=71
S21A **Coal Bank Pass** 71.13 55 ⇑P P 07 29 25.8 +1.1
baz=71,SNR=8.4
X16A **Lo Mia Camp, P** 71.16 60 ⇓P P 07 29 25.9 +1.1
baz=71,SNR=8.7
U19A **Dine' College,** 71.23 57 ⇑P P 07 29 26.1 +0.9
baz=71,SNR=8.6
R22A **Saguache, Gunn** 71.34 54 ⇓P P 07 29 27.0 +1.1
baz=71,SNR=9.3
P24A **Kohler Place,** 71.49 52 ⇑P P 07 29 27.1 +0.4
baz=71
N26A **Koester Ranch,** 71.50 50 ⇑P P 07 29 27.0 +0.3
baz=71
S22A **4UR Ranch, Cre** 71.63 55 ⇓P P 07 29 28.6 +1.0
baz=71,SNR=9.3
T21A **Navajo Lake** 71.74 56 ⇓P P 07 29 29.1 +0.9
baz=72
Q24A **Divide** 71.74 53 ⇑P P 07 29 28.5 +0.2
baz=72
AKASG **Malin Array Be** 71.79 325 P P 07 29 26.8 -1.2
comp=Z,3.4nm,0.4s,baz=34,slow=6.0,SNR=12
AKASG LR LR 08 02 59.4
comp=Z,254nm,20.1s,baz=30,slow=38
AKASG **Malin Array Be** 71.79 325 P P 07 29 26.8 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG MLR MLR
comp=Z,255nm,20.1s
AKASG **Malin Array Be** 71.79 325 P P 07 29 26.8 -1.2
KIEV **Kiev** 71.80 325 eP P 07 29 27.0 -1.1
KIEV pmax pmax
comp=Z,19nm,1.4s
KIEV **Kiev** 71.80 325 eP P 07 29 27.0 -1.1
comp=Z,19nm,1.4s
O26A **Horse Wrangler** 71.86 51 ⇓P P 07 29 28.8 0.0
baz=72
N27A **Anderson Farm,** 71.89 50 ⇓P P 07 29 29.3 +0.3
baz=72,SNR=5.2
R23A **Moffat** 71.89 54 ⇑P P 07 29 30.0 +0.7
baz=72,SNR=9.5
214A **Organ Pipe Nat** 71.97 63 ⇑P P 07 29 29.9 +0.4
baz=72
V20A **Brimhall** 72.01 57 ⇑P P 07 29 30.4 +0.5
baz=72
U21A **Nageezi** 72.05 56 ⇑P P 07 29 30.1 0.0
baz=72
OGNE **Ogallala** 72.06 50 eP P 07 29 30.1 +0.1
comp=Z,54nm,1.0s
OGNE **Ogallala** 72.06 50 ⇑P P 07 29 30.3 +0.4
baz=72,SNR=7.6
T22A **Edith** 72.09 55 ⇓P P 07 29 30.9 +0.6
baz=72,SNR=5.2
EYMN **Ely** 72.11 39 eP P 07 29 29.4 -0.6
comp=Z,11nm,1.0s
S23A **Nye Farm, Mont** 72.13 54 ⇓P P 07 29 31.6 +1.0
baz=72,SNR=6.5
MBWA **Marble Bar** 72.14 211 eP P 07 29 30.7 +0.4
comp=Z,8.4nm,0.9s
GNI **Garni** 72.23 309 eP P 07 29 32.5 +1.5
comp=Z,18nm,0.8s
R24A **Sanders Place,** 72.27 53 ⇓P P 07 29 32.0 +0.6
baz=72,SNR=8.1
Q25A **Bedland, Calha** 72.28 52 ⇓P P 07 29 31.6 +0.1
baz=72,SNR=6.6
P26A **Davis Ranch, A** 72.33 51 ⇑P P 07 29 31.7 +0.1
baz=72
O27A **Beecher Island** 72.36 50 ⇑P P 07 29 31.6 -0.1
baz=72
W20A **Ramah** 72.45 58 ⇓P P 07 29 33.0 +0.4
baz=72
V21A **Milan** 72.49 57 ⇓P P 07 29 33.3 +0.5
baz=72
U22A **Llaves** 72.56 56 ⇓P P 07 29 33.8 +0.6
baz=72
T23A **Casias Ranch,** 72.57 55 ⇓P P 07 29 33.8 +0.5
baz=72
S24A **Houchin Ranch,** 72.62 54 ⇑P P 07 29 33.8 +0.2
baz=72
ANN **Anapa** 72.63 317 eP P 07 29 29.6 -3.5
ANN pmax pmax
comp=Z,47nm,1.2s
Q26A **Hugo** 72.68 52 ⇑P P 07 29 33.7 0.0
baz=72
P27A **Ficken Ranch,** 72.75 51 ⇑P P 07 29 33.7 -0.4
baz=72
R25A **Fountain Ranch** 72.80 53 ⇑P P 07 29 34.7 +0.3
baz=72,SNR=7.2
V22A **San Miguel Ran** 72.84 56 ⇑P P 07 29 35.2 +0.4
baz=73
ECSD **EROS Data Cent** 72.85 45 eP P 07 29 34.1 -0.4
comp=Z,12nm,0.9s
X20A **Quemado** 72.85 58 ⇓P P 07 29 36.0 +1.1
baz=73,SNR=7.5
W21A **San Fidel** 72.96 57 ⇑P P 07 29 35.6 0.0
baz=73
U23A **El Rito** 72.97 55 ⇑P P 07 29 36.5 +0.8
baz=73,SNR=19
TUC **Tucson** 72.99 61 eP P 07 29 36.1 +0.5
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC **Tucson** 72.99 61 eP P 07 29 36.1 +0.5
comp=Z,4.2nm,1.1s
S25A **Robets Cordova** 73.05 53 ⇓P P 07 29 35.7 -0.3
baz=73
KSCO **Kaye Shedlock'** 73.11 51 ⇑P P 07 29 36.9 +0.6
baz=73
T24A **Torres, Weston** 73.11 54 ⇑P P 07 29 36.7 +0.2
baz=73
R26A **Arlington** 73.16 52 ⇑P P 07 29 36.8 +0.3
baz=73,SNR=7.6
X21A **Alamocita Cree** 73.34 58 ⇓P P 07 29 38.8 +0.9
baz=73,SNR=7.5
Y20A **Horse Springs,** 73.36 59 ⇑P P 07 29 39.1 +1.2
baz=73,SNR=7.4
V23A **Ortiz Mt. (NFS** 73.39 56 ⇑P P 07 29 39.3 +1.2
baz=73,SNR=7.0
T25A **Trinidad** 73.43 54 ⇓P P 07 29 38.5 +0.2
baz=73,SNR=5.3
U24A **Moreno Valley** 73.44 55 ⇑P P 07 29 39.0 +0.5
baz=73
R27A **Eads** 73.53 52 ⇓P P 07 29 39.1 +0.4
baz=73,SNR=5.1
S26A **Kim** 73.62 53 ⇑P P 07 29 39.1 -0.2
baz=73
Y21A **Point of Rocks** 73.71 58 ⇑P P 07 29 41.1 +1.0
baz=74
LAZ **Ladron** 73.76 57 eP P 07 29 41.0 +0.8
comp=Z,3.7nm,1.1s
X22A **Bernardo** 73.76 57 ⇓P P 07 29 41.3 +1.1
baz=74
Z20A **Nine Sixteen R** 73.78 59 ⇓P P 07 29 41.1 +0.8
baz=74
ANMO **Albuquerque** 73.78 57 eP P 07 29 40.4 0.0
comp=Z,4.0nm,1.0s
W23A **Werner Place,** 73.81 56 ⇓P P 07 29 41.3 +0.8
baz=74
T26A **Comanche Natio** 73.87 53 ⇓P P 07 29 40.7 -0.2
baz=74,SNR=13
V24A **Rampart Ranch,** 73.93 55 ⇑P P 07 29 42.0 +0.7
baz=74,SNR=6.7
U25A **Circle Dot Ran** 73.95 54 ⇓P P 07 29 41.7 +0.4
baz=74,SNR=6.7
120A **U Bar Ranch, L** 74.15 60 ⇑P P 07 29 43.3 +0.8
baz=74,SNR=6.3
Y22A **Socorro** 74.18 58 ⇑P P 07 29 43.0 +0.2
baz=74
X23A **Hourglass Bar** 74.19 57 ⇓P P 07 29 43.6 +0.8
baz=74,SNR=9.2
Z21A **St. Cloud Mine** 74.20 59 ⇓P P 07 29 44.1 +1.2
baz=74,SNR=7.7
W24A **Lazy 6 Ranch,** 74.21 56 ⇑P P 07 29 43.6 +0.8
baz=74,SNR=13
V25A **Rancho No Teng** 74.23 55 ⇑P P 07 29 43.3 +0.4
baz=74
T27A **Campo** 74.44 53 ⇑P P 07 29 44.1 0.0
baz=74
319A **Douglas** 74.56 61 ⇓P P 07 29 45.5 +0.7
baz=74,SNR=9.8
220A **Playas Peak, P** 74.66 60 ⇓P P 07 29 45.9 +0.5
baz=74,SNR=8.4
Z22A **Elephant Butte** 74.66 58 ⇑P P 07 29 46.0 +0.5
baz=74,SNR=12
121A **Cookes Peak, D** 74.67 59 ⇓P P 07 29 46.2 +0.7
baz=74,SNR=10
Y23A **Lovelace Mesa,** 74.73 57 ⇓P P 07 29 46.7 +0.8
baz=74,SNR=11
V26A **Tequesquite Ra** 74.73 54 ⇓P P 07 29 45.5 -0.3
baz=74
T28A **Walsh** 74.74 52 ⇓P P 07 29 45.8 +0.1
baz=74
W25A **X Bar L Ranch,** 74.75 55 ⇓P P 07 29 46.5 +0.6
baz=74,SNR=10
221A **Mesquite Ranch** 75.04 60 ⇓P P 07 29 48.1 +0.5
baz=75
320A **Kipp Ranch, An** 75.05 61 ⇑P P 07 29 48.4 +0.6
baz=75
SCHQ **Schefferville** 75.07 22 P P 07 29 46.7 -0.5
comp=Z,6.6nm,0.8s,baz=345,slow=5.9,SNR=7.0
SCHQ LR LR 08 02 42.6
comp=Z,134nm,18.9s,baz=316,slow=36
SCHQ **Schefferville** 75.07 22 P P 07 29 46.7 -0.5
Z23A **Rita Site, Whi** 75.09 58 ⇓P P 07 29 48.6 +0.7
baz=75
Y24A **Capitan** 75.10 57 ⇓P P 07 29 48.6 +0.6
baz=75,SNR=10
X25A **Clemmons Ranch** 75.13 56 ⇑P P 07 29 48.7 +0.6
baz=75,SNR=10
KWP **Kalwaria Pacla** 75.16 328 eP P 07 29 48.5 +0.6
KWP **Kalwaria Pacla** 75.16 328 ⇓P P 07 29 47.4 -0.5
KWP **Kalwaria Pacla** 75.16 328 ⇓iP P 07 29 47.4 -0.5
KWP **Kalwaria Pacla** 75.16 328 eP P 07 29 48.5 +0.6
W26A **Owens Ranch, T** 75.25 55 ⇑P P 07 29 49.4 +0.6
baz=75
MDO **Dochfour** 75.43 347 eP P 07 29 48.2 -1.0
MDO **Dochfour** 75.43 347 P P 07 29 48.2 -1.0
KAC **Achnashellach** 75.52 347 eP P 07 29 49.5 -0.3
KAC **Achnashellach** 75.52 347 P P 07 29 49.5 -0.3
Y25A **Mesa, Roswell** 75.53 56 ⇑P P 07 29 50.8 +0.4
baz=75,SNR=5.6
Z24A **Sheeppen Canyo** 75.56 57 ⇑P P 07 29 51.0 +0.3
baz=75,SNR=5.5
X26A **CR and CF Fran** 75.60 55 ⇓P P 07 29 51.6 +0.7
baz=75
W27A **Bowe Ranch, En** 75.67 54 ⇓P P 07 29 51.9 +0.7
baz=75
OJC **Ojcow** 75.72 330 eP P 07 29 50.8 -0.3
OJC **Ojcow** 75.72 330 eP P 07 29 50.8 -0.3
comp=Z,30nm,1.2s
OJC **Ojcow** 75.72 330 eP P 07 29 50.8 -0.3
KPL **Plockton** 75.73 347 eP P 07 29 49.1 -1.8
KPL AMB AMB 07 29 51.1
comp=Z,80nm,2.8s
KPL **Plockton** 75.73 347 P P 07 29 49.1 -1.8
KPL AMB AMB 07 29 51.1
comp=Z,80nm,2.8s
BUR08 **Bucovina Ar. S** 75.82 326 eP P 07 29 51.7 -0.2
SCIA **State Center** 75.88 44 eP P 07 29 52.1 0.0
comp=Z,20nm,0.8s
KOLS **Kolonicke sedl** 75.90 328 eP P 07 29 51.9 -0.2
KOLS pmax pmax
comp=Z,13nm,0.9s
KOLS **Kolonicke sedl** 75.90 328 eP P 07 29 51.9 -0.2
X27A **F and S Farms,** 75.95 55 ⇑P P 07 29 53.4 +0.6
baz=76
124A **Stringfield Ra** 75.95 58 ⇑P P 07 29 53.0 +0.1
baz=76
Z25A **Roswell** 75.98 57 ⇓P P 07 29 53.1 +0.2
baz=76
W28A **Vega** 76.02 54 ⇓P P 07 29 53.8 +0.6
baz=76
Y26A **Elida** 76.04 56 ⇓P P 07 29 53.7 +0.4
baz=76
UZH **Uzhgorod** 76.14 328 eP P 07 29 52.8 -0.6
UZH e 07 30 05.8
TESR 76.14 324 ⇑iP P 07 29 53.0 -0.5
NIE **Niedzica** 76.21 329 eP P 07 29 54.2 +0.3
NIE **Niedzica** 76.21 329 eP P 07 29 54.2 +0.3
CRVS **Cervenica-Dubn** 76.22 328 eP P 07 29 53.8 -0.2
CRVS pmax pmax
comp=Z,7.0nm,1.0s
CRVS **Cervenica-Dubn** 76.22 328 eP P 07 29 53.8 -0.2
KSU1 **Kansas State U** 76.27 48 eP P 07 29 53.5 -0.9
comp=Z,11nm,0.6s
224A **Cornudas Mount** 76.35 58 ⇓P P 07 29 55.2 +0.1
baz=76
Z26A **Caprock** 76.42 56 ⇑P P 07 29 56.0 +0.5
baz=76,SNR=23
W29A **Amarillo** 76.43 54 ⇑P P 07 29 56.4 +0.9
baz=76
125A **Gardner Draw,** 76.45 57 ⇓P P 07 29 56.2 +0.6
baz=76,SNR=6.8
Y27A **Causey** 76.45 55 ⇓P P 07 29 56.1 +0.4
baz=76,SNR=15
TRPA **Tarpa** 76.46 327 ⇑iP P 07 29 55.5 +0.3
X28A **Dimmitt** 76.56 54 ⇑P P 07 29 56.2 0.0
baz=76
CFR **Carcaliu** 76.58 322 ⇑iP P 07 29 55.3 -0.7
CFR **Carcaliu** 76.58 322 ⇑iP P 07 29 55.3 -0.7
AMTX **Amarillo** 76.59 54 eP P 07 29 56.9 +0.5
AMTX **Amarillo** 76.59 54 ⇓P P 07 29 56.7 +0.4
baz=76,SNR=9.9
MSTX **Muleshoe** 76.62 55 ⇑P P 07 29 57.0 +0.4
baz=76
OKC **Ostrava-Krasne** 76.62 331 eP P 07 29 57.1 +1.0
OKC **Ostrava-Krasne** 76.62 331 eP P 07 29 57.1 +1.0
EAB **Aberfoyle** 76.62 346 eP P 07 29 55.0 -1.0
EAB **Aberfoyle** 76.62 346 P P 07 29 55.0 -1.0
VRI **Vrincioaia** 76.63 324 ⇓P P 07 29 56.7 +0.4
VRI **Vrincioaia** 76.63 324 ⇓iP P 07 29 56.7 +0.4
PLOR **Plostina** 76.67 324 ⇓P P 07 29 55.5 -1.1
PLOR **Plostina** 76.67 324 ⇓iP P 07 29 55.5 -1.1
MNTX **Cornudas Mount** 76.70 58 ⇑P P 07 29 57.3 +0.4
baz=76,SNR=8.3
225A **Deer Hill, Car** 76.75 58 ⇓P P 07 29 57.8 +0.4
baz=76
UPC **Upice** 76.76 332 eP P 07 29 57.1 +0.1
UPC e 07 30 05.2
UPC **Upice** 76.76 332 eP P 07 29 57.1 +0.1
UPC ePCP PcP 07 30 05.2 -2.9
DPC **Dobruska-Polom** 76.80 332 eP P 07 29 57.2 0.0
DPC **Dobruska-Polom** 76.80 332 eP P 07 29 56.9 -0.3
comp=Z,32nm,1.3s
DPC **Dobruska-Polom** 76.80 332 eP P 07 29 57.2 0.0
NRDL **Niedersach Rie** 76.81 337 eP P 07 29 56.4 -0.7
comp=Z,12nm,1.1s
324A **Moseley Ranch,** 76.82 59 ⇓P P 07 29 57.8 0.0
baz=77
Z27A **Tatum** 76.83 56 ⇓P P 07 29 57.8 0.0
baz=77
126A **Clayton Basin,** 76.84 57 ⇓P P 07 29 57.8 0.0
baz=77
MORC **Moravsky Berou** 76.88 331 ⇓P P 07 29 57.5 -0.2
MORC **Moravsky Berou** 76.88 331 eP P 07 29 57.5 -0.2
comp=Z,21nm,0.9s
MORC **Moravsky Berou** 76.88 331 ⇓iP P 07 29 57.5 -0.2
X29A **Tulia** 76.89 54 ⇑P P 07 29 58.2 +0.1
baz=77,SNR=9.1
GDL2 **Guadalupe Moun** 76.95 57 eP P 07 29 59.2 +0.7
PGBU **Glenifferbraes** 77.01 346 eP P 07 29 57.7 -0.5
PGBU **Glenifferbraes** 77.01 346 P P 07 29 57.7 -0.5
CLL **Collm** 77.02 334 ⇑iP P 07 29 57.7 -0.6
CLL e 07 30 04.0
CLL pmax pmax
comp=Z,27nm,1.1s
CLL MLR MLR
comp=Z,200nm,18.1s
CLL **Collm** 77.02 334 eP P 07 29 57.2 -1.1
comp=Z,26nm,1.1s
CLL **Collm** 77.02 334 ⇑iP P 07 29 57.7 -0.6
comp=Z,27nm,1.1s
CLL e 07 30 04.0
CLL eSS SS 07 45 06.0 +27
CLL Lm MLR 08 09 00.0
comp=Z,200nm,18.1s
TIRR **Tirgusor** 77.03 322 ⇓P P 07 29 58.4 -0.1
TIRR **Tirgusor** 77.03 322 eP P 07 29 58.0 -0.5
comp=Z,8.3nm,0.7s
TIRR **Tirgusor** 77.03 322 ⇓iP P 07 29 58.4 -0.1
BRG **Berggiesshubel** 77.11 334 eP P 07 29 58.0 -0.8
comp=Z,12nm,1.2s
BRG **Berggiesshubel** 77.11 334 eP P 07 29 58.0 -0.8
BRG pmax pmax
comp=Z,12nm,1.2s
BRG **Berggiesshubel** 77.11 334 eP P 07 29 57.9 -1.0
comp=Z,12nm,1.2s
325A **Bean Ranch, Si** 77.18 58 ⇓P P 07 29 59.9 0.0
baz=77
PVCC **Panska Ves** 77.21 333 eP P 07 29 59.3 -0.3
PVCC **Panska Ves** 77.21 333 eP P 07 29 59.2 -0.3
ESK **Eskdalemuir** 77.26 345 eP P 07 29 58.1 -1.5
ESK AMB AMB 07 30 03.0
comp=Z,35nm,3.3s
ESK **Eskdalemuir** 77.26 345 P P 07 29 58.1 -1.5
ESK AMB AMB 07 30 03.0
comp=Z,35nm,3.3s
MLR **Muntele Rosu** 77.26 324 LR LR 08 07 25.0
comp=Z,63nm,18.6s,baz=210,slow=38
MLR **Muntele Rosu** 77.26 324 ⇓P P 07 30 00.1 +0.1
ISR **Istrita** 77.31 323 ⇑P P 07 30 00.7 +0.5
ISR **Istrita** 77.31 323 ⇑iP P 07 30 00.6 +0.4
CLZ **Clausthal** 77.32 336 eP P 07 29 59.5 -0.6
comp=Z,23nm,1.1s
Z28A **Tucker Farm, M** 77.33 55 ⇓P P 07 30 00.4 -0.2
baz=77
ECK **Cauldkaine Hil** 77.37 345 eP P 07 29 59.7 -0.6
ECK **Cauldkaine Hil** 77.37 345 P P 07 29 59.7 -0.6
STKA **Stephens Creek** 77.44 188 P P 07 30 02.3 +1.6
comp=Z,4.0nm,0.8s,baz=346,slow=7.9,SNR=9.7
STKA LR LR 08 00 56.9
comp=Z,180nm,20.5s,baz=24,slow=33
STKA **Stephens Creek** 77.44 188 eP P 07 30 02.1 +1.4
comp=Z,0.9nm,0.9s
DRGR 77.50 326 ⇑P P 07 30 01.1 -0.1
DRGR 77.50 326 ⇑iP P 07 30 01.1 -0.1
VYHS **Vyhne** 77.52 330 eP P 07 30 01.3 +0.1
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS **Vyhne** 77.52 330 eP P 07 30 01.3 +0.1
425A **Indio Mountain** 77.59 59 ⇓P P 07 30 02.3 +0.2
baz=77,SNR=8.9
VRAC **Vranov** 77.60 331 LR LR 08 12 10.9
comp=Z,192nm,19.1s,baz=150,slow=42
VRAC **Vranov** 77.60 331 ⇓iP P 07 30 02.0 +0.3
IBBN **Ibbenburen** 77.62 338 eP P 07 30 01.3 -0.4
comp=Z,23nm,0.6s
PSZ **Piszkesteto** 77.62 329 ⇓P P 07 30 02.2 +0.3
PSZ **Piszkesteto** 77.62 329 eP P 07 30 01.9 0.0
comp=Z,18nm,1.0s
PSZ **Piszkesteto** 77.62 329 ⇓iP P 07 30 02.2 +0.3
VOIR 77.67 324 ⇓P P 07 30 02.6 +0.4
VOIR 77.67 324 ⇓iP P 07 30 02.6 +0.4
PRU **Pruhonice** 77.69 333 eP P 07 30 02.0 -0.1
PRU **Pruhonice** 77.69 333 eP P 07 30 02.0 -0.1
Z29A **Hungry Hill Ra** 77.75 55 ⇓P P 07 30 03.3 +0.4
baz=78,SNR=12
128A **Castleberry Fa** 77.76 56 ⇓P P 07 30 03.3 +0.3
baz=78,SNR=7.6
326A **Caldwell Ranch** 77.81 58 ⇑P P 07 30 03.4 +0.1
baz=78,SNR=7.6
ARR **Arges** 77.90 325 ⇑iP P 07 30 02.5 -1.0
KESW **Keswick, Cumbr** 77.93 345 eP P 07 30 02.2 -1.2
KESW AMB AMB 07 30 04.3
comp=Z,106nm,3.1s
KESW **Keswick, Cumbr** 77.93 345 P P 07 30 02.2 -1.2
KESW AMB AMB 07 30 04.3
comp=Z,106nm,3.1s
GAL1 **Galloway** 77.95 346 AMB AMB 07 30 06.7
comp=Z,54nm,3.2s
TANN **Tannenbergstha** 77.97 334 eP P 07 30 03.0 -0.8
comp=Z,5.0nm,0.9s
TREC **Trest** 77.98 332 eP P 07 30 04.1 +0.3
TREC **Trest** 77.98 332 eP P 07 30 04.1 +0.3
SMOL **Smolenice** 78.00 330 eP P 07 30 04.9 +1.0
SMOL **Smolenice** 78.00 330 eP P 07 30 04.9 +1.0
MOX **Moxa** 78.02 335 eP P 07 30 03.4 -0.6
comp=Z,15nm,1.1s
228A **UT Block 9, Go** 78.06 56 ⇓P P 07 30 04.8 +0.2
baz=78
MIB **Mutribah** 78.06 300 eP P 07 30 04.8 +0.2
MIB AMb AMB 07 30 05.8
comp=Z,145nm,0.8s
Z30A **Sanderson Ranc** 78.06 55 ⇓P P 07 30 04.8 +0.2
baz=78,SNR=13
129A **Stewart Farms,** 78.11 55 ⇑P P 07 30 04.8 0.0
baz=78,SNR=5.9
NKC **Novy Kostel** 78.13 334 eP P 07 30 04.7 +0.1
NKC e 07 30 09.0
NKC **Novy Kostel** 78.13 334 eP P 07 30 04.7 +0.1
NKC ex x 07 30 09.0
WTSB **Winterswijk** 78.18 338 eP P 07 30 04.4 -0.4
comp=Z,45nm,0.9s
426A **McDonald Obser** 78.25 58 ⇑P P 07 30 05.9 0.0
baz=78
KBD **Kabd** 78.29 300 eP P 07 30 06.0 +0.2
BRTR **Keskin Array B** 78.30 316 P P 07 30 06.0 +0.1
comp=Z,11nm,0.8s,baz=72,slow=4.0,SNR=34
BRTR LR LR 08 09 45.2
comp=Z,141nm,18.9s,baz=191,slow=40
BRTR **Keskin Array B** 78.30 316 P P 07 30 06.0 +0.1
WMOK **Wichita Mounta** 78.32 52 eP P 07 30 05.7 -0.3
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK **Wichita Mounta** 78.32 52 eP P 07 30 05.7 -0.3
comp=Z,11nm,1.0s
328A **Wristen Ranch,** 78.46 57 ⇑P P 07 30 07.1 +0.3
baz=78,SNR=13
QRN **Al-Qurain** 78.46 299 eP P 07 30 07.0 +0.2
QRN AMb AMB 07 30 08.1
comp=Z,140nm,0.8s
427A **Hayter Ranch,** 78.49 58 ⇓P P 07 30 07.3 +0.2
baz=78,SNR=6.0
NAY **Al-Naaiem** 78.51 300 eP P 07 30 07.0 -0.1
NAY AMb AMB 07 30 08.3
comp=Z,56nm,0.9s
RDF **Al-Radifah** 78.56 300 eP P 07 30 08.2 +0.9
RDF AMb AMB 07 30 10.0
comp=Z,126nm,0.8s
ROTZ **Rotzenmuhle** 78.61 334 eP P 07 30 07.0 -0.3
comp=Z,16nm,1.0s
229A **Bryant Ranch,** 78.62 56 ⇓P P 07 30 08.0 +0.2
baz=78
526A **Mary Lane Ranc** 78.65 59 ⇑P P 07 30 08.3 +0.3
baz=78,SNR=9.5
LHO **Holmfirth** 78.69 344 eP P 07 30 07.0 -0.6
LHO **Holmfirth** 78.69 344 P P 07 30 07.0 -0.6
KHC **Kasperske Hory** 78.74 333 eP P 07 30 08.1 0.0
KHC e 07 30 15.5
KHC e 07 30 31.0
KHC **Kasperske Hory** 78.74 333 eP P 07 30 08.0 0.0
comp=Z,24nm,0.8s
KHC **Kasperske Hory** 78.74 333 eP P 07 30 08.1 0.0
KHC ePCP PcP 07 30 15.5 -1.2
KHC esP sP 07 30 31.0 +0.5
HDIL **Hopedale** 78.81 42 eP P 07 30 08.4 -0.1
comp=Z,41nm,1.2s
329A **Wagon Wheel Ra** 78.87 56 ⇑P P 07 30 09.3 +0.2
baz=79,SNR=9.1
527A **Woodward Ranch** 78.87 58 ⇑P P 07 30 09.4 +0.2
baz=79,SNR=7.6
BZS **Buzias** 78.90 326 ⇑P P 07 30 08.8 -0.1
BZS **Buzias** 78.90 326 ⇑iP P 07 30 08.8 -0.1
KBI1 **Birley Grange** 78.90 344 eP P 07 30 08.5 -0.3
KBI1 **Birley Grange** 78.90 344 P P 07 30 08.5 -0.3
GEC2 **GERESS Array S** 78.95 333 eP P 07 30 08.6 -0.7
comp=Z,10.0nm,1.0s
GERES **GERESS Array B** 78.95 333 P P 07 30 08.7 -0.6
comp=Z,7.2nm,0.7s,baz=33,slow=5.6,SNR=48
GERES LR LR 08 09 10.7
comp=Z,163nm,18.2s,baz=101,slow=39
GERES **GERESS Array B** 78.95 333 P P 07 30 08.7 -0.6
WET **Wettzell** 78.95 333 eP P 07 30 09.3 +0.1
comp=Z,24nm,1.0s
GRF **Grafenberg Arr** 78.98 335 eP P 07 30 09.1 -0.2
comp=Z,35nm,0.9s
626A **Big Bend Ranch** 78.98 59 ⇑P P 07 30 10.2 +0.4
baz=79,SNR=8.0
428A **Kincaid Ranch,** 79.01 57 ⇑P P 07 30 10.4 +0.5
baz=79
CONA **Conrad Observa** 79.04 331 ⇑iP P 07 30 10.1 +0.3
comp=Z,17nm,0.7s
TUL1 **Tulsa** 79.08 49 ⇑P P 07 30 10.0 -0.1
baz=79
230A **Sterling City** 79.09 56 ⇓P P 07 30 10.4 +0.1
baz=79,SNR=11
TNS **Taunus Mts** 79.31 337 eP P 07 30 10.9 -0.3
comp=Z,17nm,0.8s
ABTX **Abilene, Hawle** 79.39 54 ⇑P P 07 30 12.0 +0.1
baz=79
330A **Mertzon** 79.40 56 ⇓P P 07 30 12.0 0.0
baz=79,SNR=6.5
TXAR **Lajitas Array** 79.42 59 P P 07 30 12.5 +0.3
comp=Z,6.4nm,0.5s,baz=298,slow=4.2,SNR=125
TXAR **Lajitas Array** 79.42 59 P P 07 30 12.5 +0.3

HGN **Heimansgroeve** 79.50 338 *e*P P 07 30 11.7 -0.3
comp=Z,20nm,0.7s
627A **Terlingua Ranc** 79.51 59 ⇓P P 07 30 12.8 +0.1
baz=79,SNR=6.8
231A **Bronte** 79.51 55 ⇓P P 07 30 12.3 -0.3
baz=79,SNR=5.2
PKSM **Moragy** 79.52 329 ⇓P P 07 30 11.9 -0.4
PKSM **Moragy** 79.52 329 ⇓*i*P P 07 30 11.9 -0.4
BEBN **Eben Emael** 79.53 338 P P 07 30 11.4 -0.8
429A **Davenport Ranc** 79.55 57 ⇓P P 07 30 12.9 +0.1
baz=79
FOEL **Foel Wylfa** 79.57 344 *e*P P 07 30 11.4 -1.0
FOEL AMB AMB 07 30 17.0
comp=Z,36nm,1.6s
FOEL **Foel Wylfa** 79.57 344 P P 07 30 11.4 -1.0
FOEL AMB AMB 07 30 17.0
comp=Z,36nm,1.6s
MEM **Membach** 79.62 338 P P 07 30 12.7 0.0
comp=Z,22nm,1.1s
MEM E 07 30 19.9
MOA **Molln** 79.64 332⇑*i*P P 07 30 12.7 -0.3
comp=Z,8.6nm,0.8s,SNR=7.7
529A **Stev Forest Ra** 79.72 57 ⇑P P 07 30 14.0 +0.3
baz=80,SNR=6.5
628A **Black Gap, Mar** 79.78 58 ⇓P P 07 30 14.2 +0.1
baz=80
430A **Baggett Ranch,** 79.82 56 ⇓P P 07 30 14.0 -0.2
baz=80,SNR=9.4
HLM1 **Long Mynd** 79.86 344 *e*P P 07 30 13.7 -0.4
HLM1 AMB AMB 07 30 17.0
comp=Z,60nm,4.9s
HLM1 **Long Mynd** 79.86 344 P P 07 30 13.7 -0.4
HLM1 AMB AMB 07 30 17.0
comp=Z,60nm,4.9s
331A **San Angelo** 79.91 55 ⇓P P 07 30 14.6 -0.1
baz=80,SNR=7.4
SFIN **Scholer Farm** 79.98 41 ⇑P P 07 30 14.3 -0.5
baz=80
BCLA **Clavier** 79.98 339 P P 07 30 14.6 0.0
comp=Z,12nm,1.4s
SNF **Seneffe** 80.15 339 P P 07 30 15.6 0.0
comp=Z,13nm,1.3s
RJOB **Jochberg** 80.22 333 *e*P P 07 30 16.2 +0.1
comp=Z,15nm,1.0s
530A **J-C Ranch, Com** 80.22 57 ⇑P P 07 30 16.6 +0.2
baz=80,SNR=6.5
332A **Millersview** 80.25 55 ⇓P P 07 30 16.7 +0.1
baz=80,SNR=8.7
431A **Sonora** 80.26 56 ⇓P P 07 30 16.5 -0.1
baz=80,SNR=8.4
MCH1 **Michaelchurch** 80.38 344 *e*P P 07 30 15.9 -0.9
MCH1 AMB AMB 07 30 27.0
comp=Z,39nm,2.2s
MCH1 **Michaelchurch** 80.38 344 P P 07 30 15.9 -0.9
MCH1 AMB AMB 07 30 27.0
comp=Z,39nm,2.2s
GIVF **Givet** 80.39 339⇑*i*P P 07 30 16.5 -0.4
comp=Z,17nm,0.7s
GIVF **Givet** 80.39 339⇑*i*P P 07 30 16.5 -0.4
GIVF pmax pmax
comp=Z,17nm,0.7s
GIVF **Givet** 80.39 339⇑*i*P P 07 30 16.5 -0.4
comp=Z,17nm,0.7s
SOKA **Soboth** 80.40 331⇓*i*P P 07 30 16.9 -0.2
comp=Z,36nm,1.4s
STU **Stuttgart** 80.40 335 *e*P P 07 30 16.9 -0.1
comp=Z,23nm,1.0s
GROS **Grobnik** 80.43 331 *i*P P 07 30 16.8 -0.5
WLF **Walferdange** 80.44 338 P P 07 30 17.6 +0.4
DOU **Dourbes** 80.45 339 P P 07 30 17.2 0.0
BAIF **Baives** 80.59 339 *e*P P 07 30 17.7 -0.2
BAIF **Baives** 80.59 339 *e*P P 07 30 17.7 -0.2
BAIF **Baives** 80.59 339 *e*P P 07 30 17.7 -0.2
432A **Menard** 80.59 55 ⇑P P 07 30 18.4 0.0
baz=80,SNR=8.0
KBA **Koelnbreinsper** 80.62 332⇑*i*P P 07 30 18.8 +0.4
comp=Z,28nm,0.8s,SNR=9.0
WOL **Wolverton** 80.67 343 *e*P P 07 30 17.4 -0.9
WOL AMB AMB 07 30 18.6
comp=Z,44nm,0.7s
WOL **Wolverton** 80.67 343 P P 07 30 17.4 -0.9
WOL AMB AMB 07 30 18.6
comp=Z,44nm,0.7s
531A **Rocksprings** 80.68 56 ⇓P P 07 30 18.6 -0.2
baz=80,SNR=6.9
VTS **Vitosha** 80.76 324 ⇑P P 07 30 18.9 -0.3
VTS **Vitosha** 80.76 324⇑*i*P P 07 30 18.9 -0.3
OLIL **Olney** 80.81 43 *e*P P 07 30 19.9 +0.5
comp=Z,21nm,1.3s
JCT **Junction City** 80.88 56 *e*P P 07 30 19.9 0.0
JCT pmax pmax
comp=Z,31nm,1.4s
JCT **Junction City** 80.88 56 *e*P P 07 30 19.9 0.0
comp=Z,31nm,1.4s
JCT **Junction City** 80.88 56 ⇑P P 07 30 20.1 +0.1
baz=81,SNR=8.8
CRES **Cresnjev** 80.99 330 *i*P P 07 30 19.6 -0.6
BFO **Black Forest** 81.05 336 *e*P P 07 30 20.1 -0.5
BFO pmax pmax
comp=Z,18nm,1.0s
BFO **Black Forest** 81.05 336 *e*P P 07 30 20.0 -0.5
comp=Z,20nm,1.0s
BFO **Black Forest** 81.05 336 *e*P P 07 30 20.1 -0.5
comp=Z,18nm,1.0s
SIUC **Southern Illin** 81.07 44 *e*P P 07 30 21.0 +0.2
comp=Z,32nm,1.1s
532A **Rocksprings** 81.08 56 ⇓P P 07 30 20.9 -0.1
baz=81,SNR=10
MOTA **Moosalm** 81.10 334⇑*i*P P 07 30 20.9 -0.1
comp=Z,38nm,1.1s,SNR=9.0
WHTX **Lake Whitney** 81.10 53 ⇓P P 07 30 21.2 +0.1
baz=81
LJU **Ljubljana** 81.13 331 *i*P P 07 30 20.1 -0.8
ABTA **Abfaltersbach** 81.18 333⇑*i*P P 07 30 21.3 0.0
comp=Z,9.3nm,1.0s
631A **Perdido Creek** 81.21 57 ⇑P P 07 30 22.0 +0.3
baz=81,SNR=7.6
CDF **Champ du Feu** 81.28 336⇑*i*P P 07 30 21.4 -0.4
comp=Z,46nm,1.0s
CDF **Champ du Feu** 81.28 336⇑*i*P P 07 30 21.4 -0.4
CDF pmax pmax
comp=Z,46nm,1.0s
CDF **Champ du Feu** 81.28 336⇑*i*P P 07 30 21.4 -0.4
comp=Z,46nm,1.0s
MIAR **Mount Ida** 81.30 49 *e*P P 07 30 22.1 +0.1
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR **Mount Ida** 81.30 49 *e*P P 07 30 22.1 +0.1
comp=Z,19nm,0.9s
BOJS **Bojanci** 81.34 330 *i*P P 07 30 21.4 -0.7
HEX **Exmoor** 81.42 344 *e*P P 07 30 22.1 -0.2
HEX **Exmoor** 81.42 344 P P 07 30 22.1 -0.2
ECH **Echery** 81.49 336 *e*P P 07 30 22.2 -0.6
ECH pmax pmax
comp=Z,18nm,0.9s
ECH **Echery** 81.49 336 *e*P P 07 30 22.2 -0.6
comp=Z,18nm,0.9s
ECH **Echery** 81.49 336 *e*P P 07 30 22.4 -0.4
FETA **Feichten** 81.50 334⇑*i*P P 07 30 23.0 -0.1
comp=Z,14nm,1.1s
DAVA **Damuels** 81.53 334⇑*i*P P 07 30 23.1 -0.1
comp=Z,13nm,0.7s
PAGF **Fort de Pagny** 81.57 337⇑*i*P P 07 30 23.4 +0.2
comp=Z,25nm,0.7s
PAGF **Fort de Pagny** 81.57 337⇑*i*P P 07 30 23.4 +0.2
comp=Z,25nm,0.7s
PMOR **Pomariorio Ree** 81.62 121 *e*T T 09 00 12.0
comp=Z,19nm,0.2s
ERPA **Erie** 81.67 36 *e*P P 07 30 23.8 -0.1
comp=Z,18nm,0.6s
MEZF **Maizieres J'vi** 81.80 338⇑*i*P P 07 30 24.5 +0.1
comp=Z,62nm,0.7s
MEZF **Maizieres J'vi** 81.80 338⇑*i*P P 07 30 24.5 +0.1
comp=Z,62nm,0.7s
THEF **They Montfort** 81.80 337 *e*P P 07 30 24.1 -0.4
MOF **Molkenrain** 81.83 336 *e*P P 07 30 24.5 -0.2
HAU **Haudompre** 81.91 337⇑*i*P P 07 30 24.5 -0.5
comp=Z,19nm,0.8s
HAU *e*R
comp=Z,193nm,22.8s
HAU **Haudompre** 81.91 337⇑*i*P P 07 30 24.5 -0.5
HAU pmax pmax
comp=Z,19nm,0.8s
HAU **Haudompre** 81.91 337⇑*i*P P 07 30 24.5 -0.5
comp=Z,19nm,0.8s
HINF **Hinteralfeld** 81.94 336⇑*i*P P 07 30 24.5 -0.7
comp=Z,13nm,0.8s
HINF **Hinteralfeld** 81.94 336⇑*i*P P 07 30 24.5 -0.7
HINF pmax pmax
comp=Z,13nm,0.8s
HINF **Hinteralfeld** 81.94 336⇑*i*P P 07 30 24.5 -0.7
comp=Z,13nm,0.8s
ACSO **Alum Creek Sta** 81.95 39 *e*P P 07 30 25.0 -0.4
comp=Z,16nm,0.8s
DAVOX **Davos/Dischmat** 81.98 334 LR LR 08 09 36.0
comp=Z,162nm,18.2s,baz=76,slow=38
FUORN **Ofenpass-Fuorn** 82.01 334 *e*P P 07 30 26.1 +0.2
732A **Laxson Ranch,** 82.07 57 ⇑P P 07 30 26.7 +0.5
baz=82,SNR=9.8
SFTF **Sexfontaines** 82.08 338⇑*i*P P 07 30 25.7 -0.2
comp=Z,70nm,0.7s
SFTF **Sexfontaines** 82.08 338⇑*i*P P 07 30 25.7 -0.2
comp=Z,70nm,0.7s
VAY **Valandovo** 82.08 323 *i*P P 07 30 25.4 -0.6
CSS **Prodhromos** 82.14 313 *e*P P 07 30 26.5 0.0
comp=Z,25nm,1.0s
LOMF **Lomont** 82.37 336 *e*P P 07 30 27.3 -0.2
TUE **Stuetta** 82.42 334 *e*P P 07 30 28.2 +0.2
comp=Z,14nm,0.7s
PPT **Papeete** 82.63 124 LR LR 08 04 23.9
comp=Z,197nm,18.2s,baz=355,slow=34
PPT2 **Papeete2** 82.64 124 *e*LR LR 07 56 29.3
comp=Z,292nm,23.0s
PPT2 *e*T T 09 01 30.3
comp=Z,5.0nm,0.3s
PAE **Paea** 82.70 124 *e*T T 09 01 33.8
comp=Z,1.3nm,0.3s
TIAR **Tiarei** 82.75 124 *e*T T 09 01 37.8
comp=Z,17nm,0.2s
NATX **Nacogdoches** 82.83 51 *e*P P 07 30 30.7 +0.6
comp=Z,16nm,0.6s
FLN **La Foliniere** 82.91 341⇑*i*P P 07 30 29.9 -0.3
comp=Z,40nm,0.7s
FLN *e*R
comp=Z,171nm,18.5s
FLN **La Foliniere** 82.91 341⇑*i*P P 07 30 29.9 -0.3
FLN pmax pmax
comp=Z,40nm,0.7s
FLN **La Foliniere** 82.91 341⇑*i*P P 07 30 29.9 -0.3
comp=Z,40nm,0.7s
LDF **La Druitiere** 82.99 341⇑*i*P P 07 30 30.2 -0.4
comp=Z,24nm,0.8s
LDF **La Druitiere** 82.99 341⇑*i*P P 07 30 30.2 -0.4
LDF pmax pmax
comp=Z,24nm,0.8s
LDF **La Druitiere** 82.99 341⇑*i*P P 07 30 30.2 -0.4
comp=Z,24nm,0.8s
WVT **Waverly** 83.00 44 *e*P P 07 30 30.6 -0.3
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT **Waverly** 83.00 44 *e*P P 07 30 30.6 -0.3
comp=Z,5.8nm,0.8s
SENIN **Lac Senin/Sane** 83.13 336 *e*P P 07 30 31.8 +0.1
CABF **La Chapelle** 83.25 336⇑*i*P P 07 30 32.0 -0.1
comp=Z,14nm,0.8s
CABF **La Chapelle** 83.25 336⇑*i*P P 07 30 32.0 -0.1
CABF pmax pmax
comp=Z,14nm,0.8s
CABF **La Chapelle** 83.25 336⇑*i*P P 07 30 32.0 -0.1
comp=Z,14nm,0.8s
LOR **Lormes** 83.25 338⇑*i*P P 07 30 31.8 -0.2
comp=Z,40nm,0.7s
LOR *e*R
comp=Z,290nm,21.5s
LOR **Lormes** 83.25 338⇑*i*P P 07 30 31.8 -0.2
comp=Z,40nm,0.7s
GRR **Gorron** 83.35 342⇑*i*P P 07 30 32.4 -0.1
comp=Z,55nm,0.8s
GRR **Gorron** 83.35 342⇑*i*P P 07 30 32.4 -0.1
GRR pmax pmax
comp=Z,55nm,0.8s
GRR **Gorron** 83.35 342⇑*i*P P 07 30 32.4 -0.1
comp=Z,55nm,0.8s
OXF **Oxford** 83.49 46 *e*P P 07 30 33.1 -0.3
OXF pmax pmax
comp=Z,33nm,1.1s
OXF **Oxford** 83.49 46 *e*P P 07 30 33.1 -0.3
comp=Z,33nm,1.1s
SSF **Saint Saulge** 83.53 338⇑*i*P P 07 30 33.2 -0.3
comp=Z,20nm,0.7s
SSF **Saint Saulge** 83.53 338⇑*i*P P 07 30 33.2 -0.3
SSF pmax pmax
comp=Z,20nm,0.7s
SSF **Saint Saulge** 83.53 338⇑*i*P P 07 30 33.2 -0.3
comp=Z,20nm,0.7s
HYF **Humbligny** 83.57 339 *e*P P 07 30 33.9 +0.3
HYF **Humbligny** 83.57 339 *e*P P 07 30 33.9 +0.3
RAYN **Ar Rayn** 83.72 297 P P 07 30 35.9 +1.0
comp=Z,91nm,0.8s,SNR=5.7
RAYN **Ar Rayn** 83.72 297 *e*P P 07 30 35.7 +0.8
comp=Z,38nm,1.2s
MEH **Mehetia** 83.75 123 *e*T T 09 02 52.6
comp=Z,62nm,0.2s
AVF **Avril sur Loir** 83.83 338⇑*i*P P 07 30 34.9 0.0
comp=Z,31nm,0.8s
AVF **Avril sur Loir** 83.83 338⇑*i*P P 07 30 34.9 0.0
AVF pmax pmax
comp=Z,31nm,0.8s
AVF **Avril sur Loir** 83.83 338⇑*i*P P 07 30 34.9 0.0
comp=Z,31nm,0.8s
SMF **Signal de Mont** 83.83 338⇑*i*P P 07 30 35.0 0.0
comp=Z,44nm,0.8s
SMF **Signal de Mont** 83.83 338⇑*i*P P 07 30 35.0 0.0
SMF pmax pmax
comp=Z,45nm,0.8s
SMF **Signal de Mont** 83.83 338⇑*i*P P 07 30 35.0 0.0
comp=Z,44nm,0.8s
SGMF **Saint Gilles** 83.84 343⇑*i*P P 07 30 34.7 -0.3
comp=Z,31nm,0.7s
SGMF **Saint Gilles** 83.84 343⇑*i*P P 07 30 34.7 -0.3
SGMF pmax pmax
comp=Z,31nm,0.7s
SGMF **Saint Gilles** 83.84 343⇑*i*P P 07 30 34.7 -0.3
comp=Z,31nm,0.7s
ROSF **Rostrenen** 83.92 343 *e*P P 07 30 35.4 0.0
comp=Z,76nm,1.1s
ROSF **Rostrenen** 83.92 343 *e*P P 07 30 35.4 0.0
ROSF pmax pmax
comp=Z,76nm,1.1s
ROSF **Rostrenen** 83.92 343 *e*P P 07 30 35.4 0.0
comp=Z,76nm,1.1s
RSL **Roselend** 83.94 336 *e*P P 07 30 36.6 +0.8
LPL **La Plagne** 84.06 336⇑*i*P P 07 30 36.8 +0.3
comp=Z,29nm,0.9s
LPL **La Plagne** 84.06 336⇑*i*P P 07 30 36.8 +0.3
LPL pmax pmax
comp=Z,29nm,0.9s
LPL **La Plagne** 84.06 336⇑*i*P P 07 30 36.8 +0.3
comp=Z,29nm,0.9s
LPG **La Plagne** 84.08 336⇑*i*P P 07 30 37.0 +0.4
comp=Z,34nm,0.9s
LPG **La Plagne** 84.08 336⇑*i*P P 07 30 37.0 +0.4
LPG pmax pmax
comp=Z,34nm,0.9s
LPG **La Plagne** 84.08 336⇑*i*P P 07 30 37.0 +0.4
comp=Z,34nm,0.9s
BGF **Bois d'Agland** 84.17 339⇑*i*P P 07 30 36.8 +0.1
comp=Z,9.7nm,0.6s
BGF **Bois d'Agland** 84.17 339⇑*i*P P 07 30 36.8 +0.1
BGF pmax pmax
comp=Z,10.0nm,0.6s
BGF **Bois d'Agland** 84.17 339⇑*i*P P 07 30 36.8 +0.1
comp=Z,9.7nm,0.6s
QUIF **Quistinic** 84.29 343⇑*i*P P 07 30 37.0 -0.3
comp=Z,17nm,0.8s
QUIF **Quistinic** 84.29 343⇑*i*P P 07 30 37.0 -0.3
QUIF pmax pmax
comp=Z,17nm,0.8s
QUIF **Quistinic** 84.29 343⇑*i*P P 07 30 37.0 -0.3
comp=Z,17nm,0.8s
BNI **Bardonecchia** 84.50 335 *e*P P 07 30 39.3 +0.7
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI **Bardonecchia** 84.50 335 *e*P P 07 30 39.2 +0.7
comp=Z,10nm,0.8s
PLDF **La Plantade** 84.51 338 *e*P P 07 30 38.8 +0.2
AGO **Saint Agoulin** 84.57 338 *e*P P 07 30 39.0 +0.2
TCF **Toulx Ste Croi** 84.59 339⇑*i*P P 07 30 39.1 +0.2
comp=Z,43nm,1.0s
TCF **Toulx Ste Croi** 84.59 339⇑*i*P P 07 30 39.1 +0.2
TCF pmax pmax
comp=Z,43nm,1.0s
TCF **Toulx Ste Croi** 84.59 339⇑*i*P P 07 30 39.1 +0.2
comp=Z,43nm,1.0s
SWET **Sewanee** 84.65 44 *e*P P 07 30 39.0 -0.4
comp=Z,9.2nm,0.7s
AQU **L'Aquila** 84.75 330 *e*P P 07 30 40.7 +0.9
comp=Z,36nm,0.9s
MBDF **Montbardon** 84.77 335 *e*P P 07 30 39.7 -0.3
comp=Z,17nm,0.7s
MBDF **Montbardon** 84.77 335 *e*P P 07 30 39.7 -0.3
MBDF pmax pmax
comp=Z,17nm,0.7s
MBDF **Montbardon** 84.77 335 *e*P P 07 30 39.7 -0.3
comp=Z,17nm,0.7s
ORIF **Oris-en-Rattie** 84.86 336⇑*i*P P 07 30 40.7 +0.4
comp=Z,25nm,0.6s
ORIF *e*R
comp=Z,151nm,21.2s
ORIF **Oris-en-Rattie** 84.86 336⇑*i*P P 07 30 40.7 +0.4
ORIF pmax pmax
comp=Z,25nm,0.6s
ORIF **Oris-en-Rattie** 84.86 336⇑*i*P P 07 30 40.7 +0.4
comp=Z,25nm,0.6s
MFF **Saint Martin d** 84.87 340⇑*i*P P 07 30 39.8 -0.4
comp=Z,43nm,1.1s
MFF **Saint Martin d** 84.87 340⇑*i*P P 07 30 39.8 -0.4
MFF pmax pmax
comp=Z,43nm,1.1s
MFF **Saint Martin d** 84.87 340⇑*i*P P 07 30 39.8 -0.4
comp=Z,43nm,1.1s
SSB **Saint Sauveur** 84.90 337 *e*P P 07 30 40.5 0.0
SSB pmax pmax
comp=Z,25nm,1.2s
SSB **Saint Sauveur** 84.90 337 *e*P P 07 30 40.5 0.0
comp=Z,25nm,1.2s
CPCT **Cooper Cave** 85.14 42 *e*P P 07 30 42.0 +0.1
VIVF **Saint-Julien-l** 85.25 337⇑*i*P P 07 30 42.6 +0.3
comp=Z,20nm,0.9s
VIVF **Saint-Julien-l** 85.25 337⇑*i*P P 07 30 42.6 +0.3
VIVF pmax pmax
comp=Z,20nm,0.9s
VIVF **Saint-Julien-l** 85.25 337⇑*i*P P 07 30 42.6 +0.3
comp=Z,20nm,0.9s
LBL **Lubilhac** 85.30 338 *e*P P 07 30 42.9 +0.4
FRNF **Fournols** 85.33 338 *e*P P 07 30 43.3 +0.6
SBF **Sospel** 85.36 334⇑*i*P P 07 30 43.4 +0.6
SBF **Sospel** 85.36 334⇑*i*P P 07 30 43.4 +0.6
SBF **Sospel** 85.36 334⇑*i*P P 07 30 43.4 +0.6
BLA **Blacksburg** 85.57 39 *e*P P 07 30 43.7 -0.3
BLA pmax pmax
comp=Z,15nm,0.9s
BLA **Blacksburg** 85.57 39 *e*P P 07 30 43.7 -0.3
comp=Z,15nm,0.9s
RJF **Les Rejaudoux** 85.68 339⇑*i*P P 07 30 44.0 -0.3
comp=Z,45nm,1.1s
RJF *e*R
comp=Z,262nm,20.0s
RJF **Les Rejaudoux** 85.68 339⇑*i*P P 07 30 44.0 -0.3
RJF pmax pmax
comp=Z,45nm,1.1s
RJF **Les Rejaudoux** 85.68 339⇑*i*P P 07 30 44.0 -0.3
comp=Z,45nm,1.1s
SMRF **Simiane la Rot** 85.81 336 *e*P P 07 30 45.6 +0.6
comp=Z,23nm,1.0s
SMRF **Simiane la Rot** 85.81 336 *e*P P 07 30 45.6 +0.6
comp=Z,23nm,1.0s
FRF **La Foret Royal** 85.87 335 *e*P P 07 30 45.3 0.0
FRF **La Foret Royal** 85.87 335 *e*P P 07 30 45.3 0.0
FRF **La Foret Royal** 85.87 335 *e*P P 07 30 45.3 0.0
CAF **Calviac** 85.89 338⇑*i*P P 07 30 45.5 +0.1
comp=Z,61nm,1.1s
CAF **Calviac** 85.89 338⇑*i*P P 07 30 45.5 +0.1
CAF pmax pmax
comp=Z,61nm,1.1s
CAF **Calviac** 85.89 338⇑*i*P P 07 30 45.5 +0.1
comp=Z,61nm,1.1s
LMR **La Mourre** 86.12 335⇑*i*P P 07 30 46.4 -0.1
comp=Z,73nm,1.1s
LMR **La Mourre** 86.12 335⇑*i*P P 07 30 46.4 -0.1
LMR pmax pmax
comp=Z,73nm,1.1s
LMR **La Mourre** 86.12 335⇑*i*P P 07 30 46.4 -0.1
comp=Z,73nm,1.1s
LASF **Ste Croix** 86.20 337⇑*i*P P 07 30 47.7 +0.8
comp=Z,12nm,0.7s
LASF **Ste Croix** 86.20 337⇑*i*P P 07 30 47.7 +0.8
comp=Z,12nm,0.7s
LFF **La Frestale** 86.22 339 *e*P P 07 30 46.7 -0.2
comp=Z,73nm,1.1s
LFF **La Frestale** 86.22 339 *e*P P 07 30 46.7 -0.2
LFF pmax pmax
comp=Z,73nm,1.1s
LFF **La Frestale** 86.22 339 *e*P P 07 30 46.7 -0.2
comp=Z,73nm,1.1s
URZ **Urewera** 86.59 160 LR LR 08 04 22.1
comp=Z,274nm,20.9s,baz=6.2,slow=32
KMSC **Kings Mountain** 86.88 41 ⇑P P 07 30 50.4 -0.1
baz=87
TBI **Tubuai** 87.25 128 *e*LR LR 07 58 26.2
comp=Z,215nm,25.2s
TBI *e*T T 09 07 15.5
comp=Z,11nm,0.3s
MTLF **Montolieu** 87.33 338⇑*i*P P 07 30 53.2 +0.8
comp=Z,24nm,1.1s
MTLF **Montolieu** 87.33 338⇑*i*P P 07 30 53.2 +0.8
MTLF pmax pmax
comp=Z,25nm,1.1s
MTLF **Montolieu** 87.33 338⇑*i*P P 07 30 53.2 +0.8
comp=Z,24nm,1.1s
BRAL **Brewton** 87.46 47 *e*P P 07 30 53.6 +0.3
comp=Z,24nm,0.8s
EPF **Esparros** 88.10 339⇑*i*P P 07 30 56.4 +0.2
EPF **Esparros** 88.10 339⇑*i*P P 07 30 56.4 +0.2
EPF **Esparros** 88.10 339⇑*i*P P 07 30 56.4 +0.2
SJPF **Ste Jean** 88.41 340 *e*P P 07 30 57.2 -0.4
comp=Z,36nm,1.4s
SJPF **Ste Jean** 88.41 340 *e*P P 07 30 57.2 -0.4
SJPF pmax pmax
comp=Z,36nm,1.4s
SJPF **Ste Jean** 88.41 340 *e*P P 07 30 57.2 -0.4
comp=Z,36nm,1.4s
ETSF **Etsaut** 88.45 339 *e*P P 07 30 57.3 -0.6
comp=Z,6.6nm,0.7s
ETSF **Etsaut** 88.45 339 *e*P P 07 30 57.3 -0.6
ETSF pmax pmax
comp=Z,7.0nm,0.7s
ETSF **Etsaut** 88.45 339 *e*P P 07 30 57.3 -0.6
comp=Z,6.6nm,0.7s
KEST **Kesra** 92.07 330 P P 07 31 14.4 -0.5
comp=Z,1.9nm,0.9s,baz=346,slow=4.2,SNR=3.7
KEST **Kesra** 92.07 330 P P 07 31 14.4 -0.5
ESDC **Sonseca Array** 92.32 341 P P 07 31 15.9 -0.1
comp=Z,0.4nm,0.4s,baz=27,slow=3.3,SNR=4.4
ESDC LR LR 08 19 48.2
comp=Z,86nm,18.3s,baz=345,slow=40
ESDC **Sonseca Array** 92.32 341 P P 07 31 15.9 -0.1
TORD **Torodi Ar. Bea** 115.40 327 PKP PKPdf 07 36 46.9 -0.6
comp=Z,0.7nm,0.4s,baz=28,slow=1.9,SNR=11
TORD **Torodi Ar. Bea** 115.40 327 PKP PKPdf 07 36 46.9 -0.6
VNDA **Vanda** 122.88 177 PKP PKPdf 07 37 00.1 +0.1
comp=Z,1.0nm,1.0s,baz=351,slow=3.9,SNR=5.6
VNDA **Vanda** 122.88 177 PKP PKPdf 07 37 00.1 +0.1
DBIC **Dimbokro** 123.78 331 PKP PKPdf 07 37 02.9 -0.8
comp=Z,3.6nm,0.7s,baz=71,slow=3.3,SNR=5.8
DBIC **Dimbokro** 123.78 331 PKP PKPdf 07 37 02.9 -0.8
QSPA **South Pole Qui** 135.19 180 PKP PKPdf 07 37 24.9 +1.3
comp=Z,5.7nm,1.0s,baz=253,slow=1.9,SNR=13
QSPA **South Pole Qui** 135.19 180 PKP PKPdf 07 37 24.9 +1.3
LPAZ **La Paz** 136.26 61 PKP PKPdf 07 37 29.1 +1.2
comp=Z,2.2nm,0.9s,baz=74,slow=1.4,SNR=6.1
LPAZ **La Paz** 136.26 61 PKP PKPdf 07 37 29.1 +1.2
SIV **San Ignacio** 140.20 53 PKP PKPdf 07 37 34.9 +0.4
comp=Z,2.2nm,0.9s,baz=304,slow=3.8,SNR=5.0
SIV **San Ignacio** 140.20 53 PKP PKPdf 07 37 34.9 +0.4
BDFB **Brasilia** 146.26 34 PKPbc PKPbc 07 37 46.0 -0.4
comp=Z,5.4nm,0.9s,baz=38,slow=1.8,SNR=7.9
BDFB **Brasilia** 146.26 34 PKPbc PKPbc 07 37 46.0 -0.4
CFAA **Coronel Fontan** 146.69 79 PKPbc PKPdf 07 37 46.0 +0.6
comp=Z,0.7nm,0.6s,baz=274,slow=2.6,SNR=22
CFAA **Coronel Fontan** 146.69 79 PKPbc PKPdf 07 37 46.0 +0.6
NVL **N'lazarevskaya** 147.84 204 *e*PKP PKPbc 07 37 49.6 +0.5
NVL pmax pmax
comp=Z,31nm,1.2s
PLCA **Paso Flores** 149.55 96 PKPbc PKPbc 07 37 54.9 +0.4
comp=Z,8.4nm,0.9s,baz=267,slow=2.9,SNR=19
PLCA PKPab PKPab 07 37 59.5 -0.3
comp=Z,2.1nm,0.6s,baz=322,slow=2.1,SNR=5.4
PLCA **Paso Flores** 149.55 96 PKPbc PKPbc 07 37 54.9 +0.4

PLCA					PKPab	**PKPab**	**07 37 59.5**	**-0.3**
CPUP	**Villa Florida**	**150.40**	**60**		PKPbc	**PKPbc**	**07 37 57.0**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=293,slow=3.8,SNR=29							
CPUP					PKPab	**PKPab**	**07 38 03.6**	**+0.2**
	comp=Z,7.2nm,0.7s,baz=310,slow=2.7,SNR=13							
CPUP	**Villa Florida**	**150.40**	**60**		PKPbc	**PKPbc**	**07 37 57.0**	**+0.2**
CPUP					PKPab	**PKPab**	**07 38 03.6**	**+0.2**
SNAA	**Sanae**	**150.89**	**197**	*e*	PKPbc	**PKPbc**	**07 37 56.6**	**-0.1**
VNA2	**Neumayer--Watz**	**152.37**	**195**	*e*	P	**PKPbc**	**07 38 00.9**	**+0.9**
	baz=352,slow=0.8							
VNA2	**Neumayer--Watz**	**152.37**	**195**	*e*	PKPab	**PKPab**	**07 38 09.0**	**-1.4**
	baz=352,slow=0.8							
VNA3	**Neumayer Olymp**	**152.49**	**193**	*e*	P	**PKPbc**	**07 38 00.8**	**+0.5**
VNA3	**Neumayer Olymp**	**152.49**	**193**	*e*	PKPab	**PKPab**	**07 38 10.6**	**-0.4**
VNA1	**Neumayer--Stat**	**152.76**	**195**	*e*	P	**PKPbc**	**07 38 01.8**	**+0.9**

IDC 13 07:23:36.4±14.0, 7°43'S×127°53'E, h107km±153km, mb2.9/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=133.6km s-min=56.7km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.77**	**190**	P	Pn	07 26 08.7	+1.1
	0.2nm,0.3s,baz=19,slow=11,SNR=7.1						
FITZ				S	Sn	07 28 01.8	-4.4
	0.4nm,0.3s,baz=234,slow=24,SNR=4.3						
WRA	**Warramunga Arr**	**14.08**	**153**	P	Pn	07 26 49.5	-1.8
	0.1nm,0.3s,baz=324,slow=13,SNR=7.4						
WRA				S	Sn	07 29 16.2	-10
	0.4nm,0.3s,baz=333,slow=24,SNR=8.9						
ASAR	**Alice Springs**	**17.27**	**160**	P	Pn	07 27 31.1	+0.1
	0.3nm,0.3s,baz=332,slow=12,SNR=18						
ASAR				S	Sn	07 30 36.8	-6.6
	0.1nm,0.3s,baz=316,slow=17,SNR=3.3						
MKAR	**Makanchi Array**	**67.27**	**328**	P	P	07 34 19.5	-0.1
	0.1nm,0.4s,baz=126,slow=7.8,SNR=3.3						

*ISCJB **13** 07:51:29.1±0.4, 26°.98S±0°.03×26°.81E±0°.03, h9km±2km, mb4.0/17, Error ellipse: s-maj=5.4km s-min=3.4km az=41.9*
*PRE **13** 07:51:29.0±3.4, 26°.94S×26°.85E, h2km, ML4.0*
*IDC **13** 07:51:29.9±0.7, 26°.93S×26°.71E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.1/32, mbtmp4.1/19, ML4.4/3, Error ellipse: s-maj=17.1km s-min=9.9km az=99.0*
*DJA **13** 07:51:29.4±0.5, 27°.S±3°×2°.7E±°, h10km, M4.8/4, mb4.5/4, mB5.7/1, MLv4.9/4, Mw(mB)5.2/1*
*NEIC **13** 07:51:29.7, 26°.94S×26°.84E, h2km, mb4.4/3, ML4.0(PRE), After PRE.*

ISC 13 07:51:29.7±0.8, 26°91S±0°.03×26°81E±0°.03, h6km±4km, n76, σ1°53/100, mb4.2/17, 7C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFSD	**Buffelsfontein**	**0.05**	**333**	*e*P	**Pg**	**07 51 31.2**	**0.0**
BFSD				*e*S	**Sg**	**07 51 32.3**	**0.0**
BFSD				AML	AML		
	comp=Z,77μm,0.3s						
MOAB	**Moab Khotsong**	**0.08**	**189**	*e*P	**Pg**	**07 51 32.2**	**+0.6**
MOAB				*e*S	**Sg**	**07 51 33.1**	**+0.1**
MOAB				AML	AML	07 51 33.8	
	comp=Z,54μm,0.2s						
PRYS	**Parys**	**0.49**	**92**	*e*P	**Pg**	**07 51 39.6**	**+0.4**
PRYS				*e*S	**Sg**	**07 51 44.8**	**-0.8**
PRYS				AML	AML	07 51 50.6	
	comp=Z,6μm,0.6s						
KLOF	**Kloof**	**0.91**	**52**	*i*P	**Pb**	**07 51 47.6**	**-0.4**
KLOF				*e*S	**Sg**	**07 51 57.9**	**-1.0**
KLOF				AML	AML	07 52 06.4	
	comp=Z,4μm,0.2s						
KSR	**Koster**	**1.06**	**4**	*i*P	**Pb**	**07 51 50.4**	**-0.1**
KSR				*e*S	**Sg**	**07 52 04.4**	**+0.6**
KSR				AML	AML	07 52 08.0	
	comp=Z,2μm,0.4s						
SWZ	**Schweizer**	**1.35**	**258**	*i*P	**Pb**	**07 51 55.7**	**+0.2**
SWZ				*e*S	**Sn**	**07 52 13.4**	**-0.1**
SWZ				AML	AML	07 52 15.5	
	comp=Z,3μm,0.6s						
ERPM	**east rand prop**	**1.40**	**67**	*i*P	**Pg**	**07 51 56.9**	**+0.4**
ERPM				*e*S	**Sb**	**07 52 13.1**	**-1.4**
ERPM				AML	AML	07 52 20.5	
	comp=Z,578nm,0.4s						
SLR	**Silverton**	**1.76**	**49**	*i*P	**Pb**	**07 52 02.2**	**-0.4**
SLR				*e*S	**Sn**	**07 52 24.8**	**+0.9**
SLR				AML	AML	07 52 26.9	
	comp=Z,3μm,0.5s						
LBTB	**Lobatse**	**2.18**	**330**	Pn	**Pb**	**07 52 08.2**	**-1.4**
	comp=Z,157nm,0.3s,baz=163,slow=13,SNR=420						
LBTB				Lg	Lg	07 52 37.9	
	comp=Z,778nm,0.3s,baz=61,slow=22,SNR=55						
LBTB				Rg	Rg	07 52 46.9	
	comp=Z,458nm,0.3s,baz=9.4,slow=20,SNR=24						
LBTB	**Lobatse**	**2.18**	**330**	*e*Pn	**Pb**	**07 52 08.0**	**-1.7**
LBTB				*e*Sn	**Sb**	**07 52 37.3**	**+0.3**
LBTB				Lg	Lg	07 52 37.9	
LBTB				Rg	Rg	07 52 46.9	
LBTB	**Lobatse**	**2.18**	**330**	*e*P	**Pb**	**07 52 08.4**	**-1.3**
LBTB				*e*S	**Sb**	**07 52 36.6**	**-0.5**
LBTB				AML	AML	07 52 39.4	
	comp=Z,2μm,0.4s						
BOSA	**Boshof**	**2.19**	**219**	Pn	**Pn**	**07 52 07.3**	**+0.5**
	comp=Z,53nm,0.3s,baz=42,slow=16,SNR=602						
BOSA				Pg	**Pb**	**07 52 09.2**	**-0.6**
	comp=Z,66nm,0.3s,baz=42,slow=18,SNR=138						
BOSA				Lg	Lg	07 52 37.1	
	comp=Z,198nm,0.3s,baz=318,slow=16,SNR=19						
BOSA	**Boshof**	**2.19**	**219**	*e*Pn	**Pn**	**07 52 07.0**	**+0.2**
BOSA				*e*Sn	**Sb**	**07 52 35.3**	**-1.9**
BOSA				Lg	Lg	07 52 37.1	
BOSA	**Boshof**	**2.19**	**219**	⇓*i*P	**Pn**	**07 52 07.3**	**+0.5**
BOSA				*e*S	**Sn**	**07 52 33.7**	**-0.6**
BOSA				AML	AML	07 52 38.5	
	comp=Z,575nm,0.3s						
HVD	**Gariep Dam**	**3.86**	**197**	*e*P	**Pn**	**07 52 29.4**	**-0.4**
HVD				*e*S	**Sn**	**07 53 13.5**	**-2.1**
HVD				AML	AML	07 53 30.7	
	comp=Z,227nm,0.5s						
UPI	**Upington**	**5.14**	**252**	*i*P	**Pn**	**07 52 48.1**	**+0.8**
UPI				*e*S	**Sn**	**07 53 46.8**	**-0.2**
UPI				AML	AML	07 54 14.8	
	comp=Z,272nm,0.5s						
MSNA	**Messina**	**5.40**	**33**	*e*P	**Pn**	**07 52 51.2**	**+0.2**
MSNA				*e*S	**Sn**	**07 53 49.8**	**-3.7**
MSNA				AML	AML	07 54 30.1	
	comp=Z,139nm,0.5s						
SOE	**Somerset East**	**5.88**	**190**	*e*P	**Pn**	**07 52 57.9**	**+0.3**
SOE				*e*S	**Sn**	**07 54 01.9**	**-3.5**
SOE				AML	AML	07 54 50.2	
	comp=Z,91nm,0.6s						
GRM	**Grahamstown**	**6.39**	**182**	*e*P	**Pn**	**07 53 04.0**	**-0.4**
GRM				*e*S	**Sn**	**07 54 13.5**	**-4.3**
GRM				AML	AML	07 54 58.6	
	comp=Z,88nm,0.5s						
BLWY	**Bulawayo**	**6.94**	**14**	*i* P	Pn	07 53 04.8	-7.3
BLWY				*i*		07 53 05.0	
	baz=330,slow=14						
BLWY				*i* S	Sn	07 54 19.3	-12
BUFB	**Buffelsbos**	**7.43**	**193**	*e*P	**Pn**	**07 53 18.4**	**-0.3**
BUFB				*e*S	Sn	07 54 48.5	+5.1
SUR	**Sutherland**	**7.55**	**222**	Pn	**Pn**	**07 53 20.8**	**+0.3**
	comp=Z,7.7nm,0.3s,baz=54,slow=16,SNR=34						
SUR				Sn	**Sn**	**07 54 43.1**	**-3.4**
	comp=Z,6.5nm,0.3s,baz=145,slow=22,SNR=8.9						
SUR				Lg	Lg	07 55 24.7	
	comp=Z,24nm,0.3s,baz=315,slow=23,SNR=5.7						
SUR	**Sutherland**	**7.55**	**222**	*e*Pn	**Pn**	**07 53 20.4**	**-0.1**
	comp=Z,17nm,0.3s						
SUR				*e*Sn	**Sn**	**07 54 44.1**	**-2.4**
SUR				Lg	Lg	07 55 24.7	
SUR	**Sutherland**	**7.55**	**222**	⇑*i*P	**Pn**	**07 53 20.6**	**+0.1**
SUR				*e*S	**Sn**	**07 54 43.5**	**-3.1**
SUR				AML	AML	07 55 42.7	
	comp=Z,65nm,0.6s						
CVNA	**Calvinia**	**7.66**	**232**	*e*P	**Pn**	**07 53 20.9**	**-1.1**
CVNA				*e*S	**Sn**	**07 54 43.6**	**-5.6**
CVNA				AML	AML	07 55 30.9	
	comp=Z,230nm,0.5s						
KOMG	**Komaggas**	**8.71**	**249**	*e*P	**Pn**	**07 53 36.0**	**-0.3**
KOMG				*e*S	**Sn**	**07 55 11.7**	**-3.1**
KOMG				AML	AML	07 56 09.1	
	comp=Z,93nm,0.5s						

CER	**Ceres**	**9.15**	**224**	*e*P		**Pn**	**07 53 42.3**	**0.0**
CER				*e*S		Sn	07 55 19.6	-6.0
CER				AML		AML	07 56 28.6	
	comp=Z,56nm,0.5s							
TSUM	**Tsumeb**	**11.44**	**310**	Pn		**Pn**	**07 54 13.2**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=142,slow=12,SNR=30							
TSUM				Sn		**Sn**	**07 56 22.0**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=356,slow=16,SNR=4.2							
TSUM				Lg		Lg	07 57 23.8	
	comp=Z,4.0nm,0.3s,baz=212,slow=11,SNR=8.8							
TSUM	**Tsumeb**	**11.44**	**310**	*e*Pn		**Pn**	**07 54 13.1**	**-0.8**
	comp=Z,8.8nm,0.7s							
TSUM				*e*Sn		**Sn**	**07 56 17.7**	**-4.5**
TSUM				Lg		Lg	07 57 23.8	
LSZ	**Lusaka**	**11.65**	**7**	*e*Pn		**Pn**	**07 54 15.2**	**-1.6**
	comp=Z,14nm,0.6s							
LSZ				*e*Sn		Sn	07 56 21.3	-5.9
LSZ	**Lusaka**	**11.65**	**7**	*e*P		**Pn**	**07 54 15.5**	**-1.2**
LSZ				*e*S		Sn	07 56 20.7	-6.5
DBIC	**Dimbokro**	**45.34**	**313**	P		**P**	**07 59 50.0**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=114,slow=10.0,SNR=2.7							
DBIC	**Dimbokro**	**45.34**	**313**	P		**P**	**07 59 50.0**	**+1.1**
TOA0	**Torodi Ar. Sit**	**46.70**	**325**	*e*P		**P**	**07 59 59.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P		**P**	**07 59 59.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=158,slow=7.5,SNR=22							
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P		**P**	**07 59 59.9**	**+0.2**
QSPA	**South Pole Qui**	**63.28**	**180**	P		**P**	**08 01 59.9**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=249,slow=4.3,SNR=17							
QSPA	**South Pole Qui**	**63.28**	**180**	P		**P**	**08 01 60.0**	**+0.8**
BDFB	**Brasilia**	**69.77**	**262**	P		**P**	**08 02 42.0**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=102,slow=4.3,SNR=8.1							
BDFB	**Brasilia**	**69.77**	**262**	P		**P**	**08 02 42.0**	**+0.6**
MLR	**Muntele Rosu**	**72.06**	**359**	P		**P**	**08 02 55.9**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=320,slow=21,SNR=4.0							
MLR	**Muntele Rosu**	**72.06**	**359**	P		**P**	**08 02 55.9**	**+1.3**
ESDC	**Sonseca Array**	**72.19**	**335**	P		**P**	**08 02 56.2**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=158,slow=5.7,SNR=5.0							
ESDC	**Sonseca Array**	**72.19**	**335**	P		**P**	**08 02 56.2**	**+0.7**
VNDA	**Vanda**	**72.42**	**171**	P		**P**	**08 02 57.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=242,slow=6.6,SNR=3.7							
VNDA	**Vanda**	**72.42**	**171**	P		**P**	**08 02 57.3**	**+0.9**
TRQA	**Tornquist**	**73.07**	**236**	*e*P		**P**	**08 03 01.4**	**+0.5**
	comp=Z,8.6nm,1.1s							
GERES	**GERESS Array B**	**76.32**	**351**	P		**P**	**08 03 20.5**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=160,slow=6.2,SNR=4.7							
GERES	**GERESS Array B**	**76.32**	**351**	P		**P**	**08 03 20.5**	**+1.1**
AKASG	**Malin Array Be**	**77.30**	**2**	P		**P**	**08 03 25.3**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=182,slow=4.2,SNR=4.9							
AKASG	**Malin Array Be**	**77.30**	**2**	P		**P**	**08 03 25.3**	**+0.6**
CFAA	**Coronel Fontan**	**80.34**	**240**	P		**P**	**08 03 42.6**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=14,slow=0.5,SNR=7.1							
CFAA	**Coronel Fontan**	**80.34**	**240**	P		**P**	**08 03 42.6**	**+0.3**
KKAR	**Karatay Array**	**80.43**	**31**	*e*P		**P**	**08 03 43.3**	**+1.1**
	comp=Z,1.9nm,0.7s							
SIV	**San Ignacio**	**81.08**	**257**	P		**P**	**08 03 47.0**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=135,slow=5.8,SNR=3.0							
SIV	**San Ignacio**	**81.08**	**257**	P		**P**	**08 03 47.0**	**+0.6**
LPAZ	**La Paz**	**87.04**	**253**	P		**P**	**08 04 18.1**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=106,slow=3.8,SNR=6.2							
LPAZ	**La Paz**	**87.04**	**253**	*e*P		**P**	**08 04 17.9**	**+0.4**
	comp=Z,1.5nm,0.6s							
FINES	**FINESS Array B**	**88.04**	**360**	P		**P**	**08 04 21.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=176,slow=2.9,SNR=4.8							
FINES	**FINESS Array B**	**88.04**	**360**	P		**P**	**08 04 21.4**	**+1.1**
BVAR	**Borovoye Array**	**88.17**	**25**	P		**P**	**08 04 22.1**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=187,slow=33,SNR=3.6							
BVAR	**Borovoye Array**	**88.17**	**25**	P		**P**	**08 04 22.1**	**+0.9**
ASAR	**Alice Springs**	**93.49**	**119**	P		**P**	**08 04 48.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=228,slow=4.3,SNR=9.4							
ASAR	**Alice Springs**	**93.49**	**119**	P		**P**	**08 04 48.0**	**+1.1**
YKA	**Yellowknife Ar**	**136.29**	**335**	PKP		**PKPdf**	**08 10 53.3**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=57,slow=2.8,SNR=4.6							
YKA	**Yellowknife Ar**	**136.29**	**335**	PKP		**PKPdf**	**08 10 53.4**	**+1.8**
TXAR	**Lajitas Array**	**136.52**	**285**	PKP		**PKPdf**	**08 10 55.1**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=134,slow=3.1,SNR=4.2							
TXAR	**Lajitas Array**	**136.52**	**285**	PKP		**PKPdf**	**08 10 55.0**	**+1.8**
ILAR	**Eielson Array**	**141.92**	**356**	PKP		**PKPdf**	**08 10 59.2**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=342,slow=3.0,SNR=6.1							
ILAR	**Eielson Array**	**141.92**	**356**	PKP		**PKPdf**	**08 10 59.2**	**-2.6**
SRU	**San Rafael**	**142.53**	**300**	*e*PKPdf		**PKPdf**	**08 11 01.6**	**-2.4**
TMUT	**Trail Mountain**	**143.04**	**300**	*e*PKPdf		**PKPdf**	**08 11 03.4**	**-1.7**
HLID	**Hailey**	**144.61**	**308**	*e*PKPdf		**PKPdf**	**08 11 08.0**	**+0.5**
BMO	**Blue Mountains**	**146.21**	**311**	*e*PKPbc		**PKPab**	**08 11 12.2**	**+0.3**
NVAR	**Mina Array Bea**	**148.64**	**300**	PKPbc		**PKPab**	**08 11 20.8**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=67,slow=4.8,SNR=31							
NVAR	**Mina Array Bea**	**148.64**	**300**	PKPbc		**PKPab**	**08 11 20.8**	**-1.0**

JMA 13 08:22:14.2±0.3, 37°.44N×144°.80E, h62km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.91**	**291**	P	Pn	08 22 59.4	+1.4
JIO				*e*S	Sn	08 23 33.3	+1.5
OFUJ	**Ofunato**	**2.96**	**305**	P	Pn	08 23 00.0	+1.3
JMK	**Ichinoseki**	**3.20**	**299**	P	Pn	08 23 03.7	+1.7
JMK				*e*S	Sn	08 23 40.7	+1.8
JOT	**Ohata**	**4.89**	**325**	P	Pn	08 23 26.9	+1.7
JOT				*e*S	Sn	08 24 21.1	+0.7
JRY	**Ryogami san**	**4.95**	**255**	P	Pn	08 23 26.6	+0.6
JRY				*e*S	Sn	08 24 20.5	-1.4
JCH	**Churui**	**5.29**	**348**	P	Pn	08 23 29.8	-0.7
JCH				*e*S	Sn	08 24 26.7	-3.3
JKB	**Kayabe**	**5.31**	**328**	P	Pn	08 23 32.2	+1.4
JKB				*e*S	Sn	08 24 30.2	-0.4
NEM2	**Nemuro 2**	**5.96**	**7**	P	Pn	08 23 36.0	-3.8
NEM2				*e*S	Sn	08 24 38.8	-7.8
JTKR	**Abashiri--Toko**	**6.56**	**354**	P	Pn	08 23 47.1	-0.8

*IDC **13** 08:29:41.0±0.9, 52°.82N×168°.75W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/30, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=31.7km s-min=17.3km az=160.0*
*ISCJB **13** 08:29:48.2±0.7, 52°.8N±0°.1×168°.6W±0°.1, h65km±6km, mb3.6/8, Error ellipse: s-maj=20.4km s-min=6.8km az=154.8*
*NEIC **13** 08:29:48.6, 52°.73N×168°.44W, h31km, mb3.7/2, ML4.0(AEIC), After AEIC.*

ISC 13 08:29:48.5±1.2, 52°.8N±0°.1×168°.58W±0°.08, h51km±10km, n41, σ1°38/51, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.25**	**318**	*e*Pg	**Pn**	**08 29 56.9**	**-0.4**
NIKO				*e*Sg	**Sn**	**08 30 03.5**	**-0.1**
OKSO	**Okmok South**	**0.62**	**24**	P	**Pn**	**08 30 01.1**	**-0.2**
OKSO				S	**Sn**	**08 30 11.2**	**+0.6**
OKCE	**Okmok Cone E**	**0.68**	**21**	P	**Pn**	**08 30 02.1**	**0.0**
OKCE				S	**Sn**	**08 30 14.0**	**+2.1**
OKFG	**Magazine Ridge**	**0.74**	**33**	P	**Pn**	**08 30 02.8**	**0.0**
OKFG				S	**Sn**	**08 30 14.8**	**+1.6**
MREP	**Makushin Rep't**	**1.50**	**46**	P	**Pn**	**08 30 13.7**	**+0.7**
MCIR	**Makushin Cirqu**	**1.54**	**40**	P	**Pn**	**08 30 14.2**	**+0.6**
UNV	**Unalaska Valle**	**1.63**	**49**	*e*Pn	**Pn**	**08 30 15.0**	**+0.2**
UNV				*e*Sg	**Sn**	**08 30 35.9**	**+1.3**
AKRB	**Akutan Reef Bi**	**2.01**	**47**	P	**Pn**	**08 30 21.1**	**+1.1**
AKLV	**Akutan Long Va**	**2.08**	**48**	P	**Pn**	**08 30 22.0**	**+1.0**
AKGG	**Akutan Green G**	**2.09**	**47**	P	**Pn**	**08 30 22.1**	**+1.1**
AKGG				S	**Sn**	**08 30 49.5**	**+3.6**
AKUT	**Akutan**	**2.15**	**50**	P	**Pn**	**08 30 23.1**	**+1.3**
WESE	**West Dahl East**	**2.91**	**53**	P	**Pn**	**08 30 33.5**	**+1.1**
KOFP	**Korovin Flat P**	**3.41**	**263**	P	**Pn**	**08 30 42.1**	**+2.9**
ATKA	**Atka Island**	**3.48**	**262**	P	**Pn**	**08 30 42.5**	**+2.3**
FALS	**False Pass**	**3.69**	**54**	P	**Pn**	**08 30 44.6**	**+1.6**
DT1	**Dutton Round H**	**4.38**	**56**	P	**Pn**	**08 30 54.0**	**+1.6**
SDPT	**Sand Point**	**5.41**	**59**	P	**Pn**	**08 31 07.8**	**+1.3**
KDAK	**Kodiak Island**	**10.39**	**55**	Pn	**Pn**	**08 32 13.7**	**-0.9**
	1.1nm,0.3s,baz=251,slow=17,SNR=16						
KDAK				Sn	Sn	08 34 02.0	-7.4
	baz=238,slow=8.9,SNR=2.6						
KDAK	**Kodiak Island**	**10.39**	**55**	Pn	**Pn**	**08 32 13.7**	**-0.9**
KDAK				Sn	Sn	08 34 02.0	-7.4
TNA	**Tin City**	**12.81**	**1**	*e*Pn	**Pn**	**08 32 50.3**	**+2.7**
	3.8nm,0.8s						
SEW	**Seward**	**12.83**	**48**	*e*Pn	**Pn**	**08 32 46.8**	**-1.1**
ILAR	**Eielson Array**	**16.33**	**34**	Pn	**Pn**	**08 33 30.9**	**-3.1**
	0.3nm,0.3s,baz=244,slow=10,SNR=21						
ILAR	**Eielson Array**	**16.33**	**34**	Pn	**Pn**	**08 33 30.9**	**-3.1**
PNL	**Peninsula**	**17.51**	**55**	*e*P	**P**	**08 33 49.2**	**-0.1**
	349nm,1.8s						
EGAK	**Eagle**	**18.41**	**39**	*e*P	**P**	**08 33 58.6**	**-0.5**
	3.8nm,0.5s						

DAWY	**Dawson**	**18.79**	**42**	*e*P		**P**	**08 34 03.2**	**-0.1**
YKA	**Yellowknife Ar**	**29.60**	**49**	P		**P**	**08 35 47.0**	**-1.3**
	0.2nm,0.3s,baz=273,slow=8.0,SNR=12							
YKA				PcP		**PcP**	**08 38 51.6**	**0.0**
	0.1nm,0.4s,baz=256,slow=2.9,SNR=5.6							
YKA	**Yellowknife Ar**	**29.60**	**49**	P		**P**	**08 35 47.0**	**-1.3**
YKA				PcP		**PcP**	**08 38 51.6**	**0.0**
MCMT	**McKenzie Canyo**	**36.72**	**80**	*e*P		**P**	**08 36 50.6**	**-0.2**
	0.5nm,0.6s							
NVAR	**Mina Array Bea**	**37.19**	**92**	P		**P**	**08 36 55.5**	**+0.7**
	0.5nm,0.7s,baz=299,slow=8.3,SNR=4.6							
NVAR	**Mina Array Bea**	**37.19**	**92**	P		**P**	**08 36 55.5**	**+0.7**
PDAR	**Pinedale Array**	**39.85**	**80**	P		**P**	**08 37 17.4**	**+0.4**
	0.6nm,0.7s,baz=296,slow=5.2,SNR=6.5							
PDAR	**Pinedale Array**	**39.85**	**80**	P		**P**	**08 37 17.4**	**+0.4**
SONM	**Songino Array**	**51.50**	**301**	P		**P**	**08 38 48.0**	**-0.7**
	0.1nm,0.3s,baz=72,slow=6.2,SNR=2.5							
SONM				PcP		**PcP**	**08 40 01.1**	**-1.1**
	0.2nm,0.4s,baz=63,slow=3.9,SNR=2.8							
SONM	**Songino Array**	**51.50**	**301**	P		**P**	**08 38 48.0**	**-0.7**
SONM				PcP		**PcP**	**08 40 01.1**	**-1.1**
TXAR	**Lajitas Array**	**52.26**	**90**	P		**P**	**08 38 55.0**	**+0.4**
	0.8nm,0.4s,baz=304,slow=6.1,SNR=26							
TXAR	**Lajitas Array**	**52.26**	**90**	P		**P**	**08 38 55.0**	**+0.4**
WRA	**Warramunga Arr**	**87.64**	**232**	P		**P**	**08 42 30.1**	**-1.1**
	0.5nm,0.7s,baz=34,slow=6.1,SNR=5.7							
WRA	**Warramunga Arr**	**87.64**	**232**	P		**P**	**08 42 30.1**	**-1.1**
ASAR	**Alice Springs**	**91.04**	**231**	P		**P**	**08 42 46.6**	**-0.4**
	0.7nm,0.8s,baz=28,slow=4.6,SNR=7.6							
ASAR	**Alice Springs**	**91.04**	**231**	P		**P**	**08 42 46.6**	**-0.4**

NNC 13 08:40:10.3±3.9, 54°.00N×86°.35E, h0km, mb3.8, mpv3.4, 6C-7D, Error ellipse: s-maj=32.0km s-min=20.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.77**	**238**	⇑Pn	Pn	08 41 38.1	+1.0
	6.3nm,0.7s						
KURK				⇑Sn	Sn	08 42 46.7	+2.8
	5.2nm,0.8s						
KURK				⇓Lg	Lg	08 43 14.4	
	26nm,1.0s						
KURBB	**Kurchatov Arra**	**5.87**	**238**	Pn	Pn	08 41 39.6	+1.1
	2.0nm,0.8s						
KURBB				Sn	Sn	08 42 48.4	+2.0
	2.5nm,0.8s						
KURBB				Lg	Lg	08 43 17.0	
	7.2nm,0.8s						
MK31	**Makanchi Array**	**7.67**	**201**	Pn	Pn	08 42 06.0	+2.8
	1.4nm,0.6s,baz=26,slow=13,SNR=21						
MK31				⇑Sn	Sn	08 43 36.1	+5.3
	1.4nm,0.6s,baz=26,slow=27,SNR=4.7						
MK31				⇓Lg	Lg	08 44 13.4	
	12nm,0.9s,baz=26,slow=30,SNR=6.3						
VOSK	**Vostochnaya**	**9.28**	**268**	⇓Pn	Pn	08 42 26.2	+0.8
	2.0nm,0.6s						
VOSK				⇑Sn	Sn	08 44 08.9	-1.5
	10nm,0.9s						
BVA0	**Borovoye Array**	**9.56**	**271**	⇓Pn	Pn	08 42 29.9	+0.7
	0.1nm,0.3s,baz=69,slow=15,SNR=4.8						
BVA0				⇓Sn	Sn	08 44 14.9	-2.4
	0.6nm,0.8s,baz=71,slow=24,SNR=10.0						
BRVK	**Borovoye**	**9.62**	**271**	⇑Pn	Pn	08 42 30.1	+0.2
	3.0nm,0.9s						
BRVK				⇓Sn	Sn	08

JSH					eS	**S**	**09 09 20.3**	**-2.0**
JSK	**Shakotan**	**4.63**	**87**		P	**P**	**09 08 20.7**	**-0.9**
JSK					eS	**S**	**09 09 23.7**	**-2.9**
JSR	**Shiriuchi**	**4.97**	**108**		P	**P**	**09 08 24.0**	**-0.9**
JSR					eS	**S**	**09 09 29.0**	**-3.6**
JIW	**Iwasaki**	**5.13**	**119**		P	**P**	**09 08 25.6**	**-1.0**
JSI2	**Shiura 2**	**5.16**	**113**		P	**P**	**09 08 26.0**	**-0.9**
HABR	**Khabarovsk**	**5.25**	**7**	*ce*	P	**P**	**09 08 27.0**	**-0.6**
HABR					eS	**S**	**09 09 37.1**	**-0.6**
HABR					pmax	pmax		
	comp=N,104nm,1.0s							
HABR					pmax	pmax		
	comp=E,59nm,1.0s							
HABR					pmax	pmax		
	comp=Z,288nm,1.0s							
HABR	**Khabarovsk**	**5.25**	**7**	*eP*		**P**	**09 08 28.8**	**+1.2**
HABR				*i*	S	**S**	**09 09 37.5**	**-0.2**
JKB	**Kayabe**	**5.28**	**103**		P	**P**	**09 08 26.7**	**-1.3**
JKB					eS	**S**	**09 09 34.2**	**-4.1**
JEW	**Eniwo**	**5.38**	**92**		P	**P**	**09 08 28.2**	**-0.8**
JEW					eS	**S**	**09 09 38.0**	**-2.2**
JOG2	**Oga 2**	**5.40**	**126**		P	**P**	**09 08 28.8**	**-0.6**
JYG	**Yagishiri**	**5.41**	**75**		P	**P**	**09 08 28.5**	**-0.7**
JYG					eS	**S**	**09 09 38.8**	**-1.8**
JOT	**Ohata**	**5.46**	**108**		P	**P**	**09 08 28.2**	**-1.7**
JOT					eS	**S**	**09 09 36.1**	**-5.6**
JTM	**Tenmabayashi**	**5.73**	**113**		P	**P**	**09 08 30.8**	**-1.8**
JAH	**Hinai**	**5.75**	**120**		P	**P**	**09 08 31.2**	**-1.7**
JTB	**Tobi-shima**	**5.76**	**133**		P	**P**	**09 08 32.2**	**-0.8**
JYW	**Yuwa**	**5.89**	**127**		P	**P**	**09 08 33.2**	**-1.1**
JWK2	**Keihoku**	**5.94**	**67**		P	**P**	**09 08 35.3**	**+0.6**
JWK2					eS	**S**	**09 09 48.7**	**-2.0**
JSD	**Sado**	**6.09**	**148**		P	**P**	**09 08 35.7**	**-0.8**
KLR	**Kul'dur**	**6.20**	**345**	⇓ *i*	P	P	09 08 34.3	-3.0
KLR					eS	**S**	**09 09 50.8**	**-4.7**
KLR					pmax	pmax		
	comp=N,150nm,1.2s							
KLR					pmax	pmax		
	comp=E,380nm,1.2s							
KLR					pmax	pmax		
	comp=Z,980nm,1.2s							
KLR					smax	smax		
	comp=N,400nm,1.6s							
KLR					smax	smax		
	comp=E,450nm,1.6s							
KLR	**Kul'dur**	**6.20**	**345**	⇓ *i*	P	**P**	**09 08 37.3**	**0.0**
KLR					AMB	AMB	09 08 38.7	
	comp=E,150nm,1.2s							
KLR					AMB	AMB	09 08 38.7	
	comp=E,380nm,1.2s							
KLR					AMB	AMB	09 08 38.7	
	comp=E,980nm,1.2s							
KLR					eS	**S**	**09 09 53.8**	**-1.7**
KLR					A	A	09 09 57.8	
	comp=E,400nm,1.6s							
KLR					A	A	09 09 57.8	
	comp=E,450nm,1.6s							
ASAJ	**Asahikawa**	**6.20**	**79**		P	**P**	**09 08 36.3**	**-1.2**
	comp=E,145nm,0.3s,baz=268,slow=12,SNR=400							
ASAJ					S	**S**	**09 09 52.3**	**-3.4**
	baz=221,slow=20,SNR=3.6							
ASAJ	**Asahikawa**	**6.20**	**79**	*eP*		**P**	**09 08 36.0**	**-1.5**
ASAJ					S	**S**	**09 09 52.3**	**-3.4**
ASAJ					eS	S	09 09 52.9	-2.8
JANG	**Nango**	**6.23**	**115**		P	**P**	**09 08 34.9**	**-3.0**
JRG	**Rokugo**	**6.23**	**126**		P	**P**	**09 08 36.2**	**-1.8**
JKZ	**Kuzumaki**	**6.31**	**119**		P	**P**	**09 08 36.2**	**-2.6**
CN2	**Changchun**	**6.33**	**278**	⇓ *i*	P	**P**	**09 08 40.4**	**+1.5**
CN2					eS	**S**	**09 09 56.9**	**-1.4**
CN2					pmax	pmax		
	comp=Z,40nm,1.0s							
CN2					pmax	pmax		
	comp=Z,200nm,3.0s							
JYK	**Kaneyama**	**6.40**	**131**		P	**P**	**09 08 38.0**	**-1.7**
JOM	**Ohasama**	**6.58**	**123**		P	P	09 08 38.6	-3.4
JJH	**Hakui**	**6.64**	**161**		P	**P**	**09 08 43.2**	**+0.5**
JYS	**Shirataka**	**6.75**	**136**		P	**P**	**09 08 41.9**	**-2.0**
ERM	**Erimo**	**6.77**	**98**	*c i*	P	**P**	**09 08 41.9**	**-2.1**
ERM					pmax	pmax		
	comp=Z,1μm,1.0s							
ERM	**Erimo**	**6.77**	**98**	*eP*		**P**	**09 08 41.8**	**-2.1**
ERM					eS	S	09 10 00.0	-7.0
MIYJ	**Miyakonagasawa**	**6.85**	**120**		P	P	09 08 41.1	-3.7
JMK	**Ichinoseki**	**6.87**	**126**		P	**P**	**09 08 41.9**	**-3.1**
JMK					eS	S	09 10 01.4	-7.6
JOU	**Okura**	**6.96**	**132**		P	**P**	**09 08 43.8**	**-2.3**
OFUJ	**Ofunato**	**7.05**	**124**		P	P	09 08 43.4	-3.7
JHK	**Hiroka**	**7.07**	**146**		P	**P**	**09 08 45.7**	**-1.6**
YSS	**Yuzh-Sakhalins**	**7.13**	**56**	*κ i*	P	**P**	**09 08 47.5**	**-0.2**
YSS					*i* S	**S**	**09 10 10.0**	**-4.0**
YSS					pmax	pmax		
	comp=Z,680nm,1.2s							
YSS					smax	smax		
	comp=N,90μm,1.2s							
YSS					smax	smax		
	comp=E,180nm,1.1s							
YSS					smax	smax		
	comp=N,2μm,8.0s							
YSS	**Yuzh-Sakhalins**	**7.13**	**56**	*eP*		**P**	**09 08 46.6**	**-1.1**
	comp=N,585nm,1.0s							
YSS					eS	**S**	**09 10 10.6**	**-3.4**
YSS	**Yuzh-Sakhalins**	**7.13**	**56**	⇓ *i*	P	**P**	**09 08 47.5**	**-0.2**
YSS					AMB	AMB	09 08 50.0	
	comp=N,680nm,1.2s							
YSS					sP	sPn	09 09 55.5	-9.3
YSS					*i* S	**S**	**09 10 10.0**	**-4.0**
YSS					A	A	09 10 15.0	
	comp=N,180nm,1.1s							
YSS					A	A	09 10 16.0	
	comp=N,2μm,8.0s							
JTKR	**Abashiri--Toko**	**7.13**	**81**		P	**P**	**09 08 46.0**	**-1.8**
JTKR					eS	**S**	**09 10 09.8**	**-4.3**
JIO	**Ouri**	**7.28**	**129**		P	P	09 08 45.7	-3.8
JMM	**Marumori**	**7.40**	**134**		P	P	09 08 47.5	-3.3
MAJO	**Matsushiro**	**7.40**	**154**	*eP*		**P**	**09 08 49.7**	**-1.2**
MAJO	**Matsushiro**	**7.40**	**154**	*eP*		**P**	**09 08 49.7**	**-1.2**
MAT	**Matsushiro**	**7.40**	**154**		P	**P**	**09 08 49.2**	**-1.7**
MAT					S	**S**	**09 10 17.8**	**-2.0**
MAT	**Matsushiro**	**7.40**	**154**		P	**P**	**09 08 49.7**	**-1.2**
MJAR	**Matsushiro Arr**	**7.41**	**154**		P	**P**	**09 08 50.3**	**-0.6**
	comp=N,7.1nm,0.3s,baz=332,slow=11,SNR=64							
MJAR					S	**S**	**09 10 16.5**	**-3.3**
	baz=296,slow=19,SNR=2.2							
MJAR	**Matsushiro Arr**	**7.41**	**154**		P	**P**	**09 08 50.3**	**-0.6**
MJAR					S	**S**	**09 10 16.5**	**-3.3**
JFT	**Otama**	**7.44**	**138**		P	**P**	**09 08 48.7**	**-2.5**
JFT					S	**S**	**09 10 15.2**	**-5.2**
JGN	**Niukaw**	**7.44**	**160**		P	**P**	**09 08 50.6**	**-0.8**
KSRS	**Korea Array**	**7.49**	**221**		P	**P**	**09 08 53.4**	**+1.6**
	comp=N,23nm,0.3s,baz=39,slow=11,SNR=523							
KSRS					S	**S**	**09 10 22.1**	**+0.7**
	baz=42,slow=20,SNR=10							
KSAR	**Wonju Array Be**	**7.51**	**221**		P	**P**	**09 08 53.4**	**+1.3**
KSAR					S	**S**	**09 10 22.1**	**+0.1**
GRNR	**Gornyy**	**7.67**	**11**	⇓ *iP*		**P**	**09 08 54.0**	**+0.5**
GRNR					AMB	AMB	09 08 55.4	
	comp=N,280nm,0.8s							
GRNR					AMB	AMB	09 08 55.4	
	comp=N,250nm,0.8s							
GRNR					eS	**S**	**09 10 23.1**	**-1.7**
GRNR					A	A	09 10 25.4	
	comp=N,880nm,1.0s							
GRNR					A	A	09 10 25.4	
	comp=N,120nm,1.0s							
JSB	**Shiboa**	**7.69**	**143**		P	**P**	**09 08 51.9**	**-2.1**
JFK	**Kawauchi**	**7.82**	**137**		S	S	09 10 18.7	-10
SNY	**Shenyang**	**7.92**	**263**	⇓	P	**P**	**09 08 58.6**	**+2.2**
SNY					S	**S**	**09 10 33.6**	**+3.6**
SNY					pmax	pmax		
	comp=Z,470nm,4.3s							
JAG	**Ashikaga**	**7.96**	**147**		P	**P**	**09 08 54.5**	**-2.4**
UGL	**Uglegorsk**	**8.01**	**41**	⇓ *iP*		**P**	**09 08 57.1**	**0.0**
UGL				*i*	S	**S**	**09 10 27.0**	**-4.6**
UGL					pmax	pmax		
	comp=Z,690nm,1.0s							
UGL					smax	smax		
	comp=N,3μm,8.0s							
UGL					smax	smax		
	comp=E,3μm,4.0s							
UGL					smax	smax		
	comp=N,450nm,1.4s							
UGL					smax	smax		
	comp=E,510nm,1.4s							
UGL	**Uglegorsk**	**8.01**	**41**	⇓ *iP*		**P**	**09 08 57.1**	**0.0**
UGL					AMB	AMB	09 08 58.0	
	comp=E,130nm,0.9s							
UGL					AMB	AMB	09 08 58.0	
	comp=E,330nm,0.9s							
UGL					AMB	AMB	09 08 58.0	
	comp=E,690nm,1.0s							
UGL				*i*	S	**S**	**09 10 27.0**	**-4.6**
UGL					A	A	09 10 32.0	
	comp=E,450nm,1.4s							
UGL					A	A	09 10 32.0	
	comp=E,510nm,1.4s							
UGL					A	A	09 10 32.0	
	comp=E,3μm,6.0s							
UGL					A	A	09 10 32.0	
	comp=E,3μm,6.0s							
JRY	**Ryogami san**	**8.12**	**151**		P	**P**	**09 08 56.3**	**-2.3**
JRY					eS	**S**	**09 10 29.7**	**-4.5**
INCN	**Inchon**	**8.12**	**227**	*eP*		**P**	**09 08 59.1**	**+0.5**
JHS	**Saijyo**	**8.29**	**186**		P	**P**	**09 09 01.5**	**+1.0**
JHS					eS	**S**	**09 10 38.9**	**+1.2**
NEM2	**Nemuro 2**	**8.47**	**85**		P	P	09 08 58.6	-3.7
NEM2					eS	S	09 10 31.3	-10
YUK	**Yuzh-Kuril'sk**	**8.54**	**81**	*d i*	P	**P**	**09 09 01.6**	**-1.5**
YUK				*i*	S	**S**	**09 10 40.3**	**-2.3**
YUK					pmax	pmax		
	comp=E,71nm,0.5s							
YUK					pmax	pmax		
	comp=Z,344nm,0.5s							
YUK					pmax	pmax		
	comp=N,119nm,0.5s							
YUK					pmax	pmax		
	comp=Z,30μm,0.4s							
YUK					MLR	MLR		
	comp=E,92nm,13.0s							
YUK					MLR	MLR		
	comp=Z,152nm,12.0s							
YUK	**Yuzh-Kuril'sk**	**8.54**	**81**	⇓ *iP*		**P**	**09 09 01.6**	**-1.5**
YUK					AMB	AMB	09 09 05.4	
	comp=Z,119nm,0.5s							
YUK					AMB	AMB	09 09 05.4	
	comp=Z,71nm,0.5s							
YUK					AMB	AMB	09 09 05.4	
	comp=Z,344nm,0.5s							
YUK					eS	**S**	**09 10 38.0**	**-4.6**
JOD2	**Odawara 2**	**8.86**	**153**		P	**P**	**09 09 04.0**	**-2.7**
JOD2					eS	S	09 10 42.1	-7.3
JIE	**Ise**	**9.08**	**166**		P	**P**	**09 09 07.9**	**-1.2**
JIE					eS	**S**	**09 10 50.6**	**-3.2**
JTY	**Toyota**	**9.29**	**196**		P	**P**	**09 09 12.4**	**+0.9**
JTU	**Tsushima**	**9.47**	**204**		P	**P**	**09 09 14.9**	**+1.5**
TYV	**Tymovskoe**	**9.57**	**34**	⇓ *iP*		**P**	**09 09 14.5**	**+0.3**
TYV					AMB	AMB	09 09 16.0	
	comp=Z,1μm,2.0s							
TYV					AMB	AMB	09 09 16.0	
	comp=Z,1μm,2.0s							
TYV					AMB	AMB	09 09 16.0	
	comp=Z,198nm,1.0s							
TYV					eS	**S**	**09 11 00.5**	**-2.8**
TYV					A	A	09 11 03.5	
	comp=Z,341nm,1.4s							
TYV					A	A	09 11 03.5	
	comp=Z,196nm,1.4s							
JWZ	**Kozaga**	**9.79**	**172**		P	**P**	**09 09 16.4**	**-0.6**
TTO1	**TONANKAI O.B.S**	**9.84**	**167**		P	**P**	**09 09 17.2**	**0.0**
EKMR	**Ekimchan**	**9.85**	**356**	⇑ *iP*		**P**	**09 09 16.3**	**-1.0**
EKMR					AMB	AMB	09 09 18.0	
	comp=Z,110nm,0.5s							
KUR	**Kuril'sk**	**10.06**	**74**	⇓ *iP*		**P**	**09 09 19.0**	**-0.6**
KUR					eS	**S**	**09 11 12.0**	**-1.2**
KUR					pmax	pmax		
	comp=N,190nm,0.5s							
KUR					pmax	pmax		
	comp=Z,760nm,0.5s							
KUR					pmax	pmax		
	comp=E,270nm,0.8s							
KUR					smax	smax		
	comp=E,960nm,1.1s							
KUR					smax	smax		
	comp=N,1μm,1.3s							
KUR					smax	smax		
	comp=N,4μm,2.0s							
KUR					smax	smax		
	comp=E,4μm,1.8s							
KUR	**Kuril'sk**	**10.06**	**74**	⇓ *iP*		**P**	**09 09 19.0**	**-0.6**
KUR					AMB	AMB	09 09 19.8	
	comp=E,190nm,0.5s							
KUR					AMB	AMB	09 09 19.8	
	comp=E,760nm,0.5s							
KUR					AMB	AMB	09 09 19.8	
	comp=E,270nm,0.8s							
KUR					eS	**S**	**09 11 10.0**	**-3.2**
KUR					A	A	09 11 13.0	
	comp=E,4μm,2.0s							
KUR					A	A	09 11 13.0	
	comp=E,4μm,2.0s							
KUR					A	A	09 11 13.0	
	comp=E,1μm,1.2s							
KUR					A	A	09 11 13.0	
	comp=E,960nm,1.2s							
BSO1	**Boso 1**	**10.11**	**146**		P	**P**	**09 09 17.0**	**-2.8**
BSO1					eS	S	09 11 04.6	-9.1
DL2	**Dalian**	**10.39**	**249**	⇓ *iP*		**P**	**09 09 25.3**	**+1.9**
DL2					sP	**sPn**	**09 10 48.6**	**-0.8**
DL2					S	**S**	**09 11 21.5**	**+1.4**
DL2					pmax	pmax		
	comp=Z,230nm,0.8s							
DL2					pmax	pmax		
	comp=Z,560nm,4.1s							
JTO	**Tosashimizu**	**10.44**	**186**		P	**P**	**09 09 24.4**	**+0.4**
JNU	**Nakatsue**	**10.44**	**195**		P	**P**	**09 09 25.1**	**+1.0**
	comp=Z,7.9nm,0.3s,baz=52,slow=4.5,SNR=55							
JNU	**Nakatsue**	**10.44**	**195**	*eP*		**P**	**09 09 25.3**	**+1.2**
NKL	**Nikolayevsk**	**10.81**	**21**	⇓ *iP*		**P**	**09 09 28.0**	**+0.2**
NKL					AMB	AMB	09 09 29.5	
	comp=Z,180nm,1.0s							
NKL					AMB	AMB	09 09 29.5	
	comp=Z,77nm,1.0s							
NKL					AMB	AMB	09 09 29.5	
	comp=Z,440nm,1.0s							
NKL					eS	**S**	**09 11 24.0**	**-4.2**
NKL					A	A	09 11 29.0	
	comp=Z,2μm,4.0s							
NKL					A	A	09 11 29.0	
	comp=Z,2μm,4.0s							
NKL					A	A	09 11 29.5	
	comp=Z,390nm,1.6s							
NKL					A	A	09 11 29.5	
	comp=Z,290nm,1.6s							
YASR	**Yasnyy**	**10.84**	**340**	⇑ *iP*		**P**	**09 09 27.8**	**-0.3**
YASR					AMB	AMB	09 09 28.5	
	comp=Z,40nm,0.6s							
YASR					AMB	AMB	09 09 28.5	
	comp=Z,17nm,0.6s							
YASR					AMB	AMB	09 09 28.5	
	comp=Z,60nm,0.6s							
JHJ	**Hachijo jima 2**	**11.05**	**154**		P	**P**	**09 09 28.6**	**-2.3**
	comp=Z,56nm,0.3s,baz=22,slow=23,SNR=11							
JHJ					S	S	09 11 27.1	-6.6
	comp=Z,26nm,0.3s,baz=329,slow=23,SNR=8.3							
JHJ2	**Mitsune**	**11.07**	**154**		P	**P**	**09 09 28.4**	**-2.6**
JHJ2					eS	S	09 11 26.1	-7.9
ZEA	**Zeya**	**11.43**	**339**	⇑ *iP*		**P**	**09 09 35.5**	**+0.9**
ZEA					AMB	AMB	09 09 36.3	
	comp=Z,300nm,3.0s							
ZEA					AMB	AMB	09 09 36.3	
	comp=Z,120nm,0.5s							
ZEA					AMB	AMB	09 09 36.3	
	comp=Z,130nm,0.5s							
ZEA					AMB	AMB	09 09 36.3	
	comp=Z,290nm,0.5s							
ZEA					eS	**S**	**09 11 39.0**	**-1.6**
ZEA					A	A	09 11 42.0	
	comp=Z,600nm,6.0s							
HIA	**Hailar**	**11.62**	**306**	*eP*		**P**	**09 09 37.4**	**+0.6**
	comp=Z,104nm,0.8s							
OKH	**Okha**	**11.83**	**26**	*i*	P	**P**	**09 09 40.6**	**+1.6**
OKH					eS	**S**	**09 11 48.8**	**+0.2**
OKH					pmax	pmax		
	comp=Z,1μm,3.0s							
OKH					smax	smax		
	comp=N,2.0nm,3.0s							
OKH					smax	smax		
	comp=E,2.0nm,5.0s							
OKH	**Okha**	**11.83**	**26**	⇓ *iP*		**P**	**09 09 40.6**	**+1.6**
OKH					AMB	AMB	09 09 41.1	
	comp=E,400nm,0.8s							
OKH					eS	**S**	**09 11 48.0**	**-0.6**
OKH					A	A	09 11 49.6	
	comp=E,1μm,3.0s							
OKH					eS	**S**	**09 11 48.0**	**-0.6**
OKH					A	A	09 11 49.6	
	comp=E,2μm,4.0s							
OKH					A	A	09 11 49.6	
	comp=E,2μm,4.0s							
BMKR	**Bomnak**	**11.97**	**345**	⇑ *iP*		**P**	**09 09 40.5**	**0.0**
BMKR					AMB	AMB	09 09 41.5	
	comp=E,56nm,0.6s							
BMKR					AMB	AMB	09 09 41.5	
	comp=E,25nm,0.6s							
BMKR					AMB	AMB	09 09 41.5	
	comp=E,90nm,0.6s							
JSJ	**Shimokoshiki**	**12.08**	**198**		P	**P**	**09 09 41.6**	**-0.4**
KROS	**Kirovskiy**	**12.13**	**340**	⇑ *iP*		**P**	**09 09 42.0**	**-0.2**
KROS					AMB	AMB	09 09 42.9	
	comp=E,120nm,0.4s							
KROS					AMB	AMB	09 09 42.9	
	comp=E,57nm,0.4s							
KROS					AMB	AMB	09 09 42.9	
	comp=E,200nm,0.4s							
BJI	**Beijing**	**13.80**	**263**		P	**P**	**09 10 01.5**	**+0.9**
BJI					S	**S**	**09 12 28.8**	**+0.5**
BJI					pmax	pmax		
	comp=Z,310nm,1.3s							
BJT	**Baijiatuao**	**13.82**	**263**	*eP*		**P**	**09 10 01.7**	**+0.9**
	comp=Z,354nm,0.9s							
CLNS	**Chul'man**	**14.81**	**340**	*eP*		**P**	**09 10 10.7**	**-0.6**
CLNS					AMB	AMB	09 10 12.9	
	comp=Z,73nm,0.9s							
CLNS					AMB	AMB	09 10 12.9	
	comp=Z,20nm,0.9s							
CLNS					AMB	AMB	09 10 12.9	
	comp=Z,103nm,0.9s							
CLNS					eS	**S**	**09 12 47.5**	**-0.3**
CLNS					A	A	09 12 49.6	
	comp=Z,87nm,1.5s							
CLNS					A	A	09 12 49.6	
	comp=Z,17nm,1.5s							
TIA	**Tai'an**	**14.84**	**247**	⇓	P	**P**	**09 10 12.5**	**+0.6**
TIA					pmax	pmax		
	comp=Z,370nm,1.0s							
CIT	**Chita**	**16.36**	**310**	*eP*		**P**	**09 10 27.0**	**-0.9**
CIT					eS	**S**	**09 13 14.9**	**-3.3**
CIT					pmax	pmax		
	comp=Z,196nm,1.7s							
NJ2	**Nanjing**	**16.45**	**232**	*eP*		**P**	**09 10 28.8**	**-0.2**
NJ2					S	**S**	**09 13 21.5**	**+1.2**
NJ2					pmax	pmax		
	comp=Z,50nm,0.6s							
NJ2					pmax	pmax		
	comp=Z,220nm,6.3s							
HHC	**Hu-ho-hao-te**	**16.92**	**270**	*eP*		**P**	**09 10 34.3**	**+0.2**
HHC					S	**S**	**09 13 26.3**	**-3.3**
HHC					PcP	**PcP**	**09 14 59.1**	**+4.0**
HHC					PcS	**PcS**	**09 18 34.8**	**+3.4**
HHC					pmax	pmax		
	comp=Z,89nm,1.0s							
HHC					pmax	pmax		
	comp=Z,460nm,5.4s							
JOW	**Kunigami**	**17.07**	**198**		S	S	09 13 22.8	-10
	comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=3.6							
CBIJ	**Chichi jima**	**17.40**	**155**		P	**P**	**09 10 36.6**	**-2.6**
	comp=Z,31nm,0.3s,baz=271,slow=16,SNR=12							
CBIJ					S	**S**	**09 13 37.8**	**-0.9**
	comp=Z,4.6nm,0.3s,baz=287,slow=19,SNR=2.5							
CBIJ	**Chichi jima**	**17.40**	**155**		P	**P**	**09 10 36.6**	**-2.6**
CBIJ					S	**S**	**09 13 37.8**	**-0.9**
PETK	**Petropavlovsk-**	**18.47**	**50**		P	**P**	**09 10 50.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=202,slow=7.4,SNR=6.7							
PETK	**Petropavlovsk-**	**18.47**	**50**		P	**P**	**09 10 50.5**	**+0.5**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**18.47**	**50**		P	**P**	**09 10 50.5**	**+0.5**
YAK	**Yakutsk**	**18.99**	**354**	*eP*		**P**	**09 10 51.3**	**-3.5**
YAK					eS	**S**	**09 14 01.8**	**-3.5**
YAK					pmax	pmax		
	comp=Z,67nm,0.8s							
YAK					pmax	pmax		
	comp=N,55nm,1.3s							
YAK					pmax	pmax		
	comp=E,9.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,221nm,3.7s							
YAK					pmax	pmax		
	comp=N,108nm,2.5s							
YAK					pmax	pmax		
	comp=E,42nm,1.9s							
YAK					smax	smax		
	comp=N,1μm,2.4s							
YAK					smax	smax		
	comp=E,350nm,1.9s							
YAK	**Yakutsk**	**18.99**	**354**	*eP*		**P**	**09 10 52.4**	**-2.5**
	comp=E,99nm,0.6s							
BOD	**Bodaibo**	**19.28**	**326**	*eP*		**P**	**09 10 55.3**	**-2.3**
BOD				*e*			09 14 09.5	
BOD					pmax	pmax		
	comp=Z,37nm,0.9s							
ULN	**Ulaanbaatar**	**19.46**	**293**	*eP*		**P**	**09 10 59.4**	**-0.3**
	comp=Z,48nm,0.8s							
ULN	**Ulaanbaatar**	**19.46**	**293**	P		**P**	**09 10 58.8**	**-0.9**
	comp=Z,76nm,0.9s,comp=Z,844nm							
SONM	**Songino Array**	**19.90**	**293**	P		**P**	**09 11 03.5**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=104,slow=8.6,SNR=164							
SONM					ScP	**ScP**	**09 17 54.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=136,slow=2.2,SNR=5.3							
SONM	**Songino Array**	**19.90**	**293**		P	**P**	**09 11 03.5**	**-0.2**
SONM					ScP	**ScP**	**09 17 54.4**	**-0.5**
WHN	**Wuhan**	**20.22**	**238**		P	**P**	**09 11 05.8**	**-0.8**
XAN	**Xi'an**	**21.67**	**253**		P	**P**	**09 11 19.1**	**-0.7**
XAN					sP	**sP**	**09 13 16.4**	**-2.0**
XAN					S	**S**	**09 14 53.0**	**+3.7**
XAN					ScS	**ScS**	**09 21 40.8**	**-3.6**
XAN					pmax	pmax		
	comp=Z,11nm,1.0s							
XAN					pmax	pmax		
	comp=Z,61nm,3.3s							
IRK	**Irkutsk**	**21.86**	**305**	*eP*		**P**	**09 11 21.3**	**0.0**
IRK					eS	**S**	**09 14 52.5**	**+0.6**
IRK					pmax	pmax		
	comp=Z,57nm,1.6s							
TLY	**Talaya**	**22.13**	**303**	*d i*	P	**P**	**09 11 23.7**	**0.0**
TLY					eS	**S**	**09 14 56.2**	**0.0**
TLY					pmax	pmax		
	comp=Z,50nm,1.0s							
TLY	**Talaya**	**22.13**	**303**	*eP*		**P**	**09 11 23.7**	**0.0**
	comp=Z,20nm,0.7s							
ZAK	**Zakamensk**	**22.16**	**300**	⇓ *iP*		**P**	**09 11 24.0**	**-0.2**
ZAK					pmax	pmax		
	comp=Z,43nm,1.0s							
SSLB	**Suanglung**	**22.26**	**213**	*eP*		**P**	**09 11 25.0**	**-0.2**
	comp=Z,21nm,1.0s							
SEY	**Seymchan**	**22.39**	**22**	⇑ *eP*		**P**	**09 11 26.2**	**+0.3**
TPUB	**Ta-pu**	**22.82**	**214**	*eP*		**P**	**09 11 30.7**	**+0.3**
	comp=Z,20nm,0.5s							
ENH	**Enshi**	**23.51**	**245**	*eP*		**P**	**09 11 35.7**	**-0.8**
	comp=Z,40nm,0.6s							
MOY	**Mondy**	**23.76**	**302**	*eP*		**P**	**09 11 38.4**	**-0.1**
MOY					pmax	pmax		

CD2 sS **SS** **09 18 23.5 -7.0**
CD2 ScS **ScS** **09 22 06.8 +0.2**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,180nm,4.3s
FX1 Attu Island--F 27.49 56 P **P** **09 12 12.8 +1.3**
comp=Z,8.8nm,0.6s,baz=143,slow=5.1,SNR=8.3
FX1 Attu Island--F 27.49 56 P **P** **09 12 12.8 +1.3**
GYA Guiyang 27.91 242 ⇑*i*P **P** **09 12 14.6 -1.0**
GYA pP **PP** **09 13 30.0 +0.2**
GYA sP **sP** **09 14 18.4 -3.1**
GYA PcP **PcP** **09 15 20.8 +2.7**
GYA S **S** **09 16 22.1 -5.7**
GYA ScP **ScP** **09 18 21.0 +3.6**
GYA PcS **PcS** **09 19 01.5 +0.6**
GYA ScS **ScS** **09 22 12.4 +1.5**
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,120nm,4.6s
HVS Khovu-Aksy 28.28 300*c i*P **P** **09 12 18.6 +0.1**
KRAR Krasnoyarsk 29.14 310 ⇑*i*P **P** **09 12 26.1 +0.2**
KRAR pmax pmax
comp=Z,137nm,1.4s
BILL Bilibino 30.07 24 *e*P **P** **09 12 34.2 +0.3**
BILL pmax pmax
comp=Z,26nm,0.6s
BILL Bilibino 30.07 24 *e*P **P** **09 12 34.2 +0.3**
comp=Z,26nm,0.6s
KMI Kunming 31.39 245 P **P** **09 12 44.8 -1.3**
KMI PP **PP** **09 14 13.9 +6.1**
KMI PcP **PcP** **09 15 23.3 -4.0**
KMI S **S** **09 17 18.6 -3.5**
KMI SS **SS** **09 20 00.6 +1.8**
KMI pmax pmax
comp=Z,55nm,1.3s
WMQ Urumqi 33.32 287 P **P** **09 13 02.8 +0.5**
WMQ PP **PP** **09 14 31.3 +2.7**
WMQ sP **sP** **09 15 05.8 -3.8**
WMQ S **S** **09 17 51.6 +0.5**
WMQ PcS **PcS** **09 19 20.8 +2.3**
WMQ pmax pmax
comp=Z,61nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.5s
ZALV Zalesovo Beam 33.66 306 P **P** **09 13 04.5 -0.4**
comp=Z,56nm,0.7s,baz=83,slow=8.6,SNR=36
ZALV PcP **PcP** **09 15 32.9 0.0**
comp=Z,16nm,0.5s,baz=90,slow=3.0,SNR=6.9
ZALV S **S** **09 17 54.5 -1.3**
comp=Z,2.0nm,0.3s,baz=96,slow=10,SNR=2.1
ZALV ScP **ScP** **09 18 35.9 -0.1**
comp=Z,9.4nm,0.4s,baz=92,slow=3.4,SNR=9.4
ZALV Zalesovo Beam 33.66 306 P **P** **09 13 04.5 -0.4**
ZALV 09 15 32.9
ZALV S **S** **09 17 54.5 -1.3**
ZALV pmax pmax
comp=Z,56nm,0.7s pmax pmax
ZALV pmax pmax
comp=Z,17nm,0.5s
ZALV smax smax
comp=N,2.0nm,0.3s
ZALV pmax pmax
comp=N,9.0nm,0.4s
ZALV Zalesovo Beam 33.66 306 P **P** **09 13 04.5 -0.4**
ZALV PcP **PcP** **09 15 32.9 0.0**
ZALV S **S** **09 17 54.5 -1.3**
ZALV ScP **ScP** **09 18 35.9 -0.1**
NVS Novosibirsk 34.56 308 ⇓*i*P **P** **09 13 11.4 -1.0**
NVS *i* *PP **pP** **09 14 33.7 +3.1**
NVS *i* 09 15 35.1
NVS *i* S **S** **09 18 08.2 -1.1**
NVS *i* 09 22 41.7
NVS pmax pmax
comp=Z,48nm,1.3s
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,28nm,1.3s
NVS smax smax
comp=N,37nm,2.2s
NVS smax smax
comp=E,46nm,2.2s
MK31 Makanchi Array 36.26 294*ce*P **P** **09 13 26.4 -0.6**
MK31 pmax pmax
comp=Z,14nm,0.4s
MKAR Makanchi Array 36.26 294 P **P** **09 13 26.8 -0.2**
comp=Z,45nm,1.0s,baz=83,slow=14,SNR=143
MKAR PcP **PcP** **09 15 40.9 0.0**
comp=Z,1.3nm,0.4s,baz=66,slow=2.4,SNR=4.8
MKAR S **S** **09 18 34.9 -0.5**
comp=Z,5.3nm,1.1s,baz=73,slow=18,SNR=8.0
MKAR ScP **ScP** **09 18 44.2 -1.4**
comp=Z,3.4nm,0.8s,baz=73,slow=4.1,SNR=5.0
MKAR Makanchi Array 36.26 294 *e*P **P** **09 13 27.0 +0.1**
MKAR 09 15 40.9
MKAR S **S** **09 18 34.9 -0.5**
MKAR Makanchi Array 36.26 294 *e*P **P** **09 13 27.0 +0.1**
MKAR PcP **PcP** **09 15 40.9 0.0**
MKAR S **S** **09 18 34.9 -0.5**
MKAR ScP **ScP** **09 18 44.2 -1.4**
LSA Lhasa 36.71 263 *e*P **P** **09 13 32.5 +1.1**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 36.71 263 *e*P **P** **09 13 32.5 +1.1**
comp=Z,9.4nm,0.6s
KURK Kurchatov 37.80 301*d i*P **P** **09 13 39.1 -0.5**
KURK pmax pmax
comp=Z,145nm,1.1s
KURK Kurchatov 37.80 301 *e*P **P** **09 13 39.3 -0.3**
comp=Z,87nm,0.8s
KURK pP **pP** **09 15 01.0 +1.9**
KURK *ep*P **pwP** **09 15 01.9 +2.8**
KURK PcP **PcP** **09 15 45.6 +0.2**
KURK ScP **ScP** **09 18 51.4 +0.1**
KURK *e*ScP S 09 18 51.9 -6.3
KURK S S 09 18 57.1 -1.1
KURBB Kurchatov Arra 37.88 301 P **P** **09 13 39.7 -0.5**
comp=Z,74nm,0.6s,baz=80,slow=8.8,SNR=174
KURBB pP **pP** **09 15 01.0 +1.2**
comp=Z,18nm,0.8s,baz=82,slow=10,SNR=7.7
KURBB PcP **PcP** **09 15 45.6 -0.1**
comp=Z,10nm,0.8s,baz=90,slow=4.1,SNR=5.0
KURBB ScP **ScP** **09 18 51.4 -0.2**
comp=Z,1.4nm,0.7s,baz=86,slow=4.9,SNR=6.1
KURBB S **S** **09 18 57.1 -2.2**
comp=Z,2.4nm,0.8s,baz=87,slow=16,SNR=5.5
CHTO Chiang Mai 38.33 242 *e*P **P** **09 13 44.3 0.0**
CHTO pmax pmax
comp=Z,57nm,1.3s
CHTO Chiang Mai 38.33 242 *e*P **P** **09 13 44.3 0.0**
comp=Z,57nm,1.3s
CHTO Chiang Mai 38.33 242 P **P** **09 13 44.1 -0.2**
comp=Z,38nm,1.0s
TNA Tin City 38.53 34 *e*P **P** **09 13 46.3 +1.0**
comp=Z,53nm,1.0s
TNA *ep*P **pP** **09 15 07.2 +2.0**
TNA *e*PcP **PcP** **09 15 49.5 +2.0**
CMAR Chiang Mai Arr 38.59 241 P **P** **09 13 46.4 -0.1**
comp=Z,8.1nm,0.6s,baz=33,slow=7.4,SNR=44
CMAR PcP **PcP** **09 15 48.3 -0.2**
comp=Z,5.3nm,0.9s,baz=6.6,slow=3.2,SNR=7.8
CMAR ScP **ScP** **09 18 54.2 -0.7**
comp=Z,3.5nm,0.7s,baz=14,slow=3.7,SNR=12
CMAR Chiang Mai Arr 38.59 241 P **P** **09 13 46.4 -0.1**
CMAR PcP **PcP** **09 15 48.3 -0.2**
CMAR ScP **ScP** **09 18 54.2 -0.7**
SHL Shillong 38.60 257 *i* P **P** **09 13 46.0 -0.7**
SHL *e*S **S** **09 19 09.0 -2.0**
TAPN Taplejung 40.53 262 *e*P **P** **09 14 02.9 +0.4**
comp=Z,84nm,0.6s
ODAN Odare 41.05 262 *e*P **P** **09 14 06.9 +0.3**
JIRN Jiri 41.46 264 *e*P **P** **09 14 10.3 +0.3**
comp=Z,32nm,0.5s
GUN Gumba 41.54 265 *e*P **P** **09 14 10.6 0.0**
comp=Z,191nm,0.4s
RAMN Ramite 41.57 263 *e*P **P** **09 14 10.6 -0.1**
comp=Z,79nm,0.4s
ULHL Ulahol 41.77 289 P **P** **09 14 12.6 +0.5**
SNR=6.0
TKM2 Tokmak 2 41.97 290 *i* P **P** **09 14 14.4 +0.7**
TKM2 Tokmak 2 41.97 290 P **P** **09 14 14.5 +0.7**
SNR=94
VOSK Vostochnaya 42.04 306 ⇑Pn P 09 14 10.7 -3.2
comp=Z,34nm,0.8s
VOSK ⇓Sn pP 09 15 28.0 -7.3
comp=Z,18nm,0.9s
VOSK Vostochnaya 42.04 306 P **P** **09 14 13.2 -0.6**
VOSK pmax pmax
comp=Z,46nm,0.8s
KKN Kakani 42.05 265 *e*P **P** **09 14 14.4 -0.1**
comp=Z,84nm,0.6s
PKI Pulchoki 42.08 265 *e*P **P** **09 14 14.7 -0.2**
comp=Z,55nm,0.4s
DMN Daman 42.27 265 *e*P **P** **09 14 16.4 0.0**
comp=Z,71nm,0.5s
BVA0 Borovoye Array 42.31 306 ⇑Pn **P** **09 14 14.6 -1.4**
comp=Z,4.5nm,1.2s,baz=85,slow=10,SNR=52
BVA0 ⇑Sn **pP** **09 15 37.0 -0.6**
comp=Z,1.6nm,1.0s,baz=92,slow=29,SNR=5.1
BVA0 Borovoye Array 42.31 306 *i* P **P** **09 14 15.5 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 42.31 306 P **P** **09 14 15.8 -0.2**
comp=Z,7.7nm,0.5s,baz=76,slow=7.8,SNR=38
BVAR pP **pP** **09 15 39.0 +1.3**
comp=Z,6.7nm,0.9s,baz=96,slow=8.2,SNR=3.0
BVAR PcP **PcP** **09 16 00.5 +0.4**
comp=Z,7.0nm,0.4s,baz=85,slow=4.9,SNR=10
BVAR ScP **ScP** **09 19 08.2 -0.9**
comp=Z,8.6nm,0.9s,baz=95,slow=3.1,SNR=14
BVAR S **S** **09 20 02.4 -1.9**
comp=Z,5.2nm,1.0s,baz=73,slow=17,SNR=4.4
BVAR Borovoye Array 42.31 306 P **P** **09 14 15.8 -0.2**
BVAR *PP **pP** **09 15 39.0 +1.3**
BVAR 09 16 00.5
BVAR S **S** **09 20 02.4 -1.9**
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,7.0nm,0.9s
BVAR pmax pmax
comp=Z,7.0nm,0.4s
BVAR pmax pmax
comp=N,9.0nm,0.9s
BVAR smax smax
comp=N,5.0nm,1.0s
BVAR Borovoye Array 42.31 306 P **P** **09 14 15.8 -0.2**
BVAR pP **pP** **09 15 39.0 +1.3**
BVAR PcP **PcP** **09 16 00.5 +0.4**
BVAR ScP **ScP** **09 19 08.2 -0.9**
BVAR S **S** **09 20 02.4 -1.9**
BRVK Borovoye 42.37 306 ⇑Pn **P** **09 14 16.2 -0.2**
comp=N,23nm,0.7s
BRVK ⇑Sn **pP** **09 15 38.9 +0.8**
comp=N,16nm,1.2s
BRVK Borovoye 42.37 306*d i*P **P** **09 14 15.5 -0.9**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 42.37 306 *e*P **P** **09 14 16.5 0.0**
comp=Z,39nm,1.4s
BRVK *ep*P **pP** **09 15 40.2 +2.1**
GKN Gorkha 42.39 266 *e*P **P** **09 14 16.9 -0.3**
comp=Z,145nm,0.4s
KBK Karagaybulak 42.51 290 P **P** **09 14 18.6 +0.6**
SNR=52
KZA Kyzart 42.52 289 P **P** **09 14 19.3 +1.0**
SNR=23
USP Ospenovka 42.59 291 P **P** **09 14 18.6 +0.2**
SNR=22
FRU Bishkek 42.67 291 *i* P **P** **09 14 20.0 +0.9**
FRU *i* S **S** **09 20 12.0 +2.2**
FRU pmax pmax
comp=Z,110nm,2.0s
AAK Ala-Archa 42.83 291 P **P** **09 14 20.6 +0.2**
comp=Z,7.8nm,0.3s,baz=103,slow=4.0,SNR=43
AAK S **S** **09 20 12.3 -0.1**
comp=Z,1.6nm,0.8s,baz=12,slow=14,SNR=5.8
AAK Ala-Archa 42.83 291 *i* P **P** **09 14 20.6 +0.2**
AAK Ala-Archa 42.83 291 P **P** **09 14 20.6 +0.2**
AAK S **S** **09 20 12.3 -0.1**
AAK Ala-Archa 42.83 291 P **P** **09 14 20.6 +0.2**
SNR=10
DANN Dangsing 42.84 267 *e*P **P** **09 14 21.5 +0.7**
comp=Z,677nm,0.5s
KSH Kashi 43.04 286 ⇓*i*P P 09 14 25.9 +3.8
KSH *ep*P pP 09 15 47.4 +3.4
KSH *e*PcP **PcP** **09 16 06.4 +3.4**
KSH *e*PP **PP** **09 16 17.0 +5.0**
KSH *es*P sP 09 16 33.8 +1.3
KSH PcS **PcS** **09 19 59.8 +3.5**
KSH S S 09 20 22.8 +7.5
KSH sS sS 09 22 47.8 +4.0
KSH ScS **SS** **09 23 38.6 -2.2**
KSH SS **SS** **09 23 44.4 +3.6**
KSH pmax pmax
comp=Z,67nm,1.8s
ZRNK Zerenda 43.15 307 ⇓Pn **P** **09 14 23.2 +0.6**
comp=Z,46nm,1.2s
ZRNK ⇓Sn PcP 09 15 57.0 -5.9
comp=Z,14nm,1.4s
ZRNK Zerenda 43.15 307 *i* P **P** **09 14 22.5 -0.1**
ZRNK pmax pmax
comp=Z,34nm,0.7s
KOLN Koldanda 43.28 266 *e*P **P** **09 14 24.4 +0.2**
comp=Z,108nm,0.5s
EKS2 Erkin-Say 43.31 291 *e*P **P** **09 14 24.3 +0.1**
EKS2 *e**PP **pP** **09 15 44.9 -1.4**
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 Erkin-Say 43.31 291 *e*P **P** **09 14 24.3 +0.1**
comp=Z,21nm,0.8s
EKS2 *ep*P **pP** **09 15 44.9 -1.4**
EKS2 Erkin-Say 43.31 291 P **P** **09 14 24.3 +0.1**
SNR=15
PYUN Piuthan 43.54 267 *e*P **P** **09 14 26.7 +0.4**
comp=Z,266nm,0.7s
AML Almayashu 43.57 290 P **P** **09 14 27.2 +0.7**
SNR=26
SVW2 Sparrevohn 44.23 41 *e*P **P** **09 14 32.1 +1.2**
SBUM Sibu 45.08 212 P **P** **09 14 39.1 +1.0**
comp=Z,84nm,0.8s,comp=Z,753nm
KK31 Karatay Array 45.36 293*ce*P **P** **09 14 39.1 -0.9**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 45.36 293 *e*P **P** **09 14 39.8 -0.2**
KKAR Karatay Array 45.36 293 *e*P **P** **09 14 39.8 -0.2**
COLD Coldfoot 45.62 32 *e*P **P** **09 14 42.5 +0.9**
comp=Z,61nm,1.0s
RSO Redoubt South 45.71 41 *e*P **P** **09 14 43.6 +1.0**
SPU Mount Spurr 45.89 40 *e*P **P** **09 14 44.9 +1.1**
SPU *e*PcP **PcP** **09 16 12.4 0.0**
TRF Thorofare Moun 46.23 37 *e*P **P** **09 14 46.3 -0.3**
comp=Z,31nm,0.9s
TRF *ep*P **PcP** **09 16 13.6 -0.2**
DLH Dalhousie 46.28 277 *e*P **P** **09 14 46.0 -1.5**
KDAK Kodiak Island 46.44 45 P **P** **09 14 47.9 -0.1**
comp=Z,38nm,0.7s,baz=306,slow=4.0,SNR=98
KDAK Kodiak Island 46.44 45 P **P** **09 14 47.9 -0.1**
THN Thein Dam 46.52 277 *e*P **P** **09 14 47.9 -1.1**
THN *ex* x 09 14 56.9
KSM Kuching 46.72 214 *e*P **P** **09 14 51.3 +0.6**
comp=Z,16nm,0.5s
KSM Kuching 46.72 214 P **P** **09 14 51.5 +0.8**
comp=Z,34nm,0.9s
COLA College 46.98 35 *e*P **P** **09 14 52.9 +0.9**
COLA pmax pmax
comp=Z,70nm,0.8s
COLA College 46.98 35 *e*P **P** **09 14 52.9 +0.9**
comp=Z,70nm,0.8s
RC01 Rabbit Creek A 47.01 40 *e*P **P** **09 14 52.6 +0.3**
comp=Z,17nm,0.8s
KKR Kurukshetra 47.02 273 *e*P **P** **09 14 53.0 +0.1**
KKR AMb AMB 09 14 54.5
comp=Z,217nm,0.6s
PMR Palmer 47.17 39 *e*P **P** **09 14 53.7 +0.2**
PMR pmax pmax
comp=Z,70nm,1.4s
PMR Palmer 47.17 39 *e*P **P** **09 14 53.7 +0.2**
comp=Z,70nm,1.4s
BISR Bishrakh 47.33 271 *e*P **P** **09 14 54.8 -0.4**
BISR AMb AMB 09 14 57.0
comp=Z,152nm,0.3s
SEW Seward 47.40 41 *e*P **P** **09 14 55.6 +0.3**
comp=Z,49nm,0.8s
ILAR Eielson Array 47.41 35 P **P** **09 14 55.3 0.0**
comp=Z,23nm,0.9s,baz=279,slow=5.9,SNR=113
ILAR PcP **PcP** **09 16 16.9 -0.8**
comp=Z,5.6nm,0.9s,baz=285,slow=4.8,SNR=6.7
ILAR S **S** **09 21 16.6 +0.4**
comp=Z,1.2nm,1.0s,baz=264,slow=10,SNR=6.5
ILAR Eielson Array 47.41 35 P **P** **09 14 55.3 0.0**
ILAR PcP **PcP** **09 16 16.9 -0.8**
ILAR S **S** **09 21 16.6 +0.4**
NDI New Delhi 47.43 272 *e*P **P** **09 14 53.0 -3.0**
NDI *ex* x 09 21 06.0
SML Sawmill 47.48 39 *e*P **P** **09 14 56.2 +0.2**
SML *e* 09 16 19.1
SML pmax pmax
comp=Z,5.0nm,0.6s
SML Sawmill 47.48 39 *e*P **P** **09 14 56.2 +0.2**
comp=Z,5.2nm,0.6s
SML *e*PcP **pP** **09 16 19.1 -0.8**
AYAN Aya Nagar 47.61 271 *e*P **P** **09 14 56.4 -0.9**
AYAN AMb AMB 09 14 59.1
comp=Z,53nm,0.6s
BHGR Bahadurgarh 47.63 272 *e*P **P** **09 14 57.5 0.0**
SONA Sohna 47.77 271 *e*P **P** **09 14 58.2 -0.3**
SONA AMb AMB 09 15 00.3
comp=Z,67nm,0.8s
KULM Kulim 47.98 228 *e*P **P** **09 15 01.0 +0.6**
comp=Z,47nm,1.2s
KULM Kulim 47.98 228 P **P** **09 15 00.9 +0.6**
comp=Z,41nm,1.0s
SOKR Solikamsk 47.99 318 *e*P **P** **09 15 00.5 +0.8**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 48.01 314*d i*P **P** **09 15 00.2 +0.2**
ARU *e* 09 16 19.5
ARU *e**PP **pP** **09 16 24.9 +0.8**
ARU 09 16 53.2
ARU S **S** **09 21 26.7 +1.9**
ARU SS **SS** **09 24 59.1 -0.6**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU Arti 48.01 314 *e*P **P** **09 15 00.1 +0.1**
ARU *e*PcP **PcP** **09 16 20.2 +0.2**
IPM Ipoh 48.46 227 *e*P **P** **09 15 03.8 -0.1**
IPM Ipoh 48.46 227 P **P** **09 15 04.4 +0.5**
comp=Z,24nm,0.9s
PAX Paxson 48.47 37 *e*P **P** **09 15 03.5 +0.1**
PAX *e* 09 16 23.4
PAX pmax pmax
comp=Z,8.0nm,0.6s
PAX Paxson 48.47 37 *e*P **P** **09 15 03.5 +0.1**
comp=Z,7.6nm,0.6s
PAX *e*PcP **PcP** **09 16 23.4 +1.7**
KHET Khetri 48.80 272 *e*P **P** **09 15 05.0 -1.4**
KHET AMb AMB 09 15 07.5
comp=Z,30nm,1.0s
DOT Dot Lake 48.89 36 *e*P **P** **09 15 05.7 -0.8**
comp=Z,14nm,0.7s
MENT Mentasta 49.24 37 *e*P **P** **09 15 10.2 +1.1**
BMRM Bremner River 49.44 39 *e*P **P** **09 15 11.7 +1.0**
comp=Z,46nm,1.2s
AB31 Akbulak array 49.73 304*ce*P **P** **09 15 12.9 -0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.2s
EGAK Eagle 49.77 34 *e*P **P** **09 15 13.2 +0.2**
comp=Z,61nm,1.0s
KAPI Kappang 49.78 199 P **P** **09 15 12.8 -0.8**
comp=Z,9.3nm,0.4s,baz=21,slow=8.6,SNR=9.7
KAPI PcP **PcP** **09 16 26.4 -0.7**
comp=Z,2.2nm,0.4s,baz=13,slow=18,SNR=4.1
KAPI Kappang 49.78 199 *e*P **P** **09 15 12.9 -0.8**
comp=Z,30nm,1.1s
KAPI PcP **PcP** **09 16 26.4 -0.7**
KAPI *e*PcP **PcP** **09 16 26.9 -0.2**
AKTO Aktyubinsk 50.42 306 P **P** **09 15 17.8 -0.2**
comp=Z,8.7nm,0.6s,baz=79,slow=8.9,SNR=34
AKTO PcP **PcP** **09 16 28.9 -0.1**
comp=Z,7.9nm,0.9s,baz=73,slow=2.0,SNR=5.4
AKTO ScP **ScP** **09 19 42.2 -0.9**
comp=Z,4.7nm,0.8s,baz=67,slow=4.5,SNR=6.1
AKTO S **S** **09 21 57.1 -0.9**
comp=Z,1.9nm,0.8s,baz=13,slow=7.8,SNR=11
AKTO Aktyubinsk 50.42 306 P **P** **09 15 17.8 -0.2**
AKTO 09 16 28.9
AKTO S **S** **09 21 57.2 -0.9**
AKTO pmax pmax
comp=Z,9.0nm,0.6s
AKTO pmax pmax
comp=Z,8.0nm,0.9s
AKTO pmax pmax
comp=N,5.0nm,0.9s
AKTO smax smax
comp=N,2.0nm,0.8s
AKTO Aktyubinsk 50.42 306 P **P** **09 15 17.8 -0.2**
AKTO PcP **PcP** **09 16 28.9 -0.1**
AKTO ScP **ScP** **09 19 42.2 -0.9**
AKTO S **S** **09 21 57.1 -0.9**
DAWY Dawson 50.73 35 *e*P **P** **09 15 20.3 +0.2**
DAWY *e*PcP **PcP** **09 16 31.1 +1.1**
PSI Prapat 50.99 228 P **P** **09 15 22.8 -0.1**
comp=N,9.9nm,0.6s,baz=351,slow=11,SNR=3.9
PSI ScP **ScP** **09 19 45.5 -0.6**
comp=N,8.1nm,0.7s,baz=348,slow=11,SNR=5.4
PSI Prapat 50.99 228 P **P** **09 15 22.8 -0.1**
PSI ScP **ScP** **09 19 45.5 -0.6**
INK Inuvik 51.48 28 P **P** **09 15 26.1 +0.6**
comp=N,24nm,0.4s,baz=304,slow=7.2,SNR=61
INK PcP **PcP** **09 16 33.2 +0.6**
comp=N,9.2nm,0.6s,baz=286,slow=6.9,SNR=5.8
INK Inuvik 51.48 28 *e*P **P** **09 15 26.1 +0.6**
INK PcP **PcP** **09 16 33.2 +0.6**
SPA0 Spitsbergen Ar 53.27 347 *e*P **P** **09 15 37.6 -0.7**
SPITS Spitsbergen Ar 53.27 347 P **P** **09 15 38.4 0.0**
comp=N,2.9nm,0.3s,baz=64,slow=4.5,SNR=8.1
SPITS Spitsbergen Ar 53.27 347 P **P** **09 15 38.4 0.0**
KBS Kingsbay 53.51 348 *e*P **P** **09 15 39.8 -0.2**
KBS Kingsbay 53.51 348 ⇓*e*P **P** **09 15 40.8 +0.8**
KBS pmax pmax
comp=Z,49nm,2.2s
LVZ Lovozero 54.09 333 ⇑*i*P **P** **09 15 43.4 -0.9**
LVZ pmax pmax
comp=Z,16nm,0.9s
ALE Alert 54.20 3 P **P** **09 15 45.0 +0.1**
comp=Z,162nm,1.4s,SNR=18
SKAG Skagway 54.30 39 *e*P **P** **09 15 47.9 +2.1**
APA Apatity 54.66 332 ⇓*i*P **P** **09 15 48.0 -0.3**
APA *i* 09 16 44.6
APA *i* *PP pP 09 17 10.0 -5.2
APA pmax pmax
comp=Z,4.0nm,0.5s
APA MLR MLR
comp=Z,800nm,15.0s
KLMR Klimovskoe 55.48 324 *e*P **P** **09 15 52.3 -1.9**
KLMR *e* 09 16 45.1
KLMR *e**PP **pP** **09 17 19.7 -1.7**
KLMR *e*S **S** **09 23 03.5 -1.6**
KLMR pmax pmax
comp=Z,52nm,1.2s
KEV Kevo 55.58 336 *e*P **P** **09 15 54.5 -0.2**
KEV pmax pmax
comp=Z,54nm,1.3s
KEV Kevo 55.58 336 *e*P **P** **09 15 54.5 -0.2**
comp=Z,54nm,1.3s
POO Poona 55.99 264 ⇓*i*P **P** **09 15 56.0 -2.4**
comp=Z,80nm,1.0s
ARCES ARCESS Array B 56.14 336 P **P** **09 15 58.8 +0.1**
comp=Z,10nm,0.6s,baz=62,slow=8.7,SNR=79
ARCES PcP **PcP** **09 16 50.1 -0.5**
comp=Z,3.1nm,0.5s,baz=58,slow=4.6,SNR=6.6
ARCES ARCESS Array B 56.14 336 P **P** **09 15 58.8 +0.1**
ARCES PcP **PcP** **09 16 50.1 -0.5**
AREO ARCESS Array S 56.14 336 *e*P **P** **09 15 58.9 +0.2**
KTK1 Kautokeino 57.10 336 *e*P **P** **09 16 04.8 -0.5**
COEN Coen 57.54 170 *e*P **P** **09 16 09.2 +0.3**
comp=Z,286nm,1.1s
JOF Joensuu 57.79 328 *e*P **P** **09 16 08.7 -1.5**
JOF pmax pmax
comp=Z,17nm,0.4s
JOF Joensuu 57.79 328 *ep* P **P** **09 16 08.7 -1.5**
comp=Z,17nm,0.4s
RES Resolute Bay 57.93 14 P **P** **09 16 10.8 -0.1**
comp=Z,30nm,0.5s,baz=312,slow=6.9,SNR=137
RES Resolute Bay 57.93 14 P **P** **09 16 10.8 -0.1**
TRO Tromso 57.95 338 *e*P **P** **09 16 11.0 -0.1**
PALK Pallekele 58.82 249 *e*P **P** **09 16 17.8 -0.1**
comp=Z,16nm,1.0s
PALK Pallekele 58.82 249 P **P** **09 16 18.1 +0.2**
comp=Z,16nm,1.2s
MOS Moscow 58.91 319 *e*P **P** **09 16 17.3 -0.6**
MOS *e* 09 17 00.5
MOS *e**PP **pP** **09 17 44.0 -2.5**

MOS eS S 09 23 47.5 -2.0
MOS pmax pmax
comp=Z,88nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.1s
MOS smax smax
comp=E,600nm,2.6s
MOS smax smax
comp=N,400nm,1.6s
DAG Danmarks Havn 59.01 353⇑ *iP* **P** 09 16 17.7 -0.5
comp=N,191nm,0.8s
VRHR Novokhopersk 59.34 313 *eP* **P** 09 16 19.8 -1.1
VRHR eS S 09 23 52.6 -2.5
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR smax smax
comp=N,360nm,1.8s
VRHR smax smax
comp=E,210nm,1.8s
VRHR smax smax
comp=Z,70nm,1.8s
OBN Obninsk 59.76 319⇑ *eP* **P** 09 16 23.5 0.0
OBN *i* S S 09 24 00.4 +0.3
OBN pmax pmax
comp=Z,71nm,1.5s
OBN MLR MLR
comp=Z,100nm,15.0s
KAF Kangasniemi 60.16 329 *eP* **P** 09 16 24.4 -1.8
KAF pmax pmax
comp=Z,24nm,0.5s
KAF Kangasniemi 60.16 329 *ep* **P** 09 16 24.4 -1.8
comp=Z,24nm,0.5s
VSR Storozhevoye 60.58 314 *eP* **P** 09 16 29.1 -0.1
VSR *e* 09 18 51.1
VSR eS S 09 24 09.4 -1.3
FIA1 FINESS Array S 60.65 328 *eP* **P** 09 16 29.1 -0.3
FIA1 ePcP **PcP** 09 17 08.4 -0.3
FINES FINESS Array B 60.65 328 P **P** 09 16 29.4 -0.1
comp=Z,34nm,0.6s,baz=54,slow=8.5,SNR=116
FINES PcP **PcP** 09 17 08.1 -0.6
comp=Z,8.7nm,0.8s,baz=90,slow=7.6,SNR=4.2
FINES pP **pP** 09 17 59.3 +0.6
comp=Z,8.3nm,0.8s,baz=52,slow=9.0,SNR=4.8
FINES S S 09 24 10.7 -0.5
comp=Z,4.6nm,0.9s,baz=31,slow=16,SNR=6.2
FINES FINESS Array B 60.65 328 P **P** 09 16 29.4 -0.1
FINES PcP **PcP** 09 17 08.1 -0.6
FINES pP **pP** 09 17 59.3 +0.6
FINES S S 09 24 10.7 -0.5
VORD Divnogorie 60.66 314 *eP* **P** 09 16 29.6 0.0
VORD eS S 09 24 10.9 -0.7
YKA Yellowknife Ar 61.20 30 P **P** 09 16 33.0 0.0
comp=Z,17nm,0.8s,baz=309,slow=6.7,SNR=258
YKA PcP **PcP** 09 17 10.6 -0.3
comp=Z,3.9nm,0.8s,baz=313,slow=4.0,SNR=11
YKA PKPPKP P'P'df 09 45 39.6 -5.7
comp=Z,0.2nm,0.6s,baz=137,slow=2.3,SNR=4.0
YKA Yellowknife Ar 61.20 30 P **P** 09 16 33.0 0.0
YKA PcP **PcP** 09 17 10.7 -0.3
YKA P'P' 09 45 39.6
MOR8 Moi Rana 61.51 336⇑ *iP* **P** 09 16 33.6 -1.5
MOR8 AMB AMB 09 16 34.4
comp=Z,86nm,0.8s
FITZ Fitzroy Crossi 61.55 189 *eP* **P** 09 16 36.2 +0.3
comp=Z,28nm,0.9s
FITZ *e*PcP **PcP** 09 17 14.0 +1.2
FITZ *ep*P **pP** 09 18 09.6 +4.0
VSU Vasula 62.22 325*c* *iP* **P** 09 16 39.8 0.0
VSU pmax pmax
comp=Z,78nm,1.2s
ZEI Tsey 62.62 304 *eP* **P** 09 16 42.3 -0.8
ZEI pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 62.67 306⇓ *iP* **P** 09 16 44.9 +1.7
KIV *e* 09 17 17.9
KIV *i* S S 09 24 37.7 +0.6
KIV pmax pmax
comp=Z,58nm,1.0s
KBZ Khabaz 62.68 305 P **P** 09 16 43.6 +0.5
comp=Z,6.0nm,0.8s,baz=56,slow=4.7,SNR=13
KBZ Khabaz 62.68 305 P **P** 09 16 43.6 +0.5
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 62.68 305 P **P** 09 16 43.6 +0.5
WRAB Tennant Creek 62.88 180 *eP* **P** 09 16 44.3 -0.3
WRAB *e* 09 17 18.9
WRAB pmax pmax
comp=Z,32nm,0.9s
WRAB Tennant Creek 62.88 180 *eP* **P** 09 16 44.3 -0.3
comp=Z,32nm,0.9s
WRAB *e*PcP **PcP** 09 17 18.9 +0.7
WRAB *ep*P **pP** 09 18 19.5 +4.7
WRA Warramunga Arr 62.89 180 P **P** 09 16 44.3 -0.3
comp=Z,16nm,0.6s,baz=355,slow=7.3,SNR=343
WRA PcP **PcP** 09 17 18.6 +0.3
comp=Z,2.0nm,0.4s,baz=358,slow=4.9,SNR=6.6
WRA pP **pP** 09 18 14.2 -0.7
comp=Z,2.1nm,0.8s,baz=355,slow=7.1,SNR=3.5
WRA PKPPKP **P'P'df** 09 45 40.3 +4.4
comp=Z,0.8nm,0.8s,baz=189,slow=2.1,SNR=2.8
WRA PKP2bc 09 45 45.5
comp=Z,2.6nm,1.1s,baz=188,slow=2.0,SNR=7.9
WRA Warramunga Arr 62.89 180 P **P** 09 16 44.3 -0.3
WRA PcP **PcP** 09 17 18.6 +0.3
WRA pP **pP** 09 18 14.2 -0.7
WRA P'P' 09 45 40.3
WRA ⇑*e* 09 45 45.5
CTAO Charters Tower 64.01 167 *eP* **P** 09 16 52.0 +0.1
CTAO Charters Tower 64.01 167 *eP* **P** 09 16 52.0 +0.1
SUMG Summit 64.35 358 *eP* **P** 09 16 54.5 +0.6
SUMG pmax pmax
comp=Z,38nm,0.6s
SUMG Summit 64.35 358 *eP* **P** 09 16 54.5 +0.6
comp=Z,38nm,0.6s
SUMG Summit 64.35 358⇑ *iP* **P** 09 16 54.5 +0.6
comp=Z,58nm,0.9s
SUMG Summit 64.35 358 *i* P pP 09 18 25.3 +0.9
comp=Z,10nm,1.0s
NACGM Naroch 64.43 322 *e* P 09 16 51.0 -3.2
ANN Anapa 65.23 309 *eP* **P** 09 16 59.1 -0.4
ANN *e**PP **pP** 09 18 30.5 +0.2
ANN eS S 09 25 07.0 -0.9
ANN pmax pmax
comp=Z,49nm,1.4s
MBWA Marble Bar 65.45 195 *eP* **P** 09 17 01.1 +0.1
comp=Z,8.5nm,0.7s
AKASG Malin Array Be 65.95 318 P **P** 09 17 03.7 -0.2
comp=Z,7.0nm,0.4s,baz=46,slow=6.6,SNR=42
AKASG pP **pP** 09 18 34.9 0.0
comp=Z,14nm,0.8s,baz=46,slow=7.3,SNR=12
AKASG S S 09 25 16.1 -0.2
comp=Z,3.8nm,0.8s,baz=54,slow=12,SNR=7.5
AKASG Malin Array Be 65.95 318 P **P** 09 17 03.7 -0.2
AKASG *PP **pP** 09 18 34.9 0.0
AKASG S S 09 25 16.1 -0.2
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG pmax pmax
comp=Z,14nm,0.8s
AKASG smax smax
comp=N,4.0nm,0.8s
AKASG Malin Array Be 65.95 318 P **P** 09 17 03.7 -0.2
AKASG pP **pP** 09 18 34.9 0.0
AKASG S S 09 25 16.1 -0.2
KIEV Kiev 65.96 318 *eP* **P** 09 17 03.7 -0.2
KIEV Kiev 65.96 318 *eP* **P** 09 17 03.7 -0.2
AK02 Malin Array Si 65.99 318 *eP* **P** 09 17 03.8 -0.3
AK02 *ep*P **pP** 09 18 35.3 +0.1
PGC Sidney 65.99 45 *eP* **P** 09 17 04.4 +0.3
comp=N,0.8nm,0.7s
NB2 NORSAR Subarra 66.21 333 P **P** 09 17 05.1 -0.3
baz=40,slow=6.5
NB2 NORSAR Subarra 66.21 333 P **P** 09 17 05.1 -0.3
comp=Z,22nm,0.7s,baz=40,slow=6.5
NOA NORSAR Array B 66.21 333 P **P** 09 17 05.2 -0.2
comp=Z,29nm,0.9s,baz=41,slow=6.2,SNR=48
NOA pP **pP** 09 18 36.4 -0.2
comp=Z,5.3nm,0.9s,baz=42,slow=6.5,SNR=5.9
NOA NORSAR Array B 66.21 333 P **P** 09 17 05.2 -0.2
NOA pP **pP** 09 18 36.4 -0.2
NC602 NORSAR Array S 66.33 333 *eP* **P** 09 17 05.7 -0.4

OSR Olympics--Salm 66.44 46 P **P** 09 17 08.4 +1.3
ASAR Alice Springs 66.59 180 P **P** 09 17 08.5 +0.3
comp=Z,14nm,0.4s,baz=353,slow=7.0,SNR=307
ASAR PcP **PcP** 09 17 34.6 +1.0
comp=Z,4.3nm,0.8s,baz=6.7,slow=4.7,SNR=5.2
ASAR pP **pP** 09 18 43.9 +4.3
comp=Z,5.2nm,0.8s,baz=1.5,slow=5.9,SNR=8.5
ASAR PKPPKP **P'P'df** 09 45 30.1 +0.3
comp=Z,0.7nm,0.8s,baz=180,slow=2.2,SNR=5.7
ASAR Alice Springs 66.59 180 P **P** 09 17 08.5 +0.3
ASAR PcP **PcP** 09 17 34.6 +1.0
ASAR pP **pP** 09 18 43.9 +4.3
ASAR P'P' 09 45 30.1
SUW Suwalki 66.60 323 *eP* **P** 09 17 08.4 +0.5
SUW Suwalki 66.60 323 *eP* **P** 09 17 08.4 +0.5
MBW Mount Baker 66.70 44 P **P** 09 17 09.4 +0.5
CMW Cultus Mountai 66.82 45 P **P** 09 17 10.4 +0.9
SIM Simferopol' 67.01 311 *eP* P 09 17 22.2 +12
SIM *eS* **S** 09 25 30.0 +0.9
SIM pmax pmax
comp=Z,28nm,0.9s
JCW Jim Creek 67.06 45 P **P** 09 17 11.7 +0.7
NLW Nelson Butte 67.95 44 P **P** 09 17 17.2 +0.6
UMR Umm Al-Rimmam 67.98 290 *eP* **P** 09 17 16.2 -0.7
FMW Mount Fremont 68.01 46 P **P** 09 17 17.8 +0.8
RCM Mount Rainier- 68.04 46 P **P** 09 17 18.5 +1.1
LON Longmire 68.05 46 *eP* **P** 09 17 17.7 +0.6
LON Longmire 68.05 46 *eP* **P** 09 17 17.7 +0.6
MIB Mutribah 68.08 291 *eP* **P** 09 17 16.7 -0.8
TDL Tradedollar La 68.10 47 P **P** 09 17 18.3 +0.9
ETW Entiat 68.27 45 P **P** 09 17 18.9 +0.4
QRN Al-Qurain 68.34 289 *eP* **P** 09 17 18.4 -0.6
NAY Al-Naaiem 68.49 290 *eP* **P** 09 17 19.0 -1.0
ASK Askoy 68.54 336 *eP* **P** 09 17 19.3 -0.3
RUND Rundenannen 68.54 335 *eP* **P** 09 17 19.4 -0.3
ODD1 Odda 68.55 335 *eP* **P** 09 17 18.4 -1.4
EBG Ellensburg 68.60 45 P **P** 09 17 21.3 +0.9
COR Corvallis 68.65 48 *eP* **P** 09 17 22.6 +1.9
COR pmax pmax
comp=Z,76nm,1.3s
COR Corvallis 68.65 48 *eP* **P** 09 17 22.6 +1.9
comp=Z,76nm,1.3s
VLL Laurance Lake 68.96 47 P **P** 09 17 23.7 +1.0
LVV L'vov 69.04 319 *eP* **P** 09 17 23.3 +0.3
BSD Bornholm Skovb 69.27 328 *iP* **P** 09 17 23.4 -0.8
comp=Z,20nm,0.9s
WRD Warden 69.40 45 P **P** 09 17 25.2 0.0
NEW Newport 69.44 43 P **P** 09 17 26.1 +0.5
comp=Z,19nm,0.9s,baz=310,slow=5.4,SNR=45
NEW Newport 69.44 43 P **P** 09 17 26.1 +0.5
NEW Newport 69.44 43 ⇑P **P** 09 17 26.0 +0.5
baz=69,SNR=23
HAWA Hanford 69.47 45 *eP* **P** 09 17 26.4 +0.7
comp=Z,37nm,0.9s
A12A Yaak River Ran 69.71 41 ⇑P **P** 09 17 27.9 +0.8
baz=70,SNR=13
COP Copenhagen 69.79 329 *iP* **P** 09 17 25.4 -1.9
comp=Z,24nm,0.9s
KWP Kalwaria Pacla 69.80 320 *eP* **P** 09 17 28.4 +0.8
KWP Kalwaria Pacla 69.80 320 *eP* **P** 09 17 27.8 +0.2
KWP pmax pmax
comp=Z,88nm,0.6s
KWP Kalwaria Pacla 69.80 320 *eP* **P** 09 17 27.8 +0.2
comp=Z,88nm,0.6s
KWP Kalwaria Pacla 69.80 320 *eP* **P** 09 17 28.3 +0.8
BURAR Bucovina Array 69.96 317⇑ *iP* **P** 09 17 29.3 +0.6
TESR 69.98 315⇑ *iP* **P** 09 17 29.0 +0.3
SFJD Kangerlussuaq 70.02 2 *eP* **P** 09 17 28.5 0.0
comp=Z,62nm,1.1s
SFJD Kangerlussuaq 70.02 2 *iP* **P** 09 17 28.4 -0.1
comp=Z,27nm,1.1s
EIDS Eidvold 70.05 164 *eP* **P** 09 17 30.3 +1.1
comp=Z,26nm,1.1s
B12A Libby 70.05 42 ⇓P **P** 09 17 30.1 +0.9
baz=70
CFR Carcaliu 70.10 314 ⇓P **P** 09 17 29.6 +0.2
CFR Carcaliu 70.10 314 ⇓*iP* **P** 09 17 29.5 +0.2
VIPM Ingram Point 70.15 47 P **P** 09 17 30.7 +0.7
VIPM Ingram Point 70.15 47 P **P** 09 17 30.7 +0.7
C11A Tepee Creek (N 70.16 42 ⇑P **P** 09 17 30.8 +1.0
baz=70
A13A Flathead Natio 70.30 41 ⇑P **P** 09 17 31.4 +0.7
baz=70
VRI Vrincioaia 70.38 315 ⇑P **P** 09 17 32.0 +0.9
VRI Vrincioaia 70.38 315⇑ *iP* **P** 09 17 32.0 +0.9
MUD Monsted U'grnd 70.39 331 *iP* **P** 09 17 30.2 -0.7
comp=Z,19nm,0.8s
TIRR Tirgusor 70.43 313 ⇑P **P** 09 17 31.5 +0.1
TIRR Tirgusor 70.43 313⇑ *iP* **P** 09 17 31.5 +0.1
WALA Waterton Lakes 70.45 40 *eP* **P** 09 17 32.2 +0.6
comp=Z,1.5nm,1.1s
KOLS Kolonicke sedl 70.49 320 *eP* **P** 09 17 32.2 +0.5
KOLS pmax pmax
comp=Z,16nm,1.3s
KOLS Kolonicke sedl 70.49 320 *eP* **P** 09 17 32.2 +0.5
KOLS *ep*P **pP** 09 19 05.0 +0.8
KOLS *e*PP **PP** 09 20 15.8 +1.7
BRTR Keskin Array B 70.60 306 pP pP 09 19 03.8 -1.5
comp=Z,4.9nm,1.0s,baz=22,slow=2.6,SNR=3.3
C12B Naegeli Ranch, 70.63 42 ⇑P **P** 09 17 33.3 +0.6
baz=70
B13A Whitefish 70.66 41 ⇓P **P** 09 17 33.8 +1.0
baz=70,SNR=30
UZH Uzhgorod 70.69 319 *eP* **P** 09 17 32.8 -0.1
OJC Ojcow 70.73 322 *eP* **P** 09 17 33.8 +0.7
OJC *e**PP **pP** 09 19 06.5 +0.8
OJC Ojcow 70.73 322 *iP* **P** 09 17 33.8 +0.7
OJC *ep*P **pP** 09 19 06.5 +0.8
A14A Double T Ranch 70.74 40 ⇓P **P** 09 17 34.0 +0.6
baz=70,SNR=37
YBH Yreka Blue Hor 70.83 50 P **P** 09 17 34.8 +0.8
comp=Z,12nm,1.0s,baz=215,slow=0.9,SNR=14
YBH Yreka Blue Hor 70.83 50 P **P** 09 17 34.8 +0.8
BSMT Bassoo Peak 70.87 42 *eP* **P** 09 17 35.2 +1.0
CRVS Cervenica-Dubn 70.89 320 *eP* **P** 09 17 34.6 +0.5
CRVS pmax pmax
comp=Z,17nm,1.2s
CRVS Cervenica-Dubn 70.89 320 *eP* **P** 09 17 34.6 +0.5
CRVS *ep*P **pP** 09 19 07.1 +0.3
CRVS *e*PP **PP** 09 20 18.9 +1.4
TRPA Tarpa 70.92 319⇑ *iP* **P** 09 17 35.2 +1.0
ISR Istrita 70.98 314 ⇑P **P** 09 17 36.1 +1.4
ISR Istrita 70.98 314⇑ *iP* **P** 09 17 36.1 +1.4
MLR Muntele Rosu 71.03 315⇑ *iP* **P** 09 17 36.1 +0.9
A15A Johnson Ranch, 71.06 40 ⇑P **P** 09 17 35.5 +0.2
baz=71,SNR=35
NIE Niedzica 71.06 321⇑ *iP* **P** 09 17 36.4 +1.2
NIE *e**PP **pP** 09 19 09.6 +1.7
NIE Niedzica 71.06 321 *iP* **P** 09 17 36.4 +1.2
NIE *ep*P **pP** 09 19 09.6 +1.7
C13A Hot Springs 71.09 42 ⇓P **P** 09 17 36.5 +1.1
baz=71,SNR=78
D12A Red Ives Fores 71.14 43 ⇑P **P** 09 17 36.2 +0.5
baz=71
JTMT Jette 71.19 42 *eP* **P** 09 17 37.1 +1.0
comp=Z,29nm,0.9s
YBMT Yellow Bay 71.24 41 *eP* **P** 09 17 37.1 +0.8
comp=Z,32nm,1.1s
B14A Marquette Ranc 71.24 41 ⇓P **P** 09 17 37.3 +0.9
baz=71,SNR=23
FFC Flin Flon 71.34 31 *eP* **P** 09 17 36.6 0.0
FFC pmax pmax
comp=Z,77nm,1.1s
FFC Flin Flon 71.34 31 *eP* **P** 09 17 36.6 0.0
comp=Z,77nm,1.1s
C14A Swan Lake 71.43 41 ⇓P **P** 09 17 38.5 +1.1
baz=71,SNR=37
E12A Beaver Dam Sad 71.48 43 ⇑P **P** 09 17 38.5 +0.7
baz=71,SNR=67
DZM Mont Dzumac 71.48 148 *eP* **P** 09 17 40.4 +2.4
comp=Z,109nm,1.6s
SWMT Swartz Lake 71.49 42 *eP* **P** 09 17 38.6 +0.8
comp=Z,38nm,1.1s
VOIR 71.53 315 ⇓P **P** 09 17 38.9 +0.9
VOIR 71.53 315⇓ *iP* **P** 09 17 38.9 +0.9
D13A Huson 71.56 42 ⇑P **P** 09 17 38.7 +0.5
baz=71,SNR=24
A16A West Butte Ran 71.61 39 ⇑P **P** 09 17 38.8 +0.3
baz=71
B15A Bradely Ranch, 71.61 40 ⇓P **P** 09 17 39.2 +0.7
baz=71,SNR=93
KIPM Iron Peak 71.66 52 *eP* **P** 09 17 39.8 +0.8
comp=Z,58nm,1.4s
BMO Blue Mountains 71.67 45 *eP* **P** 09 17 39.5 +0.6

comp=Z,30nm,0.9s
WDC Whiskeytown Da 71.69 51 *eP* **P** 09 17 39.5 +0.6
WDC pmax pmax
comp=Z,27nm,1.1s
WDC Whiskeytown Da 71.69 51 *eP* **P** 09 17 39.5 +0.6
comp=Z,27nm,1.1s
OKC Ostrava-Krasne 71.75 322 *eP* **P** 09 17 39.8 +0.7
OKC *e* 09 19 14.0
OKC Ostrava-Krasne 71.75 322 *eP* **P** 09 17 39.8 +0.7
OKC *ep*P **pP** 09 19 14.0 +2.0
DRGR 71.77 318 ⇓P **P** 09 17 40.3 +0.9
DRGR 71.77 318⇓ *iP* **P** 09 17 40.3 +0.9
KSP Ksiaz 71.83 324 *eP* **P** 09 17 40.4 +0.8
KSP Ksiaz 71.83 324 *eP* **P** 09 17 40.3 +0.8
BSEG Bad Segeberg 71.92 329 *eP* **P** 09 17 40.7 +0.7
comp=Z,75nm,1.2s
SLMT Seeley Lake 71.92 42 *eP* **P** 09 17 41.0 +0.6
comp=Z,68nm,1.1s
B16A M & M Farms, S 71.94 40 ⇑P **P** 09 17 40.8 +0.4
baz=72,SNR=24
C15A Salmond Ranch, 71.97 41 ⇓P **P** 09 17 41.8 +1.2
baz=72,SNR=77
MSO Missoula 72.00 42 *eP* **P** 09 17 41.2 +0.4
comp=Z,28nm,1.2s
MSO Missoula 72.00 42 ⇑P **P** 09 17 41.2 +0.4
baz=72,SNR=23
A17A Triple J Farms 72.03 39 ⇓P **P** 09 17 41.3 +0.4
baz=72,SNR=50
D14A Greenough 72.03 42 ⇓P **P** 09 17 41.5 +0.5
baz=72,SNR=43
MOD Modoc 72.06 49 *eP* **P** 09 17 41.9 +0.6
comp=Z,20nm,1.2s
MORC Moravsky Berou 72.06 322 ⇑P **P** 09 17 41.8 +0.8
MORC Moravsky Berou 72.06 322 *eP* **P** 09 17 41.8 +0.8
comp=Z,26nm,0.9s
MORC Moravsky Berou 72.06 322⇑ *iP* **P** 09 17 41.8 +0.8
F12A Elk City 72.09 44 ⇓P **P** 09 17 42.1 +0.7
baz=72,SNR=82
E13A Victor 72.14 42 ⇑P **P** 09 17 41.7 0.0
baz=72,SNR=13
DPC Dobruska-Polom 72.18 323 *eP* **P** 09 17 42.7 +1.0
DPC *e* 09 19 16.2
DPC Dobruska-Polom 72.18 323 *eP* **P** 09 17 42.7 +1.0
DPC *ep*P **pP** 09 19 16.2 +1.4
UPC Upice 72.20 324 *eP* **P** 09 17 42.7 +0.9
UPC *e* 09 19 16.2
UPC Upice 72.20 324 *eP* **P** 09 17 42.7 +0.9
UPC *ex* x 09 17 50.8
UPC *ep*P **pP** 09 19 16.2 +1.4
CHMT Chamberlain Mo 72.27 42 *eP* **P** 09 17 42.8 +0.2
comp=Z,17nm,1.4s
PSZ Piszkesteto 72.33 320 ⇑P **P** 09 17 43.3 +0.7
PSZ Piszkesteto 72.33 320 *eP* **P** 09 17 42.9 +0.3
comp=Z,46nm,1.3s
PSZ Piszkesteto 72.33 320⇑ *iP* **P** 09 17 43.3 +0.7
C16A Fuhringer Ranc 72.36 40 ⇓P **P** 09 17 43.6 +0.7
baz=72,SNR=53
VYHS Vyhne 72.41 321 *eP* **P** 09 17 43.7 +0.7
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 72.41 321 *eP* **P** 09 17 43.7 +0.7
VYHS *ep*P **pP** 09 19 17.6 +1.5
VYHS *e*PP **PP** 09 20 32.5 +2.2
A18A Metzger Ranch, 72.44 38 ⇓P **P** 09 17 43.5 +0.3
baz=72,SNR=35
B17A L&G Farms, Che 72.45 39 ⇑P **P** 09 17 44.1 +0.7
baz=72,SNR=42
G12A Big Creek, Yel 72.49 44 ⇓P **P** 09 17 44.1 +0.3
baz=72,SNR=37
E14A Clinton 72.50 42 ⇓P **P** 09 17 44.1 +0.3
baz=72,SNR=32
F13A Darby 72.53 43 ⇑P **P** 09 17 43.6 -0.3
baz=72,SNR=14
D15A Lincoln 72.53 41 ⇑P **P** 09 17 44.7 +0.7
baz=72,SNR=20
PVCC Panska Ves 72.80 324 *eP* **P** 09 17 46.2 +1.0
PVCC *e* 09 19 20.1
PVCC Panska Ves 72.80 324 *eP* **P** 09 17 46.2 +1.0
PVCC *ep*P **pP** 09 19 20.1 +1.6
BRG Berggiesshubel 72.81 325 *eP* **P** 09 17 45.6 +0.3
comp=Z,16nm,0.8s
BRG *e* 09 19 19.5
comp=Z,18nm,1.4s
BRG Berggiesshubel 72.81 325 *eP* **P** 09 17 45.6 +0.3
BRG *e* 09 19 19.5
BRG pmax pmax
comp=Z,16nm,0.8s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG Berggiesshubel 72.81 325 *eP* **P** 09 17 45.8 +0.5
comp=Z,33nm,1.5s
BRG *ep*P **pP** 09 19 19.4 +0.9
VRAC Vranov 72.83 323⇑ *iP* **P** 09 17 46.7 +1.3
B18A Beardsley Farm 72.85 39 ⇓P **P** 09 17 46.3 +0.6
baz=73,SNR=35
CLL Collm 72.87 326⇑ *iP* **P** 09 17 45.9 +0.3
CLL *i* *PP **pP** 09 19 19.5 +0.6
CLL pmax pmax
comp=Z,49nm,1.3s
CLL Collm 72.87 326 *eP* **P** 09 17 45.8 +0.2
comp=Z,50nm,1.3s
CLL *ep*P **pP** 09 19 19.2 +0.3
CLL Collm 72.87 326⇑ *iP* **P** 09 17 45.9 +0.3
comp=Z,49nm,1.3s
CLL *e*PcP **PcP** 09 18 00.0 0.0
CLL *i* pP **pP** 09 19 19.5 +0.6
E15A Deer Lodge 72.92 42 ⇓P **P** 09 17 46.7 +0.5
baz=73,SNR=35
A19A Klindworth Far 72.93 38 ⇓P **P** 09 17 46.7 +0.6
baz=73,SNR=39
C17A Wharram Farm, 72.94 40 ⇑P **P** 09 17 46.4 +0.2
baz=73,SNR=58
F14A Wisdom 72.99 43 ⇓P **P** 09 17 47.1 +0.4
baz=73,SNR=14
D16A Dana Ranch, Ca 73.01 41 ⇓P **P** 09 17 47.5 +0.8
baz=73,SNR=33
G13A Cobalt 73.07 43 ⇑P **P** 09 17 46.9 -0.2
baz=73,SNR=20
HRY Holter Researc 73.10 41 *eP* **P** 09 17 48.0 +0.8
comp=Z,40nm,0.7s
NRDL Niedersach Rie 73.12 328 *eP* **P** 09 17 47.4 +0.5
comp=Z,29nm,1.2s
EGMT Eagleton 73.13 39 *eP* **P** 09 17 47.8 +0.5
comp=Z,88nm,1.0s
EGMT Eagleton 73.13 39 ⇑P **P** 09 17 47.9 +0.6
baz=73,SNR=49
BZS Buzias 73.14 317 ⇑P **P** 09 17 47.5 +0.2
BZS Buzias 73.14 317⇑ *iP* **P** 09 17 47.5 +0.2
H12A Diamond D Ranc 73.14 44 ⇓P **P** 09 17 48.0 +0.5
baz=73,SNR=167
B19A Brinkman Farms 73.18 38 ⇑P **P** 09 17 48.1 +0.5
baz=73,SNR=44
PRU Pruhonice 73.22 324 *eP* **P** 09 17 48.4 +0.7
PRU *e* 09 19 22.8
PRU Pruhonice 73.22 324 *eP* **P** 09 17 48.4 +0.7
PRU *ep*P **pP** 09 19 22.8 +1.8
E16A East Helena 73.30 41 ⇓P **P** 09 17 49.2 +0.8
baz=73,SNR=45
RAYN Ar Rayn 73.32 287 P **P** 09 17 48.1 -0.6
comp=Z,41nm,0.4s,SNR=5.6
TREC Trest 73.33 323 *eP* **P** 09 17 49.2 +0.9
TREC *e* 09 19 23.3
TREC Trest 73.33 323 *eP* **P** 09 17 49.2 +0.9
TREC *ep*P **pP** 09 19 23.3 +1.6
A20A Cobblestone Ra 73.33 38 ⇑P **P** 09 17 48.8 +0.4
baz=73,SNR=14
D17A Six Diamond Ra 73.33 40 ⇓P **P** 09 17 48.8 +0.3
baz=73,SNR=25
G14A Jackson 73.35 43 ⇓P **P** 09 17 48.7 -0.2
baz=73,SNR=10.0
F15A Butte 73.40 42 ⇓P **P** 09 17 49.8 +0.7
baz=73,SNR=44
MFID Camas Ranch 73.43 46 *eP* **P** 09 17 50.1 +0.9
comp=Z,76nm,1.0s
MFID Camas Ranch 73.43 46 ⇑P **P** 09 17 50.2 +1.0
baz=73,SNR=58
H13A Challis 73.43 44 ⇑P **P** 09 17 49.3 +0.1
baz=73,SNR=13
LRM Limekiln Ridge 73.44 42 *eP* **P** 09 17 50.3 +1.0
comp=Z,306nm,1.1s
CLZ Clausthal 73.52 327 *eP* **P** 09 17 50.2 +0.8
comp=Z,50nm,1.2s
I12A Atlanta 73.53 45 ⇑P **P** 09 17 50.5 +0.7
baz=73
B20A Solberg Farm, 73.61 38 ⇑P **P** 09 17 50.3 +0.2
baz=73,SNR=26

C19A **Slack Wire Ran** 73.66 39 ⇑P P 09 17 51.2 +0.9
baz=73,SNR=44
A21A **Bergtoll Ranch** 73.69 37 ⇓P P 09 17 51.1 +0.6
baz=73,SNR=43
DLMT **Dillon** 73.69 42 eP P 09 17 51.6 +0.9
comp=Z,102nm,1.0s
D18A **Linhart Farms,** 73.71 40 ⇓P P 09 17 51.6 +0.9
baz=74,SNR=22
E17A **Martinsdale** 73.75 41 ⇓P P 09 17 52.1 +1.1
baz=74,SNR=81
TANN **Tannenbergstha** 73.77 325 eP P 09 17 51.6 +0.7
comp=Z,31nm,1.5s
TANN epP pP 09 19 25.5 +1.1
H14A **Leadore** 73.84 43 ⇑P P 09 17 51.7 0.0
baz=74,SNR=7.5
F16A **Kennard Place,** 73.87 42 ⇑P P 09 17 52.3 +0.7
baz=74,SNR=27
G15A **Dillon** 73.89 43 ⇑P P 09 17 52.8 +0.9
baz=74,SNR=168
NKC **Novy Kostel** 73.92 325 eP P 09 17 52.3 +0.6
NKC e 09 19 26.8
NKC **Novy Kostel** 73.92 325 eP P 09 17 52.3 +0.6
NKC epP pP 09 19 26.8 +1.5
MOX **Moxa** 73.94 326 eP P 09 17 52.4 +0.6
comp=Z,24nm,1.2s
MOX epP pP 09 19 26.2 +0.8
MCMT **McKenzie Canyo** 73.95 43 eP P 09 17 52.6 +0.4
comp=Z,4.1nm,0.8s
I13A **Wildhorse Cree** 73.96 44 ⇑P P 09 17 53.5 +1.1
baz=74,SNR=141
BOZ **Bozeman (W)** 73.96 42 eP P 09 17 53.2 +1.0
BOZ pmax pmax
comp=Z,43nm,1.0s
BOZ **Bozeman (W)** 73.96 42 eP P 09 17 53.2 +1.0
comp=Z,43nm,1.0s
BOZ **Bozeman (W)** 73.96 42 ⇓P P 09 17 53.3 +1.0
baz=74,SNR=57
KAC **Achnashellach** 74.03 339 eP P 09 17 52.0 -0.2
KAC **Achnashellach** 74.03 339 P P 09 17 52.0 -0.2
HLID **Hailey** 74.06 45 eP P 09 17 53.9 +1.0
comp=Z,31nm,1.3s
HLID **Hailey** 74.06 45 ⇓P P 09 17 53.9 +1.0
baz=74,SNR=25
B21A **Ellsworth Farm** 74.07 37 ⇓P P 09 17 53.1 +0.4
baz=74,SNR=31
E18A **Harlowton** 74.12 40 ⇓P P 09 17 54.0 +0.9
baz=74,SNR=5.8
A22A **Carney Farms,** 74.13 36 ⇑P P 09 17 53.1 +0.1
baz=74
WCN **Washoe City** 74.13 51 eP P 09 17 54.2 +0.9
WCN pmax pmax
comp=Z,75nm,1.6s
WCN **Washoe City** 74.13 51 eP P 09 17 54.2 +0.9
comp=Z,75nm,1.6s
C20A **Veseth Ranch,** 74.16 38 ⇓P P 09 17 53.8 +0.6
baz=74
D19A **Cripps Ranch,** 74.16 39 ⇑P P 09 17 53.9 +0.7
baz=74,SNR=55
CONA **Conrad Observa** 74.18 322 iP P 09 17 54.5 +1.2
comp=Z,28nm,1.1s,SNR=15
G16A **Moss Hill, Enn** 74.18 42 ⇑P P 09 17 54.2 +0.7
baz=74,SNR=49
H15A **Lima** 74.20 43 ⇓P P 09 17 54.2 +0.5
baz=74,SNR=22
F17A **Fitzpatrick Pl** 74.25 41 ⇓P P 09 17 54.9 +1.1
baz=74,SNR=46
KPL **Plockton** 74.26 339 eP P 09 17 53.3 -0.1
KPL **Plockton** 74.26 339 P P 09 17 53.3 -0.1
KHC **Kasperske Hory** 74.28 324 eP P 09 17 54.6 +0.8
KHC e 09 18 02.0
KHC e 09 19 29.1
KHC **Kasperske Hory** 74.28 324 eP P 09 17 54.6 +0.8
comp=Z,31nm,1.0s
KHC **Kasperske Hory** 74.28 324 eP P 09 17 54.6 +0.8
KHC ePCP PcP 09 18 02.0 -4.2
KHC epP pP 09 19 29.1 +1.6
J13A **Cove Ranch, Pi** 74.30 45 ⇓P P 09 17 55.5 +1.4
baz=74,SNR=87
ROTZ **Rotzenmuhle** 74.37 325 eP P 09 17 55.4 +1.1
comp=Z,37nm,1.3s
GEC2 **GERESS Array S** 74.44 324 eP P 09 17 55.2 +0.4
comp=Z,19nm,1.2s
GERES **GERESS Array B** 74.44 324 P P 09 17 55.1 +0.4
comp=Z,7.1nm,0.8s,baz=35,slow=4.9,SNR=22
GERES pP pP 09 19 29.6 +1.1
comp=Z,0.9nm,0.5s,baz=35,slow=4.9,SNR=3.4
GERES **GERESS Array B** 74.44 324 P P 09 17 55.1 +0.4
GERES pP pP 09 19 29.6 +1.1
UBBA **Unterbreizbach** 74.46 327 eP P 09 17 55.3 +0.7
comp=Z,16nm,1.1s
UBBA epP pP 09 19 29.3 +1.0
VTS **Vitosha** 74.47 314 ⇑P P 09 17 55.9 +0.8
VTS **Vitosha** 74.47 314 ⇑iP P 09 17 55.9 +0.8
C21A **Desert Coulee** 74.48 38 ⇑P P 09 17 55.4 +0.4
baz=74,SNR=22
D20A **Manuel Ranch,** 74.56 39 ⇑P P 09 17 56.2 +0.7
baz=74,SNR=40
WET **Wettzell** 74.57 324 eP P 09 17 56.3 +0.9
comp=Z,24nm,1.1s
WET epP pP 09 19 30.2 +1.0
A23A **Redstone** 74.60 36 ⇓P P 09 17 56.0 +0.3
baz=74,SNR=5.9
B22A **Reddig Ranch S** 74.61 37 ⇑P P 09 17 56.2 +0.4
baz=74
G17A **Pierce Place,** 74.63 41 ⇓P P 09 17 57.2 +1.2
baz=74,SNR=34
CMB **Columbia Colle** 74.64 52 eP P 09 17 56.6 +0.5
CMB pmax pmax
comp=Z,46nm,1.1s
CMB **Columbia Colle** 74.64 52 eP P 09 17 56.6 +0.5
comp=Z,46nm,1.1s
ESY **Stoneypath** 74.64 336 eP P 09 17 55.8 +0.1
ESY **Stoneypath** 74.64 336 P P 09 17 55.8 +0.1
QLMT **Earthquake Lak** 74.65 42 eP P 09 17 57.0 +0.7
comp=Z,4.6nm,1.0s
J14A **Carey** 74.69 44 ⇓P P 09 17 58.2 +1.8
baz=74
F18A **Big Timber** 74.70 41 ⇓P P 09 17 57.4 +1.0
baz=74,SNR=33
E19A **Rath Farm, Rou** 74.72 40 ⇑P P 09 17 57.3 +0.9
baz=74,SNR=42
I15A **Monteview** 74.73 43 ⇑P P 09 17 57.6 +1.0
baz=74,SNR=5.0
BMN **Battle Mountai** 74.76 49 eP P 09 17 57.9 +1.0
BMN pmax pmax
comp=Z,36nm,1.2s
BMN **Battle Mountai** 74.76 49 eP P 09 17 57.9 +1.0
comp=Z,36nm,1.2s
GCMT **Greycliff** 74.80 41 eP P 09 17 58.2 +1.2
comp=Z,41nm,0.9s
H16A **Russell Place,** 74.83 42 ⇓P P 09 17 58.2 +1.0
baz=75,SNR=76
GRF **Grafenberg Arr** 74.84 326 eP P 09 17 58.0 +1.1
comp=Z,74nm,1.2s
GRF epP pP 09 19 31.1 +0.3
EBL **Broad Law** 74.89 337 eP P 09 17 57.1 0.0
EBL **Broad Law** 74.89 337 P P 09 17 57.1 0.0
EAB **Aberfoyle** 74.90 337 eP P 09 17 57.2 0.0
EAB **Aberfoyle** 74.90 337 P P 09 17 57.2 0.0
B23A **Brockton** 74.93 36 ⇑P P 09 17 57.8 +0.3
baz=75,SNR=35
EAU **Auchinoon** 74.95 337 eP P 09 17 57.3 -0.1
EAU **Auchinoon** 74.95 337 P P 09 17 57.3 -0.1
E20A **Meyer Farm, Mu** 75.00 39 ⇑P P 09 17 58.8 +0.8
baz=75,SNR=40
YMR **Madison River** 75.00 42 eP P 09 17 59.3 +1.1
comp=Z,91nm,1.5s
A24A **Westby** 75.00 35 ⇑P P 09 17 58.1 +0.2
baz=75,SNR=10
BUG **Bochum--Univer** 75.03 329 eP P 09 17 58.2 +0.3
comp=Z,32nm,0.9s
ARMA **Armidale** 75.06 164 eP P 09 17 59.7 +1.4
comp=Z,49nm,1.2s
C22A **Vida** 75.08 37 ⇓P P 09 17 58.4 0.0
baz=75,SNR=12
STKA **Stephens Creek** 75.08 173 P P 09 17 59.5 +1.1
comp=Z,16nm,0.5s,baz=348,slow=6.1,SNR=108
STKA **Stephens Creek** 75.08 173 P P 09 17 59.5 +1.1
D21A **La Casta Ranch** 75.10 38 ⇑P P 09 17 58.7 +0.2
baz=75,SNR=11
F19A **Roth Farm, Mol** 75.10 40 ⇓P P 09 17 59.3 +0.7
baz=75,SNR=44
YNR **Norris Junctio** 75.10 42 eP P 09 18 00.8 +1.9
comp=Z,58nm,1.5s
J15A **Blackfoot** 75.18 44 ⇓P P 09 18 00.6 +1.5
baz=75,SNR=26

G18A **Lazy EL Ranch,** 75.20 41 ⇑P P 09 17 59.5 +0.3
baz=75,SNR=6.3
YFT **Old Faithful** 75.22 42 eP P 09 18 01.9 +2.4
comp=Z,40nm,0.9s
DGMT **Dagmar** 75.26 36 ⇑P P 09 17 59.7 +0.3
baz=75,SNR=12
PGBU **Glenifferbraes** 75.27 337 eP P 09 17 59.6 +0.4
PGBU AMB AMB 09 18 00.2
comp=Z,85nm,1.0s
PGBU **Glenifferbraes** 75.27 337 P P 09 17 59.6 +0.4
PGBU AMB AMB 09 18 00.2
comp=Z,85nm,1.0s
I16A **Newdale** 75.31 43 ⇑P P 09 18 01.5 +1.6
baz=75,SNR=121
ESK **Eskdalemuir** 75.33 336 eP P 09 17 59.9 +0.3
ESK **Eskdalemuir** 75.33 336 P P 09 17 59.9 +0.3
ESK **Eskdalemuir** 75.33 336 iP P 09 18 00.1 +0.5
ESK **Eskdalemuir** 75.33 336 eP P 09 17 59.8 +0.3
comp=Z,46nm,1.4s
C23A **Lambert** 75.34 37 ⇓P P 09 18 00.4 +0.5
baz=75,SNR=36
LKWY **Lake** 75.35 42 eP P 09 18 02.0 +1.8
LKWY pmax pmax
comp=Z,40nm,1.1s
LKWY **Lake** 75.35 42 eP P 09 18 01.9 +1.8
comp=Z,40nm,1.1s
H17A **Grant Village** 75.39 42 ⇓P P 09 18 02.9 +2.5
baz=75,SNR=89
D22A **Cohagen** 75.40 38 ⇓P P 09 18 00.5 +0.3
baz=75,SNR=19
K14A **Jones Ranch, D** 75.42 45 ⇓P P 09 18 01.9 +1.4
baz=75,SNR=37
ECK **Cauldkaine Hil** 75.42 336 eP P 09 18 00.1 0.0
ECK **Cauldkaine Hil** 75.42 336 P P 09 18 00.1 0.0
XAL **Allendale** 75.43 336 eP P 09 18 00.5 +0.4
XAL **Allendale** 75.43 336 P P 09 18 00.5 +0.4
GROS **Grobnik** 75.44 321 iP P 09 18 00.6 +0.2
GROS epP pP 09 19 35.5 +1.0
E21A **Keefer Ranch,** 75.45 39 ⇑P P 09 18 01.2 +0.7
baz=75,SNR=9.2
RLMT **Red Lodge** 75.48 41 eP P 09 18 01.8 +0.8
comp=Z,76nm,1.3s
RLMT **Red Lodge** 75.48 41 ⇑P P 09 18 01.6 +0.6
baz=75,SNR=38
SOKA **Soboth** 75.49 322 ⇑iP P 09 18 01.2 +0.5
comp=Z,42nm,1.2s
F20A **Billings** 75.51 40 ⇑P P 09 18 01.4 +0.5
baz=75,SNR=9.3
TNS **Taunus Mts** 75.54 327 eP P 09 18 01.4 +0.5
comp=Z,31nm,1.3s
NVAR **Mina Array Bea** 75.55 51 P P 09 18 02.4 +1.0
comp=Z,29nm,0.8s,baz=289,slow=5.2,SNR=182
NVAR pP pP 09 19 38.4 +2.9
comp=Z,1.6nm,0.7s,baz=290,slow=6.4,SNR=3.1
NVAR **Mina Array Bea** 75.55 51 P P 09 18 02.4 +1.0
NVAR pP pP 09 19 38.4 +2.9
FLWY **Flagg Ranch** 75.55 42 eP P 09 18 03.2 +1.8
comp=Z,61nm,1.2s
IMW **Indian Meadow** 75.57 43 eP P 09 18 03.1 +1.6
comp=Z,47nm,0.9s
ELK **Elko** 75.62 47 eP P 09 18 02.9 +1.2
H18A **Shoshone NF, C** 75.62 41 ⇑P P 09 18 02.3 +0.6
baz=75,SNR=17
K15A **Arbon** 75.65 44 ⇓P P 09 18 03.1 +1.3
baz=75,SNR=18
DCID1 **Drake Creek** 75.67 43 eP P 09 18 03.5 +1.6
comp=Z,72nm,1.1s
RJOB **Jochberg** 75.68 323 eP P 09 18 02.7 +1.0
comp=Z,24nm,1.0s
J16A **Bone** 75.69 43 ⇓P P 09 18 03.6 +1.5
baz=75,SNR=75
BBOO **Buckleboo** 75.72 178 eP P 09 18 02.4 +0.5
comp=Z,512nm,1.0s
I17A **Pilgrim Ck.** 75.73 42 ⇑P P 09 18 04.4 +2.1
baz=76,SNR=52
L14A **Malta** 75.75 45 ⇓P P 09 18 03.6 +1.2
baz=76,SNR=27
MOOW **Moose Ponds** 75.78 43 eP P 09 18 03.6 +1.0
comp=Z,71nm,1.1s
RRI2 **Red Ridge** 75.78 43 eP P 09 18 04.0 +1.3
comp=Z,56nm,0.9s
MLAC **Mammoth Lakes** 75.80 52 ⇑P P 09 18 04.1 +1.2
baz=76
D23A **Lindsay** 75.81 37 ⇑P P 09 18 03.3 +0.8
baz=76,SNR=34
TPAW **Teton Pass** 75.86 43 eP P 09 18 04.4 +1.3
comp=Z,36nm,1.0s
C24A **Savage** 75.89 37 ⇑P P 09 18 03.2 +0.3
baz=76,SNR=5.9
TOD **Tromm** 75.89 327 eP P 09 18 03.2 +0.4
TOD **Tromm** 75.89 327 eP P 09 18 03.2 +0.4
G20A **Bridger** 75.91 40 ⇓P P 09 18 03.2 0.0
baz=76,SNR=19
KESW **Keswick, Cumbr** 75.93 336 eP P 09 18 03.3 +0.4
KESW AMB AMB 09 18 03.9
comp=Z,69nm,1.3s
KESW **Keswick, Cumbr** 75.93 336 P P 09 18 03.3 +0.4
KESW AMB AMB 09 18 03.9
comp=Z,69nm,1.3s
CRES **Crnenjev** 75.93 321 eP P 09 18 03.1 0.0
KBA **Koelnbreinsper** 75.94 323 ⇑iP P 09 18 04.0 +0.7
comp=Z,36nm,1.3s,SNR=9.6
LOHW **Long Hollow** 75.94 43 eP P 09 18 04.7 +1.2
comp=Z,32nm,1.0s
H19A **Powell** 75.95 41 ⇑P P 09 18 04.2 +0.8
baz=76,SNR=20
F21A **Absaloka Mine,** 75.97 39 ⇑P P 09 18 03.8 +0.3
baz=76
SNOW **Snow King Moun** 75.98 43 eP P 09 18 05.4 +1.6
comp=Z,43nm,1.2s
FUR **Furstenfeldbru** 76.00 325 eP P 09 18 04.3 +0.8
comp=Z,48nm,1.2s
REDW **Red Top Meadow** 76.00 43 eP P 09 18 05.0 +1.1
comp=Z,54nm,1.1s
K16A **Soda Springs** 76.02 44 ⇓P P 09 18 05.3 +1.4
baz=76,SNR=72
E22A **Miles City** 76.04 38 ⇑P P 09 18 04.2 +0.4
baz=76
J17A **Brown Place, J** 76.07 43 ⇑P P 09 18 05.5 +1.3
baz=76,SNR=14
BEBN **Eben Emael** 76.15 329 P P 09 18 04.4 +0.2
GAL1 **Galloway** 76.16 337 AMB AMB 09 18 01.5
comp=Z,66nm,1.4s
MEM **Membach** 76.17 329 P P 09 18 04.6 +0.2
comp=Z,17nm,1.2s
LJU **Ljubljana** 76.19 321 eP P 09 18 04.3 -0.3
L15A **Malad City** 76.22 45 ⇓P P 09 18 05.9 +1.0
baz=76,SNR=22
D24A **Glenlyve** 76.25 37 ⇓P P 09 18 05.8 +0.9
baz=76,SNR=48
I18A **Diamond G Ranc** 76.27 42 ⇑P P 09 18 06.5 +1.2
baz=76
E23A **Ismay** 76.28 38 ⇑P P 09 18 05.8 +0.6
baz=76,SNR=15
AHID **Auburn Hatcher** 76.32 43 eP P 09 18 06.6 +1.1
comp=Z,53nm,1.3s
G21A **Lodge Grass** 76.38 40 ⇓P P 09 18 06.0 +0.3
baz=76,SNR=13
STU **Stuttgart** 76.39 326 eP P 09 18 06.1 +0.5
comp=Z,43nm,1.2s
F22A **Rosebud** 76.40 39 ⇑P P 09 18 06.2 +0.4
baz=76,SNR=15
K17A **Gardner Place,** 76.42 43 ⇑P P 09 18 06.7 +0.6
baz=76,SNR=8.1
I19A **Meeteetse** 76.42 41 ⇓P P 09 18 07.0 +0.9
baz=76,SNR=18
LHO **Holmfirth** 76.44 335 eP P 09 18 05.8 0.0
LHO **Holmfirth** 76.44 335 P P 09 18 05.8 0.0
RCTC **Rector, Farmer** 76.48 53 ⇓P P 09 18 06.5 +0.1
baz=76,SNR=7.7
RUP **Ruppelstein** 76.50 328 eP P 09 18 06.2 -0.1
RUP **Ruppelstein** 76.50 328 eP P 09 18 06.2 -0.1
JAVS **Javornik** 76.52 322 eP P 09 18 05.7 -0.8
JAVS epP pP 09 19 41.5 +0.6
J18A **Kendall Valley** 76.53 43 ⇑P P 09 18 07.7 +0.9
baz=76,SNR=41
TIN **Tinemaha** 76.55 52 ⇑P P 09 18 07.9 +1.1
baz=76
H20A **Greybull** 76.56 41 ⇓P P 09 18 07.2 +0.4
baz=76,SNR=35
M15A **Larsen Ranch,** 76.58 45 ⇑P P 09 18 07.8 +0.9
baz=76,SNR=6.6
KBI1 **Birley Grange** 76.59 334 eP P 09 18 06.7 +0.1
KBI1 **Birley Grange** 76.59 334 P P 09 18 06.7 +0.1
BCLA **Clavier** 76.59 329 P P 09 18 06.8 +0.1
comp=Z,17nm,1.4s
E24A **Baker** 76.68 37 ⇓P P 09 18 07.8 +0.4
baz=76,SNR=15
L16A **Fish Haven** 76.70 44 ⇓P P 09 18 08.7 +1.0
baz=76,SNR=15
SMMC **Simmler** 76.73 54 ⇑P P 09 18 08.7 +0.9
baz=76,SNR=7.1
G22A **Birney** 76.81 39 ⇑P P 09 18 08.5 +0.3
baz=76,SNR=22
F23A **Volborg** 76.83 38 ⇑P P 09 18 08.7 +0.5
baz=77,SNR=47
SNF **Seneffe** 76.90 330 P P 09 18 08.7 +0.3
comp=Z,19nm,1.5s
I20A **Worland** 76.90 41 ⇓P P 09 18 09.8 +1.1
baz=77,SNR=22
VES **Vestal, Richgr** 76.90 53 ⇑P P 09 18 08.6 -0.1
baz=77,SNR=19
H21A **Big Horn, Sher** 76.91 40 ⇓P P 09 18 09.1 +0.4
baz=77,SNR=17
L17A **Cokeville** 76.92 44 ⇓P P 09 18 09.7 +0.8
baz=77,SNR=15
HWUT **Hardware Ranch** 76.93 45 eP P 09 18 09.8 +0.9
comp=Z,63nm,1.0s
K18A **Toltan Ranch,** 76.94 43 ⇓P P 09 18 09.9 +0.9
baz=77,SNR=28
N15A **Stansbury Isla** 76.95 46 ⇓P P 09 18 10.1 +1.0
baz=77
J19A **Crowheart** 76.96 42 ⇓P P 09 18 09.9 +0.8
baz=77,SNR=44
GIVF **Givet** 77.03 329 ⇑iP P 09 18 08.8 -0.3
comp=Z,43nm,1.0s
GIVF **Givet** 77.03 329 ⇑iP P 09 18 08.8 -0.3
GIVF pmax pmax
comp=Z,43nm,1.0s
GIVF **Givet** 77.03 329 ⇑iP P 09 18 08.8 -0.3
comp=Z,43nm,1.0s
CWC **Cottonwood Cre** 77.07 52 ⇓P P 09 18 10.2 +0.5
baz=77,SNR=6.1
GRAC **Grapevine Rang** 77.08 51 ⇓P P 09 18 10.9 +1.2
baz=77,SNR=27
BW06 **Boulder Array** 77.08 43 ⇓P P 09 18 10.2 +0.3
baz=77,SNR=77
PDAR **Pinedale Array** 77.08 43 P P 09 18 10.1 +0.2
comp=Z,39nm,0.8s,baz=330,slow=1.5,SNR=271
PDAR pP pP 09 19 45.8 +1.4
comp=Z,3.5nm,0.8s,baz=321,slow=1.5,SNR=6.2
PDAR **Pinedale Array** 77.08 43 P P 09 18 10.1 +0.2
PDAR pP pP 09 19 45.8 +1.4
SPAK **Spaichingen-Ko** 77.09 326 eP P 09 18 09.7 +0.1
BFO **Black Forest** 77.09 326 eP P 09 18 09.8 +0.3
BFO pmax pmax
comp=Z,55nm,1.3s
BFO **Black Forest** 77.09 326 eP P 09 18 10.0 +0.5
comp=Z,46nm,1.2s
BFO epP pP 09 19 44.9 +0.9
BFO **Black Forest** 77.09 326 eP P 09 18 09.8 +0.3
comp=Z,55nm,1.3s
DOU **Dourbes** 77.12 329 P P 09 18 09.8 +0.2
comp=Z,14nm,1.5s
FETA **Feichten** 77.12 324 ⇑iP P 09 18 10.4 +0.5
comp=Z,17nm,1.0s,SNR=7.8
PKM **Peak Mountain** 77.12 54 ⇑P P 09 18 11.0 +0.9
baz=77,SNR=5.9
R11A **Troy Canyon, C** 77.13 49 ⇓P P 09 18 10.9 +0.7
baz=77,SNR=22
ULM **Lac du Bonnet** 77.17 30 P P 09 18 09.3 -0.5
comp=Z,37nm,0.9s,baz=325,slow=6.5,SNR=65
ULM **Lac du Bonnet** 77.17 30 P P 09 18 09.3 -0.5
F24A **Ekalaka** 77.17 38 ⇑P P 09 18 10.5 +0.4
baz=77,SNR=36
G23A **Biddle** 77.24 39 ⇑P P 09 18 10.7 +0.2
baz=77,SNR=21
H22A **Clearmont** 77.25 40 ⇓P P 09 18 10.8 +0.2
baz=77
DAVA **Damuels** 77.27 325 ⇑iP P 09 18 11.2 +0.5
comp=Z,32nm,1.0s
BAIF **Baives** 77.30 330 eP P 09 18 10.3 -0.2
comp=Z,15nm,0.8s
BAIF **Baives** 77.30 330 eP P 09 18 10.3 -0.2
BAIF pmax pmax
comp=Z,15nm,0.8s
BAIF **Baives** 77.30 330 eP P 09 18 10.3 -0.2
comp=Z,15nm,0.8s
DUG **Dugway** 77.30 46 eP P 09 18 11.9 +0.9
DUG pmax pmax
comp=Z,53nm,1.3s
DUG **Dugway** 77.30 46 eP P 09 18 11.9 +0.9
comp=Z,53nm,1.3s
DUG **Dugway** 77.30 46 ⇑P P 09 18 12.0 +1.1
baz=77,SNR=28
WPM1 **Penmaenmawr** 77.32 336 eP P 09 18 11.0 +0.4
WPM1 **Penmaenmawr** 77.32 336 P P 09 18 11.0 +0.4
J20A **Shoshoni** 77.37 41 ⇓P P 09 18 11.7 +0.5
baz=77,SNR=14
ISA **Isabella** 77.38 53 eP P 09 18 10.9 -0.5
ISA pmax pmax
comp=Z,25nm,1.3s
ISA **Isabella** 77.38 53 eP P 09 18 10.9 -0.5
comp=Z,25nm,1.3s
ISA **Isabella** 77.38 53 ⇓P P 09 18 11.0 -0.5
baz=77,SNR=12
K19A **Absolon Red Bu** 77.39 42 ⇑P P 09 18 11.1 -0.4
baz=77,SNR=15
I21A **Big Trails, Te** 77.40 41 ⇓P P 09 18 11.9 +0.4
baz=77,SNR=84
FOEL **Foel Wylfa** 77.42 335 eP P 09 18 11.7 +0.5
FOEL AMB AMB 09 18 12.2
comp=Z,51nm,0.8s
FOEL **Foel Wylfa** 77.42 335 P P 09 18 11.7 +0.5
FOEL AMB AMB 09 18 12.2
comp=Z,51nm,0.8s
CDF **Champ du Feu** 77.45 327 ⇑iP P 09 18 11.6 0.0
comp=Z,64nm,1.2s
CDF **Champ du Feu** 77.45 327 ⇑iP P 09 18 11.6 0.0
CDF pmax pmax
comp=Z,64nm,1.2s
CDF **Champ du Feu** 77.45 327 ⇑iP P 09 18 11.6 0.0
comp=Z,64nm,1.2s
DAC **Darwin (Calif)** 77.46 52 eP P 09 18 12.8 +0.8
DAC pmax pmax
comp=Z,33nm,1.2s
DAC **Darwin (Calif)** 77.46 52 eP P 09 18 12.8 +0.8
comp=Z,33nm,1.2s
L18A **Fontenelle, Gr** 77.47 43 ⇑P P 09 18 12.7 +0.8
baz=77,SNR=33
M17A **Scullys Gap (B** 77.48 44 ⇓P P 09 18 12.5 +0.5
baz=77,SNR=9.9
N16A **Rees Ranch, Co** 77.52 45 ⇑P P 09 18 13.0 +0.8
baz=77,SNR=8.3
ARVC **Arvin** 77.55 53 ⇓P P 09 18 12.2 0.0
baz=77,SNR=6.7
G24A **Alzada** 77.58 38 ⇓P P 09 18 12.1 -0.2
baz=77,SNR=13
FELD **Feldberg im Sc** 77.58 326 eP P 09 18 12.5 +0.1
HLM1 **Long Mynd** 77.64 335 eP P 09 18 11.8 -0.7
HLM1 **Long Mynd** 77.64 335 P P 09 18 11.8 -0.7
ECH **Echery** 77.65 327 eP P 09 18 12.8 +0.2
ECH pmax pmax
comp=Z,32nm,1.1s
ECH **Echery** 77.65 327 eP P 09 18 12.8 +0.2
comp=Z,32nm,1.1s
ECH **Echery** 77.65 327 eP P 09 18 12.7 +0.2
MDND **Maddock** 77.67 34 ⇓P P 09 18 12.9 +0.2
baz=77
MPMC **Manual Prospec** 77.67 52 ⇓P P 09 18 13.7 +0.5
baz=78,SNR=35
L19A **Farson** 77.68 43 ⇑P P 09 18 13.7 +0.6
baz=77,SNR=41
J21A **Lysite** 77.68 41 ⇑P P 09 18 13.5 +0.5
baz=77,SNR=18
H23A **Clabaugh Cattl** 77.72 39 ⇓P P 09 18 13.4 +0.2
baz=78
JLU **Jordanelle** 77.72 45 eP P 09 18 14.0 +0.6
comp=Z,29nm,1.4s
I22A **9 Mile Ranch,** 77.73 40 ⇓P P 09 18 13.4 +0.2
baz=78,SNR=16
FURC **Furnace Creek,** 77.74 51 ⇑P P 09 18 14.1 +0.9
baz=78,SNR=40
K20A **Yellowstone Ra** 77.76 42 ⇑P P 09 18 13.2 -0.3
baz=78,SNR=7.3
N17A **Moffit Pass** 77.79 45 ⇓P P 09 18 14.4 +0.6
baz=78,SNR=34
M18A **Lyman** 77.82 44 ⇓P P 09 18 14.5 +0.6
baz=78,SNR=23
BSC **Santa Cruz Isl** 77.86 55 ⇑P P 09 18 15.3 +1.3
baz=78
PAGF **Fort de Pagny** 77.94 328 ⇑iP P 09 18 14.4 +0.3
comp=Z,32nm,1.1s
PAGF **Fort de Pagny** 77.94 328 ⇑iP P 09 18 14.4 +0.3

comp=Z,32nm,1.1s
MOF Molkenrain 77.96 327 *e*P P 09 18 14.2 -0.1
MOF Molkenrain 77.96 327 *e*P P 09 18 14.2 -0.1
MOF Molkenrain 77.96 327 *e*P P 09 18 14.2 -0.1
DAU Daniels Canyon 77.96 45 *e*P P 09 18 15.7 +0.9
DAU pmax pmax
comp=Z,48nm,1.5s
DAU Daniels Canyon 77.96 45 *e*P P 09 18 15.7 +0.9
comp=Z,48nm,1.5s
H24A Dirks Ranch, A 77.97 38 ⇑P P 09 18 14.3 -0.2
baz=78,SNR=25
LRMC Laurel Mountai 77.97 52 ⇑P P 09 18 15.1 +0.4
baz=78
OSI Osito Adit 77.97 54 ⇓P P 09 18 15.3 +0.7
baz=78
P15A Leamington 78.04 46 ⇓P P 09 18 15.8 +0.8
baz=78,SNR=22
MPU Maple Canyon 78.05 46 *e*P P 09 18 16.0 +0.9
comp=Z,110nm,1.7s
J22A Midwest 78.09 40 ⇓P P 09 18 15.3 0.0
baz=78,SNR=50
HINF Hinteralfeld 78.10 327⇑*i*P P 09 18 14.7 -0.3
comp=Z,13nm,0.8s
HINF *e*pP **pP 09 19 50.8 +1.0**
HINF Hinteralfeld 78.10 327⇑*i*P P 09 18 14.7 -0.3
HINF *e**PP **pP 09 19 50.8 +1.0**
HINF pmax pmax
comp=Z,13nm,0.8s
HINF Hinteralfeld 78.10 327⇑*i*P P 09 18 14.7 -0.3
comp=Z,13nm,0.8s
HINF *e*pP **pP 09 19 50.8 +1.0**
BBS Basel-Blauen 78.11 326 *e*P P 09 18 15.3 +0.2
BBS Basel-Blauen 78.11 326 *e*P P 09 18 15.3 +0.2
BLG Laguna Peak 78.12 54 ⇓P P 09 18 15.4 0.0
baz=78
MCH1 Michaelchurch 78.13 335 *e*P P 09 18 13.9 -1.2
MCH1 AMB AMB 09 18 21.0
comp=Z,69nm,1.3s
MCH1 Michaelchurch 78.13 335 P P 09 18 13.9 -1.2
MCH1 AMB AMB 09 18 21.0
comp=Z,69nm,1.3s
R13A O'Grain Ranch, 78.14 48 ⇑P P 09 18 16.5 +0.8
baz=78,SNR=11
TUE Stuetta 78.14 325 *e*P P 09 18 16.1 +0.6
comp=Z,20nm,1.1s
HAU Haudompre 78.15 327⇑*i*P P 09 18 15.0 -0.3
comp=Z,27nm,0.8s
HAU Haudompre 78.15 327⇑*i*P P 09 18 15.0 -0.3
HAU pmax pmax
comp=Z,27nm,0.8s
HAU Haudompre 78.15 327⇑*i*P P 09 18 15.0 -0.3
comp=Z,27nm,0.8s
EDW2 Edwards Air Fo 78.21 53 ⇑P P 09 18 16.5 +0.5
baz=78,SNR=19
M19A Rock Springs 78.22 43 ⇓P P 09 18 16.4 +0.3
baz=78,SNR=7.9
L20A Wamsutter 78.25 42 ⇓P P 09 18 16.6 +0.4
baz=78,SNR=26
K21A Alcova 78.31 41 ⇓P P 09 18 16.8 +0.3
baz=78,SNR=53
P16A Fountain Green 78.34 46 ⇑P P 09 18 17.8 +1.1
baz=78,SNR=20
N18A Larsen Ranch, 78.35 44 ⇓P P 09 18 17.0 +0.3
baz=78,SNR=15
O17A Robinson Place 78.39 45 ⇓P P 09 18 18.0 +1.0
baz=78,SNR=28
DECC Green Verdugo 78.45 54 ⇑P P 09 18 17.0 -0.2
baz=78
SHOC Shoshone 78.48 51 ⇑P P 09 18 17.7 +0.5
baz=78
LOMF Lomont 78.48 326 *e*P P 09 18 17.2 0.0
LOMF Lomont 78.48 326 *e*P P 09 18 17.2 0.0
LOMF Lomont 78.48 326 *e*P P 09 18 17.2 0.0
SFTF Sexfontaines 78.50 328⇑*i*P P 09 18 17.1 0.0
comp=Z,133nm,1.1s
SFTF Sexfontaines 78.50 328⇑*i*P P 09 18 17.1 0.0
comp=Z,133nm,1.1s
J23A Dilts Ranch, B 78.54 40 ⇑P P 09 18 17.5 -0.1
baz=78
GSC Goldstone 78.60 52 *e*P P 09 18 18.8 +0.7
GSC pmax pmax
comp=Z,35nm,1.0s
GSC Goldstone 78.60 52 *e*P P 09 18 18.8 +0.7
comp=Z,35nm,1.0s
GSC Goldstone 78.60 52 ⇓P P 09 18 18.6 +0.6
baz=78,SNR=27
I24A Kuemmerle Ranc 78.62 39 ⇑P P 09 18 17.9 -0.1
baz=78,SNR=14
MWC Mount Wilson 78.63 54 *e*P P 09 18 18.9 +0.5
MWC pmax pmax
comp=Z,56nm,1.4s
MWC Mount Wilson 78.63 54 *e*P P 09 18 18.9 +0.5
comp=Z,56nm,1.4s
K22A Casper 78.65 41 ⇑P P 09 18 18.1 -0.2
baz=78,SNR=5.6
N19A John Jarvie Ra 78.67 44 ⇓P P 09 18 18.8 +0.3
baz=78,SNR=25
RSSD Black Hills 78.69 39 *e*P P 09 18 18.6 +0.1
RSSD pmax pmax
comp=Z,61nm,1.0s
RSSD Black Hills 78.69 39 *e*P P 09 18 18.6 +0.1
comp=Z,61nm,1.0s
ARUT Antelope Range 78.71 48 *e*P P 09 18 19.5 +0.8
ARUT pmax pmax
comp=Z,26nm,1.0s
ARUT Antelope Range 78.71 48 *e*P P 09 18 19.5 +0.8
comp=Z,26nm,1.0s
O18A Roosevelt 78.71 45 ⇓P P 09 18 19.7 +1.0
baz=78,SNR=22
M20A Sweetwater, Wa 78.72 43 ⇑P P 09 18 19.5 +0.8
baz=78,SNR=29
L21A Rawlins 78.76 42 ⇓P P 09 18 19.2 +0.2
baz=78,SNR=21
AGMN Agassiz Nation 78.77 31 *e*P P 09 18 17.9 -0.7
comp=Z,35nm,0.9s
RRX Edison Barstow 78.79 52 ⇑P P 09 18 19.8 +0.8
baz=79
TMUT Trail Mountain 78.80 46 *e*P P 09 18 20.1 +0.8
comp=Z,26nm,1.0s
MVU Marysvale 78.85 47 *e*P P 09 18 20.9 +1.4
comp=Z,34nm,1.0s
FMP Fort Macarthur 78.85 54 ⇑P P 09 18 19.8 +0.5
baz=79
BFSC Mount Baldy Ra 78.86 53 ⇑P P 09 18 19.7 +0.2
baz=79,SNR=12
MSU Marysvale 78.86 47 *e*P P 09 18 21.1 +1.5
MSU pmax pmax
comp=Z,43nm,1.1s
MSU Marysvale 78.86 47 *e*P P 09 18 21.1 +1.5
comp=Z,43nm,1.1s
P17A Butcher Ranch, 78.92 46 ⇑P P 09 18 20.6 +0.8
baz=79,SNR=23
K23A Bowen Ranch, D 79.00 40 ⇓P P 09 18 19.7 -0.4
baz=79
CIS Catalina Islan 79.00 54 ⇑P P 09 18 20.2 0.0
baz=79
J24A Dixon Ranch, L 79.01 39 ⇓P P 09 18 19.9 -0.2
baz=79,SNR=7.5
TUQ Turquoise Moun 79.01 51 ⇑P P 09 18 21.1 +0.7
baz=79,SNR=20
M21A Separation Pea 79.03 42 ⇑P P 09 18 20.5 +0.1
baz=79,SNR=28
P18A Preston Nutter 79.06 45 ⇓P P 09 18 21.5 +0.8
baz=79
Q16A Castle Valley 79.10 46 ⇓P P 09 18 21.8 +1.0
baz=79,SNR=16
O19A Miners Draw (B 79.14 44 ⇑P P 09 18 21.1 +0.2
baz=79,SNR=18
L22A Ellis Ranch, M 79.16 41 ⇑P P 09 18 21.5 +0.4
baz=79,SNR=7.3
N20A Spence Gulch, 79.17 43 ⇓P P 09 18 22.1 +1.0
baz=79,SNR=48
HEC Hector,Ludlow 79.21 52 ⇑P P 09 18 21.9 +0.6
baz=79,SNR=20
SCI San Clemente I 79.22 55 ⇓P P 09 18 22.0 +0.7
baz=79
BBRC Big Bear Solar 79.27 53 ⇓P P 09 18 22.0 +0.2
baz=79,SNR=14
SRU San Rafael 79.30 46 *e*P P 09 18 22.4 +0.5
SRU pmax pmax
comp=Z,33nm,1.0s
SRU San Rafael 79.30 46 *e*P P 09 18 22.4 +0.5
comp=Z,33nm,1.0s
SRU San Rafael 79.30 46 ⇓P P 09 18 22.2 +0.4
baz=79,SNR=19
CABF La Chapelle 79.38 326 *e*P P 09 18 21.8 -0.2
comp=Z,12nm,0.7s
CABF La Chapelle 79.38 326 *e*P P 09 18 21.8 -0.2
CABF pmax pmax
comp=Z,12nm,0.7s
CABF La Chapelle 79.38 326 *e*P P 09 18 21.8 -0.2
comp=Z,12nm,0.7s
L23A Garrett 79.45 41 ⇑P P 09 18 22.2 -0.4
baz=79,SNR=14
M22A Cedar Creek Ra 79.56 42 ⇑P P 09 18 23.4 +0.1
baz=79
MURC Murrieta 79.58 54 ⇓P P 09 18 23.3 +0.1
baz=79,SNR=8.9
N21A Black Mountain 79.60 43 ⇑P P 09 18 24.0 +0.5
baz=79,SNR=15
GMRC Granite Mounta 79.63 52 ⇓P P 09 18 24.3 +0.6
baz=79,SNR=28
O20A White River Ci 79.71 44 ⇓P P 09 18 24.5 +0.5
baz=80,SNR=24
P19A Cripple Cowboy 79.71 44 ⇓P P 09 18 24.4 +0.4
baz=80,SNR=58
LOR Lormes 79.72 328⇑*i*P P 09 18 23.3 -0.4
comp=Z,99nm,1.1s
LOR *e*pP **pP 09 19 59.3 +0.4**
LOR Lormes 79.72 328⇑*i*P P 09 18 23.3 -0.4
comp=Z,99nm,1.1s
LOR *e*pP **pP 09 19 59.3 +0.4**
L24A Wheatland 79.87 40 ⇓P P 09 18 25.2 +0.4
baz=80
RSL Roselend 79.91 326 *e*P P 09 18 25.8 +0.9
RSL Roselend 79.91 326 *e*P P 09 18 25.8 +0.9
RSL Roselend 79.91 326 *e*P P 09 18 25.8 +0.9
K25A Mack Ranch, Ha 79.93 39 ⇑P P 09 18 25.3 +0.2
baz=80,SNR=6.7
M23A Laramie 79.94 41 ⇓P P 09 18 25.4 +0.2
baz=80,SNR=5.5
BELC Belle Mtn. Jos 79.99 53 ⇓P P 09 18 25.7 +0.1
baz=80,SNR=11
LPL La Plagne 80.00 325⇑*i*P P 09 18 25.7 +0.2
comp=Z,58nm,0.8s
LPL La Plagne 80.00 325⇑*i*P P 09 18 25.7 +0.2
LPL pmax pmax
comp=Z,58nm,0.8s
LPL La Plagne 80.00 325⇑*i*P P 09 18 25.7 +0.2
comp=Z,58nm,0.8s
PFO Pinyon Flat Ob 80.01 53 *e*P P 09 18 26.1 +0.5
comp=Z,67nm,1.1s
PFO Pinyon Flat Ob 80.01 53 ⇓P P 09 18 25.9 +0.3
baz=80,SNR=26
LPG La Plagne 80.01 325⇑*i*P P 09 18 25.8 +0.2
comp=Z,71nm,0.8s
LPG *e*pP **pP 09 20 01.8 +0.9**
LPG La Plagne 80.01 325⇑*i*P P 09 18 25.8 +0.2
LPG *e**PP **pP 09 20 01.8 +0.9**
LPG pmax pmax
comp=Z,71nm,0.8s
LPG La Plagne 80.01 325⇑*i*P P 09 18 25.8 +0.2
comp=Z,71nm,0.8s
LPG *e*pP **pP 09 20 01.8 +0.9**
SSF Saint Saulge 80.03 328⇑*i*P P 09 18 25.0 -0.3
comp=Z,45nm,0.9s
SSF Saint Saulge 80.03 328⇑*i*P P 09 18 25.0 -0.3
SSF pmax pmax
comp=Z,45nm,0.9s
SSF Saint Saulge 80.03 328⇑*i*P P 09 18 25.0 -0.3
comp=Z,45nm,0.9s
O21A Pagoda 80.03 43 ⇓P P 09 18 26.2 +0.4
baz=80
OG35 Corcelles 80.05 326 *e*P P 09 18 25.5 0.0
FLN La Foliniere 80.07 331⇑*i*P P 09 18 24.7 -0.7
comp=Z,23nm,0.9s
FLN La Foliniere 80.07 331⇑*i*P P 09 18 24.7 -0.7
FLN pmax pmax
comp=Z,23nm,0.9s
FLN La Foliniere 80.07 331⇑*i*P P 09 18 24.7 -0.7
comp=Z,23nm,0.9s
Q19A Hogan Spring (80.07 45 ⇑P P 09 18 26.2 +0.4
baz=80,SNR=52
LDF La Druitiere 80.08 331⇑*i*P P 09 18 24.8 -0.7
LDF La Druitiere 80.08 331⇑*i*P P 09 18 24.8 -0.7
LDF La Druitiere 80.08 331⇑*i*P P 09 18 24.8 -0.7
N22A Wattenberg Ran 80.09 42 ⇓P P 09 18 27.0 +0.8
baz=80,SNR=24
P20A De Beque 80.11 44 ⇓P P 09 18 26.3 +0.2
baz=80,SNR=17
109C Camp Elliot, M 80.14 54 ⇓P P 09 18 26.1 0.0
baz=80,SNR=5.9
K26A Motz Farm, Whi 80.18 39 ⇓P P 09 18 26.5 +0.2
baz=80,SNR=22
PHWY Pilot Hill 80.19 41 *e*P P 09 18 27.2 +0.5
comp=Z,52nm,1.3s
NEE2 Needles Airpor 80.23 51 ⇑P P 09 18 27.0 +0.4
baz=80
L25A Engebretsen Ra 80.24 40 ⇑P P 09 18 27.1 +0.4
baz=80
SMF Signal de Mont 80.24 328 *e*P P 09 18 26.3 -0.2
comp=Z,34nm,0.8s
SMF *e*pP **pP 09 20 02.7 +0.9**
SMF Signal de Mont 80.24 328 *e*P P 09 18 26.3 -0.2
SMF *e**PP **pP 09 20 02.7 +0.9**
SMF pmax pmax
comp=Z,34nm,0.8s
SMF Signal de Mont 80.24 328 *e*P P 09 18 26.3 -0.2
comp=Z,34nm,0.8s
SMF *e*pP **pP 09 20 02.7 +0.9**
S17A Black Ridge (B 80.24 47 ⇑P P 09 18 27.5 +0.7
baz=80,SNR=30
N23A Red Feather La 80.27 42 ⇑P P 09 18 27.8 +0.8
baz=80,SNR=16
AVF Avril sur Loir 80.31 328⇑*i*P P 09 18 26.6 -0.2
comp=Z,103nm,1.0s
AVF *e*pP **pP 09 20 02.9 +0.7**
AVF Avril sur Loir 80.31 328⇑*i*P P 09 18 26.6 -0.2
AVF *e**PP **pP 09 20 02.9 +0.7**
AVF pmax pmax
comp=Z,103nm,1.0s
AVF Avril sur Loir 80.31 328⇑*i*P P 09 18 26.6 -0.2
comp=Z,103nm,1.0s
AVF *e*pP **pP 09 20 02.9 +0.7**
U15A North Rim 80.33 49 ⇓P P 09 18 28.8 +1.4
baz=80,SNR=98
IRM Iron Mountain 80.37 52 ⇓P P 09 18 28.4 +1.0
baz=80,SNR=26
M24A Cheyenne 80.37 41 ⇓P P 09 18 28.3 +0.9
baz=80,SNR=22
BNI Bardonecchia 80.40 325 *e*P P 09 18 28.0 +0.5
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 80.40 325 *e*P P 09 18 28.0 +0.5
comp=Z,10nm,0.8s
W13A Hualapai Mount 80.41 50 ⇓P P 09 18 28.6 +0.8
baz=80,SNR=29
GRR Gorron 80.52 331⇑*i*P P 09 18 27.3 -0.5
comp=Z,70nm,1.2s
GRR Gorron 80.52 331⇑*i*P P 09 18 27.3 -0.5
GRR pmax pmax
comp=Z,70nm,1.2s
GRR Gorron 80.52 331⇑*i*P P 09 18 27.3 -0.5
comp=Z,70nm,1.2s
O22A Kremmling 80.53 43 ⇑P P 09 18 29.0 +0.5
baz=80,SNR=24
MONP Monument Peak 80.54 54 ⇓P P 09 18 28.8 +0.2
baz=80,SNR=14
BAR Barrett 80.54 54 *e*P P 09 18 28.7 +0.4
comp=Z,24nm,0.9s
BC3 Big Chuckawall 80.56 52 ⇑P P 09 18 28.8 +0.4
baz=80,SNR=16
P21A Newcastle 80.57 44 ⇓P P 09 18 29.1 +0.5
baz=80,SNR=32
Q20A Ridgley Place, 80.57 44 ⇑P P 09 18 28.9 +0.4
baz=80,SNR=23
K27A Flueckinger Fa 80.61 38 ⇓P P 09 18 28.8 +0.2
baz=80,SNR=20
MBDF Montbardon 80.62 325⇑*i*P P 09 18 28.2 -0.5
comp=Z,33nm,0.6s
MBDF *e*pP **pP 09 20 04.5 +0.3**
MBDF Montbardon 80.62 325⇑*i*P P 09 18 28.2 -0.5
MBDF *e**PP **pP 09 20 04.5 +0.3**
MBDF pmax pmax
comp=Z,33nm,0.6s
MBDF Montbardon 80.62 325⇑*i*P P 09 18 28.2 -0.5
comp=Z,33nm,0.6s
MBDF *e*pP **pP 09 20 04.5 +0.3**
S18A Hurst Farm, Bl 80.63 46 ⇑P P 09 18 29.6 +0.6
baz=80,SNR=42
SCHQ Schefferville 80.66 12 P P 09 18 28.4 -0.1
comp=Z,22nm,1.0s,baz=350,slow=5.0,SNR=14
SCHQ pP **pP 09 20 04.8 +0.8**
comp=Z,3.0nm,0.9s,baz=17,slow=11,SNR=2.0
SCHQ Schefferville 80.66 12 P P 09 18 28.4 -0.1
SCHQ pP **pP 09 20 04.8 +0.8**
BRSD Miller 80.67 35 ⇑P P 09 18 28.8 +0.1
baz=80,SNR=14
PV04 Paradox Valley 80.68 45 *e*P P 09 18 29.9 +0.8
EYMN Ely 80.68 29 *e*P P 09 18 28.2 -0.5
comp=Z,38nm,1.0s
BGF Bois d'Agland 80.70 328⇑*i*P P 09 18 28.7 -0.1
comp=Z,33nm,0.9s
BGF Bois d'Agland 80.70 328⇑*i*P P 09 18 28.7 -0.1
BGF pmax pmax
comp=Z,33nm,0.9s
BGF Bois d'Agland 80.70 328⇑*i*P P 09 18 28.7 -0.1
comp=Z,33nm,0.9s
L26A Underwood Farm 80.75 39 ⇓P P 09 18 29.7 +0.3
baz=80
M25A Palm-Egli Farm 80.76 40 ⇓P P 09 18 30.3 +0.9
baz=80,SNR=5.8
O23A Lake Granby, G 80.81 42 ⇑P P 09 18 30.8 +0.9
baz=81,SNR=9.7
N24A Carr 80.83 41 ⇑P P 09 18 30.4 +0.5
baz=81
ORIF Oris-en-Rattie 80.84 326⇑*i*P P 09 18 29.7 0.0
comp=Z,22nm,0.8s
ORIF Oris-en-Rattie 80.84 326⇑*i*P P 09 18 29.7 0.0
ORIF pmax pmax
comp=Z,22nm,0.8s
ORIF Oris-en-Rattie 80.84 326⇑*i*P P 09 18 29.7 0.0
comp=Z,22nm,0.8s
PDMCI Parker Dam,Lak 80.84 51 ⇑P P 09 18 30.4 +0.6
baz=81,SNR=11
P22A Eagle 80.86 43 ⇑P P 09 18 31.0 +0.9
baz=81,SNR=38
SWSC Sam W. Stewart 80.87 53 ⇓P P 09 18 30.4 +0.4
baz=81
PLDF La Plantade 80.89 328 *e*P P 09 18 30.2 +0.3
PLDF La Plantade 80.89 328 *e*P P 09 18 30.2 +0.3
PLDF La Plantade 80.89 328 *e*P P 09 18 30.2 +0.3
DVTC Desert V Tower 80.89 54 ⇑P P 09 18 30.7 +0.5
baz=81,SNR=8.3
AGO Saint Agoulin 81.01 328 *e*P P 09 18 30.7 +0.2
AGO Saint Agoulin 81.01 328 *e*P P 09 18 30.7 +0.2
Y12C Blythe 81.02 52 ⇑P P 09 18 31.7 +0.9
baz=81,SNR=18
Q21A Lamborn Mesa, 81.03 44 ⇓P P 09 18 31.6 +0.7
baz=81,SNR=20
PV01 Paradox Valley 81.04 45 *e*P P 09 18 31.9 +0.8
comp=Z,2µm,0.9s
L27A T5 Ranch, Ells 81.06 39 ⇓P P 09 18 31.2 +0.2
baz=81
SMCO Snowmass 81.07 44 *e*P P 09 18 32.2 +0.8
comp=Z,44nm,0.9s
SSB Saint Sauveur 81.09 327 *e*P P 09 18 31.3 +0.3
SSB pmax pmax
comp=Z,31nm,1.2s
SSB Saint Sauveur 81.09 327 *e*P P 09 18 31.3 +0.3
comp=Z,31nm,1.2s
R20A Redvale 81.10 45 ⇑P P 09 18 32.1 +0.8
baz=81,SNR=46
M26A McRoberts Ranc 81.16 40 ⇑P P 09 18 32.4 +0.9
baz=81
TCF Toulx Ste Croi 81.17 329⇑*i*P P 09 18 31.3 0.0
comp=Z,44nm,1.1s
TCF *e*pP **pP 09 20 07.8 +0.8**
TCF Toulx Ste Croi 81.17 329⇑*i*P P 09 18 31.3 0.0
TCF *e**PP **pP 09 20 07.8 +0.8**
TCF pmax pmax
comp=Z,44nm,1.1s
TCF Toulx Ste Croi 81.17 329⇑*i*P P 09 18 31.3 0.0
comp=Z,44nm,1.1s
TCF *e*pP **pP 09 20 07.8 +0.8**
OG25 Le Caire 81.20 325 *e*P P 09 18 31.5 -0.1
OG25 Le Caire 81.20 325 *e*P P 09 18 31.5 -0.1
SGMF Saint Gilles 81.22 332⇑*i*P P 09 18 31.4 -0.1
comp=Z,94nm,1.3s
SGMF Saint Gilles 81.22 332⇑*i*P P 09 18 31.4 -0.1
SGMF pmax pmax
comp=Z,94nm,1.3s
SGMF Saint Gilles 81.22 332⇑*i*P P 09 18 31.4 -0.1
comp=Z,94nm,1.3s
N25A Grover 81.23 41 ⇑P P 09 18 32.9 +1.0
baz=81,SNR=20
ISCO Idaho Springs 81.27 42 *e*P P 09 18 33.0 +0.7
ISCO pmax pmax
comp=Z,23nm,1.0s
ISCO Idaho Springs 81.27 42 *e*P P 09 18 33.0 +0.7
comp=Z,23nm,1.0s
ISCO Idaho Springs 81.27 42 ⇑P P 09 18 33.2 +0.8
baz=81,SNR=25
O24A Longmont 81.29 42 ⇑P P 09 18 33.3 +1.0
baz=81,SNR=9.9
PYM Petit Puy Mans 81.31 328 *e*P P 09 18 32.3 +0.2
PYM Petit Puy Mans 81.31 328 *e*P P 09 18 32.3 +0.2
PYM Petit Puy Mans 81.31 328 *e*P P 09 18 32.3 +0.2
Q22A Crested Butte, 81.34 44 ⇓P P 09 18 33.6 +0.9
baz=81,SNR=47
GLA Glamis 81.35 52 *e*P P 09 18 33.2 +0.7
GLA pmax pmax
comp=Z,32nm,0.9s
GLA Glamis 81.35 52 *e*P P 09 18 33.2 +0.7
comp=Z,32nm,0.9s
GLA Glamis 81.35 52 ⇑P P 09 18 33.4 +0.8
baz=81,SNR=15
S20A Disappointment 81.38 45 ⇓P P 09 18 33.5 +0.6
baz=81,SNR=22
VIVF Saint-Julien-l 81.38 326⇑*i*P P 09 18 32.5 0.0
comp=Z,75nm,1.2s
VIVF *e*pP **pP 09 20 09.2 +1.0**
VIVF Saint-Julien-l 81.38 326⇑*i*P P 09 18 32.5 0.0
VIVF *e**PP **pP 09 20 09.2 +1.0**
VIVF pmax pmax
comp=Z,75nm,1.2s
VIVF Saint-Julien-l 81.38 326⇑*i*P P 09 18 32.5 0.0
comp=Z,75nm,1.2s
VIVF *e*pP **pP 09 20 09.2 +1.0**
ROSF Rostrenen 81.39 333⇑*i*P P 09 18 32.4 +0.1
comp=Z,102nm,1.1s
ROSF *e*pP **pP 09 20 09.4 +1.4**
ROSF Rostrenen 81.39 333⇑*i*P P 09 18 32.4 +0.1
ROSF *e**PP **pP 09 20 09.4 +1.4**
ROSF pmax pmax
comp=Z,102nm,1.1s
ROSF Rostrenen 81.39 333⇑*i*P P 09 18 32.4 +0.1
comp=Z,102nm,1.1s
ROSF *e*pP **pP 09 20 09.4 +1.4**
R21A Cimarron 81.39 44 ⇓P P 09 18 33.9 +1.0
baz=81,SNR=36
M27A Reverse DX Ran 81.47 39 ⇑P P 09 18 33.6 +0.6
baz=81
P23A Jefferson 81.49 43 ⇓P P 09 18 34.5 +1.0
baz=81,SNR=17
WUAZ Wupatki 81.50 49 *e*P P 09 18 34.5 +1.1
comp=Z,38nm,1.1s
WUAZ Wupatki 81.50 49 ⇓P P 09 18 34.5 +1.1
baz=81,SNR=23
FRF La Foret Royal 81.62 324⇑*i*P P 09 18 33.1 -0.6
comp=Z,27nm,0.9s
FRF La Foret Royal 81.62 324⇑*i*P P 09 18 33.1 -0.6
FRF pmax pmax
comp=Z,27nm,0.9s
FRF La Foret Royal 81.62 324⇑*i*P P 09 18 33.1 -0.6
comp=Z,27nm,0.9s
N26A Koester Ranch, 81.62 40 ⇓P P 09 18 34.4 +0.5
baz=81,SNR=12
LBL Lubilhac 81.64 327 *e*P P 09 18 33.7 -0.2
LBL Lubilhac 81.64 327 *e*P P 09 18 33.7 -0.2
LBL Lubilhac 81.64 327 *e*P P 09 18 33.7 -0.2
QUIF Quistinic 81.71 333⇑*i*P P 09 18 33.8 -0.2
comp=Z,21nm,0.7s
QUIF Quistinic 81.71 333⇑*i*P P 09 18 33.8 -0.2
QUIF pmax pmax
comp=Z,21nm,0.7s
QUIF Quistinic 81.71 333⇑*i*P P 09 18 33.8 -0.2
comp=Z,21nm,0.7s
SMRF Simiane la Rot 81.73 325 *e*P P 09 18 34.3 0.0
comp=Z,62nm,1.3s
SMRF Simiane la Rot 81.73 325 *e*P P 09 18 34.3 0.0
comp=Z,62nm,1.3s
Y14A Wickenburg 81.75 51 ⇓P P 09 18 35.5 +0.8
baz=82,SNR=27
O25A Wiggins 81.76 41 ⇑P P 09 18 35.0 +0.4
baz=82,SNR=14
MVCO Mesa Verde 81.78 46 *e*P P 09 18 35.5 +0.6
comp=Z,47nm,1.3s
MVCO Mesa Verde 81.78 46 ⇓P P 09 18 35.6 +0.6
baz=82,SNR=29

MFF **Saint Martin d** 81.78 330⇑ *i*P P 09 18 34.6 +0.2
comp=Z,28nm,0.8s
MFF *e*pP pP 09 20 11.1 +0.9
MFF Saint Martin d 81.78 330⇑ *i*P P 09 18 34.6 +0.2
MFF *e**PP pP 09 20 11.1 +0.9
MFF pmax pmax
comp=Z,28nm,0.8s
MFF Saint Martin d 81.78 330 *i*P P 09 18 34.6 +0.2
comp=Z,28nm,0.8s
MFF *e*pP pP 09 20 11.1 +0.9
S21A Coal Bank Pass 81.80 45 ⇓P P 09 18 36.3 +1.1
baz=82,SNR=59
P24A Kohler Place, 81.84 42 ⇑P P 09 18 36.0 +0.8
baz=82,SNR=5.2
Q23A Hartsel 81.85 43 ⇑P P 09 18 35.8 +0.5
baz=82
LMR La Mourre 81.86 324⇑ *i*P P 09 18 34.5 -0.4
comp=Z,83nm,1.1s
LMR La Mourre 81.86 324⇑ *i*P P 09 18 34.5 -0.4
LMR pmax pmax
comp=Z,83nm,1.1s
LMR La Mourre 81.86 324⇑ *i*P P 09 18 34.5 -0.4
comp=Z,83nm,1.1s
R22A Saguache, Gunn 81.90 44 ⇓P P 09 18 36.9 +1.3
baz=82,SNR=20
N27A Anderson Farm, 81.97 40 ⇑P P 09 18 36.0 +0.4
baz=82,SNR=16
O26A Horse Wrangler 82.04 41 ⇓P P 09 18 36.2 +0.2
baz=82,SNR=8.2
OGNE Ogallala 82.09 39 *e*P P 09 18 36.5 +0.2
comp=Z,123nm,1.4s
OGNE Ogallala 82.09 39 ⇑P P 09 18 36.5 +0.2
baz=82
U19A Dine' College, 82.09 47 ⇓P P 09 18 37.2 +0.7
baz=82
Q24A Divide 82.14 43 ⇓P P 09 18 37.1 +0.2
baz=82,SNR=7.3
113A Mohawk Valley, 82.17 52 ⇑P P 09 18 37.4 +0.7
baz=82,SNR=24
P25A Willow Gulch B 82.20 42 ⇑P P 09 18 37.4 +0.5
baz=82,SNR=12
Z14A Wintersburg 82.21 51 ⇓P P 09 18 37.7 +0.8
baz=82,SNR=7.0
ECSD EROS Data Cent 82.22 35 *e*P P 09 18 36.6 -0.2
comp=Z,50nm,1.0s
S22A 4UR Ranch, Cre 82.23 44 ⇓P P 09 18 38.1 +0.8
baz=82
RJF Les Rejaudoux 82.26 328⇑ *i*P P 09 18 37.0 +0.1
comp=Z,31nm,1.0s
RJF Les Rejaudoux 82.26 328⇑ *i*P P 09 18 37.0 +0.1
RJF pmax pmax
comp=Z,31nm,1.0s
RJF Les Rejaudoux 82.26 328⇑ *i*P P 09 18 37.0 +0.1
comp=Z,31nm,1.0s
X16A Lo Mia Camp, P 82.28 49 ⇑P P 09 18 38.8 +1.4
baz=82,SNR=58
LASF Ste Croix 82.36 326⇑ *i*P P 09 18 37.7 +0.2
comp=Z,44nm,1.1s
LASF *e*pP pP 09 20 15.1 +1.7
LASF Ste Croix 82.36 326⇑ *i*P P 09 18 37.7 +0.2
comp=Z,44nm,1.1s
LASF *e*pP pP 09 20 15.1 +1.7
CAF Calviac 82.36 328⇑ *i*P P 09 18 38.0 +0.5
comp=Z,80nm,1.3s
CAF *e*pP pP 09 20 14.9 +1.4
CAF Calviac 82.36 328⇑ *i*P P 09 18 38.0 +0.5
CAF *e**PP pP 09 20 14.9 +1.4
CAF pmax pmax
comp=Z,80nm,1.3s
CAF Calviac 82.36 328⇑ *i*P P 09 18 38.0 +0.5
comp=Z,80nm,1.3s
CAF *e*pP pP 09 20 14.9 +1.4
U20A Newcomb 82.39 46 ⇑P P 09 18 38.6 +0.6
baz=82,SNR=6.3
R23A Moffat 82.40 43 ⇑P P 09 18 39.1 +0.9
baz=82,SNR=22
T21A Navajo Lake 82.45 45 ⇑P P 09 18 38.8 +0.5
baz=82,SNR=9.6
O27A Beecher Island 82.48 40 ⇑P P 09 18 38.2 -0.1
baz=82,SNR=18
SPMN St. Paul 82.50 31 ⇑P P 09 18 37.6 -0.5
baz=82,SNR=13
P26A Davis Ranch, A 82.56 41 ⇑P P 09 18 38.9 +0.1
baz=82,SNR=13
Q25A Bedland, Calha 82.63 42 ⇓P P 09 18 39.2 0.0
baz=82,SNR=13
S23A Nye Farm, Mont 82.69 44 ⇓P P 09 18 40.6 +1.0
baz=82,SNR=10
W18A Petrified Fore 82.69 48 ⇓P P 09 18 40.5 +0.9
baz=82
R24A Sanders Place, 82.73 43 ⇑P P 09 18 40.4 +0.7
baz=82,SNR=11
T22A Edith 82.75 45 ⇑P P 09 18 40.9 +1.0
baz=82,SNR=34
U21A Nageezi 82.81 46 ⇑P P 09 18 41.0 +0.8
baz=83,SNR=50
V20A Brimhall 82.86 47 ⇓P P 09 18 40.9 +0.5
baz=83,SNR=16
LFF La Frestale 82.86 329⇑ *i*P P 09 18 40.5 +0.5
comp=Z,150nm,1.3s
LFF La Frestale 82.86 329⇑ *i*P P 09 18 40.5 +0.5
LFF pmax pmax
comp=Z,151nm,1.3s
LFF La Frestale 82.86 329⇑ *i*P P 09 18 40.5 +0.5
comp=Z,150nm,1.3s
P27A Ficken Ranch, 82.93 41 ⇓P P 09 18 40.5 -0.1
baz=83,SNR=9.6
Q26A Hugo 82.97 42 ⇑P P 09 18 40.9 0.0
baz=83,SNR=13
S24A Houchin Ranch, 83.14 43 ⇓P P 09 18 42.4 +0.5
baz=83,SNR=14
T23A Casias Ranch, 83.18 44 ⇓P P 09 18 42.8 +0.7
baz=83,SNR=26
R25A Fountain Ranch 83.20 43 ⇑P P 09 18 42.0 -0.1
baz=83
U22A Llaves 83.27 45 ⇓P P 09 18 43.5 +1.0
baz=83
V21A Milan 83.29 46 ⇑P P 09 18 43.4 +0.8
baz=83,SNR=14
214A Organ Pipe Nat 83.31 52 ⇓P P 09 18 43.2 +0.6
baz=83,SNR=12
KSCO Kaye Shedlock' 83.33 41 ⇑P P 09 18 42.9 +0.2
baz=83,SNR=7.3
W20A Ramah 83.35 47 ⇑P P 09 18 43.7 +0.7
baz=83
BGNE Belgrade 83.47 37 ⇓P P 09 18 43.1 0.0
baz=83,SNR=11
R26A Arlington 83.50 42 ⇓P P 09 18 43.7 +0.2
baz=83,SNR=33
S25A Robets Cordova 83.51 43 ⇑P P 09 18 43.4 -0.3
baz=83,SNR=9.3
V22A San Miguel Ran 83.59 46 ⇓P P 09 18 45.0 +0.9
baz=83,SNR=26
MTLF Montolieu 83.63 327⇑ *i*P P 09 18 44.2 +0.3
comp=Z,40nm,1.2s
MTLF Montolieu 83.63 327⇑ *i*P P 09 18 44.2 +0.3
MTLF pmax pmax
comp=Z,40nm,1.2s
MTLF Montolieu 83.63 327⇑ *i*P P 09 18 44.2 +0.3
comp=Z,40nm,1.2s
U23A El Rito 83.65 45 ⇓P P 09 18 45.5 +1.1
baz=83,SNR=46
T24A Torres, Weston 83.65 44 ⇑P P 09 18 45.5 +1.0
baz=83,SNR=29
X20A Quemado 83.79 48 ⇑P P 09 18 46.6 +1.4
baz=84,SNR=50
W21A San Fidel 83.81 47 ⇑P P 09 18 46.2 +0.9
baz=84
R27A Eads 83.82 42 ⇓P P 09 18 45.1 0.0
baz=84,SNR=26
T25A Trinidad 83.93 43 ⇓P P 09 18 46.0 +0.2
baz=84,SNR=19
S26A Kim 84.02 42 ⇑P P 09 18 45.9 -0.2
baz=84,SNR=13
V23A Ortiz Mt. (NFS 84.10 45 ⇑P P 09 18 48.3 +1.7
baz=84,SNR=21
TUC Tucson 84.21 50 *e*P P 09 18 47.7 +0.6
TUC pmax pmax
comp=Z,20nm,1.1s
TUC Tucson 84.21 50 *e*P P 09 18 47.7 +0.6
comp=Z,20nm,1.1s
S27A Las Animas 84.25 42 ⇑P P 09 18 47.0 -0.3
baz=84
X21A Alamocita Cree 84.25 47 ⇑P P 09 18 48.8 +1.4
baz=84,SNR=51
W22A Albuquerque 84.26 46 ⇓P P 09 18 48.7 +1.3
baz=84,SNR=7.7
T26A Comanche Natio 84.31 43 ⇑P P 09 18 47.6 0.0
baz=84,SNR=14
Y20A Horse Springs, 84.34 48 ⇑P P 09 18 49.4 +1.5
baz=84,SNR=44
U25A Circle Dot Ran 84.50 44 ⇓P P 09 18 49.1 +0.5
baz=84,SNR=18
W23A Werner Place, 84.57 46 ⇓P P 09 18 50.0 +1.0
baz=84,SNR=5.4
ANMO Albuquerque 84.57 46 P P 09 18 50.0 +1.1
comp=Z,21nm,1.1s,baz=317,slow=6.0,SNR=48
ANMO Albuquerque 84.57 46 *e*P P 09 18 49.6 +0.6
comp=Z,31nm,1.3s
V24A Rampart Ranch, 84.58 45 ⇓P P 09 18 50.3 +1.2
baz=84,SNR=27
X22A Bernardo 84.61 47 ⇑P P 09 18 50.5 +1.4
baz=84,SNR=7.4
LAZ Ladron 84.63 47 *e*P P 09 18 50.8 +1.6
comp=Z,12nm,1.1s
EPF Esparros 84.63 328⇑ *i*P P 09 18 48.6 -0.3
comp=Z,27nm,0.9s
EPF Esparros 84.63 328⇑ *i*P P 09 18 48.6 -0.3
EPF pmax pmax
comp=Z,27nm,0.9s
EPF Esparros 84.63 328⇑ *i*P P 09 18 48.6 -0.3
comp=Z,27nm,0.9s
Y21A Point of Rocks 84.64 47 ⇓P P 09 18 50.8 +1.4
baz=84,SNR=48
Z20A Nine Sixteen R 84.82 49 ⇑P P 09 18 51.5 +1.3
baz=85,SNR=62
T27A Campo 84.83 42 ⇑P P 09 18 50.1 0.0
baz=85,SNR=11
V25A Rancho No Teng 84.83 44 ⇑P P 09 18 50.9 +0.6
baz=85,SNR=24
U26A Atchley Ranch, 84.84 43 ⇑P P 09 18 50.6 +0.4
baz=85,SNR=19
LENM Lemitar 84.89 47 *e*P P 09 18 52.0 +1.4
comp=Z,12nm,1.1s
W24A Lazy 6 Ranch, 84.91 45 ⇓P P 09 18 51.8 +1.2
baz=85,SNR=19
LPM Los Pinos Moun 84.96 46 *e*P P 09 18 52.0 +1.1
comp=Z,14nm,1.0s
X23A Hourglass Bar 84.99 46 ⇓P P 09 18 52.2 +1.1
baz=85,SNR=5.3
Y22D IRIS PASSCAL I 84.99 47 ⇑P P 09 18 52.1 +1.1
baz=85
Y22A Socorro 85.07 47 ⇑P P 09 18 52.3 +0.9
baz=85,SNR=17
T28A Walsh 85.08 42 ⇓P P 09 18 51.1 -0.2
baz=85,SNR=7.0
ETSF Etsaut 85.09 328⇑ *i*P P 09 18 51.8 +0.6
comp=Z,32nm,1.0s
ETSF *e*pP pP 09 20 27.6 -0.3
ETSF Etsaut 85.09 328⇑ *i*P P 09 18 51.8 +0.6
ETSF *e**PP pP 09 20 27.6 -0.3
ETSF pmax pmax
comp=Z,32nm,1.0s
ETSF Etsaut 85.09 328⇑ *i*P P 09 18 51.8 +0.6
comp=Z,32nm,1.0s
ETSF *e*pP pP 09 20 27.6 -0.3
BNM Barren Site 85.09 47 *e*P P 09 18 52.6 +1.0
comp=Z,25nm,1.1s
SCIA State Center 85.13 33 *e*P P 09 18 51.6 +0.2
comp=Z,94nm,1.0s
SJPF Ste Jean 85.16 329⇑ *i*P P 09 18 52.1 +0.6
comp=Z,32nm,1.1s
SJPF Ste Jean 85.16 329⇑ *i*P P 09 18 52.1 +0.6
SJPF pmax pmax
comp=Z,32nm,1.1s
SJPF Ste Jean 85.16 329⇑ *i*P P 09 18 52.1 +0.6
comp=Z,32nm,1.1s
Z21A St. Cloud Mine 85.17 48 ⇑P P 09 18 53.0 +1.0
baz=85,SNR=20
120A U Bar Ranch, L 85.23 49 ⇓P P 09 18 53.2 +1.0
baz=85,SNR=15
V26A Tequesquite Ra 85.29 44 ⇓P P 09 18 52.4 0.0
baz=85,SNR=26
W25A X Bar L Ranch, 85.40 45 ⇑P P 09 18 53.6 +0.6
baz=85,SNR=17
X24A Lazy VL Ranch, 85.40 46 ⇓P P 09 18 54.1 +1.0
baz=85,SNR=16
Y23A Lovelace Mesa, 85.56 46 ⇓P P 09 18 54.9 +1.1
baz=85,SNR=47
Z22A Elephant Butte 85.60 47 ⇓P P 09 18 54.9 +0.9
baz=85,SNR=36
121A Cows Peak, D 85.70 48 ⇓P P 09 18 55.5 +1.0
baz=86,SNR=18
319A Douglas 85.75 50 ⇑P P 09 18 55.7 +1.0
baz=86,SNR=13
220A Playas Peak, P 85.77 49 ⇑P P 09 18 55.8 +0.9
baz=86,SNR=16
X25A Clemmons Ranch 85.83 45 ⇓P P 09 18 55.9 +0.9
baz=86,SNR=11
W26A Owens Ranch, T 85.85 44 ⇓P P 09 18 56.0 +0.8
baz=86,SNR=7.4
Y24A Capitan 85.89 46 ⇑P P 09 18 56.0 +0.6
baz=86,SNR=12
Z23A Rita Site, Whi 85.98 47 ⇑P P 09 18 56.7 +0.9
baz=86,SNR=13
122A Conniff Cattle 86.00 48 ⇑P P 09 18 57.0 +1.1
baz=86,SNR=14
KSU1 Kansas State U 86.03 37 *e*P P 09 18 56.0 +0.3
comp=Z,60nm,1.2s
221A Mesquite Ranch 86.11 49 ⇓P P 09 18 57.1 +0.6
baz=86
V28A Channing 86.11 43 ⇓P P 09 18 56.3 0.0
baz=86,SNR=11
320A Kipp Ranch, An 86.20 50 ⇓P P 09 18 57.7 +0.8
baz=86,SNR=7.7
W27A Bowe Ranch, En 86.23 44 ⇑P P 09 18 57.4 +0.4
baz=86,SNR=20
X26A CR and CF Fran 86.25 45 ⇓P P 09 18 57.6 +0.5
baz=86,SNR=15
Y25A Mesa, Roswell 86.28 45 ⇑P P 09 18 57.7 +0.4
baz=86,SNR=26
V29A Stinnett 86.35 42 ⇓P P 09 18 57.6 +0.2
baz=86
Z24A Sheeppen Canyo 86.39 46 ⇑P P 09 18 58.7 +0.9
baz=86,SNR=25
222A Williams Famil 86.40 48 ⇑P P 09 18 58.5 +0.6
baz=86
123A Bell Site, Whi 86.45 47 ⇓P P 09 18 59.0 +1.0
baz=86
W28A Vega 86.50 43 ⇓P P 09 18 58.7 +0.4
baz=86,SNR=7.0
X27A F and S Farms, 86.54 44 ⇓P P 09 18 59.0 +0.6
baz=86
KEST Kesra 86.68 318 P P 09 18 59.1 +0.1
comp=Z,1.8nm,1.0s,baz=298,slow=10,SNR=4.3
KEST pP pP 09 20 37.5 +1.4
comp=Z,2.9nm,0.8s,baz=334,slow=16,SNR=5.5
KEST Kesra 86.68 318 P P 09 18 59.1 +0.1
KEST pP pP 09 20 37.5 +1.4
Y26A Elida 86.73 45 ⇑P P 09 18 59.8 +0.4
baz=86
Z25A Roswell 86.77 46 ⇓P P 09 19 00.5 +0.9
baz=86,SNR=34
124A Stringfield Ra 86.83 47 ⇓P P 09 19 00.7 +0.7
baz=87,SNR=29
223A Chaparral, Ant 86.84 48 ⇑P P 09 19 00.5 +0.5
baz=87
W29A Amraillo 86.89 43 ⇓P P 09 19 00.2 +0.1
baz=87
AMTX Amarillo 87.06 43 *e*P P 09 19 01.4 +0.6
comp=Z,23nm,1.0s
AMTX Amarillo 87.06 43 ⇓P P 09 19 01.2 +0.4
baz=87,SNR=10.0
X28A Dimmitt 87.09 43 ⇓P P 09 19 01.1 +0.1
baz=87
Y27A Causey 87.10 44 ⇑P P 09 19 01.1 0.0
baz=87,SNR=8.1
Z26A Caprock 87.16 45 ⇓P P 09 19 01.7 +0.3
baz=87,SNR=28
MSTX Muleshoe 87.24 44 ⇓P P 09 19 01.5 -0.2
baz=87,SNR=6.3
224A Cornudas Mount 87.28 47 ⇓P P 09 19 02.9 +0.9
baz=87,SNR=25
125A Gardner Draw, 87.28 46 ⇓P P 09 19 02.6 +0.6
baz=87,SNR=24
X29A Tulia 87.40 43 ⇑P P 09 19 02.9 +0.5
baz=87,SNR=11
Z27A Tatum 87.52 45 ⇓P P 09 19 03.4 +0.3
baz=87,SNR=19
Y28A McKinney Farm, 87.55 44 ⇓P P 09 19 03.3 +0.2
baz=87
225A Deer Hill, Car 87.62 47 ⇓P P 09 19 04.4 +0.7
baz=87,SNR=16
126A Clayton Basin, 87.63 46 ⇑P P 09 19 03.8 +0.2
baz=87
MNTX Cornudas Mount 87.64 47 *e*P P 09 19 04.2 +0.7
comp=Z,33nm,1.8s
MNTX Cornudas Mount 87.64 47 ⇓P P 09 19 04.0 +0.5
baz=87,SNR=10.0
324A Moseley Ranch, 87.79 48 ⇓P P 09 19 04.7 +0.3
baz=88,SNR=7.2
GDL2 Guadalupe Moun 87.80 46 *e*P P 09 19 05.2 +0.8
comp=Z,41nm,1.1s
HDIL Hopedale 87.82 32 *e*P P 09 19 04.4 +0.2
comp=Z,110nm,1.4s
Y29A Porterfield Fa 87.88 44 ⇑P P 09 19 05.0 +0.3
baz=88,SNR=6.3
127A Arkansas Junct 87.95 45 ⇑P P 09 19 05.3 +0.2
baz=88
Z28A Tucker Farm, M 87.97 44 ⇓P P 09 19 05.4 +0.2
baz=88,SNR=8.1
CLNB Carlsbad 88.00 46 *e*P P 09 19 06.0 +0.6
comp=Z,1.0nm,0.2s
325A Bean Ranch, Si 88.12 47 ⇓P P 09 19 06.7 +0.8
baz=88,SNR=11
Z29A Hungry Hill Ra 88.34 44 ⇓P P 09 19 07.5 +0.6
baz=88,SNR=28
128A Castleberry Fa 88.45 45 ⇓P P 09 19 07.6 +0.2
baz=88
227A Bennet, Jal 88.51 46 ⇓P P 09 19 08.0 +0.3
baz=88
425A Indio Mountain 88.56 48 ⇑P P 09 19 08.8 +0.8
baz=88,SNR=13
WMOK Wichita Mounta 88.60 41 *e*P P 09 19 08.3 +0.3
WMOK pmax pmax
comp=Z,27nm,1.3s
WMOK Wichita Mounta 88.60 41 *e*P P 09 19 08.3 +0.3
comp=Z,27nm,1.3s
Z30A Sanderson Ranc 88.61 44 ⇓P P 09 19 08.4 +0.3
baz=88,SNR=12
326A Caldwell Ranch 88.69 47 ⇑P P 09 19 09.1 +0.6
baz=88,SNR=25
129A Stewart Farms, 88.76 44 ⇑P P 09 19 08.9 +0.1
baz=88
228A UT Block 9, Go 88.79 45 ⇓P P 09 19 09.4 +0.4
baz=89
SFIN Scholer Farm 88.80 30 ⇓P P 09 19 09.1 +0.4
baz=88,SNR=11
327A Balmorhea Ranc 88.91 46 ⇓P P 09 19 10.4 +0.9
baz=89
TUL1 Tulsa 89.03 38 ⇓P P 09 19 10.5 +0.5
baz=89,SNR=6.2
SLM Saint Louis 89.11 33 *e*P P 09 19 10.8 +0.6
SLM pmax pmax
comp=Z,13nm,0.4s
SLM Saint Louis 89.11 33 *e*P P 09 19 10.8 +0.6
comp=Z,14nm,0.4s
ESDC Sonseca Array 89.16 329 P P 09 19 09.9 -0.6
comp=Z,1.2nm,0.5s,baz=24,slow=4.3,SNR=9.1
ESDC pP pP 09 20 49.9 +1.6
comp=Z,0.8nm,0.5s,baz=26,slow=4.7,SNR=2.5
ESDC Sonseca Array 89.16 329 P P 09 19 09.9 -0.6
ESDC pP pP 09 20 49.9 +1.6
426A McDonald Obser 89.17 47 ⇑P P 09 19 11.3 +0.4
baz=89,SNR=19
328A Wristen Ranch, 89.26 46 ⇓P P 09 19 11.6 +0.4
baz=89,SNR=24
229A Bryant Ranch, 89.31 45 ⇑P P 09 19 11.8 +0.4
baz=89,SNR=7.3
427A Hayter Ranch, 89.36 47 ⇓P P 09 19 12.3 +0.6
baz=89,SNR=20
PAB San Pablo 89.42 329 *e*P P 09 19 11.2 -0.6
PAB pmax pmax
comp=Z,9.0nm,1.4s
PAB San Pablo 89.42 329 *e*P P 09 19 11.2 -0.6
comp=Z,9.0nm,1.4s
329A Wagon Wheel Ra 89.61 45 ⇓P P 09 19 13.0 +0.3
baz=89,SNR=11
526A Mary Lane Ranc 89.61 47 ⇓P P 09 19 13.6 +0.7
baz=89,SNR=31
ERPA Erie 89.64 25 *e*P P 09 19 13.0 +0.4
comp=Z,3.3nm,0.4s
230A Sterling City 89.73 44 ⇓P P 09 19 13.7 +0.3
baz=90,SNR=25
527A Woodward Ranch 89.80 47 ⇓P P 09 19 14.2 +0.3
baz=90,SNR=15
428A Kincaid Ranch, 89.84 46 ⇑P P 09 19 14.9 +1.0
baz=90,SNR=56
OLIL Olney 89.86 32 *e*P P 09 19 14.4 +0.7
comp=Z,57nm,1.2s
ABTX Abilene, Hawle 89.88 43 ⇑P P 09 19 14.4 +0.4
baz=90,SNR=7.1
626A Big Bend Ranch 89.98 48 ⇓P P 09 19 15.2 +0.6
baz=90,SNR=27
ALLY Alegheny Colle 90.02 25 *e*P P 09 19 14.9 +0.5
comp=Z,71nm,1.3s
BLO Bloomington 90.07 30 *e*P P 09 19 15.2 +0.5
BLO pmax pmax
comp=Z,22nm,0.9s
BLO Bloomington 90.07 30 *e*P P 09 19 15.2 +0.5
comp=Z,22nm,0.9s
330A Mertzon 90.08 45 ⇓P P 09 19 15.0 +0.1
baz=90,SNR=10
231A Bronte 90.10 44 ⇑P P 09 19 15.1 +0.1
baz=90,SNR=12
528A Cox Ranch, San 90.23 47 ⇓P P 09 19 16.8 +1.0
baz=90,SNR=35
429A Davenport Ranc 90.33 46 ⇓P P 09 19 16.1 0.0
baz=90,SNR=15
ACSO Alum Creek Sta 90.38 28 *e*P P 09 19 16.4 +0.2
comp=Z,42nm,0.9s
TXAR Lajitas Array 90.41 48 P P 09 19 17.1 +0.6
comp=Z,17nm,0.8s,baz=284,slow=3.3,SNR=158
TXAR pP pP 09 20 56.6 +2.1
comp=Z,1.1nm,0.9s,baz=270,slow=5.1,SNR=3.5
TXAR PKKPbc PKKPbc 09 36 39.7 -0.8
comp=Z,0.3nm,0.7s,baz=157,slow=6.8,SNR=4.5
TXAR Lajitas Array 90.41 48 P P 09 19 17.1 +0.6
TXAR pP pP 09 20 56.6 +2.1
TXAR PKKPbc PKKPbc 09 36 39.7 -0.8
627A Terlingua Ranc 90.47 47 ⇑P P 09 19 17.2 +0.3
baz=90,SNR=27
331A San Angelo 90.55 44 ⇑P P 09 19 17.1 0.0
baz=90,SNR=16
430A Baggett Ranch, 90.55 45 ⇑P P 09 19 17.3 +0.2
baz=90,SNR=26
529A Stev Forest Ra 90.56 46 ⇓P P 09 19 17.7 +0.5
baz=90,SNR=27
628A Black Gap, Mar 90.71 47 ⇓P P 09 19 18.3 +0.4
baz=90,SNR=10
332A Millersview 90.83 44 ⇓P P 09 19 18.7 +0.3
baz=91,SNR=16
431A Sonora 90.95 45 ⇑P P 09 19 19.1 +0.1
baz=91,SNR=10
WCI Wyandotte Cave 90.99 31 *e*P P 09 19 19.6 +0.6
WCI *e**PP pP 09 20 58.4 +1.5
WCI pmax pmax
comp=Z,4.0nm,0.7s
WCI Wyandotte Cave 90.99 31 *e*P P 09 19 19.6 +0.6
comp=Z,4.2nm,0.7s
WCI *e*pP pP 09 20 58.4 +1.5
PARMO Parma 91.00 34 *e*P P 09 19 19.7 +0.7
530A J-C Ranch, Com 91.00 46 ⇓P P 09 19 19.8 +0.5
baz=91,SNR=23
MIAR Mount Ida 91.17 38 *e*P P 09 19 20.1 +0.3
MIAR pmax pmax
comp=Z,21nm,1.0s
MIAR Mount Ida 91.17 38 *e*P P 09 19 20.1 +0.3
comp=Z,21nm,1.0s
432A Menard 91.22 44 ⇑P P 09 19 20.4 +0.2
baz=91,SNR=15
531A Rocksprings 91.40 45 ⇑P P 09 19 21.3 +0.2
baz=91
WHTX Lake Whitney 91.47 42 ⇓P P 09 19 21.6 +0.3
baz=91
HBAR Harrisburg 91.58 35 *e*P P 09 19 23.7 +2.0
532A Rocksprings 91.76 45 ⇓P P 09 19 23.0 +0.2
baz=92,SNR=24
631A Perdido Creek 91.99 45 ⇑P P 09 19 24.1 +0.3
baz=92,SNR=22
WVT Waverly 92.23 33 *e*P P 09 19 25.1 +0.4
WVT pmax pmax
comp=Z,32nm,1.5s
WVT Waverly 92.23 33 *e*P P 09 19 25.1 +0.4
comp=Z,32nm,1.5s
732A Laxson Ranch, 92.85 45 ⇑P P 09 19 28.1 +0.4
baz=93,SNR=5.8
KMSC Kings Mountain 95.53 29 ⇑P P 09 19 39.8 0.0
baz=95
KMBO Kilima Mbogo 95.78 274 *e*P P 09 19 43.1 +1.5
comp=Z,2.3nm,1.0s
TORD Torodi Ar. Bea 109.02 310 PKiKP PKiKP 09 24 41.0 -1.0
comp=Z,0.8nm,0.6s,baz=17,slow=1.9,SNR=6.8
TORD PP PP 09 25 11.8 -5.3

	comp=Z,1.4nm,0.7s,baz=17,slow=7.2,SNR=5.6						
TORD				PKKPbc	**PKKPbc**	**09 35 48.4**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=237,slow=2.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**109.02**	**310**	PKiKP	**PKiKP**	**09 24 41.0**	**-1.0**
TORD				PP	PP	09 25 11.8	-5.3
TORD				PKKPbc	**PKKPbc**	**09 35 48.4**	**-0.1**
DBIC	**Dimbokro**	**117.95**	**312**	PKP	**PKPdf**	**09 24 58.4**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=82,slow=4.1,SNR=6.5						
DBIC	**Dimbokro**	**117.95**	**312**	PKP	**PKPdf**	**09 24 58.4**	**-0.8**
LIC	**Lamto**	**118.42**	**312**	*e*PKIKP	**PKPdf**	**09 24 58.4**	**-1.7**
	comp=Z,7.2nm,0.6s						
LIC	**Lamto**	**118.42**	**312**	*e*PKPdf	**PKPdf**	**09 24 58.4**	**-1.7**
VNDA	**Vanda**	**121.72**	**173**	PKP	**PKPdf**	**09 25 03.9**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=304,slow=3.8,SNR=22						
VNDA	**Vanda**	**121.72**	**173**	PKP	**PKPdf**	**09 25 03.9**	**-0.6**
BOSA	**Boshof**	**122.21**	**260**	PKP	**PKPdf**	**09 25 06.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=29,slow=0.4,SNR=4.2						
BOSA	**Boshof**	**122.21**	**260**	PKP	**PKPdf**	**09 25 06.8**	**-0.2**
ROSC	**El Rosal**	**125.63**	**36**	*e*PKPdf	**PKPdf**	**09 25 14.7**	**+0.2**
QSPA	**South Pole Qui**	**133.00**	**180**	PP	PP	09 27 56.4	-2.6
	comp=Z,8.3nm,1.0s,baz=321,slow=2.9,SNR=6.4						
QSPA				SKPbc	**SKPbc**	**09 28 12.3**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=270,slow=1.6,SNR=17						
QSPA	**South Pole Qui**	**133.00**	**180**	*e*PKPdf	**PKPdf**	**09 25 26.4**	**+0.1**
QSPA				PP	**PP**	**09 27 56.4**	**-2.6**
QSPA				SKPbc	**SKPbc**	**09 28 12.3**	**-0.7**
NVL	**N'lazarevskaya**	**140.68**	**206**	*e*PKHKP	PKPpre	09 25 33.5	
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
SAML	**Samuel**	**142.62**	**29**	*e*PKPdf	**PKPdf**	**09 25 42.0**	**-3.5**
SNAA	**Sanae**	**144.76**	**202**	*e*PKPdf	**PKPdf**	**09 25 47.2**	**-0.4**
VNA2	**Neumayer--Watz**	**146.40**	**202**	*e*P	**PKPbc**	**09 25 52.5**	**+0.1**
	baz=101,slow=2.3						
VNA2	**Neumayer--Watz**	**146.40**	**202**	*e*WP	pPKPdf	09 27 34.1	-0.2
	baz=101,slow=2.3						
VNA2	**Neumayer--Watz**	**146.40**	**202**	*e*SKiKP	**SKPbc**	**09 28 49.2**	**+0.2**
	baz=101,slow=2.3						
VNA1	**Neumayer--Stat**	**146.79**	**202**	*e*P	**PKPbc**	**09 25 53.8**	**+0.3**
VNA3	**Neumayer Olymp**	**146.81**	**200**	*e*P	**PKPbc**	**09 25 53.2**	**-0.4**
VNA3	**Neumayer Olymp**	**146.81**	**200**	*e*WP	pPKPdf	09 27 34.9	-0.1
VNA3	**Neumayer Olymp**	**146.81**	**200**	*e*SKiKP	**SKPbc**	**09 28 48.5**	**-1.5**
LPAZ	**La Paz**	**147.10**	**42**	PKPbc	**PKPdf**	**09 25 54.2**	**+0.4**
	comp=Z,21nm,0.9s,baz=4.5,slow=6.7,SNR=28						
LPAZ				pPKPbc	**pPKPbc**	**09 27 38.6**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=14,slow=7.4,SNR=6.0						
LPAZ	**La Paz**	**147.10**	**42**	*e*PKPdf	**PKPdf**	**09 25 54.0**	**+0.1**
LPAZ				PKPbc	**PKPdf**	**09 25 54.2**	**+0.4**
LPAZ				*e*PKPbc	**PKiKP**	**09 25 57.3**	**-1.4**
LPAZ				*e*PKPab	**PKPab**	**09 25 59.8**	**+0.3**
LPAZ				pPKPbc	**pPKPbc**	**09 27 38.6**	**-0.3**
SIV	**San Ignacio**	**149.88**	**30**	PKP	**PKPdf**	**09 25 57.5**	**-0.1**
	comp=Z,7.3nm,1.0s,baz=331,slow=1.1,SNR=18						
SIV				PKPbc	**PKPbc**	**09 26 02.9**	**-0.1**
	comp=Z,34nm,0.9s,baz=335,slow=1.5,SNR=50						
SIV				PKPab	**PKPab**	**09 26 09.9**	**-0.2**
	comp=Z,19nm,0.8s,baz=334,slow=3.3,SNR=13						
SIV				pPKPbc	**pPKPbc**	**09 27 42.1**	**-3.8**
	comp=Z,5.1nm,1.0s,baz=329,slow=5.9,SNR=3.1						
SIV				PP	**PP**	**09 29 38.2**	**-2.0**
	comp=Z,2.5nm,0.9s,baz=6.3,slow=9.2,SNR=4.2						
SIV	**San Ignacio**	**149.88**	**30**	PKP	**PKPdf**	**09 25 57.5**	**-0.1**
SIV				PKPbc	**PKPbc**	**09 26 02.9**	**-0.1**
SIV				PKPab	**PKPab**	**09 26 09.9**	**-0.2**
SIV				pPKPbc	**pPKPbc**	**09 27 42.1**	**-3.8**
SIV				PP	**PP**	**09 29 38.2**	**-2.0**
BDFB	**Brasilia**	**152.41**	**4**	PKP	**PKPdf**	**09 26 02.0**	**+0.4**
	comp=Z,12nm,1.0s,baz=24,slow=0.3,SNR=9.6						
BDFB				PKPbc	**PKPbc**	**09 26 08.6**	**-0.2**
	comp=Z,12nm,0.8s,baz=24,slow=2.1,SNR=12						
BDFB				PKPab	**PKPab**	**09 26 20.9**	**+0.1**
	comp=Z,7.0nm,0.7s,baz=52,slow=4.2,SNR=6.0						
BDFB				pPKPbc	**pPKPbc**	**09 27 52.2**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=238,slow=1.6,SNR=2.9						
BDFB	**Brasilia**	**152.41**	**4**	PKP	**PKPdf**	**09 26 02.0**	**+0.4**
BDFB				PKPbc	**PKPbc**	**09 26 08.6**	**-0.2**
BDFB				PKPab	**PKPab**	**09 26 20.9**	**+0.1**
BDFB				pPKPbc	**pPKPbc**	**09 27 52.2**	**+0.2**
CPUP	**Villa Florida**	**160.70**	**33**	PKP	**PKPdf**	**09 26 11.2**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=280,slow=18,SNR=5.9						
CPUP				PKPab	**PKPab**	**09 26 56.3**	**+0.1**
	comp=Z,12nm,0.8s,baz=332,slow=4.7,SNR=25						
CPUP	**Villa Florida**	**160.70**	**33**	PKP	**PKPdf**	**09 26 11.2**	**-0.5**
CPUP				PKPab	**PKPab**	**09 26 56.3**	**+0.1**
PLCA	**Paso Flores**	**161.50**	**91**	PKPab	**PKPab**	**09 27 00.4**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=265,slow=7.8,SNR=5.1						
PLCA	**Paso Flores**	**161.50**	**91**	PKPab	**PKPab**	**09 27 00.4**	**+0.7**

*ISCJB **13** 09:13:38.4±0.5, 39°.53N±0°.03×27°.00E±0°.03, h7km±6km, Error ellipse: s-maj=5.8km s-min=4.0km az=179.8*
*DDA **13** 09:13:38.5, 39°.51N×26°.99E, h7km, MD2.8*
*CSEM **13** 09:13:38.6±0.1, 39°.51N×27°.00E, h10km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.5km az=18.0*
*ISK **13** 09:13:39.1, 39°.58N×27°.01E, h9km, MD2.8*
ISC 13 09:13:38.7±1.0**, 39°.51N**±0°.03×**27°.01E**±0°.02**, h8**km±13km**,**
n27, σ0s.38/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.32**	**230**	*i* P	**Pg**	**09 13 44.8**	**-0.2**
AYVA				*i* S	**Sg**	**09 13 49.1**	**-0.2**
AYVA	**Ayvalik**	**0.32**	**230**	*i* P	**Pg**	**09 13 44.8**	**-0.2**
AYVA				*i* S	**Sg**	**09 13 49.1**	**-0.2**
EZN	**Ezine**	**0.61**	**301**	PG	**Pg**	**09 13 50.9**	**+0.4**
EZN				SG	**Sg**	**09 13 59.5**	**+0.9**
EZN	**Ezine**	**0.61**	**301**	*i* Pg	**Pg**	**09 13 50.9**	**+0.4**
EZN				*i* Sg	**Sg**	**09 13 59.5**	**+0.9**
BALB	**Balikesir**	**0.68**	**79**	*e*PG	**Pb**	**09 13 52.6**	**-0.3**
BALB				*e*SG	**Sb**	**09 14 02.2**	**-0.2**
BALB	**Balikesir**	**0.68**	**79**	*e*Pg	**Pb**	**09 13 52.6**	**-0.3**
BALB				*e*Sg	**Sb**	**09 14 02.2**	**-0.2**
GONE	**Gonen-Balikesi**	**0.74**	**44**	*e*PG	**Pg**	**09 13 53.0**	**0.0**
GONE				*e*SG	**Sg**	**09 14 02.9**	**+0.2**
GONE	**Gonen-Balikesi**	**0.74**	**44**	*e*Pg	**Pg**	**09 13 53.0**	**0.0**
GONE				*e*Sg	**Sg**	**09 14 02.9**	**+0.2**
BOZC	**Bozcaada**	**0.81**	**294**	*e*P	**Pg**	**09 13 54.2**	**0.0**
BOZC				*e*S	**Sg**	**09 14 04.2**	**-0.6**
LPK	**Lapseki**	**0.88**	**347**	*e*PG	**Pg**	**09 13 55.3**	**-0.3**
LPK	**Lapseki**	**0.88**	**347**	*e*Pg	**Pg**	**09 13 55.3**	**-0.3**
AKHS	**Akhisar**	**0.89**	**135**	*e*P	**Pg**	**09 13 55.9**	**+0.1**
AKHS				*e*S	**Sg**	**09 14 07.6**	**+0.3**
AKHS	**Akhisar**	**0.89**	**135**	*e*P	**Pg**	**09 13 55.9**	**+0.1**
AKHS				*e*S	**Sg**	**09 14 07.6**	**+0.3**
KRBG	**Karabiga-Canak**	**0.91**	**14**	*e*PG	**Pg**	**09 13 55.7**	**-0.4**
KRBG	**Karabiga-Canak**	**0.91**	**14**	*e*Pg	**Pg**	**09 13 55.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.97**	**335**	*e*PG	**Pg**	**09 13 57.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.97**	**335**	*e*Pg	**Pg**	**09 13 57.0**	**-0.4**
EDC	**Edincik**	**1.06**	**38**	*e*PG	**Pg**	**09 13 59.1**	**+0.1**
EDC	**Edincik**	**1.06**	**38**	*e*Pg	**Pg**	**09 13 59.1**	**+0.1**
DURS	**Dursunbey**	**1.13**	**85**	*e*P	**Pg**	**09 14 00.1**	**-0.4**
DURS				*e*S	**Sg**	**09 14 15.2**	**0.0**
DURS	**Dursunbey**	**1.13**	**85**	*e*P	**Pg**	**09 14 00.1**	**-0.4**
DURS				*e*S	**Sg**	**09 14 15.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.18**	**6**	*e*PN	**Pg**	**09 14 01.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.18**	**6**	*e*Pn	**Pg**	**09 14 01.2**	**-0.1**
ENEZ	**Enez**	**1.39**	**332**	*e*PN	**Pn**	**09 14 04.3**	**0.0**
ENEZ	**Enez**	**1.39**	**332**	*e*Pn	**Pn**	**09 14 04.3**	**0.0**
ARMT	**Armutlu**	**1.77**	**53**	*e*PN	**Pn**	**09 14 10.3**	**+0.7**
ARMT	**Armutlu**	**1.77**	**53**	*e*Pn	**Pn**	**09 14 10.3**	**+0.7**

*ISCJB **13** 09:16:04.6±0.6, 40°.55N±0°.02×32°.98E±0°.03, h1km±5km, Error ellipse: s-maj=4.1km s-min=3.6km az=175.6*
*ISK **13** 09:16:04.4, 40°.56N×32°.96E, h6km, MD3.2*
*DDA **13** 09:16:04.4, 40°.56N×32°.99E, h7km, MD3.6, ML3.6*
*CSEM **13** 09:16:04.8±0.1, 40°.55N×32°.98E, h2km, MD3.2, Error ellipse: s-maj=3.3km s-min=3.0km az=159.0*
ISC 13 09:16:05.0±1.1**, 40°.55N**±0°.02×**32°.99E**±0°.02**, h7**km±10km**,**
n46, σ0s.50/68**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.34**	**100**	*i* Pg	**Pg**	**09 16 11.7**	**0.0**
ELDT				*i* Sg	**Sg**	**09 16 17.2**	**+0.9**
CANT	**Cankiri**	**0.48**	**83**	PG	**Pg**	**09 16 14.7**	**+0.3**
CANT				*e*SG	**Sb**	**09 16 22.5**	**-0.8**
LOD	**Lodumlu**	**0.68**	**195**	PG	**Pg**	**09 16 17.7**	**-0.5**
LOD				*e*SG	**Sg**	**09 16 27.7**	**+0.6**
LOD	**Lodumlu**	**0.68**	**195**	*i* Pg	**Pg**	**09 16 17.7**	**-0.5**
LOD				*e*Sg	**Sg**	**09 16 27.7**	**+0.6**
SAFT	**Safranbolu**	**0.72**	**342**	PG	**Pg**	**09 16 18.6**	**-0.4**
SAFT	**Safranbolu**	**0.72**	**342**	*i* Pg	**Pg**	**09 16 18.6**	**-0.4**
TOS	**Tosya**	**0.92**	**58**	PG	**Pg**	**09 16 22.4**	**-0.3**
TOS	**Tosya**	**0.92**	**58**	*i* Pg	**Pg**	**09 16 22.4**	**-0.3**
BBAL	**Bala**	**1.01**	**174**	*e*P	**Pg**	**09 16 24.3**	**-0.1**
BBAL				*e*S	**Sb**	**09 16 39.1**	**+0.6**
BBAL	**Bala**	**1.01**	**174**	*e*P	**Pg**	**09 16 24.3**	**-0.1**
BBAL				*e*S	**Sb**	**09 16 39.1**	**+0.6**
BALT	**Daday**	**1.03**	**17**	*e*P	**Pg**	**09 16 24.9**	**+0.1**
BALT				*e*S	**Sg**	**09 16 38.5**	**+0.4**
BALT	**Daday**	**1.03**	**17**	*e*P	**Pg**	**09 16 24.9**	**+0.1**
BALT				*e*S	**Sg**	**09 16 38.5**	**+0.4**
AFSR	**Af¯ar-Bala (A**	**1.10**	**177**	PN	**Pg**	**09 16 26.3**	**+0.1**
AFSR				*e*SN	**Sn**	**09 16 42.6**	**0.0**
AFSR	**Af¯ar-Bala (A**	**1.10**	**177**	*i* Pn	**Pg**	**09 16 26.3**	**+0.1**
AFSR				*e*Sn	**Sn**	**09 16 42.6**	**0.0**
KAMT	**Kaman**	**1.31**	**155**	*e*PN	**Pn**	**09 16 29.4**	**-0.4**
KAMT	**Kaman**	**1.31**	**155**	*e*Pn	**Pn**	**09 16 29.4**	**-0.4**
CORM	**Corum**	**1.31**	**106**	*e*PN	**Pg**	**09 16 30.2**	**+0.1**
CORM				*e*SN	**Sn**	**09 16 48.7**	**+1.1**
CORM	**Corum**	**1.31**	**106**	*e*Pn	**Pg**	**09 16 30.2**	**+0.1**
CORM				*e*Sn	**Sn**	**09 16 48.7**	**+1.1**
CTKT	**Corum**	**1.37**	**86**	*e*P	**Pn**	**09 16 30.6**	**-0.2**
CTKT				*e*S	**Sb**	**09 16 48.8**	**-0.2**
CTKT	**Corum**	**1.37**	**86**	*e*P	**Pn**	**09 16 30.6**	**-0.2**
CTKT				*e*S	**Sb**	**09 16 48.8**	**-0.2**
KDZE	**Karadeniz Ereo**	**1.40**	**304**	*e*PN	**Pn**	**09 16 30.5**	**-0.4**
KDZE	**Karadeniz Ereo**	**1.40**	**304**	*e*Pn	**Pn**	**09 16 30.5**	**-0.4**
CDAG	**Cicekdag**	**1.41**	**131**	*e*P	**Pn**	**09 16 30.7**	**-0.5**
CDAG				*e*S	**Sb**	**09 16 49.3**	**-0.6**
CDAG	**Cicekdag**	**1.41**	**131**	*e*P	**Pn**	**09 16 30.7**	**-0.5**
CDAG				*e*S	**Sb**	**09 16 49.3**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*PN	**Pn**	**09 16 32.9**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.58**	**226**	*e*Pn	**Pn**	**09 16 32.9**	**-0.6**
BZK	**Bozkurt**	**1.60**	**28**	*e*PN	**Pb**	**09 16 34.5**	**-0.4**
BZK	**Bozkurt**	**1.60**	**28**	*e*Pn	**Pb**	**09 16 34.5**	**-0.4**
HENT	**Hendek**	**1.61**	**280**	*e*P	**Pb**	**09 16 35.0**	**-0.1**
HENT				*e*S	**Sg**	**09 16 56.9**	**+0.1**
HENT	**Hendek**	**1.61**	**280**	*e*P	**Pb**	**09 16 35.0**	**-0.1**
HENT				*e*S	**Sg**	**09 16 56.9**	**+0.1**
BYBT	**Boyabat**	**1.63**	**55**	*e*PN	**Pb**	**09 16 34.7**	**-0.7**
BYBT	**Boyabat**	**1.63**	**55**	*e*Pn	**Pb**	**09 16 34.7**	**-0.7**
KIZT	**Kizilcal**	**1.88**	**207**	*e*PN	**Pn**	**09 16 37.6**	**0.0**
KIZT	**Kizilcal**	**1.88**	**207**	*e*Pn	**Pn**	**09 16 37.6**	**0.0**
GULT	**Gulveren**	**1.89**	**267**	*e*PN	**Pn**	**09 16 38.2**	**+0.4**
GULT	**Gulveren**	**1.89**	**267**	*e*Pn	**Pn**	**09 16 38.2**	**+0.4**
YOZ	**Yozgat**	**2.01**	**116**	*e*PN	**Pn**	**09 16 40.3**	**+0.8**
YOZ	**Yozgat**	**2.01**	**116**	*e*Pn	**Pn**	**09 16 40.3**	**+0.8**
BORA	**Eskisehir**	**2.05**	**252**	*e*P	**Pn**	**09 16 40.8**	**+0.8**
BORA				*e*S	**Sb**	**09 17 08.2**	**-0.3**
BORA	**Eskisehir**	**2.05**	**252**	*e*P	**Pn**	**09 16 40.8**	**+0.8**
BORA				*e*S	**Sb**	**09 17 08.2**	**-0.3**
AVNT	**Avonos**	**2.28**	**140**	*e*P	**Pb**	**09 16 45.9**	**-0.7**
AVNT				*e*S	**Sb**	**09 17 14.5**	**-0.6**
AVNT	**Avonos**	**2.28**	**140**	*e*P	**Pb**	**09 16 45.9**	**-0.7**
AVNT				*e*S	**Sb**	**09 17 14.5**	**-0.6**
CAVI	**Cavuskoy**	**2.43**	**263**	*e*PN	**Pn**	**09 16 45.6**	**+0.5**
CAVI	**Cavuskoy**	**2.43**	**263**	*e*Pn	**Pn**	**09 16 45.6**	**+0.5**
HRT	**Hereke**	**2.54**	**277**	*e*PN	**Pn**	**09 16 47.1**	**+0.4**
HRT	**Hereke**	**2.54**	**277**	*e*Pn	**Pn**	**09 16 47.1**	**+0.4**

IDC 13 09:27:34.8±3.0**, 3°.98S**×**127°.64E, h0**km**, mb3.4**/2**, mb1 3.8**/3**, mb1mx3.5**/21**, mbtmp3.5**/3**, ML3.6**/1**, Error ellipse: s-maj=349.8km s-min=27.2km az=66.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.16**	**158**	P	Pn	09 31 36.1	0.0
	0.2nm,0.3s,baz=334,slow=13,SNR=14						
ASAR	**Alice Springs**	**20.48**	**163**	P	P	09 32 14.5	0.0
	1.2nm,0.4s,baz=348,slow=12,SNR=29						
MKAR	**Makanchi Array**	**64.43**	**327**	P	P	09 38 13.0	0.0
	0.2nm,0.7s,baz=117,slow=8.2,SNR=2.3						

*NEIC **13** 09:29:30.6±1.9, 23°.92N×121°.79E, h10km, ML4.4(TAP), Error ellipse: s-maj=25.1km s-min=7.4km az=98.0*
NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in I-lan and Nan-t'ou; [1 TAP] in T'ai-chung.
*ISCJB **13** 09:29:33.7±0.2, 24°.01N±0°.01×121°.61E±0°.02, h20km±2km, mb3.7/8, Error ellipse: s-maj=2.8km s-min=1.7km az=35.1*
*TAP **13** 09:29:33.6, 24°.04N×121°.52E, h18km, ML4.2, B*
*JMA **13** 09:29:33.3±0.3, 24°.17N×121°.48E, h79km, M3.3*
*IDC **13** 09:29:36.2±4.7, 24°.02N×121°.74E, h52km±44km, mb3.5/8, mb1 3.7/9, mb1mx3.5/25, mbtmp3.5/9, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/45, Error ellipse: s-maj=35.2km s-min=15.9km az=71.0*
ISC 13 09:29:32.1±0.9**, 23°.98N**±0°.01×**121°.63E**±0°.02**, h15**km±7km**,**
n83, σ0s.82/137**, mb3.8**/8**, 13C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.02**	**266**	⇑P	Pg	09 29 37.8	+3.1
	baz=126						
TWD	**Chiawan**	**0.11**	**343**	⇓*i*P	**Pb**	**09 29 37.4**	**+1.6**
	baz=58						
TWD				S	**Sb**	**09 29 39.8**	**+1.4**
	baz=58						
ESF	**Shoufeng Towns**	**0.15**	**226**	*i* P	**Pb**	**09 29 38.1**	**+1.4**
	baz=186						
ESF				*e*S	**Sb**	**09 29 41.3**	**+1.6**
	baz=186						
NACB	**Ninganchiao**	**0.20**	**351**	*e*Pg	**Pb**	**09 29 37.7**	**+0.3**
NACB				*e*Sg	**Sb**	**09 29 40.6**	**-0.4**
ESL	**Shilin**	**0.24**	**228**	⇓*e*P	**Pb**	**09 29 38.9**	**+0.7**
	baz=194						
TEGC	**Jichi Village**	**0.28**	**197**	*e*P	**Pn**	**09 29 41.0**	**-0.6**
	baz=184						
TEGC				*e*S	**Sn**	**09 29 47.9**	**+0.3**
	baz=184						
EHP	**Heping Village**	**0.34**	**17**	*e*P	**Pb**	**09 29 40.9**	**+1.0**
	baz=36						
EHP				*e*S	**Sb**	**09 29 45.9**	**+0.6**
	baz=36						
WHF	**Hehuan Shan**	**0.37**	**297**	⇓*i*P	**Pg**	**09 29 39.9**	**+0.1**
	baz=289						
ENA	**Nanau**	**0.46**	**13**	⇓P	**Pb**	**09 29 42.4**	**+0.6**
	baz=27						
ENA				*e*S	**Sb**	**09 29 48.7**	**+0.2**
	baz=27						
TWT	**Tachien**	**0.50**	**303**	⇑*i*P	**Pg**	**09 29 42.4**	**+0.4**
	baz=310						
TWT				*e*S	**Sg**	**09 29 48.1**	**-0.6**
	baz=310						
NNS	**Nan Shan**	**0.52**	**333**	⇑*i*P	**Pb**	**09 29 42.8**	**-0.2**
	baz=341						
NNS				S	**Sg**	**09 29 48.6**	**-0.8**
	baz=341						
EHY	**Hungye**	**0.55**	**211**	⇑*e*P	**Pb**	**09 29 43.5**	**+0.1**
	baz=191						
EHY				*e*S	**Sb**	**09 29 51.5**	**+0.4**
	baz=191						
SSLB	**Suanglung**	**0.65**	**253**	*e*Pg	**Pg**	**09 29 44.8**	**0.0**
SSLB				*e*Sg	**Sg**	**09 29 52.2**	**-1.2**
YULB	**Yu-li**	**0.66**	**208**	*e*Pg	**Pg**	**09 29 44.7**	**-0.3**
YULB				*e*Sg	**Sg**	**09 29 52.8**	**-0.9**
TWC	**Suao**	**0.66**	**18**	*i* P	**Pb**	**09 29 46.0**	**+0.7**
	baz=28						
TWC				*i* S	**Sb**	**09 29 54.7**	**+0.5**
	baz=28						
ENTT	**Nioudou**	**0.66**	**355**	⇓*e*P	**Pb**	**09 29 45.6**	**+0.2**
	baz=4.0						
ENTT				*e*S	**Sb**	**09 29 54.1**	**-0.2**
	baz=4.0						
SMLT	**Sun Moon Lake**	**0.68**	**262**	⇑P	**Pg**	**09 29 45.5**	**+0.2**
	baz=255						
SMLT				S	**Sg**	**09 29 53.2**	**-1.0**
	baz=255						
TWF1	**Yuli**	**0.69**	**206**	⇑*e*P	**Pg**	**09 29 45.6**	**-0.1**
	baz=197						
TWF1				*e*S	**Sb**	**09 29 56.6**	**+1.4**
	baz=197						
TYC	**Yuchr**	**0.71**	**264**	⇑*i*P	**Pg**	**09 29 45.9**	**0.0**
	baz=258						
TYC				*e*S	**Sg**	**09 29 53.5**	**-1.9**
	baz=258						
YHNB	**Yeheng**	**0.73**	**341**	*e*Pg	**Pg**	**09 29 46.2**	**-0.1**
YHNB				*e*Sg	**Sg**	**09 29 55.5**	**-0.4**
NSK	**Sanguang**	**0.74**	**340**	⇑*e*P	**Pg**	**09 29 46.5**	**0.0**
	baz=340						
NSK				S	**Sg**	**09 29 55.1**	**-1.1**
	baz=340						
TWE	**Neicheng**	**0.74**	**3**	⇓*e*P	**Pb**	**09 29 46.9**	**+0.2**
	baz=11						
TWE				S	**Sb**	**09 29 56.9**	**+0.3**
	baz=11						
ILA	**Ilan**	**0.79**	**8**	*e*P	**Pn**	**09 29 48.3**	**-0.3**
	baz=15						
ILA				*e*S	**Sn**	**09 29 59.8**	**-0.4**
	baz=15						
TWQ1	**Liyutan**	**0.86**	**295**	⇑*i*P	**Pb**	**09 29 49.3**	**+0.5**
	baz=304						
TWQ1				*e*S	**Sg**	**09 29 59.7**	**-0.6**
	baz=304						
NSTT	**Nanjuang**	**0.87**	**319**	⇑*i*P	**Pb**	**09 29 49.0**	**+0.1**
	baz=321						
NSTT				*e*S	**Sg**	**09 29 59.5**	**-0.8**
	baz=321						
WNT	**Mingjian**	**0.87**	**264**	⇑P	**Pn**	**09 29 49.9**	**+0.1**
	baz=256						
WNT				*e*S	**Sb**	**09 30 01.4**	**+1.1**
	baz=256						
ALS	**Alishan**	**0.89**	**239**	⇓*i*P	**Pn**	**09 29 50.3**	**0.0**
	baz=223						
ALS				*e*S	**Sb**	**09 30 01.9**	**+0.8**
	baz=223						
TCU	**Taichung**	**0.89**	**281**	⇑*i*P	**Pn**	**09 29 50.1**	**+0.1**
	baz=274						
TCU				*e*S	**Sn**	**09 30 02.3**	**-0.3**
	baz=274						
NSY	**Sanyi**	**0.91**	**299**	⇑*i*P	**Pn**	**09 29 50.4**	**+0.1**
	baz=298						
NSY				*e*S	**Sg**	**09 30 02.0**	**+0.5**
	baz=298						
CHKT	**Chengkung**	**0.91**	**196**	*e*P	**Pg**	**09 29 49.9**	**+0.2**
	baz=189						
CHKT				*e*S	**Sg**	**09 30 02.5**	**+0.8**
	baz=189						
CHN5	**Tsauling**	**0.95**	**247**	⇓P	**Pn**	**09 29 51.5**	**+0.5**
	baz=241						
CHN5				*e*S	**Sn**	**09 30 04.6**	**+0.3**
	baz=241						
ELDTW	**Lidau**	**0.97**	**216**	*e*P	**Pg**	**09 29 51.0**	**+0.2**
	baz=197						
TATO	**Taipei**	**1.00**	**353**	*e*Pg	**Pg**	**09 29 51.4**	**-0.1**
TATO				*e*Sg	**Sg**	**09 30 04.8**	**+0.2**
HSN	**Hsinchu**	**1.02**	**324**	*e*P	**Pn**	**09 29 52.4**	**+0.6**
	baz=335						
HSN				*e*S	**Sg**	**09 30 05.1**	**0.0**
	baz=335						
WGK	**Gukeng**	**1.02**	**254**	*e*P	**Pn**	**09 29 52.7**	**+0.8**
	baz=248						
TAP1	**Taipei**	**1.06**	**355**	*e*P	**Pg**	**09 29 53.0**	**+0.4**
	baz=359						
TAP1				S	**Sb**	**09 30 05.7**	**0.0**
	baz=359						
TAP	**Taipei**	**1.06**	**354**	*e*P	**Pg**	**09 29 53.2**	**+0.6**
	baz=359						
TAP				*e*S	**Sb**	**09 30 05.8**	**-0.1**
	baz=359						
NCU	**National Centr**	**1.07**	**338**	*e*P	**Pg**	**09 29 53.3**	**+0.6**
	baz=341						
NCU				*e*S	**Sn**	**09 30 07.9**	**+0.9**
	baz=341						
TWB1	**Santiao Chiao**	**1.08**	**18**	*e*P	**Pg**	**09 29 53.8**	**+0.9**
	baz=16						
TWB1				*e*S	**Sn**	**09 30 07.4**	**+0.2**
	baz=16						
NWF	**Wu-fen Shan**	**1.10**	**7**	*e*P	**Pn**	**09 29 53.1**	**+0.1**
	baz=12						
NWF				*e*S	**Sb**	**09 30 06.9**	**0.0**
	baz=12						
TWS1	**Kuangyinshan**	**1.13**	**350**	*e*P	**Pg**	**09 29 53.7**	**-0.3**
	baz=354						
TWS1				S	**Sn**	**09 30 09.5**	**+0.9**
	baz=354						
CHN4	**Tsaushan**	**1.14**	**237**	*e*P	**Pg**	**09 29 55.0**	**+1.0**
	baz=231						
CHN4				*e*S	**Sn**	**09 30 10.8**	**+2.0**
	baz=231						
TPUB	**Ta-pu**	**1.14**	**234**	*e*Pn	**Pg**	**09 29 54.6**	**+0.6**
TPUB				*e*Sn	**Sn**	**09 30 10.2**	**+1.4**
CHY	**Chiayi**	**1.20**	**247**	*e*P	**Pg**	**09 29 56.1**	**+0.8**
	baz=253						
CHY				*e*S	**Sg**	**09 30 11.4**	**+0.4**
	baz=253						
WTCT	**Ta-ch'eng**	**1.24**	**265**	*e*P	**Pg**	**09 29 55.8**	**-0.2**
	baz=261						
WTCT				*e*S	**Sg**	**09 30 12.0**	**-0.1**
	baz=261						
TWG	**Pinlang**	**1.26**	**204**	*e*P	**Pn**	**09 29 53.9**	**-1.2**
	baz=187						
TWG	**Pinlang**	**1.26**	**204**	*e*Pn	**Pn**	**09 29 53.7**	**-1.4**
TWG				*e*Sn	**Sb**	**09 30 09.5**	**-2.1**
TWK	**Hsinying**	**1.26**	**236**	*e*P	**Pg**	**09 29 57.2**	**+0.7**
	baz=230						
TWK				*e*S	**Sg**	**09 30 13.8**	**+0.8**
	baz=230						
CHN1	**Nanshi**	**1.28**	**232**	*e*P	**Pg**	**09 29 57.2**	**+0.4**
	baz=218						
CHN1				*e*S	**Sg**	**09 30 15.2**	**+1.6**
	baz=218						
TWY	**Chenhua**	**1.29**	**359**	*e*P	**Pg**	**09 29 58.3**	**+1.4**
	baz=2.0						
SGST	**Jiashian**	**1.31**	**227**	*e*P	**Pg**	**09 29 57.8**	**+0.5**
	baz=214						
SGST				S	**Sg**	**09 30 15.8**	**+1.4**
	baz=214						
WSF	**Szhu**	**1.33**	**256**	*e*P	**Pb**	**09 29 57.1**	**+0.3**
	baz=251						
WSF				*e*S	**Sg**	**09 30 15.4**	**+0.3**
	baz=251						
YOJ	**Yonaguni jima**	**1.35**	**69**	*e*P	**Pg**	**09 29 57.7**	**-0.4**
	baz=87						
YOJ				*e*S	**Sg**	**09 30 16.3**	**+0.7**
	baz=87						
YOJ	**Yonaguni jima**	**1.35**	**69**	P	**Pg**	**09 29 57.9**	**-0.2**
YOJ				S	**Sg**	**09 30 16.5**	**+0.8**
CHN8	**Yiju**	**1.45**	**244**	*e*P	**Pb**	**09 29 59.1**	**+0.5**
	baz=224						
CHN8				*e*S	**Sg**	**09 30 18.9**	**+0.1**
	baz=224						
ECL	**Taimali**	**1.51**	**204**	*e*P	**Pg**	**09 30 01.9**	**+0.7**
	baz=186						
SCLT	**Jiali**	**1.54**	**239**	*e*P	**Pb**	**09 30 00.5**	**+0.2**
	baz=234						
SCLT				*e*S	**Sg**	**09 30 21.6**	**-0.2**
	baz=234						
TAI1	**Yung-k'ang**	**1.59**	**234**	*e*P	**Pg**	**09 30 02.5**	**-0.1**
	baz=228						
SGLT	**Jiouru**	**1.63**	**220**	*e*P	**Pg**	**09 30 04.2**	**+0.9**
	baz=214						
EAST	**Anshuo**	**1.74**	**205**	*e*P	**Pb**	**09 30 03.9**	**+0.1**
	baz=189						
SCZT	**Fangliau**	**1.85**	**210**	*e*P	**Pb**	**09 30 05.5**	**-0.1**
	baz=197						
LAY	**Lan-yu**	**1.93**	**182**	*e*P	**Pn**	**09 30 04.4**	**0.0**
	baz=171						
WDGT	**Dungji**	**1.94**	**249**	P	**Pn**	**09 30 05.7**	**+1.2**
	baz=228						
WDGT				*e*S	**Sn**	**09 30 29.7**	**+1.1**
	baz=228						
PNG	**Penghu**	**1.94**	**258**	*e*P	**Pn**	**09 30 04.8**	**+0.2**
	baz=254						
PNG				*e*S	**Sn**	**09 30 28.6**	**-0.1**
	baz=254						
IRIF	**Iriomote-Funau**	**1.95**	**79**	P	**Pb**	**09 30 06.5**	**-0.8**
IRIF				*e*S	**Sb**	**09 30 31.5**	**+0.1**
HATJ	**Hateruma jima**	**1.99**	**87**	*e*S	**Sb**	**09 30 32.7**	**+0.1**
TWP	**Hsiaoliuchiu**	**2.00**	**216**	*e*P	**Pg**	**09 30 11.5**	**+1.0**
	baz=226						
HEN	**Hengchun**	**2.13**	**203**	*e*P	**Pb**	**09 30 10.8**	**+0.5**
	baz=183						
TWK1	**Hengchun**	**2.16**	**201**	*e*P	**Pb**	**09 30 09.8**	**-1.1**
	baz=188						
JKRS	**Kuro-shima**	**2.19**	**83**	P	**Pb**	**09 30 10.3**	**-1.1**
JKRS				S	**Sb**	**09 30 38.2**	**-0.1**
JIJ	**Ishigaki jima**	**2.33**	**80**	P	**Pn**	**09 30 11.4**	**+1.6**
JIJ				S	**Sn**	**09 30 39.7**	**+1.6**
JTJ	**Tarama**	**2.88**	**76**	P	**Pn**	**09 30 19.4**	**+2.0**
JTJ				*e*S	**Sn**	**09 30 54.0**	**+2.2**
KNM	**Kinmen**	**2.95**	**279**	*e*P	**Pn**	**09 30 19.0**	**+0.6**
	baz=276						
JOW	**Kunigami**	**6.65**	**63**	P	**Pn**	**09 31 09.9**	**+0.7**
	3.5nm,0.3s,baz=139,slow=23,SNR=5.7						
JOW				LR	LR	09 34 03.0	
	comp=Z,101nm,20.3s,baz=278,slow=41						
KSRS	**Korea Array**	**14.47**	**20**	P	**P**	**09 33 03.9**	**+0.8**
	0.3nm,0.3s,baz=200,slow=12,SNR=11						
SONM	**Songino Array**	**26.71**	**337**	P	**P**	**09 35 11.1**	**+0.2**
	1.0nm,0.8s,baz=161,slow=12,SNR=7.1						

MKAR	**Makanchi Array**	**38.77**	**316**	P		**P**	**09 36 55.7**	**-0.2**
	1.2nm,0.9s,baz=108,slow=10,SNR=4.0							
ZALV	**Zalesovo Beam**	**40.64**	**327**	P		**P**	**09 37 10.8**	**-0.5**
	1.1nm,0.5s,baz=122,slow=8.7,SNR=2.3							
WRA	**Warramunga Arr**	**45.38**	**163**	P		**P**	**09 37 49.2**	**-0.8**
	1.0nm,0.6s,baz=346,slow=8.7,SNR=12							
ASAR	**Alice Springs**	**48.84**	**165**	P		**P**	**09 38 17.1**	**0.0**
	0.4nm,0.4s,baz=340,slow=7.0,SNR=15							
STKA	**Stephens Creek**	**58.73**	**160**	P		**P**	**09 39 28.6**	**-0.6**
	1.1nm,0.9s,baz=329,slow=12,SNR=3.2							
ILAR	**Eielson Array**	**69.21**	**27**	P		**P**	**09 40 36.1**	**-1.8**
	0.2nm,0.5s,baz=278,slow=5.7,SNR=5.7							
YKA	**Yellowknife Ar**	**83.00**	**23**	P		**P**	**09 41 55.6**	**-0.8**
	0.5nm,0.6s,baz=313,slow=5.0,SNR=14							

*ISCJB **13** 09:55:04.4±0.7, 37.69N±0.04×37.95E±0.04, h8km, Error ellipse: s-maj=6.0km s-min=4.6km az=148.7*
*ISK **13** 09:55:04.5, 37.65N×38.00E, h30km, MD2.8*
*CSEM **13** 09:55:04.7±0.1, 37.65N×37.99E, h28km±3km, MD2.8, Error ellipse: s-maj=5.2km s-min=3.2km az=148.0*
*DDA **13** 09:55:06.7, 37.70N×38.09E, h7km, MD2.8*

ISC 13 09:55:04.0±1.0, 37.67N±0.03×37.98E±0.03, h8km, n14, σ0§63/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.32**	**128**	*e*P	**Pb**	**09 55 12.5**	**+0.6**
ATAB				*e*S	**Sb**	09 55 17.0	-0.3
ATAB	**Bozova**	**0.32**	**128**	*e*P	**Pb**	**09 55 12.5**	**+0.6**
ATAB				*e*S	**Sb**	09 55 17.0	-0.3
URFA	**Urfa**	**0.70**	**108**	*e*PG	**Pg**	**09 55 18.3**	**+0.7**
URFA				*e*SG	**Sb**	09 55 28.4	-0.1
URFA	**Urfa**	**0.70**	**108**	*e*Pg	**Pg**	**09 55 18.3**	**+0.7**
URFA				*e*Sg	**Sb**	09 55 28.4	-0.1
MALT	**Malatya**	**0.74**	**29**	*e*PG	**Pb**	**09 55 19.6**	**+0.4**
MALT				*e*SG	**Sb**	09 55 29.8	+0.3
MALT	**Malatya**	**0.74**	**29**	*e*Pg	**Pb**	**09 55 19.6**	**+0.4**
MALT				*e*Sg	**Sb**	**09 55 29.8**	**+0.3**
MYA	**Malataya**	**0.75**	**28**	*e*PG	**Pg**	**09 55 19.0**	**+0.6**
MYA	**Malataya**	**0.75**	**28**	*e*Pg	**Pg**	**09 55 19.0**	**+0.6**
GAZ	**Gaziantep**	**0.79**	**231**	*e*PG	**Pg**	**09 55 19.5**	**+0.4**
GAZ				*e*SG	**Sb**	**09 55 31.1**	**+0.3**
GAZ	**Gaziantep**	**0.79**	**231**	*e*Pg	**Pg**	**09 55 19.5**	**+0.4**
GAZ				*e*Sg	**Sb**	**09 55 31.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.87**	**260**	*e*PG	**Pg**	**09 55 21.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.87**	**260**	*e*Pg	**Pg**	**09 55 21.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.27**	**55**	*e*PN	**Pn**	**09 55 26.8**	**-1.4**
SVRC	**Sivrice-ELAZID**	**1.27**	**55**	*e*Pn	**Pn**	**09 55 26.8**	**-1.4**

IDC 13 09:56:49.9±2.1, 3.93N×126.79E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/43, Error ellipse: s-maj=199.9km s-min=25.3km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	10 02 14.6	+0.3
	2.3nm,0.7s,baz=342,slow=11,SNR=24						
STKA	**Stephens Creek**	**38.30**	**159**	P	P	10 04 11.8	-0.5
	1.6nm,0.7s,baz=334,slow=10,SNR=7.1						
ASAJ	**Asahikawa**	**42.38**	**17**	LR	LR	10 20 36.8	
	comp=Z,42nm,18.7s,baz=162,slow=34						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	10 06 40.5	0.0
	0.2nm,0.6s,baz=129,slow=8.5,SNR=3.1						

*ISCJB **13** 10:00:25.2±0.8, 64.72N±0.03×30.75E±0.1, h0km, Error ellipse: s-maj=8.9km s-min=3.7km az=172.6*
*CSEM **13** 10:00:27.7, 64.73N×30.69E, h0km, ML1.5, Mining explosion. After HEL*
*HEL **13** 10:00:27.7±0.7, 64.73N×30.69E, h0km, ML1.5, Explosion*
*IDC **13** 10:00:29.0±3.7, 64.81N×31.29E, h0km, mb1 3.0/3, mb1mx2.8/27, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=51.7km s-min=11.9km az=98.0*

ISC 13 10:00:26.5±1.1, 64.75N±0.03×30.79E±0.07, h0km, n23, σ1§17/34, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.34**	**344**	PG	**Pg**	**10 00 51.7**	**-0.5**
	baz=160						
KU6				SG	**Sg**	**10 01 09.6**	**+0.1**
KU6				MSG		10 01 09.6	
	comp=Z,2.7nm,0.4s						
KU6				RG	Rg	10 01 15.6	
KU6	**Riekki**	**1.34**	**344**	Pg	**Pg**	**10 00 51.7**	**-0.5**
KU6				Sg	**Sg**	**10 01 09.6**	**+0.1**
MSF	**Maaselka**	**1.38**	**329**	PG	**Pg**	**10 00 52.1**	**-0.9**
MSF				SG	**Sg**	**10 01 10.1**	**-0.7**
MSF				MSG		10 01 10.1	
	comp=Z,2.2nm,0.4s						
MSF				RG	Rg	10 01 15.3	
MSF	**Maaselka**	**1.38**	**329**	Pg	**Pg**	**10 00 52.1**	**-0.9**
MSF				Sg	**Sg**	**10 01 10.1**	**-0.7**
JOF	**Joensuu**	**1.85**	**172**	PN	**Pn**	**10 00 58.5**	**-1.0**
JOF				SG	**Sb**	**10 01 25.3**	**+0.5**
JOF				MSG		10 01 25.3	
	comp=Z,1.7nm,0.4s						
JOF	**Joensuu**	**1.85**	**172**	Pn	**Pn**	**10 00 58.4**	**-1.0**
JOF				Sg	**Sb**	**10 01 25.3**	**+0.5**
OUL	**Oulu**	**2.11**	**282**	PN	**Pn**	**10 01 03.5**	**+0.5**
	baz=102						
OUL				SG	**Sn**	**10 01 29.6**	**-0.3**
OUL				MSG		10 01 29.6	
	comp=Z,4.0nm,0.4s						
OUL	**Oulu**	**2.11**	**282**	Pn	**Pn**	**10 01 03.5**	**+0.5**
OUL				Sg	**Sn**	**10 01 29.6**	**-0.3**
RNF	**Rovaniemi**	**2.72**	**316**	SG	**Sg**	**10 01 54.1**	**+0.3**
RNF				MSG		10 01 54.1	
	comp=Z,2.9nm,0.4s						
RNF	**Rovaniemi**	**2.72**	**316**	Sg	**Sg**	**10 01 54.1**	**+0.3**
SUF	**Sumiainen**	**2.90**	**227**	PN	**Pn**	**10 01 16.2**	**+2.3**
SUF	**Sumiainen**	**2.90**	**227**	Pn	**Pn**	**10 01 16.1**	**+2.3**
VRF	**Varrio**	**3.05**	**352**	PN	**Pn**	**10 01 17.2**	**+1.2**
	baz=178						
VRF				SG	**Sg**	**10 02 03.0**	**-1.5**
VRF				MSG		10 02 03.0	
	comp=Z,1.7nm,0.4s						
VRF	**Varrio**	**3.05**	**352**	Pn	**Pn**	**10 01 17.2**	**+1.2**
VRF				Sg	**Sg**	**10 02 03.0**	**-1.5**
SGF	**Sodankyl**	**3.22**	**329**	SG	**Sb**	**10 02 04.7**	**+0.6**
SGF				MSG		10 02 04.7	
	comp=Z,0.9nm,0.4s						
SGF	**Sodankyl**	**3.22**	**329**	Sg	**Sb**	**10 02 04.7**	**+0.6**
KEF	**Keuruu**	**3.71**	**228**	PN	**Pn**	**10 01 26.8**	**+1.8**
KEF	**Keuruu**	**3.71**	**228**	Pn	**Pn**	**10 01 26.7**	**+1.8**
FIA0	**FINESS Array S**	**3.94**	**215**	SG	**Sg**	**10 02 33.5**	**+0.4**
FIA0				MSG		10 02 33.5	
	comp=Z,1.6nm,0.2s						
FIA0	**FINESS Array S**	**3.94**	**215**	Sg	**Sg**	**10 02 33.5**	**+0.4**
FINES	**FINESS Array B**	**3.94**	**215**	Pn	Pb	10 01 32.9	-3.9
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=1.5						
FINES				Sn	**Sb**	**10 02 21.9**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=24,SNR=3.6						
FINES				Lg	Lg	10 02 31.3	
	comp=Z,0.8nm,0.3s,baz=38,slow=25,SNR=6.2						
ARCES	**ARCESS Array B**	**5.23**	**339**	Pn	**Pn**	**10 01 45.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=1.9						
ARCES				Sn	**Sn**	**10 02 46.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=160,slow=28,SNR=2.7						
ARCES				Lg	Lg	10 03 08.0	
	comp=Z,0.5nm,0.3s,baz=156,slow=31,SNR=4.2						
NOA	**NORSAR Array B**	**9.66**	**256**	Pn	**Pn**	**10 02 46.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=57,slow=12,SNR=1.2						

IDC 13 10:14:50.8±1.5, 10.97S×166.22E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, Error ellipse: s-maj=48.1km s-min=32.2km az=150.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.94**	**250**	P	P	10 21 18.7	+0.1
	0.4nm,0.3s,baz=82,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**33.24**	**243**	P	P	10 21 28.5	-1.5
	0.3nm,0.4s,baz=67,slow=9.3,SNR=8.5						
FITZ	**Fitzroy Crossi**	**39.85**	**255**	P	P	10 22 27.6	+1.2
	0.7nm,0.3s,baz=70,slow=12,SNR=5.0						
QSPA	**South Pole Qui**	**79.03**	**180**	P	P	10 26 56.9	+0.2
	0.6nm,0.7s,baz=94,slow=7.0,SNR=4.9						

ILAR	**Eielson Array**	**83.30**	**18**	P		P	10 27 18.9	-0.2
	0.3nm,0.7s,baz=224,slow=5.0,SNR=4.2							

*IDC **13** 10:17:49.5±1.1, 39.10S×178.24E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/17, mbtmp4.2/3, MS3.8/4, Ms1 3.8/4, ms1mx3.4/30, Error ellipse: s-maj=50.2km s-min=27.3km az=33.0*
*ISCJB **13** 10:17:50.8±0.7, 39.15S±0.03×178.56E±0.07, h42km±8km, mb4.0/3, MS3.8/4, Error ellipse: s-maj=9.5km s-min=4.0km az=13.4*
*NEIC **13** 10:17:53.7, 39.07S×178.40E, h31km, ML4.3(WEL), After WEL.*
NEIC Felt [IV] in the Gisborne area.
*WEL **13** 10:17:54.1±0.2, 39.03S×178.35E, h33km±15km, ML4.3/18, Error ellipse: s-maj=1.9km s-min=0.8km az=90.0*
WEL Felt from Gisborne to Hawke''s Bay, maximum reported intensity MM 4.

ISC 13 10:17:53.1±1.2, 39.07S±0.03×178.39E±0.05, h29km±7km, n193, σ1§02/194, mb4.2/3, MS3.8/4, 14C-7D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.38**	**256**	⇓PN	**Pb**	**10 18 02.8**	**+1.1**
MHGZ				SN	**Sn**	**10 18 09.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**0.38**	**256**	P*	**Pb**	**10 18 02.8**	**+1.1**
PRGZ	**Paritu Road**	**0.42**	**290**	⇑PN	**Pb**	**10 18 02.5**	**+0.3**
PRGZ				SN	**Sb**	**10 18 08.4**	**0.0**
PRGZ	**Paritu Road**	**0.42**	**290**	P*	**Pb**	**10 18 02.5**	**+0.3**
PRGZ				S*	**Sb**	**10 18 08.4**	**0.0**
KNZ	**Kokohu**	**0.56**	**274**	⇓PN	**Pb**	**10 18 04.4**	**0.0**
KNZ				SN	**Sb**	**10 18 11.0**	**-1.1**
KNZ	**Kokohu**	**0.56**	**274**	P*	**Pb**	**10 18 04.4**	**0.0**
CNGZ	**Carnagh Statio**	**0.60**	**346**	⇑PN	**Pn**	**10 18 05.7**	**+0.1**
CNGZ				SN	**Sb**	**10 18 13.3**	**+0.1**
CNGZ	**Carnagh Statio**	**0.60**	**346**	P*	**Pn**	**10 18 05.7**	**+0.1**
MWZ	**Matawai**	**0.99**	**317**	⇑*e*Pn	**Pn**	**10 18 10.5**	**-0.6**
MWZ				SN	**Sn**	**10 18 21.3**	**-2.8**
MWZ	**Matawai**	**0.99**	**317**	*e*Pn	**Pn**	**10 18 09.6**	**-1.5**
PUZ	**Puketiti**	**1.00**	**354**	PN	**Pn**	**10 18 10.5**	**-0.6**
PUZ				SN	**Sn**	**10 18 23.3**	**-0.9**
PUZ	**Puketiti**	**1.00**	**354**	Pn	**Pn**	**10 18 10.5**	**-0.6**
RAHZ	**Arahi**	**1.02**	**278**	⇑PN	**Pn**	**10 18 11.4**	**-0.1**
RAHZ				SN	**Sn**	**10 18 23.8**	**-1.1**
RAHZ	**Arahi**	**1.02**	**278**	Pn	**Pn**	**10 18 11.4**	**-0.1**
CKHZ	**Cape Kidnapper**	**1.18**	**239**	⇑PN	**Pn**	**10 18 13.8**	**+0.2**
CKHZ				SN	**Sn**	**10 18 28.4**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.18**	**239**	Pn	**Pn**	**10 18 13.8**	**+0.2**
NMHZ	**Naumai**	**1.23**	**268**	⇑PN	**Pn**	**10 18 14.5**	**+0.1**
NMHZ	**Naumai**	**1.23**	**268**	Pn	**Pn**	**10 18 14.5**	**+0.1**
URZ	**Urewera**	**1.28**	**308**	Pn	**Pn**	**10 18 14.6**	**-0.4**
	308nm,0.3s,baz=138,slow=6.1,SNR=2906						
URZ				Sn	**Sn**	**10 18 28.1**	**-3.1**
	323nm,0.3s,baz=43,slow=19,SNR=18						
URZ	**Urewera**	**1.28**	**308**	Pn	**Pn**	**10 18 14.6**	**-0.4**
URZ				*e*Pn	**Pn**	**10 18 14.7**	**-0.4**
URZ				Sn	**Sn**	**10 18 28.1**	**-3.1**
URZ				*e*Sn	**Sb**	**10 18 31.2**	**-1.5**
MCHZ	**McNeill Hill**	**1.37**	**253**	⇓PN	**Pn**	**10 18 16.7**	**+0.5**
MCHZ				SN	**Sn**	**10 18 33.9**	**+0.6**
MCHZ	**McNeill Hill**	**1.37**	**253**	Pn	**Pn**	**10 18 16.7**	**+0.5**
KAHZ	**Kahuranaki**	**1.38**	**238**	Pn	**Pn**	**10 18 16.5**	**+0.1**
KAHZ	**Kahuranaki**	**1.38**	**238**	Pn	**Pn**	**10 18 16.5**	**+0.1**
BKZ	**Black Stump Fm**	**1.48**	**265**	⇑PN	**Pn**	**10 18 17.7**	**-0.1**
BKZ				SN	**Sn**	**10 18 35.2**	**-0.9**
BKZ	**Black Stump Fm**	**1.48**	**265**	Pn	**Pn**	**10 18 17.7**	**-0.1**
MXZ	**Matakaoa Point**	**1.50**	**358**	⇑PN	**Pn**	**10 18 18.3**	**+0.2**
MXZ				SN	**Sn**	**10 18 35.8**	**-0.8**
MXZ	**Matakaoa Point**	**1.50**	**358**	Pn	**Pn**	**10 18 18.3**	**+0.2**
PXZ	**Pawanui**	**1.52**	**230**	⇑PN	**Pn**	**10 18 17.9**	**-0.4**
PXZ				SN	**Sn**	**10 18 36.6**	**-0.6**
PXZ	**Pawanui**	**1.52**	**230**	Pn	**Pn**	**10 18 17.9**	**-0.4**
EDRZ	**Edgecumbe**	**1.61**	**306**	⇓PN	**Pn**	**10 18 19.5**	**0.0**
EDRZ	**Edgecumbe**	**1.61**	**306**	Pn	**Pn**	**10 18 19.5**	**0.0**
RRRZ	**Republican Roa**	**1.63**	**296**	⇑PN	**Pn**	**10 18 19.7**	**-0.2**
RRRZ	**Republican Roa**	**1.63**	**296**	Pn	**Pn**	**10 18 19.7**	**-0.2**
PRRZ	**Plateau Road**	**1.66**	**289**	PN	**Pn**	**10 18 20.1**	**-0.1**
PRRZ	**Plateau Road**	**1.66**	**289**	Pn	**Pn**	**10 18 20.1**	**-0.1**
ALRZ	**Allen Road**	**1.67**	**287**	PN	**Pn**	**10 18 20.3**	**+0.1**
ALRZ	**Allen Road**	**1.67**	**287**	Pn	**Pn**	**10 18 20.3**	**+0.1**
TARZ	**Mount Tarawera**	**1.69**	**299**	⇑PN	**Pn**	**10 18 20.6**	**-0.1**
TARZ	**Mount Tarawera**	**1.69**	**299**	Pn	**Pn**	**10 18 20.6**	**-0.1**
MARZ	**Manawahe**	**1.72**	**308**	PN	**Pn**	**10 18 21.2**	**+0.1**
MARZ	**Manawahe**	**1.72**	**308**	Pn	**Pn**	**10 18 21.2**	**+0.1**
MKRZ	**Makatiti**	**1.77**	**301**	PN	**Pn**	**10 18 21.9**	**+0.2**
MKRZ	**Makatiti**	**1.77**	**301**	Pn	**Pn**	**10 18 21.9**	**+0.2**
HRRZ	**Handcock Road**	**1.78**	**292**	⇓PN	**Pn**	**10 18 21.8**	**-0.1**
HRRZ	**Handcock Road**	**1.78**	**292**	Pn	**Pn**	**10 18 21.8**	**-0.1**
HATZ	**Hinemaiaia**	**1.80**	**275**	PN	**Pn**	**10 18 22.2**	**0.0**
HATZ	**Hinemaiaia**	**1.80**	**275**	Pn	**Pn**	**10 18 22.2**	**0.0**
WIZ	**White Island**	**1.80**	**328**	PN	**Pn**	**10 18 21.5**	**-0.6**
WIZ	**White Island**	**1.80**	**328**	Pn	**Pn**	**10 18 21.5**	**-0.6**
WPHZ	**Waipukurau**	**1.81**	**236**	⇓PN	**Pn**	**10 18 21.9**	**-0.3**
WPHZ	**Waipukurau**	**1.81**	**236**	Pn	**Pn**	**10 18 21.9**	**-0.3**
PRHZ	**Porangahau**	**1.81**	**228**	PN	**Pn**	**10 18 21.6**	**-0.7**
PRHZ	**Porangahau**	**1.81**	**228**	Pn	**Pn**	**10 18 21.6**	**-0.7**
OMAZ	**Omania**	**1.85**	**301**	PN	**Pn**	**10 18 22.5**	**-0.4**
OMRZ	**Omania**	**1.85**	**301**	Pn	**Pn**	**10 18 22.5**	**-0.4**
BHHZ	**Black Hill Sta**	**1.85**	**256**	⇓PN	**Pn**	**10 18 23.0**	**+0.1**
BHHZ	**Black Hill Sta**	**1.85**	**256**	Pn	**Pn**	**10 18 23.0**	**+0.1**
OPRZ	**Ohinepanea**	**1.88**	**310**	PN	**Pn**	**10 18 22.4**	**-0.9**
OPRZ	**Ohinepanea**	**1.88**	**310**	Pn	**Pn**	**10 18 22.4**	**-0.9**
PNHZ	**Pukenui**	**1.89**	**243**	PN	**Pn**	**10 18 23.3**	**-0.2**
PNHZ	**Pukenui**	**1.89**	**243**	Pn	**Pn**	**10 18 23.3**	**-0.2**
LIRZ	**Lichensteins R**	**1.89**	**303**	PN	**Pn**	**10 18 23.4**	**-0.1**
LIRZ	**Lichensteins R**	**1.89**	**303**	Pn	**Pn**	**10 18 23.4**	**-0.1**
WHTZ	**Whakaora**	**1.94**	**281**	PN	**Pn**	**10 18 24.7**	**+0.6**
WHTZ	**Whakaora**	**1.94**	**281**	Pn	**Pn**	**10 18 24.7**	**+0.6**
RITZ	**Rihia Road**	**1.97**	**272**	PN	**Pn**	**10 18 25.2**	**+0.6**
RITZ	**Rihia Road**	**1.97**	**272**	Pn	**Pn**	**10 18 25.2**	**+0.6**
MOVZ	**Moawhango**	**2.07**	**260**	PN	**Pn**	**10 18 26.6**	**+0.6**
MOVZ	**Moawhango**	**2.07**	**260**	Pn	**Pn**	**10 18 26.6**	**+0.6**
KATZ	**Kakaramea**	**2.10**	**272**	PN	**Pn**	**10 18 26.6**	**+0.2**
KATZ	**Kakaramea**	**2.10**	**272**	Pn	**Pn**	**10 18 26.6**	**+0.2**
DVHZ	**Dannevirke**	**2.11**	**234**	PN	**Pn**	**10 18 25.7**	**-0.8**
DVHZ	**Dannevirke**	**2.11**	**234**	Pn	**Pn**	**10 18 25.7**	**-0.8**
OTVZ	**Oturere**	**2.12**	**266**	PN	**Pn**	**10 18 27.2**	**+0.5**
OTVZ	**Oturere**	**2.12**	**266**	Pn	**Pn**	**10 18 27.2**	**+0.5**
TSZ	**Takapari Road**	**2.12**	**241**	⇑PN	**Pn**	**10 18 26.1**	**-0.5**
TSZ	**Takapari Road**	**2.12**	**241**	Pn	**Pn**	**10 18 26.1**	**-0.5**
TUVZ	**Tukino**	**2.13**	**264**	PN	**Pn**	**10 18 27.6**	**+0.7**
TUVZ	**Tukino**	**2.13**	**264**	Pn	**Pn**	**10 18 27.6**	**+0.7**
KRVZ	**Karewarewa**	**2.14**	**268**	PN	**Pn**	**10 18 27.2**	**+0.3**
KRVZ	**Karewarewa**	**2.14**	**268**	Pn	**Pn**	**10 18 27.2**	**+0.3**
TGRZ	**Tauranga**	**2.14**	**308**	PN	**Pn**	**10 18 26.1**	**-0.7**
TGRZ	**Tauranga**	**2.14**	**308**	Pn	**Pn**	**10 18 26.1**	**-0.7**
NGZ	**Ngauruhoe**	**2.17**	**266**	PN	**Pn**	**10 18 28.1**	**+0.7**
NGZ	**Ngauruhoe**	**2.17**	**266**	Pn	**Pn**	**10 18 28.1**	**+0.7**
WTVZ	**West Tongariro**	**2.18**	**268**	PN	**Pn**	**10 18 27.8**	**+0.4**
WTVZ	**West Tongariro**	**2.18**	**268**	Pn	**Pn**	**10 18 27.8**	**+0.4**
WNVZ	**Wahianoa**	**2.18**	**262**	PN	**Pn**	**10 18 27.9**	**+0.4**
WNVZ	**Wahianoa**	**2.18**	**262**	Pn	**Pn**	**10 18 27.9**	**+0.4**
DRZ	**Dome Shelter**	**2.20**	**264**	⇑PN	**Pn**	**10 18 29.0**	**+1.0**
DRZ	**Dome Shelter**	**2.20**	**264**	Pn	**Pn**	**10 18 29.0**	**+1.0**
FWVZ	**Far West T-bar**	**2.21**	**264**	PN	**Pn**	**10 18 28.4**	**+0.3**
FWVZ	**Far West T-bar**	**2.21**	**264**	Pn	**Pn**	**10 18 28.4**	**+0.3**
WPVZ	**Whakapapa**	**2.21**	**265**	PN	**Pn**	**10 18 28.4**	**+0.4**
WPVZ	**Whakapapa**	**2.21**	**265**	Pn	**Pn**	**10 18 28.4**	**+0.4**
TRVZ	**Turoa**	**2.22**	**263**	PN	**Pn**	**10 18 28.6**	**+0.5**
TRVZ	**Turoa**	**2.22**	**263**	Pn	**Pn**	**10 18 28.6**	**+0.5**
MTVZ	**Mangateitei**	**2.29**	**261**	PN	**Pn**	**10 18 29.5**	**+0.6**
MTVZ	**Mangateitei**	**2.29**	**261**	Pn	**Pn**	**10 18 29.5**	**+0.6**
TWVZ	**Taurewa**	**2.30**	**269**	PN	**Pn**	**10 18 29.3**	**+0.2**
TWVZ	**Taurewa**	**2.30**	**269**	Pn	**Pn**	**10 18 29.3**	**+0.2**
PKVZ	**Pokaka**	**2.37**	**264**	PN	**Pn**	**10 18 30.7**	**+0.6**
PKVZ	**Pokaka**	**2.37**	**264**	Pn	**Pn**	**10 18 30.7**	**+0.6**
POWZ	**Post Office Ro**	**2.42**	**236**	PN	**Pn**	**10 18 30.4**	**-0.2**
POWZ	**Post Office Ro**	**2.42**	**236**	Pn	**Pn**	**10 18 30.4**	**-0.2**
MYRZ	**Mayor Island**	**2.46**	**316**	PN	**Pn**	**10 18 30.5**	**-0.6**
TIWZ	**Tintock**	**2.57**	**228**	PN	**Pn**	**10 18 31.9**	**-1.0**
TIWZ	**Tintock**	**2.57**	**228**	Pn	**Pn**	**10 18 31.9**	**-1.0**
MRZ	**Mangatainoka R**	**2.69**	**233**	PN	**Pn**	**10 18 33.2**	**-1.1**
MRZ	**Mangatainoka R**	**2.69**	**233**	Pn	**Pn**	**10 18 33.2**	**-1.1**
WAZ	**Wanganui**	**2.72**	**254**	PN	**Pn**	**10 18 36.3**	**+1.4**
WAZ	**Wanganui**	**2.72**	**254**	Pn	**Pn**	**10 18 36.3**	**+1.4**
TMWZ	**Te Maipa**	**2.80**	**222**	PN	**Pn**	**10 18 34.1**	**-1.8**
TMWZ	**Te Maipa**	**2.80**	**222**	Pn	**Pn**	**10 18 34.1**	**-1.8**
HIZ	**Hauiti**	**2.81**	**280**	⇑PN	**Pn**	**10 18 36.5**	**+0.4**
HIZ	**Hauiti**	**2.81**	**280**	Pn	**Pn**	**10 18 36.5**	**+0.4**
VRZ	**Vera Road**	**2.82**	**268**	PN	**Pn**	**10 18 37.1**	**+0.8**
VRZ	**Vera Road**	**2.82**	**268**	Pn	**Pn**	**10 18 37.1**	**+0.8**
OGWZ	**Otaki Gorge**	**3.03**	**234**	PN	**Pn**	**10 18 37.9**	**-1.1**
OGWZ	**Otaki Gorge**	**3.03**	**234**	Pn	**Pn**	**10 18 37.9**	**-1.1**
MTW	**Mount Morrison**	**3.04**	**226**	PN	**Pn**	**10 18 37.2**	**-2.0**
MTW	**Mount Morrison**	**3.04**	**226**	Pn	**Pn**	**10 18 37.2**	**-2.0**
RAEZ	**Rainy Point**	**3.11**	**265**	PN	**Pn**	**10 18 41.5**	**+1.3**
RAEZ	**Rainy Point**	**3.11**	**265**	Pn	**Pn**	**10 18 41.5**	**+1.3**
TRWZ	**Traveller**	**3.12**	**221**	PN	**Pn**	**10 18 38.0**	**-2.3**
TRWZ	**Traveller**	**3.12**	**221**	Pn	**Pn**	**10 18 38.0**	**-2.3**
MKAZ	**Moumakai**	**3.20**	**307**	PN	**Pn**	**10 18 41.1**	**-0.3**
MKAZ	**Moumakai**	**3.20**	**307**	Pn	**Pn**	**10 18 41.1**	**-0.3**
KIW	**Kapiti Island**	**3.22**	**235**	PN	**Pn**	**10 18 40.6**	**-1.0**
KIW	**Kapiti Island**	**3.22**	**235**	Pn	**Pn**	**10 18 40.6**	**-1.0**
PAWZ	**Paruwai Farm**	**3.24**	**223**	PN	**Pn**	**10 18 39.5**	**-2.4**
PAWZ	**Paruwai Farm**	**3.24**	**223**	Pn	**Pn**	**10 18 39.5**	**-2.4**
DREZ	**Durham Road**	**3.26**	**266**	Pn	**Pn**	**10 18 42.9**	**+0.7**
CAW	**Cannon Point**	**3.26**	**230**	PN	**Pn**	**10 18 40.7**	**-1.5**
CAW	**Cannon Point**	**3.26**	**230**	Pn	**Pn**	**10 18 40.8**	**-1.5**
DFE	**Dawson Falls**	**3.34**	**264**	Pn	**Pn**	**10 18 45.1**	**+1.8**
NEZ	**North Egmont**	**3.34**	**265**	Pn	**Pn**	**10 18 45.1**	**+1.7**
MSWZ	**Moikau Station**	**3.36**	**225**	Pn	Pn	10 18 40.9	-2.7
PLWZ	**Palliser**	**3.46**	**223**	PN	Pn	10 18 42.3	-2.7
PLWZ	**Palliser**	**3.46**	**223**	Pn	Pn	10 18 42.3	-2.7
NRZ	**Ngariki Road**	**3.47**	**264**	Pn	**Pn**	**10 18 46.8**	**+1.7**
NWEZ	**Newall Road**	**3.52**	**265**	Pn	**Pn**	**10 18 47.3**	**+1.5**
WEL	**Wellington**	**3.55**	**230**	PN	**Pn**	**10 18 44.5**	**-1.7**
WEL	**Wellington**	**3.55**	**230**	Pn	**Pn**	**10 18 44.5**	**-1.7**
KAAZ	**Kauri Point**	**3.67**	**306**	Pn	**Pn**	**10 18 48.5**	**+0.6**
TCW	**Tory Channel**	**3.81**	**234**	PN	**Pn**	**10 18 48.2**	**-1.4**
TCW	**Tory Channel**	**3.81**	**234**	Pn	**Pn**	**10 18 48.4**	**-1.4**
DUWZ	**D'Urville Isla**	**3.85**	**242**	PN	**Pn**	**10 18 49.2**	**-1.1**
DUWZ	**D'Urville Isla**	**3.85**	**242**	Pn	**Pn**	**10 18 49.2**	**-1.1**
TUWZ	**Tuamarina**	**4.14**	**234**	Pn	**Pn**	**10 18 52.0**	**-2.3**
BSWZ

TACH	**Talagante**	**1.25**	**153**	*e*P		**Pn**	**10 45 03.7**	**+0.7**
TACH	**Talagante**	**1.25**	**153**	*e*P		**Pn**	**10 45 03.7**	**+0.7**
LACH	**Col Las Americ**	**1.29**	**135**	*e*P		**Pn**	**10 45 04.4**	**+0.8**
LACH				*i* S		**Sb**	**10 45 21.7**	**0.0**
LACH	**Col Las Americ**	**1.29**	**135**	*e*P		**Pn**	**10 45 04.4**	**+0.8**
LACH				*i* S		**Sb**	**10 45 21.7**	**0.0**
FSR	**Penalolen**	**1.31**	**136**	*e*P		**Pn**	**10 45 04.6**	**+0.7**
FSR				*i* S		**Sn**	**10 45 21.8**	**+1.4**
FSR	**Penalolen**	**1.31**	**136**	*e*P		**Pn**	**10 45 04.6**	**+0.7**
FSR				*i* S		**Sn**	**10 45 21.8**	**+1.4**
ANTU	**Antumapu**	**1.32**	**141⇑**	*e*P		**Pn**	**10 45 05.0**	**+1.0**
ANTU				*i* S		**Sn**	**10 45 22.1**	**+1.6**
ANTU	**Antumapu**	**1.32**	**141⇑**	*e*P		**Pn**	**10 45 05.0**	**+1.0**
ANTU				*i* S		**Sn**	**10 45 22.1**	**+1.6**
ANTU				AML		AML	10 45 28.3	
	comp=N,12μm,0.7s							
FCH	**Farellones**	**1.37**	**125⇓**	*i*P		Pb	10 45 14.4	+7.5
FCH				*i* S		Sb	10 45 30.9	+6.7
LNV	**Longovilo**	**1.42**	**173**	*e*P		**Pn**	**10 45 05.3**	**0.0**
LNV	**Longovilo**	**1.42**	**173**	*e*P		**Pn**	**10 45 05.3**	**0.0**
CMCH	**Combarbala**	**1.46**	**21⇓**	*i*P		**Pn**	**10 45 06.9**	**+1.0**
CMCH				*i* S		**Sb**	**10 45 26.3**	**-0.2**
CMCH	**Combarbala**	**1.46**	**21⇓**	*i*P		**Pn**	**10 45 06.9**	**+1.0**
CMCH				*i* S		**Sb**	**10 45 26.3**	**-0.2**
CMCH				AML		AML	10 45 29.9	
	comp=N,59μm,0.6s							
CHCH	**Chadas Angostu**	**1.61**	**150**	*e*P		**Pn**	**10 45 09.4**	**+1.4**
CHCH	**Chadas Angostu**	**1.61**	**150**	*e*P		**Pn**	**10 45 09.4**	**+1.4**
CACH	**El Canelo**	**1.79**	**152⇓**	*i*P		**Pb**	**10 45 13.0**	**-0.9**
CACH	**El Canelo**	**1.79**	**152⇓**	*i*P		**Pb**	**10 45 13.0**	**-0.9**
TLL	**Tololo Astrono**	**2.47**	**17**	*e*P		**Pn**	**10 45 21.3**	**+1.4**
TLL				*i* S		**Sb**	**10 45 55.8**	**+0.3**
TLL	**Tololo Astrono**	**2.47**	**17**	*e*P		**Pn**	**10 45 21.3**	**+1.4**
TLL				*i* S		**Sb**	**10 45 55.8**	**+0.3**
TLL				AML		AML	10 46 08.6	
	comp=N,3μm,0.6s							
CFAA	**Coronel Fontan**	**3.02**	**73**	Pn		Pn	10 45 31.2	+3.8
	comp=N,6.7nm,0.3s,baz=247,slow=10,SNR=105							
CFAA				Sn		**Sb**	**10 46 09.6**	**-1.7**
	comp=N,18nm,0.3s,baz=311,slow=20,SNR=7.7							
CFAA	**Coronel Fontan**	**3.02**	**73**	Pn		Pn	10 45 31.2	+3.8
CFAA				Sn		**Sb**	**10 46 09.6**	**-1.7**
LCO	**Las Campanas**	**3.61**	**13**	*e*Pn		**Pn**	**10 45 35.7**	**+0.1**
LCO				*e*Sn		**Sn**	**10 46 18.6**	**+1.3**
PLCA	**Paso Flores**	**8.22**	**174**	Pn		**Pn**	**10 46 40.0**	**+1.2**
	comp=N,0.3nm,0.3s,baz=1.9,slow=6.3,SNR=3.8							
PLCA				Lg		Lg	10 48 58.1	
	comp=N,0.2nm,0.3s,baz=270,slow=19,SNR=2.5							
PLCA				LR		LR	10 49 27.7	
	comp=N,105nm,21.6s,baz=89,slow=36							
PLCA	**Paso Flores**	**8.22**	**174**	Pn		**Pn**	**10 46 40.0**	**+1.2**
PLCA				Lg		Lg	10 48 58.1	
TRQA	**Tornquist**	**9.61**	**128**	*e*Pn		**Pn**	**10 46 60.0**	**+2.2**
	comp=N,15nm,0.7s							
TRQA				*e*Sn		**Sn**	**10 48 44.3**	**-0.5**
CPUP	**Villa Florida**	**13.90**	**67**	Pn		**Pn**	**10 47 56.7**	**+0.2**
	comp=N,1.4nm,0.3s,baz=210,slow=9.6,SNR=6.8							
CPUP				Sn		**Sn**	**10 50 28.8**	**-1.0**
	comp=N,0.4nm,0.3s,baz=224,slow=16,SNR=2.5							
CPUP				Lg		Lg	10 51 52.5	
	comp=N,1.1nm,0.3s,baz=81,slow=16,SNR=3.5							
CPUP				LR		LR	10 53 44.4	
	comp=N,268nm,19.3s,baz=217,slow=39							
CPUP	**Villa Florida**	**13.90**	**67**	Pn		**Pn**	**10 47 56.7**	**+0.2**
CPUP				Sn		**Sn**	**10 50 28.8**	**-1.0**
CPUP				Lg		Lg	10 51 52.5	
LPAZ	**La Paz**	**16.49**	**12**	Pn		**Pn**	**10 48 32.1**	**+0.8**
	comp=N,0.4nm,0.3s,baz=60,slow=20,SNR=8.3							
LPAZ	**La Paz**	**16.49**	**12**	Pn		**Pn**	**10 48 32.1**	**+0.8**
SIV	**San Ignacio**	**19.06**	**33**	P		**P**	**10 49 00.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=226,slow=14,SNR=5.3							
SIV				LR		LR	10 57 42.2	
	comp=N,228nm,18.6s,slow=41							
SIV	**San Ignacio**	**19.06**	**33**	P		**P**	**10 49 00.8**	**-0.6**
SAML	**Samuel**	**24.74**	**20**	*e*P		**P**	**10 50 00.5**	**0.0**
	comp=N,12nm,1.0s							
BDFB	**Brasilia**	**27.24**	**57**	P		**P**	**10 50 22.3**	**-0.9**
	comp=N,8.4nm,0.9s,baz=230,slow=5.6,SNR=7.4							
BDFB				LR		LR	11 02 47.1	
	comp=N,121nm,21.5s,baz=207,slow=40							
BDFB	**Brasilia**	**27.24**	**57**	P		**P**	**10 50 22.3**	**-0.9**
TEIG	**Tepich**	**54.83**	**341**	P		**P**	**10 54 08.9**	**+0.1**
	comp=N,5.4nm,0.6s,baz=116,slow=8.5,SNR=4.7							
TEIG	**Tepich**	**54.83**	**341**	P		**P**	**10 54 08.9**	**+0.1**
TXAR	**Lajitas Array**	**68.64**	**330**	P		**P**	**10 55 42.5**	**+0.6**
	comp=N,0.7nm,0.6s,baz=153,slow=8.1,SNR=13							
TXAR	**Lajitas Array**	**68.64**	**330**	P		**P**	**10 55 42.5**	**+0.6**
TKL	**Tuckaleechee C**	**68.79**	**349**	P		**P**	**10 55 42.5**	**-0.1**
	comp=N,5.6nm,0.8s,baz=163,slow=9.3,SNR=5.0							
TKL	**Tuckaleechee C**	**68.79**	**349**	P		**P**	**10 55 42.5**	**-0.1**
WVT	**Waverly**	**69.98**	**346**	*e*P		**P**	**10 55 49.7**	**-0.2**
	comp=N,12nm,0.8s							
DBIC	**Dimbokro**	**74.38**	**71**	P		**P**	**10 56 16.4**	**-0.4**
	comp=N,5.0nm,0.7s,baz=209,slow=4.8,SNR=7.2							
DBIC				LR		LR	11 27 30.6	
	comp=N,44nm,18.7s,baz=343,slow=35							
DBIC	**Dimbokro**	**74.38**	**71**	P		**P**	**10 56 16.4**	**-0.4**
ANMO	**Albuquerque**	**74.68**	**331**	LR		LR	11 26 02.6	
	comp=N,64nm,21.3s,baz=22,slow=33							
BOSA	**Boshof**	**80.44**	**118**	P		**P**	**10 56 49.8**	**-1.0**
	comp=N,2.8nm,0.6s,baz=220,slow=6.6,SNR=8.3							
BOSA	**Boshof**	**80.44**	**118**	P		**P**	**10 56 49.8**	**-1.0**
HWUT	**Hardware Ranch**	**82.44**	**331**	*e*P		**P**	**10 57 01.0**	**+0.2**
	comp=N,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**82.89**	**325**	P		**P**	**10 57 03.1**	**-0.2**
	comp=N,0.6nm,0.9s,baz=163,slow=4.5,SNR=3.6							
NVAR	**Mina Array Bea**	**82.89**	**325**	P		**P**	**10 57 03.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P		**P**	**10 57 06.3**	**+0.2**
	comp=N,5.2nm,0.8s,baz=264,slow=4.5,SNR=26							
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P		**P**	**10 57 06.3**	**+0.2**
ABKAR	**Akbulak array**	**140.50**	**50**	*e*PKPdf		**PKPdf**	**11 04 07.7**	**+0.3**
BRVK	**Borovoye**	**145.90**	**42**	*e*PKPdf		**PKPdf**	**11 04 16.9**	**+0.2**
BVAR	**Borovoye Array**	**145.97**	**42**	PKPbc		**PKPbc**	**11 04 17.7**	**+0.1**
	comp=N,1.9nm,0.7s,baz=281,slow=3.8,SNR=12							
BVAR	**Borovoye Array**	**145.97**	**42**	PKPbc		**PKPbc**	**11 04 17.7**	**+0.1**
KKAR	**Karatay Array**	**148.53**	**59**	*e*PKPdf		**PKPdf**	**11 04 21.6**	**+0.1**
KKAR				*e*PKPbc		**PKPbc**	**11 04 25.1**	**0.0**
KKAR				*e*PKPab		**PKPab**	**11 04 28.4**	**-0.3**
AAK	**Ala-Archa**	**151.49**	**60**	PKPbc		**PKPbc**	**11 04 33.3**	**+0.7**
	comp=N,7.6nm,0.7s,baz=202,slow=3.9,SNR=30							
AAK	**Ala-Archa**	**151.49**	**60**	PKPbc		**PKPbc**	**11 04 33.3**	**+0.7**
KURBB	**Kurchatov Arra**	**151.56**	**42**	PKPbc		**PKPbc**	**11 04 32.4**	**+0.2**
	comp=N,3.8nm,0.7s,baz=303,slow=3.3,SNR=17							
KURBB				PKPab		**PKPab**	**11 04 41.3**	**+0.5**
	comp=N,0.5nm,0.3s,baz=302,slow=3.7,SNR=5.0							
KURK	**Kurchatov**	**151.57**	**42**	*e*PKPdf		**PKPdf**	**11 04 26.6**	**+0.6**
KURK				PKPbc		**PKPbc**	**11 04 32.4**	**+0.2**
KURK				*e*PKPbc		**PKiKP**	**11 04 32.5**	**-0.1**
KURK				*e*PKPab		**PKPab**	**11 04 41.0**	**+0.2**
KURK				PKPab		PKPab	11 04 41.3	+0.4
ZALV	**Zalesovo Beam**	**152.80**	**31**	PKPbc		**PKPbc**	**11 04 34.7**	**-0.2**
	comp=N,4.5nm,0.8s,baz=298,slow=3.3,SNR=11							
ZALV	**Zalesovo Beam**	**152.80**	**31**	PKPbc		**PKPbc**	**11 04 34.7**	**-0.2**
MKAR	**Makanchi Array**	**155.53**	**47**	PKPab		**PKPab**	**11 04 57.5**	**-0.4**
	comp=N,1.1nm,0.7s,baz=292,slow=4.0,SNR=9.4							
MKAR	**Makanchi Array**	**155.53**	**47**	PKPab		**PKPab**	**11 04 57.5**	**-0.4**

IDC 13 10:44:53.4±2.8, 16°71S×69°36W, h178km±11km, mb3.8/4, mb1 3.8/5, mb1mx3.4/21, mbtmp3.7/5, Error ellipse: s-maj=68.8km s-min=22.9km az=16.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**1.25**	**70**	P		Pn	10 45 22.8	-0.8
	50nm,0.3s,baz=257,slow=8.8,SNR=990							
LPAZ				S		Sn	10 45 47.1	+0.2
	0.7nm,0.3s,baz=156,slow=20,SNR=2.4							
SIV	**San Ignacio**	**7.99**	**86**	P		Pn	10 46 47.0	+0.4
	1.8nm,0.3s,baz=278,slow=12,SNR=30							
SIV				S		Sn	10 48 14.4	-1.8
	0.3nm,0.3s,baz=15,slow=21,SNR=7.2							
DBIC	**Dimbokro**	**67.86**	**75**	P		P	10 55 33.4	+0.4
	3.0nm,0.7s,baz=242,slow=3.4,SNR=3.8							
ULM	**Lac du Bonnet**	**70.65**	**342**	P		P	10 55 49.0	-0.3
	1.5nm,0.3s,baz=140,slow=7.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**76.20**	**72**	P		P	10 56 22.7	+0.1
	1.3nm,0.3s,baz=262,slow=5.0,SNR=30							
YKA	**Yellowknife Ar**	**86.55**	**341**	P		P	10 57 15.7	-0.2
	0.3nm,0.5s,baz=134,slow=4.8,SNR=8.6							
WRA	**Warramunga Arr**	**136.77**	**214**	PKP		PKPdf	11 03 54.7	-0.8
	0.1nm,0.5s,baz=159,slow=1.6,SNR=3.4							
SONM	**Songino Array**	**148.77**	**6**	PKPbc		PKPbc	11 04 19.8	-0.1
	0.4nm,0.5s,baz=351,slow=2.4,SNR=5.0							

2009 MAR

IDC 13 11:06:07.1±1.9, 1°76N×127°55E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=93.7km s-min=26.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**19.83**	**185**	P		P	11 10 40.2	+0.6
	0.1nm,0.3s,baz=356,slow=15,SNR=2.6							
WRA	**Warramunga Arr**	**22.58**	**163**	P		P	11 11 09.7	+0.3
	0.9nm,0.3s,baz=342,slow=10,SNR=30							
ASAR	**Alice Springs**	**26.02**	**167**	P		P	11 11 41.6	-0.6
	0.4nm,0.5s,baz=344,slow=7.9,SNR=11							
STKA	**Stephens Creek**	**36.01**	**159**	P		P	11 13 09.6	-0.6
	0.5nm,0.3s,baz=337,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**59.63**	**326**	P		P	11 16 13.5	+0.4
	0.2nm,0.6s,baz=122,slow=8.3,SNR=2.7							

IDC 13 11:19:57.8±3.8, 36°21N×70°16E, h198km±33km, mb3.3/11, mb1 3.5/16, mb1mx3.3/32, mbtmp3.4/16, Error ellipse: s-maj=25.6km s-min=15.9km az=22.0
ISCJB 13 11:19:59.4±0.4, 36°46N±0°03×70°14E±0°07, h213km, mb3.4/10, Error ellipse: s-maj=7.8km s-min=4.0km az=164.6

ISC 13 11:20:00.5±0.6, 36°48N±0°06×70°18E±0°08, h213km, n42, σ1s47/43, mb3.5/10, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEP	**Cherat**	**3.00**	**151**	⇑P		**Pn**	**11 20 53.4**	**+2.4**
CEP				S		**S**	**11 21 29.0**	**-1.2**
CHCP	**Chirah Chowk**	**3.78**	**137**	P		**Pn**	**11 21 02.7**	**+2.5**
THW	**Thamme Wali**	**3.89**	**160**	P		**Pn**	**11 21 03.2**	**+1.7**
THW				S		**S**	**11 21 49.0**	**-0.2**
SARP	**Sargodha**	**4.99**	**155**	P		**Pn**	**11 21 16.3**	**+1.2**
THN	**Thein Dam**	**6.10**	**130**	*e*P		**Pn**	**11 21 30.0**	**+0.8**
THN				*e*S		**S**	**11 22 38.5**	**-0.9**
DLH	**Dalhousie**	**6.18**	**128**	*e*P		**Pn**	**11 21 31.0**	**+0.5**
DLH				*e*S		**S**	**11 22 40.0**	**-1.8**
AML	**Almayashu**	**6.27**	**25**	P		**Pn**	**11 21 31.7**	**0.0**
	SNR=167							
KK31	**Karatay Array**	**6.62**	**2**	Pn		**Pn**	**11 21 34.3**	**-1.5**
	3.4nm,0.3s,baz=202,slow=15,SNR=48							
KK31				⇓Pg			11 21 45.2	
	2.8nm,0.3s,baz=152,slow=12,SNR=5.8							
KK31				⇓Lg		Lg	11 22 43.6	
	21nm,0.8s,baz=196,slow=24,SNR=3.8							
UCH	**Uchtor**	**6.65**	**29**	P		**Pn**	**11 21 37.5**	**+0.8**
	SNR=10							
EKS2	**Erkin-Say**	**6.77**	**23**	P		**Pn**	**11 21 38.3**	**+0.4**
	SNR=69							
KZA	**Kyzart**	**6.84**	**34**	P		**Pn**	**11 21 39.2**	**+0.2**
	SNR=55							
AAK	**Ala-Archa**	**6.99**	**27**	P		**Pn**	**11 21 41.2**	**+0.5**
	10.0nm,0.3s,baz=171,slow=3.6,SNR=100							
AAK				S		**S**	**11 22 59.4**	**-1.1**
	0.5nm,0.3s,baz=223,slow=7.6,SNR=4.3							
AAK	**Ala-Archa**	**6.99**	**27**	P		**Pn**	**11 21 41.0**	**+0.3**
	SNR=31							
KBK	**Karagaybulak**	**7.19**	**29**	P		**Pn**	**11 21 44.0**	**+0.7**
	SNR=14							
CHMS	**Chumysh**	**7.40**	**27**	P		**Pn**	**11 21 46.4**	**+0.5**
	SNR=11							
ULHL	**Ulahol**	**7.43**	**37**	P		**Pn**	**11 21 46.6**	**+0.2**
	SNR=40							
SDNR	**Sundarnagar**	**7.51**	**129**	*ex*		**S**	**11 23 17.0**	**+4.3**
USP	**Ospenovka**	**7.55**	**25**	P		**Pn**	**11 21 49.2**	**+1.4**
	SNR=11							
TKM2	**Tokmak 2**	**7.67**	**31**	⇓Pn		**Pn**	**11 21 48.5**	**-1.0**
	19nm,0.7s							
TKM2				⇑Pg			11 22 05.7	
	20nm,0.7s							
TKM2				⇓Lg		Lg	11 23 25.2	
	3.9nm,0.7s							
TKM2	**Tokmak 2**	**7.67**	**31**	P		**Pn**	**11 21 49.9**	**+0.3**
	SNR=27							
KKR	**Kurukshetra**	**8.55**	**138**	*e*S		**S**	**11 23 32.8**	**-4.6**
KHET	**Khetri**	**9.64**	**149**	*e*S		S	11 23 56.0	-7.1
KHET				AML		AML	11 24 01.6	
	comp=N,19nm,0.3s							
KHET				AML		AML	11 24 01.9	
	comp=E,18nm,0.3s							
AYAN	**Aya Nagar**	**9.89**	**142**	*e*S		S	11 24 02.6	-6.6
SONA	**Sohna**	**10.06**	**143**	*e*S		S	11 24 06.1	-7.3
SONA				AML		AML	11 24 10.0	
	comp=E,32nm,0.2s							
SONA				AML		AML	11 24 12.5	
	comp=N,18nm,0.3s							
AGRA	**Agra**	**11.33**	**142**	*e*S		S	11 24 34.8	-7.1
AGRA				AML		AML	11 24 59.6	
	comp=N,33nm,0.2s							
AGRA				AML		AML	11 25 01.2	
	comp=E,42nm,0.1s							
MKAR	**Makanchi Array**	**13.70**	**37**	P		**Pn**	**11 23 06.3**	**+0.1**
	comp=E,0.6nm,0.3s,baz=220,slow=14,SNR=25							
KURBB	**Kurchatov Arra**	**15.37**	**20**	P		**Pn**	**11 23 25.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=209,slow=11,SNR=7.1							
AKTO	**Aktyubinsk**	**16.48**	**332**	P		**Pn**	**11 23 39.6**	**-0.1**
	comp=E,0.9nm,0.3s,baz=142,slow=9.0,SNR=11							
WSAR	**Wadi Sarin**	**16.54**	**220**	P		**Pn**	**11 23 41.0**	**+0.2**
	comp=E,0.4nm,0.3s,baz=28,slow=8.6,SNR=7.2							
BVAR	**Borovoye Array**	**16.55**	**0**	P		**Pn**	**11 23 41.6**	**+1.1**
	comp=E,0.6nm,0.3s,baz=175,slow=8.5,SNR=11							
ZALV	**Zalesovo Beam**	**20.22**	**26**	P		**P**	**11 24 19.6**	**+0.6**
	comp=E,2.8nm,0.5s,baz=223,slow=12,SNR=12							
SONM	**Songino Array**	**28.89**	**55**	P		**P**	**11 25 41.0**	**+1.5**
	comp=E,0.2nm,0.5s,baz=267,slow=9.1,SNR=4.3							
FINES	**FINESS Array B**	**37.13**	**326**	P		**P**	**11 26 50.5**	**+0.2**
	comp=E,2.2nm,0.6s,baz=118,slow=11,SNR=8.0							
ARCES	**ARCESS Array B**	**40.91**	**338**	P		**P**	**11 27 22.5**	**+1.0**
	comp=E,2.3nm,0.6s,baz=116,slow=8.2,SNR=13							
HFS	**Hagfors**	**42.68**	**322**	P		**P**	**11 27 36.6**	**+0.7**
	comp=E,2.0nm,0.5s,baz=102,slow=11,SNR=9.9							
NB2	**NORSAR Subarra**	**44.00**	**323**	P		**P**	**11 27 46.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=100,slow=7.9							
NOA	**NORSAR Array B**	**44.00**	**323**	P		**P**	**11 27 46.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=97,slow=7.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**65.05**	**268**	P		**P**	**11 30 16.9**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=44,slow=6.1,SNR=8.8							
ILAR	**Eielson Array**	**74.98**	**16**	P		**P**	**11 31 16.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=304,slow=4.6,SNR=4.4							
YKA	**Yellowknife Ar**	**81.30**	**2**	P		**P**	**11 31 53.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=348,slow=5.4,SNR=13							
WRA	**Warramunga Arr**	**82.54**	**121**	P		**P**	**11 31 58.4**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=323,slow=4.9,SNR=6.1							
ASAR	**Alice Springs**	**84.79**	**124**	P		**P**	**11 32 08.8**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=305,slow=4.7,SNR=5.7							

MOS 13 11:41:45.3±2.1, 43°08N×147°78E, h58km, mb4.1/8, Error ellipse: s-maj=23.8km s-min=12.5km az=117.2
ISCJB 13 11:41:51.9±1.1, 43°58N±0°09×147°5E±0°1, h89km±7km, mb3.8/11, Error ellipse: s-maj=18.2km s-min=8.7km az=145.2
JMA 13 11:41:52.9±0.2, 43°49N×147°48E, h66km±5km, M4.0
IDC 13 11:41:59.3±4.5, 44°34N×147°07E, h97km±45km, mb3.5/11, mb1 3.6/12, mb1mx3.4/27, mbtmp3.5/12, Error ellipse: s-maj=161.0km s-min=23.0km az=169.0

ISC 13 11:41:50.9±1.9, 43°5N±0°1×147°7E±0°1, h67km±14km, n34, σ1s33/44, mb3.9/11, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.39**	**291**	*d*PN		**Pn**	**11 42 14.6**	**+0.3**
YUK				*i* S		**Sn**	**11 42 30.6**	**-1.3**
YUK				pmax		pmax		
	comp=E,134nm,0.2s							
YUK				pmax		pmax		
	comp=Z,1μm,0.2s							
YUK				pmax		pmax		
	comp=N,119nm,0.1s							
YUK				smax		smax		
	comp=N,1μm,0.2s							
YUK				smax		smax		
	comp=E,1μm,0.2s							
NEM2	**Nemuro 2**	**1.41**	**264**	P		**Pn**	**11 42 15.0**	**+0.6**
NEM2				*e*S		**Sn**	**11 42 31.7**	**-0.5**
KUR	**Kuril'sk**	**1.70**	**5**	PN		**Pn**	**11 42 18.0**	**-0.3**
KUR				pmax		pmax		
	comp=Z,140nm,0.9s							
JRA	**Rausu**	**1.88**	**283**	P		**Pn**	**11 42 21.8**	**+1.0**
JRA				*e*S		**Sn**	**11 42 43.8**	**+0.2**
JNK	**Nakash**	**2.14**	**272**	P		**Pn**	**11 42 24.9**	**+0.6**
JNK				*e*S		**Sn**	**11 42 48.6**	**-1.2**
JAK	**Akkeshi**	**2.23**	**257**	P		**Pn**	**11 42 26.1**	**+0.6**
JAK				*e*S		**Sn**	**11 42 51.1**	**-0.9**
JTKR	**Abashiri--Toko**	**2.75**	**280**	P		**Pn**	**11 42 34.0**	**+1.4**
JAR	**Ashorobuto**	**2.85**	**266**	P		**Pn**	**11 42 35.2**	**+1.3**
JAR				*e*S		**Sn**	**11 43 06.9**	**-0.1**
JOB	**Onbets**	**2.87**	**258**	P		**Pn**	**11 42 35.1**	**+0.9**
JOB				*e*S		**Sn**	**11 43 07.0**	**-0.5**
JMP	**Maruseppu**	**3.15**	**280**	P		**Pn**	**11 42 39.6**	**+1.5**
JCH	**Churui**	**3.28**	**255**	P		**Pn**	**11 42 40.6**	**+0.8**
JCH				*e*S		**Sn**	**11 43 16.9**	**-0.8**
JKK2	**Kamakawa 2**	**3.58**	**277**	P		**Pn**	**11 42 45.8**	**+1.9**
ASAJ	**Asahikawa**	**3.71**	**281**	P		**Pn**	**11 42 47.7**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=99,slow=10,SNR=19							
ASAJ				S		Sn	11 43 36.6	+8.5
	comp=Z,1.5nm,0.3s,baz=108,slow=20,SNR=2.8							
JFR	**Furan**	**3.71**	**266**	P		**Pn**	**11 42 47.7**	**+1.9**
JFR				*e*S		**Sn**	**11 43 29.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.82**	**252**	P		**Pn**	**11 42 47.9**	**+0.8**
JNBK				*e*S		**Sn**	**11 43 29.4**	**-1.4**
JSE	**Soyaes**	**3.91**	**293**	P		**Pn**	**11 42 49.9**	**+1.5**
JWK2	**Keihoku**	**4.49**	**295**	P		**Pn**	**11 42 59.3**	**+3.0**
JEW	**Eniwo**	**4.59**	**263**	P		**Pn**	**11 42 59.8**	**+2.0**
SONM	**Songino Array**	**28.89**	**293**	P		**P**	**11 47 42.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=88,slow=8.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**41.42**	**307**	P		**P**	**11 49 29.1**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=90,slow=5.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**41.42**	**307**	P		**P**	**11 49 29.1**	**-1.4**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**41.44**	**36**	P		**P**	**11 49 31.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=281,slow=9.9,SNR=4.5							
MKAR	**Makanchi Array**	**45.01**	**298**	P		**P**	**11 49 59.3**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=78,slow=8.5,SNR=21							
MKAR	**Makanchi Array**	**45.01**	**298**	P		**P**	**11 49 59.3**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**49.92**	**310**	P		**P**	**11 50 36.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=81,slow=10.0,SNR=4.0							
BVAR	**Borovoye Array**	**49.92**	**310**	P		**P**	**11 50 36.8**	**-0.7**
YKA	**Yellowknife Ar**	**55.77**	**34**	P		**P**	**11 51 23.3**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=301,slow=7.0,SNR=6.0							
AKTO	**Aktyubinsk**	**57.95**	**311**	P		**P**	**11 51 34.1**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=68,slow=11,SNR=4.2							
AKTO	**Aktyubinsk**	**57.95**	**311**	P		**P**	**11 51 34.1**	**-1.9**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**59.57**	**340**	P		**P**	**11 51 46.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=31,slow=6.3,SNR=6.7							
FINES	**FINESS Array B**	**65.23**	**333**	P		**P**	**11 52 23.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=55,slow=7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.20**	**173**	P	P	12 16 15.3	+1.0
	1.1nm,0.3s,baz=13,slow=12,SNR=68						
WRA	**Warramunga Arr**	**15.42**	**142**	P	P	12 17 09.7	-1.8
	0.8nm,0.3s,baz=313,slow=15,SNR=40						
ASAR	**Alice Springs**	**18.17**	**151**	P	P	12 17 40.8	-0.1
	0.2nm,0.3s,baz=319,slow=7.8,SNR=8.3						
STKA	**Stephens Creek**	**28.77**	**148**	P	P	12 19 17.7	+0.3
	1.4nm,0.9s,baz=333,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**66.03**	**330**	P	P	12 23 59.5	0.0
	0.5nm,0.4s,baz=130,slow=7.1,SNR=8.0						

IDC 13 12:14:30.2±34.0, 16°03S×177°58W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=652.0km s-min=142.1km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.24**	**239**	P	P	12 22 09.0	+0.1
	0.9nm,0.4s,baz=95,slow=12,SNR=11						
WRA	**Warramunga Arr**	**45.78**	**258**	P	P	12 22 53.8	-0.2
	0.2nm,0.2s,baz=84,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**46.09**	**252**	P	P	12 22 55.9	-0.5
	2.6nm,0.5s,baz=88,slow=7.9,SNR=43						
FITZ	**Fitzroy Crossi**	**54.14**	**259**	P	P	12 23 57.7	+0.1
	1.1nm,0.6s,baz=90,slow=9.1,SNR=5.1						

NIED ***13*** *12:21:00, 35°20N×139°80E, h77km, Mw3.9 Best double couple: M0 8.48000×10^14 NP1: φs218.00000°, δ68.00000°, λ107.00000°. NP2: φs0.00000°, δ28.00000°, λ55.00000°.*
BJI ***13*** *12:21:49.9, 35°21N×140°21E, h93km, mB4.8/12, mb4.6/20*
ISCJB ***13*** *12:21:52.9±0.3, 35°15N±0°03×139°85E±0°04, h95km±2km, mb4.1/23, Error ellipse: s-maj=6.3km s-min=4.5km az=135.8*
JMA ***13*** *12:21:53.6±0.2, 35°16N×139°81E, h88km±2km, M3.9 Broadband fault plane solution: P waves. NP1: φs222.00000°, δ73.00000°, λ111.00000°. NP2: φs350.00000°, δ27.00000°, λ41.00000°. Principal axes: T Plg57.0000°, Azm160.0000°; N Plg20.0000°, Azm36.0000°; P Plg25.0000°, Azm296.0000°;*
JMA Felt II J1.
NEIC ***13*** *12:21:53.6±1.6, 35°16N×139°90E, h93km±13km, mb4.6/3, MW3.9(NIED) Error ellipse: s-maj=18.8km s-min=15.6km az=192.0*
NEIC Felt [III] at Yokosuka. Also felt at Tachikawa, Tokyo, Yokohama and Zushi.
IDC ***13*** *12:21:55.5±1.1, 35°07N×139°81E, h101km±10km, mb3.5/14, mb1 3.7/17, mb1mx3.6/29, mbtmp3.5/17, MS3.4/3, Ms1 3.5/3, ms1mx2.7/46, Error ellipse: s-maj=19.1km s-min=8.6km az=72.0*

ISC 13 12:21:54.3±0.5, 35°20N±0°05×139°84E±0°04, h94km±3km, h93km:pP-P, n55, σ1s50/92, mb4.1/23, 9C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.14**	**280**	↑P	**Pn**	**12 22 06.5**	**-1.1**
JYO				S	**Sn**	**12 22 16.7**	**-0.7**
TATJ	**Tateyama 2**	**0.17**	**165**	↑P	**Pn**	**12 22 06.4**	**-1.3**
TATJ				eS	**Sn**	**12 22 16.1**	**-1.5**
JCN	**Nagara**	**0.37**	**54**	↑P	**Pn**	**12 22 08.1**	**-0.5**
JCN				S	**Sn**	**12 22 19.2**	**0.0**
JIM2	**Oshima 3**	**0.58**	**215**	↑P	**Pn**	**12 22 08.2**	**-2.0**
JIM2				S	**Sn**	**12 22 18.5**	**-3.5**
JOD2	**Odawara 2**	**0.61**	**276**	↑P	**Pn**	**12 22 08.8**	**-1.6**
JOD2				S	**Sn**	**12 22 19.7**	**-2.7**
BSO3	**Boso 3**	**0.68**	**125**	↓P	**Pn**	**12 22 09.7**	**-1.0**
BSO3				S	**Sn**	**12 22 22.5**	**-0.4**
JIZS	**Izushimoda**	**0.92**	**239**	↑P	**Pn**	**12 22 12.2**	**-1.2**
JIZS				S	**Sn**	**12 22 26.3**	**-1.4**
BSO1	**Boso 1**	**1.08**	**120**	P	**Pn**	**12 22 13.6**	**-1.1**
BSO1				S	**Sn**	**12 22 29.6**	**-0.4**
JYN	**Shimob**	**1.10**	**286**	↑P	**Pn**	**12 22 14.8**	**-0.7**
JYN				S	**Sn**	**12 22 30.5**	**-0.8**
JRY	**Ryogami san**	**1.11**	**317**	↑P	**Pn**	**12 22 15.4**	**-0.2**
JRY				S	**Sn**	**12 22 31.0**	**-0.7**
JAG	**Ashikaga**	**1.26**	**346**	↑P	**Pn**	**12 22 16.8**	**-0.6**
SHZ3	**Shizuoka 3**	**1.34**	**265**	P	**Pn**	**12 22 18.5**	**+0.2**
MJAR	**Matsushiro Arr**	**1.88**	**316**	P	**Pn**	**12 22 25.5**	**+0.4**
	67nm,0.3s,baz=153,slow=12,SNR=485						
MJAR				S	**Sn**	**12 22 47.3**	**-1.3**
	200nm,0.3s,baz=156,slow=20,SNR=22						
MAJO	**Matsushiro**	**1.88**	**316**	*e*Pn	**Pn**	**12 22 25.6**	**+0.4**
MAJO				*e*Sn	**Sn**	**12 22 48.8**	**+0.1**
MAT	**Matsushiro**	**1.88**	**316**	P	**Pn**	**12 22 25.6**	**+0.4**
MAT				S	**Sn**	**12 22 48.8**	**+0.2**
JHJ	**Hachijo jima 2**	**2.08**	**181**	P	**Pn**	**12 22 27.6**	**-0.1**
	411nm,0.3s,baz=133,slow=19,SNR=118						
JHJ				S	**Sn**	**12 22 52.2**	**-0.9**
	235nm,0.3s,baz=300,slow=23,SNR=13						
ERM	**Erimo**	**7.29**	**20**	*e*Pn	**Pn**	**12 23 37.4**	**-0.6**
JNU	**Nakatsue**	**7.71**	**257**	P	**Pn**	**12 23 45.1**	**+1.3**
	0.8nm,0.3s,baz=49,slow=11,SNR=5.3						
CBIJ	**Chichi jima**	**8.32**	**165**	P	Pn	12 23 48.2	-4.0
	8.6nm,0.3s,baz=323,slow=20,SNR=10						
CBIJ				S	Sn	12 25 15.7	-8.9
	8.4nm,0.3s,baz=22,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**9.16**	**13**	P	**Pn**	**12 24 02.3**	**-1.2**
	1.0nm,0.3s,baz=130,slow=33,SNR=15						
ASAJ				S	**Sn**	**12 25 39.7**	**-4.9**
	0.1nm,0.3s,baz=150,slow=20,SNR=2.6						
ASAJ				LR	LR	12 28 53.7	
	comp=Z,46nm,18.9s,baz=298,slow=45						
ASAJ	**Asahikawa**	**9.16**	**13**	*e*Pn	**Pn**	**12 24 03.5**	**0.0**
KSRS	**Korea Array**	**9.87**	**287**	P	Pn	12 24 16.9	+3.7
	0.3nm,0.3s,baz=104,slow=15,SNR=5.8						
USRK	**Ussuriysk Arra**	**10.82**	**329**	P	Pn	12 24 30.6	+4.5
	0.3nm,0.3s,baz=145,slow=14,SNR=7.4						
MDJ	**Mudanjiang**	**12.25**	**323**	P	**P**	**12 24 51.1**	**-2.7**
MDJ				pmax	pmax		
	comp=Z,21nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.0s						
MDJ	**Mudanjiang**	**12.25**	**323**	*e*Pn	**Pn**	**12 24 44.3**	**-1.0**
CN2	**Changchun**	**14.03**	**312**	*e*P	**Pn**	**12 25 08.1**	**-0.6**
NJ2	**Nanjing**	**17.75**	**266**	*e*P	**P**	**12 25 55.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**22.92**	**293**	*e*P	**P**	**12 26 49.3**	**-1.2**
HHC				pP	**pP**	**12 27 10.1**	**+0.9**
HHC				sP	**sP**	**12 27 21.8**	**+0.9**
HHC				S	**S**	**12 30 49.3**	**-3.9**
HHC				sS	**sS**	**12 31 24.4**	**-2.8**
HHC				SS	**SnSn**	**12 31 40.9**	**+6.2**
HHC				PcS	**PcS**	**12 34 15.0**	**-1.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,4.3s						
HHC				LR	LR		
	comp=N,320nm,11.9s						
HHC				LR	LR		
	comp=E,180nm,9.9s						
HHC				LR	LR		
	comp=Z,280nm,10.9s						
SONM	**Songino Array**	**27.81**	**307**	P	**P**	**12 27 35.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=110,slow=8.6,SNR=4.4						
LZH	**Lanzhou**	**29.16**	**282**	*e*P	**P**	**12 27 48.0**	**+1.1**
LZH				pP	**pP**	**12 28 09.5**	**+1.5**
LZH				sP	**sP**	**12 28 21.3**	**+2.4**
LZH				PP	**PnPn**	**12 28 46.5**	**+2.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,52nm,4.6s						
LZH				LR	LR		
	comp=N,280nm,13.0s						
LZH				LR	LR		
	comp=E,300nm,13.3s						
LZH				LR	LR		
	comp=Z,400nm,17.4s						
GYA	**Guiyang**	**29.68**	**262**	P	**P**	**12 27 52.8**	**+1.3**
GYA				pP	**pP**	**12 28 13.0**	**+0.4**
GYA				sP	**sP**	**12 28 24.5**	**+1.0**
GYA				PP	**PnPn**	**12 28 52.4**	**+1.5**
GYA				PcP	**PcP**	**12 30 54.3**	**+0.7**
GYA				S	**S**	**12 32 40.0**	**-0.6**
GYA				sS	**sS**	**12 33 16.4**	**-0.9**
GYA				ScP	**ScP**	**12 34 25.6**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.6s						
CD2	**Chengdu**	**30.43**	**272**	P	**P**	**12 27 58.8**	**+0.8**
CD2				pP	**pP**	**12 28 19.9**	**+0.7**
CD2				sP	**sP**	**12 28 31.3**	**+1.2**
CD2				PP	**PnPn**	**12 29 01.8**	**+1.3**
CD2				S	**S**	**12 32 51.6**	**-0.6**
CD2				sS	**sS**	**12 33 28.5**	**-0.4**
CD2				SS	**SnSn**	**12 34 38.1**	**+0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,250nm,3.5s						
CD2				LR	LR		
	comp=N,760nm,4.8s						
CD2				LR	LR		
	comp=Z,340nm,4.9s						
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**12 29 39.1**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=97,slow=7.6,SNR=7.7						
MK31	**Makanchi Array**	**44.04**	**303**	*e*P	**P**	**12 29 53.4**	**+0.7**
MK31				*e*pP	**pP**	**12 30 14.5**	**-0.3**
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**12 29 53.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=89,slow=8.6,SNR=19						
MKAR				LR	LR	12 48 35.6	
	comp=Z,43nm,18.2s,baz=167,slow=36						
MKAR	**Makanchi Array**	**44.04**	**303**	*e*P	**P**	**12 29 53.1**	**+0.4**
KURK	**Kurchatov**	**46.08**	**309**	*e*P	**P**	**12 30 08.8**	**+0.1**
	comp=Z,18nm,1.6s						
TKM2	**Tokmak 2**	**49.40**	**299**	*e*P	**P**	**12 30 33.8**	**-0.9**
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**50.88**	**313**	P	**P**	**12 30 45.8**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=78,slow=9.3,SNR=7.3						
ILAR	**Eielson Array**	**51.72**	**32**	P	**P**	**12 30 52.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=267,slow=6.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**54.69**	**197**	P	**P**	**12 31 12.5**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=20,slow=9.0,SNR=5.7						
WRAB	**Tennant Creek**	**55.08**	**186**	*e*P	**P**	**12 31 15.6**	**-1.0**
	comp=Z,4.2nm,0.5s						
WRA	**Warramunga Arr**	**55.09**	**186**	P	**P**	**12 31 15.8**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=2.6,slow=7.7,SNR=29						
ABKAR	**Akbulak array**	**58.15**	**311**	*e*P	**P**	**12 31 37.6**	**-0.5**
ASAR	**Alice Springs**	**58.81**	**186**	P	**P**	**12 31 42.5**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=2.4,slow=6.8,SNR=24						
ARCES	**ARCESS Array B**	**65.26**	**339**	P	**P**	**12 32 26.3**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=36,slow=6.2,SNR=5.5						
YKA	**Yellowknife Ar**	**66.03**	**29**	P	**P**	**12 32 31.6**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=300,slow=6.6,SNR=6.0						
YKA				pP	**pP**	**12 32 55.0**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=308,slow=7.1,SNR=3.9						
STKA	**Stephens Creek**	**66.74**	**178**	P	**P**	**12 32 34.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=52,slow=6.6,SNR=6.7						
JOF	**Joensuu**	**66.98**	**332**	*e*p	**P**	**12 32 36.6**	**0.0**
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**69.35**	**333**	*e*p	**P**	**12 32 51.8**	**+0.4**
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**12 32 55.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=57,slow=7.3,SNR=14						
AKASG	**Malin Array Be**	**74.96**	**322**	P	**P**	**12 33 25.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=45,slow=6.3,SNR=3.3						
NVAR	**Mina Array Bea**	**77.12**	**52**	P	**P**	**12 33 40.0**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=295,slow=5.6,SNR=8.3						
NVAR				pP	**pP**	**12 34 03.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.0,SNR=4.1						
NVAR				LR	LR	13 02 05.8	
	comp=Z,108nm,21.5s,baz=280,slow=31						
TXAR	**Lajitas Array**	**92.26**	**51**	P	**P**	**12 34 54.9**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=302,slow=4.1,SNR=4.6						
QSPA	**South Pole Qui**	**124.94**	**180**	*e*PKPdf	**PKPdf**	**12 40 41.2**	**-1.3**

NNC ***13*** *12:30:00.8±1.6, 37°22N×70°62E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=14.2km s-min=12.5km az=81.0*

ISC 13 12:30:03.5±3.5, 36°9N±0°2×71°0E±0°1, h188km, n4, σ1s54/6, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.71**	**55**	Pn	Pn	12 31 04.4	-10
KSH				Sn	Sn	12 31 53.3	-16
KSH				smax	smax		
	comp=N,66nm,0.5s						
KSH				smax	smax		
	comp=E,31nm,0.3s						
KK31	**Karatay Array**	**6.16**	**357**	Pn	**Pn**	**12 31 32.1**	**-0.5**
	comp=E,5.4nm,0.4s,baz=175,slow=12,SNR=64						
KK31				Sn	**Sn**	**12 32 43.8**	**+0.7**
	comp=E,2.8nm,0.4s,baz=183,slow=21,SNR=8.9						
TKM2	**Tokmak 2**	**6.95**	**29**	↓Pn	**Pn**	**12 31 41.8**	**-1.3**
	comp=E,0.8nm,0.4s						
TKM2				↑Sn	**Sn**	**12 33 03.3**	**+1.3**
	comp=E,1.1nm,0.8s						
AB31	**Akbulak array**	**14.68**	**330**	Pn	**P**	**12 33 24.6**	**+1.1**
	comp=E,0.1nm,0.3s,baz=146,slow=12,SNR=16						
AB31				↓Sn	**Sn**	**12 36 04.6**	**-1.3**
	comp=E,0.5nm,0.7s,baz=152,slow=23,SNR=3.6						

ISCJB ***13*** *12:34:55.8±0.5, 6°84N±0°06×72°97W±0°05, h168km±5km, mb3.7/8, Error ellipse: s-maj=11.4km s-min=6.4km az=138.5*
FUNV ***13*** *12:34:55.2, 6°68N×73°22W, h163km, MW4.1*
IDC ***13*** *12:34:56.2±1.5, 6°68N×72°92W, h165km±14km, mb3.4/8, mb1 3.8/10, mb1mx3.5/25, mbtmp3.6/10, Error ellipse: s-maj=22.8km s-min=17.2km az=88.0*

ISC 13 12:34:56.6±0.8, 6°83N±0°07×72°98W±0°06, h163km±7km, n31, σ1s03/40, mb3.7/8, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**32**	↓*i*P	**Pn**	**12 35 25.5**	**+0.7**
CAPV				*e*S	**Sn**	**12 35 46.6**	**+0.2**
ROSC	**El Rosal**	**2.38**	**215**	P	**Pn**	**12 35 37.2**	**-0.1**
	223nm,0.3s,baz=97,slow=15,SNR=199						
ROSC				S	**Sn**	**12 36 07.0**	**-1.8**
	314nm,0.3s,baz=61,slow=19,SNR=11						
SOCV	**Socops**	**2.55**	**55**	↓*e*P	**Pn**	**12 35 40.2**	**+1.2**
SOCV				*e*S	**Sn**	**12 36 12.7**	**+0.8**
ELOV	**Elorza**	**3.47**	**87**	↓*i*P	**Pn**	**12 35 51.7**	**+1.2**
VIRV	**Villa del Rosa**	**3.69**	**9**	↑*e*P	**Pn**	**12 35 52.3**	**-1.0**
VIRV				*e*S	**Sn**	**12 36 36.1**	**-1.5**
QARV	**Quebrada Arrib**	**4.14**	**36**	*e*P	**Pn**	**12 35 60.0**	**+0.8**
QARV				*e*S	**Sn**	**12 36 47.5**	**-0.4**
CURV	**Curarigua**	**4.35**	**43**	↑*i*P	**Pn**	**12 36 02.1**	**+0.2**
DABV	**Dabajuro**	**4.68**	**29**	↑*i*P	**Pn**	**12 36 06.4**	**+0.3**
TEPV	**Terepaima**	**4.87**	**50**	↑*e*P	**Pn**	**12 36 09.2**	**+0.6**
TEPV				*e*S	**Sn**	**12 37 04.0**	**-0.9**
BAUV	**El Baul**	**5.32**	**66**	*e*P	**Pn**	**12 36 13.9**	**-0.6**
BAUV				*e*S	**Sn**	**12 37 12.9**	**-2.5**
MAPV	**Macapo**	**5.38**	**56**	↑*i*P	**Pn**	**12 36 15.4**	**+0.1**
MAPV				*e*S	**Sn**	**12 37 15.8**	**-1.0**
IMOV	**Isla Los Monje**	**5.86**	**20**	*e*P	**Pn**	**12 36 20.7**	**-1.0**
MONV	**Montecano**	**5.89**	**30**	↑*e*P	**Pn**	**12 36 21.3**	**-0.8**
TURV	**Turiamo**	**6.22**	**54**	*e*P	**Pn**	**12 36 27.2**	**+0.8**
BIRV	**Birongo**	**7.56**	**61**	*e*P	**Pn**	**12 36 44.0**	**-0.1**
CUPV	**Cepira**	**7.80**	**65**	*e*P	**Pn**	**12 36 47.0**	**-0.5**
JTS	**JuntasAbangare**	**12.33**	**287**	P	**P**	**12 37 53.8**	**+1.3**
	2.9nm,0.3s,baz=73,slow=11,SNR=13						
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**12 37 55.5**	**-0.4**
	3.7nm,0.3s,baz=270,slow=19,SNR=3.2						
TEIG	**Tepich**	**19.94**	**313**	P	**P**	**12 39 16.4**	**+0.3**
	18nm,0.8s,baz=117,slow=9.0,SNR=7.8						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**12 41 47.3**	**+0.3**
	1.5nm,0.6s,baz=125,slow=9.0,SNR=14						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**12 43 21.4**	**+1.5**
	8.5nm,0.6s,baz=181,slow=6.0,SNR=17						
PDAR	**Pinedale Array**	**48.16**	**324**	P	**P**	**12 43 21.1**	**+0.4**
	0.6nm,0.6s,baz=131,slow=9.3,SNR=7.3						
NVAR	**Mina Array Bea**	**51.58**	**315**	P	**P**	**12 43 47.4**	**+0.9**
	0.9nm,0.8s,baz=136,slow=6.9,SNR=5.7						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**12 45 08.0**	**+0.2**
	0.7nm,0.4s,baz=133,slow=6.6,SNR=29						
SUMG	**Summit**	**68.95**	**11**	*i* P	**P**	**12 45 45.0**	**+0.8**
	5.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.60**	**78**	P	**P**	**12 46 11.5**	**-1.2**
	0.2nm,0.6s,baz=273,slow=5.9,SNR=3.9						
ILAR	**Eielson Array**	**77.02**	**335**	P	**P**	**12 46 31.0**	**-0.2**
	0.2nm,0.6s,baz=94,slow=4.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**117.70**	**20**	PKP	**PKPdf**	**12 53 21.8**	**-1.7**
	0.3nm,0.3s,baz=357,slow=1.9,SNR=4.9						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**12 53 32.0**	**-0.4**
	0.1nm,0.4s,baz=334,slow=2.2,SNR=2.6						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	**PKPbc**	**12 54 25.8**	**-1.1**
	0.6nm,0.5s,baz=118,slow=3.3,SNR=11						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	**PKPbc**	**12 54 29.3**	**-0.6**
	0.5nm,0.3s,baz=106,slow=2.9,SNR=28						
WRA				pPKPbc	**pPKPbc**	**12 55 10.9**	**-1.8**
	0.4nm,0.6s,baz=108,slow=2.4,SNR=3.2						

KRSC 13 12:35:39.2±2.1, 48°77N×156°32E, h10km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**3.52**	**4**	P	Pn	12 36 34.4	+0.4
ASAK	**Asacha**	**3.75**	**15**	P	Pn	12 36 38.5	+1.2
MTVR	**Mutnovka**	**3.90**	**17**	P	Pn	12 36 40.6	+1.2
MTVR				eS	Sn	12 37 25.0	-0.3
RUS	**Russkaya**	**3.92**	**20**	*e*P	Pn	12 36 39.8	+0.4
RUS				eS	Sn	12 37 24.2	-1.3
PET	**Petropavlovsk**	**4.51**	**18**	S	Sn	12 37 37.4	-2.5
UGLR	**Uglovaya**	**4.72**	**19**	P	Pn	12 36 52.7	+2.2
SMAR	**Somma**	**4.76**	**18**	*e*P	Pn	12 36 53.3	+2.0
SDLR	**Sedlovina**	**4.79**	**19**	P	Pn	12 36 53.2	+1.6
SPN	**Mys Shipunski**	**4.92**	**27**	P	Pn	12 36 55.2	+2.0
SPN				S	Sn	12 37 50.7	+0.5
GNL	**Ganaly**	**5.04**	**11**	P	Pn	12 36 57.2	+2.3
MKZ	**Mys Kozlova**	**6.70**	**28**	*e*P	Pn	12 37 18.1	+0.6
KBTR	**Krutoberegovo**	**8.44**	**26**	P	Pn	12 37 42.6	+1.2

IDC 13 12:45:24.8±7.2, 6°57S×146°67E, h96km±71km, mb3.0/2, mb1 3.1/4, mb1mx3.0/18, mbtmp2.9/4, ML2.6/2, Error ellipse: s-maj=74.4km s-min=34.8km az=137.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.86**	**170**	P	Pn	12 46 09.9	+1.2
	1.2nm,0.3s,baz=309,slow=14,SNR=5.8						
PMG				S	Sn	12 46 42.8	+0.4
	6.0nm,0.3s,baz=167,slow=22,SNR=33						
WRA	**Warramunga Arr**	**17.89**	**221**	P	P	12 49 26.5	-0.5
	0.1nm,0.3s,baz=41,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**20.97**	**214**	P	P	12 50 00.4	0.0
	0.3nm,0.5s,baz=52,slow=9.0,SNR=7.2						
ILAR	**Eielson Array**	**86.13**	**23**	P	P	12 57 54.7	-0.2
	0.4nm,0.6s,baz=253,slow=5.0,SNR=6.5						
TORD	**Torodi Ar. Bea**	**144.91**	**283**	PKP	PKPbc	13 04 51.4	+0.2
	0.2nm,0.7s,baz=67,slow=3.4,SNR=2.3						

MEX 13 12:49:41.6±0.7, 18°93N×103°17W, h49km±16km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.66**	**195**	*e*P	Pn	12 49 53.0	-1.8
MMIG				*i* S	Sn	12 50 02.4	-1.8
EZ5V		**0.69**	**323**	*e*P	Pn	12 49 53.5	-2.0
EZ5V				*i* S	Sn	12 50 03.8	-1.8
R15V		**0.81**	**288**	*e*P	Pn	12 49 55.7	-1.2
R15V				*i* S	Sn	12 50 05.5	-2.4
ARIG	**Puente Sto Nin**	**2.75**	**103**	*i* P	Pn	12 50 22.4	-0.8
ARIG				*i* S	Sn	12 50 53.2	-2.1

IDC ***13*** *13:09:51.9±0.6, 3°25N×126°52E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/22, mbtmp4.3/14, MS3.6/6, Ms1 3.6/6, ms1mx3.2/37, Error ellipse: s-maj=35.3km s-min=13.0km az=73.0*
ISCJB ***13*** *13:09:56.4±0.4, 3°42N±0°04×126°94E±0°06, h48km, mb4.4/19, MS3.7/5, Error ellipse: s-maj=8.5km s-min=5.1km az=9.8*
NEIC ***13*** *13:09:56.5±0.3, 3°15N×126°39E, h35km, mb4.7/9, Error ellipse: s-maj=13.8km s-min=5.6km az=80.0*
DJA ***13*** *13:10:00.5±0.9, 3°N±7°×12°7E±°, h10km, M5.0/8, mB5.2/3, mb4.9/8, MLv5.0/6, Mw(mB)4.6/3*

ISC 13 13:09:58.2±0.5, 3°36N±0°04×126°90E±0°07, h48km, n65, σ1s42/53, mb4.5/19, MS3.8/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.62**	**170**	P	**Pn**	**13 10 38.4**	**+0.4**
MNI	**Manado**	**2.80**	**227**	P	**Pn**	**13 10 41.5**	**+1.0**
MNI				S	**Sn**	**13 11 14.0**	**+0.9**
MATI	**Mati**	**3.61**	**350**	*e*P	**Sn**	**13 11 38.8**	**+5.6**
DAV	**Davao City (W)**	**3.91**	**340**	LR	LR	13 12 37.7	
	comp=Z,285nm,20.9s,baz=126,slow=42						
KMSI	**Cibinong**	**4.02**	**226**	P	Pn	13 11 00.2	+3.0
LBMI	**Labuha**	**4.02**	**171**	P	**Pn**	**13 11 00.0**	**+2.7**
CTBH	**Cotabato--PC H**	**4.65**	**326**	*e*P	**Pn**	**13 11 08.0**	**+2.1**
BUKP	**Musuan**	**4.84**	**338**	*e*P	Pn	13 11 16.0	+7.4
MRSI	**Marisa**	**5.72**	**240**	P	**Pn**	**13 11 20.4**	**-0.2**
	232nm,0.7s,2μm0.8nm						
LUWI	**Luwuk**	**6.01**	**223**	P	Pn	13 11 27.8	+3.2
	254nm,1.0s,2μm1.1nm						
APSI	**Ampana**	**6.75**	**231**	P	Pn	13 11 37.3	+2.6
	832nm,0.5s,6.9nm						
KDI	**Kendari**	**8.44**	**210**	P	**Pn**	**13 11 56.5**	**-1.4**
MYLDM	**

MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**13 19 45.4**	**-0.3**
	3.4nm,0.6s,baz=119,slow=7.1,SNR=53						
MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**13 19 45.4**	**-0.3**
ZALV	**Zalesovo Beam**	**60.99**	**333**	P	**P**	**13 20 06.3**	**-0.2**
	1.8nm,0.5s,baz=125,slow=6.9,SNR=12						
ZALV				LR	LR	13 49 37.9	
	comp=Z,46nm,20.7s,baz=65,slow=39						
ZALV	**Zalesovo Beam**	**60.99**	**333**	P	**P**	**13 20 06.3**	**-0.2**
KURK	**Kurchatov**	**62.13**	**328**	*eP*	**P**	**13 20 13.7**	**-0.6**
	15nm,0.6s						
FX1	**Attu Island--F**	**62.32**	**30**	LR	LR	13 46 08.2	
	comp=Z,88nm,18.3s,baz=239,slow=35						
BRVK	**Borovoye**	**67.79**	**327**	*eP*	**P**	**13 20 49.9**	**-1.1**
	7.2nm,0.9s						
ABKAR	**Akbulak array**	**72.53**	**321**	*eP*	**P**	**13 21 19.1**	**-1.0**
ARU	**Arti**	**75.33**	**328**	*eP*	**P**	**13 21 35.6**	**-0.7**
	5.9nm,0.7s						
VNDA	**Vanda**	**83.05**	**173**	P	**P**	**13 22 18.7**	**+0.7**
	1.9nm,1.0s,baz=320,slow=6.5,SNR=5.5						
VNDA	**Vanda**	**83.05**	**173**	P	**P**	**13 22 18.7**	**+0.7**
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**13 22 31.1**	**+1.1**
	0.5nm,0.8s,baz=241,slow=5.4,SNR=4.7						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**13 22 31.1**	**+1.1**
BRTR	**Keskin Array B**	**90.38**	**310**	P	**P**	**13 22 54.5**	**-0.4**
	2.1nm,0.9s,baz=140,slow=4.8,SNR=6.0						
BRTR				LR	LR	14 10 27.6	
	comp=Z,32nm,18.5s,baz=281,slow=40						
BRTR	**Keskin Array B**	**90.38**	**310**	P	**P**	**13 22 54.5**	**-0.4**
ARCES	**ARCESS Array B**	**90.85**	**340**	P	**P**	**13 22 56.5**	**+0.3**
	2.5nm,0.9s,baz=82,slow=7.4,SNR=4.9						
ARCES	**ARCESS Array B**	**90.85**	**340**	P	**P**	**13 22 56.5**	**+0.3**
VYHS	**Vyhne**	**99.34**	**320**	PDIF	**Pdif**	**13 23 38.1**	**+2.7**

MAN 13 13:17:47.7±7.5N×123.3±1.6E, h3km, mb4.3, ML3.2, MS3.0, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.13**	**36**	*eP*	Pg	13 17 51.0	+1.5
IPIL	**Ipil**	**0.73**	**273**	↓*eP*	Pb	13 18 02.2	-0.2
IPIL				*i* S	Sb	13 18 12.6	-0.2
CTBH	**Cotabato--PC H**	**1.07**	**119**	↑*iP*	Pb	13 18 08.4	+0.3
CTBH				*i* S	Sn	13 18 24.7	+0.5
CGP	**Cagayan de Oro**	**1.54**	**63**	*eP*	Pn	13 18 15.1	-0.4
CGP				*i* S	Sb	13 18 36.3	+0.1
BUKP	**Musuan**	**1.74**	**86**	*eP*	Pg	13 18 21.1	+0.6
BUKP				*eS*	Sg	13 18 45.0	+1.8
TBP	**Tagbilaran**	**2.01**	**16**	↑*eP*	Pb	13 18 23.3	-1.0

WEL 13 13:31:10.8±0.1, 39.53S×177.24E, h29km±1km, ML3.6/28, 7C-8D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CKHZ	**Cape Kidnapper**	**0.18**	**222**	↓*P**	Pn	13 31 17.2	-0.3
CKHZ				S*	Sb	13 31 21.3	+0.5
KAHZ	**Kahuranaki**	**0.39**	**226**	P*	Pn	13 31 20.3	-0.1
KAHZ				S*	Sn	13 31 27.1	+0.1
MCHZ	**McNeill Hill**	**0.42**	**281**	↑P*	Pb	13 31 18.9	-1.1
MCHZ				S*	Sb	13 31 25.8	-0.5
NMHZ	**Naumai**	**0.54**	**322**	↓P*	Pb	13 31 20.5	-1.4
NMHZ				S*	Sb	13 31 28.4	-1.2
PXZ	**Pawanui**	**0.58**	**209**	↓P*	Pb	13 31 22.7	+0.2
PXZ				S*	Sn	13 31 32.9	+1.3
KNZ	**Kokohu**	**0.61**	**34**	↓P*	Pb	13 31 22.9	0.0
RAHZ	**Arahi**	**0.62**	**349**	↓P*	Pb	13 31 22.2	-0.9
MHGZ	**Mahia Peninsul**	**0.64**	**55**	P*	Pn	13 31 24.1	+0.2
BKZ	**Black Stump Fm**	**0.68**	**302**	↑P*	Pb	13 31 22.4	-1.8
PRGZ	**Paritu Road**	**0.78**	**40**	PN	Pn	13 31 25.5	-0.4
WPHZ	**Waipukurau**	**0.82**	**228**	PN	Pn	13 31 25.9	-0.4
PRHZ	**Porangahau**	**0.87**	**212**	PN	Pn	13 31 26.5	-0.7
PNHZ	**Pukenui**	**0.89**	**244**	PN	Pn	13 31 26.4	-0.9
BHHZ	**Black Hill Sta**	**0.91**	**272**	↑PN	Pn	13 31 26.4	-1.3
HATZ	**Hinemaiaia**	**1.09**	**305**	PN	Pn	13 31 29.3	-0.8
TSZ	**Takapari Road**	**1.12**	**241**	↓PN	Pn	13 31 29.3	-1.2
DVHZ	**Dannevirke**	**1.13**	**226**	↑PN	Pn	13 31 29.8	-0.8
MOVZ	**Moawhango**	**1.15**	**275**	↑PN	Pn	13 31 30.4	-0.6
ALRZ	**Allen Road**	**1.19**	**324**	PN	Pn	13 31 31.0	-0.5
RITZ	**Rihia Road**	**1.20**	**297**	PN	Pn	13 31 31.5	-0.1
MWZ	**Matawai**	**1.21**	**11**	↓PN	Pn	13 31 30.6	-1.2
PRRZ	**Plateau Road**	**1.22**	**327**	PN	Pn	13 31 30.8	-1.1
TUVZ	**Tukino**	**1.25**	**281**	PN	Pn	13 31 32.4	-0.1
URZ	**Urewera**	**1.27**	**356**	↓PN	Pn	13 31 31.5	-1.0
OTVZ	**Oturere**	**1.27**	**286**	PN	Pn	13 31 32.2	-0.6
WNVZ	**Wahianoa**	**1.28**	**278**	PN	Pn	13 31 32.6	-0.3
CNGZ	**Carnagh Statio**	**1.29**	**36**	PN	Pn	13 31 32.0	-0.7
KRVZ	**Karewarewa**	**1.31**	**289**	PN	Pn	13 31 32.5	-0.7
RRRZ	**Republican Roa**	**1.31**	**334**	PN	Pn	13 31 32.4	-0.8
RATZ	**Rangitukua**	**1.31**	**300**	PN	Pn	13 31 32.9	-0.3
WHTZ	**Whakaora**	**1.31**	**310**	PN	Pn	13 31 33.6	+0.3
NGZ	**Ngauruhoe**	**1.31**	**285**	PN	Pn	13 31 32.8	-0.6
KATZ	**Kakaramea**	**1.32**	**294**	PN	Pn	13 31 33.3	-0.1
DRZ	**Dome Shelter**	**1.32**	**280**	PN	Pn	13 31 33.4	-0.2
TRVZ	**Turoa**	**1.33**	**279**	PN	Pn	13 31 33.1	-0.5
FWVZ	**Far West T-bar**	**1.33**	**281**	PN	Pn	13 31 33.0	-0.7
WTVZ	**West Tongariro**	**1.34**	**287**	PN	Pn	13 31 33.2	-0.4
WPVZ	**Whakapapa**	**1.35**	**283**	PN	Pn	13 31 33.2	-0.6
HRRZ	**Handcock Road**	**1.35**	**326**	PN	Pn	13 31 32.9	-0.8
BFZ	**Birch Farm**	**1.38**	**213**	↑PN	Pn	13 31 32.8	-1.3
POWZ	**Post Office Ro**	**1.42**	**232**	PN	Pn	13 31 34.2	-0.5
WATZ	**Wairara**	**1.43**	**304**	PN	Pn	13 31 34.1	-0.6
TWVZ	**Taurewa**	**1.47**	**287**	PN	Pn	13 31 34.6	-0.8
EDRZ	**Edgecumbe**	**1.47**	**345**	PN	Pn	13 31 34.6	-0.8
PKVZ	**Pokaka**	**1.48**	**279**	PN	Pn	13 31 35.5	0.0
TIWZ	**Tintock**	**1.62**	**219**	PN	Pn	13 31 36.1	-1.3
PUZ	**Puketiti**	**1.66**	**29**	PN	Pn	13 31 36.3	-1.6
MRZ	**Mangatainoka R**	**1.70**	**228**	PN	Pn	13 31 36.8	-1.7
WAZ	**Wanganui**	**1.75**	**262**	PN	Pn	13 31 39.9	+0.7
TMWZ	**Te Maipa**	**1.89**	**213**	PN	Pn	13 31 39.1	-2.0
HOWZ	**Holdsworth Sta**	**1.90**	**223**	PN	Pn	13 31 39.4	-1.8
VRZ	**Vera Road**	**1.96**	**281**	PN	Pn	13 31 42.5	+0.5
OGWZ	**Otaki Gorge**	**2.04**	**230**	PN	Pn	13 31 41.7	-1.5
MTW	**Mount Morrison**	**2.10**	**210**	PN	Pn	13 31 41.5	-2.5
HIZ	**Hauiti**	**2.11**	**298**	↓PN	Pn	13 31 43.5	-0.6
MXZ	**Matakaoa Point**	**2.13**	**24**	PN	Pn	13 31 41.8	-2.6
KIW	**Kapiti Island**	**2.23**	**232**	PN	Pn	13 31 44.1	-1.6
TOZ	**Tahuroa Road**	**2.25**	**322**	PN	Pn	13 31 44.5	-1.5
CAW	**Cannon Point**	**2.29**	**226**	PN	Pn	13 31 44.5	-2.1
PAWZ	**Paruwai Farm**	**2.31**	**216**	PN	Pn	13 31 44.4	-2.5
PLWZ	**Palliser**	**2.54**	**216**	PN	Pn	13 31 47.0	-3.1
WEL	**Wellington**	**2.58**	**226**	PN	Pn	13 31 48.1	-2.4
TCW	**Tory Channel**	**2.82**	**232**	PN	Pn	13 31 51.5	-2.4
TUWZ	**Tuamarina**	**3.15**	**232**	PN	Pn	13 31 55.5	-2.9
NNZ	**Nelson**	**3.40**	**239**	PN	Pn	13 31 59.7	-2.0
QRZ	**Quartz Range**	**3.83**	**249**	PN	Pn	13 32 05.0	-2.7
THZ	**Tophouse**	**3.98**	**234**	PN	Pn	13 32 06.8	-3.1
DSZ	**Denniston Nort**	**4.69**	**240**	PN	Pn	13 32 16.6	-3.0
LTZ	**Lake Taylor**	**4.96**	**227**	PN	Pn	13 32 19.2	-4.2
ODZ	**Otahua Downs**	**7.37**	**219**	PN	Pn	13 32 52.4	-3.9

*CSEM **13** 13:38:34.9, 38.31N×21.91E, h12km±2km, MD2.5, After ATH*
ATH 13 13:38:34.9, 38.31N×21.91E, h12km±2km, MD2.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.10**	**255**	*eP*	Pg	13 38 37.5	-0.2
UPR				*eS*	Sg	13 38 40.3	+0.5
UPR	**University Cam**	**0.10**	**255**	*eP*	Pg	13 38 37.5	-0.2
UPR				*eS*	Sg	13 38 40.3	+0.5
EFP	**Efpalio**	**0.12**	**358**	*eP*	Pg	13 38 37.9	-0.1
EFP				*eS*	Sg	13 38 40.2	0.0
EFP	**Efpalio**	**0.12**	**358**	*eP*	Pg	13 38 37.9	-0.1
EFP				*eS*	Sg	13 38 40.2	0.0
GUR	**Goura**	**0.51**	**137**	*eP*	Pg	13 38 44.8	-0.2
GUR				*eS*	Sg	13 38 52.1	+0.3
GUR	**Goura**	**0.51**	**137**	*eP*	Pg	13 38 44.8	-0.2
GUR				*eS*	Sg	13 38 52.1	+0.3
EVR	**Evrytania**	**0.61**	**353**	*eP*	Pg	13 38 46.8	-0.2
EVR				*eS*	Sg	13 38 55.3	+0.1
EVR	**Evrytania**	**0.61**	**353**	*eP*	Pg	13 38 46.8	-0.2
EVR				*eS*	Sg	13 38 55.3	+0.1

MAN 13 13:40:31.7±7.65N×125.72E, h45km, mb4.2, ML3.0, MS2.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.60**	**201**	↑*eP*	Pn	13 40 45.1	+1.9
DMPH				*eS*	Sn	13 40 58.6	+6.6
BUKP	**Musuan**	**0.69**	**290**	*eP*	Pn	13 40 43.5	-1.0
BUKP				*eS*	Sn	13 40 57.3	+2.9
MATI	**Mati**	**0.88**	**143**	*eP*	Pn	13 40 47.4	+0.5
MATI				*eS*	Sn	13 41 01.4	+2.9
KCP	**Kidapawan**	**0.89**	**225**	↑*iP*	Pn	13 40 47.7	+0.5
KCP				*i* S	Sn	13 41 03.5	+4.4
CGP	**Cagayan de Oro**	**1.30**	**308**	↓*eP*	Pn	13 40 52.5	-0.1
CGP				*i* S	Sn	13 41 10.8	+1.9
BUTP	**Butuan**	**1.32**	**356**	*eP*	Pn	13 40 54.7	+1.7
CTBH	**Cotabato--PC H**	**1.52**	**254**	↓*iP*	Pn	13 40 57.2	+1.4
PAGZ	**Pagadian**	**2.33**	**275**	*eP*	Pn	13 41 08.9	+2.1

*DMN **13** 13:46:43.0±0.7, 26.58N×90.02E, h10km, Ml4.7/6, Error ellipse: s-maj=36.0km s-min=13.8km az=14.0*
*ISCJB **13** 13:46:44.3±1.0, 26.6N±0.3×89.8E±0.1, h111km±17km, Error ellipse: s-maj=47.1km s-min=9.4km az=20.2*
ISC 13 13:46:45.1±2.1, 26.6N±0.3×89.9E±0.1, h93km±38km, n15, σ0.9 59/19, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLGI	**Shiliguri**	**1.28**	**275**	*i* x	Pn	13 47 04.5	-3.8
SLGI				*i* x	Sn	13 47 18.0	-7.9
GTK	**Gangtok**	**1.32**	**304**	*ex*	Pn	13 47 03.5	-5.5
GTK				*ex*	Sn	13 47 20.0	-7.0
TAPN	**Taplejung**	**2.05**	**292**	*ePn*	**Pn**	**13 47 18.3**	**-0.1**
TAPN				*eSn*	**Sn**	**13 47 43.3**	**-0.4**
	961nm,0.3s						
SHL	**Shillong**	**2.10**	**119**	*eP*	**Pn**	**13 47 19.0**	**+0.1**
SHL				*eS*	Sn	13 47 54.0	+9.3
ODAN	**Odare**	**2.21**	**277**	*ePn*	**Pn**	**13 47 19.7**	**-0.8**
ODAN				*eSn*	**Sn**	**13 47 47.6**	**+0.1**
	2µm,0.3s						
RAMN	**Ramite**	**2.92**	**278**	*ePn*	**Pn**	**13 47 31.1**	**+1.2**
RAMN				*eSn*	**Sn**	**13 48 04.8**	**+0.4**
	668nm,0.4s						
JIRN	**Jiri**	**3.43**	**289**	*ePn*	**Pn**	**13 47 37.7**	**+0.9**
GUN	**Gumba**	**3.77**	**291**	*ePn*	**Pn**	**13 47 42.2**	**+0.8**
GUN				*eSn*	**Sn**	**13 48 24.4**	**-0.4**
	344nm,0.4s						
PKI	**Pulchoki**	**4.07**	**285**	*ePn*	**Pn**	**13 47 45.5**	**0.0**
PKI				*eSn*	**Sn**	**13 48 32.1**	**-0.2**
	338nm,0.7s						
KKN	**Kakani**	**4.24**	**287**	*ePn*	**Pn**	**13 47 48.0**	**+0.4**
DMN	**Daman**	**4.34**	**284**	*ePn*	**Pn**	**13 47 49.0**	**-0.1**
GKN	**Gorkha**	**4.84**	**288**	*ePn*	**Pn**	**13 47 56.4**	**+0.6**
GKN				*eSn*	**Sn**	**13 48 50.5**	**-0.2**
	102nm,0.3s						
DANN	**Dangsing**	**5.68**	**289**	*ePn*	**Pn**	**13 48 07.1**	**-0.2**
KOLN	**Koldanda**	**5.69**	**283**	*ePn*	**Pn**	**13 48 07.1**	**-0.2**
PYUN	**Piuthan**	**6.28**	**285**	*ePn*	**Pn**	**13 48 14.6**	**-0.8**

*NIED **13** 14:05:00, 26.40N×141.30E, h50km, Mw4.1 Best double couple: M0 1.70000×10^15 NP1:ϕs=44.00000°, δ=84.00000°, λ=-76.00000°. NP2:ϕs=157.00000°, δ=15.00000°, λ=-156.00000°.*
*ISCJB **13** 14:05:12.0±0.4, 26.40N±0.05×141.55E±0.06, h89km, mb3.7/13, Error ellipse: s-maj=8.3km s-min=6.2km az=22.3*
*IDC **13** 14:05:12.4±1.4, 26.39N×141.46E, h75km±12km, mb3.5/12, mb1 3.7/12, mb1mx3.5/26, mbtmp3.5/12, MS3.2/1, Ms1 3.2/1, ms1mx2.2/39, Error ellipse: s-maj=31.8km s-min=14.2km az=103.0*
*JMA **13** 14:05:13.4±0.2, 26.43N×141.33E, h31km, M4.5*
JMA Felt I J1.
*NEIC **13** 14:05:13.4, 26.43N×141.33E, h31km, MG4.5(JMA), After JMA.*
NEIC Recorded [1 JMA] in the Hahajima-retto.
ISC 13 14:05:13.6±0.6, 26.46N±0.07×141.54E±0.09, h89km, n32, σ1.8 38/34, mb3.9/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.60**	**74**	P	**Pn**	**14 05 28.0**	**-1.1**
JHHJ				S	**Sn**	**14 05 38.2**	**-2.4**
CBIJ	**Chichi jima**	**0.85**	**42**	P	**Pn**	**14 05 31.5**	**-0.2**
	226nm,0.3s,baz=139,slow=11,SNR=293						
CBIJ				S	**Sn**	**14 05 44.7**	**-0.4**
	672nm,0.3s,baz=287,slow=19,SNR=47						
CBIJ	**Chichi jima**	**0.85**	**42**	P	**Pn**	**14 05 31.4**	**-0.2**
BSO3	**Boso 3**	**8.36**	**354**	P	**Pn**	**14 07 13.1**	**+1.4**
JHU	**Hanno**	**9.55**	**349**	P	**Pn**	**14 07 28.7**	**+0.4**
JRY	**Ryogami san**	**9.79**	**347**	P	**Pn**	**14 07 33.4**	**+2.0**
JYT	**Yasato**	**9.80**	**354**	P	**Pn**	**14 07 33.0**	**+1.4**
JAG	**Ashikaga**	**10.09**	**350**	P	**Pn**	**14 07 35.4**	**-0.1**
JAG				*eS*	**Sn**	**14 09 22.4**	**-4.4**
JHO	**Hitachi**	**10.15**	**356**	P	**Pn**	**14 07 36.6**	**+0.2**
JHO				*eS*	Sn	14 09 21.9	-6.4
MAJO	**Matsushiro**	**10.44**	**345**	*ePn*	**Pn**	**14 07 40.8**	**+0.4**
JOW	**Kunigami**	**11.87**	**275**	LR	LR	14 11 53.2	
	comp=Z,122nm,21.0s,baz=311,slow=34						
GUMO	**Guam**	**13.19**	**166**	*ePn*	**Pn**	**14 08 17.5**	**+0.1**
ASAJ	**Asahikawa**	**17.63**	**3**	*ePn*	**Pn**	**14 09 17.0**	**+3.6**
TATO	**Taipei**	**18.13**	**270**	*ePn*	**P**	**14 09 18.9**	**+0.2**
NACB	**Ninganchiao**	**18.17**	**267**	*eP*	**Pn**	**14 09 20.8**	**+0.7**
YULB	**Yu-li**	**18.61**	**265**	*eP*	**Pn**	**14 09 25.4**	**+0.1**
SSLB	**Suanglung**	**18.83**	**266**	*eP*	**Pn**	**14 09 28.1**	**+0.2**
WRA	**Warramunga Arr**	**46.66**	**189**	P	**P**	**14 13 32.8**	**-0.6**
	1.5nm,0.6s,baz=12,slow=8.8,SNR=31						
FITZ	**Fitzroy Crossi**	**46.91**	**201**	P	**P**	**14 13 35.2**	**-0.1**
	1.8nm,0.9s,baz=17,slow=11,SNR=2.8						
AS31	**Alice Springs**	**50.38**	**189**	*eP*	**P**	**14 14 00.2**	**-1.7**
ASAR	**Alice Springs**	**50.38**	**189**	P	**P**	**14 14 00.8**	**-1.1**
	0.1nm,0.4s,baz=7.7,slow=6.2,SNR=7.7						
KURBB	**Kurchatov Arra**	**53.07**	**315**	P	**P**	**14 14 21.0**	**-0.6**
	0.2nm,0.4s,baz=89,slow=6.7,SNR=3.0						
STKA	**Stephens Creek**	**58.02**	**180**	P	**P**	**14 14 56.4**	**-0.7**
	1.0nm,0.8s,baz=352,slow=7.1,SNR=3.0						
ILAR	**Eielson Array**	**58.54**	**28**	P	**P**	**14 15 01.1**	**+0.7**
	1.0nm,0.8s,baz=259,slow=5.2,SNR=10						
YKA	**Yellowknife Ar**	**72.97**	**28**	P	**P**	**14 16 34.5**	**+1.3**
	0.4nm,0.4s,baz=292,slow=6.0,SNR=10						
JOF	**Joensuu**	**75.39**	**334**	*ep*	**P**	**14 16 46.5**	**-0.7**
KAF	**Kangasniemi**	**77.79**	**334**	*ep*	**P**	**14 17 00.6**	**-0.2**
	0.9nm,0.3s						
FINES	**FINESS Array B**	**78.25**	**334**	P	**P**	**14 17 04.5**	**+1.1**
	1.8nm,0.4s,baz=74,slow=5.4,SNR=27						
NVAR	**Mina Array Bea**	**81.36**	**51**	P	**P**	**14 17 21.8**	**+0.9**
	0.5nm,0.7s,baz=283,slow=4.5,SNR=3.1						
HFS	**Hagfors**	**83.77**	**337**	P	**P**	**14 17 32.8**	**+0.1**
	1.7nm,0.8s,baz=96,slow=4.5,SNR=5.7						
NOA	**NORSAR Array B**	**83.98**	**338**	P	**P**	**14 17 34.2**	**+0.4**
	0.5nm,0.6s,baz=45,slow=4.8,SNR=3.6						
PDAR	**Pinedale Array**	**85.07**	**44**	P	**P**	**14 17 40.9**	**+0.9**
	0.6nm,0.5s,baz=260,slow=3.6,SNR=6.6						

*CSEM **13** 14:10:43.8, 45.45N×26.48E, h153km, MD3.0/2, After BUC*
BUC 13 14:10:43.8±2.9, 45.45N×26.48E, h153km±26km, MD3.0/2, 9C-3D, Error ellipse: s-maj=36.4km s-min=12.3km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.38**	**277**	↑*iP*	Pn	14 11 05.5	+0.4
MLR				*i* S	Sn	14 11 19.8	-1.5
MLR	**Muntele Rosu**	**0.38**	**277**	↑*iP*	Pn	14 11 05.5	+0.4
MLR	**Muntele Rosu**	**0.38**	**277**	S	Sn	14 11 19.8	-1.5
MLR	**Muntele Rosu**	**0.38**	**277**	↑*iP*	Pn	14 11 05.5	+0.4
MLR				*i* S	Sn	14 11 19.8	-1.5
VRI	**Vrincioaia**	**0.45**	**22**	↓*iP*	Pn	14 11 05.4	+0.2
VRI				*i* S	Sn	14 11 20.0	-1.7
VRI	**Vrincioaia**	**0.45**	**22**	↓*iP*	Pn	14 11 05.4	+0.2
VRI	**Vrincioaia**	**0.45**	**22**	S	Sn	14 11 20.0	-1.7
VRI	**Vrincioaia**	**0.45**	**22**	↓*iP*	Pn	14 11 05.4	+0.2
VRI				*i* S	Sn	14 11 20.0	-1.7
VOIR		**1.01**	**270**	↑*iP*	Pn	14 11 09.1	+0.1
VOIR		**1.01**	**270**	↑*iP*	Pn	14 11 09.1	+0.1
VOIR		**1.01**	**270**	↑*iP*	Pn	14 11 09.1	+0.1
CFR	**Carcaliu**	**1.20**	**102**	*i* S	Sn	14 11 30.9	0.0
CFR	**Carcaliu**	**1.20**	**102**	S	Sn	14 11 30.9	0.0
CFR	**Carcaliu**	**1.20**	**102**	*i* S	Sn	14 11 30.9	0.0
TIRR	**Tirgusor**	**1.69**	**125**	↑*iP*	Pn	14 11 15.8	+0.2
TIRR				*i* S	Sn	14 11 40.5	+0.6
TIRR	**Tirgusor**	**1.69**	**125**	↑*iP*	Pn	14 11 15.8	+0.2
TIRR	**Tirgusor**	**1.69**	**125**	S	Sn	14 11 40.5	+0.6
TIRR	**Tirgusor**	**1.69**	**125**	↑*iP*	Pn	14 11 15.8	+0.2
TIRR				*i* S	Sn	14 11 40.5	+0.6

IDC 13 14:22:30.7±1.9, 13.37S×111.77W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.4/5, MS3.8/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=65.8km s-min=33.3km az=42.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.88**	**171**	LR	LR	14 29 26.1	
	comp=Z,296nm,20.0s,baz=239,slow=30						
LPAZ	**La Paz**	**42.23**	**100**	P	P	14 30 26.6	-0.2
	0.9nm,0.7s,baz=258,slow=8.0,SNR=3.0						
TXAR	**Lajitas Array**	**43.16**	**10**	LR	LR	14 45 17.8	
	comp=Z,66nm,20.1s,baz=10.0,slow=32						
PLCA	**Paso Flores**	**45.12**	**135**	LR	LR	14 44 41.3	
	comp=Z,159nm,20.2s,baz=321,slow=30						
RAR	**Rarotonga**	**46.35**	**253**	LR	LR	14 44 12.9	
	comp=Z,186nm,18.6s,baz=8.8,slow=28						
NVAR	**Mina Array Bea**	**51.88**	**353**	P	P	14 31 41.5	+0.1
	0.9nm,0.8s,baz=184,slow=9.9,SNR=3.7						
NVAR				LR	LR	14 47 59.1	
	comp=Z,112nm,21.7s,baz=269,slow=30						
CPUP	**Villa Florida**	**52.46**	**113**	LR	LR	14 49 23.0	
	comp=Z,71nm,20.1s,baz=64,slow=31						
YBH	**Yreka Blue Hor**	**55.74**	**350**	LR	LR	14 50 29.5	
	comp=Z,115nm,20.1s,baz=174,slow=30						
PDAR	**Pinedale Array**	**55.89**	**2**	P	P	14 32 10.6	0.0
	0.4nm,0.8s,baz=158,slow=7.6,SNR=2.8						
PDAR				LR	LR	14 51 43.9	
	comp=Z,63nm,20.3s,baz=66,slow=31						
AFI	**Afiamalu**	**58.18**	**262**	LR	LR	14 50 12.4	
	comp=Z,4.8nm,21.9s,baz=178,slow=29						
YKA	**Yellowknife Ar**	**75.65**	**359**	P	P	14 34 17.6	+0.3
	0.2nm,0.8s,baz=170,slow=4.8,SNR=3.4						
ILAR	**Eielson Array**	**82.32**	**346**	P	P	14 34 53.2	-0.7
	0.1nm,0.6s,baz=163,slow=4.5,SNR=3.4						
MKAR	**Makanchi Array**	**144.64**	**343**	PKP	PKPab	14 42 07.9	-0.2
	0.6nm,0.8s,baz=31,slow=3.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**150.06**	**284**	PKPbc	PKPbc	14 42 24.5	+0.2
	0.4nm,0.8s,baz=90,slow=0.9,SNR=3.6						

*ISCJB **13** 14:36:05.2±0.6, 63.16N±0.02×151.60W±0.06, h12km±4km, mb3.5/5, Error ellipse: s-maj=4.6km s-min=3.1km az=31.2*
*IDC **13** 14:36:05.9±1.0, 63.30N×151.64W, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.6/27, mbtmp3.5/8, ML3.2/3, Error ellipse: s-maj=19.7km s-min=11.3km az=139.0*
*NEIC **13** 14:36:06.0, 63.13N×151.54W, h11km, ML3.5(AEIC), After AEIC.*
ISC 13 14:36:04.8±1.4, 63.15N±0.03×151.58W±0.03, h2km±10km, n73, σ1.9 03/83, mb3.5/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.38**	**228**	P	**Pg**	**14 36 12.6**	**+0.6**
PPLA				S	**Sg**	**14 36 17.2**	**+0.3**
TRF	**Thorofare Moun**	**0.66**	**62**	*ePg*	**Pb**	**14 36 18.5**	**-0.6**
TRF				*eSg*	**Sb**	**14 36 28.2**	**-0.6**
CHUM	**Lake Minchumin**	**0.81**	**336**	P	**Pn**	**14 36 23.2**	**0.0**
CHUM				S	**Sn**	**14 36 34.5**	**-1.3**
HUR	**Hurricane**	**0.90**	**100**	P	**Pb**	**14 36 22.7**	**-0.5**
CUT	**Chulitna**	**0.96**	**141**	P	**Pb**	**14 36 23.3**	**-0.8**
SKT	**Skwentna**	**1.17**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.09**	**228**	*e*LR	LR	14 40 14.3	
	131nm,24.8s						
DZM	**Mont Dzumac**	**4.09**	**228**	P	Pn	14 39 47.4	+4.4
	1.5nm,0.3s,baz=75,slow=20,SNR=21						
DZM				S	S	14 40 35.0	+1.1
	6.8nm,0.3s,baz=103,slow=19,SNR=3.4						
DZM	**Mont Dzumac**	**4.09**	**228**	*e*P	Pn	14 39 45.7	+2.8
HNR	**Honiara**	**13.65**	**315**	P	P	14 41 43.8	-0.5
	3.1nm,0.3s,baz=90,slow=2.0,SNR=9.8						
STKA	**Stephens Creek**	**28.17**	**238**	P	P	14 44 09.6	+0.3
	2.0nm,0.8s,baz=84,slow=9.2,SNR=6.2						
STKA				pP	pP	14 44 57.4	+1.2
	1.2nm,0.9s,baz=51,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**33.28**	**263**	P	P	14 44 53.2	-1.0
	0.4nm,0.3s,baz=96,slow=8.3,SNR=26						
WRA				pP	pP	14 45 40.4	-1.4
	0.1nm,0.4s,baz=90,slow=8.9,SNR=1.5						
WRA				PcP	PcP	14 47 30.1	-0.6
	0.7nm,0.7s,baz=96,slow=3.0,SNR=7.0						
ASAR	**Alice Springs**	**33.54**	**256**	P	P	14 44 56.4	0.0
	3.8nm,0.6s,baz=82,slow=9.0,SNR=97						
ASAR				pP	pP	14 45 44.0	0.0
	0.9nm,0.6s,baz=88,slow=9.3,SNR=3.5						
ASAR				PcP	PcP	14 47 31.0	-0.4
	0.2nm,0.4s,baz=99,slow=2.6,SNR=4.2						
FITZ	**Fitzroy Crossi**	**41.67**	**264**	P	P	14 46 04.9	+0.5
	2.2nm,0.6s,baz=100,slow=6.6,SNR=7.9						
PETK	**Petropavlovsk-**	**72.89**	**352**	P	P	14 49 41.9	+0.3
	3.7nm,0.9s,baz=154,slow=7.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**78.95**	**294**	P	P	14 50 17.1	+0.6
	0.8nm,0.7s,baz=140,slow=4.3,SNR=6.5						
SONM	**Songino Array**	**87.56**	**323**	P	P	14 50 59.8	-0.2
	0.9nm,0.7s,baz=135,slow=6.3,SNR=7.8						
NVAR	**Mina Array Bea**	**88.53**	**48**	P	P	14 51 05.5	+0.7
	1.3nm,0.9s,baz=231,slow=7.6,SNR=7.9						
VNA3	**Neumayer Olymp**	**89.66**	**180**	*e*P	P	14 51 09.8	+0.5
VNA2	**Neumayer--Watz**	**89.95**	**181**	*e*P	P	14 51 11.5	+0.8
	baz=188,slow=6.1						
ILAR	**Eielson Array**	**90.19**	**17**	P	P	14 51 10.2	-1.5
	0.7nm,0.8s,baz=234,slow=5.1,SNR=19						
YKA	**Yellowknife Ar**	**100.55**	**27**	P	Pdif	14 52 00.4	+1.7
	0.2nm,0.5s,baz=258,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**102.12**	**315**	P	Pdif	14 52 07.6	+1.4
	0.2nm,0.6s,baz=89,slow=5.9,SNR=2.8						
ARCES	**ARCESS Array B**	**125.28**	**345**	PKP	PKPdf	14 57 09.6	-0.9
	4.2nm,1.0s,baz=48,slow=2.0,SNR=8.9						
GERES	**GERESS Array B**	**144.79**	**332**	PKP	PKPbc	14 57 46.2	-0.7
	1.3nm,0.6s,baz=32,slow=3.9,SNR=8.6						

WEL 13 14:43:26.4±0.3, 45.10S×167.40E, h118km±2km, ML3.8/11, 8C-3D, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**204**	PN	Pn	14 43 43.0	-0.6
DCZ				SN	Sn	14 43 55.9	-0.7
MSZ	**Milford Sound**	**0.57**	**42**	⇑PN	Pn	14 43 44.7	+0.2
MSZ				SN	Sn	14 43 58.1	0.0
MLZ	**Mavora Lakes**	**0.60**	**115**	⇓PN	Pn	14 43 44.6	-0.2
MLZ				SN	Sn	14 43 58.6	-0.2
WHZ	**Wether Hill Ro**	**0.89**	**154**	⇑PN	Pn	14 43 47.1	-0.1
WHZ				SN	Sn	14 44 02.5	-0.4
WKZ	**Wanaka**	**1.18**	**78**	⇑PN	Pn	14 43 50.4	+0.2
WKZ				SN	Sn	14 44 07.3	-0.8
PYZ	**Puysegur Point**	**1.19**	**205**	PN	Pn	14 43 49.9	-0.3
PYZ				SN	Sn	14 44 07.6	-0.6
EAZ	**Earnscleugh**	**1.36**	**96**	⇑PN	Pn	14 43 52.1	0.0
EAZ				SN	Sn	14 44 10.3	-1.3
JCZ	**Jackson Bay**	**1.41**	**44**	⇑PN	Pn	14 43 52.3	-0.5
JCZ				SN	Sn	14 44 11.1	-1.7
APZ	**The Paps**	**1.79**	**167**	PN	Pn	14 43 56.8	-0.4
TUZ	**Tuapeka**	**1.79**	**120**	⇑PN	Pn	14 43 57.1	0.0
SYZ	**Scrubby Hill**	**1.89**	**140**	⇓PN	Pn	14 43 58.3	0.0
LBZ	**Lake Benmore**	**2.11**	**71**	⇑PN	Pn	14 43 59.7	-1.4
FOZ	**Fox Glacier**	**2.25**	**48**	PN	Pn	14 44 02.2	-0.6
ODZ	**Otahua Downs**	**2.30**	**90**	⇓PN	Pn	14 44 02.5	-1.0
RPZ	**Rata Peaks**	**2.96**	**64**	⇑PN	Pn	14 44 09.9	-2.2
WVZ	**Waitaha Valley**	**3.14**	**51**	PN	Pn	14 44 12.1	-2.3
MQZ	**McQueen's Vall**	**4.01**	**72**	PN	Pn	14 44 24.3	-1.8

NIED ***13*** *15:01:00, 42.20N×144.30E, h53km, Mw3.8 Best double couple: M₀5.45000×10¹⁴ NP1:φ₈158.00000°, δ72.00000°, λ-75.00000°. NP2:φ₈297.00000°, δ24.00000°, λ-129.00000°.*

JMA 13 15:01:52.1±0.1, 42.24N×144.35E, h57km±1km, M3.5, 2C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.76**	**330**	⇓P	Pn	15 02 07.4	+0.4
JOB				*e*S	Sn	15 02 18.7	+0.9
JAK	**Akkeshi**	**0.80**	**19**	⇑P	Pn	15 02 07.6	+0.2
JAK				*e*S	Sn	15 02 18.9	+0.3
JCH	**Churui**	**0.82**	**297**	⇓P	Pn	15 02 07.7	0.0
JCH				*e*S	Sn	15 02 18.9	-0.2
JEM	**Erimo**	**0.92**	**256**	P	Pn	15 02 09.2	+0.3
JAR	**Ashorobuto**	**1.14**	**338**	⇑P	Pn	15 02 12.1	+0.2
JAR				*e*S	Sn	15 02 27.1	+0.5
JNBK	**Urakawa-nobuka**	**1.19**	**272**	P	Pn	15 02 12.4	-0.1
JNK	**Nakash**	**1.37**	**11**	P	Pn	15 02 14.9	-0.1
JNK				*e*S	Sn	15 02 32.2	+0.1
NEM2	**Nemuro 2**	**1.52**	**42**	P	Pn	15 02 17.5	+0.5
NEM2				*e*S	Sn	15 02 36.2	+0.5
JBT2	**Biratori 2**	**1.56**	**291**	P	Pn	15 02 17.5	-0.1
JFR	**Furan**	**1.59**	**306**	P	Pn	15 02 18.2	+0.2
JFR				*e*S	Sn	15 02 37.5	0.0
JTKR	**Abashiri--Toko**	**1.76**	**350**	P	Pn	15 02 21.4	+1.2
JTKR				*e*S	Sn	15 02 43.3	+1.8
JRA	**Rausu**	**1.79**	**18**	P	Pn	15 02 21.6	+1.0
JRA				*e*S	Sn	15 02 43.5	+1.3

BJI ***13*** *15:11:01.9, 21.86N×144.63E, h119km, mB5.1/19, mb4.6/28*

ISCJB ***13*** *15:11:03.9±1.1, 22.08N±0.04×144.14E±0.06, h101km±9km, mb4.5/54, Error ellipse: s-maj=9.8km s-min=6.9km az=163.0*

MOS ***13*** *15:11:03.9±1.2, 22.11N×143.88E, h98km, mb4.6/17, Error ellipse: s-maj=16.5km s-min=7.3km az=107.1*

NEIC ***13*** *15:11:04.6±0.4, 22.07N×144.01E, mb4.8/18, Error ellipse: s-maj=13.2km s-min=8.3km az=77.0*

IDC ***13*** *15:11:05.6±0.6, 22.10N×143.94E, h96km±4km, mb4.0/20, mb1 4.2/22, mb1mx4.1/32, mbtmp4.0/22, MS3.2/6, Ms1 3.3/6, ms1mx2.9/52, Error ellipse: s-maj=15.4km s-min=9.7km az=80.0*

ISC 13 15:11:06.8±0.5, 22.17N±0.05×144.16E±0.06, h111km±2km, h111km:pP-P, n130, σ2s02/192, mb4.5/54, 4C-2D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.22**	**340**	P	**Pn**	**15 12 21.5**	**-1.2**
	38nm,0.3s,baz=274,slow=6.0,SNR=45						
CBIJ				S	**Sn**	**15 13 18.6**	**-3.1**
	180nm,0.3s,baz=270,slow=22,SNR=16						
CBIJ	**Chichi jima**	**5.22**	**340**	P	**Pn**	**15 12 21.5**	**-1.2**
CBIJ				S	**Sn**	**15 13 18.6**	**-3.1**
GUMO	**Guam**	**8.56**	**175**	LR	LR	15 15 06.4	
	comp=Z,93nm,20.2s,baz=328,slow=28						
JOW	**Kunigami**	**15.19**	**291**	*e*Pn	**P**	**15 14 38.3**	**+0.5**
	203nm,1.8s						
MJAR	**Matsushiro Arr**	**15.23**	**341**	P	**Pn**	**15 14 34.5**	**-1.4**
	0.5nm,0.3s,baz=152,slow=11,SNR=7.7						
MJAR	**Matsushiro Arr**	**15.23**	**341**	P	**Pn**	**15 14 34.5**	**-1.4**
MAJO	**Matsushiro**	**15.23**	**341**	*e*P	**Pn**	**15 14 35.0**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,96nm,1.9s						
MAJO	**Matsushiro**	**15.23**	**341**	*e*Pn	**Pn**	**15 14 35.0**	**-0.9**
	comp=Z,96nm,1.9s						
MAT	**Matsushiro**	**15.23**	**341**	P	**P**	**15 14 37.6**	**-0.6**
MAT				*e*S	**Sn**	**15 17 22.6**	**-1.6**
ERM	**Erimo**	**19.81**	**358**	⇓*e*P	**P**	**15 15 24.1**	**-4.3**
ERM	**Erimo**	**19.81**	**358**	*e*P	**P**	**15 15 23.7**	**-4.7**
	comp=Z,84nm,1.3s						
KSRS	**Korea Array**	**20.70**	**321**	P	Pn	15 15 41.5	+0.1
	comp=Z,7.0nm,0.4s,baz=146,slow=8.5,SNR=40						
KSRS				LR	LR	15 23 32.4	
	comp=Z,34nm,19.0s,baz=115,slow=36						
KSAR	**Wonju Array Be**	**20.72**	**321**	P	Pn	15 15 41.5	-0.1
NACB	**Ninganchiao**	**20.84**	**280**	*e*P	Pn	15 15 41.5	-1.7
	comp=Z,384nm,2.5s						
YHNB	**Yeheng**	**21.05**	**281**	*e*P	**P**	**15 15 44.5**	**+2.3**
	comp=Z,555nm,2.5s						
SSLB	**Suanglung**	**21.42**	**279**	*e*P	**P**	**15 15 44.0**	**-2.1**
	comp=Z,135nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**21.85**	**3***c*	*i*P	**P**	**15 15 50.7**	**+0.4**
YUK				*i* S	**S**	**15 19 47.6**	**+2.7**
YUK				pmax	pmax		
	comp=Z,417nm,1.6s						
YUK				pmax	pmax		
	comp=N,517nm,1.2s						
YUK				pmax	pmax		
	comp=E,450nm,1.4s						
YUK				pmax	pmax		
	comp=Z,1μm,2.1s						
USRK	**Ussuriysk Arra**	**24.16**	**338**	P	**P**	**15 16 14.3**	**+1.9**
	comp=Z,6.3nm,0.7s,baz=143,slow=11,SNR=8.5						
NJ2	**Nanjing**	**24.53**	**299**	*e*P	**P**	**15 16 17.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ	**Mudanjiang**	**25.40**	**335**	P	**P**	**15 16 23.3**	**-0.5**
MDJ				pP	**pP**	**15 16 48.5**	**+0.5**
MDJ				sP	**sP**	**15 17 02.8**	**+1.9**
MDJ				PcP	**PcP**	**15 19 52.9**	**-0.3**
MDJ				S	**S**	**15 20 41.4**	**-0.8**
MDJ				PcS	**PcS**	**15 23 33.0**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,230nm,3.5s						
MDJ				LR	LR		
	comp=N,24nm,29.6s						
MDJ				LR	LR		
	comp=Z,58nm,20.4s						
CN2	**Changchun**	**26.56**	**329**	*e*P	**P**	**15 16 36.4**	**+2.1**
HABR	**Khabarovsk**	**27.24**	**347**	*e*P	**P**	**15 16 40.0**	**-0.2**
HABR				*e**PP	**pP**	**15 17 05.9**	**+1.4**
HABR				*e*S	**S**	**15 21 11.3**	**+0.2**
HABR				*e*		15 27 17.2	
HABR				pmax	pmax		
	comp=E,35nm,2.7s						
HABR				pmax	pmax		
	comp=Z,28nm,1.8s						
HABR				pmax	pmax		
	comp=N,23nm,1.8s						
HABR				MLR	MLR		
	comp=Z,20nm,14.0s						
KLR	**Kul'dur**	**28.75**	**343**	*e*P	**P**	**15 16 51.7**	**-2.0**
PMG	**Port Moresby**	**31.52**	**174**	*e*P	**P**	**15 17 15.4**	**-3.0**
	comp=Z,14nm,0.8s						
PETK	**Petropavlovsk-**	**32.58**	**15**	LR	LR	15 29 28.8	
	comp=Z,29nm,18.7s,baz=240,slow=34						
HHC	**Hu-ho-hao-te**	**33.19**	**312**	*e*P	**P**	**15 17 34.8**	**+1.8**
HHC				pP	**pP**	**15 18 01.8**	**+4.1**
HHC				sP	sP	15 18 17.1	+6.6
HHC				PP	**PP**	**15 18 49.9**	**-0.2**
HHC				S	**S**	**15 22 45.0**	**+0.3**
HHC				sS	**sS**	**15 23 30.8**	**+3.2**
HHC				pmax	pmax		
	comp=Z,31nm,1.0s						
HHC				pmax	pmax		
	comp=Z,320nm,4.0s						
GYA	**Guiyang**	**34.36**	**285**	P	**P**	**15 17 44.8**	**+1.5**
GYA				pP	pP	15 18 13.4	+5.3
GYA				sP	sP	15 18 29.3	+8.4
GYA				PP	**PP**	**15 19 05.8**	**+2.6**
GYA				S	**S**	**15 23 02.1**	**-1.0**
GYA				ScP	**ScP**	**15 23 49.0**	**-3.0**
GYA				PcS	**PcS**	**15 24 02.6**	**-1.0**
GYA				ScS	**ScS**	**15 27 50.4**	**-4.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
HNR	**Honiara**	**35.01**	**152**	LR	LR	15 29 14.3	
	comp=Z,86nm,19.7s,baz=148,slow=31						
COEN	**Coen**	**35.91**	**182**	*e*P	**P**	**15 17 56.9**	**+0.3**
	comp=Z,199nm,0.6s						
CD2	**Chengdu**	**37.02**	**292**	P	**P**	**15 18 07.1**	**+1.2**
CD2				pP	**pP**	**15 18 35.9**	**+5.0**
CD2				sP	sP	15 18 51.0	+7.4
CD2				PP	**PnPn**	**15 19 37.9**	**+3.9**
CD2				S	**S**	**15 23 42.8**	**-0.7**
CD2				sS	sS	15 24 33.0	+6.2
CD2				SS	**SnSn**	**15 26 20.6**	**-8.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,4.3s						
CD2				LR	LR		
	comp=N,670nm,6.0s						
CD2				LR	LR		
	comp=Z,370nm,4.9s						
LZH	**Lanzhou**	**37.58**	**301**	*e*P	**P**	**15 18 10.8**	**0.0**
LZH				pP	**pP**	**15 18 40.0**	**+4.2**
LZH				sP	sP	15 18 54.5	+6.0
LZH				PP	**PnPn**	**15 19 43.3**	**+2.4**
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				pmax	pmax		
	comp=Z,58nm,5.2s						
LZH				LR	LR		
	comp=N,310nm,13.2s						
LZH				LR	LR		
	comp=E,330nm,13.5s						
LZH				LR	LR		
	comp=Z,370nm,17.6s						
KMI	**Kunming**	**37.95**	**283**	P	P	15 18 18.0	+3.9
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ULN	**Ulaanbaatar**	**39.18**	**320**	*e*P	**P**	**15 18 21.8**	**-2.2**
	comp=Z,25nm,1.9s						
SONM	**Songino Array**	**39.56**	**320**	P	**P**	**15 18 27.1**	**0.0**
	comp=Z,1.3nm,0.4s,baz=126,slow=6.6,SNR=17						
SONM				pP	**pP**	**15 18 48.9**	**-3.4**
	comp=Z,4.1nm,0.8s,baz=139,slow=6.3,SNR=4.4						
SONM				ScP	**ScP**	**15 24 10.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=122,slow=5.2,SNR=2.6						
SONM	**Songino Array**	**39.56**	**320**	P	**P**	**15 18 27.1**	**0.0**
SONM				pP	**pP**	**15 18 48.9**	**-3.4**
SONM				ScP	**ScP**	**15 24 10.2**	**-0.8**
GTA	**Gaotai**	**41.34**	**305**	*e*P	**P**	**15 18 41.9**	**0.0**
GTA				pP	**pP**	**15 19 08.9**	**+1.6**
GTA				sP	**sP**	**15 19 23.3**	**+3.4**
GTA				ScP	**ScP**	**15 24 17.3**	**-0.9**
GTA				ScS	ScS	15 28 26.0	-8.6
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**42.05**	**177**	*e*P	**P**	**15 18 47.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,15nm,0.6s						
CTAO	**Charters Tower**	**42.05**	**177**	*e*P	**P**	**15 18 47.2**	**-0.4**
	comp=Z,15nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.45**	**273**	P	**P**	**15 18 50.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=58,slow=7.8,SNR=7.1						
CMAR				LR	LR	15 34 53.6	
	comp=Z,29nm,18.8s,baz=75,slow=34						
CMAR	**Chiang Mai Arr**	**42.45**	**273**	P	**P**	**15 18 50.2**	**-0.8**
ZAK	**Zakamensk**	**42.53**	**322**	*e*P	**P**	**15 18 50.1**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WRAB	**Tennant Creek**	**42.93**	**194**	*e*P	**P**	**15 18 52.9**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.4s						
WRAB	**Tennant Creek**	**42.93**	**194**	*e*P	**P**	**15 18 52.9**	**-1.8**
	comp=Z,9.5nm,0.4s						
WRA	**Warramunga Arr**	**42.94**	**194**	P	**P**	**15 18 54.1**	**-0.7**
	comp=Z,4.8nm,0.4s,baz=13,slow=8.4,SNR=141						
WRA				ScP	**ScP**	**15 24 24.2**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=5.2,slow=4.2,SNR=9.5						
WRA	**Warramunga Arr**	**42.94**	**194**	P	**P**	**15 18 54.1**	**-0.7**
WRA				ScP	**ScP**	**15 24 24.2**	**-0.3**
ASAR	**Alice Springs**	**46.64**	**193**	P	**P**	**15 19 23.4**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=9.4,slow=7.0,SNR=78						
ASAR				PcP	**PcP**	**15 20 57.0**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=27,slow=2.9,SNR=7.1						
ASAR				ScP	**ScP**	**15 24 39.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=6.4,slow=4.5,SNR=7.8						
ASAR	**Alice Springs**	**46.64**	**193**	P	**P**	**15 19 23.4**	**-0.8**
ASAR				PcP	**PcP**	**15 20 57.0**	**+0.6**
ASAR				ScP	**ScP**	**15 24 39.5**	**-0.2**
BILL	**Bilibino**	**47.88**	**11**	*e*P	**P**	**15 19 35.0**	**+1.8**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BILL	**Bilibino**	**47.88**	**11**	*e*P	**P**	**15 19 35.0**	**+1.8**
	comp=Z,5.8nm,1.3s						
WMQ	**Urumqi**	**50.98**	**309**	*e*P	**P**	**15 19 58.1**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
WMQ				LR	LR		
	comp=Z,47nm,18.0s						
TAPN	**Taplejung**	**51.16**	**288**	*e*P	**P**	**15 19 59.3**	**+0.1**
	comp=Z,7.1nm,0.3s						
ODAN	**Odare**	**51.51**	**287**	*e*P	**P**	**15 20 01.6**	**-0.1**
	comp=Z,9.8nm,0.5s						
JIRN	**Jiri**	**52.46**	**288**	*e*P	**P**	**15 20 08.8**	**-0.1**
	comp=Z,3.8nm,0.5s						
GUN	**Gumba**	**52.70**	**289**	*e*P	**P**	**15 20 10.0**	**-0.6**
	comp=Z,10nm,0.3s						
PKI	**Pulchoki**	**53.16**	**289**	*e*P	**P**	**15 20 13.3**	**-0.7**
KKN	**Kakani**	**53.24**	**289**	*e*P	**P**	**15 20 14.7**	**+0.3**
GKN	**Gorkha**	**53.78**	**289**	*e*P	**P**	**15 20 18.0**	**-0.3**
	comp=Z,9.8nm,0.3s						
STKA	**Stephens Creek**	**53.80**	**183**	P	**P**	**15 20 17.4**	**-0.6**
	comp=Z,10nm,0.5s,baz=353,slow=8.1,SNR=46						
STKA	**Stephens Creek**	**53.80**	**183**	*e*P	P	15 20 14.2	-3.8
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**54.41**	**321**	P	**P**	**15 20 22.2**	**0.0**
	comp=Z,4.6nm,0.4s,baz=109,slow=8.3,SNR=27						
ZALV	**Zalesovo Beam**	**54.41**	**321**	P	**P**	**15 20 22.2**	**0.0**
ZALV	**Zalesovo Beam**	**54.41**	**321**	P	**P**	**15 20 22.2**	**0.0**
DANN	**Dangsing**	**54.49**	**290**	*e*P	**P**	**15 20 23.3**	**-0.3**
KOLN	**Koldanda**	**54.72**	**289**	*e*P	**P**	**15 20 24.8**	**-0.4**
MK31	**Makanchi Array**	**55.05**	**312**	*e*P	**P**	**15 20 25.7**	**-1.3**
MK31	**Makanchi Array**	**55.05**	**312**	*e*P	**P**	**15 20 25.7**	**-1.3**
MK31				*e*pP	**pP**	**15 20 55.1**	**+1.4**
MKAR	**Makanchi Array**	**55.05**	**312**	P	**P**	**15 20 26.9**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=89,slow=8.6,SNR=11						
MKAR				pP	**pP**	**15 20 49.9**	**-3.8**
	comp=Z,5.0nm,0.6s,baz=92,slow=8.5,SNR=3.8						
MKAR				PcP	**PcP**	**15 21 27.0**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=72,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**55.05**	**312***c*	*e*P	**P**	**15 20 26.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**55.05**	**312**	P	**P**	**15 20 26.9**	**-0.2**
MKAR				pP	**pP**	**15 20 49.9**	**-3.8**
MKAR				PcP	**PcP**	**15 21 27.0**	**-0.2**
PYUN	**Piuthan**	**55.20**	**290**	*e*P	**P**	**15 20 28.2**	**-0.5**
	comp=Z,9.2nm,0.4s						
KDAK	**Kodiak Island**	**57.30**	**35**	P	**P**	**15 20 44.8**	**+2.0**
	comp=Z,19nm,1.2s,baz=300,slow=11,SNR=4.4						
KDAK	**Kodiak Island**	**57.30**	**35**	P	**P**	**15 20 44.8**	**+2.0**
KURK	**Kurchatov**	**57.75**	**317***c*	*i*P	**P**	**15 20 45.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**57.75**	**317**	*e*P	**P**	**15 20 43.1**	**-2.9**
	comp=Z,8.8nm,1.1s						
KURK				*e*pP	**pP**	**15 21 13.9**	**+1.0**
KSH	**Kashi**	**59.72**	**304**	*e*P	P	15 21 03.3	+3.2
KSH				pP	pP	15 21 33.0	+5.9
KSH				*e*PcP	**PcP**	**15 21 48.3**	**+2.4**
KSH				*e*PP	**PP**	**15 23 17.8**	**+4.9**
KSH				*e*ScP	**ScP**	**15 25 34.8**	**-1.9**
KSH				PcS	**PcS**	**15 25 48.4**	**+0.1**
KSH				S	**S**	**15 29 02.8**	**+0.2**
KSH				sS	sS	15 29 56.8	+7.9
KSH				ScS	**ScS**	**15 30 37.6**	**-2.5**
KSH				SS	**SS**	**15 33 03.5**	**+3.6**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,63nm,4.5s						
KSH				LR	LR		
	comp=N,96nm,4.8s						
KSH				LR	LR		
	comp=E,120nm,6.7s						
KSH				LR	LR		
	comp=Z,220nm,6.1s						
TKM2	**Tokmak 2**	**59.77**	**308**	*e*P	**P**	**15 20 59.6**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TKM2	**Tokmak 2**	**59.77**	**308**	*e*P	**P**	**15 20 59.6**	**-0.9**
	comp=Z,5.2nm,0.6s						
TKM2				*e*pP	**pP**	**15 21 29.2**	**+1.7**
ILAR	**Eielson Array**	**61.21**	**27**	P	**P**	**15 21 10.4**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=258,slow=5.2,SNR=16						
ILAR				pP	**pP**	**15 21 35.1**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=259,slow=5.2,SNR=5.2						
ILAR	**Eielson Array**	**61.21**	**27**	P	**P**	**15 21 10.4**	**+0.9**
ILAR				pP	**pP**	**15 21 35.1**	**-1.6**
VOSK	**Vostochnaya**	**62.55**	**319**	P	**P**	**15 21 20.6**	**+1.8**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
BVA0	**Borovoye Array**	**62.91**	**319**	*i* P	**P**	**15 21 20.6**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**62.91**	**319**	P	**P**	**15 21 21.1**	**0.0**
	comp=Z,3.7nm,0.5s,baz=87,slow=7.3,SNR=22						
BVAR				pP	**pP**	**15 21 45.0**	**-3.4**
	comp=Z,6.1nm,0.6s,baz=92,slow=8.0,SNR=7.3						
BVAR	**Borovoye Array**	**62.91**	**319**	P	**P**	**15 21 21.1**	**0.0**
BVAR				*PP	**pP**	**15 21 45.0**	**-3.4**
BVAR	**Borovoye Array**	**62.91**	**319**	P	**P**	**15 21 21.1**	**0.0**
BVAR				pP	**pP**	**15 21 45.0**	**-3.4**
BRVK	**Borovoye**	**62.97**	**319**	⇓*e*P	**P**	**15 21 21.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRVK	**Borovoye**	**62.97**	**319**	*e*P	**P**	**15 21 19.2**	**-2.3**
	comp=Z,6.4nm,0.7s						
BRVK				*e*pP	**pP**	**15 21 49.9**	**+1.1**
ZRNK	**Zeren

MIB	**Mutribah**	**84.85**	**300**	*e*P		**P**	**15 23 29.7**	**+0.3**
MIB				AMb		AMB	15 23 34.0	
	comp=Z,12nm,0.6s							
FFC	**Flin Flon**	**84.95**	**32**	*e*P		**P**	**15 23 28.2**	**-1.3**
FFC				*e**PP		**pP**	**15 24 01.5**	**+3.4**
FFC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FFC	**Flin Flon**	**84.95**	**32**	*e*P		**P**	**15 23 28.2**	**-1.3**
	comp=Z,5.0nm,0.8s							
FFC				*e*pP		**pP**	**15 24 01.5**	**+3.4**
NAY	**Al-Naaiem**	**85.14**	**299**	*e*P		**P**	**15 23 30.3**	**-0.6**
NAY				AMb		AMB	15 23 33.0	
	comp=Z,4.4nm,0.5s							
DUG	**Dugway**	**85.35**	**48**	*e*P		**P**	**15 23 32.2**	**+0.3**
DUG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
DUG	**Dugway**	**85.35**	**48**	*e*P		**P**	**15 23 32.2**	**+0.3**
	comp=Z,3.1nm,0.7s							
RLMT	**Red Lodge**	**85.54**	**43**	*e*P		**P**	**15 23 30.3**	**-2.6**
JLU	**Jordanelle**	**86.11**	**48**	*e*P		**P**	**15 23 33.8**	**-2.1**
	comp=Z,5.0nm,0.9s							
PDAR	**Pinedale Array**	**86.42**	**45**	P		**P**	**15 23 38.8**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=252,slow=2.3,SNR=4.8							
PDAR	**Pinedale Array**	**86.42**	**45**	P		**P**	**15 23 38.8**	**+1.5**
ASF	**Jabal al Asfar**	**91.98**	**306**	LR		LR	16 13 30.6	
	comp=Z,37nm,19.4s,baz=350,slow=41							
VNA2	**Neumayer--Watz**	**128.48**	**192**	*e*P		**PKPdf**	**15 30 00.9**	**+1.1**
VNA3	**Neumayer Olymp**	**128.62**	**191**	*e*P		**PKPdf**	**15 30 00.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**129.14**	**310**	PKP		**PKPdf**	**15 30 02.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=26,slow=1.0,SNR=8.2							
TORD	**Torodi Ar. Bea**	**129.14**	**310**	PKP		**PKPdf**	**15 30 02.7**	**-0.1**
PLCA	**Paso Flores**	**145.38**	**130**	PKPbc		**PKPab**	**15 30 33.4**	**+1.1**
	comp=Z,5.0nm,0.5s,baz=228,slow=2.7,SNR=21							
PLCA	**Paso Flores**	**145.38**	**130**	PKPbc		**PKPab**	**15 30 33.4**	**+1.1**
LPAZ	**La Paz**	**148.99**	**85**	PKPbc		**PKPbc**	**15 30 44.3**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=97,slow=3.3,SNR=4.4							
LPAZ	**La Paz**	**148.99**	**85**	*e*PKPbc		**PKPbc**	**15 30 43.4**	**0.0**
SAML	**Samuel**	**150.63**	**68**	*e*PKPbc		**PKPbc**	**15 30 46.3**	**-0.4**
SAML				*e*PKPab		**PKPab**	**15 30 53.5**	**-0.3**

IDC 13 15:19:14.1±11.0, 11°.99S×166°.81E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=346.2km s-min=53.5km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.16**	**252**	P	P	15 25 44.0	+0.2
	0.1nm,0.6s,baz=83,slow=8.8,SNR=2.6						
ASAR	**Alice Springs**	**33.32**	**245**	P	P	15 25 53.6	-0.3
	0.1nm,0.6s,baz=70,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**94.92**	**317**	P	P	15 32 38.3	-0.1
	0.9nm,0.7s,baz=94,slow=6.3,SNR=9.2						

IDC 13 15:23:44.3±2.9, 35°.85S×179°.49W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, ML3.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/28, Error ellipse: s-maj=76.8km s-min=31.2km az=134.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.63**	**227**	Pn	Pn	15 24 41.0	-0.8
	2.7nm,0.3s,baz=57,slow=17,SNR=20						
URZ				Sn	Sn	15 25 28.0	+2.6
	7.0nm,0.3s,baz=334,slow=23,SNR=3.1						
DZM	**Mont Dzumac**	**18.41**	**314**	LR	LR	15 33 52.6	
	comp=Z,175nm,20.3s,baz=40,slow=33						
ASAR	**Alice Springs**	**41.88**	**274**	P	P	15 31 36.2	-0.3
	1.1nm,0.6s,baz=118,slow=7.6,SNR=19						
WRA	**Warramunga Arr**	**43.37**	**279**	P	P	15 31 48.0	-0.6
	4.5nm,0.5s,baz=120,slow=5.1,SNR=54						
FITZ	**Fitzroy Crossi**	**51.34**	**275**	P	P	15 32 51.3	+0.6
	0.6nm,0.4s,baz=135,slow=4.3,SNR=4.8						
USHA	**Ushuaia**	**72.14**	**145**	LR	LR	15 59 52.4	
	comp=Z,92nm,20.5s,slow=30						
PETK	**Petropavlovsk-**	**90.78**	**346**	P	P	15 36 49.2	+0.4
	2.5nm,0.8s,baz=132,slow=4.3,SNR=3.3						
FINES	**FINESS Array B**	**149.71**	**336**	PKPbc	PKPbc	15 43 34.4	-0.8
	0.7nm,0.4s,baz=48,slow=2.8,SNR=3.8						

MEX 13 15:40:33.5±0.7, 17°.10N×100°.04W, h40km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**257**	*i* P	Pn	15 40 39.2	-1.8
CAIG				*e*S	Sn	15 40 44.5	-1.8
ACX	**Acapulco**	**0.28**	**143**	*i* P	Pn	15 40 40.3	-1.4
ACX				*i* S	Sn	15 40 46.2	-1.1
MEIG	**Mezcala**	**0.91**	**26**	*i* P	Pn	15 40 47.9	-2.1
MEIG				*i* S	Sn	15 40 59.6	-2.5
ARIG	**Puente Sto Nin**	**1.21**	**346**	*i* P	Pn	15 40 52.3	-1.7
ARIG				*e*S	Sn	15 41 07.4	-1.9
PLIG	**Platanillo**	**1.38**	**21**	*i* P	Pn	15 40 55.0	-1.4
PLIG				*i* S	Sn	15 41 10.9	-2.8
PNIG	**Pinotepa**	**1.96**	**111**	*i* P	Pn	15 41 02.9	-1.4
PNIG				*i* S	Sn	15 41 25.0	-2.7

IDC ***13*** *15:40:36.9±0.6, 0°.53S×132°.65E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.5/25, mbtmp4.5/16, ML4.5/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/39, Error ellipse: s-maj=26.3km s-min=12.3km az=74.0*

MOS ***13*** *15:40:39.8±1.0, 0°.56S×132°.60E, h33km, mb4.8/18, Error ellipse: s-maj=14.0km s-min=7.2km az=114.4*

BJI ***13*** *15:40:40.7, 0°.88S×132°.77E, h61km, mB5.2/14, mb4.7/29, Ms4.8/9, Ms7 4.6/9*

ISCJB ***13*** *15:40:42.3±0.8, 0°.60S±0°.04×132°.82E±0°.04, h59km±7km, mb4.5/44, MS4.0/4, Error ellipse: s-maj=8.0km s-min=5.8km az=147.8*

NEIC ***13*** *15:40:42.5±1.5, 0°.60S×132°.64E, h43km±14km, mb4.7/14, Error ellipse: s-maj=9.7km s-min=6.5km az=55.0*

DJA ***13*** *15:40:42.9±1.4, 1°.5±4°×13°.3E±°, h33km±14km, M5.0/21, mB5.5/7, mb5.0/21, MLv5.1/8, Mw(mB)5.0/7*

ISC 13 15:40:44.4±0.4, 0°.61S±0°.04×132°.77E±0°.06, h59km±2km, h59km:pP-P, n130, σ1°.69/168, mb4.6/44, MS4.0/4, 2C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.35**	**193**	P	**Pn**	**15 41 19.7**	**-0.9**
FAKI				S	**Sn**	**15 41 50.5**	**+2.1**
BAKI	**Biak**	**3.39**	**100**	P	Pn	15 41 31.2	-3.6
MSAI	**Masohi**	**4.70**	**235**	P	**Pn**	**15 41 54.4**	**+1.6**
BNDI	**Bandanaira**	**4.82**	**216**	P	**Pn**	**15 41 54.1**	**-0.4**
TLE	**Tual**	**4.99**	**180**	P	**Pn**	**15 41 57.4**	**+0.6**
	1µm,0.7s,10µm3.6nm						
LBMI	**Labuha**	**5.26**	**270**	P	**Pn**	**15 41 59.2**	**-1.3**
	143nm,0.8s,2µm0.5nm						
AAI	**Ambon**	**5.50**	**236**	P	**Pn**	**15 42 03.9**	**+0.2**
	796nm,0.7s,9µm3.1nm						
TNTI	**Ternate**	**5.57**	**284**	P	**Pn**	**15 42 05.4**	**+0.7**
	145nm,1.1s,2µm0.5nm						
KMSI	**Cibinong**	**8.86**	**278**	P	**Pn**	**15 42 52.4**	**+2.6**
	170nm,0.7s,5µm						
LUWI	**Luwuk**	**10.00**	**267**	P	**Pn**	**15 43 05.0**	**-0.4**
	100nm,0.8s						
KDI	**Kendari**	**10.67**	**252**	P	**Pn**	**15 43 15.5**	**+1.0**
	31nm,0.9s						
MRSI	**Marisa**	**10.88**	**276**	P	**Pn**	**15 43 20.2**	**+2.8**
	28nm,0.8s						
SPSI	**Sidrap Palu**	**13.40**	**255**	P	**Pn**	**15 43 53.1**	**+1.2**
	31nm,0.9s,501nm						
BKSI	**Bulukumba**	**13.46**	**249**	P	**Pn**	**15 43 52.3**	**-0.4**
	39nm,1.0s						
KAPI	**Kappang**	**13.71**	**251**	Pn	**Pn**	**15 43 56.4**	**+0.3**
	1.7nm,0.3s,baz=122,slow=7.5,SNR=11						
KAPI				LR	LR	15 48 28.2	
	comp=Z,134nm,20.2s,baz=208,slow=35						
KAPI	**Kappang**	**13.71**	**251**	*e*Pn	**Pn**	**15 43 54.0**	**-2.1**
KAPI	**Kappang**	**13.71**	**251**	P	**Pn**	**15 43 57.5**	**+1.4**
	25nm,1.1s						
PMG	**Port Moresby**	**16.78**	**122**	Pn	**P**	**15 44 37.7**	**+0.8**
	0.3nm,0.3s,baz=301,slow=11,SNR=5.1						
PMG	**Port Moresby**	**16.78**	**122**	Pn	**P**	**15 44 37.7**	**+0.8**
COEN	**Coen**	**16.79**	**143**	*e*Pn	**Pn**	**15 44 34.9**	**-0.9**
	87nm,1.1s						
GUMO	**Guam**	**18.52**	**40**	*e*P	**P**	**15 44 54.7**	**-1.5**
	568nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.74**	**202**	P	**P**	**15 44 56.4**	**-2.2**
	0.8nm,0.3s,baz=34,slow=12,SNR=16						
FITZ				S	Sn	15 48 16.5	-12
	0.5nm,0.3s,baz=202,slow=7.1,SNR=5.5						
FITZ	**Fitzroy Crossi**	**18.74**	**202**	P	**P**	**15 44 56.4**	**-2.2**
FITZ				*e*Pn	**Pn**	**15 44 57.7**	**-1.9**
FITZ				S	Sn	15 48 16.5	-12
SRBI	**Singaraja**	**19.00**	**247**	P	**Pn**	**15 45 03.8**	**+1.1**
	47nm,1.0s						
WRAB	**Tennant Creek**	**19.27**	**175**	*e*P	**P**	**15 45 03.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**19.27**	**175**	*e*P	**P**	**15 45 03.5**	**-0.8**
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**19.27**	**176**	P	**P**	**15 45 04.7**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=354,slow=11,SNR=101						
WRA				S	S	15 48 31.5	-8.3
	comp=Z,0.7nm,0.3s,baz=358,slow=22,SNR=7.3						
WRA	**Warramunga Arr**	**19.27**	**176**	P	**P**	**15 45 04.7**	**+0.3**
WRA				S	S	15 48 31.4	-8.3
KMMI	**Kalianget**	**19.81**	**251**	P	**Pn**	**15 45 14.7**	**+2.4**
	comp=Z,36nm,1.1s						
SBUM	**Sibu**	**20.76**	**278**	P	Pn	15 45 22.4	-1.2
	comp=Z,31nm,1.2s						
KSM	**Kuching**	**22.55**	**275**	*e*P	**P**	**15 45 36.9**	**-2.9**
KSM	**Kuching**	**22.55**	**275**	P	**P**	**15 45 40.9**	**+1.1**
	comp=Z,22nm,1.2s						
AS31	**Alice Springs**	**22.95**	**177**	*e*P	**P**	**15 45 44.3**	**+0.4**
ASAR	**Alice Springs**	**22.95**	**177**	P	**P**	**15 45 44.2**	**+0.4**
	comp=Z,28nm,0.5s,baz=356,slow=11,SNR=310						
ASAR				S	**S**	**15 49 48.5**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=335,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**22.95**	**177**	P	**P**	**15 45 44.2**	**+0.4**
ASAR				S	**S**	**15 49 48.5**	**-1.2**
CTA	**Charters Tower**	**23.43**	**147**	P	**P**	**15 45 50.0**	**+1.4**
	comp=Z,17nm,0.8s,baz=330,slow=11,SNR=15						
CTA				LR	LR	15 56 30.7	
	comp=Z,357nm,18.4s,baz=324,slow=40						
CTA	**Charters Tower**	**23.43**	**147**	P	**P**	**15 45 50.0**	**+1.4**
CTAO	**Charters Tower**	**23.43**	**147**	*e*P	**P**	**15 45 47.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**23.43**	**147**	*e*P	**P**	**15 45 47.6**	**-1.0**
	comp=Z,21nm,0.9s						
BJII	**Banjamegara**	**23.94**	**253**	P	**P**	**15 45 54.3**	**+0.9**
	comp=Z,51nm,1.4s						
MBWA	**Marble Bar**	**24.06**	**211**	*e*P	**P**	**15 45 51.8**	**-2.6**
CISI	**Cisompet, Garu**	**25.81**	**254**	P	**P**	**15 46 10.5**	**+0.1**
STKA	**Stephens Creek**	**32.20**	**166**	P	**P**	**15 47 07.3**	**+0.4**
	comp=Z,20nm,0.7s,baz=338,slow=8.6,SNR=60						
STKA	**Stephens Creek**	**32.20**	**166**	*e*P	**P**	**15 47 05.8**	**-1.1**
	comp=Z,3.5nm,0.8s						
PSI	**Prapat**	**34.00**	**276**	P	**P**	**15 47 20.8**	**-2.3**
	comp=Z,5.7nm,0.7s,baz=123,slow=8.3,SNR=4.7						
PSI	**Prapat**	**34.00**	**276**	P	**P**	**15 47 20.8**	**-2.3**
ARMA	**Armidale**	**34.64**	**151**	*e*P	**P**	**15 47 27.5**	**-0.9**
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**35.05**	**339**	*e*P	**P**	**15 47 32.1**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.31**	**203**	P	**P**	**15 47 34.9**	**+0.9**
	comp=Z,7.1nm,0.7s,baz=64,slow=7.2,SNR=3.8						
NWAO	**Narrogin (SRO)**	**35.31**	**203**	P	**P**	**15 47 34.9**	**+0.9**
WHN	**Wuhan**	**35.59**	**332**	P	**P**	**15 47 36.9**	**+0.5**
GYA	**Guiyang**	**36.84**	**319**	*e*P	**P**	**15 47 48.0**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**15 47 59.0**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=123,slow=7.0,SNR=25						
CMAR	**Chiang Mai Arr**	**38.26**	**301**	P	**P**	**15 47 59.0**	**-0.3**
CHTO	**Chiang Mai**	**38.42**	**302**	*e*P	**P**	**15 47 58.6**	**-2.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**38.42**	**302**	*e*P	**P**	**15 47 58.6**	**-2.0**
	comp=Z,5.1nm,0.8s						
KMI	**Kunming**	**38.71**	**314**	P	**P**	**15 48 03.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN	**Xi'an**	**41.10**	**329**	P	**P**	**15 48 21.3**	**-1.4**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,24nm,4.1s						
CD2	**Chengdu**	**41.74**	**321**	P	**P**	**15 48 28.9**	**+0.9**
CD2				pP	**pP**	**15 48 43.5**	**+0.5**
CD2				sP	**sP**	**15 48 50.3**	**+0.5**
CD2				PP	**PnPn**	**15 50 09.8**	**-1.0**
CD2				S	**S**	**15 54 42.3**	**+1.2**
CD2				sS	**sS**	**15 55 07.3**	**+0.8**
CD2				SS	**SS**	**15 57 44.6**	**-4.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,340nm,5.4s						
CD2				LR	LR		
	comp=N,740nm,5.4s						
CD2				LR	LR		
	comp=Z,370nm,5.3s						
BJI	**Beijing**	**43.20**	**341**	P	**P**	**15 48 39.6**	**0.0**
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ	**Mudanjiang**	**45.12**	**357**	P	**P**	**15 48 55.9**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,230nm,4.7s						
LZH	**Lanzhou**	**45.35**	**327**	*e*P	**P**	**15 48 58.5**	**+1.4**
LZH				pP	**pP**	**15 49 13.6**	**+1.3**
LZH				sP	**sP**	**15 49 20.0**	**+0.9**
LZH				PP	**PP**	**15 50 46.1**	**+1.9**
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
LZH				pmax	pmax		
	comp=Z,63nm,6.0s						
LZH				LR	LR		
	comp=N,340nm,14.3s						
LZH				LR	LR		
	comp=E,400nm,14.5s						
LZH				LR	LR		
	comp=Z,410nm,18.3s						
HHC	**Hu-ho-hao-te**	**45.55**	**337**	*e*P	**P**	**15 48 59.4**	**+0.9**
HHC				pP	**pP**	**15 49 14.6**	**+0.9**
HHC				sP	**sP**	**15 49 22.3**	**+1.8**
HHC				PP	**PP**	**15 50 47.5**	**+1.4**
HHC				PcS	**PcS**	**15 54 29.8**	**-0.7**
HHC				*e*S	**S**	**15 55 37.8**	**+1.3**
HHC				sS	**sS**	**15 56 05.0**	**+2.8**
HHC				SS	**ScS**	**15 58 54.6**	**+4.9**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,5.7s						
HABR	**Khabarovsk**	**48.93**	**2**	*e*P	**P**	**15 49 26.2**	**+1.7**
HABR				*e**PP	**pP**	**15 49 35.7**	**-4.1**
HABR				*e**SP	**sP**	**15 49 41.8**	**-4.8**
HABR				*e*		15 50 46.0	
HABR						15 51 16.2	
HABR				*e*PPP	PPP	15 52 07.6	
HABR				*e*		15 59 09.5	
HABR				pmax	pmax		
	comp=N,29nm,1.8s						
HABR				pmax	pmax		
	comp=Z,34nm,1.8s						
HABR				pmax	pmax		
	comp=E,40nm,1.8s						
HABR				MLR	MLR		
	comp=Z,74nm,20.0s						
LSA	**Lhasa**	**49.82**	**311**	*e*P	**P**	**15 49 30.8**	**-1.4**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	**49.82**	**311**	*e*P	**P**	**15 49 30.8**	**-1.4**
	comp=Z,7.9nm,0.7s						
GTA	**Gaotai**	**49.96**	**327**	*e*P	**P**	**15 49 32.8**	**+0.1**
GTA				pP	**pP**	**15 49 44.4**	**-3.7**
GTA				sP	sP	15 49 49.3	-5.6
GTA				PcP	**PcP**	**15 50 53.3**	**+1.1**
GTA				PP	**PP**	**15 51 30.5**	**+2.3**
GTA				S	**S**	**15 56 38.4**	**-0.8**
GTA				sS	**sS**	**15 57 00.3**	**-4.9**
GTA				ScS	**ScS**	**15 59 15.3**	**-3.8**
GTA				SS	**SS**	**16 00 06.5**	**-6.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,120nm,5.2s						
GTA				LR	LR		
	comp=E,160nm,13.8s						
GTA				LR	LR		
	comp=Z,120nm,18.5s						
TAPN	**Taplejung**	**51.43**	**306**	*e*P	**P**	**15 49 43.1**	**-1.1**
	comp=Z,22nm,1.3s						
ODAN	**Odare**	**51.48**	**306**	*e*P	**P**	**15 49 43.8**	**-0.8**
	comp=Z,13nm,0.8s						
RAMN	**Ramite**	**52.16**	**305**	*e*P	**P**	**15 49 49.0**	**-0.6**
JIRN	**Jiri**	**52.79**	**306**	*e*P	**P**	**15 49 53.8**	**-0.6**
GUN	**Gumba**	**53.14**	**306**	*e*P	**P**	**15 49 56.2**	**-0.8**
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**53.43**	**338**	P	**P**	**15 49 58.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=156,slow=7.0,SNR=7.0						
SONM				PcP	**PcP**	**15 51 05.2**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=157,slow=3.7,SNR=7.8						
SONM	**Songino Array**	**53.43**	**338**	P	**P**	**15 49 58.5**	**+0.1**
SONM				PcP	**PcP**	**15 51 05.2**	**+0.2**
GKN	**Gorkha**	**54.18**	**306**	*e*P	**P**	**15 50 02.9**	**-1.5**
	comp=Z,15nm,1.0s						
KOLN	**Koldanda**	**54.94**	**305**	*e*P	**P**	**15 50 09.5**	**-0.4**
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**55.03**	**306**	*e*P	**P**	**15 50 09.1**	**-1.6**
	comp=Z,30nm,1.0s						
PYUN	**Piuthan**	**55.56**	**305**	*e*P	**P**	**15 50 13.8**	**-0.6**
	comp=Z,42nm,1.0s						
PETK	**Petropavlovsk-**	**57.44**	**18**	P	**P**	**15 50 29.0**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=240,slow=12,SNR=3.8						
PETK	**Petropavlovsk-**	**57.44**	**18**	P	**P**	**15 50 29.0**	**+2.0**
PETK	**Petropavlovsk-**	**57.44**	**18**	P	**P**	**15 50 29.0**	**+2.0**
WMQ	**Urumqi**	**59.74**	**324**	P	**P**	**15 50 42.0**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,20nm,1.2s						
BOD	**Bodaibo**	**60.15**	**349**	*e*P	**P**	**15 50 45.7**	**0.0**
HVS	**Khovu-Aksy**	**61.25**	**333**	*e*P	**P**	**15 50 53.3**	**-0.2**
HVS				pmax	pmax		
	comp=Z,36nm,1.7s						
YAK	**Yakutsk**	**62.52**	**358**	*e*P	**P**	**15 51 00.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**62.52**	**358**	*e*P	**P**	**15 51 00.7**	**-0.9**
	comp=Z,5.7nm,0.6s						
MK31	**Makanchi Array**	**64.56**	**324**	*i* P	**P**	**15 51 15.4**	**-0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**64.56**	**324**	*e*P	**P**	**15 51 15.2**	**-0.3**
MKAR	**Makanchi Array**	**64.56**	**324**	P	**P**	**15 51 15.4**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=112,slow=9.0,SNR=8.9						
MKAR	**Makanchi Array**	**64.56**	**324**	*i* P	**P**	**15 51 14.1**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**64.56**	**324**	P	**P**	**15 51 15.4**	**-0.1**
SEY	**Seymchan**	**65.07**	**10**	*i* P	**P**	**15 51 19.6**	**+1.2**
KSH	**Kashi**	**65.36**	**315**	*e*P	**P**	**15 51 22.5**	**+1.5**
KSH				*e*pP	**pP**	**15 51 39.3**	**+2.4**
KSH				*e*sP	**sP**	**15 51 46.3**	**+2.8**
KSH				*e*PcP	**PcP**	**15 51 54.6**	**+1.9**
KSH				*e*PP	**PP**	**15 53 50.3**	**+4.9**
KSH				*e*ScP		15 55 50.3	
KSH				PcS		15 55 56.6	
KSH				S	**S**	**16 00 02.9**	**+2.0**
KSH				sS	**sS**	**16 00 30.6**	**+2.7**
KSH				ScS	**SKSac**	**16 01 09.4**	**-2.1**
KSH				SS	**SS**	**16 04 19.0**	**+3.9**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,120nm,3.7s						
KSH				LR	LR		
	comp=N,120nm,6.5s						
KSH				LR	LR		
	comp=E,120nm,8.3s						
KSH				LR	LR		
	comp=Z,150nm,6.2s						
TKM2	**Tokmak 2**	**66.98**	**318**	*e*P	**P**	**15 51 31.0**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2	**Tokmak 2**	**66.98**	**318**	*e*P	**P**	**15 51 31.0**	**-0.4**
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**67.21**	**332**	P	**P**	**15 51 31.7**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=115,slow=6.7,SNR=11						
ZALV	**Zalesovo Beam**	**67.21**	**332**	P	**P**	**15 51 31.7**	**-0.6**
ZALV	**Zalesovo Beam**	**67.21**	**332**	P	**P**	**15 51 31.7**	**-0.6**
EKS2	**Erkin-Say**	**68.11**	**317**	*e*P	**P**	**15 51 36.8**	**-1.6**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**68.11**	**317**	*e*P	**P**	**15 51 36.8**	**-1.6**
	comp=Z,3.8nm,0.8s						
KURK	**Kurchatov**	**68.64**	**326**	*e*P	**P**	**15 51 41.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**68.64**	**326**	*e*P	**P**	**15 51 41.0**	**-0.4**
	comp=Z,6.8nm,0.9s						
KK31	**Karatay Array**	**70.50**	**317**	*i* P	**P**	**15 51 53.1**	**0.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR	**Karatay Array**	**70.50**	**317**	*e*P	**P**	**15 51 52.5**	**-0.6**
KKAR	**Karatay Array**	**70.50**	**317**	*e*P	**P**	**15 51 52.5**	**-0.6**
VOSK	**Vostochnaya**	**73.79**	**326**	P	**P**	**15 52 11.9**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVA0	**Borovoye Array**	**74.24**	**326**	*i* P	**P**	**15 52 14.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**74.24**	**326**	P	**P**	**15 52 15.1**	**0.0**
	comp=Z,4.0nm,0.6s,baz=115,slow=7.0,SNR=24						
BVAR	**Borovoye Array**	**74.24**	**326**	P	**P**	**15 52 15.1**	**0.0**
BVAR	**Borovoye Array**	**74.24**	**326**	P	**P**	**15 52 15.1**	**0.0**
BRVK	**Borovoye**	**74.31**	**326**	*e*P	**P**	**15 52 15.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	**Borovoye

1.3nm,0.7s,baz=349,slow=11,SNR=3.4
MJAR Matsushiro Arr 38.19 359 LR LR 16 11 47.6
comp=Z,42nm,18.4s,baz=25,slow=33
CMAR Chiang Mai Arr 44.44 299 P P 15 59 12.3 -0.1
0.5nm,0.6s,baz=109,slow=6.8,SNR=4.4
MKAR Makanchi Array 69.40 322 P P 16 02 09.8 +0.6
0.7nm,0.5s,baz=101,slow=9.4,SNR=9.7
ZALV Zalesovo Beam 71.43 330 P P 16 02 20.5 -0.9
0.5nm,0.5s,baz=126,slow=7.3,SNR=2.8
VNDA Vanda 76.61 175 P P 16 02 50.9 -0.4
0.8nm,0.5s,baz=326,slow=5.4,SNR=7.2
BVAR Borovoye Array 78.88 325 P P 16 03 04.6 +0.2
1.0nm,0.6s,baz=111,slow=8.1,SNR=5.4

IDC 13 15:53:40.4±3.3, 3°.26S×135°.61E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=139.4km s-min=31.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.63**	**184**	Pn	Pn	15 57 35.7	+0.7
	0.1nm,0.3s,baz=1.2,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**20.36**	**184**	P	P	15 58 18.3	-0.3
	0.2nm,0.5s,baz=24,slow=9.4,SNR=5.2						
MKAR	**Makanchi Array**	**68.36**	**324**	P	P	16 04 43.8	0.0
	0.3nm,0.6s,baz=119,slow=6.1,SNR=3.9						

IDC 13 16:08:27.2±0.8, 9°.44S×159°.13E, h519km±8km, mb3.0/9, mb1 3.2/12, mb1mx3.1/22, mbtmp3.1/12, Error ellipse: s-maj=30.4km s-min=15.4km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.80**	**89**	P	P	16 09 30.4	+0.4
	29nm,0.3s,baz=179,slow=3.3,SNR=30						
HNR				S	S	16 10 21.1	+0.2
	5.8nm,0.3s,baz=131,slow=19,SNR=4.0						
PMG	**Port Moresby**	**11.81**	**269**	P	P	16 11 04.8	+0.9
	0.6nm,0.3s,baz=74,slow=7.4,SNR=3.8						
DZM	**Mont Dzumac**	**14.39**	**152**	P	P	16 11 31.0	+0.1
	0.5nm,0.3s,baz=21,slow=13,SNR=5.7						
CTA	**Charters Tower**	**16.33**	**228**	P	P	16 11 50.6	-0.4
	0.7nm,0.3s,baz=61,slow=13,SNR=10						
WRA	**Warramunga Arr**	**26.12**	**244**	P	P	16 13 19.6	-0.1
	3.3nm,0.3s,baz=72,slow=9.1,SNR=92						
STKA	**Stephens Creek**	**27.62**	**214**	P	P	16 13 33.5	+0.8
	2.1nm,0.4s,baz=45,slow=14,SNR=14						
ASAR	**Alice Springs**	**27.95**	**237**	P	P	16 13 35.0	-0.7
	0.9nm,0.4s,baz=62,slow=9.7,SNR=60						
FITZ	**Fitzroy Crossi**	**33.60**	**252**	P	P	16 14 23.6	-0.8
	2.6nm,0.9s,baz=58,slow=9.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**65.53**	**295**	P	P	16 18 20.5	+0.8
	0.4nm,0.8s,baz=108,slow=5.8,SNR=3.6						
SONM	**Songino Array**	**73.62**	**326**	P	P	16 19 08.5	+0.9
	0.7nm,0.6s,baz=140,slow=5.0,SNR=7.0						
ILAR	**Eielson Array**	**84.18**	**20**	P	P	16 20 02.5	-0.7
	0.1nm,0.7s,baz=242,slow=5.2,SNR=4.3						
MKAR	**Makanchi Array**	**87.94**	**318**	P	P	16 20 21.6	-0.1
	0.2nm,0.4s,baz=91,slow=7.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**88.50**	**325**	P	P	16 20 22.4	-1.6
	0.2nm,0.3s,baz=110,slow=7.8,SNR=1.9						

MEX 13 16:22:18.6±0.7, 16°.49N×101°.16W, h17km±999km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.01**	**57**	*i* P	Pb	16 22 33.9	-3.9
CAIG				*e*S	Sb	16 22 46.5	-4.4
ZIIG	**Zihuatanejo**	**1.15**	**345**	*i* P	Pn	16 22 36.0	-4.0
ZIIG				*e*S	Sb	16 22 49.9	-4.8
ACX	**Acapulco**	**1.30**	**73**	*i* P	Pn	16 22 38.5	-3.6
ACX				*i* S	Sb	16 22 53.0	-6.1
ARIG	**Puente Sto Nin**	**1.94**	**23**	*i* P	Pn	16 22 48.2	-2.7
ARIG				*e*S	Sn	16 23 10.8	-4.1
PLIG	**Platanillo**	**2.46**	**40**	*i* P	Pn	16 22 55.5	-2.6
PLIG				*i* S	Sn	16 23 24.1	-3.9

IDC 13 16:39:03.5±1.1, 0°.39S×132°.53E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=54.8km s-min=20.1km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.86**	**201**	P	P	16 43 23.6	-1.7
	0.1nm,0.3s,baz=29,slow=12,SNR=4.2						
FITZ				S	Sn	16 46 43.6	-14
	0.1nm,0.3s,baz=183,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**19.51**	**175**	P	P	16 43 32.5	-0.1
	0.6nm,0.3s,baz=354,slow=12,SNR=36						
WRA				S	Sn	16 47 02.9	-11
	0.1nm,0.3s,baz=358,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**23.18**	**177**	P	P	16 44 12.9	+1.0
	2.7nm,0.6s,baz=357,slow=10,SNR=56						
MKAR	**Makanchi Array**	**64.25**	**324**	P	P	16 49 41.1	+0.5
	0.4nm,0.4s,baz=112,slow=8.0,SNR=12						
KURBB	**Kurchatov Arra**	**68.34**	**326**	P	P	16 50 06.2	-0.5
	0.4nm,0.6s,baz=123,slow=5.5,SNR=5.6						
ILAR	**Eielson Array**	**86.33**	**25**	P	P	16 51 46.9	-0.3
	0.4nm,0.8s,baz=260,slow=5.4,SNR=3.3						

IDC ***13*** *16:43:24.8±13.0, 6°.89S×108°.05E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.6/23, mbtmp4.2/4, Error ellipse: s-maj=214.5km s-min=122.7km az=131.0*

DJA ***13*** *16:43:46.0±0.3, 8°.5±7°×10°.9E±°, h81km±12km, M4.0/15, mb3.9/1, MLv4.0/15*

ISC 13 16:43:45.3±1.4, 7°.6S±0°.3×108°.87E±0°.09, h151km, n18, σ1°.76/12, mb3.9/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLJI	**Cilicap**	**0.21**	**136**	P	Pn	16 44 00.6	-5.1
TGJI	**Tegal**	**0.74**	**20**	P	Pn	16 44 05.5	-2.7
BJII	**Banjamegara**	**0.87**	**75**	P	**Pn**	**16 44 06.9**	**-2.3**
CISI	**Cisompet, Garu**	**1.04**	**270**	P	Pn	16 44 06.2	-4.4
LEM	**Lembang**	**1.44**	**301**	P	**Pn**	**16 44 12.4**	**-2.1**
YOGI	**Yogyakarta**	**1.44**	**100**	P	**Pn**	**16 44 11.6**	**-2.7**
UGM	**Wanagama**	**1.68**	**102**	P	**Pn**	**16 44 14.6**	**-2.3**
DBJI	**Dramaga**	**2.33**	**295**	P	**Pn**	**16 44 24.9**	**+0.5**
PCJI	**Pacitan**	**2.37**	**105**	P	**Pn**	**16 44 23.8**	**-1.1**
SJI	**Sawahan**	**2.88**	**94**	P	**Pn**	**16 44 31.3**	**0.0**
PWJI	**Pagerwojo**	**2.95**	**99**	P	**Pn**	**16 44 32.0**	**0.0**
CGJI	**Cibinong**	**3.29**	**287**	P	**Pn**	**16 44 36.2**	**-0.2**
GMJI	**Gumukmas**	**4.59**	**99**	P	**Pn**	**16 44 53.6**	**+0.3**
KMMI	**Kalianget**	**5.09**	**85**	P	**Pn**	**16 45 00.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.40**	**124**	P	**Pn**	**16 48 04.3**	**+1.7**
	2.6nm,0.4s,baz=311,slow=7.1,SNR=8.4						
WRA	**Warramunga Arr**	**27.58**	**119**	P	P	16 49 23.4	+4.9
	1.0nm,0.4s,baz=293,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**28.86**	**126**	P	P	16 49 34.1	+4.2
	0.7nm,0.5s,baz=300,slow=8.3,SNR=18						
STKA	**Stephens Creek**	**38.90**	**133**	P	P	16 51 01.2	+4.8
	6.0nm,0.4s,baz=313,slow=7.6,SNR=54						

IDC ***13*** *16:54:28.5±0.5, 8°.60N×83°.12W, h0km, mb4.5/19, mb1 4.7/23, mb1mx4.7/28, mbtmp4.6/23, ML4.5/2, MS4.0/14, Ms1 4.0/14, ms1mx3.8/34, Error ellipse: s-maj=20.7km s-min=10.8km az=60.0*

ISCJB ***13*** *16:54:28.7±0.2, 8°.60N±0°.04×83°.07W±0°.03, h10km, mb4.8/99, MS4.2/12, Error ellipse: s-maj=5.8km s-min=2.9km az=29.9*

NEIC ***13*** *16:54:31.3±0.8, 8°.55N×83°.12W, h19km±4km, mb5.0/62, MD4.5(UCR), Error ellipse: s-maj=6.1km s-min=3.8km az=223.0*

NEIC Felt at Golfito and San Vito.

CASC ***13*** *16:54:31.1±3.4, 8°.62N×83°.13W, h1km±6km, MD4.5, mb5.0(NEIC)*

BJI ***13*** *16:54:31.3, 8°.70N×83°.20W, h13km, mB5.2/3, Ms5.2/9, Ms7 5.1/9*

MOS ***13*** *16:54:32.2±0.9, 8°.66N×83°.05W, h33km, mb5.2/34, Error ellipse: s-maj=9.3km s-min=6.0km az=101.7*

GCMT ***13*** *16:54:37.5±0.3, 8°.62N×83°.04W, h24km±1km, MW4.9, Moment Tensor Solution. s30,c34; s66,c86; Moment tensor: Scale 10^16 Nm; Mrr 2.41±.19; Mθθ -2.46±.12; Mφφ 0.05±.14; Mrθ 0.33±.13; Mrφ 1.14±.08; Mθφ 0.52±.20; Best double couple: Mo 2.70000×10^16 NP1: φ 307.00000°, δ 46.00000°, λ 113.00000°. NP2: φ 96.00000°, δ 48.00000°, λ 68.00000°. Principal axes: T 2.5900, Plg 74.0000°, Azm 295.0000°; N 0.3200, Plg 16.0000°, Azm 111.0000°; P -2.9000, Plg 1.0000°, Azm 201.0000°; Data Used: II IU IC G.*

SZGRF ***13*** *16:54:40.8, 10°.13N×82°.77W, h33km, mb4.9, MS4.4, North of Panama*

ISC 13 16:54:31.1±0.7, 8°.55N±0°.04×83°.14W±0°.03, h17km±3km, n564, σ1°17/591, mb4.9/99, MS4.1/12, 137C-132D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.11**	**346**	*i* P	**Pg**	**16 54 34.1**	**-0.7**
ACR	**Cerro Adams**	**0.11**	**346**	*i* P	**Pg**	**16 54 34.1**	**-0.7**
BRU2	**Volcan**	**0.51**	**61**	*i* P	**Pg**	**16 54 40.7**	**-0.7**
BRU2				*e*S	**Sb**	**16 54 49.2**	**+0.4**
TBS2		**0.54**	**63**	*e*P	**Pn**	**16 54 43.6**	**-0.5**
TBS2				*e*S	**Sn**	**16 54 51.7**	**-1.1**
CNI	**Changuinola**	**1.06**	**36**	*e*P	Pb	16 54 45.0	-6.0
BUS	**Buena Vista**	**1.17**	**329**	*e*P	**Pn**	**16 54 51.0**	**-2.1**
BUS	**Buena Vista**	**1.17**	**329**	*i* P	**Pn**	**16 54 51.0**	**-2.1**
QCR	**Quepos**	**1.33**	**311**	*i* P	**Pn**	**16 54 53.1**	**-1.8**
QCR				*e*S	**Sn**	**16 55 10.3**	**-1.9**
LAJ	**Bijagual**	**1.63**	**324**	*i* P	**Pb**	**16 55 01.2**	**+0.5**
LAJ	**Bijagual**	**1.63**	**324**	*e*P	**Pb**	**16 55 01.2**	**+0.5**
SJS	**Escuela Geolog**	**1.65**	**327**	*e*P	**Pn**	**16 54 59.5**	**+0.1**
SJS				*e*S	**Sg**	**16 55 24.4**	**0.0**
CGA2	**Cerro Gallo 2**	**1.96**	**318**	*e*P	**Pn**	**16 55 03.5**	**-0.2**
CGA2				*e*S	**Sb**	**16 55 31.2**	**+0.6**
CGA2	**Cerro Gallo 2**	**1.96**	**318**	*e*P	**Pn**	**16 55 03.5**	**-0.2**
CGA2				*e*S	**Sb**	**16 55 31.2**	**+0.6**
JTS	**JuntasAbangare**	**2.49**	**314**	Pn	**Pn**	**16 55 10.4**	**-0.4**
	162nm,0.3s,baz=104,slow=4.0,SNR=190						
JTS				Sn	**Sb**	**16 55 47.8**	**+2.1**
	264nm,0.3s,baz=314,slow=20,SNR=15						
JTS				LR	LR	16 56 23.9	
	comp=Z,3μm,18.0s,baz=132,slow=47						
JTS	**JuntasAbangare**	**2.49**	**314**	*e*Pn	**Pn**	**16 55 10.5**	**-0.4**
CHPA	**Chiripa**	**2.56**	**317**	*i* P	**Pb**	**16 55 15.4**	**-1.3**
AMAS	**Alto Masis**	**2.75**	**318**	*i* P	**Pn**	**16 55 16.0**	**+1.6**
PTEN	**Parque Tenorio**	**2.82**	**320**	*i* P	**Pn**	**16 55 16.0**	**+0.5**
CUI	**Cuipilapa**	**2.89**	**317**	*i* P	**Pn**	**16 55 18.3**	**+1.8**
COLC	**Colonia**	**2.93**	**316**	*i* P	**Pn**	**16 55 19.1**	**+2.2**
MESS	**Mesas**	**2.97**	**317**	*i* P	**Pn**	**16 55 20.3**	**+2.7**
PINA	**Piqa, Costa Ab**	**3.12**	**77**	*e*P	**Pn**	**16 55 21.6**	**+2.1**
LAPC	**Finca la Perla**	**3.16**	**314**	*i* P	**Pn**	**16 55 21.3**	**+1.2**
GB1A	**Borinquen Arri**	**3.17**	**316**	*i* P	**Pn**	**16 55 22.6**	**+2.4**
GBS2	**Las Lilas**	**3.22**	**315**	*i* P	**Pn**	**16 55 23.2**	**+2.3**
BCIP	**Isla Barro Col**	**3.32**	**79**	*e*Pn	**Pn**	**16 55 23.2**	**+0.9**
BCIP	**Isla Barro Col**	**3.32**	**79**	*e*P	**Pn**	**16 55 22.4**	**+0.1**
BCIP				*e*S	**Sb**	**16 56 10.2**	**+0.4**
UPIG		**3.59**	**83**	*i* P	**Pn**	**16 55 27.7**	**+1.7**
UPIG				*e*S	**Sn**	**16 56 11.4**	**+3.3**
CNCH	**Conchagua**	**6.58**	**316**	*e*P	**Pn**	**16 56 09.8**	**+2.5**
TGUH	**Tegucigalpa,Un**	**6.81**	**324**	*e*Pn	**Pn**	**16 56 10.8**	**+0.5**
	350nm,0.9s						
BLLM	**Bellamira**	**6.98**	**315**	*e*P	**Pn**	**16 56 15.3**	**+2.6**
BLLM				*e*S	**Sn**	**16 57 37.3**	**+5.6**
VSM	**San Miguel**	**6.99**	**314**	*e*P	**Pn**	**16 56 15.9**	**+2.9**
CAHU	**Cacacuatique**	**7.19**	**317**	*e*P	**Pn**	**16 56 18.7**	**+3.0**
SNVI	**San Vicente**	**7.52**	**312**	*e*P	**Pn**	**16 56 23.0**	**+2.8**
LFIJ	**La Fuente**	**7.81**	**312**	*e*P	**Pn**	**16 56 27.2**	**+3.1**
BOQS	**Boqueron**	**7.93**	**311**	*e*P	**Pn**	**16 56 28.5**	**+2.7**
SBLS	**San Blas**	**8.25**	**310**	*e*P	**Pn**	**16 56 33.1**	**+2.8**
SNJE	**San Jose**	**8.26**	**310**	*e*P	**Pn**	**16 56 33.0**	**+2.7**
MTO2	**Montecristo 2**	**8.42**	**314**	*e*P	**Pn**	**16 56 35.2**	**+2.6**
RBDL	**Robledal**	**8.47**	**311**	*e*P	**Pn**	**16 56 35.6**	**+2.4**
OTAV	**Otavalo**	**9.49**	**150**	*e*Pn	Pn	16 56 51.3	+3.8
ROSC	**El Rosal**	**9.49**	**112**	Pn	**Pn**	**16 56 49.9**	**+2.5**
	2.9nm,0.3s,baz=72,slow=20,SNR=2.6						
ROSC				LR	LR	17 00 43.5	
	comp=Z,338nm,18.5s,baz=189,slow=40						
ROSC	**El Rosal**	**9.49**	**112**	Pn	**Pn**	**16 56 49.9**	**+2.5**
MTDJ	**Mount Denham**	**11.06**	**29**	*e*Pn	**Pn**	**16 57 09.3**	**+0.7**
PAYG	**Puerto Ayora**	**11.60**	**218**	*e*Pn	**Pn**	**16 57 16.9**	**+0.8**
	34nm,1.0s						
TEIG	**Tepich**	**12.63**	**337**	Pn	**Pn**	**16 57 30.8**	**+0.8**
	2.1nm,0.3s,baz=152,slow=8.2,SNR=4.9						
TEIG				LR	LR	17 02 18.9	
	comp=Z,932nm,18.1s,baz=180,slow=37						
TEIG	**Tepich**	**12.63**	**337**	*e*Pn	**Pn**	**16 57 30.4**	**+0.4**
	13nm,0.8s						
CMIG	**Matias Romero**	**14.25**	**308**	Pn	**Pn**	**16 57 51.8**	**-0.4**
	0.4nm,0.3s,baz=106,slow=8.0,SNR=15						
CMIG				LR	LR	17 03 48.9	
	comp=Z,528nm,19.8s,baz=316,slow=39						
CMIG	**Matias Romero**	**14.25**	**308**	Pn	**Pn**	**16 57 51.8**	**-0.4**
SDDR	**Presa de Saban**	**15.48**	**47**	*e*Pn	**Pn**	**16 58 09.5**	**+0.6**
ATAH	**Atahualpa**	**16.28**	**163**	Pn	**P**	**16 58 22.4**	**-0.1**
	baz=17,slow=14,SNR=2.5						
ATAH				LR	LR	17 04 01.4	
	comp=Z,1μm,18.7s,baz=214,slow=35						
ATAH	**Atahualpa**	**16.28**	**163**	Pn	**P**	**16 58 22.4**	**-0.1**
SJG	**San Juan**	**19.05**	**58**	P	**Pn**	**16 58 53.5**	**0.0**
	3.0nm,0.3s,baz=270,slow=13,SNR=6.1						
SJG				LR	LR	17 05 30.9	
	comp=Z,517nm,19.8s,baz=0.2,slow=35						
SJG	**San Juan**	**19.05**	**58**	*e*P	**P**	**16 58 51.4**	**-1.3**
PTP	**Ponta Puerca**	**19.56**	**59**	*e*P	x	16 54 42.8	
NNA	**Nana**	**21.34**	**163**	P	**P**	**16 59 18.5**	**+0.9**
	14nm,0.8s,baz=324,slow=9.7,SNR=4.9						
NNA	**Nana**	**21.34**	**163**	*e*P	**P**	**16 59 15.8**	**-1.7**
	40nm,1.2s						
BRAL	**Brewton**	**22.65**	**351**	*e*P	**P**	**16 59 32.9**	**+1.5**
	110nm,1.1s						
HKT	**Hockley**	**24.39**	**332**	*e*P	**P**	**16 59 48.0**	**-0.5**
HKT				pmax	pmax		
	comp=Z,30nm,1.2s						
HKT	**Hockley**	**24.39**	**332**	*e*P	**P**	**16 59 48.0**	**-0.5**
	comp=Z,30nm,1.2s						
VBMS	**Vicksburg**	**24.53**	**345**	*e*P	**P**	**16 59 50.5**	**+0.7**
NHSC	**New Hope**	**24.59**	**6**	*e*P	**P**	**16 59 51.3**	**+0.9**
	comp=Z,286nm,1.1s						
LRAL	**Lakeview Retre**	**24.63**	**352**	*e*P	**P**	**16 59 51.6**	**+0.9**
	comp=Z,56nm,1.1s						
GOGA	**Godfrey**	**24.75**	**359**	*e*P	**P**	**16 59 52.2**	**+0.4**
GOGA				pmax	pmax		
	comp=Z,70nm,0.8s						
GOGA	**Godfrey**	**24.75**	**359**	*e*P	**P**	**16 59 52.1**	**+0.4**
	comp=Z,70nm,0.8s						
COW	**Cow Castle Cre**	**24.82**	**5**	*e*P	**P**	**16 59 52.4**	**+0.1**
732A	**Laxson Ranch,**	**25.57**	**324**	*i* P	**P**	**16 59 58.3**	**-1.0**
	baz=26,SNR=8.7						
JSC	**Jenkinsville**	**25.67**	**4**	*e*P	**P**	**17 00 00.1**	**0.0**
JSC	**Jenkinsville**	**25.67**	**4**	*e*P	**P**	**17 00 00.1**	**0.0**
SAML	**Samuel**	**26.41**	**131**	*e*P	**P**	**17 00 06.6**	**-0.4**
	comp=Z,9.4nm,1.0s						
631A	**Perdido Creek**	**26.43**	**324**	*i* P	**P**	**17 00 06.4**	**-0.8**
	baz=26,SNR=6.7						
OXF	**Oxford**	**26.48**	**348**	*e*P	**P**	**17 00 07.0**	**-0.4**
OXF				pmax	pmax		
	comp=Z,74nm,1.2s						
OXF	**Oxford**	**26.48**	**348**	*e*P	**P**	**17 00 07.0**	**-0.4**
	comp=Z,74nm,1.2s						
KMSC	**Kings Mountain**	**26.52**	**3**	*i* P	**P**	**17 00 08.7**	**+0.9**
	baz=27,SNR=13						
532A	**Rocksprings**	**26.59**	**326**	*i* P	**P**	**17 00 08.0**	**-0.7**
	baz=27						
WHTX	**Lake Whitney**	**26.85**	**332**	*i* P	**P**	**17 00 10.6**	**-0.3**
	baz=27						
531A	**Rocksprings**	**26.98**	**325**	*i* P	**P**	**17 00 11.7**	**-0.4**
	baz=27						
TKL	**Tuckaleechee C**	**26.99**	**359**	P	**P**	**17 00 10.9**	**-1.2**
	comp=Z,12nm,1.0s,baz=180,slow=8.4,SNR=6.2						
TKL				LR	LR	17 11 22.7	
	comp=Z,493nm,18.5s,baz=346,slow=38						
TKL	**Tuckaleechee C**	**26.99**	**359**	*e*P	**P**	**17 00 11.7**	**-0.4**
432A	**Menard**	**27.11**	**327**	*i* P	**P**	**17 00 12.5**	**-0.8**
	baz=27						
431A	**Sonora**	**27.41**	**326**	*i* P	**P**	**17 00 15.2**	**-0.8**
	baz=28						
530A	**J-C Ranch, Com**	**27.42**	**324**	*i* P	**P**	**17 00 15.5**	**-0.6**
	baz=28						
UALR	**University of**	**27.44**	**343**	*e*P	**P**	**17 00 16.1**	**+0.1**
	comp=Z,34nm,1.0s						
332A	**Millersview**	**27.48**	**328**	*i* P	**P**	**17 00 16.4**	**-0.2**
	baz=28,SNR=5.5						
MIAR	**Mount Ida**	**27.59**	**341**	*e*P	**P**	**17 00 17.2**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,34nm,1.1s						
MIAR	**Mount Ida**	**27.59**	**341**	*e*P	**P**	**17 00 17.1**	**-0.3**
	comp=Z,34nm,1.1s						
WVT	**Waverly**	**27.79**	**352**	*e*P	**P**	**17 00 18.8**	**-0.4**
WVT				pmax	pmax		
	comp=Z,12nm,1.2s						
WVT	**Waverly**	**27.79**	**352**	*e*P	**P**	**17 00 18.8**	**-0.4**
	comp=Z,12nm,1.2s						
331A	**San Angelo**	**27.79**	**327**	*i* P	**P**	**17 00 19.0**	**-0.4**
	baz=28						
430A	**Baggett Ranch,**	**27.84**	**325**	*i* P	**P**	**17 00 19.4**	**-0.4**
	baz=28						
TZTN	**Tazewell**	**27.87**	**359**	*e*P	**P**	**17 00 21.3**	**+1.3**
	comp=Z,40nm,1.4s						
628A	**Black Gap, Mar**	**27.88**	**321**	*i* P	**P**	**17 00 19.7**	**-0.5**
	baz=28						
529A	**Stev Forest Ra**	**27.93**	**323**	*i* P	**P**	**17 00 20.4**	**-0.2**
	baz=28						
429A	**Davenport Ranc**	**28.10**	**324**	*i* P	**P**	**17 00 21.6**	**-0.6**
	baz=28,SNR=10.0						
627A	**Terlingua Ranc**	**28.17**	**320**	*i* P	**P**	**17 00 22.4**	**-0.4**
	baz=28						
TXAR	**Lajitas Array**	**28.27**	**320**	P	**P**	**17 00 23.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=143,slow=8.9,SNR=8.7						
TXAR				PcP	**PcP**	**17 03 37.9**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=199,slow=2.7,SNR=6.2						
TXAR	**Lajitas Array**	**28.27**	**320**	P	**P**	**17 00 23.8**	**+0.1**
TXAR				PcP	**PcP**	**17 03 37.9**	**+0.9**
330A	**Mertzon**	**28.27**	**326**	*i* P	**P**	**17 00 23.0**	**-0.7**
	baz=28						
528A	**Cox Ranch, San**	**28.29**	**322**	*i* P	**P**	**17 00 23.7**	**-0.3**
	baz=28,SNR=7.2						
428A	**Kincaid Ranch,**	**28.64**	**323**	*i* P	**P**	**17 00 26.5**	**-0.5**
	baz=29						
BLA	**Blacksburg**	**28.64**	**5**	*e*P	**P**	**17 00 26.9**	**0.0**
BLA				pmax	pmax		
	comp=Z,58nm,1.0s						
BLA	**Blacksburg**	**28.64**	**5**	*e*P	**P**	**17 00 26.9**	**0.0**
	comp=Z,58nm,1.0s						
626A	**Big Bend Ranch**	**28.71**	**319**	*i* P	**P**	**17 00 27.4**	**-0.3**
	baz=29						
329A	**Wagon Wheel Ra**	**28.79**	**325**	*i* P	**P**	**17 00 28.0**	**-0.3**
	baz=29						
527A	**Woodward Ranch**	**28.79**	**321**	*i* P	**P**	**17 00 27.8**	**-0.6**
	baz=29						
LPAZ	**La Paz**	**28.80**	**149**	P	**P**	**17 00 29.6**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=327,slow=10,SNR=9.3						
LPAZ				LR	LR	17 13 54.7	
	comp=Z,309nm,18.4s,baz=309,slow=40						
LPAZ	**La Paz**	**28.80**	**149**	P	**P**	**17 00 29.6**	**+0.5**
526A	**Mary Lane Ranc**	**29.03**	**320**	*i* P	**P**	**17 00 30.2**	**-0.3**
	baz=29						
328A	**Wristen Ranch,**	**29.18**	**324**	*i* P	**P**	**17 00 30.9**	**-0.9**
	baz=29						
426A	**McDonald Obser**	**29.41**	**321**	*i* P	**P**	**17 00 33.6**	**-0.4**
	baz=30						
USIN	**University of**	**29.57**	**353**	*e*P	**P**	**17 00 35.6**	**+0.5**
	comp=Z,27nm,0.9s						
228A	**UT Block 9, Go**	**29.60**	**325**	*i* P	**P**	**17 00 34.8**	**-0.7**
	baz=30						
WCI	**Wyandotte Cave**	**29.69**	**355**	*e*P	**P**	**17 00 36.6**	**+0.5**
WCI				pmax	pmax		
	comp=Z,33nm,1.0s						
WCI	**Wyandotte Cave**	**29.69**	**355**	*e*P	**P**	**17 00 36.6**	**+0.5**
	comp=Z,32nm,1.0s						
Z30A	**Sanderson Ranc**	**29.70**	**329**	*i* P	**P**	**17 00 36.3**	**-0.1**
	baz=30						
WMOK	**Wichita Mounta**	**29.76**	**333**	*e*P	**P**	**17 00 36.4**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WMOK	**Wichita Mounta**	**29.76**	**333**	*e*P	**P**	**17 00 36.4**	**-0.4**
	comp=Z,8.8nm,1.2s						
326A	**Caldwell Ranch**	**29.83**	**322**	*i* P	**P**	**17 00 37.2**	**-0.4**
	baz=30						
425A	**Indio Mountain**	**30.09**	**320**	*i* P	**P**	**17 00 39.7**	**-0.2**
	baz=30,SNR=7.1						
OLIL	**Olney**	**30.38**	**352**	*e*P	**P**	**17 00 42.0**	**-0.3**
Y29A	**Porterfield Fa**	**30.43**	**329**	*i* P	**P**	**17 00 42.6**	**-0.3**
	baz=30						
325A	**Bean Ranch, Si**	**30.48**	**321**	*i* P	**P**	**17 00 42.6**	**-0.9**
	baz=31						
324A	**Moseley Ranch,**	**30.85**	**321**	*i* P	**P**	**17 00 45.4**	**-1.2**
	baz=31,SNR=9.6						
MNTX	**Cornudas Mount**	**30.96**	**321**	*i* P	**P**	**17 00 46.8**	**-0.7**
	baz=31						
125A	**Gardner Draw,**	**31.19**	**323**	*i* P	**P**	**17 00 49.1**	**-0.5**
	baz=31,SNR=7.6						
AMTX	**Amarillo**	**31.24**	**330**	*i* P	**P**	**17 00 49.7**	**-0.4**
	baz=31						
**224A

R26A	**Arlington** baz=35	34.82	331	⇑P	P	17 01 21.7	+0.5
TUC	**Tucson**	34.87	317	*e*P	P	17 01 22.7	+1.0
TUC	comp=Z,10.0nm,1.0s			pmax	pmax		
TUC	**Tucson** comp=Z,10nm,1.0s	34.87	317	*e*P	P	17 01 22.7	+1.0
KSCO	**Kaye Shedlock'** baz=35	35.02	333	⇓P	P	17 01 23.2	+0.2
R25A	**Fountain Ranch** baz=35	35.10	330	⇑P	P	17 01 24.2	+0.4
S24A	**Houchin Ranch,** baz=35	35.17	329	⇑P	P	17 01 25.0	+0.5
W20A	**Ramah** baz=35	35.20	322	⇓P	P	17 01 25.7	+1.0
Q26A	**Hugo** baz=36,SNR=5.5	35.35	332	⇓P	P	17 01 26.1	+0.2
Q25A	**Bedland, Calha** baz=36	35.69	331	⇓P	P	17 01 29.4	+0.6
X18A	**Snowflake** baz=36	35.70	320	⇓P	P	17 01 29.5	+0.6
P26A	**Davis Ranch, A** baz=36	35.79	333	⇑P	P	17 01 30.4	+0.8
R23A	**Moffat** baz=36	35.91	329	⇑P	P	17 01 31.6	+0.7
O27A	**Beecher Island** baz=36	35.92	334	⇓P	P	17 01 31.4	+0.7
T21A	**Navajo Lake** baz=36	35.94	326	⇓P	P	17 01 31.4	+0.4
W18A	**Petrified Fore** baz=36,SNR=6.5	35.95	321	⇑P	P	17 01 32.3	+1.2
214A	**Organ Pipe Nat** baz=36,SNR=15	36.07	314	⇓P	P	17 01 33.4	+1.4
S22A	**4UR Ranch, Cre** baz=36	36.10	327	⇑P	P	17 01 33.1	+0.6
P25A	**Willow Gulch B** baz=36,SNR=11	36.12	332	⇑P	P	17 01 33.2	+0.7
Q24A	**Divide** baz=36	36.16	330	⇓P	P	17 01 33.5	+0.5
O26A	**Horse Wrangler** baz=36	36.33	334	⇑P	P	17 01 34.6	+0.4
OGNE	**Ogallala** comp=Z,89nm,1.1s	36.37	336	*e*P	P	17 01 33.4	-1.0
OGNE	**Ogallala** baz=36,SNR=8.2	36.37	336	⇓P	P	17 01 34.6	+0.1
U19A	**Dine' College,** baz=36	36.41	323	⇑P	P	17 01 35.1	+0.1
N27A	**Anderson Farm,** baz=37,SNR=6.5	36.46	335	⇓P	P	17 01 36.3	+1.0
S21A	**Coal Bank Pass** baz=37	36.56	326	⇑P	P	17 01 36.4	-0.1
X16A	**Lo Mia Camp, P** baz=37,SNR=9.0	36.58	319	⇓P	P	17 01 38.3	+1.8
O25A	**Wiggins** baz=37	36.58	333	⇑P	P	17 01 36.8	+0.3
MVCO	**Mesa Verde**	36.63	325	*e*P	P	17 01 37.5	+0.5
MVCO	**Mesa Verde** baz=37	36.63	325	⇑P	P	17 01 37.0	0.0
LONY	**Lake Ozonia** comp=Z,45nm,1.7s	36.70	10	*e*P	P	17 01 38.1	+1.0
P23A	**Jefferson** baz=37	36.82	330	⇓P	P	17 01 39.0	+0.3
Z14A	**Wintersburg** baz=37,SNR=5.9	36.96	316	⇓P	P	17 01 40.6	+1.1
ECSD	**EROS Data Cent** comp=Z,18nm,1.0s	36.97	344	*e*P	P	17 01 38.0	-1.5
Q22A	**Crested Butte,** baz=37	36.97	328	⇓P	P	17 01 39.9	-0.1
113A	**Mohawk Valley,** baz=37,SNR=7.2	37.19	315	⇑P	P	17 01 43.2	+1.7
WUAZ	**Wupatki** comp=Z,9.1nm,1.1s	37.23	320	*e*P	P	17 01 42.4	+0.4
WUAZ	**Wupatki** baz=37	37.23	320	⇑P	P	17 01 42.9	+1.0
SMCO	**Snowmass** comp=Z,11nm,1.5s	37.24	329	*e*P	P	17 01 43.5	+1.1
Q21A	**Lamborn Mesa,** baz=37	37.30	328	⇑P	P	17 01 43.4	+0.8
Y14A	**Wickenburg** baz=37,SNR=10	37.33	317	⇓P	P	17 01 43.9	+1.1
P22A	**Eagle** baz=38,SNR=7.3	37.45	329	⇓P	P	17 01 44.8	+0.9
SPMN	**St. Paul** baz=38	37.48	349	⇓P	P	17 01 43.0	-0.8
N24A	**Carr** baz=38,SNR=7.1	37.50	333	⇑P	P	17 01 44.9	+0.7
O23A	**Lake Granby, G** baz=38	37.50	331	⇓P	P	17 01 44.9	+0.5
O22A	**Kremmling** baz=38	37.77	330	⇓P	P	17 01 46.4	-0.3
M24A	**Cheyenne** baz=38	37.99	333	⇓P	P	17 01 48.8	+0.4
N23A	**Red Feather La** baz=38	38.05	332	⇓P	P	17 01 49.3	+0.3
GLA	**Glamis**	38.09	314	*e*P	P	17 01 49.9	+0.7
GLA	comp=Z,60nm,1.4s			pmax	pmax		
GLA	**Glamis** comp=Z,60nm,1.4s	38.09	314	*e*P	P	17 01 49.9	+0.7
GLA	**Glamis** baz=38,SNR=5.4	38.09	314	⇓P	P	17 01 51.3	+2.1
P20A	**De Beque** baz=38	38.22	328	⇑P	P	17 01 50.9	+0.6
Y12C	**Blythe** baz=38,SNR=6.2	38.26	316	⇑P	P	17 01 52.8	+2.2
Q19A	**Hogan Spring (** baz=38	38.29	326	⇓P	P	17 01 50.8	-0.1
K26A	**Motz Farm, Whi** baz=38	38.30	336	⇑P	P	17 01 51.9	+1.0
PDMCI	**Parker Dam,Lak** baz=38,SNR=6.5	38.31	317	⇑P	P	17 01 52.6	+1.6
BRSD	**Miller** baz=38	38.31	342	⇓P	P	17 01 50.9	0.0
U15A	**North Rim** baz=38,SNR=9.0	38.38	321	⇓P	P	17 01 53.4	+1.6
K25A	**Mack Ranch, Ha** baz=39	38.51	335	⇑P	P	17 01 53.8	+1.1
W13A	**Hualapai Mount** baz=39,SNR=5.0	38.60	318	⇓P	P	17 01 55.0	+1.3
N21A	**Black Mountain** baz=39	38.71	330	⇓P	P	17 01 55.3	+0.8
SWSC	**Sam W. Stewart** baz=39	38.73	314	⇓P	P	17 01 55.8	+1.3
BC3	**Big Chuckawall** baz=39,SNR=7.5	38.86	315	⇑P	P	17 01 57.3	+1.5
L23A	**Garrett** baz=39,SNR=9.7	38.90	333	⇑P	P	17 01 56.5	+0.4
IRM	**Iron Mountain** baz=39,SNR=7.6	38.92	316	⇓P	P	17 01 57.4	+1.2
SRU	**San Rafael** baz=39	39.10	325	⇓P	P	17 01 58.0	+0.3
N20A	**Spence Gulch,** baz=39	39.13	329	⇑P	P	17 01 58.0	-0.1
MONP	**Monument Peak** baz=39,SNR=6.8	39.15	313	⇓P	P	17 01 59.3	+1.0
L22A	**Ellis Ranch, M** baz=39	39.17	332	⇑P	P	17 01 58.6	+0.3
O19A	**Miners Draw (B** baz=39	39.18	328	⇓P	P	17 01 58.4	0.0
M21A	**Separation Pea** baz=39	39.28	331	⇓P	P	17 01 59.8	+0.6
BELC	**Belle Mtn. Jos** baz=40,SNR=10	39.43	315	⇓P	P	17 02 01.9	+1.4
J24A	**Dixon Ranch, L** baz=40	39.43	335	⇓P	P	17 02 01.2	+0.8
PFO	**Pinyon Flat Ob** comp=Z,31nm,1.1s	39.55	314	*e*P	P	17 02 01.8	+0.3
PFO	**Pinyon Flat Ob** baz=40,SNR=7.4	39.55	314	⇑P	P	17 02 02.8	+1.3
L21A	**Rawlins** baz=40	39.55	331	⇓P	P	17 02 01.4	-0.1
GMRC	**Granite Mounta** baz=40,SNR=5.5	39.62	316	⇓P	P	17 02 03.4	+1.3
MVU	**Marysvale**	39.66	323	*e*P	P	17 02 04.6	+2.0
K22A	**Casper** baz=40	39.70	333	⇓P	P	17 02 03.0	+0.3
RSSD	**Black Hills**	39.83	336	*e*P	P	17 02 04.4	+0.6
RSSD	**Black Hills**	39.83	336	*e*P	P	17 02 04.4	+0.6
K21A	**Alcova** baz=40	40.02	332	⇑P	P	17 02 05.2	-0.1
HEC	**Hector,Ludlow** baz=40,SNR=6.9	40.11	316	⇓P	P	17 02 07.5	+1.5
TUQ	**Turquoise Moun** baz=40	40.16	317	⇓P	P	17 02 07.4	+0.8
J22A	**Midwest** baz=40,SNR=5.3	40.28	333	⇑P	P	17 02 07.2	-0.3
P15A	**Leamington** baz=40	40.41	325	⇑P	P	17 02 09.2	+0.5
R13A	**O'Grain Ranch,** baz=41,SNR=6.5	40.52	322	⇑P	P	17 02 10.7	+1.2
H24A	**Dirks Ranch, A** baz=41	40.56	336	⇑P	P	17 02 10.4	+0.7
J21A	**Lysite** baz=41,SNR=6.3	40.66	333	⇑P	P	17 02 10.5	-0.2
BFSC	**Mount Baldy Ra** baz=41	40.73	314	⇓P	P	17 02 12.4	+1.1
L18A	**Fontenelle, Gr** baz=41	40.84	329	⇓P	P	17 02 12.6	+0.4
M17A	**Scullys Gap (B** baz=41	40.84	328	⇓P	P	17 02 11.9	-0.3
CIS	**Catalina Islan** baz=41	40.85	312	⇑P	P	17 02 13.4	+1.2
K19A	**Absolon Red Bu** baz=41,SNR=6.7	40.92	331	⇑P	P	17 02 12.3	-0.5
I21A	**Big Trails, Te** baz=41	40.96	333	⇑P	P	17 02 13.0	0.0
J20A	**Shoshoni** baz=41	40.96	332	⇑P	P	17 02 13.5	+0.5
G24A	**Alzada** baz=41	40.99	337	⇓P	P	17 02 14.0	+0.7
AGMN	**Agassiz Nation**	41.05	347	*e*P	P	17 02 12.1	-1.4
DUG	**Dugway**	41.13	325	*e*P	P	17 02 16.3	+1.7
DUG	comp=Z,9.0nm,1.4s			pmax	pmax		
DUG	**Dugway** comp=Z,8.7nm,1.4s	41.13	325	*e*P	P	17 02 16.3	+1.7
DUG	**Dugway** baz=41	41.13	325	⇑P	P	17 02 15.2	+0.7
BW06	**Boulder Array** baz=41	41.22	330	⇑P	P	17 02 15.2	-0.2
PDAR	**Pinedale Array** comp=Z,2.2nm,1.0s,baz=148,slow=8.6,SNR=10	41.22	330	P	P	17 02 14.9	-0.4
PDAR	comp=Z,2.4nm,1.0s,baz=120,slow=5.8,SNR=6.7			PcP	PcP	17 04 14.3	+0.1
PDAR	**Pinedale Array**	41.22	330	P	P	17 02 14.9	-0.4
PDAR				PcP	PcP	17 04 14.3	+0.1
EDW2	**Edwards Air Fo** baz=41,SNR=13	41.29	315	⇑P	P	17 02 17.2	+1.4
J19A	**Crowheart** baz=42	41.35	331	⇓P	P	17 02 16.1	-0.2
FURC	**Furnace Creek,** baz=41,SNR=7.4	41.37	317	⇑P	P	17 02 18.4	+2.1
K18A	**Toltan Ranch,** baz=42,SNR=6.0	41.37	330	⇓P	P	17 02 16.7	+0.2
LRMC	**Laurel Mountai** baz=42,SNR=7.6	41.39	316	⇓P	P	17 02 18.0	+1.2
HWUT	**Hardware Ranch**	41.41	327	*e*P	P	17 02 17.1	+0.2
I20A	**Worland** baz=42	41.44	333	⇑P	P	17 02 17.3	+0.2
MPMC	**Manual Prospec** baz=42,SNR=19	41.57	316	⇑P	P	17 02 19.6	+1.3
R11A	**Troy Canyon, C** baz=42	41.62	321	⇓P	P	17 02 19.5	+0.8
L16A	**Fish Haven** baz=42	41.63	328	⇑P	P	17 02 18.8	+0.2
J18A	**Kendall Valley** baz=42,SNR=9.3	41.78	330	⇑P	P	17 02 19.5	-0.5
I19A	**Meeteetse** baz=42	41.91	332	⇑P	P	17 02 21.2	+0.3
E24A	**Baker** baz=42	41.99	338	⇓P	P	17 02 22.0	+0.7
ARVC	**Arvin** baz=42,SNR=5.6	42.01	314	⇑P	P	17 02 23.4	+1.8
ISA	**Isabella** baz=42,SNR=10.0	42.03	315	⇓P	P	17 02 23.9	+1.9
I18A	**Diamond G Ranc** baz=42	42.04	331	⇓P	P	17 02 22.2	+0.1
L15A	**Malad City** baz=42	42.13	327	⇑P	P	17 02 23.0	+0.3
J17A	**Brown Place, J** baz=42	42.23	330	⇓P	P	17 02 23.9	+0.3
BDFB	**Brasilia** comp=Z,2.1nm,0.3s,baz=268,slow=9.8,SNR=4.9	42.29	125	P	P	17 02 24.0	-0.2
BDFB	comp=Z,143nm,18.0s,baz=341,slow=38			LR	LR	17 21 38.3	
BDFB	**Brasilia**	42.29	125	P	P	17 02 24.0	-0.2
REDW	**Red Top Meadow** comp=Z,18nm,1.4s	42.30	330	*e*P	P	17 02 24.3	+0.1
LOHW	**Long Hollow** comp=Z,30nm,2.3s	42.36	330	*e*P	P	17 02 24.8	+0.1
CFAA	**Coronel Fontan** comp=Z,0.3nm,0.8s,baz=330,slow=10,SNR=4.1	42.40	161	P	P	17 02 26.0	+1.2
CFAA	**Coronel Fontan**	42.40	161	P	P	17 02 26.0	+1.2
TPAW	**Teton Pass**	42.44	330	*e*P	P	17 02 28.8	+3.5
D24A	**Glendive** baz=43,SNR=6.2	42.46	339	⇑P	P	17 02 25.2	0.0
E22A	**Miles City** baz=43	42.51	337	⇑P	P	17 02 25.1	-0.5
RRI2	**Red Ridge** comp=Z,17nm,1.7s	42.52	329	*e*P	P	17 02 26.2	+0.2
MOOW	**Moose Ponds**	42.53	330	*e*P	P	17 02 25.9	-0.1
VES	**Vestal, Richgr** baz=43,SNR=11	42.55	315	⇓P	P	17 02 27.7	+1.7
I17A	**Pilgrim Ck.** baz=43,SNR=6.7	42.57	331	⇑P	P	17 02 26.2	-0.2
PKM	**Peak Mountain** baz=43,SNR=7.4	42.60	313	⇑P	P	17 02 28.4	+1.7
L14A	**Malta** baz=43	42.61	327	⇓P	P	17 02 26.5	-0.2
J16A	**Bone** baz=43	42.62	329	⇓P	P	17 02 26.8	+0.1
H18A	**Shoshone NF, C** baz=43	42.71	332	⇑P	P	17 02 27.7	+0.2
IMW	**Indian Meadow** comp=Z,5.1nm,1.1s	42.73	330	*e*P	P	17 02 27.6	-0.1
FLWY	**Flagg Ranch**	42.75	331	*e*P	P	17 02 28.1	+0.3
CPUP	**Villa Florida** comp=Z,1.5nm,0.7s,baz=323,slow=6.7,SNR=5.4	42.79	145	P	P	17 02 27.3	-0.7
CPUP	comp=Z,193nm,18.1s,baz=113,slow=40			LR	LR	17 23 15.0	
CPUP	**Villa Florida**	42.79	145	P	P	17 02 27.3	-0.7
D23A	**Lindsay** baz=43	42.84	338	⇓P	P	17 02 28.1	-0.2
C24A	**Savage** baz=43	42.85	339	⇓P	P	17 02 28.2	-0.2
RLMT	**Red Lodge**	42.87	333	*e*P	P	17 02 28.5	-0.2
RLMT	**Red Lodge** baz=43,SNR=6.2	42.87	333	⇑P	P	17 02 28.1	-0.6
ELK	**Elko**	42.90	324	*e*P	P	17 02 30.1	+1.0
F20A	**Billings** baz=43,SNR=7.0	42.90	334	⇑P	P	17 02 28.4	-0.4
ULM	**Lac du Bonnet** comp=Z,16nm,0.6s,baz=157,slow=7.5,SNR=31	42.90	348	P	P	17 02 27.1	-1.5
ULM				PcP	PcP	17 04 19.4	+0.1
ULM	**Lac du Bonnet** comp=Z,4.0nm,0.8s,baz=235,slow=3.7,SNR=3.7	42.90	348	P	P	17 02 27.1	-1.5
ULM				PcP	PcP	17 04 19.4	+0.1
K14A	**Jones Ranch, D** baz=43,SNR=6.1	42.92	327	⇑P	P	17 02 29.0	-0.1
SMMC	**Simmler** baz=43,SNR=5.1	42.93	314	⇓P	P	17 02 30.9	+1.7
J15A	**Blackfoot** baz=43,SNR=6.4	43.13	329	⇑P	P	17 02 30.8	0.0
G18A	**Lazy EL Ranch,** baz=43	43.15	333	⇓P	P	17 02 30.3	-0.7
D22A	**Cohagen** baz=43,SNR=6.5	43.19	337	⇓P	P	17 02 31.1	0.0
F19A	**Roth Farm, Mol** baz=43	43.29	334	⇓P	P	17 02 31.3	-0.7
C23A	**Lambert** baz=44,SNR=7.2	43.36	338	⇑P	P	17 02 32.5	+0.1
NVAR	**Mina Array Bea** comp=Z,6.5nm,0.7s,baz=126,slow=6.8,SNR=39	43.41	319	P	P	17 02 34.9	+1.6
NVAR				PcP	PcP	17 04 22.4	+0.8
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.8s,baz=133,slow=4.1,SNR=4.4	43.41	319	P	P	17 02 34.9	+1.6
NVAR				PcP	PcP	17 04 22.4	+0.8
E20A	**Meyer Farm, Mu** baz=44	43.45	335	⇓P	P	17 02 33.2	0.0
H16A	**Russell Place,** baz=44	43.48	331	⇑P	P	17 02 33.6	0.0
C22A	**Vida** baz=44	43.57	338	⇓P	P	17 02 34.3	+0.2
DGMT	**Dagmar** comp=Z,15nm,0.8s	43.57	340	*e*P	P	17 02 33.7	-0.5
DGMT	**Dagmar** baz=44	43.57	340	⇑P	P	17 02 33.9	-0.3
F18A	**Big Timber** baz=44,SNR=8.6	43.67	333	⇑P	P	17 02 34.7	-0.4
E19A	**Rath Farm, Rou** baz=44	43.69	334	⇓P	P	17 02 34.7	-0.5
B23A	**Brockton** baz=44	43.85	339	⇓P	P	17 02 36.6	+0.2
BMN	**Battle Mountai**	43.89	322	*e*P	P	17 02 37.6	+0.6
BMN				pmax	pmax		
BMN	**Battle Mountai** comp=Z,11nm,0.8s	43.89	322	*e*P	P	17 02 37.6	+0.6
A24A	**Westby** baz=44	43.90	340	⇓P	P	17 02 37.0	+0.2
D20A	**Manuel Ranch,** baz=44	43.92	335	⇓P	P	17 02 36.4	-0.6
J13A	**Cove Ranch, Pi** baz=44	44.04	327	⇑P	P	17 02 38.1	0.0
F17A	**Fitzpatrick Pl** baz=44	44.10	332	⇑P	P	17 02 38.8	+0.2
C21A	**Desert Coulee** baz=44	44.10	337	⇑P	P	17 02 39.1	+0.7
H15A	**Lima** baz=44,SNR=14	44.10	330	⇓P	P	17 02 39.3	+0.6
G16A	**Moss Hill, Enn** baz=44	44.13	331	⇑P	P	17 02 38.8	-0.1
HLID	**Hailey** baz=44	44.28	327	⇑P	P	17 02 39.9	-0.2
BOZ	**Bozeman (W)** baz=44	44.35	331	⇑P	P	17 02 40.4	-0.2
C20A	**Veseth Ranch,** baz=44	44.36	336	⇑P	P	17 02 40.3	-0.2
I13A	**Wildhorse Cree** baz=44,SNR=8.7	44.37	328	⇑P	P	17 02 41.0	+0.1
G15A	**Dillon** baz=44	44.42	330	⇓P	P	17 02 40.7	-0.5
H14A	**Leadore** baz=45	44.47	329	⇓P	P	17 02 41.5	0.0
CMB	**Columbia Colle**	44.58	317	*e*P	P	17 02 44.6	+2.2
CMB	**Columbia Colle**	44.58	317	*e*P	P	17 02 44.6	+2.2
E17A	**Martinsdale** baz=45	44.61	333	⇓P	P	17 02 42.2	-0.5
DLMT	**Dillon** comp=Z,9.5nm,1.2s	44.61	330	*e*P	P	17 02 43.4	+0.6
A22A	**Carney Farms,** baz=45	44.62	339	⇓P	P	17 02 42.5	-0.1
D18A	**Linhart Farms,** baz=45	44.70	334	⇑P	P	17 02 43.4	0.0
C19A	**Slack Wire Ran** baz=45,SNR=7.1	44.81	335	⇑P	P	17 02 43.6	-0.5
I12A	**Atlanta** baz=45	44.82	327	⇑P	P	17 02 44.0	-0.5
H13A	**Challis** baz=45	44.88	328	⇑P	P	17 02 44.6	-0.3
F15A	**Butte** baz=45	44.91	331	⇑P	P	17 02 45.2	+0.1
MFID	**Camas Ranch**	44.95	326	*e*P	P	17 02 46.2	+0.8
MFID	**Camas Ranch** baz=45	44.95	326	⇓P	P	17 02 45.5	+0.1
B20A	**Solberg Farm,** baz=45,SNR=6.7	44.96	337	⇑P	P	17 02 45.3	0.0
A21A	**Bergtoll Ranch** baz=45	44.99	338	⇑P	P	17 02 45.7	+0.2
D17A	**Six Diamond Ra** baz=45	45.05	334	⇓P	P	17 02 45.8	-0.4
H12A	**Diamond D Ranc** baz=45,SNR=7.8	45.19	328	⇑P	P	17 02 47.3	0.0
G13A	**Cobalt** baz=45	45.24	329	⇓P	P	17 02 47.4	-0.2
A20A	**Cobblestone Ra** baz=45	45.28	337	⇑P	P	17 02 47.8	0.0
F14A	**Wisdom** baz=45	45.31	330	⇑P	P	17 02 47.9	-0.4
EGMT	**Eagleton** baz=45	45.33	335	⇑P	P	17 02 48.2	0.0
D16A	**Dana Ranch, Ca** baz=45	45.35	333	⇓P	P	17 02 48.9	+0.4
E15A	**Deer Lodge** baz=46	45.41	331	⇓P	P	17 02 49.2	+0.2
F13A	**Darby** baz=46,SNR=6.5	45.77	330	⇓P	P	17 02 51.2	-0.7
E14A	**Clinton** baz=46	45.80	331	⇑P	P	17 02 52.1	-0.1
A18A	**Metzger Ranch,** baz=46,SNR=6.2	46.07	336	⇑P	P	17 02 53.3	-0.7
E13A	**Victor** baz=46	46.16	330	⇑P	P	17 02 54.4	-0.5
F12A	**Elk City** baz=46,SNR=8.9	46.22	329	⇓P	P	17 02 54.9	-0.5
D14A	**Greenough** baz=46	46.29	331	⇓P	P	17 02 55.5	-0.4
MSO	**Missoula** baz=46	46.32	331	⇑P	P	17 02 55.9	-0.3
C15A	**Salmond Ranch,** baz=46,SNR=5.9	46.38	333	⇑P	P	17 02 56.3	-0.4
A17A	**Triple J Farms** baz=46	46.44	335	⇓P	P	17 02 56.8	-0.3
B16A	**M & M Farms, S** baz=47	46.46	334	⇓P	P	17 02 56.6	-0.6
MOD	**Modoc**	46.63	322	*e*P	P	17 02 59.4	+0.7
D13A	**Huson** baz=47	46.76	331	⇑P	P	17 02 59.3	-0.2
B15A	**Bradely Ranch,** baz=47,SNR=5.7	46.76	333	⇑P	P	17 02 58.9	-0.7
A16A	**West Butte Ran** baz=47	46.82	334	⇑P	P	17 02 59.4	-0.7
B14A	**Marquette Ranc** baz=47,SNR=7.9	47.12	333	⇑P	P	17 03 02.5	+0.1
C13A	**Hot Springs** baz=47	47.23	331	⇓P	P	17 03 02.7	-0.5
A15A	**Johnson Ranch,** baz=47	47.33	334	⇓P	P	17 03 03.6	-0.5
A14A	**Double T Ranch** baz=48	47.63	333	⇓P	P	17 03 06.3	-0.1
B13A	**Whitefish** baz=48	47.67	332	⇑P	P	17 03 06.7	0.0
C12B	**Naegeli Ranch,** baz=48	47.68	331	⇑P	P	17 03 07.1	+0.4
SCHQ	**Schefferville** comp=Z,8.1nm,0.7s,baz=211,slow=6.4,SNR=6.4	47.96	13	P	P	17 03 08.2	-0.5
SCHQ	comp=Z,216nm,18.1s,baz=214,slow=37			LR	LR	17 23 58.2	
SCHQ	**Schefferville**	47.96	13	P	P	17 03 08.2	-0.5
B12A	**Libby** baz=48	48.27	331	⇓P	P	17 03 11.7	+0.4
FFC	**Flin Flon**	48.45	346	*e*P	P	17 03 11.8	-0.6
FFC	comp=Z,7.0nm,0.8s			pmax	pmax		
FFC	**Flin Flon** comp=Z,6.9nm,0.8s	48.45	346	*e*P	P	17 03 11.8	-0.6
A12A	**Yaak River Ran** baz=49	48.62	332	⇓P	P	17 03 14.2	+0.2
NEW	**Newport** baz=49	48.86	330	⇑P	P	17 03 15.7	-0.1
PLCA	**Paso Flores** comp=Z,7.2nm,0.8s,baz=343,slow=10.0,SNR=18	50.39	168	P	P	17 03 28.1	+0.5
PLCA				PcP	PcP	17 04 44.9	-1.0
PLCA	comp=Z,3.1nm,0.9s,baz=315,slow=3.8,SNR=2.1			LR	LR	17 20 52.0	
PLCA	comp=Z,91nm,18.7s,baz=95,slow=31						
PLCA	**Paso Flores**	50.39	168	P	P	17 03 28.1	+0.5
PLCA				PcP	PcP	17 04 44.9	-1.0
NLWA	**Neilton Lookou** comp=Z,16nm,1.3s	51.86	326	*e*P	P	17 03 38.5	0.0
YKA	**Yellowknife Ar** comp=Z,8.5nm,0.8s,baz=139,slow=6.9,SNR=176	58.50	343	P	P	17 04 25.3	-0.8
YKA	comp=Z,0.9nm,0.8s,baz=134,slow=3.7,SNR=4.9			PcP	PcP	17 05 16.8	+0.3
YKA	**Yellowknife Ar**	58.50	343	P	P	17 04 25.3	-0.8
YKA				PcP	PcP	17 05 16.8	+0.3
YKW3	**Yellowknife Ar** comp=Z,0.4nm,1.1s	58.56	344	*e*P	P	17 04 25.7	-0.8
RES	**Resolute Bay** comp=Z,5.8nm,0.3s	66.44	357	*e*P	P	17 05 17.7	-1.3
RES				*e*pP	pP	17 05 24.9	+0.2
DAWY	**Dawson**	68.02	337	*e*P	P	17 05 27.7	-1.6
EGAK	**Eagle** comp=Z,18nm,1.0s	69.03	337	*e*P	P	17 05 35.4	-0.1
SUMG	**Summit** comp=Z,40nm,1.0s	69.35	13	*e*P	P	17 05 35.4	-2.5
SUMG				pmax	pmax		
SUMG	**Summit** comp=Z,40nm,1.0s	69.35	13	*e*P	P	17 05 35.4	-2.5
SUMG	**Summit** comp=Z,30nm,0.9s	69.35	13	*i* P	P	17 05 37.1	-0.8
DOT	**Dot Lake** comp=Z,12nm,0.9s	69.72	335	*e*P	P	17 05 39.7	-0.2
PAX	**Paxson** comp=Z,4.0nm,0.8s	70.05	335	*e*P	P	17 05 41.2	-0.8
PAX				pmax	pmax		
PAX	**Paxson** comp=Z,4.0nm,0.8s	70.05	335	*e*P	P	17 05 41.2	-0.8
ILAR	**Eielson Array** comp=Z,15nm,0.9s,baz=113,slow=4.4,SNR=132	71.28	336	P	P	17 05 49.5	+0.2
ILAR				LR	LR	17 36 31.9	
ILAR	comp=Z,63nm,21.0s,baz=151,slow=35						
ILAR	**Eielson Array**	71.28	336	P	P	17 05 49.5	+0.2

COLA	**College**	**71.70**	**336**	*e*P		**P**		**17 05 52.3**	**+0.5**
COLA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
COLA	**College**	**71.70**	**336**	*e*P		**P**		**17 05 52.3**	**+0.5**
	comp=Z,6.1nm,0.8s								
TRF	**Thorofare Moun**	**72.27**	**334**	*e*P		**P**		**17 05 55.0**	**-0.5**
	comp=Z,31nm,1.6s								
MORF	**Marmelete**	**72.54**	**54**	*e*P		**P**		**17 05 58.7**	**+1.2**
	comp=Z,59nm,1.7s								
PNCL	**Nicolau / Gran**	**72.68**	**53**	*e*P		**P**		**17 06 00.0**	**+1.8**
	comp=Z,24nm,1.7s								
PMTG	**Montargil**	**72.96**	**52**	*e*P		**P**		**17 06 00.2**	**+0.3**
	comp=Z,24nm,1.9s								
EVOP	**Sao Brissos**	**73.01**	**52**	*e*P		**P**		**17 06 00.7**	**+0.5**
EVOP				pmax		pmax			
	comp=Z,28nm,0.9s								
EVOP	**Sao Brissos**	**73.01**	**52**	*e*P		**P**		**17 06 00.7**	**+0.5**
	comp=Z,28nm,0.9s								
EVO	**Evora**	**73.10**	**52**	*e*P		**P**		**17 06 00.7**	**0.0**
	comp=Z,28nm,0.9s								
EVO				*e*R					
	comp=Z,96nm,22.2s								
EVO	**Evora**	**73.10**	**52**	*e*P		**P**		**17 06 01.6**	**+0.9**
PVIS	**Viseu**	**73.30**	**50**	*e*P		**P**		**17 06 02.5**	**+0.6**
	comp=Z,18nm,1.4s								
COLD	**Coldfoot**	**73.38**	**338**	*e*P		**P**		**17 06 01.6**	**-0.2**
	comp=Z,15nm,1.0s								
POLO	**Lamas de Olo**	**73.41**	**49**	*e*P		**P**		**17 06 03.5**	**+0.9**
	comp=Z,8.3nm,1.7s								
PESTR	**Estremoz**	**73.44**	**52**	*e*P		**P**		**17 06 03.3**	**+0.5**
	comp=Z,22nm,1.3s								
PCBR	**Castelo Branco**	**73.57**	**51**	*e*P		**P**		**17 06 04.0**	**+0.5**
	comp=Z,17nm,1.2s								
PMRV	**Marv??o**	**73.62**	**51**	*e*P		**P**		**17 06 04.3**	**+0.5**
	comp=Z,14nm,1.5s								
MVO	**Moncorvo**	**73.97**	**50**	*e*P		**P**		**17 06 06.5**	**+0.6**
	comp=Z,18nm,1.7s								
PBRG	**Braganca**	**74.22**	**49**	*e*P		**P**		**17 06 08.0**	**+0.7**
	comp=Z,14nm,1.9s								
DAG	**Danmarks Havn**	**76.01**	**12**	*i* P		**P**		**17 06 15.3**	**-1.6**
	comp=Z,91nm,1.0s								
ESDC	**Sonseca Array**	**76.28**	**51**	P		**P**		**17 06 20.1**	**+0.8**
	comp=Z,11nm,0.9s,baz=278,slow=5.7,SNR=32								
ESDC	**Sonseca Array**	**76.28**	**51**	P		**P**		**17 06 20.1**	**+0.8**
QUIF	**Quistinic**	**76.99**	**43**	*e*P		**P**		**17 06 22.7**	**-0.3**
QUIF	**Quistinic**	**76.99**	**43**	*e*P		**P**		**17 06 22.7**	**-0.3**
QUIF	**Quistinic**	**76.99**	**43**	*e*P		**P**		**17 06 22.7**	**-0.3**
LIC	**Lamto**	**77.38**	**86**	⇑*i*P		**P**		**17 06 26.6**	**+0.8**
	comp=Z,54nm,0.9s,baz=266								
LIC	**Lamto**	**77.38**	**86**	⇑*i*P		**P**		**17 06 26.6**	**+0.8**
	comp=Z,54nm,0.9s								
SGMF	**Saint Gilles**	**77.41**	**42**	*e*P		**P**		**17 06 24.8**	**-0.5**
SGMF	**Saint Gilles**	**77.41**	**42**	*e*P		**P**		**17 06 24.8**	**-0.5**
SGMF	**Saint Gilles**	**77.41**	**42**	*e*P		**P**		**17 06 24.8**	**-0.5**
DBIC	**Dimbokro**	**77.50**	**85**	P		**P**		**17 06 27.3**	**+0.8**
	comp=Z,23nm,1.1s,baz=274,slow=6.3,SNR=17								
DBIC				LR		LR		17 39 39.0	
	comp=Z,39nm,20.1s,baz=18,slow=35								
DBIC	**Dimbokro**	**77.50**	**85**	P		**P**		**17 06 27.3**	**+0.8**
SJPF	**Ste Jean**	**78.32**	**48**	*e*P		**P**		**17 06 31.0**	**+0.4**
	comp=Z,13nm,0.8s								
SJPF	**Ste Jean**	**78.32**	**48**	*e*P		**P**		**17 06 31.0**	**+0.4**
SJPF				pmax		pmax			
	comp=Z,13nm,0.8s								
SJPF	**Ste Jean**	**78.32**	**48**	*e*P		**P**		**17 06 31.0**	**+0.4**
	comp=Z,13nm,0.8s								
GRR	**Gorron**	**78.55**	**42**	*e*P		**P**		**17 06 31.2**	**-0.4**
	comp=Z,50nm,1.2s								
GRR	**Gorron**	**78.55**	**42**	*e*P		**P**		**17 06 31.2**	**-0.4**
GRR				pmax		pmax			
	comp=Z,50nm,1.2s								
GRR	**Gorron**	**78.55**	**42**	*e*P		**P**		**17 06 31.2**	**-0.4**
	comp=Z,50nm,1.2s								
FLN	**La Foliniere**	**78.79**	**42**	*e*P		**P**		**17 06 32.6**	**-0.4**
	comp=Z,14nm,0.8s								
FLN				*e*R					
	comp=Z,215nm,22.2s								
FLN	**La Foliniere**	**78.79**	**42**	*e*P		**P**		**17 06 32.6**	**-0.4**
FLN				pmax		pmax			
	comp=Z,14nm,0.8s								
FLN	**La Foliniere**	**78.79**	**42**	*e*P		**P**		**17 06 32.6**	**-0.4**
	comp=Z,14nm,0.8s								
ETSF	**Etsaut**	**78.81**	**48**	*e*P		**P**		**17 06 34.1**	**+0.7**
ETSF	**Etsaut**	**78.81**	**48**	*e*P		**P**		**17 06 34.1**	**+0.7**
ETSF	**Etsaut**	**78.81**	**48**	*e*P		**P**		**17 06 34.1**	**+0.7**
LDF	**La Druitiere**	**79.03**	**42**	⇑*i*P		**P**		**17 06 33.9**	**-0.4**
	comp=Z,32nm,1.2s								
LDF	**La Druitiere**	**79.03**	**42**	⇑*i*P		**P**		**17 06 33.9**	**-0.4**
LDF				pmax		pmax			
	comp=Z,32nm,1.2s								
LDF	**La Druitiere**	**79.03**	**42**	⇑*i*P		**P**		**17 06 33.9**	**-0.4**
	comp=Z,32nm,1.2s								
MFF	**Saint Martin d**	**79.04**	**44**	*e*P		**P**		**17 06 32.8**	**-1.6**
MFF	**Saint Martin d**	**79.04**	**44**	*e*P		**P**		**17 06 32.8**	**-1.6**
MFF	**Saint Martin d**	**79.04**	**44**	*e*P		**P**		**17 06 32.8**	**-1.6**
EPF	**Esparros**	**79.47**	**48**	*e*P		**P**		**17 06 37.1**	**+0.2**
	comp=Z,12nm,0.9s								
EPF	**Esparros**	**79.47**	**48**	*e*P		**P**		**17 06 37.1**	**+0.2**
EPF				pmax		pmax			
	comp=Z,12nm,0.9s								
EPF	**Esparros**	**79.47**	**48**	*e*P		**P**		**17 06 37.1**	**+0.2**
	comp=Z,12nm,0.9s								
TNA	**Tin City**	**80.11**	**335**	*e*P		**P**		**17 06 40.0**	**+0.2**
	comp=Z,17nm,1.3s								
CAF	**Calviac**	**80.64**	**46**	*e*P		**P**		**17 06 42.7**	**-0.5**
	comp=Z,25nm,1.4s								
CAF	**Calviac**	**80.64**	**46**	*e*P		**P**		**17 06 42.7**	**-0.5**
CAF				pmax		pmax			
	comp=Z,25nm,1.4s								
CAF	**Calviac**	**80.64**	**46**	*e*P		**P**		**17 06 42.7**	**-0.5**
	comp=Z,25nm,1.4s								
TCF	**Toulx Ste Croi**	**80.68**	**44**	*e*P		**P**		**17 06 42.7**	**-0.7**
TCF	**Toulx Ste Croi**	**80.68**	**44**	*e*P		**P**		**17 06 42.7**	**-0.7**
TCF	**Toulx Ste Croi**	**80.68**	**44**	*e*P		**P**		**17 06 42.7**	**-0.7**
MTLF	**Montolieu**	**80.83**	**47**	*e*P		**P**		**17 06 43.9**	**-0.3**
MTLF	**Montolieu**	**80.83**	**47**	*e*P		**P**		**17 06 43.9**	**-0.3**
MTLF	**Montolieu**	**80.83**	**47**	*e*P		**P**		**17 06 43.9**	**-0.3**
BGF	**Bois d'Agland**	**81.11**	**44**	*e*P		**P**		**17 06 44.9**	**-0.7**
BGF	**Bois d'Agland**	**81.11**	**44**	*e*P		**P**		**17 06 44.9**	**-0.7**
BGF	**Bois d'Agland**	**81.11**	**44**	*e*P		**P**		**17 06 44.9**	**-0.7**
SSF	**Saint Saulge**	**81.53**	**44**	*e*P		**P**		**17 06 46.7**	**-1.1**
	comp=Z,15nm,1.2s								
SSF	**Saint Saulge**	**81.53**	**44**	*e*P		**P**		**17 06 46.7**	**-1.1**
SSF				pmax		pmax			
	comp=Z,15nm,1.2s								
SSF	**Saint Saulge**	**81.53**	**44**	*e*P		**P**		**17 06 46.7**	**-1.1**
	comp=Z,15nm,1.2s								
LOR	**Lormes**	**81.76**	**43**	*e*P		**P**		**17 06 48.0**	**-1.1**
LOR				*e*R					
	comp=Z,188nm,18.8s								
LOR	**Lormes**	**81.76**	**43**	*e*P		**P**		**17 06 48.0**	**-1.1**
SMF	**Signal de Mont**	**81.78**	**44**	*e*P		**P**		**17 06 48.1**	**-1.1**
	comp=Z,21nm,1.3s								
SMF	**Signal de Mont**	**81.78**	**44**	*e*P		**P**		**17 06 48.1**	**-1.1**
SMF				pmax		pmax			
	comp=Z,21nm,1.3s								
SMF	**Signal de Mont**	**81.78**	**44**	*e*P		**P**		**17 06 48.1**	**-1.1**
	comp=Z,21nm,1.3s								
SFTF	**Sexfontaines**	**82.49**	**42**	*e*P		**P**		**17 06 51.7**	**-1.1**
SFTF	**Sexfontaines**	**82.49**	**42**	*e*P		**P**		**17 06 51.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**83.10**	**78**	P		**P**		**17 06 57.1**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=270,slow=4.2,SNR=13								
TORD	**Torodi Ar. Bea**	**83.10**	**78**	P		**P**		**17 06 57.1**	**+0.5**
CABF	**La Chapelle**	**83.33**	**44**	*e*P		**P**		**17 06 56.8**	**-0.6**
	comp=Z,16nm,1.2s								
CABF	**La Chapelle**	**83.33**	**44**	*e*P		**P**		**17 06 56.8**	**-0.6**
CABF				pmax		pmax			
	comp=Z,16nm,1.2s								
CABF	**La Chapelle**	**83.33**	**44**	*e*P		**P**		**17 06 56.8**	**-0.6**
	comp=Z,16nm,1.2s								
SBF	**Sospel**	**84.56**	**47**	*e*P		**P**		**17 07 02.3**	**-1.4**
	comp=Z,32nm,0.8s								
SBF	**Sospel**	**84.56**	**47**	*e*P		**P**		**17 07 02.3**	**-1.4**
SBF				pmax		pmax			
	comp=Z,32nm,0.8s								
SBF	**Sospel**	**84.56**	**47**	*e*P		**P**		**17 07 02.3**	**-1.4**
	comp=Z,32nm,0.8s								
NB2	**NORSAR Subarra**	**84.70**	**29**	P		P		17 06 59.2	-4.8
	comp=Z,17nm,1.4s,baz=278,slow=5.3								
NOA	**NORSAR Array B**	**84.70**	**29**	P		**P**		**17 07 04.1**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=276,slow=4.9,SNR=5.4								
NOA	**NORSAR Array B**	**84.70**	**29**	P		**P**		**17 07 04.1**	**+0.1**
TAM	**Tamanrasset**	**85.52**	**68**	*e*P		**P**		**17 07 08.9**	**-0.1**
TAM				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TAM	**Tamanrasset**	**85.52**	**68**	*e*P		**P**		**17 07 08.9**	**-0.1**
	comp=Z,0.9nm,0.4s								
GRF	**Grafenberg Arr**	**86.36**	**40**	*e*P		**P**		**17 07 12.5**	**0.0**
	comp=Z,11nm,1.3s								
GRF				*e*L		L		17 39 20.3	
	comp=Z,184nm,20.8s								
NKC	**Novy Kostel**	**87.06**	**40**	*e*P		**P**		**17 07 16.5**	**+0.6**
NKC	**Novy Kostel**	**87.06**	**40**	*e*P		**P**		**17 07 16.5**	**+0.6**
CLL	**Collm**	**87.22**	**39**	⇓*i*P		**P**		**17 07 16.8**	**+0.2**
CLL				*e*				17 07 22.0	
CLL				pmax		pmax			
	comp=Z,13nm,1.4s								
CLL	**Collm**	**87.22**	**39**	⇓*i*P		**P**		**17 07 16.8**	**+0.2**
	comp=Z,13nm,1.4s								
CLL				*e*pP		**pP**		**17 07 22.0**	**-0.4**
BRG	**Berggiesshubel**	**87.88**	**39**	*e*P		**P**		**17 07 19.4**	**-0.4**
	comp=Z,5.5nm,1.1s								
BRG	**Berggiesshubel**	**87.88**	**39**	*e*P		**P**		**17 07 19.4**	**-0.4**
BRG				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KHC	**Kasperske Hory**	**87.97**	**41**	*e*P		**P**		**17 07 19.7**	**-0.6**
KHC				*e*				17 07 25.5	
KHC	**Kasperske Hory**	**87.97**	**41**	*e*P		**P**		**17 07 19.7**	**-0.6**
KHC				*e*pP		**pP**		**17 07 25.5**	**-0.6**
GERES	**GERESS Array B**	**88.11**	**41**	P		**P**		**17 07 21.0**	**0.0**
	comp=Z,1.9nm,0.9s,baz=242,slow=2.9,SNR=13								
GERES	**GERESS Array B**	**88.11**	**41**	P		**P**		**17 07 21.0**	**0.0**
ARCES	**ARCESS Array B**	**88.45**	**19**	P		**P**		**17 07 20.5**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=274,slow=4.7,SNR=5.8								
ARCES	**ARCESS Array B**	**88.45**	**19**	P		**P**		**17 07 20.5**	**-1.7**
UPC	**Upice**	**89.25**	**39**	*e*P		**P**		**17 07 26.7**	**+0.5**
UPC	**Upice**	**89.25**	**39**	*e*P		**P**		**17 07 26.7**	**+0.5**
DPC	**Dobruska-Polom**	**89.47**	**39**	*e*P		**P**		**17 07 27.9**	**+0.5**
DPC	**Dobruska-Polom**	**89.47**	**39**	*e*P		**P**		**17 07 27.9**	**+0.5**
BILL	**Bilibino**	**89.66**	**339**	*e*P		**P**		**17 07 26.5**	**-1.3**
BILL				pmax		pmax			
	comp=Z,28nm,1.4s								
BILL	**Bilibino**	**89.66**	**339**	*e*P		**P**		**17 07 26.4**	**-1.3**
	comp=Z,28nm,1.4s								
OKC	**Ostrava-Krasne**	**90.73**	**39**	*e*P		**P**		**17 07 33.8**	**+0.6**
OKC	**Ostrava-Krasne**	**90.73**	**39**	*e*P		**P**		**17 07 33.8**	**+0.6**
VYHS	**Vyhne**	**91.51**	**41**	*e*P		**P**		**17 07 37.8**	**+1.0**
VYHS				pmax		pmax			
	comp=Z,8.0nm,2.2s								
VYHS	**Vyhne**	**91.51**	**41**	*e*P		**P**		**17 07 37.8**	**+1.0**
VNA3	**Neumayer Olymp**	**92.79**	**162**	*e*P		**P**		**17 07 42.9**	**+0.7**
VNA3	**Neumayer Olymp**	**92.79**	**162**	*e*WP				17 07 48.7	
VNA2	**Neumayer--Watz**	**93.41**	**161**	*e*P		**P**		**17 07 45.7**	**+0.7**
KOLS	**Kolonicke sedl**	**93.58**	**40**	*e*P		P		17 07 52.1	+5.7
KOLS	**Kolonicke sedl**	**93.58**	**40**	*e*pP		P		17 07 52.1	+5.7
SEY	**Seymchan**	**97.17**	**338**	⇓*i*P		Pdif		17 08 02.7	+0.2
KLMR	**Klimovskoe**	**97.61**	**25**	*e*P		**P**		**17 08 02.4**	**-2.1**
KLMR				pmax		pmax			
	comp=Z,20nm,1.6s								
KURK	**Kurchatov**	**118.89**	**13**	⇓*e*P		Pdif		17 09 29.1	-10
KURK				pmax		pmax			
	comp=Z,4.0nm,1.7s								
HVS	**Khovu-Aksy**	**120.50**	**2**	⇑*e*P		Pdif		17 09 59.7	+13
HVS				pmax		pmax			
	comp=Z,13nm,1.2s								
CN2	**Changchun**	**121.80**	**336**	*e*PKP		**PKPdf**		**17 13 22.0**	**-2.5**
SONM	**Songino Array**	**123.23**	**352**	PKP		**PKPdf**		**17 13 26.2**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=344,slow=1.4,SNR=6.5								
SONM	**Songino Array**	**123.23**	**352**	PKP		**PKPdf**		**17 13 26.2**	**-1.2**
MKAR	**Makanchi Array**	**123.39**	**12**	PKP		**PKPdf**		**17 13 26.9**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=346,slow=1.5,SNR=5.3								
MKAR	**Makanchi Array**	**123.39**	**12**	PKIKP		**PKPdf**		**17 13 26.9**	**-0.7**
MKAR	**Makanchi Array**	**123.39**	**12**	PKP		**PKPdf**		**17 13 26.9**	**-0.7**
KSRS	**Korea Array**	**125.79**	**330**	PKP		**PKPdf**		**17 13 31.4**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=0.6,slow=0.2,SNR=7.5								
KSAR	**Wonju Array Be**	**125.82**	**330**	PKP		**PKPdf**		**17 13 31.4**	**-1.0**
WMQ	**Urumqi**	**127.22**	**8**	*e*PKP		**PKPdf**		**17 13 35.8**	**+0.7**
KSH	**Kashi**	**128.40**	**21**	*e*PKP		**PKPdf**		**17 13 42.0**	**+4.5**
KSH				*e*PP		PP		17 15 48.3	+7.4
KSH				PKS		**PKSdf**		**17 17 15.6**	**+1.4**
KSH				SKS		**SKSdf**		**17 20 51.3**	**+2.5**
KSH				SKKS		**SKKSac**		**17 22 39.6**	**+0.5**
KSH				SS		**SS**		**17 33 01.1**	**+5.6**
KSH				LR		LR			
	comp=N,64nm,9.7s								
KSH				LR		LR			
	comp=E,86nm,7.1s								
KSH				LR		LR			
	comp=Z,230nm,5.5s								
HHC	**Hu-ho-hao-te**	**129.01**	**346**	*e*PKP		**PKPdf**		**17 13 36.4**	**-2.2**
HHC				PP		**PP**		**17 15 47.5**	**+2.8**
HHC				PKS		**PKSdf**		**17 17 12.0**	**-3.2**
HHC				SKS		**SKSdf**		**17 20 43.3**	**-6.6**
HHC				SKKS		SKKSac		17 22 35.3	-7.4
HHC				SS		**SS**		**17 33 01.3**	**-1.4**
HHC				LR		LR			
	comp=N,200nm,14.3s								
HHC				LR		LR			
	comp=E,280nm,13.1s								
HHC				LR		LR			
	comp=Z,340nm,14.3s								
GTA	**Gaotai**	**132.21**	**357**	PKP		**PKPdf**		**17 13 44.9**	**+0.2**
GTA				sPKP				17 13 52.6	
GTA				PP		**PP**		**17 16 08.5**	**+3.1**
GTA				SKS		**SKSdf**		**17 20 49.8**	**-6.0**
GTA				SS		**SS**		**17 33 46.5**	**+4.8**
GTA				LR		LR			
	comp=N,140nm,14.7s								
GTA				LR		LR			
	comp=E,120nm,20.4s								
GTA				LR		LR			
	comp=Z,130nm,15.2s								
LZH	**Lanzhou**	**135.12**	**352**	*e*PKP		**PKPdf**		**17 13 50.5**	**+0.1**
LZH				sPKP				17 13 55.4	
LZH				LR		LR			
	comp=N,150nm,18.0s								
LZH				LR		LR			
	comp=E,150nm,18.3s								
LZH				LR		LR			
	comp=Z,190nm,20.0s								
CD2	**Chengdu**	**140.21**	**351**	PKP		**PKPdf**		**17 14 00.0**	**+0.3**
CD2				PKS		**PKSdf**		**17 17 34.5**	**-1.4**
CD2				SKS		**SKSdf**		**17 21 07.0**	**-2.7**
CD2				SKKS		**SKKSac**		**17 23 48.4**	**-2.1**
CD2				SS		**SS**		**17 35 17.5**	**+0.2**
CD2				LR		LR			
	comp=N,190nm,5.3s								
CD2				LR		LR			
	comp=Z,250nm,8.3s								
ASAR	**Alice Springs**	**141.51**	**243**	PKhKP		PKPpre		17 13 56.6	
	comp=Z,2.1nm,0.8s,baz=113,slow=3.7,SNR=17								
ASAR				PKP		**PKPdf**		**17 14 02.4**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=111,slow=1.8,SNR=18								
ASAR	**Alice Springs**	**141.51**	**243**	PKPpre		PKPpre		17 13 56.6	
ASAR				PKP		**PKPdf**		**17 14 02.4**	**+0.2**
WRA	**Warramunga Arr**	**142.04**	**249**	PKhKP		PKPpre		17 13 57.8	
	comp=Z,4.0nm,0.8s,baz=99,slow=2.5,SNR=26								
WRA	**Warramunga Arr**	**142.04**	**249**	PKPpre		PKPpre		17 13 57.8	
KKN	**Kakani**	**142.18**	**17**	*e*P		**PKPdf**		**17 14 00.2**	**-3.4**
GUN	**Gumba**	**142.23**	**16**	*e*P		**PKPdf**		**17 14 00.6**	**-3.2**
	comp=Z,13nm,1.0s								
TAPN	**Taplejung**	**143.23**	**14**	*e*P		PKPab		17 14 01.3	+0.1
	comp=Z,11nm,1.0s								
RAMN	**Ramite**	**143.34**	**15**	*e*P		PKPab		17 14 01.6	0.0
	comp=Z,12nm,0.8s								
ODAN	**Odare**	**143.62**	**14**	*e*P		PKPab		17 14 02.5	-0.2
	comp=Z,18nm,1.2s								
GYA	**Guiyang**	**143.92**	**345**	*e*PKP		**PKPdf**		**17 14 06.0**	**-0.6**
GYA				PP		**PP**		**17 17 22.8**	**+4.5**
GYA				PKS		**PKSdf**		**17 17 40.3**	**-2.2**
GYA				SKKS				17 24 10.0	
GYA				SS		**SS**		**17 36 01.8**	**+1.1**
GYA				AMB		AMB			
	comp=Z,110nm,7.6s								
GYA				LR		LR			
	comp=N,130nm,20.4s								
GYA				LR		LR			
	comp=E,110nm,21.9s								
GYA				LR		LR			
	comp=Z,120nm,22.6s								
SHL	**Shillong**	**145.75**	**8**	*e*P		**PKPdf**		**17 14 10.0**	**+0.2**
HYB	**Hyderabad**	**148.49**	**35**	*i* PKP		**PKPdf**		**17 14 16.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**150.47**	**248**	PKPbc		**PKPbc**		**17 14 22.8**	**+0.1**
	comp=Z,10nm,0.8s,baz=148,slow=1.2,SNR=15								
FITZ	**Fitzroy Crossi**	**150.47**	**248**	PKPbc		**PKPbc**		**17 14 22.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**153.09**	**356**	PKP		**PKPdf**		**17 14 21.9**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=311,slow=2.3,SNR=12								
CMAR	**Chiang Mai Arr**	**153.09**	**356**	PKP		**PKPdf**		**17 14 21.9**	**+0.5**

ISCJB ***13*** *17:00:33.5±0.5, 1.°54N±0.°09×66.°78E±0.°08, h13km, mb4.1/20, MS3.7/13, Error ellipse: s-maj=15.1km s-min=9.5km az=146.2*

IDC ***13*** *17:00:33.3±0.7, 1.°49N×66.°77E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/27, mbtmp4.0/13, MS3.7/13, Ms1 3.7/13, ms1mx3.5/47, Error ellipse: s-maj=19.4km s-min=17.9km az=161.0*

NEIC ***13*** *17:00:35.0±0.4, 1.°55N×66.°79E, h10km, mb4.4/9, Error ellipse: s-maj=12.1km s-min=7.4km az=146.0*

ISC 13 17:00:35.2±0.6, 1.°5N±0.°1×66.°76E±0.°10, h13km, n50, σ0.98/44, mb4.2/20, MS3.7/13, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.82**	**241**	*e*Pn		**Pn**	**17 03 39.0**	**+1.6**
MSEY				*e*Sn		**Sn**	**17 05 57.6**	**-2.6**
PALK	**Pallekele**	**15.04**	**67**	*e*Pn		**Pn**	**17 04 06.2**	**-1.5**
	7.4nm,0.9s							
WSAR	**Wadi Sarin**	**23.02**	**341**	LR		LR	17 12 06.7	
	comp=Z,128nm,20.0s,baz=160,slow=30							
ATD	**Arta Tunnel**	**25.74**	**294**	LR		LR	17 15 25.4	
	comp=Z,60nm,19.0s,baz=92,slow=35							
OPO	**Ambohidratompo**	**27.71**	**223**	LR		LR	17 14 30.5	
	comp=Z,264nm,20.3s,baz=256,slow=30							
CMAR	**Chiang Mai Arr**	**35.79**	**60**	P		**P**	**17 07 35.9**	**+1.3**
	0.7nm,0.3s,baz=242,slow=12,SNR=8.3							
CMAR				PcP		**PcP**	**17 10 00.8**	**-1.5**
	0.3nm,0.5s,baz=255,slow=3.5,SNR=4.3							
CMAR				LR		LR	17 19 26.6	
	comp=Z,74nm,19.4s,baz=70,slow=32							
CMAR	**Chiang Mai Arr**	**35.79**	**60**	P		**P**	**17 07 35.9**	**+1.3**
CMAR				PcP		**PcP**	**17 10 00.8**	**-1.5**
CHTO	**Chiang Mai**	**35.94**	**59**	*e*P		**P**	**17 07 35.8**	**+0.1**
	3.9nm,1.0s							
LSA	**Lhasa**	**36.40**	**37**	*e*P		**P**	**17 07 41.3**	**+1.2**
	7.2nm,1.1s							
AAK	**Ala-Archa**	**41.55**	**9**	P		**P**	**17 08 24.0**	**+1.3**
	0.7nm,0.7s,baz=176,slow=9.7,SNR=4.4							
AAK	**Ala-Archa**	**41.55**	**9**	*e*P		**P**	**17 08 23.4**	**+0.7**
	6.5nm,0.9s							
QIZ	**Qiongzhong**	**45.65**	**65**	P		P	17 08 59.9	+3.9
	35nm,1.0s							
KBZ	**Khabaz**	**47.12**	**336**	P		**P**	**17 09 07.0**	**-0.1**
	3.0nm,1.0s,baz=160,slow=6.6,SNR=4.0							
KBZ				LR		LR	17 26 50.2	
	comp=Z,53nm,18.9s,baz=94,slow=34							
KBZ	**Khabaz**	**47.12**	**336**	P		**P**	**17 09 07.0**	**-0.1**
MK31	**Makanchi Array**	**47.12**	**15**	*e*P		**P**	**17 09 06.4**	**-0.7**
MKAR	**Makanchi Array**	**47.12**	**15**	P		**P**	**17 09 06.3**	**-0.8**
	0.4nm,0.7s,baz=212,slow=10.0,SNR=7.0							
MKAR				LR		LR	17 29 55.7	
	comp=Z,58nm,18.4s,baz=352,slow=37							
MKAR	**Makanchi Array**	**47.12**	**15**	P		**P**	**17 09 06.3**	**-0.8**
LBTB	**Lobatse**	**47.78**	**234**	P		**P**	**17 09 13.8**	**+1.1**
	7.2nm,1.1s,baz=52,slow=9.3,SNR=5.3							
LBTB	**Lobatse**	**47.78**	**234**	P		**P**	**17 09 13.8**	**+1.1**
ABKAR	**Akbulak array**	**47.95**	**354**	*e*P		**P**	**17 09 13.3**	**-0.1**
	0.3nm,0.4s							
BRTR	**Keskin Array B**	**48.54**	**326**	P		**P**	**17 09 18.9**	**+0.5**
	0.6nm,0.7s,baz=116,slow=9.8,SNR=3.6							
BRTR	**Keskin Array B**	**48.54**	**326**	P		**P**	**17

LAJ	Bijagual	1.57	324	⇑	eP		Pb	17	33	40.1	-0.2
CGA2	Cerro Gallo 2	1.90	319	‖	eP		Pn	17	33	43.9	+0.7
CGA2	Cerro Gallo 2	1.90	319	‖	eP		Pn	17	33	43.9	+0.7
JTS	JuntasAbangare	2.43	315		Pn		Pn	17	33	49.5	-0.9
	147nm,0.3s,baz=134,slow=8.7,SNR=178										
JTS					Pg		Pb	17	33	51.8	-3.0
	183nm,0.3s,baz=282,slow=3.9,SNR=122										
JTS					Sn		Sn	17	34	19.0	-0.5
	146nm,0.3s,baz=158,slow=22,SNR=6.4										
JTS	JuntasAbangare	2.43	315		ePn		Pn	17	33	49.3	-1.0
JTS					Pg		Pb	17	33	51.8	-3.0
JTS					Sn		Sn	17	34	19.0	-0.5
JTS	JuntasAbangare	2.43	315		Pn		Pn	17	33	51.1	+0.8
	17µm,0.5s,SNR=88										
CHPA	Chiripa	2.51	318		iP		Pb	17	33	54.8	-1.4
AMAS	Alto Masis	2.69	319		iP		Pn	17	33	55.2	+1.3
PTEN	Parque Tenorio	2.77	320		iP		Pn	17	33	55.7	+0.7
CUI	Cuipilapa	2.84	317		iP		Pn	17	33	58.3	+2.4
COLC	Colonia	2.87	316		iP		Pn	17	33	58.3	+1.9
MESS	Mesas	2.92	318		iP		Pn	17	33	59.7	+2.7
GPS3	Bodega del ICE	3.05	315		iP		Pn	17	34	01.1	+2.3
NY14	Universidad de	3.09	312		iP		Pn	17	34	01.4	+2.0
LAPC	Finca la Perla	3.10	315		iP		Pn	17	34	01.0	+1.5
GB1A	Borinquen Arri	3.11	316		iP		Pn	17	34	01.9	+2.1
GBS3	Finca Las Im¯¡	3.13	315		iP		Pn	17	34	01.9	+2.0
GBS2	Las Lilas	3.16	315		iP		Pn	17	34	02.8	+2.4
BCIP	Isla Barro Col	3.37	80		ePn		Pn	17	34	04.3	+1.1
BCIP					eSn		Sb	17	34	50.0	-1.2
UPIG		3.64	83	‖	iP		Pn	17	34	08.1	+1.3
UPIG					eS		Sn	17	34	49.9	+0.7
CNCH	Conchagua	6.53	316		eP		Pn	17	34	49.1	+2.4
TGUH	Tegucigalpa,Un	6.76	324		ePn		Pn	17	34	52.5	+2.8
	494nm,0.9s										
BLLM	Bellamira	6.92	315		eP		Pn	17	34	55.0	+2.9
CAHU	Cacacuatique	7.13	317		eP		Pn	17	34	57.8	+2.7
SNVI	San Vicente	7.47	313		eP		Pn	17	35	02.1	+2.4
LBRS	Las Brisas	7.70	312		eP		Pn	17	35	05.0	+2.2
BOQS	Boqueron	7.87	311		eP		Pn	17	35	07.5	+2.2
BOQS					eS		Sn	17	36	30.0	-3.9
SBLS	San Blas	8.19	310		eP		Pn	17	35	11.6	+1.8
MTO2	Montecristo 2	8.37	314		eP		Pn	17	35	14.8	+2.7
RBDL	Robledal	8.41	311		eP		Pn	17	35	15.0	+2.3
OTAV	Otavalo	9.54	150	⇑	ePn		Pn	17	35	29.4	+1.0
ROSC	El Rosal	9.54	112		Pn		Pn	17	35	28.5	+0.1
	0.7nm,0.3s,baz=90,slow=20,SNR=2.2										
ROSC	El Rosal	9.54	112		Pn		Pn	17	35	28.5	+0.1
MCJ	Malvern	10.72	29		iP		Pn	17	35	46.1	+1.8
MTDJ	Mount Denham	11.05	29	⇑	iPn		Pn	17	35	50.3	+1.4
	319nm,1.2s										
HOJ	Hope	11.27	33		iP		Pn	17	35	52.7	+1.0
STH	Stony Hill	11.30	33		iP		Pn	17	35	52.5	+0.4
BBJ	Bamboo Saint A	11.32	30		eP		Pn	17	35	53.4	+1.0
GWJ	Greenwich	11.34	33		iP		Pn	17	35	53.3	+0.6
PAYG	Puerto Ayora	11.60	218		Pn		Pn	17	35	58.0	+1.7
	85nm,1.2s										
TEIG	Tepich	12.58	338		Pn		P	17	36	18.7	-2.4
	1.1nm,0.3s,baz=163,slow=18,SNR=2.2										
TEIG					LR		LR	17	41	12.8	
	comp=Z,3µm,18.1s,baz=31,slow=38										
TEIG	Tepich	12.58	338		Pn		Pn	17	36	10.8	+1.2
	26nm,0.8s										
LMGC	Las Mercedes	12.89	27		e		Pn	17	36	16.2	+2.3
RCC	Rio Carpintero	13.47	32		e		P	17	36	27.7	-3.2
GTBY	Guantanamo Bay	13.73	34		ePn		Pn	17	36	26.5	+1.2
	328nm,1.3s										
SOR	Soroa	14.13	1		e		P	17	36	35.6	-2.7
CMIG	Matias Romero	14.19	308		Pn		Pn	17	36	32.9	+1.2
	2.1nm,0.3s,baz=111,slow=10,SNR=20										
CMIG	Matias Romero	14.19	308		Pn		Pn	17	36	32.9	+1.2
SDDR	Presa de Saban	15.50	47		ePn		Pn	17	36	49.8	+0.5
	110nm,1.0s										
SDDR					eSn		Sn	17	39	37.7	-2.9
ATAH	Atahualpa	16.32	163		Pn		P	17	37	02.2	-1.0
	0.5nm,0.3s,baz=14,slow=9.6,SNR=10										
ATAH					LR		LR	17	42	36.7	
	comp=Z,4µm,20.1s,baz=172,slow=35										
ATAH	Atahualpa	16.32	163		Pn		P	17	37	02.2	-1.0
SJG	San Juan	19.08	58		P		P	17	37	33.6	+0.5
	2.8nm,0.3s,baz=271,slow=7.0,SNR=9.9										
SJG					LR		LR	17	44	20.9	
	comp=Z,2µm,20.0s,baz=270,slow=35										
SJG	San Juan	19.08	58		P		P	17	37	33.6	+0.5
SJG					ePn		Pn	17	37	34.0	0.0
NNA	Nana	21.38	163		P		P	17	37	58.5	+0.3
	58nm,1.0s,baz=335,slow=9.2,SNR=16										
NNA					LR		LR	17	45	43.0	
	comp=Z,708nm,21.7s,baz=234,slow=35										
NNA	Nana	21.38	163		P		P	17	37	58.5	+0.3
NNA	Nana	21.38	163		P		P	17	37	58.4	+0.2
	469nm,1.1s,SNR=7.9										
GRGR	Grenville	21.48	79		eP		P	17	37	58.2	-1.0
	470nm,1.0s										
FDF	Fort de France	22.43	72		P		P	17	38	10.1	+0.6
FDF	Fort de France	22.43	72		P		P	17	38	10.1	+0.6
HKT	Hockley	24.34	333		eP		P	17	38	28.9	+0.7
HKT					pmax		pmax				
	comp=Z,61nm,1.6s										
HKT	Hockley	24.34	333		eP		P	17	38	28.9	+0.7
	comp=Z,61nm,1.6s										
VBMS	Vicksburg	24.49	345		eP		P	17	38	28.2	-1.3
NHSC	New Hope	24.57	6		eP		P	17	38	31.4	+1.1
	comp=Z,146nm,0.9s										
LRAL	Lakeview Retre	24.59	352		eP		P	17	38	31.8	+1.2
	comp=Z,43nm,1.1s										
GOGA	Godfrey	24.71	359		eP		P	17	38	33.2	+1.5
GOGA					pmax		pmax				
	comp=Z,60nm,1.0s										
GOGA	Godfrey	24.71	359		eP		P	17	38	33.1	+1.5
	comp=Z,60nm,1.0s										
732A	Laxson Ranch,	25.52	324		⇑P		P	17	38	38.4	-0.6
	baz=26										
JSC	Jenkinsville	25.64	4		P		P	17	38	40.3	+0.3
JSC	Jenkinsville	25.64	4		P		P	17	38	40.3	+0.3
631A	Perdido Creek	26.38	324		⇑P		P	17	38	46.2	-0.6
	baz=26,SNR=6.2										
OXF	Oxford	26.44	348		eP		P	17	38	46.8	-0.4
OXF					pmax		pmax				
	comp=Z,72nm,1.1s										
OXF	Oxford	26.44	348		eP		P	17	38	46.8	-0.4
	comp=Z,72nm,1.1s										
SAML	Samuel	26.46	131		eP		P	17	38	46.6	-1.1
	comp=Z,27nm,1.0s										
SAML					ePcP		PcP	17	42	12.5	-0.3
KMSC	Kings Mountain	26.50	3		⇑P		P	17	38	48.9	+1.1
	baz=27,SNR=8.2										
532A	Rocksprings	26.54	326		⇑P		P	17	38	48.2	-0.1
	baz=27										
CPCT	Cooper Cave	26.77	358		eP		P	17	38	52.9	+2.6
531A	Rocksprings	26.93	325		⇑P		P	17	38	51.4	-0.4
	baz=27,SNR=6.2										
TKL	Tuckaleechee C	26.96	359		P		P	17	38	53.0	+1.0
	comp=Z,16nm,1.0s,baz=140,slow=7.6,SNR=4.9										
TKL					LR		LR	17	50	17.9	
	comp=Z,2µm,18.3s,baz=181,slow=38										
TKL	Tuckaleechee C	26.96	359		P		P	17	38	53.0	+1.0
432A	Menard	27.06	327		⇓P		P	17	38	52.6	-0.4
	baz=27										
431A	Sonora	27.36	326		⇓P		P	17	38	55.8	+0.1
	baz=28										
530A	J-C Ranch, Com	27.37	324		⇓P		P	17	38	55.8	+0.1
	baz=28,SNR=6.6										
332A	Millersview	27.43	328		⇓P		P	17	38	56.2	-0.1
	baz=28										
ARE	Arequipa	27.44	155		eP		P	17	38	58.0	+1.2
ARE	Arequipa	27.44	155		eP		P	17	38	58.0	+1.2
MIAR	Mount Ida	27.55	341		eP		P	17	38	57.4	+0.1
MIAR					pmax		pmax				
	comp=Z,58nm,1.5s										
MIAR	Mount Ida	27.55	341		eP		P	17	38	57.4	+0.1
	comp=Z,58nm,1.5s										
331A	San Angelo	27.74	327		⇓P		P	17	38	59.1	+0.1
	baz=28										
WVT	Waverly	27.75	352		P		P	17	38	58.0	-1.0
WVT					pmax		pmax				
	comp=Z,9.0nm,0.8s										
WVT	Waverly	27.75	352		P		P	17	38	58.0	-1.0
	comp=Z,9.4nm,0.8s										
430A	Baggett Ranch,	27.79	325		⇑P		P	17	38	59.5	0.0
	baz=28										
628A	Black Gap, Mar	27.83	321		⇓P		P	17	38	59.4	-0.4
	baz=28										
529A	Stev Forest Ra	27.87	323		⇓P		P	17	38	59.9	-0.4
	baz=28										
429A	Davenport Ranc	28.04	324		⇓P		P	17	39	01.6	-0.2
	baz=28,SNR=9.4										
627A	Terlingua Ranc	28.12	320		⇑P		P	17	39	02.4	-0.2
	baz=28										
TXAR	Lajitas Array	28.21	320		P		P	17	39	03.4	0.0
	comp=Z,0.9nm,0.8s,baz=144,slow=6.7,SNR=4.4										
TXAR					PcP		PcP	17	42	18.3	+1.4
	comp=Z,1.4nm,0.7s,baz=148,slow=5.6,SNR=5.1										
TXAR					ScP		ScP	17	46	00.3	+3.4
	comp=Z,1.5nm,1.0s,baz=121,slow=4.8,SNR=5.5										
TXAR					LR		LR	17	51	35.9	
	comp=Z,231nm,21.6s,baz=145,slow=39										
TXAR	Lajitas Array	28.21	320		P		P	17	39	03.4	0.0
TXAR					PcP		PcP	17	42	18.3	+1.4
TXAR					ScP		ScP	17	46	00.3	+3.4
330A	Mertzon	28.22	326		⇑P		P	17	39	03.0	-0.4
	baz=28										
528A	Cox Ranch, San	28.24	322		⇑P		P	17	39	03.4	-0.2
	baz=28										
230A	Sterling City	28.56	327		⇓P		P	17	39	06.4	+0.1
	baz=29										
428A	Kincaid Ranch,	28.58	323		⇑P		P	17	39	06.1	-0.5
	baz=29										
BLA	Blacksburg	28.61	5		eP		P	17	39	07.3	+0.5
BLA	Blacksburg	28.61	5		eP		P	17	39	07.3	+0.5
626A	Big Bend Ranch	28.66	320		⇑P		P	17	39	07.1	-0.3
	baz=29										
329A	Wagon Wheel Ra	28.73	325		⇑P		P	17	39	07.7	-0.3
	baz=29										
LPAZ	La Paz	28.86	149		P		P	17	39	10.1	+0.3
	comp=Z,8.4nm,1.0s,baz=340,slow=8.7,SNR=20										
LPAZ	La Paz	28.86	149		P		P	17	39	10.1	+0.3
526A	Mary Lane Ranc	28.98	320		⇑P		P	17	39	09.7	-0.6
	baz=29										
427A	Hayter Ranch,	29.10	322		⇓P		P	17	39	10.8	-0.4
	baz=29										
328A	Wristen Ranch,	29.13	324		⇓P		P	17	39	11.3	-0.2
	baz=29										
426A	McDonald Obser	29.36	321		⇓P		P	17	39	12.9	-0.7
	baz=29										
228A	UTlock 9, Go	29.55	325		⇑P		P	17	39	14.8	-0.4
	baz=30										
Z30A	Sanderson Ranc	29.65	329		⇑P		P	17	39	16.0	-0.1
	baz=30										
WCI	Wyandotte Cave	29.65	355		eP		P	17	39	16.3	+0.3
WCI					pmax		pmax				
	comp=Z,34nm,1.0s										
WCI	Wyandotte Cave	29.65	355		eP		P	17	39	16.3	+0.3
	comp=Z,34nm,1.0s										
326A	Caldwell Ranch	29.78	322		⇓P		P	17	39	17.0	-0.3
	baz=30										
128A	Castleberry Fa	29.87	326		⇑P		P	17	39	17.5	-0.5
	baz=30										
Z29A	Hungry Hill Ra	29.93	328		⇑P		P	17	39	18.8	+0.2
	baz=30										
425A	Indio Mountain	30.04	320		⇑P		P	17	39	19.9	+0.3
	baz=30,SNR=8.9										
LPIG	La Paz	30.17	304		LR		LR	17	52	22.1	
	comp=Z,41nm,19.1s,baz=289,slow=38										
325A	Bean Ranch, Si	30.43	321		⇑P		P	17	39	23.0	-0.1
	baz=30,SNR=6.3										
Z27A	Tatum	30.79	326		⇑P		P	17	39	26.3	+0.1
	baz=31										
324A	Moseley Ranch,	30.79	321		⇑P		P	17	39	26.4	+0.1
	baz=31,SNR=14										
225A	Deer Hill, Car	30.85	322		⇓P		P	17	39	26.7	-0.2
	baz=31										
MNTX	Cornudas Mount	30.91	321		⇑P		P	17	39	27.1	0.0
	baz=31										
125A	Gardner Draw,	31.14	323		⇓P		P	17	39	29.4	+0.1
	baz=31,SNR=8.4										
224A	Cornudas Mount	31.25	322		⇓P		P	17	39	30.4	+0.1
	baz=31,SNR=6.0										
ACSO	Alum Creek Sta	31.52	0		eP		P	17	39	32.9	+0.5
	comp=Z,44nm,1.0s										
Z25A	Roswell	31.62	324		⇓P		P	17	39	33.6	+0.1
	baz=32										
124A	Stringfield Ra	31.64	322		⇓P		P	17	39	34.0	+0.2
	baz=32,SNR=9.2										
SFIN	Scholer Farm	31.86	354		⇑P		P	17	39	36.1	+0.7
	baz=32										
Z24A	Sheeppen Canyo	32.03	323		⇑P		P	17	39	37.0	-0.3
	baz=32										
W27A	Bowe Ranch, En	32.04	328		⇑P		P	17	39	37.4	+0.2
	baz=32										
Y25A	Mesa, Roswell	32.07	325		⇓P		P	17	39	37.9	+0.4
	baz=32										
SSPA	Standing Stone	32.27	8		eP		P	17	39	40.0	+1.0
	comp=Z,39nm,1.0s										
HDIL	Hopedale	32.31	351		eP		P	17	39	39.1	-0.2
	comp=Z,30nm,0.8s										
Y24A	Capitan	32.50	324		⇓P		P	17	39	41.7	+0.4
	baz=33										
Z23A	Rita Site, Whi	32.50	322		⇑P		P	17	39	41.8	+0.5
	baz=33										
221A	Mesquite Ranch	32.63	319		⇑P		P	17	39	42.7	+0.2
	baz=33										
KSU1	Kansas State U	32.69	340		P		P	17	39	41.4	-1.4
	comp=Z,19nm,0.7s										
320A	Kipp Ranch, An	32.70	317		⇑P		P	17	39	43.7	+0.6
	baz=33,SNR=9.1										
Y23A	Lovelace Mesa,	32.86	323		⇓P		P	17	39	44.8	+0.2
	baz=33										
W25A	X Bar L Ranch,	32.90	327		⇑P		P	17	39	44.7	-0.1
	baz=33										
Z22A	Elephant Butte	32.94	322		⇑P		P	17	39	46.0	+0.8
	baz=33,SNR=5.6										
121A	Cookes Peak, D	32.98	320		⇓P		P	17	39	46.1	+0.6
	baz=33,SNR=9.5										
V26A	Tequesquite Ra	32.98	328		⇓P		P	17	39	46.1	+0.6
	baz=33										
220A	Playas Peak, P	33.05	318		⇑P		P	17	39	47.2	+1.0
	baz=33,SNR=16										
319A	Douglas	33.23	317		⇓P		P	17	39	48.4	+0.7
	baz=33,SNR=8.7										
Y22A	Socorro	33.41	323		⇑P		P	17	39	49.7	+0.4
	baz=34										
W24A	Lazy 6 Ranch,	33.41	326		⇑P		P	17	39	49.9	+0.6
	baz=34										
U26A	Atchley Ranch,	33.42	329		⇑P		P	17	39	50.3	+1.0
	baz=34										
V25A	Rancho No Teng	33.45	327		⇑P		P	17	39	50.4	+0.8
	baz=34										
ERPA	Erie	33.52	4		P		P	17	39	50.8	+0.9
120A	U Bar Ranch, L	33.53	319		⇑P		P	17	39	51.1	+0.8
	baz=34,SNR=7.0										
ANMO	Albuquerque	33.81	324		eP		P	17	39	52.1	-0.7
	comp=Z,4.1nm,1.0s										
Z20A	Nine Sixteen R	33.87	320		⇑P		P	17	39	54.7	+1.4
	baz=34,SNR=11										
Y21A	Point of Rocks	33.89	322		⇓P		P	17	39	55.0	+1.4
	baz=34,SNR=6.5										
BINY	Binghamton	34.08	10		eP		P	17	39	55.8	+1.0
	comp=Z,254nm,2.0s										
S26A	Kim	34.24	331		⇑P		P	17	39	56.9	+0.5
	baz=34										
X21A	Alamocita Cree	34.25	322		⇓P		P	17	39	57.5	+0.8
	baz=34,SNR=6.6										
Y20A	Horse Springs,	34.25	321		⇓P		P	17	39	57.9	+1.1
	baz=34,SNR=7.5										
T25A	Trinidad	34.33	329		⇑P		P	17	39	57.5	+0.2
	baz=34										
SCIA	State Center	34.36	347		eP		P	17	39	56.6	-0.6
	comp=Z,67nm,0.9s										
R27A	Eads	34.46	332		⇑P		P	17	39	58.8	+0.6
	baz=35										
TUC	Tucson	34.81	317		eP		P	17	40	02.5	+1.1
TUC					pmax		pmax				
	comp=Z,156nm,2.6s										
TUC	Tucson	34.81	317		eP		P	17	40	02.5	+1.1
	comp=Z,156nm,2.6s										
KSCO	Kaye Shedlock'	34.97	333		⇓P		P	17	40	04.0	+1.3
	baz=35										
S24A	Houchin Ranch,	35.12	329		⇑P		P	17	40	04.8	+0.5
	baz=35										
W20A	Ramah	35.14	322		⇓P		P	17	40	05.6	+1.2
	baz=35,SNR=8.4										
X18A	Snowflake	35.64	320		⇓P		P	17	40	09.6	+0.9
	baz=36										
R23A	Moffat	35.86	329		⇑P		P	17	40	11.5	+0.9
	baz=36										
T21A	Navajo Lake	35.88	326		⇓P		P	17	40	11.3	+0.6
	baz=36										
W18A	Petrified Fore	35.89	321		⇑P		P	17	40	11.1	+0.3
	baz=36,SNR=6.9										
214A	Organ Pipe Nat	36.02	314		⇑P		P	17	40	12.4	+0.7
	baz=36,SNR=14										
S22A	4UR Ranch, Cre	36.05	327		⇓P		P	17	40	13.2	+1.0
	baz=36										
P25A	Willow Gulch B	36.08	332		⇓P		P	17	40	13.6	+1.3
	baz=36										
SADO	Sadowa	36.23	5		P		P	17	40	13.7	+0.5
	comp=Z,5.3nm,0.8s,baz=237,slow=4.6,SNR=5.4										
SADO	Sadowa	36.23	5		P		P	17	40	13.7	+0.5
O26A	Horse Wrangler	36.28	334		⇑P		P	17	40	15.0	+1.1
	baz=36										
OGNE	Ogallala	36.32	336		eP		P	17	40	13.8	-0.4
	comp=Z,124nm,1.5s										
OGNE	Ogallala	36.32	336		⇓P		P	17	40	15.0	+0.8
	baz=36										
U19A	Dine' College,	36.36	323		⇓P		P	17	40	15.3	+0.5
	baz=36										
N27A	Anderson Farm,	36.41	335		⇓P		P	17	40	15.9	+0.9
	baz=36										
X16A	Lo Mia Camp, P	36.53	319		⇑P		P	17	40	18.2	+1.9
	baz=37,SNR=8.9										
MVCO	Mesa Verde	36.58	325		eP		P	17	40	16.1	-0.6
	comp=Z,17nm,1.3s										
MVCO	Mesa Verde	36.58	325		⇑P		P	17	40	17.0	+0.3
	baz=37										
LONY	Lake Ozonia	36.68	10		eP		P	17	40	17.5	+0.4
	comp=Z,174nm,2.3s										
P23A	Jefferson	36.77	330		⇓P		P	17	40	19.2	+0.8
	baz=37										
LBNH	Lisbon	36.85	14		eP		P	17	40	20.0	+1.4
LBNH					pmax		pmax				
	comp=Z,22nm,1.0s										
LBNH	Lisbon	36.85	14		eP		P	17	40	20.0	+1.4
	comp=Z,22nm,1.0s										
Z14A	Wintersburg	36.90	316		⇓P		P	17	40	20.5	+1.3
	baz=37,SNR=6.3										
ECSD	EROS Data Cent	36.93	344		eP		P	17	40	17.5	-1.8
	comp=Z,38nm,1.0s										
ECSD					ePcP		PcP	17	42	40.0	-0.5
113A	Mohawk Valley,	37.14	315		⇓P		P	17	40	23.1	+1.9
	baz=37,SNR=8.9										
WUAZ	Wupatki	37.17	320		eP		P	17	40	22.5	+0.9
	comp=Z,11nm,1.0s										
WUAZ					ePcP		PcP	17	42	42.0	+0.4
WUAZ	Wupatki	37.17	320		⇑P		P	17	40	23.7	+2.0
	baz=37,SNR=5.9										
SMCO	Snowmass	37.19	329		P		P	17	40	18.8	-3.2
	comp=Z,9.0nm,1.4s										
Y14A	Wickenburg	37.28	317		⇓P		P	17	40	23.7	+1.3
	baz=37,SNR=7.8										
COWI	Conover	37.73	353		eP		P	17	40	25.1	-1.0
	comp=Z,9.5nm,0.8s										
COWI					ePP		PP	17	41	50.6	-1.8
COWI					ePcP		PcP	17	42	42.4	-0.6
M24A	Cheyenne	37.94	333		⇑P		P	17	40	28.5	+0.3
	baz=38										
GLA	Glamis	38.04	314		⇑P		P	17	40	30.7	+1.8
	baz=38,SNR=13										
PHWY	Pilot Hill	38.10	332		eP		P	17	40	29.2	-0.3
	comp=Z,16nm,1.5s										
P20A	De Beque	38.17	328		⇓P		P	17	40	30.9	+0.9
	baz=38										
Y

CPUP Villa Florida 42.84 145 P P 17 41 06.7 -1.9
CPUP PcP PcP **17 42 58.4 -1.1**
ELK Elko 42.84 324 *eP* **P 17 41 08.9 +0.2**
comp=Z,4.8nm,0.9s
F20A Billings 42.85 334 ⇓P **P 17 41 09.0 +0.4**
baz=43
ULM Lac du Bonnet 42.86 348 P P 17 41 06.4 -2.1
comp=Z,14nm,0.7s,baz=172,slow=18,SNR=21
ULM PcP **PcP 17 42 58.6 -0.6**
comp=Z,5.9nm,0.8s,baz=188,slow=6.4,SNR=3.4
ULM LR LR 18 01 08.9
comp=Z,414nm,20.0s,baz=131,slow=39
ULM Lac du Bonnet 42.86 348 P P 17 41 06.4 -2.1
ULM PcP **PcP 17 42 58.6 -0.6**
SMMC Simmler 42.88 314 ⇑P **P 17 41 09.2 +0.3**
baz=43,SNR=7.9
D22A Cohagen 43.14 337 ⇓P **P 17 41 11.0 +0.1**
baz=43,SNR=14
F19A Roth Farm, Mol 43.24 334 ⇓P **P 17 41 11.5 -0.2**
baz=43
C23A Lambert 43.31 338 ⇓P **P 17 41 12.4 +0.2**
baz=43,SNR=12
NVAR Mina Array Bea 43.36 319 P P 17 41 14.7 +1.8
comp=Z,11nm,0.8s,baz=131,slow=7.0,SNR=32
NVAR PcP **PcP 17 43 03.3 +1.8**
comp=Z,2.5nm,0.7s,baz=136,slow=4.3,SNR=4.8
NVAR LR LR 18 04 42.7
comp=Z,328nm,18.0s,baz=53,slow=44
NVAR Mina Array Bea 43.36 319 P P 17 41 14.7 +1.8
NVAR PcP **PcP 17 43 03.3 +1.8**
D21A La Casta Ranch 43.39 336 ⇓P **P 17 41 12.9 +0.1**
baz=44
E20A Meyer Farm, Mu 43.40 335 ⇑P **P 17 41 13.1 +0.1**
baz=44
DGMT Dagmar 43.53 340 *eP* **P 17 41 13.9 0.0**
comp=Z,32nm,0.9s
DGMT Dagmar 43.53 340 ⇑P **P 17 41 14.6 +0.6**
baz=44
RPN Rapa Nui 43.61 215 LR LR 17 54 35.7
comp=Z,1µm,19.1s,baz=280,slow=30
E19A Rath Farm, Rou 43.65 334 ⇓P **P 17 41 14.9 0.0**
baz=44
B23A Brockton 43.80 339 ⇓P **P 17 41 15.6 -0.6**
baz=44,SNR=5.5
BMN Battle Mountai 43.84 322 *eP* **P 17 41 17.8 +1.1**
BMN pmax pmax
comp=Z,15nm,0.9s
BMN Battle Mountai 43.84 322 *eP* **P 17 41 17.8 +1.1**
comp=Z,14nm,0.9s
D20A Manuel Ranch, 43.87 335 ⇑P **P 17 41 16.7 -0.1**
baz=44
J13A Cove Ranch, Pi 43.99 327 ⇓P **P 17 41 17.1 -0.8**
baz=44
C21A Desert Coulee 44.05 337 ⇑P **P 17 41 19.0 +0.8**
baz=44
H15A Lima 44.05 330 ⇑P **P 17 41 18.2 -0.3**
baz=44
HLID Hailey 44.23 327 P P 17 41 17.9 -2.0
comp=Z,5.5nm,1.0s
D19A Cripps Ranch, 44.24 335 ⇑P **P 17 41 19.7 0.0**
baz=44
BOZ Bozeman (W) 44.31 331 *eP* **P 17 41 20.6 +0.2**
BOZ pmax pmax
comp=Z,53nm,2.3s
BOZ Bozeman (W) 44.31 331 *eP* **P 17 41 20.6 +0.2**
comp=Z,53nm,2.3s
I13A Wildhorse Cree 44.31 328 ⇑P **P 17 41 19.8 -0.7**
baz=44
C20A Veseth Ranch, 44.32 336 ⇑P **P 17 41 21.0 +0.7**
baz=44
CMB Columbia Colle 44.52 317 *eP* **P 17 41 22.4 +0.3**
CMB pmax pmax
comp=Z,18nm,1.3s
CMB Columbia Colle 44.52 317 *eP* **P 17 41 22.4 +0.3**
comp=Z,18nm,1.3s
DLMT Dillon 44.56 330 *eP* **P 17 41 22.8 +0.4**
comp=Z,18nm,1.3s
A22A Carney Farms, 44.58 339 ⇓P **P 17 41 23.0 +0.6**
baz=45
D18A Linhart Farms, 44.66 334 ⇑P **P 17 41 23.5 +0.4**
baz=45
C19A Slack Wire Ran 44.76 335 ⇓P **P 17 41 24.2 +0.4**
baz=45
B20A Solberg Farm, 44.91 337 ⇑P **P 17 41 25.4 +0.3**
baz=45
A21A Bergtoll Ranch 44.94 338 ⇓P **P 17 41 25.4 +0.1**
baz=45,SNR=6.4
D17A Six Diamond Ra 45.01 334 ⇓P **P 17 41 26.0 +0.1**
baz=45
H12A Diamond D Ranc 45.13 328 ⇓P **P 17 41 27.0 -0.1**
baz=45
A20A Cobblestone Ra 45.23 337 ⇓P **P 17 41 28.2 +0.6**
baz=45
EGMT Eagleton 45.28 335 *eP* **P 17 41 26.7 -1.3**
comp=Z,12nm,1.1s
EGMT Eagleton 45.28 335 ⇑P **P 17 41 28.0 0.0**
baz=45
B19A Brinkman Farms 45.29 336 ⇓P **P 17 41 28.1 0.0**
baz=45
D16A Dana Ranch, Ca 45.30 333 ⇑P **P 17 41 28.2 -0.1**
baz=45
E15A Deer Lodge 45.36 331 ⇓P **P 17 41 29.0 +0.2**
baz=46
A19A Klindworth Far 45.59 337 ⇑P **P 17 41 30.7 +0.3**
baz=46
F13A Darby 45.72 330 ⇑P **P 17 41 31.7 0.0**
baz=46
E14A Clinton 45.76 331 ⇓P **P 17 41 31.9 -0.1**
baz=46
A18A Metzger Ranch, 46.02 336 ⇑P **P 17 41 34.0 +0.1**
baz=46
E13A Victor 46.11 330 ⇑P **P 17 41 34.5 -0.1**
baz=46
F12A Elk City 46.17 329 ⇑P **P 17 41 34.9 -0.2**
baz=46
MSO Missoula 46.27 331 *eP* **P 17 41 34.4 -1.4**
comp=Z,3.8nm,0.9s
C15A Salmond Ranch, 46.33 333 ⇓P **P 17 41 36.2 -0.2**
baz=46
B16A M & M Farms, S 46.41 334 ⇑P **P 17 41 36.5 -0.5**
baz=46
BMO Blue Mountains 46.64 327 *eP* **P 17 41 37.8 -1.0**
comp=Z,7.0nm,1.3s
D13A Huson 46.70 331 ⇓P **P 17 41 39.1 -0.2**
baz=47
B15A Bradely Ranch, 46.71 333 ⇓P **P 17 41 39.6 +0.2**
baz=47
A16A West Butte Ran 46.77 335 ⇓P **P 17 41 40.0 +0.1**
baz=47
B14A Marquette Ranc 47.07 333 ⇑P **P 17 41 42.2 0.0**
baz=47
JTMT Jette 47.09 332 *eP* **P 17 41 41.4 -0.9**
JTMT *e*PcP **PcP 17 43 15.4 +1.3**
C13A Hot Springs 47.18 331 ⇓P **P 17 41 42.7 -0.2**
baz=47
A15A Johnson Ranch, 47.29 334 ⇑P **P 17 41 43.7 -0.1**
baz=47
A14A Double T Ranch 47.59 333 ⇓P **P 17 41 46.4 +0.2**
baz=48
B13A Whitefish 47.62 332 ⇓P **P 17 41 46.7 +0.3**
baz=48
C12B Nagell Ranch, 47.63 331 ⇑P **P 17 41 46.7 +0.3**
baz=48
SCHQ Schefferville 47.94 13 P P 17 41 48.9 +0.2
comp=Z,10.0nm,0.8s,baz=190,slow=5.5,SNR=9.9
SCHQ LR LR 18 02 56.1
comp=Z,720nm,19.9s,baz=242,slow=37
SCHQ Schefferville 47.94 13 P P 17 41 48.9 +0.2
YBH Yreka Blue Hor 47.99 320 LR LR 18 06 15.4
comp=Z,372nm,20.3s,baz=151,slow=41
B12A Libby 48.22 331 ⇑P **P 17 41 50.9 0.0**
baz=48
FFC Flin Flon 48.41 346 *i* P **P 17 41 52.5 +0.2**
FFC Flin Flon 48.41 346 P P 17 41 52.0 -0.3
comp=Z,145nm,0.8s,SNR=7.6
NEW Newport 48.81 330 LR LR 18 04 56.6
comp=Z,319nm,20.6s,baz=146,slow=39
NEW Newport 48.81 330 *eP* **P 17 41 54.6 -1.0**
comp=Z,72nm,2.6s
NEW Newport 48.81 330 ⇓P **P 17 41 55.3 -0.2**
baz=49
RCBR Riachuelo 49.27 105 *eP* **P 17 41 59.9 +0.3**
comp=Z,12nm,0.8s
PLCA Paso Flores 50.43 168 P P 17 42 07.9 -0.1
comp=Z,31nm,0.8s,baz=341,slow=8.8,SNR=56
PLCA Paso Flores 50.43 168 *eP* **P 17 42 07.9 -0.1**
comp=Z,40nm,0.9s
TRQA Tornquist 50.44 158 *eP* **P 17 42 07.7 -0.3**
comp=Z,48nm,1.5s
NLWA Neilton Lookou 51.81 326 *eP* **P 17 42 18.3 +0.1**
comp=Z,19nm,1.1s
FRB Frobisher Bay 56.06 8 LR LR 18 07 20.7
comp=Z,707nm,19.5s,baz=27,slow=37
BBB Bella Bella 56.78 329 LR LR 18 09 19.5
comp=Z,271nm,19.1s,baz=262,slow=38
YKA Yellowknife Ar 58.46 344 P P 17 43 05.5 -0.4
comp=Z,6.2nm,0.8s,baz=140,slow=6.9,SNR=128
YKA Yellowknife Ar 58.46 344 P P 17 43 05.5 -0.4
YKW3 Yellowknife Ar 58.52 344 *eP* **P 17 43 04.8 -1.5**
comp=Z,0.4nm,0.9s
RKT Rikitea 59.64 237 *e*LR LR 18 01 33.0
comp=Z,996nm,26.0s
SFJD Kangerlussuaq 62.37 14 LR LR 18 11 55.9
comp=Z,584nm,18.4s,baz=217,slow=37
SFJD Kangerlussuaq 62.37 14 *i* P **P 17 43 30.7 -1.8**
comp=Z,7.8nm,0.9s
RES Resolute Bay 66.41 357 P P 17 43 58.1 -0.8
comp=Z,3.9nm,0.8s,baz=190,slow=11,SNR=8.6
RES Resolute Bay 66.41 357 *eP* **P 17 43 57.9 -1.0**
comp=Z,13nm,1.0s
INK Inuvik 68.14 342 P P 17 44 10.9 +0.9
comp=Z,13nm,0.9s,baz=0.0,slow=20
INK Inuvik 68.14 342 P P 17 44 10.9 +0.9
BMRM Bremner River 68.89 333 *eP* **P 17 44 15.7 +0.8**
comp=Z,38nm,1.3s
EGAK Eagle 68.98 337 *eP* **P 17 44 15.2 -0.2**
comp=Z,22nm,1.2s
SUMG Summit 69.33 13 *eP* **P 17 44 17.2 -0.7**
SUMG *e* 17 44 23.6
SUMG pmax pmax
comp=Z,37nm,0.9s
SUMG Summit 69.33 13 *eP* **P 17 44 17.2 -0.7**
comp=Z,38nm,0.9s
SUMG *e* 17 44 23.6
SUMG Summit 69.33 13 *i* P **P 17 44 17.1 -0.7**
comp=Z,34nm,1.0s
DOT Dot Lake 69.67 335 *eP* **P 17 44 19.9 +0.3**
comp=Z,20nm,0.8s
PAX Paxson 70.00 335 *eP* **P 17 44 22.4 +0.6**
PAX pmax pmax
comp=Z,32nm,1.6s
PAX Paxson 70.00 335 *eP* **P 17 44 22.4 +0.6**
comp=Z,32nm,1.6s
PPT Papeete 70.52 248 LR LR 18 07 44.7
comp=Z,365nm,18.8s,baz=150,slow=29
PPT2 Papeete2 70.53 248 *e*LQ LQ 17 44 23.6
comp=Z,474nm,24.2s
PPT2 *e*LR LR 17 45 41.1
comp=Z,672nm,28.8s,baz=243
PPT2 Papeete2 70.53 248 *e*S **S 17 53 40.2 +1.6**
comp=Z,109nm,26.2s
PPT2 *e*LR LR 18 05 55.3
comp=Z,273nm,22.8s
SML Sawmill 70.86 333 *eP* **P 17 44 27.2 +0.2**
SML pmax pmax
comp=Z,13nm,1.4s
SML Sawmill 70.86 333 *eP* **P 17 44 27.2 +0.2**
comp=Z,13nm,1.4s
ILAR Eielson Array 71.23 336 P P 17 44 29.7 +0.5
comp=Z,11nm,0.7s,baz=113,slow=4.5,SNR=122
ILAR Eielson Array 71.23 336 P P 17 44 29.7 +0.5
COLA College 71.66 336 *eP* **P 17 44 32.0 +0.3**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 71.66 336 *eP* **P 17 44 31.9 +0.3**
comp=Z,8.4nm,0.9s
TBI Tubuai 72.10 242 *e*LR LR 17 44 56.0
comp=Z,564nm,28.2s
TBI Tubuai 72.10 242 *e*LR LR 18 06 41.1
comp=Z,212nm,27.2s
TRF Thorofare Moun 72.22 334 *eP* **P 17 44 35.4 0.0**
comp=Z,20nm,1.2s
SPU Mount Spurr 72.40 332 *eP* **P 17 44 36.9 +0.6**
RSO Redoubt South 72.55 331 *eP* **P 17 44 37.4 0.0**
PNCL Nicolau / Gran 72.70 53 *eP* **P 17 44 41.2 +2.8**
comp=Z,25nm,1.6s
PMTG Montargil 72.98 52 *eP* **P 17 44 42.7 +2.6**
comp=Z,34nm,1.6s
EVOP Sao Brissos 73.03 52 *eP* **P 17 44 40.1 -0.3**
EVOP pmax pmax
comp=Z,22nm,1.0s
EVOP Sao Brissos 73.03 52 *eP* **P 17 44 40.1 -0.3**
comp=Z,22nm,1.0s
PGAV Gavieira, Arco 73.11 49 *eP* P 17 44 44.4 +3.5
comp=Z,39nm,1.4s
EVO Evora 73.12 52 *eP* **P 17 44 40.1 -0.9**
comp=Z,22nm,1.0s
EVO *e*R
comp=Z,480nm,23.0s
EVO Evora 73.12 52 *eP* **P 17 44 41.9 +0.9**
comp=Z,24nm,1.6s
PVIS Viseu 73.32 50 *eP* **P 17 44 42.9 +0.7**
comp=Z,25nm,1.9s
COLD Coldfoot 73.33 338 *eP* **P 17 44 40.3 -1.3**
comp=Z,24nm,1.3s
PESTR Estremoz 73.47 52 *eP* P 17 44 46.6 +3.6
comp=Z,38nm,1.4s
PCBR Castelo Branco 73.59 51 *eP* **P 17 44 44.4 +0.7**
comp=Z,28nm,1.9s
PMRV Marv??o 73.64 51 *eP* **P 17 44 46.3 +2.2**
comp=Z,17nm,1.4s
PBAR Barrancos 73.87 53 *eP* **P 17 44 46.6 +1.2**
comp=Z,38nm,1.4s
MVO Mocorvo 73.99 50 *eP* **P 17 44 46.9 +0.8**
comp=Z,24nm,1.4s
SVW2 Sparrevohn 74.05 331 *eP* **P 17 44 46.0 +0.1**
comp=Z,22nm,1.4s
PMSA Palmer Station 74.54 172 P P 17 44 49.4 +0.8
comp=Z,21nm,1.0s,baz=345,slow=12,SNR=2.7
PMSA Palmer Station 74.54 172 *eP* **P 17 44 48.9 +0.3**
comp=Z,24nm,0.9s
DAG Danmarks Havn 75.99 12 *i* P **P 17 44 54.8 -2.1**
comp=Z,73nm,0.9s
PAB San Pablo 76.00 51 *eP* **P 17 44 58.3 +0.5**
PAB pmax pmax
comp=Z,49nm,1.9s
PAB San Pablo 76.00 51 *eP* **P 17 44 58.3 +0.5**
comp=Z,49nm,1.9s
ESDC Sonseca Array 76.30 51 P P 17 44 59.5 +0.1
comp=Z,6.7nm,0.9s,baz=276,slow=5.3,SNR=17
ESDC LR LR 18 12 12.9
comp=Z,277nm,20.8s,baz=245,slow=31
ESDC Sonseca Array 76.30 51 P P 17 44 59.5 +0.1
ESLA Sonseca Array 76.30 51 *eP* **P 17 44 58.4 -1.0**
comp=Z,2.8nm,0.9s
QUIF Quistinic 77.00 43 *eP* **P 17 45 02.2 -1.0**
QUIF Quistinic 77.00 43 *eP* **P 17 45 02.2 -1.0**
QUIF Quistinic 77.00 43 *eP* **P 17 45 02.2 -1.0**
SGMF Saint Gilles 77.42 43 *eP* **P 17 45 04.4 -1.1**
SGMF Saint Gilles 77.42 43 *eP* **P 17 45 04.4 -1.1**
SGMF Saint Gilles 77.42 43 *eP* **P 17 45 04.4 -1.1**
LIC Lamto 77.43 86 *eP* **P 17 45 06.9 +0.7**
comp=Z,112nm,0.9s,baz=270
LIC *e*R
comp=Z,105nm,23.0s
LIC Lamto 77.43 86 *eP* **P 17 45 06.9 +0.7**
comp=Z,112nm,0.9s
DBIC Dimbokro 77.54 85 P P 17 45 07.4 +0.6
comp=Z,29nm,0.9s,baz=264,slow=5.4,SNR=30
DBIC LR LR 18 19 06.0
comp=Z,98nm,19.2s,baz=253,slow=36
DBIC Dimbokro 77.54 85 *eP* **P 17 45 07.2 +0.3**
comp=Z,46nm,1.0s
SJPF Ste Jean 78.34 48 *eP* **P 17 45 10.5 -0.3**
comp=Z,50nm,1.5s
SJPF Ste Jean 78.34 48 *eP* **P 17 45 10.5 -0.3**
SJPF pmax pmax
comp=Z,50nm,1.5s
SJPF Ste Jean 78.34 48 *eP* **P 17 45 10.5 -0.3**
comp=Z,50nm,1.5s
GRR Gorron 78.56 42 *eP* **P 17 45 11.1 -0.7**
comp=Z,25nm,0.9s
GRR Gorron 78.56 42 *eP* **P 17 45 11.1 -0.7**
GRR pmax pmax
comp=Z,25nm,0.9s
GRR Gorron 78.56 42 *eP* **P 17 45 11.1 -0.7**
comp=Z,25nm,0.9s
FLN La Foliniere 78.81 42 *eP* **P 17 45 12.0 -1.2**
FLN *e*R
comp=Z,836nm,21.2s
FLN La Foliniere 78.81 42 *eP* **P 17 45 12.0 -1.2**
FLN La Foliniere 78.81 42 *eP* **P 17 45 12.0 -1.2**
ETSF Etsaut 78.83 48 *eP* **P 17 45 13.3 -0.3**
ETSF Etsaut 78.83 48 *eP* **P 17 45 13.3 -0.3**
ETSF Etsaut 78.83 48 *eP* **P 17 45 13.3 -0.3**
LDF La Druitiere 79.04 42 *eP* **P 17 45 13.4 -1.1**
comp=Z,91nm,1.7s
LDF La Druitiere 79.04 42 *eP* **P 17 45 13.4 -1.1**
LDF pmax pmax
comp=Z,91nm,1.7s
LDF La Druitiere 79.04 42 *eP* **P 17 45 13.4 -1.1**
comp=Z,91nm,1.7s
MFF Saint Martin d 79.05 44 *eP* **P 17 45 13.5 -1.1**
comp=Z,30nm,1.1s
MFF Saint Martin d 79.05 44 *eP* **P 17 45 13.5 -1.1**
MFF pmax pmax
comp=Z,31nm,1.1s
MFF Saint Martin d 79.05 44 *eP* **P 17 45 13.5 -1.1**
comp=Z,30nm,1.1s
EPF Esparros 79.49 48 *eP* **P 17 45 16.6 -0.5**
comp=Z,23nm,1.1s
EPF Esparros 79.49 48 *eP* **P 17 45 16.6 -0.5**
EPF pmax pmax
comp=Z,23nm,1.1s
EPF Esparros 79.49 48 *eP* **P 17 45 16.6 -0.5**
comp=Z,23nm,1.1s
LFF La Frestale 79.71 46 *eP* **P 17 45 17.4 -0.8**
LFF La Frestale 79.71 46 *eP* **P 17 45 17.4 -0.8**
LFF La Frestale 79.71 46 *eP* **P 17 45 17.4 -0.8**
TNA Tin City 80.07 335 *eP* **P 17 45 21.8 +2.1**
comp=Z,20nm,1.1s
RJF Les Rejaudoux 80.25 45 *eP* **P 17 45 20.3 -0.8**
comp=Z,48nm,1.5s
RJF *e*R
comp=Z,365nm,19.5s
RJF Les Rejaudoux 80.25 45 *eP* **P 17 45 20.3 -0.8**
RJF pmax pmax
comp=Z,48nm,1.5s
RJF Les Rejaudoux 80.25 45 *eP* **P 17 45 20.3 -0.8**
comp=Z,48nm,1.5s
CAF Calviac 80.65 46 *eP* **P 17 45 22.2 -1.2**
CAF Calviac 80.65 46 *eP* **P 17 45 22.2 -1.2**
CAF Calviac 80.65 46 *eP* **P 17 45 22.2 -1.2**
TCF Toulx Ste Croi 80.69 44 *eP* **P 17 45 21.9 -1.6**
TCF Toulx Ste Croi 80.69 44 *eP* **P 17 45 21.9 -1.6**
TCF Toulx Ste Croi 80.69 44 *eP* **P 17 45 21.9 -1.6**
MTLF Montolieu 80.84 47 *eP* **P 17 45 23.5 -0.9**
comp=Z,72nm,1.7s
MTLF Montolieu 80.84 47 *eP* **P 17 45 23.5 -0.9**
MTLF pmax pmax
comp=Z,72nm,1.7s
MTLF Montolieu 80.84 47 *eP* **P 17 45 23.5 -0.9**
comp=Z,72nm,1.7s
BGF Bois d'Agland 81.12 44 *eP* **P 17 45 24.5 -1.3**
BGF Bois d'Agland 81.12 44 *eP* **P 17 45 24.5 -1.3**
BGF Bois d'Agland 81.12 44 *eP* **P 17 45 24.5 -1.3**
AVF Avril sur Loir 81.45 44 *eP* **P 17 45 26.1 -1.4**
AVF Avril sur Loir 81.45 44 *eP* **P 17 45 26.1 -1.4**
AVF Avril sur Loir 81.45 44 *eP* **P 17 45 26.1 -1.4**
SSF Saint Saulge 81.54 44 *eP* **P 17 45 26.2 -1.8**
SSF Saint Saulge 81.54 44 *eP* **P 17 45 26.2 -1.8**
SSF Saint Saulge 81.54 44 *eP* **P 17 45 26.2 -1.8**
LOR Lormes 81.77 43 *eP* **P 17 45 27.6 -1.6**
comp=Z,19nm,1.1s
LOR *e*R
comp=Z,542nm,20.2s
LOR Lormes 81.77 43 *eP* **P 17 45 27.6 -1.6**
comp=Z,19nm,1.1s
SMF Signal de Mont 81.80 44 *eP* **P 17 45 27.9 -1.5**
SMF Signal de Mont 81.80 44 *eP* **P 17 45 27.9 -1.5**
SMF Signal de Mont 81.80 44 *eP* **P 17 45 27.9 -1.5**
LASF Ste Croix 81.98 47 *eP* **P 17 45 29.9 -0.5**
LASF Ste Croix 81.98 47 *eP* **P 17 45 29.9 -0.5**
GIVF Givet 82.22 41 *eP* **P 17 45 30.3 -1.2**
GIVF Givet 82.22 41 *eP* **P 17 45 30.3 -1.2**
GIVF Givet 82.22 41 *eP* **P 17 45 30.3 -1.2**
MEZF Maizieres J'vi 82.48 42 *eP* **P 17 45 31.5 -1.4**
MEZF Maizieres J'vi 82.48 42 *eP* **P 17 45 31.5 -1.4**
SFTF Sexfontaines 82.50 42 *eP* **P 17 45 31.6 -1.4**
SFTF Sexfontaines 82.50 42 *eP* **P 17 45 31.6 -1.4**
VIVF Saint-Julien-l 82.51 46 *eP* **P 17 45 32.7 -0.5**
VIVF Saint-Julien-l 82.51 46 *eP* **P 17 45 32.7 -0.5**
VIVF Saint-Julien-l 82.51 46 *eP* **P 17 45 32.7 -0.5**
KBS Kingsbay 82.63 11⇑ *eP* **P 17 45 35.9 +2.8**
KBS pmax pmax
comp=Z,27nm,1.2s
PAGF Fort de Pagny 82.92 42 *eP* **P 17 45 34.2 -1.0**
PAGF Fort de Pagny 82.92 42 *eP* **P 17 45 34.2 -1.0**
TOA0 Torodi Ar. Sit 83.14 78 *eP* **P 17 45 36.9 -0.1**
TORD Torodi Ar. Bea 83.14 78 P P 17 45 37.4 +0.4
comp=Z,2.5nm,0.8s,baz=295,slow=3.7,SNR=16
TORD LR LR 18 21 56.9
comp=Z,175nm,18.7s,baz=245,slow=35
TORD Torodi Ar. Bea 83.14 78 P P 17 45 37.4 +0.4
CABF La Chapelle 83.34 44 *eP* **P 17 45 36.3 -1.2**
CABF La Chapelle 83.34 44 *eP* **P 17 45 36.3 -1.2**
CABF La Chapelle 83.34 44 *eP* **P 17 45 36.3 -1.2**
ORIF Oris-en-Rattie 83.36 46 *eP* **P 17 45 37.4 -0.3**
ORIF *e*R
comp=Z,311nm,22.2s
ORIF Oris-en-Rattie 83.36 46 *eP* **P 17 45 37.4 -0.3**
ORIF Oris-en-Rattie 83.36 46 *eP* **P 17 45 37.4 -0.3**
HAU Haudompre 83.39 43 *eP* **P 17 45 36.4 -1.3**
HAU *e*R
comp=Z,539nm,21.5s
HAU Haudompre 83.39 43 *eP* **P 17 45 36.4 -1.3**
HAU Haudompre 83.39 43 *eP* **P 17 45 36.4 -1.3**
SPITS Spitsbergen Ar 83.62 12 P P 17 45 38.1 -0.1
comp=Z,9.2nm,1.1s,baz=269,slow=7.2,SNR=4.6
SPITS Spitsbergen Ar 83.62 12 P P 17 45 38.1 -0.1
HINF Hinteralfeld 83.75 43 *eP* **P 17 45 37.8 -1.7**
HINF Hinteralfeld 83.75 43 *eP* **P 17 45 37.8 -1.7**
HINF Hinteralfeld 83.75 43 *eP* **P 17 45 37.8 -1.7**
LPL La Plagne 83.90 45 *eP* **P 17 45 40.8 +0.2**
LPL La Plagne 83.90 45 *eP* **P 17 45 40.8 +0.2**
LPL La Plagne 83.90 45 *eP* **P 17 45 40.8 +0.2**
ECH Echery 83.91 42 *eP* **P 17 45 40.3 0.0**
ECH pmax pmax
comp=Z,13nm,1.4s
ECH Echery 83.91 42 *eP* **P 17 45 40.3 0.0**
comp=Z,13nm,1.4s
CDF Champ du Feu 83.97 42 *eP* **P 17 45 39.3 -1.4**
CDF Champ du Feu 83.97 42 *eP* **P 17 45 39.3 -1.4**
CDF Champ du Feu 83.97 42 *eP* **P 17 45 39.3 -1.4**
MBDF Montbardon 84.01 46 *eP* **P 17 45 40.5 -0.6**
MBDF Montbardon 84.01 46 *eP* **P 17 45 40.5 -0.6**
MBDF Montbardon 84.01 46 *eP* **P 17 45 40.5 -0.6**
NB2 NORSAR Subarra 84.69 29 P P 17 45 44.2 +0.2
baz=278,slow=5.1
NB2 NORSAR Subarra 84.69 29 P P 17 45 44.2 +0.2
comp=Z,32nm,1.4s,baz=278,slow=5.1
NOA NORSAR Array B 84.69 29 P P 17 45 44.5 +0.4
comp=Z,4.3nm,1.0s,baz=278,slow=4.9,SNR=4.7
NOA LR LR 18 20 38.0
comp=Z,210nm,20.2s,baz=295,slow=34
NOA NORSAR Array B 84.69 29 P P 17 45 44.5 +0.4
CASM Ain Smara 84.74 54 P P 17 45 45.8 +1.0
CMAH Djebel Manchou 85.44 54 P P 17 45 48.7 +0.4
TAM Tamanrasset 85.55 68 *eP* **P 17 45 49.6 +0.3**
TAM pmax pmax
comp=Z,28nm,1.7s
TAM Tamanrasset 85.55 68 *eP* **P 17 45 49.6 +0.3**
comp=Z,28nm,1.7s
GRF Grafenberg Arr 86.37 40 *eP* **P 17 45 52.6 0.0**
comp=Z,16nm,1.4s
GRF *e*L L 18 18 31.8
comp=Z,673nm,21.8s
NKC Novy Kostel 87.07 40 *eP* **P 17 45 56.5 +0.5**
NKC MLR MLR
comp=Z,600nm,20.1s
NKC Novy Kostel 87.07 40 *eP* **P 17 45 56.5 +0.5**
NKC AMS AMS 18 19 20.0
comp=Z,600nm,20.1s
KEST Kesra 87.10 54 LR LR 18 21 12.4
comp=Z,48nm,18.7s,baz=302,slow=33
CLL Collm 87.23 39⇓ *i* P **P 17 45 56.9 +0.2**
CLL *e* 17 46 14.0
CLL pmax pmax
comp=Z,31nm,1.8s
CLL MLR MLR
comp=Z,300nm,19.8s
CLL Collm 87.23 39⇓ *i* P **P 17 45 56.9 +0.2**
comp=Z,31nm,1.8s
CLL *i* PcP **PcP 17 45 59.5 +0.7**
CLL *e*pP **pP 17 46 05.0 +1.4**
CLL Lm MLR 18 25 00.0
comp=N,100nm,18.5s
CLL Lm MLR 18 25 00.0
comp=E,200nm,20.1s

CLL					Lm	MLR	18 25 00.0	
	comp=Z,300nm,19.8s							
BRG	**Berggiesshubel**	**87.89**	**39**	*e*P	**P**	**17 45 59.6**	**-0.3**	
	comp=Z,25nm,1.7s							
BRG				*e*		17 46 17.4		
	comp=Z,28nm,2.0s							
BRG				*e*		17 53 55.7		
	comp=Z,30nm,2.1s							
BRG								
	comp=N,355nm,17.9s							
BRG								
	comp=E,226nm,15.2s							
BRG								
	comp=Z,320nm,20.6s							
BRG	**Berggiesshubel**	**87.89**	**39**	*e*P	**P**	**17 45 59.6**	**-0.3**	
BRG				*e*		17 46 17.4		
BRG				pmax	pmax			
	comp=Z,25nm,1.7s							
BRG				pmax	pmax			
	comp=Z,28nm,2.0s							
BRG				pmax	pmax			
	comp=Z,30nm,2.1s							
BRG				MLR	MLR			
	comp=N,355nm,17.9s							
BRG				MLR	MLR			
	comp=E,226nm,15.2s							
BRG				MLR	MLR			
	comp=Z,320nm,20.6s							
KHC	**Kasperske Hory**	**87.98**	**41**	*e*P	**P**	**17 46 01.4**	**+0.9**	
KHC				*e*		17 46 13.5		
KHC				MLR	MLR			
	comp=Z,700nm,19.9s							
KHC	**Kasperske Hory**	**87.98**	**41**	*e*P	**P**	**17 46 00.0**	**-0.4**	
	comp=Z,9.3nm,1.4s							
KHC	**Kasperske Hory**	**87.98**	**41**	*e*P	**P**	**17 46 01.4**	**+0.9**	
KHC				*e*pP	**pP**	**17 46 06.3**	**-1.1**	
KHC				*e*sP	**sP**	**17 46 13.5**	**+3.7**	
KHC				AMS	AMS	18 18 30.0		
	comp=Z,700nm,19.9s							
GERES	**GERESS Array B**	**88.12**	**41**	P	**P**	**17 46 00.5**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=248,slow=2.5,SNR=9.6							
GERES				LR	LR	18 19 42.7		
	comp=Z,532nm,21.4s,baz=265,slow=32							
GERES	**GERESS Array B**	**88.12**	**41**	P	**P**	**17 46 00.5**	**-0.7**	
PVCC	**Panska Ves**	**88.35**	**39**	*e*P	**P**	**17 46 02.6**	**+0.5**	
PVCC	**Panska Ves**	**88.35**	**39**	*e*P	**P**	**17 46 02.6**	**+0.5**	
PRU	**Pruhonice**	**88.44**	**40**	*e*P	**P**	**17 46 03.5**	**+1.0**	
PRU				MLR	MLR			
	comp=Z,700nm,17.6s							
PRU	**Pruhonice**	**88.44**	**40**	*e*P	**P**	**17 46 03.5**	**+1.0**	
PRU				AMS	AMS	18 19 30.0		
	comp=Z,700nm,17.6s							
ARCES	**ARCESS Array B**	**88.44**	**19**	P	**P**	**17 46 00.5**	**-1.7**	
	comp=Z,3.0nm,0.8s,baz=291,slow=3.6,SNR=8.4							
ARCES				LR	LR	18 25 24.5		
	comp=Z,143nm,19.7s,baz=117,slow=36							
ARCES	**ARCESS Array B**	**88.44**	**19**	P	**P**	**17 46 00.5**	**-1.7**	
CADS	**Cadrg**	**88.63**	**44**	*e*P	**P**	**17 46 04.8**	**+1.2**	
JAVS	**Javornik**	**88.92**	**44**	*e*P	**P**	**17 46 05.2**	**+0.1**	
TREC	**Trest**	**89.18**	**40**	AMS	AMS	18 19 20.0		
	comp=Z,800nm,21.5s							
UPC	**Upice**	**89.25**	**39**	*e*P	**P**	**17 46 07.0**	**+0.6**	
UPC	**Upice**	**89.25**	**39**	*e*P	**P**	**17 46 07.0**	**+0.6**	
DPC	**Dobruska-Polom**	**89.48**	**39**	*e*P	**P**	**17 46 07.4**	**-0.1**	
DPC				*e*		17 46 13.8		
DPC	**Dobruska-Polom**	**89.48**	**39**	*e*P	**P**	**17 46 07.4**	**-0.1**	
	comp=Z,11nm,1.1s							
DPC	**Dobruska-Polom**	**89.48**	**39**	*e*P	**P**	**17 46 07.4**	**-0.1**	
DPC				*e*pP	**pP**	**17 46 13.8**	**-0.6**	
OKC	**Ostrava-Krasne**	**90.74**	**39**	AMS	AMS	18 21 00.0		
	comp=Z,700nm,21.9s							
VYHS	**Vyhne**	**91.52**	**41**	*e*P	**P**	**17 46 17.5**	**+0.5**	
VYHS				pmax	pmax			
	comp=Z,17nm,2.3s							
VYHS	**Vyhne**	**91.52**	**41**	*e*P	**P**	**17 46 17.5**	**+0.5**	
FINES	**FINESS Array B**	**91.54**	**27**	P	**P**	**17 46 15.4**	**-1.3**	
	comp=Z,3.3nm,1.0s,baz=343,slow=2.0,SNR=5.6							
FINES				LR	LR	18 21 45.7		
	comp=Z,315nm,21.0s,baz=317,slow=32							
FINES	**FINESS Array B**	**91.54**	**27**	P	**P**	**17 46 15.4**	**-1.3**	
VNA3	**Neumayer Olymp**	**92.83**	**162**	*e*P	**P**	**17 46 22.3**	**-0.2**	
VNA3	**Neumayer Olymp**	**92.83**	**162**	*e*pP	**P**	**17 46 24.7**	**+2.2**	
CRVS	**Cervenica-Dubn**	**93.08**	**40**	*e*P	**P**	**17 46 25.4**	**+1.2**	
CRVS				pmax	pmax			
	comp=Z,25nm,2.4s							
CRVS	**Cervenica-Dubn**	**93.08**	**40**	*e*P	**P**	**17 46 25.4**	**+1.2**	
VNA2	**Neumayer--Watz**	**93.45**	**161**	*e*P	P	17 46 21.1	-4.2	
	baz=184,slow=3.7							
VNA2	**Neumayer--Watz**	**93.45**	**161**	*e*P	**P**	**17 46 25.1**	**-0.2**	
VNA2	**Neumayer--Watz**	**93.45**	**161**	*e*pP	**P**	**17 46 28.2**	**+2.9**	
KOLS	**Kolonicke sedl**	**93.58**	**40**	*e*P	**P**	**17 46 28.7**	**+2.2**	
KOLS				pmax	pmax			
	comp=Z,15nm,1.9s							
KOLS	**Kolonicke sedl**	**93.58**	**40**	*e*P	**P**	**17 46 28.7**	**+2.2**	
SNAA	**Sanae**	**95.06**	**162**	*e*P	**P**	**17 46 31.4**	**-1.3**	
SEY	**Seymchan**	**97.12**	**338**⇓	*e*P	Pdif	17 46 43.1	+0.7	
AKASG	**Malin Array Be**	**97.21**	**36**	LR	LR	18 28 05.9		
	comp=Z,360nm,18.7s,baz=290,slow=34							
KLMR	**Klimovskoe**	**97.61**	**25**	*e*P	**P**	**17 46 42.4**	**-2.2**	
KLMR				pmax	pmax			
	comp=Z,30nm,1.7s							
QSPA	**South Pole Qui**	**98.57**	**180**	P	**P**	**17 46 47.8**	**-1.0**	
	comp=Z,1.9nm,0.8s,baz=102,slow=2.4,SNR=5.5							
QSPA	**South Pole Qui**	**98.57**	**180**	P	**P**	**17 46 47.8**	**-1.0**	
PETK	**Petropavlovsk-**	**99.89**	**328**	LR	LR	18 37 01.3		
	comp=Z,109nm,19.4s,baz=314,slow=38							
TSUM	**Tsumeb**	**102.89**	**108**	P	**Pdif**	**17 47 06.3**	**-2.9**	
ZALV	**Zalesovo Beam**	**116.89**	**8**	PKP	**PKPdf**	**17 51 53.8**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=3.3							
ZALV				PP	**PP**	**17 53 00.2**	**-2.4**	
	comp=Z,0.4nm,0.5s,baz=353,slow=3.5,SNR=4.2							
ZALV	**Zalesovo Beam**	**116.89**	**8**	PKIKP	**PKPdf**	**17 51 53.8**	**-1.1**	
ZALV						17 53 00.3		
ZALV	**Zalesovo Beam**	**116.89**	**8**	PKP	**PKPdf**	**17 51 53.8**	**-1.1**	
ZALV				PP	**PP**	**17 53 00.2**	**-2.4**	
MJAR	**Matsushiro Arr**	**120.64**	**322**	PKP	**PKPdf**	**17 52 02.1**	**-0.6**	
	comp=Z,2.0nm,0.8s,baz=103,slow=1.0,SNR=4.8							
MJAR	**Matsushiro Arr**	**120.64**	**322**	PKP	**PKPdf**	**17 52 02.1**	**-0.6**	
ZAK	**Zakamensk**	**121.02**	**355**	*e*PKIKP	PKPdf	17 51 55.2	-7.9	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.7s							
CN2	**Changchun**	**121.75**	**336**	*e*PKP	**PKPdf**	**17 52 00.4**	**-4.1**	
SONM	**Songino Array**	**123.20**	**352**	PKP	**PKPdf**	**17 52 06.8**	**-0.6**	
	comp=Z,1.3nm,0.8s,baz=330,slow=1.5,SNR=11							
SONM	**Songino Array**	**123.20**	**352**	PKP	**PKPdf**	**17 52 06.8**	**-0.6**	
MKAR	**Makanchi Array**	**123.38**	**12**	PKP	**PKPdf**	**17 52 06.7**	**-0.9**	
	comp=Z,0.9nm,0.9s,baz=29,slow=2.8,SNR=6.6							
MKAR	**Makanchi Array**	**123.38**	**12**	*c i*PKIKP	**PKPdf**	**17 52 06.8**	**-0.9**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**123.38**	**12**	PKP	**PKPdf**	**17 52 06.7**	**-0.9**	
AAK	**Ala-Archa**	**125.11**	**20**	PKP	**PKPdf**	**17 52 11.5**	**+0.2**	
	comp=Z,0.5nm,0.4s,baz=22,slow=2.7,SNR=3.6							
AAK	**Ala-Archa**	**125.11**	**20**	PKIKP	**PKPdf**	**17 52 11.5**	**+0.2**	
AAK	**Ala-Archa**	**125.11**	**20**	PKP	**PKPdf**	**17 52 11.5**	**+0.2**	
KSRS	**Korea Array**	**125.74**	**330**	PKP	**PKPdf**	**17 52 12.5**	**+0.2**	
	comp=Z,8.3nm,0.8s,baz=26,slow=1.5,SNR=20							
KSAR	**Wonju Array Be**	**125.77**	**330**	PKP	**PKPdf**	**17 52 12.5**	**+0.1**	
WMQ	**Urumqi**	**127.20**	**8**	*e*PKP	**PKPdf**	**17 52 15.3**	**+0.2**	
WMQ				LR	LR			
	comp=N,230nm,25.0s							
WMQ				LR	LR			
	comp=E,120nm,25.0s							
WMQ				LR	LR			
	comp=Z,130nm,32.0s							
KSH	**Kashi**	**128.39**	**21**	*e*PKP	**PKPdf**	**17 52 18.8**	**+1.2**	
KSH				*e*PP	PP	17 54 28.5	+7.5	
KSH				PKS	**PKSdf**	**17 55 55.1**	**+0.8**	
KSH				SKS	**SKSdf**	**17 59 29.8**	**+1.3**	
KSH				SKKS	**SKKSac**	**18 01 19.8**	**+1.1**	
KSH				SS	**SS**	**18 11 41.4**	**+6.3**	
KSH				AMB	AMB			
	comp=Z,84nm,5.1s							
KSH				LR	LR			
	comp=N,77nm,5.6s							
KSH				LR	LR			
	comp=E,73nm,7.9s							
KSH				LR	LR			
	comp=Z,190nm,7.0s							
HHC	**Hu-ho-hao-te**	**128.97**	**346**	*e*PKP	**PKPdf**	**17 52 14.9**	**-3.7**	
HHC				PP	**PP**	**17 54 25.3**	**+0.7**	
HHC				SKS	SKSdf	17 59 21.0	-8.5	
HHC				AMB	AMB			
	comp=Z,300nm,8.4s							
HHC				LR	LR			
	comp=N,360nm,17.8s							
HHC				LR	LR			
	comp=E,410nm,14.3s							
HHC				LR	LR			
	comp=Z,510nm,19.8s							
GTA	**Gaotai**	**132.18**	**357**	*e*PKP	**PKPdf**	**17 52 21.5**	**-3.3**	
GTA				sPKP		17 52 30.8		
GTA				PP	**PP**	**17 54 49.0**	**+3.7**	
GTA				SKS	**SKSdf**	**17 59 29.3**	**-6.1**	
GTA				SS	**SS**	**18 12 22.3**	**+1.2**	
GTA				AMB	AMB			
	comp=Z,230nm,6.2s							
GTA				LR	LR			
	comp=N,250nm,21.4s							
GTA				LR	LR			
	comp=E,240nm,16.6s							
GTA				LR	LR			
	comp=Z,310nm,17.1s							
STKA	**Stephens Creek**	**132.46**	**234**	PKP	**PKPdf**	**17 52 24.7**	**-0.6**	
	comp=Z,3.1nm,0.8s,baz=165,slow=5.1,SNR=4.2							
STKA	**Stephens Creek**	**132.46**	**234**	PKP	**PKPdf**	**17 52 24.7**	**-0.6**	
NJ2	**Nanjing**	**134.44**	**333**	*e*PKP	**PKPdf**	**17 52 28.1**	**-0.9**	
LZH	**Lanzhou**	**135.08**	**352**	*e*PKP	**PKPdf**	**17 52 31.0**	**+0.6**	
LZH				sPKP		17 52 35.5		
LZH				*e*PP	PP	17 55 09.3	+5.4	
LZH				SKKS		18 01 59.3		
LZH				*e*SS	**SS**	**18 13 00.4**	**+4.0**	
LZH				AMB	AMB			
	comp=Z,100nm,7.6s							
LZH				LR	LR			
	comp=N,150nm,18.2s							
LZH				LR	LR			
	comp=E,160nm,18.5s							
LZH				LR	LR			
	comp=Z,340nm,20.1s							
ENH	**Enshi**	**139.50**	**343**	*e*PKPdf	**PKPdf**	**17 52 36.6**	**-1.9**	
CD2	**Chengdu**	**140.18**	**351**	PKP	**PKPdf**	**17 52 38.9**	**-0.9**	
CD2				PP	**PP**	**17 55 39.6**	**+4.1**	
CD2				PKS	**PKSdf**	**17 56 13.4**	**-2.5**	
CD2				SKS	**SKSdf**	**17 59 46.3**	**-3.1**	
CD2				SKKS	**SKKSac**	**18 02 28.4**	**-1.6**	
CD2				SS	**SS**	**18 13 58.6**	**+2.0**	
CD2				AMB	AMB			
	comp=Z,190nm,5.3s							
CD2				LR	LR			
	comp=N,690nm,5.4s							
CD2				LR	LR			
	comp=Z,320nm,7.1s							
AS31	**Alice Springs**	**141.48**	**243**	*e*PKPdf	PKPpre	17 52 35.1		
ASAR	**Alice Springs**	**141.48**	**243**	PKhKP	PKPpre	17 52 35.8		
	comp=Z,4.6nm,0.7s,baz=112,slow=3.0,SNR=40							
ASAR				PKP	**PKPdf**	**17 52 41.8**	**-0.5**	
	comp=Z,5.0nm,0.8s,baz=108,slow=2.0,SNR=23							
ASAR	**Alice Springs**	**141.48**	**243**	PKPpre	PKPpre	17 52 35.8		
ASAR				PKP	**PKPdf**	**17 52 41.8**	**-0.5**	
LSA	**Lhasa**	**141.56**	**8**	*e*PKIKP	**PKPdf**	**17 52 43.3**	**+0.5**	
LSA	**Lhasa**	**141.56**	**8**	*e*PKPdf	**PKPdf**	**17 52 43.3**	**+0.5**	
WRA	**Warramunga Arr**	**142.01**	**249**	PKhKP	PKPpre	17 52 37.9		
	comp=Z,10nm,0.8s,baz=95,slow=2.9,SNR=65							
WRA				PKP	**PKPdf**	**17 52 43.0**	**-0.2**	
	comp=Z,7.3nm,0.8s,baz=96,slow=2.2,SNR=24							
WRA	**Warramunga Arr**	**142.01**	**249**	PKPpre	PKPpre	17 52 37.9		
WRA				PKP	**PKPdf**	**17 52 43.0**	**-0.2**	
KAD	**Karad**	**145.92**	**41**	*i* P	**PKPdf**	**17 52 49.6**	**-0.6**	
KMI	**Kunming**	**146.01**	**350**	PKPbc	**PKPdf**	**17 52 50.5**	**+0.1**	
TGY	**Tagaytay City**	**147.12**	**313**	PKPbc	**PKPbc**	**17 52 54.5**	**+0.1**	
	comp=Z,33nm,0.3s,baz=214,slow=3.3,SNR=5.7							
TGY	**Tagaytay City**	**147.12**	**313**	PKPbc	**PKPbc**	**17 52 54.5**	**+0.1**	
HYB	**Hyderabad**	**148.49**	**35**	*i* PKP	**PKPdf**	**17 52 56.0**	**+1.5**	
NWAO	**Narrogin (SRO)**	**149.27**	**215**	PKPbc	**PKPbc**	**17 52 58.2**	**-1.4**	
	comp=Z,8.0nm,0.6s,baz=147,slow=3.1,SNR=7.6							
NWAO	**Narrogin (SRO)**	**149.27**	**215**	PKPbc	**PKPbc**	**17 52 58.2**	**-1.4**	
FITZ	**Fitzroy Crossi**	**150.44**	**248**	PKP	**PKPdf**	**17 52 57.7**	**+0.2**	
	comp=Z,25nm,0.8s,baz=107,slow=7.1,SNR=5.4							
FITZ				PKPbc	**PKPbc**	**17 53 02.8**	**0.0**	
	comp=Z,25nm,0.8s,baz=161,slow=2.3,SNR=46							
FITZ	**Fitzroy Crossi**	**150.44**	**248**	*e*PKPdf	**PKPdf**	**17 52 56.8**	**-0.6**	
FITZ				PKP	**PKPdf**	**17 52 57.7**	**+0.2**	
FITZ				*e*PKPbc	**PKiKP**	**17 53 02.5**	**-1.1**	
FITZ				PKPbc	**PKPbc**	**17 53 02.8**	**0.0**	
CHTO	**Chiang Mai**	**152.70**	**356**	*e*PKIKP	**PKPdf**	**17 53 00.1**	**-0.9**	
CHTO				*e*		17 53 07.3		
CHTO	**Chiang Mai**	**152.70**	**356**	*e*PKPdf	**PKPdf**	**17 53 00.1**	**-0.9**	
CHTO				*e*PKPbc	**PKPbc**	**17 53 07.3**	**-0.7**	
CMAR	**Chiang Mai Arr**	**153.05**	**356**	PKP	**PKPdf**	**17 53 01.9**	**+0.5**	
	comp=Z,2.2nm,0.6s,baz=302,slow=2.6,SNR=21							
CMAR				PKPbc	**PKPbc**	**17 53 08.3**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=334,slow=2.6,SNR=13							
CMAR	**Chiang Mai Arr**	**153.05**	**356**	PKP	**PKPdf**	**17 53 01.9**	**+0.5**	
CMAR				PKPbc	**PKPbc**	**17 53 08.3**	**-0.4**	
MBWA	**Marble Bar**	**154.60**	**238**	*e*PKPbc	**PKPbc**	**17 53 11.2**	**-0.9**	
MBWA				*e*PKPab	**PKPab**	**17 53 26.2**	**-0.5**	

*IDC **13** 17:33:45.5±0.6,26.75S×176.40W,h0km,mb4.4/12, mb1 4.5/12,mb1mx4.4/20,mbtmp4.4/12,MS4.2/7, Ms1 4.2/7,ms1mx3.7/33,Error ellipse: s-maj=21.5km s-min=19.5km az=119.0*

*ISCJB **13** 17:33:49.5±0.5,26.73S±0.06×176.4W±0.1,h35km, mb4.7/22,MS4.1/6,Error ellipse: s-maj=13.8km s-min=8.7km az=18.0*

*NEIC **13** 17:33:49.5±6.4,26.75S×176.36W,h26km±43km,mb4.9/11, Error ellipse: s-maj=17.5km s-min=13.6km az=223.0*

ISC 13 17:33:50.7±0.5,26.77S±0.08×176.3W±0.1,h35km,n76, σ1ᵍ35/68,mb4.7/22,MS4.1/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.87**	**210**	*e*Pn	**Pn**		**17 34 32.7**	**-1.3**
RAO				*e*Sn	**Sn**		**17 35 09.1**	**+1.8**
URZ	**Urewera**	**12.74**	**204**	Pn	Pn		17 36 40.0	-9.3
	0.4nm,0.3s,baz=180,slow=20,SNR=3.5							
URZ				Sn	Sn		17 38 59.5	-10
	2.7nm,0.3s,baz=357,slow=22,SNR=11							
URZ	**Urewera**	**12.74**	**204**	Pn	Pn		17 36 40.0	-9.3
URZ				Sn	Sn		17 38 59.5	-10
AFI	**Afiamalu**	**13.47**	**19**	Pn	Pn		17 36 52.3	-7.2
	5.3nm,0.3s,baz=300,slow=5.3,SNR=9.2							
AFI				Sn	Sn		17 39 11.9	-16
	3.4nm,0.3s,baz=344,slow=22,SNR=4.3							
AFI				T	T		17 50 27.9	
	6.3nm,0.3s,baz=51,slow=14,SNR=6.2							
AFI	**Afiamalu**	**13.47**	**19**	*e*Pn	Pn		17 36 51.9	-7.6
	22nm,0.5s							
AFI				*e*Sn	Sn		17 39 10.4	-18
AFI				TT			17 50 27.9	
RAR	**Rarotonga**	**16.05**	**73**	Pn	Pn		17 37 23.4	-11
	7.2nm,0.3s,baz=260,slow=9.8,SNR=7.5							
RAR				T	T		17 53 50.9	
	6.3nm,0.3s,baz=100,slow=6.8,SNR=3.7							
RAR	**Rarotonga**	**16.05**	**73**	*e*Pn	Pn		17 37 23.1	-11
RAR				TT			17 53 51.0	
DZM	**Mont Dzumac**	**16.42**	**283**	*e*P	**P**		**17 37 44.8**	**+3.7**
	83nm,1.3s							
DZM				*e*LR	LR		17 41 06.5	
	1μm,23.9s							
DZM	**Mont Dzumac**	**16.42**	**283**	Pn	**P**		**17 37 44.0**	**+2.9**
	0.7nm,0.3s,baz=87,slow=16,SNR=5.5							
DZM				LR	LR		17 42 43.0	
	comp=Z,906nm,19.6s,baz=196,slow=33							
DZM	**Mont Dzumac**	**16.42**	**283**	Pn	**P**		**17 37 44.0**	**+2.9**
PPT	**Papeete**	**26.32**	**75**	LR	LR		17 46 21.0	
	comp=Z,406nm,20.4s,baz=255,slow=29							
HNR	**Honiara**	**28.34**	**303**	LR	LR		17 48 52.9	
	comp=Z,416nm,20.4s,baz=128,slow=32							
EIDS	**Eidsvold**	**29.32**	**265**	*e*P	**P**		**17 39 50.0**	**-0.2**
	8.5nm,0.7s							
CTA	**Charters Tower**	**34.93**	**273**	P	**P**		**17 40 39.0**	**-0.5**
	7.2nm,0.8s,baz=107,slow=9.4,SNR=13							
CTA				LR	LR		17 53 34.0	
	comp=Z,734nm,18.8s,baz=77,slow=34							
CTA	**Charters Tower**	**34.93**	**273**	P	**P**		**17 40 39.0**	**-0.5**
CTAO	**Charters Tower**	**34.93**	**273**	*e*P	**P**		**17 40 39.1**	**-0.3**
	21nm,1.2s							
STKA	**Stephens Creek**	**36.92**	**252**	P	**P**		**17 40 55.2**	**-1.1**
	1.9nm,0.8s,baz=96,slow=7.6,SNR=3.9							
STKA	**Stephens Creek**	**36.92**	**252**	*e*P	**P**		**17 40 55.1**	**-1.3**
	0.9nm,0.9s							
COEN	**Coen**	**39.93**	**280**	*e*P	**P**		**17 41 21.6**	**-0.2**
	54nm,0.8s							
AS31	**Alice Springs**	**44.96**	**263**	*e*P	**P**		**17 42 01.4**	**-1.3**
ASAR	**Alice Springs**	**44.96**	**263**	P	**P**		**17 42 01.1**	**-1.6**
	5.5nm,1.0s,baz=97,slow=7.0,SNR=67							
ASAR	**Alice Springs**	**44.96**	**263**	P	**P**		**17 42 01.1**	**-1.6**

WRA	**Warramunga Arr**	**45.62**	**268**	P	**P**		**17 42 06.2**	**-1.8**
	5.7nm,0.5s,baz=104,slow=8.1,SNR=68							
WRA				LR	LR		17 59 19.0	
	comp=Z,254nm,18.9s,baz=135,slow=34							
WRA	**Warramunga Arr**	**45.62**	**268**	P	**P**		**17 42 06.2**	**-1.8**
SBA	**Scott Base**	**51.76**	**185**	*e*P	**P**		**17 42 56.3**	**+2.0**
	17nm,1.1s							
VNDA	**Vanda**	**51.85**	**186**	P	**P**		**17 42 56.3**	**+1.3**
	1.7nm,1.0s,baz=350,slow=11,SNR=3.8							
VNDA	**Vanda**	**51.85**	**186**	P	**P**		**17 42 56.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**54.00**	**266**	P	**P**		**17 43 11.0**	**-0.7**
	7.3nm,0.9s,baz=144,slow=8.2,SNR=9.3							
FITZ	**Fitzroy Crossi**	**54.00**	**266**	P	**P**		**17 43 11.0**	**-0.7**
GUMO	**Guam**	**55.09**	**312**	LR	LR		18 03 49.0	
	comp=Z,152nm,19.9s,baz=107,slow=33							
MBWA	**Marble Bar**	**58.22**	**261**	*e*P	P		17 43 37.7	-4.1
	8.6nm,1.0s							
CASY	**Casey**	**59.05**	**207**	*e*P	**P**		**17 43 46.5**	**-0.4**
	20nm,0.7s							
QSPA	**South Pole Qui**	**63.33**	**180**	P	**P**		**17 44 16.3**	**+0.2**
	11nm,0.8s,baz=125,slow=2.2,SNR=21							
QSPA	**South Pole Qui**	**63.33**	**180**	*e*P	**P**		**17 44 16.1**	**0.0**
	19nm,1.1s							
KSM	**Kuching**	**75.90**	**279**	*e*P	**P**		**17 45 33.4**	**-0.9**
	8.9nm,0.9s							
MJAR	**Matsushiro Arr**	**76.18**	**324**	P	**P**		**17 45 35.7**	**+0.4**
	5.2nm,0.8s,baz=167,slow=6.3,SNR=8.9							
MJAR	**Matsushiro Arr**	**76.18**	**324**	P	**P**		**17 45 35.7**	**+0.4**
MAJO	**Matsushiro**	**76.18**	**324**	P	**P**		**17 45 35.9**	**+0.6**
ASAJ	**Asahikawa**	**79.97**	**331**	P	**P**		**17 45 57.1**	**+1.1**
	5.0nm,0.8s,baz=135,slow=5.7,SNR=3.4							
ASAJ	**Asahikawa**	**79.97**	**331**	P	**P**		**17 45 57.1**	**+1.1**
VNA3	**Neumayer Olymp**	**81.80**	**176**	*e*P	**P**		**17 46 05.3**	**-0.4**
VNA2	**Neumayer--Watz**	**82.26**	**176**	*e*P	**P**		**17 46 08.5**	**+0.4**
	baz=232,slow=4.0							
PETK	**Petropavlovsk-**	**82.71**	**345**	P	**P**		**17 46 10.1**	**-0.3**
	4.8nm,1.0s,baz=148,slow=9.3,SNR=2.7							
PETK	**Petropavlovsk-**	**82.71**	**345**	P	**P**		**17 46 10.1**	**-0.3**
CMB	**Columbia Colle**	**83.05**	**41**	*e*P	**P**		**17 46 11.5**	**-1.2**
	6.4nm,1.1s							
NVAR	**Mina Array Bea**	**84.54**	**42**	P	**P**		**17 46 21.4**	**+0.9**
	1.6nm,0.9s,baz=230,slow=6.3,SNR=4.7							
NVAR	**Mina Array Bea**	**84.54**	**42**	P	**P**		**17 46 21.4**	**+0.9**
TXAR	**Lajitas Array**	**89.14**	**56**	LR	LR		18 18 42.8	
	comp=Z,80nm,20.3s,baz=255,slow=30							
ENH	**Enshi**	**90.84**	**304**	*e*P	**P**		**17 46 51.7**	**+0.9**
	67nm,1.5s							
PDAR	**Pinedale Array**	**92.45**	**43**	P	**P**		**17 46 58.6**	**+0.4**
	1.5nm,1.2s,baz=177,slow=1.7,SNR=3.4							
PDAR	**Pinedale Array**	**92.45**	**43**	P	**P**		**17 46 58.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.66**	**289**	P	**P**		**17 47 06.1**	**+2.1**
	2.6nm,0.8s,baz=142,slow=3.5,SNR=25							
CMAR	**Chiang Mai Arr**	**93.66**	**289**	P	**P**		**17 47 06.1**	**+2.1**
CHTO	**Chiang Mai**	**93.82**	**289**	*e*P	**P**		**17 47 05.3**	**+0.5**
	4.8nm,0.9s							
MKAR	**Makanchi Array**	**116.57**	**311**	PKP	**PKPdf**		**17 52 30.1**	**-0.7**
	0.8nm,0.8s,baz=87,slow=0.9,SNR=5.7							
MKAR	**Makanchi Array**	**116.57**	**311**	PKP	**PKPdf**		**17 52 30.1**	**-0.7**
AKTO	**Aktyubinsk**	**132.70**	**315**	PKP	**PKPdf**		**17 53 02.4**	**+0.8**
	0.9nm,0.7s,baz=0.0,slow=3.0,SNR=4.0							
AKTO	**Aktyubinsk**	**132.70**	**315**	PKP	**PKPdf**		**17 53 02.4**	**+0.8**
FINES	**FINESS Array B**	**142.21**	**343**	PKP	**PKPdf**		**17 53 21.2**	**+2.5**
	1.2nm,0.7s,baz=77,slow=7.3,SNR=4.3							
FINES	**FINESS Array B**	**142.21**	**343**	PKP	**PKPdf**		**17 53 21.2**	**+2.5**
KBZ	**Khabaz**	**144.20**	**308**	PKP	PKPbc		17 53 20.9	-0.1
	1.8nm,0.9s,baz=45,slow=7.1,SNR=2.7							
KBZ	**Khabaz**	**144.20**

MKAR	**Makanchi Array**	**13.72**	**47**	Pn		Pn	18 20 08.8	-1.4
	0.1nm,0.3s,baz=240,slow=14,SNR=7.4							
MKAR				Lg		Lg	18 24 09.9	
	0.1nm,0.3s,baz=243,slow=29,SNR=4.2							
AKTO	**Aktyubinsk**	**13.85**	**334**	Pn		**Pn**	**18 20 11.6**	**-0.3**
	0.3nm,0.3s,baz=124,slow=11,SNR=5.4							
AKTO				Sn		Sn	18 22 40.5	-5.1
	0.2nm,0.3s,baz=138,slow=24,SNR=5.5							
KURBB	**Kurchatov Arra**	**14.52**	**29**	Pn		Pn	18 20 17.9	-3.2
	0.0nm,0.3s,baz=220,slow=11,SNR=16							
KURBB				Lg		Lg	18 24 34.3	
	0.0nm,0.3s,baz=207,slow=29,SNR=4.6							
VOSK	**Vostochnaya**	**14.55**	**8**	⇓Pn		Pn	18 20 19.5	-2.1
	1.1nm,0.6s							
VOSK				⇓Sn		**Sn**	**18 23 01.9**	**-0.9**
	0.9nm,0.8s							
VOSK				⇓Lg		Lg	18 24 35.1	
	7.3nm,1.4s							
ZRNK	**Zerenda**	**14.62**	**3**	⇑Pn		Pn	18 20 20.5	-2.0
	1.8nm,0.6s							
ZRNK				⇓Sn		**Sn**	**18 23 01.1**	**-3.3**
	1.1nm,0.6s							
ZRNK				⇑Lg		Lg	18 24 38.2	
	6.7nm,1.5s							
KURK	**Kurchatov**	**14.62**	**29**	⇑Pn		Pn	18 20 19.1	-3.4
	1.5nm,0.7s							
KURK				⇑Lg		Lg	18 24 37.1	
	15nm,1.5s							
BVA0	**Borovoye Array**	**14.79**	**7**	⇓Pn		Pn	18 20 22.9	-1.9
	0.3nm,0.6s,baz=179,slow=11,SNR=4.1							
BVA0				⇓Sn		**Sn**	**18 23 10.6**	**+2.0**
	0.3nm,0.8s							
BVA0				⇓Lg		Lg	18 24 43.6	
	0.6nm,1.1s							
BVAR	**Borovoye Array**	**14.79**	**7**	Pn		Pn	18 20 23.3	-1.4
	0.1nm,0.3s,baz=182,slow=11,SNR=3.5							
BRVK	**Borovoye**	**14.81**	**6**	⇑Pn		Pn	18 20 22.9	-2.2
	4.1nm,0.7s							
BRVK				⇓Sn		**Sn**	**18 23 08.1**	**-1.0**
	2.2nm,0.6s							
BRVK				⇑Lg		Lg	18 24 44.5	
	7.4nm,1.1s							
PYUN	**Piuthan**	**16.45**	**124**	*e*P		**Pn**	**18 20 45.4**	**-1.5**
	16nm,0.6s							
DANN	**Dangsing**	**16.80**	**122**	*e*P		**Pn**	**18 20 51.8**	**+0.5**
KOLN	**Koldanda**	**17.07**	**124**	*e*P		**Pn**	**18 20 53.8**	**-0.9**
	6.1nm,0.5s							
GKN	**Gorkha**	**17.61**	**121**	*e*P		**Pn**	**18 21 00.9**	**-0.4**
	11nm,0.6s							
DMN	**Daman**	**18.18**	**121**	*e*P		**Pn**	**18 21 07.9**	**-0.6**
KKN	**Kakani**	**18.18**	**120**	*e*P		**Pn**	**18 21 08.7**	**+0.2**
	7.6nm,0.6s							
PKI	**Pulchoki**	**18.41**	**121**	*e*P		**P**	**18 21 11.5**	**+0.1**
GUN	**Gumba**	**18.51**	**119**	*e*P		**P**	**18 21 13.0**	**+0.5**
	16nm,0.9s							
JIRN	**Jiri**	**18.89**	**119**	*e*P		**P**	**18 21 17.0**	**+0.3**
	1.9nm,0.4s							
ZALV	**Zalesovo Beam**	**19.55**	**32**	P		**P**	**18 21 22.0**	**-1.4**
	0.6nm,0.3s,baz=230,slow=11,SNR=12							
RAMN	**Ramite**	**19.62**	**120**	*e*P		**P**	**18 21 24.4**	**-0.1**
	7.9nm,0.7s							
TAPN	**Taplejung**	**20.13**	**117**	*e*P		**P**	**18 21 30.9**	**+0.7**
	6.7nm,0.6s							
ODAN	**Odare**	**20.22**	**119**	*e*P		**P**	**18 21 30.7**	**-0.4**
SONM	**Songino Array**	**29.61**	**59**	P		P	18 22 59.2	-1.9
	0.2nm,0.6s,baz=246,slow=8.3,SNR=3.7							
FINES	**FINESS Array B**	**34.41**	**326**	P		**P**	**18 23 44.1**	**+1.3**
	0.8nm,0.8s,baz=158,slow=9.0,SNR=2.7							
ARCES	**ARCESS Array B**	**38.38**	**338**	P		**P**	**18 24 17.7**	**+1.0**
	1.0nm,0.7s,baz=123,slow=9.8,SNR=3.5							
NOA	**NORSAR Array B**	**41.24**	**322**	P		**P**	**18 24 40.7**	**+0.2**
	0.4nm,0.5s,baz=98,slow=8.0,SNR=3.3							
YKA	**Yellowknife Ar**	**79.47**	**1**	P		**P**	**18 29 01.7**	**-0.2**
	0.1nm,0.4s,baz=350,slow=5.5,SNR=4.4							

MEX 13 18:21:18.3±0.7, 17°15N×94°67W, h148km±7km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.21**	**254**	*i* P	Pn	18 21 37.1	-1.3
CMIG				*e*S	Sn	18 21 51.4	-2.2
TGIG		**1.53**	**104**	*i* P	Pn	18 21 47.1	-1.0
TGIG				*e*S	Sn	18 22 08.5	-2.3
HUIG	**Huatulco**	**1.95**	**225**	*i* P	Pn	18 21 51.1	-1.6
HUIG				*e*S	Sn	18 22 17.4	-1.7
VHO	**Vista Hermosa**	**1.98**	**268**	*i* P	Pn	18 21 52.8	-0.5
VHO				*e*S	Sn	18 22 18.1	-2.0
CCIG	**Comitan**	**2.58**	**109**	*i* P	Pn	18 21 59.7	-0.8
CCIG				*e*S	Sn	18 22 30.4	-2.6
TPIG	**Tehuac#an**	**2.86**	**297**	*i* P	Pn	18 22 03.0	-1.1
TPIG				*i* S	Sn	18 22 36.5	-2.8
UTMO	**Huajuapan**	**3.07**	**283**	*i* P	Pn	18 22 05.5	-1.2
UTMO				*i* S	Sn	18 22 42.1	-2.1
PNIG	**Pinotepa**	**3.40**	**258**	*i* P	Pn	18 22 08.4	-2.4
PNIG				*e*S	Sn	18 22 50.0	-1.3
YAIG	**Yautepec**	**4.52**	**293**	*i* P	Pn	18 22 24.8	-0.8
YAIG				*i* S	Sn	18 23 14.6	-3.2

IDC 13 18:21:36.8±2.2, 2°56N×127°92E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, Error ellipse: s-maj=157.1km s-min=25.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.23**	**165**	P	P	18 26 45.8	0.0
	0.2nm,0.3s,baz=344,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**26.71**	**168**	P	P	18 27 17.4	-0.6
	0.2nm,0.8s,baz=355,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**59.19**	**325**	P	P	18 31 40.0	+0.3
	0.1nm,0.6s,baz=107,slow=7.2,SNR=2.8						

WEL 13 18:47:09.7±0.5, 36°67S×176°97E, h259km±6km, ML3.6/9, 2C, Error ellipse: s-maj=10.0km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.40**	**130**	PN	Pn	18 47 48.0	0.0
MXZ				SN	S	18 48 17.9	-0.5
URZ	**Urewera**	**1.60**	**176**	⇑PN	Pn	18 47 49.8	+0.3
URZ				SN	S	18 48 20.7	-0.3
MWZ	**Matawai**	**1.73**	**165**	⇑PN	Pn	18 47 50.8	+0.3
MWZ				SN	S	18 48 22.9	-0.1
PUZ	**Puketiti**	**1.74**	**144**	PN	Pn	18 47 50.6	-0.1
PUZ				SN	S	18 48 21.5	-1.7
CNGZ	**Carnagh Statio**	**2.07**	**152**	PN	Pn	18 47 53.9	+0.5
RAHZ	**Arahi**	**2.25**	**178**	PN	Pn	18 47 55.6	+0.5
RAHZ				SN	S	18 48 30.5	-0.8
KNZ	**Kokohu**	**2.42**	**167**	PN	Pn	18 47 56.4	-0.3
NMHZ	**Naumai**	**2.43**	**183**	PN	Pn	18 47 57.7	+0.7
BKZ	**Black Stump Fm**	**2.53**	**188**	PN	Pn	18 47 57.7	-0.2
BKZ				SN	S	18 48 35.1	-1.0
WNVZ	**Wahianoa**	**2.87**	**202**	PN	Pn	18 48 01.6	+0.1
BHHZ	**Black Hill Sta**	**2.91**	**194**	PN	Pn	18 48 01.3	-0.4
KAHZ	**Kahuranaki**	**3.13**	**181**	PN	Pn	18 48 04.0	0.0
PNHZ	**Pukenui**	**3.30**	**190**	PN	Pn	18 48 04.8	-1.1
PXZ	**Pawanui**	**3.36**	**181**	PN	Pn	18 48 05.6	-0.9
MRZ	**Mangatainoka R**	**4.14**	**195**	PN	Pn	18 48 14.1	-1.3
KIW	**Kapiti Island**	**4.49**	**200**	PN	Pn	18 48 18.1	-1.4
CAW	**Cannon Point**	**4.68**	**198**	PN	Pn	18 48 20.3	-1.4
TUWZ	**Tuamarina**	**5.31**	**205**	PN	Pn	18 48 27.4	-1.9
NNZ	**Nelson**	**5.34**	**210**	PN	Pn	18 48 27.7	-2.0
QRZ	**Quartz Range**	**5.41**	**218**	PN	Pn	18 48 29.0	-1.6

IDC 13 18:48:10.1±3.9, 2°23S×141°22E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=138.2km s-min=30.2km az=88.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.85**	**200**	P	P	18 52 31.5	-0.4
	0.1nm,0.3s,baz=22,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.46**	**198**	P	P	18 53 10.9	-0.2
	0.6nm,0.5s,baz=28,slow=10.0,SNR=13						
MKAR	**Makanchi Array**	**70.96**	**321**	P	P	18 59 29.9	+0.3
	0.3nm,0.6s,baz=101,slow=7.5,SNR=4.6						

IDC 13 18:52:43.8±12.0, 5°44S×129°01E, h208km±133km, mb2.8/1, mb1 3.2/4, mb1mx2.9/20, mbtmp3.0/4, Error ellipse: s-maj=98.4km s-min=42.1km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.00**	**194**	P	P	18 55 43.0	-1.1
	0.1nm,0.3s,baz=20,slow=12,SNR=4.2						
FITZ				S	S	18 58 00.7	-4.8
	0.1nm,0.3s,baz=246,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**15.32**	**161**	P	Pn	18 56 09.5	-0.1
	0.6nm,0.3s,baz=336,slow=12,SNR=30						
WRA				S	S	18 58 59.5	+0.1
	0.1nm,0.3s,baz=341,slow=21,SNR=4.5						
ASAR	**Alice Springs**	**18.72**	**166**	P	P	18 56 46.6	-0.4
	0.4nm,0.3s,baz=346,slow=12,SNR=41						
MKAR	**Makanchi Array**	**66.39**	**327**	P	P	19 03 10.4	-0.1
	0.1nm,0.4s,baz=126,slow=7.7,SNR=5.6						

*NEIC **13** 18:57:16.1, 35°99N×117°31W, h2km, ML3.2(PAS), After PAS.*
ISC 13 18:57:15.9±0.9, 36°01N±0°02×117°28W±0°02, h10km±8km, n40, σ1s30/70, 16C-18D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.18**	**288**	⇑P	**Pg**	**18 57 19.6**	**-0.2**
	baz=0.2,SNR=1000						
MPMC				⇓S	**Sg**	**18 57 22.2**	**-0.4**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.37**	**317**	⇑*i*Pg	**Pg**	**18 57 23.3**	**-0.1**
DAC				*e*Sg	**Sg**	**18 57 28.2**	**-0.1**
FURC	**Furnace Creek,**	**0.58**	**36**	P	**Pg**	**18 57 27.7**	**+0.5**
	baz=0.6,SNR=209						
FURC				⇓S	**Sg**	**18 57 36.0**	**+1.2**
	baz=0.6						
LRMC	**Laurel Mountai**	**0.62**	**212**	⇑P	**Pg**	**18 57 27.4**	**-0.6**
	baz=0.6,SNR=379						
LRMC				⇓S	**Sg**	**18 57 35.5**	**-0.6**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.78**	**304**	⇓P	**Pg**	**18 57 30.9**	**-0.1**
	baz=0.8,SNR=33						
CWC				⇑S	**Sg**	**18 57 41.6**	**+0.5**
	baz=0.8						
GSC	**Goldstone**	**0.80**	**151**	*e*Pg	**Pg**	**18 57 31.3**	**-0.1**
GSC	**Goldstone**	**0.80**	**151**	⇑P	**Pg**	**18 57 31.3**	**-0.1**
	baz=0.8,SNR=23						
GSC				⇓S	**Sg**	**18 57 42.2**	**+0.3**
	baz=0.8						
SHOC	**Shoshone**	**0.82**	**97**	⇓P	**Pb**	**18 57 32.5**	**+0.2**
	baz=0.8,SNR=19						
SHOC				⇓S	**Sg**	**18 57 43.5**	**+1.0**
	baz=0.8						
GRAC	**Grapevine Rang**	**1.00**	**356**	⇑P	**Pg**	**18 57 35.3**	**+0.2**
	baz=1.0,SNR=17						
ISA	**Isabella**	**1.02**	**251**	*e*Pg	**Pg**	**18 57 35.0**	**-0.6**
ISA				*e*Sg	**Sg**	**18 57 47.4**	**-1.7**
ISA	**Isabella**	**1.02**	**251**	P	**Pg**	**18 57 35.2**	**-0.5**
	baz=1.0,SNR=150						
ISA				⇓S	**Sg**	**18 57 48.5**	**-0.5**
	baz=1.0						
RRX	**Edison Barstow**	**1.15**	**168**	⇓P	**Pb**	**18 57 37.3**	**-0.5**
	baz=1.1						
RRX				⇑S	**Sn**	**18 57 53.7**	**-0.1**
	baz=1.1						
TUQ	**Turquoise Moun**	**1.24**	**117**	P	**Pn**	**18 57 39.3**	**-0.3**
	baz=1.2,SNR=476						
TUQ				⇓S	**Sn**	**18 57 57.1**	**+0.7**
	baz=1.2						
EDW2	**Edwards Air Fo**	**1.26**	**207**	P	**Pn**	**18 57 38.9**	**-0.8**
	baz=1.2,SNR=292						
EDW2				⇓S	**Sg**	**18 57 56.0**	**-0.5**
	baz=1.2						
TIN	**Tinemaha**	**1.29**	**324**	⇓S	**Sn**	**18 57 58.1**	**+0.4**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.41**	**146**	⇓P	**Pn**	**18 57 41.4**	**-0.3**
	baz=1.4,SNR=23						
HEC				⇑Sg	**Sg**	**18 58 02.2**	**+0.9**
	baz=1.4						
VES	**Vestal, Richgr**	**1.47**	**264**	⇓Pg	**Pg**	**18 57 43.7**	**-0.5**
	baz=1.4						
VES				⇑S	**Sb**	**18 58 01.6**	**-0.5**
	baz=1.4						
RCTC	**Rector, Farmer**	**1.61**	**281**	⇓Sg	**Sg**	**18 58 08.2**	**+0.4**
	baz=1.6						
BBRC	**Big Bear Solar**	**1.76**	**170**	⇑Pg	**Pb**	**18 57 49.1**	**+0.6**
	baz=1.8						
BFSC	**Mount Baldy Ra**	**1.79**	**190**	⇑Pg	**Pg**	**18 57 49.5**	**-0.8**
	baz=1.8						
BFSC				⇑Sb	**Sg**	**18 58 12.2**	**-1.2**
	baz=1.8						
GMRC	**Granite Mounta**	**1.80**	**132**	⇓P	**Pn**	**18 57 46.4**	**-0.8**
	baz=1.8						
GMRC				⇑Sb	**Sb**	**18 58 13.0**	**+1.2**
	baz=1.8						
OSI	**Osito Adit**	**1.82**	**221**	Pn	**Pb**	**18 57 49.2**	**-0.2**
MWC	**Mount Wilson**	**1.89**	**200**	*e*Pn	**Pn**	**18 57 48.6**	**+0.3**
MWC				*e*Sn	**Sb**	**18 58 14.6**	**+0.3**
DECC	**Green Verdugo**	**1.95**	**206**	⇑Pg	**Pg**	**18 57 52.6**	**-0.8**
	baz=1.9						
PASC	**Pasadena Art C**	**1.97**	**202**	*e*Pn	**Pn**	**18 57 49.2**	**-0.2**
PASC				*e*Sn	**Sb**	**18 58 16.3**	**-0.3**
BELC	**Belle Mtn. Jos**	**2.26**	**152**	⇑P	**Pn**	**18 57 53.5**	**0.0**
	baz=2.3,SNR=21						
BELC				⇑S	**Sn**	**18 58 21.4**	**-0.1**
	baz=2.3						
SMMC	**Simmler**	**2.32**	**253**	⇓Sb	**Sb**	**18 58 27.1**	**+0.6**
	baz=2.3						
PKM	**Peak Mountain**	**2.35**	**243**	⇓Sb	**Sb**	**18 58 28.6**	**+1.1**
	baz=2.3						
PFO	**Pinyon Flat Ob**	**2.48**	**164**	*e*Pn	**Pn**	**18 57 58.0**	**+1.4**
CMB	**Columbia Colle**	**3.20**	**310**	*e*Pn	**Pb**	**18 58 12.5**	**-0.5**
CMB				*e*Sg	**Sb**	**18 58 53.9**	**+1.8**
BAR	**Barrett**	**3.35**	**171**	*e*Pn	**Pn**	**18 58 08.7**	**+0.2**
BAR				*e*Pg	**Pb**	**18 58 17.4**	**+1.9**
BAR				*e*Sg	**Sb**	**18 58 59.5**	**+3.1**
CCUT	**Cedar City**	**3.51**	**63**	*e*Pn	**Pn**	**18 58 12.2**	**+1.5**
CCUT				*e*Sg	**Sg**	**18 59 06.3**	**-2.3**
ARUT	**Antelope Range**	**3.56**	**59**	Pn	**Pn**	**18 58 12.3**	**+0.9**
ARUT				*e*Pg	**Pg**	**18 58 23.2**	**-1.0**
GLA	**Glamis**	**3.58**	**145**	*e*Pn	**Pn**	**18 58 10.7**	**-0.8**
GLA				*e*Pg	**Pg**	**18 58 24.3**	**-0.1**
GLA				*e*Sg	**Sg**	**18 59 08.8**	**-2.0**
BMN	**Battle Mountai**	**4.42**	**1**	*e*Pg	**Pg**	**18 58 38.3**	**-2.3**
MVU	**Marysvale**	**4.75**	**57**	*e*Pg	**Pg**	**18 58 45.9**	**-1.1**
MSU	**Marysvale**	**4.78**	**57**	Pn	**Pn**	**18 58 28.8**	**+0.5**
WUAZ	**Wupatki**	**4.83**	**94**	*e*Pg	Pg	18 58 45.6	-2.8
WUAZ				*e*Sg	**Sg**	**18 59 47.9**	**-3.2**
ELK	**Elko**	**5.00**	**18**	*e*Pn	**Pn**	**18 58 33.2**	**+2.0**
ELK				*e*Pg	**Pg**	**18 58 49.8**	**-1.9**
ELK				*e*Sg	**Sg**	**18 59 54.1**	**-2.3**
DUG	**Dugway**	**5.47**	**39**	*e*Pn	Pn	18 58 41.1	+3.4
DUG				*e*Pb	**Pb**	**18 58 53.7**	**+2.1**
DUG				*e*Pg	**Pg**	**18 58 58.6**	**-2.1**
DUG				*e*Sg	**Sg**	**19 00 06.9**	**-4.7**

*UCR **13** 19:07:55.1, 8°70N×83°32W, h28km, MD3.7*
*UPA **13** 19:07:58.3, 9°12N×83°13W, h9km, MD3.8, MW4.6*
CASC 13 19:08:00.3±4.1, 8°78N×83°18W, h20km±16km, MD3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.12**	**176**	⇑*i*P	Pb	19 08 01.7	-2.9
BRU2	**Volcan**	**0.48**	**88**	⇓*i*P	Pb	19 08 08.6	-1.7
BRU2				*i* S	Sb	19 08 18.3	+1.2
TBS2		**0.51**	**88**	*e*P	Pb	19 08 11.0	+0.1
TBS2				*i* S	Sn	19 08 21.5	+0.4
BUS	**Buena Vista**	**0.96**	**323**	⇓*e*P	Pb	19 08 17.5	-1.5
BUS				*e*S	Sn	19 08 33.2	+0.4
QCR	**Quepos**	**1.17**	**303**	*e*P	Pn	19 08 19.4	-2.1
QCR				*e*S	Sn	19 08 37.1	+0.2
URSC	**Urasca**	**1.21**	**331**	⇓*e*P	Pn	19 08 21.4	-0.9
URSC				*e*S	Sn	19 08 40.2	+1.9
LAJ	**Bijagual**	**1.43**	**319**	*e*P	Pb	19 08 26.4	-0.2
SJS	**Escuela Geolog**	**1.44**	**323**	*e*P	Pn	19 08 25.3	-0.3
SJS				*e*S	Sb	19 08 46.5	+1.7
CGA2	**Cerro Gallo 2**	**1.77**	**314**	*e*P	Pn	19 08 29.5	-0.5
CGA2				*e*S	Sb	19 08 53.8	-0.4
BCIP	**Isla Barro Col**	**3.32**	**83**	*e*P	Pn	19 08 49.7	-1.5
BCIP				*e*S	Sn	19 09 27.5	-2.6
PTP	**Ponta Puerca**	**19.47**	**59**	*e*P	x	19 08 16.8	

*IDC **13** 19:09:44.2±1.4, 43°57N×105°23W, h0km, mb3.9/1, mb1 3.6/6, mb1mx3.4/31, mbtmp3.4/6, ML2.8/4, MS2.9/1, Ms1 2.8/1, ms1mx2.3/40, Error ellipse: s-maj=31.3km s-min=8.9km az=150.0*
*ISCJB **13** 19:09:45.6±0.2, 43°59N±0°01×105°26W±0°02, h0km, mb4.5/1, Error ellipse: s-maj=2.4km s-min=1.9km az=156.5*
*NEIC **13** 19:09:45.7±0.5, 43°62N×105°14W, h0km, ML3.0, Error ellipse: s-maj=7.0km s-min=6.7km az=113.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.
ISC 13 19:09:45.6±0.6, 43°60N±0°02×105°23W±0°02, h0km, n133, σ1s14/146, 44C-47D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.31**	**230**	P	**Pg**	**19 09 51.7**	**+0.2**
	baz=0.4,SNR=693						
J23A				⇑S	**Sg**	**19 09 54.7**	**-0.7**
	baz=0.4						
I23A	**Meade Ranch, G**	**0.40**	**335**	⇓P	**Pg**	**19 09 54.2**	**+0.9**
	baz=0.4,SNR=63						
J24A	**Dixon Ranch, L**	**0.49**	**123**	⇓P	**Pb**	**19 09 56.1**	**-1.1**
	baz=0.5						
J24A				⇓S	**Sb**	**19 10 03.5**	**-1.5**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.51**	**59**	P	**Pb**	**19 09 56.6**	**-0.9**
	baz=0.4,SNR=1000						
K23A	**Bowen Ranch, D**	**0.89**	**199**	⇑P	**Pg**	**19 10 02.4**	**-0.3**
	baz=0.9						
K24A	**Anderson Ranch**	**0.93**	**161**	⇑P	**Pg**	**19 10 03.3**	**0.0**
	baz=0.9,SNR=55						
J22A	**Midwest**	**0.93**	**259**	P	**Pg**	**19 10 02.6**	**-0.8**
	baz=1.0,SNR=152						
I22A	**9 Mile Ranch,**	**0.95**	**288**	⇑P	**Pg**	**19 10 03.5**	**-0.5**
	baz=1.0,SNR=309						
H23A	**Clabaugh Cattl**	**0.97**	**353**	P	**Pg**	**19 10 04.2**	**0.0**
	baz=1.0,SNR=41						
RSSD	**Black Hills**	**1.01**	**58**	*e*Pg	**Pg**	**19 10 05.0**	**+0.1**
H24A	**Dirks Ranch, A**	**1.25**	**23**	⇑P	**Pg**	**19 10 09.1**	**-0.5**
	baz=1.2						
H22A	**Clearmont**	**1.28**	**321**	⇑P	**Pg**	**19 10 09.9**	**-0.3**
	baz=1.3,SNR=78						
K22A	**Casper**	**1.34**	**225**	P	**Pg**	**19 10 09.8**	**-1.4**
	baz=1.4,SNR=121						
K22A				⇓S	**Sg**	**19 10 29.4**	**+0.7**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.40**	**134**	P	**Pb**	**19 10 13.1**	**+0.3**
	baz=1.4,SNR=494						
K25A				⇓S	**Sn**	**19 10 33.2**	**+1.4**
	baz=1.4						
I21A	**Big Trails, Te**	**1.51**	**279**	P	**Pn**	**19 10 12.7**	**-1.4**
	baz=1.6,SNR=651						
L23A	**Garrett**	**1.52**	**193**	⇑P	**Pn**	**19 10 13.3**	**-1.1**
	baz=1.6,SNR=204						
G23A	**Biddle**	**1.61**	**356**	⇑P	**Pn**	**19 10 15.5**	**+0.2**
	baz=1.6,SNR=147						
J21A	**Lysite**	**1.63**	**262**	P	**Pn**	**19 10 14.8**	**-1.0**
	baz=1.7,SNR=181						
J21A				⇓S	**Sn**	**19 10 36.9**	**-0.7**
	baz=1.7						
H21A	**Big Horn, Sher**	**1.66**	**309**	⇓P	**Pn**	**19 10 15.9**	**-0.2**
	baz=1.7,SNR=89						
L25A	**Engebretsen Ra**	**1.72**	**147**	⇑P	**Pb**	**19 10 17.9**	**-0.2**
	baz=1.7,SNR=50						
K26A	**Motz Farm, Whi**	**1.75**	**120**	⇑P	**Pb**	**19 10 18.5**	**-0.2**
	baz=1.7,SNR=36						
K21A	**Alcova**	**1.77**	**238**	⇑P	**Pn**	**19 10 17.3**	**-0.4**
	baz=1.8,SNR=196						
K21A				⇓S	**Sn**	**19 10 41.1**	**+0.2**
	baz=1.8						
G22A	**Birney**	**1.79**	**335**	⇑P	**Pn**	**19 10 18.3**	**+0.5**
	baz=1.8,SNR=72						
G22A				⇑Sg	**Sg**	**19 10 45.0**	**+1.9**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.80**	**210**	⇑P	**Pn**	**19 10 17.9**	**-0.2**
	baz=1.8,SNR=154						
G24A	**Alzada**	**1.82**	**18**	⇑P	**Pb**	**19 10 19.4**	**-0.5**
	baz=1.8,SNR=11						
G24A				⇓Sb	**Sg**	**19 10 45.7**	**+1.5**
	baz=1.8						
J20A	**Shoshoni**	**2.09**	**264**	⇓Pb	**Pn**	**19 10 23.5**	**+1.5**
	baz=2.1,SNR=90						
F23A	**Volborg**	**2.12**	**357**	⇑P	**Pn**	**19 10 22.8**	**+0.3**
	baz=2.1,SNR=46						
F23A				⇓Sb	**Sg**	**19 10 53.6**	**-0.3**
	baz=2.1						
I20A	**Worland**	**2.13**	**280**	⇓P	**Pn**	**19 10 22.9**	**+0.3**
	baz=2.2,SNR=294						
I20A				⇓Sb	**Sb**	**19 10 51.8**	**-0.3**
	baz=2.2						
M24A	**Cheyenne**	**2.15**	**172**	⇓P	**Pn**	**19 10 24.2**	**+1.3**
	baz=2.2,SNR=36						
G21A	**Lodge Grass**	**2.16**	**320**	⇓P	**Pn**	**19 10 23.4**	**+0.5**
	baz=2.2,SNR=45						
G21A				⇓Sb	**Sb**	**19 10 54.2**	**+1.3**
	baz=2.2						
M23A	**Laramie**	**2.16**	**190**	⇓P	**Pn**	**19 10 24.0**	**+0.9**
	baz=2.2,SNR=16						
H20A	**Greybull**	**2.19**	**295**	⇑P	**Pn**	**19 10 23.7**	**+0.4**
	baz=2.2,SNR=13						
H20A				⇓Sb	**Sb**	**19 10 53.9**	**+0.1**
	baz=2.2						
L26A	**Underwood Farm**	**2.22**	**134**

	baz=3.6,SNR=11								
G18A	**Lazy EL Ranch,** baz=3.6,SNR=51	**3.55**	**300**	⇑P		**Pn**	**19 10 42.3**	**+0.3**
OGNE	**Ogallala**	**3.56**	**137**	*e*Pn		**Pn**	**19 10 43.7**	**+1.5**
OGNE				*e*Pg		**Pg**	**19 10 52.9**	**-0.9**
OGNE	**Ogallala** baz=3.5,SNR=12	**3.56**	**137**	⇑P		**Pn**	**19 10 43.7**	**+1.5**
N20A	**Spence Gulch,** baz=3.6,SNR=9.2	**3.56**	**220**	⇓P		**Pn**	**19 10 43.2**	**+0.8**
D24A	**Glendive** baz=3.5	**3.57**	**10**	⇓P		**Pn**	**19 10 43.8**	**+1.5**
O22A	**Kremmling** baz=3.6,SNR=7.0	**3.57**	**196**	⇑P		**Pn**	**19 10 43.7**	**+1.1**
D23A	**Lindsay** baz=3.6,SNR=7.1	**3.57**	**0**	⇑P		**Pn**	**19 10 43.6**	**+1.2**
O25A	**Wiggins** baz=3.6,SNR=8.1	**3.58**	**166**	⇓P		**Pn**	**19 10 43.9**	**+1.3**
ISCO	**Idaho Springs**	**3.81**	**184**	*e*Pn		**Pn**	**19 10 47.3**	**+1.5**
E19A	**Rath Farm, Rou** baz=3.8,SNR=9.5	**3.81**	**320**	⇑P		**Pn**	**19 10 45.7**	**0.0**
GCMT	**Greycliff**	**3.85**	**306**	*e*Pn		**Pn**	**19 10 46.7**	**+0.5**
LKWY	**Lake**	**3.85**	**286**	*e*Pn		**Pn**	**19 10 49.0**	**+2.7**
LOHW	**Long Hollow**	**3.90**	**272**	*e*Pn		**Pn**	**19 10 47.7**	**+0.6**
F18A	**Big Timber** baz=4.0,SNR=10	**3.94**	**307**	⇓P		**Pn**	**19 10 49.3**	**+1.9**
O27A	**Beecher Island** baz=4.0	**3.98**	**148**	⇓P		**Pn**	**19 10 48.4**	**+0.5**
FLWY	**Flagg Ranch**	**3.99**	**279**	*e*Pn		**Pn**	**19 10 47.8**	**-0.4**
N19A	**John Jarvie Ra** baz=4.0,SNR=9.0	**3.99**	**229**	⇓P		**Pn**	**19 10 48.4**	**+0.3**
MOOW	**Moose Ponds**	**4.00**	**274**	*e*Pn		**Pn**	**19 10 50.1**	**+1.7**
SNOW	**Snow King Moun**	**4.02**	**270**	*e*Pg		**Pb**	**19 11 00.1**	**+2.6**
YNR	**Norris Junctio**	**4.08**	**288**	*e*Pn		**Pn**	**19 10 52.1**	**+2.6**
REDW	**Red Top Meadow**	**4.10**	**269**	*e*Pn		**Pn**	**19 10 51.6**	**+1.9**
YFT	**Old Faithful**	**4.13**	**284**	*e*Pn		Pn	19 10 54.9	+4.7
IMW	**Indian Meadow**	**4.15**	**276**	*e*Pn		**Pn**	**19 10 49.9**	**-0.6**
P25A	**Willow Gulch B** baz=4.2,SNR=18	**4.16**	**169**	⇑P		**Pn**	**19 10 51.6**	**+1.1**
TPAW	**Teton Pass**	**4.16**	**270**	*e*Pn		**Pn**	**19 10 52.6**	**+2.0**
C22A	**Vida** baz=4.2,SNR=8.9	**4.17**	**354**	⇓P		**Pn**	**19 10 52.1**	**+1.6**
C23A	**Lambert** baz=4.2,SNR=11	**4.20**	**0**	⇑P		**Pn**	**19 10 52.8**	**+1.8**
P23A	**Jefferson** baz=4.3,SNR=6.0	**4.25**	**186**	⇓P		**Pn**	**19 10 53.0**	**+1.1**
YMR	**Madison River**	**4.26**	**286**	*e*Pg		**Pb**	**19 11 03.5**	**+1.9**
P26A	**Davis Ranch, A** baz=4.3,SNR=30	**4.28**	**160**	⇑P		**Pn**	**19 10 53.1**	**+1.0**
D19A	**Cripps Ranch,** baz=4.4,SNR=6.0	**4.40**	**325**	⇓P		**Pn**	**19 10 54.5**	**+0.9**
RRI2	**Red Ridge**	**4.44**	**269**	*e*Pn		**Pn**	**19 10 55.2**	**+0.8**
E18A	**Harlowton** baz=4.5,SNR=5.2	**4.45**	**313**	⇓P		**Pn**	**19 10 54.8**	**+0.3**
F17A	**Fitzpatrick Pl** baz=4.5,SNR=17	**4.50**	**303**	⇑P		**Pn**	**19 10 55.8**	**+0.6**
P27A	**Ficken Ranch,** baz=4.5,SNR=14	**4.50**	**153**	⇑P		**Pn**	**19 10 55.9**	**+0.8**
SMCO	**Snowmass**	**4.61**	**197**	*e*Pb		**Pb**	**19 11 08.3**	**+0.8**
Q25A	**Bedland, Calha** baz=4.8,SNR=11	**4.74**	**171**	P		**Pn**	**19 10 59.1**	**+0.6**
L16A	**Fish Haven** baz=4.9,SNR=7.3	**4.83**	**253**	P		**Pn**	**19 11 00.5**	**+0.7**
Q26A	**Hugo** baz=4.8,SNR=15	**4.85**	**164**	⇓P		**Pn**	**19 11 00.7**	**+0.8**
E17A	**Martinsdale** baz=4.9,SNR=20	**4.91**	**308**	⇓P		**Pn**	**19 11 01.6**	**+0.8**
DGMT	**Dagmar**	**4.92**	**8**	*e*Pn		**Pn**	**19 11 02.2**	**+1.4**
C19A	**Slack Wire Ran** baz=4.9,SNR=14	**4.93**	**328**	⇓P		**Pn**	**19 11 01.8**	**+0.9**
G16A	**Moss Hill, Enn** baz=5.0	**4.98**	**291**	⇑P		**Pn**	**19 11 02.1**	**+0.2**
BOZ	**Bozeman (W)**	**5.01**	**296**	*e*Pn		**Pn**	**19 11 02.4**	**+0.3**
HWUT	**Hardware Ranch** 7.0nm,0.4s	**5.08**	**249**	*e*Pn		**Pn**	**19 11 03.5**	**+0.3**
D17A	**Six Diamond Ra** baz=5.3,SNR=39	**5.24**	**315**	P		**Pn**	**19 11 05.5**	**+0.2**
R26A	**Arlington** baz=5.5,SNR=101	**5.46**	**165**	P		**Pn**	**19 11 08.9**	**+0.6**
R25A	**Fountain Ranch** baz=5.5,SNR=22	**5.49**	**172**	⇓P		**Pn**	**19 11 09.2**	**+0.4**
DAU	**Daniels Canyon** 5.3nm,0.5s	**5.50**	**237**	*e*Pn		**Pn**	**19 11 12.1**	**+3.0**
JLU	**Jordanelle** 6.2nm,0.5s	**5.51**	**239**	*e*Pn		**Pn**	**19 11 09.6**	**+0.4**
DLMT	**Dillon** 3.7nm,0.8s	**5.56**	**291**	*e*Pn		**Pn**	**19 11 07.8**	**-1.8**
LRM	**Limekiln Ridge**	**5.61**	**296**	*e*Pn		**Pn**	**19 11 11.3**	**+0.9**
HRY	**Holter Researc**	**5.61**	**306**	*e*Pn		**Pn**	**19 11 11.6**	**+1.2**
MCMT	**McKenzie Canyo** 1.2nm,0.4s	**5.61**	**285**	*e*Pn		**Pn**	**19 11 11.2**	**+0.7**
R27A	**Eads** baz=5.6,SNR=10	**5.62**	**160**	⇓P		**Pn**	**19 11 11.2**	**+0.7**
PV04	**Paradox Valley**	**5.90**	**209**	*e*Pn		**Pn**	**19 11 15.9**	**+1.5**
SRU	**San Rafael**	**6.00**	**223**	*e*Pn		**Pn**	**19 11 15.0**	**-0.8**
S26A	**Kim** baz=6.1,SNR=28	**6.12**	**167**	⇑P		**Pn**	**19 11 17.8**	**+0.4**
DUG	**Dugway**	**6.60**	**242**	*e*Pn		**Pn**	**19 11 24.7**	**+0.7**
T27A	**Campo** baz=6.8	**6.80**	**163**	⇓P		**Pn**	**19 11 27.0**	**+0.2**
T28A	**Walsh** baz=6.9,SNR=13	**6.89**	**159**	⇓P		**Pn**	**19 11 28.1**	**+0.1**
B14A	**Marquette Ranc** baz=7.4,SNR=6.3	**7.35**	**313**	⇑P		**Pn**	**19 11 34.6**	**+0.3**
ANMO	**Albuquerque** 0.4nm,0.3s,baz=9.5,slow=6.1,SNR=3.8	**8.69**	**187**	Pn		**Pn**	**19 11 50.2**	**-2.5**
ANMO	**Albuquerque**	**8.69**	**187**	Pn		**Pn**	**19 11 50.2**	**-2.5**
ULM	**Lac du Bonnet** 0.7nm,0.3s,baz=232,slow=12,SNR=5.1	**9.23**	**41**	Pn		Pn	19 11 56.5	-3.4
ULM	0.4nm,0.3s,baz=229,slow=19,SNR=2.4			Lg		Lg	19 14 31.9	
ULM	comp=Z,67nm,20.3s,baz=312,slow=40			LR		LR	19 15 52.2	
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn		Pn	19 11 56.5	-3.4
ULM				Lg		Lg	19 14 31.9	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=58,slow=16,SNR=3.0	**11.14**	**247**	Pn		**Pn**	**19 12 28.8**	**+2.5**
NVAR	**Mina Array Bea**	**11.14**	**247**	Pn		**Pn**	**19 12 28.8**	**+2.5**
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=155,slow=12,SNR=3.3	**19.71**	**347**	P		**P**	**19 14 15.8**	**-0.5**
YKA	**Yellowknife Ar**	**19.71**	**347**	P		**P**	**19 14 15.8**	**-0.5**
ARCES	**ARCESS Array B** 2.7nm,0.9s,baz=322,slow=8.6,SNR=4.1	**61.54**	**18**	P		**P**	**19 20 02.2**	**-1.7**
ARCES	**ARCESS Array B**	**61.54**	**18**	P		**P**	**19 20 02.2**	**-1.7**

IDC 13 19:22:52.8±18.0, 7.95S×118.54E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=298.2km s-min=181.5km az=172.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=302,slow=12,SNR=2.4	**19.40**	**130**	P	P	19 27 20.4	-0.3
ASAR	**Alice Springs** 1.1nm,0.4s,baz=316,slow=9.1,SNR=2.2	**21.48**	**138**	P	P	19 27 43.9	+0.6
STKA	**Stephens Creek** 1.2nm,0.8s,baz=325,slow=9.0,SNR=4.3	**32.05**	**141**	P	P	19 29 21.0	-0.4

IGQ 13 19:58:23.0, 1.09S×80.38W, h12km±163km, Mb4.0, Ms3.8, 3C, Error ellipse: s-maj=3.2km s-min=2.2km az=5.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.35**	**276**	⇑S	Sg	19 58 34.4	-0.4
CHIS	**Cerro-Chispas-**	**0.35**	**276**	⇑P	Pg	19 58 29.6	-0.5
PECV	**Mancha de Ca P**	**0.45**	**47**	P	Pb	19 58 34.1	+1.0
IGUA	**Igualata**	**1.79**	**103**	P	Pb	19 58 55.7	-0.8
JUI6	**Juive**	**1.94**	**100**	P	Pb	19 58 58.2	-0.5
BMAS	**Trigal station**	**1.94**	**102**	S	Sb	19 59 24.0	+0.5
BMAS	**Trigal station**	**1.94**	**102**	P	Pb	19 58 58.2	-0.7
ARRY	**Arrayan**	**1.97**	**102**	S	Sb	19 59 24.2	0.0
ARRY	**Arrayan**	**1.97**	**102**	P	Pb	19 58 58.7	-0.6
JUA2	**San Juan 2**	**1.98**	**64**	P	Pb	19 58 58.9	-0.7
BREF	**Cotopaxi Volca**	**1.98**	**78**	P	Pb	19 58 59.7	-0.2
PAT1	**Patacocha**	**1.99**	**102**	P	Pb	19 58 59.0	-0.8
PISA	**Pisayambo**	**1.99**	**89**	P	Pb	19 58 59.6	-0.3
TERV	**Terraza Guagua**	**1.99**	**63**	P	Pb	19 58 59.3	-0.7
PINO	**Pino**	**2.00**	**62**	P	Pb	19 58 59.3	-0.8
GGP	**Refugio Guagua**	**2.00**	**63**	P	Pn	19 58 58.8	+1.4
ULBA	**Ulba**	**2.00**	**100**	P	Pb	19 58 59.6	-0.4
BVC2	**Cotopaxi Volca**	**2.01**	**78**	⇑P	Pb	19 59 00.2	-0.2
PITA	**Cotopaxi Volc**	**2.02**	**75**	P	Pb	19 58 59.9	-0.4
BTAM	**Cotopaxi Volca**	**2.02**	**78**	P	Pb	19 59 00.1	-0.4
VC1	**Cotopaxi 1**	**2.03**	**77**	P	Pb	19 59 00.8	+0.3
COV1	**Cotopaxi Volc**	**2.08**	**78**	P	Pb	19 59 00.1	-1.4
ANTI	**Antisana**	**2.31**	**74**	P	Pb	19 59 04.3	-1.1
OTAV	**Otavalo**	**2.34**	**56**	P	Pb	19 59 04.2	-1.6
MACE	**Macas**	**2.47**	**118**	P	Pn	19 59 05.2	+1.8
CAYA	**Cayambe**	**2.65**	**64**	P	Pb	19 59 10.5	-0.7

*IDC **13** 20:17:06.5±1.7, 44.54N×105.68W, h0km, mb1 3.3/3, mb1mx3.1/29, mbtmp3.0/3, ML2.6/2, Error ellipse: s-maj=65.0km s-min=9.5km az=143.0*
*ISCJB **13** 20:17:08.0±0.2, 44.41N±0.01×105.47W±0.02, h0km, Error ellipse: s-maj=2.4km s-min=1.9km az=6.3*
*NEIC **13** 20:17:07.2±0.5, 44.55N×105.34W, h0km, ML2.9, Error ellipse: s-maj=8.2km s-min=5.5km az=200.0, Suspected Mining explosion.*
NEIC 30 km [20 miles] NNE of Gillette.

ISC 13 20:17:07.5±0.7, 44.44N±0.02×105.48W±0.02, h0km, n67, σ1§16/90, 32C-26D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H23A	**Clabaugh Cattl** baz=0.0,SNR=471	**0.14**	**25**	⇑P	**Pg**	**20 17 11.9**	**+1.8**
H23A	baz=0.0			⇑S	**Sg**	**20 17 14.7**	**+2.8**
I23A	**Meade Ranch, G** baz=0.6,SNR=17	**0.48**	**178**	⇑P	**Pg**	**20 17 17.4**	**+0.7**
H22A	**Clearmont** baz=0.7,SNR=55	**0.64**	**284**	⇑P	**Pb**	**20 17 20.8**	**-0.9**
H24A	**Dirks Ranch, A** baz=0.6,SNR=23	**0.73**	**65**	⇓P	**Pg**	**20 17 22.0**	**+0.5**
H24A	baz=0.6			⇑S	**Sg**	**20 17 32.1**	**+1.1**
G23A	**Biddle** baz=0.7,SNR=30	**0.76**	**5**	⇑P	**Pb**	**20 17 23.5**	**-0.3**
G23A	baz=0.7			⇓S	**Sb**	**20 17 34.0**	**-0.7**
I24A	**Kuemmerle Ranc** baz=0.9	**0.84**	**133**	⇓S	**Sg**	**20 17 34.6**	**-0.1**
I22A	**9 Mile Ranch,** baz=1.1,SNR=64	**0.91**	**233**	P	**Pg**	**20 17 25.2**	**+0.3**
I22A	baz=1.1			⇓S	**Sg**	**20 17 37.7**	**+1.1**
G22A	**Birney** baz=1.0,SNR=39	**0.97**	**324**	P	**Pb**	**20 17 27.1**	**-0.2**
G22A	baz=1.0			⇑S	**Sn**	**20 17 41.5**	**-1.6**
J23A	**Dilts Ranch, B** baz=1.2,SNR=50	**1.04**	**183**	⇓P	**Pg**	**20 17 27.3**	**-0.1**
RSSD	**Black Hills**	**1.09**	**107**	*e*Pg	**Pg**	**20 17 27.1**	**-1.2**
H21A	**Big Horn, Sher** baz=1.2,SNR=34	**1.13**	**280**	P	**Pb**	**20 17 29.8**	**-0.3**
H21A	baz=1.2			⇑S	**Sb**	**20 17 45.6**	**+0.2**
G24A	**Alzada** baz=1.0,SNR=14	**1.17**	**40**	⇑P	**Pb**	**20 17 30.5**	**-0.1**
J22A	**Midwest** baz=1.4	**1.25**	**215**	⇑P	**Pg**	**20 17 30.8**	**-0.8**
J22A	baz=1.4			⇑S	**Sg**	**20 17 48.4**	**+0.6**
J24A	**Dixon Ranch, L** baz=1.3,SNR=82	**1.26**	**152**	P	**Pg**	**20 17 31.5**	**-0.1**
F23A	**Volborg** baz=1.2,SNR=47	**1.28**	**2**	P	**Pn**	**20 17 32.4**	**-0.4**
F23A	baz=1.2			⇑S	**Sn**	**20 17 50.6**	**-0.1**
I21A	**Big Trails, Te** baz=1.6	**1.45**	**245**	⇑P	**Pn**	**20 17 34.4**	**-0.7**
F22A	**Rosebud** baz=1.4,SNR=99	**1.45**	**338**	P	**Pb**	**20 17 35.3**	**-0.1**
F22A	baz=1.4			⇓S	**Sn**	**20 17 56.8**	**+2.0**
G21A	**Lodge Grass** baz=1.5,SNR=16	**1.46**	**303**	⇑P	**Pb**	**20 17 35.4**	**-0.2**
G21A	baz=1.5			⇑S	**Sn**	**20 17 55.2**	**+0.1**
F24A	**Ekalaka** baz=1.4,SNR=14	**1.59**	**27**	⇓P	**Pg**	**20 17 37.7**	**-0.2**
F24A	baz=1.4			⇓Sb	**Sg**	**20 18 00.9**	**+2.5**
K23A	**Bowen Ranch, D** baz=1.8	**1.69**	**184**	⇑P	**Pn**	**20 17 38.6**	**+0.2**
K23A	baz=1.8			⇓S	**Sn**	**20 18 01.3**	**+0.5**
K24A	**Anderson Ranch** baz=1.9,SNR=96	**1.78**	**164**	⇓P	**Pn**	**20 17 39.9**	**+0.2**
K24A	baz=1.9			⇓Sb	**Sb**	**20 18 05.1**	**+1.0**
J21A	**Lysite** baz=1.9,SNR=124	**1.79**	**233**	P	**Pn**	**20 17 40.2**	**+0.3**
J21A	baz=1.9			⇓S	**Sn**	**20 18 03.8**	**+0.4**
H20A	**Greybull** baz=1.9	**1.80**	**272**	⇑P	**Pn**	**20 17 40.5**	**+0.5**
H20A	baz=1.9			⇑S	**Sg**	**20 18 04.9**	**-0.6**
F21A	**Absaloka Mine,** baz=1.8,SNR=8.6	**1.81**	**321**	⇓P	**Pb**	**20 17 40.9**	**-0.6**
F21A	baz=1.8			⇓S	**Sg**	**20 18 05.6**	**0.0**
K22A	**Casper** baz=2.1,SNR=42	**1.94**	**203**	⇑P	**Pn**	**20 17 42.3**	**+0.4**
K22A	baz=2.1			⇑S	**Sn**	**20 18 07.7**	**+0.6**
I20A	**Worland** baz=2.1,SNR=62	**1.97**	**257**	⇑P	**Pn**	**20 17 42.9**	**+0.7**
I20A	baz=2.1			⇓S	**Sn**	**20 18 08.5**	**+0.9**
E22A	**Miles City** baz=1.9,SNR=21	**2.03**	**351**	⇑P	**Pb**	**20 17 44.1**	**-1.1**
E22A	baz=1.9			⇑S	**Sg**	**20 18 11.4**	**-1.2**
E23A	**Ismay** baz=1.9,SNR=9.1	**2.06**	**3**	⇑P	**Pb**	**20 17 44.5**	**-1.3**
E23A	baz=1.9			⇓S	**Sg**	**20 18 12.0**	**-1.8**
G20A	**Bridger** baz=2.1,SNR=16	**2.10**	**293**	⇓P	**Pn**	**20 17 44.1**	**+0.1**
G20A	baz=2.1			⇓S	**Sb**	**20 18 12.8**	**-0.3**
K25A	**Mack Ranch, Ha** baz=2.2	**2.17**	**147**	⇑Sb	**Sb**	**20 18 16.6**	**+1.4**
J20A	**Shoshoni** baz=2.3,SNR=46	**2.17**	**241**	⇓P	**Pn**	**20 17 46.3**	**+1.2**
J20A	baz=2.3			⇑Sb	**Sb**	**20 18 15.9**	**+0.6**
K21A	**Alcova** baz=2.4,SNR=48	**2.22**	**216**	⇓P	**Pn**	**20 17 46.3**	**+0.5**
K21A	baz=2.4			⇑Sb	**Sb**	**20 18 17.3**	**+0.6**
E24A	**Baker** baz=2.1	**2.28**	**21**	⇑Sb	**Sg**	**20 18 20.7**	**+0.1**
L23A	**Garrett** baz=2.5,SNR=18	**2.33**	**184**	⇓P	**Pn**	**20 17 47.4**	**+0.1**
L23A	baz=2.5			⇑Sb	**Sb**	**20 18 20.0**	**+0.1**
E21A	**Keefer Ranch,** baz=2.3	**2.38**	**332**	⇑Sb	**Sg**	**20 18 24.2**	**+0.2**
K26A	**Motz Farm, Whi** baz=2.4	**2.41**	**135**	⇓Sb	**Sb**	**20 18 23.1**	**+1.0**
K20A	**Yellowstone Ra** baz=2.9,SNR=14	**2.74**	**230**	⇓P	**Pn**	**20 17 53.6**	**+0.8**
D23A	**Lindsay** baz=2.6,SNR=5.4	**2.74**	**4**	⇑P	**Pn**	**20 17 54.2**	**+1.4**
RLMT	**Red Lodge**	**2.78**	**286**	*e*Pn	**Pn**	**20 17 54.6**	**+1.1**
RLMT	**Red Lodge** baz=2.8,SNR=11	**2.78**	**286**	⇑P	**Pn**	**20 17 54.9**	**+1.4**
F19A	**Roth Farm, Mol** baz=2.9,SNR=7.6	**2.83**	**301**	⇓P	**Pn**	**20 17 55.5**	**+1.4**
G18A	**Lazy EL Ranch,** baz=3.1,SNR=13	**3.03**	**288**	⇓P	**Pn**	**20 17 57.8**	**+0.9**
PHWY	**Pilot Hill**	**3.14**	**180**	*e*Pn	**Pn**	**20 17 57.8**	**-0.6**
GCMT	**Greycliff**	**3.26**	**296**	*e*Pn	**Pn**	**20 18 01.3**	**+1.3**
C22A	**Vida** baz=3.2,SNR=10	**3.32**	**355**	⇓P	**Pn**	**20 18 02.8**	**+2.1**
PDAR	**Pinedale Array** baz=77,slow=12,SNR=2.8	**3.40**	**242**	Pn	**Pn**	**20 18 03.4**	**+1.3**
PDAR	1.0nm,0.3s,baz=52,slow=28,SNR=3.9			Lg	Lg	20 18 49.2	
PDAR	**Pinedale Array**	**3.40**	**242**	Pn	**Pn**	**20 18 03.4**	**+1.3**
PDAR				Lg	Lg	20 18 49.2	
LKWY	**Lake**	**3.52**	**274**	Pn	**Pn**	**20 18 03.7**	**0.0**
FLWY	**Flagg Ranch**	**3.77**	**266**	*e*Pb	**Pb**	**20 18 15.9**	**+0.9**
LOHW	**Long Hollow**	**3.79**	**259**	*e*Pn	**Pn**	**20 18 09.1**	**+1.7**
MOOW	**Moose Ponds**	**3.85**	**262**	*e*Pn	**Pn**	**20 18 09.5**	**+1.2**
YMR	**Madison River**	**3.93**	**275**	*e*Pg	**Pg**	**20 18 23.2**	**+0.5**
SNOW	**Snow King Moun**	**3.93**	**257**	Pn	**Pb**	**20 18 15.5**	**-2.4**
REDW	**Red Top Meadow**	**4.03**	**256**	*e*Pn	Pb	20 18 16.0	-3.5
TPAW	**Teton Pass**	**4.06**	**258**	*e*Pn	**Pn**	**20 18 13.1**	**+2.0**
OGNE	**Ogallala**	**4.32**	**143**	*e*P	**Pn**	**20 18 13.8**	**-0.8**
RRI2	**Red Ridge**	**4.36**	**258**	*e*Pn	**Pn**	**20 18 17.3**	**+2.1**
RRI2				*e*Pg	**Pg**	**20 18 32.8**	**+1.8**
EGMT	**Eagleton**	**4.65**	**322**	Pn	**Pn**	**20 18 19.1**	**0.0**
DLMT	**Dillon** 9.8nm,0.9s	**5.14**	**283**	*e*Pg	**Pg**	**20 18 46.5**	**+0.6**
SMCO	**Snowmass**	**5.38**	**192**	Pn	Pn	20 18 32.7	+3.4
CHMT	**Chamberlain Mo** 4.2nm,1.0s	**5.98**	**297**	*e*Pn	**Pn**	**20 18 36.7**	**-0.7**
CHMT				*e*Sg	**Sg**	**20 20 17.9**	**-1.7**
ECSD	**EROS Data Cent**	**6.42**	**93**	*e*Pn	**Pn**	**20 18 44.1**	**+0.8**
JTMT	**Jette** 3.6nm,1.0s	**6.96**	**301**	*e*Pn	Pn	20 18 55.7	+5.0
ULM	**Lac du Bonnet** 0.4nm,0.3s,baz=236,slow=11,SNR=3.0	**8.73**	**45**	Pn	**Pn**	**20 19 12.6**	**-2.4**
ULM	0.2nm,0.3s,baz=148,slow=19,SNR=2.8			Lg	Lg	20 21 35.0	
ULM	**Lac du Bonnet**	**8.73**	**45**	Pn	**Pn**	**20 19 12.6**	**-2.4**
ULM				Lg	Lg	20 21 35.0	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=153,slow=12,SNR=4.4	**18.85**	**347**	P	**P**	**20 21 26.7**	**-2.1**
YKA	**Yellowknife Ar**	**18.85**	**347**	P	**P**	**20 21 26.7**	**-2.1**

IDC 13 20:41:56.1±1.5, 3.91S×142.61E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, ML4.5/1, Error ellipse: s-maj=59.6km s-min=21.8km az=108.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=23,slow=12,SNR=39	**17.86**	**206**	P	P	20 46 07.0	+0.1
ASAR	**Alice Springs** 1.4nm,0.7s,baz=26,slow=11,SNR=19	**21.36**	**202**	P	P	20 46 45.5	+0.2
FITZ	**Fitzroy Crossi** 2.6nm,0.6s,baz=45,slow=7.9,SNR=13	**21.79**	**228**	P	P	20 46 49.5	-0.3
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=91,slow=7.9,SNR=4.2	**73.13**	**321**	P	P	20 53 29.3	+0.8
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=130,slow=4.5,SNR=3.1	**74.95**	**329**	P	P	20 53 38.8	-0.2
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=101,slow=7.5,SNR=4.9	**82.53**	**325**	P	P	20 54 20.7	-0.1
ILAR	**Eielson Array** 1.5nm,0.6s,baz=263,slow=4.5,SNR=16	**85.33**	**24**	P	P	20 54 34.9	+0.1
DBIC	**Dimbokro** 2.2nm,0.8s,baz=90,slow=5.1,SNR=3.0	**147.49**	**276**	PKPbc	PKPdf	21 01 41.7	+0.9

*SZGRF **13** 20:42:01.5, 37.45N×71.80E, h33km, mb4.3, Afghanistan-Tajikistan border region*
*NNC **13** 20:42:11.6±6.1, 36.96N×71.51E, h0km, mb4.6, mpv5.2, Error ellipse: s-maj=47.2km s-min=32.9km az=5.0*
*ISCJB **13** 20:42:12.3±0.1, 36.39N±0.02×71.07E±0.03, h188km, mb4.1/72, Error ellipse: s-maj=3.4km s-min=2.2km az=144.9*
*MOS **13** 20:42:14.2±0.9, 36.42N×71.14E, h208km, mb4.2/34, Error ellipse: s-maj=9.1km s-min=5.7km az=93.8*
*IDC **13** 20:42:15.1±2.5, 36.34N×71.17E, h207km±23km, mb3.8/25, mb1 3.9/29, mb1mx3.8/33, mbtmp3.8/29, Error ellipse: s-maj=13.9km s-min=8.5km az=179.0*
*NEIC **13** 20:42:16.0±1.1, 36.48N×71.19E, h213km±10km, mb4.3/19, Error ellipse: s-maj=8.0km s-min=6.4km az=189.0*
*BJI **13** 20:42:17.0, 36.82N×71.18E, h199km, mB4.6/5, mb4.4/8*

ISC 13 20:42:14.3±0.3, 36.48N±0.04×71.21E±0.04, h188km, n232, σ1§35/245, mb4.1/74, 14C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.71**	**168**	⇓P	**Pn**	**20 43 02.9**	**+2.7**
CEP				S	**Sn**	**20 43 35.0**	**-0.9**
THW	**Thamme Wali**	**3.71**	**173**	⇓P	**Pn**	**20 43 14.0**	**+1.9**
SARP	**Sargodha**	**4.71**	**165**	P	**Pn**	**20 43 26.1**	**+1.4**
KSH	**Kashi**	**4.83**	**50**	P	Pn	20 43 23.9	-2.4
KSH				S	Sn	20 44 10.9	-12
KSH	comp=N,910nm,0.4s			smax	smax		
KSH	comp=E,570nm,0.4s			smax	smax		
JMU	**Jammu**	**4.84**	**140**	*ex*	x	20 43 45.0	
JMU				*e*S	**Sn**	**20 44 21.5**	**-1.4**
THN	**Thein Dam**	**5.49**	**136**	*i* P	**Pn**	**20 43 35.9**	**+1.1**
THN				*e*S	**Sn**	**20 44 35.0**	**-3.2**
DLH	**Dalhousie**	**5.56**	**134**	*e*P	**Pn**	**20 43 36.0**	**+0.1**
DLH				S	Sn	20 44 39.0	
KK31	**Karatay Array** comp=E,70nm,0.3s,baz=179,slow=13,SNR=1056	**6.63**	**356**	Pn	**Pn**	**20 43 48.4**	**-1.2**
KK31				⇑Sn	**Sn**	**20 45 02.3**	**-2.7**
KKAR	**Karatay Array** comp=E,19nm,0.3s,baz=182,slow=22,SNR=4.5	**6.63**	**356**	*e*PN	**Pn**	**20 43 50.7**	**+1.1**
KKAR				pmax	pmax		
KKAR	**Karatay Array** comp=Z,169nm,0.3s	**6.63**	**356**	*e*Pn	**Pn**	**20 43 50.7**	**+1.1**
KKAR	comp=Z,169nm,0.3s			*e*Sn	Sn	20 45 00.3	-4.7
AAK	**Ala-Archa** comp=Z,71nm,0.3s,baz=183,slow=6.2,SNR=1261	**6.64**	**21**	P	**Pn**	**20 43 52.0**	**+2.1**
AAK	comp=Z,4.0nm,0.3s,baz=313,slow=22,SNR=16			S	**Sn**	**20 45 07.1**	**+1.6**
AAK	**Ala-Archa**	**6.64**	**21**	PN	**Pn**	**20 43 52.0**	**+2.1**
AAK				S	**Sn**	**20 45 07.1**	**+1.6**
AAK	comp=Z,71nm,0.3s			pmax	pmax		
AAK	comp=N,4.0nm,0.3s			smax	smax		
AAK	**Ala-Archa**	**6.64**	**21**	*e*Pn	**Pn**	**20 43 51.5**	**+1.6**
AAK				*e*Sn	**Sn**	**20 45 04.5**	**-1.0**
AAK				S		20 45 07.1	
BHK	**Bhakra**	**6.65**	**138**

comp=Z,57nm,0.4s
KOLN Koldanda 13.62 126 *e*P **Pn 20 45 19.2 -1.0**
comp=Z,54nm,0.5s
GKN Gorkha 14.15 123 *e*P **Pn 20 45 26.4 -0.4**
BHPL Bhopal 14.25 156 *e*P **Pn 20 45 27.1 -0.8**
BHPL *ex* x 20 47 51.8
BHPL AML AML 20 48 03.2
comp=N,33nm,0.4s
BHPL AML AML 20 48 03.6
comp=E,24nm,0.8s
WMQ Urumqi 14.57 55 P **Pn 20 45 32.8 +1.1**
WMQ pmax pmax
comp=Z,6.0nm,1.0s
WMQ LR LR
comp=Z,36nm,18.0s
DMN Daman 14.72 123 *e*P **Pn 20 45 34.1 +0.2**
comp=Z,26nm,0.2s
KKN Kakani 14.73 122 *e*P **Pn 20 45 33.9 0.0**
comp=Z,60nm,0.5s
PKI Pulchoki 14.95 122 *e*P **Pn 20 45 36.6 -0.2**
comp=Z,54nm,0.6s
GUN Gumba 15.06 120 *e*P **Pn 20 45 38.0 -0.2**
comp=Z,21nm,0.3s
KURBB Kurchatov Arra 15.09 18 P **Pn 20 45 37.6 -0.2**
comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=83
KURBB S **S 20 48 27.2 +0.8**
baz=203,slow=19,SNR=4.1
KURBB Kurchatov Arra 15.09 18 ⇑Pn **Pn 20 45 37.5 -0.3**
comp=Z,0.8nm,0.5s
KURBB ⇑Sn **S 20 48 22.2 -4.2**
comp=Z,2.3nm,1.2s
AB31 Akbulak array 15.18 331 Pn **P 20 45 42.2 +2.5**
comp=Z,12nm,0.5s,baz=153,slow=12,SNR=344
AB31 Sn **S 20 48 30.0 +1.5**
comp=Z,6.6nm,0.7s,baz=158,slow=23,SNR=7.2
ABKAR Akbulak array 15.18 331 *e*Pn **Pn 20 45 38.5 -0.6**
comp=Z,18nm,0.5s
ABKAR *e*S S 20 48 19.1 -9.3
KURK Kurchatov 15.19 18 ⇑Pn **Pn 20 45 39.4 +0.2**
comp=Z,7.0nm,0.9s
KURK ⇑Sn **S 20 48 23.8 -4.9**
comp=Z,10nm,1.1s
KURK Kurchatov 15.19 18*c i*P **Pn 20 45 38.7 -0.5**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 15.19 18 P **Pn 20 45 37.6 -1.5**
KURK S **S 20 48 27.1 -1.6**
JIRN Jiri 15.44 121 *e*P **Pn 20 45 43.0 +0.3**
comp=Z,16nm,0.4s
RAMN Ramite 16.16 122 *e*P **P 20 45 51.4 +0.3**
comp=Z,29nm,0.3s
VOSK Vostochnaya 16.24 360 ⇑Pn **P 20 45 52.9 +1.4**
comp=Z,9.9nm,0.8s
VOSK ⇓Sn **S 20 48 50.8 -0.5**
comp=Z,8.2nm,1.2s
ZRNK Zerenda 16.54 355 ⇓Pn **P 20 45 56.8 +2.1**
comp=Z,6.8nm,0.7s
ZRNK ⇑Sn **S 20 48 59.1 +1.6**
comp=Z,5.0nm,0.9s
BVA0 Borovoye Array 16.55 358 Pn **Pn 20 45 57.8 +2.3**
comp=Z,1.6nm,0.8s,baz=161,slow=10,SNR=102
BVA0 Sn **S 20 48 59.1 +1.3**
comp=Z,1.1nm,0.8s,baz=169,slow=21,SNR=6.5
BVAR Borovoye Array 16.55 358 P **P 20 45 56.0 +1.2**
comp=Z,3.6nm,0.3s,baz=164,slow=12,SNR=68
BVAR S **S 20 48 55.5 -2.3**
comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=3.7
BVAR Borovoye Array 16.55 358 P **P 20 45 56.0 +1.2**
BVAR S **S 20 48 55.5 -2.3**
BVAR pmax pmax
comp=Z,4.0nm,0.3s
BVAR Borovoye Array 16.55 358 P **P 20 45 56.0 +1.2**
BVAR S **S 20 48 55.5 -2.3**
BRVK Borovoye 16.59 358 ⇓Pn **Pn 20 45 57.9 +1.9**
comp=Z,13nm,0.5s
BRVK ⇑Sn **S 20 48 59.1 +0.5**
comp=Z,24nm,1.3s
BRVK Borovoye 16.59 358*c i*P **P 20 45 56.5 +1.3**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK Borovoye 16.59 358 *e*P **P 20 45 56.1 +0.9**
comp=Z,12nm,0.4s
BRVK *e*S **S 20 48 57.7 -0.9**
TAPN Taplejung 16.69 118 *e*P **P 20 45 58.3 +1.3**
comp=Z,17nm,0.3s
NGP Nagpur 16.74 154 *e*P **P 20 45 56.3 -1.0**
NGP *ex* x 20 48 51.0
ODAN Odare 16.77 120 *e*P **P 20 45 59.2 +1.5**
comp=Z,29nm,0.5s
AKTO Aktyubinsk 16.88 330 P **P 20 45 59.8 +1.3**
comp=Z,3.1nm,0.3s,baz=137,slow=11,SNR=84
AKTO Aktyubinsk 16.88 330 P **P 20 45 59.8 +1.3**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO Aktyubinsk 16.88 330 P **P 20 45 59.8 +1.3**
WSAR Wadi Sarin 17.10 223 P **P 20 46 02.5 +1.3**
comp=Z,0.3nm,0.3s,baz=60,slow=9.8,SNR=6.9
WSAR Wadi Sarin 17.10 223 P **P 20 46 02.5 +1.3**
LSA Lhasa 18.01 106 *e*P **P 20 46 13.8 +2.2**
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 18.01 106 *e*P **P 20 46 13.8 +2.2**
comp=Z,4.0nm,0.7s
POO Poona 18.04 172 *e*P **P 20 46 11.0 -0.4**
ZAA0 Zalesovo Array 19.86 24 *e*P **P 20 46 30.4 -0.3**
ZAA0 *e*S **S 20 49 58.8 -5.1**
ZALV Zalesovo Beam 19.86 24 P **P 20 46 31.3 +0.6**
comp=Z,5.9nm,0.4s,baz=218,slow=10,SNR=34
ZALV S **S 20 50 01.7 -2.1**
comp=Z,2.8nm,0.8s,baz=211,slow=19,SNR=4.0
ZALV Zalesovo Beam 19.86 24 P **P 20 46 31.3 +0.6**
ZALV S **S 20 50 01.7 -2.1**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV smax smax
comp=N,3.0nm,0.8s
ZALV Zalesovo Beam 19.86 24 P **P 20 46 31.3 +0.6**
ZALV S **S 20 50 01.7 -2.1**
HYB Hyderabad 20.07 159 *i*P **P 20 46 33.5 +0.1**
NVS Novosibirsk 20.14 20 *e*P **P 20 46 34.5 +0.8**
NVS *e*S **S 20 50 05.1 -4.1**
NVS pmax pmax
comp=Z,4.0nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS smax smax
comp=N,8.0nm,1.3s
NVS smax smax
comp=E,20nm,1.6s
UMR Umm Al-Rimmam 20.85 257 *e*P **P 20 46 40.6 -0.9**
MIB Mutribah 21.04 258 *e*P **P 20 46 43.3 -0.3**
MIB AMb AMB 20 46 46.2
comp=Z,28nm,0.8s
GNI Garni 21.06 288 P **P 20 46 45.9 +2.0**
comp=Z,6.9nm,0.8s,baz=311,slow=11,SNR=4.9
GNI Garni 21.06 288 P **P 20 46 45.9 +2.0**
RDF Al-Radifah 21.25 256 *e*P **P 20 46 45.8 -0.1**
RDF AMb AMB 20 46 50.6
comp=Z,25nm,0.8s
NAY Al-Naaiem 21.35 257 *e*P **P 20 46 46.4 -0.5**
NAY AMb AMB 20 46 48.7
comp=Z,15nm,0.8s
ARU Arti 21.70 341*c i*P **P 20 46 50.7 +0.5**
ARU 20 47 21.9
ARU S **S 20 50 34.7 -2.6**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 21.70 341 *e*P **P 20 46 50.3 +0.1**
comp=Z,9.5nm,0.8s
HVS Khovu-Aksy 21.74 41*c i*P **P 20 46 51.8 +1.0**
HVS pmax pmax
comp=Z,21nm,0.6s
GTA Gaotai 22.71 74 P **P 20 47 02.4 +2.3**
GTA pP pP 20 47 45.4 +12
GTA sP sP 20 48 07.8 +10
GTA pmax pmax
comp=Z,10.0nm,0.5s
GTA pmax pmax
comp=Z,110nm,6.6s
KBZ Khabaz 22.76 297 P **P 20 47 00.3 0.0**
comp=Z,3.3nm,0.7s,baz=132,slow=10.0,SNR=8.2
KBZ Khabaz 22.76 297 P **P 20 47 00.3 0.0**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 22.76 297 P **P 20 47 00.3 0.0**
KIV Kislovodsk 22.94 298 *e*P **P 20 47 03.5 +1.4**
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 22.94 298 P P 20 46 57.4 -4.7
comp=Z,6.8nm,0.7s
MOY Mondy 26.00 45 *e*P **P 20 47 31.8 +2.1**
ZAK Zakamensk 26.88 49 *e*P **P 20 47 37.6 0.0**
ZAK *e* 20 48 22.9
ZAK pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 28.21 55 P **P 20 47 51.1 +1.6**
comp=Z,1.5nm,0.6s,baz=266,slow=8.9,SNR=19
SONM PcP **PcP 20 50 56.3 -1.8**
comp=Z,0.4nm,0.8s,baz=255,slow=5.7,SNR=3.1
SONM Songino Array 28.21 55 P **P 20 47 51.1 +1.6**
SONM PcP **PcP 20 50 56.3 -1.8**
ASF Jabal al Asfar 28.57 271 P **P 20 47 52.5 -0.3**
comp=Z,2.3nm,0.8s,baz=76,slow=8.3,SNR=3.5
ASF Jabal al Asfar 28.57 271 P **P 20 47 52.5 -0.3**
ULN Ulaanbaatar 28.65 55 P P 20 47 51.2 -2.3
comp=Z,1.5nm,0.7s
MMAI Mount Meron Ar 29.52 274 P **P 20 48 01.4 +0.3**
comp=Z,1.0nm,0.5s,baz=64,slow=9.4,SNR=4.7
MMAI PcP **PcP 20 51 00.5 -1.1**
comp=Z,1.2nm,0.6s,baz=48,slow=2.1,SNR=4.1
MMAI Mount Meron Ar 29.52 274 P **P 20 48 01.4 +0.3**
MMAI PcP **PcP 20 51 00.5 -1.1**
BRTR Keskin Array B 29.60 288 P **P 20 48 02.2 +0.3**
comp=Z,2.8nm,0.8s,baz=104,slow=9.2,SNR=16
BRTR Keskin Array B 29.60 288 P **P 20 48 02.2 +0.3**
OBN Obninsk 30.06 319*e*P **P 20 48 05.9 +0.4**
OBN pmax pmax
comp=Z,60nm,2.5s
OBN Obninsk 30.06 319 P **P 20 48 05.0 -0.5**
comp=Z,18nm,0.7s
CMAR Chiang Mai Arr 30.30 119 P **P 20 48 09.2 +1.2**
comp=Z,0.2nm,0.3s,baz=306,slow=10,SNR=3.7
CMAR Chiang Mai Arr 30.30 119 P **P 20 48 09.2 +1.2**
PALK Pallekele 30.34 161 *e*P **P 20 48 08.3 -0.2**
comp=Z,5.8nm,0.9s
KLMR Klimovskoe 31.58 331 *e*P **P 20 48 17.6 -1.2**
KLMR pmax pmax
comp=Z,21nm,1.5s
AKASG Malin Array Be 33.09 309 P **P 20 48 31.5 -0.6**
comp=Z,3.5nm,0.6s,baz=79,slow=7.4,SNR=10
AKASG Malin Array Be 33.09 309*ce*P **P 20 48 31.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 33.09 309 P **P 20 48 31.5 -0.6**
AK02 Malin Array Si 33.09 309 *e*P **P 20 48 31.3 -0.8**
AK01 Malin Array Si 33.09 309 *e*P **P 20 48 31.1 -1.0**
JOF Joensuu 35.97 330 *e*P **P 20 48 56.0 -0.6**
JOF pmax pmax
comp=Z,13nm,0.4s
JOF Joensuu 35.97 330 *ep* **P 20 48 56.0 -0.6**
comp=Z,13nm,0.4s
KOLS Kolonicke sedl 37.42 305 *e*P **P 20 49 09.5 +0.4**
KOLS pmax pmax
comp=Z,68nm,2.8s
KOLS Kolonicke sedl 37.42 305 *e*P **P 20 49 09.5 +0.4**
FINES FINESS Array B 37.59 326 P **P 20 49 10.5 +0.2**
comp=Z,4.8nm,0.4s,baz=119,slow=9.1,SNR=82
FINES FINESS Array B 37.59 326 P **P 20 49 10.5 +0.2**
KAF Kangasniemi 37.73 327 *e*P **P 20 49 10.8 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 37.73 327 *ep* **P 20 49 10.8 -0.7**
comp=Z,2.1nm,0.5s
CRVS Cervenica-Dubn 37.96 305 *e*P **P 20 49 13.9 +0.3**
CRVS Cervenica-Dubn 37.96 305 *e*P **P 20 49 13.9 +0.3**
NIE Niedzica 38.71 306 *e*P **P 20 49 21.2 +1.3**
NIE Niedzica 38.71 306 *e*P **P 20 49 21.2 +1.3**
VYHS Vyhne 39.70 304 *e*P **P 20 49 27.7 -0.4**
VYHS pmax pmax
comp=Z,11nm,1.9s
VYHS Vyhne 39.70 304 *e*P **P 20 49 27.7 -0.4**
KEV Kevo 40.88 338 *e*P **P 20 49 37.3 -0.1**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 40.88 338 P **P 20 49 37.7 +0.3**
KEV pmax pmax
comp=Z,11nm,0.8s
KEV Kevo 40.88 338 P **P 20 49 37.6 +0.3**
comp=Z,11nm,0.8s
KEV Kevo 40.88 338 *ep* **P 20 49 37.3 -0.1**
comp=Z,2.4nm,0.3s
ARCES ARCESS Array B 41.22 338 P **P 20 49 40.8 +0.5**
comp=Z,5.5nm,0.4s,baz=113,slow=7.4,SNR=113
ARCES ARCESS Array B 41.22 338 P **P 20 49 40.8 +0.5**
ARE0 ARCESS Array S 41.22 338 *e*P **P 20 49 39.5 -0.7**
BRG Berggiesshubel 42.77 308 *e*P **P 20 49 53.4 +0.4**
comp=Z,4.5nm,0.7s
BRG Berggiesshubel 42.77 308 *e*P **P 20 49 53.4 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 43.08 305 P **P 20 49 55.3 -0.3**
comp=Z,0.4nm,0.6s,baz=80,slow=7.3,SNR=6.9
GERES PP **PP 20 51 40.1 +0.6**
comp=Z,0.5nm,0.7s,baz=94,slow=5.6,SNR=4.2
GERES GERESS Array B 43.08 305 P **P 20 49 55.3 -0.3**
GERES PP **PP 20 51 40.1 +0.6**
CLL Collm 43.33 309*i*P **P 20 49 57.5 0.0**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 43.33 309*i*P **P 20 49 57.5 0.0**
comp=Z,5.0nm,1.0s
YAK Yakutsk 43.88 35 *e*P **P 20 50 00.8 -0.9**
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 43.88 35 *e*P **P 20 50 00.8 -0.9**
comp=Z,8.2nm,0.5s
NB2 NORSAR Subarra 44.49 323 P **P 20 50 05.7 -1.0**
comp=Z,2.7nm,0.3s,baz=95,slow=8.6
NOA NORSAR Array B 44.49 323 P **P 20 50 05.8 -0.8**
comp=Z,0.9nm,0.3s,baz=104,slow=7.3,SNR=35
NOA NORSAR Array B 44.49 323 P **P 20 50 05.8 -0.8**
GRF Grafenberg Arr 44.60 307 *e*P **P 20 50 08.3 +0.6**
comp=Z,5.0nm,0.8s
NAO01 NORSAR Array S 44.64 323 *e*P **P 20 50 06.5 -1.2**
comp=Z,11nm,0.9s
KSAR Wonju Array Be 44.70 71 P **P 20 50 09.2 +0.6**
KSRS Korea Array 44.73 71 P **P 20 50 09.2 +0.4**
comp=Z,1.7nm,0.5s,baz=268,slow=6.5,SNR=6.8
CDF Champ du Feu 47.36 306 *e*P **P 20 50 28.8 -0.5**
PGF Pioggiola 47.43 297 *e*P **P 20 50 28.7 -1.2**
HINF Hinteralfeld 47.74 305 *e*P **P 20 50 31.1 -1.1**
comp=Z,4.3nm,0.6s
HAU Haudompre 48.04 305 *e*P **P 20 50 33.5 -1.0**
comp=Z,4.5nm,0.6s
SBF Sospel 48.21 300 *e*P **P 20 50 35.1 -0.8**
LPG La Plagne 48.30 302 *e*P **P 20 50 36.3 -0.5**
comp=Z,3.4nm,0.5s
LPL La Plagne 48.31 302 *e*P **P 20 50 36.1 -0.7**
comp=Z,4.5nm,0.4s
PAGF Fort de Pagny 48.34 306 *e*P **P 20 50 36.6 -0.2**
comp=Z,3.3nm,0.7s
MBDF Montbardon 48.46 301 *e*P **P 20 50 36.7 -1.2**
CABF La Chapelle 48.50 303 *e*P **P 20 50 38.3 +0.2**
comp=Z,6.5nm,0.5s
GIVF Givet 48.64 308 *e*P **P 20 50 37.4 -1.5**
MEZF Maizieres J'vi 48.79 306 *e*P **P 20 50 39.8 -0.4**
comp=Z,8.3nm,0.6s
FRF La Foret Royal 48.84 299 *e*P **P 20 50 40.1 -0.5**
SFTF Sexfontaines 48.86 306 *e*P **P 20 50 39.9 -0.8**
LMR La Mourre 48.99 299 *e*P **P 20 50 40.6 -1.2**
ORIF Oris-en-Rattie 49.03 301 *e*P **P 20 50 41.0 -1.2**
BAIF Baives 49.03 308 *e*P **P 20 50 41.9 -0.1**
KEST Kesra 49.20 289 P **P 20 50 42.3 -1.3**
comp=Z,0.7nm,0.6s,baz=42,slow=12,SNR=3.6
KEST Kesra 49.20 289 P **P 20 50 42.3 -1.3**
SMRF Simiane la Rot 49.48 300 *e*P **P 20 50 44.5 -1.0**
LOR Lormes 49.84 305 *e*P **P 20 50 47.7 -0.5**
VIVF Saint-Julien-l 49.88 301 *e*P **P 20 50 47.6 -0.9**
comp=Z,3.0nm,0.4s
SMF Signal de Mont 50.00 304 *e*P **P 20 50 48.3 -1.1**
comp=Z,16nm,0.8s
SSF Saint Saulge 50.13 304 *e*P **P 20 50 49.0 -1.3**
AVF Avril sur Loir 50.29 304 *e*P **P 20 50 50.4 -1.1**
comp=Z,12nm,0.7s
LASF Ste Croix 50.65 301 *e*P **P 20 50 53.6 -0.7**
comp=Z,3.3nm,0.5s
HYF Humbligny 50.65 305 *e*P **P 20 50 53.6 -0.6**
BGF Bois d'Agland 50.69 304 *e*P **P 20 50 53.3 -1.2**
TCF Toulx Ste Croi 51.18 304 *e*P **P 20 50 57.5 -0.7**
comp=Z,6.2nm,0.7s
CAF Calviac 51.65 302 *e*P **P 20 51 01.1 -0.6**
comp=Z,5.1nm,0.7s
RJF Les Rejaudoux 51.91 303 *e*P **P 20 51 03.1 -0.5**
MTLF Montolieu 52.00 300 *e*P **P 20 51 03.4 -0.9**
LDF La Druitiere 52.12 307 *e*P **P 20 51 03.7 -1.4**
comp=Z,2.3nm,0.3s
FLN La Foliniere 52.31 307 *e*P **P 20 51 05.1 -1.3**
comp=Z,2.4nm,0.4s
LFF La Frestale 52.55 303 *e*P **P 20 51 07.5 -0.7**
comp=Z,6.5nm,0.6s
GRR Gorron 52.65 307 *e*P **P 20 51 07.6 -1.3**
comp=Z,4.0nm,0.5s
MFF Saint Martin d 52.67 305 *e*P **P 20 51 07.6 -1.5**
EPF Esparros 53.40 300 *e*P **P 20 51 13.2 -1.4**
SGMF Saint Gilles 53.77 307 *e*P **P 20 51 15.9 -1.3**
ETSF Etsaut 54.07 300 *e*P **P 20 51 18.7 -0.8**
comp=Z,11nm,0.6s
ROSF Rostrenen 54.21 308 *e*P **P 20 51 19.1 -1.2**
QUIF Quistinic 54.26 307 *e*P **P 20 51 19.2 -1.5**
SEY Seymchan 54.34 34*i*P **P 20 51 20.9 -0.1**
SJPF Ste Jean 54.46 301 *e*P **P 20 51 21.2 -1.0**
ESDC Sonseca Array 57.61 298 P **P 20 51 43.5 -1.2**
comp=Z,1.5nm,0.6s,baz=61,slow=7.6,SNR=17
ESDC Sonseca Array 57.61 298 P **P 20 51 43.5 -1.2**
ESLA Sonseca Array 57.61 298 *e*P P 20 51 42.7 -2.0
comp=Z,0.4nm,0.7s
TAM Tamanrasset 57.71 276 P **P 20 51 44.7 -1.0**
TAM Tamanrasset 57.71 276 P **P 20 51 44.7 -1.0**
EVO Evora 60.96 298 *e*P **P 20 52 07.2 -0.3**
comp=Z,3.5nm,0.6s
TOA0 Torodi Ar. Sit 65.89 269 *e*P P 20 52 36.8 -3.3
TORD Torodi Ar. Bea 65.89 269 P P 20 52 37.2 -3.0
comp=Z,4.5nm,0.5s,baz=49,slow=5.7,SNR=41
TORD Torodi Ar. Bea 65.89 269 P P 20 52 37.2 -3.0
RES Resolute Bay 68.73 356 *e*P **P 20 52 56.5 -0.6**
comp=Z,0.8nm,0.5s
COLA College 74.45 16 P **P 20 53 31.3 0.0**
COLA pmax pmax
comp=Z,8.0nm,1.1s
COLA College 74.45 16 P **P 20 53 31.3 0.0**
comp=Z,8.5nm,1.1s
FITZ Fitzroy Crossi 74.75 127 P P 20 53 32.0 -1.7
comp=Z,1.6nm,0.6s,baz=310,slow=7.9,SNR=3.5
FITZ Fitzroy Crossi 74.75 127 P P 20 53 32.0 -1.7
ILAR Eielson Array 74.75 16 P **P 20 53 32.2 -0.9**
comp=Z,1.0nm,0.8s,baz=312,slow=4.7,SNR=12
ILAR Eielson Array 74.75 16 P **P 20 53 32.2 -0.9**
LBTB Lobatse 74.78 222 *e*P **P 20 53 32.8 -1.1**
comp=Z,5.4nm,0.5s
DBIC Dimbokro 74.86 267 P P 20 53 31.9 -2.7
comp=Z,2.6nm,1.0s,baz=26,slow=7.4,SNR=4.3
DBIC Dimbokro 74.86 267 P P 20 53 31.9 -2.7
comp=Z,2.2nm,0.7s
TSUM Tsumeb 75.04 232 *e*P P 20 53 33.8 -1.7
comp=Z,2.7nm,0.6s
BOSA Boshof 77.84 220 P **P 20 53 49.8 -1.3**
comp=Z,2.2nm,0.5s,baz=62,slow=6.9,SNR=9.8
BOSA Boshof 77.84 220 *e*P P 20 53 48.9 -2.1
comp=Z,2.9nm,0.6s
KDAK Kodiak Island 79.15 22 P **P 20 53 57.4 -0.3**
comp=Z,7.6nm,0.9s,baz=21,slow=7.9,SNR=4.6
KDAK Kodiak Island 79.15 22 P **P 20 53 57.4 -0.3**
YKA Yellowknife Ar 81.25 3 P **P 20 54 08.6 -0.3**
comp=Z,1.8nm,0.5s,baz=351,slow=5.4,SNR=55
YKA pP pP 20 55 00.9 +6.2
comp=Z,0.6nm,0.7s,baz=351,slow=5.6,SNR=5.3
YKA Yellowknife Ar 81.25 3 P **P 20 54 08.6 -0.3**
YKA pP pP 20 55 00.9 +6.2
WRA Warramunga Arr 81.84 122 P P 20 54 10.7 -1.9
comp=Z,2.0nm,0.4s,baz=325,slow=5.0,SNR=95
WRA pP pP 20 55 03.9 +5.4
comp=Z,0.5nm,0.6s,baz=324,slow=4.9,SNR=3.2
WRA Warramunga Arr 81.84 122 P P 20 54 10.7 -1.9
WRA pP pP 20 55 03.9 +5.4
WRAB Tennant Creek 81.84 122 *e*P P 20 54 10.6 -2.0
WRAB pmax pmax
comp=Z,3.0nm,0.5s
WRAB Tennant Creek 81.84 122 *e*P P 20 54 10.6 -2.0
comp=Z,3.2nm,0.5s
SCHQ Schefferville 82.18 337 P **P 20 54 13.4 -0.5**
comp=Z,2.7nm,0.7s,baz=97,slow=8.1,SNR=3.6
SCHQ Schefferville 82.18 337 P **P 20 54 13.4 -0.5**
ASAR Alice Springs 84.11 125 P P 20 54 22.4 -1.9
comp=Z,9.9nm,0.6s,baz=311,slow=4.8,SNR=48
ASAR Alice Springs 84.11 125 P P 20 54 22.4 -1.9
FFC Flin Flon 88.97 356 *e*P **P 20 54 46.4 -0.9**
FFC pmax pmax
comp=Z,3.0nm,0.9s
FFC Flin Flon 88.97 356 *e*P **P 20 54 46.4 -0.9**
comp=Z,2.7nm,0.9s
STKA Stephens Creek 94.64 126 P P 20 55 12.2 -1.6
comp=Z,2.9nm,0.9s,baz=0.0,slow=5.1,SNR=2.3
STKA Stephens Creek 94.64 126 P P 20 55 12.2 -1.6
PLCA Paso Flores 149.98 250 PKPbc **PKPdf 21 01 40.8 +3.7**
comp=Z,2.6nm,0.9s,baz=322,slow=7.2,SNR=5.8
PLCA Paso Flores 149.98 250 PKPbc **PKPdf 21 01 40.8 +3.7**

IDC 13 20:51:00.7± 1.4, 48.77S× 127.33E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, MS3.5/3, Ms1 3.4/3, ms1mx3.0/20, Error ellipse: s-maj=70.9km s-min=24.9km az=87.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.55**	**331**	LR	LR	21 00 17.5	
	comp=Z,171nm,18.9s,baz=278,slow=32						
STKA	**Stephens Creek**	**20.02**	**38**	LR	LR	21 01 22.2	
	comp=Z,114nm,19.2s,baz=205,slow=31						
ASAR	**Alice Springs**	**25.59**	**14**	P	P	20 56 32.1	+0.6
	2.6nm,0.8s,baz=188,slow=9.6,SNR=19						
ASAR				LR	LR	21 05 03.4	
	comp=Z,83nm,19.8s,baz=256,slow=33						
WRA	**Warramunga Arr**	**29.31**	**14**	P	P	20 57 04.0	-0.8
	0.6nm,0.8s,baz=193,slow=8.0,SNR=3.4						
VNDA	**Vanda**	**31.74**	**166**	P	P	20 57 25.8	-0.1
	0.6nm,0.8s,baz=308,slow=10,SNR=2.7						
CMAR	**Chiang Mai Arr**	**71.55**	**332**	P	P	21 02 23.6	+0.2
	0.9nm,0.7s,baz=175,slow=5.7,SNR=6.9						

*IDC **13** 21:06:06.7± 1.0, 31.63N× 142.46E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.7/28, mbtmp3.7/13, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/50, Error ellipse: s-maj=31.5km s-min=16.2km az=79.0*

*JMA **13** 21:06:09.2± 0.3, 31.79N× 142.72E, h98km, M3.5*

*ISCJB **13** 21:06:10.7± 0.8, 31.85N± 0.06× 142.6E± 0.1, h49km, mb3.6/10, Error ellipse: s-maj=14.3km s-min=6.2km az=154.3*

ISC 13 21:06:11.6± 0.9, 31.76N± 0.06× 142.7E± 0.1, h49km, n22, σ 2.3 31/27, mb3.7/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.75**	**300**	eS	Sn	**21 07 25.3**	**0.0**
JHJ	**Hachijo jima 2**	**2.78**	**300**	Pn	Pn	**21 06 52.5**	**-1.1**
	2.8nm,0.3s,baz=359,slow=11,SNR=4.0						
JHJ				Sn	Sn	**21 07 21.1**	**-4.9**
	23nm,0.3s,baz=238,slow=22,SNR=2.9						
CBIJ	**Chichi jima**	**4.67**	**185**	Pn	Pn	**21 07 16.7**	**-2.9**
	6.3nm,0.3s,baz=240,slow=16,SNR=13						
CBIJ				Sn	Sn	**21 08 08.9**	**-3.6**
	15nm,0.3s,baz=284,slow=22,SNR=5.3						
CBIJ	**Chichi jima**	**4.67**	**185**	P	Pn	**21 07 18.5**	**-1.1**
JHU	**Hanno**	**4.95**	**326**	P	Pn	**21 07 23.0**	**-0.4**
JHU				eS	Sn	**21 08 17.9**	**-1.5**
JHO	**Hitachi**	**5.14**	**341**	eS	Sn	**21 08 22.4**	**-1.5**
JRY	**Ryogami san**	**5.27**	**325**	P	Pn	**21 07 27.0**	**-0.8**
JRY				eS	Sn	**21 08 27.3**	**+0.1**
JAG	**Ashikaga**	**5.36**	**331**	P	Pn	**21 07 27.6**	**-1.3**
JAG				eS	Sn	**21 08 28.2**	**-1.1**
MJAR	**Matsushiro Arr**	**6.03**	**323**	Pn	Pn	**21 07 35.9**	**-2.2**
	0.8nm,0.3s,baz=157,slow=11,SNR=11						
MJAR				Sn	Sn	**21 08 44.3**	**-1.5**
	0.9nm,0.3s,baz=165,slow=20,SNR=5.9						
JMK	**Ichinoseki**	**7.27**	**351**	P	Pn	**21 07 52.9**	**-2.2**
JMK				eS	Sn	**21 09 10.7**	**-5.5**
ASAJ	**Asahikawa**	**12.33**	**360**	LR	LR	21 13 50.7	
	comp=Z,26nm,20.3s,baz=123,slow=37						
SONM	**Songino Array**	**31.80**	**311**	P	P	**21 12 31.0**	**-0.5**
	0.5nm,0.7s,baz=109,slow=8.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**41.48**	**262**	P	P	**21 13 54.3**	**+0.4**
	0.4nm,0.7s,baz=81,slow=5.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.33**	**316**	P	P	**21 14 34.5**	**+2.1**
	0.4nm,0.5s,baz=99,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**47.93**	**306**	P	P	**21 14 46.9**	**+1.8**

0.7nm,0.7s,baz=89,slow=9.5,SNR=9.9
WRA Warramunga Arr 52.03 190 P **P** 21 15 16.4 **+0.1**
0.8nm,0.7s,baz=7.4,slow=8.1,SNR=15
ILAR Eielson Array 53.45 30 P P 21 15 30.4 +4.1
0.2nm,0.7s,baz=254,slow=6.4,SNR=3.1
ASAR Alice Springs 55.75 190 P **P** **21 15 45.0 +1.6**
0.2nm,0.5s,baz=19,slow=14,SNR=4.5
FINES FINESS Array B 73.96 333 P **P** **21 17 43.8 +2.4**
2.5nm,0.9s,baz=48,slow=8.5,SNR=5.1
HFS Hagfors 79.31 337 P **P** **21 18 14.3 +2.6**
2.0nm,0.9s,baz=72,slow=6.4,SNR=4.1
NOA NORSAR Array B 79.44 338 P **P** **21 18 14.8 +2.4**
1.0nm,0.8s,baz=41,slow=5.4,SNR=4.7
TORD Torodi Ar. Bea 121.74 314 PKP **PKPdf** **21 25 02.2 +1.4**
0.7nm,1.2s,baz=24,slow=2.5,SNR=3.2

*IDC **13** 21:18:14.8±1.1, 56˚.67N×58˚.66W, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.5/33, mbtmp3.6/9, ML3.0/3, Error ellipse: s-maj=18.6km s-min=11.9km az=141.0*
*OTT **13** 21:18:15.4±0.9, 56˚.62N×58˚.71W, h18km, ML4.0/16, LAlbertaRADOR Sea Seismic Zone. 160km northeast from Davis Inlet, Nl*
ISC 13 21:18:14.8±0.8, 56˚.58N±0˚.08×58˚.89W±0˚.08, h10km, n33, σ1§32/32, mb3.6/6, Labrador Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**4.82**	**252**	Pn	**Pn**	**21 19 29.5**	**+2.1**
	3.5nm,0.3s,baz=66,slow=8.4,SNR=45						
SCHQ				Sn	**Sn**	**21 20 24.6**	**+1.3**
	15nm,0.3s,baz=334,slow=19,SNR=32						
SCHQ	**Schefferville**	**4.82**	**252**	PN	**Pn**	**21 19 29.6**	**+2.1**
SCHQ				SN	**Sn**	**21 20 24.1**	**+0.8**
SCHQ				Trac		21 20 26.0	
	comp=Z,27nm,0.2s						
KUQ	**Kuujjuuaa**	**5.38**	**291**	PN	**Pn**	**21 19 35.2**	**+0.2**
KUQ				SN	**Sn**	**21 20 33.6**	**-3.3**
KUQ				Trac		21 20 35.5	
	comp=Z,36nm,0.2s						
NATG	**Natashquan Que**	**6.72**	**202**	PN	**Pn**	**21 19 55.4**	**+1.9**
NATG				SN	Sn	21 21 06.1	-3.9
NATG				Trac		21 21 12.1	
	comp=Z,6.7nm,0.2s						
DRLN	**Deer Lake**	**7.38**	**173**	PN	**Pn**	**21 20 01.0**	**-1.5**
DRLN				SN	Sn	21 21 19.0	-7.3
DRLN				Trac		21 21 22.0	
	comp=Z,6.7nm,0.2s						
SMQ	**Clarke City**	**7.89**	**219**	PN	**Pn**	**21 20 09.0**	**-0.5**
SMQ				SN	Sn	21 21 35.1	-3.6
SMQ				Trac		21 21 39.5	
	comp=Z,4.9nm,0.2s						
MNQ	**Manicouagan**	**8.44**	**228**	PN	**Pn**	**21 20 16.6**	**-0.4**
MNQ				SN	Sn	21 21 47.5	-4.7
MNQ				Trac		21 21 52.4	
	comp=Z,5.8nm,0.1s						
YOSQ	**Ashton Mining**	**8.55**	**250**	PN	**Pn**	**21 20 17.8**	**-0.8**
YOSQ				SN	Sn	21 21 49.4	-5.6
YOSQ				Trac		21 21 53.7	
	comp=Z,2.2nm,0.1s						
FRB	**Frobisher Bay**	**8.64**	**330**	Pn	**Pn**	**21 20 20.2**	**+0.5**
	0.3nm,0.3s,baz=145,slow=10,SNR=3.4						
FRB				Sn	Sn	21 21 50.9	-6.2
	0.7nm,0.3s,baz=59,slow=18,SNR=5.4						
FRB	**Frobisher Bay**	**8.64**	**330**	PN	**Pn**	**21 20 19.6**	**-0.1**
FRB				SN	Sn	21 21 50.0	-7.1
FRB				Trac		21 22 08.1	
	comp=Z,13nm,0.5s						
ICQ	**Pointe Anglais**	**8.68**	**219**	PN	**Pn**	**21 20 19.5**	**-0.8**
ICQ				SN	Sn	21 21 51.2	-6.9
ICQ				Trac		21 21 58.4	
	comp=Z,10nm,0.3s						
CNQ	**Baie Comeau**	**9.15**	**221**	PN	**Pn**	**21 20 26.3**	**-0.5**
CNQ				SN	Sn	21 22 04.8	-4.8
CNQ				Trac		21 22 09.1	
	comp=Z,1.0nm,0.1s						
LG4Q	**La Grande 4**	**9.20**	**258**	PN	**Pn**	**21 20 27.1**	**-0.4**
LG4Q				SN	Sn	21 22 04.5	-6.4
LG4Q				Trac		21 22 07.3	
	comp=Z,11nm,0.3s						
CHEG	**Cheticamp, Nov**	**9.85**	**187**	PN	**Pn**	**21 20 35.5**	**-0.8**
CHEG				SN	Sn	21 22 17.3	-10
CHEG				Trac		21 22 25.4	
	comp=Z,9.6nm,0.4s						
BATG	**Bathurst New B**	**10.31**	**208**	PN	**Pn**	**21 20 41.8**	**-0.8**
BATG				SN	Sn	21 22 28.4	-10
INUQ	**Inukjuak**	**10.51**	**288**	PN	**Pn**	**21 20 43.4**	**-1.9**
INUQ				SN	Sn	21 22 32.3	-11
INUQ				Trac		21 22 36.6	
	comp=Z,9.7nm,0.2s						
AKVQ	**Akulivik**	**10.88**	**301**	PN	**Pn**	**21 20 49.9**	**-0.5**
AKVQ				SN	Sn	21 22 44.3	-7.7
AKVQ				Trac		21 22 47.9	
	comp=Z,10nm,0.3s						
SFJD	**Kangerlussuaq**	**11.15**	**17**	Pn	**Pn**	**21 20 53.0**	**-1.0**
	0.2nm,0.3s,baz=214,slow=18,SNR=2.8						
GBN	**Guysborough**	**11.31**	**189**	PN	**Pn**	**21 20 54.7**	**-1.6**
GBN				SN	Sn	21 22 52.6	-10
LMN	**Caledonia Moun**	**11.36**	**201**	PN	**Pn**	**21 20 55.5**	**-1.5**
LMQ	**La Malbaie**	**11.44**	**223**	PN	**Pn**	**21 20 56.9**	**-1.3**
LMQ				SN	Sn	21 22 58.2	-7.8
WEMQ	**Wemindji, Queb**	**11.55**	**260**	PN	Pn	21 20 57.2	-2.3
WEMQ				SN	Sn	21 22 59.7	-8.8
WEMQ				Trac		21 23 05.5	
	comp=Z,6.2nm,0.2s						
MALO	**McAlpine Lake**	**14.06**	**251**	PN	Pn	21 21 31.4	-2.6
MALO				SN	Sn	21 24 00.3	-10
VLDQ	**Val d'Or**	**14.12**	**241**	PN	Pn	21 21 32.5	-2.2
VLDQ				SN	Sn	21 24 01.8	-10
SILO	**Sutton Inlier**	**14.85**	**273**	PN	Pn	21 21 39.5	-5.1
SILO				SN	Sn	21 24 14.4	-15
SILO				Trac		21 24 18.8	
	comp=Z,13nm,0.6s						
RES	**Resolute Bay**	**22.79**	**336**	P	**P**	**21 23 17.6**	**+0.6**
	0.7nm,0.7s,baz=36,slow=14,SNR=3.9						
YKA	**Yellowknife Ar**	**28.06**	**305**	P	**P**	**21 24 07.4**	**+1.5**
	0.8nm,0.6s,baz=73,slow=9.1,SNR=12						
ARCES	**ARCESS Array B**	**36.99**	**36**	P	**P**	**21 25 23.2**	**-0.7**
	2.1nm,0.8s,baz=282,slow=6.1,SNR=4.0						
ILAR	**Eielson Array**	**40.46**	**319**	P	**P**	**21 25 54.6**	**+1.6**
	0.2nm,0.6s,baz=34,slow=6.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**65.91**	**23**	P	**P**	**21 29 01.3**	**+1.0**
	0.2nm,0.4s,baz=357,slow=7.2,SNR=2.4						
SONM	**Songino Array**	**75.23**	**10**	P	**P**	**21 29 58.5**	**+1.0**
	0.2nm,0.3s,baz=338,slow=7.2,SNR=4.4						
ASAR	**Alice Springs**	**145.82**	**339**	PKPbc	**PKPbc**	**21 37 54.1**	**+0.2**
	0.5nm,0.5s,baz=30,slow=2.2,SNR=7.1						
QSPA	**South Pole Qui**	**146.47**	**180**	PKPbc	**PKPab**	**21 37 55.6**	**0.0**
	0.5nm,0.4s,baz=252,slow=3.1,SNR=3.6						

CASC 13 21:23:36.2±4.3, 8˚.57N×83˚.15W, h0km±10km, MD4.0, 1C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.09**	**348**	⇓*iP*	Pg	21 23 39.8	+1.8
ACR				⇓*iP*	Pg	21 23 39.8	+1.8
ACR				*eS*	Sg	21 23 42.5	+3.3
BRU2	**Volcan**	**0.51**	**64**	⇓*iP*	Pg	21 23 46.8	+0.6
BRU2				*eS*	Sb	21 23 54.9	-1.4
TBS2		**0.54**	**65**	*eP*	Pb	21 23 49.6	+0.9
TBS2				*eS*	Sb	21 23 58.8	+1.6
BUS	**Buena Vista**	**1.15**	**329**	*eP*	Pg	21 23 55.1	-3.8
BUS				⇓*eP*	Pb	21 23 56.8	-2.9
QCR	**Quepos**	**1.32**	**310**	⇑*eP*	Pg	21 23 59.1	-2.4
QCR				*eS*	Sg	21 24 17.6	-1.0
LAJ	**Bijagual**	**1.61**	**323**	*eP*	Pg	21 24 08.0	+0.6
SJS	**Escuela Geolog**	**1.63**	**327**	⇓*eP*	Pn	21 24 06.4	+0.1
SJS				*eS*	Sn	21 24 27.9	-0.3
CGA2	**Cerro Gallo 2**	**1.94**	**318**	*eP*	Pn	21 24 09.5	-1.1
AMAS	**Alto Masis**	**2.73**	**318**	*iP*	Pn	21 24 23.3	+1.9
PTEN	**Parque Tenorio**	**2.80**	**320**	*iP*	Pn	21 24 23.3	+0.9
PTEN				*iS*	Sb	21 25 00.6	-1.6
CUI	**Cuipilapa**	**2.87**	**316**	*iP*	Pn	21 24 25.0	+1.6
CUI				*iS*	Sn	21 25 01.2	+2.5
COLC	**Colonia**	**2.91**	**316**	*iP*	Pn	21 24 25.3	+1.4
MESS	**Mesas**	**2.95**	**317**	*iP*	Pn	21 24 25.1	+0.6
BCIP	**Isla Barro Col**	**3.33**	**79**	*eP*	Pn	21 24 29.7	+0.1
BCIP				*eS*	Sb	21 25 15.0	-2.2

*ISCJB **13** 21:29:17.3±0.4, 50˚.31N±0˚.03×18˚.84E±0˚.03, h0km, Error ellipse: s-maj=4.7km s-min=2.2km az=13.9*
*IDC **13** 21:29:18.9±2.6, 50˚.07N×19˚.11E, h0km, mb1 3.4/4, mb1mx3.1/24, mbtmp3.3/4, ML2.5/2, Error ellipse: s-maj=52.0km s-min=11.5km az=136.0*
*CSEM **13** 21:29:18.9±0.2, 50˚.27N×18˚.66E, h2km, ML3.6/7, Error ellipse: s-maj=4.8km s-min=2.0km az=12.0*
*PRU **13** 21:29:19.9, 50˚.25N×18˚.84E, h0km*
*IPEC **13** 21:29:19.4±0.2, 50˚.23N×18˚.89E, h4km±1km, ML2.8/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*BGR **13** 21:29:19.7±0.5, 50˚.28N×18˚.89E, h1km, ML3.0/5, Error ellipse: s-maj=6.7km s-min=4.4km az=16.0*
*VIE **13** 21:29:23.1±1.4, 50˚.28N×18˚.18E, h0km, mb2.0/1, ML3.2/3, Error ellipse: s-maj=9.5km s-min=8.9km az=167.0 50 km N of Ostrava Suspected Mining induced.*
ISC 13 21:29:19.6±0.7, 50˚.23N±0˚.03×18˚.86E±0˚.02, h0km, n78, σ1§20/117, 8C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.45**	**251**	*ePg*	**Pb**	**21 29 30.0**	**-0.4**
RAC				*eSg*	**Sb**	**21 29 37.2**	**-0.5**
OJC	**Ojcow**	**0.60**	**91**	*ePg*	**Pg**	**21 29 31.0**	**-0.1**
OJC	**Ojcow**	**0.60**	**91**	*ePg*	**Pg**	**21 29 30.8**	**-0.3**
	baz=271						
OJC				*eSg*	**Sg**	**21 29 39.0**	**+0.1**
OJC	**Ojcow**	**0.60**	**91**	*iPg*	**Pg**	**21 29 30.9**	**-0.1**
OJC				*eSg*	**Sg**	**21 29 39.0**	**+0.1**
OKC	**Ostrava-Krasne**	**0.60**	**230**	*ePg*	**Pg**	**21 29 32.0**	**+0.8**
OKC				*eSg*	**Sg**	**21 29 40.9**	**+2.0**
OKC	**Ostrava-Krasne**	**0.60**	**230**	*ePg*	**Pg**	**21 29 32.0**	**+0.8**
OKC				*eSG*	**Sg**	**21 29 39.8**	**+0.8**
	comp=Z,69nm,0.2s						
OKC	**Ostrava-Krasne**	**0.60**	**230**	*ePg*	**Pg**	**21 29 31.9**	**+0.8**
	baz=50						
OKC				Sg	**Sg**	**21 29 39.8**	**+0.8**
	69nm,0.2s						
MORC	**Moravsky Berou**	**0.96**	**242**	*ePg*	**Pg**	**21 29 38.3**	**+0.3**
MORC				*eSg*	**Sg**	**21 29 51.3**	**+0.8**
MORC	**Moravsky Berou**	**0.96**	**242**	⇑*iP*	**Pg**	**21 29 38.4**	**+0.3**
MORC	**Moravsky Berou**	**0.96**	**242**	S	**Sg**	**21 29 51.5**	**+1.0**
MORC	**Moravsky Berou**	**0.96**	**242**	Pg	**Pg**	**21 29 38.3**	**+0.3**
MORC				Sg	**Sg**	**21 29 51.3**	**+0.8**
LIKS	**Likavka**	**1.19**	**172**	*ePg*	**Pg**	**21 29 42.7**	**+0.3**
LIKS				*eSG*	**Sn**	**21 30 00.9**	**+0.5**
LIKS	**Likavka**	**1.19**	**172**	*ePn*	**Pg**	**21 29 42.7**	**+0.3**
LIKS				*eSn*	**Sn**	**21 30 00.9**	**+0.5**
NIE	**Niedzica**	**1.24**	**130**	*ePg*	**Pg**	**21 29 42.8**	**-0.5**
NIE				*eSg*	**Sg**	**21 30 00.1**	**+0.7**
NIE	**Niedzica**	**1.24**	**130**	*ePg*	**Pg**	**21 29 42.8**	**-0.5**
NIE				*eSg*	**Sg**	**21 30 00.1**	**+0.7**
KRLC	**Kraliky**	**1.35**	**264**	*ePG*	**Pg**	**21 29 44.2**	**-1.1**
KRLC				*eSG*	**Sg**	**21 30 02.3**	**-0.5**
KRLC	**Kraliky**	**1.35**	**264**	Pg	**Pg**	**21 29 44.2**	**-1.1**
KRLC				Sg	**Sg**	**21 30 02.3**	**-0.5**
DPC	**Dobruska-Polom**	**1.63**	**275**	*ePg*	**Pg**	**21 29 49.1**	**-0.5**
DPC				*eSg*	**Sn**	**21 30 11.6**	**+0.2**
DPC	**Dobruska-Polom**	**1.63**	**275**	*ePG*	**Sn**	**21 29 49.1**	**-0.5**
DPC				*eSG*	**Sn**	**21 30 10.8**	**-0.5**
	comp=Z,129nm,0.4s						
DPC	**Dobruska-Polom**	**1.63**	**275**	Pg	**Pn**	**21 29 49.1**	**-0.5**
DPC				Sg	**Sn**	**21 30 11.6**	**+0.2**
VRAC	**Vranov**	**1.74**	**239**	Pn	**Pn**	**21 29 50.9**	**0.0**
	3.3nm,0.3s,baz=62,slow=14,SNR=20						
VRAC				Sn	**Sn**	**21 30 14.0**	**+0.2**
	25nm,0.3s,baz=146,slow=20,SNR=28						
VRAC	**Vranov**	**1.74**	**239**	⇓*iP*	**Pn**	**21 29 51.1**	**+0.1**
VRAC	**Vranov**	**1.74**	**239**	*ePn*	**Pn**	**21 29 50.6**	**-0.4**
	baz=57						
VRAC	**Vranov**	**1.74**	**239**	⇓*iP*	**Pn**	**21 29 51.1**	**+0.1**
VRAC				*eSg*	**Sn**	**21 30 13.9**	**+0.1**
	98nm,0.5s,baz=57						
VRAC				S	**Sb**	**21 30 14.3**	**-0.3**
VYHS	**Vyhne**	**1.74**	**181**	*ePN*	**Pn**	**21 29 50.3**	**-0.7**
VYHS				*e*		21 29 54.0	
VYHS	**Vyhne**	**1.74**	**181**	*ePn*	**Pn**	**21 29 50.3**	**-0.7**
VYHS				*eSn*	**Sn**	**21 30 12.9**	**-1.0**
KSP	**Ksiaz**	**1.75**	**292**	*ePn*	**Pb**	**21 29 52.8**	**+0.2**
KSP				*eSn*	**Sg**	**21 30 16.0**	**+0.2**
KSP	**Ksiaz**	**1.75**	**292**	*ePg*	**Pb**	**21 29 52.7**	**+0.2**
KSP				*eSg*	**Sg**	**21 30 15.7**	**0.0**
KSP	**Ksiaz**	**1.75**	**292**	*ePg*	**Pb**	**21 29 52.7**	**+0.2**
KSP				Sg	**Sg**	**21 30 15.7**	**0.0**
KSP	**Ksiaz**	**1.75**	**292**	*ePn*	**Pb**	**21 29 52.7**	**+0.2**
KSP				*eSn*	**Sg**	**21 30 15.9**	**+0.2**
UPC	**Upice**	**1.84**	**280**	*eSG*	**Sn**	**21 30 17.2**	**+0.7**
	comp=Z,26nm,0.4s						
UPC	**Upice**	**1.84**	**280**	Sg	**Sn**	**21 30 17.2**	**+0.7**
	26nm,0.4s						
SMOL	**Smolenice**	**1.96**	**209**	*e*	Pg	21 30 00.6	+3.6
KRUC	**Moravsky**	**1.98**	**235**	*ePn*	**Pn**	**21 29 53.3**	**-1.1**
	baz=53						
KRUC				*eSn*	**Sn**	**21 30 20.6**	**+0.7**
	37nm,0.3s,baz=53						
BEL	**Belsk**	**2.02**	**36**	*ePn*	**Pg**	**21 30 00.6**	**+2.4**
BEL	**Belsk**	**2.02**	**36**	*ePn*	**Pg**	**21 30 00.6**	**+2.4**
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*ePN*	**Pn**	**21 29 56.1**	**-0.6**
CRVS				*e*		21 29 59.7	
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*ePn*	**Pn**	**21 29 56.1**	**-0.6**
CRVS				*eSg*	**Sg**	**21 30 28.0**	**-0.7**
TREC	**Trest**	**2.38**	**248**	*eSG*	**Sb**	**21 30 33.9**	**+0.7**
	comp=Z,56nm,0.3s						
TREC	**Trest**	**2.38**	**248**	Sg	**Sb**	**21 30 33.9**	**+0.7**
	56nm,0.3s						
PSZ	**Piszkesteto**	**2.41**	**163**	⇑*iP*	**Pn**	**21 30 00.0**	**-0.3**
PSZ	**Piszkesteto**	**2.41**	**163**	⇑*iP*	**Pn**	**21 30 00.0**	**-0.3**
PSZ	**Piszkesteto**	**2.41**	**163**	*ie*	**Pg**	**21 30 06.2**	**+0.5**
KWP	**Kalwaria Pacla**	**2.56**	**102**	*ePn*	**Pb**	**21 30 06.0**	**-0.3**
KWP				*eP**	**Pg**	**21 30 10.7**	**+2.1**
KWP	**Kalwaria Pacla**	**2.56**	**102**	*ePn*	**Pb**	**21 30 06.0**	**-0.3**
KWP	**Kalwaria Pacla**	**2.56**	**102**	*ePn*	**Pb**	**21 30 06.0**	**-0.3**
KOLS	**Kolonicke sedl**	**2.57**	**119**	*ePN*	**Pn**	**21 30 01.5**	**-1.0**
KOLS				*e*		21 30 07.9	
KOLS	**Kolonicke sedl**	**2.57**	**119**	*ePn*	**Pn**	**21 30 01.5**	**-1.0**
KOLS				*eSn*	**Sn**	**21 30 33.8**	**-0.6**
PVCC	**Panska Ves**	**2.76**	**278**	*eSG*	**Sb**	**21 30 46.4**	**+2.2**
	comp=Z,66nm,0.3s						
PVCC	**Panska Ves**	**2.76**	**278**	Sg	**Sb**	**21 30 46.4**	**+2.2**
	66nm,0.3s						
PRU	**Pruhonice**	**2.79**	**267**	*eSG*	**Sb**	**21 30 46.1**	**+1.1**
	comp=Z,26nm,0.2s						
PRU	**Pruhonice**	**2.79**	**267**	Sg	**Sb**	**21 30 46.1**	**+1.1**
	26nm,0.2s						
SOP	**Sopron**	**2.97**	**212**	⇓*ie*	**Pg**	**21 30 17.7**	**+1.3**
CSNA	**Conrad Observa**	**3.03**	**222**	⇑*iPn*	**Pn**	**21 30 08.1**	**-0.8**
CSNA				⇑*iSn*	**Sn**	**21 30 44.3**	**-1.6**
CSNA	**Conrad Observa**	**3.03**	**222**	Pn	**Pn**	**21 30 08.1**	**-0.8**
CSNA				Sn	**Sn**	**21 30 44.3**	**-1.6**
TRPA	**Tarpa**	**3.20**	**130**	⇓*ie*	**Pg**	**21 30 19.2**	**-1.6**
BRG	**Berggiesshubel**	**3.20**	**283**	PG	**Pg**	**21 30 20.0**	**-0.9**
BRG				SG	**Sg**	**21 31 00.6**	**-1.8**
	22nm,0.4s						
BRG	**Berggiesshubel**	**3.20**	**283**	*ePg*	**Pg**	**21 30 20.2**	**-0.7**
BRG				*eSg*	**Sg**	**21 31 00.1**	**-2.3**
BRG	**Berggiesshubel**	**3.20**	**283**	Pg	**Pg**	**21 30 20.2**	**-0.7**
BRG				Sg	**Sg**	**21 31 00.1**	**-2.3**
KHC	**Kasperske Hory**	**3.60**	**254**	*eSG*	**Sg**	**21 31 12.7**	**-2.5**
	comp=Z,55nm,0.5s						
KHC	**Kasperske Hory**	**3.60**	**254**	Sg	**Sg**	**21 31 12.7**	**-2.5**
	55nm,0.5s						
GERES	**GERESS Array B**	**3.63**	**250**	Pn	**Pn**	**21 30 17.7**	**+0.5**
	0.2nm,0.3s,baz=71,slow=13,SNR=6.8						
GERES				Pg	**Pb**	**21 30 26.2**	**+1.5**
	0.9nm,0.3s,baz=67,slow=16,SNR=14						
GERES				Sn	**Sb**	**21 31 10.3**	**+0.9**
	4.6nm,0.3s,baz=68,slow=29,SNR=13						
MOA	**Molln**	**3.85**	**234**	⇓*iPn*	**Pn**	**21 30 19.4**	**-0.6**
MOA				⇓*iSg*	**Sb**	**21 31 20.0**	**+4.6**
	31nm,0.4s						
MOA	**Molln**	**3.85**	**234**	Pn	**Pn**	**21 30 19.4**	**-0.6**
MOA				Sg	**Sb**	**21 31 20.0**	**+4.6**
	31nm,0.4s						
CLL	**Collm**	**3.87**	**288**	*eSg*	**Sg**	**21 31 22.8**	**-1.1**
CLL	**Collm**	**3.87**	**288**	*iPg*	**Pg**	**21 30 33.9**	**+0.2**
CLL				*eSg*	**Sg**	**21 31 24.0**	**+0.1**
	comp=Z,26nm,0.8s						
CLL	**Collm**	**3.87**	**288**	Sg	**Sg**	**21 31 22.8**	**-1.1**
NKC	**Novy Kostel**	**4.12**	**273**	*eSG*	**Sg**	**21 31 30.1**	**-1.7**
	comp=Z,28nm,0.4s						
NKC	**Novy Kostel**	**4.12**	**273**	Sg	**Sg**	**21 31 30.1**	**-1.7**
	comp=Z,28nm,0.4s						
DRGR		**4.29**	**142**	⇓*iP*	**Pn**	**21 30 25.7**	**-0.4**
DRGR		**4.29**	**142**	⇓*iP*	**Pn**	**21 30 25.7**	**-0.4**
DRGR				S	**Sn**	**21 31 13.5**	**-3.3**
BURAR	**Bucovina Array**	**4.94**	**120**	⇑*iP*	**Pn**	**21 30 35.1**	**0.0**
BURAR	**Bucovina Array**	**4.94**	**120**	⇑*iP*	**Pn**	**21 30 35.1**	**0.0**
BZS	**Buzias**	**4.97**	**157**	⇓*iP*	**Pn**	**21 30 35.1**	**-0.3**
BZS	**Buzias**	**4.97**	**157**	⇓*iP*	**Pn**	**21 30 35.1**	**-0.3**
DAVOX	**Davos/Dischmat**	**6.89**	**243**	Pn	**Pn**	**21 31 02.7**	**+0.7**
DAVOX				Sn	**Sn**	**21 32 19.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=139,slow=22,SNR=3.6						
DAVOX				Lg	Lg	21 33 03.3	
	comp=Z,1.2nm,0.3s,baz=173,slow=22,SNR=6.5						
FINES	**FINESS Array B**	**11.94**	**17**	Pn	Pn	21 32 06.6	-4.2
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=6.1						
ARCES	**ARCESS Array B**	**19.63**	**7**	P	**P**	**21 33 48.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=194,slow=10,SNR=3.0						

*ISCJB **13** 21:38:25.5±0.4, 6˚.76N±0˚.05×72˚.90W±0˚.05, h164km±4km, mb3.7/11, Error ellipse: s-maj=9.4km s-min=6.3km az=135.7*
*IDC **13** 21:38:25.5±1.5, 6˚.73N×72˚.94W, h152km±14km, mb3.6/12, mb1 3.8/16, mb1mx3.7/27, mbtmp3.7/16, Error ellipse: s-maj=20.1km s-min=13.3km az=77.0*
*FUNV **13** 21:38:27.3, 6˚.87N×73˚.06W, h168km, MW4.0*
ISC 13 21:38:26.1±0.7, 6˚.82N±0˚.06×72˚.96W±0˚.06, h157km±6km, n47, σ1§28/56, mb3.7/11, 8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**32**	⇓*iP*	**Pn**	**21 38 54.9**	**+1.1**
CAPV				*eS*	**Sn**	**21 39 16.2**	**+1.2**
ROSC	**El Rosal**	**2.38**	**215**	P	**Pn**	**21 39 06.7**	**+0.2**
	117nm,0.3s,baz=288,slow=8.7,SNR=61						
ROSC				S	**Sn**	**21 39 35.4**	**-2.2**
	244nm,0.3s,baz=81,slow=18,SNR=29						
SOCV	**Socops**	**2.54**	**55**	⇓*iP*	**Pn**	**21 39 09.7**	**+1.5**
SOCV				*eS*	**Sn**	**21 39 40.9**	**+0.3**
VIGV	**El Vigia**	**2.56**	**38**	⇓*iP*	**Pn**	**21 39 09.4**	**+1.1**
VIGV				*eS*	**Sn**	**21 39 40.0**	**-1.0**
ELOV	**Elorza**	**3.46**	**87**	*eP*	**Pn**	**21 39 21.2**	**+1.7**
VIRV	**Villa del Rosa**	**3.70**	**8**	⇓*iP*	**Pn**	**21 39 21.7**	**-1.0**
VIRV				*eS*	**Sn**	**21 40 03.1**	**-3.7**
QARV	**Quebrada Arrib**	**4.14**	**35**	*eS*	**Sn**	**21 40 14.0**	**-3.0**
CURV	**Curarigua**	**4.35**	**43**	⇓*eP*	**Pn**	**21 39 31.8**	**+0.6**
DABV	**Dabajuro**	**4.68**	**29**	*eP*	**Pn**	**21 39 36.1**	**+0.6**
TEPV	**Terepaima**	**4.87**	**50**	⇓*iP*	**Pn**	**21 39 38.6**	**+0.6**
SIQV	**Siquisique**	**4.92**	**39**	⇓*eP*	**Pn**	**21 39 38.9**	**+0.3**
BAUV	**El Baul**	**5.31**	**66**	*eP*	**Pn**	**21 39 43.5**	**-0.3**
MAPV	**Macapo**	**5.37**	**56**	⇓*iP*	**Pn**	**21 39 45.0**	**+0.4**
IMOV	**Isla Los Monje**	**5.87**	**20**	*eP*	**Pn**	**21 39 50.9**	**-0.3**
JACV	**Jacura**	**5.89**	**44**	*eP*	**Pn**	**21 39 51.0**	**-0.5**
MONV	**Montecano**	**5.90**	**30**	*eP*	**Pn**	**21 39 51.1**	**-0.4**
TURV	**Turiamo**	**6.22**	**54**	*eP*	**Pn**	**21 39 55.5**	**-0.3**
MERV	**Las Mercedes**	**7.03**	**69**	*eP*	**Pn**	**21 40 06.0**	**-0.6**
BIRV	**Birongo**	**7.55**	**61**	*eP*	**Pn**	**21 40 12.8**	**-0.7**
CUPV	**Cœpira**	**7.79**	**65**	*eP*	**Pn**	**21 40 16.3**	**-0.5**
PCRV	**Puerto La Cruz**	**8.88**	**67**	*eP*	**Pn**	**21 40 31.6**	**+0.3**
HOJ	**Hope**	**11.72**	**342**	*iP*	**P**	**21 41 12.7**	**-2.8**
GWJ	**Greenwich**	**11.78**	**342**	*iP*	**Pn**	**21 41 11.7**	**+2.2**
STH	**Stony Hill**	**11.81**	**342**	*iP*	**Pn**	**21 41 12.5**	**+2.8**
BBJ	**Bamboo Saint A**	**12.24**	**340**	*iP*	**Pn**	**21 41 18.1**	**+2.7**
JTS	**Juntasabangare**	**13.35**	**287**	P	**Pn**	**21 41 18.4**	**+1.6**
	0.6nm,0.3s,baz=94,slow=14,SNR=2.6						
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**21 41 24.8**	**-0.8**
	2.7nm,0.3s,baz=270,slow=21,SNR=3.3						
ATAH	**Atahualpa**	**14.88**	**201**	P	**Pn**	**21 41 48

comp=E,1.3nm,0.3s,baz=141,slow=7.2,SNR=47
AAK Pg Pg 23 07 16.7 -5.1
comp=E,1.8nm,0.3s,baz=133,slow=6.0,SNR=13
AAK Lg Lg 23 08 32.7
comp=E,2.1nm,0.3s,baz=326,slow=20,SNR=3.2
DDI Dehra Dun 7.13 179 *ex* **Pn 23 07 14.0 -0.6**
WMQ Urumqi 9.76 46 *eP* Pn 23 07 43.8 -6.9
WMQ LR LR
comp=Z,42nm,15.0s
MK31 Makanchi Array 9.87 18 Pn **Pn 23 07 52.0 0.0**
comp=Z,2.0nm,0.5s,baz=201,slow=12,SNR=86
MK31 Sn **Sn 23 09 39.9 -2.4**
comp=Z,1.4nm,0.4s,baz=187,slow=22,SNR=8.9
MKAR Makanchi Array 9.87 18 Pn **Pn 23 07 52.2 +0.2**
comp=Z,1.1nm,0.3s,baz=199,slow=12,SNR=84
MKAR Sn **Sn 23 09 40.5 -1.8**
comp=Z,1.1nm,0.3s,baz=200,slow=25,SNR=7.2
KURBB Kurchatov Arra 13.16 2 Pn **Pn 23 08 37.1 +0.1**
comp=Z,0.0nm,0.3s,baz=189,slow=12,SNR=8.2
KURBB Sn **Sn 23 11 00.4 -2.4**
comp=Z,0.0nm,0.3s,baz=205,slow=27,SNR=2.9
KURBB Lg Lg 23 12 32.5
comp=Z,0.0nm,0.3s,baz=236,slow=39,SNR=3.0
KURBB Kurchatov Arra 13.16 2 ⇓Pn **Pn 23 08 38.2 +1.2**
comp=Z,0.6nm,1.4s
KURK Kurchatov 13.25 2 ⇑Pn **Pn 23 08 38.8 +0.5**
comp=Z,1.7nm,0.5s
VOSK Vostochnaya 16.01 345 ⇑Pn **P 23 09 19.6 +0.9**
comp=Z,6.5nm,1.3s
BVA0 Borovoye Array 16.42 344 Pn **P 23 09 25.5 +2.3**
comp=Z,0.9nm,1.4s,baz=148,slow=9.4,SNR=10
BVAR Borovoye Array 16.42 344 Pn **P 23 09 24.9 +1.7**
comp=Z,0.3nm,0.3s,baz=146,slow=10,SNR=13
BVAR Lg Lg 23 14 14.9
comp=Z,0.0nm,0.3s,baz=172,slow=24,SNR=3.2
BRVK Borovoye 16.47 344 ⇑Pn **P 23 09 26.1 +2.3**
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 17.16 14 P **Pn 23 09 28.1 -1.7**
comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=8.3
ZALV LR LR 23 16 05.2
comp=Z,14nm,18.1s,baz=128,slow=37
GTA Gaotai 17.26 77 *eP* **P 23 09 33.0 +0.3**
GTA pP **pP 23 09 37.4 -0.1**
GTA sP **sP 23 09 39.9 +0.2**
GTA pmax pmax
comp=Z,2.0nm,1.0s
AB31 Akbulak array 17.55 318 Pn P 23 09 46.5 +11
comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=5.1
AKTO Aktyubinsk 19.25 319 P **Pn 23 09 55.2 -0.2**
comp=Z,0.1nm,0.3s,baz=195,slow=20,SNR=2.1
WSAR Wadi Sarin 21.81 235 P **P 23 10 23.0 +0.6**
comp=Z,1.5nm,0.5s,baz=103,slow=10,SNR=7.0
SONM Songino Array 23.24 54 P **P 23 10 37.0 -0.4**
comp=Z,1.1nm,0.7s,baz=250,slow=10,SNR=13
BRTR Keskin Array B 34.42 288 P **P 23 12 16.4 -1.2**
comp=Z,1.0nm,1.0s,baz=64,slow=9.8,SNR=3.3
FINES FINESS Array B 39.88 324 P **P 23 13 03.9 +0.4**
comp=Z,0.5nm,0.4s,baz=123,slow=11,SNR=8.5
ARCES ARCESS Array B 42.46 336 P **P 23 13 25.6 +1.0**
comp=Z,1.7nm,0.9s,baz=113,slow=6.9,SNR=2.5
TORD Torodi Ar. Bea 71.25 272 P **P 23 16 46.7 -3.0**
comp=Z,0.4nm,0.5s,baz=55,slow=5.3,SNR=8.8
YKA Yellowknife Ar 79.87 6 P **P 23 17 41.4 +3.2**
comp=Z,0.1nm,0.4s,baz=344,slow=5.9,SNR=3.8

IDC 13 23:20:43.2±1.5, 3°46'N×125°87'E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=148.0km s-min=26.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.70**	**161**	P	P	23 26 06.3	+0.1
	1.2nm,0.9s,baz=340,slow=10,SNR=6.3						
SONM	**Songino Array**	**47.29**	**342**	P	P	23 29 18.4	-0.2
	0.1nm,0.6s,baz=171,slow=9.9,SNR=2.1						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	23 30 32.4	-0.4
	0.2nm,0.4s,baz=122,slow=7.8,SNR=9.0						
KURBB	**Kurchatov Arra**	**61.51**	**328**	P	P	23 31 02.2	+0.3
	0.2nm,0.5s,baz=132,slow=6.5,SNR=4.6						

IDC 13 23:23:16.0±2.4, 4°09N×126°86E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.2/3, Error ellipse: s-maj=207.9km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.99**	**163**	P	P	23 28 40.0	-1.7
	0.6nm,0.7s,baz=341,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**28.43**	**166**	P	P	23 29 14.2	+1.5
	0.2nm,0.4s,baz=345,slow=9.9,SNR=3.0						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	23 33 06.0	0.0
	0.1nm,0.5s,baz=126,slow=6.2,SNR=3.0						

GUC 13 23:29:04.3±0.7, 31°54S×71°59W, h34km±2km, MD3.9, ML3.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.35**	**168**	⇓*iP*	Pb	23 29 12.7	-0.2
CHNG				*eS*	Sb	23 29 18.8	+0.2
CMCH	**Combarbala**	**0.62**	**54**	*eP*	Pn	23 29 16.5	-0.2
CMCH				*i* S	Sb	23 29 26.0	+0.3
CMCH				AML	AML	23 29 32.8	
	comp=N,4μm,0.8s						
PTCH	**Petorca**	**0.91**	**142**	⇓*eP*	Pb	23 29 21.6	-0.2
PTCH				*eS*	Sb	23 29 34.1	+0.4
PTCH				AML	AML	23 29 37.1	
	comp=E,2μm,0.3s						
PACH	**Papudo**	**1.00**	**173**	*eP*	Pn	23 29 22.4	+0.3
IHA	**Instituto Hidr**	**1.48**	**182**	*eP*	Pn	23 29 29.7	+1.1
ROCH	**El Roble**	**1.51**	**161**	*eP*	Pn	23 29 30.5	+1.3
ROCH				*eS*	Sb	23 29 51.0	-0.1
PEL	**Peldehue**	**1.77**	**155**	*eP*	Pn	23 29 34.1	+1.5
PEL				*eS*	Sb	23 29 56.4	-1.8
PEL				AML	AML	23 30 01.5	
	comp=E,701nm,0.3s						
CLCH	**Cerro Calan**	**2.05**	**155**	*eP*	Pn	23 29 38.2	+1.8
CLCH				*eS*	Sb	23 30 05.1	-1.2
CLCH				AML	AML	23 30 17.1	
	comp=N,455nm,0.6s						
RCDM	**Rinconada Maip**	**2.05**	**161**	*eP*	Pn	23 29 38.6	+2.2
RCDM				*eS*	Sb	23 30 04.5	-1.7
FCH	**Farellones**	**2.09**	**149**	*eP*	Pb	23 29 41.0	-1.1
FCH				*eS*	Sb	23 30 07.4	-0.5
FCH				AML	AML	23 30 12.3	
	comp=E,267nm,0.1s						
LNV	**Longovilo**	**2.41**	**177**	*eP*	Pb	23 29 45.3	-1.8
CHCH	**Chadas Angostu**	**2.51**	**162**	*eP*	Pn	23 29 44.9	+2.1

LDG ***13*** *23:33:13.9±0.1, 41°.92N×19°.70E, h30km, Ml3.7/10, Error ellipse: s-maj=2.9km s-min=2.4km az=142.0*
ATH ***13*** *23:33:13.8, 41°.95N×19°.67E, h46km, MD3.7/8*
ISCJB ***13*** *23:33:14.1±0.1, 41°.94N±0°.01×19°.65E±0°.02, h80km±2km, mb3.7/13, Error ellipse: s-maj=2.0km s-min=1.8km az=35.3*
PDG ***13*** *23:33:14.9±0.4, 41°.90N×19°.72E, h68km±1km, MD3.4/7, ML3.3/9, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
ROM ***13*** *23:33:14.7±0.2, 41°.92N×19°.67E, h77km±3km, Ml3.4/11, Error ellipse: s-maj=2.5km s-min=2.4km az=79.0*
CSEM ***13*** *23:33:15.2±0.1, 41°.93N×19°.66E, h71km±1km, ML3.8, ML4.2/7, Error ellipse: s-maj=2.1km s-min=1.7km az=30.0*
THE ***13*** *23:33:15.2, 41°.95N×19°.72E, h67km±2km, ML3.4/6, Error ellipse: s-maj=2.7km s-min=0.9km az=107.0*
TIR ***13*** *23:33:15.4, 41°.92N×19°.72E, h64km, ML3.8*
PRU ***13*** *23:33:16.3, 42°.28N×19°.72E, h0km*
BEO ***13*** *23:33:16.4±0.3, 42°.05N×19°.87E, h24km±2km, ML3.5/1*
IDC ***13*** *23:33:17.0±1.9, 42°.11N×19°.70E, h68km±17km, mb3.5/10, mb1 3.5/19, mb1mx3.4/35, mbtmp3.4/19, Error ellipse: s-maj=12.5km az=1.0*
SKO ***13*** *23:33:18.3, 41°.84N×19°.96E, h33km, M2.8, ML3.2*
SOF ***13*** *23:33:19.9, 42°.09N×20°.61E, h2km, MD3.3*
ISC 13 23:33:15.6±0.6, 41°.93N±0°.02×19°.70E±0°.02, h71km±4km, **n287, σ1°17/418, mb3.6/13, 32C-18D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.19**	**51**	*ePG*	**Pn**	**23 33 24.6**	**-1.8**
PUK				*eSG*	**Sn**	**23 33 31.1**	**-3.2**
ULC	**Ulcinj**	**0.34**	**277**	⇑*iPg*	**Pn**	**23 33 26.6**	**-0.6**
ULC				*eSg*	**Sn**	**23 33 35.5**	**-0.3**
ULC	**Ulcinj**	**0.34**	**277**	⇑*iPg*	**Pn**	**23 33 26.6**	**-0.6**
ULC				*eSg*	**Sn**	**23 33 35.5**	**-0.3**
BCI	**Bajram Curri**	**0.52**	**32**	*ePG*	**Pn**	**23 33 27.9**	**-0.9**
BCI				*eSG*	**Sn**	**23 33 37.7**	**-0.7**
BCI	**Bajram Curri**	**0.52**	**32**	*ePg*	**Pn**	**23 33 27.9**	**-0.9**
BCI				*eSg*	**Sn**	**23 33 37.7**	**-0.7**
TIR	**Tirane**	**0.59**	**168**	*ePG*	**Pn**	**23 33 29.1**	**-0.3**
TIR				*eSG*	**Sn**	**23 33 40.4**	**+0.9**
TIR	**Tirane**	**0.59**	**168**	Pn	**Pn**	**23 33 29.2**	**-0.2**
TIR				Sn	**Sn**	**23 33 40.5**	**+0.9**
	3μm,0.4s						
TIR	**Tirane**	**0.59**	**168**	P	**Pn**	**23 33 29.0**	**-0.3**
TIR				S	**Sn**	**23 33 39.7**	**+0.1**
TIR	**Tirane**	**0.59**	**168**	*ePg*	**Pn**	**23 33 29.1**	**-0.3**
TIR				*eSg*	**Sn**	**23 33 40.4**	**+0.9**
TIR	**Tirane**	**0.59**	**168**	Pn	**Pn**	**23 33 29.2**	**-0.2**
TIR				S	**Sn**	**23 33 39.7**	**+0.1**
TIR				*eSg*	**Sn**	**23 33 40.4**	**+0.9**
TTG	**Podgorica**	**0.60**	**327**	⇑*iPg*	**Pn**	**23 33 29.2**	**-0.3**
TTG				*eSg*	**Sn**	**23 33 40.4**	**+0.7**
PDG	**Podgorica**	**0.60**	**327**	Pn	**Pn**	**23 33 29.3**	**-0.3**
PDG				Sn	**Sn**	**23 33 39.8**	**0.0**
PDG	**Podgorica**	**0.60**	**327**	*ePg*	**Pn**	**23 33 29.1**	**-0.4**
PDG				*eSg*	**Sn**	**23 33 38.9**	**-0.9**
PDG	**Podgorica**	**0.60**	**327**	⇑*iPg*	**Pn**	**23 33 29.2**	**-0.3**
PDG				*eSg*	**Sn**	**23 33 38.9**	**-0.9**
PDG				Sn	Sn	23 33 39.8	0.0
PHP	**Peshkopia**	**0.60**	**113**	*ePG*	**Pn**	**23 33 29.2**	**-0.4**
PHP				*eSG*	**Sn**	**23 33 39.2**	**-0.8**
PHP	**Peshkopia**	**0.60**	**113**	P	**Pn**	**23 33 28.7**	**-0.9**
PHP				S	**Sn**	**23 33 38.8**	**-1.2**
PHP	**Peshkopia**	**0.60**	**113**	P	**Pn**	**23 33 28.7**	**-0.9**
PHP	**Peshkopia**	**0.60**	**113**	*ePg*	**Pn**	**23 33 29.2**	**-0.4**
PHP				S	**Sn**	**23 33 38.8**	**-1.2**
PHP				*eSg*	**Sn**	**23 33 39.2**	**-0.8**
PVY	**Plav**	**0.70**	**16**	⇑*iPg*	**Pn**	**23 33 30.2**	**-0.5**
PVY				*eSg*	**Sn**	**23 33 42.1**	**+0.3**
PVY	**Plav**	**0.70**	**16**	⇑*iPg*	**Pn**	**23 33 30.2**	**-0.5**
PVY				*eSg*	**Sn**	**23 33 42.1**	**+0.3**
BUM	**Brajici-Budva**	**0.71**	**302**	⇑*iPg*	**Pn**	**23 33 30.4**	**-0.3**
BUM				*eSg*	**Sn**	**23 33 42.2**	**+0.3**
BUM	**Brajici-Budva**	**0.71**	**302**	⇑*iPg*	**Pn**	**23 33 30.4**	**-0.3**
BUM				*eSg*	**Sn**	**23 33 42.2**	**+0.3**
BEY	**Berane**	**0.96**	**9**	*eSg*	**Sn**	**23 33 47.9**	**+0.7**
IVA	**Berane**	**0.96**	**9**	⇑*iPg*	**Pn**	**23 33 34.3**	**+0.6**
IVA				*eSg*	**Sn**	**23 33 47.9**	**+0.7**
NKY	**Niksic**	**1.03**	**330**	⇓*iPg*	**Pn**	**23 33 35.2**	**+0.6**
NKY				*eSg*	**Sn**	**23 33 49.6**	**+0.8**
HCY	**Herceg Novi**	**1.04**	**301**	⇓*iPg*	**Pn**	**23 33 35.0**	**+0.4**
HCY				*eSg*	**Sn**	**23 33 49.4**	**+0.6**
HCY	**Herceg Novi**	**1.04**	**301**	⇓*iPg*	**Pn**	**23 33 35.0**	**+0.4**
HCY				*eSg*	**Sn**	**23 33 49.4**	**+0.6**
SKO	**Skopje**	**1.30**	**87**	P	**Pn**	**23 33 37.9**	**0.0**
SKO				S	**Sn**	**23 33 55.7**	**+1.0**
SKO	**Skopje**	**1.30**	**87**	*i* Pg	**Pn**	**23 33 38.2**	**+0.3**
SKO				*i* Sg	**Sn**	**23 33 54.9**	**+0.1**
SKO				eLg	Lg	23 33 55.0	
	comp=E,516nm,0.8s						
SKO				eLg	Lg	23 33 57.3	
	comp=N,579nm,0.5s						
SKO	**Skopje**	**1.30**	**87**	*ePg*	**Pn**	**23 33 38.2**	**+0.3**
SKO				*eSg*	**Sn**	**23 33 54.4**	**-0.3**
SKO	**Skopje**	**1.30**	**87**	P	**Pn**	**23 33 37.9**	**0.0**
SKO	**Skopje**	**1.30**	**87**	*ePg*	**Pn**	**23 33 38.2**	**+0.3**
SKO				*i* Sg	**Sn**	**23 33 55.3**	**+0.6**
SKO				S	**Sn**	**23 33 55.7**	**+1.0**
SKO				eLg	Lg	23 33 57.7	
	comp=N,579nm,0.5s						
BRY	**Bratogost**	**1.30**	**319**	⇓*iPg*	**Pn**	**23 33 38.6**	**+0.5**
BRY				*i* Sg	**Sn**	**23 33 56.2**	**+1.2**
BRY	**Bratogost**	**1.30**	**319**	⇓*iPg*	**Pn**	**23 33 38.6**	**+0.5**
BRY				*i* Sg	**Sn**	**23 33 56.2**	**+1.2**
SJES	**Sjenica**	**1.35**	**9**	*ePg*	**Pn**	**23 33 39.0**	**+0.3**
SJES				*eSg*	**Sn**	**23 33 55.6**	**-0.5**
SJES	**Sjenica**	**1.35**	**9**	*ePg*	**Pn**	**23 33 39.0**	**+0.3**
SJES				*eSg*	**Sn**	**23 33 55.6**	**-0.5**
UPM	**Unac-Piva**	**1.41**	**336**	⇑*iPg*	**Pn**	**23 33 39.3**	**-0.2**
UPM				*eSg*	**Sn**	**23 33 58.2**	**+0.7**
UPM	**Unac-Piva**	**1.41**	**336**	⇑*iPg*	**Pn**	**23 33 39.3**	**-0.2**
UPM				*eSg*	**Sn**	**23 33 58.2**	**+0.7**
PLE	**Pljevlja**	**1.42**	**351**	⇓*iPg*	**Pn**	**23 33 39.7**	**0.0**
PLE				*eSg*	**Sn**	**23 33 58.8**	**+1.0**
PLE	**Pljevlja**	**1.42**	**351**	⇓*iPg*	**Pn**	**23 33 39.7**	**0.0**
PLE				*eSg*	**Sn**	**23 33 58.8**	**+1.0**
VLO	**Vlora**	**1.46**	**186**	*ePG*	Pn	23 33 34.3	-5.8
VLO				*eSG*	**Sn**	**23 33 55.5**	**-3.0**
BIA	**Bitola**	**1.52**	**126**	P	**Pn**	**23 33 40.5**	**-0.4**
BIA				S	**Sn**	**23 33 59.6**	**-0.4**
BIA	**Bitola**	**1.52**	**126**	*i* Pg	**Pn**	**23 33 41.1**	**+0.2**
BIA				*i* Sg	**Sn**	**23 34 01.3**	**+1.3**
BIA				eLg	Lg	23 34 06.7	
	comp=N,65nm,0.2s						
BIA				eLg	Lg	23 34 07.0	
	comp=E,193nm,0.4s						
BIA	**Bitola**	**1.52**	**126**	P	**Pn**	**23 33 40.5**	**-0.4**
BIA	**Bitola**	**1.52**	**126**	*i* Pg	**Pn**	**23 33 41.1**	**+0.2**
BIA				S	**Sn**	**23 33 59.6**	**-0.4**
BIA				*i* Sg	**Sn**	**23 34 01.2**	**+1.3**
BIA				eLg	Lg	23 34 06.9	
	comp=E,193nm,0.4s						
SELS	**Selova**	**1.67**	**39**	*ePg*	**Pn**	**23 33 42.0**	**-0.8**
SELS				*eSg*	**Sn**	**23 34 02.8**	**-0.6**
IVAS	**Ivanjica**	**1.68**	**11**	*ePg*	**Pn**	**23 33 43.2**	**+0.1**
IVAS				*eSg*	**Sn**	**23 34 04.0**	**+0.1**
IVAS	**Ivanjica**	**1.68**	**11**	*ePg*	**Pn**	**23 33 43.2**	**+0.1**
IVAS				*eSg*	**Sn**	**23 34 04.0**	**+0.1**
FNA	**Florina**	**1.70**	**132**	P	**Pn**	**23 33 43.8**	**+0.5**
FNA				S	**Sn**	**23 34 04.7**	**+0.4**
FNA	**Florina**	**1.70**	**132**	P	**Pn**	**23 33 43.8**	**+0.5**
FNA				S	**Sn**	**23 34 04.7**	**+0.4**
STON	**Ston**	**1.76**	**303**	*i* Pn	**Pn**	**23 33 44.0**	**+0.1**
STON				Sn	**Sn**	**23 34 05.6**	**+0.1**
STON	**Ston**	**1.76**	**303**	*i* Pn	**Pn**	**23 33 44.0**	**+0.1**
STON				Sn	**Sn**	**23 34 05.5**	**+0.1**
BARS	**Barje**	**1.80**	**60**	*ePn*	**Pn**	**23 33 43.9**	**-0.7**
BARS				*eSn*	**Sn**	**23 34 04.4**	**-2.3**
BARS	**Barje**	**1.80**	**60**	*ePn*	**Pn**	**23 33 43.9**	**-0.7**
BARS				*eSn*	**Sn**	**23 34 04.4**	**-2.3**
BBLS	**Lazići**	**1.95**	**354**	*ePn*	**Pn**	**23 33 47.3**	**+0.6**
BBLS				*eSn*	**Sn**	**23 34 09.8**	**-0.5**
BBLS	**Lazići**	**1.95**	**354**	*ePn*	**Pn**	**23 33 47.3**	**+0.6**
BBLS				*eSn*	**Sn**	**23 34 09.8**	**-0.5**
SCTE	**Santa Cesarea**	**2.07**	**207**	Pn	**Pn**	**23 33 47.2**	**-1.0**
	comp=E,184nm,0.2s						
SCTE	**Santa Cesarea**	**2.07**	**207**	Pn	**Pn**	**23 33 47.2**	**-1.0**
	comp=E,184nm,0.2s						
GRUS	**Gruza**	**2.10**	**20**	*ePn*	**Pn**	**23 33 48.5**	**-0.1**
GRUS				*eSn*	**Sn**	**23 34 12.2**	**-1.6**
GRUS	**Gruza**	**2.10**	**20**	*ePn*	**Pn**	**23 33 48.5**	**-0.1**
GRUS				*eSn*	**Sn**	**23 34 12.2**	**-1.6**
DIVS	**Divibare**	**2.18**	**6**	P	**Pn**	**23 33 49.4**	**-0.4**
DIVS				S	**Sn**	**23 34 14.9**	**-1.0**
DIVS	**Divibare**	**2.18**	**6**	*ePn*	**Pn**	**23 33 49.6**	**-0.2**
DIVS				*eSn*	**Sn**	**23 34 14.6**	**-1.3**
DIVS	**Divibare**	**2.18**	**6**	*ePn*	**Pn**	**23 33 49.6**	**-0.2**
DIVS				*eSn*	**Sn**	**23 34 14.6**	**-1.3**
DIVS				S	**Sn**	**23 34 14.9**	**-1.0**
KEK	**Kerkira**	**2.21**	**178**	Pn	**Pn**	**23 33 49.7**	**-0.4**
KEK				Sn	**Sn**	**23 34 15.2**	**-1.3**
KEK	**Kerkira**	**2.21**	**178**	P	**Pn**	**23 33 49.5**	**-0.6**
KEK				S	**Sn**	**23 34 16.5**	**0.0**
KEK	**Kerkira**	**2.21**	**178**	*eP*	**Pn**	**23 33 49.6**	**-0.6**
KEK				*eS*	**Sn**	**23 34 16.2**	**-0.3**
KEK	**Kerkira**	**2.21**	**178**	Pn	**Pn**	**23 33 49.7**	**-0.4**
KEK				Sn	**Sn**	**23 34 15.2**	**-1.3**
KEK				S	**Sn**	**23 34 16.5**	**0.0**
VAY	**Valandovo**	**2.23**	**105**	P	**Pn**	**23 33 49.9**	**-0.5**
VAY	**Valandovo**	**2.23**	**105**	*i* P	**Pn**	**23 33 49.6**	**-0.8**
VAY				Sg	**Sn**	**23 34 14.1**	**-2.9**
VAY	**Valandovo**	**2.23**	**105**	*i* Pn	**Pn**	**23 33 49.9**	**-0.5**
VAY				*i* Sn	**Sn**	**23 34 14.8**	**-2.2**
VAY				eLg	Lg	23 34 24.4	
	comp=E,153nm,0.6s						
VAY				eLg	Lg	23 34 24.7	
	comp=N,159nm,0.9s						
VAY	**Valandovo**	**2.23**	**105**	P	**Pn**	**23 33 49.9**	**-0.5**
VAY	**Valandovo**	**2.23**	**105**	*i* Pn	**Pn**	**23 33 50.3**	**-0.1**
VAY				Sg	**Sn**	**23 34 14.1**	**-2.9**
VAY				*i* Sn	Sn	23 34 15.3	-1.7
VAY				eLg	Lg	23 34 25.1	
	comp=N,159nm,0.9s						
KZN	**Kozani**	**2.25**	**135**	P	**Pn**	**23 33 51.3**	**+0.6**
KZN				S	**Sn**	**23 34 18.6**	**+1.1**
KZN	**Kozani**	**2.25**	**135**	*eP*	**Pn**	**23 33 51.0**	**+0.3**
KZN	**Kozani**	**2.25**	**135**	*eP*	**Pn**	**23 33 51.0**	**+0.3**
KZN				S	**Sn**	**23 34 18.6**	**+1.1**
BAI	**Bari**	**2.27**	**250**	*eSn*	**Sn**	**23 34 16.6**	**-1.2**
NOCI	**Noci**	**2.29**	**241**	Pn	**Pn**	**23 33 50.8**	**-0.3**
NOCI				Sn	**Sn**	**23 34 15.8**	**-2.5**
	comp=N,576nm,0.3s						
NOCI	**Noci**	**2.29**	**241**	Pn	**Pn**	**23 33 50.8**	**-0.3**
NOCI				Sn	**Sn**	**23 34 15.8**	**-2.5**
	comp=N,576nm,0.3s						
TRUS	**Trudelj**	**2.35**	**12**	*ePn*	**Pn**	**23 33 51.1**	**-0.9**
TRUS				*eSn*	**Sn**	**23 34 18.6**	**-1.3**
TRUS	**Trudelj**	**2.35**	**12**	*ePn*	**Pn**	**23 33 51.1**	**-0.9**
TRUS				*eSn*	**Sn**	**23 34 18.6**	**-1.3**
JAN	**Janina**	**2.43**	**159**	P	**Pn**	**23 33 53.9**	**+0.8**
JAN				S	**Sn**	**23 34 22.6**	**+0.8**
JAN	**Janina**	**2.43**	**159**	*eP*	**Pn**	**23 33 53.3**	**+0.2**
JAN				*eS*	**Sn**	**23 34 21.7**	**-0.1**
JAN	**Janina**	**2.43**	**159**	*eP*	**Pn**	**23 33 53.3**	**+0.2**
JAN				*eS*	**Sn**	**23 34 21.7**	**-0.1**
IGT	**Igoumenitsa**	**2.44**	**168**	P	**Pn**	**23 33 53.0**	**-0.2**
IGT				S	**Sn**	**23 34 22.1**	**+0.1**
IGT	**Igoumenitsa**	**2.44**	**168**	P	**Pn**	**23 33 53.0**	**-0.2**
IGT				S	**Sn**	**23 34 22.1**	**+0.1**
SG1	**Sgolgore (BA)**	**2.52**	**246**	*ePn*	**Pn**	**23 33 54.2**	**-0.1**
SG1				*eSn*	**Sn**	**23 34 22.4**	**-1.5**
BOLS	**Boljevac**	**2.52**	**40**	*ePn*	**Pn**	**23 33 52.9**	**-1.4**
BOLS				*eSn*	**Sn**	**23 34 22.1**	**-1.9**
BOLS	**Boljevac**	**2.52**	**40**	*ePn*	**Pn**	**23 33 52.9**	**-1.4**
BOLS				*eSn*	**Sn**	**23 34 22.1**	**-1.9**
KKB	**Krupnik**	**2.53**	**90**	Sg	**Sn**	**23 34 22.7**	**-1.4**
KKB				*i* P	**Pn**	**23 33 54.9**	**+0.5**
KKB	**Krupnik**	**2.53**	**90**	*i* P	**Pn**	**23 33 54.9**	**+0.5**
KKB				Sg	**Sn**	**23 34 22.7**	**-1.4**
AMUR	**Altamura**	**2.54**	**247**	Pn	**Pn**	**23 33 54.4**	**-0.2**
AMUR				Sn	**Sn**	**23 34 22.3**	**-2.1**
	comp=N,100nm,0.2s						
ZAPS	**Zavoj**	**2.55**	**57**	*ePn*	**Pn**	**23 33 55.0**	**+0.3**
ZAPS				*eSn*	**Sn**	**23 34 23.3**	**-1.5**
ZAPS	**Zavoj**	**2.55**	**57**	*ePn*	**Pn**	**23 33 55.0**	**+0.3**
ZAPS				*eSn*	**Sn**	**23 34 23.3**	**-1.5**
SVIS	**Svilajnac**	**2.59**	**25**	*ePn*	**Pn**	**23 33 55.0**	**-0.2**
SVIS				*eSn*	**Sn**	**23 34 23.6**	**-2.0**
MATE	**Matera**	**2.59**	**242**	Pn	**Pn**	**23 33 54.9**	**-0.3**
MATE				Sn	**Sn**	**23 34 23.6**	**-2.0**
	comp=N,54nm,0.1s						
TEKS	**Tekeris**	**2.63**	**357**	*ePn*	**Pn**	**23 33 55.2**	**-0.5**
TEKS	**Tekeris**	**2.63**	**357**	*ePn*	**Pn**	**23 33 55.2**	**-0.5**
RGA	**Parga**	**2.65**	**169**	P	**Pn**	**23 33 55.7**	**-0.4**
RGA				S	**Sn**	**23 34 27.5**	**+0.4**
RGA	**Parga**	**2.65**	**169**	P	**Pn**	**23 33 55.7**	**-0.4**
RGA				S	**Sn**	**23 34 27.5**	**+0.4**
VTS	**Vitosha**	**2.69**	**74**	P	**Pn**	**23 33 56.6**	**-0.1**
VTS				S	**Sn**	**23 34 26.9**	**-1.4**
VTS	**Vitosha**	**2.69**	**74**	⇑*iP*	**Pn**	**23 33 56.9**	**+0.2**
VTS	**Vitosha**	**2.69**	**74**	*i* P	**Pn**	**23 33 56.7**	**0.0**
VTS				Sg	**Sn**	**23 34 26.2**	**-2.1**
VTS	**Vitosha**	**2.69**	**74**	*ePn*	**Pn**	**23 33 56.3**	**-0.4**
VTS				*eSn*	**Sn**	**23 34 26.9**	**-1.4**
VTS	**Vitosha**	**2.69**	**74**	*ePn*	**Pn**	**23 33 56.3**	**-0.4**
VTS	**Vitosha**	**2.69**	**74**	*i* P	**Pn**	**23 33 56.7**	**0.0**
VTS				Sg	**Sn**	**23 34 26.2**	**-2.1**
VTS				S	**Sn**	**23 34 26.9**	**-1.4**
CDT	**Castel del Mon**	**2.71**	**253**	⇓*iPn*	**Pn**	**23 33 56.7**	**-0.1**
CDT				*eSn*	**Sn**	**23 34 25.7**	**-2.8**
MRVN	**Minervino Murg**	**2.77**	**253**	Pn	**Pn**	**23 33 57.6**	**-0.1**
MRVN				Sn	**Sn**	**23 34 28.0**	**-2.1**
	comp=N,60nm,0.4s						
MRVN	**Minervino Murg**	**2.77**	**253**	Pn	**Pn**	**23 33 57.6**	**-0.1**
MRVN				Sn	**Sn**	**23 34 28.0**	**-2.1**
	comp=N,60nm,0.4s						
THE	**Thessaloniki**	**2.78**	**117**	P	**Pn**	**23 33 57.6**	**-0.2**
THE	**Thessaloniki**	**2.78**	**117**	P	**Pn**	**23 33 57.6**	**-0.2**
MIGL	**Miglionico**	**2.79**	**243**	Pn	**Pn**	**23 33 57.7**	**-0.2**
	comp=N,188nm,0.5s						
**L

LKR	**Lokris**	**4.13**	**141**	*e*P	**Pn**	**23 34 16.5**	**+0.2**
LKR	**Lokris**	**4.13**	**141**	P	**Pn**	**23 34 16.4**	**+0.2**
PKSM	**Moragy**	**4.35**	**350**	⇑*i*P	**Pn**	**23 34 18.7**	**-0.5**
PKSM	**Moragy**	**4.35**	**350**	*e*Pn	**Pn**	**23 34 18.9**	**-0.3**
PKSM	**Moragy**	**4.35**	**350**	*e*Pn	**Pn**	**23 34 18.9**	**-0.3**
PKSM	**Moragy**	**4.35**	**350**	⇓*e*	**Pn**	**23 34 18.7**	**-0.5**
NVLJ	**Novalja**	**4.40**	**308**	*i* Pn	**Pn**	**23 34 20.0**	**+0.2**
NVLJ				Sn	**Sn**	**23 35 07.9**	**-1.9**
NVLJ	**Novalja**	**4.40**	**308**	*i* Pn	**Pn**	**23 34 20.0**	**+0.2**
NVLJ				Sn	**Sn**	**23 35 07.9**	**-1.9**
LOT	**Lotru**	**4.59**	**39**	⇑*i*P	**Pn**	**23 34 22.8**	**+0.2**
LOT	**Lotru**	**4.59**	**39**	⇑*i*P	**Pn**	**23 34 22.8**	**+0.2**
AQU	**L'Aquila**	**4.70**	**277**	⇑*i*P	**Pn**	**23 34 25.9**	**+1.9**
AQU	**L'Aquila**	**4.70**	**277**	⇑*i*P	**Pn**	**23 34 25.9**	**+1.9**
BOJS	**Bojanci**	**4.81**	**319**	*e*Pn	**Pn**	**23 34 26.3**	**+0.8**
BOJS	**Bojanci**	**4.81**	**319**	*e*Pn	**Pn**	**23 34 26.3**	**+0.8**
ALN	**Alexandroupoli**	**4.88**	**100**	*e*P	**Pn**	**23 34 27.6**	**+1.2**
ALN	**Alexandroupoli**	**4.88**	**100**	*e*P	**Pn**	**23 34 27.6**	**+1.2**
BEHE	**Becsehely**	**5.01**	**336**	*e*	Pn	23 34 36.5	+8.4
JMB	**Yambol**	**5.14**	**82**	*i* P	**Pn**	**23 34 30.0**	**0.0**
JMB	**Yambol**	**5.14**	**82**	*i* P	**Pn**	**23 34 30.0**	**0.0**
VOIR		**5.23**	**46**	⇓*i*P	**Pn**	**23 34 31.7**	**+0.4**
VOIR		**5.23**	**46**	⇓*i*P	**Pn**	**23 34 31.7**	**+0.4**
VNDS	**Vrh nad Dolski**	**5.51**	**321**	*i* Pn	**Pn**	**23 34 35.7**	**+0.6**
BUD	**Budapest**	**5.58**	**355**	*e*P	Pn	23 34 29.3	-6.6
JAVS	**Javornik**	**5.68**	**316**	*i* Pn	**Pn**	**23 34 37.8**	**+0.4**
JAVS	**Javornik**	**5.68**	**316**	*i* Pn	**Pn**	**23 34 37.8**	**+0.4**
PERS	**Pernice**	**5.74**	**327**	*i* Pn	**Pn**	**23 34 38.8**	**+0.5**
PERS	**Pernice**	**5.74**	**327**	*i* Pn	**Pn**	**23 34 38.8**	**+0.5**
NEF	**NEVSHA**	**5.75**	**74**	*i* P	**Pn**	**23 34 38.9**	**+0.6**
NEF	**NEVSHA**	**5.75**	**74**	*i* P	**Pn**	**23 34 38.9**	**+0.6**
MLR	**Muntele Rosu**	**5.76**	**50**	P	**Pn**	**23 34 39.4**	**+0.8**
	comp=N,0.3nm,0.3s,baz=212,slow=9.2,SNR=16						
MLR				S	**Sn**	**23 35 41.6**	**-1.7**
	comp=N,0.4nm,0.3s,baz=127,slow=18,SNR=4.9						
VLI	**Velíai**	**5.77**	**153**	*e*P	**Pn**	**23 34 39.5**	**+0.9**
VLI	**Velíai**	**5.77**	**153**	*e*P	**Pn**	**23 34 39.5**	**+0.9**
SOKA	**Soboth**	**5.81**	**326**	⇓*i*Pn	**Pn**	**23 34 38.6**	**-0.6**
SOKA	**Soboth**	**5.81**	**326**	Pn	**Pn**	**23 34 38.6**	**-0.6**
VOY	**Vojsko**	**5.86**	**316**	*e*Pn	**Pn**	**23 34 40.7**	**+0.8**
VOY				*e*		23 34 51.3	
VOY				*e*Sn	**Sn**	**23 35 43.6**	**-2.2**
VOY	**Vojsko**	**5.86**	**316**	*e*Pn	**Pn**	**23 34 40.7**	**+0.8**
VOY				*e*Sn	**Sn**	**23 35 43.6**	**-2.2**
OBKA	**Obir**	**5.89**	**323**	⇑*i*Pn	**Pn**	**23 34 39.8**	**-0.5**
	SNR=18						
OBKA	**Obir**	**5.89**	**323**	Pn	**Pn**	**23 34 39.8**	**-0.5**
	SNR=18						
PSZ	**Piszkesteto**	**6.00**	**1**	⇑*i*P	**Pn**	**23 34 41.5**	**-0.1**
PSZ	**Piszkesteto**	**6.00**	**1**	⇑*e*P	**Pn**	**23 34 41.6**	**-0.1**
PSZ	**Piszkesteto**	**6.00**	**1**	⇑*e*	**Pn**	**23 34 41.6**	**-0.1**
ARSA	**Arzberg**	**6.10**	**332**	⇑*i*Pn	**Pn**	**23 34 42.6**	**-0.5**
ARSA				⇓*i*Sn	**Sn**	**23 35 49.9**	**-1.6**
ARSA	**Arzberg**	**6.10**	**332**	Pn	**Pn**	**23 34 42.6**	**-0.5**
ARSA				Sn	**Sn**	**23 35 49.9**	**-1.6**
SOP	**Sopron**	**6.18**	**340**	*e*	Pn	23 34 52.1	+8.0
VRI	**Vrincioaia**	**6.43**	**50**	⇑*i*P	**Pn**	**23 34 48.8**	**+1.3**
VRI	**Vrincioaia**	**6.43**	**50**	⇑*i*P	**Pn**	**23 34 48.8**	**+1.3**
TRPA	**Tarpa**	**6.52**	**17**	⇑*i*P	**Pn**	**23 34 49.1**	**+0.3**
TRPA	**Tarpa**	**6.52**	**17**	⇑*i*eP	**Pn**	**23 34 49.2**	**+0.4**
TRPA	**Tarpa**	**6.52**	**17**	⇑*e*	**Pn**	**23 34 49.2**	**+0.4**
VYHS	**Vyhne**	**6.60**	**355**	*e*PN	**Pn**	**23 34 50.6**	**+0.7**
VYHS				*e*SN	**Sn**	**23 35 59.4**	**-4.2**
VYHS	**Vyhne**	**6.60**	**355**	*e*Pn	**Pn**	**23 34 50.6**	**+0.7**
TIRR	**Tirgusor**	**6.85**	**65**	S	**Pn**	**23 34 53.9**	**+0.6**
TIRR	**Tirgusor**	**6.85**	**65**	⇑*i*P	**Pn**	**23 34 53.5**	**+0.2**
TIRR	**Tirgusor**	**6.85**	**65**	⇑*i*P	**Pn**	**23 34 53.5**	**+0.2**
KBA	**Koelnbreinsper**	**6.87**	**321**	⇑*i*Pn	**Pn**	**23 34 53.5**	**-0.2**
	SNR=5.6						
KBA				⇓*i*Sn	**Sn**	**23 36 08.6**	**-1.8**
KBA	**Koelnbreinsper**	**6.87**	**321**	Pn	**Pn**	**23 34 53.5**	**-0.2**
	SNR=5.6						
KBA				Sn	**Sn**	**23 36 08.6**	**-1.8**
ABTA	**Abfaltersbach**	**7.05**	**316**	⇑*i*Pn	**Pn**	**23 34 55.9**	**-0.3**
	SNR=12						
ABTA				⇑*i*Sn	**Sn**	**23 36 14.5**	**-0.4**
ABTA	**Abfaltersbach**	**7.05**	**316**	Pn	**Pn**	**23 34 55.9**	**-0.3**
	SNR=12						
ABTA				Sn	**Sn**	**23 36 14.5**	**-0.4**
CRVS	**Cervenica-Dubn**	**7.09**	**9**	*e*PN	**Pn**	**23 34 58.1**	**+1.6**
CRVS				*e*SN	Sn	23 36 08.1	-7.5
CRVS	**Cervenica-Dubn**	**7.09**	**9**	*e*Pn	**Pn**	**23 34 58.1**	**+1.6**
KOLS	**Kolonicke sedl**	**7.24**	**14**	*e*PN	**Pn**	**23 35 00.5**	**+1.9**
KOLS				*e*SN	**Sn**	**23 36 14.6**	**-4.7**
KOLS	**Kolonicke sedl**	**7.24**	**14**	*e*Pn	**Pn**	**23 35 00.5**	**+1.9**
TLCR		**7.38**	**61**	⇑*i*P	**Pn**	**23 35 02.0**	**+1.5**
TLCR		**7.38**	**61**	⇑*i*P	**Pn**	**23 35 02.0**	**+1.5**
PGF	**Pioggiola**	**7.96**	**278**	*e*Pn	**Pn**	**23 35 08.8**	**+0.1**
PGF	**Pioggiola**	**7.96**	**278**	*e*Pn	**Pn**	**23 35 08.8**	**+0.1**
GERES	**GERESS Array B**	**8.10**	**331**	P	**Pn**	**23 35 11.2**	**+0.7**
	comp=N,0.3nm,0.3s,baz=156,slow=13,SNR=10						
GERES				S	**Sn**	**23 36 38.6**	**-1.9**
	comp=N,0.3nm,0.3s,baz=153,slow=22,SNR=3.6						
KHC	**Kasperske Hory**	**8.39**	**331**	*e*PN	**Pn**	**23 35 13.4**	**-0.9**
KHC				*e*SN	**Sn**	**23 36 42.3**	**-5.1**
KHC	**Kasperske Hory**	**8.39**	**331**	Pn	**Pn**	**23 35 13.4**	**-0.9**
DAVOX	**Davos/Dischmat**	**8.54**	**308**	P	**Pn**	**23 35 17.5**	**+0.9**
	comp=N,0.8nm,0.3s,baz=173,slow=23,SNR=15						
DAVOX				S	**Sn**	**23 36 48.2**	**-3.3**
	comp=N,0.6nm,0.3s,baz=337,slow=23,SNR=3.3						
SBF	**Sospel**	**9.21**	**286**	*e*Pn	**Pn**	**23 35 24.4**	**-1.2**
SBF				*e*Sn	Sn	23 36 58.7	-8.9
	comp=N,4.9nm,0.3s						
SBF	**Sospel**	**9.21**	**286**	*e*Pn	**Pn**	**23 35 24.4**	**-1.2**
FRF	**La Foret Royal**	**9.74**	**284**	*e*Pn	**Pn**	**23 35 32.6**	**-0.2**
FRF				*e*Sn	Sn	23 37 11.8	-8.7
	comp=N,2.4nm,0.3s						
FRF	**La Foret Royal**	**9.74**	**284**	*e*Pn	**Pn**	**23 35 32.6**	**-0.2**
LMR	**La Mourre**	**9.82**	**283**	*e*Pn	**Pn**	**23 35 33.5**	**-0.4**
LMR				*e*Sn	Sn	23 37 14.0	-8.5
	comp=N,1.8nm,0.3s						
LMR	**La Mourre**	**9.82**	**283**	*e*Pn	**Pn**	**23 35 33.5**	**-0.4**
MBDF	**Montbardon**	**9.83**	**291**	*e*Pn	**Pn**	**23 35 31.8**	**-2.3**
MBDF				*e*Sn	Sn	23 37 14.0	-8.8
	comp=N,3.2nm,0.3s						
MBDF	**Montbardon**	**9.83**	**291**	*e*Pn	**Pn**	**23 35 31.8**	**-2.3**
LPG	**La Plagne**	**10.03**	**295**	*e*Pn	Pn	23 35 33.8	-3.2
LPG				*e*Sn	Sn	23 37 18.2	-10
	comp=N,5.3nm,0.4s						
LPL	**La Plagne**	**10.05**	**295**	*e*Pn	Pn	23 35 33.9	-3.3
LPL				*e*Sn	Sn	23 37 19.0	-9.3
	comp=N,4.1nm,0.3s						
KEST	**Kesra**	**10.17**	**236**	P	Pn	23 35 42.1	+3.3
	comp=N,0.1nm,0.3s,baz=335,slow=9.4,SNR=7.7						
ORIF	**Oris-en-Rattie**	**10.49**	**291**	*e*Pn	**Pn**	**23 35 42.0**	**-1.1**
ORIF				*e*Sn	Sn	23 37 29.7	-9.2
	comp=N,4.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**10.49**	**291**	*e*Pn	**Pn**	**23 35 42.0**	**-1.1**
BRTR	**Keskin Array B**	**10.79**	**97**	P	**Pn**	**23 35 48.8**	**+1.5**
	comp=N,0.0nm,0.3s,baz=45,slow=38,SNR=2.4						
CABF	**La Chapelle**	**10.82**	**300**	*e*Pn	**Pn**	**23 35 44.8**	**-2.8**
CABF	**La Chapelle**	**10.82**	**300**	*e*Pn	**Pn**	**23 35 44.8**	**-2.8**
HINF	**Hinteralfeld**	**10.85**	**307**	*e*Pn	**Pn**	**23 35 46.3**	**-1.6**
HINF				*e*Sn	Sn	23 37 38.2	-9.3
	comp=N,1.7nm,0.3s						
HINF	**Hinteralfeld**	**10.85**	**307**	*e*Pn	**Pn**	**23 35 46.3**	**-1.6**
HAU	**Haudompre**	**11.24**	**307**	*e*Pn	**Pn**	**23 35 52.5**	**-0.7**
HAU				*e*Sn	Sn	23 37 47.2	-10
	comp=N,3.6nm,0.3s						
HAU	**Haudompre**	**11.24**	**307**	*e*Pn	**Pn**	**23 35 52.5**	**-0.7**
VIVF	**Saint-Julien-l**	**11.32**	**290**	*e*Pn	**Pn**	**23 35 51.7**	**-2.7**
VIVF	**Saint-Julien-l**	**11.32**	**290**	*e*Pn	**Pn**	**23 35 51.7**	**-2.7**
SMF	**Signal de Mont**	**12.30**	**298**	*e*Pn	**Pn**	**23 36 04.8**	**-2.9**
SMF				*e*Sn	Sn	23 38 13.3	-10
	comp=N,3.1nm,0.3s						
SMF	**Signal de Mont**	**12.30**	**298**	*e*Pn	**Pn**	**23 36 04.8**	**-2.9**
LOR	**Lormes**	**12.48**	**301**	*e*Pn	**Pn**	**23 36 07.2**	**-3.0**
LOR	**Lormes**	**12.48**	**301**	*e*Pn	**Pn**	**23 36 07.2**	**-3.0**
BGF	**Bois d'Agland**	**12.94**	**297**	*e*Pn	**Pn**	**23 36 14.1**	**-2.2**
BGF	**Bois d'Agland**	**12.94**	**297**	*e*Pn	**Pn**	**23 36 14.1**	**-2.2**
HFS	**Hagfors**	**18.61**	**351**	P	**P**	**23 37 26.7**	**-0.2**
	comp=N,0.4nm,0.3s,baz=165,slow=12,SNR=12						
GNI	**Garni**	**18.96**	**87**	P	**Pn**	**23 37 32.9**	**+0.4**
	comp=N,0.3nm,0.3s,baz=291,slow=7.8,SNR=5.9						
NB2	**NORSAR Subarra**	**19.83**	**348**	P	**P**	**23 37 41.3**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=151,slow=11						
NB2	**NORSAR Subarra**	**19.83**	**348**	P	**P**	**23 37 41.3**	**+1.1**
	comp=Z,0.8nm,0.5s,SNR=3.7						
NOA	**NORSAR Array B**	**19.83**	**348**	P	**P**	**23 37 40.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=153,slow=10.0,SNR=5.5						
FINES	**FINESS Array B**	**19.93**	**9**	P	**P**	**23 37 40.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=183,slow=9.9,SNR=19						
KAF	**Kangasniemi**	**20.60**	**9**	*ep*	**P**	**23 37 47.5**	**-1.1**
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**20.60**	**9**	*e*P	**P**	**23 37 47.5**	**-1.1**
	comp=Z,3.0nm,0.7s						
JOF	**Joensuu**	**22.12**	**14**	*ep*	**P**	**23 38 04.2**	**-0.6**
	comp=Z,0.9nm,0.5s						
JOF	**Joensuu**	**22.12**	**14**	*e*P	**P**	**23 38 04.2**	**-0.6**
	comp=Z,0.9nm,0.5s						
MIB	**Mutribah**	**25.34**	**110**	*e*P	**P**	**23 38 35.6**	**-0.1**
MIB				AMb	AMB	23 38 36.9	
	comp=Z,21nm,0.6s						
MIB	**Mutribah**	**25.34**	**110**	*e*P	**P**	**23 38 35.6**	**-0.1**
NAY	**Al-Naaiem**	**25.60**	**111**	*e*P	**P**	**23 38 37.6**	**-0.6**
NAY				AMb	AMB	23 38 40.3	
	comp=Z,5.0nm,1.0s						
NAY	**Al-Naaiem**	**25.60**	**111**	*e*P	**P**	**23 38 37.6**	**-0.6**
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**27.84**	**4**	P	**P**	**23 38 56.9**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=188,slow=9.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**32.67**	**214**	P	**P**	**23 39 43.1**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=19,slow=8.6,SNR=3.9						
BVAR	**Borovoye Array**	**35.31**	**54**	P	**P**	**23 40 04.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=230,slow=34,SNR=5.0						
AAK	**Ala-Archa**	**39.94**	**70**	P	**P**	**23 40 44.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=235,slow=5.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**40.61**	**57**	P	**P**	**23 40 49.0**	**+0.9**
	comp=Z,0.5nm,0.2s,baz=279,slow=9.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**43.74**	**51**	P	**P**	**23 41 14.3**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=285,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**43.97**	**61**	P	**P**	**23 41 16.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=283,slow=7.5,SNR=17						
SONM	**Songino Array**	**58.61**	**52**	P	**P**	**23 43 06.2**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=290,slow=8.4,SNR=16						
YKA	**Yellowknife Ar**	**69.66**	**339**	P	**P**	**23 44 18.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=36,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**73.12**	**354**	P	**P**	**23 44 39.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=8.5,slow=5.2,SNR=5.6						

Error ellipse: s-maj=5.7km s-min=4.8km az=22.7
*THE **14** 00:28:14.6,40.72N×22.81E,h4km±9km,ML1.8/2,Error ellipse: s-maj=9.1km s-min=0.7km az=144.0*
*SKO **14** 00:28:14.9,40.76N×22.81E,h2km,M1.6,ML2.0*
*CSEM **14** 00:28:14.1±0.1,40.70N×22.79E,h10km,ML1.8/2,Error ellipse: s-maj=3.3km s-min=2.6km az=108.0*

ISC 14 00:28:14.0±0.9,40.71N±0.02×22.80E±0.02,h11km±8km, n29,σ0.944/46,2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.15**	**123**	P	**Pg**	**00 28 17.6**	**+0.1**
THE				S	**Sg**	**00 28 19.6**	**-0.3**
THE	**Thessaloniki**	**0.15**	**123**	P	**Pg**	**00 28 17.6**	**+0.1**
THE				S	**Sg**	**00 28 19.6**	**-0.3**
HORT	**Hortiatis**	**0.26**	**117**	P	**Pg**	**00 28 19.3**	**-0.1**
HORT	**Hortiatis**	**0.26**	**117**	P	**Pg**	**00 28 19.3**	**-0.1**
SOH	**Sokhos**	**0.44**	**76**	P	**Pg**	**00 28 23.0**	**+0.4**
SOH				S	**Sb**	**00 28 29.4**	**-0.9**
SOH	**Sokhos**	**0.44**	**76**	*e*PG	**Pg**	**00 28 23.1**	**+0.4**
SOH				*e*SG	**Sb**	**00 28 29.4**	**-0.9**
SOH	**Sokhos**	**0.44**	**76**	P	**Pg**	**00 28 23.0**	**+0.4**
SOH				S	**Sb**	**00 28 29.4**	**-0.9**
KNT	**Kendrikon**	**0.45**	**10**	P	**Pb**	**00 28 23.7**	**-0.4**
KNT	**Kendrikon**	**0.45**	**10**	P	**Pb**	**00 28 23.7**	**-0.4**
PLG	**Polygyros**	**0.60**	**124**	P	**Pg**	**00 28 25.6**	**-0.1**
PLG				S	**Sg**	**00 28 34.1**	**+0.5**
PLG	**Polygyros**	**0.60**	**124**	*e*PG	**Pg**	**00 28 25.6**	**-0.1**
PLG				*e*SG	**Sb**	**00 28 34.6**	**-0.4**
PLG	**Polygyros**	**0.60**	**124**	P	**Pg**	**00 28 25.6**	**-0.1**
PLG				S	**Sg**	**00 28 34.1**	**+0.5**
PLG				*e*Sg	**Sb**	**00 28 34.6**	**-0.4**
VAY	**Valandovo**	**0.63**	**344**	P	**Pg**	**00 28 26.4**	**+0.1**
VAY				S	**Sg**	**00 28 35.1**	**+0.5**
VAY	**Valandovo**	**0.63**	**344**	⇓*i*Pg	**Pg**	**00 28 26.4**	**+0.1**
VAY				*i* Sg	**Sg**	**00 28 35.1**	**+0.5**
VAY				*e*Lg	Lg	00 28 35.2	
	comp=N,63nm,0.3s						
VAY				*e*Lg	Lg	00 28 35.3	
	comp=E,46nm,0.6s						
VAY	**Valandovo**	**0.63**	**344**	P	**Pg**	**00 28 26.4**	**+0.1**
VAY	**Valandovo**	**0.63**	**344**	⇓*i*Pg	**Pb**	**00 28 26.9**	**-0.2**
VAY				S	**Sg**	**00 28 35.1**	**+0.5**
VAY				*i* Sg	**Sb**	**00 28 35.6**	**-0.3**
VAY				*e*Lg	Lg	00 28 35.7	
	comp=E,46nm,0.6s						
LIT	**Litokhoron**	**0.66**	**201**	P	**Pg**	**00 28 27.1**	**+0.3**
LIT	**Litokhoron**	**0.66**	**201**	*e*PG	**Pg**	**00 28 26.8**	**0.0**
LIT				*e*SG	**Sb**	**00 28 37.0**	**+0.4**
LIT	**Litokhoron**	**0.66**	**201**	*e*Pg	**Pg**	**00 28 26.8**	**0.0**
LIT	**Litokhoron**	**0.66**	**201**	P	**Pg**	**00 28 27.1**	**+0.3**
LIT				*e*Sg	**Sb**	**00 28 37.0**	**+0.4**
SRS	**Serrai**	**0.72**	**56**	P	**Pg**	**00 28 28.2**	**+0.2**
SRS	**Serrai**	**0.72**	**56**	P	**Pg**	**00 28 28.2**	**+0.2**
KZN	**Kozani**	**0.88**	**243**	*e*PB	**Pg**	**00 28 30.2**	**-0.9**
KZN	**Kozani**	**0.88**	**243**	*e*Pb	**Pg**	**00 28 30.2**	**-0.9**
NVR	**Nevrokopi**	**1.02**	**51**	P	**Pb**	**00 28 33.6**	**-0.2**
NVR				S	**Sb**	**00 28 47.7**	**+0.4**
NVR	**Nevrokopi**	**1.02**	**51**	*e*PG	**Pb**	**00 28 33.7**	**-0.1**
NVR	**Nevrokopi**	**1.02**	**51**	*e*Pg	**Pb**	**00 28 33.7**	**-0.1**
NVR				S	**Sb**	**00 28 47.7**	**+0.4**
THL	**Klokotos Trika**	**1.30**	**208**	*e*PB	**Pb**	**00 28 38.7**	**+0.3**
THL	**Klokotos Trika**	**1.30**	**208**	*e*Pb	**Pb**	**00 28 38.7**	**+0.3**

IDC 13 23:53:52.6±7.6,4.92S×146.20E,h53km±72km,mb3.5/4, mb1 3.8/6,mb1mx3.4/19,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=68.5km s-min=32.7km az=138.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**168**	P	Pn	23 54 59.7	+0.5
	2.6nm,0.3s,baz=356,slow=7.1,SNR=4.3						
PMG				S	Sn	23 55 45.1	-5.9
	4.9nm,0.3s,baz=194,slow=21,SNR=11						
WRA	**Warramunga Arr**	**18.88**	**217**	P	P	23 58 08.7	-0.1
	0.7nm,0.3s,baz=36,slow=11,SNR=57						
ASAR	**Alice Springs**	**22.09**	**211**	P	P	23 58 43.1	-0.5
	1.0nm,0.4s,baz=47,slow=7.8,SNR=21						
FITZ	**Fitzroy Crossi**	**23.99**	**235**	P	P	23 59 02.7	+0.2
	1.5nm,0.4s,baz=65,slow=11,SNR=15						
STKA	**Stephens Creek**	**27.17**	**189**	P	P	23 59 31.3	+0.1
	1.7nm,0.6s,baz=15,slow=8.8,SNR=3.2						
ILAR	**Eielson Array**	**84.81**	**23**	P	P	00 06 21.1	-0.1
	0.1nm,0.5s,baz=244,slow=5.7,SNR=4.1						

*IDC **14** 00:16:19.1±2.9,62.01N×149.17W,h0km,mb3.5/1, mb1 3.7/4,mb1mx3.3/27,mbtmp3.4/4,ML3.1/3,Error ellipse: s-maj=43.3km s-min=17.6km az=85.0*
*ISCJB **14** 00:16:21.3±0.3,62.16N±0.02×149.46W±0.05,h59km±6km, mb3.3/1,Error ellipse: s-maj=3.9km s-min=3.7km az=175.3*
*NEIC **14** 00:16:23.1,62.14N×149.50W,h44km,ML3.0(AEIC),After AEIC.*

ISC 14 00:16:22.3±0.9,62.16N±0.03×149.46W±0.03, h46km±12km,n61,σ0.988/74,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRAP	**Trapper Creek**	**0.41**	**296**	P	**Pn**	**00 16 31.9**	**-0.3**
TRAP				S	**Sn**	**00 16 40.1**	**+1.0**
PMR	**Palmer**	**0.59**	**165**	P	**Pn**	**00 16 33.7**	**-0.7**
PMR				S	**Sn**	**00 16 43.1**	**0.0**
SML	**Sawmill**	**0.64**	**123**	P	**Pn**	**00 16 34.7**	**-0.4**
SML				S	**Sn**	**00 16 45.5**	**+1.2**
HUR	**Hurricane**	**0.82**	**354**	P	**Pn**	**00 16 37.7**	**+0.1**
HUR				S	**Sn**	**00 16 49.4**	**+0.7**
SUA	**Susitna One**	**0.93**	**222**	P	**Pn**	**00 16 38.5**	**-0.6**
SKT	**Skwentna**	**0.99**	**260**	P	**Pn**	**00 16 38.8**	**-1.0**
RND	**Reindeer**	**1.28**	**12**	P	**Pn**	**00 16 44.0**	**+0.1**
STLK	**Strandline Lak**	**1.31**	**241**	P	**Pn**	**00 16 43.5**	**-0.7**
DHY	**Denali Highway**	**1.33**	**45**	P	**Pn**	**00 16 44.4**	**-0.2**
TRF	**Thorofare Moun**	**1.35**	**344**	P	**Pn**	**00 16 44.4**	**-0.5**
TRF				S	**Sn**	**00 17 01.8**	**+0.1**
PPLA	**Purkeypile**	**1.47**	**301**	P	**Pn**	**00 16 46.2**	**-0.3**
CGLM	**Capps Glacier**	**1.48**	**236**	P	**Pn**	**00 16 46.3**	**-0.4**
NCG	**North Capps Gl**	**1.49**	**241**	P	**Pn**	**00 16 45.9**	**-0.8**
SPBG	**Spurr Blockage**	**1.66**	**238**	P	**Pn**	**00 16 49.5**	**-0.5**
BGL	**Barrier Glacie**	**1.66**	**238**	P	**Pn**	**00 16 49.3**	**+0.2**
BKG	**Blockade Glaci**	**1.73**	**232**	P	**Pn**	**00 16 49.7**	**-0.3**
BKG				S	**Sn**	**00 17 12.3**	**+1.4**
VLZ	**Valdez**	**1.81**	**123**	P	**Pn**	**00 16 50.9**	**-0.2**
VLZ				S	**Sn**	**00 17 13.8**	**+1.0**
PAX	**Paxson**	**2.02**	**64**	P	**Pn**	**00 16 55.2**	**+1.2**
HARP	**HAARP**	**2.03**	**81**	P	**Pn**	**00 16 55.5**	**+1.5**
DIV	**Divide**	**2.04**	**119**	*e*Pn	**Pn**	**00 16 53.8**	**-0.5**
DIV				*e*Sn	**Sn**	**00 17 15.5**	**-3.0**
SEW	**Seward**	**2.06**	**180**	P	**Pn**	**00 16 55.2**	**+0.7**
RSO	**Redoubt South**	**2.33**	**224**	P	**Pn**	**00 16 58.4**	**0.0**
EYAK	**Cordova Ski Ar**	**2.41**	**130**	P	**Pn**	**00 16 59.4**	**+0.2**
NEA	**Nenana**	**2.43**	**4**	P	**Pn**	**00 16 59.6**	**+0.1**
BRLK	**Bradley Lake**	**2.50**	**197**	P	**Pn**	**00 17 01.5**	**+1.0**
HDA	**Harding Lake**	**2.52**	**26**	P	**Pn**	**00 17 01.4**	**+0.7**
CCB	**Clear Creek Bu**	**2.60**	**16**	P	**Pn**	**00 17 01.8**	**0.0**
BMRM	**Bremner River**	**2.61**	**115**	P	**Pn**	**00 17 01.7**	**-0.4**
INE	**Iliamna NE**	**2.74**	**221**	P	**Pn**	**00 17 04.0**	**+0.2**
MENT	**Mentasta**	**2.77**	**71**	*e*Pn	**Pn**	**00 17 04.7**	**+0.5**
MENT				*e*Sn	**Sn**	**00 17 38.5**	**+2.1**
GOAT	**Goat Mountain**	**2.77**	**123**	P	**Pn**	**00 17 04.0**	**-0.3**
COLA	**College**	**2.82**	**14**	P	**Pn**	**00 17 05.0**	**+0.2**
MDM	**Murphy Dome**	**2.86**	**11**	P	**Pn**	**00 17 05.7**	**+0.2**
IL1	**Eielson Array**	**2.86**	**23**	P	**Pn**	**00 17 05.4**	**-0.1**
ILAR	**Eielson Array**	**2.86**	**23**	Pn	**Pn**	**00 17 05.4**	**0.0**
	5.8nm,0.3s,baz=205,slow=14,SNR=292						
ILAR				Sn	**Sn**	**00 17 38.4**	**-0.3**
	4.9nm,0.3s,baz=202,slow=24,SNR=9.7						
ILAR				Lg	Lg	00 17 54.8	
	7.8nm,0.3s,baz=214,slow=29,SNR=12						
ILAR	**Eielson Array**	**2.86**	**23**	Pn	**Pn**	**00 17 05.4**	**0.0**
ILAR				Sn	**Sn**	**00 17 38.4**	**-0.3**
ILAR				Lg	Lg	00 17 54.8	
DOT	**Dot Lake**	**2.89**	**56**	P	**Pn**	**00 17 06.9**	**+1.1**
MLY	**Manley**	**2.94**	**349**	P	**Pn**	**00 17 06.5**	**0.0**
GLM	**

MEX 14 00:57:05.4±0.8, 17°58N×101°81W, h5^{km}, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.33**	**85**	*eP*	**Pg**	00 57 10.5	-1.3
ZIIG				*i* S	Sg	00 57 16.6	+0.5
ARIG	**Puente Sto Nin**	**1.56**	**63**	*eP*	**Pn**	00 57 30.2	-3.6
ARIG				*i* S	Sn	00 57 49.9	-4.5
CAIG	**El Cayaco**	**1.56**	**110**	*i* P	**Pn**	00 57 31.0	-2.8
CAIG				*i* S	Sn	00 57 49.4	-5.1
MMIG	**Aquila**	**1.63**	**296**	*i* P	**Pn**	00 57 31.3	-3.4
MMIG				*i* S	Sn	00 57 51.5	-4.6
ACX	**Acapulco**	**1.99**	**110**	*i* P	**Pn**	00 57 40.5	+0.7
MEIG	**Mezcala**	**2.11**	**80**	*i* P	**Pn**	00 57 37.8	-3.7
MEIG				*e*S	Sn	00 58 04.9	-3.4
PLIG	**Platanillo**	**2.34**	**69**	*i* P	**Pn**	00 57 41.1	-3.6
PLIG				*i* S	Sn	00 58 09.7	-4.2
EZ5V		**2.54**	**318**	*i* P	**Pn**	00 57 43.6	-4.2
EZ5V				*i* S	Sn	00 58 15.4	-3.9
R15V		**2.60**	**308**	*i* P	**Pn**	00 57 44.4	-3.9
R15V				*i* S	Sn	00 58 16.4	-3.9

*ISCJB **14** 01:01:01.6±0.3, 13°.79N±0°.05×89°.92W±0°.04, h132^{km}±1^{km}, mb4.2/37, Error ellipse: s-maj=9.1km s-min=3.7km az=30.8*

*NEIC **14** 01:01:03.0±1.4, 13°.76N×89°.92W, h132^{km}±15^{km}, mb4.5/31, Error ellipse: s-maj=21.4km s-min=8.0km az=69.0*

NEIC Felt at Ahuachapan and Santa Ana. Also felt at Antigua Guatemala, Guatemala.

*CASC **14** 01:01:03.7±1.2, 13°.76N×89°.92W, h108^{km}±5^{km}, MD3.9, ML4.4, mb4.5(NEIC)*

*IDC **14** 01:01:03.8±1.0, 14°.14N×89°.65W, h127^{km}±7^{km}, mb3.7/10, mb1 3.9/13, mb1mx3.6/28, mbtmp3.7/13, Error ellipse: s-maj=24.9km s-min=14.9km az=59.0*

ISC 14 01:01:02.0±0.6, 13°.78N±0°.06×89°.95W±0°.04, h127^{km}±4^{km}, n228, σ1$ 16/247, mb4.4/37, 84C-68D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.31**	**68↑**	*eP*	**Pn**	**01 01 19.7**	**-0.4**
RTR				*e*S	**Sn**	**01 01 32.0**	**-1.7**
SBLS	**San Blas**	**0.32**	**80↑**	*eP*	**Pn**	**01 01 19.6**	**-0.6**
SNJE	**San Jose**	**0.34**	**75↑**	*eP*	**Pn**	**01 01 19.9**	**-0.3**
IXG	**Ixpaco**	**0.63**	**308**	*eP*	Pn	01 01 29.8	+8.0
IXG				*e*S	**Sn**	**01 01 40.0**	**+3.3**
BOQS	**Boqueron**	**0.65**	**94↓**	*eP*	**Pn**	**01 01 21.5**	**-0.5**
SNET	**Serv Nac Est T**	**0.70**	**98↑**	*eP*	**Pn**	**01 01 21.6**	**-0.6**
SNET				AML	AML	01 01 22.4	
	comp=Z,10μm,0.2s						
LFU	**La Fuente**	**0.81**	**92↑**	*eP*	**Pn**	**01 01 22.6**	**-0.4**
LFU				*e*S	**Sn**	**01 01 38.0**	**-0.9**
MTO2	**Montecristo 2**	**0.83**	**43↓**	*iP*	**Pn**	**01 01 23.3**	**-0.1**
MTO2				*e*S	**Sn**	**01 01 39.2**	**-0.5**
LBRS	**Las Brisas**	**0.88**	**93↑**	*eP*	**Pn**	**01 01 23.7**	**+0.1**
PCG	**Pacaya**	**0.89**	**313**	*eP*	**Pn**	**01 01 24.7**	**+0.7**
PCG				*e*S	**Sn**	**01 01 40.3**	**-0.2**
NBG	**Las Nubes**	**0.89**	**334**	*eP*	**Pn**	**01 01 25.3**	**+1.3**
NBG				*e*S	**Sn**	**01 01 39.5**	**-1.1**
GCG	**Guatemala City**	**0.98**	**325**	*eP*	**Pn**	**01 01 25.9**	**+1.2**
GCG				*e*S	**Sn**	**01 01 41.2**	**-0.7**
SNVI	**San Vicente**	**1.09**	**99↑**	*eP*	**Pn**	**01 01 25.6**	**-0.1**
SNVI				*e*S	**Sn**	**01 01 43.3**	**-0.3**
FUG	**Fuego 3**	**1.09**	**307**	*eP*	**Pn**	**01 01 26.5**	**+0.7**
FG6		**1.20**	**310**	*eP*	**Pn**	**01 01 27.8**	**+0.9**
MRL	**Marmol**	**1.30**	**11**	*eP*	**Pn**	**01 01 29.6**	**+1.7**
MRL				*e*S	**Sn**	**01 01 48.6**	**+1.0**
VSM	**San Miguel**	**1.66**	**102**	*eP*	**Pn**	**01 01 32.2**	**+0.2**
VSM				*e*S	**Sn**	**01 01 55.7**	**+0.8**
CAHU	**Cacacuatique**	**1.68**	**90**	*eP*	**Pn**	**01 01 32.4**	**+0.2**
CAHU				*e*S	**Sn**	**01 01 55.4**	**+0.2**
BLLM	**Bellamira**	**1.69**	**101**	*eP*	**Pn**	**01 01 32.5**	**+0.3**
BLLM				*e*S	**Sn**	**01 01 55.2**	**-0.1**
JAT	**Jato**	**1.73**	**288**	*eP*	**Pn**	**01 01 34.0**	**+1.5**
JAT				*e*S	**Sn**	**01 01 53.9**	**-1.9**
CNCH	**Conchagua**	**2.11**	**103**	*eP*	**Pn**	**01 01 37.8**	**+0.4**
CNCH				*e*S	**Sn**	**01 02 05.3**	**+0.9**
TGUH	**Tegucigalpa,Un**	**2.61**	**84**	*e*Pn	**Pn**	**01 01 44.4**	**+0.9**
TGUH				*e*Sn	**Sn**	**01 02 15.2**	**-0.1**
CMIG	**Matias Romero**	**5.79**	**305**	P	**Pn**	**01 02 26.2**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=130,slow=11,SNR=26						
CMIG				S	**Sn**	**01 03 26.9**	**-4.1**
	comp=Z,9.4nm,0.3s,baz=108,slow=20,SNR=8.1						
JTS	**JuntasAbangare**	**5.99**	**125**	P	**Pn**	**01 02 29.3**	**+0.8**
	comp=Z,12nm,0.3s,baz=319,slow=16,SNR=21						
JTS				S	**Sn**	**01 03 31.2**	**-4.7**
	comp=Z,14nm,0.3s,baz=72,slow=19,SNR=8.7						
JTS	**JuntasAbangare**	**5.99**	**125**	*e*Pn	**Pn**	**01 02 29.2**	**+0.8**
JTS				*e*Sn	**Sn**	**01 03 34.7**	**-1.2**
CGA2	**Cerro Gallo 2**	**6.54**	**124**	*eP*	**Pn**	**01 02 35.7**	**-0.3**
TEIG	**Tepich**	**6.60**	**14**	P	**Pn**	**01 02 36.6**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=204,slow=4.5,SNR=18						
TEIG	**Tepich**	**6.60**	**14**	*e*Pn	**Pn**	**01 02 38.1**	**+1.5**
LAJ	**Bijagual**	**6.90**	**124**	*eP*	Pn	01 02 36.9	-4.0
ACR	**Cerro Adams**	**8.38**	**127**	*eP*	**Pn**	**01 03 00.5**	**-0.2**
BCIP	**Isla Barro Col**	**10.91**	**114**	*e*Pn	**Pn**	**01 03 36.5**	**+1.8**
732A	**Laxson Ranch,**	**17.55**	**330**	⇑P	**Pn**	**01 04 59.2**	**+0.4**
	baz=18,SNR=5.7						
VBMS	**Vicksburg**	**18.36**	**358**	*eP*	**Pn**	**01 05 09.0**	**+0.7**
	comp=Z,55nm,0.6s						
631A	**Perdido Creek**	**18.41**	**329**	⇓P	**Pn**	**01 05 08.6**	**-0.4**
	baz=18,SNR=9.6						
532A	**Rocksprings**	**18.69**	**332**	⇓P	**Pn**	**01 05 11.9**	**-0.5**
	baz=19,SNR=16						
531A	**Rocksprings**	**19.02**	**331**	⇓P	**Pn**	**01 05 15.4**	**-0.9**
	baz=19,SNR=10						
432A	**Menard**	**19.28**	**334**	⇑P	**P**	**01 05 17.5**	**+0.6**
	baz=19,SNR=21						
WHTX	**Lake Whitney**	**19.39**	**340**	⇓P	**P**	**01 05 18.7**	**+0.7**
	baz=20,SNR=16						
530A	**J-C Ranch, Com**	**19.39**	**329**	⇑P	**P**	**01 05 19.3**	**+1.1**
	baz=20,SNR=15						
431A	**Sonora**	**19.48**	**331**	⇑P	**P**	**01 05 20.1**	**+1.0**
	baz=20,SNR=16						
628A	**Black Gap, Mar**	**19.70**	**325**	⇓P	**Pn**	**01 05 23.3**	**-0.9**
	baz=20,SNR=8.2						
332A	**Millersview**	**19.70**	**334**	⇓P	**P**	**01 05 21.9**	**+0.5**
	baz=20,SNR=24						
529A	**Stev Forest Ra**	**19.83**	**327**	⇓P	**P**	**01 05 23.7**	**+0.9**
	baz=20						
430A	**Baggett Ranch,**	**19.86**	**330**	⇓P	**Pn**	**01 05 25.1**	**-1.0**
	baz=20,SNR=5.1						
331A	**San Angelo**	**19.93**	**333**	⇑P	**P**	**01 05 24.5**	**+0.6**
	baz=20,SNR=23						
627A	**Terlingua Ranc**	**19.95**	**324**	⇑P	**Pn**	**01 05 27.0**	**-0.3**
	baz=20,SNR=11						
TXAR	**Lajitas Array**	**20.03**	**323**	P	Pn	01 05 27.4	-0.7
	comp=Z,1.0nm,0.3s,baz=148,slow=10,SNR=53						
TXAR				pP	pP	01 05 52.0	+3.8
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=6.0						
429A	**Davenport Ranc**	**20.06**	**329**	⇓P	**P**	**01 05 26.6**	**+1.3**
	baz=20,SNR=15						
528A	**Cox Ranch, San**	**20.16**	**326**	⇑P	**P**	**01 05 27.1**	**+0.6**
	baz=20						
330A	**Mertzon**	**20.35**	**331**	⇓P	**P**	**01 05 28.7**	**+0.1**
	baz=20,SNR=9.6						
231A	**Bronte**	**20.42**	**334**	⇓P	**P**	**01 05 29.2**	**0.0**
	baz=20,SNR=16						
626A	**Big Bend Ranch**	**20.46**	**322**	⇑P	Pn	01 05 31.7	-1.6
	baz=21,SNR=14						
527A	**Woodward Ranch**	**20.60**	**324**	⇑P	**P**	**01 05 32.5**	**+1.1**
	baz=21						
OXF	**Oxford**	**20.64**	**1**	*eP*	**P**	**01 05 32.8**	**+1.2**
	comp=Z,29nm,0.9s						
230A	**Sterling City**	**20.73**	**332**	⇑P	**P**	**01 05 31.9**	**-0.6**
	baz=21						
ABTX	**Abilene, Hawle**	**20.74**	**336**	⇓P	**P**	**01 05 32.4**	**-0.3**
	baz=21,SNR=5.8						
329A	**Wagon Wheel Ra**	**20.80**	**330**	⇑P	**P**	**01 05 33.3**	**-0.1**
	baz=21						
526A	**Mary Lane Ranc**	**20.81**	**323**	⇑P	**P**	**01 05 35.1**	**+1.5**
	baz=21,SNR=7.7						
MIAR	**Mount Ida**	**20.93**	**352**	*eP*	Pn	01 05 37.3	-1.2
	comp=Z,9.7nm,0.7s						
MIAR				*e*		01 06 00.6	
UALR	**University of**	**21.01**	**354**	*eP*	**P**	**01 05 35.7**	**+0.2**
	comp=Z,20nm,0.8s						
328A	**Wristen Ranch,**	**21.13**	**328**	⇓P	**P**	**01 05 37.1**	**+0.2**
	baz=21,SNR=13						
426A	**McDonald Obser**	**21.23**	**325**	⇓P	**P**	**01 05 38.4**	**+0.3**
	baz=21						
130A	**Snyder**	**21.26**	**334**	⇓P	**P**	**01 05 37.4**	**-0.9**
	baz=21						
Z32A	**Haskell**	**21.29**	**338**	⇓P	**P**	**01 05 38.2**	**-0.3**
	baz=21						
SWET	**Sewanee**	**21.65**	**9**	*eP*	**P**	**01 05 42.5**	**+0.1**
	comp=Z,13nm,0.6s						
129A	**Stewart Farms,**	**21.69**	**332**	⇑P	**P**	**01 05 42.2**	**-0.7**
	baz=22,SNR=13						
425A	**Indio Mountain**	**21.87**	**323**	⇑P	**P**	**01 05 45.3**	**+0.5**
	baz=22						
Z30A	**Sanderson Ranc**	**21.93**	**334**	⇑P	**P**	**01 05 43.9**	**-1.4**
	baz=22						
128A	**Castleberry Fa**	**21.98**	**331**	⇑P	**P**	**01 05 45.2**	**-0.6**
	baz=22,SNR=7.5						
Z29A	**Hungry Hill Ra**	**22.15**	**333**	⇑P	**P**	**01 05 46.2**	**-1.5**
	baz=22,SNR=6.8						
WVT	**Waverly**	**22.34**	**5**	*eP*	**P**	**01 05 49.2**	**-0.2**
	comp=Z,3.8nm,0.6s						
Y30A	**Stafford Cattl**	**22.34**	**335**	⇑P	**P**	**01 05 48.5**	**-1.0**
	baz=22						
WMOK	**Wichita Mounta**	**22.34**	**341**	*eP*	**P**	**01 05 48.1**	**-1.4**
	comp=Z,20nm,1.0s						
TKL	**Tuckaleechee C**	**22.48**	**13**	P	**P**	**01 05 50.4**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=189,slow=10,SNR=5.8						
Z28A	**Tucker Farm, M**	**22.48**	**332**	⇓P	**P**	**01 05 50.0**	**-1.0**
	baz=23						
Y29A	**Porterfield Fa**	**22.65**	**334**	⇑P	**P**	**01 05 51.5**	**-1.1**
	baz=23						
225A	**Deer Hill, Car**	**22.77**	**326**	⇑P	**P**	**01 05 53.4**	**-0.4**
	baz=23						
MNTX	**Cornudas Mount**	**22.77**	**324**	*eP*	**P**	**01 05 53.6**	**-0.1**
	comp=Z,3.3nm,0.8s						
MNTX	**Cornudas Mount**	**22.77**	**324**	⇑P	**P**	**01 05 54.0**	**+0.3**
	baz=23,SNR=6.0						
PARMO	**Parma**	**22.79**	**0**	*eP*	**P**	**01 05 55.3**	**+1.6**
X30A	**Coker Ranch, T**	**22.83**	**336**	⇑P	**P**	**01 05 53.9**	**-0.4**
	baz=23						
Z27A	**Tatum**	**22.89**	**330**	⇓P	**P**	**01 05 53.7**	**-1.3**
	baz=23						
Y28A	**McKinney Farm,**	**22.94**	**333**	⇑P	**P**	**01 05 54.5**	**-0.9**
	baz=23						
125A	**Gardner Draw,**	**23.10**	**327**	⇓P	**P**	**01 05 57.2**	**+0.2**
	baz=23						
224A	**Cornudas Mount**	**23.13**	**325**	⇑P	**P**	**01 05 57.8**	**+0.6**
	baz=23,SNR=8.8						
MSTX	**Muleshoe**	**23.23**	**332**	⇓P	**P**	**01 05 57.8**	**-0.3**
	baz=23						
Z26A	**Caprock**	**23.23**	**329**	⇑P	**P**	**01 05 57.4**	**-0.7**
	baz=23						
Y27A	**Causey**	**23.34**	**331**	⇑P	**P**	**01 05 58.5**	**-0.6**
	baz=23						
AMTX	**Amarillo**	**23.54**	**335**	*eP*	**P**	**01 06 01.2**	**+0.4**
	comp=Z,23nm,1.2s						
AMTX	**Amarillo**	**23.54**	**335**	⇓P	**P**	**01 06 00.1**	**-0.8**
	baz=24,SNR=5.7						
124A	**Stringfield Ra**	**23.56**	**326**	⇓P	**P**	**01 06 02.3**	**+0.9**
	baz=24,SNR=6.3						
Z25A	**Roswell**	**23.61**	**328**	⇑P	**P**	**01 06 02.2**	**+0.5**
	baz=24						
Y26A	**Elida**	**23.68**	**330**	⇑P	**P**	**01 06 02.5**	**+0.2**
	baz=24						
W29A	**Amraillo**	**23.73**	**336**	⇓P	**P**	**01 06 02.9**	**+0.3**
	baz=24						
ATAH	**Atahualpa**	**23.73**	**150**	P	**P**	**01 06 06.7**	**+3.5**
	comp=Z,11nm,0.9s,baz=331,slow=8.8,SNR=4.8						
SIUC	**Southern Illin**	**23.84**	**1**	*eP*	**P**	**01 06 04.0**	**+0.5**
	comp=Z,29nm,0.6s						
W28A	**Vega**	**24.07**	**335**	⇓P	**P**	**01 06 06.2**	**+0.4**
	baz=24						
Y25A	**Mesa, Roswell**	**24.11**	**329**	⇓P	**P**	**01 06 06.8**	**+0.7**
	baz=24						
USIN	**University of**	**24.17**	**4**	*eP*	**P**	**01 06 07.3**	**+0.9**
	comp=Z,31nm,0.7s						
W27A	**Bone Ranch, En**	**24.27**	**333**	⇓P	**P**	**01 06 08.2**	**+0.6**
	baz=24						
122A	**Conniff Cattle**	**24.43**	**323**	⇑P	**P**	**01 06 09.4**	**+0.3**
	baz=24						
Y24A	**Capitan**	**24.49**	**328**	⇑P	**P**	**01 06 08.9**	**-0.8**
	baz=25						
V28A	**Channing**	**24.51**	**335**	⇑P	**P**	**01 06 09.9**	**+0.2**
	baz=25,SNR=5.8						
WCI	**Wyandotte Cave**	**24.56**	**7**	*eP*	**P**	**01 06 10.5**	**+0.5**
	comp=Z,14nm,0.6s						
X25A	**Clemmons Ranch**	**24.58**	**330**	⇓P	**P**	**01 06 11.5**	**+1.1**
	baz=25						
220A	**Playas Peak, P**	**24.80**	**320**	⇑P	**P**	**01 06 13.7**	**+1.2**
	baz=25						
OLIL	**Olney**	**24.91**	**3**	*eP*	**P**	**01 06 15.7**	**+2.6**
	comp=Z,22nm,0.8s						
W25A	**X Bar L Ranch,**	**25.04**	**331**	⇑P	**P**	**01 06 16.1**	**+1.5**
	baz=25						
V26A	**Teesquite Ra**	**25.21**	**333**	⇑P	**P**	**01 06 17.0**	**+0.9**
	baz=25,SNR=6.5						
W24A	**Lazy 6 Ranch,**	**25.49**	**330**	⇓P	**P**	**01 06 19.7**	**+1.0**
	baz=26						
V25A	**Rancho No Teng**	**25.62**	**332**	⇓P	**P**	**01 06 20.6**	**+0.7**
	baz=26						
U26A	**Atchley Ranch,**	**25.69**	**334**	⇑P	**P**	**01 06 21.1**	**+0.5**
	baz=26,SNR=7.1						
V24A	**Rampart Ranch,**	**25.84**	**330**	⇓P	**P**	**01 06 23.1**	**+1.2**
	baz=26						
TUC	**Tucson**	**26.52**	**318**	*eP*	P	01 06 32.8	+5.0
	comp=Z,2.6nm,1.0s						
T25A	**Trinidad**	**26.61**	**334**	⇑P	**P**	**01 06 30.2**	**+1.4**
	baz=27						
S26A	**Kim**	**26.62**	**336**	⇑P	**P**	**01 06 29.7**	**+0.8**
	baz=27						
U23A	**El Rito**	**26.77**	**330**	⇓P	**P**	**01 06 31.7**	**+1.4**
	baz=27,SNR=5.5						
T24A	**Torres, Weston**	**26.84**	**332**	⇑P	**P**	**01 06 32.5**	**+1.6**
	baz=27						
R24A	**Sanders Place,**	**27.82**	**334**	⇓P	**P**	**01 06 40.9**	**+1.3**
	baz=28						
S22A	**4UR Ranch, Cre**	**28.20**	**331**	⇑P	**P**	**01 06 44.5**	**+1.4**
	baz=28						
NNA	**Nana**	**28.71**	**152**	*eP*	**P**	**01 06 47.9**	**+0.4**
	comp=Z,19nm,1.3s						
P23A	**Jefferson**	**29.09**	**334**	⇓P	**P**	**01 06 52.3**	**+1.3**
	baz=29						
O23A	**Lake Granby, G**	**29.83**	**335**	⇑P	**P**	**01 06 58.7**	**+1.3**
	baz=30						
ECSD	**EROS Data Cent**	**30.39**	**350**	*eP*	**P**	**01 07 01.7**	**-0.4**
	comp=Z,6.8nm,0.8s						
N23A	**Red Feather La**	**30.41**	**336**	⇑P	**P**	**01 07 03.6**	**+1.0**
	baz=30						
N22A	**Wattenberg Ran**	**30.54**	**335**	⇑P	**P**	**01 07 04.9**	**+1.1**
	baz=31						
O20A	**White River Ci**	**30.77**	**332**	⇑P	**P**	**01 07 07.4**	**+1.7**
	baz=31						
L21A	**Rawlins**	**31.89**	**335**	⇓P	**P**	**01 07 16.0**	**+0.5**
	baz=32,SNR=6.4						
O17A	**Robinson Place**	**32.01**	**329**	⇑P	**P**	**01 07 17.3**	**+0.7**
	baz=32						
L20A	**Wamsutter**	**32.34**	**334**	⇓P	**P**	**01 07 20.2**	**+0.8**
	baz=32						
RSSD	**Black Hills**	**32.55**	**341**	*eP*	**P**	**01 07 21.7**	**+0.4**
	comp=Z,15nm,1.9s						
J22A	**Minnekst**	**32.77**	**337**	⇑P	**P**	**01 07 23.6**	**+0.5**
	baz=33						
DUG	**Dugway**	**33.08**	**327**	*eP*	**P**	**01 07 27.1**	**+1.3**
	comp=Z,2.9nm,1.1s						
I22A	**9 Mile Ranch,**	**33.19**	**338**	⇑P	**P**	**01 07 27.3**	**+0.6**
	baz=33						
K19A	**Absolon Red Bu**	**33.22**	**334**	⇓P	**P**	**01 07 27.8**	**+0.7**
	baz=33						
H24A	**Dirks Ranch, A**	**33.28**	**341**	⇑P	**P**	**01 07 28.0**	**+0.5**
	baz=33						
PDAR	**Pinedale Array**	**33.48**	**333**	P	**P**	**01 07 29.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=146,slow=7.2,SNR=4.6						
PDAR				ScP	**ScP**	**01 13 42.1**	**+1.6**
	comp=Z,0.7nm,1.0s,baz=134,slow=6.4,SNR=3.5						
J19A	**Crowheart**	**33.67**	**334**	⇑P	**P**	**01 07 31.1**	**+0.1**
	baz=34						
L16A	**Fish Haven**	**33.74**	**331**	⇓P	**P**	**01 07 31.5**	**-0.2**
	baz=34						
H22A	**Clearmont**	**33.75**	**339**	⇑P	**P**	**01 07 32.2**	**+0.7**
	baz=34						
I20A	**Worland**	**33.86**	**336**	⇑P	**P**	**01 07 33.3**	**+0.8**
	baz=34						
H21A	**Big Horn, Sher**	**34.02**	**338**	⇑P	**P**	**01 07 34.4**	**+0.5**
	baz=34						
J18A	**Kendall Valley**	**34.04**	**333**	⇑P	**P**	**01 07 34.6**	**+0.4**
	baz=34						
L15A	**Malad City**	**34.20**	**330**	⇑P	**P**	**01 07 36.3**	**+0.8**
	baz=34						
F24A	**Ekalaka**	**34.23**	**342**	⇑P	**P**	**01 07 36.4**	**+0.8**
	baz=34						
F23A	**Volborg**	**34.42**	**341**	⇓P	**P**	**01 07 37.7**	**+0.5**
	baz=34						
REDW	**Red Top Meadow**	**34.52**	**333**	*eP*	**P**	**01 07 39.5**	**+1.1**
	comp=Z,8.5nm,0.6s						
SNOW	**Snow King Moun**	**34.56**	**333**	*eP*	**P**	**01 07 40.7**	**+2.0**
	comp=Z,11nm,0.6s						
LOHW	**Long Hollow**	**34.61**	**333**	*eP*	**P**	**01 07 40.4**	**+1.3**
	comp=Z,2.6nm,0.6s						
TPAW	**Teton Pass**	**34.67**	**333**	*eP*	**P**	**01 07 41.1**	**+1.4**
	comp=Z,9.3nm,1.5s						
RRI2	**Red Ridge**	**34.72**	**332**	*eP*	**P**	**01 07 41.7**	**+1.6**
	comp=Z,3.3nm,0.9s						
AGMN	**Agassiz Nation**	**34.76**	**353**	*eP*	**P**	**01 07 39.8**	**-0.3**
	comp=Z,11nm,0.7s						
MOOW	**Moose Ponds**	**34.78**	**333**	*eP*	**P**	**01 07 41.3**	**+0.7**
	comp=Z,1.3nm,0.6s						
J16A	**Bone**	**34.80**	**332**	⇓P	**P**	**01 07 41.5**	**+0.8**
	baz=35						
H19A	**Powell**	**34.80**	**336**	⇓P	**P**	**01 07 41.3**	**+0.7**
	baz=35						
E24A	**Baker**	**34.84**	**343**	⇑P	**P**	**01 07 41.9**	**+1.0**
	baz=35						
MDND	**Maddock**	**34.90**	**349**	⇑P	**P**	**01 07 41.5**	**+0.1**
	baz=35,SNR=8.7						
H18A	**Shoshone NF, C**	**35.08**	**335**	⇑P	**P**	**01 07 43.6**	**+0.4**
	baz=35,SNR=7.4						
NVAR	**Mina Array Bea**	**35.11**	**320**	P	**P**	**01 07 44.4**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=138,slow=8.3,SNR=10						
NVAR				pP	**pP**	**01 08 14.1**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=118,slow=7.3,SNR=2.6						
NVAR				ScP	**ScP**	**01 13 49.1**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=133,slow=5.1,SNR=4.8						
J15A	**Blackfoot**	**35.28**	**331**	⇓P	**P**	**01 07 45.5**	**+0.8**
	baz=35						
RLMT	**Red Lodge**	**35.29**	**336**	*eP*	**P**	**01 07 46.0**	**+1.1**
	comp=Z,45nm,2.8s						
RLMT	**Red Lodge**	**35.29**	**336**	⇑P	**P**	**01 07 45.6**	**+0.7**
	baz=35						
D24A	**Glendive**	**35.35**	**343**	⇑P	**P**	**01 07 46.1**	**+0.9**
	baz=36						
J14A	**Carey**	**35.74**	**330**	⇓P	**P**	**01 07 49.4**	**+0.7**
	baz=36						
C24A	**Savage**	**35.75**	**343**	⇑P	**P**	**01 07 49.0**	**+0.4**
	baz=36						
H16A	**Russell Place,**	**35.76**	**334**	⇓P	**P**	**01 07 49.9**	**+0.9**
	baz=36						
F19A	**Roth Farm, Mol**	**35.77**	**337**	⇑P	**P**	**01 07 49.5**	**+0.6**
	baz=36						
D22A	**Cohagen**	**35.93**	**341**	⇑P	**P**	**01 07 51.2**	**+1.0**
	baz=36,SNR=8.1						
E20A	**Meyer Farm, Mu**	**36.03**	**338**	⇓P	**P**	**01 07 51.9**	**+0.9**
	baz=36						
F18A	**Big Timber**	**36.11**	**336**	⇓P	**P**	**01 07 52.4**	**+0.6**
	baz=36,SNR=5.6						
C23A	**Lambert**	**36.22**	**343**	⇓P	**P**	**01 07 53.5**	**+0.9**
	baz=36						
HLID	**Hailey**	**36.35**	**329**	*eP*	**P**	**01 07 54.8**	**+0.8**
	comp=Z,0.7nm,0.7s						
C22A	**Vida**	**36.37**	**342**	⇑P	**P**	**01 07 54.8**	**+0.9**
	baz=36,SNR=5.3						
F17A	**Fitzpatrick Pl**	**36.49**	**335**	⇓P	**P**	**01 07 55.8**	**+0.8**
	baz=37						
D20A	**Manuel Ranch,**	**36.53**	**339**	⇓P	**P**	**01 07 56.4**	**+1.1**
	baz=37,SNR=5.2						
DGMT	**Dagmar**	**36.55**	**344**	*eP*	**P**	**01 07 55.8**	**+0.5**
	comp=Z,25nm,0.9s						
DGMT	**Dagmar**	**36.55**	**344**	⇑P	**P**	**01 07 56.2**	**+0.8**
	baz=37,SNR=5.3						
MCMT	**McKenzie Canyo**	**36.57**	**332**	*eP*	**P**	**01 07 57.4**	**+1.6**
	comp=Z,3.7nm,0.7s						
H14A	**Leadore**	**36.64**	**332**	⇓P	**P**	**01 07 57.7**	**+1.3**
	baz=37						
BOZ	**Bozeman (W)**	**36.68**	**334**	*eP*	**P**	**01 07 57.7**	**+1.0**
	comp=Z,2.4nm,0.8s						
BOZ	**Bozeman (W)**	**36.68**	**334**	⇑P	**P**	**01 07 57.2**	**+0.6**
	baz=37						
ULM	**Lac du Bonnet**	**36.69**	**354**	P	**P**	**01 07 55.2**	**-1.3**
	comp=Z,5.9nm,0.5s,baz=174,slow=9.5,SNR=16						
ULM	**Lac du Bonnet**	**36.69**	**354**	*eP*	**P**	**01 07 55.5**	**-0.9**
	comp=Z,5.9nm,0.6s						
E18A	**Harlowton**	**36.74**	**337**	⇓P	**P**	**01 07 58.0**	**+0.8**
	baz=37						
B23A	**Brockton**	**36.76**	**343**	⇓P	**P**	**01 07 58.2**	**+1.0**
	baz=37						
C21A	**Desert Coulee**	**36.82**	**341**	⇓P	**P**	**01

	comp=N,75nm,8.0s						
KSH			LR	LR			
	comp=E,78nm,9.2s						
KSH			LR	LR			
	comp=Z,240nm,5.1s						
LZH	**Lanzhou**	**128.72 346**	*e*PKP	**PKPdf**	**01 19 55.0**	**0.0**
LZH			sPKP		01 20 45.8		
LZH			LR	LR			
	comp=N,130nm,17.9s						
LZH			LR	LR			
	comp=E,130nm,18.1s						
LZH			LR	LR			
	comp=Z,170nm,20.2s						
CD2	**Chengdu**	**133.65 344**	PKP	**PKPdf**	**01 20 03.5**	**-0.9**
GYA	**Guiyang**	**136.86 338**	*e*Pdif	**Pdif**	**01 17 15.0**	**-2.4**
GYA			PKP	**PKPdf**	**01 20 08.6**	**-2.0**
GYA			sPKP		01 20 58.0		
GYA			PP	**PP**	**01 22 55.9**	**+2.6**
GYA			AMB	AMB			
	comp=Z,70nm,7.6s						
WRA	**Warramunga Arr**	**137.27 255**	PKP	**PKPdf**	**01 20 12.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=90,slow=2.2,SNR=4.2						
FITZ	**Fitzroy Crossi**	**145.55 258**	PKPbc	**PKPab**	**01 20 29.4**	**+2.6**
	comp=Z,2.0nm,0.6s,baz=5.3,slow=6.8,SNR=8.8						

IDC 14 01:05:39.0±3.8, 2°39S×140°53E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=132.9km s-min=31.7km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.47**	**199**	P	P	01 09 56.0	-0.7
	0.2nm,0.3s,baz=21,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.11**	**196**	P	P	01 10 35.7	-0.5
	0.8nm,0.6s,baz=25,slow=9.5,SNR=16						
MKAR	**Makanchi Array**	**70.65**	**322**	P	P	01 16 57.2	+0.6
	0.1nm,0.6s,baz=116,slow=8.5,SNR=2.9						

*PGC **14** 01:11:54.9±2.8, 58°.98N×136°.47W, h5km, ML3.5/3, 72km west of Haines, Ak Southeastern Alaska*
*NEIC **14** 01:11:53.0, 58°.94N×136°.38W, h7km, ML3.5*(PGC), *ML3.2*(AEIC), *6D, After AEIC., Southeastern Alaska*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKAG	**Skagway**	**0.75**	**46**	P	Pg	01 12 07.5	+0.1
SKAG				S	Sg	01 12 17.8	+0.6
BESE	**Bessie Mountai**	**0.88**	**114**	P	Pg	01 12 09.5	-0.4
BESE				S	Sg	01 12 21.4	+0.1
PNL	**Peninsula**	**1.71**	**297**	P	Pn	01 12 22.6	-0.6
PNL				S	Sn	01 12 44.5	-0.9
WHY	**Whitehorse**	**1.89**	**23**	⇑Pn	Pn	01 12 26.1	+0.3
WHY				⇓Pg	Pb	01 12 27.9	0.0
WHY				⇓Sg	Sg	01 12 53.2	-0.7
WHY	**Whitehorse**	**1.89**	**23**	Pn	Pn	01 12 26.1	+0.3
WHY				Pg	Pb	01 12 27.9	0.0
WHY				Sg	Sg	01 12 53.2	-0.7
WHY	**Whitehorse**	**1.89**	**23**	⇑Pn	Pn	01 12 26.1	+0.3
WHY				⇓Pg	Pb	01 12 27.9	0.0
WHY				⇓Sg	Sg	01 12 53.2	-0.7
SIT	**Sitka**	**1.97**	**163**	P	Pn	01 12 27.6	+0.9
SIT				S	Sn	01 12 52.4	+0.8
HYT	**Haines Junctio**	**1.98**	**344**	⇑Pn	Pn	01 12 27.2	+0.2
HYT				⇑Pg	Pb	01 12 29.8	+0.3
HYT				⇑Sg	Sb	01 12 54.2	-0.2
HYT	**Haines Junctio**	**1.98**	**344**	Pn	Pn	01 12 27.2	+0.2
HYT				Pg	Pb	01 12 29.8	+0.3
HYT				Sg	Sb	01 12 54.2	-0.2
HYT	**Haines Junctio**	**1.98**	**344**	⇑Pn	Pn	01 12 27.2	+0.2
HYT				⇑Pg	Pb	01 12 29.8	+0.3
HYT				⇑Sg	Sb	01 12 54.2	-0.2
SAMH	**Samovar Hills**	**2.54**	**300**	P	Pn	01 12 35.2	+0.5
SAMH				S	Sn	01 13 08.1	+2.1
WRAK	**Wrangell Islan**	**3.33**	**138**	*e*Pn	Pn	01 12 48.1	+2.7
WRAK				*e*Sn	Sb	01 13 29.7	-3.2
WRAK				*e*Sb	Sg	01 13 38.4	-1.4
WRAK				*e*Sg	Sn	01 13 45.0	+20
BARN	**Barnard Glacie**	**3.40**	**311**	P	Pn	01 12 46.5	-0.2
BARK	**Barkley Ridge**	**3.43**	**298**	P	Pn	01 12 47.4	+0.5
BARK				S	Sn	01 13 31.2	+3.4
GRIN	**Grindle Hills**	**3.77**	**294**	P	Pn	01 12 52.1	+0.6
KHIT	**Khitrov Hills**	**3.79**	**296**	P	Pn	01 12 52.2	+0.3
BCA3	**Beaver Creek A**	**4.90**	**330**	P	Pn	01 13 07.1	0.0
DAWY	**Dawson**	**5.34**	**346**	⇓Pn	Sg	01 13 14.2	+1.1
DAWY				⇑Sg	Sg	01 14 40.0	-4.6
DAWY	**Dawson**	**5.34**	**346**	P	Pn	01 13 13.9	+0.7
DAWY	**Dawson**	**5.34**	**346**	⇓Pn	Pn	01 13 14.2	+1.1
DAWY				⇑Sg	Sg	01 14 40.0	-4.6
MENT	**Mentasta**	**5.37**	**321**	*e*Pn	Pn	01 13 13.4	-0.1
KLU	**Klutina**	**5.40**	**302**	P	Pn	01 13 14.9	+1.0
DOT	**Dot Lake**	**6.00**	**325**	*e*Pn	Pn	01 13 21.9	-0.3
	4.0nm,0.5s						
EGAK	**Eagle**	**6.28**	**341**	*e*Pn	Pn	01 13 27.2	+1.3
	10nm,0.6s						

*ISK **14** 01:17:29.8, 40°.79N×33°.88E, h3km, MD3.2*
*ISCJB **14** 01:17:30.6±0.5, 40°.78N±0°.03×33°.89E±0°.03, h5km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=154.5*
*DDA **14** 01:17:30.5, 40°.76N×33°.91E, h7km, MD2.9*
*CSEM **14** 01:17:30.4±0.1, 40°.77N×33°.90E, h2km, MD3.2, Error ellipse: s-maj=3.3km s-min=2.8km az=146.0*
ISC 14 01:17:30.2±1.2, 40°.77N±0°.02×33°.91E±0°.02, h0km±12km, n41, σ0°.71/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOS	**Tosya**	**0.28**	**18**	*e*PG	**Pg**	**01 17 36.4**	**+0.8**
TOS	**Tosya**	**0.28**	**18**	*e*Pg	**Pg**	**01 17 36.4**	**+0.8**
CANT	**Cankiri**	**0.28**	**233**	PG	**Pg**	**01 17 36.0**	**+0.4**
CANT				SG	**Sg**	**01 17 40.5**	**+1.4**
ELDT	**Eldivan**	**0.47**	**233**	*i* P	**Pg**	**01 17 39.5**	**+0.4**
ELDT				*i* S	**Sg**	**01 17 46.5**	**+1.3**
ELDT	**Eldivan**	**0.47**	**233**	*i* P	**Pg**	**01 17 39.5**	**+0.4**
ELDT				*i* S	**Sg**	**01 17 46.5**	**+1.3**
CTKT	**Corum**	**0.68**	**102**	*i* P	**Pg**	**01 17 43.7**	**+0.4**
CTKT				*i* S	**Sb**	**01 17 53.9**	**-1.3**
CTKT	**Corum**	**0.68**	**102**	*i* P	**Pg**	**01 17 43.7**	**+0.4**
CTKT				*i* S	**Sb**	**01 17 53.9**	**-1.3**
CORM	**Corum**	**0.81**	**137**	*e*PG	**Pg**	**01 17 46.2**	**+0.5**
CORM				*e*SG	**Sb**	**01 17 59.0**	**+0.3**
CORM	**Corum**	**0.81**	**137**	*e*Pg	**Pg**	**01 17 46.2**	**+0.5**
BALT	**Daday**	**0.86**	**333**	*i* P	**Pb**	**01 17 47.4**	**-0.8**
BALT				*i* S	**Sb**	**01 17 59.9**	**-0.4**
BALT	**Daday**	**0.86**	**333**	*i* P	**Pb**	**01 17 47.4**	**-0.8**
BALT				*i* S	**Sb**	**01 17 59.9**	**-0.4**
BYBT	**Boyabat**	**0.95**	**43**	*e*PG	**Pg**	**01 17 48.6**	**+0.2**
BYBT	**Boyabat**	**0.95**	**43**	*e*Pg	**Pg**	**01 17 48.7**	**+0.2**
SAFT	**Safranbolu**	**1.04**	**297**	*e*PG	**Pg**	**01 17 49.8**	**-0.4**
SAFT	**Safranbolu**	**1.04**	**297**	*e*Pg	**Pg**	**01 17 49.8**	**-0.4**
BZK	**Bozkurt**	**1.19**	**3**	*e*PN	**Pg**	**01 17 52.8**	**-0.2**
BZK	**Bozkurt**	**1.19**	**3**	*e*Pn	**Pg**	**01 17 52.8**	**-0.2**
CDAG	**Cicekdag**	**1.20**	**163**	*i* P	**Pg**	**01 17 52.2**	**-1.0**
CDAG				*i* S	**Sg**	**01 18 08.3**	**-0.4**
CDAG	**Cicekdag**	**1.20**	**163**	*i* P	**Pg**	**01 17 52.2**	**-1.0**
CDAG				*i* S	**Sg**	**01 18 08.3**	**-0.4**
LOD	**Lodumlu**	**1.25**	**225**	*e*PN	**Pg**	**01 17 54.3**	**+0.2**
LOD	**Lodumlu**	**1.25**	**225**	*e*Pn	**Pg**	**01 17 54.3**	**+0.2**
DIKM	**Dikmen**	**1.34**	**49**	*e*PN	**Pn**	**01 17 56.0**	**-0.2**
DIKM	**Dikmen**	**1.34**	**49**	*e*Pn	**Pn**	**01 17 56.0**	**-0.2**
BBAL	**Bala**	**1.37**	**206**	*i* P	**Pn**	**01 17 56.0**	**-0.7**
BBAL				*i* S	**Sg**	**01 18 13.6**	**-0.6**
BBAL	**Bala**	**1.37**	**206**	*i* P	**Pn**	**01 17 56.0**	**-0.7**
BBAL				*i* S	**Sg**	**01 18 13.6**	**-0.6**
HAVZ	**Havza**	**1.40**	**77**	*i* P	**Pn**	**01 17 56.5**	**-0.6**
HAVZ				*i* S	**Sn**	**01 18 17.5**	**+1.2**
HAVZ	**Havza**	**1.40**	**77**	*i* P	**Pn**	**01 17 56.5**	**-0.6**
HAVZ				*i* S	**Sn**	**01 18 17.5**	**+1.2**
AFSR	**Af˙ar-Bala (A**	**1.47**	**206**	*e*PN	**Pn**	**01 17 58.4**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**1.47**	**206**	*e*Pn	**Pn**	**01 17 58.4**	**+0.3**
YOZ	**Yozgat**	**1.56**	**136**	*e*PN	**Pn**	**01 17 59.4**	**0.0**
YOZ	**Yozgat**	**1.56**	**136**	*e*Pn	**Pn**	**01 17 59.4**	**0.0**
KVT	**Kavak**	**1.65**	**79**	*e*PN	**Pb**	**01 18 01.2**	**-0.3**
KVT	**Kavak**	**1.65**	**79**	*e*Pn	**Pb**	**01 18 01.2**	**-0.3**
MDUB	**Mudurnu**	**2.09**	**263**	*e*PN	**Pn**	**01 18 06.6**	**0.0**
MDUB	**Mudurnu**	**2.09**	**263**	*e*Pn	**Pn**	**01 18 06.6**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.26**	**235**	*e*PN	**Pn**	**01 18 09.0**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.26**	**235**	*e*Pn	**Pn**	**01 18 09.0**	**0.0**
BNN	**Bunyan**	**2.43**	**142**	*e*PN	**Pn**	**01 18 12.7**	**+1.4**
BNN	**Bunyan**	**2.43**	**142**	*e*Pn	**Pn**	**01 18 12.7**	**+1.4**
GULT	**Gulveren**	**2.61**	**264**	*e*PN	**Pn**	**01 18 13.7**	**0.0**
GULT	**Gulveren**	**2.61**	**264**	*e*Pn	**Pn**	**01 18 13.7**	**0.0**

*IDC **14** 01:18:32.6±0.6, 26°.70S×176°.38W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.3/20, mbtmp4.2/11, MS3.9/7, Ms1 3.9/7, ms1mx3.6/32, Error ellipse: s-maj=23.7km s-min=20.0km az=152.0*
*ISCJB **14** 01:18:35.7±0.5, 26°.72S±0°.07×176°.4W±0°.1, h29km, mb4.5/20, MS3.9/6, Error ellipse: s-maj=14.0km s-min=8.8km az=25.2*
*NEIC **14** 01:18:39.3±2.2, 26°.83S×176°.34W, h47km±18km, mb4.8/11, Error ellipse: s-maj=15.4km s-min=11.1km az=211.0*
ISC 14 01:18:37.1±0.5, 26.74S±0°.09×176.3W±0°.1, h29km, n68, σ0°.79/58, mb4.6/20, MS3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.88**	**209**	*e*Pn	**Pn**	**01 19 20.7**	**-0.3**
RAO				*e*Sn	**Sn**	**01 19 55.8**	**+1.1**
URZ	**Urewera**	**12.76**	**204**	Sn	Sn	01 23 49.7	-7.8
	1.0nm,0.3s,baz=248,slow=19,SNR=8.4						
URZ	**Urewera**	**12.76**	**204**	Sn	Sn	01 23 49.7	-7.8
AFI	**Afiamalu**	**13.45**	**19**	Pn	Pn	01 21 37.2	-8.9
	2.1nm,0.3s,baz=252,slow=20,SNR=3.0						
AFI				Sn	Sn	01 24 05.4	-9.4
	5.9nm,0.3s,baz=53,slow=20,SNR=2.9						
AFI	**Afiamalu**	**13.45**	**19**	Pn	Pn	01 21 37.2	-8.9
AFI				Sn	Sn	01 24 05.4	-9.4
RAR	**Rarotonga**	**16.08**	**74**	Pn	Pn	01 22 11.3	-10
	2.7nm,0.3s,baz=270,slow=8.5,SNR=3.8						
RAR	**Rarotonga**	**16.08**	**74**	Pn	Pn	01 22 11.3	-10
DZM	**Mont Dzumac**	**16.38**	**283**	LR	LR	01 27 21.4	
	comp=Z,502nm,19.7s,baz=244,slow=32						
HNR	**Honiara**	**28.29**	**303**	LR	LR	01 34 29.2	
	comp=Z,148nm,19.2s,baz=135,slow=34						
CTA	**Charters Tower**	**34.89**	**273**	P	**P**	**01 25 26.8**	**+0.5**
	3.2nm,0.6s,baz=96,slow=12,SNR=4.8						
CTA				LR	LR	01 38 21.3	
	comp=Z,261nm,19.1s,baz=53,slow=34						
CTA	**Charters Tower**	**34.89**	**273**	P	**P**	**01 25 26.8**	**+0.5**
CTAO	**Charters Tower**	**34.89**	**273**	*e*P	**P**	**01 25 25.8**	**-0.4**
	5.9nm,0.9s						
STKA	**Stephens Creek**	**36.89**	**252**	LR	LR	01 40 11.1	
	comp=Z,218nm,19.1s,baz=26,slow=35						
PMG	**Port Moresby**	**38.58**	**290**	*e*P	**P**	**01 25 59.9**	**+2.2**
	21nm,1.2s						
COEN	**Coen**	**39.89**	**280**	*e*P	**P**	**01 26 10.0**	**+1.4**
	33nm,0.6s						
ASAR	**Alice Springs**	**44.92**	**263**	P	**P**	**01 26 49.0**	**-0.6**
	1.2nm,0.4s,baz=90,slow=7.0,SNR=20						
ASAR				LR	LR	01 42 15.7	
	comp=Z,133nm,21.3s,baz=82,slow=32						
ASAR	**Alice Springs**	**44.92**	**263**	P	**P**	**01 26 49.0**	**-0.6**
WRAB	**Tennant Creek**	**45.58**	**268**	*e*P	**P**	**01 26 53.6**	**-1.2**
	6.6nm,0.8s						
WRA	**Warramunga Arr**	**45.59**	**268**	P	**P**	**01 26 53.7**	**-1.3**
	6.4nm,0.7s,baz=106,slow=7.6,SNR=48						
WRA				LR	LR	01 42 54.2	
	comp=Z,96nm,18.6s,baz=100,slow=32						
WRA	**Warramunga Arr**	**45.59**	**268**	P	**P**	**01 26 53.7**	**-1.3**
VNDA	**Vanda**	**51.88**	**186**	P	**P**	**01 27 42.8**	**+0.4**
	0.7nm,0.4s,baz=8.1,slow=7.1,SNR=10						
VNDA	**Vanda**	**51.88**	**186**	P	**P**	**01 27 42.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.96**	**266**	P	**P**	**01 27 58.0**	**-0.7**
	3.1nm,0.8s,baz=111,slow=8.6,SNR=8.8						
FITZ	**Fitzroy Crossi**	**53.96**	**266**	P	**P**	**01 27 58.0**	**-0.7**
QSPA	**South Pole Qui**	**63.36**	**180**	P	**P**	**01 29 04.1**	**+0.6**
	6.8nm,0.8s,baz=44,slow=1.0,SNR=14						
QSPA	**South Pole Qui**	**63.36**	**180**	*e*P	**P**	**01 29 04.0**	**+0.4**
	9.4nm,0.8s						
KAPI	**Kappang**	**64.51**	**278**	LR	LR	01 53 46.0	
	comp=Z,103nm,18.4s,baz=287,slow=33						
KAPI	**Kappang**	**64.51**	**278**	*e*P	**P**	**01 29 11.5**	**-0.2**
	6.9nm,0.9s						
KKM	**Kota Kinabalu**	**72.91**	**286**	*e*P	**P**	**01 30 03.1**	**-1.1**
	12nm,0.8s						
PMSA	**Palmer Station**	**74.98**	**156**	*e*P	**P**	**01 30 14.8**	**-0.5**
	20nm,0.5s						
SNAA	**Sanae**	**81.76**	**178**	*e*P	**P**	**01 30 52.4**	**-0.4**
	2.5nm,0.8s						
NVAR	**Mina Array Bea**	**84.54**	**42**	P	**P**	**01 31 08.5**	**+0.8**
	1.1nm,0.9s,baz=219,slow=7.0,SNR=7.0						
NVAR	**Mina Array Bea**	**84.54**	**42**	P	**P**	**01 31 08.5**	**+0.8**
TXAR	**Lajitas Array**	**89.15**	**56**	P	**P**	**01 31 30.8**	**+0.6**
	0.5nm,0.8s,baz=236,slow=6.4,SNR=4.8						
TXAR	**Lajitas Array**	**89.15**	**56**	P	**P**	**01 31 30.8**	**+0.6**
PDAR	**Pinedale Array**	**92.45**	**43**	P	**P**	**01 31 45.9**	**+0.4**
	0.6nm,0.9s,baz=177,slow=3.6,SNR=3.3						
PDAR	**Pinedale Array**	**92.45**	**43**	P	**P**	**01 31 45.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.62**	**289**	P	**P**	**01 31 51.2**	**+0.1**
	1.2nm,0.5s,baz=146,slow=3.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**93.62**	**289**	P	**P**	**01 31 51.2**	**+0.1**
CHTO	**Chiang Mai**	**93.78**	**289**	*e*P	**P**	**01 31 54.1**	**+2.3**
	2.5nm,0.6s						
COLA	**College**	**93.95**	**12**	*e*P	**P**	**01 31 51.7**	**+0.2**
	1.9nm,0.6s						
ILAR	**Eielson Array**	**94.04**	**12**	P	**P**	**01 31 51.8**	**-0.1**
	0.5nm,0.7s,baz=215,slow=4.8,SNR=6.3						
ILAR	**Eielson Array**	**94.04**	**12**	P	**P**	**01 31 51.8**	**-0.1**
ZALV	**Zalesovo Beam**	**116.26**	**319**	PKP	**PKPdf**	**01 37 16.3**	**-0.9**
	0.3nm,0.3s,baz=356,slow=2.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**116.26**	**319**	PKP	**PKPdf**	**01 37 16.3**	**-0.9**
MKAR	**Makanchi Array**	**116.52**	**311**	PKP	**PKPdf**	**01 37 17.1**	**-1.0**
	0.6nm,0.7s,baz=69,slow=1.8,SNR=9.9						
MKAR	**Makanchi Array**	**116.52**	**311**	PKP	**PKPdf**	**01 37 17.1**	**-1.0**
KURK	**Kurchatov**	**119.55**	**315**	*e*PKPdf	**PKPdf**	**01 37 22.9**	**-0.8**
AAK	**Ala-Archa**	**121.26**	**305**	*e*PKPdf	**PKPdf**	**01 37 26.6**	**-0.9**
BVAR	**Borovoye Array**	**124.77**	**318**	PKP	**PKPdf**	**01 37 33.5**	**-0.1**
	1.1nm,0.7s,baz=236,slow=1.0,SNR=8.7						
BVAR	**Borovoye Array**	**124.77**	**318**	PKP	**PKPdf**	**01 37 33.5**	**-0.1**
BRVK	**Borovoye**	**124.83**	**318**	*e*PKPdf	**PKPdf**	**01 37 33.5**	**-0.2**
ARCES	**ARCESS Array B**	**135.31**	**349**	PKP	**PKPdf**	**01 37 53.0**	**-0.2**
	2.1nm,0.8s,baz=348,slow=5.4,SNR=4.6						
ARCES	**ARCESS Array B**	**135.31**	**349**	PKP	**PKPdf**	**01 37 53.0**	**-0.2**
FINES	**FINESS Array B**	**142.16**	**343**	PKhKP	PKPpre	01 37 59.4	
	1.2nm,0.9s,baz=336,slow=9.0,SNR=3.7						
FINES				PKP	**PKPdf**	**01 38 06.0**	**+0.1**
	2.3nm,0.9s,baz=95,slow=2.3,SNR=3.8						
FINES	**FINESS Array B**	**142.16**	**343**	PKPpre	PKPpre	01 37 59.4	
FINES				PKP	**PKPdf**	**01 38 06.0**	**+0.1**
GNI	**Garni**	**143.54**	**302**	*e*PKPdf	PKPbc	01 38 06.8	+0.1
NB2	**NORSAR Subarra**	**145.33**	**354**	PKP	**PKPab**	**01 38 11.5**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=12,slow=4.1						
NOA	**NORSAR Array B**	**145.33**	**354**	PKPbc	**PKPdf**	**01 38 11.2**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=10,slow=2.4,SNR=14						
NOA	**NORSAR Array B**	**145.33**	**354**	PKPbc	**PKPdf**	**01 38 11.2**	**-0.4**
AKASG	**Malin Array Be**	**149.15**	**328**	PKPbc	PKPbc	01 38 21.8	-0.5
	comp=Z,2.0nm,0.7s,baz=41,slow=3.5,SNR=8.9						
AKASG	**Malin Array Be**	**149.15**	**328**	PKPbc	**PKPbc**	**01 38 21.8**	**-0.5**
BRTR	**Keskin Array B**	**151.94**	**305**	PKPbc	**PKPbc**	**01 38 29.4**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=134,slow=3.1,SNR=5.2						
BRTR	**Keskin Array B**	**151.94**	**305**	PKPbc	**PKPbc**	**01 38 29.4**	**-0.3**
BUR08	**Bucovina Ar. S**	**153.16**	**327**	*e*PKPbc	**PKPbc**	**01 38 33.3**	**+1.3**
TOA0	**Torodi Ar. Sit**	**166.35**	**172**	*e*PKPab	**PKPab**	**01 39 40.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**166.35**	**172**	PKPab	**PKPab**	**01 39 41.0**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=185,slow=4.3,SNR=12						
TORD	**Torodi Ar. Bea**	**166.35**	**172**	PKPab	**PKPab**	**01 39 41.0**	**-0.4**

*ISCJB **14** 01:29:49.8±0.6, 35°.89N±0°.05×140°.19E±0°.07, h75km±4km, mb3.5/7, Error ellipse: s-maj=10.2km s-min=7.0km az=147.3*
*JMA **14** 01:29:51.4±0.1, 35°.92N×140°.13E, h62km±1km, M3.0*
*IDC **14** 01:29:52.7±2.8, 35°.84N×140°.08E, h86km±22km, mb3.3/7, mb1 3.5/9, mb1mx3.3/27, mbtmp3.3/9, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=30.8km s-min=19.3km az=76.0*
ISC 14 01:29:51.2±0.8, 35°.89N±0°.05×140°.16E±0°.06, h70km±7km, n19, σ1°.15/26, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.34**	**4**	P	**Pn**	**01 30 01.9**	**-0.7**
JYT				S	**Sn**	**01 30 09.5**	**-1.4**
TOK	**Tokyo**	**0.39**	**238**	P	**Pn**	**01 30 03.1**	**+0.2**
TOK				*e*S	**Sn**	**01 30 12.1**	**+0.6**
JAG	**Ashikaga**	**0.78**	**313**	P	**Pn**	**01 30 06.5**	**-0.5**
JAG				S	**Sn**	**01 30 17.5**	**-1.3**
JRY	**Ryogami san**	**1.03**	**277**	P	**Pn**	**01 30 09.8**	**-0.2**
JRY				S	**Sn**	**01 30 22.5**	**-1.6**
JOD2	**Odawara 2**	**1.08**	**235**	P	**Pn**	**01 30 09.9**	**-0.7**
JOD2				*e*S	**Sn**	**01 30 23.4**	**-1.7**
BSO3	**Boso 3**	**1.12**	**165**	P	**Pn**	**01 30 10.7**	**-0.2**
BSO3				*e*S	**Sn**	**01 30 26.7**	**+1.0**
JYN	**Shimob**	**1.37**	**254**	P	**Pn**	**01 30 14.4**	**-0.1**
MJAR	**Matsushiro Arr**	**1.71**	**293**	P	**Pn**	**01 30 19.0**	**+0.1**
	22nm,0.3s,baz=99,slow=14,SNR=253						
MJAR				S	**Sn**	**01 30 40.8**	**+0.9**
	17nm,0.3s,baz=128,slow=16,SNR=10						
MAT	**Matsushiro**	**1.71**	**293**	P	**Pn**	**01 30 19.2**	**+0.3**
MAT				S	**Sn**	**01 30 41.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.78**	**187**	LR	LR	01 31 14.3	
	comp=Z,766nm,18.1s,baz=141,slow=30						
KSRS	**Korea Array**	**9.96**	**283**	P	**Pn**	**01 32 13.1**	**+1.8**
	0.2nm,0.3s,baz=96,slow=12,SNR=4.4						
USRK	**Ussuriysk Arra**	**10.39**	**326**	P	**Pn**	**01 32 19.6**	**+2.4**
	0.2nm,0.3s,baz=134,slow=11,SNR=2.9						
SONM	**Songino Array**	**27.61**	**306**	P	**P**	**01 35 32.0**	**0.0**
	0.2nm,0.4s,baz=113,slow=8.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.95**	**313**	P	**P**	**01 37 34.5**	**-0.3**
	0.5nm,0.5s,baz=93,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**43.88**	**303**	P	**P**	**01 37 50.9**	**+0.3**
	1.0nm,0.7s,baz=93,slow=9.5,SNR=11						
ILAR	**Eielson Array**	**51.00**	**32**	P	**P**	**01 38 46.4**	**+1.0**
	0.5nm,0.9s,baz=274,slow=7.4,SNR=5.8						
WRA	**Warramunga Arr**	**55.80**	**187**	P	**P**	**01 39 20.5**	**-0.6**
	1.0nm,0.9s,baz=2.9,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**59.53**	**187**	P	**P**	**01 39 46.5**	**-0.7**
	0.3nm,0.6s,baz=13,slow=8.6,SNR=4.3						
FINES	**FINESS Array B**	**69.35**	**332**	P	**P**	**01 40 49.0**	**-1.9**
	1.0nm,0.7s,baz=92,slow=9.7,SNR=3.9						

*ISCJB **14** 01:44:32.3±0.6, 40°.80N±0°.04×33°.89E±0°.04, h12km±5km, Error ellipse: s-maj=6.5km s-min=5.0km az=155.0*
*ISK **14** 01:44:32.0, 40°.79N×33°.88E, h14km, MD2.9*
*DDA **14** 01:44:32.5, 40°.76N×33°.91E, h7km, MD2.0*
*CSEM **14** 01:44:32.4±0.1, 40°.78N×33°.89E, h15km, MD2.9, Error ellipse: s-maj=3.1km s-min=2.6km az=156.0*
ISC 14 01:44:32.3±1.1, 40.79N±0°.03×33.88E±0°.03, h18km±6km, n25, σ0°.41/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CANT	**Cankiri**	**0.27**	**228**	PG	**Pg**	**01 44 38.0**	**-0.3**
CANT				SG	**Sb**	**01 44 42.6**	**-0.2**
TOS	**Tosya**	**0.27**	**23**	PG	**Pg**	**01 44 38.4**	**-0.1**
TOS	**Tosya**	**0.27**	**23**	*i* Pg	**Pg**	**01 44 38.4**	**-0.1**
ELDT	**Eldivan**	**0.46**	**230**	*i* P	**Pg**	**01 44 41.5**	**-0.1**
ELDT				*i* S	**Sb**	**01 44 48.6**	**+0.2**
ELDT	**Eldivan**	**0.46**	**230**	*i* P	**Pg**	**01 44 41.5**	**-0.1**
ELDT				*i* S	**Sb**	**01 44 48.6**	**+0.2**
CTKT	**Corum**	**0.71**	**103**	*i* P	**Pg**	**01 44 45.6**	**-0.7**
CTKT				*i* S	**Sb**	**01 44 56.0**	**+0.2**
CTKT	**Corum**	**0.71**	**103**	*i* P	**Pg**	**01 44 45.6**	**-0.7**
CTKT				*i* S	**Sb**	**01 44 56.0**	**+0.2**
CORM	**Corum**	**0.83**	**136**	*e*PG	**Pb**	**01 44 48.6**	**+0.3**
CORM				*e*SG	**Sn**	**01 45 00.9**	**-0.3**
CORM	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.88**	**196**	Pn	Pn	01 56 28.1	+1.6
	0.3nm,0.3s,baz=17,slow=11,SNR=9.9						
FITZ				Sn	Sn	01 58 27.0	-13
	0.2nm,0.3s,baz=29,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**14.17**	**159**	Pn	Pn	01 56 56.6	-1.2
	0.5nm,0.3s,baz=337,slow=13,SNR=21						
WRA				Sn	Sn	01 59 21.7	-14
	0.5nm,0.3s,baz=335,slow=20,SNR=8.2						
ASAR	**Alice Springs**	**17.55**	**165**	P	Pn	01 57 41.4	-0.5
	0.5nm,0.3s,baz=342,slow=9.4,SNR=38						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	02 04 33.2	0.0
	0.5nm,0.4s,baz=121,slow=7.8,SNR=19						

KRSC 14 01:55:18.4±1.4, 50.14N×159.30E, h31km±30km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.35**	**348**	*eP*	Pn	01 55 56.4	+1.6
RUS				*eS*	Sn	01 56 24.1	+1.5
ASAK	**Asacha**	**2.41**	**339**	*eP*	Pn	01 55 57.3	+1.5
ASAK				S	Sn	01 56 25.5	+1.1
MTVR	**Mutnovka**	**2.45**	**344**	*eP*	Pn	01 55 57.9	+1.5
MTVR				*eS*	Sn	01 56 26.8	+1.4
GRL	**Gorelyy**	**2.54**	**343**	*eP*	Pn	01 55 59.8	+2.2
GRL				S	Sn	01 56 29.7	+2.2
PET	**Petropavlovsk**	**2.92**	**352**	S	Sn	01 56 39.7	+3.2
SPN	**Mys Shipunski**	**3.00**	**8**	S	Sn	01 56 40.7	+2.2
NLC	**Nalytchevo**	**3.04**	**1**	S	Sn	01 56 42.9	+3.4
UGLR	**Uglovaya**	**3.09**	**355**	P	Pn	01 56 07.2	+2.1
SMAR	**Somma**	**3.14**	**355**	P	Pn	01 56 08.4	+2.4
AVH	**Avacha**	**3.15**	**354**	P	Pn	01 56 09.3	+3.4
SDLR	**Sedlovina**	**3.15**	**355**	P	Pn	01 56 08.4	+2.4
KOK	**Koryaka**	**3.18**	**353**	P	Pn	01 56 09.9	+3.5
KOK				S	Sn	01 56 47.4	+4.0
KRER	**Koryakskii**	**3.19**	**354**	P	Pn	01 56 10.1	+3.5
KRER				S	Sn	01 56 47.8	+4.1
GNL	**Ganaly**	**3.66**	**347**	P	Pn	01 56 15.9	+2.9
MKZ	**Mys Kozlova**	**4.67**	**18**	P	Pn	01 56 28.6	+2.0
MKZ				S	Sn	01 57 19.4	-0.2
KMNR	**Kamenistaya**	**5.66**	**5**	P	Pn	01 56 45.5	+5.1
KBTR	**Krutoberegovo**	**6.44**	**18**	P	Pn	01 56 54.2	+3.3

*NEIC **14** 01:58:40.9, 38.30S×176.00E, h163km, MG4.6(WEL), After WEL.*

WEL 14 01:58:41.2±0.3, 38.29S×175.96E, h161km±2km, ML4.6/21, 10C-3D, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.38**	**180**	PN	Pn	01 59 03.5	+0.1
WHTZ	**Whakaora**	**0.38**	**180**	Pn	Pn	01 59 03.5	+0.1
PRRZ	**Plateau Road**	**0.40**	**122**	PN	Pn	01 59 03.4	0.0
PRRZ				SN	Sn	01 59 20.6	+0.2
PRRZ	**Plateau Road**	**0.40**	**122**	Pn	Pn	01 59 03.5	0.0
PRRZ				Sn	Sn	01 59 20.5	+0.2
ALRZ	**Allen Road**	**0.41**	**132**	PN	Pn	01 59 03.5	0.0
ALRZ				SN	Sn	01 59 20.4	-0.1
ALRZ	**Allen Road**	**0.41**	**132**	Pn	Pn	01 59 03.5	0.0
TARZ	**Mount Tarawera**	**0.44**	**83**	PN	Pn	01 59 03.6	0.0
TARZ	**Mount Tarawera**	**0.44**	**83**	Pn	Pn	01 59 03.6	0.0
RRRZ	**Republican Roa**	**0.44**	**97**	PN	Pn	01 59 03.5	-0.1
RRRZ				SN	Sn	01 59 21.2	+0.6
RRRZ	**Republican Roa**	**0.44**	**97**	Pn	Pn	01 59 03.5	-0.1
RRRZ				Sn	Sn	01 59 21.2	+0.6
WATZ	**Wairara**	**0.46**	**202**	⇑PN	Pn	01 59 03.7	+0.1
WATZ	**Wairara**	**0.46**	**202**	Pn	Pn	01 59 03.8	+0.1
RATZ	**Rangitukua**	**0.60**	**194**	⇑PN	Pn	01 59 04.3	-0.1
RATZ	**Rangitukua**	**0.60**	**194**	Pn	Pn	01 59 04.1	-0.3
TGRZ	**Tauranga**	**0.60**	**23**	⇓PN	Pn	01 59 04.2	-0.2
TGRZ				SN	Sn	01 59 22.1	+0.1
TGRZ	**Tauranga**	**0.60**	**23**	Pn	Pn	01 59 04.2	-0.2
HATZ	**Hinemaiaia**	**0.61**	**170**	⇑PN	Pn	01 59 04.2	-0.2
HATZ				SN	Sn	01 59 21.7	-0.7
HATZ	**Hinemaiaia**	**0.61**	**170**	Pn	Pn	01 59 04.2	-0.2
EDRZ	**Edgecumbe**	**0.64**	**74**	⇓PN	Pn	01 59 04.3	-0.3
EDRZ	**Edgecumbe**	**0.64**	**74**	Pn	Pn	01 59 04.3	-0.3
OPRZ	**Ohinepanea**	**0.65**	**47**	PN	Pn	01 59 04.3	-0.3
OPRZ				SN	Sn	01 59 22.4	0.0
OPRZ	**Ohinepanea**	**0.65**	**47**	Pn	Pn	01 59 03.8	-0.8
TOZ	**Tahuroa Road**	**0.66**	**327**	PN	Pn	01 59 04.6	-0.1
TOZ				SN	Sn	01 59 22.4	-0.2
TOZ	**Tahuroa Road**	**0.66**	**327**	Pn	Pn	01 59 00.8	-3.9
RITZ	**Rihia Road**	**0.69**	**186**	PN	Pn	01 59 05.3	+0.4
RITZ	**Rihia Road**	**0.69**	**186**	Pn	Pn	01 59 05.3	+0.4
KATZ	**Kakaramea**	**0.72**	**197**	⇑PN	Pn	01 59 05.2	0.0
KATZ	**Kakaramea**	**0.72**	**197**	Pn	Pn	01 59 05.2	0.0
KRVZ	**Karewarewa**	**0.84**	**197**	⇑PN	Pn	01 59 05.8	-0.2
KRVZ	**Karewarewa**	**0.84**	**197**	Pn	Pn	01 59 05.8	-0.2
WTVZ	**West Tongariro**	**0.88**	**199**	⇑PN	Pn	01 59 06.2	-0.1
WTVZ	**West Tongariro**	**0.88**	**199**	Pn	Pn	01 59 06.2	-0.1
TWVZ	**Taurewa**	**0.88**	**207**	⇑PN	Pn	01 59 06.2	-0.1
TWVZ	**Taurewa**	**0.88**	**207**	Pn	Pn	01 59 06.2	-0.1
HIZ	**Hauiti**	**0.90**	**255**	⇑PN	Pn	01 59 06.1	-0.1
HIZ	**Hauiti**	**0.90**	**255**	Pn	Pn	01 59 05.8	-0.4
OTVZ	**Oturere**	**0.91**	**194**	⇑PN	Pn	01 59 06.4	-0.1
OTVZ	**Oturere**	**0.91**	**194**	Pn	Pn	01 59 06.4	0.0
URZ	**Urewera**	**0.91**	**89**	⇓PN	Pn	01 59 05.6	-0.7
URZ				SN	Sn	01 59 24.1	-1.4
URZ	**Urewera**	**0.91**	**89**	Pn	Pn	01 59 05.3	-1.0
URZ				Sn	Sn	01 59 23.8	-1.7
NGZ	**Ngauruhoe**	**0.93**	**197**	PN	Pn	01 59 06.4	-0.2
NGZ	**Ngauruhoe**	**0.93**	**197**	Pn	Pn	01 59 06.4	-0.2
WPVZ	**Whakapapa**	**0.97**	**199**	PN	Pn	01 59 06.8	-0.1
WPVZ	**Whakapapa**	**0.97**	**199**	Pn	Pn	01 59 06.8	-0.1
BKZ	**Black Stump Fm**	**0.97**	**155**	⇑PN	Pn	01 59 06.7	-0.2
BKZ	**Black Stump Fm**	**0.97**	**155**	Pn	Pn	01 59 06.0	-0.9
TUVZ	**Tukino**	**1.01**	**193**	PN	Pn	01 59 07.3	0.0
TUVZ	**Tukino**	**1.01**	**193**	Pn	Pn	01 59 07.3	0.0
FWVZ	**Far West T-bar**	**1.02**	**198**	PN	Pn	01 59 07.1	-0.4
FWVZ	**Far West T-bar**	**1.02**	**198**	Pn	Pn	01 59 07.1	-0.4
DRZ	**Dome Shelter**	**1.03**	**197**	PN	Pn	01 59 07.8	+0.1
DRZ	**Dome Shelter**	**1.03**	**197**	Pn	Pn	01 59 07.8	+0.1
NMHZ	**Naumai**	**1.05**	**141**	PN	Pn	01 59 08.2	+0.7
NMHZ	**Naumai**	**1.05**	**141**	Pn	Pn	01 59 08.2	+0.7
TRVZ	**Turoa**	**1.06**	**197**	PN	Pn	01 59 07.5	-0.3
TRVZ	**Turoa**	**1.06**	**197**	Pn	Pn	01 59 07.5	-0.3
WNVZ	**Wahianoa**	**1.08**	**195**	PN	Pn	01 59 07.7	-0.1
WNVZ	**Wahianoa**	**1.08**	**195**	Pn	Pn	01 59 07.7	-0.1
RAHZ	**Arahi**	**1.09**	**126**	PN	Pn	01 59 08.1	+0.4
RAHZ	**Arahi**	**1.09**	**126**	Pn	Pn	01 59 08.1	+0.4
MOVZ	**Moawhango**	**1.13**	**188**	PN	Pn	01 59 07.8	-0.4
MOVZ	**Moawhango**	**1.13**	**188**	Pn	Pn	01 59 07.8	-0.4
MTVZ	**Mangateitei**	**1.16**	**199**	PN	Pn	01 59 08.4	-0.1
MTVZ	**Mangateitei**	**1.16**	**199**	Pn	Pn	01 59 08.4	-0.1
BHHZ	**Black Hill Sta**	**1.20**	**176**	PN	Pn	01 59 08.5	-0.4
BHHZ	**Black Hill Sta**	**1.20**	**176**	Pn	Pn	01 59 08.5	-0.4
MWZ	**Matawai**	**1.24**	**93**	PN	Pn	01 59 08.7	-0.4
MWZ	**Matawai**	**1.24**	**93**	Pn	Pn	01 59 08.7	-0.4
VRZ	**Vera Road**	**1.26**	**228**	PN	Pn	01 59 09.1	-0.1
VRZ	**Vera Road**	**1.26**	**228**	Pn	Pn	01 59 09.1	-0.1
MCHZ	**McNeill Hill**	**1.29**	**154**	PN	Pn	01 59 10.3	+0.7
MCHZ	**McNeill Hill**	**1.29**	**154**	Pn	Pn	01 59 10.3	+0.7
MKAZ	**Moumakai**	**1.33**	**332**	PN	Pn	01 59 09.9	-0.1
MKAZ	**Moumakai**	**1.33**	**332**	Pn	Pn	01 59 09.9	-0.1
KNZ	**Kokohu**	**1.53**	**119**	PN	Pn	01 59 11.8	0.0
KNZ	**Kokohu**	**1.53**	**119**	Pn	Pn	01 59 11.8	0.0
RAEZ	**Rainy Point**	**1.58**	**230**	PN	Pn	01 59 12.9	+0.5
RAEZ	**Rainy Point**	**1.58**	**230**	Pn	Pn	01 59 12.9	+0.5
CKHZ	**Cape Kidnapper**	**1.63**	**148**	PN	Pn	01 59 13.2	+0.3
CKHZ	**Cape Kidnapper**	**1.63**	**148**	Pn	Pn	01 59 13.2	+0.3
PNHZ	**Pukenui**	**1.64**	**173**	PN	Pn	01 59 12.5	-0.5
PNHZ	**Pukenui**	**1.64**	**173**	Pn	Pn	01 59 12.5	-0.5
PRGZ	**Paritu Road**	**1.64**	**113**	PN	Pn	01 59 13.1	0.0
PRGZ	**Paritu Road**	**1.64**	**113**	Pn	Pn	01 59 13.1	0.0
WAZ	**Wanganui**	**1.65**	**207**	PN	Pn	01 59 12.9	-0.2
WAZ	**Wanganui**	**1.65**	**207**	Pn	Pn	01 59 12.9	-0.2
KAHZ	**Kahuranaki**	**1.67**	**155**	PN	Pn	01 59 13.5	+0.1
KAHZ	**Kahuranaki**	**1.67**	**155**	Pn	Pn	01 59 13.5	+0.1
MHGZ	**Mahia Peninsul**	**1.75**	**120**	PN	Pn	01 59 14.5	+0.3
MHGZ	**Mahia Peninsul**	**1.75**	**120**	Pn	Pn	01 59 14.6	+0.3
NEZ	**North Egmont**	**1.76**	**235**	PN	Pn	01 59 15.1	+0.7
NEZ	**North Egmont**	**1.76**	**235**	Pn	Pn	01 59 15.1	+0.7
TSZ	**Takapari Road**	**1.77**	**180**	PN	Pn	01 59 13.9	-0.6
TSZ	**Takapari Road**	**1.77**	**180**	Pn	Pn	01 59 13.9	-0.6
CNGZ	**Carnagh Statio**	**1.78**	**97**	PN	Pn	01 59 14.9	+0.3
CNGZ	**Carnagh Statio**	**1.78**	**97**	Pn	Pn	01 59 14.9	+0.4
DFE	**Dawson Falls**	**1.78**	**234**	PN	Pn	01 59 15.2	+0.5
DFE	**Dawson Falls**	**1.78**	**234**	Pn	Pn	01 59 15.2	+0.5
PKE	**Pukeiti**	**1.79**	**239**	PN	Pn	01 59 14.9	+0.3
PKE	**Pukeiti**	**1.79**	**239**	Pn	Pn	01 59 14.9	+0.3
WPHZ	**Waipukurau**	**1.82**	**168**	PN	Pn	01 59 14.5	-0.4
WPHZ	**Waipukurau**	**1.82**	**168**	Pn	Pn	01 59 14.5	-0.4
PUZ	**Puketiti**	**1.82**	**84**	PN	Pn	01 59 14.5	-0.6
PUZ	**Puketiti**	**1.82**	**84**	Pn	Pn	01 59 14.5	-0.6
PXZ	**Pawanui**	**1.88**	**158**	PN	Pn	01 59 15.3	-0.3
PXZ	**Pawanui**	**1.88**	**158**	Pn	Pn	01 59 15.3	-0.3
MXZ	**Matakaoa Point**	**1.99**	**69**	PN	Pn	01 59 16.7	-0.2
MXZ	**Matakaoa Point**	**1.99**	**69**	Pn	Pn	01 59 16.7	-0.2
DVHZ	**Dannevirke**	**2.02**	**175**	PN	Pn	01 59 16.2	-1.0
DVHZ	**Dannevirke**	**2.02**	**175**	Pn	Pn	01 59 16.2	-0.9
PRHZ	**Porangahau**	**2.05**	**165**	PN	Pn	01 59 17.0	-0.5
PRHZ	**Porangahau**	**2.05**	**165**	Pn	Pn	01 59 17.0	-0.5
POWZ	**Post Office Ro**	**2.11**	**184**	PN	Pn	01 59 17.1	-1.1
POWZ	**Post Office Ro**	**2.11**	**184**	Pn	Pn	01 59 17.1	-1.1
MRZ	**Mangatainoka R**	**2.39**	**187**	PN	Pn	01 59 20.0	-1.6
MRZ	**Mangatainoka R**	**2.39**	**187**	Pn	Pn	01 59 20.0	-1.6
BFZ	**Birch Farm**	**2.40**	**175**	PN	Pn	01 59 20.1	-1.6
BFZ	**Birch Farm**	**2.40**	**175**	Pn	Pn	01 59 20.1	-1.6
TIWZ	**Tintock**	**2.49**	**181**	PN	Pn	01 59 21.2	-1.5
TIWZ	**Tintock**	**2.49**	**181**	Pn	Pn	01 59 21.2	-1.5
OGWZ	**Otaki Gorge**	**2.60**	**193**	PN	Pn	01 59 22.4	-1.6
OGWZ	**Otaki Gorge**	**2.60**	**193**	Pn	Pn	01 59 22.4	-1.6
HOWZ	**Holdsworth Sta**	**2.63**	**187**	PN	Pn	01 59 22.5	-1.9
HOWZ	**Holdsworth Sta**	**2.63**	**187**	Pn	Pn	01 59 22.5	-1.9
KIW	**Kapiti Island**	**2.70**	**197**	PN	Pn	01 59 23.1	-2.1
KIW	**Kapiti Island**	**2.70**	**197**	Pn	Pn	01 59 23.1	-2.1
TMWZ	**Te Maipa**	**2.82**	**181**	PN	Pn	01 59 24.8	-2.0
TMWZ	**Te Maipa**	**2.82**	**181**	Pn	Pn	01 59 24.8	-2.0
MTW	**Mount Morrison**	**2.89**	**187**	PN	Pn	01 59 25.3	-2.3
MTW	**Mount Morrison**	**2.89**	**187**	Pn	Pn	01 59 25.3	-2.3
CAW	**Cannon Point**	**2.90**	**193**	PN	Pn	01 59 25.5	-2.2
CAW	**Cannon Point**	**2.90**	**193**	Pn	Pn	01 59 25.5	-2.2
DUWZ	**D'Urville Isla**	**2.96**	**211**	PN	Pn	01 59 26.3	-2.3
DUWZ	**D'Urville Isla**	**2.96**	**211**	Pn	Pn	01 59 26.3	-2.3
TRWZ	**Traveller**	**3.12**	**184**	PN	Pn	01 59 28.1	-2.3
TRWZ	**Traveller**	**3.12**	**184**	Pn	Pn	01 59 28.1	-2.3
PAWZ	**Paruwai Farm**	**3.12**	**187**	PN	Pn	01 59 28.0	-2.5
PAWZ	**Paruwai Farm**	**3.12**	**187**	Pn	Pn	01 59 28.0	-2.5
WEL	**Wellington**	**3.13**	**197**	PN	Pn	01 59 28.1	-2.5
WEL	**Wellington**	**3.13**	**197**	Pn	Pn	01 59 28.1	-2.5
SNZO	**South Karori**	**3.17**	**197**	PN	Pn	01 59 28.4	-2.7
SNZO	**South Karori**	**3.17**	**197**	Pn	Pn	01 59 28.4	-2.7
MSWZ	**Moikau Station**	**3.17**	**190**	PN	Pn	01 59 28.5	-2.6
MSWZ	**Moikau Station**	**3.17**	**190**	Pn	Pn	01 59 28.5	-2.6
TCW	**Tory Channel**	**3.20**	**203**	PN	Pn	01 59 28.9	-2.5
TCW	**Tory Channel**	**3.20**	**203**	Pn	Pn	01 59 28.9	-2.5
BHW	**Baring Head**	**3.23**	**195**	PN	Pn	01 59 29.1	-2.6
BHW	**Baring Head**	**3.23**	**195**	Pn	Pn	01 59 29.1	-2.6
PLWZ	**Palliser**	**3.32**	**189**	PN	Pn	01 59 30.2	-2.9
PLWZ	**Palliser**	**3.32**	**189**	Pn	Pn	01 59 30.2	-2.9
TUWZ	**Tuamarina**	**3.50**	**206**	PN	Pn	01 59 32.5	-2.7
TUWZ	**Tuamarina**	**3.50**	**206**	Pn	Pn	01 59 32.5	-2.7
NNZ	**Nelson**	**3.54**	**213**	PN	Pn	01 59 33.1	-2.7
NNZ	**Nelson**	**3.54**	**213**	Pn	Pn	01 59 33.1	-2.7
BSWZ	**Blackbirch Sta**	**3.78**	**204**	PN	Pn	01 59 36.1	-2.7
BSWZ	**Blackbirch Sta**	**3.78**	**204**	Pn	Pn	01 59 36.1	-2.7
THZ	**Tophouse**	**4.19**	**213**	PN	Pn	01 59 40.8	-3.4
THZ	**Tophouse**	**4.19**	**213**	Pn	Pn	01 59 40.8	-3.4
KHZ	**Kahutara**	**4.52**	**203**	PN	Pn	01 59 45.1	-3.3
KHZ	**Kahutara**	**4.52**	**203**	Pn	Pn	01 59 45.1	-3.3
DSZ	**Denniston Nort**	**4.70**	**221**	PN	Pn	01 59 46.7	-4.2
DSZ	**Denniston Nort**	**4.70**	**221**	Pn	Pn	01 59 46.7	-4.2
MQZ	**McQueen's Vall**	**5.96**	**204**	PN	Pn	02 00 02.3	-5.1
MQZ	**McQueen's Vall**	**5.96**	**204**	Pn	Pn	02 00 02.3	-5.1
WVZ	**Waitaha Valley**	**6.21**	**218**	PN	Pn	02 00 08.1	-2.6
WVZ	**Waitaha Valley**	**6.21**	**218**	Pn	Pn	02 00 08.1	-2.6
RPZ	**Rata Peaks**	**6.57**	**213**	PN	Pn	02 00 11.3	-4.1
RPZ	**Rata Peaks**	**6.57**	**213**	Pn	Pn	02 00 11.3	-4.1
FOZ	**Fox Glacier**	**7.09**	**220**	PN	Pn	02 00 18.0	-4.3
FOZ	**Fox Glacier**	**7.09**	**220**	Pn	Pn	02 00 18.0	-4.3
ODZ	**Otahua Downs**	**7.83**	**209**	PN	Pn	02 00 27.7	-4.6
ODZ	**Otahua Downs**	**7.83**	**209**	Pn	Pn	02 00 27.7	-4.6
JCZ	**Jackson Bay**	**7.93**	**221**	PN	Pn	02 00 27.5	-6.2
JCZ	**Jackson Bay**	**7.93**	**221**	Pn	Pn	02 00 27.5	-6.2
WKZ	**Wanaka**	**8.35**	**216**	PN	Pn	02 00 34.9	-4.2
WKZ	**Wanaka**	**8.35**	**216**	Pn	Pn	02 00 34.9	-4.2
TUZ	**Tuapeka**	**8.99**	**209**	PN	Pn	02 00 44.7	-2.8
TUZ	**Tuapeka**	**8.99**	**209**	Pn	Pn	02 00 44.7	-2.8
WHZ	**Wether Hill Ro**	**9.65**	**215**	PN	Pn	02 00 51.9	-4.4
WHZ	**Wether Hill Ro**	**9.65**	**215**	Pn	Pn	02 00 51.9	-4.4

*ISCJB **14** 02:03:27.7±0.3, 13.67N±0.05×120.58E±0.07, h122km±3km, mb4.1/18, Error ellipse: s-maj=11.3km s-min=7.2km az=151.7*

*IDC **14** 02:03:27.9±0.6, 13.71N×120.70E, h115km±4km, mb3.7/15, mb1 3.8/15, mb1mx3.7/25, mbtmpg3.7/15, Error ellipse: s-maj=23.5km s-min=11.5km az=74.0*

*MAN **14** 02:03:30, 13.62N×120.53E, h92km, mb4.2, ML3.0, MS2.8*

ISC 14 02:03:28.3±0.6, 13.68N±0.05×120.54E±0.07, h115km±5km, n33, σ1s07/43, mb4.0/18, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**281**	*eP*	**Pn**	**02 03 45.1**	**+0.4**
LUBP				*eS*	**Sn**	**02 03 56.7**	**-0.3**
TGY	**Tagaytay City**	**0.57**	**42**	P	**Pn**	**02 03 46.5**	**+0.3**
	371nm,0.3s,baz=258,slow=2.3,SNR=29						
TGY				S	**Sn**	**02 03 59.7**	**-0.1**
	3µm,0.3s,baz=342,slow=20,SNR=106						
TGY	**Tagaytay City**	**0.57**	**42**	⇑*eP*	**Pn**	**02 03 46.6**	**+0.3**
TGY				*i* S	**Sn**	**02 04 00.2**	**+0.4**
BOAC	**Boac**	**1.28**	**100**	*eP*	**Pn**	**02 03 53.4**	**+0.4**
BOAC				*eS*	**Sn**	**02 04 12.1**	**+0.5**
SJMP	**San Jose**	**1.33**	**155**	*eP*	**Pn**	**02 03 54.3**	**+0.8**
SJMP				*eS*	**Sn**	**02 04 13.1**	**+0.4**
OTRP	**Odiongan**	**1.95**	**132**	*eP*	**Pn**	**02 04 01.3**	**+0.4**
OTRP				*eS*	**Sn**	**02 04 25.0**	**-0.7**
AUQP	**San Andres**	**2.10**	**99**	*eP*	**Pn**	**02 04 05.4**	**+2.5**
CUYO	**Cuyo Island**	**2.85**	**171**	*eP*	**Pn**	**02 04 13.2**	**+0.7**
CUYO				*eS*	**Sn**	**02 04 46.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.29**	**286**	P	**P**	**02 08 07.5**	**+1.7**
	1.9nm,0.6s,baz=97,slow=7.5,SNR=8.4						
SONM	**Songino Array**	**36.04**	**344**	P	**P**	**02 10 18.5**	**0.0**
	5.0nm,0.7s,baz=162,slow=10,SNR=48						
WRA	**Warramunga Arr**	**36.06**	**158**	P	**P**	**02 10 17.0**	**-1.9**
	0.4nm,0.5s,baz=341,slow=8.9,SNR=8.2						
WRA				pP	**pP**	**02 10 43.8**	**-1.0**
	1.0nm,0.7s,baz=339,slow=9.3,SNR=5.3						
ASAR	**Alice Springs**	**39.35**	**160**	P	**P**	**02 10 46.9**	**+0.2**
	0.3nm,0.3s,baz=339,slow=7.0,SNR=6.4						
ASAR				pP	**pP**	**02 11 13.1**	**+0.4**
	0.9nm,0.7s,baz=339,slow=7.0,SNR=3.9						
MKAR	**Makanchi Array**	**45.96**	**324**	P	**P**	**02 11 40.8**	**+1.0**
	5.8nm,0.7s,baz=131,slow=9.0,SNR=69						
ULHL	**Ulahol**	**47.63**	**315**	P	**P**	**02 11 54.8**	**+1.7**
	SNR=11						
KZA	**Kyzart**	**48.25**	**315**	P	**P**	**02 12 00.2**	**+2.1**
	SNR=5.1						
TKM2	**Tokmak 2**	**48.33**	**316**	P	**P**	**02 12 00.0**	**+1.5**
	SNR=6.9						
KBK	**Karagaybulak**	**48.67**	**315**	P	**P**	**02 12 03.0**	**+1.9**
	SNR=6.3						
ZALV	**Zalesovo Beam**	**49.01**	**333**	P	**P**	**02 12 02.9**	**-0.3**
	3.9nm,0.3s,baz=126,slow=7.0,SNR=26						
PETK	**Petropavlovsk-**	**49.12**	**29**	P	**P**	**02 12 03.9**	**-0.2**
	1.9nm,0.8s,baz=230,slow=9.0,SNR=3.8						
AML	**Almayashu**	**49.34**	**314**	P	**P**	**02 12 08.3**	**+1.8**
	SNR=8.9						
EKS2	**Erkin-Say**	**49.48**	**315**	P	**P**	**02 12 08.7**	**+1.5**
	SNR=5.9						
BVAR	**Bovoye Array**	**55.70**	**326**	P	**P**	**02 12 53.1**	**+0.4**
	2.6nm,0.6s,baz=115,slow=8.8,SNR=24						
RDF	**Al-Radifah**	**68.76**	**296**	*eP*	**P**	**02 14 21.3**	**+1.1**
RDF				AMb	AMB	02 14 22.0	
	comp=Z,14nm,1.2s						
MIB	**Mutribah**	**68.88**	**297**	*eP*	**P**	**02 14 21.4**	**+0.4**
MIB				AMb	AMB	02 14 21.5	
	comp=Z,15nm,0.7s						
NAY	**Al-Naaiem**	**69.00**	**296**	*eP*	**P**	**02 14 21.9**	**+0.2**
NAY				AMb	AMB	02 14 22.3	
	comp=Z,6.8nm,0.7s						
KBZ	**Khabaz**	**71.78**	**312**	P	**P**	**02 14 37.6**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=155,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**78.84**	**26**	P	**P**	**02 15 17.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=280,slow=5.0,SNR=3.5						
BRTR	**Keskin Array B**	**79.04**	**308**	P	**P**	**02 15 19.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=115,slow=7.7,SNR=4.8						
ARCES	**ARCESS Array B**	**79.05**	**339**	P	**P**	**02 15 18.9**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=83,slow=7.7,SNR=21						
FINES	**FINESS Array B**	**80.23**	**331**	P	**P**	**02 15 25.1**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=54,slow=7.1,SNR=8.7						
NOA	**NORSAR Array B**	**87.21**	**333**	P	**P**	**02 15 60.0**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=69,slow=4.6,SNR=4.8						
YKA	**Yellowknife Ar**	**92.86**	**22**	P	**P**	**02 16 27.2**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=305,slow=4.2,SNR=7.6						
YKA				pP	**pP**	**02 16 57.0**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=280,slow=3.7,SNR=2.5						
PLCA	**Paso Flores**	**151.35**	**162**	PKPbc	**PKPbc**	**02 23 08.6**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=160,slow=4.6,SNR=3.8						

IDC 14 02:18:57.9±1.3, 53.25N×35.10W, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/31, mbtmpg3.4/6, MS3.4/4, Ms1 3.4/4, ms1mx2.9/35, Error ellipse: s-maj=53.9km s-min=21.0km az=35.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.15**	**110**	P	P	02 24 22.7	-1.9
	1.0nm,0.8s,baz=310,slow=9.9,SNR=6.6						
NOA	**NORSAR Array B**	**25.81**	**54**	LR	LR	02 33 53.2	
	comp=Z,34nm,20.2s,baz=130,slow=35						
ULM	**Lac du Bonnet**	**36.76**	**291**	LR	LR	02 39 49.4	
	comp=Z,80nm,18.7s,baz=262,slow=34						
YKA	**Yellowknife Ar**	**40.65**	**316**	P	P	02 26 39.1	-0.1
	0.3nm,0.8s,baz=63,slow=8.7,SNR=4.5

GERES **GERESS Array B** 30.48 78 P **P** 02 52 38.1 +1.1
RES **Resolute Bay** 31.89 334 P **P** 02 52 49.5 +0.5
1.9nm,1.0s,baz=113,slow=8.3,SNR=3.6
RES **Resolute Bay** 31.89 334 P **P** 02 52 49.5 +0.5
MORC **Moravsky Berou** 32.32 74 *e*P **P** 02 52 52.4 -0.7
3.6nm,1.2s
FINES **FINESS Array B** 32.91 51 P **P** 02 52 58.2 +0.1
1.3nm,0.8s,baz=330,slow=11,SNR=3.7
FINES **FINESS Array B** 32.91 51 P **P** 02 52 58.2 +0.1
EYMN **Ely** 35.50 285 *e*P **P** 02 53 20.8 +0.1
4.7nm,1.3s
ULM **Lac du Bonnet** 36.89 291 P **P** 02 53 32.4 -0.1
2.5nm,0.8s,baz=67,slow=6.1,SNR=2.8
ULM **Lac du Bonnet** 36.89 291 P **P** 02 53 32.4 -0.1
BUR08 **Bucovina Ar. S** 37.79 73 *e*P **P** 02 53 40.5 +0.2
WVT **Waverly** 40.25 267 *e*P **P** 02 54 00.4 -0.5
5.4nm,1.1s
ECSD **EROS Data Cent** 40.78 282 *e*P **P** 02 54 05.8 +0.6
6.5nm,1.0s
YKA **Yellowknife Ar** 40.83 316 P **P** 02 54 05.2 -0.1
1.2nm,0.9s,baz=64,slow=8.4,SNR=12
YKA PcP **PcP** 02 56 04.5 -1.5
0.9nm,0.8s,baz=61,slow=3.4,SNR=12
YKA **Yellowknife Ar** 40.83 316 P **P** 02 54 05.2 -0.1
YKA PcP **PcP** 02 56 04.5 -1.5
INK **Inuvik** 45.02 329 P **P** 02 54 39.2 0.0
2.2nm,0.9s,baz=59,slow=8.9,SNR=6.1
INK **Inuvik** 45.02 329 P **P** 02 54 39.2 0.0
BR131 **Keskin Array S** 47.38 77 *e*P **P** 02 54 59.7 +1.3
2.9nm,0.8s
BRTR **Keskin Array B** 47.38 77 P P 02 55 00.0 +1.6
3.3nm,0.8s,baz=308,slow=5.7,SNR=15
BRTR **Keskin Array B** 47.38 77 P P 02 55 00.0 +1.6
WMOK **Wichita Mounta** 47.80 274 *e*P **P** 02 54 60.0 -1.6
5.3nm,1.3s
LKWY **Lake** 48.22 292 *e*P **P** 02 55 06.5 +1.5
2.1nm,0.8s
BW06 **Boulder Array** 48.88 290 *e*P **P** 02 55 10.4 +0.4
3.6nm,1.2s
PDAR **Pinedale Array** 48.88 290 P **P** 02 55 11.2 +1.2
2.1nm,1.1s,baz=67,slow=9.9,SNR=6.4
PDAR **Pinedale Array** 48.88 290 P **P** 02 55 11.2 +1.2
MOOW **Moose Ponds** 48.93 291 *e*P **P** 02 55 10.1 -0.3
2.7nm,1.2s
LOHW **Long Hollow** 48.94 291 *e*P **P** 02 55 10.1 -0.3
2.0nm,1.1s
TPAW **Teton Pass** 49.21 291 *e*P **P** 02 55 12.5 -0.1
3.5nm,1.1s
TOA0 **Torodi Ar. Sit** 49.33 130 *e*P **P** 02 55 13.1 -0.3
TORD **Torodi Ar. Bea** 49.33 130 P **P** 02 55 12.8 -0.6
1.4nm,1.1s,baz=330,slow=7.4,SNR=7.3
TORD **Torodi Ar. Bea** 49.33 130 P **P** 02 55 12.8 -0.6
HKT **Hockley** 49.36 267 *e*P **P** 02 55 13.7 +0.2
4.6nm,0.9s
AMTX **Amarillo** 49.44 276 *e*P **P** 02 55 15.3 +1.1
16nm,0.9s
ARU **Arti** 50.05 46 *e*P **P** 02 55 19.4 +0.9
3.7nm,0.9s
HLID **Hailey** 51.10 293 *e*P **P** 02 55 25.5 -1.3
5.8nm,1.3s
MALT **Malatya** 51.11 76 *e*P **P** 02 55 25.1 -1.8
3.0nm,0.8s
ILAR **Eielson Array** 51.40 329 P **P** 02 55 29.4 +0.9
1.9nm,0.9s,baz=46,slow=5.7,SNR=17
ILAR PcP **PcP** 02 56 42.4 -0.5
0.9nm,0.9s,baz=22,slow=3.8,SNR=6.2
ILAR **Eielson Array** 51.40 329 P **P** 02 55 29.4 +0.9
ILAR PcP **PcP** 02 56 42.4 -0.5
ANMO **Albuquerque** 52.25 280 *e*P **P** 02 55 36.3 +0.8
3.3nm,1.0s
DUG **Dugway** 52.41 289 *e*P **P** 02 55 38.4 +1.8
3.9nm,1.2s
ELK **Elko** 53.41 291 *e*P **P** 02 55 43.4 -0.8
GNI **Garni** 53.52 70 *e*P **P** 02 55 45.4 +0.6
4.9nm,0.9s
MNTX **Cornudas Mount** 53.88 276 *e*P **P** 02 55 46.8 -0.6
4.5nm,1.4s
TXAR **Lajitas Array** 54.53 273 P **P** 02 55 53.6 +1.3
0.6nm,1.0s,baz=22,slow=5.0,SNR=3.9
TXAR PcP **PcP** 02 56 54.8 -0.7
0.7nm,0.8s,baz=114,slow=4.0,SNR=6.4
TXAR **Lajitas Array** 54.53 273 P **P** 02 55 53.6 +1.3
TXAR PcP **PcP** 02 56 54.8 -0.7
NVAR **Mina Array Bea** 56.72 291 P **P** 02 56 09.0 +0.9
0.8nm,1.0s,baz=69,slow=4.9,SNR=3.7
NVAR **Mina Array Bea** 56.72 291 P **P** 02 56 09.0 +0.9
BRVK **Borovoye** 57.34 44 *e*P **P** 02 56 11.9 0.0
3.7nm,0.9s
BVAR **Borovoye Array** 57.40 44 P **P** 02 56 12.4 0.0
1.1nm,0.7s,baz=302,slow=8.3,SNR=3.6
BVAR **Borovoye Array** 57.40 44 P **P** 02 56 12.3 0.0
ROSC **El Rosal** 57.84 228 P **P** 02 56 17.7 +1.3
4.9nm,0.7s,baz=259,slow=19,SNR=5.7
ROSC **El Rosal** 57.84 228 P **P** 02 56 17.7 +1.3
KURK **Kurchatov** 62.50 41 *e*P **P** 02 56 47.5 +0.2
2.9nm,1.0s
KURBB **Kurchatov Arra** 62.54 41 P **P** 02 56 46.3 -1.3
1.1nm,0.7s,baz=321,slow=7.3,SNR=5.1
MK31 **Makanchi Array** 67.09 42 *e*P **P** 02 57 17.7 +0.3
MKAR **Makanchi Array** 67.09 42 P **P** 02 57 17.5 +0.1
1.2nm,0.7s,baz=330,slow=6.3,SNR=9.9
MKAR **Makanchi Array** 67.09 42 P **P** 02 57 17.5 +0.1
SONM **Songino Array** 74.25 26 P **P** 02 58 01.5 +0.4
1.1nm,1.0s,baz=327,slow=3.2,SNR=5.5
SONM **Songino Array** 74.25 26 P **P** 02 58 01.5 +0.4
ULN **Ulaanbaatar** 74.40 25 *e*P **P** 02 58 01.2 -0.8
14nm,1.6s
WRAB **Tennant Creek** 145.92 18 *e*PKPbc **PKPab** 03 06 03.2 -1.0
WRA **Warramunga Arr** 145.93 18 PKPbc **PKPab** 03 06 03.5 -0.7
6.7nm,1.0s,baz=347,slow=2.7,SNR=28
WRA **Warramunga Arr** 145.93 18 PKPbc **PKPab** 03 06 03.5 -0.7
ASAR **Alice Springs** 149.46 20 PKPbc **PKPbc** 03 06 12.6 -0.8
1.9nm,0.8s,baz=346,slow=2.3,SNR=25
ASAR **Alice Springs** 149.46 20 PKPbc **PKPbc** 03 06 12.6 -0.8

*IDC **14** 02:47:11.0±1.0,39.80N×68.93E,h0km,mb3.8/6,*
mb1 3.8/11,mb1mx3.6/31,mbtmp3.7/11,ML3.5/5,MS3.5/1,
Ms1 3.5/1,ms1mx2.2/58,Error ellipse: s-maj=19.4km
s-min=11.5km az=160.0
*ISCJB **14** 02:47:11.0±0.8,39.94N±0.09×68.67E±0.07,h10km,*
mb3.8/6,MS3.5/1,Error ellipse: s-maj=12.3km
s-min=7.7km az=176.8
*NNC **14** 02:47:22.1±2.8,40.58N×68.49E,h19km±12km,mb3.5,*
mpv3.3,Error ellipse: s-maj=19.2km s-min=14.7km
az=14.0

ISC 14 02:47:13.6±1.6,39.9N±0.2×68.68E±0.09,h10km,n28,
σ0.972/19,mb3.8/6,6C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.45**	**23**	⇑Pn	**Pn**	**02 48 07.5**	**+0.1**
	1.5nm,0.2s,baz=210,slow=15,SNR=254						
KK31				⇑Pg	**Pb**	**02 48 15.3**	**+0.5**
	5.3nm,0.2s,baz=205,slow=21,SNR=68						
KK31				⇓Lg	Lg	02 48 56.9	
	78nm,0.3s,baz=204,slow=30,SNR=22						
AML	**Almayashu**	**4.38**	**58**	P	Pn	02 48 19.4	-1.1
	SNR=41						
EKS2	**Erkin-Say**	**4.71**	**53**	P	**Pn**	**02 48 25.2**	**+0.5**
	SNR=9.9						
AAK	**Ala-Archa**	**5.14**	**57**	Pn	**Pn**	**02 48 30.1**	**-0.7**
	2.4nm,0.3s,baz=186,slow=4.0,SNR=19						
AAK				Sn	**Sn**	**02 49 30.2**	**-0.1**
	3.2nm,0.3s,baz=24,slow=20,SNR=4.0						
AAK				Lg	Lg	02 49 52.4	
	4.9nm,0.3s,baz=161,slow=18,SNR=3.8						
AAK	**Ala-Archa**	**5.14**	**57**	P	**Pn**	**02 48 30.6**	**-0.2**
	SNR=10						
KZA	**Kyzart**	**5.41**	**65**	P	**Pn**	**02 48 34.4**	**-0.3**
	SNR=17						
KBK	**Karagaybulak**	**5.45**	**58**	P	**Pn**	**02 48 34.9**	**0.0**
	SNR=9.8						
KSH	**Kashi**	**5.64**	**92**	Pn	Pn	02 48 34.3	-3.3
KSH				Sn	Sn	02 49 32.6	-10
KSH				smax	smax		
	comp=N,27nm,0.8s						
KSH				smax	smax		
	comp=E,26nm,0.9s						
TKM2	**Tokmak 2**	**5.99**	**58**	P	**Pn**	**02 48 41.8**	**-0.7**
	SNR=6.7						
AB31	**Akbulak array**	**11.20**	**329**	⇑Pn	**Pn**	**02 49 52.2**	**-1.4**
	comp=E,0.6nm,0.2s,baz=150,slow=13,SNR=88						
AB31				⇓Sn	Sn	02 51 50.7	-8.1
	comp=E,3.5nm,0.6s,baz=150,slow=24,SNR=9.2						
MK31	**Makanchi Array**	**12.04**	**51**	⇓Pn	Pn	02 50 10.3	+5.2
	comp=E,0.5nm,0.6s,baz=235,slow=14,SNR=6.5						
MK31				⇑Lg	Lg	02 53 34.8	
	comp=E,1.7nm,0.7s,baz=228,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**12.04**	**51**	Pn	Pn	02 50 02.8	-2.3
	comp=E,0.1nm,0.3s,baz=246,slow=16,SNR=6.2						
MKAR				Lg	Lg	02 53 37.7	
	comp=E,0.2nm,0.3s,baz=244,slow=5,SNR=5.1						
KURBB	**Kurchatov Arra**	**12.73**	**30**	Lg	Lg	02 53 52.2	
	comp=E,0.1nm,0.3s,baz=216,slow=31,SNR=11						
VOSK	**Vostochnaya**	**12.89**	**6**	⇑Lg	Lg	02 53 52.7	
	comp=E,4.8nm,1.0s						
AKTO	**Aktyubinsk**	**12.90**	**328**	Pn	**Pn**	**02 50 16.0**	**-0.8**
	comp=E,0.5nm,0.3s,baz=129,slow=14,SNR=8.4						
AKTO				Sn	Sn	02 52 32.2	-8.1
	comp=E,0.1nm,0.3s,baz=139,slow=19,SNR=3.8						
AKTO	**Aktyubinsk**	**12.90**	**328**	Pn	**Pn**	**02 50 16.6**	**-0.2**
	comp=E,0.7nm,1.4s						
ZRNK	**Zerenda**	**13.02**	**1**	⇓Pn	**Pn**	**02 50 19.3**	**+0.8**
	comp=E,2.0nm,0.8s						
ZRNK				⇓Sn	Sn	02 52 34.1	-9.2
	comp=E,1.8nm,0.6s						
ZRNK				⇓Lg	Lg	02 53 58.7	
	comp=E,6.9nm,1.4s						
BVA0	**Borovoye Array**	**13.14**	**5**	⇓Pn	**Pn**	**02 50 20.0**	**-0.2**
	comp=E,0.2nm,0.6s,baz=205,slow=38,SNR=4.1						
BVA0				⇓Lg	Lg	02 54 01.7	
BVAR	**Borovoye Array**	**13.14**	**5**	Pn	**Pn**	**02 50 18.7**	**-1.5**
	comp=E,0.2nm,0.3s,baz=173,slow=13,SNR=3.0						
BRVK	**Borovoye**	**13.17**	**4**	⇑Lg	Lg	02 54 03.2	
	comp=E,3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**17.77**	**33**	P	**Pn**	**02 51 20.1**	**-0.7**
	comp=E,0.4nm,0.3s,baz=231,slow=12,SNR=9.7						
ARCES	**ARCESS Array B**	**37.27**	**337**	P	**P**	**02 54 25.4**	**+0.2**
	comp=E,5.1nm,1.0s,baz=116,slow=8.4,SNR=3.9						
HFS	**Hagfors**	**39.25**	**320**	P	**P**	**02 54 42.4**	**+0.5**
	comp=E,1.3nm,0.6s,baz=106,slow=9.3,SNR=9.0						
KEST	**Kesra**	**46.30**	**285**	LR	LR	03 16 00.8	
	comp=E,49nm,19.3s,baz=225,slow=37						
TORD	**Torodi Ar. Bea**	**64.06**	**266**	P	**P**	**02 57 48.5**	**+0.6**
	comp=E,1.0nm,0.7s,baz=60,slow=6.0,SNR=22						
YKA	**Yellowknife Ar**	**77.88**	**2**	P	P	02 59 10.0	-1.0
	comp=E,0.2nm,0.5s,baz=352,slow=6.0,SNR=5.7						
WRA	**Warramunga Arr**	**85.34**	**121**	P	P	02 59 49.0	-2.0
	comp=E,0.5nm,1.0s,baz=329,slow=4.8,SNR=5.2						
ASAR	**Alice Springs**	**87.70**	**124**	P	P	03 00 00.7	-1.8
	comp=E,0.2nm,0.3s,baz=317,slow=4.8,SNR=6.8						

IDC 14 02:55:58.7±0.9,53.59N×34.43W,h0km,mb3.5/12,
mb1 3.7/12,mb1mx3.6/33,mbtmp3.5/12,MS3.6/5,
Ms1 3.6/5,ms1mx3.2/36,Error ellipse: s-maj=31.2km
s-min=17.4km az=9.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**20.89**	**24**	LR	LR	03 06 38.1	
	comp=Z,75nm,18.7s,baz=212,slow=31						
ESDC	**Sonseca Array**	**24.89**	**112**	P	P	03 01 21.2	-1.9
	0.8nm,0.9s,baz=312,slow=9.6,SNR=5.0						
GERES	**GERESS Array B**	**30.05**	**79**	P	P	03 02 10.0	+0.6
	0.2nm,0.5s,baz=291,slow=8.3,SNR=2.8						
FINES	**FINESS Array B**	**32.31**	**51**	P	P	03 02 30.0	+1.0
	2.2nm,0.9s,baz=303,slow=7.8,SNR=3.1						
YKA	**Yellowknife Ar**	**40.69**	**315**	P	P	03 03 38.9	-1.4
	0.2nm,0.8s,baz=58,slow=9.1,SNR=3.7						
YKA				PcP	PcP	03 05 43.5	+1.7
	0.4nm,0.9s,baz=62,slow=3.2,SNR=5.5						
INK	**Inuvik**	**44.74**	**329**	LR	LR	03 22 13.8	
	comp=Z,68nm,18.4s,baz=342,slow=35						
BRTR	**Keskin Array B**	**46.94**	**78**	P	P	03 04 30.3	-0.8
	0.9nm,0.8s,baz=307,slow=6.8,SNR=3.6						
PDAR	**Pinedale Array**	**49.02**	**289**	P	P	03 04 47.4	+0.1
	0.7nm,1.0s,baz=58,slow=4.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**49.42**	**131**	P	P	03 04 51.2	+0.9
	1.0nm,1.1s,baz=336,slow=7.7,SNR=4.4						
ILAR	**Eielson Array**	**51.11**	**329**	LR	LR	03 25 10.1	
	comp=Z,67nm,19.8s,baz=80,slow=34						
TXAR	**Lajitas Array**	**54.84**	**273**	P	P	03 05 31.1	+0.5
	0.3nm,0.8s,baz=72,slow=5.8,SNR=3.4						
BVAR	**Borovoye Array**	**56.79**	**44**	P	P	03 05 45.2	+0.9
	0.4nm,0.5s,baz=297,slow=4.7,SNR=3.4						
JTS	**untasAbangare**	**58.97**	**242**	LR	LR	03 26 15.9	
	comp=Z,79nm,21.8s,baz=83,slow=31						
KURBB	**Kurchatov Arra**	**61.92**	**42**	P	P	03 06 20.6	+0.9
	0.2nm,0.3s,baz=332,slow=7.0,SNR=4.6						
MKAR	**Makanchi Array**	**66.47**	**42**	P	P	03 06 49.3	-0.4
	0.2nm,0.5s,baz=336,slow=5.7,SNR=4.2						
PETK	**Petropavlovsk-**	**73.19**	**352**	LR	LR	03 41 46.5	
	comp=Z,41nm,18.3s,baz=45,slow=38						
SONM	**Songino Array**	**73.63**	**26**	P	P	03 07 33.2	-0.5
	0.2nm,0.6s,baz=350,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**145.32**	**19**	PKPbc	PKPbc	03 15 35.2	-2.9
	1.9nm,1.1s,baz=345,slow=3.0,SNR=2.6						

*IDC **14** 02:56:59.6±0.9,53.02N×35.14W,h0km,mb3.8/14,*
mb1 4.0/16,mb1mx3.8/37,mbtmp3.9/16,ML3.1/2,MS3.6/5,
Ms1 3.5/5,ms1mx3.2/31,Error ellipse: s-maj=28.4km
s-min=14.2km az=7.0
*ISCJB **14** 02:57:00.1±0.5,53.1N±0.1×35.06W±0.08,h13km,*
mb4.1/27,MS3.5/4,Error ellipse: s-maj=14.6km
s-min=7.2km az=4.4
*NEIC **14** 02:57:01.3±0.3,53.03N×35.06W,h10km,mb4.3/14,Error*
ellipse: s-maj=10.2km s-min=5.1km az=185.0

ISC 14 02:57:01.7±0.7,53.0N±0.1×35.11W±0.08,h13km,n56,
σ0.972/54,mb4.2/27,MS3.6/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.93**	**337**	Pn	**Pn**	**03 00 45.5**	**+0.3**
	0.4nm,0.3s,baz=129,slow=12,SNR=4.1						
SFJD	**Kangerlussuaq**	**15.93**	**337**	Pn	**Pn**	**03 00 45.5**	**+0.3**
SCHQ	**Schefferville**	**18.69**	**288**	P	**Pn**	**03 01 20.2**	**+0.5**
	0.3nm,0.3s,baz=89,slow=14,SNR=5.3						
SCHQ				LR	LR	03 07 08.2	
	comp=Z,261nm,21.2s,baz=83,slow=33						
SCHQ	**Schefferville**	**18.69**	**288**	P	**Pn**	**03 01 20.2**	**+0.5**
FRB	**Frobisher Bay**	**20.29**	**315**	P	**P**	**03 01 36.8**	**+0.1**
	8.0nm,1.1s,baz=106,slow=12,SNR=5.0						
FRB	**Frobisher Bay**	**20.29**	**315**	P	**P**	**03 01 36.8**	**+0.1**
ESDC	**Sonseca Array**	**25.07**	**110**	P	**P**	**03 02 26.2**	**+0.5**
	0.9nm,0.7s,baz=309,slow=9.0,SNR=5.7						
ESDC	**Sonseca Array**	**25.07**	**110**	P	**P**	**03 02 26.2**	**+0.5**
NOA	**NORSAR Array B**	**25.94**	**54**	P	**P**	**03 02 33.6**	**+0.2**
	1.7nm,1.0s,baz=275,slow=9.7,SNR=2.5						
NOA	**NORSAR Array B**	**25.94**	**54**	P	**P**	**03 02 33.6**	**+0.2**
ULM	**Lac du Bonnet**	**36.83**	**291**	P	**P**	**03 04 07.2**	**-1.9**
	0.8nm,0.3s,baz=92,slow=12,SNR=2.9						
ULM	**Lac du Bonnet**	**36.83**	**291**	P	**P**	**03 04 07.2**	**-1.9**
KIEV	**Kiev**	**38.60**	**67**	*e*P	**P**	**03 04 23.4**	**-0.7**
	1.6nm,0.4s						
MLR	**Muntele Rosu**	**39.46**	**76**	LR	LR	03 18 40.1	
	comp=Z,20nm,21.1s,baz=304,slow=33						
YKA	**Yellowknife Ar**	**40.80**	**316**	P	**P**	**03 04 41.7**	**-0.5**
	0.9nm,0.9s,baz=64,slow=8.1,SNR=8.0						
YKA	**Yellowknife Ar**	**40.80**	**316**	P	**P**	**03 04 41.8**	**-0.5**
INK	**Inuvik**	**45.01**	**329**	*e*P	**P**	**03 05 16.4**	**+0.2**
	16nm,1.6s						
EGMT	**Eagleton**	**45.73**	**295**	*e*P	**P**	**03 05 22.0**	**-0.4**
	4.8nm,0.9s						
BRTR	**Keskin Array B**	**47.45**	**77**	P	**P**	**03 05 36.7**	**+0.7**
	2.0nm,0.7s,baz=303,slow=6.4,SNR=7.6						
BRTR				LR	LR	03 26 53.1	
	comp=Z,56nm,18.5s,baz=198,slow=38						
BRTR	**Keskin Array B**	**47.45**	**77**	P	**P**	**03 05 36.7**	**+0.7**
WMOK	**Wichita Mounta**	**47.73**	**274**	*e*P	**P**	**03 05 38.4**	**+0.4**
	1.4nm,0.5s						
BW06	**Boulder Array**	**48.82**	**290**	*e*P	**P**	**03 05 46.6**	**0.0**
	3.1nm,1.1s						
PDAR	**Pinedale Array**	**48.82**	**290**	P	**P**	**03 05 46.8**	**+0.1**
	1.3nm,1.0s,baz=63,slow=8.2,SNR=5.4						
PDAR	**Pinedale Array**	**48.82**	**290**	P	**P**	**03 05 46.8**	**+0.1**
TOA0	**Torodi Ar. Sit**	**49.36**	**130**	*e*P	**P**	**03 05 50.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**49.36**	**130**	P	**P**	**03 05 50.1**	**-0.6**
	0.4nm,1.1s,baz=331,slow=7.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**49.36**	**130**	P	**P**	**03 05 50.1**	**-0.6**
AMTX	**Amarillo**	**49.37**	**276**	*e*P	**P**	**03 05 52.2**	**+1.4**
	15nm,1.2s						
NEW	**Newport**	**49.53**	**300**	*e*P	**P**	**03 05 52.1**	**+0.3**
	4.8nm,1.4s						
ARU	**Arti**	**50.12**	**46**	*e*P	**P**	**03 05 56.3**	**+0.3**
	7.1nm,1.0s						
KBZ	**Khabaz**	**50.21**	**67**	LR	LR	03 28 23.0	
	comp=Z,96nm,18.8s,baz=113,slow=38						
HWUT	**Hardware Ranch**	**50.71**	**290**	*e*P	**P**	**03 06 01.4**	**+0.4**
	5.3nm,0.9s						
HLID	**Hailey**	**51.04**	**293**	*e*P	**P**	**03 06 04.4**	**+1.0**
	1.2nm,0.8s						
ANMO	**Albuquerque**	**52.18**	**280**	*e*P	**P**	**03 06 12.3**	**+0.2**
	4.7nm,1.5s						
DUG	**Dugway**	**52.35**	**289**	*e*P	**P**	**03 06 14.3**	**+1.1**
	2.9nm,1.0s						
ELK	**Elko**	**53.36**	**291**	*e*P	**P**	**03 06 21.8**	**+1.1**
AKTO	**Aktyubinsk**	**53.73**	**52**	P	**P**	**03 06 22.2**	**-0.9**
	0.7nm,0.7s,baz=307,slow=5.1,SNR=3.0						
AKTO	**Aktyubinsk**	**53.73**	**52**	P	**P**	**03 06 22.2**	**-0.9**
TXAR	**Lajitas Array**	**54.46**	**273**	P	**P**	**03 06 29.8**	**+1.0**
	0.9nm,1.0s,baz=41,slow=8.4,SNR=5.3						
TXAR	**Lajitas Array**	**54.46**	**273**	P	**P**	**03 06 29.8**	**+1.0**
BRVK	**Borovoye**	**57.41**	**44**	*e*P	**P**	**03 06 49.0**	**-0.4**
	3.0nm,0.9s						
BVAR	**Borovoye Array**	**57.48**	**44**	P	**P**	**03 06 50.8**	**+0.8**
	1.3nm,0.7s,baz=305,slow=5.1,SNR=6.2						
BVAR				LR	LR	03 29 43.1	
	comp=Z,64nm,19.5s,baz=115,slow=34						
BVAR	**Borovoye Array**	**57.48**	**44**	P	**P**	**03 06 50.8**	**+0.8**
KURK	**Kurchatov**	**62.57**	**41**	*e*P	**P**	**03 07 25.0**	**+0.1**
	2.8nm,1.1s						
KURBB	**Kurchatov Arra**	**62.61**	**41**	P	**P**	**03 07 25.5**	**+0.3**
	0.6nm,0.3s,baz=324,slow=6.8,SNR=8.1						
MK31	**Makanchi Array**	**67.16**	**41**	*e*P	**P**	**03 07 54.7**	**-0.2**
MKAR	**Makanchi Array**	**67.16**	**41**	P	**P**	**03 07 54.9**	**-0.1**
	0.9nm,0.8s,baz=329,slow=5.5,SNR=6.6						
MKAR	**Makanchi Array**	**67.16**	**41**	P	**P**	**03 07 54.9**	**-0.1**
SONM	**Songino Array**	**74.31**	**26**	P	**P**	**03 08 38.9**	**+0.4**
	1.1nm,0.9s,baz=327,slow=5.2,SNR=5.9						
SONM	**Songino Array**	**74.31**	**26**	P	**P**	**03 08 38.9**	**+0.4**
ULN	**Ulaanbaatar**	**74.45**	**25**	*e*P	**P**	**03 08 39.6**	**+0.2**
WRAB	**Tennant Creek**	**145.97**	**18**	*e*PKPbc	**PKPdf**	**03 16 40.4**	**+0.2**
WRA	**Warramunga Arr**	**145.98**	**18**	PKPbc	**PKPbc**	**03 16 40.8**	**-0.2**
	2.0nm,0.8s,baz=346,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**145.98**	**18**	PKPbc	**PKPbc**	**03 16 40.8**	**-0.2**
ASAR	**Alice Springs**	**149.52**	**20**	PKPbc	**PKPbc**	**03 16 49.1**	**-1.4**
	0.6nm,0.5s,baz=356,slow=1.8,SNR=4.4						
ASAR	**Alice Springs**	**149.52**	**20**	PKPbc	**PKPbc**	**03 16 49.1**	**-1.4**

*ISCJB **14** 03:04:11.4±0.2,63.11N±0.02×150.84W±0.05,*
h134km±2km,mb3.8/22,Error ellipse: s-maj=3.9km
s-min=3.7km az=36.7
*NEIC **14** 03:04:12.6,63.13N×150.84W,h121km,MG3.9(AEIC),*
After AEIC.
*IDC **14** 03:04:13.4±0.9,63.27N×151.00W,h128km±7km,mb3.6/22,*
mb1 3.7/25,mb1mx3.6/34,mbtmp3.6/25,Error ellipse:
s-maj=16.4km s-min=11.1km az=43.0

ISC 14 03:04:12.9±0.5,63.10N±0.03×150.92W±0.04,
h130km±4km,n127,σ1.922/154,mb4.0/22,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.46**	**38**	P	**Pn**	**03 04 30.7**	**-1.3**
TRF				S	**Sn**	**03 04 44.8**	**-1.6**
HUR	**Hurricane**	**0.60**	**101**	P	**Pn**	**03 04 31.9**	**-0.7**
PPLA	**Purkeypile**	**0.61**	**252**	P	**Pn**	**03 04 32.3**	**-0.5**
PPLA				S	**Sn**	**03 04 47.2**	**-0.7**
CUT	**Chulitna**	**0.76**	**156**	P	**Pn**	**03 04 33.0**	**-0.6**
TRAP	**Trapper Creek**	**0.82**	**157**	P	**Pn**	**03 04 33.7**	**-0.5**
RND	**Reindeer**	**0.99**	**71**	P	**Pn**	**03 04 34.9**	**-0.8**
RND				S	**Sn**	**03 04 52.5**	**-0.6**
CHUM	**Lake Minchumin**	**1.01**	**322**	P	**Pn**	**03 04 35.5**	**-0.3**
CHUM				S	**Sn**	**03 04 52.0**	**-1.3**
SKT	**Skwentna**	**1.15**	**194**	P	**Pn**	**03 04 36.7**	**-0.6**
SKT				S	**Sn**	**03 04 55.3**	**-0.6**
DHY	**Denali Highway**	**1.61**	**89**	P	**Pn**	**03 04 41.7**	**-0.7**
DHY				S	**Sn**	**03 05 04.2**	**-0.7**
SUA	**Susitna One**	**1.64**	**177**	P	**Pn**	**03 04 42.2**	**-0.4**
STLK	**Strandline Lak**	**1.66**	**195**	P	**Pn**	**03 04 42.4**	**-0.5**
NEA	**Nenana**	**1.70**	**28**	P	**Pn**	**03 04 42.3**	**-0.9**
PMR	**Palmer**	**1.72**	**150**	P	**Pn**	**03 04 42.7**	**-0.8**
SML	**Sawmill**	**1.76**	**136**	P	**Pn**	**03 04 43.2**	**-0.8**
NCG	**North Capps Gl**	**1.79**	**199**	P	**Pn**	**03 04 44.0**	**-0.5**
CGLM	**Capps Glacier**	**1.86**	**196**	P	**Pn**	**03 04 45.3**	**0.0**
MLY	**Manley**	**1.95**	**2**	P	**Pn**	**03 04 45.6**	**-0.6**
BGL	**Barrier Glacie**	**1.96**	**201**	P	**Pn**	**03 04 46.7**	**+0.2**
SPBG	**Spurr Blockage**	**1.96**	**201**	P	**Pn**	**03 04 46.8**	**+0.3**
FIB	**Fire Island**	**1.97**	**169**	P	**Pn**	**03 04 46.8**	**+0.3**
CCB	**Clear Creek Bu**	**2.08**	**40**	P	**Pn**	**03 04 47.0**	**-0.7**
HDA	**Harding Lake**	**2.20**	**51**	P	**Pn**	**03 04 48.9**	**-0.3**
MDM	**Murphy Dome**	**2.21**	**31**	P	**Pn**	**03 04 48.7**	**-0.8**
COLA	**College**	**2.24**	**36**	P	**Pn**	**03 04 49.1**	**-0.6**
TT01	**Tatalina**	**2.33**	**268**	P	**Pn**	**03 04 50.0**	**-1.0**
DDM	**Donnelly Dome**	**2.38**	**71**	P	**Pn**	**03 04 51.1**	**-0.5**
IL1	**Eielson Array**	**2.45**	**45**	P	**Pn**	**03 04 51.5**	**-0.9**
ILAR	**Eielson Array**	**2.45**	**45**	P	**Pn**	**03 04 51.

RES **Resolute Bay** 22.17 36 P P 03 08 58.9 +1.1
1.0nm,0.4s,baz=262,slow=21,SNR=8.0
RES **Resolute Bay** 22.17 36 P P 03 08 58.9 +1.1
PDAR **Pinedale Array** 31.36 111 P P 03 10 23.0 +1.8
0.4nm,0.7s,baz=302,slow=8.5,SNR=3.6
PDAR pP pP 03 10 50.5 +1.3
0.8nm,0.9s,baz=319,slow=5.9,SNR=3.6
PDAR PcP PcP 03 13 11.6 0.0
0.5nm,0.4s,baz=128,slow=0.9,SNR=6.9
PDAR **Pinedale Array** 31.36 111 P P 03 10 23.0 +1.8
PDAR pP pP 03 10 50.5 +1.3
PDAR PcP PcP 03 13 11.6 0.0
NVAR **Mina Array Bea** 31.55 126 P P 03 10 24.9 +2.0
0.2nm,0.5s,baz=316,slow=9.0,SNR=2.8
NVAR pP pP 03 10 51.8 +0.8
1.0nm,0.8s,baz=314,slow=8.3,SNR=5.2
NVAR PcP PcP 03 13 13.4 +1.2
0.7nm,0.6s,baz=280,slow=2.5,SNR=7.1
NVAR **Mina Array Bea** 31.55 126 P P 03 10 24.9 +2.0
NVAR pP pP 03 10 51.8 +0.8
NVAR PcP PcP 03 13 13.4 +1.2
FRB **Frobisher Bay** 34.47 51 P P 03 10 47.6 0.0
1.3nm,0.5s,baz=313,slow=9.6,SNR=6.1
FRB **Frobisher Bay** 34.47 51 P P 03 10 47.6 0.0
SPITS **Spitsbergen Ar** 38.75 4 P P 03 11 23.8 0.0
1.7nm,0.3s,baz=22,slow=4.8,SNR=42
SPITS **Spitsbergen Ar** 38.75 4 P P 03 11 23.8 0.0
TXAR **Lajitas Array** 45.28 116 P P 03 12 18.8 +1.5
0.5nm,0.6s,baz=330,slow=6.0,SNR=9.0
TXAR pP pP 03 12 47.6 +0.8
0.5nm,0.8s,baz=3.8,slow=5.6,SNR=2.9
TXAR PcP PcP 03 13 55.9 +1.0
0.4nm,0.7s,baz=309,slow=2.9,SNR=3.7
TXAR **Lajitas Array** 45.28 116 P P 03 12 18.8 +1.5
TXAR pP pP 03 12 47.6 +0.8
TXAR PcP PcP 03 13 55.9 +1.0
ARCES **ARCESS Array B** 47.63 2 P P 03 12 34.5 -0.6
2.7nm,0.9s,baz=7.9,slow=8.1,SNR=6.0
ARCES **ARCESS Array B** 47.63 2 P P 03 12 34.5 -0.6
KSRS **Korea Array** 53.49 282 P P 03 13 20.2 +0.7
1.4nm,0.6s,baz=32,slow=6.6,SNR=5.0
KSAR **Wonju Array Be** 53.52 282 P P 03 13 20.2 +0.5
SONM **Songino Array** 53.79 305 P P 03 13 22.7 +1.0
0.8nm,0.6s,baz=26,slow=6.3,SNR=8.2
SONM **Songino Array** 53.79 305 P P 03 13 22.7 +1.0
NOA **NORSAR Array B** 55.45 10 P P 03 13 31.9 -1.4
0.6nm,0.7s,baz=308,slow=4.0,SNR=3.3
NOA **NORSAR Array B** 55.45 10 P P 03 13 31.9 -1.4
ZALV **Zalesovo Beam** 55.47 324 P P 03 13 32.7 -0.8
1.6nm,0.5s,baz=24,slow=7.0,SNR=9.8
ZALV **Zalesovo Beam** 55.47 324 P P 03 13 32.7 -0.8
FINES **FINESS Array B** 55.76 2 P P 03 13 34.5 -0.9
0.9nm,0.6s,baz=7.0,slow=9.0,SNR=9.1
FINES **FINESS Array B** 55.76 2 P P 03 13 34.5 -0.9
HFS **Hagfors** 56.53 9 P P 03 13 39.8 -1.2
1.7nm,0.8s,baz=24,slow=8.1,SNR=4.6
HFS **Hagfors** 56.53 9 P P 03 13 39.8 -1.2
BVAR **Borovoye Array** 59.78 333 P P 03 14 03.6 -0.1
1.7nm,0.3s,baz=50,slow=8.1,SNR=16
BVAR **Borovoye Array** 59.78 333 P P 03 14 03.6 -0.1
KURK **Kurchatov** 60.02 326 P P 03 14 05.2 -0.1
KURBB **Kurchatov Arra** 60.12 326 P P 03 14 05.2 -0.8
1.1nm,0.4s,baz=26,slow=7.2,SNR=10
MKAR **Makanchi Array** 62.62 322 P P 03 14 22.0 -0.9
1.3nm,0.4s,baz=47,slow=7.7,SNR=35
MKAR **Makanchi Array** 62.62 322 P P 03 14 22.0 -0.9
AKTO **Aktyubinsk** 64.53 340 P P 03 14 34.9 -0.5
1.1nm,0.4s,baz=23,slow=6.7,SNR=6.2
AKTO **Aktyubinsk** 64.53 340 P P 03 14 34.9 -0.5
AKASG **Malin Array Be** 66.55 360 P P 03 14 47.3 -1.0
2.2nm,0.3s,baz=359,slow=6.1,SNR=15
AKASG **Malin Array Be** 66.55 360 P P 03 14 47.3 -1.0
KBZ **Khabaz** 72.95 350 P P 03 15 27.5 -0.1
1.3nm,0.8s,baz=312,slow=2.9,SNR=6.0
KBZ **Khabaz** 72.95 350 P P 03 15 27.5 -0.1
ESDC **Sonseca Array** 74.22 26 P P 03 15 35.2 +0.1
0.3nm,0.7s,baz=344,slow=5.0,SNR=3.0
ESDC pP pP 03 16 06.8 -0.5
0.4nm,0.6s,baz=329,slow=6.3,SNR=4.0
ESDC **Sonseca Array** 74.22 26 P P 03 15 35.2 +0.1
ESDC pP pP 03 16 06.8 -0.5
BRTR **Keskin Array B** 77.46 356 P P 03 15 53.2 -0.5
0.6nm,0.5s,baz=0.1,slow=3.4,SNR=7.3
BRTR **Keskin Array B** 77.46 356 P P 03 15 53.2 -0.5
CMAR **Chiang Mai Arr** 82.44 296 P P 03 16 20.3 -0.2
1.1nm,0.4s,baz=2.3,slow=5.6,SNR=4.5
CMAR **Chiang Mai Arr** 82.44 296 P P 03 16 20.3 -0.2

MOS ***14*** *03:04:02.5±1.1,19˚.92S×175˚.36W,h79km,mb5.4/23, Error ellipse: s-maj=10.1km s-min=8.6km az=154.9*
AUST ***14*** *03:04:03.5,20˚.18S×174˚.56W,h100km*
ISCJB ***14*** *03:04:06.5±1.5,19˚.97S±0˚.05×175˚.40W±0˚.03, h113km±13km,mb4.9/107, Error ellipse: s-maj=9.0km s-min=4.7km az=163.1*
IDC ***14*** *03:04:06.8±0.5,20˚.00S×175˚.30W,h108km±3km,mb4.6/32, mb1 4.7/35,mb1mx4.6/38,mbtmp4.6/35,MS3.9/9, Ms1 4.0/9,ms1mx3.6/31, Error ellipse: s-maj=12.0km s-min=9.1km az=152.0*
BJI ***14*** *03:04:11.2,20˚.22S×174˚.95W,h172km,mB5.2/22, mb5.0/29*
NEIC ***14*** *03:04:12.3±0.1,20˚.03S×175˚.38W,mb4.8/66, Error ellipse: s-maj=6.1km s-min=4.1km az=144.0*
NEIC Felt at 'Ohonua.
SZGRF ***14*** *03:04:14.3,19˚.75S×175˚.57W,h161km, Tonga Islands*
GCMT ***14*** *03:04:15.2±0.2,20˚.03S×174˚.78W,h174km±2km,MW5.2, Moment Tensor Solution. s55,c70; s90,c143; Moment tensor: Scale 10¹⁶Nm; Mrr=0.19±.21; Mθθ5.20±.22; Mφφ-5.01±.21; Mrθ2.84±.19; Mθφ-1.05±.22; Mrφ4.97±.16; Best double couple: M₀7.50000×10¹⁶ NP1:φ₁135.00000°, δ45.00000°,λ-5.00000°. NP2:φ₂228.00000°,δ86.00000°, λ-135.00000°. Principal axes: T 6.5400, Plg27.0000°, Azm352.0000°; N 2.0100, Plg45.0000°, Azm232.0000°; P -8.5500, Plg33.0000°, Azm102.0000°; Data Used: II IU IC G CN.*
DJA ***14*** *03:04:37.0±1.1,20˚S±36˚×17˚7W±1˚6,h319km±23km, M6.2/7,mB6.9/1,mb5.0/7,MLv6.9/1,Mw(mB)6.8/1*
ISC 14 03:04:12.6±0.3,20˚.05S±0˚.06×175˚.30W±0˚.05, h162km±2km,h161km;pP-P,n723,σ1s00/827,mb4.8/107, 186C-147D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.16**	**80**	S	Sn	03 06 12.8	-15
	baz=4.5,SNR=28						
MSVF	**Nonsavu**	**6.70**	**289**	*e*P	Pn	03 05 53.8	+5.0
MSVF	**Nonsavu**	**6.70**	**289**	*e*Pn	Pn	03 05 53.8	+5.0
AFI	**Afiamalu**	**6.97**	**29**	P	Pn	03 05 45.4	-7.1
	61nm,0.3s,baz=66,slow=6.6,SNR=26						
AFI				S	Sn	03 06 54.4	-17
	86nm,0.3s,baz=230,slow=24,SNR=7.9						
AFI	**Afiamalu**	**6.97**	**29**	*e*Pn	Pn	03 05 42.8	-10
AFI				*e*Sn	Sn	03 06 55.1	-16
RAO	**Raoul Island**	**9.47**	**194**	*e*Pn	**Pn**	**03 06 23.9**	**-1.4**
	594nm,0.3s						
RAO				*e*Sn	Sn	03 08 04.0	-6.6
RAR	**Rarotonga**	**14.59**	**97**	P	**Pn**	**03 07 28.7**	**-2.8**
	2.7nm,0.3s,baz=270,slow=5.3,SNR=4.2						
RAR				S	Sn	03 09 59.7	-14
	6.1nm,0.3s,baz=90,slow=16,SNR=4.1						
RAR				LR	LR	03 11 50.8	
	comp=Z,496nm,20.5s,baz=270,slow=32						
RAR	**Rarotonga**	**14.59**	**97**	*e*Pn	Pn	03 07 26.6	-4.8
RAR				S	Sn	03 09 59.7	-14
DZM	**Mont Dzumac**	**17.16**	**260**	*e*P	**Pn**	**03 08 05.7**	**+2.8**
	103nm,0.8s						
DZM				*e*LR	LR	03 11 50.7	
	505nm,24.0s						
DZM	**Mont Dzumac**	**17.16**	**260**	P	**Pn**	**03 08 05.6**	**+2.7**
	3.9nm,0.3s,baz=84,slow=17,SNR=33						
DZM	**Mont Dzumac**	**17.16**	**260**	*e*Pn	**Pn**	**03 08 05.3**	**+2.4**
	53nm,0.7s						
URZ	**Urewera**	**19.31**	**198**	P	**P**	**03 08 23.6**	**-1.5**
	7.9nm,0.3s,baz=16,slow=3.1,SNR=39						
URZ				S	S	03 11 45.4	-10
	3.6nm,0.3s,baz=111,slow=20,SNR=10						
URZ	**Urewera**	**19.31**	**198**	*e*P	**P**	**03 08 24.4**	**-0.8**
	111nm,0.9s						
URZ				*e*S	S	03 11 42.9	-12
URZ				S	S	03 11 45.4	-10
KHZ	**Kahutara**	**24.21**	**200**	*e*P	**P**	**03 09 14.6**	**+0.4**
	162nm,1.9s						
KHZ				*e*S	S	03 13 29.0	+8.3
TBI	**Tubuai**	**24.23**	**102**	*e*P	**P**	**03 09 15.7**	**+1.1**
	296nm,1.0s						
PAE	**Paea**	**24.45**	**89**	*e*P	**P**	**03 09 17.7**	**+1.0**
	25nm,1.1s						
PPT2	**Papeete2**	**24.47**	**89**	*e*P	**P**	**03 09 18.2**	**+1.3**
	125nm,1.2s						
PPT	**Papeete**	**24.47**	**89**	P	**P**	**03 09 16.6**	**-0.3**
	82nm,0.9s,baz=27,slow=11,SNR=4.7						
PPT	**Papeete**	**24.47**	**89**	P	**P**	**03 09 16.6**	**-0.3**
TIAR	**Tiarei**	**24.69**	**89**	*e*P	**P**	**03 09 19.7**	**+0.8**
	146nm,0.9s						
HNR	**Honiara**	**26.12**	**290**	P	**P**	**03 09 31.8**	**0.0**
	42nm,0.4s,baz=169,slow=13,SNR=3.6						
HNR	**Honiara**	**26.12**	**290**	P	**P**	**03 09 31.8**	**0.0**
RPZ	**Rata Peaks**	**26.22**	**203**	*e*P	**P**	**03 09 34.9**	**+2.5**
	69nm,1.2s						
ODZ	**Otahua Downs**	**27.52**	**202**	*e*P	**P**	**03 09 43.5**	**-0.4**
	77nm,0.9s						
EIDS	**Eidsvold**	**31.41**	**254**	*e*P	**P**	**03 10 18.4**	**-0.1**
	37nm,1.4s						
EIDS	**Eidsvold**	**31.41**	**254**	P	**P**	**03 10 18.6**	**0.0**
	baz=32,SNR=5.0						
ARMA	**Armidale**	**31.54**	**244**	P	**P**	**03 10 20.6**	**+0.8**
	baz=32,SNR=5.4						
MGCD	**Mangrove Creek**	**32.61**	**239**	P	**P**	**03 10 29.8**	**+0.8**
	baz=33,SNR=4.8						
CNB	**Canberra Magne**	**34.58**	**236**	P	**P**	**03 10 46.5**	**+0.4**
	baz=35,SNR=5.8						
CTA	**Charters Tower**	**36.05**	**263**	P	**P**	**03 10 58.5**	**-0.3**
	18nm,0.5s,baz=91,slow=10,SNR=35						
CTA				LR	LR	03 23 17.5	
	comp=Z,231nm,19.2s,baz=60,slow=32						
CTA	**Charters Tower**	**36.05**	**263**	P	**P**	**03 10 58.5**	**-0.3**
CTAO	**Charters Tower**	**36.05**	**263**	*e*P	**P**	**03 10 58.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,22nm,0.6s						
CTAO	**Charters Tower**	**36.05**	**263**	*e*P	**P**	**03 10 58.7**	**-0.1**
	comp=Z,22nm,0.6s						
CMSA	**Cobar Meteorol**	**36.76**	**244**	P	**P**	**03 11 04.2**	**-0.4**
	baz=37,SNR=12						
QLP	**Quilpie**	**37.61**	**252**	P	**P**	**03 11 12.4**	**+0.5**
	baz=38,SNR=6.0						
PMG	**Port Moresby**	**37.73**	**281**	P	**P**	**03 11 12.3**	**-0.7**
	comp=Z,40nm,0.9s,baz=54,slow=4.9,SNR=11						
PMG	**Port Moresby**	**37.73**	**281**	*e*P	**P**	**03 11 12.1**	**-0.8**
	comp=Z,57nm,1.0s						
PMG	**Port Moresby**	**37.73**	**281**	P	**P**	**03 11 12.5**	**-0.5**
	comp=Z,62nm,1.0s						
COEN	**Coen**	**40.09**	**272**	*e*P	**P**	**03 11 32.5**	**-0.1**
	comp=Z,146nm,0.8s						
COEN	**Coen**	**40.09**	**272**	P	**P**	**03 11 32.8**	**+0.2**
	baz=41,SNR=27						
STKA	**Stephens Creek**	**40.26**	**244**	P	**P**	**03 11 33.4**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=103,slow=9.9,SNR=9.9						
STKA				PcP	**PcP**	**03 13 35.6**	**+1.1**
	comp=Z,6.0nm,1.0s,baz=104,slow=4.9,SNR=2.8						
STKA				LR	LR	03 26 21.7	
	comp=Z,212nm,18.7s,baz=215,slow=33						
STKA	**Stephens Creek**	**40.26**	**244**	*e*P	**P**	**03 11 33.0**	**-0.8**
	comp=Z,1.0nm,0.7s						
STKA				PcP	**PcP**	**03 13 35.6**	**+1.1**
STKA	**Stephens Creek**	**40.26**	**244**	P	**P**	**03 11 33.6**	**-0.3**
	baz=41,SNR=5.9						
QIS	**Nouna**	**42.19**	**261**	P	**P**	**03 11 49.6**	**-0.1**
	baz=43,SNR=6.0						
JAY	**Jayapura**	**46.32**	**286**	P	**P**	**03 12 23.4**	**+0.7**
	baz=47,SNR=5.6						
ASAR	**Alice Springs**	**47.08**	**256**	P	**P**	**03 12 27.7**	**-0.8**
	comp=Z,8.1nm,0.5s,baz=92,slow=8.2,SNR=146						
ASAR				sP	**pP**	**03 13 05.2**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=86,slow=8.6,SNR=1.8						
ASAR				PcP	**PcP**	**03 13 58.2**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=107,slow=3.3,SNR=11						
ASAR				ScP	**ScP**	**03 17 39.7**	**+3.1**
	comp=Z,1.2nm,0.9s,baz=90,slow=4.6,SNR=4.2						
ASAR				S	**S**	**03 19 04.8**	**-3.8**
	comp=Z,1.1nm,0.8s,baz=91,slow=15,SNR=8.4						
ASAR	**Alice Springs**	**47.08**	**256**	P	**P**	**03 12 27.7**	**-0.8**
ASAR				sP	**pP**	**03 13 05.2**	**+0.5**
ASAR				PcP	**PcP**	**03 13 58.2**	**+0.3**
ASAR				ScP	**ScP**	**03 17 39.7**	**+3.1**
ASAR				S	**S**	**03 19 04.8**	**-3.8**
WRAB	**Tennant Creek**	**47.16**	**261**	*e*P	**P**	**03 12 28.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRAB	**Tennant Creek**	**47.16**	**261**	*e*P	**P**	**03 12 28.0**	**-1.1**
	comp=Z,8.6nm,0.5s						
WRA	**Warramunga Arr**	**47.17**	**261**	P	**P**	**03 12 27.8**	**-1.4**
	comp=Z,5.9nm,0.3s,baz=96,slow=7.6,SNR=237						
WRA				sP	**pP**	**03 13 05.8**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=96,slow=7.4,SNR=3.8						
WRA				PcP	**PcP**	**03 13 58.7**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=101,slow=3.5,SNR=7.7						
WRA				S	**S**	**03 19 05.0**	**-4.7**
	comp=Z,1.1nm,0.7s,baz=99,slow=14,SNR=7.4						
WRA	**Warramunga Arr**	**47.17**	**261**	P	**P**	**03 12 27.8**	**-1.4**
WRA				sP	**pP**	**03 13 05.8**	**+0.5**
WRA				PcP	**PcP**	**03 13 58.7**	**+0.5**
WRA				S	**S**	**03 19 05.0**	**-4.7**
KDU	**Kakadu**	**50.48**	**270**	P	**P**	**03 12 53.7**	**-0.7**
	baz=51,SNR=11						
FORT	**Forrest**	**51.79**	**246**	P	**P**	**03 13 02.9**	**-1.1**
	baz=52,SNR=7.3						
FITZ	**Fitzroy Crossi**	**55.60**	**261**	*e*P	**P**	**03 13 31.1**	**-0.7**
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.60**	**261**	P	**P**	**03 13 31.7**	**-0.2**
	baz=56,SNR=21						
VNDA	**Vanda**	**58.60**	**186**	P	**P**	**03 13 53.5**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=30,slow=6.1,SNR=5.9						
VNDA	**Vanda**	**58.60**	**186**	P	**P**	**03 13 53.5**	**+1.6**
RPN	**Rapa Nui**	**60.28**	**110**	LR	LR	03 34 14.2	
	comp=Z,204nm,19.4s,baz=271,slow=30						
MBWA	**Marble Bar**	**60.42**	**257**	*e*P	**P**	**03 14 04.5**	**-0.9**
	comp=Z,6.3nm,0.6s						
MEEK	**Meekatharra**	**60.45**	**250**	P	**P**	**03 14 04.3**	**-1.3**
	baz=61,SNR=6.0						
KLBR	**Kellerberrin**	**60.54**	**244**	P	**P**	**03 14 05.3**	**-0.7**
	baz=61,SNR=9.2						
BLDU	**Ballidu**	**61.55**	**245**	P	**P**	**03 14 12.0**	**-0.8**
	baz=62,SNR=8.0						
MORW	**Morawa**	**62.34**	**247**	P	**P**	**03 14 17.5**	**-0.7**
	baz=63,SNR=4.0						
KAPI	**Kappang**	**64.77**	**274**	*e*P	**P**	**03 14 32.8**	**-1.5**
	comp=Z,5.2nm,0.5s						
KAPI	**Kappang**	**64.77**	**274**	P	**P**	03 14 39.3	+5.0
PCI	**Palu**	**66.13**	**278**	P	**P**	03 14 50.6	+7.6
	baz=67,SNR=7.7						
QSPA	**South Pole Qui**	**70.02**	**180**	P	**P**	**03 15 08.1**	**+1.5**
	comp=Z,12nm,0.8s,baz=42,slow=1.2,SNR=40						
QSPA	**South Pole Qui**	**70.02**	**180**	*e*P	**P**	**03 15 07.8**	**+1.2**
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**71.38**	**322**	P	**P**	**03 15 15.2**	**+0.1**
	comp=Z,24nm,0.6s,baz=155,slow=6.0,SNR=54						
MJAR	**Mshiro Arr**	**71.38**	**322**	P	**P**	**03 15 15.2**	**+0.1**
MAJO	**Matsushiro**	**71.38**	**322**	*e*P	**P**	**03 15 15.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,34nm,0.9s						
MAJO	**Matsushiro**	**71.38**	**322**	*e*P	**P**	**03 15 15.1**	**0.0**
	comp=Z,34nm,0.9s						
MAT	**Matsushiro**	**71.38**	**322**	P	**P**	**03 15 15.1**	**0.0**
KKM	**Kota Kinabalu**	**72.10**	**284**	*e*P	**P**	**03 15 19.7**	**-0.3**
	comp=Z,18nm,0.6s						
KKM	**Kota Kinabalu**	**72.10**	**284**	P	**P**	**03 15 20.4**	**+0.4**
	baz=73,SNR=4.3						
FX1	**Attu Island--F**	**73.31**	**353**	P	**P**	**03 15 25.5**	**-0.6**
	comp=Z,12nm,0.7s,baz=252,slow=3.2,SNR=4.9						
FX1	**Attu Island--F**	**73.31**	**353**	P	**P**	**03 15 25.5**	**-0.6**
JNU	**Nakatsue**	**73.71**	**315**	P	**P**	**03 15 29.4**	**+0.4**
	comp=Z,7.3nm,0.8s,baz=28,slow=8.6,SNR=4.4						
JNU	**Nakatsue**	**73.71**	**315**	P	**P**	**03 15 29.4**	**+0.4**
ASAJ	**Asahikawa**	**74.57**	**330**	P	**P**	**03 15 35.4**	**+1.8**
	comp=Z,8.0nm,0.5s,baz=234,slow=13,SNR=8.0						
ASAJ	**Asahikawa**	**74.57**	**330**	P	**P**	**03 15 35.4**	**+1.8**
KSM	**Kuching**	**75.86**	**277**	P	**P**	**03 15 42.5**	**+0.8**
	baz=77,SNR=5.3						
KSM	**Kuching**	**75.86**	**277**	P	**P**	**03 15 42.9**	**+1.2**
	comp=Z,28nm,1.4s						
CIS	**Catalina Islan**	**75.95**	**46**	⇑P	**P**	**03 15 41.8**	**0.0**
	baz=76						
PETK	**Petropavlovsk-**	**76.52**	**344**	P	**P**	**03 15 44.7**	**+0.2**
	comp=Z,32nm,0.8s,baz=139,slow=8.7,SNR=25						
PETK	**Petropavlovsk-**	**76.52**	**344**	P	**P**	**03 15 44.7**	**+0.2**
PETK	**Petropavlovsk-**	**76.52**	**344**	P	**P**	**03 15 44.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**76.66**	**332**	⇓P	**P**	**03 15 47.3**	**+1.9**
YSS	**Yuzh-Sakhalins**	**76.66**	**332**	*e*P	**P**	**03 15 46.6**	**+1.3**
	comp=Z,25nm,0.8s						
ARVC	**Arvin**	**76.68**	**45**	⇑P	**P**	**03 15 46.2**	**+0.4**
	baz=77						
MONP	**Monument Peak**	**77.02**	**48**	⇑P	**P**	**03 15 48.6**	**+0.6**
	baz=77						
EDW2	**Edwards Air Fo**	**77.09**	**45**	⇓P	**P**	**03 15 48.7**	**+0.5**
	baz=77						
ISA	**Isabella**	**77.23**	**44**	*e*P	**P**	**03 15 49.7**	**+0.7**
ISA				pmax	pmax		
	comp=Z,20nm,1.3s						
ISA	**Isabella**	**77.23**	**44**	*e*P	**P**	**03 15 49.7**	**+0.7**
	comp=Z,20nm,1.3s						
ISA	**Isabella**	**77.23**	**44**	⇓P	**P**	**03 15 49.5**	**+0.5**
	baz=78						
PFO	**Pinyon Flat Ob**	**77.40**	**47**	*e*P	**P**	**03 15 50.9**	**+0.8**
	comp=Z,25nm,1.4s						
PFO	**Pinyon Flat Ob**	**77.40**	**47**	⇓P	**P**	**03 15 50.3**	**+0.3**
	baz=78						
SWSC	**Sam W. Stewart**	**77.48**	**48**	⇑P	**P**	**03 15 50.8**	**+0.4**
	baz=78						
LRMC	**Laurel Mountai**	**77.64**	**45**	⇑P	**P**	**03 15 51.8**	**+0.4**
	baz=78						
BELC	**Belle Mtn. Jos**	**77.94**	**47**	⇓P	**P**	**03 15 53.6**	**+0.5**
	baz=78						
MPMC	**Manual Prospec**	**78.11**	**44**	⇑P	**P**	**03 15 54.7**	**+0.7**
	baz=78						
GSC	**Goldstone**	**78.12**	**45**	*e*P	**P**	**03 15 54.9**	**+0.9**
GSC				pmax	pmax		
	comp=Z,16nm,1.1s						
GSC	**Goldstone**	**78.12**	**45**	*e*P	**P**	**03 15 54.9**	**+0.9**
	comp=Z,16nm,1.1s						
GSC	**Goldstone**	**78.12**	**45**	⇓P	**P**	**03 15 54.8**	**+0.8**
	baz=78						
HEC	**Hector,Ludlow**	**78.18**	**46**	⇑P	**P**	**03 15 54.9**	**+0.6**
	baz=78						
GLA	**Glamis**	**78.22**	**48**	*e*P	**P**	**03 15 56.0**	**+1.4**
GLA				pmax	pmax		
	comp=Z,23nm,1.2s						
GLA	**Glamis**	**78.22**	**48**	*e*P	**P**	**03 15 56.0**	**+1.4**
	comp=Z,23nm,1.2s						
KSRS	**Korea Array**	**78.25**	**317**	P	**P**	**03 15 56.0**	**+1.5**
	comp=Z,9.7nm,1.0s,baz=132,slow=5.9,SNR=15						
KSRS				LR	LR	03 44 40.4	
	comp=Z,24nm,21.0s,baz=133,slow=31						
KSAR	**Wonju Array Be**	**78.27**	**317**	P	**P**	**03 15 56.0**	**+1.4**
YBH	**Yreka Blue Hor**	**78.38**	**37**	P	**P**	**03 15 56.2**	**+0.9**
	comp=Z,8.3nm,0.8s,baz=153,slow=3.6,SNR=6.6						
YBH	**Yreka Blue Hor**	**78.38**	**37**	P	**P**	**03 15 56.2**	**+0.9**
WCN	**Washoe City**	**78.60**	**41**	*e*P	**P**	**03 15 57.1**	**+0.5**
WCN				pmax	pmax		
	comp=Z,15nm,1.4s						
WCN	**Washoe City**	**78.60**	**41**	*e*P	**P**	**03 15 57.1**	**+0.5**
	comp=Z,16nm,1.4s						
GMRC	**Granite Mounta**	**78.60**	**46**	⇑P	**P**	**03 15 57.3**	**+0.6**
	baz=79						
IRM	**Iron Mountain**	**78.61**	**47**	⇓P	**P**	**03 15 57.5**	**+0.8**
	baz=79						
GRAC	**Grapevine Rang**	**78.73**	**44**	⇑P	**P**	**03 15 58.2**	**+1.0**
	baz=79						
FURC	**Furnace Creek,**	**78.76**	**44**	⇑P	**P**	**03 15 57.9**	**+0.7**
	baz=79						
113A	**Mohawk Valley,**	**78.82**	**49**	⇑P	**P**	**03 15 58.4**	**+0.7**
	baz=79						
NVAR	**Mina Array Bea**	**78.97**	**42**	P	**P**	**03 15 59.1**	**+0.4**
	comp=Z,7.7nm,0.8s,baz=224,slow=8.8,SNR=52						
NVAR				sP	**pP**	**03 16 37.7**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=226,slow=8.5,SNR=2.5						
NVAR	**Mina Array Bea**	**78.97**	**42**	P	**P**	**03 15 59.1**	**+0.4**
NVAR				sP	**pP**	**03 16 37.7**	**-0.8**
214A	**Organ Pipe Nat**	**79.07**	**50**	⇑P	**P**	**03 15 60.0**	**+0.8**
	baz=79						
PDMCI	**Parker Dam,Lak**	**79.38**	**48**	⇓P	**P**	**03 16 01.9**	**+1.1**
	baz=80						
Z14A	**Wintersburg**	**79.72**	**49**	⇓P	**P**	**03 16 03.6**	**+1.0**
	baz=80						
KDAK	**Kodiak Island**	**79.81**	**12**	P	**P**	**03 16 02.6**	**+0.1**
	comp=Z,14nm,0.7s,baz=96,slow=2.5,SNR=6.2						
KDAK	**Kodiak Island**	**79.81**	**12**	P	**P**	**03 16 02.6**	**+0.1**
MOD	**Modoc**	**79.87**	**38**	*e*P	**P**	**03 16 03.6**	**+0.2**
	comp=Z,19nm,1.2s						
Y14A	**Wickenburg**	**79.98**	**48**	⇑P	**P**	**03 16 04.9**	**+0.8**
	baz=80						
W13A	**Hualapai Mount**	**79.99**	**47**	⇓P	**P**	**03 16 05.3**	**+1.0**
	baz=80						
USRK	**Usuriysk Arra**	**80.03**	**324**	P	**P**	**03 16 05.7**	**+1.7**
	comp=Z,10nm,1.0s,baz=100,slow=2.3,SNR=7.7						
R11A	**Troy Canyon, C**	**80.67**	**43**	⇑P	**P**	**03 16 08.3**	**+0.5**
	baz=81						
TUC	**Tucson**	**80.72**	**51**	*e*P	**P**	**03 16 09.0**	**+0.9**
TUC				pmax	pmax		
	comp=Z,16nm,0.9s						
TUC	**Tucson**	**80.72**	**51**	*e*P	**P**	**03 16 09.0**	**+0.9**
	comp=Z,16nm,0.9s						
HABR	**Khabarovsk**	**81.33**	**329**	*e*P	**P**	**03 16 10.3**	**-0.5**
HABR				PPP	PPP	03 21 07.2	
HABR				*e*S	**S**	**03 26 07.7**	**-0.2**
HABR				*e*		03 26 23.6	
HABR				*e**SS	**sS**	**03 27 15.8**	**-1.4**
HABR				*e*SS	**SS**	**03 31 26.3**	**-1.8**
HABR				pmax	pmax		
	comp=E,37nm,1.2s						
HABR				pmax	pmax		
	comp=N,37nm,2.5s						
HABR				pmax	pmax		
	comp=Z,116nm,2.5s						
HABR				MLR	MLR		
	comp=Z,119nm,22.0s						
X16A	**Lo

DUG	Dugway baz=84,SNR=7.7	83.48	43	⇓P	P	03 16 22.9	+0.5
P15A	Leamington baz=84	83.49	44	⇑P	P	03 16 23.6	+1.1
Z21A	St. Cloud Mine baz=84	83.49	51	⇑P	P	03 16 24.4	+1.7
X20A	Quemado baz=84	83.49	50	⇓P	P	03 16 24.2	+1.5
CN2	Changchun	83.51	321	*e*P	P	03 16 24.0	+1.8
CN2				*ep*P	pP	03 17 04.0	+1.6
CN2				*e*S	S	03 26 30.9	+0.6
CN2	comp=Z,40nm,1.4s			pmax	pmax		
CN2	comp=Z,200nm,5.0s			pmax	pmax		
122A	Conniff Cattle baz=84	83.69	52	⇓P	P	03 16 25.5	+1.9
O15A	The Old Anders baz=84	83.75	43	⇑P	P	03 16 25.4	+1.7
W20A	Ramah baz=84	83.78	49	⇑P	P	03 16 25.6	+1.4
Y21A	Point of Rocks baz=84	83.83	51	⇓P	P	03 16 25.9	+1.5
U19A	Dine' College, baz=84	83.86	48	⇑P	P	03 16 25.5	+1.0
Q16A	Castle Valley baz=84,SNR=5.7	83.87	45	⇓P	P	03 16 25.8	+1.3
P16A	Fountain Green baz=84	83.91	44	⇓P	P	03 16 25.9	+1.3
X21A	Alamocita Cree baz=84,SNR=14	83.96	50	⇑P	P	03 16 26.4	+1.3
Z22A	Elephant Butte baz=84,SNR=9.8	83.98	52	⇓P	P	03 16 26.4	+1.3
S18A	Hurst Farm, Bl baz=84,SNR=7.6	84.03	46	⇑P	P	03 16 25.8	+0.5
N15A	Stansbury Isla baz=84,SNR=7.6	84.04	43	⇓P	P	03 16 25.6	+0.4
TMUT	Trail Mountain comp=Z,36nm,1.0s	84.04	45	*e*P	P	03 16 26.6	+1.2
I12A	Atlanta baz=84,SNR=26	84.05	39	⇓P	P	03 16 26.0	+0.7
V20A	Brimhall baz=84,SNR=6.4	84.14	49	⇑P	P	03 16 26.8	+0.9
L14A	Malta baz=84,SNR=6.8	84.21	41	⇑P	P	03 16 26.8	+0.7
324A	Moseley Ranch, baz=84,SNR=15	84.24	54	⇑P	P	03 16 27.0	+0.6
Y22A	Socorro baz=84,SNR=25	84.31	51	⇓P	P	03 16 28.0	+1.2
DIV	Divide comp=Z,27nm,1.2s	84.31	14	*e*P	P	03 16 25.9	-0.1
425A	Indio Mountain baz=84,SNR=7.7	84.32	55	⇓P	P	03 16 28.0	+1.2
O16A	Springville baz=85	84.33	44	⇓P	P	03 16 27.7	+0.9
HLID	Hailey comp=Z,16nm,1.1s	84.35	40	*e*P	P	03 16 26.9	+0.1
HLID				*ep*P	pP	03 17 07.4	+0.4
HLID	Hailey baz=85,SNR=23	84.35	40	⇑P	P	03 16 27.4	+0.7
U20A	Newcomb baz=85	84.38	48	⇑P	P	03 16 28.1	+1.0
W21A	San Fidel baz=85	84.38	50	⇓P	P	03 16 28.6	+1.5
M15A	Larsen Ranch, baz=85,SNR=14	84.40	42	⇑P	P	03 16 27.3	+0.3
J13A	Cove Ranch, Pi baz=85,SNR=26	84.40	40	⇑P	P	03 16 27.9	+0.9
SRU	San Rafael	84.40	45	*e*P	P	03 16 27.5	+0.4
SRU	comp=Z,31nm,1.1s			pmax	pmax		
SRU	San Rafael comp=Z,31nm,1.1s	84.40	45	*e*P	P	03 16 27.5	+0.4
SRU				*ep*P	pP	03 17 03.5	-3.9
SRU	San Rafael baz=85,SNR=26	84.40	45	⇑P	P	03 16 27.7	+0.6
LAZ	Ladron comp=Z,7.3nm,1.0s	84.41	50	*e*P	P	03 16 28.4	+1.1
LENM	Lemitar comp=Z,13nm,1.0s	84.41	51	*e*P	P	03 16 28.6	+1.3
626A	Big Bend Ranch baz=85,SNR=11	84.42	56	⇑P	P	03 16 27.9	+0.5
MNTX	Cornudas Mount comp=Z,17nm,1.3s	84.44	54	*e*P	P	03 16 28.1	+0.8
MNTX				*ep*P	pP	03 17 06.8	-0.7
MNTX	Cornudas Mount baz=85,SNR=18	84.44	54	⇓P	P	03 16 28.2	+0.9
BMRM	Bremner River comp=Z,45nm,1.3s	84.44	14	*e*P	P	03 16 26.3	-0.4
P17A	Butcher Ranch, baz=85,SNR=7.1	84.44	45	⇓P	P	03 16 28.2	+0.9
224A	Cornudas Mount baz=85,SNR=14	84.50	53	⇑P	P	03 16 29.0	+1.2
Z23A	Rita Site, Whi baz=85,SNR=6.4	84.53	52	⇑P	P	03 16 29.2	+1.4
K14A	Jones Ranch, D baz=85,SNR=7.1	84.53	41	⇑P	P	03 16 28.6	+0.9
X22A	Bernardo baz=85,SNR=7.3	84.55	50	⇓P	P	03 16 29.9	+1.9
325A	Bean Ranch, Si baz=85,SNR=11	84.60	54	⇑P	P	03 16 28.9	+0.6
H12A	Diamond D Ranc baz=85,SNR=14	84.65	39	⇑P	P	03 16 28.5	+0.3
BNM	Barren Site comp=Z,17nm,1.2s	84.66	51	*e*P	P	03 16 29.9	+1.3
526A	Mary Lane Ranc baz=85,SNR=12	84.68	56	⇓P	P	03 16 29.5	+0.8
TXAR	Lajitas Array comp=Z,6.8nm,1.0s,baz=214,slow=5.9,SNR=36	84.69	56	P	P	03 16 29.5	+0.8
TXAR				pP	pP	03 16 57.6	-11
TXAR	comp=Z,0.3nm,0.5s,baz=222,slow=7.9,SNR=0.7			sP	sP	03 17 07.2	-19
TXAR	comp=Z,4.4nm,1.1s,baz=210,slow=7.2,SNR=2.5			LR	LR	03 45 00.8	
TXAR	Lajitas Array comp=Z,48nm,21.9s,baz=190,slow=29	84.69	56	P	P	03 16 29.5	+0.8
TXAR				pP	pP	03 16 57.6	-11
TXAR				sP	sP	03 17 07.2	-19
I13A	Wildhorse Cree baz=85,SNR=8.9	84.72	39	⇑P	P	03 16 29.4	+0.7
V21A	Milan baz=85	84.72	49	⇓P	P	03 16 29.8	+0.9
L15A	Malad City baz=85,SNR=10	84.73	42	⇓P	P	03 16 29.0	+0.3
LPM	Los Pinos Moun comp=Z,29nm,1.4s	84.73	51	*e*P	P	03 16 29.9	+1.0
LPM				*ep*P	pP	03 17 08.6	-0.6
N16A	Rees Ranch, Co baz=85,SNR=5.2	84.73	43	⇓P	P	03 16 29.3	+0.5
J14A	Carey baz=85,SNR=22	84.75	40	⇓P	P	03 16 29.8	+1.1
MVCO	Mesa Verde baz=85	84.81	47	⇓P	P	03 16 30.3	+1.0
O17A	Robinson Place baz=85,SNR=24	84.82	44	⇑P	P	03 16 30.4	+1.1
M16A	Huntsville baz=85	84.84	43	⇑P	P	03 16 29.6	+0.3
124A	Stringfield Ra baz=85,SNR=11	84.84	53	⇓P	P	03 16 30.7	+1.1
P18A	Preston Nutter baz=85	84.85	45	⇑P	P	03 16 30.2	+0.7
W22A	Albuquerque baz=85	84.92	50	⇓P	P	03 16 31.6	+1.8
627A	Terlingua Ranc baz=85,SNR=15	84.96	56	⇓P	P	03 16 30.9	+0.9
Y23A	Lovelace Mesa, baz=85,SNR=11	84.97	51	⇑P	P	03 16 31.1	+1.0
426A	McDonald Obser baz=85	85.00	55	⇑P	P	03 16 31.1	+0.7
H13A	Challis baz=85,SNR=12	85.01	39	⇑P	P	03 16 30.6	+0.6
K15A	Arbon baz=85,SNR=5.1	85.01	41	⇑P	P	03 16 30.5	+0.4
U21A	Nageezi baz=85,SNR=16	85.01	48	⇑P	P	03 16 31.1	+0.8
225A	Deer Hill, Car baz=85,SNR=7.2	85.05	53	⇑P	P	03 16 31.7	+1.2
527A	Woodward Ranch baz=85	85.09	56	⇓P	P	03 16 31.2	+0.5
F12A	Elk City baz=85,SNR=18	85.11	38	⇑P	P	03 16 30.5	+0.1
I14A	Mackay baz=85	85.13	40	⇓P	P	03 16 31.5	+0.8
N17A	Moffit Pass baz=85,SNR=7.0	85.15	43	⇑P	P	03 16 31.1	+0.2
ANMO	Albuquerque comp=Z,11nm,1.1s,baz=219,slow=5.9,SNR=22	85.16	50	P	P	03 16 31.8	+0.7
ANMO				sP	pP	03 17 10.6	-0.7
ANMO	Albuquerque comp=Z,7.6nm,1.1s,baz=218,slow=4.8,SNR=4.7	85.16	50	*e*P	P	03 16 31.7	+0.7
ANMO	comp=Z,16nm,1.1s			*ep*P	pP	03 17 10.4	-0.9
ANMO				sP	pP	03 17 10.6	-0.7
Q19A	Hogan Spring (baz=85	85.16	46	⇑P	P	03 16 31.4	+0.5
X23A	Hourglass Bar baz=85,SNR=9.6	85.18	51	⇓P	P	03 16 32.2	+1.0
Z24A	Sheeppen Canyo baz=85,SNR=12	85.20	52	⇑P	P	03 16 32.2	+0.9
S20A	Disappointment baz=85,SNR=8.1	85.21	47	⇓P	P	03 16 31.9	+0.5
PV01	Paradox Valley comp=Z,566nm,1.0s	85.22	47	*e*P	P	03 16 31.6	+0.3
PV01				*ep*P	pP	03 17 10.7	-0.9
E12A	Beaver Dam Sad baz=86	85.31	37	⇓P	P	03 16 31.9	+0.5
G13A	Cobalt baz=86,SNR=9.2	85.32	38	⇑P	P	03 16 31.8	+0.3
L16A	Fish Haven baz=86,SNR=8.9	85.34	42	⇓P	P	03 16 31.9	+0.1
628A	Black Gap, Mar baz=86,SNR=10	85.37	56	⇓P	P	03 16 32.6	+0.6
125A	Gardner Draw, baz=86,SNR=8.2	85.42	53	⇓P	P	03 16 33.3	+1.0
Y24A	Capitan baz=86,SNR=25	85.42	52	⇑P	P	03 16 33.2	+0.8
GDL2	Guadalupe Moun comp=Z,37nm,1.3s	85.44	54	*e*P	P	03 16 33.4	+1.1
J15A	Blackfoot baz=86,SNR=9.6	85.46	41	⇑P	P	03 16 33.2	+0.9
W23A	Werner Place, baz=86,SNR=6.3	85.48	50	⇓P	P	03 16 34.0	+1.3
TRF	Thorofare Moun comp=Z,35nm,0.8s	85.50	11	*e*P	P	03 16 30.4	-1.6
TRF				*ep*P	pP	03 17 10.9	-1.5
S21A	Coal Bank Pass baz=86,SNR=7.3	85.52	47	⇓P	P	03 16 33.2	+0.3
TNA	Tin City comp=Z,16nm,0.9s	85.52	3	*e*P	P	03 16 32.8	+1.0
NEW	Newport comp=Z,3.3nm,0.9s,baz=235,slow=3.7,SNR=6.8	85.54	35	P	P	03 16 31.9	-0.5
NEW	Newport	85.54	35	P	P	03 16 31.9	-0.5
NEW	Newport baz=86	85.54	35	⇓P	P	03 16 32.4	-0.1
U22A	Llaves baz=86	85.56	49	⇓P	P	03 16 33.6	+0.6
H14A	Leadore baz=86,SNR=9.9	85.56	39	⇓P	P	03 16 33.8	+1.0
427A	Hayter Ranch, baz=86,SNR=21	85.57	55	⇑P	P	03 16 34.0	+0.9
IPM	Ipoh comp=Z,11nm,0.5s	85.59	276	*e*P	P	03 16 33.9	+0.4
IPM	Ipoh comp=Z,37nm,0.7s	85.59	276	P	P	03 16 34.1	+0.7
F13A	Darby baz=86,SNR=5.5	85.66	38	⇓P	P	03 16 33.0	-0.1
Z25A	Roswell baz=86,SNR=7.6	85.66	52	⇑P	P	03 16 34.7	+1.2
K16A	Soda Springs baz=86	85.67	41	⇑P	P	03 16 34.1	+0.7
P19A	Cripple Cowboy baz=86	85.69	45	⇓P	P	03 16 34.1	+0.5
V23A	Ortiz Mt. (NFS baz=86,SNR=6.2	85.73	50	⇓P	P	03 16 35.2	+1.3
528A	Cox Ranch, San baz=86,SNR=8.9	85.74	56	⇓P	P	03 16 34.7	+0.8
I15A	Monteview baz=86	85.75	40	⇓P	P	03 16 34.6	+1.0
C11A	Tepee Creek (N baz=86	85.76	35	⇑P	P	03 16 34.1	+0.5
D12A	Red Ives Fores baz=86	85.80	36	⇓P	P	03 16 33.0	-0.7
Q20A	Ridgley Place, baz=86,SNR=7.7	85.82	46	⇓P	P	03 16 34.5	+0.4
J16A	Bone baz=86,SNR=7.1	85.89	41	⇓P	P	03 16 35.3	+0.8
126A	Clayton Basin, baz=86	85.90	53	⇓P	P	03 16 35.3	+0.7
M18A	Lyman baz=86,SNR=5.4	85.90	43	⇓P	P	03 16 35.0	+0.4
N18A	Larsen Ranch, baz=86,SNR=6.0	85.92	44	⇓P	P	03 16 34.8	+0.1
O19A	Miners Draw (B baz=86,SNR=7.4	85.94	45	⇑P	P	03 16 34.9	+0.2
Y25A	Mesa, Roswell baz=86,SNR=13	85.97	52	⇑P	P	03 16 35.3	+0.3
MCMT	McKenzie Canyo comp=Z,3.3nm,1.2s	85.99	39	*e*P	P	03 16 34.9	0.0
H15A	Lima baz=86,SNR=7.7	86.00	39	⇓P	P	03 16 35.5	+0.6
U23A	El Rito baz=86,SNR=6.2	86.00	49	⇑P	P	03 16 36.0	+0.8
PAX	Paxson	86.02	13	*e*P	P	03 16 33.6	-0.9
PAX	comp=Z,23nm,1.4s			pmax	pmax		
PAX	Paxson comp=Z,23nm,1.4s	86.02	13	*e*P	P	03 16 33.5	-0.9
P20A	De Beque baz=86,SNR=10	86.02	46	⇓P	P	03 16 35.2	+0.1
R21A	Cimarron baz=86,SNR=12	86.03	47	⇑P	P	03 16 36.0	+0.7
W24A	Lazy 6 Ranch, baz=86,SNR=11	86.04	50	⇓P	P	03 16 35.7	+0.3
428A	Kincaid Ranch, baz=86,SNR=5.5	86.07	55	⇑P	P	03 16 36.2	+0.7
227A	Bennet, Jal baz=86	86.16	54	⇓P	P	03 16 36.4	+0.5
529A	Stev Forest Ra baz=86	86.17	56	⇓P	P	03 16 36.6	+0.7
CPRX	Cap Rock comp=Z,1.9nm,0.7s	86.18	53	*e*P	P	03 16 36.8	+0.8
CPRX				*ep*P	pP	03 17 15.3	-1.2
Z26A	Caprock baz=86,SNR=11	86.21	53	⇑P	P	03 16 36.6	+0.5
KULM	Kulim comp=Z,9.3nm,0.7s	86.22	277	*e*P	P	03 16 36.9	+0.4
F14A	Wisdom baz=86	86.22	38	⇓P	P	03 16 36.0	0.0
S22A	4UR Ranch, Cre baz=86,SNR=9.0	86.23	48	⇓P	P	03 16 37.2	+0.8
Q21A	Lamborn Mesa, baz=86,SNR=5.6	86.25	46	⇓P	P	03 16 37.1	+0.8
328A	Wristen Ranch, baz=86,SNR=6.2	86.26	55	⇓P	P	03 16 36.1	-0.2
X25A	Clemmons Ranch baz=86	86.27	51	⇓P	P	03 16 37.8	+1.3
I16A	Newdale baz=86	86.29	41	⇓P	P	03 16 37.1	+0.8
MENT	Mentasta	86.37	14	*e*P	P	03 16 36.1	0.0
V24A	Rampart Ranch, baz=87,SNR=7.5	86.38	50	⇓P	P	03 16 38.9	+1.8
127A	Arkansas Junct baz=87,SNR=5.2	86.41	53	⇑P	P	03 16 37.7	+0.5
O20A	White River Ci baz=87,SNR=6.8	86.44	45	⇓P	P	03 16 37.6	+0.3
E14A	Clinton baz=87	86.49	38	⇓P	P	03 16 37.3	0.0
R22A	Saguache, Gunn baz=87,SNR=6.9	86.51	47	⇑P	P	03 16 38.6	+0.8
SEY	Seymchan	86.53	346	⇑*i*P	P	03 16 36.9	+0.1
K18A	Toltan Ranch, baz=87,SNR=5.3	86.54	42	⇓P	P	03 16 38.0	+0.3
BSMT	Bassoo Peak comp=Z,2.5nm,0.9s	86.57	36	*e*P	P	03 16 37.4	-0.3
BSMT				*ep*P	pP	03 17 18.5	+0.4
429A	Davenport Ranc baz=87,SNR=20	86.64	56	⇑P	P	03 16 38.3	+0.1
L19A	Farson baz=87,SNR=6.0	86.70	43	⇑P	P	03 16 38.7	+0.2
Q22A	Crested Butte, baz=87,SNR=12	86.71	47	⇑P	P	03 16 38.7	0.0
A12A	Yaak River Ran baz=87	86.73	35	⇓P	P	03 16 38.9	+0.7
W25A	X Bar L Ranch, baz=87,SNR=9.1	86.73	51	⇑P	P	03 16 38.4	-0.3
N20A	Spence Gulch, baz=87,SNR=10	86.77	44	⇓P	P	03 16 39.0	+0.2
Z27A	Tatum baz=87	86.80	53	⇑P	P	03 16 39.1	+0.1
SMCO	Snowmass comp=Z,8.8nm,1.0s	86.82	46	*e*P	P	03 16 39.3	0.0
SMCO				*ep*P	pP	03 17 18.4	-1.5
J18A	Kendall Valley baz=87,SNR=8.1	86.85	42	⇓P	P	03 16 39.3	+0.1
D14A	Greenough baz=87	86.85	37	⇑P	P	03 16 38.4	-0.5
530A	J-C Ranch, Com baz=87	86.87	56	⇓P	P	03 16 40.0	+0.7
H16A	Russell Place, baz=87,SNR=6.9	86.88	40	⇑P	P	03 16 40.2	+0.9
CHMT	Chamberlain Mo comp=Z,11nm,1.8s	86.91	37	*e*P	P	03 16 38.5	-0.8
BW06	Boulder Array baz=87	86.91	42	⇑P	P	03 16 39.3	-0.2
PDAR	Pinedale Array comp=Z,2.3nm,0.9s,baz=206,slow=4.5,SNR=14	86.91	42	P	P	03 16 39.3	-0.2
PDAR				pP	pP	03 17 08.7	-11
PDAR	comp=Z,0.2nm,0.5s,baz=31,slow=46,SNR=1.8			sP	sP	03 17 19.7	-17
PDAR	comp=Z,2.2nm,1.1s,baz=139,slow=14,SNR=2.2	86.91	42	P	P	03 16 39.3	-0.2
PDAR				pP	pP	03 17 08.7	-11
PDAR				sP	sP	03 17 19.7	-17
DOT	Dot Lake comp=Z,7.5nm,1.0s	86.92	13	*e*P	P	03 16 38.2	-0.6
329A	Wagon Wheel Ra baz=87,SNR=7.0	86.94	55	⇓P	P	03 16 40.0	+0.3
PSI	Prapat comp=Z,1.6nm,0.3s,baz=168,slow=18,SNR=4.5	86.98	274	P	P	03 16 40.4	0.0
PSI	Prapat	86.98	274	P	P	03 16 40.4	0.0
128A	Castleberry Fa baz=87,SNR=5.2	87.05	54	⇑P	P	03 16 40.5	+0.3
B13A	Whitefish baz=87	87.05	36	⇓P	P	03 16 39.4	-0.4
CMIG	Matias Romero comp=Z,4.8nm,0.7s,baz=278,slow=6.0,SNR=8.2	87.13	71	P	P	03 16 41.0	+0.2
CMIG	Matias Romero	87.13	71	P	P	03 16 41.0	+0.2
R23A	Moffat baz=87	87.14	48	⇓P	P	03 16 41.2	+0.5
M20A	Sweetwater, Wa baz=87	87.15	44	⇑P	P	03 16 40.9	+0.2
631A	Perdido Creek baz=87	87.16	57	⇑P	P	03 16 40.5	-0.2
P22A	Eagle baz=87,SNR=8.1	87.17	46	⇑P	P	03 16 40.9	0.0
N21A	Black Mountain baz=87,SNR=8.2	87.23	45	⇑P	P	03 16 41.5	+0.4
F16A	Kennard Place, baz=88	87.23	39	⇑P	P	03 16 41.2	+0.4
COLA	College	87.25	11	*e*P	P	03 16 39.5	-0.7
COLA	comp=Z,40nm,1.3s			pmax	pmax		
COLA	College comp=Z,40nm,1.3s	87.25	11	*e*P	P	03 16 39.5	-0.7
COLA				*ep*P	pP	03 17 20.6	-0.1
L20A	Wamsutter baz=88	87.31	43	⇑P	P	03 16 41.7	+0.3
S24A	Houchin Ranch, baz=88	87.31	48	⇓P	P	03 16 42.5	+0.8
ILAR	Eielson Array comp=Z,8.6nm,1.0s,baz=219,slow=5.2,SNR=36	87.33	12	P	P	03 16 40.0	-0.6
ILAR				PP	PP	03 20 03.9	-3.7
ILAR	comp=Z,0.9nm,1.0s,baz=219,slow=8.8,SNR=4.4			P	P	03 16 40.0	-0.6
ILAR	Eielson Array	87.33	12	PP	PP	03 20 03.9	-3.7
BJI	Beijing	87.37	314	P	P	03 16 42.5	+1.1
BJI	comp=Z,34nm,1.5s			pmax	pmax		
A13A	Flathead Natio baz=88	87.39	35	⇑P	P	03 16 41.5	+0.1
Z28A	Tucker Farm, M baz=88	87.41	53	⇓P	P	03 16 42.2	+0.2
MSTX	Muleshoe baz=88	87.42	53	⇓P	P	03 16 42.2	+0.2
J19A	Crowheart baz=88	87.48	42	⇓P	P	03 16 41.4	-0.7
531A	Rocksprings baz=88	87.50	57	⇑P	P	03 16 42.4	0.0
O22A	Kremmling baz=88,SNR=11	87.58	46	⇓P	P	03 16 42.9	+0.1
E16A	East Helena baz=88	87.61	38	⇑P	P	03 16 42.6	+0.1
K20A	Yellowstone Ra baz=88	87.63	43	⇑P	P	03 16 42.3	-0.6
W27A	Bowe Ranch, En baz=88	87.69	51	⇑P	P	03 16 43.1	-0.2
B14A	Marquette Ranc baz=88	87.70	36	⇑P	P	03 16 42.8	-0.2
PLCA	Paso Flores comp=Z,4.9nm,0.9s,baz=276,slow=1.5,SNR=6.0	87.73	133	P	P	03 16 44.5	+1.0
PLCA				LR	LR	03 48 04.5	
PLCA	comp=Z,76nm,18.0s,baz=244,slow=30 Paso Flores comp=Z,20nm,1.4s	87.73	133	*e*P	P	03 16 44.1	+0.6
WALA	Waterton Lakes comp=Z,0.3nm,1.3s	87.74	35	*e*P	P	03 16 42.8	-0.4
M21A	Separation Pea baz=88,SNR=5.1	87.74	44	⇑P	P	03 16 43.1	-0.4
C15A	Salmond Ranch, baz=88	87.75	37	⇑P	P	03 16 43.0	-0.2
S25A	Robets Cordova baz=88	87.87	49	⇓P	P	03 16 44.0	-0.1
ENH	Enshi comp=Z,85nm,1.5s	87.89	303	*e*P	P	03 16 45.2	+1.0
Z29A	Hungry Hill Ra baz=88	87.91	54	⇑P	P	03 16 44.1	-0.2
I19A	Meeteetse baz=88	87.91	41	⇓P	P	03 16 44.5	+0.3
D16A	Dana Ranch, Ca baz=88	87.95	38	⇓P	P	03 16 44.4	+0.2
N22A	Wattenberg Ran baz=88,SNR=6.7	87.95	45	⇓P	P	03 16 44.9	+0.3
A14A	Double T Ranch baz=88	87.96	36	⇓P	P	03 16 44.3	+0.1
O23A	Lake Granby, G baz=88	88.03	46	⇓P	P	03 16 45.3	+0.3
B15A	Bradely Ranch, baz=88	88.07	36	⇑P	P	03 16 44.2	-0.5
R25A	Fountain Ranch baz=88,SNR=5.1	88.20	48	⇓P	P	03 16 45.9	+0.2
Y29A	Porterfield Fa baz=88	88.20	53	⇑P	P	03 16 45.8	+0.2
C16A	Fuhringer Ranc baz=88	88.25	37	⇓P	P	03 16 45.6	0.0
RLMT	Red Lodge baz=88	88.30	40	⇑P	P	03 16 45.7	-0.3
K21A	Alcova baz=88	88.32	43	⇑P	P	03 16 46.2	0.0
A15A	Johnson Ranch, baz=89	88.34	36	⇓P	P	03 16 45.9	-0.1
N23A	Red Feather La baz=89,SNR=5.8	88.34	45	⇑P	P	03 16 46.7	+0.3
DAWY	Dawson	88.35	15	*e*P	P	03 16 45.4	-0.2
DAWY				*ep*P	pP	03 17 27.1	+0.8
432A	Menard baz=89	88.38	56	⇑P	P	03 16 46.4	-0.1
VNA3	Neumayer Olymp	88.41	175	*e*P	P	03 16 46.0	+0.1
VNA3	Neumayer Olymp	88.41	175	*ep*P	pP	03 17 25.4	-1.1
VNA3	Neumayer Olymp	88.41	175	*e*sP	sP	03 17 40.5	-3.0
D17A	Six Diamond Ra baz=89	88.51	38	⇓P	P	03 16 47.2	+0.4
S26A	Kim baz=89	88.53	49	⇓P	P	03 16 47.4	+0.2
EGAK	Eagle comp=Z,36nm,1.6s	88.54	14	*e*P	P	03 16 46.1	-0.2
J21A	Lysite baz=89	88.54	43	⇑P	P	03 16 47.7	+0.5
L22A	Ellis Ranch, M baz=89	88.56	44	⇑P	P	03 16 47.8	+0.5
AMTX	Amarillo baz=89	88.63	52	⇑P	P	03 16 47.8	+0.2
GYA	Guiyang	88.64	299	*e*P	P	03 16 49.8	+1.9
GYA				pP	pP	03 17 28.6	0.0
GYA				sP	sP	03 17 46.0	+0.5
GYA				PP	PP	03 20 21.3	+2.2
GYA				SKS	SKSac	03 27 01.4	-0.9
GYA				S	S	03 27 20.9	-0.3
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,90nm,5.3s			pmax	pmax		
E18A	Harlowton baz=89	88.66	39	⇑P	P	03 16 48.4	+0.8
C17A	Wharram Farm, baz=89	88.72	38	⇑P	P	03 16 48.0	+0.2
R26A	Arlington baz=89,SNR=5.4	88.85	48	⇑P	P	03 16 48.3	-0.4
I21A	Big Trails, Te baz=89	88.87	42	⇑P	P	03 16 48.0	-0.6
VNA2	Neumayer-Watz baz=208,slow=3.7	88.88	176	*e*P	P	03 16 48.9	+0.8
VNA2	Neumayer-Watz baz=208,slow=3.7	88.88	176	*ep*P	pP	03 17 28.1	-0.7

VNA2 Neumayer--Watz 88.88 176 *es*P sP 03 17 44.0 -1.8
baz=208,slow=3.7
VNA2 Neumayer--Watz 88.88 176 *e*PKiKP **PKiKP** **03 21 46.5 0.0**
baz=208,slow=3.7
A16A West Butte Ran 88.95 36 ⇓P **P** **03 16 48.9 +0.1**
baz=89
COLD Coldfoot 88.99 10 *e*P **P** **03 16 48.9 +0.5**
comp=Z,6.2nm,0.8s
L23A Garrett 89.08 44 ⇓P **P** **03 16 49.8 0.0**
baz=89
VNA1 Neumayer--Stat 89.09 176 *e*P **P** **03 16 49.9 +0.8**
VNA1 Neumayer--Stat 89.09 176 *e*pP pP 03 17 29.1 -0.6
ABTX Abilene, Hawle 89.22 55 ⇑P **P** **03 16 50.5 +0.1**
baz=89
A17A Triple J Farms 89.45 37 ⇑P **P** **03 16 51.4 +0.3**
baz=90
D19A Cripps Ranch, 89.57 39 ⇑P **P** **03 16 52.5 +0.7**
baz=90
Z32A Haskell 89.62 54 ⇑P **P** **03 16 52.6 +0.4**
baz=90
B18A Beardsley Farm 89.68 37 ⇓P **P** **03 16 52.4 +0.2**
baz=90
C19A Slack Wire Ran 89.76 38 ⇑P **P** **03 16 53.3 +0.7**
baz=90
H22A Clearmont 89.84 42 ⇓P **P** **03 16 53.5 +0.4**
baz=90
XAN Xi'an 89.89 306 P **P** **03 16 54.6 +1.1**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN pmax pmax
comp=Z,41nm,5.8s
A18A Metzger Ranch, 89.92 37 ⇓P **P** **03 16 53.4 +0.1**
baz=90
B19A Brinkman Farms 90.19 38 ⇓P **P** **03 16 55.2 +0.6**
baz=90
E21A Keefer Ranch, 90.33 40 ⇓P **P** **03 16 56.4 +1.1**
baz=91
C20A Veseth Ranch, 90.36 39 ⇑P **P** **03 16 56.0 +0.6**
baz=91
A19A Klindworth Far 90.55 37 ⇓P **P** **03 16 56.7 +0.5**
baz=91
D21A La Casta Ranch 90.64 39 ⇓P **P** **03 16 57.2 +0.5**
baz=91
HHC Hu-ho-hao-te 90.86 313 *e*P **P** **03 16 59.0 +1.0**
HHC pP **pP** **03 17 38.0 -0.7**
HHC sP **sP** **03 17 55.9 +0.3**
HHC PP **PP** **03 20 39.8 +3.4**
HHC SKS **SKSac** **03 27 14.6 0.0**
HHC S **S** **03 27 39.8 -1.3**
HHC SS **SS** **03 33 49.5 +1.2**
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,150nm,9.6s
HHC LR LR
comp=E,280nm,17.9s
HHC LR LR
comp=Z,440nm,14.4s
C21A Desert Coulee 90.95 39 ⇑P **P** **03 16 58.6 +0.5**
baz=91
F23A Volborg 90.96 41 ⇑P **P** **03 16 58.7 +0.4**
baz=91
A20A Cobblestone Ra 90.99 38 ⇑P **P** **03 16 58.4 +0.1**
baz=91
H24A Dirks Ranch, A 91.04 42 ⇑P **P** **03 16 58.7 0.0**
baz=91
RSSD Black Hills 91.09 43 *e*P **P** **03 16 59.2 +0.1**
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 91.09 43 *e*P **P** **03 16 59.2 +0.1**
comp=Z,12nm,1.1s
D22A Cohagen 91.17 40 ⇑P **P** **03 16 59.7 +0.5**
baz=91
E23A Ismay 91.39 40 ⇑P **P** **03 17 01.0 +0.9**
baz=92
KMI Kunming 91.41 296 P **P** **03 17 02.8 +1.8**
KMI pP **pP** **03 17 44.6 +2.9**
KMI pmax pmax
comp=Z,19nm,1.2s
A21A Bergtoll Ranch 91.62 38 ⇓P **P** **03 17 01.8 +0.6**
baz=92
B22A Reddig Ranch S 91.83 39 ⇑P **P** **03 17 03.1 +0.9**
baz=92
C23A Lambert 92.07 39 ⇑P **P** **03 17 03.8 +0.5**
baz=92
D24A Glendive 92.27 40 ⇑P **P** **03 17 05.2 +1.0**
baz=92
CMAR Chiang Mai Arr 92.36 289 P **P** **03 17 06.7 +1.5**
comp=Z,5.4nm,0.9s,baz=130,slow=2.9,SNR=21
CMAR LR LR 03 58 38.8
comp=Z,83nm,18.0s,baz=271,slow=35
CMAR Chiang Mai Arr 92.36 289 P **P** **03 17 06.7 +1.5**
C24A Savage 92.40 40 ⇑P **P** **03 17 05.8 +1.0**
baz=93
LCO Las Campanas 92.48 122 *e*P **P** **03 17 06.9 +0.9**
comp=Z,38nm,1.4s
CHTO Chiang Mai 92.48 289 *e*P **P** **03 17 06.9 +1.1**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 92.48 289 *e*P **P** **03 17 06.9 +1.1**
comp=Z,8.9nm,1.1s
B23A Brockton 92.49 39 ⇓P **P** **03 17 06.2 +1.0**
baz=93
YAK Yakutsk 92.66 337 *e*P **P** **03 17 05.0 -0.5**
YAK Yakutsk 92.66 337 *e*P **P** **03 17 05.0 -0.5**
CD2 Chengdu 92.69 302 P **P** **03 17 07.3 +0.7**
CD2 pP **pP** **03 17 47.1 -0.2**
CD2 sP **sP** **03 18 03.8 -0.4**
CD2 PP **PP** **03 20 53.8 +2.9**
CD2 SKS **SKSac** **03 27 24.3 -0.9**
CD2 S **S** **03 27 55.4 -2.3**
CD2 SS **SS** **03 34 15.8 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,4.9s
DGMT Dagmar 92.97 39 ⇓P **P** **03 17 08.0 +0.6**
baz=93
INK Inuvik 93.19 14 P **P** **03 17 07.2 -0.7**
comp=Z,7.4nm,1.1s,baz=214,slow=6.0,SNR=9.0
INK Inuvik 93.19 14 *e*P **P** **03 17 07.1 -0.8**
comp=Z,21nm,1.4s
A24A Westby 93.29 39 ⇑P **P** **03 17 09.6 +0.8**
baz=94
JTS JuntasAbangare 93.79 80 P **P** **03 17 13.1 +1.1**
comp=Z,5.5nm,0.8s,baz=282,slow=8.7,SNR=4.0
JTS JuntasAbangare 93.79 80 *e*P **P** **03 17 13.3 +1.3**
comp=Z,6.4nm,0.8s
LZH Lanzhou 94.52 307 ⇑P **P** **03 17 16.0 +1.0**
LZH pP **pP** **03 17 56.3 +0.5**
LZH sP **sP** **03 18 15.0 +2.3**
LZH PP **PP** **03 21 08.0 +2.8**
LZH SKS **SKSac** **03 27 35.3 +0.1**
LZH *e*S **S** **03 28 11.0 -2.8**
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,93nm,8.7s
YKA Yellowknife Ar 95.06 24 P **P** **03 17 16.1 -0.4**
comp=Z,1.8nm,0.7s,baz=241,slow=4.6,SNR=41
YKA PP **PP** **03 21 11.7 +3.2**
comp=Z,0.1nm,0.3s,baz=236,slow=7.9,SNR=4.4
YKA Yellowknife Ar 95.06 24 P **P** **03 17 16.1 -0.4**
YKA PP **PP** **03 21 11.7 +3.2**
YKW3 Yellowknife Ar 95.09 24 *e*P **P** **03 17 16.4 -0.3**
ULN Ulaanbaatar 96.69 319 *e*P **P** **03 17 24.7 +0.1**
comp=Z,15nm,1.2s
ULN Ulaanbaatar 96.69 319 P **P** **03 17 25.6 +1.0**
SONM Songino Array 97.09 318 P **P** **03 17 26.1 -0.2**
comp=Z,1.0nm,0.4s,baz=125,slow=3.9,SNR=13
SONM PP **PP** **03 21 24.2 -0.5**
comp=Z,0.6nm,0.8s,baz=111,slow=7.0,SNR=4.1
SONM Songino Array 97.09 318 P **P** **03 17 26.1 -0.2**
SONM PP **PP** **03 21 24.2 -0.5**
GTA Gaotai 98.66 309 *e*P Pdif 03 17 34.5 +0.9
GTA SKS **SKSac** **03 27 57.9 +1.5**
GTA S **S** **03 28 46.8 -2.2**
GTA SS **SS** **03 35 42.0 +3.0**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,130nm,7.1s
GTA LR LR
comp=N,480nm,21.4s
GTA LR LR
comp=E,460nm,18.0s
GTA LR LR
comp=Z,140nm,14.3s
LPAZ La Paz 99.88 111 LR LR 03 51 22.2
comp=Z,66nm,21.6s,baz=142,slow=28
LPAZ La Paz 99.88 111 *e*Pdif **Pdif** **03 17 41.2 +1.0**
ZAK Zakamensk 99.90 320 *e*P **Pdif** **03 17 38.2 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,2.3s
ZALV Zalesovo Beam 111.73 321 PKiKP **PKiKP** **03 22 27.0 -0.8**
comp=Z,2.8nm,0.6s,baz=141,slow=0.8,SNR=15
ZALV PP **PP** **03 23 14.8 +2.0**
comp=Z,1.0nm,0.6s,baz=89,slow=6.1,SNR=4.6
ZALV Zalesovo Beam 111.73 321 PKiKP **PKiKP** **03 22 27.0 -0.8**
ZALV 03 23 14.8
ZALV Zalesovo Beam 111.73 321 PKiKP **PKiKP** **03 22 27.0 -0.8**
ZALV PP **PP** **03 23 14.8 +2.0**
MK31 Makanchi Array 112.73 313 PKiKP **PKiKP** **03 22 28.8 -1.2**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 112.73 313 *e*PKP **PKiKP** **03 22 28.6 -1.3**
MKAR Makanchi Array 112.73 313 Pdiff **Pdif** **03 18 39.7 +3.9**
comp=Z,0.2nm,0.4s,baz=92,slow=4.8,SNR=3.1
MKAR PKiKP **PKiKP** **03 22 29.1 -0.9**
comp=Z,1.5nm,0.5s,baz=52,slow=2.0,SNR=16
MKAR PKKPbc **PKKPbc** **03 33 18.3 -1.5**
comp=Z,0.4nm,0.7s,baz=281,slow=1.9,SNR=4.7
MKAR Makanchi Array 112.73 313 *c i*PKIKP **PKiKP** **03 22 29.1 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 112.73 313 Pdif **Pdif** **03 18 39.7 +3.9**
MKAR PKiKP **PKiKP** **03 22 29.1 -0.9**
MKAR PKKPbc **PKKPbc** **03 33 18.3 -1.5**
FRB Frobisher Bay 115.20 28 PKP **PKPdf** **03 22 32.9 -1.2**
comp=Z,0.6nm,0.4s,baz=74,slow=22,SNR=3.5
FRB Frobisher Bay 115.20 28 PKP **PKPdf** **03 22 32.9 -1.2**
KURK Kurchatov 115.38 317 PKiKP **PKPdf** **03 22 33.5 -1.3**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 115.38 317 *e*PKPdf **PKPdf** **03 22 33.3 -1.5**
KURK PKP **PKiKP** **03 22 33.8 -1.1**
KURK *e*PP **PP** **03 23 35.4 -3.2**
KURK PP PP 03 23 37.0 -1.6
KURBB Kurchatov Arra 115.43 317 PKP **PKPdf** **03 22 33.8 -1.2**
comp=Z,3.6nm,0.7s,baz=95,slow=2.0,SNR=31
KURBB PP **PP** **03 23 37.0 -2.0**
comp=Z,0.5nm,0.4s,baz=90,slow=7.6,SNR=4.8
KSH Kashi 116.70 305 *e*PKP **PKPdf** **03 22 38.1 +0.1**
KSH *es*PKP 03 23 37.1
KSH *e*PP PP 03 23 53.8 +5.3
KSH PKS **PKSdf** **03 26 13.5 -1.2**
KSH SKS **SKSdf** **03 29 34.0 -1.1**
KSH SKKS **SKKSac** **03 30 29.1 -4.0**
KSH SS **SS** **03 39 45.6 +3.0**
KSH AMB AMB
comp=Z,95nm,5.4s
KSH LR LR
comp=N,77nm,4.8s
KSH LR LR
comp=E,65nm,6.2s
KSH LR LR
comp=Z,240nm,5.4s
SCHQ Schefferville 116.76 38 PKP **PKPdf** **03 22 36.5 -1.0**
comp=Z,0.9nm,0.4s,baz=194,slow=13,SNR=7.2
SCHQ Schefferville 116.76 38 PKP **PKPdf** **03 22 36.5 -1.0**
AAK Ala-Archa 118.00 308 PKP **PKPdf** **03 22 40.1 -0.3**
comp=Z,3.4nm,0.8s,baz=139,slow=3.3,SNR=8.9
AAK Ala-Archa 118.00 308 *e*PKiKP **PKPdf** **03 22 39.9 -0.5**
AAK Ala-Archa 118.00 308 *e*PKPdf **PKPdf** **03 22 39.9 -0.5**
AAK PKP **PKPdf** **03 22 40.1 -0.3**
VOSK Vostochnaya 120.03 320 PKiKP **PKPdf** **03 22 43.0 -0.8**
VOSK pmax pmax
comp=Z,10.0nm,1.2s
BVA0 Borovoye Array 120.35 320 *i* PKiKP **PKPdf** **03 22 43.9 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 120.35 320 PKP **PKPdf** **03 22 43.9 -0.5**
comp=Z,4.8nm,0.5s,baz=129,slow=1.4,SNR=31
BVAR Borovoye Array 120.35 320 PKiKP **PKPdf** **03 22 43.9 -0.5**
BVAR Borovoye Array 120.35 320 PKP **PKPdf** **03 22 43.9 -0.5**
BRVK Borovoye 120.41 320 *c i*PKiKP **PKPdf** **03 22 43.7 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 120.41 320 *e*PKPdf **PKPdf** **03 22 43.6 -0.8**
KK31 Karatay Array 120.94 309 *i* PKiKP **PKPdf** **03 22 44.9 -1.0**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 120.94 309 *e*PKiKP **PKPdf** **03 22 45.4 -0.4**
KKAR Karatay Array 120.94 309 *e*PKPdf **PKPdf** **03 22 45.4 -0.4**
SPITS Spitsbergen Ar 121.55 357 PKP **PKPdf** **03 22 45.7 -0.4**
comp=Z,5.0nm,0.6s,baz=68,slow=4.7,SNR=14
SPITS Spitsbergen Ar 121.55 357 PKP **PKPdf** **03 22 45.7 -0.4**
SFJD Kangerlussuaq 121.57 22 *i* P PKPdf 03 22 55.3 +9.0
comp=Z,7.5nm,0.8s
SVE Sverdlovsk 125.04 326 *e*PKiKP **PKPdf** **03 22 53.4 +0.2**
SVE pmax pmax
comp=Z,12nm,1.1s
NRS Narsarsuaq 126.18 27 *i* P **PKPdf** **03 22 56.6 +1.3**
comp=Z,4.9nm,1.0s
ARU Arti 126.25 326 *i* PKiKP **PKPdf** **03 22 55.6 0.0**
ARU 03 24 48.4
ARU Arti 126.25 326 *e*PKPdf **PKPdf** **03 22 55.1 -0.4**
ARU *e*PP PP **03 24 48.1 -4.2**
AB31 Akbulak array 127.48 317 PKiKP **PKPdf** **03 22 58.5 +0.3**
ABKAR Akbulak array 127.48 317 *e*PKPdf **PKPdf** **03 22 58.3 +0.1**
BOSA Boshof 127.71 203 PKP **PKPdf** **03 23 00.2 +0.7**
comp=Z,1.7nm,0.6s,baz=348,slow=1.6,SNR=6.7
BOSA Boshof 127.71 203 PKP **PKPdf** **03 23 00.2 +0.7**
AKTO Aktyubinsk 128.40 319 PKP **PKPdf** **03 23 00.2 +0.3**
comp=Z,2.2nm,0.7s,baz=72,slow=4.6,SNR=11
AKTO Aktyubinsk 128.40 319 PKiKP **PKPdf** **03 23 00.2 +0.3**
AKTO Aktyubinsk 128.40 319 PKP **PKPdf** **03 23 00.2 +0.3**
KEV Kevo 128.48 350 *e*PKiKP **PKPdf** **03 22 58.0 -1.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 128.48 350 *ep* **PKPdf** **03 22 58.0 -1.4**
comp=Z,1.1nm,0.4s
ARCES ARCESS Array B 128.91 351 PKP **PKPdf** **03 23 00.1 -0.2**
comp=Z,4.9nm,0.5s,baz=63,slow=0.8,SNR=67
ARCES ARCESS Array B 128.91 351 PKP **PKPdf** **03 23 00.1 -0.2**
JOF Joensuu 133.44 344 *e*PKiKP **PKPdf** **03 23 08.4 -0.6**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 133.44 344 *ep* **PKPdf** **03 23 08.4 -0.6**
comp=Z,6.0nm,0.5s
KAF Kangasniemi 135.38 346 *e*PKiKP **PKPdf** **03 23 10.8 -1.9**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 135.38 346 *ep* **PKPdf** **03 23 10.8 -1.9**
comp=Z,3.2nm,0.4s
FINES FINESS Array B 136.01 345 PKhKP PKPpre 03 23 00.8
comp=Z,0.7nm,0.5s,baz=29,slow=4.4,SNR=6.5
FINES PKP **PKiKP** **03 23 14.8 -0.8**
comp=Z,2.8nm,0.6s,baz=20,slow=5.0,SNR=14
FINES FINESS Array B 136.01 345 PKPpre PKPpre 03 23 00.8
FINES PKP **PKiKP** **03 23 14.8 -0.8**
OBN Obninsk 137.53 333 *i* PKiKP **PKPdf** **03 23 19.0 +2.2**
OBN pmax pmax
comp=Z,3.0nm,0.4s
VRHR Novokhopersk 137.59 326 *e*PKiKP **PKPdf** **03 23 16.8 -0.3**
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=Z,7.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.3s
NB2 NORSAR Subarra138.79 355 PKP PKPpre 03 23 10.8
comp=Z,3.6nm,1.2s,baz=1.5,slow=3.2
NOA NORSAR Array B 138.79 355 PKhKP PKPpre 03 23 10.1
comp=Z,0.4nm,0.6s,baz=44,slow=1.9,SNR=3.6
NOA PKP **PKPdf** **03 23 19.1 -0.1**
comp=Z,1.4nm,0.6s,baz=13,slow=4.0,SNR=6.5
NOA NORSAR Array B 138.79 355 PKPpre PKPpre 03 23 10.1
NOA PKP **PKPdf** **03 23 19.1 -0.1**
VSR Storozhevoye 138.80 327 *e*PKiKP **PKPdf** **03 23 19.1 -0.2**
VORD Divnogorie 138.88 327 *e*PKiKP **PKPdf** **03 23 19.8 +0.3**
NAO01 NORSAR Array S 139.01 355 *e*PKPdf **PKPdf** **03 23 19.7 +0.3**
HFS Hagfors 139.44 353 PKhKP PKPpre 03 23 10.2
comp=Z,2.2nm,0.4s,baz=72,slow=4.8,SNR=25
HFS PKP **PKPdf** **03 23 20.3 0.0**
comp=Z,2.9nm,0.5s,baz=48,slow=2.2,SNR=8.7
HFS Hagfors 139.44 353 PKPpre PKPpre 03 23 10.2
HFS PKP **PKPdf** **03 23 20.3 0.0**
GNI Garni 140.40 309 *e*PKPdf **PKPdf** **03 23 23.6 +0.7**
KMBO Kilima Mbogo 141.78 240 *e*PKPdf **PKPdf** **03 23 27.3 +1.1**
SUW Suwalki 143.26 342 *e*PKP PKPbc 03 23 24.6 -0.1
SUW Suwalki 143.26 342 *e*PKP PKPbc 03 23 24.6 -0.2
MUD Monsted U'grnd 143.49 356 *i* P PKPbc 03 23 25.4 +0.1
comp=Z,11nm,1.0s
AKASG Malin Array Be 143.79 333 PKhKP PKPab 03 23 25.5 -0.2
comp=Z,11nm,0.6s,baz=40,slow=4.2,SNR=43
AKASG Malin Array Be 143.79 333 PKiKP PKPab 03 23 25.5 -0.1
AKASG Malin Array Be 143.79 333 PKPpre PKPab 03 23 25.5 -0.2
KIEV Kiev 143.80 333 *e*PKhKP PKPab 03 23 25.3 -0.4
KIEV Kiev 143.80 333 *e*PKPpre PKPab 03 23 25.3 -0.4
COP Copenhagen 143.94 353 *i* P PKPbc 03 23 26.4 -0.2
comp=Z,12nm,1.0s
BSD Bornholm Skovb 144.14 350 ⇑*i*P **PKPab** **03 23 26.5 -0.3**
comp=Z,17nm,1.0s
LLD Lille Linde 144.31 353 *i* P **PKPab** **03 23 27.0 -0.4**
comp=Z,22nm,0.9s
SIM Simferopol' 145.23 322 *e*PKIKP **PKPdf** **03 23 30.7 -0.3**
SIM pmax pmax
comp=Z,57nm,1.0s
GKP Gorka Klasztor 145.45 347 *e*PKP **PKPab** **03 23 31.8 -0.1**
GKP Gorka Klasztor 145.45 347 *e*PKP **PKPab** **03 23 31.7 -0.1**
MALT Malatya 145.63 309 *e*PKIKP **PKPdf** **03 23 31.6 -0.5**
MALT Malatya 145.63 309 *e*PKPbc **PKPdf** **03 23 31.6 -0.5**
BEL Belsk 145.86 342 *e*PKP **PKPbc** **03 23 32.3 -0.4**
BEL Belsk 145.86 342 *e*PKP **PKPbc** **03 23 32.3 -0.4**
BSEG Bad Segeberg 145.90 354 *e*PKP2 **PKPab** **03 23 33.4 0.0**
BSEG Bad Segeberg 145.90 354 *e*PKPbc **PKPab** **03 23 33.4 0.0**
LVV L'vov 146.54 337 *i* PKP2 **PKPbc** **03 23 34.7 -0.1**
RUE Ruedersdorf 146.87 350 *e*PKPbc **PKPbc** **03 23 36.1 +0.5**
KWP Kalwaria Pacla 147.16 338 *e*PKP **PKPbc** **03 23 37.1 +0.5**
KWP Kalwaria Pacla 147.16 338 ⇑PKP2 **PKPbc** **03 23 36.8 +0.2**
KWP Kalwaria Pacla 147.16 338 *e*PKPbc **PKPbc** **03 23 36.6 0.0**
KWP *e*PKPab **PKiKP** **03 23 39.2 +0.4**
KWP Kalwaria Pacla 147.16 338 ⇑*i*P **PKPbc** **03 23 36.8 +0.2**
KWP Kalwaria Pacla 147.16 338 *e*PKP **PKPbc** **03 23 37.1 +0.5**
NRDL Niedersach Rie 147.34 354 *e*PKPbc **PKPbc** **03 23 37.3 +0.5**
OJC Ojcow 147.59 342 *e*PKP2 **PKPbc** **03 23 38.1 +0.4**
OJC Ojcow 147.59 342 *e*PKPdf **PKPdf** **03 23 33.9 -0.9**
OJC *e*PKPdb 03 23 38.1
BUR08 Bucovina Ar. S 147.83 334 *e*PKPbc **PKPbc** **03 23 39.0 +0.4**
BURAR Bucovina Array 147.85 334 ⇑*i*P **PKPbc** **03 23 39.7 +1.1**
KOLS Kolonicke sedl 147.91 338 *e*PKP2 **PKPbc** **03 23 39.3 +0.7**
KOLS Kolonicke sedl 147.91 338 *e*PKP **PKPbc** **03 23 39.3 +0.7**
KOLS *e* 03 23 42.4
KSP Ksiaz 147.93 346 *e*PKP **PKPbc** **03 23 39.5 +0.8**
KSP Ksiaz 147.93 346 *e*PKP2 **PKPbc** **03 23 39.2 +0.6**
KSP Ksiaz 147.93 346 *e*PKP **PKPbc** **03 23 39.4 +0.8**
CLZ Clausthal 147.96 353 *e*PKP2 **PKPbc** **03 23 39.4 +0.7**
CLZ Clausthal 147.96 353 *e*PKPbc **PKPbc** **03 23 39.4 +0.7**
TLCR 147.97 327 ⇑PKP2 **PKPbc** **03 23 39.3 +0.5**
TLCR 147.97 327 ⇑*i*P **PKPbc** **03 23 39.3 +0.5**
GHRR 148.04 329 ⇓*i*P **PKPab** **03 23 40.7 -1.5**
TESR 148.07 331 ⇑*i*P **PKPbc** **03 23 39.3 +0.2**
CLL Collm 148.12 350 ⇑*e*PKIKP **PKPdf** **03 23 36.0 +0.3**
CLL *i* 03 23 39.3
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL pmax pmax
comp=Z,40nm,0.9s
CLL pmax pmax
comp=Z,33nm,0.9s
CLL Collm 148.12 350 *e*PKPbc **PKPbc** **03 23 39.5 +0.4**
CLL *ep*PKPbc **pPKPbc** **03 24 21.5 +0.2**
CLL Collm 148.12 350 *e*PKPdf **PKPdf** **03 23 36.0 +0.3**
comp=Z,6.0nm,1.2s
CLL ⇑*i*PKPbc **PKPbc** **03 23 39.3 +0.2**
comp=Z,40nm,0.9s
CLL ⇓*i*PKPab **PKPab** **03 23 42.3 0.0**
comp=Z,33nm,0.9s
CLL *ep*PKPab **pPKPab** **03 24 22.0 -1.7**
CLL *e*PP PP 03 27 13.0 +5.3
NIE Niedzica 148.14 341 *e*PKP2 **PKPbc** **03 23 40.2 +1.0**
NIE Niedzica 148.14 341 *e*PKPab **PKPbc** **03 23 40.2 +1.0**
UZH Uzhgorod 148.16 338 ⇓*i*PKP2 **PKPbc** **03 23 39.0 -0.2**
CRVS Cervenica-Dubn 148.22 339 *e*PKP2 **PKPbc** **03 23 40.1 +0.7**
CRVS Cervenica-Dubn 148.22 339 *e*PKP **PKPbc** **03 23 40.1 +0.7**
CRVS *e* 03 23 43.9
UPC Upice 148.31 346 ⇑*i*PKP2 **PKPbc** **03 23 40.4 +0.8**
UPC Upice 148.31 346 ⇑*i*PKPBC **PKPbc** **03 23 40.4 +0.8**
CFR Carcaliu 148.32 328 ⇑PKP2 **PKPbc** **03 23 40.1 +0.4**
CFR Carcaliu 148.32 328 ⇑*i*P **PKPbc** **03 23 40.1 +0.4**
BR131 Keskin Array S 148.37 315 *e*PKPdf **PKPbc** **03 23 36.0 -0.6**
BR131 *e*PKPbc **PKPbc** **03 23 40.2 -0.1**
BR131 *e*PKPab **PKPab** **03 23 43.7 -0.2**
BRTR Keskin Array B 148.37 315 PKPbc **PKPbc** **03 23 40.1 -0.1**
comp=Z,9.1nm,0.8s,baz=134,slow=2.6,SNR=34
BRTR Keskin Array B 148.37 315 PKPbc **PKPbc** **03 23 40.1 -0.1**
BRG Berggiesshubel 148.38 349 *e*PKP **PKPdf** **03 23 36.6 +0.5**
comp=Z,15nm,1.5s
BRG *e* 03 23 40.2
comp=Z,25nm,1.0s
BRG *e* 03 23 43.2
comp=Z,23nm,1.0s
BRG *ep*PKP **pPKPdf** **03 24 16.2 -2.6**
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 148.38 349 *e*PKIKP **PKPdf** **03 23 36.6 +0.5**
BRG *e* 03 23 43.2
BRG pmax pmax
comp=Z,15nm,1.5s
BRG pmax pmax
comp=Z,25nm,1.0s
BRG pmax pmax
comp=Z,23nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 148.38 349 *e*PKPbc **PKPbc** **03 23 40.4 +0.6**
DPC Dobruska-Polom 148.38 346 ⇑*i*PKP2 **PKPbc** **03 23 40.7 +0.8**
DPC Dobruska-Polom 148.38 346 ⇑*i*PKPBC **PKPbc** **03 23 40.7 +0.8**
DPC *e*PKPAB **PKPab** **03 23 44.1 +0.6**
OKC Ostrava-Krasne 148.40 343 ⇑*i*PKP2 **PKPbc** **03 23 40.3 +0.5**
OKC Ostrava-Krasne 148.40 343 ⇑*i*PKPBC **PKPbc** **03 23 40.3 +0.5**
OKC *e*PKPAB **PKPab** **03 23 43.9 +0.4**
TRPA Tarpa 148.49 337 ⇑*i*P **PKPbc** **03 23 40.5 +0.4**
BMR Baia Mare 148.50 335 ⇑PKP2 **PKPbc** **03 23 40.5 +0.3**
BMR Baia Mare 148.50 335 ⇑*i*P **PKPbc** **03 23 40.5 +0.3**
VRI Vrincioaia 148.51 330 ⇓PKP2 **PKPbc** **03 23 40.6 +0.3**
VRI Vrincioaia 148.51 330 ⇓*i*P **PKPbc** **03 23 40.6 +0.3**
KRLC Kraliky 148.53 345 ⇑*i*PKPBC **PKPbc** **03 23 40.6 +0.4**
KRLC *e*PKPAB **PKPab** **03 23 44.7 +0.6**
PLOR Plostina 148.56 330 ⇓PKP2 **PKPbc** **03 23 40.8 +0.4**
PLOR Plostina 148.56 330 ⇓*i*P **PKPbc** **03 23 40.8 +0.4**
PVCC Panska Ves 148.59 348 ⇑*i*PKP2 **PKPbc** **03 23 41.1 +0.8**
PVCC Panska Ves 148.59 348 ⇑*i*PKPBC **PKPbc** **03 23 41.1 +0.8**
BUG Bochum--Univer 148.60 357 *e*PKPbc **PKPbc** **03 23 40.6 +0.3**
MORC Moravsky Berou 148.62 344 ⇑PKP2 **PKPbc** **03 23 41.3 +0.8**
MORC Moravsky Berou 148.62 344 *e*PKPdf **PKPdf** **03 23 36.9 +0.3**
MORC *e*PKPbc **PKPbc** **03 23 40.6 +0.1**
MORC *e*PKPab **PKPab** **03 23 45.1 +0.6**
MORC Moravsky Berou 148.62 344 ⇑*i*P **PKPbc** **03 23 41.3 +0.8**
TIRR Tirgusor 148.68 326 ⇑PKP2 **PKPbc** **03 23 41.0 +0.3**
TIRR Tirgusor 148.68 326 ⇑*i*P **PKPbc** **03 23 41.0 +0.3**
GRER 148.75 329 ⇓*i*P **PKPbc** **03 23 42.1 +1.2**
MOX Moxa 148.98 351 *e*PKP2 **PKPbc** **03 23 41.8 +0.5**
MOX Moxa 148.98 351 *e*PKPbc **PKPbc** **03 23 41.8 +0.5**
UBBA Unterbreizbach 149.01 353 *e*PKPbc **PKPbc** **03 23 41.9 +0.7**
MANR Mangalia 149.02 325 ⇓*i*P **PKPbc** **03 23 42.6 +1.0**
DOPR Dopca 149.05 331 ⇓*i*P **PKPbc** **03 23 42.8 +1.1**
TANN Tannenbergstha 149.08 350 *e*PKPbc **PKPbc** **03 23 42.2 +0.6**
PRU Pruhonice 149.11 348 ⇑*i*PKP2 **PKPbc** **03 23 42.2 +0.6**
PRU Pruhonice 149.11 348 ⇑*i*PKPBC **PKPbc** **03 23 42.2 +0.6**
ISR Istrita 149.15 329 ⇓PKP2 **PKPbc** **03 23 42.9 +0.9**
ISR Istrita 149.15 329 ⇓*i*P **PKPbc** **03 23 42.9 +0.9**
MLR Muntele Rosu 149.16 330 ⇓*i*P **PKPbc** **03 23 42.5 +0.4**
NKC Novy Kostel 149.25 350 ⇑*i*PKP2 **PKPbc** **03 23 42.5 +0.5**
NKC Novy Kostel 149.25 350 ⇑*i*PKPBC **PKPbc** **03 23 42.5 +0.5**
NKC *e*PKPAB **PKPab** **03 23 46.0 -1.0**
VRAC Vranov 149.29 345 ⇑*i*P **PKPbc** **03 23 42.9 +0.8**
MDB Medias 149.36 333 ⇓PKP2 **PKPbc** **03 23 43.2 +0.8**
MDB Medias 149.36 333 ⇓*i*P **PKPbc** **03 23 43.2 +0.8**
VYHS Vyhne 149.41 341 *e*PKP2 **PKPbc** **03 23 43.1 +0.6**
VYHS Vyhne 149.41 341 *e*PKP **PKPbc** **03 23 43.1 +0.6**
VYHS *e* 03 23 48.6
SECR 149.44 329 ⇓*i*P **PKPbc** **03 23 43.4 +0.8**
MEM Membach 149.49 358 PKPbc **PKPbc** **03 23 42.6 +0.1**
DRGR 149.53 335 ⇓PKP2 **PKPbc** **03 23 43.4 +0.5**
DRGR 149.53 335 ⇓*i*P **PKPbc** **03 23 43.4 +0.5**
TREC Trest 149.56 346 ⇑*i*PKP2 **PKPbc** **03 23 43.3 +0.5**
TREC Trest 149.56 346 ⇑*i*PKPBC **PKPbc** **03 23 43.3 +0.5**
PSZ Piszkesteto 149.59 340 ⇓PKP2 **PKPbc** **03 23 43.7 +0.7**
PSZ Piszkesteto 149.59 340 *e*PKPbc **PKPbc** **03 23 43.1 +0.1**
PSZ *e*PKPab **PKPab** **03 23 48.8 +0.2**
PSZ Piszkesteto 149.59 340 ⇓*i*P **PKPbc** **03 23 43.7 +0.7**

PSZ	**Piszkesteto**	**149.59**	**340**	⇑*e*		**PKPbc**	**03 23 43.2**	**+0.2**
SNF	**Seneffe**	**149.60**	**1**	PKPbc		**PKPab**	**03 23 42.2**	**-0.6**
SNF				PKPab		**PKPab**	**03 23 48.4**	**+0.1**
VOIR		**149.61**	**331**	⇓*i*PKHKP		**PKPdf**	**03 23 39.6**	**+1.2**
VOIR		**149.61**	**331**	⇓*i*P		**PKPdf**	**03 23 39.6**	**+1.2**
BCLA	**Clavier**	**149.69**	**359**	PKPbc		**PKPbc**	**03 23 43.5**	**+0.4**
BCLA				PKPab		**PKPab**	**03 23 48.5**	**-0.2**
TNS	**Taunus Mts**	**149.74**	**355**	*e*PKP2		**PKPbc**	**03 23 43.7**	**+0.4**
TNS	**Taunus Mts**	**149.74**	**355**	*e*PKP2		**PKPbc**	**03 23 43.7**	**+0.4**
TNS				*e*PKPab		**PKPab**	**03 23 49.0**	**0.0**
ROTZ	**Rotzenmuhle**	**149.75**	**350**	*e*PKPbc		**PKPbc**	**03 23 44.0**	**+0.8**
SMOL	**Smolenice**	**149.80**	**343**	*e*PKP2		**PKPbc**	**03 23 44.4**	**+1.0**
SMOL	**Smolenice**	**149.80**	**343**	*e*PKP		**PKPbc**	**03 23 44.4**	**+1.0**
ARR	**Arges**	**149.85**	**331**	⇓*i*P		**PKPbc**	**03 23 44.8**	**+1.1**
GRF	**Grafenberg Arr**	**149.97**	**352**	*e*PKP2		**PKPbc**	**03 23 44.5**	**+0.7**
GRF	**Grafenberg Arr**	**149.97**	**352**	*e*PKPbc		**PKPbc**	**03 23 44.5**	**+0.7**
GRF				*e*PKPab		**PKPab**	**03 23 49.6**	**-0.3**
DOU	**Dourbes**	**150.02**	**0**	PKPbc		**PKPbc**	**03 23 43.9**	**+0.1**
DOU				PKPab		**PKPab**	**03 23 50.0**	**-0.1**
KHC	**Kasperske Hory**	**150.12**	**348**	⇑*i*PKP2		**PKPbc**	**03 23 44.8**	**+0.6**
KHC	**Kasperske Hory**	**150.12**	**348**	*e*PKPdf		**PKPdf**	**03 23 39.2**	**+0.2**
KHC				*e*PKPbc		**PKPbc**	**03 23 44.5**	**+0.3**
KHC				*e*PKPab		**PKPab**	**03 23 51.0**	**+0.4**
KHC	**Kasperske Hory**	**150.12**	**348**	⇑*e*PKPDF		**PKPdf**	**03 23 39.0**	**0.0**
KHC				⇑*i*PKP		**PKPbc**	**03 23 44.8**	**+0.6**
KHC				*e*PKPAB		**PKPab**	**03 23 49.5**	**-1.1**
LOT	**Lotru**	**150.17**	**332**	⇑*i*P		**PKPbc**	**03 23 44.4**	**-0.1**
WET	**Wettzell**	**150.24**	**349**	*e*PKIKP		**PKPab**	**03 23 51.2**	**+0.1**
WET	**Wettzell**	**150.24**	**349**	*e*PKPab		**PKPab**	**03 23 51.2**	**+0.1**
BUD	**Budapest**	**150.25**	**340**	*e*PKPdf		**PKPbc**	**03 23 45.6**	**+1.1**
HUMR	**Humele**	**150.33**	**330**	⇓*i*P		**PKPbc**	**03 23 44.8**	**0.0**
GEC2	**GERESS Array S**	**150.37**	**348**	*e*PKIKP		**PKPbc**	**03 23 45.3**	**+0.4**
GEC2	**GERESS Array S**	**150.37**	**348**	*e*PKPbc		**PKPbc**	**03 23 45.3**	**+0.4**
GERES	**GERESS Array B**	**150.37**	**348**	PKPbc		**PKPbc**	**03 23 44.8**	**0.0**
	comp=Z,13nm,0.7s,baz=101,slow=1.4,SNR=26							
GERES				PKPab		**PKPab**	**03 23 51.8**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=357,slow=2.9,SNR=8.9							
GERES	**GERESS Array B**	**150.37**	**348**	PKPbc		**PKPbc**	**03 23 44.8**	**0.0**
GERES				PKPab		**PKPab**	**03 23 51.8**	**+0.1**
WLF	**Walferdange**	**150.43**	**358**	*e*PKIKP		**PKPdf**	**03 23 39.7**	**+0.3**
WLF				*e*			03 23 52.3	
WLF	**Walferdange**	**150.43**	**358**	*e*PKPdf		**PKPdf**	**03 23 39.7**	**+0.3**
WLF				*e*PKPbc		**PKiKP**	**03 23 45.2**	**-0.3**
WLF				*e*PKPab		**PKPab**	**03 23 52.3**	**+0.5**
PKSG		**150.53**	**341**	⇓*e*PKPdf		**PKPbc**	**03 23 45.6**	**+0.5**
PKS7	**Kunszentmiklos**	**150.59**	**340**	*e*PKPdf		**PKPbc**	**03 23 45.8**	**+0.3**
CSKK	**Cs˙‡kako**	**150.60**	**341**	⇓*e*PKPdf		**PKPbc**	**03 23 47.6**	**+2.3**
CSS	**Prodhromos**	**150.71**	**306**	*e*PKPbc		**PKPbc**	**03 23 45.6**	**-0.4**
CSS				*e*PKPab		**PKPab**	**03 23 54.1**	**+0.5**
CONA	**Conrad Observa**	**150.75**	**345**	*i* PKiKP		**PKiKP**	**03 23 46.3**	**-0.1**
	comp=Z,23nm,0.6s,SNR=33							
SOP	**Sopron**	**150.80**	**343**	⇑*e*PKPdf		**PKPbc**	**03 23 46.4**	**+0.6**
PKS6	**Bocsa**	**150.85**	**339**	⇑*e*PKPdf		**PKPbc**	**03 23 46.4**	**+0.5**
BZS	**Buzias**	**150.93**	**335**	⇑⇑PKIKP		**PKPbc**	**03 23 46.4**	**+0.3**
BZS	**Buzias**	**150.93**	**335**	⇑*i*P		**PKPbc**	**03 23 46.3**	**+0.2**
LANF	**Langenberg**	**151.03**	**356**	PKP		**PKPbc**	**03 23 46.7**	**+0.4**
PKS2	**Kecel**	**151.06**	**339**	⇓*e*PKPdf		**PKPbc**	**03 23 47.1**	**+0.7**
STU	**Stuttgart**	**151.11**	**354**	*e*PKIKP		**PKPbc**	**03 23 47.1**	**+0.6**
STU				*e*			03 23 54.7	
STU	**Stuttgart**	**151.11**	**354**	*e*PKPbc		**PKPbc**	**03 23 47.0**	**+0.6**
STU	**Stuttgart**	**151.11**	**354**	*e*PKPbc		**PKPbc**	**03 23 47.0**	**+0.6**
STU				*e*PKPab		**PKPab**	**03 23 54.7**	**0.0**
MOA	**Molln**	**151.20**	**347**	*i* PKiKP		**PKiKP**	**03 23 47.0**	**-0.2**
	comp=Z,12nm,0.5s,SNR=7.0							
PKS9	**Tamasi**	**151.28**	**340**	⇓*e*		**PKPbc**	**03 23 47.1**	**+0.2**
FUR	**Furstenfeldbru**	**151.45**	**351**	*e*PKIKP		**PKPbc**	**03 23 47.7**	**+0.4**
FUR	**Furstenfeldbru**	**151.45**	**351**	*e*PKPbc		**PKPbc**	**03 23 47.7**	**+0.4**
ARSA	**Arzberg**	**151.47**	**344**	⇑*i*PKPbc		**PKPbc**	**03 23 47.2**	**-0.1**
	comp=Z,7.1nm,0.7s							
PKSM	**Moragy**	**151.50**	**339**	⇑⇑PKIKP		**PKPbc**	**03 23 47.6**	**+0.2**
PKSM	**Moragy**	**151.50**	**339**	⇑*i*P		**PKPbc**	**03 23 47.6**	**+0.2**
RJOB	**Jochberg**	**151.60**	**348**	*e*PKPbc		**PKPbc**	**03 23 47.9**	**+0.2**
BFO	**Black Forest**	**151.63**	**355**	*e*PKIKP		**PKPbc**	**03 23 47.5**	**-0.2**
BFO				*e*			03 23 56.0	
BFO	**Black Forest**	**151.63**	**355**	*e*PKPbc		**PKPbc**	**03 23 48.0**	**+0.3**
BFO				*e*PKPab		**PKPab**	**03 23 56.5**	**-0.4**
BFO	**Black Forest**	**151.63**	**355**	*e*PKPbc		**PKPbc**	**03 23 47.5**	**-0.2**
BFO				*e*PKPab		**PKPab**	**03 23 56.0**	**-0.9**
THEF	**They Montfort**	**151.87**	**358**	PKP		**PKPbc**	**03 23 48.4**	**+0.2**
RHK3	**Tenkes**	**151.91**	**340**	⇑*e*PKPdf		**PKPbc**	**03 23 48.3**	**-0.1**
SOKA	**Soboth**	**152.12**	**345**	⇑*i*PKPbc		**PKPbc**	**03 23 48.6**	**-0.4**
	comp=Z,18nm,1.1s							
KBA	**Koelnbreinsper**	**152.13**	**347**	⇑*i*PKPbc		**PKPbc**	**03 23 48.5**	**-0.6**
	comp=Z,13nm,0.6s,SNR=12							
PERS	**Pernice**	**152.14**	**345**	*i* PKPdf		**PKPdf**	**03 23 42.0**	**-0.2**
PERS				*i* PKPbc		**PKPbc**	**03 23 48.5**	**-0.5**
PERS				*i* PKPab		**PKPab**	**03 23 59.2**	**+0.1**
RETA	**Reutte**	**152.19**	**351**	⇑*i*PKiKP		**PKPbc**	**03 23 49.1**	**0.0**
	comp=Z,9.6nm,0.7s							
WATA	**Walderalm**	**152.21**	**350**	⇓*i*PKPbc		**PKPbc**	**03 23 49.0**	**-0.2**
	comp=Z,12nm,0.5s,SNR=11							
WTTA	**Wattenberg**	**152.27**	**350**	*i* PKiKP		**PKPbc**	**03 23 49.4**	**0.0**
	SNR=28							
MOTA	**Moosalm**	**152.27**	**351**	⇓*i*PKPbc		**PKPbc**	**03 23 49.0**	**-0.3**
	comp=Z,23nm,1.1s							
OBKA	**Obir**	**152.40**	**345**	⇑*i*PKPbc		**PKPbc**	**03 23 49.0**	**-0.5**
	comp=Z,5.8nm,0.7s,SNR=9.2							
MYKA	**Terra Mystica**	**152.49**	**347**	⇑*i*PKPbc		**PKPbc**	**03 23 49.1**	**-0.7**
	comp=Z,12nm,0.6s							
DAVA	**Damuels**	**152.50**	**352**	⇓*i*PKiKP		**PKiKP**	**03 23 50.3**	**+0.2**
	comp=Z,22nm,1.1s,SNR=6.2							
ABTA	**Abfaltersbach**	**152.61**	**348**	*i* PKPbc		**PKPbc**	**03 23 49.5**	**-0.5**
	comp=Z,19nm,0.6s,SNR=14							
VTS	**Vitosha**	**152.64**	**329**	⇓⇓PKIKP		**PKPbc**	**03 23 50.8**	**+0.5**
VTS	**Vitosha**	**152.64**	**329**	⇓⇓*i*P		**PKPbc**	**03 23 50.8**	**+0.5**
FETA	**Feichten**	**152.65**	**351**	⇑*i*PKiKP		**PKPbc**	**03 23 50.4**	**-0.1**
	comp=Z,17nm,1.1s,SNR=8.8							
LOMF	**Lomont**	**152.71**	**357**	PKP		**PKPbc**	**03 23 50.1**	**-0.1**
LJU	**Ljubljana**	**152.84**	**345**	*i* PKPdf		**PKPdf**	**03 23 43.3**	**+0.2**
LJU				*i* PKPbc		**PKPbc**	**03 23 50.4**	**0.0**
VISS	**Visnje**	**152.99**	**344**	*i* PKPdf		**PKPdf**	**03 23 43.1**	**-0.3**
VISS				*i* PKPbc		**PKPbc**	**03 23 50.6**	**-0.2**
VISS				*i* PKPab		**PKPab**	**03 24 02.6**	**-0.1**
DAVOX	**Davos/Dischmat**	**153.00**	**352**	PKPbc		**PKPbc**	**03 23 51.3**	**+0.2**
	comp=Z,14nm,0.5s,baz=249,slow=3.5,SNR=65							
DAVOX				PKPab		**PKPab**	**03 24 02.6**	**-0.3**
	comp=Z,4.7nm,0.4s,baz=217,slow=5.1,SNR=7.0							
DAVOX	**Davos/Dischmat**	**153.00**	**352**	PKPbc		**PKPbc**	**03 23 51.3**	**+0.2**
DAVOX				PKPab		**PKPab**	**03 24 02.6**	**-0.3**
VOY	**Vojsko**	**153.00**	**346**	*e*PKPdf		**PKPdf**	**03 23 43.3**	**-0.2**
VOY				*e*			03 23 50.3	
VOY				*e*			03 24 00.2	
JAVS	**Javornik**	**153.09**	**345**	*i* PKPdf		**PKPdf**	**03 23 43.4**	**-0.3**
JAVS				*i* PKPbc		**PKPbc**	**03 23 50.6**	**-0.6**
JAVS				*i* PKPab		**PKPab**	**03 24 02.6**	**-0.6**
BOJS	**Bojanci**	**153.16**	**343**	*i* PKPdf		**PKPdf**	**03 23 43.7**	**0.0**
BOJS				*i* PKPbc		**PKiKP**	**03 23 51.5**	**+0.2**
BOJS				*i* PKPab		**PKPab**	**03 24 03.4**	**+0.1**
AGO	**Saint Agoulin**	**154.03**	**2**	PKP		**PKPbc**	**03 23 53.0**	**-0.1**
PLDF	**La Plantade**	**154.13**	**2**	PKP		**PKPbc**	**03 23 53.7**	**+0.3**
LBL	**Lubilhac**	**154.85**	**2**	PKP		**PKPbc**	**03 23 55.2**	**+0.3**
BNI	**Bardonecchia**	**155.01**	**357**	*e*PKIKP		PKPdf	03 23 55.9	+9.5
BNI				*e*			03 24 12.1	
BNI	**Bardonecchia**	**155.01**	**357**	*e*PKPbc		PKPdf	03 23 55.9	+9.5
BNI				*e*PKPab		**PKPab**	**03 24 12.1**	**+0.7**
AQU	**L'Aquila**	**156.57**	**344**	*e*PKPdf		**PKPdf**	**03 23 47.7**	**-0.8**
AQU				*e*PKPab		**PKPab**	**03 24 17.9**	**-0.2**
ESDC	**Sonseca Array**	**159.07**	**19**	PKP		**PKPdf**	**03 23 52.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=7.3,slow=2.0,SNR=4.1							
ESDC				PKPab		**PKPab**	**03 24 29.0**	**0.0**
	comp=Z,2.1nm,0.9s,baz=332,slow=3.6,SNR=11							
ESDC	**Sonseca Array**	**159.07**	**19**	PKP		**PKPdf**	**03 23 52.0**	**+0.3**
ESDC				PKPab		**PKPab**	**03 24 29.0**	**0.0**
DBIC	**Dimbokro**	**163.79**	**144**	PKPab		**PKPab**	**03 24 50.0**	**-0.2**
	comp=Z,5.9nm,0.9s,baz=130,slow=3.6,SNR=5.1							
DBIC	**Dimbokro**	**163.79**	**144**	PKPab		**PKPab**	**03 24 50.0**	**-0.2**
KEST	**Kesra**	**163.85**	**346**	PKPab		**PKPab**	**03 24 49.3**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=16,slow=3.4,SNR=5.2							
KEST	**Kesra**	**163.85**	**346**	PKPab		**PKPab**	**03 24 49.3**	**-0.7**
MDT	**Midelt**	**164.80**	**31**	PKPab		**PKPab**	**03 24 54.7**	**+0.3**
	comp=Z,4.0nm,1.0s,baz=327,slow=3.5,SNR=6.3							
MDT	**Midelt**	**164.80**	**31**	PKPab		**PKPab**	**03 24 54.7**	**+0.3**
TOA0	**Torodi Ar. Sit**	**172.56**	**157**	*e*PKPab		**PKPab**	**03 25 28.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**172.56**	**157**	PKP		**PKPdf**	**03 24 01.6**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=2.1,slow=0.6,SNR=9.2							
TORD				PKPab		**PKPab**	**03 25 28.8**	**-0.1**
	comp=Z,3.7nm,1.0s,baz=212,slow=4.2,SNR=11							
TORD	**Torodi Ar. Bea**	**172.56**	**157**	PKP		**PKPdf**	**03 24 01.6**	**-1.5**
TORD				PKPab		**PKPab**	**03 25 28.8**	**-0.1**

*ISCJB **14** 03:24:07.7±0.7, 64˚.29N±0˚.09×40˚.1W±0˚.1, h10km,*

mb3.5/10, MS3.0/1, Error ellipse: s-maj=12.5km s-min=7.6km az=2.5

*IDC **14** 03:24:07.7±0.8, 64˚.10N×40˚.10W, h0km, mb3.5/11, mb1 3.7/13, mb1mx3.6/33, mbtmp3.6/13, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=24.2km s-min=15.8km az=0.0*

ISC 14 03:24:08.9±0.7, 64˚.12N±0˚.09×40˚.26W±0˚.06, h10km, n20, σ1°71/24, mb3.5/10, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**5.18**	**308**	Pn		**Pn**		**03 25 27.2**	**+0.8**
	10nm,0.3s,baz=128,slow=11,SNR=40								
SFJD				Pg		**Pb**		**03 25 38.7**	**-0.8**
	16nm,0.3s,baz=116,slow=13,SNR=19								
SFJD				Sn		**Sn**		**03 26 25.2**	**-0.8**
	18nm,0.3s,baz=175,slow=22,SNR=6.0								
SFJD				Lg		Lg		03 26 41.1	
	103nm,0.3s,baz=22,slow=23,SNR=18								
SFJD	**Kangerlussuaq**	**5.18**	**308**	*i* P		**Pn**		**03 25 27.1**	**+0.8**
SFJD				*i* S		**Sn**		**03 26 26.6**	**+0.6**
BORG	**Borgarnes**	**8.21**	**77**	Pn		**Pn**		**03 26 07.4**	**-0.5**
	0.2nm,0.3s,baz=257,slow=18,SNR=1.5								
BORG				Sn		Sn		03 27 30.9	-10
	0.4nm,0.3s,baz=308,slow=17,SNR=2.0								
SUMG	**Summit**	**8.53**	**4**	*i* P		**Pn**		**03 26 10.1**	**-2.4**
SUMG				*i* S		Sn		03 27 39.0	-10
FRB	**Frobisher Bay**	**12.40**	**281**	Pn		**Pn**		**03 27 07.0**	**+1.8**
	0.1nm,0.3s,baz=73,slow=14,SNR=3.5								
FRB				Sn		Sn		03 29 15.4	-7.7
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.6								
DAG	**Danmarks Havn**	**14.45**	**20**	*i* P		**Pn**		**03 27 31.2**	**-1.9**
SCHQ	**Schefferville**	**16.26**	**240**	Pn		**P**		**03 27 59.7**	**-0.5**
	0.2nm,0.3s,baz=56,slow=16,SNR=5.1								
SCHQ				Sn		**Sn**		**03 30 51.5**	**-5.9**
	0.1nm,0.3s,baz=335,slow=19,SNR=2.4								
RES	**Resolute Bay**	**20.98**	**323**	P		**P**		**03 28 53.3**	**+1.6**
	2.6nm,0.7s,baz=90,slow=1.0,SNR=5.5								
ARCES	**ARCESS Array B**	**25.25**	**49**	P		**P**		**03 29 34.1**	**-0.5**
	2.4nm,0.9s,baz=283,slow=8.2,SNR=6.6								
SADO	**Sadowa**	**29.07**	**247**	LR		LR		03 42 35.6	
	comp=Z,38nm,19.6s,baz=176,slow=38								
YKA	**Yellowknife Ar**	**31.70**	**302**	P		**P**		**03 30 31.4**	**-0.7**
	0.4nm,0.7s,baz=53,slow=9.2,SNR=6.8								
ILAR	**Eielson Array**	**40.71**	**321**	P		**P**		**03 31 49.7**	**+0.7**
	0.4nm,0.6s,baz=38,slow=6.9,SNR=7.2								
ILAR				PcP		**PcP**		**03 33 50.3**	**+0.1**
	0.6nm,0.6s,baz=0.5,slow=2.7,SNR=9.5								
PDAR	**Pinedale Array**	**43.77**	**275**	P		**P**		**03 32 15.7**	**+1.2**
	0.3nm,0.7s,baz=72,slow=9.6,SNR=3.0								
BVAR	**Borovoye Array**	**51.49**	**46**	P		**P**		**03 33 15.3**	**+1.3**
	0.3nm,0.3s,baz=324,slow=7.1,SNR=3.5								
TXAR	**Lajitas Array**	**52.45**	**260**	P		**P**		**03 33 23.0**	**+1.5**
	0.4nm,0.9s,baz=54,slow=9.1,SNR=2.7								
ZALV	**Zalesovo Beam**	**54.85**	**36**	P		**P**		**03 33 38.1**	**-0.6**
	0.2nm,0.4s,baz=306,slow=4.8,SNR=3.1								
TORD	**Torodi Ar. Bea**	**58.60**	**130**	P		**P**		**03 34 05.2**	**-0.6**
	0.6nm,0.6s,baz=337,slow=7.6,SNR=13								
MKAR	**Makanchi Array**	**60.62**	**42**	P		**P**		**03 34 19.2**	**-0.2**
	0.2nm,0.5s,baz=348,slow=5.5,SNR=4.8								
SONM	**Songino Array**	**65.36**	**24**	P		**P**		**03 34 51.7**	**+0.7**
	0.2nm,0.6s,baz=334,slow=7.4,SNR=2.3								
QSPA	**South Pole Qui**	**154.04**	**180**	PKPbc		**PKPbc**		**03 44 07.5**	**+0.5**
	2.0nm,1.0s,baz=219,slow=2.5,SNR=3.1								

*ISK **14** 03:24:34.2, 38˚.28N×42˚.80E, h4km, MD3.1*
*ISCJB **14** 03:24:35.9±0.6, 38˚.38N±0˚.04×42˚.79E±0˚.03, h5km±5km, Error ellipse: s-maj=6.8km s-min=4.1km az=2.8*
*DDA **14** 03:24:35.3, 38˚.31N×42˚.77E, h8km, MD3.0*
*CSEM **14** 03:24:35.3±0.2, 38˚.31N×42˚.81E, h10km, MD3.0, Error ellipse: s-maj=6.2km s-min=4.1km az=1.0*

ISC 14 03:24:36.0±1.0, 38˚.32N±0˚.03×42˚.82E±0˚.02, h11km±8km, n28, σ0°81/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.19**	**91**	*i* P		**Pg**		**03 24 40.2**	**-0.1**
GEVA				*i* S		**Sg**		**03 24 43.7**	**+0.5**
GEVA	**Gevas**	**0.19**	**91**	*i* P		**Pg**		**03 24 40.2**	**-0.1**
GEVA				*i* S		**Sg**		**03 24 43.7**	**+0.5**
VANT	**Van**	**0.37**	**73**	PG		**Pg**		**03 24 43.1**	**-0.3**
VANT	**Van**	**0.37**	**73**	*i* Pg		**Pg**		**03 24 43.1**	**-0.3**
TATV	**Tatvan**	**0.47**	**294**	*i* P		**Pg**		**03 24 44.8**	**-0.5**
TATV				*i* S		**Sg**		**03 24 51.3**	**-0.3**
VANB	**Van**	**0.53**	**58**	PG		**Pg**		**03 24 45.4**	**-1.0**
VANB				*e*SG		**Sg**		**03 24 54.2**	**+0.8**
VANB	**Van**	**0.53**	**58**	*i* Pg		**Pg**		**03 24 45.4**	**-1.0**
VANB				*e*Sg		**Sg**		**03 24 54.2**	**+0.8**
HAKT	**HAKKARI**	**1.03**	**137**	*i* P		**Pg**		**03 24 56.2**	**+0.2**
HAKT				*i* S		**Sn**		**03 25 13.1**	**+1.9**
HAKT	**HAKKARI**	**1.03**	**137**	*i* P		**Pg**		**03 24 56.2**	**+0.2**
BTMT	**Batman**	**1.05**	**264**	*e*PN		**Pn**		**03 24 57.1**	**+0.4**
BTMT	**Batman**	**1.05**	**264**	*e*Pn		**Pn**		**03 24 57.1**	**+0.4**
CLDR	**Calderan**	**1.19**	**46**	*e*Pn		**Pn**		**03 24 58.1**	**-0.8**
CLDR				*e*SN		**Sn**		**03 25 15.6**	**+0.4**
CLDR	**Calderan**	**1.19**	**46**	*e*Pn		**Pn**		**03 24 58.1**	**-0.8**
CLDR				*e*Sn		**Sn**		**03 25 15.6**	**+0.4**
CUKT	**Cukurca**	**1.24**	**149**	*e*PN		**Pn**		**03 24 57.7**	**-1.7**
CUKT	**Cukurca**	**1.24**	**149**	*e*Pn		**Pn**		**03 24 57.7**	**-1.7**
AGRB	**Hanur-Agry**	**1.27**	**6**	*e*PN		**Pn**		**03 24 59.7**	**-0.1**
AGRB	**Hanur-Agry**	**1.27**	**6**	*e*Pn		**Pn**		**03 24 59.7**	**-0.1**
BEST	**Besiri**	**1.29**	**251**	*i* P		**Pg**		**03 25 00.9**	**+0.1**
BEST				*i* S		**Sg**		**03 25 17.3**	**-0.3**
VRTB	**Varto-Mus**	**1.36**	**309**	*e*PN		**Pn**		**03 25 00.8**	**-0.2**
VRTB	**Varto-Mus**	**1.36**	**309**	*e*Pn		**Pn**		**03 25 00.8**	**-0.2**
BNGB	**Bing¶ll**	**1.80**	**293**	*e*PN		**Pn**		**03 25 06.9**	**-0.2**
MARD	**Mardin**	**1.90**	**239**	*i* P		**Pn**		**03 25 09.1**	**+0.6**
MARD				*i* S		**Sg**		**03 25 35.6**	**-1.4**
BINT	**Bingol**	**1.91**	**288**	*e*Pn		**Pn**		**03 25 06.9**	**-1.7**
EZZM	**Erzurum**	**1.95**	**325**	*e*PN		**Pn**		**03 25 09.7**	**+0.4**
DIY	**Diyarbakir**	**2.08**	**259**	*e*PN		**Pn**		**03 25 10.7**	**-0.3**
DIY	**Diyarbakir**	**2.08**	**259**	*e*Pn		**Pn**		**03 25 10.7**	**-0.3**
ERZN	**Erzincan**	**2.73**	**299**	*e*PN		**Pn**		**03 25 20.5**	**+0.7**
EZC	**Erzincan**	**3.05**	**299**	*e*Pn		Pn		03 25 20.5	-3.9

IDC 14 03:26:29.1±5.7, 20˚.96N×94˚.89E, h160km±69km, mb3.3/9, mb1 3.4/10, mb1mx3.1/29, mbtmp3.3/10, Error ellipse: s-maj=77.2km s-min=30.0km az=78.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.56**	**122**	P		Pn		03 27 37.1	+0.1
	1.0nm,0.3s,baz=296,slow=18,SNR=12								
CMAR				S		Sn		03 28 30.2	+0.3
	1.2nm,0.3s,baz=299,slow=17,SNR=4.4								
MKAR	**Makanchi Array**	**27.74**	**341**	P		P		03 32 02.5	-0.1
	0.4nm,0.6s,baz=159,slow=9.5,SNR=6.0								
KURBB	**Kurchatov Arra**	**32.28**	**340**	P		P		03 32 42.1	-0.5
	0.7nm,0.6s,baz=150,slow=8.4,SNR=5.8								
ZALV	**Zalesovo Beam**	**33.82**	**349**	P		P		03 32 56.2	+0.4
	0.8nm,0.3s,baz=171,slow=7.3,SNR=7.2								
AKTO	**Aktyubinsk**	**41.27**	**324**	P		P		03 33 58.4	-0.1
	1.1nm,0.6s,baz=135,slow=10.0,SNR=4.2								
ARCES	**ARCESS Array B**	**63.34**	**338**	P		P		03 36 40.9	+0.1
	2.6nm,1.0s,baz=100,slow=10,SNR=3.0								
HFS	**Hagfors**	**67.70**	**328**	P		P		03 37 08.6	-0.2
	1.7nm,0.9s,baz=85,slow=3.4,SNR=4.1								
GERES	**GERESS Array B**	**68.80**	**316**	P		P		03 37 16.5	+0.4
	0.5nm,0.5s,baz=74,slow=5.7,SNR=7.4								
NOA	**NORSAR Array B**	**68.85**	**329**	P		P		03 37 15.7	-0.4
	0.5nm,0.7s,baz=92,slow=5.8,SNR=2.9								
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P		P		03 39 03.2	0.0
	0.2nm,0.9s,baz=45,slow=3.4,SNR=3.3								

IDC 14 03:30:02.8±1.3, 4˚.90S×145˚.95E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, ML3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/19, Error ellipse: s-maj=43.3km s-min=22.2km az=104.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**165**	Pn		Pn		03 31 12.1	-2.1
	4.0nm,0.3s,baz=356,slow=6.0,SNR=9.4								
PMG				Sn		Sn		03 31 59.2	-10
	5.1nm,0.3s,baz=286,slow=20,SNR=3.0								
CTA	**Charters Tower**	**15.10**	**179**	Pn		Pn		03 33 39.5	+1.8
	0.5nm,0.3s,baz=0.0,slow=13,SNR=3.2								
CTA				LR		LR		03 38 10.0	
	comp=Z,76nm,20.1s,baz=48,slow=32								
WRA	**Warramunga Arr**	**18.75**	**216**	P		P		03 34 23.3	-0.2
	0.2nm,0.3s,baz=38,slow=12,SNR=4.6								
ASAR	**Alice Springs**	**21.98**	**211**	P		P		03 34 58.3	-0.3
	0.5nm,0.7s,baz=45,slow=6.8,SNR=4.5								
FITZ	**Fitzroy Crossi**	**23.80**	**235**	P		P		03 35 18.9	+1.3
	1.4nm,0.6s,baz=41,slow=12,SNR=5.4								
MKAR	**Makanchi Array**	**75.99**	**321**	P		P		03 41 50.8	-1.1
	0.6nm,1.1s,baz=119,slow=8.4,SNR=2.5								
ILAR	**Eielson Array**	**84.89**	**23**	P		P		03 42 40.5	+1.1
	0.6nm,0.7s,baz=256,slow=4.8,SNR=8.5								
TORD	**Torodi Ar. Bea**	**143.80**	**286**	PKP		PKPbc		03 49 39.7	+1.0
	0.2nm,0.8s,baz=70,slow=1.7,SNR=4.1								

**IDC 14 03:50:21.8±1

GCMT				eSn	Sn	03 59 32.2	-0.6		
D17A	**Six Diamond Ra**	**1.73**	**35**	⇓Pn	Pn	03 59 09.4	-0.6		
	baz=1.8,SNR=324								
E18A	**Harlowton**	**1.75**	**61**	⇑Pb	Pb	03 59 11.1	-0.5		
	baz=1.8								
E18A				⇓Sn	Sn	03 59 33.2	-0.2		
	baz=1.8								
I15A	**Monteview**	**1.76**	**188**	⇑Pb	Pn	03 59 10.1	-0.4		
	baz=1.7,SNR=60								
SLMT	**Seeley Lake**	**1.77**	**328**	ePn	Pn	03 59 10.3	-0.3		
SLMT				eSn	Sn	03 59 32.3	-1.6		
G18A	**Lazy EL Ranch,**	**1.86**	**102**	⇓Pb	Pn	03 59 11.8	0.0		
	baz=1.8,SNR=425								
G18A				⇑Sn	Sn	03 59 34.8	-1.3		
	baz=1.8								
H13A	**Challis**	**1.91**	**233**	⇓Pn	Pn	03 59 11.7	-0.8		
	baz=1.9,SNR=764								
H13A				⇓Sb	Sn	03 59 38.4	+1.1		
	baz=1.9								
I16A	**Newdale**	**1.93**	**166**	⇓Pb	Pn	03 59 12.9	+0.2		
	baz=1.9,SNR=106								
FLWY	**Flagg Ranch**	**1.95**	**148**	ePn	Pn	03 59 13.5	+0.4		
FLWY				eSn	Sn	03 59 39.4	+0.9		
IMW	**Indian Meadow**	**2.03**	**155**	ePn	Pn	03 59 14.7	+0.4		
IMW				eSn	Sn	03 59 41.5	+0.9		
I14A	**Mackay**	**2.04**	**208**	⇑Pb	Pn	03 59 14.2	-0.2		
	baz=2.0								
I14A				⇑Sb	Sn	03 59 41.6	+0.9		
	baz=2.0								
H18A	**Shoshone NF, C**	**2.04**	**121**	⇓Pb	Pn	03 59 15.5	+1.1		
	baz=2.0,SNR=184								
RLMT	**Red Lodge**	**2.11**	**106**	ePn	Pb	03 59 17.1	-0.8		
RLMT				eSn	Sn	03 59 42.0	-0.4		
RLMT				eSg	Sb	03 59 44.8	+0.1		
RLMT	**Red Lodge**	**2.11**	**106**	⇓Pb	Pn	03 59 15.8	+0.4		
	baz=2.1								
I17A	**Pilgrim Ck.**	**2.13**	**148**	⇓Pb	Pn	03 59 16.6	+0.9		
	baz=2.1								
SWMT	**Swartz Lake**	**2.18**	**325**	ePn	Pn	03 59 16.2	0.0		
SWMT				ePg	Pg	03 59 19.8	-0.7		
SWMT				eSg	Sg	03 59 48.2	-0.1		
MOOW	**Moose Ponds**	**2.23**	**153**	ePn	Pn	03 59 17.7	+0.7		
MOOW				eSn	Sn	03 59 46.7	+1.4		
DCID1	**Drake Creek**	**2.25**	**162**	ePn	Pn	03 59 18.5	+1.2		
DCID1				eSg	Sb	03 59 48.4	-0.4		
LOHW	**Long Hollow**	**2.40**	**152**	ePn	Pn	03 59 20.8	+1.6		
LOHW				eSg	Sb	03 59 51.9	-0.9		
TPAW	**Teton Pass**	**2.41**	**159**	ePn	Pn	03 59 21.2	+1.8		
TPAW				eSn	Sn	03 59 48.7	-1.1		
RRI2	**Red Ridge**	**2.47**	**166**	ePn	Pn	03 59 22.2	+1.9		
RRI2				eSg	Sb	03 59 54.4	-0.6		
SNOW	**Snow King Moun**	**2.48**	**156**	ePn	Pb	03 59 22.9	-1.3		
SNOW				eSg	Sb	03 59 55.7	+0.2		
JTMT	**Jette**	**2.49**	**324**	ePn	Pn	03 59 20.9	+0.4		
JTMT				ePg	Pg	03 59 26.4	+0.1		
JTMT				eSn	Sn	03 59 50.8	-0.9		
JTMT				eSg	Sg	03 59 58.4	-0.1		
REDW	**Red Top Meadow**	**2.55**	**159**	ePn	Pb	03 59 23.9	-1.4		
REDW				ePg	Pg	03 59 29.6	+2.1		
REDW				eSn	Sn	03 59 54.0	+0.7		
REDW				eSg	Sg	04 00 00.6	+0.1		
B15A	**Bradely Ranch,**	**2.59**	**354**	⇑Pn	Pn	03 59 21.8	0.0		
	baz=2.6,SNR=370								
D19A	**Cripps Ranch,**	**2.66**	**57**	⇑Pn	Pn	03 59 23.3	+0.5		
	baz=2.7,SNR=18								
B16A	**M & M Farms, S**	**2.69**	**6**	⇑Pn	Pn	03 59 23.3	+0.2		
	baz=2.7,SNR=33								
B17A	**L&G Farms, Che**	**2.71**	**19**	⇑Pn	Pn	03 59 23.4	0.0		
	baz=2.7,SNR=74								
HLID	**Hailey**	**2.72**	**218**	ePn	Pn	03 59 23.4	-0.3		
HLID	**Hailey**	**2.72**	**218**	⇓Pn	Pn	03 59 23.3	-0.4		
	baz=2.7,SNR=82								
B14A	**Marquette Ranc**	**2.73**	**344**	⇓Pn	Pn	03 59 24.2	+0.4		
	baz=2.8,SNR=45								
BLMT	**Blacktail Moun**	**2.73**	**327**	ePg	Pg	03 59 30.9	-0.1		
BLMT				eSg	Sg	04 00 05.6	-0.8		
J13A	**Cove Ranch, Pi**	**2.76**	**213**	⇓Pn	Pn	03 59 23.9	-0.4		
	baz=2.7,SNR=63								
BSMT	**Bassoo Peak**	**2.79**	**320**	ePn	Pn	03 59 24.9	+0.3		
BSMT				ePg	Pg	03 59 30.8	-1.1		
BSMT				eSg	Sg	04 00 06.1	-2.0		
EGMT	**Eagleton**	**2.80**	**35**	⇑Pn	Pn	03 59 24.6	-0.2		
EGMT				ePg	Pg	03 59 31.7	-0.6		
EGMT				eSn	Sn	03 59 58.2	-1.1		
EGMT				eSg	Sg	04 00 06.9	-1.7		
EGMT	**Eagleton**	**2.80**	**35**	⇑Pn	Pn	03 59 25.0	+0.2		
	baz=2.8,SNR=48								
E20A	**Meyer Farm, Mu**	**2.88**	**73**	⇓Pn	Pn	03 59 25.8	-0.1		
	baz=2.9,SNR=49								
I12A	**Atlanta**	**2.89**	**229**	⇑Pn	Pn	03 59 25.3	-0.8		
	baz=2.9,SNR=102								
C12B	**Naegeli Ranch,**	**3.02**	**312**	⇑Pn	Pn	03 59 28.3	+0.5		
	baz=3.1,SNR=25								
AHID	**Auburn Hatcher**	**3.07**	**166**	ePn	Pb	03 59 32.4	-1.8		
AHID				eSg	Sb	04 00 10.7	-1.6		
B13A	**Whitefish**	**3.08**	**330**	⇓Pn	Pn	03 59 29.0	+0.5		
	baz=3.1,SNR=7.2								
A16A	**West Butte Ran**	**3.23**	**6**	⇑Pn	Pn	03 59 30.6	0.0		
	baz=3.3,SNR=13								
A15A	**Johnson Ranch,**	**3.26**	**353**	⇑Pn	Pn	03 59 31.1	+0.1		
	baz=3.3,SNR=16								
A14A	**Double T Ranch**	**3.35**	**345**	⇑Pn	Pn	03 59 32.8	+0.6		
	baz=3.4,SNR=21								
A17A	**Triple J Farms**	**3.35**	**16**	⇑Pn	Pn	03 59 32.1	-0.1		
	baz=3.4,SNR=11								
B19A	**Brinkman Farms**	**3.48**	**38**	⇑Pn	Pn	03 59 34.9	+1.0		
	baz=3.5,SNR=17								
BW06	**Boulder Array**	**3.50**	**147**	ePn	Pb	03 59 39.8	-1.8		
PDAR	**Pinedale Array**	**3.50**	**147**	Pn	Pb	03 59 39.4	-2.2		
	1.0nm,0.3s,baz=332,slow=13,SNR=32								
PDAR				Lg	Lg	04 00 26.8			
	0.5nm,0.3s,baz=350,slow=30,SNR=6.8								
PDAR	**Pinedale Array**	**3.50**	**147**	Pn	Pb	03 59 39.4	-2.2		
PDAR				Lg	Lg	04 00 26.8			
MFID	**Camas Ranch**	**3.52**	**230**	ePn	Pn	03 59 34.5	-0.1		
MFID				ePg	Pb	03 59 43.7	+1.9		
MFID				eSg	Sb	04 00 28.3	+3.1		
MFID	**Camas Ranch**	**3.52**	**230**	⇓Pn	Pn	03 59 34.2	-0.5		
	baz=3.5,SNR=24								
C11A	**Tepee Creek (N**	**3.52**	**308**	⇑Pn	Pn	03 59 34.9	+0.3		
	baz=3.5,SNR=18								
WALA	**Waterton Lakes**	**3.53**	**341**	ePn	Pn	03 59 35.3	+0.6		
WALA				ePg	Pb	03 59 43.0	+1.0		
WALA				eSn	Sn	04 00 15.6	-1.6		
WALA				eSg	Sg	04 00 29.7	-2.2		
A18A	**Metzger Ranch,**	**3.54**	**25**	⇓Pn	Pn	03 59 34.7	-0.1		
	baz=3.6,SNR=38								
BMO	**Blue Mountains**	**3.76**	**258**	ePn	Pn	03 59 38.2	+0.3		
BMO				ePg	Pb	03 59 47.2	+1.4		
BMO				eSg	Sb	04 00 35.3	+3.3		
B20A	**Solberg Farm,**	**3.89**	**45**	⇓Pn	Pn	03 59 40.4	+0.7		
	baz=3.9,SNR=30								
A19A	**Klindworth Far**	**3.93**	**35**	⇓Pn	Pn	03 59 40.6	+0.3		
	baz=4.0,SNR=49								
HVU	**Hansel Valley**	**3.99**	**187**	ePn	Pn	03 59 42.4	+1.3		
HVU				eSg	Sb	04 00 43.0	+4.3		
HWUT	**Hardware Ranch**	**4.16**	**174**	ePg	Pb	03 59 50.7	-2.0		
HWUT				eSg	Sb	04 00 46.5	+3.0		
NEW	**Newport**	**4.24**	**308**	Pn	Pn	03 59 44.2	-0.3		
	0.5nm,0.3s,baz=123,slow=16,SNR=9.3								
NEW				Pg	Pb	03 59 51.6	-2.4		
	0.9nm,0.3s,baz=124,slow=13,SNR=10								
NEW				Lg	Lg	04 00 51.6			
	13nm,0.3s,baz=240,slow=23,SNR=22								
NEW	**Newport**	**4.24**	**308**	ePn	Pn	03 59 44.5	0.0		
NEW				ePg	Pb	03 59 56.8	+2.7		
NEW				eSg	Sg	04 00 51.4	-3.4		
NEW				Lg	Lg	04 00 51.6			
A21A	**Bergtoll Ranch**	**4.80**	**46**	⇓Pn	Pn	03 59 52.7	+0.5		
	baz=4.8,SNR=21								
JLU	**Jordanelle**	**5.16**	**174**	ePg	Pb	04 00 11.4	+1.4		
HAWA	**Hanford**	**5.19**	**280**	ePn	Pn	03 59 57.8	+0.3		
HAWA				eSg	Sg	04 01 21.1	-4.2		
DAU	**Daniels Canyon**	**5.37**	**173**	ePn	Pn	04 00 02.3	+2.1		
DAU				ePg	Pb	04 00 16.4	+3.0		
DAU				eSg	Sb	04 01 24.4	+5.9		
ELK	**Elko**	**5.49**	**206**	ePn	Pn	04 00 01.4	-0.4		
ELK				ePg	Pb	04 00 13.5	-1.9		
ELK				eSg	Sb	04 01 26.6	+4.7		
DUG	**Dugway**	**5.57**	**185**	ePn	Pn	04 00 01.6	-1.2		
DUG				ePg	Pb	04 00 17.3	+0.6		
DUG				eSg	Sb	04 01 30.3	+6.1		
RSSD	**Black Hills**	**5.97**	**103**	ePn	Pn	04 00 07.5	-0.9		
RSSD				ePg	Pb	04 00 26.1	+2.5		
RSSD				eSg	Sg	04 01 43.5	-6.8		
DGMT	**Dagmar**	**6.06**	**60**	ePn	Pn	04 00 09.9	+0.4		
DGMT				ePg	Pb	04 00 25.4	+0.3		
DGMT				eSg	Sb	04 01 42.2	+4.0		
PHWY	**Pilot Hill**	**6.58**	**130**	ePn	Pn	04 00 19.0	+2.2		
PHWY				ePg	Pb	04 00 37.2	+3.2		
PHWY				eSg	Sg	04 02 02.9	-6.9		
SRU	**San Rafael**	**6.74**	**169**	ePn	Pn	04 00 20.7	+1.9		
	2.4nm,0.5s								
LON	**Longmire**	**6.79**	**282**	ePn	Pn	04 00 20.0	+0.6		
LON				eSg	Sb	04 02 05.3	+6.3		
MOD	**Modoc**	**7.05**	**240**	ePg	Pg	04 00 50.2	-3.4		
NVAR	**Mina Array Bea**	**8.63**	**214**	Pn	Pn	04 00 48.2	+3.3		
	0.0nm,0.3s,baz=28,slow=16,SNR=3.1								
NVAR				Pg	Pg	04 01 10.1	-14		
	0.1nm,0.3s,baz=28,slow=13,SNR=3.0								
NVAR				Lg	Lg	04 03 12.0			
	0.1nm,0.3s,baz=28,slow=35,SNR=2.8								
NVAR	**Mina Array Bea**	**8.63**	**214**	Pn	Pn	04 00 48.2	+3.3		
NVAR				Pg	Pg	04 01 10.1	-14		
NVAR				Lg	Lg	04 03 12.0			
YKA	**Yellowknife Ar**	**16.84**	**356**	Pn	Pn	04 02 31.5	-4.0		
	0.1nm,0.3s,baz=176,slow=12,SNR=8.5								
YKA	**Yellowknife Ar**	**16.84**	**356**	Pn	Pn	04 02 31.6	-4.0		

ISCJB ***14*** *04:08:46.9±0.9, 41°.56N±0°.03×37°.22E±0°.02, h8km±6km, mb3.2/3, Error ellipse: s-maj=4.9km s-min=3.0km az=5.2*
CSEM ***14*** *04:08:46.8±0.2, 41°.61N×37°.26E, h2km, MD3.2, Error ellipse: s-maj=7.0km s-min=3.7km az=16.0*
IDC ***14*** *04:08:46.9±1.0, 41°.47N×37°.14E, h0km, mb3.1/2, mb1 3.5/8, mb1mx3.3/29, mbtmpb3.4/8, ML3.4/6, MS2.6/1, Ms1 2.6/1, ms1mx2.1/22, Error ellipse: s-maj=17.6km s-min=10.7km az=159.0*
ISK ***14*** *04:08:47.4, 41°.49N×37°.20E, h5km, ML3.6*
DDA ***14*** *04:08:48.1, 41°.36N×37°.22E, h23km, MD3.2*

ISC 14 04:08:46.6±1.2, 41°.52N±0°.03×37°.25E±0°.02, h5km±9km, n127, σ1§77/146, mb3.2/3, 12C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBA	**Erbaa**	**0.92**	**204**	*i* P	**Pg**	**04 09 03.5**	**-0.7**
ERBA				*i* S	**Sg**	**04 09 13.7**	**-2.4**
GRSN	**GIRESUNGRSN**	**0.97**	**127**	*i* P	**Pg**	**04 09 05.4**	**+0.2**
GRSN				*i* S	**Sg**	**04 09 18.2**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.97**	**127**	*i* P	**Pg**	**04 09 05.4**	**+0.2**
GRSN				*i* S	**Sg**	**04 09 18.2**	**+0.3**
KVT	**Kavak**	**1.01**	**244**	PG	**Pg**	**04 09 05.9**	**0.0**
KVT				SG	**Sg**	**04 09 19.9**	**-0.1**
KVT	**Kavak**	**1.01**	**244**	*i* Pg	**Pg**	**04 09 05.9**	**0.0**
KVT				*i* Sg	**Sb**	**04 09 19.9**	**-0.1**
ESPY	**Espiye-Giresun**	**1.27**	**118**	ePN	**Pn**	**04 09 10.8**	**-0.2**
ESPY	**Espiye-Giresun**	**1.27**	**118**	ePn	**Pn**	**04 09 10.8**	**-0.2**
TOKA	**Tokat**	**1.33**	**206**	*i* P	**Pn**	**04 09 10.9**	**-1.0**
TOKA				*i* S	**Sb**	**04 09 26.9**	**-2.5**
DIKM	**Dikmen**	**1.50**	**276**	ePn	**Pb**	**04 09 14.7**	**-0.1**
DIKM				eSN	**Sg**	**04 09 35.2**	**+0.6**
DIKM	**Dikmen**	**1.50**	**276**	ePn	**Pb**	**04 09 14.7**	**-0.1**
DIKM				eSn	**Sg**	**04 09 35.3**	**+0.6**
SUSE	**Susehri**	**1.50**	**151**	*i* P	**Pn**	**04 09 14.2**	**0.0**
SUSE				*i* S	**Sn**	**04 09 33.5**	**-0.7**
SUSE	**Susehri**	**1.50**	**151**	*i* P	**Pn**	**04 09 14.2**	**0.0**
BOYT	**Boyabat**	**1.76**	**268**	*i* P	**Pn**	**04 09 17.3**	**-0.5**
BOYT	**Boyabat**	**1.76**	**268**	*i* P	**Pn**	**04 09 17.3**	**-0.5**
MACK	**Trabzon**	**1.99**	**106**	*i* P	**Pn**	**04 09 21.9**	**+1.0**
MACK				*i* S	**Sn**	**04 09 46.3**	**+0.2**
MACK	**Trabzon**	**1.99**	**106**	*i* P	**Pn**	**04 09 21.9**	**+1.0**
MACK				*i* S	**Sn**	**04 09 46.3**	**+0.2**
GUMT	**Gumushane**	**2.00**	**121**	ePN	**Pn**	**04 09 22.5**	**+1.5**
GUMT	**Gumushane**	**2.00**	**121**	ePn	**Pn**	**04 09 22.5**	**+1.5**
KELT	**Kelkit**	**2.05**	**131**	*i* P	**Pn**	**04 09 23.2**	**+1.3**
KELT				*i* S	**Sn**	**04 09 48.2**	**+0.3**
KELT	**Kelkit**	**2.05**	**131**	*i* P	**Pn**	**04 09 23.2**	**+1.3**
KELT				*i* S	**Sn**	**04 09 48.2**	**+0.3**
CTKT	**Corum**	**2.06**	**245**	*i* P	**Pn**	**04 09 23.1**	**+1.1**
CTKT				*i* S	**Sn**	**04 09 49.5**	**+1.3**
CTKT	**Corum**	**2.06**	**245**	*i* P	**Pn**	**04 09 23.1**	**+1.1**
CTKT				*i* S	**Sn**	**04 09 49.5**	**+1.3**
ILIC	**ilic-Erzincan**	**2.30**	**154**	ePN	**Pn**	**04 09 26.8**	**+1.6**
ILIC	**ilic-Erzincan**	**2.30**	**154**	ePn	**Pn**	**04 09 26.8**	**+1.6**
YOZ	**Yozgat**	**2.38**	**219**	ePN	**Pn**	**04 09 27.7**	**+1.3**
YOZ	**Yozgat**	**2.38**	**219**	ePn	**Pn**	**04 09 27.7**	**+1.3**
EZC	**Erzincan**	**2.38**	**137**	ePN	**Pn**	**04 09 28.4**	**+2.0**
EZC	**Erzincan**	**2.38**	**137**	ePn	**Pn**	**04 09 28.4**	**+2.0**
CORM	**Corum**	**2.40**	**237**	ePN	**Pn**	**04 09 28.4**	**+1.8**
CORM	**Corum**	**2.40**	**237**	ePn	**Pn**	**04 09 28.4**	**+1.8**
KEMA	**Kemaliye**	**2.44**	**157**	*i* P	**Pn**	**04 09 28.1**	**+0.9**
KEMA	**Kemaliye**	**2.44**	**157**	*i* P	**Pn**	**04 09 28.1**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.46**	**116**	ePN	**Pn**	**04 09 29.7**	**+2.2**
BAYT	**Ayd¨–ntepe-Bay**	**2.46**	**116**	ePn	**Pn**	**04 09 29.7**	**+2.2**
BZK	**Bozkurt**	**2.47**	**281**	ePN	**Pb**	**04 09 29.7**	**-1.6**
BZK	**Bozkurt**	**2.47**	**281**	ePn	**Pb**	**04 09 29.7**	**-1.6**
TOS	**Tosya**	**2.48**	**260**	ePN	**Pn**	**04 09 29.2**	**+1.5**
TOS	**Tosya**	**2.48**	**260**	ePn	**Pn**	**04 09 29.2**	**+1.5**
DARE	**Darende-Malaty**	**2.60**	**170**	ePN	**Pg**	**04 09 35.8**	**-0.6**
DARE	**Darende-Malaty**	**2.60**	**170**	ePn	**Pg**	**04 09 35.8**	**-0.6**
ERZN	**Erzincan**	**2.70**	**135**	ePN	**Pn**	**04 09 32.8**	**+2.1**
SARI	**SarD1z-Kayseri**	**2.87**	**189**	ePN	**Pb**	**04 09 39.0**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.87**	**189**	ePn	**Pb**	**04 09 39.0**	**+0.7**
BNN	**Bunyan**	**2.87**	**202**	ePN	**Pn**	**04 09 34.7**	**+1.6**
BNN	**Bunyan**	**2.87**	**202**	ePn	**Pn**	**04 09 34.7**	**+1.6**
KOPT	**Kop Dagi**	**2.89**	**120**	*i* P	**Pn**	**04 09 37.1**	**-1.1**
KOPT				*i* S	**Sb**	**04 10 13.3**	**-1.3**
CANT	**Cankiri**	**2.89**	**253**	ePN	**Pn**	**04 09 35.0**	**+1.7**
CDAG	**Cicekdag**	**2.90**	**230**	*i* P	**Pb**	**04 09 37.7**	**-1.0**
CDAG	**Cicekdag**	**2.90**	**230**	*i* P	**Pb**	**04 09 37.7**	**-1.0**
BALT	**Daday**	**2.90**	**272**	*i* P	**Pn**	**04 09 34.8**	**+1.3**
BALT	**Daday**	**2.90**	**272**	*i* P	**Pn**	**04 09 34.8**	**+1.3**
PINB	**Pinarbasi**	**2.91**	**193**	*i* P	**Pn**	**04 09 34.6**	**+0.8**
PINB	**Pinarbasi**	**2.91**	**193**	*i* P	**Pn**	**04 09 34.6**	**+0.8**
AKCD	**Akcadag**	**3.26**	**171**	*i* P	**Pn**	**04 09 37.3**	**-1.2**
BRTR	**Keskin Array B**	**3.28**	**238**	Pn	**Pn**	**04 09 39.5**	**+0.8**
	1.4nm,0.3s,baz=56,slow=12,SNR=56						
BRTR				Pg	**Pb**	**04 09 43.7**	**-1.6**
	3.8nm,0.3s,baz=58,slow=17,SNR=38						
BRTR				Sn	**Sn**	**04 10 18.4**	**+0.2**
	5.6nm,0.3s,baz=55,slow=18,SNR=12						
BRTR				Lg	Lg	04 10 28.2	
	2.9nm,0.3s,baz=53,slow=28,SNR=4.9						
BCA	**Borcka**	**3.29**	**90**	ePN	**Pn**	**04 09 41.4**	**+2.7**
BCA	**Borcka**	**3.29**	**90**	ePn	**Pn**	**04 09 41.4**	**+2.7**
AVNT	**Avonos**	**3.29**	**215**	*i* P	**Pn**	**04 09 40.5**	**+1.5**
AVNT	**Avonos**	**3.29**	**215**	*i* P	**Pn**	**04 09 40.5**	**+1.5**
MYA	**Malataya**	**3.32**	**164**	ePN	**Pn**	**04 09 41.2**	**+2.0**
MYA	**Malataya**	**3.32**	**164**	ePn	**Pn**	**04 09 41.2**	**+2.0**
DBOC	**Borcka**	**3.33**	**92**	*i* P	**Pn**	**04 09 39.6**	**+0.3**
DBOC	**Borcka**	**3.33**	**92**	*i* P	**Pn**	**04 09 39.6**	**+0.3**
DBAD	**Bademkaya**	**3.39**	**97**	*i* P	**Pn**	**04 09 42.2**	**+2.0**
DBAD	**Bademkaya**	**3.39**	**97**	*i* P	**Pn**	**04 09 42.2**	**+2.0**
SAFT	**Safranbolu**	**3.44**	**267**	ePN	**Pn**	**04 09 42.7**	**+1.9**
SAFT	**Safranbolu**	**3.44**	**267**	ePn	**Pn**	**04 09 42.7**	**+1.9**
KAMT	**Kaman**	**3.45**	**233**	ePN	**Pn**	**04 09 42.8**	**+1.8**
KAMT	**Kaman**	**3.45**	**233**	ePn	**Pn**	**04 09 42.8**	**+1.8**
DDEM	**Demirkent**	**3.46**	**99**	*i* P	**Pn**	**04 09 43.1**	**+2.0**
DDEM				*i* S	**Sn**	**04 10 22.4**	**-0.1**
DDEM	**Demirkent**	**3.46**	**99**	*i* P	**Pn**	**04 09 43.1**	**+2.0**
DDEM				*i* S	**Sn**	**04 10 22.4**	**-0.1**
SVRC	**Sivrice-ELAZID**	**3.52**	**153**	ePN	**Pn**	**04 09 44.5**	**+2.5**
SVRC	**Sivrice-ELAZID**	**3.52**	**153**	ePn	**Pn**	**04 09 44.5**	**+2.5**
EZM	**Erzurum**	**3.52**	**116**	ePN	**Pn**	**04 09 44.7**	**+2.5**
ERZM	**Erzurum**	**3.52**	**116**	*i* P	**Pb**	**04 09 47.5**	**-2.0**
ARTV	**Artvin**	**3.54**	**94**	*i* P	**Pn**	**04 09 40.5**	**-1.9**
ARTV	**Artvin**	**3.54**	**94**	*i* P	**Pn**	**04 09 40.5**	**-1.9**
DAGI	**Agillar**	**3.54**	**96**	*i* P	**Pn**	**04 09 43.8**	**+1.5**
DAGI				*i* S	**Sn**	**04 10 22.1**	**-2.6**
BINT	**Bingol**	**3.62**	**136**	ePn	**Pn**	04 09 46.7	+3.2
BNGB	**Bing ¶ll**	**3.64**	**133**	ePN	**Pn**	**04 09 46.7**	**+3.0**
BBAL	**Bala**	**3.71**	**239**	*i* P	**Pn**	**04 09 45.5**	**+0.9**
BBAL	**Bala**	**3.71**	**239**	*i* P	**Pn**	**04 09 45.5**	**+0.9**
LOD	**Lodumlu**	**3.78**	**246**	ePN	**Pn**	**04 09 47.6**	**+2.1**
LOD	**Lodumlu**	**3.78**	**246**	ePn	**Pn**	**04 09 47.6**	**+2.1**
AFSR	**Af¨ar-Bala (A**	**3.80**	**238**	ePN	**Pn**	**04 09 47.9**	**+2.1**
AFSR	**Af¨ar-Bala (A**	**3.80**	**238**	ePn	**Pn**	**04 09 47.9**	**+2.1**
NIG	**Nigde**	**3.96**	**212**	ePN	**Pn**	**04 09 49.8**	**+1.6**
NIG	**Nigde**	**3.96**	**212**	ePn	**Pn**	**04 09 49.8**	**+1.6**
VRTB	**Varto-Mus**	**3.99**	**125**	ePN	**Pn**	**04 09 51.4**	**+2.9**
VRTB	**Varto-Mus**	**3.99**	**125**	ePn	**Pn**	**04 09 51.4**	**+2.9**
KMRS	**Kahramanmaras**	**4.02**	**184**	ePN	**Pn**	**04 09 51.2**	**+2.4**
KMRS	**Kahramanmaras**	**4.02**	**184**	ePn	**Pn**	**04 09 51.2**	**+2.4**
GZT	**Gaziantep**	**4.17**	**177**	*i* P	**Pn**	**04 09 53.4**	**+2.5**
KOZT	**Kozan**	**4.18**	**196**	ePN	**Pn**	**04 09 53.5**	**+2.6**
KOZT	**Kozan**	**4.18**	**196**	ePn	**Pn**	**04 09 53.6**	**+2.6**
MDUB	**Mudurnu**	**4.70**	**259**	ePN	**Pn**	**04 10 00.8**	**+2.6**
MDUB	**Mudurnu**	**4.70**	**259**	ePn	**Pn**	**04 10 00.8**	**+2.6**
KBZ	**Khabaz**	**4.72**	**60**	Pn	Pn	04 10 01.7	+3.4
	0.9nm,0.3s,baz=319,slow=16,SNR=15						
KBZ				Sn	**Sn**	**04 10 55.5**	**+2.1**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.7						
TIRR	**Tirgusor**	**7.11**	**297**	⇑*i*P	**Pn**	**04 10 30.1**	**-1.1**
TIRR	**Tirgusor**	**7.11**	**297**	S	**Sn**	**04 11 47.5**	**-4.8**
TIRR	**Tirgusor**	**7.11**	**297**	⇑*i*P	**Pn**	**04 10 30.1**	**-1.1**
TLCR		**7.15**	**304**	⇑*i*P	**Pn**	**04 10 30.7**	**-1.1**
TLCR		**7.15**	**304**	S	**Sn**	**04 11 48.2**	**-5.2**
TLCR		**7.15**	**304**	⇑*i*P	**Pn**	**04 10 30.7**	**-1.1**
CVD	**Cernavoda**	**7.32**	**296**	S	**Sb**	**04 12 20.9**	**-0.6**
CFR	**Carcaliu**	**7.58**	**302**	⇑*i*P	**Pn**	**04 10 36.3**	**-1.3**
CFR	**Carcaliu**	**7.58**	**302**	S	**Sn**	**04 11 58.5**	**-5.3**
CFR	**Carcaliu**	**7.58**	**302**	⇑*i*P	**Pn**	**04 10 36.3**	**-1.3**
MMAI	**Mount Meron Ar**	**8.62**	**190**	Pn	**Pn**	**04 10 52.8**	**+0.9**
	0.3nm,0.3s,baz=22,slow=16,SNR=2.6						
VRI	**Vrincioaia**	**8.77**	**303**	⇑*i*P	**Pn**	**04 10 54.6**	**+0.6**
VRI	**Vrincioaia**	**8.77**	**303**	⇑*i*P	**Pn**	**04 10 54.6**	**+0.6**
PLOR	**Plostina**	**8.81**	**303**	⇑*i*P	**Pn**	**04 10 54.3**	**-0.3**
PLOR	**Plostina**	**8.81**	**303**	⇑*i*P	**Pn**	**04 10 54.3**	**-0.3**
PLOR				S	**Sn**	**04 12 32.0**	**-2.2**
MLR	**Muntele Rosu**	**9.12**	**300**	Pn	**Pn**	**04 10 59.0**	**+0.1**
	0.1nm,0.3s,baz=38,slow=23,SNR=5.6						
MLR	**Muntele Rosu**	**9.12**	**300**	⇓*i*P	**Pn**	**04 10 59.0**	**+0.1**
MLR	**Muntele Rosu**	**9

NB2	**NORSAR Subarra**	**43.36**	**321**	P	**P**	**04 25 25.2**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.36**	**321**	P	**P**	**04 25 25.2**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=91,slow=8.0,SNR=4.4						
ESDC	**Sonseca Array**	**58.09**	**297**	P	P	04 27 16.3	-1.7
	comp=Z,0.3nm,0.5s,baz=67,slow=6.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**68.14**	**269**	P	P	04 28 21.9	-2.9
	comp=Z,0.6nm,0.7s,baz=52,slow=5.3,SNR=14						
ILAR	**Eielson Array**	**71.10**	**17**	P	**P**	**04 28 42.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=336,slow=4.6,SNR=5.1						
YKA	**Yellowknife Ar**	**77.97**	**4**	P	**P**	**04 29 23.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=349,slow=5.6,SNR=6.4						
WRA	**Warramunga Arr**	**81.73**	**124**	P	**P**	**04 29 42.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=325,slow=4.9,SNR=10.0						
ASAR	**Alice Springs**	**84.19**	**127**	P	**P**	**04 29 55.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=319,slow=4.4,SNR=4.9						

IDC ***14*** *04:27:21.3±1.2, 0.°55S×133.°33E, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/42, Error ellipse: s-maj=46.5km s-min=19.3km az=84.0*

ISCJB ***14*** *04:27:23.8±0.8, 0.°57S±0.°08×133.°3E±0.°1, h28km, mb3.8/5, MS3.7/1, Error ellipse: s-maj=15.9km s-min=11.4km az=15.0*

DJA ***14*** *04:27:43.2±2.2, 2.°S±16.°×13.°2E±1.°4, h81km±14km, M4.2/5, mb4.1/2, MLv4.2/5*

ISC 14 04:27:25.9±1.1, 0.°6S±0.°1×133.°3E±0.°1, h28km, n15, σ1§13, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.56**	**203**	P	**Pn**	**04 28 05.8**	**+0.3**
FAKI				S	Sn	04 28 24.0	-12
TLE	**Tual**	**5.08**	**186**	P	**Pn**	**04 28 42.2**	**+2.0**
MSAI	**Masohi**	**5.14**	**237**	P	**Pn**	**04 28 41.8**	**+0.8**
AAI	**Ambon**	**5.94**	**238**	P	**Pn**	**04 28 51.1**	**-0.9**
NLAI	**Namlea**	**6.71**	**246**	P	**Pn**	**04 29 03.9**	**+1.3**
KAPI	**Kappang**	**14.19**	**252**	Pn	**Pn**	**04 30 46.5**	**+1.4**
	0.3nm,0.3s,baz=112,slow=16,SNR=3.0						
GUMO	**Guam**	**18.16**	**39**	LR	LR	04 36 33.5	
	comp=Z,73nm,21.4s,baz=122,slow=30						
FITZ	**Fitzroy Crossi**	**18.98**	**203**	P	**P**	**04 31 43.6**	**-1.7**
	0.2nm,0.3s,baz=34,slow=15,SNR=7.8						
FITZ				S	Sn	04 35 00.8	-17
	0.1nm,0.3s,baz=198,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**19.30**	**177**	P	**P**	**04 31 48.4**	**-0.4**
	0.3nm,0.3s,baz=352,slow=11,SNR=9.6						
WRA				S	Sn	04 35 11.1	-15
	0.1nm,0.3s,baz=1.4,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**22.98**	**178**	P	**P**	**04 32 27.9**	**-0.6**
	3.8nm,0.8s,baz=10,slow=10,SNR=25						
MKAR	**Makanchi Array**	**64.80**	**324**	P	**P**	**04 38 02.6**	**+0.5**
	0.6nm,0.6s,baz=109,slow=7.8,SNR=9.4						
KURBB	**Kurchatov Arra**	**68.87**	**326**	P	**P**	**04 38 27.7**	**-0.3**
	1.1nm,0.7s,baz=121,slow=5.7,SNR=10						
BVAR	**Borovoye Array**	**74.47**	**326**	P	**P**	**04 39 01.6**	**-0.1**
	0.7nm,0.6s,baz=120,slow=8.5,SNR=3.4						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**04 40 04.1**	**-0.2**
	0.3nm,0.6s,baz=247,slow=4.9,SNR=5.4						
GNI	**Garni**	**89.21**	**310**	LR	LR	05 25 04.5	
	comp=Z,24nm,18.1s,baz=86,slow=39						

MEX 14 04:39:23.0±1.1, 16.°40N×94.°33W, h105km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.87**	**323**	*i* P	Pn	04 39 41.2	-1.4
CMIG				*e*S	Sn	04 39 55.6	-1.7
TGIG		**1.22**	**72**	*i* P	Pn	04 39 45.1	-1.2
TGIG				*e*S	Sn	04 40 02.2	-1.8
HUIG	**Huatulco**	**1.82**	**250**	*i* P	Pn	04 39 51.5	-2.0
HUIG				*e*S	Sn	04 40 16.1	-0.7
CCIG	**Comitan**	**2.11**	**93**	*i* P	Pn	04 39 57.1	-0.3
CCIG				*e*S	Sn	04 40 21.8	-1.9
OXX	**Oaxaca**	**2.39**	**287**	*i* P	Pn	04 40 01.5	+0.3
OXX				*i* S	Sn	04 40 30.3	-0.1
VHO	**Vista Hermosa**	**2.40**	**287**	*i* P	Pn	04 40 00.8	-0.4
VHO				*e*S	Sn	04 40 29.2	-1.4
UTMO	**Huajuapan**	**3.62**	**294**	*i* P	Pn	04 40 16.9	-0.6
UTMO				*i* S	Sn	04 40 57.5	-2.0
PNIG	**Pinotepa**	**3.65**	**270**	*i* P	Pn	04 40 15.8	-1.8
PNIG				*i* S	Sn	04 40 57.9	-1.9

ISCJB ***14*** *04:59:46.4±1.3, 67.°72N±0.°04×34.°0E±0.°2, h0km, Error ellipse: s-maj=10.8km s-min=6.0km az=0.7*

CSEM ***14*** *04:59:47.0±0.8, 67.°70N×34.°16E, h1km, ML2.7, Error ellipse: s-maj=17.9km s-min=7.7km az=92.0, Mining explosion.*

HEL ***14*** *04:59:49.2±0.3, 67.°68N×33.°91E, h0km, ML2.7, Explosion*

IDC ***14*** *04:59:50.5±1.7, 67.°70N×33.°70E, h0km, mb1 3.5/5, mb1mx3.1/29, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=18.6km s-min=8.8km az=82.0*

NAO ***14*** *04:59:51.2±1.7, 67.°62N×33.°32E, ML2.8*

ISC 14 04:59:46.1±1.8, 67.°65N±0.°04×34.°2E±0.°1, h0km, n31, σ1§55/48, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.75**	**275**	*e*P	**Pn**	**05 00 18.4**	**+0.6**
VRF				*e*S	**Sn**	**05 00 39.2**	**-1.6**
VRF	**Varrio**	**1.75**	**275**	P	**Pn**	**05 00 18.3**	**+0.6**
KU6	**Riekki**	**2.36**	**228**	*e*P	**Pn**	**05 00 27.9**	**+1.8**
KU6				*e*S	**Sn**	**05 00 57.0**	**+1.3**
KU6	**Riekki**	**2.36**	**228**	P	**Pn**	**05 00 27.9**	**+1.8**
KU6				S	**Sn**	**05 00 57.0**	**+1.3**
MSF	**Maaselka**	**2.69**	**232**	*e*P	**Pn**	**05 00 32.8**	**+2.1**
MSF				*e*SB	**Sb**	**05 01 08.2**	**-0.4**
MSF	**Maaselka**	**2.69**	**232**	P	**Pn**	**05 00 32.7**	**+2.1**
RNF	**Rovaniemi**	**3.36**	**256**	*e*P	**Pn**	**05 00 41.0**	**+1.1**
RNF				*e*S	**Sn**	**05 01 20.2**	**-0.2**
RNF	**Rovaniemi**	**3.36**	**256**	P	**Pn**	**05 00 40.9**	**+1.1**
RNF				S	**Sn**	**05 01 20.2**	**-0.2**
KEV	**Kevo**	**3.37**	**312**	*e*P	**Pn**	**05 00 42.1**	**+2.2**
KEV				*e*S	**Sn**	**05 01 19.9**	**-0.6**
KEV				MSG		05 01 30.2	
	comp=Z,32nm,0.3s						
KEV	**Kevo**	**3.37**	**312**	P	**Pn**	**05 00 42.0**	**+2.2**
KEV				S	**Sn**	**05 01 19.8**	**-0.6**
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**05 00 45.6**	**+1.1**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**05 00 53.8**	**+1.4**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**05 01 27.4**	**-1.4**
	baz=123,slow=28						
ARA0				Lg	Lg	05 01 39.0	
	baz=127,slow=37						
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**05 00 45.6**	**+1.1**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**05 00 53.8**	**+1.4**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**05 01 27.4**	**-1.4**
	baz=123,slow=28						
ARA0				Lg	Lg	05 01 39.0	
	baz=127,slow=37						
ARA0	**ARCESS Array S**	**3.71**	**305**	Pn	**Pn**	**05 00 45.6**	**+1.1**
	baz=122,slow=14,SNR=50						
ARA0				Sn	**Sn**	**05 01 27.4**	**-1.4**
	baz=123,slow=24,SNR=50						
ARA0				Lg	Lg	05 01 39.0	
	baz=127,slow=35,SNR=4.0						
ARCES	**ARCESS Array B**	**3.71**	**305**	Pn	**Pn**	**05 00 45.9**	**+1.4**
	comp=Z,7.2nm,0.3s,baz=122,slow=15,SNR=735						
ARCES				Pg	**Pb**	**05 00 53.5**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=122,slow=15,SNR=12						
ARCES				Sn	**Sn**	**05 01 28.2**	**-0.6**
	comp=Z,3.8nm,0.3s,baz=121,slow=26,SNR=11						
ARCES				Lg	Lg	05 01 39.2	
	comp=Z,7.2nm,0.3s,baz=119,slow=34,SNR=19						
HEF	**Hetta**	**4.03**	**286**	MSG		05 01 51.4	
	comp=Z,15nm,0.3s						
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**05 00 53.8**	**+1.3**
KTK1				AML	AML	05 01 58.2	
	comp=Z,24nm,0.3s						
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**05 00 53.8**	**+1.3**
	SNR=49						
KJN	**Kajaani**	**4.46**	**220**	MSG		05 02 05.0	
	comp=Z,9.9nm,0.3s						
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**05 01 32.9**	**+1.2**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**05 02 50.4**	**-3.0**
	baz=29,slow=22						
FIA0				Lg	Lg	05 03 24.4	
	baz=16,slow=28						
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**05 01 32.9**	**+1.2**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**05 02 50.4**	**-3.0**
	baz=29,slow=22						
FIA0				Lg	Lg	05 03 24.4	
	baz=16,slow=28						
FIA0	**FINESS Array S**	**7.14**	**213**	Pn	**Pn**	**05 01 32.8**	**+1.2**
	baz=25,slow=13,SNR=50						
FIA0				Sn	**Sn**	**05 02 50.4**	**-3.0**
	baz=29,slow=22,SNR=50						
FIA0				Lg	Lg	05 03 24.4	
	baz=16,slow=26						
FINES	**FINESS Array B**	**7.14**	**213**	Pn	**Pn**	**05 01 32.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=12						
FINES				Sn	**Sn**	**05 02 51.2**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=26,slow=24,SNR=3.4						
FINES				Lg	Lg	05 03 23.8	
	comp=Z,0.8nm,0.3s,baz=27,slow=25,SNR=6.8						
SPA0	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**05 02 32.9**	**-1.2**
	baz=141,slow=18						
SPA0	**Spitsbergen Ar**	**11.71**	**342**	P	**Pn**	**05 02 32.9**	**-1.2**
	baz=141,slow=18						
SPA0	**Spitsbergen Ar**	**11.71**	**342**	P	**Pn**	**05 02 32.9**	**-1.2**
	baz=141,slow=16,SNR=47						
SPITS	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**05 02 33.7**	**-0.4**
	baz=141,slow=16,SNR=9.2						
HFS	**Hagfors**	**11.71**	**240**	Pn	**Pn**	**05 02 33.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=6.4						
HFS				Sn	Sn	05 04 37.7	-7.6
	comp=Z,0.1nm,0.3s,baz=52,slow=22,SNR=3.8						
HFS				Lg	Lg	05 05 44.7	
	comp=Z,0.1nm,0.3s,baz=45,slow=27,SNR=2.2						
NB2	**NORSAR Subarra**	**11.90**	**247**	Pn	**Pn**	**05 02 35.2**	**-1.6**
	baz=51,slow=12						
NB2	**NORSAR Subarra**	**11.90**	**247**	Pn	**Pn**	**05 02 35.2**	**-1.6**
	baz=51,slow=12						
NB2	**NORSAR Subarra**	**11.90**	**247**	Pn	**Pn**	**05 02 35.2**	**-1.6**
	baz=51,slow=11,SNR=50						
NOA	**NORSAR Array B**	**11.90**	**247**	Pn	**Pn**	**05 02 34.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=40,slow=10,SNR=5.0						

ISCJB ***14*** *05:02:13.0±0.9, 24.°84N±0.°05×122.°63E±0.°03, h119km±7km, Error ellipse: s-maj=8.0km s-min=4.1km az=176.0*

TAP ***14*** *05:02:12.2, 24.°94N×122.°58E, h128km, ML3.5, C*

JMA ***14*** *05:02:12.8±0.3, 24.°97N×122.°65E, h117km, M2.3*

ISC 14 05:02:13.7±2.3, 24.°83N±0.°08×122.°62E±0.°03, h115km±16km, n30, σ0.°77/54, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.60**	**288**	*e*P	**Pn**	**05 02 31.6**	**-0.2**
	baz=277						
TWB1				*e*S	**Sn**	**05 02 46.2**	**+0.7**
	baz=277						
NWF	**Wu-fen Shan**	**0.80**	**288**	P	**Pn**	**05 02 33.4**	**-0.2**
	baz=280						
NWF				*e*S	**Sn**	**05 02 48.0**	**-0.5**
	baz=280						
TWE	**Neicheng**	**0.88**	**263**	P	**Pn**	**05 02 34.1**	**-0.1**
	baz=255						
TWE				*e*S	**Sn**	**05 02 49.9**	**+0.4**
	baz=255						
ENA	**Nanau**	**0.90**	**244**	↑*i*P	**Pn**	**05 02 34.6**	**+0.3**
	baz=231						
ENA				S	**Sn**	**05 02 51.0**	**+1.1**
	baz=231						
ENTT	**Nioudou**	**0.98**	**259**	P	**Pn**	**05 02 35.3**	**+0.1**
	baz=252						
ENTT				*e*S	**Sn**	**05 02 51.9**	**+0.5**
	baz=252						
IRIF	**Iriomote-Funau**	**1.12**	**116**	P	**Pn**	**05 02 36.5**	**-0.1**
IRIF				*e*S	**Sn**	**05 02 54.5**	**+0.6**
TWS1	**Kuangyinshan**	**1.13**	**284**	*e*P	**Pn**	**05 02 36.6**	**0.0**
	baz=278						
TWS1				*e*S	**Sn**	**05 02 52.1**	**-2.0**
	baz=278						
NSK	**Sanguang**	**1.16**	**263**	*i* P	**Pn**	**05 02 36.9**	**-0.2**
	baz=256						
NSK				*e*S	**Sn**	**05 02 54.6**	**-0.1**
	baz=256						
TWD	**Chiawan**	**1.19**	**232**	*e*P	**Pn**	**05 02 37.0**	**-0.4**
	baz=222						
TWD				*e*S	**Sn**	**05 02 55.6**	**+0.3**
	baz=222						
NNS	**Nan Shan**	**1.20**	**252**	P	**Pn**	**05 02 37.8**	**+0.2**
	baz=239						
NNS				S	**Sn**	**05 02 55.8**	**+0.1**
	baz=239						
HATJ	**Hateruma jima**	**1.32**	**125**	*e*S	**Sn**	**05 02 58.7**	**+0.9**
JKRS	**Kuro-shima**	**1.39**	**115**	*e*S	**Sn**	**05 03 00.3**	**+1.1**
WHF	**Hehuan Shan**	**1.41**	**242**	P	**Pn**	**05 02 40.3**	**0.0**
	baz=236						
WHF				S	**Sn**	**05 03 00.5**	**+0.1**
	baz=236						
TWT	**Tachien**	**1.44**	**247**	P	**Pn**	**05 02 40.8**	**+0.4**
	baz=237						
TWT				*e*S	**Sn**	**05 03 01.2**	**+0.7**
	baz=237						
JIJ	**Ishigaki jima**	**1.46**	**108**	P	**Pn**	**05 02 40.1**	**-0.3**
JIJ				*e*S	**Sn**	**05 02 59.9**	**-0.7**
ESL	**Shilin**	**1.48**	**227**	*e*P	**Pn**	**05 02 39.8**	**-0.8**
	baz=230						
ESL				*e*S	**Sn**	**05 02 59.8**	**-1.3**
	baz=230						
NSTT	**Nanjuang**	**1.49**	**263**	P	**Pn**	**05 02 40.2**	**-0.5**
	baz=257						
NSTT				*e*S	**Sn**	**05 03 00.8**	**-0.4**
	baz=257						
TWQ1	**Liyutan**	**1.75**	**255**	*e*S	**Sn**	**05 03 06.7**	**-0.2**
	baz=258						
EHY	**Hungye**	**1.77**	**222**	*e*P	**Pn**	**05 02 43.3**	**-0.9**
	baz=226						
EHY				*e*S	**Sn**	**05 03 06.6**	**-0.8**
	baz=226						
SMLT	**Sun Moon Lake**	**1.83**	**240**	P	**Pn**	**05 02 45.7**	**+0.7**
	baz=232						
SMLT				*e*S	**Sn**	**05 03 08.7**	**-0.1**
	baz=232						
TYC	**Yuchr**	**1.85**	**241**	*e*P	**Pn**	**05 02 45.5**	**+0.4**
	baz=235						
TYC				*e*S	**Sn**	**05 03 09.4**	**+0.3**
	baz=235						
JTJ	**Tarama**	**1.90**	**95**	*e*S	**Sn**	**05 03 10.3**	**+0.2**
TWF1	**Yuli**	**1.90**	**220**	P	**Pn**	**05 02 45.1**	**-0.7**
	baz=223						
TWF1				*e*S	**Sn**	**05 03 09.7**	**-0.6**
	baz=223						
CHKT	**Chengkung**	**2.07**	**214**	*e*P	**Pn**	**05 02 47.2**	**-0.7**
	baz=205						
CHKT				*e*S	**Sn**	**05 03 13.1**	**-0.8**
	baz=205						
ALS	**Alishan**	**2.11**	**232**	P	**Pn**	**05 02 49.5**	**+0.8**
	baz=222						
ALS				*e*S	**Sn**	**05 03 17.3**	**+1.9**
	baz=222						
CHN5	**Tsauling**	**2.16**	**236**	*e*P	**Pn**	**05 02 49.3**	**+0.2**
	baz=240						
CHN5				*e*S	**Sn**	**05 03 17.7**	**+1.6**
	baz=240						
ELDTW	**Lidau**	**2.19**	**222**	*e*P	**Pn**	**05 02 48.9**	**-0.7**
	baz=219						
ELDTW				*e*S	**Sn**	**05 03 16.5**	**-0.4**
	baz=219						
CHN4	**Tsaushan**	**2.37**	**232**	*e*S	**Sn**	**05 03 22.2**	**+1.5**
	baz=228						
TWG	**Pinlang**	**2.45**	**216**	*e*P	**Pn**	**05 02 51.5**	**-1.2**
	baz=213						
CHN1	**Nanshi**	**2.52**	**230**	*e*P	**Pn**	**05 02 54.1**	**+0.5**
	baz=226						
CHN1				*e*S	**Sn**	**05 03 25.3**	**+1.1**
	baz=226						

ISCJB ***14*** *05:13:15.4±0.4, 36.°36N±0.°06×137.°08E±0.°07, h281km±4km, mb3.3/7, Error ellipse: s-maj=10.5km s-min=8.1km az=38.6*

JMA ***14*** *05:13:16.4±0.3, 36.°37N×137.°06E, h274km±3km, M2.8*

IDC ***14*** *05:13:16.3±0.8, 36.°36N×137.°10E, h278km±9km, mb3.2/7, mb1 3.3/10, mb1mx3.0/30, mbtmp3.2/10, Error ellipse: s-maj=25.1km s-min=12.5km az=70.0*

ISC 14 05:13:16.1±0.8, 36.°37N±0.°07×137.°04E±0.°07, h273km±7km, n27, σ0.°69/33, mb3.5/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.26**	**123**	P	**Pn**	**05 13 51.6**	**+0.2**
JKG	**Kaga**	**0.58**	**261**	P	**Pn**	**05 13 52.5**	**+0.6**
JGM	**Miyama**	**0.71**	**202**	P	**Pn**	**05 13 52.9**	**+0.4**
JGM				*e*S	**S**	**05 14 20.9**	**-0.4**
MAT	**Matsushiro**	**0.95**	**79**	P	**Pn**	**05 13 54.2**	**+0.8**
MJAR	**Matsushiro Arr**	**0.96**	**79**	P	**Pn**	**05 13 54.1**	**+0.7**
	1.5nm,0.3s,baz=262,slow=7.7,SNR=9.9						
JSZ	**Suzu**	**1.11**	**13**	P	**Pn**	**05 13 54.4**	**+0.3**
JYN	**Shimob**	**1.50**	**125**	P	**Pn**	**05 13 57.0**	**+0.2**
JRY	**Ryogami san**	**1.54**	**102**	P	**Pn**	**05 13 58.0**	**+1.0**
JRY				*e*S	**S**	**05 14 28.6**	**-0.8**
JWT	**Wachi**	**1.72**	**231**	P	**Pn**	**05 13 58.5**	**+0.2**
JWT				*e*S	**S**	**05 14 31.0**	**-0.7**
JSD	**Sado**	**1.93**	**30**	P	**Pn**	**05 14 00.3**	**+0.4**
JAG	**Ashikaga**	**1.94**	**88**	P	**Pn**	**05 14 00.8**	**+0.7**
JAG				*e*S	**S**	**05 14 33.1**	**-1.9**
JIE	**Ise**	**1.99**	**188**	P	**Pn**	**05 14 01.3**	**+0.8**
JIE				*e*S	**S**	**05 14 36.1**	**+0.3**
JOD2	**Odawara 2**	**1.99**	**123**	P	**Pn**	**05 14 01.0**	**+0.4**
JOD2				*e*S	**S**	**05 14 36.2**	**+0.4**
JWY	**Kouya**	**2.45**	**209**	P	**Pn**	**05 14 04.4**	**-0.4**
JAW	**Awa shima**	**2.73**	**39**	*e*S	**S**	**05 14 47.6**	**-0.3**
TTO1	**TONANKAI O.B.S**	**2.75**	**185**	P	**Pn**	**05 14 08.6**	**+1.4**
JWZ	**Kozaga**	**3.03**	**201**	P	**Pn**	**05 14 10.5**	**0.0**
JNU	**Nakatsue**	**6.02**	**239**	P	**Pn**	**05 14 45.4**	**+0.3**
	0.7nm,0.3s,baz=27,slow=4.5,SNR=3.9						
KSRS	**Korea Array**	**7.39**	**281**	P	**Pn**	**05 15 02.8**	**+1.0**
	0.3nm,0.3s,baz=102,slow=13,SNR=7.4						
USRK	**Ussuriysk Arra**	**8.72**	**335**	P	**Pn**	**05 15 19.1**	**+0.8**
	0.4nm,0.3s,baz=164,slow=13,SNR=8.7						
SONM	**Songino Array**	**25.30**	**307**	P	**P**	**05 18 18.5**	**+0.5**
	0.2nm,0.6s,baz=100,slow=7.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**43.65**	**308**	P	**P**	**05 20 54.0**	**+0.2**
	0.6nm,0.2s,baz=86,slow=7.9,SNR=7.3						
FITZ	**Fitzroy Crossi**	**55.23**	**193**	P	**P**	**05 22 21.0**	**-0.2**
	1.2nm,1.0s,baz=15,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**56.06**	**183**	P	**P**	**05 22 26.7**	**-0.4**
	1.0nm,0.4s,baz=360,slow=7.7,SNR=44						
ASAR	**Alice Springs**	**59.78**	**183**	P	**P**	**05 22 52.7**	**-0.1**
	0.1nm,0.3s,baz=2.8,slow=7.3,SNR=5.9						
ARCES	**ARCESS Array B**	**63.36**	**339**	P	**P**	**05 23 15.8**	**-0.2**
	3.7nm,0.9s,baz=70,slow=8.8,SNR=4.4						
FINES	**FINESS Array B**	**67.73**	**331**	P	**P**	**05 23 43.4**	**-0.6**
	0.5nm,0.5s,baz=79,slow=4.1,SNR=4.0						

IDC 14 05:21:31.1±1.9, 0.°09N×125.°34E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=179.5km s-min=25.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.77**	**157**	P	P	05 26 23.3	-1.3
	1.0nm,0.7s,baz=334,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**25.04**	**161**	P	P	05 26 58.0	+0.9
	1.2nm,0.8s,baz=344,slow=11,SNR=12						
MKAR	**Makanchi Array**	**59.79**	**327**	P	P	05 31 38.0	-0.1
	0.4nm,0.6s,baz=115,slow=6.5,SNR=5.4						

ISCJB ***14*** *05:41:00.1±0.3, 17.°99S±0.°06×71.°06W±0.°04, h31km, mb4.8/111, MS4.2/4, Error ellipse: s-maj=9.2km s-min=4.9km az=26.3*

MOS ***14*** *05:41:00.6±1.1, 17.°92S×71.°02W, h33km, mb5.2/23, Error ellipse: s-maj=12.5km s-min=7.1km az=106.0*

BJI ***14*** *05:41:01.9, 17.°98S×71.°25W, h36km, mB5.3/9, Ms5.4/6, Ms7 5.1/6*

IDC ***14*** *05:41:01.1±0.8, 18.°11S×70.°95W, h30km±4km, mb4.4/15, mb1 4.5/18, mb1mx4.4/23, mbtmp4.3/18, ML4.0/3, MS3.5/6, Ms1 3.5/6, ms1mx3.2/32, Error ellipse: s-maj=23.6km s-min=13.4km az=37.0*

NEIC ***14*** *05:41:03.1±0.7, 18.°05S×70.°99W, h43km±6km, mb4.9/85, Error ellipse: s-maj=7.7km s-min=4.5km az=221.0*

NEIC Felt at Arica. Felt [II] at Vila Vila, Peru. Also felt at Ilo, Moquegua and Tacna.

ISC 14 05:41:00.7±0.6, 18.°30S±0.°05×71.°17W±0.°06, h33km±3km, h33km:pP-P, n516, σ0.°97/538, mb4.9/110, MS4.0/4, 128C-119D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.86**	**350**	↑*i*P	**Pn**	**05 41 29.6**	**-1.0**
ARE				*e*S	**Sn**	**05 41 52.0**	**-1.1**
ARE	**Arequipa**	**1.86**	**350**	↑*i*P	**Pn**	**05 41 29.6**	**-1.0**
ARE				*e*S	**Sn**	**05 41 52.0**	**-1.1**
LPAZ	**La Paz**	**3.52**	**56**	Pn	Pn	05 41 58.5	+4.7
	12nm,0.3s,baz=242,slow=8.6,SNR=198						
LPAZ				LR	LR	05 42 60.0	
	comp=Z,369nm,18.8s,baz=30,slow=37						
LPAZ	**La Paz**	**3.52**	**56**	*e*Pn	Pn	05 41 58.5	+4.7
NNA	**Nana**	**8.33**	**318**	Pn	**Pn**	**05 43 01.1**	**+1.7**
	1.3nm,0.3s,baz=140,slow=7.9,SNR=5.9						
NNA				Sn	Sn	05 44 42.7	+10
	2.1nm,0.3s,baz=231,slow=19,SNR=3.1						
NNA	**Nana**	**8.33**	**318**	*e*Pn	**Pn**	**05 42 59.5**	**+0.1**
NNA				*e*Sn	Sb	05 44 48.6	-15
SIV	**San Ignacio**	**9.92**	**78**	Pn	**Pn**	**05 43 22.7**	**+1.5**
	6.7nm,0.3s,baz=274,slow=12,SNR=154						
SIV				Sn	**Sn**	**05 45 15.8**	**+4.4**
	baz=210,slow=20,SNR=2.6						
SIV	**San Ignacio**	**9.92**	**78**	Pn	**Pn**	**05 43 22.7**	**+1.5**
SIV				Sn	**Sn**	**05 45 15.8**	**+4.4**

comp=Z,8.0nm,0.7s,baz=136,slow=4.1,SNR=3.9
TEIG Tepich 41.81 336 *eP* **P 05 48 46.7 -0.8**
comp=Z,9.0nm,0.7s
CMIG Matias Romero 42.21 325 P **P 05 48 50.8 -0.1**
comp=Z,1.5nm,0.6s,baz=90,slow=7.7,SNR=3.7
CMIG Matias Romero 42.21 325 P **P 05 48 50.8 -0.1**
BRAL Brewton 51.36 342 *eP* **P 05 50 03.0 +0.8**
comp=Z,62nm,0.8s
COW Cow Castle Cre 52.20 350 *eP* **P 05 50 08.6 +0.2**
JSC Jenkinsville 53.17 350 *eP* **P 05 50 15.2 -0.4**
JSC Jenkinsville 53.17 350 *eP* **P 05 50 15.2 -0.4**
KMSC Kings Mountain 54.02 350 ⇓P **P 05 50 21.2 -0.6**
baz=54
732A Laxson Ranch, 54.42 329 ⇓P **P 05 50 24.7 -0.2**
baz=54
TKL Tuckaleechee C 54.98 347 *eP* **P 05 50 27.8 -1.0**
SWET Sewanee 55.04 345 *eP* **P 05 50 27.7 -1.6**
comp=Z,10nm,0.5s
631A Perdido Creek 55.28 329 ⇑P **P 05 50 30.3 -0.8**
baz=55,SNR=7.2
OXF Oxford 55.32 342 *eP* **P 05 50 29.9 -1.4**
OXF pmax pmax
comp=Z,11nm,0.8s
OXF Oxford 55.32 342 *eP* **P 05 50 29.9 -1.4**
comp=Z,11nm,0.8s
532A Rocksprings 55.54 330 ⇑P **P 05 50 32.9 -0.1**
baz=56
TZTN Tazewell 55.79 348 *eP* **P 05 50 33.2 -1.4**
comp=Z,6.1nm,0.7s
VWCC Virginia Weste 55.87 352 *eP* **P 05 50 35.2 0.0**
531A Rocksprings 55.88 329 ⇓P **P 05 50 35.2 -0.3**
baz=56,SNR=7.4
BLA Blacksburg 55.90 351 *eP* **P 05 50 35.0 -0.4**
BLA pmax pmax
comp=Z,10.0nm,0.6s
BLA Blacksburg 55.90 351 *eP* **P 05 50 35.0 -0.4**
comp=Z,10.0nm,0.6s
WHTX Lake Whitney 56.00 333 ⇓P **P 05 50 36.0 -0.2**
baz=56
432A Menard 56.11 330 ⇑P **P 05 50 36.6 -0.5**
baz=56,SNR=13
530A J-C Ranch, Com 56.26 328 ⇓P **P 05 50 37.9 -0.3**
baz=56,SNR=7.5
431A Sonora 56.34 329 ⇑P **P 05 50 38.2 -0.6**
baz=56,SNR=7.0
WVT Waverly 56.39 344 *eP* **P 05 50 36.8 -2.1**
WVT pmax pmax
comp=Z,11nm,0.8s
WVT Waverly 56.39 344 *eP* **P 05 50 36.8 -2.1**
comp=Z,11nm,0.8s
UALR University of 56.50 339 *eP* **P 05 50 38.8 -0.9**
comp=Z,9.4nm,0.8s
332A Millersview 56.51 331 ⇑P **P 05 50 39.5 -0.4**
baz=57,SNR=10.0
628A Black Gap, Mar 56.52 327 ⇓P **P 05 50 40.1 +0.1**
baz=57,SNR=6.2
529A Stev Forest Ra 56.69 328 ⇓P **P 05 50 41.1 -0.1**
baz=57,SNR=10
MIAR Mount Ida 56.72 338 *eP* **P 05 50 40.7 -0.6**
MIAR pmax pmax
comp=Z,14nm,0.7s
MIAR Mount Ida 56.72 338 *eP* **P 05 50 40.7 -0.6**
comp=Z,14nm,0.7s
430A Baggett Ranch, 56.73 329 ⇓P **P 05 50 41.0 -0.6**
baz=57,SNR=6.8
627A Terlingua Ranc 56.75 326 ⇓P **P 05 50 41.5 -0.3**
baz=57
331A San Angelo 56.77 330 ⇓P **P 05 50 41.1 -0.7**
baz=57,SNR=5.7
TXAR Lajitas Array 56.81 326 P **P 05 50 41.8 -0.4**
comp=Z,0.8nm,0.7s,baz=153,slow=9.0,SNR=7.5
TXAR pP **pP 05 50 52.6 +0.4**
comp=Z,0.8nm,0.8s,baz=152,slow=11,SNR=4.5
TXAR PcP **PcP 05 51 37.1 -0.6**
comp=Z,0.6nm,0.6s,baz=148,slow=6.2,SNR=6.0
TXAR Lajitas Array 56.81 326 P **P 05 50 41.8 -0.4**
TXAR pP **pP 05 50 52.6 +0.4**
TXAR PcP **PcP 05 51 37.1 -0.6**
429A Davenport Ranc 56.92 328 ⇑P **P 05 50 42.6 -0.3**
baz=57,SNR=9.3
330A Mertzon 57.21 329 ⇑P **P 05 50 44.3 -0.6**
baz=57
626A Big Bend Ranch 57.23 326 ⇓P **P 05 50 45.2 +0.1**
baz=57,SNR=6.0
527A Woodward Ranch 57.42 327 ⇑P **P 05 50 46.2 -0.3**
baz=58
ABTX Abilene, Hawle 57.51 332 ⇓P **P 05 50 46.6 -0.3**
baz=58,SNR=10
329A Wagon Wheel Ra 57.67 329 ⇓P **P 05 50 47.6 -0.6**
baz=58
328A Wristen Ranch, 58.00 328 ⇑P **P 05 50 50.2 -0.3**
baz=58,SNR=5.8
WCI Wyandotte Cave 58.00 346 *eP* **P 05 50 48.6 -1.7**
WCI pmax pmax
comp=Z,14nm,0.6s
WCI Wyandotte Cave 58.00 346 *eP* **P 05 50 48.6 -1.7**
comp=Z,14nm,0.6s
Z32A Haskell 58.01 332 ⇑P **P 05 50 49.8 -0.6**
baz=58
426A McDonald Obser 58.05 327 ⇓P **P 05 50 50.8 -0.2**
baz=58
130A Snyder 58.09 330 ⇑P **P 05 50 50.6 -0.5**
baz=58
MVL Millersville 58.20 355 *eP* **P 05 50 51.6 +0.1**
comp=Z,15nm,0.8s
SIUC Southern Illin 58.25 343 *eP* **P 05 50 50.9 -1.1**
comp=Z,71nm,1.2s
326A Caldwell Ranch 58.54 327 ⇑P **P 05 50 54.0 -0.3**
baz=59
129A Stewart Farms, 58.55 330 ⇓P **P 05 50 53.7 -0.6**
baz=59,SNR=6.4
425A Indio Mountain 58.65 326 ⇑P **P 05 50 54.7 -0.4**
baz=59
Z30A Sanderson Ranc 58.74 331 ⇑P **P 05 50 55.1 -0.5**
baz=59,SNR=13
TUL1 Tulsa 58.75 337 ⇑P **P 05 50 54.9 -0.7**
baz=59,SNR=6.5
FVM French Village 58.84 342 *eP* **P 05 50 54.4 -1.8**
FVM pmax pmax
comp=Z,18nm,0.6s
FVM French Village 58.84 342 *eP* **P 05 50 54.4 -1.8**
comp=Z,18nm,0.6s
WMOK Wichita Mounta 58.92 334 *eP* **P 05 50 55.1 -1.7**
WMOK *e* 05 51 46.2
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 58.92 334 *eP* **P 05 50 55.1 -1.7**
comp=Z,3.6nm,0.8s
WMOK *e*PcP **PcP 05 51 46.2 +0.4**
Z29A Hungry Hill Ra 58.99 330 ⇑P **P 05 50 56.2 -1.2**
baz=59
PAL Palisades 59.06 358 *eP* **P 05 50 56.9 -0.6**
PAL pmax pmax
comp=Z,18nm,1.0s
PAL Palisades 59.06 358 *eP* **P 05 50 56.9 -0.6**
comp=Z,18nm,1.0s
325A Bean Ranch, Si 59.10 326 ⇓P **P 05 50 57.9 -0.4**
baz=59,SNR=8.1
ACSO Alum Creek Sta 59.27 349 *eP* **P 05 50 57.7 -1.3**
comp=Z,14nm,0.8s
Z28A Tucker Farm, M 59.34 330 ⇓P **P 05 50 58.7 -1.1**
baz=59
324A Moseley Ranch, 59.43 326 ⇓P **P 05 50 59.5 -1.1**
baz=60
GDL2 Guadalupe Moun 59.44 327 *eP* **P 05 51 00.7 +0.1**
comp=Z,3.7nm,0.9s
Y29A Porterfield Fa 59.47 331 ⇑P **P 05 50 59.9 -0.8**
baz=60,SNR=6.3
MNTX Cornudas Mount 59.58 326 *eP* **P 05 51 00.3 -1.1**
comp=Z,3.0nm,1.2s
MNTX Cornudas Mount 59.58 326 ⇑P **P 05 51 00.3 -1.1**
baz=60,SNR=5.3
X30A Coker Ranch, T 59.59 332 ⇓P **P 05 51 00.5 -0.9**
baz=60
Z27A Tatum 59.76 329 ⇑P **P 05 51 02.0 -0.8**
baz=60
Y28A McKinney Farm, 59.78 330 ⇑P **P 05 51 01.8 -1.0**
baz=60
BRYW Bryant College 59.92 360 *eP* **P 05 51 02.7 -0.8**
comp=Z,42nm,0.7s
224A Cornudas Mount 59.95 326 ⇓P **P 05 51 03.1 -1.0**
baz=60,SNR=6.3
X29A Tulia 59.97 331 ⇑P **P 05 51 03.0 -1.1**
baz=60
MSTX Muleshoe 60.08 330 ⇓P **P 05 51 04.0 -0.9**
baz=60,SNR=13
Y27A Causey 60.20 329 ⇑P **P 05 51 04.8 -0.9**
baz=60
ALLY Alegheny Colle 60.23 352 *eP* **P 05 51 05.3 -0.3**
comp=Z,18nm,0.5s
X28A Dimmitt 60.26 331 ⇓P **P 05 51 05.1 -1.0**
baz=60
BINY Binghamton 60.36 356 *eP* **P 05 51 06.2 -0.4**
comp=Z,31nm,1.1s
Z25A Roswell 60.48 328 ⇑P **P 05 51 06.9 -0.7**
baz=61,SNR=7.5
W29A Amraillo 60.50 331 ⇑P **P 05 51 06.7 -1.1**
baz=61
HRV Adam Dziewonsk 60.51 360 *eP* **P 05 51 06.7 -0.8**
HRV pmax pmax
comp=Z,13nm,0.9s
HRV Adam Dziewonsk 60.51 360 *eP* **P 05 51 06.7 -0.8**
comp=Z,12nm,0.9s
ERPA Erie 60.67 352 *eP* **P 05 51 08.0 -0.6**
comp=Z,16nm,0.6s
TRY Troy 60.77 358 *eP* **P 05 51 09.2 -0.1**
comp=Z,32nm,0.8s
X27A F and S Farms, 60.79 330 ⇓P **P 05 51 08.9 -0.8**
baz=61
Z24A Sheeppen Canyo 60.85 327 ⇑P **P 05 51 09.9 -0.4**
baz=61,SNR=8.7
W28A Vega 60.87 331 ⇓P **P 05 51 09.7 -0.6**
baz=61
HDIL Hopedale 60.94 344 *eP* **P 05 51 08.1 -2.4**
comp=Z,5.0nm,0.5s
Y25A Mesa, Roswell 60.98 328 ⇓P **P 05 51 10.2 -0.9**
baz=61
X26A CR and CF Fran 61.05 329 ⇓P **P 05 51 10.9 -0.7**
baz=61,SNR=11
ACCN Adirondack Com 61.42 358 *eP* **P 05 51 13.3 -0.5**
comp=Z,14nm,1.0s
X25A Clemmons Ranch 61.45 329 ⇓P **P 05 51 13.7 -0.6**
baz=62
319A Douglas 61.47 323 ⇓P **P 05 51 15.1 +0.6**
baz=62
KSU1 Kansas State U 61.87 338 *eP* **P 05 51 15.6 -1.3**
comp=Z,10nm,0.9s
W25A X Bar L Ranch, 61.90 329 ⇑P **P 05 51 16.7 -0.7**
baz=62,SNR=5.5
MDV Middlebury 62.02 358 *eP* **P 05 51 17.6 -0.1**
V26A Tequesquite Ra 62.05 330 ⇑P **P 05 51 17.8 -0.4**
baz=62,SNR=8.1
Y22A Socorro 62.15 327 ⇑P **P 05 51 19.4 +0.4**
baz=62
LBNH Lisbon 62.24 359 *eP* **P 05 51 19.3 +0.1**
LBNH pmax pmax
comp=Z,18nm,0.8s
LBNH Lisbon 62.24 359 *eP* **P 05 51 19.3 +0.1**
comp=Z,18nm,0.8s
LPM Los Pinos Moun 62.27 327 *eP* **P 05 51 20.0 +0.1**
comp=Z,3.6nm,1.0s
V25A Rancho No Teng 62.48 330 ⇓P **P 05 51 21.0 -0.3**
baz=63
U26A Atchley Ranch, 62.52 331 ⇑P **P 05 51 21.1 -0.3**
baz=63,SNR=6.4
Y21A Point of Rocks 62.58 326 ⇑P **P 05 51 22.9 +0.9**
baz=63,SNR=5.2
LAZ Ladron 62.60 327 *eP* **P 05 51 22.9 +0.8**
ANMO Albuquerque 62.68 328 *eP* **P 05 51 22.2 -0.3**
comp=Z,1.7nm,0.8s
V24A Rampart Ranch, 62.70 329 ⇓P **P 05 51 22.3 -0.5**
baz=63
U25A Circle Dot Ran 62.83 330 ⇑P **P 05 51 23.4 -0.2**
baz=63,SNR=7.0
FRNY Flat Rock 62.87 358 *eP* **P 05 51 23.5 +0.1**
comp=Z,20nm,1.1s
Y20A Horse Springs, 62.88 326 ⇑P **P 05 51 24.8 +0.8**
baz=63
X21A Alamocita Cree 62.97 326 ⇓P **P 05 51 25.5 +0.9**
baz=63
T26A Comanche Natio 63.08 331 ⇑P **P 05 51 25.1 -0.2**
baz=63
S26A Kim 63.40 332 ⇑P **P 05 51 27.5 +0.3**
baz=64,SNR=7.7
T25A Trinidad 63.43 331 ⇑P **P 05 51 27.9 +0.3**
baz=64
U23A El Rito 63.63 329 ⇑P **P 05 51 29.5 +0.6**
baz=64,SNR=6.0
V22A San Miguel Ran 63.66 328 ⇓P **P 05 51 29.9 +0.7**
baz=64,SNR=6.1
VNA3 Neumayer Olymp 63.77 162 *eP* P 05 51 39.9 +11
S25A Robets Cordova 63.87 331 ⇓P **P 05 51 30.4 0.0**
baz=64,SNR=5.6
W20A Ramah 63.87 326 ⇑P **P 05 51 31.1 +0.6**
baz=64,SNR=5.8
R26A Arlington 63.94 332 ⇓P **P 05 51 30.5 -0.3**
baz=64
U22A Llaves 64.00 328 ⇑P **P 05 51 31.6 +0.2**
baz=64
T23A Casias Ranch, 64.12 329 ⇓P **P 05 51 32.6 +0.4**
baz=64
KSCO Kaye Shedlock' 64.17 333 ⇓P **P 05 51 32.4 +0.1**
baz=64
VNA2 Neumayer--Watz 64.35 161 *eP* P 05 51 42.5 +10
baz=278,slow=7.9
U21A Nageezi 64.44 328 ⇑P **P 05 51 34.6 +0.3**
baz=65,SNR=5.6
BGNE Belgrade 64.46 338 ⇓P **P 05 51 33.9 -0.1**
baz=65
Q26A Hugo 64.49 332 ⇑P **P 05 51 34.4 0.0**
baz=65
T22A Edith 64.53 329 ⇑P **P 05 51 35.7 +0.9**
baz=65,SNR=5.9
P27A Ficken Ranch, 64.61 334 ⇓P **P 05 51 35.1 0.0**
baz=65
R24A Sanders Place, 64.64 331 ⇑P **P 05 51 35.7 +0.2**
baz=65
X16A Lo Mia Camp, P 64.94 324 ⇓P **P 05 51 38.6 +1.1**
baz=65,SNR=6.0
R23A Moffat 64.94 330 ⇑P **P 05 51 37.6 0.0**
baz=65
S22A 4UR Ranch, Cre 65.07 329 ⇑P **P 05 51 38.6 +0.3**
baz=65
U19A Dine' College, 65.13 327 ⇑P **P 05 51 38.7 -0.1**
baz=65
P25A Willow Gulch B 65.26 332 ⇓P **P 05 51 39.6 +0.2**
baz=65
S21A Coal Bank Pass 65.47 329 ⇑P **P 05 51 41.1 0.0**
baz=66
MVCO Mesa Verde 65.47 328 *eP* **P 05 51 41.3 +0.3**
comp=Z,4.8nm,1.0s
MVCO Mesa Verde 65.47 328 ⇓P **P 05 51 41.3 +0.3**
baz=66
OGNE Ogallala 65.55 335 ⇓P **P 05 51 41.2 +0.1**
baz=66
WUAZ Wupatki 65.71 325 *eP* **P 05 51 43.6 +1.2**
comp=Z,2.6nm,0.8s
S20A Disappointment 65.88 328 ⇑P **P 05 51 44.4 +0.8**
baz=66,SNR=9.8
R21A Cimarron 65.91 329 ⇑P **P 05 51 44.0 +0.3**
baz=66,SNR=6.4
SNAA Sanae 65.97 161 *eP* **P 05 51 45.4 +1.9**
comp=Z,3.6nm,0.8s
Q22A Crested Butte, 65.99 330 ⇓P **P 05 51 44.7 +0.4**
baz=66
ECSD EROS Data Cent 66.00 340 *eP* **P 05 51 43.4 -0.5**
comp=Z,16nm,1.1s
ECSD *e* 05 51 58.5
ISCO Idaho Springs 66.14 332 *eP* **P 05 51 45.6 +0.3**
ISCO pmax pmax
comp=Z,23nm,1.8s
ISCO Idaho Springs 66.14 332 *eP* **P 05 51 45.6 +0.3**
comp=Z,22nn,1.8s
ISCO Idaho Springs 66.14 332 ⇓P **P 05 51 45.4 +0.2**
baz=66,SNR=6.9
R20A Redvale 66.17 329 ⇓P **P 05 51 46.2 +0.8**
baz=66,SNR=11
SPMN St. Paul 66.22 343 ⇑P **P 05 51 44.1 -1.2**
baz=66,SNR=9.1
PV01 Paradox Valley 66.22 328 *eP* **P 05 51 46.5 +0.7**
SMCO Snowmass 66.27 330 *eP* **P 05 51 46.2 0.0**
comp=Z,5.5nm,0.7s
P22A Eagle 66.50 331 ⇓P **P 05 51 47.8 +0.3**
baz=67,SNR=5.3
S18A Hurst Farm, Bl 66.61 327 ⇓P **P 05 51 49.1 +0.9**
baz=67,SNR=11
Q23A Lake Granby, G 66.61 332 ⇓P **P 05 51 48.5 +0.3**
baz=67,SNR=6.5
N24A Carr 66.65 333 ⇓P **P 05 51 49.2 +0.8**
baz=67
P21A Newcastle 66.77 330 ⇓P **P 05 51 50.0 +0.8**
baz=67,SNR=8.1
O22A Kremmling 66.86 331 ⇓P **P 05 51 49.9 0.0**
baz=67,SNR=6.9
U15A North Rim 66.88 325 ⇓P **P 05 51 51.2 +1.1**
baz=67,SNR=5.2
IRM Iron Mountain 66.90 321 ⇓P **P 05 51 50.7 +0.8**
baz=67
M24A Cheyenne 67.15 333 ⇓P **P 05 51 52.2 +0.7**
baz=67
N23A Red Feather La 67.17 332 ⇑P **P 05 51 52.0 +0.2**
baz=67
Q19A Hogan Spring (67.20 329 ⇓P **P 05 51 52.9 +1.1**
baz=67,SNR=8.9
N22A Wattenberg Ran 67.33 332 ⇓P **P 05 51 53.4 +0.6**
baz=67
M23A Laramie 67.54 333 ⇓P **P 05 51 54.4 +0.4**
baz=68
P19A Cripple Cowboy 67.59 329 ⇑P **P 05 51 54.9 +0.5**
baz=68,SNR=8.6
O20A White River Ci 67.62 330 ⇑P **P 05 51 55.0 +0.4**
baz=68
GMRC Granite Mounta 67.63 321 ⇑P **P 05 51 55.3 +0.6**
baz=68
M22A Cedar Creek Ra 67.87 332 ⇑P **P 05 51 56.5 +0.3**
baz=68
SRU San Rafael 67.95 328 ⇑P **P 05 51 57.1 +0.5**
baz=68,SNR=6.5
L23A Garrett 68.05 333 ⇓P **P 05 51 57.4 +0.1**
baz=68
Q16A Castle Valley 68.14 327 ⇓P **P 05 51 58.5 +0.7**
baz=68
O19A Miners Draw (B 68.17 330 ⇓P **P 05 51 58.5 +0.5**
baz=68
N20A Spence Gulch, 68.18 330 ⇓P **P 05 51 58.5 +0.3**
baz=68
P18A Preston Nutter 68.21 328 ⇓P **P 05 51 58.8 +0.4**
baz=68
CCUT Cedar City 68.29 325 *eP* **P 05 52 00.6 +1.8**
comp=Z,5.4nm,0.9s
P17A Butcher Ranch, 68.34 328 ⇓P **P 05 51 59.6 +0.5**
baz=68
MSU Marysvale 68.36 326 *eP* **P 05 52 00.2 +0.9**
MSU Marysvale 68.36 326 *eP* **P 05 52 00.2 +0.9**
MVU Marysvale 68.37 326 *eP* **P 05 52 00.5 +1.1**
comp=Z,9.8nm,1.1s
EYMN Ely 68.42 345 *eP* **P 05 51 58.0 -1.1**
comp=Z,7.3nm,0.9s
ARUT Antelope Range 68.50 325 *eP* **P 05 52 02.1 +2.0**
ARUT Antelope Range 68.50 325 *eP* **P 05 52 02.1 +2.0**
N19A John Jarvie Ra 68.66 330 ⇓P **P 05 52 01.2 +0.1**
baz=69,SNR=7.6
L21A Rawlins 68.67 332 ⇑P **P 05 52 01.1 0.0**
baz=69,SNR=6.6
GSC Goldstone 68.67 321 *eP* **P 05 52 02.8 +1.7**
GSC pmax pmax
comp=Z,10.0nm,1.2s
GSC Goldstone 68.67 321 *eP* **P 05 52 02.8 +1.7**
comp=Z,9.7nm,1.2s
K22A Casper 68.85 333 ⇑P **P 05 52 02.4 +0.2**
baz=69
O17A Robinson Place 68.88 328 ⇑P **P 05 52 03.5 +1.0**
baz=69,SNR=8.5
RSSD Black Hills 69.02 335 *eP* **P 05 52 03.6 +0.3**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 69.02 335 *eP* **P 05 52 03.6 +0.3**
comp=Z,4.0nm,1.0s
I24A Kuemmerle Ranc 69.04 335 ⇑P **P 05 52 03.6 +0.4**
baz=69
R13A O'Grain Ranch, 69.08 325 ⇑P **P 05 52 05.4 +1.6**
baz=69,SNR=6.8
EDW2 Edwards Air Fo 69.10 320 ⇓P **P 05 52 04.9 +1.1**
baz=69
L20A Wamsutter 69.14 331 ⇓P **P 05 52 04.6 +0.5**
baz=69
K21A Alcova 69.15 332 ⇑P **P 05 52 04.5 +0.4**
baz=69,SNR=11
O16A Springville 69.28 328 ⇑P **P 05 52 05.8 +0.9**
baz=69
DAU Daniels Canyon 69.31 328 *eP* **P 05 52 06.2 +0.9**
DAU Daniels Canyon 69.31 328 *eP* **P 05 52 06.2 +0.9**
J22A Midwest 69.44 333 ⇑P **P 05 52 05.8 0.0**
baz=70
M18A Lyman 69.50 330 ⇓P **P 05 52 06.4 0.0**
baz=70
N17A Moffit Pass 69.50 329 ⇑P **P 05 52 07.3 +0.9**
baz=70,SNR=13
JLU Jordanelle 69.55 328 *eP* **P 05 52 07.3 +0.6**
comp=Z,2.8nm,0.6s
MPMC Manual Prospec 69.59 321 ⇑P **P 05 52 07.9 +0.9**
baz=70
LIC Lamto 69.61 76 *eP* **P 05 52 06.5 -0.8**
comp=Z,13nm,0.5s,baz=237
LIC Lamto 69.61 76 *eP* **P 05 52 06.5 -0.8**
comp=Z,13nm,0.5s
K20A Yellowstone Ra 69.66 332 ⇓P **P 05 52 07.1 -0.1**
baz=70,SNR=9.6
L19A Farson 69.69 331 ⇓P **P 05 52 07.7 +0.3**
baz=70
H24A Dirks Ranch, A 69.74 335 ⇑P **P 05 52 07.3 -0.3**
baz=70
N16A Rees Ranch, Co 69.76 329 ⇑P **P 05 52 08.7 +0.8**
baz=70
J21A Lysite 69.81 333 ⇑P **P 05 52 08.3 +0.2**
baz=70,SNR=7.2
M17A Scullys Gap (B 69.82 329 ⇓P **P 05 52 08.1 -0.2**
baz=70
I22A 9 Mile Ranch, 69.83 334 ⇑P **P 05 52 08.2 0.0**
baz=70,SNR=8.1
L18A Fontenelle, Gr 69.87 330 ⇑P **P 05 52 08.8 +0.2**
baz=70,SNR=6.3
AGMN Agassiz Nation 69.88 343 *eP* **P 05 52 07.5 -0.7**
comp=Z,8.2nm,0.9s
ISA Isabella 69.92 320 *eP* **P 05 52 10.0 +1.2**
ISA pmax pmax
comp=Z,6.0nm,0.8s
ISA Isabella 69.92 320 *eP* **P 05 52 10.0 +1.2**
comp=Z,5.6nm,0.8s
ISA Isabella 69.92 320 ⇓P **P 05 52 10.2 +1.3**
baz=70,SNR=5.8
DBIC Dimbokro 69.93 76 P **P 05 52 08.4 -0.9**
comp=Z,13nm,0.5s,baz=230,slow=6.1,SNR=37
DBIC Dimbokro 69.93 76 P **P 05 52 08.4 -0.9**
DUG Dugway 69.93 327 *eP* **P 05 52 10.0 +1.1**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway 69.93 327 *eP* **P 05 52 10.0 +1.1**
comp=Z,9.7nm,1.2s
DUG Dugway 69.93 327 ⇓P **P 05 52 10.0 +1.1**
baz=70,SNR=11
K19A Absolon Red Bu 70.02 331 ⇑P **P 05 52 09.3 -0.2**
baz=70
R11A Troy Canyon, C 70.08 324 ⇑P **P 05 52 11.4 +1.5**
baz=70,SNR=8.9
J20A Shoshoni 70.09 332 ⇓P **P 05 52 10.5 +0.6**
baz=70
I21A Big Trails, Te 70.11 333 ⇑P **P 05 52 09.8 -0.2**
baz=70,SNR=14
BW06 Boulder Array 70.30 331 *eP* **P 05 52 11.5 +0.3**
comp=Z,12nm,1.6s
BW06 Boulder Array 70.30 331 ⇑P **P 05 52 10.8 -0.4**
baz=70
PDAR Pinedale Array 70.30 331 P **P 05 52 10.9 -0.3**
comp=Z,1.8nm,0.8s,baz=138,slow=7.2,SNR=11
PDAR pP **pP 05 52 21.1 -0.3**
comp=Z,0.8nm,0.5s,baz=119,slow=9.9,SNR=4.0
PDAR Pinedale Array 70.30 331 P **P 05 52 10.9 -0.3**
PDAR pP **pP 05 52 21.1 -0.3**
N15A Stansbury Isla 70.30 328 ⇑P **P 05 52 11.7 +0.6**
baz=70
HWUT Hardware Ranch 70.36 329 *eP* **P 05 52 11.7 +0.2**
comp=Z,5.4nm,1.0s
L17A Cokeville 70.40 330 ⇓P **P 05 52 11.7 -0.1**
baz=70
K18A Toltan Ranch, 70.42 331 ⇓P **P 05 52 12.5 +0.5**
baz=70
G23A Biddle 70.45 335 ⇑P **P 05 52 11.9 0.0**
baz=70,SNR=6.1
J19A Crowheart 70.46 332 ⇑P **P 05 52 12.3 +0.2**
baz=71,SNR=7.5
I20A Worland 70.59 333 ⇓P **P 05 52 12.9 +0.1**
baz=71
L16A Fish Haven 70.61 329 ⇓P **P 05 52 13.0 0.0**
baz=71,SNR=6.3
F24A Ekalaka 70.61 336 ⇑P **P 05 52 12.8 -0.1**
baz=71,SNR=9.0
H21A Big Horn, Sher 70.66 334 ⇓P **P 05 52 12.9 -0.4**
baz=71
M15A Larsen Ranch, 70.69 328 ⇓P **P 05 52 13.8 +0.2**
baz=71,SNR=6.2
J18A Kendall Valley 70.86 331 ⇓P **P 05 52 14.6 0.0**
baz=71,SNR=13

F23A	**Volborg**	70.89	335	⇓P		P	05 52 14.4	-0.1
	baz=71							
K17A	**Gardner Place,**	70.92	330	⇓P		P	05 52 15.0	+0.1
	baz=71,SNR=5.5							
H20A	**Greybull**	70.96	333	⇑P		P	05 52 14.7	-0.4
	baz=71,SNR=6.3							
I19A	**Meeteetse**	71.04	332	⇓P		P	05 52 16.0	+0.3
	baz=71							
L15A	**Malad City**	71.07	329	⇓P		P	05 52 16.0	+0.2
	baz=71,SNR=14							
HVU	**Hansel Valley**	71.09	328	*e*P		P	05 52 16.7	+0.7
HVU				pmax		pmax		
	comp=Z,2.0nm,0.7s							
HVU	**Hansel Valley**	71.09	328	*e*P		P	05 52 16.6	+0.7
	comp=Z,2.3nm,0.7s							
I18A	**Diamond G Ranc**	71.14	331	⇓P		P	05 52 16.8	+0.4
	baz=71,SNR=7.7							
E24A	**Baker**	71.16	337	⇓P		P	05 52 16.7	+0.5
	baz=71							
K16A	**Soda Springs**	71.30	330	⇓P		P	05 52 18.2	+0.9
	baz=71,SNR=6.3							
REDW	**Red Top Meadow**	71.36	331	*e*P		P	05 52 18.2	+0.6
	comp=Z,18nm,1.8s							
LOHW	**Long Hollow**	71.44	331	*e*P		P	05 52 18.2	+0.1
	comp=Z,2.3nm,0.8s							
TPAW	**Teton Pass**	71.50	331	*e*P		P	05 52 19.3	+0.8
	comp=Z,62nm,2.8s							
L14A	**Malta**	71.51	328	⇑P		P	05 52 18.7	+0.2
	baz=72,SNR=5.8							
RRI2	**Red Ridge**	71.57	330	*e*P		P	05 52 19.5	+0.6
	comp=Z,9.1nm,0.8s							
ELK	**Elko**	71.60	326	*e*P		P	05 52 19.9	+0.7
MOOW	**Moose Ponds**	71.61	331	*e*P		P	05 52 19.1	0.0
	comp=Z,2.2nm,1.0s							
D24A	**Glendive**	71.63	337	⇑P		P	05 52 19.5	+0.6
	baz=72,SNR=5.8							
K15A	**Arbon**	71.65	329	⇑P		P	05 52 20.1	+0.9
	baz=72							
J16A	**Bone**	71.65	330	⇓P		P	05 52 19.9	+0.5
	baz=72							
ULM	**Lac du Bonnet**	71.66	344	P		P	05 52 17.7	-1.3
	comp=Z,4.5nm,0.7s,baz=166,slow=6.7,SNR=11							
ULM	**Lac du Bonnet**	71.66	344	P		P	05 52 17.7	-1.3
I17A	**Pilgrim Ck.**	71.66	331	⇑P		P	05 52 20.4	+1.0
	baz=72,SNR=5.5							
NVAR	**Mina Array Bea**	71.68	323	P		P	05 52 20.7	+1.0
	comp=Z,2.4nm,0.8s,baz=151,slow=7.1,SNR=16							
NVAR	**Mina Array Bea**	71.68	323	P		P	05 52 20.7	+1.0
IMW	**Indian Meadow**	71.81	331	*e*P		P	05 52 21.1	+0.7
	comp=Z,23nm,1.6s							
H18A	**Shoshone NF, C**	71.84	332	⇑P		P	05 52 20.5	0.0
	baz=72,SNR=7.4							
FLWY	**Flagg Ranch**	71.84	331	*e*P		P	05 52 21.4	+0.9
	comp=Z,9.4nm,0.9s							
D23A	**Lindsay**	72.01	336	⇓P		P	05 52 22.1	+0.9
	baz=72,SNR=6.9							
RLMT	**Red Lodge**	72.01	333	⇓P		P	05 52 22.0	+0.5
	baz=72,SNR=5.3							
C24A	**Savage**	72.01	337	⇑P		P	05 52 21.8	+0.5
	baz=72,SNR=5.4							
F20A	**Billings**	72.07	334	⇓P		P	05 52 21.9	+0.2
	baz=72							
LKWY	**Lake**	72.08	332	*e*P		P	05 52 23.6	+1.6
LKWY				pmax		pmax		
	comp=Z,6.0nm,0.8s							
LKWY	**Lake**	72.08	332	*e*P		P	05 52 23.6	+1.6
	comp=Z,5.5nm,0.8s							
J15A	**Blackfoot**	72.14	330	⇓P		P	05 52 23.0	+0.8
	baz=72,SNR=8.8							
G18A	**Lazy EL Ranch,**	72.30	333	⇑P		P	05 52 23.7	+0.6
	baz=72,SNR=7.1							
D22A	**Cohagen**	72.37	336	⇓P		P	05 52 24.1	+0.8
	baz=72,SNR=10							
YMR	**Madison River**	72.42	331	*e*P		P	05 52 24.8	+0.9
	comp=Z,14nm,1.3s							
F19A	**Roth Farm, Mol**	72.45	333	⇓P		P	05 52 24.2	+0.3
	baz=72,SNR=6.2							
C23A	**Lambert**	72.53	337	⇑P		P	05 52 24.8	+0.5
	baz=73							
H16A	**Russell Place,**	72.57	331	⇑P		P	05 52 26.2	+1.3
	baz=73,SNR=7.9							
J14A	**Carey**	72.61	329	⇓P		P	05 52 26.4	+1.4
	baz=73,SNR=8.6							
I15A	**Monteview**	72.61	330	⇑P		P	05 52 26.2	+1.2
	baz=73							
D21A	**La Casta Ranch**	72.62	335	⇑P		P	05 52 25.6	+0.7
	baz=73,SNR=7.2							
E20A	**Meyer Farm, Mu**	72.63	334	⇓P		P	05 52 25.4	+0.4
	baz=73,SNR=6.6							
GCMT	**Greycliff**	72.71	333	*e*P		P	05 52 26.3	+0.7
DGMT	**Dagmar**	72.72	338	*e*P		P	05 52 25.9	+0.5
	comp=Z,12nm,1.0s							
DGMT	**Dagmar**	72.72	338	⇑P		P	05 52 26.0	+0.5
	baz=73							
C22A	**Vida**	72.74	336	⇑P		P	05 52 25.8	+0.2
	baz=73,SNR=6.5							
F18A	**Big Timber**	72.82	333	⇓P		P	05 52 26.6	+0.4
	baz=73,SNR=11							
E19A	**Rath Farm, Rou**	72.87	334	⇑P		P	05 52 26.9	+0.5
	baz=73,SNR=9.2							
SCHQ	**Schefferville**	72.94	3	P		P	05 52 25.6	-0.9
	comp=Z,5.3nm,0.8s,baz=196,slow=6.2,SNR=10							
SCHQ	**Schefferville**	72.94	3	*e*P		P	05 52 26.0	-0.5
	comp=Z,5.2nm,0.8s							
J13A	**Cove Ranch, Pi**	72.98	329	⇑P		P	05 52 28.2	+0.9
	baz=73,SNR=6.4							
B23A	**Brockton**	73.00	337	⇓P		P	05 52 27.8	+0.7
	baz=73							
I14A	**Mackay**	73.02	329	⇓P		P	05 52 28.6	+1.1
	baz=73							
A24A	**Westby**	73.03	338	⇓P		P	05 52 27.9	+0.7
	baz=73							
D20A	**Manuel Ranch,**	73.10	335	⇑P		P	05 52 28.1	+0.4
	baz=73,SNR=5.3							
HLID	**Hailey**	73.22	329	*e*P		P	05 52 29.8	+1.2
	comp=Z,5.3nm,0.9s							
HLID	**Hailey**	73.22	329	⇑P		P	05 52 29.9	+1.2
	baz=73,SNR=9.2							
F17A	**Fitzpatrick Pl**	73.23	332	⇓P		P	05 52 29.6	+0.9
	baz=73,SNR=5.2							
B22A	**Reddig Ranch S**	73.24	337	⇓P		P	05 52 28.9	+0.4
	baz=73							
C21A	**Desert Coulee**	73.28	336	⇑P		P	05 52 29.1	+0.3
	baz=73,SNR=6.0							
I13A	**Wildhorse Cree**	73.33	329	⇑P		P	05 52 30.7	+1.2
	baz=73,SNR=10							
MCMT	**McKenzie Canyo**	73.41	330	*e*P		P	05 52 31.2	+1.4
E18A	**Harlowton**	73.43	333	⇓P		P	05 52 30.3	+0.5
	baz=74							
D19A	**Cripps Ranch,**	73.47	334	⇑P		P	05 52 30.3	+0.3
	baz=74,SNR=6.4							
BOZ	**Bozeman (W)**	73.47	332	⇑P		P	05 52 30.2	+0.1
	baz=74							
H14A	**Leadore**	73.49	330	⇑P		P	05 52 31.4	+1.1
	baz=74,SNR=6.1							
I12A	**Atlanta**	73.75	328	⇑P		P	05 52 32.9	+1.1
	baz=74,SNR=8.6							
E17A	**Martinsdale**	73.75	333	⇑P		P	05 52 32.3	+0.5
	baz=74,SNR=6.1							
A22A	**Carney Farms,**	73.78	337	⇑P		P	05 52 32.2	+0.5
	baz=74,SNR=5.2							
MFID	**Camas Ranch**	73.82	328	*e*P		P	05 52 33.5	+1.3
	comp=Z,14nm,1.0s							
MFID	**Camas Ranch**	73.82	328	⇑P		P	05 52 33.4	+1.3
	baz=74,SNR=10.0							
D18A	**Linhart Farms,**	73.87	334	⇑P		P	05 52 33.1	+0.7
	baz=74							
H13A	**Challis**	73.88	329	⇓P		P	05 52 33.6	+1.1
	baz=74,SNR=6.7							
C19A	**Slack Wire Ran**	73.99	334	⇓P		P	05 52 33.4	+0.4
	baz=74							
B20A	**Solberg Farm,**	74.14	335	⇓P		P	05 52 34.0	+0.2
	baz=74,SNR=5.7							
H12A	**Diamond D Ranc**	74.16	329	⇑P		P	05 52 35.2	+1.1
	baz=74							
A21A	**Bergtoll Ranch**	74.16	336	⇑P		P	05 52 34.2	+0.2
	baz=74							
D17A	**Six Diamond Ra**	74.22	333	⇑P		P	05 52 35.0	+0.6
	baz=74,SNR=7.3							
HRY	**Holter Researc**	74.37	332	*e*P		P	05 52 36.3	+1.0
	comp=Z,2.1nm,0.7s							
F14A	**Wisdom**	74.39	331	⇑P		P	05 52 36.5	+1.0
	baz=74							
A20A	**Cobblestone Ra**	74.46	336	⇑P		P	05 52 36.1	+0.4
	baz=74							
D16A	**Dana Ranch, Ca**	74.50	333	⇑P		P	05 52 36.9	+0.8
	baz=75							
EGMT	**Eagleton**	74.51	334	*e*P		P	05 52 36.5	+0.5
	comp=Z,21nm,1.5s							
EGMT	**Eagleton**	74.51	334	⇑P		P	05 52 36.2	+0.2
	baz=75,SNR=5.2							
E15A	**Deer Lodge**	74.52	332	⇑P		P	05 52 37.0	+0.8
	baz=75,SNR=5.4							
C17A	**Wharram Farm,**	74.62	333	⇓P		P	05 52 37.0	+0.3
	baz=75							
B18A	**Beardsley Farm**	74.81	334	⇓P		P	05 52 38.1	+0.4
	baz=75,SNR=6.0							
F13A	**Darby**	74.82	330	⇑P		P	05 52 38.9	+1.0
	baz=75,SNR=14							
E14A	**Clinton**	74.90	331	⇓P		P	05 52 39.5	+1.1
	baz=75,SNR=7.8							
D15A	**Lincoln**	74.93	332	⇓P		P	05 52 39.7	+1.2
	baz=75							
MOD	**Modoc**	75.15	324	*e*P		P	05 52 41.5	+1.5
	comp=Z,34nm,1.6s							
CHMT	**Chamberlain Mo**	75.16	332	*e*P		P	05 52 40.9	+0.9
	comp=Z,5.4nm,1.6s							
C16A	**Fuhringer Ranc**	75.17	333	⇑P		P	05 52 40.4	+0.5
	baz=75,SNR=6.4							
F12A	**Elk City**	75.24	330	⇑P		P	05 52 41.3	+0.9
	baz=75,SNR=5.8							
E13A	**Victor**	75.24	331	⇓P		P	05 52 41.5	+1.2
	baz=75,SNR=11							
A18A	**Metzger Ranch,**	75.25	335	⇑P		P	05 52 40.2	-0.1
	baz=75							
SLMT	**Seeley Lake**	75.52	332	*e*P		P	05 52 43.1	+1.1
C15A	**Salmond Ranch,**	75.53	333	⇑P		P	05 52 43.0	+1.0
	baz=76,SNR=10							
BMO	**Blue Mountains**	75.59	328	*e*P		P	05 52 43.4	+1.0
BMO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BMO	**Blue Mountains**	75.59	328	*e*P		P	05 52 43.4	+1.0
	comp=Z,5.0nm,0.9s							
D13A	**Huson**	75.85	331	⇑P		P	05 52 44.7	+1.0
	baz=76,SNR=6.1							
E12A	**Beaver Dam Sad**	75.87	330	⇓P		P	05 52 44.6	+0.7
	baz=76							
B15A	**Bradely Ranch,**	75.92	333	⇓P		P	05 52 44.2	+0.1
	baz=76,SNR=5.7							
A16A	**West Butte Ran**	76.00	334	⇓P		P	05 52 45.2	+0.6
	baz=76,SNR=7.5							
C14A	**Swan Lake**	76.03	332	⇓P		P	05 52 45.8	+1.0
	baz=76							
D12A	**Red Ives Fores**	76.23	331	⇑P		P	05 52 46.7	+0.7
	baz=76							
B14A	**Marquette Ranc**	76.26	333	⇑P		P	05 52 46.5	+0.3
	baz=76							
C13A	**Hot Springs**	76.33	331	⇑P		P	05 52 47.5	+1.0
	baz=76,SNR=6.3							
A15A	**Johnson Ranch,**	76.50	333	⇓P		P	05 52 47.4	0.0
	baz=77							
C12B	**Naegeli Ranch,**	76.77	331	⇑P		P	05 52 50.0	+1.1
	baz=77							
B13A	**Whitefish**	76.80	332	⇓P		P	05 52 49.7	+0.6
	baz=77							
WALA	**Waterton Lakes**	77.07	333	*e*P		P	05 52 51.1	+0.4
	comp=Z,0.1nm,0.8s							
A13A	**Flathead Natio**	77.19	332	⇓P		P	05 52 52.5	+1.1
	baz=77							
C11A	**Tepee Creek (N**	77.22	331	⇓P		P	05 52 52.4	+0.9
	baz=77							
FFC	**Flin Flon**	77.35	342	*i* P		P	05 52 54.2	+2.3
B12A	**Libby**	77.38	331	⇑P		P	05 52 53.3	+1.0
	baz=78,SNR=5.7							
A12A	**Yaak River Ran**	77.75	332	⇑P		P	05 52 55.4	+1.0
	baz=78,SNR=6.0							
HAWA	**Hanford**	77.79	328	*e*P		P	05 52 55.9	+1.3
	comp=Z,9.0nm,0.8s							
TORD	**Torodi Ar. Bea**	78.34	72	P		P	05 52 57.3	-1.0
	comp=Z,10nm,0.8s,baz=256,slow=5.4,SNR=82							
TORD				pP		PcP	05 53 06.9	-0.7
	comp=Z,10nm,0.7s,baz=252,slow=5.0,SNR=16							
TORD	**Torodi Ar. Bea**	78.34	72	P		P	05 52 57.3	-1.0
TORD				pP		PcP	05 53 06.9	-0.7
PNCL	**Nicolau / Gran**	81.22	45	*e*P		P	05 53 14.7	+1.2
	comp=Z,25nm,2.0s							
PCVE	**Castro Verde**	81.31	46	*e*P		P	05 53 15.0	+1.1
	comp=Z,28nm,1.8s							
PBEJ	**Beja**	81.63	45	*e*P		P	05 53 16.6	+1.0
	comp=Z,27nm,1.9s							
EVOP	**Sao Brissos**	81.71	45	*e*P		P	05 53 16.3	+0.3
EVOP				pmax		pmax		
	comp=Z,11nm,0.9s							
EVOP	**Sao Brissos**	81.71	45	*e*P		P	05 53 16.3	+0.3
	comp=Z,11nm,0.9s							
EVO	**Evora**	81.79	45	*e*P		P	05 53 16.3	-0.2
	comp=Z,11nm,0.9s							
PMTG	**Montargil**	81.92	44	*e*P		P	05 53 17.8	+0.6
	comp=Z,21nm,2.1s							
PESTR	**Estremoz**	82.24	45	*e*P		P	05 53 19.9	+1.0
	comp=Z,15nm,1.3s							
PCBR	**Castelo Branco**	82.82	44	*e*P		P	05 53 22.3	+0.5
	comp=Z,14nm,1.8s							
MTE	**Manteigas**	83.06	44	*e*P		P	05 53 23.3	+0.1
	comp=Z,16nm,1.9s							
PVRL	**Vila Real**	83.40	43	*e*P		P	05 53 24.2	-0.7
	comp=Z,14nm,1.4s							
PGAV	**Gavieira, Arco**	83.41	42	*e*P		P	05 53 25.4	+0.5
	comp=Z,29nm,1.7s							
PCAB	**Cabril**	83.43	42	*e*P		P	05 53 25.3	+0.3
	comp=Z,21nm,1.7s							
MVO	**Moncorvo**	83.79	43	*e*P		P	05 53 27.3	+0.4
	comp=Z,10nm,1.8s							
PBRG	**Braganca**	84.30	43	*e*P		P	05 53 30.0	+0.5
	comp=Z,16nm,1.6s							
PAB	**San Pablo**	84.77	46	*e*P		P	05 53 32.4	+0.5
PAB				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PAB	**San Pablo**	84.77	46	*e*P		P	05 53 32.4	+0.5
	comp=Z,10.0nm,0.6s							
ESDC	**Sonseca Array**	85.09	46	P		P	05 53 34.2	+0.7
	comp=Z,4.3nm,0.7s,baz=252,slow=5.3,SNR=39							
ESDC				pP		pP	05 53 43.1	-0.8
	comp=Z,2.8nm,0.8s,baz=251,slow=5.2,SNR=4.2							
ESDC	**Sonseca Array**	85.09	46	P		P	05 53 34.2	+0.7
ESDC				pP		pP	05 53 43.1	-0.8
BOSA	**Boshof**	86.83	119	LR		LR	06 28 24.5	
	comp=Z,58nm,18.3s,baz=340,slow=33							
YKA	**Yellowknife Ar**	87.49	341	P		P	05 53 44.5	-0.2
	comp=Z,11nm,0.7s,baz=136,slow=4.8,SNR=218							
YKA				pP		pP	05 53 54.1	-1.0
	comp=Z,2.7nm,0.7s,baz=134,slow=4.9,SNR=6.3							
YKA	**Yellowknife Ar**	87.49	341	P		P	05 53 44.5	-0.2
YKA				pP		pP	05 53 54.1	-1.0
SJPF	**Ste Jean**	88.51	43	*e*P		P	05 53 50.4	+0.4
	comp=Z,20nm,1.1s							
SJPF	**Ste Jean**	88.51	43	*e*P		P	05 53 50.4	+0.4
SJPF				pmax		pmax		
	comp=Z,20nm,1.1s							
SJPF	**Ste Jean**	88.51	43	*e*P		P	05 53 50.4	+0.4
	comp=Z,20nm,1.1s							
ETSF	**Etsaut**	88.85	44	*e*P		P	05 53 52.0	+0.3
	comp=Z,11nm,1.0s							
ETSF	**Etsaut**	88.85	44	*e*P		P	05 53 52.0	+0.3
ETSF				pmax		pmax		
	comp=Z,11nm,1.0s							
ETSF	**Etsaut**	88.85	44	*e*P		P	05 53 52.0	+0.3
	comp=Z,11nm,1.0s							
EPF	**Esparros**	89.50	44	*e*P		P	05 53 54.7	0.0
	comp=Z,11nm,1.0s							
EPF	**Esparros**	89.50	44	*e*P		P	05 53 54.7	0.0
EPF				pmax		pmax		
	comp=Z,11nm,1.0s							
EPF	**Esparros**	89.50	44	*e*P		P	05 53 54.7	0.0
	comp=Z,11nm,1.0s							
QUIF	**Quistinic**	89.52	39	*e*P		P	05 53 53.8	-0.8
QUIF	**Quistinic**	89.52	39	*e*P		P	05 53 53.8	-0.8
QUIF	**Quistinic**	89.52	39	*e*P		P	05 53 53.8	-0.8
LFF	**La Frestale**	90.58	42	*e*P		P	05 53 59.4	-0.3
	comp=Z,22nm,0.8s							
LFF	**La Frestale**	90.58	42	*e*P		P	05 53 59.4	-0.3
LFF				pmax		pmax		
	comp=Z,22nm,0.8s							
LFF	**La Frestale**	90.58	42	*e*P		P	05 53 59.4	-0.3
	comp=Z,22nm,0.8s							
MFF	**Saint Martin d**	90.75	41	*e*P		P	05 53 59.9	-0.5
MFF	**Saint Martin d**	90.75	41	*e*P		P	05 53 59.9	-0.5
MFF	**Saint Martin d**	90.75	41	*e*P		P	05 53 59.9	-0.5
MTLF	**Montolieu**	90.88	44	*e*P		P	05 54 00.7	-0.4
MTLF	**Montolieu**	90.88	44	*e*P		P	05 54 00.7	-0.4
MTLF	**Montolieu**	90.88	44	*e*P		P	05 54 00.7	-0.4
GRR	**Gorron**	91.11	39	*e*P		P	05 54 01.1	-0.9
	comp=Z,20nm,0.8s							
GRR	**Gorron**	91.11	39	*e*P		P	05 54 01.1	-0.9
GRR				pmax		pmax		
	comp=Z,20nm,0.8s							
GRR	**Gorron**	91.11	39	*e*P		P	05 54 01.1	-0.9
	comp=Z,20nm,0.8s							
RJF	**Les Rejaudoux**	91.24	42	*e*P		P	05 54 02.1	-0.6
RJF	**Les Rejaudoux**	91.24	42	*e*P		P	05 54 02.1	-0.6
RJF	**Les Rejaudoux**	91.24	42	*e*P		P	05 54 02.1	-0.6
LDF	**La Druitiere**	91.64	39	*e*P		P	05 54 03.6	-0.9
	comp=Z,11nm,0.7s							
LDF	**La Druitiere**	91.64	39	*e*P		P	05 54 03.6	-0.9
LDF				pmax		pmax		
	comp=Z,11nm,0.7s							
LDF	**La Druitiere**	91.64	39	*e*P		P	05 54 03.6	-0.9
	comp=Z,11nm,0.7s							
SUMG	**Summit**	93.26	9	*e*P		P	05 54 12.1	+0.2
SUMG				pmax		pmax		
	comp=Z,7.0nm,0.7s							
SUMG	**Summit**	93.26	9	*e*P		P	05 54 12.1	+0.2
	comp=Z,7.5nm,0.7s							
ORIF	**Oris-en-Rattie**	93.92	44	*e*P		P	05 54 15.5	+0.3
ORIF	**Oris-en-Rattie**	93.92	44	*e*P		P	05 54 15.5	+0.3
ORIF	**Oris-en-Rattie**	93.92	44	*e*P		P	05 54 15.5	+0.3
RES	**Resolute Bay**	94.00	354	LR		LR	06 42 29.4	
	comp=Z,48nm,20.2s,baz=239,slow=39							
LPL	**La Plagne**	94.70	44	*e*P		P	05 54 19.1	+0.1
LPL	**La Plagne**	94.70	44	*e*P		P	05 54 19.1	+0.1
LPL	**La Plagne**	94.70	44	*e*P		P	05 54 19.1	+0.1
LPG	**La Plagne**	94.71	44	*e*P		P	05 54 19.4	+0.3
LPG	**La Plagne**	94.71	44	*e*P		P	05 54 19.4	+0.3
LPG	**La Plagne**	94.71	44	*e*P		P	05 54 19.4	+0.3
CDF	**Champ du Feu**	96.08	41	*e*P		P	05 54 24.3	-0.7
CDF	**Champ du Feu**	96.08	41	*e*P		P	05 54 24.3	-0.7
CDF	**Champ du Feu**	96.08	41	*e*P		P	05 54 24.3	-0.7
GERES	**GERESS Array B**	100.27	42	P		Pdif	05 54 43.3	-0.6
	comp=Z,7.7nm,1.0s,baz=198,slow=3.9,SNR=3.6							
GERES	**GERESS Array B**	100.27	42	P		Pdif	05 54 43.3	-0.6
ILAR	**Eielson Array**	100.46	335	P		Pdif	05 54 44.0	-0.2
	comp=Z,0.4nm,1.0s,baz=159,slow=2.2,SNR=4.2							
ILAR				PP		PP	05 58 54.0	+2.7
	comp=Z,0.6nm,1.0s,baz=120,slow=5.2,SNR=4.6							
ILAR	**Eielson Array**	100.46	335	P		Pdif	05 54 44.0	-0.2
ILAR				PP		PP	05 58 54.0	+2.7
AKTO	**Aktyubinsk**	128.60	39	pPKP		pPKPdf	06 00 15.0	-0.2
	comp=Z,1.3nm,0.8s,baz=328,slow=4.6,SNR=2.0							
AKTO	**Aktyubinsk**	128.60	39	PKIKP		pPKPdf	06 00 15.0	-0.2
AKTO	**Aktyubinsk**	128.60	39	pPKP		pPKPdf	06 00 15.0	-0.2
ASAR	**Alice Springs**	131.64	211	PKP		PKPdf	06 00 11.7	+0.6
	comp=Z,0.8nm,0.7s,baz=146,slow=3.4,SNR=7.0							
ASAR	**Alice Springs**	131.64	211	PKP		PKPdf	06 00 11.7	+0.6
BVAR	**Borovoye Array**	134.28	32	PKP		PKPdf	06 00 15.8	+0.8
	comp=Z,0.5nm,0.6s,baz=321,slow=2.1,SNR=3.8							
BVAR	**Borovoye Array**	134.28	32	PKIKP		PKPdf	06 00 15.8	+0.8
BVAR	**Borovoye Array**	134.28	32	PKP		PKPdf	06 00 15.8	+0.8
WRA	**Warramunga Arr**	134.49	215	PKP		PKPdf	06 00 16.4	-0.1
	comp=Z,1.7nm,0.8s,baz=146,slow=1.8,SNR=10							
WRA	**Warramunga Arr**	134.49	215	PKP		PKPdf	06 00 16.4	-0.1
KURK	**Kurchatov**	139.72	30	PKIKP		PKPdf	06 00 26.7	+1.6
KURK	**Kurchatov**	139.72	30	PKP		PKPdf	06 00 26.7	+1.6
KURBB	**Kurchatov Arra**	139.74	30	PKP		PKPdf	06 00 26.7	+1.5
	comp=Z,0.9nm,0.6s,baz=296,slow=2.2,SNR=5.5							
ZALV	**Zalesovo Beam**	139.88	22	PKhKP		PKPpre	06 00 16.1	
	comp=Z,0.6nm,0.6s,baz=321,slow=1.8,SNR=2.9							
ZALV				PKP		PKPdf	06 00 26.1	+0.8
	comp=Z,2.0nm,0.5s,baz=301,slow=2.9,SNR=12							
ZALV	**Zalesovo Beam**	139.88	22	PKHKP		PKPpre	06 00 16.1	
ZALV							06 00 26.2	
ZALV	**Zalesovo Beam**	139.88	22	PKPpre		PKPpre	06 00 16.1	
ZALV				PKP		PKPdf	06 00 26.1	+0.8
MKAR	**Makanchi Array**	144.17	32	PKP		PKPbc	06 00 31.5	+0.1
	comp=Z,1.8nm,0.7s,baz=326,slow=4.4,SNR=28							
MKAR	**Makanchi Array**	144.17	32	PKIKP		PKPbc	06 00 31.5	+0.1
MKAR	**Makanchi Array**	144.17	32	PKP		PKPbc	06 00 31.5	+0.1
KSH	**Kashi**	144.60	46	*e*PKP		PKPdf	06 00 34.3	-0.1
KSH				*ep*PKP		pPKPdf	06 00 44.9	-0.3
KSH				*es*PKP			06 00 49.3	
KSH				*e*PP		PP	06 03 53.9	+3.0
KSH				PKS		PKSdf	06 04 09.4	-0.7
KSH				SKS		SKSdf	06 07 39.1	-2.5
KSH			

SHL	**Shillong**	**3.14**	**309**	*e*PN	**Pn**	05 49 11.0	-0.1
SHL				*e*SN	Sn	05 49 42.0	-6.8
CMAR	**Chiang Mai Arr**	**6.54**	**141**	Pn	**Pn**	**05 49 58.2**	**+0.4**
	0.6nm,0.3s,baz=310,slow=13,SNR=3.2						
CMAR				Lg	Lg	05 51 55.3	
	0.4nm,0.3s,baz=306,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**25.16**	**340**	P	**P**	**05 53 47.1**	**+0.2**
	0.5nm,0.8s,baz=156,slow=9.9,SNR=8.1						
SONM	**Songino Array**	**25.96**	**18**	P	**P**	**05 53 53.8**	**-0.4**
	0.2nm,0.6s,baz=193,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**29.72**	**339**	P	**P**	**05 54 28.1**	**+0.4**
	0.3nm,0.3s,baz=143,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**58.10**	**135**	P	**P**	**05 58 15.2**	**-0.2**
	0.2nm,0.3s,baz=323,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**60.55**	**138**	P	**P**	**05 58 32.2**	**0.0**
	0.4nm,0.5s,baz=321,slow=6.9,SNR=15						

IDC 14 05:59:59.1±1.1, 53.90N×35.32W, h0km, mb3.3/6, mb1 3.6/7, mb1mx3.4/32, mbtmp3.4/7, ML2.9/1, MS3.6/19, Ms1 3.6/19, ms1mx3.5/30, Error ellipse: s-maj=47.2km s-min=19.2km az=29.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.97**	**28**	LR	LR	06 06 53.7	
	comp=Z,258nm,18.5s,baz=313,slow=32						
SCHQ	**Schefferville**	**18.31**	**286**	P	Pn	06 04 14.2	-0.1
	0.4nm,0.3s,baz=70,slow=15,SNR=6.2						
SCHQ				LR	LR	06 09 56.4	
	comp=Z,142nm,18.7s,baz=15,slow=33						
ESDC	**Sonseca Array**	**25.50**	**111**	P	P	06 05 28.9	-0.1
	0.1nm,0.3s,baz=318,slow=10,SNR=4.1						
ESDC				LR	LR	06 14 05.5	
	comp=Z,104nm,19.1s,baz=320,slow=33						
NOA	**NORSAR Array B**	**25.53**	**55**	LR	LR	06 13 54.8	
	comp=Z,80nm,18.3s,baz=60,slow=33						
HFS	**Hagfors**	**26.86**	**57**	LR	LR	06 14 23.3	
	comp=Z,119nm,19.3s,baz=256,slow=32						
DAVOX	**Davos/Dischmat**	**29.29**	**85**	LR	LR	06 16 45.0	
	comp=Z,139nm,18.1s,baz=261,slow=34						
SADO	**Sadowa**	**29.55**	**270**	LR	LR	06 16 55.4	
	comp=Z,202nm,20.7s,baz=357,slow=34						
GERES	**GERESS Array B**	**30.51**	**79**	LR	LR	06 16 42.8	
	comp=Z,70nm,19.8s,baz=107,slow=33						
ARCES	**ARCESS Array B**	**31.12**	**36**	LR	LR	06 17 47.5	
	comp=Z,55nm,18.1s,baz=20,slow=34						
FINES	**FINESS Array B**	**32.53**	**52**	LR	LR	06 17 19.4	
	comp=Z,110nm,20.6s,baz=140,slow=32						
ULM	**Lac du Bonnet**	**36.41**	**290**	LR	LR	06 20 40.3	
	comp=Z,126nm,18.3s,baz=82,slow=34						
YKA	**Yellowknife Ar**	**40.09**	**315**	P	P	06 07 35.3	-0.5
	0.1nm,0.8s,baz=58,slow=8.2,SNR=2.9						
PDAR	**Pinedale Array**	**48.41**	**289**	P	P	06 08 42.9	-0.1
	0.5nm,0.5s,baz=69,slow=8.4,SNR=4.5						
PDAR				LR	LR	06 27 53.8	
	comp=Z,85nm,20.2s,baz=113,slow=35						
NEW	**Newport**	**48.99**	**299**	LR	LR	06 29 04.6	
	comp=Z,88nm,18.4s,baz=99,slow=36						
KBZ	**Khabaz**	**49.99**	**68**	LR	LR	06 28 33.6	
	comp=Z,34nm,20.2s,baz=300,slow=34						
TORD	**Torodi Ar. Bea**	**50.02**	**130**	P	P	06 08 55.3	0.0
	1.3nm,0.9s,baz=328,slow=7.0,SNR=5.2						
ILAR	**Eielson Array**	**50.57**	**329**	P	P	06 08 59.2	+0.3
	0.4nm,1.1s,baz=52,slow=4.7,SNR=3.4						
ILAR				LR	LR	06 32 50.3	
	comp=Z,49nm,18.6s,baz=9.5,slow=39						
BBB	**Bella Bella**	**51.87**	**309**	LR	LR	06 29 59.9	
	comp=Z,62nm,19.2s,baz=83,slow=35						
DBIC	**Dimbokro**	**53.15**	**141**	LR	LR	06 29 35.4	
	comp=Z,52nm,18.4s,baz=347,slow=33						
TXAR	**Lajitas Array**	**54.30**	**272**	LR	LR	06 33 25.8	
	comp=Z,54nm,21.2s,baz=5.0,slow=37						
YBH	**Yreka Blue Hor**	**56.31**	**296**	LR	LR	06 31 20.0	
	comp=Z,60nm,19.3s,baz=10,slow=33						
MKAR	**Makanchi Array**	**66.59**	**42**	P	P	06 10 50.8	-0.1
	0.2nm,0.6s,baz=300,slow=5.4,SNR=4.4						
WRA	**Warramunga Arr**	**145.18**	**17**	PKPbc	PKPbc	06 19 37.4	-0.7
	1.1nm,1.2s,baz=341,slow=2.6,SNR=2.9						
ASAR	**Alice Springs**	**148.73**	**19**	PKPbc	PKPbc	06 19 47.3	-0.9
	0.2nm,0.5s,baz=333,slow=2.3,SNR=4.0						

IDC 14 06:04:58.5±2.7, 24.12N×141.60E, h120km±23km, mb3.0/4, mb1 3.2/5, mb1mx2.9/25, mbtmp3.1/5, Error ellipse: s-maj=45.7km s-min=23.3km az=95.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.01**	**10**	P	Pn	06 05 46.3	+1.4
	9.9nm,0.3s,baz=318,slow=20,SNR=6.7						
CBIJ				S	Sn	06 06 20.8	0.0
	19nm,0.3s,baz=284,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**44.36**	**190**	P	P	06 12 56.5	-0.5
	0.2nm,0.4s,baz=7.2,slow=8.6,SNR=5.3						
MKAR	**Makanchi Array**	**52.00**	**311**	P	P	06 13 56.1	+0.6
	0.3nm,0.6s,baz=92,slow=8.2,SNR=4.7						
YKA	**Yellowknife Ar**	**75.01**	**28**	P	P	06 16 26.9	+0.4
	0.1nm,0.3s,baz=293,slow=6.0,SNR=3.0						
FINES	**FINESS Array B**	**80.38**	**334**	P	P	06 16 55.5	-0.7
	0.5nm,0.6s,baz=45,slow=6.1,SNR=2.8						

IDC 14 06:15:42.0±4.5, 12.98S×167.08E, h195km±33km, mb3.5/5, mb1 3.7/5, mb1mx3.4/20, mbtmp3.5/5, Error ellipse: s-maj=88.5km s-min=21.7km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.17**	**248**	P	P	06 20 13.2	+0.9
	4.5nm,0.8s,baz=53,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**30.01**	**227**	P	P	06 21 32.7	+0.1
	2.5nm,0.7s,baz=56,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**32.11**	**253**	P	P	06 21 50.7	-0.5
	0.7nm,0.5s,baz=85,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**33.16**	**247**	P	P	06 21 59.9	-0.4
	1.7nm,0.6s,baz=74,slow=9.3,SNR=50						
ASAR				ScP	ScP	06 28 04.2	-0.3
	0.6nm,0.8s,baz=64,slow=4.2,SNR=4.8						
ILAR	**Eielson Array**	**84.93**	**18**	P	P	06 27 54.6	0.0
	0.9nm,0.6s,baz=238,slow=5.2,SNR=18						
ARCES	**ARCESS Array B**	**118.53**	**346**	PKP	PKPdf	06 34 05.7	-0.2
	2.6nm,0.9s,baz=48,slow=2.9,SNR=18						

WEL 14 06:37:45.8±0.2, 40.40S×176.71E, h19km±1km, ML3.5/27, 3C, Error ellipse: s-maj=1.7km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.14**	**338**	P*	Pg	06 37 49.4	-0.6
PRHZ				*e*S*	Sg	06 37 52.4	-0.5
PXZ	**Pawanui**	**0.39**	**18**	⇑P*	Pb	06 37 54.0	-0.1
PXZ				S*	Sb	06 38 00.1	+0.4
WPHZ	**Waipukurau**	**0.39**	**329**	P*	Pg	06 37 53.5	-0.5
WPHZ				S*	Sg	06 37 59.4	-0.1
DVHZ	**Dannevirke**	**0.42**	**284**	P*	Pb	06 37 54.8	0.0
DVHZ				S*	Sb	06 38 01.3	+0.4
BFZ	**Birch Farm**	**0.45**	**231**	P*	Pn	06 37 57.1	-0.2
BFZ				*e*S*	Sn	06 38 05.0	+0.2
KAHZ	**Kahuranaki**	**0.62**	**12**	⇑P*	Pg	06 37 58.5	+0.3
KAHZ				S*	Sn	06 38 08.7	-0.4
PNHZ	**Pukenui**	**0.62**	**321**	⇑P*	Pb	06 37 57.5	-0.5
PNHZ				S*	Sb	06 38 06.0	-0.4
TSZ	**Takapari Road**	**0.66**	**301**	P*	Pb	06 37 58.6	-0.2
TSZ				S*	Sg	06 38 07.8	0.0
POWZ	**Post Office Ro**	**0.72**	**270**	P*	Pn	06 38 00.7	-0.2
TIWZ	**Tintock**	**0.73**	**239**	P*	Pn	06 38 01.2	+0.1
CKHZ	**Cape Kidnapper**	**0.79**	**21**	P*	Pn	06 38 01.7	-0.3
MRZ	**Mangatainoka R**	**0.90**	**253**	P*	Pg	06 38 03.1	-0.2
TMWZ	**Te Maipa**	**0.94**	**221**	P*	Pb	06 38 03.8	+0.3
MCHZ	**McNeill Hill**	**0.95**	**360**	P*	Pb	06 38 03.8	+0.1
HOWZ	**Holdsworth Sta**	**1.03**	**241**	P*	Pb	06 38 05.0	-0.1
BHHZ	**Black Hill Sta**	**1.04**	**331**	P*	Pb	06 38 04.3	-0.9
MTW	**Mount Morrison**	**1.19**	**230**	P*	Pn	06 38 06.7	-0.7
MOVZ	**Moawhango**	**1.23**	**323**	PN	Pn	06 38 07.8	-0.3
MOVZ				SN	Sb	06 38 23.6	-0.6
OGWZ	**Otaki Gorge**	**1.24**	**250**	P*	Pn	06 38 08.0	-0.1
BKZ	**Black Stump Fm**	**1.24**	**352**	PN	Pn	06 38 07.2	-1.1
TRWZ	**Traveller**	**1.26**	**217**	P*	Pn	06 38 08.5	+0.1
NMHZ	**Naumai**	**1.30**	**3**	PN	Pn	06 38 08.6	-0.5
WNVZ	**Wahianoa**	**1.37**	**321**	PN	Pn	06 38 10.5	+0.4
PAWZ	**Paruwai Farm**	**1.38**	**224**	P*	Pn	06 38 09.3	-0.7
TUVZ	**Tukino**	**1.39**	**324**	PN	Pn	06 38 10.6	+0.2
TRVZ	**Turoa**	**1.42**	**321**	PN	Pn	06 38 11.1	+0.3
DRZ	**Dome Shelter**	**1.43**	**322**	PN	Pb	06 38 12.1	-0.1
CAW	**Cannon Point**	**1.43**	**240**	P*	Pn	06 38 10.2	-0.5
KIW	**Kapiti Island**	**1.44**	**251**	PN	Pn	06 38 10.8	-0.1
FWVZ	**Far West T-bar**	**1.45**	**322**	PN	Pn	06 38 11.4	+0.2
WAZ	**Wanganui**	**1.47**	**295**	PN	Pb	06 38 12.2	-0.3
OTVZ	**Oturere**	**1.47**	**327**	PN	Pn	06 38 11.8	+0.3
NGZ	**Ngauruhoe**	**1.49**	**325**	PN	Pn	06 38 12.3	+0.6
WPVZ	**Whakapapa**	**1.49**	**323**	PN	Pn	06 38 12.2	+0.5
MSWZ	**Moikau Station**	**1.50**	**227**	PN	Pn	06 38 10.7	-1.0
RAHZ	**Arahi**	**1.51**	**11**	PN	Pn	06 38 11.0	-0.9
PKVZ	**Pokaka**	**1.52**	**316**	PN	Pb	06 38 13.1	-0.4
KRVZ	**Karewarewa**	**1.54**	**327**	PN	Pb	06 38 13.4	-0.5
WTVZ	**West Tongariro**	**1.54**	**326**	PN	Pb	06 38 13.4	-0.5
HATZ	**Hinemaiaia**	**1.58**	**342**	PN	Pb	06 38 14.3	-0.1
PLWZ	**Palliser**	**1.60**	**223**	PN	Pn	06 38 12.3	-0.9
KATZ	**Kakaramea**	**1.62**	**331**	PN	Pb	06 38 15.0	-0.3
TWVZ	**Taurewa**	**1.65**	**323**	PN	Pn	06 38 14.6	+0.8
TCW	**Tory Channel**	**2.02**	**245**	PN	Pn	06 38 17.9	-0.8
DUWZ	**D'Urville Isla**	**2.16**	**258**	PN	Pg	06 38 28.6	+1.3
MWZ	**Matawai**	**2.16**	**17**	PN	Pn	06 38 19.2	-1.6
URZ	**Urewera**	**2.16**	**8**	PN	Pn	06 38 19.3	-1.5
TARZ	**Mount Tarawera**	**2.17**	**356**	PN	Pn	06 38 20.3	-0.8
HIZ	**Hauiti**	**2.37**	**322**	PN	Pb	06 38 27.3	-0.5
LTZ	**Lake Taylor**	**4.09**	**233**	PN	Pn	06 38 44.9	-2.4

IDC 14 06:45:37.2±1.1, 30.88N×140.38E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/25, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=66.9km s-min=20.7km az=103.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.92**	**343**	Pn	Pn	06 47 06.7	+0.4
	0.5nm,0.3s,baz=108,slow=4.6,SNR=7.4						
WRA	**Warramunga Arr**	**50.87**	**187**	P	P	06 54 39.8	-0.2
	0.3nm,0.3s,baz=5.6,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**54.59**	**187**	P	P	06 55 07.2	-0.3
	0.6nm,0.9s,baz=19,slow=14,SNR=3.9						
ILAR	**Eielson Array**	**55.19**	**30**	P	P	06 55 10.8	-0.5
	0.4nm,0.7s,baz=270,slow=5.9,SNR=6.6						
YKA	**Yellowknife Ar**	**69.58**	**29**	P	P	06 56 46.9	-0.8
	0.4nm,0.8s,baz=292,slow=6.1,SNR=5.7						
TXAR	**Lajitas Array**	**94.56**	**52**	P	P	06 59 01.4	+1.2
	0.4nm,0.7s,baz=304,slow=1.6,SNR=3.2						
LPAZ	**La Paz**	**150.21**	**67**	PKPbc	PKPbc	07 05 31.2	-0.3
	1.0nm,0.8s,baz=308,slow=4.3,SNR=3.4						
LPAZ				PKPab	PKPab	07 05 37.4	-0.2
	1.7nm,0.8s,baz=236,slow=1.7,SNR=4.8						

*IDC **14** 06:49:29.2±0.6, 2.51N×95.34W, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.4/26, mbtmp4.3/19, ML3.9/2, MS4.6/25, Ms1 4.6/25, ms1mx4.6/29, Error ellipse: s-maj=28.0km s-min=11.0km az=56.0*

*ISCJB **14** 06:49:30.1±0.4, 2.42N±0.06×95.27W±0.06, h10km, mb4.6/86, MS4.6/25, Error ellipse: s-maj=10.3km s-min=5.1km az=42.7*

*NEIC **14** 06:49:31.0±0.3, 2.33N×95.34W, h10km, mb4.8/72, Error ellipse: s-maj=10.0km s-min=4.7km az=49.0*

*GCMT **14** 06:49:34.6±0.2, 2.54N×95.25W, h13km±1km, MW5.2, Moment Tensor Solution. s46,c69; s86,c145; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.53±.21; $M_{\theta\theta}$3.52±.17; $M_{\phi\phi}$-1.00±.18; $M_{r\theta}$3.46±.47; $M_{\theta\phi}$6.96±.16; $M_{\phi r}$-0.41±.39; Best double couple: $M_0$8.20000×10^{16} NP1:ϕ_s11.00000°, δ61.00000°, λ-168.00000°. NP2:ϕ_s275.00000°, δ80.00000°, λ-30.00000°. Principal axes: T 9.1600, Plg13.0000°, Azm326.0000°; N -1.8400, Plg59.0000°, Azm78.0000°; P -7.3300, Plg28.0000°, Azm229.0000°; Data Used: IU II G CN IC.*

ISC 14 06:49:30.3±0.4, 2.25N±0.07×95.53W±0.08, h10km, n465, σ1s10/456, mb4.7/86, MS4.6/25, 135C-147D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.99**	**119**	*e*Pn	Pn	06 50 55.1	-4.0
JTS	**JuntasAbangare**	**13.20**	**52**	LR	LR	06 56 06.7	
	comp=Z,7μm,18.6s,baz=167,slow=31						
TGUH	**Tegucigalpa,Un**	**14.29**	**34**	*e*Pn	**Pn**	**06 52 52.9**	**0.0**
	93nm,1.3s						
CMIG	**Matias Romero**	**14.76**	**2**	Pn	**Pn**	**06 52 59.8**	**+0.4**
	0.1nm,0.3s,baz=184,slow=12,SNR=7.4						
CMIG				LR	LR	06 57 16.4	
	comp=Z,2μm,20.3s,baz=171,slow=32						
CMIG	**Matias Romero**	**14.76**	**2**	Pn	**Pn**	**06 52 59.8**	**+0.4**
BCIP	**Isla Barro Col**	**17.05**	**66**	*e*P	**Pn**	**06 53 28.5**	**-0.6**
	557nm,2.1s						
OTAV	**Otavalo**	**17.19**	**96**	*e*P	**Pn**	**06 53 29.9**	**-1.3**
	94nm,1.4s						
TEIG	**Tepich**	**19.22**	**21**	P	**P**	**06 53 52.5**	**-2.2**
	0.4nm,0.3s,baz=254,slow=2.6,SNR=3.9						
TEIG				LR	LR	07 00 19.6	
	comp=Z,771nm,18.5s,baz=20,slow=34						
TEIG	**Tepich**	**19.22**	**21**	P	**P**	**06 53 52.5**	**-2.2**
ATAH	**Atahualpa**	**19.48**	**119**	P	**Pn**	**06 53 59.6**	**+0.4**
	0.4nm,0.3s,baz=313,slow=18,SNR=6.2						
ATAH				LR	LR	06 59 46.6	
	comp=Z,5μm,21.8s,baz=302,slow=32						
ATAH	**Atahualpa**	**19.48**	**119**	P	**Pn**	**06 53 59.6**	**+0.4**
ROSC	**El Rosal**	**21.32**	**82**	P	**P**	**06 54 16.5**	**-1.5**
	9.5nm,0.9s,baz=85,slow=18,SNR=9.0						
ROSC				LR	LR	07 01 31.6	
	comp=Z,716nm,18.2s,baz=322,slow=34						
ROSC	**El Rosal**	**21.32**	**82**	*e*P	**P**	**06 54 17.7**	**-0.3**
NNA	**Nana**	**23.34**	**128**	LR	LR	07 01 39.1	
	comp=Z,1μm,19.7s,baz=306,slow=31						
SOR	**Soroa**	**23.76**	**30**	*e*	**P**	**06 54 43.0**	**-0.1**
MGV	**Manicaragua**	**24.86**	**36**	*e*	**P**	**06 54 53.4**	**+0.1**
LPIG	**La Paz**	**26.00**	**328**	LR	LR	07 03 48.9	
	comp=Z,56nm,18.2s,baz=169,slow=33						
732A	**Laxson Ranch,**	**26.67**	**351**	⇓P	**P**	**06 55 09.9**	**+0.3**
	baz=27,SNR=15						
628A	**Black Gap, Mar**	**27.98**	**346**	⇓P	**P**	**06 55 22.0**	**+0.6**
	baz=28,SNR=6.2						
TXAR	**Lajitas Array**	**28.03**	**345**	P	**P**	**06 55 21.1**	**-0.8**
	5.2nm,0.8s,baz=164,slow=10,SNR=31						
TXAR				LR	LR	07 05 20.0	
	comp=Z,2μm,21.7s,baz=35,slow=34						
TXAR	**Lajitas Array**	**28.03**	**345**	P	**P**	**06 55 21.1**	**-0.8**
532A	**Rocksprings**	**28.04**	**352**	⇓P	**P**	**06 55 22.0**	**+0.1**
	baz=28,SNR=5.4						
627A	**Terlingua Ranc**	**28.07**	**345**	⇑P	**P**	**06 55 22.9**	**+0.6**
	baz=28,SNR=8.4						
531A	**Rocksprings**	**28.17**	**351**	⇓P	**P**	**06 55 23.2**	**+0.1**
	baz=28,SNR=13						
626A	**Big Bend Ranch**	**28.36**	**344**	⇓P	**P**	**06 55 25.6**	**+0.8**
	baz=28,SNR=10						
529A	**Stev Forest Ra**	**28.44**	**348**	⇓P	**P**	**06 55 25.9**	**+0.3**
	baz=28						
432A	**Menard**	**28.76**	**352**	⇓P	**P**	**06 55 28.0**	**-0.4**
	baz=29						
527A	**Woodward Ranch**	**28.78**	**345**	⇑P	**P**	**06 55 29.3**	**+0.6**
	baz=29						
526A	**Mary Lane Ranc**	**28.83**	**344**	⇑P	**P**	**06 55 29.2**	**+0.1**
	baz=29,SNR=13						
WHTX	**Lake Whitney**	**29.64**	**357**	⇓P	**P**	**06 55 36.0**	**-0.1**
	baz=30						
329A	**Wagon Wheel Ra**	**29.71**	**349**	⇓P	**P**	**06 55 37.2**	**+0.3**
	baz=30						
425A	**Indio Mountain**	**29.76**	**343**	⇑P	**P**	**06 55 37.7**	**+0.4**
	baz=30,SNR=11						
326A	**Caldwell Ranch**	**29.99**	**345**	⇑P	**P**	**06 55 39.1**	**-0.2**
	baz=30						
228A	**UT Block 9, Go**	**30.45**	**348**	⇑P	**P**	**06 55 43.4**	**+0.1**
	baz=31						
ABTX	**Abilene, Hawle**	**30.46**	**353**	⇓P	**P**	**06 55 43.2**	**-0.2**
	baz=31						
130A	**Snyder**	**30.62**	**351**	⇓P	**P**	**06 55 44.6**	**-0.2**
	baz=31						
MNTX	**Cornudas Mount**	**30.73**	**343**	*e*P	**P**	**06 55 45.3**	**-0.4**
	6.0nm,1.5s						
129A	**Stewart Farms,**	**30.80**	**350**	⇓P	**P**	**06 55 46.5**	**0.0**
	baz=31,SNR=13						
CLNB	**Carlsbad**	**30.87**	**346**	*e*P	**P**	**06 55 48.4**	**+1.2**
128A	**Castleberry Fa**	**30.91**	**349**	⇑P	**P**	**06 55 47.7**	**+0.2**
	baz=31,SNR=8.2						
GDL2	**Guadalupe Moun**	**30.93**	**345**	*e*P	**P**	**06 55 47.2**	**-0.5**
Z32A	**Haskell**	**31.12**	**354**	⇓P	**P**	**06 55 49.5**	**+0.4**
	baz=31						
Z30A	**Sanderson Ranc**	**31.32**	**351**	⇓P	**P**	**06 55 51.0**	**0.0**
	baz=31						
Z29A	**Hungry Hill Ra**	**31.39**	**350**	⇓P	**P**	**06 55 51.4**	**-0.3**
	baz=32,SNR=5.4						
320A	**Kipp Ranch, An**	**31.43**	**338**	⇑P	**P**	**06 55 53.5**	**+1.4**
	baz=32,SNR=17						
125A	**Gardner Draw,**	**31.44**	**345**	⇓P	**P**	**06 55 51.6**	**-0.6**
	baz=32,SNR=9.5						
222A	**Williams Famil**	**31.63**	**341**	⇓P	**P**	**06 55 55.4**	**+1.5**
	baz=32,SNR=10						
Z27A	**Tatum**	**31.73**	**348**	⇑P	**P**	**06 55 54.7**	**0.0**
	baz=32						
319A	**Douglas**	**31.75**	**337**	⇑P	**P**	**06 55 56.5**	**+1.6**
	baz=32,SNR=20						
Z26A	**Caprock**	**31.86**	**347**	⇑P	**P**	**06 55 55.2**	**-0.6**
	baz=32,SNR=17						
Y30A	**Stafford Cattl**	**31.86**	**352**	⇓P	**P**	**06 55 55.4**	**-0.3**
	baz=32						
220A	**Playas Peak, P**	**31.94**	**339**	⇑P	**P**	**06 55 57.9**	**+1.3**
	baz=32,SNR=12						
Y29A	**Porterfield Fa**	**31.97**	**350**	⇓P	**P**	**06 55 56.8**	**+0.1**
	baz=32,SNR=5.8						
Z25A	**Roswell**	**32.05**	**345**	⇑P	**P**	**06 55 57.4**	**-0.1**
	baz=32,SNR=6.0						
RPN	**Rapa Nui**	**32.10**	**204**	LR	LR	07 05 24.3	
	comp=Z,635nm,20.6s,baz=286,slow=30						
Y28A	**McKinney Farm,**	**32.12**	**349**	⇑P	**P**	**06 55 58.1**	**+0.1**
	baz=32,SNR=5.4						
121A	**Cookes Peak, D**	**32.25**	**340**	⇑P	**P**	**06 55 59.9**	**+0.6**
	baz=32,SNR=8.6						
Z24A	**Sheeppen Canyo**	**32.26**	**344**	⇓P	**P**	**06 55 59.9**	**+0.4**
	baz=32,SNR=7.0						
Y27A	**Causey**	**32.27**	**348**	⇑P	**P**	**06 55 59.9**	**+0.4**
	baz=32						
MSTX	**Muleshoe**	**32.27**	**349**	⇓P	**P**	**06 55 59.3**	**-0.2**
	baz=32,SNR=7.4						
X30A	**Coker Ranch, T**	**32.42**	**352**	⇑P	**P**	**06 56 00.8**	**+0.2**
	baz=32						
Y26A	**Elida**	**32.45**	**347**	⇓P	**P**	**06 56 00.8**	**-0.2**
	baz=33,SNR=7.3						
WMOK	**Wichita Mounta**	**32.47**	**355**	*e*P	**P**	**06 56 00.6**	**-0.4**
	9.5nm,1.3s						
120A	**U Bar Ranch, L**	**32.56**	**339**	⇓P	**P**	**06 56 03.1**	**+1.1**
	baz=33						
OXF	**Oxford**	**32.60**	**9**	*e*P	**P**	**06 56 01.2**	**-0.9**
	21nm,1.1s						
Y25A	**Mesa, Roswell**	**32.65**	**346**	⇓P	**P**	**06 56 02.9**	**0.0**
	baz=33,SNR=6.6						
LPAZ	**La Paz**	**32.74**	**125**	P	**P**	**06 56 04.5**	**+0.2**
	13nm,1.1s,baz=312,slow=7.0,SNR=16						
LPAZ				LR	LR	07 08 35.8	
	comp=Z,566nm,20.8s,baz=285,slow=35						
LPAZ	**La Paz**	**32.74**	**125**	*e*P	**P**	**06 56 05.0**	**+0.6**
	25nm,1.3s						
Y24A	**Capitan**	**32.85**	**345**	⇑P	**P**	**06 56 05.0**	**+0.5**
	baz=33,SNR=12						
AMTX	**Amarillo**	**32.97**	**351**	*e*P	**P**	**06 56 06.3**	**+0.7**
	8.5nm,0.7s						
AMTX	**Amarillo**	**32.97**	**351**	⇓P	**P**	**06 56 04.7**	**-0.8**
	baz=33,SNR=7.6						
Z20A	**Nine Sixteen R**	**33.06**	**340**	⇓P	**P**	**06 56 07.1**	**+0.7**
	baz=33,SNR=7.8						
TUC	**Tucson**	**33.17**	**336**	*e*P	**P**	**06 56 08.4**	**+1.1**
	10nm,1.0s						
W29A	**Amarillo**	**33.20**	**351**	⇓P	**P**	**06 56 08.2**	**+0.7**
	baz=33						
Y22A	**Socorro**	**33.29**	**343**	⇓P	**P**	**06 56 09.6**	**+1.2**
	baz=33,SNR=7.3						
BNM	**Barren Site**	**33.39**	**343**	*e*P	**P**	**06 56 09.7**	**+0.3**
W28A	**Vega**	**33.42**	**350**	⇓P	**P**	**06 56 10.1**	**+0.6**
	baz=34						
W26A	**Owens Ranch, T**	**33.56**	**348**	⇓P	**P**	**06 56 11.5**	**+0.8**
	baz=34						
Y21A	**Point of Rocks**	**33.57**	**342**	⇓P	**P**	**06 56 12.5**	**+1.6**
	baz=34,SNR=11						
Y20A	**Horse Springs,**	**33.71**	**341**	⇑P	**P**	**06 56 13.7**	**+1.5**
	baz=34,SNR=7.8						
214A	**Organ Pipe Nat**	**33.74**	**333**	⇓P	**P**	**06 56 13.7**	**+1.5**
	baz=34,SNR=8.9						
LAZ	**Ladron**	**33.77**	**343**	*e*P	**P**	**06 56 14.3**	**+1.6**
	6.6nm,1.4s						
W25A	**X Bar L Ranch,**	**33.84**	**347**	⇑P	**P**	**06

PDMCI	Parker Dam,Lak baz=36	36.31	334	⇓P	P	06 56 36.2 +1.9
BC3	Big Chuckawall baz=36,SNR=9.0	36.38	331	⇑P	P	06 56 36.7 +1.6
R27A	Eads baz=37	36.48	350	⇑P	P	06 56 36.8 +1.0
R26A	Arlington baz=37,SNR=7.6	36.60	350	⇓P	P	06 56 38.3 +1.4
IRM	Iron Mountain baz=37,SNR=7.5	36.65	332	⇑P	P	06 56 39.2 +1.9
KSU1	Kansas State U 8.9nm,0.9s	36.69	359	eP	P	06 56 37.6 +0.1
MVCO	Mesa Verde 28nm,1.3s	36.78	343	eP	P	06 56 39.3 +0.7
MVCO	Mesa Verde baz=37,SNR=11	36.78	343	⇑P	P	06 56 39.6 +1.0
WCI	Wyandotte Cave 46nm,1.1s	36.80	12	eP	P	06 56 36.9 -1.6
S22A	4UR Ranch, Cre baz=37,SNR=8.7	36.82	345	⇑P	P	06 56 40.3 +1.3
PFO	Pinyon Flat Ob 13nm,1.0s	36.83	330	eP	P	06 56 39.8 +0.8
R24A	Sanders Place, baz=37	36.87	347	⇓P	P	06 56 40.4 +1.1
W13A	Hualapai Mount baz=37,SNR=7.6	36.87	335	⇓P	P	06 56 41.1 +1.7
BELC	Belle Mtn. Jos baz=37,SNR=6.6	36.92	331	⇓P	P	06 56 41.5 +1.7
OLIL	Olney 25nm,1.2s	36.94	10	eP	P	06 56 39.7 +0.1
R23A	Moffat baz=37	36.99	346	⇑P	P	06 56 41.7 +1.3
S21A	Coal Bank Pass baz=37,SNR=5.6	37.00	344	⇑P	P	06 56 41.8 +1.2
KSCO	Kaye Shedlock' baz=37	37.16	351	⇓P	P	06 56 42.4 +0.8
Q26A	Hugo baz=37	37.22	350	⇑P	P	06 56 43.1 +0.9
R22A	Saguache, Gunn baz=37	37.26	345	⇑P	P	06 56 44.4 +1.6
S20A	Disappointment baz=38,SNR=6.7	37.32	343	⇑P	P	06 56 44.1 +0.9
U15A	North Rim baz=38,SNR=12	37.37	337	⇓P	P	06 56 45.2 +1.6
GMRC	Granite Mounta baz=38,SNR=6.9	37.40	332	⇑P	P	06 56 45.2 +1.4
R21A	Cimarron baz=38,SNR=7.0	37.59	344	⇓P	P	06 56 46.9 +1.4
BLO	Bloomington 90nm,1.9s	37.66	11	eP	P	06 56 46.2 +0.5
R20A	Redvale baz=38,SNR=12	37.66	343	⇓P	P	06 56 47.3 +1.3
PV01	Paradox Valley	37.66	343	eP	P	06 56 47.1 +1.1
P27A	Ficken Ranch, baz=38	37.68	351	⇑P	P	06 56 47.1 +1.0
S18A	Hurst Farm, Bl baz=38,SNR=8.0	37.69	341	⇓P	P	06 56 47.1 +0.8
HEC	Hector,Ludlow baz=38,SNR=6.3	37.76	332	⇑P	P	06 56 48.6 +1.9
Q22A	Crested Butte, baz=38,SNR=6.5	37.90	345	⇓P	P	06 56 49.2 +1.1
BFSC	Mount Baldy Ra baz=38	37.94	329	⇓P	P	06 56 49.6 +1.3
PV04	Paradox Valley	38.00	343	eP	P	06 56 49.5 +0.7
PV10	Paradox Valley 128nm,1.0s	38.02	343	eP	P	06 56 49.5 +0.3
TUQ	Turquoise Moun baz=38,SNR=5.2	38.06	333	⇑P	P	06 56 50.5 +1.1
P23A	Jefferson baz=38,SNR=6.2	38.13	347	⇑P	P	06 56 51.2 +1.1
MWC	Mount Wilson 20nm,1.1s	38.13	329	eP	P	06 56 51.2 +1.2
SMCO	Snowmass 14nm,1.5s	38.21	346	eP	P	06 56 51.5 +0.6
ISCO	Idaho Springs 16nm,1.6s	38.48	347	eP	P	06 56 53.6 +0.5
ISCO	Idaho Springs baz=39,SNR=6.8	38.48	347	⇓P	P	06 56 53.6 +0.5
HDIL	Hopedale 56nm,1.0s	38.55	8	eP	P	06 56 53.0 -0.2
P22A	Eagle baz=39	38.55	346	⇑P	P	06 56 54.7 +1.2
SIV	San Ignacio 3.6nm,1.0s,baz=308,slow=12,SNR=7.5	38.58	119	P	P	06 56 52.4 -1.5
SIV	San Ignacio	38.58	119	P	P	06 56 52.4 -1.5
EDW2	Edwards Air Fo baz=39,SNR=6.8	38.61	330	⇑P	P	06 56 54.9 +1.0
Q19A	Hogan Spring (baz=39,SNR=9.2	38.62	343	⇓P	P	06 56 55.1 +1.1
O24A	Longmont baz=39	38.68	348	⇓P	P	06 56 55.1 +0.6
SFIN	Scholer Farm baz=39	38.72	10	⇓P	P	06 56 54.2 -0.4
N27A	Anderson Farm, baz=39,SNR=5.1	38.90	352	⇓P	P	06 56 56.8 +0.5
LRMC	Laurel Mountai baz=39,SNR=8.0	38.94	331	⇑P	P	06 56 58.1 +1.4
ARUT	Antelope Range	39.01	337	eP	P	06 56 59.6 +2.3
O22A	Kremmling baz=39,SNR=6.8	39.04	347	⇓P	P	06 56 58.0 +0.3
SRU	San Rafael baz=39,SNR=6.8	39.16	341	⇓P	P	06 56 59.2 +0.6
P19A	Cripple Cowboy baz=39,SNR=16	39.17	343	⇓P	P	06 56 59.5 +0.8
MSU	Marysvale	39.17	339	eP	P	06 57 00.6 +1.8
MVU	Marysvale 14nm,1.4s	39.18	339	eP	P	06 57 00.3 +1.4
Q16A	Castle Valley baz=39,SNR=15	39.19	341	⇓P	P	06 57 00.1 +1.2
MPMC	Manual Prospec baz=40,SNR=5.7	39.31	331	⇑P	P	06 57 01.5 +1.6
N24A	Carr baz=39	39.32	349	⇑P	P	06 57 01.3 +1.4
O20A	White River Ci baz=40,SNR=8.6	39.44	345	⇑P	P	06 57 02.0 +1.1
ISA	Isabella 7.0nm,1.3s	39.47	330	eP	P	06 57 03.3 +2.1
P18A	Preston Nutter baz=40	39.54	342	⇑P	P	06 57 03.1 +1.2
TMUT	Trail Mountain 16nm,1.2s	39.55	341	eP	P	06 57 03.1 +1.2
R13A	O'Grain Ranch, baz=40,SNR=7.6	39.55	337	⇓P	P	06 57 04.1 +2.2
P17A	Butcher Ranch, baz=40,SNR=8.3	39.55	341	⇓P	P	06 57 02.6 +0.7
N23A	Red Feather La baz=40,SNR=5.4	39.60	348	⇑P	P	06 57 03.5 +1.1
O19A	Miners Draw (B baz=40,SNR=10.0	39.83	344	⇑P	P	06 57 04.9 +0.8
N21A	Black Mountain baz=40,SNR=5.2	39.84	346	⇓P	P	06 57 05.5 +1.2
PHWY	Pilot Hill 6.0nm,0.9s	39.89	348	eP	P	06 57 05.9 +1.0
VES	Vestal, Richgr baz=40,SNR=5.5	39.92	330	⇑P	P	06 57 06.3 +1.6
P16A	Fountain Green baz=40,SNR=7.6	39.98	340	⇓P	P	06 57 07.0 +1.5
O18A	Roosevelt baz=40,SNR=8.0	40.05	343	⇓P	P	06 57 07.3 +1.3
N20A	Spence Gulch, baz=40,SNR=12	40.10	345	⇓P	P	06 57 07.5 +1.0
O17A	Robinson Place baz=40,SNR=9.9	40.21	342	⇑P	P	06 57 08.3 +1.0
M22A	Cedar Creek Ra baz=40,SNR=6.6	40.23	347	⇑P	P	06 57 08.6 +1.0
R11A	Troy Canyon, C baz=40,SNR=8.7	40.35	335	⇓P	P	06 57 09.8 +1.3
N19A	John Jarvie Ra baz=40,SNR=12	40.40	344	⇑P	P	06 57 09.7 +0.8
O16A	Springville baz=41,SNR=8.5	40.47	341	⇑P	P	06 57 10.8 +1.4
DAU	Daniels Canyon	40.57	341	eP	P	06 57 11.7 +1.2
N18A	Larsen Ranch, baz=41,SNR=8.5	40.61	343	⇑P	P	06 57 11.6 +0.9
M20A	Sweetwater, Wa baz=41,SNR=5.2	40.70	345	⇑P	P	06 57 12.1 +0.7
K27A	Flueckinger Fa baz=41	40.72	352	⇑P	P	06 57 12.2 +0.8
L23A	Garrett baz=41	40.73	348	⇓P	P	06 57 12.2 +0.6
O15A	The Old Anders baz=41,SNR=5.1	40.85	340	⇑P	P	06 57 14.5 +1.9
DUG	Dugway 31nm,1.1s	40.90	340	eP	P	06 57 13.2 +0.2
DUG	Dugway baz=41,SNR=29	40.90	340	⇓P	P	06 57 13.5 +0.6
N17A	Moffit Pass baz=41,SNR=12	40.92	342	⇓P	P	06 57 14.6 +1.3
L21A	Rawlins baz=41,SNR=7.3	40.94	346	⇓P	P	06 57 14.1 +0.7
N16A	Rees Ranch, Co baz=41	41.06	342	⇓P	P	06 57 16.1 +1.7
ECSD	EROS Data Cent 9.3nm,0.8s	41.32	359	eP	P	06 57 15.5 -0.7
N15A	Stansbury Isla baz=42,SNR=6.7	41.42	340	⇓P	P	06 57 18.8 +1.6
M16A	Huntsville baz=42	41.51	342	⇑P	P	06 57 18.9 +0.9
L19A	Farson baz=42,SNR=11	41.57	344	⇑P	P	06 57 19.7 +1.1
L18A	Fontenelle, Gr baz=42,SNR=5.2	41.59	344	⇑P	P	06 57 19.2 +0.5
NVAR	Mina Array Bea 4.8nm,0.8s,baz=157,slow=8.3,SNR=34	41.60	333	P	P	06 57 19.6 +0.7
NVAR				LR	LR	07 12 01.7
	comp=Z,1µm,21.2s,baz=248,slow=33					
NVAR	Mina Array Bea	41.60	333	P	P	06 57 19.6 +0.7
HWUT	Hardware Ranch 30nm,1.4s	41.76	342	eP	P	06 57 20.4 +0.4
K20A	Yellowstone Ra baz=42,SNR=19	41.83	346	⇓P	P	06 57 20.2 -0.5
M15A	Larsen Ranch, baz=42,SNR=9.6	41.91	341	⇑P	P	06 57 21.2 0.0
L17A	Cokeville baz=42,SNR=12	42.00	343	⇓P	P	06 57 21.6 -0.5
L16A	Fish Haven baz=42,SNR=5.9	42.09	342	⇓P	P	06 57 22.8 +0.1
K19A	Absolon Red Bu baz=42,SNR=12	42.12	345	⇓P	P	06 57 22.6 -0.3
J22A	Midwest baz=42,SNR=14	42.13	348	⇑P	P	06 57 22.7 -0.4
BW06	Boulder Array 22nm,1.1s	42.25	345	eP	P	06 57 23.7 -0.4
BW06	Boulder Array baz=42,SNR=24	42.25	345	⇓P	P	06 57 23.7 -0.4
PDAR	Pinedale Array 12nm,0.9s,baz=148,slow=8.1,SNR=56	42.25	345	P	P	06 57 23.1 -0.9
PDAR				LR	LR	07 14 34.9
	comp=Z,3µm,18.0s,baz=171,slow=36					
PDAR	Pinedale Array	42.25	345	P	P	06 57 23.1 -0.9
K18A	Toltan Ranch, baz=42,SNR=8.9	42.26	344	⇑P	P	06 57 24.7 +0.5
ELK	Elko	42.26	338	eP	P	06 57 25.6 +1.4
J21A	Lysite baz=42,SNR=17	42.27	347	⇑P	P	06 57 25.1 +0.8
HVU	Hansel Valley 30nm,0.9s	42.30	341	eP	P	06 57 24.9 +0.5
RSSD	Black Hills 6.8nm,0.9s	42.37	351	eP	P	06 57 26.3 +1.2
L15A	Malad City baz=42,SNR=9.8	42.37	341	⇓P	P	06 57 25.3 +0.2
J20A	Shoshoni baz=43,SNR=15	42.43	346	⇑P	P	06 57 26.6 +1.2
CFAA	Coronel Fontan 0.5nm,0.8s,baz=310,slow=7.9,SNR=11	42.49	145	P	P	06 57 27.4 +1.4
CFAA	Coronel Fontan	42.49	145	P	P	06 57 27.4 +1.4
J19A	Crowheart baz=43,SNR=5.7	42.58	345	⇓P	P	06 57 27.2 +0.5
K17A	Gardner Place, baz=43	42.61	343	⇓P	P	06 57 27.5 +0.5
I21A	Big Trails, Te baz=43,SNR=15	42.69	347	⇑P	P	06 57 28.0 +0.5
J18A	Kendall Valley baz=43,SNR=30	42.78	344	⇓P	P	06 57 27.4 -1.1
BMN	Battle Mountai 25nm,1.4s	42.78	335	eP	P	06 57 29.9 +1.5
SPMN	St. Paul baz=43	42.87	3	⇓P	P	06 57 28.2 -0.6
K16A	Soda Springs baz=43,SNR=8.3	42.88	343	⇑P	P	06 57 29.9 +0.7
WCN	Washoe City 9.2nm,1.1s	42.98	332	eP	P	06 57 32.7 +2.6
I20A	Worland baz=43,SNR=23	43.00	347	⇑P	P	06 57 30.0 -0.1
H24A	Dirks Ranch, A baz=43,SNR=12	43.06	351	⇑P	P	06 57 30.4 -0.1
J17A	Brown Place, J baz=43,SNR=24	43.11	344	⇑P	P	06 57 31.7 +0.6
K14A	Jones Ranch, D baz=43	43.12	341	⇓P	P	06 57 31.4 +0.3
REDW	Red Top Meadow 21nm,1.1s	43.15	344	eP	P	06 57 31.8 +0.3
I18A	Diamond G Ranc baz=43,SNR=11	43.19	345	⇑P	P	06 57 32.2 +0.5
SNOW	Snow King Moun 16nm,0.8s	43.22	344	eP	P	06 57 32.1 +0.1
H22A	Clearmont baz=43,SNR=7.8	43.24	349	⇑P	P	06 57 32.7 +0.7
RRI2	Red Ridge 9.1nm,1.0s	43.27	343	eP	P	06 57 33.1 +0.6
J16A	Boar baz=43,SNR=12	43.29	343	⇑P	P	06 57 33.3 +0.7
I19A	Meeteetse baz=43	43.29	346	⇓P	P	06 57 33.8 +1.2
TPAW	Teton Pass 10nm,0.8s	43.30	344	eP	P	06 57 31.9 -0.8
LOHW	Long Hollow 14nm,0.9s	43.31	344	eP	P	06 57 32.3 -0.4
DCID1	Drake Creek 27.9s	43.46	343	eP	P	06 57 34.7 +0.8
BINY	Binghamton 167nm,2.2s	43.46	21	eP	P	06 57 34.8 +1.0
MOOW	Moose Ponds 14nm,1.3s	43.48	344	eP	P	06 57 33.6 -0.5
H20A	Greybull baz=44,SNR=11	43.48	347	⇓P	P	06 57 33.8 -0.1
I17A	Pilgrim Ck. baz=44,SNR=12	43.59	344	⇓P	P	06 57 35.4 +0.4
J15A	Blackfoot baz=44,SNR=11	43.65	342	⇓P	P	06 57 36.1 +0.8
IMW	Indian Meadow 12nm,0.9s	43.67	344	eP	P	06 57 34.9 -0.8
FLWY	Flagg Ranch 8.4nm,0.8s	43.77	344	eP	P	06 57 37.8 +1.3
I16A	Newdale baz=44,SNR=9.0	43.80	343	⇑P	P	06 57 37.1 +0.4
G22A	Birney baz=44	43.83	349	⇑P	P	06 57 36.7 -0.1
H19A	Powell baz=44,SNR=9.3	43.89	346	⇓P	P	06 57 37.3 +0.1
J14A	Carey baz=44,SNR=8.9	43.92	341	⇓P	P	06 57 38.1 +0.5
H18A	Shoshone NF, C baz=44,SNR=5.2	44.06	345	⇓P	P	06 57 39.1 +0.4
LKWY	Lake 20nm,1.1s	44.14	345	eP	P	06 57 41.0 +1.5
YFT	Old Faithful 5.4nm,0.7s	44.15	344	eP	P	06 57 42.0 +2.5
F23A	Volborg baz=44,SNR=7.7	44.15	350	⇓P	P	06 57 39.1 -0.2
J13A	Cove Ranch, Pi baz=44,SNR=7.3	44.21	340	⇓P	P	06 57 40.2 +0.4
G20A	Bridger baz=44,SNR=6.9	44.23	347	⇑P	P	06 57 40.0 +0.1
YNR	Norris Junctio 25nm,1.5s	44.36	345	eP	P	06 57 43.2 +2.1
F22A	Robud baz=44	44.36	349	⇓P	P	06 57 40.5 -0.4
RLMT	Red Lodge 106nm,2.7s	44.38	346	eP	P	06 57 41.5 +0.2
RLMT	Red Lodge baz=44,SNR=5.6	44.38	346	⇓P	P	06 57 41.3 0.0
YMR	Madison River 30nm,1.2s	44.39	344	eP	P	06 57 43.2 +1.9
HLID	Hailey 16nm,1.3s	44.43	340	eP	P	06 57 42.2 +0.5
HLID	Hailey baz=45,SNR=12	44.43	340	⇑P	P	06 57 42.7 +1.0
I14A	Mackay baz=45	44.45	341	⇓P	P	06 57 42.4 +0.6
H16A	Russell Place, baz=45,SNR=22	44.50	344	⇑P	P	06 57 43.6 +1.3
F21A	Absaloka Mine, baz=45	44.57	348	⇑P	P	06 57 42.8 +0.2
G18A	Lazy EL Ranch, baz=45	44.63	346	⇑P	P	06 57 43.8 +0.5
I13A	Wildhorse Cree baz=45,SNR=18	44.65	341	⇑P	P	06 57 43.6 +0.1
QLMT	Earthquake Lak	44.67	344	eP	P	06 57 45.1 +1.5
F20A	Billings baz=45,SNR=5.7	44.77	347	⇓P	P	06 57 44.3 +0.1
MFID	Camas Ranch 12nm,1.1s	44.80	339	eP	P	06 57 45.1 +0.6
MFID	Camas Ranch baz=45	44.80	339	⇓P	P	06 57 45.5 +1.0
H15A	Lima	44.82	343	⇑P	P	06 57 45.6 +0.8
I12A	Atlanta baz=45,SNR=9.1	44.88	340	⇓P	P	06 57 46.7 +1.4
G17A	Pierce Place, baz=45,SNR=20	44.93	345	⇑P	P	06 57 46.5 +0.9
E22A	Miles City baz=45,SNR=21	44.94	350	⇑P	P	06 57 45.3 -0.2
F19A	Roth Farm, Mol baz=45,SNR=11	44.99	347	⇓P	P	06 57 46.2 +0.2
H14A	Leadore baz=45,SNR=7.8	45.04	342	⇑P	P	06 57 48.0 +1.4
MCMT	McKenzie Canyo baz=45,SNR=16	45.07	343	eP	P	06 57 48.2 +1.4
GCMT	Greycliff	45.10	346	eP	P	06 57 46.6 -0.3
F18A	Big Timber baz=45,SNR=28	45.22	346	⇑P	P	06 57 48.4 +0.5
E21A	Keefer Ranch, baz=45	45.25	349	⇓P	P	06 57 48.1 +0.1
H13A	Challis baz=45,SNR=14	45.27	341	⇓P	P	06 57 49.4 +1.1
G15A	Dillon baz=45,SNR=6.9	45.27	343	⇓P	P	06 57 49.6 +1.2
WDC	Whiskeytown Da 7.2nm,1.3s	45.31	331	eP	P	06 57 48.7 +0.2
MOD	Modoc 29nm,1.5s	45.31	334	eP	P	06 57 50.1 +1.4
D24A	Glendive baz=46	45.34	352	⇑P	P	06 57 49.2 +0.5
E20A	Meyer Farm, Mu baz=46,SNR=10	45.43	348	⇑P	P	06 57 49.8 +0.3
F17A	Fitzpatrick Pl baz=46,SNR=8.0	45.46	345	⇑P	P	06 57 50.5 +0.7
H12A	Diamond D Ranc baz=46	45.46	341	⇑P	P	06 57 50.7 +0.8
BOZ	Bozeman (W) baz=46	45.47	344	⇑P	P	06 57 50.3 +0.4
DLMT	Dillon 11nm,0.9s	45.48	343	eP	P	06 57 50.5 +0.5
D23A	Lindsay baz=46	45.53	351	⇓P	P	06 57 50.8 +0.5
E19A	Rath Farm, Rou baz=46,SNR=23	45.53	347	⇓P	P	06 57 50.7 +0.4
F16A	Kennard Place, baz=46,SNR=8.2	45.60	344	⇓P	P	06 57 51.2 +0.3
EYMN	Ely 15nm,1.3s	45.65	4	eP	P	06 57 49.6 -1.5
D22A	Cohagen baz=46,SNR=18	45.67	350	⇑P	P	06 57 51.7 +0.3
G13A	Cobalt baz=46,SNR=7.3	45.74	342	⇑P	P	06 57 53.0 +1.0
D21A	La Casta Ranch baz=46,SNR=5.8	45.74	349	⇑P	P	06 57 52.5 +0.6
C24A	Savage baz=46,SNR=11	45.76	352	⇑P	P	06 57 52.7 +0.7
LRM	Limekiln Ridge	45.86	344	eP	P	06 57 53.0 -0.1
AGMN	Agassiz Nation 17nm,0.9s	45.87	360	eP	P	06 57 52.3 -0.5
E18A	Harlowton baz=46	45.89	346	⇓P	P	06 57 53.6 +0.5
F15A	Butte baz=46,SNR=5.0	45.89	343	⇓P	P	06 57 54.0 +0.7
RKT	Rikitea 161nm,25.2s	45.96	234	eS	S	07 04 35.3 -3.7
RKT				eLR	LR	07 10 58.7
	1µm,29.0s,baz=57					
D20A	Manuel Ranch, baz=46,SNR=12	45.99	348	⇑P	P	06 57 54.2 +0.4
E17A	Martinsdale baz=46,SNR=5.0	46.02	345	⇑P	P	06 57 54.7 +0.4
F14A	Wisdom baz=46	46.12	343	⇑P	P	06 57 55.6 +0.5
C23A	Lambert baz=46,SNR=8.3	46.14	351	⇓P	P	06 57 55.5 +0.5
C22A	Vida baz=46,SNR=15	46.20	350	⇓P	P	06 57 55.9 +0.5
D19A	Cripps Ranch, baz=46,SNR=26	46.22	347	⇓P	P	06 57 56.2 +0.5
YBH	Yreka Blue Hor 1.5nm,0.4s,baz=69,slow=8.6,SNR=3.0	46.28	332	P	P	06 57 55.7 -0.5
YBH	Yreka Blue Hor	46.28	332	P	P	06 57 55.7 -0.5
E16A	East Helena baz=46,SNR=8.4	46.30	345	⇑P	P	06 57 56.9 +0.5
F13A	Darby baz=46,SNR=8.4	46.39	342	⇑P	P	06 57 57.6 +0.4
D18A	Linhart Farms, baz=47,SNR=9.2	46.46	347	⇓P	P	06 57 58.1 +0.5
E15A	Deer Lodge baz=47,SNR=8.4	46.47	344	⇑P	P	06 57 58.1 +0.4
C21A	Desert Coulee baz=47,SNR=12	46.49	349	⇑P	P	06 57 58.3 +0.6
HRY	Holter Researc 4.8nm,0.7s	46.51	345	eP	P	06 57 58.9 +0.9
C20A	Veseth Ranch, baz=47,SNR=17	46.56	348	⇓P	P	06 57 58.6 +0.3
CPUP	Villa Florida 4.2nm,0.9s,baz=290,slow=7.1,SNR=6.4	46.57	130	P	P	06 57 59.4 +0.8
CPUP				LR	LR	07 17 19.9
	comp=Z,340nm,21.4s,baz=302,slow=36					
CPUP	Villa Florida	46.57	130	eP	P	06 57 59.8 +1.1
BMO	Blue Mountains 1.5nm,0.8s	46.57	339	eP	P	06 57 58.7 +0.2
D17A	Six Diamond Ra baz=47,SNR=18	46.63	346	⇓P	P	06 57 59.4 +0.5
DGMT	Dagmar 31nm,1.0s	46.65	352	eP	P	06 57 59.7 +0.7
DGMT	Dagmar baz=47,SNR=7.9	46.65	352	⇑P	P	06 57 59.1 +0.1
F12A	Elk City baz=47,SNR=8.9	46.66	341	⇓P	P	06 57 59.6 +0.4
E14A	Clinton baz=47,SNR=7.7	46.70	343	⇑P	P	06 57 60.0 +0.4
D16A	Dana Ranch, Ca baz=47	46.73	345	⇑P	P	06 58 00.1 +0.4
B23A	Brockton baz=47,SNR=7.9	46.75	351	⇑P	P	06 58 00.6 +0.7
C19A	Slack Wire Ran baz=47,SNR=15	46.80	347	⇓P	P	06 58 00.7 +0.5
E13A	Victor baz=47,SNR=11	46.93	342	⇑P	P	06 58 01.7 +0.4
D15A	Lincoln baz=47,SNR=11	47.00	344	⇓P	P	06 58 02.2 +0.3
A24A	Westby baz=47,SNR=11	47.06	352	⇓P	P	06 58 02.7 +0.5
CHMT	Chamberlain Mo	47.09	343	eP	P	06 58 03.0 +0.3
C17A	Wharram Farm, baz=47,SNR=11	47.09	346	⇓P	P	06 58 03.0 +0.4
MSO	Missoula 8.6nm,1.3s	47.21	343	eP	P	06 58 03.6 +0.1
MSO	Missoula baz=47,SNR=8.8	47.21	343	⇑P	P	06 58 04.2 +0.7
A23A	Redstone baz=47	47.22	352	⇑P	P	06 58 04.1 +0.7
EGMT	Eagleton 14nm,1.3s	47.23	347	eP	P	06 58 03.6 +0.1
EGMT	Eagleton baz=47	47.23	347	⇑P	P	06 58 04.0 +0.5
B20A	Solberg Farm, baz=47	47.25	349	⇓P	P	06 58 04.2 +0.4
D14A	Greenough baz=47,SNR=11	47.31	343	⇓P	P	06 58 04.9 +0.5
E12A	Beaver Dam Sad baz=48,SNR=5.4	47.34	341	⇓P	P	06 58 04.4 -0.2
A22A	Carney Farms, baz=48,SNR=7.9	47.41	351	⇓P	P	06 58 05.6 +0.6
SLMT	Seeley Lake	47.45	343	eP	P	06 58 05.9 +0.4
B19A	Brinkman Farms baz=48	47.46	348	⇓P	P	06 58 05.5 +0.2
C16A	Fuhringer Ranc baz=48	47.49	345	⇓P	P	06 58 06.0 +0.3
B18A	Beardsley Farm baz=48	47.58	347	⇓P	P	06 58 06.6 +0.3
A21A	Bergtoll Ranch baz=48,SNR=7.7	47.58	350	⇑P	P	06 58 06.9 +0.6
D13A	Huson baz=48,SNR=9.4	47.60	343	⇑P	P	06 58 07.0 +0.5
A20A	Cobblestone Ra baz=48,SNR=5.5	47.66	349	⇑P	P	06 58 07.2 +0.3
C15A	Salmond Ranch, baz=48,SNR=5.7	47.70	344	⇑P	P	06 58 08.0 +0.7
B17A	L&G Farms, Che baz=48,SNR=5.9	47.72	346	⇓P	P	06 58 07.8 +0.4
ULM	Lac du Bonnet 8.8nm,0.9s,baz=189,slow=7.8,SNR=18	47.83	360	P	P	06 58 06.5 -1.6
ULM				LR	LR	07 18 45.0
	comp=Z,406nm,18.1s,baz=210,slow=37					
ULM	Lac du Bonnet	47.83	360	P	P	06 58 06.5 -1.6
SWMT	Swartz Lake	47.84	343	eP	P	06 58 08.4 0.0
A19A	Klindworth Far baz=48,SNR=12	47.87	348	⇑P	P	06 58 09.0 +0.5

C14A	Swan Lake	48.00	344	⇓P		P	06 58 10.4	+0.8	
	baz=48								
A18A	Metzger Ranch,	48.09	347	⇑P		P	06 58 10.3	+0.1	
	baz=48,SNR=6.1								
JTMT	Jette	48.14	343	*e*P		P	06 58 10.9	+0.2	
C13A	Hot Springs	48.16	343	⇑P		P	06 58 11.0	+0.1	
	baz=48								
YBMT	Yellow Bay	48.16	343	*e*P		P	06 58 12.2	+1.2	
B15A	Bradely Ranch,	48.18	345	⇓P		P	06 58 11.1	+0.1	
	baz=48								
A17A	Triple J Farms	48.31	347	⇓P		P	06 58 12.2	+0.3	
	baz=48								
BSMT	Bassoo Peak	48.38	343	*e*P		P	06 58 13.7	+1.0	
B14A	Marquette Ranc	48.41	344	⇑P		P	06 58 13.1	+0.3	
	baz=48								
C12B	Naegeli Ranch,	48.46	342	⇓P		P	06 58 13.1	0.0	
	baz=49								
PLCA	Paso Flores	48.47	155	P		P	06 58 14.8	+1.4	
	3.2nm,1.1s,baz=321,slow=13,SNR=2.9								
PLCA				LR		LR	07 14 21.3		
	comp=Z,2μm,18.4s,baz=326,slow=31								
PLCA	Paso Flores	48.47	155	P		P	06 58 14.8	+1.4	
A16A	West Butte Ran	48.52	346	⇑P		P	06 58 14.1	+0.4	
	baz=49								
HAWA	Hanford	48.70	338	*e*P		P	06 58 15.9	+1.0	
	17nm,1.3s								
B13A	Whitefish	48.76	343	⇓P		P	06 58 16.1	+0.7	
	baz=49,SNR=19								
C11A	Tepee Creek (N	48.82	342	⇓P		P	06 58 16.8	+0.9	
	baz=49								
A15A	Johnson Ranch,	48.83	345	⇓P		P	06 58 16.5	+0.5	
	baz=49,SNR=20								
A14A	Double T Ranch	49.01	344	⇑P		P	06 58 18.1	+0.7	
	baz=49,SNR=7.8								
WALA	Waterton Lakes	49.22	344	*e*P		P	06 58 19.7	+0.7	
	0.6nm,1.6s								
A13A	Flathead Natio	49.25	344	⇓P		P	06 58 19.9	+0.7	
	baz=49								
NEW	Newport	49.47	341	P		P	06 58 20.3	-0.6	
	3.3nm,0.8s,baz=137,slow=8.7,SNR=9.4								
NEW	Newport	49.47	341	*e*P		P	06 58 21.4	+0.6	
	7.7nm,1.0s								
NEW	Newport	49.47	341	⇓P		P	06 58 21.3	+0.5	
	baz=50								
A12A	Yaak River Ran	49.61	343	⇓P		P	06 58 23.1	+1.2	
	baz=50,SNR=8.1								
BDFB	Brasilia	50.23	112	P		P	06 58 27.9	+0.7	
	3.1nm,0.8s,baz=258,slow=9.3,SNR=3.8								
BDFB				LR		LR	07 19 11.9		
	comp=Z,1μm,20.0s,baz=62,slow=36								
BDFB	Brasilia	50.23	112	P		P	06 58 27.9	+0.7	
FFC	Flin Flon	52.57	355	*e*P		P	06 58 43.4	-0.6	
	10.0nm,1.2s								
PPT	Papeete	56.77	247	LR		LR	07 17 01.0		
	comp=Z,577nm,20.7s,baz=70,slow=29								
PPT2	Papeete2	56.78	247	*e*S		S	07 07 08.3	-0.5	
	587nm,25.8s								
PPT2				*e*LQ		LQ	07 13 37.2		
	460nm,26.2s								
PPT2				*e*LR		LR	07 16 00.5		
	1μm,25.2s,baz=68								
SCHQ	Schefferville	57.39	19	P		P	06 59 15.8	-3.1	
	2.2nm,0.9s,baz=188,slow=7.1,SNR=2.8								
SCHQ				LR		LR	07 23 30.2		
	comp=Z,348nm,21.4s,baz=261,slow=36								
SCHQ	Schefferville	57.39	19	P		P	06 59 15.8	-3.1	
TBI	Tubuai	58.31	241	*e*S		S	07 07 25.0	-3.6	
	511nm,28.5s								
TBI				*e*LR		LR	07 16 43.1		
	580nm,31.2s,baz=61								
YKA	Yellowknife Ar	61.77	350	P		P	06 59 46.7	-2.2	
	3.3nm,0.9s,baz=154,slow=6.7,SNR=35								
YKA	Yellowknife Ar	61.77	350	P		P	06 59 46.7	-2.2	
INK	Inuvik	70.79	346	P		P	07 00 45.2	-1.4	
	8.2nm,1.0s,baz=141,slow=5.9,SNR=10								
INK	Inuvik	70.79	346	*e*P		P	07 00 47.1	+0.4	
	25nm,1.1s								
RES	Resolute Bay	72.36	0	*e*P		P	07 00 55.7	-0.3	
	7.0nm,1.2s								
ILAR	Eielson Array	72.38	339	P		P	07 00 55.6	-0.8	
	2.7nm,0.9s,baz=147,slow=4.2,SNR=23								
ILAR				LR		LR	07 33 24.0		
	comp=Z,594nm,18.5s,baz=330,slow=36								
ILAR	Eielson Array	72.38	339	P		P	07 00 55.6	-0.8	
AFI	Afiamalu	77.21	255	LR		LR	07 28 51.8		
	comp=Z,515nm,20.3s,baz=92,slow=30								
ESDC	Sonseca Array	89.79	50	LR		LR	07 34 40.5		
	comp=Z,227nm,20.8s,baz=265,slow=30								
DBIC	Dimbokro	90.41	83	LR		LR	07 38 43.7		
	comp=Z,176nm,20.7s,baz=255,slow=33								
NOA	NORSAR Array B	96.09	28	LR		LR	07 42 44.8		
	comp=Z,167nm,19.0s,baz=270,slow=33								
TORD	Torodi Ar. Bea	96.52	77	P		P	07 03 01.9	+0.8	
	0.3nm,0.8s,baz=291,slow=4.5,SNR=2.2								
TORD				LR		LR	07 43 39.4		
	comp=Z,230nm,20.9s,baz=270,slow=34								
TORD	Torodi Ar. Bea	96.52	77	P		P	07 03 01.9	+0.8	
PETK	Petropavlovsk-	98.20	324	LR		LR	07 38 19.8		
	comp=Z,129nm,21.8s,baz=265,slow=30								
DZM	Mont Dzumac	98.28	248	*e*LR		LR	07 35 12.8		
	240nm,28.5s								
DZM	Mont Dzumac	98.28	248	LR		LR	07 39 52.5		
	comp=Z,173nm,18.2s,baz=6,slow=31								
VYHS	Vyhne	104.19	39	PDIF		Pdif	07 03 37.7	+3.1	
VYHS				*e*			07 04 47.4		
CN2	Changchun	121.29	326	*e*PKP		PKPdf	07 08 20.5	-3.6	
BVAR	Borovoye Array	123.67	10	PKP		PKPdf	07 08 27.9	-0.5	
	0.3nm,0.5s,baz=356,slow=4.3,SNR=2.3								
BVAR	Borovoye Array	123.67	10	PKP		PKPdf	07 08 27.9	-0.5	
ZALV	Zalesovo Beam	124.00	360	PKP		PKPdf	07 08 28.6	-0.4	
	0.5nm,0.3s,baz=289,slow=4.4,SNR=2.6								
ZALV	Zalesovo Beam	124.00	360	PKP		PKPdf	07 08 28.6	-0.4	
SONM	Songino Array	126.56	342	PKP		PKPdf	07 08 33.2	-1.0	
	0.3nm,0.6s,baz=270,slow=0.7,SNR=2.7								
SONM	Songino Array	126.56	342	PKP		PKPdf	07 08 33.2	-1.0	
KURK	Kurchatov	127.00	5	PKP		PKPdf	07 08 35.9	+1.1	
KURBB	Kurchatov Arra	127.09	5	PKP		PKPdf	07 08 35.9	+0.9	
	1.1nm,0.6s,baz=344,slow=1.8,SNR=5.2								
ASAR	Alice Springs	127.69	242	PKP		PKPdf	07 08 38.3	+1.3	
	0.7nm,0.8s,baz=105,slow=2.4,SNR=6.8								
ASAR	Alice Springs	127.69	242	PKP		PKPdf	07 08 38.3	+1.3	
WRA	Warramunga Arr	128.25	246	PKP		PKPdf	07 08 39.0	+0.9	
	0.9nm,0.8s,baz=99,slow=2.8,SNR=4.5								
WRA	Warramunga Arr	128.25	246	PKP		PKPdf	07 08 39.0	+0.9	
HHC	Hu-ho-hao-te	130.50	333	*e*PKP		PKPdf	07 08 44.5	+2.6	
HHC				PP		PP	07 11 03.5	+8.2	
HHC				PKS		PKSdf	07 12 18.8	+0.3	
HHC				SKS		SKSdf	07 15 54.3	+0.3	
HHC				AMB		AMB			
	comp=Z,150nm,9.6s								
HHC				LR		LR			
	comp=N,350nm,18.9s								
HHC				LR		LR			
	comp=E,220nm,17.1s								
HHC				LR		LR			
	comp=Z,200nm,16.9s								
MKAR	Makanchi Array	131.13	2	PKP		PKPdf	07 08 41.7	-1.1	
	comp=Z,0.2nm,0.6s,baz=336,slow=3.2,SNR=2.5								
MKAR	Makanchi Array	131.13	2	PKP		PKPdf	07 08 41.7	-1.1	
WMQ	Urumqi	134.04	357	*e*PKP		PKPdf	07 08 47.8	-0.7	
KSH	Kashi	137.71	10	*e*PKP		PKPdf	07 08 56.8	+1.3	
KSH				PKS		PKSdf	07 12 32.1	+0.3	
KSH				SKS		SKSdf	07 16 05.9	-0.9	
KSH				AMB		AMB			
	comp=Z,120nm,5.9s								
KSH				LR		LR			
	comp=N,130nm,8.8s								
KSH				LR		LR			
	comp=E,77nm,7.2s								
KSH				LR		LR			
	comp=Z,280nm,5.7s								
LZH	Lanzhou	137.79	336	*e*PKP		PKPdf	07 08 56.1	+0.3	
LZH				sPKP			07 09 00.6		
LZH				LR		LR			
	comp=N,140nm,18.0s								
LZH				LR		LR			
	comp=E,130nm,18.1s								
LZH				LR		LR			
	comp=Z,180nm,20.2s								
CD2	Chengdu	142.25	332	PKP		PKPdf	07 09 02.6	-1.3	
GYA	Guiyang	144.30	325	⇑*i*PKP		PKPdf	07 09 18.8	+11	
GYA				PP		PP	07 12 25.4	+3.7	
GYA				PKS		PKSdf	07 12 41.3	-2.3	
GYA				SKKS			07 19 13.4		
GYA				SS		SS	07 31 13.8	+6.3	
GYA				AMB		AMB			
	comp=Z,120nm,7.6s								
GYA				LR		LR			
	comp=N,120nm,20.4s								
GYA				LR		LR			
	comp=E,110nm,21.2s								
GYA				LR		LR			
	comp=Z,120nm,20.9s								
DANN	Dangsing	149.57	1	*e*P		PKPbc	07 09 22.1	+0.8	
	comp=Z,46nm,1.0s								
PYUN	Piuthan	149.79	3	*e*P		PKPbc	07 09 21.3	-0.4	
	comp=Z,69nm,1.2s								
GKN	Gorkha	149.92	360	*e*P		PKPbc	07 09 20.7	-1.3	
	comp=Z,38nm,1.1s								
GUN	Gumba	149.98	358	*e*P		PKPbc	07 09 21.6	-0.8	
	comp=Z,82nm,1.1s								
KKN	Kakani	150.12	359	*e*P		PKPbc	07 09 21.3	-1.2	
	comp=Z,31nm,1.0s								
KOLN	Koldanda	150.14	2	*e*P		PKPbc	07 09 20.7	-1.9	
	comp=Z,31nm,1.3s								
PKI	Pulchoki	150.34	358	*e*P		PKPdf	07 09 20.6	+2.6	
TAPN	Taplejung	150.41	354	*e*P		PKPbc	07 09 21.6	-1.7	
	comp=Z,114nm,1.4s								
RAMN	Ramite	150.90	356	*e*P		PKPbc	07 09 22.0	-2.4	
	comp=Z,29nm,1.0s								
ODAN	Odare	150.92	355	*e*P		PKPdf	07 09 20.9	+2.1	
	comp=Z,49nm,1.3s								
CMAR	Chiang Mai Arr	154.97	326	PKPbc		PKPbc	07 09 33.6	+0.3	
	comp=Z,0.7nm,0.3s,baz=328,slow=3.2,SNR=3.7								
CMAR	Chiang Mai Arr	154.97	326	PKPbc		PKPbc	07 09 33.6	+0.3	

NEIC ***14*** *06:53:32.0, 15.52N×93.84W, h19km, MD4.2(MEX), After MEX.*

MEX 14 06:53:32.0±0.7, 15.52N×93.84W, h19km±33km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		1.43	29	*i* P	Pn	06 53 53.9	-3.2
TGIG				*e*S	Sn	06 54 10.2	-5.3
TGIG		1.43	29	*i* P	Pn	06 53 53.9	-3.2
TGIG				*e*S	Sn	06 54 10.2	-5.3
CCIG	Comitan	1.81	65	*i* P	Pn	06 54 00.1	-2.4
CCIG				*i* S	Sn	06 54 20.4	-4.6
CCIG	Comitan	1.81	65	*i* P	Pn	06 54 00.1	-2.4
CCIG				*i* S	Sn	06 54 20.4	-4.6
CMIG	Matias Romero	1.85	328	*i* P	Pn	06 53 59.9	-3.0
CMIG				*e*S	Sn	06 54 22.3	-3.6
CMIG	Matias Romero	1.85	328	*i* P	Pn	06 53 59.9	-3.0
CMIG				*e*S	Sn	06 54 22.3	-3.6
HUIG	Huatulco	2.19	277	*i* P	Pn	06 54 04.5	-3.0
HUIG				*e*S	Sn	06 54 29.9	-4.3
HUIG	Huatulco	2.19	277	*i* P	Pn	06 54 04.5	-3.0
HUIG				*e*S	Sn	06 54 29.9	-4.3
VHO	Vista Hermosa	3.17	299	*i* P	Pn	06 54 18.4	-2.8
VHO				*e*S	Sn	06 54 55.5	-3.4
VHO	Vista Hermosa	3.17	299	*i* P	Pn	06 54 18.4	-2.8
VHO				*e*S	Sn	06 54 55.5	-3.4
PNIG	Pinotepa	4.21	282	*i* P	Pn	06 54 33.6	-1.7
PNIG				*e*S	Sn	06 55 20.4	-3.6
PNIG	Pinotepa	4.21	282	*i* P	Pn	06 54 33.6	-1.7
PNIG				*e*S	Sn	06 55 20.4	-3.6
UTMO	Huajuapan	4.44	302	*i* P	Pn	06 54 36.6	-2.1
UTMO				*e*S	Sn	06 55 27.5	-2.5
UTMO	Huajuapan	4.44	302	*i* P	Pn	06 54 36.6	-2.1
UTMO				*e*S	Sn	06 55 27.5	-2.5

NIED ***14*** *07:01:00, 24.60N×121.80E, h38km, Mw4.2 Best double couple: M0 1.90000×10^15 NP1:φs21.00000°, δ75.00000°, λ48.00000°. NP2:φs275.00000°, δ44.00000°, λ158.00000°.*

IDC ***14*** *07:01:39.5±0.8, 24.38N×121.74E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.8/28, mbtmp3.7/12, ML3.9/3, MS3.7/4, Ms1 3.7/4, ms1mx2.9/45, Error ellipse: s-maj=24.7km s-min=17.6km az=68.0*

NEIC ***14*** *07:01:41.6±0.6, 24.32N×121.95E, h10km, ML4.7(TAP), Error ellipse: s-maj=10.7km s-min=8.2km az=123.0*

NEIC Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien, Nan-t'ou, T'ai-chung and T'ao-yuan; [1 TAP] in Hsin-chu and T'ai-pei.

ISCJB ***14*** *07:01:45.3±0.3, 24.36N±0.01×121.78E±0.02, h27km±2km, mb3.6/9, MS3.6/4, Error ellipse: s-maj=3.7km s-min=2.2km az=15.5*

TAP ***14*** *07:01:45.4, 24.38N×121.70E, h30km, ML4.5, B*

ISC 14 07:01:44.6±0.8, 24.34N±0.02×121.77E±0.03, h33km±3km, n92, σ1s02/146, mb3.7/9, MS3.6/4, 10C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	Heping Village	0.04	215	P	Pb	07 01 50.8	+0.7
	baz=149						
EHP				*e*S	Sb	07 01 55.1	+1.2
	baz=149						
ENA	Nanau	0.09	346	⇓*i*P	Pb	07 01 50.8	+0.4
	baz=40						
ENA				*e*S	Sb	07 01 55.3	+1.1
	baz=40						
NACB	Ninganchiao	0.23	223	*e*Pg	Pn	07 01 51.3	-0.1
NACB				*e*Sg	Sb	07 01 56.2	+0.1
TWC	Suao	0.28	16	⇓*i*P	Pn	07 01 53.9	+1.6
	baz=27						
TWD	Chiawan	0.30	211	⇑*i*P	Pn	07 01 52.9	+0.2
	baz=201						
TWD				S	Sn	07 01 58.4	+0.7
	baz=201						
ENTT	Nioudou	0.35	329	⇑*i*P	Pb	07 01 52.8	-0.2
	baz=340						
NNS	Nan Shan	0.37	286	⇑*i*P	Pb	07 01 53.2	-0.2
	baz=282						
NNS				*e*S	Sb	07 01 58.4	-1.1
	baz=282						
TWE	Neicheng	0.39	347	⇑*i*P	Pn	07 01 53.6	-0.4
	baz=355						
TWE				*i* S	Sb	07 01 59.4	-0.3
	baz=355						
HWA	Hwalien	0.39	202	*e*P	Pn	07 01 54.5	+0.4
	baz=200						
HWA				*e*S	Sn	07 02 01.6	+1.4
	baz=200						
ILA	Ilan	0.42	358	*e*P	Pn	07 01 54.5	0.0
	baz=1.0						
ILA				*e*S	Sn	07 02 01.1	0.0
	baz=1.0						
YHNB	Yeheng	0.48	313	*e*Pg	Pb	07 01 54.5	-0.5
YHNB				*e*Sg	Sb	07 02 01.0	-1.2
WHF	Hehuan Shan	0.50	247	⇑*i*P	Pb	07 01 55.7	+0.2
	baz=242						
WHF				*e*S	Sb	07 02 02.5	-0.4
	baz=242						
NSK	Sanguang	0.50	312	⇑*i*P	Pb	07 01 54.9	-0.4
	baz=307						
NSK				S	Sb	07 02 01.2	-1.4
	baz=307						
ESF	Shoufeng Towns	0.52	207	*e*P	Pn	07 01 57.2	+1.5
	baz=206						
ESF				*e*S	Sn	07 02 03.7	+0.2
	baz=206						
TWT	Tachien	0.54	261	⇑*i*P	Pn	07 01 56.5	+0.3
	baz=250						
TWT				S	Sb	07 02 03.9	0.0
	baz=250						
ESL	Shilin	0.61	210	*e*P	Pn	07 01 56.4	-0.5
	baz=204						
ESL				*e*S	Sb	07 02 05.2	-0.1
	baz=204						
TATO	Taipei	0.68	338	*e*Pg	Pn	07 01 57.8	-0.2
TATO				*e*Sg	Sb	07 02 06.5	-0.8
TWB1	Santiao Chiao	0.69	17	*e*P	Pb	07 01 59.1	+0.7
	baz=25						
TWB1				S	Sn	07 02 08.5	+0.7
	baz=25						
NWF	Wu-fen Shan	0.73	1	⇑P	Pb	07 01 59.4	+0.4
	baz=351						
NWF				S	Sb	07 02 09.4	+0.6
	baz=351						
TAP1	Taipei	0.73	342	*i* P	Pb	07 01 59.1	+0.1
	baz=343						
TAP1				*i* S	Sn	07 02 08.3	-0.3
	baz=343						
TAP	Taipei	0.73	341	P	Pb	07 01 59.4	+0.3
	baz=343						
TAP				S	Sb	07 02 08.7	-0.2
	baz=343						
NSTT	Nanjuang	0.75	293	⇑*i*P	Pb	07 01 59.6	+0.2
	baz=291						
NSTT				*i* S	Sn	07 02 08.9	-0.3
	baz=291						
NCU	National Centr	0.82	320	P	Pb	07 02 00.7	+0.3
	baz=320						
NCU				S	Sb	07 02 11.9	+0.7
	baz=320						
TWS1	Kuangyinshan	0.82	337	*e*P	Pb	07 02 00.3	-0.2
	baz=347						
TWS1				*e*S	Sb	07 02 11.9	+0.6
	baz=347						
HSN	Hsinchu	0.86	303	*e*P	Pb	07 02 01.0	-0.1
	baz=305						
HSN				*e*S	Sb	07 02 12.7	+0.4
	baz=305						
TWQ1	Liyutan	0.91	271	⇓*i*P	Pb	07 02 03.0	+1.1
	baz=269						
TWQ1				*e*S	Sb	07 02 14.4	+0.8
	baz=269						
SMLT	Sun Moon Lake	0.91	240	⇓*i*P	Pb	07 02 02.4	+0.3
	baz=243						
SMLT				*e*S	Sb	07 02 14.2	+0.2
	baz=243						
NSY	Sanyi	0.92	275	⇓*i*P	Pb	07 02 03.2	+1.1
	baz=273						
NSY				*e*S	Sb	07 02 15.1	+1.0
	baz=273						
SSLB	Suanglung	0.92	234	*e*Pn	Pb	07 02 01.9	-0.4
SSLB				*e*Sn	Sn	07 02 13.6	+0.2
EHY	Hungye	0.93	206	⇓P	Pn	07 02 00.6	-0.7
	baz=204						
EHY				*e*S	Sb	07 02 14.9	+0.7
	baz=204						
TYC	Yuchr	0.94	243	⇓*i*P	Pb	07 02 02.6	+0.2
	baz=240						
TYC				*e*S	Sb	07 02 14.8	+0.2
	baz=240						
TWY	Chenhua	0.94	351	*e*P	Pb	07 02 03.0	+0.5
	baz=344						
TWY				*e*S	Sb	07 02 15.6	+0.8
	baz=344						
TCU	Taichung	1.01	259	P	Pb	07 02 04.5	+0.8
	baz=271						
TCU				*e*S	Sb	07 02 18.9	+2.1
	baz=271						
YULB	Yu-li	1.04	204	*e*Pn	Pb	07 02 02.5	-0.4
TWF1	Yuli	1.07	204	⇓*e*P	Pn	07 02 02.7	-0.7
	baz=199						
WNT	Mingjian	1.09	245	*e*P	Pb	07 02 05.9	+0.9
	baz=244						
WNT				*e*S	Sb	07 02 21.0	+2.1
	baz=244						
YOJ	Yonaguni jima	1.14	84	⇓P	Pb	07 02 06.1	+0.2
	baz=72						
YOJ				*e*S	Sb	07 02 22.3	+1.9
	baz=72						
ALS	Alishan	1.21	227	⇓P	Pb	07 02 07.2	+0.1
	baz=214						
ALS				*e*S	Sb	07 02 23.7	+1.1
	baz=214						
CHN5	Tsauling	1.24	234	P	Pb	07 02 07.9	+0.3
	baz=233						
CHN5				*e*S	Sb	07 02 24.9	+1.6
	baz=233						
WGK	Gukeng	1.28	240	*e*P	Pb	07 02 08.7	+0.6
	baz=239						
WGK				*e*S	Sb	07 02 26.0	+1.7
	baz=239						
CHKT	Chengkung	1.29	197	*e*P	Pn	07 02 07.0	+0.7
	baz=207						
CHKT				*e*S	Sb	07 02 25.2	+0.6
	baz=207						
ELDTW	Lidau	1.34	211	*e*P	Pn	07 02 07.2	+0.1
	baz=201						
ELDTW				*e*S	Sb	07 02 25.6	-0.4
	baz=201						
WTCT	Ta-ch'eng	1.44	251	*e*P	Pn	07 02 09.2	+0.8
	baz=263						
WTCT				*e*S	Sb	07 02 29.1	+0.3
	baz=263						
CHN4	Tsaushan	1.46	228	*e*P	Pb	07 02 11.5	+0.3
	baz=217						
CHN4				*e*S	Sb	07 02 30.3	+1.0
	baz=217						
TPUB	Ta-pu	1.47	225	*e*Pn	Pb	07 02 10.9	-0.4
TPUB				*e*Sn	Sb	07 02 31.3	+1.6
CHY	Chiayi	1.49	236	⇓P	Pb	07 02 11.8	+0.1
	baz=235						
CHY				*e*S	Sb	07 02 30.6	+0.4
	baz=235						
WSF	Szhu	1.57	244	*e*P	Pb	07 02 12.6	-0.6
	baz=243						
WSF				*e*S	Sb	07 02 33.1	+0.4
	baz=243						
TWK	Hsinying	1.58	228	⇓*e*P	Pb	07 02 13.0	-0.3
	baz=214						
TWK				*e*S	Sb	07 02 33.5	+0.4
	baz=214						
CHN1	Nanshi	1.61	225	*e*P	Pb	07 02 13.3	-0.5
	baz=214						
CHN1				*e*S	Sb	07 02 34.6	+0.7
	baz=214						
TWG	Pinlang	1.64	203	*e*P	Pn	07 02 12.1	+0.9
	baz=195						
TWG				*e*S	Sb	07 02 33.6	-1.0
	baz=195						
TWG	Pinlang	1.64	203	*e*Pn	Pn	07 02 10.4	-0.8
SGST	Jiashian	1.66	221	⇓*i*P	Pb	07 02 14.2	-0.4
	baz=209						
SGST				*e*S	Sb	07 02 35.6	+0.5
	baz=209						
TTN	Taitung	1.68	200	*e*P	Pb	07 02 13.5	-1.4
	baz=197						
CHN3	Shinhua	1.80	226	*e*P	Pb	07 02 16.5	-0.4
	baz=225						
CHN3				*e*S	Sb	07 02 39.8	+0.7
	baz=225						
SCLT	Jiali	1.85	231	*e*P	Pb	07 02 16.8	-1.0
	baz=216						
SCLT				*e*S	Sb	07 02 40.3	-0.3
	baz=216						
ECL	Taimali	1.89	203	*e*P	Pb	07 02 17.6	-0.9
	baz=192						
TAI1	Yung-k'ang	1.91	228	*e*P	Pb	07 02 18.0	-0.8
	baz=227						
TAI1				*e*S	Sb	07 02 41.9	-0.5
	baz=227						
SGLT	Jiouru	1.99	216	*e*P	Pb	07 02 20.3	+0.1
	baz=214						
EAST	Anshuo	2.12	204	*e*P	Pn	07 02 20.1	+2.3
	baz=194						
PNG	Penghu	2.16	250	*e*P	Pn	07 02 19.1	+0.7
	baz=249						
PNG				*e*S	Sn	07 02 46.5	+2.4
	baz=249						
WDGT	Dungji	2.21	241	*e*P	Pn	07 02 20.3	+1.4
	baz=240						
WDGT				*e*S	Sb	07 02 47.9	-2.9
	baz=240						
SCZT	Fangliau	2.22	208	*e*P	Pb	07 02 22.0	-2.2
	baz=208						
SCZT				*e*S	Sb	07 02 49.3	-2.0
	baz=208						
LAY	Lan-yu	2.30	185	*e*P	Pn	07 02 20.9	+0.6
	baz=178						
LAY				*e*S	Sn	07 02 49.3	+1.8
	baz=178						
TWK1	Hengchun	2.54	200

CMAR	**Chiang Mai Arr**	**22.03**	**259**	P		**P**	**07 06 37.2**	**+0.8**
	comp=E,0.5nm,0.3s,baz=2.9,slow=5.4,SNR=3.0							
CMAR				LR		LR	07 15 52.9	
	comp=E,40nm,18.4s,baz=35,slow=39							
CMAR	**Chiang Mai Arr**	**22.03**	**259**	P		**P**	**07 06 37.2**	**+0.8**
GUMO	**Guam**	**24.29**	**112**	LR		LR	07 15 15.7	
	comp=E,41nm,21.1s,baz=276,slow=34							
SONM	**Songino Array**	**26.43**	**336**	P		**P**	**07 07 18.8**	**+0.3**
	comp=E,0.9nm,0.9s,baz=146,slow=8.9,SNR=4.8							
SONM	**Songino Array**	**26.43**	**336**	P		**P**	**07 07 18.8**	**+0.3**
MKAR	**Makanchi Array**	**38.60**	**316**	P		**P**	**07 09 03.4**	**-1.2**
	comp=E,0.4nm,0.6s,baz=98,slow=10.0,SNR=5.3							
MKAR	**Makanchi Array**	**38.60**	**316**	P		**P**	**07 09 03.4**	**-1.2**
ZALV	**Zalesovo Beam**	**40.40**	**327**	P		**P**	**07 09 16.8**	**-2.7**
	comp=E,0.7nm,0.4s,baz=101,slow=8.7,SNR=2.4							
ZALV	**Zalesovo Beam**	**40.40**	**327**	P		**P**	**07 09 16.8**	**-2.7**
WRA	**Warramunga Arr**	**45.69**	**163**	P		**P**	**07 10 01.9**	**-0.7**
	comp=E,0.7nm,0.4s,baz=346,slow=8.7,SNR=14							
WRA	**Warramunga Arr**	**45.69**	**163**	P		**P**	**07 10 01.9**	**-0.7**
BVAR	**Borovoye Array**	**47.89**	**320**	P		**P**	**07 10 20.1**	**+0.6**
	comp=E,0.6nm,0.6s,baz=99,slow=4.5,SNR=4.2							
BVAR	**Borovoye Array**	**47.89**	**320**	P		**P**	**07 10 20.1**	**+0.6**
ASAR	**Alice Springs**	**49.15**	**165**	P		**P**	**07 10 30.0**	**+0.5**
	comp=E,0.4nm,0.5s,baz=341,slow=7.3,SNR=9.8							
ASAR	**Alice Springs**	**49.15**	**165**	P		**P**	**07 10 30.0**	**+0.5**
FINES	**FINESS Array B**	**71.58**	**330**	P		**P**	**07 13 01.6**	**-0.7**
	comp=E,1.2nm,0.7s,baz=45,slow=3.8,SNR=4.6							
FINES				LR		LR	07 45 26.8	
	comp=E,241nm,19.0s,baz=320,slow=37							
FINES	**FINESS Array B**	**71.58**	**330**	P		**P**	**07 13 01.6**	**-0.7**
AKASG	**Malin Array Be**	**73.11**	**318**	LR		LR	07 49 35.2	
	comp=E,144nm,20.5s,baz=290,slow=39							
YKA	**Yellowknife Ar**	**82.62**	**23**	P		**P**	**07 14 04.1**	**-0.2**
	comp=E,0.4nm,0.6s,baz=311,slow=5.0,SNR=11							
YKA	**Yellowknife Ar**	**82.62**	**23**	P		**P**	**07 14 04.1**	**-0.2**

*IDC **14** 07:25:08.8±1.0,8.°05S×159.°06E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.9/18,mbtmp3.8/7,MS4.2/1,Ms1 4.2/1, ms1mx2.7/33,Error ellipse: s-maj=25.9km s-min=20.3km az=81.0*

*NEIC **14** 07:25:13.8±0.6,8.°12S×159.°11E,h35km,mb4.2/2,Error ellipse: s-maj=15.3km s-min=12.5km az=105.0*

*ISCJB **14** 07:25:14.7±0.7,8.°14S±0.°09×158.°99E±0.°10,h55km, mb3.8/9,MS4.2/1,Error ellipse: s-maj=15.8km s-min=10.1km az=143.3*

ISC 14 07:25:16.0±0.8,8.°1S±0.°1×159.°1E±0.°1,h55km,n19, σ1s27/20,mb3.6/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.53**	**148**	Pn	**Pn**	**07 25 38.8**	**-2.2**
	26nm,0.3s,baz=311,slow=11,SNR=5.7						
HNR				Sn	**Sn**	**07 26 01.9**	**+2.0**
	64nm,0.3s,baz=161,slow=14,SNR=7.4						
HNR	**Honiara**	**1.53**	**148**	*e*Pn	**Pn**	**07 25 38.8**	**-2.2**
HNR				Sn	**Sn**	**07 26 01.9**	**+2.0**
WRAB	**Tennant Creek**	**26.69**	**241**	*e*P	**P**	**07 30 49.7**	**-0.6**
	4.9nm,1.1s						
WRA	**Warramunga Arr**	**26.71**	**241**	P	**P**	**07 30 49.5**	**-0.9**
	2.3nm,0.9s,baz=66,slow=9.1,SNR=19						
WRA	**Warramunga Arr**	**26.71**	**241**	P	**P**	**07 30 49.5**	**-0.9**
ASAR	**Alice Springs**	**28.67**	**234**	P	**P**	**07 31 07.0**	**-1.0**
	0.8nm,0.7s,baz=62,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**28.67**	**234**	P	**P**	**07 31 07.0**	**-1.0**
STKA	**Stephens Creek**	**28.70**	**212**	P	**P**	**07 31 09.2**	**+1.1**
	5.4nm,1.0s,baz=156,slow=3.1,SNR=2.9						
STKA	**Stephens Creek**	**28.70**	**212**	P	**P**	**07 31 09.2**	**+1.1**
CBIJ	**Chichi jima**	**38.68**	**335**	LR	LR	07 44 45.5	
	comp=Z,348nm,20.5s,baz=107,slow=30						
SONM	**Songino Array**	**72.53**	**326**	P	**P**	**07 36 38.3**	**+0.9**
	0.3nm,0.4s,baz=151,slow=3.4,SNR=5.0						
SONM	**Songino Array**	**72.53**	**326**	P	**P**	**07 36 38.3**	**+0.9**
ILAR	**Eielson Array**	**82.97**	**20**	P	**P**	**07 37 34.3**	**-0.6**
	0.2nm,0.7s,baz=258,slow=4.5,SNR=4.6						
ILAR	**Eielson Array**	**82.97**	**20**	P	**P**	**07 37 34.3**	**-0.6**
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**07 37 55.6**	**+0.2**
	0.2nm,0.5s,baz=103,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**07 37 55.6**	**+0.2**
INK	**Inuvik**	**89.36**	**20**	*e*P	**P**	**07 38 06.0**	**-0.2**
	0.9nm,0.5s						
YKA	**Yellowknife Ar**	**95.43**	**28**	P	**P**	**07 38 34.7**	**+0.3**
	0.1nm,0.5s,baz=262,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**95.43**	**28**	P	**P**	**07 38 34.7**	**+0.3**

*ISCJB **14** 07:53:25.0±0.6,63.°12S±0.°07×170.°8E±0.°3,h10km, mb4.3/12,MS4.2/16,Error ellipse: s-maj=22.9km s-min=9.5km az=170.6*

*IDC **14** 07:53:25.0±0.7,62.°76S×171.°98E,h0km,mb4.1/8, mb1 4.3/8,mb1mx4.2/14,mbtmp4.1/8,MS4.2/17, Ms1 4.2/17,ms1mx4.0/27,Error ellipse: s-maj=32.8km s-min=19.7km az=58.0*

*NEIC **14** 07:53:27.5±0.5,63.°19S×171.°59E,h10km,mb4.8/9,Error ellipse: s-maj=22.1km s-min=9.6km az=89.0*

*GCMT **14** 07:53:28.6±0.3,63.°13S×170.°94E,h12km,MW5.0, Moment Tensor Solution. s23,c25; s70,c91; Moment tensor: Scale 10¹⁶Nm; Mrr=0.44±.17; Mθθ3.81±.13; Mϕϕ-3.37±.15; Mrθ-2.95±.43; Mθϕ-0.25±.16; Mϕr0.82±.46; Best double couple: M₀4.50000×10¹⁶ NP1:ϕ₁222.00000°, δ56.00000°,λ174.00000°. NP2:ϕ₂316.00000°,δ85.00000°, λ34.00000°. Principal axes: T 5.3600, Plg27.0000°, Azm184.0000°; N -1.7300, Plg55.0000°, Azm323.0000°; P -3.6300, Plg19.0000°, Azm84.0000°; Data Used: II IU CN IC G.*

ISC 14 07:53:27.1±0.5,63.°13S±0.°08×171.°7E±0.°2,h10km,n65, σ1s79/48,mb4.5/12,MS4.2/16,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.79**	**188**	Pn	**Pn**	**07 56 54.8**	**-1.2**
	1.0nm,0.3s,baz=15,slow=15,SNR=40						
VNDA				LR	LR	08 01 17.7	
	comp=Z,2µm,20.6s,baz=22,slow=31						
VNDA	**Vanda**	**14.79**	**188**	*e*P	**Pn**	**07 56 54.6**	**-1.4**
	196nm,1.6s						
SBA	**Scott Base**	**14.88**	**184**	*e*P	**Pn**	**07 56 55.2**	**-1.9**
	64nm,1.4s						
ODZ	**Otahua Downs**	**18.13**	**358**	*e*P	**P**	**07 57 40.7**	**+1.6**
	118nm,0.8s						
RPZ	**Rata Peaks**	**19.45**	**359**	*e*P	**Pn**	**07 57 57.8**	**+2.9**
	50nm,0.9s						
KHZ	**Kahutara**	**20.78**	**4**	*e*P	Pn	07 58 09.1	-1.2
	52nm,1.2s						
URZ	**Urewera**	**25.11**	**10**	P	**P**	**07 58 47.7**	**-4.1**
	4.8nm,1.0s,baz=350,slow=23,SNR=2.6						
URZ				LR	LR	08 07 01.4	
	comp=Z,837nm,21.2s,baz=339,slow=33						
URZ	**Urewera**	**25.11**	**10**	*e*P	**P**	**07 58 53.5**	**+1.7**
	13nm,0.7s						
CASY	**Casey**	**25.41**	**236**	*e*P	**P**	**07 58 55.9**	**+1.6**
	19nm,0.9s						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**07 59 09.9**	**+1.3**
	7.9nm,1.2s,baz=37,slow=6.5,SNR=6.0						
QSPA				LR	LR	08 08 23.6	
	comp=Z,663nm,19.1s,baz=212,slow=33						
QSPA	**South Pole Qui**	**26.96**	**180**	*e*P	**P**	**07 59 09.2**	**+0.7**
	48nm,2.0s						
STKA	**Stephens Creek**	**36.63**	**314**	LR	LR	08 13 58.7	
	comp=Z,276nm,19.0s,baz=154,slow=34						
MAW	**Mawson**	**39.96**	**214**	LR	LR	08 17 13.3	
	comp=Z,792nm,19.4s,baz=134,slow=35						
EIDS	**Eidsvold**	**40.16**	**330**	*e*P	**P**	**08 01 01.3**	**-1.9**
	14nm,1.0s						
DZM	**Mont Dzumac**	**41.19**	**353**	*e*S	S	08 07 10.1	-15
	113nm,22.7s						
DZM				*e*LR	LR	08 12 14.0	
	693nm,22.6s						
SNAA	**Sanae**	**45.42**	**182**	*e*P	**P**	**08 01 44.6**	**-0.8**
	4.7nm,1.0s						
RAR	**Rarotonga**	**46.13**	**38**	LR	LR	08 15 19.7	
	comp=Z,425nm,21.5s,baz=270,slow=29						
CTA	**Charters Tower**	**46.39**	**326**	LR	LR	08 18 47.7	
	comp=Z,263nm,18.8s,baz=174,slow=33						
ASAR	**Alice Springs**	**46.79**	**310**	P	**P**	**08 01 54.2**	**-2.5**
	3.3nm,0.9s,baz=158,slow=7.3,SNR=17						
ASAR				PcP	**PcP**	**08 03 28.8**	**-0.9**
	2.0nm,1.1s,baz=152,slow=4.2,SNR=2.8						
ASAR	**Alice Springs**	**46.79**	**310**	P	**P**	**08 01 54.2**	**-2.5**
ASAR				PcP	**PcP**	**08 03 28.8**	**-0.9**
TBI	**Tubuai**	**47.43**	**51**	*e*LR	LR	08 15 13.5	
	295nm,27.5s						
TBI				*e*T	T	08 52 59.5	
	14nm,0.3s						
WRA	**Warramunga Arr**	**50.09**	**312**	P	P	08 02 18.2	-3.8
	2.7nm,1.0s,baz=165,slow=6.2,SNR=7.8						
WRA				PcP	**PcP**	**08 03 39.5**	**-2.1**
	1.4nm,1.1s,baz=159,slow=3.5,SNR=3.2						
WRA				LR	LR	08 22 41.1	
	comp=Z,123nm,19.8s,baz=175,slow=35						
WRA	**Warramunga Arr**	**50.09**	**312**	P	P	08 02 18.2	-3.8
WRA				PcP	**PcP**	**08 03 39.5**	**-2.1**
WRAB	**Tennant Creek**	**50.09**	**312**	*e*P	P	08 02 17.7	-4.3
	11nm,1.4s						
PAE	**Paea**	**52.64**	**49**	*e*T	T	08 59 30.1	
	4.5nm,0.2s						
TVO	**Taravao**	**52.64**	**49**	*e*T	T	08 59 30.4	
	21nm,0.2s						
PPT2	**Papeete2**	**52.71**	**49**	*e*LR	LR	08 17 40.6	
	335nm,25.8s,baz=205						
PPT2				*e*T	T	08 59 35.8	
	17nm,0.3s						
PPT	**Papeete**	**52.73**	**49**	LR	LR	08 18 29.0	
	comp=Z,199nm,21.4s,baz=180,slow=29						
MEH	**Mehetia**	**52.97**	**50**	*e*T	T	08 59 54.4	
	213nm,0.3s						
RKT	**Rikitea**	**53.29**	**67**	*e*T	T	09 00 14.5	
	11nm,0.2s						
HNR	**Honiara**	**54.27**	**346**	LR	LR	08 21 18.9	
	comp=Z,236nm,20.1s,baz=252,slow=31						
FITZ	**Fitzroy Crossi**	**54.91**	**303**	LR	LR	08 26 22.2	
	comp=Z,161nm,18.6s,baz=58,slow=36						
KAPI	**Kappang**	**69.14**	**303**	LR	LR	08 33 07.3	
	comp=Z,101nm,18.6s,baz=338,slow=34						
CFAA	**Coronel Fontan**	**74.30**	**130**	P	**P**	**08 05 03.6**	**-0.8**
	0.2nm,0.6s,baz=189,slow=7.5,SNR=6.2						
CFAA	**Coronel Fontan**	**74.30**	**130**	P	**P**	**08 05 03.6**	**-0.8**
CPUP	**Villa Florida**	**82.77**	**137**	P	**P**	**08 05 51.6**	**+0.6**
	0.4nm,0.4s,baz=220,slow=8.9,SNR=3.4						
CPUP				LR	LR	08 39 38.1	
	comp=Z,184nm,18.7s,baz=182,slow=33						
CPUP	**Villa Florida**	**82.77**	**137**	P	**P**	**08 05 51.6**	**+0.6**
BOSA	**Boshof**	**84.76**	**209**	P	**P**	**08 06 01.4**	**0.0**
	3.9nm,1.0s,baz=193,slow=4.7,SNR=5.0						
BOSA				LR	LR	08 43 35.1	
	comp=Z,151nm,18.0s,baz=166,slow=35						
BOSA	**Boshof**	**84.76**	**209**	P	**P**	**08 06 01.4**	**0.0**
LPAZ	**La Paz**	**88.33**	**124**	P	**P**	**08 06 20.2**	**+0.6**
	7.3nm,1.1s,baz=196,slow=8.3,SNR=4.9						
LPAZ				LR	LR	08 36 53.6	
	comp=Z,64nm,20.4s,baz=28,slow=30						
LPAZ	**La Paz**	**88.33**	**124**	P	**P**	**08 06 20.2**	**+0.6**
SIV	**San Ignacio**	**91.16**	**130**	LR	LR	08 40 57.1	
	comp=Z,76nm,20.8s,baz=31						
CMAR	**Chiang Mai Arr**	**98.78**	**293**	LR	LR	08 46 29.5	
	comp=Z,92nm,21.2s,baz=220,slow=32						
TORD	**Torodi Ar. Bea**	**129.59**	**193**	PKP	**PKPdf**	**08 12 37.9**	**+1.8**
	0.8nm,1.1s,baz=325,slow=1.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**129.59**	**193**	PKP	**PKPdf**	**08 12 37.9**	**+1.8**
MKAR	**Makanchi Array**	**130.11**	**296**	PKP	**PKPdf**	**08 12 37.8**	**+1.7**
	0.5nm,0.9s,baz=121,slow=4.7,SNR=6.0						
MKAR	**Makanchi Array**	**130.11**	**296**	PKP	**PKPdf**	**08 12 37.8**	**+1.7**
ILAR	**Eielson Array**	**131.20**	**22**	PKP	**PKPdf**	**08 12 38.2**	**+0.7**
	1.5nm,1.1s,baz=235,slow=3.2,SNR=7.5						
ILAR	**Eielson Array**	**131.20**	**22**	PKP	**PKPdf**	**08 12 38.2**	**+0.7**
YKA	**Yellowknife Ar**	**136.85**	**41**	PKP	**PKPdf**	**08 12 45.5**	**-2.6**
	0.4nm,0.9s,baz=213,slow=3.3,SNR=4.5						
YKA	**Yellowknife Ar**	**136.85**	**41**	PKP	**PKPdf**	**08 12 45.5**	**-2.6**
AKTO	**Aktyubinsk**	**143.29**	**282**	PKP	**PKPdf**	**08 12 59.1**	**-1.1**
	2.0nm,1.0s,baz=192,slow=9.3,SNR=3.1						
AKTO	**Aktyubinsk**	**143.29**	**282**	PKP	**PKPdf**	**08 12 59.1**	**-1.1**
KBZ	**Khabaz**	**145.10**	**261**	PKPbc	**PKPdf**	**08 13 03.7**	**+0.1**
	17nm,0.9s,baz=133,slow=2.4,SNR=20						
KBZ	**Khabaz**	**145.10**	**261**	PKPbc	**PKPdf**	**08 13 03.7**	**+0.1**
KIV	**Kislovodsk**	**145.37**	**261**	*e*PKPdf	**PKPab**	**08 13 04.4**	**0.0**
BRTR	**Keskin Array B**	**145.88**	**247**	PKPbc	**PKPbc**	**08 13 06.0**	**+0.1**
	5.3nm,0.9s,baz=136,slow=4.3,SNR=15						
BRTR	**Keskin Array B**	**145.88**	**247**	PKPbc	**PKPbc**	**08 13 06.0**	**+0.1**
ARU	**Arti**	**147.14**	**290**	*e*PKPbc	**PKPbc**	**08 13 08.9**	**0.0**
AKASG	**Malin Array Be**	**156.46**	**256**	PKPab	**PKPab**	**08 13 51.9**	**+2.3**
	4.4nm,0.8s,baz=132,slow=3.3,SNR=9.3						
AKASG	**Malin Array Be**	**156.46**	**256**	PKPab	**PKPab**	**08 13 51.9**	**+2.3**
KOLS	**Kolonicke sedl**	**158.09**	**244**	*e*PKP	**PKPab**	**08 13 59.7**	**+3.0**
VYHS	**Vyhne**	**159.10**	**238**	*e*PKP	**PKPab**	**08 14 04.1**	**+3.0**
GERES	**GERESS Array B**	**161.29**	**230**	PKPab	**PKPab**	**08 14 13.4**	**+2.6**
	0.1nm,0.4s,baz=174,slow=4.8,SNR=3.9						
GERES	**GERESS Array B**	**161.29**	**230**	PKPab	**PKPab**	**08 14 13.4**	**+2.6**

IDC 14 08:17:13.7±2.3,5.°61S×130.°41E,h0km,mb3.5/1, mb1 3.5/4,mb1mx3.4/18,mbtmp3.3/4,ML3.1/2,Error ellipse: s-maj=95.2km s-min=28.6km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.26**	**200**	Pn	Pn	08 20 25.2	+1.8
	0.1nm,0.3s,baz=27,slow=12,SNR=4.4						
FITZ				Sn	Sn	08 22 38.7	-13
	0.3nm,0.3s,baz=153,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**14.75**	**165**	Pn	Pn	08 20 42.4	-1.4
	0.2nm,0.3s,baz=347,slow=14,SNR=11						
WRA				Sn	Sn	08 23 13.4	-15
	0.2nm,0.3s,baz=328,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**18.26**	**170**	P	Pn	08 21 28.4	-0.4
	0.1nm,0.3s,baz=350,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**67.30**	**326**	P	P	08 28 10.4	0.0
	0.2nm,0.4s,baz=118,slow=7.4,SNR=6.6						

*MOS **14** 08:38:42.6±1.0,51.°31N×153.°79E,h493km,mb3.8/2,Error ellipse: s-maj=29.6km s-min=17.6km az=57.0*

*KRSC **14** 08:38:44.5±2.7,51.°78N×154.°12E,h504km±54km,ML4.4*

*ISCJB **14** 08:38:45.9±0.5,52.°2N±0.°1×152.°77E±0.°09,h426km, mb3.2/10,Error ellipse: s-maj=15.3km s-min=7.0km az=171.7*

*IDC **14** 08:38:47.5±1.6,52.°25N×152.°94E,h436km±18km, mb2.9/10,mb1 3.1/12,mb1mx2.9/28,mbtmp2.9/12,Error ellipse: s-maj=17.7km s-min=15.1km az=148.0*

ISC 14 08:38:46.3±0.8,52.°1N±0.°1×153.°04E±0.°08,h426km,n44, σ1s78/44,mb3.2/10,1D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**2.65**	**70**	P	P	08 39 52.1	+3.4
ASAK	**Asacha**	**3.00**	**83**	*e*P	**P**	**08 39 53.9**	**+2.5**
PETK	**Petropavlovsk-**	**3.01**	**69**	P	**P**	**08 39 53.6**	**+2.2**
	1.9nm,0.3s,baz=170,slow=2.6,SNR=23						
PETK	**Petropavlovsk-**	**3.01**	**69**	PN	**P**	**08 39 53.6**	**+2.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GRL	**Gorelyy**	**3.12**	**80**	P	P	08 39 56.1	+3.7
MTVR	**Mutnovka**	**3.18**	**81**	*e*P	**P**	**08 39 55.3**	**+2.4**
MTVR				*e*S	**S**	**08 40 47.0**	**-0.2**
GNL	**Ganaly**	**3.37**	**60**	*e*P	**P**	**08 39 56.1**	**+1.7**
RUS	**Russkaya**	**3.38**	**82**	PN	**P**	**08 39 55.9**	**+1.6**
RUS				S	**S**	**08 40 48.1**	**-1.7**
RUS	**Russkaya**	**3.38**	**82**	*e*P	**P**	**08 39 55.9**	**+1.6**
RUS				*e*S	**S**	**08 40 48.1**	**-1.7**
PET	**Petropavlovsk**	**3.55**	**73**	*e*PN	**P**	**08 39 57.7**	**+2.0**
PET				*e*S	**S**	**08 40 52.3**	**-0.1**
PET				pmax	pmax		
	comp=Z,19nm,0.4s						
PET				smax	smax		
	comp=N,41nm,1.0s						
PET				smax	smax		
	comp=E,49nm,0.7s						
PET	**Petropavlovsk**	**3.55**	**73**	*e*P	**P**	**08 39 57.4**	**+1.7**
PET				S	**S**	**08 40 50.4**	**-2.0**
KOK	**Koryaka**	**3.60**	**69**	P	**P**	**08 39 59.3**	**+2.9**
AVH	**Avacha**	**3.66**	**69**	*e*P	**P**	**08 39 59.6**	**+2.8**
KRER	**Koryakskii**	**3.67**	**69**	P	**P**	**08 39 59.7**	**+2.6**
UGLR	**Uglovaya**	**3.69**	**70**	*e*P	**P**	**08 39 59.7**	**+2.6**
SMAR	**Somma**	**3.69**	**70**	P	**P**	**08 39 59.7**	**+2.4**
SDLR	**Sedlovina**	**3.74**	**69**	*e*P	**P**	**08 39 59.7**	**+2.1**
SPN	**Mys Shipunski**	**4.37**	**74**	PN	**P**	**08 40 03.3**	**+0.1**
SPN	**Mys Shipunski**	**4.37**	**74**	P	**P**	**08 40 03.3**	**+0.1**
SPN				S	S	08 41 00.6	-5.4
TUMR	**Tumrok**	**5.28**	**50**	P	**P**	**08 40 14.6**	**+2.4**
KMNR	**Kamenistaya**	**5.60**	**46**	P	**P**	**08 40 18.6**	**+3.2**
SRDR	**Sredinnyy**	**5.75**	**40**	P	**P**	**08 40 19.8**	**+2.9**
MKZ	**Mys Kozlova**	**5.75**	**61**	PN	**P**	**08 40 16.9**	**0.0**
MKZ	**Mys Kozlova**	**5.75**	**61**	*e*P	**P**	**08 40 16.9**	**0.0**
MKZ				*e*S	S	08 41 24.1	-7.0
BZMR	**Bezymyannaya**	**5.83**	**46**	P	**P**	**08 40 20.9**	**+3.1**
KBTR	**Krutoberegovo**	**7.06**	**51**	PN	**P**	**08 40 30.4**	**-0.7**
KBTR				*e*S	S	08 41 47.6	-9.0
BKI	**Bering**	**8.28**	**63**	S	S	08 42 08.2	-13
YUK	**Yuzh-Kuril'sk**	**9.40**	**214**	PN	P	08 40 50.5	-6.3
YUK				S	S	08 42 33.0	-11
YUK				pmax	pmax		
	comp=N,56nm,0.2s						
YUK				pmax	pmax		
	comp=E,26nm,0.2s						
YUK				pmax	pmax		
	comp=Z,55nm,0.2s						
HABR	**Khabarovsk**	**12.06**	**260**	*e*PN	**P**	**08 41 24.9**	**-1.1**
HABR				pmax	pmax		
	comp=E,49nm,1.6s						
HABR				pmax	pmax		
	comp=N,70nm,3.3s						
HABR				pmax	pmax		
	comp=Z,37nm,1.1s						
FX1	**Attu Island--F**	**12.29**	**78**	P	**P**	**08 41 29.3**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=315,slow=1.4,SNR=3.0						
ILAR	**Eielson Array**	**32.53**	**44**	P	**P**	**08 44 39.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=268,slow=4.9,SNR=5.3						
KURK	**Kurchatov**	**44.52**	**299**	‖ *i*P	**P**	**08 46 18.2**	**+0.4**
KURBB	**Kurchatov Arra**	**44.62**	**299**	P	**P**	**08 46 18.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=72,slow=3.0,SNR=5.0						
MKAR	**Makanchi Array**	**44.63**	**293**	P	**P**	**08 46 19.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=61,slow=7.5,SNR=6.4						
MKAR	**Makanchi Array**	**44.63**	**293**	P	**P**	**08 46 19.1**	**+0.4**
YKA	**Yellowknife Ar**	**46.73**	**40**	P	**P**	**08 46 34.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=302,slow=7.2,SNR=9.0						
ARCES	**ARCESS Array B**	**52.79**	**340**	P	**P**	**08 47 17.8**	**-1.6**
	comp=Z,3.1nm,0.9s,baz=2.9,slow=2.4,SNR=8.3						
FINES	**FINESS Array B**	**59.19**	**333**	P	**P**	**08 48 02.7**	**-1.5**
	comp=Z,3.6nm,1.1s,baz=357,slow=7.6,SNR=3.6						
PDAR	**Pinedale Array**	**61.70**	**56**	P	**P**	**08 48 22.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=284,slow=1.7,SNR=5.8						
AKASG	**Malin Array Be**	**67.09**	**325**	*i* P	P	08 49 01.2	+5.8
WRA	**Warramunga Arr**	**73.58**	**198**	P	**P**	**08 49 34.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=19,slow=6.4,SNR=4.2						
TXAR	**Lajitas Array**	**74.94**	**62**	P	**P**	**08 49 43.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=301,slow=4.6,SNR=7.2						
ASAR	**Alice Springs**	**77.29**	**198**	P	**P**	**08 49 56.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=3.8,slow=5.6,SNR=4.0						

*ISCJB **14** 09:26:50.9±0.3,37.°75N±0.°02×15.°11E±0.°04,h14km±5km, Error ellipse: s-maj=4.9km s-min=2.9km az=14.3*

*ROM **14** 09:26:50.7±0.2,37.°73N×15.°15E,h5km,2km,Ml3.4/37, Error ellipse: s-maj=2.0km s-min=1.2km az=103.0*

*CSEM **14** 09:26:51.7±0.2,37.°72N×15.°13E,h20km,ML4.1/9,Error ellipse: s-maj=5.3km s-min=3.5km az=112.0*

ISC 14 09:26:51.2±0.9,37.°73N±0.°02×15.°13E±0.°02,h9km±7km, n84,σ0s63/102,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.13**	**254**	Pg	**Pg**	**09 26 53.8**	**-0.4**
ESLN				Sg	**Sg**	**09 26 56.2**	**-0.2**
	13µm,0.5s						
ESLN	**Serra La Nave**	**0.13**	**254**	Pg	**Pg**	**09 26 53.8**	**-0.4**
ESLN				Sg	**Sg**	**09 26 56.2**	**-0.2**
	13µm,0.5s						
MMME	**Mongiuffi-Meli**	**0.23**	**25**	Pg	**Pg**	**09 26 56.1**	**+0.3**
MMME				Sg	**Sg**	**09 27 00.2**	**+1.2**
	23µm,0.4s						
MMME	**Mongiuffi-Meli**	**0.23**	**25**	Pg	**Pg**	**09 26 56.1**	**+0.3**
MMME				Sg	**Sg**	**09 27 00.2**	**+1.2**
	23µm,0.4s						
HAGA	**Augusta**	**0.44**	**178**	Pg	**Pg**	**09 27 00.1**	**+0.3**
HAGA				Sg	**Sb**	**09 27 07.9**	**-0.1**
	2µm,0.5s						
HAGA	**Augusta**	**0.44**	**178**	Pg	**Pg**	**09 27 00.1**	**+0.3**
HAGA				Sg	**Sb**	**09 27 07.9**	**-0.1**
	2µm,0.5s						
GALF	**Gagliano Caste**	**0.45**	**268**	Pg	**Pb**	**09 27 00.8**	**-0.5**
	3µm,0.5s						
GALF	**Gagliano Caste**	**0.45**	**268**	Pg	**Pb**	**09 27 00.8**	**-0.5**

JOPP	Joppolo 820nm,0.8s	1.06	34	Pg		Pg	09 27 10.9	-0.6
ALJA	Alia 1µm,1.1s	1.09	271	Pg		Pn	09 27 13.6	+0.8
ALJA	Alia 1µm,1.1s	1.09	271	Pg		Pn	09 27 13.6	+0.8
FAVR	Favara 247nm,0.5s	1.25	249	Pg		Pg	09 27 15.9	+0.7
FAVR	Favara 247nm,0.5s	1.25	249	Pg		Pg	09 27 15.9	+0.7
PLAC	Placanica 557nm,0.7s	1.26	55	Pg		Pg	09 27 15.1	-0.2
PLAC	Placanica 557nm,0.7s	1.26	55	Pg		Pg	09 27 15.1	-0.2
CORL	Corleone 722nm,1.0s	1.46	277	Pg		Pb	09 27 18.5	0.0
CORL	Corleone 722nm,1.0s	1.46	277	Pg		Pb	09 27 18.5	0.0
GRI	Girifalco 395nm,0.6s	1.49	43	Pg		Pg	09 27 19.4	-0.4
GRI	Girifalco 395nm,0.6s	1.49	43	Pg		Pg	09 27 19.4	-0.4
CARO	Carolei 604nm,0.5s	1.75	29	Pg		Pn	09 27 21.0	-0.7
CARO	Carolei 604nm,0.5s	1.75	29	Pg		Pn	09 27 21.0	-0.7
SERS	Sersale 92nm,0.5s	1.79	43	Pg		Pb	09 27 23.2	-1.0
SERS	Sersale 92nm,0.5s	1.79	43	Pg		Pb	09 27 23.2	-1.0
CUC	Castrocucco 127nm,0.6s	2.32	13	Pg		Pn	09 27 29.4	-0.3
CUC	Castrocucco 127nm,0.6s	2.32	13	Pg		Pn	09 27 29.4	-0.3
BULG	Bulgheria - Ca 132nm,0.9s	2.35	5	Pg		Pn	09 27 29.7	-0.4
BULG	Bulgheria - Ca 132nm,0.9s	2.35	5	Pg		Pn	09 27 29.7	-0.4
SIRI	Monte Sirino - 102nm,0.5s	2.52	13	Pg		Pn	09 27 31.9	-0.5
SIRI	Monte Sirino - 102nm,0.5s	2.52	13	Pg		Pn	09 27 31.9	-0.5
CMPR	Campora 57nm,0.8s	2.59	3	Pg		Pn	09 27 32.8	-0.5
CMPR	Campora 57nm,0.8s	2.59	3	Pg		Pn	09 27 32.8	-0.5
MCEL	Monticello 124nm,0.8s	2.64	11	Pg		Pn	09 27 34.6	+0.5
MCEL	Monticello 124nm,0.8s	2.64	11	Pg		Pn	09 27 34.6	+0.5
CDRU	Civita di Ruta 35nm,0.6s	2.76	3	Pg		Pn	09 27 35.8	+0.1
CDRU	Civita di Ruta 35nm,0.6s	2.76	3	Pg		Pn	09 27 35.8	+0.1
ACER	Acerenza 186nm,1.1s	3.12	11	Pg		Pn	09 27 42.2	+1.6
ACER	Acerenza 186nm,1.1s	3.12	11	Pg		Pn	09 27 42.2	+1.6
SG1	Sgolgore (BA)	3.33	21	*e*P		Pn	09 27 44.8	+1.3
AMUR	Altamura 70nm,0.9s	3.37	19	Pg		Pn	09 27 45.3	+1.2
AMUR	Altamura 70nm,0.9s	3.37	19	Pg		Pn	09 27 45.3	+1.2
NOCI	Noci 43nm,0.5s	3.40	26	Pg		Pn	09 27 44.5	0.0
NOCI	Noci 43nm,0.5s	3.40	26	Pg		Pn	09 27 44.5	0.0
CDT	Castel del Mon	3.46	14	*e*P		Pn	09 27 47.2	+1.9
BAI	Bari	3.63	21	*e*P		Pn	09 27 49.2	+1.6
MS1	Monte Sant'Ang	4.02	9	*e*P		Pn	09 27 51.3	-1.7

AUST ***14*** *09:29:01.6±23.0, 23°.24S×179°.82W, h276km±1km, Error ellipse: s-maj=8.7km s-min=2.7km az=243.0*
ISCJB ***14*** *09:29:16.6±0.6, 23°.0S±0°.1×179°.3W±0°.1, h526km, mb3.8/12, Error ellipse: s-maj=17.9km s-min=8.7km az=136.5*
IDC ***14*** *09:29:18.1±2.8, 23°.08S×179°.38W, h526km±28km, mb3.5/12, mb1 3.6/13, mb1mx3.5/22, mbtmp3.5/13, Error ellipse: s-maj=22.7km s-min=17.8km az=83.0*

ISC 14 09:29:17.4±0.7, 23°.0S±0°.1×179°.3W±0°.1, h526km, n29, σ1°49/29, mb3.8/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.53**	**39**	P	**P**	**09 31 49.8**	**-1.3**
	2.1nm,0.3s,baz=10,slow=9.9,SNR=4.7						
AFI				S	**S**	09 33 55.7	-2.1
	2.2nm,0.3s,baz=56,slow=17,SNR=4.9						
URZ	**Urewera**	**15.49**	**191**	P	**P**	09 32 30.5	-1.6
	1.9nm,0.3s,baz=315,slow=4.7,SNR=14						
CTA	**Charters Tower**	**32.14**	**269**	P	**P**	09 35 02.1	+0.4
	11nm,0.4s,baz=94,slow=11,SNR=24						
CMSA	**Cobar Meteorol**	**32.15**	**247**	P	**P**	09 35 01.7	+0.1
	baz=32,SNR=7.6						
PMG	**Port Moresby**	**34.84**	**287**	P	**P**	09 35 24.9	+0.4
	21nm,0.8s,baz=75,slow=4.5,SNR=7.5						
STKA	**Stephens Creek**	**35.66**	**247**	P	**P**	09 35 31.1	0.0
	1.8nm,0.6s,baz=120,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**42.83**	**260**	P	**P**	09 36 28.6	-0.5
	2.3nm,0.8s,baz=100,slow=7.0,SNR=30						
ASAR				S	**S**	09 42 10.0	-5.4
	1.1nm,0.9s,baz=99,slow=16,SNR=7.1						
WRA	**Warramunga Arr**	**43.12**	**265**	P	**P**	09 36 30.6	-0.8
	1.4nm,0.3s,baz=90,slow=5.8,SNR=67						
WRA				ScP	**ScP**	09 41 09.5	-1.1
	0.3nm,0.7s,baz=93,slow=3.9,SNR=76						
WRA				S	S	09 42 12.5	-7.2
	0.7nm,0.9s,baz=98,slow=12,SNR=6.2						
KDU	**Kakadu**	**46.87**	**274**	P	**P**	09 36 59.4	-0.9
	baz=46,SNR=3.9						
MTN	**Manton Dam**	**48.05**	**273**	P	**P**	09 37 08.0	-1.1
	baz=48,SNR=12						
MTN				S	S	09 44 02.3	+34
	baz=48,SNR=4.4						
FITZ	**Fitzroy Crossi**	**51.55**	**265**	P	**P**	09 37 34.8	-0.1
	baz=51,SNR=7.6						
WSI	**Waingapu**	**59.11**	**272**	S	S	09 46 14.6	+20
	baz=59,SNR=4.6						
QSPA	**South Pole Qui**	**67.05**	**180**	P	**P**	09 39 19.0	+1.0
	1.2nm,0.6s,baz=177,slow=9.8,SNR=9.4						
UGM	**Wanagama**	**68.75**	**270**	P	**P**	09 39 31.3	+2.2
	baz=68,SNR=3.4						
MJAR	**Matsushiro Arr**	**71.56**	**325**	P	**P**	09 39 45.0	-0.2
	1.3nm,0.5s,baz=158,slow=6.2,SNR=4.4						
KSRS	**Korea Array**	**78.00**	**320**	P	**P**	09 40 22.6	+1.3
	1.3nm,0.6s,baz=134,slow=5.2,SNR=4.4						
PETK	**Petropavlovsk-**	**78.41**	**346**	P	**P**	09 40 24.1	+0.9
	2.6nm,0.6s,baz=125,slow=8.2,SNR=12						
USRK	**Ussuriysk Arra**	**80.39**	**327**	P	**P**	09 40 34.9	+1.1
	1.1nm,0.7s,baz=125,slow=13,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**	09 41 22.6	+2.1
	1.9nm,0.7s,baz=146,slow=3.4,SNR=12						
ILAR	**Eielson Array**	**91.04**	**13**	P	**P**	09 41 25.0	+0.1
	0.2nm,0.8s,baz=236,slow=5.5,SNR=5.1						
ARCES	**ARCESS Array B**	**131.17**	**349**	PKP	**PKPdf**	09 47 28.8	+0.1
	2.0nm,0.8s,baz=67,slow=4.1,SNR=6.1						
FINES	**FINESS Array B**	**137.83**	**342**	PKP	**PKPdf**	09 47 41.0	-0.3
	0.5nm,0.4s,baz=56,slow=3.5,SNR=5.9						
NB2	**NORSAR Subarra**	**141.32**	**352**	PKP	PKPpre	09 47 42.8	
	comp=Z,0.6nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**141.32**	**352**	PKhKP	PKPpre	09 47 43.0	
	comp=Z,1.0nm,0.7s,baz=29,slow=2.6,SNR=4.8						
HFS	**Hagfors**	**141.82**	**350**	PKhKP	PKPpre	09 47 42.9	
	comp=Z,2.4nm,0.4s,baz=46,slow=4.3,SNR=18						
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	**PKPdf**	09 47 53.2	-0.4
	comp=Z,1.6nm,0.4s,baz=43,slow=4.1,SNR=9.0						
BRTR	**Keskin Array B**	**147.56**	**309**	PKPbc	**PKPbc**	09 48 02.4	-0.4
	comp=Z,1.0nm,0.8s,baz=133,slow=6.1,SNR=3.4						
CLL	**Collm**	**150.21**	**344**	*i* PKPbc	**PKPbc**	09 48 09.0	+0.4
	comp=Z,4.0nm,0.8s						
CLL				*i* PKPab	**PKPab**	09 48 17.1	+0.1
	comp=Z,2.0nm,0.8s						
BRG	**Berggiesshubel**	**150.36**	**343**	*e*P	**PKPbc**	09 48 09.4	+0.4
	comp=Z,3.9nm,0.6s						

IDC 14 09:32:23.2±1.5, 72°.00N×1°.41E, h0km, mb3.1/3, mb1 3.5/6, mb1mx3.3/29, mbtmp3.3/6, ML2.6/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=34.2km s-min=19.4km az=49.0, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**7.27**	**25**	Pn	Pn	09 34 09.2	-1.3
	baz=203,slow=16,SNR=25						
ARCES	**ARCESS Array B**	**8.29**	**96**	Pn	Pn	09 34 23.6	-0.9
	0.1nm,0.3s,baz=301,slow=12,SNR=6.1						
HFS	**Hagfors**	**12.87**	**151**	LR	LR	09 40 20.3	
	comp=Z,107nm,18.4s,baz=341,slow=37						
FINES	**FINESS Array B**	**14.24**	**125**	Pn	Pn	09 35 45.5	-0.2
	0.1nm,0.3s,baz=322,slow=16,SNR=4.2						
GERES	**GERESS Array B**	**23.91**	**160**	P	P	09 37 38.6	+0.2
	0.4nm,0.6s,baz=327,slow=11,SNR=4.0						
GERES				LR	LR	09 47 16.1	
	comp=Z,82nm,18.1s,baz=79,slow=37						
RES	**Resolute Bay**	**24.88**	**321**	LR	LR	09 46 55.4	
	comp=Z,119nm,20.0s,baz=5.7,slow=35						
YKA	**Yellowknife Ar**	**38.88**	**318**	P	P	09 39 49.5	0.0
	0.2nm,0.6s,baz=22,slow=8.4,SNR=3.9						
ILAR	**Eielson Array**	**41.81**	**340**	P	P	09 40 13.3	-0.5
	0.2nm,0.8s,baz=7.0,slow=8.2,SNR=4.6						

IDC ***14*** *09:33:12.9±5.2, 25°.52N×124°.19E, h163km±46km, mb3.5/7, mb1 3.5/10, mb1mx3.3/29, mbtmp3.5/10, Error ellipse: s-maj=65.5km s-min=40.1km az=13.0*
ISCJB ***14*** *09:33:14.3±0.4, 25°.6N±0°.1×124°.20E±0°.08, h186km±11km, mb3.7/7, Error ellipse: s-maj=21.9km s-min=5.9km az=151.2*
JMA ***14*** *09:33:16.6±0.3, 25°.60N×124°.11E, h172km, M3.8*

ISC 14 09:33:15.3±0.8, 25°.6N±0°.1×124°.28E±0°.07, h189km±11km, n26, σ1°43/39, mb3.6/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.01**	**157**	P	**Pn**	**09 33 44.5**	**+0.5**
JTJ				S	**Sn**	09 34 06.1	-0.1
JMJ	**Miyako jima 2**	**1.19**	**129**	P	**Pn**	09 33 46.6	+1.2
JMJ				*e*S	**Sn**	09 34 08.5	-0.1
JIJ	**Ishigaki jima**	**1.22**	**186**	P	**Pn**	09 33 45.1	-0.5
JIJ				S	**Sn**	09 34 06.7	-2.3
JOGS	**Gusukube**	**1.31**	**128**	P	**Pn**	09 33 47.9	+1.6
JOGS				*e*S	**Sn**	09 34 10.6	+0.3
IRIF	**Iriomote-Funau**	**1.33**	**202**	P	**Pn**	09 33 45.9	-0.6
IRIF				S	**Sn**	09 34 09.0	-1.8
JKRS	**Kuro-shima**	**1.36**	**190**	P	**Pn**	09 33 46.6	-0.2
JKRS				*e*S	**Sn**	09 34 09.9	-1.2
HATJ	**Hateruma jima**	**1.57**	**196**	P	**Pn**	09 33 48.7	0.0
HATJ				*e*S	**Sn**	09 34 13.5	-1.2
YOJ	**Yonaguni jima**	**1.60**	**226**	P	**Pn**	09 33 48.5	-0.4
YOJ				*e*S	**Sn**	09 34 13.4	-1.6
JKE	**Kume jima 2**	**2.38**	**71**	P	**Pn**	09 33 57.8	+0.7
JKE				*e*S	**Sn**	09 34 29.4	-0.3
JAGN	**Aguni-jima**	**2.85**	**69**	P	**Pn**	09 34 03.3	+0.8
JJT2	**Tamagusuku 2**	**3.18**	**79**	P	**Pn**	09 34 07.8	+1.3
JJT2				*e*S	**Sn**	09 34 46.6	+0.1
JIH	**Iheya**	**3.62**	**66**	P	**Pn**	09 34 12.2	+0.4
JOW	**Kunigami**	**3.80**	**70**	P	**Pn**	09 34 13.3	-0.8
	13nm,0.3s,baz=128,slow=15,SNR=29						
JOW				S	**Sn**	09 34 57.7	-2.6
	21nm,0.3s,baz=118,slow=26,SNR=8.5						
JOW	**Kunigami**	**3.80**	**70**	P	**Pn**	09 34 14.0	-0.2
JOW				*e*S	**Sn**	09 34 57.2	-3.2
JTK	**Tokunoshima**	**4.72**	**61**	P	**Pn**	09 34 25.1	-0.8
JAM	**Amami Oshima**	**5.53**	**58**	P	**Pn**	09 34 34.9	-1.3
JMZ	**Minamidaito 2**	**6.27**	**86**	P	**Pn**	09 34 46.1	+0.2
JMZ				*e*S	**Sn**	09 35 52.7	-4.7
JNU	**Nakatsue**	**9.47**	**36**	P	**Pn**	09 35 28.9	+1.2
	0.6nm,0.3s,baz=40,slow=13,SNR=7.2						
KSRS	**Korea Array**	**12.24**	**14**	P	**Pn**	09 36 04.3	+0.9
	0.2nm,0.3s,baz=201,slow=13,SNR=4.2						
SONM	**Songino Array**	**26.31**	**332**	P	**P**	09 38 32.3	-1.3
	0.2nm,0.3s,baz=134,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**39.36**	**314**	P	**P**	09 40 26.5	+0.3
	0.8nm,0.4s,baz=99,slow=10.0,SNR=15						
ZALV	**Zalesovo Beam**	**40.67**	**325**	P	**P**	09 40 36.3	-0.6
	2.1nm,0.4s,baz=114,slow=8.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**42.91**	**318**	P	**P**	09 40 54.5	-0.5
	0.7nm,0.5s,baz=108,slow=8.3,SNR=8.1						
BVAR	**Borovoye Array**	**48.42**	**319**	P	**P**	09 41 38.9	+0.7
	0.8nm,0.5s,baz=107,slow=8.9,SNR=6.7						
ARCES	**ARCESS Array B**	**69.30**	**338**	P	**P**	09 44 02.8	+1.1
	3.1nm,1.0s,baz=46,slow=7.7,SNR=3.2						
FINES	**FINESS Array B**	**71.66**	**330**	P	**P**	09 44 16.8	+0.8
	1.9nm,1.0s,baz=50,slow=4.3,SNR=4.6						

IDC 14 09:33:19.2±4.8, 17°.58S×69°.06W, h165km±28km, mb3.5/3, mb1 3.7/4, mb1mx3.3/19, mbtmp3.6/4, Error ellipse: s-maj=72.4km s-min=22.9km az=22.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.56**	**35**	P	Pn	09 33 50.9	-0.5
	28nm,0.3s,baz=228,slow=4.9,SNR=682						
LPAZ				S	Sn	09 34 16.1	0.0
	2.4nm,0.3s,baz=57,slow=17,SNR=3.8						
SIV	**San Ignacio**	**7.81**	**80**	P	Pn	09 35 08.9	-1.3
	3.3nm,0.3s,baz=282,slow=11,SNR=52						
SIV				S	Sn	09 36 37.5	-0.2
	0.5nm,0.3s,baz=180,slow=24,SNR=11						
BDFB	**Brasilia**	**20.26**	**88**	P	P	09 37 43.6	+1.4
	4.5nm,0.4s,baz=252,slow=7.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**76.20**	**71**	P	P	09 44 49.6	-0.3
	0.5nm,0.5s,baz=255,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**87.46**	**341**	P	P	09 45 47.6	+0.1
	0.4nm,0.4s,baz=134,slow=4.9,SNR=13						

ISCJB ***14*** *09:35:33.7±0.9, 36°.2N±0°.1×137°.2E±0°.2, h267km±7km, mb3.1/2, Error ellipse: s-maj=28.6km s-min=16.7km az=164.5*
IDC ***14*** *09:35:34.2±1.8, 36°.00N×136°.77E, h239km±46km, mb3.0/2, mb1 3.2/3, mb1mx2.7/26, mbtmp3.0/3, Error ellipse: s-maj=111.1km s-min=29.1km az=60.0*
JMA ***14*** *09:35:34.5±0.3, 36°.15N×137°.21E, h261km±3km, M2.8*

ISC 14 09:35:34.8±1.3, 36°.2N±0°.1×137°.2E±0°.2, h259km±10km, n9, σ0°26/11, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.12**	**62**	P	**Pn**	**09 36 08.1**	**-0.1**
JGM	**Miyama**	**0.60**	**219**	P	**Pn**	**09 36 09.2**	**0.0**
JKG	**Kaga**	**0.70**	**279**	P	**Pn**	**09 36 09.9**	**+0.5**
MJAR	**Matsushiro Arr**	**0.91**	**65**	P	**Pn**	**09 36 10.2**	**-0.2**
	1.9nm,0.3s,baz=252,slow=7.2,SNR=19						
MJAR				S	**S**	**09 36 38.4**	**0.0**
	0.3nm,0.3s,baz=181,slow=20,SNR=3.6						
HMMJ	**Hamamatsu 2**	**1.38**	**161**	P	**Pn**	**09 36 13.2**	**0.0**
HMMJ				*e*S	**S**	**09 36 43.4**	**-0.1**
JKY	**Yasaka**	**1.77**	**253**	P	**Pn**	**09 36 16.0**	**-0.2**
USRK	**Ussuriysk Arra**	**8.95**	**335**	P	**Pn**	**09 37 39.6**	**-0.3**
	0.1nm,0.3s,baz=149,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**55.87**	**183**	P	**P**	**09 44 45.7**	**-0.1**
	0.6nm,0.3s,baz=360,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**59.59**	**183**	P	**P**	**09 45 11.8**	**+0.3**
	0.1nm,0.3s,baz=0.5,slow=6.0,SNR=5.8						

CASC 14 09:36:31.4±2.2, 8°.69N×83°.08W, h9km±9km, MD3.7, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.09**	**248**	*i* P	Pg	09 36 33.5	-0.3
ACR				*e*S	Sg	09 36 37.0	+1.4
BRU2	**Volcan**	**0.40**	**75**	*e*P	Pg	09 36 39.8	+0.3
BRU2				*e*S	Sb	09 36 47.3	0.0
TBS2		**0.43**	**76**	*e*P	Pg	09 36 42.4	+0.9
TBS2				*e*S	Sb	09 36 48.8	+0.6
BUS	**Buena Vista**	**1.09**	**322**	*e*P	Pg	09 36 50.7	-2.3
QCR	**Quepos**	**1.30**	**304**	*e*S	Sb	09 37 11.2	-1.5
CGA2	**Cerro Gallo 2**	**1.90**	**314**	*e*P	Pn	09 37 02.6	-1.5
CGA2				*e*S	Sb	09 37 30.7	+0.3

BJI ***14*** *09:37:57.5, 44°.50N×129°.87W, h13km, mB4.7/2, mb4.8/5, Ms4.8/2, Ms7 4.5/2*
IDC ***14*** *09:37:59.0±1.3, 44°.54N×129°.63W, h0km, mb3.9/9, mb1 4.1/14, mb1mx3.9/35, mbtmp3.9/14, ML4.2/3, MS3.6/14, Ms1 3.6/14, ms1mx3.4/56, Error ellipse: s-maj=29.3km s-min=14.5km az=48.0*
ISCJB ***14*** *09:38:00.1±0.4, 44°.60N±0°.03×129°.72W±0°.05, h15km, mb4.2/22, MS3.6/13, Error ellipse: s-maj=5.3km s-min=4.5km az=158.1*
NEIC ***14*** *09:38:00.9±0.6, 44°.57N×129°.80W, h10km, mb4.4/18, Error ellipse: s-maj=7.7km s-min=4.9km az=75.0*

ISC 14 09:38:00.3±0.6, 44°.48N±0°.07×129°.85W±0°.06, h15km, n155, σ1°51/147, mb4.3/22, MS3.7/13, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.31**	**110**	*e*Pn	**Pn**	**09 39 02.3**	**-3.0**
KEBM				*e*Sn	**Sn**	**09 39 51.8**	**-3.6**
KMOR	**Kings Mountain**	**4.65**	**73**	P	**Pn**	**09 39 08.2**	**-1.7**
F03A	**Seaside**	**4.67**	**70**	P	**Pn**	**09 39 09.0**	**-1.2**
COR	**Corvallis**	**4.68**	**86**	*e*Pn	**Pn**	**09 39 09.4**	**-0.9**
COR				*e*Sn	**Sn**	**09 40 04.1**	**-0.2**
KBO	**Bosley Butte**	**4.68**	**117**	*e*Pn	**Pn**	**09 39 12.4**	**+1.9**
NLO	**Nicolai Mounta**	**4.79**	**68**	P	**Pn**	**09 39 11.8**	**-0.2**
E03A	**Lebam**	**4.87**	**63**	P	**Pn**	**09 39 12.2**	**-0.8**
ON2	**Olympics--Nort**	**4.88**	**58**	P	**Pn**	**09 39 12.9**	**-0.2**
WISH	**Wishkah**	**5.00**	**56**	P	**Pn**	**09 39 14.8**	**+0.1**
BMW	**Boistfort Moun**	**5.06**	**65**	P	**Pn**	**09 39 14.5**	**-1.1**
NLWA	**Neilton Lookou**	**5.08**	**53**	*e*Pn	**Pn**	**09 39 15.8**	**-0.1**
NLWA				*e*Sn	**Sn**	**09 40 13.7**	**-0.6**
OSR	**Olympics--Salm**	**5.09**	**52**	P	**Pn**	**09 39 15.5**	**-0.6**
OOW	**Octopus West**	**5.10**	**48**	P	**Pn**	**09 39 16.5**	**+0.3**
OTR	**Olympics--Tyee**	**5.24**	**45**	P	**Pn**	**09 39 18.6**	**+0.5**
SSOR	**Sweet Springs**	**5.28**	**83**	P	**Pn**	**09 39 18.6**	**-0.1**
G04A	**Mulino**	**5.29**	**80**	P	**Pn**	**09 39 18.4**	**-0.4**
RRHS	**Rochester High**	**5.30**	**62**	P	**Pn**	**09 39 18.9**	**0.0**
CPW	**Capitol Peak**	**5.32**	**60**	P	**Pn**	**09 39 19.0**	**-0.1**
HUMO	**Hull Mountain**	**5.35**	**108**	*e*Pn	**Pn**	**09 39 18.3**	**-1.3**
HUMO				*e*Sn	**Sn**	**09 40 16.5**	**-4.4**
SMW	**South Mountain**	**5.35**	**56**	P	**Pn**	**09 39 19.5**	**-0.1**
F04A	**Amboy**	**5.44**	**72**	P	**Pn**	**09 39 20.1**	**-0.7**
H04A	**Detroit Lake**	**5.47**	**85**	P	**Pn**	**09 39 20.4**	**-0.9**
FL2	**Flat Top 2**	**5.55**	**69**	P	**Pn**	**09 39 21.8**	**-0.7**
MTMW	**Mount Mitchell**	**5.61**	**71**	P	**Pn**	**09 39 22.9**	**-0.3**
STW	**Striped Peak**	**5.63**	**47**	P	**Pn**	**09 39 23.6**	**+0.2**
VALT	**Mount Saint He**	**5.67**	**70**	P	**Pn**	**09 39 23.8**	**-0.3**
TDL	**Tradedollar La**	**5.69**	**68**	P	**Pn**	**09 39 23.4**	**-0.9**
HDW	**Hoodsport**	**5.69**	**54**	P	**Pn**	**09 39 24.4**	**+0.2**
LMW	**Ladd Mountain**	**5.74**	**65**	P	**Pn**	**09 39 25.3**	**+0.3**
GHW	**Garrison Hill**	**5.88**	**62**	P	**Pn**	**09 39 27.0**	**+0.1**
YBH	**Yreka Blue Hor**	**5.90**	**115**	Pn	**Pn**	**09 39 27.5**	**+0.3**
	0.8nm,0.3s,baz=277,slow=10,SNR=11						
YBH	**Yreka Blue Hor**	**5.90**	**115**	*e*Pn	**Pn**	**09 39 28.8**	**+1.5**
VFP	**Flag Point**	**6.01**	**79**	P	**Pn**	**09 39 28.5**	**-0.3**
PGC	**Sidney**	**6.07**	**44**	*e*Pn	**Pn**	**09 39 29.3**	**0.0**
PGC				*e*Sn	**Sn**	**09 40 38.2**	**-0.2**
LON	**Longmire**	**6.08**	**65**	*e*Pn	**Pn**	**09 39 29.4**	**-0.2**
D05A	**Enumclaw**	**6.12**	**61**	P	**Pn**	**09 39 31.0**	**+0.9**
FMW	**Mount Fremont**	**6.22**	**64**	P	**Pn**	**09 39 31.6**	**-0.2**
RMW	**Rattlesnake Mo**	**6.34**	**59**	P	**Pn**	**09 39 33.7**	**+0.4**
JCW	**Jim Creek**	**6.62**	**53**	P	**Pn**	**09 39 37.6**	**+0.6**
KIPM	**Iron Peak**	**6.65**	**132**	Pn	**Pn**	**09 39 37.0**	**-0.4**
WDC	**Whiskeytown Da**	**6.66**	**123**	*e*Pn	**Pn**	**09 39 39.4**	**+1.9**
VDD	**Vedder Mountai**	**6.99**	**47**	P	**Pn**	**09 39 42.8**	**+0.8**
MOD	**Modoc**	**7.43**	**107**	*e*Pn	**Pn**	**09 39 49.5**	**+1.1**
HOPS	**Hopland**	**7.46**	**135**	*e*Pn	**Pn**	**09 39 47.5**	**-1.0**
HAWA	**Hanford**	**7.50**	**72**	*e*Pn	**Pn**	**09 39 49.6**	**+0.5**
BBB	**Bella Bella**	**7.79**	**8**	LR	LR	09 41 45.4	
	comp=Z,51nm,21.6s,baz=172,slow=29						
BMO	**Blue Mountains**	**8.95**	**83**	*e*Pn	**Pn**	**09 40 08.3**	**-0.7**
WCN	**Washoe City**	**9.13**	**121**	*e*Pn	**Pn**	**09 40 14.5**	**+2.9**
NEW	**Newport**	**9.57**	**62**	Pn	**Pn**	**09 40 16.8**	**-0.8**
	1.5nm,0.3s,baz=238,slow=10,SNR=32						
NEW				LR	LR	09 43 49.6	
	comp=Z,432nm,20.5s,baz=260,slow=37						
NEW	**Newport**	**9.57**	**62**	Pn	**Pn**	**09 40 16.8**	**-0.8**
CMB	**Columbia Colle**	**9.60**	**129**	*e*Pn	**Pn**	**09 40 19.2**	**+1.3**
MFID	**Camas Ranch**	**10.17**	**91**	*e*Pn	**Pn**	**09 40 28.0**	**+2.2**
NVAR	**Mina Array Bea**	**10.56**	**121**	Pn	**Pn**	**09 40 31.2**	**-0.1**
	0.1nm,0.3s,baz=282,slow=13,SNR=12						
NVAR				LR	LR	09 44 13.4	
	comp=Z,222nm,20.8s,baz=58,slow=36						
NVAR	**Mina Array Bea**	**10.56**	**121**	Pn	**Pn**	**09 40 31.2**	**-0.1**
BSMT	**Bassoo Peak**	**10.97**	**67**	*e*Pn	**Pn**	**09 40 36.8**	**0.0**
HLID	**Hailey**	**11.15**	**89**	*e*Pn	**Pn**	**09 40 41.6**	**+2.3**
JTMT	**Jette**	**11.29**	**68**	*e*Pn	**Pn**	**09 40 41.3**	**+0.2**
MSO	**Missoula**	**11.38**	**73**	*e*Pn	**Pn**	**09 40 42.0**	**-0.3**
ELK	**Elko**	**11.39**	**104**	*e*Pn	**Pn**	**09 40 45.0**	**+2.4**
SWMT	**Swartz Lake**	**11.43**	**69**	*e*Pn	**Pn**	**09 40 43.1**	**+0.1**
YBMT	**Yellow Bay**	**11.49**	**67**	*e*Pn	**Pn**	**09 40 43.8**	**0.0**
SLMT	**Seeley Lake**	**11.73**

ULM	**Lac du Bonnet**	**23.58**	**64**	P		**P**	**09 43 08.6**	**-1.6**
	10nm,0.7s,baz=271,slow=10,SNR=17							
ULM				LR		LR	09 52 27.1	
	comp=Z,204nm,18.3s,baz=298,slow=37							
ULM	**Lac du Bonnet**	**23.58**	**64**	*eP*		**P**	**09 43 10.1**	**0.0**
AMTX	**Amarillo**	**23.60**	**104**	*eP*		**P**	**09 43 10.7**	**+0.1**
	17nm,0.7s							
AGMN	**Agassiz Nation**	**23.63**	**69**	*eP*		**P**	**09 43 10.4**	**-0.3**
	12nm,0.8s							
ECSD	**EROS Data Cent**	**23.79**	**80**	*eP*		**P**	**09 43 12.2**	**-0.1**
	15nm,1.0s							
INK	**Inuvik**	**23.96**	**357**	LR		LR	09 52 01.5	
	comp=Z,107nm,18.5s,baz=174,slow=35							
INK	**Inuvik**	**23.96**	**357**	*eP*		**P**	**09 43 15.0**	**+1.4**
	9.5nm,1.3s							
KSU1	**Kansas State U**	**25.25**	**91**	*eP*		**P**	**09 43 26.8**	**+1.1**
	21nm,1.3s							
TXAR	**Lajitas Array**	**25.68**	**117**	P		**P**	**09 43 29.6**	**0.0**
	1.5nm,0.7s,baz=299,slow=7.7,SNR=20							
TXAR				LR		LR	09 52 30.8	
	comp=Z,91nm,21.6s,baz=185,slow=34							
TXAR	**Lajitas Array**	**25.68**	**117**	P		**P**	**09 43 29.6**	**0.0**
WMOK	**Wichita Mounta**	**25.70**	**102**	*eP*		**P**	**09 43 30.7**	**+0.9**
	15nm,0.8s							
LPIG	**La Paz**	**25.84**	**135**	LR		LR	09 52 17.3	
	comp=Z,8.4nm,21.5s,baz=194,slow=33							
HDIL	**Hopedale**	**29.93**	**83**	*eP*		**P**	**09 44 08.1**	**+0.5**
	6.8nm,0.7s							
OXF	**Oxford**	**32.46**	**94**	*eP*		**P**	**09 44 30.8**	**+0.8**
	37nm,1.1s							
RES	**Resolute Bay**	**33.99**	**16**	P		**P**	**09 44 44.5**	**+1.7**
	1.3nm,0.8s,baz=248,slow=11,SNR=5.8							
RES	**Resolute Bay**	**33.99**	**16**	P		**P**	**09 44 44.5**	**+1.7**
SADO	**Sadowa**	**35.61**	**71**	LR		LR	09 59 40.7	
	comp=Z,217nm,18.4s,baz=331,slow=37							
FRB	**Frobisher Bay**	**38.89**	**38**	LR		LR	10 01 27.7	
	comp=Z,113nm,18.3s,baz=130,slow=36							
CMIG	**Matias Romero**	**40.09**	**122**	P		**P**	**09 45 36.6**	**+1.4**
	4.5nm,0.9s,baz=340,slow=7.7,SNR=4.9							
CMIG	**Matias Romero**	**40.09**	**122**	P		**P**	**09 45 36.6**	**+1.4**
SFJD	**Kangerlussuaq**	**46.00**	**32**	LR		LR	10 05 39.3	
	comp=Z,280nm,19.2s,baz=278,slow=36							
CN2	**Changchun**	**69.51**	**312**	*eP*		**P**	**09 49 07.6**	**-0.5**
NB2	**NORSAR Subarra**	**70.18**	**19**	P		P	09 49 15.6	+3.6
	comp=Z,1.3nm,0.8s,baz=330,slow=6.2							
ZALV	**Zalesovo Beam**	**77.57**	**340**	LR		LR	10 26 18.4	
	comp=Z,37nm,18.4s,baz=41,slow=37							
HHC	**Hu-ho-hao-te**	**78.75**	**317**	*eP*		**P**	**09 50 01.8**	**-0.4**
HHC				pP		**pP**	**09 50 05.4**	**-1.8**
HHC				sP		**sP**	**09 50 07.8**	**-1.1**
HHC				PcP		**PcP**	**09 50 12.6**	**+1.6**
HHC				PP		**PP**	**09 53 01.3**	**+1.5**
HHC				S		**S**	**09 59 55.3**	**-3.9**
HHC				SKS		**SKSac**	**10 00 10.8**	**-6.2**
HHC				ScS		**SKKSac**	**10 00 16.8**	**-1.4**
HHC				SS		**SS**	**10 05 01.5**	**-1.0**
HHC				pmax		pmax		
	comp=Z,11nm,1.1s							
BVAR	**Borovoye Array**	**81.33**	**348**	P		**P**	**09 50 15.7**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=16,slow=6.4,SNR=3.4							
BVAR				LR		LR	10 25 40.2	
	comp=Z,57nm,18.1s,baz=210,slow=35							
BVAR	**Borovoye Array**	**81.33**	**348**	P		**P**	**09 50 15.7**	**-0.1**
KURK	**Kurchatov**	**82.01**	**342**	P		**P**	**09 50 19.8**	**+0.4**
KURBB	**Kurchatov Arra**	**82.12**	**342**	P		**P**	**09 50 19.8**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=15,slow=5.3,SNR=4.9							
LPAZ	**La Paz**	**82.47**	**121**	P		**P**	**09 50 24.3**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=22,slow=1.8,SNR=3.6							
LPAZ	**La Paz**	**82.47**	**121**	P		**P**	**09 50 24.3**	**+1.4**
MKAR	**Makanchi Array**	**84.78**	**338**	LR		LR	10 34 09.8	
	comp=Z,39nm,19.0s,baz=175,slow=40							
WMQ	**Urumqi**	**85.93**	**334**	*eP*		**P**	**09 50 40.1**	**+0.5**
LZH	**Lanzhou**	**86.21**	**319**	*eP*		**P**	**09 50 39.5**	**-1.8**
LZH				pP		**PcP**	**09 50 42.8**	**-1.1**
LZH				*e*PP		**PP**	**09 54 00.8**	**-0.4**
LZH				pmax		pmax		
	comp=Z,15nm,1.5s							
LZH				pmax		pmax		
	comp=Z,49nm,8.9s							
LZH				LR		LR		
	comp=N,160nm,18.0s							
LZH				LR		LR		
	comp=E,170nm,17.8s							
LZH				LR		LR		
	comp=Z,200nm,19.6s							

IDC 14 09:49:00.6±2.0,1°38N×124°44E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/22,mbtmp3.3/3,MS3.5/1,Ms1 3.5/1, ms1mx2.7/21,Error ellipse: s-maj=212.6km s-min=27.0km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.31**	**156**	P	P	09 54 10.0	-0.5
	0.6nm,0.3s,baz=334,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.55**	**160**	P	P	09 54 40.8	+0.3
	0.2nm,0.4s,baz=332,slow=9.4,SNR=4.6						
ASAR				LR	LR	10 06 19.7	
	comp=Z,102nm,19.9s,baz=245,slow=39						
MKAR	**Makanchi Array**	**58.22**	**327**	P	P	09 58 56.9	+0.1
	0.3nm,0.6s,baz=120,slow=7.4,SNR=3.8						

IDC 14 09:50:19.3±1.1,6°04S×153°70E,h38km±6km,mb3.6/10, mb1 3.7/11,mb1mx3.6/23,mbtmp3.6/11,ML2.7/1,Error ellipse: s-maj=37.1km s-min=16.1km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.30**	**242**	Pn	Pn	09 52 02.5	-0.9
	0.7nm,0.3s,baz=36,slow=8.7,SNR=2.8						
PMG				Sn	Sn	09 53 22.8	-2.3
	1.1nm,0.3s,baz=241,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**23.35**	**232**	P	P	09 55 22.8	-1.7
	0.4nm,0.8s,baz=57,slow=9.0,SNR=2.3						
WRA				pP	pP	09 55 35.7	+1.1
	0.6nm,0.7s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**25.89**	**225**	P	P	09 55 47.1	-0.7
	0.3nm,0.5s,baz=59,slow=9.2,SNR=9.9						
ASAR				pP	pP	09 55 59.5	+1.1
	0.8nm,0.6s,baz=58,slow=9.2,SNR=6.8						
FITZ	**Fitzroy Crossi**	**29.89**	**244**	P	P	09 56 22.9	-0.8
	0.9nm,0.4s,baz=98,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**67.84**	**328**	P	P	10 01 15.2	+1.4
	0.5nm,0.7s,baz=123,slow=5.7,SNR=3.5						
MKAR	**Makanchi Array**	**81.84**	**319**	P	P	10 02 36.1	+1.5
	0.4nm,0.6s,baz=90,slow=6.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**82.67**	**326**	P	P	10 02 38.1	-0.7
	1.1nm,0.4s,baz=114,slow=5.8,SNR=5.9						
ZALV				pP	pP	10 02 50.2	-0.3
	1.0nm,0.5s,baz=115,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**82.96**	**22**	P	P	10 02 38.6	-1.4
	0.1nm,0.5s,baz=250,slow=5.3,SNR=3.9						
ILAR				pP	pP	10 02 51.2	-0.6
	0.3nm,0.7s,baz=230,slow=4.9,SNR=2.6						
QSPA	**South Pole Qui**	**83.93**	**180**	P	P	10 02 46.4	+1.1
	0.6nm,0.7s,baz=239,slow=1.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**85.32**	**322**	P	P	10 02 52.3	0.0
	0.6nm,0.3s,baz=105,slow=3.8,SNR=4.1						
BVAR	**Borovoye Array**	**90.76**	**323**	P	P	10 03 17.6	-0.8
	1.1nm,0.6s,baz=116,slow=6.8,SNR=6.6						
BVAR				pP	pP	10 03 30.1	-0.1
	1.9nm,0.8s,baz=104,slow=6.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**151.53**	**286**	PKPbc	PKPbc	10 10 11.0	+0.6
	0.6nm,0.6s,baz=46,slow=2.3,SNR=3.9						

IDC 14 09:51:19.9±0.8,53°82N×35°32W,h0km,mb3.6/10, mb1 3.8/11,mb1mx3.7/34,mbtmp3.6/11,ML2.7/1,Error ellipse: s-maj=33.1km s-min=16.6km az=13.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.33**	**286**	P	Pn	09 55 34.5	-0.8
	0.2nm,0.3s,baz=34,slow=2.6,SNR=6.3						
ESDC	**Sonseca Array**	**25.47**	**111**	P	P	09 56 47.6	-1.9
	0.5nm,0.4s,baz=314,slow=9.3,SNR=5.7						
ULM	**Lac du Bonnet**	**36.43**	**290**	P	P	09 58 25.6	-0.4
	0.7nm,0.3s,baz=6.9,slow=7.6,SNR=3.7						
YKA	**Yellowknife Ar**	**40.15**	**315**	P	P	09 58 56.1	-0.9
	0.2nm,0.7s,baz=60,slow=9.3,SNR=5.3						
YKA				PcP	PcP	10 01 00.9	-0.3
	0.3nm,0.7s,baz=61,slow=3.6,SNR=6.0						
INK	**Inuvik**	**44.26**	**328**	P	P	09 59 30.1	-0.4
	1.8nm,0.7s,baz=96,slow=8.9,SNR=3.7						
PDAR	**Pinedale Array**	**48.44**	**289**	P	P	10 00 03.2	-0.8
	0.9nm,0.7s,baz=54,slow=8.0,SNR=8.9						
TORD	**Torodi Ar. Bea**	**49.97**	**130**	P	P	10 00 16.3	+0.7
	1.4nm,0.8s,baz=330,slow=8.1,SNR=4.7						
TXAR	**Lajitas Array**	**54.30**	**272**	P	P	10 00 48.8	+0.9
	0.5nm,0.9s,baz=57,slow=4.6,SNR=3.7						
TXAR				PcP	PcP	10 01 52.5	+0.4
	0.3nm,0.6s,baz=124,slow=6.7,SNR=3.6						
NVAR	**Mina Array Bea**	**56.27**	**290**	P	P	10 01 02.5	+0.3
	0.3nm,0.7s,baz=76,slow=6.7,SNR=3.5						
BVAR	**Borovoye Array**	**56.99**	**44**	P	P	10 01 07.8	+1.0
	0.4nm,0.6s,baz=267,slow=2.9,SNR=2.6						
MKAR	**Makanchi Array**	**66.65**	**42**	P	P	10 02 11.8	-0.2
	0.5nm,0.7s,baz=344,slow=7.6,SNR=5.8						
QSPA	**South Pole Qui**	**143.71**	**180**	PKhKP	PKPpre	10 10 51.3	
	2.3nm,0.8s,baz=333,slow=2.2,SNR=8.2						
WRA	**Warramunga Arr**	**145.26**	**17**	PKPbc	PKPbc	10 10 57.7	-1.3
	0.3nm,0.8s,baz=351,slow=2.6,SNR=3.6						
ASAR	**Alice Springs**	**148.81**	**19**	PKPbc	PKPbc	10 11 08.9	-0.2
	0.4nm,0.6s,baz=356,slow=2.3,SNR=8.1						

IDC 14 09:58:48.4±0.9,53°90N×35°43W,h0km,mb3.5/8, mb1 3.7/9,mb1mx3.5/34,mbtmp3.5/9,ML2.6/1,MS3.5/4, Ms1 3.5/4,ms1mx3.0/38,Error ellipse: s-maj=32.6km s-min=18.2km az=10.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.25**	**286**	P	P	10 03 03.9	+0.8
	0.2nm,0.3s,baz=57,slow=14,SNR=5.8						
ESDC	**Sonseca Array**	**25.56**	**111**	P	P	10 04 20.1	+1.3
	0.2nm,0.4s,baz=316,slow=9.0,SNR=4.2						
SADO	**Sadowa**	**29.49**	**270**	LR	LR	10 15 52.6	
	comp=Z,116nm,18.0s,baz=324,slow=35						
GERES	**GERESS Array B**	**30.57**	**79**	LR	LR	10 15 37.1	
	comp=Z,67nm,18.2s,baz=125,slow=33						
VRAC	**Vranov**	**32.03**	**77**	LR	LR	10 17 51.0	
	comp=Z,69nm,18.6s,baz=171,slow=36						
YKA	**Yellowknife Ar**	**40.34**	**315**	P	P	10 06 25.1	+0.4
	0.1nm,0.3s,baz=60,slow=8.7,SNR=3.4						
PDAR	**Pinedale Array**	**48.35**	**289**	P	P	10 07 31.2	-0.6
	0.5nm,0.6s,baz=69,slow=8.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**50.07**	**130**	P	P	10 07 44.0	-1.0
	1.5nm,0.9s,baz=327,slow=7.8,SNR=4.2						
GNI	**Garni**	**53.48**	**70**	LR	LR	10 30 41.1	
	comp=Z,39nm,20.6s,baz=247,slow=36						
TXAR	**Lajitas Array**	**54.23**	**272**	P	P	10 08 15.6	-0.4
	0.1nm,0.4s,baz=49,slow=9.8,SNR=2.9						
BVAR	**Borovoye Array**	**56.98**	**44**	P	P	10 08 33.4	-1.9
	0.4nm,0.7s,baz=292,slow=9.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**62.07**	**41**	P	P	10 09 11.5	+1.1
	0.3nm,0.3s,baz=322,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**66.63**	**41**	P	P	10 09 40.5	0.0
	0.4nm,0.7s,baz=341,slow=5.6,SNR=4.9						
ASAR	**Alice Springs**	**148.75**	**19**	PKPbc	PKPbc	10 18 37.0	-0.6
	0.7nm,0.7s,baz=357,slow=2.6,SNR=7.5						

IDC 14 09:59:20.9±4.2,17°63S×176°03E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/18,mbtmp4.0/4,MS3.8/10, Ms1 3.8/10,ms1mx3.6/23,Error ellipse: s-maj=161.4km s-min=37.4km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.04**	**242**	*e*LR	LR	10 04 20.7	
	776nm,26.1s						
AFI	**Afiamalu**	**12.31**	**74**	LR	LR	10 06 11.6	
	comp=Z,424nm,21.2s,baz=262,slow=33						
HNR	**Honiara**	**17.62**	**295**	LR	LR	10 09 10.6	
	comp=Z,111nm,20.3s,baz=273,slow=34						
CTA	**Charters Tower**	**28.27**	**260**	LR	LR	10 15 08.0	
	comp=Z,242nm,20.1s,baz=63,slow=34						
STKA	**Stephens Creek**	**34.17**	**239**	LR	LR	10 18 47.6	
	comp=Z,178nm,18.6s,baz=26,slow=34						
WRA	**Warramunga Arr**	**39.47**	**260**	P	P	10 06 52.8	-0.6
	0.7nm,0.6s,baz=93,slow=8.8,SNR=13						
WRA				LR	LR	10 21 03.7	
	comp=Z,138nm,21.6s,baz=90,slow=33						
ASAR	**Alice Springs**	**39.77**	**254**	P	P	10 06 56.0	+0.2
	2.7nm,1.1s,baz=84,slow=8.6,SNR=11						
ASAR				LR	LR	10 22 27.9	
	comp=Z,230nm,18.7s,baz=127,slow=35						
FITZ	**Fitzroy Crossi**	**47.84**	**261**	LR	LR	10 26 32.5	
	comp=Z,141nm,18.8s,baz=116,slow=34						
MJAR	**Matsushiro Arr**	**64.65**	**327**	LR	LR	10 33 40.4	
	comp=Z,76nm,18.7s,baz=85,slow=32						
PETK	**Petropavlovsk-**	**72.21**	**349**	LR	LR	10 41 18.9	
	comp=Z,31nm,18.6s,baz=101,slow=35						
CMAR	**Chiang Mai Arr**	**83.83**	**291**	P	P	10 11 53.5	+0.5
	0.8nm,0.3s,baz=92,slow=7.9,SNR=8.2						
SONM	**Songino Array**	**89.94**	**321**	P	P	10 12 21.6	-0.6
	1.0nm,1.0s,baz=116,slow=6.6,SNR=5.3						
PDAR	**Pinedale Array**	**90.86**	**45**	LR	LR	10 45 28.1	
	comp=Z,61nm,18.8s,baz=87,slow=30						
GERES	**GERESS Array B**	**145.72**	**339**	PKPbc	PKPdf	10 19 01.4	-0.1
	1.3nm,0.7s,baz=25,slow=3.5,SNR=11						
DAVOX	**Davos/Dischmat**	**148.76**	**342**	PKPbc	PKPbc	10 19 09.6	-1.0
	2.5nm,0.8s,baz=225,slow=2.9,SNR=4.2						

IDC 14 10:09:32.4±8.7,22°92N×143°02E,h149km±54km,mb3.4/6, mb1 3.4/8,mb1mx3.2/28,mbtmp3.4/8,Error ellipse: s-maj=75.4km s-min=67.0km az=5.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.23**	**350**	P	Pn	10 10 35.9	+0.3
	15nm,0.3s,baz=276,slow=17,SNR=7.7						
CBIJ				S	Sn	10 11 24.9	+0.1
	14nm,0.3s,baz=128,slow=24,SNR=9.6						
KSRS	**Korea Array**	**19.46**	**322**	P	Pn	10 13 49.4	-0.8
	0.1nm,0.3s,baz=144,slow=9.6,SNR=4.0						
SONM	**Songino Array**	**38.31**	**320**	P	P	10 16 38.4	-0.2
	0.5nm,0.5s,baz=131,slow=6.8,SNR=5.8						
MKAR	**Makanchi Array**	**53.77**	**312**	P	P	10 18 38.6	-0.8
	0.2nm,0.5s,baz=83,slow=6.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**56.53**	**316**	P	P	10 18 58.6	-0.4
	0.3nm,0.3s,baz=95,slow=7.7,SNR=7.5						
BVAR	**Borovoye Array**	**61.65**	**319**	P	P	10 19 34.6	+0.4
	1.2nm,0.5s,baz=85,slow=7.5,SNR=6.9						
ARCES	**ARCESS Array B**	**77.72**	**341**	P	P	10 21 13.1	+0.7
	3.3nm,1.0s,baz=64,slow=5.8,SNR=3.9						
FINES	**FINESS Array B**	**82.02**	**334**	P	P	10 21 35.0	-0.5
	1.0nm,0.8s,baz=68,slow=6.6,SNR=7.0						

IDC 14 10:09:33.7±1.5,17°37S×175°89E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/19,mbtmp3.7/3,MS3.5/1,Ms1 3.5/1, ms1mx2.8/27,Error ellipse: s-maj=43.7km s-min=40.6km az=171.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**28.18**	**260**	LR	LR	10 24 13.4	
	comp=Z,87nm,20.3s,baz=60,slow=31						
PPT2	**Papeete2**	**32.91**	**96**	*e*LR	LR	10 14 59.7	
	462nm,26.5s,baz=258						
WRA	**Warramunga Arr**	**39.38**	**260**	P	P	10 17 05.0	-0.5
	0.5nm,0.7s,baz=92,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**39.71**	**254**	P	P	10 17 08.4	+0.3
	0.5nm,0.7s,baz=78,slow=7.8,SNR=6.7						
QSPA	**South Pole Qui**	**72.68**	**180**	P	P	10 21 03.3	0.0
	1.7nm,1.0s,baz=60,slow=20,SNR=4.2						
GERES	**GERESS Array B**	**145.42**	**339**	PKPbc	PKPbc	10 29 13.1	-0.6
	0.6nm,0.5s,baz=8.5,slow=2.7,SNR=8.0						
DAVOX	**Davos/Dischmat**	**148.47**	**341**	PKPbc	PKPbc	10 29 21.7	-1.0
	1.4nm,0.6s,baz=356,slow=16,SNR=4.8						

DJA ***14*** *10:40:25.6±2.0,2°N±18°×12°7E±°,h10km,M4.6/6,mb4.7/3, mB5.3/1,MLv4.6/6,Mw(mB)4.7/1*

ISCJB ***14*** *10:40:28.9±0.3,1°81N±0°04×126°44E±0°05,h47km, mb4.3/24,MS3.3/1,Error ellipse: s-maj=6.7km s-min=5.1km az=166.2*

NEIC ***14*** *10:40:29.3±0.3,1°77N×126°39E,h35km,mb4.3/6,Error ellipse: s-maj=10.4km s-min=6.0km az=81.0*

IDC ***14*** *10:40:30.0±2.6,1°78N×126°41E,h39km±22km,mb4.0/18, mb1 4.1/20,mb1mx4.1/25,mbtmp4.0/20,ML4.2/2,MS3.4/1, Ms1 3.6/1,ms1mx2.5/43,Error ellipse: s-maj=23.6km s-min=9.1km az=78.0*

ISC 14 10:40:30.7±0.4,1°81N±0°06×126°46E±0°07,h47km,n71,

σ1§01/80,**mb4.3**/24,**1C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.37**	**138**	P	**Pn**	**10 40 51.7**	**-1.7**
TNTI				S	**Sn**	**10 41 11.4**	**+1.0**
MNI	**Manado**	**1.65**	**258**	P	**Pn**	**10 40 56.2**	**-1.1**
LBMI	**Labuha**	**2.64**	**157**	P	**Pn**	**10 41 10.6**	**-0.2**
KMSI	**Cibinong**	**2.76**	**244**	P	**Pn**	**10 41 13.2**	**+0.8**
LUWI	**Luwuk**	**4.64**	**233**	P	**Pn**	**10 41 39.7**	**+1.4**
MRSI	**Marisa**	**4.70**	**254**	P	**Pn**	**10 41 40.8**	**+1.7**
CTBH	**Cotabato--PC H**	**5.81**	**338**	*i*P	**Pn**	**10 41 56.8**	**+2.4**
TTSI	**Tana Toraja**	**8.20**	**234**	P	**Pn**	**10 42 27.6**	**+0.5**
	42nm,0.7s						
SPSI	**Sidrap Palu**	**8.80**	**229**	P	**Pn**	**10 42 36.2**	**+0.8**
	26nm,0.9s,1μm						
BKSI	**Bulukumba**	**9.49**	**222**	P	**Pn**	**10 42 46.5**	**+1.6**
KAPI	**Kappang**	**9.53**	**225**	Pn	**Pn**	**10 42 44.0**	**-1.3**
	2.9nm,0.3s,baz=50,slow=5.9,SNR=7.6						
KAPI	**Kappang**	**9.53**	**225**	Pn	**Pn**	**10 42 44.0**	**-1.3**
KSM	**Kuching**	**16.14**	**269**	*e*Pn	**Pn**	**10 44 12.4**	**-2.1**
	17nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P	**P**	**10 44 56.7**	**-0.6**
	0.4nm,0.3s,baz=29,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P		**10 44 56.7**	**-0.6**
WRAB	**Tennant Creek**	**22.95**	**161**	*e*P	**P**	**10 45 29.8**	**-1.3**
	8.2nm,0.4s						
WRA	**Warramunga Arr**	**22.95**	**161**	P	**P**	**10 45 29.8**	**-1.5**
	5.5nm,0.4s,baz=340,slow=11,SNR=100						
WRA				PcP	**PcP**	**10 49 20.8**	**+0.5**
	0.6nm,0.5s,baz=323,slow=2.1,SNR=5.2						
WRA				S	**S**	**10 49 38.4**	**+0.2**
	0.9nm,0.8s,baz=332,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**22.95**	**161**	P	**P**	**10 45 29.8**	**-1.5**
WRA				PcP	**PcP**	**10 49 20.8**	**+0.5**
WRA				S	**S**	**10 49 38.4**	**+0.2**
MBWA	**Marble Bar**	**23.75**	**196**	*e*P	**P**	**10 45 37.5**	**-1.3**
	11nm,0.9s						
AS31	**Alice Springs**	**26.33**	**164**	*e*P	**P**	**10 46 02.2**	**-0.2**
AS31				*e*PcP	**PcP**	**10 49 28.2**	**+0.5**
ASAR	**Alice Springs**	**26.34**	**164**	P	**P**	**10 46 02.7**	**+0.3**
	2.8nm,0.5s,baz=345,slow=7.9,SNR=58						
ASAR				PcP	**PcP**	**10 49 28.6**	**+0.9**
	0.9nm,0.5s,baz=350,slow=2.2,SNR=8.4						
ASAR				S	**S**	**10 50 34.1**	**+1.8**
	0.3nm,0.8s,baz=349,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**26.34**	**164**	P	**P**	**10 46 02.7**	**+0.3**
ASAR				PcP	**PcP**	**10 49 28.6**	**+0.9**
ASAR				S	**S**	**10 50 34.1**	**+1.8**
CBIJ	**Chichi jima**	**29.32**	**30**	P	**P**	**10 46 30.1**	**+1.0**
	96nm,0.7s,baz=333,slow=21,SNR=3.8						
CBIJ	**Chichi jima**	**29.32**	**30**	P		**10 46 30.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P	**P**	**10 46 50.2**	**+0.5**
	0.5nm,0.4s,baz=114,slow=5.8,SNR=4.5						
CMAR				LR	LR	11 00 09.2	
	comp=Z,66nm,20.7s,baz=145,slow=37						
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P	**P**	**10 46 50.2**	**+0.5**
KSAR	**Wonju Array Be**	**35.49**	**2**	P	**P**	**10 47 24.5**	**+1.7**
KSRS	**Korea Array**	**35.50**	**2**	P	**P**	**10 47 24.5**	**+1.6**
	3.1nm,0.5s,baz=177,slow=9.8,SNR=18						
MAT	**Matsushiro**	**36.23**	**16**	P	**P**	**10 47 29.2**	**-0.1**
MJAR	**Matsushiro Arr**	**36.23**	**16**	P	**P**	**10 47 29.4**	**+0.1**
	7.0nm,0.8s,baz=184,slow=10.0,SNR=11						
MJAR	**Matsushiro Arr**	**36.23**	**16**	P	**P**	**10 47 29.4**	**+0.1**
STKA	**Stephens Creek**	**36.45**	**158**	P	**P**	**10 47 31.1**	**0.0**
	2.6nm,0.6s,baz=22,slow=6.3,SNR=6.1						
STKA	**Stephens Creek**	**36.45**	**158**	P	**P**	**10 47 31.1**	**0.0**
USRK	**Ussuriysk Arra**	**42.50**	**6**	P	**P**	**10 48 22.1**	**+0.8**
	5.7nm,0.9s,baz=195,slow=8.0,SNR=8.7						
JIRN	**Jiri**	**46.30**	**308**	*e*P	**P**	**10 48 52.9**	**+0.4**
GUN	**Gumba**	**46.65**	**308**	*e*P	**P**	**10 48 54.8**	**-0.4**
	6.8nm,0.4s						
KOLN	**Koldanda**	**48.41**	**306**	*e*P	**P**	**10 49 08.4**	**-0.3**
	13nm,0.6s						
DANN	**Dangsing**	**48.53**	**307**	*e*P	**P**	**10 49 09.5**	**-0.2**
	23nm,0.9s						
SONM	**Songino Array**	**49.03**	**342**	P	**P**	**10 49 12.8**	**-0.2**
	0.8nm,0

APZ	**The Paps**	**3.25**	**44**	Pn	**Pn**	**10 51 38.4**	**-1.2**
APZ				Sn	**Sn**	**10 52 14.1**	**-3.3**
PYZ	**Puysegur Point**	**3.32**	**25**	Pn	**Pn**	**10 51 38.2**	**-2.4**
PYZ				Sn	**Sn**	**10 52 14.6**	**-4.5**
WHZ	**Wether Hill Ro**	**3.98**	**35**	Pn	**Pn**	**10 51 48.3**	**-1.4**
WHZ				*e*Sn	**Sn**	**10 52 35.1**	**-0.2**
SYZ	**Scrubby Hill**	**4.01**	**50**	Pn	**Pn**	**10 51 49.7**	**-0.4**
DCZ	**Deep Cove**	**4.08**	**25**	Pn	**Pn**	**10 51 49.1**	**-2.0**
MLZ	**Mavora Lakes**	**4.53**	**33**	Pn	**Pn**	**10 51 56.3**	**-0.9**
TUZ	**Tuapeka**	**4.66**	**48**	Pn	**Pn**	**10 51 58.5**	**-0.6**
MSZ	**Milford Sound**	**5.04**	**27**	P	**Pn**	**10 52 04.0**	**-0.3**
MSZ	**Milford Sound**	**5.04**	**27**	Pn	**Pn**	**10 52 04.0**	**-0.3**
EAZ	**Earnscleugh**	**5.07**	**40**	Pn	**Pn**	**10 52 03.5**	**-1.1**
WKZ	**Wanaka**	**5.28**	**36**	Pn	**Pn**	**10 52 07.3**	**-0.2**
ODZ	**Otahua Downs**	**5.81**	**47**	*e*Pn	**Pn**	**10 52 13.6**	**-1.3**
JCZ	**Jackson Bay**	**5.84**	**30**	Pn	**Pn**	**10 52 15.8**	**+0.4**
LBZ	**Lake Benmore**	**6.12**	**40**	Pn	**Pn**	**10 52 16.4**	**-2.6**
MCQ	**Macquarie Isla**	**6.38**	**212**	*e*P	**Pn**	**10 52 22.9**	**+0.3**
MCQ	**Macquarie Isla**	**6.38**	**212**	*e*Pn	**Pn**	**10 52 22.9**	**+0.3**
MCQ	**Macquarie Isla**	**6.38**	**212**	P	**Pn**	**10 52 22.6**	**0.0**
	baz=6.3,SNR=35						
RPZ	**Rata Peaks**	**7.03**	**41**	*e*Pn	**Pn**	**10 52 28.5**	**-3.1**
KHZ	**Kahutara**	**9.17**	**46**	*e*Pn	**Pn**	**10 53 02.5**	**+1.6**
SNZO	**South Karori**	**10.58**	**46**	*e*Pn	**Pn**	**10 53 19.3**	**-0.9**
SNZO				*e*Sn	Sn	10 55 07.7	-10
TAU	**Tasmania Unive**	**13.58**	**291**	*e*P	**Pn**	**10 53 58.6**	**-2.6**
TAU				*e*		10 56 22.9	
TAU	**Tasmania Unive**	**13.58**	**291**	*e*Pn	**Pn**	**10 53 58.6**	**-2.6**
TAU				*e*Sn	Sn	10 56 22.9	-8.2
TAU	**Tasmania Unive**	**13.58**	**291**	Pn	**Pn**	**10 53 58.0**	**-3.2**
	519nm,0.5s,SNR=27						
MOO	**Moorlands**	**13.93**	**292**	P	**Pn**	**10 54 03.1**	**-2.7**
	baz=14,SNR=23						
URZ	**Urewera**	**14.13**	**44**	Pn	**Pn**	**10 54 06.0**	**-2.7**
	0.8nm,0.3s,baz=38,slow=17,SNR=6.5						
URZ				Sn	Sn	10 56 32.5	-12
	0.9nm,0.3s,baz=137,slow=18,SNR=3.9						
URZ				LR	LR	11 00 04.2	
	comp=Z,2µm,20.7s,baz=231,slow=39						
URZ	**Urewera**	**14.13**	**44**	Pn	**Pn**	**10 54 06.0**	**-2.7**
URZ				Sn	Sn	10 56 32.5	-12
MILA	**Mila**	**16.56**	**311**	P	Pn	10 54 26.5	-14
	baz=17,SNR=8.2						
CNB	**Canberra Magne**	**17.87**	**315**	P	**P**	**10 54 58.4**	**+0.9**
	baz=18,SNR=13						
CAN	**Canberra**	**18.03**	**314**	*e*P	**P**	**10 55 00.4**	**+1.1**
CAN				pmax	pmax		
	comp=Z,40nm,1.1s						
CAN	**Canberra**	**18.03**	**314**	*e*Pn	**P**	**10 55 00.4**	**+1.1**
	comp=Z,40nm,1.1s						
CAN				*e*Sn	Sn	10 58 04.0	-15
TOO	**Toolangi**	**18.09**	**303**	P	**P**	**10 55 02.0**	**+2.0**
TOO	baz=18,SNR=7.4			S	Sn	10 58 10.0	-11
	baz=18,SNR=5.0						
MGCD	**Mangrove Creek**	**18.91**	**323**	P	**Pn**	**10 55 10.9**	**+1.3**
	baz=19,SNR=6.2						
MGCD				S	Sn	10 58 24.1	-16
	baz=19,SNR=4.8						
YNG	**Young**	**19.15**	**315**	P	Pn	10 55 18.3	+5.7
	baz=19,SNR=7.3						
ARMA	**Armidale**	**21.21**	**327**	*e*P	**P**	**10 55 36.0**	**+2.0**
ARMA	**Armidale**	**21.21**	**327**	P	**P**	**10 55 36.1**	**+2.0**
	baz=21,SNR=5.3						
CMSA	**Cobar Meteorol**	**22.70**	**314**	P	**P**	**10 55 50.2**	**+0.3**
	baz=23,SNR=8.5						
STKA	**Stephens Creek**	**24.48**	**306**	P	**P**	**10 56 08.1**	**+0.9**
	comp=Z,44nm,0.9s,baz=137,slow=9.8,SNR=35						
STKA				LR	LR	11 04 19.3	
	comp=Z,1µm,19.7s,baz=171,slow=33						
STKA	**Stephens Creek**	**24.48**	**306**	*e*P	**P**	**10 56 07.0**	**-0.2**
	comp=Z,9.3nm,0.9s						
STKA	**Stephens Creek**	**24.48**	**306**	P	**P**	**10 56 08.1**	**+0.9**
	baz=24,SNR=27						
RMQ	**Roma**	**25.82**	**326**	P	**P**	**10 56 20.1**	**+0.7**
	baz=26,SNR=34						
EIDS	**Eidsvold**	**26.05**	**331**	*e*P	**P**	**10 56 21.4**	**0.0**
	comp=Z,143nm,1.8s						
EIDS	**Eidsvold**	**26.05**	**331**	P	**P**	**10 56 21.9**	**+0.5**
	baz=26,SNR=8.8						
DZM	**Mont Dzumac**	**27.11**	**4**	*e*P	**P**	**10 56 33.0**	**+1.9**
	comp=Z,147nm,1.4s						
DZM				*e*LR	LR	11 03 21.5	
	comp=Z,944nm,22.4s						
DZM	**Mont Dzumac**	**27.11**	**4**	P	**P**	**10 56 32.9**	**+1.9**
	comp=Z,26nm,0.8s,baz=173,slow=11,SNR=9.9						
DZM				LR	LR	11 05 45.6	
	comp=Z,802nm,18.6s,baz=205,slow=33						
DZM	**Mont Dzumac**	**27.11**	**4**	P	**P**	**10 56 32.9**	**+1.9**
QLP	**Quilpie**	**27.58**	**318**	P	**P**	**10 56 35.4**	**+0.2**
	baz=28,SNR=13						
VNDA	**Vanda**	**28.45**	**181**	P	**P**	**10 56 41.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=251,slow=1.9,SNR=5.4						
VNDA				LR	LR	11 05 51.8	
	comp=Z,792nm,18.6s,baz=16,slow=32						
VNDA	**Vanda**	**28.45**	**181**	P	**P**	**10 56 41.8**	**-0.7**
SBA	**Scott Base**	**28.77**	**179**	*e*P	**P**	**10 56 44.6**	**-0.8**
SBA	**Scott Base**	**28.77**	**179**	*e*P	**P**	**10 56 44.6**	**-0.8**
CTA	**Charters Tower**	**32.58**	**327**	P	**P**	**10 57 19.2**	**-0.2**
	comp=Z,20nm,0.8s,baz=160,slow=9.0,SNR=16						
CTA				LR	LR	11 09 02.8	
	comp=Z,767nm,19.7s,baz=157,slow=34						
CTA	**Charters Tower**	**32.58**	**327**	P	**P**	**10 57 19.2**	**-0.2**
CTAO	**Charters Tower**	**32.58**	**327**	*e*P	**P**	**10 57 19.8**	**+0.3**
CTAO	**Charters Tower**	**32.58**	**327**	*e*P	**P**	**10 57 19.8**	**+0.3**
QIS	**Mount Isa**	**34.89**	**316**	P	**P**	**10 57 39.3**	**-0.2**
	baz=35,SNR=31						
AS31	**Alice Springs**	**35.11**	**305**	*e*P	**P**	**10 57 40.8**	**-0.7**
AS31				*e*PcP	**PcP**	**11 00 12.0**	**-0.7**
ASAR	**Alice Springs**	**35.11**	**305**	P	**P**	**10 57 40.9**	**-0.6**
	comp=Z,25nm,0.8s,baz=137,slow=7.9,SNR=243						
ASAR				PcP	**PcP**	**11 00 11.8**	**-0.8**
	comp=Z,7.0nm,1.0s,baz=139,slow=3.0,SNR=9.0						
ASAR				LR	LR	11 10 20.6	
	comp=Z,706nm,18.3s,baz=152,slow=34						
ASAR	**Alice Springs**	**35.11**	**305**	P	**P**	**10 57 40.9**	**-0.6**
ASAR				PcP	**PcP**	**11 00 11.8**	**-0.8**
WRA	**Warramunga Arr**	**37.95**	**309**	P	**P**	**10 58 04.2**	**-1.5**
	comp=Z,35nm,0.9s,baz=146,slow=8.0,SNR=155						
WRA				PcP	**PcP**	**11 00 21.0**	**-0.2**
	comp=Z,11nm,0.8s,baz=142,slow=2.8,SNR=22						
WRA				LR	LR	11 12 18.4	
	comp=Z,475nm,19.9s,baz=155,slow=34						
WRA	**Warramunga Arr**	**37.95**	**309**	P	**P**	**10 58 04.2**	**-1.5**
WRA				PcP	**PcP**	**11 00 21.0**	**-0.2**
WRAB	**Tennant Creek**	**37.95**	**309**	*e*P	**P**	**10 58 04.2**	**-1.6**
WRAB				*e**PP	**pP**	**10 58 12.3**	**-1.5**
WRAB				*e*		11 00 20.8	
WRAB				pmax	pmax		
	comp=Z,53nm,1.0s						
WRAB	**Tennant Creek**	**37.95**	**309**	*e*P	**P**	**10 58 04.2**	**-1.6**
	comp=Z,53nm,1.0s						
WRAB				*e*pP	**pP**	**10 58 12.3**	**-1.5**
WRAB				*e*PcP	**PcP**	**11 00 20.8**	**-0.4**
WRAB	**Tennant Creek**	**37.95**	**309**	P	**P**	**10 58 04.0**	**-1.8**
	comp=Z,283nm,1.0s,SNR=21						
KLBR	**Kellerberrin**	**39.12**	**279**	S	S	11 03 43.1	-30
	baz=39,SNR=6.9						
COEN	**Coen**	**39.34**	**326**	*e*P	**P**	**10 58 16.9**	**-0.5**
	comp=Z,86nm,1.0s						
COEN				*e*pP	**pP**	**10 58 24.4**	**-1.0**
COEN	**Coen**	**39.34**	**326**	P	**P**	**10 58 17.2**	**-0.2**
	baz=40,SNR=6.0						
AFI	**Afiamalu**	**40.16**	**37**	P	**P**	**10 58 25.6**	**+1.3**
	comp=Z,35nm,1.0s,baz=232,slow=13,SNR=4.2						
AFI				LR	LR	11 12 21.7	
	comp=Z,517nm,20.7s,baz=198,slow=32						
AFI	**Afiamalu**	**40.16**	**37**	P	**P**	**10 58 25.6**	**+1.3**
QSPA	**South Pole Qui**	**40.92**	**180**	PcP	**PcP**	**11 00 31.0**	**+1.0**
	comp=Z,8.7nm,0.9s,baz=346,slow=1.8,SNR=12						
QSPA	**South Pole Qui**	**40.92**	**180**	*e*P	**P**	**10 58 27.8**	**-2.4**
	comp=Z,19nm,1.4s						
QSPA				PcP	**PcP**	**11 00 31.1**	**+1.0**
MEEK	**Meekatharra**	**41.93**	**285**	P	**P**	**10 58 38.6**	**-0.1**
	baz=42,SNR=3.4						
PMG	**Port Moresby**	**42.29**	**334**	P	**P**	**10 58 42.4**	**+0.8**
	comp=Z,29nm,1.0s,baz=207,slow=1.6,SNR=8.5						
PMG	**Port Moresby**	**42.29**	**334**	P	**P**	**10 58 42.4**	**+0.8**
PMG	**Port Moresby**	**42.29**	**334**	P	**P**	**10 58 43.1**	**+1.5**
	comp=Z,56nm,1.4s,comp=Z,744nm						
FITZ	**Fitzroy Crossi**	**44.13**	**301**	P	**P**	**10 58 56.4**	**-0.2**
	comp=Z,36nm,0.8s,baz=161,slow=8.1,SNR=63						
FITZ	**Fitzroy Crossi**	**44.13**	**301**	*e*P	**P**	**10 58 56.3**	**-0.2**
	comp=Z,41nm,0.8s						
FITZ	**Fitzroy Crossi**	**44.13**	**301**	P	**P**	**10 58 56.4**	**-0.2**
	baz=44,SNR=24						
TBI	**Tubuai**	**44.17**	**71**	*e*S	**S**	**11 05 33.9**	**+5.7**
	comp=Z,194nm,33.0s						
TBI				*e*LR	LR	11 11 15.9	
	comp=Z,447nm,28.0s						
MTN	**Manton Dam**	**45.58**	**311**	P	**P**	**10 59 07.0**	**-1.1**
	baz=46,SNR=13						
PPT2	**Papeete2**	**48.45**	**66**	*e*S	**S**	**11 06 30.8**	**+1.0**
	comp=Z,200nm,32.0s						
PPT2				*e*LR	LR	11 13 22.9	
	comp=Z,607nm,22.8s						
PPT	**Papeete**	**48.46**	**66**	LR	LR	11 17 12.2	
	comp=Z,644nm,20.1s,baz=342,slow=33						
MAW	**Mawson**	**49.78**	**209**	LR	LR	11 19 04.2	
	comp=Z,755nm,18.6s,baz=217,slow=34						
RKT	**Rikitea**	**53.60**	**84**	*e*LR	LR	11 15 40.4	
	comp=Z,355nm,23.5s						
SNAA	**Sanae**	**59.11**	**185**	*e*P	**P**	**11 00 49.0**	**+1.1**
	comp=Z,7.3nm,1.1s						
VNA3	**Neumayer Olymp**	**59.80**	**182**	*e*sP	sP	11 01 02.6	-1.6
VNA2	**Neumayer--Watz**	**60.05**	**183**	*e*sP	sP	11 01 04.7	-1.2
PCI	**Palu**	**61.52**	**307**	P	**P**	**11 01 03.4**	**-1.6**
	baz=62,SNR=11						
SBUM	**Sibu**	**68.45**	**302**	P	**P**	**11 01 51.5**	**+1.4**
	comp=Z,11nm,1.6s						
KSM	**Kuching**	**68.73**	**299**	P	**P**	**11 01 51.4**	**-0.4**
	baz=69,SNR=5.0						
PLCA	**Paso Flores**	**78.09**	**140**	P	**P**	**11 02 48.1**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=51,slow=13,SNR=3.1						
PLCA				LR	LR	11 30 17.7	
	comp=Z,193nm,18.1s,baz=92,slow=30						
PLCA	**Paso Flores**	**78.09**	**140**	P	**P**	**11 02 48.1**	**+1.3**
JNU	**Nakatsue**	**87.31**	**332**	P	**P**	**11 03 35.0**	**+0.6**
	comp=Z,19nm,0.9s,baz=133,slow=14,SNR=5.6						
JNU	**Nakatsue**	**87.31**	**332**	P	**P**	**11 03 35.0**	**+0.6**
MJAR	**Matsushiro Arr**	**88.54**	**339**	P	**P**	**11 03 41.2**	**+1.0**
	comp=Z,6.7nm,1.0s,baz=176,slow=6.4,SNR=7.5						
MJAR	**Matsushiro Arr**	**88.54**	**339**	P	**P**	**11 03 41.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.95**	**300**	P	**P**	**11 03 43.1**	**+0.6**
	comp=Z,8.4nm,0.9s,baz=162,slow=3.6,SNR=52						
CMAR				LR	LR	11 44 31.3	
	comp=Z,192nm,18.6s,baz=348,slow=36						
CMAR	**Chiang Mai Arr**	**88.95**	**300**	P	**P**	**11 03 43.1**	**+0.6**
WHN	**Wuhan**	**91.17**	**318**	*e*P	P	11 03 58.0	+5.5
GYA	**Guiyang**	**91.32**	**310**	P	**P**	**11 03 55.0**	**+1.5**
GYA				PP	**PP**	**11 07 35.8**	**+4.3**
GYA				SKS	**SKSac**	**11 14 24.3**	**+0.4**
GYA				S	**S**	**11 14 51.6**	**+1.0**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,470nm,19.4s						
GYA				LR	LR		
	comp=E,410nm,20.2s						
GYA				LR	LR		
	comp=Z,450nm,18.9s						
KSRS	**Korea Array**	**92.22**	**332**	P	**P**	**11 03 59.0**	**+1.7**
	comp=Z,8.8nm,0.9s,baz=145,slow=5.6,SNR=16						
KSRS				LR	LR	11 43 25.8	
	comp=Z,142nm,18.3s,baz=160,slow=34						
KSAR	**Wonju Array Be**	**92.23**	**332**	P	**P**	**11 03 59.0**	**+1.7**
KMI	**Kunming**	**92.23**	**307**	P	**P**	**11 03 59.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
BOSA	**Boshof**	**94.50**	**215**	LR	LR	11 39 59.3	
	comp=Z,198nm,20.0s,baz=165,slow=31						
CPUP	**Villa Florida**	**96.00**	**143**	LR	LR	11 40 14.5	
	comp=Z,212nm,21.6s,baz=187,slow=31						
CD2	**Chengdu**	**96.42**	**311**	P	**P**	**11 04 19.3**	**+2.5**
CD2				pP	**pP**	**11 04 27.8**	**+2.3**
CD2				sP	**sP**	**11 04 31.0**	**+2.4**
CD2				PP	PP	11 08 16.6	+5.3
CD2				SKS	**SKSac**	**11 14 52.9**	**+1.6**
CD2				S	**ScS**	**11 15 35.5**	**-0.2**
CD2				sS	**sS**	**11 15 49.8**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,60nm,4.8s						
CD2				LR	LR		
	comp=N,340nm,5.9s						
CD2				LR	LR		
	comp=Z,290nm,6.5s						
XAN	**Xi'an**	**96.55**	**316**	P	**P**	**11 04 17.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,22nm,5.1s						
BJI	**Beijing**	**98.63**	**324**	P	Pdif	11 04 28.8	+2.4
BJI				LR	LR		
	comp=Z,120nm,27.6s						
CN2	**Changchun**	**98.78**	**332**	*e*P	Pdif	11 04 30.8	+3.8
CN2				*e*sP	sP	11 04 41.9	+3.0
CN2				*e*S	**ScS**	**11 15 56.9**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LPAZ	**La Paz**	**99.81**	**129**	LR	LR	11 41 55.4	
	comp=Z,64nm,18.5s,baz=305,slow=31						
LZH	**Lanzhou**	**100.58**	**314**	*e*P	**Pdif**	**11 04 35.0**	**-0.5**
LZH				*e*PP	**PP**	**11 08 46.3**	**+3.1**
LZH				SKS	**SKSac**	**11 15 12.5**	**+0.1**
LZH				*e*S	**Sdif**	**11 16 09.0**	**-1.4**
LZH				pmax	pmax		
	comp=Z,15nm,1.6s						
LZH				pmax	pmax		
	comp=Z,97nm,8.2s						
LZH				LR	LR		
	comp=N,220nm,19.0s						
LZH				LR	LR		
	comp=E,200nm,18.7s						
LZH				LR	LR		
	comp=Z,300nm,20.0s						
HHC	**Hu-ho-hao-te**	**101.13**	**322**	*e*P	**Pdif**	**11 04 40.8**	**+3.1**
HHC				pP	pP	11 04 49.6	+3.0
HHC				PP	PP	11 08 54.5	+7.3
HHC				SKS	**SKSac**	**11 15 18.6**	**+3.9**
HHC				S	**Sdif**	**11 16 05.3**	**-9.3**
HHC				sS	**sS**	**11 16 29.1**	**-0.2**
HHC				SS	**SS**	**11 23 21.1**	**+5.6**
HHC				LR	LR		
	comp=N,250nm,15.3s						
HHC				LR	LR		
	comp=E,280nm,15.5s						
HHC				LR	LR		
	comp=Z,350nm,16.5s						
SEY	**Seymchan**	**112.21**	**354***c*	*i*PKIKP	**PKiKP**	**11 09 18.0**	**-4.1**
WMQ	**Urumqi**	**114.45**	**309**	*e*PKP	PKPdf	11 09 28.3	+1.2
S21A	**Coal Bank Pass**	**115.90**	**62**	⇑P	**PKPdf**	**11 09 31.5**	**+1.1**
	baz=116						
T22A	**Edith**	**115.97**	**63**	⇑P	**PKPdf**	**11 09 31.4**	**+0.9**
	baz=116						
MSTX	**Muleshoe**	**116.36**	**68**	⇑P	**PKPdf**	**11 09 31.7**	**+0.4**
	baz=116						
G13A	**Cobalt**	**117.44**	**52**	⇓P	**PKPdf**	**11 09 33.6**	**+0.6**
	baz=118						
N20A	**Spence Gulch,**	**117.78**	**59**	⇓P	**PKPdf**	**11 09 35.2**	**+1.3**
	baz=118						
KSH	**Kashi**	**117.83**	**299**	*e*PKP	**PKPdf**	**11 09 33.8**	**-0.1**
KSH				*e*PP	PP	11 10 54.0	+5.6
KSH				PKS	**PKSdf**	**11 13 09.6**	**-1.0**
KSH				SKS	**SKSdf**	**11 16 41.3**	**-2.6**
KSH				SKKS	**SKKSac**	**11 17 41.0**	**-5.3**
KSH				SS	**SS**	**11 27 00.9**	**+0.8**
KSH				AMB	AMB		
	comp=Z,97nm,4.8s						
KSH				LR	LR		
	comp=N,65nm,5.2s						
KSH				LR	LR		
	comp=E,77nm,8.1s						
KSH				LR	LR		
	comp=Z,280nm,6.0s						
G15A	**Dillon**	**118.40**	**53**	⇑P	**PKPdf**	**11 09 35.2**	**+0.3**
	baz=119						
E14A	**Clinton**	**118.72**	**51**	⇑P	**PKPdf**	**11 09 36.8**	**+1.4**
	baz=119						
MSO	**Missoula**	**118.77**	**51**	⇑P	**PKPdf**	**11 09 36.4**	**+1.0**
	baz=119						
J19A	**Crowheart**	**118.97**	**56**	⇓P	**PKPdf**	**11 09 36.9**	**+0.8**
	baz=119						
E15A	**Deer Lodge**	**119.16**	**52**	⇑P	**PKPdf**	**11 09 37.3**	**+1.0**
	baz=119						
R27A	**Eads**	**119.24**	**64**	⇓P	**PKPdf**	**11 09 37.4**	**+0.8**
	baz=119						
MK31	**Makanchi Array**	**119.26**	**309**	*e*PKIKP	**PKPdf**	**11 09 35.4**	**-0.9**
MK31	**Makanchi Array**	**119.26**	**309**	*e*PKPdf	**PKPdf**	**11 09 35.4**	**-0.9**
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	**PKPdf**	**11 09 35.4**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=113,slow=1.8,SNR=18						
MKAR	**Makanchi Array**	**119.26**	**309**	PKIKP	**PKPdf**	**11 09 35.4**	**-0.9**
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	**PKPdf**	**11 09 35.4**	**-0.9**
C14A	**Swan Lake**	**119.49**	**50**	⇑P	**PKPdf**	**11 09 37.5**	**+0.7**
	baz=120						
B13A	**Whitefish**	**119.54**	**49**	⇓P	**PKPdf**	**11 09 37.7**	**+0.9**
	baz=120						
D15A	**Lincoln**	**119.63**	**51**	⇑P	**PKPdf**	**11 09 37.4**	**+0.2**
	baz=120						
ILAR	**Eielson Array**	**119.70**	**22**	PKP	**PKPdf**	**11 09 36.0**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=267,slow=3.7,SNR=6.2						
ILAR	**Eielson Array**	**119.70**	**22**	PKP	**PKPdf**	**11 09 36.0**	**-0.4**
C15A	**Salmond Ranch,**	**120.07**	**51**	⇑P	**PKPdf**	**11 09 38.4**	**+0.5**
	baz=120						
B14A	**Marquette Ranc**	**120.12**	**50**	⇑P	**PKPdf**	**11 09 38.3**	**+0.3**
	baz=120						
B15A	**Bradely Ranch,**	**120.45**	**50**	⇓P	**PKPdf**	**11 09 38.2**	**-0.4**
	baz=121						
C16A	**Fuhringer Ranc**	**120.53**	**51**	⇑P	**PKPdf**	**11 09 38.7**	**0.0**
	baz=121						
A15A	**Johnson Ranch,**	**120.80**	**50**	⇓P	**PKPdf**	**11 09 38.9**	**-0.4**
	baz=121						
D18A	**Linhart Farms,**	**121.14**	**53**	⇓P	**PKPdf**	**11 09 40.8**	**+0.9**
	baz=121						
E19A	**Rath Farm, Rou**	**121.20**	**54**	⇓P	**PKPdf**	**11 09 40.9**	**+0.8**
	baz=121						
B17A	**L&G Farms, Che**	**121.33**	**51**	⇓P	**PKPdf**	**11 09 40.2**	**0.0**
	baz=122						
E20A	**Meyer Farm, Mu**	**121.57**	**54**	⇓P	**PKPdf**	**11 09 40.6**	**-0.1**
	baz=122						
A17A	**Triple J Farms**	**121.80**	**51**	⇑P	**PKPdf**	**11 09 41.4**	**+0.2**
	baz=122						
C19A	**Slack Wire Ran**	**121.88**	**52**	⇑P	**PKPdf**	**11 09 41.9**	**+0.6**
	baz=122						
D20A	**Manuel Ranch,**	**121.94**	**54**	⇓P	**PKPdf**	**11 09 42.0**	**+0.5**
	baz=122						
A18A	**Metzger Ranch,**	**122.22**	**51**	⇓P	**PKPdf**	**11 09 42.0**	**+0.1**
	baz=122						
H24A	**Dirks Ranch, A**	**122.40**	**58**	⇑P	**PKPdf**	**11 09 42.4**	**-0.1**
	baz=123						
C20A	**Veseth Ranch,**	**122.41**	**53**	⇑P	**PKPdf**	**11 09 42.7**	**+0.3**
	baz=123						
F23A	**Volborg**	**122.54**	**56**	⇓P	**PKPdf**	**11 09 42.9**	**+0.2**
	baz=123						
E22A	**Miles City**	**122.70**	**55**	⇑P	**PKPdf**	**11 09 43.4**	**+0.5**
	baz=123						
B20A	**Solberg Farm,**	**122.86**	**52**	⇓P	**PKPdf**	**11 09 43.7**	**+0.6**
	baz=123						
C21A	**Desert Coulee**	**122.96**	**53**	⇑P	**PKPdf**	**11 09 43.6**	**+0.3**
	baz=123						
D22A	**Cohagen**	**123.02**	**54**	⇑P	**PKPdf**	**11 09 43.7**	**+0.2**
	baz=123						
A20A	**Cobblestone Ra**	**123.18**	**52**	⇑P	**PKPdf**	**11 09 44.1**	**+0.3**
	baz=123						
KKAR	**Karatay Array**	**123.29**	**299**	*e*PKIKP	**PKPdf**	**11 09 43.7**	**-0.4**
KKAR				*e*		11 09 52.6	
KKAR	**Karatay Array**	**123.29**	**299**	*e*PKPdf	**PKPdf**	**11 09 43.7**	**-0.4**
KKAR				*e*pPKPdf	**pPKPdf**	**11 09 52.5**	**-0.5**
KURK	**Kurchatov**	**123.64**	**310**	⇓*i*PKIKP	**PKPdf**	**11 09 43.0**	**-1.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**123.64**	**310**	*e*PKPdf	**PKPdf**	**11 09 43.3**	**-1.1**
A21A	**Bergtoll Ranch**	**123.77**	**52**	⇑P	**PKPdf**	**11 09 45.2**	**+0.3**
	baz=124						
C23A	**Lambert**	**123.95**	**54**	⇑P	**PKPdf**	**11 09 45.7**	**+0.5**
	baz=124						
C24A	**Savage**	**124.19**	**55**	⇑P	**PKPdf**	**11 09 46.1**	**+0.4**
	baz=124						
A22A	**Carney Farms,**	**124.30**	**53**	⇑P	**PKPdf**	**11 09 46.0**	**+0.1**
	baz=124						
B23A	**Brockton**	**124.46**	**54**	⇓P	**PKPdf**	**11 09 46.7**	**+0.5**
	baz=125						
YKA	**Yellowknife Ar**	**128.27**	**36**	PKP	**PKPdf**	**11 09 51.8**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=232,slow=1.8,SNR=9.6						
YKA	**Yellowknife Ar**	**128.27**	**36**	PKP	**PKPdf**	**11 09 51.9**	**-1.1**
BRVK	**Borovoye**	**129.21**	**309***c*	*i*PKIKP	**PKPdf**	**11 09 54.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,1.7s						
WCI	**Wyandotte Cave**	**129.31**	**74**	*e*PKIKP	**PKPdf**	**11 09 55.5**	**-0.3**
WCI	**Wyandotte Cave**	**129.31**	**74**	*e*PKPdf	**PKPdf**	**11 09 55.5**	**-0.3**
WCI				*e*SKPdf	**SKPdf**	**11 13 28.5**	**-0.5**
DBIC	**Dimbokro**	**136.71**	**195**	PKP	**PKPdf**	**11 10 10.1**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=166,slow=11,SNR=3.9						
**D

KOLS	**Kolonicke sedl**	**155.53**	**284**	*e*	pPKPdf	11 10 50.1	+0.5
CRVS	**Cervenica-Dubn**	**156.04**	**283**	*e*PKP2	**PKPab**	**11 11 09.1**	**+0.2**
CRVS	**Cervenica-Dubn**	**156.04**	**283**	*e*PKP	**PKPab**	**11 11 09.1**	**+0.2**
KEST	**Kesra**	**157.49**	**243**	PKPab	**PKPab**	**11 11 16.5**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=342,slow=2.1,SNR=4.7						
KEST	**Kesra**	**157.49**	**243**	PKPab	**PKPab**	**11 11 16.5**	**+0.9**
VYHS	**Vyhne**	**157.62**	**281**	*e*PKIKP	pPKPdf	11 10 54.8	+2.4
VYHS	**Vyhne**	**157.62**	**281**	*e*PKP	**PKPab**	**11 11 15.1**	**-0.6**
VYHS	**Vyhne**	**157.62**	**281**	*e*	pPKPdf	11 10 54.8	+2.4
NOA	**NORSAR Array B**	**160.91**	**318**	PKPab	**PKPab**	**11 11 28.6**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=62,slow=4.5,SNR=15						
NOA	**NORSAR Array B**	**160.91**	**318**	PKPab	**PKPab**	**11 11 28.6**	**-1.0**
GERES	**GERESS Array B**	**161.01**	**280**	PKP	**PKPdf**	**11 10 46.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=183,slow=5.3,SNR=3.5						
GERES				PKPab	**PKPab**	**11 11 30.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=108,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**161.01**	**280**	PKP	**PKPdf**	**11 10 46.2**	**-1.2**
GERES				PKPab	**PKPab**	**11 11 30.1**	**-0.5**
CLL	**Collm**	**161.81**	**287**	*e*PKPab	**PKPab**	**11 11 34.0**	**+0.1**
CLL				LV		12 32 00.0	
	comp=Z,200nm,18.1s						

IDC ***14*** *11:17:32.9±5.1, 21.76N×121.27E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/28, Error ellipse: s-maj=402.0km s-min=28.2km az=60.0*

ISCJB ***14*** *11:17:34.9±0.8, 21.75N±0.04×121.12E±0.04, h18km±5km, mb3.2/3, MS3.8/1, Error ellipse: s-maj=7.1km s-min=6.5km az=157.8*

TAP ***14*** *11:17:35.9, 21.86N×121.02E, h23km, ML3.7, C*

ISC 14 11:17:34.8±1.4, 21.85N±0.05×121.18E±0.04, h10km±9km, n36, σ1§16/52, mb3.3/3, 4C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.27**	**282**	⇑*iP*		**Pb**	**11 17 41.5**	**-0.2**
	baz=284							
TSEB				S		**Sb**	**11 17 45.5**	**-0.8**
	baz=284							
TWK1	**Hengchun**	**0.36**	**286**	⇑ *iP*		**Pg**	**11 17 42.1**	**+0.1**
	baz=286							
TWK1				*i* S		**Sg**	**11 17 46.2**	**-0.6**
	baz=286							
LAY	**Lan-yu**	**0.39**	**61**	P		**Pn**	**11 17 46.6**	**+0.1**
	baz=73							
LAY				*e*S		**Sb**	**11 17 54.0**	**+4.0**
	baz=73							
HEN	**Hengchun**	**0.44**	**291**	⇑ *iP*		**Pg**	**11 17 43.7**	**+0.3**
	baz=299							
HEN				*i* S		**Sg**	**11 17 49.0**	**-0.3**
	baz=299							
TAW	**Tawu**	**0.57**	**333**	*i* P		**Pb**	**11 17 46.9**	**-0.1**
	baz=359							
TAW				S		**Sg**	**11 17 54.4**	**+0.8**
	baz=359							
EAST	**Anshuo**	**0.62**	**330**	⇓ *iP*		**Pb**	**11 17 47.5**	**-0.2**
	baz=352							
EAST				*i* S		**Sg**	**11 17 55.6**	**+0.7**
	baz=352							
SCZT	**Fangliau**	**0.74**	**315**	⇑ *iP*		**Pg**	**11 17 49.4**	**+0.4**
	baz=325							
SCZT				*e*S		**Sg**	**11 17 58.2**	**-0.5**
	baz=325							
ECL	**Taimali**	**0.78**	**344**	*i* P		**Pg**	**11 17 49.4**	**-0.4**
	baz=5.0							
ECL				*e*S		**Sb**	**11 18 01.0**	**0.0**
	baz=5.0							
TWP	**Hsiaoliuchiu**	**0.91**	**303**	P		**Pn**	**11 17 54.1**	**+0.5**
	baz=309							
TWG	**Pinlang**	**0.97**	**354**	*i* P		**Pg**	**11 17 52.2**	**-1.4**
	baz=6.0							
SGLT	**Jiouru**	**1.08**	**324**	*e*P		**Pn**	**11 17 56.5**	**+0.5**
	baz=338							
SGLT				*e*S		**Sn**	**11 18 12.2**	**+1.1**
	baz=338							
CHKT	**Chengkung**	**1.26**	**8**	*e*P		**Pn**	**11 17 57.7**	**-0.8**
	baz=8.0							
CHKT				*e*S		**Sb**	**11 18 13.4**	**-1.5**
	baz=8.0							
ELDTW	**Lidau**	**1.34**	**354**	*e*P		**Pn**	**11 17 57.7**	**-2.0**
	baz=11							
SGST	**Jiashian**	**1.35**	**336**	*e*P		**Pb**	**11 18 00.5**	**+0.3**
	baz=345							
SGST				*e*S		**Sg**	**11 18 18.6**	**+0.3**
	baz=345							
CHN3	**Shinhua**	**1.44**	**329**	*e*P		**Pg**	**11 18 05.4**	**+3.0**
	baz=339							
CHN1	**Nanshi**	**1.46**	**336**	*e*P		**Pn**	**11 18 01.6**	**+0.3**
	baz=347							
TWF1	**Yuli**	**1.50**	**4**	*e*P		**Pn**	**11 18 01.8**	**0.0**
	baz=14							
TWK	**Hsinying**	**1.55**	**336**	*e*P		**Pn**	**11 18 04.5**	**-0.1**
	baz=345							
TWK				*e*S		**Sb**	**11 18 24.7**	**+1.3**
	baz=345							
CHN4	**Tsaushan**	**1.59**	**340**	*e*P		**Pb**	**11 18 04.2**	**-0.1**
	baz=349							
CHN4				*e*S		**Sb**	**11 18 24.6**	**0.0**
	baz=349							
EHY	**Hungye**	**1.66**	**5**	*e*P		**Pb**	**11 18 05.0**	**-0.4**
	baz=13							
ALS	**Alishan**	**1.69**	**348**	*e*P		**Pb**	**11 18 05.7**	**-0.5**
	baz=358							
CHY	**Chiayi**	**1.79**	**337**	*e*P		**Pg**	**11 18 09.5**	**+0.4**
	baz=348							
CHN5	**Tsauling**	**1.80**	**345**	P		**Pn**	**11 18 06.6**	**+0.5**
	baz=356							
ESL	**Shilin**	**1.97**	**7**	*e*P		**Pn**	**11 18 08.7**	**+0.5**
	baz=16							
SMLT	**Sun Moon Lake**	**2.04**	**353**	*e*P		**Pb**	**11 18 10.8**	**-1.2**
	baz=2.0							
SMLT				*e*S		**Sb**	**11 18 36.8**	**-0.9**
	baz=2.0							
TYC	**Yuchr**	**2.07**	**352**	*e*P		**Pb**	**11 18 11.8**	**-0.7**
	baz=1.0							
TYC				*e*S		**Sb**	**11 18 37.5**	**-0.7**
	baz=1.0							
TWT	**Tachien**	**2.40**	**360**	*e*P		**Pn**	**11 18 15.7**	**+1.4**
	baz=21							
TWQ1	**Liyutan**	**2.52**	**352**	*e*P		**Pn**	**11 18 17.4**	**+1.7**
	baz=351							
NNS	**Nan Shan**	**2.59**	**4**	*e*P		**Pb**	**11 18 20.1**	**-1.3**
	baz=20							
NNS				*e*S		**Sb**	**11 18 51.5**	**-1.8**
	baz=20							
ENTT	**Nioudou**	**2.80**	**7**	*e*P		**Pn**	**11 18 21.9**	**+2.2**
	baz=25							
ENTT				*e*S		**Sn**	**11 18 54.0**	**+0.4**
	baz=25							
NSK	**Sanguang**	**2.82**	**3**	*e*P		**Pn**	**11 18 21.2**	**+1.2**
	baz=25							
TWE	**Neicheng**	**2.90**	**9**	*e*P		**Pn**	**11 18 21.3**	**+0.3**
	baz=19							
MKAR	**Makanchi Array**	**40.03**	**318**	P		**P**	**11 25 10.5**	**+0.5**
	0.3nm,0.7s,baz=118,slow=7.8,SNR=4.0							
PETK	**Petropavlovsk-**	**41.81**	**33**	LR		LR	11 42 59.4	
	comp=Z,140nm,20.9s,baz=165,slow=36							
WRA	**Warramunga Arr**	**43.48**	**162**	P		**P**	**11 25 37.5**	**-0.9**
	0.3nm,0.4s,baz=344,slow=9.5,SNR=7.2							
ASAR	**Alice Springs**	**46.90**	**164**	P		**P**	**11 26 04.0**	**-1.6**
	0.1nm,0.3s,baz=339,slow=6.6,SNR=6.3							

NEIC ***14*** *11:22:26.6, 19.11N×68.83W, h67km, MD3.5(RSPR), After RSPR.*

RSPR 14 11:22:26.6, 19.11N×68.83W, h67km±2km, MD3.5/11, 16C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.42**	**281**	⇓*eP*		Pn	11 22 37.3	-1.2
SMN1				*e*S		Sn	11 22 47.1	-0.1
DR12	**Loma Pena Alta**	**0.61**	**239**	⇓*iP*		Pn	11 22 39.8	-0.6
DR12				*e*S		Sn	11 22 49.5	-0.9
DR12	**Loma Pena Alta**	**0.61**	**239**	⇓*iP*		Pn	11 22 39.8	-0.6
DR12				*e*S		Sn	11 22 49.5	-0.9
AGPR	**Aguadilla, PR**	**1.75**	**111**	⇑*eP*		Pn	11 22 54.0	-0.8
AGPR	**Aguadilla, PR**	**1.75**	**111**	*e*S		Sn	11 23 15.2	-1.1
AGPR	**Aguadilla, PR**	**1.75**	**111**	⇑*eP*		Pn	11 22 54.0	-0.8
AGPR				*e*S		Sn	11 23 15.2	-1.1
LSP	**Las Mesas**	**1.90**	**119**	⇑*eP*		Pn	11 22 56.4	-0.5
LSP	**Las Mesas**	**1.90**	**119**	⇑*eP*		Pn	11 22 56.4	-0.5
CRPR	**Cabo Rojo, PR**	**1.97**	**124**	⇑*eP*		Pn	11 22 57.6	-0.1
CRPR	**Cabo Rojo, PR**	**1.97**	**124**	*e*S		Sn	11 23 20.9	-0.6
CRPR	**Cabo Rojo, PR**	**1.97**	**124**	⇑*eP*		Pn	11 22 57.6	-0.1
LRS	**Lares**	**2.05**	**113**	⇓*eP*		Pn	11 22 57.9	-1.1
LRS	**Lares**	**2.05**	**113**	⇓*eP*		Pn	11 22 57.9	-1.1
AOPR	**Arecibo Observ**	**2.11**	**111**	⇓*eP*		Pn	11 22 58.9	-0.8
AOPR	**Arecibo Observ**	**2.11**	**111**	*e*S		Sn	11 23 25.2	+0.2
AOPR	**Arecibo Observ**	**2.11**	**111**	⇓*eP*		Pn	11 22 58.9	-0.8
AOPR				*e*S		Sn	11 23 25.2	+0.2
GBPR	**Guanica, Bosqu**	**2.17**	**121**	⇑*eP*		Pn	11 23 00.9	+0.5
GBPR	**Guanica, Bosqu**	**2.17**	**121**	⇑*eP*		Pn	11 23 00.9	+0.5
OBIP	**Obispado Ponce**	**2.36**	**116**	⇑*eP*		Pn	11 23 03.5	+0.4
OBIP	**Obispado Ponce**	**2.36**	**116**	*e*S		Sn	11 23 30.7	-0.4
OBIP	**Obispado Ponce**	**2.36**	**116**	⇑*eP*		Pn	11 23 03.5	+0.4
OBIP				*e*S		Sn	11 23 30.7	-0.4
CELP	**Cerrillos**	**2.37**	**115**	⇑*eP*		Pn	11 23 03.6	+0.3
CELP				*e*S		Sn	11 23 31.6	+0.3
CELP	**Cerrillos**	**2.37**	**115**	⇑*eP*		Pn	11 23 03.6	+0.3
CELP				*e*S		Sn	11 23 31.6	+0.3
SJG	**San Juan**	**2.73**	**111**	⇑*eP*		Pn	11 23 08.1	-0.1
SJG	**San Juan**	**2.73**	**111**	⇓*eP*		Pn	11 23 07.8	-0.3
SJG	**San Juan**	**2.73**	**111**	⇑*eP*		Pn	11 23 08.1	-0.1
HUMP	**Col San Antoni**	**2.99**	**108**	⇑*eP*		Pn	11 23 11.3	-0.4
HUMP	**Col San Antoni**	**2.99**	**108**	⇑*eP*		Pn	11 23 11.3	-0.4

NNC 14 11:28:40.0±4.1, 54.12N×85.43E, h0km, mb4.0, mpv3.6, 5C-3D, Error ellipse: s-maj=38.1km s-min=20.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.38**	**234**	⇑Pn		Pn	11 30 02.5	+1.0
	11nm,1.4s							
KURK				⇑Lg		Lg	11 31 33.6	
	15nm,1.4s							
MK31	**Makanchi Array**	**7.60**	**197**	⇑Pn		Pn	11 30 31.1	-0.8
	2.0nm,0.5s,baz=24,slow=12,SNR=74							
MK31				⇑Sn		Sn	11 31 59.4	+0.6
	0.3nm,0.4s,baz=22,slow=25,SNR=3.5							
MK31				⇑Lg		Lg	11 32 42.4	
	6.3nm,1.1s,baz=22,slow=30,SNR=7.2							
VOSK	**Vostochnaya**	**8.74**	**267**	⇓Pn		Pn	11 30 47.0	-0.6
	3.8nm,1.1s							
VOSK				⇓Sn		Sn	11 32 26.0	-0.9
	1.9nm,0.6s							
ZRNK	**Zerenda**	**9.85**	**270**	⇓Pn		Pn	11 31 04.3	+1.5
	2.2nm,0.6s							

IDC 14 11:40:01.2±2.5, 22.27N×143.78E, h138km±21km, mb3.2/9, mb1 3.3/10, mb1mx3.2/27, mbtmp3.2/10, Error ellipse: s-maj=32.9km s-min=14.7km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.02**	**344**	P		Pn	11 41 16.0	+1.4
	8.7nm,0.3s,baz=307,slow=20,SNR=4.6							
CBIJ				S		Sn	11 42 12.0	+0.1
	4.5nm,0.3s,baz=288,slow=20,SNR=4.9							
KSRS	**Korea Array**	**20.40**	**321**	P		P	11 44 26.2	-1.1
	0.6nm,0.6s,baz=167,slow=8.7,SNR=2.8							
SONM	**Songino Array**	**39.26**	**320**	P		P	11 47 15.9	-0.5
	0.2nm,0.4s,baz=122,slow=7.0,SNR=3.3							
WRA	**Warramunga Arr**	**42.96**	**193**	P		P	11 47 46.1	-0.6
	0.2nm,0.2s,baz=14,slow=8.0,SNR=23							
ASAR	**Alice Springs**	**46.66**	**192**	P		P	11 48 16.2	+0.2
	0.2nm,0.4s,baz=12,slow=6.7,SNR=8.9							
ZALV	**Zalesovo Beam**	**54.11**	**321**	P		P	11 49 11.5	-0.1
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**54.72**	**312**	P		P	11 49 16.9	+0.6
	0.4nm,0.6s,baz=91,slow=9.1,SNR=8.8							
BVAR	**Borovoye Array**	**62.60**	**319**	P		P	11 50 10.8	+0.1
	0.5nm,0.4s,baz=72,slow=9.4,SNR=3.4							
NVAR	**Mina Array Bea**	**82.35**	**52**	P		P	11 52 08.0	-0.2
	0.1nm,0.3s,baz=316,slow=3.8,SNR=3.1							
FINES	**FINESS Array B**	**82.91**	**335**	P		P	11 52 10.2	-0.1
	0.5nm,0.3s,baz=71,slow=4.1,SNR=8.8							
TORD	**Torodi Ar. Bea**	**128.81**	**310**	PKP		PKPdf	11 58 53.6	+0.4
	0.2nm,0.6s,baz=51,slow=1.0,SNR=3.8							

IDC ***14*** *12:15:01.6±5.5, 0.27N×127.46E, h110km±58km, mb3.9/6, mb1 4.0/8, mb1mx3.7/22, mbtmp3.9/8, Error ellipse: s-maj=42.4km s-min=16.6km az=72.0*

ISCJB ***14*** *12:15:03.7±0.6, 0.19N±0.07×127.16E±0.06, h162km, mb4.0/6, Error ellipse: s-maj=9.4km s-min=8.5km az=7.8*

DJA ***14*** *12:15:04.0±1.9, 0.1N±12°×12°7E±1°2, h101km±21km, M4.4/7, mb4.6/5, mB5.0/3, MLv4.3/7, Mw(mB)4.3/3*

AUST ***14*** *12:15:27.7, 2.00S×127.00E, h200km*

ISC 14 12:15:04.1±1.0, 0.26N±0.08×127.22E±0.08, h162km, n29, σ1§92/22, mb4.2/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.53**	**17**	P		Pn	12 15 21.1	-5.9
LBMI	**Labuha**	**0.94**	**162**	P		Pn	12 15 24.1	-5.5
MNI	**Manado**	**2.65**	**296**	P		**Pn**	**12 15 46.0**	**-1.7**
AAI	**Ambon**	**4.04**	**166**	P		**Pn**	**12 16 03.2**	**-2.0**
	baz=2.1,SNR=12							
AAI	**Ambon**	**4.04**	**166**	P		**Pn**	**12 16 03.1**	**-2.2**
LUWI	**Luwuk**	**4.63**	**254**	P		**Pn**	**12 16 11.3**	**-1.6**
MRSI	**Marisa**	**5.28**	**272**	P		**Pn**	**12 16 18.8**	**-2.6**
	42nm,0.6s,0.2nm							
KDI	**Kendari**	**6.22**	**228**	P		**Pn**	**12 16 33.2**	**-0.7**
	12nm,0.6s,777nm							
PCI	**Palu**	**7.47**	**261**	P		Pn	12 17 13.3	+23
	baz=7.2,SNR=6.0							
TTSI	**Tana Toraja**	**8.09**	**246**	P		**Pn**	**12 16 58.7**	**0.0**
	81nm,0.6s,2µm							
SPSI	**Sidrap Palu**	**8.54**	**240**	P		**Pn**	**12 17 05.2**	**+0.5**
	90nm,0.7s,1µm							
BKSI	**Bulukumba**	**8.99**	**232**	P		Pn	12 17 14.6	+3.9
KAPI	**Kappang**	**9.11**	**235**	P		**Pn**	**12 17 13.7**	**+1.4**
	4.7nm,0.3s,baz=102,slow=3.7,SNR=13							
KAPI				S		**Sn**	**12 18 50.8**	**-2.8**
	2.4nm,0.3s,baz=171,slow=23,SNR=9.3							
KAPI	**Kappang**	**9.11**	**235**	P		**Pn**	**12 17 13.7**	**+1.4**
PALU	**Palau**	**10.10**	**46**	P		P	12 18 12.9	+38
	baz=12,SNR=3.7							
WSI	**Waingapu**	**12.03**	**215**	P		P	12 18 04.4	+7.8
	baz=10,SNR=4.2							
MTN	**Manton Dam**	**13.59**	**164**	P		**Pn**	**12 18 07.7**	**-2.7**
	baz=12,SNR=14							
KDU	**Kakadu**	**13.88**	**158**	P		**Pn**	**12 18 11.0**	**-3.1**
	baz=12,SNR=4.3							
FITZ	**Fitzroy Crossi**	**18.31**	**185**	P		**P**	**12 19 06.7**	**+0.6**
	0.3nm,0.3s,baz=341,slow=9.3,SNR=8.3							
FITZ	**Fitzroy Crossi**	**18.31**	**185**	P		**P**	**12 19 06.4**	**+0.4**
	baz=16,SNR=5.6							
WRA	**Warramunga Arr**	**21.26**	**161**	P		**P**	**12 19 38.3**	**+0.5**
	9.0nm,0.4s,baz=340,slow=11,SNR=173							
ASAR	**Alice Springs**	**24.66**	**165**	P		**P**	**12 20 11.9**	**+1.9**
	4.2nm,0.5s,baz=354,slow=16,SNR=43							
KMBL	**Kambalda**	**31.86**	**189**	P		**P**	**12 21 15.9**	**+2.0**
	baz=30,SNR=4.8							
BBOO	**Buckleboo**	**33.94**	**167**	P		**P**	**12 21 33.8**	**+1.8**
	baz=32,SNR=15							
STKA	**Stephens Creek**	**34.74**	**158**	P		**P**	**12 21 40.5**	**+1.6**
	4.3nm,0.9s,baz=343,slow=9.2,SNR=6.1							
STKA	**Stephens Creek**	**34.74**	**158**	P		**P**	**12 21 41.1**	**+2.2**
	baz=33,SNR=5.6							
MJAR	**Matsushiro Arr**	**37.51**	**15**	P		**P**	**12 22 03.0**	**+0.6**
	0.7nm,0.5s,baz=190,slow=6.8,SNR=4.3							
PETK	**Petropavlovsk-**	**58.46**	**21**	P		P	12 24 46.3	+3.4
	4.3nm,0.9s,baz=182,slow=5.0,SNR=7.3							
MKAR	**Makanchi Array**	**60.68**	**326**	P		P	12 25 02.0	+3.7
	0.4nm,0.4s,baz=115,slow=8.1,SNR=12							

ISCJB ***14*** *12:21:03.7±1.3, 51.3N±0.2×178.82E±0.06, h60km±9km, mb3.5/9, Error ellipse: s-maj=31.5km s-min=6.0km az=2.8*

IDC ***14*** *12:21:04.1±1.4, 51.22N×178.93E, h45km±9km, mb3.2/9, mb1 3.5/11, mb1mx3.3/32, mbtmp3.4/11, ML3.6/2, Error ellipse: s-maj=36.5km s-min=10.4km az=9.0*

NEIC ***14*** *12:21:05.4, 51.38N×178.82E, h27km, ML3.2(AEIC), After AEIC.*

ISC 14 12:21:04.3±1.4, 51.3N±0.2×178.83E±0.04, h45km±8km, n22, σ1§03/30, mb3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GANE	**Gareloi Northe**	**1.59**	**69**	P		**Pn**	**12 21 30.4**	**+0.4**
GANE				S		**Sn**	**12 21 49.9**	**+0.5**
GAEA	**Gareloi East**	**1.60**	**70**	P		**Pn**	**12 21 30.6**	**+0.5**
TASE	**Tanaga Southea**	**2.04**	**72**	P		**Pn**	**12 21 36.9**	**+0.8**
TASE				S		**Sn**	**12 22 00.7**	**+0.4**
TAFP	**Tanaga Falls P**	**2.09**	**71**	P		**Pn**	**12 21 37.1**	**+0.3**
TAFP				S		**Sn**	**12 22 01.6**	**+0.1**
KIKV	**Kanaga Island**	**2.57**	**75**	P		**Pn**	**12 21 44.2**	**+0.9**
KIKV				S		**Sn**	**12 22 15.0**	**+1.6**
ADAG	**Mount Adagdak**	**2.94**	**74**	P		**Pn**	**12 21 49.2**	**+0.8**
GSCK	**Great Sitkin C**	**3.21**	**75**	P		**Pn**	**12 21 53.1**	**+1.0**
SMY	**Shemya**	**3.27**	**299**	P		**Pn**	**12 21 52.8**	**-0.1**
GSMY	**Great Sitkin M**	**3.28**	**74**	P		**Pn**	**12 21 54.0**	**+0.9**
FX1	**Attu Island--F**	**3.85**	**297**	P		**Pn**	**12 22 01.1**	**+0.2**
	16nm,0.3s,baz=91,slow=4.6,SNR=32							
FX1				S		**Sn**	**12 22 47.3**	**+2.4**
	18nm,0.3s,baz=121,slow=22,SNR=12							
FX1	**Attu Island--F**	**3.85**	**297**	P		**Pn**	**12 22 00.6**	**-0.4**
ATKA	**Atka Island**	**4.44**	**75**	P		**Pn**	**12 22 10.2**	**+1.3**
KDAK	**Kodiak Island**	**17.73**	**57**	P		**Pn**	**12 25 05.2**	**-2.3**
	0.2nm,0.3s,baz=286,slow=7.4,SNR=4.3							
ILAR	**Eielson Array**	**22.27**	**40**	P		**P**	**12 25 56.5**	**-0.6**
	0.2nm,0.5s,baz=236,slow=8.6,SNR=6.8							
ILAR				pP		**pP**	**12 26 08.8**	**+0.8**
	0.2nm,0.6s,baz=242,slow=7.1,SNR=1.7							
USRK	**Ussuriysk Arra**	**31.82**	**276**	P		**P**	**12 27 23.6**	**-0.7**
	1.2nm,0.6s,baz=90,slow=16,SNR=2.9							
YKA	**Yellowknife Ar**	**36.38**	**46**	P		**P**	**12 28 02.5**	**-1.1**
	0.2nm,0.6s,baz=285,slow=8.1,SNR=4.2							
SONM	**Songino Array**	**45.36**	**295**	P		**P**	**12 29 19.2**	**+1.3**
	0.1nm,0.5s,baz=64,slow=6.6,SNR=3.0							
PDAR	**Pinedale Array**	**47.76**	**71**	P		**P**	**12 29 37.1**	**+0.3**
	0.3nm,0.6s,baz=290,slow=3.7,SNR=3.7							
PDAR				pP		**pP**	**12 29 48.1**	**-1.2**
	0.4nm,0.6s,baz=307,slow=5.0,SNR=3.3							
KURBB	**Kurchatov Arra**	**58.12**	**312**	P		**P**	**12 30 52.9**	**+0.2**
	0.4nm,0.3s,baz=41,slow=6.4,SNR=4.7							
MKAR	**Makanchi Array**	**58.93**	**307**	P		**P**	**12 30 58.5**	**0.0**
	0.2nm,0.4s,baz=57,slow=6.6,SNR=5.9							
BVAR	**Borovoye Array**	**60.00**	**319**	P		**P**	**12 31 06.6**	**+0.8**
	1.0nm,0.6s,baz=51,slow=8.2,SNR=4.8							
TXAR	**Lajitas Array**	**60.14**	**79**	P		**P**	**12 31 07.0**	**-0.2**
	0.3nm,0.5s,baz=309,slow=6.3,SNR=6.6							
TXAR				pP		**pP**	**12 31 19.6**	**-0.4**
	0.2nm,0.6s,baz=305,slow=4.4,SNR=3.2							

IDC 14 12:29:34.3±5.4, 21.05N×146.41E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/28, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=192.7km s-min=39.9km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.02**	**337**	Pn		Pn	12 33 33.5	-0.2
	0.1nm,0.3s,baz=163,slow=8.9,SNR=4.3							
WRA	**Warramunga Arr**	**42.41**	**197**	P		P	12 37 30.8	0.0
	0.6nm,0.4s,baz=19,slow=8.6,SNR=24							
FITZ	**Fitzroy Crossi**	**43.91**	**209**	P		P	12 37 42.6	-0.3
	3.2nm,1.0s,baz=30,slow=11,SNR=12							
ASAR	**Alice Springs**	**46.08**	**196**	P		P	12 38 00.1	-0.1
	0.4nm,0.6s,baz=16,slow=7.6,SNR=8.0							

ISCJB ***14*** *12:36:00.0±0.8, 43.49N±0.06×46.30E±0.05, h10km±6km, Error ellipse: s-maj=10.5km s-min=5.5km az=15.9*

TIF ***14*** *12:36:00.7, 43.18N×46.48E, h19km±5km*

MOS ***14*** *12:36:03.8±1.8, 43.20N×46.19E, h30km, mb4.2/1, Error ellipse: s-maj=20.9km s-min=9.9km az=2.1*

CSEM ***14*** *12:36:03.3±0.6, 43.28N×46.24E, h20km, mb4.2, Error ellipse: s-maj=18.2km s-min=9.5km az=15.0*

NNC ***14*** *12:36:06.5±2.5, 44.62N×46.14E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=97.2km s-min=7.4km az=156.0*

ISC 14 12:36:03.0±1.2, 43.33N±0.05×46.24E±0.03, h21km±3km, n38, σ1§13/59, 4C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.35**	**269**	⇓*iPG*		**Pb**	**12 36 09.8**	**-0.7**
GRO	**Groznyy**	**0.35**	**269**	*i* Pg		**Pb**	**12 36 09.8**	**-0.7**
MAK	**Makhachkala**	**1.00**	**111**	*e*PG		**Pn**	**12 36 21.5**	**-0.2**
MAK				*e*			12 36 34.2	
MAK				pmax	pmax			
	comp=Z,183nm,0.2s							
MAK				smax	smax			
	comp=E,895nm,0.6s							
MAK				smax	smax			
	comp=N,1µm,0.6s							
MAK	**Makhachkala**	**1.00**	**111**	*e*Pg		**Pn**	**12 36 21.5**	**-0.2**
	comp=N,183nm,0.2s							

comp=E,0.2nm,0.3s,baz=240,slow=11,SNR=16
AB31 ⇓Sn Sn 12 40 36.9 -8.7
comp=E,1.4nm,0.5s,baz=252,slow=24,SNR=6.0

*ISCJB **14** 12:37:51.6±0.3,38.15N±0.03×21.60E±0.03,h22km±3km, Error ellipse: s-maj=4.7km s-min=3.4km az=156.4*
*THE **14** 12:37:51.6,38.14N×21.60E,h18km, ML2.8/5,Error ellipse: s-maj=1.1km s-min=0.6km az=335.0*
*ATH **14** 12:37:51.0,38.15N×21.58E,h24km±1km,MD3.1/18*
*CSEM **14** 12:37:51.3±0.2,38.15N×21.59E,h16km±1km,ML2.6, Error ellipse: s-maj=3.7km s-min=3.1km az=158.0*

ISC 14 12:37:51.7±0.8,38.15N±0.02×21.60E±0.02,h17km±5km, n55,σ0s59/87,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.14**	**230**	P	**Pg**	**12 37 55.3**	**-0.4**
RLS				S	**Sg**	**12 37 58.5**	**+0.2**
RLS	**Riolos of Patr**	**0.14**	**230**	P	**Pg**	**12 37 55.3**	**-0.4**
RLS				S	**Sg**	**12 37 58.5**	**+0.2**
UPR	**University Cam**	**0.20**	**47**	P	**Pg**	**12 37 56.6**	**+0.1**
UPR				S	**Sb**	**12 38 00.8**	**+0.5**
UPR	**University Cam**	**0.20**	**47**	*e*PB	**Pg**	**12 37 56.7**	**+0.2**
UPR				*e*SB	**Sb**	**12 38 01.4**	**+1.1**
UPR	**University Cam**	**0.20**	**47**	P	**Pg**	**12 37 56.7**	**+0.2**
UPR				S	**Sb**	**12 38 00.8**	**+0.5**
UPR				*e*Sb	**Sb**	**12 38 01.4**	**+1.1**
LAKA	**Lakka**	**0.31**	**72**	P	**Pg**	**12 37 58.2**	**-0.1**
LAKA				S	**Sg**	**12 38 03.3**	**+0.4**
LAKA	**Lakka**	**0.31**	**72**	*e*PB	**Pg**	**12 37 58.2**	**-0.1**
LAKA				*e*SB	**Sg**	**12 38 03.3**	**+0.4**
LAKA	**Lakka**	**0.31**	**72**	P	**Pg**	**12 37 58.2**	**-0.1**
LAKA				S	**Sg**	**12 38 03.3**	**+0.4**
EFP	**Efpalio**	**0.37**	**40**	P	**Pg**	**12 37 59.1**	**-0.3**
EFP				S	**Sb**	**12 38 05.5**	**+0.3**
EFP	**Efpalio**	**0.37**	**40**	*e*PB	**Pg**	**12 37 59.0**	**-0.3**
EFP				*e*SB	**Sb**	**12 38 05.7**	**+0.5**
EFP	**Efpalio**	**0.37**	**40**	*e*Pb	**Pg**	**12 37 59.0**	**-0.3**
EFP				S	**Sb**	**12 38 05.1**	**-0.1**
EFP				*e*Sb	**Sb**	**12 38 05.7**	**+0.5**
TRIZ	**Trizonia**	**0.43**	**59**	P	**Pg**	**12 38 00.1**	**-0.3**
TRIZ	**Trizonia**	**0.43**	**59**	*e*PB	**Pg**	**12 38 00.0**	**-0.3**
TRIZ	**Trizonia**	**0.43**	**59**	P	**Pg**	**12 38 00.1**	**-0.3**
TRIZ				S	**Sg**	**12 38 05.9**	**-0.4**
KALE	**Kalithea**	**0.49**	**60**	P	**Pg**	**12 38 01.1**	**-0.4**
KALE				S	**Sb**	**12 38 09.0**	**+0.3**
KALE	**Kalithea**	**0.49**	**60**	*e*PN	**Pg**	**12 38 01.1**	**-0.4**
KALE				*e*SN	**Sb**	**12 38 09.2**	**+0.5**
KALE	**Kalithea**	**0.49**	**60**	P	**Pg**	**12 38 01.1**	**-0.4**
KALE				S	**Sb**	**12 38 08.8**	**+0.1**
KALE				*e*Sn	**Sb**	**12 38 09.2**	**+0.5**
AMT	**Artemida-Makis**	**0.62**	**172**	P	**Pg**	**12 38 03.2**	**-0.7**
AMT				S	**Sb**	**12 38 13.5**	**+1.0**
AMT	**Artemida-Makis**	**0.62**	**172**	*e*PN	**Pg**	**12 38 03.2**	**-0.7**
AMT				*e*SN	**Sb**	**12 38 13.4**	**+1.0**
AMT	**Artemida-Makis**	**0.62**	**172**	P	**Pg**	**12 38 03.2**	**-0.7**
AMT				S	**Sg**	**12 38 12.2**	**0.0**
AMT				*e*Sn	**Sb**	**12 38 13.4**	**+1.0**
GUR	**Goura**	**0.62**	**110**	P	**Pg**	**12 38 03.0**	**-1.0**
GUR				S	**Sg**	**12 38 12.3**	**0.0**
GUR	**Goura**	**0.62**	**110**	*e*PB	**Pg**	**12 38 03.3**	**-0.7**
GUR				*e*SN	**Sb**	**12 38 12.8**	**+0.2**
GUR	**Goura**	**0.62**	**110**	P	**Pg**	**12 38 03.0**	**-1.0**
GUR	**Goura**	**0.62**	**110**	*e*Pb	**Pg**	**12 38 03.3**	**-0.7**
GUR				S	**Sg**	**12 38 12.3**	**0.0**
GUR				*e*Sn	**Sb**	**12 38 12.8**	**+0.2**
KFL	**Anninata**	**0.64**	**267**	P	**Pg**	**12 38 03.7**	**-0.7**
KFL	**Anninata**	**0.64**	**267**	P	**Pg**	**12 38 03.7**	**-0.7**
KFL				S	**Sb**	**12 38 13.3**	**+0.1**
DSF	**Desfina**	**0.77**	**70**	P	**Pb**	**12 38 05.5**	**-1.1**
DSF				S	**Sb**	**12 38 17.1**	**+0.2**
DSF	**Desfina**	**0.77**	**70**	P	**Pb**	**12 38 05.6**	**-1.1**
DSF				S	**Sb**	**12 38 16.9**	**0.0**
EVR	**Evrytania**	**0.79**	**12**	*e*PN	**Pb**	**12 38 05.9**	**-1.0**
EVR	**Evrytania**	**0.79**	**12**	*e*Pn	**Pb**	**12 38 05.9**	**-1.0**
EVR	**Evrytania**	**0.79**	**12**	P	**Pb**	**12 38 06.8**	**-0.1**
VLS	**Valsamata**	**0.80**	**272**	P	**Pb**	**12 38 05.8**	**-1.3**
VLS				S	**Sg**	**12 38 18.7**	**+0.8**
VLS	**Valsamata**	**0.80**	**272**	*e*PN	**Pb**	**12 38 05.9**	**-1.2**
VLS	**Valsamata**	**0.80**	**272**	P	**Pb**	**12 38 05.8**	**-1.3**
VLS				S	**Sg**	**12 38 18.7**	**+0.8**
LKD2	**Lefkada island**	**0.98**	**311**	*e*PN	**Pb**	**12 38 10.5**	**+0.3**
LKD2	**Lefkada island**	**0.98**	**311**	*e*Pn	**Pb**	**12 38 10.5**	**+0.3**
VLX	**Vlachokerasia**	**0.99**	**141**	*e*PN	**Pb**	**12 38 09.7**	**-0.7**
VLX				*e*SN	**Sn**	**12 38 24.9**	**+0.4**
VLX	**Vlachokerasia**	**0.99**	**141**	*e*Pn	**Pb**	**12 38 09.7**	**-0.7**
ITM	**Ithomi**	**1.00**	**165**	*e*PN	**Pb**	**12 38 10.1**	**-0.4**
ITM	**Ithomi**	**1.00**	**165**	*e*Pn	**Pb**	**12 38 10.1**	**-0.4**
LTK	**Loutraki**	**1.08**	**96**	*e*PN	**Pn**	**12 38 12.3**	**+0.2**
LTK	**Loutraki**	**1.08**	**96**	*e*Pn	**Pn**	**12 38 12.3**	**+0.2**
LKR	**Lokris**	**1.21**	**65**	*e*PN	**Pn**	**12 38 13.6**	**-0.1**
LKR	**Lokris**	**1.21**	**65**	*e*Pn	**Pn**	**12 38 13.6**	**-0.1**
PYL	**PYLOS**	**1.25**	**175**	*e*PN	**Pb**	**12 38 14.9**	**0.0**
PYL	**PYLOS**	**1.25**	**175**	*e*Pn	**Pb**	**12 38 14.9**	**0.0**
DID	**Didima**	**1.44**	**116**	*e*PN	**Pb**	**12 38 18.2**	**+0.1**
DID	**Didima**	**1.44**	**116**	P	**Pn**	**12 38 17.6**	**+0.6**
DID	**Didima**	**1.44**	**116**	*e*Pn	**Pb**	**12 38 18.2**	**+0.1**
THL	**Klokotos Trika**	**1.45**	**13**	*e*PN	**Pb**	**12 38 17.9**	**-0.3**
THL	**Klokotos Trika**	**1.45**	**13**	*e*Pn	**Pb**	**12 38 17.9**	**-0.3**
DYR	**Agios Nikonas**	**1.50**	**157**	*e*PN	**Pn**	**12 38 18.5**	**+0.7**
DYR	**Agios Nikonas**	**1.50**	**157**	*e*Pn	**Pn**	**12 38 18.5**	**+0.7**
NAIG	**Nisos Aigina**	**1.54**	**104**	*e*PN	**Pb**	**12 38 19.4**	**-0.3**
NAIG	**Nisos Aigina**	**1.54**	**104**	*e*Pn	**Pb**	**12 38 19.4**	**-0.3**

*ISCJB **14** 12:40:34.6±1.2,43.46N±0.08×147.00E±0.09,h58km±7km, mb4.1/9,Error ellipse: s-maj=16.3km s-min=6.7km az=141.7*
*IDC **14** 12:40:35.1±8.6,43.07N×147.19E,h71km±53km,mb3.9/8, mb1 3.9/9,mb1mx3.5/26,mbtmp3.8/9,ML3.5/1,Error ellipse: s-maj=90.8km s-min=48.0km az=170.0*
*MOS **14** 12:40:35.0±3.4,43.50N×147.10E,h33km,mb4.4/9,Error ellipse: s-maj=25.6km s-min=13.9km az=121.3*
*JMA **14** 12:40:35.5±0.2,43.40N×146.93E,h38km±3km,M3.9*

ISC 14 12:40:34.3±2.1,43.4N±0.1×147.10E±0.10,h42km±15km, n26,σ1s31/35,mb4.3/9,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.99**	**269**	P	**Pn**	**12 40 51.4**	**-0.2**
NEM2				*e*S	**Sn**	**12 41 02.8**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**1.10**	**306**	*d* iPN	**Pn**	**12 40 52.8**	**-0.4**
YUK				*i* S	**Sn**	**12 41 05.6**	**-1.6**
YUK				pmax	pmax		
	comp=N,187nm,0.1s						
YUK				pmax	pmax		
	comp=E,335nm,0.1s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,4μm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.1s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
JRA	**Rausu**	**1.53**	**291**	P	**Pn**	**12 40 59.4**	**+0.3**
JRA				*e*S	**Sn**	**12 41 16.9**	**-0.9**
JNK	**Nakash**	**1.74**	**277**	P	**Pn**	**12 41 02.1**	**+0.1**
JNK				*e*S	**Sn**	**12 41 21.4**	**-1.6**
JAK	**Akkeshi**	**1.80**	**258**	P	**Pn**	**12 41 03.2**	**+0.4**
JAK				*e*S	**Sn**	**12 41 23.4**	**-1.0**
KUR	**Kuril'sk**	**1.92**	**16**	*e*PN	**Pn**	**12 41 05.0**	**+0.6**
KUR				*e*S	**Sn**	**12 41 27.5**	**+0.2**
KUR				smax	smax		
	comp=N,380nm,0.5s						
KUR				smax	smax		
	comp=E,450nm,0.3s						
JTKR	**Abashiri--Toko**	**2.38**	**285**	P	**Pn**	**12 41 12.2**	**+1.4**
JTKR				*e*S	**Sn**	**12 41 39.1**	**+0.3**
JAR	**Ashorobuto**	**2.43**	**269**	P	**Pn**	**12 41 12.7**	**+1.3**
JAR				*e*S	**Sn**	**12 41 39.9**	**0.0**
JOB	**Onbets**	**2.44**	**259**	*e*S	**Sn**	**12 41 40.2**	**+0.1**
JCH	**Churui**	**2.85**	**255**	P	**Pn**	**12 41 18.5**	**+1.3**
JCH				*e*S	**Sn**	**12 41 50.5**	**+0.2**
ASAJ	**Asahikawa**	**3.34**	**284**	P	Pn	12 41 27.1	+3.2
	comp=E,3.3nm,0.3s,baz=105,slow=13,SNR=19						
ASAJ				S	**Sn**	**12 42 08.0**	**+5.6**
	comp=E,1.5nm,0.3s,baz=24,slow=19,SNR=4.2						
SONM	**Songino Array**	**28.57**	**293**	P	**P**	**12 46 25.9**	**-0.3**
	comp=E,0.5nm,0.4s,baz=107,slow=6.3,SNR=5.0						
NVS	**Novosibirsk**	**41.91**	**309**	*e*P	**P**	**12 48 21.2**	**+0.9**
MKAR	**Makanchi Array**	**44.72**	**298**	P	**P**	**12 48 42.0**	**-1.1**
	comp=E,0.7nm,0.5s,baz=78,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**44.72**	**298**	P	**P**	**12 48 42.0**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**59.56**	**340**	P	**P**	**12 50 33.1**	**+0.1**
	comp=Z,4.9nm,1.1s,baz=48,slow=7.2,SNR=5.5						
JOF	**Joensuu**	**62.38**	**332**	*e*P	**P**	**12 50 51.7**	**-0.4**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**62.38**	**332**	*e*p	**P**	**12 50 51.7**	**-0.4**
	comp=Z,1.2nm,0.4s						
FINES	**FINESS Array B**	**65.17**	**333**	P	**P**	**12 51 10.3**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=41,slow=8.3,SNR=21						
NB2	**NORSAR Subarra**	**69.92**	**339**	P	**P**	**12 51 40.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.92**	**339**	P	**P**	**12 51 40.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.1,SNR=6.8						
HFS	**Hagfors**	**70.00**	**337**	P	**P**	**12 51 39.7**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=24,slow=5.2,SNR=5.8						
KBZ	**Khabaz**	**70.00**	**312**	P	**P**	**12 51 41.6**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=60,slow=6.9,SNR=5.2						
KBZ	**Khabaz**	**70.00**	**312**	P	**P**	**12 51 41.6**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**71.84**	**324**	P	**P**	**12 51 52.2**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=41,slow=6.4,SNR=7.4						
AKASG	**Malin Array Be**	**71.84**	**324**	P	**P**	**12 51 52.3**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*CSEM **14** 12:43:23.6,40.72N×33.03E,h10km, MD3.0,After DDA*

DDA 14 12:43:23.6,40.72N×33.03E,h10km,MD3.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.38**	**127**	*i* P	Pg	12 43 31.0	-0.3
ELDT				*i* S	Sg	12 43 36.0	-0.5
ELDT	**Eldivan**	**0.38**	**127**	*i* P	Pg	12 43 31.0	-0.3
ELDT				*i* S	Sg	12 43 36.0	-0.6
BALT	**Daday**	**0.86**	**18**	*i* P	Pg	12 43 39.8	-0.7
BALT				*e*S	Sg	12 43 49.9	-2.0
BALT	**Daday**	**0.86**	**18**	*i* P	Pg	12 43 39.8	-0.7
BALT				*e*S	Sg	12 43 49.9	-2.0
BBAL	**Bala**	**1.18**	**176**	*i* P	Pb	12 43 45.1	-1.0
BBAL				*i* S	Sg	12 44 01.9	+0.1
BBAL	**Bala**	**1.18**	**176**	*i* P	Pb	12 43 45.1	-1.1
BBAL				*i* S	Sg	12 44 01.9	+0.1
CTKT	**Corum**	**1.34**	**93**	*i* P	Pn	12 43 47.9	-0.7
CTKT				*i* S	Sb	12 44 04.4	-2.1
CTKT	**Corum**	**1.34**	**93**	*i* P	Pn	12 43 47.9	-0.7
CTKT				*i* S	Sb	12 44 04.4	-2.1
CDAG	**Cicekdag**	**1.50**	**136**	*i* P	Pn	12 43 51.2	+0.5
CDAG				*i* S	Sb	12 44 11.0	+0.1
CDAG	**Cicekdag**	**1.50**	**136**	*i* P	Pb	12 43 51.2	-0.5
CDAG				*i* S	Sb	12 44 11.0	+0.1

NNC 14 12:47:48.1±5.6,54.01N×86.55E,h5km±37km,mb3.5, mpv3.1,4C-6D,Error ellipse: s-maj=43.3km s-min=27.3km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.87**	**239**	⇓Pn	Pn	12 49 15.3	-0.3
	1.6nm,0.7s						
KURK				⇓Sn	Sn	12 50 24.3	+1.1
	2.6nm,1.5s						
KURK				⇑Lg	Lg	12 50 53.1	
	5.0nm,1.0s						
MK31	**Makanchi Array**	**7.71**	**202**	⇓Pn	Pn	12 49 40.6	-0.4
	0.5nm,0.5s,baz=31,slow=14,SNR=25						
MK31				⇑Sn	Sn	12 51 10.1	+1.4
	0.8nm,0.6s,baz=28,slow=26,SNR=3.0						
MK31				⇓Lg	Lg	12 51 53.8	
	5.2nm,1.1s,baz=25,slow=32,SNR=4.9						
VOSK	**Vostochnaya**	**9.40**	**268**	⇑Pn	Pn	12 50 04.3	+0.3
	1.7nm,0.4s						
VOSK				⇓Sn	Sn	12 51 50.4	+0.4
	3.9nm,1.1s						
BVA0	**Borovoye Array**	**9.68**	**271**	⇑Pn	Pn	12 50 08.9	+1.0
	0.2nm,0.6s,baz=52,slow=16,SNR=4.6						
ZRNK	**Zerenda**	**10.51**	**271**	⇓Pn	Pn	12 50 19.2	0.0
	0.7nm,0.3s						

*ISK **14** 12:50:00.7,39.11N×40.83E,h5km,MD2.9*
*DDA **14** 12:50:01.7,39.14N×40.90E,h3km,MD3.0*
*CSEM **14** 12:50:02.2±0.2,39.13N×40.83E,h2km,MD2.9,Error ellipse: s-maj=6.7km s-min=4.6km az=137.0*

ISC 14 12:50:01.3±1.2,39.13N±0.02×40.85E±0.02,h0km±11km, n29,σ0s45/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¨¶l**	**0.19**	**225**	*e*PG	**Pg**	**12 50 04.8**	**-0.1**
BNGB				*e*SG	**Sg**	**12 50 07.5**	**+0.2**
VRTB	**Varto-Mus**	**0.47**	**86**	*e*PG	**Pg**	**12 50 11.3**	**+1.0**
VRTB				*e*SG	**Sb**	**12 50 19.2**	**-0.9**
VRTB	**Varto-Mus**	**0.47**	**86**	*e*Pg	**Pg**	**12 50 11.4**	**+1.0**
VRTB				*e*Sg	**Sb**	**12 50 19.3**	**-0.9**
EZM	**Erzurum**	**0.87**	**27**	*e*PG	**Pb**	**12 50 19.1**	**-0.4**
ERZM	**Erzurum**	**0.88**	**27**	*i* P	**Pg**	**12 50 17.6**	**-0.4**
ERZM				*i* S	**Sb**	**12 50 31.8**	**-0.1**
ERZM	**Erzurum**	**0.88**	**27**	*i* P	**Pg**	**12 50 17.6**	**-0.4**
ERZM				*i* S	**Sb**	**12 50 31.8**	**-0.1**
KOPT	**Kop Dagi**	**0.93**	**343**	*i* P	**Pg**	**12 50 19.4**	**+0.3**
KOPT				*i* S	**Sn**	**12 50 36.6**	**+0.5**
KOPT	**Kop Dagi**	**0.93**	**343**	*i* P	**Pg**	**12 50 19.4**	**+0.3**
KOPT				*i* S	**Sn**	**12 50 36.6**	**+0.5**
ERZN	**Erzincan**	**0.99**	**298**	*e*PG	**Pg**	**12 50 20.5**	**+0.3**
ERZN				*e*SG	**Sb**	**12 50 35.2**	**+0.2**
BEST	**Besiri**	**1.28**	**165**	*i* P	**Pg**	**12 50 25.7**	**0.0**
BEST				*i* S	**Sb**	**12 50 43.2**	**0.0**
DIYA	**Diyarbakir**	**1.33**	**206**	*e*P	**Pn**	**12 50 27.1**	**-0.1**
DIYA				*i* S	**Sn**	**12 50 45.6**	**0.0**
DIYA	**Diyarbakir**	**1.33**	**206**	*e*P	**Pn**	**12 50 27.1**	**-0.1**
DIYA				*i* S	**Sn**	**12 50 45.6**	**0.0**
BAYT	**Ayd¨¬ntepe-Bay**	**1.38**	**337**	*e*PN	**Pb**	**12 50 28.1**	**0.0**
BAYT	**Ayd¨¬ntepe-Bay**	**1.38**	**337**	*e*Pn	**Pb**	**12 50 28.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.42**	**239**	*e*PN	**Pb**	**12 50 28.7**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.42**	**239**	*e*Pn	**Pb**	**12 50 28.7**	**0.0**
GUMT	**Gumushane**	**1.70**	**322**	*e*PN	**Pb**	**12 50 33.5**	**0.0**
GUMT	**Gumushane**	**1.70**	**322**	*e*Pn	**Pb**	**12 50 33.5**	**0.0**
AGRB	**Hanur-Agry**	**1.72**	**74**	*e*PN	**Pb**	**12 50 33.8**	**-0.1**
AGRB	**Hanur-Agry**	**1.72**	**74**	*e*Pn	**Pb**	**12 50 33.8**	**-0.1**
ILIC	**ilic-Erzincan**	**1.80**	**281**	*e*PN	**Pn**	**12 50 33.8**	**+0.1**
ILIC	**ilic-Erzincan**	**1.80**	**281**	*e*Pn	**Pn**	**12 50 33.8**	**+0.1**
KEMA	**Kemaliye**	**1.84**	**275**	*e*P	**Pb**	**12 50 35.7**	**-0.1**
KEMA				*e*S	**Sg**	**12 50 59.9**	**-0.4**
KEMA	**Kemaliye**	**1.84**	**275**	*e*P	**Pb**	**12 50 35.7**	**-0.1**
KEMA				*e*S	**Sg**	**12 50 59.9**	**-0.4**
DDEM	**Demirkent**	**1.90**	**21**	*i* P	**Pb**	**12 50 36.1**	**-0.7**
DDEM				*i* S	**Sg**	**12 51 02.2**	**0.0**
DDEM	**Demirkent**	**1.90**	**21**	*i* P	**Pb**	**12 50 36.1**	**-0.7**
DDEM				*i* S	**Sg**	**12 51 02.2**	**0.0**
DBAD	**Bademkaya**	**2.00**	**19**	*e*P	**Pb**	**12 50 38.0**	**-0.6**
DBAD				*i* S	**Sb**	**12 51 03.4**	**-0.7**
DBAD	**Bademkaya**	**2.00**	**19**	*e*P	**Pb**	**12 50 38.0**	**-0.6**
DBAD				*i* S	**Sb**	**12 51 03.4**	**-0.7**
DAGI	**Agillar**	**2.11**	**22**	*e*P	**Pn**	**12 50 38.8**	**+0.8**
DAGI				*i* S	**Sb**	**12 51 07.6**	**+0.3**

IDC 14 12:55:27.6±2.2,2.66N×128.25E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/22,mbtmp3.6/4,Error ellipse: s-maj=192.9km s-min=20.5km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**165**	P	P	13 00 35.7	-1.1
	1.0nm,0.4s,baz=341,slow=9.3,SNR=21						
ASAR	**Alice Springs**	**26.74**	**168**	P	P	13 01 07.8	-1.2
	0.4nm,0.4s,baz=344,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**59.29**	**325**	P	P	13 05 32.1	+0.9
	0.4nm,0.5s,baz=117,slow=7.9,SNR=7.0						
KURBB	**Kurchatov Arra**	**63.45**	**327**	P	P	13 06 00.1	+0.9
	0.5nm,0.5s,baz=133,slow=6.2,SNR=4.8						

IDC 14 12:56:45.3±2.4,0.88S×132.99E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.5/21,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=100.3km s-min=24.6km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.58**	**202**	P	P	13 01 03.7	-0.4
	0.1nm,0.3s,baz=34,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**19.00**	**176**	P	Pn	13 01 09.1	-0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.67**	**178**	P	P	13 01 48.5	0.0
	1.8nm,0.6s,baz=357,slow=11,SNR=14						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	13 07 26.6	-0.1
	0.1nm,0.6s,baz=116,slow=6.6,SNR=2.7						

IDC 14 13:09:23.2±3.7,28.42S×135.74E,h0km,mb1 3.0/3, mb1mx3.0/15,mbtmp2.8/3,ML2.9/3,Error ellipse: s-maj=66.6km s-min=17.5km az=55.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**5.01**	**340**	Pn	Pn	13 10 41.6	+1.8
	0.1nm,0.3s,baz=159,slow=11,SNR=13						
ASAR				Pg	Pg	13 10 57.5	-1.9
	0.2nm,0.3s,baz=157,slow=16,SNR=7.0						
ASAR				Sn	Sn	13 11 36.2	-2.4
	0.5nm,0.3s,baz=155,slow=23,SNR=9.6						
ASAR				Lg	Lg	13 12 02.6	
	0.4nm,0.3s,baz=170,slow=24,SNR=5.7						
STKA	**Stephens Creek**	**6.13**	**126**	Pn	Pn	13 10 54.2	-0.8
	0.2nm,0.3s,baz=299,slow=16,SNR=4.5						
STKA				Sn	Sn	13 11 57.2	-8.7
	0.6nm,0.3s,baz=255,slow=13,SNR=3.4						
STKA				Lg	Lg	13 12 38.0	
	0.5nm,0.3s,baz=229,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**8.54**	**351**	Pn	Pn	13 11 27.8	-0.4
	0.3nm,0.3s,baz=166,slow=13,SNR=22						
WRA				Sn	Sn	13 12 58.5	-6.8
	0.1nm,0.3s,baz=180,slow=23,SNR=4.7						
WRA				Lg	Lg	13 13 51.3	
	0.1nm,0.3s,baz=174,slow=34,SNR=3.0						

IDC 14 13:23:58.3±0.7,24.22S×176.51W,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.3/22,mbtmp4.3/11,ML2.6/1, MS3.6/5,Ms1 3.6/5,ms1mx3.2/41,Error ellipse: s-maj=26.2km s-min=19.6km az=153.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.19**	**24**	Pn	Pn	13 26 37.5	-2.1
	2.3nm,0.3s,baz=52,slow=23,SNR=7.9						
AFI				Sn	Sn	13 28 33.7	-12
	5.3nm,0.3s,baz=73,slow=22,SNR=6.9						
AFI				T	T	13 38 20.4	
	3.1nm,0.3s,baz=174,slow=20,SNR=6.3						
RAR	**Rarotonga**	**15.73**	**82**	Pn	Pn	13 27 36.4	-4.9
	3.6nm,0.3s,baz=270,slow=7.9,SNR=17						
DZM	**Mont Dzumac**	**15.83**	**274**	*e*LR	LR	13 31 41.1	
	199nm,25.4s						
TBI	**Tubuai**	**24.75**	**94**	*e*LR	LR	13 35 25.6	
	150nm,26.0s						
TBI				*e*T	T	13 54 08.7	
	30nm,0.3s						
PAE	**Paea**	**25.95**	**81**	*e*T	T	13 56 03.7	
	17nm,0.3s						
PPT2	**Papeete2**	**25.98**	**80**	*e*LR	LR	13 35 57.7	
	171nm,25.0s						
PPT2				*e*T	T	13 56 07.0	
	12nm,0.3s						
TVO	**Taravao**	**26.21**	**81**	*e*T	T	13 56 22.3	
	10nm,0.3s						
HNR	**Honiara**	**26.85**	**299**	LR	LR	13 38 50.3	
	comp=Z,80nm,19.0s,baz=132,slow=33						
MEH	**Mehetia**	**27.25**	**82**	*e*T	T	13 57 38.2	
	188nm,0.3s						
CTA	**Charters Tower**	**34.67**	**269**	P	P	13 30 51.0	+1.2
	2.8nm,0.3s,baz=111,slow=8.6,SNR=12						
CTA				LR	LR	13 41 39.2	
	comp=Z,104nm,18.9s,baz=52,slow=31						
STKA	**Stephens Creek**	**37.57**	**249**	LR	LR	13 45 37.9	
	comp=Z,138nm,19.6s,baz=25,slow=35						
PMG	**Port Moresby**	**37.63**	**287**	P	P	13 31 15.9	+0.7
	9.5nm,0.8s,baz=169,slow=5.2,SNR=3.8						
RKT	**Rikitea**	**37.96**	**97**	*e*T	T	14 11 00.4	
	10nm,0.3s						
ASAR	**Alice Springs**	**45.13**	**260**	P	P	13 32 16.7	-0.1
	5.5nm,1.0s,baz=96,slow=7.3,SNR=32						
ASAR				LR	LR	13 49 54.6	
	comp=Z,94nm,20.4

AJM Ajmer 6.47 121 *i* P **Pn** **13 27 56.0 +0.7**
AJM *i* x **Sn** **13 29 10.0 +1.5**
THN Thein Dam 6.68 67 *i* P **Pn** **13 27 59.0 +0.8**
THN *ex* **Sn** **13 29 15.8 +2.2**
DLH Dalhousie 6.92 66 *eP* **Pn** **13 28 00.0 -1.6**
DLH *ex* **Sn** **13 29 21.0 +1.3**
SDNR Sundarnagar 7.48 76 *eP* **Pn** **13 28 09.4 +0.2**
SDNR *ex* x 13 30 40.0
SMLA Simla 7.60 79 *eP* **Pn** **13 28 11.0 +0.3**
SMLA *i* x **Sn** **13 29 36.0 -0.1**
NDI New Delhi 7.75 97 *ex* Pn 13 28 09.6 -3.3
NDI *eS* **Sn** **13 29 34.0 -6.0**
IDAH Dahanechah 7.85 293 *eP* **Pn** **13 28 12.7 -1.7**
IMON Monand 8.16 295 *eP* **Pn** **13 28 16.4 -2.3**
IMON *eP* **Pn** **13 28 17.4 -1.3**
DDI Dehra Dun 8.32 85 *eP* **Pn** **13 28 19.2 -1.5**
DDI *ex* x 13 30 08.0
IMYA Miami 9.45 314 *eP* **Pn** **13 28 34.5 -1.9**
ISRO Mashad 9.83 312 *eP* **Pn** **13 28 38.6 -2.9**
PTH Pithoragarh 10.23 89 *eP* **Pn** **13 28 46.9 -0.1**
PTH *ex* x 13 30 38.9
LGTI Lohaghat 10.26 90 *eP* **Pn** **13 28 45.9 -1.4**
LGTI *ex* x 13 30 38.7
IKRD Kardeh 10.73 312 *eP* Pn 13 28 42.6 -11
IBND Bandar-abas 10.76 259 *eP* **Pn** **13 28 52.8 -1.3**
WSAR Wadi Sarin 11.05 235 Pn **Pn** **13 28 55.2 -3.0**
7.5nm,0.3s,baz=81,slow=13,SNR=51
WSAR Sn Sn 13 30 48.5 -13
3.8nm,0.3s,baz=274,slow=16,SNR=6.7
WSAR Wadi Sarin 11.05 235 Pn **Pn** **13 28 55.2 -3.0**
WBK Wadi Bani Khal 11.23 231 Pn **Pn** **13 28 58.2 -2.4**
SNR=8.6
KSH Kashi 11.35 31 P Pn 13 28 56.8 -5.4
KSH S Sn 13 30 57.6 -11
KSH *e*PcP **PcP** **13 34 57.0 +1.5**
KSH *e*ScP **ScP** **13 38 28.4 +1.7**
KSH PcS **PcS** **13 38 29.8 +0.3**
KSH ScS **ScS** **13 42 01.9 -0.3**
KSH pmax pmax
comp=Z,84nm,0.6s
KSH LR LR
comp=N,1μm,8.8s
KSH LR LR
comp=E,1μm,8.6s
KSH LR LR
comp=Z,1μm,10.9s
SMDO Samad 11.58 236 Pn **Pn** **13 29 03.6 -1.9**
SNR=11
JMDO Jabal Madar 11.98 233 Pn **Pn** **13 29 10.9 -0.1**
SNR=20
ASHO Ashiyiah 12.21 247 Pn **Pn** **13 29 16.3 +2.2**
SNR=14
BSY Bisya 12.39 237 Pn **Pn** **13 29 16.1 -0.4**
SNR=29
POO Poona 12.40 155 *eP* **Pn** **13 29 15.0 -1.7**
comp=Z,40nm,1.0s
POO *i* x x 13 31 43.0
ARQ Araqi 12.55 241 Pn **Pn** **13 29 17.9 -0.8**
SNR=11
AML Almayashu 12.85 18 P **Pn** **13 29 20.7 -2.3**
SNR=121
PYUN Piuthan 12.85 95 *eP* **Pn** **13 29 20.7 -2.2**
comp=Z,255nm,0.6s
PYUN *eS* Sn 13 31 38.0 -7.4
NGP Nagpur 12.97 130 *eP* Pn 13 29 20.8 -3.7
comp=Z,39nm,0.9s
NGP *eS* Sn 13 31 37.1 -11
UCH Uchtor 13.17 20 P Pn 13 29 31.1 +3.7
SNR=6.6
KK31 Karatay Array 13.21 7 ⇑P **Pn** **13 29 24.5 -3.0**
comp=Z,19nm,0.7s
KK31 ⇓S Sn 13 31 42.9 -11
comp=Z,10nm,0.5s,baz=195,slow=22,SNR=5.0
KK31 Karatay Array 13.21 7 P **Pn** **13 29 25.2 -2.4**
KK31 S Sn 13 31 44.3 -9.3
KK31 pmax pmax
comp=Z,11nm,0.4s
KK31 smax smax
comp=Z,19nm,0.5s
KKAR Karatay Array 13.21 7 *eP* Pn 13 29 24.4 -3.2
KKAR Karatay Array 13.21 7 *e*Pn Pn 13 29 24.4 -3.2
KZA Kyzart 13.26 23 P Pn 13 29 32.0 +3.3
SNR=11
EKS2 Erkin-Say 13.37 17 P **Pn** **13 29 28.1 -1.7**
SNR=30
KOLN Koldanda 13.45 96 *eP* **Pn** **13 29 28.5 -2.6**
comp=Z,206nm,0.6s
DANN Dangsing 13.47 93 *eP* **Pn** **13 29 29.2 -2.3**
comp=Z,579nm,0.7s
AAK Ala-Archa 13.53 19 Pn **Pn** **13 29 30.6 -1.5**
comp=Z,2.5nm,0.3s,baz=188,slow=9.5,SNR=27
AAK Sn **Sn** **13 31 56.7 -5.2**
comp=Z,1.9nm,0.3s,baz=318,slow=18,SNR=5.6
AAK LR LR 13 35 53.4
comp=Z,688nm,18.5s,baz=201,slow=43
AAK Ala-Archa 13.53 19 *ce*P **Pn** **13 29 29.9 -2.2**
AAK pmax pmax
comp=Z,40nm,1.0s
AAK Ala-Archa 13.53 19 *e*Pn **Pn** **13 29 29.9 -2.2**
comp=Z,164nm,0.6s
AAK Sn **Sn** **13 31 56.7 -5.2**
AAK Ala-Archa 13.53 19 Pn **Pn** **13 29 30.8 -1.4**
SNR=20
AAK Ala-Archa 13.53 19 P **Pn** **13 29 30.3 -1.9**
SNR=28
KAD Karad 13.65 156 *i* P **Pn** **13 29 31.7 -2.0**
LATR Latur 13.67 146 *eP* **Pn** **13 29 33.3 -0.6**
LATR *ex* x 13 32 45.6
KBK Karagaybulak 13.69 21 P Pn 13 29 38.1 +3.8
SNR=8.7
FRU Bishkek 13.75 19 *eP* **Pn** **13 29 33.0 -2.0**
FRU pmax pmax
comp=Z,36nm,2.0s
FRU pmax pmax
comp=E,108nm,2.0s
ULHL Ulahol 13.76 25 P **Pn** **13 29 34.2 -1.1**
SNR=13
USP Ospenovka 14.12 18 P **Pn** **13 29 37.3 -2.8**
SNR=10.0
TKM2 Tokmak 2 14.13 22 P **Pn** **13 29 38.9 -1.5**
SNR=45
GKN Gorkha 14.30 94 *eP* Pn 13 29 39.2 -3.4
comp=E,168nm,0.5s
GKN *eS* Sn 13 32 14.0 -6.6
ISFB Sefidab 14.41 292 *eP* **Pn** **13 29 45.1 +1.0**
DMN Daman 14.79 95 *eP* Pn 13 29 45.8 -3.6
comp=E,130nm,0.8s
KKN Kakani 14.90 94 *eP* Pn 13 29 47.1 -3.8
comp=E,175nm,0.6s
IDMV Damavand 14.90 296 *eP* **Pn** **13 29 52.1 +1.2**
PKI Pulchoki 15.06 95 *eP* **Pn** **13 29 48.9 -4.2**
comp=E,66nm,0.5s
GUN Gumba 15.39 93 *eP* **Pn** **13 29 53.7 -3.8**
comp=E,264nm,0.4s
HYB Hyderabad 15.53 141 *i* P **Pn** **13 29 55.0 -4.1**
HYB *e* 13 30 03.0
HYB *eS* **S** **13 33 05.5 -0.3**
JIRN Jiri 15.71 94 *eP* **Pn** **13 29 58.6 -3.1**
comp=E,54nm,0.5s
RAMN Ramite 16.24 96 *eP* **Pn** **13 30 03.8 -4.5**
comp=E,126nm,0.4s
IRAZ Razeghan 16.51 294 *eP* **Pn** **13 30 08.0 -3.7**
ODAN Odare 16.94 96 *eP* **Pn** **13 30 13.8 -3.4**
comp=E,323nm,0.9s
TAPN Taplejung 17.10 94 *eP* **Pn** **13 30 15.5 -3.8**
comp=E,249nm,0.8s
QRN Al-Qurain 17.95 271 *eP* **Pn** **13 30 26.6 -2.9**
QRN AMb AMB 13 30 33.8
comp=Z,63nm,0.9s
RDF Al-Radifah 18.24 272 *eP* **Pn** **13 30 29.7 -3.4**
RDF AMb AMB 13 30 35.1
comp=Z,71nm,0.8s
MIB Mutribah 18.32 275 *eP* **P** **13 30 31.2 -2.8**
MIB AMb AMB 13 30 35.3
comp=Z,84nm,0.9s
LKRN Lenkeran, Azer 18.41 303 P **Pn** **13 30 37.1 +2.0**
SNR=3.2
LKRN Lenkeran, Azer 18.41 303 Pn **Pn** **13 30 37.1 +2.0**
SNR=3.2
NAY Al-Naaiem 18.46 273 *eP* **P** **13 30 32.4 -3.2**
NAY AMb AMB 13 30 37.0
comp=Z,31nm,0.8s
GLBA Clilabad 18.90 305 P **Pn** **13 30 41.6 +0.6**
SNR=4.2
GLBA Clilabad 18.90 305 P **Pn** **13 30 41.6 +0.6**
SNR=4.2
SIZA Siyzn 19.35 310 P **Pn** **13 30 46.3 -0.3**
SNR=5.9
SIZA Siyzn 19.35 310 P **Pn** **13 30 46.3 -0.3**
SNR=5.9
PQL Pirkuli 19.42 309 P **P** **13 30 46.1 -0.1**
SNR=11
PQL Pirkuli 19.42 309 P **P** **13 30 46.1 -0.1**
SNR=11
LSA Lhasa 19.69 85 *eP* **P** **13 30 49.6 +0.1**
LSA pmax pmax
comp=Z,57nm,0.9s
LSA Lhasa 19.69 85 *eP* **P** **13 30 49.6 +0.1**
comp=Z,57nm,0.9s
IML Ismayilli 19.70 309 P **P** **13 30 47.5 -1.7**
SNR=4.3
IML Ismayilli 19.70 309 P **P** **13 30 47.5 -1.7**
SNR=4.3
MK31 Makanchi Array 19.94 29 ⇓P **P** **13 30 50.3 -1.4**
comp=Z,23nm,0.7s,baz=206,slow=9.5,SNR=3.0
MK31 Makanchi Array 19.94 29 *eP* **P** **13 30 50.3 -1.4**
MK31 pmax pmax
comp=Z,18nm,0.5s
MK31 Makanchi Array 19.94 29 *eP* **P** **13 30 50.3 -1.4**
MKAR Makanchi Array 19.94 29 P **P** **13 30 50.6 -1.1**
comp=Z,3.7nm,0.3s,baz=208,slow=12,SNR=206
MKAR LR LR 13 39 34.5
comp=Z,510nm,19.1s,baz=220,slow=40
MKAR Makanchi Array 19.94 29 *i* P **P** **13 30 50.3 -1.2**
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 19.94 29 *eP* **P** **13 30 50.2 -1.5**
BRDA Brd 20.16 306 P Pn 13 30 57.1 +1.0
SNR=3.4
BRDA Brd 20.16 306 P Pn 13 30 57.1 +1.0
SNR=3.4
AB31 Akbulak array 20.32 344 P **P** **13 30 54.5 -1.3**
comp=Z,20nm,0.7s,baz=151,slow=12,SNR=257
AB31 Akbulak array 20.32 344 *i* P **P** **13 30 54.4 -1.3**
AB31 pmax pmax
comp=Z,25nm,0.7s
ABKAR Akbulak array 20.32 344 *eP* **P** **13 30 54.5 -1.2**
WMQ Urumqi 20.61 43 P Pn 13 31 01.3 -0.2
WMQ PP **PnPn** **13 31 22.3 +5.3**
WMQ S **S** **13 34 44.8 -3.6**
WMQ SS **SnSn** **13 35 14.0 +5.9**
WMQ pmax pmax
comp=Z,77nm,1.0s
WMQ LR LR
comp=N,650nm,23.0s
WMQ LR LR
comp=E,280nm,23.0s
WMQ LR LR
comp=Z,210nm,21.0s
GANJ Ganja 20.92 307 P Pn 13 31 05.8 +0.8
SNR=7.1
GANJ Ganja 20.92 307 P Pn 13 31 05.8 +0.8
SNR=7.1
SHL Shillong 21.18 96 *eP* **P** **13 31 06.0 +0.6**
comp=Z,11nm,0.5s
SHL *ex* x 13 34 50.0
MAK Makhachkala 21.19 313 *eP* **P** **13 31 04.8 -0.4**
MAK S **S** **13 35 00.8 +1.2**
MAK *e*SS **SnSn** **13 35 26.5 +4.5**
MAK pmax pmax
comp=Z,275nm,1.2s
RAYN Ar Rayn 21.46 258 P **P** **13 31 07.5 -0.9**
comp=Z,253nm,1.1s,SNR=16
RAYN Ar Rayn 21.46 258 *eP* **P** **13 31 09.1 +0.7**
comp=Z,70nm,1.0s
GNI Garni 21.85 304 P **P** **13 31 13.1 +0.6**
comp=Z,8.2nm,0.6s,baz=160,slow=2.6,SNR=4.0
GNI LR LR 13 41 06.3
comp=Z,219nm,19.5s,baz=270,slow=41
GNI Garni 21.85 304 *eP* **P** **13 31 13.1 +0.6**
comp=Z,38nm,0.9s
AKTO Aktyubinsk 21.90 342 P **P** **13 31 12.5 -0.2**
comp=Z,26nm,0.6s,baz=160,slow=13,SNR=20
AKTO LR LR 13 40 58.0
comp=Z,155nm,18.6s,baz=152,slow=40
AKTO Aktyubinsk 21.90 342 ⇓P **P** **13 31 12.1 -0.6**
comp=Z,7.1nm,0.8s
AKTO Aktyubinsk 21.90 342 P **P** **13 31 12.5 -0.2**
AKTO pmax pmax
comp=Z,26nm,0.6s
AKTO MLR MLR
comp=Z,155nm,18.6s
AKTO Aktyubinsk 21.90 342 P **P** **13 31 12.5 -0.2**
KURBB Kurchatov Arra 21.97 17 P **P** **13 31 11.9 -1.6**
comp=Z,27nm,0.7s,baz=210,slow=9.6,SNR=90
KURBB LR LR 13 41 16.5
comp=Z,287nm,18.9s,baz=205,slow=41
KURK Kurchatov 22.08 17 ⇑P **P** **13 31 12.8 -1.9**
comp=Z,29nm,0.8s
KURK Kurchatov 22.08 17 ⇓*i* P **P** **13 31 12.4 -2.3**
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 22.08 17 *eP* **P** **13 31 12.2 -2.5**
KURK Kurchatov 22.08 17 P **P** **13 31 13.6 -1.0**
SNR=14
TBLG Delisi 22.45 308 *eP* **P** **13 31 20.4 +1.6**
TBLG Delisi 22.45 308 P **P** **13 31 20.4 +1.6**
VOSK Vostochnaya 22.81 4 ⇓P **P** **13 31 20.2 -2.2**
comp=Z,21nm,0.7s
ZRNK Zerenda 22.96 1 ⇑P **P** **13 31 24.3 +0.3**
comp=Z,17nm,0.7s
BVA0 Borovoye Array 23.08 3 P **P** **13 31 24.0 -1.2**
comp=Z,3.9nm,0.8s,baz=171,slow=11,SNR=93
BVA0 Borovoye Array 23.08 3 *i* P **P** **13 31 24.0 -1.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 23.08 3 P **P** **13 31 24.0 -1.2**
comp=Z,5.0nm,0.7s,baz=168,slow=10,SNR=21
BVAR PcP **PcP** **13 35 14.4 +0.6**
comp=Z,1.2nm,0.6s,baz=201,slow=2.3,SNR=5.0
BVAR LR LR 13 41 34.8
comp=Z,486nm,19.7s,baz=18,slow=40
BVAR Borovoye Array 23.08 3 P **P** **13 31 24.0 -1.2**
BVAR 13 35 14.4
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR MLR MLR
comp=Z,486nm,19.7s
BVAR Borovoye Array 23.08 3 P **P** **13 31 24.0 -1.2**
BVAR PcP **PcP** **13 35 14.4 +0.6**
BRVK Borovoye 23.11 3 ⇓P **P** **13 31 23.8 -1.7**
comp=Z,41nm,0.8s
BRVK Borovoye 23.11 3 ⇓*i* P **P** **13 31 23.5 -2.0**
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 23.11 3 *eP* **P** **13 31 22.6 -2.9**
comp=Z,26nm,0.7s
BRVK Borovoye 23.11 3 P **P** **13 31 26.3 +0.8**
SNR=11
IMP Imphal 23.18 97 *eP* **P** **13 31 28.0 +1.4**
ZEI Tsey 23.44 310 *eP* **P** **13 31 31.3 +2.0**
ZEI pmax pmax
comp=Z,18nm,1.1s
ONI Oni 23.67 309 P **P** **13 31 35.1 +3.8**
KBZ Khabaz 24.52 311 P **P** **13 31 38.7 -0.3**
comp=Z,9.8nm,1.0s,baz=150,slow=8.1,SNR=5.0
KBZ Khabaz 24.52 311 P **P** **13 31 38.7 -0.3**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 24.52 311 P **P** **13 31 38.7 -0.3**
KIV Kislovodsk 24.75 311 ⇑*eP* **P** **13 31 44.2 +2.9**
KIV 13 32 17.0
KIV SS SS 13 36 49.0
KIV pmax pmax
comp=Z,28nm,1.2s
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 24.75 311 *eP* **P** **13 31 39.7 -1.5**
comp=Z,16nm,0.8s
ZAA0 Zalesovo Array 26.74 22 *eP* **P** **13 31 57.4 -1.6**
ZALV Zalesovo Beam 26.74 22 P **P** **13 31 58.1 -0.9**
comp=Z,5.8nm,0.3s,baz=216,slow=9.4,SNR=28
ZALV S S 13 36 44.5 +11
comp=Z,3.4nm,1.0s,baz=218,slow=19,SNR=3.6
ZALV LR LR 13 44 06.3
comp=Z,294nm,19.3s,baz=326,slow=40
ZALV Zalesovo Beam 26.74 22 P **P** **13 31 58.1 -0.9**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ZALV MLR MLR
comp=Z,295nm,19.3s
ZALV Zalesovo Beam 26.74 22 P **P** **13 31 58.1 -0.9**
ZALV S S 13 36 44.5 +11
NVS Novosibirsk 27.03 19 *eP* **P** **13 32 04.4 +2.8**
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,16nm,0.8s
ASF Jabal al Asfar 27.07 283 P **P** **13 32 03.6 +1.2**
comp=Z,2.2nm,0.7s,baz=270,slow=6.1,SNR=2.5
ASF LR LR 13 43 00.8
comp=Z,53nm,20.8s,baz=133,slow=37
ASF Jabal al Asfar 27.07 283 P **P** **13 32 03.6 +1.2**
GTA Gaotai 27.33 61 ⇑P **P** **13 32 06.8 +2.1**
GTA pP **pP** **13 32 10.9 -1.0**
GTA PP **PnPn** **13 32 56.0 +7.0**
GTA S **S** **13 36 47.8 +4.6**
GTA sS **sS** **13 36 55.4 +0.4**
GTA pmax pmax
comp=Z,14nm,0.8s
GTA pmax pmax
comp=Z,170nm,4.8s
GTA LR LR
comp=N,210nm,13.8s
GTA LR LR
comp=E,310nm,11.9s
GTA LR LR
comp=Z,210nm,14.2s
ARU Arti 27.36 348 *c i* P **P** **13 32 04.8 +0.2**
ARU 13 32 46.2
ARU S **S** **13 36 44.7 +1.8**
ARU SS **SnSn** **13 37 53.3 +0.7**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 27.36 348 *eP* **P** **13 32 02.8 -1.7**
comp=Z,32nm,1.5s
ARU Arti 27.36 348 P **P** **13 32 04.7 +0.2**
comp=Z,77nm,0.6s,SNR=5.5
SVE Sverdlovsk 27.40 351 ⇑*eP* **P** **13 32 07.7 +2.7**
SVE pmax pmax
comp=Z,21nm,1.4s
SVE MLR MLR
comp=Z,369nm,16.0s
MMAI Mount Meron Ar 28.29 285 LR LR 13 45 05.5
comp=Z,116nm,19.0s,baz=30,slow=40
HVS Khovu-Aksy 28.30 35 *i* P **P** **13 32 15.0 +1.8**
VRHR Novokhopersk 29.07 324 *eP* **P** **13 32 20.2 +0.3**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.3s
CHTO Chiang Mai 29.81 105 *eP* **P** **13 32 26.4 -0.4**
CHTO pmax pmax
comp=Z,53nm,0.8s
CHTO Chiang Mai 29.81 105 *eP* **P** **13 32 26.4 -0.4**
comp=Z,53nm,0.8s
CHTO Chiang Mai 29.81 105 P **P** **13 32 28.3 +1.5**
SNR=11
CHTO Chiang Mai 29.81 105 P **P** **13 32 27.7 +0.9**
comp=Z,81nm,0.8s,comp=Z,699nm
CMAR Chiang Mai Arr 29.98 105 P **P** **13 32 29.4 +1.1**
comp=Z,11nm,0.6s,baz=304,slow=8.7,SNR=69
CMAR PcP **PcP** **13 35 31.6 +1.1**
comp=Z,3.9nm,0.6s,baz=283,slow=4.2,SNR=11
CMAR Chiang Mai Arr 29.98 105 P **P** **13 32 29.4 +1.1**
CMAR PcP **PcP** **13 35 31.6 +1.1**
BR131 Keskin Array S 30.03 298 *eP* **P** **13 32 26.5 -2.2**
comp=Z,1.9nm,0.7s
BRTR Keskin Array B 30.03 298 P **P** **13 32 27.8 -0.9**
comp=Z,4.1nm,1.1s,baz=118,slow=9.9,SNR=8.2
BRTR Keskin Array B 30.03 298 P **P** **13 32 27.8 -0.9**
CD2 Chengdu 30.37 79 P **P** **13 32 33.4 +1.7**
CD2 pP **pP** **13 32 37.8 -1.1**
CD2 PP **PnPn** **13 33 32.3 +2.0**
CD2 S **S** **13 37 31.9 +0.9**
CD2 SS **ScP** **13 39 10.3 -2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,420nm,5.1s
CD2 LR LR
comp=N,470nm,7.7s
CD2 LR LR
comp=Z,400nm,11.9s
VSR Storozhevoye 30.41 323 *eP* **P** **13 32 32.4 +0.6**
SOKR Solikamsk 30.64 348 ⇓*i* P **P** **13 32 38.5 +4.9**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,250nm,22.0s
KMI Kunming 30.70 91 P **P** **13 32 36.8 +1.9**
KMI S **S** **13 37 40.5 +3.9**
KMI SS **SnSn** **13 39 22.8 +7.6**
KMI pmax pmax
comp=Z,31nm,0.8s
KMI LR LR
comp=N,320nm,15.3s
KMI LR LR
comp=E,290nm,17.7s
KMI LR LR
comp=Z,300nm,12.9s
MOY Mondy 32.38 39 *eP* **P** **13 32 50.2 +0.9**
ZAK Zakamensk 33.08 42 *eP* **P** **13 32 55.3 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
GYA Guiyang 33.74 86 ⇑*i* P **P** **13 33 02.3 +0.8**
GYA PP **PnPn** **13 34 14.9 +1.0**
GYA S **S** **13 38 24.5 +0.7**
GYA ScP **ScP** **13 39 26.4 +2.5**
GYA SS **SnSn** **13 40 27.8 -1.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,560nm,17.8s
GYA LR LR
comp=E,480nm,18.0s
GYA LR LR
comp=Z,520nm,17.4s
TLY Talaya 33.85 40 *eP* **P** **13 33 02.8 +0.8**
TLY *e*SS SS 13 40 21.8 -29
TLY *e* 13 43 24.9
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,138nm,15.0s
TLY Talaya 33.85 40 *eP* **P** **13 32 59.7 -2.3**
comp=Z,3.6nm,0.8s
OBN Obninsk 33.89 327 ⇓*eP* **P** **13 33 03.6 +1.4**
OBN *e* 13 33 17.5
OBN pmax pmax
comp=Z,39nm,0.9s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 33.89 327 *eP* **P** **13 33 01.9 -0.3**
comp=Z,47nm,1.1s
SONM Songino Array 34.07 48 P **P** **13 33 05.3 +1.3**
comp=Z,6.6nm,0.8s,baz=253,slow=8.8,SNR=39
SONM LR LR 13 49 16.9
comp=Z,387nm,18.1s,baz=196,slow=40
SONM Songino Array 34.07 48 P **P** **13 33 05.3 +1.3**
XAN Xi'an 34.40 73 P **P** **13 33 07.5 +0.5**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,18nm,4.0s
ULN Ulaanbaatar 34.50 48 *eP* **P** **13 33 06.6 -1.2**
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 34.50 48 P **P** **13 33 08.9 +1.1**
comp=Z,60nm,2.9s
CFR Carcaliu 34.99 307 ⇑P **P** **13 33 13.8 +2.0**
CFR Carcaliu 34.99 307 ⇑*i* P **P** **13 33 13.8 +2.0**
ENH Enshi 35.35 79 *eP* **P** **13 33 13.8 -1.5**
comp=Z,19nm,0.7s
AK02 Malin Array Si 35.80 316 *eP* **P** **13 33 16.3 -2.5**
AKASG Malin Array Be 35.80 317 P **P** **13 33 17.3 -1.5**
comp=Z,8.3nm,0.9s,baz=99,slow=7.3,SNR=13
AKASG PcP **PcP** **13 35 45.2 -0.9**
comp=Z,0.8nm,0.4s,baz=87,slow=3.4,SNR=5.3
AKASG Malin Array Be 35.80 317 *i* P **P** **13 33 20.0 +1.2**

AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 35.80 317 P **P** **13 33 17.3 -1.5**
AKASG PcP **PcP** **13 35 45.2 -0.9**
AK01 Malin Array Si 35.81 317 *eP* **P** **13 33 17.2 -1.7**
KIEV Kiev 35.81 317 *eP* **P** **13 33 16.7 -2.2**
KIEV pmax pmax
comp=Z,15nm,1.1s
KIEV Kiev 35.81 317 *eP* **P** **13 33 16.7 -2.2**
comp=Z,16nm,1.1s
VRI Vrincioaia 36.09 308 ⇓P P 13 33 27.9 +6.5
VRI Vrincioaia 36.09 308 ⇓*iP* P 13 33 27.9 +6.5
PLOR Plostina 36.14 308 ⇑P P 13 33 26.1 +4.2
PLOR Plostina 36.14 308 ⇑*iP* P 13 33 26.1 +4.2
TESR 36.28 309 ⇓*iP* **P** **13 33 23.2 +0.2**
KLMR Klimovskoe 36.37 336 *eP* **P** **13 33 24.1 +0.6**
KLMR pmax pmax
comp=Z,28nm,1.4s
HHC Hu-ho-hao-te 36.44 61 *eP* **P** **13 33 25.9 +1.3**
HHC pP **pP** **13 33 30.5 -1.3**
HHC PP **PP** **13 34 50.6 +3.0**
HHC PcP **PcP** **13 35 51.6 +3.3**
HHC S **S** **13 39 06.6 +1.6**
HHC SS **SnSn** **13 41 29.0 -4.9**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,200nm,7.2s
HHC LR LR
comp=N,300nm,10.8s
HHC LR LR
comp=E,320nm,10.8s
HHC LR LR
comp=Z,360nm,12.0s
MLR Muntele Rosu 36.56 307⇑*iP* **P** **13 33 26.9 +1.4**
VOIR 37.17 307 ⇑P **P** **13 33 29.3 -1.4**
VOIR 37.17 307⇑*iP* **P** **13 33 29.3 -1.4**
ARR Arges 37.45 307 ⇓*iP* P 13 33 27.1 -5.9
BURAR Bucovina Array 37.47 310 ⇓*iP* **P** **13 33 35.5 +2.3**
BUR08 Bucovina Ar. S 37.49 310 *eP* **P** **13 33 32.3 -1.1**
NACGM Naroch 38.73 322 *e* P 13 33 39.0 -4.6
DRGR 39.00 309 ⇓P **P** **13 33 45.6 -0.4**
DRGR 39.00 309 ⇓*iP* **P** **13 33 45.6 -0.4**
KULM Kulim 39.03 123 *eP* **P** **13 33 48.3 +1.7**
comp=Z,26nm,1.0s
TMCR Tamitsa 39.23 339 *eP* **P** **13 33 45.2 -2.4**
TMCR pmax pmax
comp=Z,20nm,1.2s
TRPA Tarpa 39.34 311⇑*eP* **P** **13 33 50.7 +2.0**
WHN Wuhan 39.43 77 P P 13 33 53.3 +3.6
PSI Prapat 39.54 127 LR LR 13 51 32.4
comp=Z,174nm,19.2s,baz=143,slow=38
UZH Uzhgorod 39.59 311⇑*iP* **P** **13 33 52.9 +2.1**
UZH *e* 13 34 11.0
KOLS Kolonicke sedl 39.66 312 *eP* **P** **13 33 52.9 +1.4**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 39.66 312 *eP* **P** **13 33 52.8 +1.3**
BJI Beijing 39.94 62 P **P** **13 33 55.5 +1.6**
BJI S **S** **13 39 59.1 +1.4**
BJI pmax pmax
comp=Z,31nm,0.6s
BJI LR LR
comp=Z,100nm,20.4s
CRVS Cervenica-Dubn 40.18 312 *eP* **P** **13 33 55.5 -0.3**
CRVS pmax pmax
comp=Z,10.0nm,1.0s
CRVS Cervenica-Dubn 40.18 312 *eP* **P** **13 33 55.5 -0.3**
CRVS *e* 13 33 58.5
VSU Vasula 40.25 327 ⇓*iP* **P** **13 33 54.3 -1.8**
VSU pmax pmax
comp=Z,37nm,1.3s
SUW Suwalki 40.39 320 *eP* **P** **13 33 58.2 +0.7**
SUW Suwalki 40.39 320 *eP* **P** **13 33 56.5 -0.9**
SUW pmax pmax
comp=Z,36nm,1.0s
SUW Suwalki 40.39 320 *eP* **P** **13 33 56.5 -0.9**
comp=Z,36nm,1.0s
SUW Suwalki 40.39 320 *eP* **P** **13 33 58.1 +0.7**
JOF Joensuu 40.67 335 *eP* **P** **13 33 58.0 -1.6**
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 40.67 335 *ep* **P** **13 33 58.0 -1.6**
comp=Z,8.6nm,0.6s
NIE Niedzica 41.02 312 *eP* **P** **13 34 03.2 +0.5**
NIE Niedzica 41.02 312 *eP* **P** **13 34 03.2 +0.5**
PSZ Piszkesteto 41.06 310 ⇓P **P** **13 34 06.2 +3.1**
PSZ Piszkesteto 41.06 310 *eP* **P** **13 34 02.0 -1.1**
comp=Z,23nm,1.0s
PSZ Piszkesteto 41.06 310⇓*iP* **P** **13 34 06.2 +3.1**
PSZ Piszkesteto 41.06 310⇑*eP* **P** **13 34 03.0 -0.1**
PKSM Moragy 41.72 307 *eP* **P** **13 34 07.7 -0.7**
BOD Bodaibo 41.83 35 *eP* **P** **13 34 08.6 -0.6**
BOD pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 41.84 311 *eP* **P** **13 34 10.6 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 41.84 311 *eP* **P** **13 34 10.6 +1.2**
FINES FINESS Array B 41.94 331 P **P** **13 34 08.8 -1.2**
comp=Z,3.3nm,0.6s,baz=125,slow=9.2,SNR=15
FINES LR LR 13 53 41.9
comp=Z,210nm,19.9s,baz=148,slow=39
FINES FINESS Array B 41.94 331 P **P** **13 34 08.8 -1.2**
KAF Kangasniemi 42.17 332 *eP* **P** **13 34 10.2 -1.7**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 42.17 332 *ep* **P** **13 34 10.2 -1.7**
comp=Z,6.3nm,0.5s
OKC Ostrava-Krasne 42.47 312 *eP* **P** **13 34 17.0 +2.4**
OKC Ostrava-Krasne 42.47 312 *eP* **P** **13 34 17.0 +2.4**
MORC Moravsky Berou 42.85 312 *eP* **P** **13 34 17.0 -0.7**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 42.85 312 *eP* **P** **13 34 16.9 -0.7**
comp=Z,5.4nm,0.9s
NJ2 Nanjing 42.93 74 *eP* **P** **13 34 16.5 -2.0**
NJ2 pmax pmax
comp=Z,20nm,0.5s
APA Apatity 42.98 341⇑*iP* **P** **13 34 21.0 +2.6**
APA MLR MLR
comp=Z,600nm,13.0s
HIA Hailar 43.02 49 *eP* **P** **13 34 17.9 -1.2**
comp=Z,8.4nm,0.8s
SOP Sopron 43.27 309 *eP* **P** **13 34 20.8 -0.2**
DPC Dobruska-Polom 43.71 313 *eP* **P** **13 34 23.8 -0.8**
DPC pmax pmax
comp=Z,11nm,1.0s
DPC Dobruska-Polom 43.71 313 *eP* **P** **13 34 23.8 -0.8**
comp=Z,11nm,1.0s
DPC Dobruska-Polom 43.71 313 *eP* **P** **13 34 24.6 0.0**
DPC *ep*P **pP** **13 34 32.4 +0.4**
CUC Castrocucco 43.72 298 *eP* **P** **13 34 24.9 0.0**
comp=Z,34nm,0.8s
CUC *e*PP **PP** **13 36 07.6 +0.9**
KSP Ksiaz 43.79 314 *eP* **P** **13 34 27.4 +2.1**
KSP Ksiaz 43.79 314 *eP* **P** **13 34 24.9 -0.3**
KSP Ksiaz 43.79 314 *eP* **P** **13 34 27.3 +2.1**
UPC Upice 43.93 313 *eP* **P** **13 34 27.1 +0.8**
UPC Upice 43.93 313 *eP* **P** **13 34 27.1 +0.8**
ARSA Arzberg 43.93 308⇑*iP* **P** **13 34 25.0 -1.4**
comp=Z,13nm,0.8s
SOKA Soboth 44.24 308⇑*iP* **P** **13 34 27.2 -1.8**
comp=Z,7.8nm,1.0s
MOA Molln 44.82 309⇑*iP* **P** **13 34 33.3 -0.2**
comp=Z,13nm,0.8s
PVCC Panska Ves 44.84 313 *eP* **P** **13 34 35.4 +1.8**
PVCC Panska Ves 44.84 313 *eP* **P** **13 34 35.4 +1.8**
GERES GERESS Array B 45.26 311 P **P** **13 34 36.2 -0.9**
comp=Z,2.0nm,0.7s,baz=95,slow=7.4,SNR=14
GERES GERESS Array B 45.26 311 P **P** **13 34 36.2 -0.9**
BRG Berggiesshubel 45.28 313 *eP* **P** **13 34 37.1 0.0**
comp=Z,2.4nm,0.6s
BRG *e* 13 34 39.8
comp=Z,27nm,1.6s
BRG Berggiesshubel 45.28 313 *eP* **P** **13 34 37.1 0.0**
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,27nm,1.6s
BSD Bornholm Skovb 45.33 319 *i*P **P** **13 34 35.0 -2.4**
comp=Z,12nm,0.8s

KHC Kasperske Hory 45.36 311 *eP* P 13 34 34.0 -3.8
KHC *e* 13 34 43.0
KHC Kasperske Hory 45.36 311 *eP* P 13 34 34.0 -3.8
KHC *ep*P pP 13 34 43.0 -2.2
AQU L'Aquila 45.41 301 *eP* **P** **13 34 37.7 -0.6**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 45.41 308⇑*iP* **P** **13 34 37.6 -0.8**
comp=Z,14nm,0.9s
CLL Collm 45.91 314 *eP* **P** **13 34 44.0 +1.9**
CLL *e* 13 34 56.0
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 45.91 314 *eP* **P** **13 34 44.0 +1.9**
comp=Z,9.0nm,1.2s
CLL *es*P **sP** **13 34 56.0 +3.6**
NKC Novy Kostel 46.17 312 *eP* **P** **13 34 46.1 +1.9**
NKC *e* 13 34 55.4
NKC Novy Kostel 46.17 312 *eP* **P** **13 34 46.1 +1.9**
NKC *ep*P **pP** **13 34 55.4 +3.8**
KEV Kevo 46.18 341 *eP* **P** **13 34 43.2 -0.7**
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 46.18 341 *ep* **P** **13 34 43.2 -0.7**
comp=Z,3.8nm,0.8s
ARCES ARCESS Array B 46.48 341 P **P** **13 34 45.2 -1.1**
comp=Z,8.2nm,0.9s,baz=120,slow=7.1,SNR=12
ARCES LR LR 13 56 46.2
comp=Z,111nm,18.8s,baz=352,slow=39
ARCES ARCESS Array B 46.48 341 P **P** **13 34 45.2 -1.1**
CN2 Changchun 46.76 56 *eP* **P** **13 34 49.3 +0.5**
CN2 *eS* **S** **13 41 37.0 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
KTK1 Kautokeino 46.85 339 *eP* **P** **13 34 48.9 -0.4**
KTK1 AMB AMB 13 34 57.7
comp=Z,113nm,2.0s
GRF Grafenberg Arr 46.93 312 *eP* **P** **13 34 52.6 +2.5**
GRF pmax pmax
comp=Z,7.0nm,1.2s
GRF Grafenberg Arr 46.93 312 *eP* **P** **13 34 52.6 +2.5**
comp=Z,7.0nm,1.2s
FETA Feheen 47.20 308⇑*iP* **P** **13 34 50.8 -1.7**
comp=Z,14nm,0.9s
FUORN Ofenpass-Fuorn 47.52 307 *eP* **P** **13 34 54.8 -0.3**
comp=Z,6.1nm,0.9s
NB2 NORSAR Subarra 48.49 327 P **P** **13 35 00.1 -2.0**
baz=106,slow=7.9
NB2 NORSAR Subarra 48.49 327 P **P** **13 35 00.1 -2.0**
comp=Z,6.5nm,0.7s,baz=106,slow=7.9
NOA NORSAR Array B 48.49 327 P **P** **13 35 00.7 -1.4**
comp=Z,2.1nm,0.7s,baz=104,slow=7.7,SNR=6.8
NOA LR LR 13 57 33.5
comp=Z,64nm,19.6s,baz=250,slow=39
NOA NORSAR Array B 48.49 327 P **P** **13 35 00.7 -1.4**
MOR8 Moi Rana 48.60 334 *eP* **P** **13 35 01.0 -1.8**
MOR8 AMB AMB 13 35 03.1
comp=Z,30nm,2.4s
VSL Villasalto 48.71 298 *eP* **P** **13 35 03.7 -0.4**
comp=Z,56nm,1.1s
MUD Monsted U'grnd 48.74 321 *iP* **P** **13 35 04.2 +0.2**
comp=Z,12nm,1.1s
KSAR Wonju Array Be 49.29 65 P **P** **13 35 08.9 +0.4**
KSRS Korea Array 49.32 65 P **P** **13 35 08.9 +0.2**
comp=Z,13nm,0.6s,baz=270,slow=8.0,SNR=50
KSRS LR LR 13 59 33.3
comp=Z,73nm,18.2s,baz=170,slow=40
KEST Kesra 49.35 293 P **P** **13 35 10.4 +1.2**
comp=Z,5.1nm,0.7s,baz=104,slow=1.7,SNR=5.5
KEST Kesra 49.35 293 *eP* **P** **13 35 09.3 +0.1**
CDF Champ du Feu 49.51 310 *eP* **P** **13 35 09.2 -1.0**
CDF Champ du Feu 49.51 310 *eP* **P** **13 35 09.2 -1.0**
CDF Champ du Feu 49.51 310 *eP* **P** **13 35 09.2 -1.0**
SENIN Lac Senin/Sane 49.58 307 *eP* **P** **13 35 10.8 -0.1**
comp=Z,79nm,2.3s
SBF Sospel 49.66 304 *eP* **P** **13 35 09.8 -1.6**
comp=Z,29nm,0.8s
SBF Sospel 49.66 304 *eP* **P** **13 35 09.8 -1.6**
SBF pmax pmax
comp=Z,29nm,0.8s
SBF Sospel 49.66 304 *eP* **P** **13 35 09.8 -1.6**
comp=Z,29nm,0.8s
HINF Hinteralfeld 49.81 309 *eP* **P** **13 35 10.4 -2.0**
HINF Hinteralfeld 49.81 309 *eP* **P** **13 35 10.4 -2.0**
HINF Hinteralfeld 49.81 309 *eP* **P** **13 35 10.4 -2.0**
LPG La Plagne 50.01 306 *eP* **P** **13 35 13.5 -0.8**
LPG La Plagne 50.01 306 *eP* **P** **13 35 13.5 -0.8**
LPG La Plagne 50.01 306 *eP* **P** **13 35 13.5 -0.8**
LPL La Plagne 50.03 306 *eP* **P** **13 35 13.8 -0.5**
comp=Z,19nm,0.9s
LPL La Plagne 50.03 306 *eP* **P** **13 35 13.8 -0.5**
LPL pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 50.03 306 *eP* **P** **13 35 13.8 -0.5**
comp=Z,19nm,0.9s
MBDF Montbardon 50.06 305 *eP* **P** **13 35 13.1 -1.4**
comp=Z,22nm,1.1s
MBDF Montbardon 50.06 305 *eP* **P** **13 35 13.1 -1.4**
MBDF pmax pmax
comp=Z,22nm,1.1s
MBDF Montbardon 50.06 305 *eP* **P** **13 35 13.1 -1.4**
comp=Z,22nm,1.1s
BNI Bardonecchia 50.10 305 *eP* **P** **13 35 16.0 +1.2**
BNI Bardonecchia 50.10 305 *eP* **P** **13 35 16.0 +1.2**
HAU Haudompre 50.14 309 *eP* **P** **13 35 13.4 -1.5**
HAU Haudompre 50.14 309 *eP* **P** **13 35 13.4 -1.5**
HAU Haudompre 50.14 309 *eP* **P** **13 35 13.4 -1.5**
CABF La Chapelle 50.40 308 *eP* **P** **13 35 16.8 -0.1**
comp=Z,34nm,1.1s
CABF La Chapelle 50.40 308 *eP* **P** **13 35 16.8 -0.1**
CABF pmax pmax
comp=Z,34nm,1.1s
CABF La Chapelle 50.40 308 *eP* **P** **13 35 16.8 -0.1**
comp=Z,34nm,1.1s
PAGF Fort de Pagny 50.53 310 *eP* **P** **13 35 16.9 -0.9**
comp=Z,4.6nm,1.0s
PAGF Fort de Pagny 50.53 310 *eP* **P** **13 35 16.9 -0.9**
comp=Z,4.6nm,1.0s
YAK Yakutsk 50.56 32 *eP* P 13 35 13.5 -4.2
YAK pmax pmax
comp=Z,36nm,0.6s
YAK Yakutsk 50.56 32 *eP* P 13 35 13.5 -4.2
comp=Z,36nm,0.6s
KLR Kul'dur 50.88 49 *eP* **P** **13 35 17.2 -3.2**
MEZF Maizieres J'vi 50.98 310 *eP* **P** **13 35 19.3 -1.9**
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 50.98 310 *eP* **P** **13 35 19.3 -1.9**
comp=Z,14nm,0.8s
SFTF Sexfontaines 51.01 310 *eP* **P** **13 35 20.4 -1.0**
SFTF Sexfontaines 51.01 310 *eP* **P** **13 35 20.4 -1.0**
GIVF Givet 51.07 312 *eP* **P** **13 35 21.4 -0.4**
comp=Z,37nm,1.2s
GIVF Givet 51.07 312 *eP* **P** **13 35 21.4 -0.4**
GIVF pmax pmax
comp=Z,37nm,1.2s
GIVF Givet 51.07 312 *eP* **P** **13 35 21.4 -0.4**
comp=Z,37nm,1.2s
USRK Ussuriysk Arra 51.44 55 P **P** **13 35 23.9 -0.8**
comp=Z,2.9nm,0.7s,baz=249,slow=7.9,SNR=5.7
BAIF Baives 51.46 312 *eP* **P** **13 35 24.3 -0.5**
comp=Z,26nm,1.1s
BAIF Baives 51.46 312 *eP* **P** **13 35 24.3 -0.5**
BAIF pmax pmax
comp=Z,26nm,1.1s
BAIF Baives 51.46 312 *eP* **P** **13 35 24.3 -0.5**
comp=Z,26nm,1.1s
VIVF Saint-Julien-l 51.54 305 *eP* **P** **13 35 25.0 -0.5**
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 51.54 305 *eP* **P** **13 35 25.0 -0.5**
VIVF pmax pmax
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 51.54 305 *eP* **P** **13 35 25.0 -0.5**
comp=Z,20nm,1.0s
LOR Lormes 51.87 309 *eP* **P** **13 35 26.2 -1.7**
LOR Lormes 51.87 309 *eP* **P** **13 35 26.2 -1.7**
SMF Signal de Mont 51.94 308 *eP* **P** **13 35 27.0 -1.4**
comp=Z,20nm,0.8s
SMF Signal de Mont 51.94 308 *eP* **P** **13 35 27.0 -1.4**
SMF pmax pmax
comp=Z,20nm,0.8s
SMF Signal de Mont 51.94 308 *eP* **P** **13 35 27.0 -1.4**
comp=Z,20nm,0.8s
SSF Saint Saulge 52.13 308 *eP* **P** **13 35 28.4 -1.4**
comp=Z,16nm,0.9s
SSF Saint Saulge 52.13 308 *eP* **P** **13 35 28.4 -1.4**

SSF pmax pmax
comp=Z,16nm,0.9s
SSF Saint Saulge 52.13 308 *eP* **P** **13 35 28.4 -1.4**
comp=Z,16nm,0.9s
LASF Ste Croix 52.21 305 *eP* **P** **13 35 29.1 -1.4**
comp=Z,20nm,1.0s
LASF Ste Croix 52.21 305 *eP* **P** **13 35 29.1 -1.4**
comp=Z,20nm,1.0s
JNU Nakatsue 52.59 69 P **P** **13 35 34.5 +1.0**
comp=Z,11nm,0.8s,baz=257,slow=5.2,SNR=5.2
JNU LR LR 14 00 53.0
comp=Z,137nm,19.0s,baz=260,slow=40
JNU Nakatsue 52.59 69 P **P** **13 35 34.5 +1.0**
TCF Toulx Ste Croi 53.09 307 *eP* **P** **13 35 35.8 -1.2**
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 53.09 307 *eP* **P** **13 35 35.8 -1.2**
TCF pmax pmax
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 53.09 307 *eP* **P** **13 35 35.8 -1.2**
comp=Z,14nm,1.0s
CAF Calviac 53.37 306 *eP* **P** **13 35 37.9 -1.2**
comp=Z,34nm,1.2s
CAF Calviac 53.37 306 *eP* **P** **13 35 37.9 -1.2**
CAF pmax pmax
comp=Z,34nm,1.2s
CAF Calviac 53.37 306 *eP* **P** **13 35 37.9 -1.2**
comp=Z,34nm,1.2s
SPITS Spitsbergen Ar 53.39 348 LR LR 14 02 03.5
comp=Z,121nm,18.1s,baz=140,slow=40
MTLF Montolieu 53.49 304 *eP* **P** **13 35 39.7 -0.2**
comp=Z,11nm,0.9s
MTLF Montolieu 53.49 304 *eP* **P** **13 35 39.7 -0.2**
MTLF pmax pmax
comp=Z,11nm,0.9s
MTLF Montolieu 53.49 304 *eP* **P** **13 35 39.7 -0.2**
comp=Z,11nm,0.9s
RJF Les Rejaudoux 53.70 306 *eP* **P** **13 35 40.5 -1.0**
comp=Z,15nm,1.0s
RJF Les Rejaudoux 53.70 306 *eP* **P** **13 35 40.5 -1.0**
RJF pmax pmax
comp=Z,15nm,1.0s
RJF Les Rejaudoux 53.70 306 *eP* **P** **13 35 40.5 -1.0**
comp=Z,15nm,1.0s
GUIM Jordan 53.78 99 *eP* P 13 35 38.6 -3.8
LDF La Druitiere 54.40 311 *eP* **P** **13 35 45.3 -1.2**
comp=Z,17nm,0.9s
LDF La Druitiere 54.40 311 *eP* **P** **13 35 45.3 -1.2**
LDF pmax pmax
comp=Z,17nm,0.9s
LDF La Druitiere 54.40 311 *eP* **P** **13 35 45.3 -1.2**
comp=Z,17nm,0.9s
ETSF Etsaut 55.57 304 *eP* **P** **13 35 54.4 -0.7**
comp=Z,14nm,0.7s
ETSF Etsaut 55.57 304 *eP* **P** **13 35 54.4 -0.7**
ETSF pmax pmax
comp=Z,14nm,0.7s
ETSF Etsaut 55.57 304 *eP* **P** **13 35 54.4 -0.7**
comp=Z,14nm,0.7s
SGMF Saint Gilles 56.05 310 *eP* **P** **13 35 57.3 -1.1**
comp=Z,46nm,1.1s
SGMF Saint Gilles 56.05 310 *eP* **P** **13 35 57.3 -1.1**
SGMF pmax pmax
comp=Z,46nm,1.1s
SGMF Saint Gilles 56.05 310 *eP* **P** **13 35 57.3 -1.1**
comp=Z,46nm,1.1s
TAM Tamanrasset 56.23 279 *eP* **P** **13 36 00.7 +0.4**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 56.23 279 *eP* **P** **13 36 00.7 +0.4**
comp=Z,4.5nm,0.8s
MAT Matsushiro 57.55 64 P **P** **13 36 09.1 -0.2**
MJAR Matsushiro Arr 57.55 64 P **P** **13 36 09.5 +0.2**
comp=Z,4.7nm,0.8s,baz=296,slow=10,SNR=8.3
MJAR Matsushiro Arr 57.55 64 P **P** **13 36 09.5 +0.2**
JMIC Jan Mayen 57.74 338 LR LR 14 02 55.4
comp=Z,139nm,18.0s,baz=117,slow=38
ESDC Sonseca Array 58.78 301 P **P** **13 36 17.0 -0.9**
comp=Z,2.0nm,0.7s,baz=67,slow=7.2,SNR=16
ESDC Sonseca Array 58.78 301 P **P** **13 36 17.0 -0.9**
PAB San Pablo 59.10 301 *eP* **P** **13 36 20.1 0.0**
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 59.10 301 *eP* **P** **13 36 20.1 0.0**
comp=Z,12nm,1.3s
LSZ Lusaka 59.41 226 *eP* **P** **13 36 23.7 +1.2**
DAG Danmarks Havn 60.41 345 *iP* **P** **13 36 30.8 +2.4**
comp=Z,53nm,1.0s
MVO Moncorvo 60.65 303 *eP* **P** **13 36 31.7 +0.9**
comp=Z,13nm,1.7s
SEY Seymchan 61.05 31⇓*iP* **P** **13 36 32.4 -0.6**
PCBR Castelo Branco 61.34 302 *eP* **P** **13 36 35.8 +0.4**
comp=Z,10.0nm,1.2s
PMRV Marv??o 61.40 301 *eP* **P** **13 36 37.7 +1.9**
comp=Z,18nm,1.4s
PESTR Estremoz 61.71 301 *eP* **P** **13 36 40.2 +2.3**
comp=Z,13nm,1.8s
EVO Evora 62.12 300 *eP* **P** **13 36 41.3 +0.7**
comp=Z,17nm,1.0s
EVO Evora 62.12 300 *eP* **P** **13 36 40.0 -0.6**
comp=Z,14nm,1.1s
PBEJ Beja 62.16 300 *eP* **P** **13 36 43.1 +2.2**
comp=Z,14nm,2.4s
EVOP Sao Brissos 62.21 300 *eP* **P** **13 36 41.3 +0.1**
EVOP pmax pmax
comp=Z,17nm,1.0s
EVOP Sao Brissos 62.21 300 *eP* **P** **13 36 41.3 +0.1**
comp=Z,17nm,1.0s
PVAQ Vaqueiro 62.24 299 *eP* **P** **13 36 43.5 +2.1**
comp=Z,27nm,1.8s
PCVE Castro Verde 62.41 299 *eP* **P** **13 36 44.8 +2.2**
comp=Z,34nm,1.7s
PNCL Nicolau / Gran 62.64 300 *eP* P 13 36 47.2 +3.1
comp=Z,30nm,1.5s
TOA0 Torodi Ar. Sit 63.52 270 *eP* **P** **13 36 48.7 -1.6**
TORD Torodi Ar. Bea 63.52 270 P **P** **13 36 48.8 -1.5**
comp=Z,19nm,1.0s,baz=59,slow=5.8,SNR=29
TORD Torodi Ar. Bea 63.52 270 P **P** **13 36 48.8 -1.5**
PETK Petropavlovsk- 66.20 41 P **P** **13 37 05.5 -1.7**
comp=Z,21nm,0.6s,baz=282,slow=3.7,SNR=6.3
PETK Petropavlovsk- 66.20 41 P **P** **13 37 05.5 -1.7**
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK Petropavlovsk- 66.20 41 P **P** **13 37 05.5 -1.7**
SUMG Summit 66.55 342 *eP* **P** **13 37 11.1 +1.5**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 66.55 342 *eP* **P** **13 37 11.1 +1.5**
comp=Z,13nm,0.8s
SUMG Summit 66.55 342 *iP* **P** **13 37 09.7 +0.1**
comp=Z,13nm,0.7s
LBTB Lobatse 68.41 222 P **P** **13 37 22.2 +0.7**
comp=Z,11nm,1.0s,baz=56,slow=5.8,SNR=12
LBTB Lobatse 68.41 222 *eP* **P** **13 37 22.4 +0.8**
LBTB *eP*cP **PcP** **13 37 47.5 +0.7**
BOSA Boshof 71.38 219 P **P** **13 37 39.3 -0.5**
comp=Z,9.5nm,0.9s,baz=49,slow=8.2,SNR=8.3
BOSA Boshof 71.38 219 *eP* **P** **13 37 40.8 +1.1**
DBIC Dimbokro 72.25 267 P **P** **13 37 44.6 -0.7**
comp=Z,5.0nm,1.0s,baz=21,slow=9.2,SNR=3.9
DBIC LR LR 14 13 11.4
comp=Z,132nm,18.5s,baz=40,slow=39
DBIC Dimbokro 72.25 267 P **P** **13 37 44.6 -0.7**
LIC Lamto 72.62 267⇑*iP* **P** **13 37 49.4 +2.0**
comp=Z,22nm,1.1s
LIC Lamto 72.62 267⇑*iP* **P** **13 37 49.4 +2.0**
comp=Z,22nm,1.0s
FITZ Fitzroy Crossi 72.91 123 P **P** **13 37 49.0 0.0**
comp=Z,4.4nm,0.8s,baz=107,slow=21,SNR=6.8
FITZ Fitzroy Crossi 72.91 123 P **P** **13 37 49.0 0.0**
SFJD Kangerlussuaq 73.06 339 LR LR 14 10 13.6
comp=Z,112nm,19.2s,baz=78,slow=36
FX1 Attu Island--F 74.82 37 *eP* **P** **13 37 58.5 -1.2**
RES Resolute Bay 75.03 355 LR LR 14 14 46.0
comp=Z,82nm,19.8s,baz=74,slow=39
TNA Tin City 75.40 21 *eP* **P** **13 38 01.9 -0.9**
comp=Z,5.0nm,1.1s
SUR Sutherland 76.72 220 P **P** **13 38 12.0 +1.0**
comp=Z,5.8nm,1.0s,baz=152,slow=5.2,SNR=2.9
SUR Sutherland 76.72 220 P **P** **13 38 12.0 +1.0**
COLD Coldfoot 78.81 14 *eP* **P** **13 38 20.8 -1.2**
comp=Z,8.2nm,1.1s
WRA Warramunga Arr 80.50 119 P **P** **13 38 32.2 +0.3**
comp=Z,17nm,0.6s,baz=321,slow=4.8,SNR=323
WRA Warramunga Arr 80.50 119 P **P** **13 38 32.2 +0.3**
WRAB Tennant Creek 80.50 119 *eP* **P** **13 38 32.3 +0.4**
WRAB pmax pmax
comp=Z,20nm,0.6s

WRAB	**Tennant Creek**	**80.50**	**119**	*e*P		**P**	**13 38 32.3**	**+0.4**
	comp=Z,20nm,0.6s							
COLA	**College**	**81.32**	**15**	*e*P		**P**	**13 38 34.2**	**-1.3**
COLA				*e*			13 38 40.8	
COLA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
COLA	**College**	**81.32**	**15**	*e*P		**P**	**13 38 34.2**	**-1.3**
	comp=Z,3.9nm,0.8s							
COLA				*e*PcP		**PcP**	**13 38 40.8**	**-0.8**
ILAR	**Eelson Array**	**81.62**	**15**	P		**P**	**13 38 36.0**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=318,slow=3.6,SNR=15							
ILAR				LR		LR	14 20 50.3	
	comp=Z,86nm,19.0s,baz=300,slow=40							
ILAR	**Eelson Array**	**81.62**	**15**	P		**P**	**13 38 36.0**	**-1.1**
AS31	**Alice Springs**	**82.40**	**123**	*e*P		**P**	**13 38 42.0**	**+0.1**
AS31				*e*PcP		**PcP**	**13 38 47.1**	**0.0**
ASAR	**Alice Springs**	**82.40**	**123**	P		**P**	**13 38 42.1**	**+0.2**
	comp=Z,16nm,0.6s,baz=308,slow=5.3,SNR=301							
ASAR	**Alice Springs**	**82.40**	**123**	P		**P**	**13 38 42.1**	**+0.2**
DAWY	**Dawson**	**83.74**	**12**	*e*P		**P**	**13 38 46.0**	**-2.3**
DAWY				*e*PcP		**PcP**	**13 38 51.0**	**-1.4**
PMG	**Port Moresby**	**85.01**	**104**	P		**P**	**13 38 55.3**	**-0.2**
	comp=Z,15nm,0.7s,baz=14,slow=11,SNR=6.5							
PMG	**Port Moresby**	**85.01**	**104**	P		**P**	**13 38 55.3**	**-0.2**
KDAK	**Kodiak Island**	**86.04**	**21**	P		**P**	**13 38 59.5**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=239,slow=4.0,SNR=4.5							
KDAK	**Kodiak Island**	**86.04**	**21**	P		**P**	**13 38 59.5**	**-0.3**
SCHQ	**Schefferville**	**87.21**	**336**	P		**P**	**13 39 05.2**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=60,slow=8.1,SNR=2.6							
SCHQ	**Schefferville**	**87.21**	**336**	P		**P**	**13 39 05.2**	**-0.6**
YKA	**Yellowknife Ar**	**87.83**	**1**	P		**P**	**13 39 08.4**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=348,slow=5.0,SNR=91							
YKA	**Yellowknife Ar**	**87.83**	**1**	P		**P**	**13 39 08.4**	**-0.1**
CTA	**Charters Tower**	**89.84**	**113**	P		**P**	**13 39 18.3**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=317,slow=6.0,SNR=7.3							
CTA	**Charters Tower**	**89.84**	**113**	P		**P**	**13 39 18.3**	**-0.4**
STKA	**Stephens Creek**	**92.70**	**125**	P		**P**	**13 39 31.5**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=242,slow=3.0,SNR=5.6							
STKA	**Stephens Creek**	**92.70**	**125**	P		**P**	**13 39 31.5**	**-0.1**
FFC	**Flin Flon**	**95.25**	**354**	*i* P		**P**	**13 39 43.7**	**+0.6**
VNA2	**Neumayer--Watz**	**113.56**	**200**	*e*PP		PP	13 45 51.0	+1.8
VNA2	**Neumayer--Watz**	**113.56**	**200**	*e*WP		**PKSdf**	**13 48 35.3**	**+2.4**
VNA3	**Neumayer Olymp**	**114.37**	**200**	*e*PP		PP	13 45 47.1	-7.9
QSPA	**South Pole Qui**	**119.79**	**180**	PKP		**PKPdf**	**13 45 06.6**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=129,slow=1.8,SNR=3.1							
QSPA	**South Pole Qui**	**119.79**	**180**	PKP		**PKPdf**	**13 45 06.7**	**-2.2**
TXAR	**Lajitas Array**	**120.55**	**352**	PKP		**PKPdf**	**13 45 12.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=129,slow=1.8,SNR=4.0							
TXAR	**Lajitas Array**	**120.55**	**352**	PKP		**PKPdf**	**13 45 12.1**	**+0.4**
PLCA	**Paso Flores**	**145.17**	**241**	PKPbc		**PKPdf**	**13 45 57.7**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=88,slow=7.8,SNR=10.0							
PLCA	**Paso Flores**	**145.17**	**241**	PKPbc		**PKPdf**	**13 45 57.7**	**+0.6**

*IDC **14** 13:29:01.5±0.6,57.87S×25.46W,h0km,mb4.4/7, mb1 4.4/7,mb1mx4.3/16,mbtmp4.4/7,MS3.5/5,Ms1 3.5/5, ms1mx3.3/29,Error ellipse: s-maj=29.0km s-min=18.9km az=79.0*

*ISCJB **14** 13:29:06.3±0.7,58.05S±0.1×25.4W±0.4,h49km,mb4.3/7, MS3.5/5,Error ellipse: s-maj=29.5km s-min=11.0km az=159.6*

ISC 14 13:29:08.4±0.6,**58.05S**±0.1×**25.6W**±0.2,**h49km,n27,** σ2.977/24,**mb4.4/7,MS3.5/5,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**14.85**	**160**	*e*Pn	**Pn**	**13 32 33.4**	**-1.6**
VNA2	**Neumayer--Watz**	**15.05**	**157**	*e*Pn	**Pn**	**13 32 36.0**	**-1.5**
	baz=325,slow=14						
USHA	**Ushuaia**	**23.59**	**259**	LR	LR	13 41 32.5	
	comp=Z,201nm,20.9s,baz=65,slow=32						
QSPA	**South Pole Qui**	**32.23**	**180**	P	**P**	**13 35 32.7**	**+1.0**
	3.3nm,0.5s,baz=196,slow=0.9,SNR=29						
QSPA				LR	LR	13 47 59.8	
	comp=Z,98nm,18.6s,baz=314,slow=35						
PLCA	**Paso Flores**	**33.21**	**282**	LR	LR	13 48 55.2	
	comp=Z,57nm,20.9s,baz=98,slow=36						
CPUP	**Villa Florida**	**38.75**	**311**	P	**P**	**13 36 27.4**	**-0.4**
	0.8nm,0.4s,baz=128,slow=6.8,SNR=6.0						
CPUP				PcP	**PcP**	**13 38 38.8**	**+0.4**
	0.5nm,0.4s,baz=111,slow=8.6,SNR=2.8						
CPUP				LR	LR	13 51 18.2	
	comp=Z,57nm,18.6s,baz=356,slow=34						
CFAA	**Coronel Fontan**	**39.12**	**294**	PcP	**PcP**	**13 38 39.9**	**+0.2**
	0.1nm,0.3s,baz=127,slow=5.1,SNR=3.7						
VNDA	**Vanda**	**44.65**	**182**	P	**P**	**13 37 17.1**	**+1.7**
	4.4nm,0.8s,baz=186,slow=6.1,SNR=19						
BDFB	**Brasilia**	**45.49**	**329**	P	**P**	**13 37 21.6**	**-1.2**
	2.4nm,0.4s,baz=131,slow=7.7,SNR=3.9						
BOSA	**Boshof**	**45.69**	**72**	LR	LR	13 51 21.1	
	comp=Z,71nm,21.7s,baz=294,slow=29						
LPAZ	**La Paz**	**52.20**	**305**	P	**P**	**13 38 14.8**	**-0.1**
	1.6nm,0.4s,baz=99,slow=6.7,SNR=10						
DBIC	**Dimbokro**	**66.63**	**23**	P	**P**	**13 39 53.2**	**-0.4**
	1.7nm,0.3s,baz=162,slow=9.2,SNR=8.5						
TORD	**Torodi Ar. Bea**	**74.38**	**28**	P	**P**	**13 40 40.7**	**0.0**
	3.0nm,0.4s,baz=198,slow=6.2,SNR=26						
BRG	**Berggiesshubel**	**113.27**	**26**	*e*(P)	**Pdif**	**13 43 55.3**	**+9.2**
	3.6nm,0.8s						
CLL	**Collm**	**113.45**	**25**	*i* P	**Pdif**	**13 43 54.9**	**+7.9**
	comp=Z,3.0nm,0.8s						
NACGM	**Naroch**	**120.23**	**32**	*e*	**PKKPdf**	**13 58 32.0**	**-0.4**
PDAR	**Pinedale Array**	**122.09**	**300**	PKP	**PKPdf**	**13 47 56.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=113,slow=5.8,SNR=6.0						
NVAR	**Mina Array Bea**	**122.92**	**291**	PKP	**PKPdf**	**13 47 58.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=92,slow=4.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**123.58**	**110**	PKP	**PKPdf**	**13 47 59.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=227,slow=3.4,SNR=5.1						
FINES	**FINESS Array B**	**125.73**	**28**	PKP	**PKPdf**	**13 48 02.1**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=169,slow=1.1,SNR=9.0						
AKTO	**Aktyubinsk**	**127.82**	**54**	PKP	**PKPdf**	**13 48 06.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=264,slow=3.9,SNR=3.7						
AAK	**Ala-Archa**	**129.82**	**71**	PKP	**PKPdf**	**13 48 11.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**136.69**	**72**	PKP	**PKPdf**	**13 48 24.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=224,slow=1.6,SNR=3.2						
YKA	**Yellowknife Ar**	**138.19**	**316**	PKP	**PKPdf**	**13 48 26.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=135,slow=2.1,SNR=22						
ZALV	**Zalesovo Beam**	**142.44**	**65**	PKhKP	PKPpre	13 48 29.6	
	comp=Z,0.3nm,0.3s,baz=225,slow=2.8,SNR=2.9						
SONM	**Songino Array**	**149.96**	**89**	PKPbc	**PKPbc**	**13 48 51.8**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=226,slow=3.1,SNR=13						
ILAR	**Eelson Array**	**152.03**	**309**	PKPbc	**PKPbc**	**13 48 56.5**	**0.0**
	comp=Z,2.7nm,0.5s,baz=140,slow=2.4,SNR=72						

*CSEM **14** 13:30:41.6,37.42N×23.15E,h5km,ML1.9,After ATH*

ATH 14 13:30:41.6,37.42N×23.15E,h5km,3km,ML1.9,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DID	**Didima**	**0.11**	**39**	*e*PG	Pg	13 30 43.6	-0.4
DID				*e*SG	Sg	13 30 45.3	-0.3
DID	**Didima**	**0.11**	**39**	*e*Pg	Pg	13 30 43.6	-0.4
DID				*e*Sg	Sg	13 30 45.3	-0.3
NAIG	**Nisos Aigina**	**0.43**	**38**	*e*PG	Pg	13 30 49.8	-0.2
NAIG	**Nisos Aigina**	**0.43**	**38**	*e*Pg	Pg	13 30 49.8	-0.2
LTK	**Loutraki**	**0.62**	**347**	*e*PG	Pg	13 30 53.4	-0.2
LTK				*e*SB	Sb	13 31 03.3	-0.7
LTK	**Loutraki**	**0.62**	**347**	*e*Pg	Pg	13 30 53.4	-0.2
LTK				*e*Sb	Sb	13 31 03.3	-0.7
ATH	**Athens Observa**	**0.71**	**39**	*e*PB	Pg	13 30 55.5	+0.2
ATH	**Athens Observa**	**0.71**	**39**	*e*Pb	Pg	13 30 55.5	+0.2
VLI	**Veliai**	**0.72**	**194**	*e*PB	Pg	13 30 55.7	+0.2
VLI				*e*SB	Sb	13 31 06.3	-0.6
VLI	**Veliai**	**0.72**	**194**	*e*Pb	Pg	13 30 55.7	+0.2
VLI				*e*Sb	Sb	13 31 06.3	-0.6
GUR	**Goura**	**0.82**	**309**	*e*PG	Pg	13 30 56.9	-0.7
GUR	**Goura**	**0.82**	**309**	*e*Pg	Pg	13 30 56.9	-0.7
PTL	**Penteli**	**0.85**	**42**	*e*PB	Pg	13 30 57.8	-0.1
PTL	**Penteli**	**0.85**	**42**	*e*Pb	Pg	13 30 57.8	-0.1
DYR	**Agios Nikonas**	**0.93**	**225**	*e*PB	Pg	13 30 59.2	-0.2
DYR				*e*SB	Sg	13 31 11.6	+0.1
DYR	**Agios Nikonas**	**0.93**	**225**	*e*Pb	Pg	13 30 59.2	-0.2
DYR				*e*Sb	Sg	13 31 11.6	+0.1
AMT	**Artemida-Makis**	**1.15**	**276**	*e*PB	Pn	13 31 04.3	-0.1
AMT	**Artemida-Makis**	**1.15**	**276**	*e*Pb	Pn	13 31 04.3	-0.1
PYL	**PYLOS**	**1.24**	**245**	*e*PB	Pg	13 31 05.2	-0.2
PYL	**PYLOS**	**1.24**	**245**	*e*Pb	Pg	13 31 05.2	-0.2

*ISCJB **14** 13:34:45.5±1.1,10.08N±0.06×126.09E±0.08, h70km±11km,mb3.7/10,Error ellipse: s-maj=14.6km s-min=7.3km az=150.9*

*MAN **14** 13:34:45,10.04N×126.07E,h20km,mb4.7,ML3.6,MS3.6*

*IDC **14** 13:34:54.1±10.0,9.95N×125.68E,h132km±95km, mb3.4/10,mb1 3.5/10,mb1mx3.4/24,mbtmp3.4/10,Error ellipse: s-maj=43.8km s-min=21.9km az=60.0*

ISC 14 13:34:46.9±1.5,**10.07N**±0.06×**126.03E**±0.10,**h64km**±14km, **n20,**σ1.965/28,**mb3.8**/10,**2C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.15**	**273**	*e*P	**Pn**	**13 35 06.4**	**-0.6**
MSLP				*e*S	**Sn**	**13 35 22.8**	**+0.7**
BUTP	**Butuan**	**1.17**	**200**	*e*P	**Pn**	**13 35 04.7**	**-2.6**
BUTP				*e*S	**Sn**	**13 35 20.9**	**-1.5**
LLP	**Lapu-Lapu**	**2.04**	**277**	*e*P	**Pn**	**13 35 19.7**	**+0.7**
LLP				*e*S	**Sn**	**13 35 45.3**	**+1.9**
CGP	**Cagayan de Oro**	**2.08**	**219**	*e*P	**Pn**	**13 35 18.1**	**-1.3**
CGP				*i* S	**Sn**	**13 35 45.1**	**+0.9**
TBP	**Tagbilaran**	**2.17**	**260**	*e*P	**Pn**	**13 35 20.9**	**+0.2**
TBP				*e*S	**Sn**	**13 35 47.8**	**+1.4**
BUKP	**Musuan**	**2.38**	**204**	*e*P	**Pn**	**13 35 23.2**	**-0.4**
BUKP				*e*S	**Sn**	**13 35 55.9**	**+4.2**
CNP	**Catarman**	**2.77**	**331**	*e*P	**Pn**	**13 35 29.7**	**+0.8**
MATI	**Mati**	**3.11**	**176**	*e*P	**Pn**	**13 35 36.1**	**+2.5**
MATI				*e*S	**Sn**	**13 36 10.7**	**+1.1**
CTBH	**Cotabato--PC H**	**3.33**	**212**	*i* P	**Pn**	**13 35 36.9**	**+0.3**
PAGZ	**Pagadian**	**3.42**	**230**	*e*P	**Pn**	**13 35 39.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**27.51**	**291**	P	**P**	**13 40 26.9**	**-0.7**
	0.8nm,0.6s,baz=92,slow=8.1,SNR=5.4						
ASAR	**Alice Springs**	**34.40**	**167**	P	**P**	**13 41 28.2**	**-0.1**
	0.3nm,0.4s,baz=346,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**41.12**	**340**	P	**P**	**13 42 25.0**	**+0.2**
	0.5nm,0.6s,baz=158,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**52.04**	**323**	P	**P**	**13 43 49.4**	**-0.8**
	0.9nm,0.7s,baz=123,slow=7.6,SNR=11						
MKAR				PcP	**PcP**	**13 44 59.0**	**-2.6**
	0.2nm,0.5s,baz=110,slow=5.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.69**	**331**	P	**P**	**13 44 07.8**	**-1.5**
	0.6nm,0.5s,baz=112,slow=6.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**56.10**	**326**	P	**P**	**13 44 18.6**	**-1.0**
	1.0nm,0.5s,baz=126,slow=6.8,SNR=10						
ILAR	**Eelson Array**	**79.72**	**26**	P	**P**	**13 46 48.3**	**+0.7**
	0.3nm,0.7s,baz=242,slow=5.0,SNR=7.1						
ARCES	**ARCESS Array B**	**84.30**	**340**	P	**P**	**13 47 10.8**	**-0.7**
	1.6nm,0.8s,baz=73,slow=4.2,SNR=4.5						
FINES	**FINESS Array B**	**85.95**	**332**	P	**P**	**13 47 18.9**	**-1.1**
	0.7nm,0.4s,baz=76,slow=3.9,SNR=9.1						
YKA	**Yellowknife Ar**	**94.04**	**24**	P	**P**	**13 47 59.9**	**+2.0**
	0.2nm,0.7s,baz=300,slow=4.6,SNR=2.7						

IDC 14 14:02:43.1±9.4,**19.24N**×**145.43E**,**h252**km±94km, **mb3.1**/12,**mb1 3.4**/12,**mb1mx3.3**/26,**mbtmp3.1**/12, **MS3.4**/1,**Ms1 3.4**/1,**ms1mx2.3**/18,**Error ellipse: s-maj=27.4km s-min=13.7km az=83.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**8.37**	**340**	LR	LR	14 07 57.0	
	comp=Z,228nm,19.2s,baz=96,slow=38						
KSRS	**Korea Array**	**23.73**	**324**	P	P	14 07 32.4	-0.2
	0.7nm,0.6s,baz=145,slow=9.4,SNR=4.8						
WRA	**Warramunga Arr**	**40.43**	**196**	P	P	14 09 57.0	-0.3
	2.2nm,0.7s,baz=21,slow=8.8,SNR=26						
FITZ	**Fitzroy Crossi**	**41.89**	**209**	P	P	14 10 09.2	+0.1
	0.9nm,0.5s,baz=30,slow=7.3,SNR=6.5						
SONM	**Songino Array**	**42.56**	**321**	P	P	14 10 15.0	+0.5
	0.4nm,0.3s,baz=125,slow=6.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**43.90**	**277**	P	P	14 10 28.3	+3.0
	0.6nm,0.8s,baz=70,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	**44.10**	**195**	P	P	14 10 26.4	-0.4
	0.2nm,0.4s,baz=9.3,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**57.43**	**322**	P	P	14 12 05.9	+0.4
	0.7nm,0.5s,baz=118,slow=9.1,SNR=5.7						
MKAR	**Makanchi Array**	**57.91**	**314**	P	P	14 12 09.7	+0.7
	0.1nm,0.3s,baz=90,slow=6.5,SNR=4.6						
ILAR	**Eelson Array**	**63.28**	**26**	P	P	14 12 44.2	-0.5
	0.6nm,0.5s,baz=258,slow=5.6,SNR=15						
BVAR	**Borovoye Array**	**65.90**	**320**	P	P	14 13 01.1	-0.8
	0.8nm,0.5s,baz=96,slow=7.4,SNR=2.5						
YKA	**Yellowknife Ar**	**77.63**	**28**	P	P	14 14 11.4	0.0
	0.3nm,0.5s,baz=285,slow=5.2,SNR=6.0						
NVAR	**Mina Array Bea**	**83.01**	**52**	P	P	14 14 42.4	+1.6
	0.7nm,0.7s,baz=266,slow=6.2,SNR=6.3						
FINES	**FINESS Array B**	**86.29**	**335**	P	P	14 14 55.7	-0.6
	1.0nm,0.5s,baz=68,slow=4.6,SNR=18						

IDC 14 14:16:35.7±6.8,**17.18S**×**175.80E**,**h0km**,**mb3.7**/2, **mb1 4.0**/2,**mb1mx3.6**/18,**mbtmp3.7**/2,**MS3.5**/7,**Ms1 3.5**/7, **ms1mx3.3**/41,**Error ellipse: s-maj=295.3km s-min=50.5km az=144.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.07**	**240**	*e*LR	LR	14 21 35.5	
	325nm,27.4s						
DZM	**Mont Dzumac**	**10.07**	**240**	LR	LR	14 21 32.4	
	comp=Z,64nm,19.3s,baz=208,slow=30						
HNR	**Honiara**	**17.23**	**295**	LR	LR	14 25 32.1	
	comp=Z,70nm,18.4s,baz=81,slow=31						
CTA	**Charters Tower**	**28.13**	**259**	LR	LR	14 30 57.2	
	comp=Z,125nm,20.3s,baz=298,slow=31						
PPT	**Papeete**	**33.02**	**96**	LR	LR	14 33 25.3	
	comp=Z,118nm,21.3s,baz=332,slow=31						
STKA	**Stephens Creek**	**34.22**	**238**	LR	LR	14 36 12.5	
	comp=Z,117nm,20.1s,baz=25,slow=34						
WRA	**Warramunga Arr**	**39.34**	**259**	P	P	14 24 06.5	-0.5
	0.5nm,0.6s,baz=92,slow=9.0,SNR=7.5						
ASAR	**Alice Springs**	**39.69**	**254**	P	P	14 24 10.2	+0.2
	2.0nm,1.1s,baz=83,slow=8.4,SNR=8.5						
ASAR				LR	LR	14 39 53.4	
	comp=Z,129nm,19.7s,baz=262,slow=35						
FITZ	**Fitzroy Crossi**	**47.69**	**261**	LR	LR	14 42 58.8	
	comp=Z,104nm,19.9s,baz=39,slow=33						
GERES	**GERESS Array B**	**145.21**	**339**	PKPbc	PKPbc	14 36 14.2	-0.9
	0.7nm,0.7s,baz=28,slow=3.2,SNR=7.2						

*IDC **14** 14:18:28.6±0.5,2.65N×79.67W,h0km,mb4.5/19, mb1 4.7/22,mb1mx4.6/27,mbtmp4.5/22,ML4.4/3,MS3.8/5, Ms1 3.8/5,ms1mx3.3/40,Error ellipse: s-maj=23.4km s-min=10.9km az=60.0*

*ISCJB **14** 14:18:30.7±2.0,2.66N±0.04×79.64W±0.04,h21km±14km, mb4.8/93,MS4.2/6,Error ellipse: s-maj=7.9km s-min=4.3km az=39.5*

*NEIC **14** 14:18:31.2±2.0,2.65N×79.70W,h16km±12km,mb4.9/76, Error ellipse: s-maj=5.7km s-min=3.9km az=49.0*

*MOS **14** 14:18:32.7±0.9,2.74N×79.76W,h33km,mb5.0/27,Error ellipse: s-maj=10.5km s-min=6.1km az=104.7*

ISC 14 14:18:32.5±0.8,**2.54N**±0.04×**79.94W**±0.07,**h28**km±5km, **n578,**σ1.942/598,**mb4.8**/93,**MS4.1**/6,**137C-147D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**2.72**	**147**	*e*Pn	Pn	14 19 10.8	-4.0
ROSC	**El Rosal**	**6.05**	**67**	Pn	**Pn**	**14 20 00.6**	**+0.1**
	30nm,0.3s,baz=356,slow=1.6,SNR=64						
ROSC	**El Rosal**	**6.05**	**67**	*e*Pn	**Pn**	**14 20 00.5**	**0.0**
BCIP	**Isla Barro Col**	**6.59**	**1**	*e*Pn	**Pn**	**14 20 07.0**	**-0.6**
JTS	**JuntasAbangare**	**9.18**	**327**	Pn	**Pn**	**14 20 41.7**	**-1.5**
	1.3nm,0.3s,baz=134,slow=8.1,SNR=9.5						
JTS				Sn	**Sn**	**14 22 21.8**	**-3.7**
	0.3nm,0.3s,baz=241,slow=16,SNR=3.0						
JTS	**JuntasAbangare**	**9.18**	**327**	*e*Pn	**Pn**	**14 20 41.0**	**-2.1**
JTS				Pn	Pn	14 20 41.7	-1.5
JTS				Sn	**Sn**	**14 22 21.8**	**-3.7**
ATAH	**Atahualpa**	**9.73**	**171**	Pn	**Pn**	**14 20 52.6**	**+1.6**
	1.2nm,0.3s,baz=5.0,slow=9.5,SNR=7.4						
ATAH				Sn	**Sn**	**14 22 38.0**	**-1.7**
	0.9nm,0.3s,baz=262,slow=18,SNR=4						
ATAH				LR	LR	14 25 01.2	
	comp=Z,290nm,19.5s,baz=41,slow=40						
ATAH	**Atahualpa**	**9.73**	**171**	Pn	**Pn**	**14 20 52.6**	**+1.6**
ATAH				Sn	**Sn**	**14 22 38.0**	**-1.7**
PAYG	**Puerto Ayora**	**10.83**	**253**	*e*Pn	**Pn**	**14 21 06.8**	**+1.0**
	25nm,0.7s						
NNA	**Nana**	**14.75**	**168**	Pn	**P**	**14 22 03.4**	**-1.8**
	1.2nm,0.3s,baz=300,slow=8.7,SNR=4.8						
NNA	**Nana**	**14.75**	**168**	Pn	**P**	**14 22 03.4**	**-1.8**
SDDR	**Presa de Saban**	**18.41**	**27**	*e*Pn	**Pn**	**14 22 47.9**	**+2.0**
TEIG	**Tepich**	**19.38**	**336**	P	**Pn**	**14 22 57.9**	**+0.4**
	8.6nm,0.3s,baz=1.8,slow=17,SNR=35						
TEIG	**Tepich**	**19.38**	**336**	*e*P	**P**	**14 22 55.1**	**-1.1**
	134nm,1.5s						
OBIP	**Obispado Ponce**	**20.21**	**39**	*e*Pn	**P**	**14 23 04.5**	**-0.9**
	53nm,0.8s						
SAML	**Samuel**	**20.22**	**125**	*e*P	**P**	**14 23 03.7**	**-1.8**
	50nm,0.6s						
LRS	**Lares**	**20.25**	**38**	*e*Pn	**P**	**14 23 05.1**	**-0.7**
CELP	**Cerrillos**	**20.25**	**39**	*e*Pn	**P**	**14 23 04.4**	**-1.4**
AOPR	**Arecibo Observ**	**20.34**	**39**	*e*Pn	**P**	**14 23 06.2**	**-0.7**
	125nm,0.6s						
GRGR	**Grenville**	**20.47**	**61**	*e*P	**P**	**14 23 06.1**	**-2.1**
	180nm,0.6s						
SJG	**San Juan**	**20.55**	**40**	P	**P**	**14 23 09.4**	**+0.4**
	16nm,0.2s,baz=270,slow=5.7,SNR=6.6						
SJG	**San Juan**	**20.55**	**40**	*e*P	Pn	14 23 11.5	+0.1
CMIG	**Matias Romero**	**20.61**	**316**	P	Pn	14 23 11.7	-0.5
	14nm,0.8s,baz=95,slow=9.9,SNR=14						
CMIG	**Matias Romero**	**20.61**	**316**	P	Pn	14 23 11.7	-0.5
ARE	**Arequipa**	**20.64**	**156**	*e*P	Pn	14 23 13.0	+0.2
ARE	**Arequipa**	**20.64**	**156**	*e*P	Pn	14 23 13.0	+0.2
LPAZ	**La Paz**	**22.04**	**148**	P	**P**	**14 23 25.3**	**-0.5**
	10nm,0.9s,baz=346,slow=12,SNR=21						
LPAZ				LR	LR	14 32 22.6	
	comp=Z,138nm,21.6s,baz=98,slow=38						
LPAZ	**La Paz**	**22.04**	**148**	P	**P**	**14 23 25.3**	**-0.5**
BIM	**Bigot**	**22.10**	**56**	*e*P	**P**	**14 23 30.1**	**+4.2**
FDF	**Fort de France**	**22.15**	**56**	*e*P	**P**	**14 23 23.4**	**-2.9**
FDF				*e*SP	**sP**	**14 23 38.8**	**+1.1**
FDF				pmax	pmax		
	comp=Z,113nm,0.6s						
FDF	**Fort de France**	**22.15**	**56**	*e*P	**P**	**14 23 23.4**	**-2.9**
	comp=Z,113nm,0.6s						
FDF				*e*pP	**pP**	**14 23 33.6**	**-0.4**
FDF				*e*sP	**sP**	**14 23 38.8**	**+1.1**
FDF	**Fort de France**	**22.15**	**56**	*e*P	**P**	**14 23 29.0**	**+2.7**
MVM	**Montagne Vaucl**	**22.27**	**56**	*e*P	**P**	**14 23 27.3**	**-0.3**
SIV	**San Ignacio**	**26.20**	**135**	P	**P**	**14 24 05.1**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=326,slow=11,SNR=9.7						
SIV				LR	LR	14 34 37.7	
	comp=Z,452nm,21.5s,slow=37						
SIV	**San Ignacio**	**26.20**	**135**	P	**P**	**14 24 05.1**	**-0.1**
LRAL	**Lakeview Retre**	**31.06**	**348**	*e*P	**P**	**14 24 48.6**	**+0.4**
	comp=Z,19nm,0.9s						
HKT	**Hockley**	**31.16**	**333**	*e*P	**P**	**14 24 49.6**	**+0.6**
HKT				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HKT	**Hockley**	**31.16**	**333**	*e*P	**P**	**14 24 49.6**	**+0.6**
	comp=Z,10nm,1.2s						
JSC	**Jenkinsville**	**31.61**	**358**	*e*P	**P**	**14 24 51.3**	**-1.7**
JSC	**Jenkinsville**	**31.61**	**358**	*e*P	**P**	**14 24 51.3**	**-1.7**
SWET	**Sewanee**	**32.99**	**351**	*e*P	**P**	**14 25 05.4**	**+0.2**
	comp=Z,10.0nm,0.8s						
CPCT	**Cooper Cave**	**33.03**	**353**	*e*P

Y29A	Porterfield Fa	37.20	329	⇓P		P	14 25 42.7	+1.1
	baz=37,SNR=15							
X30A	Coker Ranch, T	37.27	331	⇓P		P	14 25 43.0	+1.0
	baz=37							
MVL	Millersville	37.43	5	eP		P	14 25 45.0	+1.6
	comp=Z,21nm,1.0s							
324A	Moseley Ranch,	37.51	323	⇓P		P	14 25 45.7	+1.3
	baz=38,SNR=44							
Y28A	McKinney Farm,	37.53	329	⇓P		P	14 25 45.3	+1.0
	baz=38							
Z27A	Tatum	37.58	327	⇓P		P	14 25 45.7	+0.8
	baz=38,SNR=9.3							
225A	Deer Hill, Car	37.60	324	⇓P		P	14 25 47.2	+2.1
	baz=38,SNR=11							
MNTX	Cornudas Mount	37.63	323	⇓P		P	14 25 46.6	+1.4
	baz=38,SNR=19							
X29A	Tulia	37.67	330	⇓P		P	14 25 46.4	+0.8
	baz=38,SNR=5.1							
MSTX	Muleshoe	37.85	328	⇓P		P	14 25 48.2	+1.1
	baz=38,SNR=10							
125A	Gardner Draw,	37.90	325	⇓P		P	14 25 49.4	+1.9
	baz=38,SNR=17							
Z26A	Caprock	37.97	326	⇓P		P	14 25 49.6	+1.5
	baz=38,SNR=34							
SSPA	Standing Stone	37.97	3	eP		P	14 25 47.3	-0.6
	comp=Z,8.5nm,0.9s							
X28A	Dimmitt	37.98	329	⇑P		P	14 25 49.0	+0.8
	baz=38							
224A	Cornudas Mount	37.99	323	⇑P		P	14 25 49.8	+1.4
	baz=38,SNR=13							
Y27A	Causey	37.99	328	⇓P		P	14 25 49.4	+1.1
	baz=38,SNR=16							
AMTX	Amarillo	38.01	330	eP		P	14 25 49.2	+0.7
	comp=Z,8.5nm,0.7s							
AMTX	Amarillo	38.01	330	⇓P		P	14 25 49.2	+0.7
	baz=38							
Y26A	Elida	38.38	327	⇑P		P	14 25 53.0	+1.4
	baz=38,SNR=29							
Z25A	Roswell	38.39	326	⇑P		P	14 25 53.9	+2.2
	baz=38,SNR=44							
124A	Stringfield Ra	38.39	324	⇑P		P	14 25 54.1	+2.3
	baz=38,SNR=20							
HDIL	Hopedale	38.78	349	eP		P	14 25 53.5	-1.2
	comp=Z,20nm,0.9s							
Z24A	Sheeppen Canyo	38.80	325	⇑P		P	14 25 57.6	+2.4
	baz=39,SNR=19							
123A	Bell Site, Whi	38.82	323	⇑P		P	14 25 57.7	+2.4
	baz=39							
X26A	CR and CF Fran	38.84	328	⇑P		P	14 25 57.0	+1.5
	baz=39,SNR=6.4							
W27A	Bowe Ranch, En	38.85	329	⇓P		P	14 25 56.9	+1.4
	baz=39,SNR=9.1							
Y25A	Mesa, Roswell	38.85	326	⇓P		P	14 25 57.7	+2.1
	baz=39,SNR=23							
W26A	Owens Ranch, T	39.23	328	⇓P		P	14 26 00.4	+1.6
	baz=39							
Z23A	Rita Site, Whi	39.25	324	⇑P		P	14 26 01.5	+2.6
	baz=39,SNR=7.9							
Y24A	Capitan	39.27	326	⇓P		P	14 26 01.2	+2.1
	baz=39,SNR=12							
X25A	Clemmons Ranch	39.29	327	⇓P		P	14 26 01.0	+1.8
	baz=39,SNR=6.5							
320A	Kipp Ranch, An	39.35	320	⇓P		P	14 26 02.4	+2.6
	baz=40,SNR=5.8							
KSU1	Kansas State U	39.44	339	eP		P	14 25 59.9	-0.4
	comp=Z,26nm,0.8s							
Y23A	Lovelace Mesa,	39.63	325	⇓P		P	14 26 04.3	+2.2
	baz=40,SNR=23							
BINY	Binghamton	39.65	5	eP		P	14 26 01.8	-0.2
	comp=Z,28nm,1.2s							
121A	Cookes Peak, D	39.68	322	⇓P		P	14 26 05.4	+2.9
	baz=40,SNR=18							
Z22A	Elephant Butte	39.68	323	⇑P		P	14 26 05.0	+2.5
	baz=40,SNR=18							
W25A	X Bar L Ranch,	39.70	328	⇑P		P	14 26 04.7	+2.0
	baz=40,SNR=31							
220A	Playas Peak, P	39.72	320	⇑P		P	14 26 05.4	+2.6
	baz=40,SNR=16							
V26A	Tequesquite Ra	39.79	329	⇑P		P	14 26 05.2	+1.8
	baz=40,SNR=20							
319A	Douglas	39.86	319	⇓P		P	14 26 06.5	+2.4
	baz=40,SNR=6.2							
T28A	Walsh	40.02	332	⇑P		P	14 26 05.9	+0.7
	baz=40							
Z21A	St. Cloud Mine	40.14	323	⇑P		P	14 26 09.1	+2.7
	baz=40,SNR=6.7							
Y22A	Socorro	40.16	324	⇓P		P	14 26 08.9	+2.4
	baz=40,SNR=7.9							
W24A	Lazy 6 Ranch,	40.20	327	⇓P		P	14 26 08.9	+2.0
	baz=40,SNR=11							
120A	U Bar Ranch, L	40.21	321	⇓P		P	14 26 09.5	+2.5
	baz=40							
LPM	Los Pinos Moun	40.23	325	eP		P	14 26 07.9	+0.8
U26A	Atchley Ranch,	40.23	330	⇑P		P	14 26 08.9	+1.7
	baz=40,SNR=28							
V25A	Rancho No Teng	40.25	328	⇑P		P	14 26 09.5	+2.2
	baz=40,SNR=35							
LENM	Lemitar	40.33	324	eP		P	14 26 08.3	+0.4
V24A	Rampart Ranch,	40.52	328	⇑P		P	14 26 11.5	+2.0
	baz=41,SNR=15							
Z20A	Nine Sixteen R	40.57	322	⇑P		P	14 26 12.4	+2.5
	baz=41,SNR=10							
U25A	Circle Dot Ran	40.58	329	⇓P		P	14 26 12.1	+2.1
	baz=41,SNR=16							
W23A	Werner Place,	40.58	326	⇓P		P	14 26 12.2	+2.2
	baz=41,SNR=11							
X22A	Bernardo	40.59	325	⇑P		P	14 26 12.9	+2.8
	baz=41,SNR=6.9							
Y21A	Point of Rocks	40.63	324	⇑P		P	14 26 13.3	+2.9
	baz=41,SNR=10							
T26A	Comanche Natio	40.77	331	⇑P		P	14 26 12.9	+1.4
	baz=41							
Y20A	Horse Springs,	40.98	323	⇓P		P	14 26 16.0	+2.6
	baz=41,SNR=14							
X21A	Alamocita Cree	41.00	324	⇓P		P	14 26 16.2	+2.7
	baz=41,SNR=16							
V23A	Ortiz Mt. (NFS	41.02	327	⇓P		P	14 26 16.1	+2.4
	baz=41,SNR=6.2							
U24A	Moreno Valley	41.03	328	⇓P		P	14 26 16.5	+2.7
	baz=41							
ACCN	Adirondack Com	41.06	7	eP		P	14 26 12.7	-0.8
S26A	Kim	41.06	331	⇑P		P	14 26 15.9	+2.0
	baz=41,SNR=11							
T25A	Trinidad	41.15	330	⇑P		P	14 26 17.2	+2.5
	baz=41,SNR=17							
T24A	Torres, Weston	41.42	329	⇓P		P	14 26 19.6	+2.6
	baz=42,SNR=13							
TUC	Tucson	41.44	319	eP		P	14 26 18.0	+1.0
TUC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TUC	Tucson	41.44	319	eP		P	14 26 18.0	+1.0
	comp=Z,6.5nm,1.1s							
U23A	El Rito	41.46	327	⇑P		P	14 26 19.9	+2.6
	baz=42,SNR=36							
X20A	Quemado	41.49	323	⇓P		P	14 26 20.2	+2.7
	baz=42,SNR=9.5							
V22A	San Miguel Ran	41.55	326	⇓P		P	14 26 20.8	+2.7
	baz=42							
S25A	Robets Cordova	41.56	330	⇓P		P	14 26 20.1	+2.0
	baz=42,SNR=14							
R26A	Arlington	41.59	332	⇑P		P	14 26 19.9	+1.7
	baz=42,SNR=6.9							
KSCO	Kaye Shedlock'	41.79	333	⇓P		P	14 26 21.2	+1.4
	baz=42							
U22A	Llaves	41.86	327	⇓P		P	14 26 23.1	+2.6
	baz=42,SNR=14							
R25A	Fountain Ranch	41.87	331	⇑P		P	14 26 22.3	+1.7
	baz=42,SNR=6.6							
V21A	Milan	41.88	326	⇑P		P	14 26 23.0	+2.3
	baz=42,SNR=12							
W20A	Ramah	41.89	324	⇓P		P	14 26 23.3	+2.5
	baz=42,SNR=15							
T23A	Casias Ranch,	41.91	328	⇓P		P	14 26 23.1	+2.2
	baz=42,SNR=13							
S24A	Houchin Ranch,	41.94	330	⇑P		P	14 26 23.5	+2.3
	baz=42,SNR=8.8							
Q26A	Hugo	42.12	332	⇑P		P	14 26 25.0	+2.4
	baz=42							
LONY	Lake Ozonia	42.18	6	eP		P	14 26 23.0	+0.3
	comp=Z,47nm,1.8s							
P27A	Ficken Ranch,	42.21	334	⇑P		P	14 26 24.8	+1.6
	baz=42							
U21A	Nageezi	42.34	326	⇑P		P	14 26 26.4	+1.9
	baz=42,SNR=15							
R24A	Sanders Place,	42.34	330	⇓P		P	14 26 26.8	+2.3
	baz=42,SNR=6.6							
V20A	Brimhall	42.34	325	⇓P		P	14 26 26.7	+2.2
	baz=42							
T22A	Edith	42.35	327	⇓P		P	14 26 26.5	+2.0
	baz=42							
X18A	Snowflake	42.35	322	⇑P		P	14 26 26.9	+2.3
	baz=42,SNR=6.2							
Q25A	Bedland, Calha	42.46	332	⇓P		P	14 26 26.9	+1.5
	baz=43							
214A	Organ Pipe Nat	42.58	317	⇑P		P	14 26 28.4	+2.1
	baz=43,SNR=5.2							
W18A	Petrified Fore	42.62	323	⇑P		P	14 26 29.2	+2.5
	baz=43,SNR=9.3							
R23A	Moffat	42.67	329	⇑P		P	14 26 29.2	+2.0
	baz=43,SNR=16							
T21A	Navajo Lake	42.68	327	⇓P		P	14 26 29.6	+2.4
	baz=43,SNR=9.2							
O27A	Beecher Island	42.69	334	⇑P		P	14 26 28.6	+1.5
	baz=43,SNR=5.2							
U20A	Newcomb	42.78	325	⇑P		P	14 26 30.3	+2.3
	baz=43,SNR=12							
S22A	4UR Ranch, Cre	42.85	328	⇑P		P	14 26 30.8	+2.1
	baz=43,SNR=11							
Q24A	Divide	42.93	331	⇓P		P	14 26 30.8	+1.5
	baz=43							
U19A	Dine' College,	43.12	325	⇑P		P	14 26 32.5	+1.7
	baz=43							
OGNE	Ogallala	43.12	335	eP		P	14 26 31.3	+0.7
	comp=Z,43nm,0.7s							
OGNE	Ogallala	43.12	335	⇓P		P	14 26 31.7	+1.1
	baz=43,SNR=11							
R22A	Saguache, Gunn	43.18	329	⇑P		P	14 26 33.4	+2.0
	baz=43,SNR=10							
X16A	Lo Mia Camp, P	43.21	321	⇑P		P	14 26 33.9	+2.4
	baz=43,SNR=16							
S21A	Coal Bank Pass	43.31	327	⇓P		P	14 26 33.9	+1.5
	baz=44,SNR=5.5							
MVCO	Mesa Verde	43.37	326	eP		P	14 26 33.5	+0.7
	comp=Z,14nm,0.8s							
MVCO	Mesa Verde	43.37	326	⇑P		P	14 26 34.6	+1.8
	baz=44,SNR=15							
P23A	Jefferson	43.59	331	⇓P		P	14 26 37.0	+2.3
	baz=44,SNR=6.8							
ECSD	EROS Data Cent	43.62	342	eP		P	14 26 32.5	-1.9
	comp=Z,3.0nm,0.8s							
R21A	Cimarron	43.70	328	⇓P		P	14 26 37.2	+1.7
	baz=44,SNR=9.5							
113A	Mohawk Valley,	43.71	317	⇓P		P	14 26 37.3	+1.9
	baz=44							
Q22A	Crested Butte,	43.73	329	⇓P		P	14 26 37.8	+2.0
	baz=44,SNR=31							
S20A	Disappointment	43.74	327	⇓P		P	14 26 37.8	+1.9
	baz=44,SNR=9.4							
ISCO	Idaho Springs	43.81	331	eP		P	14 26 38.1	+1.7
ISCO				e			14 28 24.0	
ISCO				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ISCO	Idaho Springs	43.81	331	eP		P	14 26 38.1	+1.7
	comp=Z,7.3nm,0.9s							
ISCO				ePcP		PcP	14 28 24.0	+1.3
ISCO	Idaho Springs	43.81	331	⇑P		P	14 26 38.1	+1.7
	baz=44,SNR=12							
WUAZ	Wupatki	43.88	322	⇓P		P	14 26 39.3	+2.4
	baz=44,SNR=30							
PLCA	Paso Flores	43.91	170	P		P	14 26 38.0	+1.2
	comp=Z,8.9nm,0.8s,baz=349,slow=10,SNR=15							
PLCA	Paso Flores	43.91	170	P		P	14 26 38.0	+1.2
Y14A	Wickenburg	43.91	319	⇓P		P	14 26 38.9	+1.9
	baz=44,SNR=6.7							
SMCO	Snowmass	44.01	329	eP		P	14 26 40.3	+2.2
	comp=Z,12nm,0.8s							
R20A	Redvale	44.01	327	⇑P		P	14 26 40.0	+2.1
	baz=44							
P22A	Eagle	44.21	330	⇑P		P	14 26 41.5	+1.9
	baz=44,SNR=13							
N24A	Carr	44.27	333	⇑P		P	14 26 42.0	+2.1
	baz=44,SNR=5.4							
O23A	Lake Granby, G	44.28	331	⇑P		P	14 26 41.9	+1.7
	baz=44,SNR=12							
M25A	Palm-Egli Farm	44.39	334	⇑P		P	14 26 42.6	+1.7
	baz=44,SNR=5.0							
PV04	Paradox Valley	44.44	327	eP		P	14 26 43.5	+2.1
P21A	Newcastle	44.51	329	⇑P		P	14 26 44.3	+2.4
	baz=45,SNR=8.3							
Q20A	Ridgley Place,	44.52	328	⇓P		P	14 26 43.7	+1.7
	baz=45							
O22A	Kremling	44.54	331	⇓P		P	14 26 43.6	+1.3
	baz=45,SNR=12							
S18A	Hurst Farm, Bl	44.55	325	⇑P		P	14 26 43.9	+1.6
	baz=45,SNR=11							
M24A	Cheyenne	44.76	333	⇑P		P	14 26 45.5	+1.6
	baz=45,SNR=7.3							
N23A	Red Feather La	44.82	332	⇑P		P	14 26 46.1	+1.6
	baz=45,SNR=5.8							
PHWY	Pilot Hill	44.92	333	eP		P	14 26 45.8	+0.5
	comp=Z,8.8nm,0.9s							
L25A	Engebretsen Ra	44.94	335	⇓P		P	14 26 47.3	+2.1
	baz=45							
N22A	Wattenberg Ran	44.99	331	⇓P		P	14 26 47.6	+1.8
	baz=45							
O21A	Pagoda	45.04	330	⇓P		P	14 26 48.2	+2.0
	baz=45							
Q19A	Hogan Spring (	45.04	327	⇓P		P	14 26 47.6	+1.5
	baz=45,SNR=18							
U15A	North Rim	45.04	322	⇓P		P	14 26 48.6	+2.3
	baz=45,SNR=16							
M23A	Laramie	45.17	333	⇑P		P	14 26 48.8	+1.7
	baz=45							
W13A	Hualapai Mount	45.20	320	⇓P		P	14 26 49.8	+2.3
	baz=45,SNR=12							
K25A	Mack Ranch, Ha	45.27	335	⇑P		P	14 26 49.5	+1.7
	baz=45,SNR=5.5							
O20A	White River Ci	45.37	329	⇑P		P	14 26 50.3	+1.6
	baz=46,SNR=6.2							
P19A	Cripple Cowboy	45.38	328	⇑P		P	14 26 50.5	+1.7
	baz=46							
IRM	Iron Mountain	45.46	318	⇓P		P	14 26 51.4	+2.0
	baz=46,SNR=6.1							
N21A	Black Mountain	45.48	330	⇑P		P	14 26 51.3	+1.6
	baz=46							
M22A	Cedar Creek Ra	45.53	332	⇓P		P	14 26 51.4	+1.4
	baz=46							
MONP	Monument Peak	45.61	316	⇓P		P	14 26 52.3	+1.6
	baz=46							
L23A	Garrett	45.67	333	⇑P		P	14 26 52.5	+1.4
	baz=46,SNR=8.9							
SRU	San Rafael	45.84	327	eP		P	14 26 53.3	+0.9
SRU				pmax		pmax		
	comp=Z,22nm,0.8s							
SRU	San Rafael	45.84	327	eP		P	14 26 53.3	+0.9
	comp=Z,22nm,0.8s							
SRU	San Rafael	45.84	327	⇑P		P	14 26 54.0	+1.5
	baz=46,SNR=23							
N20A	Spence Gulch,	45.90	330	⇑P		P	14 26 54.5	+1.5
	baz=46,SNR=7.7							
BELC	Belle Mtn. Jos	45.94	317	⇑P		P	14 26 55.1	+1.8
	baz=46							
O19A	Miners Draw (B	45.94	329	⇓P		P	14 26 54.6	+1.3
	baz=46,SNR=7.1							
M21A	Separation Pea	46.05	331	⇑P		P	14 26 55.5	+1.4
	baz=46,SNR=5.2							
P18A	Preston Nutter	46.05	327	⇑P		P	14 26 55.7	+1.4
	baz=46							
Q16A	Castle Valley	46.06	326	⇑P		P	14 26 55.8	+1.5
	baz=46,SNR=5.7							
K23A	Bowen Ranch, D	46.15	334	⇓P		P	14 26 56.3	+1.5
	baz=46							
GMRC	Granite Mounta	46.17	318	⇑P		P	14 26 57.1	+2.0
	baz=46							
J24A	Dixon Ranch, L	46.20	335	⇓P		P	14 26 56.8	+1.7
	baz=46							
P17A	Butcher Ranch,	46.21	327	⇑P		P	14 26 56.8	+1.4
	baz=46,SNR=12							
TMUT	Trail Mountain	46.35	326	eP		P	14 26 58.5	+1.9
	comp=Z,14nm,1.3s							
M20A	Sweetwater, Wa	46.36	331	⇑P		P	14 26 58.1	+1.5
	baz=46,SNR=6.0							
MSU	Marysvale	46.36	325	eP		P	14 26 57.5	+0.9
MSU	Marysvale	46.36	325	eP		P	14 26 57.5	+0.9
MVU	Marysvale	46.37	325	eP		P	14 26 59.0	+2.3
	comp=Z,7.3nm,1.0s							
MVU				ePcP		PcP	14 28 33.3	+1.8
N19A	John Jarvie Ra	46.41	329	⇑P		P	14 26 57.9	+1.0
	baz=47,SNR=8.9							
CCUT	Cedar City	46.42	323	eP		P	14 26 57.9	+0.7
	comp=Z,14nm,1.6s							
RSSD	Black Hills	46.59	336	eP		P	14 26 58.8	+0.5
RSSD				pmax		pmax		
	comp=Z,21nm,0.8s							
RSSD	Black Hills	46.59	336	eP		P	14 26 58.8	+0.5
	comp=Z,21nm,0.8s							
ARUT	Antelope Range	46.62	323	eP		P	14 26 59.8	+1.2
ARUT				pmax		pmax		
	comp=Z,11nm,1.2s							
ARUT	Antelope Range	46.62	323	eP		P	14 26 59.8	+1.2
	comp=Z,11nm,1.2s							
HEC	Hector,Ludlow	46.64	318	⇓P		P	14 27 00.8	+2.0
	baz=47,SNR=5.7							
O17A	Robinson Place	46.72	327	⇓P		P	14 27 01.2	+1.8
	baz=47,SNR=8.4							
N18A	Larsen Ranch,	46.73	329	⇓P		P	14 27 00.8	+1.4
	baz=47,SNR=9.2							
L20A	Wamsutter	46.83	331	⇑P		P	14 27 01.5	+1.3
	baz=47,SNR=7.5							
MPU	Maple Canyon	47.08	327	eP		P	14 27 02.8	+0.6
	comp=Z,13nm,0.9s							
P15A	Leamington	47.14	326	⇑P		P	14 27 03.9	+1.3
	baz=47,SNR=5.5							
O16A	Springville	47.15	327	⇓P		P	14 27 04.1	+1.4
	baz=47,SNR=7.2							
DAU	Daniels Canyon	47.16	327	eP		P	14 27 04.0	+1.1
DAU	Daniels Canyon	47.16	327	eP		P	14 27 04.0	+1.1
R13A	O'Grain Ranch,	47.20	323	⇑P		P	14 27 05.3	+2.2
	baz=47							
M18A	Lyman	47.26	329	⇓P		P	14 27 04.8	+1.2
	baz=47,SNR=7.1							
H24A	Dirks Ranch, A	47.31	336	⇓P		P	14 27 04.5	+0.7
	baz=47,SNR=8.4							
K20A	Yellowone Ra	47.32	331	⇑P		P	14 27 05.0	+1.0
	baz=48,SNR=13							
JLU	Jordanelle	47.39	327	eP		P	14 27 06.0	+1.3
	comp=Z,14nm,0.8s							
JLU				ePcP		PcP	14 28 37.0	+1.9
L19A	Farson	47.40	330	⇓P		P	14 27 05.9	+1.3
	baz=48,SNR=5.0							
I22A	9 Mile Ranch,	47.43	334	⇓P		P	14 27 05.8	+1.0
	baz=48,SNR=5.3							
J21A	Lysite	47.43	333	⇓P		P	14 27 06.2	+1.3
	baz=48,SNR=7.0							
M17A	Scullys Gap (B	47.60	329	⇓P		P	14 27 07.0	+0.7
	baz=48,SNR=12							
L18A	Fontenelle, Gr	47.60	330	⇑P		P	14 27 07.3	+1.0
	baz=48,SNR=8.2							
K19A	Absolon Red Bu	47.69	331	⇓P		P	14 27 07.5	+0.6
	baz=48,SNR=16							
I21A	Big Trails, Te	47.73	333	⇑P		P	14 27 07.8	+0.7
	baz=48,SNR=11							
J20A	Shoshoni	47.73	332	⇑P		P	14 27 08.7	+1.5
	baz=48,SNR=12							
DUG	Dugway	47.86	326	eP		P	14 27 09.3	+1.1
DUG				pmax		pmax		
	comp=Z,16nm,1.4s							
DUG	Dugway	47.86	326	eP		P	14 27 09.3	+1.1
	comp=Z,16nm,1.4s							
DUG	Dugway	47.86	326	⇑P		P	14 27 09.8	+1.6
	baz=48,SNR=9.0							
BW06	Boulder Array	47.99	331	eP		P	14 27 09.9	+0.7
	comp=Z,5.4nm,0.9s							
BW06	Boulder Array	47.99	331	⇑P		P	14 27 09.8	+0.5
	baz=48,SNR=8.1							
PDAR	Pinedale Array	47.99	331	P		P	14 27 09.8	+0.5
	comp=Z,4.6nm,1.0s,baz=131,slow=9.2,SNR=30							
PDAR				PcP		PcP	14 28 36.4	-0.8
	comp=Z,2.5nm,0.8s,baz=132,slow=6.2,SNR=7.3							
PDAR	Pinedale Array	47.99	331	P		P	14 27 09.8	+0.5
PDAR				PcP		PcP	14 28 36.4	-0.8
G23A	Biddle	48.02	336	⇑P		P	14 27 10.1	+0.8
	baz=48							
J19A	Crowheart	48.12	331	⇓P		P	14 27 10.9	+0.7
	baz=48,SNR=9.5							
MPMC	Manual Prospec	48.13	318	⇑P		P	14 27 11.9	+1.5
	baz=48							
K18A	Toltan Ranch,	48.13	330	⇑P		P	14 27 11.7	+1.4
	baz=48,SNR=25							
L17A	Cokeville	48.16	329	⇓P		P	14 27 11.1	+0.6
	baz=48,SNR=15							
HWUT	Hardware Ranch	48.17	328	eP		P	14 27 11.5	+0.9
	comp=Z,15nm,0.8s							
HWUT				ePcP		PcP	14 28 38.6	+0.9
N15A	Stansbury Isla	48.18	327	⇓P		P	14 27 11.4	+0.8
	baz=48							
I20A	Worland	48.21	333	⇑P		P	14 27 11.8	+0.9
	baz=48,SNR=11							
R11A	Troy Canyon, C	48.28	322	⇓P		P	14 27 13.5	+1.9
	baz=48,SNR=11							
L16A	Fish Haven	48.39	329	⇓P		P	14 27 12.8	+0.5
	baz=48,SNR=6.7							
G22A	Birney	48.41	335	⇑P		P	14 27 12.7	+0.4
	baz=48,SNR=8.0							
F23A	Volborg	48.46	336	⇑P		P	14 27 13.2	+0.6
	baz=49,SNR=13							
M15A	Larsen Ranch,	48.53	327	⇓P		P	14 27 14.4	+1.1
	baz=49,SNR=15							
J18A	Kendall Valley	48.55	331	⇑P		P	14 27 14.3	+0.7
	baz=49							
K17A	Gardner Place,	48.66	330	⇓P		P	14 27 15.1	+0.8
	baz=49							
I18A	Diamond G Ranc	48.82	331	⇑P		P	14 27 16.4	+0.8
	baz=49,SNR=7.0							
F22A	Rosebud	48.85	336	⇓P		P	14 27 16.3	+0.7
	baz=49							
L15A	Malad City	48.88	328	⇑P		P	14 27 16.8	+0.7
	baz=49,SNR=21							
HVU	Hansel Valley	48.93	327	eP		P	14 27 16.6	+0.2
HVU				pmax		pmax		
	comp=Z,8.0nm,0.9s							
HVU	Hansel Valley	48.93	327	eP		P	14 27 16.6	+0.2
	comp=Z,7.7nm,0.9s							
J17A	Brown Place, J	49.00	330	⇓P		P	14 27 18.2	+1.2
	baz=49,SNR=18							
REDW	Red Top Meadow	49.07	330	eP		P	14 27 17.5	-0.1
	comp=Z,14nm,1.0s							
LOHW	Long Hollow	49.13	331	eP		P	14 27 18.4	+0.4
	comp=Z,9.9nm,1.0s							
TPAW	Teton Pass	49.21	330	eP		P	14 27 19.9

comp=Z,6.2nm,0.7s,baz=130,slow=4.5,SNR=18
NVAR **Mina Array Bea** 50.03 320 P P 14 27 26.9 +1.9
NVAR PcP PcP 14 28 45.9 +1.3
F19A **Roth Farm, Mol** 50.05 334 ⇑P P 14 27 25.8 +0.9
baz=50,SNR=5.0
E20A **Meyer Farm, Mu** 50.21 335 ⇑P P 14 27 27.2 +1.1
baz=50,SNR=10
H16A **Russell Place,** 50.25 331 ⇑P P 14 27 28.1 +1.6
baz=50,SNR=6.5
C22A **Vida** 50.31 337 ⇑P P 14 27 27.6 +0.9
baz=50,SNR=7.5
J14A **Carey** 50.40 328 ⇑P P 14 27 28.9 +1.3
baz=50
QLMT **Earthquake Lak** 50.43 331 *e*P P 14 27 28.9 +1.0
F18A **Big Timber** 50.44 333 ⇑P P 14 27 28.8 +1.0
baz=51,SNR=18
E19A **Rath Farm, Rou** 50.46 334 ⇓P P 14 27 29.0 +1.1
baz=51,SNR=6.8
G17A **Pierce Place,** 50.47 332 ⇓P P 14 27 30.0 +1.9
baz=51,SNR=9.4
B23A **Brockton** 50.57 339 ⇓P P 14 27 29.6 +1.0
baz=51,SNR=6.1
BMN **Battle Mountai** 50.57 323 *e*P P 14 27 30.9 +1.9
BMN pmax pmax
comp=Z,19nm,0.8s
BMN **Battle Mountai** 50.57 323 *e*P P 14 27 30.9 +1.9
comp=Z,19nm,0.8s
D20A **Manuel Ranch,** 50.68 335 ⇑P P 14 27 30.5 +0.9
baz=51,SNR=8.2
I14A **Mackay** 50.79 329 ⇓P P 14 27 31.9 +1.3
baz=51
J13A **Cove Ranch, Pi** 50.80 328 ⇓P P 14 27 31.6 +1.0
baz=51,SNR=5.7
F17A **Fitzpatrick Pl** 50.87 333 ⇓P P 14 27 32.4 +1.3
baz=51
H15A **Lima** 50.87 330 ⇓P P 14 27 32.8 +1.7
baz=51,SNR=6.5
G16A **Moss Hill, Enn** 50.90 331 ⇑P P 14 27 32.8 +1.4
baz=51
E18A **Harlowton** 51.03 334 ⇓P P 14 27 32.8 +0.5
baz=51
HLID **Hailey** 51.04 328 *e*P P 14 27 33.4 +0.9
comp=Z,5.7nm,0.8s
HLID *e*PcP PcP 14 28 50.0 +1.8
HLID **Hailey** 51.04 328 ⇓P P 14 27 33.5 +1.0
baz=51,SNR=11
D19A **Cripps Ranch,** 51.05 335 ⇑P P 14 27 33.5 +1.1
baz=51,SNR=9.3
C20A **Veseth Ranch,** 51.12 336 ⇑P P 14 27 33.5 +0.7
baz=51,SNR=5.4
MCMT **McKenzie Canyo** 51.12 330 *e*P P 14 27 34.1 +1.0
comp=Z,2.7nm,1.1s
I13A **Wildhorse Cree** 51.12 329 ⇑P P 14 27 34.3 +1.1
baz=51,SNR=11
BOZ **Bozeman (W)** 51.13 332 ⇑P P 14 27 33.5 +0.4
baz=51,SNR=6.3
H14A **Leadore** 51.23 330 ⇑P P 14 27 35.3 +1.4
baz=51,SNR=7.9
A22A **Carney Farms,** 51.35 338 ⇑P P 14 27 35.5 +1.0
baz=52,SNR=5.0
E17A **Martinsdale** 51.38 333 ⇑P P 14 27 35.9 +1.0
baz=52,SNR=5.8
WCN **Washoe City** 51.46 321 *e*P P 14 27 37.9 +2.2
WCN pmax pmax
comp=Z,7.0nm,1.3s
WCN **Washoe City** 51.46 321 *e*P P 14 27 37.9 +2.2
comp=Z,7.4nm,1.3s
C19A **Slack Wire Ran** 51.57 335 ⇓P P 14 27 36.9 +0.7
baz=52,SNR=9.5
I12A **Atlanta** 51.58 328 ⇑P P 14 27 37.6 +1.1
baz=52
LRM **Limekiln Ridge** 51.65 331 *e*P P 14 27 38.3 +1.3
F15A **Butte** 51.68 331 ⇑P P 14 27 38.1 +0.9
baz=52,SNR=6.7
MFID **Camas Ranch** 51.70 327 *e*P P 14 27 38.9 +1.6
comp=Z,1.9nm,1.1s
MFID **Camas Ranch** 51.70 327 ⇑P P 14 27 38.7 +1.4
baz=52,SNR=8.8
B20A **Solberg Farm,** 51.71 336 ⇓P P 14 27 38.4 +1.1
baz=52,SNR=6.0
G14A **Jackson** 51.72 330 ⇓P P 14 27 38.4 +0.8
baz=52
A21A **Bergtoll Ranch** 51.73 338 ⇓P P 14 27 38.3 +0.9
baz=52,SNR=9.3
E16A **East Helena** 51.81 332 ⇑P P 14 27 39.1 +1.0
baz=52,SNR=11
D17A **Six Diamond Ra** 51.82 334 ⇑P P 14 27 39.1 +0.8
baz=52,SNR=6.5
H12A **Diamond D Ranc** 51.95 329 ⇑P P 14 27 40.3 +1.1
baz=52
G13A **Cobalt** 52.00 330 ⇑P P 14 27 40.4 +0.7
baz=52
HRY **Holter Researc** 52.01 333 *e*P P 14 27 41.0 +1.4
A20A **Cobblestone Ra** 52.02 337 ⇑P P 14 27 40.4 +0.9
baz=52
F14A **Wisdom** 52.08 331 ⇓P P 14 27 40.9 +0.7
baz=52,SNR=6.0
D16A **Dana Ranch, Ca** 52.12 333 ⇑P P 14 27 41.1 +0.7
baz=52,SNR=10.0
E15A **Deer Lodge** 52.18 332 ⇓P P 14 27 41.5 +0.6
baz=52,SNR=5.1
C17A **Wharram Farm,** 52.22 334 ⇓P P 14 27 41.9 +0.8
baz=52,SNR=12
B18A **Beardsley Farm** 52.39 335 ⇓P P 14 27 43.1 +0.8
baz=52
F13A **Darby** 52.54 330 ⇓P P 14 27 44.3 +0.7
baz=53,SNR=9.7
D15A **Lincoln** 52.57 332 ⇑P P 14 27 44.6 +0.8
baz=53
E14A **Clinton** 52.58 331 ⇑P P 14 27 44.6 +0.7
baz=53,SNR=7.8
G12A **Big Creek, Yel** 52.59 329 ⇑P P 14 27 44.4 +0.4
baz=53
C16A **Fuhringer Ranc** 52.78 333 ⇓P P 14 27 46.2 +0.9
baz=53
CHMT **Chamberlain Mo** 52.82 332 *e*P P 14 27 45.1 -0.6
comp=Z,3.0nm,1.2s
A18A **Metzger Ranch,** 52.83 336 ⇓P P 14 27 46.1 +0.6
baz=53,SNR=7.5
E13A **Victor** 52.93 331 ⇑P P 14 27 47.0 +0.6
baz=53
F12A **Elk City** 52.98 330 ⇓P P 14 27 47.6 +0.8
baz=53,SNR=18
MSO **Missoula** 53.09 331 *e*P P 14 27 48.8 +1.3
comp=Z,15nm,1.6s
C15A **Salmond Ranch,** 53.15 333 ⇓P P 14 27 48.8 +0.7
baz=53,SNR=5.3
SCHQ **Schefferville** 53.22 9 P P 14 27 47.7 -0.6
comp=Z,8.3nm,1.0s,baz=187,slow=6.7,SNR=7.1
SCHQ **Schefferville** 53.22 9 P P 14 27 47.7 -0.6
BMO **Blue Mountains** 53.44 327 *e*P P 14 27 50.6 +0.4
comp=Z,19nm,1.4s
B15A **Bradely Ranch,** 53.53 333 ⇓P P 14 27 51.4 +0.6
baz=54,SNR=5.5
E12A **Beaver Dam Sad** 53.60 330 ⇓P P 14 27 51.8 +0.5
baz=54
B14A **Marquette Ranc** 53.89 333 ⇓P P 14 27 54.1 +0.6
baz=54,SNR=14
JTMT **Jette** 53.91 332 *e*P P 14 27 55.0 +1.4
D12A **Red Ives Fores** 53.93 331 ⇓P P 14 27 54.3 +0.5
baz=54
C13A **Hot Springs** 54.00 332 ⇑P P 14 27 55.2 +1.0
baz=54
BSMT **Bassoo Peak** 54.22 332 *e*P P 14 27 57.5 +1.6
B13A **Whitefish** 54.45 332 ⇓P P 14 27 58.3 +0.9
baz=55
A13A **Flathead Natio** 54.82 333 ⇓P P 14 28 01.1 +0.9
baz=55
C11A **Tepee Creek (N** 54.92 331 ⇓P P 14 28 02.0 +1.1
baz=55,SNR=5.7
FFC **Flin Flon** 55.04 345 *e*P P 14 28 01.3 -0.2
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC **Flin Flon** 55.04 345 *e*P P 14 28 01.3 -0.2
comp=Z,8.9nm,1.3s
NEW **Newport** 55.63 331 *e*P P 14 28 06.8 +0.8
comp=Z,120nm,2.9s
NEW **Newport** 55.63 331 ⇑P P 14 28 06.7 +0.8
baz=56
BBTS **Babate** 63.64 75 LR LR 14 55 18.8
comp=Z,81nm,20.4s,baz=311,slow=35
YKA **Yellowknife Ar** 65.14 343 P P 14 29 10.2 -0.4
comp=Z,4.9nm,0.8s,baz=138,slow=6.0,SNR=75
YKA **Yellowknife Ar** 65.14 343 P P 14 29 10.2 -0.4
RES **Resolute Bay** 72.61 356 *e*P P 14 29 55.9 -1.0
comp=Z,5.3nm,1.0s
EVOP **Sao Brissos** 74.23 51 *e*P P 14 30 07.1 0.0
EVOP **Sao Brissos** 74.23 51 *e*P P 14 30 07.1 0.0

EVO **Evora** 74.31 51 *e*P P 14 30 07.1 -0.5
SUMG **Summit** 74.49 12 *e*P P 14 30 08.0 -0.5
SUMG pmax pmax
comp=Z,704nm,3.0s
SUMG **Summit** 74.49 12 *e*P P 14 30 08.0 -0.5
comp=Z,704nm,3.0s
SUMG **Summit** 74.49 12 *i*P P 14 30 07.9 -0.5
comp=Z,14nm,1.0s
DAWY **Dawson** 74.77 337 *e*P P 14 30 09.7 -0.1
INK **Inuvik** 74.86 342 *e*P P 14 30 10.9 +0.8
DBIC **Dimbokro** 74.90 84 P P 14 30 10.8 -0.7
comp=Z,5.7nm,0.8s,baz=268,slow=6.4,SNR=8.3
DBIC **Dimbokro** 74.90 84 P P 14 30 10.8 -0.7
EGAK **Eagle** 75.77 337 *e*P P 14 30 14.4 -1.1
comp=Z,209nm,1.2s
DOT **Dot Lake** 76.47 336 *e*P P 14 30 21.0 +1.4
comp=Z,9.9nm,0.8s
ESDC **Sonseca Array** 77.59 50 P P 14 30 25.5 -0.9
comp=Z,1.6nm,0.7s,baz=259,slow=5.9,SNR=14
ESDC **Sonseca Array** 77.59 50 P P 14 30 25.5 -0.9
ILAR **Eielson Array** 78.03 336 P P 14 30 28.4 +0.1
comp=Z,2.7nm,0.8s,baz=117,slow=4.5,SNR=35
ILAR PP PP 14 33 25.8 +1.2
comp=Z,0.5nm,0.8s,baz=107,slow=6.5,SNR=4.7
ILAR **Eielson Array** 78.03 336 P P 14 30 28.4 +0.1
ILAR PP PP 14 33 25.8 +1.2
ROSF **Rostrenen** 79.25 41 *e*P P 14 30 34.9 -0.4
comp=Z,93nm,1.4s
ROSF **Rostrenen** 79.25 41 *e*P P 14 30 34.9 -0.4
ROSF pmax pmax
comp=Z,93nm,1.4s
ROSF **Rostrenen** 79.25 41 *e*P P 14 30 34.9 -0.4
comp=Z,93nm,1.4s
SJPF **Ste Jean** 80.03 47 *e*P P 14 30 39.8 +0.1
SJPF **Ste Jean** 80.03 47 *e*P P 14 30 39.8 +0.1
SJPF **Ste Jean** 80.03 47 *e*P P 14 30 39.8 +0.1
COLD **Coldfoot** 80.11 338 *e*P P 14 30 41.2 +1.7
comp=Z,12nm,1.4s
GRR **Gorron** 80.86 42 *e*P P 14 30 43.5 -0.5
comp=Z,48nm,1.2s
GRR **Gorron** 80.86 42 *e*P P 14 30 43.5 -0.5
GRR pmax pmax
comp=Z,48nm,1.2s
GRR **Gorron** 80.86 42 *e*P P 14 30 43.5 -0.5
comp=Z,48nm,1.2s
FLN **La Foliniere** 81.15 41 *e*P P 14 30 45.2 -0.3
FLN **La Foliniere** 81.15 41 *e*P P 14 30 45.2 -0.3
FLN **La Foliniere** 81.15 41 *e*P P 14 30 45.2 -0.3
MFF **Saint Martin d** 81.15 43 *e*P P 14 30 45.2 -0.4
MFF **Saint Martin d** 81.15 43 *e*P P 14 30 45.2 -0.4
MFF **Saint Martin d** 81.15 43 *e*P P 14 30 45.2 -0.4
DAG **Danmarks Havn** 81.18 12 *i*P P 14 30 44.1 -1.0
comp=Z,52nm,1.1s
TOA0 **Torodi Ar. Sit** 81.28 77 *e*P P 14 30 43.8 -3.1
TORD **Torodi Ar. Bea** 81.28 77 P P 14 30 46.0 -0.9
comp=Z,2.3nm,0.5s,baz=282,slow=6.6,SNR=26
TORD **Torodi Ar. Bea** 81.28 77 P P 14 30 46.0 -0.9
LDF **La Druitiere** 81.36 41 *e*P P 14 30 46.2 -0.5
LDF **La Druitiere** 81.36 41 *e*P P 14 30 46.2 -0.5
LDF **La Druitiere** 81.36 41 *e*P P 14 30 46.2 -0.5
LFF **La Frestale** 81.61 45 *e*P P 14 30 47.5 -0.6
LFF **La Frestale** 81.61 45 *e*P P 14 30 47.5 -0.6
LFF **La Frestale** 81.61 45 *e*P P 14 30 47.5 -0.6
RJF **Les Rejaudoux** 82.19 45 *e*P P 14 30 50.6 -0.5
RJF **Les Rejaudoux** 82.19 45 *e*P P 14 30 50.6 -0.5
RJF **Les Rejaudoux** 82.19 45 *e*P P 14 30 50.6 -0.5
CAF **Calviac** 82.55 45 *e*P P 14 30 52.7 -0.3
CAF **Calviac** 82.55 45 *e*P P 14 30 52.7 -0.3
CAF **Calviac** 82.55 45 *e*P P 14 30 52.7 -0.3
MTLF **Montolieu** 82.56 47 *e*P P 14 30 52.6 -0.5
comp=Z,13nm,1.1s
MTLF **Montolieu** 82.56 47 *e*P P 14 30 52.6 -0.5
MTLF pmax pmax
comp=Z,13nm,1.1s
MTLF **Montolieu** 82.56 47 *e*P P 14 30 52.6 -0.5
comp=Z,13nm,1.1s
TCF **Toulx Ste Croi** 82.74 44 *e*P P 14 30 53.2 -0.8
comp=Z,18nm,1.2s
TCF **Toulx Ste Croi** 82.74 44 *e*P P 14 30 53.2 -0.8
TCF pmax pmax
comp=Z,18nm,1.2s
TCF **Toulx Ste Croi** 82.74 44 *e*P P 14 30 53.2 -0.8
comp=Z,18nm,1.2s
BGF **Bois d'Agland** 83.20 44 *e*P P 14 30 55.7 -0.6
BGF **Bois d'Agland** 83.20 44 *e*P P 14 30 55.7 -0.6
BGF **Bois d'Agland** 83.20 44 *e*P P 14 30 55.7 -0.6
AVF **Avril sur Loir** 83.56 43 *e*P P 14 30 57.3 -0.9
comp=Z,7.7nm,0.9s
AVF **Avril sur Loir** 83.56 43 *e*P P 14 30 57.3 -0.9
AVF pmax pmax
comp=Z,8.0nm,0.9s
AVF **Avril sur Loir** 83.56 43 *e*P P 14 30 57.3 -0.9
comp=Z,7.7nm,0.9s
SSF **Saint Saulge** 83.68 43 *e*P P 14 30 57.8 -1.0
comp=Z,23nm,1.4s
SSF **Saint Saulge** 83.68 43 *e*P P 14 30 57.8 -1.0
SSF pmax pmax
comp=Z,23nm,1.4s
SSF **Saint Saulge** 83.68 43 *e*P P 14 30 57.8 -1.0
comp=Z,23nm,1.4s
SMF **Signal de Mont** 83.89 44 *e*P P 14 30 59.0 -0.9
SMF **Signal de Mont** 83.89 44 *e*P P 14 30 59.0 -0.9
SMF **Signal de Mont** 83.89 44 *e*P P 14 30 59.0 -0.9
LOR **Lormes** 83.93 43 *e*P P 14 30 59.4 -0.7
comp=Z,22nm,1.4s
LOR **Lormes** 83.93 43 *e*P P 14 30 59.4 -0.7
comp=Z,22nm,1.4s
DOU **Dourbes** 84.55 40 P P 14 31 03.6 +0.4
SFTF **Sexfontaines** 84.77 42 *e*P P 14 31 03.7 -0.6
SFTF **Sexfontaines** 84.77 42 *e*P P 14 31 03.7 -0.6
PAGF **Fort de Pagny** 85.24 42 *e*P P 14 31 05.7 -0.9
PAGF **Fort de Pagny** 85.24 42 *e*P P 14 31 05.7 -0.9
CABF **La Chapelle** 85.44 44 *e*P P 14 31 07.5 -0.3
comp=Z,77nm,1.6s
CABF **La Chapelle** 85.44 44 *e*P P 14 31 07.5 -0.3
CABF pmax pmax
comp=Z,77nm,1.6s
CABF **La Chapelle** 85.44 44 *e*P P 14 31 07.5 -0.3
comp=Z,77nm,1.6s
WLF **Walferdange** 85.55 41 P P 14 31 08.9 +0.8
comp=Z,20nm,1.6s
HAU **Haudompre** 85.64 42 *e*P P 14 31 08.1 -0.6
comp=Z,33nm,1.4s
HAU **Haudompre** 85.64 42 *e*P P 14 31 08.1 -0.6
HAU pmax pmax
comp=Z,33nm,1.4s
HAU **Haudompre** 85.64 42 *e*P P 14 31 08.1 -0.6
comp=Z,33nm,1.4s
HINF **Hinteralfeld** 85.98 42 *e*P P 14 31 09.6 -0.8
comp=Z,17nm,1.2s
HINF **Hinteralfeld** 85.98 42 *e*P P 14 31 09.6 -0.8
HINF pmax pmax
comp=Z,17nm,1.2s
HINF **Hinteralfeld** 85.98 42 *e*P P 14 31 09.6 -0.8
comp=Z,17nm,1.2s
VNA3 **Neumayer Olymp** 86.13 162 *e*P P 14 31 11.1 +0.5
VNA3 **Neumayer Olymp** 86.13 162 *e*WP PcP 14 31 14.0 +0.8
ECH **Echery** 86.19 42 *e*P P 14 31 10.6 -0.8
ECH pmax pmax
comp=Z,15nm,1.3s
ECH **Echery** 86.19 42 *e*P P 14 31 10.6 -0.8
comp=Z,15nm,1.3s
CDF **Champ du Feu** 86.27 42 *e*P P 14 31 11.3 -0.6
comp=Z,18nm,1.2s
CDF **Champ du Feu** 86.27 42 *e*P P 14 31 11.3 -0.6
CDF pmax pmax
comp=Z,19nm,1.2s
CDF **Champ du Feu** 86.27 42 *e*P P 14 31 11.3 -0.6
comp=Z,18nm,1.2s
VNA2 **Neumayer--Watz** 86.73 162 *e*P P 14 31 13.9 +0.4
VNA2 **Neumayer--Watz** 86.73 162 *e*WP PcP 14 31 16.9 +1.1
TUE **Stuetta** 87.69 44 *e*P P 14 31 20.0 +1.0
NB2 **NORSAR Subarra** 88.36 29 P P 14 31 21.6 0.0
baz=270,slow=4.8
NB2 **NORSAR Subarra** 88.36 29 P P 14 31 21.6 0.0
comp=Z,13nm,1.1s,baz=270,slow=4.8
NOA **NORSAR Array B** 88.36 29 P P 14 31 21.7 0.0
comp=Z,4.4nm,0.8s,baz=270,slow=4.5,SNR=11
NOA **NORSAR Array B** 88.36 29 P P 14 31 21.7 0.0
CLL **Collm** 89.88 39 *e*P P 14 31 35.0 +6.1
CLL **Collm** 89.88 39 *es*P P 14 31 35.0 +6.1
GERES **GERESS Array B** 90.51 41 P P 14 31 33.4 +1.3
comp=Z,0.3nm,0.5s,baz=240,slow=21,SNR=3.7
GERES **GERESS Array B** 90.51 41 P P 14 31 33.4 +1.3
QSPA **South Pole Qui** 92.57 180 *e*P P 14 31 42.7 +1.4

ARCES **ARCESS Array B** 93.01 20 P P 14 31 42.6 -0.5
comp=Z,4.0nm,0.9s,baz=70,slow=10,SNR=6.9
ARCES **ARCESS Array B** 93.01 20 P P 14 31 42.6 -0.5
VYHS **Vyhne** 93.93 41 *e*P P 14 31 48.1 +0.3
VYHS *e* 14 31 58.8
VYHS **Vyhne** 93.93 41 *e*P P 14 31 48.1 +0.3
VYHS *e* 14 31 58.8
FINES **FINESS Array B** 95.39 28 P P 14 31 53.5 -0.6
comp=Z,2.6nm,0.8s,baz=315,slow=6.7,SNR=7.4
FINES **FINESS Array B** 95.39 28 P P 14 31 53.5 -0.6
CRVS **Cervenica-Dubn** 95.58 41 *e*P P 14 31 57.1 +1.8
CRVS **Cervenica-Dubn** 95.58 41 *e*P P 14 31 57.1 +1.8
AKASG **Malin Array Be** 100.06 38 *i*P Pdif 14 32 15.3 -0.1
ZALV **Zalesovo Beam** 122.30 11 PKP PKPdf 14 37 24.1 -0.8
comp=Z,1.4nm,0.7s,baz=273,slow=2.5,SNR=6.3
ZALV **Zalesovo Beam** 122.30 11 PKIKP PKPdf 14 37 24.1 -0.8
ZALV **Zalesovo Beam** 122.30 11 PKP PKPdf 14 37 24.1 -0.8
MKAR **Makanchi Array** 128.44 16 PKP PKPdf 14 37 36.4 -0.6
comp=Z,1.0nm,0.8s,baz=352,slow=2.5,SNR=8.3
MKAR **Makanchi Array** 128.44 16 PKIKP PKPdf 14 37 36.4 -0.6
MKAR **Makanchi Array** 128.44 16 PKP PKPdf 14 37 36.4 -0.6
CN2 **Changchun** 128.55 337 *e*PKP PKPdf 14 37 33.8 -3.4
SONM **Songino Array** 129.53 354 PKP PKPdf 14 37 38.9 -0.3
comp=Z,1.4nm,0.9s,baz=10,slow=2.5,SNR=5.3
SONM **Songino Array** 129.53 354 PKP PKPdf 14 37 38.9 -0.3
WMQ **Urumqi** 132.53 12 *e*PKP PKPdf 14 37 45.1 +0.2
KSH **Kashi** 132.66 25 *e*PKP PKPdf 14 37 48.0 +2.7
KSH *e*PP PP 14 40 13.4 +4.9
KSH PKS PKSdf 14 41 20.8 -1.1
KSH SKS SKSdf 14 44 56.4 +1.3
KSH SKKS SKKSac 14 47 03.6 -0.3
KSH SS SS 14 57 51.9 +5.1
KSH AMB AMB
comp=Z,110nm,4.8s
KSH LR LR
comp=N,67nm,7.1s
KSH LR LR
comp=E,100nm,8.7s
KSH LR LR
comp=Z,290nm,6.1s
GTA **Gaotai** 138.26 0 PKP PKPdf 14 37 55.4 -0.4
GTA sPKP 14 38 04.3
ASAR **Alice Springs** 141.11 234 PKhKP PKPpre 14 37 54.8
comp=Z,1.1nm,0.8s,baz=126,slow=3.8,SNR=11
ASAR PKP PKPdf 14 38 00.5 -0.8
comp=Z,0.8nm,0.5s,baz=114,slow=2.5,SNR=10
ASAR **Alice Springs** 141.11 234 PKP PKPdf 14 38 00.5 -0.8
NJ2 **Nanjing** 141.25 334 *e*PKP PKPdf 14 38 00.9 -0.3
LZH **Lanzhou** 141.42 355 *e*PKP PKPdf 14 38 02.0 +0.4
LZH sPKP 14 38 06.5
LZH LR LR
comp=N,140nm,18.3s
LZH LR LR
comp=E,130nm,18.1s
LZH LR LR
comp=Z,180nm,20.0s
WRA **Warramunga Arr** 142.33 240 PKhKP PKPpre 14 37 58.6
comp=Z,1.5nm,0.7s,baz=114,slow=3.0,SNR=20
PYUN **Piuthan** 145.40 27 *e*P PKPbc 14 38 08.6 -0.2
comp=Z,192nm,1.3s
DANN **Dangsing** 145.53 26 *e*P PKPbc 14 38 09.3 0.0
comp=Z,100nm,0.8s
KOLN **Koldanda** 145.96 27 *e*P PKPdf 14 38 09.9 0.0
comp=Z,6.7nm,0.6s
ENH **Enshi** 146.16 345 *e*PKPdf PKPdf 14 38 09.6 -0.3
GKN **Gorkha** 146.20 25 *e*P PKPdf 14 38 10.6 +0.4
CD2 **Chengdu** 146.56 354 PKPbc PKPdf 14 38 09.8 -0.8
KKN **Kakani** 146.66 24 *e*P PKPbc 14 38 12.1 -0.5
comp=Z,24nm,0.9s
DMN **Daman** 146.75 25 *e*P PKPdf 14 38 12.1 +0.8
comp=Z,16nm,0.6s
GUN **Gumba** 146.79 23 *e*P PKPbc 14 38 13.0 -0.2
comp=Z,48nm,1.0s
LSA **Lhasa** 146.83 14 *e*PKIKP PKPdf 14 38 11.2 -0.4
LSA **Lhasa** 146.83 14 *e*PKPdf PKPdf 14 38 11.2 -0.4
PKI **Pulchoki** 146.91 24 *e*P PKPbc 14 38 12.6 -0.9
JIRN **Jiri** 147.14 23 *e*P PKPbc 14 38 13.7 -0.5
RAMN **Ramite** 147.94 23 *e*P PKPdf 14 38 12.8 -0.5
comp=Z,20nm,0.9s
TAPN **Taplejung** 147.99 21 *e*P PKPbc 14 38 15.7 -0.8
comp=Z,41nm,1.3s
ODAN **Odare** 148.32 22 *e*P PKPdf 14 38 14.0 +0.1
comp=Z,16nm,0.9s
GYA **Guiyang** 150.48 348 PKPbc PKPdf 14 38 16.0 -1.2
GYA PKPab PKPab 14 38 28.8 -0.1
GYA PKS PKSdf 14 41 48.0 -4.3
GYA SKKS 14 48 47.3
GYA SS SS 15 01 16.5 +3.1
GYA AMB AMB
comp=Z,110nm,7.8s
GYA LR LR
comp=N,120nm,20.8s
GYA LR LR
comp=E,110nm,21.3s
GYA LR LR
comp=Z,130nm,21.5s
FITZ **Fitzroy Crossi** 150.54 237 PKPbc PKPbc 14 38 22.8 +0.2
comp=Z,11nm,0.8s,baz=123,slow=2.7,SNR=14
FITZ **Fitzroy Crossi** 150.54 237 *e*PKPbc PKPbc 14 38 22.3 -0.3
CMAR **Chiang Mai Arr** 159.11 3 PKP PKPdf 14 38 29.2 +0.1
comp=Z,1.4nm,0.9s,baz=304,slow=2.0,SNR=6.2
CMAR PKPab PKPab 14 39 04.8 -0.8
comp=Z,2.4nm,1.0s,baz=336,slow=4.8,SNR=8.4
CMAR **Chiang Mai Arr** 159.11 3 PKP PKPdf 14 38 29.2 +0.1
CMAR PKPab PKPab 14 39 04.8 -0.8

IDC 14 14:27:00.8±1.0, 6.51N×60.67E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/28, mbtmp4.0/10, ML3.5/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/37, 1C, Error ellipse: s-maj=32.2km s-min=17.8km az=128.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**16.75**	**353**	Pn	P	14 30 58.3	-1.0
	0.2nm,0.3s,baz=160,slow=13,SNR=3.8						
PSI	**Prapat**	**38.29**	**94**	LR	LR	14 48 06.9	
	comp=Z,98nm,18.5s,baz=223,slow=33						
CMAR	**Chiang Mai Arr**	**39.11**	**69**	P	P	14 34 29.5	-0.8
	1.3nm,1.0s,baz=261,slow=9.9,SNR=10						
CMAR				LR	LR	14 49 19.7	
	comp=Z,42nm,18.9s,baz=250,slow=34						
KBZ	**Khabaz**	**40.23**	**340**	P	P	14 34 38.2	-0.9
	1.1nm,0.7s,baz=164,slow=14,SNR=2.1						
BRTR	**Keskin Array B**	**41.04**	**328**	P	P	14 34 45.9	-0.3
	1.6nm,1.1s,baz=150,slow=8.6,SNR=4.6						
MK31	**Makanchi Array**	**44.23**	**21**	⇑S	P	14 35 11.5	-0.5
	0.4nm,0.3s,baz=72,slow=35,SNR=13						
MKAR	**Makanchi Array**	**44.23**	**21**	P	P	14 35 11.9	0.0
	1.6nm,0.7s,baz=211,slow=9.4,SNR=17						
MKAR				LR	LR	14 53 53.0	
	comp=Z,48nm,20.7s,baz=172,slow=36						
LBTB	**Lobatse**	**46.34**	**226**	P	P	14 35 29.3	+0.3
	3.7nm,0.9s,baz=79,slow=9.1,SNR=4.7						
BOSA	**Boshof**	**48.83**	**223**	P	P	14 35 48.1	-0.3
	3.9nm,0.9s,baz=49,slow=8.9,SNR=4.2						
BOSA				LR	LR	14 55 08.4	
	comp=Z,90nm,19.2s,baz=162,slow=35						
TSUM	**Tsumeb**	**49.54**	**238**	P	P	14 35 53.9	-0.1
	4.6nm,1.1s,baz=70,slow=6.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.19**	**18**	P	P	14 36 06.0	+0.3
	2.1nm,0.8s,baz=223,slow=8.1,SNR=14						
SONM	**Songino Array**	**56.59**	**35**	P	P	14 36 46.2	+0.5
	1.3nm,0.9s,baz=246,slow=7.4,SNR=7.0						

*IDC **14** 14:29:08.0±0.5, 7.89N×82.69W, h0km, mb4.5/20, mb1 4.6/24, mb1mx4.5/30, mbtmp4.5/24, ML4.2/4, MS4.1/23, Ms1 4.1/23, ms1mx4.0/33, Error ellipse: s-maj=22.3km s-min=11.7km az=56.0*

*CASC **14** 14:29:10.7±2.9, 7.87N×82.81W, h4km±14km, MD4.2, mb4.9(NEIC)*

*ISCJB **14** 14:29:11.9±0.6, 7.82N±0.04×82.75W±0.03, h37km±4km, mb4.8/83, MS4.2/20, Error ellipse: s-maj=6.7km s-min=3.7km az=31.4*

*NEIC **14** 14:29:11.0, 7.84N×82.80W, h10km, mb4.9/52, MD4.7(CASC), After CASC.*

*BJI **14** 14:29:12.8, 8.06N×83.08W, h36km, mB5.4/7, Ms5.2/6, Ms7 5.0/6*

*SZGRF **14** 14:29:13.3, 8.61N×83.15W, h33km, mb5.0, Costa Rica*

*GCMT **14** 14:29:16.4±0.3, 7.81N×82.64W, h23km±1km, MW4.9, Moment Tensor Solution. s27,c31; s65,c94; Moment*

tensor: Scale 10^{16}Nm; M_{rr}2.15±.22; $M_{\theta\theta}$-2.51±.13; $M_{\phi\phi}$0.36±.14; $M_{r\theta}$0.32±.17; $M_{\theta\phi}$1.59±.08; $M_{\phi r}$-1.30±.24; Best double couple: $M_0$3.10000×10^{16} NP1:ϕ_b266.00000°, δ44.00000°,λ45.00000°. NP2:ϕ_b140.00000°,δ60.00000°, λ124.00000°. Principal axes: T 2.8800, Plg59.0000°, Azm101.0000°; N 0.4700, Plg29.0000°, Azm301.0000°; P -3.3500, Plg9.0000°, Azm206.0000°; Data Used: II CN IC IU G.

ISC 14 14:29:13.1±0.7,7.85N±0.05×82.74W±0.04,h34km±2km, n381,σ1$30/416,mb5.0/83,MS4.1/20,68C-68D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.91**	**332**	⇓	*i*P		**Pn**	**14 29 27.1**	**-2.5**
BRU2	**Volcan**	**0.94**	**3**	⇓	*i*P		**Pn**	**14 29 28.1**	**-2.0**
BRU2					*e*S		**Sn**	**14 29 41.8**	**-0.6**
BRU2	**Volcan**	**0.94**	**3**	⇓	*i*P		**Pn**	**14 29 28.1**	**-2.0**
BRU2					*e*S		**Sn**	**14 29 41.8**	**-0.6**
TBS2		**0.94**	**5**	*e*	P		**Pn**	**14 29 30.1**	**-0.1**
TBS2					*e*S		**Sn**	**14 29 41.8**	**-0.7**
BUS	**Buena Vista**	**1.98**	**329**	*e*	P		**Pn**	**14 29 44.0**	**-0.6**
LAJ	**Bijagual**	**2.43**	**326**	⇓	*e*P		**Pn**	**14 29 51.0**	**+0.4**
SJS	**Escuela Geolog**	**2.45**	**328**	*e*	P		**Pn**	**14 29 51.5**	**+0.6**
SJS					*e*S		**Sn**	**14 30 21.3**	**+1.6**
CGA2	**Cerro Gallo 2**	**2.75**	**322**	*e*	P		**Pn**	**14 29 54.4**	**-0.6**
BCIP	**Isla Barro Col**	**3.15**	**65**	*e*	Pn		**Pn**	**14 30 01.2**	**+0.8**
BCIP	**Isla Barro Col**	**3.15**	**65**	*e*	P		**Pn**	**14 30 00.4**	**0.0**
BCIP					*e*S		**Sn**	**14 30 41.1**	**+4.2**
JTS	**JuntasAbangare** 216nm,0.3s,baz=103,slow=22,SNR=171	**3.27**	**318**		Pn		**Pn**	**14 30 01.0**	**-1.0**
JTS					Sn		**Sn**	**14 30 39.5**	**-0.3**
	79nm,0.3s,baz=317,slow=21,SNR=6.5								
JTS	**JuntasAbangare**	**3.27**	**318**	*e*	Pn		**Pn**	**14 30 01.0**	**-1.0**
JTS					Sn		**Sn**	**14 30 39.5**	**-0.3**
CHPA	**Chiripa**	**3.35**	**320**	*i*	P		**Pn**	**14 30 05.4**	**+2.2**
UPIG		**3.37**	**70**	*e*	P		**Pn**	**14 30 05.1**	**+1.8**
UPIG					*e*S		**Sb**	**14 30 47.4**	**-5.3**
PTEN	**Parque Tenorio**	**3.61**	**322**	*i*	P		**Pn**	**14 30 08.0**	**+1.2**
LAPC	**Finca la Perla**	**3.94**	**318**	*i*	P		**Pn**	**14 30 11.5**	**+0.2**
GB1A	**Borinquen Arri**	**3.95**	**319**	*i*	P		**Pn**	**14 30 11.9**	**+0.4**
GB1A					*i*	S	**Sn**	**14 30 58.5**	**+1.7**
OTAV	**Otavalo**	**8.68**	**150**	*e*	Pn		**Pn**	**14 31 17.5**	**+0.7**
ROSC	**El Rosal** 2.4nm,0.3s,baz=93,slow=21,SNR=13	**8.87**	**109**		Pn		**Pn**	**14 31 21.0**	**+1.7**
ROSC					LR		LR	14 34 42.5	
	comp=Z,594nm,19.8s,baz=332,slow=38								
ROSC	**El Rosal**	**8.87**	**109**	*e*	Pn		**Pn**	**14 31 21.3**	**+2.0**
PAYG	**Puerto Ayora** 221nm,1.7s	**11.33**	**222**	*e*	Pn		**Pn**	**14 31 51.1**	**-1.6**
MTDJ	**Mount Denham**	**11.49**	**26**	*e*	Pn		**Pn**	**14 31 56.7**	**+1.7**
TEIG	**Tepich** 1.2nm,0.3s,baz=200,slow=23,SNR=6.3	**13.43**	**337**		Pn		Pn	14 32 18.0	-3.3
TEIG					LR		LR	14 37 35.6	
	comp=Z,999nm,18.9s,baz=180,slow=38								
TEIG	**Tepich**	**13.43**	**337**		Pn		Pn	14 32 18.0	-3.3
CMIG	**Matias Romero** 0.3nm,0.3s,baz=61,slow=6.6,SNR=3.9	**14.99**	**309**		Pn		**Pn**	**14 32 41.2**	**-1.5**
CMIG					LR		LR	14 38 10.6	
	comp=Z,335nm,21.9s,baz=122,slow=36								
CMIG	**Matias Romero**	**14.99**	**309**		Pn		**Pn**	**14 32 41.2**	**-1.5**
ATAH	**Atahualpa** 0.3nm,0.3s,baz=340,slow=6.5,SNR=4.2	**15.50**	**164**		Pn		**Pn**	**14 32 49.8**	**+0.1**
ATAH					LR		LR	14 38 23.8	
	comp=Z,675nm,18.0s,baz=150,slow=36								
ATAH	**Atahualpa**	**15.50**	**164**		Pn		**Pn**	**14 32 49.8**	**+0.1**
SDDR	**Presa de Saban** 60nm,1.1s	**15.69**	**44**	*e*	Pn		**Pn**	**14 32 53.4**	**+1.6**
CELP	**Cerrillos**	**18.72**	**56**	*e*	P		**P**	**14 33 29.2**	**+0.1**
SJG	**San Juan** 4.6nm,0.3s,baz=270,slow=8.0,SNR=9.6	**19.09**	**56**		P		**Pn**	**14 33 35.0**	**+0.9**
SJG					LR		LR	14 40 23.6	
	comp=Z,596nm,18.9s,baz=270,slow=36								
SJG	**San Juan**	**19.09**	**56**		P		**Pn**	**14 33 35.0**	**+0.9**
CDVI	**St. Croix** 152nm,1.1s	**20.08**	**59**	*e*	P		**P**	**14 33 43.9**	**+0.1**
NNA	**Nana** 12nm,0.8s,baz=352,slow=13,SNR=4.9	**20.56**	**163**		P		**P**	**14 33 48.5**	**-0.6**
NNA	**Nana**	**20.56**	**163**		P		**P**	**14 33 48.5**	**-0.6**
LRAL	**Lakeview Retre** 34nm,1.1s	**25.37**	**352**	*e*	P		**P**	**14 34 38.0**	**+0.8**
GOGA	**Godfrey** 30nm,1.3s	**25.45**	**359**	*e*	P		**P**	**14 34 37.9**	**0.0**
SAML	**Samuel** 58nm,1.1s	**25.65**	**130**	*e*	P		**P**	**14 34 38.7**	**-1.3**
KMSC	**Kings Mountain** baz=27	**27.20**	**3**	⇓	P		**P**	**14 34 54.6**	**+1.0**
SWET	**Sewanee** 62nm,1.8s	**27.40**	**354**	*e*	P		**P**	**14 34 56.4**	**+0.8**
CPCT	**Cooper Cave**	**27.52**	**357**	*e*	P		**P**	**14 34 58.2**	**+1.5**
CPCT					*e*PcP		**PcP**	**14 38 11.4**	**-2.9**
TKL	**Tuckaleechee C** comp=Z,620nm,18.5s,baz=72,slow=38	**27.70**	**358**		LR		LR	14 46 39.1	
LPAZ	**La Paz** 2.1nm,0.8s,baz=334,slow=10,SNR=6.9	**28.00**	**149**		P		**P**	**14 35 01.7**	**0.0**
LPAZ					LR		LR	14 47 27.0	
	comp=Z,273nm,18.2s,baz=80,slow=39								
LPAZ	**La Paz** 8.6nm,1.3s	**28.00**	**149**		P		**P**	**14 35 01.7**	**0.0**
LPAZ					*e*pP		**pP**	**14 35 13.4**	**+1.7**
530A	**J-C Ranch, Com** baz=28	**28.22**	**324**	⇑	P		**P**	**14 35 03.5**	**+0.4**
529A	**Stev Forest Ra** baz=29	**28.72**	**323**	⇑	P		**P**	**14 35 08.2**	**+0.7**
429A	**Davenport Ranc** baz=29	**28.89**	**324**	⇑	P		**P**	**14 35 09.0**	**0.0**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=134,slow=8.9,SNR=4.6	**29.06**	**320**		P		**P**	**14 35 11.6**	**+1.1**
TXAR					PcP		**PcP**	**14 38 19.7**	**+1.4**
TXAR	0.7nm,0.6s,baz=140,slow=6.0,SNR=6.0				ScP		**ScP**	**14 42 01.8**	**+4.2**
TXAR	0.4nm,0.7s,baz=86,slow=4.0,SNR=4.7				ScP		**ScP**	**14 42 01.8**	**+4.2**
TXAR					LR		LR	14 47 23.6	
	comp=Z,179nm,21.8s,baz=5.0,slow=38								
TXAR	**Lajitas Array**	**29.06**	**320**		P		**P**	**14 35 11.6**	**+1.1**
TXAR					PcP		**PcP**	**14 38 19.7**	**+1.4**
TXAR					ScP		**ScP**	**14 42 01.8**	**+4.2**
528A	**Cox Ranch, San** baz=29	**29.09**	**322**	⇓	P		**P**	**14 35 10.9**	**+0.1**
626A	**Big Bend Ranch** baz=30	**29.50**	**320**	⇑	P		**P**	**14 35 14.5**	**+0.1**
Z32A	**Haskell** baz=30	**29.70**	**331**	⇑	P		**P**	**14 35 15.9**	**-0.2**
USIN	**University of** 25nm,0.9s	**30.31**	**352**	*e*	P		**P**	**14 35 21.2**	**-0.1**
USIN					*e*pP		**pP**	**14 35 32.6**	**+1.4**
WCI	**Wyandotte Cave** 34nm,1.1s	**30.42**	**354**	*e*	P		**P**	**14 35 22.1**	**-0.2**
WCI					*e*pP		**pP**	**14 35 33.4**	**+1.2**
WCI					*e*PcP		**PcP**	**14 38 21.7**	**+0.2**
Z30A	**Sanderson Ranc** baz=31	**30.50**	**329**	⇓	P		**P**	**14 35 22.7**	**-0.5**
OLIL	**Olney** 18nm,0.8s	**31.13**	**352**	*e*	P		**P**	**14 35 27.2**	**-1.4**
OLIL					*e*PcP		**PcP**	**14 38 24.4**	**+1.1**
325A	**Bean Ranch, Si** baz=31	**31.27**	**321**	⇑	P		**P**	**14 35 30.7**	**+0.5**
BLO	**Bloomington** 18nm,0.7s	**31.37**	**354**	*e*	P		**P**	**14 35 30.6**	**-0.2**
324A	**Moseley Ranch,** baz=32,SNR=6.1	**31.64**	**321**	⇑	P		**P**	**14 35 34.3**	**+0.9**
SIV	**San Ignacio** 3.2nm,0.8s,baz=331,slow=10,SNR=7.0	**31.96**	**138**		P		**P**	**14 35 35.9**	**-0.3**
SIV	**San Ignacio**	**31.96**	**138**		P		**P**	**14 35 35.9**	**-0.3**
125A	**Gardner Draw,** baz=32	**31.99**	**324**	⇓	P		**P**	**14 35 36.2**	**-0.2**
224A	**Cornudas Mount** baz=32	**32.10**	**322**	⇑	P		**P**	**14 35 37.6**	**+0.1**
ACSO	**Alum Creek Sta** 37nm,1.0s	**32.25**	**360**	*e*	P		**P**	**14 35 38.8**	**+0.4**
MVL	**Millersville** 25nm,1.3s	**32.52**	**9**	*e*	P		**P**	**14 35 40.8**	**0.0**
HDIL	**Hopedale** 33nm,1.4s	**33.09**	**351**	*e*	P		**P**	**14 35 44.7**	**-1.1**
HDIL					*e*pP		**pP**	**14 35 56.9**	**+1.2**
320A	**Kipp Ranch, An** baz=34,SNR=5.8	**33.54**	**318**	⇓	P		**P**	**14 35 52.8**	**+2.7**
Y23A	**Lovelace Mesa,** baz=34	**33.71**	**324**	⇓	P		**P**	**14 35 53.4**	**+1.9**
Z22A	**Elephant Butte** baz=34	**33.79**	**322**	⇓	P		**P**	**14 35 54.3**	**+2.1**
121A	**Cookes Peak, D** baz=34,SNR=6.6	**33.82**	**320**	⇑	P		**P**	**14 35 55.1**	**+2.6**
220A	**Playas Peak, P** baz=34,SNR=12	**33.90**	**318**	⇓	P		**P**	**14 35 55.7**	**+2.6**
319A	**Douglas** baz=34,SNR=5.6	**34.07**	**317**	⇓	P		**P**	**14 35 57.0**	**+2.4**
120A	**U Bar Ranch, L** baz=34	**34.37**	**319**	⇑	P		**P**	**14 35 59.5**	**+2.3**
ANMO	**Albuquerque** 4.1nm,1.2s	**34.67**	**324**	*e*	P		**P**	**14 35 59.8**	**0.0**
Z20A	**Nine Sixteen R** baz=35,SNR=7.5	**34.71**	**320**	⇓	P		**P**	**14 36 02.6**	**+2.4**
X21A	**Alamocita Cree** baz=35,SNR=6.1	**35.10**	**323**	⇑	P		**P**	**14 36 05.4**	**+1.8**
Y20A	**Horse Springs,** baz=35	**35.10**	**321**	⇑	P		**P**	**14 36 05.8**	**+2.1**
T25A	**Trinidad** baz=35	**35.19**	**329**	⇓	P		**P**	**14 36 05.3**	**+1.0**
T24A	**Torres, Weston** baz=36	**35.46**	**328**	⇑	P		**P**	**14 36 08.1**	**+1.3**
U23A	**El Rito** baz=36	**35.52**	**326**	⇓	P		**P**	**14 36 08.9**	**+1.7**
TUC	**Tucson** 15nm,1.5s	**35.65**	**317**	*e*	P		**P**	**14 36 10.6**	**+2.3**
U22A	**Llaves** baz=36	**35.92**	**326**	⇓	P		**P**	**14 36 12.3**	**+1.7**
T23A	**Casias Ranch,** baz=36	**35.95**	**327**	⇑	P		**P**	**14 36 12.4**	**+1.4**
W20A	**Ramah** baz=36	**35.99**	**323**	⇑	P		**P**	**14 36 13.0**	**+1.7**
R23A	**Moffat** baz=37,SNR=5.4	**36.71**	**329**	⇓	P		**P**	**14 36 18.4**	**+0.9**
214A	**Organ Pipe Nat** baz=37	**36.85**	**315**	⇑	P		**P**	**14 36 20.2**	**+1.8**
S22A	**4UR Ranch, Cre** baz=37	**36.90**	**327**	⇑	P		**P**	**14 36 20.2**	**+1.2**
SADO	**Sadowa** 1.4nm,0.4s,baz=257,slow=4.5,SNR=3.6	**36.91**	**4**	P			**P**	**14 36 18.2**	**-0.5**
SADO	**Sadowa**	**36.91**	**4**	P			**P**	**14 36 18.2**	**-0.5**
OGNE	**Ogallala** baz=37	**37.16**	**336**	⇑	P		**P**	**14 36 21.5**	**+0.5**
X16A	**Lo Mia Camp, P** baz=37,SNR=8.1	**37.37**	**319**	⇑	P		**P**	**14 36 24.9**	**+1.9**
MVCO	**Mesa Verde** 12nm,1.4s	**37.44**	**325**	*e*	P		**P**	**14 36 23.2**	**-0.3**
MVCO	**Mesa Verde** baz=38	**37.44**	**325**	⇑	P		**P**	**14 36 24.3**	**+0.7**
P23A	**Jefferson** baz=38	**37.62**	**330**	⇑	P		**P**	**14 36 25.7**	**+0.5**
FRNY	**Flat Rock**	**37.70**	**11**	*e*	PcP		**PcP**	**14 38 42.3**	**+0.2**
ECSD	**EROS Data Cent** 12nm,1.3s	**37.75**	**344**	*e*	P		**P**	**14 36 24.3**	**-1.5**
ECSD					*e*pP		**pP**	**14 36 36.5**	**+0.6**
Q22A	**Crested Butte,** baz=38,SNR=5.1	**37.77**	**329**	⇓	P		**P**	**14 36 27.4**	**+0.9**
ISCO	**Idaho Springs**	**37.84**	**331**	*e*	PcP		**PcP**	**14 38 44.8**	**+1.6**
WUAZ	**Wupatki** baz=38	**38.02**	**321**	⇓	P		**P**	**14 36 30.2**	**+1.8**
SMCO	**Snowmass**	**38.04**	**329**	*e*	PcP		**PcP**	**14 38 45.9**	**+2.0**
P22A	**Eagle** baz=38,SNR=6.9	**38.25**	**329**	⇓	P		**P**	**14 36 30.9**	**+0.5**
O23A	**Lake Granby, G** baz=38	**38.31**	**331**	⇓	P		**P**	**14 36 31.3**	**+0.4**
PV04	**Paradox Valley**	**38.50**	**326**	*e*	P		**P**	**14 36 31.1**	**-1.3**
U15A	**North Rim** baz=39	**39.17**	**321**	⇓	P		**P**	**14 36 40.3**	**+2.1**
W13A	**Hualapai Mount** baz=39	**39.38**	**318**	⇑	P		**P**	**14 36 42.3**	**+2.4**
L23A	**Garrett** baz=40	**39.70**	**333**	⇑	P		**P**	**14 36 42.8**	**+0.3**
SRU	**San Rafael** 4.9nm,0.9s	**39.90**	**326**	*e*	P		**P**	**14 36 44.6**	**+0.4**
SRU	**San Rafael** baz=40,SNR=5.7	**39.90**	**326**	⇓	P		**P**	**14 36 44.9**	**+0.7**
N20A	**Spence Gulch,** baz=40	**39.94**	**329**	⇓	P		**P**	**14 36 45.4**	**+0.9**
TMUT	**Trail Mountain**	**40.42**	**325**	*e*	PcP		**PcP**	**14 38 53.2**	**+2.0**
MVU	**Marysvale**	**40.46**	**323**	*e*	PcP		**PcP**	**14 38 53.4**	**+2.1**
RSSD	**Black Hills**	**40.63**	**336**	*e*	PcP		**PcP**	**14 38 51.8**	**+0.1**
O17A	**Robinson Place** baz=41	**40.78**	**327**	⇑	P		**P**	**14 36 52.2**	**+0.8**
L20A	**Wamsutter** baz=41	**40.86**	**331**	⇓	P		**P**	**14 36 52.5**	**+0.4**
TUQ	**Turquoise Moun** baz=41	**40.94**	**317**	⇑	P		**P**	**14 36 54.7**	**+1.9**
MPU	**Maple Canyon**	**41.15**	**326**	*e*	PcP		**PcP**	**14 38 55.6**	**+2.2**
DAU	**Daniels Canyon** 19nm,1.6s	**41.21**	**326**	*e*	P		**P**	**14 36 55.4**	**+0.3**
DAU					*e*PcP		**PcP**	**14 38 55.8**	**+2.0**
K20A	**Yellowstone Ra** baz=41	**41.35**	**331**	⇓	P		**P**	**14 36 55.6**	**-0.5**
H24A	**Dirks Ranch, A** baz=42	**41.36**	**336**	⇓	P		**P**	**14 36 56.2**	**+0.2**
JLU	**Jordanelle**	**41.45**	**326**	*e*	PcP		**PcP**	**14 38 56.4**	**+1.9**
BDFB	**Brasilia** comp=Z,264nm,20.4s,baz=332,slow=37	**41.56**	**124**		LR		LR	14 54 36.8	
CFAA	**Coronel Fontan** 1.2nm,1.2s,baz=355,slow=7.1,SNR=5.5	**41.61**	**161**		P		**P**	**14 36 57.4**	**-0.7**
CFAA	**Coronel Fontan**	**41.61**	**161**		P		**P**	**14 36 57.4**	**-0.7**
K19A	**Absolon Red Bu** baz=42,SNR=8.3	**41.72**	**331**	⇑	P		**P**	**14 36 58.8**	**-0.3**
I21A	**Big Trails, Te** baz=42	**41.76**	**333**	⇑	P		**P**	**14 36 59.5**	**+0.1**
J20A	**Shoshoni** baz=42	**41.76**	**332**	⇑	P		**P**	**14 36 59.9**	**+0.5**
AGMN	**Agassiz Nation**	**41.82**	**347**	*e*	PcP		**PcP**	**14 38 55.0**	**-0.2**
DUG	**Dugway**	**41.93**	**325**	*e*	PcP		**PcP**	**14 38 57.5**	**+1.5**
BW06	**Boulder Array** 7.7nm,1.4s	**42.02**	**330**	*e*	P		**P**	**14 37 01.8**	**+0.2**
BW06					*e*PcP		**PcP**	**14 38 57.0**	**+0.7**
BW06	**Boulder Array** baz=42,SNR=5.5	**42.02**	**330**	⇓	P		**P**	**14 37 01.4**	**-0.2**
PDAR	**Pinedale Array** 2.1nm,1.0s,baz=145,slow=9.0,SNR=13	**42.02**	**330**		P		**P**	**14 37 01.7**	**+0.1**
PDAR					PcP		**PcP**	**14 38 56.9**	**+0.6**
	3.6nm,1.0s,baz=133,slow=4.6,SNR=12								
PDAR	**Pinedale Array**	**42.02**	**330**		P		**P**	**14 37 01.7**	**+0.1**
PDAR					PcP		**PcP**	**14 38 56.9**	**+0.6**
K18A	**Toltan Ranch,** baz=42,SNR=8.9	**42.17**	**330**	⇓	P		**P**	**14 37 03.6**	**+0.8**
L17A	**Cokeville** baz=42	**42.20**	**329**	⇑	P		**P**	**14 37 03.0**	**-0.1**
HWUT	**Hardware Ranch**	**42.21**	**327**	*e*	P		**P**	**14 37 02.7**	**-0.4**
HWUT					*e*P		pP	14 37 04.0	-9.2
HWUT					*e*PcP		**PcP**	**14 38 58.1**	**+1.2**
I20A	**Worland** baz=42,SNR=6.2	**42.24**	**333**	⇑	P		**P**	**14 37 03.6**	**+0.3**
MDND	**Maddock** baz=42	**42.36**	**343**	⇓	P		**P**	**14 37 03.7**	**-0.4**
R11A	**Troy Canyon, C** baz=42,SNR=7.2	**42.42**	**321**	⇑	P		**P**	**14 37 06.6**	**+1.8**
F23A	**Volborg** baz=43,SNR=6.2	**42.50**	**336**	⇑	P		**P**	**14 37 05.1**	**-0.2**
J18A	**Kendall Valley** baz=43,SNR=14	**42.58**	**330**	⇑	P		**P**	**14 37 05.9**	**-0.3**
M15A	**Larsen Ranch,** baz=43,SNR=5.0	**42.59**	**327**	⇓	P		**P**	**14 37 06.4**	**+0.3**
H20A	**Greybull** baz=43	**42.60**	**333**	⇓	P		**P**	**14 37 05.5**	**-0.7**
I18A	**Diamond G Ranc** baz=43	**42.85**	**331**	⇓	P		**P**	**14 37 08.4**	**+0.1**
J17A	**Brown Place, J** baz=43,SNR=7.8	**43.03**	**330**	⇑	P		**P**	**14 37 10.3**	**+0.5**
REDW	**Red Top Meadow** 12nm,1.1s	**43.10**	**330**	*e*	P		**P**	**14 37 11.0**	**+0.6**
LOHW	**Long Hollow** 10nm,1.4s	**43.16**	**330**	*e*	P		**P**	**14 37 11.6**	**+0.7**
LOHW					*e*PcP		**PcP**	**14 39 01.2**	**+1.1**
TPAW	**Teton Pass** 77nm,2.8s	**43.25**	**330**	*e*	P		**P**	**14 37 12.1**	**+0.5**
G20A	**Bridger** baz=43,SNR=6.9	**43.27**	**334**	⇓	P		**P**	**14 37 10.9**	**-0.7**
RPN	**Rapa Nui** comp=Z,495nm,19.1s,baz=40,slow=30	**43.28**	**216**		LR		LR	14 50 32.5	
E22A	**Miles City** baz=43,SNR=11	**43.31**	**337**	⇓	P		**P**	**14 37 11.2**	**-0.6**
RRI2	**Red Ridge** 30nm,2.0s	**43.33**	**329**	*e*	P		**P**	**14 37 12.8**	**+0.5**
RRI2					*e*PcP		**PcP**	**14 39 02.2**	**+1.5**
MOOW	**Moose Ponds** 3.3nm,0.9s	**43.33**	**330**	*e*	P		**P**	**14 37 12.5**	**+0.2**
I17A	**Pilgrim Ck.** baz=44,SNR=6.4	**43.38**	**331**	⇑	P		**P**	**14 37 13.3**	**+0.7**
J16A	**Bone** baz=44,SNR=5.3	**43.42**	**329**	⇓	P		**P**	**14 37 13.2**	**+0.3**
IMW	**Indian Meadow** 38nm,2.4s	**43.54**	**330**	*e*	P		**P**	**14 37 13.9**	**0.0**
IMW					*e*PcP		**PcP**	**14 39 02.9**	**+1.4**
FLWY	**Flagg Ranch**	**43.56**	**331**	*e*	P		**P**	**14 37 12.9**	**-1.1**
FLWY					*e*P		pP	14 37 14.8	-9.4
D23A	**Lindsay**	**43.63**	**338**	⇓	P		**P**	**14 37 14.7**	**+0.3**
C24A	**Savage** baz=44	**43.65**	**339**	⇑	P		**P**	**14 37 14.8**	**+0.3**
ULM	**Lac du Bonnet** 6.7nm,0.8s,baz=160,slow=7.8,SNR=17	**43.66**	**348**		P		**P**	**14 37 12.7**	**-1.8**
ULM	**Lac du Bonnet**	**43.66**	**348**	*e*	P		**P**	**14 37 12.8**	**-1.7**
RLMT	**Red Lodge** baz=44	**43.67**	**333**	⇓	P		**P**	**14 37 14.9**	**0.0**
F20A	**Billings** baz=44	**43.70**	**334**	⇓	P		**P**	**14 37 14.7**	**-0.3**
J15A	**Blackfoot** baz=44,SNR=8.1	**43.93**	**329**	⇑	P		**P**	**14 37 17.4**	**+0.4**
G18A	**Lazy EL Ranch,** baz=44	**43.95**	**333**	⇓	P		**P**	**14 37 17.1**	**0.0**
D22A	**Cohagen** baz=44,SNR=8.3	**43.98**	**337**	⇓	P		**P**	**14 37 17.4**	**+0.2**
F19A	**Roth Farm, Mol** baz=44,SNR=6.3	**44.09**	**334**	⇑	P		**P**	**14 37 17.8**	**-0.3**
C23A	**Lambert** baz=44	**44.15**	**338**	⇑	P		**P**	**14 37 18.5**	**0.0**
NVAR	**Mina Array Bea** 2.9nm,0.8s,baz=130,slow=6.9,SNR=21	**44.20**	**319**		P		**P**	**14 37 20.9**	**+1.6**
NVAR					PcP		**PcP**	**14 39 05.2**	**+1.5**
	2.0nm,0.9s,baz=129,slow=4.9,SNR=5.4								
NVAR					LR		LR	14 56 57.4	
	comp=Z,235nm,20.7s,baz=77,slow=38								
NVAR	**Mina Array Bea**	**44.20**	**319**		P		**P**	**14 37 20.9**	**+1.6**
NVAR					PcP		**PcP**	**14 39 05.2**	**+1.5**
E20A	**Meyer Farm, Mu** baz=44,SNR=6.2	**44.25**	**335**	⇑	P		**P**	**14 37 19.6**	**+0.3**
C22A	**Vida** baz=44,SNR=6.2	**44.36**	**338**	⇑	P		**P**	**14 37 20.5**	**+0.3**
J14A	**Carey** baz=44	**44.45**	**328**	⇑	P		**P**	**14 37 22.1**	**+1.0**
F18A	**Big Timber** baz=45,SNR=11	**44.47**	**333**	⇑	P		**P**	**14 37 21.2**	**0.0**
E19A	**Rath Farm, Rou** baz=45	**44.49**	**334**	⇓	P		**P**	**14 37 21.7**	**+0.3**
B23A	**Brockton** baz=45	**44.64**	**339**	⇓	P		**P**	**14 37 22.6**	**+0.2**
BMN	**Battle Mountai** 20nm,1.1s	**44.68**	**322**	*e*	P		**P**	**14 37 25.0**	**+2.0**
D20A	**Manuel Ranch,** baz=45	**44.72**	**335**	⇓	P		**P**	**14 37 23.5**	**+0.4**
I14A	**Mackay** baz=45	**44.83**	**328**	⇑	P		**P**	**14 37 24.7**	**+0.5**
J13A	**Cove Ranch, Pi** baz=45	**44.84**	**327**	⇓	P		**P**	**14 37 24.6**	**+0.3**
F17A	**Fitzpatrick Pl** baz=45,SNR=6.7	**44.90**	**332**	⇑	P		**P**	**14 37 25.2**	**+0.5**
G16A	**Moss Hill, Enn** baz=45	**44.94**	**331**	⇓	P		**P**	**14 37 25.8**	**+0.8**
HLID	**Hailey** 3.0nm,0.8s	**45.09**	**327**	*e*	P		**P**	**14 37 26.7**	**+0.5**
HLID					*e*PcP		**PcP**	**14 39 08.7**	**+2.1**
HLID	**Hailey** baz=45,SNR=6.2	**45.09**	**327**	⇑	P		**P**	**14 37 26.3**	**0.0**
D19A	**Cripps Ranch,** baz=45	**45.09**	**335**	⇑	P		**P**	**14 37 26.0**	**0.0**
MCMT	**McKenzie Canyo** 2.7nm,1.1s	**45.16**	**330**	*e*	P		**P**	**14 37 27.4**	**+0.6**
BOZ	**Bozeman (W)** 6.1nm,0.6s	**45.16**	**331**	*e*	P		P	14 37 32.0	+5.2
I13A	**Wildhorse Cree** baz=45,SNR=7.3	**45.17**	**328**	⇑	P		**P**	**14 37 27.7**	**+0.8**
G15A	**Dillon** baz=45	**45.22**	**330**	⇑	P		**P**	**14 37 27.8**	**+0.5**
H14A	**Leadore** baz=45,SNR=6.3	**45.27**	**329**	⇓	P		**P**	**14 37 28.5**	**+0.8**
E17A	**Martinsdale** baz=46	**45.41**	**333**	⇑	P		**P**	**14 37 28.7**	**-0.1**
A22A	**Carney Farms,** baz=46	**45.42**	**339**	⇓	P		**P**	**14 37 28.9**	**+0.3**
D18A	**Linhart Farms,** baz=46	**45.50**	**334**	⇓	P		**P**	**14 37 29.4**	**0.0**
C19A	**Slack Wire Ran** baz=46,SNR=7.6	**45.61**	**335**	⇑	P		**P**	**14 37 30.4**	**+0.3**
I12A	**Atlanta** baz=46	**45.63**	**327**	⇓	P		**P**	**14 37 30.4**	**-0.1**
LRM	**Limekiln Ridge**	**45.68**	**331**	*e*	P		**P**	**14 37 31.1**	**+0.1**
LRM					*e*P		pP	14 37 31.8	-9.4
F15A	**Butte** baz=46	**45.71**	**331**	⇓	P		**P**	**14 37 31.8**	**+0.6**
B20A	**Solberg Farm,** baz=46,SNR=6.0	**45.75**	**337**	⇓	P		**P**	**14 37 31.6**	**+0.4**
A21A	**Bergtoll Ranch** baz=46,SNR=7.2	**45.78**	**338**	⇓	P		**P**	**14 37 31.7**	**+0.2**
E16A	**East Helena** baz=46,SNR=5.7	**45.84**	**332**	⇑	P		**P**	**14 37 30.8**	**-1.3**
D17A	**Six Diamond Ra** baz=46,SNR=5.9	**45.86**	**334**	⇑	P		**P**	**14 37 32.4**	**+0.1**
G13A	**Cobalt** baz=46	**46.04**	**329**	⇓	P		**P**	**14 37 33.7**	**0.0**
A20A	**Cobblestone Ra** baz=46,SNR=6.2	**46.07**	**337**	⇓	P		**P**	**14 37 33.9**	**+0.1**
B19A	**Brinkman Farms** baz=46	**46.13**	**336**	⇓	P		**P**	**14 37 34.4**	**+0.1**
D16A	**Dana Ranch, Ca** baz=46,SNR=7.0	**46.15**	**333**	⇑	P		**P**	**14 37 34.5**	**0.0**
E15A	**Deer Lodge

ILAR	**Eielson Array**	**72.08**	**336**	P		**P**	**14 40 33.8**	**+0.1**
	9.3nm,1.1s,baz=113,slow=4.3,SNR=46							
ILAR				LR		LR	15 17 30.6	
	comp=Z,92nm,18.6s,baz=166,slow=40							
ILAR	**Eielson Array**	**72.08**	**336**	P		**P**	**14 40 33.8**	**+0.1**
TBI	**Tubuai**	**72.16**	**242**	*e*LR		LR	15 02 45.9	
	180nm,28.2s							
MORF	**Marmelete**	**72.63**	**53**	*e*P		**P**	**14 40 38.9**	**+1.3**
	74nm,1.5s							
PNCL	**Nicolau / Gran**	**72.78**	**53**	*e*P		**P**	**14 40 39.7**	**+1.3**
	38nm,1.6s							
MESJ	**Messejana**	**73.01**	**53**	*e*P		**P**	**14 40 40.2**	**+0.5**
MESJ	**Messejana**	**73.01**	**53**	*e*P		**P**	**14 40 40.2**	**+0.5**
PMTG	**Montargil**	**73.08**	**52**	*e*P		**P**	**14 40 41.4**	**+1.3**
	45nm,1.3s							
EVOP	**Sao Brissos**	**73.12**	**52**	⇑*i*P		**P**	**14 40 40.9**	**+0.5**
	47nm,0.9s							
PCVE	**Castro Verde**	**73.14**	**53**	*e*P		**P**	**14 40 42.2**	**+1.7**
	40nm,1.8s							
PBDV	**Barranco-do-Ve**	**73.20**	**54**	*e*P		**P**	**14 40 42.4**	**+1.4**
	88nm,1.7s							
EVO	**Evora**	**73.21**	**52**	⇑*i*P		**P**	**14 40 40.9**	**0.0**
	47nm,0.9s							
EVO				*e*R				
	234nm,22.2s							
EVO	**Evora**	**73.21**	**52**	*e*P		**P**	**14 40 41.5**	**+0.6**
	27nm,1.2s							
PBEJ	**Beja**	**73.30**	**53**	*e*P		**P**	**14 40 42.3**	**+0.8**
	33nm,1.8s							
PVAQ	**Vaqueiros**	**73.38**	**53**	*e*P		**P**	**14 40 43.6**	**+1.6**
	34nm,1.8s							
PVIS	**Viseu**	**73.44**	**50**	*e*P		**P**	**14 40 43.2**	**+0.9**
	25nm,1.2s							
PESTR	**Estremoz**	**73.56**	**52**	*e*P		**P**	**14 40 43.7**	**+0.7**
	52nm,1.3s							
POLO	**Lamas de Olo**	**73.56**	**49**	*e*P		**P**	**14 40 44.1**	**+1.0**
	20nm,1.7s							
PCBR	**Castelo Branco**	**73.70**	**51**	*e*P		**P**	**14 40 44.9**	**+1.1**
	33nm,1.5s							
PMRV	**Marv??o**	**73.74**	**51**	*e*P		**P**	**14 40 44.4**	**+0.3**
	25nm,1.3s							
MVO	**Moncorvo**	**74.12**	**50**	*e*P		**P**	**14 40 47.4**	**+1.1**
	30nm,1.6s							
COLD	**Coldfoot**	**74.17**	**338**	*e*P		**P**	**14 40 47.9**	**+1.9**
	14nm,1.1s							
PBRG	**Braganca**	**74.38**	**49**	*e*P		**P**	**14 40 49.0**	**+1.2**
	26nm,1.5s							
MDT	**Midelt**	**75.83**	**58**	P		**P**	**14 40 57.3**	**+0.9**
	10.0nm,1.0s,baz=278,slow=5.8,SNR=12							
MDT	**Midelt**	**75.83**	**58**	P		**P**	**14 40 57.3**	**+0.9**
PAB	**San Pablo**	**76.10**	**51**	*e*P		**P**	**14 40 58.3**	**+0.5**
	22nm,1.2s							
ESDC	**Sonseca Array**	**76.40**	**51**	P		**P**	**14 41 00.7**	**+1.2**
	8.8nm,0.8s,baz=277,slow=5.6,SNR=54							
ESDC				LR		LR	15 10 05.0	
	comp=Z,127nm,19.0s,baz=235,slow=32							
ESDC	**Sonseca Array**	**76.40**	**51**	P		**P**	**14 41 00.7**	**+1.2**
ESLA	**Sonseca Array**	**76.40**	**51**	*e*P		**P**	**14 40 59.7**	**+0.2**
	15nm,1.4s							
LIC	**Lamto**	**77.04**	**85**	⇑*i*P		**P**	**14 41 03.2**	**-0.3**
	92nm,1.1s,baz=273							
LIC				*e*R				
	154nm,22.0s							
LIC	**Lamto**	**77.04**	**85**	⇑*i*P		**P**	**14 41 03.2**	**-0.3**
	92nm,1.1s							
DBIC	**Dimbokro**	**77.16**	**85**	P		**P**	**14 41 04.7**	**+0.6**
	24nm,1.0s,baz=268,slow=7.3,SNR=16							
DBIC				LR		LR	15 12 58.6	
	comp=Z,99nm,18.9s,baz=259,slow=34							
DBIC	**Dimbokro**	**77.16**	**85**	P		**P**	**14 41 04.7**	**+0.6**
	18nm,1.2s							
SJPF	**Ste Jean**	**78.49**	**48**	*e*P		**P**	**14 41 11.7**	**+0.7**
	76nm,1.3s							
SJPF	**Ste Jean**	**78.49**	**48**	*e*P		**P**	**14 41 11.7**	**+0.7**
	76nm,1.3s							
GRR	**Gorron**	**78.79**	**42**	*e*P		**P**	**14 41 13.3**	**+0.8**
	16nm,0.9s							
GRR	**Gorron**	**78.79**	**42**	*e*P		**P**	**14 41 13.3**	**+0.8**
	16nm,0.9s							
ETSF	**Etsaut**	**78.98**	**48**	*e*P		**P**	**14 41 14.5**	**+0.7**
ETSF	**Etsaut**	**78.98**	**48**	*e*P		**P**	**14 41 14.5**	**+0.7**
FLN	**La Foliniere**	**79.04**	**42**	*e*P		**P**	**14 41 13.7**	**-0.2**
FLN				*e*R				
	163nm,20.2s							
FLN	**La Foliniere**	**79.04**	**42**	*e*P		**P**	**14 41 13.7**	**-0.2**
MFF	**Saint Martin d**	**79.26**	**44**	*e*P		**P**	**14 41 15.1**	**0.0**
MFF	**Saint Martin d**	**79.26**	**44**	*e*P		**P**	**14 41 15.1**	**0.0**
LDF	**La Druitiere**	**79.28**	**42**	*e*P		**P**	**14 41 16.1**	**+0.9**
LDF	**La Druitiere**	**79.28**	**42**	*e*P		**P**	**14 41 16.1**	**+0.9**
EPF	**Esparros**	**79.64**	**48**	*e*P		**P**	**14 41 17.7**	**+0.3**
	73nm,1.5s							
EPF	**Esparros**	**79.64**	**48**	*e*P		**P**	**14 41 17.7**	**+0.3**
	73nm,1.5s							
LFF	**La Frestale**	**79.90**	**46**	*e*P		**P**	**14 41 18.7**	**+0.1**
LFF	**La Frestale**	**79.90**	**46**	*e*P		**P**	**14 41 18.7**	**+0.1**
RJF	**Les Rejaudoux**	**80.44**	**45**	*e*P		**P**	**14 41 21.4**	**-0.2**
	54nm,1.5s							
RJF				*e*R				
	150nm,17.0s							
RJF	**Les Rejaudoux**	**80.44**	**45**	*e*P		**P**	**14 41 21.4**	**-0.2**
	54nm,1.5s							
CAF	**Calviac**	**80.84**	**46**	*e*P		**P**	**14 41 23.5**	**-0.3**
CAF	**Calviac**	**80.84**	**46**	*e*P		**P**	**14 41 23.5**	**-0.3**
TCF	**Toulx Ste Croi**	**80.89**	**44**	*e*P		**P**	**14 41 23.4**	**-0.6**
TCF	**Toulx Ste Croi**	**80.89**	**44**	*e*P		**P**	**14 41 23.4**	**-0.6**
MTLF	**Montolieu**	**81.00**	**47**	*e*P		**P**	**14 41 24.6**	**-0.1**
	56nm,1.5s							
MTLF	**Montolieu**	**81.00**	**47**	*e*P		**P**	**14 41 24.6**	**-0.1**
	56nm,1.5s							
LOR	**Lormes**	**81.99**	**43**	*e*P		**P**	**14 41 29.9**	**+0.1**
LOR				*e*R				
	206nm,17.0s							
LOR	**Lormes**	**81.99**	**43**	*e*P		**P**	**14 41 29.9**	**+0.1**
LASF	**Ste Croix**	**82.16**	**47**	*e*P		**P**	**14 41 31.1**	**+0.4**
LASF	**Ste Croix**	**82.16**	**47**	*e*P		**P**	**14 41 31.1**	**+0.4**
VIVF	**Saint-Julien-l**	**82.69**	**46**	*e*P		**P**	**14 41 33.9**	**+0.4**
	28nm,1.2s							
VIVF	**Saint-Julien-l**	**82.69**	**46**	*e*P		**P**	**14 41 33.9**	**+0.4**
	28nm,1.2s							
MEZF	**Maizieres J'vi**	**82.72**	**42**	*e*P		**P**	**14 41 33.0**	**-0.5**
MEZF	**Maizieres J'vi**	**82.72**	**42**	*e*P		**P**	**14 41 33.0**	**-0.5**
TOA0	**Torodi Ar. Sit**	**82.86**	**78**	*e*P		**P**	**14 41 34.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.86**	**78**	P		**P**	**14 41 34.8**	**-0.1**
	6.9nm,1.0s,baz=279,slow=3.8,SNR=33							
TORD				LR		LR	15 17 01.5	
	comp=Z,97nm,21.8s,baz=320,slow=35							
TORD	**Torodi Ar. Bea**	**82.86**	**78**	P		**P**	**14 41 34.8**	**-0.1**
ORIF	**Oris-en-Rattie**	**83.54**	**46**	*e*P		**P**	**14 41 38.4**	**+0.4**
ORIF				*e*R				
	193nm,22.2s							
ORIF	**Oris-en-Rattie**	**83.54**	**46**	*e*P		**P**	**14 41 38.4**	**+0.4**
HAU	**Haudompre**	**83.62**	**43**	*e*P		**P**	**14 41 37.6**	**-0.6**
HAU				*e*R				
	210nm,17.2s							
HAU	**Haudompre**	**83.62**	**43**	*e*P		**P**	**14 41 37.6**	**-0.6**
HINF	**Hinteralfeld**	**83.97**	**43**	*e*P		**P**	**14 41 39.2**	**-0.9**
HINF	**Hinteralfeld**	**83.97**	**43**	*e*P		**P**	**14 41 39.2**	**-0.9**
LPG	**La Plagne**	**84.11**	**45**	*e*P		**P**	**14 41 40.2**	**-0.9**
LPG	**La Plagne**	**84.11**	**45**	*e*P		**P**	**14 41 40.2**	**-0.9**
MBDF	**Montbardon**	**84.19**	**46**	*e*P		**P**	**14 41 41.5**	**+0.1**
MBDF	**Montbardon**	**84.19**	**46**	*e*P		**P**	**14 41 41.5**	**+0.1**
CDF	**Champ du Feu**	**84.20**	**42**	*e*P		**P**	**14 41 40.6**	**-0.7**
	5.8nm,0.9s							
CDF	**Champ du Feu**	**84.20**	**42**	*e*P		**P**	**14 41 40.6**	**-0.7**
	5.8nm,0.9s							
CASM	**Ain Smara**	**84.80**	**54**	P		**P**	**14 41 45.2**	**+0.7**
CKFL	**Kef-Lekhel**	**84.97**	**54**	P		**P**	**14 41 46.9**	**+1.4**
CAEH	**'Ain El Ouahch**	**85.03**	**54**	P		**P**	**14 41 45.9**	**+0.3**
NB2	**NORSAR Subarra**	**85.11**	**29**	P		**P**	**14 41 45.3**	**-0.2**
	baz=281,slow=5.1							
NB2	**NORSAR Subarra**	**85.11**	**29**	P		**P**	**14 41 45.3**	**-0.2**
	comp=Z,24nm,1.2s,baz=281,slow=5.1							
NOA	**NORSAR Array B**	**85.11**	**29**	P		**P**	**14 41 46.0**	**+0.5**
	comp=Z,8.1nm,1.1s,baz=277,slow=4.7,SNR=8.6							
NOA				LR		LR	15 16 36.5	
	comp=Z,70nm,19.2s,baz=55,slow=34							
NOA	**NORSAR Array B**	**85.11**	**29**	P		**P**	**14 41 46.0**	**+0.5**
TAM	**Tamanrasset**	**85.41**	**68**	*e*P		**P**	**14 41 49.4**	**+1.4**
	comp=Z,22nm,1.2s							
CMAH	**Djebel Manchou**	**85.50**	**54**	P		**P**	**14 41 48.6**	**+0.5**
ABSA	**Djebel Ababsia**	**85.59**	**54**	P		**P**	**14 41 49.1**	**+0.6**
PGF	**Pioggiola**	**86.03**	**48**	*e*P		**P**	**14 41 50.1**	**-0.5**
	comp=Z,35nm,1.2s							
PGF	**Pioggiola**	**86.03**	**48**	*e*P		**P**	**14 41 50.1**	**-0.5**
	comp=Z,35nm,1.2s							
GRF	**Grafenberg Arr**	**86.63**	**40**	*e*P		**P**	**14 41 52.0**	**-1.3**
	comp=Z,18nm,1.5s							
CLL	**Collm**	**87.51**	**39**	⇓*i*P		**P**	**14 41 57.8**	**+0.3**
	comp=Z,32nm,1.9s							
CLL				*e*			14 42 07.0	
BRG	**Berggiesshubel**	**88.17**	**39**	*e*P		**P**	**14 42 00.5**	**-0.1**
	comp=Z,11nm,1.4s							
KHC	**Kasperske Hory**	**88.24**	**41**	*e*P		**P**	**14 42 00.0**	**-1.1**
GERES	**GERESS Array B**	**88.37**	**41**	P		**P**	**14 42 02.2**	**+0.4**
	comp=Z,21nm,1.0s,baz=247,slow=2.8,SNR=14							
GERES				LR		LR	15 15 24.5	
	comp=Z,126nm,19.5s,baz=267,slow=31							
GERES	**GERESS Array B**	**88.37**	**41**	P		**P**	**14 42 02.2**	**+0.4**
ARCES	**ARCESS Array B**	**88.97**	**20**	P		**P**	**14 42 02.9**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=264,slow=3.7,SNR=12							
ARCES				LR		LR	15 24 05.8	
	comp=Z,74nm,19.4s,baz=187,slow=37							
ARCES	**ARCESS Array B**	**88.97**	**20**	P		**P**	**14 42 02.9**	**-1.2**
JAVS	**Javornik**	**89.13**	**44**	*i* P		**P**	**14 42 06.5**	**+1.0**
SKDS	**Skadanscina**	**89.16**	**44**	*i* P		**P**	**14 42 05.6**	**+0.1**
DPC	**Dobruska-Polom**	**89.76**	**39**	*e*P		**P**	**14 42 08.6**	**+0.4**
	comp=Z,10nm,1.1s							
VYHS	**Vyhne**	**91.77**	**41**	*e*P		**P**	**14 42 17.5**	**-0.1**
FINES	**FINESS Array B**	**91.98**	**27**	P		**P**	**14 42 16.9**	**-1.3**
	comp=Z,10nm,1.2s,baz=264,slow=5.7,SNR=6.5							
FINES				LR		LR	15 18 26.4	
	comp=Z,137nm,18.5s,baz=312,slow=32							
FINES	**FINESS Array B**	**91.98**	**27**	P		**P**	**14 42 16.9**	**-1.3**
VNA3	**Neumayer Olymp**	**92.01**	**162**	*e*SKiKP		**SKiKP**	**14 50 42.4**	**+2.1**
VNA1	**Neumayer--Stat**	**92.26**	**161**	*e*SKiKP		**SKiKP**	**14 50 42.1**	**+1.4**
VNA2	**Neumayer--Watz**	**92.62**	**161**	*e*SKiKP		**SKiKP**	**14 50 43.2**	**+1.8**
	baz=295,slow=16							
CN2	**Changchun**	**122.60**	**336**	*e*PKP		**PKPdf**	**14 48 06.1**	**+0.6**
SONM	**Songino Array**	**123.97**	**353**	PKP		**PKPdf**	**14 48 08.1**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=50,slow=1.3,SNR=8.6							
SONM				PP		**PP**	**14 49 50.2**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=35,slow=5.4,SNR=4.1							
SONM	**Songino Array**	**123.97**	**353**	PKP		**PKPdf**	**14 48 08.1**	**-0.1**
SONM				PP		**PP**	**14 49 50.2**	**-0.7**
MK31	**Makanchi Array**	**123.99**	**12**	*e*PKPdf		**PKPdf**	**14 48 07.4**	**-0.8**
MKAR	**Makanchi Array**	**123.99**	**12**	PKP		**PKPdf**	**14 48 07.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=321,slow=1.6,SNR=7.4							
MKAR	**Makanchi Array**	**123.99**	**12**	PKP		**PKPdf**	**14 48 07.2**	**-0.9**
KSRS	**Korea Array**	**126.59**	**330**	PKP		**PKPdf**	**14 48 13.4**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=0.0,slow=1.3,SNR=7.4							
KSAR	**Wonju Array Be**	**126.62**	**330**	PKP		**PKPdf**	**14 48 13.4**	**+0.1**
WMQ	**Urumqi**	**127.85**	**9**	*e*PKP		**PKPdf**	**14 48 16.1**	**+0.4**
KSH	**Kashi**	**128.91**	**21**	*e*PKP		**PKPdf**	**14 48 19.3**	**+1.4**
KSH				*es*PKP			14 48 33.5	
KSH				*e*PP		PP	14 50 29.3	+5.4
KSH				PKS		**PKSdf**	**14 51 54.0**	**-0.6**
KSH				SKS		**SKSdf**	**14 55 25.5**	**-1.9**
KSH				SKKS		**SKKSac**	**14 57 17.4**	**-2.5**
KSH				SS		**SS**	**15 07 42.5**	**+2.7**
KSH				AMB		AMB		
	comp=Z,60nm,4.5s							
KSH				LR		LR		
	comp=N,57nm,6.8s							
KSH				LR		LR		
	comp=E,69nm,5.7s							
KSH				LR		LR		
	comp=Z,280nm,5.6s							
HHC	**Hu-ho-hao-te**	**129.79**	**346**	*e*PKP		**PKPdf**	**14 48 19.8**	**+0.3**
HHC				sPKP			14 48 33.3	
HHC				PP		**PP**	**14 50 34.3**	**+4.9**
HHC				PKS		**PKSdf**	**14 51 55.5**	**-0.6**
HHC				SKS		**SKSdf**	**14 55 26.1**	**-2.8**
HHC				SKKS		**SKKSac**	**14 57 20.9**	**-4.3**
HHC				SS		**SS**	**15 07 53.3**	**+3.1**
HHC				AMB		AMB		
	comp=Z,180nm,8.4s							
HHC				LR		LR		
	comp=N,360nm,13.2s							
HHC				LR		LR		
	comp=E,320nm,15.6s							
HHC				LR		LR		
	comp=Z,220nm,13.2s							
GTA	**Gaotai**	**132.92**	**357**	*e*PKP		**PKPdf**	**14 48 26.5**	**+1.0**
LZH	**Lanzhou**	**135.86**	**352**	*e*PKP		**PKPdf**	**14 48 30.0**	**-1.2**
LZH				sPKP			14 48 45.0	
LZH				LR		LR		
	comp=N,140nm,18.0s							
LZH				LR		LR		
	comp=E,140nm,17.9s							
LZH				LR		LR		
	comp=Z,180nm,20.1s							
CD2	**Chengdu**	**140.96**	**351**	PKP		**PKPdf**	**14 48 40.0**	**-0.5**
ASAR	**Alice Springs**	**141.54**	**242**	PKhKP		PKPpre	14 48 35.0	
	comp=Z,0.3nm,0.4s,baz=111,slow=3.7,SNR=11							
ASAR				PKP		**PKPdf**	**14 48 40.5**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=126,slow=2.4,SNR=15							
ASAR	**Alice Springs**	**141.54**	**242**	PKP		**PKPdf**	**14 48 40.5**	**-1.2**
PYUN	**Piuthan**	**141.69**	**21**	*e*P		PKPdf	14 48 36.7	-5.4
	comp=Z,32nm,1.3s							
DANN	**Dangsing**	**141.72**	**19**	*e*P		**PKPdf**	**14 48 37.1**	**-5.2**
	comp=Z,20nm,0.9s							
WRA	**Warramunga Arr**	**142.15**	**248**	PKhKP		PKPpre	14 48 37.3	
	comp=Z,3.4nm,0.8s,baz=102,slow=3.1,SNR=24							
KOLN	**Koldanda**	**142.21**	**20**	*e*P		**PKPdf**	**14 48 38.0**	**-5.0**
GKN	**Gorkha**	**142.33**	**18**	*e*P		**PKPdf**	**14 48 38.7**	**-4.5**
	comp=Z,15nm,0.9s							
KKN	**Kakani**	**142.72**	**18**	*e*P		**PKPdf**	**14 48 40.0**	**-4.0**
	comp=Z,11nm,0.8s							
GUN	**Gumba**	**142.79**	**17**	*e*P		PKPdf	14 48 38.9	-5.3
	comp=Z,37nm,1.0s							
DMN	**Daman**	**142.84**	**18**	*e*P		**PKPdf**	**14 48 39.4**	**-4.8**
PKI	**Pulchoki**	**142.97**	**18**	*e*P		**PKPdf**	**14 48 39.8**	**-4.7**
JIRN	**Jiri**	**143.11**	**16**	*e*P		PKPab	14 48 40.3	0.0
TAPN	**Taplejung**	**143.81**	**14**	*e*P		PKPab	14 48 42.5	-0.4
	comp=Z,29nm,1.0s							
RAMN	**Ramite**	**143.90**	**16**	*e*P		PKPab	14 48 42.4	-0.8
ODAN	**Odare**	**144.19**	**15**	*e*P		**PKPab**	**14 48 43.3**	**-1.0**
	comp=Z,48nm,1.2s							
GYA	**Guiyang**	**144.70**	**345**	⇑*i*PKP		**PKPab**	**14 48 45.5**	**-0.5**
GYA				sPKP			14 49 01.3	
GYA				PP		**PP**	**14 52 05.3**	**+2.8**
GYA				AMB		AMB		
	comp=Z,90nm,7.8s							
HYB	**Hyderabad**	**148.82**	**36**	*i* PKP		**PKPdf**	**14 48 55.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**150.57**	**247**	PKPbc		**PKPbc**	**14 49 02.0**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=128,slow=4.5,SNR=6.0							
FITZ	**Fitzroy Crossi**	**150.57**	**247**	PKPbc		**PKPbc**	**14 49 02.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**153.81**	**356**	PKP		**PKPdf**	**14 49 01.5**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=324,slow=2.1,SNR=7.6							
CMAR				PKPbc		**PKPbc**	**14 49 09.7**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=326,slow=2.7,SNR=22							
CMAR				PKPab		**PKPab**	**14 49 20.1**	**-2.4**
	comp=Z,4.1nm,0.9s,baz=340,slow=4.6,SNR=12							
CMAR	**Chiang Mai Arr**	**153.81**	**356**	PKP		**PKPdf**	**14 49 01.5**	**-0.4**
CMAR				PKPbc		**PKPbc**	**14 49 09.7**	**-0.1**
CMAR				PKPab		**PKPab**	**14 49 20.1**	**-2.4**

MAN 14 14:30:47,6.74N×126.46E,h214km,mb4.1,ML2.9,MS2.6, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.28**	**316**	*e*P	Pn	14 31 16.9	+1.7
MATI				*e*S	S	14 31 35.9	-1.3
DMPH	**Davao City--Mi**	**1.00**	**290**	⇑*e*P	Pn	14 31 19.0	+0.8
DMPH				*e*S	S	14 31 32.4	-10
DMPH	**Davao City--Mi**	**1.00**	**290**	⇓*i*P	Pn	14 31 27.2	+9.0
BUKP	**Musuan**	**1.79**	**309**	*e*P	Pn	14 31 23.0	-1.5
BUKP				*e*S	S	14 31 57.3	+3.7
PAGZ	**Pagadian**	**3.24**	**290**	*e*P	Pn	14 31 41.5	+1.4
MSLP	**Maasin**	**3.72**	**335**	*e*P	Pn	14 31 47.0	+1.0

IDC 14 14:30:54.7±3.1,0.44S×20.09W,h0km,mb3.8/1, mb1 3.9/3,mb1mx3.5/27,mbtmp4.0/3,ML3.6/1,Error ellipse: s-maj=97.0km s-min=44.4km az=119.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**15.41**	**13**	Pn	Pn	14 34 33.1	-0.5
	baz=248,slow=2.6						
BBTS				Sn	Sn	14 37 09.1	-16
	1.9nm,0.3s,baz=116,slow=7.0,SNR=3.0						
DBIC	**Dimbokro**	**16.76**	**65**	Pn	Pn	14 34 50.1	-1.0
	0.2nm,0.3s,baz=234,slow=17,SNR=5.0						
DBIC				Sn	Sn	14 37 42.8	-15
	0.2nm,0.3s,baz=42,slow=15,SNR=2.7						
TORD	**Torodi Ar. Bea**	**25.47**	**57**	P	P	14 36 25.2	+0.4
	1.3nm,0.7s,baz=235,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**145.19**	**135**	PKPbc	PKPbc	14 50 33.9	-0.9
	1.1nm,0.7s,baz=225,slow=2.8,SNR=16						

JMA 14 14:32:52.2,31.31N×130.59E,h9km±1km,M0.8,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.23**	**329**	P	Pg	14 32 56.8	-0.1
JSU				S	Sg	14 33 00.2	+0.1
JTSR	**Tashiro 2**	**0.32**	**117**	P	Pg	14 32 58.4	-0.2
JTSR				S	Sg	14 33 02.7	-0.2

JMA 14 14:35:21.4,36.12N×138.05E,h9km,M1.5,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNT	**Takato**	**0.26**	**164**	P	Pg	14 35 26.7	0.0
JNT				S	Sg	14 35 30.4	+0.1
JNG	**Nsakai**	**0.29**	**8**	P	Pg	14 35 27.2	-0.1
JNG				S	Sg	14 35 31.2	-0.1
MAT	**Matsushiro**	**0.44**	**17**	P	Pg	14 35 29.6	-0.5
MAT				S	Sg	14 35 35.5	-0.4
MAT	**Matsushiro**	**0.44**	**17**	P	Pg	14 35 29.6	-0.5
MAT				S	Sg	14 35 35.5	-0.4
JYN	**Shimob**	**0.74**	**147**	P	Pg	14 35 35.9	+0.1

IDC 14 14:44:01.9±2.3,7.70S×104.30W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.9/14,mbtmp3.9/4,MS3.9/4,Ms1 3.9/4, ms1mx3.4/23,Error ellipse: s-maj=72.8km s-min=31.4km az=46.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**26.33**	**21**	LR	LR	14 57 02.2	
	comp=Z,86nm,20.3s,baz=190,slow=30						
NNA	**Nana**	**27.37**	**101**	P	P	14 49 49.3	0.0
	4.5nm,0.4s,baz=249,slow=13,SNR=2.8						
LPIG	**La Paz**	**32.15**	**350**	LR	LR	14 59 23.8	
	comp=Z,11nm,21.4s,baz=28,slow=29						
TXAR	**Lajitas Array**	**36.82**	**1**	P	P	14 51 13.1	+1.0
	0.5nm,0.8s,baz=195,slow=10,SNR=3.7						
PLCA	**Paso Flores**	**44.54**	**143**	LR	LR	15 07 31.1	
	comp=Z,241nm,19.5s,baz=305,slow=32						
NVAR	**Mina Array Bea**	**47.71**	**345**	LR	LR	15 10 38.9	
	comp=Z,80nm,18.8s,baz=239,slow=34						
PDAR	**Pinedale Array**	**50.45**	**355**	P	P	14 53 02.6	+0.8
	0.4nm,0.9s,baz=174,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**70.44**	**355**	P	P	14 55 15.9	-1.8
	1.0nm,0.8s,baz=166,slow=6.2,SNR=10.0						
SFJD	**Kangerlussuaq**	**83.78**	**19**	LR	LR	15 32 42.0	
	comp=Z,143nm,20.0s,baz=214,slow=35						
CMAR	**Chiang Mai Arr**	**155.00**	**298**	PKPbc	PKPdf	15 04 07.8	+10
	0.5nm,0.4s,baz=329,slow=0.9,SNR=4.0						

*IDC **14** 15:00:02.6±2.0,2.98N×127.57E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/22,mbtmp3.5/3,MS3.8/1,Ms1 3.8/1, ms1mx2.8/30,Error ellipse: s-maj=145.8km s-min=23.9km az=67.0*

*ISCJB **14** 15:00:11.5±1.2,3.3N±0.1×127.97E±0.06,h84km,mb3.4/3, Error ellipse: s-maj=14.6km s-min=7.8km az=9.6*

*DJA **14** 15:00:17.9±1.2,3.7N±11.1×12.8E±.1,h77km±53km,M4.2/4, mb4.6/1,mB4.7/1,MLv4.0/4,Mw(mB)3.9/1*

ISC 14 15:00:12.7±1.5,3.3N±0.1×127.96E±0.07,h84km,n10, σ1s67/12,mb3.6/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.55**	**194**	P	**Pn**	**15 00 51.9**	**-0.2**
MNI	**Manado**	**3.61**	**240**	P	**Pn**	**15 01 06.7**	**+0.3**
MNI				S	**Sn**	**15 01 47.4**	**-0.6**
LBMI	**Labuha**	**3.91**	**187**	P	**Pn**	**15 01 12.7**	**+2.2**
**

*ISCJB **14** 15:16:20.0±0.5, 5°22S±0.07°×151.99E±0.08, h70km, mb4.0/15, Error ellipse: s-maj=12.9km s-min=7.7km az=40.8*

*NEIC **14** 15:16:19.2±0.4, 5°23S×152°05E, mb4.7/2, Error ellipse: s-maj=13.3km s-min=9.6km az=122.0*

ISC 14 15:16:20.1±0.7, 5°06S±0°10×151°96E±0°10, h70km, n50, σ1°68/50, mb4.1/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**228**	P		**Pn**	**15 17 52.6**	**+0.4**
	16nm,0.3s,baz=27,slow=7.1,SNR=68							
PMG				S		**Sn**	**15 19 04.6**	**+0.4**
	29nm,0.3s,baz=165,slow=18,SNR=6.0							
PMG	**Port Moresby**	**6.43**	**228**	*e*Pn		**Pn**	**15 17 51.0**	**-1.3**
	137nm,0.8s							
PMG				P		**Pn**	**15 17 52.6**	**+0.4**
PMG				S		**Sn**	**15 19 04.6**	**+0.4**
CTA	**Charters Tower**	**15.94**	**200**	LR		LR	15 25 27.6	
	comp=Z,146nm,18.3s,baz=187,slow=34							
QIS	**Mount Isa**	**19.54**	**217**	P		**Pn**	**15 20 43.8**	**-0.2**
	baz=21,SNR=11							
KDU	**Kakadu**	**20.68**	**247**	P		**P**	**15 20 55.6**	**+1.0**
	baz=22,SNR=34							
PALU	**Palau**	**21.36**	**305**	P		P	15 20 54.9	-6.9
	baz=22,SNR=5.7							
RMQ	**Roma**	**21.53**	**188**	P		**P**	**15 21 04.6**	**+1.0**
	baz=23,SNR=6.2							
MTN	**Manton Dam**	**21.97**	**248**	P		**P**	**15 21 11.3**	**+2.9**
	baz=23,SNR=11							
DZM	**Mont Dzumac**	**21.97**	**142**	P		**P**	**15 21 07.8**	**-0.7**
	11nm,0.5s,baz=347,slow=14,SNR=20							
DZM				LR		LR	15 27 58.8	
	comp=Z,182nm,18.6s,baz=206,slow=32							
DZM	**Mont Dzumac**	**21.97**	**142**	P		**P**	**15 21 07.8**	**-0.7**
WRAB	**Tennant Creek**	**22.64**	**228**	*e*P		**P**	**15 21 16.0**	**+0.5**
	24nm,0.6s							
QLP	**Quilpie**	**22.64**	**198**	P		**P**	**15 21 15.8**	**+0.3**
	baz=24,SNR=7.3							
QLP				S		**S**	**15 25 21.0**	**+2.5**
	baz=24,SNR=4.1							
WRA	**Warramunga Arr**	**22.65**	**228**	P		**P**	**15 21 15.9**	**+0.2**
	2.9nm,0.6s,baz=53,slow=10.0,SNR=52							
WRA				pP		**pP**	**15 21 28.5**	**-1.9**
	22nm,0.6s,baz=52,slow=9.8,SNR=26							
WRA	**Warramunga Arr**	**22.65**	**228**	P		**P**	**15 21 15.9**	**+0.2**
WRA				pP		**pP**	**15 21 28.5**	**-1.9**
AS31	**Alice Springs**	**25.40**	**221**	*e*P		**P**	**15 21 40.7**	**-0.5**
ASAR	**Alice Springs**	**25.40**	**221**	P		**P**	**15 21 41.8**	**+0.6**
	3.4nm,0.4s,baz=57,slow=9.5,SNR=41							
ASAR				pP		**pP**	**15 21 55.3**	**-2.5**
	20nm,0.8s,baz=55,slow=9.0,SNR=25							
ASAR	**Alice Springs**	**25.40**	**221**	P		**P**	**15 21 41.8**	**+0.6**
ASAR				pP		**pP**	**15 21 55.3**	**-2.5**
STKA	**Stephens Creek**	**28.40**	**199**	P		**P**	**15 22 07.4**	**-0.6**
	3.7nm,0.8s,baz=32,slow=13,SNR=7.6							
STKA	**Stephens Creek**	**28.40**	**199**	P		**P**	**15 22 07.4**	**-0.6**
STKA	**Stephens Creek**	**28.40**	**199**	P		**P**	**15 22 07.8**	**-0.2**
	baz=30,SNR=4.6							
FITZ	**Fitzroy Crossi**	**28.80**	**241**	P		**P**	**15 22 12.9**	**+1.1**
	2.7nm,0.6s,baz=38,slow=6.6,SNR=14							
FITZ				pP		**pP**	**15 22 25.2**	**-3.3**
	12nm,0.5s,baz=68,slow=6.7,SNR=15							
FITZ				LR		LR	15 34 09.7	
	comp=Z,81nm,18.4s,baz=263,slow=37							
FITZ	**Fitzroy Crossi**	**28.80**	**241**	*e*P		**P**	**15 22 12.2**	**+0.4**
	13nm,0.6s							
FITZ				P		**P**	**15 22 12.9**	**+1.1**
FITZ				pP		**pP**	**15 22 25.2**	**-3.3**
FITZ	**Fitzroy Crossi**	**28.80**	**241**	P		**P**	**15 22 12.6**	**+0.8**
	baz=30,SNR=7.1							
DAV	**Davao City (W)**	**28.95**	**294**	LR		LR	15 33 10.8	
	comp=Z,92nm,21.8s,baz=254,slow=35							
MBWA	**Marble Bar**	**35.12**	**240**	*e*P		**P**	**15 23 08.2**	**+1.1**
MEEK	**Meekatharra**	**38.38**	**232**	P		**P**	**15 23 35.4**	**+0.6**
	baz=40,SNR=10							
URZ	**Urewera**	**40.20**	**149**	P		**P**	**15 23 49.8**	**+0.1**
	6.1nm,0.8s,baz=336,slow=10.0,SNR=2.8							
URZ	**Urewera**	**40.20**	**149**	P		**P**	**15 23 49.8**	**+0.1**
MJAR	**Matsushiro Arr**	**43.34**	**344**	P		P	15 24 18.4	+3.0
	2.6nm,0.9s,baz=158,slow=8.2,SNR=4.4							
MJAR	**Matsushiro Arr**	**43.34**	**344**	P		P	15 24 18.4	+3.0
CMAR	**Chiang Mai Arr**	**57.23**	**296**	P		**P**	**15 26 01.5**	**+0.8**
	0.5nm,0.4s,baz=93,slow=9.1,SNR=3.1							
CMAR	**Chiang Mai Arr**	**57.23**	**296**	P		**P**	**15 26 01.5**	**+0.8**
SONM	**Songino Array**	**66.10**	**328**	P		P	15 27 05.3	+5.3
	0.5nm,0.4s,baz=144,slow=8.1,SNR=4.3							
SONM	**Songino Array**	**66.10**	**328**	P		P	15 27 05.3	+5.3
VNDA	**Vanda**	**72.61**	**178**	P		**P**	**15 27 40.0**	**+0.5**
	2.8nm,0.7s,baz=5.4,slow=5.1,SNR=14							
VNDA	**Vanda**	**72.61**	**178**	P		**P**	**15 27 40.0**	**+0.5**
ZALV	**Zalesovo Beam**	**80.90**	**327**	P		P	15 28 30.1	+3.6
	0.4nm,0.4s,baz=105,slow=5.9,SNR=3.2							
ZALV				pP		pP	15 28 43.0	-2.7
	0.5nm,0.3s,baz=115,slow=8.2,SNR=3.1							
ZALV	**Zalesovo Beam**	**80.90**	**327**	P		P	15 28 30.1	+3.6
ZALV				pP		pP	15 28 43.0	-2.7
ILAR	**Eielson Array**	**82.71**	**22**	P		**P**	**15 28 36.1**	**+0.3**
	0.5nm,0.7s,baz=248,slow=5.2,SNR=13							
ILAR	**Eielson Array**	**82.71**	**22**	P		**P**	**15 28 36.1**	**+0.3**
BBB	**Bella Bella**	**87.81**	**37**	LR		LR	15 59 20.2	
	comp=Z,110nm,21.1s,slow=29							
NVAR	**Mina Array Bea**	**92.90**	**52**	P		P	15 29 28.3	+2.3
	0.6nm,0.7s,baz=263,slow=5.7,SNR=4.4							
NVAR	**Mina Array Bea**	**92.90**	**52**	P		P	15 29 28.3	+2.3
YKA	**Yellowknife Ar**	**96.04**	**28**	P		**P**	**15 29 40.6**	**+1.2**
	0.2nm,0.7s,baz=264,slow=4.6,SNR=4.9							
YKA	**Yellowknife Ar**	**96.04**	**28**	P		**P**	**15 29 40.6**	**+1.2**
HWUT	**Hardware Ranch**	**98.17**	**49**	*e*P		Pdif	15 29 50.8	+0.9
TORD	**Torodi Ar. Bea**	**149.59**	**287**	PKPbc		**PKPbc**	**15 36 03.5**	**+0.8**
	2.4nm,0.6s,baz=74,slow=2.8,SNR=20							
TORD				pPKPbc		**pPKPbc**	**15 36 17.3**	**-5.4**
	3.8nm,0.9s,baz=53,slow=2.1,SNR=9.8							
TORD	**Torodi Ar. Bea**	**149.59**	**287**	PKPbc		**PKPbc**	**15 36 03.5**	**+0.8**
TORD				pPKPbc		**pPKPbc**	**15 36 17.3**	**-5.4**
BDFB	**Brasilia**	**151.47**	**136**	PKPbc		**PKPbc**	**15 36 07.8**	**+0.5**
	2.1nm,0.6s,baz=166,slow=3.3,SNR=3.8							
BDFB	**Brasilia**	**151.47**	**136**	PKPbc		**PKPbc**	**15 36 07.8**	**+0.5**

IDC 14 15:20:06.2±4.5, 3°04S×148°13E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.7/18, mbtmp4.2/3, Error ellipse: s-maj=149.4km s-min=50.8km az=108.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**218**	P		P	15 24 56.3	-0.9
	3.9nm,0.8s,baz=41,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**24.69**	**213**	P		P	15 25 28.9	-0.3
	3.1nm,0.8s,baz=37,slow=7.1,SNR=10							
FITZ	**Fitzroy Crossi**	**26.64**	**234**	P		P	15 25 48.0	+1.1
	8.5nm,1.0s,baz=50,slow=8.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**145.34**	**289**	PKPbc		PKPbc	15 39 45.9	-1.1
	0.4nm,0.7s,baz=82,slow=2.9,SNR=4.4							

IDC 14 15:24:21.8±5.2, 5°04S×152°43E, h74km±45km, mb3.4/8, mb1 3.7/9, mb1mx3.5/20, mbtmp3.4/9, ML2.6/1, Error ellipse: s-maj=46.9km s-min=26.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.79**	**230**	P		Pn	15 25 60.0	+1.2
	0.7nm,0.3s,baz=56,slow=18,SNR=4.4							
PMG				S		Sn	15 27 14.4	-0.3
	6.6nm,0.3s,baz=148,slow=16,SNR=12							
WRA	**Warramunga Arr**	**23.00**	**228**	P		P	15 29 20.5	-0.1
	0.7nm,0.4s,baz=52,slow=10,SNR=12							
ASAR	**Alice Springs**	**25.72**	**222**	P		P	15 29 45.8	+0.3
	0.4nm,0.5s,baz=55,slow=9.0,SNR=10							
FITZ	**Fitzroy Crossi**	**29.22**	**241**	P		P	15 30 16.1	-0.6
	2.0nm,0.6s,baz=80,slow=20,SNR=9.9							
CMAR	**Chiang Mai Arr**	**57.64**	**295**	P		P	15 34 05.7	+0.9
	1.0nm,0.7s,baz=114,slow=5.5,SNR=8.8							
MKAR	**Makanchi Array**	**80.26**	**319**	P		P	15 36 24.5	0.0
	0.2nm,0.5s,baz=98,slow=7.8,SNR=6.4							
ZALV	**Zalesovo Beam**	**81.15**	**326**	P		P	15 36 27.9	-1.2
	0.2nm,0.4s,baz=113,slow=6.5,SNR=4.2							
ILAR	**Eielson Array**	**82.52**	**22**	P		P	15 36 35.2	-0.9
	0.9nm,0.8s,baz=246,slow=5.5,SNR=14							
YKA	**Yellowknife Ar**	**95.81**	**28**	P		P	15 37 41.1	+1.5
	0.1nm,0.3s,baz=278,slow=5.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**150.03**	**288**	PKPbc		PKPbc	15 44 04.8	-0.1
	0.3nm,0.3s,baz=85,slow=2.4,SNR=10							

IDC 14 15:29:33.2±2.1, 6°99S×129°05E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=103.0km s-min=27.0km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.54**	**196**	P		Pn	15 32 19.8	+0.5
	0.6nm,0.3s,baz=26,slow=12,SNR=17							
FITZ				Sn		Sn	15 34 13.7	-15
	0.8nm,0.3s,baz=130,slow=19,SNR=14							
WRA	**Warramunga Arr**	**13.86**	**159**	Pn		Pn	15 32 51.4	+0.2
	0.7nm,0.3s,baz=335,slow=14,SNR=29							
WRA				Sn		Sn	15 35 11.6	-14
	0.8nm,0.3s,baz=330,slow=23,SNR=9.6							
ASAR	**Alice Springs**	**17.23**	**165**	P		Pn	15 33 34.9	-0.6
	0.2nm,0.3s,baz=339,slow=9.8,SNR=28							
ASAR				S		Sn	15 36 34.2	-14
	0.2nm,0.3s,baz=335,slow=24,SNR=5.4							
MKAR	**Makanchi Array**	**67.70**	**327**	P		P	15 40 32.5	0.0
	0.5nm,0.5s,baz=120,slow=8.0,SNR=9.9							

IDC 14 15:33:50.3±5.2, 29°71S×177°70W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/17, mbtmp3.2/2, Error ellipse: s-maj=301.9km s-min=73.1km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.41**	**266**	P		P	15 41 55.0	-0.1
	0.4nm,1.0s,baz=96,slow=7.7,SNR=3.9							
WRA	**Warramunga Arr**	**44.34**	**271**	P		P	15 42 02.3	-0.2
	0.2nm,0.4s,baz=110,slow=8.1,SNR=5.7							
FINES	**FINESS Array B**	**144.59**	**340**	PKP		PKPdf	15 53 27.5	-0.6
	0.6nm,0.6s,baz=72,slow=4.5,SNR=3.3							

*ISCJB **14** 16:23:44.4±0.8, 51°44N±0°04×16°07E±0°04, h0km, Error ellipse: s-maj=5.4km s-min=3.2km az=17.0*

*WAR **14** 16:23:44.4, 51°56N×16°02E*

*IPEC **14** 16:23:44.5±0.3, 51°55N×16°19E, h0km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*

*CSEM **14** 16:23:45.5±0.4, 51°46N×16°05E, h2km, ML3.1/8, Error ellipse: s-maj=6.1km s-min=3.6km az=4.0*

*PRU **14** 16:23:46.4, 51°45N×16°09E, h0km*

ISC 14 16:23:45.7±1.2, 51°49N±0°05×16°08E±0°03, h0km, n29, σ0°70/57, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg		**Pg**	**16 23 58.2**	**-0.1**
KSP				*e*Sg		**Sg**	**16 24 07.0**	**+0.2**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg		**Pg**	**16 23 58.1**	**-0.2**
	baz=355							
KSP				*e*Sg		**Sg**	**16 24 07.0**	**+0.2**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg		**Pg**	**16 23 58.2**	**-0.1**
KSP				*e*Sg		**Sg**	**16 24 07.0**	**+0.2**
UPC	**Upice**	**0.98**	**182**	*e*PG		**Pg**	**16 24 04.3**	**-0.2**
UPC				*e*SG		**Sg**	**16 24 16.9**	**-0.3**
	comp=Z,18nm,0.3s							
UPC	**Upice**	**0.98**	**182**	Pg		**Pg**	**16 24 04.3**	**-0.2**
UPC				Sg		**Sg**	**16 24 16.9**	**-0.3**
	18nm,0.3s							
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG		**Pg**	**16 24 07.1**	**-0.6**
DPC				*e*SG		**Sg**	**16 24 22.2**	**-0.3**
	comp=Z,15nm,0.3s							
DPC	**Dobruska-Polom**	**1.15**	**172**	Pg		**Pg**	**16 24 07.1**	**-0.6**
DPC				*e*Sg		**Sg**	**16 24 22.0**	**-0.5**
	baz=356							
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG		**Pg**	**16 24 11.4**	**-0.2**
PVCC				*e*SG		**Sg**	**16 24 29.3**	**+0.2**
	comp=Z,53nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**225**	Pg		**Pg**	**16 24 11.4**	**-0.2**
PVCC				Sg		**Sg**	**16 24 29.3**	**+0.2**
	53nm,0.3s							
BRG	**Berggiesshubel**	**1.48**	**246**	PN		**Pn**	**16 24 13.0**	**-0.5**
BRG				PG		**Pb**	**16 24 13.9**	**-0.1**
BRG				SG		**Sn**	**16 24 33.8**	**+0.3**
	20nm,0.4s							
KRLC	**Kraliky**	**1.48**	**162**	*e*PG		**Pn**	**16 24 13.3**	**-0.3**
KRLC	**Kraliky**	**1.48**	**162**	Pg		**Pn**	**16 24 13.3**	**-0.3**
PRU	**Pruhonice**	**1.79**	**214**	*e*PG		**Pb**	**16 24 18.9**	**-0.4**
PRU				*e*SG		**Sb**	**16 24 42.7**	**+0.4**
	comp=Z,9.4nm,0.2s							
PRU	**Pruhonice**	**1.79**	**214**	Pg		**Pb**	**16 24 18.9**	**-0.4**
PRU				Sg		**Sb**	**16 24 42.7**	**+0.4**
	9.4nm,0.2s							
CLL	**Collm**	**1.94**	**266**	*e*Pg		**Pb**	**16 24 21.0**	**-0.8**
CLL				*i*			16 24 26.1	
CLL				*e*Sg		**Sg**	**16 24 48.0**	**+0.2**
	comp=Z,11nm,0.5s							
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn		**Pn**	**16 24 19.1**	**-1.0**
	baz=335							
MORC				*e*Sg		**Sb**	**16 24 46.2**	**-0.7**
	comp=Z,7.3nm,0.2s,baz=335							
VRAC	**Vranov**	**2.21**	**171**	*e*Pn		**Pn**	**16 24 23.8**	**+0.3**
	baz=354							
VRAC				*e*Sg		**Sb**	**16 24 55.2**	**+0.9**
	comp=Z,6.9nm,0.2s,baz=354							
TREC	**Trest**	**2.23**	**190**	*e*PG		**Pb**	**16 24 26.8**	**0.0**
TREC				*e*SG		**Sb**	**16 24 55.8**	**+0.9**
	comp=Z,11nm,0.4s							
TREC	**Trest**	**2.23**	**190**	Pg		**Pb**	**16 24 26.8**	**0.0**
TREC				Sg		**Sb**	**16 24 55.8**	**+0.9**
	comp=Z,11nm,0.4s							
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn		**Pn**	**16 24 27.0**	**+0.3**
	baz=357							
KRUC				*e*Sg		**Sb**	**16 25 02.6**	**+1.7**
	comp=Z,8.3nm,0.3s,baz=357							
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN		**Pn**	**16 24 29.5**	**+0.2**
NKC				*e*PG		**Pb**	**16 24 34.1**	**+0.6**
NKC				*e*SG		**Sg**	**16 25 10.1**	**+0.3**
	comp=Z,12nm,0.4s							
NKC	**Novy Kostel**	**2.62**	**243**	Pn		**Pn**	**16 24 29.5**	**+0.2**
NKC	**Novy Kostel**	**2.62**	**243**	Pg		**Pb**	**16 24 34.1**	**+0.6**
NKC				Sg		**Sg**	**16 25 10.1**	**+0.3**
	comp=Z,12nm,0.4s							
OJC	**Ojcow**	**2.68**	**117**	*e*Pg		**Pg**	**16 24 37.1**	**+0.2**
OJC				*e*Sg		**Sg**	**16 25 12.0**	**+0.4**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg		**Pg**	**16 24 37.1**	**+0.2**
OJC				*e*Sg		**Sg**	**16 25 12.0**	**+0.4**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN		**Pn**	**16 24 32.0**	**-0.5**
KHC				*e*PG		**Pb**	**16 24 38.0**	**+0.6**
KHC				*e*SN		**Sn**	**16 25 05.5**	**-2.0**
KHC				*e*SG		**Sg**	**16 25 18.0**	**+0.8**
KHC	**Kasperske Hory**	**2.85**	**215**	Pn		**Pn**	**16 24 32.0**	**-0.5**
VYHS	**Vyhne**	**3.48**	**148**	*e*PN		**Pn**	**16 24 40.1**	**-1.0**
VYHS				*e*			16 24 50.4	
VYHS	**Vyhne**	**3.48**	**148**	*e*Pn		**Pn**	**16 24 40.1**	**-1.0**
VYHS				*e*Sg		**Sb**	**16 25 33.8**	**+2.7**

IDC 14 16:26:48.7±1.9, 3°68N×126°97E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx2.7/33, Error ellipse: s-maj=155.1km s-min=25.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.56**	**163**	P		P	16 32 09.8	-0.7
	1.2nm,0.7s,baz=342,slow=10,SNR=8.4							
ASAR	**Alice Springs**	**28.00**	**166**	P		P	16 32 43.5	+1.9
	0.1nm,0.4s,baz=345,slow=10,SNR=5.9							
JHJ	**Hachijo jima 2**	**31.65**	**21**	LR		LR	16 44 50.7	
	comp=Z,399nm,20.8s,baz=95,slow=34							
STKA	**Stephens Creek**	**37.99**	**160**	P		P	16 34 07.3	-1.3
	2.4nm,0.7s,baz=343,slow=11,SNR=4.3							
MKAR	**Makanchi Array**	**57.73**	**325**	P		P	16 36 41.4	-0.1
	0.1nm,0.4s,baz=125,slow=6.1,SNR=5.4							

IDC 14 16:32:01.1±18.0, 18°18N×68°55W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.2/3, Error ellipse: s-maj=406.7km s-min=75.9km az=154.0, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.88**	**296**	P		P	16 38 45.6	-0.2
	0.2nm,0.5s,baz=101,slow=9.3,SNR=2.6							
YKA	**Yellowknife Ar**	**54.48**	**336**	P		P	16 41 29.9	-0.2
	0.2nm,0.7s,baz=112,slow=7.2,SNR=3.5							
ILAR	**Eielson Array**	**68.74**	**333**	P		P	16 43 06.8	+0.2
	0.3nm,1.0s,baz=117,slow=7.5,SNR=4.0							

IDC 14 16:42:59.3±5.3, 21°52N×143°08E, h350km±55km, mb2.9/9, mb1 3.2/10, mb1mx3.0/26, mbtmp2.9/10, Error ellipse: s-maj=26.3km s-min=14.2km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.55**	**345**	P		P	16 46 19.4	-0.5
	0.3nm,0.3s,baz=170,slow=11,SNR=6.0							
SONM	**Songino Array**	**39.41**	**321**	P		P	16 49 56.7	+0.1
	0.2nm,0.4s,baz=119,slow=6.1,SNR=3.7							
WRA	**Warramunga Arr**	**42.09**	**192**	P		P	16 50 18.2	-0.1
	0.6nm,0.5s,baz=16,slow=9.5,SNR=13							
ASAR	**Alice Springs**	**45.80**	**192**	P		P	16 50 47.1	-0.4
	0.2nm,0.5s,baz=16,slow=11,SNR=6.5							
ZALV	**Zalesovo Beam**	**54.29**	**322**	PcP		PcP	16 52 49.4	0.0
	0.5nm,0.4s,baz=113,slow=4.0,SNR=4.1							
MKAR	**Makanchi Array**	**54.74**	**313**	P		P	16 51 53.9	+0.2
	0.1nm,0.3s,baz=85,slow=9.1,SNR=3.3							
MKAR				PcP		PcP	16 52 50.2	-1.1
	0.2nm,0.6s,baz=96,slow=4.3,SNR=3.9							
ILAR	**Eielson Array**	**62.24**	**27**	P		P	16 52 43.0	-1.5
	0.3nm,0.7s,baz=256,slow=5.4,SNR=6.3							
YKA	**Yellowknife Ar**	**76.65**	**28**	P		P	16 54 12.3	+0.4
	0.5nm,0.5s,baz=291,slow=5.5,SNR=9.7							
ARCES	**ARCESS Array B**	**79.06**	**341**	P		P	16 54 25.3	+0.3
	2.2nm,0.9s,baz=78,slow=8.7,SNR=9.1							
FINES	**FINESS Array B**	**83.30**	**334**	P		P	16 54 46.7	-0.5
	1.4nm,0.6s,baz=55,slow=5.0,SNR=12							
NVAR	**Mina Array Bea**	**83.33**	**51**	P		P	16 54 49.7	+1.5
	0.4nm,0.7s,baz=270,slow=3.6,SNR=3.5							

IDC 14 17:04:36.2±2.6, 18°52N×145°86E, h147km±26km, mb3.4/13, mb1 3.6/14, mb1mx3.4/28, mbtmp3.4/14, Error ellipse: s-maj=23.1km s-min=14.3km az=101.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.00**	**191**	P		Pn	17 05 49.2	-0.4
	2.6nm,0.3s,baz=210,slow=23,SNR=2.5							
GUMO				S		Sn	17 06 47.7	+0.9
	13nm,0.3s,baz=146,slow=19,SNR=2.7							
PETK	**Petropavlovsk-**	**35.73**	**12**	P		P	17 11 20.2	-0.5
	3.5nm,0.5s,baz=167,slow=7.4,SNR=3.3							
WRA	**Warramunga Arr**	**39.86**	**197**	P		P	17 11 55.0	-0.7
	0.6nm,0.3s,baz=14,slow=8.4,SNR=22							
ASAR	**Alice Springs**	**43.52**	**196**	P		P	17 12 25.2	-0.2
	0.8nm,0.4s,baz=19,slow=6.3,SNR=38							
CMAR	**Chiang Mai Arr**	**44.39**	**278**	P		P	17 12 34.3	+1.8
	0.8nm,0.8s,baz=63,slow=8.7,SNR=4.7							
STKA	**Stephens Creek**	**50.28**	**185**	P		P	17 13 17.6	-0.1
	1.0nm,0.4s,baz=312,slow=16,SNR=4.2							
MKAR	**Makanchi Array**	**58.69**	**314**	P		P	17 14 18.7	+0.3
	0.2nm,0.6s,baz=87,slow=6.6,SNR=4.6							
KURBB	**Kurchatov Arra**	**61.55**	**318**	P		P	17 14 36.8	-0.9
	0.3nm,0.4s,baz=93,slow=7.5,SNR=7.5							
ILAR	**Eielson Array**	**63.74**	**26**	P		P	17 14 51.5	-0.5
	0.6nm,0.4s,baz=254,slow=6.1,SNR=16							
ILAR				pP		PcP	17 15 21.8	-4.9
	1.0nm,1.0s,baz=237,slow=5.5,SNR=5.7							
BVAR	**Borovoye Array**	**66.70**	**320**	P		P	17 15 11.4	0.0
	0.7nm,0.5s,baz=109,slow=5.4,SNR=5.2							
YKA	**Yellowknife Ar**	**78.07**	**28**	P		P	17 16 18.7	+0.2
	0.3nm,0.7s,baz=291,slow=5.2,SNR=6.2							
YKA				pP		pP	17 16 47.0	-7.8
	0.3nm,0.7s,baz=288,slow=5.4,SNR=3.8							
RES	**Resolute Bay**	**79.56**	**14**	P		P	17 16 27.4	+1.0
	0.4nm,0.4s,baz=311,slow=2.0,SNR=5.8							
NVAR	**Mina Array Bea**	**83.13**	**52**	P		P	17 16 48.0	+1.7
	0.7nm,0.7s,baz=270,slow=6.2,SNR=4.7							
FINES	**FINESS Array B**	**87.11**	**335**	P		P	17 17 03.5	-1.7
	0.4nm,0.5s,baz=77,slow=4.1,SNR=6.7							

WEL 14 17:05:25.6±0.2, 40°54S×173°52E, h158km±2km, ML4.1/19, 26C-12D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.40**	**131**	↑P	N	Pn	17 05 47.8	+0.4
DUWZ						SN	17 06 03.8	-0.5
QRZ	**Quartz Range**	**0.81**	**249**	↑P

MHGZ	Mahia Peninsul	3.65	69	PN	Pn	17 06 20.7	-0.8
PRGZ	Paritu Road	3.73	66	PN	Pn	17 06 20.9	-1.7
MWZ	Matawai	3.80	56	PN	Pn	17 06 21.3	-2.3
FOZ	Fox Glacier	4.16	222	⇓PN	Pn	17 06 23.9	-4.0
PUZ	Puketiti	4.42	58	PN	Pn	17 06 29.0	-2.6
LBZ	Lake Benmore	4.57	212	PN	Pn	17 06 30.5	-2.9
ODZ	Otahua Downs	4.97	204	⇓PN	Pn	17 06 36.2	-2.5
JCZ	Jackson Bay	4.99	223	⇓PN	Pn	17 06 35.7	-3.4
WKZ	Wanaka	5.42	216	PN	Pn	17 06 40.4	-4.2
EAZ	Earnscleugh	5.62	212	⇓PN	Pn	17 06 43.7	-3.5
MSZ	Milford Sound	5.84	223	PN	Pn	17 06 46.8	-3.3
TUZ	Tuapeka	6.11	206	PN	Pn	17 06 51.0	-2.7
MLZ	Mavora Lakes	6.20	217	PN	Pn	17 06 52.0	-3.0
WHZ	Wether Hill Ro	6.72	215	PN	Pn	17 06 57.7	-4.1
SYZ	Scrubby Hill	6.79	207	PN	Pn	17 06 59.8	-2.8

DJA ***14*** *17:38:40.4±1.2,36°S±17"×17"8E±2"2,h10km,M5.1/9, mB5.7/1,mb5.1/9,Mw(mB)5.3/1*

MOS ***14*** *17:38:50.4±1.6,36°55S×177°72E,h117km,mb5.2/11, Error ellipse: s-maj=13.8km s-min=11.1km az=115.7*

AUST ***14*** *17:38:53.2±0.8,36°85S×177°76E,h126km,Error ellipse: s-maj=1.6km s-min=1.1km az=275.0*

BJI ***14*** *17:38:58.6,37°51S×176°35E,h176km,mB5.4/15, mb5.0/18*

GCMT ***14*** *17:38:58.7±0.4,36°80S×177°85E,h185km±3km,MW5.0, Moment Tensor Solution. s19,c22; s61,c84; Moment tensor: Scale 10¹⁶Nm; Mrr1.56±.21; Mθθ-1.33±.27; Mφφ-0.23±.25; Mrθ2.16±.19; Mθφ-0.33±.22; Mφr3.79±.16; Best double couple: M₀4.60000×10¹⁶ NP1:θ±260.00000°, δ11.00000°,λ137.00000°. NP2:θ±33.00000°,δ82.00000°, λ82.00000°. Principal axes: T 4.9300, Plg52.0000°, Azm293.0000°; N -0.7300, Plg8.0000°, Azm34.0000°; P -4.2000, Plg37.0000°, Azm130.0000°; Data Used: II G IU IC CN.*

ISCJB ***14*** *17:38:59.9±0.3,37°06S±0°03×177°40E±0°04,h200km±2km, mb4.8/50 Error ellipse: s-maj=5.6km s-min=5.0km az=145.4*

NEIC ***14*** *17:38:59.5±0.4,37°02S×177°56E,h201km±3km,mb5.0/25, Error ellipse: s-maj=7.5km s-min=5.8km az=70.0*

NEIC Felt at Opotiki.

WEL ***14*** *17:39:00.6±0.2,36°84S×177°56E,h174km±1km,ML5.4/22, Error ellipse: s-maj=1.8km s-min=1.5km az=0.0*

WEL Felt from Bay of Plenty to Hawke''s Bay, maximum reported intensity MM 4.

IDC ***14*** *17:39:02.8±1.3,36°57S×177°67E,h219km±10km, mb4.5/18,mb1 4.6/19,mb1mx4.5/23,mbtmp4.5/19,Error ellipse: s-maj=13.2km s-min=8.9km az=41.0*

ISC 14 17:38:59.3±0.4,36°90S±0°04×177°56E±0°04,h189km±2km, h189km:pP-P,n487,σ1ᵍ63/531,mb4.8/49,53C-36D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.69	205	PN	Pn	17 39 25.7	-0.3
WIZ				SN	Sn	17 39 45.4	-1.4
WIZ	White Island	0.69	205	Pn	Pn	17 39 25.7	-0.3
MXZ	Matakaoa Point	0.89	138	⇑PN	Pn	17 39 27.1	-0.1
MXZ				SN	Sn	17 39 48.0	-0.9
MXZ	Matakaoa Point	0.89	138	Pn	Pn	17 39 26.8	-0.4
MXZ				Sn	Sn	17 39 48.0	-0.9
MYRZ	Mayor Island	1.12	250	⇓PN	Pn	17 39 29.0	+0.2
OPRZ	Ohinepanea	1.24	220	⇓PN	Pn	17 39 30.0	+0.3
OPRZ				SN	Sn	17 39 53.4	0.0
OPRZ	Ohinepanea	1.24	220	Pn	Pn	17 39 29.4	-0.3
OPRZ				Sn	Sn	17 39 53.4	0.0
MARZ	Manawahe	1.29	213	⇓PN	Pn	17 39 30.8	+0.5
MARZ	Manawahe	1.29	213	Pn	Pn	17 39 30.8	+0.5
PUZ	Puketiti	1.30	155	⇑PN	Pn	17 39 30.6	+0.4
PUZ				SN	Sn	17 39 53.8	-0.6
PUZ	Puketiti	1.30	155	Pn	Pn	17 39 30.2	0.0
PUZ				Sn	Sn	17 39 53.8	-0.6
TGRZ	Tauranga	1.33	231	⇓PN	Pn	17 39 30.9	+0.4
TGRZ				SN	Sn	17 39 55.0	+0.3
TGRZ	Tauranga	1.33	231	Pn	Pn	17 39 30.9	+0.4
EDRZ	Edgecumbe	1.37	208	⇑PN	Pn	17 39 31.7	+0.8
EDRZ	Edgecumbe	1.37	208	Pn	Pn	17 39 31.7	+0.8
URZ	Urewera	1.40	195	P	Pn	17 39 31.5	+0.4
	618nm,0.3s,baz=10.0,slow=3.0,SNR=4639						
URZ				S	Sn	17 39 55.2	-0.8
URZ	Urewera	1.40	195	⇓PN	Pn	17 39 31.5	+0.4
URZ				SN	Sn	17 39 55.3	-0.8
URZ	Urewera	1.40	195	Pn	Pn	17 39 30.9	-0.2
URZ				eSn	Sn	17 39 50.7	-5.3
URZ				S	Sn	17 39 55.2	-0.8
MWZ	Matawai	1.43	181	⇑PN	Pn	17 39 32.1	+0.7
MWZ				SN	Sn	17 39 56.1	-0.5
MWZ	Matawai	1.43	181	Pn	Pn	17 39 31.7	+0.3
LIRZ	Lichensteins R	1.45	220	PN	Pn	17 39 32.3	+0.8
LIRZ	Lichensteins R	1.45	220	Pn	Pn	17 39 32.3	+0.8
KUZ	Kuaotunu	1.48	275	PN	Pn	17 39 31.5	-0.4
KUZ	Kuaotunu	1.48	275	Pn	Pn	17 39 30.8	-1.1
MKRZ	Makatiti	1.51	215	PN	Pn	17 39 33.4	+1.3
MKRZ	Makatiti	1.51	215	Pn	Pn	17 39 33.5	+1.3
OMRZ	Omania	1.53	218	⇓PN	Pn	17 39 33.1	+0.7
OMRZ	Omania	1.53	218	Pn	Pn	17 39 33.1	+0.7
TARZ	Mount Tarawera	1.57	212	⇓PN	Pn	17 39 33.9	+1.1
TARZ	Mount Tarawera	1.57	212	Pn	Pn	17 39 33.9	+1.1
RRRZ	Republican Roa	1.66	210	⇓PN	Pn	17 39 34.4	+0.9
RRRZ	Republican Roa	1.66	210	Pn	Pn	17 39 34.4	+0.9
CNGZ	Carnagh Statio	1.66	162	⇑PN	Pn	17 39 34.9	+1.3
CNGZ	Carnagh Statio	1.66	162	Pn	Pn	17 39 34.9	+1.3
HRRZ	Handcock Road	1.80	214	⇓PN	Pn	17 39 36.1	+1.1
HRRZ	Handcock Road	1.80	214	Pn	Pn	17 39 36.1	+1.1
TOZ	Tahuroa Road	1.84	243	PN	Pn	17 39 36.3	+1.1
TOZ	Tahuroa Road	1.84	243	Pn	Pn	17 39 36.3	+1.1
PRRZ	Plateau Road	1.84	210	⇓PN	Pn	17 39 36.3	+0.9
PRRZ	Plateau Road	1.84	210	Pn	Pn	17 39 36.3	+0.9
ALRZ	Allen Road	1.92	210	PN	Pn	17 39 37.1	+0.9
ALRZ	Allen Road	1.92	210	Pn	Pn	17 39 37.1	+0.9
MKAZ	Moumakai	1.93	263	PN	Pn	17 39 36.9	+0.7
MKAZ	Moumakai	1.93	263	Pn	Pn	17 39 35.9	-0.3
PRGZ	Paritu Road	2.04	173	⇑PN	Pn	17 39 37.9	+0.6
PRGZ	Paritu Road	2.04	173	Pn	Pn	17 39 37.9	+0.6
RAHZ	Arahi	2.05	190	⇑PN	Pn	17 39 38.4	+0.9
RAHZ	Arahi	2.05	190	Pn	Pn	17 39 38.4	+0.9
OTAZ	Otara	2.11	268	⇓PN	Pn	17 39 39.1	+0.9
OTAZ	Otara	2.11	268	Pn	Pn	17 39 39.1	+0.9
KNZ	Kokohu	2.12	178	PN	Pn	17 39 38.5	+0.3
KNZ	Kokohu	2.12	178	Pn	Pn	17 39 38.5	+0.3
MTAZ	Motutapu	2.13	272	⇓PN	Pn	17 39 38.9	+0.6
MTAZ	Motutapu	2.13	272	Pn	Pn	17 39 38.9	+0.6
WHTZ	Whakaora	2.17	215	PN	Pn	17 39 40.3	+1.4
WHTZ	Whakaora	2.17	215	Pn	Pn	17 39 40.3	+1.4
ABAZ	Army Bay	2.21	277	⇓PN	Pn	17 39 39.6	+0.3
MHGZ	Mahia Peninsul	2.27	173	⇑PN	Pn	17 39 40.7	+0.8
MHGZ	Mahia Peninsul	2.27	173	Pn	Pn	17 39 40.7	+0.8
NMHZ	Naumai	2.27	195	⇑PN	Pn	17 39 40.9	+0.9
NMHZ	Naumai	2.27	195	Pn	Pn	17 39 40.9	+0.9
KAAZ	Kauri Point	2.29	271	⇑PN	Pn	17 39 41.0	+0.9
KAAZ	Kauri Point	2.29	271	Pn	Pn	17 39 41.0	+0.9
HATZ	Hinemaiaia	2.30	210	PN	Pn	17 39 40.8	+0.6
HATZ	Hinemaiaia	2.30	210	Pn	Pn	17 39 40.8	+0.6
WATZ	Wairara	2.31	218	PN	Pn	17 39 41.5	+1.1
WATZ	Wairara	2.31	218	Pn	Pn	17 39 41.5	+1.1
WTAZ	Waiatarua	2.39	268	⇑PN	Pn	17 39 42.1	+0.8
WTAZ	Waiatarua	2.39	268	Pn	Pn	17 39 42.1	+0.8
RVAZ	Riverhead Bore	2.39	272	⇓PN	Pn	17 39 41.8	+0.5
BKZ	Black Stump Fm	2.42	200	PN	Pn	17 39 41.6	0.0
BKZ	Black Stump Fm	2.42	200	Pn	Pn	17 39 41.6	0.0
RATZ	Rangitukua	2.42	215	PN	Pn	17 39 42.6	+1.0
RATZ	Rangitukua	2.42	215	Pn	Pn	17 39 42.6	+1.0
RITZ	Rihia Road	2.47	212	⇑PN	Pn	17 39 43.2	+1.0
RITZ	Rihia Road	2.47	212	Pn	Pn	17 39 43.2	+1.0
KATZ	Kakaramea	2.54	215	PN	Pn	17 39 43.7	+0.6
KATZ	Kakaramea	2.54	215	Pn	Pn	17 39 43.8	+0.6
MCHZ	McNeill Hill	2.63	195	⇑PN	Pn	17 39 44.5	+0.5
MCHZ	McNeill Hill	2.63	195	Pn	Pn	17 39 44.5	+0.5
KRVZ	Karewarewa	2.67	214	PN	Pn	17 39 45.1	+0.6
KRVZ	Karewarewa	2.67	214	Pn	Pn	17 39 45.1	+0.6
HIZ	Hauiti	2.68	232	⇑PN	Pn	17 39 46.2	+1.7
HIZ	Hauiti	2.68	232	Pn	Pn	17 39 45.6	+1.1
WTVZ	West Tongariro	2.71	215	PN	Pn	17 39 45.5	+0.5
WTVZ	West Tongariro	2.71	215	Pn	Pn	17 39 45.5	+0.5
OTVZ	Oturere	2.71	213	⇓PN	Pn	17 39 45.6	+0.5
OTVZ	Oturere	2.71	213	Pn	Pn	17 39 45.6	+0.5
TWVZ	Taurewa	2.74	217	PN	Pn	17 39 45.8	+0.5
TWVZ	Taurewa	2.74	217	Pn	Pn	17 39 45.8	+0.5
NGZ	Ngauruhoe	2.75	214	PN	Pn	17 39 46.0	+0.5
NGZ	Ngauruhoe	2.75	214	Pn	Pn	17 39 46.0	+0.5
WCZ	Waipu Caves	2.76	289	⇑PN	Pn	17 39 45.1	-0.5
WCZ	Waipu Caves	2.76	289	Pn	Pn	17 39 44.0	-1.5
CKHZ	Cape Kidnapper	2.78	188	⇑PN	Pn	17 39 46.0	+0.3
CKHZ	Cape Kidnapper	2.78	188	Pn	Pn	17 39 46.0	+0.3
WPVZ	Whakapapa	2.80	214	PN	Pn	17 39 47.0	+0.9
WPVZ	Whakapapa	2.80	214	Pn	Pn	17 39 47.0	+0.9
TUVZ	Tukino	2.80	212	PN	Pn	17 39 46.3	+0.2
TUVZ	Tukino	2.80	212	Pn	Pn	17 39 46.4	+0.2
FWVZ	Far West T-bar	2.84	213	PN	Pn	17 39 46.8	+0.2
FWVZ	Far West T-bar	2.84	213	Pn	Pn	17 39 46.8	+0.2
BHHZ	Black Hill Sta	2.84	204	⇑PN	Pn	17 39 46.3	-0.2
BHHZ	Black Hill Sta	2.84	204	Pn	Pn	17 39 46.3	-0.2
DRZ	Dome Shelter	2.85	213	PN	Pn	17 39 47.3	+0.5
DRZ	Dome Shelter	2.85	213	Pn	Pn	17 39 47.3	+0.5
TRVZ	Turoa	2.87	213	PN	Pn	17 39 47.3	+0.3
TRVZ	Turoa	2.87	213	Pn	Pn	17 39 47.3	+0.3
WNVZ	Wahianoa	2.88	212	PN	Pn	17 39 47.0	0.0
WNVZ	Wahianoa	2.88	212	Pn	Pn	17 39 47.0	0.0
MOVZ	Moawhango	2.88	209	⇓PN	Pn	17 39 46.5	-0.5
MOVZ	Moawhango	2.88	209	Pn	Pn	17 39 46.5	-0.5
KAHZ	Kahuranaki	2.94	190	⇑PN	Pn	17 39 47.9	+0.2
KAHZ	Kahuranaki	2.94	190	Pn	Pn	17 39 47.9	+0.2
MTVZ	Mangateitei	2.98	213	PN	Pn	17 39 48.4	+0.2
MTVZ	Mangateitei	2.98	213	Pn	Pn	17 39 48.4	+0.2
VRZ	Vera Road	3.13	224	PN	Pn	17 39 50.8	+0.8
VRZ	Vera Road	3.13	224	Pn	Pn	17 39 50.8	+0.8
PXZ	Pawanui	3.17	190	PN	Pn	17 39 49.7	-0.7
PXZ	Pawanui	3.17	190	Pn	Pn	17 39 49.7	-0.7
WPHZ	Waipukurau	3.28	195	⇑PN	Pn	17 39 51.1	-0.6
WPHZ	Waipukurau	3.28	195	Pn	Pn	17 39 51.1	-0.6
MHEZ	Mangahewa	3.36	229	PN	Pn	17 39 55.4	+2.8
MHEZ	Mangahewa	3.36	229	Pn	Pn	17 39 55.4	+2.8
TSZ	Takapari Road	3.40	201	⇑PN	Pn	17 39 52.2	-0.9
TSZ	Takapari Road	3.40	201	Pn	Pn	17 39 52.2	-0.9
PRHZ	Porangahau	3.44	192	⇑PN	Pn	17 39 53.1	-0.5
PRHZ	Porangahau	3.44	192	Pn	Pn	17 39 53.1	-0.5
RAEZ	Rainy Point	3.45	225	PN	Pn	17 39 54.4	+0.6
RAEZ	Rainy Point	3.45	225	Pn	Pn	17 39 54.4	+0.6
WAZ	Wanganui	3.50	215	⇑PN	Pn	17 39 54.7	+0.3
WAZ	Wanganui	3.50	215	Pn	Pn	17 39 54.7	+0.3
DREZ	Durham Road	3.50	228	PN	Pn	17 39 56.6	+2.2
DREZ	Durham Road	3.50	228	Pn	Pn	17 39 56.6	+2.2
NEZ	North Egmont	3.62	228	⇑PN	Pn	17 39 58.0	+2.1
NEZ	North Egmont	3.62	228	Pn	Pn	17 39 58.0	+2.1
OUZ	Omahuta	3.62	296	⇑PN	Pn	17 39 55.3	-0.6
OUZ	Omahuta	3.62	296	ePn	Pn	17 39 55.3	-0.8
PKE	Pukeiti	3.63	230	PN	Pn	17 39 57.7	+1.7
PKE	Pukeiti	3.63	230	Pn	Pn	17 39 57.8	+1.7
DFE	Dawson Falls	3.65	227	PN	Pn	17 39 58.1	+1.8
DFE	Dawson Falls	3.65	227	Pn	Pn	17 39 58.1	+1.8
NRZ	Ngariki Road	3.75	229	PN	Pn	17 39 59.1	+1.5
NRZ	Ngariki Road	3.75	229	Pn	Pn	17 39 59.1	+1.5
BFZ	Birch Farm	3.91	195	⇓PN	Pn	17 39 58.3	-1.2
BFZ	Birch Farm	3.91	195	Pn	Pn	17 39 58.3	-1.2
MRZ	Mangatainoka R	4.06	202	⇑PN	Pn	17 39 59.8	-1.6
MRZ	Mangatainoka R	4.06	202	Pn	Pn	17 39 59.8	-1.6
TIWZ	Tintock	4.09	198	⇑PN	Pn	17 40 00.4	-1.3
TIWZ	Tintock	4.09	198	Pn	Pn	17 40 00.4	-1.3
OGWZ	Otaki Gorge	4.33	205	PN	Pn	17 40 03.2	-1.6
OGWZ	Otaki Gorge	4.33	205	Pn	Pn	17 40 03.2	-1.6
TMWZ	Te Maipa	4.40	197	⇓PN	Pn	17 40 04.3	-1.4
TMWZ	Te Maipa	4.40	197	Pn	Pn	17 40 04.3	-1.4
KIW	Kapiti Island	4.46	207	PN	Pn	17 40 04.6	-1.9
KIW	Kapiti Island	4.46	207	Pn	Pn	17 40 04.6	-1.9
CAW	Cannon Point	4.63	204	PN	Pn	17 40 06.5	-2.1
CAW	Cannon Point	4.63	204	Pn	Pn	17 40 06.5	-2.1
TRWZ	Traveller	4.72	197	PN	Pn	17 40 08.0	-1.8
TRWZ	Traveller	4.72	197	Pn	Pn	17 40 08.1	-1.8
PAWZ	Paruwai Farm	4.77	200	⇓PN	Pn	17 40 08.2	-2.3
PAWZ	Paruwai Farm	4.77	200	Pn	Pn	17 40 08.2	-2.3
MSWZ	Moikau Station	4.85	201	PN	Pn	17 40 09.1	-2.4
MSWZ	Moikau Station	4.85	201	Pn	Pn	17 40 09.1	-2.4
WEL	Wellington	4.89	206	PN	Pn	17 40 07.8	-4.1
WEL	Wellington	4.89	206	P	Pn	17 40 07.8	-4.1
WEL	Wellington	4.89	206	Pn	Pn	17 40 07.8	-4.1
SNZO	South Karori	4.93	206	PN	Pn	17 40 09.8	-2.6
SNZO	South Karori	4.93	206	ePn	Pn	17 40 09.9	-2.6
SNZO				eSn	Sn	17 41 05.2	-4.9
BHW	Baring Head	4.96	204	⇑PN	Pn	17 40 10.4	-2.5
BHW	Baring Head	4.96	204	Pn	Pn	17 40 10.4	-2.5
TCW	Tory Channel	5.01	210	PN	Pn	17 40 10.7	-2.7
TCW	Tory Channel	5.01	210	Pn	Pn	17 40 10.7	-2.7
TUWZ	Tuamarina	5.33	211	⇑PN	Pn	17 40 14.9	-2.6
TUWZ	Tuamarina	5.33	211	Pn	Pn	17 40 14.9	-2.6
NNZ	Nelson	5.40	216	⇑PN	Pn	17 40 15.8	-2.7
NNZ	Nelson	5.40	216	Pn	Pn	17 40 15.8	-2.7
QRZ	Quartz Range	5.55	223	PN	Pn	17 40 17.3	-3.2
QRZ	Quartz Range	5.55	223	Pn	Pn	17 40 17.3	-3.2
BSWZ	Blackbirch Sta	5.59	210	PN	Pn	17 40 18.6	-2.4
BSWZ	Blackbirch Sta	5.59	210	Pn	Pn	17 40 18.6	-2.4
THZ	Tophouse	6.05	215	PN	Pn	17 40 23.7	-3.3
KHZ	Kahutara	6.32	208	PN	Pn	17 40 27.4	-3.0
KHZ	Kahutara	6.32	208	ePn	Pn	17 40 27.7	-2.8
KHZ				eSn	Sn	17 41 29.1	-14
DSZ	Denniston Nort	6.58	221	PN	Pn	17 40 29.8	-4.1
LTZ	Lake Taylor	7.14	213	PN	Pn	17 40 37.4	-3.9
CRLZ	Canterbury Las	7.66	208	PN	Pn	17 40 44.2	-3.8
MQZ	McQueen's Vall	7.76	207	PN	Pn	17 40 45.0	-4.3
WVZ	Waitaha Valley	8.09	218	⇓PN	Pn	17 40 51.1	-3.5
CTZ	Chatham Island	8.15	149	PN	Pn	17 40 56.6	+2.3
RPZ	Rata Peaks	8.43	214	PN	Pn	17 40 54.2	-3.8
RPZ	Rata Peaks	8.43	214	ePn	Pn	17 40 53.9	-4.1
RPZ				eSn	Sn	17 42 19.7	-13
FOZ	Fox Glacier	8.97	220	PN	Pn	17 40 59.8	-5.3
LBZ	Lake Benmore	9.34	215	PN	Pn	17 41 05.9	-4.1
ODZ	Otahua Downs	9.67	211	⇓PN	Pn	17 41 10.8	-3.4
ODZ	Otahua Downs	9.67	211	ePn	Pn	17 41 10.7	-3.4
ODZ				eSn	Sn	17 42 47.7	-14
JCZ	Jackson Bay	9.81	220	⇑PN	Pn	17 41 11.8	-4.3
WKZ	Wanaka	10.22	217	PN	Pn	17 41 16.6	-4.8
EAZ	Earnscleugh	10.39	214	PN	Pn	17 41 18.9	-4.7
MSZ	Milford Sound	10.65	220	PN	Pn	17 41 21.5	-5.4
TUZ	Tuapeka	10.82	211	PN	Pn	17 41 26.5	-2.6
MLZ	Mavora Lakes	11.01	217	PN	Pn	17 41 28.6	-3.1
SYZ	Scrubby Hill	11.49	210	PN	Pn	17 41 35.5	-2.3
WHZ	Wether Hill Ro	11.52	217	PN	Pn	17 41 32.6	-5.4
WHZ	Wether Hill Ro	11.52	216	ePn	Pn	17 41 32.6	-5.5
APZ	The Paps	12.21	213	PN	Pn	17 41 43.9	-3.1
DZM	Mont Dzumac	17.64	324	eP	Pn	17 42 53.1	-0.7
	177nm,1.6s						
DZM				eLR	LR	17 46 43.0	
	327nm,29.4s						
DZM	Mont Dzumac	17.64	324	P	P	17 42 52.5	+0.5
	3.8nm,0.3s,baz=144,slow=9.9,SNR=45						
DZM	Mont Dzumac	17.64	324	eP	P	17 42 51.3	-0.7
DZM	Mont Dzumac	17.64	324	P	P	17 42 52.5	+0.5
MSVF	Nonsavu	19.10	1	eP	P	17 43 07.8	-0.1
MSVF				pmax	pmax		
	comp=Z,43nm,0.8s						
MSVF	Nonsavu	19.10	1	eP	P	17 43 07.8	-0.1
	comp=Z,43nm,0.8s						
MSVF	Nonsavu	19.10	1	P	P	17 43 07.0	-0.9
	comp=Z,365nm,0.7s,SNR=5.1						
MGCD	Mangrove Creek	21.94	272	P	P	17 43 41.0	+3.3
	baz=22,SNR=12						
ARMA	Armidale	22.49	279	eP	P	17 43 46.1	+3.0
	comp=Z,292nm,1.7s						
ARMA	Armidale	22.49	279	P	P	17 43 46.1	+3.0
	baz=23,SNR=12						
CNB	Canberra Magne	22.80	266	P	P	17 43 48.8	+3.0
	baz=23,SNR=26						
YNG	Young	23.82	268	P	P	17 43 57.7	+2.7
	baz=24,SNR=11						
TAU	Tasmania Unive	23.88	246	P	P	17 43 57.6	+2.2
TAU				pmax	pmax		
	comp=Z,25nm,0.9s						
TAU	Tasmania Unive	23.88	246	P	P	17 43 57.6	+2.2
	comp=Z,25nm,0.9s						
MOO	Moorlands	23.95	247	P	P	17 43 57.7	+1.7
	baz=24,SNR=3.8						
EIDS	Eidsvold	25.33	289	eP	P	17 44 09.5	+0.8
	comp=Z,74nm,0.9s						
EIDS	Eidsvold	25.33	289	P	P	17 44 10.1	+1.4
	baz=25,SNR=18						
TOO	Toolangi	25.48	259	P	P	17 44 12.3	+2.3
	baz=26,SNR=12						
RMQ	Roma	26.52	285	P	P	17 44 21.9	+2.5
	baz=27,SNR=26						
CMSA	Cobar Meteorol	26.81	272	P	P	17 44 24.0	+2.0
	baz=27,SNR=35						
ARPS	Mount Arapiles	28.49	259	P	P	17 44 38.9	+2.1
	baz=29,SNR=15						
STKA	Stephens Creek	29.98	269	P	P	17 44 51.5	+1.5
	comp=Z,10.0nm,0.7s,baz=101,slow=9.6,SNR=27						
STKA				ScP	ScP	17 51 11.1	-0.5
	comp=Z,5.4nm,1.1s,baz=72,slow=15,SNR=4.1						
STKA	Stephens Creek	29.98	269	P	P	17 44 51.5	+1.5
STKA				ScP	ScP	17 51 11.1	-0.5
STKA	Stephens Creek	29.98	269	P	P	17 44 52.1	+2.1
	baz=30,SNR=23						
QLP	Quilpie	30.02	280	P	P	17 44 52.0	+1.6
	baz=30,SNR=51						
HNR	Honiara	31.66	325	P	P	17 45 04.8	-0.1
	comp=Z,73nm,0.7s,baz=133,slow=2.0,SNR=5.2						
HNR	Honiara	31.66	325	eP	P	17 45 04.6	-0.2
	comp=Z,129nm,0.9s						
CTA	Charters Tower	32.02	293	P	P	17 45 09.3	+1.3
	comp=Z,44nm,0.7s,baz=119,slow=10,SNR=42						
CTA	Charters Tower	32.02	293	P	P	17 45 09.3	+1.3
CTAO	Charters Tower	32.02	293	eP	P	17 45 08.9	+0.9
CTAO				pmax	pmax		
	comp=Z,61nm,1.0s						
CTAO	Charters Tower	32.02	293	eP	P	17 45 08.9	+0.9
	comp=Z,61nm,1.0s						
CTAO				esP	sP	17 46 04.8	-4.0
BBOO	Buckleboo	34.11	264	eP	P	17 45 26.3	+0.3
	comp=Z,2μm,1.9s						
BBOO	Buckleboo	34.11	264	P	P	17 45 26.7	+0.7
	baz=34,SNR=29						
QIS	Mount Isa	36.77	286	P	P	17 45 49.7	+0.9
	baz=37,SNR=46						
QIS				S	S	17 51 22.5	+3.8
	baz=37,SNR=6.7						
COEN	Coen	38.23	298	eP	P	17 46 01.4	+0.3
	comp=Z,726nm,0.8s						
COEN	Coen	38.23	298	P	P	17 46 01.9	+0.8
	baz=38,SNR=187						
PMG	Port Moresby	38.80	307	P	P	17 46 06.7	+0.9
	comp=Z,63nm,0.8s,baz=123,slow=5.5,SNR=30						
PMG	Port Moresby	38.80	307	eP	P	17 46 06.4	+0.6
	comp=Z,74nm,0.9s						
PMG	Port Moresby	38.80	307	P	P	17 46 06.6	+0.8
	comp=Z,93nm,0.9s,comp=Z,977nm						
AS31	Alice Springs	39.61	277	eP	P	17 46 12.9	+0.3
AS31				eS	S	17 51 58.3	-3.0
ASAR	Alice Springs	39.61	277	P	P	17 46 13.0	+0.5
	comp=Z,63nm,0.7s,baz=122,slow=8.1,SNR=1175						
ASAR				PcP	PcP	17 48 14.4	-1.4
	comp=Z,2.7nm,0.5s,baz=119,slow=4.0,SNR=4.1						
ASAR				ScP	ScP	17 51 42.1	-4.4
	comp=Z,1.3nm,0.5s,baz=117,slow=3.9,SNR=8.0						
ASAR				S	S	17 52 01.1	-0.2
	comp=Z,4.9nm,1.0s,baz=119,slow=13,SNR=19						
ASAR	Alice Springs	39.61	277	P	P	17 46 13.0	+0.5

PLCA	**Paso Flores**	**80.71**	**134**	P		**P**		**17 50 53.0**	**+1.7**
MJAR	**Matsushiro Arr**	**81.67**	**329**	P		**P**		**17 50 55.6**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=167,slow=5.2,SNR=9.1								
MJAR	**Matsushiro Arr**	**81.67**	**329**	P		**P**		**17 50 55.6**	**-0.6**
MAJO	**Matsushiro**	**81.68**	**329**	*e*P		**P**		**17 50 55.1**	**-1.1**
MAJO				pmax		pmax			
	comp=Z,18nm,1.0s								
MAJO	**Matsushiro**	**81.68**	**329**	*e*P		**P**		**17 50 55.1**	**-1.1**
	comp=Z,18nm,1.0s								
MAT	**Matsushiro**	**81.68**	**329**	P		**P**		**17 50 53.8**	**-2.4**
JNU	**Nakatsue**	**82.16**	**322**	P		**P**		**17 50 57.6**	**-1.2**
	comp=Z,13nm,1.0s,baz=348,slow=1.5,SNR=4.0								
JNU	**Nakatsue**	**82.16**	**322**	P		**P**		**17 50 57.6**	**-1.2**
ASAJ	**Asahikawa**	**86.65**	**336**	P		**P**		**17 51 21.5**	**+0.5**
	comp=Z,12nm,0.9s,baz=277,slow=29,SNR=5.1								
ASAJ	**Asahikawa**	**86.65**	**336**	P		**P**		**17 51 21.5**	**+0.5**
KSRS	**Korea Array**	**87.07**	**323**	P		**P**		**17 51 24.0**	**+0.8**
	comp=Z,6.4nm,0.9s,baz=147,slow=5.4,SNR=12								
KSAR	**Wonju Array Be**	**87.08**	**323**	P		**P**		**17 51 24.0**	**+0.7**
NJ2	**Nanjing**	**87.83**	**313**	*e*P		**P**		**17 51 26.8**	**-0.2**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CFAA	**Coronel Fontan**	**88.20**	**129**	P		**P**		**17 51 31.1**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=233,slow=6.3,SNR=4.3								
CFAA	**Coronel Fontan**	**88.20**	**129**	P		**P**		**17 51 31.1**	**+2.1**
YSS	**Yuzh-Sakhalins**	**89.12**	**337**	*e*P		**P**		**17 51 33.2**	**+0.6**
YSS				pmax		pmax			
	comp=Z,35nm,0.9s								
YSS	**Yuzh-Sakhalins**	**89.12**	**337**	*e*P		**P**		**17 51 33.2**	**+0.6**
	comp=Z,35nm,0.9s								
USRK	**Ussuriysk Arra**	**90.67**	**329**	P		**P**		**17 51 40.4**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=144,slow=3.9,SNR=5.4								
PEA0B	**Petropavlovsk-**	**91.29**	**348**	P		**P**		**17 51 41.5**	**-1.1**
PETK	**Petropavlovsk-**	**91.29**	**348**	P		**P**		**17 51 41.5**	**-1.1**
	comp=Z,4.8nm,0.6s,baz=137,slow=6.5,SNR=20								
PETK	**Petropavlovsk-**	**91.29**	**348**	P		**P**		**17 51 41.5**	**-1.1**
PETK	**Petropavlovsk-**	**91.29**	**348**	P		**P**		**17 51 41.5**	**-1.1**
GYA	**Guiyang**	**91.70**	**302**	P		**P**		**17 51 47.0**	**+1.6**
GYA				pP		**pP**		**17 52 33.8**	**+1.4**
GYA				sP		**sP**		**17 52 54.0**	**+1.9**
GYA				SKS		**SKSac**		**18 02 01.8**	**+1.7**
GYA				S		**S**		**18 02 29.5**	**-0.1**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
MDJ	**Mudanjiang**	**92.01**	**328**	P		**P**		**17 51 47.4**	**+1.2**
MDJ				pmax		pmax			
	comp=Z,10.0nm,1.5s								
MDJ				pmax		pmax			
	comp=Z,220nm,4.5s								
CM31	**Chiang Mai Arr**	**92.17**	**291**	*e*P		**P**		**17 51 47.9**	**+0.4**
	comp=Z,6.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**92.17**	**291**	P		**P**		**17 51 48.2**	**+0.6**
	comp=Z,10.0nm,1.0s,baz=153,slow=3.3,SNR=45								
CMAR				PP		**PP**		**17 55 30.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=140,slow=6.5,SNR=6.3								
CMAR	**Chiang Mai Arr**	**92.17**	**291**	P		**P**		**17 51 48.2**	**+0.6**
CMAR				PP		**PP**		**17 55 30.1**	**-0.6**
ENH	**Enshi**	**92.34**	**307**	*e*P		**P**		**17 51 48.0**	**-0.1**
	comp=Z,6.1nm,0.8s								
CHTO	**Chiang Mai**	**92.39**	**292**	*e*P		**P**		**17 51 48.9**	**+0.3**
CHTO				*e*				17 55 29.5	
CHTO				pmax		pmax			
	comp=Z,9.0nm,1.0s								
CHTO	**Chiang Mai**	**92.39**	**292**	*e*P		**P**		**17 51 48.9**	**+0.3**
	comp=Z,8.5nm,1.0s								
CHTO				*e*PP		**PP**		**17 55 29.5**	**-2.9**
MONP	**Monument Peak**	**92.81**	**50**	⇑P		**P**		**17 51 52.2**	**+1.7**
	baz=93								
BFSC	**Mount Baldy Ra**	**92.97**	**49**	⇓P		**P**		**17 51 52.2**	**+1.2**
	baz=93								
CN2	**Changchun**	**93.20**	**325**	*e*P		P		17 51 56.4	+4.7
CN2				*e*pP		pP		17 52 40.4	+1.7
CN2				*e*S		**S**		**18 02 45.8**	**+4.0**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
EDW2	**Edwards Air Fo**	**93.22**	**48**	⇑P		**P**		**17 51 53.3**	**+1.2**
	baz=94								
ISA	**Isabella**	**93.47**	**47**	P		**P**		**17 51 54.4**	**+1.2**
ISA	**Isabella**	**93.47**	**47**	P		**P**		**17 51 54.4**	**+1.2**
ISA	**Isabella**	**93.47**	**47**	⇑P		**P**		**17 51 54.5**	**+1.2**
	baz=94								
KMI	**Kunming**	**93.56**	**299**	P		**P**		**17 51 53.8**	**-0.3**
KMI				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BELC	**Belle Mtn. Jos**	**93.82**	**50**	⇓P		**P**		**17 51 56.6**	**+1.7**
	baz=94								
GLA	**Glamis**	**93.91**	**51**	⇓P		**P**		**17 51 56.9**	**+1.6**
	baz=94								
BC3	**Big Chuckawall**	**93.92**	**50**	⇑P		**P**		**17 51 56.9**	**+1.5**
	baz=94								
CMB	**Columbia Colle**	**94.03**	**44**	P		**P**		**17 51 55.7**	**0.0**
CMB				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CMB	**Columbia Colle**	**94.03**	**44**	P		**P**		**17 51 55.7**	**0.0**
	comp=Z,1.8nm,0.7s								
HEC	**Hector,Ludlow**	**94.18**	**49**	⇑P		**P**		**17 51 57.9**	**+1.4**
	baz=94								
IRM	**Iron Mountain**	**94.45**	**50**	⇑P		**P**		**17 51 59.5**	**+1.8**
	baz=95								
MLAC	**Mammoth Lakes**	**94.62**	**46**	⇑P		**P**		**17 52 00.1**	**+1.4**
	baz=95								
FURC	**Furnace Creek,**	**94.97**	**47**	⇓P		**P**		**17 52 01.1**	**+1.2**
	baz=95								
NVAR	**Mina Array Bea**	**95.48**	**45**	P		**P**		**17 52 03.0**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=212,slow=7.9,SNR=6.2								
NVAR	**Mina Array Bea**	**95.48**	**45**	P		**P**		**17 52 03.0**	**+0.4**
CD2	**Chengdu**	**96.51**	**304**	P		**P**		**17 52 09.4**	**+2.2**
CD2				pP		pP		17 52 32.8	-21
CD2				sP		sP		17 52 42.1	-32
CD2				PP		**PP**		**17 56 02.5**	**-1.8**
CD2				SKS		SKSac		18 02 36.0	+10
CD2				S		**ScS**		**18 03 14.5**	**+2.9**
CD2				sS		sS		18 03 55.0	-39
CD2				SS		**SS**		**18 09 47.1**	**-3.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CD2				pmax		pmax			
	comp=Z,160nm,4.8s								
CD2				LR		LR			
	comp=N,370nm,6.0s								
CD2				LR		LR			
	comp=Z,310nm,6.0s								
CD2	**Chengdu**	**96.51**	**304**	P		**P**		**17 52 08.9**	**+1.7**
CD2				PP		**PP**		**17 56 08.0**	**+3.7**
CD2				S		**S**		**18 03 10.1**	**-1.2**
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
CD2				pmax		pmax			
	comp=Z,130nm,5.3s								
U15A	**North Rim**	**97.70**	**50**	⇑P		Pdif		17 52 14.1	+1.4
	baz=98								
HHC	**Hu-ho-hao-te**	**98.17**	**316**	*e*P		Pdif		17 52 17.1	+2.6
HHC				pP		pP		17 53 00.6	-1.1
HHC				sP		sP		17 53 19.8	-1.6
HHC				PP		**PP**		**17 56 21.6**	**+4.6**
HHC				SKS		**SKSac**		**18 02 34.9**	**+1.0**
HHC				S		**S**		**18 03 23.9**	**-1.2**
HHC				sS		sS		18 04 46.5	-1.5
HHC				pmax		pmax			
	comp=Z,14nm,0.6s								
HHC				pmax		pmax			
	comp=Z,110nm,8.4s								
HHC				LR		LR			
	comp=N,200nm,15.6s								
HHC				LR		LR			
	comp=E,130nm,13.2s								
HHC				LR		LR			
	comp=Z,120nm,13.2s								
LPAZ	**La Paz**	**98.64**	**118**	P		Pdif		17 52 19.7	+1.7
	comp=Z,0.9nm,0.7s,baz=222,slow=7.5,SNR=4.1								
LPAZ	**La Paz**	**98.64**	**118**	P		Pdif		17 52 19.7	+1.7
LZH	**Lanzhou**	**99.70**	**308**	*e*P		**Pdif**		**17 52 25.5**	**+4.0**
LZH				pP		**pP**		**17 53 10.0**	**+1.3**
LZH				sP		**sP**		**17 53 29.1**	**+0.7**
LZH				*e*PP		PP		17 56 34.6	+5.8
LZH				SKS		**SKSac**		**18 02 46.8**	**+5.0**
LZH				*e*S		**S**		**18 03 40.1**	**+1.8**
LZH				sS		**sS**		**18 04 58.0**	**-3.3**
LZH				pmax		pmax			
	comp=Z,15nm,1.6s								
LZH				pmax		pmax			
	comp=Z,89nm,9.1s								
ILAR	**Eielson Array**	**105.11**	**15**	PKKPbc		PKKPbc		18 08 23.6	-3.1
	comp=Z,0.5nm,0.8s,baz=9.7,slow=2.5,SNR=7.1								
ILAR				PKKP		**PKKPab**		**18 08 43.0**	**+2.8**
	comp=Z,0.8nm,1.0s,baz=6.6,slow=4.7,SNR=6.5								
ILAR	**Eielson Array**	**105.11**	**15**	PKKPbc		PKKPbc		18 08 23.6	-3.1
ILAR				PKKP		**PKKPab**		**18 08 43.0**	**+2.8**
SONM	**Songino Array**	**105.51**	**319**	PKKPbc		PKKPbc		18 08 27.3	+2.2
	comp=Z,0.6nm,0.7s,baz=284,slow=3.1,SNR=7.8								
SONM	**Songino Array**	**105.51**	**319**	PKKPbc		PKKPbc		18 08 27.3	+2.2
INK	**Inuvik**	**111.05**	**17**	PKiKP		**PKiKP**		**17 57 07.1**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=140,slow=19,SNR=6.0								
INK	**Inuvik**	**111.05**	**17**	PKiKP		**PKiKP**		**17 57 07.1**	**-1.8**
YKA	**Yellowknife Ar**	**112.90**	**28**	PKiKP		**PKiKP**		**17 57 11.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=249,slow=1.7,SNR=7.1								
YKA				PKKPbc		**PKKPbc**		**18 08 00.1**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=48,slow=3.6,SNR=6.0								
YKA	**Yellowknife Ar**	**112.90**	**28**	PKiKP		**PKiKP**		**17 57 11.2**	**-1.4**
YKA				PKKPbc		**PKKPbc**		**18 08 00.1**	**-1.5**
WMQ	**Urumqi**	**114.28**	**307**	*e*PKP		PKPdf		17 57 21.8	+5.8
MK31	**Makanchi Array**	**119.01**	**309**	*e*PKiKP		**PKPdf**		**17 57 22.4**	**-2.5**
MK31	**Makanchi Array**	**119.01**	**309**	*e*PKPdf		**PKPdf**		**17 57 22.4**	**-2.5**
MKAR	**Makanchi Array**	**119.01**	**309**	PKP		**PKPdf**		**17 57 22.8**	**-2.1**
	comp=Z,2.7nm,0.8s,baz=124,slow=0.9,SNR=24								
MKAR				PP		PP		17 58 36.8	-11
	comp=Z,1.1nm,0.9s,baz=110,slow=7.0,SNR=4.2								
MKAR				PKKPbc		**PKKPab**		**18 07 44.5**	**+4.1**
	comp=Z,1.0nm,0.8s,baz=301,slow=3.6,SNR=7.9								
MKAR	**Makanchi Array**	**119.01**	**309**	PKiKP		**PKPdf**		**17 57 22.8**	**-2.1**
MKAR	**Makanchi Array**	**119.01**	**309**	PKP		**PKPdf**		**17 57 22.8**	**-2.1**
MKAR				PP		PP		17 58 36.8	-11
MKAR				PKKPbc		**PKKPab**		**18 07 44.5**	**+4.1**
KSH	**Kashi**	**120.23**	**299**	*e*PKPbc		**PKPdf**		**17 57 31.5**	**+3.8**
KSH				*es*PKP				17 58 31.3	
KSH				*e*PP		PP		17 59 04.6	+8.1
KSH				PKS		**PKSdf**		**18 01 07.5**	**+3.1**
KSH				SKS		**SKSdf**		**18 04 26.3**	**+4.7**
KSH				SKKS		**SKKSac**		**18 05 39.0**	**+2.6**
KSH				SS		SS		18 15 16.8	+7.4
KSH				AMB		AMB			
	comp=Z,100nm,5.0s								
KSH				LR		LR			
	comp=N,90nm,9.6s								
KSH				LR		LR			
	comp=E,73nm,6.7s								
KSH				LR		LR			
	comp=Z,270nm,5.1s								
KSH	**Kashi**	**120.23**	**299**	*e*PKP		**PKPdf**		**17 57 31.4**	**+3.8**
KSH				*e*PP		**PP**		**17 58 57.5**	**+1.0**
KSH				PKS		**PKSdf**		**18 01 07.5**	**+3.1**
KSH				AMB		AMB			
	comp=Z,62nm,4.8s								
KSH				LR		LR			
	comp=N,110nm,4.7s								
KSH				LR		LR			
	comp=E,80nm,6.5s								
KSH				LR		LR			
	comp=Z,270nm,5.1s								
ZALV	**Zalesovo Beam**	**120.32**	**317**	PKP		**PKPdf**		**17 57 24.5**	**-2.6**
	comp=Z,1.0nm,0.4s,baz=114,slow=1.8,SNR=11								
ZALV	**Zalesovo Beam**	**120.32**	**317**	PKiKP		**PKPdf**		**17 57 24.5**	**-2.6**
ZALV	**Zalesovo Beam**	**120.32**	**317**	PKP		**PKPdf**		**17 57 24.5**	**-2.6**
AAK	**Ala-Archa**	**122.49**	**302**	*i* PKiKP		**PKPdf**		**17 57 30.0**	**-1.9**
AAK				pmax		pmax			
	comp=Z,10.0nm,1.2s								
AAK	**Ala-Archa**	**122.49**	**302**	*e*PKPdf		**PKPdf**		**17 57 30.1**	**-1.9**
KURK	**Kurchatov**	**122.73**	**312**	⇑*i* PKiKP		**PKPdf**		**17 57 29.6**	**-2.3**
KURK				pmax		pmax			
	comp=Z,9.0nm,1.2s								
KURK	**Kurchatov**	**122.73**	**312**	*e*PKPdf		**PKPdf**		**17 57 29.4**	**-2.5**
KURK				PKP		**PKiKP**		**17 57 29.9**	**-2.1**
KURK				*e*PP		**PP**		**17 59 11.5**	**-1.5**
KURK				PKKPbc		**PKKPbc**		**18 07 29.3**	**+3.3**
KURBB	**Kurchatov Arra**	**122.75**	**312**	PKP		**PKPdf**		**17 57 29.9**	**-2.0**
	comp=Z,4.3nm,0.5s,baz=115,slow=1.9,SNR=97								
KURBB				PP		**PP**		**17 59 11.6**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=109,slow=6.5,SNR=5.8								
KURBB				PKKPbc		**PKKPbc**		**18 07 29.3**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=295,slow=4.7,SNR=9.4								
KBL	**Kabul**	**123.20**	**291**	*e*PKiKP		**PKPdf**		**17 57 32.5**	**-1.1**
KBL	**Kabul**	**123.20**	**291**	*e*PKPdf		**PKPdf**		**17 57 32.5**	**-1.1**
RES	**Resolute Bay**	**124.56**	**19**	PKP		**PKPdf**		**17 57 32.9**	**-1.8**
	comp=Z,2.0nm,0.9s,baz=204,slow=3.6,SNR=7.0								
RES	**Resolute Bay**	**124.56**	**19**	PKP		**PKPdf**		**17 57 32.9**	**-1.8**
RES				*e*PKPdf		**PKiKP**		**17 57 33.1**	**-1.9**
KKAR	**Karatay Array**	**125.39**	**301**	*e*PKiKP		**PKPdf**		**17 57 35.5**	**-1.8**
KKAR	**Karatay Array**	**125.39**	**301**	*e*PKPdf		**PKPdf**		**17 57 35.5**	**-1.8**
QUA2	**Belchertown**	**127.23**	**61**	*e*PKPdf		**PKPdf**		**17 57 40.0**	**-0.8**
BRVK	**Borovoye**	**128.34**	**313**	*i* PKiKP		**PKPdf**		**17 57 41.4**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
FRB	**Frobisher Bay**	**132.83**	**34**	PKP		**PKPdf**		**17 57 50.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=91,slow=4.8,SNR=2.6								
FRB				SKPbc		**SKPbc**		**18 00 55.8**	**-4.5**
	comp=Z,2.9nm,0.6s,baz=260,slow=6.1,SNR=6.8								
FRB	**Frobisher Bay**	**132.83**	**34**	PKP		**PKPdf**		**17 57 50.5**	**-0.2**
FRB				SKPbc		**SKPbc**		**18 00 55.8**	**-4.5**
ABKAR	**Akbulak array**	**134.03**	**306**	*e*PKPdf		**PKPdf**		**17 57 52.3**	**-1.1**
ABKAR				*e*SKP				18 00 59.4	
ARU	**Arti**	**135.48**	**316**	*i* PKiKP		**PKPdf**		**17 57 55.4**	**-0.5**
ARU				SS		SS		18 18 16.6	-0.2
SPITS	**Spitsbergen Ar**	**137.86**	**354**	PKP		**PKPdf**		**17 57 59.6**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=90,slow=4.3,SNR=11								
SPITS				SKPbc		**SKPbc**		**18 01 12.0**	**-3.7**
	comp=Z,4.0nm,0.6s,baz=90,slow=0.6,SNR=12								
SPITS	**Spitsbergen Ar**	**137.86**	**354**	PKP		**PKPdf**		**17 57 59.6**	**-0.2**
SPITS				SKPbc		**SKPbc**		**18 01 12.0**	**-3.7**
DGRG	**David-gareji**	**143.03**	**292**	P		PKPab		17 58 06.9	+0.9
KEV	**Kevo**	**143.46**	**343**	*e*PKHKP		PKPpre		17 58 05.0	
KEV				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KEV	**Kevo**	**143.46**	**343**	*e*p		PKPpre		17 58 05.0	
	comp=Z,4.1nm,0.7s								
TBLG	**Delisi**	**143.54**	**293**	*e*PKiKP		PKPab		17 58 08.2	+0.2
TBLG	**Delisi**	**143.54**	**293**	P		PKPab		17 58 08.2	+0.2
ARCES	**ARCESS Array B**	**143.97**	**344**	PKP		PKPab		17 58 08.1	-0.7
	comp=Z,6.0nm,0.5s,baz=57,slow=3.3,SNR=55								
ARCES	**ARCESS Array B**	**143.97**	**344**	PKP		PKPab		17 58 08.1	-0.7
ARE0	**ARCESS Array S**	**143.97**	**344**	*e*P		PKPab		17 58 08.3	-0.5
ARE0	**ARCESS Array S**	**143.97**	**344**	*e*PKPpre		PKPpre		17 58 06.7	
ZEI	**Tsey**	**144.29**	**294**	*i* PKiKP		**PKPab**		**17 58 09.9**	**-1.3**
ZEI				pmax		pmax			
	comp=Z,51nm,1.7s								
KLMR	**Klimovskoe**	**144.40**	**326**	*e*PKHKP		PKPpre		17 58 07.7	
KLMR				pmax		pmax			
	comp=Z,32nm,1.0s								
AKH	**Akhalkalaki**	**144.42**	**292**	P		**PKPab**		**17 58 11.6**	**-0.1**
ONI	**Oni**	**144.60**	**294**	P		**PKPab**		**17 58 11.3**	**-0.8**
KTK1	**Kautokeino**	**144.88**	**344**	*e*P		PKPbc		17 58 10.5	-1.7
KBZ	**Khabaz**	**145.11**	**296**	PKPbc		**PKPbc**		**17 58 12.6**	**-1.1**
	comp=Z,5.0nm,0.7s,baz=105,slow=4.7,SNR=12								
KBZ	**Khabaz**	**145.11**	**296**	PKP2		**PKPbc**		**17 58 12.6**	**-1.1**
KBZ	**Khabaz**	**145.11**	**296**	PKPbc		**PKPbc**		**17 58 12.6**	**-1.1**
TRO	**Tromso**	**145.22**	**347**	*e*P		**PKPdf**		**17 58 11.8**	**-1.3**
TRO				AMB		AMB		17 58 37.6	
	comp=Z,85nm,1.7s								
KIV	**Kislovodsk**	**145.28**	**296**	*i* PKiKP		**PKPdf**		**17 58 14.0**	**-0.1**
KIV				*e*				17 58 44.4	
KIV				pmax		pmax			
	comp=Z,12nm,0.8s								
VRHR	**Novokhopersk**	**145.81**	**309**	*e*PKiKP		**PKPdf**		**17 58 13.7**	**-0.9**
VRHR				pmax		pmax			
	comp=N,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,8.0nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,70nm,0.6s								
JOF	**Joensuu**	**146.78**	**332**	*e*PKiKP		**PKPdf**		**17 58 15.2**	**-0.7**
JOF				pmax		pmax			
	comp=Z,20nm,0.6s								
JOF	**Joensuu**	**146.78**	**332**	*e*p		**PKPdf**		**17 58 15.2**	**-0.7**
	comp=Z,20nm,0.6s								
VSR	**Storozhevoye**	**147.33**	**309**	*e*PKiKP		**PKPdf**		**17 58 18.1**	**+0.9**
MALT	**Malatya**	**147.78**	**285**	⇓PKP2		**PKPbc**		**17 58 21.5**	**-0.2**
MALT	**Malatya**	**147.78**	**285**	*e*PKPbc		**PKPbc**		**17 58 20.9**	**-0.8**
MALT	**Malatya**	**147.78**	**285**	⇓*i* P		**PKPbc**		**17 58 21.5**	**-0.2**
OBN	**Obninsk**	**147.91**	**317**	*ai* PKiKP		**PKPbc**		**17 58 19.8**	**-1.5**
OBN				*e*				17 58 23.7	
OBN				pmax		pmax			
	comp=Z,34nm,1.2s								
PUL	**Pulkovo**	**148.96**	**328**	*c i* PKP2		**PKPbc**		**17 58 23.6**	**-0.2**
PUL				pmax		pmax			
	comp=Z,53nm,0.6s								
ANN	**Anapa**	**149.07**	**297**	*i* PKP2		**PKPbc**		**17 58 25.6**	**+1.0**
ANN				pmax		pmax			
	comp=Z,57nm,1.3s								
MOR8	**Moi Rana**	**149.08**	**347**	*e*P		**PKPdf**		**17 58 21.8**	**+2.2**
MOR8				AMB		AMB		17 58 25.7	
	comp=Z,30nm,1.7s								
KAF	**Kangasniemi**	**149.10**	**334**	*e*PKIKP		**PKPdf**		**17 58 20.7**	**+0.9**
KAF				pmax		pmax			
	comp=Z,19nm,0.6s								
KAF	**Kangasniemi**	**149.10**	**334**	*e*p		**PKPdf**		**17 58 20.7**	**+0.9**
	comp=Z,19nm,0.6s								
STOK	**Stokkvaagen**	**149.19**	**348**	*e*P		**PKPbc**		**17 58 22.8**	**-1.4**
FIA1	**FINESS Array S**	**149.62**	**333**	*e*PKPbc		**PKPbc**		**17 58 23.8**	**-1.6**
FINES	**FINESS Array B**	**149.63**	**333**	PKPbc		**PKPbc**		**17 58 23.9**	**-1.5**
	comp=Z,16nm,0.6s,baz=27,slow=4.7,SNR=131								
FINES	**FINESS Array B**	**149.63**	**333**	PKPbc		**PKPbc**		**17 58 23.9**	**-1.5**
DBIC	**Dimbokro**	**149.83**	**175**	PKP		**PKPdf**		**17 58 22.7**	**+0.3**
	comp=Z,29nm,0.8s,baz=169,slow=3.4,SNR=5.6								
DBIC				PKPbc		**PKPbc**		**17 58 27.4**	**0.0**
	comp=Z,29nm,0.8s,baz=155,slow=3.1,SNR=35								
DBIC				PKPab		**PKPab**		**17 58 34.9**	**+1.6**
	comp=Z,14nm,0.4s,baz=140,slow=4.7,SNR=18								
DBIC	**Dimbokro**	**149.83**	**175**	*e*PKPdf		**PKPdf**		**17 58 22.6**	**+0.2**
DBIC				PKP		**PKPdf**		**17 58 22.7**	**+0.3**
DBIC				*e*PKPbc		**PKiKP**		**17 58 27.2**	**-1.1**
DBIC				PKPbc		**PKPbc**		**17 58 27.4**	**0.0**
DBIC				*e*PKPab		PKPab		17 58 34.3	+0.9
DBIC				PKPab		PKPab		17 58 34.9	+1.6
NSS	**Namsos**	**151.02**	**347**	*e*P		**PKPdf**		**17 58 25.1**	**+2.4**
BR131	**Keskin Array S**	**151.67**	**287**	*e*PKPbc		**PKPbc**		**17 58 29.4**	**-1.7**
BRTR	**Keskin Array B**	**151.67**	**287**	PKPbc		**PKPbc**		**17 58 29.9**	**-1.3**
	comp=Z,14nm,0.9s,baz=139,slow=4.4,SNR=49								
BRTR				PKPab		**PKPab**		**17 58 40.4**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=90,slow=1.2,SNR=6.2								
BRTR				pPKPbc		**pPKPbc**		**17 59 22.1**	**+1.9**
	comp=Z,6.0nm,1.0s,baz=150,slow=5.1,SNR=6.5								
BRTR	**Keskin Array B**	**151.67**	**287**	PKPbc		**PKPbc**		**17 58 29.9**	**-1.3**
BRTR				PKPab		**PKPab**		**17 58 40.4**	**-0.3**
BRTR				pPKPbc		**pPKPbc**		**17 59 22.1**	**+1.9**
AKASG	**Malin Array Be**	**153.54**	**311**	PKPbc		**PKPbc**		**17 58 32.9**	**-1.8**
	comp=Z,4.0nm,0.5s,baz=56,slow=2.8,SNR=22								
AKASG	**Malin Array Be**	**153.54**	**311**	PKIKP		**PKPbc**		**17 58 32.9**	**-1.8**
AKASG	**Malin Array Be**	**153.54**	**311**	PKPbc		**PKPbc**		**17 58 32.9**	**-1.8**
AK01	**Malin Array Si**	**153.55**	**311**	*e*PKPbc		**PKPbc**		**17 58 32.7**	**-2.0**
KIEV	**Kiev**	**153.55**	**311**	*e*PKIKP		**PKPbc**		**17 58 32.8**	**-1.9**
KIEV	**Kiev**	**153.55**	**311**	*e*PKPbc		**PKPbc**		**17 58 32.8**	**-1.9**
AK02	**Malin Array Si**	**153.57**	**311**	*e*PKPbc		**PKPbc**		**17 58 32.8**	**-1.9**
NB2	**NORSAR Subarra**	**154.34**	**345**	PKP		**PKPbc**		**17 58 34.5**	**-1.7**
	baz=17,slow=2.6								
NB2	**NORSAR Subarra**	**154.34**	**345**	PKP		**PKPbc**

baz=0.9,SNR=1000
J22A **Midwest** 0.93 248 P Pg 18 05 31.1 -0.4
baz=1.0,SNR=102
RSSD **Black Hills** 0.98 69 *e*Pg Pg 18 05 32.5 +0.1
K23A **Bowen Ranch, D** 1.05 193 ⇓P Pg 18 05 33.8 +0.1
baz=1.1
K24A **Anderson Ranch** 1.11 161 ⇑P Pg 18 05 34.9 0.0
baz=1.1,SNR=46
K24A ⇓S Sg 18 05 50.4 +1.0
baz=1.1
H24A **Dirks Ranch, A** 1.11 29 ⇓P Pg 18 05 35.0 -0.1
baz=1.0
H22A **Clearmont** 1.12 318 P Pb 18 05 35.7 -0.3
baz=1.1,SNR=211
H22A ⇓S Sb 18 05 50.7 -0.4
baz=1.1
G23A **Biddle** 1.43 357 ⇓Pb Pn 18 05 40.8 -0.2
baz=1.4,SNR=272
K22A **Casper** 1.44 219 Pb Pn 18 05 40.0 -1.2
baz=1.5,SNR=209
I21A **Big Trails, Te** 1.44 272 ⇓Pb Pn 18 05 39.9 -1.4
baz=1.5
I21A ⇓Sb Sb 18 06 00.3 -0.2
baz=1.5
H21A **Big Horn, Sher** 1.52 305 ⇓Pb Pb 18 05 42.6 -0.2
baz=1.5,SNR=175
K25A **Mack Ranch, Ha** 1.56 138 ⇑Pb Pn 18 05 43.0 +0.1
baz=1.5,SNR=99
G22A **Birney** 1.61 334 Pb Pb 18 05 44.3 -0.1
baz=1.6,SNR=295
J21A **Lysite** 1.62 255 Pb Pn 18 05 43.0 -0.7
baz=1.7,SNR=86
G24A **Alzada** 1.68 22 ⇑Pb Pb 18 05 45.3 -0.3
baz=1.6,SNR=76
L23A **Garrett** 1.68 190 Pb Pn 18 05 44.1 -0.5
baz=1.7,SNR=486
L24A **Wheatland** 1.75 171 ⇓Pb Pn 18 05 45.3 -0.2
baz=1.8,SNR=17
K21A **Alcova** 1.83 232 ⇓Pb Pn 18 05 46.8 +0.3
baz=1.9,SNR=68
K26A **Motz Farm, Whi** 1.89 124 ⇓Pb Pn 18 05 48.0 +0.7
baz=1.9,SNR=12
L25A **Engebretsen Ra** 1.89 148 ⇓Pb Pn 18 05 48.3 +0.8
baz=1.9,SNR=67
L22A **Ellis Ranch, M** 1.93 206 ⇓Pb Pn 18 05 48.4 +0.4
baz=2.0,SNR=64
L22A ⇓Sb Sb 18 06 14.6 -0.1
baz=2.0
F23A **Volborg** 1.95 358 Pb Pn 18 05 49.0 +0.9
baz=1.9,SNR=131
G21A **Lodge Grass** 1.99 317 ⇓Pb Pn 18 05 49.7 +0.9
baz=2.0,SNR=138
I20A **Worland** 2.05 276 ⇓Pb Pn 18 05 50.5 +0.9
baz=2.1,SNR=229
I20A ⇑Sb Sb 18 06 18.6 +0.5
baz=2.1
J20A **Shoshoni** 2.07 259 ⇑Pb Pb 18 05 51.7 -0.5
baz=2.1,SNR=176
J20A ⇓Sb Sg 18 06 19.8 -0.3
baz=2.1
H20A **Greybull** 2.07 291 ⇑Pb Pn 18 05 50.5 +0.6
baz=2.1
F24A **Ekalaka** 2.16 16 ⇓Pb Pb 18 05 53.5 -0.3
baz=2.1,SNR=13
M23A **Laramie** 2.33 188 ⇓Pb Pn 18 05 54.9 +1.4
baz=2.4,SNR=34
L21A **Rawlins** 2.36 221 ⇓Pb Pn 18 05 55.3 +1.3
baz=2.4,SNR=41
L26A **Underwood Farm** 2.38 136 ⇑Pb Pb 18 05 56.6 -1.0
baz=2.4
PHWY **Pilot Hill** 2.47 183 *e*Pn Pn 18 05 55.9 +0.4
K27A **Flueckinger Fa** 2.48 114 ⇑Pb Pn 18 05 57.5 +2.0
baz=2.4,SNR=34
K20A **Yellowstone Ra** 2.49 244 ⇑Pb Pb 18 05 58.1 -1.3
baz=2.6,SNR=28
M25A **Palm-Egli Farm** 2.51 158 Pb Pn 18 05 57.3 +1.3
baz=2.5,SNR=40
M22A **Cedar Creek Ra** 2.56 202 Pb Pn 18 05 58.4 +1.7
baz=2.6,SNR=192
M21A **Separation Pea** 2.65 216 Pb Pn 18 05 59.8 +1.9
baz=2.7,SNR=100
K19A **Absolon Red Bu** 2.76 251 ⇓Pb Pb 18 06 02.9 -1.1
baz=2.8,SNR=160
RLMT **Red Lodge** 3.14 297 *e*Pn Pn 18 06 05.7 +0.9
BW06 **Boulder Array** 3.27 254 *e*Pn Pn 18 06 07.8 +1.3
PDAR **Pinedale Array** 3.27 254 Pn Pn 18 06 07.5 +1.1
7.1nm,0.3s,baz=68,slow=16,SNR=114
PDAR Pg Pb 18 06 13.8 +1.1
23nm,0.3s,baz=72,slow=19,SNR=81
PDAR Lg Lg 18 06 53.4
20nm,0.3s,baz=79,slow=23,SNR=8.7
PDAR **Pinedale Array** 3.27 254 Pn Pn 18 06 07.5 +1.1
PDAR Pg Pb 18 06 13.8 +1.1
PDAR Lg Lg 18 06 53.4
GCMT **Greycliff** 3.71 304 *e*Pn Pn 18 06 13.2 +0.8
OGNE **Ogallala** 3.72 138 *e*Pn Pn 18 06 13.3 +0.8
LKWY **Lake** 3.75 284 *e*Pn Pn 18 06 14.5 +1.4
LOHW **Long Hollow** 3.85 269 *e*Pn Pn 18 06 14.5 0.0
FLWY **Flagg Ranch** 3.91 276 *e*Pn Pn 18 06 16.0 +0.7
MOOW **Moose Ponds** 3.94 272 *e*Pn Pn 18 06 17.6 +1.9
SNOW **Snow King Moun** 3.97 267 *e*Pn Pn 18 06 20.2 +4.0
ISCO **Idaho Springs** 3.98 183 *e*Pn Pn 18 06 16.9 +0.7
YNR **Norris Junctio** 3.98 286 Pn Pn 18 06 17.0 +0.8
YFT **Old Faithful** 4.04 282 *e*Pn Pn 18 06 16.3 -0.8
REDW **Red Top Meadow** 4.05 266 *e*Pn Pn 18 06 18.0 +0.8
IMW **Indian Meadow** 4.08 274 *e*Pn Pn 18 06 18.3 +0.6
TPAW **Teton Pass** 4.11 268 *e*Pn Pn 18 06 19.1 +1.0
YMR **Madison River** 4.17 284 *e*Pn Pn 18 06 19.1 +0.3
DCID1 **Drake Creek** 4.27 270 *e*Pn Pn 18 06 21.8 +1.6
RRI2 **Red Ridge** 4.40 267 *e*Pn Pn 18 06 22.9 +0.9
QLMT **Earthquake Lak** 4.53 286 *e*Pn Pn 18 06 24.8 +1.0
DGMT **Dagmar** 4.76 9 *e*Pn Pn 18 06 27.9 +1.2
SMCO **Snowmass** 4.76 196 *e*Pn Pn 18 06 29.3 +2.2
BOZ **Bozeman (W)** 4.88 295 *e*Pn Pn 18 06 28.5 -0.1
HWUT **Hardware Ranch** 5.10 247 *e*Pn Pn 18 06 28.3 -3.3
EGMT **Eagleton** 5.27 325 *e*Pn Pn 18 06 34.7 +0.9
HRY **Holter Researc** 5.47 305 *e*Pn Pn 18 06 36.8 +0.2
LRM **Limekiln Ridge** 5.49 294 *e*Pn Pn 18 06 37.6 +0.7
MCMT **McKenzie Canyo** 5.52 284 *e*Pn Pn 18 06 42.6 +5.2
3.1nm,0.4s
DAU **Daniels Canyon** 5.56 235 *e*Pn Pn 18 06 39.8 +1.8
JLU **Jordanelle** 5.56 237 *e*Pn Pn 18 06 38.3 +0.4
CTU **Camp Tracy** 5.69 239 *e*Pn Pn 18 06 40.1 +0.4
HVU **Hansel Valley** 5.85 253 *e*Pn Pn 18 06 42.5 +0.7
PV04 **Paradox Valley** 6.03 208 *e*Pn Pn 18 06 45.3 +1.0
MPU **Maple Canyon** 6.04 234 *e*Pn Pn 18 06 44.4 0.0
SRU **San Rafael** 6.09 222 *e*Pn Pn 18 06 45.1 0.0
PV01 **Paradox Valley** 6.15 205 *e*Pn Pn 18 06 47.1 +1.1
446nm,0.4s
ECSD **EROS Data Cent** 6.29 87 *e*Pn Pn 18 06 43.9 -3.9
TMUT **Trail Mountain** 6.30 227 *e*Pn Pn 18 06 49.1 +1.0
CHMT **Chamberlain Mo** 6.42 302 *e*Pn Pn 18 06 50.0 +0.3
HLID **Hailey** 6.61 271 *e*Pn Pn 18 06 54.2 +1.8
DUG **Dugway** 6.64 240 *e*Pn Pn 18 06 52.9 +0.2
SLMT **Seeley Lake** 6.72 304 *e*Pn Pn 18 06 53.8 0.0
MVCO **Mesa Verde** 6.99 201 *e*Pn Pn 18 07 00.5 +2.8
SWMT **Swartz Lake** 7.15 305 *e*Pn Pn 18 07 00.4 +0.8
MSU **Marysvale** 7.38 227 *e*Pn Pn 18 07 03.8 +0.8
MVU **Marysvale** 7.41 227 *e*Pn Pn 18 07 03.7 +0.4
JTMT **Jette** 7.43 305 *e*Pn Pn 18 07 04.8 +1.3
BSMT **Bassoo Peak** 7.78 305 *e*Pn Pn 18 07 09.3 +0.9
ELK **Elko** 7.97 251 *e*Pn Pn 18 07 11.7 +0.7
KSU1 **Kansas State U** 8.02 123 *e*Pg Pg 18 07 41.8 -5.6
ARUT **Antelope Range** 8.59 229 *e*Pn Pn 18 07 21.1 +1.6
6.2nm,0.4s
CCUT **Cedar City** 8.72 227 *e*Pn Pn 18 07 22.9 +1.6
ULM **Lac du Bonnet** 9.13 42 Pn Pn 18 07 25.5 -1.1
1.7nm,0.3s,baz=233,slow=11,SNR=11
ULM Pg 18 08 00.9
2.0nm,0.3s,baz=231,slow=15,SNR=7.2
ULM Lg Lg 18 09 59.0
0.6nm,0.3s,baz=310,slow=23,SNR=2.6
ULM **Lac du Bonnet** 9.13 42 *e*Pn Pn 18 07 25.3 -1.3
ULM Pg 18 08 00.9
ULM Lg Lg 18 09 59.0
NEW **Newport** 9.37 303 Pn Pn 18 07 30.1 +0.1
0.2nm,0.3s,baz=109,slow=20,SNR=2.8
NEW **Newport** 9.37 303 Pn Pn 18 07 30.1 +0.1
WUAZ **Wupatki** 9.48 212 *e*Pn Pn 18 07 32.8 +1.1
8.1nm,0.4s
NVAR **Mina Array Bea** 11.16 246 Pn Pn 18 07 57.0 +2.2
0.1nm,0.3s,baz=57,slow=12,SNR=4.7
NVAR **Mina Array Bea** 11.16 246 Pn Pn 18 07 57.0 +2.2
FFC **Flin Flon** 11.17 10 *e*Pn Pn 18 07 52.5 -2.1
TXAR **Lajitas Array** 14.47 174 Pn Pn 18 08 42.4 +2.5
baz=112,slow=12,SNR=1.8
TXAR Lg Lg 18 12 44.0
0.1nm,0.3s,baz=9.3,slow=32,SNR=2.4
TXAR **Lajitas Array** 14.47 174 Pn Pn 18 08 42.4 +2.5
TXAR Lg Lg 18 12 44.0
BBB **Bella Bella** 17.38 307 LR LR 18 15 23.8
comp=Z,38nn,18.6s,baz=29,slow=35
YKA **Yellowknife Ar** 19.53 347 P P 18 09 42.2 -0.2
0.2nm,0.3s,baz=164,slow=12,SNR=10
YKA **Yellowknife Ar** 19.53 347 P P 18 09 42.2 -0.2
INK **Inuvik** 28.68 339 P P 18 11 11.5 -0.5
1.0nm,0.4s,baz=103,slow=16,SNR=5.5
INK **Inuvik** 28.68 339 P P 18 11 11.5 -0.5
ARCES **ARCESS Array B** 61.39 18 P P 18 15 29.7 -1.3
2.1nm,0.8s,baz=339,slow=6.5,SNR=6.7
ARCES **ARCESS Array B** 61.39 18 P P 18 15 29.7 -1.3
ZALV **Zalesovo Beam** 82.27 354 P P 18 17 36.1 -0.5
0.6nm,0.6s,baz=10,slow=5.9,SNR=4.7
ZALV **Zalesovo Beam** 82.27 354 P P 18 17 36.1 -0.5
SONM **Songino Array** 84.60 339 P P 18 17 49.5 +0.5
0.2nm,0.6s,baz=3.5,slow=3.3,SNR=3.6
SONM **Songino Array** 84.60 339 P P 18 17 49.5 +0.5
BRTR **Keskin Array B** 88.99 30 LR LR 19 03 29.8
comp=Z,20nm,18.6s,baz=59,slow=39
MKAR **Makanchi Array** 89.57 355 P P 18 18 12.6 -0.4
0.3nm,0.7s,baz=7.6,slow=4.5,SNR=4.7
MKAR **Makanchi Array** 89.57 355 P P 18 18 12.6 -0.4
TORD **Torodi Ar. Bea** 92.89 69 LR LR 19 00 29.9
comp=Z,50nn,19.0s,baz=120,slow=36

MEX 14 18:31:55.2±0.4, 14°.86N×93°.41W, h33km±52km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CCIG	**Comitan**	1.88	41	*i* P	Pn	18 32 24.1	-1.1
CCIG				*i* S	Sn	18 32 45.1	-2.9
TGIG		1.93	8	*i* P	Pn	18 32 23.9	-1.9
TGIG				*i* S	Sn	18 32 46.6	-2.5
CMIG	**Matias Romero**	2.63	328	*e*P	Pn	18 32 34.3	-1.1
HUIG	**Huatulco**	2.75	290	*i* P	Pn	18 32 34.9	-2.2
HUIG				*i* S	Sn	18 33 06.8	-2.5
VHO	**Vista Hermosa**	3.88	305	*i* P	Pn	18 32 50.7	-2.1
VHO				*i* S	Sn	18 33 36.0	-1.5
PNIG	**Pinotepa**	4.79	289	*i* P	Pn	18 33 04.7	-0.4
PNIG				*i* S	Sn	18 33 57.4	-2.1

ISC 14 18:42:19.8±2.0, 42°.9N±0°.1×39°.86E±0°.06, h10km, n14, σ1§12, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BCA	**Borcka**	1.93	137	*e*PN	Pn	18 42 51.2	-1.5
BCA				*e*SN	**Sn**	**18 43 15.1**	**-2.1**
DBOC	**Borcka**	2.03	138	*i* P	Pn	18 42 52.6	-1.5
DBOC				*i* S	**Sn**	**18 43 18.5**	**-1.0**
ESPY	**Espiye-Giresun**	2.13	204	*e*PN	Pn	18 42 54.7	-0.7
ESPY				*e*SN	**Sn**	**18 43 21.3**	**-0.5**
DAGI	**Agillar**	2.36	139	*i* P	Pn	18 42 57.9	-0.7
DAGI				*i* S	**Sn**	**18 43 27.0**	**-0.6**
GUMT	**Gumushane**	2.42	187	*e*PN	Pn	18 42 58.9	-0.7
DDEM	**Demirkent**	2.43	144	*i* P	**Pn**	**18 42 59.6**	**0.0**
DDEM				*i* S	**Sn**	**18 43 29.7**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	2.48	175	*e*PN	Pn	18 42 59.9	-0.5
ONI	**Oni**	2.66	95	P	**Pn**	**18 43 03.6**	**+0.8**
ONI				S	**Sn**	**18 43 34.4**	**-0.7**
KELT	**Kelkit**	2.76	190	*i* P	**Pn**	**18 43 04.9**	**+0.6**
KELT				*i* S	**Sn**	**18 43 39.9**	**+2.3**
AKH	**Akhalkalaki**	3.07	117	P	**Pn**	**18 43 09.4**	**+0.9**
RSDY	**Resadiye-TOKAT**	3.12	218	*e*PN	**Pn**	**18 43 08.8**	**-0.2**
ERZN	**Erzincan**	3.28	182	*e*PN	**Pn**	**18 43 11.1**	**-0.2**
KVT	**Kavak**	3.36	239	*e*PN	**Pn**	**18 43 12.0**	**-0.4**
DIKM	**Dikmen**	3.63	252	*e*PN	Pn	18 43 15.0	-1.0

*ISK **14** 18:53:38.7, 38°.82N×26°.82E, h17km, ML3.9*
*DDA **14** 18:53:38.3, 38°.82N×26°.84E, h25km, MD3.8, ML3.9*
*ATH **14** 18:53:38.6, 38°.80N×26°.82E, h28km±1km, MD3.7/11*
*ISCJB **14** 18:53:39.5±0.3, 38°.82N±0°.01×26°.79E±0°.02, h24km±3km, mb3.2/6, Error ellipse: s-maj=2.8km s-min=2.3km az=143.5*
*THE **14** 18:53:39.4, 38°.79N×26°.78E, h5km±2km, ML4.0/3, Error ellipse: s-maj=3.1km s-min=0.9km az=273.0*
*CSEM **14** 18:53:39.4±0.1, 38°.81N×26°.80E, h12km±1km, ML3.9, Error ellipse: s-maj=1.8km s-min=1.5km az=57.0*
*SOF **14** 18:53:41.3, 39°.05N×26°.70E, h11km, MD3.4*
*IDC **14** 18:53:43.0±1.2, 39°.27N×27°.15E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.3/24, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=35.9km s-min=19.5km az=160.0*

ISC 14 18:53:39.5±1.0, 38°.83N±0°.01×26°.81E±0°.02, h11km±8km, n248, σ0§88/291, mb3.4/6, 22C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BLCB	**Balcova**	0.48	157	PG	**Pg**	**18 53 48.7**	**-0.1**
BLCB				SG	**Sg**	**18 53 49.3**	**+0.2**
BLCB	**Balcova**	0.48	157	*i* Pg	**Pg**	**18 53 48.7**	**-0.1**
BLCB				*i* Sg	**Sg**	**18 53 55.3**	**+0.2**
AYVA	**Ayvalik**	0.49	349	*i* P	**Pg**	**18 53 49.3**	**+0.3**
AYVA				*i* S	**Sg**	**18 53 55.9**	**+0.4**
AYVA	**Ayvalik**	0.49	349	*i* P	**Pg**	**18 53 49.3**	**+0.3**
AYVA				*i* S	**Sg**	**18 53 55.9**	**+0.4**
URLA	**Izmir**	0.49	200	*i* P	**Pg**	**18 53 49.0**	**-0.1**
URLA				*i* S	**Sb**	**18 53 56.3**	**-1.1**
URLA	**Izmir**	0.49	200	*i* P	**Pg**	**18 53 49.0**	**-0.1**
URLA				*i* S	**Sb**	**18 53 56.3**	**-1.1**
IZM	**Izmir**	0.56	140	PG	**Pg**	**18 53 50.2**	**-0.1**
IZM	**Izmir**	0.56	140	*i* Pg	**Pg**	**18 53 50.2**	**-0.1**
PRK	**Paraskevi**	0.59	315	P	**Pg**	**18 53 50.9**	**0.0**
PRK				S	**Sb**	**18 53 59.5**	**-0.7**
PRK	**Paraskevi**	0.59	315	*e*PN	**Pg**	**18 53 51.1**	**+0.2**
PRK				*e*SN	**Sb**	**18 53 59.8**	**-0.4**
PRK	**Paraskevi**	0.59	315	*e*Pn	**Pg**	**18 53 51.1**	**+0.2**
PRK				S	**Sb**	**18 53 59.5**	**-0.7**
PRK				*e*Sn	**Sb**	**18 53 59.8**	**-0.4**
CHOS	**Chios island**	0.73	234	P	**Pg**	**18 53 53.7**	**+0.1**
CHOS				S	**Sg**	**18 54 03.3**	**0.0**
CHOS	**Chios island**	0.73	234	*e*PN	**Pg**	**18 53 53.8**	**+0.1**
CHOS				*e*SN	**Sg**	**18 54 03.6**	**+0.3**
CHOS	**Chios island**	0.73	234	P	**Pg**	**18 53 53.7**	**+0.1**
CHOS				S	**Sg**	**18 54 03.3**	**0.0**
CHOS				*e*Sn	**Sg**	**18 54 03.6**	**+0.3**
AKS	**Akhisar**	0.79	86	PG	**Pg**	**18 53 54.5**	**-0.2**
AKS	**Akhisar**	0.79	86	*i* Pg	**Pg**	**18 53 54.5**	**-0.2**
SIGR	**SIGRI**	0.83	298	P	**Pg**	**18 53 55.3**	**-0.3**
SIGR				S	**Sb**	**18 54 07.7**	**+0.5**
SIGR	**SIGRI**	0.83	298	P	**Pg**	**18 53 55.3**	**-0.3**
SIGR				S	**Sb**	**18 54 07.7**	**+0.5**
EZN	**Ezine**	1.06	340	PG	**Pg**	**18 53 59.8**	**-0.2**
EZN				SG	**Sn**	**18 54 14.9**	**-0.3**
EZN	**Ezine**	1.06	340	*i* Pg	**Pg**	**18 53 59.8**	**-0.2**
EZN				*i* Sg	**Sn**	**18 54 14.9**	**-0.3**
BALY	**Balya**	1.11	34	*i* P	**Pb**	**18 54 00.6**	**-0.1**
BALY				*i* S	**Sn**	**18 54 17.4**	**+1.0**
BALY	**Balya**	1.11	34	*i* P	**Pb**	**18 54 00.6**	**-0.1**
BALY				*i* S	**Sn**	**18 54 17.4**	**+1.0**
BALB	**Balikesir**	1.16	45	PN	**Pb**	**18 54 00.6**	**-1.0**
BALB	**Balikesir**	1.16	45	*i* Pn	**Pb**	**18 54 00.6**	**-1.0**
BOZC	**Bozcaada**	1.17	330	*i* P	**Pb**	**18 54 01.7**	**0.0**
BOZC				*i* S	**Sn**	**18 54 17.9**	**+0.2**
BOZC				*i* S	**Sg**	**18 54 18.4**	**+1.2**
GCAM	**G?zelcaml?**	1.17	163	*i* P	**Pb**	**18 54 01.2**	**-0.6**
GCAM				*i* S	**Sg**	**18 54 16.9**	**-0.4**
GCAM	**G?zelcaml?**	1.17	163	*i* P	**Pb**	**18 54 01.2**	**-0.6**
GCAM				*i* S	**Sg**	**18 54 16.9**	**-0.4**
GONE	**Gonen-Balikesi**	1.40	29	PN	**Pn**	**18 54 04.1**	**-0.8**
GONE	**Gonen-Balikesi**	1.40	29	*i* Pn	**Pn**	**18 54 04.1**	**-0.8**
AYDN	**Tasoluk**	1.44	144	*i* P	**Pn**	**18 54 05.0**	**-0.6**
AYDN				*i* S	**Sn**	**18 54 23.5**	**-1.0**
AYDN	**Tasoluk**	1.44	144	*i* P	**Pn**	**18 54 05.0**	**-0.6**
AYDN				*i* S	**Sn**	**18 54 23.5**	**-1.0**
KULA	**Kula-Manisa**	1.48	102	PN	**Pn**	**18 54 05.6**	**-0.6**
KULA	**Kula-Manisa**	1.48	102	*i* Pn	**Pn**	**18 54 05.6**	**-0.6**
DEMI	**Demirci**	1.50	81	*i* P	**Pb**	**18 54 07.3**	**-0.2**
DEMI				*i* S	**Sb**	**18 54 26.3**	**-0.3**
DEMI	**Demirci**	1.50	81	*i* P	**Pb**	**18 54 07.3**	**-0.2**
DEMI				*i* S	**Sb**	**18 54 26.3**	**-0.3**
LPK	**Lapseki**	1.54	359	PN	**Pn**	**18 54 06.5**	**-0.5**
LPK	**Lapseki**	1.54	359	*i* Pn	**Pn**	**18 54 06.5**	**-0.5**
GELI	**Tayfur-Gelibol**	1.59	351	*e*PN	**Pn**	**18 54 07.0**	**-0.6**
GELI	**Tayfur-Gelibol**	1.59	351	*e*Pn	**Pn**	**18 54 07.0**	**-0.6**
DST	**Dursunbey**	1.61	61	*e*PN	**Pn**	**18 54 07.5**	**-0.4**
DST	**Dursunbey**	1.61	61	*e*Pn	**Pn**	**18 54 07.5**	**-0.4**
KRBG	**Karabiga-Canak**	1.61	13	*e*PN	**Pn**	**18 54 07.1**	**-0.7**
KRBG	**Karabiga-Canak**	1.61	13	*e*Pn	**Pn**	**18 54 07.1**	**-0.7**
LIA	**Limnos Island**	1.65	311	P	**Pn**	**18 54 08.2**	**-0.1**
LIA	**Limnos Island**	1.65	311	*e*PN	**Pn**	**18 54 08.3**	**-0.1**
LIA				*e*SN	**Sn**	**18 54 30.1**	**+0.5**
LIA	**Limnos Island**	1.65	311	*e*Pn	**Pn**	**18 54 08.3**	**-0.1**
LIA				*e*Sn	**Sn**	**18 54 30.1**	**+0.5**
MLSB	**Milas**	1.71	153	*e*PN	**Pn**	**18 54 08.4**	**-0.8**
MLSB	**Milas**	1.71	153	*e*Pn	**Pn**	**18 54 08.4**	**-0.8**
EDC	**Edincik**	1.72	28	*e*PN	**Pn**	**18 54 09.8**	**+0.4**
EDC	**Edincik**	1.72	28	*e*Pn	**Pn**	**18 54 09.8**	**+0.4**
BNT	**Bandirma**	1.75	29	*e*PN	**Pn**	**18 54 09.0**	**-0.8**
BNT	**Bandirma**	1.75	29	*e*Pn	**Pn**	**18 54 09.0**	**-0.8**
BODT	**Bodrum**	1.81	167	*e*PN	**Pn**	**18 54 09.5**	**-1.1**
BODT	**Bodrum**	1.81	167	*e*Pn	**Pn**	**18 54 09.5**	**-1.1**
BDRM	**Kayabasi**	1.83	164	*i* P	**Pg**	**18 54 17.0**	**+2.5**
BDRM				*i* S	**Sg**	**18 54 38.5**	**+0.3**
RKY	**Sarkoy-Tekirda**	1.88	9	*e*PN	**Pn**	**18 54 11.1**	**-0.5**
RKY	**Sarkoy-Tekirda**	1.88	9	*e*Pn	**Pn**	**18 54 11.1**	**-0.5**
ENEZ	**Enez**	1.97	345	*e*PN	**Pn**	**18 54 12.6**	**-0.2**
ENEZ	**Enez**	1.97	345	*e*Pn	**Pn**	**18 54 12.6**	**-0.2**
APE	**Apeiranthos**	2.02	210	P	**Pn**	**18 54 11.7**	**-1.9**
APE	**Apeiranthos**	2.02	210	*e*PN	**Pn**	**18 54 11.6**	**-2.0**
APE	**Apeiranthos**	2.02	210	*i* P	**Pn**	**18 54 11.7**	**-1.9**
APE	**Apeiranthos**	2.02	210	P	**Pn**	**18 54 11.7**	**-1.9**
YER	**Yerkesik**	2.05	145	*e*PN	**Pn**	**18 54 13.3**	**-0.7**
YER	**Yerkesik**	2.05	145	*e*Pn	**Pn**	**18 54 13.3**	**-0.7**
DENT	**Denizli**	2.05	121	*e*PN	**Pn**	**18 54 13.6**	**-0.4**
DENT	**Denizli**	2.05	121	*e*Pn	**Pn**	**18 54 13.6**	**-0.4**
MRMA	**Marmari**	2.06	249	P	**Pn**	**18 54 12.8**	**-1.2**
MRMA	**Marmari**	2.06	249	P	**Pn**	**18 54 12.8**	**-1.2**
DNZL	**Cakiroluk**	2.10	122	*i* P	**Pn**	**18 54 14.3**	**-0.4**
DNZL				*i* S	**Sg**	**18 54 46.9**	**0.0**
DNZL	**Cakiroluk**	2.10	122	*i* P	**Pn**	**18 54 14.3**	**-0.4**
ALN	**Alexandroupoli**	2.15	344	P	**Pn**	**18 54 14.9**	**-0.4**
ALN	**Alexandroupoli**	2.15	344	P	**Pn**	**18 54 14.9**	**-0.4**
KHAL	**Karahalli**	2.15	101	*i* P	**Pn**	**18 54 15.3**	**-0.1**
KHAL				*i* S	**Sb**	**18 54 46.5**	**+1.2**
KHAL	**Karahalli**	2.15	101	*i* P	**Pn**	**18 54 15.3**	**-0.1**
TVSB	**Tavsanli**	2.16	72	*e*PN	**Pn**	**18 54 15.0**	**-0.5**
TVSB	**Tavsanli**	2.16	72	*e*Pn	**Pn**	**18 54 15.0**	**-0.5**
KHL	**Karahalli**	2.19	102	*e*PN	**Pn**	**18 54 15.2**	**-0.7**
KHL	**Karahalli**	2.19	102	*e*Pn	**Pn**	**18 54 15.2**	**-0.7**
MDNY	**Mudanya-Bursa**	2.23	46	*e*PN	**Pn**	**18 54 15.7**	**-0.6**
MDNY	**Mudanya-Bursa**	2.23	46	*e*Pn	**Pn**	**18 54 15.7**	**-0.6**
TKR	**Tekirdag**	2.23	14	*e*PN	**Pn**	**18 54 15.9**	**-0.4**
TKR	**Tekirdag**	2.23	14	*e*Pn	**Pn**	**18 54 16.0**	**-0.4**
ARMT	**Armutlu**	2.35	42	*e*PN	**Pn**	**18 54 17.4**	**-0.7**
ARMT	**Armutlu**	2.35	42	*e*Pn	**Pn**	**18 54 17.4**	**-0.7**
CRLT	**Corlu**	2.41	17	*e*PN	**Pn**	**18 54 18.6**	**-0.2**
CRLT	**Corlu**	2.41	17	*e*Pn	**Pn**	**18 54 18.6**	**-0.2**
TURN	**Turunc**	2.41	143	*i* P	**Pn**	**18 54 17.4**	**-1.5**
TURN				*i* S	**Sg**	**18 54 57.2**	**+0.2**
TURN	**Turunc**	2.41	143	*i* P	**Pn**	**18 54 17.4**	**-1.5**
PTL	**Penteli**	2.44	252	P	**Pn**	**18 54 18.3**	**-0.9**
PTL	**Penteli**	2.44	252	P	**Pn**	**18 54 18.3**	**-0.9**
GEMT	**Gemlik**	2.44	48	*e*PN	**Pn**	**18 54 19.0**	**-0.3**
GEMT	**Gemlik**	2.44	48	*e*Pn	**Pn**	**18 54 19.0**	**-0.3**
ALT	**Altintas**	2.59	84	*e*PN	**Pn**	**18 54 21.0**	**-0.4**
ALT	**Altintas**	2.59	84	*e*Pn	**Pn**	**18 54 21.0**	**-0.4**
SLVT	**Silivri**	2.63	24	*e*PN	**Pn**	**18 54 21.8**	**-0.1**
SLVT	**Silivri**	2.63	24	*e*Pn	**Pn**	**18 54 21.8**	**-0.1**
ELBA	**Catalca**	2.63	28	*i* P	**Pn**	**18 54 20.7**	**-1.2**
ELBA				*i* S	**Sn**	**18 54 52.6**	**-1.3**
ELBA	**Catalca**	2.63	28	*i* P	**Pn**	**18 54 20.7**	**-1.2**
ELBA				*i* S	**Sn**	**18 54 52.6**	**-1.3**
OUR	**Ouranopolis**	2.65	305	P	**Pn**	**18 54 22.2**	**+0.1**
OUR	**Ouranopolis**	2.65	305	P	**Pn**	**18 54 22.2**	**+0.1**
PAIG	**Paliouri**	2.66	295	P	**Pn**	**18 54 21.8**	**-0.5**
PAIG	**Paliouri**	2.66	295	P	**Pn**	**18 54 21.8**	**-0.5**
CAVI	**Cavuskoy**	2.72	59	*e*PN	**Pn**	**18 54 22.5**	**-0.6**
CAVI	**Cavuskoy**	2.72	59	*e*Pn	**Pn**	**18 54 22.5**	**-0.6**
CTKS	**Kestanelik-??a**	2.74	28	*e*PN	**Pn**	**18 54 23.2**	**-0.1**
CTKS	**Kestanelik-??a**	2.74	28	*e*Pn	**Pn**	**18 54 23.2**	**-0.1**
KAVA	**Kavala**	2.79	322	P	**Pn**	**18 54 24.2**	**+0.1**
KAVA	**Kavala**	2.79	322	P	**Pn**	**18 54 24.2**	**+0.1**
BGKT	**Bogazkoy**	2.79	32	*e*PN	**Pn**	**18 54 24.0**	**-0.1**
BGKT	**Bogazkoy**	2.79	32	*e*Pn	**Pn**	**18 54 24.0**	**-0.1**
ARG	**Arkhangelos**	2.81	158	P	**Pn**	**18 54 24.0**	**-0.3**
ARG	**Arkhangelos**	2.81	158	*e*PN	**Pn**	**18 54 24.0**	**-0.3**
ARG	**Arkhangelos**	2.81	158	P	**Pn**	**18 54 24.0**	**-0.3**
ISK	**Istanbul-Kandi**	2.83	37	*e*PN	**Pn**	**18 54 24.4**	**-0.1**
ISK	**Istanbul-Kandi**	2.83	37	*e*Pn	**Pn**	**18 54 24.5**	**-0

MDUB	Mudurnu	3.77	63	*e*PN	Pn	18 54 37.6	0.0	
MDUB	Mudurnu	3.77	63	*e*Pn	Pn	18 54 37.6	0.0	
VLX	Vlachokerasia	3.78	249	*e*PN	Pn	18 54 37.8	0.0	
VLX	Vlachokerasia	3.78	249	*e*Pn	Pn	18 54 37.8	0.0	
KNT	Kendrikon	3.80	309	P	Pn	18 54 39.2	+1.2	
KNT	Kendrikon	3.80	309	P	Pn	18 54 39.2	+1.2	
LAKA	Lakka	3.83	263	*e*PN	Pn	18 54 38.9	+0.5	
LAKA	Lakka	3.83	263	*e*Pn	Pn	18 54 38.9	+0.5	
IDI	Anoyia	3.85	204	P	Pn	18 54 37.0	-1.7	
IDI	Anoyia	3.85	204	P	Pn	18 54 37.0	-1.7	
KYTH	Kithira	3.93	231	P	Pn	18 54 38.8	-1.0	
KYTH	Kithira	3.93	231	P	Pn	18 54 38.8	-1.0	
KIZT	Kizilcal	3.96	88	*e*PN	Pn	18 54 40.4	+0.1	
KIZT	Kizilcal	3.96	88	*e*Pn	Pn	18 54 40.4	+0.1	
KKB	Krupnik	4.16	318	*i* P	Pn	18 54 47.3	+4.4	
KKB	Krupnik	4.16	318	*i* P	Pn	18 54 47.3	+4.4	
NEF	NEVSHA	4.45	4	*i* P	Pn	18 54 46.9	0.0	
NEF	NEVSHA	4.45	4	*i* P	Pn	18 54 46.9	0.0	
KONT	Konya--Tatoy	4.45	100	*e*PN	Pn	18 54 47.8	+0.9	
KONT	Konya--Tatoy	4.45	100	*e*Pn	Pn	18 54 47.8	+0.9	
SZH	Strazhica	4.49	352	*i* P	Pn	18 54 47.0	-0.4	
SZH	Strazhica	4.49	352	*i* P	Pn	18 54 47.0	-0.4	
VTS	Vitosha	4.65	325	P	Pn	18 54 50.6	+0.8	
VTS	Vitosha	4.65	325	⇑*i*P	Pn	18 54 50.4	+0.6	
VTS	Vitosha	4.65	325	*i* P	Pn	18 54 50.7	+0.9	
VTS	Vitosha	4.65	325	P	Pn	18 54 50.6	+0.8	
VTS	Vitosha	4.65	325	*e*Pn	Pn	18 54 50.9	+1.1	
LOD	Lodumlu	4.74	75	*e*PN	Pn	18 54 51.6	+0.7	
LOD	Lodumlu	4.74	75	*e*Pn	Pn	18 54 51.6	+0.7	
AFSR	Af´ar-Bala (A	4.91	81	*e*PN	Pn	18 54 54.3	+1.0	
AFSR	Af´ar-Bala (A	4.91	81	*e*Pn	Pn	18 54 54.3	+1.0	
MPEP	Malo Peshtene	5.08	334	*i* P	Pn	18 54 55.7	+0.1	
SAFT	Safranbolu	5.12	60	*e*PN	Pn	18 54 57.0	+0.9	
SAFT	Safranbolu	5.12	60	*e*Pn	Pn	18 54 57.0	+0.9	
SULT	Sultanhani-AKS	5.30	95	*e*PN	Pn	18 55 00.2	+1.6	
SULT	Sultanhani-AKS	5.30	95	*e*Pn	Pn	18 55 00.2	+1.6	
BRTR	Keskin Array B	5.38	78	Pn	Pn	18 55 00.4	+0.6	
	1.9nm,0.3s,baz=253,slow=14,SNR=75							
BRTR				Pg	Pg	18 55 20.8	-1.7	
	0.9nm,0.3s,baz=260,slow=16,SNR=27							
BRTR				Sn	Sn	18 55 59.2	-2.5	
	2.8nm,0.3s,baz=253,slow=23,SNR=13							
BRTR				Lg	Lg	18 56 34.1		
	0.4nm,0.3s,baz=259,slow=24,SNR=3.3							
BARS	Barje	5.50	318	*e*Pn	Pn	18 55 02.4	+1.1	
TIRR	Tirgusor	5.75	12	⇓*i*P	Pn	18 55 04.5	-0.3	
TIRR	Tirgusor	5.75	12	⇓*i*P	Pn	18 55 04.5	-0.3	
HUMR	Humele	5.86	347	⇑*i*P	Pn	18 55 06.0	-0.2	
HUMR	Humele	5.86	347	⇑*i*P	Pn	18 55 06.0	-0.2	
BOLS	Boljevac	6.19	325	*e*Pn	Pn	18 55 10.7	-0.1	
CORM	Corum	6.20	75	*e*PN	Pn	18 55 12.8	+1.7	
CORM	Corum	6.20	75	*e*Pn	Pn	18 55 12.8	+1.7	
ISR	Istrita	6.29	358	⇓*i*P	Pb	18 55 21.5	-7.5	
CFR	Carcaliu	6.42	8	⇑*i*P	Pn	18 55 13.7	-0.3	
CFR	Carcaliu	6.42	8	⇑*i*P	Pn	18 55 13.7	-0.3	
TLCR		6.53	13	⇑*i*P	Pn	18 55 15.7	+0.3	
TLCR		6.53	13	⇑*i*P	Pn	18 55 15.7	+0.3	
MLR	Muntele Rosu	6.69	355	⇑*i*P	Pn	18 55 18.5	+0.7	
MLR	Muntele Rosu	6.69	355	⇑*i*P	Pn	18 55 18.5	+0.7	
VOIR		6.72	349	⇑*i*P	Pn	18 55 18.2	-0.1	
VOIR		6.73	349	⇑*i*P	Pn	18 55 18.2	-0.1	
GRUS	Gruza	6.82	320	*e*Pn	Pn	18 55 21.6	+2.1	
PLOR	Plostina	7.02	359	⇑*i*P	Pn	18 55 29.0	+6.8	
VRI	Vrincioaia	7.04	360	⇑*i*P	Pn	18 55 23.7	+1.3	
VRI	Vrincioaia	7.04	360	⇑*i*P	Pn	18 55 23.7	+1.3	
DOPR	Dopca	7.21	352	⇑*i*P	Pn	18 55 25.7	+0.9	
DOPR	Dopca	7.21	352	⇑*i*P	Pn	18 55 25.7	+0.9	
TESR		7.68	359	⇑*i*P	Pn	18 55 32.0	+0.7	
TESR		7.68	359	⇑*i*P	Pn	18 55 32.0	+0.7	
BZS	Buzias	7.80	332	⇑*i*P	Pn	18 55 32.6	-0.3	
BZS	Buzias	7.80	332	⇑*i*P	Pn	18 55 32.6	-0.3	
BZS	Buzias	7.80	332	*e*Pn	Pn	18 55 32.9	0.0	
DRGR		8.51	341	⇓*i*P	Pn	18 55 43.5	+0.8	
DRGR		8.51	341	⇓*i*P	Pn	18 55 43.5	+0.8	
FINES	FINESS Array B	22.65	359	P	P	18 58 41.2	+0.9	
	3.0nm,1.1s,baz=168,slow=9.8,SNR=3.4							
ESDC	Sonseca Array	23.79	282	P	P	18 58 58.1	+5.9	
	0.1nm,0.3s,baz=68,slow=9.5,SNR=4.2							
TORD	Torodi Ar. Bea	33.89	228	P	P	19 00 32.4	+10	
	0.3nm,0.5s,baz=34,slow=10,SNR=6.4							
MKAR	Makanchi Array	40.73	60	P	P	19 01 19.9	-0.4	
	0.3nm,0.5s,baz=275,slow=7.7,SNR=6.2							
ZALV	Zalesovo Beam	41.56	49	P	P	19 01 29.4	+2.5	
	0.3nm,0.4s,baz=268,slow=10,SNR=3.1							
YKA	Yellowknife Ar	74.36	342	P	P	19 05 20.2	+3.5	
	0.1nm,0.4s,baz=27,slow=5.7,SNR=4.4							

IDC 14 19:04:57.5±2.9, 35°29S×179°55W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/35, Error ellipse: s-maj=73.0km s-min=43.9km az=133.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	4.00	221	Pn	Pn	19 05 59.7	-0.2
	2.9nm,0.3s,baz=337,slow=7.7,SNR=30						
URZ				Sn	Sn	19 06 44.5	-3.0
	1.2nm,0.3s,baz=141,slow=22,SNR=3.5						
DZM	Mont Dzumac	17.99	313	LR	LR	19 13 35.5	
	comp=Z,89nm,18.4s,baz=43,slow=29						
ASAR	Alice Springs	41.80	273	P	P	19 12 49.0	-0.1
	0.3nm,0.6s,baz=116,slow=7.4,SNR=9.4						
WRA	Warramunga Arr	43.24	278	P	P	19 13 00.5	-0.2
	1.2nm,0.5s,baz=120,slow=7.6,SNR=26						
FINES	FINESS Array B	149.19	336	PKPbc	PKPbc	19 24 46.5	-0.5
	2.1nm,0.9s,baz=41,slow=4.4,SNR=9.1						

IDC 14 19:09:04.5±3.8, 36°63S×177°87E, h170km±29km, mb3.2/2, mb1 3.5/2, mb1mx3.3/16, mbtmp3.2/2, Error ellipse: s-maj=58.5km s-min=33.4km az=30.0
ISCJB 14 19:09:07.3±0.9, 37°09S±0°08×177°5E±0°1, h211km±6km, mb3.3/2, Error ellipse: s-maj=14.7km s-min=12.5km az=10.6
WEL 14 19:09:08.5±0.2, 36°80S×177°52E, h172km±2km, ML4.0/8, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0

ISC 14 19:09:07.7±1.1, 36°98S±0°09×177°52E±0°08, h200km±7km, n61, σ1s20/68, 5C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.86	133	PN	Pn	19 09 35.3	-1.2
MXZ				SN	Sn	19 09 56.3	-2.7
PUZ	Puketiti	1.24	152	⇑PN	Pn	19 09 39.0	-0.2
PUZ				SN	Sn	19 10 01.9	-2.0
URZ	Urewera	1.32	194	P	Pn	19 09 39.8	-0.1
	13nm,0.3s,baz=325,slow=1.8,SNR=30						
URZ				S	Sn	19 10 03.6	-1.4
	25nm,0.3s,baz=333,slow=3.7,SNR=11						
MWZ	Matawai	1.36	180	PN	Pn	19 09 40.2	-0.1
MWZ				SN	Sn	19 10 04.4	-1.2
KUZ	Kuaotunu	1.46	278	⇑PN	Pn	19 09 39.3	-1.7
TARZ	Mount Tarawera	1.49	212	PN	Pn	19 09 42.3	+0.9
CNGZ	Carnagh Statio	1.60	160	PN	Pn	19 09 42.5	+0.2
PRRZ	Plateau Road	1.76	210	PN	Pn	19 09 44.6	+0.8
PRRZ				SN	Sn	19 10 12.6	+0.5
ALRZ	Allen Road	1.84	210	PN	Pn	19 09 45.4	+0.8
MKAZ	Moumakai	1.88	265	⇑PN	Pn	19 09 44.8	-0.2
PRGZ	Paritu Road	1.97	172	PN	Pn	19 09 46.3	+0.4
RAHZ	Arahi	1.97	190	PN	Pn	19 09 46.6	+0.7
RAHZ				SN	Sn	19 10 16.4	+0.6
KNZ	Kokohu	2.05	177	⇑PN	Pn	19 09 47.1	+0.5
NMHZ	Naumai	2.19	195	PN	Pn	19 09 49.5	+1.2
NMHZ				SN	Sn	19 10 21.4	+1.4
MHGZ	Mahia Peninsul	2.20	172	PN	Pn	19 09 49.0	+0.7
BKZ	Black Stump Fm	2.33	200	PN	Pn	19 09 50.0	+0.2
MCHZ	McNeill Hill	2.55	194	PN	Pn	19 09 53.1	+1.0
OTVZ	Oturere	2.63	213	PN	Pn	19 09 54.0	+0.8
TWVZ	Taurewa	2.66	217	PN	Pn	19 09 54.1	+0.6
CKHZ	Cape Kidnapper	2.70	187	PN	Pn	19 09 54.4	+0.5
TUVZ	Tukino	2.72	212	PN	Pn	19 09 55.0	+0.8
FWVZ	Far West T-bar	2.75	214	PN	Pn	19 09 55.1	+0.4
BHHZ	Black Hill Sta	2.76	204	PN	Pn	19 09 54.5	0.0
WNVZ	Wahianoa	2.79	212	PN	Pn	19 09 55.3	+0.3
MOVZ	Moawhango	2.80	209	PN	Pn	19 09 54.9	-0.1
KAHZ	Kahuranaki	2.86	190	PN	Pn	19 09 56.3	+0.6
PKVZ	Pokaka	2.88	216	PN	Pn	19 09 56.6	+0.7
PXZ	Pawanui	3.09	189	⇓PN	Pn	19 09 58.5	+0.1
PNHZ	Pukenui	3.11	199	PN	Pn	19 09 58.6	-0.1
WPHZ	Waipukurau	3.20	195	PN	Pn	19 09 59.7	+0.1
TSZ	Takapari Road	3.31	201	PN	Pn	19 10 00.7	-0.3
PRHZ	Porangahau	3.36	192	PN	Pn	19 10 01.6	+0.1
DVHZ	Dannevirke	3.48	197	PN	Pn	19 10 02.6	-0.5
POWZ	Post Office Ro	3.68	201	PN	Pn	19 10 05.0	-0.4
BFZ	Birch Farm	3.83	195	PN	Pn	19 10 07.1	-0.2
MRZ	Mangatainoka R	3.98	202	⇑PN	Pn	19 10 08.2	-1.0
TIWZ	Tintock	4.00	198	PN	Pn	19 10 08.9	-0.6
HOWZ	Holdsworth Sta	4.22	201	PN	Pn	19 10 11.0	-1.2
OGWZ	Otaki Gorge	4.25	205	PN	Pn	19 10 11.6	-1.0
TMWZ	Te Maipa	4.32	197	PN	Pn	19 10 12.6	-0.8
KIW	Kapiti Island	4.38	207	PN	Pn	19 10 13.0	-1.2
MTW	Mount Morrison	4.46	200	PN	Pn	19 10 13.7	-1.5
CAW	Cannon Point	4.54	204	PN	Pn	19 10 14.7	-1.6
TRWZ	Traveller	4.64	197	PN	Pn	19 10 16.4	-1.0
PAWZ	Paruwai Farm	4.69	200	PN	Pn	19 10 16.4	-1.7
MSWZ	Moikau Station	4.77	201	PN	Pn	19 10 17.4	-1.7
WEL	Wellington	4.80	206	PN	Pn	19 10 18.0	-1.5
SNZO	South Karori	4.85	206	PN	Pn	19 10 18.2	-1.8
PLWZ	Palliser	4.91	200	PN	Pn	19 10 19.1	-1.8
TCW	Tory Channel	4.92	210	PN	Pn	19 10 19.2	-1.9
TUWZ	Tuamarina	5.24	211	PN	Pn	19 10 23.2	-1.9
NNZ	Nelson	5.32	216	PN	Pn	19 10 24.4	-1.7
BSWZ	Blackbirch Sta	5.51	210	PN	Pn	19 10 27.3	-1.2
THZ	Tophouse	5.97	215	PN	Pn	19 10 33.0	-1.5
KHZ	Kahutara	6.24	208	PN	Pn	19 10 36.5	-1.5
LTZ	Lake Taylor	7.06	213	PN	Pn	19 10 46.4	-2.3
ODZ	Otahua Downs	9.59	211	PN	Pn	19 11 19.1	-2.3
ASAR	Alice Springs	39.58	277	P	P	19 16 21.4	+1.7
	0.7nm,0.5s,baz=122,slow=8.0,SNR=19						
WRA	Warramunga Arr	41.20	282	P	P	19 16 34.1	+1.2
	0.6nm,0.6s,baz=120,slow=8.3,SNR=11						
FINES	FINESS Array B	149.68	333	PKPbc	PKPbc	19 28 31.7	-1.1
	2.2nm,0.9s,baz=72,slow=0.4,SNR=3.4						
TORD	Torodi Ar. Bea	155.98	190	PKPab	PKPab	19 29 08.1	+1.6
	0.2nm,0.4s,baz=184,slow=4.6,SNR=4.0						

IDC 14 19:13:25.1±2.1, 33°93S×178°14W, h83km±8km, mb3.5/3, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=48.8km s-min=19.7km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	5.79	220	P	Pn	19 14 48.0	-0.3
	0.6nm,0.3s,baz=73,slow=3.8,SNR=5.6						
URZ				S	Sn	19 15 53.5	+0.3
	3.7nm,0.3s,baz=152,slow=22,SNR=9.2						
CTA	Charters Tower	34.40	284	P	P	19 20 04.5	0.0
	2.3nm,0.6s,baz=135,slow=11,SNR=3.1						
ASAR	Alice Springs	42.92	271	P	P	19 21 16.2	+0.4
	0.6nm,0.8s,baz=110,slow=8.1,SNR=8.1						
ASAR				pP	pP	19 21 35.3	-0.4
	0.8nm,0.7s,baz=113,slow=7.0,SNR=5.1						
WRA	Warramunga Arr	44.22	276	P	P	19 21 25.7	-0.6
	1.0nm,0.7s,baz=115,slow=7.9,SNR=5.4						
WRA				pP	pP	19 21 46.5	+0.2
	1.1nm,0.7s,baz=119,slow=7.3,SNR=6.4						
FINES	FINESS Array B	148.38	338	PKPbc	PKPbc	19 33 00.4	-0.7
	1.0nm,0.8s,baz=72,slow=4.5,SNR=3.1						
FINES				pPKPbc	pPKPbc	19 33 23.4	-0.7
	1.2nm,0.8s,baz=46,slow=4.6,SNR=1.7						

AUST 14 19:18:09.7±7.4, 1°05S×134°07E, h0km±2km, Error ellipse: s-maj=3.9km s-min=1.2km az=231.0
ISCJB 14 19:18:13.4±1.5, 1°5S±0°1×134°0E±0°1, h10km, mb3.2/2, Error ellipse: s-maj=24.1km s-min=10.2km az=135.6
IDC 14 19:18:13.3±2.7, 1°56S×134°38E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=93.3km s-min=28.3km az=81.0

ISC 14 19:18:16.2±1.8, 1°5S±0°2×133°9E±0°1, h10km, n11, σ2s78/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	Sorong	2.73	284	P	Pn	19 18 53.8	-6.3
	baz=2.8,SNR=7.4						
SWI				S	Sn	19 19 32.5	-0.7
	baz=2.8,SNR=5.3						
KDU	Kakadu	11.20	187	P	Pn	19 20 58.6	+2.2
	baz=12,SNR=3.4						
MTN	Manton Dam	11.60	194	P	Pn	19 21 07.3	+5.5
	baz=12,SNR=5.2						
PCI	Palu	14.09	272	S	S	19 24 30.8	-3.1
	baz=14,SNR=9.5						
WRA	Warramunga Arr	18.33	179	P	Pn	19 22 28.8	-1.9
	0.2nm,0.3s,baz=360,slow=12,SNR=6.3						
FITZ	Fitzroy Crossi	18.38	206	P	Pn	19 22 31.1	-0.2
	0.2nm,0.3s,baz=18,slow=13,SNR=5.9						
FITZ	Fitzroy Crossi	18.38	206	P	Pn	19 22 31.2	-0.2
	baz=19,SNR=3.4						
KKM	Kota Kinabalu	19.20	293	P	P	19 22 39.3	-1.2
	baz=19,SNR=3.7						
ASAR	Alice Springs	22.03	180	P	P	19 23 09.1	-1.9
	0.6nm,0.4s,baz=4.5,slow=12,SNR=11						
PPI	Padang Panjang	33.53	271	S	S	19 30 24.2	+5.5
	baz=34,SNR=9.6						
MKAR	Makanchi Array	65.96	324	P	P	19 29 03.4	+0.7
	0.1nm,0.5s,baz=107,slow=9.2,SNR=3.3						

IDC 14 19:30:10.3±0.5, 13°00N×124°75E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/27, mbtmp4.2/20, ML4.5/2, MS3.5/12, Ms1 3.5/12, ms1mx3.3/45, Error ellipse: s-maj=25.3km s-min=11.6km az=78.0
MOS 14 19:30:14.9±1.0, 12°99N×124°75E, h50km, mb4.8/15, Error ellipse: s-maj=16.1km s-min=7.4km az=119.1
MAN 14 19:30:15.1±3.2, 12°N×124°78E, h22km, mb4.9, ML3.8, MS3.9
NEIC 14 19:30:16.5±0.7, 13°01N×124°74E, h47km±7km, mb4.4/15, Error ellipse: s-maj=9.2km s-min=4.7km az=76.0
ISCJB 14 19:30:16.3±0.6, 13°08N±0°03×124°80E±0°05, h61km±5km, mb4.3/38, Error ellipse: s-maj=8.9km s-min=5.2km az=166.5
BJI 14 19:30:19.1, 12°83N×124°67E, h98km, mB4.7/5, mb4.4/12

ISC 14 19:30:17.6±0.9, 13°08N±0°05×124°79E±0°07, h55km±8km, n128, σ1s19/140, mb4.4/38, MS3.3/9, 4C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	Catarman	0.57	193	*e*P	Pn	19 30 28.3	-1.8
CNP				*e*S	Sn	19 30 56.4	-1.0
MMPH	Masbate	1.34	238	⇑*e*P	Pn	19 30 39.0	-1.1
MMPH				*i* S	Sn	19 30 58.0	+1.1
AUQP	San Andres	2.08	277	*e*P	Pn	19 30 51.3	+1.3
OTRP	Odiongan	2.79	256	*e*P	Pn	19 30 59.9	-0.1
LLP	Lapu-Lapu	2.86	197	⇑*e*P	Pn	19 31 00.9	+0.1
LLP				*e*S	Sn	19 31 36.4	+2.3
MSLP	Maasin	2.92	179	*e*P	Pn	19 31 03.0	+1.3
TBP	Tagbilaran	3.48	195	*e*P	Pn	19 31 09.8	+0.4
TBP				*e*S	Sn	19 31 52.5	+3.0
TGY	Tagaytay City	3.88	286	Pn	Pn	19 31 14.2	-0.7
	33nm,0.3s,baz=331,slow=2.1,SNR=11						
TGY	Tagaytay City	3.88	286	Pn	Pn	19 31 14.2	-0.7
BALP	Baler	4.09	311	*e*P	Pn	19 31 18.9	+1.2
LUBP	Lubang	4.47	279	*e*P	Pn	19 31 23.3	+0.4
PALP	Palanan	4.58	330	⇓*e*P	Pn	19 31 23.8	-0.6
PALP				*e*S	Sn	19 32 10.0	-6.3
BUKP	Musuan	5.17	177	*e*P	Pn	19 31 34.4	+1.8
ABRA	Dolores	6.01	320	*e*P	Pn	19 31 44.7	+0.6
DAV	Davao City (W)	6.02	173	LR	LR	19 34 39.6	
	comp=Z,1µm,18.4s,baz=320,slow=45						
DAV	Davao City (W)	6.02	173	Pn	Pn	19 31 43.7	-0.5
YHNB	Yeheng	11.98	345	*e*Pn	Pn	19 33 03.7	-2.0
	42nm,1.2s						
JOW	Kunigami	14.07	13	Pn	Pn	19 33 33.8	-0.4
	4.8nm,0.3s,baz=151,slow=18,SNR=7.2						
JOW	Kunigami	14.07	13	Pn	Pn	19 33 33.8	-0.4
KSM	Kuching	18.40	232	*e*P	Pn	19 34 29.6	+0.6
	22nm,1.1s						
KAPI	Kappang	18.66	196	P	P	19 34 30.8	-0.4
	0.9nm,0.3s,baz=151,slow=14,SNR=4.8						
KAPI				LR	LR	19 43 21.3	
	comp=Z,114nm,19.8s,baz=8.3,slow=43						
KAPI	Kappang	18.66	196	*e*P	P	19 34 29.1	-2.1
	10nm,0.9s						
GUMO	Guam	19.55	86	LR	LR	19 40 27.0	
	comp=Z,65nm,18.5s,baz=266,slow=32						
NJ2	Nanjing	19.66	345	*e*P	P	19 34 42.6	+0.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	Wuhan	19.88	333	P	Pn	19 34 50.0	+3.5
WHN				LR	LR		
	comp=Z,400nm,15.0s						
JNU	Nakatsue	20.72	15	P	P	19 34 54.4	+0.9
	comp=Z,6.0nm,0.9s,baz=111,slow=14,SNR=3.1						
JNU	Nakatsue	20.72	15	P	P	19 34 54.4	+0.9
ENH	Enshi	22.21	323	*e*P	P	19 35 09.5	-0.1
	comp=Z,6.1nm,0.9s						
KSAR	Wonju Array Be	24.42	6	P	P	19 35 31.9	+0.8
KSRS	Korea Array	24.44	6	P	P	19 35 31.9	+0.7
	comp=Z,1.3nm,0.5s,baz=180,slow=9.8,SNR=9.0						
KSRS				LR	LR	19 45 21.8	
	comp=Z,86nm,18.2s,baz=185,slow=37						
XAN	Xi'an	25.37	328	P	P	19 35 39.3	-0.6
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,9.0nm,4.1s						
CMAR	Chiang Mai Arr	25.43	285	P	P	19 35 39.9	-0.7
	comp=Z,0.7nm,0.6s,baz=92,slow=7.7,SNR=7.6						
CMAR				PcP	PcP	19 39 13.1	+1.4
	comp=Z,1.1nm,0.9s,baz=90,slow=1.6,SNR=8.9						
CMAR				LR	LR	19 47 12.3	
	comp=Z,86nm,18.8s,baz=105,slow=40						
CMAR	Chiang Mai Arr	25.43	285	P	P	19 35 39.9	-0.7
CMAR				PcP	PcP	19 39 13.1	+1.4
MJAR	Matsushiro Arr	26.29	25	LR	LR	19 44 42.4	
	comp=Z,65nm,19.3s,baz=200,slow=33						
PSI	Prapat	27.54	250	LR	LR	19 46 37.2	
	comp=Z,129nm,20.3s,baz=194,slow=36						
FITZ	Fitzroy Crossi	30.99	178	P	P	19 36 28.3	-1.7
	comp=Z,2.0nm,0.8s,baz=248,slow=6.6,SNR=5.7						
FITZ	Fitzroy Crossi	30.99	178	P	P	19 36 28.3	-1.7
USRK	Ussuriysk Arra	31.63	10	P	P	19 36 36.2	+0.9
	comp=Z,4.0nm,0.6s,baz=202,slow=9.5,SNR=11						
WRAB	Tennant Creek	34.12	164	*e*P	P	19 36 55.3	-2.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WRAB	Tennant Creek	34.12	164	*e*P	P	19 36 55.3	-2.2
	comp=Z,6.1nm,1.1s						
WRA	Warramunga Arr	34.13	164	P	P	19 36 56.1	-1.4
	comp=Z,0.9nm,0.7s,baz=342,slow=9.4,SNR=9.8						
WRA				PcP	PcP	19 39 33.7	-0.2
	comp=Z,0.6nm,0.6s,baz=336,slow=3.2,SNR=6.2						
WRA	Warramunga Arr	34.13	164	P	P	19 36 56.1	-1.4
WRA				PcP	PcP	19 39 33.7	-0.2
GTA	Gaotai	34.27	324	*e*P	P	19 37 01.6	+2.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LSA	Lhasa	35.25	303	P	P	19 37 05.6	-2.1
LSA				pmax	pmax		
	comp=Z,40nm,0.9s						
LSA	Lhasa	35.25	303	*e*P	P	19 37 07.7	0.0
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LSA	Lhasa	35.25	303	*e*P	P	19 37 07.7	0.0
	comp=Z,3.4nm,0.6s						
TAPN	Taplejung	37.42	298	*e*P	P	19 37 25.1	-1.0
	comp=Z,10.0nm,0.9s						
ODAN	Odare	37.58	297	*e*P	P	19 37 26.3	-1.1
	comp=Z,12nm,0.6s						
AS31	Alice Springs	37.59	166	*e*P	P	19 37 26.4	-0.8
ASAR	Alice Springs	37.59	166	P	P	19 37 26.6	-0.6
	comp=Z,3.8nm,0.7s,baz=350,slow=7.1,SNR=80						
ASAR				PcP	PcP	19 39 44.0	-0.2
	comp=Z,0.5nm,0.6s,baz=300,slow=1.3,SNR=3.8						
ASAR	Alice Springs	37.59	166	P	P	19 37 26.6	-0.6
ASAR				PcP	PcP	19 39 44.0	-0.2
ULN	Ulaanbaatar	37.71	340	*e*P	P	19 37 28.1	+0.1
	comp=Z,4.2nm,0.8s						
SONM	Songino Array	37.90	340	P	P	19 37 30.1	+0.4
	comp=Z,2.6nm,0.6s,baz=156,slow=9.8,SNR=30						
SONM				PcP	PcP	19 39 45.5	+0.6
	comp=Z,0.8nm,0.8s,baz=161,slow=2.8,SNR

BILL					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BILL	**Bilibino**	**61.13**	**17**	*eP*	**P**		**19 40 25.5**	**-0.5**
	comp=Z,1.8nm,0.7s							
ABKAR	**Akbulak array**	**63.82**	**319**	*eP*	**P**		**19 40 44.0**	**-0.3**
	comp=Z,2.6nm,0.7s							
ABKAR				*e*	PcP	**PcP**	**19 41 19.0**	**-0.8**
SVE	**Sverdlovsk**	**65.08**	**327**	⇓*iP*		**P**	**19 40 52.8**	**+0.4**
SVE					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ARU	**Arti**	**66.10**	**326**	*diP*		**P**	**19 40 58.5**	**-0.5**
ARU							19 41 27.3	
ARU							19 43 23.5	
ARU					S	**S**	**19 49 41.4**	**-1.8**
ARU					SS	**SS**	**19 53 53.5**	**-5.8**
ARU					pmax	pmax		
	comp=Z,6.0nm,0.7s							
ARU	**Arti**	**66.10**	**326**	*eP*		**P**	**19 40 58.0**	**-1.0**
	comp=Z,6.2nm,0.7s							
PMR	**Palmer**	**76.75**	**29**	P		**P**	**19 42 04.5**	**+1.5**
PMR	**Palmer**	**76.75**	**29**	P		**P**	**19 42 04.5**	**+1.5**
JOF	**Joensuu**	**80.05**	**332**	*eP*		**P**	**19 42 20.1**	**-1.1**
JOF					pmax	pmax		
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**80.05**	**332**	*ep*		**P**	**19 42 20.1**	**-1.1**
	comp=Z,2.9nm,0.6s							
SPITS	**Spitsbergen Ar**	**81.00**	**349**	LR		LR	20 20 45.7	
	comp=Z,59nm,19.6s,baz=190,slow=37							
ARCES	**ARCESS Array B**	**81.08**	**339**	P		**P**	**19 42 27.1**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=87,slow=6.8,SNR=7.7							
ARCES	**ARCESS Array B**	**81.08**	**339**	P		**P**	**19 42 27.1**	**+0.4**
KAF	**Kangasniemi**	**82.48**	**332**	*eP*		**P**	**19 42 32.5**	**-1.6**
KAF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KAF	**Kangasniemi**	**82.48**	**332**	*ep*		**P**	**19 42 32.5**	**-1.6**
	comp=Z,3.6nm,0.7s							
BRTR	**Keskin Array B**	**82.65**	**309**	P		**P**	**19 42 36.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=132,slow=42,SNR=2.7							
BRTR	**Keskin Array B**	**82.65**	**309**	P		**P**	**19 42 36.1**	**+0.4**
FINES	**FINESS Array B**	**82.75**	**331**	P		**P**	**19 42 35.4**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=83,slow=4.5,SNR=16							
FINES	**FINESS Array B**	**82.75**	**331**	P		**P**	**19 42 35.4**	**-0.1**
AKASG	**Malin Array Be**	**83.49**	**320**	P		**P**	**19 42 39.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=55,slow=6.3,SNR=5.4							
AKASG	**Malin Array Be**	**83.49**	**320**	*ceP*		**P**	**19 42 39.5**	**0.0**
AKASG				*i*			19 47 51.5	
AKASG	**Malin Array Be**	**83.49**	**320**	P		**P**	**19 42 39.6**	**0.0**
AK02	**Malin Array Si**	**83.51**	**320**	*eP*		**P**	**19 42 38.3**	**-1.3**
CRVS	**Cervenica-Dubn**	**88.82**	**320**	*eP*		**P**	**19 43 06.1**	**+0.3**
CRVS					pmax	pmax		
	comp=Z,5.0nm,1.2s							
CRVS	**Cervenica-Dubn**	**88.82**	**320**	*eP*		**P**	**19 43 06.1**	**+0.3**
NB2	**NORSAR Subarra**	**89.62**	**334**	P		**P**	**19 43 08.0**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**89.62**	**334**	P		**P**	**19 43 08.2**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=66,slow=4.8,SNR=5.3							
NOA					LR	LR	20 26 11.9	
	comp=Z,48nm,18.2s,baz=0.0,slow=38							
NOA	**NORSAR Array B**	**89.62**	**334**	P		**P**	**19 43 08.2**	**-1.2**
VYHS	**Vyhne**	**90.59**	**320**	*eP*		**P**	**19 43 15.7**	**+1.5**
VYHS	**Vyhne**	**90.59**	**320**	*eP*		**P**	**19 43 15.7**	**+1.5**
YKA	**Yellowknife Ar**	**91.79**	**24**	P		**P**	**19 43 20.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=301,slow=4.3,SNR=10							
YKA	**Yellowknife Ar**	**91.79**	**24**	P		**P**	**19 43 20.1**	**+0.7**
PLCA	**Paso Flores**	**149.34**	**157**	PKPbc		**PKPbc**	**19 50 02.0**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=218,slow=4.3,SNR=8.5							
PLCA	**Paso Flores**	**149.34**	**157**	PKPbc		**PKPbc**	**19 50 02.0**	**+1.2**

IDC 14 19:33:02.1±2.5, 5.28°S×150.59°E, h203km±17km, mb3.5/5, mb1 3.6/7, mb1mx3.2/21, mbtmp3.5/7, Error ellipse: s-maj=30.0km s-min=17.7km az=153.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**219**	P		Pn	19 34 20.2	-0.6
	7.3nm,0.3s,baz=38,slow=5.8,SNR=29							
PMG				S		S	19 35 26.0	+3.5
	5.0nm,0.3s,baz=206,slow=17,SNR=4.4							
CTA	**Charters Tower**	**15.31**	**196**	P		P	19 36 29.1	+0.8
	0.2nm,0.3s,baz=7.1,slow=8.4,SNR=3.2							
WRA	**Warramunga Arr**	**21.50**	**226**	P		P	19 37 34.8	-0.5
	0.7nm,0.3s,baz=54,slow=10,SNR=10							
WRA				S		S	19 41 21.1	+0.6
	0.3nm,0.7s,baz=52,slow=19,SNR=4.5							
DZM	**Mont Dzumac**	**22.67**	**139**	P		P	19 37 46.3	-0.2
	6.0nm,0.8s,baz=316,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**24.34**	**220**	P		P	19 38 01.6	0.0
	1.1nm,0.4s,baz=53,slow=9.2,SNR=12							
ASAR				S		S	19 42 13.5	+7.5
	0.8nm,0.9s,baz=38,slow=19,SNR=4.7							
FITZ	**Fitzroy Crossi**	**27.50**	**240**	P		P	19 38 29.9	-0.1
	0.9nm,0.4s,baz=52,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**27.77**	**197**	P		P	19 38 31.7	-0.5
	3.3nm,0.9s,baz=32,slow=9.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**148.34**	**286**	PKPbc		PKPbc	19 52 25.3	-0.2
	0.2nm,0.6s,baz=84,slow=2.9,SNR=2.9							

IDC 14 19:41:05.5±3.6, 5.05°S×151.10°E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/19, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=113.9km s-min=32.6km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.83**	**222**	Pn		Pn	19 42 34.6	+1.3
	3.9nm,0.3s,baz=48,slow=9.5,SNR=17							
PMG				Sn		Sn	19 43 35.9	-5.1
	3.2nm,0.3s,baz=233,slow=19,SNR=6.8							
WRA	**Warramunga Arr**	**22.03**	**226**	P		P	19 46 02.8	+0.8
	0.4nm,0.9s,baz=53,slow=10,SNR=3.6							
ASAR	**Alice Springs**	**24.85**	**220**	P		P	19 46 28.4	-1.5
	0.1nm,0.5s,baz=56,slow=9.4,SNR=4.2							
FITZ	**Fitzroy Crossi**	**28.06**	**240**	P		P	19 46 58.6	-0.4
	0.7nm,0.4s,baz=90,slow=16,SNR=2.8							
MKAR	**Makanchi Array**	**79.40**	**319**	P		P	19 53 12.8	-0.9
	0.2nm,0.6s,baz=112,slow=3.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**148.77**	**287**	PKPbc		PKPbc	20 00 57.3	+1.2
	0.6nm,1.0s,baz=65,slow=3.3,SNR=3.1							

IDC 14 19:41:39.6±2.3, 14.96S×171.99E, h640km±35km, mb3.1/8, mb1 3.3/9, mb1mx3.1/20, mbtmp3.1/9, Error ellipse: s-maj=30.8km s-min=15.4km az=147.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.81**	**216**	P		P	19 43 47.0	-0.9
	1.1nm,0.3s,baz=74,slow=15,SNR=21							
URZ	**Urewera**	**23.64**	**170**	P		P	19 46 03.9	+0.1
	5.8nm,0.8s,baz=347,slow=14,SNR=3.5							
STKA	**Stephens Creek**	**32.42**	**233**	P		P	19 47 20.6	+0.8
	2.5nm,0.3s,baz=56,slow=6.5,SNR=12							
WRA	**Warramunga Arr**	**36.20**	**257**	P		P	19 47 51.1	-0.2
	0.6nm,0.4s,baz=82,slow=8.0,SNR=21							
ASAR	**Alice Springs**	**36.88**	**250**	P		P	19 47 57.0	+0.1
	1.8nm,0.5s,baz=76,slow=9.6,SNR=71							
ASAR				S		S	19 52 58.5	+0.2
	0.3nm,0.8s,baz=80,slow=16,SNR=2.9							
PETK	**Petropavlovsk-**	**68.90**	**351**	P		P	19 51 42.6	+0.4
	6.9nm,1.1s,baz=146,slow=8.3,SNR=8.9							
ILAR	**Eielson Array**	**85.40**	**16**	P		P	19 53 09.5	-1.3
	0.6nm,0.6s,baz=234,slow=4.6,SNR=13							
SONM	**Songino Array**	**85.44**	**322**	P		P	19 53 12.2	+0.7
	0.3nm,0.9s,baz=108,slow=4.7,SNR=2.8							
YKA	**Yellowknife Ar**	**95.69**	**27**	P		P	19 53 59.1	+0.9
	0.2nm,0.5s,baz=252,slow=4.7,SNR=4.8							

*IDC **14** 19:42:42.2±1.2, 6.40N×125.21E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=34.3km s-min=8.8km az=110.0*

ISC 14 19:42:45.5±1.6, 6.38N±0.2×126.1E±0.3, h35km, n8, σ0.63/7, mb3.5/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**0.57**	**294**	Pg		**Pn**	**19 42 56.4**	**-0.8**
	131nm,0.3s,baz=224,slow=3.9,SNR=13							
DAV				Lg		Lg	19 43 08.0	
	160nm,0.3s,baz=296,slow=23,SNR=19							
KCP	**Kidapawan**	**1.02**	**279**	⇓*eP*		Pn	19 43 05.4	+1.9
KCP				*i*	S	Sn	19 43 42.7	+26
CTBH	**Cotabato--PC H**	**1.88**	**282**	⇑*iP*		**Pn**	**19 43 15.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.79**	**181**	P		**P**	**19 48 03.9**	**-0.5**
	1.3nm,0.5s,baz=358,slow=13,SNR=7.0							
WRA	**Warramunga Arr**	**27.82**	**163**	P		**P**	**19 48 31.2**	**-0.6**
	0.4nm,0.4s,baz=342,slow=10,SNR=4.1							
ASAR	**Alice Springs**	**31.26**	**166**	P		**P**	**19 49 02.6**	**+0.3**
	0.4nm,0.4s,baz=339,slow=7.1,SNR=12							
STKA	**Stephens Creek**	**41.24**	**160**	P		**P**	**19 50 27.5**	**+0.1**
	0.7nm,0.7s,baz=326,slow=7.3,SNR=2.7							
MKAR	**Makanchi Array**	**54.67**	**324**	P		**P**	**19 52 11.5**	**+0.4**
	0.2nm,0.5s,baz=125,slow=7.4,SNR=5.1							

IDC 14 19:53:29.2±1.5, 19.22N×145.53E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.2/3, Error ellipse: s-maj=58.8km s-min=31.4km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.44**	**196**	P		P	20 01 09.2	-0.3
	0.3nm,0.5s,baz=12,slow=8.6,SNR=4.6							
MKAR	**Makanchi Array**	**57.99**	**314**	P		P	20 03 24.4	+0.6
	0.2nm,0.6s,baz=91,slow=8.1,SNR=4.4							
ILAR	**Eielson Array**	**63.25**	**26**	P		P	20 03 58.9	-0.4
	0.2nm,0.8s,baz=252,slow=5.6,SNR=3.4							

*ISCJB **14** 20:03:33.3±1.2, 38.89N±0.03×25.96E±0.06, h7km±9km, Error ellipse: s-maj=7.8km s-min=4.9km az=15.6*
*ATH **14** 20:03:33.3, 38.87N×26.12E, h32km±2km, MD3.0/4*
*CSEM **14** 20:03:33.9±0.3, 38.90N×25.95E, h10km, MD3.0, Error ellipse: s-maj=8.5km s-min=6.3km az=112.0*
*DDA **14** 20:03:34.2, 38.93N×26.06E, h2km, MD3.0*

ISC 14 20:03:34.2±1.1, 38.88N±0.03×25.99E±0.04, h15km±9km, n23, σ0.53/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRK	**Paraskevi**	**0.43**	**31**	*e*PB		**Pg**	**20 03 42.7**	**-0.1**
PRK				*e*Sb		**Sb**	**20 03 49.1**	**-0.7**
PRK	**Paraskevi**	**0.43**	**31**	*e*Pb		**Pg**	**20 03 42.7**	**-0.1**
PRK				*e*Sb		**Sb**	**20 03 49.1**	**-0.7**
CHOS	**Chios island**	**0.49**	**174**	*e*PB		**Pb**	**20 03 44.6**	**0.0**
CHOS				*e*SB		**Sb**	**20 03 51.5**	**-0.2**
CHOS	**Chios island**	**0.49**	**174**	*e*Pb		**Pb**	**20 03 44.6**	**0.0**
CHOS				*e*Sb		**Sb**	**20 03 51.5**	**-0.2**
AYVA	**Ayvalik**	**0.70**	**52**	*i*P		**Pg**	**20 03 47.5**	**-0.3**
AYVA				*i*S		**Sg**	**20 03 56.9**	**-0.1**
AYVA	**Ayvalik**	**0.70**	**52**	*i*P		**Pg**	**20 03 47.5**	**-0.3**
AYVA				*i*S		**Sg**	**20 03 56.9**	**-0.1**
BOZC	**Bozcaada**	**0.96**	**3**	*e*P		**Pb**	**20 03 52.3**	**-0.3**
BOZC				*i*S		**Sg**	**20 04 05.3**	**-0.2**
LIA	**Limnos Island**	**1.20**	**329**	*e*PN		**Pn**	**20 03 56.3**	**-0.1**
LIA				*e*SN		**Sg**	**20 04 13.1**	**+0.3**
LIA	**Limnos Island**	**1.20**	**329**	*e*Pn		**Pn**	**20 03 56.3**	**-0.1**
LIA				*e*Sn		**Sg**	**20 04 13.1**	**+0.3**
BALY	**Balya**	**1.53**	**55**	*e*P		**Pb**	**20 04 02.7**	**+0.4**
BALY				*i*S		**Sb**	**20 04 21.0**	**-0.6**
BALY	**Balya**	**1.53**	**55**	*e*P		**Pb**	**20 04 02.7**	**+0.4**
BALY				*i*S		**Sb**	**20 04 21.0**	**-0.6**
APE	**Apeiranthos**	**1.84**	**191**	*e*PN		**Pn**	**20 04 04.5**	**-0.8**
APE	**Apeiranthos**	**1.84**	**191**	*e*Pn		**Pn**	**20 04 04.5**	**-0.8**
ALN	**Alexandroupoli**	**2.02**	**1**	*e*PB		**Pn**	**20 04 07.5**	**-0.2**
ALN				*e*SN		**Sn**	**20 04 32.7**	**0.0**
ALN	**Alexandroupoli**	**2.02**	**1**	*e*Pb		**Pn**	**20 04 07.5**	**-0.2**
ALN				*e*Sn		**Sn**	**20 04 32.7**	**0.0**
DURS	**Dursunbey**	**2.06**	**69**	*e*P		**Pn**	**20 04 09.2**	**+0.8**
DURS				*e*S		**Sg**	**20 04 41.6**	**+1.1**
DURS	**Dursunbey**	**2.06**	**69**	*e*P		**Pn**	**20 04 09.2**	**+0.8**
PLG	**Polygyros**	**2.47**	**308**	*e*PN		**Pn**	**20 04 14.9**	**+1.0**
PLG	**Polygyros**	**2.47**	**308**	*e*Pn		**Pn**	**20 04 14.9**	**+1.0**
DID	**Didima**	**2.56**	**239**	*e*PN		**Pn**	**20 04 16.0**	**+0.8**
DID	**Didima**	**2.56**	**239**	*e*Pn		**Pn**	**20 04 16.0**	**+0.8**
NVR	**Nevrokopi**	**2.96**	**327**	*e*PN		**Pn**	**20 04 20.8**	**+0.1**
NVR	**Nevrokopi**	**2.96**	**327**	*e*Pn		**Pn**	**20 04 20.8**	**+0.1**

IDC 14 20:27:38.9±1.8, 4.04N×126.84E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.6/5, Error ellipse: s-maj=96.8km s-min=25.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P		P	20 32 35.1	-0.2
	1.5nm,0.9s,baz=350,slow=12,SNR=2.1							
WRA	**Warramunga Arr**	**24.95**	**163**	P		P	20 33 03.8	-0.5
	2.1nm,0.7s,baz=343,slow=11,SNR=23							
ASAR	**Alice Springs**	**28.39**	**166**	P		P	20 33 35.9	+0.6
	0.2nm,0.3s,baz=346,slow=11,SNR=8.4							
STKA	**Stephens Creek**	**38.38**	**160**	P		P	20 35 01.9	-0.2
	1.5nm,0.7s,baz=340,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**57.36**	**325**	P		P	20 37 29.1	0.0
	0.1nm,0.3s,baz=119,slow=8.3,SNR=4.3							

*AUST **14** 20:37:16.5, 23.13S×174.21W, h200km*
*IDC **14** 20:38:28.4±5.2, 23.66S×179.15E, h509km±30km, mb3.6/6, mb1 3.7/6, mb1mx3.2/20, mbtmp3.6/6, Error ellipse: s-maj=72.3km s-min=46.0km az=133.0*

ISC 14 20:38:24.8±3.0, 23.8S±0.4×179.6E±0.4, h500km, n18, σ1.05/19, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARMA	**Armidale**	**25.67**	**249**	P		**P**	**20 43 16.6**	**+2.2**
	baz=31,SNR=7.2							
EIDS	**Eidsvold**	**25.92**	**261**	P		**P**	**20 43 18.4**	**+1.9**
	baz=32,SNR=3.5							
CMSA	**Cobar Meteorol**	**30.87**	**248**	P		**P**	**20 44 00.6**	**+0.9**
	baz=36,SNR=8.5							
CTA	**Charters Tower**	**31.07**	**270**	P		**P**	**20 44 02.2**	**+0.7**
	12nm,0.4s,baz=96,slow=11,SNR=17							
PMG	**Port Moresby**	**34.08**	**289**	P		**P**	**20 44 27.1**	**0.0**
	4.0nm,0.5s,baz=131,slow=7.0,SNR=4.2							
STKA	**Stephens Creek**	**34.38**	**248**	P		**P**	**20 44 29.6**	**+0.1**
	1.6nm,0.6s,baz=99,slow=11,SNR=4.1							
STKA	**Stephens Creek**	**34.38**	**248**	P		**P**	**20 44 30.4**	**+0.9**
	baz=40,SNR=3.6							
ASAR	**Alice Springs**	**41.65**	**261**	P		**P**	**20 45 29.1**	**+0.1**
	3.7nm,0.6s,baz=97,slow=7.2,SNR=79							
ASAR					ScP	**ScP**	**20 50 16.8**	**-0.1**
	1.1nm,0.7s,baz=108,slow=4.1,SNR=13							
WRA	**Warramunga Arr**	**42.01**	**266**	P		**P**	**20 45 31.4**	**-0.5**
	5.8nm,0.6s,baz=95,slow=8.4,SNR=181							
WRA					ScP	**ScP**	**20 50 18.6**	**+0.3**
	1.0nm,0.9s,baz=96,slow=3.7,SNR=6.2							
KDU	**Kakadu**	**45.87**	**275**	P		**P**	**20 46 01.4**	**-0.6**
	baz=52,SNR=4.6							
FORT	**Forrest**	**45.96**	**250**	P		**P**	**20 46 01.6**	**-0.8**
	baz=52,SNR=15							
MTN	**Manton Dam**	**47.04**	**275**	P		**P**	**20 46 10.1**	**-0.7**
	baz=53,SNR=3.2							
FITZ	**Fitzroy Crossi**	**50.43**	**266**	P		**P**	**20 46 35.9**	**-0.1**
	2.7nm,0.6s,baz=120,slow=6.4,SNR=12							
FITZ	**Fitzroy Crossi**	**50.43**	**266**	P		**P**	**20 46 36.2**	**+0.1**
	baz=56,SNR=6.8							
MEEK	**Meekatharra**	**54.75**	**253**	P		**P**	**20 47 05.3**	**-1.7**
	baz=60,SNR=3.3							
MORW	**Morawa**	**56.52**	**250**	P		**P**	**20 47 18.2**	**-1.0**
	baz=62,SNR=6.9							
PPI	**Padang Panjang**	**79.90**	**274**	P		P	20 49 46.7	+5.0
	baz=86,SNR=6.1							
BRTR	**Keskin Array B**	**147.20**	**307**	PKPbc		**PKPbc**	**20 57 12.8**	**+1.0**
	0.5nm,0.6s,baz=100,slow=4.8,SNR=3.4							

WEL 14 21:09:35.4±0.5, 35.35S×177.65E, h33km, ML3.8/3, 1D, Error ellipse: s-maj=6.2km s-min=3.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**2.76**	**170**	PN		Pn	21 10 16.8	-0.7
PUZ				SN		Sn	21 10 47.8	-1.9
URZ	**Urewera**	**2.94**	**188**	PN		Pn	21 10 19.5	-0.3
URZ				SN		Sn	21 10 52.9	-1.1
MWZ	**Matawai**	**2.98**	**182**	⇓PN		Pn	21 10 19.7	-0.8
MWZ				SN		Sn	21 10 53.1	-2.1

IDC 14 21:11:32.0±1.3, 3.89N×128.58E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.5/45, Error ellipse: s-maj=103.4km

s-min=15.9km az=73.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.05**	**187**	P		P	21 16 28.5	0.0
	1.5nm,0.5s,baz=13,slow=9.9,SNR=9.4							
WRA	**Warramunga Arr**	**24.35**	**167**	P		P	21 16 51.8	-0.2
	2.8nm,0.5s,baz=345,slow=10.0,SNR=37							
ASAR	**Alice Springs**	**27.88**	**170**	P		P	21 17 24.1	+0.4
	0.4nm,0.4s,baz=3.7,slow=9.6,SNR=15							
KSRS	**Korea Array**	**33.41**	**359**	LR		LR	21 32 36.7	
	comp=Z,14nm,19.7s,baz=255,slow=38							
STKA	**Stephens Creek**	**37.67**	**162**	P		P	21 18 49.0	-0.1
	1.3nm,0.3s,baz=336,slow=15,SNR=5.8							
SONM	**Songino Array**	**47.76**	**340**	P		P	21 20 10.1	-1.0
	0.1nm,0.5s,baz=134,slow=8.3,SNR=2.9							
MKAR	**Makanchi Array**	**58.49**	**324**	P		P	21 21 29.6	-0.4
	0.3nm,0.4s,baz=115,slow=8.3,SNR=14							
ZALV	**Zalesovo Beam**	**61.29**	**332**	P		P	21 21 50.9	+1.7
	0.2nm,0.4s,baz=79,slow=9.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**124.62**	**289**	PKP		PKPdf	21 30 33.2	-1.4
	0.4nm,1.0s,baz=103,slow=1.9,SNR=4.3							

IDC 14 21:23:59.0±0.9, 45.79N×149.24E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, MS3.2/1, Ms1 3.3/1, ms1mx2.5/55, Error ellipse: s-maj=41.8km s-min=19.8km az=118.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	**38.96**	**38**	P		P	21 31 26.6	+0.3
	0.3nm,0.4s,baz=262,slow=6.4,SNR=12							
ILAR					LR	LR	21 46 29.0	
	comp=Z,37nm,20.8s,baz=305,slow=35							
INK	**Inuvik**	**43.89**	**32**	P		P	21 32 06.5	-0.2
	0.9nm,0.4s,baz=296,slow=6.0,SNR=4.6							
MKAR	**Makanchi Array**	**44.98**	**297**	P		P	21 32 16.3	+0.5
	0.3nm,0.7s,baz=56,slow=6.1,SNR=3.4							
MKAR					PcP	PcP	21 33 55.0	-1.9
	0.3nm,0.6s,baz=66,slow=4.1,SNR=3.7							
YKA	**Yellowknife Ar**	**53.28**	**35**	P		P	21 33 18.6	-0.4
	0.7nm,0.8s,baz=297,slow=6.6,SNR=8.1							
WRA	**Warramunga Arr**	**66.81**	**195**	P		P	21 34 51.9	-0.4
	0.5nm,0.4s,baz=9.9,slow=6.6,SNR=8.1							
ASAR	**Alice Springs**	**70.52**	**195**	P		P	21 35 16.1	+0.6
	0.4nm,0.4s,baz=9.2,slow=5.8,SNR=13							

*IDC **14** 21:54:35.2±0.9, 0.71S×133.37E, h0km, mb4.0/8, mb1 4.3/11, mb1mx4.0/24, mbtmp4.1/11, ML4.3/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/29, Error ellipse: s-maj=41.8km s-min=12.0km az=81.0*
*ISCJB **14** 21:54:37.7±0.5, 0.66S±0.05×133.33E±0.05, h28km, mb4.0/8, MS3.3/4, Error ellipse: s-maj=7.2km s-min=6.7km az=8.2*
*DJA **14** 21:54:41.2±0.4, 1°S±4°×13°3E±°, h51km±9km, M5.0/11, mB5.6/6, mb5.1/11, MLv4.8/9, Mw(mB)5.1/6*

ISC 14 21:54:39.2±0.7, 0.70S±0.06×133.39E±0.06, h28km, n31, σ1.37/30, mb4.0/8, MS3.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**2.14**	**266**	P		**Pn**	**21 55 10.7**	**-2.3**
SWI				S		**Sn**	**21 55 38.8**	**+0.2**
FAKI	**Fak Fak**	**2.48**	**207**	P		**Pn**	**21 55 17.8**	**0.0**
FAKI				S		**Sb**	**21 55 50.8**	**-2.5**
BAKI	**Biak**	**2.76**	**100**	P		**Pb**	**21 55 24.8**	**-3.1**
TLE	**Tual**	**4.95**	**188**	P		Pn	21 55 54.3	+2.6
TLE				S		**Sn**	**21 56 49.5**	**+1.4**
BNDI	**Bandanaira**	**5.15**	**222**	P		**Pn**	**21 55 55.6**	**+1.1**
	510nm,0.6s,7µm1.8nm							
MSAI	**Masohi**	**5.18**	**239**	P		**Pn**	**21 55 57.1**	**+2.3**
	74nm,0.7s,994nm0.3nm							
LBMI	**Labuha**	**5.89**	**271**	P		**Pn**	**21 56 03.8**	**-0.9**
	135nm,0.4s,3µm0.8nm							
AAI	**Ambon**	**5.98**	**240**	P		**Pn**	**21 56 06.6**	**+0.7**
	322nm,0.6s,3µm1.1nm							
JAY	**Jayapura**	**7.53**	**104**	P		**Pn**	**21 56 28.7**	**+1.4**
	33nm,0.8s							
LUWI	**Luwuk**	**10.62**	**268**	P		**Pn**	**21 57 09.0**	**-0.6**
APSI	**Ampana**	**11.74**	**269**	P		**Pn**	**21 57 24.4**	**-0.6**
	29µ

SNVI				*e*S	Sg	22 46 16.6	0.0	
BOQS	**Boqueron**	**0.72**	**352**	*e*P	Pb	22 46 08.0	+0.1	
BOQS				*e*S	Sg	22 46 18.6	+0.6	
LBRS	**Las Brisas**	**0.73**	**10**	*e*P	Pg	22 46 08.1	-0.1	
LFU	**La Fuente**	**0.73**	**5**	*e*P	Pb	22 46 08.0	+0.2	
SBLS	**San Blas**	**0.92**	**332**	*e*P	Pb	22 46 10.8	-0.6	
SNJE	**San Jose**	**0.94**	**334**	*e*P	Pb	22 46 11.2	-0.5	
VSM	**San Miguel**	**0.97**	**65**	*e*P	Pb	22 46 11.9	-0.3	
RTR	**El Retiro**	**0.98**	**332**	*e*P	Pb	22 46 11.8	-0.6	
BLLM	**Bellamira**	**1.01**	**65**	*e*P	Pb	22 46 11.8	-0.8	
BLLM				*e*S	Sb	22 46 25.6	+0.1	
RBDL	**Robledal**	**1.20**	**336**	*e*P	Pn	22 46 14.2	-1.4	
RBDL				*e*S	Sb	22 46 29.8	-1.4	
CAHU	**Cacacuatique**	**1.20**	**51**	*e*P	Pn	22 46 14.2	-1.5	
CAHU				*e*S	Sb	22 46 30.2	-1.1	
CNCH	**Conchagua**	**1.33**	**79**	*e*P	Pn	22 46 16.2	-1.1	
MTO2	**Montecristo 2**	**1.39**	**353**	*e*P	Pn	22 46 16.7	-1.5	
MTO2				*e*S	Sn	22 46 33.4	-2.8	
IXG	**Ixpaco**	**1.69**	**313**	*e*P	Pn	22 46 22.3	-0.1	
IXG				*e*S	Sn	22 46 42.5	-1.2	
MRL	**Marmol**	**2.10**	**346**	*e*P	Pn	22 46 27.9	0.0	
MRL				*e*S	Sb	22 46 58.8	+1.7	
FUG	**Fuego 3**	**2.15**	**311**	*e*P	Pn	22 46 28.4	-0.3	
FUG				*e*S	Sn	22 46 56.4	+1.3	
FG6		**2.26**	**313**	*e*P	Pn	22 46 29.7	-0.7	
FG6				*e*S	Sn	22 46 59.1	+1.1	
TP2	**Tecpan 2**	**2.51**	**315**	*e*P	Pn	22 46 34.5	+0.6	
TP2				*e*S	Sn	22 47 06.9	+2.6	

IDC ***14*** *22:46:00.0±4.2, 20°.94S×177°.65W, h475km±47km, mb3.4/12, mb1 3.6/14, mb1mx3.5/21, mbtmp3.4/14, Error ellipse: s-maj=29.1km s-min=25.9km az=155.0*

AUST ***14*** *22:46:22.4±8.5, 20°.45S×178°.88E, h480km, Error ellipse: s-maj=6.6km s-min=3.3km az=281.0*

ISC 14 22:46:00.8±1.1, 20°.9S±0°.2×177°.5W±0°.2, h500km, n29, σ1§40/25, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.84**	**39**	S	**S**	**22 49 45.8**	**-3.2**
	5.2nm,0.3s,baz=80,slow=16,SNR=5.1						
DZM	**Mont Dzumac**	**14.99**	**263**	P	**P**	**22 49 09.2**	**-1.9**
	0.5nm,0.3s,baz=96,slow=20,SNR=5.5						
URZ	**Urewera**	**17.92**	**194**	P	**P**	**22 49 39.4**	**-1.0**
	1.7nm,0.3s,baz=43,slow=5.0,SNR=8.8						
CTA	**Charters Tower**	**33.91**	**265**	P	**P**	**22 52 01.3**	**-0.5**
	3.1nm,0.3s,baz=94,slow=10,SNR=10.0						
TOO	**Toolangi**	**36.04**	**234**	P	P	22 52 20.9	+1.5
	baz=34,SNR=5.6						
STKA	**Stephens Creek**	**38.04**	**245**	P	**P**	**22 52 36.8**	**+0.9**
	4.4nm,0.6s,baz=113,slow=9.5,SNR=7.3						
STKA	**Stephens Creek**	**38.04**	**245**	P	**P**	**22 52 36.8**	**+0.9**
	baz=35,SNR=5.2						
BBOO	**Buckleboo**	**42.79**	**244**	P	**P**	**22 53 14.1**	**+0.2**
	baz=40,SNR=18						
ASAR	**Alice Springs**	**44.88**	**257**	P	**P**	**22 53 30.1**	**-0.3**
	10nm,0.8s,baz=98,slow=7.9,SNR=140						
ASAR				PcP	**pP**	**22 55 02.4**	**-1.0**
	0.7nm,0.6s,baz=105,slow=3.6,SNR=5.8						
WRA	**Warramunga Arr**	**45.01**	**262**	P	**P**	**22 53 30.3**	**-1.1**
	1.7nm,0.2s,baz=96,slow=8.7,SNR=101						
KDU	**Kakadu**	**48.42**	**271**	P	**P**	**22 53 56.5**	**-0.8**
	baz=45,SNR=9.7						
MTN	**Manton Dam**	**49.63**	**271**	P	**P**	**22 54 05.5**	**-0.7**
	baz=46,SNR=4.1						
FITZ	**Fitzroy Crossi**	**53.44**	**263**	P	**P**	**22 54 34.1**	**+0.3**
	baz=50,SNR=6.1						
MEEK	**Meekatharra**	**58.23**	**251**	P	**P**	**22 55 06.9**	**-0.2**
	baz=55,SNR=6.7						
KLBR	**Kellerberrin**	**58.31**	**245**	P	**P**	**22 55 08.1**	**+0.5**
	baz=55,SNR=9.0						
MORW	**Morawa**	**60.11**	**248**	P	**P**	**22 55 20.0**	**+0.4**
	baz=57,SNR=4.3						
MJAR	**Matsushiro Arr**	**70.80**	**323**	P	**P**	**22 56 26.8**	**+0.2**
	1.1nm,0.6s,baz=158,slow=6.2,SNR=5.0						
KSM	**Kuching**	**73.93**	**278**	P	P	22 56 49.8	+4.7
	baz=70,SNR=3.0						
PETK	**Petropavlovsk-**	**76.77**	**345**	P	**P**	**22 57 00.9**	**+0.8**
	3.2nm,0.8s,baz=171,slow=19,SNR=2.7						
KSRS	**Korea Array**	**77.49**	**318**	P	**P**	**22 57 05.9**	**+1.6**
	1.1nm,0.7s,baz=128,slow=5.3,SNR=4.1						
USRK	**Ussuriysk Arra**	**79.54**	**326**	P	P	22 57 17.6	+2.5
	2.7nm,0.7s,baz=117,slow=10,SNR=5.4						
GSI	**Gunungsitoli**	**85.71**	**273**	P	P	22 57 49.3	+2.2
	baz=82,SNR=3.6						
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**22 58 01.1**	**+1.7**
	0.2nm,0.6s,baz=205,slow=4.5,SNR=4.6						
PDAR	**Pinedale Array**	**88.93**	**43**	P	P	22 58 05.2	+3.3
	0.2nm,0.4s,baz=23,slow=7.1,SNR=2.3						
CMAR	**Chiang Mai Arr**	**90.68**	**289**	P	**P**	**22 58 12.0**	**+1.8**
	1.5nm,0.8s,baz=118,slow=3.0,SNR=9.5						
SONM	**Songino Array**	**96.35**	**319**	P	**P**	**22 58 37.0**	**+1.3**
	0.2nm,0.5s,baz=72,slow=4.7,SNR=2.5						
AKASG	**Malin Array Be**	**143.58**	**331**	PKP	**PKPdf**	**23 04 37.0**	**-1.1**
	1.6nm,0.4s,baz=43,slow=4.0,SNR=14						
BRTR	**Keskin Array B**	**147.45**	**312**	PKPbc	**PKPab**	**23 04 49.5**	**-2.8**
	1.0nm,0.7s,baz=112,slow=2.8,SNR=5.5						
GERES	**GERESS Array B**	**150.70**	**345**	PKPbc	**PKPbc**	**23 04 57.8**	**+1.6**
	0.2nm,0.5s,baz=319,slow=2.9,SNR=2.9						

IDC 14 22:54:13.6±1.2, 42°.71S×72°.71W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=39.8km s-min=16.1km az=126.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.55**	**40**	Pn	Pn	22 54 57.8	+1.4
	9.7nm,0.3s,baz=216,slow=17,SNR=123						
PLCA				Pg	Pb	22 55 00.1	-0.3
	14nm,0.3s,baz=223,slow=15,SNR=154						
PLCA				Lg	Lg	22 55 35.6	
	21nm,0.3s,baz=121,slow=19,SNR=15						
CPUP	**Villa Florida**	**20.62**	**42**	P	P	22 58 53.7	-0.8
	1.5nm,0.9s,baz=216,slow=17,SNR=2.0						
SIV	**San Ignacio**	**28.44**	**24**	P	P	23 00 08.6	-1.5
	0.8nm,0.8s,baz=197,slow=14,SNR=4.2						
QSPA	**South Pole Qui**	**47.53**	**180**	P	P	23 02 50.5	0.0
	3.9nm,0.9s,baz=164,slow=5.5,SNR=6.9						
TXAR	**Lajitas Array**	**77.15**	**333**	P	P	23 06 09.1	+0.1
	0.8nm,0.9s,baz=146,slow=7.6,SNR=3.9						
PDAR	**Pinedale Array**	**91.32**	**334**	P	P	23 07 21.6	+0.6
	0.9nm,0.9s,baz=156,slow=4.9,SNR=4.2						

ISCJB ***14*** *22:54:16.0±0.4, 2°.50N±0°.06×95°.34W±0°.07, h10km, mb4.4/46, MS4.1/19, Error ellipse: s-maj=11.7km s-min=5.8km az=139.7*

IDC ***14*** *22:54:15.7±0.7, 2°.43N×95°.56W, h0km, mb4.0/12, mb1 4.2/16, mb1mx4.2/25, mbtmp4.1/16, ML3.9/4, MS4.2/19, Ms1 4.2/19, ms1mx4.0/26, Error ellipse: s-maj=27.0km s-min=13.3km az=57.0*

NEIC ***14*** *22:54:17.0±0.4, 2°.40N×95°.39W, h10km, mb4.7/31, Error ellipse: s-maj=10.7km s-min=5.6km az=51.0*

GCMT ***14*** *22:54:18.8±0.5, 2°.51N×95°.46W, h15km±1km, MW5.0, Moment Tensor Solution. s19,c23; s60,c80; Moment tensor: Scale 10¹⁶Nm; Mrr=0.98±.16; Mθθ=1.74±.13; Mφφ=-0.77±.13; Mrθ=2.35±.51; Mrφ=2.28±.10; Mθφ=-1.46±.50; Best double couple: M₀3.90000×10¹⁶ NP1:φ=22.00000°, δ=46.00000°, λ=-163.00000°. NP2:φ=281.00000°, δ=78.00000°, λ=-45.00000°. Principal axes: T 3.5600, Plg=20.0000°, Azm=338.0000°; N 0.5900, Plg=44.0000°, Azm=89.0000°; P -4.1500, Plg=39.0000°, Azm=231.0000°; Data Used: IU IC II G CN.*

ISC 14 22:54:17.0±0.5, 2°.42N±0°.08×95°.44W±0°.09, h10km, n129, σ1§43/125, mb4.5/46, MS4.1/19, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**6.00**	**121**	*e*Pn	Pn	22 55 42.5	-3.4
JTS	**JuntasAbangare**	**13.03**	**53**	Pn	**Pn**	**22 57 22.3**	**0.0**
	0.7nm,0.3s,baz=202,slow=19,SNR=2.7						
JTS				LR	LR	23 00 55.8	
	comp=Z,1μm,18.7s,baz=272,slow=30						
JTS	**JuntasAbangare**	**13.03**	**53**	Pn	**Pn**	**22 57 22.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**14.10**	**34**	*e*Pn	**Pn**	**22 57 37.3**	**+0.3**
CMIG	**Matias Romero**	**14.59**	**2**	Pn	**Pn**	**22 57 43.4**	**-0.3**
	0.3nm,0.3s,baz=156,slow=11,SNR=4.8						
CMIG				LR	LR	23 02 02.4	
	comp=Z,736nm,21.6s,baz=187,slow=32						
CMIG	**Matias Romero**	**14.59**	**2**	Pn	**Pn**	**22 57 43.4**	**-0.3**
OTAV	**Otavalo**	**17.12**	**97**	*e*Pn	**P**	**22 58 18.1**	**-0.8**
	98nm,1.8s						
TEIG	**Tepich**	**19.03**	**21**	P	**P**	**22 58 39.6**	**+0.2**
	0.4nm,0.3s,baz=191,slow=15,SNR=4.3						
TEIG	**Tepich**	**19.03**	**21**	P	**P**	**22 58 39.6**	**+0.2**
ATAH	**Atahualpa**	**19.48**	**119**	P	**Pn**	**22 58 47.5**	**+1.6**
	0.5nm,0.3s,baz=276,slow=11,SNR=6.6						
ATAH				LR	LR	23 04 35.6	
	comp=Z,1μm,21.8s,baz=301,slow=32						
ATAH	**Atahualpa**	**19.48**	**119**	P	**Pn**	**22 58 47.5**	**+1.6**
ROSC	**El Rosal**	**21.20**	**83**	P	**P**	**22 59 05.6**	**+2.1**
	2.9nm,0.3s,baz=260,slow=19,SNR=3.4						
ROSC				LR	LR	23 05 43.1	
	comp=Z,253nm,20.4s,baz=5.9,slow=32						
ROSC	**El Rosal**	**21.20**	**83**	*e*P	**P**	**22 59 05.7**	**+2.2**
NNA	**Nana**	**23.38**	**128**	LR	LR	23 06 28.2	
	comp=Z,394nm,20.4s,baz=314,slow=31						
SDV	**Santo Domingo**	**25.50**	**74**	*e*P	**P**	**22 59 44.2**	**-1.8**
LPIG	**La Paz**	**25.91**	**328**	LR	LR	23 08 25.8	
	comp=Z,16nm,19.0s,baz=184,slow=33						
TXAR	**Lajitas Array**	**27.89**	**345**	P	**P**	**23 00 07.8**	**+0.5**
	3.3nm,1.0s,baz=163,slow=11,SNR=16						
TXAR				LR	LR	23 10 05.9	
	comp=Z,506nm,21.7s,baz=260,slow=34						
TXAR	**Lajitas Array**	**27.89**	**345**	P	**P**	**23 00 07.8**	**+0.5**
LPAZ	**La Paz**	**32.77**	**125**	P	**P**	**23 00 52.6**	**+1.4**
	3.5nm,0.7s,baz=304,slow=7.2,SNR=12						
LPAZ				LR	LR	23 13 24.7	
	comp=Z,188nm,19.3s,baz=264,slow=35						
LPAZ	**La Paz**	**32.77**	**125**	*e*P	**P**	**23 00 52.4**	**+1.1**
	43nm,1.7s						
AMTX	**Amarillo**	**32.82**	**351**	*e*P	**P**	**23 00 51.6**	**+0.7**
	11nm,0.8s						
TUC	**Tucson**	**33.05**	**336**	*e*P	**P**	**23 00 53.7**	**+0.7**
	10nm,1.4s						
SAML	**Samuel**	**34.08**	**110**	*e*P	**P**	**23 01 00.3**	**-1.7**
	5.4nm,0.9s						
WVT	**Waverly**	**34.28**	**11**	*e*P	**P**	**23 01 03.1**	**-0.4**
	22nm,1.1s						
GRGR	**Grenville**	**34.83**	**72**	*e*P	**P**	**23 01 08.2**	**-0.4**
	156nm,1.0s						
GLA	**Glamis**	**35.48**	**331**	*e*P	**P**	**23 01 13.8**	**-0.2**
	4.2nm,0.6s						
SIUC	**Southern Illin**	**35.59**	**8**	*e*P	**P**	**23 01 15.3**	**+0.6**
	25nm,0.8s						
LVC	**Limon Verde**	**35.91**	**135**	*e*P	**P**	**23 01 17.0**	**-1.0**
	0.4nm,0.9s						
USIN	**University of**	**36.09**	**10**	*e*P	**P**	**23 01 18.2**	**-0.8**
WUAZ	**Wupatki**	**36.10**	**338**	*e*P	**P**	**23 01 20.8**	**+1.4**
	11nm,1.0s						
KSU1	**Kansas State U**	**36.53**	**358**	*e*P	**P**	**23 01 24.2**	**+1.4**
	12nm,0.8s						
WCI	**Wyandotte Cave**	**36.61**	**12**	*e*P	**P**	**23 01 21.6**	**-2.0**
	37nm,1.0s						
MVCO	**Mesa Verde**	**36.65**	**342**	*e*P	**P**	**23 01 24.3**	**+0.1**
	6.4nm,0.9s						
OLIL	**Olney**	**36.76**	**10**	*e*P	**P**	**23 01 22.9**	**-1.9**
	35nm,1.3s						
PV01	**Paradox Valley**	**37.53**	**343**	*e*P	**P**	**23 01 31.8**	**+0.2**
PV04	**Paradox Valley**	**37.87**	**343**	*e*P	**P**	**23 01 35.0**	**+0.5**
PV10	**Paradox Valley**	**37.89**	**342**	*e*P	**P**	**23 01 35.5**	**+0.7**
ISCO	**Idaho Springs**	**38.34**	**347**	*e*P	**P**	**23 01 41.0**	**+2.4**
	8.3nm,0.8s						
HDIL	**Hopedale**	**38.37**	**8**	*e*P	**P**	**23 01 38.8**	**+0.4**
	50nm,0.9s						
SIV	**San Ignacio**	**38.58**	**119**	P	**P**	**23 01 40.4**	**-0.2**
	2.6nm,0.9s,baz=310,slow=11,SNR=7.3						
SIV				LR	LR	23 16 40.9	
	comp=Z,387nm,21.5s,slow=35						
SIV	**San Ignacio**	**38.58**	**119**	P	**P**	**23 01 40.4**	**-0.2**
CCUT	**Cedar City**	**38.65**	**337**	*e*P	**P**	**23 01 42.5**	**+1.4**
	5.3nm,1.0s						
OSI	**Osito Adit**	**38.68**	**329**	*e*P	**P**	**23 01 42.7**	**+1.5**
ARUT	**Antelope Range**	**38.88**	**337**	*e*P	**P**	**23 01 44.5**	**+1.5**
	12nm,1.1s						
SRU	**San Rafael**	**39.03**	**341**	*e*P	**P**	**23 01 44.7**	**+0.5**
	4.1nm,0.9s						
MSU	**Marysvale**	**39.05**	**339**	*e*P	**P**	**23 01 43.3**	**-1.1**
MVU	**Marysvale**	**39.05**	**339**	*e*P	**P**	**23 01 46.4**	**+1.9**
	1.1nm,1.0s						
LCO	**Las Campanas**	**39.23**	**145**	*e*P	**P**	**23 01 44.9**	**-1.3**
ACSO	**Alum Creek Sta**	**39.30**	**15**	*e*P	**P**	**23 01 46.5**	**+0.3**
DUG	**Dugway**	**40.77**	**339**	*e*P	**P**	**23 01 58.3**	**-0.3**
	12nm,1.0s						
NV11	**Mina Array Sit**	**41.43**	**333**	*e*P	**P**	**23 02 04.7**	**+0.6**
NVAR	**Mina Array Bea**	**41.50**	**333**	P	**P**	**23 02 05.8**	**+1.1**
	1.6nm,0.7s,baz=158,slow=8.8,SNR=11						
NVAR				LR	LR	23 16 46.5	
	comp=Z,303nm,21.5s,baz=27,slow=33						
NVAR	**Mina Array Bea**	**41.50**	**333**	P	**P**	**23 02 05.8**	**+1.1**
HWUT	**Hardware Ranch**	**41.62**	**342**	*e*P	**P**	**23 02 05.3**	**-0.4**
	7.3nm,1.2s						
PDAR	**Pinedale Array**	**42.11**	**344**	P	**P**	**23 02 09.5**	**-0.2**
	6.7nm,1.1s,baz=157,slow=4.9,SNR=5.0						
PDAR				LR	LR	23 19 11.4	
	comp=Z,979nm,18.3s,baz=172,slow=36						
PDAR	**Pinedale Array**	**42.11**	**344**	P	**P**	**23 02 09.5**	**-0.2**
ELK	**Elko**	**42.14**	**337**	*e*P	**P**	**23 02 10.5**	**+0.5**
HVU	**Hansel Valley**	**42.17**	**341**	*e*P	**P**	**23 02 10.7**	**+0.6**
	19nm,0.9s						
CFAA	**Coronel Fontan**	**42.58**	**145**	P	**P**	**23 02 14.9**	**+1.5**
	0.3nm,0.6s,baz=16,slow=7.2,SNR=3.6						
CFAA	**Coronel Fontan**	**42.58**	**145**	P	**P**	**23 02 14.9**	**+1.5**
BINY	**Binghamton**	**43.28**	**21**	*e*P	**P**	**23 02 18.8**	**-0.1**
HLID	**Hailey**	**44.31**	**340**	*e*P	**P**	**23 02 27.6**	**+0.3**
	4.0nm,1.1s						
QLMT	**Earthquake Lak**	**44.53**	**344**	*e*P	**P**	**23 02 28.8**	**-0.4**
MFID	**Camas Ranch**	**44.67**	**339**	*e*P	**P**	**23 02 31.9**	**+1.7**
	41nm,2.4s						
MCMT	**McKenzie Canyo**	**44.94**	**342**	*e*P	**P**	**23 02 33.6**	**+1.1**
EYMN	**Ely**	**45.48**	**4**	*e*P	**P**	**23 02 34.8**	**-1.6**
	8.2nm,0.8s						
LRM	**Limekiln Ridge**	**45.73**	**343**	*e*P	**P**	**23 02 38.8**	**+0.1**
	47nm,0.9s						
RKT	**Rikitea**	**46.13**	**234**	*e*T	T	23 51 52.2	
	5.3nm,0.3s						
CPUP	**Villa Florida**	**46.61**	**130**	P	**P**	**23 02 47.1**	**+1.5**
	0.3nm,0.3s,baz=276,slow=12,SNR=3.7						
CPUP				LR	LR	23 23 15.8	
	comp=Z,116nm,18.9s,baz=304,slow=37						
CPUP	**Villa Florida**	**46.61**	**130**	P	**P**	**23 02 47.1**	**+1.5**
SLMT	**Seeley Lake**	**47.32**	**343**	*e*P	**P**	**23 02 50.3**	**-0.8**
	4.8nm,1.2s						
ULM	**Lac du Bonnet**	**47.66**	**360**	P	**P**	**23 02 53.1**	**-0.4**
	4.4nm,0.8s,baz=186,slow=8.4,SNR=7.0						
ULM				LR	LR	23 22 22.9	
	comp=Z,149nm,21.4s,baz=232,slow=35						
ULM	**Lac du Bonnet**	**47.66**	**360**	*e*P	**P**	**23 02 53.7**	**+0.2**
	9.7nm,0.8s						
SWMT	**Swartz Lake**	**47.71**	**343**	*e*P	**P**	**23 02 54.1**	**0.0**
JTMT	**Jette**	**48.00**	**343**	*e*P	**P**	**23 02 54.7**	**-1.7**
	4.8nm,1.1s						
YBMT	**Yellow Bay**	**48.03**	**343**	*e*P	**P**	**23 02 54.6**	**-2.0**
	5.5nm,0.9s						
PLCA	**Paso Flores**	**48.59**	**155**	LR	LR	23 19 28.1	
	comp=Z,436nm,18.3s,baz=144,slow=31						
WALA	**Waterton Lakes**	**49.09**	**344**	*e*P	**P**	**23 03 04.5**	**-0.2**
	0.1nm,1.0s						
BDFB	**Brasilia**	**50.21**	**113**	LR	LR	23 23 51.1	
	comp=Z,398nm,20.2s,baz=140,slow=35						
FFC	**Flin Flon**	**52.41**	**355**	*e*P	**P**	**23 03 30.9**	**+1.3**
	1.3nm,0.8s						
PPT	**Papeete**	**56.92**	**247**	LR	LR	23 22 46.5	
	comp=Z,153nm,20.5s,baz=8.0,slow=30						
PPT2	**Papeete2**	**56.92**	**247**	*e*LR	LR	23 21 02.8	
	171nm,25.2s						
YKA	**Yellowknife Ar**	**61.62**	**350**	P	**P**	**23 04 34.6**	**0.0**
	2.0nm,0.9s,baz=156,slow=6.7,SNR=8.8						
YKA	**Yellowknife Ar**	**61.62**	**350**	P	**P**	**23 04 34.6**	**0.0**
YKW3	**Yellowknife Ar**	**61.69**	**350**	*e*P	**P**	**23 04 35.3**	**+0.3**
	0.1nm,1.2s						
INK	**Inuvik**	**70.65**	**346**	*e*P	**P**	**23 05 31.1**	**-1.5**
	97nm,2.7s						
ILAR	**Eielson Array**	**72.26**	**339**	P	**P**	**23 05 42.2**	**-0.1**
	0.8nm,0.8s,baz=149,slow=2.1,SNR=9.2						
ILAR				LR	LR	23 38 18.8	
	comp=Z,210nm,18.4s,baz=128,slow=37						
ILAR	**Eielson Array**	**72.26**	**339**	P	**P**	**23 05 42.2**	**-0.1**
ESDC	**Sonseca Array**	**89.61**	**50**	P	**P**	**23 07 12.9**	**-2.5**
	0.2nm,0.4s,baz=34,slow=39,SNR=4.8						
ESDC	**Sonseca Array**	**89.61**	**50**	P	**P**	**23 07 12.9**	**-2.5**
DBIC	**Dimbokro**	**90.30**	**83**	LR	LR	23 43 32.7	
	comp=Z,56nm,19.0s,baz=251,slow=33						
QSPA	**South Pole Qui**	**92.44**	**180**	P	**P**	**23 07 28.5**	**+0.5**
	1.5nm,1.0s,baz=270,slow=1.0,SNR=3.3						
QSPA	**South Pole Qui**	**92.44**	**180**	P	**P**	**23 07 28.5**	**+0.5**
VNDA	**Vanda**	**95.09**	**192**	LR	LR	23 40 11.8	
	comp=Z,111nm,20.0s,baz=75,slow=29						
TORD	**Torodi Ar. Bea**	**96.40**	**77**	LR	LR	23 48 17.8	
	comp=Z,71nm,21.2s,baz=305,slow=34						
VYHS	**Vyhne**	**104.00**	**39**	PDIF	**Pdif**	**23 08 25.1**	**+4.6**
CN2	**Changchun**	**121.20**	**326**	*e*PKP	**PKPdf**	**23 13 06.3**	**-4.3**
BVAR	**Borovoye Array**	**123.49**	**10**	PKP	**PKPdf**	**23 13 13.2**	**-1.6**
	0.4nm,0.8s,baz=321,slow=3.7,SNR=2.4						
BVAR	**Borovoye Array**	**123.49**	**10**	PKP	**PKPdf**	**23 13 13.2**	**-1.6**
ZALV	**Zalesovo Beam**	**123.83**	**360**	PKP	**PKPdf**	**23 13 16.4**	**+1.0**
	0.5nm,0.6s,baz=225,slow=1.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**123.83**	**360**	PKP	**PKPdf**	**23 13 16.4**	**+1.0**
SONM	**Songino Array**	**126.43**	**342**	PKP	**PKPdf**	**23 13 20.6**	**-0.1**
	0.4nm,0.9s,baz=132,slow=4.1,SNR=3.1						
SONM	**Songino Array**	**126.43**	**342**	PKP	**PKPdf**	**23 13 20.6**	**-0.1**
KURK	**Kurchatov**	**126.83**	**5**	PKP	**PKPdf**	**23 13 20.4**	**-0.7**
KURBB	**Kurchatov Arra**	**126.91**	**5**	PKP	**PKPdf**	**23 13 20.4**	**-0.9**
	0.8nm,0.6s,baz=348,slow=2.0,SNR=6.4						
ASAR	**Alice Springs**	**127.85**	**242**	PKP	**PKPdf**	**23 13 23.6**	**-0.4**
	0.4nm,0.6s,baz=106,slow=2.0,SNR=3.3						
ASAR	**Alice Springs**	**127.85**	**242**	PKP	**PKPdf**	**23 13 23.6**	**-0.4**
WRA	**Warramunga Arr**	**128.40**	**246**	PKP	**PKPdf**	**23 13 24.9**	**-0.2**
	0.4nm,0.8s,baz=99,slow=2.4,SNR=5.2						
WRA	**Warramunga Arr**	**128.40**	**246**	PKP	**PKPdf**	**23 13 24.9**	**-0.2**
HHC	**Hu-ho-hao-te**	**130.39**	**333**	*e*PKP	**PKPdf**	**23 13 30.6**	**+2.2**
HHC				PP	PP	23 15 47.0	+5.8
HHC				PKS	**PKSdf**	**23 17 06.0**	**+1.0**
HHC				SKS	**SKSdf**	**23 20 40.1**	**-0.4**
HHC				SKKS	**SKKSac**	**23 22 39.8**	**+0.4**
HHC				AMB	AMB		
	comp=Z,170nm,10.8s						
HHC				LR	LR		
	comp=N,220nm,14.4s						
HHC				LR	LR		
	comp=E,190nm,13.2s						
HHC				LR	LR		
	comp=Z,140nm,10.8s						
MKAR	**Makanchi Array**	**130.96**	**2**	PKP	**PKPdf**	**23 13 27.6**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=64,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**130.96**	**2**	PKP	**PKPdf**	**23 13 27.6**	**-1.6**
WMQ	**Urumqi**	**133.88**	**357**	*e*PKP	**PKPdf**	**23 13 33.3**	**-1.6**
KSH	**Kashi**	**137.53**	**10**	*e*PKP	**PKPdf**	**23 13 42.4**	**+0.5**
KSH				*e*PP	PP	23 16 32.9	+6.6
KSH				PKS	**PKSdf**	**23 17 17.6**	**-0.6**
KSH				SKS	**SKSdf**	**23 20 51.8**	**-1.4**
KSH				SS	**SS**	**23 34 38.8**	**+5.1**
KSH				AMB	AMB		
	comp=Z,140nm,6.2s						
KSH				LR	LR		
	comp=N,53nm,4.5s						
KSH				LR	LR		
	comp=E,63nm,7.3s						
KSH				LR	LR		
	comp=Z,250nm,6.4s						
LZH	**Lanzhou**	**137.67**	**337**	*e*PKP	**PKPdf**	**23 13 42.0**	**-0.3**
LZH				sPKP		23 13 46.5	
LZH				LR	LR		
	comp=N,130nm,18.0s						
LZH				LR	LR		
	comp=E,130nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						
CD2	**Chengdu**	**142.14**	**333**	PKP	**PKPdf**	**23 13 51.3**	**+0.9**
GYA	**Guiyang**	**144.22**	**325**	PKP	PKPbc	23 13 52.8	+0.4
GYA				PP	**PP**	**23 17 11.0**	**+3.1**
GYA				AMB	AMB		
	comp=Z,70nm,7.6s						
LSA	**Lhasa**	**147.45**	**349**	*e*PKPdf	**PKPdf**	**23 13 55.6**	**-4.6**
LSA				*e*PKPab	**PKiKP**	**23 14 07.2**	**+2.4**
DANN	**Dangsing**	**149.40**	**1**	*e*P	**PKPbc**	**23 14 07.4**	**-0.1**
	comp=Z,27nm,0.9s						
PYUN	**Piuthan**	**149.62**	**3**	*e*P	**PKPbc**	**23 14 07.9**	**-

RNF				S	Sn	23 13 57.9	+0.2
KEV	Kevo	3.30	313	MSG		23 14 13.8	
	comp=Z,37nm,0.4s						
ARA0	ARCESS Array S	3.63	305	Pn	Pn	23 13 23.8	+1.2
	baz=122,slow=16						
ARA0				Pg	Pb	23 13 32.4	+2.2
	baz=118,slow=16						
ARA0				Sn	Sn	23 14 04.9	-1.2
	baz=120,slow=28						
ARA0				Lg	Lg	23 14 16.4	
	baz=112,slow=37						
ARA0	ARCESS Array S	3.63	305	Pn	Pn	23 13 23.8	+1.2
	baz=122,slow=16						
ARA0				Pg	Pb	23 13 32.4	+2.2
	baz=118,slow=16						
ARA0				Sn	Sn	23 14 04.9	-1.2
	baz=120,slow=28						
ARA0				Lg	Lg	23 14 16.4	
	baz=112,slow=37						
ARA0	ARCESS Array S	3.63	305	Pn	Pn	23 13 23.8	+1.2
	baz=122,slow=15,SNR=50						
ARA0	ARCESS Array S	3.63	305	Pg	Pb	23 13 32.3	+2.2
	baz=118,slow=15,SNR=90						
ARA0				Sn	Sn	23 14 04.9	-1.2
	baz=120,slow=25,SNR=50						
ARA0				Lg	Lg	23 14 16.4	
	baz=112,slow=33,SNR=2.4						
ARCES	ARCESS Array B	3.63	305	Pn	Pn	23 13 24.3	+1.7
	comp=Z,3.5nm,0.3s,baz=122,slow=16,SNR=262						
ARCES				Pg	Pb	23 13 32.5	+2.3
	comp=Z,3.0nm,0.3s,baz=117,slow=15,SNR=17						
ARCES				Sn	Sn	23 14 06.0	-0.1
	comp=Z,3.2nm,0.3s,baz=122,slow=25,SNR=14						
ARCES				Lg	Lg	23 14 17.2	
	comp=Z,9.4nm,0.3s,baz=118,slow=31,SNR=18						
KTK1	Kautokeino	4.21	294	eP	Pn	23 13 31.5	+1.0
KTK1				AML	AML	23 14 41.1	
	comp=Z,45nm,0.5s						
KTK1	Kautokeino	4.21	294	eP	Pn	23 13 31.5	+1.0
	SNR=49						
SUF	Sumiainen	5.96	217	MSG		23 15 35.5	
	comp=Z,6.1nm,0.4s						
KEF	Keuruu	6.74	219	MSG		23 15 55.2	
	comp=Z,3.5nm,0.4s						
FIA0	FINESS Array S	7.11	212	Pn	Pn	23 14 09.7	-0.7
FIA0				Sn	Sn	23 15 28.2	-3.6
	baz=32,slow=18						
FIA0				Lg	Lg	23 16 02.5	
	baz=20,slow=37						
FIA0	FINESS Array S	7.11	212	Pn	Pn	23 14 09.7	-0.7
FIA0				Sn	Sn	23 15 28.2	-3.6
	baz=32,slow=18						
FIA0				Lg	Lg	23 16 02.5	
	baz=20,slow=37						
FIA0	FINESS Array S	7.11	212	Lg	Lg	23 16 02.5	
	baz=20,slow=30,SNR=16						
FINES	FINESS Array B	7.11	212	Pn	Pn	23 14 11.1	+0.6
	comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=5.5						
FINES				Sn	Sn	23 15 31.3	-0.5
	comp=Z,0.3nm,0.3s,baz=28,slow=23,SNR=6.4						
FINES				Lg	Lg	23 16 05.1	
	comp=Z,0.9nm,0.3s,baz=27,slow=28,SNR=8.3						
HFS	Hagfors	11.64	239	Pn	Pn	23 15 12.0	-0.5
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=2.9						
HFS				Sn	Sn	23 17 18.8	-4.1
	comp=Z,0.2nm,0.3s,baz=49,slow=20,SNR=6.2						
SPA0	Spitsbergen Ar	11.66	342	Pn	Pn	23 15 11.2	-1.5
	baz=159,slow=18						
SPA0	Spitsbergen Ar	11.66	342	P	Pn	23 15 11.2	-1.5
	baz=159,slow=18						
SPA0	Spitsbergen Ar	11.66	342	P	Pn	23 15 11.1	-1.5
	baz=159,slow=16,SNR=47						
SPITS	Spitsbergen Ar	11.66	342	Pn	Pn	23 15 11.5	-1.1
	baz=148,slow=18,SNR=7.6						
NB2	NORSAR Subarra	11.83	247	Pn	Pn	23 15 14.4	-0.6
	baz=49,slow=12						
NB2	NORSAR Subarra	11.83	247	Pn	Pn	23 15 14.4	-0.6
	baz=49,slow=12						
NB2	NORSAR Subarra	11.83	247	Pn	Pn	23 15 14.4	-0.6
	baz=49,slow=12,SNR=50						
NOA	NORSAR Array B	11.83	247	Pn	Pn	23 15 14.3	-0.6
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=6.1						

AUST 14 23:49:07.3±1.6, 30.31S×117.86E, h0km, Error ellipse: s-maj=1.5km s-min=1.1km az=244.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLDU	Ballidu	1.04	253	P	Pg	23 49 26.3	-0.9
BLDU	baz=1.0,SNR=20			S	Sb	23 49 41.7	-0.6
	baz=1.0,SNR=5.4						
KLBR	Kellerberrin	1.28	184	P	Pn	23 49 33.2	+0.7
KLBR	baz=1.3,SNR=9.5			S	Sn	23 49 50.1	-0.3
	baz=1.3,SNR=11						
MORW	Morawa	2.01	308	P	Pn	23 49 41.8	-0.7
	baz=2.0,SNR=3.5						
MEEK	Meekatharra	3.72	10	P	Pn	23 50 05.9	-0.2
	baz=3.7,SNR=3.9						

ISCJB 14 23:52:15.3±0.7, 18.9S×177.7W, h570km, mb4.1/9, Error ellipse: s-maj=19.0km s-min=12.6km az=148.5
AUST 14 23:52:17.8±0.0, 18.69S×177.53W, h610km, Error ellipse: s-maj=2.6km s-min=2.0km az=318.0
IDC 14 23:52:20.7±2.0, 18.88S×177.79W, h627km±23km, mb3.4/8, mb1 3.5/9, mb1mx3.2/22, mbtmp3.4/9, Error ellipse: s-maj=17.7km s-min=14.1km az=161.0

ISC 14 23:52:15.8±0.7, 18.9S±0.1×177.7W±0.1, h570km, n36, σ1§36/40, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.52	50	P	P	23 54 11.3	+1.7
	24nm,0.3s,baz=167,slow=1.1,SNR=12						
DZM	Mont Dzumac	15.21	255	P	P	23 55 30.1	+3.1
	0.5nm,0.3s,baz=71,slow=17,SNR=5.6						
HNR	Honiara	23.61	290	P	P	23 56 45.3	+2.0
	92nm,0.5s,baz=217,slow=2.5,SNR=5.9						
CNB	Canberra Magne	33.40	234	P	P	23 58 09.4	+1.4
	baz=34,SNR=7.6						
CMSA	Cobar Meteorol	35.29	242	P	P	23 58 24.8	+1.0
	baz=36,SNR=11						
PMG	Port Moresby	35.30	281	P	P	23 58 25.5	+1.3
	2.2nm,0.5s,baz=113,slow=8.9,SNR=6.3						
QLP	Quilpie	35.85	251	P	P	23 58 29.2	+0.7
	baz=36,SNR=14						
TOO	Toolangi	37.11	232	P	P	23 58 39.8	+1.1
	baz=37,SNR=7.8						
COEN	Coen	37.81	271	P	P	23 58 45.9	+1.2
	baz=38,SNR=6.7						
STKA	Stephens Creek	38.78	242	P	P	23 58 53.6	+1.2
	4.4nm,0.6s,baz=87,slow=6.9,SNR=22						
STKA	Stephens Creek	38.78	242	P	P	23 58 53.5	+1.2
	baz=39,SNR=15						
BBOO	Buckleboo	43.55	242	P	P	23 59 30.7	+0.6
	baz=44,SNR=11						
JAY	Jayapura	43.84	287	S	S	00 05 24.3	+1.3
	baz=44,SNR=3.4						
WRA	Warramunga Arr	45.14	260	P	P	23 59 42.5	0.0
	4.8nm,0.6s,baz=96,slow=8.1,SNR=69						
WRA				PcP	PcP	00 01 10.0	-0.7
	0.6nm,0.3s,baz=90,slow=3.9,SNR=4.7						
WRA				S	S	00 05 37.6	-3.6
	0.6nm,0.8s,baz=102,slow=13,SNR=2.8						
ASAR	Alice Springs	45.20	255	P	P	23 59 43.2	+0.3
	10.0nm,0.7s,baz=88,slow=7.9,SNR=133						
ASAR				PcP	PcP	00 01 10.8	-0.1
	1.9nm,0.7s,baz=106,slow=3.9,SNR=8.8						
ASAR				S	S	00 05 39.5	-2.5
	1.1nm,0.7s,baz=94,slow=15,SNR=12						
KDU	Kakadu	48.23	270	P	P	00 00 06.0	+0.3
	baz=48,SNR=7.1						
MTN	Manton Dam	49.46	269	P	P	00 00 15.0	+0.1
	baz=50,SNR=4.5						
FORT	Forrest	50.22	245	P	P	00 00 20.1	-0.2
	baz=50,SNR=9.1						
FITZ	Fitzroy Crossi	53.55	261	P	P	00 00 44.6	+0.2
	baz=54,SNR=5.4						
MEEK	Meekatharra	58.74	250	P	P	00 01 19.2	-0.8
	baz=59,SNR=3.7						
KLBR	Kellerberrin	59.02	244	P	P	00 01 21.8	0.0
	baz=59,SNR=6.7						
PCI	Palu	63.73	279	P	P	00 01 50.0	-2.8
	baz=64,SNR=3.5						
MJAR	Matsushiro Arr	69.09	323	P	P	00 02 23.4	-1.9
	1.3nm,0.9s,baz=92,slow=8.5,SNR=4.1						
QSPA	South Pole Qui	71.19	180	P	P	00 02 37.5	0.0
	2.2nm,0.6s,baz=92,slow=1.3,SNR=23						
ILAR	Eielson Array	86.67	13	P	P	00 03 58.5	-0.5
	0.2nm,0.4s,baz=226,slow=4.8,SNR=6.4						
CMAR	Chiang Mai Arr	89.85	289	P	P	00 04 16.4	+1.4
	0.3nm,0.3s,baz=122,slow=3.6,SNR=5.1						
MKAR	Makanchi Array	110.30	314	PKiKP	PKiKP	00 09 42.0	-1.5
	0.3nm,0.5s,baz=75,slow=1.6,SNR=11						
ARCES	ARCESS Array B	127.38	350	PKP	PKPdf	00 10 14.8	-0.8
	3.2nm,0.9s,baz=12,slow=1.1,SNR=12						
FINES	FINESS Array B	134.30	344	PKP	PKPdf	00 10 27.9	-0.9
	1.0nm,0.8s,baz=94,slow=2.5,SNR=3.4						
BRTR	Keskin Array B	145.94	314	PKPbc	PKPbc	00 10 52.1	-0.5
	2.0nm,0.8s,baz=132,slow=3.8,SNR=9.9						
KHC	Kasperske Hory	148.48	346	ePKP	PKPbc	00 10 59.0	+0.3
GERES	GERESS Array B	148.71	345	PKPbc	PKPbc	00 10 59.4	0.0
	1.0nm,0.7s,baz=40,slow=2.3,SNR=10						
GCIS	Gornji Cirnik	150.91	341	iP	PKPbc	00 11 04.4	-0.1
CRNS	Crni Vrh	151.12	343	iP	PKPbc	00 11 04.4	-0.7
BOJS	Bojanci	151.35	341	iP	PKPbc	00 11 05.5	0.0
TORD	Torodi Ar. Bea	174.28	174	PKPab	PKPab	00 12 56.4	-0.9
	0.3nm,0.7s,baz=170,slow=4.2,SNR=3.8						

IDC 14 23:57:24.5±1.7, 19.61S×68.35W, h141km±16km, mb3.6/8, mb1 3.9/12, mb1mx3.7/21, mbtmp3.6/12, Error ellipse: s-maj=21.9km s-min=14.1km az=72.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	3.31	4	P	Pn	23 58 17.5	+1.1
	7.1nm,0.3s,baz=193,slow=6.5,SNR=164						
SIV	San Ignacio	7.81	64	P	Pn	23 59 15.0	-0.5
	3.6nm,0.3s,baz=260,slow=12,SNR=96						
NNA	Nana	11.14	312	P	Pn	23 59 58.8	-1.2
	1.9nm,0.3s,baz=132,slow=12,SNR=4.2						
CFAA	Coronel Fontan	11.94	180	P	Pn	00 00 09.4	-0.9
	0.1nm,0.3s,baz=1.2,slow=13,SNR=5.1						
CPUP	Villa Florida	12.15	125	P	Pn	00 00 13.0	0.0
	0.5nm,0.3s,baz=276,slow=12,SNR=4.4						
PLCA	Paso Flores	21.13	185	P	P	00 01 58.3	0.0
	3.7nm,0.8s,baz=7.6,slow=12,SNR=7.2						
TXAR	Lajitas Array	59.40	324	P	P	00 07 12.0	-0.4
	0.5nm,0.5s,baz=148,slow=8.4,SNR=9.8						
QSPA	South Pole Qui	70.57	180	P	P	00 08 24.8	+0.6
	0.7nm,0.7s,baz=125,slow=10,SNR=5.9						
PDAR	Pinedale Array	72.75	329	P	P	00 08 37.5	-0.1
	0.3nm,0.4s,baz=114,slow=9.0,SNR=4.0						
ULM	Lac du Bonnet	73.69	342	P	P	00 08 42.0	-0.7
	3.6nm,0.5s,baz=152,slow=5.6,SNR=6.3						
NVAR	Mina Array Bea	74.35	321	P	P	00 08 47.9	+0.9
	0.5nm,0.4s,baz=165,slow=5.7,SNR=3.9						
TORD	Torodi Ar. Bea	76.23	71	P	P	00 08 57.8	-0.2
	1.3nm,0.5s,baz=251,slow=5.6,SNR=41						
YKA	Yellowknife Ar	89.59	340	P	P	00 10 05.8	+0.2
	1.9nm,0.6s,baz=134,slow=4.7,SNR=55						
ASAR	Alice Springs	131.82	208	PKP	PKPdf	00 16 21.0	-0.8
	0.3nm,0.8s,baz=156,slow=2.4,SNR=4.9						
WRA	Warramunga Arr	134.84	211	PKP	PKPdf	00 16 26.7	-0.8
	0.2nm,0.6s,baz=150,slow=1.5,SNR=3.7						
ZALV	Zalesovo Beam	140.03	25	PKhKP	PKPpre	00 16 30.7	
	0.3nm,0.4s,baz=347,slow=4.4,SNR=2.5						
ZALV				PKP	PKPdf	00 16 36.0	0.0
	0.7nm,0.6s,baz=310,slow=2.9,SNR=5.4						
MKAR	Makanchi Array	143.80	35	PKP	PKPab	00 16 40.6	+0.3
	0.2nm,0.5s,baz=315,slow=3.5,SNR=8.7						
SONM	Songino Array	151.53	7	PKPbc	PKPbc	00 17 02.7	+0.6
	1.2nm,0.6s,baz=295,slow=1.3,SNR=13						

ISCJB 15 00:03:03.0±0.7, 61.1S±0.1×24.0W±0.3, h10km, mb3.8/7, MS4.0/15, Error ellipse: s-maj=22.7km s-min=10.1km az=143.0
IDC 15 00:03:04.6±0.9, 60.82S×24.01W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, MS3.9/16, Ms1 3.9/16, ms1mx3.8/25, Error ellipse: s-maj=31.8km s-min=22.1km az=12.0

ISC 15 00:03:05.6±0.7, 61.0S±0.1×23.9W±0.1, h10km, n29, σ1§20/14, mb4.0/7, MS3.9/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	11.59	153	ePn	Pn	00 05 50.2	-0.6
VNA1	Neumayer--Stat	11.59	153	eSn	Sn	00 07 49.1	-11
VNA3	Neumayer Olymp	11.77	157	ePn	Pn	00 05 51.8	-1.5
VNA3	Neumayer Olymp	11.77	157	eSn	Sn	00 07 52.6	-12
VNA2	Neumayer--Watz	11.99	153	ePn	Pn	00 05 54.6	-1.7
	baz=188,slow=4.3						
VNA2	Neumayer--Watz	11.99	153	eSn	Sn	00 07 54.5	-15
	baz=188,slow=4.3						
PMSA	Palmer Station	18.44	241	LR	LR	00 13 16.4	
	comp=Z,224nm,18.0s,baz=200,slow=33						
USHA	Ushuaia	24.03	265	LR	LR	00 14 46.7	
	comp=Z,84nm,21.2s,baz=37,slow=29						
QSPA	South Pole Qui	29.26	180	P	P	00 09 09.3	+1.8
	2.7nm,1.1s,baz=203,slow=2.4,SNR=3.6						
PLCA	Paso Flores	34.71	284	P	P	00 09 55.1	-0.2
	1.9nm,0.7s,baz=156,slow=7.8,SNR=3.2						
PLCA				LR	LR	00 22 21.3	
	comp=Z,121nm,20.6s,baz=170,slow=33						
SUR	Sutherland	40.68	66	LR	LR	00 22 37.2	
	comp=Z,209nm,21.1s,baz=347,slow=29						
CFAA	Coronel Fontan	41.14	295	P	P	00 10 48.7	-1.0
	0.3nm,0.5s,baz=144,slow=7.0,SNR=7.2						
CPUP	Villa Florida	41.36	312	P	P	00 10 50.8	-0.7
	0.4nm,0.4s,baz=144,slow=8.7,SNR=3.6						
CPUP				LR	LR	00 27 15.9	
	comp=Z,72nm,19.1s,baz=156,slow=35						
BOSA	Boshof	45.88	68	P	P	00 11 27.4	-0.6
	1.3nm,0.5s,baz=206,slow=9.3,SNR=7.8						
BOSA				LR	LR	00 26 15.1	
	comp=Z,122nm,18.1s,baz=342,slow=30						
BDFB	Brasilia	48.48	328	LR	LR	00 30 01.8	
	comp=Z,112nm,18.5s,baz=171,slow=34						
TSUM	Tsumeb	50.91	54	LR	LR	00 28 18.0	
	comp=Z,110nm,19.6s,baz=202,slow=30						
LPAZ	La Paz	54.61	305	P	P	00 12 34.4	-0.4
	1.7nm,0.8s,baz=150,slow=8.2,SNR=5.7						
DBIC	Dimbokro	69.08	20	LR	LR	00 37 48.8	
	comp=Z,67nm,18.5s,baz=127,slow=30						
MBAR	Mbarar	73.08	59	LR	LR	00 42 37.8	
	comp=Z,140nm,19.6s,baz=125,slow=32						
ROSC	El Rosal	76.32	308	LR	LR	00 48 40.5	
	comp=Z,63nm,18.2s,baz=309,slow=36						
TORD	Torodi Ar. Bea	76.64	26	P	P	00 14 56.8	+0.5
	0.7nm,0.6s,baz=198,slow=5.8,SNR=14						
TORD				LR	LR	00 40 28.9	
	comp=Z,57nm,19.5s,baz=160,slow=29						
STKA	Stephens Creek	86.73	156	LR	LR	00 52 31.8	
	comp=Z,124nm,19.1s,baz=204,slow=34						
ASAR	Alice Springs	93.77	160	LR	LR	00 54 05.8	
	comp=Z,123nm,20.5s,baz=79,slow=33						
WRA	Warramunga Arr	97.48	159	LR	LR	00 56 34.2	
	comp=Z,167nm,20.4s,baz=150,slow=33						
FITZ	Fitzroy Crossi	97.49	151	LR	LR	01 01 55.3	
	comp=Z,67nm,18.4s,baz=8.2,slow=36						
FINES	FINESS Array B	127.96	28	PKP	PKPdf	00 22 10.2	+0.3
	1.1nm,0.8s,baz=207,slow=2.8,SNR=3.0						
YKA	Yellowknife Ar	140.88	313	PKP	PKPdf	00 22 35.5	+1.5
	0.3nm,0.7s,baz=118,slow=2.2,SNR=5.4						
SONM	Songino Array	149.07	92	PKPbc	PKPbc	00 22 53.0	+0.1
	0.5nm,0.7s,baz=229,slow=2.5,SNR=6.7						
ILAR	Eielson Array	154.48	303	PKPbc	PKPbc	00 23 06.2	+1.6
	0.2nm,0.8s,baz=119,slow=3.5,SNR=3.9						

IDC 15 00:13:29.3±10.0, 35.40N×142.32E, h0km, mb3.4/4, mb1 3.3/5, mb1mx3.2/26, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=251.8km s-min=90.5km az=174.0
ISCJB 15 00:13:39.8±1.4, 36.49N±0.04×141.64E±0.09, h20km±7km, mb3.3/4, Error ellipse: s-maj=12.4km s-min=6.9km az=179.0
JMA 15 00:13:40.9±0.2, 36.44N×141.51E, h54km±4km, M3.0

ISC 15 00:13:39.2±2.0, 36.49N±0.05×141.56E±0.10, h5km±12km, n14, σ0§97/22, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.80	279	P	Pb	00 13 55.6	-0.1
JHO				eS	Sb	00 14 07.1	+0.2
ONAJ	Iwakimizuishiy	0.86	315	P	Pb	00 13 56.8	+0.1
ONAJ				eS	Sb	00 14 08.1	-0.5
CHOJ	Chosi	0.97	216	P	Pg	00 13 57.5	-0.3
CHOJ				eS	Sn	00 14 12.0	-1.7
JFK	Kawauchi	1.03	328	P	Pb	00 13 59.5	-0.1
JFK				eS	Sg	00 14 12.7	+0.4
JFT	Otama	1.41	317	P	Pb	00 14 06.0	-0.1
JFT				eS	Sn	00 14 23.5	-1.2
JMM	Marumori	1.50	336	P	Pn	00 14 06.8	0.0
JMM				eS	Sn	00 14 25.3	-1.5
JAG	Ashikaga	1.70	268	P	Pn	00 14 08.8	-0.7
JFY	Yanaizu	1.74	302	P	Pb	00 14 11.3	-0.4
JFY				eS	Sb	00 14 32.9	-1.0
MJAR	Matsushiro Arr	2.70	272	Pn	Pn	00 14 24.3	+1.0
	2.2nm,0.3s,baz=103,slow=7.9,SNR=23						
MAT	Matsushiro	2.70	272	P	Pn	00 14 23.9	+0.6
MAT				S	Sn	00 14 57.1	+0.7
SONM	Songino Array	28.18	305	P	P	00 19 35.0	+2.2
	0.8nm,0.8s,baz=102,slow=8.6,SNR=6.5						
ZALV	Zalesovo Beam	42.36	313	P	P	00 21 34.5	+0.3
	0.2nm,0.4s,baz=100,slow=6.0,SNR=3.2						
MKAR	Makanchi Array	44.50	303	P	P	00 21 51.2	-0.4
	0.1nm,0.4s,baz=80,slow=10,SNR=2.7						
KURBB	Kurchatov Arra	46.42	308	P	P	00 22 05.7	-1.0
	0.3nm,0.5s,baz=83,slow=7.8,SNR=5.0						

IDC 15 00:18:05.8±1.6, 48.77N×154.71E, h0km, mb3.5/7, mb1 3.9/9, mb1mx3.6/27, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=46.0km s-min=17.6km az=174.0
KRSC 15 00:18:22.4±0.4, 49.42N×157.01E, h130km±130km, ML4.1
MOS 15 00:18:27.8±1.2, 50.10N×155.96E, h130km, mb3.7/4, Error ellipse: s-maj=44.6km s-min=11.8km az=66.0

ISC 15 00:18:26.8±3.2, 49.7N±0.2×156.8E±0.2, h172km±26km, n31, σ1§02/33, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.04	335	ePN	Pn	00 19 01.2	+7.3
SKR				e		00 19 08.0	
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=N,120nm,0.8s						
SKR				pmax	pmax		
	comp=E,120nm,0.8s						
SKR				smax	smax		
	comp=N,590nm,0.6s						
SKR				smax	smax		
	comp=E,290nm,0.5s						
ASAK	Asacha	2.73	14	eP	Pn	00 19 11.3	-0.5
ASAK				eS	Sn	00 19 48.1	+1.2
MTVR	Mutnovka	2.88	17	eP	Pn	00 19 13.3	-0.3
MTVR				eS	Sn	00 19 50.6	+0.4
RUS	Russkaya	2.90	21	PN	Pn	00 19 13.0	-0.7
RUS				S	Sn	00 19 50.2	-0.2
RUS	Russkaya	2.90	21	eP	Pn	00 19 13.0	-0.7
RUS				eS	Sn	00 19 50.2	-0.2
GRL	Gorelyy	2.92	15	eP	Pn	00 19 14.0	-0.2
GRL				eS	Sn	00 19 52.2	+1.0
PETK	Petropavlovsk-	3.42	9	Pn	Pn	00 19 19.1	-1.1
	comp=E,2.8nm,0.3s,baz=180,slow=13,SNR=34						
PETK				Sn	Sn	00 20 12.8	+11
	comp=E,0.8nm,0.3s,baz=226,slow=15,SNR=2.3						
PETK	Petropavlovsk-	3.42	9	PN	Pn	00 19 19.1	-1.1
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PET	Petropavlovsk	3.48	19	iPN	Pn	00 19 22.0	+1.0
PET	Petropavlovsk	3.48	19	eS	Sn	00 20 03.6	+0.3
KOK	Koryaka	3.73	17	eP	Pn	00 19 25.1	+0.8
KOK				eS	Sn	00 20 11.4	+2.2
SDLR	Sedlovina	3.77	19	eP	Pn	00 19 25.2	+0.5
SDLR				eS	Sn	00 20 10.7	+0.6
NLC	Nalytchevo	3.78	24	eS	Sn	00 20 08.4	-1.7
SPN	Mys Shipunski	3.92	30	PN	Pn	00 19 27.5	+1.0
SPN				S	Sn	00 20 13.4	+0.2
SPN	Mys Shipunski	3.92	30	eP	Pn	00 19 27.5	+1.0
SPN				eS	Sn	00 20 13.4	+0.2
GNL	Ganaly	4.02	10	eP	Pn	00 19 26.7	-1.2
MKZ	Mys Kozlova	5.69	30	PN	Pn	00 19 49.4	-0.1
MKZ				S	Sn	00 20 52.6	-1.9
MKZ	Mys Kozlova	5.69	30	eP	Pn	00 19 49.4	-0.1
MKZ				eS	Sn	00 20 52.6	-1.9
TUMR	Tumrok	5.91	19	eP	Pn	00 19 53.5	+1.0
KBTR	Krutoberegovo	7.42	27	PN	Pn	00 20 13.0	+0.7
KBTR	Krutoberegovo	7.42	27	eP	Pn	00 20 13.0	+0.7
BKI	Bering	7.82	42	eS	Sn	00 21 44.4	-0.7
FX1	Attu Island--F	10.71	67	Pn	P	00 21 03.5	0.0
	comp=Z,0.7nm,0.3s,baz=84,slow=10,SNR=2.3						
ZALV	Zalesovo Beam	42.91	304	P	P	00 26 01.3	-6.7
	comp=Z,0.4nm,0.3s,baz=50,slow=6.6,SNR=4.9						
ZALV	Zalesovo Beam	42.91	304	eP	P	00 26 01.7	-6.3
YKA	Yellowknife Ar	47.05	39	P	P	00 26 49.1	+8.7
	comp=Z,0.1nm,0.4s,baz=297,slow=6.9,SNR=3.1						
MKAR	Makanchi Array	47.78	297	P	P	00 26 38.9	-7.5
	comp=Z,0.1nm,0.3s,baz=57,slow=8.8,SNR=4.0						
KURBB	Kurchatov Arra	47.89	303	P	P	00 26 40.6	-6.5
	comp=Z,0.3nm,0.3s,baz=64,slow=7.5,SNR=6.6						
NVAR	Mina Array Bea	58.91	66	P	P	00 28 18.1	+10
	comp=Z,0.5nm,0.6s,baz=294,slow=7.5,SNR=3.9						
PDAR	Pinedale Array	61.02	57	P	P	00 28 31.1	+8.9
	comp=Z,0.6nm,1.0s,baz=289,slow=4.5,SNR=3.6						
TXAR	Lajitas Array	73.91	64	P	P	00 29 52.0	+9.0
	comp=Z,0.7nm,0.5s,baz=291,slow=5.5,SNR=10						

JMA 15 00:18:52.1±0.1, 40.26N×142.49E, h34km±1km, M3.7
*

comp=Z,2.0nm,0.6s
KURBB **Kurchatov Arra 44.64 306** P **P 00 27 01.3 -0.9**
comp=Z,1.6nm,0.6s,baz=81,slow=8.5,SNR=9.4
WRA **Warramunga Arr 60.36 189** P **P 00 28 58.4 -0.4**
comp=Z,0.1nm,0.3s,baz=3.1,slow=6.7,SNR=3.0
FINES **FINESS Array B 66.29 332** P **P 00 29 36.7 -0.9**
comp=Z,1.6nm,0.8s,baz=19,slow=8.8,SNR=5.0
HFS **Hagfors 71.44 336** P **P 00 30 08.6 -1.0**
comp=Z,0.8nm,0.4s,baz=60,slow=3.6,SNR=7.1
NOA **NORSAR Array B 71.48 337** P **P 00 30 09.2 -0.7**
comp=Z,0.6nm,0.8s,baz=35,slow=6.6,SNR=3.1

DDA ***15*** *00:23:05.7, 37.21N×36.89E, h7km, MD2.8*
ISCJB ***15*** *00:23:06.2±0.7, 37.21N±0.03×36.91E±0.04, h4km±6km, Error ellipse: s-maj=6.2km s-min=4.9km az=38.5*
ISK ***15*** *00:23:06.4, 37.25N×36.98E, h5km, MD3.0*
CSEM ***15*** *00:23:06.7±0.2, 37.21N×36.93E, h8km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.2km az=37.0*

ISC 15 00:23:06.5±1.0, 37°22N±0.03×36°93E±0.03, h8km±9km, n29, σ0°77/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.23**	**101**	*e*PG	**Pg**	**00 23 10.8**	**-0.4**
GAZ				*e*SG	**Sg**	**00 23 14.2**	**-0.1**
GAZ	**Gaziantep**	**0.23**	**101**	*e*Pg	**Pg**	**00 23 10.8**	**-0.4**
GAZ				*e*Sg	**Sg**	**00 23 14.2**	**-0.1**
KMRS	**Kahramanmaras**	**0.29**	**356**	*e*PG	**Pg**	**00 23 11.9**	**-0.4**
KMRS				*e*SG	**Sg**	**00 23 16.2**	**+0.1**
KMRS	**Kahramanmaras**	**0.29**	**356**	*e*Pg	**Pg**	**00 23 11.9**	**-0.4**
KMRS				*e*Sg	**Sg**	**00 23 16.2**	**+0.1**
KUZU	**Kuzuini**	**0.46**	**165**	*i* P	**Pg**	**00 23 15.0**	**-0.4**
KUZU				*i* S	**Sg**	**00 23 21.7**	**+0.3**
KUZU	**Kuzuini**	**0.46**	**165**	*i* P	**Pg**	**00 23 15.0**	**-0.4**
KUZU				*i* S	**Sg**	**00 23 21.7**	**+0.3**
GZT	**Gaziantep**	**0.53**	**75**	*i* P	**Pg**	**00 23 16.4**	**-0.3**
GZT				*i* S	**Sb**	**00 23 25.2**	**-0.7**
KOZT	**Kozan**	**0.92**	**287**	*e*PG	**Pb**	**00 23 25.1**	**+0.4**
KOZT	**Kozan**	**0.92**	**287**	*e*Pg	**Pb**	**00 23 25.1**	**+0.4**
ATAB	**Bozova**	**1.12**	**77**	*i* P	**Pb**	**00 23 28.3**	**+0.1**
ATAB				*i* S	**Sb**	**00 23 43.1**	**+0.2**
ATAB	**Bozova**	**1.12**	**77**	*i* P	**Pb**	**00 23 28.3**	**+0.1**
ATAB				*i* S	**Sb**	**00 23 43.1**	**+0.2**
AKCD	**Akcadag**	**1.33**	**36**	*i* P	**Pg**	**00 23 32.5**	**+0.3**
AKCD				*i* S	**Sg**	**00 23 50.8**	**+1.3**
AKCD	**Akcadag**	**1.33**	**36**	*i* P	**Pg**	**00 23 32.5**	**+0.3**
AKCD				*i* S	**Sg**	**00 23 50.8**	**+1.3**
SARI	**SarD1z-Kayseri**	**1.47**	**353**	*e*PN	**Pn**	**00 23 30.5**	**-3.0**
PINB	**Pinarbasi**	**1.52**	**344**	*i* P	**Pn**	**00 23 34.5**	**+0.3**
PINB				*i* S	**Sn**	**00 23 53.1**	**-1.2**
PINB	**Pinarbasi**	**1.52**	**344**	*i* P	**Pn**	**00 23 34.5**	**+0.3**
PINB				*i* S	**Sn**	**00 23 53.1**	**-1.2**
URFA	**Urfa**	**1.53**	**81**	*e*PN	**Pn**	**00 23 34.4**	**+0.2**
URFA	**Urfa**	**1.53**	**81**	*e*Pn	**Pn**	**00 23 34.4**	**+0.2**
MYA	**Malataya**	**1.62**	**47**	*e*PN	**Pn**	**00 23 35.5**	**0.0**
MYA	**Malataya**	**1.62**	**47**	*e*Pn	**Pn**	**00 23 35.5**	**0.0**
BNN	**Bunyan**	**1.84**	**333**	*e*PN	**Pn**	**00 23 38.4**	**-0.2**
BNN	**Bunyan**	**1.84**	**333**	*e*Pn	**Pn**	**00 23 38.4**	**-0.2**
DARE	**Darende-Malaty**	**1.87**	**22**	*e*PN	Pn	00 23 33.0	-5.9
NIG	**Nigde**	**2.04**	**297**	*e*PN	**Pn**	**00 23 42.5**	**+1.0**
NIG	**Nigde**	**2.04**	**297**	*e*Pn	**Pn**	**00 23 42.5**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.21**	**58**	*e*PN	**Pn**	**00 23 44.6**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.21**	**58**	*e*Pn	**Pn**	**00 23 44.6**	**+0.9**
ILIC	**ilic-Erzincan**	**2.58**	**30**	*e*PN	**Pn**	**00 23 48.9**	**+0.2**
ILIC	**ilic-Erzincan**	**2.58**	**30**	*e*Pn	**Pn**	**00 23 48.9**	**+0.2**

IDC 15 00:45:42.0±4.9, 23°76S×179°91W, h596km±57km, mb3.1/6, mb1 3.3/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=44.8km s-min=29.7km az=3.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.68**	**189**	P	P	00 48 45.2	-1.9
	1.3nm,0.3s,baz=326,slow=11,SNR=7.1						
URZ				S	S	00 51 18.9	+0.5
	0.2nm,0.3s,baz=156,slow=20,SNR=3.0						
PPT2	**Papeete2**	**29.00**	**84**	*e*S	S	00 54 36.3	-30
	82nm,24.5s						
PPT2				*e*LR	LR	01 02 39.0	
	365nm,27.0s						
CTA	**Charters Tower**	**31.56**	**270**	P	P	00 51 17.4	0.0
	6.4nm,0.4s,baz=91,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**34.85**	**248**	P	P	00 51 45.5	+0.6
	1.6nm,0.4s,baz=91,slow=9.7,SNR=9.2						
ASAR	**Alice Springs**	**42.14**	**260**	P	P	00 52 43.9	+0.1
	1.2nm,0.5s,baz=95,slow=7.2,SNR=28						
WRA	**Warramunga Arr**	**42.50**	**266**	P	P	00 52 45.9	-0.8
	0.8nm,0.3s,baz=90,slow=8.4,SNR=21						
TXAR	**Lajitas Array**	**90.29**	**58**	P	P	00 57 42.2	+1.5
	0.3nm,0.7s,baz=201,slow=6.8,SNR=4.4						
ILAR	**Eielson Array**	**91.88**	**14**	P	P	00 57 46.4	-0.7
	0.2nm,0.6s,baz=188,slow=5.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**111.90**	**321**	PKiKP	PKiKP	01 03 09.1	-0.7
	0.2nm,0.3s,baz=100,slow=1.6,SNR=2.5						
MKAR	**Makanchi Array**	**112.12**	**313**	PKiKP	PKiKP	01 03 10.8	+0.2
	0.2nm,0.7s,baz=106,slow=3.6,SNR=2.8						
ARCES	**ARCESS Array B**	**131.77**	**348**	PKP	PKPdf	01 03 48.5	+1.0
	1.7nm,0.8s,baz=36,slow=1.7,SNR=5.8						
FINES	**FINESS Array B**	**138.34**	**342**	PKP	PKPdf	01 04 00.3	+0.5
	2.9nm,1.2s,baz=2.9,slow=5.6,SNR=3.7						
NOA	**NORSAR Array B**	**141.96**	**351**	PKhKP	PKPpre	01 04 03.0	
	0.6nm,0.7s,baz=15,slow=4.6,SNR=3.6						
HFS	**Hagfors**	**142.43**	**349**	PKP	PKPdf	01 04 04.3	-3.0
	2.3nm,0.3s,baz=39,slow=4.3,SNR=43						
AKASG	**Malin Array Be**	**144.90**	**327**	PKP	PKPdf	01 04 10.9	-0.9
	1.1nm,0.4s,baz=44,slow=4.2,SNR=7.1						
BRTR	**Keskin Array B**	**147.66**	**307**	PKPbc	PKPbc	01 04 21.0	+0.5
	0.7nm,0.8s,baz=48,slow=2.1,SNR=4.4						
GERES	**GERESS Array B**	**152.75**	**340**	PKPbc	PKPbc	01 04 31.0	-1.3
	0.4nm,0.8s,baz=355,slow=2.1,SNR=3.6						

ISCJB ***15*** *00:51:48.0±0.4, 7.97S±0.06×116.32E±0.05, h212km±5km, mb3.7/8, Error ellipse: s-maj=9.6km s-min=7.5km az=4.9*
IDC ***15*** *00:51:51.8±1.9, 7.87S×116.61E, h236km±17km, mb3.3/8, mb1 3.4/10, mb1mx3.3/25, mbtmp3.3/10, Error ellipse: s-maj=22.5km s-min=9.5km az=59.0*
DJA ***15*** *00:51:55.9±0.5, 8°S×11°6E±°, h159km±7km, M3.6/12, MLv3.6/12*

ISC 15 00:51:48.6±0.7, 8°04S±0.07×116°37E±0.05, h205km±7km, n23, σ1°52/29, mb3.7/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHKI	**Kahang-Kahang**	**0.82**	**247**	P	Pn	**00 52 18.8**	**+1.0**
KHKI				S	**S**	**00 52 39.1**	**-1.3**
SRBI	**Singaraja**	**1.15**	**268**	P	**Pn**	**00 52 21.2**	**+1.3**
DNP	**Denpasar**	**1.31**	**241**	P	**Pn**	**00 52 22.9**	**+1.7**
DNP				S	**S**	**00 52 43.9**	**-2.3**
IGBI	**Denpasar**	**1.44**	**237**	P	**Pn**	**00 52 23.8**	**+1.6**
IGBI				S	**S**	**00 52 48.6**	**+0.5**
NBBI	**Negara**	**1.77**	**259**	P	**Pn**	**00 52 24.8**	**-0.4**
NBBI				S	**S**	**00 52 51.3**	**-1.9**
BYJI	**Banyuwangi**	**2.00**	**265**	P	Pn	00 52 31.2	+3.7
ABJI	**Asem Bagus**	**2.13**	**276**	P	**Pn**	**00 52 29.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.24**	**259**	P	**Pn**	**00 52 31.0**	**+1.0**
JAGI				S	**S**	**00 53 01.2**	**-0.5**
KMMI	**Kalianget**	**2.58**	**292**	P	Pn	00 52 37.3	+3.6
GMJI	**Gumukmas**	**2.91**	**265**	P	**Pn**	**00 52 38.5**	**+1.1**
GMJI				S	**S**	**00 53 13.7**	**-1.3**
WSI	**Waingapu**	**4.20**	**113**	P	Pn	00 53 03.4	+10
KAPI	**Kappang**	**4.50**	**48**	P	**Pn**	**00 52 57.9**	**+1.0**
	0.9nm,0.3s,baz=252,slow=9.6,SNR=5.1						
KAPI				S	**S**	**00 53 49.7**	**-0.5**
	0.3nm,0.3s,baz=235,slow=16,SNR=2.3						
PWJI	**Pagerwojo**	**4.53**	**270**	P	Pn	00 53 01.5	+4.4
PWJI				S	**S**	**00 53 50.6**	**0.0**
FITZ	**Fitzroy Crossi**	**13.46**	**139**	P	**Pn**	**00 54 52.0**	**+0.3**
	0.9nm,0.3s,baz=319,slow=9.6,SNR=24						
FITZ				S	**S**	**00 57 18.3**	**-3.1**
	0.9nm,0.3s,baz=178,slow=21,SNR=10						
WRA	**Warramunga Arr**	**21.04**	**126**	P	**P**	**00 56 16.5**	**-0.3**
	1.4nm,0.6s,baz=300,slow=12,SNR=9.0						
WRA				S	**S**	**00 59 55.6**	**-3.3**
	0.4nm,0.3s,baz=301,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**22.89**	**135**	P	**P**	**00 56 36.1**	**+1.6**
	3.6nm,0.5s,baz=308,slow=8.8,SNR=67						
NWAO	**Narrogin (SRO)**	**24.78**	**178**	P	**P**	**00 56 53.1**	**+1.5**
	4.5nm,0.5s,baz=5.9,slow=7.5,SNR=6.9						
STKA	**Stephens Creek**	**33.36**	**139**	P	**P**	**00 58 09.3**	**+1.8**
	2.2nm,0.6s,baz=317,slow=7.8,SNR=5.8						
SONM	**Songino Array**	**56.33**	**352**	P	**P**	**01 01 08.8**	**+0.6**
	1.0nm,0.7s,baz=169,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**62.45**	**334**	P	**P**	**01 01 49.3**	**-0.7**
	0.4nm,0.6s,baz=146,slow=7.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**67.25**	**340**	P	**P**	**01 02 19.6**	**-1.1**
	0.2nm,0.4s,baz=141,slow=7.1,SNR=2.8						
BVAR	**Borovoye Array**	**72.25**	**333**	P	**P**	**01 02 50.0**	**-1.3**
	0.6nm,0.7s,baz=115,slow=8.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**115.73**	**281**	PKP	**PKPdf**	**01 10 07.0**	**-0.5**
	0.2nm,0.6s,baz=64,slow=1.5,SNR=7.5						

IDC ***15*** *00:53:11.4±0.7, 40.27S×92.00W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=25.2km s-min=18.1km az=116.0*
NEIC ***15*** *00:53:12.5±0.5, 40.39S×91.95W, h10km, mb4.8/12, Error ellipse: s-maj=13.6km s-min=12.8km az=72.0*
ISCJB ***15*** *00:53:13.4±0.4, 40.25S±0.07×91.17W±0.1, h15km, mb4.5/20, Error ellipse: s-maj=13.2km s-min=10.0km az=156.1*
GCMT ***15*** *00:53:15.3±0.3, 40.25S×91.88W, h18km±1km, MW5.1, Moment Tensor Solution. s35,c43; s75,c111; Moment tensor: Scale 10^{16}Nm; M_{rr}-5.10±.29; $M_{\theta\theta}$0.16±.20; $M_{\phi\phi}$4.94±.21; $M_{r\theta}$2.39±.60; $M_{r\phi}$-0.18±.14; $M_{\theta r}$1.02±.42; Best double couple: $M_0$5.60000×10^{16} NP1:ϕ_s339.00000°, δ43.00000°,λ-121.00000°. NP2:ϕ_s199.00000°, δ54.00000°,λ-64.00000°. Principal axes: T 5.0400, Plg6.0000°, Azm271.0000°; N 1.0700, Plg21.0000°, Azm3.0000°; P -6.1200, Plg68.0000°, Azm166.0000°; Data Used: II IC IU G CN.*

ISC 15 00:53:13.8±0.6, 40°3S±0.1×91°8W±0.1, h15km, n284, σ1°06/282, mb4.5/20, 111C-118D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**16.19**	**98**	Pn	**P**	**00 57 03.2**	**-0.7**
	0.1nm,0.3s,baz=247,slow=10,SNR=3.9						
PLCA	**Paso Flores**	**16.19**	**98**	Pn	**P**	**00 57 03.2**	**-0.7**
CFAA	**Coronel Fontan**	**20.95**	**73**	P	**P**	**00 57 56.4**	**+0.2**
	1.1nm,1.0s,baz=224,slow=10.0,SNR=4.5						
CFAA	**Coronel Fontan**	**20.95**	**73**	P	**P**	**00 57 56.4**	**+0.2**
LPAZ	**La Paz**	**31.58**	**47**	P	**P**	**00 59 37.2**	**+0.6**
	1.8nm,0.6s,baz=211,slow=5.8,SNR=8.3						
LPAZ	**La Paz**	**31.58**	**47**	*e*P	**P**	**00 59 36.9**	**+0.3**
	12nm,1.4s						
ATAH	**Atahualpa**	**35.18**	**24**	P	**P**	**01 00 08.7**	**+0.9**
	7.2nm,0.8s,baz=210,slow=6.1,SNR=14						
ATAH	**Atahualpa**	**35.18**	**24**	P	**P**	**01 00 08.7**	**+0.9**
SIV	**San Ignacio**	**36.07**	**57**	P	**P**	**01 00 14.2**	**-0.8**
	1.1nm,0.6s,baz=239,slow=8.2,SNR=5.6						
SIV	**San Ignacio**	**36.07**	**57**	P	**P**	**01 00 14.2**	**-0.8**
RKT	**Rikitea**	**40.07**	**282**	*e*LR	LR	01 11 54.2	
	1µm,28.2s						
SAML	**Samuel**	**40.33**	**47**	*e*P	**P**	**01 00 49.8**	**-1.0**
	3.9nm,1.3s						
OTAV	**Otavalo**	**42.18**	**20**	*e*P	**P**	**01 01 06.4**	**-0.2**
	31nm,1.5s						
ROSC	**El Rosal**	**47.76**	**24**	*e*P	**P**	**01 01 52.2**	**+1.4**
QSPA	**South Pole Qui**	**49.90**	**180**	P	**P**	**01 02 06.9**	**+0.5**
	4.8nm,0.9s,baz=152,slow=3.2,SNR=11						
QSPA	**South Pole Qui**	**49.90**	**180**	P	**P**	**01 02 07.0**	**+0.5**
VNA3	**Neumayer Olymp**	**49.93**	**155**	*e*P	**P**	**01 02 06.8**	**+0.3**
VNA2	**Neumayer--Watz**	**50.71**	**155**	*e*P	**P**	**01 02 12.6**	**+0.2**
	baz=266,slow=5.6						
TBI	**Tubuai**	**50.93**	**271**	*e*S	S	01 09 39.5	+8.7
	294nm,26.0s						
TBI				*e*LR	LR	01 16 51.0	
	2µm,27.8s,baz=130						
TBI	**Tubuai**	**50.93**	**271**	*e*LR	LR	01 01 11.1	
	553nm,28.2s						
SNAA	**Sanae**	**51.99**	**156**	*e*P	P	01 02 18.7	-3.3
	7.0nm,1.1s						
PPT2	**Papeete2**	**54.35**	**277**	*e*S	S	01 10 27.5	+10
	352nm,25.2s						
PPT2				*e*LR	LR	01 18 20.1	
	1µm,27.2s,baz=107						
VNDA	**Vanda**	**54.37**	**195**	P	**P**	**01 02 40.3**	**+0.9**
	2.9nm,1.1s,baz=124,slow=4.5,SNR=8.9						
VNDA	**Vanda**	**54.37**	**195**	P	**P**	**01 02 40.3**	**+0.9**
732A	**Laxson Ranch,**	**69.13**	**352**	⇑P	**P**	**01 04 18.3**	**-0.9**
	baz=70						
631A	**Perdido Creek**	**69.87**	**352**	⇓P	**P**	**01 04 23.3**	**-0.6**
	baz=70						
632A	**Uvalde**	**69.88**	**353**	⇑P	**P**	**01 04 23.3**	**-0.6**
	baz=70						
TXAR	**Lajitas Array**	**70.18**	**349**	P	**P**	**01 04 25.4**	**-0.4**
	0.7nm,0.7s,baz=160,slow=7.6,SNR=12						
TXAR	**Lajitas Array**	**70.18**	**349**	P	**P**	**01 04 25.4**	**-0.4**
628A	**Black Gap, Mar**	**70.22**	**350**	⇓P	**P**	**01 04 25.6**	**-0.4**
	baz=71						
627A	**Terlingua Ranc**	**70.26**	**349**	⇑P	**P**	**01 04 25.7**	**-0.6**
	baz=71						
626A	**Big Bend Ranch**	**70.47**	**349**	⇓P	**P**	**01 04 26.6**	**-1.0**
	baz=71						
532A	**Rocksprings**	**70.50**	**353**	⇑P	**P**	**01 04 27.4**	**-0.4**
	baz=71,SNR=7.1						
531A	**Rocksprings**	**70.61**	**352**	⇓P	**P**	**01 04 27.9**	**-0.5**
	baz=71						
530A	**J-C Ranch, Com**	**70.68**	**351**	⇑P	**P**	**01 04 28.2**	**-0.6**
	baz=71,SNR=10.0						
529A	**Stev Forest Ra**	**70.76**	**350**	⇑P	**P**	**01 04 29.0**	**-0.4**
	baz=71						
528A	**Cox Ranch, San**	**70.87**	**350**	⇓P	**P**	**01 04 29.7**	**-0.4**
	baz=71						
526A	**Mary Lane Ranc**	**70.96**	**349**	⇓P	**P**	**01 04 30.4**	**-0.3**
	baz=71						
527A	**Woodward Ranch**	**70.97**	**349**	⇑P	**P**	**01 04 30.3**	**-0.4**
	baz=71						
431A	**Sonora**	**71.12**	**352**	⇓P	**P**	**01 04 31.2**	**-0.4**
	baz=72,SNR=9.1						
429A	**Davenport Ranc**	**71.22**	**351**	⇓P	**P**	**01 04 31.6**	**-0.5**
	baz=72						
430A	**Baggett Ranch,**	**71.30**	**351**	⇑P	**P**	**01 04 32.0**	**-0.6**
	baz=72						
426A	**McDonald Obser**	**71.55**	**349**	⇑P	**P**	**01 04 33.8**	**-0.5**
	baz=72						
427A	**Hayter Ranch,**	**71.63**	**350**	⇑P	**P**	**01 04 34.3**	**-0.3**
	baz=72						
331A	**San Angelo**	**71.73**	**352**	⇑P	**P**	**01 04 34.6**	**-0.6**
	baz=72,SNR=9.0						
332A	**Millersview**	**71.73**	**353**	⇓P	**P**	**01 04 34.5**	**-0.7**
	baz=72						
425A	**Indio Mountain**	**71.81**	**348**	⇓P	**P**	**01 04 34.5**	**-1.3**
	baz=72						
330A	**Mertzon**	**71.90**	**352**	⇓P	**P**	**01 04 35.0**	**-1.2**
	baz=72						
329A	**Wagon Wheel Ra**	**72.08**	**351**	⇓P	**P**	**01 04 37.0**	**-0.3**
	baz=72						
328A	**Wristen Ranch,**	**72.08**	**350**	⇓P	**P**	**01 04 37.0**	**-0.3**
	baz=72						
WHTX	**Lake Whitney**	**72.15**	**355**	⇑P	**P**	**01 04 37.7**	**0.0**
	baz=73						
326A	**Caldwell Ranch**	**72.17**	**349**	⇑P	**P**	**01 04 37.3**	**-0.6**
	baz=73						
325A	**Bean Ranch, Si**	**72.38**	**348**	⇑P	**P**	**01 04 38.9**	**-0.3**
	baz=73						
MNTX	**Cornudas Mount**	**72.76**	**348**	⇓P	**P**	**01 04 40.6**	**-0.8**
	baz=73						
ABTX	**Abilene, Hawle**	**72.95**	**353**	⇑P	**P**	**01 04 42.9**	**+0.5**
	baz=73						
130A	**Snyder**	**73.06**	**352**	⇑P	**P**	**01 04 43.5**	**+0.4**
	baz=74						
131A	**Roby**	**73.07**	**352**	⇓P	**P**	**01 04 43.6**	**+0.4**
	baz=74						
224A	**Cornudas Mount**	**73.15**	**348**	⇓P	**P**	**01 04 43.7**	**-0.1**
	baz=74						
129A	**Stewart Farms,**	**73.19**	**351**	⇓P	**P**	**01 04 44.0**	**+0.1**
	baz=74						
128A	**Castleberry Fa**	**73.26**	**351**	⇓P	**P**	**01 04 44.9**	**+0.6**
	baz=74,SNR=5.3						
220A	**Playas Peak, P**	**73.52**	**345**	⇑P	**P**	**01 04 45.5**	**-0.5**
	baz=74						
125A	**Gardner Draw,**	**73.59**	**349**	⇑P	**P**	**01 04 45.6**	**-0.7**
	baz=74						
Z32A	**Haskell**	**73.61**	**353**	⇓P	**P**	**01 04 46.5**	**+0.2**
	baz=74						
124A	**Stringfield Ra**	**73.75**	**348**	⇓P	**P**	**01 04 47.5**	**+0.1**
	baz=74						
Z30A	**Sanderson Ranc**	**73.76**	**352**	⇓P	**P**	**01 04 47.6**	**+0.4**
	baz=74						
Z29A	**Hungry Hill Ra**	**73.79**	**351**	⇑P	**P**	**01 04 47.7**	**+0.2**
	baz=74						
Z28A	**Tucker Farm, M**	**73.90**	**351**	⇑P	**P**	**01 04 48.9**	**+0.8**
	baz=74						
Z27A	**Tatum**	**74.03**	**350**	⇓P	**P**	**01 04 49.1**	**+0.2**
	baz=74						
Z26A	**Caprock**	**74.09**	**349**	⇓P	**P**	**01 04 49.7**	**+0.4**
	baz=74						
120A	**U Bar Ranch, L**	**74.16**	**345**	⇓P	**P**	**01 04 50.5**	**+0.8**
	baz=74						
Z25A	**Roswell**	**74.21**	**349**	⇑P	**P**	**01 04 50.4**	**+0.5**
	baz=75						
Y30A	**Stafford Cattl**	**74.32**	**352**	⇑P	**P**	**01 04 51.2**	**+0.8**
	baz=75						
Z24A	**Sheeppen Canyo**	**74.36**	**348**	⇑P	**P**	**01 04 51.9**	**+1.0**
	baz=75						
TUC	**Tucson**	**74.38**	**343**	*e*P	**P**	**01 04 50.5**	**-0.3**
	21nm,1.6s						
Y29A	**Porterfield Fa**	**74.38**	**352**	⇑P	**P**	**01 04 52.0**	**+1.1**
	baz=75						
Z23A	**Rita Site, Whi**	**74.43**	**348**	⇑P	**P**	**01 04 52.4**	**+1.2**
	baz=75						
Y28A	**McKinney Farm,**	**74.50**	**351**	⇑P	**P**	**01 04 51.5**	**0.0**
	baz=75						
214A	**Organ Pipe Nat**	**74.50**	**342**	⇓P	**P**	**01 04 52.4**	**+0.8**
	baz=75						
Z22A	**Elephant Butte**	**74.55**	**347**	⇑P	**P**	**01 04 52.2**	**+0.3**
	baz=75						
Y27A	**Causey**	**74.59**	**350**	⇓P	**P**	**01 04 52.2**	**+0.1**
	baz=75						
MSTX	**Muleshoe**	**74.62**	**351**	⇓P	**P**	**01 04 52.9**	**+0.6**
	baz=75,SNR=5.3						
Z20A	**Nine Sixteen R**	**74.71**	**345**	⇑P	**P**	**01 04 53.8**	**+0.9**
	baz=75						
Z21A	**St. Cloud Mine**	**74.72**	**346**	⇑P	**P**	**01 04 53.4**	**+0.3**
	baz=75						
Y25A	**Mesa, Roswell**	**74.84**	**349**	⇑P	**P**	**01 04 54.0**	**+0.4**
	baz=75						
X30A	**Coker Ranch, T**	**74.88**	**352**	⇑P	**P**	**01 04 54.1**	**+0.4**
	baz=75						
Y24A	**Capitan**	**74.95**	**348**	⇑P	**P**	**01 04 55.1**	**+0.8**
	baz=75						
X29A	**Tulia**	**74.97**	**352**	⇑P	**P**	**01 04 55.0**	**+0.7**
	baz=75						
Y23A	**Lovelace Mesa,**	**75.06**	**348**	⇓P	**P**	**01 04 55.9**	**+1.0**
	baz=75						
X26A	**CR and CF Fran**	**75.33**	**350**	⇓P	**P**	**01 04 56.9**	**+0.5**
	baz=76,SNR=5.2						
AMTX	**Amarillo**	**75.40**	**352**	⇓P	**P**	**01 04 58.0**	**+1.2**
	baz=76						
Y21A	**Point of Rocks**	**75.41**	**346**	⇑P	**P**	**01 04 58.1**	**+1.1**
	baz=76						
X25A	**Clemmons Ranch**	**75.43**	**349**	⇓P	**P**	**01 04 58.0**	**+1.0**
	baz=76						
Y20A	**Horse Springs,**	**75.44**	**346**	⇓P	**P**	**01 04 58.1**	**+0.9**
	baz=76						
X21A	**Alamocita Cree**	**75.85**	**346**	⇓P	**P**	**01 04 59.6**	**+0.1**
	baz=76						
TUL1	**Tulsa**	**75.96**	**357**	⇑P	**P**	**01 04 59.9**	**+0.1**
	baz=76						
GLA	**Glamis**	**76.05**	**340**	⇑P	**P**	**01 05 01.1**	**+0.6**
	baz=76						
W25A	**X Bar L Ranch,**	**76.08**	**349**	⇓P	**P**	**01 05 01.6**	**+0.9**
	baz=76						
X20A	**Quemado**	**76.08**	**346**	⇑P	**P**	**01 05 01.3**	**+0.5**
	baz=76						
W24A	**Lazy 6 Ranch,**	**76.21**	**349**	⇑P	**P**	**01 05 01.6**	**+0.1**
	baz=77,SNR=6.6						
X18A	**Snowflake**	**76.35**	**345**	⇑P	**P**	**01 05 03.9**	**+1.6**
	baz=77						
Y14A	**Wickenburg**	**76.45**	**342**	⇑P	**P**	**01 05 03.6**	**+0.9**
	baz=77						
X16A	**Lo Mia Camp, P**	**76.55**	**343**	⇑P	**P**	**01 05 04.4**	**+0.9**
	baz=77						
V26A	**Tequesquite Ra**	**76.55**	**350**	⇑P	**P**	**01 05 03.9**	**+0.5**
	baz=77						
Y12C	**Blythe**	**76.64**	**341**	⇓P	**P**	**01 05 04.6**	**+0.9**
	baz=77						
V25A	**Rancho No Teng**	**76.71**	**349**	⇑P	**P**	**01 05 04.8**	**+0.5**
	baz=77						
V22A	**San Miguel Ran**	**77.13**	**347**	⇑P	**P**	**01 05 07.6**	**+0.9**
	baz=78						
U26A	**Atchley Ranch,**	**77.14**	**350**	⇑P	**P**	**01 05 07.4**	**+0.7**
	baz=78						
U25A	**Circle Dot Ran**	**77.23**	**350**	⇓P	**P**	**01 05 08.3**	**+1.1**
	baz=78,SNR=7.0						
BELC	**Belle Mtn. Jos**	**77.26**	**340**	⇑P	**P**	**01 05 08.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=81						
Q19A	Hogan Spring (	80.50	346	⇑P	P	01 05 26.3	+1.2
	baz=81						
P22A	Eagle	80.71	348	⇑P	P	01 05 27.5	+1.2
	baz=81						
ISCO	Idaho Springs	80.74	349	⇑P	P	01 05 27.7	+1.2
	baz=81						
P21A	Newcastle	80.75	348	⇓P	P	01 05 27.6	+1.1
	baz=81						
Q16A	Castle Valley	80.83	345	⇓P	P	01 05 28.0	+1.1
	baz=81						
P20A	De Beque	80.88	347	⇑P	P	01 05 28.2	+1.0
	baz=81						
SRU	San Rafael	80.89	345	⇑P	P	01 05 28.0	+0.7
	baz=81						
P19A	Cripple Cowboy	81.11	347	⇑P	P	01 05 29.5	+1.1
	baz=82						
O23A	Lake Granby, G	81.19	349	⇓P	P	01 05 30.5	+1.6
	baz=82						
O22A	Kremmling	81.23	349	⇓P	P	01 05 29.8	+0.7
	baz=82						
R11A	Troy Canyon, C	81.27	341	⇑P	P	01 05 30.2	+1.0
	baz=82						
P17A	Butcher Ranch,	81.28	345	⇑P	P	01 05 30.6	+1.4
	baz=82						
P18A	Preston Nutter	81.34	346	⇓P	P	01 05 30.8	+1.1
	baz=82						
O20A	White River Ci	81.47	347	⇓P	P	01 05 30.9	+0.6
	baz=82						
N22A	Wattenberg Ran	81.84	349	⇓P	P	01 05 33.4	+1.1
	baz=82						
N23A	Red Feather La	81.86	349	⇓P	P	01 05 34.0	+1.6
	baz=82						
O18A	Roosevelt	81.91	346	⇑P	P	01 05 34.1	+1.5
	baz=82						
N21A	Black Mountain	81.97	348	⇓P	P	01 05 34.9	+2.0
	baz=82						
MPU	Maple Canyon	81.98	345	*e*P	P	01 05 33.9	+0.9
	2.7nm,1.0s						
NV11	Mina Array Sit	82.01	339	*e*P	P	01 05 32.2	-0.9
NVAR	Mina Array Bea	82.05	339	P	P	01 05 33.6	+0.2
	2.6nm,1.2s,baz=187,slow=6.1,SNR=6.9						
NVAR	Mina Array Bea	82.05	339	P	P	01 05 33.6	+0.2
N20A	Spence Gulch,	82.16	347	⇓P	P	01 05 35.0	+1.1
	baz=83						
M24A	Cheyenne	82.27	350	⇓P	P	01 05 35.7	+1.2
	baz=83						
DAU	Daniels Canyon	82.29	345	*e*P	P	01 05 35.4	+0.7
	27nm,1.6s						
N19A	John Jarvie Ra	82.37	347	⇓P	P	01 05 36.1	+1.1
	baz=83						
DUG	Dugway	82.40	344	*e*P	P	01 05 35.9	+0.8
	25nm,1.6s						
DUG	Dugway	82.40	344	⇓P	P	01 05 36.2	+1.1
	baz=83,SNR=8.8						
M22A	Cedar Creek Ra	82.45	349	⇓P	P	01 05 36.7	+1.2
	baz=83						
N18A	Larsen Ranch,	82.54	346	⇑P	P	01 05 37.0	+1.1
	baz=83						
N17A	Moffit Pass	82.72	346	⇓P	P	01 05 37.4	+0.5
	baz=83						
M21A	Separation Pea	82.77	348	⇑P	P	01 05 38.0	+0.8
	baz=83						
M20A	Sweetwater, Wa	82.79	348	⇑P	P	01 05 38.8	+1.6
	baz=83						
N15A	Stansbury Isla	83.01	344	⇓P	P	01 05 39.5	+1.3
	baz=83						
L21A	Rawlins	83.12	348	⇓P	P	01 05 40.1	+1.2
	baz=84						
L18A	Fontenelle, Gr	83.53	346	⇑P	P	01 05 42.1	+1.1
	baz=84						
M15A	Larsen Ranch,	83.54	345	⇓P	P	01 05 41.6	+0.6
	baz=84						
L19A	Farson	83.58	347	⇓P	P	01 05 42.1	+0.8
	baz=84						
K23A	Bowen Ranch, D	83.64	350	⇑P	P	01 05 42.5	+1.0
	baz=84						
K22A	Casper	83.67	349	⇑P	P	01 05 42.7	+1.1
	baz=84						
K21A	Alcova	83.76	349	⇓P	P	01 05 43.1	+1.0
	baz=84						
ECSD	EROS Data Cent	83.80	357	*e*P	P	01 05 41.6	-0.4
	30nm,1.6s						
L16A	Fish Haven	83.87	345	⇑P	P	01 05 42.9	+0.2
	baz=84,SNR=15						
K20A	Yellowstone Ra	83.95	348	⇑P	P	01 05 43.7	+0.6
	baz=84						
L15A	Malad City	84.05	345	⇑P	P	01 05 44.2	+0.6
	baz=84						
K19A	Absolon Red Bu	84.20	348	⇓P	P	01 05 45.2	+0.9
	baz=85						
K18A	Toltan Ranch,	84.22	347	⇑P	P	01 05 45.5	+0.9
	baz=85						
PDAR	Pinedale Array	84.26	347	P	P	01 05 44.4	-0.3
	1.0nm,0.6s,baz=159,slow=4.5,SNR=12						
PDAR	Pinedale Array	84.26	347	P	P	01 05 44.4	-0.3
DZM	Mont Dzumac	84.44	246	*e*LR	LR	01 32 20.6	
	553nm,27.4s						
J21A	Lysite	84.48	349	⇑P	P	01 05 46.8	+1.0
	baz=85						
J19A	Crowheart	84.66	347	⇑P	P	01 05 47.8	+1.1
	baz=85						
K16A	Soda Springs	84.69	346	⇓P	P	01 05 47.8	+0.9
	baz=85,SNR=9.2						
K14A	Jones Ranch, D	84.73	344	⇓P	P	01 05 47.7	+0.7
	baz=85						
J18A	Kendall Valley	84.77	347	⇑P	P	01 05 48.2	+0.9
	baz=85						
RSSD	Black Hills	84.79	351	*e*P	P	01 05 47.5	+0.1
	5.2nm,1.0s						
I21A	Big Trails, Te	84.92	349	⇓P	P	01 05 49.1	+1.2
	baz=85						
J17A	Brown Place, J	85.04	346	⇑P	P	01 05 49.7	+1.1
	baz=85						
J16A	Bone	85.12	346	⇑P	P	01 05 50.1	+1.0
	baz=86						
I20A	Worland	85.18	348	⇓P	P	01 05 50.7	+1.4
	baz=86						
I18A	Diamond G Ranc	85.21	347	⇓P	P	01 05 50.8	+1.3
	baz=86						
LOHW	Long Hollow	85.26	346	*e*P	P	01 05 48.9	-0.9
	15nm,1.6s						
J15A	Blackfoot	85.40	345	⇓P	P	01 05 51.7	+1.3
	baz=86						
H24A	Dirks Ranch, A	85.47	351	⇑P	P	01 05 51.1	+0.5
	baz=86						
J14A	Carey	85.55	344	⇑P	P	01 05 52.3	+1.2
	baz=86						
I17A	Pilgrim Ck.	85.56	347	⇓P	P	01 05 52.4	+1.1
	baz=86						
I16A	Newdale	85.68	346	⇑P	P	01 05 53.4	+1.6
	baz=86						
H20A	Greybull	85.68	348	⇓P	P	01 05 53.0	+1.3
	baz=86						
J13A	Cove Ranch, Pi	85.76	344	⇓P	P	01 05 53.4	+1.3
	baz=86						
HLID	Hailey	85.97	344	⇓P	P	01 05 54.2	+1.0
	baz=86						
H19A	Powell	86.02	348	⇓P	P	01 05 54.9	+1.5
	baz=86						
I14A	Mackay	86.11	345	⇑P	P	01 05 55.3	+1.4
	baz=86						
H18A	Shoshone NF, C	86.13	347	⇓P	P	01 05 55.5	+1.4
	baz=86						
G22A	Birney	86.15	350	⇓P	P	01 05 55.6	+1.6
	baz=87						
I13A	Wildhorse Cree	86.24	344	⇑P	P	01 05 55.7	+1.1
	baz=87						
G21A	Lodge Grass	86.29	349	⇓P	P	01 05 56.1	+1.5
	baz=87						
I12A	Atlanta	86.34	343	⇓P	P	01 05 56.4	+1.4
	baz=87						
G20A	Bridger	86.43	348	⇑P	P	01 05 56.5	+1.1
	baz=87						
RLMT	Red Lodge	86.50	348	⇓P	P	01 05 57.0	+1.2
	baz=87						
G18A	Lazy EL Ranch,	86.74	348	⇓P	P	01 05 58.3	+1.4
	baz=87						
MCMT	McKenzie Canyo	86.86	345	*e*P	P	01 05 56.4	-1.3
	1.8nm,1.2s						
H13A	Challis	86.89	344	⇓P	P	01 05 59.5	+1.8
	baz=87						
F20A	Billings	86.99	349	⇓P	P	01 05 59.7	+1.6
	baz=87						
G16A	Moss Hill, Enn	87.05	346	⇑P	P	01 06 00.1	+1.7
	baz=87						
G15A	Dillon	87.11	346	⇓P	P	01 06 00.3	+1.5
	baz=88						
F19A	Roth Farm, Mol	87.16	348	⇓P	P	01 05 59.9	+0.9
	baz=88						
F18A	Big Timber	87.34	348	⇓P	P	01 06 01.3	+1.5
	baz=88						
G13A	Cobalt	87.39	344	⇑P	P	01 06 01.4	+1.3
	baz=88						
F17A	Fitzpatrick Pl	87.50	347	⇑P	P	01 06 01.7	+1.1
	baz=88						
G12A	Big Creek, Yel	87.66	344	⇓P	P	01 06 02.4	+1.0
	baz=88						
E20A	Meyer Farm, Mu	87.67	349	⇓P	P	01 06 02.5	+1.2
	baz=88						
E19A	Rath Farm, Rou	87.73	348	⇑P	P	01 06 02.8	+1.2
	baz=88						
F15A	Butte	87.77	346	⇓P	P	01 06 03.0	+1.1
	baz=88						
D24A	Glendive	87.78	352	⇑P	P	01 06 03.4	+1.7
	baz=88						
F14A	Wisdom	87.91	345	⇓P	P	01 06 03.8	+1.2
	baz=88						
D23A	Lindsay	87.94	351	⇑P	P	01 06 04.2	+1.6
	baz=88						
E18A	Harlowton	88.01	348	⇓P	P	01 06 04.7	+1.7
	baz=88						
D22A	Cohagen	88.03	350	⇓P	P	01 06 04.6	+1.6
	baz=88						
E17A	Martinsdale	88.07	347	⇑P	P	01 06 04.9	+1.5
	baz=88						
F13A	Darby	88.08	344	⇓P	P	01 06 05.0	+1.6
	baz=88						
D20A	Manuel Ranch,	88.25	349	⇑P	P	01 06 05.6	+1.6
	baz=89						
E16A	East Helena	88.28	346	⇓P	P	01 06 05.9	+1.6
	baz=89						
E15A	Deer Lodge	88.36	346	⇑P	P	01 06 06.5	+1.8
	baz=89						
D19A	Cripps Ranch,	88.43	348	⇓P	P	01 06 06.0	+1.1
	baz=89						
C22A	Vida	88.58	351	⇑P	P	01 06 06.7	+1.1
	baz=89						
D18A	Linhart Farms,	88.61	348	⇑P	P	01 06 07.4	+1.6
	baz=89						
E13A	Victor	88.67	345	⇑P	P	01 06 07.6	+1.4
	baz=89						
D17A	Six Diamond Ra	88.71	347	⇑P	P	01 06 07.9	+1.6
	baz=89						
D16A	Dana Ranch, Ca	88.74	347	⇑P	P	01 06 08.8	+2.3
	baz=89						
C21A	Desert Coulee	88.82	350	⇑P	P	01 06 07.8	+1.1
	baz=89						
C20A	Veseth Ranch,	88.84	349	⇓P	P	01 06 08.1	+1.4
	baz=89						
MSO	Missoula	88.99	345	⇓P	P	01 06 08.8	+1.2
	baz=89						
D14A	Greenough	89.15	345	⇑P	P	01 06 10.2	+1.8
	baz=90						
B19A	Brinkman Farms	89.70	349	⇓P	P	01 06 12.0	+1.2
	baz=90						
B18A	Beardsley Farm	89.77	348	⇑P	P	01 06 12.5	+1.3
	baz=90						
A22A	Carney Farms,	89.81	351	⇓P	P	01 06 12.1	+0.8
	baz=90						
C14A	Swan Lake	89.86	345	⇓P	P	01 06 13.1	+1.5
	baz=90						
A21A	Bergtoll Ranch	89.94	350	⇓P	P	01 06 12.9	+1.0
	baz=90						
A19A	Klindworth Far	90.13	349	⇓P	P	01 06 14.2	+1.3
	baz=90						
USRK	Ussuriysk Arra	147.62	292	PKPbc	PKPbc	01 12 56.0	-1.1
	1.5nm,0.8s,baz=50,slow=3.0,SNR=5.1						
KSRS	Korea Array	149.10	278	PKPbc	PKPbc	01 13 00.7	-0.5
	0.5nm,0.3s,baz=127,slow=3.2,SNR=4.9						
KSAR	Wonju Array Be	149.12	278	PKPbc	PKPbc	01 13 00.7	-0.6
AKTO	Aktyubinsk	156.69	54	PKPab	PKPab	01 13 38.1	+1.0
	0.4nm,0.4s,baz=305,slow=1.8,SNR=3.8						
AKTO	Aktyubinsk	156.69	54	PKPab	PKPab	01 13 38.1	+1.0
ABKAR	Akbulak array	158.18	56	*e*PKPdf	PKPdf	01 13 09.3	-0.3
SONM	Songino Array	164.93	306	PKPab	PKPab	01 14 11.7	-1.7
	1.6nm,1.2s,baz=93,slow=3.0,SNR=4.5						
SONM	Songino Array	164.93	306	PKPab	PKPab	01 14 11.7	-1.7
ZAA0	Zalesovo Array	166.19	8	*e*PKPdf	PKPdf	01 13 14.8	-2.8
ZALV	Zalesovo Beam	166.19	8	PKP	PKPdf	01 13 15.0	-2.5
	0.4nm,0.5s,baz=321,slow=2.0,SNR=7.3						
ZALV				PKPab	PKPab	01 14 17.3	-1.1
	0.6nm,0.9s,baz=336,slow=3.2,SNR=2.7						
ZALV	Zalesovo Beam	166.19	8	PKP	PKPdf	01 13 15.0	-2.5
ZALV				PKPab	PKPab	01 14 17.3	-1.1
KURK	Kurchatov	167.66	30	PKP	PKPdf	01 13 17.1	-1.7
KURK				PKPab	PKPab	01 14 25.3	+0.2
KURBB	Kurchatov Arra	167.70	30	PKP	PKPdf	01 13 17.1	-1.7
	0.6nm,0.3s,baz=319,slow=2.2,SNR=6.0						
KURBB				PKPab	PKPab	01 14 25.3	0.0
	0.7nm,0.2s,baz=308,slow=4.7,SNR=4.6						

*IDC **15** 00:56:31.2±0.5, 40°.38S×91°.80W, h0km, mb4.5/16, mb1 4.7/16, mb1mx4.7/19, mbtmp4.6/16, MS4.6/18, Ms1 4.6/18, ms1mx4.5/19, Error ellipse: s-maj=18.3km s-min=14.6km az=119.0*

*NEIC **15** 00:56:33.0±0.2, 40°.37S×91°.62W, h10km, mb5.1/77, Error ellipse: s-maj=8.2km s-min=6.3km az=56.0*

*ISCJB **15** 00:56:32.3±0.2, 40°.27S±0°.05×91°.49W±0°.07, h10km, mb4.9/90, MS4.6/21, Error ellipse: s-maj=9.1km s-min=6.0km az=142.9*

*GCMT **15** 00:56:34.4±0.2, 40°.27S×91°.86W, h12km, MW5.2, Moment Tensor Solution. s48,c67; s97,c152; Moment tensor: Scale 10^16Nm; M_{rr}-6.46±.15; $M_{\theta\theta}$-1.09±.16; $M_{\phi\phi}$7.55±.14; $M_{r\theta}$3.23±.48; $M_{\theta\phi}$-0.37±.14; $M_{\phi r}$-0.75±.42; Best double couple: $M_0$7.80000×10^16 NP1:ϕ_s200.00000°, δ46.00000°, λ-55.00000°. NP2:ϕ_s335.00000°, δ54.00000°, λ-121.00000°. Principal axes: T 7.6300, Plg4.0000°, Azm86.0000°; N 0.3700, Plg25.0000°, Azm354.0000°; P -7.9900, Plg65.0000°, Azm185.0000°; Data Used: IU II IC G CN.*

*BJI **15** 00:56:34.1, 40°.30S×91°.60W, h10km, mB5.5/14, Ms5.6/12, Ms7 5.3/13*

*MOS **15** 00:56:35.5±1.1, 40°.30S×91°.54W, h33km, mb5.2/26, Error ellipse: s-maj=17.1km s-min=9.4km az=93.1*

ISC 15 00:56:33.0±0.3**, 40°.32S**±0°.07×**91°.56W**±0°.07**, h10km, n607,** σ**1s07**/625**, mb5.0**/91**, MS4.7**/21**, 163C-173D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	15.98	98	Pn	P	01 00 23.0	+1.5
	0.2nm,0.3s,baz=263,slow=11,SNR=14						
PLCA				LR	LR	01 05 03.4	
	comp=Z,3µm,19.8s,baz=254,slow=32						
PLCA	Paso Flores	15.98	98	*e*Pn	Pn	01 00 18.1	+0.2
	77nm,1.4s						
RPN	Rapa Nui	19.75	306	LR	LR	01 06 17.6	
	comp=Z,3µm,21.5s,baz=130,slow=30						
LCO	Las Campanas	20.48	63	*e*Pn	Pn	01 01 14.2	+0.7
	47nm,1.0s						
CFAA	Coronel Fontan	20.74	73	P	Pn	01 01 15.9	-0.2
	4.2nm,0.9s,baz=237,slow=9.8,SNR=41						
CFAA				LR	LR	01 07 32.7	
	comp=Z,456nm,19.7s,baz=240,slow=32						
CFAA	Coronel Fontan	20.74	73	P	Pn	01 01 15.9	-0.2
USHA	Ushuaia	21.17	141	P	P	01 01 20.4	+2.3
	29nm,1.0s,baz=272,slow=11,SNR=4.4						
USHA				LR	LR	01 08 03.6	
	comp=Z,3µm,18.1s,baz=275,slow=33						
USHA	Ushuaia	21.17	141	P	P	01 01 20.4	+2.3
TRQA	Tornquist	22.99	94	*e*P	P	01 01 38.5	+0.7
	60nm,1.3s						
LVC	Limon Verde	26.05	54	*e*P	P	01 02 03.8	-3.0
	1.9nm,1.0s						
PMSA	Palmer Station	29.20	156	LR	LR	01 11 11.8	
	comp=Z,1µm,18.6s,baz=330,slow=30						
NNA	Nana	31.07	29	*e*P	P	01 02 53.1	+1.8
	42nm,1.1s						
LPAZ	La Paz	31.42	47	P	P	01 02 56.8	+1.7
	10nm,1.0s,baz=185,slow=4.1,SNR=19						
LPAZ				LR	LR	01 12 53.4	
	comp=Z,946nm,19.4s,baz=17,slow=31						
LPAZ	La Paz	31.42	47	*e*P	P	01 02 56.8	+1.7
	28nm,1.2s						
CPUP	Villa Florida	31.61	74	P	P	01 02 56.6	+0.6
	4.0nm,0.7s,baz=239,slow=9.6,SNR=12						
CPUP				LR	LR	01 14 08.0	
	comp=Z,2µm,20.8s,baz=222,slow=33						
CPUP	Villa Florida	31.61	74	P	P	01 02 56.6	+0.6
ATAH	Atahualpa	35.09	23	P	P	01 03 29.0	+2.2
	23nm,1.0s,baz=172,slow=6.5,SNR=13						
ATAH	Atahualpa	35.09	23	P	P	01 03 29.0	+2.2
SIV	San Ignacio	35.89	56	P	P	01 03 34.1	+0.7
	7.1nm,0.8s,baz=239,slow=8.9,SNR=26						
SIV	San Ignacio	35.89	56	P	P	01 03 34.1	+0.7
SAML	Samuel	40.16	47	*e*P	P	01 04 08.4	-0.9
	14nm,1.2s						
RKT	Rikitea	40.27	282	*e*LR	LR	01 15 13.3	
	2µm,27.2s,baz=129						
SPB	Sao Paulo	40.54	79	*e*P	P	01 04 13.3	+0.9
OTAV	Otavalo	42.10	20	*e*P	P	01 04 27.3	+1.5
	52nm,1.4s						
BDFB	Brasilia	45.04	70	P	P	01 04 49.5	+0.4
	6.1nm,1.0s,baz=226,slow=9.9,SNR=6.7						
BDFB				LR	LR	01 23 00.8	
	comp=Z,2µm,19.3s,baz=217,slow=35						
BDFB	Brasilia	45.04	70	P	P	01 04 49.5	+0.4
ROSC	El Rosal	47.67	24	P	P	01 05 12.5	+2.5
	15nm,1.0s,baz=215,slow=2.6,SNR=12						
ROSC				LR	LR	01 20 49.6	
	comp=Z,357nm,20.3s,baz=187,slow=30						
ROSC	El Rosal	47.67	24	*e*P	P	01 05 12.5	+2.5
VNA3	Neumayer Olymp	49.85	155	*e*P	P	01 05 26.8	+1.0
VNA3	Neumayer Olymp	49.85	155	*e*WP	pwP	01 05 32.0	+3.0
QSPA	South Pole Qui	49.91	180	P	P	01 05 26.4	0.0
	4.4nm,0.9s,baz=183,slow=4.9,SNR=15						
QSPA	South Pole Qui	49.91	180	P	P	01 05 26.4	0.0
VNA2	Neumayer--Watz	50.63	155	*e*P	P	01 05 32.2	+0.5
	baz=267,slow=5.3						
VNA2	Neumayer--Watz	50.63	155	*e*WP	pwP	01 05 37.9	+3.0
	baz=267,slow=5.3						
TBI	Tubuai	51.14	271	*e*S	S	01 12 59.7	+5.5
	489nm,25.8s						
TBI				*e*LR	LR	01 20 11.9	
	4µm,27.5s,baz=129						
SNAA	Sanae	51.91	156	*e*P	P	01 05 41.0	-0.4
	19nm,1.2s						
SDV	Santo Domingo	52.65	26	*e*P	P	01 05 48.0	+0.4
	0.3nm,1.0s						
SBA	Scott Base	53.33	195	*e*P	P	01 05 52.6	+0.9
SBA				pmax	pmax		
	comp=Z,44nm,1.3s						
SBA	Scott Base	53.33	195	*e*P	P	01 05 52.6	+0.9
	comp=Z,44nm,1.3s						
VNDA	Vanda	54.43	195	P	P	01 06 00.0	+0.3
	comp=Z,7.7nm,1.2s,baz=106,slow=6.6,SNR=9.1						
VNDA				LR	LR	01 24 16.9	
	comp=Z,285nm,20.6s,baz=138,slow=31						
VNDA	Vanda	54.43	195	*e*P	P	01 06 00.4	+0.7
	comp=Z,25nm,1.4s						
PPT2	Papeete2	54.56	277	*e*S	S	01 13 49.0	+7.9
	comp=Z,619nm,24.8s						
PPT2				*e*LR	LR	01 21 40.8	
	comp=Z,2µm,27.0s						
PPT	Papeete	54.57	277	LR	LR	01 21 52.4	
	comp=Z,504nm,19.7s,baz=180,slow=28						
NVL	N'lazarevskaya	56.67	157	*e*P	P	01 06 16.9	+1.0
NVL				pmax	pmax		
	comp=Z,17nm,1.3s						
CELP	Cerrillos	62.58	27	*e*P	P	01 06 57.4	+0.1
DRV	Dumont d'Urvil	66.30	200	PP	PP	01 09 36.0	-10
DRV				S	S	01 15 44.0	-26
DRV				SS	SS	01 19 14.0	-71
DRV				L	L	01 24 00.0	
DRV				R		01 28 00.0	
732A	Laxson Ranch,	69.14	352	⇓P	P	01 07 38.4	-0.9
	baz=70						
631A	Perdido Creek	69.89	352	⇑P	P	01 07 43.4	-0.4
	baz=70,SNR=7.8						
632A	Uvalde	69.89	352	⇓P	P	01 07 43.6	-0.3
	baz=70						
HKT	Hockley	70.03	356	*e*P	P	01 07 44.3	-0.3
HKT				pmax	pmax		
	comp=Z,21nm,1.5s						
HKT	Hockley	70.03	356	*e*P	P	01 07 44.3	-0.3
	comp=Z,21nm,1.5s						
TXAR	Lajitas Array	70.21	349	P	P	01 07 46.1	+0.1
	comp=Z,3.6nm,0.9s,baz=166,slow=7.2,SNR=21						
TXAR				LR	LR	01 32 46.1	
	comp=Z,403nm,21.6s,baz=15,slow=31						
TXAR	Lajitas Array	70.21	349	P	P	01 07 46.1	+0.1
628A	Black Gap, Mar	70.25	350	⇑P	P	01 07 46.1	0.0
	baz=71,SNR=7.7						
627A	Terlingua Ranc	70.29	349	⇓P	P	01 07 46.6	+0.1
	baz=71,SNR=8.8						
626A	Big Bend Ranch	70.50	348	⇓P	P	01 07 48.3	+0.5
	baz=71,SNR=6.7						
532A	Rocksprings	70.52	352	⇓P	P	01 07 48.1	+0.3
	baz=71,SNR=12						
531A	Rocksprings	70.62	352	⇑P	P	01 07 48.6	+0.1
	baz=71						
MAW	Mawson	70.67	170	LR	LR	01 36 26.2	
	comp=Z,530nm,18.3s,baz=293,slow=34						
530A	J-C Ranch, Com	70.70	351	⇓P	P	01 07 49.5	+0.6
	baz=71,SNR=16						
529A	Stev Forest Ra	70.79	350	⇓P	P	01 07 49.4	0.0
	baz=71						
528A	Cox Ranch, San	70.90	350	⇑P	P	01 07 50.4	+0.1
	baz=71,SNR=6.2						
526A	Mary Lane Ranc	70.99	349	⇓P	P	01 07 51.0	+0.2
	baz=71,SNR=12						
527A	Woodward Ranch	71.00	349	⇑P	P	01 07 50.8	0.0
	baz=71						
431A	Sonora	71.14	352	⇓P	P	01 07 51.9	+0.3
	baz=72,SNR=14						
429A	Davenport Ranc	71.24	351	⇓P	P	01 07 52.3	+0.1
	baz=72,SNR=9.3						
432A	Menard	71.25	353	⇓P	P	01 07 52.3	0.0
	baz=72						
430A	Baggett Ranch,	71.32	351	⇓P	P	01 07 52.5	-0.1
	baz=72						
428A	Kincaid Ranch,	71.44	350	⇑P	P	01 07 53.1	-0.3
	baz=72						
426A	McDonald Obser	71.58	349	⇑P	P	01 07 54.6	+0.1
	baz=72,SNR=8.0						
427A	Hayter Ranch,	71.66	349	⇓P	P	01 07 55.0	+0.2
	baz=72,SNR=11						
331A	San Angelo	71.74	352	⇓P	P	01 07 55.2	0.0
	baz=72,SNR=17						
332A	Millersview	71.75	353	⇑P	P	01 07 55.3	+0.1
	baz=72,SNR=12						
NATX	Nacogdoches	71.78	357	*e*P	P	01 07 55.6	+0.3
	comp=Z,53nm,1.3s						
425A	Indio Mountain	71.84	348	⇓P	P	01 07 56.0	+0.1
	baz=72,SNR=6.4						
330A	Mertzon	71.92	351	⇓P	P	01 07 56.6	+0.3
	baz=72,SNR=7.4						
329A	Wagon Wheel Ra	72.10	351	⇓P	P	01 07 57.7	+0.4
	baz=72,SNR=5.2						
328A	Wristen Ranch,	72.10	350	⇑P	P	01 07 57.5	+0.1
	baz=72						
WHTX	Lake Whitney	72.16	355	⇓P	P	01 07 57.6	0.0
	baz=73						
326A	Caldwell Ranch	72.20	349	⇑P	P	01 07 57.6	-0.4
	baz=73						
232A	Coleman	72.24	353	⇑P	P	01 07 57.7	-0.4
	baz=73						
231A	Bronte	72.35	352	⇑P	P	01 07 59.0	+0.2
	baz=73						
230A	Sterling City	72.39	351	⇓P	P	01 07 59.1	0.0
	baz=73						
325A	Bean Ranch, Si	72.41	348	⇓P	P	01 07 59.2	-0.2
	baz=73,SNR=7.0						
324A	Moseley Ranch,	72.56	348	⇓P	P	01 07 59.4	-0.8
	baz=73,SNR=6.7						
227A	Bennet, Jal	72.79	350	⇓P	P	01 08 00.8	-0.6
	baz=73						
MNTX	Cornudas Mount	72.80	348	⇓P	P	01 08 00.8	-0.6
	baz=73						
228A	UT Block 9, Go	72.80	350	⇓P	P	01 08 01.1	-0.4
	baz=73						
ABTX	Abilene, Hawle	72.97	353	⇓P	P	01 08 01.9	-0.5
	baz=73						
320A	Kipp Ranch, An	73.01	345	⇓P	P	01 08 03.2	+0.3
	baz=73						
130A	Snyder	73.08	352	⇑P	P	01 08 03.0	-0.1
	baz=74						
131A	Roby	73.09	352	⇑P	P	01 08 03.1	-0.1
	baz=74						
225A	Deer Hill, Car	73.11	348	⇑P	P	01 08 03.2	-0.3
	baz=74						
LRAL	Lakeview Retre	73.11	4	*e*P	P	01 08 02.7	-0.5
	comp=Z,4.8nm,0.7s						
GDL2	Guadalupe Moun	73.13	349	*e*P	P	01 08 02.4	-1.1
	comp=Z,2.2nm,0.7s						
224A	Cornudas Mount	73.19	348	⇓P	P	01 08 03.9	0.0
	baz=74,SNR=8.0						

319A Douglas 73.20 344 ⇓P P 01 08 04.3 +0.3
baz=74
129A Stewart Farms, 73.21 351 ⇓P P 01 08 04.1 +0.1
baz=74,SNR=5.6
128A Castleberry Fa 73.28 350 ⇑P P 01 08 04.7 +0.4
baz=74,SNR=7.7
127A Arkansas Junct 73.45 350 ⇑P P 01 08 05.4 -0.1
baz=74
222A Williams Famil 73.49 346 ⇑P P 01 08 05.5 -0.2
baz=74
126A Clayton Basin, 73.52 349 ⇓P P 01 08 05.9 +0.1
baz=74
220A Playas Peak, P 73.56 345 ⇑P P 01 08 06.7 +0.5
baz=74,SNR=14
125A Gardner Draw, 73.62 349 ⇑P P 01 08 06.1 -0.3
baz=74
Z32A Haskell 73.63 353 ⇑P P 01 08 05.9 -0.4
baz=74
GOGA Godfrey 73.75 7 eP P 01 08 05.9 -1.1
GOGA pmax pmax
comp=Z,18nm,1.2s
GOGA Godfrey 73.75 7 eP P 01 08 05.9 -1.1
comp=Z,18nm,1.2s
Z30A Sanderson Ranc 73.78 352 ⇑P P 01 08 07.3 0.0
baz=74,SNR=9.7
124A Stringfield Ra 73.79 348 ⇓P P 01 08 07.6 0.0
baz=74,SNR=9.3
Z29A Hungry Hill Ra 73.81 351 ⇓P P 01 08 07.6 +0.1
baz=74
Z28A Tucker Farm, M 73.93 351 ⇑P P 01 08 07.8 -0.4
baz=74
121A Cookes Peak, D 74.03 346 ⇓P P 01 08 08.7 -0.2
baz=74
Z27A Tatum 74.06 350 ⇑P P 01 08 08.9 -0.1
baz=74
Z26A Caprock 74.12 349 ⇑P P 01 08 09.7 +0.3
baz=74,SNR=8.8
120A U Bar Ranch, L 74.21 345 ⇑P P 01 08 09.6 -0.3
baz=75
Z25A Roswell 74.24 349 ⇓P P 01 08 09.8 -0.2
baz=75
Y30A Stafford Cattl 74.33 352 ⇓P P 01 08 10.6 0.0
baz=75
Z24A Sheeppen Canyo 74.39 348 ⇑P P 01 08 11.6 +0.5
baz=75,SNR=6.0
Y29A Porterfield Fa 74.40 351 ⇑P P 01 08 11.1 +0.1
baz=75
TUC Tucson 74.43 343 eP P 01 08 12.2 +1.1
TUC pmax pmax
comp=Z,16nm,1.2s
TUC Tucson 74.43 343 eP P 01 08 12.2 +1.1
comp=Z,16nm,1.2s
Z23A Rita Site, Whi 74.47 347 ⇓P P 01 08 11.5 +0.1
baz=75
Y28A McKinney Farm, 74.52 351 ⇓P P 01 08 11.9 +0.2
baz=75
MIAR Mount Ida 74.52 358 eP P 01 08 11.2 -0.3
MIAR pmax pmax
comp=Z,38nm,1.4s
MIAR Mount Ida 74.52 358 eP P 01 08 11.2 -0.3
comp=Z,38nm,1.4s
214A Organ Pipe Nat 74.56 341 ⇑P P 01 08 11.9 +0.1
baz=75
Z22A Elephant Butte 74.58 347 ⇓P P 01 08 11.8 -0.3
baz=75
Y27A Causey 74.61 350 ⇑P P 01 08 12.6 +0.4
baz=75,SNR=8.4
MSTX Muleshoe 74.65 350 ⇑P P 01 08 12.5 +0.1
baz=75,SNR=9.3
UALR University of 74.73 359 eP P 01 08 12.6 -0.1
Y26A Elida 74.74 349 ⇑P P 01 08 12.6 -0.3
baz=75
Z20A Nine Sixteen R 74.75 345 ⇑P P 01 08 12.6 -0.5
baz=75
Z21A St. Cloud Mine 74.76 346 ⇓P P 01 08 13.1 -0.1
baz=75
Y25A Mesa, Roswell 74.87 349 ⇓P P 01 08 13.8 +0.1
baz=75
X30A Coker Ranch, T 74.89 352 ⇑P P 01 08 14.2 +0.4
baz=75
Y24A Capitan 74.98 348 ⇓P P 01 08 14.8 +0.3
baz=75,SNR=7.9
X29A Tulia 74.98 351 ⇑P P 01 08 14.7 +0.4
baz=75
PLAL Pickwick Lake 75.00 3 eP P 01 08 22.5 +8.2
comp=Z,17nm,1.3s
Y23A Lovelace Mesa, 75.09 348 ⇑P P 01 08 15.6 +0.6
baz=76,SNR=7.5
X28A Dimmitt 75.12 351 ⇓P P 01 08 15.8 +0.7
baz=76
Y22A Socorro 75.25 347 ⇓P P 01 08 16.5 +0.6
baz=76
SWET Sewanee 75.35 5 eP P 01 08 15.8 -0.5
comp=Z,58nm,1.7s
X26A CR and CF Fran 75.36 350 ⇓P P 01 08 17.1 +0.5
baz=76,SNR=9.1
AMTX Amarillo 75.42 351 eP P 01 08 17.0 +0.2
comp=Z,39nm,1.3s
AMTX Amarillo 75.42 351 ⇓P P 01 08 17.3 +0.5
baz=76,SNR=5.9
Y21A Point of Rocks 75.45 346 ⇓P P 01 08 18.0 +0.8
baz=76,SNR=10.0
X25A Clemmons Ranch 75.46 349 ⇑P P 01 08 17.2 +0.1
baz=76
Y20A Horse Springs, 75.48 346 ⇓P P 01 08 18.2 +0.8
baz=76,SNR=9.6
CPCT Cooper Cave 75.68 6 eP P 01 08 17.8 -0.3
KMSC Kings Mountain 75.68 9 ⇑P P 01 08 18.3 +0.1
baz=76
LAZ Ladron 75.73 347 eP P 01 08 17.9 -0.9
comp=Z,9.1nm,1.6s
W27A Bowe Ranch, En 75.76 350 ⇓P P 01 08 18.9 +0.1
baz=76
X22A Bernardo 75.81 347 ⇓P P 01 08 19.0 -0.2
baz=76
X21A Alamocita Cree 75.89 346 ⇓P P 01 08 20.7 +1.0
baz=76,SNR=9.6
TUL1 Tulsa 75.96 356 ⇑P P 01 08 20.3 +0.6
baz=76
W25A X Bar L Ranch, 76.10 349 ⇑P P 01 08 21.6 +0.8
baz=76
GLA Glamis 76.11 340 eP P 01 08 21.7 +0.9
GLA pmax pmax
comp=Z,18nm,1.3s
GLA Glamis 76.11 340 eP P 01 08 21.7 +0.9
comp=Z,18nm,1.3s
GLA Glamis 76.11 340 ⇑P P 01 08 21.4 +0.7
baz=76
X20A Quemado 76.12 346 ⇑P P 01 08 21.6 +0.6
baz=76
ANMO Albuquerque 76.15 347 eP P 01 08 21.9 +0.8
comp=Z,7.8nm,1.3s
W24A Lazy 6 Ranch, 76.24 348 ⇓P P 01 08 22.3 +0.7
baz=77,SNR=12
GLAT Glass 76.25 2 eP P 01 08 21.3 -0.1
W23A Werner Place, 76.31 348 ⇓P P 01 08 22.1 0.0
baz=77
V28A Channing 76.34 351 ⇑P P 01 08 22.5 +0.5
baz=77
MONP Monument Peak 76.39 339 ⇑P P 01 08 23.0 +0.5
baz=77
X18A Snowflake 76.39 344 ⇓P P 01 08 23.1 +0.6
baz=77,SNR=7.7
Y14A Wickenburg 76.50 342 ⇑P P 01 08 23.3 +0.4
baz=77
V26A Tequesquite Ra 76.58 350 ⇑P P 01 08 23.5 +0.1
baz=77,SNR=6.4
X16A Lo Mia Camp, P 76.60 343 ⇓P P 01 08 24.4 +0.7
baz=77,SNR=17
PARMO Parma 76.63 1 eP P 01 08 24.2 +0.7
W20A Ramah 76.69 346 ⇓P P 01 08 24.4 +0.2
baz=77
Y12C Blythe 76.70 340 ⇑P P 01 08 24.4 +0.4
baz=77
V24A Rampart Ranch, 76.72 349 ⇑P P 01 08 24.7 +0.3
baz=77
V25A Rancho No Teng 76.74 349 ⇑P P 01 08 25.1 +0.7
baz=77,SNR=8.1
TZTN Tazewell 76.85 7 eP P 01 08 24.3 -0.4
comp=Z,37nm,1.3s
BC3 Big Chuckawall 76.85 340 ⇓P P 01 08 25.1 +0.1
baz=77
PFO Pinyon Flat Ob 77.08 339 eP P 01 08 26.2 -0.1
comp=Z,26nm,1.4s
PFO Pinyon Flat Ob 77.08 339 ⇑P P 01 08 26.6 +0.3
baz=77
U26A Atchley Ranch, 77.16 350 ⇓P P 01 08 27.4 +0.6
baz=78,SNR=7.0

V22A San Miguel Ran 77.17 347 ⇑P P 01 08 27.5 +0.6
baz=78
V21A Milan 77.19 347 ⇓P P 01 08 27.5 +0.5
baz=78
IRM Iron Mountain 77.25 340 ⇓P P 01 08 27.8 +0.7
baz=78,SNR=8.3
U25A Circle Dot Ran 77.26 349 ⇓P P 01 08 27.9 +0.6
baz=78,SNR=11
MURC Murrieta 77.28 338 ⇓P P 01 08 27.5 +0.2
baz=78
BELC Belle Mtn. Jos 77.32 339 ⇓P P 01 08 27.7 +0.1
baz=78
V20A Brimhall 77.33 346 ⇑P P 01 08 28.6 +0.8
baz=78
U24A Moreno Valley 77.39 349 ⇑P P 01 08 29.1 +0.8
baz=78
CIS Catalina Islan 77.44 337 ⇓P P 01 08 29.0 +0.8
baz=78
U23A El Rito 77.46 348 ⇓P P 01 08 29.8 +1.3
baz=78,SNR=19
U22A Llaves 77.61 347 ⇑P P 01 08 30.5 +1.1
baz=78
WUAZ Wupatki 77.64 344 eP P 01 08 30.8 +1.3
comp=Z,14nm,1.3s
WUAZ Wupatki 77.64 344 ⇓P P 01 08 30.7 +1.3
baz=78
T28A Walsh 77.68 351 ⇓P P 01 08 30.0 +0.5
baz=78,SNR=9.6
T27A Campo 77.69 351 ⇑P P 01 08 30.4 +0.7
baz=78,SNR=9.1
U21A Nageezi 77.80 347 ⇓P P 01 08 31.2 +0.7
baz=78,SNR=8.2
W13A Hualapai Mount 77.82 341 ⇑P P 01 08 30.9 +0.4
baz=78
U20A Newcomb 77.90 346 ⇓P P 01 08 31.5 +0.6
baz=78
T26A Comanche Natio 77.91 350 ⇑P P 01 08 31.7 +0.7
baz=78,SNR=11
U19A Dine' College, 77.95 345 ⇑P P 01 08 31.9 +0.6
baz=78
GMRC Granite Mounta 77.97 340 ⇓P P 01 08 32.2 +1.0
baz=78,SNR=8.4
T25A Trinidad 77.98 350 ⇓P P 01 08 32.4 +0.9
baz=78,SNR=9.6
BFSC Mount Baldy Ra 78.01 338 ⇓P P 01 08 32.4 +0.9
baz=78
T24A Torres, Weston 78.01 349 ⇓P P 01 08 32.5 +0.9
baz=78,SNR=12
LDFC Landfair 78.11 340 eP P 01 08 33.3 +1.3
comp=Z,26nm,0.9s
HEC Hector,Ludlow 78.19 339 ⇑P P 01 08 33.2 +0.8
baz=79,SNR=7.3
T22A Edith 78.24 348 ⇓P P 01 08 33.9 +1.0
baz=79,SNR=11
WCI Wyandotte Cave 78.32 4 eP P 01 08 31.7 -1.3
WCI pmax pmax
comp=Z,27nm,1.4s
WCI Wyandotte Cave 78.32 4 eP P 01 08 31.7 -1.3
comp=Z,27nm,1.4s
T21A Navajo Lake 78.33 347 ⇓P P 01 08 34.7 +1.4
baz=79
S26A Kim 78.33 350 ⇑P P 01 08 34.5 +1.3
baz=79,SNR=18
S25A Rets Cordova 78.50 350 ⇑P P 01 08 35.2 +1.0
baz=79,SNR=14
S24A Houchin Ranch, 78.59 349 ⇑P P 01 08 36.1 +1.2
baz=79,SNR=13
JSRW J. Sargeant Re 78.65 11 eP P 01 08 34.5 -0.3
EDW2 Edwards Air Fo 78.70 338 ⇑P P 01 08 35.7 +0.5
baz=79
MVCO Mesa Verde 78.71 346 eP P 01 08 35.9 +0.5
comp=Z,26nm,1.4s
MVCO Mesa Verde 78.71 346 ⇓P P 01 08 36.4 +1.0
baz=79,SNR=6.8
U15A North Rim 78.72 343 ⇓P P 01 08 36.7 +1.1
baz=79,SNR=10.0
OLIL Olney 78.74 3 eP P 01 08 33.9 -1.3
comp=Z,40nm,1.4s
GSC Goldstone 78.77 339 eP P 01 08 36.4 +0.8
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 78.77 339 eP P 01 08 36.4 +0.8
comp=Z,9.5nm,1.1s
GSC Goldstone 78.77 339 ⇓P P 01 08 36.5 +0.8
baz=79
S23A Nye Farm, Mont 78.78 348 ⇑P P 01 08 36.7 +0.9
baz=79
R27A Eads 78.91 351 ⇓P P 01 08 37.2 +0.9
baz=79,SNR=6.8
S22A 4UR Ranch, Cre 78.94 348 ⇓P P 01 08 38.0 +1.2
baz=79,SNR=16
R25A Fountain Ranch 78.96 350 ⇑P P 01 08 37.6 +0.9
baz=79,SNR=10
R26A Arlington 79.00 350 ⇓P P 01 08 37.8 +0.9
baz=79,SNR=8.2
S21A Coal Bank Pass 79.02 347 ⇑P P 01 08 38.3 +1.0
baz=79,SNR=10.0
R24A Sanders Place, 79.16 349 ⇓P P 01 08 39.0 +1.2
baz=80,SNR=7.7
KSU1 Kansas State U 79.18 356 eP P 01 08 37.1 -0.6
comp=Z,18nm,0.9s
R23A Moffat 79.22 349 ⇑P P 01 08 39.6 +1.3
baz=80
BLO Bloomington 79.25 4 eP P 01 08 35.5 -2.5
BLO pmax pmax
comp=Z,45nm,1.4s
BLO Bloomington 79.25 4 eP P 01 08 35.5 -2.5
comp=Z,46nm,1.4s
S20A Disappointment 79.29 347 ⇑P P 01 08 39.7 +1.1
baz=80,SNR=9.1
R22A Saguache, Gunn 79.41 348 ⇑P P 01 08 40.6 +1.3
baz=80,SNR=9.2
S18A Hurst Farm, Bl 79.46 345 ⇑P P 01 08 41.1 +1.5
baz=80
ISA Isabella 79.57 338 eP P 01 08 40.7 +0.7
ISA pmax pmax
comp=Z,13nm,1.3s
ISA Isabella 79.57 338 eP P 01 08 40.7 +0.7
comp=Z,13nm,1.3s
ISA Isabella 79.57 338 ⇓P P 01 08 40.2 +0.2
baz=80
PV01 Paradox Valley 79.62 346 eP P 01 08 41.5 +1.1
comp=Z,2µm,1.3s
Q26A Hugo 79.62 351 ⇑P P 01 08 41.2 +0.9
baz=80
R20A Redvale 79.64 347 ⇓P P 01 08 41.4 +0.9
baz=80
MPMC Manual Prospec 79.67 339 ⇑P P 01 08 41.6 +0.9
baz=80
R21A Cimron 79.67 347 ⇑P P 01 08 42.0 +1.4
baz=80,SNR=17
Q25A Bedland, Calha 79.71 350 ⇑P P 01 08 41.8 +0.9
baz=80
Q24A Divide 79.88 349 ⇓P P 01 08 43.0 +1.1
baz=80
VES Vestal, Richgr 79.91 338 ⇑P P 01 08 41.9 +0.2
baz=80
PV04 Paradox Valley 79.93 346 eP P 01 08 42.7 +0.7
CCUT Cedar City 80.04 343 eP P 01 08 43.7 +1.0
comp=Z,19nm,1.3s
Q22A Crested Butte, 80.05 348 ⇓P P 01 08 43.7 +0.9
baz=80
Q21A Lamborn Mesa, 80.13 347 ⇑P P 01 08 44.4 +1.3
baz=80,SNR=9.1
SMCO Snowmass 80.37 348 eP P 01 08 46.1 +1.5
comp=Z,29nm,1.3s
Q20A Ridgley Place, 80.37 347 ⇓P P 01 08 45.4 +1.1
baz=81,SNR=6.1
P23A Jefferson 80.38 349 ⇓P P 01 08 46.1 +1.5
baz=81,SNR=9.6
GRAC Grapevine Rang 80.52 339 ⇑P P 01 08 45.6 +0.5
baz=81
Q19A Hogan Spring (80.54 346 ⇓P P 01 08 46.3 +1.1
baz=81,SNR=9.5
ACSO Alum Creek Sta 80.56 7 eP P 01 08 44.0 -1.1
comp=Z,6.2nm,0.7s
MVU Marysvale 80.69 344 eP P 01 08 46.7 +0.5
comp=Z,9.8nm,1.3s
MSU Marysvale 80.70 344 eP P 01 08 46.9 +0.7
MSU Marysvale 80.70 344 eP P 01 08 46.9 +0.7
P22A Eagle 80.74 348 ⇑P P 01 08 47.3 +0.9
baz=81
ISCO Idaho Springs 80.77 349 eP P 01 08 47.4 +0.8
ISCO pmax pmax
comp=Z,5.0nm,1.4s
ISCO Idaho Springs 80.77 349 eP P 01 08 47.4 +0.8
comp=Z,4.5nm,1.4s
ISCO Idaho Springs 80.77 349 ⇑P P 01 08 47.5 +0.8
baz=81

R13A O'Grain Ranch, 80.78 342 ⇑P P 01 08 47.4 +0.8
baz=81
P21A Newcastle 80.78 348 ⇓P P 01 08 47.4 +0.8
baz=81
TIN Tinemaha 80.80 339 ⇑P P 01 08 47.6 +0.9
baz=81
Q16A Castle Valley 80.88 345 ⇓P P 01 08 47.8 +0.7
baz=81
P20A De Beque 80.92 347 ⇑P P 01 08 48.8 +1.5
baz=81,SNR=9.8
SRU San Rafael 80.93 345 eP P 01 08 47.8 +0.4
SRU pmax pmax
comp=Z,16nm,1.4s
SRU San Rafael 80.93 345 eP P 01 08 47.8 +0.4
comp=Z,16nm,1.4s
SRU San Rafael 80.93 345 ⇓P P 01 08 48.3 +0.9
baz=81
P19A Cripple Cowboy 81.15 346 ⇓P P 01 08 50.2 +1.6
baz=82,SNR=9.9
O23A Lake Granby, G 81.22 349 ⇑P P 01 08 50.4 +1.4
baz=82,SNR=7.7
TMUT Trail Mountain 81.25 345 eP P 01 08 49.9 +0.7
comp=Z,15nm,1.1s
O22A Kremmling 81.26 348 ⇓P P 01 08 49.3 0.0
baz=82
P17A Butcher Ranch, 81.33 345 ⇑P P 01 08 49.7 +0.3
baz=82
R11A Troy Canyon, C 81.33 341 ⇓P P 01 08 49.8 +0.3
baz=82
P18A Preston Nutter 81.38 346 ⇑P P 01 08 50.1 +0.2
baz=82
OGNE Ogallala 81.45 352 ⇓P P 01 08 50.5 +0.5
baz=82
O20A White River Ci 81.51 347 ⇓P P 01 08 51.6 +1.1
baz=82,SNR=7.4
BGNE Belgrade 81.57 355 ⇓P P 01 08 50.8 +0.2
baz=82
N24A Carr 81.67 350 ⇑P P 01 08 51.6 +0.4
baz=82
P15A Leamington 81.73 344 ⇑P P 01 08 51.7 +0.1
baz=82
O19A Miners Draw (B 81.82 347 ⇓P P 01 08 52.2 +0.2
baz=82
SCIA State Center 81.86 359 eP P 01 08 51.6 -0.4
comp=Z,63nm,1.5s
N22A Wattenberg Ran 81.88 349 ⇓P P 01 08 53.0 +0.6
baz=82
N23A Red Feather La 81.89 349 ⇑P P 01 08 53.0 +0.5
baz=82
O18A Roosevelt 81.95 346 ⇓P P 01 08 53.9 +1.2
baz=82,SNR=11
N21A Black Mountain 82.00 348 ⇑P P 01 08 53.4 +0.4
baz=82
O17A Robinson Place 82.02 345 ⇓P P 01 08 53.4 +0.2
baz=82
MPU Maple Canyon 82.03 345 eP P 01 08 54.2 +1.0
comp=Z,30nm,1.4s
M26A McRoberts Ranc 82.09 351 ⇓P P 01 08 54.3 +0.9
baz=82
NVAR Mina Array Bea 82.11 339 P P 01 08 54.7 +1.0
comp=Z,2.6nm,0.7s,baz=170,slow=5.5,SNR=16
NVAR Mina Array Bea 82.11 339 P P 01 08 54.7 +1.0
O16A Springville 82.19 345 ⇓P P 01 08 54.7 +0.7
baz=83
N20A Spence Gulch, 82.19 347 ⇑P P 01 08 55.1 +1.0
baz=83,SNR=10
ALLY Alegheny Colle 82.25 9 eP P 01 08 53.8 -0.3
comp=Z,36nm,1.3s
M24A Cheyenne 82.30 350 ⇓P P 01 08 55.0 +0.5
baz=83
CMB Columbia Colle 82.33 337 eP P 01 08 55.5 +0.8
CMB pmax pmax
comp=Z,19nm,1.6s
CMB Columbia Colle 82.33 337 eP P 01 08 55.5 +0.8
comp=Z,19nm,1.6s
DAU Daniels Canyon 82.33 345 eP P 01 08 56.6 +1.7
DAU Daniels Canyon 82.33 345 eP P 01 08 56.6 +1.7
N19A John Jarvie Ra 82.41 347 ⇓P P 01 08 55.9 +0.8
baz=83,SNR=9.6
DUG Dugway 82.45 344 eP P 01 08 55.8 +0.4
DUG Dugway 82.45 344 eP P 01 08 55.8 +0.4
DUG Dugway 82.45 344 ⇑P P 01 08 55.7 +0.4
baz=83
O15A The Old Anders 82.46 344 ⇑P P 01 08 55.6 +0.2
baz=83
M22A Cedar Creek Ra 82.48 349 ⇓P P 01 08 55.7 +0.1
baz=83
JLU Jordanelle 82.56 345 eP P 01 08 54.7 -1.3
comp=Z,12nm,1.5s
N18A Larsen Ranch, 82.58 346 ⇑P P 01 08 56.3 +0.2
baz=83
N17A Moffit Pass 82.76 345 ⇓P P 01 08 58.0 +0.9
baz=83,SNR=9.3
M21A Separation Pea 82.80 348 ⇑P P 01 08 57.6 +0.3
baz=83
M20A Sweetwater, Wa 82.82 347 ⇑P P 01 08 58.2 +0.9
baz=83
L23A Garrett 83.05 349 ⇑P P 01 08 59.0 +0.5
baz=84
N15A Stansbury Isla 83.05 344 ⇓P P 01 08 58.7 +0.3
baz=83
L22A Ellis Ranch, M 83.08 349 ⇓P P 01 08 59.4 +0.8
baz=84
M18A Lyman 83.09 346 ⇓P P 01 08 59.4 +0.7
baz=84
L21A Rawlins 83.15 348 ⇓P P 01 08 59.8 +0.7
baz=84,SNR=6.8
K27A Flueckinger Fa 83.21 352 ⇓P P 01 08 59.7 +0.6
baz=84
M17A Scullys Gap (B 83.25 346 ⇓P P 01 08 59.8 +0.3
baz=84
M16A Huntsville 83.28 345 ⇑P P 01 08 59.8 +0.3
baz=84
BINY Binghamton 83.35 12 eP P 01 08 58.5 -1.2
comp=Z,20nm,1.3s
L20A Wamsutter 83.35 347 ⇑P P 01 09 00.8 +0.7
baz=84,SNR=7.9
ELK Elko 83.52 342 eP P 01 09 01.3 +0.4
HWUT Hardware Ranch 83.55 345 eP P 01 09 01.1 +0.1
comp=Z,5.9nm,0.9s
L18A Fontenelle, Gr 83.56 346 ⇓P P 01 09 01.6 +0.5
baz=84
M15A Larsen Ranch, 83.59 344 ⇓P P 01 09 01.8 +0.7
baz=84,SNR=14
L19A Farson 83.62 347 ⇓P P 01 09 02.2 +0.8
baz=84,SNR=6.6
K23A Bowen Ranch, D 83.67 350 ⇑P P 01 09 02.6 +1.0
baz=84
K22A Casper 83.70 349 ⇑P P 01 09 02.9 +1.2
baz=84,SNR=12
K21A Alcova 83.79 348 ⇑P P 01 09 02.9 +0.6
baz=84,SNR=7.6
ECSD EROS Data Cent 83.80 356 eP P 01 09 02.5 +0.5
comp=Z,48nm,1.4s
L17A Cokeville 83.89 346 ⇓P P 01 09 03.5 +0.7
baz=84
L16A Fish Haven 83.92 345 ⇓P P 01 09 03.7 +0.8
baz=84,SNR=36
HVU Hansel Valley 83.96 344 eP P 01 09 03.4 +0.3
HVU pmax pmax
comp=Z,24nm,1.3s
HVU Hansel Valley 83.96 344 eP P 01 09 03.4 +0.3
comp=Z,24nm,1.3s
K20A Yellowstone Ra 83.98 348 ⇓P P 01 09 03.9 +0.7
baz=84,SNR=7.2
L15A Malad City 84.09 345 ⇑P P 01 09 04.0 +0.2
baz=84
J24A Dixon Ranch, L 84.11 350 ⇑P P 01 09 04.4 +0.6
baz=84
K19A Absolon Red Bu 84.23 347 ⇑P P 01 09 05.2 +0.7
baz=85,SNR=8.1
K18A Toltan Ranch, 84.26 346 ⇑P P 01 09 05.9 +1.2
baz=85,SNR=8.7
BW06 Boulder Array 84.30 347 eP P 01 09 05.5 +0.6
comp=Z,18nm,1.1s
BW06 Boulder Array 84.30 347 ⇑P P 01 09 05.6 +0.6
baz=85,SNR=18
PDAR Pinedale Array 84.30 347 P P 01 09 05.0 +0.1
comp=Z,8.3nm,1.0s,baz=160,slow=4.7,SNR=28
PDAR LR LR 01 40 52.5
comp=Z,127nm,19.0s,baz=332,slow=32
PDAR Pinedale Array 84.30 347 P P 01 09 05.0 +0.1
J23A Dilts Ranch, B 84.30 350 ⇓P P 01 09 05.5 +0.7
baz=85
L14A Malta 84.30 344 ⇑P P 01 09 05.6 +0.7
baz=85
SUR Sutherland 84.42 128 eP P 01 09 07.5 +1.5

comp=Z,124nm,1.3s
J22A Midwest 84.44 349 ⇑P P 01 09 06.2 +0.7
baz=85
J21A Lysite 84.51 348 ⇓P P 01 09 06.9 +1.0
baz=85,SNR=7.8
K17A Gardner Place, 84.53 346 ⇓P P 01 09 07.0 +0.9
baz=85
J20A Shoshoni 84.62 348 ⇑P P 01 09 07.5 +1.1
baz=85
I24A Kuemmerle Ranc 84.62 351 ⇓P P 01 09 07.8 +1.4
baz=85
DZM Mont Dzumac 84.64 246 *e*LR LR 01 35 43.4
comp=Z,1μm,28.6s
J19A Crowheart 84.69 347 ⇓P P 01 09 07.6 +0.8
baz=85,SNR=7.7
K16A Soda Springs 84.73 345 ⇓P P 01 09 08.1 +1.1
baz=85,SNR=20
K14A Jones Ranch, D 84.78 344 ⇑P P 01 09 07.8 +0.6
baz=85
J18A Kendall Valley 84.81 347 ⇑P P 01 09 08.0 +0.5
baz=85,SNR=7.7
RSSD Black Hills 84.81 351 *e*P P 01 09 07.9 +0.5
RSSD pmax pmax
comp=Z,27nm,1.3s
RSSD Black Hills 84.81 351 *e*P P 01 09 07.9 +0.5
comp=Z,27nm,1.3s
ACCN Adirondack Com 84.88 13 *e*P P 01 09 07.8 +0.3
comp=Z,38nm,1.6s
I22A 9 Mile Ranch, 84.91 349 ⇑P P 01 09 08.8 +1.0
baz=85
I21A Big Trails, Te 84.95 349 ⇓P P 01 09 09.0 +0.9
baz=85,SNR=7.2
J17A Brown Place, J 85.08 346 ⇓P P 01 09 09.7 +0.9
baz=86,SNR=10
REDW Red Top Meadow 85.11 346 *e*P P 01 09 09.5 +0.6
comp=Z,35nm,1.4s
J16A Bone 85.17 345 ⇓P P 01 09 09.9 +0.7
baz=86,SNR=9.0
SPMN St. Paul 85.17 359 ⇑P P 01 09 09.4 +0.5
baz=86
RRI2 Red Ridge 85.18 346 *e*P P 01 09 10.4 +1.1
comp=Z,19nm,1.4s
SNOW Snow King Moun 85.19 346 *e*P P 01 09 09.7 +0.3
comp=Z,26nm,1.4s
I20A Worland 85.21 348 ⇓P P 01 09 10.5 +1.2
baz=86,SNR=15
I18A Diamond G Ranc 85.25 347 ⇑P P 01 09 10.5 +0.8
baz=86,SNR=14
TPAW Teton Pass 85.25 346 *e*P P 01 09 10.7 +1.0
comp=Z,28nm,1.3s
LOHW Long Hollow 85.30 346 *e*P P 01 09 10.4 +0.5
comp=Z,20nm,1.4s
DCID1 Drake Creek 85.39 346 *e*P P 01 09 11.7 +1.3
comp=Z,83nm,1.6s
I19A Meeteetse 85.44 347 ⇓P P 01 09 11.0 +0.5
baz=86,SNR=5.5
J15A Blackfoot 85.45 345 ⇓P P 01 09 11.7 +1.1
baz=86,SNR=11
MOOW Moose Ponds 85.46 346 *e*P P 01 09 11.6 +0.9
comp=Z,100nm,3.0s
H24A Dirks Ranch, A 85.49 351 ⇓P P 01 09 11.6 +0.9
baz=86
J14A Carey 85.59 344 ⇓P P 01 09 12.1 +0.8
baz=86,SNR=6.8
I17A Pilgrim Ck. 85.60 346 ⇓P P 01 09 12.4 +1.0
baz=86,SNR=6.5
IMW Indian Meadow 85.64 346 *e*P P 01 09 12.1 +0.5
comp=Z,26nm,1.4s
H21A Big Horn, Sher 85.71 349 ⇓P P 01 09 12.5 +0.7
baz=86
H20A Greybull 85.71 348 ⇑P P 01 09 13.0 +1.2
baz=86,SNR=9.1
I16A Newdale 85.72 346 ⇓P P 01 09 12.7 +0.7
baz=86
FLWY Flagg Ranch 85.78 346 *e*P P 01 09 13.6 +1.3
comp=Z,35nm,1.3s
J13A Cove Ranch, Pi 85.81 344 ⇓P P 01 09 13.5 +1.2
baz=86,SNR=8.1
LONY Lake Ozonia 85.93 12 *e*P P 01 09 12.8 +0.1
comp=Z,14nm,1.2s
HLID Hailey 86.01 344 *e*P P 01 09 13.9 +0.5
comp=Z,13nm,1.3s
HLID Hailey 86.01 344 ⇓P P 01 09 14.6 +1.2
baz=86,SNR=13
G24A Alzada 86.05 351 ⇑P P 01 09 14.4 +1.0
baz=86
H19A Powell 86.05 348 ⇓P P 01 09 14.8 +1.3
baz=86,SNR=9.3
I14A Mackay 86.16 344 ⇓P P 01 09 15.0 +0.9
baz=87,SNR=11
H18A Shoshone NF, C 86.17 347 ⇑P P 01 09 15.0 +0.8
baz=87,SNR=11
G22A Birney 86.18 350 ⇓P P 01 09 15.2 +1.1
baz=87
LKWY Lake 86.19 347 *e*P P 01 09 14.3 0.0
LKWY pmax pmax
comp=Z,24nm,0.9s
LKWY Lake 86.19 347 *e*P P 01 09 14.3 0.0
comp=Z,24nm,0.9s
I13A Wildhorse Cree 86.29 344 ⇓P P 01 09 15.8 +1.0
baz=87,SNR=5.5
FRNY Flat Rock 86.30 13 *e*P P 01 09 12.8 -1.8
comp=Z,14nm,1.4s
G21A Lodge Grass 86.32 349 ⇑P P 01 09 15.7 +1.0
baz=87
I12A Atlanta 86.39 343 ⇑P P 01 09 16.2 +0.9
baz=87
G20A Bridger 86.46 348 ⇑P P 01 09 16.4 +0.9
baz=87,SNR=10.0
H16A Russell Place, 86.48 346 ⇑P P 01 09 16.6 +0.9
baz=87
RLMT Red Lodge 86.54 348 *e*P P 01 09 17.1 +1.1
comp=Z,15nm,1.1s
RLMT Red Lodge 86.54 348 ⇓P P 01 09 16.9 +0.9
baz=87,SNR=9.9
F23A Volborg 86.56 350 ⇑P P 01 09 16.8 +0.9
baz=87
F24A Ekalaka 86.56 351 ⇓P P 01 09 16.9 +1.0
baz=87
QLMT Earthquake Lak 86.63 346 *e*P P 01 09 17.4 +1.0
H15A Lima 86.66 345 ⇑P P 01 09 17.5 +0.9
baz=87
F22A Rosebud 86.72 350 ⇑P P 01 09 18.1 +1.4
baz=87
G18A Lazy EL Ranch, 86.78 347 ⇑P P 01 09 18.4 +1.4
baz=87
H14A Leadore 86.80 345 ⇑P P 01 09 18.3 +1.0
baz=87
MCMT McKenzie Canyo 86.90 345 *e*P P 01 09 19.1 +1.3
comp=Z,8.0nm,1.6s
H13A Challis 86.94 344 ⇑P P 01 09 18.7 +0.8
baz=87
G17A Pierce Place, 86.98 347 ⇓P P 01 09 18.9 +0.9
baz=87
F20A Billings 87.02 348 ⇓P P 01 09 18.9 +0.7
baz=87
H12A Diamond D Ranc 87.05 344 ⇑P P 01 09 19.0 +0.5
baz=87
G16A Moss Hill, Enn 87.09 346 ⇑P P 01 09 19.1 +0.4
baz=88
G15A Dillon 87.16 345 ⇑P P 01 09 20.0 +1.0
baz=88,SNR=6.8
F19A Roth Farm, Mol 87.20 348 ⇑P P 01 09 19.9 +0.8
baz=88,SNR=7.2
E22A Miles City 87.33 350 ⇓P P 01 09 20.1 +0.5
baz=88
DLMT Dillon 87.37 345 *e*P P 01 09 21.1 +1.2
comp=Z,18nm,1.4s
F18A Big Timber 87.37 347 ⇑P P 01 09 20.3 +0.4
baz=88
G14A Jackson 87.42 345 ⇓P P 01 09 20.5 +0.2
baz=88
G13A Cobalt 87.44 344 ⇓P P 01 09 21.1 +0.8
baz=88
F17A Fitzpatrick Pl 87.53 347 ⇓P P 01 09 21.8 +1.1
baz=88,SNR=9.9
E20A Meyer Farm, Mu 87.70 349 ⇓P P 01 09 22.5 +1.1
baz=88,SNR=7.3
G12A Big Creek, Yel 87.70 343 ⇑P P 01 09 21.8 +0.2
baz=88
E19A Rath Farm, Rou 87.76 348 ⇑P P 01 09 22.8 +1.1
baz=88,SNR=5.5
LRM Limekiln Ridge 87.78 346 *e*P P 01 09 22.8 +0.7
D24A Glendive 87.80 351 ⇓P P 01 09 22.6 +0.8
baz=88
F15A Butte 87.81 346 ⇑P P 01 09 23.1 +1.0
baz=88,SNR=6.5
EYMN Ely 87.89 0 *e*P P 01 09 21.0 -1.2
comp=Z,11nm,1.4s
F14A Wisdom 87.95 345 ⇑P P 01 09 24.4 +1.6
baz=88,SNR=5.2
D23A Lindsay 87.96 351 ⇑P P 01 09 23.6 +1.0
baz=88
E18A Harlowton 88.05 347 ⇑P P 01 09 24.4 +1.2
baz=88,SNR=8.7
D22A Cohagen 88.06 350 ⇑P P 01 09 24.0 +0.9
baz=88
MDND Maddock 88.08 355 ⇑P P 01 09 24.4 +1.2
baz=88
D21A La Casta Ranch 88.09 350 ⇓P P 01 09 24.1 +0.8
baz=88
E17A Martinsdale 88.11 347 ⇓P P 01 09 24.1 +0.7
baz=88
F13A Darby 88.12 344 ⇓P P 01 09 24.1 +0.5
baz=88,SNR=6.1
C24A Savage 88.22 351 ⇑P P 01 09 24.7 +0.9
baz=89
D20A Manuel Ranch, 88.28 349 ⇓P P 01 09 25.6 +1.5
baz=89,SNR=13
F12A Elk City 88.29 344 ⇑P P 01 09 25.0 +0.7
baz=89
E16A East Helena 88.32 346 ⇓P P 01 09 25.2 +0.7
baz=89
AGMN Agassiz Nation 88.32 357 *e*P P 01 09 23.6 -0.6
comp=Z,22nm,1.4s
E15A Deer Lodge 88.40 346 ⇑P P 01 09 25.6 +0.8
baz=89
D19A Cripps Ranch, 88.46 348 ⇑P P 01 09 25.8 +0.8
baz=89
E14A Clinton 88.55 345 ⇑P P 01 09 26.2 +0.6
baz=89
C23A Lambert 88.58 351 ⇓P P 01 09 26.3 +0.8
baz=89
C22A Vida 88.61 350 ⇑P P 01 09 26.4 +0.8
baz=89
D18A Linhart Farms, 88.64 348 ⇑P P 01 09 27.2 +1.3
baz=89,SNR=6.9
D17A Six Diamond Ra 88.75 347 ⇓P P 01 09 28.1 +1.7
baz=89,SNR=16
D16A Dana Ranch, Ca 88.78 346 ⇓P P 01 09 27.4 +0.8
baz=89
C21A Desert Coulee 88.85 350 ⇓P P 01 09 27.2 +0.4
baz=89
C20A Veseth Ranch, 88.87 349 ⇑P P 01 09 28.1 +1.2
baz=89,SNR=6.6
E12A Beaver Dam Sad 88.98 344 ⇓P P 01 09 28.1 +0.5
baz=89
CHMT Chamberlain Mo 88.98 345 *e*P P 01 09 28.4 +0.7
comp=Z,8.0nm,1.6s
C19A Slack Wire Ran 89.04 348 ⇓P P 01 09 28.3 +0.6
baz=89
DGMT Dagmar 89.12 352 ⇓P P 01 09 29.3 +1.3
baz=90
D14A Greenough 89.19 345 ⇓P P 01 09 29.5 +0.9
baz=90
B23A Brockton 89.20 351 ⇓P P 01 09 29.6 +1.2
baz=90
C17A Wharram Farm, 89.22 347 ⇑P P 01 09 29.6 +1.0
baz=90
D13A Huson 89.39 345 ⇑P P 01 09 30.4 +1.0
baz=90
A24A Westby 89.55 352 ⇓P P 01 09 31.4 +1.4
baz=90
C16A Fuhringer Ranc 89.56 347 ⇑P P 01 09 31.4 +1.2
baz=90
B20A Solberg Farm, 89.58 349 ⇑P P 01 09 31.6 +1.4
baz=90
C15A Salmond Ranch, 89.69 346 ⇑P P 01 09 32.0 +1.2
baz=90
B19A Brinkan Farms 89.73 349 ⇑P P 01 09 32.0 +1.1
baz=90,SNR=5.7
BOSA Boshof 89.78 128 P P 01 09 33.1 +1.0
comp=Z,7.4nm,1.1s,baz=242,slow=7.1,SNR=4.9
BOSA LR LR 01 42 12.8
comp=Z,223nm,21.1s,baz=210,slow=30
BOSA Boshof 89.78 128 *e*P P 01 09 31.2 -0.8
comp=Z,112nm,2.2s
B18A Beardsley Farm 89.80 348 ⇑P P 01 09 32.2 +0.9
baz=90
A22A Carney Farms, 89.84 351 ⇑P P 01 09 32.4 +1.0
baz=90
B17A L&G Farms, Che 89.87 347 ⇓P P 01 09 32.5 +0.9
baz=90
C14A Swan Lake 89.90 345 ⇑P P 01 09 32.6 +0.9
baz=90
A21A Bergtoll Ranch 89.97 350 ⇓P P 01 09 33.0 +1.0
baz=90
C13A Hot Springs 89.98 345 ⇑P P 01 09 33.0 +0.9
baz=90
A20A Cobblestone Ra 89.99 349 ⇓P P 01 09 33.3 +1.1
baz=90
A19A Klindworth Far 90.16 349 ⇑P P 01 09 33.0 +0.1
baz=91
BSMT Bassoo Peak 90.19 345 *e*P P 01 09 34.4 +1.1
comp=Z,11nm,1.4s
B15A Bradely Ranch, 90.20 346 ⇑P P 01 09 33.2 0.0
baz=91
ULM Lac du Bonnet 90.27 357 P P 01 09 32.2 -1.1
comp=Z,3.5nm,1.0s,baz=201,slow=3.5,SNR=4.7
ULM LR LR 01 46 32.1
comp=Z,108nm,20.5s,baz=106,slow=33
ULM Lac du Bonnet 90.27 357 P P 01 09 32.2 -1.1
B14A Marquette Ranc 90.38 346 ⇑P P 01 09 34.0 -0.1
baz=91
C11A Tepee Creek (N 90.48 344 ⇓P P 01 09 34.6 +0.1
baz=91
A14A Doyle T Ranch 90.99 346 ⇓P P 01 09 36.6 -0.3
baz=91
NEW Newport 91.07 343 *e*P P 01 09 36.5 -0.7
comp=Z,101nm,2.8s
NEW Newport 91.07 343 ⇑P P 01 09 37.0 -0.1
baz=92
DBIC Dimbokro 91.76 83 P P 01 09 41.0 -0.2
comp=Z,3.4nm,0.9s,baz=201,slow=5.9,SNR=3.1
DBIC LR LR 01 45 27.5
comp=Z,466nm,20.2s,baz=222,slow=32
DBIC Dimbokro 91.76 83 P P 01 09 41.0 -0.2
LBTB Lobatse 92.61 126 *e*P P 01 09 45.0 -0.2
comp=Z,33nm,1.3s
STKA Stephens Creek 92.94 223 LR LR 01 45 40.3
comp=Z,286nm,18.8s,baz=156,slow=32
FFC Flin Flon 95.10 354 *i*P P 01 09 56.1 +0.6
TORD Torodi Ar. Bea 100.83 82 P Pdif 01 10 21.1 -1.2
comp=Z,1.8nm,1.2s,baz=238,slow=3.2,SNR=5.5
TORD Torodi Ar. Bea 100.83 82 P Pdif 01 10 21.1 -1.2
ASAR Alice Springs 103.55 222 Pdiff Pdif 01 10 34.0 -0.5
comp=Z,1.0nm,1.0s,baz=153,slow=4.7,SNR=5.2
ASAR Alice Springs 103.55 222 Pdif Pdif 01 10 34.0 -0.5
WRA Warramunga Arr 106.38 225 Pdiff Pdif 01 10 49.7 +2.6
comp=Z,1.2nm,1.1s,baz=152,slow=3.7,SNR=3.4
WRA Warramunga Arr 106.38 225 Pdif Pdif 01 10 49.7 +2.6
GRF Grafenberg Arr 126.87 52 *e*PKIKP PKPdf 01 15 35.8 -0.5
GRF Grafenberg Arr 126.87 52 *e*PKPdf PKPdf 01 15 35.8 -0.5
GRF *e*L L 02 01 52.9
comp=Z,135nm,20.6s
GERES GERESS Array B 128.09 54 PKP PKPdf 01 15 37.1 -1.7
comp=Z,0.6nm,0.8s,baz=177,slow=3.5,SNR=6.0
GERES GERESS Array B 128.09 54 PKP PKPdf 01 15 37.1 -1.7
CLL Collm 128.50 51 *i* PKIKP PKPdf 01 15 40.1 +0.8
CLL *i* 01 15 45.2
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL MLR MLR
comp=Z,200nm,18.4s
NOA NORSAR Array B 130.19 38 PKP PKPdf 01 15 42.6 +0.2
comp=Z,3.5nm,1.1s,baz=260,slow=1.8,SNR=3.8
NOA NORSAR Array B 130.19 38 PKP PKPdf 01 15 42.6 +0.2
VYHS Vyhne 131.19 56 *e*PKIKP PKPdf 01 15 44.9 +0.3
VYHS Vyhne 131.19 56 *e*PKP PKPdf 01 15 44.9 +0.3
CRVS Cervenica-Dubn 132.97 56 *e*PKIKP PKPdf 01 15 48.1 +0.2
CRVS Cervenica-Dubn 132.97 56 *e*PKP PKPdf 01 15 48.1 +0.2
FINES FINESS Array B 137.37 39 PKP PKPdf 01 15 54.9 -0.8
comp=Z,3.3nm,1.0s,baz=258,slow=5.1,SNR=3.9
FINES FINESS Array B 137.37 39 PKP PKPdf 01 15 54.9 -0.8
AKASG Malin Array Be 138.27 55 PKP PKPdf 01 15 58.0 +0.3
comp=Z,0.4nm,0.5s,baz=255,slow=5.0,SNR=4.2
AKASG Malin Array Be 138.27 55 PKIKP PKPdf 01 15 58.0 +0.3
AKASG Malin Array Be 138.27 55 PKP PKPdf 01 15 58.0 +0.3
BRTR Keskin Array B 138.61 72 PKP PKPdf 01 16 00.7 +1.8
comp=Z,1.1nm,0.9s,baz=238,slow=4.2,SNR=5.1
BRTR Keskin Array B 138.61 72 PKP PKPdf 01 16 00.7 +1.8
MALT Malatya 141.67 76 *e*PKIKP PKPdf 01 16 04.6 +0.1
MALT Malatya 141.67 76 *e*PKPdf PKPdf 01 16 04.6 +0.1
OBN Obninsk 143.01 49 ⇑ *i*PKHKP PKPpre 01 16 00.8
OBN pmax pmax
comp=Z,13nm,1.5s
OBN MLR MLR
comp=Z,200nm,20.0s
MOS Moscow 143.59 48 *e*PKIKP PKPbc 01 16 05.2 +0.6
MOS pmax pmax
comp=Z,57nm,1.5s
KLMR Klimovskoe 143.90 39 *e*PKHKP PKPpre 01 16 03.5
KLMR pmax pmax
comp=Z,53nm,1.5s
VSR Storozhevoye 144.57 55 *e*PKIKP **PKPab 01 16 07.6 +0.1**
VORD Divnogorie 144.65 56 *e*PKIKP **PKPab 01 16 07.0 -0.8**
VORD pmax pmax
comp=Z,40nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.3s
JNU Nakatsue 145.49 272 PKPbc **PKPdf 01 16 09.5 -1.7**
comp=E,26nm,0.9s,baz=90,slow=3.6,SNR=9.4
JNU Nakatsue 145.49 272 *e*PKPdf **PKPdf 01 16 09.2 -2.0**
JNU PKPbc **PKPdf 01 16 09.5 -1.7**
HABR Khabarovsk 146.16 300 *e*PKIKP **PKPdf 01 16 11.3 -0.5**
HABR *i* 01 16 14.7
HABR *e* 01 16 21.9
HABR *e* 01 19 41.1
HABR PPP PPP 01 22 47.6
HABR *e* 01 23 16.2
HABR *e*SS SS 01 38 27.3 -4.5
KIV Kislovodsk 146.21 68 *i* PKP2 **PKPdf 01 16 12.6 +0.4**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,150nm,21.0s
KIV Kislovodsk 146.21 68 *e*PKPdf **PKPbc 01 16 13.2 -0.1**
KBZ Khabaz 146.32 69 PKPbc **PKPbc 01 16 13.2 -0.2**
comp=Z,8.2nm,0.9s,baz=264,slow=3.9,SNR=8.8
KBZ Khabaz 146.32 69 PKP2 **PKPbc 01 16 13.2 -0.2**
KBZ Khabaz 146.32 69 PKPbc **PKPbc 01 16 13.2 -0.2**
PALK Pallekele 146.37 166 *e*PKPdf **PKPbc 01 16 14.8 +0.2**
ZEI Tsey 146.86 71 *i* PKP2 **PKPbc 01 16 14.5 -0.9**
ZEI pmax pmax
comp=Z,44nm,1.3s
GNI Garni 146.89 76 PKPbc **PKPdf 01 16 13.7 +0.2**
comp=Z,12nm,1.0s,baz=89,slow=5.1,SNR=9.0
GNI Garni 146.89 76 PKPbc **PKPdf 01 16 13.8 +0.2**
GNI *e*PKPdf **PKPbc 01 16 14.9 -0.6**
GNI Garni 146.89 76 PKPdf **PKPbc 01 16 15.6 +0.1**
SNR=6.4
YAK Yakutsk 147.08 325 *e*PKIKP **PKPdf 01 16 12.6 -0.3**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,12nm,1.4s
YAK Yakutsk 147.08 325 *e*PKPdf **PKPdf 01 16 13.8 +0.9**
USRK Usuriysk Arra 147.81 291 PKPbc **PKPbc 01 16 16.5 -1.2**
comp=E,7.1nm,0.9s,baz=176,slow=3.1,SNR=12
SSLB Suanglung 148.11 249 *e*PKPdf **PKPdf 01 16 17.3 +1.3**
ASUD Al Ashush, Dub 148.20 109 PKPdf **PKPab 01 16 20.9 -1.4**
SNR=7.1
ARQ Araqi 148.25 113 PKPdf **PKPbc 01 16 19.6 +0.1**
SNR=10
BSY Bisya 148.35 114 PKPdf **PKPbc 01 16 19.6 -0.1**
SNR=17
KLR Kul'dur 148.37 301 *e*PKHKP PKPpre 01 16 13.8
KLR pmax pmax
comp=Z,50nm,1.6s
NAZ Nazwa, Dubai 148.66 109 PKPdf **PKPbc 01 16 20.7 +0.2**
SNR=15
ASHO Ashiyiah 148.76 110 PKPdf **PKPbc 01 16 20.7 -0.1**
SNR=8.2
HATD Hatta, Dubai 148.90 110 PKPdf **PKPbc 01 16 21.1 0.0**
SNR=8.8
HOQ Hoqain 148.97 113 PKPdf **PKPbc 01 16 22.0 +0.6**
SNR=7.5
SMDO Samad 149.14 115 PKPdf **PKPdf 01 16 18.1 +0.4**
SNR=9.0
KSRS Korea Array 149.31 278 PKPbc **PKPbc 01 16 20.1 -1.7**
comp=Z,10nm,1.1s,baz=122,slow=2.8,SNR=17
KSAR Wonju Array Be 149.33 278 PKPbc **PKPbc 01 16 20.1 -1.7**
WBK Wadi Bani Khal 149.48 116 PKPdf **PKPdf 01 16 19.3 +1.1**
SNR=12
MDJ Mudanjiang 149.58 292 PKPbc **PKPdf 01 16 19.1 +1.5**
MDJ pPKP **PKPbc 01 16 21.0 -1.2**
MDJ sPKP 01 16 22.3
MDJ PP **PP 01 19 56.1 +0.3**
MDJ SS SS 01 39 12.4 +1.8
MDJ AMB AMB
comp=Z,330nm,6.3s
MDJ LR LR
comp=N,74nm,23.5s
MDJ LR LR
comp=E,140nm,25.4s
MDJ LR LR
comp=Z,250nm,25.4s
MDJ Mudanjiang 149.58 292 *e*PKPbc **PKPbc 01 16 20.9 -1.2**
MDJ *e*PKPab **PKPab 01 16 26.2 -1.1**
CLNS Chul'man 151.22 317 *e*PKIKP **PKPdf 01 16 19.2 -0.6**
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,1.2s
SOKR Solikamsk 152.39 35 *e*PKIKP **PKPbc 01 16 27.4 -0.8**
SOKR pmax pmax
comp=Z,20nm,1.0s
CN2 Changchun 152.45 290 *e*PKPbc **PKPbc 01 16 26.9 -2.0**
NJ2 Nanjing 154.20 261 *e*PKPbc **PKPdf 01 16 25.1 +0.2**
ARU Arti 154.72 40 PKIKP **PKPbc 01 16 30.9 -2.5**
BOD Bodaibo 156.01 325 *e*PKIKP **PKPdf 01 16 24.0 -2.6**
BOD pmax pmax
comp=Z,5.0nm,1.3s
CMAR Chiang Mai Arr 156.40 206 PKP **PKPdf 01 16 28.1 -0.2**
comp=Z,0.8nm,0.3s,baz=222,slow=1.1,SNR=6.9
CMAR PKPab **PKPab 01 16 55.8 -0.8**
comp=Z,1.0nm,0.3s,baz=188,slow=3.6,SNR=2.7
CMAR Chiang Mai Arr 156.40 206 PKP **PKPdf 01 16 28.1 -0.2**
CMAR PKPab **PKPab 01 16 55.8 -0.8**
AKTO Aktyubinsk 156.51 54 PKP **PKPdf 01 16 27.5 0.0**
comp=Z,3.1nm,1.1s,baz=329,slow=4.4,SNR=5.5
AKTO PKPab **PKPab 01 16 58.0 +1.7**
comp=Z,3.5nm,1.0s,baz=300,slow=2.7,SNR=5.6
AKTO Aktyubinsk 156.51 54 PKIKP **PKPdf 01 16 27.5 0.0**
AKTO Aktyubinsk 156.51 54 PKP **PKPdf 01 16 27.5 0.0**
AKTO PKPab **PKPab 01 16 58.0 +1.7**
GYA Guiyang 159.49 233 PKP **PKPdf 01 16 31.0 -1.1**
GYA PKS **PKSdf 01 20 02.8 -3.0**
GYA PP **PP 01 20 53.6 +2.4**
GYA SKKS 01 27 40.4
GYA SS **SS 01 40 58.3 +0.3**
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=N,120nm,21.8s
GYA LR LR
comp=E,110nm,20.3s
GYA LR LR
comp=Z,130nm,22.6s
KMI Kunming 160.69 223 PKP **PKPdf 01 16 34.3 +0.7**
BVAR Borovoye Array 162.32 38 PKP **PKPdf 01 16 32.6 -1.5**
comp=Z,0.6nm,0.7s,baz=300,slow=2.8,SNR=5.7
BVAR PKPab **PKPab 01 17 21.6 +0.1**
comp=Z,0.6nm,0.8s,baz=328,slow=2.2,SNR=2.4
BVAR Borovoye Array 162.32 38 PKIKP **PKPdf 01 16 32.6 -1.5**
BVAR 01 17 21.6
BVAR Borovoye Array 162.32 38 PKP **PKPdf 01 16 32.6 -1.5**
BVAR PKPab **PKPab 01 17 21.6 +0.1**
CD2 Chengdu 164.42 238 PKP **PKPdf 01 16 36.6 -0.3**
CD2 PKPab **PKPab 01 17 33.3 +1.9**
CD2 PKS **PKSdf 01 20 08.3 -1.6**
CD2 PP **PP 01 21 20.6 +3.1**
CD2 SKS **SKSdf 01 23 38.3 -3.1**
CD2 SKKS **SKKSac 01 28 05.3 -0.2**
CD2 SS **SS 01 41 49.4 0.0**
CD2 AMB AMB
comp=Z,130nm,6.5s
CD2 LR LR
comp=N,310nm,7.1s
CD2 LR LR
comp=Z,270nm,7.1s
TLY Talaya 164.53 322 *i* PKIKP **PKPdf 01 16 32.9 -3.4**
TLY *e* 01 17 30.7
TLY pmax pmax
comp=Z,3.0nm,1.6s
NVS Novosibirsk 165.06 12 *e*PKIKP **PKPdf 01 16 32.9 -3.6**

NVS					pmax	pmax		
	comp=Z,10.0nm,2.0s							
NVS					pmax	pmax		
	comp=E,6.0nm,1.5s							
SONM	**Songino Array**	**165.09**	**306**		PKP	**PKPdf**	**01 16 35.6**	**-1.4**
	comp=E,3.8nm,1.3s,baz=141,slow=0.9,SNR=8.2							
SONM					PKPab	**PKPab**	**01 17 32.1**	**-2.0**
	comp=E,5.8nm,1.3s,baz=86,slow=2.5,SNR=7.1							
SONM	**Songino Array**	**165.09**	**306**		PKP	**PKPdf**	**01 16 35.6**	**-1.4**
SONM					PKPab	**PKPab**	**01 17 32.1**	**-2.0**
ZAK	**Zakamensk**	**165.53**	**319**	*e*	PKIKP	**PKPdf**	**01 16 33.8**	**-3.5**
ZAK				*e*			01 17 34.3	
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.4s							
ZAA0	**Zalesovo Array**	**166.15**	**9**	*e*	PKPdf	**PKPdf**	**01 16 34.8**	**-2.6**
ZALV	**Zalesovo Beam**	**166.15**	**9**		PKP	**PKPdf**	**01 16 35.2**	**-2.3**
	comp=Z,4.9nm,1.0s,baz=298,slow=0.7,SNR=22							
ZALV					PKPab	**PKPab**	**01 17 39.2**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=359,slow=5.9,SNR=2.9							
ZALV	**Zalesovo Beam**	**166.15**	**9**		PKIKP	**PKPdf**	**01 16 35.2**	**-2.3**
ZALV	**Zalesovo Beam**	**166.15**	**9**		PKP	**PKPdf**	**01 16 35.2**	**-2.3**
ZALV					PKPab	**PKPab**	**01 17 39.2**	**+1.0**
ODAN	**Odare**	**166.54**	**176**	*e*	P	**PKPab**	**01 17 39.8**	**-1.1**
	comp=Z,40nm,1.1s							
RAMN	**Ramite**	**166.57**	**173**	*e*	P	**PKPab**	**01 17 40.0**	**-1.1**
KOLN	**Koldanda**	**166.85**	**161**	*e*	P	**PKPab**	**01 17 40.4**	**-1.9**
	comp=Z,24nm,1.3s							
PYUN	**Piuthan**	**167.00**	**158**	*e*	P	**PKPab**	**01 17 41.1**	**-1.8**
	comp=Z,61nm,1.6s							
DMN	**Daman**	**167.02**	**167**	*e*	P	**PKPab**	**01 17 40.9**	**-2.2**
PKI	**Pulchoki**	**167.03**	**168**	*e*	P	**PKPab**	**01 17 41.5**	**-1.7**
TAPN	**Taplejung**	**167.05**	**177**	*e*	P	**PKPab**	**01 17 41.0**	**-2.2**
	comp=Z,66nm,1.5s							
LZH	**Lanzhou**	**167.17**	**256**	*e*	PKP	**PKPdf**	**01 16 39.8**	**+0.7**
LZH					pPKP	**pPKPdf**	**01 16 45.8**	**+3.3**
LZH					sPKP		01 16 48.3	
KKN	**Kakani**	**167.23**	**167**	*e*	P	**PKPab**	**01 17 41.9**	**-2.0**
	comp=Z,66nm,1.2s							
JIRN	**Jiri**	**167.23**	**171**	*e*	P	**PKPab**	**01 17 42.2**	**-1.9**
GKN	**Gorkha**	**167.32**	**165**	*e*	P	**PKPab**	**01 17 41.2**	**-3.0**
	comp=Z,76nm,1.4s							
GUN	**Gumba**	**167.44**	**170**	*e*	P	**PKPab**	**01 17 42.2**	**-2.8**
	comp=Z,62nm,1.3s							
DANN	**Dangsing**	**167.45**	**161**	*e*	P	**PKPab**	**01 17 42.1**	**-2.9**
	comp=Z,27nm,1.1s							
KURK	**Kurchatov**	**167.55**	**30**		PKIKP	**PKPdf**	**01 16 37.5**	**-1.2**
KURK	**Kurchatov**	**167.55**	**30**		PKP	**PKPdf**	**01 16 37.5**	**-1.2**
KURK					PKPab	**PKPab**	**01 17 46.0**	**+1.5**
KURBB	**Kurchatov Arra**	**167.59**	**31**		PKP	**PKPdf**	**01 16 37.5**	**-1.2**
	comp=Z,1.2nm,0.2s,baz=315,slow=1.3,SNR=7.6							
KURBB					PKPab	**PKPab**	**01 17 46.0**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=320,slow=5.6,SNR=5.4							
AAK	**Ala-Archa**	**169.28**	**73**	⇑	PKIKP	**PKPdf**	**01 16 40.8**	**+0.5**
AAK	**Ala-Archa**	**169.28**	**73**	*e*	PKPdf	**PKPdf**	**01 16 40.4**	**+0.1**
KSH	**Kashi**	**170.39**	**91**		PKP	**PKPdf**	**01 16 42.1**	**+1.1**
KSH					PKS	**PKSdf**	**01 20 12.6**	**-0.9**
KSH				*e*	PP	**PP**	**01 21 50.9**	**+2.2**
KSH					SKS	**SKSdf**	**01 23 44.3**	**-0.2**
KSH					SKKS	**SKKSac**	**01 28 36.4**	**+1.2**
KSH					SS	**SS**	**01 42 47.8**	**-2.8**
KSH					AMB	AMB		
	comp=Z,100nm,3.2s							
KSH					LR	LR		
	comp=N,69nm,7.1s							
KSH					LR	LR		
	comp=E,74nm,5.9s							
KSH					LR	LR		
	comp=Z,170nm,6.8s							
GTA	**Gaotai**	**171.20**	**268**	*e*	PKP	**PKPdf**	**01 16 41.8**	**+0.3**
GTA					pPKP	**pPKPdf**	**01 16 47.6**	**+2.7**
GTA					sPKP		01 16 50.3	
GTA					PKPab	**PKPab**	**01 18 00.3**	**-1.1**
GTA					SKS	**SKSdf**	**01 23 41.8**	**-3.1**
GTA					AMB	AMB		
	comp=Z,170nm,7.6s							
GTA					LR	LR		
	comp=N,200nm,17.1s							
GTA					LR	LR		
	comp=E,170nm,20.9s							
GTA					LR	LR		
	comp=Z,220nm,23.3s							
MK31	**Makanchi Array**	**172.14**	**33**	*e*	PKIKP	**PKPdf**	**01 16 40.1**	**-1.4**
MK31	**Makanchi Array**	**172.14**	**33**	*e*	PKPdf	**PKPdf**	**01 16 40.1**	**-1.4**
MKAR	**Makanchi Array**	**172.14**	**33**		PKP	**PKPdf**	**01 16 39.9**	**-1.6**
	comp=Z,2.6nm,1.1s,baz=318,slow=1.9,SNR=11							
MKAR					PKPab	**PKPab**	**01 18 05.4**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=346,slow=3.0,SNR=2.4							
MKAR	**Makanchi Array**	**172.14**	**33**		PKIKP	**PKPdf**	**01 16 39.9**	**-1.6**
MKAR	**Makanchi Array**	**172.14**	**33**		PKP	**PKPdf**	**01 16 39.9**	**-1.6**
MKAR					PKPab	**PKPab**	**01 18 05.4**	**+0.4**
WMQ	**Urumqi**	**176.46**	**9**	*e*	PKP	**PKPdf**	**01 16 43.1**	**0.0**

IDC 15 01:11:28.8±2.5, 0°91S×133°21E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=97.2km s-min=27.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.64**	**203**	P		Pn	01 15 48.9	+0.4
	0.1nm,0.3s,baz=31,slow=14,SNR=1.9							
FITZ				S		Sn	01 19 05.1	-13
	0.0nm,0.3s,baz=15,slow=20,SNR=2.1							
WRA	**Warramunga Arr**	**18.95**	**177**	P		P	01 15 51.8	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=3.6							
ASAR	**Alice Springs**	**22.64**	**178**	P		P	01 16 31.4	-0.3
	0.7nm,0.6s,baz=2.7,slow=11,SNR=6.9							
MKAR	**Makanchi Array**	**65.06**	**324**	P		P	01 22 11.0	-0.2
	0.3nm,0.8s,baz=123,slow=5.3,SNR=3.8							

IDC 15 01:28:23.4±1.2, 45°.36N×31°.08E, h0km, mb3.3/3, mb1 3.3/9, mb1mx3.2/27, mbtmp3.2/9, ML2.2/3, Error ellipse: s-maj=17.3km s-min=13.2km az=162.0
SOF 15 01:28:29.2, 45°.17N×30°.48E, h6km, MD2.9
CSEM 15 01:28:31.6±0.9, 45°.20N×30°.45E, h10km, MD2.9, Error ellipse: s-maj=20.2km s-min=9.0km az=88.0
ISC 15 01:28:25.9±1.9, 45°.16N±0°.03×30°.84E±0°.07, h3km±12km, n63, σ1§51/67, mb3.1/3, 21C-18D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TLCR		**1.43**	**272**	⇑*i*P		**Pg**	**01 28 53.3**	**0.0**
TLCR		**1.43**	**272**	⇑*i*P		**Pg**	**01 28 53.3**	**0.0**
TIRR	**Tirgusor**	**1.87**	**249**	⇑*i*P		**Pb**	**01 28 59.9**	**-0.7**
TIRR	**Tirgusor**	**1.87**	**249**	*i*P		**Pb**	**01 29 00.2**	**-0.4**
TIRR				*i*Pg		**Pg**	**01 29 01.8**	**+0.2**
TIRR				*i*Sg		**Sg**	**01 29 27.6**	**+1.8**
TIRR	**Tirgusor**	**1.87**	**249**	⇑*i*P		**Pb**	**01 28 59.9**	**-0.7**
CFR	**Carcaliu**	**1.91**	**271**	⇑*i*P		**Pn**	**01 29 00.0**	**+0.7**
CFR	**Carcaliu**	**1.91**	**271**	⇑*i*P		**Pn**	**01 29 00.0**	**+0.7**
MANR	**Mangalia**	**2.10**	**231**	⇑*i*P		**Pb**	**01 29 04.0**	**-0.6**
MANR	**Mangalia**	**2.10**	**231**	⇑*i*P		**Pb**	**01 29 04.0**	**-0.6**
CVD	**Cernavoda**	**2.17**	**248**	⇑*i*P		**Pg**	**01 29 08.6**	**+1.1**
CVD	**Cernavoda**	**2.17**	**248**	⇑*i*P		**Pg**	**01 29 08.6**	**+1.1**
KIS	**Kishinev**	**2.31**	**323**	*e*P		**Pb**	**01 29 08.0**	**-0.2**
KIS				*i*S		**Sn**	**01 29 33.0**	**-0.8**
	600nm,0.5s							
KIS	**Kishinev**	**2.31**	**323**	⇓*i*P		Pn	01 29 00.3	-4.5
KIS	**Kishinev**	**2.31**	**323**	*e*P		**Pb**	**01 29 08.0**	**-0.2**
KIS				*i*S		**Sn**	**01 29 33.0**	**-0.8**
	600nm,0.5s							
PSN	**Preselentsi**	**2.41**	**233**	*i*P		**Pb**	**01 29 08.8**	**-1.1**
PSN				*i*Sg		**Sb**	**01 29 41.1**	**+1.1**
PSN	**Preselentsi**	**2.41**	**233**	*i*P		**Pb**	**01 29 08.8**	**-1.1**
PSN				*i*Sg		**Sb**	**01 29 41.1**	**+1.1**
GHRR		**2.57**	**292**	⇓*i*P		**Pb**	**01 29 13.5**	**+0.9**
GHRR		**2.57**	**292**	⇓*i*P		**Pb**	**01 29 13.5**	**+0.9**
ODBI	**Odobesti**	**2.73**	**284**	⇑*i*P		**Pg**	**01 29 16.6**	**-1.6**
ODBI	**Odobesti**	**2.73**	**284**	⇑*i*P		**Pg**	**01 29 16.6**	**-1.6**
VRI	**Vrincioaia**	**2.98**	**285**	⇑*i*P		**Pn**	**01 29 15.1**	**+1.1**
VRI	**Vrincioaia**	**2.98**	**285**	*i*P		**Pn**	**01 29 15.3**	**+1.3**
VRI				*i*Sg		**Sg**	**01 29 59.3**	**-2.1**
VRI	**Vrincioaia**	**2.98**	**285**	*i*P		**Pn**	**01 29 15.3**	**+1.3**
VRI				*i*Sg		**Sg**	**01 29 59.3**	**-2.1**
PLOR	**Plostina**	**3.03**	**285**	⇓*i*P		**Pb**	**01 29 17.5**	**-2.9**
PLOR	**Plostina**	**3.03**	**285**	⇓*i*P		**Pb**	**01 29 17.5**	**-2.9**
ISR	**Istrita**	**3.04**	**271**	⇓*i*P		**Pn**	**01 29 17.6**	**+2.7**
ISR	**Istrita**	**3.04**	**271**	⇓*i*P		**Pn**	**01 29 17.6**	**+2.7**
IAS	**Iasi**	**3.05**	**313**	⇓*i*P		**Pb**	**01 29 22.1**	**+1.3**
IAS	**Iasi**	**3.05**	**313**	⇓*i*P		**Pb**	**01 29 22.1**	**+1.3**
NEF	**NEVSHA**	**3.19**	**235**	*i*P		**Pn**	**01 29 18.9**	**+2.0**
NEF	**NEVSHA**	**3.19**	**235**	*i*P		**Pn**	**01 29 18.9**	**+2.0**
TESR		**3.23**	**296**	⇑*i*P		**Pn**	**01 29 17.5**	**+0.1**
TESR		**3.23**	**296**	⇑*i*P		**Pn**	**01 29 17.5**	**+0.1**
SULR		**3.29**	**263**	⇓*i*P		**Pb**	**01 29 22.5**	**-2.4**
SULR		**3.29**	**263**	⇓*i*P		**Pb**	**01 29 22.5**	**-2.4**
MLR	**Muntele Rosu**	**3.47**	**277**	Pn		**Pn**	**01 29 22.3**	**+1.4**
	0.2nm,0.3s,baz=137,slow=4.6,SNR=5.3							
MLR				Pg		**Pg**	**01 29 34.3**	**+2.0**
	0.3nm,0.3s,baz=112,slow=14,SNR=5.8							
MLR				Sn		**Sn**	**01 30 05.0**	**+2.5**
	0.7nm,0.3s,baz=296,slow=19,SNR=6.9							
MLR				Lg		Lg	01 30 20.5	
	0.5nm,0.3s,baz=226,slow=20,SNR=4.0							
MLR	**Muntele Rosu**	**3.47**	**277**	⇓*i*P		**Pn**	**01 29 23.0**	**+2.1**
MLR	**Muntele Rosu**	**3.47**	**277**	⇓*i*P		**Pn**	**01 29 23.0**	**+2.1**
SZH	**Strazhica**	**4.01**	**243**	*i*P		**Pn**	**01 29 29.7**	**+1.6**
SZH	**Strazhica**	**4.01**	**243**	*i*P		**Pn**	**01 29 29.7**	**+1.6**
VOIR		**4.10**	**276**	⇑*i*P		**Pn**	**01 29 30.9**	**+1.5**
VOIR		**4.10**	**276**	⇑*i*P		**Pn**	**01 29 30.9**	**+1.5**
ARR	**Arges**	**4.39**	**275**	⇓*i*P		**Pn**	**01 29 34.5**	**+1.1**
ARR	**Arges**	**4.39**	**275**	⇓*i*P		**Pn**	**01 29 34.5**	**+1.1**
PVL	**Pavlikeni**	**4.41**	**246**	*i*P		Pn	01 29 37.1	+3.4
PVL	**Pavlikeni**	**4.41**	**246**	*i*P		Pn	01 29 37.1	+3.4
BURAR	**Bucovina Array**	**4.60**	**304**	⇓*i*P		**Pb**	**01 29 47.5**	**+0.3**
AKASG	**Malin Array Be**	**5.65**	**349**	Pn		Pn	01 29 45.0	-5.6
	1.3nm,0.3s,baz=162,slow=12,SNR=6.4							
AKASG				Pg		**Pb**	**01 30 05.2**	**+0.3**
	2.3nm,0.3s,baz=158,slow=17,SNR=5.9							
AKASG				Lg		Lg	01 31 08.6	
	11nm,0.3s,baz=164,slow=30,SNR=8.6							
RZN	**Rozhen**	**5.65**	**234**	*i*P		**Pn**	**01 29 52.5**	**+1.6**
RZN				*i*S		**Sn**	**01 30 55.1**	**-1.4**
RZN	**Rozhen**	**5.65**	**234**	*i*P		**Pn**	**01 29 52.5**	**+1.6**
BMR	**Baia Mare**	**5.67**	**299**	⇑*i*P		**Pn**	**01 29 50.5**	**-0.4**
BMR	**Baia Mare**	**5.67**	**299**	⇑*i*P		**Pn**	**01 29 50.5**	**-0.4**
BRTR	**Keskin Array B**	**5.81**	**158**	Pn		**Pn**	**01 29 54.3**	**+1.2**
	0.1nm,0.3s,baz=340,slow=14,SNR=3.5							
BRTR				Sn		**Sn**	**01 30 57.3**	**-3.1**
	0.1nm,0.3s,baz=13,slow=13,SNR=2.4							
DRGR		**5.90**	**289**	⇑*i*P		**Pn**	**01 29 54.0**	**-0.2**
DRGR		**5.90**	**289**	⇑*i*P		**Pn**	**01 29 54.0**	**-0.2**
VTS	**Vitosha**	**6.09**	**248**	⇓*i*P		**Pn**	**01 29 58.2**	**+1.3**
VTS	**Vitosha**	**6.09**	**248**	⇓*i*P		**Pn**	**01 29 58.2**	**+1.3**
FINES	**FINESS Array B**	**16.55**	**352**	Pn		Pn	01 32 08.8	-10
	0.1nm,0.3s,baz=159,slow=12,SNR=2.8							
HFS	**Hagfors**	**18.16**	**332**	Pn		Pn	01 32 29.1	-10
	0.1nm,0.3s,baz=146,slow=14,SNR=3.5							
NOA	**NORSAR Array B**	**19.66**	**331**	Pn		P	01 32 48.8	-6.8
	0.1nm,0.3s,baz=137,slow=11,SNR=3.3							
ARCES	**ARCESS Array B**	**24.59**	**355**	P		P	01 33 41.5	-5.3
	2.3nm,0.9s,baz=163,slow=9.4,SNR=4.4							
MKAR	**Makanchi Array**	**35.27**	**69**	P		P	01 35 17.9	-3.8
	0.1nm,0.4s,baz=271,slow=9.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**40.39**	**227**	P		**P**	**01 36 04.5**	**-0.7**
	0.5nm,1.0s,baz=23,slow=8.0,SNR=2.7							

IDC 15 01:30:04.4±0.9, 2°.38S×139°.21E, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML4.2/2, MS4.3/3, Ms1 4.3/3, ms1mx3.3/32, Error ellipse: s-maj=43.2km s-min=16.8km az=84.0
AUST 15 01:30:06.1, 1°.95S×138°.51E, h35km
ISCJB 15 01:30:13.7±0.5, 2°.86S±0°.04×138°.85E±0°.04, h46km, mb3.7/7, MS4.4/3, Error ellipse: s-maj=6.7km s-min=5.2km az=30.8
DJA 15 01:30:15.4±0.4, 2°.5S±4°×13°.9E±°, h80km±7km, M4.5/5, mb4.3/3, MLv4.6/5
ISC 15 01:30:15.0±0.8, 2°.80S±0°.07×138°.91E±0°.04, h46km, n32, σ1§14/26, mb3.6/7, MS4.3/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMPI	**Sarmi**	**0.83**	**346**	P		**Pn**	**01 30 30.1**	**-0.2**
SMPI				S		**Sn**	**01 30 42.9**	**+1.4**
WAMI	**Wamena**	**1.09**	**190**	P		Pn	01 30 43.2	+9.3
WAMI				S		Sn	01 31 04.0	+16
JAY	**Jayapura**	**1.82**	**81**	P		**Pn**	**01 30 43.5**	**-0.4**
	baz=2.3,SNR=24							
JAY				S		**Sn**	**01 31 04.1**	**-1.7**
	baz=2.3,SNR=5.6							
JAY	**Jayapura**	**1.82**	**81**	P		**Pn**	**01 30 44.0**	**+0.1**
JAY				S		**Sn**	**01 31 07.3**	**+1.5**
BAKI	**Biak**	**3.22**	**300**	P		**Pn**	**01 31 02.7**	**-0.4**
BAKI				S		**Sn**	**01 31 39.4**	**-0.9**
FAKI	**Fak Fak**	**6.65**	**269**	P		**Pn**	**01 31 51.3**	**+1.1**
	66nm,1.4s,0.2nm							
FAKI				S		**Sn**	**01 33 05.4**	**+0.6**
	66nm,1.4s,0.2nm							
PMG	**Port Moresby**	**10.50**	**129**	P		**Pn**	**01 32 45.6**	**+2.6**
	34nm,0.9s							
PALU	**Palau**	**11.00**	**336**	S		Sn	01 34 11.0	-41
	baz=10,SNR=4.8							
KDU	**Kakadu**	**11.71**	**213**	P		**Pn**	**01 33 00.1**	**+0.6**
	baz=12,SNR=49							
COEN	**Coen**	**11.86**	**159**	P		**Pn**	**01 33 02.7**	**+1.1**
	baz=13,SNR=5.4							
MTN	**Manton Dam**	**12.60**	**217**	P		**Pn**	**01 33 12.2**	**+0.6**
	baz=13,SNR=11							
WRA	**Warramunga Arr**	**17.61**	**194**	P		**Pn**	**01 34 17.0**	**-0.2**
	0.7nm,0.3s,baz=18,slow=12,SNR=10							
WRA				S		Sn	01 37 24.4	-8.1
	0.5nm,0.3s,baz=11,slow=22,SNR=6.7							
CTA	**Charters Tower**	**18.62**	**158**	P		**P**	**01 34 28.5**	**-0.3**
	0.6nm,0.3s,baz=334,slow=11,SNR=7.7							
PCI	**Palu**	**19.15**	**275**	S		S	01 37 26.8	-43
	baz=19,SNR=28							
FITZ	**Fitzroy Crossi**	**20.01**	**220**	P		**P**	**01 34 43.0**	**-1.0**
	2.2nm,0.6s,baz=55,slow=12,SNR=9.1							
FITZ	**Fitzroy Crossi**	**20.01**	**220**	P		**P**	**01 34 43.7**	**-0.3**
	baz=20,SNR=9.4							
ASAR	**Alice Springs**	**21.30**	**193**	P		**P**	**01 34 58.0**	**0.0**
	2.5nm,0.7s,baz=24,slow=10,SNR=34							
ASAR				S		**S**	**01 38 52.1**	**-0.1**
	3.1nm,0.8s,baz=11,slow=25,SNR=9.2							
QLP	**Quilpie**	**24.19**	**168**	P		**P**	**01 35 27.9**	**+0.6**
	baz=25,SNR=9.6							
EIDS	**Eidsvold**	**25.32**	**154**	P		**P**	**01 35 37.7**	**+0.2**
	baz=26,SNR=7.1							
RMQ	**Roma**	**25.38**	**159**	P		**P**	**01 35 40.4**	**+2.3**
	baz=26,SNR=8.8							
STKA	**Stephens Creek**	**29.03**	**175**	P		**P**	**01 36 09.8**	**-1.0**
	6.1nm,0.8s,baz=346,slow=8.3,SNR=10							
STKA	**Stephens Creek**	**29.03**	**175**	P		**P**	**01 36 10.3**	**-0.5**
	baz=30,SNR=5.9							
LEM	**Lembang**	**31.43**	**262**	S		S	01 41 16.3	-21
	baz=31,SNR=3.9							
GSI	**Gunungsitoli**	**41.52**	**275**	S		S	01 43 43.1	-28
	baz=41,SNR=5.5							
PETK	**Petropavlovsk-**	**57.90**	**13**	LR		LR	02 02 17.6	
	comp=Z,203nm,18.8s,baz=305,slow=34							
RAR	**Rarotonga**	**62.31**	**112**	LR		LR	02 02 26.5	
	comp=Z,224nm,21.0s,baz=90,slow=31							
MKAR	**Makanchi Array**	**69.98**	**322**	P		P	01 41 18.1	-3.8
	0.2nm,0.5s,baz=94,slow=8.7,SNR=6.1							
ZALV	**Zalesovo Beam**	**72.11**	**330**	P		P	01 41 29.1	-5.4
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.5							
VNDA	**Vanda**	**75.67**	**175**	P		**P**	**01 41 53.3**	**-1.7**
	1.3nm,0.6s,baz=331,slow=6.5,SNR=12							
BVAR	**Borovoye Array**	**79.50**	**325**	P		P	01 42 12.6	-4.2
	0.4nm,0.6s,baz=122,slow=5.2,SNR=4.0							
WSAR	**Wadi Sarin**	**82.17**	**294**	LR		LR	02 22 17.8	
	comp=Z,262nm,18.5s,baz=222,slow=38							
ILAR	**Eielson Array**	**85.83**	**24**	P		P	01 42 41.9	-7.5
	0.3nm,0.8s,baz=240,slow=4.9,SNR=3.3							

IDC 15 01:38:21.8±4.5, 3°.16S×100°.69E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=186.6km s-min=24.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**36.82**	**120**	P		P	01 45 30.9	-1.0
	0.2nm,0.3s,baz=308,slow=8.7,SNR=3.1							
ASAR	**Alice Springs**	**38.02**	**125**	P		P	01 45 42.9	+0.7
	0.2nm,0.4s,baz=301,slow=7.9,SNR=5.8							
SONM	**Songino Array**	**51.02**	**5**	P		P	01 47 26.4	+0.6
	0.5nm,0.6s,baz=189,slow=9.1,SNR=5.0							
MKAR	**Makanchi Array**	**52.32**	**344**	P		P	01 47 34.8	-0.6
	0.3nm,0.5s,baz=156,slow=9.0,SNR=5.5							
TXAR	**Lajitas Array**	**145.18**	**39**	PKPbc		PKPbc	01 58 00.8	-1.0
	0.2nm,0.6s,baz=278,slow=1.0,SNR=5.1							

ISCJB 15 01:40:45.2±1.8, 37°.32N±0°.07×38°.9E±0°.1, h0km±14km, Error ellipse: s-maj=14.2km s-min=10.8km az=22.2
CSEM 15 01:40:45.7±0.3, 37°.32N×38°.87E, h5km, MD2.6, Error ellipse: s-maj=6.4km s-min=3.5km az=128.0
ISK 15 01:40:46.2, 37°.38N×38°.83E, h10km, MD2.6
DDA 15 01:40:49.3, 37°.46N×38°.75E, h7km, MD2.8
ISC 15 01:40:47.0±1.5, 37°.41N±0°.06×38°.86E±0°.09, h7km±5km, n12, σ0§76/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URFA	**Urfa**	**0.04**	**315**	*e*PG		**Pg**	**01 40 48.4**	**-0.3**
URFA				*e*SG		**Sg**	**01 40 50.3**	**+0.5**
URFA	**Urfa**	**0.04**	**315**	*e*Pg		**Pg**	**01 40 48.4**	**-0.3**
URFA				*e*Sg		**Sg**	**01 40 50.3**	**+0.5**
MYA	**Malataya**	**0.98**	**339**	*e*PG		**Pg**	**01 41 05.9**	**+0.1**
MYA				*e*SG		**Sb**	**01 41 20.1**	**+0.6**
MYA	**Malataya**	**0.98**	**339**	*e*Pg		**Pg**	**01 41 05.9**	**+0.1**
MYA				*e*Sg		**Sb**	**01 41 20.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.03**	**20**	*e*PG		**Pb**	**01 41 07.6**	**+0.3**
SVRC				*e*SG		**Sb**	**01 41 21.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.03**	**20**	*e*Pg		**Pb**	**01 41 07.6**	**+0.3**
SVRC				*e*Sg		**Sb**	**01 41 21.9**	**+0.8**
AKCD	**Akcadag**	**1.16**	**320**	*i*P		**Pg**	**01 41 09.6**	**+0.3**
AKCD				*i*S		**Sn**	**01 41 25.9**	**-0.1**
AKCD	**Akcadag**	**1.16**	**320**	*i*P		**Pg**	**01 41 09.6**	**+0.3**
AKCD				*i*S		**Sn**	**01 41 25.9**	**-0.1**
KUZU	**Kuzuini**	**1.56**	**247**	*i*P		**Pg**	**01 41 18.2**	**+1.2**
KUZU				*i*S		**Sn**	**01 41 34.8**	**-1.1**
KUZU	**Kuzuini**	**1.56**	**247**	*i*P		**Pg**	**01 41 18.2**	**+1.2**
KUZU				*i*S		**Sn**	**01 41 34.8**	**-1.1**
KMRS	**Kahramanmaras**	**1.56**	**274**	*e*PN		**Pn**	**01 41 14.2**	**-1.1**
KMRS	**Kahramanmaras**	**1.56**	**274**	*e*Pn		**Pn**	**01 41 14.2**	**-1.1**

CASC 15 01:48:09.5±2.2, 12°.95N×90°.44W, h6km±10km, MD4.1, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBLS	**San Blas**	**1.19**	**42**	*e*P		Pg	01 48 31.2	-1.4
SBLS				*e*S		Sg	01 48 47.5	-0.8
RTR	**El Retiro**	**1.22**	**39**	*e*P		Pg	01 48 31.9	-1.2
SNJE	**San Jose**	**1.22**	**42**	*e*P		Pg	01 48 31.7	-1.6
RBDL	**Robledal**	**1.37**	**32**	*e*P		Pn	01 48 34.0	-1.4
BOQS	**Boqueron**	**1.37**	**55**	*e*P		Pn	01 48 34.6	-0.9
BOQS				*e*S		Sb	01 48 52.9	-1.1
PCG	**Pacaya**	**1.44**	**354**	*e*P		Pn	01 48 35.7	-0.9
PCG				*e*S		Sg	01 48 57.0	+0.5
LFU	**La Fuente**	**1.52**	**58**	*e*P		Pn	01 48 37.0	-0.3
FUG	**Fuego 3**	**1.54**	**345**	*e*P		Pn	01 48 36.7	-1.0
FUG				*e*S		Sb	01 48 58.7	+0.1
LBRS	**Las Brisas**	**1.57**	**60**	*e*P		Pn	01 48 37.9	-0.2
NBG	**Las Nubes**	**1.63**	**3**	*e*P		Pn	01 48 39.1	0.0
NBG				*e*S		Sg	01 49 02.9	+0

APC	**Apacha**	**2.35**	**351**	*e*P		Pn	03 00 16.7	+0.8
PET	**Petropavlovsk**	**2.48**	**13**	*e*P		Pn	03 00 18.6	+0.9
PET				*i* S		Sn	03 00 49.2	+0.8
UGLR	**Uglovaya**	**2.69**	**14**	*e*P		Pn	03 00 22.4	+1.7
UGLR				*i* S		Sn	03 00 55.9	+2.2
SDLR	**Sedlovina**	**2.76**	**14**	*e*P		Pn	03 00 22.6	+0.8
SDLR				*i* S		Sn	03 00 56.2	+0.6
KRER	**Koryakskii**	**2.77**	**13**	*e*P		Pn	03 00 23.5	+1.5
KRER				*i* S		Sn	03 00 58.0	+2.1
SPN	**Mys Shipunski**	**2.86**	**29**	*e*P		Pn	03 00 24.9	+1.9
SPN				*i* S		Sn	03 00 59.9	+2.1
GNL	**Ganaly**	**3.09**	**2**	*e*P		Pn	03 00 27.8	+1.5
KBTR	**Krutoberegovo**	**6.37**	**26**	*e*P		Pn	03 01 12.8	+1.6

IDC 15 03:04:40.6±7.3, 28°08S×177°93W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=404.2km s-min=100.5km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.34**	**264**	P	P	03 12 44.4	-0.4
	0.2nm,0.4s,baz=102,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**44.12**	**270**	P	P	03 12 51.2	+0.1
	0.5nm,0.3s,baz=110,slow=7.8,SNR=3.1						
FINES	**FINESS Array B**	**142.98**	**341**	PKP	PKPdf	03 24 15.1	-0.6
	1.6nm,0.8s,baz=29,slow=3.2,SNR=9.2						

ISCJB ***15*** *03:14:30.1±1.3,2.°48N±0.°03×95.°17W±0.°03, h7km±8km, mb5.3/186, MS5.4/199, Error ellipse: s-maj=6.4km s-min=4.2km az=37.4*

IDC ***15*** *03:14:30.2±0.6,2.°47N×95.°36W, h0km, mb4.7/17, mb1 4.8/20, mb1mx4.8/25, mbtmp4.6/20, ML3.8/3, MS5.4/36, Ms1 5.4/36, ms1mx5.3/43, Error ellipse: s-maj=22.8km s-min=11.7km az=56.0*

NEIC ***15*** *03:14:31.9±0.2,2.°43N×95.°12W, h10km, mb5.4/157, MS5.5/150, MW5.8, MW5.8, Error ellipse: s-maj=6.1km s-min=3.8km az=55.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{17}Nm; M_{rr}1.96; $M_{\theta\theta}$3.22; $M_{\phi\phi}$-5.18; $M_{r\theta}$-0.39; $M_{\theta\phi}$3.27; $M_{\phi r}$1.36; Best double couple: $M_0$5.80000×10^{17} NP1:ϕ_s116.00000°, δ82.00000°, λ-5.00000°. NP2:ϕ_p206.00000°, δ85.00000°, λ-172.00000°. Principal axes: T 4.3500, Plg1.0000°, Azm340.0000°; N 2.1900, Plg80.0000°, Azm238.0000°; P -6.5400, Plg9.0000°, Azm71.0000°;*

GCMT ***15*** *03:14:35.9±0.1,2.°56N×95.°25W, h12km, MW5.8, Moment Tensor Solution. s104,c204; s79,c105; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96±.05; $M_{\theta\theta}$3.96±.05; $M_{\phi\phi}$-3.00±.06; $M_{r\theta}$1.41±.13; $M_{\theta\phi}$4.63±.05; $M_{\phi r}$0.75±.14; Best double couple: $M_0$6.00000×10^{17} NP1:ϕ_s109.00000°, δ81.00000°, λ8.00000°. NP2:ϕ_s18.00000°, δ82.00000°, λ171.00000°. Principal axes: T 6.6100, Plg12.0000°, Azm333.0000°; N -1.3000, Plg78.0000°, Azm156.0000°; P -5.3100, Plg1.0000°, Azm64.0000°; Data Used: II IU CN IC G. Surface waves: sta=112, comp=227, per= 50.*

MOS ***15*** *03:14:35.0±1.1,2.°65N×95.°00W, h33km, mb5.6/48, MS5.6/29 Error ellipse: s-maj=9.2km s-min=5.0km az=97.2*

NEIC ***15*** *03:14:59.4±0.0,2.°56N×94.°69W, h10km, Moment Tensor Solution. s178 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.89; $M_{\theta\theta}$3.65; $M_{\phi\phi}$-2.77; $M_{r\theta}$3.12; $M_{\theta\phi}$4.34; $M_{\phi r}$1.57; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s16.00000°, δ74.00000°, λ163.00000°. NP2:ϕ_s111.00000°, δ74.00000°, λ17.00000°. Principal axes: T 7.3200, Plg23.0000°, Azm333.0000°; N -2.3700, Plg66.0000°, Azm153.0000°; P -4.9600, Plg0.0000°, Azm243.0000°;*

ISC 15 03:14:31.7±0.9, 2.°39N±0.°04×95.°30W±0.°05, h9km±4km, n988, σ1^{s}25/952, mb5.4/187, MS5.5/199, 244C-202D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.87**	**121**	*e*Pn	Pn	03 15 55.7	-3.3
	203nm,0.8s						
JTS	**JuntasAbangare**	**12.93**	**52**	Pn	Pn	03 17 27.8	-8.1
	2.3nm,0.3s,baz=356,slow=20,SNR=9.2						
JTS				Sn	**Sn**	**03 20 00.1**	**+0.1**
	baz=246,slow=12,SNR=2.0						
JTS				LR	LR	03 21 09.4	
	comp=Z,51µm,18.3s,baz=206,slow=31						
JTS	**JuntasAbangare**	**12.93**	**52**	*e*Pn	Pn	03 17 27.2	-8.7
	178nm,1.3s						
JTS				Sn	**Sn**	**03 20 00.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**14.04**	**34**	*e*Pn	**Pn**	**03 17 49.6**	**-1.4**
CMIG	**Matias Romero**	**14.61**	**2**	Pn	**Pn**	**03 17 59.3**	**+0.4**
	0.2nm,0.3s,baz=170,slow=12,SNR=8.4						
CMIG				Sn	**Sn**	**03 20 41.6**	**+0.6**
	0.1nm,0.3s,baz=29,slow=10,SNR=1.5						
CMIG				LR	LR	03 22 18.1	
	comp=Z,30µm,20.6s,baz=165,slow=32						
CMIG	**Matias Romero**	**14.61**	**2**	Pn	**Pn**	**03 17 59.3**	**+0.4**
CMIG				Sn	**Sn**	**03 20 41.6**	**+0.6**
BCIP	**Isla Barro Col**	**16.79**	**66**	*e*Pn	**Pn**	**03 18 26.2**	**-1.1**
	1µm,1.4s						
OTAV	**Otavalo**	**16.98**	**97**	*e*Pn	**Pn**	**03 18 30.7**	**+0.5**
TEIG	**Tepich**	**19.00**	**21**	P	**Pn**	**03 18 54.2**	**-0.3**
	0.8nm,0.3s,baz=201,slow=14,SNR=13						
TEIG				S	**S**	**03 22 33.0**	**+3.1**
	0.2nm,0.3s,baz=133,slow=15,SNR=2.7						
TEIG	**Tepich**	**19.00**	**21**	P	**Pn**	**03 18 54.2**	**-0.3**
TEIG				*e*Pn	**P**	**03 18 54.6**	**+0.7**
TEIG				S	**S**	**03 22 33.0**	**+3.1**
ATAH	**Atahualpa**	**19.35**	**119**	P	**Pn**	**03 19 00.9**	**+1.7**
	0.2nm,0.3s,baz=293,slow=16,SNR=16						
ATAH				S	S	03 22 45.6	+8.1
	0.2nm,0.3s,baz=315,slow=6.5,SNR=1.7						
ATAH				LR	LR	03 24 49.3	
	comp=Z,35µm,21.6s,baz=83,slow=32						
ATAH	**Atahualpa**	**19.35**	**119**	P	**Pn**	**03 19 00.9**	**+1.7**
ATAH				S	S	03 22 45.6	+8.1
ROSC	**El Rosal**	**21.07**	**83**	P	**P**	**03 19 19.2**	**+2.3**
	56nm,0.8s,baz=95,slow=10,SNR=36						
ROSC				S	Sn	03 23 19.5	+1.1
	2.0nm,0.4s,baz=244,slow=16,SNR=3.8						
ROSC				LR	LR	03 24 56.4	
	comp=Z,3µm,18.3s,baz=303,slow=30						
ROSC	**El Rosal**	**21.07**	**83**	P	**P**	**03 19 19.2**	**+2.3**
ROSC				*e*Pn	**pP**	**03 19 19.6**	**0.0**
ROSC				S	Sn	03 23 19.5	+1.1
NNA	**Nana**	**23.25**	**128**	P	**P**	**03 19 42.1**	**+2.3**
	11nm,0.8s,baz=288,slow=13,SNR=7.5						
NNA				LR	LR	03 26 42.2	
	comp=Z,11µm,20.8s,baz=298,slow=31						
NNA	**Nana**	**23.25**	**128**	*e*P	**P**	**03 19 42.3**	**+2.5**
	437nm,2.1s						
MTDJ	**Mount Denham**	**23.48**	**47**	*e*P	**P**	**03 19 38.8**	**-3.2**
	400nm,1.5s						
MTDJ				LR	LR		
	comp=Z,8µm,22.0s						
BBJ	**Bamboo Saint A**	**23.77**	**47**	*i* P	**P**	**03 19 43.5**	**-1.4**
HOJ	**Hope**	**23.91**	**48**	*i* P	**P**	**03 19 46.8**	**+0.7**
STH	**Stony Hill**	**23.91**	**48**	*i* P	**P**	**03 19 47.2**	**+1.0**
GWJ	**Greenwich**	**23.97**	**48**	*i* P	**P**	**03 19 50.3**	**+3.4**
YHJ	**Yallahs**	**24.04**	**49**	*i* P	**P**	**03 19 49.0**	**+1.7**
KVTX	**Kingsville**	**25.13**	**355**	PFAKE		03 20 10.0	+13
KVTX				LR	LR		
	comp=Z,11µm,21.0s						
SDV	**Santo Domingo**	**25.37**	**74**	*e*P	**P**	**03 20 01.8**	**+2.1**
	comp=Z,1.3nm,1.3s						
SDV				LR	LR		
	comp=Z,1.0nm,20.0s						
LPIG	**La Paz**	**26.00**	**327**	LR	LR	03 27 25.1	
	comp=Z,649nm,21.1s,baz=161,slow=30						
GTBY	**Guantanamo Bay**	**26.32**	**47**	PFAKE		03 20 20.0	+12
GTBY				LR	LR		
	comp=Z,11µm,19.0s						
732A	**Laxson Ranch,**	**26.57**	**351**	⇑P	**P**	**03 20 09.6**	**-0.5**
	baz=27,SNR=23						
632A	**Uvalde**	**27.30**	**351**	⇑P	**P**	**03 20 16.5**	**-0.3**
	baz=27						
631A	**Perdido Creek**	**27.34**	**350**	⇓P	**P**	**03 20 16.3**	**-0.8**
	baz=28,SNR=8.4						
HKT	**Hockley**	**27.41**	**359**	*e*P	**P**	**03 20 20.9**	**+3.2**
HKT				pmax	pmax		
	comp=Z,107nm,1.7s						
HKT	**Hockley**	**27.41**	**359**	*e*P	**P**	**03 20 20.9**	**+3.2**
	comp=Z,107nm,1.7s						
628A	**Black Gap, Mar**	**27.89**	**346**	⇓P	**P**	**03 20 22.5**	**+0.4**
	baz=28,SNR=5.7						
532A	**Rocksprings**	**27.93**	**351**	⇓P	**P**	**03 20 22.0**	**-0.5**
	baz=28,SNR=7.6						
TXAR	**Lajitas Array**	**27.95**	**344**	P	**P**	**03 20 22.6**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=162,slow=10,SNR=38						
TXAR				PcP	**PcP**	**03 23 37.8**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=186,slow=6.4,SNR=4.8						
TXAR				LR	LR	03 30 22.1	
	comp=Z,17µm,21.2s,baz=310,slow=34						
TXAR	**Lajitas Array**	**27.95**	**344**	P	**P**	**03 20 22.6**	**-0.1**
TXAR				PcP	**PcP**	**03 23 37.8**	**-0.4**
627A	**Terlingua Ranc**	**27.99**	**345**	⇑P	**P**	**03 20 22.8**	**-0.3**
	baz=28,SNR=9.4						
531A	**Rocksprings**	**28.07**	**350**	⇑P	**P**	**03 20 23.7**	**0.0**
	baz=28,SNR=22						
530A	**J-C Ranch, Com**	**28.19**	**349**	⇓P	**P**	**03 20 24.7**	**-0.2**
	baz=28,SNR=9.7						
626A	**Big Bend Ranch**	**28.29**	**344**	⇓P	**P**	**03 20 26.0**	**+0.2**
	baz=28,SNR=20						
626A				⇑S	**S**	**03 25 16.4**	**+4.2**
	baz=28						
626A				⇑S	**S**	**03 25 16.4**	**+4.2**
	baz=28						
626A				⇑S	**S**	**03 25 16.4**	**+4.2**
	baz=28						
529A	**Stev Forest Ra**	**28.35**	**347**	⇑P	**P**	**03 20 26.0**	**-0.3**
	baz=28,SNR=10.0						
528A	**Cox Ranch, San**	**28.52**	**346**	⇑P	**P**	**03 20 28.0**	**+0.2**
	baz=29						
431A	**Sonora**	**28.58**	**350**	⇓P	**P**	**03 20 28.2**	**-0.1**
	baz=29,SNR=8.9						
432A	**Menard**	**28.65**	**352**	⇓P	**P**	**03 20 28.5**	**-0.3**
	baz=29						
527A	**Woodward Ranch**	**28.70**	**345**	⇑P	**P**	**03 20 29.6**	**0.0**
	baz=29						
SDDR	**Presa de Saban**	**28.71**	**53**	PFAKE		03 20 40.0	+10
SDDR				LR	LR		
	comp=Z,4µm,20.0s						
526A	**Mary Lane Ranc**	**28.75**	**344**	⇑P	**P**	**03 20 30.1**	**+0.2**
	baz=29,SNR=12						
429A	**Davenport Ranc**	**28.77**	**348**	⇑P	**P**	**03 20 29.5**	**-0.4**
	baz=29						
430A	**Baggett Ranch,**	**28.79**	**349**	⇑P	**P**	**03 20 30.0**	**-0.2**
	baz=29						
428A	**Kincaid Ranch,**	**29.03**	**347**	⇓P	**P**	**03 20 32.2**	**-0.2**
	baz=29						
332A	**Millersview**	**29.14**	**352**	⇑P	**P**	**03 20 32.4**	**-0.8**
	baz=29,SNR=7.2						
331A	**San Angelo**	**29.16**	**351**	⇑P	**P**	**03 20 32.7**	**-0.8**
	baz=29,SNR=5.2						
NATX	**Nacogdoches**	**29.22**	**1**	*e*P	**P**	**03 20 34.2**	**+0.3**
	comp=Z,284nm,2.0s						
NATX				LR	LR		
	comp=Z,4µm,19.0s						
426A	**McDonald Obser**	**29.31**	**345**	⇑P	**P**	**03 20 34.7**	**-0.3**
	baz=30						
427A	**Hayter Ranch,**	**29.32**	**346**	⇑P	**P**	**03 20 34.9**	**0.0**
	baz=30						
330A	**Mertzon**	**29.39**	**350**	⇑P	**P**	**03 20 34.9**	**-0.5**
	baz=30						
WHTX	**Lake Whitney**	**29.51**	**356**	⇑P	**P**	**03 20 35.6**	**-0.8**
	baz=30,SNR=23						
BRAL	**Brewton**	**29.51**	**14**	PFAKE		03 20 50.0	+14
BRAL				LR	LR		
	comp=Z,5µm,20.0s						
329A	**Wagon Wheel Ra**	**29.62**	**348**	⇓P	**P**	**03 20 37.4**	**-0.2**
	baz=30						
232A	**Coleman**	**29.62**	**353**	⇑P	**P**	**03 20 37.3**	**-0.2**
	baz=30						
425A	**Indio Mountain**	**29.69**	**343**	⇓P	**P**	**03 20 38.5**	**+0.2**
	baz=30,SNR=19						
328A	**Wristen Ranch,**	**29.69**	**347**	⇑P	**P**	**03 20 37.8**	**-0.4**
	baz=30						
231A	**Bronte**	**29.76**	**351**	⇑P	**P**	**03 20 38.4**	**-0.4**
	baz=30						
327A	**Balmorhea Ranc**	**29.84**	**346**	⇓P	**P**	**03 20 39.1**	**-0.4**
	baz=30						
230A	**Sterling City**	**29.84**	**350**	⇓P	**P**	**03 20 38.9**	**-0.7**
	baz=30,SNR=11						
326A	**Caldwell Ranch**	**29.91**	**345**	⇑P	**P**	**03 20 39.8**	**-0.4**
	baz=30						
VBMS	**Vicksburg**	**30.01**	**8**	*e*P	**P**	**03 20 40.7**	**-0.2**
VBMS				LR	LR		
	comp=Z,4µm,22.0s						
229A	**Bryant Ranch,**	**30.05**	**349**	⇑P	**P**	**03 20 40.8**	**-0.5**
	baz=30						
325A	**Bean Ranch, Si**	**30.23**	**343**	⇓P	**P**	**03 20 42.5**	**-0.6**
	baz=30						
GRTK	**Grand Turk**	**30.24**	**49**	PFAKE		03 20 50.0	+7.0
GRTK				LR	LR		
	comp=Z,12µm,21.0s						
ABTX	**Abilene, Hawle**	**30.35**	**353**	⇓P	**P**	**03 20 43.4**	**-0.5**
	baz=30,SNR=6.4						
228A	**UT Block 9, Go**	**30.35**	**348**	⇑P	**P**	**03 20 43.5**	**-0.5**
	baz=30,SNR=5.8						
227A	**Bennet, Jal**	**30.41**	**347**	⇓P	**P**	**03 20 43.9**	**-0.6**
	baz=31						
324A	**Moseley Ranch,**	**30.45**	**343**	⇓P	**P**	**03 20 43.8**	**-1.2**
	baz=31						
131A	**Roby**	**30.50**	**352**	⇑P	**P**	**03 20 44.6**	**-0.7**
	baz=31						
130A	**Snyder**	**30.51**	**351**	⇑P	**P**	**03 20 44.9**	**-0.5**
	baz=31						
MNTX	**Cornudas Mount**	**30.66**	**343**	*e*P	**P**	**03 20 46.2**	**-0.5**
	comp=Z,19nm,1.4s						
MNTX				LR	LR		
	comp=Z,7µm,20.0s						
MNTX	**Cornudas Mount**	**30.66**	**343**	⇑P	**P**	**03 20 46.3**	**-0.4**
	baz=31						
129A	**Stewart Farms,**	**30.70**	**349**	⇑P	**P**	**03 20 46.5**	**-0.7**
	baz=31,SNR=25						
CLNB	**Carlsbad**	**30.79**	**346**	*e*P	**P**	**03 20 48.2**	**+0.3**
	comp=Z,44nm,0.9s						
128A	**Castleberry Fa**	**30.82**	**348**	⇓P	**P**	**03 20 47.1**	**-1.0**
	baz=31,SNR=22						
GDL2	**Guadalupe Moun**	**30.85**	**345**	*e*P	**P**	**03 20 49.2**	**+0.7**
225A	**Deer Hill, Car**	**30.89**	**344**	⇑P	**P**	**03 20 48.1**	**-0.8**
	baz=31,SNR=10						
Z32A	**Haskell**	**31.00**	**353**	⇑P	**P**	**03 20 49.0**	**-0.7**
	baz=31						
224A	**Cornudas Mount**	**31.05**	**343**	⇓P	**P**	**03 20 49.6**	**-0.8**
	baz=31						
127A	**Arkansas Junct**	**31.06**	**347**	⇑P	**P**	**03 20 49.4**	**-0.9**
	baz=31						
126A	**Clayton Basin,**	**31.19**	**346**	⇓P	**P**	**03 20 50.3**	**-1.1**
	baz=31,SNR=15						
Z30A	**Sanderson Ranc**	**31.21**	**351**	⇑P	**P**	**03 20 50.5**	**-1.1**
	baz=31,SNR=16						
223A	**Chaparral, Ant**	**31.27**	**342**	⇓P	**P**	**03 20 52.4**	**+0.3**
	baz=31						
Z29A	**Hungry Hill Ra**	**31.29**	**350**	⇑P	**P**	**03 20 51.4**	**-0.9**
	baz=31,SNR=6.1						
125A	**Gardner Draw,**	**31.36**	**345**	⇓P	**P**	**03 20 52.6**	**-0.4**
	baz=32,SNR=13						
320A	**Kipp Ranch, An**	**31.38**	**338**	⇓P	**P**	**03 20 53.6**	**+0.4**
	baz=32,SNR=12						
Z28A	**Tucker Farm, M**	**31.44**	**349**	⇓P	**P**	**03 20 52.9**	**-0.8**
	baz=32,SNR=6.0						
LRAL	**Lakeview Retre**	**31.46**	**13**	*e*P	**P**	**03 20 53.6**	**-0.1**
	comp=Z,334nm,2.8s						
LRAL				LR	LR		
	comp=Z,3µm,20.0s						
CPRX	**Cap Rock**	**31.52**	**346**	*e*P	P	03 21 01.0	+6.6
	comp=Z,6.3nm,0.6s						
222A	**Williams Famil**	**31.57**	**341**	⇑P	**P**	**03 20 55.0**	**+0.1**
	baz=32						
124A	**Stringfield Ra**	**31.62**	**344**	⇓P	**P**	**03 20 55.6**	**+0.2**
	baz=32,SNR=15						
Z27A	**Tatum**	**31.64**	**347**	⇑P	**P**	**03 20 55.2**	**-0.3**
	baz=32						
319A	**Douglas**	**31.70**	**337**	⇑P	**P**	**03 20 56.2**	**+0.2**
	baz=32,SNR=20						
221A	**Mesquite Ranch**	**31.72**	**340**	⇓P	**P**	**03 20 56.7**	**+0.5**
	baz=32						
Y30A	**Stafford Cattl**	**31.75**	**351**	⇑P	**P**	**03 20 56.1**	**-0.3**
	baz=32						
Z26A	**Caprock**	**31.78**	**346**	⇑P	**P**	**03 20 56.4**	**-0.3**
	baz=32,SNR=21						
123A	**Bell Site, Whi**	**31.80**	**342**	⇑P	**P**	**03 20 56.6**	**-0.2**
	baz=32,SNR=6.6						
Y29A	**Porterfield Fa**	**31.87**	**350**	⇑P	**P**	**03 20 56.7**	**-0.7**
	baz=32						
220A	**Playas Peak, P**	**31.89**	**338**	⇑P	**P**	**03 20 57.6**	**-0.1**
	baz=32,SNR=14						
Z25A	**Roswell**	**31.97**	**345**	⇑P	**P**	**03 20 58.1**	**-0.3**
	baz=32,SNR=9.2						
Y28A	**McKinney Farm,**	**32.02**	**349**	⇓P	**P**	**03 20 58.6**	**-0.2**
	baz=32						
MIAR	**Mount Ida**	**32.03**	**3**	*e*P	**P**	**03 20 57.8**	**-0.9**
MIAR				MLR	MLR		
	comp=Z,2µm,19.0s						
MIAR	**Mount Ida**	**32.03**	**3**	*e*P	**P**	**03 20 57.8**	**-0.9**
MIAR				LR	LR		
	comp=Z,2µm,19.0s						
122A	**Conniff Cattle**	**32.09**	**341**	⇑P	**P**	**03 20 59.9**	**+0.5**
	baz=32						
Y27A	**Causey**	**32.18**	**348**	⇓P	**P**	**03 20 60.0**	**-0.2**
	baz=32						
MSTX	**Muleshoe**	**32.18**	**348**	⇓P	**P**	**03 21 00.1**	**-0.1**
	baz=32						
Z24A	**Sheeppen Canyo**	**32.19**	**344**	⇑P	**P**	**03 21 00.4**	**0.0**
	baz=32,SNR=9.8						
121A	**Cookes Peak, D**	**32.20**	**340**	⇑P	**P**	**03 21 01.1**	**+0.7**
	baz=32,SNR=10						
X30A	**Coker Ranch, T**	**32.31**	**351**	⇑P	**P**	**03 21 01.2**	**0.0**
	baz=32						
RPN	**Rapa Nui**	**32.32**	**204**	LR	LR	03 30 42.0	
	comp=Z,3µm,19.1s,baz=28,slow=30						
UALR	**University of**	**32.34**	**5**	*e*P	**P**	**03 21 02.1**	**+0.8**
	comp=Z,82nm,1.4s						
WMOK	**Wichita Mounta**	**32.34**	**355**	*e*P	**P**	**03 21 00.0**	**-1.5**
WMOK				pmax	pmax		
	comp=Z,27nm,1.3s						
WMOK				MLR	MLR		
	comp=Z,6µm,21.0s						
WMOK	**Wichita Mounta**	**32.34**	**355**	*e*P	**P**	**03 20 60.0**	**-1.5**
	comp=Z,27nm,1.3s						
WMOK				LR	LR		
	comp=Z,6µm,21.0s						
Y26A	**Elida**	**32.36**	**347**	⇑P	**P**	**03 21 01.8**	**-0.1**
	baz=32						
Z23A	**Rita Site, Whi**	**32.37**	**343**	⇑P	**P**	**03 21 02.1**	**+0.2**
	baz=32,SNR=8.5						
OXF	**Oxford**	**32.42**	**9**	*e*P	**P**	**03 21 01.6**	**-0.6**
OXF				pmax	pmax		
	comp=Z,52nm,1.1s						
OXF				MLR	MLR		
	comp=Z,3µm,19.0s						
OXF	**Oxford**	**32.42**	**9**	*e*P	**P**	**03 21 01.6**	**-0.6**
	comp=Z,52nm,1.1s						
OXF				LR	LR		
	comp=Z,3µm,19.0s						
X29A	**Tulia**	**32.44**	**350**	⇑P	**P**	**03 21 02.3**	**-0.2**
	baz=33						
120A	**U Bar Ranch, L**	**32.51**	**339**	⇓P	**P**	**03 21 03.2**	**+0.1**
	baz=33,SNR=11						
SJG	**San Juan**	**32.57**	**59**	P	**P**	**03 21 02.5**	**-1.1**
	comp=Z,19nm,0.9s,baz=270,slow=7.0,SNR=4.2						
SJG				LR	LR	03 31 42.2	
	comp=Z,7µm,20.4s,baz=270,slow=32						
SJG	**San Juan**	**32.57**	**59**	P	**P**	**03 21 02.5**	**-1.1**
Y25A	**Mesa, Roswell**	**32.57**	**345**	⇓P	**P**	**03 21 03.4**	**-0.3**
	baz=33,SNR=8.1						
Z22A	**Elephant Butte**	**32.59**	**342**	⇑P	**P**	**03 21 04.4**	**+0.6**
	baz=33,SNR=23						
X28A	**Dimmitt**	**32.60**	**349**	⇓P	**P**	**03 21 03.4**	**-0.4**
	baz=33						
LPAZ	**La Paz**	**32.64**	**126**	P	**P**	**03 21 06.3**	**+1.3**
	comp=Z,69nm,1.3s,baz=314,slow=8.1,SNR=49						
LPAZ				PcP	**PcP**	**03 23 51.3**	**0.0**
	comp=Z,2.7nm,0.9s,baz=342,slow=5.0,SNR=4.0						
LPAZ				S	**S**	**03 26 25.0**	**+3.3**
	comp=Z,0.7nm,0.7s,baz=297,slow=18,SNR=2.1						
LPAZ				LR	LR	03 33 38.4	
	comp=Z,4µm,20.6s,baz=314,slow=35						
LPAZ	**La Paz**	**32.64**	**126**	*e*P	**P**	**03 21 06.7**	**+1.8**
	comp=Z,230nm,1.6s						
LPAZ				PcP	**PcP**	**03 23 51.3**	**0.0**
LPAZ				S	**S**	**03 26 25.0**	**+3.3**
Y24A	**Capitan**	**32.77**	**344**	⇑P	**P**	**03 21 05.6**	**+0.1**
	baz=33,SNR=23						
GOGA	**Godfrey**	**32.79**	**18**	PFAKE		03 21 20.0	+15
GOGA				LR	LR		
	comp=Z,3µm,19.0s						
Z21A	**St. Cloud Mine**	**32.87**	**341**	⇑P	**P**	**03 21 06.6**	**+0.3**
	baz=33,SNR=5.0						
AMTX	**Amarillo**	**32.87**	**350**	*e*P	**P**	**03 21 05.1**	**-1.1**
	comp=Z,46nm,1.1s						
AMTX				LR	LR		
	comp=Z,6µm,21.0s						
AMTX	**Amarillo**	**32.87**	**350**	⇑P	**P**	**03 21 05.8**	**-0.3**
	baz=33,SNR=5.5						
X27A	**F and S Farms,**	**32.90**	**348**	⇑P	**P**	**03 21 06.3**	**-0.2**
	baz=33						
Y23A	**Lovelace Mesa,**	**32.95**	**343**	⇑P	**P**	**03 21 07.3**	**+0.3**
	baz=33,SNR=12						
X26A	**CR and CF Fran**	**32.96**	**347**	⇑P	**P**	**03 21 07.2**	**+0.2**
	baz=33						
Z20A	**Nine Sixteen R**	**33.00**	**339**	⇑P	**P**	**03 21 07.3**	**-0.1**
	baz=33,SNR=8.5						
W29A	**Amraillo**	**33.09**	**350**	⇓P	**P**	**03 21 07.9**	**-0.2**
	baz=33						
PLAL	**Pickwick Lake**	**33.11**	**11**	PFAKE		03 21 20.0	+12
PLAL				LR	LR		
	comp=Z,3µm,21.0s						
TUC	**Tucson**	**33.13**	**336**	*e*P	**P**	**03 21 09.1**	**+0.6**
TUC				pmax	pmax		
	comp=Z,35nm,1.3s						
TUC	**Tucson**	**33.13**	**336**	*e*P	**P**	**03 21 09.1**	**+0.6**
	comp=Z,34nm,1.3s						
X25A	**Clemmons Ranch**	**33.14**	**346**	⇓P	**P**	**03 21 08.2**	**-0.4**
	baz=33						
Y22A	**Socorro**	**33.22**	**342**	⇓P	**P**	**03 21 09.9**	**+0.6**
	baz=33,SNR=18						
HBAR	**Harrisburg**	**33.28**	**7**	*e*P	**P**	**03 21 07.3**	**-2.3**
W27A	**Bowe Ranch, En**	**33.30**	**348**	⇓P	**P**	**03 21 10.1**	**+0.2**
	baz=34						
BNM	**Barren Site**	**33.32**	**343**	*e*P	**P**	**03 21 11.4**	**+1.1**
	comp=Z,42nm,1.4s						
W28A	**Vega**	**33.32**	**350**	⇓P	**P**	**

WVT pmax pmax
comp=Z,67nm,1.1s
WVT Waverly 34.27 11 *eP* **P 03 21 17.4 -0.9**
comp=Z,67nm,1.1s
JSC Jenkinsville 34.32 21 *eP* **P 03 21 18.6 -0.1**
JSC Jenkinsville 34.32 21 *eP* **P 03 21 18.6 -0.1**
CPCT Cooper Cave 34.38 16 *eP* **P 03 21 18.8 -0.5**
V25A Rancho No Teng 34.38 347 ⇑P **P 03 21 19.6 +0.1**
baz=34,SNR=17
V24A Rampart Ranch, 34.43 346 ⇓P **P 03 21 20.4 +0.4**
baz=35
W21A San Fidel 34.52 342 ⇑P **P 03 21 21.2 +0.5**
baz=35,SNR=8.3
V23A Ortiz Mt. (NFS 34.69 344 ⇑P **P 03 21 22.7 +0.6**
baz=35,SNR=15
GRGR Grenville 34.71 72 PFAKE 03 21 30.0 +7.7
GRGR LR LR
comp=Z,8µm,22.0s
U26A Atchley Ranch, 34.72 348 ⇑P **P 03 21 22.5 +0.1**
baz=35
X18A Snowflake 34.77 339 ⇓P **P 03 21 22.6 -0.2**
baz=35,SNR=7.7
TKL Tuckaleechee C 34.78 17 P **P 03 21 21.9 -0.8**
comp=Z,166nm,1.1s,baz=197,slow=12,SNR=9.9
TKL S **S 03 26 54.0 +0.6**
comp=Z,1.1nm,0.7s,baz=306,slow=19,SNR=1.7
TKL Tuckaleechee C 34.78 17 *eP* **P 03 21 23.1 +0.4**
TKL S **S 03 26 54.0 +0.6**
W20A Ramah 34.80 341 ⇓P **P 03 21 23.3 +0.1**
baz=35,SNR=11
113A Mohawk Valley, 34.84 332 ⇑P **P 03 21 23.8 +0.6**
baz=35
U25A Circle Dot Ran 34.87 347 ⇑P **P 03 21 24.3 +0.6**
baz=35,SNR=6.2
Z14A Wintersburg 34.96 334 ⇑P **P 03 21 24.8 +0.5**
baz=35
V22A San Miguel Ran 35.05 343 ⇑P **P 03 21 25.7 +0.5**
baz=35
KMSC Kings Mountain 35.08 20 ⇑P **P 03 21 25.9 +0.6**
baz=35,SNR=7.2
U24A Moreno Valley 35.08 346 ⇑P **P 03 21 25.8 +0.1**
baz=35
T28A Walsh 35.12 351 ⇑P **P 03 21 25.2 -0.6**
baz=35,SNR=10
V21A Milan 35.16 342 ⇓P **P 03 21 26.5 +0.2**
baz=35
T27A Campo 35.17 350 ⇑P **P 03 21 26.3 +0.1**
baz=35
W18A Petrified Fore 35.22 339 ⇑P **P 03 21 27.1 +0.4**
baz=35
X16A Lo Mia Camp, P 35.24 337 ⇑P **P 03 21 27.6 +0.7**
baz=35,SNR=13
U23A El Rito 35.24 345 ⇑P **P 03 21 27.5 +0.6**
baz=35
V20A Brimhall 35.41 341 ⇓P **P 03 21 28.3 -0.1**
baz=36
T26A Comanche Natio 35.45 349 ⇑P **P 03 21 28.6 0.0**
baz=36,SNR=8.5
U22A Llaves 35.46 344 ⇓P **P 03 21 29.6 +0.7**
baz=36,SNR=9.2
Y14A Wickenburg 35.48 334 ⇓P **P 03 21 29.1 +0.4**
baz=36,SNR=6.9
GLA Glamis 35.57 331 *eP* **P 03 21 29.2 -0.4**
GLA pmax pmax
comp=Z,97nm,1.4s
GLA Glamis 35.57 331 *eP* **P 03 21 29.2 -0.4**
comp=Z,97nm,1.4s
GLA Glamis 35.57 331 ⇑P **P 03 21 29.7 +0.1**
baz=36
T25A Trinidad 35.58 347 ⇓P **P 03 21 30.1 +0.3**
baz=36,SNR=21
SIUC Southern Illin 35.59 8 *eP* **P 03 21 29.8 +0.1**
comp=Z,116nm,1.1s
T24A Torres, Weston 35.66 347 ⇓P **P 03 21 31.2 +0.6**
baz=36
TZTN Tazewell 35.67 16 *eP* **P 03 21 30.3 -0.1**
comp=Z,343nm,2.5s
U21A Nageezi 35.74 343 ⇓P **P 03 21 31.5 +0.2**
baz=36,SNR=7.5
LVC Limon Verde 35.79 135 *eP* P 03 21 28.5 -3.3
comp=Z,1.8nm,0.9s
LVC LR LR
comp=Z,329nm,21.0s
S27A Las Animas 35.81 350 ⇑P **P 03 21 32.1 +0.4**
baz=36
S26A Kim 35.85 349 ⇑P **P 03 21 32.5 +0.4**
baz=36,SNR=10
FDF Fort de France 35.86 68 PFAKE 03 21 40.0 +7.7
FDF LR LR
comp=Z,4µm,20.0s
T23A Casias Ranch, 35.87 345 ⇑P **P 03 21 32.7 +0.4**
baz=36,SNR=7.3
U20A Newcomb 35.95 342 ⇓P **P 03 21 33.7 +0.7**
baz=36
SWSC Sam W. Stewart 35.96 330 ⇓P **P 03 21 33.2 +0.3**
baz=36,SNR=6.0
Y12C Blythe 36.00 332 ⇑P **P 03 21 33.8 +0.6**
baz=36,SNR=12
T22A Edith 36.07 344 ⇑P **P 03 21 35.2 +1.1**
baz=36,SNR=20
S25A Robets Cordova 36.09 348 ⇑P **P 03 21 34.2 +0.1**
baz=36,SNR=10
USIN University of 36.09 10 *eP* **P 03 21 33.8 -0.1**
comp=Z,110nm,1.1s
U19A Dine' College, 36.10 341 ⇓P **P 03 21 34.3 0.0**
baz=36,SNR=9.6
WUAZ Wupatki 36.18 338 *eP* **P 03 21 36.0 +1.1**
comp=Z,92nm,1.3s
WUAZ LR LR
comp=Z,13µm,22.0s
WUAZ Wupatki 36.18 338 ⇓P **P 03 21 35.6 +0.7**
baz=36,SNR=13
BAR Barrett 36.20 329 *eP* **P 03 21 35.1 +0.2**
comp=Z,109nm,1.5s
ANWB Willy Bob 36.22 63 PFAKE 03 21 50.0 +15
ANWB LR LR
comp=Z,4µm,21.0s
T21A Navajo Lake 36.23 343 ⇑P **P 03 21 35.6 +0.2**
baz=36,SNR=6.2
MONP Monument Peak 36.23 329 ⇓P **P 03 21 35.3 -0.2**
baz=36,SNR=5.7
S24A Houchin Ranch, 36.24 347 ⇓P **P 03 21 35.8 +0.2**
baz=36
PDMCI Parker Dam,Lak 36.28 333 ⇓P **P 03 21 36.3 +0.7**
baz=36,SNR=6.2
BC3 Big Chuckawall 36.37 331 ⇑P **P 03 21 37.1 +0.7**
baz=37,SNR=9.2
SLM Saint Louis 36.37 7 *eP* **P 03 21 36.7 +0.4**
SLM Saint Louis 36.37 7 *eP* **P 03 21 36.7 +0.4**
R27A Eads 36.38 350 ⇓P **P 03 21 36.8 +0.3**
baz=36,SNR=5.4
CNNC Cliffs of the 36.47 24 *eP* **P 03 21 37.1 0.0**
comp=Z,117nm,1.5s
CNNC LR LR
comp=Z,2µm,22.0s
S23A Nye Farm, Mont 36.49 346 ⇓P **P 03 21 38.0 +0.3**
baz=37
R26A Arlington 36.51 349 ⇓P **P 03 21 38.2 +0.5**
baz=37,SNR=9.9
R25A Fountain Ranch 36.52 348 ⇑P **P 03 21 38.1 +0.3**
baz=37
KSU1 Kansas State U 36.55 358 *eP* **P 03 21 37.6 -0.3**
comp=Z,59nm,1.3s
KSU1 LR LR
comp=Z,4µm,20.0s
109C Camp Elliot, M 36.59 328 ⇓P **P 03 21 38.4 +0.2**
baz=37
WCI Wyandotte Cave 36.61 12 *eP* **P 03 21 37.9 -0.5**
WCI pmax pmax
comp=Z,119nm,1.1s
WCI Wyandotte Cave 36.61 12 *eP* **P 03 21 37.9 -0.5**
comp=Z,119nm,1.1s
IRM Iron Mountain 36.63 332 ⇓P **P 03 21 39.4 +0.7**
baz=37,SNR=16
MVCO Mesa Verde 36.72 342 *eP* **P 03 21 40.4 +0.8**
comp=Z,120nm,1.5s
MVCO LR LR
comp=Z,32µm,19.0s
MVCO Mesa Verde 36.72 342 ⇑P **P 03 21 39.9 +0.3**
baz=37,SNR=16
S22A 4UR Ranch, Cre 36.74 345 ⇓P **P 03 21 40.9 +1.0**
baz=37,SNR=16
OLIL Olney 36.76 9 *eP* **P 03 21 39.6 0.0**
comp=Z,63nm,1.1s
R24A Sanders Place, 36.78 347 ⇑P **P 03 21 40.7 +0.6**
baz=37,SNR=7.1
PFO Pinyon Flat Ob 36.82 330 *eP* **P 03 21 40.9 +0.5**
comp=Z,166nm,1.8s

PFO LR LR
comp=Z,25µm,21.0s
PFO Pinyon Flat Ob 36.82 330 P **P 03 21 40.9 +0.5**
comp=Z,135nm,1.2s,SNR=5.0
PFO Pinyon Flat Ob 36.82 330 ⇓P **P 03 21 40.7 +0.3**
baz=37,SNR=6.4
W13A Hualapai Mount 36.84 334 ⇓P **P 03 21 41.2 +0.5**
baz=37,SNR=11
NEE2 Needles Airpor 36.89 333 ⇓P **P 03 21 41.5 +0.7**
baz=37
R23A Moffat 36.91 346 ⇑P **P 03 21 42.0 +0.8**
baz=37,SNR=9.6
BELC Belle Mtn. Jos 36.91 331 ⇓P **P 03 21 41.9 +0.7**
baz=37,SNR=5.9
S21A Coal Bank Pass 36.93 343 ⇓P **P 03 21 42.0 +0.5**
baz=37,SNR=8.7
BBGH Gun Hill 36.93 71 PFAKE 03 21 50.0 +8.6
BBGH LR LR
comp=Z,6µm,20.0s
KSCO Kaye Shedlock' 37.05 351 ⇓P **P 03 21 42.8 +0.5**
baz=37,SNR=7.0
Q26A Hugo 37.12 349 ⇓P **P 03 21 43.4 +0.5**
baz=37
R22A Saguache, Gunn 37.18 345 ⇑P **P 03 21 44.6 +1.0**
baz=37,SNR=8.9
MURC Murrieta 37.20 329 ⇑P **P 03 21 43.8 +0.3**
baz=37
S20A Disappointment 37.25 343 ⇓P **P 03 21 44.8 +0.7**
baz=37,SNR=20
Q25A Bedland, Calha 37.26 348 ⇓P **P 03 21 44.2 +0.1**
baz=37
BLA Blacksburg 37.26 20 *eP* **P 03 21 44.2 +0.3**
BLA pmax pmax
comp=Z,170nm,1.9s
BLA MLR MLR
comp=Z,3µm,19.0s
BLA Blacksburg 37.26 20 *eP* **P 03 21 44.2 +0.3**
comp=Z,170nm,1.9s
BLA LR LR
comp=Z,3µm,19.0s
U15A North Rim 37.33 337 ⇑P **P 03 21 45.5 +0.7**
baz=38,SNR=12
LDFC Landfair 37.37 333 *eP* **P 03 21 47.1 +2.0**
comp=Z,290nm,2.5s
GMRC Granite Mounta 37.38 332 ⇓P **P 03 21 45.8 +0.7**
baz=38,SNR=11
SCI San Clemente I 37.43 327 ⇑P **P 03 21 45.7 +0.3**
baz=38
VWCC Virginia Weste 37.44 20 *eP* **P 03 21 45.7 +0.2**
BLO Bloomington 37.47 11 *eP* **P 03 21 45.5 -0.1**
BLO pmax pmax
comp=Z,133nm,1.4s
BLO Bloomington 37.47 11 *eP* **P 03 21 45.5 -0.1**
comp=Z,133nm,1.4s
Q24A Divide 37.49 347 ⇓P **P 03 21 46.4 +0.2**
baz=38
R21A Cimarron 37.52 344 ⇓P **P 03 21 47.1 +0.7**
baz=38,SNR=10
BBRC Big Bear Solar 37.58 330 ⇓P **P 03 21 46.9 0.0**
baz=38
P27A Ficken Ranch, 37.58 351 ⇓P **P 03 21 46.9 +0.1**
baz=38,SNR=8.4
R20A Redvale 37.59 343 ⇓P **P 03 21 47.3 +0.4**
baz=38,SNR=20
Q23A Hartsel 37.59 346 ⇓P **P 03 21 46.9 -0.2**
baz=38
PV01 Paradox Valley 37.59 343 *eP* **P 03 21 47.9 +0.8**
comp=Z,5µm,1.4s
S18A Hurst Farm, Bl 37.63 341 ⇓P **P 03 21 47.6 +0.2**
baz=38,SNR=7.7
CIS Catalina Islan 37.68 328 ⇓P **P 03 21 47.4 -0.1**
baz=38
P26A Davis Ranch, A 37.71 350 ⇓P **P 03 21 47.5 -0.4**
baz=38
HEC Hector,Ludlow 37.74 331 ⇑P **P 03 21 48.7 +0.6**
baz=38,SNR=8.6
Q22A Crested Butte, 37.81 345 ⇓P **P 03 21 49.2 +0.2**
baz=38,SNR=9.3
P25A Willow Gulch B 37.82 349 ⇓P **P 03 21 48.4 -0.4**
baz=38
FMP Fort Macarthur 37.85 328 ⇑P **P 03 21 49.0 +0.1**
baz=38
BFSC Mount Baldy Ra 37.93 329 ⇑P **P 03 21 49.9 +0.1**
baz=38
PV04 Paradox Valley 37.93 343 *eP* **P 03 21 50.8 +0.9**
Q21A Lamborn Mesa, 37.96 344 ⇓P **P 03 21 50.6 +0.5**
baz=38,SNR=6.4
P24A Kohler Place, 37.97 348 ⇓P **P 03 21 49.7 -0.4**
baz=38
P23A Jefferson 38.04 347 ⇑P **P 03 21 51.9 +1.0**
baz=38,SNR=7.6
TUQ Turquoise Moun 38.04 332 ⇓P **P 03 21 51.2 +0.5**
baz=38
RRX Edison Barstow 38.11 330 ⇓P **P 03 21 51.7 +0.6**
baz=38
MWC Mount Wilson 38.12 329 *eP* **P 03 21 52.6 +1.1**
MWC pmax pmax
comp=Z,81nm,1.5s
MWC Mount Wilson 38.12 329 *eP* **P 03 21 52.6 +1.1**
comp=Z,81nm,1.5s
SMCO Snowmass 38.13 345 *eP* **P 03 21 52.9 +1.1**
comp=Z,104nm,1.7s
PASC Pasana Art C 38.15 329 *eP* **P 03 21 51.1 -0.4**
comp=Z,106nm,1.6s
O27A Beecher Island 38.18 351 ⇓P **P 03 21 52.2 +0.4**
baz=38
Q20A Ridgley Place, 38.27 344 ⇓P **P 03 21 53.3 +0.7**
baz=38
DECC Green Verdugo 38.29 328 ⇑P **P 03 21 53.1 +0.4**
baz=38
GSC Goldstone 38.35 331 *eP* **P 03 21 53.4 +0.1**
GSC Goldstone 38.35 331 *eP* **P 03 21 53.4 +0.1**
GSC Goldstone 38.35 331 ⇓P **P 03 21 53.5 +0.1**
baz=38,SNR=5.6
O26A Horse Wrangler 38.37 350 ⇑P **P 03 21 53.8 +0.4**
baz=38
HDIL Hopedale 38.38 7 *eP* **P 03 21 53.4 +0.1**
comp=Z,105nm,0.9s
HDIL LR LR
comp=Z,4µm,20.0s
O25A Wiggins 38.39 349 ⇓P **P 03 21 53.7 +0.1**
baz=39,SNR=5.6
ISCO Idaho Springs 38.40 347 *eP* **P 03 21 54.7 +0.9**
ISCO pmax pmax
comp=Z,66nm,1.5s
ISCO MLR MLR
comp=Z,11µm,20.0s
ISCO Idaho Springs 38.40 347 *eP* **P 03 21 54.7 +0.9**
comp=Z,66nm,1.5s
ISCO LR LR
comp=Z,11µm,20.0s
ISCO Idaho Springs 38.40 347 ⇑P **P 03 21 53.8 0.0**
baz=39,SNR=15
P22A Eagle 38.47 346 ⇑P **P 03 21 54.7 +0.3**
baz=39,SNR=13
SFIN Scholer Farm 38.54 10 ⇑P **P 03 21 54.7 +0.1**
baz=39
Q19A Hogan Spring (38.56 342 ⇓P **P 03 21 55.0 0.0**
baz=39,SNR=14
BLG Laguna Peak 38.57 328 ⇑P **P 03 21 55.4 +0.4**
baz=39
P21A Newcastle 38.58 345 ⇓P **P 03 21 55.7 +0.5**
baz=39,SNR=7.1
SHOC Shoshone 38.59 332 ⇓P **P 03 21 55.7 +0.5**
baz=39
O24A Longmont 38.59 348 ⇑P **P 03 21 55.3 0.0**
baz=39,SNR=5.3
EDW2 Edwards Air Fo 38.60 329 ⇓P **P 03 21 55.6 +0.2**
baz=39,SNR=9.1
JSRW J. Sargeant Re 38.60 22 *eP* **P 03 21 55.4 +0.2**
CCUT Sugar City 38.73 337 *eP* **P 03 21 58.3 +1.7**
comp=Z,18nm,0.9s
OSI Osito Adit 38.77 328 ⇓P **P 03 21 57.4 +0.6**
baz=39
BSC Santa Cruz Isl 38.79 327 ⇓P **P 03 21 57.4 +0.5**
baz=39
N27A Anderson Farm, 38.79 351 ⇓P **P 03 21 57.0 0.0**
baz=39,SNR=6.4
P20A De Beque 38.81 344 ⇑P **P 03 21 57.6 +0.4**
baz=39,SNR=7.5
O23A Lake Granby, G 38.86 347 ⇑P **P 03 21 58.1 +0.4**
baz=39
OGNE Ogallala 38.86 352 *eP* **P 03 21 55.7 -1.7**
comp=Z,351nm,1.8s
OGNE LR LR
comp=Z,7µm,19.0s
OGNE Ogallala 38.86 352 ⇑P **P 03 21 57.8 +0.4**
baz=39

LRMC Laurel Mountai 38.92 330 ⇓P **P 03 21 58.6 +0.5**
baz=39
BGNE Belgrade 38.92 357 ⇓P **P 03 21 58.2 +0.3**
baz=39
N26A Koester Ranch, 38.93 350 ⇓P **P 03 21 58.3 +0.3**
baz=39
O22A Kremmling 38.95 346 ⇓P **P 03 21 58.1 -0.4**
baz=39,SNR=22
ARUT Antelope Range 38.96 337 *eP* **P 03 21 59.1 +0.6**
ARUT pmax pmax
comp=Z,112nm,1.4s
ARUT Antelope Range 38.96 337 *eP* **P 03 21 59.1 +0.6**
comp=Z,112nm,1.4s
N25A Grover 39.06 349 ⇓P **P 03 21 60.0 +0.7**
baz=39
SRU San Rafael 39.09 341 *eP* **P 03 22 00.4 +0.8**
SRU pmax pmax
comp=Z,64nm,1.5s
SRU San Rafael 39.09 341 *eP* **P 03 22 00.4 +0.8**
comp=Z,64nm,1.5s
SRU San Rafael 39.09 341 ⇑P **P 03 21 59.7 +0.2**
baz=39,SNR=8.6
P19A Cripple Cowboy 39.10 343 ⇑P **P 03 21 59.8 +0.1**
baz=39,SNR=12
MSU Marysvale 39.12 339 *eP* **P 03 22 00.8 +0.9**
MSU Marysvale 39.12 339 *eP* **P 03 22 00.8 +0.9**
MVU Marysvale 39.13 339 *eP* **P 03 22 00.7 +0.8**
comp=Z,57nm,1.6s
MVU LR LR
comp=Z,17µm,20.0s
LCO Las Campanas 39.13 145 *eP* **P 03 22 01.8 +1.7**
comp=Z,26nm,0.9s
LCO LR LR
comp=Z,14µm,20.0s
Q16A Castle Valley 39.13 340 ⇓P **P 03 22 00.7 +0.8**
baz=39,SNR=11
SBC Santa Barbara 39.17 327 ⇑P **P 03 22 00.6 +0.5**
baz=39
ARVC Arvin 39.23 329 ⇑P **P 03 22 01.4 +0.9**
baz=39
N24A Carr 39.23 348 ⇓P **P 03 22 01.4 +0.7**
baz=39
O21A Pagoda 39.23 345 ⇓P **P 03 22 01.5 +0.7**
baz=39
CBN Corbin 39.24 23 *eP* **P 03 22 00.9 +0.3**
comp=Z,77nm,1.1s
CBN LR LR
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 39.29 15 *eP* **P 03 22 00.8 -0.2**
comp=Z,525nm,2.1s
ACSO LR LR
comp=Z,3µm,22.0s
MPMC Manual Prospec 39.29 331 ⇑P **P 03 22 01.8 +0.5**
baz=40,SNR=15
FURC Furnace Creek, 39.32 332 ⇑P **P 03 22 01.7 +0.4**
baz=40,SNR=7.0
O20A White River Ci 39.36 344 ⇓P **P 03 22 02.3 +0.5**
baz=40,SNR=12
SCIA State Center 39.38 2 *eP* **P 03 22 03.0 +1.3**
SCIA LR LR
comp=Z,3µm,20.0s
ISA Isabella 39.46 330 *eP* **P 03 22 03.7 +1.1**
ISA *e* 03 24 12.2
ISA pmax pmax
comp=Z,70nm,1.7s
ISA Isabella 39.46 330 *eP* **P 03 22 03.7 +1.1**
comp=Z,70nm,1.7s
ISA *e*PcP **PcP 03 24 12.2 +1.7**
ISA Isabella 39.46 330 ⇓P **P 03 22 03.6 +1.1**
baz=40,SNR=5.1
P18A Preston Nutter 39.48 342 ⇓P **P 03 22 03.0 +0.1**
baz=40,SNR=14
M27A Reverse DX Ran 39.48 352 ⇓P **P 03 22 02.8 +0.1**
baz=40
TMUT Trail Mountain 39.49 340 *eP* **P 03 22 04.3 +1.2**
comp=Z,134nm,1.7s
P17A Butcher Ranch, 39.49 341 ⇓P **P 03 22 03.2 +0.3**
baz=40,SNR=5.2
R13A O'Grain Ranch, 39.51 337 ⇓P **P 03 22 04.2 +1.1**
baz=40,SNR=13
DAC Darwin (Calif) 39.52 331 *eP* **P 03 22 02.8 -0.4**
DAC pmax pmax
comp=Z,67nm,1.9s
DAC MLR MLR
comp=Z,15µm,21.0s
DAC Darwin (Calif) 39.52 331 *eP* **P 03 22 02.8 -0.4**
comp=Z,67nm,1.9s
DAC LR LR
comp=Z,15µm,21.0s
N23A Red Feather La 39.52 347 ⇑P **P 03 22 03.4 +0.3**
baz=40,SNR=9.8
M26A McRoberts Ranc 39.53 351 ⇑P **P 03 22 03.2 0.0**
baz=40
N22A Wattenberg Ran 39.54 347 ⇓P **P 03 22 03.9 +0.5**
baz=40,SNR=8.9
PKM Peak Mountain 39.57 328 ⇑P **P 03 22 03.8 +0.2**
baz=40
M25A Palm-Egli Farm 39.66 350 ⇓P **P 03 22 04.5 +0.2**
baz=40
O19A Miners Draw (B 39.76 343 ⇑P **P 03 22 05.6 +0.5**
baz=40,SNR=21
N21A Black Mountain 39.76 345 ⇑P **P 03 22 06.0 +0.8**
baz=40,SNR=8.1
PHWY Pilot Hill 39.80 348 *eP* **P 03 22 06.2 +0.6**
M24A Cheyenne 39.83 349 ⇑P **P 03 22 06.4 +0.7**
baz=40,SNR=7.4
CWC Cottonwood Cre 39.88 331 ⇑P **P 03 22 06.7 +0.6**
baz=40
VES Vestal, Richgr 39.91 329 ⇑P **P 03 22 06.7 +0.5**
baz=40,SNR=10.0
P16A Fountain Green 39.92 340 ⇑P **P 03 22 07.4 +0.9**
baz=40,SNR=6.3
SMMC Simmler 39.98 328 ⇓P **P 03 22 07.4 +0.6**
baz=40
O18A Roosevelt 39.99 342 ⇓P **P 03 22 07.4 +0.4**
baz=40,SNR=9.7
GRAC Grapevine Rang 39.99 332 ⇑P **P 03 22 07.7 +0.8**
baz=40,SNR=5.5
L27A T5 Ranch, Ells 40.01 352 ⇓P **P 03 22 07.2 +0.1**
baz=40
M23A Laramie 40.02 348 ⇑P **P 03 22 07.5 +0.2**
baz=40,SNR=8.8
N20A Spence Gulch, 40.02 345 ⇑P **P 03 22 07.7 +0.3**
baz=40,SNR=22
L26A Underwood Farm 40.08 351 ⇑P **P 03 22 07.9 +0.3**
baz=40
P15A Leamington 40.10 339 ⇑P **P 03 22 08.4 +0.4**
baz=40,SNR=6.9
M22A Cedar Creek Ra 40.15 347 ⇑P **P 03 22 08.6 +0.2**
baz=40
O17A Robinson Place 40.15 342 ⇑P **P 03 22 08.9 +0.5**
baz=40,SNR=9.1
MPU Maple Canyon 40.28 340 *eP* **P 03 22 10.6 +1.1**
comp=Z,66nm,1.5s
R11A Troy Canyon, C 40.31 335 ⇓P **P 03 22 10.4 +0.7**
baz=40,SNR=12
N19A John Jarvie Ra 40.32 344 ⇓P **P 03 22 09.8 0.0**
baz=40,SNR=22
L25A Engebretsen Ra 40.34 350 ⇓P **P 03 22 10.1 +0.3**
baz=40
RCTC Rector, Farmer 40.35 330 ⇑P **P 03 22 10.4 +0.5**
baz=40
O16A Springville 40.41 341 ⇑P **P 03 22 10.5 0.0**
baz=41
L24A Wheatland 40.41 349 ⇓P **P 03 22 10.5 0.0**
baz=41
TIN Tinemaha 40.44 331 ⇑P **P 03 22 10.9 +0.1**
baz=41
SDMD Soldier's Deli 40.50 22 *eP* **P 03 22 11.3 +0.3**
comp=Z,50nm,0.9s
DAU Daniels Canyon 40.51 341 *eP* **P 03 22 11.7 +0.2**
DAU Daniels Canyon 40.51 341 *eP* **P 03 22 11.7 +0.2**
M21A Separation Pea 40.52 346 ⇑P **P 03 22 11.2 -0.3**
baz=41
N18A Larsen Ranch, 40.54 343 ⇑P **P 03 22 11.7 +0.1**
baz=41,SNR=7.7
K27A Flueckinger Fa 40.61 352 ⇑P **P 03 22 11.8 -0.2**
baz=41
M20A Sweetwater, Wa 40.62 345 ⇓P **P 03 22 12.2 0.0**
baz=41,SNR=6.7
L23A Garrett 40.63 348 ⇑P **P 03 22 12.6 +0.2**
baz=41,SNR=8.5
L22A Ellis Ranch, M 40.71 347 ⇓P **P 03 22 13.3 +0.3**
baz=41
JLU Jordanelle 40.74 341 *eP* **P 03 22 14.4 +1.1**
comp=Z,63nm,1.7s
K26A Motz Farm, Whi 40.75 351 ⇑P **P 03 22 13.1 -0.1**
baz=41

K25A **Mack Ranch, Ha** 40.77 350 ⇓P P 03 22 13.0 -0.4
baz=41
O15A **The Old Anders** 40.80 340 ⇑P P 03 22 14.5 +0.8
baz=41,SNR=8.6
TPH **Tonopah** 40.80 333 PFAKE 03 22 30.0 +16
TPH LR LR
comp=Z,7µm,20.0s
DUG **Dugway** 40.84 339 eP P 03 22 14.8 +0.7
DUG pmax pmax
comp=Z,71nm,1.3s
DUG MLR MLR
comp=Z,18µm,20.0s
DUG **Dugway** 40.84 339 eP P 03 22 14.8 +0.7
comp=Z,71nm,1.3s
DUG LR LR
comp=Z,18µm,20.0s
DUG **Dugway** 40.84 339 ⇑P P 03 22 14.8 +0.7
baz=41,SNR=46
MTUM **Tungsten Hills** 40.84 331 eP P 03 22 13.1 -1.1
N17A **Moffit Pass** 40.86 342 ⇓P P 03 22 14.9 +0.5
baz=41,SNR=16
L21A **Rawlins** 40.86 346 ⇓P P 03 22 14.1 -0.2
baz=41,SNR=22
M19A **Rock Springs** 40.89 344 ⇑P P 03 22 14.1 -0.4
baz=41
N16A **Rees Ranch, Co** 41.00 341 ⇓P P 03 22 15.8 +0.4
baz=41
K24A **Anderson Ranch** 41.05 349 ⇑P P 03 22 16.1 +0.4
baz=41
M18A **Lyman** 41.07 343 ⇑P P 03 22 16.2 +0.2
baz=41
AAM **Ann Arbor** 41.08 13 eP P 03 22 15.3 -0.5
AAM pmax pmax
comp=Z,186nm,1.6s
AAM MLR MLR
comp=Z,2µm,19.0s
AAM **Ann Arbor** 41.08 13 eP P 03 22 15.3 -0.5
comp=Z,186nm,1.6s
AAM LR LR
comp=Z,2µm,19.0s
L20A **Wamsutter** 41.14 345 ⇑P P 03 22 16.4 -0.2
baz=41,SNR=9.0
ECSD **EROS Data Cent** 41.18 359 eP P 03 22 15.8 -0.8
comp=Z,40nm,1.0s
ECSD LR LR
comp=Z,4µm,22.0s
MLAC **Mammoth Lakes** 41.19 331 ⇓P P 03 22 17.3 +0.2
baz=41
MVL **Millersville** 41.20 22 eP P 03 22 17.1 +0.3
SSPA **Standing Stone** 41.20 20 eP P 03 22 16.6 -0.2
comp=Z,106nm,1.7s
K23A **Bowen Ranch, D** 41.23 348 ⇓P P 03 22 17.0 -0.3
baz=41
M17A **Scullys Gap (B** 41.29 342 ⇑P P 03 22 17.8 0.0
baz=42,SNR=5.8
K22A **Casper** 41.32 347 ⇑P P 03 22 18.3 +0.4
baz=42,SNR=8.7
N15A **Stansbury Isla** 41.36 340 ⇓P P 03 22 18.4 +0.1
baz=42,SNR=11
ALLY **Alegheny Colle** 41.39 17 eP P 03 22 18.1 -0.3
comp=Z,118nm,1.5s
BBSR **BB Station** 41.43 41 PFAKE 03 22 30.0 +11
BBSR LR LR
comp=Z,4µm,20.0s
M16A **Huntsville** 41.45 341 ⇓P P 03 22 19.2 +0.1
baz=42
K21A **Alcova** 41.47 347 ⇓P P 03 22 19.3 +0.1
baz=42,SNR=6.2
L19A **Farson** 41.50 344 ⇑P P 03 22 19.7 +0.2
baz=42,SNR=14
NV11 **Mina Array Sit** 41.52 333 eP P 03 22 20.1 +0.5
L18A **Fontenelle, Gr** 41.52 343 ⇓P P 03 22 19.1 -0.6
baz=42,SNR=9.8
NVAR **Mina Array Bea** 41.58 332 P P 03 22 20.5 +0.3
comp=Z,5.7nm,0.7s,baz=156,slow=8.9,SNR=36
NVAR PcP PcP 03 24 16.6 -0.9
comp=Z,2.1nm,1.0s,baz=150,slow=6.3,SNR=3.2
NVAR S S 03 28 34.9 -1.8
comp=Z,0.1nm,0.2s,baz=217,slow=4.4,SNR=2.5
NVAR **Mina Array Bea** 41.58 332 P P 03 22 20.5 +0.3
NVAR PcP PcP 03 24 16.6 -0.9
NVAR S S 03 28 34.9 -1.8
J24A **Dixon Ranch, L** 41.61 350 ⇑P P 03 22 19.9 -0.3
baz=42
HWUT **Hardware Ranch** 41.69 342 eP P 03 22 21.3 +0.2
comp=Z,144nm,1.7s
HWUT LR LR
comp=Z,11µm,20.0s
K20A **Yellowstone Ra** 41.75 346 ⇓P P 03 22 21.0 -0.5
baz=42,SNR=16
J23A **Dilts Ranch, B** 41.84 349 ⇓P P 03 22 21.9 -0.4
baz=42
SAO **San Andreas Ge** 41.84 328 eP P 03 22 23.7 +1.5
SAO pmax pmax
comp=Z,37nm,1.4s
SAO **San Andreas Ge** 41.84 328 eP P 03 22 23.7 +1.5
comp=Z,37nm,1.4s
M15A **Larsen Ranch,** 41.85 341 ⇓P P 03 22 22.5 +0.2
baz=42,SNR=11
ERPA **Erie** 41.87 17 eP P 03 22 21.9 -0.4
comp=Z,254nm,1.9s
ERPA LR LR
comp=Z,3µm,21.0s
L17A **Cokeville** 41.93 343 ⇓P P 03 22 22.5 -0.5
baz=42,SNR=12
BRSD **Miller** 42.00 356 ⇑P P 03 22 22.4 -0.9
baz=42
L16A **Fish Haven** 42.02 342 ⇓P P 03 22 23.8 0.0
baz=42,SNR=7.8
K19A **Absolon Red Bu** 42.04 345 ⇓P P 03 22 23.4 -0.5
baz=42,SNR=16
J22A **Midwest** 42.04 348 ⇑P P 03 22 23.7 -0.1
baz=42,SNR=17
I24A **Kuemmerle Ranc** 42.11 350 ⇑P P 03 22 24.2 -0.2
baz=42
BW06 **Boulder Array** 42.17 344 PFAKE 03 22 40.0 +15
BW06 LR LR
comp=Z,37µm,19.0s
BW06 **Boulder Array** 42.17 344 ⇓P P 03 22 24.8 -0.2
baz=42,SNR=13
PDAR **Pinedale Array** 42.17 344 P P 03 22 24.7 -0.3
comp=Z,6.1nm,0.8s,baz=151,slow=7.8,SNR=48
PDAR S S 03 28 46.1 +0.8
comp=Z,0.3nm,0.8s,baz=187,slow=14,SNR=2.3
PDAR **Pinedale Array** 42.17 344 P P 03 22 24.7 -0.3
PDAR S S 03 28 46.1 +0.8
K18A **Toltan Ranch,** 42.18 344 ⇑P P 03 22 25.3 +0.2
baz=42,SNR=18
J21A **Lysite** 42.19 347 ⇑P P 03 22 25.4 +0.3
baz=42,SNR=11
ELK **Elko** 42.22 337 eP P 03 22 26.4 +0.9
HVU **Hansel Valley** 42.24 340 eP P 03 22 26.5 +1.0
HVU pmax pmax
comp=Z,79nm,1.1s
HVU **Hansel Valley** 42.24 340 eP P 03 22 26.5 +1.0
comp=Z,79nm,1.1s
RSSD **Black Hills** 42.27 351 eP P 03 22 25.9 +0.1
RSSD pmax pmax
comp=Z,44nm,1.5s
RSSD **Black Hills** 42.27 351 eP P 03 22 25.9 +0.1
comp=Z,44nm,1.5s
CMB **Columbia Colle** 42.27 330 eP P 03 22 26.5 +0.8
CMB pmax pmax
comp=Z,60nm,2.0s
CMB **Columbia Colle** 42.27 330 eP P 03 22 26.5 +0.8
comp=Z,60nm,2.0s
L15A **Malad City** 42.31 341 ⇑P P 03 22 26.0 -0.1
baz=42,SNR=20
J20A **Shoshoni** 42.34 346 ⇑P P 03 22 26.1 -0.2
baz=42
I23A **Meade Ranch, G** 42.36 349 ⇑P P 03 22 26.5 0.0
baz=42
CFAA **Coronel Fontan** 42.48 145 LR LR 03 36 42.1
comp=Z,2µm,18.1s,baz=346,slow=31
I22A **9 Mile Ranch,** 42.50 348 ⇓P P 03 22 28.1 +0.5
baz=43,SNR=7.7
J19A **Crowheart** 42.50 345 ⇑P P 03 22 27.9 +0.3
baz=43,SNR=5.2
K17A **Gardner Place,** 42.54 343 ⇓P P 03 22 27.7 -0.3
baz=43
I21A **Big Trails, Te** 42.60 347 ⇑P P 03 22 28.5 +0.1
baz=43,SNR=14
AHID **Auburn Hatcher** 42.60 343 PFAKE 03 22 40.0 +11
AHID LR LR
comp=Z,15µm,22.0s
L14A **Malta** 42.62 340 ⇑P P 03 22 28.7 +0.1
baz=43,SNR=12

J18A **Kendall Valley** 42.71 344 ⇓P P 03 22 29.2 -0.2
baz=43,SNR=23
SPMN **St. Paul** 42.71 3 ⇓P P 03 22 28.5 -0.6
baz=43
BMN **Battle Mountai** 42.75 335 eP P 03 22 29.9 +0.2
BMN pmax pmax
comp=Z,106nm,1.5s
BMN MLR MLR
comp=Z,10µm,19.0s
BMN **Battle Mountai** 42.75 335 eP P 03 22 29.9 +0.2
comp=Z,106nm,1.5s
BMN LR LR
comp=Z,10µm,19.0s
K16A **Soda Springs** 42.81 342 ⇑P P 03 22 30.1 -0.1
baz=43,SNR=7.9
I20A **Worland** 42.92 346 ⇓P P 03 22 30.9 -0.1
baz=43,SNR=18
H23A **Clabaugh Cattl** 42.93 349 ⇑P P 03 22 30.7 -0.3
baz=43
WCN **Washoe City** 42.96 332 eP P 03 22 30.3 -1.1
WCN pmax pmax
comp=Z,18nm,1.2s
WCN **Washoe City** 42.96 332 eP P 03 22 30.3 -1.1
comp=Z,18nm,1.2s
H24A **Dirks Ranch, A** 42.96 350 ⇑P P 03 22 30.8 -0.5
baz=43,SNR=15
K15A **Arbon** 42.97 341 ⇓P P 03 22 30.9 -0.6
baz=43
PAL **Palisades** 43.01 24 eP P 03 22 31.0 -0.6
PAL pmax pmax
comp=Z,23nm,0.9s
PAL **Palisades** 43.01 24 eP P 03 22 31.0 -0.6
comp=Z,23nm,0.9s
J17A **Brown Place, J** 43.04 344 ⇑P P 03 22 31.9 -0.1
baz=43,SNR=17
K14A **Jones Ranch, D** 43.06 341 ⇑P P 03 22 31.9 -0.2
baz=43,SNR=6.2
REDW **Red Top Meadow** 43.08 343 eP P 03 22 32.6 +0.2
comp=Z,110nm,1.5s
I18A **Diamond G Ranc** 43.11 345 ⇓P P 03 22 32.3 -0.3
baz=43,SNR=15
SNOW **Snow King Moun** 43.14 344 eP P 03 22 33.2 +0.2
comp=Z,182nm,1.7s
H22A **Clearmont** 43.15 348 ⇓P P 03 22 32.6 -0.2
baz=43,SNR=7.2
RRI2 **Red Ridge** 43.20 343 eP P 03 22 33.5 +0.1
comp=Z,130nm,1.8s
I19A **Meeteetse** 43.21 346 ⇑P P 03 22 33.6 +0.2
baz=43,SNR=9.3
J16A **Bone** 43.22 343 ⇑P P 03 22 33.4 -0.1
baz=43
TPAW **Teton Pass** 43.23 343 eP P 03 22 33.6 0.0
comp=Z,49nm,1.3s
LOHW **Long Hollow** 43.24 344 eP P 03 22 33.7 0.0
comp=Z,100nm,1.5s
BINY **Binghamton** 43.25 21 eP P 03 22 33.4 -0.1
comp=Z,32nm,0.9s
BINY LR LR
comp=Z,3µm,19.0s
GLMI **Grayling** 43.30 11 eP P 03 22 33.0 -0.9
comp=Z,51nm,0.8s
GLMI LR LR
comp=Z,3µm,19.0s
H21A **Big Horn, Sher** 43.32 348 ⇑P P 03 22 33.7 -0.5
baz=44
DCID1 **Drake Creek** 43.39 343 eP P 03 22 34.5 -0.4
comp=Z,53nm,0.9s
H20A **Greybull** 43.40 347 ⇑P P 03 22 34.5 -0.3
baz=44,SNR=13
MOOW **Moose Ponds** 43.41 344 eP P 03 22 34.9 -0.1
comp=Z,29nm,1.1s
G24A **Alzada** 43.50 351 ⇑P P 03 22 35.2 -0.5
baz=44
I17A **Pilgrim Ck.** 43.52 344 ⇓P P 03 22 35.7 -0.2
baz=44,SNR=13
G23A **Biddle** 43.55 350 ⇓P P 03 22 35.0 -0.9
baz=44
J15A **Blackfoot** 43.59 342 ⇓P P 03 22 36.0 -0.4
baz=44,SNR=11
IMW **Indian Meadow** 43.60 344 eP P 03 22 36.1 -0.6
comp=Z,76nm,1.5s
FLWY **Flagg Ranch** 43.70 344 eP P 03 22 37.3 -0.1
comp=Z,119nm,1.8s
G22A **Birney** 43.73 349 ⇑P P 03 22 36.9 -0.6
baz=44,SNR=7.5
I16A **Newdale** 43.73 343 ⇑P P 03 22 37.7 +0.1
baz=44,SNR=18
H19A **Powell** 43.80 346 ⇑P P 03 22 38.0 -0.1
baz=44,SNR=14
COWI **Conover** 43.86 6 eP P 03 22 37.4 -1.0
comp=Z,235nm,2.2s
COWI LR LR
comp=Z,4µm,19.0s
J14A **Carey** 43.87 341 ⇑P P 03 22 38.2 -0.5
baz=44
G21A **Lodge Grass** 43.92 348 ⇓P P 03 22 38.6 -0.4
baz=44
H17A **Grant Village** 43.96 344 ⇓P P 03 22 39.8 +0.3
baz=44,SNR=12
H18A **Shoshone NF, C** 43.98 345 ⇑P P 03 22 38.8 -0.8
baz=44
F24A **Ekalaka** 44.01 351 ⇑P P 03 22 39.1 -0.6
baz=44
F23A **Volborg** 44.05 350 ⇓P P 03 22 39.2 -0.8
baz=44,SNR=24
LKWY **Lake** 44.07 344 eP P 03 22 41.3 +0.9
LKWY pmax pmax
comp=Z,22nm,0.6s
LKWY MLR MLR
comp=Z,35µm,19.0s
LKWY **Lake** 44.07 344 eP P 03 22 41.3 +0.9
comp=Z,22nm,0.6s
LKWY LR LR
comp=Z,35µm,19.0s
YFT **Old Faithful** 44.08 344 eP P 03 22 40.9 +0.4
comp=Z,232nm,2.1s
G20A **Bridger** 44.14 347 ⇑P P 03 22 40.1 -0.7
baz=44,SNR=7.8
I15A **Monteview** 44.15 342 ⇓P P 03 22 41.2 +0.3
baz=44,SNR=8.3
J13A **Cove Ranch, Pi** 44.15 340 ⇑P P 03 22 40.7 -0.2
baz=44
F22A **Rosebud** 44.27 349 ⇓P P 03 22 41.1 -0.6
baz=44
YNR **Norris Junctio** 44.28 344 eP P 03 22 41.6 -0.4
comp=Z,63nm,1.5s
RLMT **Red Lodge** 44.30 346 eP P 03 22 42.1 0.0
comp=Z,429nm,2.5s
RLMT LR LR
comp=Z,9µm,19.0s
RLMT **Red Lodge** 44.30 346 ⇑P P 03 22 42.0 -0.2
baz=44,SNR=5.9
YMR **Madison River** 44.31 344 eP P 03 22 43.0 +0.7
comp=Z,190nm,1.6s
HLID **Hailey** 44.38 340 eP P 03 22 42.6 -0.2
comp=Z,102nm,1.8s
HLID LR LR
comp=Z,17µm,19.0s
HLID **Hailey** 44.38 340 ⇓P P 03 22 42.8 0.0
baz=45,SNR=15
I14A **Mackay** 44.38 341 ⇑P P 03 22 43.1 +0.2
baz=45,SNR=13
H16A **Russell Place,** 44.43 344 ⇑P P 03 22 43.4 +0.2
baz=45,SNR=18
F21A **Absaloka Mine,** 44.48 348 ⇑P P 03 22 42.5 -0.9
baz=45
SADO **Sadowa** 44.55 16 LR LR 03 40 49.5
comp=Z,3µm,20.3s,baz=190,slow=36
G18A **Lazy EL Ranch,** 44.55 346 ⇓P P 03 22 43.6 -0.5
baz=45
TRY **Troy** 44.57 23 eP P 03 22 43.9 -0.2
comp=Z,181nm,1.2s
I13A **Wildhorse Cree** 44.59 341 ⇑P P 03 22 44.7 +0.2
baz=45,SNR=17
QLMT **Earthquake Lak** 44.59 344 eP P 03 22 45.8 +1.2
comp=Z,12nm,1.4s
F20A **Billings** 44.67 347 ⇓P P 03 22 44.0 -1.1
baz=45
E24A **Baker** 44.69 351 ⇑P P 03 22 44.5 -0.6
baz=45
QUA2 **Belchertown** 44.72 24 eP P 03 22 45.0 -0.3
comp=Z,53nm,0.9s
MFID **Camas Ranch** 44.74 339 eP P 03 22 46.0 +0.4
comp=Z,33nm,1.1s
MFID **Camas Ranch** 44.74 339 ⇓P P 03 22 45.6 0.0
baz=45,SNR=10
H15A **Lima** 44.75 342 ⇓P P 03 22 46.3 +0.5
baz=45,SNR=17

BRYW **Bryant College** 44.76 25 eP P 03 22 45.7 +0.1
comp=Z,51nm,1.1s
E23A **Ismay** 44.79 350 ⇓P P 03 22 45.3 -0.5
baz=45
I12A **Atlanta** 44.83 340 ⇓P P 03 22 46.8 +0.4
baz=45,SNR=21
E22A **Miles City** 44.84 350 ⇑P P 03 22 46.0 -0.3
baz=45,SNR=13
G17A **Pierce Place,** 44.86 345 ⇓P P 03 22 47.1 +0.5
baz=45,SNR=15
F19A **Roth Farm, Mol** 44.91 346 ⇓P P 03 22 46.5 -0.4
baz=45,SNR=6.8
H14A **Leadore** 44.98 342 ⇑P P 03 22 47.8 +0.2
baz=45,SNR=13
MCMT **McKenzie Canyo** 45.01 342 eP P 03 22 48.2 +0.3
comp=Z,14nm,1.1s
GCMT **Greycliff** 45.02 346 eP P 03 22 47.7 -0.1
comp=Z,76nm,1.4s
G16A **Moss Hill, Enn** 45.06 344 ⇑P P 03 22 48.2 0.0
baz=45
ACCN **Adirondack Com** 45.13 22 eP P 03 22 47.4 -1.2
comp=Z,251nm,2.0s
F18A **Big Timber** 45.14 346 ⇓P P 03 22 48.8 +0.1
baz=45,SNR=12
E21A **Keefer Ranch,** 45.16 349 ⇑P P 03 22 48.4 -0.4
baz=45
KIPM **Iron Peak** 45.18 329 eP P 03 22 47.4 -1.9
comp=Z,314nm,2.4s
G15A **Dillon** 45.20 343 ⇑P P 03 22 49.6 +0.2
baz=45,SNR=7.2
H13A **Challis** 45.21 341 ⇑P P 03 22 49.8 +0.4
baz=45,SNR=15
D24A **Glendive** 45.23 351 ⇑P P 03 22 49.7 +0.3
baz=45,SNR=13
WES **Weston** 45.23 25 eP P 03 22 49.2 -0.2
WES pmax pmax
comp=Z,82nm,1.3s
WES **Weston** 45.23 25 eP P 03 22 49.2 -0.2
comp=Z,82nm,1.3s
HRV **Adam Dziewonsk** 45.23 25 eP P 03 22 49.3 -0.1
HRV pmax pmax
comp=Z,28nm,0.9s
HRV **Adam Dziewonsk** 45.23 25 eP P 03 22 49.3 -0.1
comp=Z,28nm,0.9s
MOD **Modoc** 45.28 334 eP P 03 22 50.4 +0.4
comp=Z,87nm,1.6s
E20A **Meyer Farm, Mu** 45.34 348 ⇑P P 03 22 50.2 0.0
baz=46,SNR=14
F17A **Fitzpatrick Pl** 45.38 345 ⇑P P 03 22 51.0 +0.3
baz=46,SNR=16
H12A **Diamond D Ranc** 45.40 340 ⇑P P 03 22 51.0 +0.1
baz=46,SNR=13
BOZ **Bozeman (W)** 45.40 344 eP P 03 22 50.6 -0.3
BOZ pmax pmax
comp=Z,63nm,1.6s
BOZ MLR MLR
comp=Z,20µm,20.0s
BOZ **Bozeman (W)** 45.40 344 eP P 03 22 50.6 -0.3
comp=Z,62nm,1.6s
BOZ LR LR
comp=Z,20µm,20.0s
BOZ **Bozeman (W)** 45.40 344 ⇓P P 03 22 50.8 -0.1
baz=46,SNR=9.9
DLMT **Dillon** 45.41 343 eP P 03 22 51.5 +0.5
comp=Z,44nm,1.2s
NCB **Newcomb** 45.43 21 eP P 03 22 50.3 -0.6
comp=Z,301nm,2.2s
NCB LR LR
comp=Z,2µm,20.0s
D23A **Lindsay** 45.43 351 ⇓P P 03 22 50.9 -0.1
baz=46
MDND **Maddock** 45.43 356 ⇑P P 03 22 50.7 -0.2
baz=46,SNR=11
E19A **Rath Farm, Rou** 45.44 347 ⇓P P 03 22 51.0 -0.2
baz=46,SNR=18
EYMN **Ely** 45.50 4 eP P 03 22 49.7 -1.7
comp=Z,205nm,2.0s
EYMN LR LR
comp=Z,6µm,19.0s
F16A **Kennard Place,** 45.52 344 ⇑P P 03 22 51.5 -0.3
baz=46
G14A **Jackson** 45.57 342 ⇑P P 03 22 51.6 -0.7
baz=46
D22A **Cohagen** 45.57 350 ⇑P P 03 22 51.7 -0.4
baz=46,SNR=17
D21A **La Casta Ranch** 45.64 349 ⇓P P 03 22 52.5 -0.2
baz=46,SNR=17
C24A **Savage** 45.65 351 ⇑P P 03 22 52.9 +0.2
baz=46,SNR=15
G13A **Cobalt** 45.68 341 ⇑P P 03 22 52.9 -0.2
baz=46,SNR=8.3
AGMN **Agassiz Nation** 45.73 359 eP P 03 22 52.3 -0.9
comp=Z,360nm,1.9s
AGMN LR LR
comp=Z,4µm,22.0s
LRM **Limekiln Ridge** 45.79 343 eP P 03 22 53.7 -0.3
comp=Z,355nm,1.5s
E18A **Harlowton** 45.81 346 ⇑P P 03 22 53.7 -0.3
baz=46,SNR=6.9
F15A **Butte** 45.82 343 ⇑P P 03 22 53.7 -0.5
baz=46
MDV **Middlebury** 45.84 22 eP P 03 22 53.1 -1.0
comp=Z,3µm,0.9s
LONY **Lake Ozonia** 45.86 21 eP P 03 22 53.8 -0.6
comp=Z,133nm,1.8s
LONY ePcP PcP 03 24 30.9 -0.7
LONY LR LR
comp=Z,5µm,20.0s
D20A **Manuel Ranch,** 45.90 348 ⇑P P 03 22 54.4 -0.3
baz=46,SNR=11
E17A **Martinsdale** 45.95 345 ⇑P P 03 22 55.2 0.0
baz=46
FFD **Franklin Falls** 45.99 24 eP P 03 22 55.0 -0.4
comp=Z,16nm,0.8s
C23A **Lambert** 46.03 351 ⇓P P 03 22 55.3 -0.4
baz=46,SNR=11
F14A **Wisdom** 46.05 342 ⇓P P 03 22 55.6 -0.5
baz=46
G12A **Big Creek, Yel** 46.07 340 ⇓P P 03 22 55.7 -0.5
baz=46
C22A **Vida** 46.10 350 ⇓P P 03 22 55.9 -0.3
baz=46,SNR=16
KHMM **Horse Mountain** 46.11 330 eP P 03 22 57.7 +1.1
comp=Z,20nm,0.8s
D19A **Cripps Ranch,** 46.13 347 ⇑P P 03 22 56.0 -0.5
baz=46,SNR=21
RKT **Rikitea** 46.23 234 eS S 03 29 45.6 +1.2
comp=Z,2µm,28.2s
RKT eLR LR 03 36 06.5
comp=Z,13µm,28.8s,baz=52
E16A **East Helena** 46.23 344 ⇓P P 03 22 57.2 -0.2
baz=46,SNR=10
YBH **Yreka Blue Hor** 46.26 332 LR LR 03 40 04.0
comp=Z,8µm,21.4s,baz=150,slow=33
F13A **Darby** 46.33 342 ⇓P P 03 22 57.7 -0.4
baz=46,SNR=5.3
D18A **Linhart Farms,** 46.37 346 ⇑P P 03 22 58.0 -0.4
baz=46,SNR=10.0
C21A **Desert Coulee** 46.39 349 ⇓P P 03 22 58.2 -0.4
baz=47,SNR=18
E15A **Deer Lodge** 46.40 343 ⇓P P 03 22 58.4 -0.3
baz=47
FRNY **Flat Rock** 46.40 21 eP P 03 22 58.3 -0.3
comp=Z,236nm,2.0s
C20A **Veseth Ranch,** 46.46 348 ⇓P P 03 22 58.8 -0.3
baz=47,SNR=14
CPUP **Villa Florida** 46.48 130 P P 03 22 59.6 +0.1
comp=Z,7.1nm,0.9s,baz=271,slow=12,SNR=7.2
CPUP S S 03 29 53.6 +5.6
comp=Z,0.3nm,0.4s,baz=29,slow=9.2,SNR=2.1
CPUP LR LR 03 42 32.3
comp=Z,2µm,18.3s,baz=303,slow=36
CPUP **Villa Florida** 46.48 130 P P 03 22 59.6 +0.1
CPUP S S 03 29 53.6 +5.6
BMO **Blue Mountains** 46.52 338 eP P 03 22 58.4 -1.2
comp=Z,41nm,1.9s
BMO LR LR
comp=Z,10µm,20.0s
LBNH **Lisbon** 46.52 23 PFAKE 03 23 10.0 +10
LBNH LR LR
comp=Z,3µm,21.0s
DGMT **Dagmar** 46.54 352 eP P 03 22 59.4 -0.3
comp=Z,66nm,1.1s
DGMT LR LR
comp=Z,7µm,20.0s
DGMT **Dagmar** 46.54 352 ⇓P P 03 22 59.7 +0.1
baz=47,SNR=9.2
D17A **Six Diamond Ra** 46.54 346 ⇑P P 03 22 59.4 -0.5

baz=47,SNR=14
F12A Elk City 46.60 341 ⇓P **P 03 22 59.3 -0.9**
baz=47,SNR=6.5
E14A Clinton 46.63 343 ⇓P **P 03 23 00.1 -0.5**
baz=47
B23A Brockton 46.65 351 ⇑P **P 03 22 59.9 -0.7**
baz=47
B22A Reddig Ranch S 46.65 350 ⇑P **P 03 23 00.4 -0.2**
baz=47
D16A Dana Ranch, Ca 46.65 345 ⇑P **P 03 23 00.1 -0.6**
baz=47,SNR=8.9
C19A Slack Wire Ran 46.71 347 ⇑P **P 03 23 00.6 -0.4**
baz=47,SNR=12
E13A Victor 46.87 342 ⇑P **P 03 23 01.5 -0.9**
baz=47,SNR=9.8
D15A Lincoln 46.92 344 ⇓P **P 03 23 02.4 -0.5**
baz=47,SNR=12
A24A Westby 46.95 352 ⇑P **P 03 23 02.5 -0.4**
baz=47,SNR=14
B21A Ellsworth Farm 46.96 349 ⇓P **P 03 23 02.3 -0.6**
baz=47
C17A Wharram Farm, 47.01 346 ⇑P **P 03 23 02.8 -0.7**
baz=47,SNR=13
CHMT Chamberlain Mo 47.02 343 *e*P **P 03 23 03.1 -0.5**
comp=Z,59nm,1.7s
A23A Redstone 47.11 351 ⇓P **P 03 23 03.7 -0.4**
baz=47
EGMT Eagleton 47.14 347 *e*P **P 03 23 03.9 -0.5**
comp=Z,124nm,1.8s
EGMT LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 47.14 347 ⇑P **P 03 23 04.0 -0.4**
baz=47,SNR=5.5
MSO Missoula 47.14 343 *e*P **P 03 23 04.4 -0.1**
comp=Z,55nm,1.6s
MSO LR LR
comp=Z,6μm,20.0s
MSO Missoula 47.14 343 ⇑P **P 03 23 04.1 -0.4**
baz=47,SNR=9.9
B20A Solberg Farm, 47.16 348 ⇓P **P 03 23 03.8 -0.8**
baz=47,SNR=25
D14A Greenough 47.24 343 ⇑P **P 03 23 04.7 -0.6**
baz=47,SNR=16
E12A Beaver Dam Sad 47.28 341 ⇑P **P 03 23 04.8 -0.8**
baz=48
A22A Carney Farms, 47.31 350 ⇓P **P 03 23 05.7 -0.1**
baz=48,SNR=15
B19A Brinkman Farms 47.37 348 ⇑P **P 03 23 05.4 -0.8**
baz=48,SNR=6.9
SLMT Seeley Lake 47.38 343 *e*P **P 03 23 06.4 -0.1**
comp=Z,73nm,1.5s
C16A Fuhringer Ranc 47.41 345 ⇑P **P 03 23 06.1 -0.6**
baz=48,SNR=8.6
A21A Bergtoll Ranch 47.48 350 ⇑P **P 03 23 06.6 -0.4**
baz=48,SNR=18
B18A Beardsley Farm 47.49 347 ⇑P **P 03 23 06.8 -0.4**
baz=48,SNR=6.6
D13A Huson 47.53 342 ⇑P **P 03 23 07.1 -0.4**
baz=48,SNR=5.7
A20A Cobblestone Ra 47.56 349 ⇑P **P 03 23 07.2 -0.5**
baz=48,SNR=14
C15A Salmond Ranch, 47.62 344 ⇑P **P 03 23 07.8 -0.5**
baz=48,SNR=8.5
B17A L&G Farms, Che 47.63 346 ⇑P **P 03 23 07.5 -0.8**
baz=48,SNR=5.5
ULM Lac du Bonnet 47.69 360 P **P 03 23 07.3 -1.2**
comp=Z,12nm,0.7s,baz=186,slow=9.3,SNR=34
ULM S S 03 29 57.4 -7.1
comp=Z,1.2nm,0.7s,baz=276,slow=9.2,SNR=1.8
ULM LR LR 03 43 09.0
comp=Z,3μm,18.2s,baz=175,slow=36
ULM Lac du Bonnet 47.69 360 P **P 03 23 07.3 -1.2**
ULM S S 03 29 57.4 -7.1
SWMT Swartz Lake 47.77 343 *e*P **P 03 23 09.2 -0.2**
comp=Z,26nm,1.0s
A19A Klindworth Far 47.77 348 ⇑P **P 03 23 09.0 -0.3**
baz=48,SNR=17
D12A Red Ives Fores 47.77 342 ⇑P **P 03 23 07.9 -1.5**
baz=48
C14A Swan Lake 47.93 343 ⇓P **P 03 23 09.6 -1.0**
baz=48
B16A M & M Farms, S 47.97 345 ⇑P **P 03 23 10.2 -0.7**
baz=48
A18A Metzger Ranch, 48.00 347 ⇑P **P 03 23 10.3 -0.8**
baz=48,SNR=9.6
JTMT Jette 48.07 343 *e*P **P 03 23 11.2 -0.5**
comp=Z,29nm,1.3s
C13A Hot Springs 48.09 343 ⇓P **P 03 23 11.1 -0.8**
baz=48
YBMT Yellow Bay 48.09 343 *e*P **P 03 23 11.8 -0.1**
comp=Z,72nm,1.5s
B15A Bradely Ranch, 48.10 345 ⇑P **P 03 23 11.0 -0.9**
baz=48,SNR=9.7
A17A Triple J Farms 48.22 346 ⇓P **P 03 23 12.3 -0.5**
baz=48,SNR=16
BSMT Bassoo Peak 48.31 342 *e*P **P 03 23 12.7 -1.0**
comp=Z,115nm,2.0s
BLMT Blacktail Moun 48.33 343 *e*P **P 03 23 14.2 +0.4**
comp=Z,176nm,1.7s
B14A Marquette Ranc 48.34 344 ⇓P **P 03 23 12.2 -1.6**
baz=48
C12B Naegeli Ranch, 48.40 342 ⇑P **P 03 23 13.8 -0.4**
baz=49
A16A West Butte Ran 48.44 346 ⇑P **P 03 23 14.2 -0.3**
baz=49
PLCA Paso Flores 48.51 155 P **P 03 23 16.7 +1.6**
comp=Z,13nm,1.2s,baz=314,slow=9.5,SNR=7.2
PLCA S S 03 30 11.9 -4.6
comp=Z,1.3nm,1.0s,baz=0.0,slow=18,SNR=2.0
PLCA Paso Flores 48.51 155 *e*P **P 03 23 16.6 +1.6**
comp=Z,40nm,1.5s
PLCA S S 03 30 11.9 -4.6
HAWA Hanford 48.66 338 *e*P **P 03 23 15.4 -0.7**
comp=Z,17nm,1.1s
HAWA LR LR
comp=Z,10μm,20.0s
B13A Whitefish 48.69 343 ⇓P **P 03 23 16.5 +0.1**
baz=49,SNR=17
A15A Johnson Ranch, 48.76 345 ⇓P **P 03 23 16.4 -0.6**
baz=49,SNR=14
C11A Tepee Creek (N 48.76 341 ⇓P **P 03 23 16.7 -0.2**
baz=49
A14A Double T Ranch 48.94 344 ⇓P **P 03 23 18.0 -0.3**
baz=49
B12A Libby 49.11 342 ⇑P **P 03 23 19.2 -0.4**
baz=49
WALA Waterton Lakes 49.15 344 *e*P **P 03 23 20.0 0.0**
comp=Z,4.7nm,2.0s
A13A Flathead Natio 49.17 343 ⇓P **P 03 23 19.8 -0.4**
baz=49
NEW Newport 49.41 341 *e*P **P 03 23 21.1 -0.8**
comp=Z,128nm,1.9s
NEW LR LR
comp=Z,9μm,19.0s
NEW Newport 49.41 341 ⇓P **P 03 23 21.7 -0.2**
baz=50
A12A Yaak River Ran 49.54 342 ⇓P **P 03 23 22.9 0.0**
baz=50
BDFB Brasilia 50.07 113 P **P 03 23 26.6 -1.0**
comp=Z,6.5nm,0.9s,baz=281,slow=12,SNR=7.6
BDFB S S 03 30 40.5 +1.1
comp=Z,1.4nm,0.5s,baz=107,slow=17,SNR=1.6
BDFB LR LR 03 44 14.6
comp=Z,13μm,20.4s,baz=73,slow=36
BDFB Brasilia 50.07 113 P **P 03 23 26.6 -1.0**
BDFB S S 03 30 40.5 +1.1
TRQA Tornquist 50.68 146 *e*P **P 03 23 32.6 +0.9**
comp=Z,16nm,1.0s
TRQA LR LR
comp=Z,12μm,19.0s
LPA La Plata 51.03 140 *ce*P **P 03 23 37.0 +2.7**
LPA PPP PPP 03 26 28.0
LPA PS PSn 03 31 02.0
LPA
comp=Z,8μm,20.0s
FFC Flin Flon 52.45 355 *e*P **P 03 23 43.8 -0.8**
FFC pmax pmax
comp=Z,227nm,2.1s
FFC MLR MLR
comp=Z,9μm,19.0s
FFC Flin Flon 52.45 355 *e*P **P 03 23 43.8 -0.8**
comp=Z,227nm,2.1s
FFC LR LR
comp=Z,9μm,19.0s
SPB Sao Paulo 53.25 122 PFAKE 03 24 00.0 +9.0
SPB LR LR
comp=Z,9μm,22.0s
BBB Bella Bella 56.65 336 LR LR 03 47 10.7
comp=Z,5μm,20.6s,baz=160,slow=35
PPT Papeete 57.04 247 LR LR 03 42 13.5
comp=Z,4μm,19.8s,baz=17,slow=29
PPT2 Papeete2 57.04 247 *e*S **S 03 32 15.4 +1.5**
comp=Z,2μm,27.5s
PPT2 *e*LQ LQ 03 38 40.8
comp=Z,2μm,28.0s
PPT2 *e*LR LR 03 41 09.5
comp=Z,11μm,25.2s,baz=68
TBI Tubuai 58.58 241 *e*S **S 03 32 36.4 +2.7**
comp=Z,2μm,27.0s
TBI *e*SS **SS 03 36 27.8 +1.1**
comp=Z,457nm,32.2s
TBI *e*LR LR 03 41 50.3
comp=Z,6μm,31.2s,baz=65
RCBR Riachuelo 59.88 98 *e*P **P 03 24 38.8 +0.3**
comp=Z,16nm,1.1s
RCBR LR LR
comp=Z,11μm,19.0s
POHA Pohakuloa 61.24 291 PFAKE
POHA LR LR 03 25 00.0 +12
comp=Z,3μm,19.0s
WRAK Wrangell Islan 61.47 338 PFAKE
WRAK LR LR 03 25 00.0 +11
comp=Z,6μm,22.0s
YKA Yellowknife Ar 61.67 350 P **P 03 24 48.7 -1.1**
comp=Z,2.1nm,0.8s,baz=156,slow=6.9,SNR=19
YKA Yellowknife Ar 61.67 350 P **P 03 24 48.7 -1.1**
YKW3 Yellowknife Ar 61.73 350 *e*P **P 03 24 49.2 -1.1**
comp=Z,0.5nm,1.1s
XMAS Kiritimati 62.09 271 PFAKE
XMAS LR LR 03 25 10.0 +16
comp=Z,2μm,21.0s
EFI East Falkland 62.43 155 PFAKE
EFI LR LR 03 25 10.0 +15
comp=Z,11μm,20.0s
RAR Rarotonga 67.24 246 PFAKE
RAR LR LR 03 25 40.0 +13
comp=Z,5μm,19.0s
BMRM Bremner River 69.27 337 *e*P **P 03 25 41.0 +1.9**
comp=Z,126nm,1.5s
DAWY Dawson 69.34 341 *e*P **P 03 25 39.4 -0.1**
MENT Mentasta 70.11 339 *e*P **P 03 25 44.2 0.0**
EGAK Eagle 70.39 341 *e*P **P 03 25 46.6 +0.7**
comp=Z,100nm,1.9s
DOT Dot Lake 70.67 339 *e*P **P 03 25 49.0 +1.3**
comp=Z,39nm,1.8s
INK Inuvik 70.71 346 LR LR 03 56 33.9
comp=Z,5μm,21.1s,baz=136,slow=36
INK Inuvik 70.71 346 *e*P **P 03 25 48.0 +0.3**
comp=Z,92nm,1.3s
PAX Paxson 70.77 338 *e*P **P 03 25 50.0 +1.7**
PAX pmax pmax
comp=Z,93nm,1.8s
PAX Paxson 70.77 338 *e*P **P 03 25 50.0 +1.7**
comp=Z,93nm,1.8s
PMSA Palmer Station 70.82 166 PFAKE
PMSA LR LR 03 26 00.0 +12
comp=Z,4μm,20.0s
KDAK Kodiak Island 71.08 332 PFAKE
KDAK LR LR 03 26 00.0 +10
comp=Z,5μm,20.0s
SML Sawmill 71.22 336 *e*P **P 03 25 50.6 -0.4**
SML pmax pmax
comp=Z,21nm,1.2s
SML Sawmill 71.22 336 *e*P **P 03 25 50.6 -0.4**
comp=Z,21nm,1.2s
PMR Palmer 71.43 336 *e*P **P 03 25 53.5 +1.3**
PMR pmax pmax
comp=Z,137nm,1.9s
PMR Palmer 71.43 336 *e*P **P 03 25 53.5 +1.3**
comp=Z,137nm,1.9s
SFJD Kangerlussuaq 71.50 17 PFAKE
SFJD LR LR 03 26 00.0 +7.5
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 71.50 17 *i* P **P 03 25 51.7 -0.8**
comp=Z,7.6nm,1.0s
SACV Santiago Islan 71.70 75 PFAKE
SACV LR LR 03 26 10.0 +15
comp=Z,3μm,21.0s
RES Resolute Bay 72.21 0 LR LR 03 58 50.7
comp=Z,3μm,21.2s,baz=173,slow=37
RES Resolute Bay 72.21 0 *e*P **P 03 25 55.1 -1.6**
comp=Z,29nm,1.4s
ILAR Eielson Array 72.33 339 P **P 03 25 56.6 -0.9**
comp=Z,6.8nm,1.1s,baz=147,slow=4.8,SNR=22
ILAR LR LR 03 58 25.4
comp=Z,6μm,18.3s,baz=123,slow=36
ILAR Eielson Array 72.33 339 P **P 03 25 56.6 -0.9**
COLA College 72.73 339 *e*P **P 03 26 00.7 +0.8**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA MLR MLR
comp=Z,3μm,19.0s
COLA College 72.73 339 *e*P **P 03 26 00.7 +0.8**
comp=Z,12nm,1.1s
COLA LR LR
comp=Z,3μm,19.0s
TRF Thorofare Moun 72.86 337 *e*P **P 03 26 03.0 +2.0**
comp=Z,70nm,1.5s
COLD Coldfoot 74.82 341 *e*P **P 03 26 12.2 0.0**
comp=Z,110nm,1.7s
AFI Afiamalu 77.47 255 LR LR 03 53 51.5
comp=Z,4μm,18.7s,baz=159,slow=30
SUMG Summit 78.22 15 *i* P **P 03 26 31.6 -0.2**
comp=Z,12nm,0.8s
TNA Tin City 80.69 336 *e*P **P 03 26 46.8 +2.0**
comp=Z,71nm,1.6s
ALE Alert 81.30 4 P **P 03 26 47.9 0.0**
comp=Z,100nm,1.3s,SNR=5.7
DAG Danmarks Havn 84.63 13 *i* P **P 03 27 04.6 -0.7**
comp=Z,100nm,1.0s
VAL Valentia 85.07 38 ⇑*i*S S 03 37 30.3 -7.2
VAL *e*SS SS 03 43 18.6 +7.9
PGAV Gavieira, Arco 86.20 48 *e*S S 03 37 55.6 +6.2
PGAV *e*LQ LQ 03 50 25.9
PGAV *e*LR LR 03 54 50.5
comp=Z,807nm,20.0s
PMTG Montargil 86.23 51 *e*P **P 03 27 13.6 -0.4**
comp=Z,51nm,1.9s
EVOP Sao Brissos 86.31 52 *e*P **P 03 27 12.4 -2.0**
EVOP pmax pmax
comp=Z,156nm,1.8s
EVOP Sao Brissos 86.31 52 *e*P **P 03 27 12.4 -2.0**
comp=Z,156nm,1.8s
PCVE Castro Verde 86.38 53 *e*P **P 03 27 14.2 -0.6**
comp=Z,48nm,1.6s
EVO Evora 86.40 52 *e*P **P 03 27 12.4 -2.5**
comp=Z,156nm,1.8s
EVO Evora 86.40 52 *e*P **P 03 27 14.6 -0.3**
comp=Z,59nm,1.9s
PVIS Viseu 86.48 50 *e*P **P 03 27 15.0 -0.3**
comp=Z,53nm,1.6s
PBEJ Beja 86.52 52 *e*P **P 03 27 15.5 0.0**
comp=Z,45nm,1.7s
PVAQ Vaqueiros 86.64 53 *e*S **S 03 37 58.2 +4.6**
PVAQ *e*LQ LQ 03 50 45.4
PVAQ *e*LR LR 03 54 53.6
comp=Z,1μm,20.0s
JMIC Jan Mayen 86.70 19 LR LR 04 02 25.8
comp=Z,1μm,21.8s,baz=69,slow=33
PCBR Castelo Branco 86.81 50 *e*P **P 03 27 15.6 -1.2**
comp=Z,80nm,1.7s
PMRV Marv??o 86.88 51 *e*S **S 03 37 52.6 -3.3**
PMRV *e*LQ LQ 03 51 00.7
PMRV *e*LR LR 03 55 05.0
comp=Z,2μm,22.0s
MVO Moncorvo 87.14 49 *e*P **P 03 27 17.1 -1.4**
comp=Z,73nm,1.6s
MVO *e*S **S 03 37 57.6 -0.8**
MVO *e*LQ LQ 03 50 28.8
MVO *e*LR LR 03 55 25.2
comp=Z,928nm,20.0s
PBRG Braganca 87.34 48 *e*P **P 03 27 18.9 -0.6**
comp=Z,70nm,1.7s
RTC Rabat Centre 87.39 56 PFAKE
RTC LR LR 03 27 30.0 +10
comp=Z,2μm,21.0s
MSVF Nonsavu 87.53 252 PFAKE
MSVF LR LR 03 27 30.0 +9.1
comp=Z,2μm,21.0s
FX1 Attu Island--F 89.04 323 LR LR 03 58 48.3
comp=Z,1μm,22.0s,baz=84,slow=30
PAB San Pablo 89.23 51 PFAKE
PAB LR LR 03 27 40.0 +11
comp=Z,3μm,21.0s
ESK Eskdalemuir 89.25 35 *e*P **P 03 27 27.5 -0.6**
ESK pmax pmax
comp=Z,35nm,1.2s
ESK MLR MLR
comp=Z,1μm,19.0s
ESK Eskdalemuir 89.25 35 *e*P **P 03 27 27.4 -0.6**
comp=Z,35nm,1.2s
ESK LR LR
comp=Z,1μm,19.0s
ESDC Sonseca Array 89.52 50 P **P 03 27 29.2 -0.6**
comp=Z,3.1nm,0.9s,baz=282,slow=4.7,SNR=16
ESDC LR LR 04 02 01.4
comp=Z,1μm,20.9s,baz=265,slow=32
ESDC Sonseca Array 89.52 50 P **P 03 27 29.2 -0.6**
ROSF Rostrenen 89.58 42 *e*P **P 03 27 27.7 -2.1**
comp=Z,194nm,1.7s
ROSF Rostrenen 89.58 42 *e*P **P 03 27 27.7 -2.1**
ROSF pmax pmax
comp=Z,194nm,1.7s
ROSF Rostrenen 89.58 42 *e*P **P 03 27 27.7 -2.1**
comp=Z,194nm,1.7s
QUIF Quistinic 89.68 42 *e*P **P 03 27 27.7 -2.6**
comp=Z,230nm,1.9s
QUIF Quistinic 89.68 42 *e*P **P 03 27 27.7 -2.6**
QUIF pmax pmax
comp=Z,230nm,1.9s
QUIF Quistinic 89.68 42 *e*P **P 03 27 27.7 -2.6**
comp=Z,230nm,1.9s
LIC Lamto 90.02 84 *e*P **P 03 27 30.8 -1.8**
comp=Z,20nm,0.9s
LIC Lamto 90.02 84 *e*P **P 03 27 30.8 -1.8**
comp=Z,20nm,0.9s
DBIC Dimbokro 90.17 83 P **P 03 27 32.1 -1.2**
comp=Z,3.7nm,0.8s,baz=257,slow=6.9,SNR=4.9
DBIC LR LR 04 05 12.4
comp=Z,1μm,19.0s,baz=238,slow=34
DBIC Dimbokro 90.17 83 *e*P **P 03 27 32.4 -0.9**
comp=Z,7.3nm,1.1s
SHEL Horse Pasture 90.22 106 PFAKE 03 27 40.0 +6.4
SHEL LR LR
comp=Z,3μm,20.0s
KBS Kingsbay 90.95 11 PFAKE 03 27 50.0 +14
KBS LR LR
comp=Z,1μm,19.0s
BILL Bilibino 90.95 338 *e*P **P 03 27 38.7 +2.8**
BILL pmax pmax
comp=Z,40nm,1.6s
BILL Bilibino 90.95 338 *e*P **P 03 27 38.6 +2.8**
comp=Z,40nm,1.6s
GRR Gorron 91.18 42 *e*P **P 03 27 35.5 -1.8**
comp=Z,173nm,1.9s
GRR Gorron 91.18 42 *e*P **P 03 27 35.5 -1.8**
GRR pmax pmax
comp=Z,173nm,1.9s
GRR Gorron 91.18 42 *e*P **P 03 27 35.5 -1.8**
comp=Z,173nm,1.9s
SJPF Ste Jean 91.36 47 *e*P **P 03 27 35.6 -2.7**
comp=Z,35nm,1.4s
SJPF Ste Jean 91.36 47 *e*P **P 03 27 35.6 -2.7**
SJPF pmax pmax
comp=Z,35nm,1.4s
SJPF Ste Jean 91.36 47 *e*P **P 03 27 35.6 -2.7**
comp=Z,35nm,1.4s
FLN La Foliniere 91.40 41 *e*P **P 03 27 36.6 -1.7**
comp=Z,87nm,1.6s
FLN La Foliniere 91.40 41 *e*P **P 03 27 36.6 -1.7**
FLN pmax pmax
comp=Z,87nm,1.6s
FLN La Foliniere 91.40 41 *e*P **P 03 27 36.6 -1.7**
comp=Z,87nm,1.6s
SNZO South Karori 91.56 229 PFAKE 03 27 50.0 +11
SNZO LR LR
comp=Z,4μm,22.0s
LDF La Druitiere 91.65 41 *e*P **P 03 27 36.8 -2.7**
comp=Z,130nm,1.8s
LDF La Druitiere 91.65 41 *e*P **P 03 27 36.8 -2.7**
LDF pmax pmax
comp=Z,130nm,1.8s
LDF La Druitiere 91.65 41 *e*P **P 03 27 36.8 -2.7**
comp=Z,130nm,1.8s
TARA Tarawa 91.72 271 PFAKE 03 27 50.0 +9.5
TARA LR LR
comp=Z,2μm,19.0s
ETSF Etsaut 91.87 47 *e*P **P 03 27 38.2 -2.5**
ETSF Etsaut 91.87 47 *e*P **P 03 27 38.2 -2.5**
ETSF Etsaut 91.87 47 *e*P **P 03 27 38.2 -2.5**
SPITS Spitsbergen Ar 92.03 11 LR LR 04 13 06.3
comp=Z,3μm,18.6s,baz=270,slow=38
EPF Esparros 92.51 47 *e*P **P 03 27 40.7 -3.0**
EPF Esparros 92.51 47 *e*P **P 03 27 40.7 -3.0**
EPF Esparros 92.51 47 *e*P **P 03 27 40.7 -3.0**
LFF La Frestale 92.61 45 *e*P **P 03 27 42.1 -1.9**
comp=Z,48nm,1.3s
LFF La Frestale 92.61 45 *e*P **P 03 27 42.1 -1.9**
LFF pmax pmax
comp=Z,48nm,1.3s
LFF La Frestale 92.61 45 *e*P **P 03 27 42.1 -1.9**
comp=Z,48nm,1.3s
SNAA Sanae 93.03 162 LR LR 04 02 20.9
comp=Z,409nm,21.1s,baz=321,slow=31
SNAA Sanae 93.03 162 *e*P **P 03 27 45.1 -0.4**
comp=Z,3.7nm,1.0s
MTLF Montolieu 93.84 46 *e*P **P 03 27 47.7 -2.0**
MTLF Montolieu 93.84 46 *e*P **P 03 27 47.7 -2.0**
MTLF Montolieu 93.84 46 *e*P **P 03 27 47.7 -2.0**
BGF Bois d'Agland 93.88 43 *e*P **P 03 27 47.4 -2.4**
comp=Z,35nm,1.4s
BGF Bois d'Agland 93.88 43 *e*P **P 03 27 47.4 -2.4**
BGF pmax pmax
comp=Z,35nm,1.4s
BGF Bois d'Agland 93.88 43 *e*P **P 03 27 47.4 -2.4**
comp=Z,35nm,1.4s
SBA Scott Base 94.00 192 PFAKE 03 28 00.0 +10
SBA LR LR
comp=Z,1μm,21.0s
SMF Signal de Mont 94.55 43 *e*P **P 03 27 50.1 -2.8**
comp=Z,26nm,1.5s
SMF Signal de Mont 94.55 43 *e*P **P 03 27 50.1 -2.8**
SMF pmax pmax
comp=Z,26nm,1.5s
SMF Signal de Mont 94.55 43 *e*P **P 03 27 50.1 -2.8**
comp=Z,26nm,1.5s
GIVF Givet 94.67 39 *e*P **P 03 27 51.0 -2.4**
GIVF Givet 94.67 39 *e*P **P 03 27 51.0 -2.4**
GIVF Givet 94.67 39 *e*P **P 03 27 51.0 -2.4**
MEZF Maizieres J'vi 95.07 41 *e*P **P 03 27 52.7 -2.5**
MEZF Maizieres J'vi 95.07 41 *e*P **P 03 27 52.7 -2.5**
VNDA Vanda 95.09 192 LR LR 04 02 50.8
comp=Z,1μm,19.2s,baz=102,slow=30
VNDA Vanda 95.09 192 *e*P **P 03 27 56.4 +1.6**
comp=Z,1.9nm,1.0s
SSB Saint Sauveur 95.23 44 PFAKE 03 28 10.0 +14
SSB LR LR
comp=Z,2μm,21.0s
KONO Kongsberg 95.44 30 PFAKE 03 28 10.0 +13
KONO LR LR
comp=Z,1μm,20.0s
WLF Walferdange 95.59 40 *e*P **P 03 27 55.9 -1.7**
WLF pmax pmax
comp=Z,8.0nm,1.0s
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 95.59 40 *e*P **P 03 27 55.9 -1.7**
comp=Z,7.7nm,1.0s
WLF LR LR
comp=Z,2μm,21.0s
NAO01 NORSAR Array S 95.75 28 *e*P **P 03 27 56.9 -1.2**
comp=Z,4.2nm,0.8s
NOA NORSAR Array B 95.86 28 LR LR 04 07 47.5
comp=Z,957nm,22.0s,baz=280,slow=33
TOA0 Torodi Ar. Sit 96.27 77 *e*P **P 03 27 59.6 -1.8**
TORD Torodi Ar. Bea 96.27 77 P **P 03 27 59.8 -1.7**
comp=Z,1.2nm,0.8s,baz=284,slow=6.0,SNR=7.8
TORD PP **PP 03 31 51.4 -3.4**
comp=Z,1.2nm,1.1s,baz=282,slow=3.8,SNR=3.4
TORD LR LR 04 08 42.5
comp=Z,2μm,21.8s,baz=260,slow=34
TORD Torodi Ar. Bea 96.27 77 P **P 03 27 59.8 -1.7**
TORD PP **PP 03 31 51.4 -3.4**
ECH Echery 96.51 41 PFAKE 03 28 10.0 +8.2
ECH LR LR
comp=Z,1μm,19.0s
BNI Bardonecchia 96.76 44 PFAKE 03 28 10.0 +6.8
BNI LR LR
comp=Z,2μm,21.0s
FRF La Foret Royal 97.00 46 *e*P **P 03 28 01.8 -2.3**
FRF La Foret Royal 97.00 46 *e*P **P 03 28 01.8 -2.3**

FRF La Foret Royal 97.00 46 *e*P **P 03 28 01.8 -2.3**
BFO Black Forest 97.25 41 PFAKE 03 28 20.0 +15
BFO LR LR
comp=Z,971nm,19.0s
HFS Hagfors 97.29 28 LR LR 04 10 17.5
comp=Z,851nm,20.2s,baz=289,slow=34
PET Petropavlovsk 97.69 324 *e*P Pdif 03 28 07.9 +0.9
PET *e*S **S 03 39 27.4 -5.2**
PET *e*PS **PS 03 40 57.2 +0.8**
PET *e*PPS PPS 03 41 37.0
PET *e*SS **SS 03 46 17.1 +4.8**
PET Petropavlovsk 97.69 324 PFAKE 03 28 20.0 +13
PET LR LR
comp=Z,1μm,22.0s
ARCES ARCESS Array B 98.11 18 LR LR 04 14 19.1
comp=Z,915nm,18.5s,baz=303,slow=37
PETK Petropavlovsk- 98.22 324 LR LR 04 10 25.6
comp=Z,356nm,18.2s,baz=274,slow=34
TUE Stuetta 98.32 43 PFAKE 03 28 20.0 +10
TUE LR LR
comp=Z,1μm,21.0s
KEV Kevo 98.45 17 PFAKE 03 28 20.0 +10
KEV LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 98.54 248 *e*PP PP 03 32 08.6 -3.8
comp=Z,118nm,25.5s
DZM *e*LR LR 04 00 17.8
comp=Z,2μm,29.0s
DZM Mont Dzumac 98.54 248 LR LR 04 02 11.5
comp=Z,825nm,21.1s,baz=208,slow=29
DAVOX Davos/Dischmat 98.61 42 LR LR 04 10 29.9
comp=Z,885nm,18.5s,baz=285,slow=34
TAM Tamanrasset 99.04 67 *e*P **Pdif 03 28 12.4 -1.6**
TAM pmax pmax
comp=Z,55nm,2.3s
TAM MLR MLR
comp=Z,2μm,21.0s
TAM Tamanrasset 99.04 67 *e*P **Pdif 03 28 12.4 -1.6**
comp=Z,55nm,2.3s
TAM LR LR
comp=Z,2μm,21.0s
CLL Collm 99.48 37 *e*P **Pdif 03 28 14.0 -1.1**
CLL *e* 03 38 51.0
CLL *e*S **ScS 03 39 42.0 -5.9**
CLL MLR MLR
comp=Z,1μm,21.0s
CLL Collm 99.48 37 *e*Pdif **Pdif 03 28 14.0 -1.1**
CLL *e*SKSac **SKSac 03 38 51.0 -2.9**
CLL *e*Sdif **ScS 03 39 42.0 -5.9**
CLL *e*PS PS 03 41 05.0 -11
CLL *e*PPS PPS 03 41 56.0
CLL ⇓ *i*PKKPbc **PKKPbc 03 44 37.1 -2.6**
comp=Z,5.0nm,0.9s
CLL *e* 03 45 37.0
CLL *e*SS **SS 03 46 41.0 +3.5**
CLL *e*SSS SSS 03 50 24.0
CLL *e* 03 52 48.0
CLL LmV 04 11 00.0
comp=Z,1μm,21.0s
VLC Villacollemand 99.53 45 PFAKE 03 28 30.0 +14
VLC LR LR
comp=Z,938nm,22.0s
VSL Villasalto 99.77 49 PFAKE 03 28 30.0 +13
VSL LR LR
comp=Z,2μm,21.0s
BRG Berggiesshubel 100.17 37 *e*P PKKPdf 03 44 37.1 -5.3
comp=Z,2.3nm,0.7s
KHC Kasperske Hory 100.43 39 *e*P **PKKPdf 03 44 37.5 -4.4**
KEST Kesra 100.45 53 *e*Pdif **Pdif 03 28 19.7 -0.2**
GERES GERESS Array B 100.59 39 P **Pdif 03 28 19.4 -0.9**
comp=Z,0.2nm,0.5s,baz=325,slow=2.1,SNR=4.8
GERES PP **PP 03 32 26.3 -0.7**
comp=Z,0.5nm,0.9s,baz=289,slow=4.1,SNR=4.0
GERES GERESS Array B 100.59 39 P **Pdif 03 28 19.4 -0.9**
GERES PP **PP 03 32 26.3 -0.7**
APA Apatity 101.62 18 ⇓ *e*P **Pdif 03 28 28.0 +3.7**
APA MLR MLR
comp=Z,2μm,14.0s
LVZ Lovozero 101.80 17 PFAKE 03 28 40.0 +15
LVZ LR LR
comp=Z,2μm,21.0s
AQU L'Aquila 102.10 46 PFAKE 03 28 40.0 +13
AQU LR LR
comp=Z,794nm,20.0s
MORC Moravsky Berou 102.70 38 *e*P **Pdif 03 28 30.0 +0.5**
MORC Moravsky Berou 102.70 38 *e*Pdif **Pdif 03 28 30.0 +0.5**
VYHS Vyhne 103.93 39 *e*P **Pdif 03 28 34.2 -0.8**
VYHS Vyhne 103.93 39 PDIF **Pdif 03 28 34.2 -0.8**
CUC Castrocucco 104.48 48 PFAKE 03 28 50.0 +12
CUC LR LR
comp=Z,616nm,21.0s
WDD Wield Dalam 104.54 52 PFAKE 03 28 50.0 +12
WDD LR LR
comp=Z,651nm,21.0s
PSZ Piszkesteto 104.80 39 PFAKE 03 28 50.0 +11
PSZ LR LR
comp=Z,975nm,21.0s
HNR Honiara 104.94 261 PFAKE 03 33 10.0
HNR LR LR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 105.88 37 PFAKE 03 33 10.0
KWP LR LR
comp=Z,957nm,19.0s
TIR Tirane 107.01 45 PFAKE 03 33 10.0
TIR LR LR
comp=Z,969nm,21.0s
YAK Yakutsk 107.25 340 PFAKE 03 33 10.0
YAK LR LR
comp=Z,2μm,20.0s
KIEV Kiev 109.15 34 PFAKE 03 33 10.0
KIEV LR LR
comp=Z,2μm,20.0s
OBN Obninsk 110.44 27 PFAKE 03 33 20.0
OBN LR LR
comp=Z,1μm,20.0s
ERM Erimo 111.21 317 PFAKE 03 33 20.0
ERM LR LR
comp=Z,2μm,21.0s
TAU Tasmania Unive 111.45 225 PFAKE 03 33 20.0
TAU LR LR
comp=Z,2μm,20.0s
CAN Canberra 112.22 233 PFAKE 03 33 20.0
CAN LR LR
comp=Z,2μm,20.0s
SUR Sutherland 113.22 124 PFAKE 03 33 20.0
SUR LR LR
comp=Z,3μm,22.0s
CASY Casey 113.69 191 PFAKE 03 33 20.0
CASY LR LR
comp=Z,2μm,19.0s
ISP Isparta 115.96 46 PFAKE 03 33 30.0 +14
ISP LR LR
comp=Z,548nm,19.0s
MAJO Matsushiro 117.00 313 *e*PKIKP **PKPdf 03 33 18.9 +1.3**
MAJO MLR MLR
comp=Z,3μm,22.0s
MAJO Matsushiro 117.00 313 *e*PKPdf **PKPdf 03 33 18.9 +1.3**
MAJO LR LR
comp=Z,3μm,22.0s
BR131 Keskin Array S 117.25 42 *e*PKPdf **PKPdf 03 33 17.8 -0.4**
BRTR Keskin Array B 117.25 42 PKP **PKPdf 03 33 16.8 -1.4**
comp=Z,0.6nm,0.8s,baz=349,slow=3.9,SNR=4.7
BRTR Keskin Array B 117.25 42 PKP **PKPdf 03 33 16.8 -1.4**
CTAO Charters Tower 117.48 249 PFAKE 03 33 30.0 +11
CTAO LR LR
comp=Z,2μm,22.0s
PMG Port Moresby 117.55 261 PFAKE 03 33 30.0 +11
PMG LR LR
comp=Z,2μm,20.0s
ARU Arti 117.63 16 PFAKE 03 33 30.0 +12
ARU LR LR
comp=Z,1μm,20.0s
MDJ Mudanjiang 118.45 325 PKP **PKPdf 03 33 20.3 +0.2**
MDJ sPKP 03 33 25.0
MDJ SS SS 03 50 53.3 +0.4
MDJ AMB AMB
comp=Z,290nm,4.1s
MDJ LR LR
comp=N,270nm,24.3s
MDJ LR LR
comp=E,690nm,22.3s
MDJ LR LR
comp=Z,810nm,22.3s
MDJ Mudanjiang 118.45 325 PFAKE 03 33 30.0 +10
MDJ LR LR
comp=Z,1μm,21.0s
LBTB Lobatse 118.88 117 *e*PKPdf **PKPdf 03 33 21.5 -0.2**
CSS Prodhromos 119.25 47 PFAKE 03 33 30.0 +8.0
CSS LR LR
comp=Z,777nm,22.0s
HIA Hailar 120.30 334 PFAKE 03 33 40.0 +16
HIA LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 120.49 34 PFAKE 03 33 40.0 +16
KIV LR LR
comp=Z,727nm,22.0s
COEN Coen 121.14 255 *e*PKPdf **PKPdf 03 33 27.6 +1.5**
MALT Malatya 121.18 42 *e*PKIKP **PKPdf 03 33 25.6 -0.1**
MALT MLR MLR
comp=Z,538nm,22.0s
MALT Malatya 121.18 42 *e*PKPdf **PKPdf 03 33 25.6 -0.1**
MALT LR LR
comp=Z,538nm,22.0s
CN2 Changchun 121.30 326 *e*PKP **PKPdf 03 33 27.8 +2.2**
CN2 PP PP 03 35 01.0 +5.4
CN2 SS SS 03 51 31.0 +1.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,700nm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
LSZ Lusaka 122.88 107 *e*PKPdf **PKPdf 03 33 29.0 -0.6**
LSZ LR LR
comp=Z,3μm,20.0s
NVS Novosibirsk 122.95 1 *e*P **Pdif 03 29 55.6 -3.8**
BRVK Borovoye 123.44 10 *e*PKIKP **PKPdf 03 33 28.3 -1.2**
BRVK MLR MLR
comp=Z,2μm,19.0s
BRVK Borovoye 123.44 10 *e*PKPdf **PKPdf 03 33 28.3 -1.2**
BRVK LR LR
comp=Z,2μm,19.0s
TLY Talaya 123.77 346 *i* PKIKP **PKPdf 03 33 31.0 +0.8**
TLY *e*PPS PPS 03 46 30.3
TLY pmax pmax
comp=Z,6.0nm,1.6s
TLY Talaya 123.77 346 PFAKE 03 33 40.0 +10
TLY LR LR
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 123.86 360 PKP **PKPdf 03 33 32.3 +2.1**
comp=Z,0.7nm,0.4s,baz=346,slow=3.7,SNR=6.1
ZALV Zalesovo Beam 123.86 360 PKIKP **PKPdf 03 33 32.3 +2.1**
ZALV Zalesovo Beam 123.86 360 PKP **PKPdf 03 33 32.3 +2.1**
GNI Garni 124.08 36 *e*PKPdf **PKPdf 03 33 31.6 +0.3**
GNI LR LR
comp=Z,674nm,22.0s
ABKAR Akbulak array 124.27 19 *e*PKPdf **PKPdf 03 33 31.0 -0.2**
ABKAR *e*PP **PP 03 35 13.2 -2.1**
INCN Inchon 124.48 320 PFAKE 03 33 40.0 +8.0
INCN LR LR
comp=Z,814nm,20.0s
ZAK Zakamensk 125.06 346 *e*PKIKP **PKPdf 03 33 30.3 -2.5**
ZAK *e* 03 35 25.5
ZAK pmax pmax
comp=Z,2.0nm,1.5s
ULN Ulaanbaatar 126.27 341 *e*PKPdf **PKPdf 03 33 36.1 +0.8**
ULN LR LR
comp=Z,2μm,19.0s
SONM Songino Array 126.50 342 PKP **PKPdf 03 33 34.8 -0.9**
comp=Z,1.6nm,0.9s,baz=36,slow=1.9,SNR=12
SONM Songino Array 126.50 342 PKP **PKPdf 03 33 34.8 -0.9**
KURK Kurchatov 126.84 5 *e*PKIKP **PKPdf 03 33 35.4 -0.6**
KURK *e* 03 35 30.6
KURK MLR MLR
comp=Z,1μm,19.0s
KURK Kurchatov 126.84 5 *e*PKPdf **PKPdf 03 33 35.4 -0.6**
KURK *e*PP **PP 03 35 30.6 -1.5**
KURK LR LR
comp=Z,1μm,19.0s
AS31 Alice Springs 127.96 242 *e*PKPdf **PKPdf 03 33 39.3 +0.3**
ASAR Alice Springs 127.96 242 PKP **PKPdf 03 33 38.2 -0.8**
comp=Z,2.5nm,0.9s,baz=108,slow=2.2,SNR=17
ASAR Alice Springs 127.96 242 PKP **PKPdf 03 33 38.2 -0.8**
WRAB Tennant Creek 128.51 246 *e*PKIKP **PKPdf 03 33 40.9 +0.8**
WRAB MLR MLR
comp=Z,2μm,19.0s
WRAB Tennant Creek 128.51 246 *e*PKPdf **PKPdf 03 33 40.9 +0.8**
WRAB LR LR
comp=Z,2μm,19.0s
WRA Warramunga Arr 128.52 246 PKP **PKPdf 03 33 39.4 -0.7**
comp=Z,4.1nm,0.9s,baz=95,slow=1.6,SNR=15
WRA Warramunga Arr 128.52 246 PKP **PKPdf 03 33 39.4 -0.7**
BJI Beijing 128.87 329 PKP **PKPdf 03 33 40.3 +0.1**
BJI PP **PP 03 35 46.3 +0.1**
BJI SS SS 03 53 10.0 +5.5
BJI AMB AMB
comp=Z,250nm,5.8s
BJI LR LR
comp=N,510nm,22.4s
BJI LR LR
comp=E,580nm,25.4s
HHC Hu-ho-hao-te 130.47 333 *e*PKP PKPdf 03 33 49.3 +5.9
HHC AMB AMB
comp=Z,190nm,5.7s
HHC LR LR
comp=N,730nm,24.5s
HHC LR LR
comp=E,920nm,24.5s
HHC LR LR
comp=Z,1μm,22.2s
MK31 Makanchi Array 130.97 2 *e*PKIKP **PKPdf 03 33 44.6 +0.5**
MK31 Makanchi Array 130.97 2 *e*PKPdf **PKPdf 03 33 44.6 +0.5**
MKAR Makanchi Array 130.97 2 PKP **PKPdf 03 33 43.1 -1.0**
comp=Z,3.1nm,1.0s,baz=48,slow=2.1,SNR=12
MKAR Makanchi Array 130.97 2 PKIKP **PKPdf 03 33 43.1 -1.0**
MKAR Makanchi Array 130.97 2 PKP **PKPdf 03 33 43.1 -1.0**
PAF Port-aux-Franc 131.60 167 PFAKE 03 34 00.0 +15
PAF LR LR
comp=Z,3μm,19.0s
SSE Sheshan 131.90 317 PKP **PKPdf 03 33 44.3 -1.9**
SSE AMB AMB
comp=Z,140nm,5.9s
SSE LR LR
comp=N,820nm,17.8s
SSE LR LR
comp=E,420nm,17.9s
SSE LR LR
comp=Z,1μm,16.5s
KMBO Kilima Mbogo 132.56 89 *e*PKPdf **PKPdf 03 33 49.3 +1.0**
KMBO LR LR
comp=Z,2μm,20.0s
KKAR Karatay Array 132.94 14 *e*PKIKP **PKPdf 03 33 50.5 +2.6**
KKAR Karatay Array 132.94 14 *e*PKPdf **PKPdf 03 33 50.5 +2.6**
WMQ Urumqi 133.91 357 PKP **PKPdf 03 33 50.8 +1.0**
WMQ PP PP 03 36 24.0 +5.8
WMQ PKS **PKSdf 03 37 25.0 -1.2**
WMQ SKS **SKSdf 03 41 00.0 -1.5**
WMQ SKKS **SKKSac 03 43 15.0 -0.6**
WMQ SS **SS 03 54 09.6 +4.5**
WMQ LR LR
comp=N,1μm,25.0s
WMQ LR LR
comp=E,410nm,21.0s
WMQ LR LR
comp=Z,1μm,21.0s
FRU Bishkek 134.07 10 *e*PKIKP PKPdf 03 33 44.0 -6.1
FRU *e* 03 36 20.0
EKS2 Erkin-Say 134.08 11 *e*PKIKP **PKPdf 03 33 51.0 +0.8**
EKS2 Erkin-Say 134.08 11 *e*PKPdf **PKPdf 03 33 51.0 +0.8**
TKM2 Tokmak 2 134.15 9 *e*PKIKP **PKPdf 03 33 50.3 -0.2**
TKM2 Tokmak 2 134.15 9 *e*PKPdf **PKPdf 03 33 50.2 -0.2**
AAK Ala-Archa 134.24 11 *e*PKIKP **PKPdf 03 33 50.7 +0.1**
AAK MLR MLR
comp=Z,1μm,21.0s
AAK Ala-Archa 134.24 11 *e*PKPdf **PKPdf 03 33 50.7 +0.1**
AAK LR LR
comp=Z,1μm,21.0s
TATO Taipei 135.14 310 PFAKE 03 34 00.0 +7.5
TATO LR LR
comp=Z,1μm,22.0s
YHNB Yeheng 135.38 309 PFAKE 03 34 00.0 +6.9
YHNB LR LR
comp=Z,1μm,20.0s
GTA Gaotai 136.14 343 PKP **PKPdf 03 33 55.8 +1.6**
GTA PP **PP 03 36 36.8 +4.2**
GTA PKS **PKSdf 03 37 30.8 +0.2**
GTA SKS **SKSdf 03 41 01.3 -4.4**
GTA SKKS **SKKSac 03 43 29.5 +0.2**
GTA SS **SS 03 54 33.6 +1.2**
GTA AMB AMB
comp=Z,330nm,12.0s
GTA LR LR
comp=N,1μm,18.1s
GTA LR LR
comp=E,910nm,17.6s
GTA LR LR
comp=Z,1μm,19.9s
NWAO Narrogin (SRO) 136.96 222 PFAKE 03 34 10.0 +14
NWAO LR LR
comp=Z,1μm,21.0s
KSH Kashi 137.53 10 *e*PKP **PKPdf 03 33 59.6 +2.9**
KSH *e*PP PP 03 36 47.3 +6.2
KSH PKS **PKSdf 03 37 34.9 +1.8**
KSH SKS **SKSdf 03 41 08.1 0.0**
KSH SKKS **SKKSac 03 43 37.9 +0.3**
KSH SS **SS 03 54 54.5 +5.8**
KSH AMB AMB
comp=Z,210nm,5.2s
KSH LR LR
comp=N,1μm,17.8s
KSH LR LR
comp=E,500nm,15.2s
KSH LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 137.75 337 *e*PKP **PKPdf 03 33 54.0 -3.3**
LZH sPKP 03 34 06.1
LZH PP PP 03 36 49.5 +6.7
LZH PKS **PKSdf 03 37 34.5 +0.8**
LZH AMB AMB
comp=Z,76nm,4.4s
DAV Davao City (W) 138.13 283 PFAKE 03 34 10.0 +12
DAV LR LR
comp=Z,652nm,20.0s
ABPO Ambohimpanom 139.79 117 PFAKE 03 34 10.0 +8.5
ABPO LR LR
comp=Z,3μm,20.0s
ENH Enshi 139.81 326 *e*PKPdf **PKPdf 03 34 01.9 +0.8**
MBWA Marble Bar 141.12 239 PFAKE 03 34 20.0 +16
MBWA LR LR
comp=Z,2μm,19.0s
CD2 Chengdu 142.23 333 PKP **PKPdf 03 34 05.3 -0.1**
CD2 PP **PP 03 37 14.4 +4.0**
CD2 PKS **PKSdf 03 37 39.6 -1.8**
CD2 SKS **SKSdf 03 41 12.8 -3.2**
CD2 SKKS **SKKSac 03 44 03.1 -2.2**
CD2 SS **SS 03 55 45.1 +0.6**
CD2 LR LR
comp=N,1μm,17.8s
CD2 LR LR
comp=Z,2μm,20.2s
NIL Nilore 142.56 16 PFAKE 03 34 20.0 +14
NIL LR LR
comp=Z,236nm,20.0s
BSY Bisya 143.34 46 PKPdf PKPab 03 34 03.6 +0.1
SNR=9.9
SMDO Samad 143.74 44 PKPdf PKPab 03 34 04.9 -0.3
SNR=13
RBK Rabkut 144.01 56 PKPdf **PKPab 03 34 05.5 -0.7**
SNR=6.3
JMDO Jabal Madar 144.22 45 PKPdf **PKPab 03 34 05.0 -1.8**
SNR=9.0
GYA Guiyang 144.32 325 PKP **PKPdf 03 34 09.3 0.0**
GYA PP **PP 03 37 26.8 +3.4**
GYA PKS **PKSdf 03 37 42.3 -2.9**
GYA SKKS 03 44 15.0
GYA SS **SS 03 56 08.3 -1.0**
GYA AMB AMB
comp=Z,150nm,7.6s
GYA LR LR
comp=N,160nm,20.8s
GYA LR LR
comp=E,180nm,22.3s
GYA LR LR
comp=Z,150nm,21.6s
WBK Wadi Bani Khal 144.67 44 PKPdf **PKPab 03 34 08.0 -0.5**
SNR=10
KAPI Kappang 144.93 265 *e*PKPdf **PKPab 03 34 09.2 -0.5**
KAPI LR LR
comp=Z,586nm,21.0s
KAPI Kappang 144.93 265 PKPbc **PKPab 03 34 09.5 -0.2**
SNR=5.3
RER Riviere de l'E 146.19 126 PFAKE 03 34 20.0 +5.7
RER LR LR
comp=Z,2μm,21.0s
QIZ Qiongzhong 147.37 312 PKPbc **PKPdf 03 34 14.6 +0.1**
QIZ PP **PP 03 37 42.5 +0.6**
QIZ SS SS 03 56 48.6 +3.7
QIZ LR LR
comp=N,900nm,23.1s
QIZ LR LR
comp=Z,1μm,20.5s
KKM Kota Kinabalu 147.43 285 PFAKE 03 34 30.0 +11
KKM LR LR
comp=Z,359nm,20.0s
LSA Lhasa 147.50 350 *e*PKP2 **PKPbc 03 34 17.7 +0.1**
LSA Lhasa 147.50 350 *e*PKPbc **PKPbc 03 34 17.6 +0.1**
KMI Kunming 147.53 328 PKPbc **PKPdf 03 34 14.4 -0.6**
KMI pPKP **PKPbc 03 34 17.1 -0.4**
KMI sPKP 03 34 18.8
KMI PP **PP 03 37 45.8 +3.4**
KMI PKS **PKSdf 03 37 48.3 -2.2**
KMI SKS **SKSdf 03 41 20.4 -4.0**
KMI SKKS **SKKSac 03 44 33.5 -2.6**
KMI SS **SS 03 56 45.6 -0.2**
KMI LR LR
comp=N,790nm,18.0s
KMI LR LR
comp=E,730nm,19.3s
KMI LR LR
comp=Z,1μm,26.3s
NDI New Delhi 148.28 13 *e*P **PKPdf 03 34 16.0 +0.2**
DANN Dangsing 149.42 2 *e*P **PKPbc 03 34 21.9 -0.5**
comp=Z,724nm,1.7s
PYUN Piuthan 149.64 3 *e*P **PKPbc 03 34 21.9 -1.0**
comp=Z,742nm,1.8s
GKN Gorkha 149.78 0 *e*P **PKPbc 03 34 22.3 -0.9**
comp=Z,368nm,1.7s
GUN Gumba 149.85 358 *e*P **PKPbc 03 34 22.9 -0.7**
comp=Z,298nm,1.2s
KKN Kakani 149.99 359 *e*P **PKPbc 03 34 22.7 -1.1**
comp=Z,218nm,1.5s
KOLN Koldanda 149.99 2 *e*P **PKPbc 03 34 22.7 -1.1**
comp=Z,181nm,1.8s
JIRN Jiri 150.09 357 *e*P **PKPbc 03 34 23.1 -1.1**
DMN Daman 150.17 359 *e*P **PKPbc 03 34 23.2 -1.1**
PKI Pulchoki 150.20 359 *e*P **PKPbc 03 34 23.1 -1.3**
TAPN Taplejung 150.29 355 *e*P **PKPbc 03 34 23.7 -0.9**
comp=Z,285nm,1.4s
MSEY Mahe Island 150.75 95 *e*PKPdf **PKPdf 03 34 19.8 -0.4**
MSEY *e*PKPbc **PKPbc 03 34 25.3 -0.5**
MSEY LR LR
comp=Z,1μm,20.0s
RAMN Ramite 150.77 357 *e*P **PKPbc 03 34 24.3 -1.4**
comp=Z,139nm,1.3s
ODAN Odare 150.80 355 *e*P **PKPbc 03 34 24.7 -1.1**
SHL Shillong 151.35 346 *e*P **PKPdf 03 34 22.0 +1.0**
KSM Kuching 154.11 278 PFAKE 03 34 40.0 +6.8
KSM LR LR
comp=Z,866nm,21.0s
CHTO Chiang Mai 154.69 327 *e*PKIKP **PKPdf 03 34 27.0 +1.2**
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 154.69 327 *e*PKPdf **PKPdf 03 34 27.0 +1.2**
CHTO LR LR
comp=Z,1μm,21.0s
CMAR Chiang Mai Arr 154.98 326 PKP **PKPdf 03 34 25.6 -0.6**
comp=Z,0.8nm,0.3s,baz=312,slow=2.0,SNR=6.3
CMAR PKPbc **PKPbc 03 34 34.5 -0.4**
comp=Z,2.7nm,0.7s,baz=340,slow=2.0,SNR=11
CMAR PKPab **PKPab 03 34 50.0 -0.1**
comp=Z,4.6nm,1.0s,baz=10,slow=3.9,SNR=5.6
CMAR Chiang Mai Arr 154.98 326 PKP **PKPdf 03 34 25.6 -0.6**
CMAR PKPbc **PKPbc 03 34 34.5 -0.4**
CMAR PKPab **PKPab 03 34 50.0 -0.1**
IPM Ipoh 162.31 293 *e*PKPdf **PKPdf 03 34 36.0 +0.9**
KULM Kulim 162.33 296 PFAKE 03 34 50.0 +15
KULM LR LR
comp=Z,693nm,20.0s
COCO West Island 164.53 230 PFAKE 03 34 50.0 +13
COCO LR LR
comp=Z,997nm,21.0s
DGAR Diego Garcia 166.82 113 PFAKE 03 34 50.0 +11

DGAR					LR	LR		
	comp=Z,2μm,21.0s							
PALK	**Pallekele**	**169.60**	**23**	*e*PKPdf	**PKPdf**	**03 34 41.9**	**+0.9**
PALK				*e*PKPab	**PKPab**	**03 35 54.4**	**+0.4**

*ISCJB **15** 03:16:42.7±0.9,51°.44N±0°.04×16°.13E±0°.05,h0km, Error ellipse: s-maj=6.4km s-min=3.4km az=29.9*
*PRU **15** 03:16:43.8,51°.49N×16°.17E,h0km*
*WAR **15** 03:16:43.1,51°.54N×16°.07E*
*CSEM **15** 03:16:43.9±0.4,51°.46N×16°.14E,h2km,ML2.6/7, Error ellipse: s-maj=6.1km s-min=3.4km az=30.0*
*IPEC **15** 03:16:43.3±0.2,51°.51N×16°.18E,h0km,ML1.6/3, Error ellipse: s-maj=1.5km s-min=0.8km az=33.0*

ISC 15 03:16:43.0±1.5,51°.53N±0°.07×16°.15E±0°.04,h0km,n29,
σ0s.54/52,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg		**Pg**	**03 16 56.4**	**+0.1**
KSP				*e*Sg		**Sg**	**03 17 05.2**	**0.0**
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg		**Pg**	**03 16 56.3**	**0.0**
	baz=354							
KSP				*e*Sg		**Sg**	**03 17 05.0**	**-0.3**
	baz=354							
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg		**Pg**	**03 16 56.4**	**+0.1**
KSP				*e*Sg		**Sg**	**03 17 05.2**	**0.0**
UPC	**Upice**	**1.03**	**185**	*e*PG		**Pg**	**03 17 02.5**	**-0.2**
UPC				*e*SG		**Sg**	**03 17 15.3**	**-0.7**
UPC	**Upice**	**1.03**	**185**	Pg		**Pg**	**03 17 02.5**	**-0.2**
UPC				Sg		**Sg**	**03 17 15.3**	**-0.7**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG		**Pg**	**03 17 05.3**	**-0.4**
DPC				*e*SG		**Sg**	**03 17 20.4**	**-0.7**
	comp=Z,8.5nm,0.4s							
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg		**Pg**	**03 17 05.3**	**-0.4**
DPC				Sg		**Sg**	**03 17 20.4**	**-0.7**
	8.5nm,0.4s							
PVCC	**Panska Ves**	**1.42**	**226**	*e*PG		**Pn**	**03 17 09.8**	**-0.2**
PVCC				*e*SG		**Sb**	**03 17 29.2**	**+0.3**
	comp=Z,26nm,0.2s							
PVCC	**Panska Ves**	**1.42**	**226**	Pg		**Pn**	**03 17 09.8**	**-0.2**
PVCC				*e*Sg		**Sg**	**03 17 28.8**	**+0.3**
	baz=46							
BRG	**Berggiesshubel**	**1.54**	**246**	PG		**Pn**	**03 17 11.8**	**+0.1**
BRG				SG		**Sn**	**03 17 31.9**	**-0.5**
	13nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**246**	*e*Pn		**Pn**	**03 17 11.5**	**-0.2**
	baz=65							
BRG				*e*Sg		**Sn**	**03 17 31.4**	**-1.0**
	baz=65							
PRU	**Pruhonice**	**1.85**	**214**	*e*PG		**Pn**	**03 17 16.9**	**+0.9**
PRU				*e*SG		**Sb**	**03 17 41.1**	**-0.3**
	comp=Z,4.2nm,0.5s							
PRU	**Pruhonice**	**1.85**	**214**	*e*Pn		**Pn**	**03 17 16.6**	**+0.6**
	baz=34							
PRU	**Pruhonice**	**1.85**	**214**	Pg		**Pn**	**03 17 16.9**	**+0.9**
PRU				Sg		**Sb**	**03 17 41.1**	**-0.3**
	4.2nm,0.5s							
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn		**Pn**	**03 17 17.3**	**-0.3**
	baz=334							
MORC				*e*Sg		**Sn**	**03 17 42.8**	**-0.2**
CLL	**Collm**	**1.98**	**265**	*e*Pg		**Pb**	**03 17 20.0**	**0.0**
CLL				*e*			03 17 23.0	
CLL				*e*Sg		**Sb**	**03 17 46.0**	**+0.7**
	comp=Z,5.0nm,0.4s							
CLL	**Collm**	**1.98**	**265**	*e*Pn		**Pb**	**03 17 19.1**	**-0.9**
	baz=83							
CLL				*e*Sg		**Sb**	**03 17 45.4**	**+0.1**
	baz=83							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*SG		**Sb**	**03 17 49.5**	**+0.5**
	comp=Z,4.2nm,0.3s							
OKC	**Ostrava-Krasne**	**2.12**	**142**	Sg		**Sb**	**03 17 49.5**	**+0.5**
	comp=Z,4.2nm,0.3s							
VRAC	**Vranov**	**2.24**	**173**	*e*Pn		**Pn**	**03 17 21.8**	**+0.4**
	baz=353							
VRAC				*e*Sg		**Sb**	**03 17 52.6**	**-0.1**
	comp=Z,2.4nm,0.2s,baz=353							
TREC	**Trest**	**2.28**	**191**	*e*SG		**Sb**	**03 17 54.3**	**+0.6**
	comp=Z,5.4nm,0.3s							
TREC	**Trest**	**2.28**	**191**	Sg		**Sb**	**03 17 54.3**	**+0.6**
	comp=Z,5.4nm,0.3s							
KRUC	**Moravsky**	**2.48**	**176**	*e*Pg		**Pb**	**03 17 28.3**	**-0.1**
	baz=357							
KRUC				*e*Sg		**Sb**	**03 18 00.2**	**+0.8**
	comp=Z,3.4nm,0.4s,baz=357							
NKC	**Novy Kostel**	**2.68**	**242**	*e*PG		**Pg**	**03 17 34.2**	**-0.2**
NKC				*e*SG		**Sg**	**03 18 10.3**	**+1.2**
	comp=Z,7.0nm,0.3s							
NKC	**Novy Kostel**	**2.68**	**242**	Pg		**Pg**	**03 17 34.2**	**-0.2**
NKC				Sg		**Sg**	**03 18 10.3**	**+1.2**
	comp=Z,7.0nm,0.3s							
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN		**Pn**	**03 17 30.5**	**-0.2**
KHC				*e*PG		**Pb**	**03 17 36.0**	**+0.1**
KHC				*e*SN		**Sn**	**03 18 06.5**	**+0.1**
KHC				*e*SG		**Sg**	**03 18 17.0**	**+0.4**
KHC	**Kasperske Hory**	**2.91**	**215**	Pn		**Pn**	**03 17 30.5**	**-0.2**
VYHS	**Vyhne**	**3.50**	**149**	*e*SG		**Sg**	**03 18 36.2**	**+0.9**
VYHS	**Vyhne**	**3.50**	**149**	*e*Sg		**Sg**	**03 18 36.2**	**+0.9**

IDC 15 03:21:31.9±11.0,1°.81N×94°.88W,h0km,mb3.5/4,
mb1 3.9/4,mb1mx3.6/19,mbtmp3.5/4,Error ellipse:
s-maj=261.6km s-min=165.4km az=27.0,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.62**	**344**	P		P	03 27 31.8	+1.4
	0.4nm,0.7s,baz=170,slow=12,SNR=3.6							
NVAR	**Mina Array Bea**	**42.29**	**332**	P		P	03 29 27.7	0.0
	0.6nm,0.7s,baz=152,slow=9.8,SNR=5.1							
PDAR	**Pinedale Array**	**42.84**	**344**	P		P	03 29 30.0	-2.1
	0.8nm,0.8s,baz=160,slow=8.6,SNR=3.0							
YKA	**Yellowknife Ar**	**62.32**	**350**	P		P	03 31 56.1	+0.4
	0.2nm,0.7s,baz=154,slow=7.3,SNR=3.4							

IDC 15 03:24:53.5±2.5,22°.78S×170°.92E,h0km,mb3.8/3,
mb1 3.9/4,mb1mx3.7/18,mbtmp3.8/4,ML3.7/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.7/35,Error ellipse: s-maj=94.7km
s-min=35.3km az=167.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.20**	**279**	Pn		Pn	03 26 00.6	+1.5
	4.1nm,0.3s,baz=83,slow=17,SNR=267							
DZM				LR		LR	03 26 45.2	
	comp=Z,309nm,19.3s,baz=26,slow=27							
DZM				Sn		Sn	03 26 47.7	-1.3
	4.7nm,0.3s,baz=155,slow=23,SNR=13							
DZM	**Mont Dzumac**	**4.20**	**279**	*e*P		Pn	03 26 00.1	+1.0
DZM				*e*S		Sn	03 26 47.3	-1.6
ASAR	**Alice Springs**	**33.97**	**261**	P		P	03 31 39.2	+0.2
	0.8nm,0.8s,baz=92,slow=8.7,SNR=9.7							
WRA	**Warramunga Arr**	**34.13**	**268**	P		P	03 31 39.8	-0.7
	0.4nm,0.3s,baz=101,slow=8.8,SNR=3.8							
SONM	**Songino Array**	**90.98**	**323**	P		P	03 37 59.3	-0.2
	1.1nm,1.0s,baz=134,slow=2.8,SNR=5.0							
GERES	**GERESS Array B**	**148.34**	**331**	PKPbc		PKPbc	03 44 41.3	-0.6
	1.5nm,0.8s,baz=26,slow=2.5,SNR=12							

MEX 15 03:32:42.7±0.4,16°.04N×97°.45W,h14km±6km,MD3.8,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.74**	**298**	*i* P		Pg	03 32 54.7	-2.4
PNIG				*i* S		Sg	03 33 04.1	-2.7
VHO	**Vista Hermosa**	**1.24**	**34**	*i* P		Pn	03 33 02.0	-3.9
VHO				*i* S		Sb	03 33 16.9	-5.2
OXX	**Oaxaca**	**1.25**	**34**	*i* P		Pn	03 33 02.8	-3.2
OXX				*i* S		Sb	03 33 18.1	-4.4
HUIG	**Huatulco**	**1.32**	**102**	*i* P		Pn	03 33 02.7	-4.1
HUIG				*i* S		Sb	03 33 19.9	-4.3
UTMO	**Huajuapan**	**1.81**	**349**	*e*P		Pn	03 33 10.8	-3.0
UTMO				*e*S		Sn	03 33 32.0	-4.7
CMIG	**Matias Romero**	**2.68**	**67**	*i* P		Pn	03 33 21.8	-3.6
CMIG				*i* S		Sn	03 33 53.7	-3.9
PLIG	**Platanillo**	**3.05**	**320**	*i* P		Pn	03 33 28.4	-2.2
PLIG				*i* S		Sn	03 34 03.3	-3.8
YAIG	**Yautepec**	**3.20**	**331**	*i* P		Pn	03 33 31.2	-1.6
YAIG				*i* S		Sn	03 34 06.4	-4.6
ARIG	**Puente Sto Nin**	**3.55**	**309**	*i* P		Pn	03 33 35.2	-2.3
ARIG				*i* S		Sn	03 34 15.3	-4.0

IDC 15 03:40:37.9±5.3,6°.40S×150°.24E,h47km±45km,mb3.3/6,
mb1 3.6/7,mb1mx3.4/20,mbtmp3.4/7,ML3.0/1,Error
ellipse: s-maj=44.5km s-min=31.4km az=102.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.27**	**225**	P		Pn	03 41 42.1	+1.7
	6.7nm,0.3s,baz=21,slow=5.9,SNR=12							
PMG				S		Sn	03 42 28.9	-0.2
	9.3nm,0.3s,baz=202,slow=18,SNR=15							
WRA	**Warramunga Arr**	**20.49**	**227**	P		P	03 45 11.6	-0.5
	2.0nm,0.5s,baz=50,slow=11,SNR=12							
ASAR	**Alice Springs**	**23.27**	**221**	P		P	03 45 42.8	+1.2
	0.4nm,0.4s,baz=55,slow=8.7,SNR=11							
FITZ	**Fitzroy Crossi**	**26.66**	**242**	P		P	03 46 12.4	-0.2
	1.1nm,0.4s,baz=74,slow=9.0,SNR=11							
MKAR	**Makanchi Array**	**79.87**	**320**	P		P	03 52 42.8	+1.1
	0.1nm,0.5s,baz=97,slow=7.1,SNR=2.7							
QSPA	**South Pole Qui**	**83.57**	**180**	P		P	03 53 01.1	0.0
	0.6nm,0.7s,baz=338,slow=4.3,SNR=3.1							
ILAR	**Eielson Array**	**84.60**	**23**	P		P	03 53 04.5	-1.5
	0.3nm,0.7s,baz=244,slow=4.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**148.31**	**285**	PKPbc		PKPbc	04 00 18.7	-1.4
	1.3nm,0.6s,baz=64,slow=3.0,SNR=21							
BDFB	**Brasilia**	**151.60**	**141**	PKPbc		PKPbc	04 00 28.6	+0.4
	2.1nm,0.8s,baz=184,slow=5.7,SNR=4.0							

IDC 15 03:43:19.5±4.4,2°.01S×136°.90E,h0km,mb3.2/2,
mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,ML3.6/1,Error
ellipse: s-maj=195.3km s-min=28.7km az=82.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**188**	P		Pn	03 47 31.4	+0.1
	0.2nm,0.3s,baz=7.5,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**21.73**	**187**	P		P	03 48 11.8	-0.8
	0.9nm,0.8s,baz=23,slow=10,SNR=4.5							
MKAR	**Makanchi Array**	**68.14**	**323**	P		P	03 54 21.8	+0.3
	0.2nm,0.6s,baz=110,slow=7.1,SNR=3.8							

IDC 15 03:44:40.0±3.2,1°.87S×137°.55E,h0km,mb3.5/2,
mb1 3.8/3,mb1mx3.5/18,mbtmp3.6/3,ML3.7/1,Error
ellipse: s-maj=122.7km s-min=29.5km az=83.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.23**	**190**	P		Pn	03 48 54.7	0.0
	0.2nm,0.3s,baz=11,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**21.95**	**189**	P		P	03 49 34.6	-0.9
	1.9nm,0.8s,baz=22,slow=9.9,SNR=11							
MKAR	**Makanchi Array**	**68.42**	**323**	P		P	03 55 44.4	+0.6
	0.3nm,0.6s,baz=113,slow=7.5,SNR=4.1							

*ISCJB **15** 03:59:32.0±0.3,84°.78N±0°.05×2°.6E±0°.6,h10km, mb3.9/38, Error ellipse: s-maj=9.0km s-min=6.0km az=44.5*
*IDC **15** 03:59:32.1±0.6,84°.66N×2°.89E,h0km,mb3.7/19, mb1 3.9/21,mb1mx3.7/32,mbtmp3.7/21,ML3.9/2,MS3.6/1, Ms1 3.6/1,ms1mx3.1/44,Error ellipse: s-maj=17.5km s-min=11.2km az=38.0*
*NEIC **15** 03:59:33.8±0.3,84°.79N×3°.19E,h10km,mb4.3/22,Error ellipse: s-maj=7.8km s-min=4.9km az=48.0*

ISC 15 03:59:33.5±0.5,84°.66N±0°.08×2°.56E±0°.07,h10km,n92,
σ1s.58/90,mb4.0/38,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.91**	**162**	*e*Pn		Pn	04 00 57.6	-3.2
	12nm,0.5s							
KBS				*e*Sn		Sn	04 02 01.3	-7.0
SPITS	**Spitsbergen Ar**	**6.80**	**155**	Pn		Pn	04 01 09.7	-3.3
	baz=9.9,slow=10,SNR=97							
SPITS				Sn		Sn	04 02 22.7	-7.7
	baz=348,slow=11,SNR=1.8							
SPITS				LR		LR	04 03 32.2	
	comp=Z,446nm,20.3s,baz=275,slow=35							
SPITS	**Spitsbergen Ar**	**6.80**	**155**	Pn		Pn	04 01 09.7	-3.3
SPITS				Sn		Sn	04 02 22.7	-7.7
DAG	**Danmarks Havn**	**8.52**	**214**	*i* P		**Pn**	**04 01 37.4**	**+0.8**
	10nm,0.9s							
SUMG	**Summit**	**13.92**	**235**	*i* P		**Pn**	**04 02 48.5**	**-2.2**
	10.0nm,0.9s							
ARCES	**ARCESS Array B**	**15.77**	**150**	Pn		**Pn**	**04 03 11.3**	**-3.9**
	0.6nm,0.3s,baz=356,slow=12,SNR=10							
ARCES	**ARCESS Array B**	**15.77**	**150**	Pn		**Pn**	**04 03 11.3**	**-3.9**
RES	**Resolute Bay**	**16.95**	**295**	Pn		**Pn**	**04 03 27.4**	**-2.7**
	0.3nm,0.3s,baz=26,slow=10.0,SNR=11							
RES	**Resolute Bay**	**16.95**	**295**	*e*Pn		**Pn**	**04 03 27.4**	**-2.7**
	4.5nm,0.5s							
SFJD	**Kangerlussuaq**	**20.36**	**245**	P		**P**	**04 04 10.5**	**+1.0**
	5.4nm,0.6s,baz=9.5,slow=6.1,SNR=3.5							
SFJD	**Kangerlussuaq**	**20.36**	**245**	P		**P**	**04 04 10.5**	**+1.0**
NOA	**NORSAR Array B**	**23.82**	**170**	P		**P**	**04 04 47.4**	**+1.4**
	1.2nm,0.8s,baz=357,slow=9.6,SNR=4.7							
NOA	**NORSAR Array B**	**23.82**	**170**	P		**P**	**04 04 47.5**	**+1.4**
FINES	**FINESS Array B**	**23.88**	**152**	P		**P**	**04 04 45.9**	**-0.6**
	1.4nm,0.8s,baz=21,slow=12,SNR=6.9							
FINES				PcP		**PcP**	**04 08 28.9**	**+0.2**
	9.4nm,1.3s,baz=4.8,slow=3.3,SNR=3.6							
FINES	**FINESS Array B**	**23.88**	**152**	P		**P**	**04 04 45.9**	**-0.6**
FINES				PcP		**PcP**	**04 08 28.9**	**+0.2**
HFS	**Hagfors**	**24.77**	**167**	P		**P**	**04 04 53.1**	**-1.7**
	3.0nm,0.9s,baz=43,slow=6.5,SNR=4.6							
HFS	**Hagfors**	**24.77**	**167**	P		**P**	**04 04 53.1**	**-1.7**
FRB	**Frobisher Bay**	**25.15**	**262**	P		**P**	**04 04 58.4**	**+0.3**
	0.8nm,0.7s,baz=45,slow=10.0,SNR=2.6							
FRB	**Frobisher Bay**	**25.15**	**262**	P		**P**	**04 04 58.4**	**+0.3**
INK	**Inuvik**	**25.96**	**324**	P		**P**	**04 05 04.5**	**-0.9**
	1.8nm,0.6s,baz=18,slow=11,SNR=7.7							
INK	**Inuvik**	**25.96**	**324**	*e*P		**P**	**04 05 04.3**	**-1.1**
	2.1nm,0.7s							
ILAR	**Eielson Array**	**30.12**	**334**	P		**P**	**04 05 43.5**	**+0.8**
	1.2nm,1.1s,baz=0.6,slow=9.0,SNR=9.2							
ILAR	**Eielson Array**	**30.12**	**334**	P		**P**	**04 05 43.5**	**+0.8**
NACGM	**Naroch**	**30.45**	**152**	*e*LR		LR	04 06 10.0	
YKA	**Yellowknife Ar**	**30.47**	**305**	P		**P**	**04 05 46.0**	**+0.3**
	0.4nm,0.8s,baz=7.0,slow=8.0,SNR=8.3							
YKA				PcP		**PcP**	**04 08 44.8**	**+0.5**
	0.2nm,0.7s,baz=22,slow=3.5,SNR=5.4							
YKA	**Yellowknife Ar**	**30.47**	**305**	P		**P**	**04 05 46.0**	**+0.3**
YKA				PcP		**PcP**	**04 08 44.9**	**+0.5**
ARU	**Arti**	**31.02**	**117**	*e*P		**P**	**04 05 50.6**	**-0.1**
	2.3nm,0.8s							
AKASG	**Malin Array Be**	**34.75**	**150**	P		**P**	**04 06 23.1**	**-0.1**
	0.2nm,0.3s,baz=348,slow=7.9,SNR=3.3							
AKASG	**Malin Array Be**	**34.75**	**150**	P		**P**	**04 06 23.1**	**-0.1**
KIEV	**Kiev**	**34.76**	**150**	*e*P		**P**	**04 06 23.4**	**+0.1**
	1.7nm,0.5s							
MORC	**Moravsky Berou**	**35.24**	**163**	*e*P		**P**	**04 06 28.9**	**+1.3**
	2.2nm,1.0s							
ZALV	**Zalesovo Beam**	**35.85**	**90**	P		**P**	**04 06 33.1**	**+0.4**
	0.2nm,0.3s,baz=346,slow=4.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**35.85**	**90**	P		**P**	**04 06 33.1**	**+0.4**
GERES	**GERESS Array B**	**36.08**	**167**	P		**P**	**04 06 36.8**	**+1.9**
	0.4nm,0.6s,baz=26,slow=7.0,SNR=5.3							
GERES	**GERESS Array B**	**36.08**	**167**	P		**P**	**04 06 36.8**	**+1.9**
CDF	**Champ du Feu**	**36.42**	**175**	*e*P		**P**	**04 06 38.8**	**+1.1**
CDF	**Champ du Feu**	**36.42**	**175**	*e*P		**P**	**04 06 38.8**	**+1.1**
PSZ	**Piszkesteto**	**37.17**	**161**	*e*P		**P**	**04 06 45.4**	**+1.4**
	2.3nm,0.9s							
LOR	**Lormes**	**37.55**	**179**	*e*P		**P**	**04 06 48.9**	**+1.7**
LOR	**Lormes**	**37.55**	**179**	*e*P		**P**	**04 06 48.9**	**+1.7**
BUR08	**Bucovina Ar. S**	**37.63**	**155**	*e*P		**P**	**04 06 48.5**	**+0.4**
SSF	**Saint Saulge**	**37.75**	**179**	*e*P		**P**	**04 06 51.0**	**+2.1**
SSF	**Saint Saulge**	**37.75**	**179**	*e*P		**P**	**04 06 51.0**	**+2.1**
CABF	**La Chapelle**	**38.21**	**176**	*e*P		**P**	**04 06 55.0**	**+2.0**
	12nm,1.2s							
CABF	**La Chapelle**	**38.21**	**176**	*e*P		**P**	**04 06 55.0**	**+2.0**
	12nm,1.2s							
KIS	**Kishinev**	**38.43**	**151**	*e*L		L	04 06 30.0	
KIS				*e*LR		LR	04 09 04.0	
	500nm,20.0s							
KURK	**Kurchatov**	**38.48**	**97**	P		**P**	**04 06 55.7**	**+0.8**
KURBB	**Kurchatov Arra**	**38.56**	**98**	P		**P**	**04 06 55.7**	**+0.1**
	0.3nm,0.3s,baz=357,slow=7.5,SNR=6.4							
LPL	**La Plagne**	**39.31**	**175**	*e*P		**P**	**04 07 05.1**	**+2.8**
	16nm,1.1s							
LPL	**La Plagne**	**39.31**	**175**	*e*P		**P**	**04 07 05.1**	**+2.8**
	16nm,1.1s							
LPG	**La Plagne**	**39.33**	**175**	*e*P		**P**	**04 07 05.3**	**+2.7**
	10nm,1.1s							
LPG	**La Plagne**	**39.33**	**175**	*e*P		**P**	**04 07 05.3**	**+2.7**
	10nm,1.1s							
RJF	**Les Rejaudoux**	**39.51**	**181**	*e*P		**P**	**04 07 05.7**	**+2.0**
	10nm,1.0s							
RJF	**Les Rejaudoux**	**39.51**	**181**	*e*P		**P**	**04 07 05.7**	**+2.0**
	10nm,1.0s							
ORIF	**Oris-en-Rattie**	**39.91**	**176**	*e*P		**P**	**04 07 09.4**	**+2.3**
	9.0nm,1.2s							
ORIF	**Oris-en-Rattie**	**39.91**	**176**	*e*P		**P**	**04 07 09.4**	**+2.3**
	9.0nm,1.2s							
VIVF	**Saint-Julien-l**	**39.96**	**178**	*e*P		**P**	**04 07 09.8**	**+2.3**
	9.0nm,0.9s							
VIVF	**Saint-Julien-l**	**39.96**	**178**	*e*P		**P**	**04 07 09.8**	**+2.3**
	9.0nm,0.9s							
MBDF	**Montbardon**	**40.10**	**175**	*e*P		**P**	**04 07 11.0**	**+2.2**
	9.1nm,1.1s							
MBDF	**Montbardon**	**40.10**	**175**	*e*P		**P**	**04 07 11.0**	**+2.2**
	9.1nm,1.1s							
SMRF	**Simiane la Rot**	**40.85**	**177**	*e*P		**P**	**04 07 16.7**	**+1.9**
SMRF	**Simiane la Rot**	**40.85**	**177**	*e*P		**P**	**04 07 16.7**	**+1.9**
SBF	**Sospel**	**40.97**	**175**	*e*P		**P**	**04 07 18.2**	**+2.3**
	26nm,1.0s							
SBF	**Sospel**	**40.97**	**175**	*e*P		**P**	**04 07 18.2**	**+2.3**
	26nm,1.0s							
ULM	**Lac du Bonnet**	**41.02**	**285**	P		P	04 07 16.1	0.0
	0.7nm,0.4s,baz=17,slow=11,SNR=4.1							
ULM	**Lac du Bonnet**	**41.02**	**285**	P		**P**	**04 07 16.1**	**0.0**
FRF	**La Foret Royal**	**41.27**	**175**	*e*P		**P**	**04 07 19.8**	**+1.5**
FRF	**La Foret Royal**	**41.27**	**175**	*e*P		**P**	**04 07 19.8**	**+1.5**
LMR	**La Mourre**	**41.49**	**176**	*e*P		**P**	**04 07 21.7**	**+1.6**
LMR	**La Mourre**	**41.49**	**176**	*e*P		**P**	**04 07 21.7**	**+1.6**
PGF	**Pioggiola**	**42.30**	**173**	*e*P		**P**	**04 07 28.9**	**+2.0**
	42nm,1.6s							
PGF	**Pioggiola**	**42.30**	**173**	*e*P		**P**	**04 07 28.9**	**+2.0**
	42nm,1.6s							
MK31	**Makanchi Array**	**42.70**	**95**	*e*P		**P**	**04 07 30.1**	**+0.1**
MKAR	**Makanchi Array**	**42.70**	**95**	P		**P**	**04 07 30.1**	**+0.1**
	0.6nm,0.8s,baz=349,slow=9.0,SNR=6.1							
MKAR	**Makanchi Array**	**42.70**	**95**	P		**P**	**04 07 30.1**	**+0.1**
SONM	**Songino Array**	**43.90**	**71**	P		**P**	**04 07 40.0**	**+0.3**
	0.3nm,0.8s,baz=318,slow=1.9,SNR=3.9							
SONM	**Songino Array**	**43.90**	**71**	P		**P**	**04 07 40.0**	**+0.3**
NEW	**Newport**	**44.79**	**305**	*e*P		**P**	**04 07 48.0**	**+1.2**
	3.2nm,0.9s							
BOZ	**Bozeman (W)**	**46.95**	**299**	*e*P		**P**	**04 08 02.6**	**-1.4**
	2.1nm,1.0s							
MALT	**Malatya**	**47.59**	**141**	*e*P		**P**	**04 08 08.2**	**-0.7**
	3.6nm,1.1s							
RSSD	**Black Hills**	**47.82**	**291**	*e*P		**P**	**04 08 11.4**	**+0.5**
	5.7nm,1.0s							
MOOW	**Moose Ponds**	**48.76**	**298**	*e*P		P	04 08 14.8	-3.4
	12nm,2.1s							
PDAR	**Pinedale Array**	**49.64**	**296**	P		**P**	**04 08 25.5**	**+0.7**
	0.3nm,0.6s,baz=335,slow=6.2,SNR=3.1							
PDAR	**Pinedale Array**	**49.64**	**296**	P		**P**	**04 08 25.5**	**+0.7**
HWUT	**Hardware Ranch**	**50.96**	**298**	*e*P		**P**	**04 08 35.2**	**+0.4**
	3.2nm,1.0s							
WMOK	**Wichita Mounta**	**56.66**	**285**	*e*P		**P**	**04 09 16.7**	**+0.3**
	1.6nm,0.7s							
TXAR	**Lajitas Array**	**62.46**	**289**	P		**P**	**04 09 57.1**	**+0.6**
	0.3nm,0.7s,baz=1.0,slow=5.4,SNR=3.2							
TXAR	**Lajitas Array**	**62.46**	**289**	P		**P**	**04 09 57.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**71.56**	**181**	P		**P**	**04 10 54.8**	**+0.5**
	0.6nm,0.6s,baz=353,slow=6.0,SNR=7.0							
TORD	**Torodi Ar. Bea**	**71.56**	**181**	P		**P**	**04 10 54.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**72.34**	**82**	P		**P**	**04 10 58.3**	**-0.7**
	0.9nm,0.3s,baz=345,slow=7.7,SNR=5.5							
CMAR	**Chiang Mai Arr**	**72.34**	**82**	P		**P**	**04 10 58.3**	**-0.7**

*ISK **15** 04:34:54.8,39°.00N×24°.70E,h4km,MD3.2*
*THE **15** 04:34:54.9,39°.07N×24°.55E,h2km±1km,ML3.9/6,Error ellipse: s-maj=1.5km s-min=0.5km az=241.0*
*ATH **15** 04:34:54.8,39°.08N×24°.52E,h26km±1km,ML3.9*
*ISCJB **15** 04:34:54.6±0.6,39°.10N±0°.01×

OUR	Ouranopolis	1.31	341	P	Pb	04 35 19.0	-0.7
PRK	Paraskevi	1.36	83	P	Pb	04 35 19.7	-0.8
PRK				S	Sg	04 35 38.6	+0.5
PRK	Paraskevi	1.36	83	*e*PN	Pg	04 35 20.0	-0.4
PRK				*e*SN	Sg	04 35 39.9	+1.8
PRK	Paraskevi	1.36	83	P	Pb	04 35 19.7	-0.8
PRK	Paraskevi	1.36	83	*e*Pn	Pg	04 35 20.0	-0.4
PRK				S	Sg	04 35 38.6	+0.5
PRK				*e*Sn	Sg	04 35 39.9	+1.8
CHOS	Chios island	1.38	120	P	Pg	04 35 20.3	-0.6
CHOS	Chios island	1.38	120	*e*PN	Pg	04 35 20.6	-0.3
CHOS				*e*SN	Sg	04 35 38.8	0.0
CHOS	Chios island	1.38	120	P	Pg	04 35 20.3	-0.6
CHOS	Chios island	1.38	120	*e*Pn	Pg	04 35 20.6	-0.3
CHOS				*e*Sn	Sg	04 35 38.8	0.0
BOZC	Bozcaada	1.40	57	*i* P	Pg	04 35 20.8	-0.3
AXAR	Agios Charalam	1.50	258	P	Pb	04 35 22.0	-0.8
AXAR	Agios Charalam	1.50	258	P	Pb	04 35 22.0	-0.8
PLG	Polygyros	1.53	327	P	Pn	04 35 21.9	-0.8
PLG	Polygyros	1.53	327	*e*PN	Pn	04 35 22.1	-0.6
PLG	Polygyros	1.53	327	*e*Pn	Pn	04 35 22.1	-0.6
NAIG	Nisos Aigina	1.56	212	*e*PN	Pb	04 35 22.4	-1.5
NAIG	Nisos Aigina	1.56	212	*e*Pn	Pb	04 35 22.4	-1.5
EZN	Ezine	1.57	62	*e*PN	Pn	04 35 22.5	-0.6
EZN				*e*SN	Sb	04 35 43.5	-0.8
EZN	Ezine	1.57	62	*e*Pn	Pn	04 35 22.5	-0.6
EZN				*e*Sn	Sb	04 35 43.5	-0.8
LTK	Loutraki	1.63	230	P	Pn	04 35 23.3	-0.7
LTK	Loutraki	1.63	230	*e*PN	Pb	04 35 23.6	-1.4
LTK				*e*SN	Sb	04 35 44.6	-1.4
LTK	Loutraki	1.63	230	P	Pn	04 35 23.3	-0.7
LTK	Loutraki	1.63	230	*e*Pn	Pb	04 35 23.6	-1.4
LTK				*e*Sn	Sb	04 35 44.6	-1.4
AYVA	Ayvalik	1.69	82	*i* P	Pb	04 35 24.7	-1.4
AYVA	Ayvalik	1.69	82	*i* P	Pb	04 35 24.7	-1.4
DSF	Desfina	1.71	247	P	Pn	04 35 24.4	-0.7
DSF	Desfina	1.71	247	P	Pn	04 35 24.4	-0.7
URLA	Izmir	1.77	114	*i* P	Pb	04 35 26.1	-1.4
URLA	Izmir	1.77	114	*i* P	Pb	04 35 26.1	-1.4
MAKR	Makrakomi, Fth	1.87	268	P	Pb	04 35 28.0	-1.2
MAKR	Makrakomi, Fth	1.87	268	P	Pb	04 35 28.0	-1.2
LIT	Litokhoron	1.87	303	P	Pn	04 35 27.0	-0.3
LIT	Litokhoron	1.87	303	*e*PB	Pn	04 35 27.1	-0.3
LIT	Litokhoron	1.87	303	*e*Pb	Pn	04 35 27.1	-0.3
DID	Didima	1.88	213	P	Pn	04 35 26.6	-0.9
DID	Didima	1.88	213	*e*PB	Pn	04 35 26.9	-0.6
DID	Didima	1.88	213	P	Pn	04 35 26.6	-0.9
DID	Didima	1.88	213	*e*Pb	Pn	04 35 26.9	-0.6
KAVA	Kavala	1.90	360	P	Pn	04 35 27.1	-0.7
KAVA	Kavala	1.90	360	P	Pn	04 35 27.1	-0.7
SOH	Sokhos	1.95	333	P	Pn	04 35 28.8	+0.3
SOH	Sokhos	1.95	333	*e*PN	Pn	04 35 28.8	+0.3
SOH	Sokhos	1.95	333	P	Pn	04 35 28.8	+0.3
THE	Thessaloniki	1.96	322	P	Pb	04 35 28.9	-1.8
THE	Thessaloniki	1.96	322	P	Pb	04 35 28.9	-1.8
GELI	Tayfur-Gelibol	1.99	48	*e*PN	Pb	04 35 29.1	-2.0
GELI	Tayfur-Gelibol	1.99	48	*e*Pn	Pb	04 35 29.1	-2.0
KALE	Kalithea	2.00	250	P	Pn	04 35 29.0	-0.2
KALE	Kalithea	2.00	250	*e*PB	Pn	04 35 28.9	-0.2
KALE	Kalithea	2.00	250	*e*Pb	Pn	04 35 28.9	-0.2
THL	Klokotos Trika	2.01	284	P	Pn	04 35 29.3	0.0
THL	Klokotos Trika	2.01	284	*e*PB	Pn	04 35 29.2	0.0
THL	Klokotos Trika	2.01	284	*e*Pb	Pn	04 35 29.2	0.0
TRIZ	Trizonia	2.06	250	P	Pn	04 35 29.8	0.0
TRIZ	Trizonia	2.06	250	*e*PN	Pn	04 35 29.4	-0.4
TRIZ	Trizonia	2.06	250	*e*Pn	Pn	04 35 29.4	-0.4
TRIZ	Trizonia	2.06	250	P	Pn	04 35 29.8	0.0
ENEZ	Enez	2.06	37	*e*PN	Sb	04 35 31.9	-0.6
ENEZ				*e*SN	Sb	04 35 58.5	0.0
ENEZ	Enez	2.06	37	*e*Pn	Pb	04 35 31.9	-0.6
ENEZ				*e*Sn	Sb	04 35 58.5	0.0
GUR	Goura	2.07	237	P	Pn	04 35 29.6	-0.5
GUR	Goura	2.07	237	*e*PB	Pn	04 35 30.0	-0.1
GUR				*e*SN	Sn	04 35 55.2	-1.3
GUR	Goura	2.07	237	P	Pn	04 35 29.6	-0.5
GUR	Goura	2.07	237	*e*Pb	Pn	04 35 30.0	-0.1
GUR				*e*Sn	Sn	04 35 55.2	-1.3
BLCB	Balcova	2.08	109	*e*PN	Pn	04 35 29.6	-0.6
BLCB	Balcova	2.08	109	*e*Pn	Pn	04 35 29.6	-0.6
EVR	Evrytania	2.13	266	P	Pn	04 35 31.4	+0.5
EVR	Evrytania	2.13	266	*e*PB	Pn	04 35 31.5	+0.5
EVR	Evrytania	2.13	266	P	Pn	04 35 31.4	+0.5
LPK	Lapseki	2.14	53	*e*PN	Pn	04 35 31.1	0.0
LPK	Lapseki	2.14	53	*e*Pn	Pn	04 35 31.1	0.0
ALN	Alexandroupoli	2.15	32	P	Pn	04 35 30.4	-0.7
ALN				S	Sg	04 36 03.9	+0.6
ALN	Alexandroupoli	2.15	32	*e*PN	Pn	04 35 30.4	-0.7
ALN				*e*SB	Sg	04 36 03.7	+0.4
ALN	Alexandroupoli	2.15	32	P	Pn	04 35 30.0	-1.1
ALN	Alexandroupoli	2.15	32	*e*Pn	Pn	04 35 30.4	-0.7
SRS	Serrai	2.15	341	P	Pn	04 35 30.7	-0.5
SRS	Serrai	2.15	341	P	Pn	04 35 30.7	-0.5
EFP	Efpalio	2.16	253	P	Pn	04 35 31.6	+0.4
EFP	Efpalio	2.16	253	*e*PB	Pb	04 35 31.7	-2.4
EFP	Efpalio	2.16	253	P	Pn	04 35 31.6	+0.4
APE	Apeiranthos	2.17	158	P	Pn	04 35 30.9	-0.4
APE	Apeiranthos	2.17	158	*e*PN	Pn	04 35 31.0	-0.4
APE	Apeiranthos	2.17	158	*e*Pn	Pn	04 35 31.0	-0.4
LAKA	Lakka	2.17	248	P	Pb	04 35 31.9	-2.4
LAKA	Lakka	2.17	248	*e*PB	Pb	04 35 32.0	-2.4
LAKA	Lakka	2.17	248	P	Pb	04 35 31.9	-2.4
RDO	Rodhopi	2.19	20	P	Pn	04 35 30.7	-1.0
RDO	Rodhopi	2.19	20	*e*PN	Pn	04 35 31.1	-0.6
RDO	Rodhopi	2.19	20	P	Pn	04 35 30.7	-1.0
RDO	Rodhopi	2.19	20	*e*Pn	Pn	04 35 31.1	-0.6
IZM	Izmir	2.24	107	*e*PN	Pn	04 35 32.1	-0.3
IZM	Izmir	2.24	107	*e*Pn	Pn	04 35 32.2	-0.3
NVR	Nevrokopi	2.31	347	P	Pn	04 35 33.0	-0.4
NVR	Nevrokopi	2.31	347	*e*PN	Pn	04 35 33.1	-0.4
NVR	Nevrokopi	2.31	347	*e*Pn	Pn	04 35 33.1	-0.4
VLX	Vlachokerasia	2.41	225	P	Pn	04 35 34.8	-0.1
VLX	Vlachokerasia	2.41	225	*e*PN	Pn	04 35 34.9	0.0
VLX				*e*SN	Sn	04 36 04.8	-0.2
VLX	Vlachokerasia	2.41	225	P	Pn	04 35 34.8	-0.1
VLX				*e*Sn	Sn	04 36 04.8	-0.2
KNT	Kendrikon	2.42	329	P	Pn	04 35 35.1	+0.2
KNT	Kendrikon	2.42	329	P	Pn	04 35 35.1	+0.2
KZN	Kozani	2.45	301	P	Pn	04 35 35.6	+0.1
KZN	Kozani	2.45	301	*e*PN	Pn	04 35 35.5	+0.1
KZN	Kozani	2.45	301	*e*Pn	Pn	04 35 35.5	+0.1
BALY	Balya	2.48	74	*i* P	Pn	04 35 36.2	+0.5
BALY	Balya	2.48	74	*i* P	Pn	04 35 36.2	+0.5
GRG	Griva	2.48	319	P	Pn	04 35 36.5	+0.8
GRG	Griva	2.48	319	P	Pn	04 35 36.5	+0.8
KRBG	Karabiga-Canak	2.50	58	*e*PN	Pb	04 35 37.0	-2.9
KRBG	Karabiga-Canak	2.50	58	*e*Pn	Pb	04 35 37.0	-2.9
GCAM	G?zelcaml?	2.54	122	*i* P	Pn	04 35 36.8	+0.4
GCAM	G?zelcaml?	2.54	122	*i* P	Pn	04 35 36.8	+0.4
AKHS	Akhisar	2.56	94	*i* P	Pn	04 35 37.4	+0.5
AKHS	Akhisar	2.56	94	*i* P	Pn	04 35 37.4	+0.5
AKS	Akhisar	2.56	94	*e*PN	Pn	04 35 36.8	-0.1
AKS	Akhisar	2.56	94	*e*Pn	Pn	04 35 36.8	-0.1
RKY	Sarkoy-Tekirda	2.58	51	*e*PN	Pn	04 35 37.8	+0.6
RKY	Sarkoy-Tekirda	2.58	51	*e*Pn	Pn	04 35 37.8	+0.6
SART	Tekirdag	2.59	51	*i* P	Pn	04 35 35.2	-2.0
SART	Tekirdag	2.59	51	*i* P	Pn	04 35 35.2	-2.0
RLS	Riolos of Patr	2.62	248	P	Pn	04 35 38.5	+1.0
RLS	Riolos of Patr	2.62	248	*e*PN	Pn	04 35 37.5	0.0
RLS	Riolos of Patr	2.62	248	*e*Pn	Pn	04 35 37.5	0.0
RLS	Riolos of Patr	2.62	248	P	Pn	04 35 38.5	+1.0
GONE	Gonen-Balikesi	2.62	68	*e*PN	Pn	04 35 38.1	+0.6
GONE	Gonen-Balikesi	2.62	68	*e*Pn	Pn	04 35 38.1	+0.6
BALB	Balikesir	2.65	77	*e*PN	Pn	04 35 38.9	+0.9
BALB	Balikesir	2.65	77	*e*Pn	Pn	04 35 38.9	+0.9
VLI	Veliai	2.68	209	P	Pn	04 35 37.7	-0.8
VLI	Veliai	2.68	209	*e*PN	Pn	04 35 38.1	-0.4
VLI	Veliai	2.68	209	P	Pn	04 35 37.7	-0.8
VLI	Veliai	2.68	209	*e*Pn	Pn	04 35 38.1	-0.4
VAY	Valandovo	2.69	327	P	Pn	04 35 39.1	+0.6
VAY	Valandovo	2.69	327	P	Pn	04 35 39.1	+0.6
AMT	Artemida-Makis	2.71	236	P	Pn	04 35 40.1	+1.2
AMT	Artemida-Makis	2.71	236	*e*PN	Pn	04 35 39.0	+0.1
AMT	Artemida-Makis	2.71	236	*e*Pn	Pn	04 35 39.0	+0.1
AMT	Artemida-Makis	2.71	236	P	Pn	04 35 40.1	+1.2
THR2	Thira island,	2.73	165	P	Pn	04 35 38.9	-0.3
THR2	Thira island,	2.73	165	P	Pn	04 35 38.9	-0.3
ITM	Ithomi	2.80	228	*e*PN	Pn	04 35 41.1	+0.9
ITM	Ithomi	2.80	228	*e*Pn	Pn	04 35 41.1	+0.9
THR1	Thera Island	2.81	165	P	Pn	04 35 39.9	-0.4
THR1	Thera Island	2.81	165	P	Pn	04 35 39.9	-0.4
BNT	Bandirma	2.90	63	*e*PN	Pn	04 35 42.1	+0.6
BNT	Bandirma	2.90	63	*e*Pn	Pn	04 35 42.1	+0.6
DYR	Agios Nikonas	2.90	217	P	Pn	04 35 41.8	+0.3
DYR	Agios Nikonas	2.90	217	*e*PN	Pn	04 35 41.6	+0.1
DYR	Agios Nikonas	2.90	217	*e*Pn	Pn	04 35 41.6	+0.1
JAN	Janina	2.91	282	P	Pb	04 35 45.8	-1.1
JAN	Janina	2.91	282	*e*PB	Pb	04 35 45.3	-1.6
JAN	Janina	2.91	282	P	Pb	04 35 45.8	-1.1
FNA	Florina	2.96	306	P	Pn	04 35 43.0	+0.7
FNA	Florina	2.96	306	P	Pn	04 35 43.0	+0.7
BODT	Bodrum	2.98	132	*e*PN	Pn	04 35 42.1	-0.5
BODT	Bodrum	2.98	132	*e*Pn	Pn	04 35 42.1	-0.5
AYDN	Tasoluk	2.99	117	*i* P	Pn	04 35 43.6	+0.8
AYDN	Tasoluk	2.99	117	*i* P	Pn	04 35 43.6	+0.8
NEST	Nestorio	2.99	297	P	Pb	04 35 45.2	-3.2
NEST	Nestorio	2.99	297	P	Pb	04 35 45.2	-3.2
PLD	Plovdiv	3.01	2	P	Pn	04 35 44.0	+1.0
PLD	Plovdiv	3.01	2	P	Pn	04 35 44.0	+1.0
KYTH	Kithira	3.05	203	P	Pn	04 35 43.4	-0.1
KYTH	Kithira	3.05	203	*e*PN	Pn	04 35 43.4	-0.1
KYTH	Kithira	3.05	203	P	Pn	04 35 43.4	-0.1
BDRM	Kayabasi	3.06	130	*i* P	Pn	04 35 43.9	+0.2
BDRM	Kayabasi	3.06	130	*i* P	Pn	04 35 43.9	+0.2
KFL	Anninata	3.09	253	P	Pb	04 35 46.5	-3.5
KFL	Anninata	3.09	253	P	Pb	04 35 46.5	-3.5
DURS	Dursunbey	3.10	79	*i* P	Pn	04 35 44.7	+0.5
DURS	Dursunbey	3.10	79	*i* P	Pn	04 35 44.7	+0.5
PYL	PYLOS	3.11	226	P	Pn	04 35 45.7	+1.4
VLS	PYLOS	3.11	226	*e*PN	Pn	04 35 45.4	+1.1
PYL	PYLOS	3.11	226	*e*Pn	Pn	04 35 45.4	+1.1
VLS	PYLOS	3.11	226	*e*Pn	Pn	04 35 45.4	+1.1
MANT	Manisa	3.20	100	*i* P	Pn	04 35 47.0	+1.2
MANT	Manisa	3.20	100	*i* P	Pn	04 35 47.0	+1.2
VLS	Valsamata	3.22	255	P	Pn	04 35 47.8	+1.9
VLS	Valsamata	3.22	255	*e*PN	Pn	04 35 45.7	-0.2
VLS	Valsamata	3.22	255	*e*Pn	Pn	04 35 45.7	-0.2
VLS	Valsamata	3.22	255	P	Pn	04 35 47.8	+1.9
EDRB	Edirne	3.23	31	*e*PN	Pn	04 35 47.9	+1.9
EDRB	Edirne	3.23	31	*e*Pn	Pn	04 35 47.9	+1.9
RGA	Parga	3.25	275	P	Pb	04 35 49.2	-3.6
RGA	Parga	3.25	275	P	Pb	04 35 49.2	-3.6
DEMI	Demirci	3.26	90	*i* P	Pn	04 35 47.6	+1.1
DEMI	Demirci	3.26	90	*i* P	Pn	04 35 47.6	+1.1
IGT	Igoumenitsa	3.29	279	P	Pb	04 35 49.9	-3.5
IGT	Igoumenitsa	3.29	279	P	Pb	04 35 49.9	-3.5
YER	Yerkesik	3.54	122	*e*PN	Pn	04 35 49.1	-1.3
YER	Yerkesik	3.54	122	*e*Pn	Pn	04 35 49.1	-1.3
VTS	Vitosha	3.64	344	P	Pn	04 35 52.8	+1.0
VTS	Vitosha	3.64	344	*e*PN	Pn	04 35 52.7	+1.0
VTS	Vitosha	3.64	344	*e*Pn	Pn	04 35 52.7	+1.0
ARMT	Armutlu	3.64	65	*e*PN	Pn	04 35 53.3	+1.6
ARMT	Armutlu	3.64	65	*e*Pn	Pn	04 35 53.3	+1.6
VAM	Vamos	3.69	184	P	Pn	04 35 52.6	+0.3
VAM	Vamos	3.69	184	*e*PN	Pn	04 35 51.8	-0.5
VAM	Vamos	3.69	184	*e*Pn	Pn	04 35 51.8	-0.5
VAM	Vamos	3.69	184	P	Pn	04 35 52.6	+0.3
KARN	Karanos	3.71	188	P	Pn	04 35 52.9	+0.2
KARN	Karanos	3.71	188	*e*PN	Pn	04 35 53.2	+0.5
KARN	Karanos	3.71	188	P	Pn	04 35 52.9	+0.2
KARN	Karanos	3.71	188	*e*Pn	Pn	04 35 53.2	+0.5
JMB	Yambol	3.71	24	P	Pn	04 35 52.6	0.0
JMB	Yambol	3.71	24	P	Pn	04 35 52.6	0.0
KEK	Kerkira	3.72	281	P	Pn	04 35 55.4	+2.7
KEK	Kerkira	3.72	281	*e*PN	Pn	04 35 54.4	+1.7
KEK	Kerkira	3.72	281	*e*Pn	Pn	04 35 54.4	+1.7
KEK	Kerkira	3.72	281	P	Pn	04 35 55.4	+2.7
DENT	Denizli	3.78	109	*e*PN	Pn	04 35 52.5	-1.0
DENT	Denizli	3.78	109	*e*Pn	Pn	04 35 52.6	-1.0
IDI	Anoyia	3.81	176	P	Pn	04 35 53.6	-0.4
IDI	Anoyia	3.81	176	*e*PN	Pn	04 35 53.7	-0.3
IDI	Anoyia	3.81	176	P	Pn	04 35 53.6	-0.4
DNZL	Cakiroluk	3.81	110	*i* P	Pn	04 35 55.5	+1.3
DNZL	Cakiroluk	3.81	110	*i* P	Pn	04 35 55.5	+1.3
TVSB	Tavsanli	3.84	83	*e*PN	Pn	04 35 55.1	+0.6
TVSB	Tavsanli	3.84	83	*e*Pn	Pn	04 35 55.1	+0.6
GDZ	Gediz	3.85	88	*i* P	Pn	04 35 55.8	+1.1
GDZ	Gediz	3.85	88	*i* P	Pn	04 35 55.8	+1.1
TURN	Turunc	3.90	123	*i* P	Pn	04 35 52.3	-2.9
TURN	Turunc	3.90	123	*i* P	Pn	04 35 52.3	-2.9
NPS	Neapolis	3.92	167	*e*PN	Pn	04 35 54.8	-0.7
NPS	Neapolis	3.92	167	*e*Pn	Pn	04 35 54.8	-0.7
KHAL	Karahalli	3.94	99	*i* P	Pn	04 35 57.5	+1.6
KHAL	Karahalli	3.94	99	*i* P	Pn	04 35 57.5	+1.6
LAST	Lasithi	3.99	169	P	Pn	04 35 56.3	-0.3
LAST	Lasithi	3.99	169	*e*PN	Pn	04 35 56.3	-0.3
LAST	Lasithi	3.99	169	*e*Pn	Pn	04 35 56.3	-0.3
KARP	Karpathos	4.11	149	*e*PN	Pn	04 35 58.1	0.0
KARP	Karpathos	4.11	149	*e*Pn	Pn	04 35 58.1	0.0
ZKR	Zakros	4.19	161	P	Pn	04 35 59.1	-0.1
ZKR	Zakros	4.19	161	*e*PN	Pn	04 35 59.5	+0.3
ZKR	Zakros	4.19	161	P	Pn	04 35 59.1	-0.1
ZKR	Zakros	4.19	161	*e*Pn	Pn	04 35 59.5	+0.3
TIR	Tirane	4.22	304	*e*Pn	Pb	04 36 03.9	-5.4
TIR	Tirane	4.22	304	*e*Pn	Pb	04 36 03.9	-5.4
BARS	Barje	4.25	332	*e*PN	Pn	04 36 00.7	+0.6
BARS	Barje	4.25	332	*e*Pn	Pn	04 36 00.7	+0.6
GOLH	Golhisar	4.37	113	*i* P	Pn	04 36 02.9	+1.1
GOLH	Golhisar	4.37	113	*i* P	Pn	04 36 02.9	+1.1
ZAPS	Zavoj	4.42	342	*e*PN	Pn	04 36 04.1	+1.7
SELS	Selova	4.86	329	*e*Pn	Pn	04 36 06.2	-2.3
SEYT	Eskypehyr	4.92	83	*i* P	Pn	04 36 10.5	+1.2
SEYT	Eskypehyr	4.92	83	*i* P	Pn	04 36 10.5	+1.2
AKAS	Kas	4.93	124	*i* P	Pn	04 36 12.5	+3.0
AKAS	Kas	4.93	124	*i* P	Pn	04 36 12.5	+3.0
KORT	Korkueli	5.04	113	*i* P	Pn	04 36 13.7	+2.6
KORT	Korkueli	5.04	113	*i* P	Pn	04 36 13.7	+2.6
BOLS	Boljevac	5.12	339	*e*PN	Pn	04 36 11.2	-0.7
BOLS	Boljevac	5.12	339	*e*Pn	Pn	04 36 11.2	-0.7
PDG	Podgorica	5.21	311	*e*PN	Pn	04 36 16.0	+2.8
PDG	Podgorica	5.21	311	*e*Pn	Pn	04 36 16.0	+2.8
IVAS	Ivanjica	5.56	325	*e*PN	Pn	04 36 19.3	+1.2
IVAS	Ivanjica	5.56	325	*e*Pn	Pn	04 36 19.3	+1.2
GRUS	Gruza	5.58	330	*e*PN	Pn	04 36 19.1	+0.8
GRUS	Gruza	5.58	330	*e*Pn	Pn	04 36 19.1	+0.8
TRUS	Trudelj	5.99	330	*e*PN	Pn	04 36 23.4	-0.5
TRUS	Trudelj	5.99	330	*e*Pn	Pn	04 36 23.4	-0.5
DIVS	Divibare	6.05	327	*e*PN	Pn	04 36 25.6	+0.8
DIVS	Divibare	6.05	327	*e*Pn	Pn	04 36 25.6	+0.8
ARRS	Arges	6.27	1	*i* P	Pn	04 36 28.1	+0.2
ARR	Arges	6.27	1	*i* P	Pn	04 36 28.1	+0.2
VOIR		6.35	3	*i* P	Pn	04 36 29.3	+0.3
VOIR		6.35	3	*i* P	Pn	04 36 29.3	+0.3
LOT	Lotru	6.38	355	*i* P	Pn	04 36 29.9	+0.5
LOT	Lotru	6.38	355	*i* P	Pn	04 36 29.9	+0.5
MLR	Muntele Rosu	6.48	9	Pn	Pn	04 36 32.1	+1.4
	0.2nm,0.3s,baz=175,slow=13,SNR=9.2						
MLR	Muntele Rosu	6.48	9	*i* P	Pn	04 36 31.1	+0.3
MLR	Muntele Rosu	6.48	9	*i* P	Pn	04 36 31.1	+0.3
BZS	Buzias	6.87	343	*e*PN	Pn	04 36 35.9	-0.1
BZS	Buzias	6.87	343	*e*Pn	Pn	04 36 35.9	-0.1
PLOR	Plostina	6.94	12	*i* P	Pn	04 36 40.1	+3.2
VRI	Vrincioaia	6.96	13	*i* P	Pn	04 36 38.9	+1.6
VRI	Vrincioaia	6.96	13	*i* P	Pn	04 36 38.9	+1.6
BRTR	Keskin Array B	7.08	82	Pn	Pn	04 36 40.6	+1.6
	1.1nm,0.3s,baz=259,slow=13,SNR=7.4						
TESR		7.58	11	*i* P	Pn	04 36 47.7	+2.0
TESR		7.58	11	*i* P	Pn	04 36 47.7	+2.0
DRGR		7.81	351	*i* P	Pn	04 36 49.3	+0.3
DRGR		7.81	351	*i* P	Pn	04 36 49.3	+0.3
PKSM	Moragy	8.33	331	*i* P	Pn	04 36 56.3	+0.2
PKSM	Moragy	8.33	331	*e*Pn	Pn	04 36 56.5	+0.4
PKSM	Moragy	8.33	331	*i* P	Pn	04 36 56.3	+0.2
BURAR	Bucovina Array	8.54	3	*i* P	Pn	04 36 58.2	-0.7
BURAR	Bucovina Array	8.54	3	*i* P	Pn	04 36 58.2	-0.7
KOLS	Kolonicke sedl	9.97	351	*e*PN	Pn	04 37 21.8	+3.3
KOLS				*e*PG		04 38 11.4	
KOLS				*e*		04 40 28.5	
CRVS	Cervenica-Dubn	10.05	348	*e*PN	Pn	04 37 20.0	+0.3
CRVS				*e*		04 40 38.7	
CRVS	Cervenica-Dubn	10.05	348	*e*Pn	Pn	04 37 20.0	+0.3
VYHS	Vyhne	10.26	338	*e*PN	Pn	04 37 23.1	+0.6
VYHS	Vyhne	10.26	338	*e*Pn	Pn	04 37 23.1	+0.6
MMAI	Mount Meron Ar	10.68	121	Pn	Pn	04 37 28.5	+0.1
	0.8nm,0.3s,baz=312,slow=13,SNR=5.1						
GERES	GERESS Array B	12.47	325	Pn	Pn	04 37 55.9	+3.1
	0.0nm,0.3s,baz=144,slow=17,SNR=2.4						
ESDC	Sonseca Array	22.00	281	P	P	04 39 51.3	+1.6
	0.7nm,0.8s,baz=76,slow=12,SNR=4.9						
FINES	FINESS Array B	22.40	2	P	P	04 39 52.9	-0.8
	1.4nm,0.9s,baz=193,slow=16,SNR=2.9						
NOA	NORSAR Array B	23.48	344	P	P	04 40 05.0	-0.1
	0.7nm,0.8s,baz=147,slow=9.0,SNR=4.2						
TORD	Torodi Ar. Bea	32.80	224	P	P	04 41 30.2	+1.2
	0.6nm,0.6s,baz=41,slow=7.7,SNR=4.7						
DBIC	Dimbokro	41.76	227	P	P	04 42 48.0	+3.0
	2.3nm,0.9s,baz=16,slow=11,SNR=3.3						
MKAR	Makanchi Array	42.14	60	P	P	04 42 49.5	+1.6
	0.3nm,0.5s,baz=279,slow=6.0,SNR=3.9						

SKO ***15*** *04:35:38.1,38°.20N×24°.02E, h0km*
ISCJB ***15*** *04:35:44.4±0.7, 39°.10N±0°.02×24°.55E±0°.02, h8km±5km, mb3.6/11, MS3.7/1, Error ellipse: s-maj=3.2km s-min=2.7km az=32.1*
ATH ***15*** *04:35:44.8, 39°.09N×24°.54E, h26km±1km, ML4.0*
CSEM ***15*** *04:35:45.0±0.1, 39°.06N×24°.53E, h10km, ML4.3/7, Error ellipse: s-maj=3.6km s-min=2.9km az=114.0*
THE ***15*** *04:35:46.1, 39°.08N×24°.52E, h16km±2km, ML4.3/7, Error ellipse: s-maj=2.0km s-min=0.8km az=276.0*
IDC ***15*** *04:35:50.5±3.1, 39°.31N×24°.55E, h33km±24km, mb3.5/11, mb1 3.7/17, mb1mx3.6/32, mbtmp3.5/17, ML3.3/5, MS3.5/2, Ms1 3.5/2, ms1mx3.1/38, Error ellipse: s-maj=19.9km s-min=13.5km az=164.0*
ISK ***15*** *04:35:56.3, 39°.22N×25°.13E, h5km, ML3.6*
ISC 15 04:35:45.6±1.0, 39°.09N±0°.02×24°.51E±0°.02, h10km±7km, n146, σ1°09/184, mb3.7/11, 4C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.50	279	P	Pg	04 35 55.7	+0.4
AOS				S	Sb	04 36 03.3	-0.5
AOS	Alonnisos	0.50	279	*e

VAY	Valandovo	2.68	327	P	Pn	04 36 28.3	-0.5
VAY	Valandovo	2.68	327	*e*Pn	Pn	04 36 28.0	-0.8
VAY				*e*Sn	Sg	04 37 12.7	+1.1
VAY	Valandovo	2.68	327	*e*Pn	Pn	04 36 28.4	-0.4
FNA	Florina	2.94	306	P	Pn	04 36 32.8	+0.3
FNA	Florina	2.94	306	P	Pn	04 36 32.8	+0.3
BIA	Bitola	3.11	309	*e*Pn	Pn	04 36 35.8	+0.9
BIA				*e*Sn	Sn	04 37 13.2	+1.1
BIA	Bitola	3.11	309	*e*Pn	Pn	04 36 35.7	+0.9
BIA				*e*Sn	Sn	04 37 13.2	+1.1
EDRB	Edirne	3.23	31	*e*PN	Pb	04 36 45.1	+1.9
VTS	Vitosha	3.63	345	‖*i*P	Pn	04 36 42.9	+0.8
VTS	Vitosha	3.63	345	‖*i*P	Pn	04 36 42.9	+0.8
KEK	Kerkira	3.70	281	*e*PB	Pn	04 36 46.9	+4.0
KEK	Kerkira	3.70	281	*e*Pb	Pn	04 36 46.9	+4.0
KARP	Karpathos	4.12	148	*e*PN	Pn	04 36 48.1	-0.5
KARP	Karpathos	4.12	148	*e*Pn	Pn	04 36 48.1	-0.5
MLR	Muntele Rosu	6.48	9	Pn	Pn	04 37 21.1	0.0
	0.3nm,0.3s,baz=190,slow=10,SNR=9.4						
MLR				Sn	Sn	04 38 38.5	+3.3
	0.7nm,0.3s,baz=284,slow=22,SNR=3.9						
MLR				Lg	Lg	04 39 18.5	
	0.2nm,0.3s,baz=292,slow=16,SNR=4.6						
MLR				LR	LR	04 40 07.8	
	comp=Z,208nm,20.2s,baz=139,slow=41						
BRTR	Keskin Array B	7.09	82	Pn	Pn	04 37 30.7	+1.1
	0.7nm,0.3s,baz=258,slow=13,SNR=7.9						
BRTR				Lg	Lg	04 39 33.8	
	baz=274,slow=23,SNR=3.6						
PKSM	Moragy	8.32	331‖	*e*P	Pn	04 37 46.2	-0.1
PKSM	Moragy	8.32	331‖	*e*	Pn	04 37 46.2	-0.1
PKS9	Tamasi	8.78	331	*e*	Pn	04 37 59.9	+7.4
TRPA	Tarpa	9.15	352‖	*e*P	Pn	04 37 56.9	-0.7
TRPA	Tarpa	9.15	352‖	*e*	Pn	04 37 56.9	-0.7
PSZ	Piszkesteto	9.44	341‖	*e*P	Pn	04 38 03.7	+2.1
PSZ	Piszkesteto	9.44	341‖	*e*	Pn	04 38 03.7	+2.1
CRVS	Cervenica-Dubn	10.05	348	*e*Pg	Pn	04 38 12.0	+2.0
CRVS	Cervenica-Dubn	10.05	348	*e*PG	Pn	04 38 12.0	+2.0
VYHS	Vyhne	10.25	338	*e*Pg	Pn	04 38 13.6	+0.9
VYHS	Vyhne	10.25	338	*e*PG	Pn	04 38 13.6	+0.9
SOP	Sopron	10.35	329‖	*e*P	Pn	04 38 15.1	+1.0
SOP	Sopron	10.35	329‖	*e*	Pn	04 38 15.1	+1.0
MMAI	Mount Meron Ar	10.70	121	Pn	Pn	04 38 18.7	-0.2
	0.7nm,0.3s,baz=306,slow=12,SNR=2.7						
NIE	Niedzica	10.75	345	*e*P	Pn	04 38 21.7	+2.1
AKASG	Malin Array Be	12.07	14	Pn	Pn	04 38 35.5	-2.1
	0.3nm,0.3s,baz=199,slow=12,SNR=2.4						
GERES	GERESS Array B	12.46	325	Pn	Pn	04 38 44.5	+1.5
	0.1nm,0.3s,baz=142,slow=16,SNR=6.7						
KEST	Kesra	12.52	259	Pn	Pn	04 38 47.5	+3.7
	0.0nm,0.3s,baz=80,slow=11,SNR=5.0						
DAVOX	Davos/Dischmat	13.18	310	Pn	Pn	04 38 55.1	+2.2
	baz=136,slow=15						
DAVOX				Sn	Sn	04 41 16.3	-3.2
	baz=162,slow=20						
MBDF	Montbardon	14.35	299	*e*P	Pn	04 39 07.3	-1.6
	6.6nm,0.8s						
LPG	La Plagne	14.61	302	*e*P	Pn	04 39 12.0	-0.5
	27nm,1.4s						
LPL	La Plagne	14.63	302	*e*P	Pn	04 39 12.5	-0.2
CABF	La Chapelle	15.44	305	*e*P	Pn	04 39 20.1	-3.4
	32nm,1.3s						
PAGF	Fort de Pagny	16.49	311	*e*P	Pn	04 39 29.9	-7.1
SFTF	Sexfontaines	16.74	309	*e*P	Pn	04 39 33.2	-6.9
SMF	Signal de Mont	16.90	303	*e*P	Pn	04 39 38.3	-3.8
	31nm,1.4s						
LOR	Lormes	17.10	305	*e*P	Pn	04 39 41.4	-3.3
	17nm,1.3s						
AVF	Avril sur Loir	17.27	303	*e*P	Pn	04 39 43.8	-2.9
	53nm,1.6s						
ESDC	Sonseca Array	21.98	281	P	P	04 40 40.1	+0.3
	3.1nm,0.7s,baz=74,slow=11,SNR=16						
HFS	Hagfors	22.14	346	P	P	04 40 40.5	-0.7
	2.1nm,0.8s,baz=151,slow=10.0,SNR=5.6						
FINES	FINESS Array B	22.40	2	P	P	04 40 43.8	-0.1
	2.1nm,0.9s,baz=186,slow=12,SNR=4.0						
FINES				LR	LR	04 50 07.1	
	comp=Z,301nm,19.3s,baz=141,slow=39						
NB2	NORSAR Subarra	23.48	344	P	P	04 40 53.9	-1.3
	comp=Z,3.8nm,1.0s,baz=151,slow=10						
NB2	NORSAR Subarra	23.48	344	P	P	04 40 53.9	-1.3
	comp=Z,3.8nm,1.0s,baz=151,slow=9.7,SNR=8.2						
NOA	NORSAR Array B	23.48	344	P	P	04 40 54.1	-1.0
	comp=Z,1.5nm,0.7s,baz=147,slow=8.9,SNR=7.7						
MDT	Midelt	24.33	264	P	P	04 41 06.4	+2.8
	comp=Z,1.7nm,0.9s,baz=57,slow=6.9,SNR=4.7						
TORD	Torodi Ar. Bea	32.79	224	P	P	04 42 22.1	+3.1
	comp=Z,1.6nm,0.6s,baz=32,slow=8.9,SNR=9.4						
MKAR	Makanchi Array	42.15	60	P	P	04 43 39.3	+1.2
	comp=Z,0.4nm,0.7s,baz=270,slow=5.8,SNR=4.2						
ZALV	Zalesovo Beam	42.74	49	P	P	04 43 43.4	+0.6
	comp=Z,1.2nm,0.6s,baz=284,slow=9.0,SNR=5.9						
YKA	Yellowknife Ar	73.56	342	P	P	04 47 19.0	+0.7
	comp=Z,0.3nm,0.8s,baz=32,slow=5.1,SNR=4.5						
ILAR	Eielson Array	76.25	356	P	P	04 47 33.8	-0.1
	comp=Z,0.2nm,0.8s,baz=9.7,slow=6.3,SNR=2.9						
KSRS	Korea Array	76.31	53	P	P	04 47 34.0	-0.7
	comp=Z,2.5nm,1.0s,baz=291,slow=4.6,SNR=4.3						

*ISCJB **15** 04:40:50.5±0.3, 18°.22N±0°.04×145°.52E±0°.07, h250km, mb4.1/46, Error ellipse: s-maj=9.6km s-min=5.7km az=179.4*
*NEIC **15** 04:40:52.8±1.0, 18°.20N×145°.52E, h259km±9km, mb4.3/25, Error ellipse: s-maj=8.0km s-min=5.7km az=78.0*
*IDC **15** 04:40:52.1±1.3, 18°.22N×145°.52E, h253km±13km, mb3.8/21, mb1 3.8/24, mb1mx3.8/34, mbtmp3.8/24, Error ellipse: s-maj=13.9km s-min=9.2km az=85.0*

ISC 15 04:40:51.8±0.4, 18°.20N±0°.06×145°.5E±0°.1, h250km, n85, σ1§04/89, mb4.2/46, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.63	188	P	Pn	04 42 04.3	+1.2
	21nm,0.3s,baz=4.8,slow=7.0,SNR=10						
GUMO				S	S	04 42 58.9	-1.1
	16nm,0.3s,baz=18,slow=20,SNR=3.7						
GUMO	Guam	4.63	188	P	Pn	04 42 04.3	+1.2
GUMO				S	S	04 42 58.9	-1.1
JOW	Kunigami	18.09	301	P	P	04 44 47.1	+1.7
	4.6nm,0.3s,baz=121,slow=12,SNR=7.5						
JOW	Kunigami	18.09	301	P	P	04 44 47.1	+1.7
MJAR	Matsushiro Arr	19.38	342	P	P	04 44 58.6	-0.5
	0.5nm,0.3s,baz=168,slow=11,SNR=6.5						
MJAR	Matsushiro Arr	19.38	342	P	P	04 44 58.6	-0.5
MAJO	Matsushiro	19.38	342	*e*P	P	04 44 58.5	-0.6
	6.8nm,0.7s						
YULB	Yu-li	23.21	287	*e*P	P	04 45 39.0	+2.1
	12nm,0.6s						
YHNB	Yeheng	23.36	290	*e*P	P	04 45 39.1	+0.8
	76nm,0.8s						
SSLB	Suanglung	23.58	288	*e*P	P	04 45 41.3	+1.0
	50nm,0.8s						
KSRS	Korea Array	24.62	325	P	P	04 45 48.7	-0.8
	2.1nm,0.6s,baz=140,slow=9.0,SNR=9.1						
KSAR	Wonju Array Be	24.63	325	P	P	04 45 48.7	-1.0
ASAJ	Asahikawa	25.95	355	P	P	04 46 00.2	-1.2
	9.0nm,0.8s,baz=179,slow=18,SNR=2.6						
ASAJ	Asahikawa	25.95	355	P	P	04 46 00.2	-1.2
COEN	Coen	32.04	184	*e*P	P	04 46 55.1	-0.3
WRAB	Tennant Creek	39.45	197	*e*P	P	04 47 58.2	0.0
	9.0nm,0.4s						
WRA	Warramunga Arr	39.46	197	P	P	04 47 58.5	+0.2
	6.6nm,0.5s,baz=19,slow=8.8,SNR=46						
WRA	Warramunga Arr	39.46	197	P	P	04 47 58.5	+0.2
ULN	Ulaanbaatar	43.05	322	*e*P	P	04 48 27.4	+0.1
	1.3nm,0.5s						
AS31	Alice Springs	43.13	196	*e*P	P	04 48 27.8	-0.2
ASAR	Alice Springs	43.13	196	P	P	04 48 28.0	0.0
	0.9nm,0.5s,baz=12,slow=5.6,SNR=26						
ASAR	Alice Springs	43.13	196	P	P	04 48 28.0	0.0
SONM	Songino Array	43.42	322	P	P	04 48 30.6	+0.4
	1.7nm,0.6s,baz=134,slow=7.6,SNR=13						
SONM	Songino Array	43.42	322	P	P	04 48 30.6	+0.4
CHTO	Chiang Mai	44.07	278	*e*P	P	04 48 36.3	+0.7
	2.2nm,0.6s						
CMAR	Chiang Mai Arr	44.12	278	P	P	04 48 37.6	+1.7
	11nm,0.8s,baz=69,slow=6.5,SNR=36						
CMAR	Chiang Mai Arr	44.12	278	P	P	04 48 37.6	+1.7
DZM	Mont Dzumac	44.96	152	*e*P	P	04 48 42.4	-0.1
	8.8nm,0.8s						
YAK	Yakutsk	45.17	350	*e*P	P	04 48 43.6	0.0
	23nm,0.6s						
KULM	Kulim	45.63	259	*e*P	P	04 48 47.7	-0.2
	5.2nm,0.5s						
STKA	Stephens Creek	49.94	184	P	P	04 49 20.3	-0.2
	1.2nm,0.5s,baz=13,slow=9.2,SNR=4.8						
STKA	Stephens Creek	49.94	184	P	P	04 49 20.3	-0.2
FORT	Forrest	51.51	199	*e*P	P	04 49 32.4	+0.1
	6.6nm,0.5s						
BILL	Bilibino	51.53	10	*e*P	P	04 49 33.1	+1.2
	4.7nm,0.6s						
ZALV	Zalesovo Beam	58.30	323	P	P	04 50 20.3	-0.2
	1.3nm,0.3s,baz=102,slow=6.8,SNR=10						
ZALV	Zalesovo Beam	58.30	323	P	P	04 50 20.3	-0.2
MK31	Makanchi Array	58.68	314	*e*P	P	04 50 23.9	+0.6
MKAR	Makanchi Array	58.68	314	P	P	04 50 23.5	+0.2
	2.2nm,0.5s,baz=89,slow=8.0,SNR=33						
MKAR	Makanchi Array	58.68	314	P	P	04 50 23.5	+0.2
KDAK	Kodiak Island	59.86	33	P	P	04 50 31.6	+0.5
	4.4nm,0.4s,baz=214,slow=3.6,SNR=9.5						
KDAK	Kodiak Island	59.86	33	P	P	04 50 31.6	+0.5
KURK	Kurchatov	61.53	318	*e*P	P	04 50 42.5	+0.2
	6.8nm,0.8s						
TKM2	Tokmak 2	63.23	309	*e*P	P	04 50 55.2	+1.1
	2.1nm,0.7s						
COLA	College	63.78	26	*e*P	P	04 50 59.0	+2.0
	5.8nm,0.9s						
AAK	Ala-Archa	64.05	309	*e*P	P	04 51 00.2	+0.8
	7.9nm,0.8s						
ILAR	Eielson Array	64.16	26	P	P	04 50 59.4	-0.1
	3.5nm,0.5s,baz=249,slow=6.0,SNR=111						
ILAR	Eielson Array	64.16	26	P	P	04 50 59.4	-0.1
PAX	Paxson	64.42	28	*e*P	P	04 51 02.3	+1.0
	6.0nm,0.5s						
EKS2	Erkin-Say	64.58	309	*e*P	P	04 51 03.1	+0.3
	2.2nm,1.0s						
BVAR	Borovoye Array	66.75	321	P	P	04 51 16.0	-0.2
	9.8nm,0.5s,baz=97,slow=7.6,SNR=78						
BVAR	Borovoye Array	66.75	321	P	P	04 51 16.0	-0.2
BRVK	Borovoye	66.81	321	*e*P	P	04 51 16.4	-0.2
	10nm,0.8s						
KKAR	Karatay Array	66.95	310	*e*P	P	04 51 17.7	0.0
	4.9nm,0.7s						
DAWY	Dawson	67.27	27	*e*P	P	04 51 20.7	+1.4
INK	Inuvik	69.89	23	*e*P	P	04 51 35.9	+0.5
	6.3nm,0.8s						
ARU	Arti	73.37	325	*e*P	P	04 51 55.8	-0.5
	7.4nm,0.6s						
ABKAR	Akbulak array	73.59	317	*e*P	P	04 51 57.1	-0.6
	4.2nm,0.4s						
AKTO	Aktyubinsk	74.62	319	P	P	04 52 03.0	-0.6
	1.8nm,0.5s,baz=118,slow=8.5,SNR=9.1						
AKTO	Aktyubinsk	74.62	319	P	P	04 52 03.0	-0.6
YKW3	Yellowknife Ar	78.48	28	*e*P	P	04 52 25.2	+0.3
YKA	Yellowknife Ar	78.50	28	P	P	04 52 25.5	+0.4
	1.0nm,0.6s,baz=288,slow=5.8,SNR=20						
YKA	Yellowknife Ar	78.50	28	P	P	04 52 25.5	+0.4
SPITS	Spitsbergen Ar	79.63	351	P	P	04 52 30.3	-0.6
	2.4nm,0.9s,baz=123,slow=3.2,SNR=8.0						
SPITS	Spitsbergen Ar	79.63	351	P	P	04 52 30.3	-0.6
RES	Resolute Bay	79.94	14	P	P	04 52 32.5	-0.1
	1.1nm,0.8s,baz=335,slow=7.6,SNR=6.4						
RES	Resolute Bay	79.94	14	P	P	04 52 32.5	-0.1
ARCES	ARCESS Array B	82.91	342	P	P	04 52 47.6	-0.6
	2.0nm,0.7s,baz=69,slow=6.6,SNR=8.3						
ARCES	ARCESS Array B	82.91	342	P	P	04 52 47.6	-0.6
NVAR	Mina Array Bea	83.58	52	P	P	04 52 54.0	+1.5
	5.1nm,0.7s,baz=265,slow=6.1,SNR=38						
NVAR	Mina Array Bea	83.58	52	P	P	04 52 54.0	+1.5
JOF	Joensuu	84.40	335	*e*p	P	04 52 53.4	-2.5
	1.0nm,0.5s						
DUG	Dugway	87.00	49	*e*P	P	04 53 10.4	+1.1
	3.0nm,1.0s						
FINES	FINESS Array B	87.26	335	P	P	04 53 08.0	-1.9
	0.7nm,0.3s,baz=62,slow=5.3,SNR=27						
FINES	FINESS Array B	87.26	335	P	P	04 53 08.0	-1.9
PDAR	Pinedale Array	88.29	45	P	P	04 53 14.8	-0.7
	0.6nm,1.0s,baz=293,slow=7.7,SNR=3.2						
PDAR	Pinedale Array	88.29	45	P	P	04 53 14.8	-0.7
MALT	Malatya	91.61	311	*e*P	P	04 53 30.2	-0.6
	2.7nm,1.0s						
HFS	Hagfors	92.78	338	P	P	04 53 33.6	-2.0
	0.4nm,0.5s,baz=90,slow=5.8,SNR=3.9						
HFS	Hagfors	92.78	338	P	P	04 53 33.6	-2.0
TORD	Torodi Ar. Bea	132.63	309	PKP	PKPdf	04 59 37.9	+0.2
	0.2nm,0.6s,baz=355,slow=1.7,SNR=3.3						
TORD				SKPbc	SKPbc	05 02 38.1	-3.0
	0.1nm,0.3s,baz=62,slow=3.4,SNR=4.3						
TORD	Torodi Ar. Bea	132.63	309	PKP	PKPdf	04 59 37.9	+0.2
TORD				SKPbc	SKPbc	05 02 38.1	-3.0
LCO	Las Campanas	145.24	115	*e*PKPbc	PKPbc	05 00 01.5	+0.7
LPAZ	La Paz	147.83	92	PKPbc	PKPbc	05 00 09.5	+0.6
	1.1nm,0.6s,baz=321,slow=4.9,SNR=6.4						
LPAZ	La Paz	147.83	92	*e*PKPbc	PKPbc	05 00 09.3	+0.5
SAML	Samuel	150.66	76	*e*PKPbc	PKPbc	05 00 14.4	-0.8

*ISK **15** 05:01:10.8, 38°.80N×26°.86E, h22km, MD2.7*
*DDA **15** 05:01:10.6, 38°.83N×26°.83E, h6km, MD2.8*
*ISCJB **15** 05:01:11.4±0.7, 38°.79N±0°.04×26°.81E±0°.05, h27km±6km, Error ellipse: s-maj=7.9km s-min=4.7km az=145.3*
*CSEM **15** 05:01:11.2±0.3, 38°.80N×26°.81E, h20km, MD2.7, Error ellipse: s-maj=8.0km s-min=4.6km az=67.0*

ISC 15 05:01:10.4±1.5, 38°.81N±0°.03×26°.83E±0°.04, h13km±12km, n25, σ0§60/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.46	158	*e*PG	Pb	05 01 20.7	+0.4
BLCB				*e*SG	Sb	05 01 27.1	+0.2
BLCB	Balcova	0.46	158	*e*Pg	Pb	05 01 20.7	+0.4
BLCB				*e*Sg	Sb	05 01 27.2	+0.2
AYVA	Ayvalik	0.51	348	*i* P	Pb	05 01 21.5	+0.3
AYVA				*i* S	Sb	05 01 28.1	-0.4
AYVA	Ayvalik	0.51	348	*i* P	Pb	05 01 21.5	+0.3
AYVA				*i* S	Sb	05 01 28.1	-0.4
IZM	Izmir	0.53	140	*e*PG	Pb	05 01 21.9	+0.2
IZM				*e*SG	Sb	05 01 30.0	+0.7
IZM	Izmir	0.53	140	*e*Pg	Pb	05 01 21.9	+0.2
IZM				*e*Sg	Sb	05 01 30.0	+0.7
AKS	Akhisar	0.77	85	*e*PG	Pb	05 01 25.8	+0.1
AKS				*e*SG	Sn	05 01 37.2	-1.3
AKS	Akhisar	0.77	85	*e*Pg	Pb	05 01 25.8	+0.1
AKS				*e*Sg	Sn	05 01 37.2	-1.3
AKHS	Akhisar	0.77	85	*i* P	Pb	05 01 26.0	+0.3
AKHS				*i* S	Sb	05 01 36.4	+0.3
AKHS	Akhisar	0.77	85	*i* P	Pb	05 01 26.0	+0.3
AKHS				*i* S	Sb	05 01 36.4	+0.3
EZN	Ezine	1.09	339	*e*PN	Pn	05 01 31.6	+0.3
EZN	Ezine	1.09	339	*e*Pn	Pn	05 01 31.6	+0.3
BALY	Balya	1.11	33	*i* P	Pn	05 01 31.8	0.0
BALY				*i* S	Sn	05 01 47.9	+0.9
BALY	Balya	1.11	33	*i* P	Pn	05 01 31.8	0.0
BALY				*i* S	Sn	05 01 47.9	+0.9
BALB	Balikesir	1.17	44	*e*PN	Sb	05 01 32.4	0.0
BALB				*e*SN	Sb	05 01 47.5	+0.1
BALB	Balikesir	1.17	44	*e*Pn	Pn	05 01 32.4	0.0
BALB				*e*Sn	Sb	05 01 47.5	+0.1
BOZC	Bozcaada	1.19	330	*i* P	Pg	05 01 32.2	-1.1
BOZC				*i* S	Sn	05 01 49.6	+0.7
GONE	Gonen-Balikesi	1.40	28	*e*PN	Pn	05 01 35.8	+0.1
GONE	Gonen-Balikesi	1.40	28	*e*Pn	Pn	05 01 35.8	+0.1
KULA	Kula-Manisa	1.47	101	*e*PN	Pn	05 01 35.5	-1.1
KULA	Kula-Manisa	1.47	101	*e*Pn	Pn	05 01 35.5	-1.1
DEMI	Demirci	1.49	80	*i* P	Pg	05 01 39.5	+0.5
DEMI				*i* S	Sn	05 01 55.5	-0.9
DEMI	Demirci	1.49	80	*i* P	Pg	05 01 39.5	+0.5
DEMI				*i* S	Sn	05 01 55.5	-0.9
TVSB	Tavsanli	2.15	72	*e*PN	Pn	05 01 46.1	+0.1
TVSB	Tavsanli	2.15	72	*e*Pn	Pn	05 01 46.1	+0.1

*BJI **15** 05:02:02.8, 27°.33N×140°.03E, h506km, mB4.9/14, mb4.5/28*
*ISCJB **15** 05:02:05.0±0.3, 27°.66N±0°.03×139°.76E±0°.05, h492km±3km, mb4.2/56, Error ellipse: s-maj=6.4km s-min=4.9km az=1.8*
*IDC **15** 05:02:05.3±0.5, 27°.67N×139°.81E, h486km±5km, mb3.6/24, mb1 3.7/30, mb1mx3.7/34, mbtmp3.6/30, Error ellipse: s-maj=10.2km s-min=7.5km az=75.0*
*JMA **15** 05:02:06.0±0.2, 27°.84N×140°.47E, h513km±3km, M4.1*
*NEIC **15** 05:02:07.3±0.9, 27°.59N×139°.64E, h506km±10km, mb4.3/23, Error ellipse: s-maj=10.1km s-min=6.5km az=116.0*

ISC 15 05:02:06.4±0.5, 27°.66N±0°.05×139°.84E±0°.05, h499km±3km,

n120, σ1§47/165, mb4.1/56, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.16	104	P	P	05 03 11.8	-0.5
	121nm,0.3s,baz=294,slow=21,SNR=32						
CBIJ				S	S	05 04 02.3	-3.4
	190nm,0.3s,baz=294,slow=21,SNR=18						
CBIJ	Chichi jima	2.16	104	P	P	05 03 11.7	-0.5
CBIJ				*e*S	S	05 04 02.1	-3.6
JHHJ	Haha-jima-NKT	2.32	116	P	P	05 03 12.0	-1.2
JHHJ				S	S	05 04 05.8	-1.5
JHJ2	Mitsune	5.44	360	P	P	05 03 36.9	-0.3
JHJ	Hachijo jima 2	5.44	359	P	P	05 03 36.9	-0.4
	14nm,0.3s,baz=95,slow=11,SNR=5.5						
JHJ				S	S	05 04 48.8	-2.8
	13nm,0.3s,baz=197,slow=20,SNR=4.1						
BSO1	Boso 1	7.04	8	P	P	05 03 52.7	+0.5
BSO1				*e*S	S	05 05 17.0	-2.1
BSO3	Boso 3	7.14	4	P	P	05 03 53.6	0.0
BSO3				*e*S	S	05 05 18.6	-3.0
JKN2	Miekihoku	7.24	336	P	P	05 03 56.9	+2.0
JKN2				S	S	05 05 24.4	+0.6
BSO4	Boso 4	7.32	3	P	P	05 03 57.6	+2.0
BSO4				*e*S	S	05 05 22.2	-2.9
JNY	Yasuok	7.86	348	P	P	05 04 01.7	+0.4
JNY				*e*S	S	05 05 32.2	-3.4
JHU	Hanno	8.18	357	P	P	05 04 03.2	-1.3
JHU				*e*S	S	05 05 35.6	-6.0
JRY	Ryogami san	8.37	355	P	P	05 04 06.2	-0.3
JRY				*e*S	S	05 05 40.8	-4.4
JAG	Ashikaga	8.75	358	P	P	05 04 09.1	-1.3
JAG				S	S	05 05 45.3	-7.0
JHO	Hitachi	8.95	4	P	P	05 04 12.2	-0.3
JHO				S	S	05 05 51.7	-4.5
MJAR	Matsushiro Arr	8.97	352	P	P	05 04 11.7	-1.0
	1.5nm,0.3s,baz=170,slow=9.9,SNR=17						
MJAR				S	S	05 05 54.8	-1.8
	0.5nm,0.3s,baz=177,slow=19,SNR=5.3						
MAJO	Matsushiro	8.97	352	*e*Pn	P	05 04 12.3	-0.5
MAJO				*e*S	S	05 05 55.4	-1.2
MAT	Matsushiro	8.97	352	P	P	05 04 12.1	-0.6
MAT				S	S	05 05 54.0	-2.6
MAT	Matsushiro	8.97	352	P	P	05 04 12.5	-0.2
MAT				*e*S	S	05 05 53.2	-3.4
JNU	Nakatsue	9.46	307	P	P	05 04 18.4	+0.3
	0.6nm,0.3s,baz=106,slow=3.8,SNR=5.0						
JNU	Nakatsue	9.46	307	*e*P	P	05 04 20.0	+1.9
JOW	Kunigami	10.33	268	P	P	05 04 28.2	+0.9
	5.2nm,0.3s,baz=116,slow=8.7,SNR=10						
JOW	Kunigami	10.33	268	*e*P	P	05 04 27.4	+0.2
JMK	Ichinoseki	11.32	5	P	P	05 04 38.2	+0.6
KSRS	Korea Array	14.00	317	P	P	05 05 09.3	+3.4
	0.3nm,0.3s,baz=135,slow=12,SNR=7.8						
ASAJ	Asahikawa	16.57	7	P	P	05 05 30.2	-2.7
	0.4nm,0.3s,baz=209,slow=13,SNR=3.3						
NACB	Ninganchiao	16.78	262	*e*P	P	05 05 33.9	-1.4
	8.6nm,0.5s						
SSLB	Suanglung	17.45	261	*e*P	P	05 05 40.1	-1.8
	54nm,1.0s						
TWG	Pinlang	17.65	258	*e*P	P	05 05 41.6	-2.1
	78nm,0.7s						
USRK	Ussuriysk Arra	17.67	341	P	P	05 05 44.0	+0.5
	0.5nm,0.3s,baz=168,slow=9.6,SNR=26						
NJ2	Nanjing	18.72	289	*e*P	P	05 05 53.0	-0.3
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
MDJ	Mudanjiang	18.81	337	P	P	05 05 55.1	+1.1
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.3s						
CN2	Changchun	19.85	328	*e*P	P	05 06 04.0	+0.5
TGY	Tagaytay City	22.18	236	P	P	05 06 26.1	+1.0
	comp=Z,136nm,0.4s,baz=39,slow=6.5,SNR=2.4						
WHN	Wuhan	22.45	283	P	P	05 06 26.8	-0.4
GYA	Guiyang	29.52	275	*e*P	P	05 07 28.8	-1.1
GYA				sP	sP	05 09 53.0	+0.1
GYA				PcP	PcP	05 10 19.8	+0.1
GYA				S	S	05 11 47.3	-1.9
GYA				ScP	ScP	05 13 13.0	-1.0
GYA				PcS	PcS	05 14 02.4

comp=Z,1.2nm,0.7s,baz=82,slow=5.5,SNR=9.3
DANN Dangsing 49.13 285 *e*P **P 05 10 08.7 +0.4**
comp=Z,60nm,0.7s
KOLN Koldanda 49.40 284 *e*P **P 05 10 10.2 -0.1**
comp=Z,15nm,0.6s
TNA Tin City 49.77 26 *e*P **P 05 10 13.8 +1.8**
comp=Z,5.2nm,0.9s
PYUN Piuthan 49.85 285 *e*P **P 05 10 13.8 +0.2**
comp=Z,56nm,0.4s
KURK Kurchatov 51.11 314 *e*P **P 05 10 21.7 -0.4**
comp=Z,11nm,0.6s
KURBB Kurchatov Arra 51.16 314 P **P 05 10 22.2 -0.3**
comp=Z,15nm,0.6s,baz=92,slow=7.8,SNR=20
AS31 Alice Springs 51.34 187 *e*P **P 05 10 23.5 -0.7**
ASAR Alice Springs 51.35 187 P **P 05 10 23.6 -0.7**
comp=Z,2.8nm,0.5s,baz=2.5,slow=6.3,SNR=107
ASAR PcP **PcP 05 11 31.4 +0.9**
comp=Z,1.6nm,0.8s,baz=8.0,slow=3.9,SNR=8.8
KSH Kashi 53.50 300 *e*P P 05 10 43.3 +3.6
KSH *e*PcP **PcP 05 11 41.3 +2.5**
KSH *e*pP pP 05 12 20.9 +3.8
KSH *e*PP **PP 05 12 51.6 +4.6**
KSH *e*sP sP 05 13 16.3 +4.6
KSH *e*ScP **ScP 05 14 48.8 +0.4**
KSH PcS **PcS 05 15 39.0 +0.2**
KSH S **S 05 17 35.8 +1.2**
KSH ScS **ScS 05 19 35.3 -1.5**
KSH sS sS 05 20 32.6 +2.9
KSH SS **SS 05 21 28.1 +4.3**
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,140nm,5.6s
AAK Ala-Archa 54.22 304 *e*P **P 05 10 44.7 -0.1**
comp=Z,2.9nm,0.5s,baz=84,slow=10,SNR=2.1
KDAK Kodiak Island 55.17 37 P **P 05 10 51.7 +0.8**
comp=Z,6.0nm,0.6s,baz=304,slow=3.6,SNR=10.0
BVAR Borovoye Array 56.22 317 *e*P **P 05 10 58.3 -0.1**
comp=Z,13nm,0.4s,baz=88,slow=7.0,SNR=98
BRVK Borovoye 56.28 317 *e*P **P 05 10 58.6 -0.1**
comp=Z,9.0nm,0.6s
COLD Coldfoot 57.07 26 *e*P **P 05 11 05.6 +1.6**
comp=Z,5.9nm,0.9s
ILAR Eielson Array 58.22 29 P **P 05 11 11.8 -0.1**
comp=Z,2.1nm,0.7s,baz=256,slow=5.7,SNR=20
FORT Forrest 59.19 192 *e*P **P 05 11 18.2 -0.6**
comp=Z,22nm,0.5s
STKA Stephens Creek 59.23 178 P **P 05 11 18.9 -0.1**
comp=Z,2.9nm,0.4s,baz=357,slow=7.6,SNR=15
STKA Stephens Creek 59.23 178 *e*P **P 05 11 18.9 -0.1**
comp=Z,1.3nm,0.7s
BMRM Bremner River 59.27 33 *e*P **P 05 11 20.3 +1.2**
DOT Dot Lake 59.45 30 *e*P **P 05 11 20.8 +0.6**
comp=Z,9.6nm,0.8s
ARU Arti 62.70 322 *e*P **P 05 11 41.2 -0.4**
ABKAR Akbulak array 63.21 314 *e*P **P 05 11 44.7 -0.4**
comp=Z,1.6nm,0.6s
AKTO Aktyubinsk 64.17 315 P **P 05 11 50.8 -0.5**
comp=Z,2.9nm,0.7s,baz=78,slow=15,SNR=9.6
RES Resolute Bay 72.00 13 *e*P **P 05 12 39.3 +0.8**
comp=Z,16nm,1.8s
ARCES ARCESS Array B 72.32 340 P **P 05 12 40.9 +0.4**
comp=Z,4.1nm,0.8s,baz=67,slow=9.3,SNR=12
YKA Yellowknife Ar 72.63 28 P **P 05 12 42.4 0.0**
comp=Z,1.5nm,0.4s,baz=296,slow=5.7,SNR=44
JOF Joensuu 73.65 333 *e*p **P 05 12 46.8 -1.4**
comp=Z,2.2nm,0.6s
KAF Kangasniemi 76.06 334 *e*p **P 05 13 00.4 -1.3**
comp=Z,2.5nm,0.5s
KBZ Khabaz 76.10 312 P **P 05 13 01.8 -0.5**
comp=Z,5.0nm,0.9s,baz=144,slow=3.5,SNR=5.4
FINES FINESS Array B 76.52 333 P **P 05 13 03.9 -0.4**
comp=Z,3.1nm,0.3s,baz=64,slow=5.2,SNR=97
MIB Mutribah 78.78 298 *e*P **P 05 13 16.4 -0.8**
MIB AMb AMB 05 13 17.2
comp=Z,31nm,0.6s
RDF Al-Radifah 78.98 297 *e*P **P 05 13 17.9 -0.4**
RDF AMb AMB 05 13 21.6
comp=Z,96nm,1.4s
NAY Al-Naaiem 79.09 297 *e*P **P 05 13 18.1 -0.7**
NAY AMb AMB 05 13 18.9
comp=Z,19nm,0.8s
SLMT Seeley Lake 80.52 41 *e*P **P 05 13 27.1 +0.9**
AKASG Malin Array Be 80.93 323 P **P 05 13 27.2 -0.8**
comp=Z,2.4nm,0.8s,baz=51,slow=6.4,SNR=5.1
AKASG PP **PP 05 16 39.3 -1.6**
comp=Z,0.6nm,0.5s,baz=46,slow=7.6,SNR=6.6
MFID Camas Ranch 81.01 46 *e*P **P 05 13 30.3 +1.5**
comp=Z,4.7nm,0.8s
MALT Malatya 81.55 309 *e*P **P 05 13 32.7 +1.0**
comp=Z,4.2nm,1.1s
HRY Holter Researc 81.77 41 *e*P **P 05 13 34.1 +1.5**
NVAR Mina Array Bea 81.80 51 P **P 05 13 34.1 +1.0**
comp=Z,1.1nm,0.6s,baz=293,slow=5.7,SNR=10.0
HLID Hailey 81.83 45 *e*P **P 05 13 34.3 +1.2**
comp=Z,40nm,2.7s
EGMT Eagleton 82.26 39 *e*P **P 05 13 36.0 +0.9**
comp=Z,10nm,0.3s
NB2 NORSAR Subarra 82.31 337 P **P 05 13 33.7 -1.3**
comp=Z,0.8nm,0.5s,baz=49,slow=4.6
NOA NORSAR Array B 82.31 337 P **P 05 13 33.7 -1.3**
comp=Z,1.2nm,0.7s,baz=46,slow=4.8,SNR=7.9
RAYN Ar Rayn 83.01 293 *e*P **P 05 13 39.6 +0.3**
comp=Z,33nm,0.9s
LKWY Lake 83.77 43 *e*P P 05 13 46.4 +3.4
RRI2 Red Ridge 83.86 44 *e*P **P 05 13 45.2 +1.7**
comp=Z,21nm,1.9s
BRTR Keskin Array B 84.09 312 P **P 05 13 43.5 -1.0**
comp=Z,1.0nm,0.7s,baz=77,slow=4.5,SNR=6.7
PDAR Pinedale Array 85.26 44 P **P 05 13 51.5 +1.1**
comp=Z,0.9nm,1.0s,baz=282,slow=2.9,SNR=5.6
VYHS Vyhne 87.66 325 *e*P P 05 14 04.7 +3.4
PV10 Paradox Valley 88.03 47 *e*P **P 05 14 04.8 +1.3**
GERES GERESS Array B 89.94 328 P **P 05 14 10.7 -1.3**
comp=Z,0.9nm,1.0s,baz=38,slow=6.8,SNR=5.2
TXAR Lajitas Array 96.92 52 P **P 05 14 45.7 +1.5**
comp=Z,0.4nm,0.7s,baz=302,slow=2.8,SNR=5.8
TORD Torodi Ar. Bea 122.63 309 PKP **PKPdf 05 20 05.1 -0.6**
comp=Z,0.6nm,0.7s,baz=26,slow=1.8,SNR=9.8
DBIC Dimbokro 131.74 310 SKPbc **SKPbc 05 23 01.6 -0.4**
comp=Z,2.1nm,0.7s,baz=6.6,slow=1.7,SNR=6.4
VNA2 Neumayer--Watz 132.94 194 *e*P **PKPdf 05 20 23.7 +0.1**
baz=97,slow=1.4
VNA3 Neumayer Olymp 133.17 193 *e*P **PKPdf 05 20 24.0 -0.1**
LPAZ La Paz 151.77 72 PKPbc **PKPbc 05 21 06.5 +0.9**
comp=Z,1.2nm,0.6s,baz=295,slow=3.9,SNR=7.4
PLCA Paso Flores 151.83 125 PKPbc **PKPbc 05 21 05.3 +0.9**
comp=Z,1.1nm,0.4s,baz=229,slow=4.8,SNR=8.9

NNC 15 05:06:33.9±6.2, 39°55N×67°10E, h0km, mb3.5, mpv3.4, 2C-2D, Error ellipse: s-maj=55.9km s-min=32.1km az=166.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.38**	**35**	⇓Pn	Pn	05 07 39.7	-2.0
	3.3nm,0.5s,baz=217,slow=14,SNR=32						
KK31				⇓Sn	Sn	05 08 35.3	+1.8
	1.5nm,0.2s,baz=228,slow=29						
KK31				Lg	Lg	05 08 51.8	
	18nm,0.5s,baz=219,slow=28,SNR=7.2						
AB31	**Akbulak array**	**10.97**	**335**	⇑P	Pn	05 09 11.8	-0.1
	0.7nm,0.3s,baz=156,slow=13,SNR=44						
AKTO	**Aktyubinsk**	**12.63**	**332**	⇑P	Pn	05 09 37.9	+3.2
	0.1nm,0.5s						

*MOS **15** 05:10:45.2±0.9, 47°00N×145°04E, h348km, mb3.9/11, Error ellipse: s-maj=15.7km s-min=10.0km az=103.0*
*ISCJB **15** 05:10:47.4±0.3, 46°69N±0°03×144°90E±0°08, h379km, mb3.5/24, Error ellipse: s-maj=7.7km s-min=4.6km az=7.2*
*IDC **15** 05:10:49.6±1.1, 46°77N×144°92E, h386km±12km, mb3.1/17, mb1 3.3/23, mb1mx3.3/31, mbtmp3.1/23, Error ellipse: s-maj=13.6km s-min=9.8km az=163.0*
*JMA **15** 05:10:50.7±0.5, 46°34N×145°16E, h386km, M3.5*

ISC 15 05:10:48.1±0.5, 46°60N±0°06×144°93E±0°07, h379km, n57, σ1°38/62, mb3.6/24, 2C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**1.54**	**284**	⇑*i*PN	Pn	05 11 43.0	+3.7
YSS				pmax	pmax		
	comp=Z,290nm,0.8s						
YSS				pmax	pmax		
	comp=N,140μm,0.6s						

JSE	**Soyaes**	**2.32**	**226**	P	**Pn**	**05 11 47.1 +2.8**
JWK2	**Keihoku**	**2.47**	**240**	P	Pn	05 11 48.8 +3.4
JRA	**Rausu**	**2.66**	**177**	P	**Pn**	**05 11 48.9 +1.9**
JTKR	**Abashiri--Toko**	**2.72**	**196**	P	**Pn**	**05 11 49.8 +2.4**
ASAJ	**Asahikawa**	**2.98**	**214**	P	Pn	05 11 52.8 +3.2
	comp=N,3.5nm,0.3s,baz=337,slow=3.6,SNR=21					
NEM2	**Nemuro 2**	**3.28**	**170**	P	**Pn**	**05 11 52.0 -0.2**
NEM2				*e*S	**S**	**05 12 41.0 -2.9**
JAR	**Ashorobuto**	**3.40**	**194**	P	**Pn**	**05 11 55.3 +2.0**
JAK	**Akkeshi**	**3.60**	**183**	P	**Pn**	**05 11 55.9 +0.8**
JAK				*e*S	**S**	**05 12 47.6 -1.7**
JCH	**Churui**	**4.14**	**196**	P	**Pn**	**05 12 00.9 +0.6**
JCH				*e*S	**S**	**05 12 56.1 -2.5**
JEW	**Eniwo**	**4.50**	**215**	P	**Pn**	**05 12 06.7 +2.8**
JNBK	**Urakawa-nobuka**	**4.59**	**201**	*e*S	**S**	**05 13 05.2 -1.8**
ERM	**Erimo**	**4.75**	**196**	*i* PN	**Pn**	**05 12 08.6 +2.1**
JKB	**Kayabe**	**5.48**	**212**	P	**Pn**	**05 12 15.6 +1.4**
JKB				*e*S	**S**	**05 13 22.0 -2.2**
JOT	**Ohata**	**5.92**	**210**	*e*S	**S**	**05 13 29.5 -3.5**
HABR	**Khabarovsk**	**6.95**	**289**	PN	**P**	**05 12 31.2 -0.2**
HABR				*e**SP	S	05 13 41.6 -12
HABR				pmax	pmax	
	comp=N,12nm,1.0s					
HABR				pmax	pmax	
	comp=E,22nm,1.2s					
HABR				pmax	pmax	
	comp=Z,27nm,1.0s					
HABR				MLR	MLR	
	comp=Z,83nm,14.0s					
KLR	**Kul'dur**	**9.24**	**291**	*e*PN	**Pn**	**05 12 55.8 -1.2**
KLR				pmax	pmax	
	comp=E,34nm,1.2s					
KLR				pmax	pmax	
	comp=Z,30nm,1.2s					
USRK	**Ussuriysk Arra**	**9.41**	**260**	P	**P**	**05 13 00.9 +1.2**
	comp=Z,1.2nm,0.3s,baz=67,slow=11,SNR=16					
PETK	**Petropavlovsk-**	**10.50**	**47**	P	**Pn**	**05 13 11.7 0.0**
	comp=Z,0.4nm,0.3s,baz=265,slow=16,SNR=2.4					
PETK	**Petropavlovsk-**	**10.50**	**47**	PN	**Pn**	**05 13 11.7 0.0**
MJA0	**Matsu Arr-Jizo**	**11.22**	**209**	*e*PN	**Pn**	**05 13 22.1 +1.7**
MJA0				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MJAR	**Matsushiro Arr**	**11.23**	**209**	P	Pn	05 13 23.9 +3.3
	comp=Z,0.5nm,0.3s,baz=16,slow=12,SNR=7.5					
KSRS	**Korea Array**	**15.57**	**240**	P	**Pn**	**05 14 09.4 -1.1**
	comp=Z,0.5nm,0.3s,baz=46,slow=10,SNR=14					
FX1	**Attu Island--F**	**19.22**	**61**	P	**P**	**05 14 47.4 +1.2**
	comp=Z,1.2nm,0.3s,baz=225,slow=2.9,SNR=3.0					
BOD	**Bodaibo**	**21.82**	**312**	*e*P	**P**	**05 15 08.5 -1.7**
BOD				pmax	pmax	
	comp=Z,5.0nm,0.8s					
SONM	**Songino Array**	**26.03**	**287**	P	**P**	**05 15 48.8 +0.5**
	comp=Z,1.7nm,0.4s,baz=86,slow=8.9,SNR=15					
ZALV	**Zalesovo Beam**	**38.07**	**304**	P	**P**	**05 17 31.6 0.0**
	comp=Z,0.7nm,0.3s,baz=66,slow=5.0,SNR=2.3					
ZALV				ScP	**ScP**	**05 22 48.0 -0.2**
	comp=Z,0.8nm,0.3s,baz=64,slow=5.0,SNR=3.5					
ZALV	**Zalesovo Beam**	**38.07**	**304**	P	**P**	**05 17 31.6 0.0**
ZALV						05 22 48.1
ZALV				pmax	pmax	
	comp=N,1.0nm,0.3s					
ILAR	**Eielson Array**	**40.17**	**38**	P	**P**	**05 17 46.9 -1.7**
	comp=N,0.4nm,0.4s,baz=258,slow=6.4,SNR=9.6					
MK31	**Makanchi Array**	**41.93**	**294**	*e*P	**P**	**05 18 03.6 +0.5**
MK31				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MKAR	**Makanchi Array**	**41.93**	**294**	P	**P**	**05 18 03.7 +0.6**
	comp=Z,1.8nm,0.6s,baz=72,slow=8.1,SNR=28					
MKAR				ScP	**ScP**	**05 23 03.0 -0.6**
	comp=Z,0.3nm,0.7s,baz=69,slow=3.9,SNR=3.5					
MKAR	**Makanchi Array**	**41.93**	**294**	P	**P**	**05 18 03.7 +0.6**
KURK	**Kurchatov**	**42.68**	**301**	⇓*e*P	**P**	**05 18 09.0 +0.1**
KURK				pmax	pmax	
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**46.56**	**307**	⇓*e*P	**P**	**05 18 39.2 +0.1**
ARU	**Arti**	**51.21**	**315**	*c i*P	**P**	**05 19 13.7 -0.2**
ARU						05 21 16.4
ARU				S	**S**	**05 26 03.3 +1.0**
ARU				SS	**SS**	**05 29 42.2 -0.6**
ARU				pmax	pmax	
	comp=Z,11nm,1.7s					
AB31	**Akbulak array**	**54.08**	**306**	*i* P	**P**	**05 19 35.0 +0.1**
AB31				pmax	pmax	
	comp=Z,1.0nm,0.3s					
YKA	**Yellowknife Ar**	**54.32**	**34**	P	**P**	**05 19 35.7 -0.5**
	comp=Z,0.3nm,0.5s,baz=304,slow=7.0,SNR=11					
YKA				PcP	**PcP**	**05 20 35.1 +0.3**
	comp=Z,0.1nm,0.5s,baz=312,slow=3.7,SNR=3.9					
AKTO	**Aktyubinsk**	**54.51**	**308**	P	**P**	**05 19 38.9 +1.0**
	comp=Z,0.5nm,0.4s,baz=45,slow=7.1,SNR=3.2					
AKTO	**Aktyubinsk**	**54.51**	**308**	P	**P**	**05 19 38.9 +1.0**
ARCES	**ARCESS Array B**	**56.03**	**338**	P	**P**	**05 19 47.8 -0.5**
	comp=Z,3.7nm,1.0s,baz=38,slow=8.0,SNR=3.1					
JOF	**Joensuu**	**58.84**	**331**	*e*P	**P**	**05 20 06.3 -1.4**
JOF	**Joensuu**	**58.84**	**331**	*e*p	**P**	**05 20 06.3 -1.4**
	comp=Z,0.9nm,0.4s					
KAF	**Kangasniemi**	**61.06**	**332**	*e*P	**P**	**05 20 21.0 -1.7**
KAF	**Kangasniemi**	**61.06**	**332**	*e*p	**P**	**05 20 21.0 -1.7**
	comp=Z,1.2nm,0.7s					
FINES	**FINESS Array B**	**61.62**	**331**	P	**P**	**05 20 25.9 -0.5**
	comp=Z,1.4nm,0.5s,baz=38,slow=8.1,SNR=31					
NB2	**NORSAR Subarra**	**66.38**	**337**	P	**P**	**05 20 56.3 -0.8**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.5					
NOA	**NORSAR Array B**	**66.38**	**337**	P	**P**	**05 20 56.5 -0.5**
	comp=Z,0.7nm,0.6s,baz=34,slow=6.3,SNR=9.4					
KBZ	**Khabaz**	**66.76**	**309**	P	**P**	**05 20 59.2 -0.5**
	comp=Z,5.1nm,1.2s,baz=135,slow=4.3,SNR=3.1					
KBZ	**Khabaz**	**66.76**	**309**	P	**P**	**05 20 59.2 -0.5**
KBZ				pmax	pmax	
	comp=Z,5.0nm,1.2s					
WRA	**Warramunga Arr**	**66.92**	**191**	P	**P**	**05 21 01.6 +0.8**
	comp=Z,0.4nm,0.5s,baz=7.3,slow=6.7,SNR=2.7					
NVAR	**Mina Array Bea**	**67.39**	**58**	P	**P**	**05 21 04.9 +0.9**
	comp=Z,0.6nm,0.7s,baz=291,slow=5.7,SNR=4.5					
AKASG	**Malin Array Be**	**68.36**	**322**	P	**P**	**05 21 09.7 +0.2**
	comp=Z,0.4nm,0.5s,baz=42,slow=7.0,SNR=4.2					
AKASG	**Malin Array Be**	**68.36**	**322**	P	**P**	**05 21 09.7 +0.2**
PDAR	**Pinedale Array**	**69.26**	**49**	P	**P**	**05 21 15.8 +0.4**
	comp=Z,0.8nm,0.5s,baz=65,slow=0.2,SNR=9.8					
ASAR	**Alice Springs**	**70.64**	**191**	P	**P**	**05 21 25.8 +2.2**
	comp=Z,0.3nm,0.5s,baz=8.8,slow=6.4,SNR=5.0					
GERES	**GERESS Array B**	**75.91**	**329**	P	**P**	**05 21 54.0 +0.1**
	comp=Z,0.3nm,0.4s,baz=50,slow=7.1,SNR=4.0					
TXAR	**Lajitas Array**	**82.34**	**55**	P	**P**	**05 22 29.8 +1.1**
	comp=Z,0.7nm,0.5s,baz=300,slow=3.8,SNR=16					

MAN 15 05:12:56, 9°94N×125°04E, h8km, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.27**	**318**	*e*P	Pg	05 13 02.2	+0.8
MSLP				*e*S	Sb	05 13 09.5	+1.7
LLP	**Lapu-Lapu**	**1.12**	**290**	⇓*i*P	Pg	05 13 17.1	-0.6
LLP				*e*S	Sn	05 13 34.6	+0.8
TBP	**Tagbilaran**	**1.19**	**258**	⇑*e*P	Pb	05 13 18.7	-0.1
OCLP	**Ormoc**	**1.19**	**339**	*e*P	Pb	05 13 18.3	-0.5
BUKP	**Musuan**	**2.04**	**179**	*e*P	Pn	05 13 31.0	+0.2

*JMA **15** 05:19:30.5±0.3, 23°55N×122°47E, h23km*
*TAP **15** 05:19:31.0, 23°53N×122°35E, h44km±2km, ML3.0, C*

ISC 15 05:19:29.4±1.3, 23°50N±0°05×122°37E±0°03, h28km±14km, n29, σ0°70/46, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.91**	**291**	*e*P	**Pn**	**05 19 46.1**	**-0.3**
	baz=279						
ESL				*e*S	**Sb**	**05 19 57.9**	**-0.5**
	baz=279						
TWD	**Chiawan**	**0.92**	**310**	*e*P	**Pn**	**05 19 46.4**	**0.0**
	baz=307						
TWD				*e*S	**Sb**	**05 19 57.8**	**-0.7**
	baz=307						
EHY	**Hungye**	**0.96**	**271**	P	**Pn**	**05 19 47.5**	**+0.5**
	baz=267						
EHY				S	**Sb**	**05 19 59.6**	**-0.1**
	baz=267						
TWF1	**Yuli**	**0.99**	**262**	P	**Pn**	**05 19 47.9**	**+0.4**
	baz=258						
TWF1				S	**Sn**	**05 20 00.5**	**-0.1**
	baz=258						
CHKT	**Chengkung**	**1.00**	**247**	*e*P	**Pn**	**05 19 47.4**	**-0.2**
	baz=236						

CHKT				*e*S	**Sn**	**05 19 59.2 -1.6**
	baz=236					
YOJ	**Yonaguni jima**	**1.13**	**31**	*e*S	**Sn**	**05 20 02.8 -1.1**
WHF	**Hehuan Shan**	**1.20**	**303**	P	**Pn**	**05 19 51.1 +0.4**
	baz=300					
WHF				S	**Sn**	**05 20 06.5 +0.2**
	baz=300					
ELDTW	**Lidau**	**1.28**	**256**	*e*P	**Pn**	**05 19 52.0 +0.5**
	baz=244					
ELDTW				*e*S	**Sn**	**05 20 07.1 -0.7**
	baz=244					
NNS	**Nan Shan**	**1.31**	**316**	*e*P	**Pn**	**05 19 52.8 +0.8**
	baz=315					
TWT	**Tachien**	**1.33**	**305**	*e*P	**Pn**	**05 19 53.1 +0.9**
	baz=302					
ENTT	**Nioudou**	**1.35**	**327**	*e*P	**Pb**	**05 19 53.8 -0.3**
	baz=327					
TWG	**Pinlang**	**1.37**	**241**	*e*P	**Pn**	**05 19 53.6 +0.9**
	baz=231					
TWG				*e*S	**Sn**	**05 20 09.5 -0.3**
	baz=231					
SMLT	**Sun Moon Lake**	**1.40**	**286**	*e*P	**Pn**	**05 19 54.3 +1.2**
	baz=283					
HATJ	**Hateruma jima**	**1.43**	**67**	P	**Pn**	**05 19 53.6 +0.1**
HATJ				*e*S	**Sn**	**05 20 10.9 -0.5**
ALS	**Alishan**	**1.43**	**271**	*e*P	**Pn**	**05 19 54.7 +0.9**
	baz=259					
TYC	**Yuchr**	**1.44**	**287**	*e*P	**Pn**	**05 19 54.9 +1.3**
	baz=291					
TYC				*e*S	**Sn**	**05 20 11.8 +0.1**
	baz=291					
NSK	**Sanguang**	**1.50**	**322**	*e*P	**Pb**	**05 19 56.4 -0.1**
	baz=321					
IRIF	**Iriomote-Funau**	**1.50**	**56**	P	**Pn**	**05 19 55.0 +0.5**
IRIF				S	**Sn**	**05 20 12.7 -0.4**
CHN5	**Tsauling**	**1.55**	**274**	*e*P	**Pb**	**05 19 57.2 -0.3**
	baz=271					
CHN5				*e*S	**Sb**	**05 20 16.9 +0.1**
	baz=271					
CHN4	**Tsaushan**	**1.64**	**265**	*e*P	**Pb**	**05 19 59.5 +0.7**
	baz=255					
JKRS	**Kuro-shima**	**1.68**	**63**	P	**Pn**	**05 19 57.6 +0.7**
JKRS				S	**Sn**	**05 20 17.4 0.0**
NSTT	**Nanjuang**	**1.69**	**312**	*e*P	**Pb**	**05 19 59.4 -0.3**
	baz=320					
TWQ1	**Liyutan**	**1.69**	**301**	*e*P	**Pb**	**05 19 59.3 -0.4**
	baz=286					
CHN1	**Nanshi**	**1.72**	**260**	*e*P	**Pb**	**05 20 00.3 +0.1**
	baz=257					
CHN1				*e*S	**Sb**	**05 20 22.6 +1.1**
	baz=257					
TWK	**Hsinying**	**1.74**	**263**	*e*P	**Pb**	**05 20 00.7 0.0**
	baz=259					
EAST	**Anshuo**	**1.79**	**232**	*e*P	**Pn**	**05 19 58.5 +0.1**
	baz=236					
EAST				*e*S	**Sn**	**05 20 18.8 -1.4**
	baz=236					
JIJ	**Ishigaki jima**	**1.84**	**62**	P	**Pn**	**05 19 59.8 +0.7**
JIJ				S	**Sn**	**05 20 20.5 -1.0**
SCZT	**Fangliau**	**1.96**	**236**	*e*P	**Pb**	**05 20 04.3 -0.1**
	baz=233					
JTJ	**Tarama**	**2.42**	**61**	P	**Pn**	**05 20 08.3 +1.2**
JTJ				*e*S	**Sn**	**05 20 35.4 -0.4**

*NEIC **15** 05:23:31.3, 36°34N×120°35W, h5km, MW3.5(BRK), After NCEDC.*

ISC 15 05:23:30.6±1.3, 36°34N±0°02×120°33W±0°03, h1km±11km, n43, σ1°33/65, 8C-11D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTRM	**Twissleman Ran**	**0.69**	**172**	*e*Pg	**Pb**	**05 23 46.1**	**+0.7**
RCTC	**Rector, Farmer**	**0.88**	**92**	⇓P	**Pg**	**05 23 48.0**	**+0.6**
	baz=0.9,SNR=26						
RCTC				⇓S	**Sg**	**05 23 59.1**	**+0.3**
	baz=0.9						
SAO	**San Andreas Ge**	**0.99**	**296**	*e*Pg	**Pn**	**05 23 50.9**	**-0.7**
SAO				*e*Sn	**Sn**	**05 24 05.4**	**-0.9**
SMMC	**Simmler**	**1.06**	**165**	⇓P	**Pg**	**05 23 51.5**	**+0.6**
	baz=1.1,SNR=59						
VES	**Vestal, Richgr**	**1.12**	**116**	P	**Pb**	**05 23 52.0**	**-0.8**
	baz=1.1,SNR=74						
VES				⇓S	**Sb**	**05 24 07.1**	**-0.8**
	baz=1.1						
PKM	**Peak Mountain**	**1.50**	**164**	⇓P	**Pn**	**05 23 58.6**	**-0.1**
	baz=1.5,SNR=33						
PKM				⇓Sg	**Sg**	**05 24 20.0**	**+1.3**
	baz=1.5						
ISA	**Isabella**	**1.65**	**114**	*e*Pn	**Pn**	**05 24 00.8**	**+0.2**
ISA				*e*Sn	**Sn**	**05 24 22.6**	**0.0**
ISA	**Isabella**	**1.65**	**114**	⇑P	**Pn**	**05 24 00.3**	**-0.4**
	baz=1.7,SNR=250						
ISA				⇓Sb	**Sn**	**05 24 22.4**	**-0.1**
	baz=1.7						
CMB	**Columbia Colle**	**1.69**	**359**	*e*Pn	**Pn**	**05 24 01.1**	**-0.2**
CMB				*e*Sn	**Sn**	**05 24 20.8**	**-2.9**
ARVC	**Arvin**	**1.72**	**134**	P	**Pn**	**05 24 01.2**	**-0.3**
	baz=1.7,SNR=42						
ARVC				⇑Sb	**Sb**	**05 24 24.5**	**-0.5**
	baz=1.7						
ABL	**Mount Abel**	**1.74**	**148**	*e*P	**Pn**	**05 24 01.4**	**-0.6**
MTUM	**Tungsten Hills**	**1.74**	**54**	*e*P	**Pb**	**05 24 03.1**	**-0.3**
MLAC	**Mammoth Lakes**	**1.76**	**42**	⇓Pb	**Pb**	**05 24 03.7**	**-0.1**
	baz=1.8,SNR=105						
MLAC				⇑Sb	**Sg**	**05 24 27.6**	**+0.5**
	baz=1.8						
CWC	**Cottonwood Cre**	**1.82**	**86**	Pb	**Pn**	**05 24 03.9**	**+0.8**
	baz=1.8,SNR=95						
CWC				⇑Sb	**Sb**	**05 24 27.9**	**-0.1**
	baz=1.8						
TIN	**Tinemaha**	**1.83**	**66**	⇓Pb	**Pb**	**05 24 04.6**	**-0.3**
	baz=1.8,SNR=112						
TIN				⇑Sb	**Sb**	**05 24 29.1**	**+0.6**
	baz=1.8						
SAC	**San Andreas**	**2.08**	**307**	*e*Pg	**Pg**	**05 24 11.1**	**+0.6**
OSI	**Osito Adit**	**2.16**	**142**	*e*Pg	**Pg**	**05 24 12.5**	**+0.4**
DAC	**Darwin (Calif)**	**2.21**	**91**	*e*Pn	**Pb**	**05 24 10.9**	**-0.5**
DAC				*e*Sn	**Sb**	**05 24 39.6**	**+0.2**
WAKR	**Walker**	**2.28**	**18**	*e*P	**Pb**	**05 24 11.8**	**-0.7**
LRMC	**Laurel Mountai**	**2.31**	**111**	⇓Sb	**Sb**	**05 24 42.1**	**-0.1**
	baz=2.3						
MPMC	**Manual Prospec**	**2.31**	**96**	⇑Pb	**Pb**	**05 24 12.9**	**-0.3**
	baz=2.3,SNR=102						
MPMC				⇓Sb	**Sb**	**05 24 42.8**	**+0.5**
	baz=2.3						
GRAC	**Grapevine Rang**	**2.47**	**74**	⇑Pb	**Pb**	**05 24 16.1**	**+0.3**
	baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.16**	**201**	P	Pn	06 24 33.2	-1.0
LUWI				S	Sb	06 24 48.8	-0.3
MRSI	**Marisa**	**1.31**	**289**	P	Pb	06 24 36.7	-0.4
MRSI				S	Sn	06 24 52.5	-0.6
APSI	**Ampana**	**1.80**	**238**	P	Pn	06 24 42.1	-1.0
APSI				S	Sb	06 25 06.8	-0.9

DJA 15 06:39:57.7±0.5,1°N±5°×12°7E±°,h13km,M3.8/5,MLv3.8/5, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.75**	**117**	P	Pg	06 40 10.3	-1.9
MNI	**Manado**	**1.89**	**280**	P	Pn	06 40 29.1	-0.6
LBMI	**Labuha**	**1.91**	**155**	P	Pn	06 40 30.8	+0.8
LBMI				S	Sn	06 40 54.8	+0.8
KMSI	**Cibinong**	**2.77**	**259**	P	Pn	06 40 41.1	-0.7
SGSI	**Sangihe**	**2.81**	**335**	P	Pn	06 40 43.2	+0.8

*IDC **15** 06:45:10.2±1.9,53.°57N×112.°15E,h0km,mb3.3/5, mb1 3.5/6,mb1mx3.2/28,mbtmp3.3/6,ML3.1/1,MS2.6/1, Ms1 2.6/1,ms1mx2.1/43,Error ellipse: s-maj=43.4km s-min=21.1km az=133.0*

*BYKL **15** 06:45:11.7±0.3,53.°83N×111.°60E*

*MOS **15** 06:45:12.9±1.6,53.°76N×111.°65E,h28km,mb4.0/1,Error ellipse: s-maj=13.5km s-min=8.0km az=77.2*

ISC 15 06:45:09.2±0.6,53.°79N±0.°02×111.°69E±0.°02,h10km,n55, σ2s22/90,mb3.6/3,5C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**1.01**	**263**	*e*Pg	**Pn**	**06 45 29.3**	**-0.2**
SYVR				*e*		06 45 42.5	
SYVR				pmax	pmax		
	comp=Z,327nm,0.2s						
SYVR				smax	smax		
	comp=E,2μm,0.2s						
SYVR	**Suvo**	**1.01**	**263**	⇑*i*Pg	**Pn**	**06 45 29.4**	**-0.1**
SYVR				Pmax		06 45 29.7	
	comp=E,330nm,0.3s						
SYVR				*e*Sg	**Sn**	**06 45 42.6**	**-1.2**
SYVR				*e*Sb	**Sb**	**06 45 45.4**	**+3.1**
SYVR				max		06 45 46.4	
	comp=E,3μm,0.4s						
YLYR	**Ulyunkhan**	**1.13**	**344**	⇑*i*PN	**Pn**	**06 45 31.4**	**+0.3**
YLYR				*e*		06 45 45.2	
YLYR				pmax	pmax		
	comp=Z,3μm,0.2s						
YLYR				smax	smax		
	comp=E,4μm,0.5s						
YLYR	**Ulyunkhan**	**1.13**	**344**	⇑*i*Pg	**Pn**	**06 45 31.4**	**+0.3**
YLYR				Pmax		06 45 31.7	
	comp=E,3μm,0.2s						
YLYR				*e*Sg	**Sn**	**06 45 45.7**	**-1.0**
YLYR				*e*Sb	**Sb**	**06 45 47.9**	**+2.3**
YLYR				max		06 45 48.7	
	comp=E,4μm,0.7s						
MXMB	**Maximikha**	**1.84**	**254**	*e*Pn	**Pb**	**06 45 42.5**	**-0.4**
MXMB				*e*Pg	**Pg**	**06 45 43.9**	**-0.5**
MXMB				*e*		06 45 47.6	
MXMB				*e*		06 45 51.1	
MXMB				max		06 45 51.6	
	comp=E,506nm,0.4s						
MXMB				*e*Sg	**Sg**	**06 46 08.7**	**+0.5**
MXMB				Smax		06 46 09.3	
	comp=E,2μm,0.7s						
UKT	**Uakit**	**2.04**	**33**	*e*PN	**Pg**	**06 45 48.1**	**-0.2**
UKT				*e*		06 46 14.7	
UKT				pmax	pmax		
	comp=Z,471nm,0.5s						
UKT				smax	smax		
	comp=E,1μm,0.4s						
UKT	**Uakit**	**2.04**	**33**	*e*Pn	**Pb**	**06 45 45.9**	**-0.5**
UKT				*e*Pg	**Pg**	**06 45 47.4**	**-0.9**
UKT				*e*		06 45 54.7	
UKT				max		06 45 55.2	
	comp=E,468nm,0.5s						
UKT				*e*Sg	**Sg**	**06 46 14.9**	**+0.2**
UKT				Smax		06 46 15.4	
	comp=E,1μm,0.3s						
CIT	**Chita**	**2.10**	**147**	*e*PN	**Pg**	**06 45 49.9**	**+0.4**
CIT				*e*		06 46 19.6	
CIT				pmax	pmax		
	comp=Z,956nm,0.5s						
CIT				smax	smax		
	comp=N,2μm,0.1s						
CIT	**Chita**	**2.10**	**147**	*e*Pn	**Pb**	**06 45 46.3**	**-1.1**
CIT				*e*Pg	**Pg**	**06 45 50.1**	**+0.6**
CIT				Pmax		06 45 57.1	
	comp=N,966nm,0.5s						
CIT				*e*Sg	**Sg**	**06 46 18.7**	**+2.0**
CIT				Smax		06 46 22.7	
	comp=N,2μm,0.1s						
KMO	**Kumora**	**2.12**	**352**	*e*PN	**Pb**	**06 45 47.8**	**+0.1**
KMO				*e*		06 46 13.6	
KMO				pmax	pmax		
	comp=Z,2μm,0.4s						
KMO				smax	smax		
	comp=N,2μm,1.1s						
KMO	**Kumora**	**2.12**	**352**	*e*Pn	**Pb**	**06 45 46.2**	**-1.5**
KMO				*e*Pg	**Pg**	**06 45 48.3**	**-1.5**
KMO				*e*		06 45 55.1	
KMO				max		06 45 55.6	
	comp=N,2μm,0.4s						
KMO				*e*Sg	**Sg**	**06 46 15.5**	**-1.7**
KMO				Smax		06 46 18.3	
	comp=N,2μm,1.1s						
NIZ	**Nizh Angarsk**	**2.34**	**329**	*e*PN	**Pb**	**06 45 52.1**	**+0.6**
NIZ				*e*		06 46 23.0	
NIZ				pmax	pmax		
	comp=Z,501nm,0.5s						
NIZ				smax	smax		
	comp=N,794nm,0.9s						
NIZ	**Nizh Angarsk**	**2.34**	**329**	*e*Pn	**Pb**	**06 45 49.4**	**-2.1**
NIZ				*e*Pg	**Pg**	**06 45 52.2**	**-1.9**
NIZ				*e*		06 45 58.6	
NIZ				max		06 45 59.5	
	comp=N,503nm,0.5s						
NIZ				*e*Sg	**Sg**	**06 46 23.3**	**-1.2**
NIZ				Smax		06 46 29.4	
	comp=N,793nm,1.0s						
YOA	**Uoyan**	**2.35**	**0**	*e*PN	**Pg**	**06 45 53.1**	**-1.0**
YOA				*e*		06 46 24.2	
YOA				pmax	pmax		
	comp=Z,890nm,0.2s						
YOA				smax	smax		
	comp=N,5μm,0.4s						
YOA	**Uoyan**	**2.35**	**0**	*e*Pn	**Pb**	**06 45 49.8**	**-1.8**
YOA				*e*Pg	**Pg**	**06 45 53.2**	**-0.9**
YOA				*e*		06 45 59.5	
YOA				max		06 45 59.9	
	comp=N,1μm,0.8s						
YOA				*e*Sg	**Sg**	**06 46 24.1**	**-0.4**
YOA				Smax		06 46 30.9	
	comp=N,5μm,0.8s						
OGRR	**Ongureny**	**2.44**	**268**	*e*PN	**Pb**	**06 45 53.5**	**+0.4**
OGRR				*e*		06 46 24.1	
OGRR				pmax	pmax		
	comp=Z,105nm,0.6s						
OGRR				smax	smax		
	comp=N,400nm,0.7s						
OGRR	**Ongureny**	**2.44**	**268**	⇑*i*Pn	**Pn**	**06 45 50.1**	**+1.0**
OGRR				*e*Pg	**Pb**	**06 45 53.1**	**0.0**
OGRR				*e*		06 46 00.1	
OGRR				max		06 46 01.2	
	comp=N,104nm,0.5s						
OGRR				*e*Sg	**Sb**	**06 46 24.1**	**+0.9**
OGRR				Smax		06 46 25.9	
	comp=N,401nm,0.6s						
ZRHB	**Zarechye**	**3.00**	**247**	⇑*i*Pn	**Pn**	**06 45 58.4**	**+1.6**
ZRHB				*e*Pg	**Pg**	**06 46 04.9**	**-1.8**
ZRHB				*e*		06 46 11.5	
ZRHB				max		06 46 18.7	
	comp=N,316nm,0.7s						
ZRHB				*e*Sg	**Sg**	**06 46 46.3**	**+0.8**
ZRHB				Smax		06 46 53.5	
	comp=N,1μm,1.0s						
TRG	**Tyrgan**	**3.37**	**254**	*e*PN	**Pn**	**06 46 02.7**	**+0.8**
TRG				*e*		06 46 10.7	
TRG				*e*S	**Sn**	**06 46 43.5**	**+1.5**
TRG				*e*		06 46 55.1	
TRG				pmax	pmax		
	comp=Z,41nm,0.2s						
TRG				smax	smax		
	comp=N,204nm,0.4s						
TRG	**Tyrgan**	**3.37**	**254**	*e*Pn	**Pn**	**06 46 03.1**	**+1.2**
TRG				*e*Pg	**Pb**	**06 46 10.8**	**+1.8**
TRG				Pmax		06 46 11.8	
	comp=N,46nm,0.2s						
TRG				*e*Sn	**Sn**	**06 46 40.7**	**-1.3**
TRG				*e*Sg	**Sg**	**06 46 54.1**	**-3.3**
TRG				Smax		06 46 57.6	
	comp=N,188nm,0.4s						
FFNB	**Fofonovo**	**3.46**	**242**	*e*Pn	**Pn**	**06 46 04.9**	**+1.8**
FFNB				*e*Pg	**Pg**	**06 46 13.6**	**-1.8**
FFNB				*e*		06 46 19.7	
FFNB				max		06 46 22.7	
	comp=N,70nm,0.8s						
FFNB				*e*Sg	**Sg**	**06 46 58.4**	**-1.8**
FFNB				Smax		06 47 11.2	
	comp=N,419nm,0.8s						
KAB	**Kabansk**	**3.51**	**242**	*e*Sg	**Sg**	**06 47 00.6**	**-1.4**
KAB				Smax		06 47 22.6	
	comp=N,2μm,1.5s						
NLYR	**Nelyaty**	**3.55**	**39**	*e*PN	**Pn**	**06 46 06.4**	**+2.0**
NLYR				*e*		06 46 14.5	
NLYR				*e*		06 47 00.1	
NLYR				pmax	pmax		
	comp=Z,109nm,0.4s						
NLYR				smax	smax		
	comp=E,561nm,0.9s						
NLYR	**Nelyaty**	**3.55**	**39**	*e*Pn	**Pn**	**06 46 06.3**	**+1.9**
NLYR				*e*Pg	**Pg**	**06 46 14.8**	**-2.4**
NLYR				*e*		06 46 21.1	
NLYR				max		06 46 22.1	
	comp=E,110nm,0.3s						
NLYR				*e*Sg	**Sg**	**06 47 01.2**	**-2.0**
NLYR				Smax		06 47 10.6	
	comp=E,567nm,0.9s						
HRMR	**Khuramsha**	**3.60**	**235**	*e*Pn	**Pn**	**06 46 07.2**	**+2.1**
HRMR				*e*Pg	**Pg**	**06 46 16.2**	**-2.0**
HRMR				*e*		06 46 21.8	
HRMR				max		06 46 25.9	
	comp=E,181nm,0.3s						
HRMR				*e*Sg	**Sg**	**06 47 05.2**	**+0.3**
HRMR				Smax		06 47 17.7	
	comp=E,2μm,0.9s						
KPC	**Khapcheranga**	**4.12**	**174**	*e*Pn	**Pn**	**06 46 14.1**	**+1.9**
KPC				*e*Pg	**Pg**	**06 46 25.1**	**-2.9**
KPC				*e*		06 46 33.8	
KPC				max		06 46 34.9	
	comp=E,62nm,0.8s						
KPC				*e*Sg	**Sg**	**06 47 20.1**	**-1.2**
KPC				Smax		06 47 25.3	
	comp=E,471nm,1.0s						
BOD	**Bodaibo**	**4.24**	**17**	*e*Pn	**Pn**	**06 46 16.5**	**+2.7**
BOD				*e*Pg	**Pb**	**06 46 26.2**	**+2.4**
BOD				*e*		06 46 34.3	
BOD				max		06 46 34.9	
	comp=E,66nm,0.9s						
BOD				*e*Sg	**Sg**	**06 47 20.3**	**-5.0**
BOD				*e*SgSg	**SbSb**	**06 47 23.1**	**+2.9**
BOD				max		06 47 24.0	
	comp=E,379nm,0.8s						
LSTR	**Listvyanka**	**4.58**	**248**	*e*Pn	**Pn**	**06 46 19.5**	**+0.9**
LSTR				*e*		06 46 28.0	
LSTR				*e*Pg	**Pg**	**06 46 34.1**	**-2.9**
LSTR				Pmax		06 46 41.7	
	comp=E,10.0nm,0.4s						
LSTR				*e*Sg	**Sg**	**06 47 32.6**	**-3.7**
LSTR				Smax		06 47 48.3	
	comp=E,139nm,1.1s						
IRK	**Irkutsk**	**4.74**	**254**	*e*Sg	**Sg**	**06 47 35.7**	**-5.6**
IRK				Smax		06 47 41.1	
	comp=E,298nm,0.5s						
CRS	**Chara**	**4.88**	**48**	*e*PN	**Pn**	**06 46 25.1**	**+2.5**
CRS				*e*		06 46 39.5	
CRS				*e*		06 47 42.7	
CRS				pmax	pmax		
	comp=Z,58nm,0.7s						
CRS				smax	smax		
	comp=E,289nm,1.0s						
CRS	**Chara**	**4.88**	**48**	*e*Pn	**Pn**	**06 46 24.9**	**+2.3**
CRS				*e*Pg	**Pg**	**06 46 39.8**	**-2.7**
CRS				*e*		06 46 46.1	
CRS				max		06 46 51.2	
	comp=E,55nm,0.9s						
CRS				*e*Sn	**Sb**	**06 47 31.8**	**-1.5**
CRS				*e*Sg	**Sg**	**06 47 45.0**	**-0.6**
CRS				Smax		06 47 48.7	
	comp=E,290nm,1.1s						
TUP	**Tupik**	**4.90**	**79**	*e*PN	**Pn**	**06 46 25.6**	**+2.7**
TUP				*e*		06 46 40.4	
TUP				*e*		06 47 43.8	
TUP				pmax	pmax		
	comp=Z,39nm,0.4s						
TUP				smax	smax		
	comp=N,557nm,0.8s						
TLY	**Talaya**	**5.33**	**250**	*e*PN	**Pn**	**06 46 29.8**	**+1.0**
TLY				*e*		06 46 44.9	
TLY				*e*		06 47 54.0	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TLY				smax	smax		
	comp=N,97nm,1.4s						
TLY	**Talaya**	**5.33**	**250**	*e*Pn	**Pn**	**06 46 30.6**	**+1.8**
TLY				*e*Pg	Pg	06 46 46.5	-4.7
TLY				Pmax		06 47 09.9	
	comp=N,10.0nm,0.4s						
TLY				*e*Sg	**Sg**	**06 47 55.6**	**-4.5**
TLY				Smax		06 47 58.9	
	comp=N,97nm,1.3s						
KHNR	**Khani**	**5.67**	**53**	*i* Sg	**Sg**	**06 48 09.9**	**-1.2**
ARS	**Arshan**	**5.92**	**255**	*e*	Pb	06 46 46.0	-6.5
ARS				*e*Pg	Pg	06 46 55.7	-6.8
ARS				Pmax		06 47 09.6	
	comp=N,18nm,0.5s						
ARS				*e*Sg	Sb	06 48 10.8	+7.4
ARS				Smax		06 48 19.7	
	comp=N,215nm,1.0s						
ZAK	**Zakamensk**	**6.21**	**240**	*e*PN	Pn	06 46 46.3	+5.4
ZAK				*e*		06 47 03.5	
ZAK				*e*		06 47 49.9	
ZAK				*e*		06 48 22.4	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAK				smax	smax		
	comp=E,41nm,0.8s						
ZAK	**Zakamensk**	**6.21**	**240**	*e*Pg	Pg	06 47 03.5	-4.5
ZAK				Pmax		06 47 05.4	
	comp=E,8.0nm,1.4s						
ZAK				*e*Sg	**Sg**	**06 48 25.2**	**-3.1**
ZAK				Smax		06 48 27.9	
	comp=E,33nm,1.3s						
ULN	**Ulaanbaatar**	**6.62**	**208**	*e*	Pn	06 46 54.7	+8.0
ULN				*e*Pg	Pg	06 47 12.1	-3.8
ULN				*e*Sg	**Sg**	**06 48 38.6**	**-3.0**
HIA	**Hailar**	**6.76**	**129**	*e*	**Pn**	**06 46 49.8**	**+1.3**
HIA				*e*Sg	**Sg**	**06 48 42.1**	**-4.0**
MOY	**Mondy**	**6.84**	**256**	*e*PG	Pb	06 47 13.2	+5.1
MOY	**Mondy**	**6.84**	**256**	*e*Pn	Pn	06 46 53.8	+4.2
MOY				*e*		06 47 13.2	
MOY				max		06 47 17.3	
	comp=E,11nm,0.7s						
MOY				*e*Sg	Sg	06 48 39.0	-10
MOY				Smax		06 48 53.3	
	comp=E,92nm,1.8s						
SONM	**Songino Array**	**6.84**	**211**	Pn	**Pn**	**06 46 52.5**	**+2.8**
	comp=E,0.4nm,0.3s,baz=22,slow=14,SNR=11						
SONM				Lg	Lg	06 48 45.7	
	comp=E,2.8nm,0.3s,baz=15,slow=28,SNR=5.2						
SONM				LR	LR	06 49 51.8	
	comp=E,49nm,18.3s,baz=141,slow=41						
ORL	**Orlik**	**7.25**	**265**	*e*Pn	**Pn**	**06 46 57.1**	**+1.8**
ORL				*e*		06 47 05.3	
ORL				max		06 47 06.9	
	comp=E,12nm,0.5s						
ORL				*e*Sn	**Sn**	**06 48 18.4**	**+0.7**
ORL				*e*Sg	Sg	06 48 52.3	-10
ORL				Smax		06 48 59.1	
	comp=E,78nm,1.6s						
TNDR	**Tynda**	**7.71**	**75**	*e*Sg	**Sg**	**06 49 12.6**	**-3.9**
IENR	**Iengra**	**7.95**	**67**	*e*Pn	**Pn**	**06 47 07.8**	**+3.0**
IENR				*e*		06 47 39.2	
IENR				*e*Sg	**Sg**	**06 49 18.6**	**-5.5**
CLNS	**Chul'man**	**8.12**	**63**	Pn	Pn	06 47 10.5	+3.4
CLNS				*e*Pg	Pg	06 47 37.8	-6.8
CLNS				*e*Sg	**Sg**	**06 49 24.4**	**-5.3**
MKAR	**Makanchi Array**	**19.94**	**261**	P	**Pn**	**06 49 44.6**	**+1.8**
	comp=E,0.3nm,0.6s,baz=57,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**19.94**	**261**	P	**Pn**	**06 49 44.6**	**+1.8**
KURK	**Kurchatov**	**20.37**	**275**	P	Pn	06 49 51.2	+3.4
KURBB	**Kurchatov Arra**	**20.46**	**275**	P	Pn	06 49 51.2	+2.4
	comp=E,0.3nm,0.5s,baz=74,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**24.39**	**285**	P	P	06 50 34.3	+6.9
	comp=E,0.9nm,0.6s,baz=78,slow=8.2,SNR=5.9						
BVAR	**Borovoye Array**	**24.39**	**285**	P	P	06 50 34.3	+6.9
FINES	**FINESS Array B**	**43.30**	**316**	P	P	06 53 15.7	+5.1
	comp=E,0.8nm,0.7s,baz=40,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**47.39**	**35**	P	**P**	**06 53 45.5**	**+2.4**
	comp=E,0.6nm,0.7s,baz=300,slow=7.1,SNR=9.3						

*ATH **15** 06:53:25.6,38.°79N×26.°76E,h27km±3km,MD3.5/6*

*DDA **15** 06:53:25.1,38.°85N×26.°85E,h7km,MD3.1*

*ISK **15** 06:53:25.2,38.°85N×26.°82E,h9km,MD3.3*

*ISCJB **15** 06:53:25.7±0.5,38.°84N±0.°02×26.°82E±0.°03,h11km±4km, Error ellipse: s-maj=3.8km s-min=2.9km az=144.9*

*THE **15** 06:53:26.7,38.°82N×26.°75E,h6km±2km,ML3.2/2,Error ellipse: s-maj=2.3km s-min=0.6km az=268.0*

*CSEM **15** 06:53:26.1±0.1,38.°82N×26.°80E,h12km,MD3.1,Error ellipse: s-maj=2.8km s-min=2.2km az=55.0*

ISC 15 06:53:25.9±1.0,38.°81N±0.°02×26.°80E±0.°02,h15km±8km, n112,σ0s87/141,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.47**	**156**	*e*PG	**Pb**	**06 53 35.4**	**-0.4**
BLCB				*e*SG	**Sb**	**06 53 42.2**	**-0.3**
BLCB	**Balcova**	**0.47**	**156**	*e*Pg	**Pb**	**06 53 35.4**	**-0.4**
BLCB				*e*Sg	**Sb**	**06 53 42.2**	**-0.3**
AYVA	**Ayvalik**	**0.50**	**350**	*i* P	**Pg**	**06 53 35.8**	**0.0**
AYVA				*i* S	**Sg**	**06 53 42.8**	**+0.2**
AYVA	**Ayvalik**	**0.50**	**350**	*i* P	**Pg**	**06 53 35.8**	**0.0**
AYVA				*i* S	**Sg**	**06 53 42.8**	**+0.2**
IZM	**Izmir**	**0.55**	**139**	*e*PG	**Pg**	**06 53 36.7**	**0.0**
IZM				*e*SG	**Sb**	**06 53 45.7**	**+0.8**
IZM	**Izmir**	**0.55**	**139**	*e*Pg	**Pg**	**06 53 36.7**	**0.0**
IZM				*e*Sg	**Sb**	**06 53 45.7**	**+0.8**
PRK	**Paraskevi**	**0.60**	**317**	P	**Pg**	**06 53 37.5**	**-0.1**
PRK	**Paraskevi**	**0.60**	**317**	*e*PN	**Pg**	**06 53 37.5**	**-0.1**
PRK				*e*SN	**Sb**	**06 53 46.3**	**0.0**
PRK	**Paraskevi**	**0.60**	**317**	P	**Pg**	**06 53 37.5**	**-0.1**
PRK				*e*Sn	**Sb**	**06 53 46.3**	**0.0**
CHOS	**Chios island**	**0.72**	**234**	P	**Pb**	**06 53 40.3**	**+0.1**
CHOS				S	**Sb**	**06 53 50.3**	**+0.4**
CHOS	**Chios island**	**0.72**	**234**	*e*PN	**Pb**	**06 53 40.3**	**+0.1**
CHOS				*e*SN	**Sg**	**06 53 49.0**	**-0.5**
CHOS	**Chios island**	**0.72**	**234**	P	**Pb**	**06 53 40.3**	**+0.1**
CHOS				*e*Sn	**Sg**	**06 53 49.0**	**-0.5**
CHOS				S	**Sb**	**06 53 50.3**	**+0.4**
AKS	**Akhisar**	**0.79**	**85**	*e*PG	**Pg**	**06 53 41.0**	**-0.3**
AKS				*e*SG	**Sg**	**06 53 51.5**	**-0.2**
AKS	**Akhisar**	**0.79**	**85**	*e*Pg	**Pg**	**06 53 41.0**	**-0.3**
AKS				*e*Sg	**Sg**	**06 53 51.5**	**-0.2**
SIGR	**SIGRI**	**0.84**	**299**	P	**Pb**	**06 53 42.0**	**-0.1**
SIGR				S	**Sb**	**06 53 54.0**	**+0.8**
SIGR	**SIGRI**	**0.84**	**299**	P	**Pb**	**06 53 42.0**	**-0.1**
SIGR				S	**Sb**	**06 53 54.0**	**+0.8**
EZN	**Ezine**	**1.08**	**340**	*e*PG	**Pb**	**06 53 46.1**	**-0.1**
EZN	**Ezine**	**1.08**	**340**	*e*Pg	**Pb**	**06 53 46.1**	**-0.1**
GCAM	**G?zelcaml?**	**1.16**	**163**	*i* P	**Pb**	**06 53 47.6**	**0.0**
GCAM				*i* S	**Sn**	**06 54 02.8**	**-0.3**
GCAM	**G?zelcaml?**	**1.16**	**163**	*i* P	**Pb**	**06 53 47.6**	**0.0**
GCAM				*i* S	**Sn**	**06 54 02.8**	**-0.3**
BALB	**Balikesir**	**1.18**	**45**	*e*PN	**Pn**	**06 53 46.8**	**-1.0**
BALB	**Balikesir**	**1.18**	**45**	*e*Pn	**Pn**	**06 53 46.8**	**-1.0**
GONE	**Gonen-Balikesi**	**1.41**	**29**	*e*PN	**Pn**	**06 53 50.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.41**	**29**	*e*Pn	**Pn**	**06 53 50.6**	**-0.4**
MANT	**Manisa**	**1.41**	**103**	*i* P	**Pn**	**06 53 50.9**	**-0.3**
MANT				*i* S	**Sn**	**06 54 09.6**	**-0.1**
MANT	**Manisa**	**1.41**	**103**	*i* P	**Pn**	**06 53 50.9**	**-0.3**
MANT				*i* S	**Sn**	**06 54 09.6**	**-0.1**
AYDN	**Tasoluk**	**1.43**	**143**	*i* P	**Pn**	**06 53 51.3**	**0.0**
AYDN				*i* S	**Sb**	**06 54 10.7**	**+0.4**
AYDN	**Tasoluk**	**1.43**	**143**	*i* P	**Pn**	**06 53 51.3**	**0.0**
AYDN				*i* S	**Sb**	**06 54 10.7**	**+0.4**
KULA	**Kula-Manisa**	**1.49**	**101**	*e*PN	**Pn**	**06 53 52.2**	**+0.1**
KULA	**Kula-Manisa**	**1.49**	**101**	*e*Pn	**Pn**	**06 53 52.2**	**+0.1**
DEMI	**Demirci**	**1.51**	**81**	*i* P	**Pn**	**06 53 52.3**	**-0.2**
DEMI				*i* S	**Sn**	**06 54 10.7**	**-1.3**
DEMI	**Demirci**	**1.51**	**81**	*i* P	**Pn**	**06 53 52.3**	**-0.2**
DEMI				*i* S	**Sn**	**06 54 10.7**	**-1.3**
DURS	**Dursunbey**	**1.52**	**58**	*i* P	**Pn**	**06 53 52.5**	**-0.1**
DURS				*i* S	**Sn**	**06 54 12.3**	**+0.1**
DURS	**Dursunbey**	**1.52**	**58**	*i* P	**Pn**	**06 53 52.5**	**-0.1**
DURS				*i* S	**Sn**	**06 54 12.3**	**+0.1**
LPK	**Lapseki**	**1.56**	**359**	*e*PN	**Pn**	**06 53 53.0**	**-0.1**
LPK	**Lapseki**	**1.56**	**359**	*e*Pn	**Pn**	**06 53 53.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.60**	**351**	*e*PN	**Pn**	**06 53 53.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.60**	**351**	*e*Pn	**Pn**	**06 53 53.8**	**+0.1**
DST	**Dursunbey**	**1.62**	**60**	*e*PN	**Pn**	**06 53 53.8**	**-0.1**
DST	**Dursunbey**	**1.62**	**60**	*e*Pn	**Pn**	**06 53 53.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.62**	**14**	*e*PN	**Pn**	**06 53 53.5**	**-0.5**
KRBG	**Karabiga-Canak**	**1.62**	**14**	*e*Pn	**Pn**	**06 53 53.5**	**-0.5**
LIA	**Limnos Island**	**1.66**	**311**	P	**Pn**	**06 53 54.6**	**+0.2**
LIA	**Limnos Island**	**1.66**	**311**	*e*PN	**Pb**	**06 53 55.4**	**-0.7**
LIA				*e*SN	**Sb**	**06 54 16.5**	**-0.3**
LIA	**Limnos Island**	**1.66**	**311**	P	**Pn**	**06 53 54.6**	**+0.2**
LIA	**Limnos Island**	**1.66**	**311**	*e*Pn	**Pb**	**06 53 55.4**	**-0.7**
LIA				*e*Sn	**Sb**	**06 54 16.5**	**-0.3**
MLSB	**Milas**	**1.70**	**153**	*e*PN	**Pn**	**06 53 55.8**	**+0.8**
MLSB	**Milas**	**1.70**	**153**	*e*Pn	**Pn**	**06 53 55.8**	**+0.8**
BNT	**Bandirma**	**1.77**	**29**	*e*PN	**Pn**	**06 53 56.2**	**+0.2**
BNT	**Bandirma**	**1.77**	**29**	*e*Pn	**Pn**	**06 53 56.2**	**+0.2**
BODT	**Bodrum**	**1.79**	**167**	*e*PN	**Pb**	**06 53 58.1**	**-0.2**
BODT	**Bodrum**	**1.79**	**167**	*e*Pn	**Pb**	**06 53 58.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.90**	**9**	*e*PN	**Pn**	**06 53 57.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.90**	**9**	*e*Pn	**Pn**	**06 53 57.6**	**-0.1**
ENEZ	**Enez**	**1.99**	**346**	*e*PN	**Pn**	**06 53 59.8**	**+0.9**
ENEZ	**Enez**	**1.99**	**346**	*e*Pn	**Pn**	**06 53 59.8**	**+0.9**
APE	**Apeiranthos**	**2.01**	**210**	*e*PN	**Pn**	**06 53 58.8**	**-0.5**
APE	**Apeiranthos**	**2.01**	**210**	*e*Pn	**Pn**	**06 53 58.8**	**-0.5**
ORLT	**Orhaneli**	**2.04**	**52**	*e*PN	**Pn**	**06 54 00.1**	**+0.4**
ORLT	**Orhaneli

ISK	**Istanbul-Kandi**	**2.84**	**37**	*e*PN	**Pn**	**06 54 12.2**	**+1.5**
ISK	**Istanbul-Kandi**	**2.84**	**37**	*e*Pn	**Pn**	**06 54 12.2**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.89**	**23**	*e*PN	**Pn**	**06 54 12.8**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.89**	**23**	*e*Pn	**Pn**	**06 54 12.8**	**+1.4**
HRT	**Hereke**	**2.98**	**47**	*e*PN	**Pn**	**06 54 14.1**	**+1.4**
HRT	**Hereke**	**2.98**	**47**	*e*Pn	**Pn**	**06 54 14.1**	**+1.4**
EDRB	**Edirne**	**3.03**	**359**	*e*PN	**Pn**	**06 54 14.9**	**+1.6**
EDRB	**Edirne**	**3.03**	**359**	*e*Pn	**Pn**	**06 54 14.9**	**+1.6**
GPA	**Golpazari**	**3.09**	**60**	*e*PN	**Pn**	**06 54 15.4**	**+1.3**
GPA	**Golpazari**	**3.09**	**60**	*e*Pn	**Pn**	**06 54 15.4**	**+1.3**
GULT	**Gulveren**	**3.29**	**59**	*e*PN	**Pn**	**06 54 18.6**	**+1.6**
GULT	**Gulveren**	**3.29**	**59**	*e*Pn	**Pn**	**06 54 18.6**	**+1.6**
SVRH	**Sivrihisar-ESK**	**3.73**	**79**	*e*PN	**Pn**	**06 54 24.4**	**+1.4**
SVRH	**Sivrihisar-ESK**	**3.73**	**79**	*e*Pn	**Pn**	**06 54 24.4**	**+1.4**
MDUB	**Mudurnu**	**3.78**	**63**	*e*PN	**Pn**	**06 54 25.5**	**+1.8**
MDUB	**Mudurnu**	**3.78**	**63**	*e*Pn	**Pn**	**06 54 25.5**	**+1.8**

IDC 15 07:09:07.6±7.8, 16°07S×74°10W, h78km±40km, mb3.1/2, mb1 3.4/5, mb1mx3.2/21, mbtmp3.3/5, ML3.7/3, Error ellipse: s-maj=159.7km s-min=20.2km az=23.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.85**	**326**	P	Pn	07 10 17.6	-0.7
	3.3nm,0.3s,baz=153,slow=14,SNR=5.7						
NNA				S	Sn	07 11 21.9	+8.7
	4.2nm,0.3s,baz=216,slow=19,SNR=2.2						
LPAZ	**La Paz**	**5.74**	**93**	P	Pn	07 10 31.6	+0.5
	1.1nm,0.3s,baz=279,slow=12,SNR=20						
LPAZ				S	Sn	07 11 37.2	+1.1
	baz=267,slow=15,SNR=1.2						
SIV	**San Ignacio**	**12.53**	**91**	P	Pn	07 12 01.1	-1.8
	0.2nm,0.3s,baz=270,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**80.35**	**73**	P	P	07 21 09.2	-1.7
	0.3nm,0.6s,baz=258,slow=4.3,SNR=2.3						
YKA	**Yellowknife Ar**	**84.50**	**342**	P	P	07 21 32.0	+0.6
	0.2nm,0.8s,baz=141,slow=5.5,SNR=4.2						
SONM	**Songino Array**	**148.32**	**359**	PKPbc	PKPbc	07 28 45.5	+0.4
	0.4nm,0.6s,baz=48,slow=2.1,SNR=4.5						

AZER ***15*** *07:16:39.3, 40.00N×51.77E, h64km*
MOS ***15*** *07:16:39.6±1.2, 40.46N×51.69E, h33km, mb4.5/10, Error ellipse: s-maj=10.0km s-min=7.0km az=127.8*
ISCJB ***15*** *07:16:41.0±0.7, 40.43N±0.06×51.75E±0.04, h57km±6km, mb4.0/24, MS2.7/3, Error ellipse: s-maj=11.1km s-min=4.8km az=164.8*
IDC ***15*** *07:16:42.1±3.3, 40.41N×51.68E, h48km±30km, mb3.6/10, mb1 3.7/15, mb1mx3.5/32, mbtmp3.6/15, ML4.0/5, MS2.7/3, Ms1 2.7/3, ms1mx2.3/49, Error ellipse: s-maj=34.3km s-min=16.6km az=165.0*
CSEM ***15*** *07:16:43.3±0.3, 40.51N×51.75E, h60km, mb4.5, mb4.5/11, Error ellipse: s-maj=11.5km s-min=4.2km az=162.0*
NEIC ***15*** *07:16:43.1±1.0, 40.45N×51.73E, h60km±6km, mb4.6/7, Error ellipse: s-maj=14.3km s-min=4.9km az=168.0*
NNC ***15*** *07:16:47.5±3.9, 40.84N×52.67E, h0km, mb3.8, Error ellipse: s-maj=49.8km s-min=27.8km az=97.0*
ISC 15 07:16:40.2±0.9, 40.31N±0.06×51.76E±0.05, h36km±2km, n167, σ1%69/180, mb4.2/24, MS2.7/3, 16C-10D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**1.23**	**275**	⇑P	Pn	07 17 07.1	+6.3
NDR	**Nardaran**	**1.38**	**282**	⇑S	Sn	07 17 31.9	+12
GOBA	**Gobu**	**1.55**	**274**	⇑P	Pn	07 17 09.0	+3.8
GOBA				⇑S	Sn	07 17 31.4	+7.3
GOBA	**Gobu**	**1.55**	**274**	P	Pn	07 17 09.0	+3.8
SIZA	**Siyzn**	**2.31**	**290**	⇑P	**Pn**	**07 17 18.6**	**+2.9**
	SNR=7.2						
SIZA	**Siyzn**	**2.31**	**290**	P	**Pn**	**07 17 18.6**	**+2.9**
	SNR=7.2						
PQL	**Pirkuli**	**2.46**	**282**	⇑P	**Pn**	**07 17 19.3**	**+1.4**
	SNR=4.3						
PQL	**Pirkuli**	**2.46**	**282**	P	**Pn**	**07 17 19.3**	**+1.4**
	SNR=4.3						
QUBA	**Quba, Azerbaij**	**2.69**	**294**	⇓P	**Pn**	**07 17 23.3**	**+2.3**
QUBA				⇓S	**Sn**	**07 17 55.3**	**+3.0**
QUBA	**Quba, Azerbaij**	**2.69**	**294**	P	**Pn**	**07 17 23.3**	**+2.3**
QUBA				S	**Sn**	**07 17 55.3**	**+3.0**
GLBA	**Clilabad**	**2.80**	**249**	⇓P	**Pn**	**07 17 22.6**	**+0.1**
	SNR=8.2						
GLBA				⇓S	**Sn**	**07 17 53.7**	**-1.4**
LKRN	**Lenkeran, Azer**	**2.80**	**236**	⇑P	**Pn**	**07 17 21.8**	**-0.7**
	SNR=3.9						
LKRN				⇓S	**Sn**	**07 17 52.4**	**-2.6**
SEKA	**Sheki**	**3.58**	**286**	⇑P	**Pn**	**07 17 34.2**	**+1.0**
	SNR=9.7						
SEKA				⇓S	**Sn**	**07 18 15.7**	**+1.4**
SEKA	**Sheki**	**3.58**	**286**	P	**Pn**	**07 17 34.2**	**+1.0**
	SNR=9.7						
SEKA				S	**Sn**	**07 18 15.7**	**+1.4**
MAK	**Makhachkala**	**4.14**	**311**	*i* PN	**Pn**	**07 17 42.0**	**+1.1**
MAK	**Makhachkala**	**4.14**	**311**	*i* Pn	**Pn**	**07 17 42.0**	**+1.1**
GANJ	**Ganja**	**4.16**	**276**	⇑P	**Pn**	**07 17 39.4**	**-1.8**
	SNR=3.6						
DGRG	**David-gareji**	**4.97**	**285**	P	**Pn**	**07 17 53.6**	**+1.3**
DGRG				S	**Sn**	**07 18 50.4**	**+1.8**
DGRG	**David-gareji**	**4.97**	**285**	P	**Pn**	**07 17 53.6**	**+1.3**
DGRG				S	**Sn**	**07 18 50.4**	**+1.8**
GNI	**Garni**	**5.37**	**271**	P	Pn	07 18 02.1	+4.1
	0.8nm,0.3s,baz=18,slow=16,SNR=2.7						
GNI				S	**Sn**	**07 18 54.9**	**-3.7**
	1.1nm,0.3s,baz=280,slow=20,SNR=3.5						
GNI	**Garni**	**5.37**	**271**	P	Pn	07 18 02.1	+4.1
GNI				S	**Sn**	**07 18 54.9**	**-3.7**
GNI	**Garni**	**5.37**	**271**	P	Pn	07 18 02.1	+4.1
KBZ	**Khabaz**	**7.43**	**300**	P	**Pn**	**07 18 28.4**	**+2.4**
	0.4nm,0.3s,baz=102,slow=15,SNR=6.5						
KBZ				S	**Sn**	**07 19 43.6**	**-5.3**
	0.2nm,0.3s,baz=141,slow=18,SNR=1.7						
KBZ	**Khabaz**	**7.43**	**300**	P	**Pn**	**07 18 28.4**	**+2.4**
KBZ				S	**Sn**	**07 19 43.6**	**-5.3**
KBZ	**Khabaz**	**7.43**	**300**	P	**Pn**	**07 18 28.4**	**+2.4**
KBZ				S	**Sn**	**07 19 43.6**	**-5.3**
KBZ	**Khabaz**	**7.43**	**300**	P	**Pn**	**07 18 28.4**	**+2.4**
AB31	**Akbulak array**	**10.66**	**30**	⇑Pn	**Pn**	**07 19 10.3**	**0.0**
	0.9nm,0.3s,baz=220,slow=9.8,SNR=8.1						
AB31					**Sn**	**07 21 05.8**	**-2.5**
	3.0nm,0.3s,baz=176,slow=22,SNR=8.0						
AB31	**Akbulak array**	**10.66**	**30**	Pn	**Pn**	**07 19 10.3**	**0.0**
	0.9nm,0.3s,SNR=8.1						
AB31					**Sn**	**07 21 05.8**	**-2.5**
	3.0nm,0.3s,SNR=8.0						
ABKAR	**Akbulak array**	**10.66**	**30**	*e*Pn	**Pn**	**07 19 10.3**	**0.0**
	2.1nm,0.4s						
ABKAR				*e*Sn	Sn	07 20 56.5	-12
ABKAR	**Akbulak array**	**10.66**	**30**	*e*Pn	**Pn**	**07 19 10.3**	**0.0**
	2.1nm,0.4s						
AKTK	**Aktyubinsk**	**11.04**	**21**	P	**Pn**	**07 19 15.6**	**+0.2**
AKTK				S	**Sn**	**07 21 13.7**	**-3.8**
AKTO	**Aktyubinsk**	**11.04**	**21**	P	**Pn**	**07 19 15.6**	**+0.2**
	2.2nm,0.3s,baz=206,slow=12,SNR=26						
AKTO				S	**Sn**	**07 21 13.7**	**-3.8**
	3.1nm,0.3s,baz=57,slow=23,SNR=10						
AKTO	**Aktyubinsk**	**11.04**	**21**	⇑Pn	**Pn**	**07 19 15.7**	**+0.3**
	0.6nm,0.4s						
AKTO				⇑Sn	**Sn**	**07 21 13.6**	**-3.8**
	3.5nm,0.6s						
AKTO	**Aktyubinsk**	**11.04**	**21**	P	**Pn**	**07 19 15.6**	**+0.2**
AKTO				S	**Sn**	**07 21 13.7**	**-3.8**
AKTO	**Aktyubinsk**	**11.04**	**21**	P	**Pn**	**07 19 15.6**	**+0.2**
AKTO				S	**Sn**	**07 21 13.7**	**-3.8**
AKTO	**Aktyubinsk**	**11.04**	**21**	P	**Pn**	**07 19 15.6**	**+0.2**
AKTO				S	**Sn**	**07 21 13.7**	**-3.8**
BRTR	**Keskin Array B**	**13.90**	**273**	P	**Pn**	**07 19 56.4**	**+1.6**
	0.1nm,0.3s,baz=81,slow=14,SNR=3.4						
BRTR	**Keskin Array B**	**13.90**	**273**	P	**Pn**	**07 19 56.4**	**+1.6**
KK31	**Karatay Array**	**14.29**	**73**	⇓P	**Pn**	**07 20 00.5**	**+0.7**
	1.8nm,0.7s,baz=262,slow=17,SNR=18						
KKAR	**Karatay Array**	**14.29**	**73**	*e*P	**Pn**	**07 20 01.2**	**+1.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**14.29**	**73**	*e*Pn	**Pn**	**07 20 01.2**	**+1.4**
	comp=Z,1.5nm,0.6s						
KKAR	**Karatay Array**	**14.29**	**73**	*e*Pn	**Pn**	**07 20 01.2**	**+1.4**
	comp=Z,1.5nm,0.6s						
MMAI	**Mount Meron Ar**	**15.00**	**246**	LR	LR	07 26 27.0	
	comp=Z,22nm,20.6s,baz=190,slow=39						
ARU	**Arti**	**16.74**	**13**	*c i* P	**Pn**	**07 20 31.6**	**-0.1**
ARU				S	**Sn**	**07 23 31.7**	**-4.6**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
ARU	**Arti**	**16.74**	**13**	*i* P	**Pn**	**07 20 31.6**	**-0.1**
	comp=Z,12nm,2.5s						
ZRNK	**Zerenda**	**17.27**	**37**	⇑P	**Pn**	**07 20 38.4**	**+0.1**
	comp=Z,2.8nm,0.8s						
ZRNK	**Zerenda**	**17.27**	**37**	P	**Pn**	**07 20 38.4**	**+0.1**
	comp=Z,2.8nm,0.8s						
BRVK	**Borovoye**	**17.93**	**39**	⇓*e*P	**Pn**	**07 20 46.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRVK				MLR	MLR		
	comp=Z,38nm,16.0s						
BRVK	**Borovoye**	**17.93**	**39**	*e*P	**P**	**07 20 47.5**	**+0.6**
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**17.93**	**39**	*e*P	**Pn**	**07 20 46.7**	**+0.2**
	comp=Z,38nm,16.0s						
BVA0	**Borovoye Array**	**17.96**	**39**	⇓P	**P**	**07 20 48.7**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=211,slow=13,SNR=19						
BVA0				⇓S	Sn	07 23 57.5	-8.6
	comp=Z,0.6nm,0.7s,baz=236,slow=26,SNR=3.7						
BVA0	**Borovoye Array**	**17.96**	**39**	P	**P**	**07 20 48.7**	**+1.5**
	comp=Z,0.4nm,0.6s,SNR=19						
BVAR	**Borovoye Array**	**17.96**	**39**	P	**Pn**	**07 20 46.7**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=231,slow=13,SNR=20						
BVAR				S	Sn	07 23 53.3	-13
	comp=Z,0.2nm,0.3s,baz=234,slow=17,SNR=4.8						
BVAR	**Borovoye Array**	**17.96**	**39**	P	**Pn**	**07 20 46.7**	**-0.2**
BVAR				S	Sn	07 23 53.3	-13
BVAR	**Borovoye Array**	**17.96**	**39**	P	**Pn**	**07 20 46.7**	**-0.2**
BVAR				S	Sn	07 23 53.3	-13
BVAR	**Borovoye Array**	**17.96**	**39**	P	**Pn**	**07 20 46.7**	**-0.2**
VOSK	**Vostochnaya**	**18.07**	**40**	⇑P	**P**	**07 20 49.2**	**+0.8**
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**18.83**	**311**	P	**P**	**07 20 55.1**	**-1.6**
	comp=Z,2.6nm,0.3s,baz=114,slow=12,SNR=8.5						
AKASG	**Malin Array Be**	**18.83**	**311**	*e*P	**P**	**07 20 56.8**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**18.83**	**311**	P	**P**	**07 20 55.1**	**-1.6**
AKASG	**Malin Array Be**	**18.83**	**311**	*e*P	**P**	**07 20 56.8**	**+0.1**
	comp=Z,3.0nm,0.3s						
AK01	**Malin Array Si**	**18.84**	**311**	*e*P	**P**	**07 20 56.7**	**-0.1**
AK01	**Malin Array Si**	**18.84**	**311**	*e*P	**P**	**07 20 56.7**	**-0.1**
KIEV	**Kiev**	**18.84**	**311**	*i* P	**P**	**07 20 56.4**	**-0.4**
KIEV	**Kiev**	**18.84**	**311**	*i* P	**P**	**07 20 56.4**	**-0.4**
BUR08	**Bucovina Ar. S**	**20.40**	**300**	*e*P	**P**	**07 21 13.4**	**-0.6**
BUR08	**Bucovina Ar. S**	**20.40**	**300**	*e*P	**P**	**07 21 13.4**	**-0.6**
KURBB	**Kurchatov Arra**	**21.31**	**52**	P	**P**	**07 21 25.8**	**+2.1**
	comp=Z,1.9nm,0.8s,baz=256,slow=13,SNR=6.5						
KURBB				LR	LR	07 30 44.8	
	comp=Z,27nm,19.2s,baz=190,slow=40						
KURK	**Kurchatov**	**21.39**	**52**	⇑*e*P	**P**	**07 21 28.1**	**+3.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK				MLR	MLR		
	comp=Z,32nm,15.0s						
KURK	**Kurchatov**	**21.39**	**52**	P	**P**	**07 21 25.8**	**+1.3**
KURK	**Kurchatov**	**21.39**	**52**	P	**P**	**07 21 25.8**	**+1.3**
KLMR	**Klimovskoe**	**21.92**	**344**	*e*P	**P**	**07 21 30.9**	**+0.9**
KLMR				*e*S	**S**	**07 25 23.2**	**-6.7**
KLMR				pmax	pmax		
	comp=Z,21nm,1.7s						
KLMR	**Klimovskoe**	**21.92**	**344**	*e*P	**P**	**07 21 30.9**	**+0.9**
	comp=Z,21nm,1.7s						
KOLS	**Kolonicke sedl**	**22.57**	**302**	*e*P	**P**	**07 21 39.0**	**+1.8**
KOLS				pmax	pmax		
	comp=Z,25nm,2.1s						
KOLS	**Kolonicke sedl**	**22.57**	**302**	*e*P	**P**	**07 21 39.0**	**+1.8**
KOLS	**Kolonicke sedl**	**22.57**	**302**	*e*P	**P**	**07 21 39.0**	**+1.8**
	comp=Z,25nm,2.1s						
MK31	**Makanchi Array**	**22.96**	**63**	*e*P	**P**	**07 21 42.9**	**+1.6**
MK31	**Makanchi Array**	**22.96**	**63**	*e*P	**P**	**07 21 42.9**	**+1.6**
MK31	**Makanchi Array**	**22.96**	**63**	*e*P	**P**	**07 21 42.9**	**+1.6**
MKAR	**Makanchi Array**	**22.96**	**63**	P	**P**	**07 21 42.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=289,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**22.96**	**63**	*e*P	P	07 21 46.5	+5.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**22.96**	**63**	P	**P**	**07 21 42.5**	**+1.2**
MKAR	**Makanchi Array**	**22.96**	**63**	P	**P**	**07 21 42.5**	**+1.2**
CRVS	**Cervenica-Dubn**	**23.09**	**302**	*e*P	**P**	**07 21 46.0**	**+3.4**
CRVS				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CRVS	**Cervenica-Dubn**	**23.09**	**302**	*e*P	**P**	**07 21 46.0**	**+3.4**
VSU	**Vasula**	**24.16**	**327**	*i* P	**P**	**07 21 52.1**	**-0.6**
VSU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VSU	**Vasula**	**24.16**	**327**	*i* P	**P**	**07 21 52.1**	**-0.6**
	comp=Z,9.0nm,0.7s						
VYHS	**Vyhne**	**24.75**	**300**	*e*P	**P**	**07 22 00.3**	**+2.1**
VYHS				pmax	pmax		
	comp=Z,22nm,2.7s						
VYHS	**Vyhne**	**24.75**	**300**	*e*P	**P**	**07 22 00.3**	**+2.1**
VYHS	**Vyhne**	**24.75**	**300**	*e*P	**P**	**07 22 00.3**	**+2.1**
	comp=Z,22nm,2.7s						
JOF	**Joensuu**	**25.73**	**338**	*e*P	**P**	**07 22 05.9**	**-0.9**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JOF	**Joensuu**	**25.73**	**338**	*ep*	**P**	**07 22 05.9**	**-0.9**
	comp=Z,6.8nm,0.5s						
JOF	**Joensuu**	**25.73**	**338**	*e*P	**P**	**07 22 05.9**	**-0.9**
	comp=Z,7.0nm,0.5s						
FINES	**FINESS Array B**	**26.33**	**332**	P	**P**	**07 22 12.4**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=129,slow=10,SNR=17						
FINES	**FINESS Array B**	**26.33**	**332**	P	**P**	**07 22 12.4**	**+0.1**
FINES	**FINESS Array B**	**26.33**	**332**	P	**P**	**07 22 12.4**	**+0.1**
KAF	**Kangasniemi**	**26.70**	**333**	*e*P	**P**	**07 22 16.8**	**+1.1**
KAF	**Kangasniemi**	**26.70**	**333**	*ep*	**P**	**07 22 16.8**	**+1.1**
	comp=Z,0.3nm,0.3s						
KAF	**Kangasniemi**	**26.70**	**333**	*e*P	**P**	**07 22 16.8**	**+1.1**
GERES	**GERESS Array B**	**28.17**	**300**	P	**P**	**07 22 29.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=92,slow=8.9,SNR=15						
GERES	**GERESS Array B**	**28.17**	**300**	P	**P**	**07 22 29.1**	**-0.1**
GERES	**GERESS Array B**	**28.17**	**300**	P	**P**	**07 22 29.1**	**-0.1**
DAVOX	**Davos/Dischmat**	**30.75**	**296**	P	**P**	**07 22 52.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=94,slow=9.6,SNR=4.0						
DAVOX	**Davos/Dischmat**	**30.75**	**296**	P	**P**	**07 22 52.1**	**0.0**
DAVOX	**Davos/Dischmat**	**30.75**	**296**	P	**P**	**07 22 52.1**	**0.0**
HFS	**Hagfors**	**30.77**	**323**	P	**P**	**07 22 52.0**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=132,slow=8.6,SNR=6.5						
HFS	**Hagfors**	**30.77**	**323**	P	**P**	**07 22 52.0**	**+0.1**
HFS	**Hagfors**	**30.77**	**323**	P	**P**	**07 22 52.0**	**+0.1**
PGF	**Pioggiola**	**31.89**	**288**	*e*P	**P**	**07 23 01.8**	**-0.3**
	comp=Z,5.4nm,0.9s						
PGF	**Pioggiola**	**31.89**	**288**	*e*P	**P**	**07 23 01.8**	**-0.3**
PGF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PGF	**Pioggiola**	**31.89**	**288**	*e*P	**P**	**07 23 01.8**	**-0.3**
	comp=Z,5.4nm,0.9s						
PGF	**Pioggiola**	**31.89**	**288**	*e*P	**P**	**07 23 01.8**	**-0.3**
	comp=Z,5.4nm,0.9s						
NB2	**NORSAR Subarra**	**32.25**	**324**	P	**P**	**07 23 04.2**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**32.25**	**324**	P	**P**	**07 23 04.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=116,slow=8.2,SNR=7.3						
NOA	**NORSAR Array B**	**32.25**	**324**	P	**P**	**07 23 04.5**	**-0.4**
NOA	**NORSAR Array B**	**32.25**	**324**	P	**P**	**07 23 04.6**	**-0.4**
ARCES	**ARCESS Array B**	**32.39**	**343**	P	**P**	**07 23 06.9**	**+0.9**
	comp=Z,4.6nm,1.1s,baz=145,slow=9.9,SNR=4.0						
ARCES	**ARCESS Array B**	**32.39**	**343**	P	**P**	**07 23 06.9**	**+0.9**
ARCES	**ARCESS Array B**	**32.39**	**343**	P	**P**	**07 23 06.9**	**+0.9**
LPG	**La Plagne**	**33.04**	**294**	*e*P	**P**	**07 23 12.1**	**-0.2**
LPG	**La Plagne**	**33.04**	**294**	*e*P	**P**	**07 23 12.1**	**-0.2**
LPG	**La Plagne**	**33.04**	**294**	*e*P	**P**	**07 23 12.1**	**-0.2**
LPG	**La Plagne**	**33.04**	**294**	*e*P	**P**	**07 23 12.1**	**-0.2**
HAU	**Haudompre**	**33.07**	**299**	*e*P	**P**	**07 23 12.1**	**-0.2**
	comp=Z,14nm,0.9s						
HAU	**Haudompre**	**33.07**	**299**	*e*P	**P**	**07 23 12.1**	**-0.2**
HAU				pmax	pmax		
	comp=Z,14nm,0.9s						
HAU	**Haudompre**	**33.07**	**299**	*e*P	**P**	**07 23 12.1**	**-0.2**
	comp=Z,14nm,0.9s						
HAU	**Haudompre**	**33.07**	**299**	*e*P	**P**	**07 23 12.1**	**-0.2**
	comp=Z,14nm,0.9s						
MBDF	**Montbardon**	**33.13**	**293**	*e*P	**P**	**07 23 13.0**	**0.0**
	comp=Z,7.2nm,0.8s						
MBDF	**Montbardon**	**33.13**	**293**	*e*P	**P**	**07 23 13.0**	**0.0**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MBDF	**Montbardon**	**33.13**	**293**	*e*P	**P**	**07 23 13.0**	**0.0**
	comp=Z,7.2nm,0.8s						
MBDF	**Montbardon**	**33.13**	**293**	*e*P	**P**	**07 23 13.0**	**0.0**
	comp=Z,7.2nm,0.8s						
CABF	**La Chapelle**	**33.37**	**296**	*e*P	**P**	**07 23 15.0**	**0.0**
CABF	**La Chapelle**	**33.37**	**296**	*e*P	**P**	**07 23 15.0**	**0.0**
CABF	**La Chapelle**	**33.37**	**296**	*e*P	**P**	**07 23 15.0**	**0.0**
CABF	**La Chapelle**	**33.37**	**296**	*e*P	**P**	**07 23 15.0**	**0.0**
FRF	**La Foret Royal**	**33.41**	**291**	*e*P	**P**	**07 23 15.2**	**0.0**
	comp=Z,7.0nm,0.7s						
FRF	**La Foret Royal**	**33.41**	**291**	*e*P	**P**	**07 23 15.2**	**0.0**
FRF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FRF	**La Foret Royal**	**33.41**	**291**	*e*P	**P**	**07 23 15.2**	**0.0**
	comp=Z,7.0nm,0.7s						
FRF	**La Foret Royal**	**33.41**	**291**	*e*P	**P**	**07 23 15.2**	**0.0**
	comp=Z,7.0nm,0.7s						
PAGF	**Fort de Pagny**	**33.45**	**300**	*e*P	**P**	**07 23 16.0**	**+0.4**
PAGF	**Fort de Pagny**	**33.45**	**300**	*e*P	**P**	**07 23 16.0**	**+0.4**
PAGF	**Fort de Pagny**	**33.45**	**300**	*e*P	**P**	**07 23 16.0**	**+0.4**
SFTF	**Sexfontaines**	**33.94**	**299**	*e*P	**P**	**07 23 19.7**	**-0.1**
	comp=Z,4.1nm,0.5s						
SFTF	**Sexfontaines**	**33.94**	**299**	*e*P	**P**	**07 23 19.7**	**-0.1**
	comp=Z,4.1nm,0.5s						
SFTF	**Sexfontaines**	**33.94**	**299**	*e*P	**P**	**07 23 19.7**	**-0.1**
	comp=Z,4.1nm,0.5s						
LOR	**Lormes**	**34.81**	**298**	*e*P	**P**	**07 23 27.1**	**-0.3**
	comp=Z,7.0nm,0.9s						
LOR	**Lormes**	**34.81**	**298**	*e*P	**P**	**07 23 27.1**	**-0.3**
	comp=Z,7.0nm,0.9s						
LOR	**Lormes**	**34.81**	**298**	*e*P	**P**	**07 23 27.1**	**-0.3**
	comp=Z,7.0nm,0.9s						
SMF	**Signal de Mont**	**34.90**	**297**	*e*P	**P**	**07 23 28.2**	**0.0**
SMF	**Signal de Mont**	**34.90**	**297**	*e*P	**P**	**07 23 28.2**	**0.0**
SMF	**Signal de Mont**	**34.90**	**297**	*e*P	**P**	**07 23 28.2**	**0.0**
SMF	**Signal de Mont**	**34.90**	**297**	*e*P	**P**	**07 23 28.2**	**0.0**
SSF	**Saint Saulge**	**35.08**	**297**	*e*P	**P**	**07 23 29.5**	**-0.2**
SSF	**Saint Saulge**	**35.08**	**297**	*e*P	**P**	**07 23 29.5**	**-0.2**
SSF	**Saint Saulge**	**35.08**	**297**	*e*P	**P**	**07 23 29.5**	**-0.2**
SSF	**Saint Saulge**	**35.08**	**297**	*e*P	**P**	**07 23 29.5**	**-0.2**
LFF	**La Frestale**	**37.32**	**294**	*e*P	**P**	**07 23 47.9**	**-0.9**
LFF	**La Frestale**	**37.32**	**294**	*e*P	**P**	**07 23 47.9**	**-0.9**
LFF	**La Frestale**	**37.32**	**294**	*e*P	**P**	**07 23 47.9**	**-0.9**
LFF	**La Frestale**	**37.32**	**294**	*e*P	**P**	**07 23 47.9**	**-0.9**
ESDC	**Sonseca Array**	**42.09**	**288**	P	**P**	**07 24 27.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=71,slow=9.0,SNR=5.2						
ESDC	**Sonseca Array**	**42.09**	**288**	P	**P**	**07 24 27.6**	**-1.0**
ESDC	**Sonseca Array**	**42.09**	**288**	P	**P**	**07 24 27.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**51.40**	**253**	P	**P**	**07 25 40.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=52,slow=9.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**51.40**	**253**	P	**P**	**07 25 40.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**51.40**	**253**	P	**P**	**07 25 40.8**	**-0.9**
TGY	**Tagaytay City**	**65.18**	**92**	LR	LR	07 58 16.6	
	comp=Z,5.3nm,20.6s,baz=281,slow=38						

ISCJB ***15*** *07:23:13.9±0.3, 38.36N±0.01×21.85E±0.02, h4km±2km, mb3.5/7, Error ellipse: s-maj=2.5km s-min=2.2km az=177.2*
THE ***15*** *07:23:14.4, 38.36N×21.87E, h0km±1km, ML3.5/7, Error ellipse: s-maj=1.6km s-min=0.5km az=328

VLX	Vlachokerasia	1.07	157	P		Pg	07 23 33.4	-1.6
VLX	Vlachokerasia	1.07	157	*e*Pg		Pg	07 23 33.8	-1.2
VLX				S		Sn	07 23 49.9	-1.2
ITM	Ithomi	1.18	177	P		Pb	07 23 36.2	-0.9
ITM				S		Sn	07 23 54.5	+0.9
ITM	Ithomi	1.18	177	*e*PB		Pb	07 23 36.7	-0.4
ITM	Ithomi	1.18	177	P		Pb	07 23 36.2	-0.9
ITM	Ithomi	1.18	177	*e*Pb		Pb	07 23 36.7	-0.4
ITM				S		Sn	07 23 54.5	+0.9
THL	Klokotos Trika	1.22	6	P		Pn	07 23 36.1	-1.8
THL				S		Sn	07 23 54.7	+0.1
THL	Klokotos Trika	1.22	6	*e*PG		Pn	07 23 36.7	-1.2
THL	Klokotos Trika	1.22	6	P		Pn	07 23 36.1	-1.8
THL	Klokotos Trika	1.22	6	*e*Pg		Pn	07 23 36.7	-1.2
THL				S		Sn	07 23 54.7	+0.1
DID	Didima	1.39	127	P		Pg	07 23 41.6	+0.5
DID				S		Sb	07 23 58.1	-0.5
DID	Didima	1.39	127	*e*PB		Pb	07 23 40.5	-0.2
DID	Didima	1.39	127	P		Pn	07 23 39.4	-0.9
DID	Didima	1.39	127	*e*Pb		Pb	07 23 40.5	-0.2
DID				S		Sb	07 23 58.1	-0.5
MRKA	Markates	1.41	75	P		Pn	07 23 40.2	-0.4
MRKA	Markates	1.41	75	P		Pn	07 23 40.2	-0.4
NAIG	Nisos Aigina	1.42	114	*e*PB		Pb	07 23 41.2	-0.2
NAIG	Nisos Aigina	1.42	114	*e*Pb		Pb	07 23 41.2	-0.2
NEO	Neokhori	1.43	48	*e*PG		Pn	07 23 40.6	-0.3
NEO	Neokhori	1.43	48	*e*Pg		Pn	07 23 40.6	-0.3
XOR	Xorichti	1.45	46	P		Pn	07 23 40.6	-0.6
XOR	Xorichti	1.45	46	P		Pn	07 23 40.6	-0.6
PYL	PYLOS	1.46	183	P		Pn	07 23 40.6	-0.7
PYL				S		Sg	07 24 05.1	+3.7
PYL	PYLOS	1.46	183	*e*PG		Pn	07 23 41.5	-0.5
PYL	PYLOS	1.46	183	P		Pn	07 23 40.6	-0.7
PYL	PYLOS	1.46	183	*e*Pg		Pb	07 23 41.5	-0.5
PYL				S		Sg	07 24 01.5	+0.1
SKIA	Skiathos	1.50	57	P		Pn	07 23 41.6	-0.2
SKIA	Skiathos	1.50	57	P		Pn	07 23 41.6	-0.2
MEV	Metsovon	1.51	341	P		Pb	07 23 42.5	-0.4
MEV	Metsovon	1.51	341	P		Pb	07 23 42.5	-0.4
JAN	Janina	1.52	329	P		Pb	07 23 42.9	-0.1
JAN	Janina	1.52	329	*e*PB		Pg	07 23 43.3	-0.3
JAN	Janina	1.52	329	P		Pb	07 23 42.9	-0.1
JAN	Janina	1.52	329	*e*Pb		Pg	07 23 43.3	-0.3
RGA	Parga	1.52	310	P		Pn	07 23 41.7	-0.4
RGA	Parga	1.52	310	P		Pn	07 23 41.7	-0.4
ATH	Athens Observa	1.52	104	P		Pn	07 23 41.7	-0.4
ATH				S		Sb	07 24 02.4	0.0
ATH	Athens Observa	1.52	104	*e*PG		Pn	07 23 42.0	-0.1
ATH	Athens Observa	1.52	104	P		Pn	07 23 41.7	-0.4
ATH	Athens Observa	1.52	104	*e*Pg		Pn	07 23 42.0	-0.1
ATH				S		Sb	07 24 02.4	0.0
ERET	Eretria	1.54	86	P		Pn	07 23 42.0	-0.4
ERET				S		Sg	07 24 04.0	0.0
ERET	Eretria	1.54	86	P		Pn	07 23 42.0	-0.4
ERET				S		Sg	07 24 04.0	0.0
ATHU	Athens Univers	1.57	104	P		Pn	07 23 42.8	0.0
ATHU				S		Sb	07 24 03.7	-0.3
ATHU	Athens Univers	1.57	104	P		Pn	07 23 42.8	0.0
ATHU				S		Sb	07 24 03.7	-0.3
PTL	Penteli	1.61	100	P		Pn	07 23 43.4	0.0
PTL				S		Sn	07 24 03.9	-0.6
PTL	Penteli	1.61	100	*e*PB		Pn	07 23 43.5	0.0
PTL	Penteli	1.61	100	P		Pn	07 23 43.4	0.0
PTL				S		Sn	07 24 03.9	-0.6
DYR	Agios Nikonas	1.64	166	P		Pn	07 23 43.2	-0.5
DYR	Agios Nikonas	1.64	166	*e*PG		Pn	07 23 43.8	+0.1
DYR	Agios Nikonas	1.64	166	P		Pn	07 23 42.8	-0.9
DYR	Agios Nikonas	1.64	166	*e*Pg		Pn	07 23 43.8	+0.1
DYR				S		Sg	07 24 06.2	-0.9
IGT	Igoumenitsa	1.67	315	P		Pg	07 23 45.8	-0.7
IGT	Igoumenitsa	1.67	315	P		Pg	07 23 45.8	-0.7
AOS	Alonnisos	1.78	62	P		Pn	07 23 45.2	-0.5
AOS	Alonnisos	1.78	62	P		Pn	07 23 45.2	-0.5
LIT	Litokhoron	1.81	16	P		Pn	07 23 45.8	-0.4
LIT	Litokhoron	1.81	16	P		Pn	07 23 45.8	-0.4
VLI	Veliai	1.85	152	P		Pn	07 23 46.7	+0.1
VLI	Veliai	1.85	152	*e*PG		Pg	07 23 49.3	-0.7
VLI	Veliai	1.85	152	P		Pn	07 23 46.7	+0.1
VLI	Veliai	1.85	152	*e*Pg		Pg	07 23 49.3	-0.7
KZN	Kozani	1.95	358	P		Pb	07 23 48.9	-1.5
KZN	Kozani	1.95	358	*e*PN		Pb	07 23 49.2	-1.2
KZN	Kozani	1.95	358	P		Pb	07 23 48.9	-1.5
KZN	Kozani	1.95	358	*e*Pn		Pb	07 23 49.2	-1.2
MRMA	Marmari	2.01	98	P		Pn	07 23 49.1	+0.2
MRMA	Marmari	2.01	98	P		Pn	07 23 49.1	+0.2
KEK	Kerkira	2.10	311	P		Pn	07 23 50.9	+0.9
KEK	Kerkira	2.10	311	*e*PN		Pn	07 23 50.7	+0.7
KEK	Kerkira	2.10	311	P		Pn	07 23 50.9	+0.9
NEST	Nestorio	2.15	343	P		Pb	07 23 53.3	-0.5
NEST	Nestorio	2.15	343	P		Pb	07 23 53.3	-0.5
KYTH	Kithira	2.28	155	*e*PN		Pb	07 23 54.8	-1.1
KYTH	Kithira	2.28	155	*e*Pn		Pb	07 23 54.8	-1.1
FNA	Florina	2.45	352	P		Pn	07 23 56.1	+1.1
FNA	Florina	2.45	352	P		Pn	07 23 56.1	+1.1
KNT	Kendrikon	2.92	16	P		Pn	07 24 02.3	+1.0
KNT	Kendrikon	2.92	16	P		Pn	07 24 02.3	+1.0
VAY	Valandovo	3.01	10	*e*Pn		Pb	07 24 07.8	-0.7
VAY				*e*Sn		Sn	07 24 40.9	+1.9
VAY	Valandovo	3.01	10	*e*Sn		Sn	07 24 41.3	+2.3
APE	Apeiranthos	3.19	113	P		Pn	07 24 05.6	+0.5
APE	Apeiranthos	3.19	113	*e*PN		Pn	07 24 05.7	+0.6
APE	Apeiranthos	3.19	113	P		Pn	07 24 05.6	+0.5
MMB	Musomiste	3.54	23	*e*P		Pn	07 24 10.0	+0.1
MMB	Musomiste	3.54	23	*e*P		Pn	07 24 10.0	+0.1
RZN	Rozhen	3.99	33	*e*P		Pn	07 24 17.7	+1.5
RZN	Rozhen	3.99	33	*e*P		Pn	07 24 17.7	+1.5
VTS	Vitosha	4.36	13	⇑*i*P		Sn	07 25 10.7	-1.6
VTS	Vitosha	4.36	13	*e*P		Pn	07 24 25.0	+3.8
VTS	Vitosha	4.36	13	*e*P		Pn	07 24 25.0	+3.8
BARS	Barje	4.46	360	*e*Pn		Pn	07 24 25.6	+3.1
BARS	Barje	4.46	360	*e*Pn		Pn	07 24 25.6	+3.1
SELS	Selova	4.89	354	*e*Pn		Pn	07 24 32.7	+4.2
ZAPS	Zavoj	4.95	7	*e*Pn		Pb	07 24 36.8	-4.7
IVAS	Ivanjica	5.37	347	*e*Pn		Pn	07 24 40.0	+4.9
GRUS	Gruza	5.59	352	*e*Pn		Pn	07 24 40.4	+2.3
GRUS	Gruza	5.59	352	*e*Pn		Pn	07 24 40.4	+2.3
DIVS	Divibare	5.91	347	*e*Pn		Pn	07 24 44.0	+1.5
DIVS	Divibare	5.91	347	*e*Pn		Pn	07 24 44.0	+1.5
TRUS	Trudelj	5.96	350	*e*Pn		Pn	07 24 43.7	+0.5
TRUS	Trudelj	5.96	350	*e*Pn		Pn	07 24 43.7	+0.5
VOIR		7.47	18	⇑*i*P		Pn	07 25 05.5	+1.6
VOIR		7.47	18	⇑*i*P		Pn	07 25 05.5	+1.6
MLR	Muntele Rosu	7.75	22	P		Pn	07 25 13.6	+5.7
	0.1nm,0.3s,baz=216,slow=19,SNR=2.2							
MLR	Muntele Rosu	7.75	22	⇓*i*P		Pb	07 25 22.8	-6.5
PLOR	Plostina	8.29	24	⇑*i*P		Pn	07 25 15.1	-0.1
PLOR	Plostina	8.29	24	⇑*i*P		Pn	07 25 15.1	-0.1
VRI	Vrincioaia	8.33	24	⇑*i*P		Pn	07 25 17.8	+2.1
VRI	Vrincioaia	8.33	24	⇑*i*P		Pn	07 25 17.8	+2.1
BRTR	Keskin Array B	9.27	78	P		Pn	07 25 31.1	+2.4
	0.2nm,0.3s,baz=260,slow=13,SNR=7.4							
PSZ	Piszkesteto	9.66	352	⇑*i*P		Pn	07 25 41.4	+7.4
VYHS	Vyhne	10.37	349	*e*PN		Pn	07 25 48.4	+4.8
KOLS	Kolonicke sedl	10.58	2	*e*PN		Pn	07 25 49.0	+2.5
KOLS	Kolonicke sedl	10.58	2	*e*Pn		Pn	07 25 49.0	+2.5
ESDC	Sonseca Array	20.09	282	P		P	07 27 48.3	-0.3
	0.4nm,0.5s,baz=77,slow=10,SNR=3.8							
HFS	Hagfors	22.41	349	P		P	07 28 16.4	+3.1
	0.9nm,0.7s,baz=159,slow=12,SNR=2.5							
FINES	FINESS Array B	23.26	5	P		P	07 28 22.1	-0.1
	1.5nm,0.9s,baz=180,slow=9.7,SNR=3.1							
NOA	NORSAR Array B	23.66	347	P		P	07 28 28.8	+2.5
	0.8nm,0.7s,baz=161,slow=10,SNR=3.7							
TORD	Torodi Ar. Bea	30.84	221	P		P	07 29 29.6	-1.6
	0.7nm,0.9s,baz=32,slow=7.9,SNR=3.6							
KURBB	Kurchatov Arra	41.28	54	P		P	07 31 00.0	-0.2
	0.6nm,0.6s,baz=282,slow=9.4,SNR=5.9							
MKAR	Makanchi Array	44.31	59	P		P	07 31 24.6	-0.3
	0.7nm,0.5s,baz=279,slow=7.4,SNR=12							
ZALV	Zalesovo Beam	44.79	48	P		P	07 31 28.1	-0.5
	0.7nm,0.3s,baz=280,slow=8.9,SNR=3.5							

IDC 15 07:49:58.6±7.9, 5°93S×149°48E, *h*64km±63km, mb2.7/2, mb1 3.2/3, mb1mx3.0/18, mbtmp3.0/3, ML2.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/8, Error ellipse: s-maj=126.6km s-min=51.8km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.16	214	P		P	Pn	07 50 59.9	+0.3
	3.5nm,0.3s,baz=32,slow=13,SNR=8.7								
PMG				S			Sn	07 51 47.1	+0.2
	3.7nm,0.3s,baz=168,slow=19,SNR=12								
CTA	Charters Tower	14.42	192	LR		LR		07 58 37.3	
	comp=Z,46nn,20.4s,baz=42,slow=36								
WRA	Warramunga Arr	20.27	225	P		P		07 54 29.9	+0.7
	0.7nm,0.5s,baz=51,slow=11,SNR=9.0								
ASAR	Alice Springs	23.15	219	P		P		07 55 00.5	+0.6
	0.2nm,0.5s,baz=54,slow=8.9,SNR=5.3								
TORD	Torodi Ar. Bea	147.46	285	PKPbc		PKPdf		08 09 35.0	+1.1
	0.5nm,0.7s,baz=80,slow=2.2,SNR=3.1								

MOS ***15*** *07:54:10.8±1.1, 10°.05N×125°.89E, h33km, mb5.2/29, Error ellipse: s-maj=12.8km s-min=5.7km az=115.1*

MAN ***15*** *07:54:14, 10°.02N×126°.13E, h53km, mb5.4, ML4.4, MS4.7*

MAN INTENSITY IV - SOCORRO SURIGAO DEL NORTE; INTENSITY III - SURIGAO CITY; DAPA SURIGAO DEL NORTE; INTENSITY III - DINAGAT PROINCE.

IDC ***15*** *07:54:15.1±1.8, 10°.03N×125°.94E, h56km±15km, mb4.3/25, mb1 4.4/26, mb1mx4.4/28, mbtmp4.3/26, MS3.7/15, Ms1 3.7/15, ms1mx3.5/49, Error ellipse: s-maj=18.7km s-min=10.0km az=78.0*

ISCJB ***15*** *07:54:16.3±0.4, 10°.07N±0°.02×126°.04E±0°.04, h82km±3km, mb4.7/75, Error ellipse: s-maj=6.2km s-min=3.5km az=167.5*

BJI ***15*** *07:54:18.5, 9°.96N×126°.01E, h113km, mB5.0/29, mb4.8/35*

NEIC ***15*** *07:54:20.7±0.8, 10°.00N×125°.93E, h108km±7km, mb4.7/18, Error ellipse: s-maj=7.8km s-min=4.8km az=82.0*

NEIC Felt [IV PIVS] at Socorro; [III PIVS] at Dapa and Surigao; [II PIVS] in Dinagat.

DJA ***15*** *07:54:36.7±3.2, 9°.N±.25°×12°.5E±2°.1, h48km±34km, M4.4/8, mB5.0/4, mb4.7/8, MLv4.3/1, Mw(mB)4.3/4*

AUST ***15*** *07:54:53.1±2.9, 9°.40N×125°.66E, h444km, Error ellipse: s-maj=2.1km s-min=1.0km az=251.0*

ISC 15 07:54:20.1±0.4, 10°.00N±0°.03×125°.95E±0°.05, h100km±3km, h100km:pP-P,n271,σ1963/318, mb4.8/75, 15C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.07	197	*e*P		P	Pn	07 54 34.9	-6.4
BUTP				*e*S		S	Sn	07 54 51.3	-5.9
MSLP	Maasin	1.08	277	*e*P		P	Pn	07 54 36.1	-5.2
MSLP				*e*S		S	Sn	07 54 53.4	-4.0
PLP	Palo	1.50	321	⇓*e*P		P	Pn	07 54 40.4	-6.0
PLP				*e*S		S	Sn	07 55 01.9	-4.3
BESP	Borongan	1.67	343	*e*P		P	Pn	07 54 43.8	-4.6
BESP				*e*S		S	Sn	07 55 06.1	-3.9
OCLP	Ormoc	1.68	309	*e*P		P	Pn	07 54 43.8	-4.8
CGP	Cagayan de Oro	1.97	219	*e*P		P	Pn	07 54 48.0	-4.3
CGP				*e*S		S	Sn	07 55 13.9	-2.9
LLP	Lapu-Lapu	1.98	279	⇓*e*P		P	Pn	07 54 49.2	-3.1
LLP				*i* S		S	Sn	07 55 17.2	+0.2
TBP	Tagbilaran	2.08	262	⇑*e*P		P	Pn	07 54 50.8	-2.8
TBP				*e*S		S	Sn	07 55 19.3	0.0
BUKP	Musuan	2.28	203	*e*P		P	Pn	07 54 53.0	-3.3
CNP	Catarman	2.80	333	*e*P		P	Pn	07 54 58.4	-4.7
DMPH	Davao City--Mi	2.93	189	⇑*e*P		P	Pn	07 55 04.0	-0.9
DMPH				*e*S		S	Sn	07 55 40.4	+1.0
DMPH	Davao City--Mi	2.93	189	*e*P		S	Sn	07 55 39.4	0.0
DAV	Davao City (W)	2.93	187	P		P	Pn	07 55 04.8	-0.1
	124nm,0.3s,baz=75,slow=16,SNR=9.5								
DAV				LR		LR		07 56 22.9	
	comp=Z,2μm,20.9s,baz=158,slow=43								
DAV	Davao City (W)	2.93	187	P		P	Pn	07 55 04.8	-0.1
DAV				*e*Sn		S	Sn	07 55 35.8	-3.7
DAV	Davao City (W)	2.93	187	P		n	Pn	07 55 04.6	-0.3
	SNR=22								
DAV	Davao City (W)	2.93	187	P		P	Pn	07 55 04.1	-0.8
MATI	Mati	3.05	174	*e*P		P	Pn	07 55 05.4	-1.1
KCP	Kidapawan	3.09	196	⇓*i*P		P	Pn	07 55 08.9	+1.8
KCP				*i* S		S	Sn	07 55 45.8	+2.5
CTBH	Cotabato--PC H	3.23	212	⇑*i*P		P	Pn	07 55 06.3	-2.6
PAGZ	Pagadian	3.31	230	*e*P		P	Pn	07 55 07.9	-2.1
GUIM	Jordan	3.36	281	*e*P		P	Pn	07 55 07.8	-2.8
GUIM				*e*S		S	Sn	07 55 50.2	+0.4
PVCP	Virac	3.98	334	*e*P		P	Pn	07 55 16.4	-2.6
IPIL	Ipil	3.99	237	*e*P		P	Pn	07 55 19.1	0.0
OTRP	Odiongan	4.51	302	*e*P		P	Pn	07 55 25.2	-1.0
CUYO	Cuyo Island	4.92	280	*e*P		P	Pn	07 55 30.4	-1.4
SJMP	San Jose	5.33	298	*e*P		P	Pn	07 55 36.5	-0.8
TGY	Tagaytay City	6.38	310	P		P	Pn	07 55 52.1	+0.5
	47nm,0.3s,baz=223,slow=7.7,SNR=7.7								
TGY	Tagaytay City	6.38	310	P		P	Pn	07 55 52.1	+0.5
LUBP	Lubang	6.70	304	*e*P		P	Pn	07 55 55.4	-0.5
BALP	Baler	7.12	324	*e*P		P	Pn	07 55 59.8	-1.9
CAUP	Cauayan	7.99	330	*e*P		P	Pn	07 56 08.9	-4.5
BATP	Bataraza	8.12	262	*e*P		P	Pn	07 56 17.6	+2.3
MYLDM	Lahad Datu	8.80	238	P		P	Pn	07 56 26.3	+1.9
	62nm,0.9s								
MRSI	Marisa	10.26	203	P		P	Pn	07 56 36.9	-7.5
	30nm,1.0s,1μm								
KKM	Kota Kinabalu	10.40	249	*e*Pn		P	Pn	07 56 46.7	+0.2
KKM				*e*Sn		S	Sn	07 58 48.3	+7.1
KKM	Kota Kinabalu	10.40	249	P		P	Pn	07 56 48.4	+1.9
	45nm,1.2s								
LUWI	Luwuk	11.41	196	P		P	Pn	07 57 01.6	+1.6
	75nm,1.3s,822nm								
PCI	Palu	12.42	210	S			Sn	07 59 22.5	-7.6
	baz=12,SNR=12								
TPUB	Ta-pu	14.17	340	*e*Pn		P	Pn	07 57 37.9	+1.6
TTSI	Tana Toraja	14.32	206	P		P	Pn	07 57 39.6	+1.4
	32nm,1.0s,596nm								
SSLB	Suanglung	14.52	341	*e*Pn		P	Pn	07 57 41.1	+0.4
SPSI	Sidrap Palu	15.17	204	P		P	P	07 57 52.1	+0.3
	24nm,0.9s								
SBUM	Sibu	15.56	242	P		P	P	07 57 57.5	+1.3
	55nm,1.2s,472nm								
KAPI	Kappang	16.14	203	P		P	Pn	07 57 59.2	-2.0
	0.3nm,0.3s,baz=22,slow=13,SNR=3.4								
KAPI				LR		LR		08 04 41.2	
	comp=Z,229nm,19.1s,baz=190,slow=39								
KAPI	Kappang	16.14	203	*e*Pn		P	P	07 58 01.4	-1.2
KAPI	Kappang	16.14	203	P		P	Pn	07 57 57.0	-4.2
JOW	Kunigami	16.89	7	P		P	P	07 58 12.6	+1.8
	2.7nm,0.3s,baz=186,slow=6.4,SNR=5.1								
JOW				LR		LR		08 03 41.4	
	comp=Z,213nm,18.5s,baz=171,slow=34								
JOW	Kunigami	16.89	7	P		P	P	07 58 12.6	+1.8
KSM	Kuching	17.70	242	*e*P		P	Pn	07 58 21.2	+0.8
	12nm,1.0s								
KSM	Kuching	17.70	242	P		P	Pn	07 58 29.1	+8.7
	baz=17,SNR=3.7								
QIZ	Qiongzhong	17.98	302	P		P	P	07 58 22.6	-0.2
QIZ				S		S	S	08 01 45.9	+1.8
QIZ				LR		LR			
	comp=Z,470nm,19.9s								
GUMO	Guam	18.86	77	LR		LR		08 03 55.0	
	comp=Z,255nm,20.7s,baz=262,slow=31								
CBIJ	Chichi jima	22.89	40	LR		LR		08 07 33.7	
	comp=Z,133nm,18.1s,baz=88,slow=35								
NJ2	Nanjing	22.91	344	*e*P		P	P	07 59 13.9	-1.6
NJ2				pmax		pmax			
	comp=Z,40nm,0.8s								
WHN	Wuhan	23.12	334	P		P	P	07 59 17.3	-0.3
WHN				S		S	S	08 03 22.5	+1.3
WHN				LR		LR			
	comp=Z,590nm,16.8s								
MTN	Manton Dam	23.27	167	P		P	P	07 59 19.2	+0.1
	baz=23,SNR=15								
KDU	Kakadu	23.45	164	P		P	P	07 59 20.1	-0.6
	baz=23,SNR=9.5								
JNU	Nakatsue	23.46	10	P		P	P	07 59 19.2	-1.5
	comp=Z,6.4nm,0.8s,baz=162,slow=6.4,SNR=3.0								
JNU				LR		LR		08 08 59.4	
	comp=Z,42nm,18.3s,baz=71,slow=38								
JNU	Nakatsue	23.46	10	P		P	P	07 59 19.2	-1.5
GYA	Guiyang	24.51	314	*e*P		P	P	07 59 32.0	+1.6
GYA				pP		pP	P	07 59 55.4	+3.2
GYA				sP		sP	P	08 00 07.8	+3.6
GYA				PcP		PcP	P	08 03 07.5	+1.0
GYA				S		S	P	08 03 41.3	-2.6
GYA				ScP		ScP	P	08 06 35.4	-1.0
GYA				PcS		PcS	P	08 06 47.0	+0.2
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
IPM	Ipoh	25.31	259	*e*P		P	P	07 59 39.2	+1.5
	comp=Z,21nm,0.8s								
ENH	Enshi	25.35	325	*e*P		P	P	07 59 36.1	-1.7
	comp=Z,13nm,0.8s								
KMI	Kunming	26.69	307	P		P	P	07 59 53.5	+3.2
KMI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KSAR	Wonju Array Be	27.38	3	P		P	P	07 59 55.1	-0.9
KSRS	Korea Array	27.40	3	P		P	P	07 59 55.1	-1.0
	comp=Z,3.2nm,0.6s,baz=180,slow=9.7,SNR=8.0								
KSRS				LR		LR		08 09 38.2	
	comp=Z,89nm,18.3s,baz=176,slow=34								
CM31	Chiang Mai Arr	27.46	291	*e*P		P		07 59 57.5	+0.5
	comp=Z,6.1nm,0.4s								
CMAR	Chiang Mai Arr	27.46	291	P		P		07 59 57.2	+0.2
	comp=Z,12nm,0.9s,baz=104,slow=7.3,SNR=45								
CMAR				PcP		PcP		08 03 12.8	-0.5
	comp=Z,2.3nm,0.8s,baz=106,slow=1.3,SNR=7.2								
CMAR				LR		LR		08 10 28.6	
	comp=Z,150nm,18.5s,baz=118,slow=36								
CMAR	Chiang Mai Arr	27.46	291	P		P		07 59 57.2	+0.2
CMAR				PcP		PcP		08 03 12.8	-0.5
PPI	Padang Panjang	27.46	249	S		S		08 04 27.4	-3.3
	baz=27,SNR=4.6								
CHTO	Chiang Mai	27.55	292	*e*P		P		07 59 57.9	+0.1
CHTO				pmax		pmax			
	comp=Z,11nm,0.9s								
CHTO	Chiang Mai	27.55	292	*e*P		P		07 59 57.9	+0.1
	comp=Z,11nm,0.9s								
PSI	Prapat	27.77	257	P		P		08 00 00.8	+0.9
	comp=Z,5.2nm,0.8s,baz=45,slow=5.7,SNR=3.9								
PSI	Prapat	27.77	257	P		P		08 00 00.8	+0.9
FITZ	Fitzroy Crossi	27.92	181	P		P		08 00 00.1	-0.9
	comp=Z,2.0nm,0.5s,baz=24,slow=8.4,SNR=8.1								
FITZ	Fitzroy Crossi	27.92	181	P		P		08 00 00.1	-0.9
FITZ	Fitzroy Crossi	27.92	181	P		P		08 00 00.6	-0.4
	baz=28,SNR=6.4								
XAN	Xi'an	28.57	329	P		P		08 00 04.9	-1.9
XAN				pmax		pmax			
	comp=Z,15nm,0.7s								
XAN				pmax		pmax			
	comp=Z,33nm,3.5s								
MJAR	Matsushiro Arr	28.67	21	P		P		08 00 06.6	-0.9
	comp=Z,0.8nm,0.5s,baz=197,slow=8.5,SNR=4.6								
MJAR				LR		LR		08 11 18.0	
	comp=Z,151nm,18.3s,baz=210,slow=36								
MJAR	Matsushiro Arr	28.67	21	P		P		08 00 06.6	-0.9
CD2	Chengdu	29.30	318	P		P		08 00 15.0	+1.7
CD2				pP		pP		08 00 38.5	+2.9
CD2				sP		sP		08 00 51.4	+4.2
CD2				PP		PnPn		08 01 14.4	+2.8
CD2				S		S		08 04 59.4	+0.1
CD2				sS		sS		08 05 40.6	+2.5
CD2				SS		SnSn		08 06 39.3	+3.2
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,190nm,4.9s								
CD2				LR		LR			
	comp=N,360nm,5.4s								
CD2				LR		LR			
	comp=Z,440nm,22.0s								
GSI	Gunungsitoli	29.50	255	S		S		08 04 04.3	-58
	baz=29,SNR=9.7								
WRA	Warramunga Arr	30.88	164	P		P		08 00 25.4	-1.8
	comp=Z,1.2nm,0.6s,baz=348,slow=8.4,SNR=9.7								
WRA				PcP		PcP		08 03 22.8	+0.9
	comp=Z,0.5nm,0.5s,baz=341,slow=3.2,SNR=4.5								
WRA				ScP		ScP		08 06 59.1	+3.3
	comp=Z,0.8nm,0.8s,baz=348,slow=3.5,SNR=4.8								
WRA	Warramunga

ODAN	**Odare**	**40.04**	**300**	*e*P		**P**	**08 01 45.9**	**0.0**
	comp=E,21nm,0.2s							
QLP	**Quilpie**	**40.47**	**154**	S		S	08 07 30.5	-20
	baz=40,SNR=4.9							
FORT	**Forrest**	**40.59**	**177**	*e*P		**P**	**08 01 50.2**	**+0.2**
	comp=E,29nm,0.7s							
FORT	**Forrest**	**40.59**	**177**	P		**P**	**08 01 50.2**	**+0.2**
	baz=40,SNR=13							
RAMN	**Ramite**	**40.74**	**300**	*e*P		**P**	**08 01 51.1**	**-0.6**
	comp=E,21nm,0.6s							
ULN	**Ulaanbaatar**	**40.97**	**341**	*e*P		**P**	**08 01 52.6**	**-0.6**
	comp=E,18nm,0.6s							
ULN	**Ulaanbaatar**	**40.97**	**341**	P		**P**	**08 01 53.4**	**+0.2**
	SNR=8.4							
SONM	**Songino Array**	**41.16**	**340**	P		**P**	**08 01 54.2**	**-0.5**
	comp=E,9.1nm,0.9s,baz=157,slow=8.8,SNR=41							
SONM				PcP		**PcP**	**08 03 52.0**	**-0.2**
	comp=E,2.0nm,0.8s,baz=160,slow=3.6,SNR=5.0							
SONM				ScP		**ScP**	**08 07 38.2**	**+5.1**
	comp=E,0.6nm,0.7s,baz=147,slow=2.9,SNR=4.7							
SONM				LR		LR	08 20 57.1	
	comp=E,97nm,19.1s,baz=161,slow=39							
SONM	**Songino Array**	**41.16**	**340**	P		**P**	**08 01 54.2**	**-0.5**
SONM				PcP		**PcP**	**08 03 52.0**	**-0.2**
SONM				ScP		**ScP**	**08 07 38.2**	**+5.1**
JIRN	**Jiri**	**41.30**	**301**	*e*P		**P**	**08 01 56.2**	**-0.2**
	comp=E,11nm,0.5s							
KMBL	**Kambalda**	**41.31**	**185**	P		P	08 01 59.9	+3.9
	baz=41,SNR=5.7							
GUN	**Gumba**	**41.63**	**301**	*e*P		**P**	**08 01 58.6**	**-0.5**
	comp=E,40nm,0.6s							
PKI	**Pulchoki**	**41.93**	**300**	*e*P		**P**	**08 02 00.9**	**-0.7**
	comp=E,16nm,0.5s							
KKN	**Kakani**	**42.10**	**301**	*e*P		**P**	**08 02 02.0**	**-0.8**
DMN	**Daman**	**42.20**	**300**	*e*P		**P**	**08 02 03.1**	**-0.6**
	comp=E,14nm,0.4s							
GKN	**Gorkha**	**42.71**	**301**	*e*P		**P**	**08 02 07.0**	**-0.7**
KOLN	**Koldanda**	**43.53**	**300**	*e*P		**P**	**08 02 13.4**	**-0.9**
	comp=E,19nm,0.6s							
DANN	**Dangsing**	**43.55**	**301**	*e*P		**P**	**08 02 13.5**	**-1.1**
	comp=E,26nm,0.6s							
BBOO	**Buckleboo**	**43.65**	**168**	*e*P		**P**	**08 02 15.4**	**+0.6**
	comp=E,158nm,0.8s							
BBOO	**Buckleboo**	**43.65**	**168**	P		**P**	**08 02 14.7**	**-0.1**
	baz=43,SNR=23							
PYUN	**Piuthan**	**44.14**	**300**	*e*P		**P**	**08 02 18.5**	**-0.7**
	comp=E,49nm,0.9s							
STKA	**Stephens Creek**	**44.25**	**161**	P		**P**	**08 02 19.4**	**-0.3**
	comp=E,1.6nm,0.3s,baz=351,slow=10,SNR=10							
STKA				LR		LR	08 22 37.4	
	comp=E,102nm,18.9s,baz=209,slow=38							
STKA	**Stephens Creek**	**44.25**	**161**	P		**P**	**08 02 19.4**	**-0.3**
	comp=E,99nm,2.9s							
STKA	**Stephens Creek**	**44.25**	**161**	P		**P**	**08 02 19.1**	**-0.5**
	baz=44,SNR=8.8							
ZAK	**Zakamensk**	**44.41**	**339**⇑	*i*P		**P**	**08 02 19.9**	**-1.0**
ZAK				*e*			08 04 01.7	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
RKGY	**Rocky Gully**	**45.17**	**190**	P		**P**	**08 02 28.6**	**+1.7**
	baz=45,SNR=5.8							
TLY	**Talaya**	**45.38**	**341**	*e*P		**P**	**08 02 27.2**	**-1.3**
TLY				pmax		pmax		
	comp=Z,19nm,0.9s							
TLY				MLR		MLR		
	comp=Z,63nm,19.0s							
TLY	**Talaya**	**45.38**	**341**	*e*P		**P**	**08 02 27.9**	**-0.6**
	comp=Z,17nm,0.8s							
TLY	**Talaya**	**45.38**	**341**	P		**P**	**08 02 29.1**	**+0.6**
	SNR=8.2							
MOY	**Mondy**	**46.28**	**339**	*e*P		**P**	**08 02 35.3**	**-0.4**
HYB	**Hyderabad**	**46.53**	**284**	*i* P		**P**	**08 02 38.0**	**-0.1**
CLNS	**Chul'man**	**46.74**	**359**	*e*P		**P**	**08 02 38.2**	**-0.8**
CLNS				pmax		pmax		
	comp=Z,14nm,0.7s							
CLNS				pmax		pmax		
	comp=N,7.0nm,0.6s							
CLNS				pmax		pmax		
	comp=E,8.0nm,1.0s							
WMQ	**Urumqi**	**47.24**	**322**	*e*P		**P**	**08 02 43.0**	**-0.2**
WMQ				LR		LR		
	comp=N,100nm,27.0s							
WMQ				LR		LR		
	comp=E,65nm,28.0s							
WMQ				LR		LR		
	comp=Z,80nm,29.0s							
BOD	**Bodaibo**	**48.59**	**352**⇓	*i*P		**P**	**08 02 52.6**	**-0.7**
BOD				pmax		pmax		
	comp=Z,15nm,1.2s							
HVS	**Khovu-Aksy**	**48.79**	**333**	*e*P		**P**	**08 02 55.1**	**0.0**
HVS				pmax		pmax		
	comp=Z,42nm,1.0s							
PETK	**Petropavlovsk-**	**50.02**	**24**	P		**P**	**08 03 05.1**	**+0.9**
	comp=Z,7.7nm,0.7s,baz=206,slow=5.8,SNR=7.3							
PETK	**Petropavlovsk-**	**50.02**	**24**	P		**P**	**08 03 05.1**	**+0.9**
PETK	**Petropavlovsk-**	**50.02**	**24**	P		**P**	**08 03 05.1**	**+0.9**
DZM	**Mont Dzumac**	**50.92**	**129**	LR		LR	08 23 38.9	
	comp=Z,96nm,18.1s,baz=24,slow=35							
POO	**Poona**	**51.05**	**286**	*ex*		**P**	**08 03 11.0**	**-1.6**
YAK	**Yakutsk**	**52.01**	**2**	*e*P		**P**	**08 03 18.4**	**-0.6**
YAK				pmax		pmax		
	comp=Z,46nm,0.7s							
YAK	**Yakutsk**	**52.01**	**2**	*e*P		**P**	**08 03 18.4**	**-0.6**
	comp=Z,46nm,0.7s							
MK31	**Makanchi Array**	**52.05**	**323**	*e*P		**P**	**08 03 18.9**	**-0.7**
MK31				*e*			08 04 30.6	
MK31	**Makanchi Array**	**52.05**	**323**	*e*P		**P**	**08 03 18.9**	**-0.7**
MK31				*e*PcP		**PcP**	**08 04 30.6**	**0.0**
MKAR	**Makanchi Array**	**52.05**	**323**	P		**P**	**08 03 18.9**	**-0.7**
	comp=Z,16nm,0.7s,baz=122,slow=8.1,SNR=127							
MKAR				PcP		**PcP**	**08 04 30.2**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=110,slow=5.5,SNR=5.9							
MKAR				ScP		**ScP**	**08 08 23.6**	**+5.0**
	comp=Z,0.7nm,0.8s,baz=130,slow=3.8,SNR=4.8							
MKAR				LR		LR	08 27 13.9	
	comp=Z,126nm,20.5s,baz=261,slow=38							
MKAR	**Makanchi Array**	**52.05**	**323**	*e*P		**P**	**08 03 19.1**	**-0.6**
MKAR							08 04 30.2	
MKAR	**Makanchi Array**	**52.05**	**323**	*e*P		**P**	**08 03 19.1**	**-0.6**
MKAR				PcP		**PcP**	**08 04 30.2**	**-0.3**
MKAR				ScP		**ScP**	**08 08 23.6**	**+5.0**
LHI	**Lord Howe Isla**	**52.06**	**144**	S		**S**	**08 10 33.0**	**-3.1**
	baz=52,SNR=3.9							
KSH	**Kashi**	**53.18**	**312**	*e*P		**P**	**08 03 30.3**	**+2.1**
KSH				*ep*P		pP	08 03 57.9	+5.6
KSH				*es*P		sP	08 04 10.8	+7.3
KSH				*e*PcP		**PcP**	**08 04 36.3**	**+1.2**
KSH				*e*PP		**PP**	**08 05 33.8**	**+4.6**
KSH				*e*ScP		**ScP**	**08 08 21.8**	**-1.9**
KSH				PcS		**PcS**	**08 08 34.1**	**0.0**
KSH				S		**S**	**08 10 52.9**	**+1.3**
KSH				sS		sS	08 11 38.4	+5.4
KSH				ScS		**ScS**	**08 13 05.6**	**-2.8**
KSH				SS		**SS**	**08 14 34.0**	**+1.5**
KSH				pmax		pmax		
	comp=Z,130nm,5.6s							
KSH				LR		LR		
	comp=N,180nm,6.4s							
KSH				LR		LR		
	comp=E,130nm,6.6s							
KSH				LR		LR		
	comp=Z,210nm,6.1s							
TKM2	**Tokmak 2**	**54.64**	**316**	*e*P		**P**	**08 03 36.7**	**-2.2**
TKM2				*e*			08 04 40.6	
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TKM2	**Tokmak 2**	**54.64**	**316**	*e*P		**P**	**08 03 36.7**	**-2.2**
	comp=Z,2.2nm,0.7s							
TKM2				*ep*P		**pP**	**08 04 04.7**	**+1.5**
TKM2				*e*PcP		**PcP**	**08 04 40.6**	**-0.1**
ZALV	**Zalesovo Beam**	**54.71**	**332**	P		**P**	**08 03 38.1**	**-0.7**
	comp=Z,7.5nm,0.3s,baz=148,slow=6.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**54.71**	**332**	P		**P**	**08 03 38.2**	**-0.7**
ZALV	**Zalesovo Beam**	**54.71**	**332**	P		**P**	**08 03 38.1**	**-0.7**
AAK	**Ala-Archa**	**55.29**	**315**	*i* P		**P**	**08 03 43.8**	**+0.2**
NVS	**Novosibirsk**	**55.99**	**332**	*e*P		**P**	**08 03 45.8**	**-2.2**
NVS				*e*			08 04 43.3	
NVS				pmax		pmax		
	comp=N,7.0nm,0.9s							
NVS				pmax		pmax		
	comp=E,9.0nm,0.9s							
NVS				pmax		pmax		
	comp=Z,14nm,0.9s							
KURK	**Kurchatov**	**56.11**	**326**⇑	*e*P		**P**	**08 03 48.1**	**-0.9**
KURK				pmax		pmax		
	comp=Z,37nm,1.2s							
KURK	**Kurchatov**	**56.11**	**326**	P		**P**	**08 03 48.6**	**-0.4**
	SNR=7.1							
SEY	**Seymchan**	**56.16**	**14**⇓	*e*P		**P**	**08 03 50.8**	**+1.7**
KBL	**Kabul**	**57.23**	**305**	*e*P		**P**	**08 03 56.6**	**-0.9**
KBL				pmax		pmax		
	comp=Z,5.0nm,0.8s							
KBL	**Kabul**	**57.23**	**305**	*e*P		**P**	**08 03 56.6**	**-0.9**
	comp=Z,5.3nm,0.8s							
KK31	**Karatay Array**	**58.22**	**315**	*i* P		**P**	**08 04 03.0**	**-1.0**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**58.22**	**315**	*e*P		**P**	**08 04 03.4**	**-0.7**
KKAR	**Karatay Array**	**58.22**	**315**	*e*P		**P**	**08 04 03.4**	**-0.7**
BVA0	**Borovoye Array**	**61.71**	**326**	*i* P		**P**	**08 04 25.5**	**-2.2**
BVA0				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**61.78**	**326**	*c iP*		**P**	**08 04 27.3**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,19nm,1.0s							
BRVK	**Borovoye**	**61.78**	**326**	*e*P		**P**	**08 04 26.7**	**-1.5**
	comp=Z,19nm,0.8s							
BRVK	**Borovoye**	**61.78**	**326**	P		**P**	**08 04 28.0**	**-0.2**
	SNR=6.4							
HOQ	**Hoqain**	**66.56**	**291**	P		**P**	**08 04 59.9**	**-0.1**
	SNR=7.2							
AB31	**Akbulak array**	**66.87**	**319**	*i* P		**P**	**08 05 00.4**	**-1.1**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.2s							
ABKAR	**Akbulak array**	**66.87**	**319**	*e*P		**P**	**08 05 00.1**	**-1.4**
SVE	**Sverdlovsk**	**68.27**	**327**⇑	*e*P		**P**	**08 05 09.6**	**-0.5**
SVE				pmax		pmax		
	comp=Z,23nm,0.9s							
GAMB	**Gambell**	**69.05**	**25**	*e*P		**P**	**08 05 14.3**	**-0.5**
	comp=Z,12nm,1.1s							
ARU	**Arti**	**69.28**	**327**	*e*P		**P**	**08 05 15.0**	**-1.4**
ARU	**Arti**	**69.28**	**327**	*e*P		**P**	**08 05 15.0**	**-1.4**
TNA	**Tin City**	**71.18**	**24**	*e*P		**P**	**08 05 29.2**	**+1.5**
MIB	**Mutribah**	**75.26**	**298**	*e*P		**P**	**08 05 51.7**	**-0.9**
MIB				AMb		AMB	08 05 52.4	
	comp=Z,40nm,0.7s							
NAY	**Al-Naaiem**	**75.38**	**298**	*e*P		**P**	**08 05 52.4**	**-0.9**
NAY				AMb		AMB	08 05 53.9	
	comp=Z,17nm,1.1s							
DGRG	**David-gareji**	**76.41**	**310**	P		**P**	**08 05 59.6**	**+0.7**
TBLG	**Delisi**	**76.88**	**311**	*e*P		**P**	**08 06 00.2**	**-1.3**
TBLG	**Delisi**	**76.88**	**311**	P		**P**	**08 06 00.2**	**-1.3**
RAYN	**Ar Rayn**	**77.38**	**292**	*e*P		**P**	**08 06 04.9**	**+0.2**
ZEI	**Tsey**	**77.47**	**312**	*e*P		**P**	**08 06 04.0**	**-1.1**
ZEI				pmax		pmax		
	comp=Z,22nm,0.9s							
BHD	**Baghdad**	**77.57**	**302**	*e*P		P	08 06 10.0	+4.5
BHD				*e*S		S	08 15 59.0	+10
ONI	**Oni**	**77.80**	**311**	P		**P**	**08 06 06.1**	**-0.7**
AKH	**Akhalkalaki**	**77.82**	**310**	P		**P**	**08 06 07.5**	**+0.5**
KBZ	**Khabaz**	**78.16**	**313**	P		**P**	**08 06 08.4**	**-0.1**
	comp=Z,11nm,1.0s,baz=149,slow=2.0,SNR=13							
KBZ	**Khabaz**	**78.16**	**313**	P		**P**	**08 06 08.4**	**-0.1**
KBZ	**Khabaz**	**78.16**	**313**	P		**P**	**08 06 08.4**	**-0.1**
KIV	**Kislovodsk**	**78.30**	**313**	*e*P		**P**	**08 06 09.6**	**+0.1**
KIV				*e*S		**S**	**08 15 57.9**	**+1.0**
KIV				*e*SS		**SS**	**08 21 01.7**	**+0.5**
KIV				pmax		pmax		
	comp=Z,26nm,0.9s							
KIV	**Kislovodsk**	**78.30**	**313**	*e*P		**P**	**08 06 09.9**	**+0.4**
TRF	**Thorofare Moun**	**78.34**	**27**	*e*P		**P**	**08 06 09.2**	**-0.2**
COLD	**Coldfoot**	**78.47**	**23**	*e*P		**P**	**08 06 11.6**	**+1.7**
COLA	**College**	**79.41**	**26**	*e*P		**P**	**08 06 15.0**	**+0.1**
COLA	**College**	**79.41**	**26**	*e*P		**P**	**08 06 15.0**	**+0.1**
KLMR	**Klimovskoe**	**79.61**	**330**	*e*P		**P**	**08 06 14.6**	**-1.5**
KLMR				pmax		pmax		
	comp=Z,24nm,1.1s							
ILAR	**Eielson Array**	**79.82**	**26**	P		**P**	**08 06 16.7**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=238,slow=4.4,SNR=40							
ILAR	**Eielson Array**	**79.82**	**26**	P		**P**	**08 06 16.7**	**-0.5**
TMCR	**Tamitsa**	**80.17**	**334**	*e*P		**P**	**08 06 16.4**	**-2.6**
TMCR				pmax		pmax		
	comp=Z,14nm,1.0s							
VSR	**Storozhevoye**	**80.28**	**320**	*e*P		**P**	**08 06 18.4**	**-1.5**
OBN	**Obninsk**	**81.53**	**324**	*e*P		**P**	**08 06 25.8**	**-0.7**
OBN				pmax		pmax		
	comp=Z,13nm,1.2s							
MALT	**Malatya**	**81.95**	**307**	*e*P		**P**	**08 06 30.0**	**+0.7**
MALT	**Malatya**	**81.95**	**307**	*e*P		**P**	**08 06 30.0**	**+0.7**
ANN	**Anapa**	**81.99**	**314**	*e*P		P	08 06 24.2	-4.9
ANN				pmax		pmax		
	comp=Z,45nm,1.0s							
DAWY	**Dawson**	**83.13**	**26**	*e*P		**P**	**08 06 35.6**	**+0.9**
JOF	**Joensuu**	**83.29**	**333**	*e*P		**P**	**08 06 34.1**	**-1.4**
JOF				pmax		pmax		
	comp=Z,7.0nm,0.7s							
JOF	**Joensuu**	**83.29**	**333**	*ep*		**P**	**08 06 34.1**	**-1.4**
	comp=Z,6.9nm,0.7s							
KEV	**Kevo**	**83.78**	**340**	*e*P		**P**	**08 06 37.3**	**-0.6**
KEV	**Kevo**	**83.78**	**340**	*ep*		**P**	**08 06 37.3**	**-0.6**
ARCES	**ARCESS Array B**	**84.34**	**340**	P		**P**	**08 06 40.3**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=84,slow=7.0,SNR=34							
ARCES	**ARCESS Array B**	**84.34**	**340**	P		**P**	**08 06 40.3**	**-0.4**
KBS	**Kingsbay**	**84.74**	**350**	*e*P		**P**	**08 06 42.6**	**0.0**
KBS	**Kingsbay**	**84.74**	**350**	*e*P		**P**	**08 06 42.6**	**0.0**
BR131	**Keskin Array S**	**85.46**	**309**	*e*P		**P**	**08 06 46.3**	**-0.9**
	comp=Z,5.6nm,0.8s							
BRTR	**Keskin Array B**	**85.46**	**309**	P		**P**	**08 06 46.2**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=102,slow=4.0,SNR=38							
BRTR	**Keskin Array B**	**85.46**	**309**	P		**P**	**08 06 46.2**	**-0.9**
KAF	**Kangasniemi**	**85.72**	**332**	*e*P		P	**08 06 45.3**	**-2.5**
KAF				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KAF	**Kangasniemi**	**85.72**	**332**	*ep*		**P**	**08 06 45.3**	**-2.5**
	comp=Z,7.5nm,0.7s							
FIA1	**FINESS Array S**	**85.98**	**332**	*e*P		**P**	**08 06 48.1**	**-0.9**
FINES	**FINESS Array B**	**85.98**	**332**	P		**P**	**08 06 48.3**	**-0.7**
	comp=Z,4.9nm,0.4s,baz=71,slow=4.4,SNR=113							
FINES	**FINESS Array B**	**85.98**	**332**	P		**P**	**08 06 48.3**	**-0.7**
VSU	**Vasula**	**86.34**	**329**⇑	*e*P		**P**	**08 06 50.9**	**0.0**
VSU				pmax		pmax		
	comp=Z,24nm,1.4s							
CSS	**Prodhromos**	**86.48**	**305**	*e*P		**P**	**08 06 52.3**	**+0.2**
AKASG	**Malin Array Be**	**86.57**	**321**	P		**P**	**08 06 51.2**	**-1.0**
	comp=Z,12nm,0.9s,baz=67,slow=4.1,SNR=22							
AKASG	**Malin Array Be**	**86.57**	**321**	P		**P**	**08 06 51.2**	**-1.0**
AKASG	**Malin Array Be**	**86.57**	**321**	P		**P**	**08 06 51.2**	**-1.0**
KIEV	**Kiev**	**86.58**	**321**	*e*P		**P**	**08 06 51.2**	**-1.0**
KIEV				pmax		pmax		
	comp=Z,18nm,1.0s							
KIEV	**Kiev**	**86.58**	**321**	*e*P		**P**	**08 06 51.2**	**-1.0**
	comp=Z,18nm,1.0s							
CFR	**Carcaliu**	**88.44**	**315**⇑	*i*P		**P**	**08 07 02.4**	**+1.2**
TESR		**89.15**	**317**⇑	*i*P		**P**	**08 07 04.5**	**-0.1**
VRI	**Vrincioaia**	**89.25**	**316**⇑	*i*P		**P**	**08 07 05.6**	**+0.5**
SUW	**Suwalki**	**89.38**	**325**	*e*P		**P**	**08 07 04.6**	**-0.9**
SUW	**Suwalki**	**89.38**	**325**	*e*P		**P**	**08 07 04.6**	**-0.9**
VNDA	**Vanda**	**89.70**	**173**	P		**P**	**08 07 03.4**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=329,slow=5.3,SNR=9.2							
VNDA	**Vanda**	**89.70**	**173**	P		**P**	**08 07 03.7**	**+0.9**
BURAR	**Bucovina Array**	**89.83**	**318**⇑	*i*P		**P**	**08 07 07.9**	**0.0**
BUR08	**Bucovina Ar. S**	**89.84**	**318**	*e*P		**P**	**08 07 03.7**	**-0.6**
MLR	**Muntele Rosu**	**89.87**	**316**⇑	*i*P		**P**	**08 07 08.6**	**+0.4**
KOLS	**Kolonicke sedl**	**91.37**	**320**	*e*P		**P**	**08 07 16.3**	**+1.4**
KOLS				pmax		pmax		
	comp=Z,18nm,1.8s							
KOLS	**Kolonicke sedl**	**91.37**	**320**	*e*P		**P**	**08 07 16.3**	**+1.4**
UZH	**Uzhgorod**	**91.44**	**320**⇑	*i*P		**P**	**08 07 15.4**	**+0.2**
UZH				*e*			08 07 28.6	
DRGR		**91.70**	**318**⇑	*i*P		**P**	**08 07 16.5**	**-0.1**
RES	**Resolute Bay**	**91.82**	**10**	*e*P		**P**	**08 07 16.9**	**+0.5**
	comp=Z,5.7nm,0.8s							
CRVS	**Cervenica-Dubn**	**91.89**	**320**	*e*P		**P**	**08 07 17.5**	**+0.2**
CRVS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CRVS	**Cervenica-Dubn**	**91.89**	**320**	*e*P		**P**	**08 07 17.5**	**+0.2**
NIE	**Niedzica**	**92.45**	**321**	*e*P		**P**	**08 07 20.5**	**+0.6**
NIE	**Niedzica**	**92.45**	**321**	*e*P		**P**	**08 07 20.5**	**+0.6**
OJC	**Ojcow**	**92.51**	**322**	*e*P		**P**	**08 07 19.9**	**-0.2**
OJC	**Ojcow**	**92.51**	**322**	*e*P		**P**	**08 07 19.9**	**-0.2**
NB2	**NORSAR Subarra**	**92.86**	**334**	P		**P**	**08 07 19.8**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**92.86**	**334**	P		**P**	**08 07 20.3**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=65,slow=4.5,SNR=8.7							
NOA	**NORSAR Array B**	**92.86**	**334**	P		**P**	**08 07 20.3**	**-1.3**
VYHS	**Vyhne**	**93.67**	**320**	*e*P		**P**	**08 07 25.5**	**0.0**
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.4s							
VYHS	**Vyhne**	**93.67**	**320**	*e*P		**P**	**08 07 25.5**	**0.0**
YKW3	**Yellowknife Ar**	**94.10**	**24**	*e*P		**P**	**08 07 25.9**	**-1.2**
YKA	**Yellowknife Ar**	**94.14**	**24**	P		**P**	**08 07 27.6**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=298,slow=4.5,SNR=54							
YKA	**Yellowknife Ar**	**94.14**	**24**	P		**P**	**08 07 27.6**	**+0.3**
VRAC	**Vranov**	**94.78**	**322**⇓	*i*P		**P**	**08 07 29.9**	**-0.7**
GERES	**GERESS Array B**	**96.71**	**322**	P		**P**	**08 07 39.4**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=58,slow=5.0,SNR=16							
GERES	**GERESS Array B**	**96.71**	**322**	P		**P**	**08 07 39.4**	**-0.2**
GRF	**Grafenberg Arr**	**97.84**	**323**	*e*P		**P**	**08 07 44.2**	**-0.3**
GRF	**Grafenberg Arr**	**97.84**	**323**	*e*Pdiff		**P**	**08 07 44.2**	**-0.3**
TXAR	**Lajitas Array**	**118.24**	**49**	PKP		**PKPdf**	**08 12 57.7**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=336,slow=2.7,SNR=5.0							
TXAR	**Lajitas Array**	**118.24**	**49**	PKP		**PKPdf**	**08 12 57.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**120.07**	**292**	PKP		**PKPdf**	**08 12 59.9**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=56,slow=1.4,SNR=16							
TORD	**Torodi Ar. Bea**	**120.07**	**292**	PKP		**PKPdf**	**08 12 59.9**	**-0.3**
DBIC	**Dimbokro**	**128.28**	**287**	PKP		**PKPdf**	**08 13 14.9**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=155,slow=1.5,SNR=4.2							
DBIC	**Dimbokro**	**128.28**	**287**	PKP		**PKPdf**	**08 13 14.9**	**-1.0**
PLCA	**Paso Flores**	**146.08**	**157**	PKPbc		**PKPab**	**08 13 50.5**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=225,slow=2.8,SNR=8.4							
PLCA	**Paso Flores**	**146.08**	**157**	PKPbc		**PKPab**	**08 13 50.5**	**+0.9**

NOU ***15*** *08:02:15.5±0.8,21°.29S×170°.07E,h10km,MD2.8,ML3.4*
IDC 15 08:02:13.7±2.8,21°.56S×169°.87E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.7/19,mbtmp3.8/5,ML3.7/1,Error ellipse: s-maj=114.0km s-min=36.4km az=157.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.84**	**257**	*e*P		Pn	08 03 01.0	+0.7
BAYA				*e*S		Sn	08 03 35.3	+0.1
NORM	**Noumea**	**3.21**	**257**	*e*P		Pn	08 03 06.1	+0.6
NORM				*e*S		Sn	08 03 42.9	-1.6
NORM				AMP			08 03 44.5	
	comp=Z,125nm,1.3s							
DZM	**Mont Dzumac**	**3.23**	**260**	Pn		Pn	08 03 06.8	+1.0
	comp=Z,8.7nm,0.3s,baz=90,slow=18,SNR=159							
DZM				Sn		Sn	08 03 45.5	+0.5
	comp=Z,15nm,0.3s,baz=120,slow=20,SNR=19							
DZM	**Mont Dzumac**	**3.23**	**260**	*e*P		Pn	08 03 06.3	+0.5
DZM				*e*S		Sn	08 03 44.0	-1.0
DZM				AMP			08 03 50.2	
	comp=Z,519nm,3.7s							
STKA	**Stephens Creek**	**27.19**	**242**	P		P	08 07 59.1	-0.1
	comp=Z,0.9nm,0.5s,baz=78,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**33.22**	**259**	P		P	08 08 51.9	-0.8
	comp=Z,0.4nm,0.6s,baz=83,slow=8.3,SNR=6.5							
WRA	**Warramunga Arr**	**33.22**	**266**	P		P	08 08 52.1	-0.7
	comp=Z,0.3nm,0.4s,baz=98,slow=8.3,SNR=6.4							
FITZ	**Fitzroy Crossi**	**41.65**	**267**	P		P	08 10 04.6	+0.4
	comp=Z,1.5nm,0.7s,baz=119,slow=13,SNR=2.7							
GERES	**GERESS Array B**	**146.80**	**331**	PKPbc		PKPbc	08 21 57.3	-0.6
	comp=Z,0.7nm,0.6s,baz=35,slow=3.6,SNR=5.6							

IDC 15 08:13:40.8±1.6,21°.01S×66°.41W,h250km±14km,mb3.3/3, mb1 3.2/8,mb1mx3.1/21,mbtmp3.0/8,Error ellipse: s-maj=25.4km s-min=15.7km az=51.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.98**	**341**	P		Pn	08 14 56.3	-0.9
	1.1nm,0.3s,baz=138,slow=8.1,SNR=35							
LPAZ				S		S	08 15 58.5	+0.5
	0.4nm,0.3s,baz=349,slow=16,SNR=12							
SIV	**San Ignacio**	**7.11**	**46**	P		Pn	08 15 22.1	-0.8
	5.6nm,0.3s,baz=257,slow=9.6,SNR=164							
CPUP	**Villa Florida**	**9.86**	**124**	P		Pn	08 15 57.6	+0.1
	0.6nm,0.3s,baz=270,slow=11,SNR=5.9							
CFAA	**Coronel Fontan**	**10.68**	**188**	P		Pn	08 16 07.9	+0.1
	0.0nm,0.3s,baz=16,slow=12,SNR=4.0							
BDFB	**Brasilia**	**18.26**	**76**	P		P	08 17 38.0	+1.5

SIV S S 08 22 57.7 -0.8
baz=18,slow=21,SNR=2.0
SIV San Ignacio 9.13 100 P Pn 08 21 15.1 -0.8
SIV S S 08 22 57.7 -0.8
ATAH Atahualpa 10.75 312 P Pn 08 21 35.3 -1.8
3.0nm,0.3s,baz=125,slow=9.0,SNR=120
ATAH S S 08 23 34.5 -3.3
baz=65,slow=5.1,SNR=1.6
ATAH Atahualpa 10.75 312 P Pn 08 21 35.3 -1.8
ATAH S S 08 23 34.5 -3.3
LCO Las Campanas 14.40 181 *e*Pn Pn 08 22 20.1 -2.5
LCO *e*S S 08 24 48.4 -14
LCO Las Campanas 14.40 181 ⇓*i*P Pn 08 22 20.0 -2.6
LCO *e*S S 08 24 52.1 -10
TLL Tololo Astrono 15.56 181 *e*P P 08 22 34.2 -2.2
CMCH Combarbala 16.56 182 ⇑*i*P P 08 22 46.1 -1.3
OTAV Otavalo 16.70 331 *e*Pn Pn 08 22 50.2 -0.5
882nm,1.4s
CPUP Villa Florida 16.95 136 P P 08 22 51.3 -0.2
65nm,0.3s,baz=294,slow=10,SNR=522
CPUP S S 08 25 53.5 -3.9
1.8nm,0.3s,baz=156,slow=12,SNR=1.7
CPUP ScP ScP 08 30 44.0 +3.1
0.8nm,0.3s,baz=68,slow=1.1,SNR=5.0
CPUP Villa Florida 16.95 136 P P 08 22 51.3 -0.2
CPUP S S 08 25 53.5 -3.9
CPUP ScP ScP 08 30 44.0 +3.1
CFAA Coronel Fontan 17.10 174 P P 08 22 52.5 -0.7
3.4nm,0.3s,baz=348,slow=9.8,SNR=224
CFAA S S 08 25 55.0 -5.4
0.8nm,0.3s,baz=232,slow=21,SNR=5.9
CFAA ScP ScP 08 30 43.7 +2.5
0.1nm,0.3s,baz=323,slow=4.1,SNR=26
CFAA Coronel Fontan 17.10 174 P P 08 22 52.5 -0.7
CFAA S S 08 25 55.0 -5.4
CFAA ScP ScP 08 30 43.7 +2.5
ROCH El Roble 18.36 182 ⇓*i*P P 08 23 06.0 -1.1
PEL Peldehue 18.52 181 ⇑*i*P P 08 23 08.1 -0.5
FCH Farellones 18.70 180 ⇓*i*P Pn 08 23 12.9 -1.0
CLCH Cerro Calan 18.77 180 ⇓*i*P P 08 23 10.8 -0.6
LMEL Las Melosas 19.22 179 ⇓*i*P P 08 23 16.5 +0.2
CHCH Chadas Angostu 19.31 181 *e*P P 08 23 17.0 -0.1
CACH El Canelo 19.49 180 ⇑*i*P P 08 23 19.0 -0.2
ROSC El Rosal 19.66 348 P P 08 23 20.2 -1.2
2.5nm,0.3s,baz=113,slow=6.3,SNR=17
ROSC pP pP 08 23 55.9 -0.3
4.7nm,0.3s,baz=101,slow=18,SNR=4.4
ROSC S S 08 26 46.0 -6.0
0.5nm,0.3s,baz=83,slow=10.0,SNR=2.5
ROSC El Rosal 19.66 348 *e*P P 08 23 20.6 -0.8
ROSC pP pP 08 23 55.9 -0.3
ROSC S S 08 26 46.0 -6.0
BDFB Brasilia 21.65 96 P P 08 23 41.6 -0.5
40nm,0.8s,baz=263,slow=12,SNR=65
BDFB S S 08 27 21.3 -6.1
21nm,0.8s,baz=22,slow=26,SNR=2.1
BDFB Brasilia 21.65 96 P P 08 23 41.6 -0.5
BDFB S S 08 27 21.3 -6.1
CCHI Chillan 22.02 184 ⇓*i*P P 08 23 44.5 -0.7
LPA La Plata 23.19 153 *d*i P P 08 23 57.0 +1.1
LPA pP pP 08 24 38.0 +3.7
LPA S S 08 27 50.0 -1.5
LPA sS sS 08 29 08.0 +6.7
SDV Santo Domingo 23.28 359 *e*P P 08 23 57.0 -0.1
2.6nm,1.2s
SPB Sao Paulo 23.48 116 *e*P P 08 23 58.0 -0.7
90nm,0.9s
TRQA Tornquist 24.59 164 *e*P P 08 24 07.5 -1.1
299nm,1.3s
BCIP Isla Barro Col 25.34 338 *e*P P 08 24 15.8 +0.2
554nm,1.8s
BCIP *e*PcP PcP 08 27 42.7 +0.1
PLCA Paso Flores 26.09 180 P P 08 24 21.6 -0.6
96nm,0.9s,baz=358,slow=10,SNR=114
PLCA S S 08 28 32.0 -5.6
6.5nm,1.1s,baz=313,slow=4.3,SNR=1.4
PLCA ScP ScP 08 31 07.3 +3.7
20nm,1.1s,baz=348,slow=3.8,SNR=8.3
PLCA Paso Flores 26.09 180 P P 08 24 21.6 -0.6
105nm,1.0s
PLCA *e*pP pP 08 25 04.8 +0.2
PLCA *e*PcP PcP 08 27 45.7 +1.6
PLCA S S 08 28 32.0 -5.6
PLCA *e*S S 08 28 37.3 -0.4
PLCA ScP ScP 08 31 07.3 +3.7
JTS JuntasAbangare 28.58 329 P P 08 24 44.1 -0.4
16nm,0.7s,baz=162,slow=4.9,SNR=12
JTS pP pP 08 25 26.8 -0.5
12nm,0.8s,baz=140,slow=8.9,SNR=2.5
JTS S S 08 29 19.7 +2.7
2.8nm,0.8s,baz=355,slow=23,SNR=1.6
JTS ScP ScP 08 31 14.9 +3.5
5.6nm,0.9s,baz=333,slow=4.0,SNR=7.2
JTS JuntasAbangare 28.58 329 P P 08 24 44.1 -0.4
JTS pP pP 08 25 26.8 -0.5
JTS S S 08 29 19.7 +2.7
JTS ScP ScP 08 31 14.9 +3.5
JTS JuntasAbangare 28.58 329 P P 08 24 46.5 +2.0
230nm,1.2s,SNR=5.7
CRPR Cabo Rojo, PR 32.51 6 *e*P P 08 25 18.3 -0.6
64nm,0.8s
CRPR *e*pP pP 08 26 02.8 +0.6
OBIP Obispado Ponce 32.59 7 *e*P P 08 25 18.6 -1.1
44nm,0.8s
CELP Cerrillos 32.63 7 *e*P P 08 25 19.3 -0.7
LSP Las Mesas 32.67 6 *e*P P 08 25 19.2 -1.2
MPR Mayaguez 32.71 6 *e*P P 08 25 19.5 -1.1
64nm,0.8s
MPR *e*pP pP 08 26 04.1 +0.1
SJG San Juan 32.72 8 P P 08 25 19.3 -1.5
21nm,0.4s,baz=89,slow=3.3,SNR=18
SJG S S 08 30 20.4 -1.0
14nm,0.7s,baz=270,slow=20,SNR=9.4
SJG San Juan 32.72 8 *e*P P 08 25 19.2 -1.5
470nm,2.5s
SJG S S 08 30 20.4 -1.0
HUMP Col San Antoni 32.79 8 *e*P P 08 25 21.2 -0.1
LRS Lares 32.81 6 *e*P P 08 25 20.3 -1.3
AOPR Arecibo Observ 32.88 6 *e*P P 08 25 21.3 -0.8
56nm,0.7s
TGUH Tegucigalpa,Un 32.95 329 *e*P P 08 25 23.6 +0.8
74nm,1.1s
TGUH *e*ScP ScP 08 31 28.3 +2.4
ANWB Willy Bob 33.12 15 *e*P P 08 25 22.6 -1.6
75nm,0.4s
SDDR Presa de Saban 33.32 358 *e*P P 08 25 26.5 +0.4
251nm,2.1s
RCBR Riachuelo 35.01 79 P P 08 25 41.2 +0.5
49nm,1.1s,baz=249,slow=9.0,SNR=16
RCBR Riachuelo 35.01 79 P P 08 25 41.2 +0.5
RCBR *e*pP pP 08 26 27.1 +2.7
RCBR *e*sP sP 08 26 49.4 +0.6
RPN Rapa Nui 38.31 245 P P 08 26 08.9 +0.5
20nm,0.3s,baz=73,slow=6.7,SNR=6.2
RPN Rapa Nui 38.31 245 P P 08 26 08.9 +0.5
EFI East Falkland 38.35 168 P P 08 26 08.1 -0.1
2µm,0.9s,SNR=6.3
TEIG Tepich 38.76 333 *e*P P 08 26 11.5 -0.5
354nm,1.5s
TEIG *e*pP pP 08 26 56.8 +0.3
TEIG *e*sP sP 08 27 21.6 +1.0
USHA Ushuaia 40.23 178 P P 08 26 24.0 +0.2
83nm,0.9s,baz=1.0,slow=4.2,SNR=16
USHA Ushuaia 40.23 178 P P 08 26 24.0 +0.2
DWPF Disney 43.72 346 *e*P P 08 26 50.6 -1.6
53nm,0.7s
HOPE Hope Point 47.68 154 *e*P P 08 27 24.6 +1.7
190nm,0.8s
BRAL Brewton 48.03 341 *e*P P 08 27 26.9 +0.9
694nm,1.8s
NHSC New Hope 48.29 349 *e*P P 08 27 27.1 -0.7
632nm,1.8s
NHSC *e*pP pP 08 28 14.9 +0.8
NHSC *e*ScP ScP 08 32 28.2 +2.6
COW Cow Castle Cre 48.66 349 *e*P P 08 27 29.6 -1.0
COW *e*pP pP 08 28 18.0 +1.0
GOGA Godfrey 49.28 346 *e*P P 08 27 33.9 -1.5
GOGA *e*'PP pP 08 28 20.4 -1.5
GOGA *e* 08 28 54.9
GOGA pmax pmax
comp=Z,88nm,1.4s
GOGA Godfrey 49.28 346 *e*P P 08 27 33.9 -1.5
comp=Z,88nm,1.4s
GOGA *e*pP pP 08 28 20.4 -1.5
GOGA *e*PcP PcP 08 28 54.9 0.0
GOGA *e*ScP ScP 08 32 30.8 +0.9
KVTX Kingsville 49.61 327 *e*P P 08 27 39.0 +1.0
comp=Z,448nm,2.0s
KVTX *e*pP pP 08 28 26.3 +1.8
JSC Jenkinsville 49.64 348 *e*P P 08 27 36.5 -1.5
JSC *e*'PP pP 08 28 25.2 +0.6
JSC Jenkinsville 49.64 348 *e*P P 08 27 36.5 -1.5
JSC *e*pP pP 08 28 25.2 +0.6
LRAL Lakeview Retre 49.89 342 *e*P P 08 27 37.6 -2.3
comp=Z,10nm,0.5s
VBMS Vicksburg 50.33 338 *e*P P 08 27 42.0 -1.2
comp=Z,42nm,0.5s
PMSA Palmer Station 50.37 176 P P 08 27 44.4 +1.3
comp=Z,35nm,0.8s,baz=338,slow=16,SNR=4.9
PMSA Palmer Station 50.37 176 P P 08 27 44.4 +1.3
KMSC Kings Mountain 50.49 348 ⇓P P 08 27 43.3 -1.1
baz=51,SNR=9.6
HKT Hockley 50.57 331 *e*P P 08 27 45.7 +0.7
HKT *e*'PP pP 08 28 33.9 +2.1
HKT *e*'SP sP 08 28 57.0 +1.7
HKT pmax pmax
comp=Z,105nm,1.5s
HKT Hockley 50.57 331 *e*P P 08 27 45.7 +0.7
comp=Z,105nm,1.5s
HKT *e*pP pP 08 28 33.9 +2.1
HKT *e*sP sP 08 28 57.0 +1.7
HKT *e*ScP ScP 08 32 37.7 +2.3
CPCT Cooper Cave 51.48 345 *e*P P 08 27 50.3 -1.5
CPCT *e*ScP ScP 08 32 38.5 -0.8
CPCT *e*S S 08 34 56.8 +1.4
TKL Tuckaleechee C 51.51 346 *e*P P 08 27 50.3 -1.7
TKL *e*pP pP 08 28 35.3 -3.6
TKL *e*ScP ScP 08 32 39.1 -0.3
NATX Nacogdoches 51.58 333 *e*P P 08 27 53.0 +0.4
comp=Z,55nm,0.6s
NATX *e*pP pP 08 28 41.7 +2.2
SWET Sewanee 51.63 344 *e*P P 08 27 50.8 -2.1
comp=Z,81nm,1.2s
SWET *e*ScP ScP 08 32 40.5 +0.5
732A Laxson Ranch, 51.65 326 ⇑P P 08 27 52.6 -0.6
baz=52,SNR=32
OXF Oxford 52.02 340 *e*P P 08 27 53.6 -2.2
OXF pmax pmax
comp=Z,32nm,0.5s
OXF Oxford 52.02 340 *e*P P 08 27 53.6 -2.2
comp=Z,32nm,0.5s
OXF *e*ScP ScP 08 32 43.0 +1.4
PLAL Pickwick Lake 52.03 342 *e*P P 08 28 02.1 +6.3
comp=Z,82nm,1.5s
632A Uvalde 52.17 327 ⇓P P 08 27 57.2 +0.2
baz=52
VWCC Virginia Weste 52.29 350 *e*P P 08 27 56.9 -0.9
VWCC *e*pP pP 08 28 43.9 -0.9
TZTN Tazewell 52.30 347 *e*P P 08 27 56.2 -1.6
comp=Z,10nm,0.8s
TZTN *e*ScP ScP 08 32 43.9 +1.0
BLA Blacksburg 52.33 350 *e*P P 08 27 56.9 -1.2
BLA pmax pmax
comp=Z,166nm,1.6s
BLA Blacksburg 52.33 350 *e*P P 08 27 56.9 -1.2
comp=Z,166nm,1.6s
631A Perdido Creek 52.51 326 ⇓P P 08 27 58.6 -1.0
baz=53,SNR=28
532A Rocksprings 52.73 328 ⇓P P 08 28 00.4 -0.7
baz=53,SNR=29
WVT Waverly 53.02 342 *e*P P 08 28 00.2 -2.9
WVT *e*'PP pP 08 28 48.2 -2.0
WVT pmax pmax
comp=Z,23nm,0.8s
WVT Waverly 53.02 342 *e*P P 08 28 00.2 -2.9
comp=Z,22nm,0.8s
WVT *e*pP pP 08 28 48.2 -2.0
WVT *e*ScP ScP 08 32 46.2 +0.2
WHTX Lake Whitney 53.03 331 ⇑P P 08 28 03.5 +0.2
baz=53,SNR=36
531A Rocksprings 53.09 327 ⇑P P 08 28 04.2 +0.4
baz=53,SNR=58
432A Menard 53.27 328 ⇓P P 08 28 04.8 -0.3
baz=53,SNR=81
HALT Halls 53.28 341 *e*P P 08 28 03.3 -1.7
HALT *e*pP pP 08 28 52.9 +0.7
UALR University of 53.29 337 *e*P P 08 28 03.6 -1.5
comp=Z,26nm,0.9s
HBAR Harrisburg 53.39 339 *e*P P 08 28 04.8 -1.0
HBAR *e*pP pP 08 28 50.8 -2.2
530A J-C Ranch, Com 53.50 326 ⇑P P 08 28 06.5 -0.2
baz=54,SNR=42
UTMT University of 53.53 341 *e*P P 08 28 04.3 -2.5
comp=Z,39nm,0.4s
UTMT *e*pP pP 08 28 51.1 -2.9
431A Sonora 53.53 327 ⇓P P 08 28 06.8 -0.2
baz=54,SNR=66
431A ⇓S S 08 35 25.1 +1.6
baz=54
431A ⇓S S 08 35 25.1 +1.6
baz=54
GNAR Gosnell 53.55 340 *e*P P 08 28 05.7 -1.3
comp=Z,254nm,0.4s
GNAR *e*pP pP 08 28 54.8 +0.6
MIAR Mount Ida 53.55 336 *e*P P 08 28 05.7 -1.3
MIAR pmax pmax
comp=Z,24nm,1.0s
MIAR Mount Ida 53.55 336 *e*P P 08 28 05.7 -1.3
comp=Z,24nm,1.0s
GLAT Glass 53.59 341 *e*P P 08 28 05.4 -1.8
GLAT *e*pP pP 08 28 55.3 +0.8
332A Millersview 53.65 329 ⇑P P 08 28 07.8 0.0
baz=54,SNR=115
628A Black Gap, Mar 53.84 325 ⇑P P 08 28 09.1 -0.2
baz=54,SNR=34
331A San Angelo 53.94 328 ⇑P P 08 28 09.5 -0.4
baz=54,SNR=48
430A Baggett Ranch, 53.95 327 ⇑P P 08 28 09.7 -0.4
baz=54,SNR=48
529A Stev Forest Ra 53.96 326 ⇓P P 08 28 09.7 -0.4
baz=54,SNR=65
SDMD Soldier's Deli 54.01 354 *e*P P 08 28 08.6 -1.6
comp=Z,7.8nm,0.9s
SDMD *e*pP pP 08 28 55.3 -2.2
232A Coleman 54.01 329 ⇑P P 08 28 10.0 -0.4
baz=54
627A Terlingua Ranc 54.09 324 ⇑P P 08 28 10.2 -1.0
baz=54,SNR=30
PARMO Parma 54.10 341 *e*P P 08 28 09.6 -1.4
PARMO *e*pP pP 08 28 58.6 +0.3
TXAR Lajitas Array 54.16 324 P P 08 28 11.0 -0.6
comp=Z,5.2nm,0.5s,baz=150,slow=9.3,SNR=126
TXAR pP pP 08 28 58.4 -0.6
comp=Z,5.7nm,0.8s,baz=146,slow=8.1,SNR=3.8
TXAR Lajitas Array 54.16 324 P P 08 28 11.0 -0.6
TXAR pP pP 08 28 58.4 -0.6
429A Davenport Ranc 54.17 326 ⇑P P 08 28 11.3 -0.4
baz=54,SNR=45
528A Cox Ranch, San 54.30 325 ⇑P P 08 28 12.2 -0.5
baz=54,SNR=16
231A Bronte 54.38 329 ⇑P P 08 28 12.8 -0.3
baz=54,SNR=27
330A Mertzon 54.40 327 ⇓P P 08 28 12.7 -0.6
baz=55,SNR=22
MVL Millersville 54.54 354 *e*P P 08 28 12.2 -1.8
WCI Wyandotte Cave 54.56 345 *e*P P 08 28 11.7 -2.6
WCI *e*'PP pP 08 29 02.3 +0.6
WCI pmax pmax
comp=Z,28nm,0.4s
WCI Wyandotte Cave 54.56 345 *e*P P 08 28 11.7 -2.6
comp=Z,28nm,0.4s
WCI *e*pP pP 08 29 02.3 +0.6
WCI *e*ScP ScP 08 32 52.9 +0.2
626A Big Bend Ranch 54.60 324 ⇓P P 08 28 14.8 0.0
baz=55,SNR=28
ABTX Abilene, Hawle 54.60 330 ⇓P P 08 28 14.6 -0.1
baz=55,SNR=49
428A Kincaid Ranch, 54.68 326 ⇓P P 08 28 15.2 -0.2
baz=55,SNR=19
USIN University of 54.68 343 *e*P P 08 28 12.7 -2.4
USIN *e*ScP ScP 08 32 52.2 -1.0
527A Woodward Ranch 54.74 324 ⇑P P 08 28 15.4 -0.5
baz=55,SNR=24
230A Sterling City 54.75 328 ⇑P P 08 28 15.2 -0.6
baz=55,SNR=7.8
SACV Santiago Islan 54.79 60 *e*P P 08 28 17.8 +1.5
comp=Z,18nm,0.8s
329A Wagon Wheel Ra 54.89 327 ⇓P P 08 28 16.5 -0.4
baz=55,SNR=39
SIUC Southern Illin 54.90 342 *e*P P 08 28 14.8 -1.9
comp=Z,140nm,0.4s
SIUC *e*ScP ScP 08 32 54.5 +0.4
526A Mary Lane Ranc 54.95 324 ⇓P P 08 28 17.1 -0.3
baz=55,SNR=27
131A Roby 55.01 329 ⇑P P 08 28 17.9 +0.2
baz=55
Z32A Haskell 55.08 330 ⇑P P 08 28 18.4 +0.3
baz=55
427A Hayter Ranch, 55.16 325 ⇓P P 08 28 18.0 -0.8
baz=55,SNR=23
229A Bryant Ranch, 55.17 327 ⇑P P 08 28 18.1 -0.7
baz=55,SNR=18
130A Snyder 55.24 329 ⇑P P 08 28 19.1 -0.2
baz=55
328A Wristen Ranch, 55.25 326 ⇑P P 08 28 19.3 -0.1
baz=55,SNR=48
SSPA Standing Stone 55.33 353 *e*P P 08 28 18.9 -0.8
PAL Palisades 55.36 357 *e*P P 08 28 18.4 -1.5
PAL Palisades 55.36 357 *e*P P 08 28 18.4 -1.5
426A McDonald Obser 55.38 325 ⇓P P 08 28 20.2 -0.3
baz=56,SNR=31
BLO Bloomington 55.51 345 *e*P P 08 28 18.6 -2.4
BLO pmax pmax
comp=Z,25nm,0.3s
BLO Bloomington 55.51 345 *e*P P 08 28 18.6 -2.4
comp=Z,25nm,0.3s
BLO *e*ScP ScP 08 32 57.5 +0.7
OLIL Olney 55.52 343 *e*P P 08 28 18.8 -2.3
comp=Z,13nm,0.4s
OLIL *e*pP pP 08 29 08.2 -0.4
OLIL *e*ScP ScP 08 32 57.5 +0.7
327A Balmorhea Ranc 55.61 326 ⇓P P 08 28 21.6 -0.4
baz=56
TUL1 Tulsa 55.63 335 ⇓P P 08 28 21.5 -0.4
baz=56,SNR=24
228A UT Block 9, Go 55.70 327 ⇓P P 08 28 21.8 -0.9
baz=56,SNR=20
129A Stewart Farms, 55.73 328 ⇑P P 08 28 22.5 -0.3
baz=56,SNR=46
ACSO Alum Creek Sta 55.73 348 *e*P P 08 28 20.3 -2.2
comp=Z,13nm,0.5s
ACSO *e*ScP ScP 08 32 59.0 +1.2
326A Caldwell Ranch 55.84 325 ⇑P P 08 28 23.1 -0.5
baz=56,SNR=25
Z30A Sanderson Ranc 55.87 329 ⇓P P 08 28 23.9 +0.1
baz=56,SNR=65
WMOK Wichita Mounta 55.93 332 *e*P P 08 28 22.2 -1.9
WMOK *e*'PP pP 08 29 11.8 0.0
WMOK *e*S S 08 35 54.4 -0.8
WMOK pmax pmax
comp=Z,28nm,0.3s
WMOK Wichita Mounta 55.93 332 *e*P P 08 28 22.2 -1.9
comp=Z,28nm,0.3s
WMOK *e*pP pP 08 29 11.8 0.0
WMOK *e*ScP ScP 08 32 58.8 0.0
WMOK *e*S S 08 35 54.4 -0.8
227A Bennet, Jal 56.00 326 ⇑P P 08 28 24.6 -0.1
baz=56,SNR=32
425A Indio Mountain 56.01 324 ⇑P P 08 28 24.4 -0.5
baz=56,SNR=19
128A Castleberry Fa 56.04 327 ⇓P P 08 28 24.2 -0.8
baz=56,SNR=26
SLM Saint Louis 56.06 341 *e*P P 08 28 23.5 -1.4
SLM pmax pmax
comp=Z,21nm,0.4s
SLM Saint Louis 56.06 341 *e*P P 08 28 23.5 -1.4
comp=Z,20nm,0.4s
Z29A Hungry Hill Ra 56.14 328 ⇑P P 08 28 24.8 -0.9
baz=56,SNR=15
BRYW Bryant College 56.19 359 *e*P P 08 28 24.2 -1.5
comp=Z,31nm,0.8s
BRYW *e*pP pP 08 29 12.3 -1.1
BRYW *e*sP sP 08 29 36.2 -0.6
Y30A Stafford Cattl 56.23 329 ⇓P P 08 28 26.3 0.0
baz=56
325A Bean Ranch, Si 56.44 324 ⇑P P 08 28 27.0 -0.9
baz=57,SNR=47
Z28A Tucker Farm, M 56.51 328 ⇓P P 08 28 27.5 -0.8
baz=57,SNR=25
127A Arkansas Junct 56.54 327 ⇑P P 08 28 28.0 -0.6
baz=57,SNR=16
Y29A Porterfield Fa 56.60 329 ⇑P P 08 28 28.3 -0.7
baz=57,SNR=15
ALLY Alegheny Colle 56.63 351 *e*P P 08 28 26.8 -2.1
comp=Z,12nm,0.5s
ALLY *e*ScP ScP 08 33 02.5 +0.9
X30A Coker Ranch, T 56.68 330 ⇑P P 08 28 28.9 -0.6
baz=57
BINY Binghamton 56.69 355 *e*P P 08 28 27.2 -2.1
comp=Z,23nm,0.8s
BINY *e*ScP ScP 08 33 02.6 +0.7
GDL2 Guadalupe Moun 56.72 326 *e*P P 08 28 29.9 0.0
GDL2 *e*pP pP 08 29 18.7 +1.0
GDL2 *e*sP sP 08 29 43.1 +2.1
HRV Adam Dziewonsk 56.77 359 *e*P P 08 28 27.6 -2.2
HRV pmax pmax
comp=Z,11nm,0.7s
HRV Adam Dziewonsk 56.77 359 *e*P P 08 28 27.6 -2.2
comp=Z,11nm,0.7s
324A Moseley Ranch, 56.78 324 ⇓P P 08 28 29.2 -1.1
baz=57,SNR=52
126A Clayton Basin, 56.88 326 ⇑P P 08 28 30.6 -0.4
baz=57,SNR=27
225A Deer Hill, Car 56.91 325 ⇓P P 08 28 30.8 -0.5
baz=57,SNR=58
MNTX Cornudas Mount 56.91 324 *e*P P 08 28 30.1 -1.0
comp=Z,8.2nm,0.4s
MNTX *e*pP pP 08 29 17.1 -1.8
MNTX *e*sP sP 08 29 42.1 -0.1
MNTX Cornudas Mount 56.91 324 ⇓P P 08 28 29.8 -1.3
baz=57,SNR=32
Y28A McKinney Farm, 56.93 328 ⇑P P 08 28 30.7 -0.6
baz=57
Z27A Tatum 56.96 327 ⇑P P 08 28 30.8 -0.7
baz=57,SNR=48
ERPA Erie 57.06 352 *e*P P 08 28 30.1 -1.8
comp=Z,114nm,1.3s
ERPA *e*pP pP 08 29 17.2 -2.5
TRY Troy 57.07 357 *e*P P 08 28 30.1 -1.8
comp=Z,246nm,1.6s
TRY *e*ScP ScP 08 33 04.2 +0.7
X29A Tulia 57.08 329 ⇓P P 08 28 31.6 -0.8
baz=57,SNR=43
CPRX Cap Rock 57.09 327 *e*P P 08 28 32.9 +0.5
comp=Z,42nm,0.8s
125A Gardner Draw, 57.23 326 ⇑P P 08 28 32.9 -0.5
baz=57,SNR=22
MSTX Muleshoe 57.25 328 ⇑P P 08 28 33.1 -0.4
baz=57,SNR=30
224A Cornudas Mount 57.27 325 ⇑P P 08 28 32.8 -1.0
baz=57,SNR=47
Z26A Caprock 57.34 327 ⇓P P 08 28 33.9 -0.2
baz=58,SNR=43
Y27A Causey 57.38 328 ⇓P P 08 28 33.4 -1.1
baz=58,SNR=76
X28A Dimmitt 57.39 329 ⇓P P 08 28 33.9 -0.5
baz=58,SNR=25
AMTX Amarillo 57.42 330 *e*P P 08 28 34.2 -0.5
comp=Z,42nm,0.4s
AMTX *e*ScP ScP 08 33 07.2 +1.7
AMTX Amarillo 57.42 330 ⇑P P 08 28 33.7 -1.0
baz=58,SNR=14
HDIL Hopedale 57.55 343 *e*P P 08 28 32.4 -2.9
W29A Amraillo 57.60 330 ⇓P P 08 28 35.4 -0.5
baz=58,SNR=22
124A Stringfield Ra 57.70 325 ⇑P P 08 28 36.3 -0.5
baz=58,SNR=26
ACCN Adirondack Com 57.72 357 *e*P P 08 28 34.8 -1.7
comp=Z,12nm,1.1s
223A Chaparral, Ant 57.73 324 ⇓P P 08 28 36.4 -0.6
baz=58
Z25A Roswell 57.74 326 ⇓P P 08 28 36.2 -0.8
baz=58,SNR=63
Y26A Elida 57.76 327 ⇓P P 08 28 36.7 -0.4
baz=58
AAM Ann Arbor 57.86 348 *e*P P 08 28 35.5 -1.9
AAM Ann Arbor 57.86 348 *e*P P 08 28 35.5 -1.9
X27A F and S Farms, 57.94 328 ⇓P P 08 28 37.7 -0.7
baz=58,SNR=12
W28A Vega 57.98 329 ⇑P P 08 28 37.8 -0.8
baz=58,SNR=5.8
123A Bell Site, Whi 58.10 324 ⇓P P 08 28 39.2 -0.3
baz=58
Z24A Sheeppen Canyo 58.13 326 ⇑P P 08 28 38.9 -0.9
baz=58,SNR=81
V29A Stinnett 58.14 330 ⇓P P 08 28 39.8 +0.2
baz=58

222A	Williams Famil baz=58	58.19	323	⇓P		P	08 28 40.3	+0.2
Y25A	Mesa, Roswell baz=58,SNR=24	58.22	327	⇑P		P	08 28 39.7	-0.6
X26A	CR and CF Fran baz=58,SNR=29	58.23	328	⇓P		P	08 28 39.7	-0.7
W27A	Bowe Ranch, En baz=58,SNR=28	58.26	329	⇑P		P	08 28 40.1	-0.4
MDV	Middlebury comp=Z,1μm,0.5s	58.31	358	*e*P		P	08 28 39.1	-1.4
MDV				*e*ScP		ScP	08 33 09.6	+0.6
NCB	Newcomb comp=Z,13nm,1.0s	58.33	357	*e*P		P	08 28 38.7	-2.0
V28A	Channing baz=59,SNR=30	58.38	330	⇓P		P	08 28 40.9	-0.5
320A	Kipp Ranch, An baz=59,SNR=16	58.48	322	⇑P		P	08 28 42.3	+0.1
LBNH	Lisbon	58.51	359	*e*P		P	08 28 40.7	-1.3
LBNH				pmax		pmax		
LBNH	comp=Z,21nm,1.2s Lisbon comp=Z,21nm,1.2s	58.51	359	*e*P		P	08 28 40.6	-1.3
221A	Mesquite Ranch baz=59	58.52	323	⇓P		P	08 28 42.6	+0.2
Z23A	Rita Site, Whi baz=59,SNR=17	58.55	325	⇑P		P	08 28 42.6	0.0
122A	Conniff Cattle baz=59	58.57	324	⇑P		P	08 28 42.7	-0.1
Y24A	Capitan baz=59,SNR=13	58.62	326	⇓P		P	08 28 42.5	-0.6
X25A	Clemmons Ranch baz=59,SNR=20	58.66	327	⇓P		P	08 28 42.5	-0.9
KSU1	Kansas State U comp=Z,32nm,0.4s	58.71	336	*e*P		P	08 28 41.8	-1.7
220A	Playas Peak, P baz=59,SNR=46	58.88	322	⇑P		P	08 28 44.8	-0.1
121A	Cookes Peak, D baz=59,SNR=19	58.90	323	⇓P		P	08 28 45.6	+0.5
Y23A	Lovelace Mesa, baz=59,SNR=28	58.96	326	⇑P		P	08 28 45.0	-0.5
Z22A	Elephant Butte baz=59,SNR=28	58.96	324	⇑P		P	08 28 44.9	-0.6
319A	Douglas baz=59,SNR=25	58.96	321	⇓P		P	08 28 45.1	-0.4
LONY	Lake Ozonia comp=Z,12nm,1.1s	59.00	357	*e*P		P	08 28 44.0	-1.3
LONY				*e*ScP		ScP	08 33 12.4	+0.3
W25A	X Bar L Ranch, baz=59,SNR=38	59.09	328	⇑P		P	08 28 45.7	-0.6
X24A	Lazy VL Ranch, baz=59,SNR=14	59.10	326	⇓P		P	08 28 46.1	-0.3
FRNY	Flat Rock comp=Z,46nm,1.5s	59.16	357	*e*P		P	08 28 44.5	-1.9
V26A	Tequesquite Ra baz=59,SNR=70	59.19	329	⇑P		P	08 28 47.2	+0.2
Z21A	St. Cloud Mine baz=60,SNR=31	59.40	324	⇑P		P	08 28 48.9	+0.3
120A	U Bar Ranch, L baz=60,SNR=11	59.41	323	⇑P		P	08 28 48.9	+0.4
T28A	Walsh baz=60,SNR=18	59.43	331	⇑P		P	08 28 47.8	-0.7
BNM	Barren Site comp=Z,58nm,1.4s	59.44	325	*e*P		P	08 28 49.6	+0.8
BNM				*e*sP		sP	08 30 01.4	+1.2
Y22A	Socorro baz=60,SNR=29	59.46	325	⇓P		P	08 28 49.4	+0.4
X23A	Hourglass Bar baz=60	59.52	326	⇑P		P	08 28 49.5	+0.2
Y22D	IRIS PASSCAL I baz=60	59.54	325	⇑P		P	08 28 50.0	+0.6
LPM	Los Pinos Moun comp=Z,27nm,1.1s	59.56	325	*e*P		P	08 28 50.4	+0.8
W24A	Lazy 6 Ranch, baz=60,SNR=39	59.58	327	⇑P		P	08 28 49.5	-0.2
LENM	Lemitar comp=Z,15nm,0.9s	59.64	325	*e*P		P	08 28 50.5	+0.4
U26A	Atchley Ranch, baz=60,SNR=44	59.64	329	⇓P		P	08 28 50.3	+0.1
V25A	Rancho No Teng baz=60,SNR=76	59.65	328	⇑P		P	08 28 50.4	+0.2
T27A	Campo baz=60,SNR=34	59.67	330	⇑P		P	08 28 49.9	-0.4
Z20A	Nine Sixteen R baz=60,SNR=26	59.79	323	⇑P		P	08 28 51.7	+0.5
V24A	Rampart Ranch, baz=60,SNR=38	59.90	327	⇑P		P	08 28 52.0	0.0
LAZ	Ladron comp=Z,21nm,1.1s	59.91	325	*e*P		P	08 28 52.4	+0.5
LAZ				*e*sP		sP	08 30 04.9	+1.5
LAZ				*e*ScP		ScP	08 33 18.8	+2.1
X22A	Bernardo baz=60	59.91	325	⇓P		P	08 28 52.5	+0.6
Y21A	Point of Rocks baz=60,SNR=27	59.91	324	⇓P		P	08 28 52.7	+0.6
W23A	Werner Place, baz=60,SNR=26	59.94	326	⇓P		P	08 28 52.2	0.0
ANMO	Albuquerque comp=Z,29nm,1.0s	59.94	326	*e*P		P	08 28 51.2	-1.0
ANMO				*e*sP		sP	08 30 05.4	+1.8
ANMO				*e*ScP		ScP	08 33 19.1	+2.3
SCIA	State Center comp=Z,23nm,0.4s	59.98	340	*e*P		P	08 28 50.1	-1.9
U25A	Circle Dot Ran baz=60,SNR=58	59.98	329	⇓P		P	08 28 52.7	+0.3
T26A	Comanche Natio baz=60,SNR=35	60.18	330	⇓P		P	08 28 54.1	+0.3
Y20A	Horse Springs, baz=60,SNR=17	60.24	324	⇓P		P	08 28 54.6	+0.3
S27A	Las Animas baz=60	60.25	331	⇓P		P	08 28 54.1	-0.1
W22A	Albuquerque baz=60	60.26	326	⇑P		P	08 28 55.0	+0.7
X21A	Alamocita Cree baz=60,SNR=34	60.30	325	⇑P		P	08 28 55.6	+1.0
V23A	Ortiz Mt. (NFS baz=61,SNR=46	60.39	327	⇓P		P	08 28 55.6	+0.3
U24A	Moreno Valley baz=61	60.43	328	⇑P		P	08 28 56.2	+0.6
S26A	Kim baz=61,SNR=82	60.48	330	⇓P		P	08 28 56.4	+0.8
GLMI	Grayling comp=Z,18nm,0.4s	60.48	348	*e*P		P	08 28 52.9	-2.5
T25A	Trinidad baz=61,SNR=40	60.56	329	⇓P		P	08 28 57.1	+0.8
BBTS	Babate comp=Z,18nm,0.7s,baz=262,slow=2.8,SNR=5.3	60.68	64	P		P	08 28 57.5	+0.2
BBTS	Babate	60.68	64	P		P	08 28 57.5	+0.2
R27A	Eads baz=61,SNR=27	60.69	331	⇓P		P	08 28 57.0	-0.1
W21A	San Fidel baz=61,SNR=7.6	60.72	325	⇑P		P	08 28 57.9	+0.4
X20A	Quemado baz=61,SNR=13	60.77	324	⇑P		P	08 28 58.4	+0.6
T24A	Torres, Weston baz=61	60.83	329	⇑P		P	08 28 58.9	+0.7
U23A	El Rito baz=61,SNR=38	60.84	327	⇓P		P	08 28 58.9	+0.6
V22A	San Miguel Ran baz=61,SNR=77	60.91	326	⇓P		P	08 28 59.4	+0.7
S25A	Robets Cordova baz=61,SNR=28	60.98	329	⇑P		P	08 28 59.8	+0.7
R26A	Arlington baz=61,SNR=39	61.01	331	⇑P		P	08 28 59.3	+0.1
KSCO	Kaye Shedlock' baz=61,SNR=15	61.19	332	⇓P		P	08 29 00.8	+0.3
W20A	Ramah baz=61,SNR=39	61.20	325	⇓P		P	08 29 01.2	+0.5
V21A	Milan baz=61,SNR=6.6	61.22	326	⇑P		P	08 29 01.3	+0.4
U22A	Llaves baz=61,SNR=33	61.23	327	⇓P		P	08 29 01.9	+1.1
R25A	Fountain Ranch baz=62	61.29	330	⇑P		P	08 29 01.9	+0.8
BGNE	Belgrade baz=62,SNR=21	61.30	336	⇓P		P	08 29 00.4	-0.6
T23A	Casias Ranch, baz=62,SNR=33	61.30	328	⇑P		P	08 29 01.6	+0.2
S24A	Houchin Ranch, baz=62,SNR=32	61.35	329	⇑P		P	08 29 02.4	+0.7
Q26A	Hugo baz=62,SNR=16	61.54	331	⇑P		P	08 29 03.5	+0.7
214A	Organ Pipe Nat baz=62,SNR=12	61.55	319	⇓P		P	08 29 03.5	+0.6
X18A	Snowflake baz=62,SNR=8.4	61.59	323	⇓P		P	08 29 03.7	+0.4
P27A	Ficken Ranch, baz=62,SNR=9.3	61.61	332	⇑P		P	08 29 03.5	+0.2
V20A	Brimhall	61.67	325	⇑P		P	08 29 03.8	-0.1
U21A	Nageezi baz=62,SNR=13	61.69	326	⇑P		P	08 29 04.6	+0.6
T22A	Edith baz=62,SNR=34	61.73	327	⇑P		P	08 29 05.0	+0.7
R24A	Sanders Place, baz=62,SNR=42	61.76	329	⇑P		P	08 29 05.1	+0.8
S23A	Nye Farm, Mont baz=62,SNR=40	61.80	328	⇑P		P	08 29 05.0	+0.3
Q25A	Bedland, Calha baz=62,SNR=9.7	61.87	330	⇓P		P	08 29 05.3	+0.2
W18A	Petrified Fore baz=62,SNR=26	61.89	324	⇑P		P	08 29 05.4	+0.2
P26A	Davis Ranch, A baz=62,SNR=8.8	61.97	332	⇑P		P	08 29 06.3	+0.7
T21A	Navajo Lake baz=62,SNR=18	62.05	327	⇑P		P	08 29 06.8	+0.5
O27A	Beecher Island baz=62,SNR=13	62.08	333	⇑P		P	08 29 07.2	+0.9
R23A	Moffat baz=62,SNR=33	62.08	329	⇑P		P	08 29 07.2	+0.6
U20A	Newcomb baz=62,SNR=36	62.12	326	⇓P		P	08 29 07.2	+0.4
S22A	4UR Ranch, Cre baz=62,SNR=34	62.25	328	⇓P		P	08 29 07.8	0.0
P25A	Willcox Gulch B baz=62,SNR=15	62.31	331	⇑P		P	08 29 08.7	+0.8
Q24A	Divide baz=62,SNR=60	62.35	330	⇑P		P	08 29 09.1	+0.7
X16A	Lo Mia Camp, P baz=62,SNR=34	62.38	322	⇑P		P	08 29 09.3	+0.8
U19A	Dine' College, baz=63,SNR=6.2	62.44	325	⇓P		P	08 29 08.9	-0.1
O26A	Horse Wrangler baz=63	62.50	332	⇑P		P	08 29 10.0	+0.8
OGNE	Ogallala comp=Z,69nm,0.4s	62.50	333	*e*P		P	08 29 08.8	-0.2
OGNE				*e*PcP		PcP	08 29 47.5	+1.3
OGNE				*e*pP		pP	08 29 58.5	+0.7
OGNE	Ogallala baz=63,SNR=29	62.50	333	⇓P		P	08 29 09.5	+0.4
Z14A	Wintersburg baz=63	62.57	320	⇓P		P	08 29 10.1	+0.4
R22A	Saguache, Gunn baz=63,SNR=17	62.58	328	⇓P		P	08 29 10.5	+0.5
N27A	Anderson Farm, baz=63,SNR=6.5	62.61	333	⇓P		P	08 29 10.1	+0.3
Q23A	Hartsel baz=63	62.63	329	⇑P		P	08 29 10.9	+0.6
P24A	Kohler Place, baz=63,SNR=31	62.66	330	⇓P		P	08 29 11.0	+0.7
S21A	Coal Bank Pass baz=63,SNR=21	62.69	327	⇓P		P	08 29 11.0	+0.4
113A	Mohawk Valley, baz=63,SNR=13	62.69	319	⇓P		P	08 29 10.6	+0.2
MVCO	Mesa Verde comp=Z,198nm,1.4s	62.73	326	*e*P		P	08 29 11.4	+0.5
MVCO				*e*pP		pP	08 30 00.4	+0.8
MVCO				*e*sP		sP	08 30 24.6	+2.0
MVCO				*e*ScP		ScP	08 33 29.2	0.0
MVCO	Mesa Verde baz=63,SNR=43	62.73	326	⇑P		P	08 29 11.2	+0.3
ECSD	EROS Data Cent comp=Z,20nm,0.4s	62.75	339	*e*P		P	08 29 08.9	-1.6
ECSD				*e*ScP		ScP	08 33 30.5	+1.7
O25A	Wiggins baz=63,SNR=11	62.76	331	⇑P		P	08 29 11.4	+0.5
SPMN	St. Paul baz=63	62.86	342	⇑P		P	08 29 09.8	-1.4
N26A	Koester Ranch, baz=63	62.93	332	⇓P		P	08 29 12.8	+0.9
Y14A	Wickenburg baz=63,SNR=15	63.00	321	⇓P		P	08 29 13.0	+0.5
P23A	Jefferson baz=63,SNR=18	63.00	330	⇓P		P	08 29 13.9	+1.2
R21A	Cimarron baz=63,SNR=42	63.09	328	⇑P		P	08 29 13.3	+0.1
S20A	Disappointment baz=63,SNR=51	63.11	327	⇓P		P	08 29 14.2	+0.8
WUAZ	Wupatki comp=Z,162nm,1.7s	63.11	323	*e*P		P	08 29 14.3	+0.9
WUAZ				*e*pP		pP	08 30 01.8	-0.4
WUAZ				*e*sP		sP	08 30 27.6	+2.4
WUAZ	Wupatki baz=63,SNR=19	63.11	323	⇓P		P	08 29 14.0	+0.7
M27A	Reverse DX Ran baz=63,SNR=5.4	63.13	334	⇑P		P	08 29 13.5	+0.3
Q22A	Crested Butte, baz=63,SNR=38	63.14	329	⇓P		P	08 29 13.9	+0.3
O24A	Longmont baz=63,SNR=14	63.22	331	⇑P		P	08 29 14.2	+0.3
ISCO	Idaho Springs comp=Z,92nm,1.4s	63.22	330	*e*P		P	08 29 13.9	-0.2
ISCO				*e*PP		PP	08 31 33.8	-2.4
ISCO				*e*		pmax	pmax	
ISCO				*e*pP		pP	08 30 03.8	+0.8
ISCO				*e*sP		sP	08 30 27.4	+1.4
ISCO				*e*PP		PP	08 31 33.8	-2.4
ISCO	Idaho Springs baz=63,SNR=36	63.22	330	⇑P		P	08 29 14.6	+0.5
N25A	Grover baz=64	63.31	332	⇓P		P	08 29 15.6	+1.1
R20A	Redvale baz=64,SNR=74	63.39	327	⇑P		P	08 29 16.0	+0.9
M26A	McRoberts Ranc baz=64	63.41	333	⇑P		P	08 29 16.1	+1.0
SMCO	Snowmass comp=Z,42nm,0.9s	63.41	329	*e*P		P	08 29 16.0	+0.5
SMCO				*e*pP		pP	08 30 05.2	+0.8
PV01	Paradox Valley comp=Z,3μm,0.8s	63.45	327	*e*P		P	08 29 16.1	+0.6
PV01				*e*pP		pP	08 30 03.7	-0.7
PV01				*e*sP		sP	08 30 30.2	+2.8
Q21A	Lamborn Mesa, baz=64,SNR=18	63.45	328	⇑P		P	08 29 16.2	+0.7
GLA	Glamis baz=64	63.55	319	⇑P		P	08 29 16.6	+0.5
L27A	T5 Ranch, Ells baz=64	63.55	334	⇑P		P	08 29 16.6	+0.6
P22A	Eagle baz=64,SNR=22	63.62	329	⇑P		P	08 29 17.2	+0.5
N24A	Carr baz=64,SNR=17	63.68	331	⇑P		P	08 29 18.0	+1.0
O23A	Lake Granby, G baz=64,SNR=39	63.69	330	⇓P		P	08 29 17.7	+0.5
M25A	Palm-Egli Farm baz=64,SNR=9.7	63.79	332	⇓P		P	08 29 18.2	+0.6
Y12C	Blythe baz=64	63.81	320	⇑P		P	08 29 18.8	+1.1
PV04	Paradox Valley	63.82	327	*e*P		P	08 29 18.4	+0.5
PV04				*e*pP		pP	08 30 07.1	+0.3
L26A	Underwood Farm baz=64	63.84	333	⇑P		P	08 29 18.6	+0.7
S18A	Hurst Farm, Bl baz=64,SNR=30	63.89	326	⇓P		P	08 29 19.3	+0.8
P21A	Newcastle baz=64,SNR=43	63.91	329	⇑P		P	08 29 19.7	+1.2
Q20A	Ridgley Place, baz=64,SNR=23	63.91	328	⇓P		P	08 29 19.1	+0.6
PDMCI	Parker Dam,Lak baz=64	63.94	320	⇑P		P	08 29 19.3	+0.8
O22A	Kremmling baz=64,SNR=35	63.96	330	⇓P		P	08 29 19.0	+0.1
K27A	Flueckinger Fa baz=64,SNR=28	64.03	334	⇓P		P	08 29 19.8	+0.7
M24A	Cheyenne baz=64,SNR=16	64.16	332	⇓P		P	08 29 21.2	+1.0
BRSD	Miller baz=64	64.20	338	⇑P		P	08 29 19.7	-0.4
N23A	Red Feather La baz=64,SNR=18	64.23	331	⇓P		P	08 29 21.0	+0.3
U15A	North Rim baz=64,SNR=30	64.28	323	⇑P		P	08 29 22.4	+1.3
W13A	Hualapai Mount baz=64,SNR=8.8	64.32	321	⇓P		P	08 29 22.0	+0.7
PHWY	Pilot Hill comp=Z,142nm,1.6s	64.33	331	*e*P		P	08 29 21.7	+0.4
PHWY				*e*pP		pP	08 30 10.0	-0.3
PHWY				*e*PP		PP	08 31 41.0	-4.8
L25A	Engebretsen Ra baz=64	64.33	333	⇓P		P	08 29 21.9	+0.8
BC3	Big Chuckawall baz=64,SNR=6.8	64.34	319	⇓P		P	08 29 22.0	+0.7
P20A	De Beque	64.37	328	⇑P		P	08 29 21.8	+0.3
N22A	Wattenberg Ran baz=65,SNR=21	64.41	330	⇑P		P	08 29 22.5	+0.7
Q19A	Hogan Spring (baz=65,SNR=87	64.42	327	⇓P		P	08 29 22.6	+0.9
K26A	Motz Farm, Whi baz=65,SNR=12	64.43	334	⇓P		P	08 29 22.1	+0.5
O21A	Pagoda baz=65	64.45	329	⇓P		P	08 29 22.7	+0.6
MONP	Monument Peak baz=65	64.47	318	⇑P		P	08 29 23.3	+1.0
IRM	Iron Mountain baz=65,SNR=10	64.47	320	⇓P		P	08 29 22.7	+0.6
BAR	Barrett comp=Z,16nm,1.1s	64.50	318	*e*P		P	08 29 22.8	+0.6
BAR				*e*pP		pP	08 30 12.4	+1.2
NEE2	Needles Airpor baz=65	64.54	321	⇑P		P	08 29 23.1	+0.6
M23A	Laramie baz=65,SNR=6.5	64.58	331	⇑P		P	08 29 22.8	0.0
K25A	Mack Ranch, Ha baz=65	64.65	333	⇑P		P	08 29 23.8	+0.6
L24A	Wheatland baz=65	64.67	332	⇑P		P	08 29 24.3	+1.0
O20A	White River Ci baz=65,SNR=38	64.78	329	⇓P		P	08 29 24.9	+0.8
P19A	Cripple Cowboy baz=65,SNR=44	64.78	328	⇑P		P	08 29 25.1	+0.9
N21A	Black Mountain baz=65,SNR=27	64.89	330	⇑P		P	08 29 26.2	+1.3
BELC	Belle Mtn. Jos baz=65	64.91	319	⇑P		P	08 29 25.5	+0.5
109C	Camp Elliot, M baz=65	64.91	317	⇓P		P	08 29 25.7	+0.8
M22A	Cedar Creek Ra baz=65	64.94	331	⇑P		P	08 29 25.8	+0.6
PFO	Pinyon Flat Ob comp=Z,22nm,1.3s	64.95	318	*e*P		P	08 29 25.8	+0.5
PFO				*e*pP		pP	08 30 14.6	+0.2
PFO	Pinyon Flat Ob baz=65	64.95	318	⇓P		P	08 29 26.3	+1.0
EYMN	Ely comp=Z,13nm,0.4s	64.99	345	*e*P		P	08 29 23.0	-2.1
EYMN				*e*PcP		PcP	08 29 56.4	+0.2
EYMN				*e*pP		pP	08 30 11.5	-2.7
LDFC	Landfair comp=Z,8.7nm,0.4s	65.05	320	*e*P		P	08 29 26.4	+0.5
LDFC				*e*pP		pP	08 30 15.1	+0.1
L23A	Garrett baz=65,SNR=22	65.08	332	⇑P		P	08 29 26.3	+0.3
K24A	Anderson Ranch baz=65	65.16	333	⇑P		P	08 29 27.1	+0.6
GMRC	Granite Mounta baz=65,SNR=11	65.20	320	⇑P		P	08 29 27.7	+0.8
SRU	San Rafael	65.20	326	*e*P		P	08 29 26.9	0.0
SRU				*e**PP		pP	08 30 16.2	+0.2
SRU	comp=Z,127nm,1.5s			pmax		pmax		
SRU	San Rafael comp=Z,127nm,1.5s	65.20	326	*e*P		P	08 29 26.9	0.0
SRU				*e*pP		pP	08 30 16.2	+0.2
SRU				*e*sP		sP	08 30 41.0	+2.0
SRU	San Rafael baz=65,SNR=35	65.20	326	⇑P		P	08 29 27.2	+0.3
N20A	Spence Gulch, baz=66,SNR=40	65.31	329	⇑P		P	08 29 28.3	+0.7
O19A	Miners Draw (B baz=66,SNR=72	65.34	328	⇓P		P	08 29 28.1	+0.4
L22A	Ellis Ranch, M baz=66,SNR=12	65.35	331	⇓P		P	08 29 28.4	+0.6
Q16A	Castle Valley baz=66,SNR=21	65.41	326	⇓P		P	08 29 28.9	+0.6
MURC	Murrieta baz=66	65.42	318	⇑P		P	08 29 28.9	+0.7
P18A	Preston Nutter baz=66,SNR=33	65.43	327	⇓P		P	08 29 29.0	+0.5
M21A	Separation Pea baz=66,SNR=31	65.46	330	⇓P		P	08 29 29.0	+0.4
K23A	Bowen Ranch, D baz=66,SNR=13	65.55	332	⇑P		P	08 29 29.2	+0.2
J24A	Dixon Ranch, L baz=66,SNR=17	65.58	333	⇑P		P	08 29 30.0	+0.9
P17A	Butcher Ranch, baz=66,SNR=22	65.58	327	⇑P		P	08 29 29.6	+0.3
HEC	Hector,Ludlow baz=66	65.65	320	⇑P		P	08 29 30.8	+1.1
BBRC	Big Bear Solar baz=66	65.66	319	⇓P		P	08 29 30.8	+0.9
CCUT	Cedar City comp=Z,81nm,1.4s	65.67	324	*e*P		P	08 29 31.7	+1.7
CCUT				*e*pP		pP	08 30 20.6	+1.4
CCUT				*e*sP		sP	08 30 44.8	+2.7
MSU	Marysvale	65.67	325	*e*P		P	08 29 29.9	-0.1
MSU				*e**PP		pP	08 30 20.9	+1.7
MSU	comp=Z,126nm,1.4s			pmax		pmax		
MSU	Marysvale comp=Z,126nm,1.4s	65.67	325	*e*P		P	08 29 29.9	-0.1
MSU				*e*pP		pP	08 30 20.9	+1.7
MSU				*e*sP		sP	08 30 44.4	+2.3
MVU	Marysvale comp=Z,143nm,1.4s	65.69	325	*e*P		P	08 29 30.5	+0.4
MVU				*e*pP		pP	08 30 20.2	+1.0
MVU				*e*sP		sP	08 30 44.2	+2.1
TMUT	Trail Mountain comp=Z,129nm,1.7s	65.70	326	*e*P		P	08 29 30.9	+0.7
TMUT				*e*pP		pP	08 30 20.5	+1.0
L21A	Rawlins baz=66,SNR=26	65.74	331	⇓P		P	08 29 30.0	-0.3
M20A	Sweetwater, Wa baz=66,SNR=26	65.77	330	⇓P		P	08 29 31.1	+0.6
O18A	Roosevelt baz=66,SNR=16	65.77	328	⇓P		P	08 29 31.3	+0.9
TUQ	Turquoise Moun baz=66	65.79	320	⇑P		P	08 29 31.2	+0.6
N19A	John Jarvie Ra baz=66,SNR=56	65.81	329	⇑P		P	08 29 31.2	+0.5
K22A	Casper baz=66,SNR=44	65.88	332	⇑P		P	08 29 31.4	+0.3
ARUT	Antelope Range	65.88	324	*e*P		P	08 29 32.8	+1.6
ARUT				*e**PP		pP	08 30 22.4	+1.9
ARUT	comp=Z,178nm,1.6s			pmax		pmax		
ARUT	Antelope Range comp=Z,178nm,1.6s	65.88	324	*e*P		P	08 29 32.8	+1.6
ARUT				*e*pP		pP	08 30 22.4	+1.9
ARUT				*e*sP		sP	08 30 45.6	+2.3
RSSD	Black Hills	65.94	334	*e*P		P	08 29 31.4	-0.1
RSSD				*e*			08 30 00.4	
RSSD				*e**PP		pP	08 30 20.7	-0.1
RSSD	comp=Z,33nm,0.4s			pmax		pmax		
RSSD	Black Hills comp=Z,33nm,0.4s	65.94	334	*e*P		P	08 29 31.4	-0.1
RSSD				*e*PcP		PcP	08 30 00.4	-0.2
RSSD				*e*pP		pP	08 30 20.7	-0.1
I24A	Kuemmerle Ranc baz=66,SNR=14	65.98	334	⇓P		P	08 29 32.4	+0.7
J23A	Dilts Ranch, B baz=66	66.03	333	⇓P		P	08 29 32.8	+0.8
CIS	Catalina Islan baz=66	66.09	317	⇓P		P	08 29 33.2	+0.8
O17A	Robinson Place baz=66,SNR=50	66.10	327	⇑P		P	08 29 33.7	+1.0
RRX	Edison Barstow baz=66	66.10	319	⇑P		P	08 29 33.3	+0.8
BFSC	Mount Baldy Ra baz=66	66.12	318	⇑P		P	08 29 33.3	+0.5
N18A	Larsen Ranch, baz=66,SNR=34	66.13	328	⇓P		P	08 29 33.1	+0.3
P16A	Fountain Green baz=66,SNR=11	66.17	326	⇓P		P	08 29 34.1	+1.0
K21A	Alcova baz=66,SNR=54	66.20	331	⇑P		P	08 29 34.0	+0.8
L20A	Wamsutter baz=66,SNR=44	66.24	330	⇓P		P	08 29 34.0	+0.5
GSC	Goldstone	66.25	320	*e*P		P	08 29 34.8	+1.3
GSC				pmax		pmax		
GSC	Goldstone comp=Z,8.5nm,0.8s	66.25	320	*e*P		P	08 29 34.8	+1.3
GSC				*e*sP		sP	08 30 47.5	+1.8
GSC	Goldstone baz=66,SNR=5.6	66.25	320	⇑P		P	08 29 34.2	+0.7
M19A	Rock Springs baz=66	66.26	329	⇑P		P	08 29 34.2	+0.6
SHOC	Shoshone	66.31	320	⇓P		P	08 29 34.4	+0.6

baz=66
MWC Mount Wilson 66.37 318 *e*P **P** **08 29 35.4 +1.0**
MWC *e**PP **pP** **08 30 23.9 +0.2**
MWC pmax pmax
comp=Z,12nm,0.9s
MWC Mount Wilson 66.37 318 *e*P **P** **08 29 35.4 +1.0**
comp=Z,12nm,0.9s
MWC *ep*P **pP** **08 30 23.9 +0.2**
I23A Meade Ranch, G 66.43 333 ⇑P **P** **08 29 35.1 +0.5**
baz=67
MPU Maple Canyon 66.45 326 *e*P **P** **08 29 34.6 -0.2**
comp=Z,147nm,1.4s
MPU *ep*P **pP** **08 30 25.1 +1.0**
MPU *es*P **sP** **08 30 49.4 +2.4**
J22A Midwest 66.45 332 ⇓P **P** **08 29 35.1 +0.4**
baz=67,SNR=37
R13A O'Grain Ranch, 66.46 324 ⇑P **P** **08 29 36.4 +1.4**
baz=67,SNR=23
P15A Leamington 66.48 326 ⇓P **P** **08 29 35.5 +0.6**
baz=67,SNR=6.8
O16A Springville 66.52 327 ⇑P **P** **08 29 36.0 +0.8**
baz=67,SNR=28
DAU Daniels Canyon 66.53 327 *e*P **P** **08 29 36.7 +1.2**
DAU pmax pmax
comp=Z,204nm,1.8s
DAU Daniels Canyon 66.53 327 *e*P **P** **08 29 36.7 +1.2**
comp=Z,204nm,1.8s
AGMN Agassiz Nation 66.54 342 *e*P **P** **08 29 33.4 -1.6**
comp=Z,28nm,0.4s
AGMN *ep*P **pP** **08 30 23.4 -0.9**
AGMN *e*PP **PP** **08 32 05.6 +1.0**
DECC Green Verdugo 66.56 318 ⇓P **P** **08 29 36.2 +0.8**
baz=67
M18A Lyman 66.66 328 ⇓P **P** **08 29 35.9 -0.3**
baz=67,SNR=26
H24A Dirks Ranch, A 66.67 334 ⇓P **P** **08 29 36.0 0.0**
baz=67,SNR=35
N17A Moffit Pass 66.70 328 ⇓P **P** **08 29 36.9 +0.5**
baz=67,SNR=95
EDW2 Edwards Air Fo 66.73 319 ⇓P **P** **08 29 36.9 +0.4**
baz=67
K20A Yellowstone Ra 66.73 330 ⇓P **P** **08 29 36.7 +0.2**
baz=67,SNR=39
JLU Jordanelle 66.77 327 *e*P **P** **08 29 36.8 -0.1**
comp=Z,169nm,1.4s
JLU *ep*P **pP** **08 30 27.3 +1.0**
JLU *es*P **sP** **08 30 52.8 +3.6**
L19A Farson 66.81 329 ⇑P **P** **08 29 37.3 +0.2**
baz=67,SNR=50
I22A 9 Mile Ranch, 66.83 332 ⇑P **P** **08 29 37.2 +0.2**
baz=67,SNR=57
J21A Lysite 66.84 331 ⇓P **P** **08 29 37.8 +0.6**
baz=67,SNR=48
H23A Clabaugh Cattl 66.88 334 ⇓P **P** **08 29 37.7 +0.3**
baz=67
BLG Laguna Peak 66.95 317 ⇑P **P** **08 29 38.5 +0.6**
baz=67
N16A Rees Ranch, Co 66.97 327 ⇓P **P** **08 29 38.9 +0.8**
baz=67,SNR=26
M17A Scullys Gap (B 67.00 328 ⇑P **P** **08 29 38.0 -0.3**
baz=67,SNR=39
L18A Fontenelle, Gr 67.01 329 ⇑P **P** **08 29 38.9 +0.6**
baz=67,SNR=55
FURC Furnace Creek, 67.04 321 ⇑P **P** **08 29 39.0 +0.7**
baz=67,SNR=19
G24A Alzada 67.08 335 ⇓P **P** **08 29 38.8 +0.3**
baz=67,SNR=28
O15A The Old Anders 67.09 326 ⇓P **P** **08 29 39.7 +1.0**
baz=67
VNA3 Neumayer Olymp 67.09 162 *e*P **P** **08 29 39.3 +1.1**
K19A Absolon Red Bu 67.10 330 ⇓P **P** **08 29 38.8 -0.1**
baz=67,SNR=36
I21A Big Trails, Te 67.13 332 ⇑P **P** **08 29 39.0 0.0**
baz=67,SNR=75
J20A Shoshoni 67.14 331 ⇓P **P** **08 29 40.0 +1.0**
baz=67
MPMC Manual Prospec 67.16 320 ⇓P **P** **08 29 40.1 +0.7**
baz=67,SNR=10
DUG Dugway 67.21 326 *e*P **P** **08 29 40.4 +0.9**
DUG *e**PP **pP** **08 30 30.0 +1.0**
DUG pmax pmax
comp=Z,148nm,1.3s
DUG Dugway 67.21 326 *e*P **P** **08 29 40.4 +0.9**
comp=Z,148nm,1.3s
DUG *ep*P **pP** **08 30 30.0 +1.0**
DUG *es*P **sP** **08 30 54.4 +2.6**
DUG Dugway 67.21 326 ⇓P **P** **08 29 40.4 +0.9**
baz=67,SNR=35
BSC Santa Cruz Isl 67.26 317 ⇑P **P** **08 29 40.1 +0.3**
baz=67
VNA1 Neumayer--Stat 67.29 161 *e*P **P** **08 29 41.4 +2.0**
H22A Clearmont 67.32 333 ⇓P **P** **08 29 40.2 +0.1**
baz=68,SNR=22
MDND Maddock 67.36 339 ⇓P **P** **08 29 40.3 +0.2**
baz=68,SNR=135
DAC Darwin (Calif) 67.36 320 *e*P **P** **08 29 41.6 +0.9**
DAC pmax pmax
comp=Z,11nm,1.0s
DAC Darwin (Calif) 67.36 320 *e*P **P** **08 29 41.6 +0.9**
comp=Z,11nm,1.0s
M16A Huntsville 67.38 327 ⇑P **P** **08 29 40.7 +0.1**
baz=68
G23A Biddle 67.39 334 ⇑P **P** **08 29 40.7 +0.3**
baz=68,SNR=61
BW06 Boulder Array 67.40 330 ⇓P **P** **08 29 40.5 -0.3**
baz=68,SNR=59
PDAR Pinedale Array 67.40 330 P **P** **08 29 40.0 -0.8**
comp=Z,12nm,0.4s,baz=138,slow=6.6,SNR=229
PDAR pP **pP** **08 30 29.1 -1.2**
comp=Z,28nm,1.1s,baz=151,slow=6.4,SNR=5.8
PDAR PKP2bc 08 57 58.2
comp=Z,1.1nm,1.1s,baz=0.0,slow=1.5,SNR=5.8
PDAR Pinedale Array 67.40 330 P **P** **08 29 40.0 -0.8**
PDAR pP **pP** **08 30 29.1 -1.2**
PDAR ⇑*e* 08 57 58.2
ARVC Arvin 67.42 318 ⇓P **P** **08 29 41.8 +0.9**
baz=68
R11A Troy Canyon, C 67.51 323 ⇓P **P** **08 29 42.7 +1.2**
baz=68,SNR=36
F24A Ekalaka 67.51 335 ⇑P **P** **08 29 41.5 +0.3**
baz=68,SNR=41
ISA Isabella 67.53 319 *e*P **P** **08 29 42.7 +1.1**
ISA *e**PP **pP** **08 30 31.2 +0.2**
ISA pmax pmax
comp=Z,28nm,1.1s
ISA Isabella 67.53 319 *e*P **P** **08 29 42.7 +1.1**
comp=Z,28nm,1.1s
ISA *ep*P **pP** **08 30 31.2 +0.2**
ISA *es*P **sP** **08 30 56.1 +2.2**
ISA Isabella 67.53 319 ⇑P **P** **08 29 42.4 +0.9**
baz=68,SNR=8.4
J19A Crowheart 67.53 330 ⇓P **P** **08 29 41.7 +0.2**
baz=68,SNR=51
K18A Toltan Ranch, 67.55 329 ⇓P **P** **08 29 42.4 +0.7**
baz=68,SNR=45
N15A Stansbury Isla 67.55 327 ⇑P **P** **08 29 41.9 +0.3**
baz=68,SNR=10
HWUT Hardware Ranch 67.56 328 *e*P **P** **08 29 41.9 +0.2**
comp=Z,91nm,1.3s
HWUT *ep*P **pP** **08 30 31.5 +0.3**
L17A Cokeville 67.56 328 ⇑P **P** **08 29 41.8 0.0**
baz=68,SNR=53
I20A Worland 67.62 331 ⇓P **P** **08 29 42.2 +0.2**
baz=68,SNR=35
H21A Big Horn, Sher 67.65 333 ⇓P **P** **08 29 42.0 -0.2**
baz=68,SNR=7.7
VNA2 Neumayer--Watz 67.66 162 *e*P **P** **08 29 42.6 +0.8**
baz=292,slow=10
GRAC Grapevine Rang 67.69 321 ⇑P **P** **08 29 43.5 +1.0**
baz=68
CWC Cottonwood Cre 67.77 320 ⇓P **P** **08 29 43.7 +0.5**
baz=68,SNR=7.3
L16A Fish Haven 67.79 328 ⇑P **P** **08 29 42.9 -0.3**
baz=68,SNR=58
G22A Birney 67.79 333 ⇓P **P** **08 29 43.1 +0.1**
baz=68,SNR=66
F23A Volborg 67.81 334 ⇓P **P** **08 29 43.4 +0.3**
baz=68,SNR=84
M15A Larsen Ranch, 67.92 327 ⇑P **P** **08 29 44.0 0.0**
baz=68,SNR=22
PKM Peak Mountain 67.92 318 ⇓P **P** **08 29 43.5 -0.7**
baz=68
J18A Kendall Valley 67.96 330 ⇑P **P** **08 29 44.6 +0.3**
baz=68,SNR=91
H20A Greybull 67.98 332 ⇓P **P** **08 29 44.1 -0.1**
baz=68,SNR=62
LIC Lamto 68.03 77 *e*P **P** **08 29 44.1 -0.9**
comp=Z,19nm,0.5s,baz=252
LIC *e*R
comp=Z,625nm,19.5s
LIC Lamto 68.03 77 *e*P **P** **08 29 44.1 -0.9**
comp=Z,19nm,0.5s
VES Vestal, Richgr 68.03 319 ⇑P **P** **08 29 45.0 +0.5**
baz=68,SNR=6.8
E24A Baker 68.03 335 ⇓P **P** **08 29 44.9 +0.4**
baz=68
K17A Gardner Place, 68.06 329 ⇑P **P** **08 29 45.3 +0.4**
baz=68,SNR=79
I19A Meeteetse 68.09 331 ⇓P **P** **08 29 45.5 +0.4**
baz=68,SNR=29
AHID Auburn Hatcher 68.17 329 *e*P **P** **08 29 46.0 +0.5**
comp=Z,27nm,0.4s
AHID *e*PcP **PcP** **08 30 08.6 -1.2**
AHID *ep*P **pP** **08 30 36.0 +0.9**
G21A Lodge Grass 68.19 333 ⇓P **P** **08 29 45.5 0.0**
baz=68,SNR=35
F22A Rosebud 68.22 334 ⇑P **P** **08 29 45.6 0.0**
baz=68,SNR=21
I18A Diamond G Ranc 68.23 330 ⇑P **P** **08 29 46.2 +0.2**
baz=68,SNR=47
TIN Tinemaha 68.25 320 ⇑P **P** **08 29 47.1 +1.0**
baz=68
L15A Malad City 68.27 328 ⇓P **P** **08 29 46.3 +0.1**
baz=68,SNR=62
ULM Lac du Bonnet 68.29 343 P **P** **08 29 44.0 -1.8**
comp=Z,47nm,0.4s,baz=155,slow=6.3,SNR=121
ULM PKP2bc 08 58 00.9
comp=Z,1.1nm,0.6s,baz=350,slow=2.5,SNR=5.4
ULM Lac du Bonnet 68.29 343 P **P** **08 29 44.0 -1.8**
ULM ⇑*e* 08 58 00.9
SMMC Simmler 68.29 318 ⇓P **P** **08 29 47.4 +1.1**
baz=68
HVU Hansel Valley 68.31 327 *e*P **P** **08 29 47.2 +0.8**
HVU *e**PP **pP** **08 30 36.8 +0.8**
HVU pmax pmax
comp=Z,75nm,1.1s
HVU Hansel Valley 68.31 327 *e*P **P** **08 29 47.1 +0.8**
comp=Z,74nm,1.1s
HVU *ep*P **pP** **08 30 36.8 +0.8**
DBIC Dimbokro 68.33 77 P **P** **08 29 46.1 -0.7**
comp=Z,10nm,0.4s,baz=229,slow=5.5,SNR=48
DBIC pP **pP** **08 30 36.1 -0.4**
comp=Z,8.5nm,0.6s,baz=233,slow=6.8,SNR=2.7
DBIC sP **sP** **08 30 58.2 -1.1**
comp=Z,32nm,1.0s,baz=227,slow=7.9,SNR=4.9
DBIC Dimbokro 68.33 77 *e*P **P** **08 29 46.1 -0.7**
comp=Z,12nm,0.5s
DBIC pP **pP** **08 30 36.1 -0.4**
DBIC *ep*P **pP** **08 30 37.3 +0.8**
DBIC sP **sP** **08 30 58.2 -1.1**
DBIC *es*P **sP** **08 30 59.9 +0.6**
E23A Ismay 68.39 335 ⇑P **P** **08 29 46.7 +0.1**
baz=69,SNR=8.5
J17A Brown Place, J 68.41 330 ⇑P **P** **08 29 47.6 +0.5**
baz=69,SNR=56
RCTC Rector, Farmer 68.42 319 ⇑P **P** **08 29 47.2 +0.3**
baz=69
K16A Soda Springs 68.46 329 ⇑P **P** **08 29 48.1 +0.7**
baz=69,SNR=77
REDW Red Top Meadow 68.48 329 *e*P **P** **08 29 47.5 0.0**
comp=Z,117nm,1.4s
REDW *ep*P **pP** **08 30 37.6 +0.5**
D24A Glendive 68.49 336 ⇑P **P** **08 29 47.8 +0.5**
baz=69,SNR=43
SNOW Snow King Moun 68.51 330 *e*P **P** **08 29 48.2 +0.5**
comp=Z,40nm,0.8s
SNOW *ep*P **pP** **08 30 37.9 +0.5**
LOHW Long Hollow 68.54 330 *e*P **P** **08 29 48.1 +0.2**
comp=Z,18nm,0.8s
LOHW *ep*P **pP** **08 30 37.6 +0.1**
LOHW *e*PP **PP** **08 32 26.1 +3.8**
H19A Powell 68.57 331 ⇓P **P** **08 29 47.9 0.0**
baz=69,SNR=16
E22A Miles City 68.61 334 ⇑P **P** **08 29 47.6 -0.4**
baz=69,SNR=23
F21A Absaloka Mine, 68.62 333 ⇓P **P** **08 29 48.4 +0.3**
baz=69,SNR=5.4
TPAW Teton Pass 68.62 329 *e*P **P** **08 29 48.5 +0.1**
comp=Z,27nm,0.9s
TPAW *ep*P **pP** **08 30 38.9 +0.8**
G20A Bridger 68.64 332 ⇓P **P** **08 29 48.2 -0.1**
baz=69,SNR=55
RRI2 Red Ridge 68.70 329 *e*P **P** **08 29 48.9 0.0**
comp=Z,153nm,1.0s
RRI2 *ep*P **pP** **08 30 39.2 +0.6**
MOOW Moose Ponds 68.71 330 *e*P **P** **08 29 49.2 +0.3**
comp=Z,51nm,1.3s
MOOW *ep*P **pP** **08 30 39.2 +0.7**
MOOW *e*PP **PP** **08 32 23.3 -0.5**
L14A Malta 68.74 327 ⇓P **P** **08 29 48.9 -0.1**
baz=69,SNR=24
I17A Pilgrim Ck. 68.76 330 ⇑P **P** **08 29 49.9 +0.7**
baz=69,SNR=33
J16A Bone 68.79 329 ⇑P **P** **08 29 50.0 +0.6**
baz=69,SNR=39
DCID1 Drake Creek 68.82 329 *e*P **P** **08 29 49.8 +0.2**
comp=Z,46nm,0.9s
K15A Arbon 68.83 328 ⇓P **P** **08 29 49.9 +0.3**
baz=69,SNR=20
C24A Savage 68.87 336 ⇑P **P** **08 29 50.2 +0.6**
baz=69,SNR=29
H18A Shoshone NF, C 68.89 331 ⇑P **P** **08 29 49.9 -0.1**
baz=69,SNR=30
D23A Lindsay 68.89 335 ⇓P **P** **08 29 50.3 +0.6**
baz=69,SNR=41
IMW Indian Meadow 68.92 330 *e*P **P** **08 29 50.4 +0.1**
comp=Z,120nm,1.3s
IMW *ep*P **pP** **08 30 41.0 +1.0**
ELK Elko 68.92 325 *e*P **P** **08 29 49.9 -0.4**
ELK *ep*P **pP** **08 30 41.2 +1.2**
FLWY Flagg Ranch 68.94 330 *e*P **P** **08 29 50.8 +0.5**
comp=Z,93nm,1.1s
FLWY *ep*P **pP** **08 30 41.0 +1.0**
MLAC Mammoth Lakes 68.99 320 ⇑P **P** **08 29 51.6 +0.8**
baz=69
RLMT Red Lodge 69.04 332 *e*P **P** **08 29 51.0 0.0**
comp=Z,88nm,1.1s
RLMT *ep*P **pP** **08 30 41.1 +0.5**
RLMT Red Lodge 69.04 332 ⇑P **P** **08 29 51.5 +0.5**
baz=69,SNR=46
F20A Billings 69.06 333 ⇓P **P** **08 29 51.1 +0.2**
baz=69,SNR=14
K14A Jones Ranch, D 69.07 328 ⇓P **P** **08 29 51.1 +0.1**
baz=69,SNR=23
NV11 Mina Array Sit 69.09 322 *e*P **P** **08 29 51.7 +0.4**
NV11 *ep*P **pP** **08 30 41.6 +0.7**
H17A Grant Village 69.11 330 ⇓P **P** **08 29 52.4 +1.0**
baz=69,SNR=17
LKWY Lake 69.15 331 *e*P **P** **08 29 52.7 +1.0**
LKWY *e**PP **pP** **08 30 42.8 +1.4**
LKWY pmax pmax
comp=Z,174nm,1.6s
LKWY Lake 69.15 331 *e*P **P** **08 29 52.7 +1.0**
comp=Z,174nm,1.6s
LKWY *ep*P **pP** **08 30 42.8 +1.4**
SCHQ Schefferville 69.17 2 P **P** **08 29 49.9 -1.3**
comp=Z,4.8nm,0.4s,baz=190,slow=5.7,SNR=29
SCHQ Schefferville 69.17 2 P **P** **08 29 49.9 -1.3**
comp=Z,5.1nm,1.1s
E21A Keefer Ranch, 69.17 334 ⇓P **P** **08 29 52.1 +0.7**
baz=69,SNR=24
I16A Newdale 69.17 329 ⇓P **P** **08 29 52.5 +0.8**
baz=69,SNR=28
NVAR Mina Array Bea 69.17 321 P **P** **08 29 52.5 +0.6**
comp=Z,1.4nm,0.4s,baz=353,slow=28,SNR=36
NVAR pP **pP** **08 30 40.9 -0.7**
comp=Z,5.7nm,0.9s,baz=154,slow=7.1,SNR=3.0
NVAR sP **sP** **08 31 03.2 -1.2**
comp=Z,4.8nm,0.8s,baz=123,slow=4.8,SNR=1.6
NVAR PKP2bc 08 57 59.8
comp=Z,2.2nm,1.0s,baz=288,slow=2.2,SNR=11
NVAR Mina Array Bea 69.17 321 P **P** **08 29 52.5 +0.6**
NVAR pP **pP** **08 30 40.9 -0.7**
NVAR sP **sP** **08 31 03.2 -1.2**
NVAR ⇑*e* 08 57 59.8
D22A Cohagen 69.27 335 ⇓P **P** **08 29 53.1 +1.1**
baz=69,SNR=132
YFT Old Faithful 69.28 330 *e*P **P** **08 29 54.2 +1.8**
comp=Z,100nm,1.5s
SNAA Sanae 69.29 162 *e*P **P** **08 29 52.2 +0.3**
comp=Z,123nm,1.0s
SNAA Sanae 69.29 162 ⇑*e*P **P** **08 29 52.4 +0.5**
J15A Blackfoot 69.30 329 ⇓P **P** **08 29 53.0 +0.6**
baz=70,SNR=34
G18A Lazy EL Ranch, 69.33 332 ⇓P **P** **08 29 53.2 +0.6**
baz=70,SNR=60
C23A Lambert 69.39 336 ⇑P **P** **08 29 53.4 +0.6**
baz=70,SNR=23
YNR Norris Junctio 69.40 331 *e*P **P** **08 29 53.8 +0.6**
comp=Z,25nm,0.9s
YNR *ep*P **pP** **08 30 44.4 +1.5**
F19A Roth Farm, Mol 69.45 332 ⇓P **P** **08 29 53.6 +0.3**
baz=70,SNR=67
YMR Madison River 69.50 330 *e*P **P** **08 29 55.0 +1.3**
comp=Z,114nm,1.3s
YMR *ep*P **pP** **08 30 44.8 +1.3**
D21A La Casta Ranch 69.55 334 ⇓P **P** **08 29 54.7 +0.9**
baz=70,SNR=75
DGMT Dagmar 69.55 337 *e*P **P** **08 29 53.9 +0.2**
comp=Z,30nm,0.5s
DGMT Dagmar 69.55 337 ⇓P **P** **08 29 54.2 +0.5**
baz=70,SNR=17
E20A Meyer Farm, Mu 69.59 333 ⇑P **P** **08 29 54.8 +0.8**
baz=70,SNR=90
C22A Vida 69.63 335 ⇓P **P** **08 29 54.9 +0.7**
baz=70,SNR=38
H16A Russell Place, 69.66 330 ⇑P **P** **08 29 55.5 +0.8**
baz=70,SNR=36
GCMT Greycliff 69.73 332 *e*P **P** **08 29 55.8 +0.8**
comp=Z,25nm,0.5s
GCMT *ep*P **pP** **08 30 45.6 +0.8**
I15A Monteview 69.76 329 ⇑P **P** **08 29 56.4 +1.2**
baz=70,SNR=23
J14A Carey 69.80 328 ⇑P **P** **08 29 56.5 +1.0**
baz=70
F18A Big Timber 69.84 332 ⇑P **P** **08 29 56.3 +0.7**
baz=70,SNR=52
QLMT Earthquake Lak 69.84 330 *e*P **P** **08 29 57.2 +1.4**
comp=Z,10nm,1.4s
A24A Westby 69.85 337 ⇓P **P** **08 29 56.2 +0.7**
baz=70,SNR=20
E19A Rath Farm, Rou 69.85 333 ⇑P **P** **08 29 56.3 +0.6**
baz=70,SNR=81
B23A Brockton 69.85 336 ⇓P **P** **08 29 56.3 +0.8**
baz=70,SNR=22
G17A Pierce Place, 69.88 331 ⇑P **P** **08 29 57.1 +1.1**
baz=70
D20A Manuel Ranch, 70.05 334 ⇑P **P** **08 29 57.4 +0.5**
baz=70,SNR=62
B22A Reddig Ranch S 70.12 336 ⇓P **P** **08 29 57.8 +0.6**
baz=70,SNR=12
J13A Cove Ranch, Pi 70.19 328 ⇑P **P** **08 29 58.4 +0.5**
baz=70,SNR=43
C21A Desert Coulee 70.19 335 ⇑P **P** **08 29 58.1 +0.5**
baz=70,SNR=97
I14A Mackay 70.19 328 ⇓P **P** **08 29 58.9 +1.0**
baz=70,SNR=30
CMB Columbia Colle 70.20 320 *e*P **P** **08 29 58.5 +0.5**
CMB *e**PP **pP** **08 30 47.8 0.0**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 70.20 320 *e*P **P** **08 29 58.5 +0.5**
comp=Z,6.2nm,1.0s
CMB *ep*P **pP** **08 30 47.8 0.0**
A23A Redstone 70.21 337 ⇑P **P** **08 29 58.3 +0.5**
baz=70,SNR=8.6
F17A Fitzpatrick Pl 70.28 331 ⇓P **P** **08 29 59.6 +1.3**
baz=70,SNR=29
H15A Lima 70.28 329 ⇓P **P** **08 29 59.7 +1.3**
baz=70,SNR=22
G16A Moss Hill, Enn 70.32 330 ⇑P **P** **08 29 59.3 +0.7**
baz=70,SNR=18
HLID Hailey 70.43 328 *e*P **P** **08 30 00.1 +0.8**
comp=Z,87nm,1.2s
HLID *ep*P **pP** **08 30 50.3 +1.1**
HLID *es*P **sP** **08 31 13.8 +1.8**
HLID Hailey 70.43 328 ⇓P **P** **08 30 00.3 +1.0**
baz=71,SNR=29
D19A Cripps Ranch, 70.43 333 ⇓P **P** **08 29 59.7 +0.5**
baz=71,SNR=83
E18A Harlowton 70.43 332 ⇑P **P** **08 29 59.9 +0.7**
baz=71,SNR=43
C20A Veseth Ranch, 70.48 334 ⇓P **P** **08 29 59.4 0.0**
baz=71,SNR=31
I13A Wildhorse Cree 70.52 328 ⇑P **P** **08 30 00.9 +0.9**
baz=71,SNR=38
MCMT McKenzie Canyo 70.53 329 *e*P **P** **08 30 00.5 +0.4**
comp=Z,38nm,1.2s
MCMT *ep*P **pP** **08 30 51.7 +1.7**
BOZ Bozeman (W) 70.54 331 *e*P **P** **08 30 00.2 +0.3**
BOZ *e**PP **pP** **08 30 50.5 +0.6**
BOZ pmax pmax
comp=Z,58nm,1.3s
BOZ Bozeman (W) 70.54 331 *e*P **P** **08 30 00.2 +0.3**
comp=Z,58nm,1.3s
BOZ *ep*P **pP** **08 30 50.5 +0.6**
BOZ Bozeman (W) 70.54 331 ⇓P **P** **08 30 00.6 +0.6**
baz=71,SNR=34
G15A Dillon 70.60 330 ⇓P **P** **08 30 01.2 +0.8**
baz=71,SNR=25
WCN Washoe City 70.60 321 *e*P **P** **08 30 01.8 +1.3**
WCN pmax pmax
comp=Z,214nm,2.5s
WCN Washoe City 70.60 321 *e*P **P** **08 30 01.8 +1.3**
comp=Z,214nm,2.5s
WCN *es*P **sP** **08 31 14.6 +1.4**
B21A Ellsworth Farm 70.63 335 ⇓P **P** **08 30 01.1 +0.9**
baz=71,SNR=28
H14A Leadore 70.64 329 ⇑P **P** **08 30 01.5 +0.9**
baz=71,SNR=31
A22A Carney Farms, 70.64 336 ⇓P **P** **08 30 00.8 +0.5**
baz=71,SNR=36
F16A Kennard Place, 70.64 331 ⇑P **P** **08 30 00.8 +0.3**
baz=71,SNR=12
E17A Martinsdale 70.78 332 ⇑P **P** **08 30 02.2 +0.7**
baz=71,SNR=43
DLMT Dillon 70.80 330 *e*P **P** **08 30 02.1 +0.6**
comp=Z,85nm,1.6s
DLMT *ep*P **pP** **08 30 52.4 +0.9**
D18A Linhart Farms, 70.86 333 ⇓P **P** **08 30 02.5 +0.7**
baz=71,SNR=25
C19A Slack Wire Ran 70.94 334 ⇓P **P** **08 30 02.8 +0.5**
baz=71,SNR=74
I12A Atlanta 70.96 327 ⇓P **P** **08 30 03.3 +0.7**
baz=71,SNR=24
A21A Bergtoll Ranch 71.04 336 ⇑P **P** **08 30 03.0 +0.2**
baz=71,SNR=29
H13A Challis 71.05 328 ⇓P **P** **08 30 03.7 +0.7**
baz=71,SNR=21
B20A Solberg Farm, 71.05 335 ⇑P **P** **08 30 03.3 +0.5**
baz=71,SNR=22
LRM Limekiln Ridge 71.06 330 *e*P **P** **08 30 03.7 +0.5**
comp=Z,208nm,1.1s
LRM *ep*P **pP** **08 30 53.4 +0.2**
LRM *e*PP **PP** **08 32 43.1 -0.9**
MFID Camas Ranch 71.07 327 *e*P **P** **08 30 04.5 +1.3**
MFID *ep*P **pP** **08 30 53.5 +0.3**
MFID *es*P **sP** **08 31 16.9 +1.1**
MFID Camas Ranch 71.07 327 ⇑P **P** **08 30 04.1 +0.9**
baz=71
F15A Butte 71.09 330 ⇓P **P** **08 30 03.8 +0.4**
baz=71,SNR=14
G14A Jackson 71.13 329 ⇓P **P** **08 30 04.4 +0.7**
baz=71,SNR=12
E16A East Helena 71.22 331 ⇓P **P** **08 30 04.8 +0.8**
baz=71
D17A Six Diamond Ra 71.22 332 ⇑P **P** **08 30 04.6 +0.5**
baz=71,SNR=44
H12A Diamond D Ranc 71.34 328 ⇓P **P** **08 30 05.9 +1.0**
baz=72,SNR=28
A20A Cobblestone Ra 71.36 335 ⇑P **P** **08 30 05.0 +0.3**
baz=72,SNR=27
G13A Cobalt 71.41 329 ⇓P **P** **08 30 06.5 +1.3**
baz=72,SNR=50
HRY Holter Researc 71.42 331 *e*P **P** **08 30 06.0 +0.9**
comp=Z,110nm,1.1s
HRY *ep*P **pP** **08 30 56.1 +0.9**
B19A Brinkman Farms 71.45 334 ⇓P **P** **08 30 05.8 +0.6**
baz=72,SNR=10
EGMT Eagleton 71.47 333 *e*P **P** **08 30 05.1 -0.3**
comp=Z,41nm,0.5s
EGMT *ep*P **pP** **08 30 55.5 +0.1**
EGMT Eagleton 71.47 333 ⇓P **P** **08 30 05.9 +0.5**
baz=72,SNR=58
F14A Wisdom 71.50 330 ⇓P **P** **08 30 06.5 +0.8**
baz=72,SNR=18
D16A Dana Ranch, Ca 71.53 332 ⇓P **P** **08 30 06.7 +0.9**
baz=72,SNR=35
E15A Deer Lodge 71.59 331 ⇑P **P** **08 30 07.0 +0.7**
baz=72,SNR=15
C17A Wharram Farm, 71.62 333 ⇑P **P** **08 30 06.5 +0.2**

baz=72,SNR=20
A19A Klindworth Far 71.73 334 ⇓P P 08 30 07.5 +0.6
baz=72,SNR=41
B18A Beardsley Farm 71.76 334 ⇓P P 08 30 07.9 +0.8
baz=72,SNR=69
F13A Darby 71.95 329 ⇓P P 08 30 09.0 +0.6
baz=72,SNR=29
D15A Lincoln 71.98 331 ⇑P P 08 30 09.7 +1.1
baz=72,SNR=28
G12A Big Creek, Yel 71.99 328 ⇓P P 08 30 09.2 +0.5
baz=72,SNR=8.4
E14A Clinton 71.99 330 ⇑P P 08 30 09.2 +0.6
baz=72,SNR=39
B17A L&G Farms, Che 72.13 333 ⇑P P 08 30 09.3 0.0
baz=72,SNR=8.5
C16A Fuhringer Ranc 72.19 332 ⇑P P 08 30 10.3 +0.6
baz=72,SNR=23
A18A Metzger Ranch, 72.19 334 ⇑P P 08 30 09.7 +0.1
baz=72,SNR=31
CHMT Chamberlain Mo 72.23 331 *e*P P 08 30 10.4 +0.2
comp=Z,28nm,1.4s
CHMT *e*pP **pP** 08 31 00.9 +0.7
E13A Victor 72.35 330 ⇓P P 08 30 11.7 +1.0
baz=72,SNR=38
F12A Elk City 72.39 329 ⇓P P 08 30 11.6 +0.6
baz=72,SNR=23
D14A Greenough 72.48 331 ⇓P P 08 30 12.5 +1.0
baz=73,SNR=18
MSO Missoula 72.50 330 *e*P P 08 30 12.3 +0.7
comp=Z,64nm,1.3s
MSO *e*pP **pP** 08 31 03.0 +1.2
MSO Missoula 72.50 330 ⇑P P 08 30 12.5 +0.9
baz=73,SNR=37
C15A Salmond Ranch, 72.56 332 ⇓P P 08 30 12.8 +0.9
baz=73,SNR=23
MOD Modoc 72.56 323 *e*P P 08 30 12.9 +0.8
comp=Z,54nm,0.9s
MOD *e*pP **pP** 08 31 02.6 +0.4
A17A Triple J Farms 72.58 333 ⇑P P 08 30 12.3 +0.4
baz=73,SNR=38
SLMT Seeley Lake 72.59 331 *e*P P 08 30 12.8 +0.6
comp=Z,56nm,1.2s
SLMT *e*pP **pP** 08 31 03.4 +1.1
B16A M & M Farms, S 72.62 333 ⇓P P 08 30 12.5 +0.3
baz=73
BMO Blue Mountains 72.82 327 *e*P P 08 30 13.5 0.0
BMO pmax pmax
comp=Z,24nm,0.6s
BMO Blue Mountains 72.82 327 *e*P P 08 30 13.5 0.0
comp=Z,24nm,0.6s
B15A Bradely Ranch, 72.93 332 ⇓P P 08 30 14.2 +0.1
baz=73,SNR=30
D13A Huson 72.94 330 ⇓P P 08 30 14.9 +0.8
baz=73,SNR=20
A16A West Butte Ran 72.97 333 ⇑P P 08 30 15.2 +0.8
baz=73
E12A Beaver Dam Sad 73.01 329 ⇑P P 08 30 15.3 +0.7
baz=73,SNR=16
SWMT Swartz Lake 73.02 331 *e*P P 08 30 15.0 +0.4
comp=Z,19nm,1.0s
SWMT *e*pP **pP** 08 31 05.4 +0.6
WDC Whiskeytown Da 73.08 321 *e*P P 08 30 14.1 -0.8
WDC *e**PP **pP** 08 31 04.7 -0.5
WDC pmax pmax
comp=Z,11nm,0.8s
WDC Whiskeytown Da 73.08 321 *e*P P 08 30 14.1 -0.8
comp=Z,11nm,0.8s
WDC *e*pP **pP** 08 31 04.7 -0.5
WDC *e*sP **sP** 08 31 27.2 -0.6
C14A Swan Lake 73.08 331 ⇑P P 08 30 15.9 +0.9
baz=73,SNR=27
YBMT Yellow Bay 73.28 331 *e*P P 08 30 16.1 0.0
comp=Z,16nm,0.5s
YBMT *e*pP **pP** 08 31 07.4 +1.0
YBMT *e*sP **sP** 08 31 28.4 -0.7
B14A Marquette Ranc 73.29 332 ⇑P P 08 30 16.6 +0.4
baz=74
JTMT Jette 73.32 331 *e*P P 08 30 16.7 +0.3
comp=Z,7.2nm,0.4s
JTMT *e*PcP **PcP** 08 30 29.2 -2.4
JTMT *e*pP **pP** 08 31 07.2 +0.5
D12A Red Ives Fores 73.34 330 ⇑P P 08 30 17.3 +0.8
baz=74
C13A Hot Springs 73.41 331 ⇑P P 08 30 17.9 +1.1
baz=74,SNR=15
A15A Johnson Ranch, 73.50 332 ⇓P P 08 30 17.5 +0.1
baz=74,SNR=21
BLMT Blacktail Moun 73.55 331 *e*P P 08 30 19.0 +1.2
comp=Z,16nm,0.6s
BSMT Bassoo Peak 73.63 331 *e*P P 08 30 19.3 +1.0
comp=Z,26nm,1.2s
BSMT *e*pP **pP** 08 31 09.2 +0.5
MAIT Maitri 73.78 160 *e*P P 08 30 08.0 -11
A14A Double T Ranch 73.81 332 ⇓P P 08 30 19.4 +0.2
baz=74
NVL N'lazarevskaya 73.82 160 *d i*P P 08 30 21.1 +2.3
NVL pmax pmax
comp=Z,215nm,1.4s
B13A Whitefish 73.86 331 ⇑P P 08 30 20.0 +0.6
baz=74,SNR=17
C12B Naegeli Ranch, 73.86 330 ⇑P P 08 30 20.4 +1.0
baz=74,SNR=12
YBH Yreka Blue Hor 73.87 322 *e*P P 08 30 19.5 -0.2
comp=Z,7.8nm,0.8s
YBH *e*pP **pP** 08 31 09.9 -0.1
KHMM Horse Mountain 73.98 321 *e*P P 08 30 20.3 -0.1
comp=Z,23nm,0.8s
KHMM *e*pP **pP** 08 31 12.0 +1.2
FFC Flin Flon 74.02 342 *e*P P 08 30 18.7 -1.4
FFC *e**PP **pP** 08 31 09.1 -1.3
FFC pmax pmax
comp=Z,8.0nm,0.4s
FFC Flin Flon 74.02 342 *i* P P 08 30 19.5 -0.6
FFC Flin Flon 74.02 342 *e*P P 08 30 18.7 -1.4
comp=Z,8.2nm,0.4s
FFC *e*pP **pP** 08 31 09.1 -1.3
FFC Flin Flon 74.02 342 P P 08 30 19.2 -0.9
comp=Z,112nm,0.4s,SNR=12
WALA Waterton Lakes 74.09 332 *e*P P 08 30 21.1 +0.3
comp=Z,1.5nm,1.1s
WALA *e*pP **pP** 08 31 11.3 +0.1
A13A Flathead Natio 74.23 332 ⇑P P 08 30 22.6 +0.9
baz=74
C11A Tepee Creek (N 74.33 330 ⇑P P 08 30 22.9 +0.7
baz=74
VIPM Ingram Point 74.39 325 P P 08 30 24.4 +1.7
VIPM Ingram Point 74.39 325 P P 08 30 24.4 +1.7
B12A Libby 74.45 331 ⇓P P 08 30 23.8 +1.0
baz=75,SNR=39
TBI Tubuai 74.49 249 *e*S S 08 39 43.7 +2.4
comp=Z,2µm,28.0s
TBI *e*LR LR 08 53 35.3
comp=Z,502nm,40.5s
A12A Yaak River Ran 74.81 331 ⇑P P 08 30 25.6 +0.7
baz=75,SNR=45
REDWA Red Mountain 74.90 327 P P 08 30 26.7 +1.3
H2OWA Water 74.96 327 P P 08 30 27.4 +1.7
HAWA Hanford 75.02 327 *e*P P 08 30 25.9 -0.1
comp=Z,13nm,0.4s
HAWA *e*pP **pP** 08 31 16.1 -0.5
NEW Newport 75.05 330 *e*P P 08 30 26.3 0.0
comp=Z,5.4nm,0.5s
NEW *e*pP **pP** 08 31 16.1 -0.7
NEW Newport 75.05 330 ⇑P P 08 30 26.6 +0.3
baz=75
GBB Gable Butte 75.20 327 P P 08 30 28.5 +1.4
OD2 Odessa Site #2 75.25 328 P P 08 30 28.4 +1.1
TRW Toppenish Ridg 75.48 327 P P 08 30 30.7 +1.9
PPT2 Papeete2 75.61 255 *e*S S 08 39 55.9 +1.9
comp=Z,387nm,26.0s
PPT2 *e*LR LR 08 54 07.9
comp=Z,354nm,27.0s
QSPA South Pole Qui 75.61 180 *e*P P 08 30 29.3 0.0
comp=Z,84nm,1.1s
WTV Waterville 76.08 328 P P 08 30 33.5 +1.4
ETW Entiat 76.22 328 P P 08 30 34.4 +1.4
LON Longmire 76.45 326 *e*P P 08 30 34.9 +0.6
LON *e**PP **pP** 08 31 25.9 +0.9
LON pmax pmax
comp=Z,17nm,1.2s
LON Longmire 76.45 326 *e*P P 08 30 34.9 +0.6
comp=Z,17nm,1.2s
LON *e*pP **pP** 08 31 25.9 +0.9
TORD Torodi Ar. Bea 76.50 72 P P 08 30 33.8 -1.3
comp=Z,30nm,0.6s,baz=263,slow=4.4,SNR=112
TORD pP **pP** 08 31 25.1 -0.7
comp=Z,26nm,0.9s,baz=256,slow=5.3,SNR=2.7
TORD sP **sP** 08 31 47.0 -1.4
comp=Z,41nm,1.0s,baz=260,slow=5.4,SNR=5.0
TORD PKKPbc **PKKPbc** 08 49 47.5 +2.2
comp=Z,0.5nm,0.9s,baz=258,slow=1.1,SNR=3.5
TORD Torodi Ar. Bea 76.50 72 P P 08 30 33.8 -1.3
TORD pP **pP** 08 31 25.1 -0.7
TORD sP **sP** 08 31 47.0 -1.4
TORD PKKPbc **PKKPbc** 08 49 47.5 +2.2
NLW Nelson Butte 76.53 328 P P 08 30 36.3 +1.5
MORF Marmelete 77.60 46 *e*P P 08 30 43.6 +2.8
MORF *e*pP **pP** 08 31 34.2 +2.5
MORF Marmelete 77.60 46 *e*P P 08 30 39.7 -1.1
MORF *e*S S 08 40 12.7 -2.0
PTEO Sao Teotonio 77.66 46 *e*P P 08 30 44.4 +3.3
PTEO *e*pP pP 08 31 35.8 +3.9
PBDV Barranco-do-Ve 78.07 46 *e*P P 08 30 46.3 +2.9
comp=E,67nm,1.6s
PNCL Nicolau / Gran 78.08 45 *e*P P 08 30 45.3 +1.9
comp=Z,35nm,1.4s
MESJ Messejana 78.16 46 *e*P P 08 30 42.6 -1.3
MESJ *e*S S 08 40 19.1 -1.4
MESJ AMS AMS 08 42 19.4
comp=E,390nm,16.3s
MESJ Messejana 78.16 46 *e*P P 08 30 42.6 -1.3
MESJ *e*S S 08 40 19.1 -1.4
MESJ Messejana 78.16 46 *e*P P 08 30 42.5 -1.3
MESJ *e*S S 08 40 19.1 -1.4
PCVE Castro Verde 78.18 46 *e*P P 08 30 46.8 +2.8
PVAQ Vaqueiros 78.30 46 *e*P P 08 30 47.3 +2.7
comp=E,28nm,1.8s
PVAQ *e*SKSac **SKSac** 08 40 32.8 -6.1
PBEJ Beja 78.49 46 *e*P P 08 30 48.3 +2.6
comp=E,28nm,1.7s
PBEJ *e*pP **pP** 08 31 38.1 +1.5
EVOP Sao Brissos 78.56 45 *e*P P 08 30 47.0 +1.0
EVOP *e**PP **pP** 08 31 36.2 -0.7
EVOP pmax pmax
comp=Z,26nm,0.7s
EVOP Sao Brissos 78.56 45 *e*P P 08 30 47.0 +1.0
comp=Z,26nm,0.7s
EVOP *e*pP **pP** 08 31 36.2 -0.7
EVO Evora 78.63 45 *e*P P 08 30 47.0 +0.6
comp=Z,26nm,0.7s
EVO *e*pP **pP** 08 31 36.2 -1.2
EVO *e*R
comp=Z,438nm,21.0s
EVO Evora 78.63 45 *e*P P 08 30 48.7 +2.3
comp=Z,17nm,1.6s
PMTG Montargil 78.75 45 *e*P P 08 30 49.0 +2.0
comp=Z,41nm,2.0s
PMTG *e*pP **pP** 08 31 40.3 +2.3
PTOM Tomar 78.89 44 *e*P P 08 30 49.9 +2.1
comp=Z,46nm,1.4s
PTOM *e*pP **pP** 08 31 40.9 +2.1
PESTR Estremoz 79.08 45 *e*P P 08 30 51.8 +2.9
comp=Z,29nm,1.4s
PBAR Barrancos 79.14 46 *e*P P 08 30 51.4 +2.2
comp=Z,28nm,1.6s
PMRV Marv??o 79.49 45 *e*SKSac **SKSac** 08 40 42.8 -4.5
PCBR Castelo Branco 79.63 44 *e*P P 08 30 54.1 +2.3
comp=Z,24nm,1.9s
PGAV Gavieira, Arco 80.14 42 *e*SKSac **SKSac** 08 40 49.9 -2.0
POLO Lamas de Olo 80.16 43 *e*P P 08 30 56.2 +1.5
comp=Z,16nm,1.6s
PVRL Vila Real 80.16 43 *e*P P 08 30 56.6 +1.9
PVRL *e*pP **pP** 08 31 48.4 +2.6
MVO Moncorvo 80.56 43 *e*P P 08 30 58.3 +1.4
comp=Z,17nm,0.6s
MVO *e*SKSac **SKSac** 08 40 53.3 -1.5
PBRG Braganca 81.06 43 *e*P P 08 31 00.9 +1.5
comp=Z,28nm,2.0s
KOMG Komaggas 81.12 118 ⇑*i*P P 08 31 01.7 +1.6
KOMG AMB AMB 08 31 02.7
comp=Z,80nm,2.1s
PAB San Pablo 81.63 46 *e*P P 08 31 03.8 +1.2
PAB *e**PP **pP** 08 31 54.5 +0.6
PAB pmax pmax
comp=Z,8.0nm,0.6s
PAB San Pablo 81.63 46 *e*P P 08 31 03.8 +1.2
comp=Z,7.6nm,0.6s
PAB *e*pP **pP** 08 31 54.5 +0.6
PAB *e*sP **sP** 08 32 16.8 +0.5
ESDC Sonseca Array 81.95 46 P P 08 31 04.4 +0.2
comp=Z,7.6nm,0.6s,baz=257,slow=5.0,SNR=48
ESDC pP **pP** 08 31 55.1 -0.5
comp=Z,5.2nm,0.8s,baz=255,slow=5.3,SNR=1.7
ESDC Sonseca Array 81.95 46 P P 08 31 04.4 +0.2
ESDC pP **pP** 08 31 55.1 -0.5
ESLA Sonseca Array 81.95 46 *e*P P 08 31 04.4 +0.2
comp=Z,5.2nm,1.0s
ESLA *e*pP **pP** 08 31 55.8 +0.3
ESLA *e*sP **sP** 08 32 19.1 +1.2
SFJD Kangerlussuaq 82.61 8 *i* P P 08 31 06.1 -0.7
comp=Z,5.2nm,0.9s
CVNA Calvinia 82.69 121 ⇑*i*P P 08 31 09.7 +1.3
CVNA AMB AMB 08 31 11.7
comp=Z,214nm,1.8s
TAM Tamanrasset 83.05 64 *e*P P 08 31 10.4 +0.1
TAM *e**PP **pP** 08 32 04.3 +2.5
TAM pmax pmax
comp=Z,9.0nm,0.8s
TAM Tamanrasset 83.05 64 *e*P P 08 31 10.4 +0.1
comp=Z,8.7nm,0.8s
TAM *e*pP **pP** 08 32 04.3 +2.5
SUR Sutherland 83.37 122 *e*P P 08 31 12.9 +1.0
comp=Z,88nm,0.9s
SUR Sutherland 83.37 122 P P 08 31 13.7 +1.8
comp=Z,551nm,0.9s,SNR=12
SUR Sutherland 83.37 122 ⇑*i*P P 08 31 13.3 +1.4
SUR AMB AMB 08 31 15.5
comp=Z,63nm,1.1s
VNDA Vanda 83.42 190 P P 08 31 11.4 +0.3
comp=Z,12nm,0.9s,baz=135,slow=4.4,SNR=14
VNDA Vanda 83.42 190 P P 08 31 11.4 +0.3
comp=Z,11nm,1.1s
TSUM Tsumeb 83.48 108 *e*P P 08 31 13.2 +0.6
comp=Z,154nm,1.4s
TSUM *e*pP **pP** 08 32 04.4 +0.3
TSUM *e*sP **sP** 08 32 28.5 +1.9
TSUM Tsumeb 83.48 108 *e*P P 08 31 13.4 +0.8
SYO Syowa Base 83.49 160 ⇑*e*P P 08 31 10.2 -1.3
SYO Syowa Base 83.49 160 ⇑*e*PcP **PcP** 08 31 15.2 -0.1
YKA Yellowknife Ar 84.18 341 P P 08 31 13.9 -1.0
comp=Z,26nm,0.4s,baz=132,slow=5.3,SNR=60
YKA pP **pP** 08 32 05.8 -0.8
comp=Z,8.5nm,0.7s,baz=136,slow=5.4,SNR=3.2
YKA PKKPbc **PKKPbc** 08 49 28.0 -2.6
comp=Z,0.3nm,0.5s,baz=321,slow=3.6,SNR=12
YKA Yellowknife Ar 84.18 341 P P 08 31 13.9 -1.0
YKA pP **pP** 08 32 05.8 -0.8
YKA PKKPbc **PKKPbc** 08 49 28.0 -2.6
YKW3 Yellowknife Ar 84.23 341 *e*P P 08 31 14.4 -0.8
comp=Z,0.6nm,0.5s
YKW3 *e*pP **pP** 08 32 06.1 -0.7
UPI Upington 84.66 118 ⇑*i*P P 08 31 19.3 +0.9
UPI AMB AMB 08 31 21.4
comp=Z,201nm,1.1s
ETSF Etsaut 85.65 44 *e*P P 08 31 23.6 +0.8
comp=Z,12nm,0.7s
ETSF Etsaut 85.65 44 *e*P P 08 31 23.6 +0.8
ETSF pmax pmax
comp=Z,12nm,0.7s
ETSF Etsaut 85.65 44 *e*P P 08 31 23.6 +0.8
comp=Z,12nm,0.7s
QUIF Quistinic 86.14 38 *e*P P 08 31 24.2 -0.8
comp=Z,10nm,0.7s
QUIF Quistinic 86.14 38 *e*P P 08 31 24.2 -0.8
QUIF pmax pmax
comp=Z,10.0nm,0.7s
QUIF Quistinic 86.14 38 *e*P P 08 31 24.2 -0.8
comp=Z,10nm,0.7s
ROSF Rostrenen 86.26 38 *e*P P 08 31 25.3 -0.3
ROSF Rostrenen 86.26 38 *e*P P 08 31 25.3 -0.3
ROSF Rostrenen 86.26 38 *e*P P 08 31 25.3 -0.3
EPF Esparros 86.31 44 *e*P P 08 31 26.1 +0.1
comp=Z,7.4nm,0.5s
EPF Esparros 86.31 44 *e*P P 08 31 26.1 +0.1
EPF pmax pmax
comp=Z,7.0nm,0.5s
EPF Esparros 86.31 44 *e*P P 08 31 26.1 +0.1
comp=Z,7.4nm,0.5s
SOE Somerset East 87.18 123 *e*P P 08 31 31.0 +0.4
SOE AMB AMB 08 31 31.4
comp=Z,56nm,3.8s
LFF La Frestale 87.33 42 *e*P P 08 31 30.3 -0.5
comp=Z,20nm,0.6s
LFF La Frestale 87.33 42 *e*P P 08 31 30.3 -0.5
LFF pmax pmax
comp=Z,20nm,0.6s
LFF La Frestale 87.33 42 *e*P P 08 31 30.3 -0.5
comp=Z,20nm,0.6s
MFF Saint Martin d 87.44 41 *e*P P 08 31 30.5 -0.8
comp=Z,10.0nm,0.6s
MFF Saint Martin d 87.44 41 *e*P P 08 31 30.5 -0.8
MFF pmax pmax
comp=Z,10.0nm,0.6s
MFF Saint Martin d 87.44 41 *e*P P 08 31 30.5 -0.8
comp=Z,10.0nm,0.6s
HVD Gariep Dam 87.68 121 *e*P P 08 31 33.9 +0.8
HVD AMB AMB 08 31 34.9
comp=Z,67nm,2.1s
MTLF Montolieu 87.69 44 *e*P P 08 31 32.0 -0.6
comp=Z,9.8nm,0.8s
MTLF Montolieu 87.69 44 *e*P P 08 31 32.0 -0.6
MTLF pmax pmax
comp=Z,10.0nm,0.8s
MTLF Montolieu 87.69 44 *e*P P 08 31 32.0 -0.6
comp=Z,9.8nm,0.8s
GRR Gorron 87.74 39 *e*P P 08 31 31.6 -1.1
comp=Z,19nm,0.8s
GRR Gorron 87.74 39 *e*P P 08 31 31.6 -1.1
GRR pmax pmax
comp=Z,19nm,0.8s
GRR Gorron 87.74 39 *e*P P 08 31 31.6 -1.1
comp=Z,19nm,0.8s
GRM Grahamstown 87.78 124 *e*P P 08 31 33.2 -0.2
RJF Les Rejaudoux 87.98 42 *e*P P 08 31 33.1 -0.8
comp=Z,13nm,0.8s
RJF *e*R
comp=Z,261nm,23.0s
RJF Les Rejaudoux 87.98 42 *e*P P 08 31 33.1 -0.8
RJF pmax pmax
comp=Z,13nm,0.8s
RJF Les Rejaudoux 87.98 42 *e*P P 08 31 33.1 -0.8
comp=Z,13nm,0.8s
BOSA Boshof 88.01 119 P P 08 31 34.5 -0.2
comp=Z,18nm,0.5s,baz=254,slow=4.7,SNR=75
BOSA Boshof 88.01 119 P P 08 31 34.5 -0.2
comp=Z,14nm,0.6s
BOSA Boshof 88.01 119 *e*P P 08 31 34.3 -0.4
BOSA AMB AMB 08 31 36.0
comp=Z,60nm,1.9s
FLN La Foliniere 88.12 38 *e*P P 08 31 33.6 -0.9
comp=Z,13nm,0.8s
FLN *e*R
comp=Z,174nm,19.5s
FLN La Foliniere 88.12 38 *e*P P 08 31 33.6 -0.9
FLN pmax pmax
comp=Z,13nm,0.8s
FLN La Foliniere 88.12 38 *e*P P 08 31 33.6 -0.9
comp=Z,13nm,0.8s
CAF Calviac 88.19 43 *e*P P 08 31 34.4 -0.6
comp=Z,8.4nm,0.5s
CAF Calviac 88.19 43 *e*P P 08 31 34.4 -0.6
CAF pmax pmax
comp=Z,8.0nm,0.5s
CAF Calviac 88.19 43 *e*P P 08 31 34.4 -0.6
comp=Z,8.4nm,0.5s
LDF La Druitiere 88.27 39 *e*P P 08 31 34.2 -1.0
comp=Z,13nm,0.8s
LDF La Druitiere 88.27 39 *e*P P 08 31 34.2 -1.0
LDF pmax pmax
comp=Z,13nm,0.8s
LDF La Druitiere 88.27 39 *e*P P 08 31 34.2 -1.0
comp=Z,13nm,0.8s
SWZ Schweizer 88.45 118 ⇑*i*P P 08 31 36.5 -0.3
SWZ AMB AMB 08 31 39.0
comp=Z,66nm,2.3s
TCF Toulx Ste Croi 88.81 41 *e*P P 08 31 36.8 -1.0
comp=Z,6.3nm,0.6s
TCF Toulx Ste Croi 88.81 41 *e*P P 08 31 36.8 -1.0
TCF pmax pmax
comp=Z,6.0nm,0.6s
TCF Toulx Ste Croi 88.81 41 *e*P P 08 31 36.8 -1.0
comp=Z,6.3nm,0.6s
LASF Ste Croix 89.07 44 *e*P P 08 31 38.5 -0.6
comp=Z,12nm,0.9s
LASF Ste Croix 89.07 44 *e*P P 08 31 38.5 -0.6
comp=Z,12nm,0.9s
LBTB Lobatse 89.26 116 *e*P P 08 31 40.8 +0.2
comp=Z,34nm,0.6s
LBTB Lobatse 89.26 116 ⇑*i*P P 08 31 41.1 +0.5
LBTB AMB AMB 08 31 43.1
comp=Z,67nm,1.9s
BGF Bois d'Agland 89.32 41 *e*P P 08 31 40.0 -0.2
comp=Z,29nm,0.7s
BGF Bois d'Agland 89.32 41 *e*P P 08 31 40.0 -0.2
BGF pmax pmax
comp=Z,29nm,0.7s
BGF Bois d'Agland 89.32 41 *e*P P 08 31 40.0 -0.2
comp=Z,29nm,0.7s
SUMG Summit 89.45 9 *i* P P 08 31 40.7 0.0
comp=Z,14nm,0.9s
SUMG Summit 89.45 9 *i* P pP 08 32 32.7 -0.2
comp=Z,34nm,1.0s
AVF Avril sur Loir 89.73 41 *e*P P 08 31 40.9 -1.1
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 89.73 41 *e*P P 08 31 40.9 -1.1
AVF pmax pmax
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 89.73 41 *e*P P 08 31 40.9 -1.1
comp=Z,10.0nm,0.8s
VIVF Saint-Julien-l 89.89 43 *e*P P 08 31 42.9 0.0
comp=Z,8.9nm,0.9s
VIVF Saint-Julien-l 89.89 43 *e*P P 08 31 42.9 0.0
VIVF pmax pmax
comp=Z,9.0nm,0.9s
VIVF Saint-Julien-l 89.89 43 *e*P P 08 31 42.9 0.0
comp=Z,8.9nm,0.9s
SSF Saint Saulge 89.92 41 *e*P P 08 31 41.6 -1.4
comp=Z,7.1nm,0.8s
SSF Saint Saulge 89.92 41 *e*P P 08 31 41.6 -1.4
SSF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 89.92 41 *e*P P 08 31 41.6 -1.4
comp=Z,7.1nm,0.8s
SMF Signal de Mont 89.99 42 *e*P P 08 31 42.4 -0.9
comp=Z,13nm,0.6s
SMF *e*pP **pP** 08 32 33.9 -1.6
SMF Signal de Mont 89.99 42 *e*P P 08 31 42.4 -0.9
SMF *e**PP **pP** 08 32 33.9 -1.6
SMF pmax pmax
comp=Z,13nm,0.6s
SMF Signal de Mont 89.99 42 *e*P P 08 31 42.4 -0.9
comp=Z,13nm,0.6s
SMF *e*pP **pP** 08 32 33.9 -1.6
SMRF Simiane la Rot 90.19 44 *e*P P 08 31 44.4 0.0
SMRF Simiane la Rot 90.19 44 *e*P P 08 31 44.4 0.0
LOR Lormes 90.22 41 *e*P P 08 31 43.1 -1.3
comp=Z,6.0nm,0.7s
LOR *e*R
comp=Z,182nm,21.0s
LOR Lormes 90.22 41 *e*P P 08 31 43.1 -1.3
comp=Z,6.0nm,0.6s
PRYS Parys 90.26 118 *e*P P 08 31 45.4 +0.1
PRYS AMB AMB 08 31 47.6
comp=Z,66nm,1.2s
SKAG Skagway 90.28 332 *e*P P 08 31 45.5 +1.2
comp=Z,15nm,0.5s
KEST Kesra 90.28 53 P P 08 31 46.0 +0.9
comp=Z,1.0nm,0.6s,baz=203,slow=1.4,SNR=4.8
KEST Kesra 90.28 53 P P 08 31 46.0 +0.9
RES Resolute Bay 90.36 354 *e*P P 08 31 43.9 -0.5
comp=Z,9.7nm,0.7s
RES *e*PP **PP** 08 35 20.9 -1.1
LMR La Mourre 90.61 45 *e*P P 08 31 46.0 -0.3
comp=Z,38nm,1.3s
LMR La Mourre 90.61 45 *e*P P 08 31 46.0 -0.3
LMR pmax pmax
comp=Z,38nm,1.3s
LMR La Mourre 90.61 45 *e*P P 08 31 46.0 -0.3
comp=Z,38nm,1.3s
KLOF Kloof 90.64 117 *e*P P 08 31 48.1 +1.0
KLOF AMB AMB 08 31 49.6
comp=Z,55nm,1.2s
ORIF Oris-en-Rattie 90.72 44 *e*P P 08 31 47.0 +0.2
comp=Z,12nm,0.5s
ORIF *e*pP **pP** 08 32 38.4 -0.7
ORIF *e*R
comp=Z,391nm,22.2s
ORIF Oris-en-Rattie 90.72 44 *e*P P 08 31 47.0 +0.2

ORIF e*PP pP 08 32 38.4 -0.7
ORIF pmax pmax
comp=Z,12nm,0.5s
ORIF Oris-en-Rattie 90.72 44 eP P 08 31 47.0 +0.2
comp=Z,12nm,0.5s
ORIF epP pP 08 32 38.4 -0.7
FRF La Foret Royal 90.78 45 eP P 08 31 46.7 -0.4
FRF La Foret Royal 90.78 45 eP P 08 31 46.7 -0.4
FRF La Foret Royal 90.78 45 eP P 08 31 46.7 -0.4
ERPM east rand prop 91.18 117 eP P 08 31 50.7 +1.1
ERPM AMB AMB 08 31 51.3
comp=Z,44nm,1.9s
MBDF Montbardon 91.25 44 eP P 08 31 49.3 -0.1
MBDF epP pP 08 32 40.8 -0.9
MBDF Montbardon 91.25 44 eP P 08 31 49.3 -0.1
MBDF e*PP pP 08 32 40.8 -0.9
MBDF Montbardon 91.25 44 eP P 08 31 49.3 -0.1
MBDF epP pP 08 32 40.8 -0.9
SFTF Sexfontaines 91.30 40 eP P 08 31 48.4 -1.0
SFTF epP pP 08 32 39.8 -1.8
SFTF Sexfontaines 91.30 40 eP P 08 31 48.4 -1.0
SFTF epP pP 08 32 39.8 -1.8
SLR Silverton 91.39 117 eP P 08 31 50.9 +0.3
SLR AMB AMB 08 31 52.1
comp=Z,53nm,1.9s
MEZF Maizieres J'vi 91.41 40 eP P 08 31 48.9 -0.9
comp=Z,5.7nm,0.6s
MEZF epP pP 08 32 40.6 -1.5
MEZF Maizieres J'vi 91.41 40 eP P 08 31 48.9 -0.9
comp=Z,5.7nm,0.6s
MEZF epP pP 08 32 40.6 -1.5
SBF Sospel 91.42 45 eP P 08 31 48.6 -1.5
comp=Z,25nm,1.0s
SBF Sospel 91.42 45 eP P 08 31 48.6 -1.5
SBF pmax pmax
comp=Z,25nm,1.0s
SBF Sospel 91.42 45 eP P 08 31 48.6 -1.5
comp=Z,25nm,1.0s
CABF La Chapelle 91.43 42 eP P 08 31 49.8 -0.3
comp=Z,3.6nm,0.5s
CABF La Chapelle 91.43 42 eP P 08 31 49.8 -0.3
CABF pmax pmax
comp=Z,4.0nm,0.5s
CABF La Chapelle 91.43 42 eP P 08 31 49.8 -0.3
comp=Z,3.6nm,0.5s
LPL La Plagne 91.49 43 eP P 08 31 50.7 +0.1
comp=Z,7.6nm,0.6s
LPL La Plagne 91.49 43 eP P 08 31 50.7 +0.1
LPL pmax pmax
comp=Z,8.0nm,0.6s
LPL La Plagne 91.49 43 eP P 08 31 50.7 +0.1
comp=Z,7.6nm,0.6s
LPG La Plagne 91.49 43 eP P 08 31 50.9 +0.2
comp=Z,7.1nm,0.6s
LPG epP pP 08 32 42.3 -0.6
LPG La Plagne 91.49 43 eP P 08 31 50.9 +0.2
LPG e*PP pP 08 32 42.3 -0.6
LPG pmax pmax
comp=Z,7.0nm,0.6s
LPG La Plagne 91.49 43 eP P 08 31 50.9 +0.2
comp=Z,7.1nm,0.6s
LPG epP pP 08 32 42.3 -0.6
GIVF Givet 91.83 39 eP P 08 31 50.9 -0.8
GIVF Givet 91.83 39 eP P 08 31 50.9 -0.8
GIVF Givet 91.83 39 eP P 08 31 50.9 -0.8
PAGF Fort de Pagny 91.85 40 eP P 08 31 51.4 -0.5
PAGF Fort de Pagny 91.85 40 eP P 08 31 51.4 -0.5
HINF Hinteralfeld 92.32 41 eP P 08 31 53.0 -1.1
comp=Z,3.3nm,0.5s
HINF Hinteralfeld 92.32 41 eP P 08 31 53.0 -1.1
HINF pmax pmax
comp=Z,3.0nm,0.5s
HINF Hinteralfeld 92.32 41 eP P 08 31 53.0 -1.1
comp=Z,3.3nm,0.5s
CDF Champ du Feu 92.78 41 eP P 08 31 55.2 -1.1
CDF Champ du Feu 92.78 41 eP P 08 31 55.2 -1.1
CDF Champ du Feu 92.78 41 eP P 08 31 55.2 -1.1
MSNA Messina 93.90 114 eP P 08 32 03.4 +1.3
MSNA AMB AMB 08 32 05.4
comp=Z,53nm,1.1s
DAWY Dawson 94.09 336 eP P 08 32 01.4 -0.5
LSZ Lusaka 94.27 107 eP P 08 32 04.5 +0.6
comp=Z,26nm,1.3s
LSZ Lusaka 94.27 107 eP P 08 32 06.4 +2.5
EGAK Eagle 95.08 336 eP P 08 32 06.1 -0.3
comp=Z,6.8nm,1.0s
EGAK epP pP 08 33 00.0 +1.3
BMRM Bremner River 95.11 332 eP P 08 32 06.6 0.0
comp=Z,6.2nm,0.8s
GRF Grafenberg Arr 95.64 40 eP P 08 32 08.9 -0.3
GRF pmax pmax
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 95.64 40 eP P 08 32 08.9 -0.3
comp=Z,3.0nm,0.8s
DOT Dot Lake 95.83 335 eP P 08 32 09.3 -0.5
comp=Z,3.2nm,0.7s
DOT epP pP 08 33 01.8 -0.5
DRV Dumont d'Urvil 95.96 192 P P 08 32 23.0 +13
DRV Dumont d'Urvil 95.96 192 S S 08 43 50.0 +40
DRV SS SS 08 48 52.0 -52
GERES GERESS Array B 96.99 41 P P 08 32 15.2 -0.3
comp=Z,1.3nm,0.8s,baz=251,slow=2.8,SNR=11
GERES pP pP 08 33 07.0 -0.9
comp=Z,1.5nm,0.8s,baz=284,slow=5.4,SNR=5.4
GERES GERESS Array B 96.99 41 P P 08 32 15.2 -0.3
GERES pP pP 08 33 07.0 -0.9
SML Sawmill 97.09 332 eP P 08 32 14.9 -0.6
SML pmax pmax
comp=Z,5.0nm,0.6s
SML Sawmill 97.09 332 eP P 08 32 14.9 -0.6
comp=Z,4.9nm,0.6s
ILAR Eielson Array 97.38 335 P P 08 32 16.4 -0.4
comp=Z,2.1nm,0.6s,baz=148,slow=3.7,SNR=48
ILAR pP pP 08 33 08.2 -0.9
comp=Z,1.2nm,1.0s,baz=126,slow=3.7,SNR=3.2
ILAR PP PP 08 36 14.4 -2.3
comp=Z,4.1nm,1.1s,baz=110,slow=6.9,SNR=8.9
ILAR Eielson Array 97.38 335 P P 08 32 16.4 -0.4
ILAR pP pP 08 33 08.2 -0.9
ILAR PP PP 08 36 14.4 -2.3
COLA College 97.80 335 eP P 08 32 18.1 -0.5
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 97.80 335 eP P 08 32 18.1 -0.5
comp=Z,12nm,0.8s
TRF Thorofare Moun 98.42 333 eP P 08 32 20.8 -0.9
comp=Z,9.1nm,0.5s
COLD Coldfoot 99.38 337 ePdif Pdif 08 32 24.9 -0.7
VYHS Vyhne 100.24 43 eP Pdif 08 32 30.7 +0.8
VYHS pmax pmax
comp=Z,1.0nm,1.2s
VYHS Vyhne 100.24 43 PDIF Pdif 08 32 30.7 +0.8
ARCES ARCESS Array B 105.59 21 Pdiff Pdif 08 32 56.3 +3.1
comp=Z,3.1nm,1.0s,baz=256,slow=2.5,SNR=3.7
ARCES PKKPbc **PKKPbc** 08 48 31.0 -2.1
comp=Z,8.3nm,1.1s,baz=96,slow=4.3,SNR=15
ARCES ARCESS Array B 105.59 21 Pdif Pdif 08 32 56.3 +3.1
ARCES PKKPbc **PKKPbc** 08 48 31.0 -2.1
FINES FINESS Array B 105.75 30 PKiKP **PKiKP** 08 37 07.5 +1.8
comp=Z,0.5nm,0.6s,baz=192,slow=3.5,SNR=3.9
FINES PKKPbc **PKKPbc** 08 48 30.4 -1.9
comp=Z,1.1nm,0.4s,baz=95,slow=4.2,SNR=21
FINES FINESS Array B 105.75 30 PKiKP **PKiKP** 08 37 07.5 +1.8
FINES PKKPbc **PKKPbc** 08 48 30.4 -1.9
AKASG Malin Array Be 107.20 41 PKiKP **PKiKP** 08 37 08.5 -0.2
comp=Z,1.0nm,0.4s,baz=273,slow=2.7,SNR=6.9
AKASG Malin Array Be 107.20 41 PKiKP **PKiKP** 08 37 08.5 -0.2
JOF Joensuu 108.17 28 ep 08 48 22.2
BRTR Keskin Array B 109.89 53 PKiKP **PKiKP** 08 37 14.7 +0.4
comp=Z,0.4nm,0.5s,baz=152,slow=8.3,SNR=4.4
BRTR Keskin Array B 109.89 53 PKiKP **PKiKP** 08 37 14.7 +0.4
DZM Mont Dzumac 113.45 238 eLR LR 09 11 38.7
comp=Z,256nm,25.1s
KBZ Khabaz 116.72 48 PKIKP **PKPdf** 08 37 28.0 +1.0
comp=Z,3.0nm,0.5s,baz=168,slow=2.9,SNR=18
KBZ Khabaz 116.72 48 PKiKP **PKPdf** 08 37 28.0 +1.0
KBZ Khabaz 116.72 48 PKP **PKPdf** 08 37 28.0 +1.0
GNI Garni 118.41 52 PKP **PKPdf** 08 37 31.9 +1.2
comp=Z,5.6nm,0.4s,baz=188,slow=2.9,SNR=4.6
GNI Garni 118.41 52 PKP **PKPdf** 08 37 31.9 +1.2
SEY Seymchan 123.16 338 ⇑*i*PKIKP **PKPdf** 08 37 40.4 +1.6
STKA Stephens Creek 124.58 213 PKP **PKPdf** 08 37 43.2 +0.6
comp=Z,6.4nm,0.4s,baz=102,slow=4.6,SNR=13
STKA SKP 08 41 00.6
comp=Z,4.0nm,0.7s,baz=138,slow=5.9,SNR=6.2

STKA Stephens Creek 124.58 213 PKP **PKPdf** 08 37 43.2 +0.6
STKA SKP 08 41 00.6
AKTO Aktyubinsk 125.22 38 PKP **PKPdf** 08 37 44.4 +1.2
comp=Z,4.0nm,0.6s,baz=144,slow=8.0,SNR=17
AKTO Aktyubinsk 125.22 38 PKIKP **PKPdf** 08 37 44.4 +1.2
AKTO Aktyubinsk 125.22 38 PKP **PKPdf** 08 37 44.4 +1.2
PETK Petropavlovsk- 126.08 326 PKP **PKPdf** 08 37 45.3 +0.6
comp=Z,9.1nm,0.8s,baz=98,slow=4.5,SNR=5.7
PETK Petropavlovsk- 126.08 326 PKIKP **PKPdf** 08 37 45.3 +0.6
PETK Petropavlovsk- 126.08 326 PKP **PKPdf** 08 37 45.3 +0.6
ABKAR Akbulak array 126.82 39 ePKPdf **PKPdf** 08 37 46.4 +0.2
BSY Bisya 129.90 72 P SKPab 08 40 58.5 +3.0
SNR=6.2
CTA Charters Tower 130.16 227 PKP **PKPdf** 08 37 54.9 +1.3
comp=Z,9.7nm,1.0s,baz=173,slow=6.3,SNR=5.0
CTA SKPbc **SKPab** 08 40 56.9 +0.3
comp=Z,7.8nm,1.0s,baz=154,slow=3.4,SNR=3.4
CTA Charters Tower 130.16 227 PKP **PKPdf** 08 37 54.9 +1.3
CTA SKPbc **SKPab** 08 40 56.9 +0.3
YAK Yakutsk 130.45 348 ePKIKP **PKPdf** 08 37 52.2 -0.6
YAK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 130.63 30 P **SKPab** 08 40 58.5 +1.0
SNR=14
SMDO Samad 130.69 72 P **SKPab** 08 40 59.3 +0.5
SNR=8.5
BVAR Borovoye Array 130.70 30 PKP **PKPdf** 08 37 55.1 +1.5
comp=Z,1.8nm,0.6s,baz=290,slow=3.2,SNR=13
BVAR SKPbc **SKPab** 08 40 57.5 -0.2
comp=Z,8.3nm,0.6s,baz=286,slow=3.5,SNR=31
BVAR Borovoye Array 130.70 30 PKIKP **PKPdf** 08 37 55.1 +1.5
BVAR Borovoye Array 130.70 30 PKP **PKPdf** 08 37 55.1 +1.5
BVAR SKPbc **SKPab** 08 40 57.5 -0.2
JMDO Jabal Madar 130.74 73 P **SKPbc** 08 40 59.4 +0.8
SNR=9.1
WSAR Wadi Sarin 131.22 72 PKP **PKPdf** 08 37 56.6 +1.1
comp=Z,7.2nm,0.5s,baz=247,slow=3.2,SNR=9.7
WSAR SKPbc **SKPab** 08 41 00.9 0.0
comp=Z,23nm,0.8s,baz=244,slow=2.5,SNR=18
WSAR Wadi Sarin 131.22 72 PKP **PKPdf** 08 37 56.6 +1.1
WSAR SKPbc **SKPab** 08 41 00.9 0.0
WBK Wadi Bani Khal 131.54 73 P **SKPbc** 08 41 02.8 +1.2
SNR=10
NWAO Narrogin (SRO) 132.24 189 SKPbc **SKPab** 08 41 08.1 +3.1
comp=Z,22nm,1.1s,baz=128,slow=2.2,SNR=3.9
NWAO Narrogin (SRO) 132.24 189 SKPbc **SKPab** 08 41 08.1 +3.1
NVS Novosibirsk 134.87 21 PKIKP **PKPdf** 08 38 01.3 0.0
NVS *e* 08 38 55.8
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS pmax pmax
comp=Z,6.0nm,0.5s
AS31 Alice Springs 135.20 212 ePKPdf **PKPdf** 08 38 03.4 +0.3
ASAR Alice Springs 135.20 212 PKhKP PKPpre 08 37 46.5
comp=Z,0.4nm,0.4s,baz=134,slow=3.7,SNR=14
ASAR PKP **PKPdf** 08 38 03.3 +0.2
comp=Z,5.1nm,0.5s,baz=134,slow=1.5,SNR=36
ASAR pPKP pPKPdf 08 38 57.2 -0.7
comp=Z,1.9nm,0.8s,baz=132,slow=1.4,SNR=1.3
ASAR SKPbc **SKPbc** 08 41 14.9 +1.0
baz=143,slow=3.8,SNR=5.1
ASAR Alice Springs 135.20 212 PKP **PKPdf** 08 38 03.3 +0.2
ASAR pPKP **pPKPdf** 08 38 57.2 -0.7
ASAR SKPbc **SKPbc** 08 41 14.9 +1.0
PMG Port Moresby 135.79 240 SKPbc **SKPbc** 08 41 17.9 +2.0
comp=Z,20nm,1.0s,baz=265,slow=3.0,SNR=4.4
PMG Port Moresby 135.79 240 SKPbc **SKPbc** 08 41 17.9 +2.0
KKAR Karatay Array 136.09 42 ePKIKP **PKPdf** 08 38 03.3 -0.7
KKAR Karatay Array 136.09 42 ePKPdf **PKPdf** 08 38 03.3 -0.7
KURK Kurchatov 136.09 28*c* *i*PKIKP **PKPdf** 08 38 05.6 +1.9
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 136.09 28 ePKPdf **PKPdf** 08 38 03.0 -0.7
KURK PKP **PKiKP** 08 38 04.4 -1.0
KURK SKPbc **SKPbc** 08 41 16.2 +0.6
KURK Kurchatov 136.09 28 P **SKPbc** 08 41 16.7 +1.1
SNR=7.1
KURBB Kurchatov Arra 136.12 28 PKP **PKPdf** 08 38 04.4 +0.6
comp=Z,3.4nm,0.4s,baz=308,slow=2.7,SNR=12
KURBB SKPbc **SKPbc** 08 41 16.2 +0.5
comp=Z,6.3nm,0.8s,baz=311,slow=3.8,SNR=21
ZAA0 Zalesovo Array 136.14 21 ePKPdf **PKPdf** 08 38 03.9 +0.2
ZALV Zalesovo Beam 136.14 21 PKhKP PKPpre 08 37 55.8
comp=Z,1.6nm,0.4s,baz=304,slow=2.0,SNR=9.3
ZALV PKP **PKPdf** 08 38 04.2 +0.5
comp=Z,17nm,0.4s,baz=299,slow=2.1,SNR=51
ZALV SKPbc **SKPbc** 08 41 16.9 +1.3
comp=Z,11nm,0.9s,baz=319,slow=4.3,SNR=11
ZALV Zalesovo Beam 136.14 21 PKHKP PKPpre 08 37 55.8
ZALV 08 38 04.2
ZALV Zalesovo Beam 136.14 21 PKPpre PKPpre 08 37 55.8
ZALV PKP **PKPdf** 08 38 04.2 +0.5
ZALV SKPbc **SKPbc** 08 41 16.9 +1.3
COEN Coen 136.34 231 ePKPdf **PKPdf** 08 38 06.0 +0.7
BOD Bodaibo 136.68 357 ePKHKP PKPpre 08 37 52.3
BOD pmax pmax
comp=Z,6.0nm,1.4s
WRA Warramunga Arr 137.96 216 PKhKP PKPpre 08 37 56.3
comp=Z,1.5nm,0.4s,baz=143,slow=3.1,SNR=46
WRA PKP **PKPdf** 08 38 08.5 +0.3
comp=Z,12nm,0.4s,baz=144,slow=1.8,SNR=46
WRA SKPbc **SKPbc** 08 41 23.6 +1.4
comp=Z,29nm,0.8s,baz=138,slow=2.6,SNR=37
WRA Warramunga Arr 137.96 216 PKP **PKPdf** 08 38 08.5 +0.3
WRA SKPbc **SKPbc** 08 41 23.6 +1.4
WRAB Tennant Creek 137.97 216 ePKIKP **PKPdf** 08 38 08.0 -0.2
WRAB Tennant Creek 137.97 216 ePKPdf **PKPdf** 08 38 08.0 -0.2
EKS2 Erkin-Say 138.39 41 ePKIKP **PKPdf** 08 38 10.3 +1.8
EKS2 Erkin-Say 138.39 41 ePKPdf **PKPdf** 08 38 10.3 +1.8
EKS2 Erkin-Say 138.39 41 P **SKPbc** 08 41 24.9 +2.1
SNR=14
USP Ospenovka 138.52 39 P **SKPbc** 08 41 25.3 +2.3
SNR=9.1
AML Almayashu 138.62 41 P **SKPbc** 08 41 26.5 +2.6
SNR=10
CHMS Chumysh 138.82 40 P **SKPbc** 08 41 26.5 +2.5
SNR=6.1
AAK Ala-Archa 138.86 40 PKP **PKPdf** 08 38 10.9 +1.6
comp=Z,2.2nm,0.5s,baz=168,slow=2.8,SNR=7.5
AAK SKPbc **SKPbc** 08 41 25.6 +1.4
comp=Z,18nm,0.8s,baz=194,slow=2.0,SNR=26
AAK Ala-Archa 138.86 40 ePKIKP **PKPdf** 08 38 09.4 +0.1
AAK Ala-Archa 138.86 40 ePKPdf **PKPdf** 08 38 09.4 +0.1
AAK PKP **PKPdf** 08 38 10.9 +1.6
AAK SKPbc **SKPbc** 08 41 25.6 +1.4
AAK Ala-Archa 138.86 40 P **SKPbc** 08 41 26.7 +2.5
SNR=16
AAK Ala-Archa 138.86 40 P **SKPbc** 08 41 27.0 +2.8
SNR=19
KBK Karagaybulak 139.13 40 P **SKPbc** 08 41 27.6 +2.7
SNR=5.9
TKM2 Tokmak 2 139.38 39 ePKIKP **PKPdf** 08 38 11.2 +0.8
TKM2 Tokmak 2 139.38 39 ePKPdf **PKPdf** 08 38 11.2 +0.8
TKM2 Tokmak 2 139.38 39 P **SKPbc** 08 41 27.9 +2.2
SNR=7.1
KZA Kyzart 139.63 40 P **SKPbc** 08 41 29.7 +3.1
SNR=7.9
ULHL Ulahol 140.16 40 P **SKPbc** 08 41 30.7 +2.9
SNR=20
HABR Khabarovsk 140.18 333 ePKIKP **PKPdf** 08 38 10.5 -0.8
HABR *e* 08 44 59.4
HABR *e*SS SS 08 59 16.0 +0.3
HABR *e*SSS SSS 09 04 32.1
HABR pmax pmax
comp=Z,32nm,1.6s
HABR pmax pmax
comp=E,22nm,1.6s
HABR pmax pmax
comp=N,12nm,0.9s
HABR MLR MLR
comp=Z,81nm,19.0s
MK31 Makanchi Array 140.58 30 ePKHKP PKPpre 08 38 05.8
MK31 Makanchi Array 140.58 30 ePKPdf PKPpre 08 38 05.8
MK31 *e* 08 41 28.9
MKAR Makanchi Array 140.58 30 PKhKP PKPpre 08 38 04.3
comp=Z,1.3nm,0.4s,baz=336,slow=3.0,SNR=46
MKAR PKP **PKPdf** 08 38 12.7 +0.5
comp=Z,2.4nm,0.5s,baz=296,slow=2.5,SNR=21
MKAR pPKP pPKPdf 08 39 03.9 -3.2
comp=Z,0.8nm,0.7s,baz=298,slow=3.1,SNR=1.1
MKAR SKPbc **SKPbc** 08 41 28.4 -0.1
comp=Z,8.0nm,0.8s,baz=318,slow=1.6,SNR=18
MKAR Makanchi Array 140.58 30 PKHKP PKPpre 08 38 04.3

MKAR 08 38 12.7
MKAR 08 39 03.9
MKAR Makanchi Array 140.58 30 PKPpre PKPpre 08 38 04.3
MKAR PKP **PKPdf** **08 38 12.7 +0.5**
MKAR pPKP pPKPdf 08 39 03.9 -3.2
MKAR SKPbc **SKPbc** **08 41 28.4 -0.1**
KLR Kul'dur 140.93 337 ePKHKP PKPpre 08 38 03.2
HVS Khovu-Aksy 141.31 16 ⇑*i*PKIKP **PKPdf** **08 38 14.8 +1.4**
KSH Kashi 141.44 43 ePKP **PKPdf** **08 38 12.1 -2.0**
KSH *es*PKP 08 39 33.8
KSH PKS **PKSdf** **08 41 45.5 -4.5**
KSH SKS **SKSdf** **08 44 57.0 -7.1**
KSH AMB AMB
comp=Z,66nm,5.0s
KSH LR LR
comp=N,110nm,6.4s
KSH LR LR
comp=E,120nm,9.6s
KSH LR LR
comp=Z,260nm,7.7s
IRK Irkutsk 142.15 5 ePKIKP **PKPdf** **08 38 15.1 +0.3**
IRK pmax pmax
comp=Z,19nm,0.9s
MOY Mondy 142.33 9 ePKIKP **PKPdf** **08 38 16.8 +1.5**
TLY Talaya 142.65 6 ePKIKP **PKPdf** **08 38 13.5 -2.2**
TLY *e*PPP PPP 08 44 32.6
TLY *e*SS SS 09 00 43.9 +60
TLY pmax pmax
comp=Z,7.0nm,1.2s
ZAK Zakamensk 143.89 7 ⇑*i*PKIKP PKPab 08 38 15.9 +0.2
ZAK *e* 08 38 58.5
ZAK pmax pmax
comp=Z,7.0nm,1.0s
FITZ Fitzroy Crossi 143.91 207 PKP PKPbc 08 38 17.0 -0.2
comp=Z,16nm,0.4s,baz=267,slow=1.0,SNR=140
FITZ SKPbc **SKPbc** **08 41 37.1 -0.5**
comp=Z,8.4nm,0.8s,baz=149,slow=3.8,SNR=5.4
FITZ Fitzroy Crossi 143.91 207 PKP PKPbc 08 38 17.0 -0.2
FITZ *e*PKPdf PKPab 08 38 17.3 +0.8
FITZ SKPbc **SKPbc** **08 41 37.1 -0.5**
HIA Hailar 144.38 349 ePKPdf PKPbc 08 38 18.0 +0.2
USRK Ussuriysk Arra 144.81 332 PKP **PKPab** **08 38 19.1 -0.1**
comp=Z,40nm,0.6s,baz=25,slow=3.8,SNR=87
USRK SKPbc **SKiKP** **08 41 41.6 +2.1**
comp=Z,22nm,1.1s,baz=11,slow=1.9,SNR=15
WMQ Urumqi 145.34 28 PKPbc **PKPab** **08 38 21.3 -0.1**
WMQ PP **PP** **08 41 46.9 +5.1**
WMQ SKS **SKSdf** **08 45 06.1 -3.6**
WMQ SKKS **SKKSac** **08 48 11.6 -1.8**
WMQ SS **SS** **09 00 15.6 +0.2**
WMQ LR LR
comp=N,180nm,35.0s
WMQ LR LR
comp=E,110nm,36.0s
WMQ LR LR
comp=Z,130nm,22.0s
MDJ Mudanjiang 145.54 334 PKPbc **PKPdf** **08 38 20.3 -0.6**
MDJ pPKP **pPKPdf** **08 39 14.5 -1.3**
MDJ sPKP 08 39 36.1
MDJ AMB AMB
comp=Z,270nm,5.2s
MDJ LR LR
comp=N,110nm,35.9s
MDJ LR LR
comp=E,230nm,37.1s
MDJ LR LR
comp=Z,110nm,37.1s
MDJ Mudanjiang 145.54 334 ePKPbc **PKPab** **08 38 21.9 0.0**
POO Poona 145.55 78 ⇑*i*P **PKPdf** **08 38 20.0 -1.7**
comp=Z,210nm,1.0s
VLA Vladivostok 145.68 330 *i* PKP2 **PKPab** **08 38 22.8 +0.2**
GUMO Guam 145.78 273 PKPbc **PKPbc** **08 38 22.6 -0.4**
comp=Z,33nm,0.4s,baz=183,slow=17,SNR=4.3
GUMO Guam 145.78 273 PKPbc **PKPbc** **08 38 22.6 -0.4**
KAD Karad 145.87 81 *ex* **PKPdf** **08 38 22.0 -0.3**
MJAR Matsushiro Arr 146.35 316 PKPbc **PKPbc** **08 38 23.9 -0.3**
comp=Z,28nm,0.9s,baz=176,slow=1.2,SNR=54
MJAR pPKPbc pPKPbc 08 39 17.1 -1.1
comp=Z,44nm,1.1s,baz=29,slow=0.4,SNR=8.5
MJAR sPKPbc sPKPbc 08 39 41.4 +1.3
comp=Z,21nm,1.1s,baz=328,slow=0.8,SNR=5.6
MJAR Matsushiro Arr 146.35 316 PKPbc **PKPbc** **08 38 23.9 -0.3**
MJAR pPKPbc pPKPbc 08 39 17.1 -1.1
MJAR sPKPbc sPKPbc 08 39 41.4 +1.3
MAJO Matsushiro 146.36 316 ePKP2 **PKPbc** **08 38 24.1 -0.1**
MAJO Matsushiro 146.36 316 ePKPbc **PKPbc** **08 38 24.1 -0.1**
MAJO *ep*PKPdf **pPKPdf** **08 39 18.6 +1.1**
MAJO *es*PKPdf **sPKPdf** **08 39 43.1 +4.0**
MAT Matsushiro 146.36 316 PKP **PKPdf** **08 38 22.7 +0.1**
SONM Songino Array 146.70 4 PKPbc **PKPbc** **08 38 24.9 0.0**
comp=Z,37nm,0.5s,baz=329,slow=2.5,SNR=324
SONM pPKPbc pPKPbc 08 39 16.8 -2.3
comp=Z,9.6nm,1.0s,baz=319,slow=1.4,SNR=1.5
SONM SKPbc **SKiKP** **08 41 45.5 +2.1**
comp=Z,5.7nm,0.8s,baz=317,slow=1.3,SNR=5.1
SONM Songino Array 146.70 4 PKPbc **PKPbc** **08 38 24.9 0.0**
SONM pPKPbc pPKPbc 08 39 16.8 -2.3
SONM SKPbc **SKiKP** **08 41 45.5 +2.1**
ULN Ulaanbaatar 146.71 3 ePKPdf **PKPbc** **08 38 24.2 -0.8**
ULN *ep*PKPdf **pPKPdf** **08 39 20.1 +2.2**
ULN *es*PKPdf **sPKPdf** **08 39 42.7 +3.1**
NDI New Delhi 146.90 59 *eP* **SKKSac** **08 48 22.5 -0.5**
CN2 Changchun 147.84 338 ePKPbc **PKPdf** **08 38 24.6 -0.2**
HYB Hyderabad 150.04 80 *i* P **PKPdf** **08 38 29.5 +0.4**
SNY Shenyang 150.23 339 ⇑P **PKPbc** **08 38 34.4 +0.4**
SNY pmax pmax
comp=Z,51nm,1.0s
PALK Pallekele 150.75 101 ePKPbc **PKPbc** **08 38 37.4 +1.3**
PALK ePKPab **PKPab** **08 38 45.4 +1.5**
PYUN Piuthan 151.87 57 eP **PKPdf** **08 38 32.1 +0.2**
comp=Z,270nm,0.5s
KSRS Korea Array 151.96 328 PKP **PKPdf** **08 38 33.3 +1.9**
comp=Z,14nm,1.0s,baz=25,slow=0.9,SNR=27
KSRS PKPbc **PKiKP** **08 38 39.4 +0.9**
comp=Z,74nm,0.9s,baz=23,slow=1.7,SNR=61
KSAR Wonju Array Be 151.99 328 PKP **PKPdf** **08 38 33.3 +1.8**
KSAR PKPbc **PKiKP** **08 38 39.4 +0.8**
DANN Dangsing 152.39 56 eP **PKPdf** **08 38 33.9 +1.1**
comp=Z,206nm,0.6s
KOLN Koldanda 152.49 57 eP **PKPdf** **08 38 33.5 +0.7**
comp=Z,35nm,0.5s
GKN Gorkha 153.24 56 eP **PKPdf** **08 38 34.8 +1.0**
comp=Z,67nm,0.5s
JNU Nakatsue 153.24 317 PKPbc **PKPbc** **08 38 41.2 +0.1**
comp=Z,6.0nm,0.6s,baz=346,slow=11,SNR=5.4
JNU Nakatsue 153.24 317 PKPbc **PKPbc** **08 38 41.2 +0.1**
GTA Gaotai 153.78 17 PKPbc **PKPdf** **08 38 35.5 +1.3**
GTA SKKS 08 48 58.4
GTA AMB AMB
comp=Z,140nm,9.0s
GTA LR LR
comp=N,100nm,19.9s
GTA LR LR
comp=E,130nm,20.9s
GTA LR LR
comp=Z,220nm,23.3s
DMN Daman 153.78 56 eP **PKPdf** **08 38 35.5 +0.7**
comp=Z,20nm,0.5s
KKN Kakani 153.84 56 eP **PKPdf** **08 38 36.0 +1.2**
comp=Z,42nm,0.5s
BJI Beijing 153.95 348 PKIKP **PKPbc** **08 38 43.1 +0.7**
BJI SS SS 09 02 04.8 +15
BJI LR LR
comp=Z,79nm,44.6s
PKI Pulchoki 154.04 56 eP **PKPdf** **08 38 35.6 +0.4**
comp=Z,14nm,0.5s
GUN Gumba 154.27 55 eP **PKPdf** **08 38 36.3 +0.7**
comp=Z,25nm,0.5s
RAMN Ramite 155.26 56 eP **PKPdf** **08 38 37.5 +0.7**
comp=Z,34nm,0.6s
TAPN Taplejung 155.97 54 eP **PKPdf** **08 38 38.6 +0.8**
comp=Z,11nm,0.5s
LZH Lanzhou 157.94 12 ePKP **PKPdf** **08 38 42.4 +2.5**
LZH PKPab **PKPab** **08 39 14.0 +0.1**
KAPI Kappang 158.11 208 PKP **PKPdf** **08 38 41.1 +0.6**
comp=Z,9.3nm,1.0s,baz=235,slow=5.5,SNR=4.4
KAPI PKPab **PKPab** **08 39 14.7 -0.3**
comp=Z,43nm,1.1s,baz=219,slow=5.0,SNR=12
KAPI Kappang 158.11 208 ePKPdf **PKPdf** **08 38 40.3 -0.2**
KAPI PKP PKPab 08 38 41.1 -34
KAPI PKPab PKPab 08 39 14.7 -0.3
SHL Shillong 160.10 54 *ex* **PKPdf** **08 38 43.0 +0.3**
XAN Xi'an 160.58 2 PKP **PKPdf** **08 38 44.1 +1.3**
NJ2 Nanjing 160.62 336 ePKP **PKPdf** **08 38 43.1 +0.2**

DAV	Davao City (W)	162.64	246	PKP	PKPdf	08	38	46.2	+0.7
	comp=Z,290nm,0.5s,baz=248,slow=18,SNR=4.3								
DAV	Davao City (W)	162.64	246	PKP	PKPdf	08	38	46.2	+0.7
CD2	Chengdu	162.85	17	PKP	PKPdf	08	38	42.6	-2.7
CD2				PKPab	PKPab	08	39	34.8	-0.5
CD2				pPKP	pPKPdf	08	39	38.5	-2.0
CD2				sPKP		08	40	00.5	
CD2				PKS	PKSdf	08	42	14.6	-3.9
CD2				PP	PP	08	43	20.4	+1.0
CD2				SKS	SKSdf	08	45	24.3	-5.7
CD2				SKKS	SKKSac	08	49	44.8	-3.0
CD2				AMB	AMB				
	comp=Z,350nm,5.4s								
CD2				LR	LR				
	comp=N,310nm,5.4s								
CD2				LR	LR				
	comp=Z,200nm,6.5s								
WHN	Wuhan	163.48	345	PKPbc	PKPab	08	39	42.4	+4.4
WHN				PKPab	PP	08	43	26.0	+3.4
WHN				PP	PP	08	44	18.3	+56
PSI	Prapat	164.29	137	PKP	PKPdf	08	38	47.7	+0.5
	comp=Z,5.9nm,0.5s,baz=184,slow=8.3,SNR=6.4								
PSI				PKPab	PKPab	08	39	42.0	-0.2
	comp=Z,24nm,0.8s,baz=209,slow=4.8,SNR=16								
PSI	Prapat	164.29	137	PKP	PKPdf	08	38	47.7	+0.5
PSI				PKPab	PKPab	08	39	42.0	-0.2
ENH	Enshi	164.34	0	ePKPdf	PKPdf	08	38	47.6	+1.0
ENH				*e*		08	39	41.3	
SSLB	Suanglung	165.87	312	ePKPdf	PKPdf	08	38	48.6	+0.5
KMI	Kunming	167.66	30	PKP	PKPdf	08	38	46.3	-3.4
KMI				LR	LR				
	comp=Z,110nm,30.6s								
GYA	Guiyang	167.83	13	PKP	PKPdf	08	38	47.3	-2.3
GYA				pPKP	pPKPdf	08	39	42.3	-2.6
GYA				PKPab	PKPab	08	39	57.0	-0.4
GYA				PKS	PKSdf	08	42	19.8	-2.7
GYA				PP	PP	08	43	47.4	+2.2
GYA				AMB	AMB				
	comp=Z,120nm,7.9s								
CMAR	Chiang Mai Anr	169.07	68	PKP	PKPdf	08	38	51.5	+1.0
	comp=Z,3.0nm,0.6s,baz=291,slow=1.8,SNR=19								
CMAR				PKPab	PKPab	08	40	02.8	-0.5
	comp=Z,4.9nm,0.7s,baz=284,slow=6.0,SNR=18								
CMAR	Chiang Mai Arr	169.07	68	PKP	PKPdf	08	38	51.5	+1.0
CMAR				PKPab	PKPab	08	40	02.8	-0.5
QIZ	Qiongzhong	175.53	357	PKP	PKPdf	08	38	52.3	-1.0
QIZ				pPKP	pPKPdf	08	39	46.8	-1.8

*ISK **15** 08:20:52.4, 37°.89N×28°.98E, h18km, MD2.6*
*ISCJB **15** 08:20:53.5±0.5, 37°.92N±0°.02×29°.01E±0°.05, h7km±5km, Error ellipse: s-maj=6.3km s-min=3.9km az=174.5*
*DDA **15** 08:20:53.5, 37°.94N×29°.04E, h6km, MD2.6*
*CSEM **15** 08:20:53.1±0.1, 37°.89N×29°.05E, h12km, MD2.6, Error ellipse: s-maj=4.1km s-min=2.9km az=94.0*

ISC 15 08:20:53.0±0.3, 37°.89N±0°.03×29°.04E±0°.04, h14km±7km, n18, σ0s58/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.14	184	*e*Pg	Pg	08 20 56.5	-0.1
DENT				*e*SG	Sb	08 20 60.0	-0.4
DENT	Denizli	0.14	184	*e*Pg	Pg	08 20 56.6	-0.1
DENT				*e*Sg	Sb	08 21 00.0	-0.4
DNZL	Cakiroluk	0.20	180	*i* P	Pg	08 20 57.6	-0.1
DNZL				*i* S	Sb	08 21 01.8	-0.5
DNZL	Cakiroluk	0.20	180	*i* P	Pg	08 20 57.6	-0.1
DNZL				*i* S	Sb	08 21 01.8	-0.5
KHL	Karahalli	0.57	41	*e*PG	Pb	08 21 04.9	+0.1
KHL	Karahalli	0.57	41	*e*Pg	Pb	08 21 04.9	+0.1
KHAL	Karahalli	0.59	36	*i* P	Pg	08 21 04.1	-0.5
KHAL				*i* S	Sg	08 21 12.6	+0.1
KHAL	Karahalli	0.59	36	*i* P	Pg	08 21 04.1	-0.5
KHAL				*i* S	Sg	08 21 12.6	+0.1
KULA	Kula-Manisa	0.69	334	*e*PG	Pg	08 21 06.7	+0.2
KULA				*e*SG	Sg	08 21 15.9	+0.4
KULA	Kula-Manisa	0.69	334	*e*Pg	Pg	08 21 06.7	+0.2
KULA				*e*Sg	Sg	08 21 16.0	+0.4
MANT	Manisa	0.71	327	*i* P	Pb	08 21 07.7	+0.4
MANT				*i* S	Sg	08 21 16.6	+0.4
MANT	Manisa	0.71	327	*i* P	Pb	08 21 07.7	+0.4
MANT				*i* S	Sg	08 21 16.7	+0.4
GOLH	Golhisar	0.77	148	*i* P	Pg	08 21 08.0	0.0
GOLH				*i* S	Sn	08 21 22.1	+1.1
GOLH	Golhisar	0.77	148	*i* P	Pg	08 21 08.0	0.0
AYDN	Tasoluk	0.95	256	*i* P	Pg	08 21 12.0	0.0
AYDN				*i* S	Sb	08 21 22.1	-1.7
AYDN	Tasoluk	0.95	256	*i* P	Pn	08 21 12.0	0.0
AYDN				*i* S	Sb	08 21 22.1	-1.7
GDZ	Gediz	1.24	16	*i* P	Pg	08 21 16.9	0.0
GDZ				*i* S	Sn	08 21 32.9	+0.2
GDZ	Gediz	1.24	16	*i* P	Pg	08 21 16.9	0.0
GDZ				*i* S	Sn	08 21 32.9	+0.2

TRN 15 08:24:13.4, 11°.56N×60°.28W, h162km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	Speyside	0.36	224	*e*P	Pn	08 24 36.6	+1.0
TOSP				*e*S	Sn	08 24 53.3	+0.7
SVB	Belmont	1.95	331	*e*P	Pn	08 24 48.9	+0.1
SVB				*e*S	Sn	08 25 16.7	+0.5

*ISK **15** 08:29:44.8, 37°.07N×28°.24E, h18km, ML1.9*
*ISCJB **15** 08:29:45.7±0.9, 37°.00N±0°.06×28°.17E±0°.04, h0km, Error ellipse: s-maj=8.2km s-min=4.4km az=6.7*
*CSEM **15** 08:29:46.1±0.5, 37°.01N×28°.18E, h2km, ML1.9, Error ellipse: s-maj=10.7km s-min=5.6km az=8.0*
*DDA **15** 08:29:47.6, 37°.11N×28°.17E, h7km, MD2.7*

ISC 15 08:29:46.0±1.0, 37°.02N±0°.05×28°.20E±0°.03, h0km, n14, σ0s77/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	Yerkesik	0.13	31	*e*PG	Pg	08 29 48.2	-0.3
YER				*e*SG	Sg	08 29 51.4	+1.2
YER	Yerkesik	0.13	31	*e*Pg	Pg	08 29 48.2	-0.3
YER				*e*Sg	Sg	08 29 51.4	+1.2
MLSB	Milas	0.43	309	*e*PG	Pg	08 29 54.2	-0.1
MLSB				*e*SG	Sg	08 30 00.9	+1.0
MLSB	Milas	0.43	309	*e*Pg	Pg	08 29 54.2	-0.1
MLSB				*e*Sg	Sg	08 30 00.9	+1.0
BODT	Bodrum	0.71	273	*e*PG	Pg	08 29 59.7	+0.1
BODT	Bodrum	0.71	273	*e*Pg	Pg	08 29 59.7	+0.1
FETY	Fethiye	0.81	118	*e*PG	Pg	08 30 01.1	-0.3
FETY	Fethiye	0.81	118	*e*Pg	Pg	08 30 01.1	-0.3
DNZL	Cakiroluk	0.95	45	*i* P	Pg	08 30 03.5	-0.7
DNZL				*i* S	Sg	08 30 17.6	+1.1
DNZL	Cakiroluk	0.95	45	*i* P	Pg	08 30 03.5	-0.7
DNZL				*i* S	Sg	08 30 17.6	+1.1
GCAM	G?zelcaml?	1.02	312	*i* P	Pb	08 30 06.2	-0.4
GCAM				*i* S	Sb	08 30 19.3	-1.3
GCAM	G?zelcaml?	1.02	312	*i* P	Pb	08 30 06.2	-0.4
GCAM				*i* S	Sb	08 30 19.3	-1.3
GOLH	Golhisar	1.11	78	*i* P	Pn	08 30 09.0	+0.1
GOLH				*i* S	Sn	08 30 25.3	+0.4
GOLH	Golhisar	1.11	78	*i* P	Pn	08 30 09.0	+0.1
GOLH				*i* S	Sn	08 30 25.3	+0.4

IDC 15 08:36:28.3±3.2, 12°.21S×166°.41E, h86km±26km, mb3.9/9, mb1 4.1/11, mb1mx3.8/24, mbtmp4.0/11, MS3.0/3, Ms1 3.0/3, ms1mx2.7/36, Error ellipse: s-maj=25.3km s-min=16.5km az=66.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.92	293	P	Pn	08 38 06.9	-0.2
	11nm,0.3s,baz=163,slow=2.2,SNR=4.8						
HNR				S	Sn	08 39 25.5	+1.1
	15nm,0.3s,baz=187,slow=20,SNR=3.9						
HNR				LR	LR	08 39 32.2	
	comp=Z,65nm,21.4s,baz=317,slow=27						
DZM	Mont Dzumac	9.81	180	P	Pn	08 38 46.0	-0.6
	0.8nm,0.3s,baz=315,slow=22,SNR=2.8						
DZM				S	Sn	08 40 39.8	+4.7
	0.8nm,0.3s,baz=315,slow=22,SNR=2.8						
DZM				LR	LR	08 41 27.4	
	comp=Z,100nm,20.0s,baz=26,slow=30						

CTA	Charters Tower	20.87	245	P	P	08	41	03.9	+0.3
	2.8nm,0.7s,baz=98,slow=7.1,SNR=4.0								
CTA				LR	LR	08	48	05.3	
	comp=Z,95nm,19.5s,baz=84,slow=33								
WRA	Warramunga Arr	31.72	252	P	P	08	42	42.7	-1.6
	1.4nm,0.6s,baz=85,slow=10.0,SNR=3.8								
ASAR	Alice Springs	32.88	245	P	P	08	42	52.8	-1.6
	2.1nm,0.7s,baz=68,slow=9.9,SNR=10								
NWAO	Narrogin (SRO)	49.37	237	P	P	08	45	08.8	-0.6
	7.9nm,0.7s,baz=83,slow=6.8,SNR=5.5								
CMAR	Chiang Mai Arr	73.17	294	P	P	08	47	51.9	+1.6
	2.7nm,0.6s,baz=125,slow=5.4,SNR=14								
QSPA	South Pole Qui	77.80	180	P	P	08	48	16.4	+0.3
	1.2nm,0.8s,baz=282,slow=6.3,SNR=7.4								
SONM	Songino Array	79.98	324	P	P	08	48	29.0	+0.7
	0.5nm,0.3s,baz=143,slow=5.8,SNR=11								
ILAR	Eielson Array	84.41	18	P	P	08	48	49.5	-1.3
	0.8nm,0.6s,baz=241,slow=5.0,SNR=21								
MKAR	Makanchi Array	94.81	317	P	P	08	49	40.9	+0.3
	1.8nm,0.7s,baz=95,slow=6.4,SNR=19								
ARCES	ARCESS Array B	117.62	346	PKP	PKPdf	08	55	03.4	-0.4
	2.4nm,0.9s,baz=69,slow=3.4,SNR=13								
TORD	Torodi Ar. Bea	165.06	275	PKPab	PKPab	08	57	20.9	+0.2
	0.9nm,0.9s,baz=117,slow=2.6,SNR=5.0								

*CSEM **15** 08:47:35.9±0.3, 41°.78N×19°.29E, h2km, ML2.4/10, Error ellipse: s-maj=6.8km s-min=4.4km az=37.0*
*BEO **15** 08:47:36.8, 41°.62N×19°.17E, h26km, ML2.6/9*
*PDG **15** 08:47:36.0±0.1, 41°.81N×19°.40E, h10km, MD2.4/1, ML2.4/10, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*

ISC 15 08:47:37.0±1.1, 41°.82N±0°.03×19°.32E±0°.03, h5km±8km, n57, σ1s06/98, 12C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	Ulcinj	0.15	340	⇓*i*Pg	Pg	08 47 39.5	-0.7
ULC				*e*Sg	Sg	08 47 43.1	+0.8
ULC	Ulcinj	0.15	340	⇓*i*Pg	Pg	08 47 39.5	-0.7
ULC				*e*Sg	Sg	08 47 43.1	+0.8
BUM	Brajici-Budva	0.57	327	⇓*i*Pg	Pg	08 47 47.5	-0.6
BUM				*e*Sg	Sb	08 47 57.4	-0.7
BUM	Brajici-Budva	0.57	327	⇓*i*Pg	Pg	08 47 47.5	-0.6
BUM				*e*Sg	Sb	08 47 57.4	-0.7
TTG	Podgorica	0.61	356	⇑*i*Pg	Pg	08 47 47.9	-0.9
TTG				*e*Sg	Sg	08 47 57.9	+1.1
PDG	Podgorica	0.61	356	⇑*i*Pg	Pg	08 47 47.9	-0.9
PDG				*e*Sg	Sg	08 47 57.9	+1.1
TIR	Tirane	0.63	139	*e*Pg	Pg	08 47 47.8	-1.3
TIR				*e*Sg	Sb	08 47 59.0	-0.5
TIR	Tirane	0.63	139	*e*Pg	Pg	08 47 47.8	-1.3
TIR				*e*Sg	Sb	08 47 59.0	-0.5
HCY	Herceg Novi	0.88	316	⇓*i*Pg	Pg	08 47 53.4	-0.5
HCY				*e*Sg	Sb	08 48 07.5	+0.8
HCY	Herceg Novi	0.88	316	⇓*i*Pg	Pg	08 47 53.4	-0.5
PVY	Plav	0.91	31	⇓*i*Pg	Pg	08 47 52.6	-1.9
PVY				*e*Sg	Sg	08 48 06.6	+0.2
PVY	Plav	0.91	31	⇓*i*Pg	Pg	08 47 52.6	-1.9
PVY				*e*Sg	Sg	08 48 06.6	+0.2
NKY	Niksic	1.02	347	⇑*i*Pg	Pg	08 47 55.6	-1.1
NKY				*e*Sg	Sn	08 48 12.0	-0.9
NKY	Niksic	1.02	347	⇑*i*Pg	Pg	08 47 55.6	-1.1
NKY				*e*Sg	Sn	08 48 12.0	-0.9
BEY	Berane	1.14	22	⇓*i*Pg	Pg	08 47 56.8	-2.1
BEY				*e*Sg	Sb	08 48 14.3	0.0
IVA	Berane	1.14	22	⇓*i*Pg	Pg	08 47 56.8	-2.1
IVA				*e*Sg	Sb	08 48 14.3	0.0
BRY	Bratogost	1.23	332	*e*Pg	Pg	08 47 59.7	-0.9
BRY				*e*Sg	Sn	08 48 19.2	+1.2
BRY	Bratogost	1.23	332	*e*Pg	Pg	08 47 59.7	-0.9
UPM	Unac-Piva	1.42	348	⇑*i*Pg	Pn	08 48 02.4	-1.2
UPM				*e*Sg	Sg	08 48 25.2	+2.6
UPM	Unac-Piva	1.42	348	⇑*i*Pg	Pn	08 48 02.4	-1.2
UPM				*e*Sg	Sg	08 48 25.2	+2.6
PLE	Pljevlja	1.51	2	⇑*i*Pg	Pn	08 48 04.1	-0.8
PLE				*e*Sg	Sg	08 48 27.0	+1.4
PLE	Pljevlja	1.51	2	⇑*i*Pg	Pn	08 48 04.1	-0.8
PLE				*e*Sg	Sg	08 48 27.0	+1.4
SJES	Sjenica	1.52	18	*e*Pn	Pb	08 48 06.1	+0.3
SJES				*e*Sn	Sg	08 48 27.3	+1.3
SJES	Sjenica	1.52	18	*e*Pn	Pb	08 48 06.1	+0.3
SJES				*e*Sn	Sg	08 48 27.3	+1.3
SKO	Skopje	1.59	84	*e*Pn	Pn	08 48 06.1	+0.2
SKO				*e*Sn	Sn	08 48 27.1	+0.3
SKO	Skopje	1.59	84	*e*Pn	Pn	08 48 06.1	+0.2
SKO				*e*Sn	Sn	08 48 27.1	+0.3
STON	Ston	1.59	312	*e*Pn	Pn	08 48 05.3	-0.5
STON				Sn	Sg	08 48 29.0	+0.8
STON	Ston	1.59	312	*e*Pn	Pn	08 48 05.3	-0.5
STON				Sn	Sg	08 48 29.0	+0.8
IVAS	Ivanjica	1.86	19	*e*Pn	Pn	08 48 09.9	+0.3
IVAS	Ivanjica	1.86	19	*e*Pn	Pn	08 48 09.9	+0.3
SELS	Selova	1.93	43	*e*Pn	Pn	08 48 10.7	+0.1
SELS				*e*Sn	Sb	08 48 36.8	-0.4
BBLS	Lazići	2.05	2	*e*Pn	Pn	08 48 12.4	+0.2
BBLS				*e*Sn	Sb	08 48 40.6	+0.1
BBLS	Lazići	2.05	2	*e*Pn	Pn	08 48 12.4	+0.2
BBLS				*e*Sn	Sb	08 48 40.6	+0.1
BARS	Barje	2.11	61	*e*Pn	Pn	08 48 12.7	-0.2
BARS				*e*Sn	Sn	08 48 40.6	+1.1
BARS	Barje	2.11	61	*e*Pn	Pn	08 48 12.7	-0.2
BARS				*e*Sn	Sn	08 48 40.6	+1.1
GRUS	Gruza	2.31	26	*e*Pn	Pn	08 48 16.6	+0.9
GRUS				*e*Sn	Sn	08 48 45.9	+1.4
GRUS	Gruza	2.31	26	*e*Pn	Pn	08 48 16.6	+0.9
GRUS				*e*Sn	Sn	08 48 45.9	+1.4
DIVS	Divibare	2.33	12	*e*Pn	Pn	08 48 16.2	+0.1
DIVS				*e*Sn	Sb	08 48 47.1	-1.6
DIVS	Divibare	2.33	12	*e*Pn	Pn	08 48 16.2	+0.1
DIVS				*e*Sn	Sb	08 48 47.1	-1.6
TRUS	Trudelj	2.53	18	*e*Pn	Pn	08 48 16.9	-1.9
TRUS	Trudelj	2.53	18	*e*Pn	Pn	08 48 16.9	-1.9
TEKS	Tekeris	2.73	3	*e*Pn	Pn	08 48 20.6	-1.0
TEKS	Tekeris	2.73	3	*e*Pn	Pn	08 48 20.6	-1.0
ZAPS	Zavoj	2.85	58	*e*Pn	Pn	08 48 23.6	+0.4
ZAPS				*e*Sn	Sn	08 48 58.8	+0.9
ZAPS	Zavoj	2.85	58	*e*Pn	Pn	08 48 23.6	+0.4
ZAPS				*e*Sn	Sn	08 48 58.8	+0.9
VTS	Vitosha	2.99	74	*e*Pn	Pn	08 48 25.5	+0.2
VTS	Vitosha	2.99	74	*e*Pn	Pn	08 48 25.5	+0.2
BZS	Buzias	4.15	23	⇓*i*P	Pn	08 48 40.8	-0.1
BZS	Buzias	4.15	23	*e*Pn	Pn	08 48 40.9	0.0
BZS	Buzias	4.15	23	*e*Pn	Pn	08 48 40.9	0.0
BZS				S	Sn	08 49 29.0	-0.8
NVLJ	Novalja	4.25	312	*e*Pn	Pn	08 48 42.2	-0.2
NVLJ				Sn	Sn	08 49 32.2	-0.2
NVLJ	Novalja	4.25	312	*e*Pn	Pn	08 48 42.1	-0.2
NVLJ				Sn	Sn	08 49 32.1	-0.2
ARR	Arges	5.24	46	⇑*i*P	Pn	08 48 57.0	+0.9
ARR	Arges	5.24	46	⇑*i*P	Pn	08 48 57.0	+0.9
ARR				S	Sn	08 50 00.1	+3.2
DRGR		5.54	25	⇑*i*P	Pn	08 48 59.4	-0.7
DRGR		5.54	25	S	Sn	08 50 02.3	-1.8
DRGR		5.54	25	⇑*i*P	Pn	08 48 59.4	-0.7

*ISK **15** 08:56:24.2, 37°.90N×29°.07E, h16km, MD2.6*
*CSEM **15** 08:56:24.8±0.1, 37°.88N×29°.11E, h12km, MD2.5, Error ellipse: s-maj=3.1km s-min=2.1km az=113.0*
*ISCJB **15** 08:56:25.3±0.7, 37°.92N±0°.03×29°.08E±0°.08, h9km±9km, Error ellipse: s-maj=11.0km s-min=4.7km az=20.4*
*DDA **15** 08:56:25.4, 37°.91N×29°.08E, h7km, MD2.5*

ISC 15 08:56:25.1±1.1, 37°.90N±0°.04×29°.08E±0°.05, h12km±12km, n14, σ0s47/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	Denizli	0.15	194	*e*PG	Pg	08 56 28.0	-0.8
DENT				*e*SG	Sg	08 56 31.9	+0.6
DENT	Denizli	0.15	194	*e*Pg	Pg	08 56 28.0	-0.8
DENT				*e*Sg	Sg	08 56 31.9	+0.6
DNZL	Cakiroluk	0.21	187	*i* P	Pg	08 56 29.7	-0.2
DNZL				*i* S	Sg	08 56 34.0	+0.9
DNZL	Cakiroluk	0.21	187	*i* P	Pg	08 56 29.7	-0.2
DNZL				*i* S	Sg	08 56 34.0	+0.9
KHL	Karahalli	0.55	40	*e*PG	Pg	08 56 35.7	-0.2
KHL	Karahalli	0.55	40	*e*Pg	Pg	08 56 35.7	-0.2
KHAL	Karahalli	0.57	35	*i* P	Pg	08 56 36.2	-0.1
KHAL				*i* S	Sg	08 56 44.4	+0.5
KHAL	Karahalli	0.57	35	*i* P	Pg	08 56 36.2	-0.1
KHAL				*i* S	Sg	08 56 44.4	+0.5
KULA	Kula-Manisa	0.69	332	*e*PG	Pb	08 56 39.0	-0.2
KULA				*e*SG	Sg	08 56 48.1	+0.3
KULA	Kula-Manisa	0.69	332	*e*Pg	Pb	08 56 39.0	-0.2
KULA				*e*Sg	Sg	08 56 48.1	+0.3
MANT	Manisa	0.72	325	*i* P	Pb	08 56 39.6	-0.1
MANT				*i* S	Sb	08 56 49.3	-0.2
MANT	Manisa	0.72	325	*i* P	Pb	08 56 39.6	-0.1
MANT				*i* S	Sb	08 56 49.3	-0.2
AYDN	Tasoluk	0.98	256	*i* P	Pg	08 56 44.2	+0.2
AYDN				*i* S	Sb	08 56 56.6	-0.4
AYDN	Tasoluk	0.98	256	*i* P	Pg	08 56 44.2	+0.2
AYDN				*i* S	Sb	08 56 56.6	-0.4

MEX 15 09:01:21.7±0.5, 16°.28N×97°.99W, h10km±3km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.18	311	*i* P	Pg	09 01 24.9	-0.7
PNIG				*i* S	Sg	09 01 28.2	0.0
VHO	Vista Hermosa	1.44	56	*i* P	Pn	09 01 44.3	-3.8
VHO				*i* S	Sn	09 02 02.4	-4.9
UTMO	Huajuapan	1.56	6	*i* P	Pn	09 01 46.1	-3.6
UTMO				*i* S	Sn	09 02 04.6	-5.6
TPIG	Tehuac#an	2.21	16	*i* P	Pn	09 01 56.2	-2.6
TPIG				*i* S	Sn	09 02 21.9	-4.5
MEIG	Mezcala	2.27	317	*i* P	Pn	09 01 56.7	-2.6
MEIG				*i* S	Sn	09 02 22.8	-4.7
CAIG	El Cayaco	2.32	290	*i* P	Pn	09 01 57.6	-2.4
CAIG				*i* S	Sn	09 02 24.1	-4.4
PLIG	Platanillo	2.56	326	*i* P	Pn	09 02 00.1	-3.3
PLIG				*i* S	Sn	09 02 30.9	-3.7
YAIG	Yautepec	2.77	338	*i* P	Pn	09 02 03.2	-3.2
YAIG				*i* S	Sn	09 02 35.7	-4.4
CMIG	Matias Romero	3.08	74	*i* P	Pn	09 02 06.8	-3.6
CMIG				*i* S	Sn	09 02 43.1	-4.4

NDI 15 09:14:17.3±2.6, 32°.38N×76°.63E, h10km, ML3.8, 2D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	0.77	274	*e*P	Pg	09 14 31.5	-0.7
THN				*e*S	Sb	09 14 43.9	+0.5
SDNR	Sundarnagar	0.93	162	*e*P	Pg	09 14 35.0	-0.2
SDNR				*e*S	Sg	09 14 47.0	-0.3
SMLA	Simla	1.33	160	*i* P	Pb	09 14 42.4	+0.1
SMLA				*i* S	Sg	09 15 01.9	+1.8
SMLA				*i* S	Sn	09 15 02.1	+2.5
SMLA				⇓AML	AML	09 15 03.9	
	comp=N,6μm,0.3s						
SMLA				⇓AML	AML	09 15 04.0	
	comp=E,6μm,0.3s						
BHGR	Bahadurgarh	3.69	176	*e*S	Sn	09 15 56.8	-1.2
AYAN	Aya Nagar	3.91	174	*e*S	Sn	09 16 01.2	-2.2
SONA	Sohna	4.14	174	*e*P	Pn	09 15 22.1	+1.6
SONA				*e*S	Sn	09 16 06.9	-2.1
KHET	Khetri	4.35	190	*e*P	Pn	09 15 21.6	-1.9
KHET				*e*S	Sn	09 16 11.6	-2.8
AGRA	Agra	5.26	167	*ex*	x	09 16 18.4	
AGRA				AML	AML	09 16 32.5	
	comp=N,53nm,0.5s						
AGRA				AML	AML	09 16 33.0	
	comp=E,45nm,0.1s						

IDC 15 09:16:42.5±2.7, 2°.95N×95°.02W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.7/7, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=128.8km s-min=26.6km az=53.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	12.37	53	LR	LR	09 22 15.7	
	comp=Z,46nm,21.0s,baz=45,slow=27						
TXAR	Lajitas Array	27.50	343	P	P	09 22 29.8	-1.1
	0.3nm,0.8s,baz=164,slow=12,SNR=3.6						
LPAZ	La Paz	32.73	127	P	P	09 23 17.6	-0.5
	0.6nm,0.8s,baz=190,slow=4.1,SNR=4.3						
ANMO	Albuquerque	33.56	343	LR	LR	09 36 21.1	
	comp=Z,93nm,18.2s,baz=163,slow=35						
TKL	Tuckaleechee C	34.17	16	LR	LR	09 38 10.0	
	comp=Z,56nm,18.9s,baz=18,slow=38						
NVAR	Mina Array Bea	41.23	332	P	P	09 24 29.6	0.0
	0.9nm,0.7s,baz=165,slow=8.9,SNR=9.4						
PDAR	Pinedale Array	41.72	344	P	P	09 24 31.9	-1.6
	1.3nm,1.1s,baz=172,slow=4.3,SNR=5.5						
PDAR				LR	LR	09 41 21.9	
	comp=Z,134nm,

STKA	**Stephens Creek**	**38.51**	**240**	P		P	09 59 45.9	+0.1
	1.7nm,0.4s,baz=98,slow=10,SNR=12							
WRA	**Warramunga Arr**	**44.21**	**259**	P		P	10 00 30.9	-0.5
	0.2nm,0.2s,baz=96,slow=7.8,SNR=15							
ASAR	**Alice Springs**	**44.45**	**253**	P		P	10 00 33.1	-0.1
	2.5nm,0.3s,baz=90,slow=7.7,SNR=88							

DDA ***15*** *10:06:07.7,38°.38N×25°.97E,h7km,MD2.8*
CSEM ***15*** *10:06:08.8±0.6,38°.35N×25°.94E,h2km,MD2.9,Error ellipse: s-maj=13.6km s-min=5.3km az=36.0*
ISK ***15*** *10:06:11.8,38°.62N×26°.23E,h5km,MD2.9*

ISC 15 10:06:08.7±2.9, 38°.42N±0°.10×26°.0E±0°.1, h15km±13km, n15,σ0§49/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.50**	**97**	*i* P	**Pg**	**10 06 18.5**	**-0.2**
URLA				*i* S	**Sg**	**10 06 25.9**	**+0.4**
URLA	**Izmir**	**0.50**	**97**	*i* P	**Pg**	**10 06 18.5**	**-0.2**
URLA				*i* S	**Sg**	**10 06 25.9**	**+0.4**
BLCB	**Balcova**	**0.85**	**92**	*e*PG	**Pn**	**10 06 26.1**	**-0.1**
BLCB				*e*SG	**Sg**	**10 06 36.4**	**0.0**
BLCB	**Balcova**	**0.85**	**92**	*e*Pg	**Pn**	**10 06 26.1**	**-0.1**
BLCB				*e*Sg	**Sg**	**10 06 36.4**	**0.0**
IZM	**Izmir**	**1.02**	**91**	*e*PG	**Pg**	**10 06 28.2**	**-0.3**
IZM				*e*SG	**Sg**	**10 06 42.4**	**+0.5**
IZM	**Izmir**	**1.02**	**91**	*e*Pg	**Pg**	**10 06 28.2**	**-0.3**
IZM				*e*Sg	**Sg**	**10 06 42.4**	**+0.5**
BOZC	**Bozcaada**	**1.42**	**3**	*i* P	**Pg**	**10 06 35.4**	**-0.6**
BOZC				*i* S	**Sg**	**10 06 55.5**	**+0.9**
EZN	**Ezine**	**1.43**	**11**	*e*PN	**Pg**	**10 06 35.9**	**-0.3**
EZN	**Ezine**	**1.43**	**11**	*e*Pn	**Pg**	**10 06 35.9**	**-0.3**
AYDN	**Tasoluk**	**1.69**	**116**	*i* P	**Pb**	**10 06 39.4**	**-0.2**
AYDN				*i* S	**Sb**	**10 07 01.3**	**+0.5**
AYDN	**Tasoluk**	**1.69**	**116**	*i* P	**Pb**	**10 06 39.4**	**-0.2**
AYDN				*i* S	**Sb**	**10 07 01.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.01**	**11**	*e*PN	**Pb**	**10 06 45.4**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.01**	**11**	*e*Pn	**Pb**	**10 06 45.4**	**+0.4**
KRBG	**Karabiga-Canak**	**2.22**	**27**	*e*PN	**Pb**	**10 06 47.8**	**-0.8**
KRBG	**Karabiga-Canak**	**2.22**	**27**	*e*Pn	**Pb**	**10 06 47.8**	**-0.8**

WEL 15 10:19:60.0±0.3, 36°.59S×177°.07E, h12km, ML3.7/10, Error ellipse: s-maj=2.8km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.96**	**224**	P*	Pg	10 20 17.2	-1.4
MYRZ				S*	Sg	10 20 28.6	-2.5
KUZ	**Kuaotunu**	**1.09**	**261**	P*	Pb	10 20 20.0	-0.9
KUZ				S*	Sb	10 20 34.1	-1.0
TGRZ	**Tauranga**	**1.31**	**209**	P*	Pn	10 20 22.8	-1.3
OPRZ	**Ohinepanea**	**1.32**	**198**	P*	Pn	10 20 21.9	-2.4
MXZ	**Matakaoa Point**	**1.39**	**135**	P*	Pn	10 20 23.0	-2.2
MXZ				S*	Sn	10 20 39.7	-3.7
MKAZ	**Moumakai**	**1.61**	**251**	PN	Pn	10 20 27.3	-1.0
URZ	**Urewera**	**1.67**	**179**	P*	Pn	10 20 26.9	-2.1
TOZ	**Tahuroa Road**	**1.69**	**227**	P*	Pn	10 20 27.6	-1.7
PUZ	**Puketiti**	**1.76**	**148**	PN	Pn	10 20 30.2	-0.1
MWZ	**Matawai**	**1.78**	**168**	P*	Pn	10 20 28.2	-2.5
RVAZ	**Riverhead Bore**	**2.01**	**264**	PN	Pn	10 20 34.2	+0.5
WCZ	**Waipu Caves**	**2.29**	**286**	PN	Pn	10 20 38.6	+0.9
HIZ	**Hauiti**	**2.60**	**222**	PN	Pn	10 20 41.1	-0.8

ISCJB ***15*** *10:21:08.4±0.7,6°.85N±0°.06×73°.05W±0°.07,h168km±7km, mb3.8/2,Error ellipse: s-maj=12.8km s-min=8.4km az=41.9*
FUNV ***15*** *10:21:09.0,6°.78N×73°.18W,h173km,MW3.5*
IDC ***15*** *10:21:11.2±3.0,6°.78N×73°.50W,h169km±18km,mb3.5/2, mb1 3.6/3,mb1mx3.0/23,mbtmp3.5/3,Error ellipse: s-maj=115.4km s-min=24.3km az=101.0*

ISC 15 10:21:09.3±1.0, 6°.84N±0°.07×73°.06W±0°.07, h164km±9km, n17,σ1§13/22, 6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.26**	**36**	*i*P	**Pn**	**10 21 38.8**	**+0.9**
CAPV				*e*S	**Sn**	**10 22 00.3**	**+0.3**
ROSC	**El Rosal**	**2.34**	**213**	P	**Pn**	**10 21 50.8**	**+1.2**
	14nm,0.3s,baz=98,slow=18,SNR=36						
ROSC				S	**Sn**	**10 22 18.1**	**-2.7**
	18nm,0.3s,baz=114,slow=19,SNR=11						
SOCV	**Socops**	**2.62**	**56**	*i*P	**Pn**	**10 21 53.4**	**+0.8**
SOCV				*e*S	**Sn**	**10 22 25.4**	**-0.7**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**10 22 04.8**	**+0.6**
ELOV				*e*S	**Sn**	**10 22 46.5**	**-0.5**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	**Pn**	**10 22 05.6**	**-0.6**
VIRV				*e*S	**Sn**	**10 22 48.2**	**-2.2**
QARV	**Quebrada Arrib**	**4.18**	**37**	*e*P	**Pn**	**10 22 13.0**	**+0.6**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**10 22 15.3**	**+0.1**
TEPV	**Terepaima**	**4.93**	**51**	*i*P	**Pn**	**10 22 22.1**	**-0.1**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**10 22 27.0**	**-1.2**
MAPV	**Macapo**	**5.44**	**57**	*e*P	**Pn**	**10 22 28.4**	**-0.5**
MONV	**Montecano**	**5.93**	**31**	*e*P	**Pn**	**10 22 34.9**	**-0.3**
TURV	**Turiamo**	**6.29**	**55**	*e*P	**Pn**	**10 22 39.3**	**-0.7**
MERV	**Las Mercedes**	**7.11**	**70**	*e*P	**Pn**	**10 22 49.5**	**-1.5**
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**10 29 33.6**	**+1.1**
	2.1nm,0.7s,baz=215,slow=8.0,SNR=4.5						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**10 31 21.0**	**+0.8**
	0.6nm,0.6s,baz=131,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**10 40 39.1**	**-0.2**
	0.6nm,0.5s,baz=122,slow=4.0,SNR=13						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**10 40 42.1**	**-0.3**
	0.5nm,0.5s,baz=108,slow=2.5,SNR=13						

IDC 15 10:32:54.8±2.5, 9°.56S×121°.77E, h0km, mb3.7/1, mb1 3.3/3,mb1mx3.1/19,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=272.7km s-min=30.2km az=53.0,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.94**	**132**	Pn	Pn	10 36 39.0	-1.6
	0.1nm,0.3s,baz=305,slow=14,SNR=4.8						
WRA				Sn	Sn	10 39 25.0	-13
	0.1nm,0.3s,baz=307,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**18.20**	**142**	P	P	10 37 10.1	+0.6
	0.0nm,0.3s,baz=318,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**66.22**	**331**	P	P	10 43 44.6	0.0
	0.5nm,0.5s,baz=137,slow=7.4,SNR=9.8						

IDC 15 10:58:08.1±4.5, 9°.56S×120°.19E, h61km±44km, mb2.8/1, mb1 3.2/5,mb1mx3.1/21,mbtmp3.1/5,ML3.3/4,Error ellipse: s-maj=95.8km s-min=14.8km az=68.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.53**	**355**	P	Pn	10 59 15.2	+1.0
	4.1nm,0.3s,baz=167,slow=10,SNR=13						
KAPI				S	Sn	11 00 06.2	+0.5
	2.2nm,0.3s,baz=55,slow=22,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.01**	**149**	P	Pn	11 00 27.6	-1.6
	0.1nm,0.3s,baz=300,slow=8.1,SNR=3.9						
FITZ				S	Sn	11 02 12.9	-7.1
	0.9nm,0.3s,baz=194,slow=21,SNR=16						
WRA	**Warramunga Arr**	**17.13**	**129**	P	Pn	11 02 03.1	-0.4
	0.1nm,0.3s,baz=302,slow=13,SNR=9.9						
WRA				S	Sn	11 05 01.7	-12
	0.1nm,0.3s,baz=312,slow=24,SNR=5.7						
ASAR	**Alice Springs**	**19.20**	**139**	P	Pn	11 02 28.2	-0.4
	0.1nm,0.3s,baz=321,slow=12,SNR=13						
ASAR				S	S	11 05 52.7	-9.0
	0.0nm,0.3s,baz=310,slow=22,SNR=4.5						
MKAR	**Makanchi Array**	**65.49**	**332**	P	P	11 08 44.6	-0.2
	0.1nm,0.4s,baz=151,slow=8.3,SNR=3.8						

IDC 15 11:03:58.5±1.4, 4°.08N×126°.60E, h0km, mb3.6/5, mb1 3.7/5,mb1mx3.5/22,mbtmp3.6/5,Error ellipse: s-maj=144.1km s-min=19.2km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.05**	**163**	P	P	11 09 24.1	-0.7
	0.8nm,0.5s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.48**	**166**	P	P	11 09 55.0	-0.6
	0.1nm,0.3s,baz=339,slow=7.2,SNR=5.2						

STKA	**Stephens Creek**	**38.50**	**159**	P		P	11 11 23.6	+1.0
	1.4nm,0.4s,baz=350,slow=7.5,SNR=6.5							
MKAR	**Makanchi Array**	**57.20**	**325**	P		P	11 13 47.1	-0.4
	0.3nm,0.5s,baz=130,slow=9.0,SNR=7.4							
ZALV	**Zalesovo Beam**	**60.22**	**333**	P		P	11 14 08.6	+0.3
	0.2nm,0.4s,baz=149,slow=5.9,SNR=2.7							

IDC 15 11:13:40.0±8.3, 5°.28S×151°.39E, h90km±58km, mb3.5/3, mb1 3.7/4,mb1mx3.2/19,mbtmp3.5/4,ML2.9/1,MS4.0/2, Ms1 4.0/2,ms1mx2.8/28,Error ellipse: s-maj=98.0km s-min=54.0km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.87**	**225**	P	Pn	11 15 04.6	+0.1
	1.9nm,0.3s,baz=35,slow=13,SNR=6.9						
PMG				S	Sn	11 16 11.5	+1.1
	1.5nm,0.3s,baz=60,slow=22,SNR=3.6						
PMG				LR	LR	11 16 28.2	
	comp=Z,820nm,21.5s,baz=62,slow=29						
WRA	**Warramunga Arr**	**22.09**	**227**	P	P	11 18 26.9	-1.1
	1.5nm,0.6s,baz=52,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**24.86**	**221**	P	P	11 18 55.4	+1.0
	1.1nm,0.5s,baz=89,slow=8.9,SNR=20						
FITZ	**Fitzroy Crossi**	**28.20**	**241**	P	P	11 19 23.6	-0.8
	1.6nm,0.6s,baz=62,slow=9.3,SNR=5.5						
AFI	**Afiamalu**	**37.26**	**106**	LR	LR	11 32 49.6	
	comp=Z,388nm,21.8s,baz=32,slow=31						
TORD	**Torodi Ar. Bea**	**149.12**	**287**	PKPbc	PKPbc	11 33 18.6	-0.4
	0.2nm,0.4s,baz=104,slow=4.0,SNR=3.2						

IDC 15 11:15:40.4±18.0, 27°.97N×70°.58E, h0km, mb3.3/3, mb1 3.5/3,mb1mx3.2/27,mbtmp3.3/3,Error ellipse: s-maj=1003.0km s-min=84.9km az=126.0, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.92**	**23**	P	P	11 20 23.8	-0.8
	0.3nm,0.7s,baz=213,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**27.98**	**18**	P	P	11 21 33.4	+0.7
	0.7nm,0.6s,baz=226,slow=9.8,SNR=4.3						
YKA	**Yellowknife Ar**	**89.75**	**2**	P	P	11 28 40.2	-0.2
	0.1nm,0.5s,baz=352,slow=4.6,SNR=4.3						

DDA 15 11:23:12.1, 36°.63N×40°.09E, h7km, MD2.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**0.88**	**39**	*i* P	Pg	11 23 27.9	-1.4
MARD				*i* S	Sb	11 23 42.2	+0.2
DIYA	**Diyarbakir**	**1.29**	**1**	*i* P	Pg	11 23 37.1	0.0
DIYA				*i* S	Sn	11 23 56.0	+1.6
URFA	**Urfa**	**1.30**	**309**	*e*PN	Pn	11 23 36.7	-0.2
BEST	**Besiri**	**1.57**	**36**	*i* P	Pn	11 23 39.0	-1.7
BEST				*i* S	Sg	11 24 03.1	0.0
ATAB	**Bozova**	**1.66**	**301**	*i* P	Pb	11 23 43.5	+0.3
ATAB				*i* S	Sg	11 24 06.6	+0.8
SVRC	**Sivrice-ELAZID**	**1.86**	**341**	*e*PN	Pg	11 23 47.9	-0.1
BNGB	**Bing¶ll**	**2.41**	**11**	*e*PN	Pg	11 24 00.4	+2.0
DARE	**Darende-Malaty**	**2.94**	**323**	*e*PN	Pn	11 23 51.7	-7.8

MAN 15 11:33:08, 6°.41N×126°.17E, h56km, mb4.6, ML3.5, MS3.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.54**	**10**	*e*P	Pn	11 33 22.4	+2.2
MATI				*e*S	Sn	11 33 33.8	+4.9
KCP	**Kidapawan**	**1.22**	**299**	*i*P	Pn	11 33 31.8	+2.8
KCP				*i* S	Sn	11 33 46.6	+1.9
GSPH	**General Santos**	**1.25**	**255**	*i*P	Pn	11 33 26.9	-2.5
GSPH				*i* S	Sn	11 33 41.1	-4.4
BUKP	**Musuan**	**1.82**	**323**	*e*P	Pn	11 33 38.3	+1.2
BUKP				*e*S	Sn	11 34 00.7	+1.5

ATH ***15*** *11:43:24.8,38°.22N×26°.10E,h5km,MD3.1/4*
ISK ***15*** *11:43:25.7,38°.29N×26°.10E,h5km,MD2.9*
THE ***15*** *11:43:25.4,38°.28N×25°.98E,h10km±2km,ML2.6/3,Error ellipse: s-maj=3.8km s-min=0.8km az=84.0*
CSEM ***15*** *11:43:25.4±0.2,38°.25N×25°.97E,h2km,ML2.6/3,Error ellipse: s-maj=4.8km s-min=4.5km az=119.0*
DDA ***15*** *11:43:26.7,38°.29N×26°.15E,h5km,MD2.8*

ISC 15 11:43:24.9±0.9, 38°.28N±0°.02×26°.00E±0°.02, h13km±5km, n46,σ0§48/75, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.12**	**23**	P	**Pg**	**11 43 28.4**	**+0.3**
CHOS				S	**Sg**	**11 43 30.1**	**-0.4**
CHOS	**Chios island**	**0.12**	**23**	*e*PG	**Pg**	**11 43 28.4**	**+0.3**
CHOS				*e*SG	**Sg**	**11 43 30.8**	**+0.3**
CHOS	**Chios island**	**0.12**	**23**	P	**Pg**	**11 43 28.4**	**+0.3**
CHOS				S	**Sg**	**11 43 30.1**	**-0.4**
CHOS				*e*Sg	Sg	11 43 30.8	+0.3
URLA	**Izmir**	**0.48**	**80**	*i* P	**Pg**	**11 43 34.4**	**+0.1**
URLA				*i* S	**Sb**	**11 43 42.1**	**-0.1**
URLA	**Izmir**	**0.48**	**80**	*i* P	**Pg**	**11 43 34.4**	**+0.1**
URLA				*i* S	**Sb**	**11 43 42.1**	**-0.1**
BLCB	**Balcova**	**0.83**	**82**	*e*PG	**Pb**	**11 43 41.2**	**0.0**
BLCB				*e*SG	**Sn**	**11 43 53.5**	**-0.9**
BLCB	**Balcova**	**0.83**	**82**	*e*Pg	**Pb**	**11 43 41.2**	**0.0**
BLCB				*e*Sg	**Sn**	**11 43 53.5**	**-0.9**
SIGR	**SIGRI**	**0.94**	**353**	P	**Pb**	**11 43 43.2**	**+0.2**
SIGR				S	**Sn**	**11 43 56.8**	**-0.3**
SIGR	**SIGRI**	**0.94**	**353**	P	**Pb**	**11 43 43.2**	**+0.2**
SIGR				S	**Sn**	**11 43 56.8**	**-0.3**
PRK	**Paraskevi**	**0.99**	**12**	P	**Pg**	**11 43 44.3**	**+0.3**
PRK				S	**Sg**	**11 43 57.6**	**+0.7**
PRK	**Paraskevi**	**0.99**	**12**	*e*PB	**Pg**	**11 43 44.2**	**+0.3**
PRK				*e*SB	**Sn**	**11 43 58.5**	**+0.1**
PRK	**Paraskevi**	**0.99**	**12**	P	**Pg**	**11 43 44.3**	**+0.3**
PRK				S	**Sg**	**11 43 57.6**	**+0.7**
PRK				*e*Sb	**Sn**	**11 43 58.5**	**+0.1**
IZM	**Izmir**	**1.00**	**83**	*e*PG	**Pn**	**11 43 44.5**	**-0.3**
IZM				*e*SG	**Sg**	**11 43 57.9**	**+0.6**
IZM	**Izmir**	**1.00**	**83**	*e*Pg	**Pn**	**11 43 44.5**	**-0.3**
IZM				*e*Sg	**Sg**	**11 43 57.9**	**+0.6**
AYVA	**Ayvalik**	**1.16**	**28**	*i* P	**Pg**	**11 43 48.0**	**+0.7**
AYVA				*i* S	**Sg**	**11 44 03.2**	**+0.7**
AYVA	**Ayvalik**	**1.16**	**28**	*i* P	**Pg**	**11 43 48.0**	**+0.7**
AYVA				*i* S	**Sg**	**11 44 03.2**	**+0.7**
APE	**Apeiranthos**	**1.26**	**197**	P	**Pn**	**11 43 48.1**	**-0.2**
APE				S	**Sn**	**11 44 05.0**	**-0.1**
APE	**Apeiranthos**	**1.26**	**197**	*e*PB	**Pn**	**11 43 48.2**	**-0.1**
APE				*e*SB	**Sn**	**11 44 05.1**	**-0.1**
APE	**Apeiranthos**	**1.26**	**197**	*e*Pb	**Pn**	**11 43 48.2**	**-0.1**
APE				S	**Sn**	**11 44 05.0**	**-0.1**
MRMA	**Marmari**	**1.29**	**261**	P	**Pn**	**11 43 48.7**	**0.0**
MRMA				S	**Sb**	**11 44 05.4**	**-0.2**
MRMA	**Marmari**	**1.29**	**261**	P	**Pn**	**11 43 48.7**	**0.0**
MRMA				S	**Sb**	**11 44 05.4**	**-0.2**
AKHS	**Akhisar**	**1.55**	**67**	*i* P	**Pb**	**11 43 53.8**	**+0.4**
AKHS				*i* S	**Sb**	**11 44 13.5**	**+0.5**
AKHS	**Akhisar**	**1.55**	**67**	*i* P	**Pb**	**11 43 53.8**	**+0.4**
AKHS				*i* S	**Sb**	**11 44 13.5**	**+0.5**
BOZC	**Bozcaada**	**1.56**	**2**	*i* P	**Pn**	**11 43 51.6**	**-0.8**
BOZC				*i* S	**Sn**	**11 44 12.0**	**-0.5**
EZN	**Ezine**	**1.57**	**9**	*e*PN	**Pb**	**11 43 53.2**	**-0.5**
EZN	**Ezine**	**1.57**	**9**	*e*Pn	**Pb**	**11 43 53.2**	**-0.5**
BODT	**Bodrum**	**1.60**	**139**	*e*PN	**Pg**	**11 43 55.8**	**+0.2**
BODT	**Bodrum**	**1.60**	**139**	*e*Pn	**Pg**	**11 43 55.8**	**+0.2**
AYDN	**Tasoluk**	**1.61**	**112**	*i* P	**Pg**	**11 43 56.1**	**+0.3**
AYDN				*i* S	**Sg**	**11 44 17.1**	**+0.4**
AYDN	**Tasoluk**	**1.61**	**112**	*i* P	**Pg**	**11 43 56.1**	**+0.3**
AYDN				*i* S	**Sg**	**11 44 17.1**	**+0.4**
LIA	**Limnos Island**	**1.74**	**339**	*e*PN	**Pg**	**11 43 58.8**	**+0.6**
LIA	**Limnos Island**	**1.74**	**339**	*e*Pn	**Pg**	**11 43 58.8**	**+0.6**
MANT	**Manisa**	**2.02**	**83**	*i* P	**Pg**	**11 44 04.4**	**+0.7**
MANT				*i* S	**Sg**	**11 44 29.7**	**-0.3**
MANT	**Manisa**	**2.02**	**83**	*i* P	**Pg**	**11 44 04.4**	**+0.7**
MANT				*i* S	**Sg**	**11 44 29.7**	**-0.3**
KULA	**Kula-Manisa**	**2.11**	**83**	*e*PN	**Pb**	**11 44 02.9**	**-0.1**
KULA	**Kula-Manisa**	**2.11**	**83**	*e*Pn	**Pb**	**11 44 02.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.15**	**10**	*e*PN	**Pb**	**11 44 03.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.15**	**10**	*e*Pn	**Pb**	**11 44 03.4**	**-0.3**
LPK	**Lapseki**	**2.17**	**16**	*e*PN	**Pb**	**11 44 04.4**	**+0.3**
LPK	**Lapseki**	**2.17**	**16**	*e*Pn	**Pb**	**11 44 04.4**	**+0.3**
GONE	**Gonen-Balikesi**	**2.20**	**36**	*e*PN	**Pb**	**11 44 04.4**	**-0.2**
GONE	**Gonen-Balikesi**	**2.20**	**36**	*e*Pn	**Pb**	**11 44 04.4**	**-0.2**
KRBG	**Karabiga-Canak**	**2.34**	**25**	*e*PN	**Pb**	**11 44 06.6**	**-0.4**
KRBG	**Karabiga-Canak**	**2.34**	**25**	*e*Pn	**Pb**	**11 44 06.6**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.58**	**20**	*e*PN	**Pb**	**11 44 09.6**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.58**	**20**	*e*Pn	**Pb**	**11 44 09.6**	**-1.4**

IDC 15 11:47:30.0±1.6, 2°.05N×95°.97E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.3/25,mbtmp3.3/6,ML2.6/1,Error ellipse: s-maj=43.6km s-min=21.2km az=50.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.05**	**76**	Pn	Pn	11 48 19.4	-0.2
	0.8nm,0.3s,baz=150,slow=12,SNR=3.2						
PSI				Sn	Sn	11 48 58.8	+1.8
	0.7nm,0.3s,baz=307,slow=22,SNR=2.8						
WRA	**Warramunga Arr**	**43.53**	**122**	P	P	11 55 34.9	-0.9
	0.3nm,1.0s,baz=300,slow=9.6,SNR=2.7						
ASAR	**Alice Springs**	**44.89**	**127**	P	P	11 55 47.2	+0.5
	0.2nm,0.8s,baz=301,slow=8.2,SNR=4.1						
MKAR	**Makanchi Array**	**46.14**	**347**	P	P	11 55 56.2	0.0
	0.4nm,0.4s,baz=157,slow=8.2,SNR=6.9						
SONM	**Songino Array**	**46.50**	**10**	P	P	11 55 57.9	-1.2
	0.2nm,0.4s,baz=187,slow=8.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.54**	**352**	P	P	11 56 45.5	+0.5
	0.6nm,0.4s,baz=171,slow=6.9,SNR=7.1						

IDC 15 11:57:08.8±65.0, 0°.94N×96°.20E, h0km, mb3.4/3, mb1 3.4/3,mb1mx3.2/23,mbtmp3.4/3,MS3.7/2,Ms1 3.7/2, ms1mx2.9/15,Error ellipse: s-maj=1250.0km s-min=162.5km az=177.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.26**	**347**	P	P	12 05 43.8	-0.1
	0.2nm,0.4s,baz=163,slow=9.1,SNR=5.8						
SONM	**Songino Array**	**47.54**	**9**	P	P	12 05 46.0	-0.1
	0.3nm,0.7s,baz=195,slow=10,SNR=4.1						
CTA	**Charters Tower**	**53.28**	**116**	LR	LR	12 30 51.3	
	comp=Z,74nm,18.3s,baz=232,slow=38						
USRK	**Ussuriysk Arra**	**53.51**	**32**	LR	LR	12 28 41.0	
	comp=Z,58nm,20.9s,baz=212,slow=35						
ZALV	**Zalesovo Beam**	**53.66**	**352**	P	P	12 06 31.9	-0.2
	0.4nm,0.5s,baz=165,slow=7.0,SNR=4.3						

IDC ***15*** *12:04:42.3±5.2,52°.19N×169°.15W,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.4/30,mbtmp3.6/5,ML3.3/2,Error ellipse: s-maj=123.9km s-min=27.3km az=166.0*
NEIC ***15*** *12:04:47.0,52°.04N×169°.45W,h19km,ML3.0(AEIC),After AEIC.*

ISC 15 12:04:46.2±2.0, 52°.0N±0°.1×168°.9W±0°.1, h30km, n14, σ1§62/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.95**	**3**	P	**Pb**	**12 05 03.1**	**-0.9**
OKSO	**Okmok South**	**1.41**	**19**	P	**Pb**	**12 05 11.9**	**0.0**
OKSO				S	**Sb**	**12 05 31.4**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**1.46**	**22**	P	**Pb**	**12 05 13.0**	**+0.2**
OKCE	**Okmok Cone E**	**1.48**	**18**	P	**Pb**	**12 05 12.7**	**-0.3**
OKFG	**Magazine Ridge**	**1.52**	**24**	P	**Pb**	**12 05 13.2**	**-0.5**
OKFG				S	**Sb**	**12 05 34.4**	**+1.9**
OKAK	**Okmok**	**1.59**	**13**	P	**Pb**	**12 05 12.3**	**-2.7**
MREP	**Makushin Rep't**	**2.22**	**36**	P	**Pb**	**12 05 24.5**	**-1.2**
MSW	**Makushin Switc**	**2.29**	**34**	P	**Pb**	**12 05 24.9**	**-2.0**
MSW				S	**Sb**	**12 05 54.2**	**-0.6**
UNV	**Unalaska Valle**	**2.34**	**38**	P	**Pb**	**12 05 25.5**	**-2.2**
UNV				S	**Sb**	**12 05 54.6**	**-1.6**
KDAK	**Kodiak Island**	**11.02**	**52**	Pn	**Pn**	**12 07 23.3**	**+1.7**
	0.4nm,0.3s,baz=217,slow=5.1,SNR=5.9						
ILAR	**Eielson Array**	**17.09**	**33**	Pn	**Pn**	**12 08 41.1**	**-1.4**
	0.0nm,0.3s,baz=225,slow=10,SNR=2.8						
PETK	**Petropavlovsk-**	**20.21**	**286**	P	Pn	12 09 16.6	-3.7
	2.2nm,0.6s,baz=94,slow=12,SNR=5.9						
YKA	**Yellowknife Ar**	**30.27**	**48**	P	**P**	**12 10 55.7**	**+1.7**

0.2nm,0.8s,baz=286,slow=6.5,SNR=5.4

BJI ***15*** *12:51:27.7, 6˚.97S× 147˚.91E, h87km, mB5.1/12, mb4.8/18, Ms4.9/6, Ms7 4.7/6*

AUST ***15*** *12:51:30.3, 6˚.25S× 147˚.11E, h60km*

IDC ***15*** *12:51:31.8±0.5, 6˚.54S× 147˚.11E, h59km±4km, mb4.3/20, mb1 4.4/21, mb1mx4.4/23, mbtmp4.3/21, MS3.5/8, Ms1 3.5/8, ms1mx3.2/26, Error ellipse: s-maj=16.6km s-min=7.7km az=111.0*

ISCJB ***15*** *12:51:32.3±1.2, 6˚.45S±0˚.04× 147˚.21E±0˚.06, h78km±11km, mb4.5/37, Error ellipse: s-maj=10.2km s-min=6.4km az=14.7*

NEIC ***15*** *12:51:35.0±1.1, 6˚.46S× 147˚.20E, h89km±10km, mb4.5/17, Error ellipse: s-maj=10.1km s-min=6.3km az=85.0*

DJA ***15*** *12:51:35.9±1.8, 7˚.5S±12˚× 14˚.7E±1˚.6, h60km±14km, M4.8/6, mB5.0/1, mb4.8/6, MLv4.7/1, Mw(mB)4.4/1*

ISC 15 12:51:32.2±0.4, 6˚.52S±0˚.04× 147˚.15E±0˚.07, h62km±3km, h61km:pP-P, n112, σ1§54/148, mb4.6/36, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.86**	**180**	P	**Pn**	**12 52 18.6**	**+3.1**
	106nm,0.3s,baz=354,slow=9.2,SNR=251						
PMG				S	**Sn**	**12 52 52.4**	**+3.6**
	103nm,0.3s,baz=221,slow=22,SNR=6.3						
PMG	**Port Moresby**	**2.86**	**180**	*e*Pn	**Pn**	**12 52 18.4**	**+2.9**
PMG				*e*Sn	Sn	12 53 00.7	+12
PMG	**Port Moresby**	**2.86**	**180**	P	**Pn**	**12 52 18.1**	**+2.6**
COEN	**Coen**	**8.36**	**208**	*e*Pn	Pn	12 53 34.3	+3.5
COEN				*e*Sn	**Sn**	**12 55 04.0**	**+0.2**
COEN	**Coen**	**8.36**	**208**	P	**Pn**	**12 53 33.9**	**+3.1**
	baz=8.6,SNR=30						
COEN				S	**Sn**	**12 55 01.3**	**-2.4**
	baz=8.6,SNR=4.4						
CTA	**Charters Tower**	**13.51**	**184**	P	**P**	**12 54 45.3**	**-3.0**
	1.5nm,0.3s,baz=3.9,slow=14,SNR=17						
CTA				S	**Sn**	**12 57 08.8**	**-0.9**
	0.3nm,0.3s,baz=270,slow=19,SNR=2.0						
CTA				LR	LR	12 59 29.7	
	comp=Z,107nm,20.0s,baz=58,slow=35						
CTA	**Charters Tower**	**13.51**	**184**	P	**P**	**12 54 45.3**	**-3.0**
CTA				S	**Sn**	**12 57 08.8**	**-0.9**
CTAO	**Charters Tower**	**13.51**	**184**	*e*Pn	**P**	**12 54 45.7**	**-2.6**
QIS	**Mount Isa**	**15.75**	**207**	P	**P**	**12 55 12.2**	**-1.1**
	baz=16,SNR=25						
MTN	**Manton Dam**	**16.99**	**247**	P	Pn	12 55 17.2	-8.7
	baz=17,SNR=6.8						
MTN				S	**Sn**	**12 58 32.5**	**-1.7**
	baz=17,SNR=3.3						
WRAB	**Tennant Creek**	**18.23**	**222**	*e*P	**Pn**	**12 55 41.4**	**+0.3**
WRA	**Warramunga Arr**	**18.24**	**222**	P	**Pn**	**12 55 41.5**	**+0.3**
	3.1nm,0.3s,baz=44,slow=12,SNR=42						
WRA				S	**Sn**	**12 59 01.2**	**-3.2**
	0.3nm,0.3s,baz=45,slow=22,SNR=4.4						
WRA				LR	LR	13 03 38.0	
	comp=Z,114nm,19.1s,baz=75,slow=40						
WRA	**Warramunga Arr**	**18.24**	**222**	P	**Pn**	**12 55 41.5**	**+0.3**
WRA				S	**Sn**	**12 59 01.2**	**-3.2**
EIDS	**Eidsvold**	**19.11**	**169**	*e*P	**Pn**	**12 55 51.5**	**-0.2**
	15nm,0.9s						
EIDS	**Eidsvold**	**19.11**	**169**	P	**Pn**	**12 55 51.8**	**+0.1**
	baz=20,SNR=7.6						
RMQ	**Roma**	**19.91**	**176**	P	**Pn**	**12 56 01.2**	**+0.1**
	baz=20,SNR=18						
GUMO	**Guam**	**20.11**	**354**	LR	LR	13 02 10.7	
	comp=Z,106nm,21.9s,baz=269,slow=32						
QLP	**Quilpie**	**20.14**	**188**	P	Pn	12 56 02.7	-1.1
	baz=20,SNR=57						
ASAR	**Alice Springs**	**21.28**	**215**	P	**P**	**12 56 14.8**	**+1.1**
	19nm,0.4s,baz=57,slow=8.9,SNR=73						
ASAR				pP	**pP**	**12 56 27.3**	**+0.1**
	32nm,0.7s,baz=42,slow=13,SNR=18						
ASAR				S	**S**	**13 00 05.5**	**-1.5**
	5.3nm,1.0s,baz=26,slow=23,SNR=5.8						
ASAR				LR	LR	13 04 31.0	
	comp=Z,87nm,19.1s,baz=21,slow=37						
ASAR	**Alice Springs**	**21.28**	**215**	P	**P**	**12 56 14.8**	**+1.1**
ASAR				pP	**pP**	**12 56 27.3**	**+0.1**
ASAR				S	**S**	**13 00 05.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.93**	**239**	P	**P**	**12 56 41.2**	**+0.5**
	22nm,0.5s,baz=68,slow=9.3,SNR=31						
FITZ				S	**S**	**13 00 51.2**	**-2.0**
	5.1nm,1.1s,baz=272,slow=20,SNR=1.9						
FITZ				LR	LR	13 07 38.5	
	comp=Z,98nm,18.5s,baz=62,slow=40						
FITZ	**Fitzroy Crossi**	**23.93**	**239**	*e*P	**P**	**12 56 41.0**	**+0.3**
	60nm,1.0s						
FITZ				S	**S**	**13 00 51.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**23.93**	**239**	P	**P**	**12 56 41.3**	**+0.5**
	baz=24,SNR=24						
ARMA	**Armidale**	**24.14**	**171**	*e*P	**P**	**12 56 43.5**	**+0.8**
	15nm,0.8s						
ARMA	**Armidale**	**24.14**	**171**	P	**P**	**12 56 43.5**	**+0.8**
	baz=24,SNR=17						
DZM	**Mont Dzumac**	**24.20**	**132**	LR	LR	13 05 09.2	
	comp=Z,96nm,21.0s,baz=13,slow=34						
LUWI	**Luwuk**	**24.92**	**282**	P	**P**	**12 56 52.1**	**+2.2**
CMSA	**Cobar Meteorol**	**24.92**	**183**	P	**P**	**12 56 50.3**	**+0.6**
	baz=25,SNR=18						
STKA	**Stephens Creek**	**25.75**	**191**	P	**P**	**12 56 57.5**	**+0.3**
	5.7nm,0.4s,baz=3.7,slow=9.1,SNR=26						
STKA				LR	LR	13 06 41.0	
	comp=Z,98nm,21.0s,baz=26,slow=35						
STKA	**Stephens Creek**	**25.75**	**191**	*e*P	**P**	**12 56 57.7**	**+0.5**
	40nm,2.7s						
STKA	**Stephens Creek**	**25.75**	**191**	P	**P**	**12 56 57.7**	**+0.5**
	baz=26,SNR=23						
MGCD	**Mangrove Creek**	**26.81**	**173**	P	**P**	**12 57 10.2**	**+3.4**
	baz=27,SNR=6.8						
YNG	**Young**	**27.66**	**178**	P	**P**	**12 57 18.3**	**+3.9**
	baz=28,SNR=16						
BBOO	**Buckleboo**	**28.12**	**200**	*e*P	**P**	**12 57 18.5**	**0.0**
	351nm,1.0s						
BBOO	**Buckleboo**	**28.12**	**200**	P	**P**	**12 57 19.8**	**+1.4**
	baz=28,SNR=6.5						
FORT	**Forrest**	**30.05**	**214**	*e*P	**P**	**12 57 35.3**	**-0.3**
	28nm,0.9s						
FORT	**Forrest**	**30.05**	**214**	P	**P**	**12 57 36.4**	**+0.7**
	baz=30,SNR=9.6						
MBWA	**Marble Bar**	**30.26**	**239**	*e*P	**P**	**12 57 38.3**	**+0.7**
	5.7nm,0.5s						
MYLDM	**Lahad Datu**	**30.88**	**291**	P	**P**	**12 57 45.3**	**+2.2**
KKM	**Kota Kinabalu**	**33.30**	**291**	*e*P	**P**	**12 58 04.3**	**-0.3**
	24nm,0.9s						
MEEK	**Meekatharra**	**33.74**	**230**	P	**P**	**12 58 09.0**	**+0.9**
	baz=34,SNR=24						
MORW	**Morawa**	**36.94**	**229**	P	**P**	**12 58 36.5**	**+0.9**
	baz=37,SNR=7.1						
KLBR	**Kellerberrin**	**37.10**	**224**	P	**P**	**12 58 37.1**	**+0.2**
	baz=37,SNR=30						
BLDU	**Ballidu**	**37.28**	**226**	P	**P**	**12 58 39.2**	**+0.8**
	baz=38,SNR=4.3						
JOW	**Kunigami**	**37.87**	**332**	P	**P**	**12 58 43.7**	**+0.3**
	23nm,0.5s,baz=149,slow=9.9,SNR=15						
JOW	**Kunigami**	**37.87**	**332**	*e*P	**P**	**12 58 43.7**	**+0.3**
	10nm,0.7s						
NWAO	**Narrogin (SRO)**	**38.25**	**223**	P	**P**	**12 58 47.6**	**+1.1**
	3.3nm,0.5s,baz=36,slow=13,SNR=6.2						
NWAO	**Narrogin (SRO)**	**38.25**	**223**	P	**P**	**12 58 47.6**	**+1.1**
JNU	**Nakatsue**	**42.35**	**340**	P	**P**	**12 59 20.1**	**-0.4**
	15nm,0.8s,baz=164,slow=7.8,SNR=11						
JNU	**Nakatsue**	**42.35**	**340**	P	**P**	**12 59 20.1**	**-0.4**
MJAR	**Matsushiro Arr**	**43.65**	**350**	P	**P**	**12 59 29.7**	**-1.2**
	2.7nm,0.7s,baz=180,slow=9.5,SNR=16						
MJAR	**Matsushiro Arr**	**43.65**	**350**	P	**P**	**12 59 29.7**	**-1.2**
MAJO	**Matsushiro**	**43.65**	**350**	*e*P	**P**	**12 59 29.7**	**-1.2**
	9.6nm,0.8s						
NJ2	**Nanjing**	**46.90**	**327**	*e*P	**P**	**12 59 57.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**47.29**	**339**	P	**P**	**12 59 59.4**	**-0.3**
	comp=Z,11nm,0.8s,baz=155,slow=8.8,SNR=24						
KSAR	**Wonju Array Be**	**47.30**	**339**	P	**P**	**12 59 59.4**	**-0.3**
KULM	**Kulim**	**47.88**	**283**	*e*P	**P**	**13 00 05.6**	**+0.9**
	comp=Z,14nm,0.7s						
ASAJ	**Asahikawa**	**50.57**	**356**	P	**P**	**13 00 24.6**	**-0.1**
	comp=Z,6.2nm,0.6s,baz=102,slow=31,SNR=5.5						
ASAJ	**Asahikawa**	**50.57**	**356**	P	**P**	**13 00 24.6**	**-0.1**
USRK	**Ussuriysk Arra**	**52.31**	**346**	P	**P**	**13 00 37.5**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=172,slow=6.3,SNR=10						
MDJ	**Mudanjiang**	**53.31**	**344**	P	**P**	**13 00 46.9**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.2s						
KMI	**Kunming**	**53.44**	**308**	P	**P**	**13 00 47.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CM31	**Chiang Mai Arr**	**53.63**	**298**	*e*P	**P**	**13 00 49.2**	**+1.3**
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.63**	**298**	P	**P**	**13 00 49.2**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=123,slow=5.8,SNR=43						
CMAR				sP	**sP**	**13 01 11.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=118,slow=6.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**53.63**	**298**	P	**P**	**13 00 49.1**	**+1.3**
CMAR				sP	**sP**	**13 01 11.1**	**+0.1**
CHTO	**Chiang Mai**	**53.77**	**299**	*e*P	**P**	**13 00 49.9**	**+1.0**
	comp=Z,2.4nm,0.6s						
CN2	**Changchun**	**53.80**	**341**	*e*P	**P**	**13 00 51.3**	**+2.7**
CD2	**Chengdu**	**55.75**	**314**	P	**P**	**13 01 04.8**	**+1.8**
CD2				pP	pP	13 01 26.8	+7.5
CD2				sP	sP	13 01 36.9	+11
CD2				PP	**PP**	**13 03 11.9**	**+3.8**
CD2				S	**S**	**13 08 43.3**	**-2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,85nm,4.7s						
CD2				LR	LR		
	comp=N,350nm,5.3s						
CD2				LR	LR		
	comp=Z,190nm,5.3s						
PETK	**Petropavlovsk-**	**60.08**	**7**	P	**P**	**13 01 33.2**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=152,slow=7.3,SNR=8.0						
PETK	**Petropavlovsk-**	**60.08**	**7**	P	**P**	**13 01 33.2**	**+0.4**
GTA	**Gaotai**	**63.24**	**320**	*e*P	**P**	**13 01 55.0**	**+0.4**
GTA				pP	**pP**	**13 02 15.9**	**+4.8**
GTA				sP	sP	13 02 25.9	+7.8
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULN	**Ulaanbaatar**	**64.64**	**331**	*e*P	**P**	**13 02 03.6**	**-0.1**
	comp=Z,3.5nm,0.7s						
SONM	**Songino Array**	**64.93**	**331**	P	**P**	**13 02 05.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=138,slow=4.3,SNR=12						
SONM	**Songino Array**	**64.93**	**331**	P	**P**	**13 02 05.3**	**-0.3**
VNDA	**Vanda**	**71.38**	**177**	P	**P**	**13 02 45.9**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=331,slow=7.5,SNR=6.7						
VNDA				pP	**pP**	**13 03 01.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=341,slow=4.7,SNR=4.9						
VNDA				sP	**sP**	**13 03 08.1**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=315,slow=9.4,SNR=3.5						
VNDA	**Vanda**	**71.38**	**177**	*e*P	**P**	**13 02 45.9**	**+0.6**
	comp=Z,2.5nm,0.8s						
VNDA				pP	**pP**	**13 03 01.7**	**-0.4**
VNDA				sP	**sP**	**13 03 08.1**	**-0.9**
HYB	**Hyderabad**	**71.79**	**291**	*i* P	**P**	**13 02 48.0**	**-0.9**
WMQ	**Urumqi**	**73.29**	**319**	*e*P	**P**	**13 02 57.3**	**0.0**
WMQ				LR	LR		
	comp=N,170nm,28.0s						
WMQ				LR	LR		
	comp=E,110nm,21.0s						
WMQ				LR	LR		
	comp=Z,120nm,19.0s						
MK31	**Makanchi Array**	**78.00**	**321**	*e*P	**P**	**13 03 23.3**	**-0.8**
MKAR	**Makanchi Array**	**78.00**	**321**	P	**P**	**13 03 23.5**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=101,slow=7.2,SNR=14						
MKAR	**Makanchi Array**	**78.00**	**321**	P	**P**	**13 03 23.5**	**-0.7**
ZAA0	**Zalesovo Array**	**79.53**	**328**	*e*P	**P**	**13 03 30.3**	**-2.0**
ZALV	**Zalesovo Beam**	**79.53**	**328**	P	**P**	**13 03 30.6**	**-1.8**
	comp=Z,2.6nm,0.5s,baz=110,slow=5.1,SNR=20						
ZALV				pP	**pP**	**13 03 48.9**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=108,slow=6.0,SNR=1.8						
ZALV				LR	LR	13 42 37.5	
	comp=Z,106nm,18.2s,baz=64,slow=38						
ZALV	**Zalesovo Beam**	**79.53**	**328**	P	**P**	**13 03 30.6**	**-1.8**
ZALV				pP	**pP**	**13 03 48.9**	**-0.5**
KSH	**Kashi**	**79.84**	**312**	*e*P	**P**	**13 03 35.0**	**+0.5**
KSH				*e*pP	pP	13 03 58.9	+7.3
KSH				*e*sP	sP	13 04 10.1	+12
KSH				*e*PP	**PP**	**13 06 39.3**	**+2.6**
KSH				S	**S**	**13 13 29.3**	**-4.0**
KSH				SKS	SKSac	13 13 37.0	-10
KSH				sS	sS	13 14 14.0	+12
KSH				pmax	pmax		
	comp=Z,99nm,6.0s						
KSH				LR	LR		
	comp=N,120nm,6.1s						
KSH				LR	LR		
	comp=E,150nm,8.1s						
KSH				LR	LR		
	comp=Z,240nm,7.3s						
KURK	**Kurchatov**	**81.72**	**323**	*e*P	**P**	**13 03 43.0**	**-1.1**
	comp=Z,2.2nm,0.9s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**13 03 52.9**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=326,slow=2.2,SNR=15						
QSPA				pP	**pP**	**13 04 08.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=26,slow=5.7,SNR=2.7						
QSPA				sP	**sP**	**13 04 15.7**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=358,slow=4.3,SNR=4.3						
QSPA	**South Pole Qui**	**83.45**	**180**	*e*P	**P**	**13 03 52.9**	**-0.1**
	comp=Z,4.9nm,0.9s						
QSPA				pP	**pP**	**13 04 08.9**	**-1.3**
QSPA				sP	**sP**	**13 04 15.8**	**-1.2**
KKAR	**Karatay Array**	**84.76**	**314**	*e*P	**P**	**13 03 58.8**	**-1.2**
	comp=Z,6.0nm,1.1s						
ILAR	**Eielson Array**	**85.90**	**23**	P	**P**	**13 04 03.4**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=253,slow=4.9,SNR=40						
ILAR	**Eielson Array**	**85.90**	**23**	P	**P**	**13 04 03.4**	**-1.8**
NVAR	**Mina Array Bea**	**97.57**	**52**	P	**P**	**13 04 59.5**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=249,slow=6.6,SNR=3.1						
NVAR	**Mina Array Bea**	**97.57**	**52**	P	**P**	**13 04 59.5**	**-0.9**
YKA	**Yellowknife Ar**	**99.56**	**28**	P	**Pdif**	**13 05 06.2**	**-2.3**
	comp=Z,0.3nm,0.9s,baz=276,slow=5.1,SNR=5.8						
YKA				pP	**pP**	**13 05 23.7**	**-2.2**
	comp=Z,0.2nm,0.8s,baz=283,slow=5.6,SNR=2.2						
YKA				PKiKP	**PKiKP**	**13 09 37.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=276,slow=1.4,SNR=4.1						
YKA	**Yellowknife Ar**	**99.56**	**28**	P	**Pdif**	**13 05 06.2**	**-2.3**
YKA				pP	**pP**	**13 05 23.7**	**-2.2**
YKA				PKiKP	**PKiKP**	**13 09 37.1**	**-0.1**
PDAR	**Pinedale Array**	**104.16**	**48**	Pdiff	**Pdif**	**13 05 29.6**	**-0.1**
	comp=Z,1.0nm,1.1s,baz=241,slow=1.5,SNR=4.7						
PDAR	**Pinedale Array**	**104.16**	**48**	Pdif	**Pdif**	**13 05 29.6**	**-0.1**
ARCES	**ARCESS Array B**	**106.80**	**342**	Pdiff	**Pdif**	**13 05 38.3**	**-2.2**
	comp=Z,4.1nm,1.0s,baz=349,slow=5.6,SNR=3.9						
ARCES	**ARCESS Array B**	**106.80**	**342**	Pdif	**Pdif**	**13 05 38.3**	**-2.2**
FINES	**FINESS Array B**	**110.21**	**334**	Pdiff	**Pdif**	**13 05 53.3**	**-2.5**
	comp=Z,0.8nm,0.8s,baz=41,slow=6.1,SNR=3.4						
FINES				PKiKP	**PKiKP**	**13 09 56.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=26,slow=4.9,SNR=3.8						
FINES	**FINESS Array B**	**110.21**	**334**	Pdif	**Pdif**	**13 05 53.3**	**-2.5**
FINES				PKiKP	**PKiKP**	**13 09 56.0**	**-0.8**
VYHS	**Vyhne**	**119.61**	**323**	PDIF	**Pdif**	**13 06 38.4**	**+0.4**
GERES	**GERESS Array B**	**122.42**	**325**	PKP	**PKPdf**	**13 10 19.9**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=65,slow=1.9,SNR=11						
GERES	**GERESS Array B**	**122.42**	**325**	PKP	**PKPdf**	**13 10 19.9**	**-0.9**
GRF	**Grafenberg Arr**	**123.33**	**327**	*e*PKPdf	**PKPdf**	**13 10 21.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**145.37**	**284**	PKPbc	**PKPab**	**13 11 04.8**	**+0.4**
	comp=Z,12nm,0.6s,baz=67,slow=4.0,SNR=160						
TORD				sPKPbc	sPKPbc	13 11 25.4	-3.3
	comp=Z,2.4nm,0.6s,baz=85,slow=3.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**145.37**	**284**	PKPbc	**PKPab**	**13 11 04.8**	**+0.4**
TORD				sPKPbc	sPKPbc	13 11 25.4	-3.3
SAML	**Samuel**	**146.08**	**117**	*e*PKPbc	**PKPdf**	**13 11 05.7**	**+0.2**
DBIC	**Dimbokro**	**152.20**	**272**	PKPbc	**PKPbc**	**13 11 22.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=329,slow=3.1,SNR=5.4						
DBIC				PKPab	**PKPab**	**13 11 32.5**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=139,slow=1.6,SNR=5.7						
DBIC	**Dimbokro**	**152.20**	**272**	*e*PKPbc	**PKPbc**	**13 11 22.3**	**+0.2**
DBIC				PKPab	**PKPab**	**13 11 32.5**	**+0.6**
BDFB	**Brasilia**	**153.34**	**146**	PKPbc	**PKPbc**	**13 11 24.7**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=106,slow=6.7,SNR=3.2						
BDFB				pPKPbc	**pPKPbc**	**13 11 41.3**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=159,slow=2.6,SNR=2.3						
BDFB	**Brasilia**	**153.34**	**146**	PKPbc	**PKPbc**	**13 11 24.7**	**+0.1**
BDFB				pPKPbc	**pPKPbc**	**13 11 41.3**	**-1.4**
VNDA				LR	LR	13 30 42.7	
	comp=Z,558nm,21.4s,baz=352,slow=30						
URZ	**Urewera**	**27.44**	**318**	LR	LR	13 34 40.0	
	comp=Z,182nm,21.0s,baz=157,slow=30						
QSPA	**South Pole Qui**	**28.47**	**180**	P	**P**	**13 26 47.9**	**+1.4**
	1.8nm,0.9s,baz=63,slow=9.0,SNR=3.8						
QSPA				LR	LR	13 35 30.7	
	comp=Z,269nm,20.0s,baz=244,slow=31						
TBI	**Tubuai**	**38.93**	**15**	*e*LR	LR	13 39 17.1	
	344nm,28.0s						
PPT2	**Papeete2**	**44.60**	**14**	*e*S	S	13 36 12.2	+32
	61nm,28.2s						
PPT2				*e*LR	LR	13 42 04.2	
	364nm,25.2s						
PPT	**Papeete**	**44.62**	**14**	LR	LR	13 42 23.6	
	comp=Z,260nm,21.9s,baz=181,slow=29						
VNA3	**Neumayer Olymp**	**45.76**	**167**	*e*P	P	13 29 26.9	+14
DZM	**Mont Dzumac**	**45.87**	**314**	*e*LR	LR	13 42 33.0	
	131nm,24.9s						
DZM	**Mont Dzumac**	**45.87**	**314**	LR	LR	13 44 14.5	
	comp=Z,119nm,20.3s,baz=95,slow=31						
VNA2	**Neumayer--Watz**	**46.30**	**168**	*e*P	P	13 29 24.1	+7.3
MAW	**Mawson**	**47.38**	**201**	LR	LR	13 49 58.3	
	comp=Z,110nm,20.1s,baz=149,slow=37						
STKA	**Stephens Creek**	**47.68**	**281**	P	**P**	**13 29 29.1**	**+1.1**
	1.8nm,0.7s,baz=154,slow=3.9,SNR=3.2						
ASAR	**Alice Springs**	**58.23**	**279**	P	**P**	**13 30 45.3**	**-0.7**
	2.7nm,0.9s,baz=152,slow=7.0,SNR=23						
WRA	**Warramunga Arr**	**61.22**	**282**	P	**P**	**13 31 06.1**	**-0.5**
	1.9nm,0.9s,baz=152,slow=5.7,SNR=16						
CFAA	**Coronel Fontan**	**63.43**	**108**	LR	LR	13 51 44.2	
	comp=Z,118nm,18.2s,baz=240,slow=29						
LPAZ	**La Paz**	**76.60**	**99**	LR	LR	13 59 41.7	
	comp=Z,365nm,19.6s,baz=47,slow=30						
BOSA	**Boshof**	**89.96**	**184**	LR	LR	14 09 11.9	
	comp=Z,139nm,19.6s,baz=345,slow=32						
LPIG	**La Paz**	**94.21**	**44**	LR	LR	14 05 58.8	
	comp=Z,7.5nm,20.4s,baz=40,slow=29						
MKAR	**Makanchi Array**	**142.38**	**276**	PKP	**PKPdf**	**13 40 22.5**	**-0.9**
	0.3nm,0.9s,baz=100,slow=6.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**146.08**	**287**	PKPbc	**PKPab**	**13 40 32.0**	**+0.9**
	0.6nm,0.6s,baz=173,slow=2.5,SNR=5.6						
ESDC	**Sonseca Array**	**153.49**	**135**	PKPbc	**PKPbc**	**13 40 48.5**	**-0.9**
	0.1nm,0.3s,baz=228,slow=3.3,SNR=3.0						

IDC ***15*** *13:20:50.6±1.9, 61˚.69S× 159˚.96W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.1/13, mbtmp4.1/5, MS4.0/10, Ms1 4.0/10, ms1mx3.7/29, Error ellipse: s-maj=57.2km s-min=29.1km az=56.0*

ISC 15 13:20:51.7±1.8, 61.7S±0.2× 159.8W±0.3, h10km, n21, σ1§30/8, mb4.2/4, MS3.9/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.10**	**203**	P	**P**	**13 25 23.5**	**-1.5**

ISCJB ***15*** *13:37:42.0±0.5, 3˚.71N±0˚.06× 126˚.5E±0˚.1, h45km, mb4.1/19, MS3.8/4, Error ellipse: s-maj=17.7km s-min=6.1km az=156.6*

IDC ***15*** *13:37:44.6±2.2, 3˚.75N× 126˚.36E, h54km±21km, mb3.8/17, mb1 3.9/18, mb1mx3.8/24, mbtmp3.8/18, ML4.7/1, MS3.5/6, Ms1 3.6/6, ms1mx3.1/40, Error ellipse: s-maj=34.1km s-min=10.5km az=74.0*

ISC 15 13:37:43.6±0.6, 3.77N±0˚.08× 126˚.6E±0˚.1, h45km, n31, σ1§19/28, mb4.1/19, MS3.7/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.80**	**325**	*e*P	**Pn**	**13 38 26.4**	**+0.3**
MATI	**Mati**	**3.17**	**355**	*e*P	Pn	13 38 38.1	+7.1
DAV	**Davao City (W)**	**3.42**	**344**	P	**Pn**	**13 38 33.9**	**-0.5**
	70nm,0.3s,baz=86,slow=3.5,SNR=2.8						
DAV				S	**Sn**	**13 39 15.3**	**+1.5**
	70nm,0.3s,baz=206,slow=20,SNR=3.7						
DAV				LR	LR	13 39 59.4	
	comp=Z,133nm,20.0s,baz=352,slow=40						
CTBH	**Cotabato--PC H**	**4.12**	**326**	*i*P	**Pn**	**13 38 46.4**	**+2.3**
BUKP	**Musuan**	**4.34**	**340**	*e*P	**Pn**	**13 38 48.7**	**+1.5**
BUKP				*e*S	Sn	13 39 51.4	+15
PAGZ	**Pagadian**	**5.13**	**322**	*e*P	**Pn**	**13 39 00.4**	**+2.4**
BUTP	**Butuan**	**5.25**	**350**	*e*P	Pn	13 39 06.3	+6.7
IPIL	**Ipil**	**5.62**	**315**	*e*P	**Pn**	**13 39 07.1**	**+2.4**
IPIL				*e*S	**Sn**	**13 40 07.4**	**-0.6**
KAPI	**Kappang**	**11.05**	**218**	LR	LR	13 45 09.8	
	comp=Z,177nm,18.9s,baz=236,slow=41						
GUMO	**Guam**	**20.55**	**61**	LR	LR	13 48 40.5	
	comp=Z,160nm,19.3s,baz=273,slow=32						
FITZ	**Fitzroy Cross

mb3.3/6,mb1 3.4/7,mb1mx3.1/23,mbtmp3.3/7,Error ellipse: s-maj=29.1km s-min=17.7km az=163.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.27**	**56**	P	P	13 51 25.7	+0.1
	1.9nm,0.3s,baz=225,slow=4.3,SNR=3.3						
AFI				S	S	13 52 55.6	+0.2
	1.1nm,0.3s,baz=52,slow=20,SNR=3.1						
CTA	**Charters Tower**	**33.84**	**261**	P	P	13 55 35.3	+0.1
	2.5nm,0.8s,baz=79,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**38.90**	**242**	P	P	13 56 17.3	+0.5
	3.2nm,0.8s,baz=71,slow=8.9,SNR=9.0						
WRA	**Warramunga Arr**	**45.02**	**260**	P	P	13 57 04.6	-0.7
	1.2nm,0.4s,baz=97,slow=6.7,SNR=65						
WRA				PcP	PcP	13 58 35.0	-0.4
	0.2nm,0.3s,baz=89,slow=3.5,SNR=3.9						
ASAR	**Alice Springs**	**45.15**	**254**	P	P	13 57 06.1	-0.2
	8.2nm,0.5s,baz=89,slow=9.1,SNR=248						
ASAR				PcP	PcP	13 58 35.4	-0.5
	0.3nm,0.4s,baz=104,slow=3.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**53.42**	**261**	P	P	13 58 07.5	+0.1
	1.5nm,0.6s,baz=90,slow=7.1,SNR=4.3						
QSPA	**South Pole Qui**	**71.92**	**180**	P	P	14 00 06.3	-0.1
	1.6nm,0.9s,baz=127,slow=13,SNR=13						
BRTR	**Keskin Array B**	**145.25**	**315**	PKPbc	PKPdf	14 08 15.1	+0.2
	0.6nm,0.5s,baz=115,slow=3.3,SNR=3.8						
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc	PKPbc	14 08 22.7	-0.2
	0.3nm,0.6s,baz=344,slow=3.2,SNR=3.0						

MOS ***15*** *13:50:35.8±1.0,30.˙90S×65.˙48W,h160km,mb5.0/42, Error ellipse: s-maj=11.5km s-min=6.5km az=94.3*

LDG ***15*** *13:50:36.2±0.7,30.˙71S×66.˙20W,h178km,Mb4.9/8, Ms3.6/2, Error ellipse: s-maj=55.0km s-min=18.6km az=83.0*

ISCJB ***15*** *13:50:36.0±0.5,30.˙94S±0.˙03×65.˙39W±0.˙04,h165km±4km, mb5.0/165, Error ellipse: s-maj=5.8km s-min=5.1km az=34.6*

BJI ***15*** *13:50:37.7,30.˙99S×66.˙08W,h181km,mB5.4/15*

GUC ***15*** *13:50:38.1±0.7,31.˙12S×65.˙56W,h179km,ML7.3*

NEIC ***15*** *13:50:38.5±0.1,30.˙99S×65.˙40W,mb5.1/139,MD4.7(SJA), Error ellipse: s-maj=4.2km s-min=3.1km az=61.0*

NEIC Felt [III] at San Juan. Also felt at Cordoba and Mendoza.

IDC ***15*** *13:50:38.6±0.3,30.˙98S×65.˙46W,h180km±2km,mb4.6/21, mb1 4.7/26,mb1mx4.7/28,mbtmp4.6/26, Error ellipse: s-maj=8.8km s-min=6.8km az=153.0*

GCMT ***15*** *13:50:41.8±0.2,31.˙22S×65.˙51W,h199km±1km,MW5.2, Moment Tensor Solution. s48,c63; s88,c120; Moment tensor: Scale 10¹⁶Nm; Mrr-5.93±.15; Mθθ2.89±.20; Mφφ3.04±.23; Mrθ2.06±.15; Mrφ-3.83±.20; Mθφ-0.18±.18; Best double couple: M₀6.70000×10¹⁶ NP1:φ₁149.00000°, δ40.00000°,λ-69.00000°. NP2:φ₂303.00000°,δ53.00000°, λ-107.00000°. Principal axes: T 6.9900, Plg7.0000°, Azm44.0000°; N -0.5500, Plg13.0000°, Azm313.0000°; P -6.4400, Plg75.0000°, Azm162.0000°; Data Used: IU Il IC G CN.*

DJA ***15*** *13:51:09.9±9.4,32˚S±44˚×6˚5W±3˚1,h447km±86km, M5.1/8,mB5.4/2,mb5.1/8,Mw(mB)4.8/2*

ISC 15 13:50:38.4±0.2,31.˙01S±0.˙04×65.˙44W±0.˙04,h180km±1km, h180km:pP-P,n930,σ0s91/1191,mb5.0/165,248C-211D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.47**	**255**	P	**Pn**	**13 51 20.2**	**-0.6**
	290nm,0.3s,baz=70,slow=10						
CFAA				S	**Sn**	**13 51 51.0**	**-2.7**
	863nm,0.3s,baz=282,slow=18,SNR=142						
CFAA	**Coronel Fontan**	**2.47**	**255**	P	**Pn**	**13 51 20.2**	**-0.6**
CFAA				S	**Sn**	**13 51 51.0**	**-2.7**
JACH	**Jahuel**	**4.69**	**248**	⇑*i*P	**Pn**	**13 51 48.4**	**0.0**
TLL	**Tololo Astrono**	**4.71**	**279**	⇑*i*P	**Pn**	**13 51 49.2**	**+0.4**
FCH	**Farellones**	**4.72**	**239**	⇑*i*P	**Pn**	**13 51 48.6**	**-0.4**
CMCH	**Combarbala**	**4.78**	**267**	⇓*i*P	**Pn**	**13 51 49.0**	**-0.5**
CMCH				*e*S	**Sn**	**13 52 43.0**	**-2.3**
CMCH				AML	AML	13 52 46.0	
	comp=E,58μm,0.7s						
PTCH	**Petorca**	**4.85**	**254**	⇑*i*P	**Pn**	**13 51 49.5**	**-0.8**
PTCH				*i* S	**Sn**	**13 52 44.0**	**-2.9**
LMEL	**Las Melosas**	**4.92**	**234**	⇑*i*P	**Pn**	**13 51 50.9**	**-0.5**
CLCH	**Cerro Calan**	**4.93**	**240**	⇑*i*P	**Pn**	**13 51 50.6**	**-0.9**
CLCH				*e*S	**Sn**	**13 52 45.8**	**-3.1**
PEL	**Peldehue**	**4.94**	**243**	⇓*i*P	**Pn**	**13 51 50.4**	**-1.1**
PEL				*i* S	**Sn**	**13 52 45.6**	**-3.4**
LACH	**Col Las Americ**	**4.96**	**239**	*e*P	**Pn**	**13 51 50.8**	**-1.0**
LCO	**Las Campanas**	**4.98**	**292**	*e*Pn	**Pn**	**13 51 52.5**	**+0.2**
	comp=E,785nm,0.7s						
LCO	**Las Campanas**	**4.98**	**292**	⇑*i*P	**Pn**	**13 51 52.6**	**+0.2**
STL	**Santa Lucia**	**5.03**	**240**	*e*P	**Pn**	**13 51 51.9**	**-0.8**
ANTU	**Antumapu**	**5.09**	**239**	*e*P	**Pn**	**13 51 52.4**	**-1.1**
CHCH	**Chadas Angostu**	**5.28**	**235**	⇓*i*P	**Pn**	**13 51 54.9**	**-1.1**
CACH	**El Canelo**	**5.35**	**233**	⇑*i*P	**Pn**	**13 51 56.0**	**-0.9**
TRQA	**Tornquist**	**7.58**	**159**	*e*P	**Pn**	**13 52 26.0**	**-0.1**
	comp=E,80nm,0.6s						
CPUP	**Villa Florida**	**8.51**	**59**	P	**Pn**	**13 52 37.3**	**-1.1**
	comp=E,26nm,0.3s,baz=222,slow=12,SNR=277						
CPUP	**Villa Florida**	**8.51**	**59**	P	**Pn**	**13 52 37.3**	**-1.1**
PLCA	**Paso Flores**	**10.55**	**202**	P	**Pn**	**13 53 03.7**	**-1.3**
	comp=E,10nm,0.3s,baz=9.5,slow=14,SNR=236						
PLCA	**Paso Flores**	**10.55**	**202**	*e*P	**Pn**	**13 53 03.1**	**-1.9**
	comp=E,186nm,1.0s						
LPAZ	**La Paz**	**14.86**	**350**	P	**Pn**	**13 53 58.7**	**-1.7**
	comp=E,11nm,0.3s,baz=158,slow=7.3,SNR=100						
LPAZ				S	Sn	13 56 34.8	-12
	comp=E,1.1nm,0.3s,baz=258,slow=23,SNR=1.6						
LPAZ	**La Paz**	**14.86**	**350**	*e*P	**Pn**	**13 53 58.2**	**-2.2**
	comp=E,550nm,1.1s						
LPAZ				S	Sn	13 56 34.8	-12
SIV	**San Ignacio**	**15.47**	**16**	P	**Pn**	**13 54 06.4**	**-1.0**
	comp=E,15nm,0.3s,baz=210,slow=10,SNR=223						
SIV	**San Ignacio**	**15.47**	**16**	P	**Pn**	**13 54 06.4**	**-1.0**
ARE	**Arequipa**	**15.50**	**338**	⇓*i*P	**Pn**	**13 54 08.0**	**0.0**
ARE	**Arequipa**	**15.50**	**338**	⇓*i*P	**Pn**	**13 54 08.0**	**0.0**
SPB	**Sao Paulo**	**17.61**	**70**	*e*P	**Pn**	**13 54 32.5**	**-0.5**
	comp=E,161nm,1.1s						
EFI	**East Falkland**	**21.35**	**167**	*e*P	**P**	**13 55 11.1**	**-0.2**
EFI				pmax	pmax		
	comp=E,89nm,0.8s						
EFI	**East Falkland**	**21.35**	**167**	*e*P	**P**	**13 55 11.1**	**-0.2**
	comp=E,89nm,0.8s						
EFI	**East Falkland**	**21.35**	**167**	P	**P**	**13 55 11.2**	**-0.1**
	comp=Z,1μm,0.5s,SNR=19						
NNA	**Nana**	**21.67**	**328**	P	**P**	**13 55 15.9**	**+0.8**
	comp=Z,21nm,0.9s,baz=157,slow=8.5,SNR=8.8						
NNA				pP	**pP**	**13 55 47.2**	**+1.0**
	comp=Z,19nm,0.5s,baz=163,slow=10,SNR=3.1						
NNA	**Nana**	**21.67**	**328**	*e*P	**P**	**13 55 15.3**	**+0.3**
	comp=Z,95nm,1.4s						
NNA				pP	**pP**	**13 55 47.2**	**+1.0**
SAML	**Samuel**	**22.05**	**6**	*e*P	**P**	**13 55 14.9**	**-3.8**
	comp=Z,512nm,1.1s						
BDFB	**Brasilia**	**22.09**	**50**	P	**P**	**13 55 18.0**	**-1.3**
	comp=Z,86nm,0.4s,baz=219,slow=8.0,SNR=174						
BDFB	**Brasilia**	**22.09**	**50**	P	**P**	**13 55 18.0**	**-1.3**
USHA	**Ushuaia**	**23.91**	**184**	P	**P**	**13 55 36.0**	**+0.6**
	comp=Z,30nm,0.7s,baz=351,slow=7.8,SNR=51						
USHA	**Ushuaia**	**23.91**	**184**	P	**P**	**13 55 36.0**	**+0.6**
ATAH	**Atahualpa**	**26.67**	**330**	P	**P**	**13 56 02.8**	**+1.6**
	comp=Z,7.0nm,0.9s,baz=41,slow=15,SNR=4.6						
ATAH	**Atahualpa**	**26.67**	**330**	P	**P**	**13 56 02.8**	**+1.6**
OTAV	**Otavalo**	**33.45**	**336**	*e*P	**P**	**13 57 02.4**	**+1.5**
	comp=Z,14nm,1.1s						
RCBR	**Riachuelo**	**37.35**	**54**	P	**P**	**13 57 33.6**	**-0.2**
	comp=Z,6.7nm,0.6s,baz=199,slow=11,SNR=11						
RCBR				pP	**pP**	**13 58 13.2**	**+1.2**
	comp=Z,11nm,0.8s,baz=203,slow=9.0,SNR=3.5						
RCBR				PcP	**PcP**	**13 59 50.0**	**+1.0**
	comp=Z,6.4nm,0.7s,baz=217,slow=7.5,SNR=3.3						
RCBR	**Riachuelo**	**37.35**	**54**	P	**P**	**13 57 33.6**	**-0.2**
RCBR				pP	**pP**	**13 58 13.2**	**+1.2**
RCBR				PcP	**PcP**	**13 59 50.0**	**+1.0**
GRGR	**Grenville**	**43.05**	**5**	*e*P	**P**	**13 58 19.9**	**-0.5**
JTS	**JuntasAbangare**	**45.14**	**332**	*e*P	**P**	**13 58 38.6**	**+1.5**
	comp=Z,38nm,1.1s						
JTS				*e*pP	**pP**	**13 59 17.7**	**+1.1**
FDF	**Fort de France**	**45.67**	**6**	*e*P	**P**	**13 58 40.9**	**-0.3**
FDF				*e**PP	**pP**	**13 59 20.5**	**-0.3**
FDF				pmax	pmax		
	comp=Z,187nm,0.9s						
FDF	**Fort de France**	**45.67**	**6**	*e*P	**P**	**13 58 40.9**	**-0.3**
FDF				*e*pP	**pP**	**13 59 20.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**48.76**	**358**	*e*P	**P**	**13 59 04.5**	**-0.6**
	comp=Z,47nm,0.6s						
CRPR				*e*pP	**pP**	**13 59 43.9**	**-1.1**
OBIP	**Obispado Ponce**	**48.78**	**359**	*e*P	**P**	**13 59 04.8**	**-0.4**
	comp=Z,48nm,0.6s						
OBIP				*e*pP	**pP**	**13 59 43.5**	**-1.8**
CELP	**Cerrillos**	**48.82**	**359**	*e*P	**P**	**13 59 04.3**	**-1.1**
CELP				*e*pP	**pP**	**13 59 44.1**	**-1.4**
SJG	**San Juan**	**48.84**	**359**	P	**P**	**13 59 05.6**	**0.0**
	comp=Z,28nm,0.5s,baz=94,slow=0.5,SNR=8.5						
SJG				pP	**pP**	**13 59 44.3**	**-1.3**
	comp=Z,71nm,1.1s,baz=269,slow=1.8,SNR=2.5						
SJG	**San Juan**	**48.84**	**359**	*e*P	**P**	**13 59 04.1**	**-1.6**
	comp=Z,22nm,0.3s						
SJG				*e*pP	**pP**	**13 59 44.2**	**-1.5**
SJG				pP	**pP**	**13 59 44.4**	**-1.3**
LSP	**Las Mesas**	**48.93**	**358**	*e*P	**P**	**13 59 05.6**	**-0.7**
LRS	**Lares**	**49.04**	**358**	*e*P	**P**	**13 59 07.6**	**+0.4**
LRS				*e*pP	**pP**	**13 59 45.7**	**-1.6**
SDDR	**Presa de Saban**	**50.02**	**353**	*e*P	**P**	**13 59 16.4**	**+1.8**
	comp=Z,23nm,0.7s						
VNA3	**Neumayer Olymp**	**50.11**	**160**	*e*P	**P**	**13 59 16.2**	**+1.5**
VNA3	**Neumayer Olymp**	**50.11**	**160**	*e*PcP	**PcP**	**14 00 30.0**	**-1.4**
VNA3	**Neumayer Olymp**	**50.11**	**160**	*e*SS	SS	14 09 55.2	+8.4
MTDJ	**Mount Denham**	**50.32**	**345**	*e*pP	pP	13 59 58.3	+1.1
VNA1	**Neumayer--Stat**	**50.32**	**159**	*e*P	**P**	**13 59 18.1**	**+1.9**
VNA2	**Neumayer--Watz**	**50.69**	**159**	*e*P	**P**	**13 59 20.5**	**+1.5**
	baz=287,slow=9.5						
VNA2	**Neumayer--Watz**	**50.69**	**159**	*e*PcP	**PcP**	**14 00 34.5**	**+1.0**
	baz=287,slow=9.5						
VNA2	**Neumayer--Watz**	**50.69**	**159**	*e*PP	PP	14 01 24.4	+7.9
	baz=287,slow=9.5						
VNA2	**Neumayer--Watz**	**50.69**	**159**	*e*SS	**SS**	**14 09 57.6**	**+1.7**
	baz=287,slow=9.5						
GTBY	**Guantanamo Bay**	**51.49**	**348**	*e*P	**P**	**13 59 25.3**	**-0.2**
GTBY				*e*pP	**pP**	**14 00 05.8**	**-0.2**
SNAA	**Sanae**	**52.31**	**159**	*e*P	**P**	**13 59 31.7**	**+0.6**
	comp=Z,142nm,1.3s						
TEIG	**Tepich**	**55.47**	**334**	*e*P	**P**	**13 59 54.1**	**-0.3**
	comp=Z,250nm,1.1s						
TEIG				*e*pP	**pP**	**14 00 35.2**	**-0.2**
MAIT	**Maitri**	**56.85**	**157**	*e*P	P	13 59 52.5	-11
NVL	**N'lazarevskaya**	**56.88**	**157**	⇓*i*P	**P**	**14 00 04.7**	**+0.9**
NVL				pmax	pmax		
	comp=Z,145nm,1.2s						
QSPA	**South Pole Qui**	**59.22**	**180**	P	**P**	**14 00 21.5**	**+1.2**
	comp=Z,78nm,0.8s,baz=158,slow=2.5,SNR=327						
QSPA	**South Pole Qui**	**59.22**	**180**	*e*P	**P**	**14 00 21.3**	**+0.9**
	comp=Z,117nm,1.0s						
NHSC	**New Hope**	**65.28**	**346**	*e*P	**P**	**14 01 01.0**	**+0.3**
NHSC				*e*pP	**pP**	**14 01 43.5**	**+0.5**
GOGA	**Godfrey**	**66.30**	**344**	*e*P	**P**	**14 01 06.5**	**-0.8**
GOGA				*e**PP	**pP**	**14 01 49.0**	**-0.7**
GOGA				pmax	pmax		
	comp=Z,12nm,0.8s						
GOGA	**Godfrey**	**66.30**	**344**	*e*P	**P**	**14 01 06.5**	**-0.8**
	comp=Z,12nm,0.8s						
GOGA				*e*pP	**pP**	**14 01 49.0**	**-0.7**
SYO	**Syowa Base**	**66.55**	**158**	⇑*i*P	**P**	**14 01 07.7**	**-0.7**
JSC	**Jenkinsville**	**66.64**	**346**	*e*P	**P**	**14 01 09.5**	**+0.1**
JSC				*e**PP	**pP**	**14 01 51.8**	**-0.1**
JSC	**Jenkinsville**	**66.64**	**346**	*e*P	**P**	**14 01 09.5**	**+0.1**
JSC				*e*pP	**pP**	**14 01 51.8**	**-0.1**
LRAL	**Lakeview Retre**	**66.89**	**340**	*e*P	**P**	**14 01 10.0**	**-1.0**
	comp=Z,14nm,0.9s						
LRAL				*e*pP	**pP**	**14 01 52.4**	**-1.1**
HKT	**Hockley**	**67.17**	**332**	*e*P	**P**	**14 01 13.1**	**+0.4**
HKT				*e**PP	**pP**	**14 01 55.4**	**+0.1**
HKT				pmax	pmax		
	comp=Z,52nm,1.6s						
HKT	**Hockley**	**67.17**	**332**	*e*P	**P**	**14 01 13.1**	**+0.4**
	comp=Z,52nm,1.6s						
HKT				*e*pP	**pP**	**14 01 55.4**	**+0.1**
KMSC	**Kings Mountain**	**67.48**	**346**	⇑P	**P**	**14 01 14.7**	**0.0**
	baz=68,SNR=5.1						
732A	**Laxson Ranch,**	**67.91**	**327**	⇓P	**P**	**14 01 18.0**	**+0.5**
	baz=68,SNR=28						
VNDA	**Vanda**	**68.06**	**190**	P	**P**	**14 01 19.6**	**+1.8**
	comp=Z,16nm,1.0s,baz=138,slow=5.2,SNR=32						
VNDA	**Vanda**	**68.06**	**190**	*e*P	**P**	**14 01 19.3**	**+1.5**
	comp=Z,27nm,1.1s						
NATX	**Nacogdoches**	**68.30**	**333**	*e*P	**P**	**14 01 20.6**	**+0.7**
	comp=Z,127nm,1.3s						
NATX				*e*pP	**pP**	**14 02 03.5**	**+1.0**
632A	**Uvalde**	**68.49**	**328**	⇑P	**P**	**14 01 21.8**	**+0.7**
	baz=69						
CPCT	**Cooper Cave**	**68.50**	**343**	*e*P	**P**	**14 01 20.6**	**-0.4**
CPCT				*e*pP	**pP**	**14 02 03.4**	**-0.4**
LIC	**Lamto**	**68.51**	**68**	*e*P	**P**	**14 01 20.8**	**-0.8**
	comp=Z,30nm,0.7s,baz=240						
LIC				*e*pP	**pP**	**14 02 03.7**	**-0.6**
LIC				*e*R			
	comp=Z,128nm,22.2s						
LIC	**Lamto**	**68.51**	**68**	*e*P	**P**	**14 01 20.8**	**-0.8**
	comp=Z,30nm,0.7s						
LIC				*e*pP	**pP**	**14 02 03.7**	**-0.6**
TKL	**Tuckaleechee C**	**68.52**	**344**	*e*P	**P**	**14 01 20.2**	**-0.9**
TKL				*e*pP	**pP**	**14 02 02.7**	**-1.2**
SWET	**Sewanee**	**68.64**	**342**	*e*P	**P**	**14 01 21.3**	**-0.7**
	comp=Z,22nm,0.5s						
SWET				*e*pP	**pP**	**14 02 04.2**	**-0.5**
631A	**Perdido Creek**	**68.77**	**327**	⇓P	**P**	**14 01 22.9**	**+0.1**
	baz=69,SNR=26						
DBIC	**Dimbokro**	**68.91**	**68**	P	**P**	**14 01 23.4**	**-0.7**
	comp=Z,14nm,0.6s,baz=208,slow=7.2,SNR=23						
DBIC				pP	**pP**	**14 02 07.1**	**+0.3**
	comp=Z,17nm,0.8s,baz=199,slow=6.0,SNR=5.3						
DBIC				S	**S**	**14 10 10.7**	**-3.3**
	comp=Z,3.0nm,0.9s,baz=333,slow=23,SNR=7.4						
DBIC	**Dimbokro**	**68.91**	**68**	*e*P	**P**	**14 01 23.4**	**-0.7**
	comp=Z,15nm,0.7s						
DBIC				*e*pP	**pP**	**14 02 06.7**	**-0.2**
DBIC				pP	**pP**	**14 02 07.1**	**+0.3**
DBIC				S	**S**	**14 10 10.7**	**-3.3**
OXF	**Oxford**	**68.98**	**339**	*e*P	**P**	**14 01 23.3**	**-0.7**
OXF				*e**PP	**pP**	**14 02 06.6**	**-0.2**
OXF				pmax	pmax		
	comp=Z,56nm,1.0s						
OXF	**Oxford**	**68.98**	**339**	*e*P	**P**	**14 01 23.3**	**-0.7**
	comp=Z,56nm,1.0s						
OXF				*e*pP	**pP**	**14 02 06.6**	**-0.2**
532A	**Rocksprings**	**69.07**	**328**	⇑P	**P**	**14 01 25.2**	**+0.4**
	baz=69,SNR=36						
VWCC	**Virginia Weste**	**69.25**	**348**	*e*P	**P**	**14 01 26.2**	**+0.5**
VWCC				*e*pP	**pP**	**14 02 08.7**	**+0.3**
BLA	**Blacksburg**	**69.30**	**347**	P	**P**	**14 01 25.8**	**-0.2**
BLA				*e**PP	**pP**	**14 02 09.2**	**+0.4**
BLA				pmax	pmax		
	comp=Z,47nm,1.3s						
BLA	**Blacksburg**	**69.30**	**347**	P	**P**	**14 01 25.8**	**-0.2**
	comp=Z,47nm,1.3s						
BLA				*e*pP	**pP**	**14 02 09.2**	**+0.4**
TZTN	**Tazewell**	**69.32**	**344**	*e*P	**P**	**14 01 25.3**	**-0.8**
	comp=Z,17nm,1.3s						
JSRW	**J. Sargeant Re**	**69.33**	**349**	*e*P	**P**	**14 01 26.9**	**+0.8**
JSRW				*e*pP	**pP**	**14 02 09.6**	**+0.7**
531A	**Rocksprings**	**69.39**	**328**	⇓P	**P**	**14 01 27.4**	**+0.7**
	baz=70						
WHTX	**Lake Whitney**	**69.62**	**331**	⇓P	**P**	**14 01 28.0**	**0.0**
	baz=70,SNR=9.6						
432A	**Menard**	**69.66**	**329**	⇑P	**P**	**14 01 28.2**	**-0.2**
	baz=70,SNR=17						
530A	**J-C Ranch, Com**	**69.75**	**327**	⇑P	**P**	**14 01 29.4**	**+0.5**
	baz=70,SNR=27						
431A	**Sonora**	**69.86**	**328**	⇓P	**P**	**14 01 29.5**	**-0.1**
	baz=70,SNR=18						
628A	**Black Gap, Mar**	**69.93**	**326**	⇑P	**P**	**14 01 30.6**	**+0.6**
	baz=70,SNR=50						
WVT	**Waverly**	**70.02**	**341**	*e*P	**P**	**14 01 29.4**	**-1.0**
WVT				*e**PP	**pP**	**14 02 12.5**	**-0.7**
WVT				pmax	pmax		
	comp=Z,38nm,0.6s						
WVT	**Waverly**	**70.02**	**341**	*e*P	**P**	**14 01 29.4**	**-1.0**
	comp=Z,38nm,0.6s						
WVT				*e*pP	**pP**	**14 02 12.5**	**-0.7**
332A	**Millersview**	**70.07**	**329**	⇑P	**P**	**14 01 30.7**	**-0.1**
	baz=70,SNR=35						
529A	**Stev Forest Ra**	**70.14**	**327**	⇑P	**P**	**14 01 31.9**	**+0.6**
	baz=70,SNR=41						
627A	**Terlingua Ranc**	**70.14**	**325**	⇑P	**P**	**14 01 31.6**	**+0.1**
	baz=70,SNR=27						
UALR	**University of**	**70.17**	**337**	*e*P	**P**	**14 01 30.6**	**-0.7**
	comp=Z,41nm,1.0s						
UALR				*e*pP	**pP**	**14 02 13.4**	**-0.8**
TXAR	**Lajitas Array**	**70.18**	**325**	P	**P**	**14 01 31.9**	**+0.3**
	comp=Z,3.9nm,0.4s,baz=151,slow=8.1,SNR=63						
TXAR				pP	**pP**	**14 02 15.1**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=151,slow=7.5,SNR=4.4						
TXAR	**Lajitas Array**	**70.18**	**325**	P	**P**	**14 01 31.9**	**+0.3**
TXAR				pP	**pP**	**14 02 15.1**	**+0.6**
430A	**Baggett Ranch,**	**70.23**	**328**	⇑P	**P**	**14 01 32.0**	**+0.1**
	baz=70,SNR=72						
331A	**San Angelo**	**70.31**	**329**	⇑P	**P**	**14 01 32.3**	**0.0**
	baz=71,SNR=32						
MIAR	**Mount Ida**	**70.39**	**336**	*e*P	**P**	**14 01 32.1**	**-0.6**
MIAR				*e**PP	**pP**	**14 02 15.2**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,36nm,1.3s						
MIAR	**Mount Ida**	**70.39**	**336**	*e*P	**P**	**14 01 32.0**	**-0.6**
	comp=Z,36nm,1.3s						
MIAR				*e*pP	**pP**	**14 02 15.2**	**-0.4**
429A	**Davenport Ranc**	**70.40**	**327**	⇑P	**P**	**14 01 33.4**	**+0.5**
	baz=71,SNR=61						
528A	**Cox Ranch, San**	**70.44**	**326**	⇑P	**P**	**14 01 33.2**	**0.0**
	baz=71,SNR=5.1						
232A	**Coleman**	**70.46**	**330**	⇑P	**P**	**14 01 33.3**	**+0.1**
	baz=71						
GNAR	**Gosnell**	**70.51**	**339**	*e*P	**P**	**14 01 33.1**	**-0.2**
	comp=Z,3μm,1.2s						
UTMT	**University of**	**70.52**	**340**	*e*P	**P**	**14 01 33.4**	**0.0**
	comp=Z,191nm,1.1s						
UTMT				*e*pP	**pP**	**14 02 16.6**	**+0.3**
GLAT	**Glass**	**70.57**	**340**	*e*P	**P**	**14 01 34.0**	**+0.3**
GLAT				*e*pP	**pP**	**14 02 16.8**	**+0.1**
626A	**Big Bend Ranch**	**70.59**	**325**	⇓P	**P**	**14 01 34.8**	**+0.6**
	baz=71,SNR=50						
330A	**Mertzon**	**70.73**	**328**	⇑P	**P**	**14 01 34.5**	**-0.3**
	baz=71,SNR=18						
231A	**Bronte**	**70.79**	**329**	⇑P	**P**	**14 01 35.1**	**-0.1**
	baz=71,SNR=26						
527A	**Woodward Ranch**	**70.82**	**325**	⇓P	**P**	**14 01 35.7**	**+0.1**
	baz=71,SNR=10						
PVMO	**Portageville**	**70.83**	**339**	*e*P	**P**	**14 01 35.7**	**+0.5**
	comp=Z,516nm,1.1s						
PVMO				*e*pP	**pP**	**14 02 18.7**	**+0.5**
428A	**Kincaid Ranch,**	**70.86**	**327**	⇓P	**P**	**14 01 36.0**	**+0.3**
	baz=71,SNR=21						
526A	**Mary Lane Ranc**	**70.99**	**325**	⇑P	**P**	**14 01 37.2**	**+0.6**
	baz=71						
PARMO	**Parma**	**71.08**	**340**	*e*P	**P**	**14 01 36.8**	**+0.1**
PARMO				*e*		14 01 46.1	
PARMO				*e*pP	**pP**	**14 02 20.1**	**+0.4**
ABTX	**Abilene, Hawle**	**71.09**	**330**	⇑P	**P**	**14 01 36.9**	**-0.1**
	baz=71,SNR=12						
230A	**Sterling City**	**71.11**	**328**	⇓P	**P**	**14 01 36.8**	**-0.3**
	baz=71,SNR=8.1						
329A	**Wagon Wheel Ra**	**71.17**	**327**	⇓P	**P**	**14 01 37.5**	**0.0**
	baz=72,SNR=31						
427A	**Hayter Ranch,**	**71.30**	**326**	⇑P	**P**	**14 01 38.4**	**+0.1**
	baz=72,SNR=14						
131A	**Roby**	**71.45**	**329**	⇑P	**P**	**14 01 39.2**	**0.0**
	baz=72						
426A	**McDonald Obser**	**71.46**	**325**	⇓P	**P**	**14 01 39.9**	**+0.4**
	baz=72,SNR=34						
328A	**Wristen Ranch,**	**71.47**	**327**	⇓P	**P**	**14 01 39.7**	**+0.4**
	baz=72,SNR=44						
229A	**Bryant Ranch,**	**71.49**	**328**	⇑P	**P**	**14 01 39.1**	**-0.3**
	baz=72,SNR=6.0						
WCI	**Wyandotte Cave**	**71.58**	**343**	*e*P	**P**	**14 01 38.8**	**-1.0**
WCI				*e**PP	**pP**	**14 02 21.8**	**-1.0**
WCI				pmax	pmax		
	comp=Z,16nm,0.4s						
WCI	**Wyandotte Cave**	**71.58**	**343**	*e*P	**P**	**14 01 38.8**	**-1.0**
	comp=Z,16nm,0.4s						
WCI				*e*		14 01 47.3	
WCI				*e*pP	**pP**	**14 02 21.8**	**-1.0**
Z32A	**Haskell**	**71.60**	**330**	⇑P	**P**	**14 01 40.2**	**+0.2**
	baz=72						
130A	**Snyder**	**71.64**	**329**	⇓P	**P**	**14 01 40.4**	**+0.1**
	baz=72						
USIN	**

BINY **Binghamton** 73.50 352 *eP* **P** 14 01 51.5 +0.5
comp=Z,38nm,1.2s
BINY *epP* **pP** 14 02 34.5 +0.3
X29A Tulia 73.53 329 ⇑P **P** 14 01 51.4 -0.1
baz=74,SNR=15
ALLY Alegheny Colle 73.56 349 *eP* **P** 14 01 50.4 -1.0
comp=Z,40nm,1.1s
ALLY *epP* **pP** 14 02 34.5 -0.1
Z26A Caprock 73.58 327 ⇑P **P** 14 01 51.9 +0.1
baz=74,SNR=60
MSTX Muleshoe 73.61 328 ⇑P **P** 14 01 51.7 -0.2
baz=74,SNR=13
Y27A Causey 73.72 328 ⇑P **P** 14 01 52.2 -0.4
baz=74
223A Chaparral, Ant 73.73 325 ⇓P **P** 14 01 53.5 +0.7
baz=74
TRY Troy 73.77 354 *eP* **P** 14 01 53.6 +1.1
comp=Z,152nm,1.4s
TRY *epP* **pP** 14 02 35.8 0.0
124A Stringfield Ra 73.81 326 ⇑P **P** 14 01 53.5 +0.1
baz=74,SNR=43
X28A Dimmitt 73.81 329 ⇑P **P** 14 01 53.2 0.0
baz=74,SNR=9.0
SFIN Scholer Farm 73.81 343 ⇑P **P** 14 01 51.8 -1.1
baz=74,SNR=10
AMTX Amarillo 73.90 330 *eP* **P** 14 01 53.2 -0.4
comp=Z,27nm,0.9s
AMTX *epP* **pP** 14 02 36.7 -0.2
AMTX Amarillo 73.90 330 ⇓P **P** 14 01 53.5 0.0
baz=74,SNR=10
Z25A Roswell 73.94 327 ⇑P **P** 14 01 53.8 -0.1
baz=74
ERPA Erie 73.99 349 *eP* **P** 14 01 53.6 -0.3
comp=Z,58nm,0.9s
ERPA *epP* **pP** 14 02 36.7 -0.5
Y26A Elida 74.05 328 ⇓P **P** 14 01 54.5 0.0
baz=74,SNR=5.1
W29A Amraillo 74.08 330 ⇑P **P** 14 01 54.6 -0.1
baz=74,SNR=13
222A Williams Famil 74.15 324 ⇑P **P** 14 01 56.1 +1.0
baz=74,SNR=19
123A Bell Site, Whi 74.16 325 ⇓P **P** 14 01 56.1 +0.9
baz=74
320A Kipp Ranch, An 74.27 323 ⇓P **P** 14 01 56.7 +0.8
baz=74,SNR=23
Z24A Sheeppen Canyo 74.29 326 ⇑P **P** 14 01 56.5 +0.4
baz=75,SNR=52
X27A F and S Farms, 74.32 328 ⇓P **P** 14 01 56.2 +0.1
baz=75
FFD Franklin Falls 74.34 355 *eP* **P** 14 01 56.6 +0.8
FFD *epP* **pP** 14 02 40.5 +1.4
MAW Mawson 74.36 162 P **P** 14 01 56.9 +1.1
comp=Z,36nm,0.9s,baz=212,slow=8.4,SNR=3.3
MAW pP **pP** 14 02 40.5 +1.4
comp=Z,32nm,0.8s,baz=211,slow=11,SNR=2.6
MAW Mawson 74.36 162 P **P** 14 01 56.9 +1.1
MAW pP **pP** 14 02 40.5 +1.4
221A Mesquite Ranch 74.41 324 ⇓P **P** 14 01 57.9 +1.2
baz=75,SNR=11
W28A Vega 74.44 329 ⇓P **P** 14 01 57.2 +0.4
baz=75
Y25A Mesa, Roswell 74.45 327 ⇑P **P** 14 01 56.8 -0.1
baz=75,SNR=16
HDIL Hopedale 74.56 341 *eP* **P** 14 01 56.5 -0.6
comp=Z,68nm,0.4s
HDIL *epP* **pP** 14 02 39.9 -0.6
TSUM Tsumeb 74.56 103 *eP* **P** 14 01 57.9 -0.1
comp=Z,33nm,1.3s
TSUM *epP* **pP** 14 02 41.4 0.0
X26A CR and CF Fran 74.56 328 ⇓P **P** 14 01 57.9 +0.3
baz=75,SNR=63
122A Conniff Cattle 74.57 325 ⇑P **P** 14 01 58.8 +1.2
baz=75
HNH Hanover 74.62 355 *eP* **P** 14 01 57.9 +0.5
comp=Z,66nm,1.3s
HNH *epP* **pP** 14 02 41.9 +1.1
Z23A Rita Site, Whi 74.65 325 ⇑P **P** 14 01 58.9 +0.9
baz=75,SNR=32
W27A Bowe Ranch, En 74.66 329 ⇑P **P** 14 01 58.1 +0.1
baz=75,SNR=14
V29A Stinnett 74.67 330 ⇓P **P** 14 01 58.0 0.0
baz=75
319A Douglas 74.69 322 ⇑P **P** 14 01 59.3 +1.0
baz=75,SNR=21
220A Playas Peak, P 74.71 323 ⇑P **P** 14 01 59.1 +0.7
baz=75,SNR=45
Y24A Capitan 74.81 326 ⇓P **P** 14 01 59.2 +0.2
baz=75,SNR=17
121A Cookes Peak, D 74.83 324 ⇑P **P** 14 02 00.3 +1.1
baz=75,SNR=22
V28A Channing 74.86 330 ⇑P **P** 14 01 59.6 +0.4
baz=75,SNR=9.0
X25A Clemmons Ranch 74.94 327 ⇓P **P** 14 01 59.6 -0.1
baz=75,SNR=10
MDV Middlebury 74.98 354 *eP* **P** 14 02 00.1 +0.7
comp=Z,1μm,0.7s
MDV *epP* **pP** 14 02 43.1 +0.2
Z22A Elephant Butte 75.00 325 ⇑P **P** 14 02 01.3 +1.2
baz=75,SNR=24
NCB Newcomb 75.05 353 *eP* **P** 14 02 00.2 +0.3
comp=Z,17nm,1.1s
NCB *epP* **pP** 14 02 43.4 0.0
Y23A Lovelace Mesa, 75.11 326 ⇑P **P** 14 02 01.4 +0.7
baz=75,SNR=29
LBNH Lisbon 75.12 355 *eP* **P** 14 02 01.6 +1.3
LBNH *e*PP **pP** 14 02 44.7 +0.9
LBNH pmax pmax
comp=Z,10.0nm,0.5s
LBNH Lisbon 75.12 355 *eP* **P** 14 02 01.6 +1.3
comp=Z,9.8nm,0.5s
LBNH *epP* **pP** 14 02 44.7 +0.9
120A U Bar Ranch, L 75.28 323 ⇑P **P** 14 02 02.8 +1.2
baz=76
X24A Lazy VL Ranch, 75.33 327 ⇓P **P** 14 02 02.6 +0.6
baz=76,SNR=5.9
Z21A St. Cloud Mine 75.40 324 ⇑P **P** 14 02 03.8 +1.4
baz=76
W25A X Bar L Ranch, 75.42 328 ⇓P **P** 14 02 02.6 +0.2
baz=76,SNR=24
KSU1 Kansas State U 75.55 335 *eP* **P** 14 02 02.8 -0.1
comp=Z,66nm,0.9s
KSU1 *epP* **pP** 14 02 46.4 0.0
Y22A Socorro 75.55 325 ⇓P **P** 14 02 04.2 +1.0
baz=76,SNR=16
BNM Barren Site 75.56 326 *eP* **P** 14 02 04.0 +0.7
comp=Z,12nm,0.9s
BNM *epP* **pP** 14 02 47.5 +0.6
V26A Tequesquite Ra 75.59 329 ⇑P **P** 14 02 03.5 +0.1
baz=76,SNR=13
LPM Los Pinos Moun 75.69 326 *eP* **P** 14 02 04.7 +0.6
comp=Z,19nm,1.1s
LPM *epP* **pP** 14 02 48.1 +0.5
X23A Hourglass Bar 75.70 326 ⇑P **P** 14 02 05.2 +1.1
baz=76,SNR=15
Z20A Nine Sixteen R 75.71 324 ⇑P **P** 14 02 05.3 +1.2
baz=76,SNR=24
LONY Lake Ozonia 75.73 353 *eP* **P** 14 02 04.2 +0.4
comp=Z,28nm,1.3s
LONY *e* 14 02 11.5
LONY *epP* **pP** 14 02 47.3 0.0
LENM Lemitar 75.74 325 *eP* **P** 14 02 05.3 +1.0
comp=Z,27nm,1.3s
W24A Lazy 6 Ranch, 75.85 327 ⇑P **P** 14 02 05.1 +0.2
baz=76,SNR=20
FRNY Flat Rock 75.85 354 *eP* **P** 14 02 05.0 +0.6
comp=Z,48nm,1.4s
FRNY *epP* **pP** 14 02 48.1 +0.1
Y21A Point of Rocks 75.96 325 ⇓P **P** 14 02 07.1 +1.5
baz=76,SNR=43
T28A Walsh 75.98 331 ⇓P **P** 14 02 05.6 +0.1
baz=76
V25A Rancho No Teng 76.00 328 ⇓P **P** 14 02 06.2 +0.4
baz=76,SNR=27
LAZ Ladron 76.01 325 *eP* **P** 14 02 07.0 +1.1
comp=Z,24nm,1.2s
X22A Bernardo 76.03 326 ⇑P **P** 14 02 07.3 +1.3
baz=76,SNR=6.9
U26A Atchley Ranch, 76.07 329 ⇓P **P** 14 02 06.6 +0.4
baz=76,SNR=26
ANMO Albuquerque 76.12 326 *eP* **P** 14 02 07.2 +0.7
comp=Z,32nm,1.0s
ANMO *epP* **pP** 14 02 51.0 +0.9
W23A Werner Place, 76.15 327 ⇑P **P** 14 02 07.6 +0.9
baz=76,SNR=37
T27A Campo 76.19 330 ⇓P **P** 14 02 07.1 +0.4
baz=76,SNR=16
V24A Rampart Ranch, 76.21 328 ⇓P **P** 14 02 07.3 +0.3
baz=76,SNR=13
Y20A Horse Springs, 76.23 324 ⇑P **P** 14 02 08.5 +1.3
baz=76,SNR=39
PPT Papeete 76.27 258 P **P** 14 02 08.3 +0.8
comp=Z,40nm,1.0s,baz=251,slow=8.8,SNR=3.9
PPT pP **pP** 14 02 52.6 +1.6
comp=Z,41nm,0.8s,baz=213,slow=18,SNR=3.1
PPT Papeete 76.27 258 P **P** 14 02 08.3 +0.8
PPT pP **pP** 14 02 52.6 +1.6
X21A Alamocita Cree 76.36 325 ⇑P **P** 14 02 09.0 +1.1
baz=77,SNR=38
U25A Circle Dot Ran 76.37 329 ⇓P **P** 14 02 08.6 +0.8
baz=77,SNR=28
BOSA Boshof 76.40 115 P **P** 14 02 08.2 -0.1
comp=Z,28nm,0.9s,baz=249,slow=4.7,SNR=29
BOSA pP **pP** 14 02 52.3 +0.5
comp=Z,16nm,0.8s,baz=255,slow=5.1,SNR=5.3
BOSA Boshof 76.40 115 *eP* **P** 14 02 08.1 -0.2
comp=Z,37nm,0.9s
BOSA *epP* **pP** 14 02 51.8 -0.1
BOSA pP **pP** 14 02 52.3 +0.5
W22A Albuquerque 76.42 326 ⇑P **P** 14 02 09.4 +1.2
baz=77,SNR=8.8
V23A Ortiz Mt. (NFS 76.65 327 ⇓P **P** 14 02 10.6 +1.2
baz=77,SNR=17
T26A Comanche Natio 76.66 330 ⇓P **P** 14 02 10.0 +0.6
baz=77,SNR=21
U24A Moreno Valley 76.77 328 ⇑P **P** 14 02 11.5 +1.3
baz=77
X20A Quemado 76.79 325 ⇓P **P** 14 02 11.5 +1.2
baz=77,SNR=23
W21A San Fidel 76.84 326 ⇓P **P** 14 02 11.8 +1.3
baz=77,SNR=8.2
SCIA State Center 76.94 339 *eP* **P** 14 02 10.5 -0.2
comp=Z,17nm,0.6s
SCIA *epP* **pP** 14 02 54.5 +0.2
S26A Kim 76.98 330 ⇓P **P** 14 02 12.2 +1.0
baz=77,SNR=30
T25A Trinidad 76.99 329 ⇑P **P** 14 02 12.3 +1.0
baz=77,SNR=32
214A Organ Pipe Nat 77.04 320 ⇑P **P** 14 02 12.8 +1.3
baz=77
V22A San Miguel Ran 77.12 327 ⇑P **P** 14 02 13.5 +1.4
baz=77,SNR=95
U23A El Rito 77.13 327 ⇑P **P** 14 02 13.3 +1.2
baz=77,SNR=17
T24A Torres, Weston 77.22 328 ⇓P **P** 14 02 14.0 +1.3
baz=78,SNR=16
R27A Eads 77.25 331 ⇑P **P** 14 02 12.9 +0.3
baz=78,SNR=21
W20A Ramah 77.26 325 ⇓P **P** 14 02 13.8 +0.9
baz=78,SNR=34
V21A Milan 77.39 326 ⇑P **P** 14 02 14.7 +1.2
baz=78,SNR=7.8
S25A Robets Cordova 77.43 329 ⇑P **P** 14 02 14.8 +1.1
baz=78,SNR=18
U22A Llaves 77.48 327 ⇓P **P** 14 02 15.5 +1.4
baz=78,SNR=17
X18A Snowflake 77.52 324 ⇑P **P** 14 02 15.4 +1.1
baz=78,SNR=21
R26A Arlington 77.54 330 ⇓P **P** 14 02 14.8 +0.6
baz=78,SNR=16
T23A Casias Ranch, 77.63 328 ⇑P **P** 14 02 16.0 +1.0
baz=78,SNR=6.4
S24A Houchin Ranch, 77.76 329 ⇑P **P** 14 02 16.8 +1.1
baz=78,SNR=23
R25A Fountain Ranch 77.77 330 ⇓P **P** 14 02 16.3 +0.8
baz=78,SNR=6.8
V20A Brimhall 77.78 325 ⇑P **P** 14 02 16.6 +0.9
baz=78,SNR=19
KSCO Kaye Shedlock' 77.79 331 ⇓P **P** 14 02 16.7 +1.1
baz=78,SNR=9.4
W18A Petrified Fore 77.87 324 ⇓P **P** 14 02 17.1 +0.9
baz=78,SNR=12
U21A Nazeri 77.90 326 ⇑P **P** 14 02 17.5 +1.2
baz=78,SNR=46
TORD Torodi Ar. Bea 77.93 67 P **P** 14 02 16.5 -0.2
comp=Z,15nm,0.7s,baz=281,slow=6.5,SNR=110
TORD pP **pP** 14 02 59.7 -0.8
comp=Z,21nm,0.7s,baz=264,slow=5.4,SNR=9.7
TORD S **S** 14 11 51.8 -3.5
comp=Z,1.5nm,1.0s,baz=225,slow=6.0,SNR=5.5
TORD PKKPbc **PKKPbc** 14 21 16.2 +0.7
comp=Z,0.4nm,0.4s,baz=54,slow=1.8,SNR=16
TORD Torodi Ar. Bea 77.93 67 P **P** 14 02 16.5 -0.2
TORD pP **pP** 14 02 59.7 -0.8
TORD S **S** 14 11 51.8 -3.5
TORD PKKPbc **PKKPbc** 14 21 16.2 +0.7
T22A Edith 78.02 327 ⇓P **P** 14 02 18.5 +1.4
baz=78,SNR=29
Q26A Hugo 78.09 331 ⇑P **P** 14 02 18.3 +1.0
baz=78,SNR=20
BGNE Belgrade 78.14 335 ⇑P **P** 14 02 17.4 +0.1
baz=78,SNR=13
S23A Nye Farm, Mont 78.17 328 ⇓P **P** 14 02 18.9 +1.1
baz=78,SNR=6.7
113A Mohawk Valley, 78.19 320 ⇑P **P** 14 02 18.6 +0.9
baz=78
Z14A Wintersburg 78.19 321 ⇓P **P** 14 02 18.8 +1.0
baz=78
X16A Lo Mia Camp, P 78.20 323 ⇓P **P** 14 02 19.2 +1.2
baz=78,SNR=57
R24A Sanders Place, 78.20 329 ⇓P **P** 14 02 19.3 +1.3
baz=78,SNR=22
P27A Ficken Ranch, 78.23 332 ⇓P **P** 14 02 19.0 +1.0
baz=78
U20A Newcomb 78.27 326 ⇓P **P** 14 02 19.1 +0.7
baz=79,SNR=8.9
T21A Navajo Lake 78.29 327 ⇑P **P** 14 02 19.2 +0.7
baz=79,SNR=8.3
LBTB Lobatse 78.37 112 *eP* **P** 14 02 19.0 -0.3
comp=Z,35nm,1.1s
LBTB *epP* **pP** 14 03 03.1 0.0
Q25A Bedland, Calha 78.39 330 ⇑P **P** 14 02 19.7 +0.7
baz=79,SNR=8.9
R23A Moffat 78.48 329 ⇑P **P** 14 02 20.7 +1.0
baz=79,SNR=18
U19A Dine' College, 78.54 325 ⇓P **P** 14 02 20.3 +0.4
baz=79,SNR=15
P26A Davis Ranch, A 78.55 331 ⇓P **P** 14 02 20.7 +0.9
baz=79,SNR=6.4
S22A 4UR Ranch, Cre 78.58 328 ⇑P **P** 14 02 21.2 +1.0
baz=79,SNR=20
Y14A Wickenburg 78.66 321 ⇑P **P** 14 02 21.1 +0.7
baz=79,SNR=13
O27A Beecher Island 78.73 332 ⇑P **P** 14 02 21.9 +1.2
baz=79,SNR=11
Q24A Divide 78.82 329 ⇓P **P** 14 02 22.5 +1.0
baz=79,SNR=16
P25A Willow Gulch B 78.86 330 ⇓P **P** 14 02 22.6 +1.1
baz=79,SNR=19
MVCO Mesa Verde 78.92 326 *eP* **P** 14 02 22.6 +0.5
comp=Z,43nm,1.1s
MVCO *epP* **pP** 14 03 06.6 +0.8
MVCO Mesa Verde 78.92 326 ⇓P **P** 14 02 22.9 +0.9
baz=79,SNR=34
R22A Saguache, Gunn 78.94 328 ⇓P **P** 14 02 23.4 +1.2
baz=79,SNR=12
S21A Coal Bank Pass 78.95 327 ⇑P **P** 14 02 23.3 +1.1
baz=79,SNR=25
GLA Glamis 78.99 319 ⇓P **P** 14 02 22.7 +0.5
baz=79
WUAZ Wupatki 79.01 323 *eP* **P** 14 02 23.4 +1.0
comp=Z,37nm,1.1s
WUAZ *epP* **pP** 14 03 06.8 +0.5
WUAZ Wupatki 79.01 323 ⇑P **P** 14 02 23.5 +1.0
baz=79,SNR=29
Q23A Hartsel 79.08 329 ⇑P **P** 14 02 23.9 +1.0
baz=79
O26A Horse Wrangler 79.11 331 ⇑P **P** 14 02 24.1 +1.3
baz=79,SNR=7.0
P24A Kohler Place, 79.18 330 ⇓P **P** 14 02 24.4 +1.2
baz=80
OGNE Ogallala 79.19 333 *eP* **P** 14 02 24.1 +0.9
comp=Z,20nm,0.9s
OGNE pP **pP** 14 03 07.4 +0.4
OGNE Ogallala 79.19 333 ⇑P **P** 14 02 24.0 +0.8
baz=80,SNR=5.9
N27A Anderson Farm, 79.28 332 ⇓P **P** 14 02 24.6 +1.0
baz=80,SNR=8.5
Y12C Blythe 79.34 320 ⇑P **P** 14 02 24.9 +0.9
baz=80,SNR=12
O25A Wiggins 79.34 331 ⇓P **P** 14 02 25.3 +1.3
baz=80
S20A Disappointment 79.36 327 ⇑P **P** 14 02 25.7 +1.4
baz=80,SNR=30
R21A Cimarron 79.41 328 ⇓P **P** 14 02 25.7 +1.0
baz=80,SNR=18
P23A Jefferson 79.46 329 ⇓P **P** 14 02 26.1 +1.1
baz=80,SNR=6.7
Q22A Crested Butte, 79.52 328 ⇑P **P** 14 02 26.8 +1.5
baz=80,SNR=40
PDMCI Parker Dam,Lak 79.54 321 ⇓P **P** 14 02 26.4 +1.3
baz=80
N26A Koester Ranch, 79.57 332 ⇑P **P** 14 02 26.2 +1.0
baz=80
R20A Redvale 79.65 327 ⇑P **P** 14 02 27.2 +1.3
baz=80,SNR=33
ECSD EROS Data Cent 79.67 338 *eP* **P** 14 02 24.9 -0.7
comp=Z,57nm,1.0s
ECSD *epP* **pP** 14 03 09.7 +0.1
PV01 Paradox Valley 79.70 327 *eP* **P** 14 02 27.2 +1.0
comp=Z,3μm,1.2s
PV01 *epP* **pP** 14 03 11.2 +1.1
ISCO Idaho Springs 79.72 330 *eP* **P** 14 02 27.1 +0.8
ISCO *e*PP **pP** 14 03 11.0 +0.7
ISCO pmax pmax
comp=Z,29nm,1.1s
ISCO Idaho Springs 79.72 330 *eP* **P** 14 02 27.1 +0.8
comp=Z,29nm,1.1s
ISCO *epP* **pP** 14 03 11.0 +0.7
ISCO Idaho Springs 79.72 330 ⇓P **P** 14 02 27.3 +1.0
baz=80,SNR=30
O24A Longmont 79.75 330 ⇓P **P** 14 02 27.5 +1.2
baz=80
BAR Barrett 79.75 318 *eP* **P** 14 02 27.3 +0.9
comp=Z,40nm,1.4s
MONP Monument Peak 79.77 318 ⇓P **P** 14 02 27.5 +0.9
baz=80,SNR=6.0
BC3 Big Chuckawall 79.78 320 ⇑P **P** 14 02 27.5 +0.9
baz=80,SNR=14
Q21A Lamborn Mesa, 79.80 328 ⇓P **P** 14 02 27.5 +0.9
baz=80,SNR=6.0
SMCO Snowmass 79.81 328 *eP* **P** 14 02 28.1 +1.1
comp=Z,52nm,1.1s
SMCO *epP* **pP** 14 03 11.8 +1.0
M27A Reverse DX Ran 79.83 333 ⇓P **P** 14 02 27.3 +0.6
baz=80
SPMN St. Paul 79.86 341 ⇓P **P** 14 02 26.0 -0.5
baz=80,SNR=14
N25A Grover 79.91 331 ⇓P **P** 14 02 28.3 +1.1
baz=80
IRM Iron Mountain 79.99 320 ⇓P **P** 14 02 28.5 +0.9
baz=80,SNR=14
W13A Hualapai Mount 80.01 321 ⇑P **P** 14 02 29.0 +1.1
baz=80,SNR=15
S18A Hurst Farm, Bl 80.03 326 ⇓P **P** 14 02 29.1 +1.1
baz=80,SNR=71
P22A Eagle 80.05 329 ⇓P **P** 14 02 29.0 +1.0
baz=80,SNR=21
PV04 Paradox Valley 80.06 327 *eP* **P** 14 02 28.8 +0.8
PV04 *epP* **pP** 14 03 13.4 +1.4
M26A McRoberts Ranc 80.08 332 ⇑P **P** 14 02 28.9 +0.9
baz=80
NEE2 Needles Airpor 80.15 321 ⇓P **P** 14 02 28.9 +0.5
baz=80
109C Camp Elliot, M 80.16 318 ⇓P **P** 14 02 29.2 +0.8
baz=80
O23A Lake Granby, G 80.19 330 ⇓P **P** 14 02 30.0 +1.2
baz=80,SNR=28
U15A North Rim 80.19 323 ⇓P **P** 14 02 30.1 +1.2
baz=80,SNR=36
Q20A Ridgley Place, 80.23 327 ⇓P **P** 14 02 29.5 +0.6
baz=80,SNR=9.8
N24A Carr 80.26 331 ⇓P **P** 14 02 30.0 +1.0
baz=81
L27A T5 Ranch, Ells 80.28 333 ⇓P **P** 14 02 29.8 +0.7
baz=81,SNR=7.7
P21A Newcastle 80.30 328 ⇓P **P** 14 02 30.7 +1.3
baz=81,SNR=16
PFO Pinyon Flat Ob 80.31 319 *eP* **P** 14 02 30.6 +1.2
comp=Z,36nm,1.2s
PFO Pinyon Flat Ob 80.31 319 P **P** 14 02 30.3 +0.9
comp=Z,92nm,1.0s,SNR=6.9
PFO Pinyon Flat Ob 80.31 319 ⇑P **P** 14 02 30.5 +1.0
baz=81
BELC Belle Mtn. Jos 80.34 319 ⇓P **P** 14 02 30.6 +1.0
baz=81,SNR=6.7
M25A Palm-Egli Farm 80.42 332 ⇓P **P** 14 02 30.8 +0.9
baz=81
O22A Kremmling 80.42 329 ⇑P **P** 14 02 30.7 +0.6
baz=81,SNR=23
L26A Underwood Farm 80.54 333 ⇓P **P** 14 02 31.0 +0.6
baz=81,SNR=5.2
LDFC Landfair 80.65 321 *eP* **P** 14 02 32.6 +1.4
comp=Z,41nm,1.1s
Q19A Hogan Spring (80.68 327 ⇑P **P** 14 02 32.1 +0.8
baz=81,SNR=21
P20A De Beque 80.71 328 ⇓P **P** 14 02 32.5 +1.0
baz=81,SNR=35
MURC Murrieta 80.73 318 ⇓P **P** 14 02 32.4 +0.8
baz=81,SNR=7.8
GMRC Granite Mounta 80.73 320 ⇑P **P** 14 02 32.6 +0.9
baz=81,SNR=27
N23A Red Feather La 80.76 330 ⇓P **P** 14 02 32.9 +1.1
baz=81,SNR=6.0
M24A Cheyenne 80.77 331 ⇓P **P** 14 02 33.1 +1.3
baz=81,SNR=18
K27A Flueckinger Fa 80.77 333 ⇑P **P** 14 02 32.8 +1.1
baz=81,SNR=11
O21A Pagoda 80.87 329 ⇓P **P** 14 02 33.7 +1.3
baz=81
PHWY Pilot Hill 80.89 331 *eP* **P** 14 02 32.7 +0.2
comp=Z,35nm,1.1s
PHWY *epP* **pP** 14 03 16.9 +0.3
N22A Wattenberg Ran 80.91 330 ⇑P **P** 14 02 33.9 +1.3
baz=81,SNR=22
L25A Engebretsen Ra 80.99 332 ⇓P **P** 14 02 33.9 +1.1
baz=81
BBRC Big Bear Solar 81.05 319 ⇑P **P** 14 02 34.5 +1.0
baz=81
P19A Cripple Cowboy 81.09 327 ⇓P **P** 14 02 34.7 +1.2
baz=81,SNR=19
K26A Motz Farm, Whi 81.14 333 ⇑P **P** 14 02 34.4 +0.9
baz=81,SNR=5.6
HEC Hector,Ludlow 81.14 320 ⇑P **P** 14 02 35.0 +1.2
baz=81,SNR=12
M23A Laramie 81.14 331 ⇑P **P** 14 02 34.5 +0.8
baz=81,SNR=8.1
O20A White River Ci 81.16 328 ⇑P **P** 14 02 34.7 +0.8
baz=81,SNR=17
CIS Catalina Islan 81.28 318 ⇓P **P** 14 02 35.2 +0.7
baz=82
L24A Wheatland 81.29 331 ⇑P **P** 14 02 35.3 +0.9
baz=82
K25A Mack Ranch, Ha 81.33 332 ⇓P **P** 14 02 36.1 +1.4
baz=82,SNR=5.0
N21A Black Mountain 81.34 329 ⇓P **P** 14 02 36.4 +1.6
baz=82,SNR=18
TUQ Turquoise Moun 81.36 320 ⇑P **P** 14 02 35.9 +0.9
baz=82,SNR=6.7
SRU San Rafael 81.40 326 *eP* **P** 14 02 35.6 +0.4
SRU *e*PP **pP** 14 03 19.8 +0.6
SRU pmax pmax
comp=Z,38nm,1.0s
SRU San Rafael 81.40 326 *eP* **P** 14 02 35.6 +0.4
comp=Z,38nm,1.0s
SRU *epP* **pP** 14 03 19.8 +0.6
SRU San Rafael 81.40 326 ⇑P **P** 14 02 35.7 +0.6
baz=82,SNR=40
BFSC Mount Baldy Ra 81.45 319 ⇓P **P** 14 02 36.1 +0.6
baz=82,SNR=6.9
M22A Cedar Creek Ra 81.46 330 ⇓P **P** 14 02 36.3 +0.8
baz=82,SNR=13
RRX Edison Barstow 81.55 319 ⇓P **P** 14 02 36.9 +1.1
baz=82
Q16A Castle Valley 81.56 326 ⇓P **P** 14 02 36.8 +0.8
baz=82,SNR=26
CCUT Cedar City 81.60 323 *eP* **P** 14 02 37.7 +1.4
comp=Z,37nm,1.0s
CCUT *epP* **pP** 14 03 21.7 +1.3
L23A Garrett 81.67 331 ⇑P **P** 14 02 37.2 +0.6
baz=82,SNR=9.0
MWC Mount Wilson 81.67 318 *eP* **P** 14 02 37.1 +0.4
MWC pmax pmax
comp=Z,30nm,1.2s
MWC Mount Wilson 81.67 318 *eP* **P** 14 02 37.1 +0.4
comp=Z,30nm,1.2s
P18A Preston Nutter 81.68 327 ⇓P **P** 14 02 37.6 +0.9
baz=82,SNR=34
O19A Miners Draw (B 81.69 328 ⇓P **P** 14 02 37.5 +0.9
baz=82,SNR=36
PASC Pasadena Art C 81.71 318 *eP* **P** 14 02 37.0 +0.4
comp=Z,22nm,1.3s
N20A Spence Gulch, 81.73 329 ⇑P **P** 14 02 37.4 +0.6
baz=82,SNR=20

MSU Marysvale 81.74 325 eP P 14 02 38.0 +1.0
MSU e*PP pP 14 03 22.1 +1.0
MSU pmax pmax
comp=Z,50nm,1.3s
MSU Marysvale 81.74 325 eP P 14 02 38.0 +1.0
comp=Z,50nm,1.3s
MSU epP pP 14 03 22.1 +1.0
GSC Goldstone 81.75 320 eP P 14 02 37.5 +0.6
GSC e*PP pP 14 03 21.8 +0.7
GSC pmax pmax
comp=Z,31nm,1.3s
GSC Goldstone 81.75 320 eP P 14 02 37.5 +0.6
comp=Z,31nm,1.3s
GSC epP pP 14 03 21.8 +0.7
GSC Goldstone 81.75 320 ⇓P P 14 02 37.5 +0.6
baz=82,SNR=9.4
MVU Marysvale 81.75 325 eP P 14 02 37.6 +0.5
comp=Z,33nm,1.2s
MVU epP pP 14 03 22.1 +0.9
P17A Butcher Ranch, 81.79 326 ⇓P P 14 02 37.9 +0.7
baz=82,SNR=7.1
K24A Anderson Ranch 81.81 332 ⇑P P 14 02 38.4 +1.2
baz=82,SNR=7.0
ARUT Antelope Range 81.82 323 eP P 14 02 38.7 +1.3
ARUT e*PP pP 14 03 22.4 +0.9
ARUT pmax pmax
comp=Z,29nm,1.0s
ARUT Antelope Range 81.82 323 eP P 14 02 38.7 +1.3
comp=Z,29nm,1.0s
ARUT epP pP 14 03 22.4 +0.9
DECC Green Verdugo 81.84 318 ⇓P P 14 02 38.4 +1.0
baz=82
TMUT Trail Mountain 81.88 326 eP P 14 02 38.5 +0.7
comp=Z,18nm,1.0s
TMUT epP pP 14 03 22.8 +0.9
L22A Ellis Ranch, M 81.91 330 ⇓P P 14 02 39.0 +1.3
baz=82,SNR=8.8
M21A Separation Pea 81.96 330 ⇓P P 14 02 38.9 +0.8
baz=82,SNR=15
EYMN Ely 82.01 343 eP P 14 02 37.1 -0.8
comp=Z,43nm,1.3s
EYMN epP pP 14 03 21.8 -0.2
O18A Roosevelt 82.07 327 ⇓P P 14 02 39.6 +1.0
baz=82,SNR=17
EDW2 Edwards Air Fo 82.11 319 ⇑P P 14 02 39.3 +0.5
baz=82,SNR=6.4
K23A Bowen Ranch, D 82.17 331 ⇓P P 14 02 40.0 +1.0
baz=82,SNR=11
BLG Laguna Peak 82.17 318 ⇑P P 14 02 39.8 +0.7
baz=82
N19A John Jarvie Ra 82.19 328 ⇓P P 14 02 39.8 +0.6
baz=82,SNR=25
M20A Sweetwater, Wa 82.22 329 ⇑P P 14 02 40.3 +0.8
baz=82,SNR=19
L21A Rawlins 82.25 330 ⇑P P 14 02 40.2 +0.6
baz=82,SNR=37
J24A Dixon Ranch, L 82.25 332 ⇑P P 14 02 40.7 +1.3
baz=83,SNR=13
OSI Osito Adit 82.33 318 ⇑P P 14 02 41.1 +1.2
baz=83
P16A Fountain Green 82.34 326 ⇓P P 14 02 41.1 +1.0
baz=83
O17A Robinson Place 82.36 327 ⇓P P 14 02 41.2 +1.0
baz=83,SNR=41
LRMC Laurel Mountai 82.37 319 ⇑P P 14 02 41.0 +0.8
baz=83
R13A O'Grain Ranch, 82.39 323 ⇓P P 14 02 41.5 +1.2
baz=83,SNR=18
BSC Santa Cruz Isl 82.42 317 ⇑P P 14 02 40.9 +0.6
baz=83
K22A Casper 82.45 331 ⇓P P 14 02 41.3 +0.8
baz=83,SNR=28
N18A Larsen Ranch, 82.48 328 ⇑P P 14 02 41.2 +0.5
baz=83,SNR=22
P15A Leamington 82.61 325 ⇓P P 14 02 42.1 +0.7
baz=83,SNR=7.2
FURC Furnace Creek, 82.64 321 ⇑P P 14 02 42.5 +1.1
baz=83,SNR=8.6
MPU Maple Canyon 82.64 326 eP P 14 02 41.9 +0.3
comp=Z,22nm,1.1s
MPU epP pP 14 03 26.3 +0.4
M19A Rock Springs 82.67 328 ⇓P P 14 02 42.2 +0.4
baz=83,SNR=6.6
RSSD Black Hills 82.67 333 eP P 14 02 41.8 +0.1
RSSD e*PP pP 14 03 26.5 +0.6
RSSD pmax pmax
comp=Z,22nm,1.0s
RSSD Black Hills 82.67 333 eP P 14 02 41.8 +0.1
comp=Z,22nm,1.0s
RSSD epP pP 14 03 26.5 +0.6
J23A Dilts Ranch, B 82.67 332 ⇓P P 14 02 42.2 +0.6
baz=83
I24A Kuemmerle Ranc 82.68 333 ⇓P P 14 02 42.2 +0.6
baz=83,SNR=5.5
MPMC Manual Prospec 82.68 320 ⇓P P 14 02 42.3 +0.4
baz=83,SNR=13
L20A Wamsutter 82.71 329 ⇑P P 14 02 42.6 +0.7
baz=83,SNR=14
O16A Springville 82.73 326 ⇓P P 14 02 42.7 +0.7
baz=83,SNR=15
K21A Alcova 82.75 330 ⇓P P 14 02 42.8 +0.8
baz=83,SNR=33
ARVC Arvin 82.76 318 ⇓P P 14 02 42.6 +0.5
baz=83
DAU Daniels Canyon 82.77 326 eP P 14 02 43.6 +1.2
DAU e*PP pP 14 03 27.5 +0.8
DAU pmax pmax
comp=Z,9.0nm,0.8s
DAU Daniels Canyon 82.77 326 eP P 14 02 43.6 +1.2
comp=Z,9.0nm,0.8s
DAU epP pP 14 03 27.5 +0.8
SBC Santa Barbara 82.78 317 ⇑P P 14 02 43.8 +1.6
baz=83
DAC Darwin (Calif) 82.90 320 eP P 14 02 43.9 +0.9
DAC e*PP pP 14 03 27.9 +0.6
DAC pmax pmax
comp=Z,34nm,1.0s
DAC Darwin (Calif) 82.90 320 eP P 14 02 43.9 +0.9
comp=Z,34nm,1.0s
DAC epP pP 14 03 27.9 +0.6
ISA Isabella 82.94 319 eP P 14 02 44.0 +0.9
ISA e*PP pP 14 03 28.1 +0.7
ISA pmax pmax
comp=Z,13nm,1.0s
ISA Isabella 82.94 319 eP P 14 02 44.0 +0.9
comp=Z,13nm,1.0s
ISA epP pP 14 03 28.1 +0.7
ISA Isabella 82.94 319 ⇑P P 14 02 44.2 +1.1
baz=83,SNR=8.7
N17A Moffit Pass 82.99 327 ⇓P P 14 02 44.2 +0.7
baz=83,SNR=36
JLU Jordanelle 83.01 326 eP P 14 02 43.9 +0.3
comp=Z,34nm,1.3s
JLU epP pP 14 03 28.1 +0.3
M18A Lyman 83.02 328 ⇑P P 14 02 43.7 +0.2
baz=83,SNR=7.3
J22A Midwest 83.06 331 ⇑P P 14 02 43.7 +0.1
baz=83,SNR=29
PKM Peak Mountain 83.16 318 ⇑P P 14 02 45.3 +1.0
baz=83,SNR=13
N16A Rees Ranch, Co 83.23 327 ⇓P P 14 02 45.4 +0.8
baz=84,SNR=9.5
K20A Yellowstone Ra 83.24 330 ⇑P P 14 02 45.0 +0.4
baz=84,SNR=22
L19A Farson 83.24 329 ⇑P P 14 02 45.6 +0.9
baz=84,SNR=31
O15A The Old Anders 83.25 326 ⇑P P 14 02 45.3 +0.7
baz=84
CWC Cottonwood Cre 83.29 320 ⇑P P 14 02 45.7 +0.7
baz=84,SNR=9.2
GRAC Grapevine Rang 83.31 321 ⇑P P 14 02 45.8 +0.9
baz=84,SNR=5.1
M17A Scullys Gap (B 83.33 328 ⇑P P 14 02 45.2 0.0
baz=84,SNR=14
R11A Troy Canyon, C 83.35 323 ⇓P P 14 02 46.5 +1.3
baz=84,SNR=40
DUG Dugway 83.35 325 eP P 14 02 45.2 0.0
DUG e*PP pP 14 03 30.0 +0.5
DUG pmax pmax
comp=Z,46nm,1.6s
DUG Dugway 83.35 325 eP P 14 02 45.2 0.0
comp=Z,46nm,1.6s
DUG epP pP 14 03 30.0 +0.5
DUG Dugway 83.35 325 ⇓P P 14 02 45.9 +0.7
baz=84,SNR=15
H24A Dirks Ranch, A 83.40 333 ⇑P P 14 02 45.3 +0.1
baz=84,SNR=28
L18A Fontenelle, Gr 83.40 328 ⇑P P 14 02 45.9 +0.4
baz=84,SNR=30
J21A Lysite 83.41 331 ⇑P P 14 02 46.0 +0.5
baz=84,SNR=5.8
VES Vestal, Richgr 83.42 319 ⇓P P 14 02 46.2 +0.8
baz=84,SNR=18
I22A 9 Mile Ranch, 83.46 331 ⇑P P 14 02 46.0 +0.4
baz=84,SNR=41
AGMN Agassiz Nation 83.53 340 eP P 14 02 45.4 -0.2
comp=Z,28nm,0.8s
AGMN epP pP 14 03 30.0 +0.1
SMMC Simmler 83.56 318 ⇑P P 14 02 47.3 +1.1
baz=84
H23A Clabaugh Cattl 83.58 332 ⇑P P 14 02 46.5 +0.3
baz=84
K19A Absolon Red Bu 83.59 329 ⇓P P 14 02 46.7 +0.4
baz=84,SNR=32
M16A Huntsville 83.66 327 ⇓P P 14 02 47.2 +0.4
baz=84
J20A Shoshoni 83.69 330 ⇓P P 14 02 47.9 +1.1
baz=84,SNR=31
I21A Big Trails, Te 83.73 331 ⇓P P 14 02 47.2 +0.2
baz=84,SNR=41
N15A Stansbury Isla 83.75 326 ⇑P P 14 02 47.5 +0.3
baz=84,SNR=8.8
TIN Tinemaha 83.81 320 ⇑P P 14 02 48.4 +0.8
baz=84
G24A Alzada 83.83 333 ⇓P P 14 02 47.6 +0.2
baz=84
RCTC Rector, Farmer 83.84 319 ⇓P P 14 02 47.2 -0.3
baz=84,SNR=5.5
HWUT Hardware Ranch 83.85 327 eP P 14 02 47.8 0.0
comp=Z,66nm,1.3s
HWUT epP pP 14 03 32.0 -0.1
BW06 Boulder Array 83.86 329 ⇓P P 14 02 47.8 0.0
baz=84,SNR=25
PDAR Pinedale Array 83.86 329 P P 14 02 47.8 0.0
comp=Z,5.1nm,0.5s,baz=130,slow=7.7,SNR=57
PDAR pP pP 14 03 32.2 0.0
comp=Z,6.1nm,0.6s,baz=128,slow=7.7,SNR=5.5
PDAR Pinedale Array 83.86 329 P P 14 02 47.8 0.0
PDAR pP pP 14 03 32.2 0.0
L17A Cokeville 83.92 328 ⇓P P 14 02 48.3 +0.2
baz=84
K18A Toltan Ranch, 83.97 329 ⇑P P 14 02 49.3 +0.9
baz=84,SNR=39
H22A Clearmont 83.98 332 ⇓P P 14 02 48.3 0.0
baz=84,SNR=7.6
J19A Crowheart 84.03 330 ⇓P P 14 02 49.0 +0.4
baz=84,SNR=24
G23A Biddle 84.10 333 ⇑P P 14 02 48.6 -0.2
baz=84,SNR=17
L16A Fish Haven 84.11 327 ⇓P P 14 02 49.5 +0.4
baz=84,SNR=33
M15A Larsen Ranch, 84.16 326 ⇓P P 14 02 49.8 +0.6
baz=84,SNR=17
I20A Wyand 84.19 331 ⇓P P 14 02 49.9 +0.6
baz=84,SNR=39
F24A Ekalaka 84.28 334 ⇑P P 14 02 49.7 +0.1
baz=85,SNR=9.5
MDND Maddock 84.28 338 ⇑P P 14 02 50.0 +0.4
baz=85,SNR=9.5
H21A Big Horn, Sher 84.29 332 ⇑P P 14 02 49.7 -0.1
baz=85,SNR=19
J18A Kendall Valley 84.42 329 ⇓P P 14 02 51.0 +0.4
baz=85,SNR=44
K17A Gardner Place, 84.45 328 ⇑P P 14 02 51.1 +0.3
baz=85,SNR=5.5
G22A Birney 84.47 332 ⇑P P 14 02 50.5 -0.2
baz=85,SNR=13
F23A Volborg 84.54 333 ⇑P P 14 02 50.9 0.0
baz=85,SNR=15
AHID Auburn Hatcher 84.55 328 P P 14 02 51.1 -0.1
comp=Z,65nm,1.3s
L15A Malad City 84.55 327 ⇑P P 14 02 51.3 +0.1
baz=85,SNR=24
HVU Hansel Valley 84.56 326 eP P 14 02 51.2 -0.1
HVU e*PP pP 14 03 35.5 -0.1
HVU pmax pmax
comp=Z,32nm,1.3s
HVU Hansel Valley 84.56 326 eP P 14 02 51.2 -0.1
comp=Z,32nm,1.3s
HVU epP pP 14 03 35.5 -0.1
MLAC Mammoth Lakes 84.56 320 ⇑P P 14 02 52.2 +0.7
baz=85,SNR=11
H20A Greybull 84.57 331 ⇑P P 14 02 51.3 +0.1
baz=85,SNR=36
I19A Meeteetse 84.63 330 ⇓P P 14 02 52.0 +0.3
baz=85,SNR=15
I18A Diamond G Ranc 84.72 329 ⇑P P 14 02 52.8 +0.6
baz=85,SNR=48
K16A Soda Springs 84.82 328 ⇑P P 14 02 53.3 +0.7
baz=85,SNR=44
E24A Baker 84.83 334 ⇓P P 14 02 53.1 +0.8
baz=85
J17A Brown Place, J 84.84 329 ⇓P P 14 02 53.2 +0.5
baz=85,SNR=16
G21A Lodge Grass 84.85 332 ⇑P P 14 02 52.8 +0.3
baz=85,SNR=17
NVAR Mina Array Bea 84.85 321 P P 14 02 53.4 +0.5
comp=Z,16nm,1.2s,baz=154,slow=6.2,SNR=44
NVAR pP pP 14 03 37.7 +0.4
comp=Z,3.6nm,0.9s,baz=159,slow=5.8,SNR=4.1
NVAR PKKPbc PKKPbc 14 21 00.7 -0.8
comp=Z,0.6nm,0.7s,baz=292,slow=2.0,SNR=6.0
NVAR Mina Array Bea 84.85 321 P P 14 02 53.4 +0.5
NVAR pP pP 14 03 37.7 +0.4
NVAR PKKPbc PKKPbc 14 21 00.7 -0.8
REDW Red Top Meadow 84.91 329 eP P 14 02 53.0 0.0
comp=Z,34nm,1.2s
F22A Rosebud 84.92 333 ⇑P P 14 02 53.0 +0.1
baz=85,SNR=9.5
SNOW Snow King Moun 84.94 329 eP P 14 02 53.6 +0.3
comp=Z,28nm,1.1s
ELK Elko 84.97 324 eP P 14 02 53.4 0.0
ELK epP pP 14 03 37.8 -0.1
L14A Malta 84.97 326 ⇓P P 14 02 53.7 +0.4
baz=85,SNR=15
LOHW Long Hollow 84.99 329 eP P 14 02 53.5 +0.1
comp=Z,23nm,1.1s
LOHW epP pP 14 03 38.1 +0.1
TPAW Teton Pass 85.05 329 eP P 14 02 54.4 +0.6
comp=Z,34nm,1.1s
RRI2 Red Ridge 85.10 328 eP P 14 02 54.0 -0.1
comp=Z,32nm,1.0s
RRI2 epP pP 14 03 38.7 +0.1
H19A Powell 85.14 330 ⇑P P 14 02 54.5 +0.4
baz=85,SNR=15
K15A Arbon 85.14 327 ⇑P P 14 02 54.5 +0.3
baz=85,SNR=19
E23A Ismay 85.15 334 ⇓P P 14 02 55.6 +1.6
baz=86
MOOW Moose Ponds 85.16 329 eP P 14 02 54.3 0.0
comp=Z,18nm,1.1s
MOOW epP pP 14 03 38.9 +0.1
J16A Bone 85.18 328 ⇓P P 14 02 55.0 +0.6
baz=86,SNR=20
I17A Pilgrim Ck. 85.22 329 ⇓P P 14 02 55.6 +1.0
baz=86,SNR=9.5
DCID1 Drake Creek 85.24 329 eP P 14 02 55.3 +0.7
comp=Z,56nm,1.2s
G20A Bridger 85.26 331 ⇑P P 14 02 54.6 0.0
baz=86,SNR=37
ULM Lac du Bonnet 85.29 341 P P 14 02 54.0 -0.4
comp=Z,24nm,0.9s,baz=156,slow=3.2,SNR=38
ULM pP pP 14 03 39.0 +0.1
comp=Z,23nm,0.8s,baz=147,slow=4.5,SNR=11
ULM PKKPbc PKKPbc 14 20 58.4 -2.4
comp=Z,1.3nm,0.4s,baz=314,slow=3.1,SNR=3.9
ULM Lac du Bonnet 85.29 341 P P 14 02 54.0 -0.4
ULM pP pP 14 03 39.0 +0.1
ULM PKKPbc PKKPbc 14 20 58.4 -2.4
D24A Glendive 85.30 335 ⇑P P 14 02 55.2 +0.5
baz=86
F21A Absaloka Mine, 85.30 332 ⇓P P 14 02 55.2 +0.4
baz=86
LSZ Lusaka 85.30 105 eP P 14 02 57.2 +1.5
comp=Z,66nm,1.4s
LSZ epP pP 14 03 41.5 +1.4
LSZ Lusaka 85.30 105 P P 14 02 57.5 +1.9
SNR=9.5
K14A Jones Ranch, D 85.34 327 ⇓P P 14 02 55.3 +0.2
baz=86,SNR=21
E22A Miles City 85.35 333 ⇓P P 14 02 54.6 -0.4
baz=86,SNR=5.5
IMW Indian Meadow 85.37 329 eP P 14 02 55.9 +0.5
comp=Z,52nm,1.0s
FLWY Flagg Ranch 85.41 329 eP P 14 02 56.2 +0.7
comp=Z,55nm,1.0s
FLWY epP pP 14 03 40.6 +0.6
H18A Shoshone NF, C 85.43 330 ⇑P P 14 02 56.0 +0.4
baz=86,SNR=68
SCHQ Schefferville 85.50 359 P P 14 02 55.1 -0.3
comp=Z,13nm,1.1s,baz=166,slow=5.2,SNR=12
SCHQ pP pP 14 03 39.8 -0.2
comp=Z,10.0nm,0.8s,baz=153,slow=3.6,SNR=6.7
SCHQ Schefferville 85.50 359 eP P 14 02 55.0 -0.5
comp=Z,26nm,1.3s
SCHQ epP pP 14 03 39.7 -0.2
I16A Newdale 85.59 329 ⇓P P 14 02 57.1 +0.7
baz=86,SNR=17
H17A Grant Village 85.60 329 ⇑P P 14 02 58.0 +1.5
baz=86,SNR=7.4
RLMT Red Lodge 85.62 331 eP P 14 02 57.0 +0.5
comp=Z,18nm,0.6s
RLMT epP pP 14 03 41.7 +0.7
RLMT Red Lodge 85.62 331 ⇑P P 14 02 57.1 +0.5
baz=86,SNR=28
MDT Midelt 85.64 48 P P 14 02 57.8 +1.0
comp=Z,3.8nm,0.7s,baz=233,slow=3.3,SNR=13
MDT Midelt 85.64 48 P P 14 02 57.8 +1.0
J15A Blackfoot 85.65 328 ⇑P P 14 02 57.5 +0.8
baz=86,SNR=30
LKWY Lake 85.66 330 eP P 14 02 58.3 +1.5
LKWY pmax pmax
comp=Z,23nm,1.1s
LKWY Lake 85.66 330 eP P 14 02 58.3 +1.5
comp=Z,23nm,1.1s
D23A Lindsay 85.68 334 ⇑P P 14 02 57.2 +0.6
baz=86,SNR=14
C24A Savage 85.69 335 ⇓P P 14 02 57.1 +0.5
baz=86,SNR=11
F20A Billings 85.70 332 ⇓P P 14 02 56.9 +0.1
baz=86
CMB Columbia Colle 85.71 320 eP P 14 02 57.1 +0.2
CMB pmax pmax
comp=Z,20nm,1.3s
CMB Columbia Colle 85.71 320 eP P 14 02 57.1 +0.2
comp=Z,20nm,1.3s
YFT Old Faithful 85.76 329 eP P 14 02 58.9 +1.6
comp=Z,35nm,0.9s
E21A Keefer Ranch, 85.87 333 ⇑P P 14 02 57.9 +0.3
baz=86
G18A Lazy EL Ranch, 85.90 330 ⇑P P 14 02 58.0 +0.1
baz=86,SNR=24
YNR Norris Junctio 85.90 329 eP P 14 02 58.8 +0.8
comp=Z,35nm,1.3s
YMR Madison River 85.99 329 eP P 14 02 59.5 +1.1
comp=Z,109nm,1.1s
YMR epP pP 14 03 43.9 +1.0
D22A Cohagen 86.03 333 ⇑P P 14 02 58.7 +0.5
baz=86,SNR=16
F19A Roth Farm, Mol 86.07 331 ⇑P P 14 02 58.7 +0.1
baz=86,SNR=28
J14A Carey 86.09 327 ⇑P P 14 02 59.9 +1.0
baz=86
H16A Russell Place, 86.14 329 ⇑P P 14 02 59.9 +0.8
baz=86,SNR=6.3
I15A Monteview 86.14 328 ⇑P P 14 03 00.2 +1.2
baz=86,SNR=15
C23A Lambert 86.19 334 ⇑P P 14 02 59.2 +0.1
baz=86,SNR=11
E20A Meyer Farm, Mu 86.26 332 ⇑P P 14 02 59.8 +0.3
baz=87,SNR=19
WCN Washoe City 86.27 321 eP P 14 03 00.4 +0.6
WCN pmax pmax
comp=Z,13nm,1.1s
WCN Washoe City 86.27 321 eP P 14 03 00.4 +0.6
comp=Z,13nm,1.1s
D21A La Casta Ranch 86.27 333 ⇑P P 14 02 59.8 +0.3
baz=87,SNR=7.4
QLMT Earthquake Lak 86.32 329 eP P 14 03 01.1 +1.2
comp=Z,1.5nm,0.6s
QLMT epP pP 14 03 46.5 +1.9
GCMT Greycliff 86.32 331 eP P 14 03 00.2 +0.4
comp=Z,14nm,1.0s
GCMT epP pP 14 03 44.6 +0.2
DGMT Dagmar 86.39 335 eP P 14 03 00.1 +0.1
comp=Z,37nm,0.9s
DGMT epP pP 14 03 45.4 +0.8
DGMT Dagmar 86.39 335 ⇓P P 14 03 00.5 +0.5
baz=87,SNR=11
G17A Pierce Place, 86.40 330 ⇑P P 14 03 01.0 +0.7
baz=87
C22A Vida 86.41 334 ⇓P P 14 03 00.1 0.0
baz=87,SNR=9.5
F18A Big Timber 86.43 331 ⇑P P 14 03 00.7 +0.3
baz=87,SNR=62
J13A Cove Ranch, Pi 86.46 327 ⇓P P 14 03 01.8 +1.1
baz=87,SNR=71
E19A Rath Farm, Rou 86.50 332 ⇑P P 14 03 00.9 +0.2
baz=87,SNR=43
TAM Tamanrasset 86.50 61 eP P 14 03 01.8 +0.5
TAM e*PP pP 14 03 45.6 -0.3
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM Tamanrasset 86.50 61 eP P 14 03 01.8 +0.5
comp=Z,6.3nm,0.9s
TAM epP pP 14 03 45.5 -0.3
I14A Mackay 86.53 327 ⇓P P 14 03 02.2 +1.2
baz=87,SNR=41
PBDV Barranco-do-Ve 86.61 42 eP P 14 03 02.9 +1.6
comp=Z,31nm,1.3s
B23A Brockton 86.68 335 ⇑P P 14 03 01.8 +0.4
baz=87,SNR=5.2
H15A Lima 86.69 328 ⇑P P 14 03 02.6 +0.9
baz=87,SNR=28
HLID Hailey 86.70 327 eP P 14 03 02.5 +0.7
comp=Z,53nm,1.0s
HLID epP pP 14 03 47.2 +0.8
HLID Hailey 86.70 327 ⇓P P 14 03 02.8 +1.0
baz=87,SNR=73
A24A Westby 86.71 336 ⇑P P 14 03 02.0 +0.5
baz=87
D20A Manuel Ranch, 86.74 332 ⇑P P 14 03 01.9 +0.2
baz=87,SNR=22
G16A Moss Hill, Enn 86.80 329 ⇑P P 14 03 03.0 +0.8
baz=87,SNR=11
PCVE Castro Verde 86.81 42 eP P 14 03 03.4 +1.1
I13A Wildhorse Cree 86.83 327 ⇑P P 14 03 03.5 +1.0
baz=87,SNR=72
F17A Fitzpatrick Pl 86.83 330 ⇓P P 14 03 03.0 +0.6
baz=87,SNR=33
PVAQ Vaqueiros 86.84 42 eP P 14 03 03.8 +1.4
comp=Z,24nm,2.3s
B22A Reddig Ranch S 86.91 334 ⇑P P 14 03 02.9 +0.3
baz=87,SNR=5.8
C21A Desert Coulee 86.94 333 ⇑P P 14 03 02.6 -0.1
baz=87,SNR=12
MCMT McKenzie Canyo 86.95 328 eP P 14 03 04.0 +0.9
comp=Z,36nm,1.1s
MCMT epP pP 14 03 48.4 +0.7
H14A Leadore 87.02 328 ⇓P P 14 03 04.2 +0.8
baz=87,SNR=29
E18A Harlowton 87.04 331 ⇑P P 14 03 03.5 +0.1
baz=87,SNR=16
BOZ Bozeman (W) 87.05 330 eP P 14 03 03.3 -0.1
BOZ pmax pmax
comp=Z,15nm,1.0s
BOZ Bozeman (W) 87.05 330 eP P 14 03 03.3 -0.1
comp=Z,15nm,1.0s
BOZ Bozeman (W) 87.05 330 ⇓P P 14 03 03.7 +0.3
baz=87,SNR=19
G15A Dillon 87.05 329 ⇓P P 14 03 04.1 +0.6
baz=87,SNR=25
A23A Redstone 87.05 335 ⇑P P 14 03 03.7 +0.5
baz=87
D19A Cripps Ranch, 87.10 332 ⇓P P 14 03 03.5 0.0
baz=87,SNR=31
F16A Kennard Place, 87.15 330 ⇑P P 14 03 04.5 +0.6
baz=87,SNR=6.8
PBEJ Beja 87.19 42 eP P 14 03 05.9 +1.9
comp=Z,19nm,1.6s
C20A Veseth Ranch, 87.20 333 ⇑P P 14 03 03.6 -0.3
baz=88,SNR=12
I12A Atlanta 87.22 326 ⇑P P 14 03 04.8 +0.6
baz=88,SNR=37
DLMT Dillon 87.25 329 eP P 14 03 05.1 +0.7
comp=Z,75nm,1.2s
DLMT epP pP 14 03 49.8 +0.7
MFID Camas Ranch 87.26 326 ⇓P P 14 03 05.3 +0.9
baz=88
E17A Martinsdale 87.36 330 ⇑P P 14 03 05.4 +0.6
baz=88,SNR=28

EVOP **Sao Brissos** 87.38 41⇑ *i*P P 14 03 04.8 -0.1
EVOP *e**PP pP 14 03 48.9 -0.7
EVOP pmax pmax
comp=Z,14nm,0.9s
EVOP **Sao Brissos** 87.38 41⇑ *i*P P 14 03 04.8 -0.1
comp=Z,14nm,0.9s
EVOP *ep*P pP 14 03 48.9 -0.7
H13A Challis 87.39 327 ⇑P P 14 03 05.9 +0.9
baz=88,SNR=64
B21A Ellsworth Farm 87.40 334 ⇑P P 14 03 05.3 +0.5
baz=88,SNR=17
EVO **Evora** 87.45 41⇑ *i*P P 14 03 04.8 -0.5
comp=Z,14nm,0.9s
EVO *ep*P pP 14 03 48.9 -1.1
A22A Carney Farms, 87.45 335 ⇑P P 14 03 05.5 +0.3
baz=88,SNR=17
D18A Linhart Farms, 87.50 331 ⇓P P 14 03 05.8 +0.3
baz=88,SNR=17
LRM Limekiln Ridge 87.54 329 *e*P P 14 03 06.3 +0.4
comp=Z,519nm,1.2s
LRM *ep*P pP 14 03 50.8 +0.3
G14A Jackson 87.54 328 ⇓P P 14 03 06.6 +0.7
baz=88
F15A Butte 87.58 329 ⇑P P 14 03 06.6 +0.6
baz=88,SNR=38
C19A Slack Wire Ran 87.63 332 ⇓P P 14 03 06.1 +0.1
baz=88,SNR=28
H12A Diamond D Ranc 87.66 327 ⇑P P 14 03 06.9 +0.6
baz=88,SNR=21
PMTG Montargil 87.70 41 *e*P P 14 03 08.3 +1.9
comp=Z,22nm,1.8s
E16A East Helena 87.76 330 ⇓P P 14 03 07.3 +0.6
baz=88,SNR=34
G13A Cobalt 87.78 328 ⇑P P 14 03 07.9 +1.0
baz=88,SNR=56
B20A Solberg Farm, 87.79 333 ⇑P P 14 03 06.7 -0.1
baz=88
A21A Bergtoll Ranch 87.83 334 ⇑P P 14 03 06.7 -0.2
baz=88,SNR=11
D17A Six Diamond Ra 87.83 331 ⇑P P 14 03 07.4 +0.4
baz=88,SNR=64
PESTR Estremoz 87.92 41 *e*P P 14 03 08.9 +1.4
comp=Z,20nm,1.5s
F14A Wisdom 87.94 329 ⇑P P 14 03 08.7 +1.0
baz=88,SNR=31
HRY Holter Researc 87.97 330 *e*P P 14 03 08.4 +0.7
comp=Z,32nm,0.7s
HRY *ep*P pP 14 03 53.3 +0.9
E15A Deer Lodge 88.09 329 ⇓P P 14 03 08.9 +0.6
baz=88,SNR=21
D16A Dana Ranch, Ca 88.10 330 ⇓P P 14 03 09.2 +0.9
baz=88,SNR=34
A20A Cobblestone Ra 88.12 334 ⇑P P 14 03 08.4 +0.2
baz=88,SNR=35
EGMT Eagleton 88.14 332 *e*P P 14 03 08.2 -0.2
comp=Z,54nm,1.3s
EGMT *ep*P pP 14 03 52.8 -0.4
EGMT Eagleton 88.14 332 ⇓P P 14 03 08.3 -0.2
baz=88,SNR=18
B19A Brinkman Farms 88.17 333 ⇓P P 14 03 08.5 0.0
baz=88,SNR=18
C17A Wharram Farm, 88.24 331 ⇑P P 14 03 08.9 -0.1
baz=88,SNR=26
G12A Big Creek, Yel 88.31 327 ⇑P P 14 03 09.8 +0.3
baz=89
F13A Darby 88.36 328 ⇑P P 14 03 10.0 +0.4
baz=89,SNR=61
MOD Modoc 88.41 322 *e*P P 14 03 10.3 +0.3
comp=Z,42nm,1.4s
MOD *ep*P pP 14 03 54.8 0.0
B18A Beardsley Farm 88.45 332 ⇓P P 14 03 10.0 +0.1
baz=89,SNR=23
E14A Clinton 88.46 329 ⇑P P 14 03 11.0 +0.9
baz=89,SNR=24
A19A Klindworth Far 88.47 333 ⇓P P 14 03 10.1 +0.1
baz=89,SNR=18
D15A Lincoln 88.52 330 ⇓P P 14 03 10.8 +0.4
baz=89,SNR=28
WDC Whiskeytown Da 88.69 320 *e*P P 14 03 10.2 -0.9
WDC *e**PP pP 14 03 54.7 -1.2
WDC pmax pmax
comp=Z,7.0nm,0.8s
WDC Whiskeytown Da 88.69 320 *e*P P 14 03 10.2 -0.9
comp=Z,7.4nm,0.8s
WDC *ep*P pP 14 03 54.7 -1.2
CHMT Chamberlain Mo 88.74 329 *e*P P 14 03 11.9 +0.4
comp=Z,20nm,1.4s
CHMT *ep*P pP 14 03 56.6 +0.3
F12A Elk City 88.75 328 ⇑P P 14 03 12.2 +0.8
baz=89,SNR=24
B17A L&G Farms, Che 88.78 332 ⇑P P 14 03 11.5 +0.1
baz=89,SNR=21
C16A Fuhringer Ranc 88.79 331 ⇑P P 14 03 11.8 +0.3
baz=89,SNR=27
E13A Victor 88.79 329 ⇓P P 14 03 12.4 +0.8
baz=89,SNR=30
A18A Metzger Ranch, 88.90 333 ⇓P P 14 03 11.8 -0.1
baz=89,SNR=24
MSO Missoula 88.98 329 ⇓P P 14 03 13.4 +1.0
baz=89
D14A Greenough 88.98 329 ⇑P P 14 03 13.0 +0.6
baz=89,SNR=21
BMO Blue Mountains 89.04 326 *e*P P 14 03 12.9 +0.1
BMO *e**PP pP 14 03 57.9 +0.3
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 89.04 326 *e*P P 14 03 12.9 +0.1
comp=Z,12nm,1.2s
BMO *ep*P pP 14 03 57.9 +0.3
SLMT Seeley Lake 89.10 330 *e*P P 14 03 13.4 +0.3
comp=Z,55nm,1.3s
SLMT *ep*P pP 14 03 58.1 +0.2
C15A Salmond Ranch, 89.13 330 ⇓P P 14 03 13.7 +0.6
baz=89,SNR=48
B16A M & M Farms, S 89.25 331 ⇓P P 14 03 13.3 -0.3
baz=90,SNR=17
A17A Triple J Farms 89.26 332 ⇑P P 14 03 14.0 +0.4
baz=90,SNR=31
E12A Beaver Dam Sad 89.39 328 ⇑P P 14 03 14.4 0.0
baz=90
D13A Huson 89.41 329 ⇑P P 14 03 14.8 +0.4
baz=90,SNR=15
PVRL Vila Real 89.50 40 *e*P P 14 03 15.0 +0.1
comp=Z,31nm,1.7s
SWMT Swartz Lake 89.52 329 *e*P P 14 03 15.3 +0.4
comp=Z,13nm,1.2s
SWMT *ep*P pP 14 03 59.9 +0.1
B15A Bradely Ranch, 89.53 331 ⇑P P 14 03 14.4 -0.6
baz=90,SNR=17
YBH Yreka Blue Hor 89.57 321 P P 14 03 15.2 -0.1
comp=Z,7.2nm,0.6s,baz=170,slow=7.4,SNR=3.5
YBH pP pP 14 03 59.9 -0.2
comp=Z,11nm,0.7s,baz=60,slow=10.0,SNR=4.9
YBH Yreka Blue Hor 89.57 321 *e*P P 14 03 15.2 -0.1
YBH pP pP 14 03 59.9 -0.2
YBH *ep*P pP 14 04 00.1 0.0
C14A Swan Lake 89.61 330 ⇓P P 14 03 15.9 +0.5
baz=90
A16A West Butte Ran 89.62 332 ⇑P P 14 03 15.8 +0.4
baz=90
D12A Red Ives Fores 89.78 328 ⇓P P 14 03 16.2 +0.1
baz=90
MVO Moncorvo 89.80 40 *e*P P 14 03 17.0 +0.6
comp=Z,24nm,2.1s
JTMT Jette 89.83 329 *e*P P 14 03 16.6 +0.2
comp=Z,14nm,1.0s
JTMT *ep*P pP 14 04 01.6 +0.3
B14A Marquette Ranc 89.86 330 ⇓P P 14 03 16.3 -0.3
baz=90,SNR=9.6
C13A Hot Springs 89.90 329 ⇑P P 14 03 16.8 +0.1
baz=90,SNR=9.8
A15A Johnson Ranch, 90.12 331 ⇓P P 14 03 17.3 -0.3
baz=90,SNR=7.9
BSMT Bassoo Peak 90.13 329 *e*P P 14 03 17.7 -0.2
comp=Z,20nm,1.4s
BSMT *ep*P pP 14 04 02.7 0.0
C12B Naegeli Ranch, 90.33 329 ⇓P P 14 03 19.3 +0.7
baz=91
B13A Whitefish 90.39 330 ⇓P P 14 03 19.2 +0.3
baz=91,SNR=7.7
A14A Double T Ranch 90.40 331 ⇓P P 14 03 18.9 -0.1
baz=91,SNR=7.9
ESDC Sonseca Array 90.55 43 P P 14 03 20.6 +0.7
comp=Z,1.5nm,0.7s,baz=231,slow=5.7,SNR=9.8
ESDC pP pP 14 04 04.9 +0.1
comp=Z,0.3nm,0.4s,baz=244,slow=4.6,SNR=2.3
ESDC Sonseca Array 90.55 43 P P 14 03 20.6 +0.7
ESDC pP pP 14 04 04.9 +0.1
WALA Waterton Lakes 90.67 330 *e*P P 14 03 20.4 +0.1
comp=Z,1.3nm,1.5s
WALA *ep*P pP 14 04 05.1 -0.1
C11A Tepee Creek (N 90.77 329 ⇓P P 14 03 21.0 +0.3
baz=91
A13A Flathead Natio 90.79 330 ⇑P P 14 03 21.6 +0.7
baz=91
B12A Libby 90.95 329 ⇓P P 14 03 21.9 +0.4
baz=91
FFC Flin Flon 91.00 340 *ce*P P 14 03 21.8 +0.3
FFC Flin Flon 91.00 340 *e*P P 14 03 21.6 +0.1
comp=Z,25nm,1.3s
FFC *ep*P pP 14 04 06.6 +0.2
FFC Flin Flon 91.00 340 P P 14 03 21.8 +0.3
comp=Z,84nm,1.2s,SNR=10.0
HAWA Hanford 91.23 326 *e*P P 14 03 23.1 +0.3
comp=Z,42nm,1.5s
HAWA *ep*P pP 14 04 08.0 +0.3
A12A Yaak River Ran 91.33 330 ⇓P P 14 03 23.5 +0.3
baz=92
WRD Warden 91.34 326 P P 14 03 25.1 +1.8
NEW Newport 91.48 328 ⇑P P 14 03 23.7 -0.2
baz=92
OD2 Odessa Site #2 91.57 327 P P 14 03 24.9 +0.5
EBG Ellensburg 92.10 326 P P 14 03 27.6 +0.7
TBM Table Mountain 92.30 326 P P 14 03 29.0 +1.2
ETW Entiat 92.48 326 P P 14 03 28.8 +0.1
SJPF Ste Jean 94.33 41 *e*P P 14 03 36.9 -0.3
comp=Z,9.2nm,0.9s
SJPF Ste Jean 94.33 41 *e*P P 14 03 36.9 -0.3
SJPF pmax pmax
comp=Z,9.0nm,0.9s
SJPF Ste Jean 94.33 41 *e*P P 14 03 36.9 -0.3
comp=Z,9.2nm,0.9s
ETSF Etsaut 94.58 42 *e*P P 14 03 39.3 +0.9
ETSF Etsaut 94.58 42 *e*P P 14 03 39.3 +0.9
ETSF Etsaut 94.58 42 *e*P P 14 03 39.3 +0.9
QUIF Quistinic 96.35 37 *e*P P 14 03 46.1 -0.1
QUIF Quistinic 96.35 37 *e*P P 14 03 46.1 -0.1
QUIF Quistinic 96.35 37 *e*P P 14 03 46.1 -0.1
MTLF Montolieu 96.46 43 *e*P P 14 03 47.0 +0.2
comp=Z,8.2nm,0.8s
MTLF Montolieu 96.46 43 *e*P P 14 03 47.0 +0.2
MTLF pmax pmax
comp=Z,8.0nm,0.8s
MTLF Montolieu 96.46 43 *e*P P 14 03 47.0 +0.2
comp=Z,8.2nm,0.8s
ROSF Rostrenen 96.57 36 *e*P P 14 03 47.3 +0.1
ROSF Rostrenen 96.57 36 *e*P P 14 03 47.3 +0.1
ROSF Rostrenen 96.57 36 *e*P P 14 03 47.3 +0.1
LFF La Frestale 96.58 41 *e*P P 14 03 47.7 +0.4
LFF La Frestale 96.58 41 *e*P P 14 03 47.7 +0.4
LFF La Frestale 96.58 41 *e*P P 14 03 47.7 +0.4
MFF Saint Martin d 97.11 39 *e*P Pdif 14 03 50.1 +0.3
MFF Saint Martin d 97.11 39 *e*P Pdif 14 03 50.1 +0.3
MFF Saint Martin d 97.11 39 *e*P Pdif 14 03 50.1 +0.3
GRR Gorron 97.84 37 *e*P P 14 03 52.7 -0.2
GRR Gorron 97.84 37 *e*P P 14 03 52.7 -0.2
GRR Gorron 97.84 37 *e*P P 14 03 52.7 -0.2
TCF Toulx Ste Croi 98.22 40 *e*P Pdif 14 03 54.8 0.0
TCF Toulx Ste Croi 98.22 40 *e*P Pdif 14 03 54.8 0.0
TCF Toulx Ste Croi 98.22 40 *e*P Pdif 14 03 54.8 0.0
LDF La Druitiere 98.36 38 *e*P P 14 03 55.1 -0.1
comp=Z,17nm,1.1s
LDF La Druitiere 98.36 38 *e*P P 14 03 55.1 -0.1
LDF pmax pmax
comp=Z,17nm,1.1s
LDF La Druitiere 98.36 38 *e*P P 14 03 55.1 -0.1
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 98.78 43 *e*P Pdif 14 03 58.2 +0.9
VIVF Saint-Julien-l 98.78 43 *e*P Pdif 14 03 58.2 +0.9
VIVF Saint-Julien-l 98.78 43 *e*P Pdif 14 03 58.2 +0.9
AVF Avril sur Loir 99.15 40 *e*P **Pdif** 14 03 59.1 +0.3
AVF Avril sur Loir 99.15 40 *e*P **Pdif** 14 03 59.1 +0.3
AVF Avril sur Loir 99.15 40 *e*P **Pdif** 14 03 59.1 +0.3
SMF Signal de Mont 99.34 41 *e*P **Pdif** 14 04 00.3 +0.6
comp=Z,7.6nm,0.7s
SMF *ep*P pP 14 04 44.1 -0.7
comp=Z,1.5nm,0.1s
SMF Signal de Mont 99.34 41 *e*P **Pdif** 14 04 00.3 +0.6
SMF *e**PP pP 14 04 44.1 -0.7
SMF pmax pmax
comp=Z,8.0nm,0.7s
SMF Signal de Mont 99.34 41 *e*P **Pdif** 14 04 00.3 +0.6
comp=Z,7.6nm,0.7s
SMF *ep*P pP 14 04 44.1 -0.7
SSF Saint Saulge 99.39 40 *e*P **Pdif** 14 03 59.9 0.0
comp=Z,11nm,1.0s
SSF Saint Saulge 99.39 40 *e*P **Pdif** 14 03 59.9 0.0
SSF pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 99.39 40 *e*P **Pdif** 14 03 59.9 0.0
comp=Z,11nm,1.0s
LOR Lormes 99.71 40 *e*P **Pdif** 14 04 01.6 +0.2
LOR Lormes 99.71 40 *e*P **Pdif** 14 04 01.6 +0.2
CABF La Chapelle 100.59 42 *e*P **Pdif** 14 04 06.1 +0.7
CABF La Chapelle 100.59 42 *e*P **Pdif** 14 04 06.1 +0.7
CABF La Chapelle 100.59 42 *e*P **Pdif** 14 04 06.1 +0.7
SFTF Sexfontaines 100.90 40 *e*P **Pdif** 14 04 06.7 +0.1
SFTF Sexfontaines 100.90 40 *e*P **Pdif** 14 04 06.7 +0.1
MEZF Maizieres J'vi 101.08 40 *e*P **Pdif** 14 04 08.6 +1.3
MEZF Maizieres J'vi 101.08 40 *e*P **Pdif** 14 04 08.6 +1.3
YKA Yellowknife Ar 101.15 339 P **Pdif** 14 04 07.0 -0.3
comp=Z,1.3nm,0.4s,baz=137,slow=4.6,SNR=47
YKA pP pP 14 04 52.4 0.0
comp=Z,2.1nm,0.6s,baz=139,slow=4.5,SNR=12
YKA PKKPbc **PKKPbc** 14 20 16.3 -2.9
comp=Z,0.2nm,0.4s,baz=317,slow=3.4,SNR=8.5
YKA Yellowknife Ar 101.15 339 P **Pdif** 14 04 07.0 -0.3
YKA pP pP 14 04 52.4 0.0
YKA PKKPbc **PKKPbc** 14 20 16.3 -2.9
YKW3 Yellowknife Ar 101.21 339 *e*Pdif **Pdif** 14 04 07.4 -0.2
comp=Z,0.1nm,0.7s
YKW3 *ep*P pP 14 04 53.2 +0.5
HAU Haudompre 101.52 41 *e*P **Pdif** 14 04 10.4 +1.0
HAU Haudompre 101.52 41 *e*P **Pdif** 14 04 10.4 +1.0
HAU Haudompre 101.52 41 *e*P **Pdif** 14 04 10.4 +1.0
GERES GERESS Array B 106.14 42 PKiKP **PKiKP** 14 08 40.9 +0.1
comp=Z,0.8nm,0.8s,baz=205,slow=2.8,SNR=5.3
GERES pPKiKP **pPKiKP** 14 09 28.1 +0.2
comp=Z,0.7nm,0.7s,baz=135,slow=0.7,SNR=4.4
GERES PKKPbc **PKKPbc** 14 20 03.5 -0.3
comp=Z,0.2nm,0.5s,baz=90,slow=2.7,SNR=4.2
GERES GERESS Array B 106.14 42 PKiKP **PKiKP** 14 08 40.9 +0.1
GERES *e* 14 09 28.1
GERES PKKPbc **PKKPbc** 14 20 03.5 -0.3
VYHS Vyhne 109.01 44 *e*P **Pdif** 14 04 45.7 +3.0
VYHS Vyhne 109.01 44 PDIF **Pdif** 14 04 45.7 +3.0
VYHS *e* 14 05 07.9
NOA NORSAR Array B 110.57 30 PKiKP **PKiKP** 14 08 49.0 +0.4
comp=Z,1.0nm,0.9s,baz=265,slow=2.1,SNR=3.1
NOA NORSAR Array B 110.57 30 PKiKP **PKiKP** 14 08 49.0 +0.4
HFS Hagfors 111.27 32 PKiKP **PKiKP** 14 08 49.1 -0.8
comp=Z,1.4nm,0.6s,baz=170,slow=4.2,SNR=7.2
HFS Hagfors 111.27 32 PKiKP **PKiKP** 14 08 49.1 -0.8
ILAR Eielson Array 114.11 332 PKP PKPdf 14 08 55.0 -0.3
comp=Z,1.7nm,1.0s,baz=155,slow=0.6,SNR=17
ILAR pPKP PP 14 09 41.8 -12
comp=Z,0.8nm,0.9s,baz=79,slow=0.7,SNR=3.5
ILAR PKKPbc **PKKPbc** 14 19 36.4 -1.9
comp=Z,0.1nm,0.4s,baz=321,slow=4.9,SNR=5.6
ILAR Eielson Array 114.11 332 PKP PKPdf 14 08 55.0 -0.3
ILAR pPKP PP 14 09 41.8 -12
ILAR PKKPbc **PKKPbc** 14 19 36.4 -1.9
BRTR Keskin Array B 115.52 58 PKP **PKPdf** 14 08 59.3 +0.3
comp=Z,0.8nm,0.7s,baz=163,slow=5.2,SNR=4.1
BRTR pPKP PP 14 09 44.0 -20
comp=Z,0.9nm,0.7s,baz=192,slow=4.8,SNR=3.2
BRTR Keskin Array B 115.52 58 PKP **PKPdf** 14 08 59.3 +0.3
BRTR pPKP PP 14 09 44.0 -20
AKASG Malin Array Be 116.11 45 PKP **PKPdf** 14 08 58.7 -0.8
comp=Z,1.3nm,0.4s,baz=264,slow=2.3,SNR=8.0
AKASG pPKP pPKPdf 14 09 45.9 -0.6
comp=Z,2.5nm,0.6s,baz=256,slow=2.5,SNR=5.6
AKASG Malin Array Be 116.11 45 PKiKP **PKPdf** 14 08 58.7 -0.8
AKASG Malin Array Be 116.11 45 PKP **PKPdf** 14 08 58.7 -0.8
AKASG pPKP pPKPdf 14 09 45.9 -0.6
VSU Vasula 116.95 36 *i* PKiKP **PKPdf** 14 09 01.3 +0.4
FINES FINESS Array B 117.42 33 PKP **PKPdf** 14 09 01.8 +0.2
comp=Z,1.7nm,0.4s,baz=7.2,slow=0.6,SNR=40
FINES pPKP **pPKPdf** 14 09 49.5 +0.8
comp=Z,2.9nm,0.9s,baz=134,slow=5.5,SNR=3.2
FINES PKKPbc **PKKPbc** 14 19 24.6 -2.0
comp=Z,1.2nm,0.6s,baz=73,slow=4.5,SNR=14
FINES FINESS Array B 117.42 33 PKP **PKPdf** 14 09 01.9 +0.2
FINES pPKP **pPKPdf** 14 09 49.5 +0.8
FINES PKKPbc **PKKPbc** 14 19 24.6 -2.0
KAF Kangasniemi 117.69 32 *e*PKiKP **PKPdf** 14 09 01.1 -1.1
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 117.69 32 *ep* **PKPdf** 14 09 01.1 -1.1
comp=Z,2.0nm,0.4s
KBS Kingsbay 117.82 12 *c i*PKiKP **PKPdf** 14 09 03.4 +1.3
KBS pmax pmax
comp=Z,35nm,2.5s
SPITS Spitsbergen Ar 118.45 13 PKP **PKPdf** 14 09 03.6 +0.3
comp=Z,0.6nm,0.4s,baz=139,slow=4.0,SNR=9.1
SPITS PKKPbc **PKKPab** 14 19 20.9 -1.1
comp=Z,1.5nm,0.7s,baz=102,slow=7.8,SNR=4.2
SPITS Spitsbergen Ar 118.45 13 PKP **PKPdf** 14 09 03.6 +0.3
SPITS PKKPbc **PKKPab** 14 19 20.9 -1.1
ARCES ARCESS Array B 119.00 24 PKP **PKPdf** 14 09 04.5 0.0
comp=Z,1.3nm,0.5s,baz=235,slow=4.3,SNR=14
ARCES PKKPbc **PKKPab** 14 19 20.1 +0.3
comp=Z,1.9nm,0.7s,baz=74,slow=4.2,SNR=14
ARCES ARCESS Array B 119.00 24 PKP **PKPdf** 14 09 04.5 0.0
ARCES PKKPbc **PKKPab** 14 19 20.1 +0.3
KEV Kevo 119.56 24 *e*PKiKP **PKPdf** 14 09 05.1 -0.5
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 119.56 24 *ep* **PKPdf** 14 09 05.1 -0.5
comp=Z,0.5nm,0.4s
ANN Anapa 119.75 53 *i* PKiKP **PKPdf** 14 09 11.3 +4.6
ANN pmax pmax
comp=Z,70nm,1.1s
JOF Joensuu 120.13 32 *e*PKiKP **PKPdf** 14 09 05.7 -1.2
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF Joensuu 120.13 32 *ep* **PKPdf** 14 09 05.7 -1.2
comp=Z,6.6nm,0.5s
OBN Obninsk 121.48 41 *i* PKiKP **PKPdf** 14 09 10.0 +0.3
OBN pmax pmax
comp=Z,45nm,1.6s
AS31 Alice Springs 122.56 201 *e*PKPdf **PKPdf** 14 09 11.9 -1.1
ASAR Alice Springs 122.56 201 PKP **PKPdf** 14 09 11.9 -1.1
comp=Z,4.5nm,0.4s,baz=136,slow=1.6,SNR=161
ASAR pPKP **pPKPdf** 14 09 58.8 -1.2
comp=Z,1.2nm,0.5s,baz=144,slow=1.8,SNR=3.6
ASAR PKKPbc **PKKPbc** 14 19 05.8 -1.5
comp=Z,0.6nm,0.6s,baz=339,slow=3.5,SNR=13
ASAR PKKP **PKKPdf** 14 19 42.8 +0.3
comp=Z,0.2nm,0.4s,baz=352,slow=1.8,SNR=7.9
ASAR Alice Springs 122.56 201 PKP **PKPdf** 14 09 11.9 -1.1
ASAR pPKP **pPKPdf** 14 09 58.8 -1.2
ASAR PKKPbc **PKKPbc** 14 19 05.8 -1.5
ASAR PKKP **PKKPdf** 14 19 42.8 +0.3
KIV Kislovodsk 123.19 55 *e*PKiKP **PKPdf** 14 09 14.4 +0.9
KIV pmax pmax
comp=Z,13nm,0.9s
TMCR Tamitsa 123.26 31 *e*PKiKP **PKPdf** 14 09 11.5 -1.3
TMCR pmax pmax
comp=Z,34nm,1.4s
KBZ Khabaz 123.29 55 PKP **PKPdf** 14 09 13.9 +0.4
comp=Z,5.9nm,1.0s,baz=231,slow=2.6,SNR=5.5
KBZ pPKP **pPKPdf** 14 10 00.1 -0.4
comp=Z,4.9nm,1.0s,baz=246,slow=3.8,SNR=3.1
KBZ Khabaz 123.29 55 PKiKP **PKPdf** 14 09 13.9 +0.4
KBZ 14 10 00.2
KBZ Khabaz 123.29 55 PKP **PKPdf** 14 09 13.9 +0.4
KBZ pPKP **pPKPdf** 14 10 00.1 -0.4
KLMR Klimovskoe 123.75 35 *e*PKiKP **PKPdf** 14 09 13.0 -0.9
KLMR pmax pmax
comp=Z,60nm,1.3s
ZEI Tsey 123.79 57 *i* PKiKP **PKPdf** 14 09 15.0 +0.1
ZEI pmax pmax
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 125.89 203 PKP **PKPdf** 14 09 18.8 -0.6
comp=Z,12nm,0.4s,baz=163,slow=1.6,SNR=466
WRA pPKP **pPKPdf** 14 10 05.9 -0.5
comp=Z,3.4nm,0.6s,baz=164,slow=1.5,SNR=4.4
WRA PKKPbc **PKKPbc** 14 18 54.5 +0.1
comp=Z,0.8nm,0.8s,baz=344,slow=4.0,SNR=8.4
WRA Warramunga Arr 125.89 203 PKP **PKPdf** 14 09 18.8 -0.6
WRA pPKP **pPKPdf** 14 10 05.9 -0.5
WRA PKKPbc **PKKPbc** 14 18 54.5 +0.1
WRAB Tennant Creek 125.90 203 *e*PKiKP **PKPdf** 14 09 18.9 -0.5
WRAB Tennant Creek 125.90 203 *e*PKPdf **PKPdf** 14 09 18.9 -0.5
PMG Port Moresby 129.09 223 PKP **PKPdf** 14 09 26.4 +0.8
comp=Z,16nm,0.9s,baz=187,slow=0.7,SNR=5.6
PMG pPKP **pPKPdf** 14 10 11.1 -1.5
comp=Z,8.3nm,0.9s,baz=202,slow=5.4,SNR=2.5
PMG Port Moresby 129.09 223 PKP **PKPdf** 14 09 26.4 +0.8
PMG pPKP **pPKPdf** 14 10 11.1 -1.5
SOKR Solikamsk 132.40 36 *e*PKiKP **PKPdf** 14 09 30.8 +0.4
SOKR pmax pmax
comp=Z,20nm,1.1s
ARU Arti 133.87 40 *e*PKiKP **PKPdf** 14 09 33.9 +0.6
ARU *e* 14 10 20.9
ARU Arti 133.87 40 *e*PKPdf **PKPdf** 14 09 33.9 +0.6
ARU *ep*PKPdf **pPKPdf** 14 10 20.9 +0.6
AKTO Aktyubinsk 134.17 48 PKP **PKPdf** 14 09 35.2 +1.2
comp=Z,1.7nm,0.4s,baz=338,slow=2.2,SNR=6.9
AKTO pPKP **pPKPdf** 14 10 22.1 +1.1
comp=Z,3.0nm,0.9s,baz=304,slow=2.1,SNR=3.9
AKTO Aktyubinsk 134.17 48 PKiKP **PKPdf** 14 09 35.2 +1.2
AKTO 14 10 22.2
AKTO Aktyubinsk 134.17 48 PKP **PKPdf** 14 09 35.2 +1.2
AKTO pPKP **pPKPdf** 14 10 22.1 +1.1
ABKAR Akbulak array 135.48 50 *e*PKPdf **PKPdf** 14 09 37.3 +0.8
SEY Seymchan 140.01 334⇑ *i*PKiKP **PKPdf** 14 09 46.2 +1.8
BRVK Borovoye 141.24 42 *c i*PKiKP **PKPdf** 14 09 47.9 +0.9
BRVK Borovoye 141.24 42 PKPdf **PKPdf** 14 09 47.3 +0.3
BRVK Borovoye 141.24 42 PKPdf **PKPdf** 14 09 48.6 +1.7
SNR=6.1
BVAR Borovoye Array 141.31 42 PKhKP PKPpre 14 09 42.2
comp=Z,1.0nm,0.4s,baz=328,slow=2.1,SNR=11
BVAR PKP **PKPdf** 14 09 47.8 +0.7
comp=Z,5.9nm,0.9s,baz=259,slow=1.5,SNR=19
BVAR pPKP pPKPdf 14 10 33.7 -0.4
comp=Z,3.0nm,0.7s,baz=242,slow=3.2,SNR=3.2
BVAR Borovoye Array 141.31 42 PKHKP PKPpre 14 09 42.2
BVAR 14 09 47.8
BVAR 14 10 33.7
BVAR Borovoye Array 141.31 42 PKPpre PKPpre 14 09 42.2
BVAR PKP **PKPdf** 14 09 47.8 +0.7
BVAR pPKP pPKPdf 14 10 33.7 -0.4
PETK Petropavlovsk- 141.88 318 PKHKP PKPpre 14 09 43.4
comp=Z,2.6nm,0.5s,baz=108,slow=6.4,SNR=14
PETK Petropavlovsk- 141.88 318 PKHKP PKPpre 14 09 43.4
PETK Petropavlovsk- 141.88 318 PKPpre PKPpre 14 09 43.4
KKAR Karatay Array 143.23 58 *e*PKHKP PKPpre 14 09 47.3
KKAR Karatay Array 143.23 58 *e*PKPpre PKPpre 14 09 47.3
KAPI Kappang 143.84 189 *e*PKPpre PKPpre 14 09 50.2
KAPI Kappang 143.84 189 PKPdf PKPab 14 09 50.5 +0.3
SNR=15
HYB Hyderabad 144.65 104 *i* PKP **PKPab** 14 09 53.0 -0.3
AML Almayashu 145.65 60 P **PKPab** 14 09 56.8 -0.1
SNR=68
EKS2 Erkin-Say 145.66 59 P **PKPab** 14 09 56.8 +0.2
SNR=72
USP Ospenovka 146.11 57 P **PKPab** 14 09 57.9 -0.3
SNR=52
AAK Ala-Archa 146.19 59 PKPbc **PKPab** 14 09 58.4 -0.2
comp=Z,67nm,1.0s,baz=211,slow=2.6,SNR=128
AAK pPKPbc pPKPbc 14 10 44.0 0.0
comp=Z,14nm,0.6s,baz=213,slow=4.3,SNR=3.4
AAK Ala-Archa 146.19 59⇑ *i*PKP2 **PKPbc** 14 09 57.0 -0.6
AAK pmax pmax
comp=Z,280nm,1.2s
AAK Ala-Archa 146.19 59 *e*PKPbc **PKPbc** 14 09 57.8 +0.3
AAK pPKPbc pPKPbc 14 10 44.0 0.0
AAK Ala-Archa 146.19 59 PKPdf **PKPbc** 14 09 58.0 +0.5
SNR=53
AAK Ala-Archa 146.19 59 P **PKPbc** 14 09 58.0 +0.5
SNR=11
FRU Bishkek 146.25 58 *i* PKP2 **PKPbc** 14 09 58.0 +0.4
FRU pmax pmax
comp=Z,200nm,1.0s
CHMS Chumysh 146.33 58 P **PKPbc** 14 09 58.1 +0.3
SNR=50
KBK Karagaybulak 146.51 58 P **PKPab** 14 09 59.9 0.0
SNR=19
KZA Kyzart 146.81 59 P **PKPbc** 14 09 59.9 +0.2
SNR=30
KURBB Kurchatov Arra 146.87 43 PKPbc **PKPbc** 14 09 58.4 -0.6
comp=Z,19nm,0.5s,baz=290,slow=3.5,SNR=66
KURBB pPKPbc pPKPbc 14 10 45.3 -0.2
comp=Z,18nm,0.6s,baz=295,slow=3.3,SNR=7.2

KURK	**Kurchatov**	**146.89**	**43**	*d* iPKIKP	**PKPdf**	**14 09 57.7**	**+0.9**
KURK				pmax	pmax			
	comp=Z,104nm,1.7s							
KURK	**Kurchatov**	**146.89**	**43**	*e*PKPbc	**PKPbc**	**14 09 58.1**	**-1.0**
KURK				pPKPbc	pPKPbc	14 10 45.3	-0.3
KURK	**Kurchatov**	**146.89**	**43**	PKPdf	**PKPbc**	**14 09 58.4**	**-0.6**
	SNR=29							
TKM2	**Tokmak 2**	**146.95**	**58**	P	**PKPbc**	**14 09 59.2**	**-0.6**
	SNR=110							
THN	**Thein Dam**	**147.05**	**77**	*i* P	**PKPdf**	**14 09 58.5**	**+0.8**
NVS	**Novosibirsk**	**147.40**	**34**	⇑*i* PKIKP	**PKPdf**	**14 09 58.5**	**+0.9**
NVS				*i*		14 10 45.5		
NVS				pmax	pmax			
	comp=E,38nm,1.3s							
NVS				pmax	pmax			
	comp=Z,152nm,1.3s							
YAK	**Yakutsk**	**147.45**	**347**	*i* PKIKP	**PKPdf**	**14 09 57.8**	**+0.4**
YAK				*e*		14 10 45.4		
YAK				pmax	pmax			
	comp=E,81nm,1.0s							
YAK				pmax	pmax			
	comp=N,13nm,1.4s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.0s							
YAK	**Yakutsk**	**147.45**	**347**	*e*PKPdf	**PKPdf**	**14 09 57.6**	**+0.2**
YAK				*e*PKPbc	**PKPbc**	**14 10 00.2**	**0.0**
ULHL	**Ulahol**	**147.52**	**59**	P	**PKPab**	**14 10 02.7**	**-1.2**
	SNR=9.9							
KSH	**Kashi**	**147.57**	**64**	*e*PKPbc	**PKPdf**	**14 09 59.4**	**+0.9**
KSH				*e*pPKP	**pPKPdf**	**14 10 42.3**	**-3.4**
KSH				*e*PP	**PP**	**14 13 33.3**	**+3.4**
KSH				SKKS		14 20 04.9		
KSH				SS	**SS**	**14 32 20.1**	**+0.9**
KSH				AMB	AMB			
	comp=Z,140nm,5.1s							
KSH				LR	LR			
	comp=N,89nm,7.3s							
KSH				LR	LR			
	comp=E,110nm,7.1s							
KSH				LR	LR			
	comp=Z,210nm,5.9s							
NDI	**New Delhi**	**147.62**	**84**	*ex*	x	14 11 00.0		
PSI	**Prapat**	**148.29**	**149**	PKPbc	**PKPbc**	**14 10 03.7**	**-0.4**
	comp=Z,22nm,0.8s,baz=185,slow=5.8,SNR=4.1							
PSI	**Prapat**	**148.29**	**149**	PKPbc	**PKPbc**	**14 10 03.7**	**-0.4**
ZAA0	**Zalesovo Array**	**148.67**	**34**	*e*PKPdf	**PKPdf**	**14 09 59.4**	**-0.3**
ZAA0				*e*PKPbc	**PKPbc**	**14 10 04.3**	**+0.7**
ZALV	**Zalesovo Beam**	**148.67**	**34**	PKP	**PKPdf**	**14 10 00.2**	**+0.5**
	comp=Z,30nm,0.5s,baz=318,slow=3.3,SNR=58							
ZALV				PKPbc	**PKiKP**	**14 10 04.6**	**-0.4**
	comp=Z,30nm,0.5s,baz=318,slow=2.9,SNR=118							
ZALV				pPKPbc	**pPKPbc**	**14 10 50.5**	**+0.2**
	comp=Z,9.8nm,0.5s,baz=319,slow=3.9,SNR=3.9							
ZALV	**Zalesovo Beam**	**148.67**	**34**	PKIKP	**PKPdf**	**14 10 00.2**	**+0.5**
ZALV						14 10 04.6		
ZALV	**Zalesovo Beam**	**148.67**	**34**	PKP	**PKPdf**	**14 10 00.2**	**+0.5**
ZALV				PKPbc	**PKiKP**	**14 10 04.6**	**-0.4**
ZALV				pPKPbc	**pPKPbc**	**14 10 50.5**	**+0.2**
DDI	**Dehra Dun**	**148.68**	**82**	*ex*	**PKPdf**	**14 10 02.0**	**+1.4**
KSM	**Kuching**	**150.35**	**171**	*e*PKPbc	**PKPbc**	**14 10 08.9**	**-0.1**
MK31	**Makanchi Array**	**150.61**	**48**	*e*PKIKP	**PKPdf**	**14 10 03.3**	**+0.2**
MK31				*e*		14 10 16.3		
MK31	**Makanchi Array**	**150.61**	**48**	*e*PKPdf	**PKPdf**	**14 10 03.3**	**+0.2**
MK31				*e*PKPbc	**PKPbc**	**14 10 08.9**	**+0.2**
MK31				*e*PKPab	**PKPab**	**14 10 16.3**	**+0.1**
MKAR	**Makanchi Array**	**150.61**	**48**	PKP	**PKPdf**	**14 10 03.3**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=292,slow=1.7,SNR=27							
MKAR				PKPbc	**PKiKP**	**14 10 09.3**	**0.0**
	comp=Z,29nm,0.8s,baz=278,slow=2.9,SNR=117							
MKAR				pPKP	**pPKPdf**	**14 10 49.4**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=288,slow=1.2,SNR=2.0							
MKAR				pPKPbc	**pPKPbc**	**14 10 56.6**	**+1.2**
	comp=Z,5.1nm,0.7s,baz=284,slow=3.1,SNR=2.2							
MKAR	**Makanchi Array**	**150.61**	**48**	PKIKP	**PKPdf**	**14 10 03.3**	**+0.2**
MKAR						14 10 49.4		
MKAR	**Makanchi Array**	**150.61**	**48**	PKP	**PKPdf**	**14 10 03.3**	**+0.2**
MKAR				PKPbc	**PKiKP**	**14 10 09.3**	**0.0**
MKAR				pPKP	**pPKPdf**	**14 10 49.4**	**-0.8**
MKAR				pPKPbc	**pPKPbc**	**14 10 56.6**	**+1.2**
IPM	**Ipoh**	**150.69**	**152**	*e*PKPbc	**PKPbc**	**14 10 09.8**	**0.0**
KRAR	**Krasnoyarsk**	**150.72**	**25**	⇑PKIKP	**PKPbc**	**14 10 09.1**	**+0.6**
KULM	**Kulim**	**151.26**	**50**	*e*PKPbc	**PKPbc**	**14 10 10.8**	**-0.3**
PYUN	**Piuthan**	**152.43**	**88**	*e*P	**PKPdf**	**14 10 06.9**	**+0.3**
	comp=Z,118nm,1.1s							
KOLN	**Koldanda**	**152.87**	**89**	*e*P	**PKPdf**	**14 10 07.5**	**+0.2**
	comp=Z,11nm,0.4s							
YSS	**Yuzh-Sakhalins**	**153.11**	**314**	*i* PKIKP	**PKPbc**	**14 10 15.0**	**+0.8**
YSS				*e*		14 11 02.4		
DANN	**Dangsing**	**153.15**	**88**	*e*P	**PKPdf**	**14 10 08.4**	**+0.6**
	comp=Z,74nm,1.0s							
CLNS	**Chul'man**	**153.19**	**347**	*e*PKIKP	**PKPdf**	**14 10 04.4**	**-2.2**
CLNS				pmax	pmax			
	comp=Z,13nm,1.0s							
BOD	**Bodaibo**	**153.19**	**1**	*e*PKIKP	**PKPdf**	**14 10 05.0**	**-1.5**
BOD				*e*		14 10 25.8		
BOD				*e*		14 10 59.1		
BOD				pmax	pmax			
	comp=Z,11nm,1.4s							
BOD				pmax	pmax			
	comp=Z,15nm,1.1s							
BOD				pmax	pmax			
	comp=Z,16nm,1.1s							
GKN	**Gorkha**	**153.82**	**89**	*e*P	**PKPdf**	**14 10 08.8**	**+0.2**
DMN	**Daman**	**154.12**	**90**	*e*P	**PKPdf**	**14 10 09.2**	**0.0**
	comp=Z,64nm,1.3s							
KKN	**Kakani**	**154.32**	**90**	*e*P	**PKPdf**	**14 10 09.2**	**-0.2**
ASAJ	**Asahikawa**	**154.35**	**309**	PKPbc	**PKPbc**	**14 10 18.1**	**+1.0**
	comp=Z,5.5nm,0.7s,baz=68,slow=19,SNR=3.0							
ASAJ				PKPab	**PKPab**	**14 10 32.0**	**0.0**
	comp=Z,14nm,1.0s,baz=264,slow=6.5,SNR=5.0							
ASAJ				pPKPbc	**pPKPbc**	**14 11 05.0**	**+1.0**
	comp=Z,16nm,0.8s,baz=167,slow=13,SNR=3.3							
ASAJ	**Asahikawa**	**154.35**	**309**	PKPbc	**PKPbc**	**14 10 18.1**	**+1.0**
ASAJ				PKPab	**PKPab**	**14 10 32.0**	**0.0**
ASAJ				pPKPbc	**pPKPbc**	**14 11 05.0**	**+1.0**
PKI	**Pulchoki**	**154.38**	**90**	*e*P	**PKPdf**	**14 10 09.5**	**-0.1**
HVS	**Khovu-Aksy**	**154.63**	**32**	*c* iPKIKP	**PKPdf**	**14 10 09.3**	**+0.4**
GUN	**Gumba**	**154.86**	**90**	*e*P	**PKPdf**	**14 10 10.6**	**+0.3**
	comp=Z,46nm,1.1s							
JIRN	**Jiri**	**155.07**	**90**	*e*P	**PKPdf**	**14 10 10.7**	**+0.1**
RAMN	**Ramite**	**155.23**	**92**	*e*P	**PKPdf**	**14 10 11.5**	**+0.8**
WMQ	**Urumqi**	**155.25**	**51**	P	**PKPab**	**14 10 36.9**	**+1.0**
WMQ				pmax	pmax			
	comp=Z,15nm,1.0s							
WMQ	**Urumqi**	**155.25**	**51**	PKP	**PKPdf**	**14 10 09.9**	**0.0**
ODAN	**Odare**	**155.89**	**93**	*e*P	**PKPdf**	**14 10 12.1**	**+0.6**
	comp=Z,40nm,1.2s							
TAPN	**Taplejung**	**156.29**	**92**	*e*P	**PKPdf**	**14 10 12.7**	**+0.6**
HABR	**Khabarovsk**	**156.62**	**324**	⇑PKIKP	**PKPdf**	**14 10 11.5**	**0.0**
HABR				*e*		14 17 00.5		
HABR				PPP	PPP	14 17 54.8		
HABR				*e*SS	SS	14 33 57.4	+0.8	
HABR				*e*SSS	SSS	14 39 58.9		
HABR				pmax	pmax			
	comp=Z,63nm,1.8s							
HABR				pmax	pmax			
	comp=N,49nm,1.8s							
HABR				pmax	pmax			
	comp=E,43nm,1.8s							
MOY	**Mondy**	**157.06**	**22**	*e*PKIKP	**PKPdf**	**14 10 14.1**	**+2.0**
MOY				pmax	pmax			
	comp=Z,45nm,2.0s							
IRK	**Irkutsk**	**157.48**	**17**	*e*PKP2	**PKPab**	**14 10 44.6**	**-0.5**
IRK				pmax	pmax			
	comp=Z,26nm,1.1s							
KLR	**Kul'dur**	**157.65**	**329**	*e*PKP2	**PKPab**	**14 10 42.7**	**-3.2**
TLY	**Talaya**	**157.83**	**18**	*e*PKIKP	**PKPdf**	**14 10 12.7**	**-0.3**
TLY				*e*		14 10 46.6		
TLY				pmax	pmax			
	comp=Z,16nm,1.1s							
TLY	**Talaya**	**157.83**	**18**	*e*PKPdf	**PKPdf**	**14 10 14.2**	**+1.3**
TLY	**Talaya**	**157.83**	**18**	PKPdf	**PKPdf**	**14 10 14.5**	**+1.5**
	SNR=5.8							
ZAK	**Zakamensk**	**158.89**	**20**	*e*PKIKP	**PKPdf**	**14 10 12.4**	**-2.0**
ZAK				*e*		14 10 50.7		
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MJAR	**Matsushiro Arr**	**159.61**	**292**	PKP	**PKPdf**	**14 10 16.1**	**+0.5**
	comp=Z,2.7nm,1.1s,baz=104,slow=1.0,SNR=4.7							
MJAR	**Matsushiro Arr**	**159.61**	**292**	PKP	**PKPdf**	**14 10 16.1**	**+0.5**
LSA	**Lhasa**	**159.76**	**88**	*e*PKIKP	**PKPdf**	**14 10 17.6**	**+1.1**
LSA	**Lhasa**	**159.76**	**88**	*e*PKPdf	**PKPdf**	**14 10 17.6**	**+1.1**
USRK	**Ussuriysk Arra**	**160.97**	**319**	PKPab	**PKPab**	**14 11 00.6**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=64,slow=4.4,SNR=5.2							
USRK				PKPab	**pPKPab**	**14 11 46.3**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=44,slow=4.5,SNR=3.9							
CM31	**Chiang Mai Arr**	**161.12**	**128**	*e*PKPdf	**PKPdf**	**14 10 18.9**	**+1.1**
CM31				*e*PKPab	**PKPab**	**14 11 01.9**	**0.0**
CMAR	**Chiang Mai Arr**	**161.12**	**128**	PKP	**PKPdf**	**14 10 18.4**	**+0.7**
	comp=Z,7.2nm,1.0s,baz=251,slow=2.8,SNR=37							
CMAR				PKPab	**PKPab**	**14 11 01.6**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=237,slow=4.6,SNR=19							
CMAR				PP	**PP**	**14 14 46.0**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=239,slow=5.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**161.12**	**128**	PKP	**PKPdf**	**14 10 18.4**	**+0.7**
CMAR				PKPab	**PKPab**	**14 11 01.6**	**-0.3**
CMAR				PP	**PP**	**14 14 46.0**	**+0.9**
CHTO	**Chiang Mai**	**161.37**	**127**	*e*PKIKP	**PKPdf**	**14 10 18.3**	**+0.4**
CHTO				*e*		14 11 03.2		
CHTO	**Chiang Mai**	**161.37**	**127**	*e*PKPdf	**PKPdf**	**14 10 18.3**	**+0.4**
CHTO				*e*PKPab	**PKPab**	**14 11 03.2**	**+0.2**
SONM	**Songino Array**	**162.07**	**18**	PKP	**PKPdf**	**14 10 18.6**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=296,slow=0.5,SNR=19							
SONM				PKPab	**PKPab**	**14 11 05.7**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=324,slow=1.8,SNR=13							
SONM				PP	**PP**	**14 14 52.7**	**+3.3**
	comp=Z,0.7nm,0.9s,baz=306,slow=3.5,SNR=3.7							
SONM	**Songino Array**	**162.07**	**18**	PKP	**PKPdf**	**14 10 18.6**	**+0.6**
SONM				PKPab	**PKPab**	**14 11 05.7**	**+0.3**
SONM				PP	**PP**	**14 14 52.6**	**+3.3**
ULN	**Ulaanbaatar**	**162.21**	**17**	*e*PKPdf	**PKPdf**	**14 10 18.1**	**-0.1**
CN2	**Changchun**	**164.60**	**329**	*e*PKP	**PKPdf**	**14 10 23.1**	**+2.8**
GTA	**Gaotai**	**165.33**	**51**	PKP	**PKPdf**	**14 10 22.1**	**+0.8**
GTA				pPKP	**pPKPdf**	**14 11 09.8**	**+1.2**
GTA				PKPab	**PKPab**	**14 11 18.3**	**-1.8**
GTA				sPKP		14 11 24.5		
GTA				PKS	**PKSdf**	**14 13 54.1**	**-0.1**
GTA				SKS	**SKSdf**	**14 17 08.9**	**+0.3**
GTA				SKKS	**SKKSac**	**14 21 34.9**	**-2.6**
GTA				AMB	AMB			
	comp=Z,260nm,5.2s							
KSRS	**Korea Array**	**167.22**	**304**	PKP	**PKPdf**	**14 10 23.5**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=268,slow=29,SNR=6.2							
KSRS				pPKP	**pPKPdf**	**14 11 10.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=28,slow=2.9,SNR=2.2							
KSRS				PKPab	**PKPab**	**14 11 29.1**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=69,slow=4.3,SNR=2.7							
KSAR	**Wonju Array Be**	**167.25**	**304**	PKP	**PKPdf**	**14 10 23.5**	**+0.9**
KSAR				pPKP	**pPKPdf**	**14 11 10.4**	**+0.4**
KSAR				PKPab	**PKPab**	**14 11 29.1**	**+0.6**
KMI	**Kunming**	**168.03**	**116**	PKP	**PKPdf**	**14 10 22.9**	**-1.0**
LZH	**Lanzhou**	**169.72**	**58**	*e*PKP	**PKPdf**	**14 10 26.3**	**+1.8**
LZH				pPKP	**pPKPdf**	**14 11 07.5**	**-4.4**
CD2	**Chengdu**	**170.72**	**88**	PKP	**PKPdf**	**14 10 23.9**	**-1.2**
CD2				pPKP	**pPKPdf**	**14 11 11.5**	**-1.0**
CD2				sPKP		14 11 30.1		
CD2				PKPab	**PKPab**	**14 11 45.0**	**+0.8**
CD2				PKS	**PKSdf**	**14 13 55.1**	**-2.5**
CD2				PP	**PP**	**14 15 36.4**	**+0.9**
CD2				SKS	**SKSdf**	**14 17 07.8**	**-3.9**
CD2				SKKS	**SKKSac**	**14 22 03.5**	**-1.0**
GYA	**Guiyang**	**171.71**	**121**	PKP	**PKPdf**	**14 10 25.0**	**-0.8**
GYA				pPKP	**pPKPdf**	**14 11 12.8**	**-0.4**
GYA				sPKP		14 11 31.3		
GYA				PKPab	**PKPab**	**14 11 50.8**	**+2.1**
GYA				PKS	**PKSdf**	**14 13 55.6**	**-2.8**
GYA				PP	**PP**	**14 15 41.0**	**+1.0**
GYA				AMB	AMB			
	comp=Z,120nm,8.2s							
XAN	**Xi'an**	**174.36**	**56**	PKP	**PKPdf**	**14 10 26.8**	**+0.2**
NJ2	**Nanjing**	**176.19**	**287**	*e*PKP	**PKPdf**	**14 10 27.6**	**+0.6**

*ISCJB **15** 13:51:19.5±0.3,38.38N±0.01×7.90W±0.02,h14km±2km,*
Error ellipse: s-maj=2.6km s-min=1.9km az=171.9
*CSEM **15** 13:51:20.1±0.1,38.34N×7.96W,h10km,ML3.4/33,Error*
ellipse: s-maj=1.8km s-min=1.3km az=74.0
*MDD **15** 13:51:20.9±0.2,38.32N×8.01W,h11km,mbLg3.0/45,*
Error ellipse: s-maj=2.6km s-min=1.8km az=77.0,PRXIMO
*LDG **15** 13:51:20.8±0.1,38.32N×8.05W,h2km,Md3.5/1,Ml2.8/3,*
Error ellipse: s-maj=2.6km s-min=1.7km az=53.0
*INMG **15** 13:51:20.8±1.3,38.32N×7.98W,h6km±2km,MD2.8,ML3.0,*
Error ellipse: s-maj=1.5km s-min=1.1km az=84.0
*IGIL **15** 13:51:21.1,38.32N×7.97W,h4km,ML3.0*

ISC 15 13:51:20.3±0.8,38.34N±0.01×7.98W±0.02,h14km±5km,
n159,σ1§15/270,2C-3D,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**0.20**	**351**	⇓*i*	Pg	**Pb**		**13 51 25.3**	**-0.4**
EVO					*e*Sg	**Sg**		**13 51 28.3**	**+0.4**
	2μm,0.2s								
EVO	**Evora**	**0.20**	**351**	*e*Pg		**Pg**		**13 51 25.1**	**+0.3**
EVO				*e*Sg		**Sg**		**13 51 27.9**	**0.0**
EVO				A		A		13 51 28.2	
	6μm,0.1s								
EVO	**Evora**	**0.20**	**351**	Pg		**Pg**		**13 51 25.1**	**+0.3**
EVO				Lg		Lg		13 51 27.9	
	6μm,0.1s								
EVO	**Evora**	**0.20**	**351**	*e*Pg		**Pg**		**13 51 25.1**	**+0.3**
EVO				*e*Sg		**Sg**		**13 51 27.9**	**0.0**
	6μm,0.1s								
EVOP	**Sao Brissos**	**0.22**	**329**	⇓*i*	Pg	**Pg**		**13 51 25.3**	**+0.1**
EVOP					*e*Sg	**Sg**		**13 51 28.3**	**-0.3**
	1μm,0.2s								
PBEJ	**Beja**	**0.32**	**165**	*e*Pg		**Pg**		**13 51 26.4**	**-0.5**
PBEJ				*e*Sg		**Sg**		**13 51 30.6**	**-0.8**
PBEJ				A		A		13 51 31.2	
	442nm,0.4s								
PBEJ	**Beja**	**0.32**	**165**	Pg		**Pg**		**13 51 26.4**	**-0.5**
PBEJ				Lg		Lg		13 51 30.6	
	221nm,0.4s								
PBEJ	**Beja**	**0.32**	**165**	*e*Pg		**Pg**		**13 51 26.4**	**-0.5**
PBEJ				*e*Sg		**Sg**		**13 51 30.6**	**-0.8**
	442nm,0.4s								
MOE	**Montemor**	**0.35**	**302**	*e*Pg		**Pg**		**13 51 27.3**	**-0.1**
MOE				*e*Sg		**Sg**		**13 51 32.3**	**+0.1**
MOE	**Montemor**	**0.35**	**302**	Pg		**Pg**		**13 51 27.3**	**-0.1**
MOE				Lg		Lg		13 51 32.3	
MOE	**Montemor**	**0.35**	**302**	*e*Pg		**Pg**		**13 51 27.3**	**-0.1**
MOE				Lg		Lg		13 51 32.3	
MOE				*e*Sg		**Sg**		**13 51 32.3**	**+0.1**
PNCL	**Nicolau / Gran**	**0.49**	**243**	*i* Pg		**Pg**		**13 51 29.6**	**-0.4**
PNCL				*e*Sg		**Sg**		**13 51 36.4**	**-0.2**
PNCL				A		A		13 51 36.6	
	149nm,0.2s								
MESJ	**Messejana**	**0.53**	**201**	*e*P		**Pg**		**13 51 30.3**	**-0.5**
MESJ				*e*S		**Sg**		**13 51 36.5**	**-1.4**
MESJ				AML		AML		13 51 38.3	
	comp=N,309nm,0.1s								
MESJ	**Messejana**	**0.53**	**201**	*e*P		**Pg**		**13 51 30.3**	**-0.5**
MESJ				*e*S		**Sg**		**13 51 36.5**	**-1.4**
MESJ	**Messejana**	**0.53**	**201**	Pg		**Pg**		**13 51 30.3**	**-0.5**
MESJ				Lg		Lg		13 51 36.5	
MESJ	**Messejana**	**0.53**	**201**	*e*P		**Pg**		**13 51 30.3**	**-0.5**
MESJ				*e*S		**Sg**		**13 51 36.5**	**-1.4**
MESJ				Lg		Lg		13 51 36.5	
PESTR	**Estremoz**	**0.61**	**30**	*e*Pg		**Pb**		**13 51 32.5**	**-0.3**
PESTR				*e*Sg		**Sb**		**13 51 40.8**	**-0.4**
PESTR				A		A		13 51 44.9	
	comp=N,149nm,0.1s								
PESTR	**Estremoz**	**0.61**	**30**	⇑Pg		**Pb**		**13 51 32.5**	**-0.3**
PESTR				Lg		Lg		13 51 40.8	
	comp=N,149nm,0.1s								
PESTR	**Estremoz**	**0.61**	**30**	Pg		**Pb**		**13 51 32.5**	**-0.3**
PESTR				Lg		Lg		13 51 40.8	
	comp=N,149nm,0.1s								
PCVE	**Castro Verde**	**0.71**	**184**	*e*P		**Pb**		**13 51 33.4**	**-1.0**
PCVE				*e*S		**Sg**		**13 51 42.6**	**-0.7**
PCVE				A		A		13 51 46.1	
	comp=N,353nm,0.1s								
PCVE	**Castro Verde**	**0.71**	**184**	Pg		**Pb**		**13 51 33.4**	**-1.0**
PCVE				Lg		Lg		13 51 42.6	
	comp=N,353nm,0.1s								
PCVE	**Castro Verde**	**0.71**	**184**	*e*P		**Pb**		**13 51 33.4**	**-1.0**
PCVE				*e*S		**Sg**		**13 51 42.6**	**-0.7**
	comp=N,353nm,0.1s								
PBAR	**Barrancos**	**0.75**	**102**	*e*P		**Pb**		**13 51 34.3**	**-0.9**
PBAR				*e*S		**Sg**		**13 51 45.5**	**+0.6**
PBAR				A		A		13 51 48.9	
	comp=N,248nm,0.4s								
PBAR	**Barrancos**	**0.75**	**102**	Pg		**Pb**		**13 51 34.3**	**-0.9**
PBAR				Lg		Lg		13 51 45.5	
	comp=N,248nm,0.4s								
PBAR	**Barrancos**	**0.75**	**102**	*e*P		**Pb**		**13 51 34.3**	**-0.9**
PBAR				*e*S		**Sg**		**13 51 45.5**	**+0.6**
	comp=N,248nm,0.4s								
PMTG	**Montargil**	**0.76**	**345**	*e*P		**Pb**		**13 51 34.9**	**-0.4**
PMTG				*e*S		**Sg**		**13 51 45.4**	**+0.4**
PMTG				A		A		13 51 48.1	
	comp=N,765nm,0.1s								
PMTG	**Montargil**	**0.76**	**345**	*e*P		**Pb**		**13 51 34.9**	**-0.4**
PMTG				*e*S		**Sg**		**13 51 45.4**	**+0.4**
	comp=N,765nm,0.1s								
EBAD	**Badajoz**	**0.86**	**61**	⇑Pg		**Pn**		**13 51 37.4**	**-0.6**
	comp=N,70nm,0.2s,SNR=18								
EBAD				Lg		Lg		13 51 48.9	
	comp=N,753nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**0.86**	**61**	Pg		**Pn**		**13 51 37.4**	**-0.6**
	comp=N,70nm,0.2s,SNR=18								
EBAD				Lg		Lg		13 51 48.9	
	comp=N,753nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**0.89**	**154**	⇓Pg		**Pb**		**13 51 36.9**	**-0.6**
	comp=N,62nm,0.1s,SNR=18								
EGRO				Lg		Lg		13 51 49.0	
	comp=N,271nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**0.89**	**154**	Pg		**Pb**		**13 51 36.9**	**-0.6**
	comp=N,62nm,0.1s,SNR=18								
EGRO				Lg		Lg		13 51 49.0	
	comp=N,271nm,0.1s,SNR=7.9								
ALMR	**Almeirim**	**0.94**	**330**	*e*P		**Pb**		**13 51 38.2**	**-0.2**
ALMR				*e*S		**Sb**		**13 51 50.5**	**-0.3**
ALMR				AML		AML		13 51 53.3	
	comp=N,256nm,0.2s								
ALMR	**Almeirim**	**0.94**	**330**	*e*P		**Pb**		**13 51 38.2**	**-0.2**
ALMR				*e*S		**Sb**		**13 51 50.5**	**-0.3**
ALMR	**Almeirim**	**0.94**	**330**	Pg		**Pb**		**13 51 38.2**	**-0.2**
ALMR				Lg		Lg		13 51 50.5	
ALMR	**Almeirim**	**0.94**	**330**	*e*P		**Pb**		**13 51 38.2**	**-0.2**
ALMR				Lg		Lg		13 51 50.5	
ALMR				*e*S		**Sb**		**13 51 50.5**	**-0.3**
PVAQ	**Vaqueiros**	**0.95**	**168**	*e*P		**Pb**		**13 51 38.2**	**-0.4**
PVAQ				*e*S		**Sb**		**13 51 50.6**	**-0.5**
PVAQ				A		A		13 51 53.0	
	comp=N,422nm,0.1s								
PVAQ	**Vaqueiros**	**0.95**	**168**	Pg		**Pb**		**13 51 38.2**	**-0.4**
PVAQ				Lg		Lg		13 51 50.6	
	comp=N,422nm,0.1s								
PVAQ	**Vaqueiros**	**0.95**	**168**	*e*P		**Pb**		**13 51 38.2**	**-0.4**
PVAQ				Lg		Lg		13 51 50.6	
	comp=N,422nm,0.1s								
PTEO	**Sao Teotonio**	**0.99**	**217**	*e*P		**Pb**		**13 51 38.8**	**-0.4**
PTEO				*e*S		**Sb**		**13 51 51.8**	**-0.2**
PTEO				A		A		13 51 56.8	
	comp=N,246nm,0.4s								
PTEO	**Sao Teotonio**	**0.99**	**217**	Pg		**Pb**		**13 51 38.8**	**-0.4**
PTEO				Lg		Lg		13 51 51.8	
	comp=N,123nm,0.4s								
PTEO	**Sao Teotonio**	**0.99**	**217**	*e*P		**Pb**		**13 51 38.8**	**-0.4**
PTEO				*e*S		**Sb**		**13 51 51.8**	**-0.2**
	comp=N,246nm,0.4s								
LIS	**Lisbon**	**1.00**	**293**	*e*P		**Pg**		**13 51 39.7**	**+0.2**
LIS				*e*S		**Sb**		**13 51 52.3**	**0.0**
LIS				AML		AML		13 51 54.3	
	comp=E,428nm,0.2s								
LIS	**Lisbon**	**1.00**	**293**	*e*P		**Pg**		**13 51 39.7**	**+0.2**
LIS				*e*S		**Sb**		**13 51 52.3**	**0.0**
LIS	**Lisbon**	**1.00**	**293**	Pg		**Pg**		**13 51 39.7**	**+0.2**
LIS				Lg		Lg		13 51 52.3	
LIS	**Lisbon**	**1.00**	**293**	*e*P		**Pg**		**13 51 39.7**	**+0.2**
LIS				*e*S		**Sb**		**13 51 52.3**	**0.0**
PBDV	**Barranco-do-Ve**	**1.09**	**178**	*e*P		**Pn**		**13 51 41.0**	**-0.2**
PBDV				*e*S		**Sb**		**13 51 54.4**	**-0.7**
PBDV				A		A		13 51 58.2	
	comp=E,318nm,0.2s								
**PBD

comp=E,10.0nm,0.3s,SNR=7.9
MVO Moncorvo 2.92 14 *e*Pn **Pn 13 52 06.7 +0.4**
MVO *e*Sg **Sg 13 52 54.4 +0.4**
MVO A A 13 52 57.1
comp=E,77nm,0.4s
MVO Moncorvo 2.92 14 Pn **Pn 13 52 06.7 +0.4**
comp=E,1.8nm,0.1s,SNR=20
MVO Sn **Sn 13 52 40.3 -0.9**
comp=E,20nm,0.2s,SNR=7.9
MVO Lg Lg 13 52 51.8
comp=E,72nm,0.3s,SNR=18
MVO Moncorvo 2.92 14 Pn **Pn 13 52 06.7 +0.4**
comp=E,1.8nm,0.1s,SNR=20
MVO Sn **Sn 13 52 40.3 -0.9**
comp=E,20nm,0.2s,SNR=7.9
MVO Lg Lg 13 52 51.8
comp=E,72nm,0.3s,SNR=18
MVO *e*Sg **Sg 13 52 54.4 +0.4**
comp=E,77nm,0.4s
PVRL Vila Real 2.94 4 *e*Pn **Pn 13 52 07.3 +0.6**
PVRL *e*Sg **Sg 13 52 54.4 -0.4**
PVRL A A 13 52 55.4
comp=E,60nm,0.2s
PVRL Vila Real 2.94 4 Pn **Pn 13 52 07.3 +0.6**
PVRL Lg Lg 13 52 54.4
comp=E,30nm,0.2s
PVRL Vila Real 2.94 4 *e*Pn **Pn 13 52 07.3 +0.6**
PVRL *e*Sg **Sg 13 52 54.4 -0.4**
comp=E,60nm,0.2s
POLO Lamas de Olo 3.04 3 *e*Pn **Pn 13 52 08.4 +0.4**
POLO *e*Sn **Sn 13 52 43.1 -1.1**
POLO A A 13 53 02.0
comp=E,19nm,0.4s
POLO Lamas de Olo 3.04 3 *e*Pn **Pn 13 52 08.4 +0.4**
POLO *e*Sn **Sn 13 52 43.1 -1.1**
comp=E,19nm,0.4s
ECEU Ceuta 3.20 139 Pn **Pn 13 52 11.7 +1.5**
comp=E,2.2nm,0.2s,SNR=7.9
ECEU Sn **Sn 13 52 49.2 +1.1**
comp=E,2.8nm,0.2s,SNR=7.9
ECEU Ceuta 3.20 139 Pn **Pn 13 52 11.7 +1.5**
comp=E,2.2nm,0.2s,SNR=7.9
ECEU Sn **Sn 13 52 49.2 +1.1**
comp=E,2.8nm,0.2s,SNR=7.9
ELOJ Sierra Loja 3.25 110 Pn **Pn 13 52 11.7 +0.7**
comp=E,0.7nm,0.2s,SNR=13
ELOJ Sn **Sn 13 52 49.4 -0.2**
comp=E,2.8nm,0.2s,SNR=5.0
ELOJ Lg Lg 13 53 05.2
comp=E,4.1nm,0.2s,SNR=8.2
ELOJ Sierra Loja 3.25 110 Pn **Pn 13 52 11.7 +0.7**
comp=E,0.7nm,0.2s,SNR=13
ELOJ Sn **Sn 13 52 49.4 -0.2**
comp=E,2.8nm,0.2s,SNR=5.0
ELOJ Lg Lg 13 53 05.2
comp=E,4.1nm,0.2s,SNR=8.2
EBAN Banos Encina 3.30 92 Pn **Pn 13 52 12.0 +0.4**
comp=E,1.1nm,0.1s,SNR=7.9
EBAN Sn **Sn 13 52 49.9 -0.8**
comp=E,6.4nm,0.2s,SNR=7.9
EBAN Lg Lg 13 53 06.3
comp=E,41nm,0.4s,SNR=7.9
EBAN Banos Encina 3.30 92 Pn **Pn 13 52 12.0 +0.4**
comp=E,1.1nm,0.1s,SNR=7.9
EBAN Sn **Sn 13 52 49.9 -0.8**
comp=E,6.4nm,0.2s,SNR=7.9
EBAN Lg Lg 13 53 06.3
comp=E,41nm,0.4s,SNR=7.9
PCAB Cabril 3.37 359 *e*Pn **Pn 13 52 12.8 +0.3**
PCAB *e*Sg **Sg 13 53 08.5 0.0**
PCAB A A 13 53 11.2
comp=E,49nm,0.4s
PCAB Cabril 3.37 359 Pn **Pn 13 52 12.8 +0.3**
PCAB Lg Lg 13 53 08.5
comp=E,24nm,0.4s
PCAB Cabril 3.37 359 *e*Pn **Pn 13 52 12.8 +0.3**
PCAB *e*Sg **Sg 13 53 08.5 0.0**
comp=E,49nm,0.4s
ESDC Sonseca Array 3.40 66 Pn **Pn 13 52 13.4 +0.5**
comp=E,2.1nm,0.1s,baz=248,slow=13,SNR=9.1
ESDC Pg **Pb 13 52 22.1 +1.8**
comp=E,4.0nm,0.2s,baz=251,slow=16,SNR=13
ESDC Sn **Sn 13 52 52.6 -0.5**
comp=E,6.6nm,0.2s,baz=250,slow=23,SNR=7.9
ESDC Lg Lg 13 53 05.2
comp=E,13nm,0.3s,baz=252,slow=28,SNR=7.9
ESDC Sonseca Array 3.40 66 Pn **Pn 13 52 13.4 +0.5**
comp=E,2.1nm,0.1s,baz=248,slow=13,SNR=9.1
ESDC Sonseca Array 3.40 66 Pg **Pb 13 52 22.1 +1.8**
comp=E,4.0nm,0.2s,SNR=13
ESDC Sn **Sn 13 52 52.6 -0.5**
comp=E,6.6nm,0.2s,baz=250,slow=23,SNR=7.9
ESDC Lg Lg 13 53 05.2
comp=E,13nm,0.3s,SNR=7.9
ELOB Lobios 3.53 359 Pn **Pn 13 52 15.0 +0.3**
comp=E,3.9nm,0.1s,SNR=24
ELOB Sn **Sn 13 52 54.7 -1.6**
comp=E,6.5nm,0.2s,SNR=5.6
ELOB Lg Lg 13 53 10.7
comp=E,7.4nm,0.1s,SNR=10.0
ELOB Lobios 3.53 359 Pn **Pn 13 52 15.0 +0.3**
comp=E,3.9nm,0.1s,SNR=24
ELOB Sn **Sn 13 52 54.7 -1.6**
comp=E,6.5nm,0.2s,SNR=5.6
ELOB Lg Lg 13 53 10.7
comp=E,7.4nm,0.1s,SNR=10.0
ERON Agron 3.56 110 Pn **Pn 13 52 16.8 +1.6**
comp=E,0.4nm,0.2s,SNR=7.9
ERON Sn **Sn 13 52 57.9 +0.7**
comp=E,2.1nm,0.2s,SNR=7.9
ERON Lg Lg 13 53 13.1
comp=E,7.4nm,0.5s,SNR=7.9
ERON Agron 3.56 110 Pn **Pn 13 52 16.8 +1.6**
comp=E,0.4nm,0.2s,SNR=7.9
ERON Sn **Sn 13 52 57.9 +0.7**
comp=E,2.1nm,0.2s,SNR=7.9
ERON Lg Lg 13 53 13.1
comp=E,7.4nm,0.5s,SNR=7.9
PBRG Braganca 3.59 15 *e*Pn **Pn 13 52 16.3 +0.7**
PBRG *e*Sg **Sg 13 53 15.2 -0.4**
PBRG A A 13 53 17.8
comp=E,25nm,0.2s
PBRG Braganca 3.59 15 Pn **Pn 13 52 16.3 +0.7**
PBRG Lg Lg 13 53 15.2
comp=E,13nm,0.2s
PBRG Braganca 3.59 15 *e*Pn **Pn 13 52 16.3 +0.7**
PBRG *e*Sg **Sg 13 53 15.2 -0.4**
comp=E,25nm,0.2s
PGAV Gavieira, Arco 3.63 357 *e*Pn **Pn 13 52 16.6 +0.4**
PGAV *e*Sg **Sg 13 53 16.4 -0.5**
PGAV A A 13 53 19.3
comp=E,36nm,0.5s
ECOG Cogollos-Vega 3.65 106 Pn **Pn 13 52 16.7 +0.2**
comp=E,2.7nm,0.1s,SNR=7.9
ECOG Sn **Sn 13 52 57.7 -1.6**
comp=E,6.5nm,0.2s,SNR=7.9
ECOG Lg Lg 13 53 16.5
comp=E,3.7nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 3.65 106 Pn **Pn 13 52 16.7 +0.2**
comp=E,2.7nm,0.1s,SNR=7.9
ECOG Sn **Sn 13 52 57.7 -1.6**
comp=E,6.5nm,0.2s,SNR=7.9
ECOG Lg Lg 13 53 16.5
comp=E,3.7nm,0.2s,SNR=7.9
ECAL Calabor 3.72 14 Pn **Pn 13 52 18.1 +0.7**
comp=E,1.7nm,0.1s,SNR=31
ECAL Sn **Sn 13 52 59.4 -1.7**
comp=E,5.1nm,0.2s,SNR=7.9
ECAL Lg Lg 13 53 18.9
comp=E,107nm,0.4s,SNR=5.0
ECAL Calabor 3.72 14 Pn **Pn 13 52 18.1 +0.7**
comp=E,1.7nm,0.1s,SNR=31
ECAL Sn **Sn 13 52 59.4 -1.7**
comp=E,5.1nm,0.2s,SNR=7.9
ECAL Lg Lg 13 53 18.9
comp=E,107nm,0.4s,SNR=5.0
GUD Guadarrama 3.75 51 Pn **Pn 13 52 18.2 +0.4**
comp=E,3.1nm,0.2s,SNR=7.9
GUD Pg **Pg 13 52 29.7 -2.4**
comp=E,3.4nm,0.2s,SNR=7.9
GUD Sn **Sn 13 53 01.0 -0.8**
comp=E,7.4nm,0.3s,SNR=7.9
GUD Lg Lg 13 53 17.8
comp=E,16nm,0.2s,SNR=7.9
GUD Guadarrama 3.75 51 Pn **Pn 13 52 18.2 +0.4**
comp=E,3.1nm,0.2s,SNR=7.9
GUD Guadarrama 3.75 51 Pg **Pg 13 52 29.7 -2.4**
comp=E,3.4nm,0.2s,SNR=7.9
GUD Sn **Sn 13 53 01.0 -0.8**
comp=E,7.4nm,0.3s,SNR=7.9
GUD Lg Lg 13 53 17.8
comp=E,16nm,0.2s,SNR=7.9
EGUA Guajares 3.81 112 Pn **Pn 13 52 18.9 +0.3**
comp=E,2.9nm,0.2s,SNR=7.9
EGUA Sn **Sn 13 53 03.9 +0.7**
comp=E,19nm,0.4s,SNR=7.9
EGUA Lg Lg 13 53 23.1
comp=E,16nm,0.3s,SNR=7.9
EGUA Guajares 3.81 112 Pn **Pn 13 52 18.9 +0.3**
comp=E,2.9nm,0.2s,SNR=7.9
EGUA Sn **Sn 13 53 03.9 +0.7**
comp=E,19nm,0.4s,SNR=7.9
EGUA Lg Lg 13 53 23.1
comp=E,16nm,0.3s,SNR=7.9
EZAM Zamans 3.85 352 Pn **Pn 13 52 19.6 +0.5**
comp=E,7.2nm,0.1s,SNR=7.9
EZAM Sn **Sn 13 53 02.6 -1.5**
comp=E,5.8nm,0.2s,SNR=7.9
EZAM Lg Lg 13 53 22.7
comp=E,11nm,0.2s,SNR=7.9
EZAM Zamans 3.85 352 Pn **Pn 13 52 19.6 +0.5**
comp=E,7.2nm,0.1s,SNR=7.9
EZAM Sn **Sn 13 53 02.6 -1.5**
comp=E,5.8nm,0.2s,SNR=7.9
EZAM Lg Lg 13 53 22.7
comp=E,11nm,0.2s,SNR=7.9
EQES Quesada 3.91 96 Pn **Pn 13 52 20.6 +0.6**
comp=E,0.3nm,0.1s,SNR=5.1
EQES Sn **Sn 13 53 05.2 -0.5**
comp=E,1.6nm,0.1s,SNR=7.5
EQES Lg Lg 13 53 25.2
comp=E,5.7nm,0.2s,SNR=5.0
EQES Quesada 3.91 96 Pn **Pn 13 52 20.6 +0.6**
comp=E,0.3nm,0.1s,SNR=5.1
EQES Sn **Sn 13 53 05.2 -0.5**
comp=E,1.6nm,0.1s,SNR=7.5
EQES Lg Lg 13 53 25.2
comp=E,5.7nm,0.2s,SNR=5.0
ERUA La Rua 4.10 9 Pn **Pn 13 52 23.2 +0.6**
comp=E,4.2nm,0.2s,SNR=7.9
ERUA Sn **Sn 13 53 09.8 -0.5**
comp=E,2.1nm,0.1s,SNR=7.9
ERUA Lg Lg 13 53 29.8
comp=E,15nm,0.4s,SNR=7.9
ERUA La Rua 4.10 9 Pn **Pn 13 52 23.2 +0.6**
comp=E,4.2nm,0.2s,SNR=7.9
ERUA Sn **Sn 13 53 09.8 -0.5**
comp=E,2.1nm,0.1s,SNR=7.9
ERUA Lg Lg 13 53 29.8
comp=E,15nm,0.4s,SNR=7.9
EHUE Huescar 4.28 95 Pn **Pn 13 52 26.2 +1.1**
comp=E,0.2nm,0.1s,SNR=7.9
EHUE Sn **Sn 13 53 14.2 -0.6**
comp=E,1.9nm,0.2s,SNR=7.9
EHUE Lg Lg 13 53 37.1
comp=E,4.5nm,0.2s,SNR=7.9
EHUE Huescar 4.28 95 Pn **Pn 13 52 26.2 +1.1**
comp=E,0.2nm,0.1s,SNR=7.9
EHUE Sn **Sn 13 53 14.2 -0.6**
comp=E,1.9nm,0.2s,SNR=7.9
EHUE Lg Lg 13 53 37.1
comp=E,4.5nm,0.2s,SNR=7.9
EBER Berja 4.29 108 Pn Pn 13 52 27.9 +2.6
comp=E,1.0nm,0.2s,SNR=9.6
EBER Sn **Sn 13 53 18.1 +3.0**
comp=E,4.4nm,0.3s,SNR=7.9
EBER Lg Lg 13 53 39.7
comp=E,8.9nm,0.4s,SNR=5.0
EBER Berja 4.29 108 Pn Pn 13 52 27.9 +2.6
comp=E,1.0nm,0.2s,SNR=9.6
EBER Sn **Sn 13 53 18.1 +3.0**
comp=E,4.4nm,0.3s,SNR=7.9
EBER Lg Lg 13 53 39.7
comp=E,8.9nm,0.4s,SNR=5.0
EVIA Vianos 4.30 84 Pn **Pn 13 52 27.2 +1.8**
comp=E,1.0nm,0.2s,SNR=7.9
EVIA Sn **Sn 13 53 13.3 -2.2**
comp=E,2.4nm,0.2s,SNR=7.9
EVIA Lg Lg 13 53 37.5
comp=E,18nm,0.4s,SNR=7.9
EVIA Vianos 4.30 84 Pn **Pn 13 52 27.2 +1.8**
comp=E,1.0nm,0.2s,SNR=7.9
EVIA Sn **Sn 13 53 13.3 -2.2**
comp=E,2.4nm,0.2s,SNR=7.9
EVIA Lg Lg 13 53 37.5
comp=E,18nm,0.4s,SNR=7.9
STS Santiago 4.56 355 Pn **Pn 13 52 29.5 +0.6**
comp=E,2.1nm,0.1s,SNR=7.9
STS Sn **Sn 13 53 18.0 -3.7**
comp=E,3.1nm,0.1s,SNR=7.9
STS Lg Lg 13 53 44.0
comp=E,4.3nm,0.2s,SNR=7.9
STS Santiago 4.56 355 Pn **Pn 13 52 29.5 +0.6**
comp=E,2.1nm,0.1s,SNR=7.9
STS Sn **Sn 13 53 18.0 -3.7**
comp=E,3.1nm,0.1s,SNR=7.9
STS Lg Lg 13 53 44.0
comp=E,4.3nm,0.2s,SNR=7.9
EMAZ Mazaricos 4.67 351 Pn **Pn 13 52 30.8 +0.4**
comp=E,1.4nm,0.1s,SNR=8.5
EMAZ Sn **Sn 13 53 21.6 -2.7**
comp=E,1.4nm,0.2s,SNR=7.9
EMAZ Lg Lg 13 53 46.4
comp=E,4.8nm,0.3s,SNR=5.0
EMAZ Mazaricos 4.67 351 Pn **Pn 13 52 30.8 +0.4**
comp=E,1.4nm,0.1s,SNR=8.5
EMAZ Sn **Sn 13 53 21.6 -2.7**
comp=E,1.4nm,0.2s,SNR=7.9
EMAZ Lg Lg 13 53 46.4
comp=E,4.8nm,0.3s,SNR=5.0
EPON Pontenova 5.02 7 Pn **Pn 13 52 35.8 +0.5**
comp=E,0.5nm,0.1s,SNR=7.9
EPON Sn **Sn 13 53 31.5 -1.6**
comp=E,2.6nm,0.4s,SNR=7.9
EPON Lg Lg 13 53 58.9
comp=E,5.1nm,0.3s,SNR=7.9
EPON Pontenova 5.02 7 Pn **Pn 13 52 35.8 +0.5**
comp=E,0.5nm,0.1s,SNR=7.9
EPON Sn **Sn 13 53 31.5 -1.6**
comp=E,2.6nm,0.4s,SNR=7.9
EPON Lg Lg 13 53 58.9
comp=E,5.1nm,0.3s,SNR=7.9
ETOB Tobarra 5.05 85 Pn **Pn 13 52 36.0 +0.3**
comp=E,0.3nm,0.1s,SNR=7.0
ETOB Sn **Sn 13 53 32.3 -1.6**
comp=E,1.7nm,0.2s,SNR=4.6
ETOB Lg Lg 13 54 00.8
comp=E,2.8nm,0.2s,SNR=5.0
ETOB Tobarra 5.05 85 Pn **Pn 13 52 36.0 +0.3**
comp=E,0.3nm,0.1s,SNR=7.0
ETOB Sn **Sn 13 53 32.3 -1.6**
comp=E,1.7nm,0.2s,SNR=4.6
ETOB Lg Lg 13 54 00.8
comp=E,2.8nm,0.2s,SNR=5.0
ETOR Torete 5.20 60 Pn **Pn 13 52 38.0 +0.2**
comp=E,5.3nm,0.2s,SNR=8.0
ETOR Sn **Sn 13 53 33.7 -3.9**
comp=E,5.0nm,0.2s,SNR=5.0
ETOR Lg Lg 13 54 07.3
comp=E,14nm,0.3s,SNR=7.1
ETOR Torete 5.20 60 Pn **Pn 13 52 38.0 +0.2**
comp=E,5.3nm,0.2s,SNR=8.0
ETOR Sn **Sn 13 53 33.7 -3.9**
comp=E,5.0nm,0.2s,SNR=5.0
ETOR Lg Lg 13 54 07.3
comp=E,14nm,0.3s,SNR=7.1
EMUR La Murta 5.33 93 Pn **Pn 13 52 38.7 -0.9**
comp=E,0.2nm,0.2s,SNR=6.1
EMUR Sn **Sn 13 53 38.4 -2.4**
comp=E,1.0nm,0.3s,SNR=7.9
EMUR Lg Lg 13 54 10.6
comp=E,2.3nm,0.3s,SNR=7.9
EMUR La Murta 5.33 93 Pn **Pn 13 52 38.7 -0.9**
comp=E,0.2nm,0.2s,SNR=6.1
EMUR Sn **Sn 13 53 38.4 -2.4**
comp=E,1.0nm,0.3s,SNR=7.9
EMUR Lg Lg 13 54 10.6
comp=E,2.3nm,0.3s,SNR=7.9
EARI Arriondas 5.38 22 Pn **Pn 13 52 40.1 -0.1**
comp=E,1.7nm,0.4s,SNR=6.4
EARI Sn **Sn 13 53 39.3 -2.7**
comp=E,3.1nm,0.4s,SNR=7.9
EARI Lg Lg 13 54 09.9
comp=E,6.0nm,0.6s,SNR=5.0
EARI Arriondas 5.38 22 Pn **Pn 13 52 40.1 -0.1**
comp=E,1.7nm,0.4s,SNR=6.4
EARI Sn **Sn 13 53 39.3 -2.7**
comp=E,3.1nm,0.4s,SNR=7.9
EARI Lg Lg 13 54 09.9
comp=E,6.0nm,0.6s,SNR=5.0
AFON Font Roja 5.84 84 Sn **Sn 13 53 50.4 -3.0**
comp=E,0.2nm,0.1s,SNR=7.9
ELAN Lanestosa 5.98 34 Pn **Pn 13 52 47.9 -0.4**
comp=E,0.2nm,0.1s,SNR=7.9
ELAN Sn **Sn 13 53 54.3 -2.3**
comp=E,2.1nm,0.4s,SNR=7.9
ELAN Lg Lg 13 54 31.2
comp=E,3.8nm,0.4s,SNR=7.9
ELAN Lanestosa 5.98 34 Pn **Pn 13 52 47.9 -0.4**
comp=E,0.2nm,0.1s,SNR=7.9
ELAN Lg Lg 13 54 31.2
comp=E,3.8nm,0.4s,SNR=7.9
EBEN Beniarda 6.09 84 Sn **Sn 13 53 58.0 -1.4**
comp=E,0.8nm,0.3s,SNR=7.9
EBEN Lg Lg 13 54 32.7
comp=E,3.6nm,0.6s,SNR=7.9
EBEN Beniarda 6.09 84 Sn **Sn 13 53 58.0 -1.4**
comp=E,0.8nm,0.3s,SNR=7.9
EBEN Lg Lg 13 54 32.7
comp=E,3.6nm,0.6s,SNR=7.9
EMOS Mosqueruela 6.16 68 Sn **Sn 13 53 56.8 -4.5**
comp=E,1.2nm,0.4s,SNR=7.9
IEPA Eparoz 6.76 47 Pn **Pn 13 53 01.2 +2.0**
comp=E,0.8nm,0.2s,SNR=7.9
IEPA Sn **Sn 13 54 15.7 -0.3**
comp=E,1.5nm,0.3s,SNR=7.9
IEPA Eparoz 6.76 47 Pn **Pn 13 53 01.2 +2.0**
comp=E,0.8nm,0.2s,SNR=7.9
IEPA Sn **Sn 13 54 15.7 -0.3**
comp=E,1.5nm,0.3s,SNR=7.9
IELO Elcoad 6.82 47 Pn **Pn 13 53 00.7 +0.7**
comp=E,0.8nm,0.1s,SNR=7.9
IELO Sn **Sn 13 54 15.2 -2.3**
comp=E,1.1nm,0.3s,SNR=7.9
IELO Lg Lg 13 54 57.6
comp=E,0.9nm,0.2s,SNR=7.9
IELO Elcoad 6.82 47 Pn **Pn 13 53 00.7 +0.7**
comp=E,0.8nm,0.1s,SNR=7.9
IELO Lg Lg 13 54 57.6
comp=E,0.9nm,0.2s,SNR=7.9
SJPF Ste Jean 7.00 45 *e*Pn **Pn 13 53 02.8 +0.4**
SJPF *e*Sn **Sn 13 54 18.8 -3.0**
comp=E,1.4nm,0.3s
SJPF Ste Jean 7.00 45 Pn **Pn 13 53 02.8 +0.4**
ETSF Etsaut 7.25 49 *e*Pn **Pn 13 53 06.3 +0.4**
ETSF *e*Sn **Sn 13 54 24.8 -3.2**
comp=E,0.8nm,0.3s
ETSF Etsaut 7.25 49 Pn **Pn 13 53 06.3 +0.4**
EPF Esparros 7.87 51 *e*Pn **Pn 13 53 15.9 +1.6**
EPF *e*Sn **Sn 13 54 39.6 -3.5**
comp=E,0.9nm,0.3s
EPF Esparros 7.87 51 Pn **Pn 13 53 15.9 +1.6**
CSOR Sort 8.04 57 Pn **Pn 13 53 17.4 +0.7**
comp=E,0.7nm,0.3s,SNR=7.9
CSOR Sort 8.04 57 Pn **Pn 13 53 17.4 +0.7**
comp=E,0.7nm,0.3s,SNR=7.9
CLLI Llivia 8.64 58 Pn **Pn 13 53 25.2 +0.2**
comp=E,0.3nm,0.2s,SNR=7.9
CLLI Llivia 8.64 58 Pn **Pn 13 53 25.2 +0.2**
comp=E,0.3nm,0.2s,SNR=7.9
QUIF Quistinic 10.20 19 *e*Pn **Pn 13 53 45.4 -0.7**
QUIF Quistinic 10.20 19 Pn **Pn 13 53 45.4 -0.7**
SGMF Saint Gilles 10.67 20 *e*Pn **Pn 13 53 52.1 -0.5**
SGMF Saint Gilles 10.67 20 Pn **Pn 13 53 52.1 -0.5**

JMA 15 14:10:40.8±0.1, 37°.10N×138°.05E, h9$^{km}_{\pm 1km}$, M1.7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.09**	**88**	P	Pg	14 10 43.1	0.0
JJN				S	Sg	14 10 45.1	+0.3
MAT	**Matsushiro**	**0.57**	**167**	P	Pg	14 10 51.2	-0.7
MAT				S	Sg	14 10 58.9	-0.5
MAT	**Matsushiro**	**0.57**	**167**	P	Pg	14 10 51.2	-0.7
MAT				S	Sg	14 10 58.8	-0.6
JSZ	**Suzu**	**0.65**	**303**	P	Pg	14 10 53.5	+0.2
JSZ				*e*S	Sb	14 11 04.0	+0.6
JIZZ	**Izumozaki**	**0.68**	**50**	S	Sb	14 11 05.3	+1.0
JNG	**Nsakai**	**0.69**	**177**	P	Pg	14 10 53.7	-0.6
JNG				S	Sg	14 11 03.1	-0.4
JGK	**Kuni**	**0.72**	**138**	P	Pg	14 10 54.8	+0.1
JTT	**Ttatey**	**0.76**	**230**	P	Pg	14 10 55.6	+0.2
JTT				*e*S	Sg	14 11 04.9	-0.4
JHK	**Hiroka**	**0.79**	**79**	P	Pg	14 10 54.9	-1.1
JHK				S	Sg	14 11 05.5	-0.8
JSD	**Sado**	**0.95**	**10**	P	Pg	14 10 58.1	-1.0
JSD				*e*S	Sg	14 11 10.9	-0.6

ISCJB ***15*** *14:12:41.5±0.6, 11°.17N±0°.03×61°.82W±0°.04, h72$^{km}_{\pm 8km}$, Error ellipse: s-maj=6.7km s-min=4.0km az=26.1*
FUNV ***15*** *14:12:42.2, 11°.05N×61°.62W, h31^{km}, MW2.9*
TRN ***15*** *14:12:43.5, 11°.22N×61°.79W, h31^{km}, MD2.9*
ISC 15 14:12:41.7±1.3, 11°.14N±0°.03×61°.80W±0°.04, h74$^{km}_{\pm 11km}$, n21, σ1°30/34, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.44**	**175**	*e*P	**Pn**	**14 12 54.3**	**-0.2**
TCE				*e*S	**Sn**	**14 13 03.1**	**-0.7**
TRN	**Trinidad (W)**	**0.62**	**142**	*e*P	**Pn**	**14 12 57.1**	**+1.0**
TRN				*e*S	**Sn**	**14 13 07.2**	**+0.5**
GUIV	**Guiria**	**0.65**	**221**	*e*P	**Pn**	**14 12 56.0**	**-0.4**
GUIV				*e*S	**Sn**	**14 13 06.3**	**-0.8**
TBH	**Brigand Hill**	**0.97**	**132**	*e*P	**Pn**	**14 13 00.9**	**+0.8**
TBH				*e*S	**Sn**	**14 13 15.5**	**+1.8**
GRW	**Mount Saint Ca**	**1.02**	**7**	*e*P	**Pn**	**14 12 59.8**	**-1.0**
GRW				*e*S	**Sn**	**14 13 13.4**	**-1.6**
GRHS	**Sauteurs**	**1.09**	**8**	*e*P	**Pn**	**14 13 01.4**	**-0.2**
GRHS				*e*S	**Sn**	**14 13 15.2**	**-1.1**
GRIC	**Isle de Caille**	**1.16**	**10**	*e*S	**Sn**	**14 13 16.7**	**-1.2**
GRSS	**Sisters**	**1.16**	**9**	*e*P	**Pn**	**14 13 03.2**	**+0.7**
GRSS				*e*S	**Sn**	**14 13 17.3**	**-0.7**
TOSP	**Speyside**	**1.25**	**83**	*e*P	**Pn**	**14 13 04.3**	**+0.8**
TOSP				*e*S	**Sn**	**14 13 20.9**	**+1.0**
CRUV	**Carupano**	**1.49**	**252**	*e*P	**Pn**	**14 13 07.5**	**+0.8**
CRUV				*e*S	**Sn**	**14 13 27.5**	**+2.0**
GUNV	**Guanoco**	**1.49**	**229**	*e*P	**Pn**	**14 13 07.3**	**+0.6**
GUNV				*e*S	**Sn**	**14 13 26.3**	**+0.7**
SVB	**Belmont**	**2.18**	**14**	*e*P	**Pn**	**14 13 17.9**	**+1.9**
SVB				*e*S	**Sn**	**14 13 41.5**	**-0.6**
ORIV	**Oritupano**	**2.60**	**218**	*e*P	**Pn**	**14 13 22.2**	**+0.6**
MCLT	**Moule a Chique**	**2.69**	**18**	*e*S	**Sn**	**14 13 53.4**	**-0.9**
PCRV	**Puerto La Cruz**	**2.95**	**251**	*e*P	**Pn**	**14 13 27.1**	**+0.7**
RIOV	**Rio Grande**	**3.05**	**180**	*e*P	**Pn**	**14 13 26.4**	**-1.4**
GURV	**El Guri**	**3.59**	**201**	*e*P	**Pn**	**14 13 33.7**	**-1.4**
CUPV	**Cœpira**	**4.07**	**255**	*e*P	**Pn**	**14 13 42.9**	**+1.2**
CUPV				*e*S	**Sn**	**14 14 28.7**	**+0.5**
BIRV	**Birongo**	**4.45**	**262**	*e*P	**Pn**	**14 13 49.1**	**+2.3**
LUEV	**Luepa**	**5.28**	**176**	*e*P	**Pn**	**14 13 57.0**	**-1.2**
BAUV	**El Baul**	**6.53**	**251**	*e*P	**Pn**	**14 14 15.6**	**+0.4**
BAUV				*e*S	**Sn**	**14 15 24.9**	**-3.4**

IDC 15 14:20:47.7±2.2, 30°.34S×178°.29W, h0^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.9/17, mbtmp4.0/4, Error ellipse: s-maj=53.3km s-min=35.8km az=48.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.25**	**257**	P	P	14 27 35.1	-0.3
	2.0nm,0.8s,baz=90,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**42.87**	**267**	P	P	14 28 48.0	0.0
	0.5nm,0.7s,baz=104,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**43.85**	**272**	P	P	14 28 56.1	+0.2
	0.6nm,0.3s,baz=111,slow=8.1,SNR=24						
VNDA	**Vanda**	**48.13**	**186**	P	P	14 29 28.9	0.0
	4.5nm,0.7s,baz=0.4,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	14 40 24.0	-1.5
	0.7nm,0.5s,baz=64,slow=6.3,SNR=6.1						

IDC ***15*** *14:31:24.7±0.9, 52°.39N×168°.30W, h0^{km}, mb3.6/15, mb1 3.8/16, mb1mx3.7/29, mbtmp3.6/16, ML3.4/1, Error ellipse: s-maj=27.7km s-min=16.9km az=166.0*
NEIC ***15*** *14:31:26.1, 52°.27N×168°.04W, h4^{km}, ML3.0(AEIC), After*

AEIC.
*ISCJB **15** 14:31:27.0±0.6,52.°22N±0.°05×168.°08W±0.°10,h31km, mb3.6/14,Error ellipse: s-maj=8.7km s-min=7.2km az=15.8*

ISC 15 14:31:29.3±0.7,52.°35N±0.°07×168.°12W±0.°07,h31km,n27, σ1§16/31,mb3.6/14,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.77**	**325**	P	**Pn**	**14 31 42.6**	**-1.3**
NIKO				S	**Sn**	**14 31 56.2**	**+1.7**
OKSP	**Okmok Steeple**	**0.91**	**354**	P	**Pb**	**14 31 46.0**	**-0.6**
OKSO	**Okmok South**	**1.01**	**359**	P	**Pn**	**14 31 46.9**	**-0.5**
OKSO				S	**Sb**	**14 32 02.3**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.04**	**3**	P	**Pb**	**14 31 48.2**	**-0.6**
OKFG	**Magazine Ridge**	**1.07**	**7**	P	**Pn**	**14 31 47.8**	**-0.4**
OKFG				S	**Sb**	**14 32 06.5**	**+3.5**
OKCE	**Okmok Cone E**	**1.08**	**359**	P	**Pb**	**14 31 48.4**	**-1.0**
MREP	**Makushin Rep't**	**1.68**	**29**	P	**Pn**	**14 31 56.7**	**+0.1**
MSW	**Makushin Switc**	**1.77**	**27**	P	**Pn**	**14 31 57.6**	**-0.1**
UNV	**Unalaska Valle**	**1.79**	**32**	P	**Pn**	**14 31 57.4**	**-0.6**
KOFP	**Korovin Flat P**	**3.67**	**271**	P	**Pn**	**14 32 25.5**	**+1.6**
KDAK	**Kodiak Island** 0.5nm,0.3s,baz=244,slow=8.3,SNR=4.8	**10.43**	**52**	Pn	**Pn**	**14 33 55.6**	**-0.9**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=229,slow=12,SNR=8.1	**16.55**	**33**	Pn	**Pn**	**14 35 17.0**	**-1.7**
PETK	**Petropavlovsk-** 2.5nm,0.5s,baz=90,slow=13,SNR=12	**20.61**	**286**	P	**P**	**14 36 05.0**	**-0.6**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=267,slow=8.1,SNR=4.4	**29.68**	**49**	P	**P**	**14 37 33.5**	**+1.7**
YKA				PcP	**PcP**	**14 40 36.0**	**+0.9**
PDAR	**Pinedale Array** 0.1nm,0.4s,baz=288,slow=4.5,SNR=3.8	**39.65**	**80**	P	**P**	**14 38 59.3**	**+1.0**
KSRS	**Korea Array** 0.4nm,0.6s,baz=300,slow=2.9,SNR=3.9	**46.17**	**278**	P	**P**	**14 39 49.9**	**-0.9**
SONM	**Songino Array** 0.7nm,0.7s,baz=48,slow=8.9,SNR=2.8	**51.97**	**301**	P	**P**	**14 40 35.2**	**0.0**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=56,slow=5.8,SNR=5.6	**51.98**	**90**	P	**P**	**14 40 36.4**	**+0.9**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=300,slow=6.0,SNR=6.2	**64.37**	**314**	P	**P**	**14 42 00.8**	**-1.0**
FINES	**FINESS Array B** 0.3nm,0.7s,baz=46,slow=7.0,SNR=4.0	**65.99**	**353**	P	**P**	**14 42 11.0**	**-1.1**
NOA	**NORSAR Array B** 0.9nm,0.6s,baz=16,slow=8.1,SNR=6.2	**66.96**	**0**	P	**P**	**14 42 18.2**	**-0.1**
AKASG	**Malin Array Be** 0.7nm,0.8s,baz=3.8,slow=6.7,SNR=2.8	**76.28**	**349**	P	**P**	**14 43 13.9**	**-0.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=16,slow=5.0,SNR=4.9	**77.37**	**284**	P	**P**	**14 43 21.9**	**+0.7**
BRTR	**Keskin Array B** 0.8nm,0.5s,baz=7.4,slow=2.2,SNR=5.1	**86.37**	**343**	P	**P**	**14 44 08.4**	**0.0**
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=331,slow=5.3,SNR=3.5	**87.32**	**12**	P	**P**	**14 44 12.1**	**-0.8**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=54,slow=7.4,SNR=3.1	**87.59**	**233**	P	**P**	**14 44 13.5**	**-0.7**
ASAR	**Alice Springs** 0.3nm,1.0s,baz=28,slow=5.5,SNR=4.1	**90.97**	**231**	P	**P**	**14 44 29.7**	**-0.4**

*ISCJB **15** 15:08:10.6±0.3,0.°25S±0.°04×124.°49E±0.°04,h73km, mb4.0/16,Error ellipse: s-maj=5.8km s-min=5.5km az=165.0*
*DJA **15** 15:08:10.9±0.9,0.°5S±4.°×12.°5E±.°,h29km±13km,M4.5/13, mb4.8/8,mB4.9/4,MLv4.4/13,Mw(mB)4.1/4*
*AUST **15** 15:08:10.7±1.2,0.°14S×124.°50E,h60km, Error ellipse: s-maj=2.1km s-min=1.3km az=15.0*
*IDC **15** 15:08:12.7±3.5,0.°27S×124.°40E,h75km±34km,mb3.7/15, mb1 3.9/17,mb1mx3.8/26,mbtmp3.7/17,MS3.0/1, Ms1 3.2/1,ms1mx2.2/38,Error ellipse: s-maj=23.6km s-min=13.1km az=66.0*

ISC 15 15:08:12.8±0.5,0.°24S±0.°05×124.°51E±0.°06,h73km,n42, σ1§30/43,mb4.0/16,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.97**	**327**	P	Pn	15 08 27.8	-3.2
MNI	**Manado**	**1.71**	**11**	P	**Pn**	**15 08 39.8**	**-0.8**
LUWI	**Luwuk**	**1.91**	**245**	P	**Pn**	**15 08 42.0**	**-1.3**
MRSI	**Marisa**	**2.67**	**286**	P	**Pn**	**15 08 50.3**	**-3.2**
LBMI	**Labuha**	**3.02**	**97**	P	**Pn**	**15 08 56.2**	**-2.0**
TNTI	**Ternate**	**3.03**	**71**	P	**Pn**	**15 08 55.9**	**-2.5**
KDI	**Kendari**	**4.14**	**207**	P	**Pn**	**15 09 11.7**	**-2.0**
PCI	**Palu** baz=4.7,SNR=6.0	**4.72**	**262**	S	Sn	15 10 00.9	-14
AAI	**Ambon** baz=5.1,SNR=8.5	**5.03**	**133**	P	**Pn**	**15 09 24.5**	**-1.2**
AAI	**Ambon** 96nm,0.6s,1µm0.3nm	**5.03**	**133**	P	**Pn**	**15 09 24.9**	**-0.8**
MSAI	**Masohi** 56nm,0.6s,590nm0.2nm	**5.38**	**125**	P	**Pn**	**15 09 29.7**	**-0.9**
TTSI	**Tana Toraja** 138nm,0.6s,0.7nm	**5.45**	**239**	P	**Pn**	**15 09 31.9**	**+0.4**
SPSI	**Sidrap Palu** 69nm,0.5s,1µm0.3nm	**6.01**	**232**	P	**Pn**	**15 09 39.4**	**+0.3**
BKSI	**Bulukumba** 21nm,0.7s,641nm0.2nm	**6.68**	**221**	P	**Pn**	**15 09 48.6**	**+0.3**
KAPI	**Kappang** 6.9nm,0.3s,baz=74,slow=5.0,SNR=21	**6.71**	**225**	P	**Pn**	**15 09 47.6**	**-1.1**
KAPI				S	**Sn**	**15 11 02.2**	**-1.6**
KAPI	**Kappang** 5.0nm,0.3s,baz=74,slow=22,SNR=5.9	**6.71**	**225**	P	**Pn**	**15 09 47.7**	**-1.1**
MYLDM	**Lahad Datu** 88nm,0.9s	**8.06**	**312**	P	**Pn**	**15 10 07.8**	**+0.6**
TLE	**Tual** baz=9.9,SNR=3.2	**9.81**	**123**	P	**Pn**	**15 10 30.1**	**-1.0**
KDU	**Kakadu** baz=15,SNR=3.7	**14.67**	**148**	P	**Pn**	**15 11 36.3**	**-0.2**
SJI	**Sawahan**	**14.72**	**239**	P	**P**	**15 11 43.8**	**+2.2**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=40,slow=11,SNR=8.3	**17.78**	**176**	P	**P**	**15 12 15.3**	**0.0**
FITZ	**Fitzroy Crossi** baz=18,SNR=5.4	**17.78**	**176**	P	**Pn**	**15 12 15.8**	**+0.3**
WRA	**Warramunga Arr** 11nm,1.0s,baz=333,slow=12,SNR=32	**21.82**	**154**	P	**P**	**15 12 57.5**	**-1.6**
COEN	**Coen** baz=23,SNR=4.4	**22.96**	**127**	P	**P**	**15 13 11.3**	**0.0**
ASAR	**Alice Springs** 3.7nm,0.8s,baz=325,slow=6.7,SNR=42	**25.01**	**159**	P	**P**	**15 13 30.1**	**0.0**
ASAR				PcP	**PcP**	**15 17 04.8**	**+1.3**
QIS	**Mount Isa** baz=25,SNR=27	**25.01**	**145**	P	**P**	**15 13 31.0**	**+0.9**
CMAR	**Chiang Mai Arr** 0.7nm,0.6s,baz=129,slow=7.4,SNR=8.4	**31.25**	**308**	P	**P**	**15 14 26.9**	**+1.0**
CMAR				LR	LR	15 27 26.6	
STKA	**Stephens Creek** comp=Z,28nm,18.7s,baz=190,slow=37 2.3nm,0.8s,baz=300,slow=8.7,SNR=6.0	**35.37**	**154**	P	**P**	**15 15 01.5**	**0.0**
STKA	**Stephens Creek** baz=36,SNR=4.5	**35.37**	**154**	P	**P**	**15 15 02.0**	**+0.6**
CMSA	**Cobar Meteorol** baz=37,SNR=20	**37.03**	**149**	P	**P**	**15 15 17.1**	**+1.4**
KSRS	**Korea Array** 0.8nm,0.6s,baz=176,slow=10,SNR=3.7	**37.64**	**4**	P	**P**	**15 15 21.4**	**+0.7**
MJAR	**Matsushiro Arr** 1.3nm,0.7s,baz=195,slow=8.8,SNR=5.4	**38.75**	**18**	P	**P**	**15 15 30.0**	**0.0**
USRK	**Ussuriysk Arra** 1.9nm,0.4s,baz=189,slow=7.7,SNR=13	**44.75**	**8**	P	**P**	**15 16 19.7**	**+0.9**
GTA	**Gaotai** comp=Z,5.0nm,1.0s	**45.48**	**333**	*eP*	**P**	**15 16 26.9**	**+1.9**
GTA				pmax	pmax		
SONM	**Songino Array** comp=Z,1.4nm,0.5s,baz=158,slow=8.4,SNR=18	**50.41**	**344**	P	**P**	**15 17 02.8**	**-0.1**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.4s,baz=121,slow=8.0,SNR=28	**59.62**	**328**	P	**P**	**15 18 08.6**	**-0.6**
MKAR				PcP	**PcP**	**15 18 56.0**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.6s,baz=163,slow=2.7,SNR=5.2	**63.16**	**335**	P	**P**	**15 18 30.9**	**-2.0**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.4s,baz=125,slow=7.4,SNR=5.5	**63.94**	**329**	P	**P**	**15 18 36.6**	**-1.5**
BVAR	**Borovoye Array** comp=Z,0.9nm,0.5s,baz=131,slow=6.1,SNR=9.7	**69.47**	**328**	P	**P**	**15 19 12.1**	**-1.2**
AKTO	**Aktyubinsk** comp=Z,0.9nm,0.5s,baz=130,slow=6.4,SNR=7.5	**75.42**	**323**	P	**P**	**15 19 47.5**	**-1.2**
ILAR	**Eielson Array** comp=Z,0.8nm,0.4s,baz=100,slow=7.3,SNR=7.4	**89.62**	**25**	P	**P**	**15 21 02.0**	**-0.2**
FINES	**FINESS Array B** comp=Z,0.2nm,0.6s,baz=241,slow=4.9,SNR=7.8	**94.25**	**332**	P	**P**	**15 21 22.0**	**-1.7**
	comp=Z,1.5nm,1.1s,baz=339,slow=2.7,SNR=4.2						

TAP 15 15:15:26.0,24.°39N×120.°93E,h8km,ML2.0,1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWQ1	**Liyutan** baz=252	**0.15**	**253**	*i*P	Pg	15 15 30.1	+0.8
TWQ1	baz=252			*i* S	Sg	15 15 33.0	+1.5
NSY	**Sanyi** baz=278	**0.16**	**279**	P	Pg	15 15 30.5	+1.0
NSY	baz=278			*e*S	Sg	15 15 33.6	+1.9
NSTT	**Nanjuang** baz=17	**0.25**	**15**	P	Pg	15 15 31.8	+0.8
NSTT	baz=17			S	Sg	15 15 35.5	+1.1
TWT	**Tachien** baz=124	**0.26**	**122**	P	Pg	15 15 32.0	+0.5
TWT	baz=124			S	Sg	15 15 35.7	+0.5
WHF	**Hehuan Shan** baz=128	**0.39**	**129**	*e*P	Pb	15 15 35.3	-0.5
WHF	baz=128			*e*S	Sb	15 15 41.1	-1.2
NNS	**Nan Shan** baz=94	**0.40**	**83**	P	Pb	15 15 35.0	-0.6
NNS	baz=94			S	Sg	15 15 40.4	+0.8
NSK	**Sanguang** baz=55	**0.48**	**54**	*e*P	Pg	15 15 35.7	+0.2
NSK	baz=55			*e*S	Sg	15 15 42.4	+0.5
TYC	**Yuchr** baz=177	**0.49**	**188**	P	Pb	15 15 36.7	-0.1
TYC	baz=177			*e*S	Sb	15 15 43.6	-0.6
SMLT	**Sun Moon Lake** baz=171	**0.51**	**183**	*e*P	Pb	15 15 37.2	-0.1
SMLT	baz=171			*e*S	Sb	15 15 45.3	+0.3
ENTT	**Nioudou** baz=67	**0.63**	**67**	P	Pb	15 15 39.0	-0.2
ENTT	baz=67			*e*S	Sg	15 15 47.3	+0.9
TWE	**Neicheng** baz=65	**0.74**	**64**	*e*P	Pb	15 15 41.8	+0.5
TWE	baz=65			*e*S	Sb	15 15 52.0	+0.4
CHN5	**Tsauling** baz=196	**0.82**	**196**	*e*P	Pb	15 15 42.6	-0.1
CHN5	baz=196			*e*S	Sb	15 15 54.7	+0.6
ALS	**Alishan** baz=202	**0.89**	**188**	*e*P	Pn	15 15 44.7	-0.5
ALS	baz=202			*e*S	Sn	15 15 57.5	-0.9
TWF1	**Yuli** baz=155	**1.09**	**162**	*e*P	Pn	15 15 47.8	+0.2
CHN1	**Nanshi** baz=197	**1.26**	**197**	*e*P	Pg	15 15 50.1	-0.1
CHN1	baz=197			*e*S	Sn	15 16 08.2	+1.2

TAP 15 15:15:53.1,23.°21N×121.°20E,h14km±1km,ML1.2,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=262	**0.17**	**264**	*i* P	Pg	15 15 57.3	0.0
ELDTW	baz=262			*i* S	Sg	15 15 59.9	-0.2
TWF1	**Yuli** baz=29	**0.17**	**33**	*e*P	Pg	15 15 57.7	+0.4
TWF1	baz=29			S	Sg	15 16 00.4	+0.4
CHKT	**Chengkung** baz=122	**0.19**	**124**	*e*P	Pb	15 15 59.3	+0.9
CHKT	baz=122			S	Sb	15 16 02.3	+0.4
SGST	**Jiashian** baz=257	**0.58**	**258**	*e*P	Pb	15 16 05.2	+0.2
SGST	baz=257			*e*S	Sg	15 16 12.1	-0.1

*ISK **15** 15:17:17.7,37.°92N×29.°09E,h7km,MD2.8*
*DDA **15** 15:17:18.0,37.°92N×29.°03E,h10km,MD2.8*
*CSEM **15** 15:17:17.9±0.1,37.°92N×29.°06E,h10km,MD2.8,Error ellipse: s-maj=3.3km s-min=2.4km az=104.0*
*ISCJB **15** 15:17:18.2±0.4,37.°93N±0.°02×29.°04E±0.°04,h7km±6km, Error ellipse: s-maj=5.4km s-min=3.6km az=4.5*

ISC 15 15:17:18.1±0.8,37.°92N±0.°02×29.°06E±0.°03,h13km±7km, n26,σ0§34/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**187**	*e*PG	**Pg**	**15 17 21.9**	**-0.1**
DENT				*e*SG	**Sg**	**15 17 24.8**	**+0.1**
DENT	**Denizli**	**0.16**	**187**	*e*Pg	**Pg**	**15 17 21.9**	**-0.1**
DENT				*e*Sg	**Sg**	**15 17 24.8**	**+0.1**
DNZL	**Cakiroluk**	**0.23**	**182**	*i* P	**Pg**	**15 17 22.9**	**-0.2**
DNZL				*i* S	**Sg**	**15 17 26.7**	**+0.2**
DNZL	**Cakiroluk**	**0.23**	**182**	*i* P	**Pg**	**15 17 22.9**	**-0.2**
DNZL				*i* S	**Sg**	**15 17 26.7**	**+0.2**
KHL	**Karahalli**	**0.55**	**42**	*e*PG	**Pg**	**15 17 28.3**	**-0.6**
KHL				*e*SG	**Sg**	**15 17 36.2**	**+0.1**
KHL	**Karahalli**	**0.55**	**42**	*e*Pg	**Pg**	**15 17 28.3**	**-0.6**
KHL				*e*Sg	**Sg**	**15 17 36.2**	**+0.1**
KHAL	**Karahalli**	**0.57**	**37**	*i* P	**Pg**	**15 17 28.2**	**-1.0**
KHAL				*i* S	**Sg**	**15 17 37.3**	**+0.5**
KHAL	**Karahalli**	**0.57**	**37**	*i* P	**Pg**	**15 17 28.2**	**-1.0**
KHAL				*i* S	**Sg**	**15 17 37.3**	**+0.5**
KULA	**Kula-Manisa**	**0.67**	**332**	*e*PG	**Pg**	**15 17 31.2**	**0.0**
KULA				*e*SG	**Sb**	**15 17 41.1**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**332**	*e*Pg	**Pg**	**15 17 31.2**	**0.0**
KULA				*e*Sg	**Sb**	**15 17 41.2**	**+0.2**
MANT	**Manisa**	**0.69**	**326**	*i* P	**Pg**	**15 17 31.4**	**-0.3**
MANT				*i* S	**Sg**	**15 17 40.9**	**+0.1**
MANT	**Manisa**	**0.69**	**326**	*i* P	**Pg**	**15 17 31.4**	**-0.3**
MANT				*i* S	**Sg**	**15 17 40.9**	**+0.1**
GOLH	**Golhisar**	**0.79**	**149**	*i* P	**Pb**	**15 17 33.8**	**+0.2**
GOLH				*i* S	**Sn**	**15 17 46.9**	**+0.3**
GOLH	**Golhisar**	**0.79**	**149**	*i* P	**Pb**	**15 17 33.8**	**+0.2**
GOLH				*i* S	**Sn**	**15 17 46.9**	**+0.3**
AYDN	**Tasoluk**	**0.97**	**255**	*i* P	**Pb**	**15 17 36.4**	**-0.3**
AYDN				*i* S	**Sg**	**15 17 49.4**	**0.0**
AYDN	**Tasoluk**	**0.97**	**255**	*i* P	**Pb**	**15 17 36.4**	**-0.3**
AYDN				*i* S	**Sg**	**15 17 49.4**	**0.0**
YER	**Yerkesik**	**0.99**	**218**	*e*PG	**Pb**	**15 17 36.8**	**-0.3**
YER	**Yerkesik**	**0.99**	**218**	*e*Pg	**Pb**	**15 17 36.8**	**-0.3**
DEMI	**Demirci**	**1.16**	**347**	*i* P	**Pb**	**15 17 40.3**	**+0.4**
DEMI				*i* S	**Sb**	**15 17 54.7**	**-0.2**
DEMI	**Demirci**	**1.16**	**347**	*i* P	**Pb**	**15 17 40.3**	**+0.4**
DEMI				*i* S	**Sb**	**15 17 54.7**	**-0.2**
SHUT	**Suhut-Afyon**	**1.34**	**61**	*e*PN	**Pn**	**15 17 42.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.34**	**61**	*e*Pn	**Pn**	**15 17 42.6**	**+0.1**
ALT	**Altintas**	**1.41**	**36**	*e*PN	**Pb**	**15 17 44.3**	**+0.1**
ALT	**Altintas**	**1.41**	**36**	*e*Pn	**Pb**	**15 17 44.3**	**+0.1**
TVSB	**Tavsanli**	**1.56**	**12**	*e*PN	**Pb**	**15 17 46.9**	**0.0**
TVSB	**Tavsanli**	**1.56**	**12**	*e*Pn	**Pb**	**15 17 46.9**	**0.0**

*IDC **15** 15:17:13.0±2.1,7.°06S×127.°80E,h0km,mb3.2/1, mb1 4.1/4,mb1mx3.7/18,mbtmp3.9/4,ML4.0/3,Error ellipse: s-maj=102.1km s-min=28.0km az=73.0*
*ISCJB **15** 15:17:27.7±0.8,7.°86S±0.°06×127.°91E±0.°07,h100km, mb3.4/2,Error ellipse: s-maj=10.4km s-min=7.5km az=142.3*
*AUST **15** 15:17:30.0,7.°99S×128.°04E,h100km*

ISC 15 15:17:29.1±1.1,7.°89S±0.°08×127.°92E±0.°08,h100km,n14, σ1§72/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual** baz=5.2,SNR=17	**5.29**	**65**	P	**Pn**	**15 18 46.0**	**+0.2**
MTN	**Manton Dam** baz=5.7,SNR=12	**5.85**	**148**	P	Pn	15 18 57.6	+4.2
MTN	baz=5.7,SNR=10			S	**Sn**	**15 20 02.2**	**+3.1**
KDU	**Kakadu** baz=6.4,SNR=111	**6.54**	**137**	P	**Pn**	**15 19 05.5**	**+2.8**
KDU	baz=6.4,SNR=19			S	**Sn**	**15 20 15.2**	**-0.8**
WSI	**Waingapu** baz=7.8,SNR=4.4	**7.74**	**256**	P	**Pn**	**15 19 19.9**	**+0.9**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=54,slow=11,SNR=18	**10.39**	**192**	Pn	**Pn**	**15 19 55.1**	**0.0**
FITZ	1.8nm,0.3s,baz=198,slow=16,SNR=6.5			Sn	**Sn**	**15 21 50.3**	**+0.7**
FITZ	**Fitzroy Crossi** baz=10,SNR=10	**10.39**	**192**	P	**Pn**	**15 19 54.9**	**-0.2**
FITZ	baz=10,SNR=3.4			S	**Sn**	**15 21 50.7**	**+1.1**
PCI	**Palu** baz=11,SNR=17	**10.63**	**310**	P	**Pn**	**15 19 58.2**	**-0.3**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=325,slow=13,SNR=25	**13.50**	**153**	Pn	**Pn**	**15 20 35.9**	**-0.7**
WRA	2.6nm,0.3s,baz=329,slow=23,SNR=11			Sn	Sn	15 22 58.5	-6.8
ASAR	**Alice Springs** 1.3nm,0.3s,baz=340,slow=11,SNR=177	**16.70**	**161**	P	**P**	**15 21 18.8**	**+1.0**
ASAR	0.8nm,0.3s,baz=318,slow=19,SNR=8.1			S	**Sn**	**15 24 19.6**	**-3.1**
QIS	**Mount Isa** baz=17,SNR=6.1	**16.92**	**139**	P	**Pn**	**15 21 20.2**	**+0.3**
STKA	**Stephens Creek** 1.8nm,0.6s,baz=318,slow=8.1,SNR=8.0	**27.05**	**154**	P	**P**	**15 23 00.3**	**-1.9**
STKA	**Stephens Creek** baz=27,SNR=6.5	**27.05**	**154**	P	**P**	**15 23 00.3**	**-1.9**
CMSA	**Cobar Meteorol** baz=29,SNR=9.7	**28.78**	**147**	P	**P**	**15 23 16.0**	**-1.6**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=124,slow=8.1,SNR=4.7	**67.86**	**328**	P	P	15 28 08.4	-8.3

DJA 15 15:27:22.3±1.9,9.°S±33.°×117.°7E±2.°7,h156km±40km,M3.7/4, MLv3.7/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**2.02**	**300**	P	Pn	15 27 58.5	+0.5
KHKI				S	Sn	15 28 27.4	+1.9
IGBI	**Denpasar**	**2.28**	**284**	P	Pn	15 28 00.7	-0.3
SRBI	**Singaraja**	**2.50**	**301**	P	Pn	15 28 04.1	+0.4
SRBI				S	Sn	15 28 36.5	+0.8
JAGI	**Jajag, Banyuwa**	**3.31**	**286**	P	Pn	15 28 14.7	+0.8

*ISK **15** 15:41:56.2,38.°36N×26.°34E,h20km, MD2.8*
*ATH **15** 15:41:57.3,38.°45N×26.°31E,h30km±3km, MD3.2/4*
*ISCJB **15** 15:41:57.8±0.5,38.°44N±0.°03×26.°38E±0.°03,h13km±4km, Error ellipse: s-maj=5.0km s-min=3.6km az=21.0*
*CSEM **15** 15:41:57.5±0.2,38.°43N×26.°38E,h15km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.4km az=45.0*
*DDA **15** 15:41:58.3,38.°46N×26.°44E,h7km, MD2.9*
*THE **15** 15:41:58.8,38.°48N×26.°39E,h6km±22km, ML2.4/3, Error ellipse: s-maj=22.9km s-min=0.8km az=188.0*

ISC 15 15:41:57.4±1.2,38.°43N±0.°02×26.°39E±0.°02,h15km±10km, n39,σ0§55/63,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**114**	*i* P	**Pb**	**15 42 02.2**	**-0.2**
URLA				*i* S	**Sb**	**15 42 05.6**	**-0.1**
URLA	**Izmir**	**0.18**	**114**	*i* P	**Pb**	**15 42 02.2**	**-0.2**
URLA				*i* S	**Sb**	**15 42 05.6**	**-0.1**
CHOS	**Chios island**	**0.27**	**260**	P	**Pb**	**15 42 04.5**	**+0.5**
CHOS				S	**Sb**	**15 42 08.5**	**+0.2**
CHOS	**Chios island**	**0.27**	**260**	*e*PB	**Pb**	**15 42 04.5**	**+0.5**
CHOS				*e*SB	**Sb**	**15 42 08.2**	**-0.1**
CHOS	**Chios island**	**0.27**	**260**	P	**Pb**	**15 42 04.5**	**+0.5**
CHOS				*e*Sb	**Sb**	**15 42 08.2**	**-0.1**
CHOS				S	**Sb**	**15 42 08.5**	**+0.2**
BLCB	**Balcova**	**0.51**	**95**	*e*PG	**Pb**	**15 42 07.8**	**-0.3**
BLCB				*e*SG	**Sb**	**15 42 15.4**	**+0.1**
BLCB	**Balcova**	**0.51**	**95**	*e*Pg	**Pb**	**15 42 07.8**	**-0.3**
BLCB				*e*Sg	**Sb**	**15 42 15.4**	**+0.1**
IZM	**Izmir**	**0.69**	**93**	*e*PG	**Pb**	**15 42 11.4**	**+0.3**
IZM				*e*SG	**Sb**	**15 42 21.8**	**+1.4**
IZM	**Izmir**	**0.69**	**93**	*e*Pg	**Pb**	**15 42 11.4**	**+0.3**
IZM				*e*Sg	**Sb**	**15 42 21.8**	**+1.4**
PRK	**Paraskevi**	**0.82**	**354**	P	**Pb**	**15 42 13.1**	**-0.2**
PRK				S	**Sb**	**15 42 24.6**	**+0.5**
PRK	**Paraskevi**	**0.82**	**354**	*e*PN	**Pb**	**15 42 13.2**	**-0.1**
PRK				*e*SN	**Sb**	**15 42 24.5**	**+0.5**
PRK	**Paraskevi**	**0.82**	**354**	P	**Pb**	**15 42 13.1**	**-0.2**
PRK				S	**Sb**	**15 42 24.6**	**+0.5**
SIGR	**SIGRI**	**0.88**	**332**	P	**Pn**	**15 42 15.1**	**-0.1**
SIGR				S	**Sn**	**15 42 27.2**	**-0.6**
SIGR	**SIGRI**	**0.88**	**332**	P	**Pn**	**15 42 15.1**	**-0.1**
SIGR				S	**Sn**	**15 42 27.2**	**-0.6**
AYVA	**Ayvalik**	**0.91**	**15**	*i* P	**Pg**	**15 42 14.6**	**-0.4**
AYVA				*i* S	**Sn**	**15 42 28.0**	**-0.3**
AYVA	**Ayvalik**	**0.91**	**15**	*i* P	**Pg**	**15 42 14.6**	**-0.4**
AYVA				*i* S	**Sn**	**15 42 28.0**	**-0.3**
GCAM	**G?zelcaml?**	**0.99**	**137**	*i* P	**Pn**	**15 42 16.8**	**+0.1**
GCAM				*i* S	**Sn**	**15 42 30.9**	**+0.5**
GCAM	**G?zelcaml?**	**0.99**	**137**	*i* P	**Pn**	**15 42 16.8**	**+0.1**
GCAM				*i* S	**Sn**	**15 42 30.9**	**+0.5**
AKS	**Akhisar**	**1.20**	**68**	*e*PN	**Pb**	**15 42 19.8**	**0.0**
AKS	**Akhisar**	**1.20**	**68**	*e*Pn	**Pb**	**15 42 19.8**	**0.0**
AKHS	**Akhisar**	**1.20**	**68**	*i* P	**Pb**	**15 42 19.9**	**+0.1**
AKHS				*i* S	**Sg**	**15 42 36.7**	**+0.5**
AKHS	**Akhisar**	**1.20**	**68**	*i* P	**Pb**	**15 42 19.9**	**+0.1**
AKHS				*i* S	**Sg**	**15 42 36.7**	**+0.5**
EZN	**Ezine**	**1.39**	**358**	*e*PN	**Pn**	**15 42 21.8**	**-0.5**
EZN	**Ezine**	**1.39**	**358**	*e*Pn	**Pn**	**15 42 21.8**	**-0.5**
AYDN	**Tasoluk**	**1.41**	**123**	*i* P	**Pg**	**15 42 24.3**	**-0.2**
AYDN				*i* S	**Sn**	**15 42 41.0**	**+0.2**
AYDN	**Tasoluk**	**1.41**	**123**	*i* P	**Pg**	**15 42 24.3**	**-0.2**
AYDN				*i* S	**Sn**	**15 42 41.0**	**+0.2**
APE	**Apeiranthos**	**1.52**	**207**	*e*PN	**Pn**	**15 42 24.0**	**-0.1**
APE	**Apeiranthos**	**1.52**	**207**	*e*Pn	**Pn**	**15 42 24.0**	**-0.1**
BODT	**Bodrum**	**1.55**	**152**	*e*PN	**Pn**	**15 42 22.6**	**-1.9**
BODT	**Bodrum**	**1.55**	**152**	*e*Pn	**Pn**	**15 42 22.6**	**-1.9**
BALB	**Balikesir**	**1.67**	**43**	*e*PN	**Pn**	**15 42 25.5**	**-0.6**
BALB	**Balikesir**	**1.67**	**43**	*e*Pn	**Pn**	**15 42 25.5**	**-0.6**
MANT	**Manisa**	**1.70**	**87**	*i* P	**Pg**	**15 42 30.9**	**+0.8**
MANT				*i* S	**Sg**	**15 42 51.5**	**-0.8**
LIA	**Limnos Island**	**1.74**	**328**	*e*PN	**Pn**	**15 42 27.1**	**+0.1**
LIA	**Limnos Island**	**1.74**	**328**	*e*Pn	**Pn**	**15 42 27.1**	**+0.1**
KULA	**K

TAPN	**Taplejung**	**15.79**	**343**	*e*P	**Pn**	**15 55 32.5**	**-0.4**
	3.7nm,0.2s						
JIRN	**Jiri**	**16.55**	**339**	*e*P	**Pn**	**15 55 42.2**	**-0.6**
	1.6nm,0.3s						
PKI	**Pulchoki**	**16.75**	**337**	*e*P	**Pn**	**15 55 46.0**	**+0.7**
GUN	**Gumba**	**16.89**	**339**	*e*P	**Pn**	**15 55 47.4**	**+0.4**
DMN	**Daman**	**16.91**	**336**	*e*P	**P**	**15 55 48.2**	**-0.8**
GKN	**Gorkha**	**17.44**	**336**	*e*P	**P**	**15 55 54.5**	**-0.4**
	6.4nm,0.3s						
KOLN	**Koldanda**	**17.68**	**333**	*e*P	**P**	**15 55 57.5**	**-0.1**
PYUN	**Piuthan**	**18.25**	**332**	*e*P	**P**	**15 56 04.4**	**+0.6**
MKAR	**Makanchi Array**	**35.59**	**348**	P	**P**	**15 58 47.1**	**-0.3**
	0.2nm,0.5s,baz=162,slow=8.1,SNR=3.7						
SONM	**Songino Array**	**37.33**	**15**	P	**P**	**15 59 02.8**	**+0.4**
	0.1nm,0.5s,baz=205,slow=7.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**40.04**	**346**	P	**P**	**15 59 23.1**	**-1.8**
	0.2nm,0.5s,baz=161,slow=8.2,SNR=2.4						
WRA	**Warramunga Arr**	**51.95**	**127**	P	**P**	**16 00 58.7**	**-0.6**
	1.1nm,0.5s,baz=301,slow=10.0,SNR=33						
WRA				PcP	**PcP**	**16 02 11.4**	**-0.3**
	0.5nm,0.6s,baz=321,slow=3.1,SNR=8.4						
ASAR	**Alice Springs**	**53.79**	**132**	P	**P**	**16 01 12.4**	**-0.5**
	1.1nm,0.5s,baz=307,slow=6.8,SNR=40						
ASAR				PcP	**PcP**	**16 02 19.1**	**+0.4**
	0.3nm,0.7s,baz=308,slow=4.8,SNR=3.1						
STKA	**Stephens Creek**	**64.11**	**135**	P	**P**	**16 02 24.2**	**-0.1**
	1.7nm,0.7s,baz=348,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**68.26**	**332**	P	**P**	**16 02 50.3**	**-0.2**
	2.2nm,1.1s,baz=103,slow=6.3,SNR=3.0						
GERES	**GERESS Array B**	**73.69**	**317**	P	**P**	**16 03 25.5**	**+1.7**
	0.1nm,0.3s,baz=87,slow=8.1,SNR=2.2						

IDC 15 16:14:24.7±0.7,2°35S×140°49E, *h*0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/19, mbtmp4.1/9, ML3.5/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/32, Error ellipse: s-maj=34.3km s-min=18.2km az=72.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.64**	**137**			Op	Pn	16 16 45.9	+1.0
	0.3nm,0.3s,baz=276,slow=9.2,SNR=2.7								
GUMO	**Guam**	**16.42**	**15**	LR		LR	LR	16 24 29.6	
	comp=Z,70nm,19.3s,baz=74,slow=37								
WRA	**Warramunga Arr**	**18.49**	**199**	P		P	Pn	16 18 42.6	0.0
	0.7nm,0.3s,baz=22,slow=12,SNR=43								
CTA	**Charters Tower**	**18.50**	**163**	LR		LR	LR	16 25 33.8	
	comp=Z,88nm,19.3s,baz=31,slow=36								
FITZ	**Fitzroy Crossi**	**21.38**	**222**	LR		LR	LR	16 27 54.2	
	comp=Z,75nm,21.3s,baz=242,slow=38								
ASAR	**Alice Springs**	**22.13**	**196**	P		P	P	16 19 21.9	-0.2
	5.4nm,0.7s,baz=31,slow=9.8,SNR=97								
ASAR				LR		LR	LR	16 28 39.3	
	comp=Z,110nm,18.3s,baz=8.6,slow=39								
JOW	**Kunigami**	**31.32**	**339**	LR		LR	LR	16 30 39.9	
	comp=Z,36nm,20.9s,baz=125,slow=31								
KSRS	**Korea Array**	**41.29**	**345**	LR		LR	LR	16 37 32.4	
	comp=Z,28nm,18.9s,baz=200,slow=34								
CMAR	**Chiang Mai Arr**	**45.82**	**299**	P		P	P	16 22 49.2	+0.4
	0.7nm,0.7s,baz=113,slow=6.2,SNR=5.8								
MKAR	**Makanchi Array**	**70.60**	**322**	P		P	P	16 25 42.9	+0.9
	1.8nm,0.7s,baz=109,slow=7.7,SNR=25								
ZALV	**Zalesovo Beam**	**72.53**	**329**	P		P	P	16 25 53.0	-0.5
	1.4nm,0.7s,baz=108,slow=5.8,SNR=8.4								
VNDA	**Vanda**	**75.98**	**175**	P		P	P	16 26 11.7	-1.5
	1.7nm,0.6s,baz=325,slow=5.7,SNR=6.1								
BVAR	**Borovoye Array**	**80.04**	**325**	P		P	P	16 26 35.8	-0.4
	1.4nm,0.8s,baz=120,slow=8.8,SNR=6.8								
ILAR	**Eielson Array**	**84.78**	**24**	P		P	P	16 26 59.8	-0.9
	1.0nm,0.6s,baz=258,slow=4.5,SNR=14								
TORD	**Torodi Ar. Bea**	**137.86**	**287**	PKP		PKPdf	PKPdf	16 33 51.7	-0.7
	0.8nm,1.0s,baz=29,slow=2.6,SNR=3.1								
DBIC	**Dimbokro**	**145.20**	**278**	PKP		PKPbc	PKPbc	16 34 04.8	-0.4
	9.8nm,0.8s,baz=77,slow=4.9,SNR=14								
LPAZ	**La Paz**	**146.19**	**124**	PKPbc		PKPab	PKPbc	16 34 09.7	+0.1
	4.4nm,1.0s,baz=144,slow=1.3,SNR=3								
CPUP	**Villa Florida**	**146.69**	**150**	PKPbc		PKPbc	PKPbc	16 34 09.3	+0.1
	2.1nm,0.6s,baz=185,slow=2.1,SNR=7.6								

*IDC **15** 16:17:32.9±1.0,1°77S×100°13E, *h*0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, Error ellipse: s-maj=43.3km s-min=16.0km az=61.0*
*DJA **15** 16:17:46.9±0.5,1°S±4°×10°0E±°, *h*36km±7km, M4.0/11, MLv4.0/11*
ISC 15 16:17:42.0±0.8,1°58S±0°09×100°45E±0°08, *h*58km, n24, σ1s82/19, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.66**	**1**	P		P	**Pn**	**16 17 57.9**	**+2.2**
PPI	**Padang Panjang**	**1.11**	**357**	P		P	**Pn**	**16 18 03.4**	**+1.9**
KRJI	**Kerinci**	**1.13**	**117**	P		P	Pn	16 18 08.1	+6.3
SISI	**Saibi**	**1.38**	**280**	P		P	**Pn**	**16 18 08.1**	**+3.0**
BKNI	**Bangkinang**	**1.98**	**17**	P		P	**Pn**	**16 18 15.3**	**+2.1**
RGRI	**Rengat**	**2.24**	**57**	P		P	Pn	16 18 20.1	+3.3
MNSI	**Mandailing Nat**	**2.51**	**340**	P		P	**Pn**	**16 18 23.4**	**+3.0**
KSI	**Kapahiang**	**2.97**	**134**	P		P	Pn	16 18 37.9	+11
MNAI	**Manna**	**3.73**	**138**	P		P	Pn	16 18 42.9	+5.8
GSI	**Gunungsitoli**	**4.06**	**315**	P		P	**Pn**	**16 18 43.5**	**+1.9**
PSI	**Prapat**	**4.61**	**341**	P		P	Pn	**16 18 47.1**	**-2.2**
	0.4nm,0.3s,baz=131,slow=11,SNR=2.4								
MYKOM	**Kota Tinggi**	**4.77**	**45**	P		P	**Pn**	**16 18 53.9**	**+2.6**
CMAR	**Chiang Mai Arr**	**19.96**	**356**	P		P	**P**	**16 22 10.1**	**+0.5**
	1.3nm,0.6s,baz=187,slow=9.9,SNR=12								
WRA	**Warramunga Arr**	**37.82**	**121**	P		P	**P**	**16 24 53.1**	**-0.1**
	0.7nm,0.8s,baz=304,slow=8.0,SNR=4.6								
ASAR	**Alice Springs**	**39.14**	**127**	P		P	**P**	**16 25 04.2**	**-0.1**
	0.7nm,0.7s,baz=293,slow=6.5,SNR=4.4								
CTA	**Charters Tower**	**48.37**	**116**	P		P	**P**	**16 26 19.2**	**+0.7**
	1.1nm,0.3s,baz=275,slow=11,SNR=3.4								
SONM	**Songino Array**	**49.48**	**5**	P		P	**P**	**16 26 26.1**	**-0.5**
	0.9nm,0.6s,baz=184,slow=8.4,SNR=8.9								
MKAR	**Makanchi Array**	**50.75**	**344**	P		P	**P**	**16 26 35.8**	**-0.3**
	0.6nm,0.4s,baz=154,slow=8.4,SNR=11								
USRK	**Ussuriysk Arra**	**53.58**	**28**	P		P	**P**	**16 26 57.0**	**-0.1**
	2.2nm,0.6s,baz=201,slow=3.8,SNR=5.3								
ZALV	**Zalesovo Beam**	**56.84**	**349**	P		P	**P**	**16 27 19.5**	**-0.9**
	1.1nm,0.3s,baz=183,slow=6.2,SNR=9.3								
BVAR	**Borovoye Array**	**59.95**	**340**	P		P	**P**	**16 27 41.4**	**-0.8**
	1.1nm,0.6s,baz=152,slow=9.9,SNR=5.0								
VNDA	**Vanda**	**82.49**	**169**	P		P	**P**	**16 29 55.7**	**-2.1**
	2.7nm,0.4s,baz=331,slow=4.2,SNR=13								
FINES	**FINESS Array B**	**83.95**	**332**	P		P	**P**	**16 30 05.6**	**0.0**
	0.8nm,0.8s,baz=100,slow=6.2,SNR=4.0								
TXAR	**Lajitas Array**	**144.09**	**37**	PKP		PKPbc	PKPbc	16 37 10.5	+0.4
	0.6nm,0.6s,baz=5.3,slow=0.8,SNR=6.2								

*NNC **15** 16:25:38.0±2.0,42°84N×77°49E, *h*0km, mb3.3, mpv2.9, Error ellipse: s-maj=18.7km s-min=9.4km az=20.0*
*KNET **15** 16:25:40.8±0.6,42°85N×77°30E, *h*6km±3km, ml2.9, Error ellipse: s-maj=4.4km s-min=3.7km az=132.0*
ISC 15 16:25:39.0±2.1,42°85N±0°06×77°44E±0°08, *h*0km±15km, n11, σ1s01/17, 9C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.51**	**317**	⇑P			**Pg**	**16 25 48.3**	**-0.3**
KNDC				⇓S			**Sg**	**16 25 56.3**	**+1.1**
ULHL	**Ulahol**	**1.07**	**236**	⇑P			**Pg**	**16 25 59.4**	**-0.1**
	24nm,0.1s,SNR=29								
ULHL				⇑S			**Sb**	**16 26 14.9**	**-0.2**
	51nm,0.1s								
TKM2	**Tokmak 2**	**1.36**	**274**	⇑P			**Pb**	**16 26 05.2**	**-0.2**
	11nm,0.1s,SNR=14								
TKM2				⇓S			**Sn**	**16 26 24.4**	**+0.2**
	88nm,0.1s								
KZA	**Kyzart**	**1.79**	**245**	⇑P			**Pb**	**16 26 12.6**	**-0.4**
	15nm,0.2s,SNR=17								
KZA				⇓S			**Sg**	**16 26 38.0**	**+1.3**
	29nm,0.2s								
KBK	**Karagaybulak**	**1.84**	**265**	⇑P			**Pb**	**16 26 13.6**	**-0.1**
	24nm,0.1s,SNR=34								
CHMS	**Chumysh**	**1.98**	**275**	⇓P			**Pb**	**16 26 15.5**	**-0.4**
	15nm,0.3s,SNR=7.0								
CHMS				⇓S			**Sg**	**16 26 41.9**	**-0.7**
	46nm,0.1s								
USP	**Ospenovka**	**2.19**	**282**	⇓P			**Pb**	**16 26 18.5**	**-1.0**
	20nm,0.2s,SNR=24								
USP				⇓S			**Sg**	**16 26 48.9**	**-0.6**
	100nm,0.3s								
UCH	**Uchtor**	**2.25**	**255**	⇑P			**Pb**	**16 26 20.4**	**-0.4**
	4.3nm,0.2s,SNR=5.6								
EKS2	**Erkin-Say**	**2.70**	**267**	⇓P			**Pb**	**16 26 26.9**	**-1.4**
	5.5nm,0.2s,SNR=6.1								

KK31	**Karatay Array**	**5.09**	**275**	Pg			**Pb**	**16 27 11.3**	**+2.4**
	1.1nm,0.6s,baz=90,slow=15,SNR=13								
KK31				⇓Lg			Lg	16 28 19.9	
	1.7nm,0.3s,baz=95,slow=28,SNR=13								
MK31	**Makanchi Array**	**5.24**	**40**	⇑Pn			**Pn**	**16 26 58.5**	**0.0**
	0.5nm,0.4s,baz=214,slow=15,SNR=6.2								
MK31				⇑Lg			Lg	16 28 19.5	
	0.4nm,0.3s,baz=222,slow=28,SNR=4.5								

IDC 15 16:30:57.2±5.5,22°17N×143°78E, h191km±52km, mb3.1/10, mb1 3.3/11, mb1mx3.2/28, mbtmp3.1/11, Error ellipse: s-maj=24.8km s-min=14.1km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.12**	**343**	P			Pn	16 34 19.7	-1.5
	0.3nm,0.3s,baz=168,slow=8.3,SNR=5.5								
KSRS	**Korea Array**	**20.48**	**322**	P		P	P	16 35 21.4	+1.2
	1.0nm,0.4s,baz=146,slow=8.6,SNR=9.4								
WRA	**Warramunga Arr**	**42.86**	**193**	P		P	P	16 38 36.7	-0.1
	0.5nm,0.5s,baz=12,slow=8.7,SNR=21								
ASAR	**Alice Springs**	**46.56**	**193**	P		P	P	16 39 05.5	-0.5
	0.1nm,0.4s,baz=11,slow=7.5,SNR=5.8								
MKAR	**Makanchi Array**	**54.79**	**312**	P		P	P	16 40 07.4	+0.1
	0.2nm,0.5s,baz=95,slow=6.6,SNR=4.2								
KURBB	**Kurchatov Arra**	**57.56**	**317**	P		P	P	16 40 26.7	-0.1
	1.4nm,0.4s,baz=92,slow=7.8,SNR=15								
ILAR	**Eielson Array**	**61.37**	**27**	P		P	P	16 40 51.4	-1.2
	0.3nm,0.7s,baz=247,slow=5.3,SNR=5.1								
BVAR	**Borovoye Array**	**62.68**	**319**	P		P	P	16 41 01.6	+0.1
	1.4nm,0.4s,baz=88,slow=7.3,SNR=15								
YKA	**Yellowknife Ar**	**75.78**	**28**	P		P	P	16 42 21.7	-0.1
	0.2nm,0.5s,baz=292,slow=5.7,SNR=3.5								
NVAR	**Mina Array Bea**	**82.42**	**52**	P		P	P	16 42 60.0	+1.4
	0.3nm,0.6s,baz=278,slow=6.3,SNR=3.3								
FINES	**FINESS Array B**	**83.00**	**335**	P		P	P	16 42 60.0	-0.8
	0.8nm,0.7s,baz=29,slow=4.4,SNR=5.7								

*MOS **15** 16:33:11.3±2.0,53°48N×108°77E, h14km, mb4.2/1, Error ellipse: s-maj=26.4km s-min=12.6km az=136.0*
BYKL 15 16:33:12.0±0.2,53°68N×108°59E, h12km±5km, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.43**	**167**	⇑	*i*Pg	Pg		16 33 19.6	-0.9
MXMB					*i* Sg	Sg		16 33 25.7	-0.6
MXMB					*e*			16 33 31.5	
MXMB					Pmax				
	423nm,0.1s								
MXMB					Smax				
	2μm,0.8s								
OGRR	**Ongureny**	**0.59**	**267**	⇑	*i*PG		Pb	16 33 24.1	-0.3
OGRR					*e*			16 33 31.3	
OGRR					pmax	pmax			
	comp=Z,154nm,0.1s								
OGRR					smax	smax			
	comp=E,611nm,0.1s								
OGRR	**Ongureny**	**0.59**	**267**	⇑	*i*Pg	Pg		16 33 23.1	-0.5
OGRR					*i* Sg	Sg		16 33 31.2	-0.3
OGRR					Pmax				
	comp=E,153nm,0.1s								
OGRR					Smax				
	comp=E,564nm,0.2s								
SYVR	**Suvo**	**0.84**	**91**	⇑	*i*Pg	Pg		16 33 26.7	-1.6
SYVR					*e*Sg	Sg		16 33 38.0	-1.3
SYVR					Pmax				
	comp=E,87nm,0.2s								
SYVR					Smax				
	comp=E,222nm,0.3s								
ZRHB	**Zarechye**	**1.42**	**218**		*e*Pg	Pn		16 33 37.7	0.0
ZRHB					*i* Sg	Sg		16 33 57.9	0.0
ZRHB					*e*Sb	Sb		16 34 00.5	+3.9
ZRHB					Pmax				
	comp=E,53nm,0.2s								
ZRHB					max				
	comp=E,917nm,0.4s								
TRG	**Tyrgan**	**1.63**	**237**		*e*PN	Pn		16 33 41.1	+0.5
TRG					*e*			16 34 02.3	
TRG					pmax	pmax			
	comp=Z,72nm,0.2s								
TRG					smax	smax			
	comp=N,597nm,0.1s								
TRG	**Tyrgan**	**1.63**	**237**		*e*Pn	Pn		16 33 40.7	+0.1
TRG					*e*Pg	Pb		16 33 41.1	-1.0
TRG					*e*Sg	Sb		16 34 03.4	+0.7
TRG					*e*			16 34 05.5	
TRG					Pmax				
	comp=N,80nm,0.5s								
TRG					max				
	comp=N,677nm,0.3s								
FFNB	**Fofonovo**	**1.98**	**215**		*e*Pn	Pn		16 33 45.3	0.0
FFNB					*e*Pg	Pb		16 33 47.2	-0.7
FFNB					*e*Sn	Sb		16 34 11.3	-1.2
FFNB					*e*Sg	Sg		16 34 13.7	-1.9
FFNB					Pmax				
	comp=N,26nm,0.2s								
FFNB					Smax				
	comp=N,221nm,0.5s								
KAB	**Kabansk**	**2.01**	**216**		*e*Pg	Pb		16 33 47.8	-0.7
KAB					*e*			16 33 56.0	
KAB					*e*Sn	Sb		16 34 12.8	-0.7
KAB					*i* Sg	Sg		16 34 15.3	-1.4
KAB					max				
	comp=N,59nm,0.3s								
KAB					Smax				
	comp=N,570nm,0.5s								
NIZ	**Nizh Angarsk**	**2.17**	**14**		*e*Pn	Pn		16 33 49.6	+1.6
NIZ					*e*Pg	Pb		16 33 50.7	-0.6
NIZ					*e*Sg	Sb		16 34 18.9	+0.8
NIZ					Pmax				
	comp=N,17nm,0.4s								
NIZ					Smax				
	comp=N,139nm,0.4s								
HRMR	**Khuramsha**	**2.28**	**207**		*e*Pn	Pn		16 33 49.9	+0.3
HRMR					*e*Pg	Pb		16 33 52.6	-0.6
HRMR					*e*Sg	Sb		16 34 23.1	+1.7
HRMR					Pmax				
	comp=N,61nm,0.2s								
HRMR					Smax				
	comp=N,971nm,0.5s								
KMO	**Kumora**	**2.68**	**33**		*e*PN	Pn		16 33 55.3	+0.3
KMO					*e*			16 34 00.0	
KMO					*e*S	Sn		16 34 28.2	+0.9
KMO					*e*			16 34 34.9	
KMO					pmax	pmax			
	comp=Z,24nm,0.4s								
KMO					smax	smax			
	comp=N,109nm,0.8s								
KMO	**Kumora**	**2.68**	**33**		*e*Pn	Pn		16 33 56.3	+1.3
KMO				⇑	*i*Pg	Pb		16 34 00.3	+0.4
KMO					*i* Sg	Sg		16 34 35.9	-2.2
KMO					Pmax				
	comp=N,37nm,0.4s								
KMO					Smax				
	comp=N,128nm,1.4s								
LSTR	**Listvyanka**	**2.92**	**233**	⇓	*i*Pn	Pn		16 33 58.7	+0.5
LSTR					*e*Pg	Pb		16 34 03.5	-0.4
LSTR					*e*Sg	Sb		16 34 41.1	+1.5
LSTR					Pmax				
	comp=N,7.0nm,0.4s								
LSTR					Smax				
	comp=N,132nm,1.1s								
IRK	**Irkutsk**	**2.98**	**243**		*e*Pg	Pb		16 34 05.2	+0.1
IRK					*e*Sg	Sb		16 34 42.5	+1.0
IRK					Pmax				
	comp=N,51nm,0.3s								
IRK					Smax				
	comp=N,505nm,0.4s								
YOA	**Uoyan**	**3.05**	**35**		*e*PN	Pb		16 34 06.4	+0.1
YOA					*i*			16 34 48.0	
YOA					pmax	pmax			
	comp=Z,53nm,0.5s								
YOA					smax	smax			
	comp=E,331nm,1.0s								
YOA	**Uoyan**	**3.05**	**35**		*e*Sg	Sg		16 34 47.3	-2.8
YOA					Smax				
	comp=E,232nm,0.6s								
CIT	**Chita**	**3.44**	**117**		*e*Pn	Pn		16 34 04.9	-0.5
CIT					*e*Pg	Pb		16 34 12.7	-0.2
CIT					*e*Sg	Sb		16 34 57.6	+3.0
CIT					Pmax				
	comp=E,26nm,0.1s								
CIT					Smax				
	comp=E,92nm,0.2s								
UKT	**Uakit**	**3.45**	**56**		*e*Pn	Pn		16 34 06.1	+0.5
UKT					*e*Pg	Pb		16 34 12.3	-0.8
UKT					*e*			16 34 16.2	
UKT					*e*Sg	Sb		16 34 57.7	+2.7
UKT					max				
	comp=E,10.0nm,0.6s								
UKT					Smax				
	comp=E,57nm,1.6s								
TLY	**Talaya**	**3.62**	**238**		*e*PN	Pn		16 34 07.9	+0.1
TLY					*e*			16 34 15.5	
TLY					*e*			16 35 01.2	
TLY					pmax	pmax			
	comp=Z,7.0nm,0.3s								
TLY					smax	smax			
	comp=N,113nm,0.9s								
TLY	**Talaya**	**3.62**	**238**		*e*Pn	Pn		16 34 08.1	+0.3
TLY					*e*Pg	Pb		16 34 15.5	-0.4
TLY					*e*Sg	Sb		16 35 02.2	+2.5
TLY					Pmax				
	comp=N,8.0nm,0.4s								
TLY					Smax				
	comp=N,119nm,1.0s								
ARS	**Arshan**	**4.14**	**247**		*e*PN	Pn		16 34 16.6	+1.5
ARS					*e*			16 34 25.5	
ARS					*e*			16 35 16.4	
ARS					pmax	pmax			
	comp=Z,13nm,0.1s								
ARS					smax	smax			
	comp=N,245nm,0.5s								
ARS	**Arshan**	**4.14**	**247**		*e*	Pn		16 34 17.5	+2.4
ARS					*e*Pg	Pb		16 34 23.9	-0.9
ARS					*e*Sg	Sb		16 35 16.6	+1.8
ARS					Pmax				
	comp=N,22nm,0.6s								
ARS					Smax				
	comp=N,245nm,0.6s								
KPC	**Khapcheranga**	**4.63**	**148**		*e*Pn	Pn		16 34 20.4	-1.4
KPC					*e*Pg	Pb		16 34 34.8	+1.6
KPC					*e*Sn	Sn		16 35 12.5	-3.0
KPC					*e*Sg	Sg		16 35 35.2	-5.5
KPC					Pmax				
	comp=N,6.0nm,0.4s								
KPC					Smax				
	comp=N,72nm,1.3s								
ZAK	**Zakamensk**	**4.65**	**227**		*e*Pg	Pb		16 34 36.8	+3.1
ZAK					*e*Sg	Sg		16 35 38.0	-3.6
ZAK					Pmax				
	comp=N,3.0nm,0.4s								
ZAK					Smax				
	comp=N,15nm,0.5s								
NLYR	**Nelyaty**	**4.96**	**53**		*e*PN	Pn		16 34 26.8	+0.5
NLYR					*e*			16 34 40.3	
NLYR					*e*			16 35 43.9	
NLYR					pmax	pmax			
	comp=Z,25nm,0.9s								
NLYR					smax	smax			
	comp=N,61nm,1.7s								
NLYR	**Nelyaty**	**4.96**	**53**		*e*Pn	Pn		16 34 26.8	+0.5
NLYR					*e*Pg	Pb		16 34 40.3	+1.5
NLYR					*e*Sg	Sg		16 35 45.2	-6.1
NLYR					Pmax				
	comp=N,5.0nm,0.6s								
NLYR					Smax				
	comp=N,56nm,1.2s								
MOY	**Mondy**	**5.04**	**249**		*e*PN	Pn		16 34 29.6	+2.0
MOY					*e*			16 34 44.1	
MOY					*e*			16 35 45.8	
MOY					pmax	pmax			
	comp=Z,2.0nm,0.3s								
MOY					smax	smax			
	comp=E,95nm,0.7s								
MOY	**Mondy**	**5.04**	**249**		*e*Pn	Pn		16 34 29.4	+1.8
MOY					*e*Pg	Pb		16 34 43.2	+2.9
MOY					*e*			16 34 45.8	
MOY					*e*			16 35 28.1	
MOY					*i* Sg	Sb		16 35 47.5	+6.5
MOY					max				
	comp=E,6.0nm,0.9s								
MOY					Smax				
	comp=E,91nm,1.4s								
BOD	**Bodaibo**	**5.15**	**34**		*e*Sg	Sg		16 35 52.3	-5.0
BOD					Smax				
	comp=E,14nm,0.5s								
ORL	**Orlik**	**5.41**	**261**		*e*PN	Pn		16 34 34.7	+2.1
ORL					*e*			16 34 50.5	
ORL					*e*			16 36 00.0	
ORL					pmax	pmax			
	comp=Z,6.0nm,0.3s								
ORL					smax	smax			
	comp=N,42nm,0.8s								
ORL	**Orlik**	**5.41**	**261**		*e*Pn	Pn		16 34 34.7	+2.1
ORL					*e*Sn	Sn		16 35 34.6	-0.3
ORL					*e*Sg	Sg		16 36 00.6	-5.4
ORL					max				
	comp=N,14nm,0.5s								
ORL					Smax				
	comp=N,31nm,0.7s								
ULN	**Ulaanbaatar**	**5.90**	**190**		*e*Pg	Pb		16 34 58.1	+3.1
ULN					*e*Sg	Sg		16 36 15.9	-5.9
CRS	**Chara**	**6.40**	**56**		*e*Pg	Pb		16 35 07.8	+4.5
CRS					*e*Sg	Sg		16 36 32.3	-5.1
CRS					Pmax				
	comp=N,3.0nm,1.0s								
CRS					Smax				
	comp=N,13nm,1.1s								
TUP	**Tupik**	**6.73**	**79**		*e*PN	Pn		16 34 50.5	-0.2
TUP					*e*			16 35 11.9	
TUP					*e*S	Sn		16 36 05.7	-1.6
TUP					*e*			16 36 38.9	
TUP					pmax	pmax			
	comp=Z,4.0nm,0.5s								
TUP			

MORC				*e*Sg	**Sn**	**16 39 07.1**	**-0.2**
CLL	**Collm**	**2.02 267**		*e*Pg	**Pb**	**16 38 47.0**	**+0.1**
CLL				*e*Sg	**Sb**	**16 39 13.0**	**+0.5**
OKC	**Ostrava-Krasne**	**2.03 142**		*e*PG	**Pg**	**16 38 48.5**	**+0.1**
OKC				*e*SG	**Sg**	**16 39 15.2**	**+0.5**
	comp=Z,5.6nm,0.7s						
OKC	**Ostrava-Krasne**	**2.03 142**		Pg	**Pg**	**16 38 48.5**	**+0.1**
OKC				Sg	**Sg**	**16 39 15.2**	**+0.5**
	5.6nm,0.7s						
VRAC	**Vranov**	**2.16 173**		*e*Pn	**Pn**	**16 38 46.8**	**+0.1**
NKC	**Novy Kostel**	**2.68 244**		*e*SG	**Sg**	**16 39 34.9**	**-0.6**
	comp=Z,5.2nm,0.3s						
NKC	**Novy Kostel**	**2.68 244**		Sg	**Sg**	**16 39 34.9**	**-0.6**
	5.2nm,0.3s						
KHC	**Kasperske Hory**	**2.87 217**		*e*PN	**Pn**	**16 38 57.0**	**+0.5**
KHC				*e*PG	**Pb**	**16 39 02.5**	**+0.9**
KHC				*e*SN	**Sn**	**16 39 31.0**	**-0.8**
KHC				*e*SG	**Sg**	**16 39 40.4**	**-1.3**
	comp=Z,3.5nm,0.5s						
KHC	**Kasperske Hory**	**2.87 217**		Pn	**Pn**	**16 38 57.0**	**+0.5**
VYHS	**Vyhne**	**3.41 149**		*e*SG	**Sg**	**16 39 58.0**	**-1.0**
VYHS	**Vyhne**	**3.41 149**		*e*Sg	**Sg**	**16 39 58.0**	**-1.0**

IDC 15 16:47:14.0±17.0, 22°.63S×174°.80W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=323.3km s-min=140.1km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.29 267**		P	P	16 54 20.9	+1.3
	4.5nm,0.3s,baz=95,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**39.62 247**		P	P	16 54 46.1	-1.5
	2.1nm,0.9s,baz=95,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**46.97 258**		P	P	16 55 46.2	-0.9
	0.7nm,0.5s,baz=93,slow=6.8,SNR=35						
WRA	**Warramunga Arr**	**47.29 263**		P	P	16 55 49.1	-0.5
	2.0nm,0.3s,baz=98,slow=8.3,SNR=89						
FITZ	**Fitzroy Crossi**	**55.71 263**		P	P	16 56 53.7	+1.0
	3.5nm,1.0s,baz=112,slow=7.3,SNR=5.3						

IDC 15 17:01:50.5±27.0, 22°.96S×175°.96W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/20, mbtmp4.2/4, Error ellipse: s-maj=534.9km s-min=145.7km az=93.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.51 247**		P	P	17 09 13.7	-1.0
	1.3nm,0.4s,baz=89,slow=13,SNR=8.4						
ASAR	**Alice Springs**	**45.85 259**		P	P	17 10 14.3	-0.5
	0.8nm,0.3s,baz=96,slow=7.2,SNR=80						
WRA	**Warramunga Arr**	**46.18 264**		P	P	17 10 17.6	+0.2
	2.6nm,0.3s,baz=99,slow=6.9,SNR=162						
FITZ	**Fitzroy Crossi**	**54.61 264**		P	P	17 11 21.9	+0.7
	2.2nm,0.6s,baz=104,slow=8.4,SNR=11						

IDC 15 17:10:51.5±3.6, 3°.75S×139°.13E, h0km, mb2.8/2, mb1 3.2/3, mb1mx3.1/16, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=133.8km s-min=31.3km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.76 196**		Pn	P	17 14 49.9	-0.4
	0.1nm,0.3s,baz=19,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**20.44 194**		P	P	17 15 29.7	-0.9
	0.2nm,0.5s,baz=23,slow=9.7,SNR=8.0						
MKAR	**Makanchi Array**	**70.86 322**		P	P	17 22 10.4	+0.1
	0.1nm,0.5s,baz=120,slow=10,SNR=2.7						

*ISCJB **15** 17:13:14.5±0.4, 6°.64S±0°.05×127°.43E±0°.04, h10km, mb4.0/9, MS3.1/1, Error ellipse: s-maj=7.2km s-min=5.6km az=35.0*
*AUST **15** 17:13:14.9±2.4, 6°.63S×127°.39E, h0km, Error ellipse: s-maj=0.9km s-min=0.8km az=272.0*
*IDC **15** 17:13:14.8±0.7, 6°.68S×127°.38E, h0km, mb4.1/9, mb1 4.2/13, mb1mx4.1/23, mbtmp4.2/13, ML3.9/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/32, Error ellipse: s-maj=24.9km s-min=15.2km az=63.0*

ISC 15 17:13:16.3±0.5, 6°.61S±0°.07×127°.40E±0°.06, h10km, n32, σ1§23/31, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.01**	**15**	P	**Pn**	**17 14 03.3**	**-0.7**
	baz=3.1,SNR=7.1						
SWI	**Sorong**	**6.88**	**34**	P	**Pn**	**17 14 57.8**	**+0.5**
	baz=6.9,SNR=4.0						
MTN	**Manton Dam**	**7.21**	**150**	P	**Pn**	**17 15 02.0**	**+0.2**
	baz=7.2,SNR=6.5						
WSI	**Waingapu**	**7.66**	**246**	S	**Sn**	**17 16 38.2**	**+3.3**
	baz=7.6,SNR=3.5						
KAPI	**Kappang**	**7.77**	**281**	Pn	Pn	17 15 11.0	+1.5
	1.6nm,0.3s,baz=143,slow=8.2,SNR=17						
KAPI				Sn	**Sn**	**17 16 37.6**	**0.0**
	0.3nm,0.3s,baz=40,slow=22,SNR=4.3						
KAPI				LR	LR	17 18 09.5	
	comp=Z,64nm,19.5s,baz=114,slow=38						
KDU	**Kakadu**	**7.85**	**141**	P	**Pn**	**17 15 10.2**	**-0.4**
	baz=7.9,SNR=39						
FITZ	**Fitzroy Crossi**	**11.55**	**188**	Pn	**Pn**	**17 16 00.0**	**-1.4**
	0.5nm,0.3s,baz=38,slow=13,SNR=10						
FITZ				Sn	Sn	17 17 59.2	-11
	1.6nm,0.3s,baz=50,slow=17,SNR=7.8						
FITZ				LR	LR	17 21 14.4	
	comp=Z,61nm,20.0s,baz=234,slow=42						
FITZ	**Fitzroy Crossi**	**11.55**	**188**	P	**Pn**	**17 16 01.1**	**-0.3**
	baz=12,SNR=13						
FITZ				S	Sn	17 18 00.3	-10
	baz=12,SNR=8.1						
WRA	**Warramunga Arr**	**14.87**	**154**	Pn	Pn	17 16 41.6	-5.2
	0.6nm,0.3s,baz=324,slow=14,SNR=38						
WRA				Sn	Sn	17 19 18.3	-14
	0.7nm,0.3s,baz=331,slow=22,SNR=5.7						
COEN	**Coen**	**17.15**	**116**	P	**P**	**17 17 18.1**	**+0.1**
	baz=17,SNR=7.8						
ASAR	**Alice Springs**	**18.08**	**160**	P	**Pn**	**17 17 26.3**	**-1.5**
	1.7nm,0.3s,baz=334,slow=11,SNR=46						
ASAR				S	Sn	17 20 39.7	-10
	0.3nm,0.3s,baz=311,slow=19,SNR=6.2						
KSM	**Kuching**	**18.85**	**295**	S	**S**	**17 21 07.0**	**-4.3**
	baz=19,SNR=3.7						
PMG	**Port Moresby**	**19.77**	**99**	P	**Pn**	**17 17 47.0**	**-1.3**
	0.5nm,0.3s,baz=268,slow=11,SNR=6.7						
MEEK	**Meekatharra**	**21.61**	**202**	P	**P**	**17 18 06.6**	**0.0**
	baz=22,SNR=8.0						
MORW	**Morawa**	**24.78**	**204**	P	**P**	**17 18 38.4**	**0.0**
	baz=25,SNR=4.5						
QLP	**Quilpie**	**25.53**	**143**	P	**P**	**17 18 45.4**	**+0.2**
	baz=26,SNR=36						
NWAO	**Narrogin (SRO)**	**27.84**	**199**	P	**P**	**17 19 05.7**	**-0.4**
	7.5nm,0.6s,baz=37,slow=7.8,SNR=7.4						
STKA	**Stephens Creek**	**28.43**	**154**	P	**P**	**17 19 11.0**	**-0.3**
	4.4nm,0.5s,baz=320,slow=8.3,SNR=15						
STKA	**Stephens Creek**	**28.43**	**154**	P	**P**	**17 19 11.2**	**-0.1**
	baz=28,SNR=6.7						
PSI	**Prapat**	**29.92**	**287**	P	**P**	**17 19 24.2**	**-0.7**
	6.5nm,0.8s,baz=124,slow=8.8,SNR=3.8						
CMSA	**Cobar Meteorol**	**30.13**	**148**	P	**P**	**17 19 26.9**	**+0.5**
	baz=30,SNR=8.5						
GSI	**Gunungsitoli**	**30.78**	**284**	S	**S**	**17 24 35.5**	**-0.5**
	baz=31,SNR=14						
HNR	**Honiara**	**32.35**	**97**	LR	LR	17 33 24.1	
	comp=Z,38nm,18.3s,baz=138,slow=37						
ARPS	**Mount Arapiles**	**32.80**	**158**	P	**P**	**17 19 50.9**	**+1.1**
	baz=33,SNR=6.2						
MILA	**Mila**	**36.23**	**150**	P	P	17 20 05.2	-14
	baz=36,SNR=23						
MILA				S	S	17 26 08.4	+8.4
	baz=36,SNR=7.4						
CMAR	**Chiang Mai Arr**	**37.52**	**312**	P	**P**	**17 20 31.8**	**+1.0**
	0.4nm,0.7s,baz=145,slow=7.4,SNR=4.6						
CMAR				PcP	**PcP**	**17 22 49.9**	**+0.8**
	1.1nm,0.9s,baz=168,slow=2.5,SNR=7.7						
KSRS	**Korea Array**	**43.83**	**1**	P	**P**	**17 21 23.5**	**+0.9**
	1.1nm,0.6s,baz=180,slow=8.9,SNR=4.4						
SONM	**Songino Array**	**57.29**	**343**	P	**P**	**17 23 05.0**	**+0.7**
	1.1nm,0.9s,baz=156,slow=7.5,SNR=11						
SONM				PcP	**PcP**	**17 23 59.2**	**+0.7**
	0.5nm,0.6s,baz=164,slow=5.2,SNR=4.3						
MKAR	**Makanchi Array**	**66.50**	**328**	P	**P**	**17 24 06.4**	**+0.1**
	0.8nm,0.6s,baz=127,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**70.11**	**335**	P	**P**	**17 24 28.4**	**-0.3**
	0.3nm,0.4s,baz=159,slow=4.3,SNR=3.6						
AKTO	**Aktyubinsk**	**82.19**	**323**	P	**P**	**17 25 38.1**	**+0.6**
	1.6nm,0.7s,baz=120,slow=5.3,SNR=6.6						
YKA	**Yellowknife Ar**	**108.53**	**26**	PKiKP	**PKiKP**	**17 31 44.4**	**-0.6**
	0.2nm,0.7s,baz=289,slow=1.8,SNR=4.7						

MAN 15 17:34:32, 16°.18N×119°.86E, h23km, mb4.0, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.21**	**14**	*e*P	P	17 34 38.9	-0.9
BOLP				*e*S	Sb	17 34 44.8	+3.4
SCZP	**Santa Cruz**	**0.40**	**173**	*e*P	Pn	17 34 42.3	-0.1
SCZP				*e*S	Sn	17 34 50.9	+1.6
BCPH	**Baguio City Da**	**0.72**	**74**	⇑*i*P	Pn	17 34 47.3	+0.3
BCPH				*i* S	Sn	17 34 58.8	+1.3
CAUP	**Cauayan**	**2.03**	**68**	*e*P	Pb	17 35 08.1	-0.1

*BJI **15** 18:08:24.9, 30°.07S×177°.48W, h15km, mB5.6/21, mb5.1/25, Ms5.3/17, Ms7 5.0/17*
*MOS **15** 18:08:29.1±0.9, 30°.04S×177°.90W, h33km, mb5.4/28, Error ellipse: s-maj=13.1km s-min=10.9km az=109.6*
*NEIC **15** 18:08:30.3±0.7, 30°.28S×177°.77W, h43km±6km, mb5.1/33, Error ellipse: s-maj=7.5km s-min=5.5km az=120.0*
*ISCJB **15** 18:08:31.5±0.1, 30°.12S±0°.04×178°.06W±0°.03, h50km, mb5.1/60, MS4.4/33, Error ellipse: s-maj=6.4km s-min=3.6km az=155.4*
*IDC **15** 18:08:32.3±2.8, 29°.96S×177°.90W, h50km±23km, mb4.7/18, mb1 4.9/18, mb1mx4.8/21, mbtmp4.7/18, MS4.4/26, Ms1 4.4/26, ms1mx4.3/33, Error ellipse: s-maj=16.6km s-min=15.7km az=8.0*
*AUST **15** 18:08:33.9±0.0, 29°.94S×177°.76W, h62km, Error ellipse: s-maj=1.3km s-min=0.8km az=284.0*
*GCMT **15** 18:08:35.5±0.2, 30°.03S×177°.67W, h55km±1km, MW5.1, Moment Tensor Solution. s54,c83; s76,c111; Moment tensor: Scale 10^{16}Nm; M_{rr}5.98±.21; $M_{\theta\theta}$0.29±.18; $M_{\phi\phi}$-6.28±.16; $M_{r\theta}$0.45±.12; $M_{\theta\phi}$-0.75±.14; $M_{\phi r}$2.31±.13; Best double couple: $M_0$6.60000×10^{16} NP1:ϕ_s185.00000°, δ35.00000°, λ87.00000°. NP2:ϕ_s8.00000°, δ55.00000°, λ92.00000°. Principal axes: T 6.4200, Plg79.0000°, Azm286.0000°; N 0.3700, Plg2.0000°, Azm187.0000°; P -6.8000, Plg10.0000°, Azm97.0000°; Data Used: II IC G IU CN.*
*BGS **15** 18:08:56.3±17.0, 30°.28S×177°.77W, h40km, mb5.1(NEIC)*
*DJA **15** 18:09:11.8±6.8, 31°.S±35°×17°.9W±4°.2, h377km±57km, M5.0/9, mB5.0/2, mb5.0/9, Mw(mB)4.4/2*

ISC 15 18:08:31.8±0.3, 30°.20S±0°.05×177°.77W±0°.06, h50km, n658, σ1§51/659, mb5.1/61, MS4.4/33, 123C-112D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**352**	*e*Pg	**Pn**	**18 08 47.5**	**-1.4**
RAO				*e*Sg	**Sn**	**18 08 57.4**	**-4.1**
OUZ	**Omahuta**	**8.83**	**233**	*e*Pn	Pn	18 10 34.4	-2.3
URZ	**Urewera**	**9.09**	**206**	P	Pn	18 10 36.6	-3.6
	2.2nm,0.3s,baz=46,slow=12,SNR=17						
URZ				S	**Sn**	**18 12 17.3**	**-3.7**
	40nm,0.3s,baz=252,slow=22,SNR=25						
URZ	**Urewera**	**9.09**	**206**	*e*Pn	Pn	18 10 36.7	-3.6
URZ				S	**Sn**	**18 12 17.3**	**-3.7**
URZ				*e*Sn	Sn	18 12 18.5	-2.5
SNZO	**South Karori**	**12.65**	**207**	*e*Pn	**Pn**	**18 11 27.1**	**-1.8**
MSVF	**Nonsavu**	**12.99**	**342**	*e*P	**Pn**	**18 11 32.7**	**-1.0**
MSVF	**Nonsavu**	**12.99**	**342**	*e*Pn	**Pn**	**18 11 32.7**	**-1.0**
NIUE	**Niue**	**13.17**	**34**	S	Sn	18 13 43.9	-17
	baz=13,SNR=4.5						
KHZ	**Kahutara**	**14.05**	**207**	*e*Pn	**Pn**	**18 11 46.2**	**-1.8**
RPZ	**Rata Peaks**	**16.16**	**210**	*e*Pn	**Pn**	**18 12 12.9**	**-2.4**
	74nm,1.6s						
DZM	**Mont Dzumac**	**16.32**	**296**	*e*P	**P**	**18 12 23.5**	**+3.6**
	251nm,1.4s						
DZM				*e*LR	LR	18 16 02.0	
	5μm,25.6s						
DZM	**Mont Dzumac**	**16.32**	**296**	P	**P**	**18 12 21.1**	**+1.3**
	0.8nm,0.3s,baz=98,slow=12,SNR=12						
DZM				LR	LR	18 17 20.1	
	comp=Z,2μm,18.5s,baz=148,slow=33						
DZM	**Mont Dzumac**	**16.32**	**296**	*e*P	**P**	**18 12 22.5**	**+2.7**
DZM	**Mont Dzumac**	**16.32**	**296**	P	**P**	**18 12 21.1**	**+1.3**
AFI	**Afiamalu**	**17.13**	**20**	P	Pn	18 12 19.6	-8.2
	1.8nm,0.3s,baz=91,slow=21,SNR=4.1						
AFI				S	Sn	18 15 19.2	-18
	4.2nm,0.3s,baz=22,slow=24,SNR=4.3						
AFI	**Afiamalu**	**17.13**	**20**	P	Pn	18 12 19.6	-8.2
AFI				*e*Pn	**P**	**18 12 26.9**	**-2.0**
AFI				S	Sn	18 15 19.2	-18
ODZ	**Otahua Downs**	**17.40**	**208**	*e*Pn	**Pn**	**18 12 29.1**	**-1.7**
	14nm,0.8s						
TBI	**Tuiui**	**26.13**	**82**	*e*S	S	18 18 41.7	+12
	573nm,30.0s						
TBI				*e*LR	LR	18 20 43.6	
	2μm,26.5s						
ARMA	**Armidale**	**26.39**	**262**	*e*P	**P**	**18 14 03.9**	**+0.2**
	33nm,0.8s						
ARMA	**Armidale**	**26.39**	**262**	P	**P**	**18 14 06.9**	**+3.3**
	baz=26,SNR=12						
MGCD	**Mangrove Creek**	**26.60**	**255**	P	**P**	**18 14 09.0**	**+3.6**
	baz=27,SNR=12						
EIDS	**Eidsvold**	**27.93**	**272**	*e*P	**P**	**18 14 18.1**	**+0.7**
	27nm,0.7s						
EIDS	**Eidsvold**	**27.93**	**272**	P	**P**	**18 14 18.9**	**+1.5**
	baz=28,SNR=12						
CNB	**Canberra Magne**	**28.03**	**251**	P	**P**	**18 14 20.9**	**+2.6**
	baz=28,SNR=11						
MILA	**Mila**	**28.28**	**247**	P	**P**	**18 14 23.1**	**+2.6**
	baz=28,SNR=9.0						
CAN	**Canberra**	**28.33**	**251**	*e*P	**P**	**18 14 21.1**	**+0.2**
CAN				pmax	pmax		
	comp=Z,61nm,1.1s						
CAN	**Canberra**	**28.33**	**251**	*e*P	**P**	**18 14 21.1**	**+0.2**
	comp=Z,61nm,1.1s						
PPT2	**Papeete2**	**28.58**	**70**	*e*S	S	18 19 16.6	+8.3
	comp=Z,381nm,29.2s						
PPT2				*e*LQ	LQ	18 20 20.5	
	comp=Z,699nm,24.1s						
PPT2				*e*LR	LR	18 21 45.6	
	comp=Z,2μm,26.2s						
PPT	**Papeete**	**28.59**	**70**	LR	LR	18 22 26.6	
	comp=Z,916nm,21.5s,baz=202,slow=29						
YNG	**Young**	**28.83**	**253**	P	**P**	**18 14 27.8**	**+2.5**
	baz=29,SNR=22						
HNR	**Honiara**	**29.33**	**310**	LR	LR	18 24 17.6	
	comp=Z,463nm,20.3s,baz=336,slow=32						
RMQ	**Roma**	**29.63**	**269**	P	**P**	**18 14 34.6**	**+2.1**
	baz=30,SNR=115						
TOO	**Toolangi**	**31.23**	**246**	P	**P**	**18 14 48.3**	**+1.7**
	baz=31,SNR=9.6						
CMSA	**Cobar Meteorol**	**31.30**	**258**	P	**P**	**18 14 48.7**	**+1.5**
	baz=31,SNR=30						
QLP	**Quilpie**	**33.52**	**267**	P	**P**	**18 15 07.6**	**+0.9**
	baz=34,SNR=73						
CTA	**Charters Tower**	**33.97**	**279**	LR	LR	18 26 49.0	
	comp=Z,1μm,21.6s,baz=114,slow=32						
CTAO	**Charters Tower**	**33.97**	**279**	*e*P	**P**	**18 15 11.5**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,88nm,0.6s						
CTAO	**Charters Tower**	**33.97**	**279**	*e*P	**P**	**18 15 11.5**	**+0.8**
	comp=Z,88nm,0.6s						
ARPS	**Mount Arapiles**	**34.13**	**248**	P	**P**	**18 15 13.7**	**+1.7**
	baz=34,SNR=6.3						
STKA	**Stephens Creek**	**34.72**	**257**	P	**P**	**18 15 18.3**	**+1.3**
	comp=Z,69nm,0.8s,baz=93,slow=9.4,SNR=126						
STKA				LR	LR	18 28 24.9	
	comp=Z,948nm,18.2s,baz=280,slow=34						
STKA	**Stephens Creek**	**34.72**	**257**	*e*P	**P**	**18 15 18.4**	**+1.3**
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**34.72**	**257**	P	**P**	**18 15 18.4**	**+1.3**
	baz=35,SNR=119						
PMG	**Port Moresby**	**38.70**	**295**	P	**P**	**18 15 50.8**	**-0.3**
	comp=Z,11nm,0.9s,baz=25,slow=2.0,SNR=4.1						
PMG	**Port Moresby**	**38.70**	**295**	P	**P**	**18 15 50.8**	**-0.3**
RKT	**Rikitea**	**38.72**	**90**	*e*LR	LR	18 26 34.7	
	comp=Z,1μm,26.8s						
BBOO	**Buckleboo**	**39.22**	**254**	*e*P	**P**	**18 15 55.1**	**-0.1**
	comp=Z,858nm,1.0s						
BBOO	**Buckleboo**	**39.22**	**254**	P	**P**	**18 15 55.0**	**-0.2**
	baz=39,SNR=31						
COEN	**Coen**	**39.41**	**286**	*e*P	**P**	**18 15 58.0**	**+1.0**
COEN	**Coen**	**39.41**	**286**	P	**P**	**18 15 57.7**	**+0.7**
	baz=39,SNR=14						
QIS	**Mount Isa**	**39.50**	**274**	P	**P**	**18 15 58.6**	**+0.8**
	baz=40,SNR=8.0						
AS31	**Alice Springs**	**43.32**	**267**	*e*P	**P**	**18 16 28.3**	**-0.8**
ASAR	**Alice Springs**	**43.32**	**267**	P	**P**	**18 16 28.2**	**-0.9**
	comp=Z,24nm,0.6s,baz=104,slow=7.2,SNR=156						
ASAR				PcP	**PcP**	**18 18 16.8**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=121,slow=3.8,SNR=4.2						
ASAR				ScP	**ScP**	**18 22 05.7**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=116,slow=3.7,SNR=6.9						
ASAR				LR	LR	18 34 14.0	
	comp=Z,994nm,18.3s,baz=123,slow=36						
ASAR	**Alice Springs**	**43.32**	**267**	P	**P**	**18 16 28.2**	**-0.9**
ASAR				PcP	**PcP**	**18 18 16.8**	**-0.5**
ASAR				ScP	**ScP**	**18 22 05.7**	**+1.2**
WRAB	**Tennant Creek**	**44.29**	**272**	*e*P	**P**	**18 16 35.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,70nm,0.8s						
WRAB	**Tennant Creek**	**44.29**	**272**	*e*P	**P**	**18 16 35.9**	**-0.9**
	comp=Z,70nm,0.8s						
WRAB	**Tennant Creek**	**44.29**	**272**	P	**P**	**18 16 36.0**	**-0.9**
	comp=Z,520nm,0.7s						
WRA	**Warramunga Arr**	**44.29**	**272**	P	**P**	**18 16 35.9**	**-1.0**
	comp=Z,25nm,0.3s,baz=110,slow=8.1,SNR=336						
WRA				ScP	**ScP**	**18 22 09.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=99,slow=4.0,SNR=5.1						
WRA				PKiKP	**PKiKP**	**18 25 19.2**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=109,slow=0.4,SNR=5.3						
WRA				LR	LR	18 33 26.2	
	comp=Z,754nm,21.8s,baz=105,slow=34						
WRA	**Warramunga Arr**	**44.29**	**272**	P	**P**	**18 16 35.9**	**-1.0**
WRA				ScP	**ScP**	**18 22 09.2**	**+0.7**
WRA				PKiKP	**PKiKP**	**18 25 19.2**	**-1.9**
FORT	**Forrest**	**46.29**	**255**	*e*P	**P**	**18 16 50.8**	**-1.7**
FORT	**Forrest**	**46.29**	**255**	P	**P**	**18 16 51.3**	**-1.3**
	baz=46,SNR=24						
JAY	**Jayapura**	**47.99**	**297**	P	**P**	**18 17 05.6**	**-0.4**
	baz=48,SNR=3.6						
SBA	**Scott Base**	**48.25**	**184**	*e*P	P	18 17 10.6	+3.5
SBA	**Scott Base**	**48.25**	**184**	*e*P	P	18 17 10.6	+3.5
VNDA	**Vanda**	**48.31**	**186**	P	**P**	**18 17 10.8**	**+3.2**
	comp=Z,4.5nm,0.8s,baz=16,slow=9.0,SNR=7.7						
VNDA				LR	LR	18 34 00.4	
	comp=Z,178nm,18.4s,baz=27,slow=32						
VNDA	**Vanda**	**48.31**	**186**	P	**P**	**18 17 10.8**	**+3.2**
MTN	**Manton Dam**	**50.15**	**279**	P	**P**	**18 17 21.4**	**-1.1**
	baz=50,SNR=9.8						
TLE	**Tual**	**52.52**	**288**	P	**P**	**18 17 40.5**	**+0.2**
	baz=52,SNR=3.1						
FITZ	**Fitzroy Crossi**	**52.56**	**270**	P	**P**	**18 17 39.8**	**-0.7**
	comp=Z,16nm,0.8s,baz=135,slow=6.8,SNR=26						
FITZ				LR	LR	18 38 25.3	
	comp=Z,486nm,21.9s,baz=106,slow=34						
FITZ	**Fitzroy Crossi**	**52.56**	**270**	P	**P**	**18 17 39.8**	**-0.7**
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.56**	**270**	P	**P**	**18 17 39.8**	**-0.7**
	baz=52,SNR=17						
KLBR	**Kellerberrin**	**54.60**	**251**	P	**P**	**18 17 53.7**	**-1.7**
	baz=55,SNR=7.8						
CASY	**Casey**	**55.41**	**208**	*e*P	P	18 17 57.1	-3.4
	comp=Z,42nm,1.0s						
MEEK	**Meekatharra**	**55.42**	**257**	P	**P**	**18 17 59.4**	**-2.0**
	baz=55,SNR=11						
SWI	**Sorong**	**56.46**	**291**	P	**P**	**18 18 08.4**	**-0.4**
	baz=56,SNR=11						
GUMO	**Guam**	**56.48**	**315**	LR	LR	18 38 38.8	
	comp=Z,208nm,21.0s,baz=118,slow=32						
MORW	**Morawa**	**56.78**	**253**	P	**P**	**18 18 09.6**	**-1.4**
	baz=57,SNR=8.1						
PALU	**Palau**	**59.09**	**301**	P	**P**	**18 18 26.1**	**-1.1**
	baz=59,SNR=3.9						
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**18 18 35.2**	**+2.8**
	comp=Z,40nm,1.0s,baz=38,slow=3.5,SNR=45						
QSPA				LR	LR	18 38 27.9	
	comp=Z,281nm,20.8s,baz=227,slow=30						
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**18 18 35.2**	**+2.8**
KAPI	**Kappang**	**63.77**	**280**	LR	LR	18 47 15.6	
	comp=Z,202nm,18.7s,baz=120,slow=36						
BUKP	**Musuan**	**66.62**	**295**	*e*P	**P**	**18 19 16.3**	**-1.1**
CTBH	**Cotabato--PC H**	**66.87**	**294**	⇓*i*P	**P**	**18 19 18.1**	**-0.8**
PAGZ	**Pagadian**	**67.93**	**294**	*e*P	**P**	**18 19 25.1**	**-0.6**
MSLP	**Maasin**	**68.16**	**297**	*e*P	**P**	**18 19 25.7**	**-1.4**
IPIL	**Ipil**	**68.54**	**293**	*e*P	**P**	**18 19 28.7**	**-0.7**
CBIJ	**Chichi jima**	**68.65**	**322**	LR	LR	18 44 19.6	
	comp=Z,194nm,19.2s,baz=129,slow=31						
OCLP	**Ormoc**	**68.92**	**297**	*e*P	**P**	**18 19 30.4**	**-1.3**
UGM	**Wanagama**	**70.27**	**272**	P	**P**	**18 19 39.6**	**-0.7**
	baz=70,SNR=4.2						
MYLDM	**Lahad Datu**	**70.33**	**288**	P	**P**	**18 19 40.9**	**+0.4**
	comp=Z,26nm,0.9s						
PMSA	**Palmer Station**	**72.36**	**156**	*e*P	**P**	**18 19 49.7**	**-2.2**
	comp=Z,148nm,1.1s						
MAW	**Mawson**	**72.56**	**200**	LR	LR	18 50 21.6	
	comp=Z,716nm,19.0s,baz=118,slow=34						
KKM	**Kota Kinabalu**	**72.69**	**288**	*e*P	**P**	**18 19 53.0**	**-1.9**
	comp=Z,28nm,0.8s						
**

YSS pmax pmax
comp=Z,60nm,1.3s
YSS Yuzh-Sakhalins 84.66 334 *e*P **P 18 20 59.8 +0.1**
comp=Z,39nm,0.9s
MURC Murrieta 85.45 47 ⇑P **P 18 21 06.3 +2.2**
baz=86
MONP Monument Peak 85.48 48 ⇑P **P 18 21 06.2 +1.7**
baz=86
BFSC Mount Baldy Ra 85.58 46 ⇓P **P 18 21 06.4 +1.5**
baz=86
PSI Prapat 85.61 276 LR LR 18 59 44.6
comp=Z,358nm,19.6s,baz=137,slow=36
PSI Prapat 85.61 276 P **P 18 21 03.7 -1.8**
baz=86,SNR=5.7
PEA0B Petropavlovsk- 85.67 345 *e*P **P 18 21 06.5 +1.9**
PETK Petropavlovsk- 85.67 345 P **P 18 21 04.7 0.0**
comp=Z,20nm,0.6s,baz=123,slow=7.9,SNR=53
PETK LR LR 18 52 15.5
comp=Z,138nm,21.0s,baz=339,slow=31
PETK Petropavlovsk- 85.67 345 P **P 18 21 04.7 0.0**
PETK Petropavlovsk- 85.67 345 P **P 18 21 04.7 0.0**
VES Vestal, Richgr 85.77 44 ⇓P **P 18 21 07.0 +1.4**
baz=86,SNR=5.7
EDW2 Edwards Air Fo 85.80 45 ⇑P **P 18 21 07.9 +2.1**
baz=86
PFO Pinyon Flat Ob 85.93 47 *e*P **P 18 21 06.5 -0.1**
comp=Z,7.6nm,1.0s
PFO Pinyon Flat Ob 85.93 47 ⇓P **P 18 21 08.5 +1.9**
baz=86
ISA Isabella 86.02 45 ⇓P **P 18 21 09.0 +2.1**
baz=86,SNR=6.2
GSI Gunungsitoli 86.03 274 P **P 18 21 07.4 -0.1**
baz=86,SNR=11
NJ2 Nanjing 86.27 310 *e*P **P 18 21 10.1 +2.0**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=N,140nm,19.4s
NJ2 LR LR
comp=E,150nm,15.2s
LRMC Laurel Mountai 86.37 45 ⇓P **P 18 21 10.6 +1.8**
baz=87,SNR=9.8
RRX Edison Barstow 86.41 46 ⇓P **P 18 21 10.7 +1.9**
baz=87
BELC Belle Mtn. Jos 86.47 47 ⇑P **P 18 21 11.6 +2.3**
baz=87
BC3 Big Chuckawall 86.59 48 ⇓P **P 18 21 12.2 +2.3**
baz=87
GLA Glamis 86.61 49 *e*P **P 18 21 11.3 +1.4**
GLA pmax pmax
comp=Z,12nm,1.0s
GLA Glamis 86.61 49 *e*P **P 18 21 11.3 +1.4**
comp=Z,12nm,1.0s
GLA Glamis 86.61 49 ⇑P **P 18 21 12.4 +2.5**
baz=87
HEC Hector,Ludlow 86.79 46 ⇑P **P 18 21 12.9 +2.1**
baz=87
GSC Goldstone 86.80 46 ⇑P **P 18 21 12.5 +1.7**
baz=87,SNR=11
MPMC Manual Prospec 86.88 45 ⇑P **P 18 21 12.9 +1.6**
baz=87,SNR=12
USRK Ussuriysk Arra 87.10 326 P **P 18 21 11.8 -0.1**
comp=Z,11nm,0.9s,baz=180,slow=3.5,SNR=5.9
USRK LR LR 18 56 52.7
comp=Z,139nm,21.3s,baz=39,slow=33
IRM Iron Mountain 87.11 47 ⇓P **P 18 21 14.6 +2.3**
baz=87
113A Mohawk Valley, 87.13 49 ⇑P **P 18 21 13.9 +1.6**
baz=87
GMRC Granite Mounta 87.18 47 ⇑P **P 18 21 14.7 +1.9**
baz=88
Y12C Blythe 87.25 48 ⇓P **P 18 21 14.9 +1.9**
baz=88
214A Organ Pipe Nat 87.26 50 ⇓P **P 18 21 15.0 +1.9**
baz=88
TUQ Turquoise Moun 87.44 46 ⇑P **P 18 21 15.9 +1.9**
baz=88
SHOC Shoshone 87.52 46 ⇑P **P 18 21 16.4 +2.3**
baz=88
FURC Furnace Creek, 87.53 45 ⇑P **P 18 21 16.1 +1.9**
baz=88
GRAC Grapevine Rang 87.57 44 ⇓P **P 18 21 16.5 +2.1**
baz=88
LDFC Landfair 87.72 47 *e*P **P 18 21 16.5 +1.2**
comp=Z,20nm,1.0s
PDMCI Parker Dam,Lak 87.85 48 ⇓P **P 18 21 18.0 +2.3**
baz=88
NVAR Mina Array Bea 87.96 43 P **P 18 21 17.9 +1.4**
comp=Z,7.0nm,0.8s,baz=221,slow=8.3,SNR=53
NVAR PKKPbc **PKKPbc 18 39 05.3 +2.2**
comp=Z,0.3nm,0.5s,baz=60,slow=3.6,SNR=3.6
NVAR LR LR 18 57 57.8
comp=Z,245nm,18.3s,baz=94,slow=34
NVAR Mina Array Bea 87.96 43 P **P 18 21 17.9 +1.4**
NVAR PKKPbc **PKKPbc 18 39 05.3 +2.2**
Z14A Wintersburg 88.04 49 ⇓P **P 18 21 19.0 +2.3**
baz=88
NV11 Mina Array Sit 88.05 43 *e*P **P 18 21 17.2 +0.4**
Y14A Wickenburg 88.36 49 ⇑P **P 18 21 20.3 +2.0**
baz=89,SNR=8.3
W13A Hualapai Mount 88.51 47 ⇑P **P 18 21 21.3 +2.1**
baz=89,SNR=9.0
MDJ Mudanjiang 88.58 325 P P 18 21 22.6 +3.6
MDJ pP PcP 18 21 25.8 +5.3
MDJ sP sP 18 21 27.1 -12
MDJ PP **PP 18 24 48.8 +0.5**
MDJ S **ScS 18 32 10.8 +4.1**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,190nm,4.5s
MDJ LR LR
comp=N,56nm,27.0s
MDJ LR LR
comp=E,71nm,28.4s
MDJ LR LR
comp=Z,130nm,30.6s
HABR Khabarovsk 88.97 331 *e*PP **pP 18 21 39.2 +3.9**
HABR *e**PP 18 24 49.8
HABR *e* 18 26 46.1
HABR *e*PPP PPP 18 32 06.6
HABR *e*S **SKSac 18 31 42.3 -3.5**
HABR *e* 18 41 32.2
HABR *e*SS **SS 18 37 57.0 -2.3**
HABR *e*SSS SSS 18 41 32.2
HABR pmax pmax
comp=E,40nm,2.0s
HABR pmax pmax
comp=N,16nm,1.5s
HABR pmax pmax
comp=Z,35nm,1.2s
HABR MLR MLR
comp=Z,123nm,20.0s
319A Douglas 89.30 53 ⇓P **P 18 21 25.1 +2.3**
baz=90,SNR=6.0
R11A Troy Canyon, C 89.52 44 ⇓P **P 18 21 25.5 +1.7**
baz=90
X16A Lo Mia Camp, P 89.67 49 ⇑P **P 18 21 26.9 +2.2**
baz=90,SNR=18
320A Kipp Ranch, An 89.80 53 ⇑P **P 18 21 27.7 +2.5**
baz=90,SNR=10
CN2 Changchun 90.11 323 *e*P **P 18 21 26.0 -0.1**
CN2 *e*sP sP 18 21 33.0 -13
CN2 *e*S **ScS 18 32 17.9 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
220A Playas Peak, P 90.13 53 ⇑P **P 18 21 29.0 +2.2**
baz=90,SNR=15
U15A North Rim 90.35 47 ⇓P **P 18 21 30.2 +2.4**
baz=91,SNR=11
WUAZ Wupatki 90.38 48 ⇑P **P 18 21 29.9 +2.1**
baz=91,SNR=9.8
R13A O'Grain Ranch, 90.39 45 ⇑P **P 18 21 30.2 +2.3**
baz=91
120A U Bar Ranch, L 90.43 52 ⇓P **P 18 21 30.4 +2.2**
baz=91
221A Mesquite Ranch 90.71 53 ⇑P **P 18 21 31.7 +2.3**
baz=91
X18A Snowflake 90.72 50 ⇑P **P 18 21 31.8 +2.3**
baz=91,SNR=8.7
Z20A Nine Sixteen R 90.79 52 ⇑P **P 18 21 32.2 +2.3**
baz=91,SNR=13
KLR Kul'dur 90.97 330 *e*P P 18 21 26.6 -3.4
121A Cookes Peak, D 91.01 53 ⇑P **P 18 21 32.7 +1.9**
baz=91
W18A Petrified Fore 91.21 50 ⇓P **P 18 21 34.0 +2.2**
baz=92
Y20A Horse Springs, 91.41 51 ⇑P **P 18 21 35.2 +2.5**
baz=92,SNR=10
Z21A St. Cloud Mine 91.53 52 ⇓P **P 18 21 35.3 +1.9**
baz=92
GYA Guiyang 91.63 300 P **P 18 21 35.8 +2.0**
GYA PP **PP 18 25 17.0 +3.9**
GYA SKS **SKSac 18 32 06.5 +3.9**
GYA S **S 18 32 33.4 +2.9**
GYA SS **SS 18 38 45.8 +7.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,560nm,19.8s
GYA LR LR
comp=E,480nm,20.3s
GYA LR LR
comp=Z,550nm,21.0s
122A Conniff Cattle 91.64 53 ⇑P **P 18 21 35.9 +2.1**
baz=92
X20A Quemado 91.69 51 ⇑P **P 18 21 36.4 +2.4**
baz=92,SNR=11
MSU Marysvale 91.70 46 *e*P **P 18 21 34.7 +0.7**
MSU pmax pmax
comp=Z,12nm,1.4s
MSU Marysvale 91.70 46 *e*P **P 18 21 34.7 +0.7**
comp=Z,12nm,1.4s
626A Big Bend Ranch 91.90 57 ⇑P **P 18 21 36.7 +1.7**
baz=92,SNR=7.6
Y21A Point of Rocks 91.94 51 ⇑P **P 18 21 37.4 +2.1**
baz=92,SNR=12
425A Indio Mountain 91.97 55 ⇓P **P 18 21 36.6 +1.3**
baz=92
324A Moseley Ranch, 91.99 55 ⇑P **P 18 21 37.0 +1.6**
baz=92
Z22A Elephant Butte 91.99 52 ⇓P **P 18 21 37.4 +2.0**
baz=92,SNR=8.0
W20A Ramah 92.03 50 ⇓P **P 18 21 37.6 +2.0**
baz=92,SNR=16
TXAR Lajitas Array 92.11 57 P **P 18 21 37.5 +1.5**
comp=Z,3.7nm,1.0s,baz=205,slow=5.5,SNR=15
TXAR Lajitas Array 92.11 57 P **P 18 21 37.5 +1.5**
X21A Alamocita Cree 92.11 51 ⇓P **P 18 21 37.7 +1.7**
baz=92,SNR=8.5
MNTX Cornudas Mount 92.20 54 ⇓P **P 18 21 37.6 +1.4**
baz=92,SNR=6.0
526A Mary Lane Ranc 92.21 56 ⇓P **P 18 21 38.0 +1.5**
baz=92,SNR=6.5
U19A Dine' College, 92.25 49 ⇓P **P 18 21 38.2 +1.6**
baz=92
P15A Leamington 92.29 45 ⇑P **P 18 21 38.3 +1.7**
baz=93
325A Bean Ranch, Si 92.31 55 ⇑P **P 18 21 37.7 +0.8**
baz=92
224A Cornudas Mount 92.32 54 ⇑P **P 18 21 38.2 +1.3**
baz=93
DUG Dugway 92.35 44 ⇑P **P 18 21 38.6 +1.7**
baz=93
Y22A Socorro 92.38 52 ⇓P **P 18 21 38.7 +1.5**
baz=93
627A Terlingua Ranc 92.38 57 ⇓P **P 18 21 38.6 +1.4**
baz=93,SNR=11
V20A Brimhall 92.45 50 ⇓P **P 18 21 38.8 +1.2**
baz=93
Z23A Rita Site, Whi 92.49 53 ⇓P **P 18 21 39.2 +1.5**
baz=93
426A McDonald Obser 92.59 56 ⇓P **P 18 21 39.5 +1.2**
baz=93,SNR=5.2
527A Woodward Ranch 92.60 57 ⇓P **P 18 21 39.5 +1.2**
baz=93
MFID Camas Ranch 92.64 40 ⇓P **P 18 21 39.6 +1.5**
baz=93
124A Stringfield Ra 92.72 54 ⇑P **P 18 21 40.1 +1.3**
baz=93
BNM Barren Site 92.73 52 *e*P **P 18 21 38.8 -0.1**
comp=Z,4.2nm,1.2s
U20A Newcomb 92.75 49 ⇑P **P 18 21 40.4 +1.5**
baz=93
628A Black Gap, Mar 92.76 57 ⇓P **P 18 21 39.9 +1.0**
baz=93,SNR=7.5
LPM Los Pinos Moun 92.82 52 *e*P **P 18 21 36.8 -2.5**
comp=Z,2.2nm,0.7s
225A Deer Hill, Car 92.83 54 ⇓P **P 18 21 40.8 +1.5**
baz=93
BJI Beijing 92.92 315 P **P 18 21 40.0 +0.7**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,180nm,33.6s
N15A Stansbury Isla 92.96 44 ⇑P **P 18 21 41.0 +1.3**
baz=93,SNR=5.0
326A Caldwell Ranch 92.98 55 ⇓P **P 18 21 41.3 +1.4**
baz=93
Y23A Lovelace Mesa, 93.00 52 ⇓P **P 18 21 41.4 +1.4**
baz=93
V21A Milan 93.00 50 ⇑P **P 18 21 41.4 +1.3**
baz=93
SRU San Rafael 93.09 46 *e*P **P 18 21 40.4 0.0**
SRU pmax pmax
comp=Z,8.0nm,1.3s
SRU San Rafael 93.09 46 *e*P **P 18 21 40.4 0.0**
comp=Z,8.1nm,1.3s
SRU San Rafael 93.09 46 ⇓P **P 18 21 41.9 +1.6**
baz=93
Z24A Sheeppen Canyo 93.13 53 ⇑P **P 18 21 41.8 +1.1**
baz=93
427A Hayter Ranch, 93.14 56 ⇑P **P 18 21 42.0 +1.3**
baz=93,SNR=6.3
P17A Butcher Ranch, 93.18 46 ⇑P **P 18 21 42.3 +1.5**
baz=94
528A Cox Ranch, San 93.20 57 ⇑P **P 18 21 42.4 +1.3**
baz=93,SNR=7.3
L14A Malta 93.24 42 ⇑P **P 18 21 42.8 +1.8**
baz=94
125A Gardner Draw, 93.25 54 ⇑P **P 18 21 42.7 +1.5**
baz=94
I12A Atlanta 93.27 40 ⇑P **P 18 21 42.5 +1.4**
baz=94,SNR=9.5
X23A Hourglass Bar 93.27 52 ⇓P **P 18 21 43.0 +1.6**
baz=94
ANMO Albuquerque 93.30 51 *e*P **P 18 21 40.2 -1.3**
comp=Z,14nm,1.4s
U21A Nageezi 93.35 49 ⇑P **P 18 21 43.2 +1.5**
baz=94,SNR=11
M15A Larsen Ranch, 93.35 43 ⇑P **P 18 21 42.7 +1.3**
baz=94,SNR=8.8
Y24A Capitan 93.42 53 ⇑P **P 18 21 43.2 +1.2**
baz=94,SNR=6.7
HLID Hailey 93.53 41 ⇑P **P 18 21 43.6 +1.4**
baz=94,SNR=7.5
CMAR Chiang Mai Arr 93.53 289 P **P 18 21 43.2 +0.6**
comp=Z,3.7nm,1.0s,baz=140,slow=3.7,SNR=17
CMAR PKKPbc **PKKPbc 18 38 49.9 +2.1**
comp=Z,0.9nm,0.9s,baz=284,slow=4.6,SNR=6.1
CMAR Chiang Mai Arr 93.53 289 P **P 18 21 43.2 +0.6**
CMAR PKKPbc **PKKPbc 18 38 49.9 +2.1**
Z25A Roswell 93.55 53 ⇑P **P 18 21 44.1 +1.6**
baz=94,SNR=5.7
J13A Cove Ranch, Pi 93.56 41 ⇓P **P 18 21 43.9 +1.5**
baz=94,SNR=9.5
P18A Preston Nutter 93.57 46 ⇑P **P 18 21 44.2 +1.5**
baz=94
428A Kincaid Ranch, 93.59 56 ⇑P **P 18 21 44.0 +1.3**
baz=94
K14A Jones Ranch, D 93.59 42 ⇑P **P 18 21 43.8 +1.2**
baz=94,SNR=6.1
529A Stev Forest Ra 93.60 57 ⇑P **P 18 21 43.9 +1.2**
baz=94
N16A Rees Ranch, Co 93.61 44 ⇑P **P 18 21 44.1 +1.4**
baz=94
O17A Robinson Place 93.61 45 ⇓P **P 18 21 44.3 +1.6**
baz=94,SNR=5.2
126A Clayton Basin, 93.69 54 ⇓P **P 18 21 44.6 +1.4**
baz=94
S20A Disappointment 93.70 48 ⇓P **P 18 21 44.8 +1.5**
baz=94
CHTO Chiang Mai 93.70 289 *e*P **P 18 21 43.5 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 93.70 289 *e*P **P 18 21 43.5 +0.1**
comp=Z,5.9nm,1.0s
CHTO Chiang Mai 93.70 289 P **P 18 21 43.2 -0.2**
L15A Malad City 93.72 43 ⇑P **P 18 21 44.3 +1.1**
baz=94,SNR=8.1
M16A Huntsville 93.75 44 ⇓P **P 18 21 44.9 +1.6**
baz=94
GAMB Gambell 93.78 3 *e*P **P 18 21 42.8 +0.2**
comp=Z,24nm,1.1s
Q19A Hogan Spring (93.79 47 ⇓P **P 18 21 45.0 +1.5**
baz=94
U22A Llaves 93.85 50 ⇑P **P 18 21 45.3 +1.3**
baz=94
J14A Carey 93.88 41 ⇓P **P 18 21 46.0 +2.1**
baz=94
R20A Redvale 93.90 48 ⇓P **P 18 21 45.5 +1.4**
baz=94
H12A Diamond D Ranc 93.90 40 ⇓P **P 18 21 45.1 +1.1**
baz=94,SNR=8.1
KMI Kunming 93.91 297 P **P 18 21 46.8 +2.3**
KMI pP pP 18 21 52.5 -6.7
KMI sP sP 18 21 54.8 -10
KMI PP **PP 18 25 35.8 +4.6**
KMI S **ScS 18 32 53.5 +1.1**
KMI sS S 18 33 03.1 +12
KMI SS **SS 18 39 18.1 +6.3**
KMI pmax pmax
comp=Z,5.0nm,1.1s
KMI pmax pmax
comp=Z,84nm,8.3s
KMI LR LR
comp=N,170nm,15.8s
KMI LR LR
comp=E,210nm,14.8s
KMI LR LR
comp=Z,150nm,9.9s
I13A Wildhorse Cree 93.91 40 ⇑P **P 18 21 45.5 +1.4**
baz=94
Y25A Mesa, Roswell 93.93 53 ⇑P **P 18 21 45.7 +1.4**
baz=94
S21A Coal Bank Pass 93.97 48 ⇑P **P 18 21 46.3 +1.7**
baz=94
G12A Big Creek, Yel 94.02 39 ⇓P **P 18 21 45.7 +1.3**
baz=94
K15A Arbon 94.06 42 ⇓P **P 18 21 46.4 +1.7**
baz=94
Z26A Caprock 94.06 54 ⇓P **P 18 21 45.7 +0.8**
baz=94,SNR=5.3
429A Davenport Ranc 94.11 57 ⇑P **P 18 21 45.8 +0.8**
baz=94,SNR=13
W24A Lazy 6 Ranch, 94.16 51 ⇓P **P 18 21 46.6 +1.2**
baz=94
H13A Challis 94.25 40 ⇓P **P 18 21 47.0 +1.5**
baz=95
530A J-C Ranch, Com 94.25 58 ⇑P **P 18 21 47.1 +1.4**
baz=94
X25A Clemmons Ranch 94.28 52 ⇑P **P 18 21 47.2 +1.3**
baz=94
L16A Fish Haven 94.29 43 ⇑P **P 18 21 46.7 +0.8**
baz=95,SNR=6.2
I14A Mackay 94.30 41 ⇑P **P 18 21 47.3 +1.5**
baz=95
P19A Cripple Cowboy 94.36 46 ⇑P **P 18 21 47.6 +1.3**
baz=95
Q20A Ridgley Place, 94.40 47 ⇓P **P 18 21 47.4 +1.0**
baz=95
228A UT Block 9, Go 94.41 55 ⇓P **P 18 21 47.7 +1.3**
baz=95
631A Perdido Creek 94.42 59 ⇑P **P 18 21 47.6 +1.1**
baz=95
M17A Scullys Gap (B 94.42 44 ⇑P **P 18 21 47.3 +0.8**
baz=95
F12A Elk City 94.45 39 ⇓P **P 18 21 48.0 +1.6**
baz=95
329A Wagon Wheel Ra 94.51 56 ⇑P **P 18 21 47.9 +0.9**
baz=95
R21A Cimarron 94.54 48 ⇓P **P 18 21 48.6 +1.5**
baz=95
V24A Rampart Ranch, 94.54 51 ⇓P **P 18 21 48.5 +1.3**
baz=95
J15A Blackfoot 94.55 42 ⇓P **P 18 21 48.5 +1.6**
baz=95,SNR=8.0
G13A Cobalt 94.59 40 ⇑P **P 18 21 48.6 +1.5**
baz=95
Z27A Tatum 94.62 54 ⇑P **P 18 21 48.3 +0.9**
baz=95
S22A 4UR Ranch, Cre 94.65 49 ⇓P **P 18 21 49.5 +1.8**
baz=95
430A Baggett Ranch, 94.67 57 ⇓P **P 18 21 48.5 +0.8**
baz=95
K16A Soda Springs 94.69 42 ⇓P **P 18 21 49.3 +1.6**
baz=95,SNR=5.8
E12A Beaver Dam Sad 94.71 38 ⇑P **P 18 21 49.7 +2.1**
baz=95
128A Castleberry Fa 94.76 55 ⇑P **P 18 21 49.7 +1.7**
baz=95
H14A Leadore 94.77 40 ⇑P **P 18 21 50.0 +2.1**
baz=95,SNR=5.8
W25A X Bar L Ranch, 94.80 52 ⇓P **P 18 21 49.9 +1.6**
baz=95
531A Rocksprings 94.84 58 ⇑P **P 18 21 49.7 +1.2**
baz=95,SNR=8.7
X26A CR and CF Fran 94.88 53 ⇓P **P 18 21 49.8 +1.1**
baz=95
J16A Bone 94.95 42 ⇓P **P 18 21 50.6 +1.8**
baz=95
Y27A Causey 94.97 54 ⇓P **P 18 21 50.2 +1.2**
baz=95
K17A Gardner Place, 95.04 43 ⇓P **P 18 21 51.0 +1.7**
baz=95
V25A Rancho No Teng 95.04 51 ⇑P **P 18 21 50.6 +1.2**
baz=95
330A Mertzon 95.04 57 ⇑P **P 18 21 50.8 +1.5**
baz=95
632A Uvalde 95.06 59 ⇓P **P 18 21 50.6 +1.2**
baz=95
L18A Fontenelle, Gr 95.07 44 ⇑P **P 18 21 51.1 +1.7**
baz=95
NEW Newport 95.10 36 P **P 18 21 48.9 -0.3**
comp=Z,1.3nm,0.8s,baz=172,slow=2.7,SNR=3.8
NEW Newport 95.10 36 P **P 18 21 48.9 -0.3**
H15A Lima 95.18 41 ⇓P **P 18 21 51.5 +1.6**
baz=96
Z28A Tucker Farm, M 95.19 54 ⇓P **P 18 21 51.1 +1.1**
baz=95
MCMT McKenzie Canyo 95.19 40 *e*P **P 18 21 49.7 -0.2**
comp=Z,2.7nm,1.0s
D12A Red Ives Fores 95.23 37 ⇑P **P 18 21 51.8 +1.9**
baz=96
C11A Tepee Creek (N 95.26 36 ⇓P **P 18 21 51.4 +1.4**
baz=96
MSTX Muleshoe 95.28 54 ⇓P **P 18 21 51.5 +1.1**
baz=96
532A Rocksprings 95.29 58 ⇑P **P 18 21 51.5 +1.0**
baz=96,SNR=5.3
M19A Rock Springs 95.35 45 ⇑P **P 18 21 52.4 +1.7**
baz=96
REDW Red Top Meadow 95.44 42 *e*P **P 18 21 49.8 -1.4**
comp=Z,16nm,1.3s
K18A Toltan Ranch, 95.49 43 ⇓P **P 18 21 52.8 +1.5**
baz=96
U25A Circle Dot Ran 95.49 51 ⇑P **P 18 21 52.9 +1.5**
baz=96
N20A Spence Gulch, 95.51 46 ⇓P **P 18 21 52.8 +1.3**
baz=96
J17A Brown Place, J 95.53 42 ⇑P **P 18 21 52.9 +1.4**
baz=96
R23A Moffat 95.55 49 ⇓P **P 18 21 53.2 +1.3**
baz=96
L19A Farson 95.58 44 ⇓P **P 18 21 53.2 +1.4**
baz=96
V26A Tequesquite Ra 95.58 52 ⇓P **P 18 21 53.0 +1.2**
baz=96
C12B Naegeli Ranch, 95.58 37 ⇓P **P 18 21 53.4 +2.0**
baz=96
G15A Dillon 95.60 40 ⇓P **P 18 21 53.0 +1.3**
baz=96,SNR=5.6
Z29A Hungry Hill Ra 95.65 55 ⇓P **P 18 21 53.1 +1.0**
baz=96
W27A Bowe Ranch, En 95.68 53 ⇑P **P 18 21 53.3 +1.1**
baz=96
IMW Indian Meadow 95.72 42 *e*P **P 18 21 53.2 +0.7**
comp=Z,5.9nm,0.5s
P22A Eagle 95.74 47 ⇓P **P 18 21 54.1 +1.5**
baz=96
TNA Tin City 95.76 4 *e*P **P 18 21 51.8 +0.1**
comp=Z,23nm,1.1s
432A Menard 95.77 58 ⇓P **P 18 21 53.9 +1.3**
baz=96
SEY Seymchan 95.83 347 ⇓*e*P **P 18 21 52.0 -0.1**
J18A Kendall Valley 95.84 43 ⇓P **P 18 21 54.0 +1.0**
baz=96,SNR=8.3
BW06 Boulder Array 95.85 43 ⇓P **P 18 21 54.2 +1.2**
baz=96

PDAR Pinedale Array 95.85 43 P **P** **18 21 53.0 0.0**
comp=Z,1.5nm,0.9s,baz=215,slow=2.8,SNR=9.8
PDAR PKKPbc **PKKPbc** **18 38 42.3 -0.6**
comp=Z,0.8nm,0.8s,baz=84,slow=3.6,SNR=6.4
PDAR LR LR 18 56 29.2
comp=Z,170nm,20.0s,baz=257,slow=30
PDAR Pinedale Array 95.85 43 P **P** **18 21 53.0 0.0**
PDAR PKKPbc **PKKPbc** **18 38 42.3 -0.6**
U26A Atchley Ranch, 95.94 51 ⇑P **P** **18 21 54.7 +1.2**
baz=96
FLWY Flagg Ranch 95.97 42 *e*P **P** **18 21 53.8 +0.3**
comp=Z,7.5nm,0.9s
Y29A Porterfield Fa 96.00 54 ⇑P **P** **18 21 55.0 +1.3**
baz=96
332A Millersview 96.07 57 ⇑P **P** **18 21 54.7 +0.7**
baz=96
L20A Wamsutter 96.14 45 ⇑P **P** **18 21 55.5 +1.2**
baz=96
CD2 Chengdu 96.15 302 P **P** **18 21 56.1 +1.7**
CD2 pP PcP 18 22 01.8 +7.2
CD2 sP sP 18 22 04.3 -10
CD2 PP **PP** **18 25 52.3 +4.0**
CD2 SKS **SKSac** **18 32 30.6 +3.7**
CD2 sS ScS 18 33 21.8 +11
CD2 SS **SS** **18 39 48.9 +5.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.3s
CD2 LR LR
comp=N,250nm,6.5s
CD2 LR LR
comp=Z,180nm,8.3s
O22A Kremmling 96.20 47 ⇑P **P** **18 21 56.2 +1.5**
baz=96
232A Coleman 96.40 57 ⇓P **P** **18 21 56.4 +0.9**
baz=97
M21A Separation Pea 96.51 45 ⇑P **P** **18 21 57.1 +1.1**
baz=97
N22A Wattenberg Ran 96.62 46 ⇑P **P** **18 21 58.0 +1.4**
baz=97
S26A Kim 96.79 50 ⇓P **P** **18 21 58.6 +1.4**
baz=97
ABTX Abilene, Hawle 96.79 56 ⇑P **P** **18 21 58.6 +1.4**
baz=97
H18A Shoshone NF, C 96.92 42 ⇓P **P** **18 21 59.3 +1.6**
baz=97
I19A Meeteetse 96.93 43 ⇓P **P** **18 21 59.1 +1.3**
baz=97
J20A Shoshoni 97.07 44 ⇓P Pdif 18 21 59.9 +1.4
baz=97
Z32A Haskell 97.26 56 ⇓P Pdif 18 22 00.8 +1.3
baz=98
L22A Ellis Ranch, M 97.32 45 ⇑P Pdif 18 22 00.9 +1.1
baz=98
A14A Double T Ranch 97.44 37 ⇑P Pdif 18 22 01.5 +1.6
baz=98
M23A Laramie 97.45 46 ⇓P Pdif 18 22 01.6 +1.3
baz=98
COLA College 97.60 12 *e*P **P** **18 21 59.9 -0.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 97.60 12 *e*P **P** **18 21 59.9 -0.1**
comp=Z,5.8nm,0.8s
ILAR Eielson Array 97.69 13 P **P** **18 22 00.0 -0.5**
comp=Z,2.2nm,0.8s,baz=224,slow=5.1,SNR=21
ILAR PKKPbc **PKKPbc** **18 38 33.7 -4.7**
comp=Z,0.5nm,0.8s,baz=349,slow=2.4,SNR=5.7
ILAR LR LR 18 57 42.0
comp=Z,87nm,22.0s,baz=219,slow=30
ILAR Eielson Array 97.69 13 P **P** **18 22 00.0 -0.5**
ILAR PKKPbc **PKKPbc** **18 38 33.7 -4.7**
I21A Big Trails, Te 97.81 44 ⇓P Pdif 18 22 02.9 +1.1
baz=98
LPAZ La Paz 98.04 114 LR LR 18 57 18.6
comp=Z,89nm,21.5s,baz=307,slow=30
RSSD Black Hills 99.94 45 *e*P **Pdif** **18 22 11.4 +0.1**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 99.94 45 *e*Pdif **Pdif** **18 22 11.4 +0.1**
comp=Z,3.9nm,1.0s
H24A Dirks Ranch, A 99.96 44 ⇑Pdiff **Pdif** **18 22 12.5 +1.3**
baz=100
SONM Songino Array 103.13 318 PKKPbc PKKPbc 18 38 22.5 +0.4
comp=Z,0.8nm,1.0s,baz=269,slow=2.8,SNR=4.1
YKA Yellowknife Ar 105.18 25 Pdiff **Pdif** **18 22 38.5 +4.6**
comp=Z,0.1nm,0.8s,baz=213,slow=7.6,SNR=3.7
YKA PKiKP **PKiKP** **18 26 47.3 -0.5**
comp=Z,0.4nm,0.6s,baz=257,slow=1.4,SNR=10
YKA PKKPbc **PKKPbc** **18 38 14.5 -1.7**
comp=Z,1.5nm,0.8s,baz=41,slow=2.9,SNR=22
YKA PKKP **PKKPab** **18 38 30.6 +1.1**
comp=Z,1.0nm,0.9s,baz=55,slow=4.7,SNR=9.0
YKA Yellowknife Ar 105.18 25 Pdif **Pdif** **18 22 38.5 +4.6**
YKA PKiKP **PKiKP** **18 26 47.3 -0.5**
CPCT Cooper Cave 109.21 60 *e*Pdif **Pdif** **18 22 51.9 -0.6**
HVS Khovu-Aksy 112.01 317 ⇑*i*PKiKP **PKiKP** **18 27 00.5 -0.6**
BOSA Boshof 117.52 203 PKP **PKPdf** **18 27 12.9 +0.3**
comp=Z,3.1nm,0.9s,baz=217,slow=2.9,SNR=5.6
BOSA Boshof 117.52 203 PKP **PKPdf** **18 27 12.9 +0.3**
MK31 Makanchi Array 117.80 310 *e*PKiKP **PKPdf** **18 27 11.1 -1.2**
MK31 Makanchi Array 117.80 310 *e*PKPdf **PKPdf** **18 27 11.1 -1.2**
MKAR Makanchi Array 117.80 310 PKP **PKPdf** **18 27 11.0 -1.3**
comp=Z,2.4nm,0.6s,baz=204,slow=0.7,SNR=29
MKAR Makanchi Array 117.80 310 PKiKP **PKPdf** **18 27 11.0 -1.3**
MKAR Makanchi Array 117.80 310 PKP **PKPdf** **18 27 11.0 -1.3**
ZAA0 Zalesovo Array 118.02 318 *e*PKPdf **PKPdf** **18 27 10.9 -1.5**
ZALV Zalesovo Beam 118.02 318 PKP **PKPdf** **18 27 11.1 -1.3**
comp=Z,1.9nm,0.6s,baz=136,slow=0.7,SNR=16
ZALV Zalesovo Beam 118.02 318 PKiKP **PKPdf** **18 27 11.1 -1.3**
ZALV Zalesovo Beam 118.02 318 PKP **PKPdf** **18 27 11.1 -1.3**
NVS Novosibirsk 119.12 319 *e*PKiKP **PKPdf** **18 27 12.6 -1.9**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.4s
KSH Kashi 120.31 301 *e*PKP **PKPdf** **18 27 17.8 +0.3**
KSH *e*PP **PP** **18 28 49.1 +4.6**
KSH PKS **PKSdf** **18 30 54.1 -0.2**
KSH SKS **SKSdf** **18 34 29.3 +3.8**
KSH SKKS **SKKSac** **18 35 42.3 +2.7**
KSH SS SS 18 45 18.3 +8.9
KSH AMB AMB
comp=Z,110nm,5.5s
KSH LR LR
comp=N,83nm,7.0s
KSH LR LR
comp=E,100nm,7.1s
KSH LR LR
comp=Z,240nm,6.0s
ULHL Ulahol 120.82 304 P **PKPdf** **18 27 18.6 +0.1**
SNR=18
KURK Kurchatov 121.06 314 *e*PKiKP **PKPdf** **18 27 16.8 -1.6**
KURK Kurchatov 121.06 314 *e*PKPdf **PKPdf** **18 27 16.8 -1.6**
KURK PKKPbc **PKKPbc** **18 37 22.0 0.0**
KURBB Kurchatov Arra 121.10 314 PKKPbc PKKPbc 18 37 22.0 +0.1
comp=Z,0.8nm,0.9s,baz=288,slow=4.5,SNR=7.1
TKM2 Tokmak 2 121.45 304 P **PKPdf** **18 27 18.8 -0.9**
SNR=14
KZA Kyzart 121.50 303 P **PKPdf** **18 27 19.9 -0.2**
SNR=18
KBK Karagaybulak 121.85 304 P **PKPdf** **18 27 20.2 -0.3**
SNR=8.2
CHMS Chumysh 122.07 304 P **PKPdf** **18 27 20.0 -0.7**
SNR=6.8
AAK Ala-Archa 122.17 304 PKKPbc PKKPbc 18 37 19.7 +1.9
comp=Z,1.1nm,0.7s,baz=252,slow=3.0,SNR=5.5
AAK Ala-Archa 122.17 304 ⇓*i*PKiKP **PKPdf** **18 27 19.8 -1.2**
AAK pmax pmax
comp=Z,20nm,1.2s
AAK Ala-Archa 122.17 304 *e*PKPdf **PKPdf** **18 27 20.4 -0.7**
AAK PKKPbc **PKKPbc** **18 37 19.7 +1.9**
AAK Ala-Archa 122.17 304 P **PKPdf** **18 27 20.6 -0.5**
SNR=8.0
USP Ospenovka 122.31 305 P **PKPdf** **18 27 20.5 -0.7**
SNR=14
AML Almayashu 122.64 303 P **PKPdf** **18 27 22.0 -0.3**
SNR=31
EKS2 Erkin-Say 122.69 304 P **PKPdf** **18 27 21.6 -0.4**
SNR=13
KBL Kabul 124.33 293 *e*PKiKP **PKPdf** **18 27 24.4 -1.1**
KBL Kabul 124.33 293 *e*PKPdf **PKPdf** **18 27 24.4 -1.1**
KKAR Karatay Array 125.13 304 *e*PKiKP **PKPdf** **18 27 25.8 -0.7**
KKAR Karatay Array 125.13 304 *e*PKPdf **PKPdf** **18 27 25.8 -0.7**
SCHQ Schefferville 125.96 42 PKP **PKPdf** **18 27 26.8 -0.9**
comp=Z,6.2nm,0.9s,baz=270,slow=1.4,SNR=10
SCHQ Schefferville 125.96 42 PKP **PKPdf** **18 27 26.8 -0.9**
BRVK Borovoye 126.47 316 *c i*PKiKP **PKPdf** **18 27 27.7 -1.0**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 126.47 316 *e*PKPdf **PKPdf** **18 27 27.4 -1.4**
LSZ Lusaka 128.33 213 *e*PKPdf **PKPdf** **18 27 32.9 -0.8**
SVE Sverdlovsk 131.87 321 *e*PKiKP **PKPdf** **18 27 38.5 -0.4**
SVE pmax pmax
comp=Z,11nm,1.3s
DAG Danmarks Havn 132.33 6 *i* P **PKPdf** **18 27 37.9 -1.3**
comp=Z,15nm,0.8s
SUMG Summit 132.46 15 *i* P **PKPdf** **18 27 40.3 +0.2**
comp=Z,5.3nm,1.0s
SUMG *i* 18 27 59.4
ABKAR Akbulak array 132.93 311 *e*PKPdf **PKPdf** **18 27 41.0 -0.1**
ARU Arti 133.07 321 *i* PKiKP **PKPdf** **18 27 41.3 +0.2**
ARU 18 30 03.9
ARU Arti 133.07 321 *e*PKPdf **PKPdf** **18 27 40.4 -0.8**
KEV Kevo 137.97 347 *e*PKiKP **PKPdf** **18 27 46.7 -3.2**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 137.97 347 *e*p **PKPdf** **18 27 46.7 -3.2**
comp=Z,4.9nm,0.8s
ARCES ARCESS Array B 138.44 348 PKhKP PKPpre 18 27 40.6
comp=Z,1.4nm,0.6s,baz=48,slow=1.4,SNR=12
ARCES ARCESS Array B 138.44 348 PKPpre PKPpre 18 27 40.6
ARE0 ARCESS Array S 138.44 348 *e* PKPpre 18 27 42.6
KTK1 Kautokeino 139.30 349 *e* PKPpre 18 27 44.5
TRO Tromso 139.39 351 *e*P **PKPdf** **18 27 50.1 -2.4**
KLMR Klimovskoe 140.68 332 *e*PKiKP **PKPdf** **18 27 53.0 -2.1**
KLMR pmax pmax
comp=Z,19nm,1.1s
JOF Joensuu 142.31 339 *e*PKHKP PKPpre 18 27 51.3
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 142.31 339 *e*p PKPpre 18 27 51.3
comp=Z,10nm,0.6s
DGRG David-gareji 143.61 300 P PKPbc 18 27 58.8 +0.3
TBLG Delisi 144.06 300 *e*PKiKP **PKPab** **18 27 58.9 -0.4**
TBLG Delisi 144.06 300 P **PKPab** **18 27 58.9 -0.4**
GNI Garni 144.16 298 *e*PKPdf PKPbc 18 28 00.4 0.0
KAF Kangasniemi 144.43 341 *e*PKHKP PKPpre 18 27 57.7
KAF pmax pmax
comp=Z,20nm,0.7s
KAF Kangasniemi 144.43 341 *e*p **PKPab** **18 27 57.7 -2.3**
comp=Z,20nm,0.7s
GOR Gori 144.51 301 P **PKPab** **18 28 01.0 0.0**
ZEI Tsey 144.58 302 *i* PKiKP **PKPab** **18 28 00.5 -1.0**
ZEI pmax pmax
comp=Z,27nm,1.3s
CLDR Caldiran 144.83 296 *e*P **PKPab** **18 28 02.5 0.0**
PUL Pulkovo 144.91 336 ⇑*i*PKiKP **PKPab** **18 28 01.7 -0.1**
PUL pmax pmax
comp=Z,90nm,0.5s
ONI Oni 144.92 302 P **PKPab** **18 28 02.3 -0.3**
AKH Akhalkalaki 145.02 300 P PKPbc 18 28 01.7 -1.4
FIA1 FINESS Array S 145.03 340 *e*PKPbc PKPbc 18 28 01.2 -1.0
FINES FINESS Array B 145.03 340 PKP PKPbc 18 28 01.2 -1.0
comp=Z,80nm,0.7s,baz=56,slow=3.6,SNR=436
FINES FINESS Array B 145.03 340 PKP PKPbc 18 28 01.2 -1.0
CUKT Cukurca 145.09 293 *e*P **PKPbc** **18 28 02.5 -0.9**
NSS Namsos 145.11 353 *e*P **PKPbc** **18 28 01.8 -0.6**
OBN Obninsk 145.12 325 *c i*PKiKP **PKPbc** **18 28 01.7 -1.0**
OBN pmax pmax
comp=Z,55nm,1.2s
OBN Obninsk 145.12 325 *e*PKPbc **PKPbc** **18 28 01.7 -1.0**
KBZ Khabaz 145.17 304 PKP **PKPbc** **18 28 02.6 -0.6**
comp=Z,13nm,0.8s,baz=219,slow=3.1,SNR=15
KBZ Khabaz 145.17 304 PKiKP **PKPbc** **18 28 02.6 -0.6**
KBZ Khabaz 145.17 304 PKP **PKPbc** **18 28 02.6 -0.6**
VANB Van 145.26 295 *e*P **PKPbc** **18 28 02.6 -1.3**
KIV Kislovodsk 145.28 305 *i* PKiKP **PKPbc** **18 28 02.8 -0.9**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,80nm,22.0s
KIV Kislovodsk 145.28 305 *e*PKPbc **PKPbc** **18 28 02.3 -1.4**
VSR Storozhevoye 145.53 318 *e*PKP2 **PKPdf** **18 28 03.0 -0.9**
AGRB Hanur-Agry 145.53 297 *e*P **PKPdf** **18 28 04.0 -0.6**
VRTB Varto-Mus 146.74 296 *e*P **PKPdf** **18 28 07.2 +0.6**
EZM Erzurum 146.76 298 *e*P **PKPdf** **18 28 06.9 +0.1**
VSU Vasula 147.13 336 *c i*PKP2 **PKPbc** **18 28 08.0 -0.6**
BNGB Bing¶ll 147.36 296 *e*P **PKPbc** **18 28 09.5 -0.6**
MOL Molde 147.44 355 *e*P **PKPbc** **18 28 09.9 +0.5**
GUMT Gumushane 148.14 299 *e*P **PKPdf** **18 28 10.4 +1.6**
FOO Floro 148.54 357 *e*P **PKPbc** **18 28 10.8 -1.5**
NB2 NORSAR Subarra 148.59 352 PKP **PKPbc** **18 28 12.1 -0.4**
baz=10,slow=2.6
NB2 NORSAR Subarra 148.59 352 PKP **PKPbc** **18 28 12.1 -0.4**
comp=Z,41nm,0.9s,baz=10,slow=2.6
NOA NORSAR Array B 148.59 352 PKP **PKPdf** **18 28 08.3 -0.5**
comp=Z,26nm,0.8s,baz=13,slow=4.3,SNR=62
NOA PKPbc **PKPbc** **18 28 11.9 -0.7**
comp=Z,26nm,0.8s,baz=14,slow=4.3,SNR=61
NOA NORSAR Array B 148.59 352 PKP **PKPdf** **18 28 08.3 -0.5**
NOA PKPbc **PKPbc** **18 28 11.9 -0.7**
NAO01 NORSAR Array S 148.82 352 *e*PKPbc **PKPbc** **18 28 12.6 -0.5**
NC602 NORSAR Array S 148.84 351 *e*PKPdf **PKPbc** **18 28 12.4 -0.8**
MALT Malatya 149.16 295 ⇑PKP2 **PKPbc** **18 28 15.2 +0.4**
MALT Malatya 149.16 295 *e*PKPbc **PKPbc** **18 28 14.9 +0.1**
MALT Malatya 149.16 295 ⇑*i*P **PKPbc** **18 28 15.2 +0.4**
MICGM Minsk 149.52 330 *e*P PKPdf 18 28 03.0 -7.4
MNK Minsk 149.54 330 *e*PKiKP PKPdf 18 28 03.0 -7.5
ASK Askoy 149.65 357 *e*P **PKPbc** **18 28 14.8 -0.3**
NACGM Naroch 149.71 332 *e* **PKPdf** **18 28 12.0 +1.3**
RUND Rundenannen 149.72 357 *e*P **PKPbc** **18 28 14.6 -0.7**
BER Bergen 149.75 357 *e*P **PKPbc** **18 28 15.1 -0.3**
KONO Kongsberg 150.13 352 *e*P **PKPbc** **18 28 14.5 -1.8**
KONO Kongsberg 150.13 352 *e*PKHKP **PKPbc** **18 28 14.9 -1.4**
KONO Kongsberg 150.13 352 *e*PKPbc **PKPbc** **18 28 14.9 -1.4**
ODD1 Odda 150.14 356 *e*P **PKPbc** **18 28 14.4 -2.0**
SIM Simferopol' 150.98 309 *i* PKiKP **PKPbc** **18 28 18.9 +0.1**
SIM pmax pmax
comp=Z,36nm,0.7s
AKASG Malin Array Be 151.26 323 PKP **PKPdf** **18 28 11.0 -2.3**
comp=Z,3.0nm,1.0s,baz=69,slow=0.8,SNR=5.8
AKASG PKPbc **PKPbc** **18 28 18.4 -0.9**
comp=Z,50nm,0.7s,baz=49,slow=2.8,SNR=100
AKASG Malin Array Be 151.26 323 PKiKP **PKPdf** **18 28 11.0 -2.3**
AKASG 18 28 18.4
AKASG Malin Array Be 151.26 323 PKP **PKPdf** **18 28 11.0 -2.3**
AKASG PKPbc **PKPbc** **18 28 18.4 -0.9**
AK01 Malin Array Si 151.28 323 *e*PKPbc **PKPbc** **18 28 18.4 -0.9**
KIEV Kiev 151.28 323 *e*PKiKP **PKPbc** **18 28 18.5 -0.8**
KIEV Kiev 151.28 323 *e*PKPbc **PKPbc** **18 28 18.5 -0.8**
AK02 Malin Array Si 151.30 323 *e*PKPbc **PKPbc** **18 28 18.9 -0.5**
SUW Suwalki 151.79 333 *e*PKP **PKPbc** **18 28 20.1 -0.3**
SUW Suwalki 151.79 333 *e*PKiKP **PKPbc** **18 28 19.9 -0.5**
SUW Suwalki 151.79 333 *e*PKPbc **PKPbc** **18 28 19.9 -0.5**
SUW Suwalki 151.79 333 *e*PKP **PKPbc** **18 28 20.0 -0.3**
BR131 Keskin Array S 152.68 299 *e*PKPbc **PKPbc** **18 28 22.5 -0.6**
BRTR Keskin Array B 152.68 299 PKP **PKPdf** **18 28 14.6 -1.4**
comp=Z,1.1nm,1.0s,baz=141,slow=6.1,SNR=4.1
BRTR PKPbc **PKPbc** **18 28 22.4 -0.6**
comp=Z,7.2nm,0.6s,baz=146,slow=5.2,SNR=37
BRTR Keskin Array B 152.68 299 PKP **PKPdf** **18 28 14.6 -1.4**
BRTR PKPbc **PKPbc** **18 28 22.4 -0.6**
CSS Prodhromos 153.43 288 *e*PKPbc **PKPbc** **18 28 24.3 -0.4**
EAB Aberfoyle 153.61 8 ⇓*e*P **PKPab** **18 28 36.8 -0.2**
EAB Aberfoyle 153.61 8 P **PKPab** **18 28 36.8 -0.2**
EAU Auchinoon 154.05 7 ⇓*e*P **PKPab** **18 28 39.2 +0.2**
EAU Auchinoon 154.05 7 P **PKPab** **18 28 39.2 +0.2**
EBL Broad Law 154.17 7 ⇓*e*P **PKPab** **18 28 39.4 -0.1**
EBL Broad Law 154.17 7 P **PKPab** **18 28 39.4 -0.1**
BEL Belsk 154.39 333 *e*PKP **PKPbc** **18 28 26.3 +0.1**
BEL Belsk 154.39 333 *e*PKPbc **PKPbc** **18 28 26.2 +0.1**
LVV L'vov 154.42 326 *e*PKiKP **PKPbc** **18 28 25.0 -1.3**
ESK Eskdalemuir 154.60 7 *e*P **PKPab** **18 28 40.9 -0.4**
ESK Eskdalemuir 154.60 7 P **PKPab** **18 28 40.9 -0.4**
ESK Eskdalemuir 154.60 7 *e*PKP2 **PKPab** **18 28 41.2 -0.1**
ESK Eskdalemuir 154.60 7 *e*PKPab **PKPab** **18 28 41.2 -0.1**
ECK Cauldkaine Hil 154.74 7 ⇓*e*P **PKPab** **18 28 41.5 -0.4**
ECK Cauldkaine Hil 154.74 7 P **PKPab** **18 28 41.5 -0.4**
CFR Carcaliu 154.78 314 ⇑PKiKP **PKPbc** **18 28 27.1 -0.1**
CFR Carcaliu 154.78 314 ⇑*i*P **PKPbc** **18 28 27.1 -0.1**
KWP Kalwaria Pacla 155.18 327 *e*PKP **PKPab** **18 28 44.3 +0.3**
KWP Kalwaria Pacla 155.18 327 ⇑PKiKP PKPdf 18 28 28.3 +9.3
KWP Kalwaria Pacla 155.18 327 *e*PKPbc PKPdf 18 28 27.8 +8.8
KWP *e*PKPab **PKPab** **18 28 43.1 -0.9**
KWP Kalwaria Pacla 155.18 327 ⇑*i*P PKPdf 18 28 28.3 +9.3
KWP Kalwaria Pacla 155.18 327 *e*PKP **PKPab** **18 28 44.3 +0.3**
LIC Lamto 155.19 163 *e*PKiKP **PKPdf** **18 28 19.6 -0.5**
comp=Z,39nm,1.5s
LIC *e*R
comp=Z,96nm,20.8s
LIC Lamto 155.19 163 *e*PKPdf **PKPdf** **18 28 19.6 -0.5**
BUR08 Bucovina Ar. S 155.20 321 *e*PKPbc PKPdf 18 28 27.9 +8.7
BURAR Bucovina Array 155.21 321 ⇑*i*P PKPdf 18 28 28.7 +9.5
VRI Vrincioaia 155.31 316 ⇑PKP2 **PKPab** **18 28 42.6 -2.1**
VRI Vrincioaia 155.31 316 ⇑*i*P **PKPab** **18 28 42.6 -2.1**
DBIC Dimbokro 155.66 163 PKP **PKPdf** **18 28 20.1 -0.7**
comp=Z,5.0nm,1.0s,baz=261,slow=9.4,SNR=3.6
DBIC Dimbokro 155.66 163 PKP **PKPdf** **18 28 20.1 -0.7**
KOLS Kolonicke sedl 155.87 326 *e*PKiKP **PKPdf** **18 28 19.1 -0.9**
KOLS Kolonicke sedl 155.87 326 *e*PKP **PKPdf** **18 28 19.1 -0.9**
MLR Muntele Rosu 155.97 316 ⇑*i*P **PKPdf** **18 28 18.9 -1.5**
UZH Uzhgorod 156.07 326 *e*PKiKP PKPdf 18 28 28.0 +7.8
UZH *e* 18 28 42.2
CRVS Cervenica-Dubn 156.27 327 *e*PKiKP **PKPdf** **18 28 21.0 +0.5**
CRVS Cervenica-Dubn 156.27 327 *e*PKP **PKPdf** **18 28 21.0 +0.5**
CRVS *e* 18 28 48.7
TRPA Tarpa 156.28 325 ⇑*i*P PKPdf 18 28 30.4 +10
LHO Holmfirth 156.49 6 ⇓*e*P **PKPab** **18 28 49.1 -0.4**
LHO Holmfirth 156.49 6 P **PKPab** **18 28 49.1 -0.4**
WPM1 Penmaenmawr 156.53 9 *e*P **PKPab** **18 28 49.8 +0.2**
WPM1 Penmaenmawr 156.53 9 P **PKPab** **18 28 49.8 +0.2**
VOIR 156.53 317 ⇓PKiKP PKPdf 18 28 31.0 +10
VOIR 156.53 317 ⇓*i*P PKPdf 18 28 31.0 +10
KBI1 Birley Grange 156.80 6 ⇓*e*P **PKPab** **18 28 50.3 -0.5**
KBI1 Birley Grange 156.80 6 P **PKPab** **18 28 50.3 -0.5**
KSP Ksiaz 156.85 337 *e*PKP **PKPdf** **18 28 21.3 +0.1**
KSP *e*PKPab **PKPab** **18 28 51.4 +0.2**
KSP Ksiaz 156.85 337 *e*PKiKP **PKPdf** **18 28 21.2 0.0**
KSP *e* 18 28 35.6
KSP Ksiaz 156.85 337 *e*PKP2 **PKPab** **18 28 50.8 -0.3**
KSP Ksiaz 156.85 337 *e*PKP **PKPdf** **18 28 21.3 +0.1**
KSP *e*PKPab **PKPab** **18 28 51.3 +0.2**
STNC Stoke 156.90 7 *e*P **PKPab** **18 28 51.5 +0.3**
STNC Stoke 156.90 7 P **PKPab** **18 28 51.5 +0.3**
STNC AMB AMB 18 37 35.8
comp=Z,3µm,3.2s
FOEL Foel Wylfa 156.98 8 *e*P **PKPab** **18 28 51.3 -0.3**
FOEL Foel Wylfa 156.98 8 P **PKPab** **18 28 51.3 -0.3**
UPC Upice 157.23 337 *e*PKP2 **PKPab** **18 28 52.7 -0.1**
UPC Upice 157.23 337 *e*PKPAB **PKPab** **18 28 52.7 -0.1**
DPC Dobruska-Polom 157.26 336 *e*PKP2 **PKPab** **18 28 52.9 0.0**
DPC Dobruska-Polom 157.26 336 *e*PKPAB **PKPab** **18 28 52.9 0.0**
MORC Moravsky Berou 157.28 334 ⇑PKiKP **PKPdf** **18 28 22.5 +0.7**
MORC Moravsky Berou 157.28 334 ⇑*i*P **PKPdf** **18 28 22.5 +0.7**
HLM1 Long Mynd 157.39 8 ⇓*e*P **PKPab** **18 28 53.2 -0.1**
HLM1 Long Mynd 157.39 8 P **PKPab** **18 28 53.2 -0.1**
CLL Collm 157.44 342 *e*PKiKP **PKPdf** **18 28 20.0 -1.9**
CLL *e* 18 28 33.0
CLL pmax pmax
comp=Z,7.0nm,1.4s
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 157.44 342 *e*PKPdf **PKPdf** **18 28 20.0 -1.9**
comp=Z,7.0nm,1.4s
CLL *e*PKPdiff PKPab 18 28 33.0 -21
comp=Z,9.0nm,1.4s
CLL *i* PKPab PKPab 18 28 52.4 -1.2
comp=Z,13nm,0.8s
CLL *i* 18 28 55.2
comp=Z,11nm,0.7s
CLL *e*SSS SSS 18 58 54.0
CLL LmV 19 49 00.0
comp=Z,100nm,20.8s
BRG Berggiesshubel 157.57 340 *e*PKP **PKPdf** **18 28 21.1 -1.0**
comp=Z,3.5nm,0.9s
BRG *e* 18 28 53.7
comp=Z,12nm,0.7s
BRG Berggiesshubel 157.57 340 *e*PKiKP **PKPdf** **18 28 21.1 -1.0**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,0.7s
PVCC Panska Ves 157.69 339 *e*PKP2 **PKPab** **18 28 54.7 0.0**
PVCC Panska Ves 157.69 339 *e*PKPAB **PKPab** **18 28 54.7 0.0**
PSZ Piszkesteto 157.71 327 ⇑PKiKP PKPdf 18 28 33.8 +11
PSZ Piszkesteto 157.71 327 ⇑*i*P PKPdf 18 28 33.8 +11
VYHS Vyhne 157.76 330 *e*PKiKP **PKPdf** **18 28 22.4 0.0**
VYHS Vyhne 157.76 330 *e*PKP **PKPdf** **18 28 22.4 0.0**
VYHS *e* 18 28 54.6
MCH1 Michaelchurch 157.88 9 *e*P **PKPab** **18 28 54.8 -0.7**
MCH1 Michaelchurch 157.88 9 P **PKPab** **18 28 54.8 -0.7**
VRAC Vranov 158.03 334 ⇑*i*P **PKPab** **18 28 55.7 -0.5**
SSW Stow on the Wo 158.05 7 ⇓*e*P **PKPab** **18 28 56.4 +0.2**
SSW Stow on the Wo 158.05 7 P **PKPab** **18 28 56.4 +0.2**
PRU Pruhonice 158.16 338 *e*PKP2 **PKPab** **18 28 55.5 -1.3**
PRU Pruhonice 158.16 338 *e*PKPAB **PKPab** **18 28 55.5 -1.3**
SMOL Smolenice 158.34 332 *e*PKP2 **PKPab** **18 28 57.9 +0.3**
SMOL Smolenice 158.34 332 *e*PKP **PKPab** **18 28 57.9 +0.3**
BZS Buzias 158.39 321 ⇓PKiKP **PKPdf** **18 28 24.7 +1.5**
BZS Buzias 158.39 321 ⇓*i*P **PKPdf** **18 28 24.7 +1.5**
NKC Novy Kostel 158.56 342 *e*PKP2 **PKPab** **18 28 58.3 -0.2**
NKC Novy Kostel 158.56 342 *e*PKPAB **PKPab** **18 28 58.3 -0.2**
VTS Vitosha 159.14 312 ⇑PKP2 **PKPab** **18 29 00.1 -1.4**
VTS Vitosha 159.14 312 ⇑*i*P **PKPab** **18 29 00.1 -1.4**
KHC Kasperske Hory 159.22 339 *e*PKiKP **PKPdf** **18 28 23.0 -1.2**
KHC Kasperske Hory 159.22 339 *e*PKPdf **PKPdf** **18 28 23.0 -1.2**
KHC Kasperske Hory 159.22 339 *e*PKPAB **PKPab** **18 29 01.7 +0.3**
UCC Uccle 159.37 356 PKPab **PKPab** **18 29 01.2 -0.7**
GRF Grafenberg Arr 159.38 343 *e*PKP2 **PKPab** **18 29 01.9 -0.2**
GRF Grafenberg Arr 159.38 343 *e*PKP **PKPab** **18 29 01.9 -0.2**
MEM Membach 159.42 353 PKPab **PKPab** **18 29 02.1 0.0**
GERES GERESS Array B 159.43 338 PKP **PKPdf** **18 28 23.8 -0.7**
comp=Z,1.7nm,1.0s,baz=0.0,slow=1.3,SNR=8.9
GERES PKPab **PKPab** **18 29 01.6 -0.9**
comp=Z,1.7nm,0.6s,baz=38,slow=4.6,SNR=10
GERES GERESS Array B 159.43 338 PKP **PKPdf** **18 28 23.8 -0.7**
GERES PKPab **PKPab** **18 29 01.6 -0.9**
PKSM Moragy 159.53 326 ⇑PKiKP **PKPdf** **18 28 24.3 -0.2**
PKSM Moragy 159.53 326 ⇑*i*P **PKPdf** **18 28 24.3 -0.2**
SNF Seneffe 159.66 356 PKPab **PKPab** **18 29 02.9 -0.3**
BCLA Clavier 159.67 354 PKPab **PKPab** **18 29 02.5 -0.7**
DOU Dourbes 160.05 356 PKPab **PKPab** **18 29 04.1 -0.8**
WLF Walferdange 160.34 352 PKPab **PKPab** **18 29 05.8 -0.3**
SOKA Soboth 160.78 332 ⇓*i*PKPab **PKPab** **18 29 07.6 -0.8**
comp=Z,7.2nm,1.1s
FLN La Foliniere 161.35 6 *e*PKiKP **PKPdf** **18 28 24.5 -2.0**
comp=Z,21nm,1.1s
FLN *e*R
comp=Z,146nm,21.2s
FLN La Foliniere 161.35 6 *e*PKiKP **PKPdf** **18 28 24.5 -2.0**
FLN La Foliniere 161.35 6 *e*PKPdf **PKPdf** **18 28 24.5 -2.0**
CDF Champ du Feu 161.41 349 *e*PKiKP **PKPdf** **18 28 25.3 -1.4**
CDF Champ du Feu 161.41 349 *e*PKiKP **PKPdf** **18 28 25.3 -1.4**
CDF Champ du Feu 161.41 349 *e*PKPdf **PKPdf** **18 28 25.3 -1.4**
LJU Ljubljana 161.50 332 *e*PKPdf **PKPdf** **18 28 25.8 -0.9**
LDF La Druitiere 161.54 5 *e*PKiKP **PKPdf** **18 28 25.7 -1.0**
comp=Z,13nm,1.0s
LDF La Druitiere 161.54 5 *e*PKiKP **PKPdf** **18 28 25.7 -1.0**
LDF La Druitiere 161.54 5 *e*PKPdf **PKPdf** **18 28 25.7 -1.0**
MOTA Moosalm 161.56 341 ⇓*i*PKPab **PKPab** **18 29 11.4 -0.4**
comp=Z,14nm,0.9s
MEZF Maizieres J'vi 161.60 354 *e*PKiKP **PKPdf** **18 28 25.3 -1.4**
MEZF Maizieres J'vi 161.60 354 *e*PKPdf **PKPdf** **18 28 25.3 -1.4**
BOJS Bojanci 161.63 330 *e*PKPdf **PKPdf** **18 28 25.8 -1.1**
BOJS *i* PKPab **PKPab** **18 29 12.8 +0.9**
SFTF Sexfontaines 161.89 354 *e*PKiKP **PKPdf** **18 28 26.6 -0.5**
comp=Z,46nm,1.4s
SFTF Sexfontaines 161.89 354 *e*PKPdf **PKPdf** **18 28 26.6 -0.5**
HAU Haudompre 161.94 351 *e*PKiKP **PKPdf** **18 28 26.2 -1.0**
HAU *e*R
comp=Z,214nm,23.0s
HAU Haudompre 161.94 351 *e*PKiKP **PKPdf** **18 28 26.2 -1.0**
HAU Haudompre 161.94 351 *e*PKPdf **PKPdf** **18 28 26.2 -1.

TORD	**Torodi Ar. Bea**	**163.02**	**178**	PKP	**PKPdf**	**18 28 29.0**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=105,slow=0.4,SNR=11						
TORD				PKPab	**PKPab**	**18 29 19.5**	**+0.8**
	comp=Z,21nm,1.1s,baz=179,slow=3.1,SNR=25						
TORD	**Torodi Ar. Bea**	**163.02**	**178**	PKP	**PKPdf**	**18 28 29.0**	**-0.2**
TORD				PKPab	**PKPab**	**18 29 19.5**	**+0.8**
SSF	**Saint Saulge**	**163.14**	**357**	*e*PKIKP	**PKPdf**	**18 28 27.6**	**-0.8**
	comp=Z,22nm,1.4s						
SSF	**Saint Saulge**	**163.14**	**357**	*e*PKIKP	**PKPdf**	**18 28 27.6**	**-0.8**
SSF	**Saint Saulge**	**163.14**	**357**	*e*PKPdf	**PKPdf**	**18 28 27.6**	**-0.8**
CABF	**La Chapelle**	**163.34**	**351**	*e*PKIKP	**PKPdf**	**18 28 28.3**	**-0.4**
	comp=Z,38nm,1.3s						
CABF	**La Chapelle**	**163.34**	**351**	*e*PKIKP	**PKPdf**	**18 28 28.3**	**-0.4**
CABF	**La Chapelle**	**163.34**	**351**	*e*PKPdf	**PKPdf**	**18 28 28.3**	**-0.4**
SMF	**Signal de Mont**	**163.53**	**356**	*e*PKIKP	**PKPdf**	**18 28 27.9**	**-0.9**
	comp=Z,16nm,1.2s						
SMF	**Signal de Mont**	**163.53**	**356**	*e*PKIKP	**PKPdf**	**18 28 27.9**	**-0.9**
SMF	**Signal de Mont**	**163.53**	**356**	*e*PKPdf	**PKPdf**	**18 28 27.9**	**-0.9**
BGF	**Bois d'Agland**	**163.66**	**358**	*e*PKIKP	**PKPdf**	**18 28 28.2**	**-0.7**
BGF	**Bois d'Agland**	**163.66**	**358**	*e*PKIKP	**PKPdf**	**18 28 28.2**	**-0.7**
BGF	**Bois d'Agland**	**163.66**	**358**	*e*PKPdf	**PKPdf**	**18 28 28.2**	**-0.7**
TCF	**Toulx Ste Croi**	**163.94**	**0**	*e*PKIKP	**PKPdf**	**18 28 28.5**	**-0.7**
TCF	**Toulx Ste Croi**	**163.94**	**0**	*e*PKIKP	**PKPdf**	**18 28 28.5**	**-0.7**
TCF	**Toulx Ste Croi**	**163.94**	**0**	*e*PKPdf	**PKPdf**	**18 28 28.5**	**-0.7**
MBDF	**Montbardon**	**165.06**	**347**	*e*PKIKP	**PKPdf**	**18 28 29.6**	**-0.8**
MBDF	**Montbardon**	**165.06**	**347**	*e*PKIKP	**PKPdf**	**18 28 29.6**	**-0.8**
MBDF	**Montbardon**	**165.06**	**347**	*e*PKPdf	**PKPdf**	**18 28 29.6**	**-0.8**
CAF	**Calviac**	**165.30**	**0**	*e*PKIKP	**PKPdf**	**18 28 31.1**	**+0.7**
	comp=Z,16nm,1.1s						
CAF	**Calviac**	**165.30**	**0**	*e*PKIKP	**PKPdf**	**18 28 31.1**	**+0.7**
CAF	**Calviac**	**165.30**	**0**	*e*PKPdf	**PKPdf**	**18 28 31.1**	**+0.7**
EPF	**Esparros**	**167.11**	**6**	*e*PKIKP	**PKPdf**	**18 28 31.8**	**-0.1**
	comp=Z,29nm,1.3s						
EPF	**Esparros**	**167.11**	**6**	*e*PKIKP	**PKPdf**	**18 28 31.8**	**-0.1**
EPF	**Esparros**	**167.11**	**6**	*e*PKPdf	**PKPdf**	**18 28 31.8**	**-0.1**
EVOP	**Sao Brissos**	**168.08**	**43**	*e*PKIKP	**PKPdf**	**18 28 31.8**	**-0.9**
EVOP	**Sao Brissos**	**168.08**	**43**	*e*PKPdf	**PKPdf**	**18 28 31.8**	**-0.9**
EVO	**Evora**	**168.15**	**43**	*e*PKIKP	**PKPdf**	**18 28 31.8**	**-0.9**
	comp=Z,28nm,1.3s						
EVO				*e*R			
	comp=Z,146nm,22.8s						
ESDC	**Sonseca Array**	**169.27**	**27**	PKP	**PKPdf**	**18 28 33.8**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=348,slow=2.9,SNR=13						
ESDC				PKPab	**PKPab**	**18 29 46.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=326,slow=3.7,SNR=4.2						
ESDC	**Sonseca Array**	**169.27**	**27**	PKP	**PKPdf**	**18 28 33.8**	**+0.3**
ESDC				PKPab	**PKPab**	**18 29 46.0**	**+0.1**
KEST	**Kesra**	**171.87**	**315**	PKP	**PKPdf**	**18 28 34.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=195,slow=16,SNR=4.2						
KEST	**Kesra**	**171.87**	**315**	PKP	**PKPdf**	**18 28 34.9**	**-0.2**
TAM	**Tamanrasset**	**172.05**	**203**	*e*PKIKP	**PKPdf**	**18 28 36.6**	**+1.0**
TAM	**Tamanrasset**	**172.05**	**203**	*e*PKPdf	**PKPdf**	**18 28 36.6**	**+1.0**

*NIED **15** 18:35:00.28˚.00N×131˚.10E,h5km,Mw3.7 Best double couple: M₀3.48000×10¹⁴ NP1:φ₁256.00000°,δ67.00000°, λ127.00000°. NP2:φ₂13.00000°,δ42.00000°,λ35.00000°.*
*IDC **15** 18:35:25.9±1.1,27˚.88N×131˚.12E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.4/25,mbtmp3.5/6,ML3.4/2,Error ellipse: s-maj=39.4km s-min=21.6km az=92.0*
*JMA **15** 18:35:27.7±0.1,27˚.96N×131˚.02E,h77km±3km,M3.7*

ISC 15 18:35:26.3±2.1,27˚.98N±0˚.03×131˚.02E±0˚.05,h14km±13km, n22,σ1°51/37,mb3.5/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JZK	**Kikaishima**	**0.99**	**290**	P		**Pn**	**18 35 46.7**	**+1.0**
JZK				*e*S		**Sn**	**18 36 01.0**	**+1.5**
JAM	**Amami Oshima**	**1.32**	**289**	P		**Pg**	**18 35 51.2**	**-0.6**
JAM				S		**Sb**	**18 36 07.4**	**-0.4**
JTK	**Tokunoshima**	**1.84**	**265**	P		**Pn**	**18 35 58.2**	**+0.7**
JTK				S		**Sn**	**18 36 19.4**	**-1.3**
JNN	**Nakanoshima**	**2.11**	**332**	P		**Pn**	**18 36 01.9**	**+0.6**
JNN				S		**Sn**	**18 36 26.8**	**-0.5**
JMZ	**Minamidaito 2**	**2.15**	**175**	P		**Pn**	**18 36 01.9**	**+0.1**
JMZ				S		**Sn**	**18 36 26.2**	**-2.1**
JKC	**Kuchinoerabu**	**2.58**	**344**	P		**Pn**	**18 36 08.3**	**+0.6**
JKC				*e*S		**Sn**	**18 36 37.8**	**-1.0**
JTN	**Tanegashima 3**	**2.67**	**359**	P		**Pn**	**18 36 09.4**	**+0.5**
JTN				S		**Sn**	**18 36 39.1**	**-1.9**
JOW	**Kunigami**	**2.70**	**246**	Pn		**Pn**	**18 36 09.6**	**+0.4**
	8.4nm,0.3s,baz=107,slow=16,SNR=106							
JOW				Sn		**Sn**	**18 36 40.2**	**-1.5**
	8.7nm,0.3s,baz=150,slow=27,SNR=4.1							
JOW	**Kunigami**	**2.70**	**246**	P		**Pn**	**18 36 09.6**	**+0.4**
JOW				*e*S		**Sn**	**18 36 40.1**	**-1.6**
JIH	**Iheya**	**2.87**	**252**	P		**Pn**	**18 36 12.0**	**+0.3**
JIH				S		**Sn**	**18 36 44.0**	**-2.0**
JTSR	**Tashiro 2**	**3.18**	**358**	P		**Pn**	**18 36 17.0**	**+1.0**
JTSR				*e*S		**Sn**	**18 36 51.9**	**-1.8**
JJT2	**Tamagusuku 2**	**3.45**	**239**	P		**Pn**	**18 36 20.3**	**+0.7**
JNAR	**Kushima--Naru**	**3.54**	**3**	P		**Pn**	**18 36 22.0**	**+1.1**
JSU	**Suzuyama**	**3.55**	**352**	P		**Pn**	**18 36 21.4**	**+0.3**
JSU				*e*S		**Sn**	**18 37 00.5**	**-2.4**
JSJ	**Shimokoshiki**	**3.86**	**343**	P		**Pn**	**18 36 25.8**	**+0.5**
JSJ				*e*S		**Sn**	**18 37 08.0**	**-2.4**
JTZ	**Takazaki**	**3.91**	**1**	P		**Pn**	**18 36 27.2**	**+1.2**
JTZ				*e*S		**Sn**	**18 37 09.3**	**-2.4**
JKE	**Kume jima 2**	**4.12**	**247**	P		**Pn**	**18 36 28.9**	**+0.1**
JKE				*e*S		**Sn**	**18 37 14.7**	**-2.0**
JNU	**Nakatsue**	**5.13**	**359**	Pn		**Pn**	**18 36 44.2**	**+1.5**
	1.6nm,0.3s,baz=157,slow=23,SNR=24							
JNU				Sn		**Sn**	**18 37 38.0**	**-3.8**
	1.7nm,0.3s,baz=94,slow=16,SNR=12							
WRA	**Warramunga Arr**	**47.74**	**176**	P		**P**	**18 44 04.5**	**+1.5**
	0.4nm,0.8s,baz=352,slow=8.1,SNR=2.8							
ASAR	**Alice Springs**	**51.42**	**177**	P		**P**	**18 44 31.7**	**+0.7**
	0.4nm,0.8s,baz=356,slow=6.0,SNR=4.0							
FINES	**FINESS Array B**	**72.66**	**331**	P		P	18 46 56.9	+4.2
	0.7nm,0.8s,baz=46,slow=8.1,SNR=3.9							
YKA	**Yellowknife Ar**	**75.89**	**26**	P		**P**	**18 47 13.0**	**+1.0**
	0.1nm,0.5s,baz=298,slow=5.6,SNR=4.3							

IDC 15 18:36:21.5±1.2,42˚.81S×124˚.68E,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.9/16,mbtmp3.9/7,ML4.1/1,MS3.6/5, Ms1 3.6/5,ms1mx3.4/20,Error ellipse: s-maj=39.3km s-min=24.5km az=91.0,South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NWAO	**Narrogin (SRO)**	**11.48**	**327**	Pn		Pn	18 39 04.8	-1.8
	1.4nm,0.3s,baz=295,slow=19,SNR=13							
NWAO				Sn		Sn	18 41 07.7	-7.9
	baz=186,slow=2.7,SNR=1.8							
STKA	**Stephens Creek**	**17.29**	**56**	Pn		P	18 40 25.4	-0.4
	0.4nm,0.3s,baz=185,slow=10,SNR=12							
STKA				LR		LR	18 46 42.3	
	comp=Z,102nm,20.6s,baz=24,slow=36							
ASAR	**Alice Springs**	**20.57**	**25**	P		P	18 41 01.7	-0.2
	1.3nm,0.8s,baz=201,slow=11,SNR=22							
ASAR				LR		LR	18 48 23.5	
	comp=Z,80nm,20.4s,baz=303,slow=35							
WRA	**Warramunga Arr**	**24.21**	**23**	P		P	18 41 39.1	-0.8
	1.2nm,0.7s,baz=199,slow=11,SNR=8.4							
CTA	**Charters Tower**	**29.03**	**45**	LR		LR	18 53 36.8	
	comp=Z,60nm,20.5s,baz=41,slow=36							
VNDA	**Vanda**	**37.96**	**168**	P		P	18 43 39.8	-0.5
	1.3nm,0.7s,baz=321,slow=10,SNR=4.1							
VNDA				LR		LR	18 56 26.7	
	comp=Z,156nm,18.1s,baz=295,slow=32							
CMAR	**Chiang Mai Arr**	**65.41**	**333**	P		P	18 47 06.5	+0.6
	0.6nm,0.8s,baz=176,slow=5.7,SNR=5.5							
PPT	**Papeete**	**75.22**	**100**	LR		LR	19 18 12.3	
	comp=Z,125nm,18.2s,baz=162,slow=33							
SONM	**Songino Array**	**91.69**	**348**	P		P	18 49 31.2	+0.8
	0.8nm,1.2s,baz=204,slow=3.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**122.91**	**257**	PKP		PKPdf	18 55 19.7	-0.3
	0.4nm,0.8s,baz=90,slow=1.4,SNR=3.0							
YKA	**Yellowknife Ar**	**140.73**	**39**	PKP		PKPdf	18 55 50.5	-1.4
	0.2nm,0.8s,baz=318,slow=1.4,SNR=3.9							

IDC 15 18:42:07.5±1.7,3˚.85N×126˚.93E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/23,mbtmp3.5/5,Error ellipse: s-maj=105.0km s-min=22.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P		P	18 47 01.4	-0.5
	0.7nm,0.5s,baz=350,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**24.74**	**163**	P		P	18 47 30.1	-0.8
	0.6nm,0.4s,baz=344,slow=9.7,SNR=11							
ASAR	**Alice Springs**	**28.18**	**166**	P		P	18 48 02.7	+0.7
	0.3nm,0.5s,baz=340,slow=8.2,SNR=10							
STKA	**Stephens Creek**	**38.17**	**160**	P		P	18 49 29.2	+0.3
	2.5nm,1.0s,baz=333,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**57.57**	**325**	P		P	18 51 59.1	-0.1
	0.2nm,0.5s,baz=118,slow=7.3,SNR=5.1							

*ISCJB **15** 18:47:20.0±0.6,38˚.71N±0˚.04×32˚.05E±0˚.05,h8km±5km, Error ellipse: s-maj=7.3km s-min=4.8km az=141.8*
*DDA **15** 18:47:19.5,38˚.72N×32˚.05E,h7km,MD3.0*
*ISK **15** 18:47:19.2,38˚.73N×32˚.11E,h9km,ML1.9*
*CSEM **15** 18:47:19.8±0.2,38˚.71N×32˚.08E,h5km,MD3.0,Error ellipse: s-maj=4.9km s-min=3.4km az=46.0*

ISC 15 18:47:19.9±0.9,38˚.73N±0˚.03×32˚.08E±0˚.04,h10km±8km, n20,σ0°34/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDHN	**Kadinhani**	**0.21**	**173**	*i* P		**Pg**	**18 47 24.3**	**0.0**
KDHN				*i* S		**Sg**	**18 47 27.1**	**-0.2**
KDHN	**Kadinhani**	**0.21**	**173**	*i* P		**Pg**	**18 47 24.3**	**0.0**
KDHN				*i* S		**Sg**	**18 47 27.1**	**-0.2**
KIZT	**Kizilcal**	**0.22**	**314**	PG		**Pg**	**18 47 24.2**	**-0.3**
KIZT				SG		**Sg**	**18 47 28.0**	**+0.3**
KIZT	**Kizilcal**	**0.22**	**314**	*i* Pg		**Pg**	**18 47 24.2**	**-0.3**
KIZT				*i* Sg		**Sg**	**18 47 28.0**	**+0.3**
LADK	**Ladik-KONYA**	**0.57**	**157**	*e*PG		**Pg**	**18 47 30.7**	**-0.3**
LADK				*e*SG		**Sg**	**18 47 38.9**	**+0.4**
LADK	**Ladik-KONYA**	**0.57**	**157**	*e*Pg		**Pg**	**18 47 30.7**	**-0.3**
LADK				*e*Sg		**Sg**	**18 47 38.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**0.84**	**329**	*e*PG		**Pg**	**18 47 35.9**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.84**	**329**	*e*Pg		**Pg**	**18 47 35.9**	**-0.2**
BOLV	**Bolvadin**	**0.89**	**270**	*i* S		**Sg**	**18 47 48.0**	**-0.6**
BOLV	**Bolvadin**	**0.89**	**270**	*i* S		**Sg**	**18 47 48.0**	**-0.6**
BBAL	**Bala**	**1.15**	**44**	*i* P		**Pn**	**18 47 42.3**	**+0.1**
BBAL				*i* S		**Sn**	**18 47 58.0**	**0.0**
BBAL	**Bala**	**1.15**	**44**	*i* P		**Pn**	**18 47 42.3**	**+0.1**
BBAL				*i* S		**Sn**	**18 47 58.0**	**0.0**
SHUT	**Suhut-Afyon**	**1.21**	**262**	*e*PN		**Pb**	**18 47 43.3**	**+0.3**
SHUT	**Suhut-Afyon**	**1.21**	**262**	*e*Pn		**Pb**	**18 47 43.3**	**+0.3**
SULT	**Sultanhani-AKS**	**1.24**	**115**	*e*PN		**Pn**	**18 47 43.1**	**-0.3**
SULT	**Sultanhani-AKS**	**1.24**	**115**	*e*Pn		**Pn**	**18 47 43.1**	**-0.3**
ALT	**Altintas**	**1.57**	**283**	*e*PN		**Pn**	**18 47 48.5**	**+0.5**
ALT	**Altintas**	**1.57**	**283**	*e*Pn		**Pn**	**18 47 48.5**	**+0.5**
BORA	**Eskisehir**	**1.71**	**313**	*i* P		**Pb**	**18 47 51.8**	**+0.3**
BORA				*i* S		**Sn**	**18 48 11.5**	**-0.3**
BORA	**Eskisehir**	**1.71**	**313**	*i* P		**Pb**	**18 47 51.8**	**+0.3**
BORA				*i* S		**Sn**	**18 48 11.5**	**-0.3**

CASC 15 18:47:54.7±2.0,8˚.97N×83˚.05W,h20km±9km,MD3.6, 3C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACR	**Cerro Adams**	**0.33**	**200**	⇓*i* P		Pb	18 48 01.6	-0.4
ACR				*e*S		Sb	18 48 08.4	+1.5
BRU2	**Volcan**	**0.40**	**116**	⇑*i* P		Pb	18 48 02.8	-0.5
BRU2				*e*S		Sn	18 48 11.1	-1.5
TBS2		**0.43**	**114**	⇑*i* P		Pb	18 48 04.8	+1.0
TBS2				*e*S		Sn	18 48 13.1	-0.3
QCR	**Quepos**	**1.19**	**293**	⇑*e*P		Pn	18 48 15.3	-0.9
QCR				*e*S		Sn	18 48 33.4	+1.7
LAJ	**Bijagual**	**1.38**	**310**	⇓*e*P		Pb	18 48 21.6	+1.5
LAJ				*e*S		Sb	18 48 45.1	+7.7
SJS	**Escuela Geolog**	**1.38**	**314**	*e*P		Pn	18 48 18.4	-0.6
SJS				*e*S		Sb	18 48 38.2	+0.8
CGA2	**Cerro Gallo 2**	**1.74**	**307**	*e*P		Pn	18 48 23.9	-0.1
CGA2				*e*S		Sb	18 48 47.0	-0.7

*TAP **15** 19:05:15.8,23˚.85N×121˚.62E,h40km,ML3.3,C*
*JMA **15** 19:05:15.6±0.4,23˚.80N×121˚.74E,h27km,M2.5*
*ISCJB **15** 19:05:16.1±0.3,23˚.84N±0˚.02×121˚.69E±0˚.02,h38km±5km, Error ellipse: s-maj=3.4km s-min=2.4km az=138.2*

ISC 15 19:05:16.5±1.0,23˚.85N±0˚.02×121˚.67E±0˚.02,h34km±2km, n51,σ0°89/88,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HWA	**Hwalien**	**0.14**	**335**	*i* P		**Pb**	**19 05 22.9**	**+0.3**
	baz=2.0							
HWA				S		**Sb**	**19 05 28.0**	**+1.2**
	baz=2.0							
ESF	**Shoufeng Towns**	**0.15**	**277**	*e*P		Pn	19 05 22.6	+1.9
	baz=280							
ESF				*e*S		**Sb**	**19 05 28.0**	**+1.1**
	baz=280							
TEGC	**Jichi Village**	**0.19**	**220**	*e*P		Pn	19 05 23.2	+1.4
	baz=206							
TEGC				*e*S		**Sb**	**19 05 29.9**	**+2.4**
	baz=206							
ESL	**Shilin**	**0.22**	**260**	⇓*i* P		**Pn**	**19 05 22.7**	**-0.1**
	baz=267							
ESL				*e*S		Sn	19 05 27.6	+2.4
	baz=267							
TWD	**Chiawan**	**0.23**	**343**	*i* P		**Pn**	**19 05 23.3**	**+0.2**
	baz=346							
TWD				*i* S		**Sb**	**19 05 29.0**	**+0.7**
	baz=346							
EHY	**Hungye**	**0.47**	**223**	*e*P		**Pb**	**19 05 25.1**	**-1.7**
	baz=224							
WHF	**Hehuan Shan**	**0.47**	**308**	⇓*i* P		**Pb**	**19 05 26.1**	**-1.0**
	baz=306							
WHF				S		**Sb**	**19 05 33.1**	**-1.1**
	baz=306							
ENA	**Nanau**	**0.58**	**7**	P		**Pn**	**19 05 27.7**	**-0.6**
	baz=360							
ENA				S		**Sb**	**19 05 36.5**	**0.0**
	baz=360							
TWT	**Tachien**	**0.60**	**312**	P		**Pn**	**19 05 28.4**	**-0.5**
	baz=313							
TWT				S		**Sn**	**19 05 36.7**	**-0.8**
	baz=313							
TWF1	**Yuli**	**0.60**	**214**	*e*P		Pn	19 05 26.9	-1.8
	baz=219							
NNS	**Nan Shan**	**0.64**	**335**	*e*P		**Pn**	**19 05 28.6**	**-0.7**
	baz=343							
NNS				S		**Sn**	**19 05 37.6**	**-1.0**
	baz=343							
SMLT	**Sun Moon Lake**	**0.70**	**273**	P		**Pn**	**19 05 29.4**	**-0.8**
	baz=275							
SMLT				S		**Sn**	**19 05 38.9**	**-1.2**
	baz=275							
TYC	**Yuchr**	**0.74**	**274**	P		**Pn**	**19 05 29.8**	**-0.9**
	baz=279							
TYC				S		**Sn**	**19 05 39.2**	**-1.6**
	baz=279							
ENTT	**Nioudou**	**0.79**	**353**	*e*P		**Pn**	**19 05 30.7**	**-0.6**
	baz=355							
ENTT				*e*S		**Sn**	**19 05 41.0**	**-1.0**
	baz=355							
CHKT	**Chengkung**	**0.80**	**200**	*e*P		**Pn**	**19 05 30.5**	**-0.9**
	baz=187							
CHKT				*e*S		**Sn**	**19 05 42.2**	**0.0**
	baz=187							
ALS	**Alishan**	**0.86**	**247**	P		**Pn**	**19 05 32.1**	**-0.4**
	baz=247							
ALS				S		**Sn**	**19 05 43.2**	**-0.9**
	baz=247							
TWE	**Neicheng**	**0.86**	**360**	*e*P		**Pn**	**19 05 31.9**	**-0.5**
	baz=356							
TWE				*e*S		**Sn**	**19 05 43.5**	**-0.3**
	baz=356							
NSK	**Sanguang**	**0.87**	**341**	P		**Pn**	**19 05 32.0**	**-0.4**
	baz=350							
NSK				*e*S		**Sn**	**19 05 43.3**	**-0.7**
	baz=350							
ELDTW	**Lidau**	**0.89**	**222**	*e*P		Pn	19 05 31.0	-1.8
	baz=215							
WNT	**Mingjian**	**0.90**	**272**	*e*P		**Pn**	**19 05 32.9**	**+0.1**
	baz=272							
WNT				*e*S		**Sn**	**19 05 45.1**	**+0.4**
	baz=272							
CHN5	**Tsauling**	**0.94**	**255**	P		**Pn**	**19 05 33.3**	**-0.2**
	baz=255							
CHN5				S		**Sn**	**19 05 45.6**	**-0.3**
	baz=255							
TCU	**Taichung**	**0.95**	**288**	*e*P		**Pn**	**19 05 34.0**	**+0.5**
	baz=289							
TCU				*e*S		**Sb**	**19 05 48.0**	**+1.0**
	baz=289							
TWQ1	**Liyutan**	**0.96**	**301**	*e*P		**Pn**	**19 05 34.1**	**+0.5**
	baz=302							
TWQ1				*e*S		**Sn**	**19 05 46.9**	**+0.8**
	baz=302							
NSTT	**Nanjuang**	**0.99**	**322**	*e*P		**Pn**	**19 05 34.4**	**+0.4**
	baz=310							
NSTT				*e*S		**Sn**	**19 05 46.6**	**-0.2**
	baz=310							
NSY	**Sanyi**	**1.00**	**304**	*e*P		**Pn**	**19 05 34.8**	**+0.6**
	baz=305							
NSY				*e*S		**Sb**	**19 05 49.0**	**+0.6**
	baz=305							
WGK	**Gukeng**	**1.03**	**261**	*e*P		**Pn**	**19 05 34.5**	**-0.1**
	baz=261							
WGK				*e*S		**Sn**	**19 05 48.1**	**+0.3**
	baz=261							
CHN4	**Tsaushan**	**1.11**	**243**	P		Pn	**19 05 35.8**	**+0.2**
	baz=244							
CHN4				*e*S		**Sn**	**19 05 50.8**	**+1.0**
	baz=244							
HSN	**Hsinchu**	**1.14**	**326**	*e*P		Pn	**19 05 36.7**	**+0.6**
	baz=329							
TWG	**Pinlang**	**1.17**	**208**	*e*P		Pn	19 05 34.5	-2.0
	baz=198							
TWG				*e*S		**Sn**	**19 05 52.2**	**+0.9**
	baz=198							
CHY	**Chiayi**	**1.20**	**253**	*e*P		Pn	**19 05 37.5**	**+0.6**
	baz=254							
CHY				*e*S		**Sn**	**19 05 53.1**	**+1.2**
	baz=254							
NWF	**Wu-fen Shan**	**1.22**	**5**	*e*P		Pn	**19 05 37.2**	**-0.1**
	baz=352							
NWF				*e*S		**Sn**	**19 05 54.3**	**+1.7**
	baz=352							
TWK	**Hsinying**	**1.23**	**242**	*e*P		Pn	**19 05 37.5**	**0.0**
	baz=242							
TWK				*e*S		**Sn**	**19 05 53.0**	**+0.1**
	baz=242							
CHN1	**Nanshi**	**1.24**	**238**	*e*P		Pn	**19 05 37.8**	**+0.2**
	baz=239							
CHN1				*e*S		**Sn**	**19 05 53.8**	**+0.6**
	baz=239							
SGST	**Jiashian**	**1.26**	**233**	P		Pn	**19 05 38.3**	**+0.5**
	baz=233							
SGST				*e*S		**Sn**	**19 05 54.8**	**+1.3**
	baz=233							
TWS1	**Kuangyinshan**	**1.26**	**350**	*e*P		Pn	**19 05 39.7**	**+1.8**
	baz=359							
TWS1				*e*S		**Sn**	**19 05 54.2**	**+0.5**
	baz=359							
WTCT	**Ta-ch'eng**	**1.27**	**271**	*e*P		Pn	**19 05 37.9**	**0.0**
	baz=271							
WTCT				*e*S		**Sn**	**19 05 54.7**	**+0.9**
	baz=271							
WSF	**Szhu**	**1.34**	**261**	*e*P		Pn	**19 05 38.9**	**0.0**
	baz=262							
WSF				*e*S		**Sn**	**19 05 56.9**	**+1.3**
	baz=262							
YOJ	**Yonaguni jima**	**1.37**	**63**	P		Pn	**19 05 39.0**	**-0.2**
YOJ				*e*S		**Sn**	**19 05 56.0**	**-0.2**
ECL	**Taimali**	**1.41**	**208**	*e*P		Pn	**19 05 39.0**	**-0.9**
	baz=200							
ECL				*e*S		**Sn**	**19 05 57.3**	**0.0**
	baz=200							
TWY	**Chenhua**	**1.42**	**357**	*e*P		Pn	**19 05 42.1**	**+2.2**
	baz=357							
CHN3	**Shinhua**	**1.43**	**237**	*e*P		Pn	**19 05 40.1**	**0.0**
	baz=239							
CHN3				*e*S		**Sn**	**19 05 59.8**	**+2.1**
	baz=239							
CHN8	**Yiju**	**1.43**	**250**	*e*P		Pn	**19 05 40.1**	**0.0**
	baz=249							
EAST	**Anshuo**	**1.65**	**207**	*e*P		Pn	**19 05 43.5**	**+0.3**
	baz=202							
SCZT	**Fangliau**	**1.76**	**213**	*e*P		Pn	**19 05 45.8**	**+1.1**
	baz=230							
SCZT				*e*S		**Sn**	**19 06 07.3**	**+1.4**
	baz=230							
LAY	**Lan-yu**	**1.81**	**183**	*e*P		Pn	**19 05 44.3**	**-1.1**
	baz=177							
WDGT	**Dungji**	**1.94**	**253**	*e*P		Pn	**19 05 46.6**	**-0.4**
	baz=254							
WDGT				*e*S		**Sn**	**19 06 08.4**	**-1.8**
	baz=254							
IRIF	**Iriomote-Funau**	**1.94**	**75**	P		Pn	**19 05 47.3**	**+0.1**
IRIF				*e*S		**Sn**	**19 06 10.6**	**+0.2**
PNG	**Penghu**	**1.96**	**262**	*e*P		Pn	**19 05 46.8**	**-0.6**
	baz=263							
PNG				*e*S		**Sn**	**19 06 09.7**	**-1.1**
	baz=263							
HATJ	**Hateruma jima**	**1.96**	**84**	P		Pn	**19

	baz=10,SNR=4.3							
CTA	**Charters Tower**	**14.63**	**183**	P		**P**	**19 32 44.7**	**-0.1**
	0.3nm,0.3s,baz=9.5,slow=11,SNR=6.2							
CTA	**Charters Tower**	**14.63**	**183**	P		**P**	**19 32 44.7**	**-0.1**
KDU	**Kakadu**	**16.20**	**242**	P		**Pn**	**19 33 02.5**	**+0.1**
	baz=16,SNR=30							
QIS	**Mount Isa**	**16.76**	**205**	P		**Pn**	**19 33 12.1**	**+3.1**
	baz=18,SNR=8.9							
WRAB	**Tennant Creek**	**19.08**	**220**	*e*P		**P**	**19 33 33.9**	**+0.1**
	13nm,0.9s							
WRAB				*e*S		**S**	**19 36 58.8**	**-2.5**
WRA	**Warramunga Arr**	**19.09**	**220**	P		**P**	**19 33 34.7**	**+0.8**
	1.6nm,0.3s,baz=48,slow=12,SNR=95							
WRA				S		**S**	**19 36 58.1**	**-3.5**
	0.1nm,0.3s,baz=39,slow=21,SNR=15							
WRA	**Warramunga Arr**	**19.09**	**220**	P		**P**	**19 33 34.7**	**+0.8**
WRA				S		**S**	**19 36 58.1**	**-3.5**
AS31	**Alice Springs**	**22.20**	**214**	*e*P		**P**	**19 34 05.9**	**-0.9**
ASAR	**Alice Springs**	**22.20**	**214**	P		**P**	**19 34 07.5**	**+0.8**
	8.6nm,0.7s,baz=54,slow=9.4,SNR=40							
ASAR				S		**S**	**19 37 56.3**	**-2.6**
	1.0nm,0.8s,baz=32,slow=19,SNR=6.7							
ASAR	**Alice Springs**	**22.20**	**214**	P		**P**	**19 34 07.5**	**+0.8**
ASAR				S		**S**	**19 37 56.3**	**-2.6**
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P		**P**	**19 34 28.2**	**+0.2**
	4.9nm,0.6s,baz=60,slow=9.6,SNR=16							
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P		**P**	**19 34 28.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P		**P**	**19 34 28.3**	**+0.3**
	baz=25,SNR=9.4							
STKA	**Stephens Creek**	**26.85**	**191**	P		P	19 35 00.1	+11
	baz=28,SNR=6.5							
WSI	**Waingapu**	**26.96**	**259**	S		**S**	**19 39 14.1**	**-0.8**
	baz=27,SNR=5.1							
PCI	**Palu**	**27.64**	**278**	P		P	19 34 46.5	-10
	baz=27,SNR=9.2							
PCI				S		S	19 39 00.9	-25
	baz=27,SNR=7.0							
MEEK	**Meekatharra**	**34.46**	**229**	P		**P**	**19 35 56.4**	**+0.5**
	baz=35,SNR=5.2							
URZ	**Urewera**	**42.54**	**144**	LR		LR	19 51 15.6	
	comp=Z,220nm,21.2s,baz=36,slow=31							
PPI	**Padang Panjang**	**46.94**	**274**	S		S	19 44 04.0	-13
	baz=46,SNR=4.6							
GSI	**Gunungsitoli**	**49.97**	**276**	S		S	19 44 49.6	-10
	baz=49,SNR=8.6							
PPT	**Papeete**	**62.91**	**107**	LR		LR	20 02 56.8	
	comp=Z,141nm,22.0s,baz=226,slow=32							
SONM	**Songino Array**	**63.96**	**331**	P		**P**	**19 39 40.3**	**+1.1**
	0.8nm,0.3s,baz=140,slow=6.5,SNR=6.5							
SONM	**Songino Array**	**63.96**	**331**	P		**P**	**19 39 40.3**	**+1.1**
MKAR	**Makanchi Array**	**77.14**	**320**	P		**P**	**19 40 58.8**	**-0.1**
	0.2nm,0.6s,baz=95,slow=7.6,SNR=3.3							
MKAR	**Makanchi Array**	**77.14**	**320**	P		**P**	**19 40 58.8**	**-0.1**
ZALV	**Zalesovo Beam**	**78.59**	**328**	P		**P**	**19 41 06.1**	**-0.6**
	0.3nm,0.3s,baz=127,slow=4.4,SNR=4.0							
ZALV	**Zalesovo Beam**	**78.59**	**328**	P		**P**	**19 41 06.1**	**-0.6**
ILAR	**Eielson Array**	**84.87**	**23**	P		**P**	**19 41 38.8**	**-0.5**
	0.7nm,0.8s,baz=258,slow=5.6,SNR=7.0							
ILAR				pP		pP	19 42 29.0	+7.5
	0.4nm,0.7s,baz=260,slow=5.1,SNR=3.0							
ILAR	**Eielson Array**	**84.87**	**23**	P		**P**	**19 41 38.8**	**-0.5**
ILAR				pP		pP	19 42 29.0	+7.5
TORD	**Torodi Ar. Bea**	**145.09**	**285**	PKPbc		**PKPbc**	**19 48 40.5**	**-1.6**
	0.4nm,0.5s,baz=61,slow=3.8,SNR=8.9							
TORD	**Torodi Ar. Bea**	**145.09**	**285**	PKPbc		**PKPbc**	**19 48 40.5**	**-1.6**

*DDA **15** 19:30:41.5,38.84N×26.85E,h27km, MD3.1*
*ISK **15** 19:30:41.8,38.85N×26.85E,h5km, MD2.9*
*ATH **15** 19:30:42.2,38.82N×26.82E,h19km±2km, MD3.3/3*
*ISCJB **15** 19:30:42.1±0.4,38.83N±0.02×26.84E±0.03, h6km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=136.1*
*CSEM **15** 19:30:42.5±0.1,38.84N×26.83E, h10km, MD3.1, Error ellipse: s-maj=3.0km s-min=2.5km az=59.0*
*THE **15** 19:30:43.4,38.82N×26.73E, h4km±21km, ML2.2/3, Error ellipse: s-maj=21.6km s-min=0.7km az=90.0*

ISC 15 19:30:42.3±0.9,38.83N±0.02×26.82E±0.02, h14km±8km, n63,σ0847/98, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BLCB	**Balcova**	**0.47**	**158**	PG		**Pb**	**19 30 52.2**	**-0.2**
BLCB				SG		**Sg**	**19 30 58.4**	**+0.3**
BLCB	**Balcova**	**0.47**	**158**	*i* Pg		**Pb**	**19 30 52.2**	**-0.2**
BLCB				*i* Sg		**Sg**	**19 30 58.4**	**+0.3**
AYVA	**Ayvalik**	**0.49**	**348**	*i* P		**Pg**	**19 30 52.4**	**+0.3**
AYVA				*i* S		**Sg**	**19 30 58.8**	**+0.1**
AYVA	**Ayvalik**	**0.49**	**348**	*i* P		**Pg**	**19 30 52.4**	**+0.3**
AYVA				*i* S		**Sg**	**19 30 58.8**	**+0.1**
URLA	**Izmir**	**0.50**	**201**	*i* P		**Pg**	**19 30 52.2**	**0.0**
URLA				*i* S		**Sb**	**19 31 00.4**	**+0.5**
URLA	**Izmir**	**0.50**	**201**	*i* P		**Pg**	**19 30 52.2**	**0.0**
URLA				*i* S		**Sb**	**19 31 00.4**	**+0.5**
IZM	**Izmir**	**0.55**	**141**	PG		**Pg**	**19 30 53.3**	**+0.1**
IZM	**Izmir**	**0.55**	**141**	*i* Pg		**Pg**	**19 30 53.3**	**+0.1**
PRK	**Paraskevi**	**0.60**	**315**	P		**Pg**	**19 30 53.9**	**-0.1**
PRK				S		**Sb**	**19 31 02.6**	**-0.2**
PRK	**Paraskevi**	**0.60**	**315**	*e*PN		**Pg**	**19 30 54.0**	**-0.1**
PRK				*e*SN		**Sb**	**19 31 02.7**	**-0.1**
PRK	**Paraskevi**	**0.60**	**315**	*e*Pn		**Pg**	**19 30 54.0**	**-0.1**
PRK				S		**Sb**	**19 31 02.6**	**-0.2**
CHOS	**Chios island**	**0.74**	**234**	P		**Pg**	**19 30 56.7**	**-0.1**
CHOS				S		**Sg**	**19 31 06.6**	**+0.1**
CHOS	**Chios island**	**0.74**	**234**	*e*PN		**Pg**	**19 30 56.7**	**-0.1**
CHOS				*e*SN		**Sg**	**19 31 06.8**	**+0.3**
CHOS	**Chios island**	**0.74**	**234**	P		**Pg**	**19 30 56.7**	**-0.1**
CHOS				S		**Sg**	**19 31 06.6**	**+0.1**
AKHS	**Akhisar**	**0.78**	**86**	*i* P		**Pb**	**19 30 57.7**	**+0.1**
AKHS				*i* S		**Sg**	**19 31 07.6**	**-0.1**
AKHS	**Akhisar**	**0.78**	**86**	*i* P		**Pb**	**19 30 57.7**	**+0.1**
AKHS				*i* S		**Sg**	**19 31 07.6**	**-0.1**
AKS	**Akhisar**	**0.78**	**86**	*e*PG		**Pg**	**19 30 57.2**	**-0.2**
AKS				*e*SG		**Sg**	**19 31 07.3**	**-0.4**
AKS	**Akhisar**	**0.78**	**86**	*e*Pg		**Pg**	**19 30 57.2**	**-0.2**
AKS				*e*Sg		**Sg**	**19 31 07.3**	**-0.4**
SIGR	**SIGRI**	**0.84**	**297**	P		**Pb**	**19 30 58.7**	**0.0**
SIGR				S		**Sb**	**19 31 10.3**	**+0.4**
SIGR	**SIGRI**	**0.84**	**297**	P		**Pb**	**19 30 58.7**	**0.0**
SIGR				S		**Sb**	**19 31 10.3**	**+0.4**
EZN	**Ezine**	**1.07**	**339**	*e*PG		**Pb**	**19 31 02.0**	**-0.6**
EZN				*e*SG		**Sb**	**19 31 16.6**	**+0.2**
EZN	**Ezine**	**1.07**	**339**	*e*Pg		**Pb**	**19 31 02.0**	**-0.6**
EZN				*e*Sg		**Sb**	**19 31 16.6**	**+0.2**
BALY	**Balya**	**1.10**	**34**	*i* P		**Pb**	**19 31 02.9**	**-0.3**
BALY				*i* S		**Sn**	**19 31 18.9**	**+0.5**
BALY	**Balya**	**1.10**	**34**	*i* P		**Pb**	**19 31 02.9**	**-0.3**
BALY				*i* S		**Sn**	**19 31 18.9**	**+0.5**
BALB	**Balikesir**	**1.16**	**45**	*e*PN		**Pn**	**19 31 03.8**	**-0.3**
BALB				*e*SN		**Sg**	**19 31 19.8**	**0.0**
BALB	**Balikesir**	**1.16**	**45**	*e*Pn		**Pn**	**19 31 03.8**	**-0.3**
BALB				*e*Sn		**Sg**	**19 31 19.8**	**0.0**
BOZC	**Bozcaada**	**1.18**	**330**	*i* P		**Pg**	**19 31 05.1**	**+0.1**
BOZC				*i* S		**Sg**	**19 31 20.9**	**+0.5**
GONE	**Gonen-Balikesi**	**1.39**	**29**	*e*PN		**Pn**	**19 31 07.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.39**	**29**	*e*Pn		**Pn**	**19 31 07.5**	**+0.2**
MANT	**Manisa**	**1.40**	**103**	*i* P		**Pn**	**19 31 07.6**	**0.0**
MANT				*i* S		**Sn**	**19 31 25.6**	**-0.4**
MANT	**Manisa**	**1.40**	**103**	*i* P		**Pn**	**19 31 07.6**	**0.0**
MANT				*i* S		**Sn**	**19 31 25.6**	**-0.4**
AYDN	**Tasoluk**	**1.43**	**144**	*i* P		**Pn**	**19 31 07.6**	**-0.3**
AYDN				*i* S		**Sn**	**19 31 26.5**	**0.0**
AYDN	**Tasoluk**	**1.43**	**144**	*i* P		**Pn**	**19 31 07.6**	**-0.3**
AYDN				*i* S		**Sn**	**19 31 26.5**	**0.0**
KULA	**Kula-Manisa**	**1.48**	**102**	*e*PN		**Pb**	**19 31 09.3**	**-0.3**
KULA	**Kula-Manisa**	**1.48**	**102**	*e*Pn		**Pb**	**19 31 09.3**	**-0.3**
DEMI	**Demirci**	**1.50**	**81**	*i* P		**Pb**	**19 31 10.4**	**+0.5**
DEMI				*i* S		**Sn**	**19 31 28.2**	**0.0**
DEMI	**Demirci**	**1.50**	**81**	*i* P		**Pb**	**19 31 10.4**	**+0.5**
DEMI				*i* S		**Sn**	**19 31 28.2**	**0.0**
DURS	**Dursunbey**	**1.50**	**58**	*i* P		**Pn**	**19 31 08.9**	**-0.1**
DURS				*i* S		**Sb**	**19 31 28.8**	**-0.1**
DURS	**Dursunbey**	**1.50**	**58**	*i* P		**Pn**	**19 31 08.9**	**0.0**
DURS				*i* S		**Sb**	**19 31 28.8**	**-0.1**
LPK	**Lapseki**	**1.55**	**358**	*e*PN		**Pb**	**19 31 10.4**	**-0.3**
LPK	**Lapseki**	**1.55**	**358**	*e*Pn		**Pb**	**19 31 10.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.59**	**351**	*e*PN		**Pb**	**19 31 11.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.59**	**351**	*e*Pn		**Pb**	**19 31 11.6**	**+0.1**
DST	**Dursunbey**	**1.60**	**60**	*e*PN		**Pn**	**19 31 10.6**	**+0.4**
DST	**Dursunbey**	**1.60**	**60**	*e*Pn		**Pn**	**19 31 10.6**	**+0.4**
KRBG	**Karabiga-Canak**	**1.61**	**13**	*e*PN		**Pb**	**19 31 11.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.61**	**13**	*e*Pn		**Pb**	**19 31 11.4**	**-0.4**
LIA	**Limnos Island**	**1.66**	**311**	*e*PB		**Pn**	**19 31 11.4**	**+0.5**
LIA				*e*SN		**Sg**	**19 31 34.8**	**-1.0**
LIA	**Limnos Island**	**1.66**	**311**	*e*Pb		**Pn**	**19 31 11.4**	**+0.5**
LIA				*e*Sn		**Sg**	**19 31 34.8**	**-1.0**
BNT	**Bandirma**	**1.75**	**29**	*e*PN		**Pn**	**19 31 13.0**	**+0.8**
BNT	**Bandirma**	**1.75**	**29**	*e*Pn		**Pn**	**19 31 13.0**	**+0.8**
BODT	**Bodrum**	**1.80**	**167**	*e*PN		**Pb**	**19 31 15.1**	**0.0**
BODT	**Bodrum**	**1.80**	**167**	*e*Pn		**Pb**	**19 31 15.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.88**	**8**	*e*PN		**Pb**	**19 31 15.7**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.88**	**8**	*e*Pn		**Pb**	**19 31 15.7**	**-0.8**
ENEZ	**Enez**	**1.98**	**345**	*e*PN		**Pb**	**19 31 16.7**	**-1.3**
ENEZ	**Enez**	**1.98**	**345**	*e*Pn		**Pb**	**19 31 16.7**	**-1.3**
YER	**Yerkesik**	**2.05**	**145**	*e*PN		**Pb**	**19 31 18.1**	**-1.2**
YER	**Yerkesik**	**2.05**	**145**	*e*Pn		**Pb**	**19 31 18.1**	**-1.2**
TVSB	**Tavsanli**	**2.15**	**72**	*e*PN		**Pn**	**19 31 18.6**	**+0.8**
TVSB	**Tavsanli**	**2.15**	**72**	*e*Pn		**Pn**	**19 31 18.6**	**+0.8**
ARMT	**Armutlu**	**2.35**	**42**	*e*PN		**Pn**	**19 31 21.5**	**+1.1**
ARMT	**Armutlu**	**2.35**	**42**	*e*Pn		**Pn**	**19 31 21.5**	**+1.1**

BUC 15 19:32:09.3±0.5,45.30N×27.28E,h9km±8km,MD2.1/3, 11C-7D,Error ellipse: s-maj=7.8km s-min=4.2km az=31.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GRER		**0.23**	**292**	⇑*i*P		Pg	19 32 13.7	-0.3
GRER				*i* S		Sg	19 32 18.0	+0.8
GRER		**0.23**	**292**	⇑*i*P		Pg	19 32 13.7	-0.3
GRER				S		Sg	19 32 18.0	+0.8
PGOR	**Pogoanele**	**0.44**	**209**	*i* S		Sb	19 32 25.3	-0.7
PGOR	**Pogoanele**	**0.44**	**209**	S		Sb	19 32 25.3	-0.7
ISR	**Istrita**	**0.55**	**252**	⇓*i*P		Pb	19 32 21.5	+0.2
ISR				*i* S		Sb	19 32 29.8	+0.5
ISR	**Istrita**	**0.55**	**252**	⇓*i*P		Pb	19 32 21.5	+0.2
ISR	**Istrita**	**0.55**	**252**	S		Sb	19 32 29.8	+0.5
CFR	**Carcaliu**	**0.61**	**101**	⇓*i*P		Pb	19 32 21.9	-0.3
CFR				*i* S		Sg	19 32 29.4	+0.2
CFR	**Carcaliu**	**0.61**	**101**	⇓*i*P		Pb	19 32 21.9	-0.3
CFR	**Carcaliu**	**0.61**	**101**	S		Sg	19 32 29.4	+0.2
VRI	**Vrincioaia**	**0.69**	**326**	⇑*i*P		Pb	19 32 23.9	+0.3
VRI	**Vrincioaia**	**0.69**	**326**	⇑*i*P		Pb	19 32 23.9	+0.3
VRI	**Vrincioaia**	**0.69**	**326**	⇑*i*P		Pb	19 32 23.9	+0.3
PLOR	**Plostina**	**0.71**	**322**	⇓*i*P		Pg	19 32 23.5	+0.4
PLOR	**Plostina**	**0.71**	**322**	⇓*i*P		Pg	19 32 23.5	+0.4
PLOR	**Plostina**	**0.71**	**322**	⇓*i*P		Pg	19 32 23.5	+0.4
MLR	**Muntele Rosu**	**0.96**	**282**	⇑*i*P		Pg	19 32 28.1	+0.1
MLR				*i* S		Sn	19 32 42.8	-0.4
MLR	**Muntele Rosu**	**0.96**	**282**	⇑*i*P		Pg	19 32 28.1	+0.1
MLR	**Muntele Rosu**	**0.96**	**282**	S		Sn	19 32 42.8	-0.4
TLCR		**1.09**	**95**	⇑*i*P		Pn	19 32 30.6	-0.2
TLCR				*i* S		Sg	19 32 44.2	-0.2
TLCR		**1.09**	**95**	⇑*i*P		Pn	19 32 30.6	-0.2
TLCR		**1.09**	**95**	S		Sg	19 32 44.2	-0.2
TIRR	**Tirgusor**	**1.16**	**136**	⇑*i*P		Pg	19 32 31.6	0.0
TIRR				*i* S		Sn	19 32 48.5	+0.8
TIRR	**Tirgusor**	**1.16**	**136**	⇑*i*P		Pg	19 32 31.6	0.0
TIRR	**Tirgusor**	**1.16**	**136**	S		Sn	19 32 48.5	+0.8

*IDC **15** 19:37:45.8±1.7,45.33N×27.37E, h0km, mb3.8/1, mb1 3.4/4, mb1mx3.1/25, mbtmp3.3/4, ML2.7/3, Error ellipse: s-maj=18.9km s-min=9.9km az=160.0*
*ISCJB **15** 19:37:47.9±0.5,45.28N±0.03×27.23E±0.03, h8km±3km, mb3.6/1, Error ellipse: s-maj=4.6km s-min=2.9km az=30.3*
*BUC **15** 19:37:47.6±0.5,45.25N×27.22E, h11km±5km, MD3.8/2, Error ellipse: s-maj=5.1km s-min=3.5km az=46.0*
*CSEM **15** 19:37:48.0±0.2,45.25N×27.22E, h10km, MD3.8/2, Error ellipse: s-maj=3.9km s-min=2.9km az=31.0*

ISC 15 19:37:47.9±0.8,45.23N±0.02×27.20E±0.02, h14km±6km, n102,σ0882/128, 59C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GRER		**0.22**	**313**	⇓*i*P		**Pg**	**19 37 52.3**	**-0.4**
GRER				*i* S		**Sg**	**19 37 56.5**	**+0.5**
GRER		**0.22**	**313**	⇓*i*P		**Pg**	**19 37 52.3**	**-0.4**
GRER		**0.22**	**313**	S		**Sg**	**19 37 56.5**	**+0.5**
GRER		**0.22**	**313**	⇓*i*P		**Pg**	**19 37 52.3**	**-0.4**
GRER				*i* S		**Sg**	**19 37 56.5**	**+0.5**
PGOR	**Pogoanele**	**0.36**	**205**	⇑*i*P		**Pb**	**19 37 55.9**	**-0.1**
PGOR	**Pogoanele**	**0.36**	**205**	⇑*i*P		**Pb**	**19 37 55.9**	**-0.1**
PGOR	**Pogoanele**	**0.36**	**205**	⇑*i*P		**Pb**	**19 37 55.9**	**-0.1**
ISR	**Istrita**	**0.48**	**257**	⇑*i*P		**Pg**	**19 37 57.7**	**+0.4**
ISR				*i* S		**Sb**	**19 38 05.8**	**+0.8**
ISR	**Istrita**	**0.48**	**257**	⇑*i*P		**Pg**	**19 37 57.7**	**+0.4**
ISR	**Istrita**	**0.48**	**257**	S		**Sb**	**19 38 05.8**	**+0.8**
ISR	**Istrita**	**0.48**	**257**	⇑*i*P		**Pg**	**19 37 57.7**	**+0.4**
ISR				*i* S		**Sb**	**19 38 05.8**	**+0.8**
AMRR	**Amara**	**0.63**	**171**	⇑*i*P		**Pb**	**19 38 00.6**	**0.0**
AMRR				*i* S		**Sb**	**19 38 10.3**	**+1.1**
AMRR	**Amara**	**0.63**	**171**	⇑*i*P		**Pb**	**19 38 00.6**	**0.0**
AMRR	**Amara**	**0.63**	**171**	S		**Sb**	**19 38 10.3**	**+1.1**
AMRR	**Amara**	**0.63**	**171**	⇑*i*P		**Pb**	**19 38 00.6**	**0.0**
AMRR				*i* S		**Sb**	**19 38 10.3**	**+1.1**
CFR	**Carcaliu**	**0.66**	**94**	⇓*i*P		**Pg**	**19 38 00.8**	**0.0**
CFR				*i* S		**Sb**	**19 38 10.2**	**-0.1**
CFR	**Carcaliu**	**0.66**	**94**	⇓*i*P		**Pg**	**19 38 00.8**	**0.0**
CFR	**Carcaliu**	**0.66**	**94**	S		**Sb**	**19 38 10.2**	**-0.1**
CFR	**Carcaliu**	**0.66**	**94**	⇓*i*P		**Pg**	**19 38 00.8**	**0.0**
CFR				*i* S		**Sb**	**19 38 10.2**	**-0.1**
VRI	**Vrincioaia**	**0.72**	**333**	⇑*i*P		**Pb**	**19 38 02.3**	**+0.1**
VRI				*i* S		**Sg**	**19 38 11.4**	**+0.1**
VRI	**Vrincioaia**	**0.72**	**333**	⇑*i*P		**Pb**	**19 38 02.3**	**+0.1**
VRI	**Vrincioaia**	**0.72**	**333**	S		**Sg**	**19 38 11.4**	**+0.1**
VRI	**Vrincioaia**	**0.72**	**333**	⇑*i*P		**Pb**	**19 38 02.3**	**+0.1**
VRI				*i* S		**Sg**	**19 38 11.4**	**+0.1**
PLOR	**Plostina**	**0.73**	**328**	⇑*i*P		**Pb**	**19 38 02.5**	**+0.1**
PLOR	**Plostina**	**0.73**	**328**	⇑*i*P		**Pb**	**19 38 02.5**	**+0.1**
PLOR	**Plostina**	**0.73**	**328**	⇑*i*P		**Pb**	**19 38 02.5**	**+0.1**
SECR		**0.82**	**257**	⇑*i*P		**Pn**	**19 38 05.3**	**+0.2**
SECR				*i* S		**Sn**	**19 38 17.2**	**+0.1**
SECR		**0.82**	**257**	⇑*i*P		**Pn**	**19 38 05.3**	**+0.2**
SECR		**0.82**	**257**	S		**Sn**	**19 38 17.2**	**+0.1**
SECR		**0.82**	**257**	⇑*i*P		**Pn**	**19 38 05.3**	**+0.2**
SECR				*i* S		**Sn**	**19 38 17.2**	**+0.1**
GHRR		**0.84**	**10**	⇑*i*P		**Pg**	**19 38 04.0**	**-0.2**
GHRR		**0.84**	**10**	⇑*i*P		**Pg**	**19 38 04.0**	**-0.2**
GHRR		**0.84**	**10**	⇑*i*P		**Pg**	**19 38 04.0**	**-0.2**
SULR		**0.87**	**231**	⇑*i*P		**Pb**	**19 38 04.5**	**-0.2**
SULR		**0.87**	**231**	⇑*i*P		**Pb**	**19 38 04.5**	**-0.2**
SULR		**0.87**	**231**	⇑*i*P		**Pb**	**19 38 04.5**	**-0.2**
PLAR	**PLOIESTI**	**0.89**	**250**	*i* S		**Sn**	**19 38 20.0**	**+1.4**
PLAR	**PLOIESTI**	**0.89**	**250**	S		**Sn**	**19 38 20.0**	**+1.4**
PLAR	**PLOIESTI**	**0.89**	**250**	*i* S		**Sn**	**19 38 20.0**	**+1.4**
MLR	**Muntele Rosu**	**0.92**	**287**	Pg		**Pn**	**19 38 06.3**	**-0.2**
	2.5nm,0.3s,baz=113,slow=3.2,SNR=156							
MLR				Lg		Lg	19 38 20.1	
	6.9nm,0.3s,baz=90,slow=20,SNR=15							
MLR	**Muntele Rosu**	**0.92**	**287**	⇑*i*P		**Pg**	**19 38 06.0**	**+0.3**
MLR				*i* S		**Sn**	**19 38 19.4**	**-0.3**
MLR	**Muntele Rosu**	**0.92**	**287**	⇑*i*P		**Pg**	**19 38 06.0**	**+0.3**
MLR	**Muntele Rosu**	**0.92**	**287**	S		**Sn**	**19 38 19.4**	**-0.3**
MLR	**Muntele Rosu**	**0.92**	**287**	⇑*i*P		**Pg**	**19 38 06.0**	**+0.3**
MLR				*i* S		**Sn**	**19 38 19.4**	**-0.3**
CVD	**Cernavoda**	**1.09**	**147**	⇑*i*P		**Pb**	**19 38 08.3**	**-0.2**
CVD				*i* S		**Sn**	**19 38 24.0**	**+0.4**
CVD	**Cernavoda**	**1.09**	**147**	⇑*i*P		**Pb**	**19 38 08.3**	**-0.2**
CVD	**Cernavoda**	**1.09**	**147**	S		**Sn**	**19 38 24.0**	**+0.4**
CVD	**Cernavoda**	**1.09**	**147**	⇑*i*P		**Pb**	**19 38 08.3**	**-0.2**
CVD				*i* S		**Sn**	**19 38 24.0**	**+0.4**
TLCR		**1.14**	**92**	⇑*i*P		**Pg**	**19 38 09.5**	**-0.4**
TLCR		**1.14**	**92**	⇑*i*P		**Pg**	**19 38 09.5**	**-0.4**
TLCR		**1.14**	**92**	⇑*i*P		**Pg**	**19 38 09.5**	**-0.4**
TIRR	**Tirgusor**	**1.16**	**131**	⇑*i*P		**Pn**	**19 38 09.3**	**-0.3**
TIRR				*i* S		**Sg**	**19 38 27.1**	**+1.9**
TIRR	**Tirgusor**	**1.16**	**131**	⇑*i*P		**Pn**	**19 38 09.3**	**-0.3**
TIRR	**Tirgusor**	**1.16**	**131**	S		**Sg**	**19 38 27.1**	**+1.9**
TIRR	**Tirgusor**	**1.16**	**131**	⇑*i*P		**Pn**	**19 38 09.3**	**-0.3**
TIRR				*i* S		**Sg**	**19 38 27.1**	**+1.9**
BUC1	**Bucharest**	**1.21**	**224**	⇑*i*P		**Pn**	**19 38 10.0**	**-0.4**
BUC1	**Bucharest**	**1.21**	**224**	⇑*i*P		**Pn**	**19 38 10.0**	**-0.4**
BUC1	**Bucharest**	**1.21**	**224**	⇑*i*P		**Pn**	**19 38 10.0**	**-0.4**
DOPR	**Dopca**	**1.47**	**301**	⇓*i*P		**Pn**	**19 38 14.3**	**+0.3**
DOPR	**Dopca**	**1.47**	**301**	⇓*i*P		**Pn**	**19 38 14.3**	**+0.3**
DOPR	**Dopca**	**1.47**	**301**	⇓*i*P		**Pn**	**19 38 14.3**	**+0.3**
VOIR		**1.53**	**279**	⇑*i*P		**Pb**	**19 38 15.6**	**-0.5**
VOIR				*i* S		**Sg**	**19 38 37.7**	**+0.5**
VOIR		**1.53**	**279**	⇑*i*P		**Pb**	**19 38 15.6**	**-0.5**
VOIR		**1.53**	**279**	S		**Sg**	**19 38 37.7**	**+0.5**
VOIR		**1.53**	**279**	⇑*i*P		**Pb**	**19 38 15.6**	**-0.5**
VOIR				*i* S		**Sg**	**19 38 37.7**	**+0.5**
EFOR	**EFORIE**	**1.54**	**138**	⇑*i*P		**Pb**	**19 38 16.4**	**+0.3**
EFOR				*i* S		**Sg**	**19 38 37.5**	**+0.1**
EFOR	**EFORIE**	**1.54**	**138**	⇑*i*P		**Pb**	**19 38 16.4**	**+0.3**
EFOR	**EFORIE**	**1.54**	**138**	S		**Sg**	**19 38 37.5**	**+0.1**
EFOR	**EFORIE**	**1.54**	**138**	⇑*i*P		**Pb**	**19 38 16.4**	**+0.3**
EFOR				*i* S		**Sg**	**19 38 37.5**	**+0.1**
HUMR	**Humele**	**1.73**	**247**	*i* S		**Sb**	**19 38 41.4**	**+0.5**
HUMR	**Humele**	**1.73**	**247**	S		**Sb**	**19 38 41.4**	**+0.5**
HUMR	**Humele**	**1.73**	**247**	*i* S		**Sb**	**19 38 41.4**	**+0.5**
MANR	**Mangalia**	**1.73**	**144**	*i* S		**Sg**	**19 38 42.4**	**-1.0**
MANR	**Mangalia**	**1.73**	**144**	S		**Sg**	**19 38 42.4**	**-1.0**
MANR	**Mangalia**	**1.73**	**144**	*i* S		**Sg**	**19 38 42.4**	**-1.0**
ARR	**Arges**	**1.82**	**275**	⇑*i*P		**Pb**	**19 38 20.8**	**-0.1**
ARR				*i* S		**Sb**	**19 38 43.8**	**+0.3**
ARR	**Arges**	**1.82**	**275**	⇑*i*P		**Pb**	**19 38 20.8**	**-0.1**
ARR	**Arges**	**1.82**	**275**	S		**Sb**	**19 38 43.8**	**+0.3**
ARR	**Arges**	**1.82**	**275**	⇑*i*P		**Pb**	**19 38 20.8**	**-0.1**
ARR				*i* S		**Sb**	**19 38 43.8**	**+0.3**
ZIMR		**2.05**	**221**	⇑*i*P		**Pb**	**19 38 24.0**	**-0.8**
ZIMR				*i* S		**Sb**	**19 38 50.3**	**+0.2**
ZIMR		**2.05

ENA	**Nanau** baz=230	**0.55**	**235**	P		**Pn**	**20 02 12.7**	**+0.2**
ENA	baz=230			*eS*		**Sn**	**20 02 23.5**	**+0.9**
ENTT	**Nioudou** baz=260	**0.61**	**260**	P		**Pn**	**20 02 13.2**	**0.0**
ENTT	baz=260			*eS*		**Sn**	**20 02 24.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.77**	**112**	P		**Pn**	**20 02 14.7**	**-0.1**
YOJ				*eS*		**Sn**	**20 02 27.3**	**+0.7**
TWY	**Chenhua** baz=314	**0.78**	**313**	*eP*		**Pn**	**20 02 14.1**	**-0.8**
TWY	baz=314			*eS*		**Sn**	**20 02 26.9**	**0.0**
NSK	**Sanguang** baz=270	**0.80**	**265**	P		**Pn**	**20 02 15.2**	**-0.1**
NSK	baz=270			S		**Sn**	**20 02 27.2**	**-0.1**
TWS1	**Kuangyinshan** baz=296	**0.82**	**296**	*eP*		**Pn**	**20 02 14.9**	**-0.5**
TWS1	baz=296			S		**Sn**	**20 02 27.4**	**-0.3**
NNS	**Nan Shan** baz=238	**0.84**	**249**	P		**Pn**	**20 02 15.7**	**0.0**
NNS	baz=238			S		**Sn**	**20 02 28.3**	**0.0**
TWD	**Chiawan** baz=213	**0.88**	**221**	*eP*		**Pn**	**20 02 16.1**	**0.0**
TWD	baz=213			*eS*		**Sn**	**20 02 28.5**	**-0.4**
NCU	**National Centr** baz=292	**0.97**	**283**	*eP*		**Pn**	**20 02 18.9**	**+1.7**
WHF	**Hehuan Shan** baz=228	**1.06**	**236**	*eP*		**Pn**	**20 02 18.9**	**+0.1**
WHF	baz=228			*eS*		**Sn**	**20 02 33.2**	**-0.4**
TWT	**Tachien** baz=233	**1.08**	**243**	*eP*		**Pn**	**20 02 20.0**	**+1.3**
TWT	baz=233			*eS*		**Sn**	**20 02 33.8**	**+0.3**
NSTT	**Nanjuang** baz=262	**1.12**	**264**	*eP*		**Pn**	**20 02 18.8**	**-0.2**
NSTT	baz=262			*eS*		**Sn**	**20 02 34.1**	**-0.2**
ESL	**Shilin** baz=223	**1.18**	**218**	*eP*		**Pn**	**20 02 18.8**	**-1.0**
ESL	baz=223			*eS*		**Sn**	**20 02 34.5**	**-1.0**
NSY	**Sanyi** baz=253	**1.38**	**257**	*eP*		**Pn**	**20 02 22.4**	**+0.1**
NSY	baz=253			*eS*		**Sn**	**20 02 40.3**	**+0.3**
TWQ1	**Liyutan** baz=250	**1.39**	**254**	*eP*		**Pn**	**20 02 22.6**	**+0.1**
TWQ1	baz=250			*eS*		**Sn**	**20 02 39.3**	**-1.0**
IRIF	**Iriomote-Funau**	**1.43**	**106**	P		**Pn**	**20 02 22.4**	**-0.5**
IRIF				S		**Sn**	**20 02 41.5**	**+0.4**
EHY	**Hungye** baz=219	**1.49**	**214**	*eP*		**Pn**	**20 02 24.4**	**+0.7**
EHY	baz=219			*eS*		**Sn**	**20 02 42.0**	**-0.6**
SMLT	**Sun Moon Lake** baz=232	**1.49**	**235**	*eP*		**Pn**	**20 02 24.1**	**+0.2**
SMLT	baz=232			*eS*		**Sn**	**20 02 43.3**	**+0.5**
TYC	**Yuchr** baz=228	**1.51**	**236**	*eP*		**Pn**	**20 02 24.2**	**+0.2**
TYC	baz=228			*eS*		**Sn**	**20 02 43.5**	**+0.5**
HATJ	**Hateruma jima**	**1.59**	**115**	P		**Pn**	**20 02 25.0**	**-0.1**
HATJ				*eS*		**Sn**	**20 02 45.9**	**+0.9**
TWF1	**Yuli** baz=217	**1.63**	**212**	*eP*		**Pn**	**20 02 25.4**	**-0.3**
WNT	**Mingjian** baz=246	**1.65**	**239**	*eP*		**Pn**	**20 02 25.8**	**-0.2**
JKRS	**Kuro-shima**	**1.70**	**107**	P		**Pn**	**20 02 26.4**	**-0.1**
JKRS				*eS*		**Sn**	**20 02 48.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.78**	**102**	P		**Pn**	**20 02 27.5**	**-0.1**
JIJ				*eS*		**Sn**	**20 02 49.4**	**-0.2**
ALS	**Alishan** baz=217	**1.79**	**227**	*eP*		**Pn**	**20 02 29.0**	**+1.0**
ALS	baz=217			*eS*		**Sn**	**20 02 50.7**	**+0.5**
CHKT	**Chengkung** baz=197	**1.82**	**206**	*eP*		**Pn**	**20 02 29.4**	**+1.2**
CHN5	**Tsauling** baz=237	**1.82**	**231**	P		**Pn**	**20 02 28.7**	**+0.4**
CHN5	baz=237			*eS*		**Sn**	**20 02 51.2**	**+0.6**
ELDTW	**Lidau** baz=214	**1.91**	**216**	*eP*		**Pn**	**20 02 28.6**	**-0.9**
ELDTW	baz=214			*eS*		**Sn**	**20 02 51.3**	**-1.4**
CHN4	**Tsaushan** baz=234	**2.04**	**227**	*eP*		**Pn**	**20 02 31.7**	**+0.6**
CHN4	baz=234			*eS*		**Sn**	**20 02 56.7**	**+0.9**
TWG	**Pinlang** baz=204	**2.19**	**209**	*eP*		**Pn**	**20 02 32.7**	**-0.4**
TWG	baz=204			*eS*		**Sn**	**20 02 57.3**	**-2.1**
CHN1	**Nanshi** baz=231	**2.20**	**225**	*eP*		**Pn**	**20 02 33.8**	**+0.5**
CHN1	baz=231			*eS*		**Sn**	**20 03 00.3**	**+0.7**
SGST	**Jiashian** baz=220	**2.24**	**223**	*eP*		**Pn**	**20 02 33.5**	**-0.3**
SGST	baz=220			*eS*		**Sn**	**20 03 00.2**	**-0.4**

IDC ***15*** *20:18:00.3±1.3, 35°.11S×179°.65E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=40.5km s-min=29.5km az=50.0*

WEL ***15*** *20:18:09.6±0.5, 35°.42S×179°.06E, h33km, ML4.0/6, Error ellipse: s-maj=8.7km s-min=3.1km az=90.0*

ISC 15 20:18:07.2±1.1, 35°.52S±0°.10×179°.5E±0°.1, h35km, n21, σ1§99/23, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MXZ	**Matakaoa Point**	**2.25**	**205**	*eP**	**Pn**	**20**	**18 43.9**	**+2.0**
MXZ				*eS**	**Sn**	**20**	**19 10.0**	**+1.5**
PUZ	**Puketiti**	**2.74**	**201**	PN	**Pn**	**20**	**18 50.4**	**+1.8**
PUZ				SN	**Sn**	**20**	**19 21.2**	**+0.7**
CNGZ	**Carnagh Statio**	**3.13**	**199**	PN	**Pn**	**20**	**18 56.1**	**+2.1**
MWZ	**Matawai**	**3.22**	**209**	P*	**Pn**	**20**	**18 57.0**	**+1.6**
URZ	**Urewera** 3.9nm,0.3s,baz=77,slow=9.7,SNR=20	**3.34**	**214**	Pn	**Pn**	**20**	**18 58.2**	**+1.4**
URZ	23nm,0.3s,baz=90,slow=20,SNR=23			Sn	**Sn**	**20**	**19 35.8**	**+0.5**
URZ	**Urewera**	**3.34**	**214**	P*	**Pn**	**20**	**18 58.9**	**+2.0**
URZ				S*	**Sn**	**20**	**19 35.9**	**+0.6**
PRGZ	**Paritu Road**	**3.63**	**200**	*e*PN	**Pn**	**20**	**19 02.3**	**+1.3**
KNZ	**Kokohu**	**3.79**	**202**	*e*PN	**Pn**	**20**	**19 04.0**	**+1.0**
PXZ	**Pawanui**	**4.97**	**204**	*e*PN	**Pn**	**20**	**19 19.3**	**+0.1**
PXZ				SN	**Sn**	**20**	**20 11.2**	**-4.2**
MRZ	**Mangatainoka R**	**5.99**	**210**	*e*SN	**Sn**	**20**	**20 35.5**	**-5.2**
KHZ	**Kahutara**	**8.30**	**212**	SN	Sn	20	21 27.4	-10
CTZ	**Chatham Island**	**8.73**	**161**	*e*PN	**Pn**	**20**	**20 10.8**	**-0.1**
CTZ				SN	Sn	20	21 35.4	-13
PAE	**Paea** 3.3nm,0.3s	**32.68**	**65**	*eT*	T	20	24 43.2	
TVO	**Taravao** 2.7nm,0.2s	**32.85**	**66**	*eT*	T	20	24 59.1	
ASAR	**Alice Springs** 1.1nm,0.5s,baz=117,slow=7.4,SNR=23	**41.05**	**274**	P	**P**	**20**	**25 46.4**	**-1.0**
WRA	**Warramunga Arr** 2.6nm,0.4s,baz=119,slow=7.7,SNR=26	**42.51**	**279**	P	**P**	**20**	**25 58.1**	**-1.2**
QSPA	**South Pole Qui** 0.4nm,0.3s,baz=65,slow=4.2,SNR=5.6	**54.60**	**180**	P	**P**	**20**	**27 32.7**	**+0.8**
FINES	**FINESS Array B** 1.2nm,0.6s,baz=31,slow=4.5,SNR=8.8	**149.07**	**335**	PKPbc	**PKPdf**	**20**	**37 47.5**	**+0.9**
DBIC	**Dimbokro** 1.0nm,0.5s,baz=120,slow=1.4,SNR=3.9	**151.01**	**171**	PKPbc	**PKPbc**	**20**	**37 57.0**	**+0.1**
BRTR	**Keskin Array B** 0.3nm,0.4s,baz=143,slow=3.7,SNR=5.6	**152.74**	**289**	PKPbc	**PKPbc**	**20**	**37 58.5**	**-1.9**
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=177,slow=3.9,SNR=4.9	**157.64**	**186**	PKPab	**PKPab**	**20**	**38 33.6**	**+1.3**

IDC ***15*** *20:28:47.9±0.5, 15°.42S×173°.22W, h0km, mb4.7/20, mb1 4.9/20, mb1mx4.8/25, mbtmp4.7/20, MS4.9/29, Ms1 4.9/29, ms1mx4.8/39, Error ellipse: s-maj=20.8km s-min=11.9km az=143.0*

ISCJB ***15*** *20:28:51.9±0.2, 15°.47S±0°.05×173°.15W±0°.03, h33km, mb5.0/99, MS5.0/54, Error ellipse: s-maj=8.1km s-min=4.0km az=159.8*

BJI ***15*** *20:28:52.3, 14°.90S×172°.73W, h31km, mB5.4/27, mb5.0/34, Ms5.2/32, Ms7 4.9/32*

MOS ***15*** *20:28:53.3±1.4, 15°.08S×173°.37W, h33km, mb5.2/17, MS5.1/13, Error ellipse: s-maj=11.6km s-min=9.0km az=72.5*

NEIC ***15*** *20:28:53.4±0.2, 15°.42S×173°.22W, h35km, mb5.0/45, Error ellipse: s-maj=10.0km s-min=5.0km az=141.0*

GCMT ***15*** *20:28:56.0±0.1, 15°.20S×172°.76W, h16km, MW5.5, Moment Tensor Solution. s83,c142; s99,c194; Moment tensor: Scale 10¹⁷Nm; Mrr0.59±.02; Mθθ0.68±.02; Mϕϕ-1.27±.02; Mrθ0.79±.06; Mθϕ0.35±.01; Mϕr1.30±.07; Best double couple: M₀1.90000×10¹⁷ NP1:ϕs133.00000°, δ33.00000°, λ20.00000°. NP2:ϕs26.00000°, δ79.00000°, λ121.00000°. Principal axes: T 1.8700, Plg47.0000°, Azm328.0000°; N 0.0600, Plg31.0000°, Azm199.0000°; P -1.9400, Plg28.0000°, Azm91.0000°; Data Used: II IU IC G CN.*

ISC 15 20:28:53.5±0.4, 15°.46S±0°.06×173°.12W±0°.05, h34km±1km, h34km:pP-P, n693, σ1§10/752, mb5.1/99, MS5.0/56, 182C-203D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu** 212nm,0.3s,baz=32,slow=1.8,SNR=134	**2.02**	**40**	Pn	Pn	20	29 15.7	-10
AFI	1μm,0.3s,baz=135,slow=17,SNR=19			Sn	Sn	20	29 34.2	-15
AFI	comp=Z,6μm,19.7s,baz=212,slow=34			LR	LR	20	29 56.8	
MSVF	**Nonsavu** 1μm,1.3s,SNR=22	**8.76**	**254**	Pn	Pn	20	31 06.6	+8.7
RAR	**Rarotonga** 0.9nm,0.3s,baz=90,slow=4.8,SNR=4.9	**13.90**	**116**	Pn	Pn	20	31 57.8	-10
RAR	comp=Z,7μm,21.2s,baz=270,slow=31			LR	LR	20	35 56.3	
RAR	**Rarotonga**	**13.90**	**116**	*e*Pn	Pn	20	32 00.5	-7.6
RAO	**Raoul Island**	**14.42**	**197**	*e*Pn	**P**	**20**	**32 22.9**	**+1.3**
DZM	**Mont Dzumac** 259nm,1.3s	**20.43**	**248**	*eP*	Pn	20	33 29.4	-1.0
DZM	7μm,24.4s			*e*LR	LR	20	38 26.4	
DZM	**Mont Dzumac** 38nm,0.9s,baz=84,slow=19,SNR=11	**20.43**	**248**	P	**P**	**20**	**33 26.7**	**-1.3**
DZM	**Mont Dzumac**	**20.43**	**248**	*eP*	**P**	**20**	**33 27.7**	**-0.4**
DZM	**Mont Dzumac**	**20.43**	**248**	P	**P**	**20**	**33 26.7**	**-1.3**
TARA	**Tarawa** 486nm,1.6s	**21.67**	**319**	*eP*	**P**	**20**	**33 42.1**	**+0.7**
PAE	**Paea** 18nm,1.3s	**22.67**	**99**	*eP*	**P**	**20**	**33 51.6**	**-0.5**
PPT	**Papeete** comp=Z,3μm,22.0s,baz=266,slow=30	**22.67**	**99**	LR	LR	20	40 05.6	
PPT2	**Papeete2** 110nm,1.4s	**22.67**	**99**	*eP*	**P**	**20**	**33 52.0**	**-0.2**
PPT2	9μm,28.2s			*e*LQ	LQ	20	38 13.4	
PPT2	8μm,25.2s,baz=264			*e*LR	LR	20	39 14.6	
TVO	**Taravao** 140nm,1.3s	**22.98**	**99**	*eP*	**P**	**20**	**33 55.0**	**-0.5**
OUZ	**Omahuta**	**23.00**	**209**	*eP*	**P**	**20**	**33 55.0**	**-0.4**
TBI	**Tubuai** 7μm,30.5s	**23.63**	**113**	*e*LQ	LQ	20	38 39.7	
TBI	9μm,27.0s,baz=287			*e*LR	LR	20	39 34.6	
URZ	**Urewera** 20nm,0.9s,baz=11,slow=6.1,SNR=7.7	**24.29**	**199**	P	**P**	**20**	**34 06.7**	**-1.0**
URZ	6.2nm,0.7s,baz=343,slow=19,SNR=3.2			S	S	20	38 35.1	+11
URZ	**Urewera**	**24.29**	**199**	*eP*	**P**	**20**	**34 08.5**	**+0.7**
URZ				S	S	20	38 35.1	+11
PMOR	**Pomariorio Ree** 256nm,1.3s	**24.34**	**92**	*eP*	**P**	**20**	**34 07.4**	**-1.0**
HNR	**Honiara** comp=Z,4μm,18.2s,baz=321,slow=33	**26.96**	**280**	LR	LR	20	43 40.6	
KHZ	**Kahutara** 145nm,2.0s	**29.21**	**200**	*eP*	**P**	**20**	**34 49.7**	**-2.2**
RPZ	**Rata Peaks** 17nm,0.8s	**31.23**	**202**	*eP*	**P**	**20**	**35 09.1**	**-0.7**
ARMA	**Armidale** 14nm,0.7s	**35.54**	**239**	*eP*	**P**	**20**	**35 47.4**	**-0.3**
RKT	**Rikitea** 5μm,25.5s,baz=279	**36.72**	**108**	*e*LR	LR	20	45 49.5	
CTA	**Charters Tower** 5.1nm,0.8s,baz=74,slow=10,SNR=8.0	**38.89**	**257**	P	**P**	**20**	**36 14.8**	**-1.4**
CTA	comp=Z,2μm,19.2s,baz=79,slow=33			LR	LR	20	50 18.2	
CTA	**Charters Tower**	**38.89**	**257**	P	**P**	**20**	**36 14.8**	**-1.4**
PMG	**Port Moresby**	**39.21**	**274**	*eP*	**P**	**20**	**36 19.2**	**+0.4**
COEN	**Coen** 170nm,0.8s	**42.25**	**266**	*eP*	**P**	**20**	**36 43.5**	**-0.4**
STKA	**Stephens Creek** 20nm,0.8s,baz=73,slow=6.8,SNR=37	**44.24**	**240**	P	**P**	**20**	**36 58.4**	**-1.4**
STKA	**Stephens Creek**	**44.24**	**240**	*eP*	**P**	**20**	**36 59.1**	**-0.7**
BBOO	**Buckleboo** 332nm,0.8s	**49.02**	**240**	*eP*	**P**	**20**	**37 37.1**	**-0.2**
WRAB	**Tennant Creek**	**50.08**	**257**	*eP*	**P**	**20**	**37 43.7**	**-1.9**
WRAB	comp=Z,17nm,0.6s			pmax	pmax			
WRAB	**Tennant Creek** comp=Z,17nm,0.6s	**50.08**	**257**	*eP*	**P**	**20**	**37 43.7**	**-1.9**
WRAB	**Tennant Creek** comp=Z,186nm,0.6s,SNR=28	**50.08**	**257**	P	**P**	**20**	**37 43.9**	**-1.7**
WRA	**Warramunga Arr** comp=Z,15nm,0.6s,baz=90,slow=6.8,SNR=167	**50.09**	**257**	P	**P**	**20**	**37 43.5**	**-2.1**
WRA	comp=Z,2μm,20.5s,baz=85,slow=34			LR	LR	20	57 09.5	
WRA	**Warramunga Arr**	**50.09**	**257**	P	**P**	**20**	**37 43.5**	**-2.1**
AS31	**Alice Springs**	**50.35**	**252**	*eP*	**P**	**20**	**37 45.9**	**-1.7**
ASAR	**Alice Springs** comp=Z,38nm,0.6s,baz=88,slow=8.2,SNR=243	**50.35**	**252**	P	**P**	**20**	**37 46.0**	**-1.6**
ASAR	comp=Z,1.4nm,1.0s,baz=84,slow=14,SNR=6.6			S	**S**	**20**	**44 58.3**	**-0.3**
ASAR	comp=Z,3μm,20.0s,baz=96,slow=34			LR	LR	20	57 29.4	
ASAR	**Alice Springs**	**50.35**	**252**	P	**P**	**20**	**37 46.0**	**-1.6**
ASAR				S	**S**	**20**	**44 58.3**	**-0.3**
GUMO	**Guam** comp=Z,758nm,19.7s,baz=173,slow=34	**50.59**	**303**	LR	LR	20	57 07.9	
FORT	**Forrest** comp=Z,40nm,0.7s	**55.63**	**243**	*eP*	**P**	**20**	**38 24.4**	**-2.0**
FITZ	**Fitzroy Crossi** comp=Z,2μm,20.6s,baz=96,slow=34	**58.46**	**258**	LR	LR	21	01 55.0	
CBIJ	**Chichi jima** comp=Z,1μm,20.1s,baz=302,slow=31	**60.59**	**314**	LR	LR	21	00 11.3	
SBA	**Scott Base**	**63.21**	**185**	*eP*	P	20	39 21.9	+4.0
SBA	**Scott Base**	**63.21**	**185**	*eP*	P	20	39 21.9	+4.0
VNDA	**Vanda** comp=Z,5.7nm,0.9s,baz=352,slow=6.0,SNR=11	**63.34**	**186**	P	**P**	**20**	**39 20.3**	**+1.5**
VNDA	comp=Z,230nm,18.3s,baz=19,slow=33			LR	LR	21	04 06.0	
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**20**	**39 20.3**	**+1.5**
DAV	**Davao City (W)** comp=Z,790nm,19.2s,baz=62,slow=34	**64.71**	**286**	LR	LR	21	05 54.8	
LUWI	**Luwuk** comp=Z,31nm,1.2s,comp=Z,0.1nm	**64.80**	**276**	P	P	20	39 38.5	+9.1
NWAO	**Narrogin (SRO)** comp=Z,606nm,18.3s,baz=308,slow=36	**64.83**	**241**	LR	LR	21	07 58.7	
APSI	**Ampana**	**65.91**	**276**	P	**P**	**20**	**39 36.5**	**-0.1**
JHJ	**Hachijo jima 2** comp=Z,799nm,21.0s,baz=103,slow=30	**65.99**	**318**	LR	LR	21	01 57.3	
MJAR	**Matsushiro Arr** comp=Z,17nm,1.1s,baz=162,slow=6.0,SNR=17	**69.16**	**320**	P	**P**	**20**	**39 56.1**	**-0.6**
MJAR	comp=Z,2μm,21.9s,baz=105,slow=31			LR	LR	21	04 18.3	
MJAR	**Matsushiro Arr**	**69.16**	**320**	P	**P**	**20**	**39 56.1**	**-0.6**
MAJO	**Matsushiro** comp=Z,24nm,1.2s	**69.16**	**320**	*eP*	**P**	**20**	**39 56.7**	**0.0**
MAJO	comp=Z,24nm,1.2s			pmax	pmax			
MAJO	**Matsushiro** comp=Z,24nm,1.2s	**69.16**	**320**	*eP*	**P**	**20**	**39 56.7**	**0.0**
MAT	**Matsushiro**	**69.16**	**320**	P	**P**	**20**	**39 55.8**	**-0.9**
MAT				S	**S**	**20**	**49 02.0**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**70.05**	**330**	P	**P**	**20**	**39 59.8**	**-2.1**
YUK				*i*		20	42 33.3	
YUK				*e*PPP	PPP	20	44 18.3	
YUK				*i* S	**S**	**20**	**49 08.9**	**-1.3**
YUK				*i* SS	**SS**	**20**	**53 39.7**	**-0.9**
JOW	**Kunigami** comp=Z,1μm,21.9s,baz=113,slow=31	**70.74**	**306**	LR	LR	21	05 08.0	

BLJI	**Banyuglugur** comp=Z,44nm,0.8s	**71.92**	**267**	P	**P**	**20**	**40 15.9**	**+1.9**
JNU	**Nakatsue** comp=Z,630nm,20.6s,baz=340,slow=32	**72.04**	**313**	LR	LR	21	06 42.3	
VES	**Vestal, Richgr** baz=72	**72.20**	**44**	⇓P	**P**	**20**	**40 16.3**	**+1.2**
BFSC	**Mount Baldy Ra** baz=72	**72.27**	**46**	⇑P	**P**	**20**	**40 16.0**	**+0.2**
EDW2	**Edwards Air Fo** baz=73	**72.40**	**45**	⇓P	**P**	**20**	**40 16.2**	**-0.2**
MONP	**Monument Peak** baz=73	**72.41**	**48**	⇓P	**P**	**20**	**40 17.4**	**+0.6**
PET	**Petropavlovsk**	**72.42**	**343**	*eP*	**P**	**20**	**40 18.9**	**+2.9**
PET				*eS*	**S**	**20**	**49 39.0**	**+1.7**
PET				*e*PS	**PnS**	**20**	**50 12.6**	**+1.3**
PET	comp=Z,1μm,17.0s			MLR	MLR			
ISA	**Isabella** baz=73	**72.51**	**44**	⇓P	**P**	**20**	**40 18.0**	**+0.9**
PFO	**Pinyon Flat Ob** baz=73	**72.77**	**47**	⇑P	**P**	**20**	**40 19.3**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,13nm,0.7s,baz=147,slow=9.6,SNR=9.2	**72.77**	**342**	P	**P**	**20**	**40 17.3**	**-0.9**
PETK	**Petropavlovsk-**	**72.77**	**342**	P	**P**	**20**	**40 17.3**	**-0.9**
PETK	**Petropavlovsk-**	**72.77**	**342**	P	**P**	**20**	**40 17.3**	**-0.9**
LRMC	**Laurel Mountai** baz=73	**72.93**	**45**	⇑P	**P**	**20**	**40 20.2**	**+0.5**
KKM	**Kota Kinabalu** comp=Z,10nm,0.8s	**73.15**	**281**	*eP*	**P**	**20**	**40 20.6**	**-0.8**
BELC	**Belle Mtn. Jos** baz=74	**73.30**	**47**	⇓P	**P**	**20**	**40 22.0**	**+0.1**
MPMC	**Manual Prospec** baz=74	**73.39**	**44**	⇑P	**P**	**20**	**40 22.6**	**+0.1**
MTUM	**Tungsten Hills**	**73.41**	**43**	*eP*	**P**	**20**	**40 24.6**	**+2.0**
GSC	**Goldstone**	**73.44**	**45**	*eP*	**P**	**20**	**40 23.1**	**+0.4**
GSC	**Goldstone**	**73.44**	**45**	*eP*	**P**	**20**	**40 23.1**	**+0.4**
GSC	**Goldstone** baz=74	**73.44**	**45**	⇓P	**P**	**20**	**40 22.9**	**+0.2**
YBH	**Yreka Blue Hor** comp=Z,487nm,18.8s,baz=237,slow=30	**73.48**	**37**	LR	LR	21	05 51.3	
BC3	**Big Chuckawall** baz=74	**73.50**	**47**	⇑P	**P**	**20**	**40 22.6**	**-0.5**
PWJI	**Pagerwojo** comp=Z,35nm,0.7s	**73.58**	**266**	P	P	20	40 27.2	+3.4
GLA	**Glamis** baz=74	**73.63**	**48**	⇑P	**P**	**20**	**40 23.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**73.67**	**330**	*eP*	**P**	**20**	**40 24.6**	**+1.0**
YSS				*e*		20	40 29.6	
YSS				*e*		20	50 42.0	
YSS	comp=Z,600nm,18.0s			MLR	MLR			
SJI	**Sawahan** comp=Z,30nm,0.8s,comp=Z,2μm	**73.68**	**266**	P	P	20	40 28.1	+3.5
GMRC	**Granite Mounta** baz=74	**73.95**	**46**	⇓P	**P**	**20**	**40 25.4**	**-0.3**
IRM	**Iron Mountain** baz=74	**73.98**	**47**	⇓P	**P**	**20**	**40 25.4**	**-0.4**
FURC	**Furnace Creek,** baz=74	**74.04**	**44**	⇑P	**P**	**20**	**40 26.2**	**+0.2**
TUQ	**Turquoise Moun** baz=74	**74.12**	**46**	⇑P	**P**	**20**	**40 26.5**	**-0.2**
PCJI	**Pacitan** comp=Z,92nm,0.8s	**74.14**	**266**	P	P	20	40 32.4	+5.3
NVAR	**Mina Array Bea** comp=Z,1.8nm,0.7s,baz=232,slow=9.3,SNR=11	**74.19**	**42**	P	**P**	**20**	**40 27.0**	**-0.2**
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**20**	**40 27.0**	**-0.2**
113A	**Mohawk Valley,** baz=74	**74.25**	**49**	⇑P	**P**	**20**	**40 28.1**	**+0.7**
NV11	**Mina Array Sit**	**74.29**	**42**	*eP*	**P**	**20**	**40 28.5**	**+0.8**
214A	**Organ Pipe Nat** baz=75	**74.55**	**50**	⇓P	**P**	**20**	**40 29.9**	**+0.8**
PDMCI	**Parker Dam,Lak** baz=75	**74.77**	**47**	⇓P	**P**	**20**	**40 30.7**	**+0.4**
Z14A	**Wintersburg** baz=75	**75.14**	**49**	⇑P	**P**	**20**	**40 32.9**	**+0.3**
W13A	**Hualapai Mount** baz=76	**75.36**	**47**	⇓P	**P**	**20**	**40 34.1**	**+0.1**
Y14A	**Wickenburg** baz=76	**75.39**	**48**	⇑P	**P**	**20**	**40 34.1**	**0.0**
R11A	**Troy Canyon, C** baz=76	**75.92**	**43**	⇓P	**P**	**20**	**40 37.1**	**0.0**
KSRS	**Korea Array** comp=Z,6.0nm,1.0s,baz=133,slow=6.6,SNR=14	**76.39**	**315**	P	**P**	**20**	**40 40.1**	**+0.6**
KSRS	comp=Z,432nm,21.2s,baz=111,slow=32			LR	LR	21	09 09.7	
KSAR	**Wonju Array Be**	**76.41**	**315**	P	**P**	**20**	**40 40.1**	**+0.5**
TGJI	**Tegal**	**76.44**	**267**	P	**P**	**20**	**40 42.7**	**+2.3**
X16A	**Lo Mia Camp, P** baz=77	**76.75**	**48**	⇓P	**P**	**20**	**40 41.8**	**-0.2**
R13A	**O'Grain Ranch,** baz=77	**76.90**	**44**	⇓P	**P**	**20**	**40 43.3**	**+0.6**
319A	**Douglas** baz=77	**76.92**	**52**	⇓P	**P**	**20**	**40 43.0**	**+0.2**
CCUT	**Cedar City**	**76.98**	**45**	*eP*	**P**	**20**	**40 44.7**	**+1.5**
U15A	**North Rim** baz=77	**77.15**	**46**	⇑P	**P**	**20**	**40 44.5**	**+0.3**
WUAZ	**Wupatki** baz=78	**77.34**	**47**	⇓P	**P**	**20**	**40 45.2**	**0.0**
ELK	**Elko**	**77.45**	**41**	*eP*	**P**	**20**	**40 46.6**	**+0.8**
KSM	**Kuching** comp=Z,12nm,0.9s	**77.46**	**275**	*eP*	**P**	**20**	**40 45.3**	**-0.9**
USRK	**Ussuriysk Arra** comp=Z,6.4nm,1.0s,baz=99,slow=6.0,SNR=12	**77.59**	**323**	P	**P**	**20**	**40 45.7**	**-0.4**
USRK	comp=Z,1μm,21.5s,baz=96,slow=31			LR	LR	21	08 31.9	
QZH	**Quanzhou** comp=Z,1μm,22.1s	**77.72**	**300**	P	**P**	**20**	**40 50.3**	**+3.0**
QZH				S	**S**	**20**	**50 39.0**	**+1.6**
QZH				LR	LR			
220A	**Playas Peak, P** baz=78	**77.73**	**52**	⇑P	**P**	**20**	**40 47.3**	**-0.1**
X18A	**Snowflake** baz=78	**77.89**	**49**	⇑P	**P**	**20**	**40 48.0**	**-0.3**
LEM	**Lembang** comp=Z,57nm,1.1s	**77.90**	**266**	P	**P**	**20**	**40 51.3**	**+2.5**
SSE	**Sheshan**	**78.21**	**307**	P	**P**	**20**	**40 50.0**	**+0.1**
SSE				S	**S**	**20**	**50 44.3**	**+1.8**
SSE				pmax	pmax			
SSE	comp=Z,14nm,0.7s			pmax	pmax			
SSE	comp=Z,150nm,6.0s			LR	LR			
SSE	comp=N,320nm,28.9s			LR	LR			
SSE	comp=E,330nm,28.9s			LR	LR			
SSE	comp=Z,550nm,31.6s			LR	LR			
Z20A	**Nine Sixteen R** baz=78	**78.23**	**51**	⇓P	**P**	**20**	**40 49.7**	**-0.5**
MSU	**Marysvale**	**78.28**	**44**	*eP*	**P**	**20**	**40 51.5**	**+1.1**
MSU	**Marysvale**	**78.28**	**44**	*eP*	**P**	**20**	**40 51.5**	**+1.1**
HABR	**Khabarovsk**	**78.53**	**328**	*eP*	**P**	**20**	**40 50.2**	**-1.0**
HABR				*e*		20	40 58.5	
HABR				*e**PP	**PcP**	**20**	**41 00.6**	**+0.4**
HABR				*e*		20	43 47.8	
HABR				*eS*	**S**	**20**	**50 45.3**	**+0.1**
HABR				*e*		20	50 58.2	
HABR				*e*		20	51 08.3	
HABR				*e*SS	**SS**	**20**	**55 49.8**	**+0.2**
HABR	comp=E,21nm,1.5s			pmax	pmax			
HABR	comp=N,33nm,2.5s			pmax	pmax			
HABR	comp=Z,63nm,2.0s			pmax	pmax			
H

TNG	Tangerang	78.99	267	P		P		20 40 47.9	-6.7
	comp=Z,1µm,0.5s								
TNG	Tangerang	78.99	267	P		P		20 40 47.9	-6.7
	comp=Z,863nm,0.5s								
GAMB	Gambell	78.99	1	eP		P		20 40 53.2	-0.3
	comp=Z,18nm,1.1s								
GAMB				ePcP		PcP		20 41 02.7	+0.9
Z21A	St. Cloud Mine	79.00	51	⇓P		P		20 40 54.2	-0.3
	baz=79								
PMR	Palmer	79.13	11	eP		P		20 40 52.7	-1.5
PMR	Palmer	79.13	11	eP		P		20 40 52.6	-1.5
Q16A	Castle Valley	79.16	45	⇓P		P		20 40 55.5	+0.3
	baz=79								
I12A	Atlanta	79.19	39	⇓P		P		20 40 55.4	+0.1
	baz=79								
W20A	Ramah	79.22	49	⇑P		P		20 40 55.7	0.0
	baz=79,SNR=8.8								
MDJ	Mudanjiang	79.24	322	P		P		20 40 56.0	+0.8
MDJ				pP		pP		20 41 05.3	-0.8
MDJ				sP		sP		20 41 09.3	-0.7
MDJ				PP		PP		20 43 53.4	-2.0
MDJ				S		S		20 50 53.8	+0.8
MDJ				sS		SKKSac		20 51 10.3	+0.1
MDJ				ScS		ScS		20 51 16.0	+0.5
MDJ				pmax		pmax			
	comp=Z,14nm,1.3s								
MDJ				pmax		pmax			
	comp=Z,290nm,7.6s								
MDJ				LR		LR			
	comp=N,640nm,23.1s								
MDJ				LR		LR			
	comp=E,820nm,23.1s								
MDJ				LR		LR			
	comp=Z,1µm,23.1s								
U19A	Dine' College,	79.25	48	⇓P		P		20 40 55.5	-0.4
	baz=79								
N15A	Stansbury Isla	79.27	42	⇓P		P		20 40 55.5	-0.2
	baz=80								
Y21A	Point of Rocks	79.32	50	⇓P		P		20 40 55.6	-0.7
	baz=80								
TMUT	Trail Mountain	79.33	44	eP		P		20 40 57.9	+1.6
S18A	Hurst Farm, Bl	79.37	46	⇓P		P		20 40 56.2	-0.2
	baz=80								
DIV	Divide	79.39	13	eP		P		20 40 53.9	-1.9
	comp=Z,36nm,1.2s								
MPU	Maple Canyon	79.41	43	eP		P		20 41 01.4	+4.9
L14A	Malta	79.41	41	⇑P		P		20 40 56.5	+0.1
	baz=80								
X21A	Alamocita Cree	79.43	50	⇑P		P		20 40 56.9	+0.1
	baz=80								
HLID	Hailey	79.50	39	eP		P		20 40 57.3	+0.3
HLID	Hailey	79.50	39	⇑P		P		20 40 57.3	+0.3
	baz=80,SNR=15								
BMRM	Bremner River	79.51	14	eP		P		20 40 54.3	-2.1
	comp=Z,35nm,1.1s								
Z22A	Elephant Butte	79.51	51	⇓P		P		20 40 57.3	+0.1
	baz=80								
V20A	Brimhall	79.56	48	⇑P		P		20 40 57.7	+0.3
	baz=80								
J13A	Cove Ranch, Pi	79.56	39	⇑P		P		20 40 57.6	+0.3
	baz=80,SNR=6.8								
O16A	Springville	79.59	43	⇑P		P		20 40 57.8	+0.3
	baz=80								
M15A	Larsen Ranch,	79.62	42	⇓P		P		20 40 58.0	+0.4
	baz=80								
SRU	San Rafael	79.70	45	eP		P		20 40 58.7	+0.6
SRU	San Rafael	79.70	45	eP		P		20 40 58.7	+0.6
SRU	San Rafael	79.70	45	⇓P		P		20 40 58.4	+0.3
	baz=80								
K14A	Jones Ranch, D	79.72	41	⇑P		P		20 40 58.7	+0.6
	baz=80								
P17A	Butcher Ranch,	79.73	44	⇓P		P		20 40 58.7	+0.4
	baz=80								
H12A	Diamond D Ranc	79.78	38	⇑P		P		20 40 58.7	+0.2
	baz=80								
U20A	Newcomb	79.78	48	⇓P		P		20 40 59.1	+0.4
	baz=80								
CGJI	Cibinong	79.80	266	P		P		20 41 00.6	+1.6
	comp=Z,68nm,0.6s,comp=Z,768nm								
Y22A	Socorro	79.81	51	⇑P		P		20 40 59.1	+0.2
	baz=80								
G12A	Big Creek, Yel	79.82	37	⇓P		P		20 40 58.6	0.0
	baz=80,SNR=9.2								
JLU	Jordanelle	79.82	43	eP		P		20 41 00.3	+1.5
324A	Moseley Ranch,	79.86	53	⇑P		P		20 40 58.7	-0.4
	baz=80								
I13A	Wildhorse Cree	79.88	39	⇑P		P		20 40 59.4	+0.4
	baz=80								
J14A	Carey	79.92	40	⇓P		P		20 40 59.5	+0.3
	baz=80								
L15A	Malad City	79.94	41	⇑P		P		20 40 59.5	+0.1
	baz=80								
425A	Indio Mountain	79.97	54	⇑P		P		20 40 59.7	-0.1
	baz=80,SNR=11								
N16A	Rees Ranch, Co	79.98	43	⇓P		P		20 40 59.6	-0.1
	baz=80								
MNTX	Cornudas Mount	80.05	53	⇓P		P		20 40 59.6	-0.4
	baz=80								
Z23A	Rita Site, Whi	80.07	51	⇑P		P		20 41 00.1	-0.1
	baz=80								
M16A	Huntsville	80.07	42	⇓P		P		20 41 00.3	+0.2
	baz=80								
O17A	Robinson Place	80.09	44	⇑P		P		20 41 00.2	-0.1
	baz=80								
224A	Cornudas Mount	80.10	53	⇑P		P		20 41 00.2	-0.2
	baz=80								
626A	Big Bend Ranch	80.14	56	⇓P		P		20 41 00.7	+0.1
	baz=80,SNR=13								
P18A	Preston Nutter	80.14	44	⇑P		P		20 41 00.7	0.0
	baz=80								
H13A	Challis	80.15	38	⇓P		P		20 41 00.3	-0.1
	baz=80								
MVCO	Mesa Verde	80.19	47	⇓P		P		20 41 00.4	-0.5
	baz=80								
K15A	Arbon	80.20	41	⇓P		P		20 41 01.1	+0.4
	baz=80								
F12A	Elk City	80.22	37	⇓P		P		20 41 00.4	-0.3
	baz=80,SNR=16								
325A	Bean Ranch, Si	80.23	54	⇑P		P		20 41 00.5	-0.6
	baz=80,SNR=11								
HWUT	Hardware Ranch	80.26	42	eP		P		20 40 59.6	-1.5
	comp=Z,8.1nm,1.3s								
I14A	Mackay	80.29	39	⇑P		P		20 41 01.1	-0.1
	baz=80								
526A	Mary Lane Ranc	80.38	55	⇓P		P		20 41 01.5	-0.5
	baz=81,SNR=9.1								
N17A	Moffit Pass	80.40	43	⇑P		P		20 41 02.1	+0.1
	baz=81								
E12A	Beaver Dam Sad	80.41	36	⇓P		P		20 41 01.9	+0.2
	baz=81								
124A	Stringfield Ra	80.41	52	⇑P		P		20 41 01.9	-0.3
	baz=81								
NJ2	Nanjing	80.42	307	eP		P		20 41 03.3	+1.4
NJ2				S		S		20 51 06.5	+0.6
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2				LR		LR			
	comp=N,130nm,7.7s								
NJ2				LR		LR			
	comp=E,160nm,10.4s								
TXAR	Lajitas Array	80.42	56	P		P		20 41 01.9	-0.3
	comp=E,3.1nm,1.1s,baz=217,slow=6.0,SNR=14								
TXAR	Lajitas Array	80.42	56	P		P		20 41 01.9	-0.3
U21A	Nageezi	80.42	48	⇑P		P		20 41 02.0	-0.2
	baz=81,SNR=16								
G13A	Cobalt	80.45	38	⇑P		P		20 41 02.4	+0.4
	baz=81								
Y23A	Lovelace Mesa,	80.49	51	⇓P		P		20 41 02.5	-0.1
	baz=81								
BLSI	Bandar Lampung	80.54	267	P		P		20 41 00.5	-2.5
	comp=E,117nm,0.4s,comp=E,2µm								
L16A	Fish Haven	80.55	42	⇑P		P		20 41 03.4	+0.7
	baz=81								
S20A	Disappointment	80.57	47	⇓P		P		20 41 03.1	+0.1
	baz=81								
NEW	Newport	80.61	34	P		P		20 41 02.3	-0.3
	comp=E,2.5nm,0.9s,baz=255,slow=5.1,SNR=3.6								
NEW	Newport	80.61	34	P		P		20 41 02.3	-0.3
ANMO	Albuquerque	80.63	50	eP		P		20 41 03.2	-0.1
	comp=E,7.5nm,1.1s								
J15A	Blackfoot	80.64	40	⇑P		P		20 41 03.3	+0.3
	baz=81,SNR=13								
TRF	Thorofare Moun	80.64	10	eP		P		20 40 58.0	-4.6
	comp=E,29nm,1.0s								
225A	Deer Hill, Car	80.65	53	⇑P		P		20 41 03.1	-0.4
	baz=81								
426A	McDonald Obser	80.67	55	⇓P		P		20 41 03.2	-0.5
	baz=81,SNR=9.5								
X23A	Hourglass Bar	80.67	50	⇑P		P		20 41 03.1	-0.4
	baz=81								
627A	Terlingua Ranc	80.69	56	⇑P		P		20 41 03.1	-0.5
	baz=81,SNR=19								
H14A	Leadore	80.71	39	⇑P		P		20 41 03.4	-0.1
	baz=81								
KLR	Kul'dur	80.72	327	eP		P		20 41 00.0	-3.1
R20A	Redvale	80.73	46	⇑P		P		20 41 03.4	-0.3
	baz=81								
V22A	San Miguel Ran	80.73	49	⇓P		P		20 41 03.8	-0.1
	baz=81								
Z24A	Sheeppen Canyo	80.75	52	⇑P		P		20 41 03.6	-0.4
	baz=81								
T21A	Navajo Lake	80.77	48	⇓P		P		20 41 03.8	-0.3
	baz=81								
F13A	Darby	80.77	37	⇑P		P		20 41 03.5	-0.2
	baz=81								
M17A	Scullys Gap (B	80.77	42	⇑P		P		20 41 03.6	-0.4
	baz=81								
527A	Woodward Ranch	80.79	55	⇓P		P		20 41 03.7	-0.5
	baz=81								
C11A	Tepee Creek (N	80.83	35	⇓P		P		20 41 03.8	-0.1
	baz=81								
K16A	Soda Springs	80.87	41	⇓P		P		20 41 04.3	0.0
	baz=81,SNR=11								
TNA	Tin City	80.87	2	eP		P		20 41 03.9	+0.3
	comp=E,18nm,0.9s								
D12A	Red Ives Fores	80.89	36	⇑P		P		20 41 03.9	-0.4
	baz=81								
S21A	Coal Bank Pass	80.89	47	⇓P		P		20 41 04.8	0.0
	baz=81,SNR=13								
Y24A	Capitan	80.95	51	⇓P		P		20 41 04.8	-0.2
	baz=81								
L17A	Cokeville	80.95	42	⇓P		P		20 41 04.8	-0.1
	baz=81								
W23A	Werner Place,	80.95	50	⇓P		P		20 41 04.7	-0.3
	baz=81								
326A	Caldwell Ranch	80.98	54	⇓P		P		20 41 04.8	-0.3
	baz=81								
U22A	Llaves	80.98	48	⇑P		P		20 41 05.4	+0.2
	baz=81								
P19A	Cripple Cowboy	81.00	45	⇓P		P		20 41 05.2	+0.1
	baz=81								
125A	Gardner Draw,	81.01	53	⇑P		P		20 41 05.5	+0.2
	baz=81								
GDL2	Guadalupe Moun	81.04	53	eP		P		20 41 05.9	+0.4
J16A	Bone	81.08	41	⇓P		P		20 41 05.7	+0.2
	baz=81,SNR=9.2								
628A	Black Gap, Mar	81.11	56	⇓P		P		20 41 05.6	-0.2
	baz=81,SNR=11								
PAX	Paxson	81.11	12	eP		P		20 41 03.8	-1.2
PAX				pmax		pmax			
	comp=Z,13nm,1.2s								
PAX	Paxson	81.11	12	eP		P		20 41 03.8	-1.2
	comp=Z,13nm,1.2s								
MCMT	McKenzie Canyo	81.13	39	eP		P		20 41 05.6	-0.2
	comp=Z,6.1nm,1.0s								
M18A	Lyman	81.14	43	⇓P		P		20 41 05.5	-0.4
	baz=81								
Q20A	Ridgley Place,	81.14	46	⇑P		P		20 41 05.8	-0.1
	baz=81								
H15A	Lima	81.15	39	⇓P		P		20 41 05.9	+0.1
	baz=81								
N18A	Larsen Ranch,	81.18	43	⇓P		P		20 41 06.1	0.0
	baz=81								
V23A	Ortiz Mt. (NFS	81.19	49	⇓P		P		20 41 05.8	-0.4
	baz=81								
C12B	Naegeli Ranch,	81.19	35	⇑P		P		20 41 05.8	0.0
	baz=81								
E13A	Victor	81.21	37	⇑P		P		20 41 05.6	-0.4
	baz=81,SNR=8.4								
O19A	Miners Draw (B	81.22	44	⇑P		P		20 41 05.9	-0.3
	baz=81								
Z25A	Roswell	81.22	52	⇑P		P		20 41 06.0	-0.4
	baz=81								
T22A	Edith	81.23	48	⇓P		P		20 41 06.3	-0.2
	baz=81								
427A	Hayter Ranch,	81.24	55	⇑P		P		20 41 05.9	-0.6
	baz=81								
K17A	Gardner Place,	81.25	41	⇓P		P		20 41 06.5	+0.1
	baz=82								
RRI2	Red Ridge	81.30	41	eP		P		20 41 07.2	+0.4
	comp=Z,21nm,1.1s								
RRI2				ePcP		PcP		20 41 11.5	-1.4
CN2	Changchun	81.31	320	eP		P		20 41 06.8	+0.4
CN2				epP		pP		20 41 17.3	+0.1
CN2				esP		sP		20 41 21.1	-0.1
CN2				eS		S		20 51 14.1	-0.6
CN2				pmax		pmax			
	comp=Z,30nm,1.1s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,200nm,14.0s								
CN2				LR		LR			
	comp=E,600nm,14.0s								
CN2				LR		LR			
	comp=Z,600nm,20.0s								
P20A	De Beque	81.33	45	⇑P		P		20 41 06.3	-0.6
	baz=82								
F14A	Wisdom	81.35	38	⇑P		P		20 41 06.4	-0.4
	baz=82								
R21A	Cimarron	81.39	46	⇑P		P		20 41 06.7	-0.6
	baz=82								
L18A	Fontenelle, Gr	81.41	42	⇓P		P		20 41 06.9	-0.4
	baz=82								
D13A	Huson	81.42	36	⇓P		P		20 41 06.6	-0.4
	baz=82,SNR=15								
U23A	El Rito	81.44	49	⇓P		P		20 41 06.9	-0.7
	baz=82								
528A	Cox Ranch, San	81.45	56	⇑P		P		20 41 07.2	-0.5
	baz=82,SNR=11								
I16A	Newdale	81.47	40	⇓P		P		20 41 08.0	+0.5
	baz=82								
N19A	John Jarvie Ra	81.47	44	⇑P		P		20 41 07.2	-0.3
	baz=82								
126A	Clayton Basin,	81.49	53	⇓P		P		20 41 07.8	0.0
	baz=82								
SNY	Shenyang	81.50	318	⇑P		P		20 41 08.3	+0.8
SNY				pmax		pmax			
	comp=Z,28nm,1.2s								
SNY				pmax		pmax			
	comp=Z,290nm,11.8s								
SNY				LR		LR			
	comp=N,320nm,13.2s								
SNY				LR		LR			
	comp=E,360nm,15.6s								
SNY				LR		LR			
	comp=Z,510nm,19.8s								
DCID1	Drake Creek	81.51	40	eP		P		20 41 08.5	+0.7
	comp=Z,25nm,1.1s								
DCID1				ePcP		PcP		20 41 13.6	-0.1
W24A	Lazy 6 Ranch,	81.52	50	⇓P		P		20 41 07.7	-0.3
	baz=82								
G15A	Dillon	81.53	39	⇓P		P		20 41 07.6	-0.2
	baz=82,SNR=7.8								
B12A	Libby	81.56	35	⇑P		P		20 41 08.0	+0.3
	baz=82								
MSO	Missoula	81.57	37	eP		P		20 41 07.7	-0.1
	comp=Z,7.6nm,1.0s								
MSO	Missoula	81.57	37	⇑P		P		20 41 07.8	-0.1
	baz=82								
Q21A	Lamborn Mesa,	81.59	46	⇓P		P		20 41 08.1	-0.2
	baz=82								
E14A	Clinton	81.60	37	⇓P		P		20 41 08.2	+0.1
	baz=82								
TPAW	Teton Pass	81.61	41	eP		P		20 41 08.5	+0.1
	comp=Z,8.1nm,0.9s								
S22A	4UR Ranch, Cre	81.61	47	⇓P		P		20 41 08.3	-0.2
	baz=82,SNR=13								
BSMT	Bassoo Peak	81.65	35	eP		P		20 41 08.5	+0.1
C13A	Hot Springs	81.68	36	⇓P		P		20 41 08.1	-0.3
	baz=82,SNR=6.0								
J17A	Brown Place, J	81.69	41	⇑P		P		20 41 08.7	-0.1
	baz=82								
O20A	White River Ci	81.73	45	⇓P		P		20 41 08.9	-0.2
	baz=82								
K18A	Toltan Ranch,	81.76	42	⇑P		P		20 41 08.8	-0.4
	baz=82								
428A	Kincaid Ranch,	81.76	55	⇓P		P		20 41 08.8	-0.5
	baz=82								
LWLI	Liwa	81.78	267	P		P		20 41 13.7	+4.0
	comp=Z,61nm,0.7s								
Z26A	Caprock	81.78	52	⇑P		P		20 41 08.0	-1.3
	baz=82								
A12A	Yaak River Ran	81.79	34	⇑P		P		20 41 08.5	-0.5
	baz=82								
V24A	Rampart Ranch,	81.85	50	⇑P		P		20 41 09.2	-0.6
	baz=82								
MOOW	Moose Ponds	81.87	40	eP		P		20 41 09.4	-0.2
	comp=Z,14nm,1.5s								
MOOW				ePP		PP		20 44 17.6	0.0
R22A	Saguache, Gunn	81.88	47	⇓P		P		20 41 09.2	-0.8
	baz=82								
F15A	Butte	81.88	38	⇑P		P		20 41 09.3	-0.4
	baz=82								
LOHW	Long Hollow	81.89	41	eP		P		20 41 09.8	0.0
	comp=Z,11nm,1.2s								
529A	Stev Forest Ra	81.89	56	⇑P		P		20 41 09.5	-0.4
	baz=82								
328A	Wristen Ranch,	81.92	54	⇑P		P		20 41 09.6	-0.4
	baz=82								
L19A	Farson	81.94	42	⇑P		P		20 41 09.7	-0.4
	baz=82								
D14A	Greenough	81.96	37	⇓P		P		20 41 09.5	-0.5
	baz=82,SNR=9.3								
P21A	Newcastle	81.99	45	⇑P		P		20 41 10.3	-0.1
	baz=82								
DOT	Dot Lake	82.00	13	eP		P		20 41 07.2	-2.5
	comp=Z,11nm,1.1s								
127A	Arkansas Junct	82.01	53	⇑P		P		20 41 10.4	-0.2
	baz=82								
CHMT	Chamberlain Mo	82.01	37	eP		P		20 41 09.7	-0.6
H16A	Russell Place,	82.04	39	⇑P		P		20 41 10.6	+0.1
	baz=82								
N20A	Spence Gulch,	82.05	44	⇓P		P		20 41 10.8	0.0
	baz=82								
SLMT	Seeley Lake	82.05	36	eP		P		20 41 09.4	-1.1
	comp=Z,4.8nm,1.1s								
J18A	Kendall Valley	82.06	41	⇓P		P		20 41 10.4	-0.3
	baz=82,SNR=17								
I17A	Pilgrim Ck.	82.06	40	⇓P		P		20 41 11.0	+0.3
	baz=82								
Q22A	Crested Butte,	82.06	46	⇓P		P		20 41 10.4	-0.5
	baz=82,SNR=13								
FLWY	Flagg Ranch	82.06	40	eP		P		20 41 11.3	+0.6
	comp=Z,33nm,1.3s								
FLWY				ePcP		PcP		20 41 15.6	-0.5
E15A	Deer Lodge	82.11	37	⇑P		P		20 41 10.6	-0.2
	baz=82								
B13A	Whitefish	82.12	35	⇑P		P		20 41 10.7	0.0
	baz=82								
BW06	Boulder Array	82.13	42	⇓P		P		20 41 11.1	0.0
	baz=82,SNR=8.0								
PDAR	Pinedale Array	82.13	42	P		P		20 41 09.2	-1.9
	comp=Z,4.6nm,1.2s,baz=242,slow=3.2,SNR=13								
PDAR				LR		LR		21 13 15.0	
	comp=Z,482nm,18.3s,baz=248,slow=32								
PDAR	Pinedale Array	82.13	42	P		P		20 41 09.2	-1.9
SMCO	Snowmass	82.16	46	eP		P		20 41 12.1	+0.6
	comp=Z,10nm,0.9s								
SMCO				ePcP		PcP		20 41 16.8	-0.1
Y26A	Elida	82.17	52	⇓P		P		20 41 10.9	-0.4
	baz=82								
C14A	Swan Lake	82.19	36	⇓P		P		20 41 10.9	-0.2
	baz=82								
W25A	X Bar L Ranch,	82.23	50	⇓P		P		20 41 11.5	-0.2
	baz=82								
BOZ	Bozeman (W)	82.30	38	⇑P		P		20 41 12.0	+0.2
	baz=82								
H17A	Grant Village	82.30	40	⇑P		P		20 41 12.0	0.0
	baz=82								
429A	Davenport Ranc	82.34	55	⇓P		P		20 41 12.3	0.0
	baz=82								
COLA	College	82.37	11	eP		P		20 41 09.2	-2.3
COLA				pmax		pmax			
	comp=Z,40nm,1.0s								
COLA	College	82.37	11	eP		P		20 41 09.2	-2.3
	comp=Z,40nm,1.0s								
V25A	Rancho No Teng	82.38	50	⇓P		P		20 41 12.3	-0.2
	baz=83,SNR=9.3								
228A	UT Block 9, Go	82.38	54	⇓P		P		20 41 12.2	-0.3
	baz=83								
Z27A	Tatum	82.38	53	⇑P		P		20 41 12.7	+0.2
	baz=83								
M20A	Sweetwater, Wa	82.41	43	⇓P		P		20 41 12.3	-0.3
	baz=83								
I18A	Diamond G Ranc	82.43	41	⇓P		P		20 41 12.1	-0.5
	baz=83								
X26A	CR and CF Fran	82.44	51	⇑P		P		20 41 12.0	-0.8
	baz=83								
ILAR	Eielson Array	82.45	11	P		P		20 41 10.4	-1.5
	comp=Z,6.3nm,0.8s,baz=226,slow=5.4,SNR=41								
ILAR				LR		LR		21 15 24.6	
	comp=Z,412nm,18.4s,baz=319,slow=34								
ILAR	Eielson Array	82.45	11	P		P		20 41 10.4	-1.5
A13A	Flathead Natio	82.46	35	⇓P		P		20 41 12.2	-0.3
	baz=83								
P22A	Eagle	82.50	46	⇓P		P		20 41 12.5	-0.6
	baz=83								
D15A	Lincoln	82.50	37	⇓P		P		20 41 12.4	-0.4
	baz=83,SNR=12								
N21A	Black Mountain	82.51	44	⇓P		P		20 41 12.7	-0.5
	baz=83								
R23A	Moffat	82.52	47	⇑P		P		20 41 12.9	-0.4
	baz=83,SNR=10								
L20A	Wamsutter	82.55	43	⇓P		P		20 41 13.5	+0.2
	baz=83,SNR=9.5								
T24A	Torres, Weston	82.59	48	⇑P		P		20 41 13.9	+0.2
	baz=83,SNR=10								
530A	J-C Ranch, Com	82.60	56	⇑P		P		20 41 13.2	-0.5
	baz=83								
329A	Wagon Wheel Ra	82.61	55	⇓P		P		20 41 13.2	-0.4
	baz=83								
K19A	Absolon Red Bu	82.62	42	⇓P		P		20 41 13.1	-0.5
	baz=83								
SEY	Seymchan	82.65	345	⇑eP		P		20 41 12.1	-0.9
Y27A	Causey	82.65	52	⇑P		P		20 41 13.5	-0.4
	baz=83								
128A	Castleberry Fa	82.66	53	⇓P		P		20 41 13.4	-0.6
	baz=83								
G17A	Pierce Place,	82.67	39	⇓P		P		20 41 13.5	-0.2
	baz=83								
J19A	Crowheart	82.70	41	⇑P		P		20 41 13.9	-0.1
	baz=83								
S24A	Houchin Ranch,	82.72	48	⇓P		P		20 41 14.3	0.0
	baz=83,SNR=8.2								
E16A	East Helena	82.73	38	⇓P		P		20 41 13.8	-0.2
	baz=83								
U25A	Circle Dot Ran	82.77	49	⇓P		P		20 41 14.2	-0.3
	baz=83,SNR=11								
B14A	Marquette Ranc	82.78	36	⇑P		P		20 41 13.9	-0.4
	baz=83,SNR=9.6								
C15A	Salmond Ranch,	82.84	36	⇓P		P		20 41 14.3	-0.3
	baz=83,SNR=9.6								

QIZ SS **SS** **20 56 59.5 -0.7**
QIZ LR LR
comp=N,2µm,14.5s
QIZ LR LR
comp=Z,720nm,22.3s
W27A Bowe Ranch, En **83.21 51** ⇑P **P** **20 41 16.7 0.0**
baz=83,SNR=8.8
330A Mertzon **83.21 55** ⇑P **P** **20 41 16.7 -0.1**
baz=83
U26A Atchley Ranch, **83.25 50** ⇓P **P** **20 41 16.8 -0.2**
baz=83,SNR=14
N22A Wattenberg Ran **83.25 45** ⇑P **P** **20 41 17.0 -0.1**
baz=83,SNR=9.6
S25A Robets Cordova **83.28 48** ⇓P **P** **20 41 17.1 0.0**
baz=84,SNR=10
Q24A Divide **83.34 47** ⇑P **P** **20 41 17.4 -0.2**
baz=84,SNR=7.2
C16A Fuhringer Ranc **83.35 37** ⇓P **P** **20 41 17.8 +0.6**
baz=84
O23A Lake Granby, G **83.35 45** ⇑P **P** **20 41 17.5 -0.1**
baz=84
J20A Shoshoni **83.36 42** ⇑P **P** **20 41 17.7 +0.3**
baz=84,SNR=18
ISCO Idaho Springs **83.38 46** *e*P **P** **20 41 17.6 -0.2**
ISCO *e* 20 41 22.7
ISCO *e**PP **pP** **20 41 29.7 +1.1**
ISCO pmax pmax
comp=Z,16nm,1.5s
ISCO Idaho Springs **83.38 46** *e*P **P** **20 41 17.6 -0.2**
comp=Z,16nm,1.5s
ISCO *e*PcP **PcP** **20 41 22.7 +0.6**
ISCO *e*pP **pP** **20 41 29.7 +1.1**
ISCO Idaho Springs **83.38 46** ⇓P **P** **20 41 17.7 0.0**
baz=84
G18A Lazy EL Ranch, **83.38 39** ⇑P **P** **20 41 17.7 +0.2**
baz=84
431A Sonora **83.39 56** ⇑P **P** **20 41 17.5 -0.2**
baz=84
DAWY Dawson **83.41 14** *e*P **P** **20 41 15.2 -1.8**
A15A Johnson Ranch, **83.42 35** ⇑P **P** **20 41 17.6 +0.2**
baz=84
H19A Powell **83.42 40** ⇓P **P** **20 41 18.0 +0.4**
baz=84,SNR=13
M22A Cedar Creek Ra **83.43 44** ⇑P **P** **20 41 18.3 +0.4**
baz=84
RLMT Red Lodge **83.47 40** *e*P **P** **20 41 18.4 +0.4**
comp=Z,18nm,1.1s
RLMT *e*PcP **PcP** **20 41 22.3 +0.1**
RLMT Red Lodge **83.47 40** ⇑P **P** **20 41 18.6 +0.6**
baz=84,SNR=9.2
Z29A Hungry Hill Ra **83.52 53** ⇑P **P** **20 41 18.4 +0.1**
baz=84
KSI Kapahiang **83.54 268** P P 20 41 22.3 +3.5
comp=Z,61nm,0.8s
F18A Big Timber **83.58 39** ⇓P **P** **20 41 18.8 +0.4**
baz=84
R25A Fountain Ranch **83.60 48** ⇑P **P** **20 41 18.8 +0.1**
baz=84
632A Uvalde **83.61 57** ⇑P **P** **20 41 19.0 +0.1**
baz=84
I20A Worland **83.61 41** ⇑P **P** **20 41 18.7 +0.1**
baz=84
EGAK Eagle **83.62 13** *e*P **P** **20 41 15.2 -2.8**
comp=Z,18nm,1.1s
D17A Six Diamond Ra **83.63 38** ⇓P **P** **20 41 19.1 +0.4**
baz=84,SNR=13
X28A Dimmitt **83.64 52** ⇑P **P** **20 41 18.6 -0.3**
baz=84
N23A Red Feather La **83.64 45** ⇓P **P** **20 41 18.2 -0.8**
baz=84
T26A Comanche Natio **83.68 49** ⇑P **P** **20 41 18.8 -0.5**
baz=84
532A Rocksprings **83.75 57** ⇓P **P** **20 41 19.1 -0.4**
baz=84
J21A Lysite **83.77 42** ⇓P **P** **20 41 19.9 +0.4**
baz=84,SNR=27
331A San Angelo **83.77 55** ⇑P **P** **20 41 19.3 -0.3**
baz=84
Y29A Porterfield Fa **83.78 53** ⇑P **P** **20 41 20.1 +0.4**
baz=84
E18A Harlowton **83.79 38** ⇓P **P** **20 41 19.9 +0.4**
baz=84,SNR=11
L22A Ellis Ranch, M **83.82 43** ⇓P **P** **20 41 20.3 +0.4**
baz=84
C17A Wharram Farm, **83.83 37** ⇓P **P** **20 41 19.7 +0.1**
baz=84,SNR=6.8
130A Snyder **83.83 54** ⇓P **P** **20 41 19.9 -0.1**
baz=84
O24A Longmont **83.89 46** ⇑P **P** **20 41 20.0 -0.2**
baz=84
H20A Greybull **83.95 41** ⇑P **P** **20 41 19.9 -0.4**
baz=84
S26A Kim **83.96 48** ⇑P **P** **20 41 20.4 -0.1**
baz=84
Z30A Sanderson Ranc **83.97 53** ⇓P **P** **20 41 20.2 -0.4**
baz=84
X29A Tulia **83.99 52** ⇓P **P** **20 41 20.7 -0.1**
baz=84
F19A Roth Farm, Mol **84.03 39** ⇑P **P** **20 41 21.2 +0.5**
baz=84
A16A West Butte Ran **84.04 36** ⇓P **P** **20 41 21.1 +0.5**
baz=84
I21A Big Trails, Te **84.08 42** ⇑P **P** **20 41 20.6 -0.5**
baz=84,SNR=18
432A Menard **84.11 56** ⇑P **P** **20 41 21.0 -0.4**
baz=84
B17A L&G Farms, Che **84.15 36** ⇑P **P** **20 41 21.2 0.0**
baz=84
COLD Coldfoot **84.16 9** *e*P **P** **20 41 20.0 -0.8**
comp=Z,20nm,1.2s
G20A Bridger **84.17 40** ⇑P **P** **20 41 21.5 +0.1**
baz=84
D18A Linhart Farms, **84.17 38** ⇑P **P** **20 41 21.8 +0.4**
baz=84
AMTX Amarillo **84.17 52** *e*P **P** **20 41 21.3 -0.4**
comp=Z,21nm,0.9s
AMTX *e*PcP **PcP** **20 41 26.1 +0.6**
AMTX Amarillo **84.17 52** ⇑P **P** **20 41 21.5 -0.2**
baz=84
P25A Willow Gulch B **84.26 47** ⇓P **P** **20 41 21.6 -0.5**
baz=84
R26A Arlington **84.26 48** ⇓P **P** **20 41 21.4 -0.6**
baz=84,SNR=18
T27A Campo **84.27 49** ⇓P **P** **20 41 21.8 -0.4**
baz=84
131A Roby **84.31 54** ⇑P **P** **20 41 22.0 -0.3**
baz=84
N24A Carr **84.33 45** ⇓P **P** **20 41 22.5 0.0**
baz=84
332A Millersview **84.34 55** ⇓P **P** **20 41 22.0 -0.5**
baz=84
L23A Garrett **84.35 44** ⇑P **P** **20 41 22.5 0.0**
baz=84
Y30A Stafford Cattl **84.38 53** ⇓P **P** **20 41 22.9 +0.2**
baz=85
E19A Rath Farm, Rou **84.42 39** ⇓P **P** **20 41 23.0 +0.4**
baz=85
J22A Midwest **84.42 42** ⇑P **P** **20 41 22.4 -0.4**
baz=85,SNR=6.8
Q26A Hugo **84.47 47** ⇓P **P** **20 41 22.5 -0.6**
baz=85
F20A Billings **84.49 40** ⇑P **P** **20 41 23.0 0.0**
baz=85
A17A Triple J Farms **84.54 36** ⇓P **P** **20 41 23.2 0.0**
baz=85,SNR=7.7
232A Coleman **84.60 55** ⇑P **P** **20 41 23.7 -0.1**
baz=85
BILL Bilibino **84.61 352** *e*P **P** **20 41 21.9 -1.0**
BILL pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino **84.61 352** *e*P **P** **20 41 21.9 -1.0**
comp=Z,11nm,1.3s
EGMT Eagleton **84.61 37** *e*P **P** **20 41 22.8 -0.7**
comp=Z,13nm,1.0s
EGMT *e*PcP **PcP** **20 41 27.9 +0.9**
EGMT Eagleton **84.61 37** ⇓P **P** **20 41 23.7 +0.1**
baz=85
X30A Coker Ranch, T **84.62 52** ⇓P **P** **20 41 23.7 -0.1**
baz=85
H21A Big Horn, Sher **84.62 41** ⇓P **P** **20 41 23.7 -0.1**
baz=85
I22A 9 Mile Ranch, **84.64 42** ⇓P **P** **20 41 23.9 0.0**
baz=85,SNR=9.4
M24A Cheyenne **84.65 45** ⇑P **P** **20 41 24.1 0.0**
baz=85
K23A Bowen Ranch, D **84.68 43** ⇓P **P** **20 41 24.4 +0.2**
baz=85
D19A Cripps Ranch, **84.70 38** ⇑P **P** **20 41 24.2 +0.2**
baz=85,SNR=11
R27A Eads **84.72 48** ⇓P **P** **20 41 23.8 -0.6**
baz=85
T28A Walsh **84.74 49** ⇓P **P** **20 41 23.9 -0.6**
baz=85
B18A Beardsley Farm **84.79 37** ⇑P **P** **20 41 24.4 0.0**
baz=85,SNR=5.1
G21A Lodge Grass **84.80 40** ⇓P **P** **20 41 24.6 0.0**
baz=85
L24A Wheatland **84.83 44** ⇑P **P** **20 41 25.0 +0.1**
baz=85
E20A Meyer Farm, Mu **84.83 39** ⇑P **P** **20 41 24.9 +0.2**
baz=85
P26A Davis Ranch, A **84.86 47** ⇑P **P** **20 41 25.1 0.0**
baz=85
ABTX Abilene, Hawle **84.88 54** ⇓P **P** **20 41 24.9 -0.3**
baz=85
C19A Slack Wire Ran **84.88 38** ⇓P **P** **20 41 25.1 +0.2**
baz=85,SNR=17
A18A Metzger Ranch, **85.01 36** ⇑P **P** **20 41 25.4 -0.1**
baz=85,SNR=9.3
J23A Dilts Ranch, B **85.02 43** ⇓P **P** **20 41 25.8 0.0**
baz=85
H22A Clearmont **85.04 41** ⇑P **P** **20 41 25.7 -0.2**
baz=85
D20A Manuel Ranch, **85.11 38** ⇓P **P** **20 41 26.0 0.0**
baz=85,SNR=11
F21A Absaloka Mine, **85.13 40** ⇓P **P** **20 41 26.8 +0.6**
baz=85
Z32A Haskell **85.26 54** ⇓P **P** **20 41 26.9 -0.2**
baz=85
B19A Brinkman Farms **85.30 37** ⇓P **P** **20 41 26.8 -0.1**
baz=86,SNR=9.4
G22A Birney **85.37 41** ⇓P **P** **20 41 27.4 0.0**
baz=86
C20A Veseth Ranch, **85.49 38** ⇑P **P** **20 41 28.0 +0.1**
baz=86,SNR=13
F22A Rosebud **85.65 40** ⇓P **P** **20 41 28.9 +0.1**
baz=86
A19A Klindworth Far **85.65 37** ⇓P **P** **20 41 28.6 -0.1**
baz=86,SNR=8.1
BJI Beijing **85.71 313** P **P** **20 41 29.6 +0.5**
BJI pP **pP** **20 41 40.1 +0.1**
BJI sP **sP** **20 41 43.8 -0.1**
BJI S **S** **20 52 02.9 +3.6**
BJI sS **sS** **20 52 17.3 0.0**
BJI pmax pmax
comp=Z,26nm,1.3s
BJI pmax pmax
comp=Z,340nm,9.6s
BJI LR LR
comp=N,310nm,22.5s
BJI LR LR
comp=E,330nm,23.1s
BJI LR LR
comp=Z,470nm,26.2s
K25A Mack Ranch, Ha **85.78 44** ⇑P **P** **20 41 29.8 +0.2**
baz=86
D21A La Casta Ranch **85.79 39** ⇓P **P** **20 41 29.9 +0.4**
baz=86
I24A Kuemmerle Ranc **85.83 42** ⇑P **P** **20 41 30.4 +0.6**
baz=86
B20A Solberg Farm, **85.83 37** ⇓P **P** **20 41 30.1 +0.5**
baz=86
G23A Biddle **85.93 41** ⇑P **P** **20 41 30.3 +0.1**
baz=86
C21A Desert Coulee **86.08 38** ⇑P **P** **20 41 30.6 -0.3**
baz=86,SNR=6.7
A20A Cobblestone Ra **86.10 37** ⇑P **P** **20 41 30.9 0.0**
baz=86
E22A Miles City **86.14 40** ⇑P **P** **20 41 30.9 -0.2**
baz=86
F23A Volborg **86.15 41** ⇓P **P** **20 41 31.6 +0.4**
baz=86
H24A Dirks Ranch, A **86.26 42** ⇓P **P** **20 41 31.1 -0.8**
baz=86,SNR=13
K26A Motz Farm, Whi **86.28 44** ⇑P **P** **20 41 32.3 +0.2**
baz=86
D22A Cohagen **86.32 39** ⇑P **P** **20 41 32.6 +0.5**
baz=86
RSSD Black Hills **86.32 42** *e*P **P** **20 41 32.1 -0.3**
RSSD *e**PP **pP** **20 41 42.3 -0.9**
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills **86.32 42** *e*P **P** **20 41 32.1 -0.3**
comp=Z,13nm,1.3s
RSSD *e*PcP **PcP** **20 41 35.8 +1.0**
RSSD *e*pP **pP** **20 41 42.3 -0.9**
WHTX Lake Whitney **86.38 56** ⇓P **P** **20 41 32.4 -0.2**
baz=86
B21A Ellsworth Farm **86.41 38** ⇑P **P** **20 41 32.7 +0.2**
baz=87
G24A Alzada **86.60 41** ⇓P **P** **20 41 33.3 -0.2**
baz=87
A21A Bergtoll Ranch **86.73 37** ⇓P **P** **20 41 34.1 +0.1**
baz=87
C22A Vida **86.77 39** ⇑P **P** **20 41 34.4 +0.2**
baz=87
D23A Lindsay **86.92 39** ⇑P **P** **20 41 35.5 +0.5**
baz=87
B22A Reddig Ranch S **86.96 38** ⇑P **P** **20 41 35.7 +0.5**
baz=87
HKT Hockley **86.99 58** *e*P **P** **20 41 35.3 -0.2**
HKT *e**PP **pP** **20 41 47.0 +0.5**
HKT pmax pmax
comp=Z,11nm,1.4s
HKT Hockley **86.99 58** *e*P **P** **20 41 35.3 -0.2**
comp=Z,11nm,1.4s
HKT *e*pP **pP** **20 41 47.0 +0.5**
ENH Enshi **87.18 302** *e*P **P** **20 41 35.3 -1.3**
comp=Z,8.6nm,0.9s
IPM Ipoh **87.19 275** *e*P **P** **20 41 37.0 0.0**
comp=Z,15nm,0.8s
C23A Lambert **87.22 39** ⇓P **P** **20 41 36.6 +0.2**
baz=87
A22A Carney Farms, **87.32 37** ⇓P **P** **20 41 37.1 +0.2**
baz=88
D24A Glendive **87.44 40** ⇓P **P** **20 41 37.7 +0.2**
baz=88
SISI Saibi **87.52 269** P P 20 41 50.3 +12
C24A Savage **87.56 39** ⇓P **P** **20 41 38.2 +0.1**
baz=88
B23A Brockton **87.63 38** ⇓P **P** **20 41 38.5 +0.2**
baz=88
MAW Mawson **87.82 199** LR LR 21 21 01.5
comp=Z,1µm,18.6s,baz=118,slow=36
GYA Guiyang **88.31 298** P **P** **20 41 43.0 +0.8**
GYA pP **pP** **20 41 54.3 +1.1**
GYA PP **PP** **20 45 13.0 +2.8**
GYA SKS **SKSac** **20 52 06.6 -2.4**
GYA S **S** **20 52 23.4 -1.9**
GYA SS **SS** **20 58 17.9 +2.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,530nm,19.7s
GYA LR LR
comp=E,510nm,20.0s
GYA LR LR
comp=Z,570nm,21.2s
CLNS Chul'man **88.42 331** *e*P **P** **20 41 39.7 -2.2**
CLNS *e**PP **pP** **20 41 50.9 -2.0**
CLNS *e*S **SKSac** **20 52 03.4 -4.7**
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS pmax pmax
comp=Z,23nm,2.2s
CLNS pmax pmax
comp=N,17nm,2.1s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS smax smax
comp=E,154nm,12.5s
CLNS smax smax
comp=N,110nm,13.8s
CLNS MLR MLR
comp=E,398nm,17.0s
CLNS MLR MLR
comp=N,387nm,17.0s
CLNS MLR MLR
comp=Z,625nm,18.0s
A24A Westby **88.42 38** ⇓P **P** **20 41 43.1 +1.0**
baz=89
XAN Xi'an **88.89 306** P **P** **20 41 47.3 +2.6**
XAN pP **pP** **20 41 58.3 +2.7**
XAN sP **sP** **20 52 03.3 +3.7**
XAN SKS **SKSac** **20 52 05.3 -6.7**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,49nm,9.0s
XAN LR LR
comp=N,260nm,18.0s
XAN LR LR
comp=E,110nm,22.4s
XAN LR LR
comp=Z,120nm,21.1s
TUL1 Tulsa **89.02 52** ⇑P **P** **20 41 46.0 +0.8**
baz=89
PLCA Paso Flores **89.27 132** LR LR 21 12 56.0
comp=Z,729nm,20.6s,baz=79,slow=30
YAK Yakutsk **89.28 337** *e*P P 20 41 51.4 +5.7
YAK *e**PP pP 20 42 02.3 +5.6
YAK *e* 20 45 23.5
YAK *e*S **SKSac** **20 52 19.3 +6.5**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=Z,94nm,3.7s
YAK pmax pmax
comp=E,121nm,3.4s
YAK pmax pmax
comp=N,135nm,4.0s
YAK smax smax
comp=E,74nm,8.3s
YAK smax smax
comp=N,120nm,9.1s
YKA Yellowknife Ar **90.05 23** P **P** **20 41 48.1 -1.2**
comp=N,3.9nm,1.0s,baz=237,slow=4.4,SNR=36
YKA Yellowknife Ar **90.05 23** P **P** **20 41 48.1 -1.2**
YKW3 Yellowknife Ar **90.08 23** *e*P **P** **20 41 48.3 -1.2**
comp=N,0.2nm,1.1s
KMI Kunming **91.30 296** P **P** **20 41 57.3 +0.9**
KMI pP **pP** **20 42 08.0 +0.7**
KMI sP **sP** **20 42 12.5 +1.3**
KMI PP **PP** **20 45 36.6 +2.5**
KMI SKS **SKSac** **20 52 24.9 -1.8**
KMI S **S** **20 52 52.1 -1.2**
KMI sS **sS** **20 53 09.0 -2.5**
KMI SS **SS** **20 58 59.9 +0.7**
KMI pmax pmax
comp=Z,1.0nm,1.2s
KMI pmax pmax
comp=Z,170nm,6.9s
KMI LR LR
comp=N,220nm,16.5s
KMI LR LR
comp=E,350nm,18.0s
KMI LR LR
comp=Z,450nm,25.9s
FFC Flin Flon **92.00 33** *i* P **P** **20 41 59.5 +0.9**
CD2 Chengdu **92.07 301** P **P** **20 41 59.9 +0.3**
CD2 pP **pP** **20 42 11.0 +0.4**
CD2 sP **sP** **20 42 15.1 +0.6**
CD2 PP **PP** **20 45 42.6 +2.6**
CD2 SKS **SKSac** **20 52 28.4 -2.1**
CD2 S **S** **20 52 56.8 -2.9**
CD2 sS **sS** **20 53 15.4 -2.5**
CD2 SS **SS** **20 59 10.3 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,230nm,8.3s
CD2 LR LR
comp=N,470nm,20.2s
CD2 LR LR
comp=Z,450nm,20.2s
SYO Syowa Base **92.59 191** ⇑ *e*PcP **PcP** **20 42 03.3 +1.4**
CMAR Chiang Mai Arr **92.89 288** P **P** **20 42 04.2 +0.6**
comp=Z,2.4nm,1.0s,baz=100,slow=2.7,SNR=12
CMAR LR LR 21 16 50.9
comp=Z,434nm,21.9s,baz=279,slow=31
CMAR Chiang Mai Arr **92.89 288** P **P** **20 42 04.2 +0.6**
CHTO Chiang Mai **92.98 289** *e*P **P** **20 42 03.5 -0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.7s
CHTO Chiang Mai **92.98 289** *e*P **P** **20 42 03.5 -0.5**
comp=Z,2.3nm,0.7s
VNA2 Neumayer--Watz **93.27 175** *e*PP PP 20 45 45.8 -1.7
VNA2 Neumayer--Watz **93.27 175** *e*PKiKP **PKiKP** **20 46 49.2 -1.5**
LZH Lanzhou **93.48 306** *e*P **P** **20 42 06.6 +0.5**
LZH pP **pP** **20 42 16.3 -0.8**
LZH sP **sP** **20 42 20.3 -0.7**
LZH PP **PP** **20 45 52.0 +1.0**
LZH *e*S **S** **20 53 09.6 -2.7**
LZH sS sS 20 53 25.0 -5.5
LZH SS **SS** **20 59 30.0 0.0**
LZH pmax pmax
comp=Z,9.0nm,1.2s
LZH pmax pmax
comp=Z,86nm,4.0s
LZH LR LR
comp=N,220nm,14.1s
LZH LR LR
comp=E,330nm,15.7s
LZH LR LR
comp=Z,520nm,16.5s
ULM Lac du Bonnet **93.81 39** P **P** **20 42 05.9 -1.1**
comp=Z,3.2nm,0.9s,baz=213,slow=4.6,SNR=4.9
ULM LR LR 21 17 29.0
comp=Z,430nm,21.8s,baz=269,slow=31
ULM Lac du Bonnet **93.81 39** P **P** **20 42 05.9 -1.1**
NVL N'lazarevskaya **93.92 182** *e*P **P** **20 42 09.6 +2.3**
NVL *e*SSS SSS 20 59 55.4
NVL pmax pmax
comp=Z,8.0nm,0.8s
BOD Bodaibo **94.12 329** *e*P P 20 41 58.9 -9.4
SPMN St. Paul **94.17 44** ⇑P **P** **20 42 09.3 +0.4**
baz=94
ULN Ulaanbaatar **94.66 318** *e*P **P** **20 42 10.9 -0.4**
comp=Z,12nm,1.4s
SONM Songino Array **95.07 318** P **P** **20 42 12.9 -0.2**
comp=Z,0.8nm,0.8s,baz=115,slow=4.2,SNR=9.4
SONM PP **PP** **20 46 06.8 +3.7**
comp=Z,2.2nm,1.2s,baz=116,slow=6.2,SNR=6.0
SONM LR LR 21 19 57.3
comp=Z,544nm,21.9s,baz=179,slow=32
SONM Songino Array **95.07 318** P **P** **20 42 12.9 -0.2**
SONM PP **PP** **20 46 06.8 +3.7**
COWI Conover **96.89 44** *e*P **P** **20 42 20.6 -0.7**
comp=Z,5.9nm,0.9s
GTA Gaotai **97.43 309** *e*P Pdif 20 42 24.8 +0.7
GTA pP pP 20 42 34.4 -0.6
GTA sP sP 20 42 38.4 -0.5
GTA PP **PP** **20 46 26.3 +4.7**
GTA SKS **SKSac** **20 52 57.9 -1.2**
GTA S **S** **20 53 41.6 -4.7**
GTA sS sS 20 54 01.5 -3.1
GTA SS **SS** **21 00 25.8 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA pmax pmax
comp=Z,170nm,5.2s
GTA LR LR
comp=N,250nm,20.9s
GTA LR LR
comp=E,570nm,20.9s
GTA LR LR
comp=Z,850nm,21.8s
ZAK Zakamensk **97.74 320** *e*P **P** **20 42 24.3 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LPAZ La Paz **99.54 110** LR LR 21 17 06.1
comp=Z,275nm,21.8s,baz=260,slow=29
ROSC El Rosal **99.74 88** LR LR 21 18 07.2
comp=Z,327nm,20.8s,baz=5.7,slow=30
WMQ Urumqi **107.11 312** *e*Pdif **Pdif** **20 43 07.3 +0.3**
WMQ PP **PP** **20 47 37.4 +3.3**
WMQ S **Sdif** **20 55 03.0 -4.0**
WMQ SS **SS** **21 02 39.0 -0.5**
WMQ LR LR
comp=N,190nm,26.0s
WMQ LR LR
comp=E,130nm,26.0s
WMQ LR LR
comp=Z,210nm,24.0s
ZALV Zalesovo Beam **109.44 322** Pdiff **Pdif** **20 43 16.6 -0.4**
comp=Z,0.2nm,0.4s,baz=101,slow=6.0,SNR=3.7
ZALV PP **PP** **20 47 54.5 +3.9**
comp=Z,0.5nm,0.6s,baz=95,slow=7.4,SNR=4.5

ZALV	**Zalesovo Beam**	**109.44**	**322**	P	**Pdif**	**20 43 16.6**	**-0.4**
ZALV						20 47 54.5	
ZALV	**Zalesovo Beam**	**109.44**	**322**	Pdif	**Pdif**	**20 43 16.6**	**-0.4**
ZALV				PP	**PP**	**20 47 54.5**	**+3.9**
MKAR	**Makanchi Array**	**111.06**	**315**	PKiKP	**PKiKP**	**20 47 23.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=109,slow=0.3,SNR=6.6						
MKAR	**Makanchi Array**	**111.06**	**315**	PKiKP	**PKiKP**	**20 47 23.7**	**+0.2**
MKAR	**Makanchi Array**	**111.06**	**315**	PKiKP	**PKiKP**	**20 47 23.7**	**+0.2**
KURK	**Kurchatov**	**113.36**	**319**	*i* PKiKP	**PKiKP**	**20 47 24.3**	**-3.4**
KURK				MLR	MLR		
	comp=Z,566nm,20.0s						
KSH	**Kashi**	**115.73**	**307**	*e*PKP	**PKPdf**	**20 47 33.8**	**+1.0**
KSH				*es*PKP		20 47 47.3	
KSH				*e*PP	PP	20 48 42.8	+6.7
KSH				PKS	**PKSdf**	**20 51 09.1**	**-0.5**
KSH				SKS	**SKSdf**	**20 54 40.9**	**-1.7**
KSH				SKKS	**SKKSac**	**20 55 31.9**	**-3.0**
KSH				SS	**SS**	**21 04 39.0**	**+4.3**
KSH				AMB	AMB		
	comp=Z,140nm,6.5s						
KSH				LR	LR		
	comp=N,150nm,6.3s						
KSH				LR	LR		
	comp=E,65nm,6.2s						
KSH				LR	LR		
	comp=Z,420nm,21.2s						
BRVK	**Borovoye**	**118.15**	**322**	⇓*i* PKiKP	**PKPdf**	**20 47 40.2**	**+3.4**
BRVK				MLR	MLR		
	comp=Z,584nm,20.0s						
KBL	**Kabul**	**121.41**	**301**	*e*PKiKP	**PKPdf**	**20 47 43.2**	**-0.8**
KBL	**Kabul**	**121.41**	**301**	*e*PKPdf	**PKPdf**	**20 47 43.2**	**-0.8**
ARU	**Arti**	**123.53**	**328**	*i* PKiKP	**PKPdf**	**20 47 49.3**	**+2.2**
ARU						20 49 35.9	
ARU				SS	SS	21 06 24.2	+11
ARU				MLR	MLR		
	comp=Z,800nm,22.0s						
ARCES	**ARCESS Array B**	**124.71**	**352**	PKP	**PKPdf**	**20 47 48.9**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=54,slow=2.1,SNR=6.0						
ARCES	**ARCESS Array B**	**124.71**	**352**	PKP	**PKPdf**	**20 47 48.9**	**-0.1**
FINES	**FINESS Array B**	**132.06**	**348**	PKP	**PKPdf**	**20 48 01.4**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=29,slow=2.1,SNR=2.8						
FINES	**FINESS Array B**	**132.06**	**348**	PKP	**PKPdf**	**20 48 01.4**	**-1.8**
MOS	**Moscow**	**133.41**	**337**	*e*PKiKP	**PKPdf**	**20 48 02.1**	**-3.8**
MOS				*e*		20 50 30.4	
MAK	**Makhachkala**	**135.82**	**317**	PKiKP	**PKPdf**	**20 48 09.9**	**-0.9**
MAK				pmax	pmax		
	comp=Z,310nm,2.3s						
MAK				MLR	MLR		
	comp=Z,629nm,20.0s						
KIV	**Kislovodsk**	**138.42**	**320**	*i* PKiKP	**PKPdf**	**20 48 16.8**	**+1.1**
KIV				*e*		20 51 05.1	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,438nm,22.0s						
AKASG	**Malin Array Be**	**140.50**	**338**	PKP	**PKPdf**	**20 48 19.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=37,slow=2.1,SNR=4.8						
AKASG	**Malin Array Be**	**140.50**	**338**	PKiKP	**PKPdf**	**20 48 19.1**	**-0.1**
AKASG	**Malin Array Be**	**140.50**	**338**	PKP	**PKPdf**	**20 48 19.1**	**-0.1**
ANN	**Anapa**	**141.01**	**325**	*i* PKiKP	**PKPdf**	**20 48 16.5**	**-3.8**
ANN				pmax	pmax		
	comp=Z,51nm,1.1s						
ANN				MLR	MLR		
	comp=N,336nm,21.0s						
ANN				MLR	MLR		
	comp=E,303nm,21.0s						
ANN				MLR	MLR		
	comp=Z,385nm,21.0s						
LSZ	**Lusaka**	**142.91**	**216**	*e*PKPdf	**PKPdf**	**20 48 24.7**	**0.0**
LVV	**L'vov**	**143.00**	**341**	*e*PKiKP	**PKPdf**	**20 48 26.4**	**+2.7**
CLL	**Collm**	**143.91**	**353**	*e*PKiKP	**PKPdf**	**20 48 25.0**	**-0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL				MLR	MLR		
	comp=Z,300nm,21.1s						
CLL	**Collm**	**143.91**	**353**	*e*PKPdf	**PKPdf**	**20 48 25.0**	**-0.2**
	comp=Z,4.0nm,0.8s						
CLL				*i*		20 48 26.5	
	comp=Z,4.0nm,0.8s						
CLL				*i* PKiKP	**PKiKP**	**20 48 29.0**	**+0.3**
	comp=Z,9.0nm,0.9s						
CLL				*ep*PKiKP	**pPKiKP**	**20 48 40.0**	**0.0**
CLL				*e*PP	**PP**	**20 51 34.0**	**-3.9**
CLL				*e*(PKSbc)		20 52 15.0	
CLL				*e*SS	SS	21 10 18.0	-0.4
CLL				*e*SSS	SSS	21 15 30.0	
CLL				Lm	MLR	21 53 00.0	
	comp=Z,300nm,21.1s						
TSUM	**Tsumeb**	**143.98**	**197**	*e*PKPdf	**PKPdf**	**20 48 26.1**	**-0.4**
MALT	**Malatya**	**144.10**	**315**	*e*PKiKP	**PKPdf**	**20 48 25.4**	**-0.7**
MALT	**Malatya**	**144.10**	**315**	*e*PKPdf	**PKPdf**	**20 48 25.4**	**-0.7**
BRG	**Berggiesshubel**	**144.22**	**352**	*e*PKP	PKPdf	20 48 31.3	+5.5
	comp=Z,6.4nm,1.1s						
BRG							
	comp=N,343nm,20.9s						
BRG							
	comp=E,388nm,19.1s						
BRG							
	comp=Z,439nm,19.6s						
BRG	**Berggiesshubel**	**144.22**	**352**	*e*PKiKP	PKPdf	20 48 31.3	+5.5
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,343nm,20.9s						
BRG				MLR	MLR		
	comp=E,388nm,19.1s						
BRG				MLR	MLR		
	comp=Z,439nm,19.6s						
UPC	**Upice**	**144.27**	**350**	*e*PKP	**PKPdf**	**20 48 26.1**	**+0.2**
KOLS	**Kolonicke sedl**	**144.31**	**343**	*e*PKiKP	**PKPdf**	**20 48 26.3**	**+0.2**
KOLS	**Kolonicke sedl**	**144.31**	**343**	*e*PKP	**PKPdf**	**20 48 26.3**	**+0.2**
NIE	**Niedzica**	**144.40**	**345**	*e*PKiKP	PKPbc	20 48 25.1	+0.4
NIE	**Niedzica**	**144.40**	**345**	*e*PKP	PKPbc	20 48 25.1	+0.4
BUR08	**Bucovina Ar. S**	**144.50**	**339**	*e*PKPdf	**PKPab**	**20 48 23.8**	**-1.1**
OKC	**Ostrava-Krasne**	**144.51**	**347**	*e*PKP	**PKPab**	**20 48 24.6**	**-0.1**
BURAR	**Bucovina Array**	**144.52**	**338**	⇑*i* P	**PKPab**	**20 48 24.1**	**-0.9**
CRVS	**Cervenica-Dubn**	**144.57**	**343**	*e*PKiKP	**PKPab**	**20 48 25.0**	**0.0**
CRVS	**Cervenica-Dubn**	**144.57**	**343**	*e*PKP	**PKPab**	**20 48 25.0**	**0.0**
UZH	**Uzhgorod**	**144.58**	**342**	*e*PKiKP	**PKPab**	**20 48 24.4**	**-0.6**
MORC	**Moravsky Berou**	**144.69**	**348**	*e*PKiKP	PKPbc	20 48 25.8	+0.2
MORC	**Moravsky Berou**	**144.69**	**348**	*e*PKPdf	PKPbc	20 48 25.8	+0.2
MEM	**Membach**	**144.94**	**1**	PKP	**PKPdf**	**20 48 28.3**	**+1.2**
TRPA	**Tarpa**	**144.95**	**342**	⇓*i* P	**PKPab**	**20 48 26.1**	**-0.3**
TRPA	**Tarpa**	**144.95**	**342**	⇓*e*PKPbc	**PKPab**	**20 48 26.1**	**-0.3**
GHRR		**144.98**	**335**	⇑*i* P	**PKPdf**	**20 48 28.8**	**+1.5**
SNF	**Seneffe**	**144.98**	**3**	PKP	**PKPab**	**20 48 25.5**	**-0.9**
PRU	**Pruhonice**	**145.00**	**351**	*e*PKiKP	**PKPbc**	**20 48 26.4**	**-0.1**
PRU	**Pruhonice**	**145.00**	**351**	*e*PKP	**PKPbc**	**20 48 26.4**	**-0.1**
BMR	**Baia Mare**	**145.06**	**340**	⇑PKiKP	**PKPbc**	**20 48 26.6**	**-0.2**
BMR	**Baia Mare**	**145.06**	**340**	⇑*i* P	**PKPbc**	**20 48 26.5**	**-0.2**
TLCR		**145.07**	**333**	⇓PKiKP	**PKPdf**	**20 48 28.0**	**+0.6**
TLCR		**145.07**	**333**	⇓*i* P	**PKPdf**	**20 48 28.0**	**+0.6**
BCLA	**Clavier**	**145.11**	**2**	PKP	**PKPbc**	**20 48 23.7**	**-3.1**
VRAC	**Vranov**	**145.32**	**349**	PKPbc	**PKPbc**	**20 48 27.1**	**-0.5**
	comp=Z,8.6nm,1.1s,baz=38,slow=4.2,SNR=11						
VRAC	**Vranov**	**145.32**	**349**	PKPbc	**PKPbc**	**20 48 27.1**	**-0.5**
VRAC	**Vranov**	**145.32**	**349**	⇑*i* P	**PKPbc**	**20 48 27.5**	**-0.1**
CFR	**Carcaliu**	**145.38**	**333**	⇓PKiKP	**PKPab**	**20 48 28.1**	**+0.1**
CFR	**Carcaliu**	**145.38**	**333**	⇓*i* P	**PKPab**	**20 48 28.1**	**+0.1**
DOU	**Dourbes**	**145.41**	**3**	PKP	**PKPbc**	**20 48 26.4**	**-1.4**
VRI	**Vrincioaia**	**145.41**	**335**	⇑PKiKP	**PKPbc**	**20 48 27.6**	**-0.4**
VRI	**Vrincioaia**	**145.41**	**335**	⇑*i* P	**PKPbc**	**20 48 27.5**	**-0.4**
PLOR	**Plostina**	**145.46**	**335**	⇓PKiKP	**PKPbc**	**20 48 28.2**	**0.0**
PLOR	**Plostina**	**145.46**	**335**	⇓*i* P	**PKPbc**	**20 48 28.2**	**0.0**
VYHS	**Vyhne**	**145.62**	**346**	*e*PKiKP	**PKPbc**	**20 48 28.6**	**0.0**
VYHS	**Vyhne**	**145.62**	**346**	*e*PKP	**PKPbc**	**20 48 28.6**	**0.0**
GRF	**Grafenberg Arr**	**145.68**	**355**	*e*PKiKP	**PKPbc**	**20 48 28.5**	**-0.2**
GRF				MLR	MLR		
	comp=Z,300nm,18.7s						
GRF	**Grafenberg Arr**	**145.68**	**355**	*e*PKP	**PKPbc**	**20 48 28.5**	**-0.2**
GRF				*e*L	L	21 59 14.5	
	comp=Z,348nm,18.7s						
KMBO	**Kilima Mbogo**	**145.75**	**244**	*e*PKPdf	**PKPab**	**20 48 31.4**	**+0.7**
TIRR	**Tirgusor**	**145.82**	**332**	⇓PKiKP	**PKPbc**	**20 48 29.1**	**-0.1**
TIRR	**Tirgusor**	**145.82**	**332**	*e*PKPdf	**PKPdf**	**20 48 28.4**	**-0.4**
TIRR	**Tirgusor**	**145.82**	**332**	⇓*i* P	**PKPbc**	**20 48 29.1**	**-0.1**
RUP	**Ruppelstein**	**145.85**	**360**	PKiKP	**PKPdf**	**20 48 28.9**	**+0.2**
RUP	**Ruppelstein**	**145.85**	**360**	PKP	**PKPdf**	**20 48 28.9**	**+0.2**
DOPR	**Dopca**	**145.85**	**337**	⇑*i* P	**PKPab**	**20 48 30.3**	**+0.5**
WLF	**Walferdange**	**145.88**	**1**	PKP	**PKPdf**	**20 48 27.4**	**-1.3**
WLF	**Walferdange**	**145.88**	**1**	*e*PKP2	**PKPbc**	**20 48 29.1**	**-0.2**
WLF	**Walferdange**	**145.88**	**1**	*e*PKPdf	**PKPbc**	**20 48 29.1**	**-0.2**
PSZ	**Piszkesteto**	**145.89**	**344**	⇓PKiKP	**PKPab**	**20 48 29.8**	**-0.2**
PSZ	**Piszkesteto**	**145.89**	**344**	⇓*e*PKPdf	**PKPdf**	**20 48 27.8**	**-1.1**
PSZ	**Piszkesteto**	**145.89**	**344**	⇓*i* P	**PKPab**	**20 48 29.8**	**-0.2**
PSZ	**Piszkesteto**	**145.89**	**344**	⇓*e*PKPdf	**PKPab**	**20 48 30.0**	**0.0**
TOD	**Tromm**	**145.91**	**358**	PKP2	**PKPdf**	**20 48 28.9**	**+0.1**
TOD	**Tromm**	**145.91**	**358**	PKP	**PKPdf**	**20 48 28.9**	**+0.1**
SMOL	**Smolenice**	**145.91**	**347**	*e*PKP2	**PKPab**	**20 48 30.2**	**+0.3**
SMOL	**Smolenice**	**145.91**	**347**	*e*PKP	**PKPab**	**20 48 30.2**	**+0.3**
KHC	**Kasperske Hory**	**145.98**	**352**	*e*PKiKP	**PKPdf**	**20 48 28.3**	**-0.6**
KHC	**Kasperske Hory**	**145.98**	**352**	*e*PKPdf	**PKPdf**	**20 48 28.3**	**-0.6**
KHC	**Kasperske Hory**	**145.98**	**352**	*e*PKP	**PKPbc**	**20 48 29.7**	**0.0**
MLR	**Muntele Rosu**	**146.03**	**336**	⇓*i* P	**PKPdf**	**20 48 29.4**	**+0.1**
DRGR		**146.09**	**340**	⇓PKP2	**PKPdf**	**20 48 29.4**	**+0.1**
DRGR		**146.09**	**340**	⇓*i* P	**PKPdf**	**20 48 29.4**	**+0.1**
ISR	**Istrita**	**146.10**	**335**	⇓PKP2	**PKPbc**	**20 48 30.3**	**+0.1**
ISR	**Istrita**	**146.10**	**335**	⇓*i* P	**PKPbc**	**20 48 30.3**	**+0.1**
GERES	**GERESS Array B**	**146.24**	**352**	PKPbc	**PKPbc**	**20 48 30.0**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=29,slow=3.0,SNR=31						
GERES	**GERESS Array B**	**146.24**	**352**	PKPbc	**PKPbc**	**20 48 30.0**	**-0.6**
BR131	**Keskin Array S**	**146.37**	**321**	*e*PKPab	**PKPbc**	**20 48 31.7**	**+0.4**
BRTR	**Keskin Array B**	**146.37**	**321**	PKPbc	**PKPbc**	**20 48 31.3**	**0.0**
	comp=Z,52nm,1.1s,baz=56,slow=1.3,SNR=80						
BRTR	**Keskin Array B**	**146.37**	**321**	PKPbc	**PKPbc**	**20 48 31.3**	**0.0**
VOIR		**146.43**	**337**	⇓PKP2	**PKPab**	**20 48 31.6**	**-0.5**
VOIR		**146.43**	**337**	⇓*i* P	**PKPab**	**20 48 31.6**	**-0.5**
BUD	**Budapest**	**146.52**	**345**	⇑*e*PKPdf	**PKPbc**	**20 48 31.3**	**0.0**
LANF	**Langenberg**	**146.56**	**359**	PKP2	**PKPbc**	**20 48 31.1**	**-0.3**
LANF	**Langenberg**	**146.56**	**359**	PKP	**PKPbc**	**20 48 31.1**	**-0.3**
LANF	**Langenberg**	**146.56**	**359**	PKP	**PKPdf**	**20 48 31.1**	**-0.3**
SULR		**146.57**	**335**	⇓*i* P	**PKPdf**	**20 48 30.2**	**+0.2**
ARR	**Arges**	**146.65**	**337**	⇓*i* P	**PKPab**	**20 48 32.6**	**-0.3**
CONA	**Conrad Observa**	**146.78**	**349**	*i* PKPab	**PKPbc**	**20 48 32.4**	**+0.2**
	comp=Z,13nm,1.0s,SNR=11						
SOP	**Sopron**	**146.88**	**348**	⇓*e*PKPdf	**PKPab**	**20 48 33.1**	**-0.6**
MOA	**Molln**	**147.13**	**351**	⇓*i* PKPab	**PKPbc**	**20 48 32.8**	**-0.3**
	comp=Z,24nm,1.6s						
BFO	**Black Forest**	**147.20**	**358**	*e*PKP2	**PKPbc**	**20 48 33.4**	**+0.1**
BFO	**Black Forest**	**147.20**	**358**	*e*PKPbc	**PKPbc**	**20 48 33.4**	**+0.1**
NEF	**NEVSHA**	**147.26**	**332**	*e*P	**PKPbc**	**20 48 33.3**	**-0.3**
THEF	**They Montfort**	**147.32**	**1**	PKP2	**PKPab**	**20 48 34.8**	**-0.6**
THEF	**They Montfort**	**147.32**	**1**	PKP	**PKPab**	**20 48 34.8**	**-0.6**
THEF	**They Montfort**	**147.32**	**1**	PKP	**PKPab**	**20 48 34.8**	**-0.6**
ECH	**Echery**	**147.34**	**360**	*e*PKiKP	**PKPdf**	**20 48 29.7**	**-1.6**
ECH						20 48 34.3	
ECH	**Echery**	**147.34**	**360**	*e*PKPdf	**PKPdf**	**20 48 29.7**	**-1.6**
ECH				PKP	**PKPbc**	**20 48 34.3**	**+0.7**
SPAK	**Spaichingen-Ko**	**147.41**	**358**	PKP	**PKPbc**	**20 48 33.5**	**-0.4**
BZS	**Buzias**	**147.48**	**341**	⇑PKiKP	**PKPdf**	**20 48 32.0**	**+0.5**
BZS	**Buzias**	**147.48**	**341**	⇑*i* P	**PKPdf**	**20 48 32.0**	**+0.5**
ARSA	**Arzberg**	**147.50**	**349**	⇓*i* PKPbc	**PKPbc**	**20 48 33.2**	**-0.9**
	comp=Z,13nm,1.1s						
PKSM	**Moragy**	**147.80**	**345**	⇑PKP2	**PKPbc**	**20 48 34.1**	**-0.8**
PKSM	**Moragy**	**147.80**	**345**	⇑*i* P	**PKPbc**	**20 48 34.1**	**-0.8**
PKSM	**Moragy**	**147.80**	**345**	⇑*e*PKPdf	**PKPbc**	**20 48 34.3**	**-0.6**
RETA	**Reutte**	**147.90**	**355**	⇓*i* PKPab	**PKPbc**	**20 48 35.3**	**0.0**
	comp=Z,17nm,1.1s						
WATA	**Walderalm**	**147.98**	**354**	⇓*i* PKiKP	**PKPbc**	**20 48 35.5**	**-0.1**
	comp=Z,5.5nm,0.7s,SNR=7.4						
MOTA	**Moosalm**	**148.02**	**355**	⇑*i* PKPbc	**PKPbc**	**20 48 34.1**	**-1.6**
	comp=Z,13nm,1.1s,SNR=7.6						
KBA	**Koelnbreinsper**	**148.02**	**352**	⇓*i* PKiKP	**PKPbc**	**20 48 35.8**	**+0.1**
	comp=Z,9.0nm,0.8s						
KOGS	**Kog**	**148.13**	**348**	*i* PKPbc	**PKPab**	**20 48 37.8**	**-0.9**
SOKA	**Soboth**	**148.14**	**349**	⇓*i* PKPbc	**PKPbc**	**20 48 35.1**	**-0.9**
	comp=Z,19nm,1.2s						
DAVA	**Damuels**	**148.17**	**356**	⇑*i* PKiKP	**PKPbc**	**20 48 36.2**	**+0.1**
	comp=Z,13nm,1.1s						
FETA	**Feichten**	**148.37**	**355**	⇓*i* PKPbc	**PKPbc**	**20 48 35.9**	**-0.8**
	comp=Z,8.6nm,1.0s						
ABTA	**Abfaltersbach**	**148.45**	**353**	⇑*i* PKPdf	**PKPdf**	**20 48 32.3**	**-0.9**
	comp=Z,11nm,0.7s						
DAVOX	**Davos/Dischmat**	**148.67**	**356**	PKPbc	**PKPbc**	**20 48 37.1**	**-0.3**
	comp=Z,5.8nm,0.6s,baz=100,slow=5.2,SNR=18						
DAVOX	**Davos/Dischmat**	**148.67**	**356**	PKPbc	**PKPbc**	**20 48 37.1**	**-0.3**
MPEP	**Malo Peshtene**	**148.69**	**336**	*e*P	**PKPbc**	**20 48 37.3**	**-0.1**
LJU	**Ljubljana**	**148.84**	**350**	*e*PKPbc	**PKPbc**	**20 48 37.2**	**-0.4**
TUE	**Stuetta**	**149.01**	**357**	*e*PKPdf	**PKPdf**	**20 48 33.7**	**-0.6**
TUE				*e*PKPbc	**PKPbc**	**20 48 38.2**	**-0.2**
BOJS	**Bojanci**	**149.23**	**348**	*e*PKPbc	**PKPbc**	**20 48 38.3**	**-0.4**
PLDF	**La Plantade**	**149.46**	**4**	PKP	**PKPab**	**20 48 43.4**	**-0.7**
VTS	**Vitosha**	**149.54**	**336**	⇑PKP2	**PKPbc**	**20 48 39.5**	**-0.2**
VTS	**Vitosha**	**149.54**	**336**	⇑*i* P	**PKPbc**	**20 48 39.5**	**-0.2**
PYM	**Petit Puy Mans**	**149.63**	**5**	PKP	**PKPbc**	**20 48 40.8**	**+1.1**
LBL	**Lubilhac**	**150.16**	**5**	PKP	**PKPbc**	**20 48 42.7**	**+1.6**
MMB	**Musomiste**	**150.17**	**334**	*e*P	**PKPbc**	**20 48 38.9**	**-2.2**
BNI	**Bardonecchia**	**150.50**	**0**	*e*PKiKP	**PKPdf**	**20 48 36.3**	**-0.3**
BNI	**Bardonecchia**	**150.50**	**0**	*e*PKPdf	**PKPdf**	**20 48 36.3**	**-0.3**
POLO	**Lamas de Olo**	**151.22**	**23**	*e*PKPbc	**PKPbc**	**20 48 44.8**	**+1.1**
MVO	**Moncorvo**	**151.69**	**23**	*e*PKPbc	**PKPbc**	**20 48 45.6**	**+0.8**
PTOM	**Tomar**	**152.46**	**26**	*e*PKPbc	**PKPbc**	**20 48 46.0**	**-0.5**
AQU	**L'Aquila**	**152.62**	**349**	*e*PKPab	**PKPab**	**20 48 57.2**	**-0.1**
PMRV	**Marv??o**	**153.04**	**25**	*e*PKPbc	**PKPbc**	**20 48 49.1**	**+1.3**
ESDC	**Sonseca Array**	**154.08**	**19**	PKP	**PKPdf**	**20 48 42.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=323,slow=3.0,SNR=2.8						
ESDC				PKPbc	**PKPbc**	**20 48 49.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=324,slow=2.5,SNR=5.0						
ESDC				PKPab	**PKPab**	**20 49 03.7**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=330,slow=3.4,SNR=11						
ESDC	**Sonseca Array**	**154.08**	**19**	PKP	**PKPdf**	**20 48 42.7**	**+0.7**
ESDC				PKPbc	**PKPbc**	**20 48 49.8**	**-0.3**
ESDC				PKPab	**PKPab**	**20 49 03.7**	**+0.1**
MDT	**Midelt**	**159.81**	**29**	PKP	**PKPdf**	**20 48 50.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=9.1,slow=0.6,SNR=3.7						
MDT				PKPab	**PKPab**	**20 49 28.2**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=314,slow=8.3,SNR=4.0						
MDT	**Midelt**	**159.81**	**29**	PKP	**PKPdf**	**20 48 50.4**	**+0.8**
MDT				PKPab	**PKPab**	**20 49 28.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**174.47**	**114**	PKP	**PKPdf**	**20 49 00.3**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=308,slow=2.1,SNR=5.0						
TORD				PKPab	**PKPab**	**20 50 32.5**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=253,slow=4.9,SNR=4.8						
TORD				PP	**PP**	**20 54 30.7**	**+4.7**
	comp=Z,0.6nm,1.1s,baz=224,slow=4.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**174.47**	**114**	PKP	**PKPdf**	**20 49 00.3**	**-0.3**
TORD				PKPab	**PKPab**	**20 50 32.5**	**-1.1**
TORD				PP	**PP**	**20 54 30.7**	**+4.7**

TAP ***15*** *21:38:04.2,24.˚38N×122.˚16E,h57km,ML3.1,C*
JMA ***15*** *21:38:04.5±0.2,24.˚64N×122.˚24E,h65km,M2.1*

ISC 15 21:38:03.6±0.9,24.˚32N±0.˚03×122.˚20E±0.˚02,h22km±8km,
n39,σ0°75/75,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.43**	**284**	⇓*i* P		**Pn**		**21 38 15.0**	**+0.5**
	baz=277								
ENA				*i* S		**Sn**		**21 38 23.0**	**+1.3**
	baz=277								
TWD	**Chiawan**	**0.60**	**247**	*i* P		**Pn**		**21 38 17.1**	**+0.3**
	baz=233								
TWD				S		**Sn**		**21 38 26.5**	**+0.6**
	baz=233								
TWE	**Neicheng**	**0.63**	**309**	P		**Pn**		**21 38 17.4**	**+0.2**
	baz=311								
TWE				S		**Sn**		**21 38 26.4**	**-0.2**
	baz=311								
HWA	**Hwalien**	**0.64**	**238**	*e*P		**Pn**		**21 38 17.6**	**+0.3**
	baz=223								
HWA				*e*S		**Sn**		**21 38 27.7**	**+0.8**
	baz=223								
ENTT	**Nioudou**	**0.66**	**299**	⇓*i* P		**Pn**		**21 38 17.9**	**+0.3**
	baz=291								
ENTT				S		**Sn**		**21 38 27.3**	**-0.1**
	baz=291								
TWB1	**Santiao Chiao**	**0.71**	**344**	*e*P		**Pn**		**21 38 18.3**	**-0.1**
	baz=347								
TWB1				*e*S		**Sb**		**21 38 26.5**	**-0.2**
	baz=347								
YOJ	**Yonaguni jima**	**0.75**	**79**	P		**Pn**		**21 38 19.4**	**+0.6**
YOJ				S		**Sn**		**21 38 30.5**	**+1.0**
NNS	**Nan Shan**	**0.77**	**279**	P		**Pn**		**21 38 19.2**	**0.0**
	baz=275								
NNS				*e*S		**Sn**		**21 38 29.6**	**-0.5**
	baz=275								
ESF	**Shoufeng Towns**	**0.78**	**235**	*e*P		**Pb**		**21 38 17.5**	**-0.9**
	baz=221								
NWF	**Wu-fen Shan**	**0.84**	**333**	P		**Pb**		**21 38 19.5**	**0.0**
	baz=342								
NWF				*e*S		**Sb**		**21 38 29.6**	**-0.9**
	baz=342								
NSK	**Sanguang**	**0.85**	**295**	P		**Pn**		**21 38 20.2**	**0.0**
	baz=284								
NSK				S		**Sb**		**21 38 31.2**	**+0.6**
	baz=284								
ESL	**Shilin**	**0.86**	**235**	P		**Pn**		**21 38 20.4**	**-0.1**
	baz=240								
ESL				*e*S		**Sn**		**21 38 32.5**	**+0.1**
	baz=240								
WHF	**Hehuan Shan**	**0.87**	**259**	P		**Pn**		**21 38 20.9**	**-0.1**
	baz=254								
WHF				S		**Sb**		**21 38 32.8**	**+1.1**
	baz=254								
TWT	**Tachien**	**0.94**	**266**	*e*P		**Pb**		**21 38 22.2**	**+0.9**
	baz=262								
TWT				*e*S		**Sn**		**21 38 34.4**	**0.0**
	baz=262								
TWS1	**Kuangyinshan**	**1.05**	**318**	*e*P		**Pn**		**21 38 22.6**	**-0.4**
	baz=327								
TWS1				*e*S		**Sb**		**21 38 36.6**	**+0.1**
	baz=327								
TWY	**Chenhua**	**1.10**	**330**	*e*P		**Pn**		**21 38 21.7**	**-1.9**
	baz=331								
NSTT	**Nanjuang**	**1.14**	**286**	*e*P		**Pb**		**21 38 24.5**	**-0.1**
	baz=284								
NSTT				*e*S		**Sn**		**21 38 38.9**	**-0.2**
	baz=284								
EHY	**Hungye**	**1.14**	**225**	*e*P		**Pn**		**21 38 24.0**	**-0.2**
	baz=221								
EHY				*e*S		**Sn**		**21 38 38.5**	**-0.7**
	baz=221								
SMLT	**Sun Moon Lake**	**1.27**	**250**	*e*P		**Pb**		**21 38 26.8**	**-0.1**
	baz=241								
SMLT				*e*S		**Sn**		**21 38 42.5**	**+0.1**
	baz=241								
TWF1	**Yuli**	**1.27**	**221**	P		**Pn**		**21 38 25.9**	**-0.2**
	baz=227								
TWF1				*e*S		**Sn**		**21 38 42.0**	**-0.5**
	baz=227								
TYC	**Yuchr**	**1.30**	**252**	*e*P		**Pn**		**21 38 26.6**	**+0.3**
	baz=241								
TYC				*e*S		**Sb**		**21 38 43.5**	**+0.1**
	baz=241								
TWQ1	**Liyutan**	**1.30**	**272**	*e*P		**Pn**		**21 38 26.7**	**+0.2**
	baz=269								
TWQ1				*e*S		**Sb**		**21 38 43.7**	**0.0**
	baz=269						

BUC 15 21:59:37.1±0.7, 45°50N×27°95E, h15km±2km, MD2.2/2, 2C-6D, Error ellipse: s-maj=12.9km s-min=1.8km az=46.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.35**	**157**⇑	*i* P	Pb	21 59 44.7	-0.2
CFR				*i* S	Sg	21 59 49.3	+0.2
CFR	**Carcaliu**	**0.35**	**157**⇑	*i* P	Pb	21 59 44.7	-0.2
CFR				S	Sg	21 59 49.3	+0.2
PLOR	**Plostina**	**0.97**	**292**⇓	*i* P	Pb	21 59 55.8	0.0
PLOR	**Plostina**	**0.97**	**292**⇓	*i* P	Pb	21 59 55.8	0.0
TIRR	**Tirgusor**	**1.09**	**162**⇓	*i* P	Pb	21 59 57.5	-0.1
TIRR				*i* S	Sn	22 00 12.6	0.0
TIRR	**Tirgusor**	**1.09**	**162**⇓	*i* P	Pb	21 59 57.5	-0.1
TIRR	**Tirgusor**	**1.09**	**162**	S	Sn	22 00 12.6	0.0
MLR	**Muntele Rosu**	**1.41**	**270**⇓	*i* P	Pb	22 00 02.8	-0.4
MLR	**Muntele Rosu**	**1.41**	**270**⇓	*i* P	Pb	22 00 02.8	-0.4

*ISK **15** 22:00:31.3, 39.°16N×29.°41E, h7km, ML1.7*
*ISCJB **15** 22:00:32.3±0.5, 39.°16N±0.°03×29.°44E±0.°03, h7km±4km, Error ellipse: s-maj=4.9km s-min=4.3km az=151.8*
*DDA **15** 22:00:32.4, 39.°15N×29.°41E, h10km, MD2.9*
*CSEM **15** 22:00:32.3±0.2, 39.°17N×29.°45E, h5km, MD2.9, Error ellipse: s-maj=4.0km s-min=3.5km az=136.0*

ISC 15 22:00:32.3±0.8, 39.°16N±0.°02×29.°44E±0.°02, h12km±6km, n26, σ0s37/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.08**	**156**	*i* P	**Pg**	**22 00 35.1**	**+0.1**
GDZ				*i* S	**Sg**	**22 00 37.0**	**0.0**
GDZ	**Gediz**	**0.08**	**156**	*i* P	**Pg**	**22 00 35.1**	**+0.1**
GDZ				*i* S	**Sg**	**22 00 37.0**	**0.0**
TVSB	**Tavsanli**	**0.29**	**3**	PG	**Pg**	**22 00 38.1**	**-0.1**
TVSB				SG	**Sg**	**22 00 41.8**	**-0.4**
TVSB	**Tavsanli**	**0.29**	**3**	*i* Pg	**Pg**	**22 00 38.1**	**-0.1**
TVSB				*i* Sg	**Sg**	**22 00 41.8**	**-0.4**
ALT	**Altintas**	**0.53**	**101**	*e*PG	**Pg**	**22 00 42.6**	**-0.1**
ALT				*e*SG	**Sg**	**22 00 50.4**	**+0.6**
ALT	**Altintas**	**0.53**	**101**	*e*Pg	**Pg**	**22 00 42.6**	**-0.1**
ALT				*e*Sg	**Sg**	**22 00 50.4**	**+0.6**
DEMI	**Demirci**	**0.58**	**258**	*i* P	**Pg**	**22 00 43.7**	**+0.2**
DEMI				*i* S	**Sg**	**22 00 51.0**	**-0.2**
DEMI	**Demirci**	**0.58**	**258**	*i* P	**Pg**	**22 00 43.7**	**+0.2**
DEMI				*i* S	**Sg**	**22 00 51.0**	**-0.2**
KHAL	**Karahalli**	**0.79**	**177**	*i* P	**Pb**	**22 00 48.1**	**+0.1**
KHAL				*i* S	**Sg**	**22 00 58.1**	**+0.1**
KHAL	**Karahalli**	**0.79**	**177**	*i* P	**Pb**	**22 00 48.1**	**+0.1**
KHAL				*i* S	**Sg**	**22 00 58.1**	**+0.1**
DURS	**Dursunbey**	**0.87**	**301**	*i* P	**Pb**	**22 00 49.7**	**+0.4**
DURS				*i* S	**Sn**	**22 01 03.5**	**+0.4**
DURS	**Dursunbey**	**0.87**	**301**	*i* P	**Pb**	**22 00 49.7**	**+0.4**
KULA	**Kula-Manisa**	**0.89**	**223**	*e*PG	**Pg**	**22 00 48.8**	**-0.6**
KULA				*e*SG	**Sg**	**22 01 00.7**	**-0.3**
KULA	**Kula-Manisa**	**0.89**	**223**	*e*Pg	**Pg**	**22 00 48.8**	**-0.6**
KULA				*e*Sg	**Sg**	**22 01 00.7**	**-0.3**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**22 00 52.4**	**-0.2**
BORA				*i* S	**Sb**	**22 01 06.0**	**-0.5**
BORA	**Eskisehir**	**1.06**	**47**	*i* P	**Pb**	**22 00 52.4**	**-0.2**
BORA				*i* S	**Sb**	**22 01 06.0**	**-0.5**
GEMT	**Gemlik**	**1.28**	**351**	*e*PN	**Pn**	**22 00 56.2**	**+0.1**
GEMT	**Gemlik**	**1.28**	**351**	*e*Pn	**Pn**	**22 00 56.2**	**+0.1**
ARMT	**Armutlu**	**1.47**	**343**	*e*PN	**Pn**	**22 00 59.1**	**+0.5**
ARMT	**Armutlu**	**1.47**	**343**	*e*Pn	**Pn**	**22 00 59.1**	**+0.5**
GULT	**Gulveren**	**1.51**	**33**	*e*PN	**Pb**	**22 01 00.4**	**0.0**
GULT	**Gulveren**	**1.51**	**33**	*e*Pn	**Pb**	**22 01 00.4**	**0.0**
BALY	**Balya**	**1.52**	**293**	*i* P	**Pg**	**22 01 02.1**	**+0.6**
BALY				*i* S	**Sg**	**22 01 20.7**	**-0.6**
BALY	**Balya**	**1.52**	**293**	*i* P	**Pg**	**22 01 02.1**	**+0.6**
BALY				*i* S	**Sg**	**22 01 20.7**	**-0.6**
GONE	**Gonen-Balikesi**	**1.62**	**304**	*e*PN	**Pn**	**22 01 00.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.62**	**304**	*e*Pn	**Pn**	**22 01 00.4**	**-0.2**

TAP 15 22:33:05.1, 23°35N×120°44E, h12km, ML3.6, 15C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying** baz=137	**0.10**	**152**⇑	*i* P	Pg	22 33 08.7	+0.7
TWK				S	Sg	22 33 11.2	+1.1
CHN4	**Tsaushan** baz=90	**0.14**	**90**⇑	*i* P	Pb	22 33 09.4	-0.4
CHN4				*i* S	Sg	22 33 12.5	+1.5
CHY	**Chiayi** baz=358	**0.15**	**355**⇑	*i* P	Pb	22 33 09.6	-0.3
CHY				*i* S	Sg	22 33 12.6	+1.5
CHN1	**Nanshi** baz=147	**0.18**	**154**⇑	*i* P	Pb	22 33 10.1	-0.5
CHN1				S	Sg	22 33 13.5	+1.3
CHN8	**Yiju** baz=269	**0.21**	**268**⇑	*i* P	Pg	22 33 10.2	+0.5
CHN8				*i* S	Sg	22 33 14.8	+2.0
CHN3	**Shinhua** baz=203	**0.28**	**194**	*e*P	Pb	22 33 12.4	+0.3
CHN3				*e*S	Sb	22 33 18.5	+1.7
SCLT	**Jiali** baz=231	**0.29**	**232**	*i* P	Pb	22 33 12.0	-0.2
SCLT				S	Sb	22 33 18.0	+1.0
SGST	**Jiashian** baz=144	**0.30**	**154**⇑	*i* P	Pb	22 33 12.3	-0.2
SGST				S	Sb	22 33 18.0	+0.6
CHN5	**Tsauling** baz=42	**0.33**	**42**⇑	*i* P	Pb	22 33 12.7	-0.4
CHN5				S	Sb	22 33 18.2	-0.2
WSF	**Szhu** baz=326	**0.35**	**325**	*i* P	Pb	22 33 12.8	-0.4
WSF				S	Sb	22 33 19.2	+0.4
WGK	**Gukeng** baz=20	**0.35**	**19**	*e*P	Pb	22 33 13.2	-0.2
TAI1	**Yung-k'ang** baz=222	**0.37**	**212**	*e*P	Pb	22 33 13.8	+0.3
TAI1				*e*S	Sb	22 33 20.3	+1.1
ALS	**Alishan** baz=66	**0.37**	**65**⇑	*i* P	Pb	22 33 13.7	-0.4
ALS				*i* S	Sb	22 33 19.8	-0.3
WTCT	**Ta-ch'eng** baz=345	**0.53**	**344**	*e*P	Pg	22 33 15.0	-0.5
WTCT				*e*S	Sb	22 33 24.2	+0.2
ELDTW	**Lidau** baz=108	**0.56**	**107**⇑	P	Pb	22 33 16.7	-0.3
WNT	**Mingjian** baz=24	**0.57**	**23**	*e*P	Pb	22 33 17.1	+0.1
WNT				*e*S	Sb	22 33 26.0	+0.8
SGLT	**Jiouru** baz=163	**0.63**	**176**	*e*P	Pn	22 33 19.7	-0.1
TYC	**Yuchr** baz=36	**0.67**	**35**⇑	*i* P	Pb	22 33 19.0	+0.2
TYC				S	Sb	22 33 29.3	+1.3
SMLT	**Sun Moon Lake** baz=39	**0.68**	**39**⇑	*i* P	Pb	22 33 19.2	+0.2
WDGT	**Dungji** baz=263	**0.72**	**263**⇑	*i* P	Pg	22 33 19.1	-0.1
WDGT				S	Sb	22 33 29.2	-0.3
TWG	**Pinlang** baz=120	**0.79**	**132**	P	Pb	22 33 21.1	+0.3
TWG				*e*S	Sb	22 33 31.8	+0.4
TWF1	**Yuli** baz=91	**0.79**	**90**⇑	*i* P	Pb	22 33 20.9	+0.1
TWF1				*e*S	Sb	22 33 31.4	-0.1
KAU	**Kaohsiung** baz=188	**0.79**	**189**	*e*P	Pn	22 33 21.6	-0.5
KAU				*e*S	Sn	22 33 34.7	+0.9
	baz=188						
TCU	**Taichung** baz=16	**0.82**	**15**	*e*P	Pn	22 33 22.9	+0.4
EHY	**Hungye** baz=80	**0.82**	**79**⇑	*e*P	Pb	22 33 21.6	+0.2
EHY				S	Sb	22 33 32.9	+0.3
	baz=80						
PNG	**Penghu** baz=285	**0.84**	**285**⇑	*i* P	Pg	22 33 20.8	-0.6
PNG				S	Sg	22 33 32.4	0.0
	baz=285						
TTN	**Taitung** baz=132	**0.88**	**132**	*e*P	Pn	22 33 23.4	+0.1
TTN				S	Sn	22 33 36.7	+0.6
	baz=132						
CHKT	**Chengkung** baz=107	**0.89**	**106**	*e*P	Pb	22 33 22.9	+0.4
CHKT				*e*S	Sn	22 33 37.2	+1.0
	baz=107						
ECL	**Taimali** baz=147	**0.89**	**148**	*e*P	Pb	22 33 22.9	+0.4
ECL				*e*S	Sn	22 33 36.6	+0.3
	baz=147						
SCZT	**Fangliau** baz=159	**0.99**	**170**	P	Pn	22 33 24.8	-0.1
SCZT				*e*S	Sn	22 33 39.6	+0.9
	baz=159						
TWP	**Hsiaoliuchiu** baz=206	**1.00**	**184**	*e*P	Pn	22 33 25.7	+0.6
ESL	**Shilin** baz=64	**1.02**	**63**	*e*P	Pg	22 33 25.0	+0.1
EAST	**Anshuo** baz=150	**1.04**	**159**	⇓P	Pn	22 33 25.6	+0.1
EAST				*e*S	Sn	22 33 41.0	+1.0
	baz=150						
TWQ1	**Liyutan** baz=18	**1.04**	**17**	*e*P	Pb	22 33 25.0	-0.1
TWQ1				*e*S	Sn	22 33 40.3	+0.3
	baz=18						
TAW	**Tawu** baz=149	**1.08**	**157**	*e*P	Pg	22 33 25.9	+0.1
TAW				*e*S	Sn	22 33 41.7	+0.9
	baz=149						
WHF	**Hehuan Shan** baz=44	**1.09**	**44**	*e*P	Pb	22 33 26.4	-0.2
WHF				*e*S	Sn	22 33 42.1	-0.2
	baz=44						
NSY	**Sanyi** baz=16	**1.10**	**15**	*e*P	Pn	22 33 26.4	0.0
TWT	**Tachien** baz=48	**1.12**	**37**	*e*P	Pb	22 33 26.4	-0.3
TWD	**Chiawan** baz=56	**1.28**	**55**	*e*P	Pb	22 33 29.5	+0.3
HEN	**Hengchun** baz=168	**1.37**	**168**	*e*P	Pg	22 33 32.1	+0.7
NSTT	**Nanjuang** baz=22	**1.37**	**22**	*e*P	Pn	22 33 29.8	-0.3
NNS	**Nan Shan** baz=39	**1.38**	**38**	*e*P	Pn	22 33 30.4	0.0
TWK1	**Hengchun** baz=166	**1.44**	**166**	*e*P	Pn	22 33 30.2	-0.9
TSEB	**Hengchuen, Pin** baz=182	**1.51**	**163**	*e*P	Pb	22 33 32.9	-0.1
NSK	**Sanguang** baz=17	**1.56**	**32**	*e*P	Pn	22 33 32.6	-0.3
ENA	**Nanau** baz=68	**1.60**	**48**	*e*P	Pb	22 33 34.3	-0.4
ENTT	**Nioudou** baz=30	**1.65**	**39**	*e*P	Pn	22 33 34.5	+0.6
LAY	**Lan-yu** baz=141	**1.66**	**142**	*e*P	Pn	22 33 32.9	-1.2
TWE	**Neicheng** baz=24	**1.77**	**39**	*e*P	Pb	22 33 37.9	+0.5
NWF	**Wu-fen Shan** baz=18	**2.10**	**35**	*e*P	Pn	22 33 41.6	+1.3
KNM	**Kinmen** baz=297	**2.12**	**300**	*e*P	Pn	22 33 40.8	+0.4
QZH	**Quanzhou**	**2.31**	**314**	Pn	Pn	22 33 44.0	+0.9
QZH				Sn	Sn	22 34 10.0	-1.5
QZH				smax	smax		
	comp=N,360nm,0.3s						
QZH				smax	smax		
	comp=E,290nm,0.8s						

*IDC **15** 22:35:46.1±2.7, 41.°51N×125.°42W, h0km, mb2.9/2, mb1 3.6/4, mb1mx3.3/29, mbtmp3.2/4, Error ellipse: s-maj=30.5km s-min=20.7km az=51.0*
*NEIC **15** 22:35:50.1, 41.°34N×125.°19W, h5km, ML3.3(NCEDC), After NCEDC.*

ISC 15 22:35:45.6±2.3, 41°54N±0.°04×125°40W±0.°09, h5km±13km, n25, σ1s87/39, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.10**	**52**	*e*P	**Pn**	**22 36 07.3**	**-0.5**
KBO				*e*S	**Sb**	**22 36 20.1**	**-1.8**
KRMB	**Red Mountain**	**1.12**	**90**	*e*P	**Pg**	**22 36 07.3**	**+0.3**
KRMB				*e*S	**Sn**	**22 36 24.0**	**+0.3**
KSXB	**Camp Six Broad**	**1.17**	**75**	P	**Pg**	**22 36 08.3**	**+0.2**
KHMM	**Horse Mountain**	**1.42**	**117**	*e*P	**Pn**	**22 36 11.5**	**-0.6**
KHMM				*e*S	**Sn**	**22 36 27.8**	**-3.5**
KEBM	**Edson Butte**	**1.55**	**30**	*e*Pn	**Pn**	**22 36 13.4**	**-0.4**
KEBM				*e*Sn	**Sn**	**22 36 29.4**	**-4.9**
YBH	**Yreka Blue Hor**	**2.02**	**84**	Pn	**Pb**	**22 36 22.1**	**-0.8**
	28nm,0.3s,baz=260,slow=12,SNR=193						
YBH				Sn	**Sb**	**22 36 47.9**	**-0.4**
	9.5nm,0.3s,baz=218,slow=20,SNR=5.3						
YBH	**Yreka Blue Hor**	**2.02**	**84**	*e*Pn	**Pb**	**22 36 21.8**	**-1.0**
YBH				*e*Sn	**Sb**	**22 36 47.4**	**-0.9**
LAMM	**Antelope Mount**	**2.08**	**87**	P	**Pb**	**22 36 22.3**	**-1.6**
HUMO	**Hull Mountain**	**2.10**	**59**	*e*Pn	**Pn**	**22 36 21.8**	**+0.3**
HUMO				*e*Sn	**Sn**	**22 36 46.4**	**-1.6**
KIPM	**Iron Peak**	**2.26**	**139**	*e*Pn	**Pn**	**22 36 23.6**	**-0.1**
KIPM				*e*Sn	**Sn**	**22 36 49.0**	**-3.0**
KCPM	**Cahto Peak**	**2.31**	**143**	*e*Pn	**Pn**	**22 36 23.2**	**-1.1**
KCPM				*e*Sn	**Sn**	**22 36 50.1**	**-3.1**
WDC	**Whiskeytown Da**	**2.36**	**113**	*e*Pn	**Pn**	**22 36 25.2**	**+0.2**
WDC				*e*Sn	**Sn**	**22 36 54.5**	**+0.2**
LHEM	**Herd Peak**	**2.38**	**87**	P	**Pb**	**22 36 27.1**	**-2.0**
LAB	**Little Aspen B**	**2.59**	**73**	P	**Pb**	**22 36 31.1**	**-1.5**
HOG	**Hogback Mounta**	**2.84**	**75**	P	**Pn**	**22 36 33.5**	**+1.8**
COR	**Corvallis**	**3.41**	**26**	*e*Pn	**Pn**	**22 36 39.5**	**+0.2**
COR				*e*Sn	**Sn**	**22 37 19.4**	**-0.6**
BROR	**Big Rock Looko**	**3.48**	**37**	P	**Pn**	**22 36 41.5**	**+1.2**
FRIS	**Frissel Point**	**3.60**	**41**	P	**Pn**	**22 36 43.9**	**+1.7**
CMB	**Columbia Colle**	**5.21**	**131**	*e*Pn	**Pn**	**22 37 05.1**	**+1.0**
CMB				*e*Sn	**Sn**	**22 38 01.7**	**-2.9**
NVAR	**Mina Array Bea**	**6.27**	**117**	Pn	**Pn**	**22 37 20.0**	**+1.1**
	0.3nm,0.3s,baz=293,slow=14,SNR=7.5						
NVAR				Sn	**Sn**	**22 38 33.0**	**+2.1**
	0.1nm,0.3s,baz=306,slow=23,SNR=2.9						
NVAR	**Mina Array Bea**	**6.27**	**117**	Pn	**Pn**	**22 37 20.0**	**+1.1**
NVAR				Sn	**Sn**	**22 38 33.0**	**+2.1**
TXAR	**Lajitas Array**	**21.42**	**118**	P	**P**	**22 40 37.2**	**+2.7**
	0.8nm,0.8s,baz=303,slow=8.5,SNR=8.2						
TXAR	**Lajitas Array**	**21.42**	**118**	P	**P**	**22 40 37.2**	**+2.7**
YKA	**Yellowknife Ar**	**21.95**	**13**	P	**P**	**22 40 41.2**	**+1.5**
	0.2nm,0.6s,baz=201,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**21.95**	**13**	P	**P**	**22 40 41.2**	**+1.5**

*IDC **15** 23:00:53.3±0.7, 2.°45N×95.°34W, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.3/27, mbtmp4.3/15, ML3.4/2, MS4.3/12, Ms1 4.3/12, ms1mx4.1/23, Error ellipse: s-maj=27.4km s-min=15.5km az=63.0*
*ISCJB **15** 23:00:54.4±0.5, 2.°53N±0.°06×95.°03W±0.°06, h10km, mb4.6/42, MS4.2/15, Error ellipse: s-maj=10.2km s-min=6.7km az=42.2*
*NEIC **15** 23:00:55.2±0.3, 2.°41N×95.°11W, h10km, mb4.8/31, Error ellipse: s-maj=8.4km s-min=5.7km az=59.0*
*GCMT **15** 23:01:00.6±0.3, 2.°68N×95.°18W, h12km, MW5.0, Moment Tensor Solution. s29,c36; s73,c99; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.87±.20; $M_{\theta\theta}$4.42±.15; $M_{\phi\phi}$-1.55±.22; $M_{r\theta}$2.57±.46; $M_{\theta\phi}$1.85±.15; $M_{r\phi}$0.57±.75; Best double couple: M_o4.70000×10^{16} NP1:ϕ_s67.00000°, δ28.00000°, λ-101.00000°. NP2:ϕ_s259.00000°, δ62.00000°, λ-84.00000°. Principal axes: T 5.7500, Plg17.0000°, Azm344.0000°; N -2.0600, Plg5.0000°, Azm76.0000°; P -3.6900, Plg72.0000°, Azm182.0000°; Data Used: II IU G IC CN.*

ISC 15 23:00:55.4±0.5, 2.°46N±0.°08×95.°1W±0.°1, h10km, n401, σ0s76/394, mb4.6/42, MS4.2/16, 143C-143D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un** 63nm,1.2s	**13.88**	**33**	*e*Pn	**Pn**	**23 04 12.2**	**0.0**
CMIG	**Matias Romero** 0.1nm,0.3s,baz=179,slow=9.3,SNR=11	**14.54**	**1**	Pn	**Pn**	**23 04 21.2**	**-0.2**
CMIG	**Matias Romero**	**14.54**	**1**	Pn	**Pn**	**23 04 21.2**	**-0.2**
OTAV	**Otavalo** 45nm,1.4s	**16.78**	**97**	*e*Pn	**Pn**	**23 04 50.9**	**-0.3**
TEIG	**Tepich** 0.4nm,0.3s,baz=270,slow=3.8,SNR=6.1	**18.88**	**20**	P	**Pn**	**23 05 16.9**	**+0.4**
TEIG	**Tepich**	**18.88**	**20**	P	**Pn**	**23 05 16.9**	**+0.4**
ROSC	**El Rosal** 8.2nm,0.5s,baz=297,slow=18,SNR=7.9	**20.86**	**83**	P	Pn	23 05 41.5	+0.8
ROSC	**El Rosal**	**20.86**	**83**	*e*P	**P**	**23 05 38.4**	**+0.3**
NNA	**Nana** comp=Z,544nm,20.5s,baz=294,slow=31	**23.13**	**129**	LR	LR	23 13 05.7	
LPIG	**La Paz** comp=Z,23nm,19.0s,baz=202,slow=34	**26.06**	**327**	LR	LR	23 15 41.7	
732A	**Laxson Ranch,** baz=27	**26.54**	**350**	⇓P	**P**	**23 06 33.8**	**+0.3**
632A	**Uvalde** baz=28	**27.27**	**351**	⇓P	**P**	**23 06 40.5**	**+0.5**
631A	**Perdido Creek** baz=28	**27.31**	**350**	⇓P	**P**	**23 06 40.4**	**0.0**
HKT	**Hockley** 21nm,1.6s	**27.35**	**359**	*e*P	P	23 06 45.5	+4.8
628A	**Black Gap, Mar** baz=28	**27.88**	**345**	⇑P	**P**	**23 06 45.5**	**-0.1**
532A	**Rocksprings** baz=28	**27.90**	**351**	⇓P	**P**	**23 06 45.8**	**+0.1**
TXAR	**Lajitas Array** 3.0nm,0.8s,baz=165,slow=11,SNR=36	**27.95**	**344**	P	**P**	**23 06 45.6**	**-0.6**
TXAR				LR	LR	23 16 44.8	
	comp=Z,1μm,21.3s,baz=250,slow=34						
TXAR	**Lajitas Array**	**27.95**	**344**	P	**P**	**23 06 45.6**	**-0.6**
627A	**Terlingua Ranc** baz=28	**27.98**	**344**	⇑P	**P**	**23 06 46.5**	**-0.1**
531A	**Rocksprings** baz=28,SNR=10	**28.04**	**350**	⇑P	**P**	**23 06 47.3**	**+0.3**
530A	**J-C Ranch, Com** baz=28	**28.17**	**348**	⇓P	**P**	**23 06 48.2**	**0.0**
626A	**Big Bend Ranch** baz=28	**28.29**	**343**	⇑P	**P**	**23 06 49.1**	**-0.1**
529A	**Stev Forest Ra** baz=28	**28.34**	**347**	⇑P	**P**	**23 06 50.1**	**+0.5**
528A	**Cox Ranch, San** baz=29	**28.50**	**346**	⇓P	**P**	**23 06 51.8**	**+0.5**
431A	**Sonora** baz=29	**28.55**	**350**	⇓P	**P**	**23 06 52.1**	**+0.6**
432A	**Menard** baz=29	**28.61**	**352**	⇓P	**P**	**23 06 52.2**	**+0.1**
527A	**Woodward Ranch** baz=29	**28.70**	**345**	⇑P	**P**	**23 06 52.9**	**-0.1**
429A	**Davenport Ranc** baz=29	**28.75**	**348**	⇑P	**P**	**23 06 53.8**	**+0.5**
526A	**Mary Lane Ranc** baz=29,SNR=6.5	**28.75**	**344**	⇑P	**P**	**23 06 53.4**	**0.0**
430A	**Baggett Ranch,** baz=29	**28.77**	**349**	⇓P	**P**	**23 06 53.6**	**0.0**
428A	**Kincaid Ranch,** baz=29	**29.02**	**346**	⇓P	**P**	**23 06 56.2**	**+0.5**
332A	**Millersview** baz=29	**29.11**	**352**	⇓P	**P**	**23 06 56.9**	**+0.5**
331A	**San Angelo** baz=29	**29.14**	**351**	⇓P	**P**	**23 06 57.3**	**+0.6**
426A	**McDonald Obser** baz=30	**29.31**	**344**	⇑P	**P**	**23 06 58.3**	**-0.2**
427A	**Hayter Ranch,** baz=30	**29.31**	**345**	⇓P	**P**	**23 06 58.3**	**0.0**
330A	**Mertzon** baz=30	**29.36**	**349**	⇓P	**P**	**23 06 58.9**	**+0.2**
WHTX	**Lake Whitney** baz=30	**29.46**	**356**	⇑P	**P**	**23 06 59.4**	**-0.2**
232A	**Coleman** baz=30	**29.59**	**352**	⇓P	**P**	**23 07 00.6**	**-0.1**
329A	**Wagon Wheel Ra** baz=30	**29.60**	**348**	⇑P	**P**	**23 07 00.9**	**0.0**
425A	**Indio Mountain** baz=30,SNR=6.5	**29.69**	**343**	⇓P	**P**	**23 07 01.8**	**0.0**
230A	**Sterling City** baz=30	**29.82**	**350**	⇓P	**P**	**23 07 03.0**	**+0.2**
326A	**Caldwell Ranch** baz=30	**29.91**	**345**	⇑P	**P**	**23 07 03.8**	**+0.2**
325A	**Bean Ranch, Si** baz=30	**30.23**	**343**	⇓P	**P**	**23 07 05.7**	**-0.9**
ABTX	**Abilene, Hawle** baz=30	**30.31**	**352**	⇑P	**P**	**23 07 06.9**	**-0.2**
228A	**UT Block 9, Go** baz=30	**30.34**	**347**	⇑P	**P**	**23 07 07.1**	**-0.3**
324A	**Moseley Ranch,** baz=31	**30.45**	**342**	⇑P	**P**	**23 07 08.1**	**-0.4**
131A	**Roby** baz=31	**30.47**	**351**	⇑P	**P**	**23 07 08.3**	**-0.2**
129A	**Stewart Farms,** baz=31	**30.68**	**349**	⇑P	**P**	**23 07 10.9**	**+0.4**
128A	**Castleberry Fa** baz=31,SNR=5.9	**30.80**	**348**	⇓P	**P**	**23 07 11.3**	**-0.2**
225A	**Deer Hill, Car** baz=31	**30.89**	**344**	⇓P	**P**	**23 07 12.2**	**-0.1**
Z32A	**Haskell** baz=31	**30.96**	**353**	⇓P	**P**	**23 07 13.0**	**+0.2**
127A	**Arkansas Junct** baz=31	**31.05**	**346**	⇑P	**P**	**23 07 14.0**	**+0.2**
224A	**Cornudas Mount** baz=31	**31.06**	**343**	⇑P	**P**	**23 07 14.1**	**+0.2**
126A	**Clayton Basin,** baz=31	**31.18**	**345**	⇑P	**P**	**23 07 14.9**	**0.0**
Z30A	**Sanderson Ranc** baz=31	**31.19**	**350**	⇓P	**P**	**23 07 14.5**	**-0.4**
Z29A	**Hungry Hill Ra** baz=32	**31.26**	**349**	⇓P	**P**	**23 07 15.4**	**-0.2**
125A	**Gardner Draw,** baz=32,SNR=6.0	**31.36**	**344**	⇑P	**P**	**23 07 16.5**	**+0.1**
320A	**Kipp Ranch, An** baz=32	**31.40**	**338**	⇑P	**P**	**23 07 17.2**	**+0.3**
Z28A	**Tucker Farm, M** baz=32	**31.42**	**348**	⇑P	**P**	**23 07 17.5**	**+0.5**
222A	**Williams Famil** baz=32	**31.58**	**340**	⇓P	**P**	**23 07 18.7**	**+0.2**
124A	**Stringfield Ra** baz=32	**31.62**	**343**	⇑P	**P**	**23 07 19.2**	**+0.3**
Z27A	**Tatum** baz=32	**31.63**	**347**	⇓P	**P**	**23 07 18.7**	**-0.1**
319A	**Douglas** baz=32,SNR=5.8	**31.73**	**337**	⇓P	**P**	**23 07 20.1**	**+0.4**
Z26A	**Caprock** baz=32,SNR=8.1	**31.77**	**346**	⇓P	**P**	**23 07 20.1**	**+0.1**
220A	**Playas Peak, P** baz=32,SNR=5.2	**31.91**	**338**	⇓P	**P**	**23 07 21.4**	**0.0**
Z25A	**Roswell** baz=32	**31.96**	**345**	⇓P	**P**	**23 07 22.2**	**+0.4**
Y28A	**McKinney Farm,** baz=32	**32.00**	**349**	⇑P	**P**	**23 07 22.3**	**+0.3**
MSTX	**Muleshoe** baz=32	**32.16**	**348**	⇑P	**P**	**23 07 23.5**	**0.0**
Y27A	**Causey** baz=32	**32.16**	**347**	⇓P	**P**	**23 07 23.8**	**+0.2**
Z24A	**Sheeppen Canyo** baz=32	**32.19**	**344**	⇑P	**P**	**23 07 24.0**	**+0.2**
121A	**Cookes Peak, D** baz=32,SNR=7.0	**32.21**	**340**	⇓P	**P**	**23 07 24.3**	**+0.3**
X30A	**Coker Ranch, T** baz=32	**32.28**	**351**	⇓P	**P**	**23 07 24.9**	**+0.4**
Z23A	**Rita Site, Whi** baz=33	**32.37**	**342**	⇑P	**P**	**23 07 26.0**	**+0.6**
X29A	**Tulia** baz=33	**32.42**	**350**	⇑P	**P**	**23 07 26.4**	**+0.7**
RPN	**Rapa Nui**	**32.46**	**204**	P	**P**	**23 07 26.6**	**+0.5**
LPAZ	**La Paz** 5.9nm,1.2s,baz=315,slow=2.9,SNR=9.8	**32.51**	**126**	P	**P**	**23 07 29.5**	**+2.2**
LPAZ				LR	LR	23 19 49.7	
	comp=Z,267nm,20.9s,baz=314,slow=35						
LPAZ	**La Paz** 22nm,1.4s	**32.51**	**126**	*e*P	**P**	**23 07 27.1**	**-0.2**
120A	**U Bar Ranch, L** baz=33	**32.52**	**338**	⇑P	**P**	**23 07 26.9**	**+0.1**
Y25A	**Mesa, Roswell** baz=33	**32.56**	**345**	⇓P	**P**	**23 07 27.8**	**+0.7**
Z22A	**Elephant Butte** baz=33	**32.59**	**341**	⇓P

Z21A **St. Cloud Mine** 32.88 340 ⇓P P 23 07 30.3 +0.4
baz=33
Y23A **Lovelace Mesa,** 32.95 343 ⇓P P 23 07 31.4 +0.9
baz=33
X26A **CR and CF Fran** 32.95 347 ⇑P P 23 07 31.0 +0.6
baz=33
PLAL **Pickwick Lake** 33.01 11 *e*P P 23 07 30.5 -0.4
7.8nm,1.2s
Z20A **Nine Sixteen R** 33.02 339 ⇑P P 23 07 31.9 +0.8
baz=33
Y22A **Socorro** 33.23 342 ⇓P P 23 07 33.5 +0.6
baz=33
W27A **Bowe Ranch, En** 33.28 348 ⇑P P 23 07 33.8 +0.5
baz=34
TUL1 **Tulsa** 33.29 359 ⇑P P 23 07 33.6 +0.4
baz=34
W28A **Vega** 33.30 349 ⇑P P 23 07 34.0 +0.5
baz=34
BNM **Barren Site** 33.32 342 *e*P P 23 07 34.7 +0.9
9.1nm,1.3s
Y21A **Point of Rocks** 33.52 341 ⇑P P 23 07 36.3 +0.7
baz=34,SNR=9.2
Y20A **Horse Springs,** 33.66 340 ⇑P P 23 07 37.1 +0.3
baz=34
W25A **X Bar L Ranch,** 33.74 346 ⇓P P 23 07 37.3 -0.1
baz=34
214A **Organ Pipe Nat** 33.76 332 ⇓P P 23 07 37.2 -0.1
baz=34
SAML **Samuel** 33.77 110 *e*P P 23 07 38.5 +0.8
7.8nm,1.1s
V28A **Channing** 33.78 350 ⇑P P 23 07 37.8 +0.2
baz=34
X21A **Alamocita Cree** 33.95 341 ⇓P P 23 07 39.8 +0.5
baz=34,SNR=6.0
ANMO **Albuquerque** 34.01 343 LR LR 23 20 30.7
comp=Z,1µm,20.6s,baz=172,slow=35
ANMO **Albuquerque** 34.01 343 *e*P P 23 07 40.0 +0.2
17nm,2.1s
W23A **Werner Place,** 34.12 344 ⇓P P 23 07 41.1 +0.3
baz=34
V26A **Tequesquite Ra** 34.14 347 ⇑P P 23 07 41.0 +0.2
baz=34
WVT **Waverly** 34.17 11 *e*P P 23 07 41.2 +0.3
11nm,0.9s
X20A **Quemado** 34.28 340 ⇓P P 23 07 42.1 0.0
baz=34,SNR=6.0
V25A **Rancho No Teng** 34.37 346 ⇑P P 23 07 43.1 +0.2
baz=35,SNR=5.8
V24A **Rampart Ranch,** 34.42 345 ⇓P P 23 07 43.6 +0.2
baz=35
V23A **Ortiz Mt. (NFS** 34.68 344 ⇓P P 23 07 45.8 +0.2
baz=35
U26A **Atchley Ranch,** 34.70 348 ⇓P P 23 07 46.2 +0.4
baz=35
X18A **Snowflake** 34.78 338 ⇑P P 23 07 46.8 +0.3
baz=35
W20A **Ramah** 34.81 341 ⇓P P 23 07 47.6 +0.8
baz=35
U25A **Circle Dot Ran** 34.86 347 ⇑P P 23 07 47.3 +0.3
baz=35
113A **Mohawk Valley,** 34.88 332 ⇑P P 23 07 47.6 +0.5
baz=35
KMSC **Kings Mountain** 34.95 20 ⇓P P 23 07 48.2 +0.6
baz=35
Z14A **Wintersburg** 35.00 333 ⇑P P 23 07 48.3 +0.2
baz=35
V22A **San Miguel Ran** 35.04 343 ⇓P P 23 07 49.1 +0.4
baz=35
T28A **Walsh** 35.10 350 ⇓P P 23 07 49.7 +0.7
baz=35
T27A **Campo** 35.15 349 ⇓P P 23 07 49.7 +0.2
baz=35
V21A **Milan** 35.16 342 ⇓P P 23 07 50.9 +1.1
baz=35
U23A **El Rito** 35.23 344 ⇓P P 23 07 50.7 +0.3
baz=35
X16A **Lo Mia Camp, P** 35.26 336 ⇑P P 23 07 51.1 +0.5
baz=35
V20A **Brimhall** 35.42 341 ⇑P P 23 07 52.0 +0.1
baz=36
T26A **Comanche Natio** 35.42 348 ⇓P P 23 07 52.1 +0.2
baz=36
U22A **Llaves** 35.46 344 ⇓P P 23 07 53.1 +0.8
baz=36
SIUC **Southern Illin** 35.50 8 *e*P P 23 07 53.3 +1.0
33nm,1.0s
Y14A **Wickenburg** 35.51 334 ⇓P P 23 07 53.1 +0.5
baz=36
T25A **Trinidad** 35.56 347 ⇑P P 23 07 53.9 +0.7
baz=36
GLA **Glamis** 35.62 331 *e*P P 23 07 53.7 +0.2
46nm,1.4s
GLA **Glamis** 35.62 331 ⇓P P 23 07 53.8 +0.3
baz=36
T24A **Torres, Weston** 35.65 346 ⇓P P 23 07 53.8 -0.2
baz=36
U21A **Nageezi** 35.74 343 ⇓P P 23 07 55.1 +0.4
baz=36
S26A **Kim** 35.83 349 ⇑P P 23 07 55.7 +0.4
baz=36
U20A **Newcomb** 35.96 341 ⇓P P 23 07 57.0 +0.4
baz=36
S25A **Robets Cordova** 36.07 347 ⇓P P 23 07 58.0 +0.5
baz=36
T22A **Edith** 36.07 344 ⇑P P 23 07 58.6 +1.0
baz=36,SNR=7.1
U19A **Dine' College,** 36.11 340 ⇑P P 23 07 58.1 +0.2
baz=36
WUAZ **Wupatki** 36.20 337 *e*P P 23 07 59.5 +0.9
22nm,1.2s
WUAZ **Wupatki** 36.20 337 ⇑P P 23 07 59.3 +0.7
baz=36,SNR=9.7
BAR **Barrett** 36.25 328 *e*P P 23 07 59.1 +0.2
PDMCI **Parker Dam,Lak** 36.32 333 ⇑P P 23 08 00.3 +0.8
baz=36
R27A **Eads** 36.35 350 ⇓P P 23 08 00.8 +1.0
baz=37
BC3 **Big Chuckawall** 36.41 331 ⇑P P 23 08 01.2 +0.8
baz=37
R26A **Arlington** 36.48 349 ⇓P P 23 08 02.1 +1.1
baz=37,SNR=5.5
R25A **Fountain Ranch** 36.51 348 ⇓P P 23 08 02.1 +0.9
baz=37
OLIL **Olney** 36.67 9 *e*P P 23 08 03.0 +0.6
13nm,0.9s
OLIL *e*PcP PcP 23 10 12.0 -13
IRM **Iron Mountain** 36.68 332 ⇓P P 23 08 03.4 +0.9
baz=37
MVCO **Mesa Verde** 36.72 342 *e*P P 23 08 03.5 +0.4
MVCO **Mesa Verde** 36.72 342 ⇑P P 23 08 03.8 +0.7
baz=37
S22A **4UR Ranch, Cre** 36.74 344 ⇑P P 23 08 04.3 +1.0
baz=37
R24A **Sanders Place,** 36.77 347 ⇓P P 23 08 04.9 +1.5
baz=37
PFO **Pinyon Flat Ob** 36.87 330 *e*P P 23 08 05.1 +0.7
60nm,1.8s
PFO **Pinyon Flat Ob** 36.87 330 ⇓P P 23 08 06.1 +1.8
baz=37
W13A **Hualapai Mount** 36.88 334 ⇓P P 23 08 05.9 +1.4
baz=37
R23A **Moffat** 36.90 346 ⇓P P 23 08 05.5 +0.9
baz=37
S21A **Coal Bank Pass** 36.93 343 ⇑P P 23 08 05.2 +0.3
baz=37
BELC **Belle Mtn. Jos** 36.96 330 ⇓P P 23 08 05.1 0.0
baz=37,SNR=5.4
KSCO **Kaye Shedlock'** 37.03 350 ⇑P P 23 08 06.4 +0.9
baz=37
Q26A **Hugo** 37.10 349 ⇓P P 23 08 07.1 +0.8
baz=37
R22A **Saguache, Gunn** 37.17 345 ⇓P P 23 08 07.7 +0.7
baz=37
S20A **Disappointment** 37.25 343 ⇓P P 23 08 08.0 +0.3
baz=37
U15A **North Rim** 37.35 337 ⇓P P 23 08 09.2 +0.7
baz=38
BLO **Bloomington** 37.37 11 *e*P P 23 08 08.7 +0.3
9.3nm,0.7s
R21A **Cimarron** 37.52 344 ⇓P P 23 08 10.6 +0.7
baz=38
R20A **Redvale** 37.59 343 ⇑P P 23 08 11.2 +0.8
baz=38
S18A **Hurst Farm, Bl** 37.64 340 ⇑P P 23 08 10.7 -0.2
baz=38
HEC **Hector,Ludlow** 37.79 331 ⇑P P 23 08 12.9 +0.9
baz=38,SNR=6.0
Q22A **Crested Butte,** 37.81 345 ⇑P P 23 08 13.0 +0.6
baz=38
TUQ **Turquoise Moun** 38.08 332 ⇑P P 23 08 15.3 +0.7
baz=38
SMCO **Snowmass** 38.12 345 *e*P P 23 08 14.3 -0.9
16nm,1.5s
HDIL **Hopedale** 38.29 7 *e*P P 23 08 16.8 +0.7
68nm,1.3s
SIV **San Ignacio** 38.30 120 P P 23 08 16.9 +0.3
1.3nm,0.7s,baz=280,slow=15,SNR=6.1
SIV LR LR 23 23 17.8
comp=Z,448nm,21.1s,slow=35
SIV **San Ignacio** 38.30 120 P P 23 08 16.9 +0.3
ISCO **Idaho Springs** 38.38 347 ⇑P P 23 08 18.0 +0.7
baz=39
GSC **Goldstone** 38.40 331 ⇓P P 23 08 19.0 +1.8
baz=39
SFIN **Scholer Farm** 38.44 10 ⇑P P 23 08 17.9 +0.6
baz=39
P22A **Eagle** 38.46 345 ⇓P P 23 08 19.2 +1.4
baz=39
Q19A **Hogan Spring (** 38.56 342 ⇑P P 23 08 19.0 +0.5
baz=39
EDW2 **Edwards Air Fo** 38.65 329 ⇑P P 23 08 19.9 +0.6
baz=39,SNR=5.2
CCUT **Cedar City** 38.75 337 *e*P P 23 08 21.7 +1.4
8.1nm,1.1s
N27A **Anderson Farm,** 38.76 351 ⇑P P 23 08 20.6 +0.4
baz=39
O23A **Lake Granby, G** 38.84 347 ⇑P P 23 08 21.7 +0.6
baz=39
O22A **Kremmling** 38.94 346 ⇑P P 23 08 22.3 +0.3
baz=39
LRMC **Laurel Mountai** 38.97 330 ⇑P P 23 08 22.7 +0.6
baz=39
ARUT **Antelope Range** 38.99 337 *e*P P 23 08 22.5 +0.3
32nm,1.5s
P19A **Cripple Cowboy** 39.10 343 ⇓P P 23 08 23.8 +0.6
baz=39,SNR=6.6
SRU **San Rafael** 39.10 341 ⇓P P 23 08 24.3 +1.1
baz=39
Q16A **Castle Valley** 39.14 340 ⇑P P 23 08 24.5 +1.0
baz=39
MPMC **Manual Prospec** 39.34 331 ⇑P P 23 08 25.6 +0.4
baz=40,SNR=5.4
O20A **White River Ci** 39.36 344 ⇑P P 23 08 26.2 +0.9
baz=40
M27A **Reverse DX Ran** 39.45 351 ⇑P P 23 08 27.4 +1.5
baz=40
P18A **Preston Nutter** 39.48 341 ⇓P P 23 08 26.5 0.0
baz=40
N23A **Red Feather La** 39.50 347 ⇓P P 23 08 27.6 +1.0
baz=40
P17A **Butcher Ranch,** 39.50 341 ⇑P P 23 08 27.0 +0.5
baz=40
ISA **Isabella** 39.51 329 ⇑P P 23 08 27.3 +0.8
baz=40
R13A **O'Grain Ranch,** 39.53 336 ⇓P P 23 08 27.9 +1.1
baz=40
PKM **Peak Mountain** 39.63 327 ⇑P P 23 08 28.7 +1.1
baz=40
N21A **Black Mountain** 39.75 345 ⇑P P 23 08 29.5 +0.9
baz=40
O19A **Miners Draw (B** 39.76 343 ⇑P P 23 08 29.8 +1.2
baz=40
M24A **Cheyenne** 39.81 349 ⇓P P 23 08 30.6 +1.5
baz=40
P16A **Fountain Green** 39.93 340 ⇑P P 23 08 31.8 +1.7
baz=40
VES **Vestal, Richgr** 39.96 329 ⇑P P 23 08 31.2 +1.0
baz=40
O18A **Roosevelt** 39.99 342 ⇑P P 23 08 31.6 +1.1
baz=40
N20A **Spence Gulch,** 40.01 344 ⇓P P 23 08 31.7 +0.9
baz=40
P15A **Leamington** 40.11 339 ⇑P P 23 08 33.0 +1.5
baz=40
O17A **Robinson Place** 40.15 341 ⇓P P 23 08 32.9 +1.0
baz=40
N19A **John Jarvie Ra** 40.32 343 ⇑P P 23 08 33.8 +0.6
baz=40,SNR=5.6
R11A **Troy Canyon, C** 40.34 335 ⇓P P 23 08 33.7 +0.2
baz=40,SNR=7.5
O16A **Springville** 40.41 341 ⇑P P 23 08 34.2 +0.1
baz=41
M21A **Separation Pea** 40.51 346 ⇓P P 23 08 35.3 +0.4
baz=41
N18A **Larsen Ranch,** 40.54 343 ⇓P P 23 08 34.7 -0.5
baz=41
K26A **Motz Farm, Whi** 40.72 351 ⇓P P 23 08 37.3 +0.9
baz=41
DUG **Duway** 40.86 339 ⇑P P 23 08 38.4 +0.7
baz=41,SNR=11
MVL **Millersville** 41.06 22 *e*P P 23 08 40.2 +1.1
28nm,1.4s
ECSD **EROS Data Cent** 41.12 358 *e*P P 23 08 39.0 -0.7
78nm,2.1s
N15A **Stansbury Isla** 41.37 340 ⇓P P 23 08 43.2 +1.3
baz=42
M16A **Huntsville** 41.45 341 ⇑P P 23 08 43.2 +0.6
baz=42
L19A **Farson** 41.49 344 ⇓P P 23 08 43.9 +0.9
baz=42
L18A **Fontenelle, Gr** 41.52 343 ⇓P P 23 08 44.0 +0.8
baz=42
NV11 **Mina Array Sit** 41.55 332 *e*P P 23 08 44.2 +0.8
NVAR **Mina Array Bea** 41.62 332 P P 23 08 44.3 +0.2
4.9nm,0.9s,baz=158,slow=8.3,SNR=9.6
NVAR **Mina Array Bea** 41.62 332 P P 23 08 44.3 +0.2
HWUT **Hardware Ranch** 41.70 341 *e*P P 23 08 45.2 +0.6
48nm,1.8s
K20A **Yellowstone Ra** 41.74 345 ⇓P P 23 08 45.4 +0.5
baz=42
M15A **Larsen Ranch,** 41.86 340 ⇑P P 23 08 46.2 +0.3
baz=42
L17A **Cokeville** 41.93 342 ⇓P P 23 08 46.8 +0.2
baz=42
J22A **Midwest** 42.02 348 ⇑P P 23 08 47.5 +0.3
baz=42,SNR=8.5
K19A **Absolon Red Bu** 42.03 345 ⇑P P 23 08 47.1 -0.2
baz=42
I24A **Kuemmerle Ranc** 42.09 350 ⇓P P 23 08 47.9 +0.2
baz=42
BW06 **Boulder Array** 42.16 344 ⇓P P 23 08 48.5 0.0
baz=42,SNR=12
PDAR **Pinedale Array** 42.16 344 P P 23 08 48.0 -0.4
6.0nm,0.9s,baz=152,slow=7.4,SNR=41
PDAR LR LR 23 25 59.2
comp=Z,2µm,18.6s,baz=176,slow=36
PDAR **Pinedale Array** 42.16 344 P P 23 08 48.0 -0.4
J21A **Lysite** 42.17 347 ⇓P P 23 08 49.0 +0.5
baz=42
K18A **Toltan Ranch,** 42.18 344 ⇓P P 23 08 48.7 +0.1
baz=42
ELK **Elko** 42.24 337 *e*P P 23 08 49.9 +0.8
L15A **Malad City** 42.32 341 ⇑P P 23 08 49.9 +0.3
baz=42
J20A **Shoshoni** 42.33 346 ⇑P P 23 08 50.1 +0.4
baz=42
I22A **9 Mile Ranch,** 42.48 348 ⇑P P 23 08 51.2 +0.3
baz=43
J19A **Crowheart** 42.49 345 ⇑P P 23 08 51.2 +0.1
baz=43
I21A **Big Trails, Te** 42.58 347 ⇑P P 23 08 52.3 +0.5
baz=43
L14A **Malta** 42.63 340 ⇓P P 23 08 52.7 +0.5
baz=43
SPMN **St. Paul** 42.64 2 ⇓P P 23 08 52.6 +0.6
baz=43
J18A **Kendall Valley** 42.70 344 ⇑P P 23 08 53.1 +0.2
baz=43,SNR=16
BMN **Battle Mountai** 42.78 335 *e*P P 23 08 53.6 +0.2
BMN *e*pP PcP 23 10 58.9 +14
K16A **Soda Springs** 42.81 342 ⇓P P 23 08 54.5 +0.7
baz=43
I20A **Worland** 42.91 346 ⇑P P 23 08 55.0 +0.7
baz=43,SNR=11
H24A **Dirks Ranch, A** 42.94 350 ⇓P P 23 08 55.1 +0.5
baz=43,SNR=7.1
K15A **Arbon** 42.98 341 ⇑P P 23 08 55.0 0.0
baz=43
J17A **Brown Place, J** 43.04 343 ⇑P P 23 08 56.1 +0.5
baz=43,SNR=7.8
REDW **Red Top Meadow** 43.08 343 *e*P P 23 08 56.0 +0.1
20nm,1.2s
I18A **Diamond G Ranc** 43.10 344 ⇓P P 23 08 56.6 +0.5
baz=43
BINY **Binghamton** 43.12 21 *e*P P 23 08 57.0 +1.1
57nm,1.6s
SNOW **Snow King Moun** 43.14 343 *e*P P 23 08 56.8 +0.3
20nm,1.1s
I19A **Meeteetse** 43.20 345 ⇓P P 23 08 57.5 +0.7
baz=43
RRI2 **Red Ridge** 43.20 343 *e*P P 23 08 56.9 0.0
20nm,1.7s
J16A **Bone** 43.22 342 ⇑P P 23 08 57.3 +0.2
baz=43
H20A **Greybull** 43.38 347 ⇓P P 23 08 58.4 +0.2
baz=44
G24A **Alzada** 43.48 350 ⇓P P 23 08 59.1 +0.1
baz=44
I17A **Pilgrim Ck.** 43.51 344 ⇑P P 23 08 59.6 +0.2
baz=44
J15A **Blackfoot** 43.59 342 ⇑P P 23 09 00.2 +0.3
baz=44
G22A **Birney** 43.71 349 ⇓P P 23 09 01.3 +0.5
baz=44
I16A **Newdale** 43.73 343 ⇓P P 23 09 01.4 +0.3
baz=44
COWI **Conover** 43.78 6 *e*P P 23 09 00.6 -0.7
18nm,1.4s
H19A **Powell** 43.79 346 ⇓P P 23 09 01.5 0.0
baz=44
J14A **Carey** 43.87 341 ⇑P P 23 09 02.2 0.0
baz=44
G21A **Lodge Grass** 43.91 348 ⇓P P 23 09 02.5 +0.1
baz=44
F24A **Ekalaka** 43.98 351 ⇓P P 23 09 03.0 0.0
baz=44
F23A **Volborg** 44.03 350 ⇓P P 23 09 03.2 -0.1
baz=44
G20A **Bridger** 44.13 347 ⇓P P 23 09 04.4 +0.2
baz=44
J13A **Cove Ranch, Pi** 44.16 340 ⇓P P 23 09 04.5 0.0
baz=44
YNR **Norris Junctio** 44.28 344 *e*P P 23 09 06.3 +0.7
9.8nm,1.2s
YMR **Madison River** 44.31 344 *e*P P 23 09 06.7 +0.9
HLID **Hailey** 44.39 340 ⇑P P 23 09 07.0 +0.6
baz=45,SNR=6.4
I14A **Mackay** 44.39 341 ⇑P P 23 09 06.9 +0.5
baz=45
H16A **Russell Place,** 44.42 344 ⇓P P 23 09 07.8 +1.1
baz=45
SADO **Sadowa** 44.43 16 P P 23 09 06.3 -0.1
2.0nm,0.4s,baz=259,slow=6.3,SNR=7.4
SADO **Sadowa** 44.43 16 P P 23 09 06.3 -0.1
TRY **Troy** 44.44 23 *e*P P 23 09 06.6 +0.1
62nm,1.3s
G18A **Lazy EL Ranch,** 44.54 345 ⇓P P 23 09 08.6 +1.1
baz=45
I13A **Wildhorse Cree** 44.60 340 ⇑P P 23 09 08.5 +0.4
baz=45,SNR=10
H15A **Lima** 44.76 342 ⇓P P 23 09 10.4 +1.1
baz=45
MFID **Camas Ranch** 44.76 339 ⇓P P 23 09 09.5 +0.2
baz=45
I12A **Atlanta** 44.84 339 ⇑P P 23 09 10.3 +0.3
baz=45,SNR=6.4
G17A **Pierce Place,** 44.85 344 ⇓P P 23 09 11.1 +1.1
baz=45
F19A **Roth Farm, Mol** 44.89 346 ⇓P P 23 09 11.0 +0.7
baz=45
H14A **Leadore** 44.98 342 ⇑P P 23 09 11.6 +0.5
baz=45
MCMT **McKenzie Canyo** 45.01 342 *e*P P 23 09 11.8 +0.5
7.6nm,1.4s
F18A **Big Timber** 45.13 346 ⇑P P 23 09 12.4 +0.3
baz=45,SNR=7.0
D24A **Glendive** 45.20 351 ⇑P P 23 09 13.1 +0.5
baz=45,SNR=6.1
G15A **Dillon** 45.21 343 ⇓P P 23 09 13.3 +0.4
baz=45
H13A **Challis** 45.22 341 ⇓P P 23 09 13.7 +0.7
baz=45
E20A **Meyer Farm, Mu** 45.32 347 ⇓P P 23 09 13.9 +0.2
baz=46,SNR=8.5
F17A **Fitzpatrick Pl** 45.37 345 ⇑P P 23 09 14.9 +0.7
baz=46
MDND **Maddock** 45.38 356 ⇓P P 23 09 14.2 +0.2
baz=46
D23A **Lindsay** 45.40 350 ⇑P P 23 09 14.4 +0.2
baz=46
H12A **Diamond D Ranc** 45.41 340 ⇑P P 23 09 14.9 +0.5
baz=46
E19A **Rath Farm, Rou** 45.43 347 ⇓P P 23 09 14.6 +0.1
baz=46,SNR=14
F16A **Kennard Place,** 45.52 344 ⇑P P 23 09 15.8 +0.5
baz=46
D22A **Cohagen** 45.55 349 ⇑P P 23 09 15.8 +0.4
baz=46,SNR=7.3
C24A **Savage** 45.62 351 ⇑P P 23 09 16.2 +0.2
baz=46
D21A **La Casta Ranch** 45.62 349 ⇓P P 23 09 16.4 +0.4
baz=46
AGMN **Agassiz Nation** 45.67 359 *e*P P 23 09 16.1 -0.2
17nm,1.0s
G13A **Cobalt** 45.68 341 ⇓P P 23 09 16.4 -0.2
baz=46
E18A **Harlowton** 45.80 346 ⇑P P 23 09 17.9 +0.4
baz=46
F15A **Butte** 45.82 343 ⇓P P 23 09 17.7 0.0
baz=46
D20A **Manuel Ranch,** 45.88 348 ⇑P P 23 09 18.2 +0.1
baz=46
C23A **Lambert** 46.01 351 ⇑P P 23 09 19.3 +0.3
baz=46
C22A **Vida** 46.07 350 ⇑P P 23 09 19.7 +0.2
baz=46,SNR=6.0
G12A **Big Creek, Yel** 46.08 340 ⇑P P 23 09 19.6 -0.2
baz=46
D19A **Cripps Ranch,** 46.12 347 ⇑P P 23 09 20.3 +0.3
baz=46,SNR=9.4
E16A **East Helena** 46.22 344 ⇑P P 23 09 20.4 -0.4
baz=46,SNR=7.5
F13A **Darby** 46.33 341 ⇓P P 23 09 21.3 -0.5
baz=46,SNR=5.1
D18A **Linhart Farms,** 46.36 346 ⇑P P 23 09 22.2 +0.3
baz=47
CPUP **Villa Florida** 46.37 131 LR LR 23 29 13.6
comp=Z,157nm,20.6s,baz=304,slow=36
C21A **Desert Coulee** 46.37 349 ⇓P P 23 09 22.3 +0.4
baz=47
E15A **Deer Lodge** 46.39 343 ⇓P P 23 09 21.9 -0.3
baz=47
RKT **Rikitea** 46.43 235 *e*T T 23 58 44.0
6.7nm,0.3s
C20A **Veseth Ranch,** 46.45 348 ⇑P P 23 09 22.2 -0.2
baz=47,SNR=5.2
DGMT **Dagmar** 46.50 352 ⇑P P 23 09 23.4 +0.5
baz=47
F12A **Elk City** 46.60 341 ⇑P P 23 09 24.1 +0.3
baz=47
C19A **Slack Wire Ran** 46.69 347 ⇑P P 23 09 24.6 +0.2
baz=47
E13A **Victor** 46.87 342 ⇓P P 23 09 26.0 +0.1
baz=47
A24A **Westby** 46.92 352 ⇑P P 23 09 26.7 +0.6
baz=47
D15A **Lincoln** 46.92 344 ⇓P P 23 09 26.3 -0.1
baz=47
EGMT **Eagleton** 47.12 347 ⇓P P 23 09 27.8 0.0
baz=47
MSO **Missoula** 47.14 342 ⇑P P 23 09 27.7 -0.3
baz=47
D14A **Greenough** 47.24 343 ⇓P P 23 09 28.6 -0.2
baz=47
B19A **Brinkman Farms** 47.35 347 ⇓P P 23 09 30.2 +0.6
baz=48
A21A **Bergtoll Ranch** 47.46 349 ⇑P P 23 09 31.1 +0.8
baz=48
B18A **Beardsley Farm** 47.48 347 ⇑P P 23 09 31.1 +0.6
baz=48
D13A **Huson** 47.54 342 ⇑P P 23 09 30.9 -0.1
baz=48
A20A **Cobblestone Ra** 47.54 349 ⇑P P 23 09 31.0 0.0
baz=48
C15A **Salmond Ranch,** 47.62 344 ⇓P P 23 09 31.4 -0.3
baz=48
B17A **L&G Farms, Che** 47.62 346 ⇑P P 23 09 31.1 -0.5
baz=48
ULM **Lac du Bonnet** 47.62 359 P P 23 09 29.6 -1.9
3.9nm,0.8s,baz=184,slow=6.4,SNR=10
ULM **Lac du Bonnet** 47.62 359 P P 23 09 29.6 -1.9
A19A **Klindworth Far** 47.76 348 ⇑P P 23 09 32.2 -0.5
baz=48
D12A **Red Ives Fores** 47.78 341 ⇓P P 23 09 32.9 -0.1

baz=48
C14A **Swan Lake** 47.93 343 ⇓P P 23 09 34.0 -0.1
baz=48
A18A **Metzger Ranch,** 47.99 347 ⇓P P 23 09 34.1 -0.4
baz=48
B15A **Bradely Ranch,** 48.09 344 ⇓P P 23 09 35.5 +0.1
baz=48
B14A **Marquette Ranc** 48.33 344 ⇑P P 23 09 37.7 +0.4
baz=48
PLCA **Paso Flores** 48.47 155 LR LR 23 27 21.0
comp=Z,931nm,18.1s,baz=5.1,slow=33
B13A **Whitefish** 48.69 343 ⇑P P 23 09 40.2 +0.3
baz=49
A15A **Johnson Ranch,** 48.75 345 ⇑P P 23 09 40.9 +0.5
baz=49
C11A **Tepee Creek (N** 48.77 341 ⇑P P 23 09 41.1 +0.6
baz=49
A14A **Double T Ranch** 48.93 344 ⇓P P 23 09 42.4 +0.6
baz=49
B12A **Libby** 49.11 342 ⇑P P 23 09 43.9 +0.8
baz=49
NEW **Newport** 49.42 341 ⇓P P 23 09 46.2 +0.7
baz=50
A12A **Yaak River Ran** 49.54 342 ⇓P P 23 09 47.3 +0.9
baz=50
MEH **Mehetia** 55.94 247 *e*T T 00 10 40.5
50nm,0.3s
PPT **Papeete** 57.25 247 LR LR 23 28 49.4
comp=Z,172nm,18.6s,baz=176,slow=29
PPT2 **Papeete2** 57.26 247 *e*LR LR 23 27 36.0
220nm,25.5s
YKA **Yellowknife Ar** 61.64 350 P P 23 11 11.8 -1.3
1.3nm,0.9s,baz=154,slow=6.7,SNR=15
YKA **Yellowknife Ar** 61.64 350 P P 23 11 11.8 -1.3
YKW3 **Yellowknife Ar** 61.71 350 *e*P P 23 11 14.8 +1.2
0.3nm,1.3s
FRB **Frobisher Bay** 64.18 13 P P 23 11 29.7 -0.2
5.3nm,0.9s,baz=228,slow=6.1,SNR=5.1
FRB **Frobisher Bay** 64.18 13 P P 23 11 29.7 -0.2
RES **Resolute Bay** 72.15 0 P P 23 12 18.7 -1.1
1.7nm,0.9s,baz=175,slow=9.4,SNR=6.3
RES LR LR 23 42 40.5
comp=Z,82nm,20.0s,baz=175,slow=35
RES **Resolute Bay** 72.15 0 P P 23 12 18.7 -1.1
ILAR **Eielson Array** 72.34 339 P P 23 12 20.1 -1.1
1.3nm,0.8s,baz=148,slow=5.1,SNR=13
ILAR **Eielson Array** 72.34 339 P P 23 12 20.1 -1.1
QSPA **South Pole Qui** 92.48 180 P P 23 14 06.8 +0.2
2.7nm,0.9s,baz=116,slow=0.9,SNR=6.0
QSPA **South Pole Qui** 92.48 180 P P 23 14 06.8 +0.2
NOA **NORSAR Array B** 95.70 28 LR LR 23 56 47.2
comp=Z,85nm,19.7s,baz=0.0,slow=35
TORD **Torodi Ar. Bea** 96.05 77 LR LR 23 56 45.4
comp=Z,72nm,19.5s,baz=160,slow=35
DZM **Mont Dzumac** 98.76 248 *e*LR LR 23 46 45.9
282nm,25.2s
ASAJ **Asahikawa** 110.80 319 PKiKP **PKiKP** 23 19 29.4 +0.5
CN2 **Changchun** 121.36 327 *e*PKP **PKPdf** 23 19 50.1 +0.9
ZALV **Zalesovo Beam** 123.80 0 PKP **PKPdf** 23 19 51.0 -2.7
0.3nm,0.4s,baz=354,slow=2.9,SNR=3.5
ZALV **Zalesovo Beam** 123.80 0 PKP **PKPdf** 23 19 51.0 -2.7
SONM **Songino Array** 126.50 342 PKP **PKPdf** 23 19 58.8 -0.4
1.0nm,0.8s,baz=6.4,slow=0.9,SNR=8.1
SONM **Songino Array** 126.50 342 PKP **PKPdf** 23 19 58.8 -0.4
ASAR **Alice Springs** 128.17 242 PKP **PKPdf** 23 20 01.8 -1.1
1.4nm,0.8s,baz=135,slow=1.9,SNR=13
ASAR **Alice Springs** 128.17 242 PKP **PKPdf** 23 20 01.8 -1.1
WRA **Warramunga Arr** 128.73 246 PKP **PKPdf** 23 20 02.9 -1.2
1.7nm,0.9s,baz=102,slow=1.6,SNR=8.4
WRA **Warramunga Arr** 128.73 246 PKP **PKPdf** 23 20 02.9 -1.2
HHC **Hu-ho-hao-te** 130.51 333 *e*PKP **PKPdf** 23 20 11.0 +4.0
HHC PKS **PKSdf** 23 23 45.9 +2.3
HHC SKS **SKSdf** 23 27 19.3 +0.3
HHC AMB AMB
comp=Z,140nm,5.3s
HHC LR LR
comp=N,140nm,13.9s
HHC LR LR
comp=E,190nm,19.4s
HHC LR LR
comp=Z,250nm,20.1s
MKAR **Makanchi Array** 130.90 2 PKP **PKPdf** 23 20 05.4 -2.0
comp=Z,1.3nm,1.0s,baz=338,slow=2.6,SNR=8.7
MKAR **Makanchi Array** 130.90 2 PKP **PKPdf** 23 20 05.4 -2.0
WMQ **Urumqi** 133.86 357 *e*PKP **PKPdf** 23 20 13.3 +0.1
WMQ LR LR
comp=N,58nm,31.0s
WMQ LR LR
comp=E,140nm,34.0s
WMQ LR LR
comp=Z,100nm,37.0s
KSH **Kashi** 137.43 10 *e*PKP **PKPdf** 23 20 21.4 +1.3
KSH *e*PP PP 23 23 09.6 +5.6
KSH PKS **PKSdf** 23 23 55.8 -0.6
KSH SKS **SKSdf** 23 27 30.6 -0.7
KSH SKKS **SKKSac** 23 30 01.8 +1.4
KSH SS SS 23 41 20.0 +9.1
KSH AMB AMB
comp=Z,90nm,4.2s
KSH LR LR
comp=N,120nm,5.5s
KSH LR LR
comp=E,71nm,5.6s
KSH LR LR
comp=Z,160nm,11.2s
CD2 **Chengdu** 142.27 333 PKP **PKPdf** 23 20 27.6 -1.4
GYA **Guiyang** 144.38 325 PKP **PKPab** 23 20 31.0 0.0
GYA PP **PP** 23 23 50.8 +3.5
GYA AMB AMB
comp=Z,90nm,7.8s
DDI **Dehra Dun** 146.75 11 *ex* **PKPdf** 23 20 35.0 -1.8
KMI **Kunming** 147.58 329 PKPbc **PKPdf** 23 20 37.0 -1.5
KMI pPKP **PKPbc** 23 20 40.0 -1.1
DANN **Dangsing** 149.35 2 *e*P **PKPbc** 23 20 45.4 -0.4
comp=Z,38nm,1.0s
PYUN **Piuthan** 149.56 3 *e*P **PKPbc** 23 20 46.0 -0.2
comp=Z,28nm,0.9s
GKN **Gorkha** 149.72 0 *e*P **PKPbc** 23 20 45.7 -0.8
comp=Z,60nm,1.5s
GUN **Gumba** 149.79 358 *e*P **PKPbc** 23 20 46.5 -0.4
comp=Z,70nm,1.1s
KOLN **Koldanda** 149.92 2 *e*P **PKPbc** 23 20 46.4 -0.7
KKN **Kakani** 149.93 359 *e*P **PKPbc** 23 20 46.5 -0.6
JIRN **Jiri** 150.03 358 *e*P **PKPbc** 23 20 46.9 -0.7
DMN **Daman** 150.11 360 *e*P **PKPbc** 23 20 46.8 -0.8
PKI **Pulchoki** 150.14 359 *e*P **PKPbc** 23 20 46.7 -1.1
TAPN **Taplejung** 150.24 355 *e*P **PKPbc** 23 20 47.3 -0.7
comp=Z,52nm,1.3s
RAMN **Ramite** 150.72 357 *e*P **PKPbc** 23 20 47.9 -1.2
comp=Z,29nm,1.1s
ODAN **Odare** 150.76 355 *e*P **PKPbc** 23 20 48.0 -1.1
comp=Z,21nm,1.1s
SHL **Shillong** 151.33 347 *e*P **PKPdf** 23 20 46.5 +2.0
CMAR **Chiang Mai Arr** 155.04 327 PKP **PKPdf** 23 20 48.8 -1.0
comp=Z,0.6nm,0.4s,baz=298,slow=2.5,SNR=7.1
CMAR PKPbc PKPab 23 20 58.5 -15
comp=Z,0.7nm,0.4s,baz=334,slow=2.0,SNR=9.1
CMAR PKPab PKPab 23 21 13.0 -0.9
comp=Z,1.1nm,0.5s,baz=9.8,slow=3.6,SNR=5.9
CMAR **Chiang Mai Arr** 155.04 327 PKP **PKPdf** 23 20 48.8 -1.0
CMAR PKPbc PKPab 23 20 58.5 -15
CMAR PKPab PKPab 23 21 13.0 -0.9

*ISCJB **15** 23:02:57.1±0.7,2°.45N±0°.10×95°.3W±0°.1,h10km,mb4.6/25, MS4.4/2, Error ellipse: s-maj=19.8km s-min=10.0km az=146.1*
*IDC **15** 23:02:57.2±0.7,2°.40N×95°.37W,h0km,mb4.3/13, mb1 4.5/15,mb1mx4.3/26,mbtmp4.4/15,ML3.5/2,MS4.4/5, Ms1 4.4/5,ms1mx4.0/24, Error ellipse: s-maj=27.5km s-min=16.0km az=63.0*
*NEIC **15** 23:02:58.3±0.4,2°.35N×95°.37W,h10km,mb4.9/14, Error ellipse: s-maj=12.2km s-min=7.2km az=64.0*
*GCMT **15** 23:03:03.7±0.4,2°.79N×94°.94W,h12km,MW5.1, Moment Tensor Solution. s19,c23; s74,c105; Moment tensor: Scale 10^16Nm; Mrr=3.99±.19; Mθθ=4.59±.15; Mφφ=-0.60±.22; Mrθ=3.72±.59; Mrφ=0.59±.16; Mθφ=-1.13±.87; Best double couple: M=5.80000×10^16 NP1:φs=66.00000°,δ27.00000°, λ=-121.00000°. NP2:φs=280.00000°,δ67.00000°, λ=-75.00000°. Principal axes: T 5.9800, Plg20.0000°, Azm359.0000°; N -0.2900, Plg14.0000°, Azm94.0000°; P -5.6900, Plg65.0000°, Azm215.0000°; Data Used: IU II G CN IC.*

ISC 15 23:02:58.5±0.6,2°.37N±0°.09×95°.4W±0°.1,h10km,n67, σ0s74/72,mb4.7/25,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	13.01	52	LR		LR	23 09 34.6	
	comp=Z,1μm,20.7s,baz=328,slow=31							
CMIG	**Matias Romero**	14.63	2	Pn		Pn	23 06 27.0	+1.2
	0.1nm,0.3s,baz=157,slow=13,SNR=4.0							
CMIG				LR		LR	23 10 21.3	
	comp=Z,2μm,22.0s,baz=168,slow=30							
CMIG	**Matias Romero**	14.63	2	Pn		Pn	23 06 27.0	+1.2
TEIG	**Tepich**	19.05	21	P		P	23 07 20.5	-0.5
	0.2nm,0.3s,baz=209,slow=11,SNR=4.6							
TEIG				LR		LR	23 13 45.8	
	comp=Z,1μm,19.4s,baz=52,slow=34							
TEIG	**Tepich**	19.05	21	*e*P		P	23 07 20.2	-0.8
	108nm,1.6s							
ROSC	**El Rosal**	21.16	83	P		P	23 07 45.8	+1.4
	3.2nm,0.5s,baz=270,slow=20,SNR=4.9							
ROSC	**El Rosal**	21.16	83	*e*P		P	23 07 43.9	-0.6
TXAR	**Lajitas Array**	27.95	344	P		P	23 08 50.5	+1.1
	1.3nm,0.7s,baz=162,slow=9.6,SNR=6.9							
TXAR				PcP		PcP	23 12 05.7	+0.9
	1.4nm,1.0s,baz=147,slow=5.4,SNR=4.1							
TXAR	**Lajitas Array**	27.95	344	P		P	23 08 50.5	+1.1
TXAR				PcP		PcP	23 12 05.7	+0.9
RPN	**Rapa Nui**	32.27	204	LR		LR	23 19 05.3	
	comp=Z,663nm,20.0s,baz=118,slow=30							
LPAZ	**La Paz**	32.69	125	P		P	23 09 33.9	+1.7
	4.2nm,1.1s,baz=300,slow=7.5,SNR=5.5							
LPAZ	**La Paz**	32.69	125	*e*P		P	23 09 32.9	+0.8
	9.0nm,1.1s							
LPAZ				*e*PcP		PcP	23 12 18.2	+0.2
SAML	**Samuel**	34.01	110	*e*P		P	23 09 42.6	-0.4
	50nm,2.3s							
WVT	**Waverly**	34.31	11	*e*P		P	23 09 44.9	-0.4
	52nm,1.5s							
TKL	**Tuckaleechee C**	34.83	17	LR		LR	23 23 06.0	
	comp=Z,983nm,21.6s,baz=192,slow=35							
GLA	**Glamis**	35.55	331	*e*P		P	23 09 55.8	-0.3
	22nm,1.3s							
SIUC	**Southern Illin**	35.62	8	*e*P		P	23 09 57.0	+0.4
	54nm,1.2s							
BLO	**Bloomington**	37.51	11	*e*P		P	23 10 12.7	+0.1
	10nm,0.9s							
ISCO	**Idaho Springs**	38.40	347	*e*P		P	23 10 20.6	0.0
	29nm,1.8s							
HDIL	**Hopedale**	38.41	7	*e*P		P	23 10 20.0	-0.2
	80nm,1.1s							
SIV	**San Ignacio**	38.51	119	P		P	23 10 21.1	-0.4
	2.3nm,0.9s,baz=308,slow=12,SNR=5.4							
SIV	**San Ignacio**	38.51	119	P		P	23 10 21.1	-0.4
ARUT	**Antelope Range**	38.95	337	*e*P		P	23 10 25.3	+0.2
	29nm,1.3s							
NVAR	**Mina Array Bea**	41.56	333	P		P	23 10 48.2	+1.5
	4.5nm,0.7s,baz=159,slow=8.7,SNR=17							
NVAR	**Mina Array Bea**	41.56	333	P		P	23 10 48.2	+1.5
PDAR	**Pinedale Array**	42.17	344	P		P	23 10 52.2	+0.6
	5.8nm,1.0s,baz=152,slow=7.9,SNR=12							
PDAR	**Pinedale Array**	42.17	344	P		P	23 10 52.2	+0.6
TRY	**Troy**	44.62	23	*e*P		P	23 11 11.3	+0.2
	310nm,1.8s							
EYMN	**Ely**	45.52	4	*e*P		P	23 11 17.3	-1.0
	13nm,1.1s							
CHMT	**Chamberlain Mo**	47.01	343	*e*P		P	23 11 30.4	+0.1
	11nm,1.5s							
ULM	**Lac du Bonnet**	47.70	360	P		P	23 11 33.8	-1.5
	6.0nm,0.8s,baz=178,slow=8.8,SNR=5.2							
ULM	**Lac du Bonnet**	47.70	360	P		P	23 11 33.8	-1.5
SCHQ	**Schefferville**	57.23	19	P		P	23 12 45.4	-0.5
	3.5nm,1.0s,baz=226,slow=6.6,SNR=5.2							
SCHQ	**Schefferville**	57.23	19	*e*P		P	23 12 46.2	+0.3
	33nm,1.9s							
SCHQ				*e*PP		PP	23 14 53.1	+0.1
YKA	**Yellowknife Ar**	61.67	350	P		P	23 13 16.1	-0.4
	2.9nm,0.8s,baz=155,slow=6.8,SNR=16							
YKA	**Yellowknife Ar**	61.67	350	P		P	23 13 16.1	-0.4
YKW3	**Yellowknife Ar**	61.74	350	*e*P		P	23 13 15.7	-1.2
	0.2nm,1.1s							
FRB	**Frobisher Bay**	64.32	13	P		P	23 13 33.1	-0.9
	4.7nm,0.8s,baz=213,slow=7.8,SNR=4.4							
FRB	**Frobisher Bay**	64.32	13	P		P	23 13 33.1	-0.9
INK	**Inuvik**	70.71	346	P		P	23 14 14.3	0.0
	10nm,1.0s,baz=143,slow=4.0							
ILAR	**Eielson Array**	72.32	339	P		P	23 14 24.1	-0.1
	3.2nm,0.8s,baz=148,slow=4.7,SNR=16							
QSPA	**South Pole Qui**	92.39	180	P		P	23 16 09.2	-0.2
	5.3nm,1.0s,baz=153,slow=2.2,SNR=6.5							
QSPA	**South Pole Qui**	92.39	180	*e*P		P	23 16 09.1	-0.2
	4.1nm,0.8s							
ZALV	**Zalesovo Beam**	123.88	360	PKP		PKPdf	23 21 55.9	-1.0
	2.9nm,1.2s,baz=347,slow=3.2,SNR=4.2							
ZALV	**Zalesovo Beam**	123.88	360	PKP		PKPdf	23 21 55.9	-1.0
ASAR	**Alice Springs**	127.88	242	PKP		PKPdf	23 22 05.3	-0.2
	1.7nm,0.8s,baz=96,slow=2.4,SNR=14							
ASAR	**Alice Springs**	127.88	242	PKP		PKPdf	23 22 05.3	-0.2
WRA	**Warramunga Arr**	128.44	246	PKP		PKPdf	23 22 07.2	+0.6
	2.2nm,0.9s,baz=104,slow=1.5,SNR=10							
WRA	**Warramunga Arr**	128.44	246	PKP		PKPdf	23 22 07.2	+0.6
MKAR	**Makanchi Array**	131.00	2	PKP		PKPdf	23 22 10.6	-0.3
	1.8nm,1.0s,baz=350,slow=1.5,SNR=10							
MKAR	**Makanchi Array**	131.00	2	PKP		PKPdf	23 22 10.6	-0.3
KAPI	**Kappang**	144.84	265	PKP		PKPab	23 22 35.1	-0.9
	6.4nm,0.5s,baz=112,slow=3.7,SNR=5.8							
KAPI	**Kappang**	144.84	265	PKP		PKPab	23 22 35.1	-0.9
DANN	**Dangsing**	149.44	1	*e*P		PKPbc	23 22 49.5	+0.4
PYUN	**Piuthan**	149.66	3	*e*P		PKPbc	23 22 48.8	-0.8
	116nm,1.5s							
GKN	**Gorkha**	149.80	360	*e*P		PKPbc	23 22 49.8	-0.1
	92nm,1.4s							
GUN	**Gumba**	149.87	358	*e*P		PKPbc	23 22 50.5	+0.2
KKN	**Kakani**	150.00	359	*e*P		PKPbc	23 22 50.6	+0.2
KOLN	**Koldanda**	150.01	2	*e*P		PKPbc	23 22 50.3	-0.2
JIRN	**Jiri**	150.10	357	*e*P		PKPbc	23 22 50.4	-0.5
DMN	**Daman**	150.19	359	*e*P		PKPbc	23 22 50.9	0.0
	32nm,1.1s							
PKI	**Pulchoki**	150.22	359	*e*P		PKPbc	23 22 50.7	-0.4
TAPN	**Taplejung**	150.30	354	*e*P		PKPbc	23 22 51.5	+0.2
	88nm,1.2s							
RAMN	**Ramite**	150.78	356	*e*P		PKPbc	23 22 51.9	-0.5
	43nm,1.2s							
ODAN	**Odare**	150.81	355	*e*P		PKPbc	23 22 52.3	-0.1
CMAR	**Chiang Mai Arr**	154.95	326	PKP		PKPdf	23 22 52.5	-0.3
	0.4nm,0.3s,baz=341,slow=1.8,SNR=7.0							
CMAR				PKPbc		PKiKP	23 23 02.5	+1.0
	1.7nm,0.6s,baz=352,slow=2.2,SNR=9.2							
CMAR				PKPab		PKPab	23 23 17.3	+0.6
	2.5nm,1.0s,baz=22,slow=4.9,SNR=6.3							
CMAR	**Chiang Mai Arr**	154.95	326	PKP		PKPdf	23 22 52.5	-0.3
CMAR				PKPbc		PKiKP	23 23 02.5	+1.0
CMAR				PKPab		PKPab	23 23 17.3	+0.6

*ISCJB **15** 23:04:10.8±0.7,2°.51N±0°.09×95°.4W±0°.1,h10km,mb4.3/17, MS3.5/1,Error ellipse: s-maj=17.0km s-min=9.2km az=143.2*
*IDC **15** 23:04:11.1±0.7,2°.53N×95°.38W,h0km,mb4.3/11, mb1 4.5/12,mb1mx4.2/26,mbtmp4.3/12,ML3.7/1,MS3.6/1, Ms1 3.6/1,ms1mx3.3/30,Error ellipse: s-maj=34.4km s-min=15.7km az=65.0*
*NEIC **15** 23:04:12.2±0.2,2°.46N×95°.40W,h10km,mb4.5/9,Error ellipse: s-maj=9.0km s-min=5.8km az=52.0*
ISC 15 23:04:12.6±0.6,2°.53N±0°.10×95°.3W±0°.1,h10km,n46, σ0s57/49,mb4.4/17,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	14.48	2	Pn		Pn	23 07 41.1	+3.4
	0.0nm,0.3s,baz=169,slow=16,SNR=2.3							
CMIG	**Matias Romero**	14.48	2	Pn		Pn	23 07 41.1	+3.4
BCIP	**Isla Barro Col**	16.76	66	*e*Pn		P	23 08 09.1	-0.7
OTAV	**Otavalo**	17.03	97	*e*Pn		Pn	23 08 12.1	+0.7
	13nm,1.0s							
TEIG	**Tepich**	18.89	21	P		P	23 08 33.4	+0.1
	0.2nm,0.3s,baz=162,slow=17,SNR=2.8							
TEIG	**Tepich**	18.89	21	*e*P		Pn	23 08 33.6	-0.3
	26nm,1.0s							
ROSC	**El Rosal**	21.08	83	LR		LR	23 14 26.7	
	comp=Z,165nm,18.7s,baz=192,slow=29							
ROSC	**El Rosal**	21.08	83	*e*P		P	23 08 58.0	+0.2
TXAR	**Lajitas Array**	27.81	344	P		P	23 10 01.6	-0.6
	1.6nm,0.8s,baz=163,slow=10,SNR=5.5							
TXAR				PcP		PcP	23 13 18.8	+0.3
	0.7nm,0.8s,baz=163,slow=5.2,SNR=3.8							
TXAR	**Lajitas Array**	27.81	344	P		P	23 10 01.6	-0.6
TXAR				PcP		PcP	23 13 18.8	+0.3
LPAZ	**La Paz**	32.74	126	P		P	23 10 47.8	+1.3
	2.1nm,0.7s,baz=293,slow=9.3,SNR=2.7							
LPAZ	**La Paz**	32.74	126	*e*P		P	23 10 46.4	-0.2
	9.8nm,1.2s							
SAML	**Samuel**	34.01	110	*e*P		P	23 10 55.6	-1.4
	4.1nm,0.9s							
WVT	**Waverly**	34.15	11	*e*P		P	23 10 58.0	+0.2
	5.2nm,1.0s							
WCI	**Wyandotte Cave**	36.48	12	*e*P		P	23 11 18.4	+0.4
	25nm,1.1s							
SIV	**San Ignacio**	38.54	120	P		P	23 11 35.2	-0.6
	2.1nm,0.8s,baz=286,slow=9.2,SNR=5.3							
SIV	**San Ignacio**	38.54	120	P		P	23 11 35.2	-0.6
NVAR	**Mina Array Bea**	41.45	332	P		P	23 11 59.7	-0.2
	2.6nm,0.7s,baz=156,slow=9.3,SNR=5.4							
NVAR	**Mina Array Bea**	41.45	332	P		P	23 11 59.7	-0.2
HVU	**Hansel Valley**	42.10	340	*e*P		P	23 12 05.6	+0.5
	6.9nm,0.8s							
CFAA	**Coronel Fontan**	42.60	145	P		P	23 12 09.3	+0.1
	0.3nm,0.7s,baz=351,slow=5.2,SNR=3.7							
CFAA	**Coronel Fontan**	42.60	145	P		P	23 12 09.3	+0.1
SADO	**Sadowa**	44.42	16	P		P	23 12 24.0	+0.4
	2.8nm,0.7s,baz=260,slow=13,SNR=3.3							
SADO	**Sadowa**	44.42	16	P		P	23 12 24.0	+0.4
AGMN	**Agassiz Nation**	45.60	360	*e*P		P	23 12 33.3	+0.4
	13nm,1.0s							
ULM	**Lac du Bonnet**	47.55	360	P		P	23 12 47.4	-0.8
	4.7nm,0.9s,baz=180,slow=7.9,SNR=4.4							
ULM	**Lac du Bonnet**	47.55	360	P		P	23 12 47.4	-0.8
YKA	**Yellowknife Ar**	61.53	350	P		P	23 14 29.8	+0.2
	2.2nm,0.8s,baz=155,slow=6.7,SNR=8.6							
YKA	**Yellowknife Ar**	61.53	350	P		P	23 14 29.8	+0.2
FRB	**Frobisher Bay**	64.16	13	P		P	23 14 47.0	0.0
	3.3nm,0.8s,baz=232,slow=9.4,SNR=5.0							
FRB	**Frobisher Bay**	64.16	13	P		P	23 14 47.0	0.0
INK	**Inuvik**	70.57	346	P		P	23 15 28.7	+1.1
	5.9nm,0.9s,baz=186,slow=19							
ILAR	**Eielson Array**	72.19	339	P		P	23 15 37.6	+0.2
	2.4nm,0.8s,baz=149,slow=4.9,SNR=7.3							
ILAR	**Eielson Array**	72.19	339	P		P	23 15 37.6	+0.2
QSPA	**South Pole Qui**	92.55	180	P		P	23 17 24.6	+0.6
	5.3nm,1.1s,baz=253,slow=1.3,SNR=4.6							
QSPA	**South Pole Qui**	92.55	180	*e*P		P	23 17 23.4	-0.7
	11nm,1.2s							
ZALV	**Zalesovo Beam**	123.72	360	PKP		PKPdf	23 23 10.5	-0.1
	0.4nm,0.5s,baz=24,slow=1.7,SNR=2.9							
ZALV	**Zalesovo Beam**	123.72	360	PKP		PKPdf	23 23 10.5	-0.1
ASAR	**Alice Springs**	128.00	242	PKP		PKPdf	23 23 18.7	-1.1
	1.1nm,0.7s,baz=101,slow=1.9,SNR=8.7							
ASAR	**Alice Springs**	128.00	242	PKP		PKPdf	23 23 18.7	-1.1
WRA	**Warramunga Arr**	128.55	246	PKP		PKPdf	23 23 20.4	-0.5
	0.6nm,0.9s,baz=91,slow=1.8,SNR=5.6							
WRA	**Warramunga Arr**	128.55	246	PKP		PKPdf	23 23 20.4	-0.5
MKAR	**Makanchi Array**	130.84	2	PKP		PKPdf	23 23 24.2	-0.4
	1.2nm,1.0s,baz=338,slow=2.9,SNR=5.0							
MKAR	**Makanchi Array**	130.84	2	PKP		PKPdf	23 23 24.2	-0.4
CMAR	**Chiang Mai Arr**	154.85	327	PKP		PKPdf	23 24 07.0	+0.3
	0.4nm,0.3s,baz=48,slow=1.3,SNR=2.9							
CMAR				PKPbc		PKiKP	23 24 16.0	+0.6
	1.3nm,0.5s,baz=348,slow=1.8,SNR=6.3							
CMAR				PKPab		PKPab	23 24 30.1	-0.3
	1.0nm,0.7s,baz=33,slow=3.7,SNR=4.3							
CMAR	**Chiang Mai Arr**	154.85	327	PKP		PKPdf	23 24 07.0	+0.3
CMAR				PKPbc		PKiKP	23 24 16.0	+0.6
CMAR				PKPab		PKPab	23 24 30.1	-0.3

*NIED **15** 23:20:00,24°.80N×122°.40E,h32km,Mw4.7 Best double couple: M0 1.19000×10^16 NP1:φs235.00000°,δ84.00000°, λ-171.00000°. NP2:φs144.00000°,δ81.00000°, λ-6.00000°.*
*IDC **15** 23:20:19.9±0.8,24°.81N×122°.34E,h0km,mb4.1/14, mb1 4.2/16,mb1mx4.0/29,mbtmp4.0/16,ML3.4/2,MS4.1/28, Ms1 4.1/28,ms1mx4.0/43,Error ellipse: s-maj=21.0km s-min=16.0km az=60.0*
*ISCJB **15** 23:20:21.1±0.3,24°.82N±0°.02×122°.46E±0°.01,h16km±2km, mb4.3/27,MS4.2/35,Error ellipse: s-maj=2.9km s-min=2.3km az=178.5*
*TAP **15** 23:20:21.4,24°.79N×122°.38E,h16km,ML4.5,C*
*BJI **15** 23:20:21.1,24°.81N×122°.26E,h7km,mB4.8/12,mb4.1/16, ML4.5/5,Ms4.5/18,Ms7 4.3/18*
*JMA **15** 23:20:22.6±0.2,24°.75N×122°.44E,h38km,M4.8*
*MOS **15** 23:20:23.5±1.1,24°.72N×122°.23E,h33km,mb4.8/9, MS4.3/6, Error ellipse: s-maj=14.6km s-min=8.2km az=110.6*
*NEIC **15** 23:20:23.7±1.1,24°.80N×122°.27E,h23km±8km,mb4.8/8, Error ellipse: s-maj=7.2km s-min=6.0km az=92.0*
ISC 15 23:20:23.0±0.7,24°.74N±0°.02×122°.40E±0°.02,h20km±2km, n163,σ1s50/198,mb4.4/27,MS4.2/35,9C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	0.46	306	⇑*i*P		Pg	23 20 30.4	-2.0
	baz=301							
TWB1				*i* S		Sg	23 20 35.5	-3.2
	baz=301							
ILA	**Ilan**	0.59	273	*e*P		Pg	23 20 33.3	-1.6
	baz=267							
ILA				*e*S		Sb	23 20 42.7	+0.2
	baz=267							
YOJ	**Yonaguni jima**	0.62	116	⇓*i*P		Pg	23 20 34.4	-1.0
	baz=120							
YOJ				*i* S		Sg	23 20 42.7	-1.1
	baz=120							
YOJ	**Yonaguni jima**	0.62	116	P		Pg	23 20 34.4	-1.0
YOJ				S		Sg	23 20 42.9	-0.9
NWF	**Wu-fen Shan**	0.65	301	⇑*i*P		Pg	23 20 34.4	-1.6
	baz=296							
NWF				*i* S		Sg	23 20 43.5	-1.2
	baz=296							
TWE	**Neicheng**	0.67	268	⇑*i*P		Pg	23 20 34.2	-2.0
	baz=263							
TWE				S		Sg	23 20 43.5	-1.6
	baz=263							
ENA	**Nanau**	0.67	243	*e*P		Pg	23 20 34.6	-1.8
	baz=237							
EHP	**Heping Village**	0.74	235	*e*P		Pb	23 20 35.9	-1.3
	baz=243							
EHP				*e*S		Sb	23 20 46.5	-0.4
	baz=243							
ENTT	**Nioudou**	0.76	263	*e*P		Pb	23 20 35.9	-1.8
	baz=266							
ENTT				*e*S	

NCU eS Sn 23 20 58.2 -0.3
baz=279
WHF Hehuan Shan 1.19 240⇑*i*P Pn 23 20 44.5 -0.4
baz=247
WHF eS Sb 23 20 59.4 -1.0
baz=247
TWT Tachien 1.21 247 P Pn 23 20 45.0 -0.1
baz=244
TWT S Sn 23 21 00.9 -0.1
baz=244
ESL Shilin 1.27 224 eP Pn 23 20 45.7 0.0
baz=205
ESL eS Sg 23 21 03.8 -0.7
baz=205
NSTT Nanjuang 1.27 265 eP Pn 23 20 45.1 -0.7
baz=262
NSTT eS Sb 23 21 01.8 -0.6
baz=262
IRIF Iriomote-Funau 1.28 108 P Pn 23 20 43.7 -2.1
IRIF S Sn 23 20 59.8 -2.6
HSN Hsinchu 1.30 273 eP Pn 23 20 44.7 -1.4
baz=271
HATJ Hateruma jima 1.45 118 P Pn 23 20 46.9 -1.3
HATJ S Sn 23 21 04.2 -2.5
NSY Sanyi 1.52 258 eP Pb 23 20 50.1 -0.5
baz=255
NSY eS Sb 23 21 10.1 +0.5
baz=255
TWQ1 Liyutan 1.53 256 eP Pb 23 20 50.8 +0.1
baz=253
TWQ1 eS Sb 23 21 10.2 +0.5
baz=253
JKRS Kuro-shima 1.55 108 P Pn 23 20 48.3 -1.2
JKRS S Sn 23 21 07.2 -1.9
EHY Hungye 1.57 219 eP Pn 23 20 49.1 -0.8
baz=216
SMLT Sun Moon Lake 1.61 238⇑*i*P Pb 23 20 52.0 -0.2
baz=242
SMLT eS Sg 23 21 14.0 -1.2
baz=242
SSLB Suanglung 1.62 235 ePn Pn 23 20 51.2 +0.6
SSLB eSn Sn 23 21 09.7 -1.3
JIJ Ishigaki jima 1.63 103 P Pn 23 20 48.9 -1.8
JIJ S Sn 23 21 08.1 -3.0
TYC Yuchr 1.63 240 ⇑P Pb 23 20 52.0 -0.4
baz=242
TYC eS Sb 23 21 12.3 -0.4
baz=242
TCU Taichung 1.68 250 eP Pb 23 20 53.3 +0.1
baz=267
TCU eS Sg 23 21 15.6 -1.6
baz=267
YULB Yu-li 1.68 217 ePn Pn 23 20 51.0 -0.4
YULB eSn Sn 23 21 11.1 -1.2
TWF1 Yuli 1.71 216 eP Pn 23 20 51.8 0.0
baz=202
WNT Mingjian 1.78 242 eP Pb 23 20 54.5 -0.6
baz=259
WNT eS Sg 23 21 19.4 -1.2
baz=259
CHKT Chengkung 1.89 210 eP Pn 23 20 52.6 -1.6
baz=193
ALS Alishan 1.90 230 eP Pn 23 20 55.6 +1.0
baz=215
ALS eS Sb 23 21 21.0 +0.3
baz=215
CHN5 Tsauling 1.94 234 eP Pb 23 20 57.1 -0.7
baz=215
CHN5 eS Sb 23 21 22.4 +0.8
baz=215
WGK Gukeng 1.98 238 eP Pb 23 20 57.2 -1.1
baz=253
ELDTW Lidau 2.00 220 eP Pn 23 20 55.9 +0.1
baz=204
JTJ Tarama 2.10 92 P Pn 23 20 56.7 -0.4
JTJ S Sn 23 21 20.5 -2.1
CHN4 Tsaushan 2.15 230 eP Pb 23 21 00.4 -1.0
baz=213
CHN4 S Sb 23 21 27.6 -0.1
baz=213
TPUB Ta-pu 2.16 229 ePn Pb 23 21 00.0 -1.5
TPUB eSn Sn 23 21 21.9 -2.3
CHY Chiayi 2.19 236 eP Pb 23 21 00.1 -1.8
baz=217
CHY eS Sb 23 21 28.7 0.0
baz=217
TWG Pinlang 2.26 213 eP Pn 23 20 58.5 -0.9
baz=211
TWG Pinlang 2.26 213 ePn Pn 23 20 59.0 -0.3
TWG eSn Sn 23 21 25.9 -0.9
WSF Szhu 2.27 242 eP Pn 23 20 59.8 +0.3
baz=239
TWK Hsinying 2.28 230 eP Pn 23 21 01.4 +1.7
baz=212
TTN Taitung 2.29 210 eP Pn 23 21 00.6 +0.9
baz=196
CHN1 Nanshi 2.31 228 eP Pb 23 21 02.2 -1.9
baz=212
CHN1 eS Sb 23 21 32.2 +0.1
baz=212
CHN8 Yiju 2.43 236 eP Pn 23 21 03.5 +1.8
baz=233
SCLT Jiali 2.55 233 eP Pn 23 21 04.1 +0.9
baz=215
TAI1 Yung-k'ang 2.61 230 eP Pb 23 21 06.6 -2.5
baz=228
JMJ Miyako jima 2 2.63 88 S Sn 23 21 34.3 -1.5
EAST Anshuo 2.74 212 eP Pn 23 21 05.4 -0.6
baz=210
LAY Lan-yu 2.80 196 eP Pn 23 21 05.5 -1.3
baz=195
LAY eS Sn 23 21 38.5 -1.5
baz=195
PNG Penghu 2.85 246 eP Pn 23 21 06.9 -0.4
baz=245
SCZT Fangliau 2.87 215 eP Pn 23 21 09.7 +2.1
baz=200
WDGT Dungji 2.91 240 eP Pn 23 21 09.4 +1.2
baz=238
TWP Hsiaoliuchiu 3.03 218 eP Pn 23 21 12.6 +2.7
baz=216
HEN Hengchun 3.12 210 eP Pn 23 21 12.4 +1.3
baz=198
TSEB Hengchuen, Pin 3.15 206 eP Pn 23 21 12.0 +0.5
baz=205
TWK1 Hengchun 3.15 208 eP Pn 23 21 11.2 -0.3
baz=207
TWK1 eS Sn 23 21 49.5 +1.0
baz=207
QZH Quanzhou 3.46 274 Pn Pn 23 21 14.6 -1.3
QZH Sn Sn 23 21 58.8 +2.5
QZH smax smax
comp=N,750nm,0.8s
QZH smax smax
comp=E,490nm,1.0s
QZH LR LR
comp=N,3μm,3.2s
QZH LR LR
comp=E,10μm,7.5s
QZH LR LR
comp=Z,11μm,9.0s
KNM Kinmen 3.62 266 eP Pn 23 21 17.8 -0.3
baz=265
JOW Kunigami 5.69 67 Pn Pn 23 21 46.4 -0.1
comp=Z,2.3nm,0.3s,baz=236,slow=12,SNR=9.8
JOW Kunigami 5.69 67 eP Pn 23 21 48.0 +1.5
baz=70
JOW Kunigami 5.69 67 ePn Pn 23 21 48.0 +1.5
JOW eSn Sn 23 22 57.3 +5.9
SSE Sheshan 6.42 351 P Pn 23 21 53.8 -2.7
SSE S Sn 23 23 12.0 +2.8
SSE smax smax
comp=N,180nm,1.0s
SSE smax smax
comp=E,410nm,1.1s
SSE LR LR
comp=N,2μm,10.2s
SSE LR LR
comp=E,840nm,10.2s
SSE LR LR
comp=Z,2μm,12.7s
NJ2 Nanjing 7.92 338 eP Pn 23 22 25.8 +8.7
NJ2 pP pP 23 22 29.3
NJ2 sP 23 22 31.1
NJ2 S Sn 23 23 39.0 -7.2
NJ2 sS sSn 23 23 44.3 -9.3
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 smax smax
comp=N,360nm,1.0s
NJ2 smax smax
comp=E,640nm,1.2s
NJ2 LR LR
comp=N,3μm,10.8s
NJ2 LR LR
comp=E,4μm,12.3s
NJ2 LR LR
comp=Z,2μm,12.5s
WHN Wuhan 9.18 311 P Pn 23 22 39.4 +5.0
WHN S Sn 23 24 09.6 -7.6
WHN LR LR
comp=N,9μm,12.6s
WHN LR LR
comp=E,9μm,13.3s
WHN LR LR
comp=Z,4μm,14.4s
JNU Nakatsue 11.17 40 LR LR 23 27 58.4
comp=Z,513nm,18.5s,baz=44,slow=41
TIA Tai'an 12.30 340 eP P 23 23 25.3 -4.0
KSAR Wonju Array Be 13.50 19 Pn Pn 23 23 38.0 +4.5
KSRS Korea Array 13.52 19 Pn Pn 23 23 38.0 +4.2
comp=Z,0.1nm,0.3s,baz=202,slow=13,SNR=2.9
KSRS LR LR 23 29 13.6
comp=Z,1μm,18.6s,baz=196,slow=40
XAN Xi'an 14.95 311 P Pn 23 23 53.0 -0.3
XAN pmax pmax
comp=Z,1.0nm,0.6s
XAN pmax pmax
comp=Z,22nm,6.3s
XAN LR LR
comp=N,640nm,9.1s
XAN LR LR
comp=E,420nm,10.1s
XAN LR LR
comp=Z,600nm,9.8s
BJI Beijing 16.13 343 P Pn 23 24 08.3 -0.3
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=N,700nm,16.2s
BJI LR LR
comp=E,2μm,19.8s
BJI LR LR
comp=Z,620nm,21.9s
DAV Davao City (W) 17.83 170 LR LR 23 31 03.4
comp=Z,590nm,20.5s,baz=1.1,slow=36
CBIJ Chichi jima 17.95 78 LR LR 23 30 27.7
comp=Z,238nm,18.4s,baz=157,slow=34
MJAR Matsushiro Arr 17.96 45 P P 23 24 33.0 +1.0
comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=3.4
MJAR LR LR 23 32 19.0
comp=Z,487nm,18.4s,baz=240,slow=40
MJAR Matsushiro Arr 17.96 45 P P 23 24 33.0 +1.0
HHC Hu-ho-hao-te 18.44 333 eP P 23 24 31.8 -5.6
HHC pP Pn 23 24 35.9 -1.7
HHC sP sP 23 24 37.9 -7.6
HHC S S 23 28 13.0 +5.7
HHC sS sS 23 28 16.3 +0.2
HHC SS 23 29 20.8
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,240nm,5.5s
HHC LR LR
comp=N,2μm,13.1s
HHC LR LR
comp=E,2μm,15.5s
HHC LR LR
comp=Z,2μm,11.6s
CN2 Changchun 19.18 7 eP Pn 23 24 46.1 -0.2
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=E,700nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
LZH Lanzhou 19.56 310 eP Pn 23 25 03.3 +12
LZH pP pP 23 25 15.5 +20
LZH sP sP 23 25 20.6 +23
LZH eS Sn 23 28 31.3 +1.0
LZH sS sS 23 28 36.3 -2.5
LZH SS SnSn 23 29 00.5 +16
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,92nm,4.7s
LZH LR LR
comp=N,2μm,15.8s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,2μm,15.3s
MDJ Mudanjiang 20.68 15 P P 23 25 02.3 +0.6
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,94nm,4.4s
MDJ LR LR
comp=N,560nm,19.0s
MDJ LR LR
comp=E,1μm,16.7s
MDJ LR LR
comp=Z,650nm,17.1s
USRK Ussuriysk Arra 20.94 20 P P 23 25 04.0 -0.5
comp=Z,3.9nm,0.8s,baz=210,slow=13,SNR=6.8
USRK LR LR 23 33 19.6
comp=Z,237nm,18.1s,baz=188,slow=37
CMAR Chiang Mai Arr 22.67 259 P P 23 25 23.1 -0.2
comp=Z,0.6nm,0.5s,baz=66,slow=8.6,SNR=4.7
CMAR LR LR 23 34 54.2
comp=Z,580nm,18.8s,baz=78,slow=39
CMAR Chiang Mai Arr 22.67 259 P P 23 25 23.1 -0.2
GUMO Guam 23.91 114 LR LR 23 34 08.4
comp=Z,241nm,18.5s,baz=279,slow=34
GTA Gaotai 24.00 313 eP P 23 25 36.9 +0.3
GTA pP pP 23 25 43.8 +1.3
GTA sP sP 23 25 46.6 +1.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,5.7s
GTA LR LR
comp=N,1μm,17.6s
GTA LR LR
comp=E,1μm,18.1s
GTA LR LR
comp=Z,870nm,16.1s
ASAJ Asahikawa 25.40 35 LR LR 23 36 11.5
comp=Z,822nm,18.6s,baz=209,slow=38
KLR Kul'dur 25.52 14 eP P 23 25 46.8 -3.4
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s
HABR Khabarovsk 25.70 20 eP P 23 25 51.4 -0.4
HABR *SP sP 23 26 05.0 +4.8
HABR ePPP PPP 23 26 37.6
HABR 23 29 19.8
HABR eS S 23 30 19.5 0.0
HABR e*SS sS 23 30 36.0 +6.7
HABR eSS SnSn 23 31 17.9 +3.2
HABR e 23 36 46.5
HABR MLR MLR
comp=Z,340nm,16.0s
ULN Ulaanbaatar 26.09 336 eP P 23 25 55.9 +0.4
SONM Songino Array 26.31 335 P P 23 25 57.7 +0.2
comp=Z,8.4nm,1.0s,baz=144,slow=9.1,SNR=23
SONM LR LR 23 37 41.7
comp=Z,580nm,18.3s,baz=158,slow=40
SONM Songino Array 26.31 335 P P 23 25 57.7 +0.2
YSS Yuzh-Sakhalins 27.48 31⇓eP P 23 26 12.0 +4.1
YSS e 23 26 20.0
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 27.48 31 eP P 23 26 09.2 +1.3
comp=Z,21nm,0.8s
SHL Shillong 27.61 278 eP P 23 26 12.0 +2.5
ZAK Zakamensk 29.57 335 eP P 23 26 24.9 -1.7
ZAK pmax pmax
comp=Z,2.0nm,2.0s
KAPI Kappang 29.69 185 LR LR 23 38 51.9
comp=Z,99nm,18.2s,baz=8.5,slow=37
TLY Talaya 30.49 337 eP P 23 26 33.7 -0.9
TLY pmax pmax
comp=Z,11nm,1.1s
TLY MLR MLR
comp=Z,383nm,14.0s
TLY Talaya 30.49 337 eP P 23 26 34.1 -0.5
comp=Z,21nm,1.4s
TLY ePP PP 23 27 47.6 +4.1
PSI Prapat 31.43 230 LR LR 23 38 40.2
comp=Z,199nm,20.9s,baz=36,slow=35
HVS Khovu-Aksy 34.34 328 *i* P P 23 27 09.1 +0.7
HVS pmax pmax
comp=Z,26nm,1.2s
HVS MLR MLR
comp=Z,7μm,24.0s
KRAR Krasnoyarsk 37.94 333 *i* P P 23 27 40.1 +1.1
MK31 Makanchi Array 38.72 315 eP P 23 27 45.4 -0.4
MK31 Makanchi Array 38.72 315 eP P 23 27 45.4 -0.4
MKAR Makanchi Array 38.72 315 P P 23 27 44.1 -1.7
comp=Z,2.5nm,0.8s,baz=101,slow=11,SNR=22
MKAR Makanchi Array 38.72 315 *i* P P 23 27 46.7 +0.9
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 38.72 315 P P 23 27 44.1 -1.7
PETK Petropavlovsk- 38.79 34 LR LR 23 44 13.6
comp=Z,213nm,18.8s,baz=225,slow=37
ZAA0 Zalesovo Array 40.39 326 eP P 23 27 58.0 -1.5
ZAA0 ePP PP 23 29 32.0 -0.5
ZALV Zalesovo Beam 40.39 326 P P 23 27 58.2 -1.3
comp=Z,4.4nm,0.8s,baz=108,slow=7.7,SNR=22
ZALV LR LR 23 46 12.4
comp=Z,198nm,18.2s,baz=107,slow=38
ZALV Zalesovo Beam 40.39 326 P P 23 27 58.2 -1.3
ZALV Zalesovo Beam 40.39 326 P P 23 27 58.2 -1.3
KURK Kurchatov 42.38 319 *i* P P 23 28 15.7 -0.3
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK MLR MLR
comp=Z,271nm,15.0s
KURK Kurchatov 42.38 319 eP P 23 28 14.9 -1.1
comp=Z,19nm,1.5s
KURBB Kurchatov Arra 42.41 319 P P 23 28 15.6 -0.6
comp=Z,2.1nm,0.9s,baz=105,slow=7.2,SNR=12
KURBB LR LR 23 46 10.9
comp=Z,257nm,18.6s,baz=115,slow=37
AAK Ala-Archa 43.05 307 P P 23 28 21.3 -0.5
comp=Z,0.4nm,0.4s,baz=169,slow=16,SNR=2.6
AAK Ala-Archa 43.05 307 P P 23 28 21.3 -0.5
AAK Ala-Archa 43.05 307 P P 23 28 21.3 -0.5
COEN Coen 43.48 150 eP P 23 28 26.9 +1.7
comp=Z,78nm,0.8s
WRAB Tennant Creek 45.90 164 eP P 23 28 45.5 +1.0
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 45.90 164 eP P 23 28 45.5 +1.0
comp=Z,17nm,0.9s
WRA Warramunga Arr 45.91 164 P P 23 28 44.9 +0.4
comp=Z,7.5nm,0.8s,baz=346,slow=8.1,SNR=24
WRA Warramunga Arr 45.91 164 P P 23 28 44.9 +0.4
KBL Kabul 46.93 295 eP P 23 28 52.5 -0.3
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 46.93 295 eP P 23 28 52.5 -0.3
comp=Z,9.4nm,0.9s
BVAR Borovoye Array 47.95 320 P P 23 28 59.1 -1.1
comp=Z,1.6nm,0.7s,baz=106,slow=11,SNR=10.0
BVAR LR LR 23 49 10.1
comp=Z,252nm,20.7s,baz=107,slow=36
BVAR Borovoye Array 47.95 320 P P 23 28 59.1 -1.1
BVAR Borovoye Array 47.95 320 P P 23 28 59.1 -1.1
BRVK Borovoye 48.02 320*c* *i*P P 23 29 01.5 +0.8
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK MLR MLR
comp=Z,244nm,15.0s
BRVK Borovoye 48.02 320 eP P 23 28 59.9 -0.8
comp=Z,6.5nm,0.9s
AS31 Alice Springs 49.40 166 eP P 23 29 12.0 +0.4
ASAR Alice Springs 49.40 166 P P 23 29 12.6 +1.0
comp=Z,5.6nm,0.8s,baz=344,slow=7.4,SNR=26
ASAR LR LR 23 50 12.3
comp=Z,109nm,18.9s,baz=352,slow=36
ASAR Alice Springs 49.40 166 P P 23 29 12.6 +1.0
ABKAR Akbulak array 53.85 314 eP P 23 29 43.5 -1.1
comp=Z,2.9nm,0.8s
SVE Sverdlovsk 54.26 323⇓eP P 23 29 48.0 +0.5
SVE pmax pmax
comp=Z,6.0nm,1.4s
SVE MLR MLR
comp=Z,361nm,15.0s
MAK Makhachkala 62.83 307 eP P 23 30 45.7 -1.8
MAK *e* 23 33 04.7
MAK S S 23 39 12.0 -3.9
MAK pmax pmax
comp=Z,129nm,1.2s
MAK MLR MLR
comp=Z,229nm,12.0s
KBZ Khabaz 66.00 309 LR LR 00 01 46.7
comp=Z,258nm,18.8s,baz=248,slow=38
KIV Kislovodsk 66.10 309 eP P 23 31 09.4 +0.4
KIV eS S 23 39 57.0 +0.5
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,185nm,17.0s
FINES FINESS Array B 71.53 330 P P 23 31 43.5 +1.2
comp=Z,1.1nm,0.7s,baz=64,slow=6.5,SNR=4.4
FINES LR LR 00 05 45.1
comp=Z,332nm,19.7s,baz=281,slow=38
FINES FINESS Array B 71.53 330 P P 23 31 43.5 +1.2
AKASG Malin Array Be 73.19 318 LR LR 00 04 32.1
comp=Z,294nm,19.0s,baz=70,slow=36
BRTR Keskin Array B 73.73 307 P P 23 31 55.0 -1.0
comp=Z,1.5nm,0.9s,baz=104,slow=8.0,SNR=5.9
BRTR LR LR 00 09 31.3
comp=Z,90nm,18.7s,baz=165,slow=40
BRTR Keskin Array B 73.73 307 P P 23 31 55.0 -1.0
AFI Afiamalu 74.80 113 LR LR 00 02 28.2
comp=Z,86nm,19.6s,baz=35,slow=34
NOA NORSAR Array B 78.25 332 LR LR 00 10 47.6
comp=Z,161nm,18.0s,baz=65,slow=39
URZ Urewera 80.98 139 LR LR 00 07 19.5
comp=Z,98nm,18.4s,baz=324,slow=35
RPZ Rata Peaks 81.44 147 LR LR 00 04 38.4
comp=Z,142nm,21.5s,baz=20,slow=33
YKA Yellowknife Ar 82.03 23 P P 23 32 40.3 -1.3
comp=Z,0.9nm,0.7s,baz=312,slow=4.9,SNR=18
YKA Yellowknife Ar 82.03 23 P P 23 32 40.3 -1.3
GERES GERESS Array B 83.11 321 LR LR 00 12 49.8
comp=Z,155nm,18.9s,baz=250,slow=38
NVAR Mina Array Bea 95.27 43 P P 23 33 45.6 -0.5
comp=Z,0.4nm,0.6s,baz=294,slow=6.8,SNR=3.4
NVAR Mina Array Bea 95.27 43 P P 23 33 45.6 -0.5
PPT Papeete 95.45 107 LR LR 00 14 00.3
comp=Z,64nm,18.3s,baz=202,slow=34
ULM Lac du Bonnet 98.00 24 LR LR 00 20 24.0
comp=Z,88nm,20.4s,baz=339,slow=37

TAP 15 23:24:59.8,24°.82N×122°.38E,h14km,ML3.6,1C,C,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**298**	*i* P		Pb	23 25 08.8	+0.1
	baz=298							
TWB1				*i* S		Sb	23 25 14.4	-0.3
	baz=298							
ILA	**Ilan**	**0.58**	**265**	eP		Pb	23 25 12.1	+0.4
	baz=264							
ILA				eS		Sn	23 25 21.4	-1.4
	baz=264							
NWF	**Wu-fen Shan**	**0.60**	**295**	P		Pb	23 25 12.9	+0.7
	baz=294							
NWF				S		Sn	23 25 22.2	-1.4
	baz=294							
TWE	**Neicheng**	**0.66**	**262**	⇑*i*P		Pg	23 25 12.7	+0.1
	baz=261							
TWE				eS		Sb	23 25 22.3	+0.3
	baz=261							
YOJ	**Yonaguni jima**	**0.68**	**122**	*i* P		Pg	23 25 12.8	-0.2
	baz=122							

YOJ				*e*S	Sg	23 25 20.9	-1.0
	baz=122						
ENA	**Nanau**	**0.70**	**236**	*e*P	Pg	23 25 13.3	-0.2
	baz=236						
ENTT	**Nioudou**	**0.76**	**257**	*e*P	Pg	23 25 14.8	+0.1
	baz=256						
ENTT				S	Sb	23 25 25.8	+0.6
	baz=256						
TAP1	**Taipei**	**0.81**	**286**	*e*P	Pn	23 25 16.7	-0.1
	baz=285						
TWY	**Chenhua**	**0.84**	**303**	P	Pn	23 25 16.8	-0.4
	baz=302						
TWY				*i* S	Sn	23 25 28.8	-0.6
	baz=302						
TWS1	**Kuangyinshan**	**0.92**	**288**	*e*P	Pn	23 25 18.2	0.0
	baz=287						
TWS1				S	Sn	23 25 30.9	-0.3
	baz=287						
NSK	**Sanguang**	**0.94**	**262**	P	Pb	23 25 17.8	-0.2
	baz=270						
NSK				*e*S	Sb	23 25 29.8	-0.6
	baz=270						
NNS	**Nan Shan**	**0.99**	**248**	P	Pg	23 25 19.2	0.0
	baz=235						
NNS				*e*S	Sb	23 25 31.9	-0.1
	baz=235						
TWD	**Chiawan**	**1.03**	**224**	*e*P	Pb	23 25 19.1	-0.2
	baz=232						
TWD				*e*S	Sb	23 25 32.8	+0.2
	baz=232						
NCU	**National Centr**	**1.09**	**278**	*e*P	Pg	23 25 21.2	+0.2
	baz=277						
WHF	**Hehuan Shan**	**1.22**	**237**	*e*P	Pn	23 25 22.9	-0.1
	baz=236						
WHF				*e*S	Sb	23 25 38.0	-1.1
	baz=236						
TWT	**Tachien**	**1.23**	**243**	*e*P	Pg	23 25 23.7	-0.1
	baz=242						
TWT				*e*S	Sn	23 25 39.2	-0.2
	baz=242						
NSTT	**Nanjuang**	**1.27**	**262**	*e*P	Pg	23 25 24.3	0.0
	baz=260						
NSTT				*e*S	Sg	23 25 41.3	+0.5
	baz=260						
ESL	**Shilin**	**1.32**	**221**	*e*P	Pg	23 25 24.9	-0.4
	baz=202						
NSY	**Sanyi**	**1.53**	**255**	*e*P	Pg	23 25 29.0	-0.2
	baz=271						
TWQ1	**Liyutan**	**1.54**	**253**	*e*P	Pg	23 25 29.2	-0.2
	baz=251						
TWQ1				*e*S	Sg	23 25 49.3	-0.2
	baz=251						
EHY	**Hungye**	**1.63**	**217**	*e*P	Pn	23 25 27.2	-0.8
	baz=215						
SMLT	**Sun Moon Lake**	**1.64**	**236**	*e*P	Pb	23 25 30.0	0.0
	baz=241						
SMLT				*e*S	Sg	23 25 52.0	-1.0
	baz=241						
TYC	**Yuchr**	**1.66**	**237**	*e*P	Pb	23 25 30.6	+0.4
	baz=248						
TYC				*e*S	Sg	23 25 52.4	-1.0
	baz=248						
TWF1	**Yuli**	**1.77**	**214**	*e*P	Pn	23 25 30.5	+0.6
	baz=201						
ALS	**Alishan**	**1.94**	**228**	*e*P	Pb	23 25 35.0	-0.4
	baz=210						
ALS				*e*S	Sb	23 26 00.4	+0.7
	baz=210						
CHN5	**Tsauling**	**1.97**	**232**	*e*P	Pb	23 25 35.9	+0.3
	baz=214						
CHN5				*e*S	Sg	23 26 02.1	-1.5
	baz=214						
CHN4	**Tsaushan**	**2.19**	**229**	*e*P	Pb	23 25 38.6	-0.6
	baz=212						
CHN4				*e*S	Sb	23 26 07.3	+1.0
	baz=212						
TWK	**Hsinying**	**2.32**	**229**	*e*P	Pb	23 25 40.4	-1.1
	baz=211						
CHN1	**Nanshi**	**2.35**	**227**	*e*P	Pb	23 25 42.2	+0.3
	baz=225						
SGST	**Jiashian**	**2.39**	**224**	*e*P	Pb	23 25 41.4	-1.2
	baz=207						

IDC 15 23:49:35.0±3.0, 0°.95S×133°.21E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, ML3.6/1, Error ellipse: s-maj=152.2km s-min=28.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.91**	**177**	P	P	23 53 57.0	-0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**22.59**	**178**	P	P	23 54 37.5	+0.2
	0.5nm,0.6s,baz=5.9,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**65.10**	**324**	P	P	00 00 17.6	0.0
	0.1nm,0.5s,baz=110,slow=6.3,SNR=3.9						

IDC 15 23:58:27.1±0.9, 37°.11S×176°.57E, h325km±6km, mb3.5/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.4/4, Error ellipse: s-maj=24.9km s-min=21.1km az=56.0
ICSJB 15 23:58:28.6±0.7, 37°.32S±0°.07×176°.6E±0°.1, h344km±5km, mb3.6/3, Error ellipse: s-maj=14.3km s-min=9.5km az=34.3
WEL 15 23:58:30.8±0.4, 37°.18S×176°.72E, h318km±3km, ML4.7/21, Error ellipse: s-maj=5.7km s-min=3.9km az=0.0

ISC 15 23:58:28.8±0.7, 37°.26S±0°.08×176°.52E±0°.09, h335km±6km, n94, σ1s14/98, mb3.6/3, 16C-9D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.59**	**177**	⇑PN	**Pn**	**23 59 11.6**	**+0.1**
MARZ	**Manawahe**	**0.74**	**170**	PN	**Pn**	**23 59 12.3**	**+0.2**
EDRZ	**Edgecumbe**	**0.87**	**168**	PN	**Pn**	**23 59 13.3**	**+0.8**
TOZ	**Tahuroa Road**	**0.94**	**239**	PN	**Pn**	**23 59 13.6**	**+0.9**
TARZ	**Mount Tarawera**	**0.98**	**180**	PN	**Pn**	**23 59 13.9**	**+1.0**
RRRZ	**Republican Roa**	**1.08**	**180**	PN	**Pn**	**23 59 14.1**	**+0.7**
URZ	**Urewera**	**1.11**	**155**	P	**Pn**	**23 59 12.6**	**-0.8**
	142nm,0.3s,baz=272,slow=2.3,SNR=1158						
URZ				S	**S**	**23 59 46.4**	**-2.7**
	140nm,0.3s,baz=36,slow=8.7,SNR=43						
URZ	**Urewera**	**1.11**	**155**	PN	**Pn**	**23 59 13.2**	**-0.2**
URZ				SN	**S**	**23 59 46.4**	**-2.7**
HRRZ	**Handcock Road**	**1.15**	**189**	PN	**Pn**	**23 59 14.5**	**+0.8**
PRRZ	**Plateau Road**	**1.25**	**184**	⇓PN	**Pn**	**23 59 14.9**	**+0.9**
ALRZ	**Allen Road**	**1.31**	**186**	⇓PN	**Pn**	**23 59 15.3**	**+0.9**
MWZ	**Matawai**	**1.34**	**144**	PN	**Pn**	**23 59 14.7**	**+0.1**
MWZ				SN	**S**	**23 59 49.4**	**-1.9**
MXZ	**Matakaoa Point**	**1.46**	**103**	PN	**Pn**	**23 59 14.6**	**-0.6**
MXZ				*e*SN	**S**	**23 59 49.9**	**-2.5**
PUZ	**Puketiti**	**1.60**	**121**	⇑PN	**Pn**	**23 59 15.7**	**-0.3**
PUZ				*e*SN	**S**	**23 59 51.4**	**-2.5**
RATZ	**Rangitukua**	**1.71**	**200**	PN	**Pn**	**23 59 17.8**	**+1.0**
RAHZ	**Arahi**	**1.72**	**165**	⇑PN	**Pn**	**23 59 17.8**	**+1.0**
CNGZ	**Carnagh Statio**	**1.82**	**133**	⇑PN	**Pn**	**23 59 18.1**	**+0.7**
HIZ	**Hauiti**	**1.82**	**226**	PN	**Pn**	**23 59 19.1**	**+1.7**
NMHZ	**Naumai**	**1.85**	**173**	⇑PN	**Pn**	**23 59 19.2**	**+1.4**
BKZ	**Black Stump Fm**	**1.91**	**181**	⇑PN	**Pn**	**23 59 18.8**	**+0.7**
BKZ				SN	**S**	**23 59 56.7**	**-1.0**
KRVZ	**Karewarewa**	**1.96**	**200**	PN	**Pn**	**23 59 19.6**	**+1.0**
PRGZ	**Paritu Road**	**1.98**	**148**	PN	**Pn**	**23 59 19.3**	**+0.7**
KNZ	**Kokohu**	**1.99**	**153**	⇑PN	**Pn**	**23 59 19.1**	**+0.6**
WTVZ	**West Tongariro**	**2.00**	**201**	PN	**Pn**	**23 59 19.9**	**+1.1**
TWVZ	**Taurewa**	**2.00**	**205**	PN	**Pn**	**23 59 20.0**	**+1.2**
OTVZ	**Oturere**	**2.02**	**199**	PN	**Pn**	**23 59 20.3**	**+1.3**
NGZ	**Ngauruhoe**	**2.05**	**200**	⇓PN	**Pn**	**23 59 20.6**	**+1.4**
WPVZ	**Whakapapa**	**2.09**	**201**	PN	**Pn**	**23 59 20.7**	**+1.2**
TUVZ	**Tukino**	**2.12**	**198**	⇑PN	**Pn**	**23 59 21.0**	**+1.2**
FWVZ	**Far West T-bar**	**2.14**	**201**	PN	**Pn**	**23 59 21.3**	**+1.4**
DRZ	**Dome Shelter**	**2.15**	**200**	PN	**Pn**	**23 59 21.8**	**+1.7**
TRVZ	**Turoa**	**2.18**	**200**	⇓PN	**Pn**	**23 59 21.6**	**+1.3**
MHGZ	**Mahia Peninsul**	**2.19**	**150**	⇑PN	**Pn**	**23 59 21.1**	**+1.0**
MCHZ	**McNeill Hill**	**2.19**	**176**	⇑PN	**Pn**	**23 59 21.4**	**+1.3**
WNVZ	**Wahianoa**	**2.19**	**199**	⇑PN	**Pn**	**23 59 21.4**	**+1.1**
PKVZ	**Pokaka**	**2.23**	**204**	PN	**Pn**	**23 59 21.7**	**+1.2**
MOVZ	**Moawhango**	**2.23**	**195**	PN	**Pn**	**23 59 21.2**	**+0.7**
BHHZ	**Black Hill Sta**	**2.26**	**189**	⇑PN	**Pn**	**23 59 21.6**	**+0.8**
MTVZ	**Mangateitei**	**2.28**	**201**	PN	**Pn**	**23 59 22.1**	**+1.2**
VRZ	**Vera Road**	**2.33**	**216**	PN	**Pn**	**23 59 22.8**	**+1.7**
CKHZ	**Cape Kidnapper**	**2.44**	**170**	⇓PN	**Pn**	**23 59 23.3**	**+1.2**
KAHZ	**Kahuranaki**	**2.55**	**174**	PN	**Pn**	**23 59 24.3**	**+1.2**
PNHZ	**Pukenui**	**2.67**	**185**	PN	**Pn**	**23 59 24.8**	**+0.7**
WAZ	**Wanganui**	**2.77**	**205**	PN	**Pn**	**23 59 26.2**	**+1.3**
PKE	**Pukeiti**	**2.78**	**225**	PN	Pn	23 59 27.7	+2.7
PXZ	**Pawanui**	**2.79**	**175**	⇓PN	**Pn**	**23 59 26.2**	**+1.2**
DFE	**Dawson Falls**	**2.81**	**222**	⇑PN	Pn	23 59 27.8	+2.4
WPHZ	**Waipukurau**	**2.81**	**181**	PN	**Pn**	**23 59 26.1**	**+0.9**
TSZ	**Takapari Road**	**2.83**	**189**	⇑PN	**Pn**	**23 59 26.5**	**+1.0**
NRZ	**Ngariki Road**	**2.91**	**224**	PN	Pn	23 59 28.7	+2.5
PRHZ	**Porangahau**	**3.01**	**178**	PN	**Pn**	**23 59 28.1**	**+1.1**
DVHZ	**Dannevirke**	**3.05**	**185**	PN	**Pn**	**23 59 28.3**	**+0.8**
POWZ	**Post Office Ro**	**3.19**	**190**	PN	**Pn**	**23 59 29.7**	**+1.0**
BFZ	**Birch Farm**	**3.43**	**183**	PN	**Pn**	**23 59 32.0**	**+0.9**
MRZ	**Mangatainoka R**	**3.48**	**192**	PN	**Pn**	**23 59 32.0**	**+0.4**
MRZ				SN	**S**	**00 00 21.1**	**-0.9**
TIWZ	**Tintock**	**3.55**	**188**	PN	**Pn**	**23 59 33.1**	**+0.7**
OGWZ	**Otaki Gorge**	**3.71**	**196**	⇑PN	**Pn**	**23 59 34.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**3.72**	**192**	PN	**Pn**	**23 59 34.4**	**+0.4**
KIW	**Kapiti Island**	**3.81**	**199**	PN	**Pn**	**23 59 35.3**	**+0.4**
TMWZ	**Te Maipa**	**3.88**	**187**	PN	**Pn**	**23 59 36.5**	**+0.9**
MTW	**Mount Morrison**	**3.98**	**191**	PN	**Pn**	**23 59 36.8**	**+0.2**
CAW	**Cannon Point**	**4.01**	**196**	PN	**Pn**	**23 59 37.3**	**+0.3**
DUWZ	**D'Urville Isla**	**4.08**	**209**	⇓PN	**Pn**	**23 59 38.1**	**+0.4**
TRWZ	**Traveller**	**4.19**	**189**	PN	**Pn**	**23 59 39.6**	**+0.8**
PAWZ	**Paruwai Farm**	**4.21**	**191**	PN	**Pn**	**23 59 39.5**	**+0.5**
WEL	**Wellington**	**4.25**	**198**	PN	**Pn**	**23 59 40.2**	**+0.8**
MSWZ	**Moikau Station**	**4.27**	**193**	⇑PN	**Pn**	**23 59 39.9**	**+0.2**
SNZO	**South Karori**	**4.29**	**199**	PN	**Pn**	**23 59 40.2**	**+0.4**
TCW	**Tory Channel**	**4.32**	**203**	PN	**Pn**	**23 59 40.6**	**+0.4**
BHW	**Baring Head**	**4.34**	**197**	PN	**Pn**	**23 59 40.6**	**+0.2**
PLWZ	**Palliser**	**4.42**	**192**	PN	**Pn**	**23 59 41.5**	**+0.1**
TUWZ	**Tuamarina**	**4.62**	**205**	PN	**Pn**	**23 59 43.9**	**+0.4**
NNZ	**Nelson**	**4.65**	**211**	⇓PN	**Pn**	**23 59 43.6**	**-0.1**
QRZ	**Quartz Range**	**4.73**	**220**	PN	**Pn**	**23 59 44.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**4.90**	**204**	PN	**Pn**	**23 59 47.4**	**+0.8**
THZ	**Toghouse**	**5.30**	**211**	PN	**Pn**	**23 59 50.7**	**-0.4**
KHZ	**Kahutara**	**5.64**	**203**	⇓PN	**Pn**	**23 59 55.4**	**+0.6**
DSZ	**Denniston Nort**	**5.78**	**218**	PN	**Pn**	**23 59 55.6**	**-1.0**
LTZ	**Lake Taylor**	**6.41**	**209**	PN	**Pn**	**00 00 03.4**	**-0.4**
MQZ	**McQueen's Vall**	**7.09**	**203**	PN	**Pn**	**00 00 11.2**	**-0.5**
WVZ	**Waitaha Valley**	**7.31**	**215**	PN	**Pn**	**00 00 14.1**	**-0.2**
RPZ	**Rata Peaks**	**7.68**	**211**	P	**Pn**	**00 00 18.9**	**+0.1**
	1.4nm,0.3s,baz=25,slow=9.9,SNR=14						
RPZ				S	**S**	**00 01 44.9**	**-3.4**
	4.9nm,0.3s,baz=42,slow=16,SNR=16						
RPZ	**Rata Peaks**	**7.68**	**211**	PN	**Pn**	**00 00 18.5**	**-0.3**
FOZ	**Fox Glacier**	**8.17**	**217**	PN	**Pn**	**00 00 23.1**	**-1.6**
CTZ	**Chatham Island**	**8.32**	**143**	*e*PN	P	00 00 46.1	+16
LBZ	**Lake Benmore**	**8.59**	**212**	PN	**Pn**	**00 00 28.4**	**-0.1**
ODZ	**Otahua Downs**	**8.95**	**208**	PN	**Pn**	**00 00 30.6**	**+1.5**
JCZ	**Jackson Bay**	**9.01**	**218**	PN	**Pn**	**00 00 34.5**	**-0.3**
ASAR	**Alice Springs**	**38.83**	**278**	P	**P**	**00 05 22.4**	**-0.2**
	2.6nm,0.5s,baz=120,slow=8.0,SNR=40						
WRA	**Warramunga Arr**	**40.48**	**283**	P	**P**	**00 05 35.5**	**-0.6**
	1.8nm,0.5s,baz=122,slow=7.6,SNR=7.7						
QSPA	**South Pole Qui**	**52.87**	**180**	P	**P**	**00 07 12.4**	**+1.6**
	1.7nm,0.6s,baz=0.0,slow=7.1,SNR=6.2						
ARCES	**ARCESS Array B**	**144.07**	**343**	PKP	**PKPab**	**00 17 19.9**	**-2.3**
	2.3nm,0.6s,baz=63,slow=4.2,SNR=10						
FINES	**FINESS Array B**	**149.56**	**332**	PKPbc	**PKPdf**	**00 17 34.9**	**+2.0**
	3.7nm,1.1s,baz=31,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**155.55**	**192**	PKPab	**PKPab**	**00 18 09.9**	**-0.9**
	0.2nm,0.5s,baz=155,slow=4.0,SNR=6.6						

ICSJB 16 00:14:35.1±0.6, 24°.83N±0°.04×122°.46E±0°.02, h2km±4km, mb3.5/3, Error ellipse: s-maj=6.8km s-min=3.1km az=13.4
TAP 16 00:14:36.6, 24°.78N×122°.32E, h5km±1km, ML3.8, D
JMA 16 00:14:36.6±0.2, 24°.63N×122°.38E, h36km, M3.3
IDC 16 00:14:38.5±1.5, 24°.49N×121°.21E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/25, mbtmp4.0/4, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx1.8/33, Error ellipse: s-maj=68.7km s-min=25.6km az=67.0

ISC 16 00:14:35.3±1.3, 24.72N±0°.04×122.44E±0°.03, h4km±10km, n36, σ0s68/48, mb3.5/3, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.51**	**305**	P	**Pg**	**00 14 45.0**	**0.0**
	baz=308						
TWB1				S	**Sg**	**00 14 50.3**	**-1.3**
	baz=308						
YOJ	**Yonaguni jima**	**0.58**	**116**	P	**Pb**	**00 14 48.5**	**+0.6**
YOJ				S	**Sb**	**00 14 56.9**	**+0.4**
ILA	**Ilan**	**0.64**	**274**	*e*P	**Pb**	**00 14 48.3**	**-0.6**
	baz=268						
NWF	**Wu-fen Shan**	**0.70**	**300**	*i* P	**Pg**	**00 14 48.9**	**+0.2**
	baz=301						
NWF				S	**Sg**	**00 14 57.6**	**-0.2**
	baz=301						
ENA	**Nanau**	**0.70**	**246**	P	**Pg**	**00 14 49.2**	**+0.4**
	baz=235						
ENA				*e*S	**Sb**	**00 15 00.2**	**0.0**
	baz=235						
TWE	**Neicheng**	**0.71**	**270**	⇑*i*P	**Pg**	**00 14 48.8**	**-0.1**
	baz=264						
TWE				S	**Sg**	**00 14 58.3**	**+0.3**
	baz=264						
ENTT	**Nioudou**	**0.80**	**265**	P	**Pg**	**00 14 50.6**	**-0.1**
	baz=258						
ENTT				*e*S	**Sb**	**00 15 02.6**	**-0.4**
	baz=258						
TAP	**Taipei**	**0.91**	**291**	*e*S	**Sg**	**00 15 04.6**	**0.0**
	baz=289						
TWY	**Chenhua**	**0.95**	**306**	P	**Pg**	**00 14 53.6**	**+0.2**
	baz=307						
TWY				S	**Sg**	**00 15 05.0**	**-0.7**
	baz=307						
NSK	**Sanguang**	**0.99**	**268**	⇑*i*P	**Pg**	**00 14 53.9**	**-0.4**
	baz=263						
NSK				*e*S	**Sg**	**00 15 06.8**	**-0.3**
	baz=263						
TWD	**Chiawan**	**1.00**	**231**	*e*P	**Pb**	**00 14 55.4**	**+0.2**
	baz=223						
TWS1	**Kuangyinshan**	**1.01**	**292**	*e*P	**Pb**	**00 14 55.3**	**0.0**
	baz=291						
TWS1				*e*S	**Sg**	**00 15 07.2**	**-0.5**
	baz=291						
NNS	**Nan Shan**	**1.01**	**254**	P	**Pb**	**00 14 55.4**	**-0.1**
	baz=248						
NCU	**National Centr**	**1.17**	**283**	*e*P	**Pn**	**00 14 59.0**	**+0.5**
	baz=280						
NCU				*e*S	**Sg**	**00 15 13.0**	**+0.1**
	baz=280						
WHF	**Hehuan Shan**	**1.22**	**242**	*i* P	**Pg**	**00 14 58.9**	**+0.2**
	baz=236						
WHF				*e*S	**Sn**	**00 15 16.9**	**+0.3**
	baz=236						
TWT	**Tachien**	**1.25**	**248**	P	**Pn**	**00 14 59.7**	**+0.1**
	baz=243						
ESL	**Shilin**	**1.29**	**226**	*e*P	**Pn**	**00 15 01.0**	**+0.9**
	baz=219						
NSTT	**Nanjuang**	**1.32**	**267**	P	**Pb**	**00 15 01.1**	**+0.5**
	baz=262						
NSTT				*e*S	**Sn**	**00 15 18.1**	**-0.4**
	baz=262						
HATJ	**Hateruma jima**	**1.41**	**118**	P	Pn	**00 15 00.9**	**-0.8**
JKRS	**Kuro-shima**	**1.50**	**108**	P	Pn	**00 15 02.2**	**-0.8**
JKRS				*e*S	**Sn**	**00 15 21.9**	**-1.2**
TWQ1	**Liyutan**	**1.57**	**257**	*e*P	**Pg**	**00 15 06.4**	**+1.1**
	baz=252						
EHY	**Hungye**	**1.58**	**221**	*e*P	**Pg**	**00 15 05.7**	**+0.1**
	baz=215						
JIJ	**Ishigaki jima**	**1.59**	**103**	P	Pn	**00 15 03.7**	**-0.5**
JIJ				S	**Sn**	**00 15 24.8**	**-0.4**
SMLT	**Sun Moon Lake**	**1.64**	**240**	*e*P	**Pg**	**00 15 07.1**	**+0.4**
	baz=235						
TYC	**Yuchr**	**1.66**	**241**	*e*P	**Pg**	**00 15 07.0**	**-0.1**
	baz=236						
TWF1	**Yuli**	**1.72**	**218**	P	Pb	**00 15 07.0**	**-0.4**
	baz=213						
ALS	**Alishan**	**1.92**	**232**	*e*P	**Pb**	**00 15 10.7**	**-0.3**
	baz=227						
CHN5	**Tsauling**	**1.96**	**236**	P	**Pb**	**00 15 11.8**	**+0.2**
	baz=231						
JTJ	**Tarama**	**2.06**	**92**	P	Pn	**00 15 11.3**	**+0.7**
CHN4	**Tsaushan**	**2.17**	**232**	*e*P	**Pb**	**00 15 15.4**	**+0.2**
	baz=227						
TWK	**Hsinying**	**2.30**	**231**	*e*P	**Pb**	**00 15 16.8**	**-0.7**
	baz=227						
CHN1	**Nanshi**	**2.32**	**229**	*e*P	**Pb**	**00 15 16.8**	**-1.0**
	baz=225						
KSRS	**Korea Array**	**13.53**	**19**	Pn	**P**	**00 17 59.7**	**+2.3**
	0.2nm,0.3s,baz=200,slow=12,SNR=6.1						
KSRS				LR	LR	00 22 32.8	
	comp=Z,32nm,21.5s,baz=160,slow=34						
MKAR	**Makanchi Array**	**38.76**	**315**	P	**P**	**00 21 59.2**	**-1.7**
	0.4nm,0.9s,baz=102,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**45.88**	**164**	P	P	00 23 04.5	+5.5
	0.8nm,0.6s,baz=346,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**49.37**	**166**	P	P	00 23 29.4	+3.3
	0.3nm,0.6s,baz=341,slow=8.0,SNR=5.3						

IDC 16 00:23:36.4±709.0, 31°.80N×70°.77W, h0km, Error ellipse: s-maj=300.6km s-min=50.7km az=82.0, Off east coast of United States

ISK 16 00:36:43.6, 39°.11N×29°.09E, h8km, MD2.6
ISCJB 16 00:36:44.5±0.7, 39°.11N±0°.05×29°.08E±0°.05, h10km±8km, Error ellipse: s-maj=9.4km s-min=4.9km az=153.5
CSEM 16 00:36:44.4±0.1, 39°.12N×29°.08E, h12km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.4km az=134.0
DDA 16 00:36:45.0, 39°.07N×29°.08E, h7km, MD2.8

ISC 16 00:36:44.2±1.2, 39°.13N±0°.03×29°.09E±0°.03, h18km±3km, n14, σ0s22/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**254**	*i* P	**Pb**	**00 36 51.2**	**+0.2**
DEMI				*i* S	**Sg**	**00 36 55.3**	**0.0**
DEMI	**Demirci**	**0.30**	**254**	*i* P	**Pb**	**00 36 51.2**	**+0.2**
DEMI				*i* S	**Sg**	**00 36 55.3**	**0.0**
GDZ	**Gediz**	**0.31**	**97**	*i* P	**Pb**	**00 36 51.3**	**+0.2**
GDZ				*i* S	**Sg**	**00 36 55.7**	**+0.1**
GDZ	**Gediz**	**0.31**	**97**	*i* P	**Pb**	**00 36 51.3**	**+0.2**
GDZ				*i* S	**Sg**	**00 36 55.7**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**42**	*e*PG	**Pg**	**00 36 53.2**	**+0.1**
TVSB				*e*SG	**Sg**	**00 36 59.0**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**42**	*e*Pg	**Pg**	**00 36 53.2**	**+0.1**
TVSB				*e*Sg	**Sg**	**00 36 59.1**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**209**	*e*PG	**Pb**	**00 36 57.5**	**-0.2**
KULA				*e*SG	**Sb**	**00 37 06.8**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**209**	*e*Pg	**Pb**	**00 36 57.5**	**-0.2**
KULA				*e*Sg	**Sb**	**00 37 06.8**	**-0.2**
MANT	**Manisa**	**0.76**	**213**	*i* P	**Pg**	**00 36 59.4**	**+0.3**
MANT				*i* S	**Sb**	**00 37 08.6**	**-0.3**
MANT	**Manisa**	**0.76**	**213**	*i* P	**Pg**	**00 36 59.4**	**+0.3**
MANT				*i* S	**Sb**	**00 37 08.6**	**-0.3**
KHAL	**Karahalli**	**0.82**	**157**	*i* P	**Pg**	**00 37 00.5**	**+0.3**
KHAL				*i* S	**Sg**	**00 37 11.1**	**+0.1**
KHAL	**Karahalli**	**0.82**	**157**	*i* P	**Pg**	**00 37 00.5**	**+0.3**
KHAL				*i* S	**Sg**	**00 37 11.1**	**+0.1**
KHL	**Karahalli**	**0.87**	**157**	*e*PG	**Pg**	**00 37 01.1**	**-0.1**
KHL	**Karahalli**	**0.87**	**157**	*e*Pg	**Pg**	**00 37 01.1**	**-0.1**

NIED 16 00:51:00, 24°.90N×122°.50E, h38km, Mw4.3 Best double couple: M0 3.15000×10^15 NP1:φs56.00000°, δ89.00000°, λ168.00000°. NP2:φs147.00000°, δ78.00000°, λ1.00000°.
TAP 16 00:51:41.8, 24°.83N×122°.41E, h16km, ML4.7, C
ISCJB 16 00:51:41.3±0.4, 24°.87N±0°.02×122°.48E±0°.02, h15km±3km, mb4.3/28, MS3.7/17, Error ellipse: s-maj=3.3km s-min=2.6km az=176.7
BJI 16 00:51:41.9, 24°.80N×122°.20E, h16km, mB4.3/2, mb4.2/14, ML4.4/8, Ms4.1/11, Ms7 4.0/12
NEIC 16 00:51:42.3, 24°.79N×122°.30E, h10km, mb4.5/7, ML4.9(TAP), After TAP.
NEIC Recorded [3 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in T'ai-pei.
JMA 16 00:51:42.6±0.2, 24°.87N×122°.49E, h29km, M4.6
IDC 16 00:51:48.0±3.0, 24°.82N×122°.41E, h61km±28km, mb3.9/20, mb1 4.0/22, mb1mx4.0/28, mbtmp3.9/22, ML3.4/2, MS3.7/21, Ms1 3.8/21, ms1mx3.5/41, Error ellipse: s-maj=18.1km s-min=11.7km az=65.0

ISC 16 00:51:42.5±0.7, 24.78N±0°.02×122.40E±0°.02, h17km±4km, n140, σ1s13/187, mb4.4/28, MS3.8/17, 9C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.44**	**302**	⇓P	**Pg**	**00 51 50.9**	**-0.6**
	baz=295						
TWB1				*e*S	**Sg**	**00 51 56.0**	**-1.4**
	baz=295						
ILA	**Ilan**	**0.59**	**269**	*e*P	**Pg**	**00 51 54.2**	**0.0**
	baz=264						
ILA				S	**Sb**	**00 52 03.4**	**+0.9**
	baz=264						
NWF	**Wu-fen Shan**	**0.63**	**298**	⇓*i*P	**Pg**	**00 51 54.8**	**-0.2**
	baz=293						
NWF				S	**Sg**	**00 52 03.4**	**-0.1**
	baz=293						
YOJ	**Yonaguni jima**	**0.64**	**119**	⇑*i*P	**Pg**	**00 51 54.8**	**-0.3**
	baz=112						
YOJ				*i* S	**Sg**	**00 52 03.2**	**-0.4**
	baz=112						
YOJ	**Yonaguni jima**	**

baz=205
ESL eS Sg 00 52 24.6 -0.1
baz=205
HATJ Hateruma jima 1.47 119 P Pn 00 52 07.5 -0.7
HATJ eS Sn 00 52 25.3 -1.7
NSY Sanyi 1.54 257 eP Pb 00 52 10.9 +0.3
baz=254
NSY eS Sg 00 52 31.9 -0.1
baz=254
TWQ1 Liyutan 1.54 254 eP Pb 00 52 11.2 +0.6
baz=252
TWQ1 eS Sg 00 52 31.3 -1.0
baz=252
JKRS Kuro-shima 1.56 110 P Pn 00 52 08.7 -0.8
JKRS eS Sn 00 52 28.2 -1.1
EHY Hungye 1.60 218 eP Pn 00 52 09.9 -0.2
baz=216
SMLT Sun Moon Lake 1.63 237 ⇑P Pb 00 52 12.6 +0.3
baz=241
SMLT eS Sg 00 52 34.8 -0.5
baz=241
JIJ Ishigaki jima 1.64 104 P Pn 00 52 08.8 -1.8
JIJ eS Sn 00 52 28.8 -2.5
SSLB Suanglung 1.65 234 ePb Pb 00 52 11.8 -0.7
SSLB eSn Sn 00 52 31.2 -0.3
TYC Yuchr 1.66 239 eP Pb 00 52 12.4 -0.1
baz=243
TYC eS Sb 00 52 33.6 +0.5
baz=243
TCU Taichung 1.69 249 eP Pg 00 52 14.4 -0.6
baz=266
TCU eS Sg 00 52 36.0 -1.0
baz=266
YULB Yu-li 1.71 216 ePn Pn 00 52 11.1 -0.5
YULB eSn Sn 00 52 30.6 -2.4
TWF1 Yuli 1.74 216⇑ eP Pn 00 52 12.0 0.0
baz=202
WNT Mingjian 1.80 241 eP Pb 00 52 15.0 -0.1
baz=259
WNT eS Sg 00 52 40.3 -0.4
baz=259
CHKT Chengkung 1.92 210 eP Pn 00 52 13.2 -1.3
baz=194
ALS Alishan 1.93 229 eP Pb 00 52 16.7 -0.7
baz=212
ALS eS Sb 00 52 42.7 +1.4
baz=212
CHN5 Tsauling 1.96 234 eP Pb 00 52 17.7 -0.2
baz=215
CHN5 eS Sb 00 52 43.8 +1.7
baz=215
WGK Gukeng 2.00 237 eP Pb 00 52 17.5 -1.0
baz=253
ELDTW Lidau 2.02 219 eP Pn 00 52 16.6 +0.6
baz=203
JTJ Tarama 2.10 93 P Pn 00 52 16.4 -0.5
CHN4 Tsaushan 2.18 230 eP Pb 00 52 20.7 -0.8
baz=213
CHN4 eS Sb 00 52 49.3 +1.1
baz=213
TPUB Ta-pu 2.19 228 ePb Pb 00 52 20.4 -1.3
TPUB eSn Sn 00 52 44.1 -0.8
CHY Chiayi 2.21 235⇑ eP Pb 00 52 21.2 -0.8
baz=217
CHY eS Sb 00 52 50.2 +1.1
baz=217
TWG Pinlang 2.30 212 eP Pn 00 52 19.7 0.0
baz=211
TWG Pinlang 2.30 212 ePn Pn 00 52 20.2 +0.6
TWK Hsinying 2.31 230 eP Pb 00 52 22.1 -1.6
baz=213
TWK eS Sb 00 52 52.0 0.0
baz=213
CHN1 Nanshi 2.33 228⇓ eP Pb 00 52 22.7 -1.5
baz=227
CHN1 eS Sb 00 52 52.9 +0.1
baz=227
SGST Jiashian 2.37 225 eP Pb 00 52 22.8 -2.0
baz=209
SGST eS Sb 00 52 53.4 -0.4
baz=209
ECL Taimali 2.54 212 eP Pn 00 52 23.2 +0.1
baz=210
TAI1 Yung-k'ang 2.63 229 eP Pb 00 52 26.9 -2.3
baz=228
TAW Tawu 2.78 210 eP Pn 00 52 28.4 +2.2
baz=209
EAST Anshuo 2.78 211 eP Pn 00 52 27.6 +1.4
baz=210
LAY Lan-yu 2.84 196 eP Pn 00 52 26.2 -0.9
baz=196
LAY eS Sn 00 52 58.9 -2.0
baz=196
PNG Penghu 2.86 246 eP Pn 00 52 27.4 0.0
baz=244
SCZT Fangliau 2.90 215 eP Pn 00 52 30.5 +2.6
baz=200
WDGT Dungji 2.93 239 eP Pn 00 52 29.0 +0.7
baz=238
TWP Hsiaoliuchiu 3.06 218 eP Pn 00 52 33.2 +3.1
baz=216
HEN Hengchun 3.15 209 eP Pn 00 52 32.0 +0.6
baz=197
TSEB Hengchuen, Pin 3.18 206 eP Pn 00 52 34.5 +2.8
baz=205
TWK1 Hengchun 3.18 208 eP Pn 00 52 29.6 -2.2
baz=197
QZH Quanzhou 3.46 274 Pn Pn 00 52 35.8 +0.1
QZH Sn Sn 00 53 14.5 -1.8
QZH smax smax
comp=N,1μm,1.1s
QZH smax smax
comp=E,550nm,1.0s
QZH LR LR
comp=N,3μm,5.8s
QZH LR LR
comp=E,4μm,6.7s
QZH LR LR
comp=Z,5μm,6.5s
KNM Kinmen 3.63 265 eP Pn 00 52 39.2 +1.2
baz=264
JKE Kume jima 2 4.25 68 P Pn 00 52 49.3 +2.8
JIH Iheya 5.49 65 P Pn 00 53 06.3 +2.7
JOW Kunigami 5.68 68 P Pn 00 53 07.6 +1.5
comp=Z,2.3nm,0.3s,baz=242,slow=10.0,SNR=15
JOW Kunigami 5.68 68 eP Pn 00 53 07.3 +1.2
baz=70
JOW Kunigami 5.68 68 ePn Pn 00 53 06.4 +0.3
JOW Kunigami 5.68 68 P Pn 00 53 07.3 +1.2
SSE Sheshan 6.38 351 P Pn 00 53 13.1 -2.7
SSE S Sn 00 54 25.0 -3.3
SSE pmax pmax
comp=Z,10.0nm,0.5s
SSE pmax pmax
comp=Z,71nm,4.1s
SSE smax smax
comp=N,140nm,1.1s
SSE smax smax
comp=E,240nm,1.0s
SSE LR LR
comp=N,870nm,14.0s
SSE LR LR
comp=E,310nm,14.0s
SSE LR LR
comp=Z,990nm,15.1s
JTK Tokunoshima 6.60 62 P Pn 00 53 19.8 +1.0
NJ2 Nanjing 7.89 338 eP Pn 00 53 36.0 -0.5
NJ2 S Sn 00 55 02.0 -3.4
NJ2 smax smax
comp=N,280nm,0.8s
NJ2 smax smax
comp=E,200nm,1.0s
NJ2 LR LR
comp=N,410nm,11.1s
NJ2 LR LR
comp=E,410nm,11.1s
NJ2 LR LR
comp=Z,600nm,11.7s
JNU Nakatsue 11.14 40 LR LR 00 59 53.0
comp=Z,212nm,18.6s,baz=218,slow=44
KSAR Wonju Array Be 13.47 19 P P 00 55 00.8 -1.2
KSRS Korea Array 13.49 19 P P 00 55 00.8 -1.5
comp=Z,0.4nm,0.3s,baz=202,slow=13,SNR=6.3
KSRS LR LR 01 00 42.8
comp=Z,409nm,20.0s,baz=187,slow=40
MJAR Matsushiro Arr 17.93 45 P P 00 55 54.7 +3.1
comp=Z,0.1nm,0.3s,baz=217,slow=8.8,SNR=3.6
MJAR LR LR 01 03 39.1
comp=Z,142nm,18.7s,baz=285,slow=40
MJAR Matsushiro Arr 17.93 45 P P 00 55 54.7 +3.1
CN2 Changchun 19.14 7 eP Pn 00 56 08.0 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,500nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,500nm,18.0s
USRK Ussuriysk Arra 20.90 20 P Pn 00 56 26.3 -0.2
comp=Z,13nm,0.8s,baz=206,slow=10,SNR=29
USRK LR LR 01 05 21.2
comp=Z,139nm,18.4s,baz=355,slow=39
CMAR Chiang Mai Arr 22.68 259 P P 00 56 45.0 +1.7
comp=Z,1.6nm,0.8s,baz=66,slow=8.1,SNR=7.2
CMAR PcP PcP 01 00 36.0 +0.3
comp=Z,1.4nm,0.6s,baz=75,slow=0.4,SNR=7.6
CMAR LR LR 01 06 13.5
comp=Z,138nm,21.5s,baz=75,slow=38
CMAR Chiang Mai Arr 22.68 259 P P 00 56 45.0 +1.7
CMAR PcP PcP 01 00 36.0 +0.3
GUMO Guam 23.92 114 LR LR 01 06 16.5
comp=Z,112nm,18.3s,baz=75,slow=36
GTA Gaotai 23.97 313 eP P 00 56 56.6 +0.3
GTA pP pP 00 57 00.9 -0.5
GTA sP sP 00 57 03.9 +0.4
GTA pmax pmax
comp=Z,7.0nm,1.4s
ASAJ Asahikawa 25.37 35 LR LR 01 07 31.2
comp=Z,241nm,18.4s,baz=360,slow=37
ULN Ulaanbaatar 26.05 336 eP P 00 57 16.2 +1.1
comp=Z,8.9nm,0.9s
SONM Songino Array 26.27 335 P P 00 57 18.2 +1.1
comp=Z,15nm,0.9s,baz=146,slow=10,SNR=113
SONM PcP PcP 01 00 42.3 -0.9
comp=Z,0.5nm,0.6s,baz=150,slow=5.1,SNR=4.4
SONM LR LR 01 09 10.1
comp=Z,204nm,18.1s,baz=335,slow=40
SONM Songino Array 26.27 335 P P 00 57 18.2 +1.1
SONM PcP PcP 01 00 42.3 -0.9
KAPI Kappang 29.72 185 LR LR 01 11 31.6
comp=Z,51nm,18.3s,baz=215,slow=40
TLY Talaya 30.45 337 eP P 00 57 55.1 +1.0
PSI Prapat 31.46 230 LR LR 01 12 06.4
comp=Z,50nm,18.7s,baz=230,slow=39
MK31 Makanchi Array 38.69 315 eP P 00 59 04.8 -0.7
MKAR Makanchi Array 38.69 315 P P 00 59 05.5 0.0
comp=Z,2.4nm,0.7s,baz=103,slow=10,SNR=24
MKAR PcP PcP 01 01 16.2 -1.0
comp=Z,0.5nm,0.6s,baz=93,slow=5.0,SNR=4.8
MKAR LR LR 01 14 50.8
comp=Z,138nm,18.2s,baz=345,slow=36
MKAR Makanchi Array 38.69 315 P P 00 59 05.5 0.0
MKAR PcP PcP 01 01 16.2 -1.0
PETK Petropavlovsk- 38.76 34 LR LR 01 14 35.5
comp=Z,97nm,19.4s,baz=84,slow=35
ZAA0 Zalesovo Array 40.36 326 eP P 00 59 18.3 -0.9
ZALV Zalesovo Beam 40.36 326 P P 00 59 18.7 -0.5
comp=Z,5.9nm,0.7s,baz=112,slow=8.0,SNR=41
ZALV LR LR 01 17 06.4
comp=Z,182nm,18.2s,baz=74,slow=38
ZALV Zalesovo Beam 40.36 326 P P 00 59 18.7 -0.5
TKM2 Tokmak 2 42.28 307 eP P 00 59 35.2 -0.2
comp=Z,3.0nm,0.6s
KURK Kurchatov 42.36 319 eP P 00 59 35.8 +0.2
comp=Z,6.6nm,1.1s
AAK Ala-Archa 43.03 307 P P 00 59 42.3 +0.8
comp=Z,1.3nm,0.2s,baz=76,slow=4.2,SNR=3.6
AAK LR LR 01 18 00.5
comp=Z,149nm,18.2s,baz=80,slow=37
AAK Ala-Archa 43.03 307 P P 00 59 42.3 +0.8
COEN Coen 43.51 150 eP P 00 59 46.2 +0.9
comp=Z,124nm,0.8s
WRAB Tennant Creek 45.94 164 eP P 01 00 04.7 +0.1
comp=Z,21nm,0.9s
WRA Warramunga Arr 45.95 164 P P 01 00 04.6 -0.1
comp=Z,13nm,0.9s,baz=347,slow=8.2,SNR=21
WRA Warramunga Arr 45.95 164 P P 01 00 04.6 -0.1
KBL Kabul 46.91 295 eP P 01 00 13.7 +1.1
comp=Z,14nm,1.2s
BRVK Borovoye 47.99 320 eP P 01 00 20.6 +0.2
comp=Z,4.6nm,1.0s
AS31 Alice Springs 49.43 166 eP P 01 00 32.1 +0.3
ASAR Alice Springs 49.43 166 P P 01 00 32.2 +0.4
comp=Z,4.9nm,0.8s,baz=344,slow=7.6,SNR=19
ASAR Alice Springs 49.43 166 P P 01 00 32.2 +0.4
CTA Charters Tower 50.28 150 P P 01 00 39.0 +0.8
comp=Z,4.4nm,1.0s,baz=331,slow=13,SNR=2.8
CTA LR LR 01 19 18.9
comp=Z,115nm,21.2s,baz=48,slow=33
CTA Charters Tower 50.28 150 P P 01 00 39.0 +0.8
ABKAR Akbulak array 53.82 314 eP P 01 01 04.9 +0.5
comp=Z,2.3nm,0.6s
STKA Stephens Creek 59.25 161 P P 01 01 43.8 +0.7
comp=Z,2.3nm,0.7s,baz=333,slow=4.5,SNR=2.9
STKA Stephens Creek 59.25 161 P P 01 01 43.8 +0.7
KBZ Khabaz 65.97 309 P P 01 02 28.1 +0.2
comp=Z,2.9nm,0.9s,baz=325,slow=3.5,SNR=4.7
KBZ LR LR 01 33 06.7
comp=Z,91nm,18.0s,baz=234,slow=38
KBZ Khabaz 65.97 309 P P 01 02 28.1 +0.2
ILAR Eielson Array 68.18 27 P P 01 02 41.1 -0.6
comp=Z,0.3nm,0.5s,baz=275,slow=5.6,SNR=3.1
ILAR LR LR 01 34 56.4
comp=Z,54nm,19.7s,baz=272,slow=38
ILAR Eielson Array 68.18 27 P P 01 02 41.1 -0.6
ARCES ARCESS Array B 69.40 338 P P 01 02 48.3 -0.9
comp=Z,2.8nm,0.8s,baz=54,slow=6.2,SNR=5.8
ARCES LR LR 01 35 09.1
comp=Z,76nm,18.8s,baz=196,slow=38
ARCES ARCESS Array B 69.40 338 P P 01 02 48.3 -0.9
FINES FINESS Array B 71.49 330 P P 01 03 01.4 -0.6
comp=Z,1.2nm,0.7s,baz=49,slow=5.8,SNR=7.1
FINES LR LR 01 37 27.4
comp=Z,154nm,18.0s,baz=317,slow=38
FINES FINESS Array B 71.49 330 P P 01 03 01.4 -0.6
AKASG Malin Array Be 73.16 318 P P 01 03 10.8 -1.4
comp=Z,0.5nm,0.4s,baz=60,slow=6.8,SNR=4.1
AKASG Malin Array Be 73.16 318 P P 01 03 10.8 -1.4
BRTR Keskin Array B 73.71 307 P P 01 03 15.4 -0.5
comp=Z,2.0nm,0.9s,baz=100,slow=4.3,SNR=8.1
BRTR Keskin Array B 73.71 307 P P 01 03 15.4 -0.5
NB2 NORSAR Subarra 78.22 332 P P 01 03 39.8 -1.2
comp=Z,0.8nm,0.7s,baz=59,slow=5.6
NOA NORSAR Array B 78.22 332 P P 01 03 40.5 -0.5
comp=Z,1.7nm,0.8s,baz=58,slow=5.7,SNR=4.4
NOA LR LR 01 41 50.7
comp=Z,64nm,18.4s,baz=90,slow=38
NOA NORSAR Array B 78.22 332 P P 01 03 40.5 -0.5
YKA Yellowknife Ar 81.99 23 P P 01 03 60.0 -1.3
comp=Z,1.6nm,0.7s,baz=311,slow=4.9,SNR=44
YKA Yellowknife Ar 81.99 23 P P 01 04 00.0 -1.3
GERES GERESS Array B 83.09 321 P P 01 04 07.8 +0.3
comp=Z,0.3nm,0.7s,baz=1.9,slow=5.9,SNR=3.9
GERES GERESS Array B 83.09 321 P P 01 04 07.8 +0.3
NVAR Mina Array Bea 95.24 43 P P 01 05 05.9 0.0
comp=Z,1.3nm,0.8s,baz=287,slow=5.7,SNR=9.3
NVAR Mina Array Bea 95.24 43 P P 01 05 05.9 0.0

IDC ***16*** *00:52:54.4±0.7, 8.°28S×121.°67E, h0km, mb4.2/10, mb1 4.3/14, mb1mx4.1/27, mbtmp4.2/14, ML4.0/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/41, Error ellipse: s-maj=44.5km s-min=12.3km az=60.0*
ISCJB ***16*** *00:52:57.4±0.3, 8.°33S±0.°04×121.°71E±0.°06, h33km, mb4.2/13, MS3.3/2, Error ellipse: s-maj=8.6km s-min=4.3km az=152.1*
NEIC ***16*** *00:52:58.4±3.6, 8.°26S×121.°75E, h28km±27km, mb4.2/8, Error ellipse: s-maj=24.0km s-min=7.9km az=57.0*
DJA ***16*** *00:52:58.6±0.8, 8.°S±7.°×12.°2E±1.°0, h21km±19km, M4.4/7, mb4.9/1, mB5.1/1, MLv4.1/7, Mw(mB)4.5/1*
AUST ***16*** *00:53:34.3, 10.°50S×123.°00E, h200km*
ISC 16 00:52:59.8±0.5, 8.°36S±0.°04×121.°66E±0.°06, h35km, n59, σ1s43/56, mb4.0/13, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.64**	**115**	P		**Pn**		**00 53 11.7**	**-0.7**
WSI	**Waingapu**	**1.87**	**226**	P		**Pn**		**00 53 29.3**	**0.0**
BBSI	**Bau Bau**	**3.00**	**18**	P		**Pn**		**00 53 45.2**	**+0.3**
BKSI	**Bulukumba**	**3.38**	**333**	P		**Pn**		**00 53 48.9**	**-1.2**
KAPI	**Kappang 3.83 330**			Pn		**Pn**		**00 53 55.7**	**-0.6**
	26nm,0.3s,baz=167,slow=9.6,SNR=93								
KAPI				Sn		**Sn**		**00 54 40.3**	**+0.3**
	10nm,0.3s,baz=217,slow=20,SNR=3.0								
KAPI				LR		LR		00 55 52.7	
	comp=Z,149nm,19.0s,baz=62,slow=47								
KAPI	**Kappang 3.83 330**			Pn		**Pn**		**00 53 55.7**	**-0.6**
KAPI				Sn		**Sn**		**00 54 40.3**	**+0.3**
KAPI	**Kappang 3.83 330**			P		**Pn**		**00 53 55.6**	**-0.6**
KDI	**Kendari 4.48 12**			P		**Pn**		**00 54 05.5**	**+0.2**
SPSI	**Sidrap Palu 4.75 337**			P		**Pn**		**00 54 09.6**	**+0.6**
TTSI	**Tana Toraja 5.59 341**			P		Pn		00 54 25.1	+4.6
LUWI	**Luwuk 7.36 9**			P		**Pn**		**00 54 42.8**	**-2.0**
MTN	**Manton Dam 10.32 116**			P		Pn		00 55 30.9	+5.4
	baz=8.3,SNR=4.5								
MTN				S		**Sn**		**00 57 19.0**	**-1.1**
	baz=8.3,SNR=4.4								
FITZ	**Fitzroy Crossi 10.43 159**			Pn		**Pn**		**00 55 27.5**	**+0.6**
	0.6nm,0.3s,baz=7.5,slow=7.7,SNR=19								
FITZ				Sn		**Sn**		**00 57 18.6**	**-4.0**
	0.9nm,0.3s,baz=167,slow=14,SNR=3.9								
FITZ				LR		LR		01 00 46.0	
	comp=Z,138nm,18.2s,baz=310,slow=45								
FITZ	**Fitzroy Crossi 10.43 159**			Pn		**Pn**		**00 55 27.5**	**+0.6**
FITZ				Sn		**Sn**		**00 57 18.6**	**-4.0**
FITZ	**Fitzroy Crossi 10.43 159**			P		**Pn**		**00 55 29.0**	**+2.1**
	baz=8.0,SNR=4.0								
KDU	**Kakadu 11.47 113**			P		**Pn**		**00 55 43.2**	**+2.0**
	baz=9.5,SNR=8.2								
DAV	**Davao City (W) 15.82 14**			LR		LR		01 02 23.1	
	comp=Z,287nm,19.8s,baz=61,slow=36								
DAV	**Davao City (W) 15.82 14**			LR		LR		01 02 23.0	
	comp=Z,286nm,19.8s,baz=55,slow=36								
WRA	**Warramunga Arr 16.83 134**			Pn		**Pn**		**00 56 50.1**	**-2.8**
	0.3nm,0.3s,baz=306,slow=14,SNR=6.6								
WRA				Sn		Sn		00 59 50.2	-8.7
	0.4nm,0.3s,baz=306,slow=23,SNR=7.2								
WRA	**Warramunga Arr 16.83 134**			Pn		**Pn**		**00 56 50.1**	**-2.8**
WRA				Sn		Sn		00 59 50.2	-8.7
WRAB	**Tennant Creek 16.83 134**			ePn		**Pn**		**00 56 50.3**	**-2.6**
	4.1nm,0.6s								
MEEK	**Meekatharra 18.40 189**			P		**Pn**		**00 57 13.2**	**+0.9**
	baz=17,SNR=7.0								
MEEK				S		Sn		01 00 24.6	-12
	baz=17,SNR=6.1								
AS31	**Alice Springs 19.22 144**			eP		**Pn**		**00 57 21.9**	**-0.3**
ASAR	**Alice Springs 19.22 144**			P		**P**		**00 57 21.3**	**+0.3**
	0.7nm,0.3s,baz=318,slow=9.9,SNR=27								
ASAR				LR		LR		01 05 49.2	
	comp=Z,110nm,19.7s,baz=340,slow=40								
ASAR	**Alice Springs 19.22 144**			P		**P**		**00 57 21.3**	**+0.3**
PALU	**Palau 20.17 40**			S		Sn		01 02 08.0	+48
	baz=21,SNR=4.4								
QIS	**Mount Isa 21.16 127**			P		P		00 57 31.3	-11
	baz=19,SNR=5.2								
MORW	**Morawa 21.26 194**			P		**P**		**00 57 43.2**	**0.0**
	baz=20,SNR=6.3								
MORW				S		S		01 01 30.1	-7.5
	baz=20,SNR=3.0								
COEN	**Coen 21.82 107**			eP		**P**		**00 57 48.7**	**-0.6**
	84nm,1.1s								
COEN	**Coen 21.82 107**			P		**P**		**00 57 52.2**	**+2.9**
	baz=20,SNR=4.5								
BLDU	**Ballidu 22.62 191**			P		**P**		**00 57 57.6**	**0.0**
	baz=21,SNR=6.5								
NWAO	**Narrogin (SRO) 24.79 189**			P		**P**		**00 58 19.1**	**+0.7**
	8.0nm,0.8s,baz=42,slow=7.5,SNR=3.0								
NWAO				LR		LR		01 07 51.9	
	comp=Z,97nm,18.0s,baz=14,slow=36								
NWAO	**Narrogin (SRO) 24.79 189**			eP		**P**		**00 58 18.5**	**0.0**
	14nm,0.9s								
GSI	**Gunungsitoli 25.86 291**			S		S		01 03 39.1	+43
	baz=28,SNR=6.6								
CTA	**Charters Tower 26.50 119**			P		**P**		**00 58 34.9**	**+0.7**
	3.1nm,0.8s,baz=313,slow=13,SNR=3.8								
CTA	**Charters Tower 26.50 119**			P		**P**		**00 58 34.9**	**+0.7**
BBOO	**Buckleboo 27.75 153**			P		**P**		**00 58 45.4**	**+0.2**
	baz=25,SNR=10								
STKA	**Stephens Creek 29.85 144**			P		**P**		**00 59 04.6**	**+0.6**
	6.3nm,0.6s,baz=317,slow=8.2,SNR=23								
STKA				LR		LR		01 14 11.3	
	comp=Z,56nm,18.6s,baz=28,slow=43								
STKA	**Stephens Creek 29.85 144**			eP		**P**		**00 59 04.1**	**+0.1**
	1.0nm,0.4s								
STKA	**Stephens Creek 29.85 144**			P		**P**		**00 59 04.9**	**+0.9**
	baz=27,SNR=14								
CMAR	**Chiang Mai Arr 34.82 320**			P		**P**		**00 59 48.6**	**+1.0**
	0.4nm,0.4s,baz=150,slow=7.3,SNR=2.9								
CMAR	**Chiang Mai Arr 34.82 320**			P		**P**		**00 59 48.6**	**+1.0**
LHI	**Lord Howe Isla 41.72 129**			S		S		01 06 37.9	-23
	baz=39,SNR=3.4								
RPZ	**Rata Peaks 55.50 138**			P		**P**		**01 02 31.7**	**+0.3**
	8.5nm,0.6s,baz=67,slow=2.0,SNR=5.4								
RPZ	**Rata Peaks 55.50 138**			P		**P**		**01 02 31.7**	**+0.3**
ULN	**Ulaanbaatar 57.46 348**			eP		**P**		**01 02 44.4**	**-0.9**
	0.7nm,0.5s								
SONM	**Songino Array 57.56 348**			P		**P**		**01 02 46.1**	**+0.1**
	0.5nm,0.5s,baz=166,slow=8.2,SNR=5.4								
SONM	**Songino Array 57.56 348**			P		**P**		**01 02 46.1**	**+0.1**
MK31	**Makanchi Array 65.13 331**			eP		**P**		**01 03 36.0**	**-1.1**
MKAR	**Makanchi Array 65.13 331**			P		**P**		**01 03 35.9**	**-1.2**
	0.8nm,0.6s,baz=142,slow=6.8,SNR=17								
MKAR	**Makanchi Array 65.13 331**			P		**P**		**01 03 35.9**	**-1.2**
AAK	**Ala-Archa 66.48 324**			P		**P**		**01 03 45.6**	**-0.5**
	0.4nm,0.4s,baz=91,slow=5.7,SNR=2.2								
AAK	**Ala-Archa 66.48 324**			eP		**P**		**01 03 45.3**	**-0.8**
	4.4nm,0.6s								
ZAA0	**Zalesovo Array 69.42 338**			eP		**P**		**01 04 02.6**	**-1.5**
ZALV	**Zalesovo Beam 69.42 338**			P		**P**		**01 04 02.0**	**-2.1**
	0.6nm,0.3s,baz=142,slow=4.9,SNR=5.1								
ZALV	**Zalesovo Beam 69.42 338**			P		**P**		**01 04 02.0**	**-2.1**
KURK	**Kurchatov 69.62 332**			eP		**P**		**01 04 03.0**	**-2.4**
	1.2nm,0.7s								
VNDA	**Vanda 72.22 172**			P		**P**		**01 04 20.7**	**-0.2**
	0.9nm,0.5s,baz=322,slow=7.7,SNR=9.3								
VNDA	**Vanda 72.22 172**			eP		**P**		**01 04 21.6**	**+0.7**
	0.8nm,0.5s								

GUC 16 01:01:12.8±0.8, 35.°28S×71.°94W, h52km±4km, ML3.6, 6C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.28**	**115**	⇑*i* P		Pn		01 01 22.0	+0.1
TALC				*i* S		Sn		01 01 29.0	+0.6
TALC				AML		AML		01 01 31.7	
	comp=N,11μm,0.1s								
CTCH	**Constitucion**	**0.39**	**262**	⇑*i* P		Pn		01 01 22.9	-0.1
CTCH				*i* S		Sn		01 01 30.9	+0.8
CTCH				AML		AML		01 01 32.4	
	comp=E,12μm,0.2s								
LNCH	**Linares**	**0.63**	**154**	⇑*i* P		Pn		01 01 25.8	0.0
LNCH				*i* S		Sn		01 01 36.0	+0.8
LNCH				AML		AML		01 01 37.6	
	comp=E,3μm,0.2s								
CNCO	**Chanco**	**0.66**	**227**	⇓*i* P		Pn		01 01 26.0	-0.1
CNCO				*i* S		Sn		01 01 36.4	+0.6
CNCO				AML		AML		01 01 37.5	
	comp=N,227nm,0.3s								
CCHI	**Chillan**	**1.32**	**185**	*i* P		Pn		01 01 35.5	+0.6
CCHI				*e*S		Sn		01 01 52.6	+1.1
CCHI				AML		AML		01 01 56.5	
	comp=E,628nm,0.4s								
LNV	**Longovilo**	**1.39**	**19**	⇓*i* P		Pn		01 01 36.2	+0.3
CACH	**El Canelo**	**1.60**	**44**	⇑*i* P		Pn		01 01 39.3	+0.4
CACH				*e*S		Sn		01 01 59.7	+1.0
TACH	**Talagante**	**1.82**	**27**	⇑*i* P		Pn		01 01 42.5	+0.7
RCDM	**Rinconada Maip**	**2.02**	**28**	*e*P		Pn		01 01 44.9	+0.4
RCDM				*i* S		Sn		01 02 09.5	+0.9
RCDM				AML		AML		01 02 18.2	
	comp=E,830nm,0.2s								
ANTU	**Antumapu**	**2.02**	**33**	AML		AML		01 02 19.0	
	comp=E,875nm,0.5s								
LMEL	**Las Melosas**	**2.03**	**46**	⇓*i* P		Pn		01 01 45.9	+1.1
LMEL				*e*S		Sn		01 02 11.4	+2.4
LMEL				AML		AML		01 02 16.4	
	comp=N,876nm,0.2s								
STL	**Santa Lucia**	**2.13**	**31**	AML		AML		01 02 19.6	
	comp=E,87nm,0.3s								
CLCH	**Cerro Calan**	**2.21**	**32**	*e*P		Pn		01 01 47.8	+0.6
CLCH				AML		AML		01 02 22.2	
	comp=N,879nm,0.5s								
CLCH				AML		AML		01 02 22.8	
	comp=N,1μm,0.6s								
PEL	**Peldehue**	**2.37**	**26**	⇓*e*P		Pn		01 01 50.4	+1.1

PEL				*i* S		Sn		01 02 20.6	+3.3
PEL				AML		AML		01 02 28.6	
	comp=E,872nm,0.4s								
FCH	**Farellones**	**2.38**	**36**	*e*P		Pn		01 01 50.7	+0.9
FCH				*i* S		Sn		01 02 20.8	+2.6
FCH				AML		AML		01 02 26.7	
	comp=N,695nm,0.1s								
ROCH	**El Roble**	**2.43**	**19**⇑	*i*P		Pn		01 01 50.6	+0.2
ROCH				AML		AML		01 02 27.1	
	comp=N,626nm,0.4s								

IDC 16 01:07:44.7±2.6, 8°30S×117°99E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=76.4km s-min=25.9km az=66.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KAPI	**Kappang**	**3.70**	**28**	Pn		Pn	01	08 43.0	-0.2
	3.3nm,0.3s,baz=223,slow=13,SNR=5.3								
KAPI				Sn		Sn	01	09 20.1	-7.4
	2.8nm,0.3s,baz=27,slow=24,SNR=8.5								
FITZ	**Fitzroy Crossi**	**12.26**	**143**	Sn		Sn	01	12 53.2	-5.1
	0.1nm,0.3s,baz=22,slow=14,SNR=2.1								
WRA	**Warramunga Arr**	**19.61**	**128**	P		Pn	01	12 15.7	-0.4
	0.2nm,0.3s,baz=303,slow=12,SNR=3.9								
ASAR	**Alice Springs**	**21.59**	**137**	P		P	01	12 35.8	-0.6
	1.0nm,0.5s,baz=313,slow=9.4,SNR=14								
SONM	**Songino Array**	**56.82**	**351**	P		P	01	17 31.0	0.0
	1.0nm,0.8s,baz=165,slow=8.3,SNR=5.1								

*IDC **16** 01:11:50.0±1.2, 25°.07N×123°.39E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, ML2.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.1/35, Error ellipse: s-maj=42.1km s-min=22.4km az=61.0*

*JMA **16** 01:11:51.4±0.2, 25°.00N×123°.43E, h13km, M3.0*

*ISCJB **16** 01:11:52.1±0.8, 24°.97N±0°.05×123°.42E±0°.05, h32km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=7.8km s-min=6.8km az=10.6*

ISC 16 01:11:53.5±1.0, 24°.91N±0°.07×123°.42E±0°.06, h32km, n10, σ1§27/14, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**220**	P		**Pb**	**01**	**12 03.9**	**-1.4**
YOJ				S		**Sb**	**01**	**12 12.4**	**-0.9**
JIJ	**Ishigaki jima**	**0.85**	**129**	P		**Pn**	**01**	**12 08.3**	**-0.9**
JIJ				*e*S		**Sn**	**01**	**12 19.7**	**-0.9**
JKRS	**Kuro-shima**	**0.86**	**141**	*e*S		**Sb**	**01**	**12 21.0**	**-0.1**
HATJ	**Hateruma jima**	**0.92**	**157**	P		**Pn**	**01**	**12 10.3**	**+0.2**
HATJ				*e*S		**Sb**	**01**	**12 22.9**	**+0.1**
JTJ	**Tarama**	**1.20**	**103**	P		**Pn**	**01**	**12 13.3**	**-0.7**
JTJ				*e*S		**Sn**	**01**	**12 28.2**	**-0.9**
JOW	**Kunigami**	**4.78**	**65**	Pn		**Pn**	**01**	**13 02.8**	**-0.5**
	0.3nm,0.3s,baz=248,slow=18,SNR=1.8								
MKAR	**Makanchi Array**	**39.26**	**314**	P		**P**	**01**	**19 19.1**	**+0.1**
	0.6nm,0.7s,baz=104,slow=10,SNR=5.2								
ZALV	**Zalesovo Beam**	**40.77**	**326**	P		**P**	**01**	**19 31.3**	**-0.2**
	0.5nm,0.6s,baz=116,slow=9.9,SNR=2.5								
ZALV				LR		LR	01	36 49.8	
	comp=Z,24nm,19.4s,baz=36,slow=37								
WRA	**Warramunga Arr**	**45.83**	**166**	P		**P**	**01**	**20 14.8**	**+2.2**
	0.3nm,0.3s,baz=347,slow=8.4,SNR=5.9								
ASAR	**Alice Springs**	**49.34**	**167**	P		**P**	**01**	**20 42.5**	**+2.6**
	0.4nm,0.6s,baz=351,slow=13,SNR=5.8								

TAP 16 01:35:35.3, 24°.77N×122°.33E, h4km±1km, ML3.5, 1C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TWB1	**Santiao Chiao**	**0.39**	**307**	*e*P		Pb	01	35 44.3	-0.5
	baz=307								
TWB1				*e*S		Sg	01	35 49.2	+1.3
	baz=307								
TWC	**Suao**	**0.47**	**249**	P		Pg	01	35 45.0	+0.7
	baz=248								
TWC				*e*S		Sb	01	35 52.0	-1.4
	baz=248								
NWF	**Wu-fen Shan**	**0.58**	**301**	P		Pb	01	35 48.1	0.0
	baz=300								
NWF				S		Sb	01	35 56.8	0.0
	baz=300								
TWE	**Neicheng**	**0.60**	**265**	P		Pb	01	35 48.2	-0.2
	baz=264								
TWE				*e*S		Sb	01	35 58.3	+0.9
	baz=264								
ENA	**Nanau**	**0.64**	**237**	P		Pb	01	35 48.4	-0.6
	baz=236								
ENTT	**Nioudou**	**0.70**	**259**	*e*P		Pb	01	35 50.4	+0.2
	baz=258								
ENTT				*e*S		Sb	01	36 01.8	+1.5
	baz=258								
TWY	**Chenhua**	**0.83**	**307**	*e*P		Pb	01	35 52.5	+0.2
	baz=307								
TWY				*e*S		Sb	01	36 03.8	0.0
	baz=307								
NSK	**Sanguang**	**0.89**	**264**	*e*P		Pb	01	35 53.2	-0.2
	baz=263								
NNS	**Nan Shan**	**0.93**	**249**	P		Pb	01	35 54.6	+0.4
	baz=248								
NNS				*e*S		Sb	01	36 07.7	+0.6
	baz=248								
TWD	**Chiawan**	**0.96**	**224**	P		Pb	01	35 54.5	0.0
	baz=223								
TWD				*e*S		Sn	01	36 09.9	+0.2
	baz=223								
WHF	**Hehuan Shan**	**1.15**	**237**⇑	*i*P		Pg	01	35 58.1	+0.1
	baz=236								
WHF				*e*S		Sg	01	36 13.0	-0.4
	baz=236								
TWT	**Tachien**	**1.17**	**244**	P		Pb	01	35 58.5	+0.1
	baz=243								
TWT				*e*S		Sn	01	36 15.4	0.0
	baz=243								
NSTT	**Nanjuang**	**1.21**	**264**	*e*P		Pn	01	36 01.3	+2.1
	baz=263								
NSTT				*e*S		Sn	01	36 17.1	+1.1
	baz=263								
SMLT	**Sun Moon Lake**	**1.57**	**236**	*e*P		Pg	01	36 06.0	+0.3
	baz=235								
SMLT				*e*S		Sg	01	36 27.9	+1.7
	baz=235								
TYC	**Yuchr**	**1.60**	**237**	*e*P		Pg	01	36 05.8	-0.1
	baz=236								
CHN5	**Tsauling**	**1.91**	**232**	*e*P		Pb	01	36 11.1	+0.2
	baz=232								
CHN5				*e*S		Sg	01	36 37.4	+0.5
	baz=232								

*MOS **16** 01:37:59.8±0.8, 0°.04N×17°.37W, h10km, mb5.0/63, Error ellipse: s-maj=11.4km s-min=3.9km az=64.1*

*IDC **16** 01:38:00.2±0.5, 0°.10N×17°.47W, h0km, mb4.5/31, mb1 4.6/32, mb1mx4.5/37, mbtmp4.5/32, ML4.3/1, MS4.0/36, Ms1 4.0/36, ms1mx4.0/39, Error ellipse: s-maj=15.3km s-min=12.1km az=144.0*

*ISCJB **16** 01:38:00.7±0.2, 0°.12N±0°.05×17°.39W±0°.03, h12km, mb4.7/135, MS4.1/39, Error ellipse: s-maj=7.9km s-min=3.4km az=157.0*

*BJI **16** 01:38:00.9, 0°.30N×17°.58W, h13km, mB5.5/4, Ms5.2/4, Ms7 4.8/5*

*SZGRF **16** 01:38:01.8, 0°.47N×18°.91W, h33km, mb4.6, Central Mid-Atlantic Ridge*

*NEIC **16** 01:38:01.6±0.2, 0°.03N×17°.46W, h10km, mb4.9/79, Error ellipse: s-maj=5.7km s-min=3.6km az=154.0*

*TEH **16** 01:38:02.0, 0°.11N×17°.47W, h10km, ML4.9*

*GCMT **16** 01:38:05.7±0.3, 0°.26N×17°.45W, h14km±1km, MW4.9, Moment Tensor Solution. s23,c27; s73,c99; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.09; $M_{\theta\theta}$0.89±.08; $M_{\phi\phi}$-0.60±.08; $M_{r\theta}$-0.13±.17; $M_{\theta\phi}$-2.26±.09; $M_{\phi r}$-0.21±.17; Best double couple: $M_0$2.40000×10^{16} NP1:ϕ_s81.00000°, δ85.00000°, λ-175.00000°. NP2:ϕ_s351.00000°, δ85.00000°, λ-5.00000°. Principal axes: T 2.5200, Plg0.0000°, Azm36.0000°; N -0.2500, Plg83.0000°, Azm129.0000°; P -2.2700, Plg7.0000°, Azm306.0000°; Data Used: IU II CN G IC.*

ISC 16 01:38:02.1±0.4, 0°.19N±0°.07×17°.41W±0°.06, h12km, n581, σ1§21/591, mb4.8/136, MS4.1/39, 160C-83D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LIC	**Lamto**	**13.74**	**64**	*e*Pn		**Pn**	**01**	**41 14.9**	**-2.0**
	baz=254								
LIC				*e*Sn		Sn	01	43 39.3	-10
	157nm,0.6s								
LIC				*e*R					
	727nm,20.2s								
LIC	**Lamto**	**13.74**	**64**	*e*Pn		**Pn**	**01**	**41 14.9**	**-2.0**
LIC				*e*Sn		Sn	01	43 39.3	-10
DBIC	**Dimbokro**	**14.09**	**63**	Pn		**Pn**	**01**	**41 19.9**	**-1.7**
	33nm,0.3s,baz=234,slow=14,SNR=190								
DBIC				Sn		Sn	01	43 46.5	-12
	13nm,0.3s,baz=117,slow=8.6,SNR=4.2								
DBIC				LR		LR	01	45 41.8	
	comp=Z,797nm,18.2s,baz=220,slow=33								
DBIC	**Dimbokro**	**14.09**	**63**	*e*Pn		**Pn**	**01**	**41 20.0**	**-1.7**
DBIC				*e*Sn		Sn	01	43 46.6	-11
BBTS	**Babate**	**14.41**	**3**	Pn		**Pn**	**01**	**41 24.1**	**-1.9**
	13nm,0.3s,baz=203,slow=1.2,SNR=52								
BBTS				Sn		Sn	01	43 53.4	-12
	22nm,0.3s,baz=21,slow=20,SNR=15								
BBTS				LR		LR	01	45 47.5	
	comp=Z,670nm,21.6s,baz=347,slow=32								
BBTS	**Babate**	**14.41**	**3**	Pn		**Pn**	**01**	**41 24.1**	**-1.9**
BBTS				Sn		Sn	01	43 53.4	-12
RCBR	**Riachuelo**	**19.40**	**252**	P		**P**	**01**	**42 28.5**	**+0.2**
	0.8nm,0.3s,baz=83,slow=15,SNR=8.5								
RCBR				LR		LR	01	47 40.3	
	comp=Z,254nm,18.4s,baz=252,slow=30								
RCBR	**Riachuelo**	**19.40**	**252**	*e*Pn		**P**	**01**	**42 28.4**	**+0.1**
	52nm,1.6s								
TOA0	**Torodi Ar. Sit**	**22.90**	**55**	*e*P		**P**	**01**	**43 05.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**22.90**	**55**	P		**P**	**01**	**43 05.2**	**-0.8**
	61nm,0.8s,baz=244,slow=10.0,SNR=136								
TORD				S		**S**	**01**	**47 12.4**	**-3.5**
	5.8nm,0.6s,baz=250,slow=27,SNR=3.2								
TORD				LR		LR	01	51 02.5	
	comp=Z,626nm,21.1s,baz=235,slow=34								
TORD	**Torodi Ar. Bea**	**22.90**	**55**	P		**P**	**01**	**43 05.2**	**-0.8**
TORD				S		**S**	**01**	**47 12.4**	**-3.5**
TAM	**Tamanrasset**	**31.67**	**43**	*e*P		**P**	**01**	**44 27.1**	**+1.3**
TAM				pmax		pmax			
	comp=Z,8.0nm,0.6s								
TAM	**Tamanrasset**	**31.67**	**43**	*e*P		**P**	**01**	**44 27.1**	**+1.3**
	comp=Z,8.3nm,0.6s								
BDFB	**Brasilia**	**34.06**	**241**	P		**P**	**01**	**44 45.2**	**-1.6**
	comp=Z,13nm,1.0s,baz=55,slow=7.3,SNR=14								
BDFB				LR		LR	01	55 52.3	
	comp=Z,170nm,20.9s,baz=104,slow=32								
BDFB	**Brasilia**	**34.06**	**241**	P		**P**	**01**	**44 45.2**	**-1.6**
MDT	**Midelt**	**34.63**	**19**	P		**P**	**01**	**44 52.5**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=233,slow=7.5,SNR=3.5								
MDT				LR		LR	01	58 28.1	
	comp=Z,419nm,19.8s,baz=183,slow=35								
MDT	**Midelt**	**34.63**	**19**	P		**P**	**01**	**44 52.5**	**+1.1**
PSMN	**Pico do Norte,**	**37.31**	**350**	*e*T		T	02	24 14.8	
PSMA	**Santa Maria**	**37.32**	**350**	*e*T		T	02	24 14.9	
BART	**Pico Bartolome**	**38.09**	**350**	*e*T		T	02	25 13.7	
CMLA	**Cha da Macela**	**38.13**	**350**	*e*T		T	02	25 15.0	
PDA	**Ponta Delgada**	**38.14**	**349**	*e*T		T	02	25 17.7	
PSET	**Sete Cidades**	**38.23**	**349**	*e*T		T	02	25 10.0	
EVOP	**Sao Brissos**	**39.10**	**12**	*e*P		**P**	**01**	**45 30.2**	**+0.9**
EVOP				pmax		pmax			
	comp=Z,25nm,1.2s								
EVOP	**Sao Brissos**	**39.10**	**12**	*e*P		**P**	**01**	**45 30.2**	**+0.9**
	comp=Z,25nm,1.2s								
EVO	**Evora**	**39.13**	**12**	*e*P		**P**	**01**	**45 30.2**	**+0.7**
	comp=Z,25nm,1.2s								
EVO				*e*R					
	comp=Z,162nm,17.2s								
TSUM	**Tsumeb**	**39.37**	**121**	P		**P**	**01**	**45 32.7**	**+0.7**
	comp=Z,12nm,0.9s,baz=301,slow=7.5,SNR=13								
TSUM				LR		LR	01	56 53.5	
	comp=Z,753nm,21.9s,baz=186,slow=29								
TSUM	**Tsumeb**	**39.37**	**121**	*e*P		**P**	**01**	**45 32.7**	**+0.7**
	comp=Z,14nm,0.9s								
PCAN	**Candelaria**	**39.43**	**346**	*e*T		T	02	26 53.1	
PICO	**Pico**	**39.45**	**346**	*e*T		T	02	26 50.5	
PMAN	**Manadas**	**39.50**	**347**	*e*T		T	02	26 55.0	
CALA	**Caldeira**	**39.59**	**346**	*e*T		T	02	26 58.2	
ESDC	**Sonseca Array**	**41.18**	**16**	P		**P**	**01**	**45 47.9**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=196,slow=8.3,SNR=6.5								
ESDC				PP		**PP**	**01**	**47 20.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=198,slow=11,SNR=4.5								
ESDC				LR		LR	02	03 04.4	
	comp=Z,124nm,18.9s,baz=190,slow=36								
ESDC	**Sonseca Array**	**41.18**	**16**	P		**P**	**01**	**45 47.9**	**+1.3**
ESDC				PP		**PP**	**01**	**47 20.8**	**-1.0**
KEST	**Kesra**	**43.25**	**32**	P		**P**	**01**	**46 05.5**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=253,slow=3.0,SNR=9.6								
KEST				PP		**PP**	**01**	**47 42.6**	**-1.7**
	comp=Z,3.9nm,0.8s,baz=346,slow=18,SNR=3.7								
KEST				LR		LR	02	04 49.6	
	comp=Z,255nm,19.2s,baz=167,slow=37								
KEST	**Kesra**	**43.25**	**32**	*e*P		**P**	**01**	**46 05.7**	**+2.1**
KEST				*e*PP		**PP**	**01**	**47 44.4**	**+0.2**
ETSF	**Etsaut**	**45.13**	**17**⇑	*i*P		**P**	**01**	**46 20.4**	**+1.8**
	comp=Z,13nm,0.9s								
ETSF	**Etsaut**	**45.13**	**17**⇑	*i*P		**P**	**01**	**46 20.4**	**+1.8**
ETSF				pmax		pmax			
	comp=Z,13nm,0.9s								
ETSF	**Etsaut**	**45.13**	**17**⇑	*i*P		**P**	**01**	**46 20.4**	**+1.8**
	comp=Z,13nm,0.9s								
SJPF	**Ste Jean**	**45.14**	**17**⇑	*i*P		**P**	**01**	**46 19.7**	**+1.2**
	comp=Z,25nm,1.0s								
SJPF	**Ste Jean**	**45.14**	**17**⇑	*i*P		**P**	**01**	**46 19.7**	**+1.2**
SJPF				pmax		pmax			
	comp=Z,25nm,1.0s								
SJPF	**Ste Jean**	**45.14**	**17**⇑	*i*P		**P**	**01**	**46 19.7**	**+1.2**
	comp=Z,25nm,1.0s								
EPF	**Esparros**	**45.53**	**18**	*e*P		**P**	**01**	**46 23.7**	**+2.0**
	comp=Z,24nm,1.1s								
EPF	**Esparros**	**45.53**	**18**	*e*P		**P**	**01**	**46 23.7**	**+2.0**
EPF				pmax		pmax			
	comp=Z,25nm,1.1s								
EPF	**Esparros**	**45.53**	**18**	*e*P		**P**	**01**	**46 23.7**	**+2.0**
	comp=Z,24nm,1.1s								
SIV	**San Ignacio**	**45.98**	**247**	LR		LR	02	04 28.1	
	comp=Z,243nm,18.7s,slow=35								
MTLF	**Montolieu**	**46.42**	**20**	*e*P		**P**	**01**	**46 29.7**	**+1.1**
	comp=Z,54nm,1.5s								
MTLF	**Montolieu**	**46.42**	**20**	*e*P		**P**	**01**	**46 29.7**	**+1.1**
MTLF				pmax		pmax			
	comp=Z,54nm,1.5s								
MTLF	**Montolieu**	**46.42**	**20**	*e*P		**P**	**01**	**46 29.7**	**+1.1**
	comp=Z,54nm,1.5s								
SAML	**Samuel**	**46.48**	**258**	*e*P		**P**	**01**	**46 28.7**	**-0.9**
	comp=Z,10nm,1.0s								
CPUP	**Villa Florida**	**46.61**	**232**	P		**P**	**01**	**46 29.7**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=50,slow=5.9,SNR=3.7								
CPUP				LR		LR	02	04 30.0	
	comp=Z,228nm,19.1s,baz=247,slow=34								
CPUP	**Villa Florida**	**46.61**	**232**	P		**P**	**01**	**46 29.7**	**-0.7**
LFF	**La Frestale**	**47.38**	**18**⇑	*i*P		**P**	**01**	**46 37.8**	**+1.7**
	comp=Z,17nm,0.8s								
LFF	**La Frestale**	**47.38**	**18**⇑	*i*P		**P**	**01**	**46 37.8**	**+1.7**
LFF				pmax		pmax			
	comp=Z,17nm,0.8s								
LFF	**La Frestale**	**47.38**	**18**⇑	*i*P		**P**	**01**	**46 37.8**	**+1.7**
	comp=Z,17nm,0.8s								
LSZ	**Lusaka**	**47.59**	**111**	*e*P		**P**	**01**	**46 38.2**	**-0.2**
	comp=Z,44nm,2.3s								
LASF	**Ste Croix**	**47.63**	**21**	*e*P		**P**	**01**	**46 39.7**	**+1.6**
LASF	**Ste Croix**	**47.63**	**21**	*e*P		**P**	**01**	**46 39.7**	**+1.6**
OSPF	**L'Ospedale**	**47.77**	**27**	*e*P		**P**	**01**	**46 41.2**	**+1.9**
CAF	**Calviac**	**47.78**	**19**	*e*P		**P**	**01**	**46 40.6**	**+1.3**
CAF	**Calviac**	**47.78**	**19**	*e*P		**P**	**01**	**46 40.6**	**+1.3**
CAF	**Calviac**	**47.78**	**19**	*e*P		**P**	**01**	**46 40.6**	**+1.3**
RJF	**Les Rejaudoux**	**47.95**	**18**	*e*P		**P**	**01**	**46 41.9**	**+1.4**
RJF				*e*R					
	comp=Z,470nm,22.2s								
RJF	**Les Rejaudoux**	**47.95**	**18**	*e*P		**P**	**01**	**46 41.9**	**+1.4**
RJF	**Les Rejaudoux**	**47.95**	**18**	*e*P		**P**	**01**	**46 41.9**	**+1.4**
LMR	**La Mourre**	**48.00**	**23**	*e*P		**P**	**01**	**46 42.5**	**+1.6**
	comp=Z,61nm,1.5s								
LMR	**La Mourre**	**48.00**	**23**	*e*P		**P**	**01**	**46 42.5**	**+1.6**
LMR				pmax		pmax			
	comp=Z,61nm,1.5s								
LMR	**La Mourre**	**48.00**	**23**	*e*P		**P**	**01**	**46 42.5**	**+1.6**
	comp=Z,61nm,1.5s								
SMRF	**Simiane la Rot**	**48.18**	**22**	*e*P		**P**	**01**	**46 43.8**	**+1.4**
SMRF	**Simiane la Rot**	**48.18**	**22**	*e*P		**P**	**01**	**46 43.8**	**+1.4**
FRF	**La Foret Royal**	**48.24**	**23**	*e*P		**P**	**01**	**46 44.2**	**+1.4**
	comp=Z,18nm,1.0s								
FRF	**La Foret Royal**	**48.24**	**23**	*e*P		**P**	**01**	**46 44.2**	**+1.4**
FRF				pmax		pmax			
	comp=Z,18nm,1.0s								
FRF	**La Foret Royal**	**48.24**	**23**	*e*P		**P**	**01**	**46 44.2**	**+1.4**
	comp=Z,18nm,1.0s								
PGF	**Pioggiola**	**48.40**	**26**	*e*P		**P**	**01**	**46 45.8**	**+1.6**
PGF	**Pioggiola**	**48.40**	**26**	*e*P		**P**	**01**	**46 45.8**	**+1.6**
PGF	**Pioggiola**	**48.40**	**26**	*e*P		**P**	**01**	**46 45.8**	**+1.6**
SUR	**Sutherland**	**48.47**	**136**	P		**P**	**01**	**46 45.5**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=301,slow=5.9,SNR=3.0								
SUR	**Sutherland**	**48.47**	**136**	P		**P**	**01**	**46 45.5**	**+0.5**
LBTB	**Lobatse**	**48.54**	**124**	P		**P**	**01**	**46 45.0**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=304,slow=10,SNR=15								
LBTB	**Lobatse**	**48.54**	**124**	*e*P		**P**	**01**	**46 45.4**	**-0.2**
	comp=Z,6.5nm,0.8s								
VIVF	**Saint-Julien-l**	**48.60**	**21**	*e*P		**P**	**01**	**46 47.0**	**+1.4**
VIVF	**Saint-Julien-l**	**48.60**	**21**	*e*P		**P**	**01**	**46 47.0**	**+1.4**
VIVF	**Saint-Julien-l**	**48.60**	**21**	*e*P		**P**	**01**	**46 47.0**	**+1.4**
MFF	**Saint Martin d**	**48.64**	**16**⇑	*i*P		**P**	**01**	**46 47.0**	**+1.1**
	comp=Z,13nm,0.7s								
MFF	**Saint Martin d**	**48.64**	**16**⇑	*i*P		**P**	**01**	**46 47.0**	**+1.1**
MFF				pmax		pmax			
	comp=Z,13nm,0.7s								
MFF	**Saint Martin d**	**48.64**	**16**⇑	*i*P		**P**	**01**	**46 47.0**	**+1.1**
	comp=Z,13nm,0.7s								
SBF	**Sospel**	**48.81**	**24**	*e*P		**P**	**01**	**46 48.7**	**+1.4**
	comp=Z,31nm,0.9s								
SBF	**Sospel**	**48.81**	**24**	*e*P		**P**	**01**	**46 48.7**	**+1.4**
SBF				pmax		pmax			
	comp=Z,31nm,0.9s								
SBF	**Sospel**	**48.81**	**24**	*e*P		**P**	**01**	**46 48.7**	**+1.4**
	comp=Z,31nm,0.9s								
PYM	**Petit Puy Mans**	**48.82**	**19**	*e*P		**P**	**01**	**46 49.8**	**+2.5**
TCF	**Toulx Ste Croi**	**49.04**	**18**	*e*P		**P**	**01**	**46 50.5**	**+1.5**
TCF	**Toulx Ste Croi**	**49.04**	**18**	*e*P		**P**	**01**	**46 50.5**	**+1.5**
TCF	**Toulx Ste Croi**	**49.04**	**18**	*e*P		**P**	**01**	**46 50.5**	**+1.5**
ORIF	**Oris-en-Rattie**	**49.09**	**22**	*e*P		**P**	**01**	**46 51.6**	**+2.1**
ORIF				*e*R					
	comp=Z,226nm,18.5s								
ORIF	**Oris-en-Rattie**	**49.09**	**22**	*e*P		**P**	**01**	**46 51.6**	**+2.1**
ORIF	**Oris-en-Rattie**	**49.09**	**22**	*e*P		**P**	**01**	**46 51.6**	**+2.1**
PLDF	**La Plantade**	**49.21**	**19**	*e*P		**P**	**01**	**46 52.0**	**+1.7**
PLDF	**La Plantade**	**49.21**	**19**	*e*P		**P**	**01**	**46 52.0**	**+1.7**
PLDF	**La Plantade**	**49.21**	**19**	*e*P		**P**	**01**	**46 52.0**	**+1.7**
MBDF	**Montbardon**	**49.27**	**23**⇑	*i*P		**P**	**01**	**46 53.2**	**+2.3**
	comp=Z,34nm,1.2s								
MBDF	**Montbardon**	**49.27**	**23**⇑	*i*P		**P**	**01**	**46 53.2**	**+2.3**
MBDF				pmax		pmax			
	comp=Z,34nm,1.2s								
MBDF	**Montbardon**	**49.27**	**23**⇑	*i*P		**P**	**01**	**46 53.2**	**+2.3**
	comp=Z,34nm,1.2s								
BGF	**Bois d'Agland**	**49.48**	**18**	*e*P		**P**	**01**	**46 54.1**	**+1.8**
	comp=Z,8.5nm,0.7s								
BGF	**Bois d'Agland**	**49.48**	**18**	*e*P		**P**	**01**	**46 54.1**	**+1.8**
BGF				pmax		pmax			
	comp=Z,9.0nm,0.7s								
BGF	**Bois d'Agland**	**49.48**	**18**	*e*P		**P**	**01**	**46 54.1**	**+1.8**
	comp=Z,8.5nm,0.7s								
ROSF	**Rostrenen**	**49.50**	**12**	*e*P		**P**	**01**	**46 53.7**	**+1.3**
ROSF	**Rostrenen**	**49.50**	**12**	*e*P		**P**	**01**	**46 53.7**	**+1.3**
ROSF	**Rostrenen**	**49.50**	**12**	*e*P		**P**	**01**	**46 53.7**	**+1.3**
BNI	**Bardonecchia**	**49.51**	**22**	*e*P		**P**	**01**	**46 53.8**	**+1.1**
BNI				pmax		pmax			
	comp=Z,13nm,1.2s								
BNI	**Bardonecchia**	**49.51**	**22**	*e*P		**P**	**01**	**46 53.8**	**+1.1**
	comp=Z,13nm,1.2s								
SGMF	**Saint Gilles**	**49.58**	**13**	*e*P		**P**	**01**	**46 54.2**	**+1.2**
	comp=Z,23nm,1.0s								
SGMF	**Saint Gilles**	**49.58**	**13**	*e*P		**P**	**01**	**46 54.2**	**+1.2**
SGMF				pmax		pmax			
	comp=Z,23nm,1.0s								
SGMF	**Saint Gilles**	**49.58**	**13**	*e*P		**P**	**01**	**46 54.2**	**+1.2**
	comp=Z,23nm,1.0s								
BOSA	**Boshof**	**49.84**	**129**	P		**P**	**01**	**46 55.1**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=325,slow=5.2,SNR=5.9								
BOSA				LR		LR	02	03 37.5	
	comp=Z,94nm,20.0s,baz=114,slow=31								
BOSA	**Boshof**	**49.84**	**129**	P		**P**	**01**	**46 55.1**	**-0.4**
AVF	**Avril sur Loir**	**49.85

HAU **Haudompre** 51.90 20⇑*i*P P 01 47 11.6 +1.0
HAU pmax pmax
comp=Z,11nm,0.6s
HAU **Haudompre** 51.90 20⇑*i*P P 01 47 11.6 +1.0
comp=Z,11nm,0.6s
HINF **Hinteralfeld** 51.92 21 *e*P P 01 47 12.5 +1.8
comp=Z,16nm,1.2s
HINF **Hinteralfeld** 51.92 21 *e*P P 01 47 12.5 +1.8
HINF pmax pmax
comp=Z,16nm,1.2s
HINF **Hinteralfeld** 51.92 21 *e*P P 01 47 12.5 +1.8
comp=Z,16nm,1.2s
THEF **They Montfort** 51.97 20 *e*P P 01 47 13.5 +2.4
THEF **They Montfort** 51.97 20 *e*P P 01 47 13.5 +2.4
THEF **They Montfort** 51.97 20 *e*P P 01 47 13.5 +2.4
AGP **Aguadilla** 52.06 293 *e*P P 01 47 12.6 +0.4
PAGF **Fort de Pagny** 52.17 19 *e*P P 01 47 13.9 +1.4
comp=Z,10nm,1.3s
PAGF **Fort de Pagny** 52.17 19 *e*P P 01 47 13.9 +1.4
comp=Z,10nm,1.3s
FUORN **Ofenpass-Fuorn** 52.21 24 *e*P P 01 47 14.2 +1.0
comp=Z,5.7nm,0.9s
ECH **Echery** 52.37 21 *e*P P 01 47 15.9 +1.9
ECH **Echery** 52.37 21 *e*P P 01 47 15.9 +1.9
ECH **Echery** 52.37 21 *e*P P 01 47 15.9 +1.9
FELD **Feldberg im Sc** 52.38 21 *e*P P 01 47 15.4 +1.1
CDF **Champ du Feu** 52.57 21⇑*i*P P 01 47 16.4 +0.8
comp=Z,10nm,0.8s
CDF **Champ du Feu** 52.57 21⇑*i*P P 01 47 16.4 +0.8
CDF pmax pmax
comp=Z,11nm,0.8s
CDF **Champ du Feu** 52.57 21⇑*i*P P 01 47 16.4 +0.8
comp=Z,10nm,0.8s
DAVA **Damuels** 52.60 23⇑*i*P P 01 47 16.5 +0.6
comp=Z,22nm,0.8s
LPAZ **La Paz** 52.62 249 P P 01 47 15.4 -1.7
comp=Z,2.3nm,0.8s,baz=72,slow=3.1,SNR=9.2
LPAZ LR LR 02 09 24.3
comp=Z,109nm,20.0s,baz=90,slow=36
LPAZ **La Paz** 52.62 249 *e*P P 01 47 16.1 -1.0
comp=Z,3.6nm,0.8s
IDI **Anoyia** 52.64 44 *e*P P 01 47 18.2 +1.9
comp=Z,11nm,0.9s
FETA **Feichten** 52.73 24⇑*i*P P 01 47 17.3 +0.4
comp=Z,8.5nm,0.8s
SPAK **Spaichingen-Ko** 52.86 22 *e*P P 01 47 18.7 +1.0
BFO **Black Forest** 52.88 21 *e*P P 01 47 18.8 +0.9
BFO pmax pmax
comp=Z,12nm,1.0s
BFO **Black Forest** 52.88 21 *e*P P 01 47 18.8 +0.9
comp=Z,12nm,1.0s
TRI **Trieste** 53.00 27 *e*P P 01 47 19.7 +1.0
TRI pmax pmax
comp=Z,14nm,0.9s
TRI **Trieste** 53.00 27 *e*P P 01 47 19.7 +1.0
comp=Z,14nm,0.9s
BAIF **Baives** 53.01 17⇑*i*P P 01 47 19.6 +0.9
comp=Z,13nm,0.9s
BAIF **Baives** 53.01 17⇑*i*P P 01 47 19.6 +0.9
BAIF pmax pmax
comp=Z,13nm,0.9s
BAIF **Baives** 53.01 17⇑*i*P P 01 47 19.6 +0.9
comp=Z,13nm,0.9s
RETA **Reutte** 53.12 24⇑*i*P P 01 47 19.9 +0.3
comp=Z,10nm,1.4s
MOTA **Moosalm** 53.14 24⇑*i*P P 01 47 19.9 0.0
comp=Z,5.2nm,1.0s
DOU **Dourbes** 53.16 18 P P 01 47 20.5 +0.7
GIVF **Givet** 53.24 18 *e*P P 01 47 22.2 +1.8
comp=Z,15nm,0.9s
GIVF **Givet** 53.24 18 *e*P P 01 47 22.2 +1.8
GIVF pmax pmax
comp=Z,15nm,0.9s
GIVF **Givet** 53.24 18 *e*P P 01 47 22.2 +1.8
comp=Z,15nm,0.9s
LANF **Langenberg** 53.24 21 *e*P P 01 47 21.7 +1.2
LANF **Langenberg** 53.24 21 *e*P P 01 47 21.7 +1.2
LANF **Langenberg** 53.24 21 *e*P P 01 47 21.7 +1.2
ABTA **Abfaltersbach** 53.25 25⇑*i*P P 01 47 21.9 +1.3
comp=Z,6.6nm,0.7s
WTTA **Wattenberg** 53.29 24⇑*i*P P 01 47 21.7 +0.6
comp=Z,13nm,0.8s
STU **Stuttgart** 53.57 22 *e*P P 01 47 23.4 +0.6
STU pmax pmax
comp=Z,8.0nm,0.9s
STU **Stuttgart** 53.57 22 *e*P P 01 47 23.4 +0.6
comp=Z,7.5nm,0.9s
BCLA **Clavier** 53.66 18 P P 01 47 24.5 +1.0
KBA **Koelnbreinsper** 53.87 26⇑*i*P P 01 47 26.1 +0.7
comp=Z,4.7nm,0.7s
APE **Apeiranthos** 54.03 42⇑P P 01 47 26.9 +0.4
APE **Apeiranthos** 54.03 42⇑*i*P P 01 47 26.9 +0.4
TOD **Tromm** 54.12 21 *e*P P 01 47 28.2 +1.3
TOD **Tromm** 54.12 21 *e*P P 01 47 28.2 +1.3
SOKA **Soboth** 54.31 27⇓*i*P P 01 47 29.7 +1.3
comp=Z,9.9nm,0.9s
KMBO **Kilima Mbogo** 54.68 92 *e*P P 01 47 31.1 -0.8
comp=Z,5.9nm,1.2s
MOA **Molln** 54.86 26⇓*i*P P 01 47 32.1 -0.3
comp=Z,4.9nm,1.0s
GRF **Grafenberg Arr** 55.08 22 *e*P P 01 47 34.2 +0.3
GRF pmax pmax
comp=Z,5.0nm,0.9s
GRF **Grafenberg Arr** 55.08 22 *e*P P 01 47 34.2 +0.3
comp=Z,5.0nm,0.9s
GERES **GERESS Array B** 55.39 25 P P 01 47 36.6 +0.4
comp=Z,6.0nm,0.7s,baz=212,slow=7.4,SNR=75
GERES PcP PcP 01 48 35.4 -1.2
comp=Z,2.3nm,0.8s,baz=206,slow=5.8,SNR=3.5
GERES PP PP 01 49 37.2 -2.9
comp=Z,1.9nm,0.7s,baz=213,slow=7.0,SNR=3.7
GERES LR LR 02 11 09.0
comp=Z,92nm,18.8s,baz=73,slow=36
GERES **GERESS Array B** 55.39 25 P P 01 47 36.6 +0.4
GERES PcP PcP 01 48 35.4 -1.2
GERES PP PP 01 49 37.2 -2.9
KHC **Kasperske Hory** 55.56 24⇑*i*P P 01 47 37.9 +0.5
KHC **Kasperske Hory** 55.56 24 *e*P P 01 47 38.0 +0.6
comp=Z,59nm,2.8s
KHC **Kasperske Hory** 55.56 24⇑*i*P P 01 47 37.9 +0.5
KHC *ex* x 01 47 48.7
CONA **Conrad Observa** 55.62 27⇑*i*P P 01 47 38.7 +0.8
comp=Z,6.5nm,1.0s
PKSM **Moragy** 55.69 30⇑P P 01 47 39.2 +0.9
PKSM **Moragy** 55.69 30⇑*i*P P 01 47 39.2 +0.9
VTS **Vitosha** 55.76 36⇑P P 01 47 40.8 +1.7
VTS **Vitosha** 55.76 36⇑*i*P P 01 47 40.8 +1.7
NKC **Novy Kostel** 55.99 23 *i*P P 01 47 42.0 +1.6
NKC **Novy Kostel** 55.99 23⇑*i*P P 01 47 42.0 +1.6
NKC *ex* x 01 47 55.4
SDDR **Presa de Saban** 56.02 293 *e*P P 01 47 39.3 -1.9
comp=Z,23nm,0.8s
TREC **Trest** 56.49 25 *i*P P 01 47 44.5 +0.5
TREC **Trest** 56.49 25⇑*i*P P 01 47 44.5 +0.5
PRU **Pruhonice** 56.63 24 *i*P P 01 47 45.8 +0.9
PRU **Pruhonice** 56.63 24⇑*i*P P 01 47 45.8 +0.9
PRU *ex* x 01 47 59.4
SMOL **Smolenice** 56.76 27 *e*P P 01 47 46.7 +0.8
SMOL **Smolenice** 56.76 27 *e*P P 01 47 46.7 +0.8
BZS **Buzias** 56.80 32⇑P P 01 47 47.7 +1.4
BZS **Buzias** 56.80 32⇑*i*P P 01 47 47.7 +1.4
VRAC **Vranov** 56.98 26⇑*i*P P 01 47 48.4 +0.3
ROSC **El Rosal** 57.03 276 P P 01 47 49.2 +0.3
comp=Z,3.5nm,0.5s,baz=270,slow=20,SNR=4.2
ROSC LR LR 02 09 49.8
comp=Z,143nm,19.8s,baz=28,slow=34
ROSC **El Rosal** 57.03 276 P P 01 47 49.2 +0.3
PVCC **Panska Ves** 57.06 24 *i*P P 01 47 48.4 +0.4
PVCC MLR MLR
comp=Z,900nm,21.6s
PVCC **Panska Ves** 57.06 24⇑*i*P P 01 47 48.4 +0.4
PVCC *ex* x 01 47 58.9
CLL **Collm** 57.06 22 *e*P P 01 47 48.0 0.0
CLL *eS* S 01 55 52.0 +10
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL **Collm** 57.06 22 *e*P P 01 47 48.0 0.0
comp=Z,4.0nm,1.0s
CLL *eS* S 01 55 52.0 +10
CLL LmV 02 16 00.0
comp=Z,100nm,18.1s
BRG **Berggiesshubel** 57.08 23 *e*P P 01 47 48.9 +0.8
comp=Z,6.2nm,0.9s
BRG **Berggiesshubel** 57.08 23 *e*P P 01 47 48.9 +0.8
BRG pmax pmax
comp=Z,6.0nm,0.9s
VYHS **Vyhne** 57.40 28 *e*P P 01 47 51.3 +0.8
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS **Vyhne** 57.40 28 *e*P P 01 47 51.2 +0.8
PSZ **Piszkesteto** 57.49 29 ⇓P P 01 47 52.2 +1.0
PSZ **Piszkesteto** 57.49 29 *e*P P 01 47 52.4 +1.2
PSZ pmax pmax
comp=Z,11nm,1.2s
PSZ **Piszkesteto** 57.49 29 *e*P P 01 47 52.4 +1.2
comp=Z,11nm,1.2s
PSZ **Piszkesteto** 57.49 29⇓*i*P P 01 47 52.2 +1.0
UPC **Upice** 57.63 25 *i*P P 01 47 53.0 +0.9
UPC **Upice** 57.63 25⇑*i*P P 01 47 53.0 +0.9
DPC **Dobruska-Polom** 57.64 25⇑*i*P P 01 47 52.9 +0.7
DPC **Dobruska-Polom** 57.64 25 *e*P P 01 47 52.6 +0.4
comp=Z,10nm,0.8s
DPC **Dobruska-Polom** 57.64 25⇑*i*P P 01 47 52.9 +0.7
MORC **Moravsky Berou** 57.74 26 ⇑P P 01 47 53.6 +0.7
MORC **Moravsky Berou** 57.74 26 *e*P P 01 47 53.8 +0.9
comp=Z,9.2nm,0.9s
MORC **Moravsky Berou** 57.74 26⇑*i*P P 01 47 53.6 +0.7
OKC **Ostrava-Krasne** 58.05 26 *i*P P 01 47 56.2 +1.2
OKC **Ostrava-Krasne** 58.05 26⇑*i*P P 01 47 56.2 +1.2
DRGR 58.15 31 ⇓P P 01 47 56.9 +1.0
DRGR 58.15 31⇓*i*P P 01 47 56.9 +1.0
ARR **Arges** 58.28 34⇑*i*P P 01 47 57.9 +1.1
VOIR 58.55 34 ⇑P P 01 47 59.7 +1.0
VOIR 58.55 34⇑*i*P P 01 47 59.7 +1.0
NIE **Niedzica** 58.74 28 *e*P P 01 48 01.6 +1.7
NIE **Niedzica** 58.74 28 *e*P P 01 48 01.6 +1.7
CRVS **Cervenica-Dubn** 58.93 29 *e*P P 01 48 02.5 +1.3
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS **Cervenica-Dubn** 58.93 29 *e*P P 01 48 02.5 +1.3
TRPA **Tarpa** 58.94 30⇑*i*P P 01 48 02.0 +0.8
OJC **Ojcow** 59.07 27 *e*P P 01 48 03.0 +0.9
OJC **Ojcow** 59.07 27 *e*P P 01 48 02.5 +0.4
comp=Z,14nm,1.0s
OJC **Ojcow** 59.07 27 *e*P P 01 48 03.0 +0.9
DOPR **Dopca** 59.07 34⇑*i*P P 01 48 03.1 +0.9
MLR **Muntele Rosu** 59.09 34⇑*i*P P 01 48 03.2 +0.7
UZH **Uzhgorod** 59.15 30⇑*i*P P 01 48 04.0 +1.3
UZH *e* 01 48 06.4
UZH *eS* S 01 56 09.0 -0.9
UZH *e* 01 56 28.0
ISR **Istrita** 59.21 35 ⇑P P 01 48 03.4 +0.2
ISR **Istrita** 59.21 35⇑*i*P P 01 48 03.4 +0.2
KOLS **Kolonicke sedl** 59.34 29 *e*P P 01 48 05.2 +1.1
KOLS pmax pmax
comp=Z,7.0nm,1.3s
KOLS **Kolonicke sedl** 59.34 29 *e*P P 01 48 05.2 +1.1
PLOR **Plostina** 59.70 34 ⇑P P 01 48 06.6 0.0
PLOR **Plostina** 59.70 34⇑*i*P P 01 48 06.6 0.0
VRI **Vrincioaia** 59.75 34 ⇑P P 01 48 06.9 0.0
VRI **Vrincioaia** 59.75 34⇑*i*P P 01 48 06.9 0.0
BURAR **Bucovina Array** 59.99 32⇑*i*P P 01 48 09.9 +1.3
BUR08 **Bucovina Ar. S** 60.00 32 *e*P P 01 48 08.0 -0.7
KWP **Kalwaria Pacla** 60.02 29 *e*P P 01 48 09.7 +0.9
KWP **Kalwaria Pacla** 60.02 29 ⇑P P 01 48 09.5 +0.8
KWP **Kalwaria Pacla** 60.02 29⇑*i*P P 01 48 09.5 +0.8
KWP **Kalwaria Pacla** 60.02 29 *e*P P 01 48 09.6 +0.9
CFR **Carcaliu** 60.16 36⇑*i*P P 01 48 09.8 +0.1
NNA **Nana** 60.20 256 LR LR 02 12 33.0
comp=Z,164nm,20.5s,baz=74,slow=34
GKP **Gorka Klasztor** 60.22 23 *e*P P 01 48 11.1 +1.2
GKP **Gorka Klasztor** 60.22 23 *e*P P 01 48 11.1 +1.2
GHRR 60.25 34⇑*i*P P 01 48 10.6 +0.3
BR131 **Keskin Array S** 60.87 43 *e*P P 01 48 15.1 +0.2
comp=Z,4.8nm,0.8s
BRTR **Keskin Array B** 60.87 43 P P 01 48 15.9 +1.1
comp=Z,6.4nm,0.8s,baz=244,slow=6.7,SNR=34
BRTR LR LR 02 17 46.1
comp=Z,78nm,20.8s,baz=62,slow=39
BRTR **Keskin Array B** 60.87 43 P P 01 48 15.9 +1.1
ATAH **Atahualpa** 61.25 262 LR LR 02 12 14.7
comp=Z,122nm,21.8s,baz=251,slow=34
PLCA **Paso Flores** 63.01 223 LR LR 02 13 01.3
comp=Z,112nm,18.4s,baz=262,slow=33
SUW **Suwalki** 63.21 25 *e*P P 01 48 30.5 +0.5
SUW **Suwalki** 63.21 25 *e*P P 01 48 30.6 +0.5
SUW pmax pmax
comp=Z,37nm,1.0s
SUW **Suwalki** 63.21 25 *e*P P 01 48 30.6 +0.5
comp=Z,37nm,1.0s
SUW **Suwalki** 63.21 25 *e*P P 01 48 30.5 +0.5
MALT **Malatya** 63.66 47 *e*P P 01 48 35.0 +1.4
MALT pmax pmax
comp=Z,12nm,0.8s
MALT **Malatya** 63.66 47 *e*P P 01 48 35.0 +1.4
comp=Z,12nm,0.8s
MALT **Malatya** 63.66 47 ⇓*i*P P 01 48 35.0 +1.4
AK02 **Malin Array Si** 63.92 31 *e*P P 01 48 34.7 -0.1
KIEV **Kiev** 63.94 31 *e*P P 01 48 34.8 -0.2
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV **Kiev** 63.94 31 *e*P P 01 48 34.8 -0.2
comp=Z,11nm,0.9s
AK01 **Malin Array Si** 63.94 31 *e*P P 01 48 34.7 -0.3
AKASG **Malin Array Be** 63.95 31 P P 01 48 34.9 -0.2
comp=Z,5.7nm,0.7s,baz=234,slow=6.5,SNR=12
AKASG LR LR 02 18 56.2
comp=Z,102nm,19.3s,baz=235,slow=38
AKASG **Malin Array Be** 63.95 31 *ce*P P 01 48 35.4 +0.3
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG **Malin Array Be** 63.95 31 P P 01 48 34.9 -0.2
NB2 **NORSAR Subarra** 64.53 15 P P 01 48 39.4 +0.7
comp=Z,2.0nm,0.8s,baz=207,slow=6.9
NOA **NORSAR Array B** 64.53 15 P P 01 48 39.5 +0.7
comp=Z,3.7nm,0.8s,baz=210,slow=6.6,SNR=9.0
NOA LR LR 02 16 44.4
comp=Z,102nm,18.9s,baz=195,slow=36
NOA **NORSAR Array B** 64.53 15 P P 01 48 39.5 +0.7
HNH **Hanover** 65.20 319 *e*P P 01 48 43.5 +0.1
comp=Z,25nm,1.2s
RAYN **Ar Rayn** 65.22 64 *e*P P 01 48 46.1 +2.1
comp=Z,7.7nm,1.0s
JSRW **J. Sargeant Re** 66.86 311 *e*P P 01 48 54.9 +0.7
BINY **Binghamton** 67.07 316 *e*P P 01 48 55.5 0.0
comp=Z,16nm,1.3s
VSU **Vasula** 67.67 23⇓*e*P P 01 48 59.3 +0.4
VSU pmax pmax
comp=Z,12nm,0.8s
VSU MLR MLR
comp=Z,135nm,22.0s
SCHQ **Schefferville** 67.73 332 LR LR 02 13 31.3
comp=Z,72nm,20.1s,baz=327,slow=31
NAY **Al-Naaiem** 67.94 58 *e*P P 01 49 02.2 +1.0
NAY AMb AMB 01 49 03.5
comp=Z,24nm,1.2s
RDF **Al-Radifah** 68.13 59 *e*P P 01 49 03.8 +1.4
RDF AMb AMB 01 49 08.4
comp=Z,47nm,1.4s
MIB **Mutribah** 68.14 58 *e*P P 01 49 03.9 +1.5
MIB AMb AMB 01 49 06.4
comp=Z,19nm,1.6s
KIV **Kislovodsk** 68.76 42 *e*P P 01 49 06.5 +0.3
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,51nm,17.0s
KMSC **Kings Mountain** 68.77 308 ⇓P P 01 49 05.8 -0.5
baz=69
USHA **Ushuaia** 68.82 209 LR LR 02 14 27.3
comp=Z,127nm,19.8s,baz=246,slow=32
KBZ **Khabaz** 68.82 42 P P 01 49 07.0 +0.6
comp=Z,11nm,0.9s,baz=234,slow=4.9,SNR=20
KBZ LR LR 02 20 55.2
comp=Z,75nm,18.5s,baz=106,slow=37
KBZ **Khabaz** 68.82 42 P P 01 49 07.0 +0.6
KBZ **Khabaz** 68.82 42 P P 01 49 07.0 +0.6
GNI **Garni** 68.90 47 P P 01 49 07.5 +0.3
comp=Z,3.8nm,0.7s,baz=349,slow=10,SNR=3.0
GNI **Garni** 68.90 47 P P 01 49 07.5 +0.3
ZEI **Tsey** 69.17 44 *e*P P 01 49 05.9 -3.0
ZEI pmax pmax
comp=Z,5.0nm,1.0s
FINES **FINESS Array B** 69.43 21 P P 01 49 10.7 +0.9
comp=Z,10.0nm,0.7s,baz=216,slow=4.9,SNR=51
FINES LR LR 02 19 02.4
comp=Z,142nm,20.2s,baz=313,slow=35
FINES **FINESS Array B** 69.43 21 P P 01 49 10.7 +0.9
FIA1 **FINESS Array S** 69.43 21 *e*P P 01 49 10.1 +0.3
VSR **Storozhevoye** 69.58 34 *e*P P 01 49 10.4 -0.6
ALLY **Alegheny Colle** 69.79 315 *e*P P 01 49 13.4 +1.0
comp=Z,35nm,1.6s
ERPA **Erie** 69.83 315 *e*P P 01 49 12.0 -0.7
comp=Z,11nm,1.0s
KAF **Kangasniemi** 69.96 20 *e*P P 01 49 12.9 -0.2
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF **Kangasniemi** 69.96 20 *ep* P 01 49 12.9 -0.2
comp=Z,5.6nm,0.8s
OBN **Obninsk** 70.09 30⇑*i*P P 01 49 13.3 -0.7
OBN *eS* S 01 58 29.3 +4.6
OBN pmax pmax
comp=Z,30nm,2.5s
OBN MLR MLR
comp=Z,100nm,18.0s
VRHR **Novokhopersk** 70.92 35 *e*P P 01 49 19.7 +0.5
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VNA2 **Neumayer--Watz** 71.29 177 *e*P P 01 49 31.1 +10
baz=333,slow=7.3
ACSO **Alum Creek Sta** 71.42 313 *e*P P 01 49 22.5 0.0
comp=Z,10nm,0.9s
IRAZ **Razeghan** 71.55 53 *e*P P 01 49 24.5 +0.9
JOF **Joensuu** 72.26 21 *e*P P 01 49 26.2 -0.8
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF **Joensuu** 72.26 21 *ep* P 01 49 26.2 -0.8
comp=Z,10nm,0.7s
SWET **Sewanee** 72.44 307 *e*P P 01 49 28.2 -0.5
comp=Z,7.4nm,0.9s
LRAL **Lakeview Retre** 72.86 305 *e*P P 01 49 31.2 0.0
comp=Z,11nm,1.3s
IZEF **Zefreh** 72.96 56 *e*P P 01 49 32.0 -0.2
PMSA **Palmer Station** 73.06 199 LR LR 02 13 10.0
comp=Z,151nm,19.1s,baz=357,slow=29
WCI **Wyandotte Cave** 73.40 310 *e*P P 01 49 34.7 +0.4
WCI pmax pmax
comp=Z,8.0nm,1.0s
WCI **Wyandotte Cave** 73.40 310 *e*P P 01 49 34.7 +0.4
comp=Z,8.4nm,1.0s
WVT **Waverly** 74.14 308 *e*P P 01 49 38.2 -0.5
WVT pmax pmax
comp=Z,5.0nm,0.9s
WVT **Waverly** 74.14 308 *e*P P 01 49 38.2 -0.5
comp=Z,5.2nm,0.9s
KLMR **Klimovskoe** 74.34 25 *e*P P 01 49 37.4 -1.9
KLMR pmax pmax
comp=Z,22nm,1.4s
SFIN **Scholer Farm** 74.50 312 ⇓P P 01 49 40.7 0.0
baz=75
OLIL **Olney** 74.89 310 *e*P P 01 49 42.4 -0.6
comp=Z,17nm,0.9s
ARCES **ARCESS Array B** 74.90 14 P P 01 49 42.3 -0.2
comp=Z,2.0nm,0.8s,baz=216,slow=6.0,SNR=4.3
ARCES LR LR 02 20 26.5
comp=Z,77nm,21.0s,baz=34,slow=34
ARCES **ARCESS Array B** 74.90 14 P P 01 49 42.3 -0.2
KEV **Kevo** 75.43 15 *e*P P 01 49 39.0 -6.4
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV **Kevo** 75.43 15 *ep* P 01 49 39.0 -6.4
comp=Z,3.9nm,0.7s
SIUC **Southern Illin** 75.55 309 *e*P P 01 49 47.0 +0.2
comp=Z,11nm,0.6s
WSAR **Wadi Sarin** 77.11 66 P P 01 49 56.5 +0.5
comp=Z,7.1nm,0.9s,baz=262,slow=6.2,SNR=6.1
WSAR LR LR 02 22 21.8
comp=Z,80nm,18.2s,baz=250,slow=34
WSAR **Wadi Sarin** 77.11 66 P P 01 49 56.5 +0.5
UALR **University of** 77.53 306 *e*P P 01 49 58.0 -0.2
comp=Z,7.2nm,0.9s
ISFR **Sfrayin** 78.27 52 *e*P P 01 50 04.3 +1.8
IPAY **Payeh** 78.97 53 *e*P P 01 50 06.8 +0.4
NATX **Nacogdoches** 79.06 302 *e*P P 01 50 06.5 -0.2
comp=Z,17nm,0.8s
ISRO **Mashad** 79.33 53 *e*P P 01 50 09.0 +0.8
SPMN **St. Paul** 79.60 316 ⇓P P 01 50 09.0 -0.4
baz=80
IMYA **Miami** 79.84 53 *e*P P 01 50 11.5 +0.4
SPITS **Spitsbergen Ar** 79.95 7 P P 01 50 11.8 +1.2
comp=Z,5.4nm,0.9s,baz=198,slow=12,SNR=1.8
SPITS **Spitsbergen Ar** 79.95 7 P P 01 50 11.8 +1.2
TUL1 **Tulsa** 80.48 306 ⇓P P 01 50 13.6 -0.7
baz=81
AKTO **Aktyubinsk** 80.60 39 P P 01 50 15.7 +1.1
comp=Z,4.5nm,0.8s,baz=254,slow=4.3,SNR=20
AKTO LR LR 02 26 38.1
comp=Z,67nm,21.9s,baz=75,slow=36
AKTO **Aktyubinsk** 80.60 39 P P 01 50 15.7 +1.1
AKTO **Aktyubinsk** 80.60 39 P P 01 50 15.7 +1.1
WHTX **Lake Whitney** 81.45 302 ⇓P P 01 50 19.1 -0.5
baz=82
ABKAR **Akbulak array** 81.61 40 *e*P P 01 50 20.7 +0.7
SOKR **Solikamsk** 81.88 30 *e*P P 01 50 22.4 +1.3
SOKR pmax pmax
comp=Z,10.0nm,1.3s
ARU **Arti** 82.11 33 *d*/*i*P P 01 50 23.3 +0.8
ARU 01 53 30.2
ARU *eS* S 02 00 37.3 +0.3
ARU pmax pmax
comp=Z,12nm,1.0s
ARU **Arti** 82.11 33 *e*P P 01 50 22.8 +0.3
comp=Z,8.1nm,0.8s
AGMN **Agassiz Nation** 82.18 319 *e*P P 01 50 22.8 -0.3
comp=Z,11nm,0.8s
ULM **Lac du Bonnet** 82.48 321 P P 01 50 23.9 -0.7
comp=Z,3.4nm,0.8s,baz=98,slow=7.1,SNR=5.1
ULM LR LR 02 22 13.3
comp=Z,93nm,19.8s,baz=65,slow=32
ULM **Lac du Bonnet** 82.48 321 P P 01 50 23.9 -0.7
WMOK **Wichita Mounta** 82.79 305 *e*P P 01 50 26.4 -0.2
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK **Wichita Mounta** 82.79 305 *e*P P 01 50 26.4 -0.2
comp=Z,7.1nm,1.1s
Z32A **Haskell** 83.26 303 ⇑P P 01 50 28.6 -0.5
baz=83
632A **Uvalde** 83.27 300 ⇑P P 01 50 29.0 -0.2
baz=83
SVE **Sverdlovsk** 83.31 33⇑*e*P P 01 50 30.0 +1.3
SVE pmax pmax
comp=Z,12nm,1.0s
332A **Millersview** 83.35 301 ⇓P P 01 50 29.3 -0.3
baz=83,SNR=11
ABTX **Abilene, Hawle** 83.35 303 ⇑P P 01 50 29.4 -0.1
baz=83
432A **Menard** 83.36 301 ⇑P P 01 50 29.6 -0.1
baz=83
732A **Laxson Ranch,** 83.38 299 ⇑P P 01 50 29.7 0.0
baz=83,SNR=5.1
532A **Rocksprings** 83.41 300 ⇓P P 01 50 29.8 -0.1
baz=84,SNR=5.2
231A **Bronte** 83.87 302 ⇑P P 01 50 31.7 -0.5
baz=84
331A **San Angelo** 83.93 301 ⇓P P 01 50 32.2 -0.3
baz=84
631A **Perdido Creek** 83.95 299 ⇑P P 01 50 32.6 -0.1
baz=84,SNR=15
531A **Rocksprings** 83.96 300 ⇑P P 01 50 32.3 -0.5
baz=84
431A **Sonora** 84.05 301 ⇓P P 01 50 32.7 -0.5
baz=84
X30A **Coker Ranch, T** 84.50 304 ⇑P P 01 50 35.4 0.0
baz=85
230A **Sterling City** 84.55 302 ⇑P P 01 50 35.9 +0.2
baz=85
330A **Mertzon** 84.57 301 ⇓P P 01 50 35.6 -0.2
baz=85
430A **Baggett Ranch,** 84.59 301 ⇑P P 01 50 35.9 -0.1
baz=85,SNR=5.4
MDND **Maddock** 84.61 318 ⇓P P 01 50 36.1 +0.5
baz=85
Z30A **Sanderson Ranc** 84.64 303 ⇓P P 01 50 36.1 0.0
baz=85,SNR=6.4
530A **J-C Ranch, Com** 84.65 300 ⇑P P 01 50 36.1 -0.1
baz=85,SNR=10.0
Z29A **Hungry Hill Ra** 85.12 303 ⇑P P 01 50 38.3 -0.3
baz=85,SNR=9.5
Y29A **Porterfield Fa** 85.12 304 ⇓P P 01 50 38.7 +0.1
baz=85
429A **Davenport Ranc** 85.15 301 ⇓P P 01 50 38.4 -0.4
baz=85,SNR=7.3

AMTX	**Amarillo**	**85.18**	305	⇑P		**P**	**01 50 38.5**	**-0.4**
	baz=85							
129A	**Stewart Farms,**	**85.22**	303	⇑P		**P**	**01 50 39.3**	**+0.2**
	baz=85							
329A	**Wagon Wheel Ra**	**85.26**	301	⇓P		**P**	**01 50 39.3**	**0.0**
	baz=85							
Y28A	**McKinney Farm,**	**85.60**	304	⇓P		**P**	**01 50 40.9**	**-0.1**
	baz=86							
Z28A	**Tucker Farm, M**	**85.69**	303	⇑P		**P**	**01 50 41.1**	**-0.3**
	baz=86							
128A	**Castleberry Fa**	**85.74**	303	⇑P		**P**	**01 50 41.5**	**-0.2**
	baz=86							
228A	**UT Block 9, Go**	**85.81**	302	⇑P		**P**	**01 50 41.8**	**-0.2**
	baz=86							
428A	**Kincaid Ranch,**	**85.83**	301	⇑P		**P**	**01 50 42.9**	**+0.7**
	baz=86,SNR=32							
528A	**Cox Ranch, San**	**85.90**	300	⇓P		**P**	**01 50 42.5**	**-0.1**
	baz=86							
628A	**Black Gap, Mar**	**85.97**	299	⇓P		**P**	**01 50 42.8**	**0.0**
	baz=86							
328A	**Wristen Ranch,**	**85.97**	301	⇓P		**P**	**01 50 42.5**	**-0.4**
	baz=86							
MSTX	**Muleshoe**	**86.04**	304	⇑P		**P**	**01 50 43.5**	**+0.3**
	baz=86,SNR=8.4							
R27A	**Eads**	**86.25**	308	⇓P		**P**	**01 50 44.3**	**+0.1**
	baz=86							
Y27A	**Causey**	**86.36**	304	⇓P		**P**	**01 50 45.0**	**+0.2**
	baz=86							
Z27A	**Tatum**	**86.38**	303	⇓P		**P**	**01 50 44.6**	**-0.3**
	baz=86							
627A	**Terlingua Ranc**	**86.40**	299	⇑P		**P**	**01 50 44.8**	**-0.3**
	baz=86,SNR=8.9							
427A	**Hayter Ranch,**	**86.46**	301	⇓P		**P**	**01 50 45.5**	**+0.2**
	baz=86							
RES	**Resolute Bay**	**86.52**	345	LR		LR	02 22 11.3	
	comp=Z,52nm,18.6s,baz=102,slow=31							
527A	**Woodward Ranch**	**86.61**	300	⇓P		**P**	**01 50 46.4**	**+0.2**
	baz=87,SNR=15							
TXAR	**Lajitas Array**	**86.64**	299	P		**P**	**01 50 46.7**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=120,slow=6.7,SNR=55							
TXAR				LR		LR	02 26 23.3	
	comp=Z,57nm,21.5s,baz=305,slow=34							
TXAR	**Lajitas Array**	**86.64**	299	P		**P**	**01 50 46.7**	**+0.5**
P26A	**Davis Ranch, A**	**86.74**	309	⇑P		**P**	**01 50 47.2**	**+0.6**
	baz=87							
O26A	**Horse Wrangler**	**86.74**	310	⇑P		**P**	**01 50 47.2**	**+0.7**
	baz=87							
S26A	**Kim**	**86.76**	307	⇑P		**P**	**01 50 47.0**	**+0.3**
	baz=87,SNR=5.1							
R26A	**Arlington**	**86.77**	308	⇑P		**P**	**01 50 47.1**	**+0.4**
	baz=87							
T26A	**Comanche Natio**	**86.84**	307	⇑P		**P**	**01 50 47.3**	**+0.1**
	baz=87,SNR=5.8							
Y26A	**Elida**	**86.91**	304	⇑P		**P**	**01 50 48.1**	**+0.6**
	baz=87							
X26A	**CR and CF Fran**	**86.92**	304	⇓P		**P**	**01 50 47.5**	**0.0**
	baz=87							
U26A	**Atchley Ranch,**	**86.93**	306	⇑P		**P**	**01 50 48.0**	**+0.3**
	baz=87,SNR=5.8							
V26A	**Tequesquite Ra**	**86.94**	306	⇓P		**P**	**01 50 47.9**	**+0.3**
	baz=87,SNR=8.5							
426A	**McDonald Obser**	**86.99**	301	⇑P		**P**	**01 50 48.3**	**+0.3**
	baz=87							
Z26A	**Caprock**	**87.02**	303	⇓P		**P**	**01 50 48.0**	**0.0**
	baz=87,SNR=5.6							
526A	**Mary Lane Ranc**	**87.03**	300	⇑P		**P**	**01 50 48.6**	**+0.5**
	baz=87,SNR=5.7							
126A	**Clayton Basin,**	**87.04**	303	⇓P		**P**	**01 50 48.3**	**+0.2**
	baz=87							
626A	**Big Bend Ranch**	**87.05**	299	⇓P		**P**	**01 50 48.5**	**+0.3**
	baz=87,SNR=17							
GDL2	**Guadalupe Moun**	**87.32**	302	*e*P		**P**	**01 50 50.3**	**+0.8**
P25A	**Willow Gulch B**	**87.37**	309	⇓P		**P**	**01 50 50.4**	**+0.7**
	baz=87							
Q25A	**Bedland, Calha**	**87.42**	309	⇑P		**P**	**01 50 50.6**	**+0.6**
	baz=88,SNR=5.2							
U25A	**Circle Dot Ran**	**87.47**	306	⇓P		**P**	**01 50 50.3**	**+0.1**
	baz=88							
W25A	**X Bar L Ranch,**	**87.48**	305	⇑P		**P**	**01 50 50.2**	**0.0**
	baz=88							
T25A	**Trinidad**	**87.49**	307	⇑P		**P**	**01 50 50.4**	**+0.1**
	baz=88							
S25A	**Robets Cordova**	**87.52**	308	⇓P		**P**	**01 50 50.5**	**0.0**
	baz=88							
125A	**Gardner Draw,**	**87.58**	303	⇑P		**P**	**01 50 50.8**	**+0.1**
	baz=88							
Z25A	**Roswell**	**87.64**	303	⇑P		**P**	**01 50 51.1**	**+0.1**
	baz=88							
325A	**Bean Ranch, Si**	**87.81**	301	⇑P		**P**	**01 50 51.0**	**-0.9**
	baz=88							
425A	**Indio Mountain**	**87.82**	301	⇑P		**P**	**01 50 52.0**	**+0.1**
	baz=88							
H24A	**Dirks Ranch, A**	**87.83**	315	⇑P		**P**	**01 50 52.1**	**+0.4**
	baz=88							
I24A	**Kuemmerle Ranc**	**87.86**	314	⇓P		**P**	**01 50 52.8**	**+1.0**
	baz=88							
M24A	**Cheyenne**	**87.93**	311	⇓P		**P**	**01 50 53.3**	**+1.0**
	baz=88							
T24A	**Torres, Weston**	**88.00**	307	⇑P		**P**	**01 50 53.2**	**+0.3**
	baz=88							
R24A	**Sanders Place,**	**88.07**	308	⇓P		**P**	**01 50 53.8**	**+0.7**
	baz=88							
Q24A	**Divide**	**88.12**	309	⇓P		**P**	**01 50 53.9**	**+0.5**
	baz=88							
S24A	**Houchin Ranch,**	**88.14**	307	⇑P		**P**	**01 50 54.0**	**+0.4**
	baz=88							
V24A	**Rampart Ranch,**	**88.15**	306	⇓P		**P**	**01 50 54.2**	**+0.6**
	baz=88							
Z24A	**Sheeppen Canyo**	**88.18**	303	⇑P		**P**	**01 50 53.7**	**-0.1**
	baz=88							
B23A	**Brockton**	**88.25**	318	⇓P		**P**	**01 50 54.0**	**+0.5**
	baz=88							
W24A	**Lazy 6 Ranch,**	**88.25**	305	⇑P		**P**	**01 50 54.0**	**0.0**
	baz=88							
Y24A	**Capitan**	**88.25**	304	⇑P		**P**	**01 50 54.6**	**+0.6**
	baz=88,SNR=7.2							
224A	**Cornudas Mount**	**88.30**	302	⇑P		**P**	**01 50 53.8**	**-0.4**
	baz=88							
PHWY	**Pilot Hill**	**88.41**	311	*e*P		**P**	**01 50 52.5**	**-2.2**
	comp=Z,7.2nm,0.8s							
F23A	**Volborg**	**88.46**	316	⇑P		**P**	**01 50 54.2**	**-0.4**
	baz=88							
BRVK	**Borovoye**	**88.46**	37	⇑*e*P		**P**	**01 50 54.9**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	**88.46**	37	*e*P		**P**	**01 50 54.2**	**-0.1**
	comp=Z,4.6nm,1.2s							
ISCO	**Idaho Springs**	**88.50**	310	*e*P		**P**	**01 50 56.6**	**+1.4**
ISCO				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ISCO	**Idaho Springs**	**88.50**	310	*e*P		**P**	**01 50 56.6**	**+1.4**
	comp=Z,3.2nm,1.0s							
ISCO	**Idaho Springs**	**88.50**	310	⇓P		**P**	**01 50 55.8**	**+0.6**
	baz=89							
BVAR	**Borovoye Array**	**88.53**	37	P		**P**	**01 50 55.8**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=272,slow=4.7,SNR=16							
BVAR	**Borovoye Array**	**88.53**	37	P		**P**	**01 50 55.8**	**+1.1**
BVAR	**Borovoye Array**	**88.53**	37	P		**P**	**01 50 55.8**	**+1.1**
R23A	**Moffat**	**88.64**	308	⇓P		**P**	**01 50 56.2**	**+0.3**
	baz=89							
P23A	**Jefferson**	**88.66**	309	⇓P		**P**	**01 50 56.1**	**0.0**
	baz=89							
O23A	**Lake Granby, G**	**88.74**	310	⇓P		**P**	**01 50 57.1**	**+0.8**
	baz=89,SNR=6.0							
N23A	**Red Feather La**	**88.77**	311	⇓P		**P**	**01 50 56.8**	**+0.4**
	baz=89							
Y23A	**Lovelace Mesa,**	**88.77**	304	⇓P		**P**	**01 50 57.0**	**+0.5**
	baz=89							
A22A	**Carney Farms,**	**88.88**	319	⇓P		**P**	**01 50 57.2**	**+0.7**
	baz=89							
V23A	**Ortiz Mt. (NFS**	**88.89**	306	⇓P		**P**	**01 50 57.9**	**+0.8**
	baz=89							
Z23A	**Rita Site, Whi**	**88.91**	303	⇑P		**P**	**01 50 57.5**	**+0.4**
	baz=89,SNR=5.2							
ANMO	**Albuquerque**	**89.11**	305	*e*P		**P**	**01 50 58.5**	**+0.5**
	comp=Z,3.3nm,1.2s							
H22A	**Clearmont**	**89.11**	314	⇓P		**P**	**01 50 57.7**	**0.0**
	baz=89							
N22A	**Wattenberg Ran**	**89.15**	311	⇑P		**P**	**01 50 57.8**	**-0.4**
	baz=89							
O22A	**Kremmling**	**89.22**	310	⇓P		**P**	**01 50 58.5**	**-0.1**
	baz=89							
R22A	**Saguache, Gunn**	**89.37**	308	⇑P		**P**	**01 51 00.3**	**+0.9**
	baz=89							
P22A	**Eagle**	**89.38**	309	⇓P		**P**	**01 50 59.9**	**+0.7**
	baz=89							
S22A	**4UR Ranch, Cre**	**89.42**	308	⇑P		**P**	**01 50 59.9**	**+0.3**
	baz=90							
T22A	**Edith**	**89.48**	307	⇑P		**P**	**01 51 00.0**	**+0.2**
	baz=90,SNR=7.1							
V22A	**San Miguel Ran**	**89.48**	306	⇓P		**P**	**01 51 00.5**	**+0.7**
	baz=90							
Q22A	**Crested Butte,**	**89.49**	309	⇑P		**P**	**01 51 00.3**	**+0.4**
	baz=90							
A21A	**Bergtoll Ranch**	**89.54**	319	⇑P		**P**	**01 50 59.9**	**+0.3**
	baz=90							
SMCO	**Snowmass**	**89.54**	309	*e*P		**P**	**01 51 00.6**	**+0.3**
	comp=Z,4.5nm,0.9s							
LAZ	**Ladron**	**89.67**	304	*e*P		**P**	**01 51 00.7**	**0.0**
I21A	**Big Trails, Te**	**89.78**	314	⇓P		**P**	**01 51 00.9**	**-0.1**
	baz=90,SNR=9.1							
L21A	**Rawlins**	**89.84**	312	⇓P		**P**	**01 51 01.9**	**+0.5**
	baz=90							
P21A	**Newcastle**	**89.91**	309	⇑P		**P**	**01 51 03.0**	**+1.3**
	baz=90							
N21A	**Black Mountain**	**89.96**	311	⇑P		**P**	**01 51 02.8**	**+0.8**
	baz=90							
R21A	**Cimarron**	**89.99**	308	⇓P		**P**	**01 51 02.9**	**+0.7**
	baz=90							
Q21A	**Lamborn Mesa,**	**90.01**	309	⇓P		**P**	**01 51 03.4**	**+1.2**
	baz=90							
U21A	**Nageezi**	**90.09**	306	⇓P		**P**	**01 51 03.2**	**+0.6**
	baz=90,SNR=7.3							
Z21A	**St. Cloud Mine**	**90.11**	303	⇑P		**P**	**01 51 03.6**	**+0.7**
	baz=90							
S21A	**Coal Bank Pass**	**90.19**	307	⇑P		**P**	**01 51 04.1**	**+0.9**
	baz=90,SNR=6.0							
A20A	**Cobblestone Ra**	**90.20**	319	⇓P		**P**	**01 51 03.1**	**+0.4**
	baz=90							
X21A	**Alamocita Cree**	**90.20**	304	⇓P		**P**	**01 51 03.8**	**+0.5**
	baz=90							
121A	**Cookes Peak, D**	**90.22**	302	⇓P		**P**	**01 51 03.5**	**+0.3**
	baz=90							
H20A	**Greybull**	**90.29**	314	⇓P		**P**	**01 51 03.1**	**-0.2**
	baz=90							
J20A	**Shoshoni**	**90.36**	313	⇑P		**P**	**01 51 04.3**	**+0.6**
	baz=90							
I20A	**Worland**	**90.39**	314	⇑P		**P**	**01 51 04.9**	**+1.2**
	baz=90							
O20A	**White River Ci**	**90.52**	310	⇑P		**P**	**01 51 04.7**	**+0.2**
	baz=91							
N20A	**Spence Gulch,**	**90.52**	311	⇓P		**P**	**01 51 04.9**	**+0.3**
	baz=91							
L20A	**Wamsutter**	**90.57**	312	⇓P		**P**	**01 51 04.9**	**+0.1**
	baz=91							
A19A	**Klindworth Far**	**90.74**	319	⇓P		**P**	**01 51 06.1**	**+0.9**
	baz=91							
MVCO	**Mesa Verde**	**90.75**	307	*e*P		**P**	**01 51 06.2**	**+0.4**
	comp=Z,3.9nm,0.8s							
MVCO	**Mesa Verde**	**90.75**	307	⇓P		**P**	**01 51 06.1**	**+0.3**
	baz=91							
W20A	**Ramah**	**90.78**	305	⇓P		**P**	**01 51 06.3**	**+0.4**
	baz=91							
PV01	**Paradox Valley**	**90.80**	308	*e*P		**P**	**01 51 06.8**	**+0.9**
220A	**Playas Peak, P**	**90.85**	302	⇑P		**P**	**01 51 06.5**	**+0.3**
	baz=91							
K19A	**Absolon Red Bu**	**90.93**	313	⇑P		**P**	**01 51 05.8**	**-0.6**
	baz=91							
F19A	**Roth Farm, Mol**	**90.94**	316	⇓P		**P**	**01 51 06.1**	**-0.1**
	baz=91							
I19A	**Meeteetse**	**91.01**	314	⇓P		**P**	**01 51 06.4**	**-0.3**
	baz=91							
J19A	**Crowheart**	**91.07**	313	⇓P		**P**	**01 51 06.7**	**-0.3**
	baz=91							
PV10	**Paradox Valley**	**91.16**	308	*e*P		**P**	**01 51 08.3**	**+0.6**
O19A	**Miners Draw (B**	**91.19**	310	⇓P		**P**	**01 51 07.5**	**-0.1**
	baz=91							
AAK	**Ala-Archa**	**91.28**	48	P		**P**	**01 51 09.6**	**+1.6**
	comp=Z,8.0nm,0.8s,baz=251,slow=5.3,SNR=7.8							
AAK	**Ala-Archa**	**91.28**	48	P		**P**	**01 51 09.6**	**+1.6**
AAK	**Ala-Archa**	**91.28**	48	P		**P**	**01 51 09.6**	**+1.6**
Q19A	**Hogan Spring (**	**91.33**	309	⇓P		**P**	**01 51 08.5**	**+0.3**
	baz=91							
BW06	**Boulder Array**	**91.45**	313	⇓P		**P**	**01 51 09.0**	**+0.1**
	baz=92							
PDAR	**Pinedale Array**	**91.45**	313	P		**P**	**01 51 08.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=110,slow=6.6,SNR=5.9							
PDAR				LR		LR	02 25 25.1	
	comp=Z,85nm,20.3s,baz=103,slow=31							
PDAR	**Pinedale Array**	**91.45**	313	P		**P**	**01 51 08.9**	**+0.1**
N18A	**Larsen Ranch,**	**91.59**	311	⇑P		**P**	**01 51 09.8**	**+0.3**
	baz=92,SNR=6.2							
O18A	**Roosevelt**	**91.87**	310	⇓P		**P**	**01 51 11.1**	**+0.4**
	baz=92							
X18A	**Snowflake**	**91.99**	304	⇓P		**P**	**01 51 11.9**	**+0.4**
	baz=92							
M17A	**Scullys Gap (B**	**92.32**	311	⇓P		**P**	**01 51 13.0**	**+0.1**
	baz=92							
O17A	**Robinson Place**	**92.43**	310	⇑P		**P**	**01 51 13.9**	**+0.5**
	baz=92							
KSH	**Kashi**	**92.50**	**51**	*e*P		**P**	**01 51 13.4**	**-0.3**
KSH				*ep*P		**pP**	**01 51 17.5**	**-0.2**
KSH				*es*P		**sP**	**01 51 20.4**	**+1.3**
KSH				*e*PP		**PP**	**01 54 55.3**	**+0.4**
KSH				SKS		**SKSac**	**02 01 43.8**	**-3.7**
KSH				S		**S**	**02 02 12.8**	**-5.2**
KSH				sS		**ScS**	**02 02 20.3**	**+0.2**
KSH				SS		**SS**	**02 08 25.3**	**-4.1**
KSH				pmax		pmax		
	comp=Z,140nm,5.0s							
KSH				LR		LR		
	comp=N,110nm,6.4s							
KSH				LR		LR		
	comp=E,130nm,6.5s							
KSH				LR		LR		
	comp=Z,160nm,7.1s							
KSH	**Kashi**	**92.50**	**51**	*e*P		**P**	**01 51 13.4**	**-0.3**
KSH				*ep*P		**pP**	**01 51 17.5**	**-0.2**
KSH				*es*P		**sP**	**01 51 20.4**	**+1.3**
KSH				*e*PP		**PP**	**01 54 55.3**	**+0.4**
KSH				SKS		**SKSac**	**02 01 43.8**	**-3.7**
KSH				S		**S**	**02 02 12.8**	**-5.2**
KSH				sS		**ScS**	**02 02 20.3**	**+0.2**
KSH				SS		**SS**	**02 08 25.3**	**-4.1**
KSH				pmax		pmax		
	comp=Z,140nm,5.0s							
KSH				LR		LR		
	comp=N,110nm,6.4s							
KSH				LR		LR		
	comp=E,130nm,6.5s							
KSH				LR		LR		
	comp=Z,160nm,7.1s							
N16A	**Rees Ranch, Co**	**92.93**	311	⇑P		**P**	**01 51 15.1**	**-0.6**
	baz=93							
J16A	**Bone**	**92.94**	313	⇑P		**P**	**01 51 15.7**	**0.0**
	baz=93							
M16A	**Huntsville**	**93.05**	311	⇑P		**P**	**01 51 15.6**	**-0.7**
	baz=93							
YKA	**Yellowknife Ar**	**93.17**	333	P		**P**	**01 51 16.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=85,slow=5.0,SNR=18							
YKA	**Yellowknife Ar**	**93.17**	333	P		**P**	**01 51 16.1**	**+0.1**
KURBB	**Kurchatov Arra**	**93.64**	39	P		**P**	**01 51 19.1**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=275,slow=5.2,SNR=5.4							
KURK	**Kurchatov**	**93.69**	39	P		**P**	**01 51 19.1**	**+0.4**
KURK	**Kurchatov**	**93.69**	39	P		**P**	**01 51 19.1**	**+0.4**
N15A	**Stansbury Isla**	**93.75**	311	⇑P		**P**	**01 51 19.7**	**+0.4**
	baz=94							
DUG	**Dugway**	**94.02**	310	⇑P		**P**	**01 51 20.7**	**+0.1**
	baz=94							
MKAR	**Makanchi Array**	**96.52**	43	P		**P**	**01 51 30.9**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=193,slow=5.0,SNR=4.1							
MKAR				LR		LR	02 41 36.2	
	comp=Z,63nm,18.6s,baz=355,slow=40							
MKAR	**Makanchi Array**	**96.52**	43	P		**P**	**01 51 30.9**	**-0.9**
MKAR	**Makanchi Array**	**96.52**	43	P		**P**	**01 51 30.9**	**-0.9**
ZALV	**Zalesovo Beam**	**97.05**	36	LR		LR	02 37 12.9	
	comp=Z,66nm,18.5s,baz=255,slow=37							
NVAR	**Mina Array Bea**	**98.42**	309	LR		LR	02 28 59.6	
	comp=Z,118nm,20.1s,baz=97,slow=31							
WMQ	**Urumqi**	**100.75**	45	*e*P		**Pdif**	**01 51 51.5**	**+0.7**
WMQ	**Urumqi**	**100.75**	45	*e*P		**Pdif**	**01 51 51.5**	**+0.7**
LZH	**Lanzhou**	**114.73**	50	*e*PKP		PKPdf	01 56 43.5	+0.2
LZH	**Lanzhou**	**114.73**	50	*e*PKP		PKPdf	01 56 43.5	+0.2
CD2	**Chengdu**	**116.31**	55	PKP		**PKPdf**	**01 56 46.1**	**-0.2**
CD2	**Chengdu**	**116.31**	55	PKP		**PKPdf**	**01 56 46.1**	**-0.2**
KMI	**Kunming**	**117.00**	62	PKP		**PKPdf**	**01 56 48.5**	**+0.5**
KMI	**Kunming**	**117.00**	62	PKP		**PKPdf**	**01 56 48.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**118.36**	42	*e*PKP		**PKPdf**	**01 56 51.6**	**+1.5**
HHC				PP		PP	01 58 12.8	+6.9
HHC				PKS		**PKSdf**	**02 00 27.1**	**+0.3**
HHC				SKS		**SKSdf**	**02 04 02.8**	**+0.4**
HHC				SKKS		**SKKSac**	**02 05 04.8**	**-2.2**
HHC				SS		**SS**	**02 14 26.3**	**+4.2**
HHC				AMB		AMB		
	comp=Z,120nm,7.1s							
HHC				LR		LR		
	comp=N,190nm,16.7s							
HHC				LR		LR		
	comp=E,160nm,17.8s							
HHC				LR		LR		
	comp=Z,64nm,17.8s							
HHC	**Hu-ho-hao-te**	**118.36**	**42**	*e*PKP		**PKPdf**	**01 56 51.6**	**+1.5**
HHC				PP		PP	01 58 12.8	+6.9
HHC				PKS		**PKSdf**	**02 00 27.1**	**+0.3**
HHC				SKS		**SKSdf**	**02 04 02.8**	**+0.4**
HHC				SKKS		**SKKSac**	**02 05 04.8**	**-2.2**
HHC				SS		**SS**	**02 14 26.3**	**+4.2**
HHC				AMB		AMB		
	comp=Z,120nm,7.1s							
HHC				LR		LR		
	comp=N,190nm,16.7s							
HHC				LR		LR		
	comp=E,160nm,17.8s							
HHC				LR		LR		
	comp=Z,64nm,17.8s							
GYA	**Guiyang**	**120.06**	**59**	*e*Pdif		**Pdif**	**01 53 16.8**	**-0.4**
GYA				PP		**PP**	**01 58 21.4**	**+3.2**
GYA				AMB		AMB		
	comp=Z,90nm,7.5s							
GYA	**Guiyang**	**120.06**	**59**	*e*Pdif		**Pdif**	**01 53 16.8**	**-0.4**
GYA				PP		**PP**	**01 58 21.4**	**+3.2**
GYA				AMB		AMB		
	comp=Z,90nm,7.5s							
BJI	**Beijing**	**121.82**	**41**	PKP		**PKPdf**	**01 56 54.8**	**-1.8**
BJI				LR		LR		
	comp=Z,50nm,21.4s							
BJI	**Beijing**	**121.82**	**41**	PKP		**PKPdf**	**01 56 54.8**	**-1.8**
BJI				LR		LR		
	comp=Z,50nm,21.4s							
NJ2	**Nanjing**	**127.73**	**48**	*e*P		**Pdif**	**01 53 50.4**	**-0.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
STKA	**Stephens Creek**	**142.75**	**150**	PKhKP		PKPpre	01 57 31.0	
	comp=Z,1.6nm,0.8s,baz=221,slow=11,SNR=2.3							
STKA	**Stephens Creek**	**142.75**	**150**	PKPpre		PKPpre	01 57 31.0	
ASAR	**Alice Springs**	**143.67**	**132**	PKhKP		PKPpre	01 57 34.6	
	comp=Z,1.5nm,0.8s,baz=214,slow=2.9,SNR=9.7							
ASAR				PKP		**PKPdf**	**01 57 37.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=225,slow=2.7,SNR=9.1							
ASAR	**Alice Springs**	**143.67**	**132**	PKPpre		PKPpre	01 57 34.6	
ASAR				PKP		**PKPdf**	**01 57 37.9**	**-0.1**
WRA	**Warramunga Arr**	**146.08**	**127**	PKPbc		**PKPdf**	**01 57 42.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=238,slow=2.5,SNR=6.2							
WRA	**Warramunga Arr**	**146.08**	**127**	PKPbc		**PKPdf**	**01 57 42.2**	**0.0**

BJI ***16*** *01:46:50.5,35.70N×81.80E, h9km, ML3.7/4*
IDC ***16*** *01:46:53.3±10.0, 36.01N×80.95E, h0km, mb2.9/1, mb1 3.2/4, mb1mx3.1/28, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=141.0km s-min=44.5km az=18.0*
ISC 16 01:47:02.0±2.8, 36.2N±0.2×81.8E±0.1, h35km, n6, σ2≥45/7, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.66**	**308**	*e*Pn		**Pn**	**Pn**	**01 48 22.4**	**-1.4**
KSH						Sn	**Sn**	**01 49 30.5**	**+2.9**
KSH						smax	smax		
	comp=N,100nm,0.9s								
KSH						smax	smax		
	comp=E,190nm,1.1s								
AAK	**Ala-Archa**	**8.55**	**321**	Pn		Pn	Pn	01 48 57.9	-5.5
	comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=2.4								
MK31	**Makanchi Array**	**10.63**	**2**	Pn		**Pn**	**Pn**	**01 49 31.1**	**-0.6**
	comp=E,0.7nm,0.4s,baz=187,slow=13,SNR=24								
MK31					⇑	Sn	**Sn**	**01 51 29.4**	**-0.1**
	comp=E,0.8nm,0.6s,baz=187,slow=24								
MKAR	**Makanchi Array**	**10.63**	**2**	Pn		**Pn**	**Pn**	**01 49 30.8**	**-1.0**
	comp=E,0.3nm,0.3s,baz=182,slow=12,SNR=18								
ZALV	**Zalesovo Beam**	**17.91**	**6**	P		**P**	**Pn**	**01 51 05.5**	**-2.6**
	comp=E,0.2nm,0.3s,baz=197,slow=14,SNR=3.7								
SONM	**Songino Array**	**21.62**	**50**	P		**P**	**P**	**01 51 51.4**	**+2.4**
	comp=E,0.2nm,0.5s,baz=241,slow=11,SNR=4.2								

ISCJB ***16*** *01:56:46.0±0.5, 27.95S±0.03×66.59W±0.04, h143km±4km, mb4.2/26, Error ellipse: s-maj=6.2km s-min=4.5km az=178.0*
GUC ***16*** *01:56:48.3±0.9, 27.84S×66.81W, h160km, ML5.8*
NEIC ***16*** *01:56:49.5±0.2, 27.99S×66.66W, mb4.3/17, Error ellipse: s-maj=7.0km s-min=5.8km az=107.0*
IDC ***16*** *01:56:50.0±0.6, 27.86S×66.49W, h169km±5km, mb4.0/12, mb1 4.2/15, mb1mx4.1/19, mbtmp4.0/15, Error ellipse: s-maj=14.5km s-min=12.9km az=44.0*
BJI ***16*** *01:56:49.4, 27.90S×66.60W, h147km, mB4.8/3*
ISC 16 01:56:48.8±0.5, 27.95S±0.04×66.67W±0.06, h161km±4km, n392, σ1≥33/438, mb4.2/26, 138C-129D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.32**	**279**	⇓*i*P		**Pn**	**Pn**	**01 57 40.0**	**-0.6**
CPCH				*i* S		**Sn**	**Sn**	**01 58 18.5**	**-2.3**
CPCH	**Copiapo**	**3.32**	**279**	⇓*i*P		**Pn**	**Pn**	**01

BDFB **Brasilia** 21.18 59 P P 02 01 20.1 -1.6
comp=E,12nm,0.4s,baz=231,slow=10.0,SNR=29
BDFB **Brasilia** 21.18 59 P P 02 01 20.1 -1.6
EFI **East Falkland** 24.57 167 eP P 02 01 53.9 +0.4
RCBR **Riachuelo** 36.56 59 eP P 02 03 38.3 -1.0
VNA3 **Neumayer Olymp** 53.34 160 eP P 02 05 51.6 +0.6
VNA1 **Neumayer--Stat** 53.55 159 eP P 02 05 53.7 +1.2
VNA2 **Neumayer--Watz** 53.92 160 eP P 02 05 55.9 +0.7
baz=292,slow=7.7
VNA2 **Neumayer--Watz** 53.92 160 esP pP 02 06 29.6 -2.4
baz=292,slow=7.7
SNAA **Sanae** 55.55 160 eP P 02 06 06.7 -0.2
comp=E,8.6nm,0.6s
732A **Laxson Ranch,** 64.76 328 ⇑P P 02 07 10.6 +0.6
baz=65,SNR=10
632A **Uvalde** 65.33 328 ⇓P P 02 07 14.0 +0.3
baz=66
631A **Perdido Creek** 65.62 328 ⇓P P 02 07 15.9 +0.3
baz=66
532A **Rocksprings** 65.91 329 ⇓P P 02 07 18.1 +0.7
baz=66,SNR=7.1
531A **Rocksprings** 66.24 328 ⇑P P 02 07 20.5 +0.9
baz=66
WHTX **Lake Whitney** 66.43 332 ⇑P P 02 07 20.7 0.0
baz=67
432A **Menard** 66.49 329 ⇑P P 02 07 21.6 +0.4
baz=67
530A **J-C Ranch, Com** 66.60 328 ⇓P P 02 07 22.8 +0.9
baz=67,SNR=5.4
431A **Sonora** 66.70 328 ⇑P P 02 07 23.3 +0.8
baz=67
WVT **Waverly** 66.79 341 eP P 02 07 21.4 -1.4
comp=E,7.4nm,0.9s
628A **Black Gap, Mar** 66.80 326 ⇑P P 02 07 24.3 +1.2
baz=67,SNR=5.7
332A **Millersview** 66.90 330 ⇑P P 02 07 23.7 0.0
baz=67,SNR=6.6
529A **Stev Forest Ra** 67.00 327 ⇑P P 02 07 25.1 +0.7
baz=67
627A **Terlingua Ranc** 67.02 326 ⇑P P 02 07 25.6 +1.0
baz=67
TXAR **Lajitas Array** 67.07 325 P P 02 07 25.2 +0.3
comp=E,0.7nm,0.5s,baz=148,slow=7.7,SNR=18
TXAR pP pP 02 08 05.7 +2.4
comp=E,0.6nm,0.8s,baz=143,slow=8.6,SNR=3.8
TXAR **Lajitas Array** 67.07 325 P P 02 07 25.2 +0.3
TXAR pP pP 02 08 05.7 +2.4
430A **Baggett Ranch,** 67.08 328 ⇑P P 02 07 25.2 +0.3
baz=67,SNR=7.0
331A **San Angelo** 67.14 329 ⇑P P 02 07 25.7 +0.5
baz=68
429A **Davenport Ranc** 67.26 327 ⇑P P 02 07 26.8 +0.8
baz=68,SNR=8.9
528A **Cox Ranch, San** 67.31 326 ⇓P P 02 07 26.8 +0.4
baz=68
626A **Big Bend Ranch** 67.48 325 ⇑P P 02 07 28.6 +1.1
baz=68,SNR=10
330A **Mertzon** 67.57 328 ⇑P P 02 07 28.3 +0.3
baz=68
231A **Bronte** 67.62 329 ⇓P P 02 07 28.5 +0.2
baz=68
527A **Woodward Ranch** 67.70 326 ⇓P P 02 07 29.3 +0.3
baz=68
428A **Kincaid Ranch,** 67.72 327 ⇑P P 02 07 29.9 +0.9
baz=68
PARMO **Parma** 67.84 340 eP P 02 07 29.2 -0.2
526A **Mary Lane Ranc** 67.87 325 ⇑P P 02 07 30.7 +0.7
baz=68,SNR=6.2
329A **Wagon Wheel Ra** 68.01 328 ⇑P P 02 07 31.1 +0.3
baz=68
427A **Hayter Ranch,** 68.17 326 ⇑P P 02 07 32.2 +0.4
baz=68
328A **Wristen Ranch,** 68.32 327 ⇑P P 02 07 33.4 +0.7
baz=69
DBIC **Dimbokro** 68.82 70 P P 02 07 34.4 -1.7
comp=E,3.9nm,0.4s,baz=218,slow=7.2,SNR=18
DBIC **Dimbokro** 68.82 70 P P 02 07 34.4 -1.7
228A **UT Block 9, Go** 68.83 328 ⇑P P 02 07 36.3 +0.5
baz=69
326A **Caldwell Ranch** 68.84 326 ⇑P P 02 07 36.5 +0.6
baz=69
425A **Indio Mountain** 68.91 325 ⇓P P 02 07 36.7 +0.3
baz=69,SNR=5.7
129A **Stewart Farms,** 68.91 329 ⇓P P 02 07 36.4 +0.1
baz=69
Z30A **Sanderson Ranc** 69.13 330 ⇓P P 02 07 37.6 0.0
baz=70
128A **Castleberry Fa** 69.19 328 ⇓P P 02 07 37.9 -0.2
baz=70
Z29A **Hungry Hill Ra** 69.37 329 ⇓P P 02 07 39.2 +0.1
baz=70
325A **Bean Ranch, Si** 69.37 325 ⇑P P 02 07 39.8 +0.5
baz=70,SNR=6.3
127A **Arkansas Junct** 69.65 327 ⇓P P 02 07 41.4 +0.4
baz=70
324A **Moseley Ranch,** 69.69 325 ⇓P P 02 07 40.9 -0.4
baz=70,SNR=5.4
Z28A **Tucker Farm, M** 69.70 329 ⇑P P 02 07 41.0 -0.1
baz=70
SYO **Syowa Base** 69.78 158 ⇓P P 02 07 39.5 -1.6
MNTX **Cornudas Mount** 69.84 325 ⇑P P 02 07 41.9 -0.1
baz=70
Y29A **Porterfield Fa** 69.85 329 ⇑P P 02 07 42.0 -0.1
baz=70,SNR=8.2
225A **Deer Hill, Car** 69.90 326 ⇓P P 02 07 42.8 +0.2
baz=70
126A **Clayton Basin,** 69.94 327 ⇓P P 02 07 43.3 +0.6
baz=70
Z27A **Tatum** 70.11 328 ⇑P P 02 07 43.4 -0.3
baz=70
224A **Cornudas Mount** 70.22 326 ⇓P P 02 07 44.3 -0.1
baz=70,SNR=7.7
125A **Gardner Draw,** 70.26 327 ⇓P P 02 07 44.4 -0.3
baz=71,SNR=5.4
X29A **Tulia** 70.36 330 ⇑P P 02 07 45.2 0.0
baz=71
Z26A **Caprock** 70.44 327 ⇑P P 02 07 45.9 +0.2
baz=71
MSTX **Muleshoe** 70.45 329 ⇑P P 02 07 45.6 -0.1
baz=71,SNR=5.1
Y27A **Causey** 70.56 328 ⇓P P 02 07 46.3 -0.2
baz=71
223A **Chaparral, Ant** 70.62 325 ⇓P P 02 07 46.9 +0.1
baz=71
124A **Stringfield Ra** 70.69 326 ⇑P P 02 07 48.2 +0.8
baz=71
AMTX **Amarillo** 70.72 330 ⇑P P 02 07 47.8 +0.5
baz=71
Z25A **Roswell** 70.80 327 ⇓P P 02 07 48.3 +0.5
baz=71
VNDA **Vanda** 70.87 190 P P 02 07 49.3 +1.7
comp=E,1.8nm,0.9s,baz=135,slow=4.0,SNR=9.9
VNDA **Vanda** 70.87 190 eP P 02 07 48.4 +0.7
comp=E,3.3nm,1.1s
Z24A **Sheeppen Canyo** 71.15 326 ⇑P P 02 07 50.6 +0.5
baz=72,SNR=7.2
320A **Kipp Ranch, An** 71.19 323 ⇓P P 02 07 51.3 +1.0
baz=72
HDIL **Hopedale** 71.33 342 eP P 02 07 49.7 -1.0
X26A **CR and CF Fran** 71.41 328 ⇑P P 02 07 52.3 +0.7
baz=72
W27A **Bowe Ranch, En** 71.49 329 ⇑P P 02 07 52.7 +0.7
baz=72
Z23A **Rita Site, Whi** 71.53 326 ⇑P P 02 07 53.5 +1.2
baz=72,SNR=5.7
319A **Douglas** 71.62 322 ⇓P P 02 07 54.5 +1.6
baz=72
220A **Playas Peak, P** 71.63 323 ⇓P P 02 07 54.2 +1.3
baz=72
V28A **Channing** 71.69 330 ⇓P P 02 07 54.0 +0.9
baz=72
121A **Cookes Peak, D** 71.73 324 ⇓P P 02 07 54.6 +1.0
baz=72,SNR=5.4
X25A **Clemmons Ranch** 71.79 328 ⇑P P 02 07 54.5 +0.7
baz=72
W25A **X Bar L Ranch,** 72.26 328 ⇓P P 02 07 57.0 +0.3
baz=73
Z21A **St. Cloud Mine** 72.29 325 ⇓P P 02 07 58.7 +1.7
baz=73
Z20A **Nine Sixteen R** 72.61 324 ⇓P P 02 08 00.4 +1.7
baz=73
W24A **Lazy 6 Ranch,** 72.70 328 ⇓P P 02 07 59.8 +0.5
baz=73
T28A **Walsh** 72.79 331 ⇑P P 02 08 00.2 +0.5
baz=73
V25A **Rancho No Teng** 72.84 328 ⇑P P 02 08 00.5 +0.4
baz=73
U26A **Atchley Ranch,** 72.90 329 ⇑P P 02 08 01.3 +0.8
baz=73
ANMO **Albuquerque** 72.99 327 eP P 02 08 01.8 +0.8
T27A **Campo** 73.00 331 ⇑P P 02 08 01.9 +0.9
baz=73
W23A **Werner Place,** 73.01 327 ⇑P P 02 08 02.4 +1.3
baz=73
V24A **Rampart Ranch,** 73.05 328 ⇑P P 02 08 02.0 +0.6
baz=73
Y20A **Horse Springs,** 73.12 325 ⇑P P 02 08 03.2 +1.3
baz=73
U25A **Circle Dot Ran** 73.21 329 ⇑P P 02 08 03.1 +0.8
baz=74,SNR=5.1
X21A **Alamocita Cree** 73.25 325 ⇑P P 02 08 04.1 +1.5
baz=74
V23A **Ortiz Mt. (NFS** 73.50 327 ⇓P P 02 08 05.9 +1.9
baz=74
S26A **Kim** 73.80 330 ⇑P P 02 08 06.9 +1.3
baz=74
T25A **Trinidad** 73.82 329 ⇓P P 02 08 07.1 +1.3
baz=74
U23A **El Rito** 73.98 328 ⇓P P 02 08 08.3 +1.5
baz=74
V22A **San Miguel Ran** 73.98 327 ⇓P P 02 08 08.7 +1.9
baz=74
214A **Organ Pipe Nat** 74.01 320 ⇑P P 02 08 08.8 +2.0
baz=74
W20A **Ramah** 74.14 325 ⇑P P 02 08 09.2 +1.4
baz=74
S25A **Robets Cordova** 74.26 330 ⇓P P 02 08 09.4 +1.1
baz=75
U22A **Llaves** 74.33 327 ⇓P P 02 08 10.6 +1.8
baz=75,SNR=6.0
R26A **Arlington** 74.35 331 ⇑P P 02 08 09.6 +0.8
baz=75
S24A **Houchin Ranch,** 74.59 329 ⇑P P 02 08 12.1 +1.7
baz=75
U21A **Nageezi** 74.76 327 ⇑P P 02 08 12.7 +1.4
baz=75
T22A **Edith** 74.87 328 ⇑P P 02 08 13.5 +1.5
baz=75
BGNE **Belgrade** 74.91 336 ⇑P P 02 08 12.4 +0.6
baz=75
R24A **Sanders Place,** 75.03 330 ⇑P P 02 08 14.5 +1.7
baz=75
X16A **Lo Mia Camp, P** 75.12 323 ⇓P P 02 08 14.9 +1.6
baz=75
T21A **Navajo Lake** 75.15 327 ⇑P P 02 08 14.8 +1.3
baz=76
R23A **Moffat** 75.32 329 ⇑P P 02 08 15.8 +1.2
baz=76
S22A **4UR Ranch, Cre** 75.42 328 ⇑P P 02 08 16.1 +1.0
baz=76
Y14A **Wickenburg** 75.60 322 ⇑P P 02 08 17.2 +1.2
baz=76
Q24A **Divide** 75.65 330 ⇓P P 02 08 17.8 +1.3
baz=76
P25A **Willow Gulch B** 75.67 331 ⇓P P 02 08 17.9 +1.5
baz=76
S21A **Coal Bank Pass** 75.81 327 ⇑P P 02 08 19.0 +1.6
baz=76
WUAZ **Wupatki** 75.92 324 ⇓P P 02 08 19.4 +1.5
baz=76
S20A **Disappointment** 76.21 327 ⇑P P 02 08 21.5 +1.9
baz=76
R21A **Cimarron** 76.26 328 ⇑P P 02 08 21.3 +1.4
baz=77
Y12C **Blythe** 76.31 321 ⇓P P 02 08 21.4 +1.6
baz=77
Q22A **Crested Butte,** 76.36 329 ⇑P P 02 08 22.2 +1.7
baz=77
ECSD **EROS Data Cent** 76.44 338 eP P 02 08 19.8 -0.6
R20A **Redvale** 76.51 327 ⇑P P 02 08 22.9 +1.7
baz=77
ISCO **Idaho Springs** 76.54 330 eP P 02 08 21.6 +0.2
ISCO **Idaho Springs** 76.54 330 ⇓P P 02 08 22.8 +1.4
baz=77
SMCO **Snowmass** 76.64 329 eP P 02 08 23.5 +1.3
comp=E,3.7nm,1.0s
BC3 **Big Chuckawall** 76.76 320 ⇑P P 02 08 23.8 +1.2
baz=77
S18A **Hurst Farm, Bl** 76.90 326 ⇑P P 02 08 24.7 +1.3
baz=77,SNR=8.7
W13A **Hualapai Mount** 76.95 322 ⇑P P 02 08 25.3 +1.5
baz=77
O23A **Lake Granby, G** 77.01 330 ⇓P P 02 08 25.7 +1.6
baz=77
U15A **North Rim** 77.10 324 ⇑P P 02 08 26.5 +1.9
baz=77
P21A **Newcastle** 77.14 329 ⇓P P 02 08 26.4 +1.7
baz=78
O22A **Kremmling** 77.25 330 ⇓P P 02 08 26.3 +0.9
baz=78
PFO **Pinyon Flat Ob** 77.30 319 ⇑P P 02 08 27.2 +1.5
baz=78
BELC **Belle Mtn. Jos** 77.32 320 ⇑P P 02 08 27.0 +1.2
baz=78
Q19A **Hogan Spring (** 77.54 327 ⇓P P 02 08 28.4 +1.6
baz=78
N23A **Red Feather La** 77.58 331 ⇑P P 02 08 28.4 +1.2
baz=78
MAW **Mawson** 77.59 162 P P 02 08 27.0 +0.4
comp=E,59nm,1.0s,baz=232,slow=3.0,SNR=4.1
MAW **Mawson** 77.59 162 P P 02 08 27.0 +0.4
GMRC **Granite Mounta** 77.70 321 ⇑P P 02 08 29.4 +1.5
baz=78
O21A **Pagoda** 77.71 329 ⇓P P 02 08 29.2 +1.3
baz=78
N22A **Wattenberg Ran** 77.73 330 ⇑P P 02 08 29.8 +1.8
baz=78
TOA0 **Torodi Ar. Sit** 77.74 68 eP P 02 08 26.6 -1.7
TORD **Torodi Ar. Bea** 77.74 68 P P 02 08 27.4 -1.0
comp=E,6.8nm,0.7s,baz=272,slow=5.9,SNR=68
TORD **Torodi Ar. Bea** 77.74 68 P P 02 08 27.4 -1.0
P19A **Cripple Cowboy** 77.94 328 ⇑P P 02 08 30.5 +1.3
baz=78
O20A **White River Ci** 77.99 329 ⇓P P 02 08 30.4 +1.0
baz=78,SNR=5.6
HEC **Hector,Ludlow** 78.11 320 ⇓P P 02 08 31.6 +1.6
baz=78
SRU **San Rafael** 78.27 327 eP P 02 08 31.3 +0.4
comp=E,4.2nm,0.9s
SRU **San Rafael** 78.27 327 ⇑P P 02 08 31.6 +0.6
baz=79,SNR=6.5
TUQ **Turquoise Moun** 78.32 321 ⇓P P 02 08 32.9 +1.6
baz=79
Q16A **Castle Valley** 78.43 326 ⇑P P 02 08 33.5 +1.6
baz=79
CCUT **Cedar City** 78.50 324 eP P 02 08 34.3 +2.0
comp=E,4.1nm,0.8s
O19A **Mines Draw (B** 78.53 328 ⇓P P 02 08 33.6 +1.3
baz=79
K24A **Anderson Ranch** 78.61 332 ⇓P P 02 08 34.8 +2.1
baz=79
MSU **Marysvale** 78.62 325 eP P 02 08 34.2 +1.3
comp=E,1.9nm,0.6s
BOSA **Boshof** 78.70 116 P P 02 08 33.1 -0.5
comp=E,20nm,0.7s,baz=247,slow=4.1,SNR=66
BOSA **Boshof** 78.70 116 eP P 02 08 33.1 -0.5
comp=E,17nm,0.6s
M21A **Separation Pea** 78.78 330 ⇓P P 02 08 35.1 +1.3
baz=79
O18A **Roosevelt** 78.92 328 ⇓P P 02 08 36.1 +1.7
baz=79
K23A **Bowen Ranch, D** 78.97 332 ⇑P P 02 08 36.1 +1.4
baz=79
N19A **John Jarvie Ra** 79.03 329 ⇓P P 02 08 36.3 +1.3
baz=79
J24A **Dixon Ranch, L** 79.05 333 ⇓P P 02 08 36.5 +1.5
baz=79
M20A **Sweetwater, Wa** 79.05 330 ⇓P P 02 08 36.3 +1.1
baz=79
L21A **Rawlins** 79.07 330 ⇑P P 02 08 35.9 +0.6
baz=79,SNR=7.6
O17A **Robinson Place** 79.21 327 ⇑P P 02 08 37.5 +1.3
baz=80,SNR=9.9
K22A **Casper** 79.27 331 ⇑P P 02 08 38.1 +1.8
baz=80
R13A **O'Grain Ranch,** 79.29 324 ⇓P P 02 08 38.0 +1.5
baz=80
P15A **Leamington** 79.48 326 ⇑P P 02 08 38.8 +1.3
baz=80
M19A **Rock Springs** 79.50 329 ⇓P P 02 08 39.0 +1.4
baz=80
L20A **Wamsutter** 79.54 330 ⇑P P 02 08 38.7 +0.9
baz=80
K21A **Alcova** 79.56 331 ⇓P P 02 08 38.9 +1.0
baz=80,SNR=5.3
O16A **Springville** 79.59 327 ⇑P P 02 08 39.5 +1.4
baz=80
N17A **Moffit Pass** 79.84 328 ⇑P P 02 08 40.6 +1.0
baz=80,SNR=9.1
J22A **Midwest** 79.87 332 ⇓P P 02 08 40.0 +0.5
baz=80,SNR=5.5
JLU **Jordanelle** 79.87 327 eP P 02 08 40.2 +0.5
comp=E,3.8nm,0.7s
K20A **Yellowstone Ra** 80.06 330 ⇓P P 02 08 41.1 +0.6
baz=80
L19A **Farson** 80.07 329 ⇓P P 02 08 41.8 +1.1
baz=80,SNR=5.3
N16A **Rees Ranch, Co** 80.09 327 ⇑P P 02 08 42.0 +1.2
baz=80
M17A **Scullys Gap (B** 80.18 328 ⇑P P 02 08 41.6 +0.4
baz=80
H24A **Dirks Ranch, A** 80.19 334 ⇓P P 02 08 41.5 +0.4
baz=80
J21A **Lysite** 80.22 331 ⇑P P 02 08 42.5 +1.0
baz=81
DUG **Dugway** 80.23 326 ⇑P P 02 08 42.5 +1.1
baz=80
L18A **Fontenelle, Gr** 80.24 329 ⇓P P 02 08 42.2 +0.6
baz=81,SNR=5.6
I22A **9 Mile Ranch,** 80.26 332 ⇑P P 02 08 41.9 +0.4
baz=81,SNR=7.5
R11A **Troy Canyon, C** 80.27 323 ⇑P P 02 08 43.3 +1.5
baz=81
AGMN **Agassiz Nation** 80.29 341 eP P 02 08 41.4 -0.1
comp=E,4.9nm,0.8s
K19A **Absolon Red Bu** 80.41 330 ⇓P P 02 08 43.0 +0.5
baz=81
J20A **Shoshoni** 80.50 331 ⇑P P 02 08 44.6 +1.7
baz=81
M16A **Huntsville** 80.51 327 ⇓P P 02 08 43.9 +0.9
baz=81
I21A **Big Trails, Te** 80.54 331 ⇑P P 02 08 43.3 +0.2
baz=81,SNR=7.9
LBTB **Lobatse** 80.54 113 eP P 02 08 43.5 -0.2
N15A **Stansbury Isla** 80.61 327 ⇑P P 02 08 44.2 +0.7
baz=81
G24A **Alzada** 80.62 334 ⇓P P 02 08 43.7 +0.3
baz=81
BW06 **Boulder Array** 80.69 329 ⇓P P 02 08 44.7 +0.7
baz=81
PDAR **Pinedale Array** 80.69 329 P P 02 08 43.9 -0.1
comp=E,2.1nm,0.6s,baz=126,slow=7.2,SNR=20
PDAR pP pP 02 09 26.5 +2.8
comp=E,1.3nm,0.9s,baz=116,slow=5.1,SNR=1.8
PDAR **Pinedale Array** 80.69 329 P P 02 08 43.9 -0.1
PDAR pP pP 02 09 26.5 +2.8
HWUT **Hardware Ranch** 80.70 328 eP P 02 08 44.3 +0.3
comp=E,3.4nm,0.4s
L17A **Cokeville** 80.76 328 ⇓P P 02 08 45.2 +0.9
baz=81
H22A **Clearmont** 80.78 332 ⇓P P 02 08 44.9 +0.6
baz=81
K18A **Toltan Ranch,** 80.80 329 ⇓P P 02 08 45.7 +1.1
baz=81,SNR=7.0
J19A **Crowheart** 80.86 330 ⇓P P 02 08 45.6 +0.8
baz=81
G23A **Biddle** 80.90 333 ⇑P P 02 08 45.2 +0.3
baz=81
L16A **Fish Haven** 80.96 328 ⇑P P 02 08 45.9 +0.5
baz=81,SNR=10.0
I20A **Worland** 81.00 331 ⇑P P 02 08 46.2 +0.8
baz=81,SNR=7.7
M15A **Larsen Ranch,** 81.02 327 ⇑P P 02 08 46.4 +0.7
baz=81,SNR=5.9
MDND **Maddock** 81.06 338 ⇓P P 02 08 46.1 +0.5
baz=81
F24A **Ekalaka** 81.06 334 ⇓P P 02 08 46.2 +0.4
baz=81
H21A **Big Horn, Sher** 81.09 332 ⇓P P 02 08 46.3 +0.4
baz=81
J18A **Kendall Valley** 81.25 329 ⇑P P 02 08 47.3 +0.3
baz=82,SNR=9.1
G22A **Birney** 81.27 333 ⇑P P 02 08 47.1 +0.3
baz=82
K17A **Gardner Place,** 81.29 329 ⇑P P 02 08 47.8 +0.6
baz=82,SNR=6.5
F23A **Volborg** 81.33 334 ⇓P P 02 08 47.6 +0.5
baz=82
H20A **Greybull** 81.38 331 ⇓P P 02 08 47.9 +0.4
baz=82
L15A **Malad City** 81.40 327 ⇑P P 02 08 47.9 +0.2
baz=82,SNR=9.7
HVU **Hansel Valley** 81.42 327 eP P 02 08 47.8 0.0
I19A **Meeteetse** 81.45 331 ⇓P P 02 08 49.2 +1.3
baz=82
I18A **Diamond G Ranc** 81.54 330 ⇑P P 02 08 49.7 +1.2
baz=82
G21A **Lodge Grass** 81.65 332 ⇓P P 02 08 49.6 +0.8
baz=82
K16A **Soda Springs** 81.67 328 ⇑P P 02 08 50.1 +1.0
baz=82,SNR=7.0
J17A **Brown Place, J** 81.68 329 ⇓P P 02 08 50.4 +1.3
baz=82
F22A **Rosebud** 81.72 333 ⇑P P 02 08 49.8 +0.7
baz=82
NVAR **Mina Array Bea** 81.80 322 P P 02 08 50.6 +0.7
comp=E,0.6nm,0.6s,baz=147,slow=6.3,SNR=6.8
NVAR **Mina Array Bea** 81.80 322 P P 02 08 50.6 +0.7
L14A **Malta** 81.83 327 ⇓P P 02 08 50.9 +0.9
baz=82
ELK **Elko** 81.86 325 eP P 02 08 50.4 +0.2
H19A **Powell** 81.95 331 ⇑P P 02 08 51.2 +0.7
baz=82
K15A **Arbon** 81.99 328 ⇓P P 02 08 51.3 +0.6
baz=82
J16A **Bone** 82.02 329 ⇑P P 02 08 52.1 +1.1
baz=82
I17A **Pilgrim Ck.** 82.05 330 ⇓P P 02 08 52.4 +1.2
baz=82
ULM **Lac du Bonnet** 82.06 342 P P 02 08 50.5 -0.2
comp=E,1.9nm,0.5s,baz=146,slow=5.8,SNR=6.3
ULM pP pP 02 09 32.3 +1.8
comp=E,2.4nm,0.6s,baz=160,slow=4.2,SNR=3.9
ULM **Lac du Bonnet** 82.06 342 P P 02 08 50.5 -0.2
ULM pP pP 02 09 32.3 +1.8
G20A **Bridger** 82.06 332 ⇓P P 02 08 51.2 +0.1
baz=82
K14A **Jones Ranch, D** 82.19 327 ⇑P P 02 08 52.1 +0.4
baz=82
FLWY **Flagg Ranch** 82.23 330 eP P 02 08 52.4 +0.3
comp=E,2.4nm,0.5s
H18A **Shoshone NF, C** 82.25 331 ⇑P P 02 08 52.9 +0.7
baz=83
H17A **Grant Village** 82.42 330 ⇓P P 02 08 54.7 +1.6
baz=83
I16A **Newdale** 82.43 329 ⇓P P 02 08 54.1 +1.1
baz=83
RLMT **Red Lodge** 82.43 331 ⇓P P 02 08 54.4 +1.4
baz=83,SNR=8.0
D23A **Lindsay** 82.46 335 ⇑P P 02 08 54.1 +1.1
baz=83
C24A **Savage** 82.47 335 ⇑P P 02 08 53.7 +0.8
baz=83
J15A **Blackfoot** 82.50 328 ⇑P P 02 08 54.3 +1.0
baz=83
D22A **Cohagen** 82.81 334 ⇑P P 02 08 55.5 +0.7
baz=83
J14A **Carey** 82.95 328 ⇑P P 02 08 57.0 +1.3
baz=83
H16A **Russell Place,** 82.97 330 ⇓P P 02 08 58.0 +2.1
baz=83
C23A **Lambert** 82.98 335 ⇓P P 02 08 56.3 +0.7
baz=83
E20A **Meyer Farm, Mu** 83.06 333 ⇑P P 02 08 56.6 +0.5
baz=83,SNR=6.0
D21A **La Casta Ranch** 83.06 334 ⇑P P 02 08 56.7 +0.6
baz=83
F18A **Big Timber** 83.24 331 ⇑P P 02 08 57.7 +0.6
baz=84,SNR=10.0
E19A **Rath Farm, Rou** 83.30 332 ⇓P P 02 08 57.8 +0.4
baz=84,SNR=5.2
J13A **Cove Ranch, Pi** 83.32 327 ⇓P P 02 08 58.7 +1.1
baz=84,SNR=6.8
I14A **Mackay** 83.38 328 ⇑P P 02 08 59.1 +1.1
baz=84,SNR=8.1
D20A **Manuel Ranch,** 83.54 333 ⇓P P 02 08 58.4 -0.2
baz=84,SNR=6.9
HLID **Hailey** 83.56 327 eP P 02 08 59.8 +0.9
comp=E,12nm,1.4s
HLID **Hailey** 83.56 327 ⇑P P 02 08 59.7 +0.9
baz=84,SNR=8.8
F17A **Fitzpatrick Pl** 83.65 331 ⇑P P 02 09 00.2 +1.0
baz=84
I13A **Wildhorse Cree** 83.68 328 ⇑P P 02 09 01.0 +1.5

baz=84
C21A Desert Coulee 83.73 334 ⇓P P 02 08 59.5 +0.1
baz=84,SNR=7.1
E18A Harlowton 83.85 332 ⇑P P 02 09 00.8 +0.6
baz=84
H14A Leadore 83.86 328 ⇓P P 02 09 01.9 +1.5
baz=84
G15A Dillon 83.88 329 ⇓P P 02 09 01.4 +0.9
baz=84
D19A Cripps Ranch, 83.90 333 ⇑P P 02 09 00.7 +0.3
baz=84
C20A Veseth Ranch, 83.99 333 ⇓P P 02 09 00.8 0.0
baz=84
I12A Atlanta 84.08 327 ⇓P P 02 09 02.4 +0.9
baz=84
MFID Camas Ranch 84.13 326 ⇓P P 02 09 02.4 +0.7
baz=84
E17A Martinsdale 84.17 331 ⇓P P 02 09 02.7 +0.8
baz=84
B21A Ellsworth Farm 84.19 334 ⇑P P 02 09 02.4 +0.6
baz=84
H13A Challis 84.23 328 ⇑P P 02 09 03.4 +1.2
baz=84,SNR=6.3
A22A Carney Farms, 84.24 335 ⇓P P 02 09 02.5 +0.5
baz=85
MDT Midelt 84.40 48 P P 02 09 03.8 +0.5
comp=E,0.9nm,0.6s,baz=225,slow=1.4,SNR=4.8
MDT Midelt 84.40 48 P P 02 09 03.8 +0.5
F15A Butte 84.40 330 ⇓P P 02 09 03.9 +0.8
baz=85
C19A Slack Wire Ran 84.43 333 ⇓P P 02 09 03.2 +0.2
baz=85
H12A Diamond D Ranc 84.51 328 ⇓P P 02 09 05.5 +1.9
baz=85
G13A Cobalt 84.62 328 ⇓P P 02 09 04.9 +0.7
baz=85,SNR=6.0
A20A Cobblestone Ra 84.91 334 ⇓P P 02 09 05.7 +0.3
baz=85
E15A Deer Lodge 84.92 330 ⇓P P 02 09 06.2 +0.6
baz=85
F13A Darby 85.19 329 ⇓P P 02 09 07.8 +0.8
baz=86,SNR=6.6
B18A Beardsley Farm 85.25 333 ⇓P P 02 09 07.5 +0.5
baz=86
E14A Clinton 85.29 330 ⇑P P 02 09 08.4 +0.9
baz=86
D15A Lincoln 85.34 331 ⇓P P 02 09 08.8 +1.1
baz=86
F12A Elk City 85.60 328 ⇓P P 02 09 09.9 +1.0
baz=86
E13A Victor 85.62 329 ⇓P P 02 09 10.0 +1.0
baz=86
D14A Greenough 85.80 330 ⇑P P 02 09 10.8 +0.9
baz=86
C15A Salmond Ranch, 85.94 331 ⇓P P 02 09 11.2 +0.6
baz=86,SNR=8.2
E12A Beaver Dam Sad 86.23 329 ⇑P P 02 09 12.7 +0.6
baz=86
D13A Huson 86.24 330 ⇓P P 02 09 12.7 +0.7
baz=87
B15A Bradely Ranch, 86.34 331 ⇓P P 02 09 12.7 +0.1
baz=87
A16A West Butte Ran 86.43 332 ⇓P P 02 09 13.7 +0.7
baz=87
C14A Swan Lake 86.43 330 ⇓P P 02 09 13.7 +0.8
baz=87
D12A Red Ives Fores 86.61 329 ⇑P P 02 09 14.5 +0.6
baz=87
C13A Hot Springs 86.73 330 ⇓P P 02 09 14.9 +0.5
baz=87
A15A Johnson Ranch, 86.92 332 ⇓P P 02 09 15.3 0.0
baz=87
BSMT Bassoo Peak 86.95 330 *e*P P 02 09 16.0 +0.4
comp=E,7.1nm,1.1s
LSZ Lusaka 87.15 106 *e*P P 02 09 18.5 +1.2
comp=E,44nm,1.4s
B13A Whitefish 87.21 330 ⇓P P 02 09 17.1 +0.4
baz=88
A14A Double T Ranch 87.21 331 ⇑P P 02 09 17.0 +0.2
baz=88
C11A Tepee Creek (N 87.61 329 ⇑P P 02 09 18.7 +0.2
baz=88
A13A Flathead Natio 87.61 331 ⇓P P 02 09 19.6 +1.0
baz=88
B12A Libby 87.77 330 ⇓P P 02 09 20.0 +0.7
baz=88
ESDC Sonseca Array 89.05 43 P P 02 09 25.6 0.0
comp=E,0.3nm,0.5s,baz=234,slow=4.5,SNR=5.8
ESDC Sonseca Array 89.05 43 P P 02 09 25.6 0.0
YKA Yellowknife Ar 97.92 340 P P 02 10 05.2 -0.4
comp=E,0.4nm,0.5s,baz=136,slow=4.5,SNR=17
YKA pP **pP** 02 10 48.3 +2.1
comp=E,0.5nm,0.9s,baz=139,slow=4.8,SNR=3.7
YKA PKKP **PKKPbc** 02 26 37.1 -4.4
comp=E,0.2nm,0.6s,baz=321,slow=3.3,SNR=6.0
YKA Yellowknife Ar 97.92 340 P P 02 10 05.2 -0.4
YKA pP **pP** 02 10 48.4 +2.1
YKA PKKP **PKKPbc** 02 26 37.1 -4.4
CRVS Cervenica-Dubn 109.35 44 PDIF **Pdif** 02 10 58.1 +1.2
KOLS Kolonicke sedl 109.86 45 PDIF **Pdif** 02 10 58.1 -1.1
FINES FINESS Array B 115.42 32 PKP **PKPdf** 02 15 10.5 -0.2
comp=E,1.6nm,0.9s,baz=329,slow=7.1,SNR=3.5
FINES FINESS Array B 115.42 32 PKP **PKPdf** 02 15 10.5 -0.2
ARCES ARCESS Array B 116.63 23 PKP **PKPdf** 02 15 12.4 -0.4
comp=E,2.2nm,0.9s,baz=243,slow=4.0,SNR=4.2
ARCES ARCESS Array B 116.63 23 PKP **PKPdf** 02 15 12.4 -0.4
ASAR Alice Springs 124.98 203 PKP **PKPdf** 02 15 29.6 -0.9
comp=E,4.0nm,0.4s,baz=136,slow=1.8,SNR=57
ASAR pPKP **pPKPdf** 02 16 14.7 +1.9
comp=E,0.5nm,0.4s,baz=139,slow=1.7,SNR=2.5
ASAR Alice Springs 124.98 203 PKP **PKPdf** 02 15 29.6 -0.9
ASAR pPKP **pPKPdf** 02 16 14.7 +1.9
WRA Warramunga Arr 128.23 205 PKP **PKPdf** 02 15 36.1 -0.5
comp=E,3.7nm,0.3s,baz=163,slow=1.7,SNR=44
WRA pPKP **pPKPdf** 02 16 21.5 +2.5
comp=E,0.8nm,0.5s,baz=163,slow=1.5,SNR=2.3
WRA Warramunga Arr 128.23 205 PKP **PKPdf** 02 15 36.1 -0.5
WRA pPKP **pPKPdf** 02 16 21.5 +2.5
WSAR Wadi Sarin 130.78 82 PKP **PKPdf** 02 15 41.0 -0.3
comp=E,2.5nm,0.7s,baz=248,slow=5.3,SNR=3.6
WSAR Wadi Sarin 130.78 82 PKP **PKPdf** 02 15 41.0 -0.3
BVAR Borovoye Array 139.71 40 PKP **PKPdf** 02 15 58.1 +1.0
comp=E,1.4nm,0.6s,baz=272,slow=2.1,SNR=8.3
BVAR Borovoye Array 139.71 40 PKP **PKPdf** 02 15 58.1 +1.0
EKS2 Erkin-Say 144.88 55 *e*PKPbc PKPbc 02 16 05.8 -0.5
EKS2 Erkin-Say 144.88 55 P **PKPdf** 02 16 06.9 +0.1
SNR=14
AML Almayashu 144.93 56 P **PKPdf** 02 16 07.3 +0.1
SNR=21
USP Ospenovka 145.27 54 P **PKPab** 02 16 07.9 +0.2
SNR=14
KURBB Kurchatov Arra 145.30 40 PKPbc **PKPab** 02 16 08.1 +0.6
comp=E,12nm,0.7s,baz=299,slow=3.7,SNR=30
KURK Kurchatov 145.31 39 *e*PKPbc **PKPdf** 02 16 07.1 +0.1
AAK Ala-Archa 145.41 55 *e*PKPdf **PKPab** 02 16 08.5 +0.1
AAK Ala-Archa 145.41 55 P **PKPab** 02 16 09.0 +0.6
SNR=55
CHMS Chumysh 145.51 54 P **PKPab** 02 16 08.9 +0.4
SNR=16
KBK Karagaybulak 145.73 54 P **PKPab** 02 16 09.4 -0.2
SNR=20
KZA Kyzart 146.07 55 P **PKPab** 02 16 10.9 -0.4
SNR=9.9
TKM2 Tokmak 2 146.13 54 *e*PKPbc **PKPbc** 02 16 09.7 -0.6
TKM2 Tokmak 2 146.13 54 P **PKPbc** 02 16 09.9 -0.3
SNR=19
HYB Hyderabad 146.35 101 *i* PKP **PKPdf** 02 16 10.0 +0.2
KAPI Kappang 146.65 192 PKPbc **PKPdf** 02 16 11.0 +0.5
comp=E,14nm,0.6s,baz=258,slow=4.3,SNR=13
KAPI Kappang 146.65 192 *e*PKPdf **PKPdf** 02 16 10.8 +0.3
KAPI PKPbc **PKPdf** 02 16 11.0 +0.5
ZAA0 Zalesovo Array 146.68 31 *e*PKPdf **PKPdf** 02 16 09.6 +0.4
ZALV Zalesovo Beam 146.68 31 PKPbc **PKPdf** 02 16 09.9 +0.7
comp=E,11nm,0.3s,baz=308,slow=3.4,SNR=52
ZALV pPKPbc pPKPbc 02 16 53.5 +0.5
comp=E,3.7nm,0.6s,baz=301,slow=3.7,SNR=2.3
ZALV Zalesovo Beam 146.68 31 PKPbc **PKPdf** 02 16 09.9 +0.7
ZALV pPKPbc pPKPbc 02 16 53.5 +0.5
ULHL Ulahol 146.75 55 P **PKPbc** 02 16 11.4 -0.7
SNR=24
KSH Kashi 147.08 60 PKPbc **PKPdf** 02 16 11.4 +0.8
KSH PP **PP** 02 19 40.0 +0.5
KSH PKS **PKSdf** 02 19 43.6 -2.3
KSH SKS **SKSdf** 02 23 08.5 +4.2
KSH SKKS **SKKSac** 02 26 20.1 +4.7
KSH SS **SS** 02 38 28.5 +0.6
KSH AMB AMB
comp=Z,110nm,4.7s
KSH LR LR
comp=N,66nm,7.6s
KSH LR LR
comp=E,62nm,5.1s
KSH LR LR
comp=Z,170nm,5.6s
DDI Dehra Dun 149.17 77 *ex* **PKPbc** 02 16 18.2 -0.4
MK31 Makanchi Array 149.27 44 *e*PKPdf **PKPdf** 02 16 14.1 +0.3
MK31 *e*PKPbc **PKPbc** 02 16 18.0 -0.3
MKAR Makanchi Array 149.27 44 PKPbc **PKPbc** 02 16 18.1 -0.2
comp=Z,11nm,0.7s,baz=293,slow=2.9,SNR=115
MKAR Makanchi Array 149.27 44 PKPbc **PKPbc** 02 16 18.1 -0.2
PSI Prapat 151.46 149 PKPbc **PKPbc** 02 16 24.0 -0.6
comp=Z,12nm,0.5s,baz=204,slow=4.3,SNR=12
PSI Prapat 151.46 149 PKPbc **PKPbc** 02 16 24.0 -0.6
ASAJ Asahikawa 151.56 312 PKPbc **PKPbc** 02 16 23.9 +0.1
comp=Z,10nm,1.1s,baz=126,slow=24,SNR=3.9
ASAJ Asahikawa 151.56 312 PKPbc **PKPbc** 02 16 23.9 +0.1
WMQ Urumqi 154.03 46 *e*PKPbc **PKPdf** 02 16 20.3 -0.8
MJAR Matsushiro Arr 157.33 298 PKPab **PKPab** 02 16 57.9 +0.1
comp=Z,1.1nm,0.4s,baz=94,slow=3.1,SNR=3.8
MJAR Matsushiro Arr 157.33 298 PKPab **PKPab** 02 16 57.9 +0.1
SONM Songino Array 159.43 13 PKP **PKPdf** 02 16 28.4 +0.4
comp=Z,2.1nm,1.0s,baz=242,slow=1.8,SNR=12
SONM PKPab **PKPab** 02 17 07.1 +0.6
comp=Z,0.7nm,0.6s,baz=319,slow=5.3,SNR=5.8
SONM Songino Array 159.43 13 PKP **PKPdf** 02 16 28.4 +0.4
SONM PKPab **PKPab** 02 17 07.1 +0.6
CMAR Chiang Mai Arr 163.76 123 PKP **PKPdf** 02 16 34.2 +1.1
comp=Z,1.5nm,0.3s,baz=253,slow=3.3,SNR=5.3
CMAR PKPab **PKPab** 02 17 26.4 +0.1
comp=Z,0.8nm,0.3s,baz=243,slow=3.6,SNR=5.8
CMAR Chiang Mai Arr 163.76 123 PKP **PKPdf** 02 16 34.2 +1.1
CMAR PKPab **PKPab** 02 17 26.4 +0.1
KSRS Korea Array 164.50 311 PKPab **PKPab** 02 17 29.8 +0.8
comp=Z,1.1nm,0.4s,baz=38,slow=4.3,SNR=4.4
KSAR Wonju Array Be 164.53 311 PKPab **PKPab** 02 17 29.8 +0.6
HHC Hu-ho-hao-te 167.05 6 *e*PKP **PKPdf** 02 16 35.8 +0.4
HHC PKS **PKSdf** 02 20 07.1 -1.0
HHC PP **PP** 02 21 30.0 +2.3
HHC SKS **SKSdf** 02 23 28.3 +3.9
HHC SKKS SKKSac 02 28 07.8 +7.5
HHC SS **SS** 02 42 05.3 +7.0
HHC AMB AMB
comp=Z,130nm,11.9s
HHC LR LR
comp=N,89nm,16.1s
HHC LR LR
comp=E,88nm,14.9s
HHC LR LR
comp=Z,98nm,19.0s
KMI Kunming 170.11 104 PKP **PKPdf** 02 16 37.3 -0.7
CD2 Chengdu 171.15 68 PKP **PKPdf** 02 16 37.5 -0.7

IDC 16 01:58:04.8±1.4, 31°.15N×140°.58E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/25, mbtmpg3.3/4, ML3.2/1, Error ellipse: s-maj=71.3km s-min=29.0km az=97.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.73**	**341**	Pn	Pn	01 59 30.9	-0.3
	0.7nm,0.3s,baz=155,slow=17,SNR=4.5						
WRA	**Warramunga Arr**	**51.15**	**188**	P	P	02 07 09.4	-0.3
	0.5nm,0.6s,baz=1.2,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**69.27**	**29**	P	P	02 09 12.6	-0.7
	0.1nm,0.3s,baz=291,slow=5.8,SNR=4.0						
TXAR	**Lajitas Array**	**94.27**	**52**	P	P	02 11 27.3	+0.8
	0.2nm,0.7s,baz=317,slow=3.8,SNR=2.8						

IGQ 16 02:42:36.2, 0°.32S×77°.53W, h17km±179km, Mb4.0, Ms3.8, 19C-16D, Error ellipse: s-maj=1.2km s-min=0.6km az=2.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAV4	**Lava4-Reventad**	**0.24**	**337**	⇓P	Pg	02 42 41.9	-0.2
CHAR	**Charly**	**0.27**	**330**	⇓P	Pg	02 42 42.5	-0.2
CONE	**Cono NE Rev Vo**	**0.27**	**336**	⇓P	Pg	02 42 42.5	-0.2
ANGU	**Angureal**	**0.60**	**308**	P	Pg	02 42 48.5	-0.4
CAYA	**Cayambe**	**0.60**	**310**	⇓P	Pg	02 42 48.0	-0.8
ANTI	**Antisana**	**0.64**	**258**	⇑P	Pg	02 42 49.0	-0.6
COV1	**Cotopaxi Volc**	**0.88**	**247**	⇑P	Pn	02 42 55.5	+0.8
TAMB	**Tambo**	**0.91**	**246**	⇑P	Pb	02 42 54.4	+0.2
VC1	**Cotopaxi 1**	**0.93**	**250**	⇑P	Pb	02 42 54.5	0.0
PITA	**Cotopaxi Volc**	**0.93**	**255**	P	Pb	02 42 54.2	-0.3
BTAM	**Cotopaxi Volca**	**0.93**	**248**	⇑P	Pb	02 42 54.7	+0.1
BVC2	**Cotopaxi Volca**	**0.94**	**249**	⇑S	Sg	02 43 08.2	+0.2
BVC2	**Cotopaxi Volca**	**0.94**	**249**	⇑P	Pb	02 42 54.9	+0.1
BREF	**Cotopaxi Volca**	**0.97**	**249**	⇑P	Pb	02 42 55.4	0.0
MOV1	**Cotopaxi Vol s**	**0.99**	**247**	⇑P	Pb	02 42 55.5	-0.1
NAS2	**Nasa**	**0.99**	**251**	P	Pb	02 42 55.6	+0.1
BMOR	**Cotopaxi Volca**	**1.01**	**246**	⇑P	Pb	02 42 55.8	-0.2
BMOR	**Cotopaxi Volca**	**1.01**	**246**	⇑S	Sb	02 43 08.3	-1.2
CAMI	**Rancho Maria**	**1.03**	**250**	P	Pg	02 42 56.8	-0.1
COTA	**Cotacachi**	**1.03**	**309**	S	Sb	02 43 10.5	+0.4
COTA	**Cotacachi**	**1.03**	**309**	P	Pn	02 42 56.6	0.0
YANA	**Yana**	**1.06**	**281**	⇑P	Pb	02 42 56.7	0.0
YANA	**Yana**	**1.06**	**281**	⇑S	Sb	02 43 10.3	-0.4
GGP	**Refugio Guagua**	**1.07**	**278**	⇑P	Pn	02 42 57.3	+0.1
OTAV	**Otavalo**	**1.07**	**301**	⇓P	Pb	02 42 56.5	-0.4
JUA2	**San Juan 2**	**1.08**	**276**	⇓S	Sb	02 43 11.4	+0.2
JUA2	**San Juan 2**	**1.08**	**276**	⇓P	Pb	02 42 56.9	-0.1
TERV	**Terraza Guagua**	**1.08**	**278**	⇓S	Sb	02 43 11.7	+0.2
TERV	**Terraza Guagua**	**1.08**	**278**	⇓P	Pn	02 42 57.3	0.0
PINO	**Pino**	**1.08**	**279**	⇑P	Pb	02 42 57.0	-0.3
PISA	**Pisayambo**	**1.12**	**229**	⇓P	Pb	02 42 58.0	+0.1
LITE	**Lita**	**1.40**	**323**	P	Pb	02 43 01.6	-0.4
LITE	**Lita**	**1.40**	**323**	S	Sb	02 43 19.8	+0.1
BRUN	**Tungurahua Vol**	**1.40**	**219**	S	Sg	02 43 21.6	-0.7
BRUN	**Tungurahua Vol**	**1.40**	**219**	P	Pb	02 43 02.4	0.0
RUN5	**Runtun**	**1.41**	**219**	P	Pb	02 43 02.6	+0.2
BULB	**Ulba Tungurahu**	**1.41**	**218**	⇑P	Pb	02 43 02.3	-0.3
ULBA	**Ulba**	**1.42**	**218**	⇓P	Pb	02 43 02.5	-0.2
ULBA	**Ulba**	**1.42**	**218**	⇓S	Sb	02 43 21.6	+0.7
JUI6	**Juive**	**1.44**	**220**	⇓S	Sb	02 43 22.3	+0.9
JUI6	**Juive**	**1.44**	**220**	⇓P	Pb	02 43 02.9	-0.1
RETU	**Refugio**	**1.45**	**219**	P	Pb	02 43 03.4	0.0
BBIL	**Ulba Tungurahu**	**1.47**	**220**	⇓P	Pb	02 43 03.8	+0.2
PAT1	**Patacocha**	**1.48**	**217**	⇓P	Pb	02 43 03.8	-0.1
BIL2	**Estacion Bilba**	**1.49**	**221**	S	Sg	02 43 24.0	-0.9
BIL2	**Estacion Bilba**	**1.49**	**221**	P	Pb	02 43 04.0	+0.3
ARRY	**Arrayan**	**1.50**	**218**	⇑P	Pb	02 43 03.7	-0.3
BMAS	**Trigal station**	**1.51**	**219**	⇑P	Pb	02 43 04.0	-0.3
BMAS	**Trigal station**	**1.51**	**219**	⇑S	Sb	02 43 24.0	+0.6
IGUA	**Igualata**	**1.60**	**224**	P	Pb	02 43 06.5	+0.4
GOLV	**Golondrinas**	**1.69**	**288**	P	Pb	02 43 07.1	+0.2
RIOE	**Riobamba**	**1.80**	**218**	P	Pb	02 43 08.8	-0.3

IDC 16 02:43:53.4±2.0, 0°.74S×132°.94E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/21, mbtmpg3.7/5, ML3.5/2, Error ellipse: s-maj=83.7km s-min=25.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**202**	P	P	02 48 12.5	-0.8
	0.1nm,0.3s,baz=18,slow=13,SNR=2.3						
FITZ				S	Sn	02 51 28.5	-15
	0.1nm,0.3s,baz=171,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**19.13**	**176**	P	Pn	02 48 18.9	-0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=8.4						
WRA				S	Sn	02 51 43.0	-11
	0.1nm,0.3s,baz=357,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**22.81**	**178**	P	P	02 48 58.5	+0.5
	1.1nm,0.3s,baz=357,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.03**	**166**	P	P	02 50 21.1	-0.6
	1.7nm,0.7s,baz=341,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	**64.77**	**324**	P	P	02 54 33.9	0.0
	0.3nm,0.6s,baz=113,slow=7.6,SNR=4.4						

*IDC **16** 03:32:55.9±0.8, 15°.34N×144°.84E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/24, mbtmpg4.0/10, MS3.5/3, Ms1 3.5/3, ms1mx2.9/33, Error ellipse: s-maj=29.9km s-min=16.5km az=84.0*

*ISCJB **16** 03:32:59.1±0.6, 15°.27N±0°.06×144°.7E±0°.1, h33km, mb4.2/17, MS3.6/2, Error ellipse: s-maj=21.2km s-min=6.8km az=167.0*

*NEIC **16** 03:33:01.1±0.4, 15°.28N×144°.75E, h35km, mb4.6/8, Error ellipse: s-maj=15.0km s-min=6.5km az=78.0*

ISC 16 03:33:00.9±0.7, 15°.23N±0°.07×144°.8E±0°.2, h35km, n37, σ0°.82/37, mb4.4/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.63**	**176**	Pn	**Pn**	**03 33 27.2**	**+0.1**
	30nm,0.3s,baz=107,slow=0.6,SNR=6.9						
GUMO				Sn	**Sn**	**03 33 45.6**	**-1.3**
	34nm,0.3s,baz=131,slow=12,SNR=4.3						
GUMO	**Guam**	**1.63**	**176**	Pn	**Pn**	**03 33 27.2**	**+0.1**
GUMO				Sn	**Sn**	**03 33 45.6**	**-1.3**
JOW	**Kunigami**	**19.21**	**310**	LR	LR	03 43 24.1	
	comp=Z,61nm,18.2s,baz=128,slow=33						
JOW	**Kunigami**	**19.21**	**310**	*e*P	**P**	**03 37 21.1**	**-0.9**
	5.4nm,0.9s						
JNU	**Nakatsue**	**21.82**	**327**	*e*P	**P**	**03 37 50.9**	**+0.7**
MJAR	**Matsushiro Arr**	**22.02**	**346**	LR	LR	03 44 37.4	
	comp=Z,71nm,21.6s,baz=215,slow=32						
SSLB	**Suanglung**	**23.97**	**294**	*e*P	**P**	**03 38 11.3**	**-1.0**
	16nm,0.9s						
KSRS	**Korea Array**	**26.70**	**329**	P	**P**	**03 38 36.0**	**-0.9**
	4.1nm,0.8s,baz=146,slow=10,SNR=13						
KSAR	**Wonju Array Be**	**26.71**	**329**	P	**P**	**03 38 36.0**	**-1.0**
WRAB	**Tennant Creek**	**36.41**	**197**	*e*P	**P**	**03 40 02.9**	**+0.6**
	4.9nm,0.9s						
WRA	**Warramunga Arr**	**36.42**	**197**	P	**P**	**03 40 03.4**	**+1.0**
	4.7nm,1.0s,baz=17,slow=9.4,SNR=13						
WRA	**Warramunga Arr**	**36.42**	**197**	P	**P**	**03 40 03.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**38.10**	**210**	*e*P	**P**	**03 40 17.7**	**+1.0**
	9.9nm,0.9s						
ASAR	**Alice Springs**	**40.09**	**196**	P	**P**	**03 40 34.1**	**+0.8**
	0.7nm,0.8s,baz=16,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**40.09**	**196**	P	**P**	**03 40 34.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**43.88**	**281**	P	**P**	**03 41 05.2**	**+0.8**
	1.6nm,0.8s,baz=78,slow=5.5,SNR=13						
CMAR	**Chiang Mai Arr**	**43.88**	**281**	P	**P**	**03 41 05.2**	**+0.8**
ULN	**Ulaanbaatar**	**44.99**	**324**	*e*P	**P**	**03 41 12.7**	**-0.3**
SONM	**Songino Array**	**45.35**	**324**	P	**P**	**03 41 15.7**	**-0.2**
	0.7nm,1.0s,baz=108,slow=9.5,SNR=4.1						
SONM	**Songino Array**	**45.35**	**324**	P	**P**	**03 41 15.7**	**-0.2**
ZALV	**Zalesovo Beam**	**60.24**	**324**	P	**P**	**03 43 05.7**	**+0.1**
	0.7nm,0.3s,baz=95,slow=7.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**60.24**	**324**	P	**P**	**03 43 05.7**	**+0.1**
MK31	**Makanchi Array**	**60.25**	**315**	*e*P	**P**	**03 43 06.3**	**+0.5**
MKAR	**Makanchi Array**	**60.25**	**315**	P	**P**	**03 43 06.4**	**+0.6**
	1.7nm,0.9s,baz=97,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**60.25**	**315**	P	**P**	**03 43 06.4**	**+0.6**
KURK	**Kurchatov**	**63.27**	**319**	*e*P	**P**	**03 43 25.7**	**-0.4**
	12nm,1.1s						
AAK	**Ala-Archa**	**65.38**	**310**	*e*P	**P**	**03 43 39.8**	**-0.5**
	62nm,1.9s						
BRVK	**Borovoye**	**68.65**	**321**	*e*P	**P**	**03 43 59.9**	**-0.7**
	6.8nm,1.0s						
ABKAR	**Akbulak array**	**75.27**	**318**	*e*P	**P**	**03 44 40.1**	**-0.2**
	4.1nm,0.9s						
YKA	**Yellowknife Ar**	**81.46**	**27**	P	**P**	**03 45 13.6**	**-0.7**
	0.6nm,0.9s,baz=288,slow=5.5,SNR=8.2						
YKA	**Yellowknife Ar**	**81.46**	**27**	P	**P**	**03 45 13.6**	**-0.7**
NVAR	**Mina Array Bea**	**85.99**	**51**	P	**P**	**03 45 38.9**	**+0.7**
	0.5nm,0.7s,baz=268,slow=7.2,SNR=3.3						
NVAR				LR	LR	04 19 16.0	
	comp=Z,73nm,18.9s,baz=269,slow=32						
NVAR	**Mina Array Bea**	**85.99**	**51**	P	**P**	**03 45 38.9**	**+0.7**
FINES	**FINESS Array B**	**89.64**	**335**	P	**P**	**03 45 54.3**	**-0.6**
	1.9nm,0.9s,baz=151,slow=4.4,SNR=4.2						
FINES	**FINESS Array B**	**89.64**	**335**	P	**P**	**03 45 54.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**133.84**	**306**	PKP	**PKPdf**	**03 52 16.7**	**+1.5**
	0.8nm,1.0s,baz=90,slow=2.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**133.84**	**306**	PKP	**PKPdf**	**03 52 16.7**	**+1.5**

*NIED **16** 03:46:00, 43°.30N×145°.70E, h50km, Mw3.6 Best double couple: M0 3.21000×10^14 NP1:φs 74.00000°, δ66.00000°, λ-126.00000°. NP2:φs 314.00000°, δ42.00000°, λ-38.00000°.*

JMA 16 03:46:53.0±0.1, 43°.29N×145°.74E, h58km±1km, M3.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.07**	**2**	P	Pn	03 47 01.7	0.0
NEM2				eS	Sn	03 47 08.0	0.0
JRA	**Rausu**	**0.79**	**325**	P	Pn	03 47 08.2	0.0
JRA				eS	Sn	03 47 19.6	+0.3
JNK	**Nakash**	**0.80**	**292**	P	Pn	03 47 08.0	-0.4
JNK				eS	Sn	03 47 18.7	-1.0
JAK	**Akkeshi**	**0.82**	**249**	P	Pn	03 47 08.5	-0.1
JAK				eS	Sn	03 47 19.8	-0.2
JAR	**Ashorobuto**	**1.44**	**271**	P	Pn	03 47 17.2	+0.4
JAR				eS	Sn	03 47 35.1	+0.4
JOB	**Onbets**	**1.45**	**255**	P	Pn	03 47 17.3	+0.4
JOB				eS	Sn	03 47 35.3	+0.4
JTKR	**Abashiri--Toko**	**1.49**	**298**	P	Pn	03 47 18.2	+0.7
JTKR				eS	Sn	03 47 36.7	+0.7

KRSC 16 03:48:35.3±1.2, 52°.19N×162°.22E, h42km±41km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.62**	**305**	*e*S	Sn	03 49 23.3	+2.3
NLC	**Nalytchevo**	**2.01**	**300**	*e*S	Sn	03 49 33.0	+2.5
RUS	**Russkaya**	**2.29**	**278**	*e*P	Pn	03 49 12.0	+1.5
RUS				*e*S	Sn	03 49 38.9	+1.5
SDLR	**Sedlovina**	**2.30**	**300**	*e*P	Pn	03 49 13.2	+2.3
SDLR				*e*S	Sn	03 49 40.9	+2.8
UGLR	**Uglovaya**	**2.31**	**298**	*e*P	Pn	03 49 13.1	+2.2
PET	**Petropavlovsk**	**2.33**	**292**	*e*S	Sn	03 49 41.1	+2.7
SMAR	**Somma**	**2.34**	**299**	*e*P	Pn	03 49 14.1	+2.6
SMAR				*e*S	Sn	03 49 42.8	+3.6
AVH	**Avacha**	**2.38**	**298**	*e*P	Pn	03 49 14.8	+3.0
AVH				*e*S	Sn	03 49 43.9	+4.1
KRER	**Koryakskii**	**2.39**	**299**	*e*P	Pn	03 49 14.8	+2.7
KRER				*e*S	Sn	03 49 43.8	+3.5
MKZ	**Mys Kozlova**	**2.39**	**353**	*e*P	Pn	03 49 13.7	+1.8
MKZ				*e*S	Sn	03 49 41.8	+1.9
KOK	**Koryaka**	**2.44**	**298**	*e*P	Pn	03 49 14.8	+2.0
KOK				*e*S	Sn	03 49 43.7	+2.2
MTVR	**Mutnovka**	**2.49**	**278**	*e*P	Pn	03 49 15.3	+1.8
MTVR				*e*S	Sn	03 49 44.2	+1.3
ASAK	**Asacha**	**2.66**	**276**	*e*P	Pn	03 49 17.7	+2.0
GNL	**Ganaly**	**3.00**	**302**	*e*P	Pn	03 49 23.9	+3.5
GNL				*e*S	Sn	03 49 59.3	+4.2
TUMR	**Tumrok**	**3.33**	**339**	*e*P	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**238**	P	**Pg**	**04 29 11.2**	**-0.7**
YOJ				S	**Sb**	**04 29 19.8**	**-0.1**
JKRS	**Kuro-shima**	**0.70**	**133**	P	**Pg**	**04 29 16.0**	**-0.1**
JKRS				S	**Sb**	**04 29 28.1**	**+1.7**
JIJ	**Ishigaki jima**	**0.72**	**119**	P	**Pg**	**04 29 15.4**	**-1.2**
JIJ				S	**Sg**	**04 29 26.8**	**+0.8**
HATJ	**Hateruma jima**	**0.73**	**154**	P	**Pg**	**04 29 17.1**	**+0.4**
HATJ				*e*S	**Sn**	**04 29 29.7**	**-0.3**
JTJ	**Tarama**	**1.14**	**93**	P	Pb	04 29 21.5	-2.9
JTJ				S	**Sb**	**04 29 37.1**	**-2.1**
KSRS	**Korea Array**	**13.26**	**16**	Pn	**P**	**04 32 22.9**	**+2.1**
	0.3nm,0.3s,baz=195,slow=13,SNR=5.3						
SONM	**Songino Array**	**26.74**	**334**	LR	LR	04 45 15.3	
	comp=Z,39nm,21.0s,baz=19,slow=36						
PETK	**Petropavlovsk-**	**38.28**	**33**	LR	LR	04 53 26.1	
	comp=Z,26nm,20.7s,baz=187,slow=37						
MKAR	**Makanchi Array**	**39.42**	**315**	P	P	04 36 29.1	-3.4
	0.1nm,0.4s,baz=98,slow=10,SNR=2.9						
KURBB	**Kurchatov Arra**	**43.05**	**319**	P	P	04 36 57.6	-4.7
	0.3nm,0.3s,baz=142,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**45.63**	**166**	P	**P**	**04 37 21.6**	**-1.7**
	1.7nm,0.7s,baz=348,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**49.15**	**167**	P	**P**	**04 37 49.9**	**-0.8**
	0.6nm,0.9s,baz=350,slow=9.4,SNR=5.7						

*IDC **16** 04:33:40.0±2.0,6°14S×154°38E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.6/19,mbtmp3.6/5,ML2.8/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/21, Error ellipse: s-maj=83.1km s-min=27.6km az=129.0*

ISC 16 04:33:46.7±2.0,6°4S±0°3×154°4E±0°3,h48km,n17, σ0s97/14,mb3.3/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.30**	**119**	LR	LR	04 37 13.5	
	comp=Z,76nm,19.0s,baz=252,slow=33						
PMG	**Port Moresby**	**7.76**	**247**	Pn	**Pn**	**04 35 35.7**	**-1.4**
	0.8nm,0.3s,baz=120,slow=10,SNR=1.8						
CTA	**Charters Tower**	**15.75**	**209**	LR	LR	04 42 11.7	
	comp=Z,54nm,19.7s,baz=232,slow=32						
WRA	**Warramunga Arr**	**23.68**	**233**	P	**P**	**04 38 55.5**	**+1.4**
	0.8nm,0.6s,baz=58,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**26.14**	**22**	P	**P**	**04 39 17.6**	**+1.1**
	0.4nm,0.5s,baz=57,slow=8.7,SNR=5.2						
STKA	**Stephens Creek**	**28.05**	**204**	LR	LR	04 50 25.1	
	comp=Z,42nm,20.1s,baz=202,slow=36						
FITZ	**Fitzroy Crossi**	**30.35**	**245**	LR	LR	04 53 00.7	
	comp=Z,66nm,18.2s,baz=64,slow=38						
TAPN	**Taplejung**	**72.56**	**301**	*e*P	**P**	**04 45 10.7**	**+1.1**
ODAN	**Odare**	**72.69**	**301**	*e*P	**P**	**04 45 11.0**	**+0.7**
GUN	**Gumba**	**74.27**	**301**	*e*P	**P**	**04 45 20.6**	**+0.9**
	12nm,0.7s						
DMN	**Daman**	**74.85**	**301**	*e*P	**P**	**04 45 24.0**	**+1.0**
	15nm,0.6s						
KOLN	**Koldanda**	**76.18**	**300**	*e*P	**P**	**04 45 30.8**	**+0.3**
	11nm,0.8s						
DANN	**Dangsing**	**76.19**	**301**	*e*P	**P**	**04 45 31.0**	**+0.3**
	8.6nm,0.6s						
PYUN	**Piuthan**	**76.78**	**301**	*e*P	**P**	**04 45 34.3**	**+0.4**
	17nm,0.9s						
MKAR	**Makanchi Array**	**82.53**	**319**	P	**P**	**04 46 04.8**	**+0.3**
	0.3nm,0.7s,baz=86,slow=9.0,SNR=3.2						
ILAR	**Eielson Array**	**83.02**	**22**	P	**P**	**04 46 05.7**	**-1.0**
	0.2nm,0.7s,baz=268,slow=4.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**152.27**	**286**	PKPbc	**PKPbc**	**04 53 37.6**	**-0.7**
	0.7nm,0.5s,baz=54,slow=2.0,SNR=10						
TORD				PKPab	**PKPab**	**04 53 48.3**	**+0.1**
	1.2nm,0.7s,baz=65,slow=3.7,SNR=6.9						

*ISK **16** 04:37:14.3,39°.90N×27°.14E,h5km,MD2.9*
*CSEM **16** 04:37:14.4±0.2,39°.86N×27°.12E,h2km,MD2.8, Error ellipse: s-maj=3.7km s-min=2.3km az=41.0*
*ISCJB **16** 04:37:15.2±0.5,39°.92N±0°.03×27°.18E±0°.03,h6km±5km, Error ellipse: s-maj=4.5km s-min=3.8km az=28.8*
*DDA **16** 04:37:15.5,39°.93N×27°.24E,h7km,MD2.8*

ISC 16 04:37:14.8±1.1,39°.88N±0°.03×27°.14E±0°.02,h8km±11km, n40,σ0s41/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.40**	**111**	*i*P	**Pg**	**04 37 22.8**	**+0.3**
BALY				*i*S	**Sg**	**04 37 28.2**	**+0.5**
BALY	**Balya**	**0.40**	**111**	*i*P	**Pg**	**04 37 22.8**	**+0.3**
BALY				*i*S	**Sg**	**04 37 28.2**	**+0.5**
GONE	**Gonen-Balikesi**	**0.45**	**68**	*e*PG	**Pg**	**04 37 23.6**	**0.0**
GONE				*e*SG	**Sg**	**04 37 29.4**	**-0.1**
GONE	**Gonen-Balikesi**	**0.45**	**68**	*e*Pg	**Pg**	**04 37 23.6**	**0.0**
GONE				*e*Sg	**Sg**	**04 37 29.4**	**-0.1**
KRBG	**Karabiga-Canak**	**0.53**	**13**	*e*PG	**Pg**	**04 37 25.0**	**0.0**
KRBG				*e*SG	**Sg**	**04 37 31.7**	**-0.2**
KRBG	**Karabiga-Canak**	**0.53**	**13**	*e*Pg	**Pg**	**04 37 25.0**	**0.0**
KRBG				*e*Sg	**Sg**	**04 37 31.7**	**-0.2**
LPK	**Lapseki**	**0.57**	**329**	*e*PG	**Pg**	**04 37 25.7**	**-0.2**
LPK				*e*SG	**Sg**	**04 37 33.8**	**+0.5**
LPK	**Lapseki**	**0.57**	**329**	*e*Pg	**Pg**	**04 37 25.7**	**-0.2**
LPK				*e*Sg	**Sg**	**04 37 33.8**	**+0.5**
BALB	**Balikesir**	**0.62**	**113**	*e*PG	**Pg**	**04 37 26.9**	**+0.1**
BALB	**Balikesir**	**0.62**	**113**	*e*Pg	**Pg**	**04 37 26.9**	**+0.1**
EZN	**Ezine**	**0.63**	**265**	*e*PG	**Pg**	**04 37 26.5**	**-0.5**
EZN	**Ezine**	**0.63**	**265**	*e*Pg	**Pg**	**04 37 26.5**	**-0.5**
AYVA	**Ayvalik**	**0.67**	**211**	*i*P	**Pn**	**04 37 30.8**	**+0.2**
AYVA				*i*S	**Sn**	**04 37 40.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.73**	**316**	*e*PG	**Pg**	**04 37 28.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.73**	**316**	*e*Pg	**Pg**	**04 37 28.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.81**	**2**	*e*PG	**Pg**	**04 37 30.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.81**	**2**	*e*Pg	**Pg**	**04 37 30.2**	**-0.1**
SART	**Tekirdag**	**0.81**	**2**	*i*P	**Pg**	**04 37 30.2**	**-0.2**
SART				*i*S	**Sg**	**04 37 40.5**	**-0.4**
SART	**Tekirdag**	**0.81**	**2**	*i*P	**Pg**	**04 37 30.2**	**-0.2**
SART				*i*S	**Sg**	**04 37 40.5**	**-0.4**
BOZC	**Bozcaada**	**0.84**	**268**	*i*P	**Pn**	**04 37 33.3**	**+0.4**
BOZC				*i*S	**Sb**	**04 37 44.0**	**+1.0**
DURS	**Dursunbey**	**1.07**	**105**	*i*P	**Pg**	**04 37 34.6**	**-0.7**
DURS				*i*S	**Sg**	**04 37 48.9**	**-0.2**
DURS	**Dursunbey**	**1.07**	**105**	*i*P	**Pg**	**04 37 34.6**	**-0.7**
DURS				*i*S	**Sg**	**04 37 48.9**	**-0.2**
AKS	**Akhisar**	**1.13**	**152**	*e*PN	**Pb**	**04 37 36.2**	**-0.4**
AKS	**Akhisar**	**1.13**	**152**	*e*Pn	**Pb**	**04 37 36.2**	**-0.4**
ENEZ	**Enez**	**1.14**	**319**	*e*PN	**Pb**	**04 37 36.7**	**-0.1**
ENEZ	**Enez**	**1.14**	**319**	*e*Pn	**Pb**	**04 37 36.7**	**-0.1**
DST	**Dursunbey**	**1.17**	**103**	*e*PN	**Pb**	**04 37 37.0**	**-0.4**
DST	**Dursunbey**	**1.17**	**103**	*e*Pn	**Pb**	**04 37 37.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.42**	**69**	*e*PN	**Pb**	**04 37 41.6**	**0.0**
MDNY	**Mudanya-Bursa**	**1.42**	**69**	*e*Pn	**Pb**	**04 37 41.6**	**0.0**
ARMT	**Armutlu**	**1.48**	**62**	*e*PN	**Pb**	**04 37 42.7**	**0.0**
ARMT	**Armutlu**	**1.48**	**62**	*e*Pn	**Pb**	**04 37 42.7**	**0.0**
CTKS	**Kestanelik-??a**	**1.71**	**37**	*e*PN	**Pb**	**04 37 45.8**	**-0.6**
CTKS	**Kestanelik-??a**	**1.71**	**37**	*e*Pn	**Pb**	**04 37 45.8**	**-0.6**
KULA	**Kula-Manisa**	**1.81**	**139**	*e*PN	**Pn**	**04 37 46.9**	**+0.6**
KULA	**Kula-Manisa**	**1.81**	**139**	*e*Pn	**Pn**	**04 37 46.9**	**+0.6**
CTYL	**Yal??k??y-??at**	**1.82**	**28**	*e*PN	**Pb**	**04 37 47.8**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.82**	**28**	*e*Pn	**Pb**	**04 37 47.8**	**-0.5**
TVSB	**Tavsanli**	**1.84**	**103**	*e*PN	**Pb**	**04 37 48.0**	**-0.9**
TVSB	**Tavsanli**	**1.84**	**103**	*e*Pn	**Pb**	**04 37 48.0**	**-0.9**

*DDA **16** 04:38:15.9,39°.92N×27°.22E,h7km,MD3.3*
*ISK **16** 04:38:15.6,39°.92N×27°.19E,h5km,MD3.1*
*CSEM **16** 04:38:16.4±0.1,39°.91N×27°.18E,h10km,MD3.3, Error ellipse: s-maj=2.2km s-min=2.0km az=41.0*
*ISCJB **16** 04:38:16.0±0.4,39°.93N±0°.02×27°.18E±0°.02,h7km±3km, Error ellipse: s-maj=3.1km s-min=2.6km az=30.7*
*ATH **16** 04:38:17.0,39°.89N×27°.17E,h33km±1km,MD3.6/5*
*THE **16** 04:38:17.1,39°.92N×27°.09E,h2km±1km,ML2.5/5, Error ellipse: s-maj=2.2km s-min=0.7km az=93.0*

ISC 16 04:38:16.2±1.0,39°.91N±0°.02×27°.18E±0°.02,h9km±9km, n90,σ0s44/125,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.38**	**117**	*i*P	**Pg**	**04 38 23.6**	**-0.1**
BALY				*i*S	**Sg**	**04 38 28.8**	**+0.1**
BALY	**Balya**	**0.38**	**117**	*i*P	**Pg**	**04 38 23.6**	**-0.1**
BALY				*i*S	**Sg**	**04 38 28.8**	**+0.1**
GONE	**Gonen-Balikesi**	**0.41**	**71**	PG	**Pg**	**04 38 24.3**	**0.0**
GONE				SG	**Sg**	**04 38 29.7**	**0.0**
GONE	**Gonen-Balikesi**	**0.41**	**71**	*i*Pg	**Pg**	**04 38 24.3**	**0.0**
GONE				*i*Sg	**Sg**	**04 38 29.7**	**0.0**
KRBG	**Karabiga-Canak**	**0.49**	**11**	*e*PG	**Pg**	**04 38 25.5**	**-0.3**
KRBG				*e*SG	**Sg**	**04 38 32.0**	**-0.2**
KRBG	**Karabiga-Canak**	**0.49**	**11**	*e*Pg	**Pg**	**04 38 25.5**	**-0.3**
KRBG				*e*Sg	**Sg**	**04 38 32.0**	**-0.2**
LPK	**Lapseki**	**0.56**	**325**	*e*PG	**Pg**	**04 38 27.2**	**0.0**
LPK				*e*SG	**Sg**	**04 38 34.5**	**0.0**
LPK	**Lapseki**	**0.56**	**325**	*e*Pg	**Pg**	**04 38 27.2**	**0.0**
LPK				*e*Sg	**Sg**	**04 38 34.5**	**0.0**
BALB	**Balikesir**	**0.60**	**117**	*e*PG	**Pg**	**04 38 27.6**	**-0.3**
BALB				*e*SG	**Sg**	**04 38 35.8**	**0.0**
BALB	**Balikesir**	**0.60**	**117**	*e*Pg	**Pg**	**04 38 27.6**	**-0.3**
BALB				*e*Sg	**Sg**	**04 38 35.8**	**0.0**
EZN	**Ezine**	**0.66**	**263**	*e*PG	**Pg**	**04 38 29.3**	**+0.2**
EZN	**Ezine**	**0.66**	**263**	*e*Pg	**Pg**	**04 38 29.3**	**+0.2**
EDC	**Edincik**	**0.68**	**50**	*e*PG	**Pn**	**04 38 31.4**	**-0.6**
EDC	**Edincik**	**0.68**	**50**	*e*Pg	**Pn**	**04 38 31.5**	**-0.6**
AYVA	**Ayvalik**	**0.71**	**212**	*i*P	**Pb**	**04 38 31.0**	**+0.2**
AYVA				*i*S	**Sb**	**04 38 41.3**	**+0.6**
AYVA	**Ayvalik**	**0.71**	**212**	*i*P	**Pb**	**04 38 31.0**	**+0.2**
AYVA				*i*S	**Sb**	**04 38 41.3**	**+0.6**
BNT	**Bandirma**	**0.72**	**52**	*e*PG	**Pg**	**04 38 29.6**	**-0.5**
BNT	**Bandirma**	**0.72**	**52**	*e*Pg	**Pg**	**04 38 29.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.73**	**312**	*e*PG	**Pg**	**04 38 30.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.73**	**312**	*e*Pg	**Pg**	**04 38 30.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.78**	**360**	*e*PG	**Pg**	**04 38 30.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.78**	**360**	*e*Pg	**Pg**	**04 38 30.8**	**-0.4**
SART	**Tekirdag**	**0.78**	**360**	*i*P	**Pg**	**04 38 31.0**	**-0.2**
SART				*i*S	**Sg**	**04 38 41.5**	**+0.2**
SART	**Tekirdag**	**0.78**	**360**	*i*P	**Pg**	**04 38 31.0**	**-0.2**
SART				*i*S	**Sg**	**04 38 41.5**	**+0.2**
BOZC	**Bozcaada**	**0.87**	**266**	*i*P	**Pn**	**04 38 33.5**	**-0.1**
BOZC				*i*S	**Sg**	**04 38 44.5**	**+0.2**
BOZC				*i*S	**Sb**	**04 38 45.2**	**-0.1**
PRK	**Paraskevi**	**0.97**	**227**	P	**Pb**	**04 38 35.0**	**-0.1**
PRK				S	**Sb**	**04 38 48.3**	**+0.3**
PRK	**Paraskevi**	**0.97**	**227**	*e*PN	**Pb**	**04 38 35.1**	**-0.1**
PRK				*e*SN	**Sb**	**04 38 48.3**	**+0.3**
PRK	**Paraskevi**	**0.97**	**227**	P	**Pb**	**04 38 35.0**	**-0.1**
PRK				S	**Sb**	**04 38 48.3**	**+0.3**
DURS	**Dursunbey**	**1.04**	**107**	*i*P	**Pg**	**04 38 35.6**	**-0.7**
DURS				*i*S	**Sg**	**04 38 49.7**	**-0.2**
DURS	**Dursunbey**	**1.04**	**107**	*i*P	**Pg**	**04 38 35.6**	**-0.7**
DURS				*i*S	**Sg**	**04 38 49.7**	**-0.2**
TKR	**Tekirdag**	**1.11**	**14**	*e*PN	**Pg**	**04 38 37.2**	**-0.4**
TKR	**Tekirdag**	**1.11**	**14**	*e*Pn	**Pg**	**04 38 37.2**	**-0.4**
ENEZ	**Enez**	**1.14**	**317**	*e*PN	**Pg**	**04 38 37.6**	**-0.5**
ENEZ	**Enez**	**1.14**	**317**	*e*Pn	**Pg**	**04 38 37.6**	**-0.5**
AKHS	**Akhisar**	**1.14**	**154**	*i*P	**Pg**	**04 38 37.7**	**-0.5**
AKHS				*i*S	**Sb**	**04 38 53.7**	**+0.6**
AKHS	**Akhisar**	**1.14**	**154**	*i*P	**Pg**	**04 38 37.7**	**-0.5**
AKHS				*i*S	**Sb**	**04 38 53.7**	**+0.6**
AKS	**Akhisar**	**1.14**	**154**	*e*PN	**Pg**	**04 38 37.8**	**-0.3**
AKS	**Akhisar**	**1.14**	**154**	*e*Pn	**Pg**	**04 38 37.8**	**-0.3**
DST	**Dursunbey**	**1.15**	**105**	*e*PN	**Pg**	**04 38 37.8**	**-0.6**
DST	**Dursunbey**	**1.15**	**105**	*e*Pn	**Pg**	**04 38 37.8**	**-0.6**
SIGR	**SIGRI**	**1.24**	**236**	P	**Pg**	**04 38 39.2**	**-0.8**
SIGR				S	**Sn**	**04 38 56.4**	**-0.2**
SIGR	**SIGRI**	**1.24**	**236**	P	**Pg**	**04 38 39.2**	**-0.8**
SIGR				S	**Sn**	**04 38 56.4**	**-0.2**
CRLT	**Corlu**	**1.29**	**19**	*e*PN	**Pg**	**04 38 41.0**	**0.0**
CRLT	**Corlu**	**1.29**	**19**	*e*Pn	**Pg**	**04 38 41.0**	**0.0**
ALN	**Alexandroupoli**	**1.31**	**319**	P	**Pn**	**04 38 40.5**	**-0.2**
ALN				S	**Sb**	**04 38 57.9**	**0.0**
ALN	**Alexandroupoli**	**1.31**	**319**	*e*PN	**Pn**	**04 38 40.9**	**+0.2**
ALN				*e*SN	**Sb**	**04 38 58.0**	**0.0**
ALN	**Alexandroupoli**	**1.31**	**319**	P	**Pn**	**04 38 40.5**	**-0.2**
ALN	**Alexandroupoli**	**1.31**	**319**	*e*Pn	**Pn**	**04 38 40.9**	**+0.2**
ALN				S	**Sb**	**04 38 57.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.38**	**70**	*e*PN	**Pb**	**04 38 42.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.38**	**70**	*e*Pn	**Pb**	**04 38 42.3**	**0.0**
ARMT	**Armutlu**	**1.44**	**63**	*e*PN	**Pn**	**04 38 42.4**	**-0.2**
ARMT	**Armutlu**	**1.44**	**63**	*e*Pn	**Pn**	**04 38 42.4**	**-0.2**
DEMI	**Demirci**	**1.47**	**126**	*i*P	**Pn**	**04 38 42.9**	**-0.1**
DEMI				*i*S	**Sn**	**04 39 02.3**	**-0.2**
DEMI	**Demirci**	**1.47**	**126**	*i*P	**Pn**	**04 38 42.9**	**-0.1**
DEMI				*i*S	**Sn**	**04 39 02.3**	**-0.2**
IZM	**Izmir**	**1.51**	**178**	*e*PN	**Pn**	**04 38 43.6**	**0.0**
IZM	**Izmir**	**1.51**	**178**	*e*Pn	**Pn**	**04 38 43.6**	**0.0**
BLCB	**Balcova**	**1.53**	**184**	*e*PN	**Pn**	**04 38 44.1**	**+0.4**
BLCB	**Balcova**	**1.53**	**184**	*e*Pn	**Pn**	**04 38 44.1**	**+0.4**
SLVT	**Silivri**	**1.53**	**30**	*e*PN	**Pn**	**04 38 44.4**	**+0.6**
SLVT	**Silivri**	**1.53**	**30**	*e*Pn	**Pn**	**04 38 44.4**	**+0.6**
LIA	**Limnos Island**	**1.54**	**270**	P	**Pn**	**04 38 43.6**	**-0.2**
LIA				S	**Sn**	**04 39 04.2**	**+0.3**
LIA	**Limnos Island**	**1.54**	**270**	*e*PN	**Pn**	**04 38 43.8**	**0.0**
LIA				*e*SN	**Sn**	**04 39 04.1**	**+0.2**
LIA	**Limnos Island**	**1.54**	**270**	*e*Pn	**Pn**	**04 38 43.8**	**0.0**
LIA				*e*Sn	**Sn**	**04 39 04.1**	**+0.2**
GEMT	**Gemlik**	**1.62**	**71**	*e*PN	**Pn**	**04 38 44.8**	**-0.2**
GEMT	**Gemlik**	**1.62**	**71**	*e*Pn	**Pn**	**04 38 44.8**	**-0.2**
CTKS	**Kestanelik-??a**	**1.66**	**37**	*e*PN	**Pb**	**04 38 46.8**	**-0.3**
CTKS	**Kestanelik-??a**	**1.66**	**37**	*e*Pn	**Pb**	**04 38 46.8**	**-0.3**
BGKT	**Bogazkoy**	**1.75**	**43**	*e*PN	**Pn**	**04 38 46.3**	**-0.5**
BGKT	**Bogazkoy**	**1.75**	**43**	*e*Pn	**Pn**	**04 38 46.3**	**-0.5**
CHOS	**Chios island**	**1.76**	**210**	P	**Pn**	**04 38 46.8**	**-0.2**
CHOS	**Chios island**	**1.76**	**210**	*e*PN	**Pn**	**04 38 46.7**	**-0.2**
CHOS	**Chios island**	**1.76**	**210**	P	**Pn**	**04 38 46.8**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.77**	**28**	*e*PN	**Pn**	**04 38 47.8**	**+0.7**
CTYL	**Yal??k??y-??at**	**1.77**	**28**	*e*Pn	**Pn**	**04 38 47.8**	**+0.7**
KULA	**Kula-Manisa**	**1.81**	**140**	*e*PN	**Pn**	**04 38 47.4**	**-0.3**
KULA	**Kula-Manisa**	**1.81**	**140**	*e*Pn	**Pn**	**04 38 47.4**	**-0.3**
TVSB	**Tavsanli**	**1.82**	**104**	*e*PN	**Pn**	**04 38 48.0**	**+0.2**
TVSB	**Tavsanli**	**1.82**	**104**	*e*Pn	**Pn**	**04 38 48.0**	**+0.2**
EDRB	**Edirne**	**1.96**	**350**	*e*PN	**Pn**	**04 38 50.5**	**+0.8**
EDRB	**Edirne**	**1.96**	**350**	*e*Pn	**Pn**	**04 38 50.5**	**+0.8**
HRT	**Hereke**	**2.11**	**64**	*e*PN	**Pn**	**04 38 52.9**	**+1.2**
HRT	**Hereke**	**2.11**	**64**	*e*Pn	**Pn**	**04 38 52.9**	**+1.2**
KHL	**Karahalli**	**2.42**	**130**	*e*PN	**Pn**	**04 38 56.8**	**+0.8**
KHL	**Karahalli**	**2.42**	**130**	*e*Pn	**Pn**	**04 38 56.8**	**+0.8**
ALT	**Altintas**	**2.42**	**110**	*e*PN	**Pn**	**04 38 57.1**	**+1.0**
ALT	**Altintas**	**2.42**	**110**	*e*Pn	**Pn**	**04 38 57.1**	**+1.0**
GULT	**Gulveren**	**2.61**	**77**	*e*PN	**Pn**	**04 38 59.8**	**+1.1**
GULT	**Gulveren**	**2.61**	**77**	*e*Pn	**Pn**	**04 38 59.8**	**+1.1**
NVR	**Nevrokopi**	**2.91**	**301**	*e*PN	**Pn**	**04 39 03.2**	**+0.5**
NVR				*e*SN	**Sn**	**04 39 37.0**	**-0.8**
NVR	**Nevrokopi**	**2.91**	**301**	*e*Pn	**Pn**	**04 39 03.2**	**+0.5**
NVR				*e*Sn	**Sn**	**04 39 37.0**	**-0.8**

*JMA **16** 04:42:03.4±0.4,24°.97N×123°.44E,h9km,M2.3*
*TAP **16** 04:42:11.8,24°.76N×122°.24E,h6km,ML2.6,D*

ISC 16 04:41:57.3±1.6,24°.9N±0°.1×123°.01E±0°.05,h14km±10km, n14,σ2s81/16,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.40**	**180**	P	Pn	04 42 15.7	+7.2
YOJ				*e*S	Sb	04 42 24.4	+12
TWB1	**Santiao Chiao**	**0.94**	**279**	P	**Pn**	**04 42 18.9**	**+2.9**
	baz=317						
TWB1				S	**Sg**	**04 42 24.1**	**-3.6**
	baz=317						
HATJ	**Hateruma jima**	**1.08**	**138**	P	Pn	04 42 21.6	+3.7
HATJ				*e*S	**Sn**	**04 42 34.2**	**+1.5**
TWC	**Suao**	**1.08**	**257**	P	**Pn**	**04 42 20.0**	**+2.0**
	baz=245						
JKRS	**Kuro-shima**	**1.10**	**124**	P	Pn	04 42 20.7	+2.5
JKRS				*e*S	**Sn**	**04 42 32.4**	**-0.8**
NWF	**Wu-fen Shan**	**1.14**	**281**	*e*P	Pg	04 42 23.1	+3.9
	baz=306						
NWF				*e*S	**Sb**	**04 42 31.4**	**-1.9**
	baz=306						
JIJ	**Ishigaki jima**	**1.15**	**115**	P	**Pn**	**04 42 19.8**	**+1.0**
JIJ				S	**Sg**	**04 42 31.0**	**-3.3**
TWE	**Neicheng**	**1.23**	**264**	P	**Pg**	**04 42 22.7**	**+1.7**
	baz=264						
TWE				*e*S	**Sb**	**04 42 30.7**	**-5.2**
	baz=264						
ENA	**Nanau**	**1.23**	**250**	*e*P	**Pg**	**04 42 23.4**	**+2.3**
	baz=233						
ENTT	**Nioudou**	**1.33**	**261**	*e*P	**Pg**	**04 42 24.7**	**+1.8**
	baz=258						
TWY	**Chenhua**	**1.34**	**288**	*e*P	Pg	04 42 27.4	+4.3
	baz=311						
TWY				*e*S	**Sn**	**04 42 39.2**	**0.0**
	baz=311						
TWD	**Chiawan**	**1.50**	**239**	*e*P	Pg	04 42 30.4	+4.2
	baz=220						
NNS	**Nan Shan**	**1.55**	**255**	*e*P	**Pg**	**04 42 29.3**	**+2.2**
	baz=247						
WHF	**Hehuan Shan**	**1.74**	**246**	P	**Pg**	**04 42 33.1**	**+2.3**
	baz=234						
WHF				S	**Sn**	**04 42 48.5**	**-1.1**
	baz=234						

IDC 16 05:03:04.6±12.0,12°.28S×165°.69E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/19,mbtmp3.7/3,MS3.5/2,Ms1 3.5/2, ms1mx2.8/36,Error ellipse: s-maj=405.7km s-min=53.6km az=126.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.03**	**252**	P	P	05 09 24.3	-0.1
	0.5nm,0.8s,baz=84,slow=8.5,SNR=1.6						
ASAR	**Alice Springs**	**32.21**	**245**	P	P	05 09 34.8	0.0
	0.4nm,0.8s,baz=66,slow=10,SNR=6.0						
ASAR				LR	LR	05 20 43.3	
	comp=Z,44nm,19.9s,baz=350,slow=33						
MKAR	**Makanchi Array**	**94.38**	**317**	P	P	05 16 26.4	-0.1
	0.6nm,0.5s,baz=89,slow=6.0,SNR=10						
ANMO	**Albuquerque**	**95.19**	**56**	LR	LR	05 52 07.0	
	comp=Z,49nm,20.6s,baz=267,slow=31						

CASC 16 05:16:14.6±1.7,11°.63N×86°.69W,h36km±873km,MD3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.87**	**359**	*e*P	Pn	05 16 31.0	+0.6
CNGN				*e*S	Sn	05 16 42.7	+0.7
NY14	**Universidad de**	**1.49**	**131**	*i*P	Pn	05 16 39.9	+1.1
LAPC	**Finca la Perla**	**1.50**	**125**	*i*P	Pn	05 16 38.6	-0.4
BUEV	**Buena Vista**	**1.50**	**123**	*i*P	Pn	05 16 39.0	-0.2
MESS	**Mesas**	**1.71**	**121**	*i*P	Pn	05 16 41.8	-0.1
COLC	**Colonia**	**1.74**	**123**	*i*P	Pn	05 16 42.6	+0.2
CNCH	**Conchagua**	**1.99**	**326**	*e*P	Pn	05 16 46.0	+1.0
BLLM	**Bellamira**	**2.36**	**320**	*e*P	Pn	05 16 51.8	+0.9
BLLM				*e*S	Sn	05 17 18.3	-0.4
TGUH	**Tegucigalpa,Un**	**2.48**	**347**	*e*P	Pn	05 16 52.6	+0.1
CAHU	**Cacaquatique**	**2.60**	**325**	*e*P	Pn	05 16 54.9	+0.5
CGA2	**Cerro Gallo 2**	**2.71**	**126**	*e*P	Pn	05 16 56.8	+1.1
CGA2				*e*S	Sn	05 17 28.4	+1.0
SNVI	**San Vicente**	**2.88**	**313**	*e*S	Sn	05 17 32.4	+0.5
LAJ	**Bijagual**	**3.07**	**125**	*e*P	Pn	05 16 58.0	-2.8
ACR	**Cerro Adams**	**4.55**	**130**	*e*P	Pn	05 17 20.7	-0.3

*IDC **16** 05:17:40.5±1.1,16°.89N×85°.90W

230A	**Sterling City** baz=20	**20.13 321**	⇓P	Pn	05 22 18.1	-0.1
TXAR	**Lajitas Array** 2.0nm,0.7s,baz=129,slow=11,SNR=29	**20.23 311**	P	Pn	05 22 20.7	+1.1
TXAR			S	**S**	**05 26 01.6**	**-3.1**
TXAR	0.3nm,0.6s,baz=137,slow=44,SNR=4.6		LR	LR	05 32 23.0	
TXAR	comp=Z,41nm,21.1s,baz=5.0,slow=43 **Lajitas Array**	**20.23 311**	P	Pn	05 22 20.7	+1.1
TXAR			S	**S**	**05 26 01.6**	**-3.1**
428A	**Kincaid Ranch,** baz=20	**20.37 316**	⇑P	Pn	05 22 22.3	+1.2
329A	**Wagon Wheel Ra** baz=21	**20.40 318**	⇓P	Pn	05 22 20.9	-0.5
229A	**Bryant Ranch,** baz=21	**20.62 320**	⇓P	**P**	**05 22 20.8**	**-0.9**
527A	**Woodward Ranch** baz=21	**20.66 313**	⇑P	Pn	05 22 24.7	+0.1
626A	**Big Bend Ranch** baz=21,SNR=10	**20.70 311**	⇑P	Pn	05 22 25.9	+1.0
328A	**Wristen Ranch,** baz=21	**20.87 317**	⇓P	Pn	05 22 26.4	-0.5
427A	**Hayter Ranch,** baz=21,SNR=5.9	**20.93 315**	⇑P	**P**	**05 22 27.2**	**+2.1**
526A	**Mary Lane Ranc** baz=21	**20.95 312**	⇑P	**P**	**05 22 28.4**	**+3.1**
WMOK	**Wichita Mounta** 8.0nm,0.8s	**21.03 330**	*eP*	**P**	**05 22 22.3**	**-3.7**
Z30A	**Sanderson Ranc** baz=21	**21.14 323**	⇑P	**P**	**05 22 28.6**	**+1.3**
228A	**UT Block 9, Go** baz=21	**21.21 319**	⇓P	**P**	**05 22 30.2**	**+2.1**
426A	**McDonald Obser** baz=21	**21.26 313**	⇓P	**P**	**05 22 32.9**	**+4.2**
WCI	**Wyandotte Cave** 28nm,0.9s	**21.26 360**	*eP*	**P**	**05 22 29.0**	**+0.6**
Z29A	**Hungry Hill Ra** baz=22	**21.46 322**	⇑P	**P**	**05 22 31.8**	**+1.1**
128A	**Castleberry Fa** baz=22	**21.48 320**	⇑P	**P**	**05 22 33.2**	**+2.2**
227A	**Bennet, Jal** baz=22,SNR=6.1	**21.59 317**	⇑P	**P**	**05 22 34.4**	**+2.3**
326A	**Caldwell Ranch** baz=22	**21.61 315**	⇑P	**P**	**05 22 34.5**	**+2.1**
OLIL	**Olney** 17nm,1.0s	**21.82 356**	*eP*	**P**	**05 22 34.4**	**-0.1**
Y29A	**Porterfield Fa** baz=22	**21.87 323**	⇓P	**P**	**05 22 37.1**	**+2.0**
425A	**Indio Mountain** baz=22	**22.00 312**	⇓P	**P**	**05 22 38.7**	**+2.1**
CLNB	**Carlsbad** 1.3nm,0.5s	**22.13 317**	*eP*	**P**	**05 22 39.1**	**+1.1**
CLNB			*e*		05 22 48.4	
BLO	**Bloomington** 19nm,0.9s	**22.20 359**	*eP*	**P**	**05 22 39.5**	**+1.0**
BLO			*e*		05 22 48.6	
Y28A	**McKinney Farm,** baz=22	**22.23 323**	⇓P	**P**	**05 22 38.7**	**-0.4**
325A	**Bean Ranch, Si** baz=22	**22.32 314**	⇓P	**P**	**05 22 41.7**	**+1.6**
Z27A	**Tatum** baz=23	**22.40 320**	⇓P	**P**	**05 22 41.3**	**+0.4**
GDL2	**Guadalupe Moun** 6.8nm,0.8s	**22.41 316**	*eP*	**P**	**05 22 42.8**	**+1.7**
126A	**Clayton Basin,** baz=23	**22.47 318**	⇑P	**P**	**05 22 42.1**	**+0.5**
X28A	**Dimmitt** baz=23	**22.65 324**	⇓P	**P**	**05 22 43.2**	**-0.3**
225A	**Deer Hill, Car** baz=23	**22.66 315**	⇓P	**P**	**05 22 45.2**	**+1.4**
324A	**Moseley Ranch,** baz=23	**22.72 313**	⇑P	**P**	**05 22 46.1**	**+1.7**
Y27A	**Causey** baz=23	**22.76 321**	⇓P	**P**	**05 22 45.8**	**+1.1**
MNTX	**Cornudas Mount** 1.5nm,0.7s	**22.80 314**	*eP*	**P**	**05 22 46.0**	**+1.0**
MNTX	**Cornudas Mount** baz=23	**22.80 314**	⇓P	**P**	**05 22 46.5**	**+1.5**
Z26A	**Caprock** baz=23	**22.85 319**	⇑P	**P**	**05 22 45.2**	**-0.4**
125A	**Gardner Draw,** baz=23	**22.89 317**	⇑P	**P**	**05 22 46.8**	**+0.7**
224A	**Cornudas Mount** baz=23	**23.12 314**	⇑P	**P**	**05 22 49.8**	**+1.3**
Z25A	**Roswell** baz=24	**23.32 318**	⇓P	**P**	**05 22 51.5**	**+1.0**
124A	**Stringfield Ra** baz=24,SNR=5.2	**23.44 316**	⇑P	**P**	**05 22 53.8**	**+2.0**
W27A	**Bowe Ranch, En** baz=24	**23.53 323**	⇑P	**P**	**05 22 50.8**	**-1.8**
Y25A	**Mesa, Roswell** baz=24	**23.72 319**	⇓P	**P**	**05 22 55.7**	**+1.2**
Z24A	**Sheeppen Canyo** baz=24,SNR=5.8	**23.77 317**	⇓P	**P**	**05 22 56.9**	**+1.8**
Y24A	**Capitan** baz=24,SNR=12	**24.20 318**	⇓P	**P**	**05 23 01.6**	**+2.6**
Z23A	**Rita Site, Whi** baz=24	**24.30 316**	⇓P	**P**	**05 23 02.1**	**+2.2**
W25A	**X Bar L Ranch,** baz=25	**24.45 322**	⇓P	**P**	**05 23 02.3**	**+0.9**
V26A	**Tequesquite Ra** baz=25	**24.47 324**	⇑P	**P**	**05 23 02.4**	**+1.0**
122A	**Conniff Cattle** baz=25	**24.49 314**	⇑P	**P**	**05 23 03.7**	**+2.0**
Y23A	**Lovelace Mesa,** baz=25	**24.60 317**	⇓P	**P**	**05 23 04.0**	**+1.3**
Z22A	**Elephant Butte** baz=25	**24.79 315**	⇑P	**P**	**05 23 07.4**	**+2.9**
320A	**Kipp Ranch, An** baz=25	**24.86 309**	⇑P	**P**	**05 23 09.2**	**+4.2**
U26A	**Atchley Ranch,** baz=25	**24.88 325**	⇑P	**P**	**05 23 06.2**	**+1.0**
121A	**Cookes Peak, D** baz=25	**24.95 313**	⇑P	**P**	**05 23 08.8**	**+2.9**
V25A	**Rancho No Teng** baz=25	**24.97 323**	⇑P	**P**	**05 23 07.4**	**+1.3**
W24A	**Lazy 6 Ranch,** baz=25	**25.02 320**	⇑P	**P**	**05 23 08.8**	**+2.3**
220A	**Playas Peak, P** baz=25	**25.14 311**	⇑P	**P**	**05 23 11.1**	**+3.5**
U25A	**Circle Dot Ran** baz=25	**25.25 324**	⇓P	**P**	**05 23 09.2**	**+0.6**
Z21A	**St. Cloud Mine** baz=25	**25.30 314**	⇑P	**P**	**05 23 11.9**	**+2.8**
W23A	**Werner Place,** baz=26	**25.44 319**	⇓P	**P**	**05 23 12.5**	**+2.2**
ANMO	**Albuquerque** 0.4nm,0.4s,baz=143,slow=10,SNR=6.1	**25.50 319**	P	**P**	**05 23 13.2**	**+2.4**
ANMO	**Albuquerque**	**25.50 319**	P	**P**	**05 23 13.2**	**+2.4**
120A	**IJ Bar Ranch, L** baz=26	**25.56 312**	⇑P	**P**	**05 23 14.7**	**+3.3**
Y21A	**Point of Rocks** baz=26	**25.71 316**	⇓P	**P**	**05 23 15.7**	**+2.8**
R27A	**Eads** baz=26	**25.80 329**	⇑P	**P**	**05 23 13.8**	**+0.3**
X21A	**Alamocita Cree** baz=26	**26.05 316**	⇑P	**P**	**05 23 16.7**	**+0.8**
Y20A	**Horse Springs,** baz=26	**26.13 315**	⇓P	**P**	**05 23 19.4**	**+2.8**
SADO	**Sadowa** comp=Z,62nm,20.4s,baz=35,slow=37	**28.43 11**	LR	LR	05 35 04.4	
NVAR	**Mina Array Bea** 0.5nm,0.3s,baz=229,slow=12,SNR=3.0	**35.33 314**	P	**P**	**05 24 40.3**	**+2.5**
NVAR	**Mina Array Bea**	**35.33 314**	P	**P**	**05 24 40.3**	**+2.5**
D17A	**Six Diamond Ra** baz=36	**36.31 331**	⇓P	**P**	**05 24 43.1**	**-3.0**
LPAZ	**La Paz** comp=Z,41nm,19.6s,baz=244,slow=36	**37.48 151**	LR	LR	05 39 54.3	
SCHQ	**Schefferville** comp=Z,70nm,18.0s,baz=70,slow=38	**40.71 17**	LR	LR	05 43 06.5	
SIV	**San Ignacio** 0.6nm,0.7s,baz=326,slow=7.7,SNR=2.4	**41.02 141**	P	**P**	**05 25 22.9**	**-2.8**
SIV	**San Ignacio**	**41.02 141**	P	**P**	**05 25 22.9**	**-2.8**
BDFB	**Brasilia** comp=Z,62nm,18.9s,baz=116,slow=39	**49.65 129**	LR	LR	05 50 06.9	
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=136,slow=8.1,SNR=8.5	**49.70 343**	P	**P**	**05 26 34.1**	**+0.1**
YKA	**Yellowknife Ar**	**49.70 343**	P	**P**	**05 26 34.1**	**+0.1**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=119,slow=5.2,SNR=8.8	**62.49 335**	P	**P**	**05 28 05.8**	**+0.3**
ILAR			LR	LR	05 59 44.1	
ILAR	comp=Z,37nm,20.2s,baz=136,slow=40 **Eielson Array**	**62.49 335**	P	**P**	**05 28 05.8**	**+0.3**
TRF	**Thorofare Moun** 5.8nm,0.9s	**63.51 333**	*eP*	**P**	**05 28 13.2**	**+0.7**
ESDC	**Sonseca Array** 0.2nm,0.4s,baz=312,slow=32,SNR=1.7	**73.56 53**	P	**P**	**05 29 15.0**	**-0.6**
ESDC	**Sonseca Array**	**73.56 53**	P	**P**	**05 29 15.0**	**-0.6**
NOA	**NORSAR Array B** comp=Z,25nm,18.8s,baz=180,slow=34	**78.94 29**	LR	LR	06 02 43.0	
FINES	**FINESS Array B** 0.3nm,0.4s,baz=168,slow=37,SNR=1.5	**85.49 26**	P	**P**	**05 30 19.1**	**-0.9**
FINES	**FINESS Array B**	**85.49 26**	P	**P**	**05 30 19.1**	**-0.9**
SONM	**Songino Array** 0.7nm,0.9s,baz=103,slow=1.9,SNR=4.1	**114.59 351**	PKP	PKPdf	05 36 24.2	+1.4
SONM	**Songino Array**	**114.59 351**	PKP	PKPdf	05 36 24.2	+1.4

ISCJB ***16*** *05:27:15.9±0.5,37.°71N±0.°02×20.°00E±0.°02,h15km±4km, mb3.9/14,MS3.1/2,Error ellipse: s-maj=3.5km s-min=2.3km az=41.1*

ATH ***16*** *05:27:15.8,37.°67N×20.°04E,h19km±1km,ML4.3*

IDC ***16*** *05:27:15.6±1.1,37.°74N×20.°32E,h0km,mb3.8/9, mb1 3.9/13,mb1mx3.8/30,mbtmp3.7/13,ML3.4/4,MS2.8/2, Ms1 2.8/2,ms1mx2.3/46,Error ellipse: s-maj=25.7km s-min=18.1km az=126.0*

MOS ***16*** *05:27:16.3±1.3,37.°88N×20.°03E,h10km,mb4.3/12,Error ellipse: s-maj=12.5km s-min=5.6km az=69.7*

CSEM ***16*** *05:27:17.3±0.1,37.°72N×20.°09E,h10km,mb4.0/11,Mw3.9, Error ellipse: s-maj=3.3km s-min=2.1km az=48.0*

THE ***16*** *05:27:19.1,37.°78N×20.°27E,h4km±1km,ML4.1/13,Error ellipse: s-maj=1.1km s-min=0.6km az=236.0*

PDG ***16*** *05:27:19.3±0.7,37.°89N×20.°24E,h11km±1km,ML3.8/10, Error ellipse: s-maj=1.4km s-min=1.6km az=0.0*

ISC 16 05:27:18.0±1.1,37.79N±0.03×20.16E±0.03,h15km±7km, n342,σ1s40/435,mb4.0/14,12C-23D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
VLS	**Valsamata**	**0.52**	**41**	P	**Pg**	**05 27 27.7**	**-0.6**
VLS				S	**Sg**	**05 27 35.0**	**-0.2**
VLS	**Valsamata**	**0.52**	**41**	P	**Pg**	**05 27 27.7**	**-0.6**
VLS				S	**Sg**	**05 27 35.0**	**-0.2**
KFL	**Anninata**	**0.59**	**57**	P	**Pg**	**05 27 28.9**	**-0.8**
KFL				S	**Sg**	**05 27 36.5**	**-1.0**
KFL	**Anninata**	**0.59**	**57**	P	**Pg**	**05 27 28.9**	**-0.8**
KFL				S	**Sg**	**05 27 36.5**	**-1.0**
RLS	**Riolos of Patr**	**1.07**	**75**	P	**Pb**	**05 27 37.4**	**-0.7**
RLS				S	**Sb**	**05 27 52.1**	**+0.2**
RLS	**Riolos of Patr**	**1.07**	**75**	*e*PB	**Pb**	**05 27 37.6**	**-0.5**
RLS				*e*SN	**Sn**	**05 27 54.6**	**+1.7**
RLS	**Riolos of Patr**	**1.07**	**75**	*e*Pb	**Pb**	**05 27 37.6**	**-0.5**
RLS				S	**Sb**	**05 27 52.1**	**+0.2**
RLS				*e*Sn	**Sn**	**05 27 54.6**	**+1.7**
LKD2	**Lefkada island**	**1.07**	**21**	P	**Pn**	**05 27 38.7**	**+0.1**
LKD2				S	**Sn**	**05 27 53.8**	**+0.6**
LKD2	**Lefkada island**	**1.07**	**21**	*e*PN	**Pg**	**05 27 39.4**	**+0.6**
LKD2				*e*SN	**Sn**	**05 27 55.8**	**+2.6**
LKD2	**Lefkada island**	**1.07**	**21**	P	**Pn**	**05 27 38.7**	**+0.1**
LKD2	**Lefkada island**	**1.07**	**21**	*e*Pn	**Pg**	**05 27 39.4**	**+0.6**
LKD2				S	**Sn**	**05 27 53.8**	**+0.6**
LKD2				*e*Sn	**Sn**	**05 27 55.8**	**+2.6**
AMT	**Artemida-Makis**	**1.25**	**101**	P	**Pn**	**05 27 40.7**	**-0.3**
AMT				S	**Sn**	**05 27 57.7**	**+0.1**
AMT	**Artemida-Makis**	**1.25**	**101**	*e*PN	**Pn**	**05 27 40.9**	**-0.1**
AMT				*e*SN	**Sg**	**05 28 00.1**	**+1.6**
AMT	**Artemida-Makis**	**1.25**	**101**	*e*Pn	**Pn**	**05 27 40.9**	**-0.1**
AMT				S	**Sn**	**05 27 57.7**	**+0.1**
AMT				*e*Sn	**Sg**	**05 28 00.1**	**+1.6**
UPR	**University Cam**	**1.38**	**68**	P	**Pb**	**05 27 43.3**	**-0.1**
UPR	**University Cam**	**1.38**	**68**	*e*PN	**Pg**	**05 27 44.0**	**-0.5**
UPR	**University Cam**	**1.38**	**68**	P	**Pb**	**05 27 43.3**	**-0.1**
UPR	**University Cam**	**1.38**	**68**	*e*Pn	**Pg**	**05 27 44.0**	**-0.5**
LAKA	**Lakka**	**1.50**	**72**	P	**Pb**	**05 27 45.2**	**-0.4**
LAKA	**Lakka**	**1.50**	**72**	*e*PN	**Pb**	**05 27 45.6**	**0.0**
LAKA	**Lakka**	**1.50**	**72**	P	**Pb**	**05 27 45.2**	**-0.4**
LAKA	**Lakka**	**1.50**	**72**	*e*Pn	**Pb**	**05 27 45.6**	**0.0**
EFP	**Efpalio**	**1.52**	**65**	P	**Pb**	**05 27 45.6**	**-0.3**
EFP				S	**Sg**	**05 28 06.3**	**-0.6**
EFP	**Efpalio**	**1.52**	**65**	*e*PN	**Pb**	**05 27 45.5**	**-0.3**
EFP				*e*SN	**Sg**	**05 28 08.3**	**+1.4**
EFP	**Efpalio**	**1.52**	**65**	P	**Pb**	**05 27 45.6**	**-0.3**
EFP				S	**Sg**	**05 28 06.3**	**-0.6**
EFP				*e*Sn	**Sg**	**05 28 08.3**	**+1.4**
ITM	**Ithomi**	**1.53**	**113**	P	**Pn**	**05 27 44.9**	**+0.1**
ITM				S	**Sb**	**05 28 05.7**	**+0.5**
ITM	**Ithomi**	**1.53**	**113**	*e*PN	**Pn**	**05 27 44.9**	**+0.1**
ITM	**Ithomi**	**1.53**	**113**	P	**Pn**	**05 27 44.9**	**+0.1**
ITM				S	**Sb**	**05 28 05.7**	**+0.5**
RGA	**Parga**	**1.54**	**6**	P	**Pb**	**05 27 46.3**	**0.0**
RGA				S	**Sg**	**05 28 08.0**	**+0.3**
RGA	**Parga**	**1.54**	**6**	P	**Pb**	**05 27 46.3**	**0.0**
RGA				S	**Sg**	**05 28 08.0**	**+0.3**
PYL	**PYLOS**	**1.54**	**125**	P	**Pn**	**05 27 44.3**	**-0.6**
PYL	**PYLOS**	**1.54**	**125**	*e*PN	**Pn**	**05 27 44.4**	**-0.5**
PYL	**PYLOS**	**1.54**	**125**	*e*Pn	**Pn**	**05 27 44.4**	**-0.5**
TRIZ	**Trizonia**	**1.61**	**68**	P	**Pb**	**05 27 46.9**	**-0.5**
TRIZ	**Trizonia**	**1.61**	**68**	*e*PN	**Pb**	**05 27 47.0**	**-0.5**
TRIZ				*e*SN	**Sg**	**05 28 10.7**	**+0.6**
TRIZ	**Trizonia**	**1.61**	**68**	*e*Pn	**Pb**	**05 27 47.0**	**-0.5**
TRIZ				*e*Sn	**Sg**	**05 28 10.7**	**+0.6**
KALE	**Kalithea**	**1.67**	**68**	P	**Pb**	**05 27 47.8**	**-0.7**
KALE	**Kalithea**	**1.67**	**68**	*e*PN	**Pb**	**05 27 48.5**	**0.0**
KALE				*e*SN	**Sg**	**05 28 11.3**	**-0.6**
KALE	**Kalithea**	**1.67**	**68**	P	**Pb**	**05 27 47.8**	**-0.7**
KALE	**Kalithea**	**1.67**	**68**	*e*Pn	**Pb**	**05 27 48.5**	**0.0**
KALE				*e*Sn	**Sg**	**05 28 11.3**	**-0.6**
EVR	**Evrytania**	**1.72**	**48**	P	**Pb**	**05 27 49.7**	**+0.2**
EVR	**Evrytania**	**1.72**	**48**	*e*PN	**Pb**	**05 27 50.0**	**+0.7**
EVR	**Evrytania**	**1.72**	**48**	P	**Pb**	**05 27 49.5**	**+0.2**
EVR	**Evrytania**	**1.72**	**48**	*e*Pn	**Pb**	**05 27 50.0**	**+0.7**
GUR	**Goura**	**1.73**	**84**	P	**Pb**	**05 27 49.0**	**-0.6**
GUR				S	**Sn**	**05 28 10.5**	**+1.0**
GUR	**Goura**	**1.73**	**84**	*e*PN	**Pb**	**05 27 49.3**	**-0.3**
GUR				*e*SN	**Sb**	**05 28 12.5**	**+1.3**
GUR	**Goura**	**1.73**	**84**	*e*Pn	**Pb**	**05 27 49.3**	**-0.3**
GUR				S	**Sn**	**05 28 10.5**	**+1.0**
GUR				*e*Sn	**Sb**	**05 28 12.5**	**+1.3**
IGT	**Igoumenitsa**	**1.75**	**4**	P	**Pb**	**05 27 49.1**	**-0.7**
IGT				S	**Sb**	**05 28 13.4**	**+1.8**
IGT	**Igoumenitsa**	**1.75**	**4**	P	**Pb**	**05 27 49.1**	**-0.7**
IGT				S	**Sb**	**05 28 13.4**	**+1.8**
VLX	**Vlachokerasia**	**1.81**	**103**	P	**Pn**	**05 27 49.2**	**+0.5**
VLX	**Vlachokerasia**	**1.81**	**103**	*e*PN	**Pn**	**05 27 49.2**	**+0.5**
VLX				*e*SN	**Sb**	**05 28 13.7**	**+0.3**
VLX	**Vlachokerasia**	**1.81**	**103**	P	**Pn**	**05 27 49.2**	**+0.5**
VLX				*e*Sn	**Sb**	**05 28 13.7**	**+0.3**
JAN	**Janina**	**1.94**	**16**	P	**Pn**	**05 27 51.9**	**+1.4**
JAN				S	**Sb**	**05 28 17.4**	**+0.2**
JAN	**Janina**	**1.94**	**16**	*e*PN	**Pn**	**05 27 52.0**	**+1.4**
JAN	**Janina**	**1.94**	**16**	P	**Pn**	**05 27 51.9**	**+1.4**
JAN				S	**Sb**	**05 28 17.4**	**+0.2**
KEK	**Kerkira**	**1.94**	**352**	P	**Pn**	**05 27 51.5**	**+1.0**
KEK				S	**Sb**	**05 28 18.8**	**+1.6**
KEK	**Kerkira**	**1.94**	**352**	*e*PN	**Pn**	**05 27 51.6**	**+1.0**
KEK	**Kerkira**	**1.94**	**352**	P	**Pn**	**05 27 51.5**	**+1.0**
KEK				S	**Sb**	**05 28 18.8**	**+1.6**
DSF	**Desfina**	**1.97**	**71**	P	**Pn**	**05 27 52.2**	**+1.4**
DSF				S	**Sb**	**05 28 17.2**	**-0.7**
DSF	**Desfina**	**1.97**	**71**	P	**Pn**	**05 27 52.2**	**+1.4**
DSF				S	**Sb**	**05 28 17.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.97**	**51**	P	**Pn**	**05 27 53.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.97**	**51**	P	**Pb**	**05 27 53.5**	**-0.1**
DYR	**Agios Nikonas**	**2.01**	**120**	P	**Pn**	**05 27 52.0**	**+0.6**
DYR	**Agios Nikonas**	**2.01**	**120**	*e*PN	**Pn**	**05 27 51.4**	**0.0**
DYR	**Agios Nikonas**	**2.01**	**120**	*e*Pn	**Pn**	**05 27 51.4**	**0.0**
DYR	**Agios Nikonas**	**2.01**	**120**	P	**Pn**	**05 27 52.0**	**+0.6**
MEV	**Metsovon**	**2.16**	**22**	P	**Pb**	**05 27 55.8**	**-1.2**
MEV	**Metsovon**	**2.16**	**22**	P	**Pb**	**05 27 55.8**	**-1.2**
AXAR	**Agios Charalam**	**2.19**	**63**	P	**Pn**	**05 27 55.7**	**+1.8**
AXAR				S	**Sb**	**05 28 23.3**	**-1.1**
AXAR	**Agios Charalam**	**2.19**	**63**	P	**Pn**	**05 27 55.7**	**+1.8**
AXAR				S	**Sb**	**05 28 23.3**	**-1.1**
LTK	**Loutraki**	**2.23**	**83**	P	**Pn**	**05 27 55.7**	**+1.3**
LTK				S	**Sn**	**05 28 22.7**	**+1.0**
LTK	**Loutraki**	**2.23**	**83**	*e*PN	**Pn**	**05 27 55.5**	**+1.1**
LTK	**Loutraki**	**2.23**	**83**	*e*Pn	**Pn**	**05 27 55.5**	**+1.1**
LTK				S	**Sn**	**05 28 22.7**	**+1.0**
THL	**Klokotos Trika**	**2.29**	**39**	P	**Pb**	**05 27 57.3**	**-1.8**
THL				S	**Sb**	**05 28 25.6**	**-1.6**
THL	**Klokotos Trika**	**2.29**	**39**	*e*PB	**Pb**	**05 27 57.7**	**-1.4**
THL	**Klokotos Trika**	**2.29**	**39**	P	**Pb**	**05 27 57.3**	**-1.8**
THL	**Klokotos Trika**	**2.29**	**39**	*e*Pb	**Pb**	**05 27 57.7**	**-1.4**
THL				S	**Sb**	**05 28 25.6**	**-1.6**
LKR	**Lokris**	**2.40**	**68**	P	**Pn**	**05 27 57.3**	**+0.6**
LKR				S	**Sn**	**05 28 26.9**	**+1.2**
LKR	**Lokris**	**2.40**	**68**	*e*PN	**Pn**	**05 27 57.6**	**+0.9**
LKR	**Lokris**	**2.40**	**68**	P	**Pn**	**05 27 57.3**	**+0.6**
LKR	**Lokris**	**2.40**	**68**	*e*Pn	**Pn**	**05 27 57.6**	**+0.9**
LKR				S	**Sn**	**05 28 26.9**	**+1.2**
ATAL	**Atalanti**	**2.43**	**67**	P	**Pn**	**05 27 57.9**	**+0.8**
ATAL				S	**Sn**	**05 28 28.0**	**+1.5**
ATAL	**Atalanti**	**2.43**	**67**	P	**Pn**	**05 27 57.9**	**+0.8**
ATAL				S	**Sn**	**05 28 28.0**	**+1.5**
DIDY	**Didyma**	**2.44**	**96**	P	**Pn**	**05 27 57.7**	**+0.3**
DIDY				S	**Sn**	**05 28 28.1**	**+1.1**
DIDY	**Didyma**	**2.44**	**96**	P	**Pn**	**05 27 57.7**	**+0.3**
DIDY				S	**Sn**	**05 28 28.1**	**+1.1**
DID	**Didima**	**2.46**	**96**	P	**Pn**	**05 27 57.9**	**+0.4**
DID				S	**Sn**	**05 28 28.7**	**+1.4**
DID	**Didima**	**2.46**	**96**	*e*PN	**Pn**	**05 27 57.8**	**+0.3**
DID	**Didima**	**2.46**	**96**	P	**Pn**	**05 27 57.9**	**+0.4**
DID				S	**Sn**	**05 28 28.7**	**+1.4**
VLI	**Veliai**	**2.46**	**115**	P	**Pn**	**05 27 58.1**	**+0.6**
VLI				S	**Sn**	**05 28 28.8**	**+1.6**
VLI	**Veliai**	**2.46**	**115**	*e*PB	**Pn**	**05 27 58.9**	**+1.4**
VLI	**Veliai**	**2.46**	**115**	P	**Pn**	**05 27 58.1**	**+0.6**
VLI	**Veliai**	**2.46**	**115**	*e*Pb	**Pn**	**05 27 58.9**	**+1.4**
VLI				S	**Sn**	**05 28 28.8**	**+1.6**
NAIG	**Nisos Aigina**	**2.64**	**90**	*e*PN	**Pn**	**05 28 00.5**	**+0.5**
NAIG	**Nisos Aigina**	**2.64**	**90**	*e*Pn	**Pn**	**05 28 00.5**	**+0.5**
NEST	**Nestorio**	**2.71**	**14**	P	**Pn**	**05 28 03.2**	**+2.0**
NEST				S	**Sn**	**05 28 36.4**	**+2.6**
NEST	**Nestorio**	**2.71**	**14**	P	**Pn**	**05 28 03.2**	**+2.0**
NEST				S	**Sn**	**05 28 36.4**	**+2.6**
KYTH	**Kithira**	**2.75**	**122**	P	**Pn**	**05 28 03.5**	**+2.0**
KYTH	**Kithira**	**2.75**	**122**	*e*PB	**Pn**	**05 28 03.6**	**+2.0**
KYTH	**Kithira**	**2.75**	**122**	P	**Pn**	**05 28 03.5**	**+2.0**
KZN	**Kozani**	**2.81**	**26**	P	**Pn**	**05 28 04.3**	**+1.8**
KZN				S	**Sn**	**05 28 38.6**	**+2.5**
KZN	**Kozani**	**2.81**	**26**	*e*PN	**Pn**	**05 28 04.5**	**+2.0**
KZN	**Kozani**	**2.81**	**26**	P	**Pn**	**05 28 04.3**	**+1.8**
KZN				S	**Sn**	**05 28 38.6**	**+2.5**
ATH	**Athens Observa**	**2.82**	**85**	P	**Pn**	**05 28 04.0**	**+1.6**
ATH				S	**Sn**	**05 28 37.0**	**+0.9**
ATH	**Athens Observa**	**2.82**	**85**	*e*PN	**Pn**	**05 28 04.1**	**+1.6**
ATH				*e*SN	**Sn**	**05 28 38.7**	**+2.6**
ATH	**Athens Observa**	**2.82**	**85**	P	**Pn**	**05 28 04.0**	**+1.6**
ATH				S	**Sn**	**05 28 37.0**	**+0.9**
ATH				*e*Sn	**Sn**	**05 28 38.7**	**+2.6**
NEO	**Neokhori**	**2.84**	**57**	*e*PN	**Pn**	**05 28 03.8**	**+1.0**
NEO	**Neokhori**	**2.84**	**57**	*e*Pn	**Pn**	**05 28 03.8**	**+1.0**
MRKA	**Markates**	**2.85**	**70**	P	**Pn**	**05 28 03.4**	**+0.5**
MRKA				S	**Sn**	**05 28 39.2**	**+2.2**
MRKA	**Markates**	**2.85**	**70**	P	**Pn**	**05 28 03.4**	**+0.5**
MRKA				S	**Sn**	**05 28 39.2**	**+2.2**
XOR	**Xorichti**	**2.85**	**55**	P	**Pn**	**05 28 03.5**	**+0.5**
XOR	**Xorichti**	**2.85**	**55**	P	**Pn**	**05 28 03.5**	**+0.5**
SKIA	**Skiathos**	**2.94**	**61**	P	**Pn**	**05 28 04.9**	**+0.8**
SKIA	**Skiathos**	**2.94**	**61**	P	**Pn**	**05 28 04.9**	**+0.8**
LIT	**Litokhoron**	**2.94**	**37**	P	**Pn**	**05 28 05.1**	**+0.9**
LIT	**Litokhoron**	**2.94**	**37**	*e*PN	**Pn**	**05 28 05.5**	**+1.3**
LIT	**Litokhoron**	**2.94**	**37**	P	**Pn**	**05 28 05.1**	**+0.9**
LIT	**Litokhoron**	**2.94**	**37**	*e*Pn	**Pn**	**05 28 05.5**	**+1.3**
PTL	**Penteli**	**2.94**	**84**	P	**Pn**	**05 28 05.2**	**+1.0**
PTL				S	**Sn**	**05 28 39.8**	**+0.6**
PTL	**Penteli**	**2.94**	**84**	*e*PN	**Pn**	**05 28 05.6**	**+1.4**
PTL				*e*SN	**Sn**	**05 28 39.8**	**+0.6**
PTL	**Penteli**	**2.94**	**84**	P	**Pn**	**05 28 05.2**	**+1.0**
PTL	**Penteli**	**2.94**	**84**	*e*Pn	**Pn**	**05 28 05.6**	**+1.4**
PTL				S	**Sn**	**05 28 39.8**	**+0.6**
ERET	**Eretria**	**2.95**	**76**	P	**Pn**	**05 28 05.0**	**+0.7**
ERET				S	**Sn**	**05 28 41.0**	**+1.5**
ERET	**Eretria**	**2.95**	**76**	P	**Pn**	**05 28 05.0**	**+0.7**
ERET				S	**Sn**	**05 28 41.0**	**+1.5**
FNA	**Florina**	**3.14**	**17**	P	**Pn**	**05 28 08.8**	**+1.9**
FNA	**Florina**	**3.14**	**17**	P	**Pn**	**05 28 08.8**	**+1.9**
AOS	**Alonnisos**	**3.23**	**64**	P	**Pn**	**05 28 08.1**	**0.0**
AOS	**Alonnisos**	**3.23**	**64**	*e*PN	**Pn**	**05 28 08.7**	**+0.6**
AOS	**Alonnisos**	**3.23**	**64**	P	**Pn**	**05 28 08.1**	**0.0**
AOS	**Alonnisos**	**3.23**	**64**	*e*Pn	**Pn**	**05 28 08.7**	**+0.6**
MRMA	**Marmari**	**3.34**	**84**	P	**Pn**	**05 28 10.3**	**+0.6**
MRMA	**Marmari**	**3.34**	**84**	P	**Pn**	**

LAST	**Lasithi**		**5.02**	**120**	*e*PN		**Pn**	**05 28 33.3**	**+0.5**
LAST	**Lasithi**		**5.02**	**120**	*e*Pn		**Pn**	**05 28 33.3**	**+0.5**
LAST	**Lasithi**		**5.02**	**120**	P		**Pn**	**05 28 33.7**	**+0.9**
NPS	**Neapolis**		**5.06**	**118**	*e*PN		**Pn**	**05 28 35.0**	**+1.7**
NPS	**Neapolis**		**5.06**	**118**	*e*Pn		**Pn**	**05 28 35.0**	**+1.7**
BEY	**Berane**		**5.08**	**358**	⇓*i*Pn		**Pn**	**05 28 35.9**	**+2.2**
BEY					*e*Sn		**Sn**	**05 29 32.6**	**+0.4**
IVA	**Berane**		**5.08**	**358**	⇓*i*Pn		**Pn**	**05 28 35.9**	**+2.2**
IVA					*e*Sn		**Sn**	**05 29 32.6**	**+0.4**
NKY	**Niksic**		**5.10**	**350**	⇑*i*Pn		**Pn**	**05 28 36.5**	**+2.6**
NKY					*e*Sn		**Sn**	**05 29 34.1**	**+1.5**
NKY	**Niksic**		**5.10**	**350**	⇑*i*Pn		**Pn**	**05 28 36.5**	**+2.6**
NKY					*e*Sn		**Sn**	**05 29 34.1**	**+1.5**
BARS	**Barje**		**5.18**	**14**	*e*Pn		**Pn**	**05 28 35.7**	**+0.7**
RZN	**Rozhen**		**5.24**	**41**	P		**Pn**	**05 28 37.4**	**+1.4**
RZN	**Rozhen**		**5.24**	**41**	P		**Pn**	**05 28 37.4**	**+1.4**
BRY	**Bratogost**		**5.26**	**347**	⇓*i*Pn		**Pn**	**05 28 39.0**	**+2.9**
BRY					*e*Sn		**Sn**	**05 29 38.1**	**+1.6**
BRY	**Bratogost**		**5.26**	**347**	⇓*i*Pn		**Pn**	**05 28 39.0**	**+2.9**
BRY					*e*Sn		**Sn**	**05 29 38.1**	**+1.6**
VTS	**Vitosha**		**5.34**	**25**	⇓P		**Pn**	**05 28 38.9**	**+1.7**
VTS	**Vitosha**		**5.34**	**25**	⇓*i*P		**Pn**	**05 28 38.9**	**+1.7**
VTS	**Vitosha**		**5.34**	**25**	P		**Pn**	**05 28 38.9**	**+1.7**
VTS	**Vitosha**		**5.34**	**25**	*e*Pn		**Pn**	**05 28 38.0**	**+0.8**
VTS	**Vitosha**		**5.34**	**25**	P		**Pn**	**05 28 38.9**	**+1.7**
STON	**Ston**		**5.42**	**340**	*i* Pn		**Pn**	**05 28 38.2**	**+0.1**
STON					Sn		**Sn**	**05 29 36.1**	**-4.1**
STON	**Ston**		**5.42**	**340**	*i* Pn		**Pn**	**05 28 38.2**	**+0.1**
UPM	**Unac-Piva**		**5.50**	**350**	⇓*i*Pn		**Pn**	**05 28 41.9**	**+2.4**
UPM					*e*Sn		**Sn**	**05 29 43.5**	**+1.1**
UPM	**Unac-Piva**		**5.50**	**350**	⇓*i*Pn		**Pn**	**05 28 41.9**	**+2.4**
UPM					*e*Sn		**Sn**	**05 29 43.5**	**+1.1**
ALN	**Alexandroupoli**		**5.52**	**54**	*e*PN		**Pn**	**05 28 40.5**	**+0.9**
ALN	**Alexandroupoli**		**5.52**	**54**	*e*Pn		**Pn**	**05 28 40.5**	**+0.9**
ZKR	**Zakros**		**5.56**	**117**	*e*PN		**Pn**	**05 28 40.9**	**+0.7**
ZKR	**Zakros**		**5.56**	**117**	*e*Pn		**Pn**	**05 28 40.9**	**+0.7**
PLE	**Pljevlja**		**5.57**	**354**	⇓*i*Pn		**Pn**	**05 28 41.6**	**+1.2**
PLE					*e*Sn		**Sn**	**05 29 44.9**	**+0.7**
PLE	**Pljevlja**		**5.57**	**354**	⇓*i*Pn		**Pn**	**05 28 41.6**	**+1.2**
PLE					*e*Sn		**Sn**	**05 29 44.9**	**+0.7**
IVAS	**Ivanjica**		**5.78**	**360**	*e*Pn		**Pn**	**05 28 44.1**	**+0.8**
DIM	**Dimitrovgrad**		**5.93**	**42**	P		**Pn**	**05 28 47.6**	**+2.4**
DIM	**Dimitrovgrad**		**5.93**	**42**	P		**Pn**	**05 28 47.6**	**+2.4**
GRUS	**Gruza**		**6.11**	**4**	*e*Pn		**Pn**	**05 28 48.5**	**+0.8**
MPEP	**Malo Peshtene**		**6.19**	**25**	P		Pn	05 28 52.8	+3.9
DIVS	**Divibare**		**6.31**	**359**	*e*Pn		**Pn**	**05 28 50.7**	**+0.2**
TRUS	**Trudelj**		**6.43**	**2**	*e*Pn		**Pn**	**05 28 51.7**	**-0.5**
LTBQ	**Tobruq**		**6.50**	**151**	*i* P		**Pn**	**05 28 53.5**	**+0.5**
	40nm,0.7s,SNR=22								
LMSR	**Misrath**		**6.90**	**219**	*i* P		**Pn**	**05 28 57.2**	**-1.4**
	SNR=22								
NVLJ	**Novalja**		**7.86**	**331**	*e*Pn		**Pn**	**05 29 12.3**	**+0.6**
NVLJ					Sn		**Sn**	**05 30 36.1**	**-4.1**
NVLJ	**Novalja**		**7.86**	**331**	*e*Pn		**Pn**	**05 29 12.2**	**+0.6**
GHAR	**Gharyan**		**8.10**	**228**	*i* P		**Pn**	**05 29 13.3**	**-1.8**
	13nm,0.8s,SNR=22								
VOIR			**8.47**	**24**	⇓P		**Pn**	**05 29 21.5**	**+1.3**
VOIR			**8.47**	**24**	⇓*i*P		**Pn**	**05 29 21.5**	**+1.3**
VOIR			**8.47**	**24**	P		**Pn**	**05 29 21.5**	**+1.3**
BOJS	**Bojanci**		**8.54**	**336**	*i* Pn		**Pn**	**05 29 22.0**	**+0.9**
BOJS					*i* Sn		**Sn**	**05 30 53.1**	**-4.0**
BOJS	**Bojanci**		**8.54**	**336**	*i* Pn		**Pn**	**05 29 22.0**	**+0.9**
ISR	**Istrita**		**8.75**	**31**	⇑P		**Pn**	**05 29 26.8**	**+2.8**
ISR	**Istrita**		**8.75**	**31**	⇑*i*P		**Pn**	**05 29 26.8**	**+2.8**
ISR	**Istrita**		**8.75**	**31**	P		**Pn**	**05 29 26.8**	**+2.8**
CRES	**Cresnjev**		**8.77**	**338**	*i* Pn		**Pn**	**05 29 24.1**	**0.0**
CRES	**Cresnjev**		**8.77**	**338**	*i* Pn		**Pn**	**05 29 24.1**	**0.0**
MLR	**Muntele Rosu**		**8.83**	**27**	Pn		**Pn**	**05 29 27.8**	**+2.7**
	0.1nm,0.3s,baz=262,slow=7.9,SNR=9.9								
MLR	**Muntele Rosu**		**8.83**	**27**	⇓*i*P		**Pn**	**05 29 26.3**	**+1.2**
MLR	**Muntele Rosu**		**8.83**	**27**	P		**Pn**	**05 29 26.3**	**+1.2**
KEST	**Kesra**		**8.92**	**260**	Pn		**Pn**	**05 29 28.0**	**+1.7**
	0.1nm,0.3s,baz=51,slow=22,SNR=2.9								
SKDS	**Skadanscina**		**9.01**	**331**	*i* Pn		**Pn**	**05 29 27.6**	**+0.1**
SKDS					*i* Sn		**Sn**	**05 31 04.9**	**-3.8**
SKDS	**Skadanscina**		**9.01**	**331**	*i* Pn		**Pn**	**05 29 27.6**	**+0.1**
PDKS	**Podkum**		**9.12**	**337**	*i* Pn		**Pn**	**05 29 29.7**	**+0.7**
PDKS	**Podkum**		**9.12**	**337**	*i* Pn		**Pn**	**05 29 29.7**	**+0.7**
JAVS	**Javornik**		**9.29**	**333**	*i* Pn		**Pn**	**05 29 32.0**	**+0.6**
JAVS					*i* Sn		**Sn**	**05 31 11.2**	**-4.4**
JAVS	**Javornik**		**9.29**	**333**	*i* Pn		**Pn**	**05 29 32.0**	**+0.6**
LJFR	**Jufra**		**9.39**	**204**	*i* P		**Pn**	**05 29 30.0**	**-2.8**
	16nm,0.5s,SNR=22								
PLOR	**Plostina**		**9.40**	**29**	⇑P		**Pn**	**05 29 34.5**	**+1.7**
PLOR	**Plostina**		**9.40**	**29**	⇑*i*P		**Pn**	**05 29 34.5**	**+1.7**
PLOR	**Plostina**		**9.40**	**29**	P		**Pn**	**05 29 34.5**	**+1.7**
VRI	**Vrincioaia**		**9.44**	**29**	⇑P		**Pn**	**05 29 35.6**	**+2.2**
VRI	**Vrincioaia**		**9.44**	**29**	⇑*i*P		**Pn**	**05 29 35.6**	**+2.2**
VRI	**Vrincioaia**		**9.44**	**29**	P		**Pn**	**05 29 35.6**	**+2.2**
VOY	**Vojsko**		**9.47**	**332**	*e*Pn		**Pn**	**05 29 34.3**	**+0.4**
VOY					*e*(Sn)		Sn	05 31 13.5	-6.5
VOY					*e*			05 31 16.2	
VOY	**Vojsko**		**9.47**	**332**	*e*Pn		**Pn**	**05 29 34.3**	**+0.4**
PERS	**Pernice**		**9.60**	**339**	*i* Pn		**Pn**	**05 29 36.2**	**+0.6**
PERS					*i* Sn		Sn	05 31 16.4	-6.8
PERS	**Pernice**			**9.60**	**339**	*i* Pn		**Pn**	**05 29 36.2**	**+0.6**
OBKA	**Obir**			**9.66**	**336**	⇓*i*Pn		**Pn**	**05 29 36.7**	**+0.2**
OBKA						⇓*i*Sn		**Sn**	**05 31 20.7**	**-4.0**
OBKA	**Obir**			**9.66**	**336**	Pn		**Pn**	**05 29 36.7**	**+0.2**
SOKA	**Soboth**			**9.66**	**338**	⇑*i*Pn		**Pn**	**05 29 36.4**	**-0.1**
SOKA	**Soboth**			**9.66**	**338**	Pn		**Pn**	**05 29 36.4**	**-0.1**
BRTR	**Keskin Array B**		**10.70**	**75**	Pn		Pn	05 29 55.1	+4.3
	0.2nm,0.3s,baz=254,slow=14,SNR=9.6								
VYHS	**Vyhne**		**10.75**	**355**	*e*P		**Pn**	**05 29 51.8**	**+0.5**
VYHS	**Vyhne**		**10.75**	**355**	*e*PN		**Pn**	**05 29 51.8**	**+0.5**
VYHS	**Vyhne**		**10.75**	**355**	*e*P		**Pn**	**05 29 51.8**	**+0.5**
MOA	**Molln**		**10.95**	**339**	⇓*i*Pn		**Pn**	**05 29 54.1**	**+0.1**
MOA					⇓*i*Sn		**Sn**	**05 31 51.3**	**-4.8**
MOA	**Molln**		**10.95**	**339**	Pn		**Pn**	**05 29 54.1**	**+0.1**
DAVOX	**Davos/Dischmat**		**11.77**	**323**	LR		LR	05 35 15.4	
	comp=Z,54nm,18.8s,baz=78,slow=40								
GERES	**GERESS Array B**		**12.01**	**339**	Pn		**Pn**	**05 30 09.4**	**+0.8**
	0.2nm,0.3s,baz=151,slow=15,SNR=6.2								
GERES	**GERESS Array B**		**12.01**	**339**	P		**Pn**	**05 30 09.4**	**+0.8**
KHC	**Kasperske Hory**		**12.30**	**339**	*e*P		**Pn**	**05 30 11.0**	**-1.6**
KHC	**Kasperske Hory**		**12.30**	**339**	*e*P		**Pn**	**05 30 11.0**	**-1.6**
KHC					*ex*		x	05 32 42.0	
KHC	**Kasperske Hory**		**12.30**	**339**	*e*P		**Pn**	**05 30 11.0**	**-1.6**
AKASG	**Malin Array Be**		**14.44**	**24**	Pn		**Pn**	**05 30 40.3**	**-1.4**
	0.4nm,0.3s,baz=208,slow=11,SNR=2.4								
AKASG	**Malin Array Be**		**14.44**	**24**	P		**Pn**	**05 30 40.3**	**-1.4**
KIV	**Kislovodsk**		**18.09**	**63**	*e*P		**P**	**05 31 29.3**	**+0.2**
KIV					*e*S		**Sn**	**05 34 52.3**	**+2.0**
KIV					pmax		pmax		
	comp=Z,4.0nm,0.9s								
KIV					MLR		MLR		
	comp=Z,13nm,14.0s								
KIV	**Kislovodsk**		**18.09**	**63**	*e*P		**P**	**05 31 29.3**	**+0.2**
	comp=Z,4.0nm,0.9s								
KBZ	**Khabaz**		**18.19**	**64**	P		**P**	**05 31 32.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=142,slow=4.4,SNR=3.1								
KBZ	**Khabaz**		**18.19**	**64**	P		**P**	**05 31 32.3**	**+2.2**
KBZ	**Khabaz**		**18.19**	**64**	P		**P**	**05 31 32.3**	**+2.2**
ZEI	**Tsey**		**18.76**	**67**	*e*P		**Pn**	**05 31 37.7**	**+0.6**
ZEI					pmax		pmax		
	comp=Z,6.0nm,1.2s								
ZEI	**Tsey**		**18.76**	**67**	*e*P		**Pn**	**05 31 37.7**	**+0.6**
	comp=Z,6.0nm,1.2s								
ESDC	**Sonseca Array**		**18.91**	**283**	P		**Pn**	**05 31 42.7**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=76,slow=10.0,SNR=6.0								
VORD	**Divnogorie**		**18.91**	**40**	*e*P		**Pn**	**05 31 40.7**	**+2.1**
VORD					pmax		pmax		
	comp=N,6.0nm,0.5s								
VORD					pmax		pmax		
	comp=E,9.0nm,0.5s								
VORD					pmax		pmax		
	comp=Z,3.0nm,0.5s								
VORD	**Divnogorie**		**18.91**	**40**	*e*P		**Pn**	**05 31 40.7**	**+2.1**
VSR	**Storozhevoye**		**19.00**	**39**	*e*P		**Pn**	**05 31 40.6**	**+0.9**
VSR	**Storozhevoye**		**19.00**	**39**	*e*P		**Pn**	**05 31 40.6**	**+0.9**
GNI	**Garni**		**19.24**	**75**	LR		LR	05 38 40.1	
	comp=Z,21nm,19.6s,baz=91,slow=36								
VRHR	**Novokhopersk**		**20.20**	**42**	*e*P		**P**	**05 31 52.1**	**+0.1**
VRHR					pmax		pmax		
	comp=N,6.0nm,0.5s								
VRHR					pmax		pmax		
	comp=E,9.0nm,0.5s								
VRHR					pmax		pmax		
	comp=Z,10.0nm,0.5s								
VRHR	**Novokhopersk**		**20.20**	**42**	*e*P		**P**	**05 31 52.1**	**+0.1**
OBN	**Obninsk**		**20.60**	**27**	⇑*i*P		**P**	**05 31 56.8**	**+0.5**
OBN					*i* S		**S**	**05 35 40.6**	**-5.3**
OBN					pmax		pmax		
	comp=Z,33nm,2.5s								
OBN					MLR		MLR		
	comp=Z,100nm,17.0s								
OBN	**Obninsk**		**20.60**	**27**	*i* P		**P**	**05 31 56.8**	**+0.5**
	comp=Z,33nm,2.5s								
VSU	**Vasula**		**21.13**	**10**	*i* P		**P**	**05 32 02.5**	**+0.5**
VSU					pmax		pmax		
	comp=Z,24nm,0.9s								
VSU					MLR		MLR		
	comp=Z,51nm,15.0s								
VSU	**Vasula**		**21.13**	**10**	*i* P		**P**	**05 32 02.5**	**+0.5**
	comp=Z,51nm,15.0s								
HFS	**Hagfors**		**22.74**	**352**	P		**P**	**05 32 20.9**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=161,slow=9.4,SNR=16								
HFS	**Hagfors**		**22.74**	**352**	P		**P**	**05 32 20.9**	**+1.6**
	comp=Z,3.0nm,0.5s								
NB2	**NORSAR Subarra**		**23.95**	**349**	P		**P**	**05 32 31.9**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=162,slow=9.3								
NB2	**NORSAR Subarra**		**23.95**	**349**	P		**P**	**05 32 31.9**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=162,slow=9.1,SNR=5.6								
NOA	**NORSAR Array B**		**23.95**	**349**	P		**P**	**05 32 31.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=157,slow=9.4,SNR=3.5								
NOA	**NORSAR Array B**		**23.95**	**349**	P		**P**	**05 32 31.1**	**-0.3**
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**		**23.97**	**7**	P		**P**	**05 32 31.9**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=163,slow=10.0,SNR=19								
FINES	**FINESS Array B**		**23.97**	**7**	P		**P**	**05 32 31.9**	**+0.4**
	comp=Z,4.0nm,0.6s								
KAF	**Kangasniemi**		**24.65**	**7**	*e*P		**P**	**05 32 37.4**	**-0.3**
KAF					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KAF	**Kangasniemi**		**24.65**	**7**	*ep*		**P**	**05 32 37.4**	**-0.3**
	comp=Z,3.7nm,0.6s								
KAF	**Kangasniemi**		**24.65**	**7**	*e*P		**P**	**05 32 37.4**	**-0.3**
	comp=Z,4.0nm,0.6s								
JOF	**Joensuu**		**26.07**	**12**	*e*P		**P**	**05 32 50.0**	**-0.6**
JOF					pmax		pmax		
	comp=Z,1.0nm,0.5s								
JOF	**Joensuu**		**26.07**	**12**	*ep*		**P**	**05 32 50.0**	**-0.6**
	comp=Z,0.9nm,0.5s								
JOF	**Joensuu**		**26.07**	**12**	*e*P		**P**	**05 32 50.0**	**-0.6**
	comp=Z,1.0nm,0.5s								
KLMR	**Klimovskoe**		**26.11**	**22**	*e*P		P	05 33 02.1	+11
KLMR					pmax		pmax		
	comp=Z,26nm,1.7s								
TORD	**Torodi Ar. Bea**		**29.55**	**219**	P		**P**	**05 33 22.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=33,slow=8.3,SNR=9.5								
ARCES	**ARCESS Array B**		**31.94**	**4**	P		**P**	**05 33 41.9**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=170,slow=8.1,SNR=7.3								
ARCES	**ARCESS Array B**		**31.94**	**4**	P		**P**	**05 33 41.9**	**-0.9**
	comp=Z,4.0nm,1.0s								
BRVK	**Borovoye**		**37.52**	**50**	*i* P		**P**	**05 34 29.9**	**-1.2**
BRVK					pmax		pmax		
	comp=Z,6.0nm,2.0s								
BRVK	**Borovoye**		**37.52**	**50**	*i* P		**P**	**05 34 29.9**	**-1.2**
	comp=Z,6.0nm,2.0s								
MKAR	**Makanchi Array**		**45.75**	**58**	P		**P**	**05 35 37.2**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=272,slow=7.3,SNR=23								
MKAR	**Makanchi Array**		**45.75**	**58**	P		**P**	**05 35 37.3**	**-1.3**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**		**45.75**	**58**	P		**P**	**05 35 37.3**	**-1.3**
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**		**46.16**	**48**	P		**P**	**05 35 40.9**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=283,slow=9.8,SNR=6.6								
ZALV	**Zalesovo Beam**		**46.16**	**48**	P		**P**	**05 35 40.9**	**-0.8**
ZALV					pmax		pmax		
	comp=Z,3.0nm,0.5s								
ZALV	**Zalesovo Beam**		**46.16**	**48**	P		**P**	**05 35 40.9**	**-0.8**
	comp=Z,3.0nm,0.5s								
SONM	**Songino Array**		**60.92**	**50**	P		**P**	**05 37 29.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=101,slow=13,SNR=2.2								
SONM	**Songino Array**		**60.92**	**50**	P		**P**	**05 37 29.5**	**-0.8**
YKA	**Yellowknife Ar**		**73.66**	**340**	P		**P**	**05 38 51.3**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=35,slow=5.2,SNR=5.0								
YKA	**Yellowknife Ar**		**73.66**	**340**	P		**P**	**05 38 51.3**	**+0.8**

BJI 16 05:47:52.1,35.70N×81.70E,h10km,ML3.6/5,1D,
Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.93**	**312**	*e*Pg	Pb	05 49 36.4	+0.6
KSH				Sg	Sb	05 50 50.0	+3.0
KSH				smax	smax		
	comp=N,67nm,1.1s						
KSH				smax	smax		
	comp=E,80nm,1.0s						
MK31	**Makanchi Array**	**11.09**	**2**	Pn	Pn	05 50 31.3	+0.5
	comp=E,0.4nm,0.4s,baz=184,slow=13,SNR=26						
MK31				⇓Sn	Sn	05 52 51.5	+17
	comp=E,1.3nm,0.6s,baz=184,slow=22						

*ISCJB **16** 05:54:59.1±0.6,21.99S±0.04×68.59W±0.08,h128km±6km, mb3.8/2, Error ellipse: s-maj=12.7km s-min=6.7km az=168.4*
*GUC **16** 05:54:59.4±0.9,21.99S×68.59W,h120km±6km,ML3.8*
*IDC **16** 05:54:59.7±2.3,22.09S×68.22W,h109km±21km, mb3.6/3, mb1 3.6/7, mb1mx3.4/20, mbtmp3.4/7, Error ellipse: s-maj=33.3km s-min=20.3km az=104.0*

ISC 16 05:54:59.6±0.8,22.00S±0.05×68.50W±0.08,h120km±8km,
n18,σ1s58/23,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.72**	**286**	⇑*i*P	**Pn**	**05 55 19.4**	**+0.1**
PB09				*i* S	**Sn**	**05 55 34.0**	**-0.2**
PB09				AML	AML	05 55 34.9	
	comp=N,11μm,0.6s						
SPCH	**San Pedro de A**	**0.95**	**163**	⇑*i*P	**Pn**	**05 55 22.1**	**+0.7**
SPCH				*i* S	**Sn**	**05 55 39.5**	**+1.6**
SPCH				AML	AML	05 55 51.5	
	comp=E,928nm,0.4s						
PB04	**Plate Boundary**	**0.95**	**254**	⇑*i*P	Pn	05 55 27.4	+6.3
PB04				*i* S	Sn	05 55 49.2	+12
PB04				AML	AML	05 55 54.9	
	comp=E,2μm,0.4s						
MACH	**Maria Elena**	**1.18**	**260**	⇑*i*P	**Pn**	**05 55 23.4**	**-0.3**
MACH				*i* S	**Sn**	**05 55 41.5**	**-0.5**
PB01	**Plate Boundary**	**1.32**	**316**	⇑*i*P	**Pn**	**05 55 24.9**	**-0.2**
PB01				*e*S	**Sn**	**05 55 44.3**	**-0.1**
PB01				AML	AML	05 55 47.6	
	comp=E,3μm,0.4s						
CEN1	**Los Morros**	**2.09**	**228**	⇑*i*P	**Pn**	**05 55 37.4**	**+3.1**
CEN1				AML	AML	05 56 13.3	
	comp=E,551nm,0.7s						
MECH	**Mejillones**	**2.11**	**238**	AML	AML	05 56 18.0	
	comp=N,1μm,0.4s						
ANCH	**Antofagasta**	**2.43**	**226**	*e*P	**Pn**	**05 55 38.8**	**+0.4**
ANCH				*i* S	**Sn**	**05 56 06.3**	**-2.0**
PSGC	**Pisagua**	**2.83**	**327**	⇑*i*P	**Pn**	**05 55 42.3**	**-1.5**
PSGC				*i* S	**Sn**	**05 56 16.1**	**-1.7**
PSGC				AML	AML	05 56 29.0	
	comp=E,432nm,0.2s						
MNMC	**Minimini**	**3.03**	**340**	⇑*i*P	**Pn**	**05 55 46.6**	**0.0**
MNMC				*i* S	**Sn**	**05 56 23.6**	**+0.9**
MNMC				AML	AML	05 56 34.0	
	comp=E,730nm,0.1s						
LPAZ	**La Paz**	**5.69**	**4**	P	**Pn**	**05 56 24.9**	**+2.5**
	comp=E,1.0nm,0.3s,baz=169,slow=4.8,SNR=24						
SIV	**San Ignacio**	**9.22**	**51**	P	**Pn**	**05 57 06.8**	**-2.9**
	comp=E,3.0nm,0.3s,baz=245,slow=12,SNR=57						
CFAA	**Coronel Fontan**	**9.57**	**179**	P	**Pn**	**05 57 11.5**	**-2.7**
	comp=E,0.1nm,0.3s,baz=359,slow=12,SNR=18						
PLCA	**Paso Flores**	**18.76**	**185**	P	**Pn**	**05 59 11.3**	**+0.3**
	comp=E,0.2nm,0.3s,baz=10,slow=13,SNR=6.7						
BDFB	**Brasilia**	**20.39**	**75**	P	**P**	**05 59 26.4**	**-0.7**
	comp=E,2.0nm,0.5s,baz=238,slow=10,SNR=6.9						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**06 06 40.6**	**0.0**
	comp=E,1.4nm,0.5s,baz=254,slow=5.9,SNR=28						
YKA	**Yellowknife Ar**	**91.78**	**340**	P	**P**	**06 07 54.5**	**+1.3**
	comp=E,0.5nm,0.7s,baz=135,slow=4.6,SNR=16						
MKAR	**Makanchi Array**	**145.81**	**37**	PKPbc	**PKPab**	**06 14 25.8**	**+0.5**
	comp=E,0.6nm,0.7s,baz=335,slow=2.4,SNR=7.3						

*IDC **16** 06:01:19.9±5.4,28.00N×87.71E,h62km±49km, mb3.6/12, mb1 3.7/14, mb1mx3.5/29, mbtmp3.6/14, ML4.0/2, MS4.0/1, Ms1 4.0/1, ms1mx2.6/34, Error ellipse: s-maj=33.3km s-min=15.7km az=56.0*
*DMN **16** 06:01:20.7±0.0,28.14N×87.85E,h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **16** 06:01:21.2±0.6,28.04N±0.08×87.74E±0.05,h92km±8km, mb3.8/14, Error ellipse: s-maj=14.1km s-min=5.2km az=20.5*
*NDI **16** 06:01:21.8±3.4,27.95N×87.83E,h33km,ML3.7*

ISC 16 06:01:21.8±1.0,28.0N±0.1×87.74E±0.06,h84km±12km,
n39,σ1s37/49,mb3.9/14,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**0.65**	**182**	*e*Pg	**Pn**	**06 01 38.0**	**+0.4**
TAPN				*e*Sg	**Sn**	**06 01 50.0**	**+0.7**
	658nm,0.3s						
GTK	**Gangtok**	**1.02**	**130**	*e*P	Pn	06 01 37.5	-4.0
GTK				*ex*	x	06 01 44.0	
ODAN	**Odare**	**1.18**	**195**	*e*Pg	**Pn**	**06 01 44.2**	**+0.7**
ODAN				*e*Sg	**Sn**	**06 02 00.8**	**+1.1**
JIRN	**Jiri**	**1.41**	**256**	*e*Pg	**Pn**	**06 01 47.8**	**+1.3**
JIRN				*e*Sg	**Sn**	**06 02 06.2**	**+1.1**
SLGI	**Shiliguri**	**1.43**	**155**	*e*P	**Pn**	**06 01 46.5**	**+0.2**
SLGI				*e*S	**Sn**	**06 02 01.0**	**-3.8**
RAMN	**Ramite**	**1.46**	**224**	*e*Pg	**Pn**	**06 01 47.6**	**+0.6**
RAMN				*e*Sg	**Sn**	**06 02 07.2**	**+1.3**
	677nm,0.4s						
GUN	**Gumba**	**1.65**	**267**	*e*Pg	**Pn**	**06 01 50.5**	**+1.0**
GUN				*e*Sg	**Sn**	**06 02 10.7**	**+0.2**
	512nm,0.3s						
PKI	**Pulchoki**	**2.11**	**259**	*e*Pn	**Pn**	**06 01 56.5**	**+1.0**
PKI				*e*Sg	**Sn**	**06 02 22.3**	**+1.0**
	635nm,0.4s						
KKN	**Kakani**	**2.19**	**265**	*e*Pg	**Pn**	**06 01 57.5**	**+1.0**
KKN				*e*Sg	**Sn**	**06 02 23.5**	**+0.5**
	380nm,0.2s						
DMN	**Daman**	**2.37**	**261**	*e*Pg	**Pn**	**06 01 59.8**	**+0.9**
DMN				*e*Sg	**Sn**	**06 02 27.9**	**+0.6**
	520nm,0.3s						
GKN	**Gorkha**	**2.74**	**271**	*e*Pn	**Pn**	**06 02 03.9**	**0.0**
GKN				*e*Sg	**Sn**	**06 02 35.8**	**-0.4**
	334nm,0.2s						
DANN	**Dangsing**	**3.53**	**277**	*e*Pn	**Pn**	**06 02 13.2**	**-1.4**
DANN				*e*Sg	**Sn**	**06 02 53.5**	**-2.0**
	334nm,0.2s						
KOLN	**Koldanda**	**3.67**	**267**	*e*Pn	**Pn**	**06 02 16.1**	**-0.4**
KOLN				*e*Sg	**Sn**	**06 02 58.2**	**-0.6**
	375nm,0.2s						
PYUN	**Piuthan**	**4.20**	**272**	*e*Pn	**Pn**	**06 02 22.1**	**-1.5**
PYUN				*e

IFIR	**Firoozkooh**	**2.02**	**223**	*e*Pn	**Pn**	**06 17 44.4**	**+0.2**
IFIR				*e*Sg	**Sb**	**06 18 12.2**	**0.0**
ILAS	**Lasjerd**	**2.12**	**215**	*e*Pn	**Pn**	**06 17 46.2**	**+0.6**
ILAS				*e*Sg	**Sb**	**06 18 15.9**	**+0.9**
ILAS				*e*		06 18 17.6	
	comp=N,5μm,0.1s						
ILAS	**Lasjerd**	**2.12**	**215**	*e*Pn	**Pn**	**06 17 46.2**	**+0.6**
ILAS				*e*Sg	**Sb**	**06 18 15.9**	**+0.9**
BJRD	**Bojnurd**	**2.42**	**76**	*e*Pn	**Pn**	**06 17 49.8**	**+0.2**
BJRD				*e*Sg	**Sb**	**06 18 24.0**	**+0.4**
IDMV	**Damavand**	**2.49**	**232**	*e*Pn	**Pn**	**06 17 50.8**	**+0.1**
IDMV				*e*		06 18 29.5	
	comp=Z,2μm,0.2s						
IDMV	**Damavand**	**2.49**	**232**	*e*Pn	**Pn**	**06 17 50.8**	**+0.1**
DAMV	**Damavand**	**2.50**	**234**	*e*Pn	**Pn**	**06 17 52.4**	**+1.6**
ISFR	**Sfrayin**	**2.84**	**91**	*e*Pn	**Pn**	**06 17 56.1**	**+0.6**
ISFR				*e*		06 18 58.3	
	comp=Z,1μm,0.3s						
ISFR	**Sfrayin**	**2.84**	**91**	*e*Pn	**Pn**	**06 17 56.1**	**+0.6**
CHTH	**Charan**	**2.94**	**246**	*e*Pn	**Pn**	**06 17 58.3**	**+1.4**
IVRN	**Varamin**	**3.07**	**227**	*e*Pn	**Pn**	**06 17 58.6**	**+0.2**
IVRN				*e*Pn	**Pn**	**06 17 58.8**	**+0.4**
IVRN				*e*		06 18 47.4	
	comp=Z,697nm,0.1s						
IVRN	**Varamin**	**3.07**	**227**	*e*Pn	**Pn**	**06 17 58.8**	**+0.4**
THKV	**Tehran--Karaj**	**3.12**	**248**	*e*Pn	**Pn**	**06 18 00.8**	**+1.5**
ISFB	**Sefidab**	**3.31**	**214**	*e*Pn	**Pn**	**06 18 01.2**	**-0.5**
ISFB				*e*		06 18 55.5	
	comp=Z,536nm,0.1s						
ISFB	**Sefidab**	**3.31**	**214**	*e*Pn	**Pn**	**06 18 01.2**	**-0.5**
IMHD	**Mahdasht**	**3.38**	**246**	*e*		06 18 11.8	
	comp=Z,831nm,0.1s						
IMHD				*e*Pn	**Pn**	**06 18 03.3**	**+0.6**
IR5	**Iran Long-Peri**	**3.67**	**240**	*e*Pn	**Pb**	**06 18 13.0**	**-1.7**
IR5				*e*Sg	**Sb**	**06 19 01.5**	**+2.0**
IRAZ	**Razeghan**	**4.04**	**246**	*e*	Sg	06 19 25.5	+6.4
	comp=Z,303nm,0.3s						
ITEG	**Tejag**	**5.50**	**139**	*e*Pn	**Pn**	**06 18 31.9**	**-0.1**
ITEG				*e*		06 18 39.6	
	comp=Z,332nm,0.1s						
ITEG	**Tejag**	**5.50**	**139**	*e*Pn	**Pn**	**06 18 31.9**	**-0.1**

IDC ***16*** *06:40:19.6±1.8, 60°.43N×152°.54W, h72km±29km, mb3.4/4, mb1 3.5/7, mb1mx3.3/29, mbtmp3.4/7, Error ellipse: s-maj=39.9km s-min=10.3km az=108.0*

ISCJB ***16*** *06:40:20.3±0.3, 60°.37N±0°.03×152°.26W±0°.06, h109km±3km, mb3.7/4, Error ellipse: s-maj=5.6km s-min=3.7km az=36.9*

NEIC ***16*** *06:40:22.7, 60°.39N×152°.36W, h92km, MG3.2(AEIC), After AEIC.*

ISC 16 06:40:21.6±0.8, 60°38N±0°.03×152°32W±0°.04, h101km±6km, n73, σ0°85/86, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REF	**Redoubt East F**	**0.22**	**301**	P	**Pn**	**06 40 35.7**	**-0.5**
REF				S	**Sn**	**06 40 45.7**	**-1.4**
RSO	**Redoubt South**	**0.23**	**292**	P	**Pn**	**06 40 36.0**	**-0.3**
RDN	**Redoubt North**	**0.26**	**302**	P	**Pn**	**06 40 35.7**	**-0.6**
INE	**Iliamna NE**	**0.49**	**230**	P	**Pn**	**06 40 37.1**	**-0.5**
ILW	**Iliamna West**	**0.52**	**232**	P	**Pn**	**06 40 37.4**	**-0.4**
ILW				S	**Sn**	**06 40 48.7**	**-1.2**
HOM	**Homer**	**0.80**	**154**	P	**Pn**	**06 40 40.6**	**+0.6**
HOM				S	**Sn**	**06 40 54.4**	**+0.7**
OPT	**Oil Point**	**0.86**	**213**	P	**Pn**	**06 40 40.7**	**0.0**
SPBG	**Spurr Blockage**	**0.89**	**358**	P	**Pn**	**06 40 40.8**	**-0.1**
BGL	**Barrier Glacie**	**0.89**	**358**	P	**Pn**	**06 40 40.9**	**-0.1**
BRLK	**Bradley Lake**	**0.95**	**130**	P	**Pn**	**06 40 41.4**	**-0.2**
BRLK				S	**Sn**	**06 40 56.8**	**+0.2**
CGLM	**Capps Glacier**	**0.95**	**9**	P	**Pn**	**06 40 41.5**	**-0.1**
NCG	**North Capps Gl**	**1.03**	**4**	P	**Pn**	**06 40 42.3**	**-0.2**
STLK	**Strandline Lak**	**1.15**	**12**	P	**Pn**	**06 40 43.7**	**-0.1**
AUNW	**Augustine NWes**	**1.16**	**211**	P	**Pn**	**06 40 43.9**	**+0.1**
AUW	**Augustine West**	**1.16**	**210**	P	**Pn**	**06 40 44.0**	**+0.1**
FIB	**Fire Island**	**1.32**	**52**	P	**Pn**	**06 40 47.1**	**+1.4**
FIB				S	**Sn**	**06 41 06.2**	**+2.4**
SUA	**Susitna One**	**1.34**	**35**	P	**Pn**	**06 40 46.4**	**+0.4**
SUA				S	**Sn**	**06 41 05.2**	**+0.8**
SEW	**Seward**	**1.46**	**100**	P	**Pn**	**06 40 47.0**	**-0.3**
SKT	**Skwentna**	**1.65**	**13**	P	**Pn**	**06 40 49.6**	**-0.2**
FOSS	**Fourpeaked Sta**	**1.73**	**204**	P	**Pn**	**06 40 50.5**	**-0.3**
PMR	**Palmer**	**1.98**	**51**	P	**Pn**	**06 40 53.5**	**-0.3**
PMR				S	**Sn**	**06 41 17.1**	**-1.4**
TRAP	**Trapper Creek**	**2.21**	**26**	P	**Pn**	**06 40 57.1**	**+0.3**
SML	**Sawmill**	**2.41**	**52**	P	**Pn**	**06 40 59.2**	**-0.3**
SML				S	**Sn**	**06 41 27.1**	**-1.6**
KAKN	**Katmai Knife C**	**2.51**	**215**	P	**Pn**	**06 41 01.0**	**0.0**
PPLA	**Purkeypile**	**2.53**	**1**	P	**Pn**	**06 41 01.7**	**+0.5**
KBM	**Katmai Bkd Mtn**	**2.57**	**216**	P	**Pn**	**06 41 02.1**	**+0.3**
KCE	**Katmai Mt Cerb**	**2.59**	**216**	P	**Pn**	**06 41 02.5**	**+0.5**
KABU	**Katmai Buttres**	**2.60**	**217**	P	**Pn**	**06 41 02.5**	**+0.4**
KDAK	**Kodiak Island**	**2.61**	**183**	P	**Pn**	**06 41 00.9**	**-1.1**
	12nm,0.3s,baz=40,slow=7.1,SNR=442						
KDAK				S	**Sn**	**06 41 31.5**	**-1.6**
	15nm,0.3s,baz=19,slow=12,SNR=12						
KDAK	**Kodiak Island**	**2.61**	**183**	P	**Pn**	**06 41 01.1**	**-1.0**
KDAK				S	**Sn**	**06 41 31.5**	**-1.6**
KELA	**Mount Kelaz**	**2.61**	**223**	P	**Pn**	**06 41 02.2**	**-0.1**
SCM	**Sheep Creek Mo**	**2.83**	**57**	P	**Pn**	**06 41 04.8**	**-0.3**
TT01	**Tatalina**	**3.09**	**327**	P	**Pn**	**06 41 08.2**	**-0.3**
MID	**Middleton Isla**	**3.16**	**105**	P	**Pn**	**06 41 09.4**	**0.0**
TRF	**Thorofare Moun**	**3.23**	**16**	P	**Pn**	**06 41 09.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.26**	**84**	P	**Pn**	**06 41 10.3**	**-0.4**
DIV	**Divide**	**3.30**	**74**	P	**Pn**	**06 41 10.4**	**-1.0**
RND	**Reindeer**	**3.46**	**27**	P	**Pn**	**06 41 13.6**	**+0.2**
DHY	**Denali Highway**	**3.59**	**39**	P	**Pn**	**06 41 15.2**	**-0.1**
BMRM	**Bremner River**	**3.84**	**78**	P	**Pn**	**06 41 17.2**	**-1.5**
HARP	**HAARP**	**4.00**	**56**	P	**Pn**	**06 41 20.9**	**+0.1**
PAX	**Paxson**	**4.17**	**48**	P	**Pn**	**06 41 23.4**	**+0.3**
VRDI	**Verde Repeater**	**4.43**	**75**	P	**Pn**	**06 41 25.3**	**-1.3**
CCB	**Clear Creek Bu**	**4.77**	**24**	P	**Pn**	**06 41 30.1**	**-0.9**
BARK	**Barkley Ridge**	**4.88**	**85**	P	**Pn**	**06 41 32.4**	**-0.2**
KIAG	**Kiagna River**	**4.93**	**79**	P	**Pn**	**06 41 31.8**	**-1.7**
ISLE	**Juniper Island**	**4.94**	**83**	P	**Pn**	**06 41 32.0**	**-1.6**
BALM	**Baldy**	**4.95**	**78**	P	**Pn**	**06 41 32.5**	**-1.2**
COLA	**College**	**4.96**	**23**	P	**Pn**	**06 41 32.9**	**-0.7**
MDM	**Murphy Dome**	**4.97**	**21**	P	**Pn**	**06 41 33.8**	**-0.1**
BAGL	**Bagley Icefiel**	**5.07**	**84**	P	**Pn**	**06 41 35.0**	**-0.1**
IL1	**Eielson Array**	**5.08**	**27**	P	**Pn**	**06 41 34.6**	**-0.6**
ILAR	**Eielson Array**	**5.08**	**27**	P	**Pn**	**06 41 34.8**	**-0.5**
	3.4nm,0.3s,baz=212,slow=13,SNR=150						
ILAR				S	**Sn**	**06 42 30.6**	**-2.0**
	2.4nm,0.3s,baz=95,slow=30,SNR=7.9						
ILAR	**Eielson Array**	**5.08**	**27**	P	**Pn**	**06 41 34.8**	**-0.5**
ILAR				S	**Sn**	**06 42 30.6**	**-2.0**
DOT	**Dot Lake**	**5.09**	**46**	P	**Pn**	**06 41 35.2**	**-0.2**
MESA	**MESA**	**5.17**	**88**	P	**Pn**	**06 41 36.6**	**-0.1**
BARN	**Barnard Glacie**	**5.28**	**78**	P	**Pn**	**06 41 38.2**	**0.0**
IM3	**Indian Mountai**	**5.67**	**354**	P	**Pn**	**06 41 43.0**	**-0.3**
BCA3	**Beaver Creek A**	**5.69**	**57**	P	**Pn**	**06 41 43.0**	**-0.6**
PNL	**Peninsula**	**6.52**	**91**	P	**Pn**	**06 41 54.6**	**-0.2**
EGAK	**Eagle**	**6.78**	**45**	*e*Pn	**Pn**	**06 41 58.1**	**-0.2**
	4.7nm,0.5s						
COLD	**Coldfoot**	**6.94**	**7**	*e*Pn	**Pn**	**06 42 01.5**	**+0.9**
DAWY	**Dawson**	**7.08**	**53**	*e*Pn	**Pn**	**06 42 02.5**	**0.0**
DAWY				*e*Sn	**Sn**	**06 43 21.3**	**0.0**
YKA	**Yellowknife Ar**	**17.99**	**67**	P	**Pn**	**06 44 25.5**	**+0.8**
	0.1nm,0.3s,baz=285,slow=12,SNR=22						
YKA	**Yellowknife Ar**	**17.99**	**67**	P	**Pn**	**06 44 25.6**	**+0.8**
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**06 49 42.7**	**+1.6**
	1.1nm,0.7s,baz=33,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**06 49 42.7**	**+1.6**
ZALV	**Zalesovo Beam**	**57.27**	**324**	P	**P**	**06 49 58.1**	**0.0**
	0.7nm,0.4s,baz=53,slow=6.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.27**	**324**	P	**P**	**06 49 58.1**	**0.0**
BVAR	**Borovoye Array**	**61.89**	**332**	P	**P**	**06 50 29.6**	**-0.3**
	0.3nm,0.4s,baz=280,slow=4.1,SNR=1.9						
BVAR	**Borovoye Array**	**61.89**	**332**	P	**P**	**06 50 29.6**	**-0.3**
MKAR	**Makanchi Array**	**64.35**	**322**	P	**P**	**06 50 45.5**	**-0.7**
	0.2nm,0.6s,baz=39,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**64.35**	**322**	P	**P**	**06 50 45.5**	**-0.7**

IDC 16 06:42:51.7±2.2, 2°.02N×127°.23E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=178.2km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**163**	P	P	06 47 56.8	-0.6
	1.0nm,0.5s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.34**	**166**	P	P	06 48 30.2	+0.5
	0.3nm,0.3s,baz=348,slow=12,SNR=7.8						
MKAR	**Makanchi Array**	**59.24**	**326**	P	P	06 52 54.9	-0.1
	0.2nm,0.3s,baz=120,slow=8.2,SNR=6.4						

IDC ***16*** *06:50:38.2±3.4, 35°.72S×178°.31E, h189km±22km, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp4.0/8, MS4.3/1, Ms1 4.3/1, ms1mx3.0/30, Error ellipse: s-maj=42.4km s-min=15.1km az=47.0*

ISCJB ***16*** *06:50:44.4±0.7, 36°.65S±0°.05×177°.87E±0°.09, h261km±4km, mb3.9/8, Error ellipse: s-maj=11.3km s-min=7.7km az=170.8*

WEL ***16*** *06:50:44.8±0.5, 36°.36S×178°.10E, h227km±5km, ML5.1/21, Error ellipse: s-maj=7.7km s-min=5.8km az=0.0*

NEIC ***16*** *06:50:45.4, 36°.49S×178°.02E, h230km, MG5.1(WEL), After WEL.*

ISC 16 06:50:44.6±0.8, 36°.53S±0°.07×177°.94E±0°.07, h248km±6km, n226, σ1s26/224, mb4.1/8, 10C-16D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.08**	**164**	⇑PN	**Pn**	**06 51 18.8**	**-0.9**
MXZ				SN	**S**	**06 51 43.7**	**-3.9**
MXZ				SN		06 51 44.0	
MXZ	**Matakaoa Point**	**1.08**	**164**	Pn	**Pn**	**06 51 18.9**	**-0.9**
MXZ				Sn	**S**	**06 51 43.9**	**-3.7**
WIZ	**White Island**	**1.17**	**211**	PN	**Pn**	**06 51 20.2**	**-0.2**
WIZ				SN	**S**	**06 51 48.1**	**-0.4**
WIZ	**White Island**	**1.17**	**211**	Pn	**Pn**	**06 51 20.3**	**-0.1**
WIZ				Sn	**S**	**06 51 48.1**	**-0.4**
PUZ	**Puketiti**	**1.57**	**171**	⇓PN	**Pn**	**06 51 23.1**	**-0.1**
PUZ				SN	**S**	**06 51 51.9**	**-1.8**
PUZ	**Puketiti**	**1.57**	**171**	Pn	**Pn**	**06 51 22.7**	**-0.4**
OPRZ	**Ohinepanea**	**1.72**	**220**	PN	**Pn**	**06 51 23.5**	**-0.9**
OPRZ	**Ohinepanea**	**1.72**	**220**	Pn	**Pn**	**06 51 23.8**	**-0.6**
MARZ	**Manawahe**	**1.77**	**214**	PN	**Pn**	**06 51 24.7**	**-0.2**
MARZ	**Manawahe**	**1.77**	**214**	Pn	**Pn**	**06 51 24.8**	**-0.2**
TGRZ	**Tauranga**	**1.80**	**228**	PN	**Pn**	**06 51 24.5**	**-0.6**
TGRZ	**Tauranga**	**1.80**	**228**	Pn	**Pn**	**06 51 24.6**	**-0.5**
MWZ	**Matawai**	**1.84**	**190**	⇑PN	**Pn**	**06 51 25.4**	**0.0**
MWZ	**Matawai**	**1.84**	**190**	Pn	**Pn**	**06 51 25.4**	**0.0**
EDRZ	**Edgecumbe**	**1.85**	**211**	⇓PN	**Pn**	**06 51 25.8**	**+0.2**
EDRZ	**Edgecumbe**	**1.85**	**211**	Pn	**Pn**	**06 51 25.8**	**+0.2**
URZ	**Urewera**	**1.85**	**201**	P	**Pn**	**06 51 25.2**	**-0.3**
	225nm,0.3s,baz=2.7,slow=2.5,SNR=1665						
URZ				S	**S**	**06 51 59.3**	**+1.4**
	251nm,0.3s,baz=76,slow=23,SNR=44						
URZ	**Urewera**	**1.85**	**201**	Pn	**Pn**	**06 51 25.0**	**-0.5**
URZ	**Urewera**	**1.85**	**201**	*e*Pn	**Pn**	**06 51 53.3**	**-0.3**
URZ				*e*Sn	**S**	**06 51 53.4**	**-4.5**
URZ				S	S	06 51 59.3	+1.4
CNGZ	**Carnagh Statio**	**1.97**	**174**	⇓PN	**Pn**	**06 51 27.3**	**+0.8**
CNGZ	**Carnagh Statio**	**1.97**	**174**	Pn	**Pn**	**06 51 27.3**	**+0.8**
MKRZ	**Makatiti**	**2.00**	**216**	PN	**Pn**	**06 51 27.8**	**+1.0**
MKRZ	**Makatiti**	**2.00**	**216**	Pn	**Pn**	**06 51 27.8**	**+1.0**
KARZ	**Kaharoa**	**2.02**	**222**	PN	**Pn**	**06 51 27.1**	**0.0**
KARZ	**Kaharoa**	**2.02**	**222**	Pn	**Pn**	**06 51 27.1**	**0.0**
OMRZ	**Omania**	**2.02**	**218**	PN	**Pn**	**06 51 27.2**	**+0.2**
OMRZ	**Omania**	**2.02**	**218**	Pn	**Pn**	**06 51 27.2**	**+0.2**
TARZ	**Mount Tarawera**	**2.06**	**213**	⇓PN	**Pn**	**06 51 28.1**	**+0.6**
TARZ	**Mount Tarawera**	**2.06**	**213**	Pn	**Pn**	**06 51 28.1**	**+0.6**
RRRZ	**Republican Roa**	**2.14**	**212**	⇓PN	**Pn**	**06 51 28.5**	**+0.4**
RRRZ	**Republican Roa**	**2.14**	**212**	Pn	**Pn**	**06 51 28.5**	**+0.4**
HRRZ	**Handcock Road**	**2.28**	**215**	⇑PN	**Pn**	**06 51 30.3**	**+0.8**
HRRZ	**Handcock Road**	**2.28**	**215**	Pn	**Pn**	**06 51 30.3**	**+0.8**
TOZ	**Tahuroa Road**	**2.29**	**238**	PN	**Pn**	**06 51 29.7**	**+0.2**
TOZ	**Tahuroa Road**	**2.29**	**238**	Pn	**Pn**	**06 51 29.7**	**+0.2**
MKAZ	**Moumakai**	**2.30**	**254**	⇑PN	**Pn**	**06 51 28.8**	**-0.9**
MKAZ	**Moumakai**	**2.30**	**254**	Pn	**Pn**	**06 51 28.8**	**-0.9**
PRRZ	**Plateau Road**	**2.32**	**212**	⇓PN	**Pn**	**06 51 30.1**	**+0.2**
PRRZ				SN	**S**	**06 52 05.5**	**-0.2**
PRRZ	**Plateau Road**	**2.32**	**212**	Pn	**Pn**	**06 51 30.1**	**+0.2**
PRRZ				Sn	**S**	**06 52 05.5**	**-0.2**
PRGZ	**Paritu Road**	**2.40**	**181**	PN	**Pn**	**06 51 30.8**	**+0.2**
PRGZ	**Paritu Road**	**2.40**	**181**	Pn	**Pn**	**06 51 30.8**	**+0.2**
ALRZ	**Allen Road**	**2.40**	**211**	PN	**Pn**	**06 51 30.9**	**+0.3**
ALRZ	**Allen Road**	**2.40**	**211**	Pn	**Pn**	**06 51 30.9**	**+0.3**
RAHZ	**Arahi**	**2.48**	**196**	⇓PN	**Pn**	**06 51 31.9**	**+0.5**
RAHZ	**Arahi**	**2.48**	**196**	Pn	**Pn**	**06 51 31.9**	**+0.5**
KNZ	**Kokohu**	**2.50**	**185**	⇓PN	**Pn**	**06 51 31.9**	**+0.3**
KNZ	**Kokohu**	**2.50**	**185**	Pn	**Pn**	**06 51 31.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.62**	**181**	⇓PN	**Pn**	**06 51 33.6**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.62**	**181**	Pn	**Pn**	**06 51 33.6**	**+0.7**
NMHZ	**Naumai**	**2.72**	**199**	PN	**Pn**	**06 51 34.6**	**+0.6**
NMHZ	**Naumai**	**2.72**	**199**	Pn	**Pn**	**06 51 34.6**	**+0.6**
HATZ	**Hinemaiaia**	**2.78**	**211**	PN	**Pn**	**06 51 34.6**	**0.0**
HATZ				SN	**S**	**06 52 14.4**	**+0.2**
HATZ	**Hinemaiaia**	**2.78**	**211**	Pn	**Pn**	**06 51 34.6**	**0.0**
HATZ				Sn	**S**	**06 52 14.4**	**+0.2**
WATZ	**Wairara**	**2.80**	**218**	PN	**Pn**	**06 51 35.1**	**+0.3**
WATZ	**Wairara**	**2.80**	**218**	Pn	**Pn**	**06 51 35.5**	**+0.7**
BKZ	**Black Stump Fm**	**2.88**	**203**	⇓PN	**Pn**	**06 51 35.3**	**-0.3**
BKZ	**Black Stump Fm**	**2.88**	**203**	Pn	**Pn**	**06 51 35.2**	**-0.3**
KATZ	**Kakaramea**	**3.03**	**215**	PN	**Pn**	**06 51 37.5**	**+0.2**
KATZ	**Kakaramea**	**3.03**	**215**	Pn	**Pn**	**06 51 37.5**	**+0.2**
MCHZ	**McNeill Hill**	**3.08**	**198**	PN	**Pn**	**06 51 38.3**	**+0.6**
MCHZ	**McNeill Hill**	**3.08**	**198**	Pn	**Pn**	**06 51 38.3**	**+0.6**
KRVZ	**Karewarewa**	**3.15**	**215**	PN	**Pn**	**06 51 38.8**	**+0.2**
KRVZ	**Karewarewa**	**3.15**	**215**	Pn	**Pn**	**06 51 38.8**	**+0.2**
HIZ	**Hauiti**	**3.16**	**230**	⇓PN	**Pn**	**06 51 39.7**	**+1.1**
HIZ	**Hauiti**	**3.16**	**230**	Pn	**Pn**	**06 51 39.7**	**+1.1**
WTVZ	**West Tongariro**	**3.19**	**215**	PN	**Pn**	**06 51 38.9**	**0.2**
WTVZ	**West Tongariro**	**3.19**	**215**	Pn	**Pn**	**06 51 38.9**	**0.2**
OTVZ	**Oturere**	**3.19**	**214**	PN	**Pn**	**06 51 39.2**	**0.0**
OTVZ	**Oturere**	**3.19**	**214**	Pn	**Pn**	**06 51 39.2**	**0.0**
CKHZ	**Cape Kidnapper**	**3.20**	**192**	⇑PN	**Pn**	**06 51 39.3**	**+0.3**
CKHZ	**Cape Kidnapper**	**3.20**	**192**	Pn	**Pn**	**06 51 39.4**	**+0.3**
TWVZ	**Taurewa**	**3.23**	**217**	PN	**Pn**	**06 51 39.6**	**+0.2**
TWVZ	**Taurewa**	**3.23**	**217**	Pn	**Pn**	**06 51 39.6**	**+0.2**
NGZ	**Ngauruhoe**	**3.23**	**214**	PN	**Pn**	**06 51 39.7**	**+0.2**
NGZ	**Ngauruhoe**	**3.23**	**214**	Pn	**Pn**	**06 51 39.7**	**+0.2**
WPVZ	**Whakapapa**	**3.28**	**215**	PN	**Pn**	**06 51 40.2**	**+0.1**
WPVZ	**Whakapapa**	**3.28**	**215**	Pn	**Pn**	**06 51 40.2**	**+0.1**
TUVZ	**Tukino**	**3.28**	**213**	PN	**Pn**	**06 51 40.0**	**-0.2**
TUVZ	**Tukino**	**3.28**	**213**	Pn	**Pn**	**06 51 40.0**	**-0.2**
BHHZ	**Black Hill Sta**	**3.31**	**206**	PN	**Pn**	**06 51 40.0**	**-0.3**
BHHZ	**Black Hill Sta**	**3.31**	**206**	Pn	**Pn**	**06 51 40.0**	**-0.3**
FWVZ	**Far West T-bar**	**3.32**	**214**	PN	**Pn**	**06 51 40.4**	**-0.2**
FWVZ	**Far West T-bar**	**3.32**	**214**	Pn	**Pn**	**06 51 40.4**	**-0.2**
DRZ	**Dome Shelter**	**3.33**	**214**	⇓PN	**Pn**	**06 51 40.9**	**0.0**
DRZ	**Dome Shelter**	**3.33**	**214**	Pn	**Pn**	**06 51 40.9**	**0.0**
TRVZ	**Turoa**	**3.35**	**214**	PN	**Pn**	**06 51 40.8**	**-0.3**
TRVZ	**Turoa**	**3.35**	**214**	Pn	**Pn**	**06 51 40.8**	**-0.3**
WNVZ	**Wahianoa**	**3.36**	**213**	PN	**Pn**	**06 51 40.6**	**-0.4**
WNVZ	**Wahianoa**	**3.36**	**213**	Pn	**Pn**	**06 51 40.6**	**-0.4**
MOVZ	**Moawhango**	**3.36**	**210**	PN	**Pn**	**06 51 40.3**	**-0.6**
MOVZ	**Moawhango**	**3.36**	**210**	Pn	**Pn**	**06 51 40.3**	**-0.6**
KAHZ	**Kahuranaki**	**3.37**	**194**	PN	**Pn**	**06 51 41.3**	**+0.3**
KAHZ	**Kahuranaki**	**3.37**	**194**	Pn	**Pn**	**06 51 41.4**	**+0.3**
PKVZ	**Pokaka**	**3.44**	**216**	⇑PN	**Pn**	**06 51 41.9**	**+0.1**
PKVZ	**Pokaka**	**3.44**	**216**	Pn	**Pn**	**06 51 41.9**	**+0.1**
MTVZ	**Mangateitei**	**3.46**	**214**	Pn	**Pn**	**06 51 42.0**	**0.0**
PXZ	**Pawanui**	**3.60**	**193**	PN	**Pn**	**06 51 43.3**	**-0.3**
PXZ	**Pawanui**	**3.60**	**193**	Pn	**Pn**	**06 51 43.3**	**-0.3**
VRZ	**Vera Road**	**3.62**	**223**	PN	**Pn**	**06 51 44.4**	**+0.6**
VRZ	**Vera Road**	**3.62**	**223**	Pn	**Pn**	**06 51 44.4**	**+0.6**
PNHZ	**Pukenui**	**3.65**	**202**	⇓PN	**Pn**	**06 51 43.6**	**-0.6**
PNHZ	**Pukenui**	**3.65**	**202**	Pn	**Pn**	**06 51 43.6**	**-0.6**
WPHZ	**Waipukurau**	**3.73**	**198**	⇓PN	**Pn**	**06 51 44.7**	**-0.3**
WPHZ	**Waipukurau**	**3.73**	**198**	Pn	**Pn**	**06 51 44.7**	**-0.3**
OUZ	**Omahuta**	**3.76**	**289**	*e*Pn	**Pn**	**06 51 42.4**	**-3.1**
OUZ				*e*S	**S**	**06 52 31.6**	**-2.1**
TSZ	**Takapari Road**	**3.86**	**203**	⇓PN	**Pn**	**06 51 45.8**	**-0.8**
TSZ	**Takapari Road**	**3.86**	**203**	Pn	**Pn**	**06 51 45.8**	**-0.8**
PRHZ	**Porangahau**	**3.88**	**195**	PN	**Pn**	**06 51 46.6**	**-0.2**
PRHZ	**Porangahau**	**3.88**	**195**	Pn	**Pn**	**06 51 46.6**	**-0.2**
RAEZ	**Rainy Point**	**3.94**	**224**	PN	**Pn**	**06 51 48.6**	**+1.1**
RAEZ	**Rainy Point**	**3.94**	**224**	Pn	**Pn**	**06 51 48.6**	**+1.1**
WAZ	**Wanganui**	**3.98**	**215**	PN	**Pn**	**06 51 47.6**	**-0.3**
WAZ	**Wanganui**	**3.98**	**215**	Pn	**Pn**	**06 51 47.6**	**-0.3**
DVHZ	**Dannevirke**	**4.02**	**200**	PN	**Pn**	**06 51 47.6**	**-0.9**
DVHZ	**Dannevirke**	**4.02**	**200**	Pn	**Pn**	**06 51 47.6**	**-0.9**
NEZ	**North Egmont**	**4.09**	**227**	PN	**Pn**	**06 51 51.0**	**+1.6**
NEZ	**North Egmont**	**4.09**	**227**	Pn	**Pn**	**06 51 51.0**	**+1.6**
PKE	**Pukeiti**	**4.11**	**228**	⇑PN	**Pn**	**06 51 51.0**	**+1.5**
PKE	**Pukeiti**	**4.11**	**228**	Pn	**Pn**	**06 51 51.0**	**+1.5**
DFE	**Dawson Falls**	**4.13**	**226**	PN	**Pn**	**06 51 51.1**	**+1.3**
DFE	**Dawson Falls**	**4.13**	**226**	Pn	**Pn**	**06 51 51.1**	**+1.3**
POWZ	**Post Office Ro**	**4.22**	**203**	PN	**Pn**	**06 51 50.1**	**-0.7**
POWZ	**Post Office Ro**	**4.22**	**203**	Pn	**Pn**	**06 51 50.1**	**-0.7**
NRZ	**Ngariki Road**	**4.23**	**227**	Pn	**Pn**	**06 51 51.4**	**+0.4**
BFZ	**Birch Farm**	**4.36**	**197**	PN	**Pn**	**06 51 51.7**	**-0.8**
BFZ	**Birch Farm**	**4.36**	**197**	Pn	**Pn**	**06 51 51.8**	**-0.7**
MRZ	**Mangatainoka R**	**4.53**	**203**	⇑PN	**Pn**	**06 51 53.2**	**-1.3**
MRZ	**Mangatainoka R**	**4.53**	**203**	Pn	**Pn**	**06 51 53.0**	**-1.5**
TIWZ	**Tintock**	**4.54**	**200**	⇓PN	**Pn**	**06 51 54.0**	**-0.7**
TIWZ	**Tintock**	**4.54**	**200**	Pn	**Pn**	**06 51 54.0**	**-0.7**
HOWZ	**Holdsworth Sta**	**4.76**	**203**	PN	**Pn**	**06 51 55.9**	**-1.4**
HOWZ	**Holdsworth Sta**	**4.76**	**203**	Pn	**Pn**	**06 51 55.9**	**-1.4**
OGWZ	**Otaki Gorge**	**4.80**	**206**	PN	**Pn**	**06 51 56.5**	**-1.3**
TMWZ	**Te Maipa**	**4.85**	**199**	PN	**Pn**	**06 51 57.5**	**-0.8**
TMWZ	**Te Maipa**	**4.85**	**199**	Pn	**Pn**	**06 51 57.5**	**-0.8**
KIW	**Kapiti Island**	**4.94**	**208**	PN	**Pn**	**06 51 57.9**	**-1.6**
KIW	**Kapiti Island

36nm,0.3s,baz=64
OJC Ojcow 0.91 81 *e*Pg **Pg 06 57 08.6 -0.5**
baz=260
OJC *e*Sg **Sg 06 57 21.6 +0.8**
OJC Ojcow 0.91 81 *e*Pg **Pg 06 57 08.9 -0.2**
OJC *e*Sg **Sg 06 57 21.6 +0.8**
KRLC Kraliky 1.05 270 *e*SG **Sg 06 57 24.8 -0.5**
KRLC Kraliky 1.05 270 Sg **Sg 06 57 24.8 -0.5**
DPC Dobruska-Polom 1.36 282 *e*PG **Pg 06 57 17.7 -0.2**
DPC *e*SG **Sg 06 57 35.7 +0.2**
comp=Z,16nm,0.3s
DPC Dobruska-Polom 1.36 282 Pg **Pg 06 57 17.7 -0.2**
DPC *e*Sg **Sg 06 57 35.6 +0.1**
baz=101
NIE Niedzica 1.41 118 *e*Pg **Pb 06 57 18.9 +0.1**
NIE *e*Sg **Sn 06 57 38.5 +0.6**
NIE Niedzica 1.41 118 *e*Pg **Pb 06 57 18.9 +0.1**
NIE *e*Sg **Sn 06 57 38.5 +0.6**
VRAC Vranov 1.41 237 *e*Pg **Pn 06 57 18.1 -0.6**
baz=57
VRAC *e*Sg **Sg 06 57 36.3 -0.7**
16nm,0.2s,baz=57
KSP Ksiaz 1.55 300 *e*Pg **Pn 06 57 19.1 -1.5**
KSP *e*Sg **Sn 06 57 41.3 -0.1**
UPC Upice 1.59 286 *e*SG **Sn 06 57 42.7 +0.2**
UPC Upice 1.59 286 Sg **Sn 06 57 42.7 +0.2**
VYHS Vyhne 1.62 170 *e*PN **Pg 06 57 23.2 +0.5**
VYHS *e*SN **Sg 06 57 43.6 0.0**
VYHS Vyhne 1.62 170 *e*Pn **Pg 06 57 23.2 +0.5**
VYHS *e*Sn **Sg 06 57 43.7 +0.1**
KRUC Moravsky 1.66 233 *e*Pg **Pn 06 57 22.0 -0.1**
baz=52
KRUC *e*Sg **Sn 06 57 43.7 -0.4**
13nm,0.3s,baz=52
CRVS Cervenica-Dubn 2.32 120 *e*PN **Pg 06 57 36.2 +0.1**
CRVS *e*SN **Sg 06 58 06.8 +0.7**
CRVS Cervenica-Dubn 2.32 120 *e*Pn **Pg 06 57 36.2 +0.1**
PRU Pruhonice 2.49 269 *e*SG **Sb 06 58 09.4 +0.8**
comp=Z,4.8nm,0.2s
PRU Pruhonice 2.49 269 Sg **Sb 06 58 09.4 +0.8**
4.8nm,0.2s
KOLS Kolonicke sedl 2.77 113 *e*SN **Sn 06 58 11.2 -0.3**
KOLS Kolonicke sedl 2.77 113 *e*Sn **Sn 06 58 11.2 -0.3**
BRG Berggiesshubel 2.96 287 SG **Sg 06 58 25.2 -1.5**
4.5nm,0.4s
KHC Kasperske Hory 3.28 255 *e*SG **Sg 06 58 36.4 -0.7**
comp=Z,4.1nm,0.4s
KHC Kasperske Hory 3.28 255 Sg **Sg 06 58 36.4 -0.7**
4.1nm,0.4s
MOA Molln 3.53 232 ⇑*i*Sg **Sg 06 58 43.3 -1.6**
6.0nm,0.5s
MOA Molln 3.53 232 Sg **Sg 06 58 43.3 -1.6**
6.0nm,0.5s
CLL Collm 3.65 292 *e*Sg **Sg 06 58 50.0 +1.2**

IDC **16** *07:13:34.2±0.5,55.˚15S×129.˚82W,h0km,mb4.4/11, mb1 4.5/11,mb1mx4.5/15,mbtmp4.4/11,MS5.2/19, Ms1 5.2/19,ms1mx5.1/25,Error ellipse: s-maj=23.0km s-min=17.0km az=159.0*

ISCJB **16** *07:13:34.5±0.3,55.˚20S±0.˚05×129.˚7W±0.˚1,h10km, mb4.8/31,MS5.2/192,Error ellipse: s-maj=9.1km s-min=7.5km az=7.4*

MOS **16** *07:13:36.0±0.9,55.˚08S×130.˚68W,h10km,mb5.2/8, MS5.2/13,Error ellipse: s-maj=37.7km s-min=20.6km az=68.1*

NEIC **16** *07:13:36.1±0.2,55.˚14S×129.˚70W,h10km,mb5.1/20, MS5.2/156,MW5.9,MW5.9,Error ellipse: s-maj=13.3km s-min=9.7km az=160.0,Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁷Nm; Mrr 1.21; Mθθ 4.59; Mϕϕ -5.80; Mrθ -0.22; Mθϕ 6.66; Mϕr 1.53; Best double couple: M₀8.60000×10¹⁷ NP1:ϕs 109.00000°,δ81.00000°, λ-3.00000°. NP2:ϕs 199.00000°,δ87.00000°, λ-171.00000°. Principal axes: T 7.8800, Plg4.0000°, Azm333.0000°; N 1.3800, Plg80.0000°, Azm216.0000°; P -9.2600, Plg8.0000°, Azm64.0000°;*

GCMT **16** *07:13:41.8±0.1,55.˚23S×129.˚57W,h17km,MW5.9, Moment Tensor Solution. s106,c240; s80,c115; Moment tensor: Scale 10¹⁷Nm; Mrr-1.01±.06; Mθθ 5.82±.06; Mϕϕ-4.80±.05; Mrθ 0.35±.14; Mϕϕ 5.96±.05; Mϕr 0.34±.14; Best double couple: M₀8.00000×10¹⁷ NP1:ϕs 111.00000°,δ87.00000°,λ1.00000°. NP2: ϕs 21.00000°,δ89.00000°,λ177.00000°. Principal axes: T 8.5200, Plg3.0000°, Azm336.0000°; N -1.0300, Plg87.0000°, Azm183.0000°; P -7.4800, Plg1.0000°, Azm66.0000°; Data Used: ll IU IC G CN. Surface waves: sta=120, comp=256, per= 50.*

NEIC **16** *07:13:57.4±0.0,55.˚31S×129.˚07W,h10km,Moment Tensor Solution. s139 Moment tensor: Scale 10¹⁷Nm; Mrr-0.33; Mθθ 5.09; Mϕϕ-4.76; Mrθ 2.55; Mθϕ 5.08; Mϕr-1.53; Best double couple: M₀7.70000×10¹⁷ NP1:ϕs 23.00000°, δ67.00000°,λ-175.00000°. NP2:ϕs 291.00000°, δ86.00000°,λ-22.00000°. Principal axes: T 7.6500, Plg13.0000°, Azm339.0000°; N 0.0700, Plg67.0000°, Azm102.0000°; P -7.7100, Plg18.0000°, Azm244.0000°;*

ISC 16 07:13:35.8±0.3,55.˚11S±0.˚07×129.˚56W±0.˚05,h10km, n422,σ1§64/293,mb4.9/31,MS5.2/195,21C-10D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.37**	**201**	*e*P		**P**	**07 19 57.2**	**+1.1**
SBA							07 21 07.1	
SBA				pmax		pmax		
	comp=Z,59nm,1.4s							
SBA				MLR		MLR		
	comp=Z,3μm,22.0s							
SBA	**Scott Base**	**31.37**	**201**	*e*P		**P**	**07 19 57.2**	**+1.1**
	comp=Z,59nm,1.4s							
SBA				PP		**PP**	**07 21 07.1**	**+0.4**
SBA				LR		LR		
	comp=Z,3μm,22.0s							
RPN	**Rapa Nui**	**31.60**	**36**	LR		LR	07 29 33.4	
	comp=Z,3μm,20.5s,baz=30,slow=30							
RKT	**Rikitea**	**32.20**	**351**	*e*S		**S**	**07 25 19.1**	**+2.4**
	comp=Z,2μm,27.1s							
RKT				*e*LQ		LQ	07 27 02.7	
	comp=Z,4μm,34.2s							
RKT				*e*LR		LR	07 28 26.6	
	comp=Z,15μm,31.0s,baz=173							
RKT				*e*T		T	07 53 27.7	
	comp=Z,42nm,0.3s							
VNDA	**Vanda**	**32.39**	**202**	P		**P**	**07 20 04.4**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=51,slow=9.0,SNR=5.2							
VNDA				LR		LR	07 30 31.1	
	comp=Z,2μm,18.7s,baz=83,slow=32							
VNDA	**Vanda**	**32.39**	**202**	P		**P**	**07 20 04.4**	**-0.6**
VNDA				*e*P		**pP**	**07 20 06.9**	**-1.2**
PMSA	**Palmer Station**	**32.70**	**134**	LR		LR	07 29 33.8	
	comp=Z,11μm,22.0s,baz=330,slow=29							
PMSA	**Palmer Station**	**32.70**	**134**	*e*P		**P**	**07 20 08.7**	**+0.8**
	comp=Z,64nm,0.8s							
USHA	**Ushuaia**	**34.10**	**115**	P		**P**	**07 20 19.7**	**-0.5**
	comp=Z,7.0nm,0.7s,baz=258,slow=5.0,SNR=6.6							
USHA				LR		LR	07 30 28.6	
	comp=Z,4μm,21.6s,baz=230,slow=30							
USHA	**Ushuaia**	**34.10**	**115**	P		**P**	**07 20 19.7**	**-0.5**
TBI	**Tubuai**	**35.00**	**327**	*e*S		**S**	**07 25 56.5**	**-3.6**
	comp=Z,1μm,30.5s							
TBI				*e*LR		LR	07 29 33.7	
	comp=Z,12μm,31.2s,baz=160							
TBI				*e*T		T	07 56 59.8	
	comp=Z,232nm,0.3s							
QSPA	**South Pole Qui**	**35.07**	**180**	P		**P**	**07 20 28.8**	**+0.1**
	comp=Z,11nm,1.0s,baz=88,slow=3.7,SNR=12							
QSPA	**South Pole Qui**	**35.07**	**180**	*e*P		**P**	**07 20 28.8**	**+0.1**
	comp=Z,28nm,1.0s							
QSPA				LR		LR		
	comp=Z,12μm,20.0s							
SNZO	**South Karori**	**38.56**	**267**	PFAKE			07 21 10.0	+12
SNZO				LR		LR		
	comp=Z,4μm,22.0s							
MEH	**Mehetia**	**39.77**	**332**	*e*T		T	08 02 56.6	
	comp=Z,97nm,0.2s							
TVO	**Taravao**	**40.19**	**330**	*e*T		T	08 03 28.1	
	comp=Z,10nm,0.3s							
PAE	**Paea**	**40.40**	**330**	*e*T		T	08 03 43.6	
	comp=Z,1.8nm,0.2s							
TIAR	**Tiarei**	**40.43**	**330**	*e*T		T	08 03 46.1	
	comp=Z,14nm,0.3s							
PPT2	**Papeete2**	**40.47**	**330**	*e*S		**S**	**07 27 24.4**	**+1.2**
	comp=Z,2μm,26.8s							
PPT2				*e*LQ		LQ	07 30 25.5	
	comp=Z,3μm,25.8s							
PPT2				*e*LR		LR	07 32 20.2	
	comp=Z,14μm,28.0s,baz=167							
PPT2				*e*T		T	08 03 48.4	
	comp=Z,5.6nm,0.4s							
PPT	**Papeete**	**40.48**	**330**	LR		LR	07 33 37.6	
	comp=Z,3μm,20.7s,baz=156,slow=30							
PLCA	**Paso Flores**	**40.81**	**95**	P		**P**	**07 21 18.5**	**+1.2**
	comp=Z,13nm,1.2s,baz=211,slow=10.0,SNR=5.4							
PLCA				LR		LR	07 34 17.5	
	comp=Z,4μm,19.1s,baz=228,slow=30							
PLCA	**Paso Flores**	**40.81**	**95**	*e*P		**P**	**07 21 17.9**	**+0.6**
	comp=Z,28nm,1.4s							
EFI	**East Falkland**	**41.07**	**116**	PFAKE				
EFI				LR		LR	07 21 30.0	+11
	comp=Z,8μm,19.0s							
DRV	**Dumont d'Urvil**	**41.50**	**217**	P		P	07 21 06.0	-16
DRV	**Dumont d'Urvil**	**41.50**	**217**	PP		PP	07 22 55.0	-3.0
DRV				S		S	07 27 27.0	-10
DRV				L		L	07 30 00.0	
DRV				R			07 33 00.0	
PMOR	**Pomariorio Ree**	**42.47**	**333**	*e*T		T	08 06 18.5	
	comp=Z,19nm,0.3s							
RAO	**Raoul Island**	**42.98**	**287**	PFAKE			07 21 50.0	+15
RAO				LR		LR		
	comp=Z,2μm,22.0s							
VNA3	**Neumayer Olymp**	**47.02**	**157**	*e*P		**P**	**07 22 08.6**	**+1.9**
TRQA	**Tornquist**	**47.51**	**98**	*e*P		**P**	**07 22 11.1**	**+0.2**
	comp=Z,182nm,2.2s							
TRQA				PP		**PP**	**07 24 03.5**	**+1.4**
TRQA				LR		LR		
	comp=Z,4μm,20.0s							
VNA2	**Neumayer--Watz**	**47.75**	**158**	*e*P		**P**	**07 22 14.6**	**+2.2**
	baz=228,slow=7.2							
VNA1	**Neumayer--Stat**	**47.77**	**157**	*e*P		**P**	**07 22 14.9**	**+2.5**
SNAA	**Sanae**	**48.11**	**160**	*e*P		**P**	**07 22 14.7**	**-0.6**
	comp=Z,5.5nm,0.9s							
LCO	**Las Campanas**	**49.07**	**83**	*e*P		**P**	**07 22 23.1**	**-0.2**
	comp=Z,25nm,1.2s							
LCO				LR		LR		
	comp=Z,994nm,22.0s							
CASY	**Casey**	**50.76**	**207**	PFAKE			07 22 50.0	+15
CASY				LR		LR		
	comp=Z,2μm,19.0s							
AFI	**Afiamalu**	**52.50**	**305**	LR		LR	07 39 23.8	
	comp=Z,497nm,21.5s,baz=139,slow=30							
MSVF	**Nonsavu**	**54.41**	**292**	PFAKE			07 23 20.0	+17
MSVF				LR		LR		
	comp=Z,1μm,19.0s							
LVC	**Limon Verde**	**55.03**	**79**	*e*P		P	07 22 54.4	-13
LVC				LR		LR		
	comp=Z,79nm,21.0s							
SYO	**Syowa Base**	**55.94**	**175**	⇑*ep*P		**P**	**07 23 13.4**	**+0.1**
CAN	**Canberra**	**57.25**	**254**	PFAKE			07 23 40.0	+17
CAN				LR		LR		
	comp=Z,2μm,20.0s							
MAW	**Mawson**	**57.26**	**186**	LR		LR	07 45 26.7	
	comp=Z,3μm,19.6s,baz=166,slow=33							
DZM	**Mont Dzumac**	**57.35**	**278**	*e*S		**S**	**07 31 17.1**	**-3.6**
	comp=Z,507nm,24.0s							
DZM				*e*SS		**SS**	**07 35 09.3**	**-0.6**
	comp=Z,654nm,25.6s							
DZM				*e*LQ		LQ	07 37 39.9	
	comp=Z,5μm,26.9s							
DZM				*e*LR		LR	07 40 05.1	
	comp=Z,5μm,29.9s							
CPUP	**Villa Florida**	**58.77**	**92**	P		**P**	**07 23 34.0**	**+0.1**
	comp=Z,6.7nm,1.0s,baz=204,slow=8.3,SNR=5.4							
CPUP				LR		LR	07 45 34.2	
	comp=Z,6μm,18.1s,baz=207,slow=33							
CPUP	**Villa Florida**	**58.77**	**92**	P		**P**	**07 23 34.0**	**+0.1**
NNA	**Nana**	**59.37**	**65**	*e*P		**P**	**07 23 40.6**	**+2.3**
	comp=Z,16nm,1.1s							
NNA				LR		LR		
	comp=Z,442nm,20.0s							
LPAZ	**La Paz**	**60.52**	**76**	P		**P**	**07 23 45.4**	**-1.6**
	comp=Z,5.7nm,1.0s,baz=208,slow=3.2,SNR=10							
LPAZ				LR		LR	07 44 50.2	
	comp=Z,520nm,18.4s,baz=222,slow=31							
LPAZ	**La Paz**	**60.52**	**76**	*e*P		**P**	**07 23 45.3**	**-1.6**
	comp=Z,22nm,1.1s							
PAYG	**Puerto Ayora**	**62.98**	**45**	PFAKE			07 24 20.0	+17
PAYG				LR		LR		
	comp=Z,2μm,20.0s							
EIDS	**Eidsvold**	**63.59**	**263**	*e*P		**P**	**07 24 07.4**	**+0.7**
	comp=Z,37nm,1.9s							
STKA	**Stephens Creek**	**63.90**	**251**	P		**P**	**07 24 07.1**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=118,slow=2.0,SNR=4.4							
STKA				LR		LR	07 46 25.8	
	comp=Z,3μm,21.5s,baz=145,slow=31							
STKA	**Stephens Creek**	**63.90**	**251**	P		**P**	**07 24 07.1**	**-1.5**
SPB	**Sao Paulo**	**66.55**	**98**	PFAKE			07 24 40.0	+14
SPB				LR		LR		
	comp=Z,3μm,21.0s							
OTAV	**Otavalo**	**69.06**	**56**	*e*P		**P**	**07 24 40.1**	**-2.2**
	comp=Z,13nm,1.2s							
OTAV				LR		LR		
	comp=Z,1μm,22.0s							
SAML	**Samuel**	**69.27**	**75**	*e*P		P	07 24 39.9	-3.2
	comp=Z,9.6nm,1.1s							
SAML				LR		LR		
	comp=Z,1μm,22.0s							
CTAO	**Charters Tower**	**70.48**	**263**	*e*P		**P**	**07 24 48.8**	**-1.7**
CTAO				pmax		pmax		
	comp=Z,13nm,1.1s							
CTAO				MLR		MLR		
	comp=Z,730nm,19.0s							
CTAO	**Charters Tower**	**70.48**	**263**	*e*P		**P**	**07 24 48.8**	**-1.7**
	comp=Z,13nm,1.1s							
CTAO				LR		LR		
	comp=Z,730nm,19.0s							
HNR	**Honiara**	**71.18**	**281**	PFAKE				
HNR				LR		LR	07 25 10.0	+15
	comp=Z,600nm,20.0s							
BDFB	**Brasilia**	**72.50**	**92**	P		**P**	**07 25 01.1**	**-1.8**
	comp=Z,3.5nm,0.9s,baz=197,slow=3.7,SNR=5.8							
BDFB				LR		LR	07 52 45.1	
	comp=Z,3μm,20.9s,baz=205,slow=32							
BDFB	**Brasilia**	**72.50**	**92**	P		**P**	**07 25 01.1**	**-1.8**
TARA	**Tarawa**	**73.19**	**298**	PFAKE			07 25 20.0	+13
TARA				LR		LR		
	comp=Z,3μm,22.0s							
ASAR	**Alice Springs**	**74.53**	**251**	P		**P**	**07 25 13.3**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=141,slow=5.7,SNR=13							
ASAR				LR		LR	07 54 00.5	
	comp=Z,2μm,19.2s,baz=135,slow=33							
ASAR	**Alice Springs**	**74.53**	**251**	P		**P**	**07 25 13.3**	**-1.4**
AS31	**Alice Springs**	**74.53**	**251**	*e*P		**P**	**07 25 13.3**	**-1.4**
ROSC	**El Rosal**	**75.06**	**58**	P		**P**	**07 25 18.6**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=110,slow=14,SNR=9.3							
ROSC				LR		LR	07 52 19.7	
	comp=Z,996nm,19.3s,baz=199,slow=31							
ROSC	**El Rosal**	**75.06**	**58**	*e*P		**P**	**07 25 17.0**	**-1.2**
JTS	**JuntasAbangare**	**75.09**	**46**	PFAKE			07 25 30.0	+12
JTS				LR		LR		
	comp=Z,2μm,20.0s							
NWAO	**Narrogin (SRO)**	**75.39**	**233**	PFAKE			07 25 30.0	+11
NWAO				LR		LR		
	comp=Z,2μm,22.0s							
BCIP	**Isla Barro Col**	**76.27**	**51**	PFAKE			07 25 40.0	+15
BCIP				LR		LR		
	comp=Z,1μm,21.0s							
WRA	**Warramunga Arr**	**77.29**	**254**	P		P	07 25 26.0	-4.5
	comp=Z,1.4nm,0.6s,baz=143,slow=5.1,SNR=25							
WRA				LR		LR	07 55 59.7	
	comp=Z,1μm,19.6s,baz=145,slow=33							
WRA	**Warramunga Arr**	**77.29**	**254**	P		P	07 25 26.0	-4.5
WRAB	**Tennant Creek**	**77.29**	**254**	*e*P		**P**	**07 25 30.0**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,17nm,1.2s							
WRAB				MLR		MLR		
	comp=Z,1μm,21.0s							
WRAB	**Tennant Creek**	**77.29**	**254**	*e*P		**P**	**07 25 30.0**	**-0.4**
	comp=Z,17nm,1.2s							
WRAB				LR		LR		
	comp=Z,1μm,21.0s							
TGUH	**Tegucigalpa,Un**	**77.58**	**42**	PFAKE			07 25 40.0	+8.1
TGUH				LR		LR		
	comp=Z,534nm,22.0s							
CMIG	**Matias Romero**	**77.71**	**34**	P		**P**	**07 25 34.0**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=198,slow=2.4,SNR=2.3							
CMIG	**Matias Romero**	**77.71**	**34**	P		**P**	**07 25 34.0**	**+1.5**
PMG	**Port Moresby**	**78.51**	**270**	PFAKE			07 25 50.0	+13
PMG				LR		LR		
	comp=Z,1μm,20.0s							
TEIG	**Tepich**	**82.86**	**39**	*e*P		**P**	**07 26 00.3**	**+0.1**
	comp=Z,20nm,0.9s							
TEIG				LR		LR		
	comp=Z,686nm,19.0s							
FITZ	**Fitzroy Crossi**	**83.50**	**248**	*e*P		**P**	**07 26 03.3**	**-0.5**
	comp=Z,26nm,1.1s							
MBWA	**Marble Bar**	**84.03**	**241**	PFAKE			07 26 20.0	+13
MBWA				LR		LR		
	comp=Z,837nm,21.0s							
MTDJ	**Mount Denham**	**85.32**	**49**	PFAKE			07 26 20.0	+7.1
MTDJ				LR		LR		
	comp=Z,506nm,21.0s							
KVTX	**Kingsville**	**86.69**	**28**	PFAKE			07 26 30.0	+11
KVTX				LR		LR		
	comp=Z,983nm,21.0s							
TXAR	**Lajitas Array**	**86.99**	**22**	P		**P**	**07 26 21.4**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=188,slow=8.3,SNR=11							
TXAR	**Lajitas Array**	**86.99**	**22**	P		**P**	**07 26 21.4**	**+0.5**
626A	**Big Bend Ranch**	**87.10**	**22**	⇓P		**P**	**07 26 22.0**	**+0.5**
	baz=88							
627A	**Terlingua Ranc**	**87.17**	**23**	⇓P		**P**	**07 26 22.0**	**+0.2**
	baz=88							
628A	**Black Gap, Mar**	**87.31**	**23**	⇑P		**P**	**07 26 22.1**	**-0.3**
	baz=88							
RCBR	**Riachuelo**	**87.36**	**96**	PFAKE			07 26 30.0	+6.8
RCBR				LR		LR		
	comp=Z,2μm,21.0s							
GRGR	**Grenville**	**87.68**	**65**	PFAKE			07 26 40.0	+15
GRGR				LR		LR		
	comp=Z,1μm,21.0s							
631A	**Perdido Creek**	**87.78**	**25**	⇑P		**P**	**07 26 24.7**	**0.0**
	baz=88							
GTBY	**Guantanamo Bay**	**87.88**	**50**	PFAKE			07 26 40.0	+15
GTBY				LR		LR		
	comp=Z,531nm,21.0s							
214A	**Organ Pipe Nat**	**87.90**	**14**	⇑P		**P**	**07 26 27.5**	**+2.4**
	baz=88							
528A	**Cox Ranch, San**	**87.98**	**23**	⇑P		**P**	**07 26 27.2**	**+1.4**
	baz=88							
529A	**Stev Forest Ra**	**88.08**	**23**	⇓P		**P**	**07 26 25.5**	**-0.6**
	baz=88							
425A	**Indio Mountain**	**88.11**	**21**	⇑P		**P**	**07 26 26.3**	**-0.1**
	baz=88							
426A	**McDonald Obser**	**88.20**	**22**	⇑P		**P**	**07 26 27.6**	**+0.7**
	baz=89							
SCI	**San Clemente I**	**88.24**	**9**	⇓P		**P**	**07 26 28.2**	**+1.4**
	baz=89							
530A	**J-C Ranch, Com**	**88.31**	**24**	⇑P		**P**	**07 26 28.3**	**+1.1**
	baz=89							
531A	**Rocksprings**	**88.51**	**25**	⇑P		**P**	**07 26 29.1**	**+1.0**
	baz=89							
427A	**Hayter Ranch,**	**88.51**	**22**	⇓P		**P**	**07 26 29.5**	**+1.3**
	baz=89							
428A	**Kincaid Ranch,**	**88.55**	**23**	⇓P		**P**	**07 26 28.8**	**+0.5**
	baz=89							
532A	**Rocksprings**	**88.63**	**25**	⇑P		**P**	**07 26 29.7**	**+1.0**
	baz=89							
429A	**Davenport Ranc**	**88.63**	**24**	⇑P		**P**	**07 26 29.6**	**+0.9**
	baz=89							
SDDR	**Presa de Saban**	**88.78**	**54**	PFAKE			07 26 40.0	+10
SDDR				LR		LR		
	comp=Z,1μm,21.0s							
MNTX	**Cornudas Mount**	**88.92**	**20**	PFAKE			07 26 40.0	+10
MNTX				LR		LR		
	comp=Z,640nm,19.0s							
MNTX	**Cornudas Mount**	**88.92**	**20**	⇑P		**P**	**07 26 29.5**	**-0.5**
	baz=89							
431A	**Sonora**	**88.99**	**25**	⇓P		**P**	**07 26 31.0**	**+0.6**
	baz=89							
PFO	**Pinyon Flat Ob**	**89.07**	**11**	PFAKE			07 26 40.0	+9.2
PFO				LR		LR		
	comp=Z,2μm,22.0s							
SUR	**Sutherland**	**89.22**	**155**	*e*P		**P**	**07 26 32.5**	**+0.5**
	comp=Z,27nm,1.3s							
SUR				LR		LR		
	comp=Z,1μm,22.0s							
224A	**Cornudas Mount**	**89.25**	**20**	⇑P		**P**	**07 26 32.4**	**+0.7**
	baz=90							
330A	**Mertzon**	**89.55**	**24**	⇓P		**P**	**07 26 33.3**	**+0.3**
	baz=90							
BBGH	**Gun Hill**	**89.63**	**66**	PFAKE			07 26 50.0	+16
BBGH				LR		LR		
	comp=Z,3μm,21.0s							
Z21A	**St. Cloud Mine**	**90.05**	**18**	⇑P		**P**	**07 26 36.5**	**+1.0**
	baz=90							
FDF	**Fort de France**	**90.13**	**64**	PFAKE			07 26 50.0	+14
FDF				LR		LR		
	comp=Z,3μm,22.0s							
232A	**Coleman**	**90.38**	**25**	⇑P		**P**	**07 26 37.9**	**+1.0**
	baz=91							
128A	**Castleberry Fa**	**90.42**	**23**	⇑P		**P**	**07 26 37.8**	**+0.8**
	baz=91							
SJG	**San Juan**	**90.47**	**58**	PFAKE			07 26 50.0	+12
SJG				LR		LR		
	comp=Z,733nm,21.0s							
Z25A	**Roswell**	**90.58**	**21**	⇑P		**P**	**07 26 39.6**	**+1.7**
	baz=91							
ISA	**Isabella**	**90.91**	**9**	⇓P		**P**	**07 26 40.6**	**+1.4**
	baz=91							
GRTK	**Grand Turk**	**91.04**	**53**	PFAKE			07 26 50.0	+10
GRTK				LR		LR		
	comp=Z,898nm,19.0s							
Z28A	**Tucker Farm, M**	**91.08**	**22**	⇓P		**P**	**07 26 40.2**	**0.0**
	baz=92							
X21A	**Alamocita Cree**	**91.13**	**18**	⇑P		**P**	**07 26 41.3**	**+0.8**
	baz=92							
Y27A	**Causey**	**91.49**	**22**	⇑P		**P**	**07 26 42.8**	**+0.7**
	baz=92							
NATX	**Nacogdoches**	**91.56**	**29**	PFAKE			07 26 50.0	+7.7
NATX				LR		LR		
	comp=Z,502nm,21.0s							
DAC	**Darwin (Calif)**	**91.60**	**10**	PFAKE			07 26 50.0	+7.4
DAC				LR		LR		
	comp=Z,1μm,20.0s							
WUAZ	**Wupatki**	**91.60**	**15**	PFAKE			07 26 50.0	+7.4
WUAZ				LR		LR		
	comp=Z,1μm,21.0s							
ANMO	**Albuquerque**	**91.86**	**19**	*e*P		**P**	**07 26 43.6**	**-0.3**
	comp=Z,4.3nm,1.0s							
ANMO				LR		LR		
	comp=Z,431nm,20.0s							
ANWB	**Willy Bob**	**92.27**	**62**	PFAKE			07 27 00.0	+14
ANWB				LR		LR		
	comp=Z,1μm,21.0s							
AMTX	**Amarillo**	**92.77**	**23**	PFAKE			07 27 00.0	+12
AMTX				LR		LR		
	comp=Z,533nm,21.0s							
BRAL	**Brewton**	**93.20**	**36**	PFAKE			07 27 00.0	+10
BRAL				LR		LR		
	comp=Z,662nm,22.0s							
VBMS	**Vicksburg**	**93.21**	**32**	PFAKE			07 27 00.0	+10
VBMS				LR		LR		
	comp=Z,344nm,19.0s							
WMOK	**Wichita Mounta**	**93.31**	**25**	PFAKE			07 27 00.0	+10
WMOK				LR		LR		
	comp=Z,356nm,22.0s							
TPH	**Tonopah**	**93.42**	**10**	PFAKE			07 27 00.0	+9.0
TPH				LR		LR		
	comp=Z,1μm,22.0s							
NVAR	**Mina Array Bea**	**93.67**	**9**	P		**P**	**07 26 51.7**	**-0.4**
	comp=Z,

comp=Z,311nm,22.0s
BMN Battle Mountai 95.75 9 PFAKE 07 27 10.0 +8.4
BMN LR LR
comp=Z,1μm,20.0s
DUG Dugway 96.01 13 PFAKE 07 27 10.0 +7.3
DUG LR LR
comp=Z,774nm,20.0s
PLAL Pickwick Lake 96.52 33 PFAKE 07 27 20.0 +15
PLAL LR LR
comp=Z,376nm,21.0s
GOGA Godfrey 96.62 37 PFAKE 07 27 20.0 +15
GOGA LR LR
comp=Z,507nm,22.0s
YBH Yreka Blue Hor 96.64 5 LR LR 08 00 13.2
comp=Z,2μm,21.7s,baz=188,slow=29
ISCO Idaho Springs 96.73 18 PFAKE 07 27 20.0 +14
ISCO LR LR
comp=Z,870nm,20.0s
LBTB Lobatse 97.41 157 *e*P **P 07 27 07.4 -2.3**
comp=Z,99nm,2.7s
NHSC New Hope 97.52 40 PFAKE 07 27 20.0 +10
NHSC LR LR
comp=Z,384nm,21.0s
KAPI Kappang 97.54 250 PFAKE 07 27 20.0 +10
KAPI LR LR
comp=Z,1μm,22.0s
HWUT Hardware Ranch 97.56 14 PFAKE 07 27 20.0 +10
HWUT LR LR
comp=Z,836nm,20.0s
KSU1 Kansas State U 97.98 25 PFAKE 07 27 20.0 +8.4
KSU1 LR LR
comp=Z,374nm,19.0s
OGNE Ogallala 98.53 21 PFAKE 07 27 30.0 +16
OGNE LR LR
comp=Z,708nm,20.0s
AHID Auburn Hatcher 98.76 14 PFAKE 07 27 30.0 +15
AHID LR LR
comp=Z,1μm,20.0s
BW06 Boulder Array 98.98 15 PFAKE 07 27 30.0 +14
BW06 LR LR
comp=Z,2μm,22.0s
PDAR Pinedale Array 98.98 15 LR LR 08 03 11.2
comp=Z,1μm,21.5s,baz=208,slow=30
HLID Hailey 99.14 11 PFAKE 07 27 30.0 +13
HLID LR LR
comp=Z,792nm,21.0s
BMO Blue Mountains 100.13 9 PFAKE 07 27 30.0 +8.9
BMO LR LR
comp=Z,690nm,20.0s
CNNC Cliffs of the 100.28 41 PFAKE 07 27 30.0 +8.2
CNNC LR LR
comp=Z,754nm,20.0s
LKWY Lake 100.62 14 PFAKE 07 27 40.0 +17
LKWY LR LR
comp=Z,961nm,19.0s
TSUM Tsumeb 100.87 149 *e*Pdif **Pdif 07 27 26.6 +1.3**
TSUM LR LR
comp=Z,2μm,22.0s
BLA Blacksburg 101.11 38 PFAKE 07 27 40.0 +14
BLA LR LR
comp=Z,385nm,20.0s
HDIL Hopedale 101.30 30 PFAKE 07 27 40.0 +14
HDIL LR LR
comp=Z,351nm,19.0s
RLMT Red Lodge 101.33 15 PFAKE 07 27 40.0 +13
RLMT LR LR
comp=Z,2μm,22.0s
HAWA Hanford 101.48 7 PFAKE 07 27 40.0 +13
HAWA LR LR
comp=Z,1μm,19.0s
SCIA State Center 101.48 27 PFAKE 07 27 40.0 +13
SCIA LR LR
comp=Z,415nm,20.0s
BOZ Bozeman (W) 101.52 13 PFAKE 07 27 40.0 +13
BOZ LR LR
comp=Z,826nm,21.0s
NLWA Neilton Lookou 102.24 4 PFAKE 07 27 40.0 +10
NLWA LR LR
comp=Z,1μm,22.0s
ECSD EROS Data Cent 102.37 24 PFAKE 07 27 40.0 +9.0
ECSD LR LR
comp=Z,570nm,20.0s
MSO Missoula 102.42 11 PFAKE 07 27 40.0 +8.8
MSO LR LR
comp=Z,1μm,21.0s
COCO West Island 102.46 226 PFAKE 07 27 40.0 +7.8
COCO LR LR
comp=Z,337nm,19.0s
ACSO Alum Creek Sta 102.95 35 PFAKE 07 27 50.0 +16
ACSO LR LR
comp=Z,410nm,20.0s
CBN Corbin 103.09 40 PFAKE 07 27 50.0 +16
CBN LR LR
comp=Z,698nm,20.0s
BBSR BB Station 103.27 52 PFAKE 07 27 50.0 +15
BBSR LR LR
comp=Z,425nm,20.0s
NEW Newport 103.53 9 PFAKE 07 27 50.0 +14
NEW LR LR
comp=Z,531nm,20.0s
RER Riviere de l'E 103.91 185 PFAKE 07 27 50.0 +11
RER LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 104.10 14 PFAKE 07 27 50.0 +11
EGMT LR LR
comp=Z,548nm,19.0s
DAV Davao City (W) 104.26 262 PFAKE 07 27 50.0 +10
DAV LR LR
comp=Z,826nm,20.0s
AAM Ann Arbor 104.60 33 PFAKE 07 27 50.0 +9.1
AAM LR LR
comp=Z,607nm,22.0s
DGMT Dagmar 105.39 17 PFAKE 07 32 10.0
DGMT LR LR
comp=Z,515nm,21.0s
ERPA Erie 105.64 36 PFAKE 07 32 10.0
ERPA LR LR
comp=Z,313nm,21.0s
ABPO Ambohimpanom 106.12 177 PFAKE 07 32 10.0
ABPO LR LR
comp=Z,3μm,19.0s
GLMI Grayling 106.59 32 PFAKE 07 32 10.0
GLMI LR LR
comp=Z,375nm,19.0s
AGMN Agassiz Nation 106.86 23 PFAKE 07 32 10.0
AGMN LR LR
comp=Z,622nm,20.0s
BINY Binghamton 107.11 39 PFAKE 07 32 10.0
BINY LR LR
comp=Z,906nm,20.0s
LSZ Lusaka 107.40 157 *e*PKPdf 07 32 02.4
LSZ LR LR
comp=Z,1μm,19.0s
EYMN Ely 107.56 26 PFAKE 07 32 10.0
EYMN LR LR
comp=Z,526nm,20.0s
DIB Dawson Inlet, 107.97 358 T T 09 28 38.1
SNR=6.7
KSM Kuching 108.02 245 PFAKE 07 32 20.0
KSM LR LR
comp=Z,248nm,20.0s
KKM Kota Kinabalu 108.67 253 PFAKE 07 32 20.0
KKM LR LR
comp=Z,633nm,20.0s
NCB Newcomb 109.28 39 PFAKE 07 32 20.0
NCB LR LR
comp=Z,638nm,21.0s
LONY Lake Ozonia 109.72 38 PFAKE 07 32 20.0
LONY LR LR
comp=Z,728nm,21.0s
LBNH Lisbon 110.36 40 PFAKE 07 32 20.0
LBNH LR LR
comp=Z,466nm,21.0s
WRAK Wrangell Islan 111.19 358 PFAKE 07 32 20.0
WRAK LR LR
comp=Z,1μm,19.0s
SACV Santiago Islan 111.27 94 PFAKE 07 32 20.0
SACV LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 111.79 17 PFAKE 07 32 20.0
FFC LR LR
comp=Z,1μm,20.0s
KDAK Kodiak Island 114.06 347 PFAKE 07 32 30.0 +16
KDAK LR LR
comp=Z,2μm,22.0s

DGAR Diego Garcia 115.05 204 PFAKE 07 32 30.0 +13
DGAR LR LR
comp=Z,1μm,19.0s
YKA Yellowknife Ar 117.85 8 PKP **PKPdf 07 32 22.2 +1.3**
comp=Z,0.3nm,0.8s,baz=183,slow=3.3,SNR=5.4
YKA Yellowknife Ar 117.85 8 PKP **PKPdf 07 32 22.2 +1.3**
EGAK Eagle 119.89 354 PFAKE 07 32 40.0 +15
EGAK LR LR
comp=Z,978nm,21.0s
MAJO Matsushiro 120.21 291 PFAKE 07 32 40.0 +14
MAJO LR LR
comp=Z,483nm,22.0s
MSEY Mahe Island 120.28 186 PFAKE 07 32 40.0 +13
MSEY LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 120.29 351 PKP **PKPdf 07 32 24.9 -0.7**
comp=Z,0.7nm,0.6s,baz=204,slow=2.4,SNR=11
ILAR Eielson Array 120.29 351 PKP **PKPdf 07 32 24.9 -0.7**
COLA College 120.47 351 PFAKE 07 32 40.0 +14
COLA LR LR
comp=Z,1μm,21.0s
YHNB Yeheng 120.69 270 PFAKE 07 32 40.0 +12
YHNB LR LR
comp=Z,425nm,20.0s
TATO Taipei 120.87 270 PFAKE 07 32 40.0 +12
TATO LR LR
comp=Z,409nm,21.0s
ERM Erimo 121.70 299 PFAKE 07 32 40.0 +11
ERM LR LR
comp=Z,693nm,19.0s
MBAR Mbarara 122.17 157 PFAKE 07 32 40.0 +8.9
MBAR LR LR
comp=Z,508nm,21.0s
QIZ Qiongzhong 122.82 256 PKP **PKPdf 07 32 31.5 -0.4**
QIZ PP **PP 07 34 11.1 +1.0**
QIZ SS SS 07 50 54.6 +1.6
QIZ AMB AMB
comp=Z,190nm,5.9s
QIZ LR LR
comp=Z,310nm,23.0s
QIZ Qiongzhong 122.82 256 PFAKE 07 32 40.0 +8.1
QIZ LR LR
comp=Z,357nm,20.0s
KMBO Kilima Mbogo 122.91 164 PFAKE 07 32 40.0 +7.4
KMBO LR LR
comp=Z,2μm,20.0s
GAMB Gambell 122.95 339 *e*Pdif **Pdif 07 29 02.5 +0.6**
TORD Torodi Ar. Bea 123.65 118 PKP **PKPdf 07 32 32.4 -1.2**
comp=Z,0.9nm,0.6s,baz=250,slow=1.3,SNR=7.1
TORD Torodi Ar. Bea 123.65 118 PKP **PKPdf 07 32 32.4 -1.2**
YSS Yuzh-Sakhalins 125.47 303 PFAKE 07 32 50.0 +14
YSS LR LR
comp=Z,177nm,22.0s
SSE Sheshan 125.67 275 *e*PKP **PKPdf 07 32 32.8 -4.2**
SSE PP **PP 07 34 30.3 +0.9**
SSE AMB AMB
comp=Z,24nm,12.0s
SSE LR LR
comp=N,640nm,39.2s
SSE LR LR
comp=E,480nm,39.3s
SSE LR LR
comp=Z,450nm,32.7s
INCN Inchon 127.23 284 PFAKE 07 32 50.0 +10
INCN LR LR
comp=Z,263nm,20.0s
CMAR Chiang Mai Arr 128.24 245 PKP **PKPdf 07 32 41.8 -0.5**
comp=Z,0.9nm,0.3s,baz=188,slow=5.1,SNR=5.8
CMAR Chiang Mai Arr 128.24 245 PKP **PKPdf 07 32 41.8 -0.5**
CHTO Chiang Mai 128.53 245 PFAKE 07 32 50.0 +7.2
CHTO LR LR
comp=Z,377nm,20.0s
WHN Wuhan 129.19 269 PKPbc PKPdf 07 32 34.5 -9.2
GYA Guiyang 130.47 258 Pdif **Pdif 07 29 35.8 -0.7**
GYA PKP **PKPdf 07 32 45.5 -1.0**
GYA PP **PP 07 35 05.4 +4.4**
GYA PKS **PKSdf 07 36 21.0 -2.2**
GYA SS SS 07 52 30.9 +1.9
GYA AMB AMB
comp=Z,460nm,5.2s
GYA LR LR
comp=N,4μm,21.8s
GYA LR LR
comp=E,2μm,22.0s
GYA LR LR
comp=Z,5μm,23.5s
MDJ Mudanjiang 130.55 293 PKP **PKPdf 07 32 45.9 +0.1**
MDJ sPKP 07 32 50.6
MDJ PP **PP 07 35 00.1 -1.3**
MDJ PKS **PKSdf 07 36 20.9 -1.3**
MDJ SKS **SKSdf 07 39 57.3 +0.4**
MDJ SS **SS 07 52 32.8 +3.1**
MDJ LR LR
comp=N,650nm,43.3s
MDJ LR LR
comp=E,570nm,40.9s
MDJ LR LR
comp=Z,440nm,31.2s
MDJ Mudanjiang 130.55 293 PFAKE 07 33 00.0 +14
MDJ LR LR
comp=Z,237nm,21.0s
KMI Kunming 131.61 254 PKP **PKPdf 07 32 48.6 -0.2**
KMI sPKP 07 32 53.1
KMI PP **PP 07 35 12.5 +4.0**
KMI PKS **PKSdf 07 36 23.6 -2.0**
KMI SKKS 07 42 02.8
KMI SS **SS 07 52 44.5 +1.5**
KMI AMB AMB
comp=Z,140nm,9.7s
KMI LR LR
comp=N,280nm,22.6s
KMI LR LR
comp=E,290nm,18.9s
KMI LR LR
comp=Z,460nm,36.9s
BILL Bilibino 131.62 333 PFAKE 07 33 00.0 +13
BILL LR LR
comp=Z,367nm,19.0s
ENH Enshi 131.77 264 PFAKE 07 33 00.0 +11
ENH LR LR
comp=Z,372nm,21.0s
CN2 Changchun 132.23 289 *e*PKP **PKPdf 07 32 47.9 -1.2**
CN2 *e*PP **PP 07 35 14.8 +2.5**
CN2 SKS **SKSdf 07 39 57.4 -2.6**
CN2 SS **SS 07 52 52.0 +1.8**
CN2 LR LR
comp=N,500nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,600nm,22.0s
TAM Tamanrasset 133.69 116 *e*PKIKP **PKPdf 07 32 53.1 +0.4**
TAM MLR MLR
comp=Z,934nm,22.0s
TAM Tamanrasset 133.69 116 *e*PKPdf **PKPdf 07 32 53.1 +0.4**
TAM LR LR
comp=Z,934nm,22.0s
BJT Baijiatuau 134.88 279 PFAKE 07 33 10.0 +16
BJT LR LR
comp=Z,255nm,21.0s
BJI Beijing 134.89 279 PKP **PKPdf 07 32 54.8 +0.6**
BJI PP **PP 07 35 28.9 -0.3**
BJI SKS **SKSdf 07 40 04.4 -0.5**
BJI SS **SS 07 53 24.8 +2.4**
BJI LR LR
comp=N,260nm,31.1s
BJI LR LR
comp=E,270nm,30.2s
BJI LR LR
comp=Z,400nm,29.3s
RTC Rabat Centre 135.51 94 PFAKE 07 33 10.0 +14
RTC LR LR
comp=Z,1μm,22.0s
CD2 Chengdu 135.51 260 PKP **PKPdf 07 32 55.9 +0.2**
CD2 PP **PP 07 35 37.3 +4.1**
CD2 PKS **PKSdf 07 36 30.8 -1.3**
CD2 SKS **SKSdf 07 40 04.0 -2.6**
CD2 SKKS **SKKSac 07 42 26.9 -1.1**
CD2 SS **SS 07 53 31.8 +1.9**
CD2 AMB AMB
comp=Z,230nm,8.3s
CD2 LR LR
comp=N,430nm,25.0s
CD2 LR LR
comp=Z,310nm,14.3s

HHC Hu-ho-hao-te 138.05 276 *e*PKP **PKPdf 07 33 02.3 +2.1**
HHC PP PP 07 35 55.3 +6.1
HHC PKS **PKSdf 07 36 37.0 +0.7**
HHC SKS **SKSdf 07 40 11.3 +0.7**
HHC SKKS **SKKSac 07 42 45.3 +2.4**
HHC SS **SS 07 54 05.3 +4.9**
HHC AMB AMB
comp=Z,160nm,5.9s
HHC LR LR
comp=N,580nm,15.2s
HHC LR LR
comp=E,320nm,16.7s
HHC LR LR
comp=Z,240nm,18.6s
HIA Hailar 138.71 292 PFAKE 07 33 10.0 +9.0
HIA LR LR
comp=Z,366nm,21.0s
LZH Lanzhou 139.24 265 *e*PKP **PKPdf 07 32 59.0 -3.6**
LZH LR LR
comp=N,130nm,14.4s
LZH LR LR
comp=E,320nm,18.5s
LZH LR LR
comp=Z,340nm,16.5s
MTE Manteigas 139.55 86 PFAKE 07 33 20.0 +17
MTE LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 140.56 313 PFAKE 07 33 20.0 +16
YAK LR LR
comp=Z,349nm,22.0s
PAB San Pablo 140.82 90 PFAKE 07 33 20.0 +15
PAB LR LR
comp=Z,589nm,21.0s
ESDC Sonseca Array 141.13 90 PKP **PKPdf 07 33 06.3 +0.5**
comp=Z,0.4nm,0.3s,baz=328,slow=37,SNR=1.4
ESDC Sonseca Array 141.13 90 PKP **PKPdf 07 33 06.3 +0.5**
LSA Lhasa 141.48 246 PFAKE 07 33 20.0 +13
LSA LR LR
comp=Z,840nm,20.0s
GTA Gaotai 143.84 265 *e*PKP PKPab 07 33 05.9 -1.9
GTA PKS **PKSdf 07 36 42.6 -3.8**
GTA SKS **SKSdf 07 40 15.8 -4.2**
GTA AMB AMB
comp=Z,130nm,8.3s
GTA LR LR
comp=N,210nm,15.4s
GTA LR LR
comp=E,330nm,22.3s
GTA LR LR
comp=Z,310nm,25.9s
ULN Ulaanbaatar 144.88 282 *e*PKPdf **PKPab 07 33 09.9 -1.5**
ULN LR LR
comp=Z,431nm,22.0s
SJPF Ste Jean 144.92 88 *e*PKIKP **PKPdf 07 33 13.0 +0.7**
comp=Z,106nm,1.5s
SJPF Ste Jean 144.92 88 *e*PKP2 **PKPdf 07 33 13.0 +0.7**
SJPF Ste Jean 144.92 88 *e*PKPdf **PKPdf 07 33 13.0 +0.7**
ETSF Etsaut 145.17 89 *e*PKIKP **PKPdf 07 33 13.0 +0.2**
comp=Z,162nm,1.9s
ETSF Etsaut 145.17 89 *e*PKIKP **PKPdf 07 33 13.0 +0.2**
ETSF Etsaut 145.17 89 *e*PKPdf **PKPdf 07 33 13.0 +0.2**
SONM Songino Array 145.24 282 PKPbc **PKPbc 07 33 11.5 -1.0**
comp=Z,3.1nm,0.6s,baz=130,slow=2.6,SNR=12
SONM Songino Array 145.24 282 PKPbc **PKPbc 07 33 11.5 -1.0**
EPF Esparros 145.77 89 *e*PKIKP **PKPab 07 33 15.1 +0.4**
comp=Z,30nm,1.0s
EPF Esparros 145.77 89 *e*PKIKP **PKPab 07 33 15.1 +0.4**
EPF Esparros 145.77 89 *e*PKPdf **PKPab 07 33 15.1 +0.4**
KEST Kesra 145.91 107 PKPbc **PKPab 07 33 15.7 +0.1**
comp=Z,2.3nm,0.7s,baz=204,slow=5.7,SNR=5.1
KEST Kesra 145.91 107 *e*PKPdf **PKPdf 07 33 13.9 -0.4**
KEST PKPbc **PKPab 07 33 15.7 +0.1**
BOD Bodaibo 145.92 301 *e*PKP2 **PKPdf 07 33 11.8 -1.7**
BOD pmax pmax
comp=Z,9.0nm,1.4s
QUIF Quistinic 146.61 80 *e*PKIKP **PKPbc 07 33 16.0 -0.6**
comp=Z,41nm,1.0s
QUIF Quistinic 146.61 80 *e*PKIKP **PKPbc 07 33 16.0 -0.6**
QUIF Quistinic 146.61 80 *e*PKPdf **PKPbc 07 33 16.0 -0.6**
ROSF Rostrenen 146.77 79 *e*PKIKP **PKPbc 07 33 16.5 -0.5**
comp=Z,42nm,1.1s
ROSF Rostrenen 146.77 79 *e*PKIKP **PKPbc 07 33 16.5 -0.5**
ROSF Rostrenen 146.77 79 *e*PKPdf **PKPbc 07 33 16.5 -0.5**
MTLF Montolieu 147.04 91 *e*PKIKP **PKPbc 07 33 17.1 -0.9**
comp=Z,30nm,1.1s
MTLF Montolieu 147.04 91 *e*PKIKP **PKPbc 07 33 17.1 -0.9**
MTLF Montolieu 147.04 91 *e*PKPdf **PKPbc 07 33 17.1 -0.9**
SGMF Saint Gilles 147.13 80 *e*PKIKP **PKPbc 07 33 17.2 -0.9**
comp=Z,85nm,1.4s
SGMF Saint Gilles 147.13 80 *e*PKIKP **PKPbc 07 33 17.2 -0.9**
SGMF Saint Gilles 147.13 80 *e*PKPdf **PKPbc 07 33 17.2 -0.9**
DAG Danmarks Havn 147.53 24 *i* P **PKPab 07 33 20.5 0.0**
comp=Z,57nm,0.8s
MFF Saint Martin d 147.60 84 *e*PKIKP **PKPbc 07 33 18.9 -0.5**
comp=Z,24nm,0.9s
MFF Saint Martin d 147.60 84 *e*PKIKP **PKPbc 07 33 18.9 -0.5**
MFF Saint Martin d 147.60 84 *e*PKPdf **PKPbc 07 33 18.9 -0.5**
RJF Les Rejaudoux 147.81 87 *e*PKIKP **PKPbc 07 33 19.4 -0.6**
comp=Z,23nm,0.8s
RJF *e*R
comp=Z,1μm,21.5s
RJF Les Rejaudoux 147.81 87 *e*PKIKP **PKPbc 07 33 19.4 -0.6**
RJF Les Rejaudoux 147.81 87 *e*PKPdf **PKPbc 07 33 19.4 -0.6**
CAF Calviac 147.90 88 *e*PKIKP **PKPbc 07 33 20.1 -0.2**
comp=Z,24nm,1.0s
CAF Calviac 147.90 88 *e*PKIKP **PKPbc 07 33 20.1 -0.2**
CAF Calviac 147.90 88 *e*PKPdf **PKPbc 07 33 20.1 -0.2**
GRR Gorron 148.16 80 *e*PKIKP **PKPdf 07 33 19.2 +1.7**
comp=Z,27nm,1.0s
GRR Gorron 148.16 80 *e*PKIKP **PKPdf 07 33 19.2 +1.7**
GRR Gorron 148.16 80 *e*PKPdf **PKPdf 07 33 19.2 +1.7**
ZAK Zakamensk 148.31 284 *e*PKIKP **PKPdf 07 33 16.7 -1.2**
ZAK pmax pmax
comp=Z,11nm,1.3s
LASF Ste Croix 148.43 91 *e*PKIKP **PKPdf 07 33 19.3 +1.1**
LASF Ste Croix 148.43 91 *e*PKPdf **PKPdf 07 33 19.3 +1.1**
FLN La Foliniere 148.57 80 *e*PKIKP **PKPdf 07 33 19.6 +1.4**
comp=Z,50nm,1.1s
FLN *e*R
comp=Z,912nm,22.5s
FLN La Foliniere 148.57 80 *e*PKIKP **PKPdf 07 33 19.6 +1.4**
FLN La Foliniere 148.57 80 *e*PKPdf **PKPdf 07 33 19.6 +1.4**
VSL Villasalto 148.62 103 PFAKE 07 33 30.0 +4.0
VSL LR LR
comp=Z,556nm,21.0s
LDF La Druitiere 148.69 81 *e*PKIKP **PKPdf 07 33 19.8 +1.4**
LDF La Druitiere 148.69 81 *e*PKIKP **PKPdf 07 33 19.8 +1.4**
LDF La Druitiere 148.69 81 *e*PKPdf **PKPdf 07 33 19.8 +1.4**
TLY Talaya 148.73 286 *i* PKP2 **PKPbc 07 33 21.5 -0.8**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 148.73 286 *e*PKPdf **PKPdf 07 33 18.6 +0.2**
TLY LR LR
comp=Z,476nm,22.0s
TCF Toulx Ste Croi 148.77 86 *e*PKIKP **PKPbc 07 33 21.9 -0.6**
comp=Z,50nm,1.2s
TCF Toulx Ste Croi 148.77 86 *e*PKHKP **PKPbc 07 33 21.9 -0.6**
TCF Toulx Ste Croi 148.77 86 *e*PKPdf **PKPbc 07 33 21.9 -0.6**
WDD Wield Dalam 148.80 113 PFAKE 07 33 30.0 +3.2
WDD LR LR
comp=Z,1μm,21.0s
BGF Bois d'Agland 149.29 86 *e*PKIKP **PKPdf 07 33 20.9 +1.4**
comp=Z,33nm,0.9s
BGF Bois d'Agland 149.29 86 *e*PKIKP **PKPdf 07 33 20.9 +1.4**
BGF Bois d'Agland 149.29 86 *e*PKPdf **PKPdf 07 33 20.9 +1.4**
VIVF Saint-Julien-l 149.36 90 *e*PKIKP **PKPdf 07 33 20.6 +0.9**
comp=Z,16nm,0.9s
VIVF Saint-Julien-l 149.36 90 *e*PKIKP **PKPdf 07 33 20.6 +0.9**
VIVF Saint-Julien-l 149.36 90 *e*PKPdf **PKPdf 07 33 20.6 +0.9**
SSB Saint Sauveur 149.53 89 PFAKE 07 33 30.0 +0.4
SSB LR LR
comp=Z,1μm,22.0s
AVF Avril sur Loir 149.71 86 *e*PKIKP **PKPdf 07 33 21.4 +1.3**
comp=Z,33nm,1.1s
AVF Avril sur Loir 149.71 86 *e*PKIKP **PKPdf 07 33 21.4 +1.3**
AVF Avril sur Loir 149.71 86 *e*PKPdf **PKPdf 07 33 21.4 +1.3**
SMF Signal de Mont 149.91 87 *e*PKIKP **PKPdf 07 33 21.8 +1.3**
comp=Z,77nm,1.3s
SMF Signal de Mont 149.91 87 *e*PKIKP **PKPdf 07 33 21.8 +1.3**
SMF Signal de Mont 149.91 87 *e*PKPdf **PKPdf 07 33 21.8 +1.3**
SSF Saint Saulge 149.94 86 *e*PKIKP **PKPdf 07 33 21.8 +1.3**
SSF Saint Saulge 149.94 86 *e*PKIKP **PKPdf 07 33 21.8 +1.3**
SSF Saint Saulge 149.94 86 *e*PKPdf **PKPdf 07 33 21.8 +1.3**
ESK Eskdalemuir 150.02 67 PFAKE 07 33 30.0 -1.2

ESK					LR	LR		
	comp=Z,770nm,19.0s							
ORIF	**Oris-en-Rattie**	**150.09**	**91**	*e*PKIKP	**PKPdf**	**07 33 22.5**	**+1.6**	
	comp=Z,23nm,0.8s							
ORIF				*e*R				
	comp=Z,968nm,21.0s							
ORIF	**Oris-en-Rattie**	**150.09**	**91**	*e*PKIKP	**PKPdf**	**07 33 22.5**	**+1.6**	
ORIF	**Oris-en-Rattie**	**150.09**	**91**	*e*PKPdf	**PKPdf**	**07 33 22.5**	**+1.6**	
MOY	**Mondy**	**150.19**	**285**	*e*PKP2	**PKPab**	**07 33 32.3**	**+0.1**	
MOY				pmax	pmax			
	comp=Z,21nm,2.3s							
LOR	**Lormes**	**150.26**	**86**	*e*PKIKP	**PKPbc**	**07 33 23.8**	**-2.4**	
	comp=Z,27nm,0.9s							
LOR				*e*R				
	comp=Z,1μm,22.5s							
LOR	**Lormes**	**150.26**	**86**	*e*PKPdf	**PKPbc**	**07 33 23.8**	**-2.4**	
PGF	**Pioggiola**	**150.43**	**98**	*e*PKIKP	**PKPdf**	**07 33 23.0**	**+1.5**	
	comp=Z,53nm,1.0s							
PGF	**Pioggiola**	**150.43**	**98**	*e*PKIKP	**PKPdf**	**07 33 23.0**	**+1.5**	
PGF	**Pioggiola**	**150.43**	**98**	*e*PKPdf	**PKPdf**	**07 33 23.0**	**+1.5**	
BNI	**Bardonecchia**	**150.63**	**92**	PFAKE		07 33 30.0	+2.7	
BNI				LR	LR			
	comp=Z,993nm,22.0s							
LPG	**La Plagne**	**150.93**	**91**	*e*PKIKP	**PKPdf**	**07 33 22.6**	**+0.1**	
	comp=Z,52nm,1.2s							
LPG	**La Plagne**	**150.93**	**91**	*e*PKIKP	**PKPdf**	**07 33 22.6**	**+0.1**	
LPG	**La Plagne**	**150.93**	**91**	*e*PKPdf	**PKPdf**	**07 33 22.6**	**+0.1**	
LPL	**La Plagne**	**150.93**	**91**	*e*PKIKP	**PKPdf**	**07 33 23.0**	**+0.6**	
	comp=Z,39nm,1.2s							
LPL	**La Plagne**	**150.93**	**91**	*e*PKIKP	**PKPdf**	**07 33 23.0**	**+0.6**	
LPL	**La Plagne**	**150.93**	**91**	*e*PKPdf	**PKPdf**	**07 33 23.0**	**+0.6**	
CABF	**La Chapelle**	**151.18**	**88**	*e*PKIKP	**PKPdf**	**07 33 23.3**	**+0.8**	
	comp=Z,64nm,1.4s							
CABF	**La Chapelle**	**151.18**	**88**	*e*PKIKP	**PKPdf**	**07 33 23.3**	**+0.8**	
CABF	**La Chapelle**	**151.18**	**88**	*e*PKPdf	**PKPdf**	**07 33 23.3**	**+0.8**	
SFTF	**Sexfontaines**	**151.43**	**85**	*e*PKIKP	**PKPdf**	**07 33 24.2**	**+1.4**	
	comp=Z,39nm,0.9s							
SFTF	**Sexfontaines**	**151.43**	**85**	*e*PKPdf	**PKPdf**	**07 33 24.2**	**+1.4**	
PAGF	**Fort de Pagny**	**152.00**	**85**	*e*PKIKP	**PKPdf**	**07 33 24.2**	**+0.6**	
	comp=Z,4.6nm,0.7s							
PAGF	**Fort de Pagny**	**152.00**	**85**	*e*PKPdf	**PKPdf**	**07 33 24.2**	**+0.6**	
DOU	**Dourbes**	**152.11**	**81**	PKPbc	**PKPbc**	**07 33 31.9**	**+1.6**	
VLC	**Villacollemand**	**152.22**	**96**	PFAKE		07 33 40.0	-0.8	
VLC				LR	LR			
	comp=Z,523nm,20.0s							
GIVF	**Givet**	**152.25**	**81**	*e*PKIKP	**PKPdf**	**07 33 25.2**	**+1.3**	
GIVF	**Givet**	**152.25**	**81**	*e*PKIKP	**PKPdf**	**07 33 25.2**	**+1.3**	
GIVF	**Givet**	**152.25**	**81**	*e*PKPdf	**PKPdf**	**07 33 25.2**	**+1.3**	
TIP	**Timpagrande**	**152.45**	**111**	PFAKE		07 33 40.0	-1.9	
TIP				LR	LR			
	comp=Z,789nm,21.0s							
CUC	**Castrocucco**	**152.52**	**109**	PFAKE		07 33 40.0	-2.1	
CUC				LR	LR			
	comp=Z,631nm,20.0s							
ECH	**Echery**	**152.65**	**86**	*e*PKIKP	**PKPdf**	**07 33 25.2**	**+0.6**	
ECH				MLR	MLR			
	comp=Z,672nm,19.0s							
ECH	**Echery**	**152.65**	**86**	*e*PKPdf	**PKPdf**	**07 33 25.2**	**+0.6**	
ECH				LR	LR			
	comp=Z,672nm,19.0s							
AQU	**L'Aquila**	**152.79**	**102**	PFAKE		07 33 40.0	-3.2	
AQU				LR	LR			
	comp=Z,932nm,20.0s							
WLF	**Walferdange**	**152.79**	**83**	PFAKE		07 33 40.0	-3.0	
WLF				LR	LR			
	comp=Z,721nm,19.0s							
KBS	**Kingsbay**	**152.86**	**15**	PFAKE		07 33 40.0	-2.5	
KBS				LR	LR			
	comp=Z,560nm,19.0s							
TUE	**Stuetta**	**152.97**	**91**	*e*PKPdf	**PKPdf**	**07 33 25.9**	**+0.5**	
TUE				LR	LR			
	comp=Z,693nm,20.0s							
NIL	**Nilore**	**153.28**	**226**	PFAKE		07 33 40.0	-5.5	
NIL				LR	LR			
	comp=Z,219nm,19.0s							
BFO	**Black Forest**	**153.38**	**87**	PFAKE		07 33 40.0	-5.5	
BFO				LR	LR			
	comp=Z,791nm,19.0s							
IDI	**Anoyia**	**153.48**	**128**	*e*PKPdf	**PKPdf**	**07 33 25.8**	**-0.5**	
WMQ	**Urumqi**	**153.61**	**260**	*e*PKPbc	**PKPdf**	**07 33 26.6**	**+0.4**	
WMQ				PKPab	**PKPab**	**07 33 49.0**	**+2.3**	
WMQ				PKS	**PKSdf**	**07 36 59.4**	**-1.0**	
WMQ				PP	**PP**	**07 37 24.1**	**+2.8**	
WMQ				SKS	**SKSdf**	**07 40 29.6**	**-3.2**	
WMQ				SKKS	**SKKSac**	**07 44 12.1**	**+1.4**	
WMQ				SS	**SS**	**07 56 59.3**	**+2.0**	
WMQ				LR	LR			
	comp=E,510nm,35.0s							
WMQ				LR	LR			
	comp=Z,650nm,29.0s							
FETA	**Feichten**	**154.07**	**92**	⇑*p*PKPdf	pPKPdf	07 33 29.9	-0.4	
	comp=Z,12nm,0.9s							
MOTA	**Moosalm**	**154.46**	**91**	⇑*s*PKPdf	sPKPdf	07 33 32.3	+0.3	
	comp=Z,15nm,1.0s							
TIR	**Tirane**	**155.66**	**112**	PFAKE		07 33 40.0	+11	
TIR				LR	LR			
	comp=Z,795nm,20.0s							
GRF	**Grafenberg Arr**	**155.71**	**86**	*e*PKIKP	**PKPdf**	**07 33 25.9**	**-2.9**	
GRF	**Grafenberg Arr**	**155.71**	**86**	*e*PKP	**PKPdf**	**07 33 25.9**	**-2.9**	
GRF				*e*L	L	08 41 03.1		
	comp=Z,730nm,20.3s							
CSS	**Prodhromos**	**156.63**	**142**	PFAKE		07 33 40.0	+9.5	
CSS				LR	LR			
	comp=Z,1μm,19.0s							
NKC	**Novy Kostel**	**156.66**	**86**	*e*PKIKP	**PKPdf**	**07 33 34.9**	**+4.8**	
NKC				*e*SS	SS	07 57 39.7	+9.4	
NKC				MLR	MLR			
	comp=Z,700nm,20.3s							
NKC	**Novy Kostel**	**156.66**	**86**	*e*PKPDF	**PKPdf**	**07 33 34.9**	**+4.8**	
NKC				*e*SS	SS	07 57 39.7	+9.4	
NKC				AMS	AMS	08 44 30.0		
	comp=Z,700nm,20.3s							
GERES	**GERESS Array B**	**156.72**	**90**	PKP	**PKPdf**	**07 33 30.1**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=350,slow=41,SNR=4.5							
GERES	**GERESS Array B**	**156.72**	**90**	PKP	**PKPdf**	**07 33 30.1**	**-0.2**	
KHC	**Kasperske Hory**	**156.79**	**90**	*e*PKIKP	**PKPdf**	**07 33 33.0**	**+2.7**	
KHC				*e*SS	SS	07 57 41.0	+9.2	
KHC				MLR	MLR			
	comp=Z,800nm,20.2s							
KHC	**Kasperske Hory**	**156.79**	**90**	*e*PKPDF	**PKPdf**	**07 33 33.0**	**+2.7**	
KHC				*ex*	x	07 33 42.9		
KHC				*e*PKPAB	**PKPab**	**07 34 04.0**	**+3.9**	
KHC				*e*SS	SS	07 57 41.0	+9.2	
KHC				AMS	AMS	08 46 00.0		
	comp=Z,800nm,20.2s							
KSH	**Kashi**	**156.89**	**238**	*e*PKP	**PKPdf**	**07 33 29.6**	**-1.3**	
KSH				PKS	**PKSdf**	**07 37 05.6**	**+0.8**	
KSH				*e*PP	**PP**	**07 37 40.3**	**+0.8**	
KSH				SKS	**SKSdf**	**07 40 36.8**	**0.0**	
KSH				SKKS	**SKKSac**	**07 44 31.3**	**+2.8**	
KSH				SS	**SS**	**07 57 35.9**	**+3.4**	
KSH				AMB	AMB			
	comp=Z,62nm,6.3s							
KSH				LR	LR			
	comp=N,220nm,6.7s							
KSH				LR	LR			
	comp=E,130nm,7.4s							
KSH				LR	LR			
	comp=Z,770nm,22.1s							
CLL	**Collm**	**157.44**	**84**	*e*PKIKP	PKPdf	07 33 44.0	+13	
CLL				MLR	MLR			
	comp=Z,600nm,21.8s							
CLL	**Collm**	**157.44**	**84**	*e*PKPdiff	PKPdf	07 33 44.0	+13	
CLL				*e*(PKPab)	PKPab	07 34 09.0	+6.2	
CLL				*e*PP	**PP**	**07 37 45.0**	**+2.4**	
CLL				*e*SKKSac	SKKSac	07 44 36.0	+5.3	
CLL				*e*PSKS		07 48 07.0		
CLL				*e*		07 48 18.0		
CLL				*e*PPS	PPS	07 51 00.0		
CLL				*e*SS	**SS**	**07 57 40.0**	**+1.4**	
CLL				*e*PSS	PSS	07 58 32.0		
CLL				*e*SSS	SSS	08 03 30.0		
CLL				*e*SSSS		08 07 54.0		
CLL				LV		08 35 30.0		
	comp=Z,600nm,21.8s							
PRU	**Pruhonice**	**157.75**	**88**	*e*SS	SS	07 57 51.2	+9.3	
PRU				*ex*	x	08 03 57.3		
PRU				AMS	AMS	08 38 20.0		
	comp=Z,900nm,19.7s							
KONO	**Kongsberg**	**157.79**	**61**	PFAKE		07 33 40.0	+8.9	
KONO				LR	LR			
	comp=Z,778nm,19.0s							
BRG	**Berggiesshubel**	**157.80**	**86**	*e*PKP	**PKPdf**	**07 33 36.0**	**+4.5**	
	comp=Z,2.4nm,0.7s							
BRG				*e*		07 33 42.6		
	comp=Z,6.4nm,1.3s							
BRG								
	comp=N,552nm,24.1s							
BRG								
	comp=E,435nm,18.6s							
BRG								
	comp=Z,785nm,19.9s							
BRG	**Berggiesshubel**	**157.80**	**86**	*e*PKIKP	**PKPdf**	**07 33 36.0**	**+4.5**	
BRG				*e*		07 33 42.6		
BRG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRG				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BRG				MLR	MLR			
	comp=N,552nm,24.1s							
BRG				MLR	MLR			
	comp=E,435nm,18.6s							
BRG				MLR	MLR			
	comp=Z,785nm,19.9s							
TREC	**Trest**	**157.97**	**91**	AMS	AMS	08 39 50.0		
	comp=Z,600nm,23.4s							
PVCC	**Panska Ves**	**158.01**	**87**	*e*SS	SS	07 57 56.3	+12	
PVCC				AMS	AMS	08 38 40.0		
	comp=Z,900nm,21.6s							
ISP	**Isparta**	**158.06**	**134**	PFAKE		07 33 40.0	+7.6	
ISP				LR	LR			
	comp=Z,695nm,20.0s							
MK31	**Makanchi Array**	**158.44**	**261**	PKIKP	**PKPdf**	**07 33 32.3**	**-0.1**	
MK31				*e*		07 34 05.6		
MK31	**Makanchi Array**	**158.44**	**261**	PKPdf	**PKPdf**	**07 33 32.3**	**-0.1**	
MK31				*e*PKPab	**PKPab**	**07 34 05.6**	**-1.7**	
MKAR	**Makanchi Array**	**158.44**	**261**	PKPab	**PKPab**	**07 34 04.6**	**-2.7**	
	comp=Z,1.8nm,0.9s,baz=127,slow=4.9,SNR=7.6							
MKAR	**Makanchi Array**	**158.44**	**261**	PKP2	**PKPab**	**07 34 04.6**	**-2.7**	
MKAR	**Makanchi Array**	**158.44**	**261**	PKPab	**PKPab**	**07 34 04.6**	**-2.7**	
NOA	**NORSAR Array B**	**158.68**	**58**	PKPab	**PKPab**	**07 34 08.8**	**+0.9**	
	comp=Z,1.9nm,0.9s,baz=267,slow=4.4,SNR=3.9							
NOA	**NORSAR Array B**	**158.68**	**58**	PKPab	**PKPab**	**07 34 08.8**	**+0.9**	
DPC	**Dobruska-Polom**	**158.94**	**89**	*e*PKIKP	PKPdf	07 33 44.5	+12	
DPC				*e*		07 34 12.2		
DPC				*e*SS	SS	07 58 04.0	+9.4	
DPC				MLR	MLR			
	comp=Z,700nm,19.5s							
DPC	**Dobruska-Polom**	**158.94**	**89**	*e*PKPDF	PKPdf	07 33 44.5	+12	
DPC				*e*PKPAB	**PKPab**	**07 34 12.2**	**+2.8**	
DPC				*e*SS	SS	07 58 04.0	+9.4	
DPC				AMS	AMS	08 44 00.0		
	comp=Z,700nm,19.5s							
VYHS	**Vyhne**	**159.49**	**96**	*e*PKIKP	**PKPdf**	**07 33 37.6**	**+4.0**	
VYHS				*e*		07 34 15.3		
VYHS	**Vyhne**	**159.49**	**96**	*e*PKP	**PKPdf**	**07 33 37.6**	**+4.0**	
VYHS				*e*		07 33 50.3		
VYHS				*e*		07 34 15.3		
TKM2	**Tokmak 2**	**159.62**	**244**	PFAKE		07 33 50.0	+16	
TKM2				LR	LR			
	comp=Z,706nm,20.0s							
OKC	**Ostrava-Krasne**	**159.75**	**92**	*e*SS	SS	07 58 10.3	+7.2	
OKC				*ex*	x	08 04 23.0		
PSZ	**Piszkesteto**	**159.80**	**98**	PFAKE		07 33 50.0	+16	
PSZ				LR	LR			
	comp=Z,734nm,22.0s							
AAK	**Ala-Archa**	**159.97**	**241**	PFAKE		07 33 50.0	+15	
AAK				LR	LR			
	comp=Z,895nm,22.0s							
ZALV	**Zalesovo Beam**	**160.13**	**281**	PKPab	**PKPab**	**07 34 14.6**	**+0.2**	
	comp=Z,1.1nm,0.4s,baz=116,slow=3.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**160.13**	**281**	PKP2	**PKPab**	**07 34 14.6**	**+0.2**	
ZALV	**Zalesovo Beam**	**160.13**	**281**	PKPab	**PKPab**	**07 34 14.6**	**+0.2**	
EKS2	**Erkin-Say**	**160.35**	**240**	PFAKE		07 33 50.0	+15	
EKS2				LR	LR			
	comp=Z,653nm,20.0s							
BRTR	**Keskin Array B**	**160.95**	**137**	PKPab	**PKPab**	**07 34 18.6**	**+0.2**	
	comp=Z,2.4nm,0.8s,baz=188,slow=6.1,SNR=7.9							
BRTR	**Keskin Array B**	**160.95**	**137**	PKPab	**PKPab**	**07 34 18.6**	**+0.2**	
CRVS	**Cervenica-Dubn**	**161.20**	**97**	*e*PKIKP	**PKPdf**	**07 33 36.2**	**+0.7**	
CRVS				*e*		07 34 19.7		
CRVS	**Cervenica-Dubn**	**161.20**	**97**	*e*PKP	**PKPdf**	**07 33 36.2**	**+0.7**	
CRVS				*e*		07 34 19.7		
NVS	**Novosibirsk**	**161.26**	**283**	*e*PKP2	**PKPab**	**07 34 16.0**	**-3.3**	
MALT	**Malatya**	**161.34**	**149**	PFAKE		07 33 50.0	+14	
MALT				LR	LR			
	comp=Z,2μm,21.0s							
UZH	**Uzhgorod**	**161.53**	**99**	*e*PKIKP	**PKPdf**	**07 33 34.8**	**-1.0**	
UZH				*e*		07 33 42.2		
KOLS	**Kolonicke sedl**	**161.68**	**98**	*e*PKP2	**PKPab**	**07 34 21.7**	**+0.4**	
KOLS	**Kolonicke sedl**	**161.68**	**98**	*e*PKP	**PKPab**	**07 34 21.7**	**+0.4**	
KEV	**Kevo**	**161.94**	**27**	PFAKE		07 33 50.0	+14	
KEV				LR	LR			
	comp=Z,749nm,19.0s							
KWP	**Kalwaria Pacla**	**162.27**	**96**	PFAKE		07 33 50.0	+13	
KWP				LR	LR			
	comp=Z,1μm,20.0s							
KURK	**Kurchatov**	**162.51**	**267**	PFAKE		07 33 50.0	+13	
KURK				LR	LR			
	comp=Z,692nm,19.0s							
GNI	**Garni**	**164.56**	**163**	PFAKE		07 33 50.0	+11	
GNI				LR	LR			
	comp=Z,1μm,22.0s							
KIEV	**Kiev**	**166.46**	**100**	PFAKE		07 33 50.0	+10	
KIEV				LR	LR			
	comp=Z,936nm,20.0s							
AKASG	**Malin Array Be**	**166.47**	**100**	PKP	**PKPdf**	**07 33 41.3**	**+1.1**	
	comp=Z,0.3nm,0.3s,baz=328,slow=3.4,SNR=4.3							
AKASG				PKPab	**PKPab**	**07 34 43.7**	**+1.3**	
	comp=Z,0.3nm,0.3s,baz=251,slow=15,SNR=2.3							
AKASG	**Malin Array Be**	**166.47**	**100**	PKIKP	**PKPdf**	**07 33 41.3**	**+1.1**	
AKASG						07 34 43.7		
AKASG	**Malin Array Be**	**166.47**	**100**	PKP	**PKPdf**	**07 33 41.3**	**+1.1**	
AKASG				PKPab	**PKPab**	**07 34 43.7**	**+1.3**	
MAK	**Makhachkala**	**167.69**	**170**	*e*PKIKP	**PKPdf**	**07 33 36.4**	**-5.0**	
KIV	**Kislovodsk**	**167.76**	**153**	PFAKE		07 33 50.0	+8.5	
KIV				LR	LR			
	comp=Z,862nm,20.0s							
BRVK	**Borovoye**	**168.17**	**268**	PFAKE		07 33 50.0	+8.6	
BRVK				LR	LR			
	comp=Z,616nm,22.0s							
OBN	**Obninsk**	**172.04**	**84**	PFAKE		07 33 50.0	+6.5	
OBN				LR	LR			
	comp=Z,1μm,21.0s							
ARU	**Arti**	**175.23**	**289**	PFAKE		07 34 00.0	+15	
ARU				LR	LR			
	comp=Z,662nm,20.0s							

AUST 16 07:26:01.2±0.9, 31°.50S×117°.15E, h7km, Error ellipse: s-maj=1.7km s-min=0.8km az=244.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin** baz=0.5,SNR=94	**0.53**	**100**	P	Pg	07 26 11.2	-0.3
BLDU	**Ballidu** baz=1.0,SNR=63	**0.96**	**337**	P	Pg	07 26 19.8	+0.2
MORW	**Morawa** baz=2.6,SNR=4.2	**2.61**	**338**	P	Pn	07 26 43.3	-0.6
MORW	baz=2.6,SNR=4.7			S	Sb	07 27 21.0	+0.4
RKGY	**Rocky Gully** baz=3.1,SNR=6.5	**3.10**	**183**	P	Pn	07 26 51.4	+0.7
RKGY	baz=3.1,SNR=9.4			S	Sn	07 27 28.0	-0.1
MEEK	**Meekatharra** baz=5.0,SNR=4.8	**5.01**	**15**	P	Pn	07 27 17.6	+0.6

*ISCJB **16** 07:40:29.0±0.5, 31°.68N×104°.42E±0°.05, h9km, mb3.6/6, Error ellipse: s-maj=6.8km s-min=5.1km az=10.8*
*IDC **16** 07:40:29.1±1.1, 31°.75N×104°.48E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/27, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=50.5km s-min=21.9km az=61.0*
*BJI **16** 07:40:31.9, 31°.70N×104°.10E, h11km, ML3.7/14, Ms3.3/2, Ms7 3.0/2*

ISC 16 07:40:31.1±0.6, 31°.66N±0°.04×104°.35E±0°.06, h9km, n13, σ1s54/20, mb3.7/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.91**	**214**	Pg	**Pg**	**07 40 48.0**	**-0.5**
CD2				Sg	**Sb**	**07 41 01.1**	**-0.1**
CD2	comp=N,2μm,0.5s			smax	smax		
CD2	comp=E,1μm,0.7s			smax	smax		
LZH	**Lanzhou**	**4.43**	**355**	*e*Pn	**Pn**	**07 41 39.6**	**+0.9**
LZH				Pg	**Pb**	**07 41 49.6**	**+0.4**
LZH				Sn	**Sn**	**07 42 30.4**	**-0.1**
LZH				Sg	**Sb**	**07 42 45.1**	**+2.3**
LZH				smax	smax		
	comp=N,130nm,0.7s						
LZH				smax	smax		
	comp=E,79nm,0.6s						
LZH				LR	LR		
	comp=N,450nm,6.6s						
LZH				LR	LR		
	comp=E,110nm,4.0s						
LZH				LR	LR		
	comp=Z,470nm,7.7s						
XAN	**Xi'an**	**4.52**	**57**	Pg	Pg	07 41 54.8	-2.8
XAN				Sn	**Sn**	**07 42 35.6**	**+3.2**
XAN				Sg	**Sg**	**07 42 52.3**	**-3.9**
XAN				smax	smax		
	comp=N,130nm,0.9s						
XAN				smax	smax		
	comp=E,79nm,0.9s						
XAN				LR	LR		
	comp=N,190nm,9.0s						
XAN				LR	LR		
	comp=E,44nm,9.0s						
XAN				LR	LR		
	comp=Z,35nm,8.1s						
GYA	**Guiyang**	**5.57**	**158**	Pn	**Pn**	**07 41 55.3**	**+1.1**
GYA				Sn	**Sn**	**07 42 58.5**	**+0.1**
GYA				Sg	**Sg**	**07 43 29.1**	**-0.8**
GYA				smax	smax		
	comp=N,100nm,0.7s						
GYA				smax	smax		
	comp=E,130nm,0.7s						
WHN	**Wuhan**	**8.64**	**95**	P	**Pn**	**07 42 36.4**	**0.0**
WHN				S	**Sn**	**07 44 14.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**14.03**	**202**	Pn	**Pn**	**07 43 51.5**	**+1.4**
	comp=E,0.5nm,0.3s,baz=12,slow=11,SNR=5.8						
KSRS	**Korea Array**	**20.23**	**67**	P	Pn	07 45 09.7	+1.3
	comp=E,0.4nm,0.3s,baz=123,slow=16,SNR=2.1						
MKAR	**Makanchi Array**	**22.70**	**318**	P	**P**	**07 45 32.0**	**-1.0**
	comp=E,0.6nm,0.7s,baz=114,slow=12,SNR=8.5						
ZALV	**Zalesovo Beam**	**26.31**	**334**	P	**P**	**07 46 06.8**	**-0.1**
	comp=E,1.6nm,0.3s,baz=291,slow=39,SNR=0.9						
KURBB	**Kurchatov Arra**	**26.92**	**322**	P	**P**	**07 46 11.9**	**-0.6**
	comp=E,0.3nm,0.5s,baz=130,slow=10.0,SNR=4.0						
FINES	**FINESS Array B**	**57.22**	**326**	P	**P**	**07 50 17.2**	**-1.2**
	comp=E,0.4nm,0.3s,baz=190,slow=33,SNR=3.8						
WRA	**Warramunga Arr**	**58.82**	**147**	P	**P**	**07 50 29.4**	**-0.7**
	comp=E,0.8nm,0.5s,baz=340,slow=7.9,SNR=6.2						
YKA	**Yellowknife Ar**	**81.10**	**17**	P	**P**	**07 52 45.3**	**-1.1**
	comp=E,0.2nm,0.4s,baz=327,slow=5.3,SNR=11						

IDC 16 07:42:51.2±1.7, 17°.69N×141°.52E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, ML4.5/1, Error ellipse: s-maj=64.5km s-min=19.3km az=66.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.20**	**141**	Pn	Pn	07 44 11.0	+0.7
	16nm,0.3s,baz=183,slow=21,SNR=5.6						
GUMO				Sn	Sn	07 45 11.1	+0.1
	12nm,0.3s,baz=180,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**38.06**	**191**	P	P	07 50 11.6	0.0
	1.7nm,0.5s,baz=12,slow=8.7,SNR=30						
SONM	**Songino Array**	**41.54**	**324**	P	P	07 50 40.6	0.0
	0.5nm,0.7s,baz=140,slow=7.6,SNR=3.2						
ASAR	**Alice Springs**	**41.77**	**191**	P	P	07 50 42.1	-0.4
	0.6nm,0.6s,baz=18,slow=10,SNR=10.0						
MKAR	**Makanchi Array**	**56.32**	**315**	P	P	07 52 35.4	+1.4
	0.2nm,0.5s,baz=91,slow=8.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**59.43**	**319**	P	P	07 52 54.0	-1.7
	0.2nm,0.3s,baz=91,slow=7.5,SNR=2.5						

WEL 16 07:48:50.7±0.4, 37°.64S×179°.77W, h33km, ML3.9/6, Error ellipse: s-maj=3.9km s-min=2.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.53**	**272**	PN	Pn	07 49 15.0	-0.7
MXZ				SN	Sn	07 49 33.2	-1.2
PUZ	**Puketiti**	**1.62**	**254**	PN	Pn	07 49 16.1	-0.9
PUZ				SN	Sn	07 49 35.7	-1.0
CNGZ	**Carnagh Statio**	**1.80**	**242**	PN	Pn	07 49 19.2	-0.3
MWZ	**Matawai**	**2.24**	**251**	PN	Pn	07 49 24.5	-1.1
MWZ				SN	Sn	07 49 50.7	-1.5
PRGZ	**Paritu Road**	**2.25**	**235**	PN	Pn	07 49 24.6	-1.0
MHGZ	**Mahia Peninsul**	**2.37**	**230**	PN	Pn	07 49 26.2	-1.1
KNZ	**Kokohu**	**2.43**	**235**	PN	Pn	07 49 27.0	-1.1
URZ	**Urewera**	**2.54**	**255**	PN	Pn	07 49 29.6	0.0
URZ				SN	Sn	07 49 58.3	-1.1
OPRZ	**Ohinepanea**	**2.92**	**265**	PN	Pn	07 49 34.0	-0.8
TARZ	**Mount Tarawera**	**3.00**	**258**	PN	Pn	07 49 35.8	-0.3
NMHZ	**Naumai**	**3.06**	**241**	PN	Pn	07 49 36.1	-0.7
NMHZ				SN	Sn	07 50 09.7	-2.6
MCHZ	**McNeill Hill**	**3.30**	**236**	PN	Pn	07 49 39.3	-0.8
BKZ	**Black Stump Fm**	**3.31**	**241**	PN	Pn	07 49 39.1	-1.1
KAHZ	**Kahuranaki**	**3.39**	**230**	PN	Pn	07 49 39.7	-1.7
PXZ	**Pawanui**	**3.55**	**227**	PN	Pn	07 49 40.4	-3.0
PXZ				SN	Sn	07 50 20.3	-3.9
KUZ	**Kuaotunu**	**3.71**	**283**	*e*PN	Pn	07 49 45.0	-0.6
BHHZ	**Black Hill Sta**	**3.75**	**239**	PN	Pn	07 49 45.1	-1.2
BHHZ				SN	Sn	07 50 26.4	-3.0
WPHZ	**Waipukurau**	**3.82**	**230**	PN	Pn	07 49 45.2	-2.0
PRHZ	**Porangahau**	**3.83**	**226**	PN	Pn	07 49 44.5	-2.9
PNHZ	**Pukenui**	**3.88**	**233**	PN	Pn	07 49 46.1	-2.0
MKAZ	**Moumakai**	**4.07**	**276**	PN	Pn	07 49 50

1.0nm,0.7s,baz=50,slow=9.3,SNR=4.8
AKASG **Malin Array Be** 71.80 326 P P 08 35 34.3 +0.9
0.8nm,0.4s,baz=35,slow=6.1,SNR=3.6
TXAR **Lajitas Array** 77.86 60 P P 08 36 08.4 -0.5
0.1nm,0.5s,baz=295,slow=4.2,SNR=5.1

ISCJB ***16*** *08:25:19.4±0.6,24°.07S±0°.04×66°.74W±0°.08, h201km±10km, mb3.5/4, Error ellipse: s-maj=11.2km s-min=6.7km az=0.8*
IDC ***16*** *08:25:19.7±1.4,24°.02S×66°.68W, h188km±13km, mb3.5/4, mb1 3.6/9, mb1mx3.5/20, mbtmp3.5/9, Error ellipse: s-maj=18.7km s-min=12.9km az=96.0*
GUC ***16*** *08:25:22.7±0.5,23°.94S×67°.21W, h230km, ML4.7*
ISC 16 08:25:19.8±0.8, 24°.05S±0°.06×66°.68W±0°.08, h190km±10km, n22, σ1§26/26, mb3.8/4, 1C-3D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.80**	**309**	AML	AML	08 26 29.1	
	comp=N,714nm,0.6s						
LVC	**Limon Verde**	**2.50**	**305**	⇑*i* P	Pn	08 25 52.5	-11
LVC				*i* S	Sn	08 26 25.6	-12
LVC				AML	AML	08 26 26.6	
	comp=N,251nm,0.2s						
PB09	**Plate Boundary**	**3.26**	**313**	*i* P	**Pn**	**08 26 13.6**	**+1.3**
PB09				*i* S	**Sn**	**08 26 52.4**	**-0.8**
PB09				AML	AML	08 26 55.3	
	comp=E,3μm,0.6s						
CEN1	**Los Morros**	**3.29**	**281**	⇓*i* P	**Pn**	**08 26 14.5**	**+1.9**
CEN1				*i* S	**Sn**	**08 26 53.5**	**-0.3**
CEN1				AML	AML	08 26 56.8	
	comp=N,999nm,0.3s						
ANCH	**Antofagasta**	**3.43**	**275**	⇓*i* P	**Pn**	**08 26 15.3**	**+1.1**
ANCH				*i* S	**Sn**	**08 26 55.0**	**-1.7**
ANCH				AML	AML	08 27 00.0	
	comp=E,3μm,0.0s						
MECH	**Mejillones**	**3.58**	**285**	⇓*i* P	**Pn**	**08 26 17.1**	**+1.0**
MECH				*i* S	**Sn**	**08 26 58.5**	**-1.5**
MECH				AML	AML	08 27 02.6	
	comp=N,3μm,0.3s						
CPCH	**Copiapo**	**4.67**	**224**	*e*P	**Pn**	**08 26 29.5**	**-0.2**
CPCH				*i* S	**Sn**	**08 27 23.9**	**-0.8**
CFAA	**Coronel Fontan**	**7.65**	**190**	P	**Pn**	**08 27 09.6**	**+1.1**
	comp=N,0.1nm,0.3s,baz=2.4,slow=12,SNR=87						
CFAA				S	**Sn**	**08 28 31.7**	**-3.0**
	comp=N,0.6nm,0.3s,baz=120,slow=20,SNR=21						
LPAZ	**La Paz**	**7.84**	**350**	P	**Pn**	**08 27 12.1**	**+0.4**
	comp=N,1.0nm,0.3s,baz=164,slow=6.7,SNR=39						
LPAZ				S	**Sn**	**08 28 39.2**	**-1.2**
	comp=N,0.6nm,0.3s,baz=335,slow=20,SNR=6.0						
CPUP	**Villa Florida**	**8.77**	**107**	P	**Pn**	**08 27 24.8**	**+1.6**
	comp=N,0.7nm,0.3s,baz=273,slow=11,SNR=13						
SIV	**San Ignacio**	**9.60**	**34**	P	**Pn**	**08 27 32.9**	**-1.2**
	comp=N,1.2nm,0.3s,baz=223,slow=14,SNR=42						
PLCA	**Paso Flores**	**16.95**	**190**	P	**Pn**	**08 29 07.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=150,slow=10,SNR=5.3						
BDFB	**Brasilia**	**19.44**	**68**	P	**P**	**08 29 32.9**	**+0.8**
	comp=N,0.7nm,0.3s,baz=238,slow=11,SNR=27						
DBIC	**Dimbokro**	**67.55**	**71**	P	**P**	**08 35 55.1**	**-0.9**
	comp=N,1.9nm,0.6s,baz=242,slow=9.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.32**	**69**	P	**P**	**08 36 47.7**	**-0.6**
	comp=N,2.0nm,0.5s,baz=257,slow=5.7,SNR=22						
PDAR	**Pinedale Array**	**77.34**	**329**	P	**P**	**08 36 53.6**	**-0.1**
	comp=N,0.2nm,0.6s,baz=104,slow=3.8,SNR=2.6						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**08 38 16.9**	**0.0**
	comp=N,0.2nm,0.6s,baz=136,slow=4.5,SNR=8.5						
ASAR	**Alice Springs**	**128.53**	**204**	PKP	**PKPdf**	**08 44 05.7**	**+0.9**
	comp=N,0.8nm,0.7s,baz=146,slow=2.0,SNR=9.4						
WRA	**Warramunga Arr**	**131.71**	**207**	PKP	**PKPdf**	**08 44 11.4**	**+0.5**
	comp=N,0.6nm,0.6s,baz=161,slow=1.8,SNR=17						
KURBB	**Kurchatov Arra**	**142.25**	**36**	PKP	**PKPdf**	**08 44 29.8**	**+0.5**
	comp=N,0.2nm,0.2s,baz=295,slow=2.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**143.31**	**28**	PKP	PKPbc	08 44 28.3	-0.4
	comp=N,2.1nm,0.3s,baz=267,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**146.38**	**40**	PKPbc	**PKPbc**	**08 44 37.8**	**-0.5**
	comp=N,2.4nm,0.6s,baz=312,slow=2.6,SNR=30						

CSEM ***16*** *08:27:34.8, 35°.57N×24°.37E, h30km, MD2.8, After ATH*
ATH 16 08:27:34.8, 35°.57N×24°.37E, h30km±3km, MD2.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.21**	**221**	*e*PB	Pb	08 27 40.7	-0.5
VAM	**Vamos**	**0.21**	**221**	*e*Pb	Pb	08 27 40.7	-0.5
KARN	**Karanos**	**0.41**	**246**	*e*PB	Pn	08 27 44.5	-0.2
KARN				*e*SB	Sn	08 27 50.8	-0.5
KARN	**Karanos**	**0.41**	**246**	*e*Pb	Pn	08 27 44.5	-0.2
KARN				*e*Sb	Sn	08 27 50.8	-0.5
IDI	**Anoyia**	**0.51**	**123**	*e*PN	Pn	08 27 45.9	-0.2
IDI				*e*SN	Sn	08 27 53.7	-0.2
IDI	**Anoyia**	**0.51**	**123**	*e*Pn	Pn	08 27 45.9	-0.2
IDI				*e*Sn	Sn	08 27 53.7	-0.2
LAST	**Lasithi**	**0.99**	**114**	*e*PN	Pb	08 27 53.8	+0.2
LAST				*e*SN	Sb	08 28 07.9	+1.5
LAST	**Lasithi**	**0.99**	**114**	*e*Pn	Pb	08 27 53.8	+0.2
LAST				*e*Sn	Sb	08 28 07.9	+1.5

ISCJB ***16*** *08:33:05.8±0.5, 10°.70N±0°.03×62°.27W±0°.03, h89km±6km, Error ellipse: s-maj=6.0km s-min=3.4km az=139.6*
FUNV ***16*** *08:33:07.2, 10°.73N×62°.15W, h77km, MW3.7*
TRN ***16*** *08:33:08.5, 10°.74N×62°.18W, h76km, MD3.2*
ISC 16 08:33:06.0±1.2, 10°.66N±0°.04×62°.25W±0°.03, h90km±8km, n25, σ1§48/48, 4C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.03**	**122**	⇓*i* P	**Pn**	**08 33 18.6**	**0.0**
GUIV				*e*S	**Sn**	**08 33 26.2**	**-1.7**
TCE	**Chacachacare**	**0.49**	**86**	⇑*i* P	**Pn**	**08 33 21.0**	**+0.4**
TCE				*e*S	**Sn**	**08 33 30.3**	**-1.3**
TRN	**Trinidad (W)**	**0.83**	**91**	*e*P	**Pn**	**08 33 24.6**	**+0.7**
TRN				*e*S	**Sn**	**08 33 36.1**	**-1.0**
GUNV	**Guanoco**	**0.84**	**234**	⇑*i* P	**Pn**	**08 33 25.8**	**+1.9**
GUNV				*e*S	**Sn**	**08 33 39.1**	**+1.7**
TPP	**Pointe-a-Pierr**	**0.86**	**114**	*e*P	**Pn**	**08 33 25.9**	**+1.8**
TPP				*e*S	**Sn**	**08 33 38.4**	**+0.7**
CRUV	**Carupano**	**0.97**	**271**	⇓*i* P	**Pn**	**08 33 25.8**	**+0.5**
CRUV				*e*S	**Sn**	**08 33 39.5**	**-0.3**
TBH	**Brigand Hill**	**1.18**	**99**	*e*P	**Pn**	**08 33 29.6**	**+1.8**
TPR	**Prospect**	**1.54**	**70**	*e*P	**Pn**	**08 33 33.5**	**+1.3**
TPR				*e*S	**Sn**	**08 33 51.9**	**-0.2**
GRW	**Mount Saint Ca**	**1.59**	**21**	*e*P	**Pn**	**08 33 34.6**	**+1.5**
GRW				*e*S	**Sn**	**08 33 52.8**	**-0.7**
GRHS	**Sauteurs**	**1.66**	**21**	⇑*e*P	**Pn**	**08 33 34.8**	**+1.0**
GRHS				*e*S	**Sn**	**08 33 54.0**	**-0.9**
GRIC	**Isle de Caille**	**1.74**	**22**	*e*P	**Pn**	**08 33 35.0**	**+0.2**
GRIC				*e*S	**Sn**	**08 33 56.7**	**0.0**
GRSS	**Sisters**	**1.74**	**21**	⇑*e*P	**Pn**	**08 33 36.2**	**+1.3**
GRSS				*e*S	**Sn**	**08 33 56.4**	**-0.3**
TOSP	**Speyside**	**1.80**	**69**	*e*P	**Pn**	**08 33 36.4**	**+0.9**
TOSP				*e*S	**Sn**	**08 33 56.4**	**-1.7**
ORIV	**Oritupano**	**1.95**	**216**	*e*P	**Pn**	**08 33 39.8**	**+2.3**
ORIV				*e*S	**Sn**	**08 34 02.6**	**+0.9**
PCRV	**Puerto La Cruz**	**2.40**	**259**	*e*P	**Pn**	**08 33 45.0**	**+1.5**
PCRV				*e*S	**Sn**	**08 34 12.4**	**+0.2**
SVB	**Belmont**	**2.77**	**21**	*e*P	**Pn**	**08 33 49.2**	**+0.7**
SVB				*e*S	**Sn**	**08 34 19.5**	**-1.6**
GURV	**El Guri**	**3.00**	**196**	*e*P	**Pn**	**08 33 52.9**	**+1.4**
GURV				*e*S	**Sn**	**08 34 26.8**	**+0.2**
MCLT	**Moule a Chique**	**3.29**	**23**	*e*P	**Pn**	**08 33 56.4**	**+1.0**
MCLT				*e*S	**Sn**	**08 34 32.5**	**-1.1**
CUPV	**Cœpira**	**3.53**	**260**	*e*P	**Pn**	**08 34 00.5**	**+1.7**
CUPV				*e*S	**Sn**	**08 34 39.7**	**+0.1**
BIRV	**Birongo**	**3.96**	**268**	*e*S	**Sn**	**08 34 49.9**	**+0.1**
MERV	**Las Mercedes**	**4.23**	**251**	*e*P	**Pn**	**08 34 09.1**	**+1.0**
MERV				*e*S	**Sn**	**08 34 55.6**	**-0.7**
LUEV	**Luepa**	**4.85**	**171**	*e*P	**Pn**	**08 34 17.1**	**+0.3**
LUEV				*e*S	**Sn**	**08 35 08.8**	**-3.1**
BAUV	**El Baul**	**5.96**	**254**	*e*P	**Pn**	**08 34 31.9**	**+0.3**
BAUV				*e*S	**Sn**	**08 35 35.7**	**-2.9**
MAPV	**Macapo**	**6.17**	**263**	*e*P	**Pn**	**08 34 34.6**	**+0.1**
MAPV				*e*S	**Sn**	**08 35 41.2**	**-2.5**
PAYV	**Puerto Ayacuch**	**7.47**	**226**	*e*P	**Pn**	**08 34 53.0**	**+0.8**
PAYV				*e*S	**Sn**	**08 36 11.0**	**-4.5**

MEX 16 09:03:00.4±0.5, 18°.40N×101°.42W, h56km±12km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.79**	**183**	*i* P	Pn	09 03 13.8	-1.7
ZIIG				*i* S	Sn	09 03 25.0	-1.6
ARIG	**Puente Sto Nin**	**1.03**	**96**	*i* P	Pn	09 03 17.4	-1.3
ARIG				*i* S	Sn	09 03 30.0	-2.3
CAIG	**El Cayaco**	**1.73**	**140**	*i* P	Pn	09 03 26.8	-1.5
CAIG				*i* S	Sn	09 03 46.8	-2.5
PLIG	**Platanillo**	**1.82**	**90**	*i* P	Pn	09 03 28.7	-0.9
PLIG				*i* S	Sn	09 03 49.4	-2.2
MMIG	**Aquila**	**1.83**	**267**	*i* P	Pn	09 03 28.7	-0.8
MMIG				*i* S	Sn	09 03 49.0	-2.5

IDC ***16*** *09:07:20.9±5.9, 34°.95N×25°.01E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/29, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=98.0km s-min=41.1km az=30.0*
ISCJB ***16*** *09:07:31.3±0.3, 36°.20N±0°.02×25°.31E±0°.02, h16km±4km, mb3.5/2, Error ellipse: s-maj=3.3km s-min=2.6km az=6.4*
THE ***16*** *09:07:31.6, 36°.17N×25°.33E, h10km±1km, ML3.2/4, Error ellipse: s-maj=1.7km s-min=0.6km az=82.0*
ATH ***16*** *09:07:31.2, 36°.17N×25°.33E, h31km±2km, ML3.5*
CSEM ***16*** *09:07:31.1±0.1, 36°.18N×25°.31E, h10km, ML3.2/4, Error ellipse: s-maj=3.8km s-min=2.9km az=83.0*
ISC 16 09:07:31.5±0.9, 36°.17N±0°.02×25°.33E±0°.02, h14km±6km, n110, σ0§76/155, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THR6	**Thira Island,**	**0.20**	**17**	P	**Pg**	**09 07 35.8**	**-0.2**
THR6	**Thira Island,**	**0.20**	**17**	P	**Pg**	**09 07 35.8**	**-0.2**
THR1	**Thera Island**	**0.23**	**28**	P	**Pg**	**09 07 36.1**	**-0.5**
THR1				S	**Sg**	**09 07 39.5**	**-0.5**
THR5	**Thira Island,**	**0.25**	**4**	P	**Pg**	**09 07 36.8**	**-0.1**
THR5	**Thira Island,**	**0.25**	**4**	P	**Pg**	**09 07 36.8**	**-0.1**
THR2	**Thira island,**	**0.29**	**17**	P	**Pg**	**09 07 37.4**	**-0.2**
THR2	**Thira island,**	**0.29**	**17**	P	**Pg**	**09 07 37.4**	**-0.2**
APE	**Apeiranthos**	**0.92**	**10**	P	**Pb**	**09 07 48.6**	**-0.6**
APE				S	**Sg**	**09 08 02.0**	**+0.8**
APE	**Apeiranthos**	**0.92**	**10**	*e*PN	**Pb**	**09 07 48.6**	**-0.6**
APE				*e*SN	**Sg**	**09 08 02.2**	**+1.0**
APE	**Apeiranthos**	**0.92**	**10**	P	**Pb**	**09 07 48.6**	**-0.6**
APE				*e*Sn	**Sg**	**09 08 02.2**	**+1.0**
NPS	**Neapolis**	**0.93**	**165**	P	**Pb**	**09 07 48.6**	**-0.9**
NPS				S	**Sg**	**09 08 02.1**	**+0.4**
NPS	**Neapolis**	**0.93**	**165**	*e*PN	**Pb**	**09 07 48.7**	**-0.8**
NPS				*e*SN	**Sg**	**09 08 02.1**	**+0.4**
NPS	**Neapolis**	**0.93**	**165**	P	**Pb**	**09 07 48.6**	**-0.9**
NPS				S	**Sg**	**09 08 02.1**	**+0.4**
IDI	**Anoyia**	**0.95**	**202**	P	**Pb**	**09 07 49.0**	**-0.7**
IDI				S	**Sb**	**09 08 02.4**	**+0.2**
IDI	**Anoyia**	**0.95**	**202**	*e*PN	**Pb**	**09 07 49.1**	**-0.7**
IDI				*e*SN	**Sg**	**09 08 02.7**	**+0.5**
IDI	**Anoyia**	**0.95**	**202**	P	**Pb**	**09 07 49.0**	**-0.7**
IDI				S	**Sb**	**09 08 02.4**	**+0.2**
IDI				*e*Sn	**Sg**	**09 08 02.7**	**+0.5**
LAST	**Lasithi**	**1.01**	**173**	P	**Pg**	**09 07 51.2**	**+0.2**
LAST				S	**Sg**	**09 08 04.5**	**+0.3**
LAST	**Lasithi**	**1.01**	**173**	*e*PB	**Pb**	**09 07 50.0**	**-0.9**
LAST	**Lasithi**	**1.01**	**173**	*e*Pb	**Pb**	**09 07 50.0**	**-0.9**
LAST	**Lasithi**	**1.01**	**173**	P	**Pg**	**09 07 51.2**	**+0.2**
LAST				S	**Sg**	**09 08 04.5**	**+0.3**
VAM	**Vamos**	**1.19**	**231**	P	**Pn**	**09 07 53.4**	**-0.4**
VAM				S	**Sb**	**09 08 09.2**	**+0.1**
VAM	**Vamos**	**1.19**	**231**	*e*PN	**Pn**	**09 07 53.3**	**-0.5**
VAM				*e*SN	**Sn**	**09 08 09.8**	**0.0**
VAM	**Vamos**	**1.19**	**231**	P	**Pn**	**09 07 53.4**	**-0.4**
VAM				S	**Sb**	**09 08 09.2**	**+0.1**
VAM				*e*Sn	**Sn**	**09 08 09.8**	**0.0**
SIVA	**Sivas**	**1.22**	**200**	P	**Pn**	**09 07 54.3**	**0.0**
SIVA				S	**Sb**	**09 08 10.2**	**+0.2**
SIVA	**Sivas**	**1.22**	**200**	*e*PN	**Pn**	**09 07 54.2**	**0.0**
SIVA				*e*SN	**Sg**	**09 08 11.2**	**+0.3**
SIVA	**Sivas**	**1.22**	**200**	*e*Pn	**Pn**	**09 07 54.2**	**0.0**
SIVA				S	**Sb**	**09 08 10.2**	**+0.2**
SIVA				*e*Sn	**Sg**	**09 08 11.2**	**+0.3**
ZKR	**Zakros**	**1.27**	**145**	P	**Pn**	**09 07 54.8**	**-0.2**
ZKR				S	**Sb**	**09 08 11.7**	**+0.1**
ZKR	**Zakros**	**1.27**	**145**	*e*PN	**Pn**	**09 07 54.7**	**-0.2**
ZKR				*e*SN	**Sn**	**09 08 11.9**	**0.0**
ZKR	**Zakros**	**1.27**	**145**	P	**Pn**	**09 07 54.8**	**-0.2**
ZKR				*e*Sn	**Sn**	**09 08 11.9**	**0.0**
KARN	**Karanos**	**1.38**	**237**	P	**Pn**	**09 07 56.3**	**-0.1**
KARN				S	**Sn**	**09 08 13.9**	**-0.5**
KARN	**Karanos**	**1.38**	**237**	*e*PN	**Pn**	**09 07 56.3**	**-0.1**
KARN				*e*SN	**Sn**	**09 08 14.2**	**-0.2**
KARN	**Karanos**	**1.38**	**237**	P	**Pn**	**09 07 56.3**	**-0.1**
KARN				S	**Sn**	**09 08 13.9**	**-0.5**
KARN				*e*Sn	**Sn**	**09 08 14.2**	**-0.2**
KARP	**Karpathos**	**1.61**	**112**	*e*PN	**Pn**	**09 08 00.0**	**+0.4**
KARP				*e*SN	**Sn**	**09 08 20.3**	**0.0**
KARP	**Karpathos**	**1.61**	**112**	*e*Pn	**Pn**	**09 08 00.0**	**+0.4**
KARP				*e*Sn	**Sn**	**09 08 20.3**	**0.0**
GVD	**Gavdhos**	**1.67**	**218**	*e*PN	**Pb**	**09 08 02.1**	**+0.1**
GVD	**Gavdhos**	**1.67**	**218**	*e*Pn	**Pb**	**09 08 02.1**	**+0.1**
KYTH	**Kithira**	**1.86**	**274**	P	**Pn**	**09 08 02.8**	**-0.2**
KYTH	**Kithira**	**1.86**	**274**	*e*PN	**Pn**	**09 08 02.7**	**-0.2**
KYTH	**Kithira**	**1.86**	**274**	*e*Pn	**Pn**	**09 08 02.7**	**-0.2**
BDRM	**Kayabasi**	**1.93**	**62**	*e*P	**Pb**	**09 08 06.1**	**-0.3**
BDRM				*e*S	**Sg**	**09 08 33.0**	**-0.5**
BDRM	**Kayabasi**	**1.93**	**62**	*e*P	**Pb**	**09 08 06.1**	**-0.3**
VLI	**Veliai**	**2.00**	**287**	P	**Pn**	**09 08 04.5**	**-0.5**
VLI				S	**Sn**	**09 08 28.5**	**-1.3**
VLI	**Veliai**	**2.00**	**287**	*e*PN	**Pn**	**09 08 04.5**	**-0.5**
VLI				*e*SN	**Sn**	**09 08 28.6**	**-1.3**
VLI	**Veliai**	**2.00**	**287**	P	**Pn**	**09 08 04.5**	**-0.5**
VLI				*e*Sn	**Sn**	**09 08 28.6**	**-1.3**
MRMA	**Marmari**	**2.03**	**338**	P	**Pn**	**09 08 05.3**	**-0.1**
MRMA	**Marmari**	**2.03**	**338**	P	**Pn**	**09 08 05.3**	**-0.1**
DID	**Didima**	**2.15**	**309**	P	**Pn**	**09 08 06.6**	**-0.4**
DID				S	**Sn**	**09 08 33.6**	**+0.2**
DID	**Didima**	**2.15**	**309**	*e*PN	**Pn**	**09 08 06.7**	**-0.3**
DID				*e*SN	**Sn**	**09 08 32.8**	**-0.6**
DID	**Didima**	**2.15**	**309**	P	**Pn**	**09 08 06.6**	**-0.4**
DID				*e*Sn	**Sn**	**09 08 32.8**	**-0.6**
DID				S	**Sn**	**09 08 33.6**	**+0.2**
GCAM	**G?zelcaml?**	**2.16**	**44**	*i* P	**Pb**	**09 08 10.0**	**-0.5**
GCAM				*i* S	**Sg**	**09 08 44.3**	**+3.2**
GCAM	**G?zelcaml?**	**2.16**	**44**	*i* P	**Pb**	**09 08 10.0**	**-0.5**
NAIG	**Nisos Aigina**	**2.17**	**318**	*e*PN	**Pn**	**09 08 07.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.17**	**318**	*e*Pn	**Pn**	**09 08 07.0**	**-0.2**
PTL	**Penteli**	**2.21**	**329**	*e*PB	**Pn**	**09 08 08.2**	**+0.3**
PTL	**Penteli**	**2.21**	**329**	*e*Pb	**Pn**	**09 08 08.2**	**+0.3**
ATH	**Athens Observa**	**2.22**	**325**	*e*PN	**Pn**	**09 08 07.3**	**-0.6**
ATH	**Athens Observa**	**2.22**	**325**	*e*Pn	**Pn**	**09 08 07.3**	**-0.6**
ARG	**Arkhangelos**	**2.26**	**88**	*e*PN	**Pn**	**09 08 08.9**	**+0.4**
ARG				*e*SN	**Sn**	**09 08 35.6**	**-0.7**
ARG	**Arkhangelos**	**2.26**	**88**	*e*Pn	**Pn**	**09 08 08.9**	**+0.4**
ARG				*e*Sn	**Sn**	**09 08 35.6**	**-0.7**
CHOS	**Chios island**	**2.29**	**14**	P	**Pn**	**09 08 08.3**	**-0.7**
CHOS				S	**Sn**	**09 08 36.9**	**-0.2**
CHOS	**Chios island**	**2.29**	**14**	*e*PN	**Pn**	**09 08 08.2**	**-0.7**
CHOS				*e*SN	**Sn**	**09 08 37.2**	**+0.1**
CHOS	**Chios island**	**2.29**	**14**	P	**Pn**	**09 08 08.3**	**-0.7**
CHOS				S	**Sn**	**09 08 36.9**	**-0.2**
CHOS				*e*Sn	**Sn**	**09 08 37.2**	**+0.1**
URLA	**Izmir**	**2.41**	**24**	*i* P	**Pn**	**09 08 09.3**	**-1.3**
URLA				*i* S	**Sg**	**09 08 50.4**	**+1.3**
URLA	**Izmir**	**2.41**	**24**	*i* P	**Pn**	**09 08 09.3**	**-1.3**
DYR	**Agios Nikonas**	**2.49**	**285**	P	**Pn**	**09 08 12.1**	**+0.5**
DYR				S	**Sn**	**09 08 41.4**	**-0.4**
DYR	**Agios Nikonas**	**2.49**	**285**	*e*PN	**Pn**	**09 08 12.4**	**+0.8**
DYR	**Agios Nikonas**	**2.49**	**285**	P	**Pn**	**09 08 12.1**	**+0.5**
DYR	**Agios Nikonas**	**2.49**	**285**	*e*Pn	**Pn**	**09 08 12.4**	**+0.8**
DYR				S	**Sn**	**09 08 41.4**	**-0.4**
ERET	**Eretria**	**2.58**	**332**	P	**Pn**	**09 08 13.1**	**+0.2**
ERET	**Eretria**	**2.58**	**332**	P	**Pn**	**09 08 13.1**	**+0.2**
LTK	**Loutraki**	**2.65**	**315**	*e*PN	**Pn**	**09 08 14.8**	**+1.0**
LTK	**Loutraki**	**2.65**	**315**	*e*Pn	**Pn**	**09 08 14.8**	**+1.0**
VLX	**Vlachokerasia**	**2.66**	**298**	*e*PB	**Pn**	**09 08 15.2**	**+1.2**
VLX	**Vlachokerasia**	**2.66**	**298**	*e*Pb	**Pn**	**09 08 15.2**	**+1.2**
MRKA	**Markates**	**2.89**	**332**	P	**Pn**	**09 08 17.1**	**-0.1**
MRKA	**Markates**	**2.89**	**332**	P	**Pn**	**09 08 17.1**	**-0.1**
ITM	**Ithomi**	**2.92**	**291**	*e*PB	**Pn**	**09 08 19.8**	**+2.3**
ITM	**Ithomi**	**2.92**	**291**	*e*Pb	**Pn**	**09 08 19.8**	**+2.3**
GUR	**Goura**	**2.97**	**307**	*e*PN	**Pn**	**09 08 19.5**	**+1.1**
GUR	**Goura**	**2.97**	**307**	*e*Pn	**Pn**	**09 08 19.5**	**+1.1**
PYL	**PYLOS**	**2.98**	**285**	P	**Pn**	**09 08 18.0**	**-0.4**
PYL	**PYLOS**	**2.98**	**285**	*e*PN	**Pn**	**09 08 19.5**	**+1.1**
PYL	**PYLOS**	**2.98**	**285**	P	**Pn**	**09 08 18.0**	**-0.4**
PYL	**PYLOS**	**2.98**	**285**	*e*Pn	**Pn**	**09 08 19.5**	**+1.1**
LKR	**Lokris**	**3.10**	**324**	*e*PN	**Pn**	**09 08 19.2**	**-0.8**
LKR	**Lokris**	**3.10**	**324**	*e*Pn	**Pn**	**09 08 19.2**	**-0.8**
PRK	**Paraskevi**	**3.17**	**13**	*e*PN	**Pn**	**09 08 20.2**	**-0.7**
PRK	**Paraskevi**	**3.17**	**13**	*e*Pn	**Pn**	**09 08 20.2**	**-0.7**
AOS	**Alonnisos**	**3.21**	**339**	*e*PN	**Pn**	**09 08 21.8**	**+0.2**
AOS	**Alonnisos**	**3.21**	**339**	*e*Pn	**Pn**	**09 08 21.8**	**+0.2**
KALE	**Kalithea**	**3.38**	**312**	*e*PN	**Pn**	**09 08 22.8**	**-1.1**
KALE	**Kalithea**	**3.38**	**312**	*e*Pn	**Pn**	**09 08 22.8**	**-1.1**
LAKA	**Lakka**	**3.38**	**309**	*e*PN	**Pn**	**09 08 23.5**	**-0.4**
LAKA	**Lakka**	**3.38**	**309**	*e*Pn	**Pn**	**09 08 23.5**	**-0.4**
TRIZ	**Trizonia**	**3.40**	**311**	*e*PN	**Pn**	**09 08 25.8**	**+1.7**
TRIZ	**Trizonia**	**3.40**	**311**	*e*Pn	**Pn**	**09 08 25.8**	**+1.7**
EFP	**Efpalio**	**3.54**	**311**	*e*PN	**Pn**	**09 08 26.1**	**0.0**
EFP	**Efpalio**	**3.54**	**311**	*e*Pn	**Pn**	**09 08 26.1**	**0.0**
NEO	**Neokhori**	**3.55**	**333**	*e*PN	**Pn**	**09 08 26.2**	**-0.1**
NEO	**Neokhori**	**3.55**	**333**	*e*Pn	**Pn**	**09 08 26.2**	**-0.1**
RLS	**Riolos of Patr**	**3.62**	**303**	*e*PB	Pb	09 08 31.5	-3.8
RLS	**Riolos of Patr**	**3.62**	**303**	*e*Pb	Pb	09 08 31.5	-3.8
VLS	**Valsamata**	**4.28**	**299**	*e*PB	Pn	09 08 40.3	+4.0
PLG	**Polygyros**	**4.46**	**341**	*e*PN	**Pn**	**09 08 38.6**	**-0.1**
PLG	**Polygyros**	**4.46**	**341**	*e*Pn	**Pn**	**09 08 38.6**	**-0.1**
BRTR	**Keskin Array B**	**7.47**	**59**	Pn	**Pn**	**09 09 23.1**	**+2.9**
	0.1nm,0.3s,baz=237,slow=13,SNR=8.4						
AKASG	**Malin Array Be**	**14.80**	**10**	Pn	**P**	**09 11 07.3**	**+1.2**
	0.5nm,0.3s,baz=203,slow=11,SNR=5.0						
GERES	**GERESS Array B**	**15.27**	**330**	Pn	**P**	**09 11 10.2**	**-1.4**
	baz=144,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**40.39**	**52**	P	**P**	**09 15 07.7**	**-1.2**
	1.2nm,0.8s,baz=277,slow=8.6,SNR=9.9						
MKAR	**Makanchi Array**	**43.11**	**57**	P	**P**	**09 15 30.6**	**-0.7**
	0.4nm,0.6s,baz=270,slow=8.0,SNR=4.5						

IDC 16 09:09:01.9±1.9, 17°.49S×178°.72W, h576km±27km, mb2.7/6, mb1 3.0/8, mb1mx2.9/21, mbtmp2.8/8, Error ellipse: s-maj=91.3km s-min=15.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.58**	**63**	P	P	09 10 56.6	0.0
	1.3nm,0.3s,baz=117,slow=6.8,SNR=2.9						
DZM	**Mont Dzumac**	**14.69**	**250**	P	P	09 12 08.2	+0.3
	0.3nm,0.3s,baz=96,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**38.57**	**241**	P	P	09 15 35.6	-0.9
	2.4nm,0.8s,baz=88,slow=17,SNR=3.5						
WRA	**Warramunga Arr**

0.7nm,0.6s,baz=109,slow=3.6,SNR=6.4
NVAR Mina Array Bea 150.98 8 PKPbc PKPbc 09 37 53.6 +0.5
0.8nm,0.8s,baz=300,slow=2.3,SNR=6.7

*ISCJB **16** 09:51:54.9±0.6,24.80N±0.04×122.43E±0.02,h7km±4km, Error ellipse: s-maj=6.4km s-min=3.4km az=8.1*
*TAP **16** 09:51:56.9,24.78N×122.27E,h5km,ML3.0,D*
*JMA **16** 09:51:56.6±0.1,24.02N×122.56E,h7km±3km,M2.3*
ISC 16 09:51:54.5±1.2,24.70N±0.04×122.44E±0.02,h4km±11km, n24,σ0≥87/44,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TWB1	**Santiao Chiao**	**0.51**	**307**	*i* P		**Pg**	**09 52 04.2**	**-0.2**
	baz=312							
TWB1				S		**Sg**	**09 52 09.5**	**-1.6**
	baz=312							
TWC	**Suao**	**0.54**	**261**	P		**Pg**	**09 52 05.6**	**+0.7**
	baz=245							
TWC				S		**Sg**	**09 52 12.6**	**+0.6**
	baz=245							
YOJ	**Yonaguni jima**	**0.57**	**114**	P		**Pb**	**09 52 08.4**	**+1.3**
YOJ				S		**Sb**	**09 52 16.7**	**+1.1**
ENA	**Nanau**	**0.69**	**247**	P		**Pb**	**09 52 09.3**	**+0.2**
	baz=233							
ENA				S		**Sb**	**09 52 19.1**	**+0.1**
	baz=233							
TWE	**Neicheng**	**0.70**	**272**	P		**Pg**	**09 52 08.3**	**+0.3**
	baz=263							
TWE				S		**Sg**	**09 52 16.7**	**-0.4**
	baz=263							
NWF	**Wu-fen Shan**	**0.70**	**302**	*i* P		**Pg**	**09 52 08.8**	**+0.8**
	baz=303							
NWF				S		**Sg**	**09 52 17.0**	**-0.2**
	baz=303							
ENTT	**Nioudou**	**0.80**	**266**	*e*P		**Pg**	**09 52 10.1**	**+0.3**
	baz=257							
ENTT				*e*S		**Sg**	**09 52 20.7**	**+0.6**
	baz=257							
TWY	**Chenhua**	**0.95**	**307**	*e*P		**Pg**	**09 52 13.2**	**+0.4**
	baz=309							
TWY				*e*S		**Sg**	**09 52 24.7**	**-0.5**
	baz=309							
NSK	**Sanguang**	**0.98**	**269**	*e*P		**Pg**	**09 52 13.7**	**+0.3**
	baz=262							
NSK				*e*S		**Sb**	**09 52 26.8**	**-0.8**
	baz=262							
TWD	**Chiawan**	**0.98**	**232**	*e*P		**Pn**	**09 52 15.3**	**+0.2**
	baz=221							
TWD				*e*S		**Sn**	**09 52 29.3**	**-0.2**
	baz=221							
NNS	**Nan Shan**	**1.00**	**255**	*e*P		**Pb**	**09 52 14.8**	**+0.2**
	baz=247							
NNS				*e*S		**Sb**	**09 52 28.2**	**0.0**
	baz=247							
WHF	**Hehuan Shan**	**1.20**	**243**	*e*P		**Pn**	**09 52 19.1**	**+0.5**
	baz=235							
WHF				*e*S		**Sn**	**09 52 34.2**	**-1.3**
	baz=235							
IRIF	**Iriomote-Funau**	**1.23**	**107**	P		**Pg**	**09 52 17.6**	**-0.5**
TWT	**Tachien**	**1.23**	**249**	*e*P		**Pn**	**09 52 19.2**	**+0.5**
	baz=242							
TWT				*e*S		**Sn**	**09 52 36.1**	**+0.2**
	baz=242							
ESL	**Shilin**	**1.27**	**226**	*e*P		**Pn**	**09 52 21.0**	**+1.9**
	baz=218							
ESL				*e*S		**Sn**	**09 52 38.5**	**+1.9**
	baz=218							
NSTT	**Nanjuang**	**1.31**	**267**	*e*P		**Pb**	**09 52 20.6**	**+0.9**
	baz=262							
NSTT				*e*S		**Sg**	**09 52 35.6**	**-1.0**
	baz=262							
HATJ	**Hateruma jima**	**1.40**	**117**	*e*S		Sb	09 52 33.2	-6.2
JKRS	**Kuro-shima**	**1.50**	**107**	P		**Pn**	**09 52 21.3**	**-0.9**
TWQ1	**Liyutan**	**1.56**	**257**	*e*P		**Pg**	**09 52 24.1**	**-0.2**
	baz=252							
TWQ1				*e*S		**Sn**	**09 52 43.3**	**-0.4**
	baz=252							
JIJ	**Ishigaki jima**	**1.59**	**102**	P		**Pn**	**09 52 23.9**	**+0.5**
JIJ				*e*S		**Sn**	**09 52 43.0**	**-1.4**
SMLT	**Sun Moon Lake**	**1.62**	**240**	*e*P		**Pg**	**09 52 25.3**	**-0.3**
	baz=234							
SMLT				*e*S		**Sg**	**09 52 46.8**	**+0.1**
	baz=234							
TYC	**Yuchr**	**1.65**	**242**	*e*P		**Pg**	**09 52 25.4**	**-0.6**
	baz=235							
TYC				*e*S		**Sg**	**09 52 46.4**	**-1.0**
	baz=235							
CHN5	**Tsauling**	**1.95**	**236**	*e*P		**Pb**	**09 52 30.3**	**-0.3**
	baz=231							
CHN5				*e*S		**Sb**	**09 52 54.6**	**-0.7**
	baz=231							
CHN4	**Tsaushan**	**2.15**	**232**	*e*P		**Pb**	**09 52 34.0**	**-0.1**
	baz=227							
CHN4				*e*S		**Sb**	**09 52 59.1**	**-2.1**
	baz=227							

MEX 16 09:54:22.7±0.4,16.72N×99.07W,h10km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PNIG	**Pinotepa**	**0.97**	**110**	*i* P		Pg	09 54 38.2	-3.1
PNIG				*i* S		Sg	09 54 51.1	-2.9
CAIG	**El Cayaco**	**1.19**	**286**	*i* P		Pb	09 54 40.8	-4.5
CAIG				*i* S		Sb	09 54 56.0	-4.7
UTMO	**Huajuapan**	**1.64**	**48**	*i* P		Pn	09 54 47.8	-4.0
UTMO				*i* S		Sn	09 55 07.8	-5.4
ARIG	**Puente Sto Nin**	**1.97**	**322**	*i* P		Pn	09 54 53.1	-3.1
ARIG				*i* S		Sn	09 55 16.4	-4.6
YAIG	**Yautepec**	**2.13**	**0**	*i* P		Pn	09 54 55.0	-3.6
YAIG				*i* S		Sn	09 55 20.5	-4.6

IDC 16 09:58:24.9±1.9,4.77N×76.10W,h145km±17km,mb3.2/8, mb1 3.4/8,mb1mx3.3/23,mbtmp3.2/8,Error ellipse: s-maj=30.7km s-min=14.3km az=54.0,Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ROSC	**El Rosal**	**1.76**	**87**	P		Pn	09 58 57.8	+0.3
	26nm,0.3s,baz=282,slow=4.2,SNR=61							
ROSC				S		Sn	09 59 22.6	+0.2
	14nm,0.3s,baz=252,slow=23,SNR=22							
LPAZ	**La Paz**	**22.36**	**160**	P		P	10 03 11.7	-0.3
	0.6nm,0.5s,baz=334,slow=11,SNR=4.6							
SIV	**San Ignacio**	**25.43**	**145**	P		P	10 03 39.4	-0.1
	2.0nm,0.5s,baz=323,slow=9.8,SNR=15							
TXAR	**Lajitas Array**	**35.74**	**316**	P		P	10 05 10.0	-0.1
	0.1nm,0.4s,baz=133,slow=9.1,SNR=9.5							
ANMO	**Albuquerque**	**41.10**	**321**	P		P	10 05 55.5	+0.6
	0.3nm,0.4s,baz=150,slow=8.0,SNR=6.2							
NVAR	**Mina Array Bea**	**50.88**	**317**	P		P	10 07 11.4	0.0
	0.8nm,0.8s,baz=132,slow=7.9,SNR=5.7							
YKA	**Yellowknife Ar**	**64.20**	**341**	P		P	10 08 43.5	-0.4
	0.7nm,0.6s,baz=135,slow=6.3,SNR=28							
TORD	**Torodi Ar. Bea**	**77.06**	**78**	P		P	10 10 03.3	+0.5
	0.3nm,0.5s,baz=282,slow=4.9,SNR=5.8							
ILAR	**Eielson Array**	**77.57**	**336**	P		P	10 10 03.9	-0.7
	0.2nm,0.7s,baz=124,slow=5.4,SNR=4.1							
ASAR	**Alice Springs**	**145.52**	**234**	PKPbc		PKPdf	10 17 45.9	-0.9
	0.3nm,0.5s,baz=113,slow=4.0,SNR=6.0							
WRA	**Warramunga Arr**	**146.76**	**240**	PKPbc		PKPbc	10 17 50.3	-0.6
	0.6nm,1.1s,baz=118,slow=3.0,SNR=4.0							

*ISCJB **16** 10:58:46.2±1.1,63.3S±0.1×170.5E±0.6,h10km,mb4.3/6, MS4.2/11,Error ellipse: s-maj=39.4km s-min=11.6km az=162.4*
*IDC **16** 10:58:46.0±0.9,63.29S×170.89E,h0km,mb4.2/5, mb1 4.5/6,mb1mx4.3/13,mbtmp4.3/6,ML3.9/1,MS4.3/13, Ms1 4.3/13,ms1mx4.0/25,Error ellipse: s-maj=45.4km s-min=22.4km az=65.0*
*NEIC **16** 10:58:47.2±0.6,63.25S×170.86E,h10km,mb4.5/2,Error ellipse: s-maj=26.4km s-min=9.4km az=74.0*
ISC 16 10:58:47.3±0.8,63.3S±0.1×170.9E±0.2,h10km,n45, σ0≤80/33,mb4.2/6,MS4.2/11,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
VNDA	**Vanda**	**14.61**	**188**	Pn		**Pn**	**11 02 14.1**	**+0.4**
	0.5nm,0.3s,baz=32,slow=17,SNR=32							
VNDA				LR		LR	11 06 35.3	
	comp=Z,2μm,20.2s,baz=24,slow=32							
VNDA	**Vanda**	**14.61**	**188**	Pn		**Pn**	**11 02 14.1**	**+0.4**
SBA	**Scott Base**	**14.72**	**183**	*e*Pn		**Pn**	**11 02 14.8**	**-0.4**
	40nm,1.2s							
RPZ	**Rata Peaks**	**19.59**	**0**	LR		LR	11 09 46.1	
	comp=Z,1μm,18.1s,baz=225,slow=34							
URZ	**Urewera**	**25.32**	**12**	LR		LR	11 12 23.6	
	comp=Z,716nm,21.4s,baz=337,slow=32							
QSPA	**South Pole Qui**	**26.83**	**180**	P		**P**	**11 04 27.0**	**-0.5**
	6.1nm,1.1s,baz=20,slow=6.4,SNR=6.3							
QSPA				LR		LR	11 13 21.6	
	comp=Z,663nm,20.3s,baz=212,slow=33							
QSPA	**South Pole Qui**	**26.83**	**180**	*e*P		**P**	**11 04 27.8**	**+0.3**
STKA	**Stephens Creek**	**36.46**	**316**	LR		LR	11 18 25.5	
	comp=Z,270nm,18.2s,baz=3.1,slow=32							
MAW	**Mawson**	**39.63**	**215**	LR		LR	11 22 42.7	
	comp=Z,937nm,19.4s,baz=328,slow=36							
DZM	**Mont Dzumac**	**41.28**	**354**	*e*LR		LR	11 17 40.2	
	540nm,22.9s							
ASAR	**Alice Springs**	**46.59**	**311**	P		**P**	**11 07 16.1**	**+0.9**
	1.5nm,0.9s,baz=156,slow=8.0,SNR=11							
ASAR				LR		LR	11 24 44.8	
	comp=Z,97nm,18.9s,baz=154,slow=33							
ASAR	**Alice Springs**	**46.59**	**311**	P		**P**	**11 07 16.1**	**+0.9**
AS31	**Alice Springs**	**46.59**	**311**	*e*P		**P**	**11 07 14.9**	**-0.3**
TBI	**Tubuai**	**47.81**	**52**	*e*LQ		LQ	11 18 24.4	
	313nm,26.2s							
TBI				*e*LR		LR	11 20 35.4	
	276nm,25.8s,baz=216							
TBI				*e*T		T	11 58 07.6	
	14nm,0.3s							
WRA	**Warramunga Arr**	**49.89**	**313**	P		**P**	**11 07 39.8**	**-0.9**
	1.4nm,1.1s,baz=165,slow=6.7,SNR=4.7							
WRA				PcP		**PcP**	**11 09 01.6**	**+0.5**
	0.5nm,0.7s,baz=139,slow=2.9,SNR=5.0							
WRA	**Warramunga Arr**	**49.89**	**313**	P		**P**	**11 07 39.8**	**-0.9**
WRA				PcP		**PcP**	**11 09 01.6**	**+0.5**
WRAB	**Tennant Creek**	**49.90**	**313**	*e*P		**P**	**11 07 39.9**	**-0.9**
	3.6nm,1.0s							
PAE	**Paea**	**53.02**	**49**	*e*T		T	12 04 37.8	
	3.1nm,0.3s							
TVO	**Taravao**	**53.02**	**50**	*e*T		T	12 04 38.4	
	9.3nm,0.3s							
PPT2	**Papeete2**	**53.09**	**49**	*e*LQ		LQ	11 20 36.8	
	320nm,23.8s							
PPT2				*e*LR		LR	11 23 09.0	
	286nm,25.8s							
PPT2				*e*T		T	12 04 43.7	
	6.2nm,0.3s							
PPT	**Papeete**	**53.11**	**49**	LR		LR	11 25 54.7	
	comp=Z,169nm,19.6s,baz=178,slow=31							
RKT	**Rikitea**	**53.69**	**68**	*e*T		T	12 05 25.4	
	12nm,0.3s							
CPUP	**Villa Florida**	**82.93**	**138**	LR		LR	11 45 04.1	
	comp=Z,189nm,18.2s,baz=38,slow=34							
BOSA	**Boshof**	**84.45**	**210**	P		**P**	**11 11 20.1**	**+0.1**
	5.3nm,0.9s,baz=199,slow=5.3,SNR=3.7							
BOSA				LR		LR	11 45 29.3	
	comp=Z,193nm,18.6s,baz=165,slow=33							
BOSA	**Boshof**	**84.45**	**210**	P		**P**	**11 11 20.1**	**+0.1**
PSI	**Prapat**	**84.46**	**287**	LR		LR	11 43 12.5	
	comp=Z,115nm,18.2s,baz=278,slow=32							
LPAZ	**La Paz**	**88.57**	**125**	P		**P**	**11 11 41.2**	**+0.2**
	2.7nm,0.9s,baz=186,slow=6.0,SNR=9.4							
LPAZ				LR		LR	11 41 48.6	
	comp=Z,78nm,19.6s,baz=285,slow=29							
LPAZ	**La Paz**	**88.57**	**125**	*e*P		**P**	**11 11 40.7**	**-0.3**
	4.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**98.49**	**294**	LR		LR	11 51 51.9	
	comp=Z,92nm,20.3s,baz=173,slow=32							
TORD	**Torodi Ar. Bea**	**129.37**	**194**	PKP		**PKPdf**	**11 17 53.8**	**-2.0**
	0.7nm,1.0s,baz=300,slow=2.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**129.37**	**194**	PKP		**PKPdf**	**11 17 53.8**	**-2.0**
ILAR	**Eielson Array**	**131.47**	**23**	PKP		**PKPdf**	**11 17 59.3**	**+1.1**
	1.2nm,0.9s,baz=238,slow=3.3,SNR=8.0							
ILAR	**Eielson Array**	**131.47**	**23**	PKP		**PKPdf**	**11 17 59.3**	**+1.1**
YKA	**Yellowknife Ar**	**137.21**	**41**	PKhKP		PKPpre	11 18 01.0	
	0.4nm,1.1s,baz=217,slow=2.9,SNR=4.3							
YKA				PKP		**PKPdf**	**11 18 09.0**	**+0.1**
	0.5nm,0.9s,baz=204,slow=3.3,SNR=5.8							
YKA	**Yellowknife Ar**	**137.21**	**41**	PKPpre		PKPpre	11 18 01.0	
YKA				PKP		**PKPdf**	**11 18 09.1**	**+0.1**
KBZ	**Khabaz**	**144.70**	**261**	PKP		**PKPdf**	**11 18 22.9**	**-0.1**
	8.0nm,1.0s,baz=159,slow=1.7,SNR=9.7							
KBZ	**Khabaz**	**144.70**	**261**	PKP		**PKPdf**	**11 18 22.9**	**-0.1**
BRTR	**Keskin Array B**	**145.47**	**247**	PKPbc		**PKPab**	**11 18 25.0**	**-0.1**
	2.4nm,1.0s,baz=163,slow=5.8,SNR=8.6							
BRTR	**Keskin Array B**	**145.47**	**247**	PKPbc		**PKPab**	**11 18 25.0**	**-0.1**
KEST	**Kesra**	**150.18**	**211**	PKPab		**PKPab**	**11 18 43.2**	**-0.6**
	2.4nm,1.1s,baz=349,slow=3.5,SNR=4.2							
KEST	**Kesra**	**150.18**	**211**	PKPab		**PKPab**	**11 18 43.2**	**-0.6**
AKASG	**Malin Array Be**	**156.05**	**256**	PKPab		**PKPab**	**11 19 08.2**	**+0.2**
	0.4nm,0.5s,baz=136,slow=3.5,SNR=3.9							
AKASG	**Malin Array Be**	**156.05**	**256**	PKPab		**PKPab**	**11 19 08.2**	**+0.2**
ESDC	**Sonseca Array**	**156.18**	**190**	PKPab		**PKPab**	**11 19 10.0**	**+1.1**
	0.5nm,0.3s,baz=225,slow=0.2,SNR=6.4							
ESDC	**Sonseca Array**	**156.18**	**190**	PKPab		**PKPab**	**11 19 10.0**	**+1.1**

IDC 16 11:32:41.7±58.0,20.75S×175.56E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.6/18,mbtmp3.8/3,MS4.3/1,Ms1 4.3/1, ms1mx2.6/31,Error ellipse: s-maj=1010.0km s-min=131.4km az=80.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
STKA	**Stephens Creek**	**32.27**	**243**	P		P	11 39 10.9	-1.3
	1.1nm,0.5s,baz=86,slow=9.9,SNR=6.5							
ASAR	**Alice Springs**	**38.58**	**258**	P		P	11 40 06.8	+0.2
	0.5nm,0.5s,baz=88,slow=9.1,SNR=18							
WRA	**Warramunga Arr**	**38.59**	**264**	P		P	11 40 07.2	+0.5
	0.4nm,0.3s,baz=95,slow=8.0,SNR=20							
YBH	**Yreka Blue Hor**	**84.37**	**41**	LR		LR	12 12 22.3	
	comp=Z,176nm,20.3s,baz=154,slow=28							

*ISCJB **16** 11:47:22.6±1.1,41.08N±0.05×39.64E±0.05,h8km±5km, Error ellipse: s-maj=9.3km s-min=6.0km az=172.5*
*ISK **16** 11:47:23.5,40.98N×39.61E,h5km,MD2.9*
*DDA **16** 11:47:23.3,41.02N×39.57E,h7km,MD3.0*
*CSEM **16** 11:47:24.0±0.4,40.98N×39.60E,h5km,MD3.0,Error ellipse: s-maj=8.8km s-min=5.6km az=10.0*
ISC 16 11:47:23.0±1.3,41.06N±0.06×39.64E±0.03,h15km±7km, n23,σ0≤61/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MACK	**Trabzon**	**0.15**	**139**	*i* P		**Pb**	**11 47 27.7**	**+0.1**
MACK				*i* S		**Sg**	**11 47 30.0**	**+0.4**
MACK	**Trabzon**	**0.15**	**139**	*i* P		**Pb**	**11 47 27.7**	**+0.1**
MACK				*i* S		**Sg**	**11 47 30.0**	**+0.4**
GUMT	**Gumushane**	**0.61**	**192**	*e*PG		**Pg**	**11 47 34.5**	**-0.5**
GUMT				*e*SG		**Sg**	**11 47 42.0**	**-1.1**
GUMT	**Gumushane**	**0.61**	**192**	*e*Pg		**Pg**	**11 47 34.5**	**-0.5**
GUMT				*e*Sg		**Sg**	**11 47 42.0**	**-1.1**
ESPY	**Espiye-Giresun**	**0.70**	**259**	*e*PG		**Pg**	**11 47 36.5**	**-0.2**
ESPY	**Espiye-Giresun**	**0.70**	**259**	*e*Pg		**Pg**	**11 47 36.6**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.76**	**150**	*e*PG		**Pg**	**11 47 37.5**	**-0.4**
BAYT				*e*SG		**Sg**	**11 47 47.5**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.76**	**150**	*e*Pg		**Pg**	**11 47 37.6**	**-0.4**
BAYT				*e*Sg		**Sg**	**11 47 47.5**	**-0.5**
KELT	**Kelkit**	**0.95**	**198**	*i* P		**Pb**	**11 47 41.0**	**-0.3**
KELT				*i* S		**Sb**	**11 47 53.8**	**-0.1**
KELT	**Kelkit**	**0.95**	**198**	*i* P		**Pb**	**11 47 41.0**	**-0.3**
KELT				*i* S		**Sb**	**11 47 53.8**	**-0.1**
KOPT	**Kop Dagi**	**1.23**	**147**	*i* P		**Pn**	**11 47 45.6**	**-0.3**
KOPT				*i* S		**Sg**	**11 48 03.0**	**+0.3**
KOPT	**Kop Dagi**	**1.23**	**147**	*i* P		**Pn**	**11 47 45.6**	**-0.3**
KOPT				*i* S		**Sg**	**11 48 03.0**	**+0.3**
EZC	**Erzincan**	**1.32**	**190**	*e*PN		**Pb**	**11 47 47.9**	**+0.3**
EZC	**Erzincan**	**1.32**	**190**	*e*Pn		**Pb**	**11 47 47.9**	**+0.3**
SUSE	**Susehri**	**1.38**	**233**	*i* P		**Pn**	**11 47 48.1**	**+0.1**
SUSE				*i* S		**Sb**	**11 48 07.0**	**+0.8**
SUSE	**Susehri**	**1.38**	**233**	*i* P		**Pn**	**11 47 48.1**	**+0.1**
SUSE				*i* S		**Sb**	**11 48 07.0**	**+0.8**
ERZN	**Erzincan**	**1.47**	**177**	*e*PN		**Pb**	**11 47 50.5**	**+0.4**
DAGI	**Agillar**	**1.72**	**88**	*i* P		**Pn**	**11 47 52.1**	**-0.5**
DAGI				*i* S		**Sn**	**11 48 14.0**	**-0.3**
EZM	**Erzurum**	**1.75**	**131**	*e*PN		**Pb**	**11 47 55.4**	**+0.4**
ILIC	**ilic-Erzincan**	**1.80**	**207**	*e*PN		**Pb**	**11 47 55.4**	**-0.4**
ILIC	**ilic-Erzincan**	**1.80**	**207**	*e*Pn		**Pb**	**11 47 55.4**	**-0.4**
PTK	**Pertek**	**2.17**	**185**	*e*PN		**Pn**	**11 48 00.4**	**+1.6**
PTK	**Pertek**	**2.17**	**185**	*e*Pn		**Pn**	**11 48 00.4**	**+1.6**

*MEX **16** 11:59:33.9±0.7,23.00N×108.73W,h10km,MD4.3*
*IDC **16** 11:59:37.0±1.3,23.70N×108.84W,h0km,mb3.9/6, mb1 4.0/10,mb1mx3.9/28,mbtmp3.7/10,ML3.6/4,MS3.9/16, Ms1 3.9/16,ms1mx3.7/35,Error ellipse: s-maj=21.3km s-min=13.0km az=1.0*
*BJI **16** 11:59:46.3,24.40N×108.30W,h10km,mB4.7/1*
*NEIC **16** 11:59:47.8±1.0,24.31N×108.28W,h10km,mb4.2/29, Error ellipse: s-maj=13.4km s-min=7.8km az=12.0*
ISC 16 11:59:33.8±1.0,23.11N±0.09×108.73W±0.05,h10km, n364,σ1≥62/303,mb4.2/19,MS3.8/11,127C-140D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
LPIG	**La Paz**	**1.76**	**305**	Pg		**Pn**	**12 00 02.4**	**-1.9**
	14nm,0.3s,baz=132,slow=3.2,SNR=144							
LPIG				Lg		Lg	12 00 20.8	
	24nm,0.3s,baz=151,slow=19,SNR=16							
LPIG	**La Paz**	**1.76**	**305**	Lg		Lg	12 00 20.8	
LPIG				*i* S		**Sn**	**12 00 22.8**	**-3.9**
LPIG	**La Paz**	**1.76**	**305**	*e*P		**Pn**	**12 00 02.3**	**-2.0**
LPIG				*i* S		**Sn**	**12 00 22.8**	**-3.9**
MAIG	**Mazatlaan**	**2.12**	**87**	*e*P		**Pn**	**12 00 07.0**	**-2.2**
MAIG				*i* S		**Sn**	**12 00 31.6**	**-4.0**
ANIG	**Ahuacatlan**	**4.40**	**117**	*i* P		Pn	12 00 37.0	-3.8
ANIG				*i* S		**Sn**	**12 01 29.0**	**-3.3**
HPIG		**4.71**	**35**	*e*P		**Pn**	**12 00 44.2**	**-1.0**
HPIG				*i* S		**Sn**	**12 01 38.8**	**-1.2**
HPIG		**4.71**	**35**	*e*P		**Pn**	**12 00 44.2**	**-1.0**
HPIG				*i* S		**Sn**	**12 01 38.8**	**-1.2**
SRIG	**Santa Rosalia**	**5.26**	**324**	*e*P		**Pn**	**12 00 52.3**	**-0.2**
SRIG				*i* S		**Sn**	**12 01 50.7**	**-2.6**
SRIG	**Santa Rosalia**	**5.26**	**324**	*e*P		**Pn**	**12 00 52.3**	**-0.2**
SRIG				*i* S		**Sn**	**12 01 50.7**	**-2.6**
CGIG		**7.26**	**5**	*i* P		Pn	12 01 16.9	-3.2
CGIG				*i* S		**Sn**	**12 02 42.7**	**0.0**
CGIG		**7.26**	**5**	*i* P		Pn	12 01 16.9	-3.2
CGIG				*i* S		**Sn**	**12 02 42.7**	**0.0**
626A	**Big Bend Ranch**	**7.62**	**32**	⇓P		**Pn**	**12 01 22.2**	**-2.9**
	baz=6.4							
TXAR	**Lajitas Array**	**7.68**	**35**	Pn		**Pn**	**12 01 24.1**	**-1.8**
	0.3nm,0.3s,baz=214,slow=14,SNR=16							
TXAR				Lg		Lg	12 03 22.3	
	1.0nm,0.3s,baz=198,slow=20,SNR=5.9							
TXAR	**Lajitas Array**	**7.68**	**35**	Pn		**Pn**	**12 01 24.1**	**-1.8**
TXAR				Lg		Lg	12 03 22.3	
526A	**Mary Lane Ranc**	**8.07**	**30**	⇓P		Pn	12 01 28.1	-3.2
	baz=6.9							
320A	**Kipp Ranch, An**	**8.20**	**1**	⇑P		Pn	12 01 29.8	-3.2
	baz=7.0							
628A	**Black Gap, Mar**	**8.23**	**38**	⇑P		Pn	12 01 30.1	-3.3
	baz=7.1							
319A	**Douglas**	**8.25**	**357**	⇓P		Pn	12 01 29.9	-3.7
	baz=7.1							
425A	**Indio Mountain**	**8.34**	**23**	⇑P		Pn	12 01 30.0	-4.9
	baz=7.1							
527A	**Woodward Ranch**	**8.37**	**32**	⇓P		Pn	12 01 30.8	-4.5
	baz=7.2							
220A	**Playas Peak, P**	**8.76**	**1**	⇓P		Pn	12 01 36.9	-3.8
	baz=7.6							
324A	**Moseley Ranch,**	**8.79**	**18**	⇑P		Pn	12 01 36.1	-4.9
	baz=7.6							
528A	**Cox Ranch, San**	**8.80**	**36**	⇑P		Pn	12 01 37.8	-3.4
	baz=7.6							
427A	**Hayter Ranch,**	**9.05**	**30**	⇑P		Pn	12 01 40.3	-4.3
	baz=7.8							
MNTX	**Cornudas Mount**	**9.06**	**18**	*e*Pn		Pn	12 01 38.7	-5.9
	12nm,1.1s							
MNTX	**Cornudas Mount**	**9.06**	**18**	⇑P		Pn	12 01 39.4	-5.3
	baz=7.8							
222A	**Williams Famil**	**9.08**	**9**	⇑P		Pn	12 01 40.8	-4.3
	baz=7.9							
120A	**U Bar Ranch, L**	**9.40**	**0**	⇓P		Pn	12 01 46.3	-3.2
	baz=8.2							
121A	**Cookes Peak, D**	**9.42**	**5**	⇓P		Pn	12 01 46.5	-3.3
	baz=8.2							
214A	**Organ Pipe Nat**	**9.53**	**339**	⇓P		**Pn**	**12 01 51.4**	**+0.3**
	baz=8.6							
631A	**Perdido Creek**	**9.64**	**48**	⇓P		**Pn**	**12 01 50.5**	**-2.1**
	baz=8.6,SNR=5.8							
429A	**Davenport Ranc**	**9.65**	**38**	⇑P		Pn	12 01 49.4	-3.4
	baz=8.5							
122A	**Conniff Cattle**	**9.68**	**9**	⇓P		Pn	12 01 49.3	-4.0
	baz=8.5							
GDL2	**Guadalupe Moun**	**9.85**	**22**	*e*Pn		**Pn**	**12 01 54.2**	**-1.4**
	7.3nm,0.8s							
Z20A	**Nine Sixteen R**	**9.97**	**1**	⇑P		**Pn**	**12 01 54.6**	**-2.6**
	baz=8.8							
124A	**Stringfield Ra**	**9.98**	**16**	⇓P		Pn	12 01 53.6	-3.9
	baz=8.8							
531A	**Rocksprings**	**10.14**	**44**	⇑P		**Pn**	**12 01 57.4**	**-2.1**
	baz=9.0							
430A	**Baggett Ranch,**	**10.15**	**40**	⇑P		**Pn**	**12 01

W18A	Petrified Fore baz=11	12.00	356	⇓P		Pn	12 02 23.6	-1.5
W21A	San Fidel baz=11	12.00	4	⇓P		Pn	12 02 23.1	-2.1
MSTX	Muleshoe baz=11	12.02	24	⇓P		Pn	12 02 22.4	-2.9
BC3	Big Chuckawall baz=11,SNR=22	12.06	332	⇓P		Pn	12 02 27.9	+2.0
PDMCI	Parker Dam,Lak baz=11	12.12	338	⇓P		Pn	12 02 28.0	+1.5
Z30A	Sanderson Ranc baz=11	12.15	32	⇑P		Pn	12 02 24.0	-3.0
IRM	Iron Mountain baz=12,SNR=25	12.37	334	⇑P		Pn	12 02 31.5	+1.5
W24A	Lazy 6 Ranch, baz=11	12.40	13	⇑P		Pn	12 02 27.3	-3.3
PFO	Pinyon Flat Ob 52nm,1.4s	12.47	329	*e*Pn		Pn	12 02 35.1	+3.5
PFO	Pinyon Flat Ob baz=12,SNR=8.0	12.47	329	⇓P		Pn	12 02 34.8	+3.3
WUAZ	Wupatki 18nm,1.3s	12.58	350	*e*Pn		Pn	12 02 33.1	+0.1
WUAZ	Wupatki baz=12	12.58	350	⇑P		Pn	12 02 32.4	-0.6
BELC	Belle Mtn. Jos baz=12	12.59	331	⇓P		Pn	12 02 35.8	+2.7
V21A	Milan baz=12	12.69	4	⇓P		Pn	12 02 31.9	-2.7
W13A	Hualapai Mount baz=12	12.77	341	⇓P		Pn	12 02 36.6	+1.0
V23A	Ortiz Mt. (NFS baz=12	12.79	9	⇓P		Pn	12 02 33.4	-2.5
V22A	San Miguel Ran baz=12	12.86	7	⇓P		Pn	12 02 34.8	-2.0
W27A	Bowe Ranch, En baz=12	12.90	21	⇓P		Pn	12 02 34.7	-2.6
V24A	Rampart Ranch, baz=12	12.93	13	⇑P		Pn	12 02 34.7	-3.2
SCI	San Clemente I baz=12	13.10	321	⇑P		P	12 02 45.7	-4.6
GMRC	Granite Mounta baz=12,SNR=8.3	13.11	334	⇑P		Pn	12 02 41.5	+1.2
LDFC	Landfair 60nm,1.1s	13.16	336	*e*Pn		Pn	12 02 43.3	+2.4
V25A	Rancho No Teng baz=12	13.18	15	⇓P		Pn	12 02 37.8	-3.5
BBRC	Big Bear Solar baz=12	13.23	329	⇓P		Pn	12 02 45.1	+3.2
U21A	Nageezi baz=12	13.31	4	⇓P		Pn	12 02 40.1	-2.9
CIS	Catalina Islan baz=13	13.33	322	⇑P		P	12 02 48.3	-4.6
V26A	Tequesquite Ra baz=12	13.35	18	⇓P		Pn	12 02 40.6	-3.0
U23A	El Rito baz=12	13.36	9	⇓P		Pn	12 02 41.1	-2.5
U15A	North Rim baz=13,SNR=6.5	13.63	348	⇑P		Pn	12 02 47.4	0.0
U25A	Circle Dot Ran baz=12,SNR=6.3	13.76	15	⇑P		Pn	12 02 45.3	-3.9
U26A	Atchley Ranch, baz=13	13.93	17	⇑P		Pn	12 02 47.4	-4.0
T22A	Edith baz=13	13.95	6	⇓P		Pn	12 02 48.8	-3.0
GSC	Goldstone 27nm,1.4s	14.04	332	*e*Pn		Pn	12 02 55.5	+2.6
GSC	Goldstone baz=13	14.04	332	⇓P		Pn	12 02 54.9	+2.0
MVCO	Mesa Verde 26nm,1.5s	14.06	1	*e*Pn		Pn	12 02 49.9	-3.4
MVCO	Mesa Verde baz=13	14.06	1	⇑P		Pn	12 02 50.6	-2.7
T24A	Torres, Weston baz=13,SNR=6.0	14.27	12	⇓P		Pn	12 02 52.3	-4.0
CMIG	Matias Romero comp=Z,858nm,19.2s,baz=278,slow=37	14.31	112	LR		LR	12 08 32.2	
SHOC	Shoshone baz=14,SNR=11	14.34	334	⇑P		Pn	12 02 59.0	+2.1
T25A	Trinidad baz=13,SNR=6.1	14.47	14	⇓P		Pn	12 02 55.0	-3.9
WMOK	Wichita Mounta 7.4nm,1.3s	14.48	35	*e*Pn		Pn	12 02 56.6	-2.3
S21A	Coal Bank Pass baz=13,SNR=13	14.53	3	⇑P		Pn	12 02 57.2	-2.6
S18A	Hurst Farm, Bl baz=14,SNR=12	14.57	356	⇑P		Pn	12 02 58.7	-1.7
LRMC	Laurel Mountai baz=14	14.59	330	⇑P		Pn	12 03 02.9	+2.5
S20A	Disappointment baz=14,SNR=6.6	14.68	1	⇓P		Pn	12 02 59.7	-2.1
T26A	Comanche Natio baz=14	14.70	16	⇑P		Pn	12 02 58.8	-3.3
S24A	Houchin Ranch, baz=14	14.80	11	⇓P		Pn	12 02 59.8	-3.6
ARVC	Arvin baz=14	14.87	326	⇑P		P	12 03 08.5	-1.4
CCUT	Cedar City 21nm,1.3s	14.94	346	*e*Pn		Pn	12 03 05.7	+0.5
PV01	Paradox Valley 660nm,1.4s	14.98	0	*e*Pn		Pn	12 03 05.5	-0.3
MPMC	Manual Prospec baz=14,SNR=11	14.98	331	⇓P		P	12 03 08.8	-2.5
R20A	Redvale baz=14,SNR=6.1	15.03	1	⇑P		Pn	12 03 04.4	-2.2
FURC	Furnace Creek, baz=14	15.06	334	⇑P		Pn	12 03 08.4	+1.7
ISA	Isabella baz=14	15.11	328	⇓P		P	12 03 10.2	-2.5
S26A	Kim baz=14	15.15	16	⇑P		Pn	12 03 05.0	-3.1
R22A	Saguache, Gunn baz=14	15.17	6	⇓P		Pn	12 03 06.0	-2.4
ARUT	Antelope Range 20nm,1.1s	15.18	346	Pn		Pn	12 03 10.3	+1.8
DAC	Darwin (Calif) 55nm,1.5s	15.21	332	*e*Pn		P	12 03 13.3	-0.5
R21A	Cimarron baz=14,SNR=6.8	15.24	4	⇓P		Pn	12 03 07.8	-1.6
R24A	Sanders Place, baz=14	15.39	11	⇑P		Pn	12 03 08.7	-2.6
VES	Vestal, Richgr baz=15	15.55	327	⇑P		P	12 03 17.0	-0.5
CWC	Cottonwood Cre baz=15	15.56	331	⇓P		P	12 03 16.4	-1.4
MVU	Marysvale 18nm,1.4s	15.63	350	*e*Pn		Pn	12 03 14.1	-0.3
MSU	Marysvale 12nm,1.3s	15.64	350	*e*Pn		Pn	12 03 13.8	-0.7
R13A	O'Grain Ranch, baz=15,SNR=12	15.68	345	⇑P		Pn	12 03 15.3	+0.3
GRAC	Grapevine Rang baz=15	15.72	334	⇑P		P	12 03 18.0	-1.5
Q22A	Crested Butte, baz=15	15.78	5	⇑P		Pn	12 03 14.2	-2.2
R26A	Arlington baz=15	15.80	15	⇓P		Pn	12 03 14.1	-2.4
Q19A	Hogan Spring (baz=15,SNR=7.1	15.80	358	⇑P		Pn	12 03 14.3	-2.2
Q16A	Castle Valley baz=15,SNR=5.9	15.90	353	⇑P		Pn	12 03 17.0	-0.8
R27A	Eads baz=15	15.96	17	⇑P		Pn	12 03 15.4	-3.1
RCTC	Rector, Farmer baz=15	16.00	328	⇑P		P	12 03 23.4	+1.0
SRU	San Rafael baz=15	16.03	355	⇓P		Pn	12 03 18.5	-0.9
SMCO	Snowmass 32nm,1.4s	16.09	5	*e*Pn		Pn	12 03 19.5	-1.0
Q24A	Divide baz=15	16.10	10	⇑P		Pn	12 03 17.3	-3.2
Q25A	Bedland, Calha baz=15	16.21	13	⇑P		Pn	12 03 19.6	-2.3
TMUT	Trail Mountain 20nm,1.4s	16.27	353	*e*Pn		Pn	12 03 21.9	-0.9
R11A	Troy Canyon, C baz=15,SNR=5.6	16.29	340	⇑P		Pn	12 03 24.0	+1.2
P20A	De Beque baz=15	16.34	1	⇓P		Pn	12 03 22.2	-1.3
Q26A	Hugo baz=15	16.38	15	⇑P		Pn	12 03 22.0	-2.0
P23A	Jefferson baz=15	16.40	8	⇑P		Pn	12 03 22.3	-2.1
P17A	Butcher Ranch, baz=15	16.40	354	⇓P		Pn	12 03 24.2	-0.1
P19A	Cripple Cowboy baz=15	16.48	359	⇓P		Pn	12 03 24.5	-0.8
P22A	Eagle baz=15	16.52	5	⇓P		Pn	12 03 24.4	-1.4
P16A	Fountain Green baz=16	16.64	352	⇑P		Pn	12 03 27.4	+0.1
P15A	Leamington baz=16	16.69	350	⇓P		Pn	12 03 27.9	0.0
P25A	Willow Gulch B baz=16	16.80	12	⇑P		Pn	12 03 27.3	-2.1
ISCO	Idaho Springs 20nm,1.4s	16.85	8	*e*Pn		Pn	12 03 29.0	-1.1
ISCO	Idaho Springs baz=16	16.85	8	⇓P		Pn	12 03 28.4	-1.7
O20A	White River Ci baz=16	16.98	1	⇑P		Pn	12 03 30.3	-1.4
P26A	Davis Ranch, A baz=16	17.02	14	⇓P		Pn	12 03 30.2	-1.9
MPU	Maple Canyon 22nm,1.3s	17.04	352	*e*Pn		Pn	12 03 32.7	+0.4
O22A	Kremmling baz=16	17.10	6	⇓P		Pn	12 03 32.0	-1.3
O17A	Robinson Place baz=16	17.12	355	⇓P		Pn	12 03 33.0	-0.5
O18A	Roosevelt baz=16	17.14	357	⇑P		Pn	12 03 33.2	-0.4
O19A	Miners Draw (B baz=16,SNR=8.3	17.14	359	⇑P		Pn	12 03 32.2	-1.4
O16A	Springville baz=16	17.21	353	⇑P		Pn	12 03 34.6	+0.1
P27A	Ficken Ranch, baz=16	17.21	16	⇑P		Pn	12 03 32.1	-2.3
O23A	Lake Granby, G baz=16	17.21	7	⇑P		Pn	12 03 32.6	-2.1
O24A	Longmont baz=16	17.24	9	⇑P		Pn	12 03 33.4	-1.5
NV11	Mina Array Sit	17.27	334	*e*Pn		P	12 03 38.9	+2.2
NVAR	Mina Array Bea 0.1nm,0.3s,baz=145,slow=14,SNR=14	17.33	334	Pn		Pn	12 03 36.5	+0.4
NVAR				LR		LR	12 10 04.6	
	comp=Z,246nm,18.8s,baz=36,slow=38							
NVAR	Mina Array Bea	17.33	334	Pn		Pn	12 03 36.5	+0.4
DUG	Dugway 82nm,2.2s	17.38	349	*e*Pn		Pn	12 03 35.9	-0.7
DUG	Dugway baz=16	17.38	349	⇑P		Pn	12 03 36.6	-0.1
O25A	Wiggins baz=16	17.39	12	⇓P		Pn	12 03 34.9	-1.9
O15A	The Old Anders baz=16	17.41	350	⇓P		Pn	12 03 37.3	+0.3
MIAR	Mount Ida 4.6nm,1.1s	17.47	46	*e*Pn		Pn	12 03 37.7	+0.1
JLU	Jordanelle 22nm,1.4s	17.59	353	*e*Pn		Pn	12 03 39.4	+0.1
N20A	Spence Gulch, baz=16	17.68	1	⇓P		Pn	12 03 39.5	-0.9
N19A	John Jarvie Ra baz=17	17.74	359	⇑P		Pn	12 03 39.9	-1.1
N22A	Wattenberg Ran baz=17	17.75	6	⇓P		Pn	12 03 39.7	-1.6
N18A	Larsen Ranch, baz=17,SNR=8.8	17.83	358	⇑P		Pn	12 03 41.2	-1.0
N16A	Rees Ranch, Co baz=17	17.87	353	⇓P		Pn	12 03 42.8	0.0
N23A	Red Feather La baz=17	17.89	7	⇑P		Pn	12 03 41.4	-1.6
M18A	Lyman baz=17	18.30	357	⇑P		Pn	12 03 47.1	-0.9
M16A	Huntsville baz=17,SNR=7.4	18.32	353	⇑P		Pn	12 03 47.3	-0.9
M20A	Sweetwater, Wa baz=17	18.34	1	⇓P		Pn	12 03 47.0	-1.5
M19A	Rock Springs baz=17	18.35	359	⇓P		Pn	12 03 47.7	-0.9
M17A	Scullys Gap (B baz=17	18.38	355	⇓P		Pn	12 03 48.1	-1.0
M21A	Separation Pea baz=17	18.48	3	⇓P		P	12 03 48.0	-2.2
M15A	Larsen Ranch, baz=18	18.57	351	⇓P		P	12 03 50.3	-0.7
M24A	Cheyenne baz=17	18.60	9	⇑P		P	12 03 49.4	-2.0
HWUT	Hardware Ranch 27nm,1.1s	18.60	353	*e*Pn		P	12 03 50.6	-0.8
BMN	Battle Mountai 10.0nm,1.0s	18.70	339	*e*Pn		Pn	12 03 56.0	+3.1
L18A	Fontenelle, Gr baz=18,SNR=12	18.80	357	⇓P		P	12 03 52.0	-1.6
L21A	Rawlins baz=18	18.84	3	⇑P		P	12 03 52.5	-1.5
L20A	Wamsutter baz=18	18.85	1	⇓P		P	12 03 53.2	-0.9
L19A	Farson baz=18	18.95	359	⇑P		P	12 03 54.2	-1.0
L17A	Cokeville baz=18	19.02	355	⇑P		P	12 03 55.0	-1.1
L15A	Malad City baz=18	19.09	352	⇑P		Pn	12 03 57.7	+0.1
TEIG	Tepich comp=Z,198nm,20.8s,baz=124,slow=43	19.22	95	LR		LR	12 13 33.1	
TEIG	Tepich	19.22	95	P		Pn	12 04 10.4	+11
L14A	Malta baz=18,SNR=5.9	19.25	350	⇑P		P	12 03 58.8	+0.4
K20A	Yellowstone Ra baz=18	19.50	1	⇓P		P	12 04 00.1	-1.2
K18A	Toltan Ranch, baz=18,SNR=6.2	19.51	357	⇓P		P	12 04 01.1	-0.3
K21A	Alcova baz=18	19.51	3	⇓P		P	12 04 00.8	-0.6
K22A	Casper baz=18,SNR=6.7	19.57	5	⇓P		P	12 04 01.7	-0.4
BW06	Boulder Array baz=18	19.62	358	⇑P		P	12 04 02.4	-0.2
PDAR	Pinedale Array 0.1nm,0.3s,baz=162,slow=12,SNR=9.1	19.62	358	P		P	12 04 00.8	-1.9
PDAR				LR		LR	12 11 35.9	
	comp=Z,326nm,20.7s,baz=184,slow=38							
PDAR	Pinedale Array	19.62	358	P		P	12 04 00.8	-1.9
K19A	Absolon Red Bu baz=18	19.66	360	⇓P		P	12 04 02.5	-0.5
K17A	Gardner Place, baz=19	19.67	355	⇓P		P	12 04 03.0	-0.2
K14A	Jones Ranch, D baz=19	19.73	350	⇑P		P	12 04 04.2	+0.4
K15A	Arbon baz=19	19.78	352	⇓P		P	12 04 04.1	-0.1
K16A	Soda Springs baz=19	19.81	354	⇑P		P	12 04 04.2	-0.6
K25A	Mack Ranch, Ha baz=19	19.86	11	⇓P		P	12 04 04.0	-1.2
J18A	Kendall Valley baz=19,SNR=13	20.08	357	⇓P		P	12 04 07.1	-0.6
J19A	Crowheart baz=19	20.10	359	⇑P		P	12 04 07.2	-0.7
J20A	Shoshoni baz=19,SNR=6.8	20.20	1	⇑P		P	12 04 08.1	-0.7
J21A	Lysite baz=19	20.21	3	⇑P		P	12 04 08.7	-0.4
J16A	Bone baz=19	20.25	354	⇑P		P	12 04 09.6	+0.1
J17A	Brown Place, J baz=19	20.27	356	⇑P		P	12 04 09.7	0.0
K27A	Flueckinger Fa baz=19	20.27	14	⇓P		P	12 04 09.4	-0.3
REDW	Red Top Meadow 19nm,1.3s	20.28	356	*e*P		P	12 04 09.1	-0.7
BGNE	Belgrade baz=19	20.29	23	⇓P		P	12 04 08.7	-1.0
RRI2	Red Ridge 13nm,1.0s	20.30	355	*e*P		Pn	12 04 12.0	-0.1
J22A	Midwest baz=19	20.34	5	⇓P		P	12 04 09.6	-0.7
TPAW	Teton Pass 21nm,1.3s	20.41	355	*e*P		Pn	12 04 12.9	-0.6
J15A	Blackfoot baz=19	20.47	352	⇓P		P	12 04 12.1	+0.4
LOHW	Long Hollow 22nm,1.3s	20.51	356	*e*P		P	12 04 13.0	+0.7
DCID1	Drake Creek 35nm,1.3s	20.53	355	*e*P		P	12 04 13.4	+0.9
J14A	Carey baz=20	20.55	350	⇓P		P	12 04 13.3	+0.6
I18A	Diamond G Ranc baz=19,SNR=12	20.56	358	⇑P		P	12 04 12.7	-0.2
MOOW	Moose Ponds 24nm,1.4s	20.65	356	*e*P		P	12 04 12.8	-1.0
I21A	Big Trails, Te baz=20	20.68	3	⇑P		P	12 04 13.1	-1.0
J13A	Cove Ranch, Pi baz=20	20.73	349	⇑P		P	12 04 15.3	+0.7
I20A	Worland baz=20,SNR=8.5	20.79	1	⇑P		P	12 04 15.0	-0.2
I22A	9 Mile Ranch, baz=20	20.81	5	⇓P		P	12 04 14.5	-0.9
I17A	Pilgrim Ck. baz=20,SNR=10	20.81	356	⇑P		P	12 04 15.3	-0.2
IMW	Indian Meadow 32nm,1.3s	20.82	355	*e*P		P	12 04 15.6	-0.1
I19A	Meeteetse baz=20	20.88	359	⇓P		P	12 04 16.6	+0.3
HLID	Hailey baz=20	20.93	348	⇑P		Pn	12 04 18.6	-0.9
FLWY	Flagg Ranch 64nm,1.4s	20.98	356	*e*P		Pn	12 04 19.4	-0.7
I15A	Monteview baz=20	21.07	352	⇑P		P	12 04 18.3	+0.1
I14A	Mackay baz=20	21.13	350	⇓P		P	12 04 19.9	+0.9
I13A	Wildhorse Cree baz=20,SNR=9.8	21.22	349	⇑P		P	12 04 20.5	+0.5
H17A	Grant Village baz=20	21.29	356	⇓P		P	12 04 20.2	-0.5
RSSD	Black Hills 8.2nm,1.2s	21.31	9	*e*P		P	12 04 22.4	+1.4
H20A	Greybull baz=20	21.33	1	⇓P		P	12 04 20.4	-0.6
H19A	Powell baz=20	21.51	359	⇑P		P	12 04 22.7	-0.2
H21A	Big Horn, Sher baz=20	21.51	3	⇓P		P	12 04 22.3	-0.7
H22A	Clearmont baz=20	21.52	5	⇓P		P	12 04 22.3	-0.7
H18A	Shoshone NF, C baz=20	21.53	358	⇑P		P	12 04 23.6	+0.3
YNR	Norris Junctio 17nm,1.2s	21.61	356	*e*P		P	12 04 26.7	+2.4
H15A	Lima baz=21,SNR=12	21.69	352	⇓P		P	12 04 26.0	+0.9
QLMT	Earthquake Lak 3.2nm,1.3s	21.78	355	*e*P		P	12 04 26.9	+0.9
H14A	Leadore baz=21,SNR=6.1	21.79	351	⇓P		P	12 04 26.9	+0.8
H24A	Dirks Ranch, A baz=21	21.85	8	⇑P		P	12 04 26.4	-0.3
H13A	Challis baz=21,SNR=7.2	21.88	349	⇓P		P	12 04 28.2	+1.2
MCMT	McKenzie Canyo 10nm,1.2s	21.93	352	*e*P		P	12 04 28.4	+0.8
YBH	Yreka Blue Hor comp=Z,196nm,18.2s,baz=154,slow=35	21.95	331	LR		LR	12 12 12.2	
RLMT	Red Lodge baz=21	21.96	359	⇑P		P	12 04 28.1	+0.1
G21A	Lodge Grass baz=21	22.10	3	⇓P		P	12 04 28.7	-0.5
G22A	Birney baz=21,SNR=17	22.14	5	⇓P		P	12 04 29.0	-0.8
G18A	Lazy EL Ranch, baz=21,SNR=5.3	22.16	358	⇓P		P	12 04 29.1	-1.0
G16A	Moss Hill, Enn baz=21,SNR=15	22.21	354	⇑P		P	12 04 30.5	-0.1
G15A	Dillon baz=21	22.22	353	⇑P		P	12 04 31.1	+0.4
G13A	Cobalt baz=21,SNR=6.9	22.39	350	⇑P		P	12 04 33.0	+0.6
BOZ	Bozeman (W) 9.8nm,1.5s	22.61	355	*e*P		P	12 04 37.1	+2.3
BOZ	Bozeman (W) baz=22	22.61	355	⇑P		P	12 04 34.6	-0.2
F20A	Billings baz=22	22.64	1	⇑P		P	12 04 34.1	-1.0
F19A	Roth Farm, Mol baz=22	22.69	360	⇓P		P	12 04 34.8	-0.8
F21A	Absaloka Mine, baz=22	22.70	3	⇓P		P	12 04 34.8	-0.8
F22A	Rosebud baz=22	22.71	4	⇑P		P	12 04 34.8	-0.9
F23A	Volborg baz=22	22.72	6	⇑P		P	12 04 34.6	-1.3
F16A	Kennard Place, baz=22,SNR=7.2	22.74	355	⇓P		P	12 04 36.4	+0.2
F18A	Big Timber baz=22,SNR=16	22.76	358	⇑P		P	12 04 35.5	-0.8
F17A	Fitzpatrick Pl baz=22	22.80	357	⇓P		P	12 04 36.0	-0.8
LRM	Limekiln Ridge 53nm,1.2s	22.86	353	*e*P		P	12 04 40.1	+2.5
ECSD	EROS Data Cent 12nm,1.2s	22.87	23	*e*P		P	12 04 37.8	+0.3
F15A	Butte baz=22	22.88	353	⇑P		P	12 04 37.4	-0.3
F24A	Ekalaka baz=22	22.95	8	⇓P		P	12 04 37.4	-0.9
F13A	Darby baz=22,SNR=10.0	23.08	350	⇑P		P	12 04 40.9	+1.2
F12A	Elk City baz=22	23.21	348	⇑P		P	12 04 41.1	+0.1
E19A	Rath Farm, Rou baz=22	23.30	360	⇓P		P	12 04 41.2	-0.6
USIN	University of 57nm,1.1s	23.34	46	*e*P		P	12 04 44.3	+2.0
E20A	Meyer Farm, Mu baz=22	23.35	1	⇓P		P	12 04 41.5	-0.8
E17A	Martinsdale baz=22	23.36	356	⇓P		P	12 04 42.1	-0.5
E18A	Harlowton baz=22	23.42	358	⇑P		P	12 04 42.7	-0.4
E15A	Deer Lodge baz=22	23.48	353	⇓P		P	12 04 43.7	-0.1
E16A	East Helena baz=22	23.49	355	⇓P		P	12 04 43.7	-0.2
E14A	Clinton baz=22	23.57	352	⇓P		P	12 04 44.6	-0.1
E13A	Victor baz=23	23.70	351	⇓P		P	12 04 45.9	+0.1
D20A	Manuel Ranch, baz=23	23.93	1	⇓P		P	12 04 47.5	-0.5
D21A	La Casta Ranch baz=23	23.94	3	⇑P		P	12 04 47.7	-0.4
D16A	Dana Ranch, Ca baz=23	23.98	355	⇓P		P	12 04 48.0	-0.5
D19A	Cripps Ranch, baz=23	24.00	360	⇑P		P	12 04 48.5	-0.2
CHMT	Chamberlain Mo 18nm,1.7s	24.03	352	*e*P		P	12 04 51.6	+2.5
MSO	Missoula baz=23	24.04	351	⇓P		P	12 04 49.6	+0.5
D17A	Six Diamond Ra baz=23	24.04	357	⇑P		P	12 04 48.3	-0.9
D15A	Lincoln baz=23	24.07	354	⇓P		P	12 04 49.7	+0.2
D22A	Cohagen baz=23,SNR=5.9	24.07	4	⇑P		P	12 04 48.3	-1.1
D24A	Glendive baz=23	24.21	7	⇓P		P	12 04 50.5	-0.1
D14A	Greenough baz=23	24.23	352	⇑P		P	12 04 51.7	+0.9
CPCT	Cooper Cave	24.36	54	*e*P		P	12 04 57.4	+5.3
D13A	Huson baz=23	24.37	350	⇑P		P	12 04 53.9	+1.8
SLMT	Seeley Lake 8.8nm,1.1s	24.38	352	*e*P		P	12 04 54.9	+2.6
C17A	Wharram Farm, baz=23	24.52	357	⇓P		P	12 04 54.6	+1.1
C20A	Veseth Ranch, baz=23	24.56	1	⇓P		P	12 04 54.8	+1.1
C24A	Savage baz=23	24.61	7	⇑P		P	12 04 55.1	+0.8
C22A	Vida baz=24	24.69	5	⇑P		P	12 04 55.3	+0.4
C21A	Desert Coulee baz=24	24.70	3	⇑P		P	12 04 55.8	+0.8
SWMT	Swartz Lake 6.3nm,1.0s	24.71	351	*e*P		P	12 04 57.1	+1.8
C16A	Fuhringer Ranc baz=24	24.76	355	⇓P		P	12 04 56.5	+0.9
C23A	Lambert baz=24	24.80	6	⇓P		P	12 04 56.8	+0.8
C15A	Salmond Ranch, baz=24	24.81	354	⇑P		P	12 04 57.5	+1.3
EGMT	Eagleton baz=24	24.88	358	⇑P		P	12 04 57.6	+0.9
C13A	Hot Springs baz=24	24.96	351	⇑P		P	12 04 59.2	+1.7
TKL	Tuckaleechee C 3.1nm,0.9s,baz=231,slow=12,SNR=2.4	25.00	54	P		P	12 05 00.1	+2.2
TKL				LR		LR	12 15 36.6	
	comp=Z,363nm,19.2s,baz=108,slow=39							
TKL	Tuckaleechee C	25.00	54	P		P	12 05 00.1	+2.2
SFIN	Scholer Farm baz=24	25.09	42	⇓P		P	12 04 59.7	+1.2

C12B	Naegeli Ranch, baz=24	25.14	349	⇑P		P	12 05 00.8	+1.8
B17A	L&G Farms, Che baz=24	25.18	357	⇑P		P	12 05 00.2	+0.7
B22A	Reddig Ranch S baz=24	25.23	4	⇓P		P	12 05 01.1	+1.2
B20A	Solberg Farm, baz=24	25.28	1	⇓P		P	12 05 00.9	+0.5
B15A	Bradely Ranch, baz=24	25.34	354	⇓P		P	12 05 02.1	+1.3
B14A	Marquette Ranc baz=24	25.46	353	⇓P		P	12 05 04.0	+1.9
B23A	Brockton baz=24	25.48	6	⇓P		P	12 05 03.3	+1.2
B13A	Whitefish baz=25	25.62	351	⇑P		P	12 05 05.8	+2.3
A20A	Cobblestone Ra baz=25	25.73	1	⇓P		P	12 05 05.9	+1.5
MDND	Maddock baz=24	25.74	14	⇑P		P	12 05 05.4	+0.9
A19A	Klindworth Far baz=25	25.77	360	⇓P		P	12 05 06.3	+1.6
A22A	Carney Farms, baz=25	25.93	4	⇓P		P	12 05 06.7	+0.5
NEW	Newport 2.4nm,0.9s,baz=114,slow=3.8,SNR=4.6	25.98	347	P		P	12 05 06.7	+0.1
NEW	comp=Z,201nm,18.1s,baz=165,slow=36			LR		LR	12 14 50.4	
NEW	Newport	25.98	347	P		P	12 05 06.7	+0.1
NEW	Newport baz=25	25.98	347	⇑P		P	12 05 08.9	+2.3
A15A	Johnson Ranch, baz=25	26.01	354	⇓P		P	12 05 08.3	+1.3
JTS	JuntasAbangare comp=Z,185nm,21.6s,baz=63,slow=36	26.04	115	LR		LR	12 15 40.9	
A14A	Double T Ranch baz=25	26.08	353	⇓P		P	12 05 09.1	+1.5
AGMN	Agassiz Nation 8.4nm,1.1s	27.14	19	eP		P	12 05 20.9	+3.8
EYMN	Ely 9.6nm,1.2s	28.34	25	eP		P	12 05 30.8	+2.9
ULM	Lac du Bonnet 1.7nm,0.7s,baz=209,slow=14,SNR=2.8	28.90	17	P		P	12 05 34.5	+1.8
ULM	comp=Z,230nm,19.4s,baz=296,slow=36			LR		LR	12 16 39.5	
ULM	Lac du Bonnet	28.90	17	P		P	12 05 34.5	+1.8
ROSC	El Rosal comp=Z,91nm,18.8s,baz=356,slow=41	37.83	113	LR		LR	12 25 40.9	
YKA	Yellowknife Ar 1.1nm,0.9s,baz=173,slow=8.2,SNR=16	39.57	356	P		P	12 07 03.1	-1.7
YKA	Yellowknife Ar	39.57	356	P		P	12 07 03.1	-1.7
SCHQ	Schefferville comp=Z,198nm,18.4s,baz=286,slow=36	44.37	34	LR		LR	12 25 60.0	
ILAR	Eielson Array 1.9nm,0.9s,baz=158,slow=6.8,SNR=9.5	48.48	339	P		P	12 08 17.9	+1.6
ILAR	comp=Z,106nm,18.3s,baz=120,slow=38			LR		LR	12 30 17.1	
ILAR	Eielson Array	48.48	339	P		P	12 08 17.9	+1.6
RKT	Rikitea 1µm,34.2s	52.56	211	eLR		LR	12 24 26.7	
RKT	5.7nm,0.3s			eT		T	13 05 59.7	
PPT	Papeete comp=Z,81nm,21.2s,baz=335,slow=30	56.82	228	LR		LR	12 28 00.7	
PPT2	Papeete2 247nm,26.8s	56.84	228	eLR		LR	12 26 06.9	
SIV	San Ignacio 1.3nm,0.8s,baz=303,slow=10.0,SNR=5.2	60.68	125	P		P	12 09 52.9	+7.2
SIV	San Ignacio	60.68	125	P		P	12 09 52.9	+7.2
TBI	Tubuai 137nm,30.5s	60.83	223	eLR		LR	12 27 50.8	
BDFB	Brasilia comp=Z,105nm,20.2s,baz=290,slow=35	70.77	117	LR		LR	12 40 54.2	
ESDC	Sonseca Array comp=Z,106nm,19.2s,baz=285,slow=35	86.15	48	LR		LR	12 50 17.5	
DZM	Mont Dzumac 104nm,22.1s	93.95	248	eLR		LR	12 43 22.5	
CN2	Changchun	96.95	324	eP		P	12 13 15.8	+10
WMQ	Urumqi	111.71	347	ePKP		PKiKP	12 18 21.4	+12
CD2	Chengdu	117.91	329	PKP		PKPdf	12 18 32.9	+12

*ISK **16** 12:13:58.9, 39.00N×44.63E, h5km, MD3.1*
*NSSP **16** 12:14:00.5, 38.85N×44.53E, h5km, Ms3.0*
*CSEM **16** 12:14:00.9±0.4, 38.97N×44.52E, h2km, MD3.1, Error ellipse: s-maj=13.2km s-min=6.4km az=163.0*

ISC 16 12:14:00.7±1.2, 38.90N±0.03×44.59E±0.03, h4km±11km, n38, σ1°09/51, 1C-5D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	Caldiran	0.58	295	ePG	Pg	12 14 10.9	-0.9
CLDR				eSG	Sb	12 14 20.8	-1.3
CLDR	Caldiran	0.58	295	ePg	Pg	12 14 10.9	-0.9
CLDR				eSg	Sb	12 14 20.8	-1.3
NAX	Nakhchivan	0.76	68	P	Pg	12 14 14.8	-0.4
NAX				S	Sb	12 14 26.4	-0.7
DYDN	Diyadin	0.95	313	iP	Pg	12 14 18.8	-0.1
DYDN				iS	Sn	12 14 34.2	-0.9
VANB	Van	0.99	252	ePG	Pg	12 14 19.0	-0.6
VANB				eSG	Sn	12 14 36.2	+0.4
VANB	Van	0.99	252	ePg	Pg	12 14 19.0	-0.6
VANB				eSg	Sn	12 14 36.2	+0.4
VANT	Van	1.14	246	ePN	Pg	12 14 22.5	-0.1
VANT	Van	1.14	246	ePn	Pg	12 14 22.5	-0.1
ERE	Yerevan	1.27	356	P	Pg	12 14 20.0	-5.1
ERE				S	Sn	12 14 43.0	+0.1
AGRB	Hanur-Agry	1.41	299	ePN	Pn	12 14 26.6	-0.6
AGRB				eSN	Sn	12 14 46.6	+0.1
AGRB	Hanur-Agry	1.41	299	ePn	Pn	12 14 26.7	-0.6
AGRB				eSn	Sn	12 14 46.6	+0.1
GRS	Goris	1.48	66	⇓iP	Pg	12 14 38.0	+8.9
GRS				⇓iS	Sg	12 15 00.0	+11
GRS	Goris	1.48	66	⇓P	Pg	12 14 38.0	+8.9
GRS				S	Sg	12 15 00.0	+11
HAKT	HAKKARI	1.51	208	iP	Pn	12 14 26.8	-1.9
HAKT				iS	Sg	12 14 49.6	+0.5
VADZ	Vardenis	1.56	35	eP	Pn	12 14 29.0	-0.3
VADZ				eS	Sg	12 14 51.0	+0.3
VADZ	Vardenis	1.56	35	P	Pn	12 14 29.0	-0.3
VADZ				S	Sg	12 14 51.0	+0.3
CUKT	Cukurca	1.82	205	ePN	Pb	12 14 35.1	+0.5
CUKT	Cukurca	1.82	205	ePn	Pb	12 14 35.1	+0.5
STKZ		1.91	61	⇓iP	Pb	12 14 35.6	-0.5
STKZ				⇑iS	Sg	12 15 02.0	0.0
STKZ		1.91	61	⇓P	Pb	12 14 35.6	-0.5
STKZ				S	Sg	12 15 02.0	0.0
GMRZ	Gyumri	2.00	343	e	Sn	12 14 54.0	-6.8
KARS	Kars	2.08	327	ePN	Pn	12 14 35.2	-1.3
KARS	Kars	2.08	327	ePn	Pn	12 14 35.2	-1.3
STEZ	Stepenevan	2.10	356	e	Pn	12 14 38.0	+1.2
GANJ	Ganja	2.20	37	S	Sg	12 15 12.1	+0.8
HOMI	Horasan	2.37	300	eP	Pg	12 14 45.3	-0.9
BRDA	Brd SNR=3.2	2.42	55	P	Pg	12 14 46.1	-1.0
VRTB	Varto-Mus	2.45	277	ePN	Pn	12 14 42.6	+1.0
VRTB	Varto-Mus	2.45	277	ePn	Pn	12 14 42.6	+1.0
DGRG	David-gareji	2.62	13	P	Pg	12 14 50.0	-0.9
DGRG				S	Sg	12 15 27.5	+2.7
EZM	Erzurum	2.69	293	ePN	Pn	12 14 45.2	+0.2
GLBA	Clilabad SNR=2.9	2.98	82	P	Pb	12 14 52.7	-1.6
GLBA				S	Sb	12 15 33.8	+2.8
BNGB	Bing¯¶l	3.05	273	ePN	Pn	12 14 50.3	+0.6
SEKA	Sheki SNR=4.9	3.06	40	P	Pb	12 14 56.4	+0.8
SEKA				S	Sg	12 15 40.6	+1.8
BINT	Bingol	3.20	271	ePn	Pn	12 14 50.3	-1.5
PQL	Pirkuli SNR=3.0	3.62	57	P	Pn	12 15 01.4	+3.9
PQL				S	Sg	12 15 58.2	+1.4
PTK	Pertek	4.05	272	ePN	Pn	12 15 05.5	+1.8
PTK	Pertek	4.05	272	ePn	Pn	12 15 05.5	+1.8

*AUST **16** 12:26:01.3±6.0, 4.40S×134.06E, h5km, Error ellipse: s-maj=1.7km s-min=0.9km az=236.0*
*DJA **16** 12:26:16.3±0.9, 4.5S×13.3E±1.0, h10km, M3.8/5, MLv3.8/5*

ISC 16 12:26:00.8±1.3, 4.4S±0.1×134.0E±0.1, h10km, n15, σ2°55/10, Irian Jaya region

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

TLE	Tual baz=1.8,SNR=4.8	1.81	226	P		Pg	12 26 36.4	+0.9
TLE	Tual	1.81	226	P		Pg	12 26 48.4	+13
FAKI	Fak Fak	2.30	309	P		Pn	12 26 34.9	-3.9
SWI	Sorong baz=4.5,SNR=4.5	4.46	321	P		Pn	12 27 07.5	-1.1
SWI	Sorong	4.46	321	P		Pn	12 27 09.8	+1.2
MSAI	Masohi	5.20	281	P		Pn	12 27 17.3	-1.5
AAI	Ambon baz=5.9,SNR=5.1	5.87	276	P		Pn	12 27 27.2	-0.8
AAI	Ambon	5.87	276	P		Pn	12 27 27.3	-0.7
KDU	Kakadu baz=8.4,SNR=5.9	8.40	191	P		Pn	12 28 06.0	+3.3
MTN	Manton Dam baz=8.9,SNR=25	8.89	199	P		Pn	12 28 10.7	+1.3
COEN	Coen baz=13,SNR=5.1	13.11	137	P		Pn	12 29 04.3	-2.9
PCI	Palu baz=15,SNR=4.7	14.60	283	S		S	12 32 39.0	+10
FITZ	Fitzroy Crossi baz=16,SNR=13	15.93	210	P		Pn	12 29 42.3	-2.9
QLP	Quilpie baz=24,SNR=3.9	24.14	157	P		P	12 31 21.7	+4.5
KAAM	Kaadhehdhoo baz=61,SNR=3.9	61.18	273	P		P	12 36 06.9	-9.5

*ISK **16** 13:40:09.5, 39.75N×33.31E, h2km, ML2.1*
*DDA **16** 13:40:09.4, 39.76N×33.36E, h7km, MD2.9*
*CSEM **16** 13:40:10.1±0.1, 39.76N×33.35E, h2km, MD2.9, Error ellipse: s-maj=4.1km s-min=2.9km az=132.0*

ISC 16 13:40:10.2±1.1, 39.77N±0.03×33.34E±0.03, h3km±11km, n31, σ0°37/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBAL	Bala	0.28	217	iP	Pg	13 40 15.3	-0.3
BBAL				iS	Sg	13 40 19.6	+0.3
BBAL	Bala	0.28	217	iP	Pg	13 40 15.3	-0.3
BBAL				iS	Sg	13 40 19.6	+0.3
AFSR	Af¯ar-Bala (A	0.38	214	ePG	Pg	13 40 17.4	-0.2
AFSR				eSG	Sg	13 40 22.9	+0.4
AFSR	Af¯ar-Bala (A	0.38	214	ePg	Pg	13 40 17.4	-0.2
AFSR				eSg	Sg	13 40 22.9	+0.4
LOD	Lodumlu	0.46	286	ePG	Pg	13 40 19.3	+0.2
LOD	Lodumlu	0.46	286	ePg	Pg	13 40 19.3	+0.2
ELDT	Eldivan	0.73	5	iP	Pg	13 40 24.6	+0.5
ELDT				eS	Sg	13 40 33.0	-0.6
ELDT	Eldivan	0.73	5	iP	Pg	13 40 24.6	+0.5
ELDT				eS	Sg	13 40 33.0	-0.6
CDAG	Cicekdag	0.81	100	iP	Pg	13 40 25.0	-0.6
CDAG				iS	Sg	13 40 36.3	+0.2
CDAG	Cicekdag	0.81	100	iP	Pg	13 40 25.0	-0.6
CDAG				iS	Sg	13 40 36.3	+0.2
CANT	Cankiri	0.86	14	ePG	Pb	13 40 27.4	-0.5
CANT				eSG	Sb	13 40 40.3	+0.4
CORM	Corum	1.07	67	ePN	Pg	13 40 30.5	-0.2
CORM				eSN	Sn	13 40 47.4	-0.2
CORM	Corum	1.07	67	ePn	Pg	13 40 30.5	-0.2
CORM				eSn	Sn	13 40 47.4	-0.2
CTKT	Corum	1.40	52	iP	Pb	13 40 37.0	-0.1
CTKT				iS	Sg	13 40 55.4	+0.2
CTKT	Corum	1.40	52	iP	Pb	13 40 37.0	-0.1
CTKT				iS	Sg	13 40 55.4	+0.2
KIZT	Kizilcal	1.44	233	ePN	Pn	13 40 36.9	-0.4
KIZT	Kizilcal	1.44	233	ePn	Pn	13 40 36.9	-0.4
SVRH	Sivrihisar-ESK	1.44	258	ePN	Pn	13 40 37.1	-0.2
SVRH	Sivrihisar-ESK	1.44	258	ePn	Pn	13 40 37.1	-0.2
YOZ	Yozgat	1.53	94	ePN	Pb	13 40 39.2	0.0
YOZ	Yozgat	1.53	94	ePn	Pb	13 40 39.2	0.0
SULT	Sultanhani-AKS	1.57	175	ePN	Pn	13 40 39.1	+0.1
SULT	Sultanhani-AKS	1.57	175	ePn	Pn	13 40 39.1	+0.1
LADK	Ladik-KONYA	1.74	206	ePN	Pn	13 40 41.5	+0.1
LADK	Ladik-KONYA	1.74	206	ePn	Pn	13 40 41.5	+0.1
NIG	Nigde	1.93	149	ePN	Pn	13 40 44.8	+0.7
NIG	Nigde	1.93	149	ePn	Pn	13 40 44.8	+0.7
KONT	Konya--Tatoy	1.97	203	ePN	Pn	13 40 44.9	+0.4
KONT	Konya--Tatoy	1.97	203	ePn	Pn	13 40 44.9	+0.4
BNN	Bunyan	2.15	114	ePN	Pn	13 40 47.4	+0.4
BNN	Bunyan	2.15	114	ePn	Pn	13 40 47.4	+0.4

KRSC 16 13:53:34.5±0.8, 52.45N×159.65E, h23km±23km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.69	19	eP	Pn	13 53 48.4	-0.4
SPN				iS	Sn	13 53 58.5	-0.3
RUS	Russkaya	0.70	269	eP	Pn	13 53 48.7	-0.2
RUS				iS	Sn	13 53 58.7	-0.3
NLC	Nalytchevo	0.75	346	eP	Pb	13 53 49.1	+0.3
NLC				iS	Sn	13 53 59.6	-0.6
PET	Petropavlovsk	0.83	314	eP	Pb	13 53 50.5	+0.2
PET				iS	Sn	13 54 01.8	-0.6
MTVR	Mutnovka	0.90	273	eP	Pn	13 53 51.8	-0.1
MTVR				iS	Sb	13 54 03.7	+0.4
UGLR	Uglovaya	0.91	327	eP	Pn	13 53 52.0	0.0
UGLR				iS	Sn	13 54 04.4	-0.2
SDLR	Sedlovina	0.95	331	eP	Pb	13 53 52.3	-0.2
SDLR				iS	Sb	13 54 04.7	-0.1
SMAR	Somma	0.96	328	eP	Pb	13 53 52.5	-0.3
SMAR				iS	Sb	13 54 05.3	0.0
GRL	Gorelyy	0.97	277	eP	Pn	13 53 53.7	+0.8
GRL				iS	Sn	13 54 07.3	+1.3
AVH	Avacha	0.99	326	eP	Pn	13 53 53.1	+0.1
AVH				iS	Sn	13 54 06.2	-0.2
KRER	Koryakskii	1.01	328	eP	Pn	13 53 53.5	-0.1
KRER				iS	Sb	13 54 06.7	-0.1
KOK	Koryaka	1.04	324	eP	Pn	13 53 53.9	0.0
KOK				iS	Sb	13 54 07.5	+0.1
ASAK	Asacha	1.07	267	eP	Pb	13 53 54.7	+0.2
ASAK				iS	Sn	13 54 08.9	+0.4
APC	Apacha	1.59	288	eP	Pb	13 54 02.3	-0.9
APC				iS	Sb	13 54 22.8	0.0
GNL	Ganaly	1.62	321	eP	Pn	13 54 02.3	+0.5
GNL				iS	Sn	13 54 22.4	+0.4
MIPR	Malaya Ipel'ka	1.78	266	eP	Pb	13 54 05.3	-1.2
MIPR				iS	Sb	13 54 27.8	-0.6
MKZ	Mys Kozlova	2.45	30	eP	Pn	13 54 13.1	+0.1
MKZ				iS	Sn	13 54 40.9	-1.2
TUMR	Tumrok	2.85	6	eP	Pn	13 54 20.3	+1.5
KMNR	Kamenistaya	3.33	6	eP	Pn	13 54 28.2	+2.9
KMNR				iS	Sn	13 55 06.7	+2.5
BZMR	Bezymyannaya	3.53	8	eP	Pn	13 54 31.0	+3.0
ESO	Esso	3.53	351	eP	Pn	13 54 29.9	+2.0
KIRR	Kirishev	3.53	6	eP	Pn	13 54 31.2	+3.1
KPT	Kopyto	3.54	5	eP	Pn	13 54 30.8	+2.7
BZGR	Bezymyannyi-Gr	3.55	10	eP	Pn	13 54 30.6	+2.3
BZGR				iS	Sn	13 55 11.7	+2.1
BZWR	Bezymyannyi-We	3.56	8	eP	Pn	13 54 31.3	+2.8
KOZ	Kozyrevsk	3.62	2	eP	Pn	13 54 32.1	+3.0
ZLN	Zelenaya	3.64	10	eP	Pn	13 54 32.7	+3.2
CIRR	Tsirk	3.73	10	eP	Pn	13 54 33.3	+2.5
KRSR	Krestovskiy	3.81	8	eP	Pn	13 54 34.8	+2.9
KRSR				iS	Sn	13 55 19.3	+3.2
SRDR	Sredinnyy	3.88	1	eP	Pn	13 54 34.7	+2.0
KLY	Klyuchi	3.92	8	eP	Pn	13 54 35.6	+2.5
KLY				iS	Sn	13 55 20.1	+1.8
KBTR	Krutoberegovo	4.20	25	eP	Pn	13 54 38.6	+1.6
KBTR				iS	Sn	13 55 25.3	0.0

*ISCJB **16** 14:05:05.5±1.2, 36.46N±0.09×71.2E±0.3, h200km, mb3.0/2, Error ellipse: s-maj=30.0km s-min=11.4km az=10.6*
*IDC **16** 14:05:07.6±7.7, 36.44N×71.80E, h191km±61km, mb2.8/2, mb1 2.9/6, mb1mx2.7/28, mbtmp2.8/6, Error ellipse: s-maj=105.1km s-min=46.1km az=79.0*

ISC 16 14:05:06.8±1.7, 36.5N±0.1×71.2E±0.2, h200km, n8, σ1°09/10, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array 0.4nm,0.4s,baz=178,slow=12,SNR=12	6.61	356	⇓Pn	Pn	14 06 41.7	-0.2
KK31				Sn	Sn	14 07 50.8	-6.6
AAK	Ala-Archa 1.6nm,0.3s,baz=170,slow=8.5,SNR=24	6.62	21	P	Pn	14 06 42.0	-0.3
AAK				S	Sn	14 07 56.2	-1.7

TKM2	0.4nm,0.3s,baz=122,slow=21,SNR=12 Tokmak 2 3.2nm,0.7s	7.24	26	⇑Pn		Pn	14 06 51.8	+1.4
TKM2	1.9nm,0.7s			⇓Sn		Sn	14 08 12.5	-0.1
KURBB	Kurchatov Arra 0.0nm,0.3s,baz=208,slow=9.8,SNR=3.5	15.06	18	P		P	14 08 30.6	+0.4
BVAR	Borovoye Array 0.2nm,0.3s,baz=160,slow=12,SNR=3.7	16.53	358	P		P	14 08 47.9	+1.5
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=221,slow=11,SNR=5.1	19.84	24	P		P	14 09 22.6	+0.4
WRA	Warramunga Arr 0.1nm,0.3s,baz=326,slow=4.9,SNR=6.0	81.85	122	P		P	14 17 03.4	-0.5
ASAR	Alice Springs 0.2nm,0.6s,baz=321,slow=4.6,SNR=7.3	84.11	125	P		P	14 17 14.9	-0.5

*NEIC **16** 14:05:42.3, 26.95S×26.75E, h2km, mb5.0/15, ML4.4(PRE), After PRE.*
*PRE **16** 14:05:42.4±3.0, 26.92S×26.75E, h2km, ML4.4*
*ISCJB **16** 14:05:42.9±0.3, 26.97S±0.02×26.73E±0.03, h11km±2km, mb4.4/32, Error ellipse: s-maj=4.8km s-min=3.1km az=44.9*
*MOS **16** 14:05:43.4±0.7, 26.89S×26.67E, h10km, mb5.1/13, Error ellipse: s-maj=16.7km s-min=9.7km az=87.8*
*SZGRF **16** 14:05:43.7, 26.84S×29.47E, h33km, mb4.7, South Africa*
*IDC **16** 14:05:43.2±0.5, 26.94S×26.67E, h0km, mb4.3/20, mb1 4.5/24, mb1mx4.3/34, mbtmp4.4/24, ML4.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.8/53, Error ellipse: s-maj=13.3km s-min=9.1km az=100.0*

ISC 16 14:05:43.8±0.7, 26.94S±0.02×26.74E±0.03, h7km±4km, n178, σ1°23/198, mb4.7/32, 22C-26D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLEK	Tau Lekoa	0.06	247	⇑iP	Pg	14 05 46.1	+0.4
TLEK				eS	Sg	14 05 47.3	+0.2
TLEK	comp=Z,115µm,0.7s			AML	AML	14 05 48.4	
MOAB	Moab Khotsong	0.07	131	eP	Pg	14 05 46.6	+0.6
MOAB				eS	Sg	14 05 47.5	+0.1
MOAB	comp=Z,92µm,0.2s			AML	AML	14 05 47.7	
BFSD	Buffelsfontein	0.09	32	⇓iP	Pg	14 05 45.7	-0.3
BFSD				eS	Sg	14 05 46.6	-1.0
BFSD	comp=Z,73µm,0.3s			AML	AML	14 05 46.7	
PRYS	Parys	0.56	89	eP	Pg	14 05 54.2	-0.5
PRYS				eS	Sg	14 06 00.8	-1.2
PRYS	comp=Z,6µm,0.7s			AML	AML	14 06 06.3	
KLOF	Kloof	0.98	53	⇓iP	Pg	14 06 02.1	-0.6
KLOF				eS	Sg	14 06 13.9	-1.5
KLOF	comp=Z,13µm,0.3s			AML	AML	14 06 19.1	
KSR	Koster	1.09	8	⇓iP	Pg	14 06 03.9	-0.9
KSR				eS	Sg	14 06 18.0	-1.0
KSR	comp=Z,3µm,0.2s			AML	AML	14 06 21.9	
SWZ	Schweizer	1.27	259	eP	Pg	14 06 08.2	-0.1
SWZ				⇓iP	Pn	14 06 08.4	+0.2
SWZ				eS	Sn	14 06 24.5	-1.1
SWZ	comp=Z,15µm,0.6s			AML	AML	14 06 28.6	
ERPM	east rand prop	1.47	67	⇓iP	Pb	14 06 11.7	0.0
ERPM				eS	Sn	14 06 29.6	-1.0
ERPM	comp=Z,2µm,0.3s			AML	AML	14 06 32.8	
SLR	Silverton	1.83	50	⇓iP	Pn	14 06 16.2	+0.4
SLR				eS	Sn	14 06 38.0	-1.4
SLR	comp=Z,4µm,0.3s			AML	AML	14 06 42.5	
BOSA	Boshof comp=Z,303nm,0.3s,baz=44,slow=13,SNR=846	2.12	218	Pn	Pn	14 06 20.5	+0.7
BOSA	comp=Z,303nm,0.3s,baz=43,slow=17,SNR=179			Pg	Pb	14 06 22.4	-0.3
BOSA	comp=Z,534nm,0.3s,baz=312,slow=18,SNR=14			Sn	Sn	14 06 46.6	+0.1
BOSA	comp=Z,576nm,0.3s,baz=307,slow=22,SNR=19			Lg	Lg	14 06 49.1	
BOSA	Boshof	2.12	218	eP	Pn	14 06 20.2	+0.3
BOSA				Pg	Pb	14 06 22.4	-0.3
BOSA				Sn	Sn	14 06 46.6	+0.1
BOSA				Lg	Lg	14 06 49.1	
BOSA	Boshof	2.12	218	⇓iP	Pn	14 06 20.4	+0.6
BOSA				eS	Sb	14 06 47.3	-2.0
BOSA	comp=Z,2µm,0.3s			AML	AML	14 06 50.6	
LBTB	Lobatse comp=Z,119nm,0.3s,baz=166,slow=13,SNR=396	2.17	332	Pn	Pn	14 06 21.6	+1.2
LBTB	comp=Z,119nm,0.3s,baz=165,slow=18,SNR=376			Pg	Pb	14 06 22.5	-1.0
LBTB	comp=Z,720nm,0.3s,baz=72,slow=20,SNR=51			Sn	Sn	14 06 48.4	+0.7
LBTB	comp=Z,720nm,0.3s,baz=69,slow=19,SNR=62			Lg	Lg	14 06 50.5	
LBTB	comp=Z,1µm,0.3s,baz=257,slow=4.6,SNR=26			Rg	Rg	14 06 58.5	
LBTB	Lobatse	2.17	332	ePn	Pn	14 06 20.7	+0.2
LBTB				Pg	Pb	14 06 22.5	-1.0
LBTB				Sn	Sn	14 06 48.4	+0.7
LBTB				Lg	Lg	14 06 50.5	
LBTB				Rg	Rg	14 06 58.5	
LBTB	Lobatse	2.17	332	⇓iP	Pn	14 06 21.5	+1.0
LBTB				eP	Pb	14 06 21.6	-1.9
LBTB				eS	Sn	14 06 46.0	-1.7
LBTB	comp=Z,3µm,0.8s			AML	AML	14 06 52.5	
HVD	Gariep Dam	3.81	196	⇓iP	Pn	14 06 42.8	-0.3
HVD				eS	Sn	14 07 27.5	-0.8
HVD	comp=Z,754nm,0.4s			AML	AML	14 07 47.3	
CNG	Changalane	4.92	84	eP	Pn	14 06 58.1	-0.2
CNG				eS	Sn	14 07 51.1	-4.4
UPI	Upington	5.07	252	⇑iP	Pn	14 07 00.3	+0.1
UPI				eP	Pb	14 07 00.6	-12
UPI				eS	Sn	14 07 56.9	-2.1
UPI	comp=Z,869nm,0.6s			AML	AML	14 08 25.1	
MSNA	Messina	5.46	34	eP	Pn	14 07 05.0	-0.7
MSNA				eS	Sn	14 08 02.1	-6.8
MSNA	comp=Z,284nm,0.6s			AML	AML	14 08 41.9	
SOE	Somerset East	5.84	190	eP	Pn	14 07 11.4	+0.4
SOE				eS	Sn	14 08 16.4	-1.9
SOE	comp=Z,298nm,0.6s			AML	AML	14 08 59.9	
GRM	Grahamstown	6.36	182	⇑iP	Pn	14 07 17.4	-0.6
GRM				eS	Sn	14 08 26.7	-4.2
GRM	comp=Z,300nm,0.6s			AML	AML	14 09 09.6	
BLWY	Bulawayo	6.98	15	iP	Pn	14 07 26.0	-0.7
BLWY	baz=229,slow=14			i		14 07 26.1	
BLWY				iS	Sn	14 08 40.2	-6.2
BUFB	Buffelsbos	7.39	193	eP	Pn	14 07 31.9	-0.2
BUFB				eS	Sn	14 08 51.9	-4.3
SUR	Sutherland	7.48	222	Pn	Pn	14 07 33.9	+0.4
SUR	comp=Z,18nm,0.3s,baz=54,slow=16,SNR=69			Sn	Sn	14 08 54.8	-4.0
SUR	comp=Z,23nm,0.3s,baz=19,slow=17,SNR

ELIM					*e*S		Sn	14 09 46.3	-7.1
ELIM					AML		AML	14 10 59.6	
	comp=Z,878nm,0.7s								
TSUM	**Tsumeb**	**11.41**	**311**		Pn		**Pn**	**14 08 27.0**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=138,slow=12,SNR=24								
TSUM					Sn		Sn	14 10 28.2	-7.0
	comp=Z,2.4nm,0.3s,baz=244,slow=19,SNR=5.5								
TSUM					Lg		Lg	14 11 39.5	
	comp=Z,3.4nm,0.3s,baz=241,slow=20,SNR=5.5								
TSUM					LR		LR	14 13 03.1	
	comp=Z,117nm,21.4s,baz=337,slow=39								
TSUM	**Tsumeb**	**11.41**	**311**	*e*Pn			**Pn**	**14 08 26.3**	**-1.1**
TSUM					Sn		Sn	14 10 28.2	-7.0
TSUM					Lg		Lg	14 11 39.5	
TSUM	**Tsumeb**	**11.41**	**311**	*e*P			**Pn**	**14 08 27.5**	**+0.2**
TSUM					*e*S		Sn	14 10 28.7	-6.5
LSZ	**Lusaka**	**11.68**	**7**	*e*Pn			**Pn**	**14 08 28.9**	**-2.2**
LSZ					*e*Sn		Sn	14 10 33.7	-8.2
LSZ	**Lusaka**	**11.68**	**7**	*e*P			**Pn**	**14 08 28.8**	**-2.3**
LSZ					*e*S		Sn	14 10 31.8	-10
ABPO	**Ambohimpanom**	**20.43**	**72**	*e*P			Pn	14 10 24.2	+0.1
ABPO					pmax		pmax		
	comp=Z,46nm,1.5s								
ABPO	**Ambohimpanom**	**20.43**	**72**	*e*Pn			Pn	14 10 24.2	+0.1
	comp=Z,46nm,1.5s								
OPO	**Ambohidratompo**	**20.60**	**70**	P			Pn	14 10 25.4	-0.6
	comp=Z,13nm,1.2s,baz=242,slow=11,SNR=6.4								
OPO	**Ambohidratompo**	**20.60**	**70**	P			Pn	14 10 25.4	-0.6
MBAR	**Mbarara**	**26.47**	**9**	P			**P**	**14 11 21.8**	**-0.1**
	comp=Z,2.0nm,0.2s,baz=344,slow=23,SNR=5.5								
MBAR	**Mbarara**	**26.47**	**9**	P			**P**	**14 11 21.8**	**-0.1**
SHEL	**Horse Pasture**	**32.05**	**283**	*e*P			P	14 12 07.9	-3.6
SHEL					pmax		pmax		
	comp=Z,29nm,0.6s								
SHEL	**Horse Pasture**	**32.05**	**283**	*e*P			P	14 12 07.9	-3.6
	comp=Z,29nm,0.6s								
DBIC	**Dimbokro**	**45.30**	**313**	P			**P**	**14 14 02.5**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=97,slow=8.8,SNR=4.5								
DBIC	**Dimbokro**	**45.30**	**313**	P			**P**	**14 14 02.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**46.68**	**325**	P			**P**	**14 14 13.1**	**-0.3**
	comp=Z,5.9nm,0.6s,baz=141,slow=6.9,SNR=39								
TORD	**Torodi Ar. Bea**	**46.68**	**325**	P			**P**	**14 14 13.1**	**-0.3**
SNAA	**Sanae**	**47.69**	**192**	*e*P			**P**	**14 14 21.7**	**+1.0**
	comp=Z,6.0nm,0.9s								
VNA2	**Neumayer--Watz**	**48.05**	**194**	*e*P			**P**	**14 14 24.5**	**+1.1**
	baz=22,slow=7.5								
VNA3	**Neumayer Olymp**	**48.79**	**195**	*e*P			**P**	**14 14 29.7**	**+0.6**
QSPA	**South Pole Qui**	**63.25**	**180**	P			**P**	**14 16 12.6**	**-0.3**
	comp=Z,8.1nm,1.0s,baz=233,slow=2.8,SNR=34								
QSPA	**South Pole Qui**	**63.25**	**180**	*e*P			**P**	**14 16 12.7**	**-0.2**
	comp=Z,17nm,1.2s								
BRTR	**Keskin Array B**	**66.63**	**6**	P			**P**	**14 16 35.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=190,slow=5.8,SNR=5.5								
BRTR	**Keskin Array B**	**66.63**	**6**	P			**P**	**14 16 35.5**	**+0.5**
BDFB	**Brasilia**	**69.70**	**262**	P			**P**	**14 16 54.4**	**-0.5**
	comp=Z,7.2nm,0.7s,baz=111,slow=5.6,SNR=8.5								
BDFB	**Brasilia**	**69.70**	**262**	P			**P**	**14 16 54.4**	**-0.5**
ESDC	**Sonseca Array**	**72.19**	**336**	P			**P**	**14 17 10.2**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=152,slow=5.2,SNR=13								
ESDC	**Sonseca Array**	**72.19**	**336**	P			**P**	**14 17 10.2**	**+0.9**
VNDA	**Vanda**	**72.41**	**171**	P			**P**	**14 17 10.7**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=287,slow=1.7,SNR=4.7								
VNDA	**Vanda**	**72.41**	**171**	P			**P**	**14 17 10.7**	**+0.5**
TRQA	**Tornquist**	**73.00**	**236**	*e*P			**P**	**14 17 15.1**	**+0.6**
	comp=Z,9.6nm,1.1s								
MBDF	**Montbardon**	**73.61**	**345**	*e*P			**P**	**14 17 18.0**	**+0.2**
	comp=Z,16nm,1.1s								
MBDF	**Montbardon**	**73.61**	**345**	*e*P			**P**	**14 17 18.0**	**+0.2**
MBDF					pmax		pmax		
	comp=Z,16nm,1.1s								
MBDF	**Montbardon**	**73.61**	**345**	*e*P			**P**	**14 17 18.0**	**+0.2**
	comp=Z,16nm,1.1s								
ORIF	**Oris-en-Rattie**	**74.00**	**345**	*e*P			**P**	**14 17 21.2**	**+1.2**
	comp=Z,17nm,1.0s								
ORIF	**Oris-en-Rattie**	**74.00**	**345**	*e*P			**P**	**14 17 21.2**	**+1.2**
ORIF					pmax		pmax		
	comp=Z,17nm,1.0s								
ORIF	**Oris-en-Rattie**	**74.00**	**345**	*e*P			**P**	**14 17 21.2**	**+1.2**
	comp=Z,17nm,1.0s								
PSI	**Prapat**	**75.47**	**79**	P			**P**	**14 17 30.1**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=128,slow=19,SNR=3.2								
PSI	**Prapat**	**75.47**	**79**	P			**P**	**14 17 30.1**	**+0.8**
CABF	**La Chapelle**	**75.55**	**345**	*e*P			**P**	**14 17 29.4**	**+0.5**
	comp=Z,17nm,1.0s								
CABF	**La Chapelle**	**75.55**	**345**	*e*P			**P**	**14 17 29.4**	**+0.5**
CABF					pmax		pmax		
	comp=Z,17nm,1.0s								
CABF	**La Chapelle**	**75.55**	**345**	*e*P			**P**	**14 17 29.4**	**+0.5**
	comp=Z,17nm,1.0s								
SMF	**Signal de Mont**	**76.11**	**344**	*e*P			**P**	**14 17 32.4**	**+0.4**
	comp=Z,23nm,1.2s								
SMF	**Signal de Mont**	**76.11**	**344**	*e*P			**P**	**14 17 32.4**	**+0.4**
SMF					pmax		pmax		
	comp=Z,23nm,1.2s								
SMF	**Signal de Mont**	**76.11**	**344**	*e*P			**P**	**14 17 32.4**	**+0.4**
	comp=Z,23nm,1.2s								
GERES	**GERESS Array B**	**76.33**	**351**	P			**P**	**14 17 34.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=184,slow=6.0,SNR=10								
GERES	**GERESS Array B**	**76.33**	**351**	P			**P**	**14 17 34.8**	**+1.4**
AVF	**Avril sur Loir**	**76.37**	**344**	*e*P			**P**	**14 17 34.0**	**+0.5**
	comp=Z,8.3nm,0.7s								
AVF	**Avril sur Loir**	**76.37**	**344**	*e*P			**P**	**14 17 34.0**	**+0.5**
AVF					pmax		pmax		
	comp=Z,8.0nm,0.7s								
AVF	**Avril sur Loir**	**76.37**	**344**	*e*P			**P**	**14 17 34.0**	**+0.5**
	comp=Z,8.3nm,0.7s								
LOR	**Lormes**	**76.69**	**344**	*e*P			**P**	**14 17 35.5**	**+0.2**
	comp=Z,13nm,1.1s								
LOR	**Lormes**	**76.69**	**344**	*e*P			**P**	**14 17 35.5**	**+0.2**
	comp=Z,13nm,1.0s								
MFF	**Saint Martin d**	**77.14**	**341**	*e*P			**P**	**14 17 38.5**	**+0.7**
	comp=Z,27nm,1.1s								
MFF	**Saint Martin d**	**77.14**	**341**	*e*P			**P**	**14 17 38.5**	**+0.7**
MFF					pmax		pmax		
	comp=Z,27nm,1.1s								
MFF	**Saint Martin d**	**77.14**	**341**	*e*P			**P**	**14 17 38.5**	**+0.7**
	comp=Z,27nm,1.1s								
SFTF	**Sexfontaines**	**77.29**	**345**	*e*P			**P**	**14 17 39.6**	**+0.9**
SFTF	**Sexfontaines**	**77.29**	**345**	*e*P			**P**	**14 17 39.6**	**+0.9**
AKASG	**Malin Array Be**	**77.33**	**2**	P			**P**	**14 17 39.1**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=186,slow=5.2,SNR=9.7								
AKASG	**Malin Array Be**	**77.33**	**2**	P			**P**	**14 17 39.2**	**+0.4**
AKASG	**Malin Array Be**	**77.33**	**2**	P			**P**	**14 17 39.1**	**+0.4**
PAGF	**Fort de Pagny**	**77.47**	**346**	*e*P			**P**	**14 17 40.5**	**+0.9**
PAGF	**Fort de Pagny**	**77.47**	**346**	*e*P			**P**	**14 17 40.5**	**+0.9**
GRF	**Grafenberg Arr**	**77.53**	**350**	*e*P			**P**	**14 17 40.5**	**+0.6**
GRF					pmax		pmax		
	comp=Z,10.0nm,1.4s								
GRF	**Grafenberg Arr**	**77.53**	**350**	*e*P			**P**	**14 17 40.5**	**+0.6**
	comp=Z,10.0nm,1.4s								
GIVF	**Givet**	**79.13**	**346**	*e*P			**P**	**14 17 49.3**	**+0.5**
GIVF	**Givet**	**79.13**	**346**	*e*P			**P**	**14 17 49.3**	**+0.5**
GIVF	**Givet**	**79.13**	**346**	*e*P			**P**	**14 17 49.3**	**+0.5**
KKAR	**Karatay Array**	**80.48**	**31**	*e*P			**P**	**14 17 57.4**	**+1.0**
KKAR					pmax		pmax		
	comp=Z,8.0nm,0.9s								
KKAR	**Karatay Array**	**80.48**	**31**	*e*P			**P**	**14 17 57.4**	**+1.0**
	comp=Z,8.0nm,0.9s								
ABKAR	**Akbulak array**	**81.43**	**21**	*e*P			**P**	**14 18 01.5**	**+0.3**
	comp=Z,4.3nm,1.1s								
AKTO	**Aktyubinsk**	**81.87**	**20**	P			**P**	**14 18 04.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=239,slow=0.8,SNR=4.0								
AKTO	**Aktyubinsk**	**81.87**	**20**	P			**P**	**14 18 04.2**	**+0.7**
AKTO	**Aktyubinsk**	**81.87**	**20**	P			**P**	**14 18 04.2**	**+0.7**
AAK	**Ala-Archa**	**82.02**	**33**	P			**P**	**14 18 06.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=213,slow=4.9,SNR=4.0								
AAK	**Ala-Archa**	**82.02**	**33**	P			**P**	**14 18 06.0**	**+1.3**
AAK	**Ala-Archa**	**82.02**	**33**	P			**P**	**14 18 06.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**83.27**	**66**	P			**P**	**14 18 12.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=254,slow=5.4,SNR=7.6								
CMAR	**Chiang Mai Arr**	**83.27**	**66**	P			**P**	**14 18 12.2**	**+0.6**
LPAZ	**La Paz**	**86.97**	**253**	P			**P**	**14 18 30.6**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=78,slow=8.0,SNR=12								
LPAZ	**La Paz**	**86.97**	**253**	*e*P			**P**	**14 18 31.5**	**+0.4**
	comp=Z,10nm,1.3s								
FINES	**FINESS Array B**	**88.07**	**360**	P			**P**	**14 18 34.7**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=131,slow=5.8,SNR=5.4								
FINES	**FINESS Array B**	**88.07**	**360**	P			**P**	**14 18 34.7**	**+0.3**
BVAR	**Borovoye Array**	**88.22**	**25**	P			**P**	**14 18 35.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=226,slow=3.9,SNR=6.5								
BVAR	**Borovoye Array**	**88.22**	**25**	P			**P**	**14 18 35.7**	**+0.4**
BVAR	**Borovoye Array**	**88.22**	**25**	P			**P**	**14 18 35.7**	**+0.4**
KURBB	**Kurchatov Arra**	**89.75**	**30**	P			**P**	**14 18 42.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=228,slow=5.4,SNR=5.5								
KURK	**Kurchatov**	**89.86**	**30**	P			**P**	**14 18 42.4**	**-0.7**
KURK	**Kurchatov**	**89.86**	**30**	P			**P**	**14 18 42.4**	**-0.7**
ASAR	**Alice Springs**	**93.54**	**119**	P			**P**	**14 19 01.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=229,slow=4.9,SNR=21								
ASAR	**Alice Springs**	**93.54**	**119**	P			**P**	**14 19 01.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**126.62**	**50**	*e*			**SKSac**	**14 31 52.0**	**-1.6**
YSS					pmax		pmax		
	comp=N,150nm,0.6s								
YSS					pmax		pmax		
	comp=Z,230nm,0.6s								
YSS					pmax		pmax		
	comp=N,1μm,8.0s								
YSS					pmax		pmax		
	comp=Z,2μm,8.0s								
YKA	**Yellowknife Ar**	**136.28**	**335**	PKP			**PKPdf**	**14 25 04.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=40,slow=2.1,SNR=8.9								
YKA	**Yellowknife Ar**	**136.28**	**335**	PKP			**PKPdf**	**14 25 04.6**	**-0.9**
TXAR	**Lajitas Array**	**136.46**	**285**	PKP			**PKPdf**	**14 25 07.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=116,slow=2.9,SNR=6.0								
TXAR	**Lajitas Array**	**136.46**	**285**	PKP			**PKPdf**	**14 25 07.8**	**+0.8**
PV01	**Paradox Valley**	**141.03**	**298**	*e*PKPpre			PKPpre	14 25 11.2	
PDAR	**Pinedale Array**	**141.27**	**306**	PKhKP			PKPpre	14 25 11.2	
	comp=Z,0.5nm,0.7s,baz=114,slow=6.6,SNR=4.7								
PDAR	**Pinedale Array**	**141.27**	**306**	PKPpre			PKPpre	14 25 11.2	
ILAR	**Eielson Array**	**141.94**	**356**	PKhKP			PKPpre	14 25 11.2	
	comp=Z,0.8nm,0.7s,baz=334,slow=3.5,SNR=8.9								
ILAR	**Eielson Array**	**141.94**	**356**	PKPpre			PKPpre	14 25 11.2	
S18A	**Hurst Farm, BI**	**142.19**	**298**	⇓P			**PKPdf**	**14 25 15.2**	**-2.3**
	baz=142								
TMUT	**Trail Mountain**	**142.99**	**300**	*e*PKPpre			PKPpre	14 25 16.4	
G13A	**Cobalt**	**144.03**	**311**	⇓P			**PKPdf**	**14 25 20.3**	**0.0**
	baz=144								
L14A	**Malta**	**144.08**	**305**	⇓P			**PKPdf**	**14 25 19.6**	**-0.9**
	baz=144								
U15A	**North Rim**	**144.10**	**296**	⇓P			**PKPdf**	**14 25 20.5**	**-0.3**
	baz=144								
DUG	**Dugway**	**144.10**	**302**	⇓P			**PKPdf**	**14 25 19.7**	**-0.8**
	baz=144								
D12A	**Red Ives Fores**	**144.13**	**314**	⇑P			**PKPdf**	**14 25 20.6**	**+0.3**
	baz=144								
H13A	**Challis**	**144.19**	**310**	⇑P			**PKPdf**	**14 25 20.7**	**+0.1**
	baz=144								
I13A	**Wildhorse Cree**	**144.27**	**309**	⇓P			**PKPdf**	**14 25 20.9**	**+0.1**
	baz=144								
C11A	**Tepee Creek (N**	**144.41**	**316**	⇑P			**PKPdf**	**14 25 20.3**	**-0.4**
	baz=144								
J13A	**Cove Ranch, Pi**	**144.44**	**308**	⇑P			**PKPdf**	**14 25 20.9**	**-0.1**
	baz=144								
F12A	**Elk City**	**144.51**	**312**	⇓P			**PKPdf**	**14 25 20.6**	**-0.5**
	baz=145								
214A	**Organ Pipe Nat**	**144.56**	**288**	⇑P			**PKPdf**	**14 25 22.4**	**+0.9**
	baz=145								
HLID	**Hailey**	**144.57**	**308**	*e*PKPdf			**PKPdf**	**14 25 21.4**	**+0.1**
HLID	**Hailey**	**144.57**	**308**	⇑P			**PKPdf**	**14 25 21.5**	**+0.1**
	baz=145								
Y14A	**Wickenburg**	**144.76**	**291**	⇑P			**PKPdf**	**14 25 22.3**	**+0.5**
	baz=145								
PMR	**Palmer**	**145.24**	**357**	*e*PKIKP			**PKPdf**	**14 25 22.4**	**+0.8**
PMR	**Palmer**	**145.24**	**357**	*e*PKP			**PKPdf**	**14 25 22.4**	**+0.8**
R13A	**O'Grain Ranch,**	**145.27**	**299**	⇑P			**PKPdf**	**14 25 24.4**	**+1.7**
	baz=145								
113A	**Mohawk Valley,**	**145.40**	**289**	⇑P			**PKPab**	**14 25 24.2**	**+1.3**
	baz=146								
W13A	**Hualapai Mount**	**145.46**	**293**	⇓P			**PKPab**	**14 25 25.1**	**+1.7**
	baz=146								
MFID	**Camas Ranch**	**145.60**	**308**	*e*PKPbc			**PKPab**	**14 25 25.0**	**+1.5**
MFID	**Camas Ranch**	**145.60**	**308**	⇑P			**PKPab**	**14 25 25.0**	**+1.5**
	baz=146								
PDMCI	**Parker Dam,Lak**	**145.70**	**292**	⇓P			**PKPab**	**14 25 25.5**	**+1.5**
	baz=146								
Y12C	**Tythe**	**146.03**	**291**	⇑P			**PKPab**	**14 25 26.5**	**+1.3**
	baz=146								
BMO	**Blue Mountains**	**146.17**	**311**	*e*PKIKP			**PKPab**	**14 25 25.7**	**+0.1**
BMO	**Blue Mountains**	**146.17**	**311**	*e*PKPbc			**PKPab**	**14 25 25.7**	**+0.1**
GLA	**Glamis**	**146.29**	**290**	⇑P			**PKPab**	**14 25 27.3**	**+0.9**
	baz=146								
R11A	**Troy Canyon, C**	**146.51**	**299**	⇓P			**PKPab**	**14 25 27.8**	**+0.6**
	baz=147								
IRM	**Iron Mountain**	**146.54**	**292**	⇑P			**PKPab**	**14 25 28.1**	**+0.9**
	baz=147								
BC3	**Big Chuckawall**	**146.81**	**291**	⇓P			**PKPab**	**14 25 28.8**	**+0.3**
	baz=147								
GMRC	**Granite Mounta**	**146.93**	**293**	⇓P			**PKPab**	**14 25 29.1**	**+0.2**
	baz=147								
TUQ	**Turquoise Moun**	**147.11**	**294**	⇑P			**PKPab**	**14 25 29.6**	**0.0**
	baz=147								
BELC	**Belle Mtn. Jos**	**147.25**	**292**	⇓P			**PKPab**	**14 25 30.1**	**-0.1**
	baz=147								
HEC	**Hector,Ludlow**	**147.48**	**293**	⇑P			**PKPab**	**14 25 30.9**	**-0.1**
	baz=148								
PFO	**Pinyon Flat Ob**	**147.64**	**291**	*e*PKPbc			**PKPab**	**14 25 31.3**	**-0.4**
PFO	**Pinyon Flat Ob**	**147.64**	**291**	⇑P			**PKPab**	**14 25 31.0**	**-0.7**
	baz=148								
FURC	**Furnace Creek,**	**147.76**	**296**	⇑P			**PKPab**	**14 25 31.7**	**-0.2**
	baz=148								
GSC	**Goldstone**	**147.84**	**294**	⇓P			**PKPab**	**14 25 31.5**	**-0.9**
	baz=148								
MPMC	**Manual Prospec**	**148.31**	**296**	⇑P			**PKPab**	**14 25 33.1**	**-1.4**
	baz=148								
LRMC	**Laurel Mountai**	**148.54**	**295**	⇓P			**PKPab**	**14 25 33.6**	**-1.6**
	baz=149								
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc			**PKPab**	**14 25 33.8**	**-1.7**
	comp=Z,3.5nm,0.5s,baz=61,slow=5.6,SNR=35								
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc			**PKPab**	**14 25 33.8**	**-1.7**
BFSC	**Mount Baldy Ra**	**148.61**	**292**	⇓P			**PKPbc**	**14 25 33.5**	**+1.4**
	baz=149								
EDW2	**Edwards Air Fo**	**148.84**	**293**	⇑P			**PKPbc**	**14 25 34.2**	**+1.7**
	baz=149								
ISA	**Isabella**	**149.15**	**295**	*e*PKP2			**PKPbc**	**14 25 35.1**	**+1.8**
ISA	**Isabella**	**149.15**	**295**	*e*PKPbc			**PKPbc**	**14 25 35.1**	**+1.8**
ISA	**Isabella**	**149.15**	**295**	⇓P			**PKPab**	**14 25 35.3**	**-2.3**
	baz=149								

CSEM **16** *14:08:21.2,34˚.53N×25˚.70E,h19km,MD2.8, After ATH*
ATH 16 14:08:21.2,34˚.53N×25˚.70E,h19km±16km**,MD2.8/**4**,**
Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.34**	**359**	*e*PB	Pg	14 08 28.6	0.0
XRY	**Khrisi**	**0.34**	**359**	*e*Pb	Pg	14 08 28.6	0.0
LAST	**Lasithi**	**0.66**	**344**	*e*PB	Pb	14 08 33.8	-0.3
LAST				*e*SN	Sg	14 08 43.5	+0.3
LAST	**Lasithi**	**0.66**	**344**	*e*Pb	Pb	14 08 33.8	-0.3
LAST				*e*Sn	Sg	14 08 43.5	+0.3
ZKR	**Zakros**	**0.72**	**36**	*e*PN	Pg	14 08 35.6	+0.1
ZKR				*e*SN	Sg	14 08 45.3	+0.2
ZKR	**Zakros**	**0.72**	**36**	*e*Pn	Pg	14 08 35.6	+0.1
ZKR				*e*Sn	Sg	14 08 45.3	+0.2
NPS	**Neapolis**	**0.73**	**354**	*e*PB	Pb	14 08 34.4	-1.0
NPS				*e*SN	Sg	14 08 45.6	0.0
NPS	**Neapolis**	**0.73**	**354**	*e*Pb	Pb	14 08 34.4	-1.0
NPS				*e*Sn	Sg	14 08 45.6	0.0

BJI **16** *14:15:47.8,3˚.00N×126˚.89E,h35km, mB6.2/54, mb5.9/62, Ms6.2/83, Ms7 6.2/72*

IDC **16** *14:15:50.8±0.3,3˚.79N×126˚.64E, h0km, mb5.7/43, mb1 5.7/43, mb1mx5.7/45, mbtmp5.7/43, MS5.9/26, Ms1 5.9/26, ms1mx5.7/46, Error ellipse: s-maj=12.0km s-min=9.7km az=76.0*

ISCJB **16** *14:15:53.6±0.1,3˚.76N±0˚.02×126˚.80E±0˚.02, h30km, mb6.1/231, MS6.0/215, Error ellipse: s-maj=2.8km s-min=2.2km az=177.9*

MOS **16** *14:15:53.6±1.2,3˚.66N×126˚.69E, h33km, mb6.3/77, MS5.9/40, Error ellipse: s-maj=8.4km s-min=4.4km az=116.8*

NEIC **16** *14:15:56.5±0.1,3˚.81N×126˚.55E, h35km, mb6.2/118, ME6.5, MS6.0/146, MW6.3, MW6.1, MW6.3(USGS), Error ellipse: s-maj=5.9km s-min=5.1km az=70.0 Broadband fault plane solution: P waves. NP1:ϕs135.00000°, δ60.00000°, λ25.00000°. NP2:ϕs32.00000°, δ69.00000°, λ148.00000°. Principal axes: T Plg38.0000°, Azm351.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm85.0000°; Moment Tensor Solution. s67 Moment tensor: Scale 10¹⁸ Nm; Mrr0.62; Mθθ0.34; Mϕϕ-0.96; Mrθ1.08; Mϕr0.53; Mθr0.62; Best double couple: Mo1.60000×10¹⁸ NP1:ϕs21.00000°, δ70.00000°, λ134.00000°. NP2:ϕs130.00000°, δ48.00000°, λ28.00000°. Principal axes: T 1.8100, Plg46.0000°, Azm335.0000°; N -0.6100, Plg40.0000°, Azm181.0000°; P -1.2000, Plg13.0000°, Azm80.0000°; Energy computed from BB mechanism.*

NEIC Felt [V] at Melonguanne and in the Kepulauan Talaud; [III] at Marore and Tahuna. Also felt at Manado. Felt [II PIVS] at Davao, Philippines.

AUST **16** *14:15:56.4±0.5,3˚.63N×126˚.89E,h33km Error ellipse: s-maj=0.6km s-min=0.4km az=44.0*

TEH **16** *14:15:57.0,3˚.82N×126˚.53E,h35km,ML6.0*

DJA **16** *14:15:59.3±0.3,4˚.N±2˚×12˚.7E±˚,h61km±3km,M6.3/109, mb6.1/109, mB6.5/104, MLv6.5/10, Mw(mB)6.2/104, Mwp6.3/74*

GCMT **16** *14:16:04.0±0.1,3˚.77N×126˚.68E,h20km,MW6.3, Moment Tensor Solution. s127,c303; s93,c153; Moment tensor: Scale 10¹⁸Nm; Mrr2.01±.02; Mθθ1.03±.02; Mϕϕ-3.04±.02; Mrθ2.98±.06; Mθϕ0.45±.02; Mθr1.21±.04; Best double couple: Mo4.00000×10¹⁸ NP1:ϕs146.00000°, δ44.00000°, λ31.00000°. NP2:ϕs33.00000°, δ69.00000°, λ129.00000°. Principal axes: T 4.7300, Plg49.0000°, Azm346.0000°; N -1.4000, Plg36.0000°, Azm196.0000°; P -3.3300, Plg15.0000°, Azm95.0000°; Data Used: II IU CN IC G. Surface waves: sta=121, comp=205, per= 50.*

NEIC **16** *14:16:16.8±0.0,3˚.89N×126˚.72E,h10km,Moment Tensor Solution. s180 Moment tensor: Scale 10¹⁸Nm; Mrr1.92; Mθθ0.86; Mϕϕ-2.78; Mrθ1.56; Mθϕ0.40; Mϕr2.30; Best double couple: Mo3.70000×10¹⁸ NP1:ϕs23.00000°, δ72.00000°, λ117.00000°. NP2:ϕs144.00000°, δ32.00000°, λ35.00000°. Principal axes: T 3.7400, Plg54.0000°, Azm326.0000°; N -0.0200, Plg25.0000°, Azm194.0000°; P -3.7300, Plg22.0000°, Azm93.0000°;*

ISC 16 14:15:56.3±0.3,3.73N±0.03×126.62E±0.03,h34km, h34km:pP-P,n1530,σ1969/1588,mb6.1/227,MS6.0/222, 181C-167D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.09**	**268**	P	Pb	14 16 21.1	+4.4
GSPH	**General Santos**	**2.88**	**325**	⇑*i*P	**Pb**	**14 16 44.1**	**-3.0**
MNI	**Manado**	**2.88**	**218**	P	**Pn**	**14 16 42.2**	**+2.4**
TNTI	**Ternate**	**3.03**	**166**	P	**Pn**	**14 16 41.0**	**-0.8**
DAV	**Davao City (W)**	**3.48**	**343**	Pn	**Pn**	**14 16 50.6**	**+2.6**
	157nm,0.3s,baz=114,slow=1.9,SNR=106						
DAV	**Davao City (W)**	**3.48**	**343**	*e*P	**Pn**	**14 16 50.7**	**+2.6**
DAV	**Davao City (W)**	**3.48**	**343**	⇑*e*P	Pb	14 16 53.8	-3.4
DAV	**Davao City (W)**	**3.48**	**343**	P	Pn	14 16 51.5	+3.5
	SNR=379						
DAV	**Davao City (W)**	**3.48**	**343**	P	Pb	14 16 53.8	-3.4
DMPH	**Davao City--Mi**	**3.52**	**342**	⇑*e*P	Pn	14 16 52.3	+3.8
DMPH				*e*S	**Sb**	**14 17 44.4**	**+4.3**
KCP	**Kidapawan**	**3.60**	**335**	⇓*i*P	**Pn**	**14 16 50.7**	**+0.9**
KCP				*i* S	Sb	14 17 52.9	+10
KMSI	**Cibinong**	**4.09**	**220**	P	Pn	14 17 00.4	+3.9
CTBH	**Cotabato--PC H**	**4.20**	**326**	⇑*e*P	Pn	14 17 01.4	+3.5
LBMI	**Labuha**	**4.42**	**169**	P	**Pn**	**14 17 00.7**	**-0.3**
CGP	**Cagayan de Oro**	**5.08**	**338**	*e*P	Pn	14 17 14.7	+4.8
MRSI	**Marisa**	**5.68**

1µm,1.7s,33µm111µm
PIP Pasuquin 15.65 338⇑ eP Pn 14 19 35.6 +1.1
PBKI Pangkalan Bun 16.25 247 P P 14 19 46.0 +1.1
2µm,1.0s,51µm119µm
KHKI Kahang-Kahang 16.28 222 P P 14 19 46.4 +1.3
913nm,1.2s,16µm114µm
SRBI Singaraja 16.34 224 P P 14 19 46.3 +0.4
2µm,1.1s,23µm84µm
KSM Kuching 16.45 263 eP P 14 19 47.7 +0.6
866nm,1.0s
KSM Kuching 16.45 263 P P 14 19 48.9 +1.8
baz=17,SNR=38
KSM S S 14 23 16.9 +19
baz=17,SNR=4.2
KSM Kuching 16.45 263 P P 14 19 48.7 +1.7
KSM Kuching 16.45 263 P P 14 19 49.0 +1.9
960nm,1.0s,25µm159µm
KMMI Kalianget 16.56 230 P P 14 19 48.0 -0.2
592nm,1.2s,26µm214µm
DNP Denpasar 16.77 223 P P 14 19 53.3 +2.7
3µm,1.2s,52µm187µm
BWJI Bawean 16.88 236 P P 14 19 55.9 +4.0
441nm,1.4s,8µm25µm
IGBI Denpasar 16.92 223 P P 14 19 54.3 +2.1
546nm,1.1s
NBBI Negara 16.96 225 P P 14 19 54.1 +1.4
1µm,1.3s,31µm155µm
BYJI Banyuwangi 17.04 226 P P 14 19 56.8 +3.2
3µm,1.0s,48µm
MTN Manton Dam 17.06 165 P Pn 14 19 49.9 -2.4
baz=17,SNR=21
BLJI Banyuglugur 17.29 229 P P 14 19 57.2 +0.9
1µm,0.8s,21µm107µm
KDU Kakadu 17.31 160 P Pn 14 19 50.3 -5.1
baz=17,SNR=24
JAGI Jajag, Banyuwa 17.36 226 P P 14 19 58.8 +1.6
1µm,1.1s,26µm107µm
GMJI Gumukmas 17.74 228 P P 14 20 03.4 +2.0
1µm,1.0s,23µm
MMPI Merauke 18.30 131 P P 14 20 01.5 -6.1
baz=18,SNR=6.7
MMPI Merauke 18.30 131 P P 14 20 07.3 -0.3
2µm,1.0s,29µm
KRKI Karangkates 18.41 230 P Pn 14 20 10.0 +1.0
3µm,1.0s,26µm157µm
SJI Sawahan 18.69 232 P Pn 14 20 12.2 -0.3
1µm,1.1s,14µm71µm
PWJI Pagerwojo 18.83 232 P P 14 20 13.0 -0.4
1µm,1.1s,13µm79µm
SMRI Semarang 19.38 236 P Pn 14 20 20.5 -0.2
606nm,1.1s,18µm129µm
PCJI Pacitan 19.43 232 P P 14 20 19.5 -0.4
1µm,1.1s,12µm90µm
TWG Pinlang 19.73 345 eP P 14 20 20.9 -2.2
2µm,0.6s
UGM Wanagama 19.79 234 P P 14 20 24.4 +0.5
baz=20,SNR=5.1
UGM Wanagama 19.79 234 P P 14 20 24.0 +0.1
1µm,1.2s,13µm117µm
YOGI Yogyakarta 19.92 235 P Pn 14 20 27.1 0.0
2µm,1.1s,31µm88µm
TPI Tanjungpandan 20.02 252 P Pn 14 20 31.7 +3.4
486nm,1.6s,8µm
BJII Banjamegara 20.14 237 P P 14 20 28.4 +0.6
1µm,1.6s,23µm123µm
YULB Yu-li 20.22 346 eP P 14 20 25.4 -3.1
580nm,0.8s
TPUB Ta-pu 20.31 344 eP P 14 20 27.2 -2.2
1µm,0.6s
TGJI Tegal 20.39 239 P P 14 20 30.7 +0.2
395nm,0.8s,14µm
GUMO Guam 20.51 60 P P 14 20 31.3 -0.4
109nm,0.6s,baz=181,slow=9.7,SNR=4.3
GUMO LR LR 14 26 30.0
comp=Z,20µm,21.1s,baz=234,slow=31
GUMO Guam 20.51 60 P P 14 20 30.9 -0.7
472nm,0.9s
SSLB Suanglung 20.68 345 eP P 14 20 31.6 -1.9
1µm,0.8s
NACB Ninganchiao 20.90 347 eP P 14 20 34.0 -1.9
496nm,0.8s
CLJI Cilicap 20.93 237 P Pn 14 20 37.9 -1.0
439nm,1.1s,9µm64µm
PPBI Pangkal Pinang 21.29 254 P P 14 20 43.5 +3.3
480nm,1.2s,10µm79µm
YHNB Yeheng 21.43 347 eP P 14 20 39.4 -2.2
894nm,0.6s
YHNB LR LR
comp=Z,73µm,20.0s
LEM Lembang 21.67 241 P P 14 20 53.1 +8.7
baz=22,SNR=5.0
LEM Lembang 21.67 241 P P 14 20 44.8 +0.4
comp=Z,1µm,1.1s,comp=Z,19µm
TATO Taipei 21.70 347 eP P 14 20 43.7 -0.7
comp=Z,400nm,0.6s
TATO LR LR
comp=Z,61µm,20.0s
TATO Taipei 21.70 347 P P 14 20 44.4 +0.1
SNR=16
TATO mb 14 20 53.4
SNR=45
FITZ Fitzroy Crossi 21.71 183 P P 14 20 43.7 -0.8
comp=Z,73nm,0.6s,baz=17,slow=10,SNR=47
FITZ S S 14 24 38.4 -4.8
comp=Z,120nm,1.1s,baz=180,slow=18,SNR=3.1
FITZ Fitzroy Crossi 21.71 183 P P 14 20 43.7 -0.8
FITZ S S 14 24 38.4 -4.8
FITZ Fitzroy Crossi 21.71 183 P P 14 20 41.6 -3.0
baz=22,SNR=82
CISI Cisompet, Garu 21.86 239 P P 14 20 45.8 -0.5
comp=Z,946nm,1.4s,comp=Z,13µmcomp=Z,93µm
HKC Hong Kong Obse 22.06 328⇑ iP P 14 20 50.0 +1.7
HKC *i* S S 14 24 50.0 +0.1
CBJI Citeko 22.16 243 P P 14 20 50.9 +1.4
comp=Z,3µm,1.2s,comp=Z,40µmcomp=Z,297µm
TNG Tangerang 22.24 244 P P 14 20 52.3 +1.9
comp=Z,2µm,1.2s,comp=Z,30µmcomp=Z,109µm
TNG Tangerang 22.24 244 P P 14 20 52.2 +1.9
DBJI Dramaga 22.31 243 P P 14 20 51.7 +0.5
comp=Z,1µm,1.3s,comp=Z,17µmcomp=Z,79µm
QIZ Qiongzhong 22.37 314 P P 14 20 51.8 +0.2
QIZ sP **sP** 14 21 02.6 -2.4
QIZ S S 14 24 55.0 -0.6
QIZ sS Sn 14 25 08.9 -0.1
QIZ pmax pmax
comp=Z,120nm,1.0s
QIZ LR LR
comp=N,26µm,17.7s
QIZ LR LR
comp=E,24µm,18.1s
QIZ LR LR
comp=Z,78µm,18.3s
QIZ Qiongzhong 22.37 314 eP P 14 20 51.9 +0.2
comp=Z,403nm,1.1s
QIZ LR LR
comp=Z,65µm,19.0s
QZH Quanzhou 22.47 341⇑ iP P 14 20 53.5 +0.8
QZH S S 14 24 54.1 -3.2
QZH pmax pmax
comp=Z,2µm,0.7s
QZH pmax pmax
comp=Z,16µm,5.3s
QZH LR LR
comp=N,111µm,17.9s
QZH LR LR
comp=E,17µm,12.4s
QZH LR LR
comp=Z,164µm,19.3s
SBJI Serang 22.68 245 P P 14 20 57.5 +2.4
comp=Z,2µm,1.4s,comp=Z,20µm
SKJI Sukabumi 22.69 242 P P 14 20 56.9 +1.7
comp=Z,1µm,1.3s,comp=Z,19µmcomp=Z,69µm
PMBI Palembang 22.82 253 P P 14 20 59.0 +2.5
comp=Z,2µm,1.0s,comp=Z,29µm
MYKOM Kota Tinggi 22.83 266 P P 14 20 59.2 +2.6
MYKOM Kota Tinggi 22.83 266 P P 14 20 58.0 +1.4
comp=Z,514nm,0.9s,comp=Z,13µmcomp=Z,108µm
JOW Kunigami 23.03 4 P P 14 20 58.6 +0.1
comp=Z,792nm,0.9s,baz=193,slow=8.3,SNR=112
JOW LR LR 14 29 21.2
comp=Z,37µm,19.2s,baz=191,slow=35
JOW Kunigami 23.03 4 eP P 14 20 58.4 -0.1
comp=Z,311nm,0.8s
GZH Guangzhou 23.14 327 P P 14 21 03.3 +3.6
GZH S S 14 25 15.8 +6.8
GZH LR LR
comp=N,42µm,17.6s
GZH LR LR
comp=E,46µm,19.6s
GZH LR LR
comp=Z,72µm,16.8s
BLSI Bandar Lampung 23.18 247 P P 14 21 02.0 +1.7
comp=Z,1µm,1.0s,comp=Z,13µmcomp=Z,59µm
CGJI Cibinong 23.28 244 P P 14 21 01.9 +0.7
comp=Z,2µm,1.0s,comp=Z,15µm
KGM Kluang 23.34 266 P P 14 21 02.4 +0.6
KASI Kota Agung 23.93 248 P P 14 21 09.4 +1.9
comp=Z,1µm,0.9s,comp=Z,17µmcomp=Z,68µm
COEN Coen 24.05 137 eP P 14 21 04.1 -4.4
comp=Z,3µm,1.3s
COEN Coen 24.05 137 P P 14 21 04.6 -3.9
baz=24,SNR=77
LWLI Liwa 24.16 249 P P 14 21 10.8 +1.1
comp=Z,1µm,1.0s,comp=Z,19µmcomp=Z,47µm
PMG Port Moresby 24.27 123 P P 14 21 05.8 -4.7
comp=Z,28nm,0.8s,baz=323,slow=6.1,SNR=8.5
PMG Port Moresby 24.27 123 eP P 14 21 06.5 -4.1
PMG LR LR
comp=Z,30µm,21.0s
PMG Port Moresby 24.27 123 P P 14 21 06.9 -3.7
comp=Z,241nm,1.2s,comp=Z,5µmcomp=Z,22µm
RGRI Rengat 24.61 261 P P 14 21 16.4 +2.7
comp=Z,580nm,1.1s,comp=Z,126µm
WRAB Tennant Creek 24.71 162 eP P 14 21 11.1 -3.4
WRAB pmax pmax
comp=Z,2µm,0.9s
WRAB MLR MLR
comp=Z,11µm,19.0s
WRAB Tennant Creek 24.71 162 eP P 14 21 11.1 -3.4
comp=Z,2µm,0.9s
WRAB LR LR
comp=Z,11µm,19.0s
WRAB Tennant Creek 24.71 162 P P 14 21 11.4 -3.1
comp=Z,13µm,0.8s
WRA Warramunga Arr 24.71 162 P P 14 21 10.7 -3.9
comp=Z,390nm,0.9s,baz=331,slow=12,SNR=234
WRA S S 14 25 38.8 +4.4
comp=Z,83nm,0.9s,baz=342,slow=19,SNR=7.6
WRA P3KPbc 14 54 17.5
comp=Z,0.5nm,0.5s,baz=152,slow=3.4,SNR=5.6
WRA Warramunga Arr 24.71 162 P P 14 21 10.7 -3.9
WRA S S 14 25 38.8 +4.4
WRA *e* 14 54 17.5
FRIM Kepong 24.96 270 P P 14 21 18.7 +1.9
MNAI Manna 24.97 251 P P 14 21 19.3 +2.3
comp=Z,1µm,1.4s,comp=Z,19µmcomp=Z,72µm
KSI Kapahiang 25.11 253 P P 14 21 21.3 +3.0
comp=Z,782nm,1.2s,comp=Z,17µmcomp=Z,98µm
XMI Christmas Isla 25.15 236 P P 14 21 21.3 +2.7
baz=25,SNR=9.8
XMIS Christmas Isla 25.20 236 P P 14 21 19.5 +0.4
baz=25,SNR=9.1
XMIS S S 14 25 59.6 +17
baz=25,SNR=3.4
IPM Ipoh 25.54 273 eP P 14 21 21.3 -0.9
comp=Z,1µm,1.3s
IPM Ipoh 25.54 273 P P 14 21 23.5 +1.3
IPM Ipoh 25.54 273 P P 14 21 22.3 +0.1
comp=Z,885nm,1.3s,comp=Z,12µmcomp=Z,74µm
MBWA Marble Bar 25.64 195 eP P 14 21 21.6 -1.2
MBWA LR LR
comp=Z,13µm,20.0s
MBWA Marble Bar 25.64 195 P P 14 21 24.2 +1.3
SNR=37
MBWA mb 14 21 40.1
SNR=62
BKNI Bangkinang 25.79 263 P P 14 21 25.8 +1.4
comp=Z,2µm,1.2s,comp=Z,16µmcomp=Z,72µm
KRJI Kerinci 25.80 257 P P 14 21 26.5 +1.9
comp=Z,1µm,1.1s,comp=Z,27µm
KULM Kulim 25.94 274 eP P 14 21 26.6 +0.9
comp=Z,2µm,1.3s
KULM LR LR
comp=Z,21µm,20.0s
KULM Kulim 25.94 274 P P 14 21 27.1 +1.3
KULM Kulim 25.94 274 P P 14 21 26.1 +0.3
comp=Z,992nm,1.3s,comp=Z,14µm
PPI Padang Panjang 26.54 262 P P 14 21 32.0 +0.8
comp=Z,339nm,1.2s,comp=Z,479µm
PDSI Padang 26.55 261 P P 14 21 36.1 +4.8
comp=Z,448nm,1.3s,comp=Z,10µmcomp=Z,112µm
MNSI Mandailing Nat 27.18 265 P P 14 21 37.5 +0.6
comp=Z,645nm,1.1s,comp=Z,75µm
QIS Mount Isa 27.29 153 P P 14 21 36.5 -1.4
baz=27,SNR=52
CBIJ Chichi jima 27.59 31 P P 14 21 37.8 -2.7
comp=Z,364nm,0.7s,baz=294,slow=4.1,SNR=19
CBIJ LR LR 14 32 46.9
comp=Z,18µm,18.5s,baz=215,slow=37
CBIJ Chichi jima 27.59 31 P P 14 21 37.8 -2.7
PSI Prapat 27.67 269 P P 14 21 40.4 -1.1
comp=Z,45nm,0.8s,baz=89,slow=3.7,SNR=22
PSI S S 14 26 22.6 +0.9
comp=Z,18nm,1.1s,baz=148,slow=6.3,SNR=2.3
PSI Prapat 27.67 269 P P 14 21 40.4 -1.1
PSI S S 14 26 22.6 +0.9
PSI Prapat 27.67 269 P P 14 21 41.5 0.0
baz=28,SNR=19
PSI S S 14 26 26.7 +5.0
baz=28,SNR=4.7
PSI Prapat 27.67 269 P P 14 21 42.3 +0.8
comp=Z,430nm,1.1s,comp=Z,5µmcomp=Z,45µm
SSE Sheshan 27.70 350 ⇑P P 14 21 43.6 +2.2
SSE pP **pP** 14 21 53.8 +2.6
SSE sP **sP** 14 21 59.0 +3.7
SSE S S 14 26 21.3 -0.2
SSE sS **sS** 14 26 37.5 -0.2
SSE pmax pmax
comp=Z,150nm,1.0s
SSE pmax pmax
comp=Z,3µm,5.8s
SSE LR LR
comp=N,7µm,25.1s
SSE LR LR
comp=E,27µm,25.1s
SSE LR LR
comp=Z,22µm,18.8s
SISI Saibi 27.97 260 P P 14 21 42.8 -1.3
comp=Z,385nm,0.9s,comp=Z,10µm
TSI Tuntungan 28.00 270 P P 14 21 46.6 +2.3
comp=Z,586nm,1.3s,comp=Z,10µm
AS31 Alice Springs 28.14 166 eP P 14 21 42.1 -3.3
ASAR Alice Springs 28.14 166 P P 14 21 41.0 -4.4
comp=Z,19nm,0.5s,baz=341,slow=5.5,SNR=91
ASAR PcP **PcP** 14 24 59.5 +0.4
comp=Z,15nm,0.5s,baz=338,slow=2.1,SNR=2.7
ASAR S S 14 26 32.9 +4.3
comp=Z,29nm,1.0s,baz=349,slow=14,SNR=3.1
ASAR P3KPbc 14 54 05.3
comp=Z,2.0nm,0.8s,baz=160,slow=4.9,SNR=15
ASAR Alice Springs 28.14 166 P P 14 21 41.0 -4.4
ASAR PcP **PcP** 14 24 59.5 +0.4
ASAR S S 14 26 32.9 +4.3
ASAR *e* 14 54 05.3
GIRL Giralia 28.87 204 P P 14 21 54.6 +2.7
baz=29,SNR=16
WHN Wuhan 29.09 338 ⇓P P 14 21 53.4 -0.3
WHN pP **pP** 14 22 01.8 -1.7
WHN S S 14 26 43.8 +0.5
WHN LR LR
comp=N,111µm,21.6s
WHN LR LR
comp=E,54µm,21.9s
NJ2 Nanjing 29.11 346 eP P 14 21 55.3 +1.4
NJ2 pP **pP** 14 22 03.8 +0.1
NJ2 sP **sP** 14 22 07.1 -0.7
NJ2 S S 14 26 46.0 +2.4
NJ2 sS **sS** 14 27 00.0 +0.2
NJ2 pmax pmax
comp=Z,110nm,0.8s
NJ2 pmax pmax
comp=Z,6µm,5.1s
NJ2 LR LR
comp=N,25µm,21.5s
NJ2 LR LR
comp=E,52µm,24.4s
NJ2 LR LR
comp=Z,28µm,20.2s
GSI Gunungsitoli 29.12 266 P P 14 21 53.8 -0.5
baz=29,SNR=26
GSI Gunungsitoli 29.12 266 P P 14 21 54.5 +0.2
comp=Z,370nm,0.9s,comp=Z,10µmcomp=Z,75µm
TPTI 29.39 270 P P 14 21 52.4 -4.3
JNU Nakatsue 29.52 7 P P 14 21 55.5 -2.1
comp=Z,316nm,0.9s,baz=180,slow=3.2,SNR=70
JNU LR LR 14 34 01.2
comp=Z,19µm,19.5s,baz=3.4,slow=37
JNU Nakatsue 29.52 7 eP P 14 21 54.7 -2.9
comp=Z,160nm,0.8s
GYA Guiyang 29.61 322⇑ iP P 14 21 59.4 +0.8
GYA pP **pP** 14 22 08.5 +0.1
GYA sP **sP** 14 22 14.8 +2.3
GYA PP **PnPn** 14 22 56.0 +1.8
GYA S S 14 26 50.1 -1.8
GYA sS **sS** 14 27 07.0 -1.1
GYA ScP **ScP** 14 28 41.8 -0.7
GYA ScS **ScS** 14 32 35.0 -2.6
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,3µm,11.2s
GYA LR LR
comp=N,23µm,15.6s
GYA LR LR
comp=E,26µm,17.7s
GYA LR LR
comp=Z,44µm,14.6s
LHMI Lhok Sumawe 29.62 274 P P 14 22 03.1 +4.4
comp=Z,386nm,0.9s,comp=Z,9µmcomp=Z,61µm
CTA Charters Tower 30.53 142 P P 14 22 05.2 -1.4
comp=Z,57nm,0.9s,baz=329,slow=11,SNR=24
CTA Charters Tower 30.53 142 P P 14 22 05.2 -1.4
CTAO Charters Tower 30.53 142 eP P 14 22 04.9 -1.8
CTAO pmax pmax
comp=Z,314nm,1.3s
CTAO MLR MLR
comp=Z,16µm,21.0s
CTAO Charters Tower 30.53 142 eP P 14 22 04.8 -1.8
comp=Z,314nm,1.3s
CTAO LR LR
comp=Z,16µm,21.0s
CM31 Chiang Mai Arr 30.78 301 eP P 14 22 07.9 -1.0
comp=Z,65nm,0.7s
CMAR Chiang Mai Arr 30.78 301 P P 14 22 09.1 +0.1
comp=Z,63nm,0.8s,baz=119,slow=7.5,SNR=98
CMAR ScP **ScP** 14 28 49.0 +2.7
comp=Z,7.0nm,1.0s,baz=144,slow=3.0,SNR=3.6
CMAR LR LR 14 36 40.9
comp=Z,31µm,18.5s,baz=122,slow=41
CMAR P3KPbc 14 53 58.5
comp=Z,3.1nm,1.2s,baz=284,slow=5.1,SNR=8.1
CMAR Chiang Mai Arr 30.78 301 P P 14 22 09.1 +0.1
CMAR ScP **ScP** 14 28 49.0 +2.7
CMAR *e* 14 53 58.5
CHTO Chiang Mai 30.93 301 eP P 14 22 09.9 -0.4
CHTO pmax pmax
comp=Z,229nm,0.9s
CHTO MLR MLR
comp=Z,25µm,19.0s
CHTO Chiang Mai 30.93 301 eP P 14 22 09.8 -0.4
comp=Z,230nm,0.9s
CHTO LR LR
comp=Z,25µm,19.0s
CHTO Chiang Mai 30.93 301 P P 14 22 09.5 -0.7
SNR=149
CHTO mb 14 22 20.5
SNR=250
CHTO Chiang Mai 30.93 301 P P 14 22 09.9 -0.4
comp=Z,299nm,0.9s,comp=Z,5µmcomp=Z,28µm
ENH Enshi 30.98 330 eP P 14 22 09.0 -1.6
comp=Z,402nm,0.7s
ENH LR LR
comp=Z,84µm,21.0s
MEEK Meekatharra 31.16 194 P P 14 22 10.9 -1.3
baz=31,SNR=94
BSI Banda Aceh 31.27 274 P P 14 22 13.4 +0.1
comp=Z,186nm,1.0s,comp=Z,2µmcomp=Z,56µm
KMI Kunming 31.31 315 ⇑P P 14 22 15.1 +1.3
KMI pP **pP** 14 22 25.3 +1.7
KMI sP **sP** 14 22 28.8 +1.1
KMI PP **PnPn** 14 23 18.1 +1.4
KMI S S 14 27 17.3 -1.5
KMI sS **sS** 14 27 33.8 -1.2
KMI pmax pmax
comp=Z,3µm,11.7s
KMI LR LR
comp=N,18µm,15.3s
KMI LR LR
comp=E,27µm,22.2s
KMI LR LR
comp=Z,38µm,20.6s
JHJ Hachijo jima 2 31.73 21 LR LR 14 34 02.5
comp=Z,25µm,21.9s,baz=70,slow=34
TIA Tai'an 33.49 346 ⇑P P 14 22 33.1 +0.6
TIA S **S** 14 27 48.3 -3.9
TIA pmax pmax
comp=Z,160nm,0.9s
TIA pmax pmax
comp=Z,6µm,12.5s
TIA LR LR
comp=N,22µm,21.4s
TIA LR LR
comp=E,40µm,22.0s
TIA LR LR
comp=Z,34µm,21.4s
COCO West Island 33.57 241 PFAKE 14 22 50.0 +17
COCO LR LR
comp=Z,13µm,19.0s
KSAR Wonju Array Be 33.58 2 P P 14 22 32.9 -0.3
KSAR PcP **PcP** 14 25 14.3 +1.1
KSRS Korea Array 33.59 2 P P 14 22 32.9 -0.4
comp=Z,162nm,0.7s,baz=182,slow=8.5,SNR=97
KSRS PcP **PcP** 14 25 14.3 +1.0
comp=Z,23nm,0.7s,baz=183,slow=1.9,SNR=5.7
INCN Inchon 33.60 0 eP P 14 22 32.8 -0.6
comp=Z,230nm,0.7s
INCN LR LR
comp=Z,25µm,20.0s
INCN Inchon 33.60 0 P P 14 22 35.7 +2.3
SNR=11
INCN mb 14 22 46.2
SNR=19
MORW Morawa 34.15 197 P P 14 22 37.8 -0.5
baz=34,SNR=31
FORT Forrest 34.34 178 eP P 14 22 37.0 -2.8
comp=Z,1µm,0.9s
FORT Forrest 34.34 178 P P 14 22 37.4 -2.5
baz=34,SNR=61
MJAR Matsushiro Arr 34.36 17 P P 14 22 38.9 -1.1
comp=Z,42nm,0.9s,baz=194,slow=9.6,SNR=47
MJAR Matsushiro Arr 34.36 17 P P 14 22 38.9 -1.1
MAJO Matsushiro 34.36 17 eP P 14 22 38.0 -2.1
MAJO pmax pmax
comp=Z,135nm,0.8s
MAJO MLR MLR
comp=Z,28µm,19.0s
MAJO Matsushiro 34.36 17 eP P 14 22 38.0 -2.1
comp=Z,135nm,0.8s
MAJO LR LR
comp=Z,28µm,19.0s
MAT Matsushiro 34.36 17 P P 14 22 38.6 -1.4
MAT S **S** 14 28 08.0 +2.5
XAN Xi'an 34.37 333 P P 14 22 37.9 -2.3
XAN pP **pP** 14 22 46.5 -3.6
XAN LR LR
comp=N,25µm,23.5s
XAN LR LR
comp=E,7µm,30.0s
XAN LR LR
comp=Z,14µm,18.3s
CD2 Chengdu 34.58 324 P P 14 22 42.3 +0.2
CD2 pP **pP** 14 22 52.4 +0.4
CD2 sP **sP** 14 22 56.6 +0.5
CD2 S S 14 28 08.0 -1.3
CD2 sS **sS** 14 28 24.8 -0.7
CD2 pmax pmax
comp=Z,200nm,0.8s
CD2 pmax pmax
comp=Z,4µm,11.3s
CD2 LR LR
comp=N,39µm,16.6s
CD2 LR LR
comp=Z,42µm,17.8s
QLP Quilpie 34.61 152 P P 14 22 38.8 -3.5
baz=35,SNR=65
KMBL Kambalda 35.19 187 P P 14 22 45.6 -1.6
baz=35,SNR=14
DL2 Dalian 35.31 353⇑ iP P 14 22 48.4 +0.2
DL2 S **S** 14 28 17.4 -2.7
DL2 pmax pmax

comp=Z,630nm,0.7s
DL2 pmax pmax
comp=Z,3μm,8.8s
DL2 LR LR
comp=N,12μm,20.9s
DL2 LR LR
comp=E,11μm,21.6s
DL2 LR LR
comp=Z,19μm,18.9s
BLDU Ballidu 35.44 195 P **P** **14 22 49.5 +0.1**
baz=36,SNR=29
HNR Honiara 35.69 112 P **P** **14 22 50.2 -1.6**
comp=Z,146nm,0.9s,baz=251,slow=4.0,SNR=5.8
HNR LR LR 14 36 40.7
comp=Z,10μm,21.0s,baz=132,slow=35
HNR Honiara 35.69 112 *e*P P 14 22 46.4 -5.3
comp=Z,434nm,1.3s
KLBR Kellerberrin 36.12 193 P **P** **14 22 55.2 0.0**
baz=36,SNR=18
TIY Taiyuan 36.24 341 *e*P **P** **14 22 57.1 +0.8**
TIY pP **pP** **14 23 06.8 +0.6**
TIY PP **PP** **14 24 22.4 +3.3**
TIY S **S** **14 28 39.4 +4.9**
TIY SS **SnSn** **14 31 07.8 +5.1**
TIY pmax pmax
comp=Z,2μm,6.8s
TIY LR LR
comp=N,24μm,23.0s
TIY LR LR
comp=E,16μm,13.2s
TIY LR LR
comp=Z,37μm,19.4s
RMQ Roma 36.89 146 P **P** **14 22 59.2 -2.6**
baz=37,SNR=28
BJT Baijiatuau 37.35 347 *e*P **P** **14 23 05.4 -0.2**
comp=Z,2μm,0.8s
BJT LR LR
comp=Z,19μm,21.0s
BJI Beijing 37.37 347 P **P** **14 23 05.8 +0.1**
BJI S **S** **14 28 54.3 +2.8**
BJI pmax pmax
comp=Z,100nm,0.8s
BJI pmax pmax
comp=Z,5μm,7.6s
BJI LR LR
comp=N,21μm,19.4s
BJI LR LR
comp=E,8μm,18.6s
BJI LR LR
comp=Z,15μm,20.6s
EIDS Eidsvold 37.41 142 *e*P P 14 23 02.6 -3.8
comp=Z,230nm,0.9s
EIDS Eidsvold 37.41 142 P P 14 23 02.7 -3.6
baz=37,SNR=36
BBOO Buckleboo 37.42 167 *e*P **P** **14 23 03.2 -3.1**
comp=Z,2μm,0.5s
BBOO Buckleboo 37.42 167 P **P** **14 23 03.5 -2.8**
baz=38,SNR=98
NWAO Narrogin (SRO) 37.52 193 P **P** **14 23 07.5 +0.4**
comp=Z,27nm,0.5s,baz=20,slow=7.5,SNR=29
NWAO Narrogin (SRO) 37.52 193 *e*P **P** **14 23 07.3 +0.2**
comp=Z,229nm,1.0s
NWAO LR LR
comp=Z,8μm,21.0s
NWAO Narrogin (SRO) 37.52 193 P P 14 23 16.1 +9.0
SNR=7.4
NWAO mb 14 23 17.1
SNR=15
IMP Imphal 37.79 307 *i* P **P** **14 23 08.0 -1.6**
IMP *i* x x 14 25 34.0
SNY Shenyang 38.03 356 ⇑P **P** **14 23 11.3 0.0**
SNY S **S** **14 29 01.6 +0.1**
SNY pmax pmax
comp=Z,580nm,0.8s
SNY pmax pmax
comp=Z,8μm,8.8s
SNY LR LR
comp=N,13μm,17.1s
SNY LR LR
comp=E,16μm,17.9s
SNY LR LR
comp=Z,16μm,18.5s
STKA Stephens Creek 38.16 159 P **P** **14 23 09.7 -2.9**
comp=Z,39nm,0.4s,baz=331,slow=9.0,SNR=95
STKA Stephens Creek 38.16 159 *e*P **P** **14 23 09.5 -3.1**
comp=Z,0.1nm,2.1s
STKA Stephens Creek 38.16 159 P **P** **14 23 09.5 -3.1**
baz=38,SNR=154
LZH Lanzhou 38.45 330 *e*P **P** **14 23 15.0 -0.2**
LZH pP **pP** **14 23 27.5 +2.4**
LZH sP **sP** **14 23 31.9 +2.7**
LZH PP **PnPn** **14 24 49.0 +3.4**
LZH *e*S **S** **14 29 07.3 -1.1**
LZH pmax pmax
comp=Z,270nm,1.1s
LZH pmax pmax
comp=Z,1μm,4.2s
LZH LR LR
comp=N,21μm,15.1s
LZH LR LR
comp=E,36μm,15.8s
LZH LR LR
comp=Z,68μm,16.8s
RKGY Rocky Gully 39.20 193 P **P** **14 23 21.2 0.0**
baz=39,SNR=21
HHC Hu-ho-hao-te 39.37 342 ⇑P **P** **14 23 24.1 +1.4**
HHC sP **sP** **14 23 37.9 +1.1**
HHC PP **PnPn** **14 24 59.3 +2.9**
HHC S **S** **14 29 23.5 +1.5**
HHC sS **sS** **14 29 39.5 +1.1**
HHC ScS **ScS** **14 33 27.9 -1.1**
HHC pmax pmax
comp=Z,100nm,0.8s
HHC pmax pmax
comp=Z,5μm,10.4s
HHC LR LR
comp=N,30μm,19.4s
HHC LR LR
comp=E,22μm,18.1s
HHC LR LR
comp=Z,29μm,20.6s
CMSA Cobar Meteorol 39.49 154 P **P** **14 23 21.3 -2.4**
baz=40,SNR=60
VLA Vladivostok 39.51 6*c i*P **P** **14 23 24.1 +0.4**
VLA pmax pmax
comp=Z,160nm,0.9s
BTO Baotou 39.65 340 *e*P **P** **14 23 24.9 -0.2**
BTO LR LR
comp=N,10μm,19.4s
BTO LR LR
comp=E,8μm,20.6s
SHL Shillong 39.79 306 *e*P **P** **14 23 26.0 -0.6**
SHL *i* x x 14 29 25.0
CN2 Changchun 39.92 359 *e*P **P** **14 23 26.3 -0.8**
CN2 *e*pP **pP** **14 23 36.3 -0.8**
CN2 *e*PP **PnPn** **14 25 02.6 -0.2**
CN2 *e*S **S** **14 29 29.5 -0.5**
CN2 LR LR
comp=N,13μm,17.0s
CN2 LR LR
comp=E,9μm,17.0s
CN2 LR LR
comp=Z,17μm,19.0s
USRK Ussuriysk Arra 40.59 6 P **P** **14 23 32.0 -0.6**
comp=Z,98nm,0.8s,baz=191,slow=8.2,SNR=102
USRK LR LR 14 40 32.6
comp=Z,13μm,18.8s,baz=298,slow=37
MDJ Mudanjiang 40.81 3 P **P** **14 23 35.0 +0.5**
MDJ pP **pP** **14 23 44.1 -0.3**
MDJ sP **sP** **14 23 47.9 -0.6**
MDJ PP **PP** **14 25 09.1 +0.1**
MDJ PcP **PcP** **14 25 36.0 +0.9**
MDJ ScP **ScP** **14 29 22.3 0.0**
MDJ S **S** **14 29 43.8 +0.6**
MDJ SS **SnSn** **14 32 52.1 -0.6**
MDJ pmax pmax
comp=Z,270nm,1.2s
MDJ pmax pmax
comp=Z,5μm,8.9s
MDJ LR LR
comp=N,15μm,25.1s
MDJ LR LR
comp=E,19μm,29.7s
MDJ LR LR
comp=Z,17μm,25.1s
MDJ Mudanjiang 40.81 3 *e*P **P** **14 23 34.1 -0.3**
comp=Z,637nm,0.9s
MDJ LR LR
ERM Erimo 40.89 19*d i*P **P** **14 23 34.1 -1.1**
ERM pmax pmax
comp=Z,72nm,0.8s
ERM Erimo 40.89 19 *e*P **P** **14 23 35.4 +0.2**
comp=Z,174nm,0.8s
ERM LR LR
comp=Z,20μm,20.0s
ERM Erimo 40.89 19 P **P** **14 23 37.1 +1.9**
comp=Z,954nm,0.9s,SNR=16
ARMA Armidale 41.52 147 *e*P **P** **14 23 37.9 -2.8**
comp=Z,308nm,0.8s
ARMA Armidale 41.52 147 P **P** **14 23 38.3 -2.4**
baz=41,SNR=52
CAL Calcutta 41.52 300 *e*P **P** **14 23 39.0 -1.7**
CAL AMb AMB 14 23 39.7
comp=Z,881nm,0.3s
CAL *ex* x 14 30 01.1
WAKE Wake Island 42.02 65 PFAKE 14 24 00.0 +15
WAKE LR LR
comp=Z,7μm,20.0s
LSA Lhasa 42.36 311 P **P** **14 23 46.6 -1.4**
LSA S S 14 30 00.3 -7.3
LSA LR LR
comp=N,13μm,34.8s
LSA LR LR
comp=E,12μm,33.9s
LSA Lhasa 42.36 311 *e*P **P** **14 23 47.4 -0.6**
LSA pmax pmax
comp=Z,295nm,0.8s
LSA MLR MLR
comp=Z,16μm,19.0s
LSA Lhasa 42.36 311 *e*P **P** **14 23 47.4 -0.6**
comp=Z,296nm,0.8s
LSA LR LR
comp=Z,16μm,19.0s
ASAJ Asahikawa 42.63 17 P **P** **14 23 49.0 -0.3**
comp=Z,211nm,0.6s,baz=227,slow=13,SNR=74
ASAJ LR LR 14 41 41.7
comp=Z,19μm,21.1s,baz=21,slow=36
ASAJ Asahikawa 42.63 17 *e*P **P** **14 23 49.2 -0.1**
ARPS Mount Arapiles 42.72 162 P **P** **14 23 49.1 -1.0**
baz=43,SNR=46
YNG Young 43.03 153 P **P** **14 23 52.8 0.0**
baz=43,SNR=7.5
GTA Gaotai 43.05 329 *e*P **P** **14 23 51.0 -2.0**
GTA pP **pP** **14 24 00.1 -3.0**
GTA sP **sP** **14 24 04.6 -2.5**
GTA PP **PP** **14 25 36.8 +3.4**
GTA S **S** **14 30 12.4 -4.3**
GTA sS **sS** **14 30 33.8 +0.5**
GTA pmax pmax
comp=Z,2μm,8.1s
GTA LR LR
comp=N,25μm,21.1s
GTA LR LR
comp=E,44μm,20.7s
GTA LR LR
comp=Z,54μm,21.6s
MGCD Mangrove Creek 43.43 150 P **P** **14 23 58.2 +2.2**
baz=43,SNR=15
YUK Yuzh-Kuril'sk 43.59 20 *i* P P 14 23 51.0 -6.1
YUK *i* S **S** **14 30 27.7 +3.5**
YUK SSS SSS 14 34 17.7
YUK pmax pmax
comp=E,810nm,1.4s
YUK pmax pmax
comp=Z,2μm,1.4s
YUK pmax pmax
comp=N,637nm,1.4s
YUK pmax pmax
comp=Z,2μm,1.4s
TAPN Taplejung 43.93 306 *e*P **P** **14 23 59.1 -1.5**
comp=Z,347nm,0.8s
ODAN Odare 43.98 306 *e*P **P** **14 23 59.7 -1.2**
comp=Z,548nm,0.8s
CAN Canberra 44.16 153 *e*P **P** **14 24 01.2 -0.7**
CAN pmax pmax
comp=Z,164nm,0.8s
CAN MLR MLR
comp=Z,14μm,22.0s
CAN Canberra 44.16 153 *e*P **P** **14 24 01.2 -0.7**
comp=Z,164nm,0.8s
CAN LR LR
comp=Z,14μm,22.0s
CNB Canberra Magne 44.31 153 P **P** **14 24 04.9 +1.8**
baz=44,SNR=20
RAMN Ramite 44.66 305 *e*P **P** **14 24 05.1 -1.3**
comp=Z,391nm,0.7s
TOO Toolangi 44.67 159 P **P** **14 24 07.0 +1.1**
baz=45,SNR=16
HABR Khabarovsk 45.16 8*c e*P **P** **14 24 09.4 -0.2**
HABR *e**PP **pP** **14 24 17.3 -2.4**
HABR *e**SP **sP** **14 24 21.5 -2.3**
HABR *e* 14 25 47.5
HABR *e* 14 25 54.5
HABR PPP PPP 14 26 34.0
HABR *e*S **S** **14 30 48.1 +1.2**
HABR *e**SS **sS** **14 31 03.1 -0.5**
HABR *e* 14 34 01.6
HABR *e* 14 34 03.0
HABR *e*SSS SSS 14 34 59.9
HABR pmax pmax
comp=N,106nm,1.4s
HABR pmax pmax
comp=Z,340nm,1.4s
HABR pmax pmax
comp=E,68nm,1.4s
HABR pmax pmax
comp=Z,3μm,3.3s
HABR MLR MLR
comp=Z,11μm,19.0s
YSS Yuzh-Sakhalins 45.27 16⇓ *e*P **P** **14 24 10.6 +0.1**
YSS *e* 14 24 21.1
YSS *e**SP **sP** **14 24 27.0 +2.3**
YSS *i* 14 25 50.0
YSS *e*PPP PPP 14 26 40.0
YSS *e*S **S** **14 30 50.0 +1.4**
YSS *e**SS **sS** **14 31 07.0 +1.8**
YSS *e*SS **ScS** **14 34 00.0 -4.7**
YSS pmax pmax
comp=N,150nm,0.6s
YSS pmax pmax
comp=Z,230nm,0.6s
YSS pmax pmax
comp=N,1μm,8.0s
YSS pmax pmax
comp=Z,2μm,8.0s
YSS smax smax
comp=E,3μm,11.0s
YSS MLR MLR
comp=N,8μm,19.0s
YSS MLR MLR
comp=Z,9μm,19.0s
YSS Yuzh-Sakhalins 45.27 16 *e*P **P** **14 24 09.5 -1.0**
comp=Z,257nm,0.5s
YSS LR LR
comp=Z,4μm,20.0s
JIRN Jiri 45.29 306 *e*P **P** **14 24 10.3 -1.2**
comp=Z,148nm,0.9s
KLR Kul'dur 45.55 5 *e*P P 14 24 08.2 -4.5
KLR *e*S **S** **14 30 54.0 +1.5**
KLR pmax pmax
comp=N,80nm,1.4s
KLR pmax pmax
comp=E,57nm,1.4s
KLR pmax pmax
comp=Z,400nm,1.4s
KLR pmax pmax
comp=N,2μm,9.0s
KLR pmax pmax
comp=Z,5μm,9.0s
KLR MLR MLR
comp=Z,16μm,13.0s
GUN Gumba 45.64 306 *e*P **P** **14 24 12.8 -1.4**
comp=Z,985nm,0.9s
MILA Mila 45.68 155 P P 14 24 18.4 +4.4
baz=46,SNR=9.2
HIA Hailar 45.75 354 *e*P **P** **14 24 14.6 +0.2**
comp=Z,204nm,0.7s
HIA LR LR
comp=Z,25μm,20.0s
PALK Pallekele 45.83 276 *e*P **P** **14 24 13.4 -2.2**
comp=Z,173nm,1.2s
PALK Pallekele 45.83 276 P **P** **14 24 16.6 +1.0**
SNR=23
PALK mb 14 24 20.5
SNR=33
PALK Pallekele 45.83 276 P **P** **14 24 15.5 0.0**
comp=Z,603nm,0.9s,SNR=12
PALK Pallekele 45.83 276 P **P** **14 24 16.0 +0.5**
comp=Z,104nm,1.5s,comp=Z,3μmcomp=Z,15μm
PKI Pulchoki 45.88 305 *e*P **P** **14 24 14.1 -2.0**
comp=Z,327nm,1.1s
PKIN Phulchoki 45.90 305 *e*P **P** **14 24 14.8 -1.4**
comp=Z,199nm,0.8s
KKN Kakani 46.08 306 *e*P **P** **14 24 15.3 -2.2**
DMN Daman 46.15 305 *e*P **P** **14 24 16.2 -1.9**
comp=Z,480nm,1.0s
TARA Tarawa 46.31 92 PFAKE 14 24 30.0 +11
TARA LR LR
comp=Z,17μm,22.0s
NOUC Port Laguerre 46.52 125 *e*P **P** **14 24 21.3 +0.5**
DZM Mont Dzumac 46.62 125 *e*P **P** **14 24 20.5 -1.2**
DZM *e*S **S** **14 31 08.1 -0.8**
comp=Z,22μm,31.2s
DZM *e*LR LR 14 37 37.5
comp=Z,20μm,26.3s
DZM Mont Dzumac 46.62 125 P **P** **14 24 20.5 -1.2**
comp=Z,41nm,0.7s,baz=319,slow=4.6,SNR=25
DZM Mont Dzumac 46.62 125 *e*P **P** **14 24 20.5 -1.2**
DZM Mont Dzumac 46.62 125 P **P** **14 24 20.5 -1.2**
GKN Gorkha 46.68 306 *e*P **P** **14 24 20.4 -1.8**
comp=Z,140nm,0.5s
ULN Ulaanbaatar 47.09 342 *e*P **P** **14 24 24.2 -0.9**
comp=Z,193nm,0.9s
ULN LR LR
comp=Z,27μm,20.0s
ULN Ulaanbaatar 47.09 342 P **P** **14 24 24.6 -0.5**
SNR=184
ULN mb 14 24 32.5
SNR=281
ULN Ulaanbaatar 47.09 342 P **P** **14 24 24.5 -0.5**
comp=Z,232nm,1.1s,comp=Z,4μmcomp=Z,18μm
SONM Songino Array 47.27 342 P **P** **14 24 26.2 -0.2**
comp=Z,52nm,0.6s,baz=158,slow=6.9,SNR=93
SONM PcP **PcP** **14 25 58.6 +1.4**
comp=Z,64nm,0.9s,baz=150,slow=3.4,SNR=3.9
SONM LR LR 14 46 19.2
comp=Z,19μm,19.6s,baz=156,slow=39
SONM PKPKPKP P'P'df 14 55 11.9 -32
comp=Z,0.9nm,1.0s,baz=233,slow=0.2,SNR=4.2
SONM Songino Array 47.27 342 P **P** **14 24 26.2 -0.2**
SONM PcP **PcP** **14 25 58.6 +1.4**
SONM P'P' 14 55 11.9
KOLN Koldanda 47.44 305 *e*P **P** **14 24 27.0 -1.2**
comp=Z,533nm,0.6s
DANN Dangsing 47.53 306 *e*P **P** **14 24 27.1 -1.9**
comp=Z,833nm,0.7s
PYUN Piuthan 48.06 305 *e*P **P** **14 24 32.1 -0.9**
comp=Z,1μm,1.0s
HYB Hyderabad 49.02 290 *i* P **P** **14 24 38.0 -2.3**
comp=Z,280nm,1.0s
HYB *e*pP **pP** **14 24 53.0 +2.5**
HYB *e*PcP **PcP** **14 26 05.0 +1.0**
HYB *e*PP **PP** **14 26 35.0 +0.9**
HYB *e*S **S** **14 31 42.0 -0.9**
HYB LR LR 14 42 00.0
comp=Z,8.4nm,16.0s
NGP Nagpur 49.34 295 *e*P **P** **14 24 40.8 -1.9**
NGP AMb AMB 14 24 43.9
comp=Z,131nm,2.8s
NGP *ex* x 14 31 51.4
CIT Chita 49.35 349 *e*P **P** **14 24 44.6 +2.3**
CIT *e* 14 24 52.4
CIT *e* 14 32 00.2
CIT pmax pmax
comp=Z,991nm,2.0s
MOO Moorlands 49.59 160 P P 14 24 49.2 +5.0
baz=50,SNR=6.5
TAU Tasmania Unive 50.05 160 P **P** **14 24 49.3 +1.6**
TAU pmax pmax
comp=Z,264nm,1.5s
TAU MLR MLR
comp=Z,8μm,19.0s
TAU Tasmania Unive 50.05 160 P **P** **14 24 49.2 +1.6**
comp=Z,264nm,1.5s
TAU LR LR
comp=Z,8μm,19.0s
ZAK Zakamensk 50.49 341⇓ *i*P **P** **14 24 51.4 +0.3**
ZAK *e* 14 34 39.1
LGTI Lohaghat 50.80 305 *e*P **P** **14 24 56.4 +2.8**
LGTI *ex* x 14 26 14.9
PTH Pithoragarh 50.86 306 *ex* x 14 25 05.0
PTH *ex* x 14 30 11.0
LATR Latur 51.06 291 *e*P P 14 24 52.0 -3.7
AKL Akola 51.09 294 *e*P **P** **14 24 55.0 -0.9**
AKL AMb AMB 14 25 06.3
comp=Z,851nm,1.1s
AKL *i* x x 14 32 07.0
NFK Norfolk Island 51.31 132 P **P** **14 24 58.5 +1.1**
baz=51,SNR=7.7
TLY Talaya 51.50 342*c i*P **P** **14 24 59.8 +1.3**
TLY *e* 14 26 18.4
TLY *e* 14 26 52.8
TLY *e*S **S** **14 32 15.6 -0.9**
TLY *e* 14 34 47.6
TLY pmax pmax
comp=Z,148nm,1.0s
TLY MLR MLR
comp=Z,25μm,22.0s
TLY Talaya 51.50 342 *e*P **P** **14 24 57.9 -0.6**
comp=Z,195nm,0.9s
TLY LR LR
comp=Z,27μm,22.0s
TLY Talaya 51.50 342 P **P** **14 25 00.6 +2.0**
SNR=97
TLY mb 14 25 18.9
SNR=114
TLY Talaya 51.50 342 P **P** **14 24 59.1 +0.6**
comp=Z,766nm,0.8s,SNR=32
IRK Irkutsk 51.80 343 *e*P **P** **14 25 01.8 +1.1**
IRK pmax pmax
comp=Z,486nm,2.1s
MOY Mondy 52.35 340 *e*P **P** **14 25 06.4 +1.4**
MOY pmax pmax
comp=Z,342nm,3.7s
WMQ Urumqi 52.67 325 P **P** **14 25 08.3 +0.9**
WMQ pP **pP** **14 25 18.6 +1.0**
WMQ PcP **PcP** **14 26 15.8 -1.2**
WMQ PP **PP** **14 27 10.8 +4.0**
WMQ S **S** **14 32 30.8 -2.1**
WMQ sS **sS** **14 32 53.6 +3.9**
WMQ ScS **ScS** **14 34 52.0 -2.8**
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,860nm,4.0s
WMQ LR LR
comp=N,28μm,21.0s
WMQ LR LR
comp=E,18μm,23.0s
WMQ LR LR
comp=Z,31μm,22.5s
DDI Dehra Dun 52.88 306⇑ *i*P **P** **14 25 08.5 -0.7**
DDI *ex* x 14 32 04.0
NDI New Delhi 53.03 303 *ex* P 14 25 06.8 -3.5
NDI *e*S **S** **14 32 34.0 -4.2**
KAD Karad 53.12 289 *i* P **P** **14 25 10.2 -0.9**
MNCY Minicoy 53.45 277 *i* P **P** **14 25 11.0 -2.6**
MNCY *i* x x 14 27 33.0
KAAM Kaadhehdhoo 53.68 268 P **P** **14 25 15.4 +0.2**
baz=54,SNR=6.3
KAAM Kaadhehdhoo 53.68 268 P **P** **14 25 15.1 -0.2**
comp=Z,187nm,0.9s,comp=Z,3μm
SMLA Simla 53.88 306 *i* P **P** **14 25 17.7 +1.3**
SMLA *i* S **S** **14 32 48.2 -1.4**
SDNR Sundarnagar 54.17 307 *e*P **P** **14 25 20.0 +1.4**
BHK Bhakra 54.58 306 *e*P **P** **14 25 21.0 -0.6**
HVS Khovu-Aksy 54.70 335*c i*P **P** **14 25 21.3 -0.9**
BOD Bodaibo 54.85 352 *e*P **P** **14 25 22.5 -0.5**
BOD pmax pmax
comp=Z,268nm,1.5s
MSVF Nonsavu 55.01 115 *e*P **P** **14 25 23.6 -1.4**
MSVF pmax pmax
comp=Z,247nm,0.9s
MSVF MLR MLR
comp=Z,8μm,21.0s
MSVF Nonsavu 55.01 115 *e*P **P** **14 25 23.6 -1.4**

comp=Z,247nm,0.9s
MSVF LR LR
comp=Z,8µm,21.0s
MSVF Nonsavu 55.01 115 P **P** **14 25 26.0 +1.1**
comp=Z,2µm,0.8s,SNR=20
DGAR Diego Garcia 55.17 258 P **P** **14 25 27.1 +1.0**
DGAR pmax pmax
comp=Z,282nm,1.1s
DGAR MLR MLR
comp=Z,9µm,19.0s
DGAR Diego Garcia 55.17 258 P **P** **14 25 27.1 +1.0**
comp=Z,282nm,1.1s
DGAR LR LR
comp=Z,9µm,19.0s
PEA0B Petropavlovsk- 55.48 22 *e*P **P** **14 25 27.1 -0.6**
PETK Petropavlovsk- 55.48 22 P **P** **14 25 27.2 -0.4**
comp=Z,91nm,0.5s,baz=188,slow=5.7,SNR=153
PETK Petropavlovsk- 55.48 22 P **P** **14 25 27.3 -0.4**
PETK Petropavlovsk- 55.48 22 P **P** **14 25 27.2 -0.4**
PET Petropavlovsk 55.77 23 *e*P **P** **14 25 30.9 +1.2**
PET *e*S **S** **14 33 14.3 +0.1**
PET pmax pmax
comp=Z,2µm,7.1s
PET pmax pmax
comp=Z,307nm,1.1s
PET pmax pmax
comp=Z,3µm,14.0s
PET MLR MLR
comp=Z,7µm,15.0s
PET MLR MLR
comp=Z,7µm,19.0s
PET Petropavlovsk 55.77 23 P **P** **14 25 28.3 -1.4**
comp=Z,365nm,1.1s
PET LR LR
comp=Z,8µm,20.0s
MK31 Makanchi Array 57.50 325 *i* P **P** **14 25 42.0 -0.2**
MK31 pmax pmax
comp=Z,289nm,0.9s
MK31 Makanchi Array 57.50 325 *e*P **P** **14 25 40.4 -1.8**
KSH Kashi 57.97 315 P **P** **14 25 45.6 -0.2**
KSH *e*pP **pP** **14 25 56.0 -0.1**
KSH sP **sP** **14 26 00.1 0.0**
KSH PcP **PcP** **14 26 37.3 -0.4**
KSH PP **PP** **14 27 56.4 +1.9**
KSH ScP **ScP** **14 30 34.3 -1.2**
KSH PcS **PcS** **14 30 37.8 -1.4**
KSH S **S** **14 33 44.3 +0.2**
KSH sS **sS** **14 34 00.4 -0.7**
KSH ScS **ScS** **14 35 30.3 -2.9**
KSH SS **SS** **14 37 37.3 +1.7**
KSH pmax pmax
comp=Z,180nm,1.4s
KSH LR LR
comp=N,8µm,15.1s
KSH LR LR
comp=E,10µm,16.1s
KSH LR LR
comp=Z,14µm,18.9s
YAK Yakutsk 58.22 2 *e*P **P** **14 25 47.0 +0.1**
YAK *e**PP **pP** **14 25 55.3 -1.9**
YAK *e* 14 26 38.1
YAK *e* 14 27 56.9
YAK *e*PPP PPP 14 29 17.6
YAK *e*S **S** **14 33 46.4 +0.2**
YAK *e**SS **sS** **14 34 03.6 +0.4**
YAK *e* 14 35 34.3
YAK *e*SS **SS** **14 37 43.9 +5.6**
YAK *e*SSS SSS 14 39 56.1
YAK pmax pmax
comp=Z,337nm,0.9s
YAK pmax pmax
comp=E,27nm,1.1s
YAK pmax pmax
comp=N,153nm,1.3s
YAK pmax pmax
comp=Z,345nm,1.8s
YAK smax smax
comp=E,3µm,5.8s
YAK smax smax
comp=N,2µm,3.2s
YAK MLR MLR
comp=Z,11µm,18.0s
YAK MLR MLR
comp=N,8µm,18.0s
YAK MLR MLR
comp=E,7µm,16.0s
YAK Yakutsk 58.22 2 *e*P **P** **14 25 46.1 -0.7**
comp=E,570nm,0.8s
YAK LR LR
comp=Z,12µm,19.0s
MIDW Midway 58.49 59 PFAKE 14 26 00.0 +11
MIDW LR LR
comp=Z,4µm,19.0s
OUZ Omahuta 58.64 135 *e*P **P** **14 25 50.9 +0.6**
comp=Z,211nm,1.3s
KRAR Krasnoyarsk 58.71 339 *e*P **P** **14 25 51.5 +1.1**
KRAR pmax pmax
comp=Z,72nm,0.8s
ULHL Ulahol 58.95 318 P **P** **14 25 54.9 +2.2**
SNR=118
KZA Kyzart 59.55 318 P **P** **14 25 59.7 +2.7**
SNR=131
TKM2 Tokmak 2 59.68 319 *i* P **P** **14 25 59.0 +1.3**
TKM2 Tokmak 2 59.68 319 PFAKE 14 26 10.0 +12
TKM2 LR LR
comp=Z,27µm,22.0s
TKM2 Tokmak 2 59.68 319 P **P** **14 25 59.0 +1.3**
SNR=16
KBK Karagaybulak 59.99 318 P **P** **14 26 02.2 +2.3**
SNR=65
UCH Uchtor 60.10 317 P **P** **14 26 03.8 +2.9**
SNR=48
CHMS Chumysh 60.27 318 P **P** **14 26 03.2 +1.6**
SNR=34
AAK Ala-Archa 60.29 318 P **P** **14 26 01.0 -0.9**
comp=Z,20nm,0.8s,baz=86,slow=6.2,SNR=52
AAK LR LR 14 55 03.2
comp=Z,15µm,21.7s,baz=93,slow=39
AAK PKPPKP **P'P'df** **14 55 25.0 -1.2**
comp=Z,2.4nm,0.9s,baz=40,slow=4.4,SNR=3.8
AAK PKP2bc 14 55 36.0
comp=Z,5.6nm,0.9s,baz=315,slow=0.6,SNR=10.0
AAK Ala-Archa 60.29 318 P **P** **14 26 01.0 -0.9**
AAK Ala-Archa 60.29 318 P **P** **14 26 01.0 -0.9**
AAK P'P' 14 55 25.0
AAK ⇑*e* 14 55 36.0
AAK Ala-Archa 60.29 318 P **P** **14 26 01.3 -0.5**
comp=Z,623nm,0.8s,SNR=39
AAK Ala-Archa 60.29 318 P **P** **14 26 03.4 +1.6**
SNR=66
FRU Bishkek 60.29 318⇑ *e*P **P** **14 26 02.0 +0.3**
FRU *e*S **S** **14 34 12.0 -1.8**
FRU pmax pmax
comp=Z,280nm,2.0s
FRU pmax pmax
comp=Z,3µm,14.0s
FRU MLR MLR
comp=Z,26µm,25.0s
ZAA0 Zalesovo Array 60.54 333 *e*P **P** **14 26 00.9 -2.2**
ZALV Zalesovo Beam 60.54 333 P **P** **14 26 01.1 -2.0**
comp=Z,83nm,0.9s,baz=105,slow=5.4,SNR=82
ZALV LR LR 14 55 11.9
comp=Z,15µm,18.8s,baz=135,slow=39
ZALV PKPPKP P'P'df 14 55 14.8 -10
comp=Z,1.4nm,0.7s,baz=320,slow=3.9,SNR=4.4
ZALV PKP2bc 14 55 38.0
comp=Z,4.4nm,0.9s,baz=306,slow=5.0,SNR=5.9
ZALV Zalesovo Beam 60.54 333 P **P** **14 26 01.1 -2.0**
ZALV Zalesovo Beam 60.54 333 P **P** **14 26 01.1 -2.0**
ZALV P'P' 14 55 14.8
ZALV ⇑*e* 14 55 38.0
USP Ospenovka 60.55 319 P **P** **14 26 02.7 -0.8**
SNR=192
AML Almayashu 60.62 317 P **P** **14 26 06.8 +2.4**
SNR=12
EKS2 Erkin-Say 60.78 318 *e*P **P** **14 26 03.8 -1.3**
EKS2 pmax pmax
comp=Z,19nm,1.0s
EKS2 MLR MLR
comp=Z,17µm,22.0s
EKS2 Erkin-Say 60.78 318 *e*P **P** **14 26 03.8 -1.3**
comp=Z,19nm,1.0s
EKS2 LR LR
comp=Z,17µm,22.0s
EKS2 Erkin-Say 60.78 318 P **P** **14 26 07.5 +2.3**
SNR=8.7

KBL Kabul 61.44 307 *e*P **P** **14 26 07.8 -2.1**
KBL pmax pmax
comp=Z,276nm,1.1s
KBL Kabul 61.44 307 *e*P **P** **14 26 07.8 -2.1**
comp=Z,276nm,1.1s
KBL Kabul 61.44 307 P **P** **14 26 10.2 +0.3**
baz=62,SNR=22
KURBB Kurchatov Arra 61.69 327 P **P** **14 26 09.4 -1.5**
comp=Z,217nm,0.8s,baz=127,slow=6.4,SNR=104
KURBB S S 14 34 38.4 +7.2
comp=Z,5.9nm,1.1s,baz=118,slow=15,SNR=4.1
KURBB LR LR 14 54 32.9
comp=Z,8µm,21.3s,baz=120,slow=38
KURBB PKPPKP P'P'df 14 55 15.2 -8.0
comp=Z,1.3nm,0.8s,baz=270,slow=3.3,SNR=6.4
KURBB PKP2bc 14 55 34.5
comp=Z,11nm,1.1s,baz=287,slow=3.1,SNR=9.7
KURK Kurchatov 61.69 328*i* P **P** **14 26 09.2 -1.7**
KURK pmax pmax
comp=Z,315nm,1.0s
KURK Kurchatov 61.69 328 *e*P **P** **14 26 09.6 -1.3**
KURK S S 14 34 38.4 +7.2
KURK P'P' 14 55 15.2
KURK ⇑*e* 14 55 34.5
KURK Kurchatov 61.69 328 P **P** **14 26 10.0 -1.0**
SNR=299
KURK mb 14 26 21.8
SNR=96
KURK Kurchatov 61.69 328 P **P** **14 26 11.9 +1.0**
comp=Z,4µm,0.8s,SNR=46
RPZ Rata Peaks 61.82 145 *e*P **P** **14 26 09.7 -2.2**
comp=Z,232nm,0.8s
NVS Novosibirsk 61.83 333⇑ *i*P **P** **14 26 11.3 -0.5**
NVS *e* 14 26 58.2
NVS *e* 14 28 28.9
NVS *i*S **S** **14 34 28.5 -4.3**
NVS pmax pmax
comp=Z,323nm,1.0s
NVS pmax pmax
comp=N,90nm,0.9s
NVS pmax pmax
comp=E,36nm,0.6s
NVS pmax pmax
comp=N,52nm,1.8s
NVS pmax pmax
comp=Z,106nm,1.8s
NVS pmax pmax
comp=E,78nm,1.6s
NVS smax smax
comp=N,163nm,2.5s
NVS smax smax
comp=E,357nm,2.5s
SEY Seymchan 62.06 13*c i*P **P** **14 26 13.8 +0.6**
FX1 Attu Island--F 62.14 30 P **P** **14 26 13.3 -0.6**
comp=E,154nm,0.8s,baz=344,slow=1.4,SNR=17
FX1 Attu Island--F 62.14 30 *e*P **P** **14 26 14.0 +0.1**
ODZ Otahua Downs 62.41 146 *e*P **P** **14 26 15.3 -0.5**
comp=E,455nm,1.1s
RAO Raoul Island 62.41 126 PFAKE 14 26 30.0 +14
RAO LR LR
comp=Z,7µm,22.0s
KHZ Kahutara 62.52 142 P P 14 26 12.8 -3.9
comp=Z,169nm,1.0s
URZ Urewera 62.61 137 LR LR 14 54 00.7
comp=Z,14µm,19.1s,baz=308,slow=37
URZ Urewera 62.61 137 *e*P **P** **14 26 17.8 +0.5**
comp=Z,156nm,0.8s
SNZO South Karori 62.63 141 *e*P **P** **14 26 15.9 -1.5**
comp=Z,175nm,0.9s
SNZO LR LR
comp=Z,17µm,19.0s
KK31 Karatay Array 63.16 317 *i* P **P** **14 26 20.3 -0.7**
KK31 pmax pmax
comp=Z,208nm,0.9s
KKAR Karatay Array 63.16 317 *e*P **P** **14 26 19.3 -1.7**
KKAR pmax pmax
comp=Z,249nm,0.9s
KKAR Karatay Array 63.16 317 *e*P **P** **14 26 19.3 -1.7**
comp=Z,249nm,0.9s
AFI Afiamalu 63.55 107 P **P** **14 26 23.3 -0.8**
comp=Z,170nm,1.0s,baz=331,slow=4.9,SNR=12
AFI Afiamalu 63.55 107 *e*P **P** **14 26 24.7 +0.7**
AFI LR LR
comp=Z,8µm,22.0s
MCQ Macquarie Isla 63.93 160 *e*P **P** **14 26 27.3 +1.6**
MCQ pmax pmax
comp=Z,10µm,0.9s
MCQ Macquarie Isla 63.93 160 *e*P **P** **14 26 27.3 +1.6**
comp=Z,24µm,0.9s
MCQ Macquarie Isla 63.93 160 P P 14 26 34.1 +8.4
baz=64,SNR=5.9
NIUE Niue 66.37 113 P **P** **14 26 44.7 +2.5**
baz=66,SNR=4.9
VOSK Vostochnaya 66.81 327 P **P** **14 26 43.8 -0.7**
VOSK pmax pmax
comp=Z,255nm,0.8s
BVAR Borovoye Array 67.27 327 P **P** **14 26 45.8 -1.6**
comp=Z,38nm,0.6s,baz=125,slow=7.8,SNR=99
BVAR PKPPKP **P'P'df** **14 55 10.6 -3.4**
comp=Z,1.8nm,1.0s,baz=270,slow=3.0,SNR=4.4
BVAR LR LR 14 57 59.9
comp=Z,11µm,19.6s,baz=120,slow=38
BVAR Borovoye Array 67.27 327 P **P** **14 26 45.8 -1.6**
BVAR Borovoye Array 67.27 327 P **P** **14 26 45.8 -1.6**
BVAR P'P' 14 55 10.6
BRVK Borovoye 67.34 327*c i*P **P** **14 26 46.0 -1.8**
BRVK pmax pmax
comp=Z,405nm,1.2s
BRVK Borovoye 67.34 327 *e*P **P** **14 26 46.4 -1.5**
comp=Z,726nm,1.0s
BRVK LR LR
comp=Z,12µm,20.0s
BRVK Borovoye 67.34 327 P **P** **14 26 46.7 -1.1**
comp=Z,4µm,1.1s,SNR=62
BRVK Borovoye 67.34 327 P **P** **14 26 45.8 -2.1**
SNR=294
BRVK mb 14 26 59.3
SNR=461
WBK Wadi Bani Khal 67.96 293 P **P** **14 26 52.5 +0.1**
SNR=48
ZRNK Zerenda 67.99 327 P **P** **14 26 51.5 -0.5**
ZRNK pmax pmax
comp=Z,425nm,0.8s
WSAR Wadi Sarin 68.33 293 P **P** **14 26 54.0 -0.7**
comp=Z,32nm,0.7s,baz=100,slow=8.9,SNR=27
WSAR PKPPKP **P'P'df** **14 55 11.4 -2.5**
comp=Z,4.4nm,1.1s,baz=27,slow=1.9,SNR=3.8
WSAR LR LR 14 59 54.5
comp=Z,4µm,19.7s,baz=102,slow=39
WSAR Wadi Sarin 68.33 293 P **P** **14 26 54.0 -0.7**
WSAR P'P' 14 55 11.4
JMDO Jabal Madar 68.73 292 P **P** **14 26 57.2 0.0**
SNR=63
SMDO Samad 68.84 293 P **P** **14 26 56.1 -2.0**
SNR=33
IMYA Miami 68.96 307 *e*P **P** **14 26 55.9 -2.7**
ISRO Mashad 69.45 307 *e*P **P** **14 27 00.8 -0.8**
IMOG Moghan 69.52 307 *e*P **P** **14 26 59.7 -2.5**
HOQ Hoqain 69.57 294 P **P** **14 27 02.4 0.0**
SNR=53
BSY Bisya 69.60 293 P **P** **14 27 02.7 +0.1**
SNR=37
IPAY Payeh 69.85 307 *e*P **P** **14 27 04.4 +0.2**
ARQ Araqi 70.27 293 P **P** **14 27 06.5 -0.2**
SNR=17
IKRD Kardeh 70.29 308 *e*P P 14 27 01.9 -5.0
BANOM Banah 70.69 296 P **P** **14 27 09.9 +0.7**
SNR=16
BANOM mb 14 27 27.3
SNR=34
HATD Hatta, Dubai 70.75 295 P **P** **14 27 10.0 +0.4**
SNR=29
HATD mb 14 27 21.8
SNR=28
CASY Casey 70.80 187 *e*P **P** **14 27 10.0 +1.1**
comp=Z,91nm,0.7s
CASY LR LR
comp=Z,5µm,20.0s
ASHO Ashiyiah 70.80 295 P **P** **14 27 10.3 +0.4**
SNR=27
ASHO mb 14 27 21.1
SNR=56
ABKT Ailbek 70.81 309 P **P** **14 27 10.3 +0.5**
comp=Z,579nm,0.9s,SNR=20
DRV Dumont d'Urvil 70.88 174 P P 14 26 57.0 -12
DRV S S 14 36 10.0 -12
DRV SS SS 14 40 33.0 -22

DRV L L 14 46 00.0
DRV R 14 50 00.0
NAZ Nazwa, Dubai 71.18 295 P **P** **14 27 12.0 -0.3**
SNR=25
NAZ mb 14 27 31.1
SNR=11
ASUD Al Ashush, Dub 71.46 295 P **P** **14 27 14.3 +0.4**
SNR=35
ASUD mb 14 27 23.9
SNR=50
MSEY Mahe Island 71.56 264 *e*P **P** **14 27 13.5 -1.3**
comp=Z,107nm,1.1s
MSEY LR LR
comp=Z,8µm,21.0s
MSEY Mahe Island 71.56 264 P **P** **14 27 15.2 +0.4**
SNR=8.7
MSEY mb 14 27 24.6
SNR=17
PAF Port-aux-Franc 71.81 215 PFAKE 14 27 30.0 +15
PAF LR LR
comp=Z,6µm,20.0s
MRIV Mauritius Mete 71.85 247 *e*P **P** **14 27 16.5 +0.1**
IBAF Bafgh 71.93 302 *e*P **P** **14 27 15.2 -1.6**
AB31 Akbulak array 72.09 321 *i* P **P** **14 27 15.6 -1.6**
AB31 pmax pmax
comp=Z,250nm,1.0s
ABKAR Akbulak array 72.09 321 *e*P **P** **14 27 15.5 -1.6**
comp=Z,3.4nm,1.7s
RBK Rabkut 72.12 287 P **P** **14 27 17.1 -0.9**
SNR=20
IMEH Mehriz 72.72 302 *e*P **P** **14 27 18.9 -2.7**
ABTO Aybut 72.99 287 P **P** **14 27 23.0 -0.2**
SNR=46
ICHK Chekchek 72.99 302 *e*P **P** **14 27 21.4 -1.8**
UNV Unalaska Valle 73.49 35 P **P** **14 27 23.4 -2.0**
comp=Z,303nm,0.9s
AKTO Aktyubinsk 73.60 322 P **P** **14 27 25.5 -0.6**
comp=Z,159nm,0.7s,baz=102,slow=6.4,SNR=60
AKTO LR LR 15 02 29.9
comp=Z,23µm,20.8s,baz=220,slow=38
AKTO Aktyubinsk 73.60 322 P **P** **14 27 25.5 -0.6**
AKTO Aktyubinsk 73.60 322 P **P** **14 27 25.5 -0.6**
RER Riviere de l'E 73.62 247 *e*P **P** **14 27 25.2 -1.7**
comp=Z,293nm,0.9s
RER LR LR
comp=Z,7µm,22.0s
IANJ Anjilo 73.78 306 *e*P **P** **14 27 26.4 -1.4**
ISRV Sarvestan 73.81 299 *e*P **P** **14 27 27.5 -0.7**
SVE Sverdlovsk 73.91 328*de*P **P** **14 27 28.4 +0.6**
SVE *e* 14 30 20.6
SVE *e*S **S** **14 36 58.8 +1.5**
SVE *e*SS **SS** **14 41 42.1 +0.2**
SVE *e*SSS SSS 14 44 59.3
SVE pmax pmax
comp=Z,393nm,1.0s
SVE MLR MLR
comp=Z,11µm,21.0s
SVE MLR MLR
comp=E,7µm,20.0s
IPAR Pars 73.91 300 *e*P **P** **14 27 27.0 -1.8**
AKUT Akutan 73.98 34 *e*P **P** **14 27 26.7 -1.6**
comp=E,990nm,1.2s
GAMB Gambell 74.45 24 *e*P **P** **14 27 30.3 -0.4**
comp=E,144nm,0.8s
ILAS Lasjerd 74.54 306 *e*P **P** **14 27 31.7 -0.6**
IFIR Firoozkooh 74.74 306 *e*P **P** **14 27 34.7 +1.3**
IZEF Zefreh 74.80 303 *e*P **P** **14 27 32.2 -1.7**
ARU Arti 74.88 328*c i*P **P** **14 27 31.3 -2.2**
ARU PPP PPP 14 32 07.2
ARU S **S** **14 37 06.1 -2.1**
ARU pmax pmax
comp=Z,130nm,0.7s
ARU MLR MLR
comp=Z,14µm,22.0s
ARU Arti 74.88 328 *e*P **P** **14 27 31.3 -2.2**
comp=Z,317nm,1.0s
ARU LR LR
comp=Z,14µm,21.0s
ARU Arti 74.88 328 P **P** **14 27 31.8 -1.7**
comp=Z,2µm,1.2s,SNR=17
ISFB Sefidab 75.02 304 *e*P **P** **14 27 31.8 -3.0**
KIP Kipapa 75.03 69 *e*P **P** **14 27 37.6 +2.6**
KIP pmax pmax
comp=Z,111nm,0.8s
KIP MLR MLR
comp=Z,7µm,22.0s
KIP Kipapa 75.03 69 *e*P **P** **14 27 37.6 +2.6**
comp=Z,111nm,0.8s
KIP LR LR
comp=Z,7µm,22.0s
HON Honolulu 75.03 69 *e*P **P** **14 27 37.4 +2.4**
HON Honolulu 75.03 69 *e*P **P** **14 27 37.4 +2.4**
IDMV Damavand 75.31 306 *e*P **P** **14 27 35.9 -0.9**
IKLH Kolahrood 75.47 303 *e*P **P** **14 27 37.8 +0.1**
IVRN Varamin 75.50 305 *e*P P 14 27 30.5 -7.1
IVRN *e*P **P** **14 27 35.2 -2.4**
XMAS Kiritimati 75.84 89 PFAKE 14 27 50.0 +10
XMAS LR LR
comp=Z,7µm,21.0s
IPIR Pirpir 75.99 303 *e*P **P** **14 27 40.4 -0.3**
IR3 Iran Long-Peri 76.12 305 *e*P **P** **14 27 39.9 -1.3**
IR3 *e*P **P** **14 27 40.7 -0.5**
RAR Rarotonga 76.14 113 PFAKE 14 27 50.0 +8.7
RAR LR LR
comp=Z,6µm,22.0s
IR5 Iran Long-Peri 76.46 305 *e*P **P** **14 27 43.1 0.0**
TNA Tin City 76.64 23 *e*P **P** **14 27 44.5 +1.3**
comp=Z,100nm,1.4s
SOKR Solikamsk 76.66 331*c i*P **P** **14 27 44.2 +0.7**
SOKR S **S** **14 37 27.0 -0.6**
SOKR pmax pmax
comp=Z,120nm,1.3s
SOKR MLR MLR
comp=Z,19µm,25.0s
SDPT Sand Point 77.26 34 *e*P **P** **14 27 46.1 -0.8**
comp=Z,800nm,1.0s
PUH Pauahi 77.61 71 *e*P **P** **14 27 52.1 +2.3**
STCH Steam Cracks 77.69 71 *e*P **P** **14 27 52.4 +2.1**
QRN Al-Qurain 78.32 298 *e*P **P** **14 27 51.4 -2.0**
QRN AMb AMB 14 27 57.4
comp=Z,357nm,0.8s
KBD Kabd 78.53 299 *e*P **P** **14 27 53.0 -1.6**
KBD AMb AMB 14 28 03.7
comp=Z,198nm,1.2s
CHGN Chignik 78.59 33 *e*P **P** **14 27 55.0 +0.6**
RDF Al-Radifah 78.64 299 *e*P **P** **14 27 53.5 -1.8**
RDF AMb AMB 14 27 59.0
comp=Z,231nm,0.7s
MIB Mutribah 78.86 299 *e*P **P** **14 27 54.3 -2.1**
MIB AMb AMB 14 28 00.1
comp=Z,391nm,0.7s
IKOM Komasi 78.91 304 *e*P **P** **14 27 53.9 -3.0**
NAY Al-Naaiem 78.93 299 *e*P **P** **14 27 54.6 -2.2**
NAY AMb AMB 14 28 05.6
comp=Z,201nm,1.0s
MAK Makhachkala 79.51 313 *e*P P 14 27 55.9 -3.8
MAK *e* 14 28 06.9
MAK *e* 14 30 57.3
MAK *e*PPP PPP 14 32 49.9
MAK *i*S **S** **14 37 55.1 -3.9**
MAK *e* 14 38 18.0
MAK pmax pmax
comp=Z,20nm,0.3s
IDHR Dehrash 79.86 304 *e*P **P** **14 27 59.7 -2.4**
RAYN Ar Rayn 80.39 293 P **P** **14 28 03.7 -1.2**
comp=Z,1µm,1.1s,SNR=11
LBOS 80.75 283 *e*P **P** **14 28 07.8 +0.5**
DGRG David-gareji 80.98 311 P **P** **14 28 09.0 +1.2**
OPO Ambohidratompo 81.19 251 P **P** **14 28 09.6 +0.2**
comp=Z,16nm,0.6s,baz=74,slow=5.2,SNR=24
OPO Ambohidratompo 81.19 251 P **P** **14 28 09.6 +0.2**
ABPO Ambohimpanom 81.21 250 *e*P **P** **14 28 07.4 -2.2**
ABPO pmax pmax
comp=Z,149nm,0.9s
ABPO MLR MLR
comp=Z,4µm,19.0s
ABPO Ambohimpanom 81.21 250 *e*P **P** **14 28 07.4 -2.2**
comp=Z,149nm,0.9s
ABPO LR LR
comp=Z,4µm,19.0s
GNI Garni 81.40 310 P **P** **14 28 10.8 +0.6**
comp=Z,21nm,0.9s,baz=10,slow=6.9,SNR=12
GNI Garni 81.40 310 *e*P **P** **14 28 10.7 +0.5**
GNI Garni 81.40 310 *e*P **P** **14 28 10.4 +0.2**
comp=Z,106nm,0.9s

GNI LR LR
comp=Z,6µm,22.0s
GNI Garni 81.40 310 P **P** **14 28 12.3 +2.1**
SNR=19
GNI mb 14 28 31.5
SNR=33
TBLG Delisi 81.47 311 P **P** **14 28 11.0 +0.6**
TBLG Delisi 81.47 311 P **P** **14 28 11.0 +0.6**
DHBB Dhamar BB 81.56 284 *e*P **P** **14 28 12.7 +1.1**
DHBB *i* P **P** **14 28 12.9 +1.3**
KZR Kazreti 81.70 311 P **P** **14 28 14.2 +2.6**
TRBA At Turbah 81.87 283 *e*P **P** **14 28 15.5 +2.3**
KDAK Kodiak Island 81.95 32 P **P** **14 28 10.8 -1.7**
comp=Z,55nm,0.6s,baz=231,slow=4.3,SNR=27
KDAK Kodiak Island 81.95 32 *e*P **P** **14 28 11.4 -1.1**
comp=Z,209nm,0.8s
KDAK LR LR
comp=Z,8µm,22.0s
KDAK Kodiak Island 81.95 32 P **P** **14 28 13.0 +0.6**
comp=Z,1µm,0.8s,SNR=12
GOR Gori 81.95 312 P **P** **14 28 14.3 +1.3**
CLDR Caldiran 82.00 309 *e*P **P** **14 28 13.8 +0.3**
HAKT HAKKARI 82.13 307 *i* P **P** **14 28 14.5 +0.4**
ZEI Tsey 82.14 312 *e*P **P** **14 28 12.2 -1.9**
ZEI *e*S **S** **14 38 24.7 -2.3**
ZEI pmax pmax
comp=Z,287nm,1.4s
ZEI pmax pmax
comp=N,103nm,0.7s
ZEI pmax pmax
comp=E,222nm,0.9s
ZEI pmax pmax
comp=Z,2µm,9.1s
ZEI MLR MLR
comp=Z,8µm,20.0s
ZEI MLR MLR
comp=E,5µm,20.0s
ZEI MLR MLR
comp=N,8µm,22.0s
RSO Redoubt South 82.15 30 *e*P **P** **14 28 14.6 +0.8**
comp=N,464nm,0.8s
DYDN Diyadin 82.19 309 *i* P **P** **14 28 15.8 +1.3**
CUKT Cukurca 82.20 307 *e*P **P** **14 28 13.1 -1.3**
HAJJ Hajjah 82.29 285 *e*P **P** **14 28 16.6 +1.2**
AKH Akhalkalaki 82.40 311 P **P** **14 28 16.8 +1.4**
VANB Van 82.40 308 *e*P **P** **14 28 15.0 -0.4**
ONI Oni 82.46 312 P **P** **14 28 15.8 +0.2**
KARS Kars 82.69 310 *e*P **P** **14 28 17.5 +0.6**
AGRB Hanur-Agry 82.73 309 *e*P **P** **14 28 18.8 +1.6**
KBZ Khabaz 82.90 313 P **P** **14 28 17.2 -0.5**
comp=N,20nm,0.9s,baz=126,slow=5.1,SNR=24
KBZ LR LR 15 09 53.7
comp=N,9µm,20.8s,baz=260,slow=39
KBZ Khabaz 82.90 313 P **P** **14 28 17.2 -0.5**
KBZ Khabaz 82.90 313 P **P** **14 28 17.2 -0.5**
KIV Kislovodsk 83.06 314⇑ *i*P **P** **14 28 19.0 +0.3**
KIV *e* 14 31 32.0
KIV *e*PPP PPP 14 33 24.7
KIV *e*S **S** **14 38 35.1 -1.0**
KIV *e*SS **SS** **14 44 00.5 +0.2**
KIV *e*SSS SSS 14 47 33.1
KIV pmax pmax
comp=Z,59nm,0.9s
KIV pmax pmax
comp=Z,1µm,7.6s
KIV MLR MLR
comp=Z,8µm,20.0s
KIV Kislovodsk 83.06 314 *e*P **P** **14 28 18.6 -0.1**
comp=Z,58nm,0.8s
KIV LR LR
comp=Z,9µm,21.0s
KIV Kislovodsk 83.06 314 P **P** **14 28 19.2 +0.5**
SNR=14
KIV mb 14 28 31.5
SNR=14
KIV Kislovodsk 83.06 314 P **P** **14 28 19.3 +0.6**
comp=Z,361nm,0.7s,SNR=7,8
ATD Arta Tunnel 83.17 281 LR LR 15 02 59.8
comp=Z,2µm,20.4s,baz=248,slow=34
VNDA Vanda 83.44 173 P **P** **14 28 18.9 -0.8**
comp=Z,32nm,1.0s,baz=316,slow=5.9,SNR=36
VNDA Vanda 83.44 173 *e*P **P** **14 28 17.1 -2.6**
comp=Z,105nm,0.9s
ARTV Artvin 83.57 311 *i* P **P** **14 28 22.3 +0.7**
HOMI Horasan 83.58 310 *i* P **P** **14 28 22.4 +0.8**
DAGI Agillar 83.58 311 *i* P **P** **14 28 21.3 -0.2**
TRF Thorofare Moun 83.59 27 *e*P **P** **14 28 19.0 -2.1**
comp=Z,303nm,1.2s
DDEM Demirkent 83.70 311 *i* P **P** **14 28 23.2 +1.1**
SEW Seward 83.76 30 *e*P **P** **14 28 21.0 -0.7**
comp=Z,307nm,1.1s
DBOC Borcka 83.77 311 *i* P **P** **14 28 23.0 +0.6**
BCA Borcka 83.80 311 *e*P **P** **14 28 22.6 +0.1**
VRTB Varto-Mus 83.92 309 *e*P **P** **14 28 25.3 +2.0**
COLD Coldfoot 83.94 23 *e*P **P** **14 28 22.6 +0.1**
comp=Z,301nm,1.1s
VRHR Novokhopersk 83.97 321 *e*P **P** **14 28 22.1 -1.0**
VRHR *e**PP **PcP** **14 28 29.9 +2.9**
VRHR *e* 14 38 39.1
VRHR *e*S **S** **14 38 42.1 -2.7**
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,170nm,0.6s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=Z,290nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.4s
VRHR smax smax
comp=N,450nm,1.5s
VRHR smax smax
comp=E,200nm,1.5s
VRHR smax smax
comp=Z,30nm,1.5s
EZM Erzurum 83.99 310 *e*P **P** **14 28 24.5 +0.7**
PMR Palmer 84.00 29 *e*P **P** **14 28 20.8 -2.2**
PMR pmax pmax
comp=Z,275nm,1.0s
PMR Palmer 84.00 29 *e*P **P** **14 28 20.8 -2.2**
comp=Z,275nm,1.0s
SBA Scott Base 84.34 172 *e*P **P** **14 28 26.6 +2.2**
SBA pmax pmax
comp=Z,70nm,0.9s
SBA MLR MLR
comp=Z,4µm,20.0s
SBA Scott Base 84.34 172 *e*P **P** **14 28 26.6 +2.2**
comp=Z,70nm,0.9s
SBA LR LR
comp=Z,4µm,20.0s
PZAR Pazar-Rize 84.35 311 *e*P **P** **14 28 25.7 +0.5**
SML Sawmill 84.39 28 *e*P **P** **14 28 23.9 -1.2**
SML pmax pmax
comp=Z,113nm,1.0s
SML Sawmill 84.39 28 *e*P **P** **14 28 23.9 -1.2**
comp=Z,113nm,1.0s
MARD Mardin 84.45 307 *i* P **P** **14 28 26.6 +0.5**
BNGB Bing˙l 84.52 309 *e*P **P** **14 28 27.7 +1.4**
KOPT Kop Dagi 84.66 310 *i* P **P** **14 28 28.2 +1.1**
COLA College 84.75 25 *e*P **P** **14 28 25.8 -0.9**
COLA pmax pmax
comp=Z,62nm,0.8s
COLA MLR MLR
comp=Z,4µm,20.0s
COLA College 84.75 25 *e*P **P** **14 28 25.8 -0.9**
comp=Z,62nm,0.8s
COLA LR LR
comp=Z,4µm,20.0s
DIY Diyarbakir 84.89 308 *e*P **P** **14 28 29.8 +1.7**
BAYT Ayd¨–ntepe-Bay 84.93 310 *e*P **P** **14 28 29.8 +1.4**
DIYA Diyarbakir 84.97 308 *i* P **P** **14 28 29.5 +1.0**
ILAR Eielson Array 85.15 25 P **P** **14 28 28.2 -0.6**
comp=Z,8.7nm,0.8s,baz=282,slow=3.8,SNR=46
ILAR PKKPbc **PKKPbc** **14 46 35.5 -2.2**
comp=Z,2.0nm,0.8s,baz=24,slow=2.4,SNR=8.0
ILAR LR LR 15 05 08.4
comp=Z,2µm,21.3s,baz=46,slow=35
ILAR Eielson Array 85.15 25 P **P** **14 28 28.2 -0.6**
ILAR PKKPbc **PKKPbc** **14 46 35.5 -2.2**
SOC Sochi 85.21 313*c* *i*P **P** **14 28 29.1 -0.4**
SOC *e**PP **pP** **14 28 36.7 -3.6**
SOC *e* 14 31 46.9
SOC *e*PPP PPP 14 33 42.4
SOC *e*S S 14 38 50.4 -7.0
SOC pmax pmax
comp=Z,129nm,0.8s
SOC pmax pmax
comp=Z,2µm,5.8s
SOC MLR MLR
comp=Z,12µm,21.0s
PPT2 Papeete2 85.22 108 *e*P **P** **14 28 29.9 -0.2**
comp=Z,134nm,1.3s
PPT2 Papeete2 85.22 108 *e*PP PP 14 31 45.9 -2.2
comp=Z,756nm,26.0s
PPT2 *e*S **S** **14 38 55.2 -3.3**
comp=Z,3µm,25.5s
PPT2 *e*LQ LQ 14 51 54.8
comp=Z,23µm,40.5s
PPT2 *e*LR LR 14 55 21.3
comp=Z,11µm,26.0s
PAE Paea 85.22 108 *e*P **P** **14 28 28.8 -1.2**
comp=Z,25nm,1.1s
ERZN Erzincan 85.26 309 *e*P **P** **14 28 31.4 +1.4**
KLMR Klimovskoe 85.36 331*c* *i*P **P** **14 28 30.2 +0.4**
KLMR *e*S S 14 38 48.6 -10
KLMR pmax pmax
comp=Z,1µm,1.4s
KLMR pmax pmax
comp=Z,1µm,6.3s
KLMR MLR MLR
comp=Z,12µm,20.0s
GUMT Gumushane 85.43 310 *e*P **P** **14 28 31.9 +1.0**
VORD Divnogorie 85.45 321 *e*P **P** **14 28 30.2 -0.3**
VORD *e**PP **pP** **14 28 38.8 -2.5**
VORD *e* 14 38 51.7
VORD *e*S **S** **14 39 02.6 +3.2**
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,270nm,0.9s
VORD pmax pmax
comp=Z,230nm,0.9s
VORD pmax pmax
comp=Z,300nm,1.1s
VORD pmax pmax
comp=N,20nm,0.5s
VORD pmax pmax
comp=E,330nm,1.1s
VORD smax smax
comp=E,770nm,2.8s
VORD smax smax
comp=Z,160nm,2.8s
VORD smax smax
comp=N,50nm,0.9s
VOR Voronezh 85.50 321⇑ *i*P **P** **14 28 30.0 -0.8**
VOR *e*S **S** **14 38 58.0 -1.9**
VOR pmax pmax
comp=Z,1µm,1.2s
VSR Storozhevoye 85.53 321 *e*P **P** **14 28 29.5 -1.4**
VSR *e**PP **pP** **14 28 39.4 -2.3**
VSR *e* 14 38 49.8
VSR *e*S **S** **14 38 57.5 -2.7**
PTK Pertek 85.53 309 *e*P **P** **14 28 32.7 +1.2**
EZC Erzincan 85.54 309 *e*P **P** **14 28 32.6 +1.2**
TVO Taravao 85.54 108 *e*P **P** **14 28 30.8 -0.9**
comp=Z,163nm,1.1s
DIV Divide 85.60 29 *e*P **P** **14 28 30.7 -0.5**
comp=Z,522nm,1.1s
KELT Kelkit 85.61 310 *i* P **P** **14 28 33.1 +1.3**
PAX Paxson 85.75 27 *e*P **P** **14 28 30.8 -1.1**
PAX pmax pmax
comp=Z,80nm,1.0s
PAX Paxson 85.75 27 *e*P **P** **14 28 30.8 -1.1**
comp=Z,80nm,1.0s
TBI Tubuai 85.89 114 *e*P **P** **14 28 32.5 -0.7**
comp=Z,337nm,1.2s
TBI Tubuai 85.89 114 *e*PP PP 14 31 52.4 -0.9
comp=Z,597nm,27.8s
TBI *e*S **S** **14 39 02.2 -2.6**
comp=Z,9µm,28.8s
TBI *e*SS **SS** **14 44 45.7 +2.9**
comp=Z,4µm,34.2s
TBI *e*LQ LQ 14 52 11.4
comp=Z,7µm,38.0s
TBI *e*LR LR 14 55 48.5
comp=Z,14µm,29.5s
ESPY Espiye-Giresun 85.99 311 *e*P **P** **14 28 33.0 -0.5**
URFA Urfa 86.01 307 *e*P **P** **14 28 34.6 +0.8**
TMCR Tamitsa 86.06 334⇑ *i*P **P** **14 28 33.5 +0.3**
TMCR *e*S **S** **14 38 59.7 -5.1**
TMCR pmax pmax
comp=Z,315nm,0.7s
ILIC Ilic-Erzincan 86.15 309 *e*P **P** **14 28 35.5 +1.0**
BMRM Bremner River 86.17 29 *e*P **P** **14 28 33.5 -0.4**
comp=Z,338nm,1.0s
KEMA Kemaliye 86.22 309 *i* P **P** **14 28 35.9 +1.2**
MALT Malatya 86.30 308 *e*P **P** **14 28 36.6 +1.4**
MALT Malatya 86.30 308 ⇓P **P** **14 28 34.8 -0.4**
MALT Malatya 86.30 308 *e*P **P** **14 28 34.5 -0.7**
comp=Z,161nm,1.1s
MALT LR LR
comp=Z,5µm,21.0s
MALT Malatya 86.30 308⇓ *i*P **P** **14 28 34.8 -0.4**
MYA Malataya 86.30 308 *e*P **P** **14 28 36.3 +1.1**
DESE Dese 86.34 281 *i* P **P** **14 28 39.0 +2.9**
DESE *e*S **S** **14 39 10.1 -0.2**
GRSN GIRESUNGRSN 86.34 311 *i* P **P** **14 28 35.3 +0.1**
MOS Moscow 86.38 325*a* *i*P **P** **14 28 35.3 +0.3**
MOS *e* 14 28 43.3
MOS *e*S S 14 39 00.3 -8.1
MOS pmax pmax
comp=Z,512nm,1.4s
MOS pmax pmax
comp=Z,2µm,2.3s
MOS MLR MLR
comp=E,9µm,20.0s
MOS MLR MLR
comp=Z,13µm,20.0s
DOT Dot Lake 86.38 27 *e*P **P** **14 28 33.7 -1.3**
comp=Z,25nm,0.9s
SUSE Susehri 86.41 310 *i* P **P** **14 28 36.5 +0.8**
MENT Mentasta 86.55 27 *e*P **P** **14 28 37.3 +1.5**
PMOR Pomariorio Ree 86.60 105 *e*P **P** **14 28 36.5 -0.4**
comp=Z,182nm,1.2s
AKCD Akcadag 86.70 308 *i* P **P** **14 28 38.3 +1.1**
DARE Darende-Malaty 86.76 309 *e*P **P** **14 28 39.9 +2.4**
ANN Anapa 86.83 315*c* *i*P **P** **14 28 36.9 -0.5**
ANN *i* *PP **pP** **14 28 44.9 -3.3**
ANN *e*S S 14 39 01.2 -12
ANN *e* 14 39 13.1
ANN pmax pmax
comp=Z,375nm,0.9s
ANN pmax pmax
comp=N,128nm,1.0s
ANN pmax pmax
comp=E,54nm,1.0s
ANN MLR MLR
comp=Z,9µm,23.0s
OBN Obninsk 87.00 325⇓ *i*P **P** **14 28 37.8 -0.2**
OBN *i* S S 14 39 08.0 -6.4
OBN *e*SS **SS** **14 44 58.9 +1.5**
OBN pmax pmax
comp=Z,602nm,1.7s
OBN MLR MLR
comp=Z,12µm,19.0s
OBN Obninsk 87.00 325 *e*P **P** **14 28 36.5 -1.6**
comp=Z,498nm,1.0s
OBN LR LR
comp=Z,12µm,20.0s
OBN Obninsk 87.00 325 P **P** **14 28 38.4 +0.3**
comp=Z,3µm,1.2s,SNR=12
RSDY Resadiye-TOKAT 87.08 310 *e*P **P** **14 28 39.9 +1.0**
GAZ Gaziantep 87.31 307 *e*P **P** **14 28 41.0 +0.9**
LVZ Lovozero 87.32 338 *e*P **P** **14 28 39.6 +0.2**
LVZ pmax pmax
comp=Z,107nm,0.9s
LVZ Lovozero 87.32 338 *e*P **P** **14 28 37.5 -1.9**
comp=Z,115nm,0.9s
LVZ LR LR
comp=Z,26µm,19.0s
FURI Furi 87.40 279 *i* P **P** **14 28 43.8 +2.5**
KUZU Kuzuini 87.43 307 *i* P **P** **14 28 41.2 +0.6**
ERBA Erbaa 87.50 310 *i* P **P** **14 28 41.4 +0.5**
KMRS Kahramanmaras 87.54 307 *e*P **P** **14 28 41.5 +0.3**
SARI SarD1z-Kayseri 87.64 308 *e*P **P** **14 28 43.7 +1.9**
APA Apatity 87.82 337⇓ *i*P **P** **14 28 41.2 -0.5**
APA *i* 14 28 46.8
APA *i* 14 32 10.0
APA *i* S **S** **14 39 18.0 -3.8**
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,5µm,20.0s
PINB Pinarbasi 87.87 308 *i* P **P** **14 28 43.6 +0.6**
ANDN Andirin 87.97 307 *i* P P 14 28 47.0 +3.7
KVT Kavak 88.01 311 *e*P **P** **14 28 44.4 +1.0**
HTY Hatay 88.22 306 *e*P **P** **14 28 45.2 +0.9**
HAVZ Havza 88.26 311 *i* P **P** **14 28 45.0 +0.4**
BNN Bunyan 88.30 309 *e*P **P** **14 28 44.6 -0.3**
KOZT Kozan 88.39 307 *e*P **P** **14 28 46.7 +1.5**
DAWY Dawson 88.43 26 *e*P **P** **14 28 43.8 -1.0**
CEYT Ceyhan 88.48 307 *e*P **P** **14 28 44.6 -1.0**
HWQ Hawqa 88.49 304 *e*P **P** **14 28 46.6 +0.8**
DIKM Dikmen 88.57 311 *e*P **P** **14 28 45.2 -0.7**
RCY Rachaya 88.62 303 *e*P **P** **14 28 47.3 +0.8**
YOZ Yozgat 88.65 309 *e*P **P** **14 28 43.7 -2.9**
BHL Bhannes 88.75 304 *e*P **P** **14 28 47.3 +0.3**
KRTS Karatas 88.81 306 *e*P **P** **14 28 46.5 -0.6**
CTKT Corum 88.99 310 *i* P **P** **14 28 48.4 +0.2**
JOF Joensuu 89.13 333 *e*P **P** **14 28 47.2 -0.9**
JOF pmax pmax
comp=Z,89nm,0.7s
JOF Joensuu 89.13 333 *e*p **P** **14 28 47.2 -0.9**
comp=Z,89nm,0.7s
CORM Corum 89.15 310 *e*P **P** **14 28 45.9 -3.0**
SIM Simferopol' 89.17 315*c* *e*P **P** **14 28 48.6 -0.1**
SIM *e* 14 28 54.0
SIM *e* 14 32 27.0
SIM *i* 14 39 17.0
SIM *e*S **S** **14 39 34.3 -1.2**
SIM pmax pmax
comp=Z,90nm,0.6s
SIM pmax pmax
comp=Z,470nm,10.1s
GULE Gulek 89.24 307 *i* P **P** **14 28 49.5 +0.1**
NIG Nigde 89.31 308 *e*P **P** **14 28 50.6 +0.8**
CDAG Cicekdag 89.39 309 *i* P **P** **14 28 49.6 -0.3**
KMBO Kilima Mbogo 89.44 269 *e*P **P** **14 28 49.7 -1.2**
comp=Z,190nm,1.1s
KMBO LR LR
comp=Z,5µm,22.0s
KMBO Kilima Mbogo 89.44 269 P **P** **14 28 52.7 +1.8**
SNR=71
KMBO mb 14 29 01.2
SNR=116
KMBO Kilima Mbogo 89.44 269 *e*P **P** **14 28 49.6 -1.3**
MERS Mersin 89.47 307 *e*P **P** **14 28 49.6 -0.7**
BZK Bozkurt 89.49 312 *e*P **P** **14 28 50.3 +0.1**
TOS Tosya 89.54 311 *e*P **P** **14 28 50.9 +0.3**
EIL Elat 89.63 300 P **P** **14 28 52.5 +1.4**
baz=90,SNR=25
KEV Kevo 89.86 340 *e*P **P** **14 28 50.0 -1.3**
KEV pmax pmax
comp=Z,30nm,0.6s
KEV Kevo 89.86 340 *e*P **P** **14 28 50.3 -1.0**
comp=Z,51nm,0.8s
KEV LR LR
comp=Z,9µm,22.0s
KEV Kevo 89.86 340 *e*p **P** **14 28 50.0 -1.3**
comp=Z,30nm,0.6s
CANT Cankiri 89.88 311 *e*P **P** **14 28 50.9 -1.3**
BR131 Keskin Array S 89.94 310 *e*P **P** **14 28 49.8 -2.8**
comp=Z,135nm,0.9s
BRTR Keskin Array B 89.94 310 P **P** **14 28 52.6 0.0**
comp=Z,72nm,0.9s,baz=122,slow=5.0,SNR=65
BRTR PKKPbc **PKKPbc** **14 46 29.0 +3.7**
comp=Z,2.1nm,1.0s,baz=242,slow=2.4,SNR=4.6
BRTR LR LR 15 19 06.4
comp=Z,3µm,18.1s,baz=290,slow=42
BRTR Keskin Array B 89.94 310 P **P** **14 28 52.6 0.0**
BRTR PKKPbc **PKKPbc** **14 46 29.0 +3.7**
BALT Daday 89.98 311 *i* P **P** **14 28 52.3 -0.5**
PUL Pulkovo 89.99 330 *e*P **P** **14 28 52.7 +0.6**
PUL pmax pmax
comp=Z,202nm,0.9s
ELDT Eldivan 90.04 310 *i* P **P** **14 28 51.7 -1.4**
SULT Sultanhani-AKS 90.16 308 *e*P **P** **14 28 52.8 -0.8**
INK Inuvik 90.21 21 P **P** **14 28 52.2 -0.7**
comp=Z,28nm,1.0s,baz=280,slow=5.1,SNR=37
INK Inuvik 90.21 21 P **P** **14 28 52.2 -0.7**
BBAL Bala 90.35 309 *i* P **P** **14 28 54.2 -0.3**
LFK Lefkose 90.40 305 *e*P **P** **14 28 55.5 +0.8**
AFSR Af˙ar-Bala (A 90.40 309 *e*P **P** **14 28 55.0 +0.3**
ARCES ARCESS Array B 90.42 340 P **P** **14 28 52.0 -2.0**
comp=Z,78nm,0.6s,baz=85,slow=5.3,SNR=70
ARCES PKKPbc **PKKPbc** **14 46 27.0 +2.0**
comp=Z,5.6nm,1.0s,baz=323,slow=0.6,SNR=4.7
ARCES LR LR 15 15 10.9
comp=Z,9µm,18.6s,baz=81,slow=39
ARCES ARCESS Array B 90.42 340 P **P** **14 28 52.0 -2.0**
ARCES PKKPbc **PKKPbc** **14 46 27.0 +2.0**
ARE0 ARCESS Array S 90.42 340 *e*P **P** **14 28 53.2 -0.8**
ARE0 *e*SKS **SKSac** **14 39 18.7 -3.8**
ARE0 ARCESS Array S 90.42 340 *e*P **P** **14 28 51.9 -2.1**
SPA0 Spitsbergen Ar 90.46 349 *e*P **P** **14 28 54.5 +0.5**
SPA0 *e*SKS **SKSac** **14 39 19.8 -2.8**
SPITS Spitsbergen Ar 90.46 349 P **P** **14 28 53.9 -0.2**
comp=Z,34nm,0.8s,baz=101,slow=8.6,SNR=26
SPITS PKKPbc **PKKPbc** **14 46 27.9 +2.8**
comp=Z,11nm,1.0s,baz=157,slow=6.9,SNR=4.6
SPITS Spitsbergen Ar 90.46 349 P **P** **14 28 53.9 -0.2**
SPITS PKKPbc **PKKPbc** **14 46 27.9 +2.8**
SAFT Safranbolu 90.53 311 *e*P **P** **14 28 54.4 -0.8**
CSS Prodhromos 90.59 305 *e*P **P** **14 28 55.6 +0.1**
CSS Prodhromos 90.59 305 P **P** **14 28 52.7 -2.8**
CSS Prodhromos 90.59 305 *e*P **P** **14 28 52.5 -3.1**
comp=Z,292nm,0.9s
CSS LR LR
comp=Z,3µm,19.0s
LOD Lodumlu 90.60 310 *e*P **P** **14 28 58.1 +2.6**
ERMK Ermenek 90.78 307 *i* P **P** **14 28 56.3 -0.3**
SKAG Skagway 90.91 30 *e*P **P** **14 28 56.4 0.0**
comp=Z,43nm,0.8s
LEF Lefka 90.93 305 *e*P **P** **14 28 55.9 -1.2**
KBS Kingsbay 90.99 350 *e*P **P** **14 28 56.0 -0.4**
KBS *e*SKS **SKSac** **14 39 26.6 +1.1**
KBS AMS AMS 15 15 25.9
comp=Z,10µm,17.5s
KBS Kingsbay 90.99 350 *e*P **P** **14 28 56.6 +0.2**
KBS Kingsbay 90.99 350 *e*P **P** **14 28 57.1 +0.6**
comp=Z,54nm,0.8s
KBS LR LR
comp=Z,12µm,20.0s
LADK Ladik-KONYA 91.07 308 *e*P **P** **14 28 55.6 -2.2**
KONT Konya--Tatoy 91.09 308 *e*P **P** **14 28 56.2 -1.6**
GAZI Gazipasa 91.30 306 *i* P **P** **14 28 57.0 -1.8**
KTK1 Kautokeino 91.32 339 *e*P **P** **14 28 55.9 -2.3**
KIZT Kizilcal 91.38 309 *e*P **P** **14 28 58.4 -0.9**
KAF Kangasniemi 91.55 332 *e*P **P** **14 28 58.0 -1.3**
KAF pmax pmax
comp=Z,70nm,0.7s
KAF Kangasniemi 91.55 332 *e*p **P** **14 28 58.0 -1.3**
comp=Z,70nm,0.7s
SVRH Sivrihisar-ESK 91.59 310 *e*P **P** **14 28 59.1 -1.1**
FIA1 FINESS Array S 91.78 332 *e*P **P** **14 28 59.0 -1.5**
FINES FINESS Array B 91.79 332 P **P** **14 28 59.1 -1.3**
comp=Z,36nm,0.8s,baz=90,slow=5.7,SNR=31
FINES PKKPbc **PKKPbc** **14 46 25.7 +4.4**
comp=Z,2.8nm,0.9s,baz=279,slow=3.7,SNR=4.0
FINES LR LR 15 14 38.7
comp=Z,8µm,20.2s,baz=82,slow=38
FINES FINESS Array B 91.79 332 P **P** **14 28 59.1 -1.3**
FINES PKKPbc **PKKPbc** **14 46 25.7 +4.4**
AKASG Malin Array Be 91.83 321 P **P** **14 28 59.2 -1.7**
comp=Z,62nm,0.8s,baz=72,slow=4.6,SNR=71
AKASG LR LR 15 16 14.0
comp=Z,8µm,20.7s,baz=55,slow=40
AKASG Malin Array Be 91.83 321 *i* P **P** **14 28 58.2 -2.7**
AKASG pmax pmax
comp=Z,62nm,0.8s
AKASG Malin Array Be 91.83 321 P **P** **14 28 59.2 -1.7**
AK01 Malin Array Si 91.84 321 *e*P **P** **14 28 58.0 -2.9**
KIEV Kiev 91.84 321 *e*P **P** **14 28 57.8 -3.1**
KIEV pmax pmax
comp=Z,96nm,0.9s
KIEV MLR MLR
comp=Z,8µm,21.0s
KIEV Kiev 91.84 321 *e*P **P** **14 28 57.8 -3.1**
comp=Z,96nm,0.9s
KIEV LR LR
comp=Z,8µm,21.0s

AK02 Malin Array Si 91.85 321 *e*P **P** **14 28 58.6 -2.4**
VSU Vasula 92.02 329*c i*P **P** **14 29 01.2 -0.3**
VSU pmax pmax
comp=Z,88nm,0.9s
SEYT Eskypehyr 92.11 310 *i* P **P** **14 29 01.9 -0.7**
BOLV Bolvadin 92.12 309 *i* P **P** **14 29 02.3 -0.4**
GULT Gulveren 92.25 311 *e*P **P** **14 29 02.9 -0.4**
BORA Eskisehir 92.37 310 *i* P **P** **14 29 03.1 -0.7**
SYO Syowa Base 92.38 201⇓*i*P **P** **14 29 04.0 +1.0**
SYO Syowa Base 92.38 201⇓*i*PcP **PcP** **14 29 05.0 +1.3**
SHUT Suhut-Afyon 92.45 309 *e*P **P** **14 29 03.5 -0.7**
ISP Isparta 92.56 308 *e*P **P** **14 29 01.9 -2.8**
ISP Isparta 92.56 308 PFAKE 14 29 20.0 +15
ISP LR LR
comp=Z,6μm,21.0s
KIS Kishinev 92.62 317 *e*P **P** **14 29 03.0 -1.6**
KIS *e* 14 32 41.0
KIS *e* 14 39 37.0
KIS *e*S **S** **14 40 03.0 -3.9**
KIS *e*PS PnS 14 41 28.0 +4.3
KIS pmax pmax
comp=Z,190nm,1.7s
KIS pmax pmax
comp=Z,2μm,11.0s
KIS pmax pmax
comp=Z,2μm,12.0s
KIS Kishinev 92.62 317 *e*P **P** **14 29 03.0 -1.6**
comp=Z,200nm,1.7s
KIS Kishinev 92.62 317 *e*PP PP 14 32 56.0 +10
KIS Kishinev 92.62 317 *e*PPP PPP 14 35 02.0
KIS *e*SKS **SKSac** **14 39 37.0 +1.1**
KIS *e*S **S** **14 40 03.0 -3.9**
comp=Z,2μm,10.0s
KIS Kishinev 92.62 317 *e*PS PS 14 41 28.0 +5.6
KIS *e*SS SS 14 45 07.0 -72
KIS *e*LQ LQ 15 03 52.0
comp=Z,5μm,21.0s
KIS LRM MLR 15 17 42.0
comp=Z,4μm,20.0s
TRO Tromso 92.62 340 *e*P **P** **14 29 04.5 +0.4**
TRO AMS AMS 15 13 21.1
comp=Z,13μm,24.8s
NACGM Naroch 92.63 325 *e*P **P** **14 29 02.0 -2.5**
ALT Altintas 92.73 309 *e*P **P** **14 29 04.4 -1.0**
CAVI Cavuskoy 92.79 310 *e*P **P** **14 29 05.1 -0.6**
TLCR 92.88 315⇓*i*P **P** **14 29 06.5 +0.6**
TLCR 92.88 315⇓*i*P **P** **14 29 06.5 +0.6**
WRAK Wrangell Islan 93.01 33 *e*P **P** **14 29 06.8 +0.7**
comp=Z,127nm,0.8s
WRAK LR LR
comp=Z,4μm,22.0s
EFOR EFORIE 93.17 314⇓*i*P **P** **14 29 07.3 +0.1**
TVSB Tavsanli 93.18 310 *e*P **P** **14 29 07.0 -0.6**
GDZ Gediz 93.21 309 *i* P **P** **14 29 06.6 -1.1**
MANR Mangalia 93.24 314⇑*i*P **P** **14 29 07.2 -0.3**
TIRR Tirgusor 93.27 315⇓P **P** **14 29 07.7 0.0**
TIRR Tirgusor 93.27 315 *e*P **P** **14 29 04.8 -2.9**
comp=Z,109nm,1.0s
TIRR Tirgusor 93.27 315⇓*i*P **P** **14 29 07.7 0.0**
CFR Carcaliu 93.36 316⇑P **P** **14 29 08.5 +0.5**
CFR Carcaliu 93.36 316⇑P **P** **14 29 08.5 +0.5**
GOLH Golhisar 93.38 307 *i* P **P** **14 29 07.2 -1.4**
ARMT Armutlu 93.49 311 *e*P **P** **14 29 08.3 -0.5**
PSN Preselentsi 93.55 314 P P **14 29 08.9 -0.1**
DIB Dawson Inlet, 93.55 36 T T 16 13 21.6
SNR=50
QSPA South Pole Qui 93.63 180 PKKPbc PKKPbc 14 46 19.7 +2.1
comp=Z,12nm,0.9s,baz=201,slow=2.5,SNR=7.7
QSPA South Pole Qui 93.63 180 *e*P **P** **14 29 08.7 -0.3**
comp=Z,106nm,1.0s
QSPA PKKPbc **PKKPbc** **14 46 19.7 +2.1**
QSPA LR LR
comp=Z,9μm,19.0s
GHRR 93.72 316⇑*i*P **P** **14 29 10.7 +1.0**
DNZL Cakiroluk 93.73 308 *i* P **P** **14 29 09.3 -1.0**
CTYL Yal??k??y-??at 93.79 312 *e*P **P** **14 29 09.4 -0.7**
FETY Fethiye 93.84 307 *e*P **P** **14 29 08.5 -2.0**
DURS Dursunbey 93.92 310 *i* P **P** **14 29 09.9 -1.0**
KULA Kula-Manisa 93.92 309 *e*P **P** **14 29 10.4 -0.6**
GRER 94.13 316⇓*i*P **P** **14 29 14.2 +2.5**
PRD Provadia 94.18 314 P P **14 29 12.2 +0.3**
TURN Turunc 94.19 307 *i* P **P** **14 29 13.3 +1.2**
VRI Vrincioaia 94.22 316⇓P **P** **14 29 13.1 +1.0**
VRI Vrincioaia 94.22 316⇓*i*P **P** **14 29 13.1 +1.0**
NEF NEVSHA 94.26 314 P P **14 29 12.8 +0.5**
PLOR Plostina 94.28 316⇓P **P** **14 29 13.3 +0.9**
PLOR Plostina 94.28 316⇓*i*P **P** **14 29 13.3 +0.9**
BALB Balikesir 94.36 310 *e*P **P** **14 29 12.3 -0.5**
GONE Gonen-Balikesi 94.45 310 *e*P **P** **14 29 12.4 -0.8**
STEI Steigen 94.46 339 *e*P **P** **14 29 12.2 -0.4**
ISR Istrita 94.48 316⇑P **P** **14 29 13.5 +0.1**
ISR Istrita 94.48 316⇑*i*P **P** **14 29 13.4 +0.1**
AKHS Akhisar 94.53 309 *i* P **P** **14 29 12.7 -1.0**
BALY Balya 94.55 310 *i* P **P** **14 29 12.8 -1.0**
AYDN Tasoluk 94.65 308 *i* P **P** **14 29 14.3 0.0**
SART Tekirdag 94.74 311 *i* P **P** **14 29 14.0 -0.6**
RKY Sarkoy-Tekirda 94.74 311 *e*P **P** **14 29 12.9 -1.7**
MLR Muntele Rosu 94.83 316 P P **14 29 14.2 -0.8**
comp=Z,20nm,0.8s,baz=293,slow=0.8,SNR=40
MLR Muntele Rosu 94.83 316 P P **14 29 14.2 -0.8**
MLR Muntele Rosu 94.83 316⇓*i*P **P** **14 29 15.7 +0.7**
SUW Suwalki 94.86 325 *e*P **P** **14 29 14.8 -0.1**
SUW *e*SKSac **SKSac** **14 39 51.5 +3.7**
SUW LMZ LR 15 14 08.1
comp=Z,14μm,20.9s
SUW Suwalki 94.86 325 P P **14 29 14.9 +0.1**
SUW pmax pmax
comp=Z,289nm,0.9s
SUW Suwalki 94.86 325 P P **14 29 14.9 +0.1**
comp=Z,289nm,0.9s
SUW Suwalki 94.86 325 *e*P **P** **14 29 14.7 -0.1**
SUW *e*SKSac **SKSac** **14 39 51.5 +3.7**
SUW LMZ LR 15 14 08.0
JMB Yambol 94.89 313 P P **14 29 16.0 +0.8**
JMB Yambol 94.89 313 P P **14 29 15.8 +0.6**
BURAR Bucovina Array 94.93 318⇓*i*P **P** **14 29 16.5 +1.1**
BUR08 Bucovina Ar. S 94.94 318 *e*P **P** **14 29 14.2 -1.3**
DAT Datca 95.03 307 *e*P **P** **14 29 17.0 +0.9**
IZM Izmir 95.03 309 *e*P **P** **14 29 13.9 -2.1**
DOPR Dopca 95.13 317⇓*i*P **P** **14 29 16.8 +0.6**
GCAM G?zelcaml? 95.15 308 *i* P **P** **14 29 16.4 -0.1**
BLCB Balcova 95.20 309 *e*P **P** **14 29 16.1 -0.6**
SZH Strazhica 95.23 314 *i* P **P** **14 29 16.5 -0.2**
LVV L'vov 95.26 321 *e*P **P** **14 29 16.2 -0.5**
LVV *e* 14 33 10.4
LVV *e*PPP PPP 14 35 16.4
LVV *e* 14 39 44.4
LVV *e*S S 14 40 23.0 -7.0
LVV *e*PS **PS** **14 41 47.4 -4.0**
MOR8 Moi Rana 95.40 338 *e*P **P** **14 29 16.2 -0.8**
VOIR 95.46 316⇑P **P** **14 29 18.3 +0.5**
VOIR 95.46 316⇑*i*P **P** **14 29 18.3 +0.5**
KARP Karpathos 95.53 306 *e*P **P** **14 29 18.2 -0.1**
URLA Izmir 95.55 309 *i* P **P** **14 29 17.5 -0.9**
ALN Alexandroupoli 95.55 312 P P **14 29 16.3 -1.9**
ALN Alexandroupoli 95.55 312 *e*P **P** **14 29 18.2 0.0**
PRK Paraskevi 95.66 310 P P **14 29 17.9 -0.8**
HUMR Humele 95.68 315⇓*i*P **P** **14 29 19.2 +0.5**
BOZC Bozcaada 95.72 310 *i* P **P** **14 29 18.2 -0.9**
ARR Arges 95.76 316⇓*i*P **P** **14 29 18.9 -0.3**
KDZ Kurdzhali 95.89 312 P P **14 29 19.1 -0.7**
MBAR Mbarara 95.91 270 P P **14 29 19.1 -1.6**
comp=Z,7.8nm,0.7s,baz=132,slow=8.1,SNR=13
MBAR Mbarara 95.91 270 P P **14 29 19.1 -1.6**
MBAR Mbarara 95.91 270 *e*P **P** **14 29 19.2 -1.4**
CHOS Chios island 95.97 309 P P **14 29 17.7 -2.6**
CHOS Chios island 95.97 309 *e*P **P** **14 29 19.6 -0.7**
BMR Baia Mare 96.06 319⇑P **P** **14 29 21.4 +1.0**
BMR Baia Mare 96.06 319⇑*i*P **P** **14 29 21.4 +1.0**
KWP Kalwaria Pacla 96.14 321 *e*P **P** **14 29 21.4 +0.7**
KWP *e*SKSac SKSac 14 40 07.4 +13
KWP LMZ LR 15 11 39.1
comp=Z,6μm,32.3s
KWP Kalwaria Pacla 96.14 321⇑P **P** **14 29 21.9 +1.1**
KWP Kalwaria Pacla 96.14 321 *e*P **P** **14 29 19.7 -1.1**
comp=Z,215nm,1.0s
KWP LR LR
comp=Z,7μm,19.0s
KWP Kalwaria Pacla 96.14 321⇑*i*P **P** **14 29 21.9 +1.1**
KWP Kalwaria Pacla 96.14 321 *e*P **P** **14 29 21.4 +0.7**
KWP *e*SKSac SKSac 14 40 07.4 +13
KWP LMZ LR 15 11 39.0

LOT Lotru 96.34 316⇑*i*P **P** **14 29 21.5 -0.4**
LIA Limnos Island 96.38 311 *e*P **P** **14 29 21.5 -0.5**
RZN Rozhen 96.40 312 *i* P **P** **14 29 21.7 -0.6**
KOLS Kolonicke sedl 96.58 320 *e*P **P** **14 29 23.3 +0.5**
KOLS pmax pmax
comp=Z,52nm,1.4s
KOLS Kolonicke sedl 96.58 320 *e*P **P** **14 29 23.3 +0.5**
TRPA Tarpa 96.59 319⇓*i*P **P** **14 29 23.3 +0.5**
TRPA Tarpa 96.59 319⇓*e*P **P** **14 29 23.2 +0.5**
APE Apeiranthos 96.59 308 *e*P **P** **14 29 20.9 -2.3**
APE Apeiranthos 96.59 308⇓P **P** **14 29 21.6 -1.5**
APE Apeiranthos 96.59 308 *e*P **P** **14 29 21.8 -1.3**
APE Apeiranthos 96.59 308⇓*i*P **P** **14 29 21.6 -1.5**
PGB Panagyurishte 96.64 313 *i* P **P** **14 29 23.2 0.0**
UZH Uzhgorod 96.64 320⇑*i*P **P** **14 29 24.0 +1.0**
UZH *e* 14 29 32.2
UZH *i* 14 29 37.4
UZH *e*S **S** **14 40 39.0 -2.9**
UZH *e*SS SS 14 47 27.0 +11
KAVA Kavala 96.68 312 P P **14 29 22.1 -1.3**
DRGR 96.77 318⇑P **P** **14 29 23.9 +0.1**
DRGR 96.77 318⇑*i*P **P** **14 29 23.9 +0.1**
MPEP Malo Peshtene 96.78 314 *i* P **P** **14 29 24.2 +0.4**
BEL Belsk 96.79 323 *e*P **P** **14 29 24.0 +0.4**
BEL LMZ LR 15 15 50.3
comp=Z,9μm,21.1s
BEL Belsk 96.79 323 *e*P **P** **14 29 24.0 +0.4**
BEL LMZ LR 15 15 50.3
XRY Khrisi 96.82 306 *e*P **P** **14 29 24.8 +0.7**
NPS Neapolis 96.83 306 P P **14 29 24.3 +0.1**
NPS Neapolis 96.83 306 *e*P **P** **14 29 24.4 +0.2**
DEV Deva 96.84 317⇓P **P** **14 29 23.2 -0.8**
DEV Deva 96.84 317⇓*i*P **P** **14 29 23.2 -0.8**
LAST Lasithi 96.95 306 *e*P **P** **14 29 24.6 -0.3**
NSS Namsos 97.00 337 *e*P **P** **14 29 27.4 +3.1**
NVR Nevrokopi 97.09 312 P P **14 29 24.7 -0.5**
NVR Nevrokopi 97.09 312 *e*P **P** **14 29 24.8 -0.5**
CRVS Cervenica-Dubn 97.11 320 *e*P **P** **14 29 24.2 -1.0**
CRVS pmax pmax
comp=Z,86nm,0.9s
CRVS Cervenica-Dubn 97.11 320 *e*P **P** **14 29 24.2 -1.0**
MMB Musomiste 97.14 313 *i* P **P** **14 29 24.5 -1.0**
OUR Ouranopolis 97.20 311 P P **14 29 24.6 -1.1**
DAG Danmarks Havn 97.24 352⇑*i*P **P** **14 29 25.0 -0.2**
comp=Z,633nm,0.8s
DAG *i* 14 29 33.7
DAG *i* 14 40 03.7
DAG
comp=Z,10μm,24.0s
VTS Vitosha 97.32 314⇓P **P** **14 29 25.0 -1.5**
VTS Vitosha 97.32 314 P P **14 29 25.9 -0.6**
VTS Vitosha 97.32 314⇓*i*P **P** **14 29 25.0 -1.5**
VTS Vitosha 97.32 314 *i* P **P** **14 29 25.5 -1.0**
SRS Serrai 97.34 312 P P **14 29 23.8 -2.6**
IDI Anoyia 97.41 306 P P **14 29 25.8 -1.1**
IDI Anoyia 97.41 306 *e*P **P** **14 29 24.7 -2.2**
comp=Z,64nm,0.8s
AOS Alonnisos 97.50 310 P P **14 29 25.3 -1.8**
MSNA Messina 97.50 248 *e*P **P** **14 29 27.2 -0.4**
PAIG Paliouri 97.50 311 P P **14 29 25.2 -1.9**
KKB Krupnik 97.56 313 P P **14 29 26.5 -0.9**
SOH Sokhos 97.57 312 P P **14 29 26.4 -1.1**
PLG Polygyros 97.59 311 P P **14 29 26.2 -1.4**
PLG Polygyros 97.59 311 *e*P **P** **14 29 27.2 -0.4**
NIE Niedzica 97.71 321 *e*P Pdif 14 29 28.9 +1.0
NIE Niedzica 97.71 321 *e*P Pdif 14 29 28.9 +1.0
BZS Buzias 97.78 317⇓P Pdif 14 29 28.4 +0.1
BZS Buzias 97.78 317⇓*i*P Pdif 14 29 28.4 +0.1
OJC Ojcow 97.82 322 *e*P Pdif 14 29 28.6 +0.2
OJC Ojcow 97.82 322 *e*P Pdif 14 29 28.6 +0.2
RES Resolute Bay 97.84 10 P P **14 29 26.6 -1.2**
comp=Z,41nm,0.8s,baz=314,slow=5.1,SNR=57
RES Resolute Bay 97.84 10 *e*P **P** **14 29 26.6 -1.2**
comp=Z,71nm,0.8s
KNT Kendrikon 97.84 312 P P **14 29 28.1 -0.5**
VAM Vamos 97.94 306 P P **14 29 29.1 -0.1**
VAM Vamos 97.94 306 P **SKSac** **14 40 11.4 +6.7**
VAM Vamos 97.94 306 *e*P **P** **14 29 29.1 -0.1**
HFS Hagfors 97.97 332 P P **14 29 28.1 -0.6**
comp=Z,27nm,0.9s,baz=76,slow=6.6,SNR=22
HFS LR LR 15 20 37.2
comp=Z,8μm,18.9s,baz=62,slow=40
HFS Hagfors 97.97 332 P P **14 29 28.1 -0.6**
XOR Xorichti 97.98 310 P P **14 29 27.9 -1.5**
VAY Valandovo 98.05 312 P P **14 29 27.8 -1.7**
VAY Valandovo 98.05 312⇑*i*P P **14 29 27.8 -1.7**
GVD Gavdhos 98.13 306 *e*P P **14 29 29.9 -0.2**
KARN Karanos 98.17 306 P P **14 29 29.6 -0.7**
ATAL Atalanti 98.25 310 P P **14 29 27.9 -2.6**
GRG Griva 98.25 312 P P **14 29 28.9 -1.6**
LKR Lokris 98.27 310 P P **14 29 29.0 -1.6**
LKR Lokris 98.27 310 P **SKSac** **14 40 06.2 -0.1**
DID Didima 98.31 309 P P **14 29 27.4 -3.5**
DID Didima 98.31 309 *e*P P **14 29 29.3 -1.6**
PSZ Piszkesteto 98.36 319⇑P P **14 29 30.6 -0.3**
PSZ Piszkesteto 98.36 319 *e*P P **14 29 28.9 -2.0**
PSZ comp=Z,69nm,1.1s LR LR
comp=Z,8μm,22.0s
PSZ Piszkesteto 98.36 319⇑*i*P P **14 29 30.6 -0.3**
PSZ Piszkesteto 98.36 319⇑*e*P Pdif 14 29 31.1 +0.2
LIT Litokhoron 98.37 311 P P **14 29 29.4 -1.6**
LIT Litokhoron 98.37 311 *e*P Pdif 14 29 31.1 0.0
LTK Loutraki 98.42 309 P P **14 29 28.8 -2.5**
LTK Loutraki 98.42 309 P **SKSac** **14 40 04.8 -2.3**
LTK Loutraki 98.42 309 *e*P P **14 29 29.7 -1.6**
GKP Gorka Klasztor 98.47 325 *e*P Pdif 14 29 31.7 +0.5
GKP *e*SKSac SKSac 14 40 23.6 +17
GKP LMZ LR 15 16 32.1
comp=Z,16μm,21.3s
GKP Gorka Klasztor 98.47 325 *e*P Pdif 14 29 31.6 +0.4
GKP *e*SKSac SKSac 14 40 23.6 +17
GKP LMZ LR 15 16 32.0
AXAR Agios Charalam 98.51 310 P **SKSac** **14 40 12.9 +5.4**
DSF Desfina 98.68 310 P P **14 29 30.7 -1.8**
VLI Veliai 98.70 308 P P **14 29 31.4 -1.2**
VLI Veliai 98.70 308 *e*P P **14 29 32.0 -0.6**
NC602 NORSAR Array S 98.72 333 *e*P P **14 29 30.9 -1.2**
SKO Skopje 98.74 313 *i* P Pdif 14 29 32.6 -0.1
NB2 NORSAR Subarra 98.74 334 P P **14 29 29.5 -2.8**
baz=67,slow=4.4
NB2 NORSAR Subarra 98.74 334 P P **14 29 29.5 -2.8**
comp=Z,68nm,0.9s,baz=67,slow=4.4
NOA NORSAR Array B 98.74 334 P P **14 29 30.6 -1.7**
comp=Z,33nm,0.9s,baz=66,slow=4.6,SNR=62
NOA PP **PP** **14 33 29.3 -4.0**
comp=Z,4.0nm,0.8s,baz=78,slow=9.1,SNR=3.5
NOA PKKPbc **PKKPdf** **14 46 05.8 +0.2**
comp=Z,2.9nm,0.8s,baz=251,slow=2.3,SNR=8.4
NOA LR LR 15 17 39.4
comp=Z,12μm,22.0s,baz=70,slow=38
NOA NORSAR Array B 98.74 334 P P **14 29 30.6 -1.7**
NOA PP **PP** **14 33 29.3 -4.0**
NOA PKKPbc **PKKPdf** **14 46 05.8 +0.2**
THL Klokotos Trika 98.84 311 P P **14 29 30.6 -2.5**
MAKR Makrakomi, Fth 98.86 310 P P **14 29 32.5 -0.8**
VYHS Vyhne 98.89 320 *e*P P **14 29 33.1 -0.1**
VYHS pmax pmax
comp=Z,29nm,2.0s
VYHS Vyhne 98.89 320 *e*P P **14 29 33.1 -0.1**
VYHS *e*PP **PP** **14 33 38.1 +3.3**
GUR Goura 98.92 309 P P **14 29 31.7 -2.0**
GUR Goura 98.92 309 P **SKSac** **14 40 12.2 +2.4**
GUR Goura 98.92 309 *e*P P **14 29 33.1 -0.6**
OKC Ostrava-Krasne 98.95 322 *e*P Pdif 14 29 34.4 +1.0
OKC *e* 14 29 40.8
OKC *e* 14 40 11.2
OKC MLR MLR
comp=Z,6μm,19.2s
OKC Ostrava-Krasne 98.95 322 *e*PDIFF Pdif 14 29 34.4 +1.0
OKC *e*pP pP 14 29 40.8 -3.5
OKC *e*SKS **SKSac** **14 40 11.2 +2.0**
OKC *ex* x 14 42 48.1
OKC *ex* x 14 48 41.0
OKC AMS AMS 15 27 10.0
comp=Z,6μm,19.2s
NAO01 NORSAR Array S 98.97 333 *e*P P **14 29 31.1 -2.1**
comp=Z,59nm,0.9s
KALE Kalithea 98.99 310 P P **14 29 31.3 -2.6**
KALE Kalithea 98.99 310 P **SKSac** **14 40 10.0 0.0**
KALE Kalithea 98.99 310 *e*P Pdif 14 29 34.6 +0.7
VLX Vlachokerasia 99.01 309 P **Pdif** **14 29 33.6 -0.5**

TRIZ Trizonia 99.04 310 P **Pdif** **14 29 31.1 -3.0**
TRIZ Trizonia 99.04 310 P **SKSac** **14 40 09.0 -1.1**
TRIZ Trizonia 99.04 310 *e*P **Pdif** **14 29 33.3 -0.8**
BUD Budapest 99.05 319⇑*e*Pdiff **Pdif** **14 29 34.3 +0.4**
FNA Florina 99.05 312 P **Pdif** **14 29 32.8 -1.3**
LSZ Lusaka 99.10 255 *e*P **Pdif** **14 29 34.8 -0.2**
SLR Silverton 99.12 245 *e*P **Pdif** **14 29 37.6 +2.8**
SLR AMS AMS 14 42 39.9
comp=Z,2μm,21.6s
EVR Evrytania 99.13 310 P **SKSac** **14 40 10.1 -0.7**
LAKA Lakka 99.14 309 P **Pdif** **14 29 32.4 -2.2**
LAKA Lakka 99.14 309 P **SKSac** **14 40 10.2 -0.5**
LAKA Lakka 99.14 309 *e*P **Pdif** **14 29 33.7 -0.9**
ERPM east rand prop 99.15 244 *e*P **Pdif** **14 29 38.2 +3.1**
EFP Efpalio 99.16 310 P **Pdif** **14 29 34.3 -0.3**
EFP Efpalio 99.16 310 P **SKSac** **14 40 12.8 +2.1**
BSD Bornholm Skovb 99.16 327 *i* P **Pdif** **14 29 34.0 -0.2**
comp=Z,32nm,0.8s
BSD *i* 14 40 14.2
BSD
comp=Z,7μm,20.0s
DYR Agios Nikonas 99.17 308 P **Pdif** **14 29 34.0 -0.7**
DYR Agios Nikonas 99.17 308 *e*P **Pdif** **14 29 35.5 +0.8**
RKT Rikitea 99.18 113 *e*PP PP 14 33 34.9 -3.0
comp=Z,483nm,28.5s
RKT *e*SKSac **SKSac** **14 40 10.1 -1.2**
comp=Z,4μm,29.2s
RKT *e*SP **SP** **14 42 29.1 -1.6**
comp=Z,3μm,32.5s
RKT *e*SS **SS** **14 47 51.7 -2.0**
comp=Z,4μm,29.5s
RKT *e*LR LR 15 01 51.1
comp=Z,7μm,30.8s
DIVS Divibare 99.27 316 P **Pdif** **14 29 35.0 -0.1**
MORC Moravsky Berou 99.34 322 *e*P **Pdif** **14 29 31.8 -3.4**
MORC pmax pmax
comp=Z,32nm,0.9s
MORC Moravsky Berou 99.34 322⇑P **Pdif** **14 29 36.5 +1.3**
MORC Moravsky Berou 99.34 322 *e*P **Pdif** **14 29 31.8 -3.4**
comp=Z,32nm,0.9s
MORC Moravsky Berou 99.34 322⇑*i*P **Pdif** **14 29 36.5 +1.3**
ITM Ithomi 99.40 308 P **Pdif** **14 29 34.3 -1.4**
ITM Ithomi 99.40 308 P **SKSac** **14 40 09.8 -2.2**
ITM Ithomi 99.40 308 *e*P **Pdif** **14 29 34.9 -0.8**
YKW3 Yellowknife Ar 99.51 24 *e*P **Pdif** **14 29 34.6 -0.9**
comp=Z,0.6nm,1.0s
PHP Peshkopia 99.53 313 P **Pdif** **14 29 35.4 -0.8**
PHP Peshkopia 99.53 313 P **SKSac** **14 40 16.7 +4.1**
YKA Yellowknife Ar 99.55 24 P **Pdif** **14 29 34.5 -1.2**
comp=Z,5.6nm,0.7s,baz=299,slow=4.5,SNR=55
YKA PP PP 14 33 30.3 -9.0
comp=Z,5.1nm,1.1s,baz=311,slow=4.9,SNR=3.7
YKA PKiKP **PKiKP** **14 34 05.0 +0.3**
comp=Z,0.9nm,0.6s,baz=296,slow=1.7,SNR=5.3
YKA PKKPbc **PKKPbc** **14 45 59.1 -1.2**
comp=Z,1.0nm,0.5s,baz=118,slow=3.1,SNR=8.4
YKA Yellowknife Ar 99.55 24 P **Pdif** **14 29 34.5 -1.2**
YKA PP PP 14 33 30.3 -9.0
YKA PKiKP **PKiKP** **14 34 05.0 +0.3**
YKA PKKPbc **PKKPbc** **14 45 59.1 -1.2**
RLS Riolos of Patr 99.58 309 P **Pdif** **14 29 36.0 -0.4**
RLS Riolos of Patr 99.58 309 *e*P **Pdif** **14 29 36.8 +0.4**
PYL PYLOS 99.61 308 P **Pdif** **14 29 33.9 -2.7**
PYL PYLOS 99.61 308 *e*P **Pdif** **14 29 35.1 -1.5**
MOL Molde 99.64 336 *e*P **Pdif** **14 29 38.1 +1.9**
MOL AMS AMS 15 19 03.0
comp=Z,18μm,23.1s
PKSM Moragy 99.64 318⇓P **Pdif** **14 29 36.8 +0.3**
PKSM Moragy 99.64 318⇓*i*P **Pdif** **14 29 36.8 +0.3**
PKSM Moragy 99.64 318⇓*e*Pdiff **Pdif** **14 29 37.0 +0.5**
KRLC Kraliky 99.72 322 *e*PDIFF **Pdif** **14 29 38.1 +1.2**
KRLC *e*pP **pP** **14 29 45.2 -2.6**
KSP Ksiaz 99.78 323 *e*P **Pdif** **14 29 38.0 +0.8**
KSP *e*SKSac **SKSac** **14 40 16.6 +3.3**
KSP LMZ LR 15 19 38.9
comp=Z,7μm,21.0s
KSP Ksiaz 99.78 323⇑*e*P **Pdif** **14 29 37.8 +0.7**
KSP *e* 14 33 41.0
KSP *e* 14 40 14.0
KSP *e*SP SP 14 42 34.0 -1.6
KSP *e*SS **SS** **14 47 55.0 -5.3**
KSP Ksiaz 99.78 323 *e*P **Pdif** **14 29 37.9 +0.8**
KSP *e*SKSac **SKSac** **14 40 16.6 +3.3**
KSP LMZ LR 15 19 38.9
DPC Dobruska-Polom 99.92 322 *e*P **Pdif** **14 29 38.9 +1.1**
DPC *e* 14 29 45.7
DPC MLR MLR
comp=Z,7μm,19.8s
DPC Dobruska-Polom 99.92 322 *e*PDIFF **Pdif** **14 29 38.9 +1.1**
DPC *e*pP **pP** **14 29 45.7 -3.0**
DPC *ex* x 14 33 52.5
DPC *ex* x 14 40 26.0
DPC *ex* x 14 42 53.1
DPC AMS AMS 15 18 00.0
comp=Z,7μm,19.8s
PRYS Parys 99.93 243 *e*P **Pdif** **14 29 40.1 +1.6**
TIR Tirane 100.03 313 *e*P **Pdif** **14 29 38.2 -0.2**
TIR pmax pmax
comp=Z,85nm,0.8s
TIR MLR MLR
comp=Z,4μm,20.0s
TIR Tirane 100.03 313 *e*Pdif **Pdif** **14 29 38.2 -0.2**
comp=Z,85nm,0.8s
TIR LR LR
comp=Z,4μm,20.0s
UPC Upice 100.06 323 *e*P **Pdif** **14 29 39.5 +1.2**
UPC *e* 14 33 51.7
UPC Upice 100.06 323 *e*PDIFF **Pdif** **14 29 39.5 +1.2**
UPC *e*pP pP 14 29 45.3 -3.9
UPC *ex* x 14 33 51.7
KONO Kongsberg 100.06 333 *e*P **Pdif** **14 29 37.7 -0.3**
KONO AMS AMS 15 17 28.1
comp=Z,12μm,18.1s
KONO Kongsberg 100.06 333 P **Pdif** **14 29 36.3 -1.8**
KONO pmax pmax
comp=Z,37nm,1.1s
KONO MLR MLR
comp=Z,11μm,20.0s
KONO Kongsberg 100.06 333 Pdif **Pdif** **14 29 36.3 -1.8**
comp=Z,37nm,1.1s
KONO LR LR
comp=Z,11μm,20.0s
VRAC Vranov 100.07 321 P **Pdif** **14 29 39.0 +0.5**
comp=Z,23nm,0.9s,baz=97,slow=3.1,SNR=17
VRAC Vranov 100.07 321 P **Pdif** **14 29 39.0 +0.5**
VRAC Vranov 100.07 321⇓*i*P **Pdif** **14 29 40.0 +1.6**
IGT Igoumenitsa 100.11 311 P **Pdif** **14 29 38.1 -0.7**
NLWA Neilton Lookou 100.32 41 PFAKE 14 29 50.0 +10
NLWA LR LR
comp=Z,5μm,21.0s
KEK Kerkira 100.47 311 *e*P **Pdif** **14 29 37.4 -3.0**
GRM Grahamstown 100.49 237 *e*P **Pdif** **14 29 47.5 +6.9**
SOP Sopron 100.59 320⇓*e*Pdiff **Pdif** **14 29 41.7 +1.0**
RUE Ruedersdorf 100.71 325 *e*Pdif **Pdif** **14 29 40.2 -0.9**
comp=Z,65nm,0.8s
TREC Trest 100.77 322 *e*P **Pdif** **14 29 42.8 +1.3**
TREC MLR MLR
comp=Z,6μm,19.4s
TREC Trest 100.77 322 *e*PDIFF **Pdif** **14 29 42.8 +1.3**
TREC *e*pP pP 14 29 50.2 -2.3
TREC AMS AMS 15 21 20.0
comp=Z,6μm,19.4s
PVCC Panska Ves 100.92 323 *e*P **Pdif** **14 29 43.7 +1.5**
PVCC MLR MLR
comp=Z,8μm,19.7s
PVCC Panska Ves 100.92 323 *e*PDIFF **Pdif** **14 29 43.7 +1.5**
PVCC *e*pP pP 14 29 51.6 -1.5
PVCC AMS AMS 15 21 40.0
comp=Z,8μm,19.7s
CONA Conrad Observa 100.96 320⇑*i*Pdiff **Pdif** **14 29 40.9 -1.6**
comp=Z,16nm,1.2s
PRU Pruhonice 101.12 322 *e*P **Pdif** **14 29 43.8 +0.8**
PRU *e* 14 33 53.7
PRU *e*SP SP 14 42 59.7 +10
PRU MLR MLR
comp=Z,7μm,21.0s
PRU Pruhonice 101.12 322 *e*PDIFF **Pdif** **14 29 43.8 +0.8**
PRU *e*pP pP 14 29 51.7 -2.3
PRU *e*PP **PP** **14 33 53.7 +2.1**
PRU *ex* x 14 40 30.3
PRU *e*PS **PS** **14 42 59.7 +4.9**
PRU *ex* x 14 48 57.2
PRU AMS AMS 15 21 00.0

comp=Z,7μm,21.0s
PRA Prague 101.16 323 PDIFF Pdif 14 29 44.0 +0.8
PRA AMS AMS 15 20 30.0
BRG Berggiesshubel 101.18 323 ePDIF Pdif 14 29 44.1 +0.8
comp=Z,26nm,1.3s
BRG *i* 14 29 52.0
comp=Z,42nm,0.9s
BRG PP **PP** **14 33 52.0 0.0**
BRG SKS 14 40 24.0
BRG SDIF **Sdif** **14 41 21.0 +0.8**
BRG SS **SS** **14 48 22.0 +2.4**
BRG
comp=N,5μm,24.7s
BRG
comp=E,6μm,18.3s
BRG
comp=Z,10μm,20.6s
BRG Berggiesshubel 101.18 323 eP Pdif 14 29 44.1 +0.8
BRG 14 33 52.0
BRG 14 40 24.0
BRG S **Sdif** **14 41 21.0 +0.8**
BRG SS **SS** **14 48 22.0 +2.4**
BRG pmax pmax
comp=Z,26nm,1.3s
BRG pmax pmax
comp=Z,43nm,0.9s
BRG MLR MLR
comp=N,5μm,24.7s
BRG MLR MLR
comp=E,6μm,18.3s
BRG MLR MLR
comp=Z,10μm,20.6s
ODD1 Odda 101.28 334 eP Pdif 14 29 42.4 -1.2
ARSA Arzberg 101.39 320⇑ iPdiff Pdif 14 29 44.7 +0.3
comp=Z,24nm,0.9s
HVD Gariep Dam 101.46 240 eP Pdif 14 29 50.9 +5.7
LBTB Lobatse 101.55 245 ePdif Pdif 14 29 47.6 +2.0
comp=Z,20nm,0.9s
LBTB Lobatse 101.55 245 eP Pdif 14 29 47.8 +2.1
LBTB AMS AMS 14 44 12.5
comp=Z,1μm,14.7s
CLL Collm 101.58 324 i P Pdif 14 29 45.4 +0.4
CLL pmax pmax
comp=Z,51nm,1.8s
CLL Collm 101.58 324 i Pdif Pdif 14 29 45.4 +0.4
comp=Z,51nm,1.8s
CLL *i* 14 29 53.6
CLL *i* (sPdif) 14 30 02.4
comp=Z,44nm,1.1s
CLL *e* 14 33 23.0
CLL *e*PP **PP** **14 33 58.0 +3.0**
CLL *es*PP 14 34 14.0
comp=Z,800nm,23.7s
CLL *es*PPP 14 36 24.0
CLL *es*PPPP 14 38 06.0
CLL *e* 14 39 37.0
CLL *e*SKSac **SKSac** **14 40 17.0 -5.0**
CLL *es*SKSac **sSKSac** **14 40 36.0 -4.6**
CLL *es*Sdiff sSdif 14 41 41.0 -0.6
CLL *e*PS **PS** **14 43 05.0 +5.4**
CLL *e*PPS PPS 14 43 51.0
CLL *e* 14 45 03.0
CLL *e*SS **SS** **14 48 24.0 -1.2**
CLL *e* 14 49 18.0
CLL *e*(SSS) 14 52 54.0
CLL LmV 15 18 00.0
comp=Z,9μm,21.0s
MUD Monsted U'grnd 101.64 330 i P Pdif 14 29 45.4 +0.3
comp=Z,22nm,1.0s
MUD
comp=Z,7μm,17.0s
SWZ Schweizer 101.73 243 eP Pdif 14 29 48.5 +2.1
BOSA Boshof 101.75 242 P Pdif 14 29 47.6 +1.1
comp=Z,3.3nm,0.9s,baz=72,slow=3.2,SNR=3.0
BOSA Boshof 101.75 242 P Pdif 14 29 47.6 +1.1
BOSA Boshof 101.75 242 eP Pdif 14 29 53.1 +6.6
BOSA AMS AMS 14 43 09.8
comp=Z,1μm,16.0s
SOKA Soboth 101.89 319⇑ iPdiff Pdif 14 29 47.1 +0.5
comp=Z,20nm,0.9s
KHC Kasperske Hory 102.00 322 eP Pdif 14 29 47.9 +0.8
KHC *e* 14 34 00.3
KHC *e* 14 40 26.0
KHC MLR MLR
comp=Z,6μm,18.9s
KHC Kasperske Hory 102.00 322 ePdif Pdif 14 29 46.5 -0.6
comp=Z,21nm,1.0s
KHC Kasperske Hory 102.00 322 ePDIFF Pdif 14 29 47.9 +0.8
KHC *ep*P 14 29 55.6
KHC *es*P 14 30 04.4
KHC *ex* x 14 33 04.5
KHC *e*PP **PP** **14 34 00.3 +1.9**
KHC *e*SKS **SKSac** **14 40 26.0 +1.8**
KHC *ex* x 14 43 15.1
KHC *ex* x 14 49 11.8
KHC AMS AMS 15 25 40.0
comp=Z,6μm,18.9s
MOA Molin 102.00 320⇑ iPdiff Pdif 14 29 47.4 +0.3
comp=Z,72nm,1.1s
GERES GERESS Array B 102.02 322 P Pdif 14 29 46.8 -0.5
comp=Z,10nm,1.0s,baz=66,slow=4.5,SNR=26
GERES PP **PP** **14 33 53.7 -4.9**
comp=Z,4.6nm,0.8s,baz=69,slow=7.4,SNR=4.2
GERES PKKPbc **PKKPdf** **14 45 57.4 -2.1**
comp=Z,1.3nm,0.8s,baz=228,slow=1.6,SNR=5.1
GERES GERESS Array B 102.02 322 P Pdif 14 29 46.8 -0.5
GERES PP **PP** **14 33 53.7 -4.9**
GERES PKKPbc **PKKPdf** **14 45 57.4 -2.1**
MYKA Terra Mystica 102.81 319⇑ iPdiff Pdif 14 29 49.0 -1.7
comp=Z,17nm,1.3s
VOY Vojsko 102.84 319 e(P) Pdif 14 29 49.4 -1.5
VOY *e* 14 29 51.8
VOY *e* 14 29 58.5
VOY *e* 14 30 07.4
KBA Koelnbreinsper 102.85 320⇑ iPdiff Pdif 14 29 50.3 -0.7
comp=Z,28nm,1.1s
TIP Timpagrande 102.88 311 PFAKE 14 30 00.0 +8.8
TIP LR LR
comp=Z,5μm,22.0s
GRF Grafenberg Arr 103.23 323 eP Pdif 14 29 53.3 +0.8
GRF *eS* **Sdif** **14 41 31.7 -5.8**
GRF Grafenberg Arr 103.23 323 ePdiff Pdif 14 29 53.3 +0.8
GRF *eS*diff 14 41 31.7
GRF *eL* L 15 26 11.0
comp=Z,8μm,19.4s
SUMG Summit 103.24 355 eP Pdif 14 29 52.7 +0.2
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 103.24 355 ePdif Pdif 14 29 52.7 +0.2
comp=Z,19nm,1.0s
SUMG Summit 103.24 355 i P Pdif 14 29 52.9 +0.4
comp=Z,15nm,1.0s
SUMG
comp=Z,6μm,24.0s
HAWA Hanford 103.45 41 PFAKE 14 30 00.0 +6.5
HAWA LR LR
comp=Z,5μm,20.0s
ABTA Abfaltersbach 103.50 320⇓ iPdiff Pdif 14 29 53.3 -0.5
comp=Z,30nm,1.1s
WTTA Wattenberg 103.88 321⇑ iPdiff Pdif 14 29 54.7 -0.9
comp=Z,63nm,1.2s
MOTA Moosalm 104.18 321⇑ iPdiff Pdif 14 29 57.4 +0.5
comp=Z,27nm,0.9s
NEW Newport 104.30 38 ePdif Pdif 14 29 57.4 +0.1
comp=Z,10nm,1.0s
NEW LR LR
comp=Z,4μm,20.0s
NEW Newport 104.30 38 ⇓PKiKP Pdif 14 29 58.5 +1.2
baz=104
AQU L'Aquila 104.38 315 PFAKE 14 30 10.0 +12
AQU LR LR
comp=Z,7μm,20.0s
FETA Feichten 104.54 321⇑ iPdiff Pdif 14 29 57.9 -0.7
comp=Z,49nm,1.2s
A12A Yaak River Ran 104.93 37 ⇑PKiKP Pdif 14 30 01.7 +1.6
baz=105
DAVA Damuels 104.98 321⇑ iPdiff Pdif 14 30 01.5 +1.0
comp=Z,22nm,1.1s
DAVOX Davos/Dischmat 105.17 321 Pdiff Pdif 14 30 02.9 +1.5
comp=Z,11nm,0.8s,baz=77,slow=3.2,SNR=12
DAVOX PP **PP** **14 34 20.5 -1.7**
comp=Z,6.1nm,0.7s,baz=197,slow=2.1,SNR=3.1
DAVOX Davos/Dischmat 105.17 321 Pdif Pdif 14 30 02.9 +1.5
DAVOX PP **PP** **14 34 20.5 -1.7**
UPI Upington 105.28 242 eP Pdif 14 30 12.2 +10

SUR Sutherland 105.33 238 PFAKE 14 34 30.0
SUR LR LR
comp=Z,4μm,20.0s
SUR Sutherland 105.33 238 eP Pdif 14 30 07.8 +5.3
SUR AMS AMS 14 43 49.6
comp=Z,963nm,13.5s
BMO Blue Mountains 105.46 42 PFAKE 14 34 30.0
BMO LR LR
comp=Z,3μm,22.0s
WDD Wield Dalam 105.50 309 PFAKE 14 34 30.0
WDD LR LR
comp=Z,3μm,21.0s
BFO Black Forest 105.52 322 eP Pdif 14 30 01.8 -0.9
BFO pmax pmax
comp=Z,11nm,1.0s
BFO MLR MLR
comp=Z,7μm,21.0s
BFO Black Forest 105.52 322 ePdif Pdif 14 30 01.8 -0.9
comp=Z,11nm,1.0s
BFO LR LR
comp=Z,7μm,21.0s
TUE Stuetta 105.63 320 ePdif Pdif 14 30 02.8 -0.7
comp=Z,35nm,1.4s
TUE LR LR
comp=Z,7μm,19.0s
A13A Flathead Natio 105.67 37 ⇑PKiKP PKiKP 14 34 18.0 +1.5
baz=106
VLC Villacollemand 105.83 318 PFAKE 14 34 30.0
VLC LR LR
comp=Z,7μm,20.0s
MEM Membach 105.91 325 P Pdif 14 30 03.2 -1.1
comp=Z,13nm,1.7s
CDF Champ du Feu 106.12 323 eP Pdif 14 30 05.9 +0.4
comp=Z,33nm,1.0s
CDF Champ du Feu 106.12 323 eP Pdif 14 30 05.9 +0.4
CDF pmax pmax
comp=Z,33nm,1.0s
CDF Champ du Feu 106.12 323 eP Pdif 14 30 05.9 +0.4
comp=Z,33nm,1.0s
WLF Walferdange 106.25 324 P Pdif 14 30 04.8 -1.0
comp=Z,23nm,1.4s
WLF Walferdange 106.25 324 PFAKE 14 34 30.0
WLF LR LR
comp=Z,11μm,22.0s
ECH Echery 106.28 323 eP Pdif 14 30 07.7 +1.6
ECH pmax pmax
comp=Z,5.0nm,0.8s
ECH MLR MLR
comp=Z,6μm,20.0s
ECH Echery 106.28 323 ePdif Pdif 14 30 07.7 +1.6
comp=Z,4.5nm,0.8s
ECH LR LR
comp=Z,6μm,20.0s
D13A Huson 106.42 39 ⇓PKiKP PKiKP 14 34 19.2 +1.3
baz=106
HINF Hinteralfeld 106.63 322 eP Pdif 14 30 07.9 +0.2
HINF Hinteralfeld 106.63 322 eP Pdif 14 30 07.9 +0.2
HINF Hinteralfeld 106.63 322 eP Pdif 14 30 07.9 +0.2
VNA2 Neumayer--Watz 106.79 194 es Pdiff pPdif 14 30 21.4 +2.7
VNA2 Neumayer--Watz 106.79 194 epPKiKP pPKiKP 14 34 27.5 -1.4
MSO Missoula 106.85 39 PFAKE 14 34 30.0
MSO LR LR
comp=Z,2μm,21.0s
SNF Seneffe 106.93 326 P Pdif 14 30 09.0 +0.2
comp=Z,23nm,1.0s
DOU Dourbes 106.95 325 P Pdif 14 30 05.7 -3.3
comp=Z,23nm,1.8s
NVAR Mina Array Bea 106.99 48 Pdiff Pdif 14 30 11.8 +2.1
comp=Z,1.1nm,0.7s,baz=269,slow=5.0,SNR=8.1
NVAR PP **PP** **14 34 35.7 -0.3**
comp=Z,2.4nm,0.9s,baz=9.1,slow=9.6,SNR=4.9
NVAR PKKPbc **PKKPbc** **14 45 33.1 -4.7**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=3.5
NVAR PKKPab **PKKPab** **14 45 53.5 +0.8**
comp=Z,2.7nm,0.6s,baz=124,slow=4.6,SNR=5.9
NVAR Mina Array Bea 106.99 48 Pdif Pdif 14 30 11.8 +2.1
NVAR PP **PP** **14 34 35.7 -0.3**
NVAR PKKPbc **PKKPbc** **14 45 33.1 -4.7**
NVAR PKKPab **PKKPab** **14 45 53.5 +0.8**
PAGF Fort de Pagny 106.99 323 eP Pdif 14 30 10.0 +0.8
PAGF Fort de Pagny 106.99 323 eP Pdif 14 30 10.0 +0.8
BMN Battle Mountai 107.10 46 PFAKE 14 34 30.0
BMN LR LR
comp=Z,4μm,19.0s
VNA3 Neumayer Olymp 107.12 194 es Pdiff pPdif 14 30 23.1 +3.0
BAIF Baives 107.18 325 eP Pdif 14 30 11.2 +1.2
BAIF Baives 107.18 325 eP Pdif 14 30 11.2 +1.2
BAIF Baives 107.18 325 eP Pdif 14 30 11.2 +1.2
VNA1 Neumayer--Stat 107.19 194 es Pdiff pPdif 14 30 23.6 +3.2
VNA1 Neumayer--Stat 107.19 194 epPKiKP pPKiKP 14 34 27.4 -2.2
C15A Salmond Ranch, 107.26 37 ⇑PKiKP PKiKP 14 34 20.8 +1.4
baz=107
A16A West Butte Ran 107.33 36 ⇓PKiKP PKiKP 14 34 21.0 +1.4
baz=107
SFTF Sexfontaines 107.56 323 eP Pdif 14 30 12.3 +0.6
SFTF Sexfontaines 107.56 323 eP Pdif 14 30 12.3 +0.6
H13A Challis 107.58 41 ⇑PKiKP PKiKP 14 34 21.7 +1.5
baz=108
CABF La Chapelle 107.62 321 eP Pdif 14 30 12.7 +0.5
comp=Z,81nm,1.7s
CABF La Chapelle 107.62 321 eP Pdif 14 30 12.7 +0.5
CABF pmax pmax
comp=Z,81nm,1.7s
CABF La Chapelle 107.62 321 eP Pdif 14 30 12.7 +0.5
comp=Z,81nm,1.7s
D15A Lincoln 107.64 38 ⇓PKiKP PKiKP 14 34 22.0 +1.8
baz=108
LPG La Plagne 107.68 320 eP Pdif 14 30 13.6 +0.9
comp=Z,38nm,1.0s
LPG La Plagne 107.68 320 eP Pdif 14 30 13.6 +0.9
LPG pmax pmax
comp=Z,38nm,1.0s
LPG La Plagne 107.68 320 eP Pdif 14 30 13.6 +0.9
comp=Z,38nm,1.0s
LPL La Plagne 107.68 320 eP Pdif 14 30 13.2 +0.6
comp=Z,61nm,1.2s
LPL La Plagne 107.68 320 eP Pdif 14 30 13.2 +0.6
LPL pmax pmax
comp=Z,61nm,1.2s
LPL La Plagne 107.68 320 eP Pdif 14 30 13.2 +0.6
comp=Z,61nm,1.2s
BORG Borgarnes 107.73 346 PFAKE 14 34 30.0
BORG LR LR
comp=Z,9μm,22.0s
HLID Hailey 107.88 42 PFAKE 14 34 30.0
HLID LR LR
comp=Z,3μm,21.0s
TPH Tonopah 107.91 48 PFAKE 14 34 30.0
TPH LR LR
comp=Z,4μm,19.0s
BNI Bardonecchia 107.91 320 PFAKE 14 34 30.0
BNI LR LR
comp=Z,8μm,21.0s
MBDF Montbardon 107.99 319 eP Pdif 14 30 13.5 -0.4
comp=Z,28nm,1.3s
MBDF Montbardon 107.99 319 eP Pdif 14 30 13.5 -0.4
MBDF pmax pmax
comp=Z,28nm,1.3s
MBDF Montbardon 107.99 319 eP Pdif 14 30 13.5 -0.4
comp=Z,28nm,1.3s
ESK Eskdalemuir 108.20 332 PFAKE 14 34 30.0
ESK LR LR
comp=Z,11μm,20.0s
VSL Villasalto 108.22 314 PFAKE 14 34 30.0
VSL LR LR
comp=Z,3μm,20.0s
DAC Darwin (Calif) 108.22 50 PFAKE 14 34 30.0
DAC LR LR
comp=Z,5μm,20.0s
MPMC Manual Prospec 108.37 50 ⇓PKiKP PKiKP 14 34 24.0 +2.0
baz=108
ORIF Oris-en-Rattie 108.48 320 eP Pdif 14 30 16.6 +0.6
ORIF *eR*
comp=Z,13μm,23.0s
ORIF Oris-en-Rattie 108.48 320 eP Pdif 14 30 16.6 +0.6
ORIF Oris-en-Rattie 108.48 320 eP Pdif 14 30 16.6 +0.6
H15A Lima 108.61 40 ⇓PKiKP PKiKP 14 34 23.7 +1.6
baz=108
LOR Lormes 108.69 323 eP Pdif 14 30 17.4 +0.6
comp=Z,38nm,1.4s
LOR *eR*
comp=Z,9μm,22.8s
LOR Lormes 108.69 323 eP Pdif 14 30 17.4 +0.6
comp=Z,38nm,1.4s
D17A Six Diamond Ra 108.70 37 ⇑PKiKP PKiKP 14 34 24.2 +2.1
baz=109

F16A Kennard Place, 108.75 39 ⇓PKiKP PKiKP 14 34 23.8 +1.5
baz=109
BOZ Bozeman (W) 108.81 39 PFAKE 14 34 30.0
BOZ LR LR
comp=Z,3μm,21.0s
BOZ Bozeman (W) 108.81 39 ⇓PKiKP PKiKP 14 34 24.3 +1.8
baz=109
BFSC Mount Baldy Ra 108.82 52 ⇓PKiKP PKiKP 14 34 24.5 +1.7
baz=109
EGMT Eagleton 108.85 36 PFAKE 14 34 30.0
EGMT LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 108.85 36 ⇑PKiKP PKiKP 14 34 24.3 +2.0
baz=109
G16A Moss Hill, Enn 108.88 40 ⇓PKiKP PKiKP 14 34 24.6 +2.0
baz=109
I15A Monteview 108.97 41 ⇑PKiKP PKiKP 14 34 24.8 +2.0
baz=109
SMF Signal de Mont 108.99 322 eP Pdif 14 30 18.7 +0.5
comp=Z,23nm,1.0s
SMF Signal de Mont 108.99 322 eP Pdif 14 30 18.7 +0.5
SMF pmax pmax
comp=Z,23nm,1.0s
SMF Signal de Mont 108.99 322 eP Pdif 14 30 18.7 +0.5
comp=Z,23nm,1.0s
A19A Klindworth Far 109.00 35 ⇑PKiKP PKiKP 14 34 24.5 +1.9
baz=109
SSF Saint Saulge 109.00 323 eP Pdif 14 30 18.8 +0.6
comp=Z,11nm,0.9s
SSF Saint Saulge 109.00 323 eP Pdif 14 30 18.8 +0.6
SSF pmax pmax
comp=Z,11nm,0.9s
SSF Saint Saulge 109.00 323 eP Pdif 14 30 18.8 +0.6
comp=Z,11nm,0.9s
R11A Troy Canyon, C 109.02 47 ⇓PKiKP PKiKP 14 34 24.7 +1.6
baz=109
B19A Brinkman Farms 109.12 36 ⇓PKiKP PKiKP 14 34 25.5 +2.7
baz=109
K14A Jones Ranch, D 109.12 43 ⇑PKiKP PKiKP 14 34 24.6 +1.5
baz=109
GSC Goldstone 109.15 51 ⇓PKiKP PKiKP 14 34 24.6 +1.3
baz=109
SSB Saint Sauveur 109.18 321 PFAKE 14 34 30.0
SSB LR LR
comp=Z,7μm,21.0s
AVF Avril sur Loir 109.22 323 eP Pdif 14 30 19.5 +0.3
comp=Z,20nm,1.1s
AVF Avril sur Loir 109.22 323 eP Pdif 14 30 19.5 +0.3
AVF Avril sur Loir 109.22 323 eP Pdif 14 30 19.5 +0.3
J15A Blackfoot 109.26 41 ⇓PKiKP PKiKP 14 34 25.4 +2.1
baz=109
VIVF Saint-Julien-l 109.28 320 eP Pdif 14 30 19.9 +0.4
comp=Z,21nm,1.0s
VIVF Saint-Julien-l 109.28 320 eP Pdif 14 30 19.9 +0.4
VIVF Saint-Julien-l 109.28 320 eP Pdif 14 30 19.9 +0.4
FFC Flin Flon 109.28 27 PFAKE 14 34 30.0
FFC LR LR
comp=Z,5μm,21.0s
F17A Fitzpatrick Pl 109.30 38 ⇑PKiKP PKiKP 14 34 26.1 +2.7
baz=109
SHOC Shoshone 109.35 50 ⇑PKiKP PKiKP 14 34 26.1 +2.6
baz=109
SFJD Kangerlussuaq 109.42 359 PFAKE 14 34 30.0
SFJD LR LR
comp=Z,4μm,20.0s
E18A Harlowton 109.45 38 ⇓PKiKP PKiKP 14 34 26.6 +3.1
baz=109
KEST Kesra 109.55 310 PP PP 14 34 57.0 +2.4
comp=Z,6.6nm,1.0s,baz=308,slow=5.0,SNR=6.9
KEST Kesra 109.55 310 PP PP 14 34 57.0 +2.4
HEC Hector,Ludlow 109.67 51 ⇑PKiKP PKiKP 14 34 26.8 +2.5
baz=110
I16A Newdale 109.67 41 ⇑PKiKP PKiKP 14 34 27.1 +2.9
baz=110
F18A Big Timber 109.88 38 ⇓PKiKP PKiKP 14 34 26.6 +2.2
baz=110
PFO Pinyon Flat Ob 109.97 52 PFAKE 14 34 40.0
PFO LR LR
comp=Z,5μm,20.0s
C20A Veseth Ranch, 110.03 36 ⇓PKiKP PKiKP 14 34 26.7 +2.2
baz=110
K16A Soda Springs 110.06 42 ⇑PKiKP PKiKP 14 34 27.0 +2.1
baz=110
LKWY Lake 110.07 40 PFAKE 14 34 40.0
LKWY LR LR
comp=Z,6μm,19.0s
LASF Ste Croix 110.15 320 eP Pdif 14 30 24.2 +0.8
comp=Z,19nm,1.2s
LASF Ste Croix 110.15 320 eP Pdif 14 30 24.2 +0.8
TCF Toulx Ste Croi 110.16 322 eP Pdif 14 30 24.1 +0.7
comp=Z,35nm,1.3s
TCF Toulx Ste Croi 110.16 322 eP Pdif 14 30 24.1 +0.7
TCF Toulx Ste Croi 110.16 322 eP Pdif 14 30 24.1 +0.7
GMRC Granite Mounta 110.21 51 ⇓PKiKP PKiKP 14 34 27.4 +2.0
baz=110
DUG Dugway 110.32 45 PKiKP PKiKP 14 34 25.3 -0.1
DUG MLR MLR
comp=Z,4μm,20.0s
DUG Dugway 110.32 45 PKiKP PKiKP 14 34 25.3 -0.1
DUG LR LR
comp=Z,4μm,20.0s
LOHW Long Hollow 110.36 41 PKiKP PKiKP 14 34 27.1 +1.6
LDF La Druitiere 110.37 325 eP Pdif 14 30 25.0 +0.8
LDF La Druitiere 110.37 325 eP Pdif 14 30 25.0 +0.8
LDF La Druitiere 110.37 325 eP Pdif 14 30 25.0 +0.8
AHID Auburn Hatcher 110.41 42 PFAKE 14 34 40.0
AHID LR LR
comp=Z,3μm,20.0s
RLMT Red Lodge 110.53 39 PFAKE 14 34 40.0
RLMT LR LR
comp=Z,3μm,22.0s
HWUT Hardware Ranch 110.60 43 PFAKE 14 34 40.0
HWUT LR LR
comp=Z,3μm,19.0s
F20A Billings 110.89 38 ⇓PKiKP PKiKP 14 34 28.6 +2.3
baz=111
GRR Gorron 110.89 326 eP Pdif 14 30 27.7 +1.1
GRR Gorron 110.89 326 eP Pdif 14 30 27.7 +1.1
GRR Gorron 110.89 326 eP Pdif 14 30 27.7 +1.1
CAF Calviac 110.90 321 eP Pdif 14 30 27.7 +1.0
CAF Calviac 110.90 321 eP Pdif 14 30 27.7 +1.0
CAF Calviac 110.90 321 eP Pdif 14 30 27.7 +1.0
RJF Les Rejaudoux 111.06 322 eP Pdif 14 30 28.4 +1.0
RJF *eR*
comp=Z,7μm,22.8s
RJF Les Rejaudoux 111.06 322 eP Pdif 14 30 28.4 +1.0
RJF Les Rejaudoux 111.06 322 eP Pdif 14 30 28.4 +1.0
G20A Bridger 111.13 38 ⇓PKiKP PKiKP 14 34 28.5 +1.7
baz=111
K18A Toltan Ranch, 111.17 41 ⇑PKiKP PKiKP 14 34 28.9 +1.8
baz=111
I19A Meeteetse 111.21 40 ⇓PKiKP PKiKP 14 34 29.0 +1.9
baz=111
C22A Vida 111.24 35 ⇓PKiKP PKiKP 14 34 29.0 +2.1
baz=111
D22A Cohagen 111.38 36 ⇑PKiKP PKiKP 14 34 29.0 +1.8
baz=111
MVU Marysvale 111.42 46 PFAKE 14 34 40.0
MVU LR LR
comp=Z,6μm,21.0s
BW06 Boulder Array 111.43 41 PFAKE 14 34 40.0
BW06 LR LR
comp=Z,6μm,22.0s
PDAR Pinedale Array 111.43 41 Pdiff Pdif 14 30 37.9 +8.5
comp=Z,0.9nm,0.9s,baz=304,slow=2.7,SNR=4.6
PDAR PKiKP **PKiKP** **14 34 29.1 +1.5**
comp=Z,2.4nm,0.8s,baz=127,slow=1.8,SNR=6.3
PDAR PP **PP** **14 35 08.6 +0.6**
comp=Z,7.5nm,1.0s,baz=277,slow=2.5,SNR=6.1
PDAR PKKPbc **PKKPbc** **14 45 22.9 -0.9**
comp=Z,3.6nm,1.0s,baz=124,slow=6.0,SNR=9.0
PDAR PKKPab **PKKPab** **14 45 34.8 +1.8**
comp=Z,18nm,1.0s,baz=122,slow=6.2,SNR=14
PDAR Pinedale Array 111.43 41 Pdif Pdif 14 30 37.9 +8.5
PDAR PKiKP **PKiKP** **14 34 29.1 +1.5**
PDAR PP **PP** **14 35 08.6 +0.6**
PDAR PKKPbc **PKKPbc** **14 45 22.9 -0.9**
PDAR PKKPab **PKKPab** **14 45 34.8 +1.8**
GLA Glamis 111.44 52 ⇓PKiKP PKiKP 14 34 29.2 +1.5
baz=111
F21A Absaloka Mine, 111.50 37 ⇑PKiKP PKiKP 14 34 29.1 +1.7
baz=111
J19A Crowheart 111.53 40 ⇑PKiKP PKiKP 14 34 29.2 +1.5
baz=111
C23A Lambert 111.61 35 ⇓PKiKP PKiKP 14 34 29.6 +2.0
baz=112

H20A	**Greybull**	**111.62**	**39**	⇑PKiKP	**PKiKP**	**14 34 29.4 +1.7**
	baz=112					
A24A	**Westby**	**111.66**	**33**	⇓PKiKP	**PKiKP**	**14 34 28.9 +1.4**
	baz=112					
O17A	**Robinson Place**	**111.76**	**44**	⇑PKiKP	**PKiKP**	**14 34 30.0 +1.7**
	baz=112					
I20A	**Worland**	**111.80**	**39**	⇑PKiKP	**PKiKP**	**14 34 29.8 +1.7**
	baz=112					
DGMT	**Dagmar**	**111.80**	**34**	PFAKE		14 34 40.0
DGMT				LR	LR	
	comp=Z,2μm,20.0s					
TMUT	**Trail Mountain**	**111.81**	**45**	*e*PKiKP	**PKiKP**	**14 34 29.7 +1.2**
K19A	**Absolon Red Bu**	**111.87**	**41**	⇓PKiKP	**PKiKP**	**14 34 30.0 +1.6**
	baz=112					
E22A	**Miles City**	**111.89**	**36**	⇓PKiKP	**PKiKP**	**14 34 29.9 +1.8**
	baz=112					
D23A	**Lindsay**	**111.94**	**35**	⇓PKiKP	**PKiKP**	**14 34 30.2 +2.0**
	baz=112					
Q16A	**Castle Valley**	**112.00**	**45**	⇑PKiKP	**PKiKP**	**14 34 30.5 +1.8**
	baz=112					
F22A	**Rosebud**	**112.05**	**37**	⇓PKiKP	**PKiKP**	**14 34 30.5 +2.1**
	baz=112					
J20A	**Shoshoni**	**112.11**	**40**	⇓PKiKP	**PKiKP**	**14 34 30.5 +1.7**
	baz=112					
H21A	**Big Horn, Sher**	**112.15**	**38**	⇑PKiKP	**PKiKP**	**14 34 30.6 +1.9**
	baz=112					
N18A	**Larsen Ranch,**	**112.16**	**43**	⇓PKiKP	**PKiKP**	**14 34 30.8 +1.8**
	baz=112					
U15A	**North Rim**	**112.17**	**48**	⇑PKiKP	**PKiKP**	**14 34 29.9 +0.6**
	baz=112					
SRU	**San Rafael**	**112.37**	**45**	⇓PKiKP	**PKiKP**	**14 34 30.7 +1.3**
	baz=112					
I21A	**Big Trails, Te**	**112.39**	**39**	⇑PKiKP	**PKiKP**	**14 34 30.5 +1.2**
	baz=112					
J21A	**Lysite**	**112.52**	**40**	⇑PKiKP	**PKiKP**	**14 34 30.6 +1.0**
	baz=112					
N19A	**John Jarvie Ra**	**112.53**	**43**	⇑PKiKP	**PKiKP**	**14 34 30.7 +1.0**
	baz=112					
F23A	**Volborg**	**112.59**	**37**	⇓PKiKP	**PKiKP**	**14 34 30.8 +1.3**
	baz=112					
H22A	**Clearmont**	**112.59**	**38**	⇓PKiKP	**PKiKP**	**14 34 31.1 +1.5**
	baz=112					
E24A	**Baker**	**112.79**	**36**	⇓PKiKP	**PKiKP**	**14 34 31.5 +1.6**
	baz=113					
I22A	**9 Mile Ranch,**	**112.86**	**39**	⇑PKiKP	**PKiKP**	**14 34 31.5 +1.3**
	baz=113					
M20A	**Sweetwater, Wa**	**112.92**	**42**	⇓PKiKP	**PKiKP**	**14 34 31.5 +1.1**
	baz=113					
J22A	**Midwest**	**113.11**	**39**	⇓PKiKP	**PKiKP**	**14 34 31.8 +1.2**
	baz=113					
N20A	**Spence Gulch,**	**113.17**	**42**	⇑PKiKP	**PKiKP**	**14 34 32.7 +1.8**
	baz=113					
WUAZ	**Wupatki**	**113.21**	**49**	PKiKP	**PKiKP**	**14 34 31.4 +0.3**
WUAZ				LR	LR	
	comp=Z,4μm,19.0s					
WUAZ	**Wupatki**	**113.21**	**49**	⇓PKiKP	**PKiKP**	**14 34 32.9 +1.8**
	baz=113					
Q19A	**Hogan Spring (**	**113.33**	**45**	⇓PKiKP	**PKiKP**	**14 34 32.9 +1.7**
	baz=113					
S18A	**Hurst Farm, Bl**	**113.35**	**46**	⇓PKiKP	**PKiKP**	**14 34 32.8 +1.4**
	baz=113					
M21A	**Separation Pea**	**113.41**	**41**	⇓PKiKP	**PKiKP**	**14 34 32.9 +1.4**
	baz=113					
O20A	**White River Ci**	**113.51**	**43**	⇑PKiKP	**PKiKP**	**14 34 33.8 +2.2**
	baz=113					
X16A	**Lo Mia Camp, P**	**113.58**	**50**	⇓PKiKP	**PKiKP**	**14 34 33.9 +2.0**
	baz=114					
VAL	**Valentia**	**113.59**	**332**	*e*PP	PP	14 34 57.5 -25
VAL				*e*PS	**PS**	**14 45 02.7 +3.1**
P20A	**De Beque**	**113.69**	**44**	⇑PKiKP	**PKiKP**	**14 34 33.1 +1.2**
	baz=114					
N21A	**Black Mountain**	**113.71**	**42**	⇓PKiKP	**PKiKP**	**14 34 33.2 +1.2**
	baz=114					
SJPF	**Ste Jean**	**113.86**	**321**	*e*P	**Pdif**	**14 30 40.9 +1.0**
SJPF	**Ste Jean**	**113.86**	**321**	*e*P	**Pdif**	**14 30 40.9 +1.0**
SJPF	**Ste Jean**	**113.86**	**321**	*e*P	**Pdif**	**14 30 40.9 +1.0**
O21A	**Pagoda**	**114.00**	**43**	⇑PKiKP	**PKiKP**	**14 34 33.3 +0.8**
	baz=114					
M22A	**Cedar Creek Ra**	**114.02**	**41**	⇓PKiKP	**PKiKP**	**14 34 33.3 +0.7**
	baz=114					
I24A	**Kuemmerle Ranc**	**114.03**	**38**	⇑PKiKP	**PKiKP**	**14 34 33.6 +1.2**
	baz=114					
PV01	**Paradox Valley**	**114.17**	**45**	*e*PKiKP	**PKiKP**	**14 34 34.7 +1.7**
L23A	**Garrett**	**114.25**	**40**	⇓PKiKP	**PKiKP**	**14 34 34.4 +1.5**
	baz=114					
RSSD	**Black Hills**	**114.26**	**38**	*e*PKiKP	PKPdf	14 34 33.2 +0.3
RSSD	**Black Hills**	**114.26**	**38**	*e*PKiKP	**PKiKP**	**14 34 33.2 +0.2**
R20A	**Redvale**	**114.28**	**45**	⇓PKiKP	**PKiKP**	**14 34 34.7 +1.6**
	baz=114					
N22A	**Wattenberg Ran**	**114.40**	**42**	⇑PKiKP	PKPdf	14 34 35.1 +1.7
	baz=114					
S20A	**Disappointment**	**114.46**	**45**	⇓PKiKP	PKPdf	14 34 35.3 +1.7
	baz=114					
W18A	**Petrified Fore**	**114.60**	**49**	⇓PKiKP	PKPdf	14 34 35.5 +1.7
	baz=114					
MVCO	**Mesa Verde**	**114.63**	**46**	*e*PKiKP	PKPdf	14 34 35.1 +1.2
MVCO				LR	LR	
	comp=Z,4μm,19.0s					
MVCO	**Mesa Verde**	**114.63**	**46**	⇑PKiKP	PKPdf	14 34 35.8 +2.0
	baz=114					
N23A	**Red Feather La**	**114.69**	**41**	⇑PKiKP	PKPdf	14 34 35.9 +2.0
	baz=115					
P22A	**Eagle**	**114.77**	**43**	⇓PKiKP	PKPdf	14 34 35.9 +1.9
	baz=115					
R21A	**Cimarron**	**114.79**	**45**	⇓PKiKP	PKPdf	14 34 36.0 +1.9
	baz=115					
SMCO	**Snowmass**	**114.82**	**44**	PKiKP	PKPdf	14 34 34.5 +0.2
TUC	**Tucson**	**114.89**	**52**	PFAKE		14 34 50.0 +16
TUC				LR	LR	
	comp=Z,4μm,19.0s					
S21A	**Coal Bank Pass**	**114.94**	**45**	⇑PKiKP	PKPdf	14 34 36.4 +1.9
	baz=115					
U20A	**Newcomb**	**114.97**	**47**	⇓PKiKP	PKPdf	14 34 36.5 +2.0
	baz=115					
Q22A	**Crested Butte,**	**115.01**	**44**	⇓PKiKP	**PKPdf**	**14 34 36.6 +1.9**
	baz=115					
ULM	**Lac du Bonnet**	**115.02**	**29**	PKP	**PKPdf**	**14 34 33.9 0.0**
	comp=Z,4.3nm,0.7s,baz=297,slow=3.7,SNR=7.6					
ULM				PKKPbc	**PKKPbc**	**14 45 11.3 -0.4**
	comp=Z,3.4nm,0.7s,baz=162,slow=6.3,SNR=3.2					
ULM	**Lac du Bonnet**	**115.02**	**29**	PKP	**PKPdf**	**14 34 33.9 0.0**
ULM				PKKPbc	**PKKPbc**	**14 45 11.3 -0.4**
O23A	**Lake Granby, G**	**115.04**	**42**	⇑PKiKP	**PKPdf**	**14 34 36.6 +1.9**
	baz=115					
M24A	**Cheyenne**	**115.14**	**40**	⇓PKiKP	**PKPdf**	**14 34 36.7 +2.1**
	baz=115					
K25A	**Mack Ranch, Ha**	**115.16**	**39**	⇑PKiKP	**PKPdf**	**14 34 36.7 +2.1**
	baz=115					
V20A	**Brimhall**	**115.26**	**47**	⇑PKiKP	**PKPdf**	**14 34 37.0 +1.9**
	baz=115					
L25A	**Engebretsen Ra**	**115.34**	**39**	⇓PKiKP	**PKPdf**	**14 34 37.1 +2.2**
	baz=115					
R22A	**Saguache, Gunn**	**115.41**	**44**	⇑PKiKP	**PKPdf**	**14 34 37.4 +2.0**
	baz=115					
T21A	**Navajo Lake**	**115.42**	**46**	⇓PKiKP	**PKPdf**	**14 34 37.4 +2.0**
	baz=115					
ISCO	**Idaho Springs**	**115.45**	**42**	*e*PKiKP	**PKPdf**	**14 34 36.8 +1.4**
ISCO				MLR	MLR	
	comp=Z,4μm,21.0s					
ISCO	**Idaho Springs**	**115.45**	**42**	*e*PKPdf	**PKPdf**	**14 34 36.8 +1.4**
ISCO				LR	LR	
	comp=Z,4μm,21.0s					
ISCO	**Idaho Springs**	**115.45**	**42**	⇑PKiKP	**PKPdf**	**14 34 36.9 +1.4**
	baz=115					
P23A	**Jefferson**	**115.50**	**43**	⇑PKiKP	**PKPdf**	**14 34 36.0 +0.4**
	baz=115					
W20A	**Ramah**	**115.52**	**48**	⇑PKiKP	**PKPdf**	**14 34 37.5 +1.9**
	baz=115					
U21A	**Nageezi**	**115.58**	**47**	⇑PKiKP	**PKPdf**	**14 34 37.5 +1.8**
	baz=116					
S22A	**4UR Ranch, Cre**	**115.58**	**45**	⇑PKiKP	**PKPdf**	**14 34 37.5 +1.7**
	baz=116					
M25A	**Palm-Egli Farm**	**115.65**	**40**	⇑PKiKP	**PKPdf**	**14 34 37.8 +2.2**
	baz=116					
X20A	**Quemado**	**115.76**	**49**	⇑PKiKP	**PKPdf**	**14 34 38.2 +2.1**
	baz=116					
T22A	**Edith**	**115.86**	**46**	⇓PKiKP	**PKPdf**	**14 34 38.4 +2.1**
	baz=116					
V21A	**Milan**	**115.86**	**47**	⇑PKiKP	**PKPdf**	**14 34 38.1 +1.8**
	baz=116					
R23A	**Moffat**	**116.07**	**44**	⇑PKiKP	**PKPdf**	**14 34 38.4 +1.8**
	baz=116					
Y20A	**Horse Springs,**	**116.12**	**49**	⇓PKiKP	**PKiKP**	**14 34 38.6 +1.7**
	baz=116					
U22A	**Llaves**	**116.18**	**46**	⇑PKiKP	**PKiKP**	**14 34 38.7 +1.8**
	baz=116					
Z20A	**Nine Sixteen R**	**116.28**	**50**	⇓PKiKP	**PKiKP**	**14 34 38.8 +1.7**
	baz=116					
AGMN	**Agassiz Nation**	**116.32**	**30**	PFAKE		14 34 50.0 +14
AGMN				LR	LR	
	comp=Z,4μm,22.0s					
X21A	**Alamocita Cree**	**116.34**	**49**	⇓PKiKP	**PKiKP**	**14 34 38.7 +1.5**
	baz=116					
V22A	**San Miguel Ran**	**116.35**	**47**	⇓PKiKP	**PKiKP**	**14 34 38.8 +1.5**
	baz=116					
L27A	**T5 Ranch, Ells**	**116.42**	**39**	⇑PKiKP	**PKiKP**	**14 34 38.8 +1.8**
	baz=116					
319A	**Douglas**	**116.43**	**52**	⇓PKiKP	**PKiKP**	**14 34 39.0 +1.6**
	baz=116					
T23A	**Casias Ranch,**	**116.46**	**45**	⇑PKiKP	**PKiKP**	**14 34 38.8 +1.4**
	baz=116					
120A	**U Bar Ranch, L**	**116.47**	**51**	⇑PKiKP	**PKiKP**	**14 34 39.3 +1.9**
	baz=116					
P25A	**Willow Gulch B**	**116.56**	**42**	⇑PKiKP	**PKiKP**	**14 34 39.3 +1.8**
	baz=116					
Y21A	**Point of Rocks**	**116.61**	**49**	⇓PKiKP	**PKiKP**	**14 34 39.4 +1.6**
	baz=116					
S24A	**Houchin Ranch,**	**116.76**	**44**	⇑PKiKP	**PKiKP**	**14 34 39.5 +1.4**
	baz=117					
TAM	**Tamanrasset**	**116.80**	**298**	PFAKE		14 34 50.0 +12
TAM				LR	LR	
	comp=Z,3μm,20.0s					
Q25A	**Bedland, Calha**	**116.80**	**43**	⇑PKiKP	**PKiKP**	**14 34 39.3 +1.3**
	baz=117					
220A	**Playas Peak, P**	**116.81**	**51**	⇓PKiKP	**PKiKP**	**14 34 39.2 +1.1**
	baz=117					
LAZ	**Ladron**	**116.84**	**48**	*e*PKPdf	**PKPdf**	**14 34 38.4 +0.2**
X22A	**Bernardo**	**116.89**	**48**	⇑PKiKP	**PKiKP**	**14 34 39.8 +1.6**
	baz=117					
Z21A	**St. Cloud Mine**	**116.90**	**50**	⇓PKiKP	**PKiKP**	**14 34 39.7 +1.3**
	baz=117					
N27A	**Anderson Farm,**	**116.96**	**40**	⇓PKiKP	**PKiKP**	**14 34 38.8 +0.8**
	baz=117					
320A	**Kipp Ranch, An**	**117.03**	**52**	⇓PKiKP	**PKiKP**	**14 34 40.4 +1.8**
	baz=117					
P26A	**Davis Ranch, A**	**117.08**	**42**	⇑PKiKP	**PKiKP**	**14 34 40.0 +1.6**
	baz=117					
ANMO	**Albuquerque**	**117.11**	**48**	*e*PKPdf	**PKPdf**	**14 34 40.4 +1.7**
ANMO				LR	LR	
	comp=Z,3μm,20.0s					
121A	**Cookes Peak, D**	**117.13**	**51**	⇑PKiKP	**PKiKP**	**14 34 40.2 +1.4**
	baz=117					
T24A	**Torres, Weston**	**117.14**	**45**	⇑PKiKP	**PKiKP**	**14 34 40.3 +1.5**
	baz=117					
R25A	**Fountain Ranch**	**117.16**	**43**	⇑PKiKP	**PKiKP**	**14 34 40.0 +1.4**
	baz=117					
Y22A	**Socorro**	**117.17**	**49**	⇑PKiKP	**PKiKP**	**14 34 39.9 +1.2**
	baz=117					
OGNE	**Ogallala**	**117.21**	**40**	PFAKE		14 34 50.0 +11
OGNE				LR	LR	
	comp=Z,4μm,21.0s					
W23A	**Werner Place,**	**117.24**	**47**	⇓PKiKP	**PKiKP**	**14 34 40.0 +1.1**
	baz=117					
LPM	**Los Pinos Moun**	**117.26**	**48**	*e*PKPdf	**PKPdf**	**14 34 40.4 +1.5**
Q26A	**Hugo**	**117.29**	**42**	⇑PKiKP	**PKiKP**	**14 34 40.1 +1.3**
	baz=117					
S25A	**Robets Cordova**	**117.29**	**44**	⇑PKiKP	**PKiKP**	**14 34 40.0 +1.1**
	baz=117					
O27A	**Beecher Island**	**117.32**	**41**	⇓PKiKP	**PKiKP**	**14 34 39.9 +1.1**
	baz=117					
BNM	**Barren Site**	**117.33**	**48**	*e*PKPdf	**PKPdf**	**14 34 40.3 +1.2**
221A	**Mesquite Ranch**	**117.35**	**51**	⇑PKiKP	**PKiKP**	**14 34 40.4 +1.2**
	baz=117					
ESDC	**Sonseca Array**	**117.39**	**319**	PKP	**PKPdf**	**14 34 39.3 +0.4**
	comp=Z,0.3nm,0.3s,baz=6.1,slow=3.1,SNR=8.3					
ESDC				PP	**PP**	**14 35 50.6 +0.7**
	comp=Z,5.0nm,0.8s,baz=49,slow=6.4,SNR=4.8					
ESDC				PKKPbc	PKKPab	14 45 12.2 +5.8
	comp=Z,1.0nm,0.5s,baz=240,slow=3.6,SNR=5.9					
ESDC	**Sonseca Array**	**117.39**	**319**	PKP	**PKPdf**	**14 34 39.3 +0.4**
ESDC				PP	**PP**	**14 35 50.6 +0.7**
ESDC				PKKPbc	PKKPab	14 45 12.2 +5.8
Z22A	**Elephant Butte**	**117.46**	**49**	⇓PKiKP	**PKiKP**	**14 34 40.6 +1.3**
	baz=117					
X23A	**Hourglass Bar**	**117.47**	**48**	⇓PKiKP	**PKiKP**	**14 34 40.5 +1.2**
	baz=117					
T25A	**Trinidad**	**117.56**	**44**	⇓PKiKP	**PKiKP**	**14 34 40.8 +1.3**
	baz=117					
P27A	**Ficken Ranch,**	**117.59**	**41**	⇑PKiKP	**PKiKP**	**14 34 40.6 +1.2**
	baz=118					
V24A	**Rampart Ranch,**	**117.62**	**46**	⇓PKiKP	**PKiKP**	**14 34 41.0 +1.3**
	baz=118					
R26A	**Arriton**	**117.65**	**43**	⇓PKiKP	**PKiKP**	**14 34 40.6 +1.1**
	baz=118					
122A	**Conniff Cattle**	**117.67**	**50**	⇓PKiKP	**PKiKP**	**14 34 40.9 +1.2**
	baz=118					
PAB	**San Pablo**	**117.71**	**319**	*e*PKiKP	**PKPdf**	**14 34 39.4 -0.1**
PAB				MLR	MLR	
	comp=Z,5μm,20.0s					
PAB	**San Pablo**	**117.71**	**319**	*e*PKPdf	**PKPdf**	**14 34 39.4 -0.1**
PAB				LR	LR	
	comp=Z,5μm,20.0s					
W24A	**Lazy 6 Ranch,**	**117.76**	**47**	⇑PKiKP	**PKiKP**	**14 34 41.1 +1.2**
	baz=118					
222A	**Williams Famil**	**117.84**	**51**	⇓PKiKP	**PKiKP**	**14 34 41.2 +1.1**
	baz=118					
KSCO	**Kaye Shedlock'**	**117.84**	**42**	⇑PKiKP	**PKiKP**	**14 34 40.7 +0.8**
	baz=118					
Y23A	**Lovelace Mesa,**	**117.85**	**48**	⇓PKiKP	**PKiKP**	**14 34 41.2 +1.1**
	baz=118					
U25A	**Circle Dot Ran**	**117.92**	**45**	⇑PKiKP	**PKiKP**	**14 34 40.9 +0.7**
	baz=118					
S26A	**Kim**	**117.98**	**44**	⇑PKiKP	**PKiKP**	**14 34 41.3 +1.1**
	baz=118					
Z23A	**Rita Site, Whi**	**118.01**	**49**	⇑PKiKP	**PKiKP**	**14 34 41.5 +1.2**
	baz=118					
X24A	**Lazy VL Ranch,**	**118.03**	**48**	⇓PKiKP	**PKiKP**	**14 34 41.2 +0.7**
	baz=118					
V25A	**Rancho No Teng**	**118.04**	**46**	⇑PKiKP	**PKiKP**	**14 34 41.5 +1.0**
	baz=118					
R27A	**Eads**	**118.10**	**43**	⇓PKiKP	**PKiKP**	**14 34 41.3 +0.9**
	baz=118					
T26A	**Comanche Natio**	**118.11**	**44**	⇑PKiKP	**PKiKP**	**14 34 41.4 +0.8**
	baz=118					
Y24A	**Capitan**	**118.32**	**48**	⇓PKiKP	**PKiKP**	**14 34 41.5 +0.5**
	baz=118					
S27A	**Las Animas**	**118.34**	**43**	⇑PKiKP	**PKiKP**	**14 34 41.6 +0.7**
	baz=118					
U26A	**Atchley Ranch,**	**118.39**	**45**	⇓PKiKP	**PKiKP**	**14 34 41.6 +0.5**
	baz=118					
W25A	**X Bar L Ranch,**	**118.44**	**46**	⇓PKiKP	**PKiKP**	**14 34 41.6 +0.4**
	baz=118					
MVO	**Moncorvo**	**118.54**	**322**	*e*PKP	**PKPdf**	**14 34 42.9 +1.9**
MVO				*e*LQ	LQ	15 05 49.3
MVO				*e*LR	LR	15 13 58.6
	comp=Z,5μm,22.0s					
PMSA	**Palmer Station**	**118.59**	**175**	PFAKE		14 34 50.0 +10
PMSA				LR	LR	
	comp=Z,3μm,21.0s					
Z24A	**Sheeppen Canyo**	**118.63**	**49**	⇑PKiKP	**PKiKP**	**14 34 42.4 +0.7**
	baz=118					
V26A	**Tequesquite Ra**	**118.65**	**46**	⇓PKiKP	**PKiKP**	**14 34 42.3 +0.8**
	baz=118					
EYMN	**Ely**	**118.69**	**28**	PKPdf	**PKPdf**	**14 34 40.5 -0.5**
EYMN				LR	LR	
	comp=Z,5μm,21.0s					
T27A	**Campo**	**118.77**	**44**	⇑PKiKP	**PKiKP**	**14 34 42.7 +0.9**
	baz=119					
PGAV	**Gavieira, Arco**	**118.83**	**323**	*e*PKP	**PKPdf**	**14 34 43.1 +1.5**
PGAV				*e*LQ	LQ	15 06 50.9
PGAV				*e*LR	LR	15 14 07.0
	comp=Z,5μm,18.0s					
PCAB	**Cabril**	**118.84**	**323**	*e*PKP	**PKPdf**	**14 34 43.6 +2.0**
PCAB				*i* P	PKiKP	14 34 49.8 +8.2
124A	**Stringfield Ra**	**118.84**	**49**	⇑PKiKP	**PKiKP**	**14 34 42.7 +0.5**
	baz=119					
ECSD	**EROS Data Cent**	**118.85**	**35**	PKPdf	**PKPdf**	**14 34 40.1 -1.4**
ECSD				LR	LR	
	comp=Z,4μm,22.0s					
Y25A	**Mesa, Roswell**	**118.87**	**48**	⇑PKiKP	**PKiKP**	**14 34 42.7 +0.6**
	baz=119					
POLO	**Lamas de Olo**	**118.89**	**322**	*e*PKP	**PKPdf**	**14 34 43.4 +1.6**
POLO				*i* P	PKiKP	14 34 49.7 +7.9
PVRL	**Vila Real**	**118.90**	**322**	*e*PKP	**PKPdf**	**14 34 43.9 +2.2**
PVRL				*i* P	PKiKP	14 34 50.3 +8.6
T28A	**Walsh**	**119.16**	**43**	⇑PKiKP	**PKiKP**	**14 34 43.2 +0.7**
	baz=119					
X26A	**CR and CF Fran**	**119.22**	**47**	⇓PKiKP	**PKiKP**	**14 34 43.3 +0.6**
	baz=119					
MTE	**Manteigas**	**119.30**	**321**	*e*PKP	**PKPdf**	**14 34 44.4 +1.9**
MTE				*i* P	PKiKP	14 34 49.6 +7.0
MTE				*e*LQ	LQ	15 06 10.8
MTE				*e*LR	LR	15 13 39.2
	comp=Z,7μm,20.0s					
MTE	**Manteigas**	**119.30**	**321**	*e*PKPdf	**PKPdf**	**14 34 44.0 +1.5**
MTE				LR	LR	
	comp=Z,7μm,20.0s					
PVIS	**Viseu**	**119.33**	**322**	*e*PKP	**PKPdf**	**14 34 44.2 +1.6**
MNTX	**Cornudas Mount**	**119.33**	**50**	*e*PKPdf	**PKPdf**	**14 34 42.6 -0.2**
MNTX				LR	LR	
	comp=Z,2μm,22.0s					
MNTX	**Cornudas Mount**	**119.33**	**50**	⇓PKiKP	**PKiKP**	**14 34 43.9 +1.0**
	baz=119					
BGNE	**Belgrade**	**119.36**	**37**	⇓PKiKP	**PKiKP**	**14 34 43.3 +0.7**
	baz=119					
324A	**Moseley Ranch,**	**119.37**	**51**	⇑PKiKP	**PKiKP**	**14 34 44.1 +1.0**
	baz=119					
125A	**Gardner Draw,**	**119.47**	**49**	⇓PKiKP	**PKiKP**	**14 34 44.0 +0.8**
	baz=119					
Y26A	**Elida**	**119.51**	**47**	⇓PKiKP	**PKiKP**	**14 34 44.1 +0.8**
	baz=119					
W27A	**Bowe Ranch, En**	**119.52**	**46**	⇓PKiKP	**PKiKP**	**14 34 44.2 +0.9**
	baz=119					
PCBR	**Castelo Branco**	**119.57**	**321**	*e*PKP	**PKPdf**	**14 34 44.7 +1.7**
PCBR				*i* P	PKiKP	14 34 50.0 +7.0
225A	**Deer Hill, Car**	**119.58**	**50**	⇓PKiKP	**PKiKP**	**14 34 44.0 +0.5**
	baz=120					
Z26A	**Caprock**	**119.69**	**48**	⇑PKiKP	**PKiKP**	**14 34 44.0 +0.4**
	baz=120					
PMRV	**Marv??o**	**119.75**	**320**	*e*PKP	**PKPdf**	**14 34 44.6 +1.2**
PMRV				*i* P	PKiKP	14 34 50.4 +7.0
PMRV				*e*LQ	LQ	15 06 16.4
PMRV				*e*LR	LR	15 13 35.8
	comp=Z,5μm,22.0s					
V28A	**Channing**	**119.78**	**45**	⇑PKiKP	**PKiKP**	**14 34 44.5 +0.7**
	baz=120					
325A	**Bean Ranch, Si**	**119.79**	**51**	⇑PKiKP	**PKiKP**	**14 34 44.4 +0.4**
	baz=120					
SPMN	**St. Paul**	**119.94**	**31**	⇑PKiKP	**PKiKP**	**14 34 44.3 +0.7**
	baz=120					
126A	**Clayton Basin,**	**119.95**	**49**	⇓PKiKP	**PKiKP**	**14 34 44.6 +0.5**
	baz=120					
Y27A	**Causey**	**120.01**	**47**	⇑PKiKP	**PKiKP**	**14 34 44.9 +0.7**
	baz=120					
425A	**Indio Mountain**	**120.03**	**51**	⇓PKiKP	**PKiKP**	**14 34 45.2 +0.8**
	baz=120					
W28A	**Vega**	**120.04**	**45**	⇑PKiKP	**PKiKP**	**14 34 45.1 +0.9**
	baz=120					
PESTR	**Estremoz**	**120.19**	**320**	*e*PKP	**PKPdf**	**14 34 45.4 +1.2**
V29A	**Stinnett**	**120.21**	**44**	⇑PKiKP	**PKiKP**	**14 34 45.3 +0.8**
	baz=120					
PBAR	**Barrancos**	**120.22**	**319**	*e*PKP	**PKPdf**	**14 34 46.0 +1.7**
MSTX	**Muleshoe**	**120.26**	**47**	⇑PKiKP	**PKiKP**	**14 34 45.4 +0.7**
	baz=120					
X28A	**Dimmitt**	**120.41**	**46**	⇓PKiKP	**PKiKP**	**14 34 45.7 +0.7**
	baz=120					
127A	**Arkansas Junct**	**120.43**	**49**	⇑PKiKP	**PKiKP**	**14 34 45.6 +0.5**
	baz=120					
PMTG	**Montargil**	**120.49**	**320**	*e*PKP	**PKPdf**	**14 34 46.0 +1.3**
PMTG				*i* P	PKiKP	14 34 52.2 +7.4
SCHQ	**Schefferville**	**120.59**	**9**	PKP	**PKPdf**	**14 34 45.1 +0.6**
	comp=Z,14nm,0.9s,baz=349,slow=2.1,SNR=16					
SCHQ	**Schefferville**	**120.59**	**9**	PKP	**PKPdf**	**14 34 45.1 +0.6**
AMTX	**Amarillo**	**120.60**	**45**	*e*PKPdf	**PKPdf**	**14 34 46.2 +1.0**
AMTX				LR	LR	
	comp=Z,4μm,21.0s					
AMTX	**Amarillo**	**120.60**	**45**	⇓PKiKP	**PKiKP**	**14 34 46.0 +0.7**
	baz=120					
EVO	**Evora**	**120.65**	**320**	*e*PKiKP	**PKPdf**	**14 34 45.5 +0.4**
	comp=Z,48nm,0.9s					
EVO				*e*R		
	comp=Z,8μm,23.0s					
EVO	**Evora**	**120.65**	**320**	*e*PKP	**PKPdf**	**14 34 47.6 +2.5**
Y28A	**McKinney Farm,**	**120.67**	**47**	⇓PKiKP	**PKiKP**	**14 34 45.9 +0.4**
	baz=120					
EVOP	**Sao Brissos**	**120.73**	**320**	*e*PKiKP	**PKPdf**	**14 34 45.5 +0.3**
EVOP	**Sao Brissos**	**120.73**	**320**	*e*PKPdf	**PKPdf**	**14 34 45.5 +0.3**
X29A	**Tulia**	**120.80**	**46**	⇓PKiKP	**PKiKP**	**14 34 46.2 +0.4**
	baz=121					
426A	**McDonald Obser**	**120.82**	**51**	⇑PKiKP	**PKiKP**	**14 34 46.1 +0.1**
	baz=121					
PBEJ	**Beja**	**120.84**	**319**	*e*PKP	**PKPdf**	**14 34 47.3 +1.8**
PBEJ				*i* P	PKiKP	14 34 53.2 +7.6
526A	**Mary Lane Ranc**	**121.04**	**52**	⇓PKiKP	**PKiKP**	**14 34 47.1 +0.7**
	baz=121					
PVAQ	**Vaqueiros**	**121.09**	**318**	*i* P	PKPdf	14 34 53.9 +7.9
PVAQ				*e*LQ	LQ	15 05 58.6
PVAQ				*e*LR	LR	15 13 38.6
	comp=Z,6μm,18.0s					
128A	**Castleberry Fa**	**121.11**	**48

430A	**Baggett Ranch,** baz=123	**122.91**	**49**	⇑PKiKP	**PKiKP**	**14 34 50.4**	**+0.5**
231A	**Bronte** baz=123	**123.05**	**48**	⇓PKiKP	**PKiKP**	**14 34 50.6**	**+0.5**
530A	**J-C Ranch, Com** baz=123	**123.13**	**50**	⇓PKiKP	**PKiKP**	**14 34 50.8**	**+0.4**
ABTX	**Abilene, Hawle** baz=123	**123.20**	**47**	⇑PKiKP	**PKiKP**	**14 34 50.9**	**+0.4**
331A	**San Angelo** baz=123	**123.27**	**49**	⇓PKiKP	**PKiKP**	**14 34 51.2**	**+0.5**
431A	**Sonora** baz=123	**123.44**	**49**	⇓PKiKP	**PKiKP**	**14 34 51.5**	**+0.5**
531A	**Rocksprings** baz=124	**123.73**	**50**	⇑PKiKP	**PKiKP**	**14 34 52.1**	**+0.5**
332A	**Millersview** baz=124	**123.75**	**48**	⇑PKiKP	**PKiKP**	**14 34 52.1**	**+0.6**
432A	**Menard** baz=124	**123.96**	**49**	⇓PKiKP	**PKiKP**	**14 34 52.5**	**+0.5**
631A	**Perdido Creek** baz=124	**124.06**	**51**	⇓PKiKP	**PKiKP**	**14 34 52.6**	**+0.4**
TUL1	**Tulsa** baz=124	**124.08**	**41**	⇑PKiKP	**PKiKP**	**14 34 52.7**	**+0.6**
532A	**Rocksprings** baz=124	**124.23**	**50**	⇓PKiKP	**PKiKP**	**14 34 53.0**	**+0.4**
632A	**Uvalde** baz=124	**124.62**	**50**	⇓PKiKP	**PKiKP**	**14 34 53.7**	**+0.4**
732A	**Laxson Ranch,** baz=125	**124.85**	**51**	⇓PKiKP	**PKiKP**	**14 34 54.4**	**+0.6**
HDIL	**Hopedale**	**125.03**	**33**	*e*PKPdf	**PKPdf**	**14 34 54.0**	**+0.6**
HDIL	comp=Z,3μm,22.0s			LR	LR		
SFIN	**Scholer Farm** baz=126	**126.33**	**32**	⇓PKiKP	**PKiKP**	**14 34 56.8**	**+0.5**
MIAR	**Mount Ida**	**126.35**	**41**	*e*PKIKP	**PKPdf**	**14 34 54.7**	**-1.4**
MIAR	comp=Z,5μm,22.0s			MLR	MLR		
MIAR	**Mount Ida**	**126.35**	**41**	*e*PKPdf	**PKPdf**	**14 34 54.7**	**-1.4**
MIAR	comp=Z,5μm,22.0s			LR	LR		
AAM	**Ann Arbor**	**126.59**	**28**	PFAKE		14 35 10.0	+14
AAM	comp=Z,4μm,20.0s			LR	LR		
OLIL	**Olney**	**126.96**	**34**	*e*PKPdf	**PKPdf**	**14 34 58.6**	**+1.5**
UALR	**University of**	**127.02**	**40**	*e*PKPdf	**PKPdf**	**14 34 58.2**	**+0.8**
KVTX	**Kingsville**	**127.02**	**51**	PFAKE		14 35 10.0	+12
KVTX	comp=Z,3μm,19.0s			LR	LR		
SIUC	**Southern Illin**	**127.03**	**36**	*e*PKPdf	**PKPdf**	**14 34 58.3**	**+1.0**
NATX	**Nacogdoches**	**127.23**	**45**	PFAKE		14 35 10.0	+12
NATX	comp=Z,4μm,20.0s			LR	LR		
HKT	**Hockley**	**127.37**	**47**	*e*PKIKP	**PKPdf**	**14 34 59.2**	**+1.1**
HKT	**Hockley**	**127.37**	**47**	*e*PKPdf	**PKPdf**	**14 34 59.2**	**+1.1**
BLO	**Bloomington**	**127.51**	**32**	*e*PKIKP	**PKPdf**	**14 34 59.3**	**+1.1**
BLO	**Bloomington**	**127.51**	**32**	*e*PKPdf	**PKPdf**	**14 34 59.3**	**+1.1**
LONY	**Lake Ozonia**	**128.26**	**19**	PKPdf	**PKPdf**	**14 34 57.4**	**-2.1**
LONY	comp=Z,4μm,20.0s			LR	LR		
WCI	**Wyandotte Cave**	**128.31**	**33**	*e*PKIKP	**PKPdf**	**14 35 00.2**	**+0.4**
WCI	**Wyandotte Cave**	**128.31**	**33**	*e*PKPdf	**PKPdf**	**14 35 00.2**	**+0.4**
ERPA	**Erie**	**128.37**	**25**	PFAKE		14 35 10.0	+10
ERPA	comp=Z,5μm,21.0s			LR	LR		
FRNY	**Flat Rock**	**128.39**	**18**	*e*PKPdf	**PKPdf**	**14 35 00.3**	**+0.6**
ACSO	**Alum Creek Sta**	**128.51**	**29**	*e*PKPdf	**PKPdf**	**14 35 00.1**	**0.0**
ACSO	comp=Z,3μm,20.0s			LR	LR		
WVT	**Waverly**	**128.92**	**36**	*e*PKIKP	**PKPdf**	**14 35 01.8**	**+0.8**
WVT	**Waverly**	**128.92**	**36**	*e*PKPdf	**PKPdf**	**14 35 01.8**	**+0.8**
NCB	**Newcomb**	**128.95**	**19**	*e*PKPdf	**PKPdf**	**14 35 00.1**	**-0.7**
NCB	comp=Z,4μm,21.0s			LR	LR		
OXF	**Oxford**	**129.05**	**39**	*e*PKIKP	**PKPdf**	**14 35 02.3**	**+1.0**
OXF	comp=Z,4μm,22.0s			MLR	MLR		
OXF	**Oxford**	**129.05**	**39**	*e*PKPdf	**PKPdf**	**14 35 02.3**	**+1.0**
OXF	comp=Z,4μm,22.0s			LR	LR		
MDV	**Middlebury**	**129.26**	**18**	*e*PKPdf	**PKPdf**	**14 35 02.4**	**+1.0**
LBNH	**Lisbon**	**129.43**	**17**	PFAKE		14 35 10.0	+8.3
LBNH	comp=Z,5μm,21.0s			LR	LR		
PLAL	**Pickwick Lake**	**129.56**	**37**	PFAKE		14 35 10.0	+7.8
PLAL	comp=Z,5μm,21.0s			LR	LR		
VBMS	**Vicksburg**	**129.79**	**42**	PFAKE		14 35 10.0	+7.3
VBMS	comp=Z,4μm,22.0s			LR	LR		
HNH	**Hanover**	**129.81**	**18**	PKPdf	**PKPdf**	**14 35 03.7**	**+1.3**
TRIS	**Tristan da Cun**	**129.83**	**223**	PFAKE		14 35 10.0	+7.3
TRIS	comp=Z,3μm,19.0s			LR	LR		
BINY	**Binghamton**	**129.89**	**22**	PKPdf	**PKPdf**	**14 35 01.1**	**-1.6**
BINY	comp=Z,4μm,19.0s			LR	LR		
TRY	**Troy**	**130.24**	**20**	*e*PKPdf	**PKPdf**	**14 35 03.5**	**+0.2**
DBIC	**Dimbokro**	**130.47**	**282**	PKhKP	PKPpre	14 34 59.0	
DBIC	comp=Z,5.3nm,0.8s,baz=256,slow=4.7,SNR=4.6			PKP	**PKiKP**	**14 35 05.5**	**+0.1**
DBIC	**Dimbokro**	**130.47**	**282**	PKPpre	PKPpre	14 34 59.0	
DBIC	comp=Z,18nm,0.9s,baz=50,slow=3.1,SNR=9.5			*e*PKPdf	**PKiKP**	**14 35 05.5**	**+0.1**
DBIC	**Dimbokro**	**130.47**	**282**	*e*P	**PKPdf**	**14 35 05.3**	**+0.8**
SWET	**Sewanee**	**130.67**	**36**	*e*PKPdf	**PKPdf**	**14 35 05.2**	**+0.8**
LIC	**Lamto**	**130.72**	**281**	*e*PKIKP	**PKPdf**	**14 35 05.6**	**+0.6**
LIC	comp=Z,49nm,0.9s			*e*R			
	comp=Z,5μm,22.8s						
LIC	**Lamto**	**130.72**	**281**	*e*PKPdf	**PKPdf**	**14 35 05.6**	**+0.6**
TZTN	**Tazewell**	**131.03**	**32**	*e*PKPdf	**PKPdf**	**14 35 05.8**	**+0.8**
CPCT	**Cooper Cave**	**131.31**	**34**	*e*PKPdf	**PKPdf**	**14 35 04.9**	**-0.7**
LRAL	**Lakeview Retre**	**131.53**	**38**	*e*PKPpre	PKPpre	14 34 52.9	
LRAL				*e*PKPdf	**PKiKP**	**14 35 07.1**	**+0.1**
LRAL	comp=Z,2μm,20.0s			LR	LR		
TKL	**Tuckaleechee C**	**131.57**	**33**	*e*PKPdf	**PKPdf**	**14 35 07.3**	**+1.2**
BLA	**Blacksburg**	**132.12**	**29**	PFAKE		14 35 20.0	+13
BLA	comp=Z,4μm,21.0s			LR	LR		
CBN	**Corbin**	**132.73**	**26**	PFAKE		14 35 20.0	+12
CBN	comp=Z,6μm,20.0s			LR	LR		
BRAL	**Brewton**	**132.84**	**40**	PKPdf	**PKPdf**	**14 35 10.0**	**+1.4**
BRAL	comp=Z,4μm,20.0s			LR	LR		
JSRW	**J. Sargeant Re**	**132.93**	**27**	*e*PKPpre	PKPpre	14 34 57.0	
GOGA	**Godfrey**	**133.38**	**35**	PFAKE		14 35 20.0	+10
GOGA	comp=Z,4μm,22.0s			LR	LR		
CNNC	**Cliffs of the**	**134.92**	**29**	PFAKE		14 35 20.0	+7.7
CNNC	comp=Z,4μm,20.0s			LR	LR		
NHSC	**New Hope**	**135.44**	**33**	PFAKE		14 35 30.0	+17
NHSC	comp=Z,3μm,19.0s			LR	LR		
BBTS	**Babate**	**139.17**	**297**	PKP	**PKPdf**	**14 35 21.0**	**+0.3**
BBTS	comp=Z,34nm,0.8s,baz=152,slow=1.7,SNR=6.3 **Babate**	**139.17**	**297**	PKP	**PKPdf**	**14 35 21.0**	**+0.3**
PLCA	**Paso Flores**	**140.04**	**160**	PKhKP	PKPpre	14 35 15.8	
PLCA	comp=Z,4.4nm,1.0s,baz=194,slow=5.9,SNR=4.4			PKP	**PKPdf**	**14 35 21.1**	**-0.7**
PLCA	comp=Z,9.7nm,0.9s,baz=198,slow=7.5,SNR=6.3 **Paso Flores**	**140.04**	**160**	PKPpre	PKPpre	14 35 15.8	
PLCA				*e*PKPdf	**PKPdf**	**14 35 20.2**	**-1.5**
PLCA				PKP	**PKPdf**	**14 35 21.1**	**-0.7**
TRQA	**Tornquist**	**144.94**	**168**	*e*PKP	PKPbc	14 35 30.0	+0.3
JTS	**JuntasAbangare**	**145.61**	**66**	*e*PKP	**PKPdf**	**14 35 31.7**	**-0.5**
LMEL	**Las Melosas**	**146.17**	**154**	*e*P	**PKPab**	**14 35 34.8**	**+0.3**
CLCH	**Cerro Calan**	**146.41**	**154**	*e*P	**PKPab**	**14 35 35.2**	**-0.1**
PEL	**Peldehue**	**146.56**	**153**	⇓*i*P	**PKPab**	**14 35 35.5**	**-0.3**
MTDJ	**Mount Denham**	**147.71**	**47**	*e*PKPbc	**PKPbc**	**14 35 39.5**	**+1.0**
MTDJ	comp=Z,3μm,21.0s			LR	LR		
BBJ	**Bamboo Saint A**	**147.80**	**46**	⇓*i*P	**PKPab**	**14 35 40.6**	**-0.5**
GTBY	**Guantanamo Bay**	**148.24**	**41**	*e*PKPbc	**PKPbc**	**14 35 40.3**	**+0.6**
STH	**Stony Hill**	**148.33**	**46**	⇓*i*P	**PKPab**	**14 35 41.9**	**-1.3**
GWJ	**Greenwich**	**148.39**	**46**	⇓*i*P	**PKPab**	**14 35 42.3**	**-1.3**
HOJ	**Hope**	**148.42**	**46**	⇓*i*P	**PKPbc**	**14 35 41.8**	**+1.5**
YHJ	**Yallahs**	**148.68**	**46**	⇑*i*P	**PKPab**	**14 35 46.6**	**+2.0**
LPA	**La Plata**	**148.69**	**173**	*ce*PKP	**PKPab**	**14 35 48.0**	**+4.0**
CFAA	**Coronel Fontan**	**148.94**	**155**	PKP	**PKPdf**	**14 35 38.3**	**+0.9**
CFAA	comp=Z,9.1nm,0.9s,baz=220,slow=2.7,SNR=19			PKPbc	**PKPbc**	**14 35 40.6**	**-0.8**
CFAA	comp=Z,11nm,0.9s,baz=211,slow=2.9,SNR=44 **Coronel Fontan**	**148.94**	**155**	PKP	**PKPdf**	**14 35 38.3**	**+0.9**
CFAA				PKPbc	**PKPbc**	**14 35 40.6**	**-0.8**
TLL	**Tololo Astrono**	**148.96**	**150**	⇑*i*P	**PKPbc**	**14 35 41.9**	**+0.1**
GRTK	**Grand Turk**	**149.48**	**34**	*e*PKPbc	**PKPbc**	**14 35 44.1**	**+1.2**
LCO	**Las Campanas**	**149.95**	**149**	*e*PKPdf	**PKPdf**	**14 35 40.7**	**+1.4**
LCO				*e*PKPbc	**PKPbc**	**14 35 44.9**	**+0.7**
LCO	**Las Campanas**	**149.95**	**149**	⇑*i*P	**PKPbc**	**14 35 44.9**	**+0.7**
SDDR	**Presa de Saban**	**151.37**	**37**	*e*PKPbc	**PKPbc**	**14 35 47.8**	**+0.2**
LRS	**Lares**	**154.41**	**31**	PKPdf	**PKPdf**	**14 35 46.6**	**+0.7**
OTAV	**Otavalo**	**154.64**	**82**	*e*PKPdf	**PKPdf**	**14 35 48.5**	**+1.6**
ATAH	**Atahualpa**	**154.87**	**99**	PKP	**PKPdf**	**14 35 48.8**	**+1.6**
ATAH	comp=Z,17nm,1.2s,baz=108,slow=20,SNR=3.2			PKPbc	**PKiKP**	**14 35 58.6**	**+2.7**
ATAH	comp=Z,44nm,0.9s,baz=224,slow=3.1,SNR=9.8 **Atahualpa**	**154.87**	**99**	PKP	**PKPdf**	**14 35 48.8**	**+1.6**
ATAH				PKPbc	**PKiKP**	**14 35 58.6**	**+2.7**
STVI	**Saint Thomas**	**155.27**	**27**	*e*PKPbc	PKPdf	14 35 55.0	+8.0
ANWB	**Willy Bob**	**157.18**	**21**	PFAKE		14 36 00.0	+10
ANWB	comp=Z,3μm,21.0s			LR	LR		
CPUP	**Villa Florida**	**157.21**	**171**	PKP	**PKPdf**	**14 35 50.3**	**+0.9**
CPUP	comp=Z,8.6nm,0.8s,baz=70,slow=0.8,SNR=14 **Villa Florida**	**157.21**	**171**	PKP	**PKPdf**	**14 35 50.3**	**+0.9**
ROSC	**El Rosal**	**157.40**	**68**	PKP	**PKPdf**	**14 35 51.6**	**+1.1**
ROSC	comp=Z,3.9nm,0.3s,baz=100,slow=22,SNR=6.5 **El Rosal**	**157.40**	**68**	PKP	**PKPdf**	**14 35 51.6**	**+1.1**
FDF	**Fort de France**	**160.11**	**23**	*e*PKIKP	**PKPdf**	**14 35 54.0**	**+0.8**
FDF	**Fort de France**	**160.11**	**23**	*e*PKPdf	**PKPdf**	**14 35 54.0**	**+0.8**
LPAZ	**La Paz**	**160.87**	**132**	PKP	**PKPdf**	**14 35 55.9**	**+1.2**
LPAZ	comp=Z,17nm,1.0s,baz=349,slow=1.6,SNR=30 **La Paz**	**160.87**	**132**	*e*PKPdf	**PKPdf**	**14 35 54.4**	**-0.3**
LPAZ				PKP	**PKPdf**	**14 35 55.9**	**+1.2**
RCBR	**Riachuelo**	**162.46**	**262**	PKP	**PKPdf**	**14 35 56.0**	**+0.3**
RCBR	comp=Z,9.8nm,0.9s,baz=341,slow=7.3,SNR=4.3 **Riachuelo**	**162.46**	**262**	PKPab	**PKPab**	**14 36 44.3**	**+0.7**
RCBR	comp=Z,49nm,0.9s,baz=90,slow=4.5,SNR=9.5			PKP	**PKPdf**	**14 35 56.0**	**+0.3**
RCBR	**Riachuelo**	**162.46**	**262**	PKPab	**PKPab**	**14 36 44.3**	**+0.7**
RCBR	comp=Z,10nm,1.0s,baz=85,slow=4.7,SNR=8.6			LR	LR		
SIV	**San Ignacio**	**165.65**	**149**	PKP	**PKPdf**	**14 35 58.9**	**+0.4**
SIV	comp=Z,9.5nm,0.9s,baz=210,slow=1.8,SNR=21			PKPab	**PKPab**	**14 36 57.3**	**0.0**
SIV	comp=Z,17nm,1.0s,baz=356,slow=1.3,SNR=3.7 **San Ignacio**	**165.65**	**149**	PKP	**PKPdf**	**14 35 58.9**	**+0.4**
SIV				PKPab	**PKPab**	**14 36 57.3**	**0.0**
BDFB	**Brasilia**	**167.04**	**204**	PKP	**PKPdf**	**14 35 59.9**	**+0.2**
BDFB	comp=Z,10nm,1.0s,baz=85,slow=4.7,SNR=8.6			PKPab	**PKPab**	**14 37 04.5**	**+1.1**
BDFB	comp=Z,16nm,1.0s,baz=67,slow=3.8,SNR=4.5 **Brasilia**	**167.04**	**204**	PKP	**PKPdf**	**14 35 59.9**	**+0.2**
BDFB				PKPab	**PKPab**	**14 37 04.5**	**+1.1**
SAML	**Samuel**	**168.96**	**119**	*e*PKPdf	**PKPdf**	**14 36 01.1**	**+0.1**

CSEM ***16*** *14:18:23.3, 42.55N×21.47E, h0km, ML1.4, After BEO*
BEO 16 14:18:23.3±0.8, 42.55N×21.47E, h0km, ML1.4/5,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.37**	**44**	*e*Pg	Pg	14 18 28.3	-2.1
BARS				*e*Sg	Sg	14 18 34.6	-0.7
ZAPS	**Zavoj**	**1.12**	**49**	*e*Pg	Pg	14 18 43.6	-1.3
ZAPS				*e*Sg	Sg	14 18 59.6	+0.1
VTS	**Vitosha**	**1.28**	**88**	*e*Pg	Pg	14 18 46.1	-2.1
VTS				*e*Sg	Sg	14 19 04.6	-0.4
VTS	**Vitosha**	**1.28**	**88**	*e*Pg	Pg	14 18 46.1	-2.1
VTS				*e*Sg	Sg	14 19 04.6	-0.4
GRUS	**Gruza**	**1.45**	**338**	*e*Pg	Pn	14 18 49.0	-1.8
GRUS				*e*Sg	Sg	14 19 09.4	-0.5
GRUS	**Gruza**	**1.45**	**338**	*e*Pg	Pn	14 18 49.0	-1.8
GRUS				*e*Sg	Sg	14 19 09.4	-0.5
DIVS	**Divibare**	**1.89**	**326**	*e*Pn	Pn	14 18 57.0	+0.1
DIVS				*e*Sn	Sn	14 19 21.3	-0.2
DIVS	**Divibare**	**1.89**	**326**	*e*Pn	Pn	14 18 57.0	+0.1
DIVS				*e*Sn	Sn	14 19 21.3	-0.2

CSEM ***16*** *14:24:11.0, 39.11N×27.57E, h8km, MD2.8, After DDA*
DDA 16 14:24:11.0, 39.11N×27.57E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.30**	**139**	*i* P	Pg	14 24 17.0	+0.1
AKHS				*i* S	Sg	14 24 22.3	+1.4
AKHS	**Akhisar**	**0.30**	**139**	*i* P	Pg	14 24 17.0	+0.1
AKHS				*i* S	Sg	14 24 22.3	+1.4
BALY	**Balya**	**0.64**	**4**	*i* P	Pg	14 24 22.2	-1.2
BALY				*i* S	Sb	14 24 33.9	+0.3
BALY	**Balya**	**0.64**	**4**	*i* P	Pg	14 24 22.2	-1.2
BALY				*i* S	Sb	14 24 33.9	+0.3
DURS	**Dursunbey**	**0.86**	**55**	*i* P	Pg	14 24 27.5	-0.2
DURS				*i* S	Sb	14 24 40.6	+0.4
DURS	**Dursunbey**	**0.86**	**55**	*i* P	Pg	14 24 27.5	-0.2
DURS				*i* S	Sb	14 24 40.6	+0.4
DEMI	**Demirci**	**0.90**	**94**	*i* P	Pb	14 24 29.5	+0.5
DEMI				*i* S	Sb	14 24 41.5	+0.3
DEMI	**Demirci**	**0.90**	**94**	*i* P	Pb	14 24 29.5	+0.5
DEMI				*i* S	Sb	14 24 41.5	+0.3
URLA	**Izmir**	**1.06**	**226**	*i* P	Pb	14 24 31.6	-0.1
URLA				*i* S	Sb	14 24 46.6	+0.7
URLA	**Izmir**	**1.06**	**226**	*i* P	Pb	14 24 31.6	-0.1
URLA				*i* S	Sn	14 24 46.6	-0.7
GDZ	**Gediz**	**1.49**	**90**	*i* P	Pb	14 24 39.2	0.0
GDZ				*i* S	Sg	14 25 00.7	+1.4
GDZ	**Gediz**	**1.49**	**90**	*i* P	Pb	14 24 39.2	0.0
GDZ				*i* S	Sg	14 25 00.7	+1.4

IDC ***16*** *14:24:30.0±0.6, 3.56N×126.56E, h0km, mb4.5/18, mb1 4.5/18, mb1mx4.5/29, mbtmp4.5/18, MS5.6/2, Ms1 5.6/2, ms1mx4.8/49, Error ellipse: s-maj=29.7km s-min=12.5km az=75.0*
ISCJB ***16*** *14:24:35.0±0.4, 3.56N±0.06×126.48E±0.08, h53km, mb4.6/21, MS5.4/2, Error ellipse: s-maj=12.6km s-min=7.9km az=160.1*
NEIC ***16*** *14:24:36.0±1.6, 3.57N×126.52E, h45km±16km, mb5.0/4, Error ellipse: s-maj=12.7km s-min=6.6km az=69.0*
ISC 16 14:24:36.8±0.6, 3.56N±0.09×126.5E±0.1, h53km, n46, σ0.8 2/44, mb4.6/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.56**	**284**	*e*P	**Pn**	**14 27 05.5**	**-0.2**
KSM	**Kuching**	**16.33**	**263**	*e*P	**Pn**	**14 28 21.4**	**-1.4**
GUMO	**Guam**	**20.68**	**60**	LR	LR	14 36 04.8	
JOW	comp=Z,15μm,20.8s,baz=237,slow=34 **Kunigami**	**23.20**	**4**	P	**P**	**14 29 39.6**	**+0.3**
JOW	14nm,0.9s,baz=185,slow=9.2,SNR=3.4 **Kunigami**	**23.20**	**4**	P	**P**	**14 29 39.6**	**+0.3**
PMG	**Port Moresby**	**24.27**	**122**	LR	LR	14 37 58.1	
WRAB	comp=Z,15μm,21.9s,baz=164,slow=33 **Tennant Creek**	**24.58**	**162**	*e*P	**P**	**14 29 51.3**	**-0.8**
WRA	29nm,0.7s **Warramunga Arr**	**24.58**	**162**	P	**P**	**14 29 51.8**	**-0.3**
WRA	22nm,0.6s,baz=339,slow=11,SNR=8.2 **Warramunga Arr**	**24.58**	**162**	P	**P**	**14 29 51.8**	**-0.3**
AS31	**Alice Springs**	**28.00**	**165**	*e*P	**P**	**14 30 24.4**	**+1.5**
ASAR	**Alice Springs**	**28.00**	**165**	P	**P**	**14 30 22.9**	**-0.1**
ASAR	2.2nm,0.7s,baz=358,slow=8.1,SNR=5.2 **Alice Springs**	**28.00**	**165**	P	**P**	**14 30 22.9**	**-0.1**
KSAR	**Wonju Array Be**	**33.75**	**2**	P	**P**	**14 31 13.5**	**+0.1**
KSRS	**Korea Array**	**33.76**	**2**	P	**P**	**14 31 13.5**	**0.0**
MJAR	4.1nm,0.8s,baz=178,slow=9.8,SNR=9.8 **Matsushiro Arr**	**34.55**	**17**	P	**P**	**14 31 21.0**	**+0.6**
MJAR	2.2nm,0.8s,baz=187,slow=9.6,SNR=3.7 **Matsushiro Arr**	**34.55**	**17**	P	**P**	**14 31 21.0**	**+0.6**
BJT	**Baijiatuan**	**37.49**	**347**	P	**P**	**14 31 45.4**	**0.0**
STKA	**Stephens Creek** 14nm,0.7s,baz=120,slow=22,SNR=11	**38.04**	**159**	P	**P**	**14 31 50.4**	**+0.1**
STKA	**Stephens Creek** 2.9nm,0.6s	**38.04**	**159**	*e*P	**P**	**14 31 50.2**	**-0.1**
USRK	**Ussuriysk Arra** 4.0nm,0.8s,baz=185,slow=6.2,SNR=5.1	**40.76**	**6**	P	**P**	**14 32 13.0**	**+0.3**
ASAJ	**Asahikawa** 5.9nm,0.7s,baz=240,slow=20,SNR=4.5	**42.82**	**17**	P	**P**	**14 32 28.4**	**-1.1**
ASAJ	**Asahikawa**	**42.82**	**17**	P	**P**	**14 32 28.4**	**-1.1**
DZM	**Mont Dzumac** 13nm,1.0s,baz=340,slow=12,SNR=3.6	**46.61**	**125**	P	**P**	**14 33 00.0**	**-0.2**
DZM	**Mont Dzumac**	**46.61**	**125**	P	**P**	**14 33 00.0**	**-0.2**
SONM	**Songino Array** 2.5nm,0.9s,baz=174,slow=5.7,SNR=3.5	**47.40**	**342**	P	**P**	**14 33 04.6**	**-1.4**
SONM	**Songino Array**	**47.40**	**342**	P	**P**	**14 33 04.6**	**-1.4**
PETK	**Petropavlovsk-** 4.5nm,1.0s,baz=148,slow=20,SNR=9.1	**55.67**	**22**	P	**P**	**14 34 07.7**	**+0.2**
PETK	**Petropavlovsk-**	**55.67**	**22**	P	**P**	**14 34 07.7**	**+0.2**
MK31	**Makanchi Array**	**57.58**	**325**	*e*P	**P**	**14 34 21.2**	**0.0**
TKM2	**Tokmak 2**	**59.74**	**319**	*e*P	**P**	**14 34 35.8**	**-0.8**
RPZ	**Rata Peaks** 7.9nm,0.8s,baz=24,slow=4.0,SNR=4.9	**61.74**	**145**	P	**P**	**14 34 50.0**	**+0.1**
RPZ	**Rata Peaks**	**61.74**	**145**	P	**P**	**14 34 50.0**	**+0.1**
KURBB	**Kurchatov Array** 7.8nm,0.7s,baz=131,slow=6.5,SNR=8.6	**61.77**	**328**	P	**P**	**14 34 51.0**	**+1.0**
KURK	**Kurchatov** 28nm,1.1s	**61.77**	**328**	P	**P**	**14 34 49.8**	**-0.2**
BVAR	**Borovoye Array** 8.1nm,0.9s,baz=68,slow=4.0,SNR=7.0	**67.35**	**327**	P	**P**	**14 35 26.3**	**-0.1**
BVAR	**Borovoye Array**	**67.35**	**327**	P	**P**	**14 35 26.3**	**-0.1**
BRVK	**Borovoye** 24nm,1.1s	**67.42**	**327**	*e*P	**P**	**14 35 25.9**	**-0.9**
AKTO	**Aktyubinsk** 4.1nm,0.7s,baz=141,slow=9.5,SNR=3.6	**73.67**	**322**	P	**P**	**14 36 06.5**	**+1.6**
AKTO	**Aktyubinsk**	**73.67**	**322**	P	**P**	**14 36 06.5**	**+1.6**
ILAR	**Eielson Array** 0.9nm,1.0s,baz=246,slow=5.0,SNR=4.2	**85.35**	**25**	P	**P**	**14 37 07.8**	**-0.2**
ILAR	**Eielson Array**	**85.35**	**25**	P	**P**	**14 37 07.8**	**-0.2**
ASF	**Jabal al Asfar** 1.7nm,0.5s,baz=355,slow=5.0,SNR=6.2	**87.81**	**302**	P	**P**	**14 37 22.9**	**+2.0**
ASF	**Jabal al Asfar**	**87.81**	**302**	P	**P**	**14 37 22.9**	**+2.0**
BR131	**Keskin Array S**	**89.97**	**310**	*e*P	**P**	**14 37 30.9**	**-0.1**
BRTR	**Keskin Array B** 3.7nm,0.9s,baz=121,slow=4.8,SNR=6.0	**89.97**	**310**	P	**P**	**14 37 31.0**	**0.0**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**14 37 31.0**	**0.0**

BJI ***16*** *14:27:31.1, 2.80N×127.02E, h35km, mB5.6/9, mb5.1/39, Ms5.5/15, Ms7 5.5/16*
IDC ***16*** *14:27:34.0±0.4, 3.60N×126.59E, h0km, mb4.8/33, mb1 4.9/33, mb1mx4.9/36, mbtmp4.8/33, MS5.3/1, Ms1 5.3/1, ms1mx4.3/50, Error ellipse: s-maj=18.8km s-min=10.4km az=79.0*
MOS ***16*** *14:27:37.2±0.9, 3.63N×126.65E, h33km, mb5.4/20, Error ellipse: s-maj=14.5km s-min=7.0km az=112.8*
NEIC ***16*** *14:27:39.2±0.3, 3.61N×126.65E, h35km, mb5.0/21, Error ellipse: s-maj=10.0km s-min=6.3km az=77.0*
NEIC Felt [III] in the Kepulauan Talaud.
ISCJB ***16*** *14:27:40.9±0.5, 3.63N±0.03×126.79E±0.04, h68km±4km, mb4.9/77, Error ellipse: s-maj=7.0km s-min=3.7km az=154.9*
DJA ***16*** *14:27:42.8±0.6, 4°N±5°×12°7E±°, h56km, M5.1/9, mb5.2/8, MLv5.1/9*
AUST ***16*** *14:27:45.5, 3.50N×127.00E, h100km*
ISC 16 14:27:39.9±0.4, 3.68N±0.04×126.83E±0.05, h40km±2km, h40km:pP-P, n212, σ1.9 38/240, mb5.1/75, MS5.5/8, 9C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.30**	**271**	P	**Pn**	**14 28 02.2**	**+0.6**
SGSI				S	**Sn**	**14 28 22.5**	**+4.7**
TNTI	**Ternate**	**2.93**	**169**	P	**Pn**	**14 28 24.8**	**+0.7**
TNTI				S	**Sn**	**14 29 00.0**	**+1.9**
MNI	**Manado**	**2.98**	**222**	P	**Pn**	**14 28 27.1**	**+2.4**
MNI				S	Sn	14 29 05.5	+6.3
GSPH	**General Santos**	**3.04**	**322**	⇑*e*P	**Pn**	**14 28 26.0**	**+0.3**
MATI	**Mati**	**3.30**	**350**	*e*P	Pn	14 28 32.9	+3.8
MATI				*e*S	Sn	14 29 23.4	+16
DAV	**Davao City (W)** 64nm,0.3s,baz=259,slow=10,SNR=3.0	**3.60**	**340**	Pn	Pn	14 28 39.3	+6.1
DAV				LR	LR	14 29 39.4	
	comp=Z,42μm,18.8s,baz=171,slow=35						
DAV	**Davao City (W)**	**3.60**	**340**	P	Pn	14 28 36.9	+3.7
DMPH	**Davao City--Mi**	**3.63**	**339**	⇑*e*P	Pn	14 28 37.2	+3.5
DMPH				*e*S	Sn	14 29 27.6	+12
KCP	**Kidapawan**	**3.74**	**332**	⇑*e*P	Pn	14 28 43.2	+8.0
KCP				*i* S	Sn	14 29 31.6	+14
KMSI	**Cibinong**	**4.20**	**223**	P	Pn	14 28 45.9	+4.5
LBMI	**Labuha**	**4.34**	**171**	P	**Pn**	**14 28 44.9**	**+1.5**
LBMI				S	**Sn**	**14 29 36.6**	**+3.9**
CTBH	**Cotabato--PC H**	**4.36**	**324**	⇑*i*P

WHN pmax pmax
comp=Z,66nm,0.9s
JNU Nakatsue 29.54 7 P **P** **14 33 41.1 +0.3**
comp=Z,49nm,1.0s,baz=178,slow=6.3,SNR=11
JNU Nakatsue 29.54 7 *eP* **P** **14 33 39.2 -1.6**
comp=Z,26nm,1.1s
GYA Guiyang 29.77 322⇑ *iP* **P** **14 33 44.0 +0.9**
GYA pP **pP** **14 33 54.3 +0.1**
GYA sP **sP** **14 33 59.4 +0.4**
GYA PP **PnPn** **14 34 42.0 +2.2**
GYA PcP **PcP** **14 36 47.4 +1.2**
GYA S **S** **14 38 37.3 +0.3**
GYA ScP **ScP** **14 40 25.5 +0.2**
GYA ScS **ScS** **14 44 19.9 -0.7**
GYA LR LR
comp=N,590nm,15.6s
GYA LR LR
comp=E,460nm,17.7s
CM31 Chiang Mai Arr 30.99 300 *eP* **P** **14 33 54.1 +0.4**
comp=E,2.7nm,0.6s
CMAR Chiang Mai Arr 30.99 300 P **P** **14 33 52.8 -1.0**
comp=E,4.8nm,0.8s,baz=112,slow=6.4,SNR=12
CMAR Chiang Mai Arr 30.99 300 P **P** **14 33 52.8 -1.0**
CHTO Chiang Mai 31.14 301 *eP* **P** **14 33 53.5 -1.6**
CHTO Chiang Mai 31.14 301 *eP* **P** **14 33 53.5 -1.6**
MEEK Meekatharra 31.16 194 P **P** **14 33 55.1 -0.1**
baz=31,SNR=5.8
KMI Kunming 31.49 315 P **P** **14 33 59.5 +1.1**
KMI pmax pmax
comp=Z,6.0nm,0.7s
KSAR Wonju Array Be 33.62 2 P **P** **14 34 18.1 +1.5**
KSAR PcP **PcP** **14 36 57.9 +1.7**
KSRS Korea Array 33.63 2 P **P** **14 34 18.1 +1.4**
comp=Z,14nm,0.8s,baz=179,slow=9.8,SNR=38
KSRS PcP **PcP** **14 36 57.9 +1.7**
comp=Z,2.8nm,0.9s,baz=175,slow=3.6,SNR=5.7
FORT Forrest 34.28 178 P **P** **14 34 22.0 -0.4**
baz=34,SNR=7.6
MJAR Matsushiro Arr 34.35 16 P **P** **14 34 23.0 +0.1**
comp=Z,3.8nm,0.8s,baz=196,slow=10,SNR=7.1
MJAR Matsushiro Arr 34.35 16 P **P** **14 34 23.0 +0.1**
XAN Xi'an 34.51 333 P **P** **14 34 23.0 -1.4**
XAN pmax pmax
comp=Z,7.0nm,0.8s
CD2 Chengdu 34.75 324 P **P** **14 34 28.3 +1.8**
CD2 pP **pP** **14 34 38.3 +0.6**
CD2 sP **sP** **14 34 42.5 0.0**
CD2 PP **PP** **14 35 46.0 +0.2**
CD2 S **S** **14 39 55.4 +1.1**
CD2 sS **sS** **14 40 12.1 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
DL2 Dalian 35.39 353 P **P** **14 34 33.3 +1.5**
DL2 pmax pmax
comp=Z,40nm,1.0s
BBOO Buckleboo 37.33 167 P **P** **14 34 48.1 -0.3**
baz=37,SNR=7.3
BJT Baijiatuan 37.44 346 *eP* **P** **14 34 50.2 +0.8**
comp=Z,194nm,1.1s
BJI Beijing 37.46 347 P **P** **14 34 50.1 +0.6**
BJI pmax pmax
comp=Z,140nm,0.9s
STKA Stephens Creek 38.04 159 P **P** **14 34 54.7 +0.1**
comp=Z,22nm,0.8s,baz=296,slow=8.9,SNR=18
STKA PcP **PcP** **14 37 09.8 +0.3**
comp=Z,6.1nm,0.8s,baz=357,slow=7.0,SNR=2.7
STKA Stephens Creek 38.04 159 *eP* **P** **14 34 54.2 -0.3**
comp=Z,4.0nm,0.7s
STKA PcP **PcP** **14 37 09.8 +0.3**
STKA Stephens Creek 38.04 159 P **P** **14 34 54.5 0.0**
baz=38,SNR=16
SNY Shenyang 38.10 356⇓ P **P** **14 34 56.4 +1.6**
SNY pmax pmax
comp=Z,32nm,0.6s
LZH Lanzhou 38.60 330 *eP* **P** **14 35 00.1 +0.7**
LZH pP **pP** **14 35 09.3 -1.4**
LZH sP **sP** **14 35 13.9 -1.6**
LZH PP **PnPn** **14 36 30.0 -0.6**
LZH *e*S **ScP** **14 40 54.0 -2.4**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,1μm,4.8s
LZH LR LR
comp=N,4μm,12.4s
LZH LR LR
comp=E,1μm,11.8s
LZH LR LR
comp=Z,6μm,15.1s
HHC Hu-ho-hao-te 39.48 342 *eP* **P** **14 35 09.0 +2.4**
HHC pP **pP** **14 35 18.8 +0.8**
HHC sP **sP** **14 35 22.8 0.0**
HHC PP **PnPn** **14 36 44.6 +3.6**
HHC S **S** **14 41 09.8 +3.6**
HHC ScS **ScS** **14 45 12.5 +0.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,1μm,7.7s
HHC LR LR
comp=N,4μm,15.5s
HHC LR LR
comp=E,980nm,16.1s
HHC LR LR
comp=Z,2μm,19.6s
CN2 Changchun 39.98 358 *eP* **P** **14 35 10.3 -0.3**
CN2 *ep*P **pP** **14 35 21.0 -0.9**
CN2 *eP*P **PnPn** **14 36 47.3 +0.6**
CN2 *e*S **S** **14 41 14.8 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,7μm,17.0s
CN2 LR LR
comp=E,4μm,17.0s
CN2 LR LR
comp=Z,9μm,19.0s
USRK Ussuriysk Arra 40.62 6 P **P** **14 35 16.6 +0.8**
comp=Z,11nm,0.8s,baz=187,slow=7.4,SNR=19
MDJ Mudanjiang 40.85 3 P **P** **14 35 19.5 +1.8**
MDJ pmax pmax
comp=Z,51nm,0.9s
MDJ Mudanjiang 40.85 3 *eP* **P** **14 35 18.2 +0.4**
comp=Z,52nm,1.0s
ARMA Armidale 41.37 147 P **P** **14 35 23.4 +1.1**
baz=41,SNR=12
LSA Lhasa 42.55 311 *eP* **P** **14 35 32.0 -0.5**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 42.55 311 *eP* **P** **14 35 31.9 -0.5**
comp=Z,16nm,0.6s
ASAJ Asahikawa 42.62 17 P **P** **14 35 34.1 +1.9**
comp=Z,29nm,0.7s,baz=228,slow=11,SNR=28
ASAJ Asahikawa 42.62 17 *eP* **P** **14 35 34.0 +1.8**
comp=Z,7.9nm,0.7s
GTA Gaotai 43.20 329 *eP* **P** **14 35 37.3 +0.1**
GTA pP **pP** **14 35 46.5 -2.1**
GTA sP **sP** **14 35 50.8 -2.6**
GTA S **S** **14 42 03.5 +2.1**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA LR LR
comp=N,4μm,15.2s
GTA LR LR
comp=E,6μm,16.9s
GTA LR LR
comp=Z,5μm,17.3s
TAPN Taplejung 44.13 306 *eP* **P** **14 35 43.4 -1.7**
ODAN Odare 44.18 305 *eP* **P** **14 35 44.2 -1.3**
comp=Z,33nm,0.8s
RAMN Ramite 44.86 305 *eP* **P** **14 35 49.9 -1.0**
comp=Z,38nm,0.9s
HABR Khabarovsk 45.19 8 *eP* **P** **14 35 51.8 -1.0**
HABR *e**PP pP 14 36 00.2 -4.0
HABR *e**SP sP 14 36 04.5 -4.5
HABR *e*S **S** **14 42 29.8 +0.1**
HABR *e**SS **sS** **14 42 46.2 -2.5**
HABR *e* 14 45 43.7
HABR pmax pmax
comp=Z,152nm,3.2s
HABR pmax pmax
comp=E,111nm,3.2s
HABR pmax pmax
comp=N,61nm,3.2s
HABR MLR MLR
comp=Z,3μm,16.0s
YSS Yuzh-Sakhalins 45.27 15⇑ *eP* **P** **14 35 55.0 +1.6**
YSS *e* 14 36 02.5
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 45.27 15 *eP* **P** **14 35 53.6 +0.1**
comp=Z,43nm,0.9s
JIRN Jiri 45.48 306 *eP* **P** **14 35 54.7 -1.3**
HIA Hailar 45.83 354 *eP* **P** **14 35 58.5 +0.6**
comp=Z,22nm,0.9s
GUN Gumba 45.84 306 *eP* **P** **14 35 57.9 -0.8**
PKI Pulchoki 46.08 305 *eP* **P** **14 35 59.3 -1.4**
SONM Songino Array 47.38 341 P **P** **14 36 11.0 +0.8**
comp=Z,4.9nm,0.6s,baz=157,slow=7.3,SNR=18
SONM PcP **PcP** **14 37 41.3 +0.8**
comp=Z,3.4nm,0.7s,baz=163,slow=3.4,SNR=4.6
SONM Songino Array 47.38 341 P **P** **14 36 11.0 +0.8**
SONM PcP **PcP** **14 37 41.3 +0.8**
KOLN Koldanda 47.64 305 *eP* **P** **14 36 11.3 -1.4**
DANN Dangsing 47.73 306 *eP* **P** **14 36 11.8 -1.7**
PYUN Piuthan 48.26 305 *eP* **P** **14 36 16.8 -0.7**
TLY Talaya 51.61 342 *eP* **P** **14 36 41.9 -0.4**
TLY pmax pmax
comp=Z,10.0nm,0.8s
MOY Mondy 52.47 340 *eP* **P** **14 36 50.0 +1.2**
MSVF Nonsavu 54.80 115 *eP* **P** **14 37 08.5 +2.1**
MSVF pmax pmax
comp=Z,12nm,0.7s
MSVF Nonsavu 54.80 115 *eP* **P** **14 37 08.5 +2.1**
comp=Z,12nm,0.7s
MSVF Nonsavu 54.80 115 P P 14 37 09.2 +2.8
comp=Z,149nm,1.1s,SNR=8.4
BOD Bodaibo 54.93 352 *eP* **P** **14 37 06.9 +0.4**
BOD pmax pmax
comp=Z,13nm,1.8s
PETK Petropavlovsk- 55.44 22 P **P** **14 37 12.0 +1.7**
comp=Z,24nm,0.9s,baz=187,slow=3.2,SNR=21
PETK Petropavlovsk- 55.44 22 P **P** **14 37 12.0 +1.7**
PETK Petropavlovsk- 55.44 22 P **P** **14 37 12.0 +1.7**
MK31 Makanchi Array 57.66 325 *eP* **P** **14 37 25.3 -0.9**
MK31 Makanchi Array 57.66 325 *eP* **P** **14 37 25.3 -0.9**
KSH Kashi 58.15 315 P **P** **14 37 31.1 +1.1**
KSH *ep*P **pP** **14 37 42.4 +0.6**
KSH *es*P **sP** **14 37 46.3 -0.2**
KSH *eP*cP **PcP** **14 38 23.4 +2.1**
KSH *eP*P PP 14 39 44.6 +5.5
KSH *e*ScP **ScP** **14 42 19.8 +1.3**
KSH PcS **PcS** **14 42 23.8 +1.0**
KSH S **S** **14 45 29.6 +0.8**
KSH ScS **ScS** **14 47 15.5 -1.3**
KSH SS **SS** **14 49 23.8 +2.9**
KSH pmax pmax
comp=Z,31nm,1.3s
KSH pmax pmax
comp=Z,740nm,9.8s
KSH LR LR
comp=N,1μm,13.3s
KSH LR LR
comp=E,1μm,16.1s
KSH LR LR
comp=Z,3μm,16.5s
YAK Yakutsk 58.26 2 *eP* **P** **14 37 29.5 -0.6**
YAK pmax pmax
comp=Z,55nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,29nm,1.9s
YAK Yakutsk 58.26 2 *eP* **P** **14 37 29.9 -0.2**
AAK Ala-Archa 60.46 318 P **P** **14 37 46.4 +0.5**
comp=N,3.0nm,0.7s,baz=171,slow=13,SNR=5.9
AAK Ala-Archa 60.46 318 P **P** **14 37 46.4 +0.5**
AAK Ala-Archa 60.46 318 P **P** **14 37 46.4 +0.5**
ZALV Zalesovo Beam 60.68 333 P **P** **14 37 45.9 -1.1**
comp=N,4.6nm,0.8s,baz=127,slow=6.5,SNR=5.8
ZALV Zalesovo Beam 60.68 333 P **P** **14 37 45.9 -1.1**
ZALV Zalesovo Beam 60.68 333 P **P** **14 37 45.9 -1.1**
RPZ Rata Peaks 61.66 145 P **P** **14 37 53.8 0.0**
comp=N,7.3nm,0.6s,baz=64,slow=9.2,SNR=3.7
RPZ Rata Peaks 61.66 145 P **P** **14 37 53.8 0.0**
KURBB Kurchatov Arra 61.84 327 P **P** **14 37 54.2 -0.7**
comp=N,22nm,0.6s,baz=130,slow=6.4,SNR=50
KURK Kurchatov 61.84 327 *c iP* **P** **14 37 54.3 -0.6**
KURK pmax pmax
comp=Z,77nm,1.3s
KURK Kurchatov 61.84 327 *eP* **P** **14 37 54.1 -0.8**
comp=Z,43nm,0.7s
KURK Kurchatov 61.84 327 P **P** **14 37 54.5 -0.4**
comp=Z,370nm,0.7s,SNR=18
SEY Seymchan 62.06 13⇑ *iP* **P** **14 37 56.6 +0.5**
KKAR Karatay Array 63.34 317 *eP* **P** **14 38 03.6 -1.5**
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 63.34 317 *eP* **P** **14 38 03.6 -1.5**
comp=Z,12nm,0.8s
NIUE Niue 66.16 113 P pP 14 38 35.8 0.0
baz=66,SNR=3.1
BVAR Borovoye Array 67.42 327 P **P** **14 38 30.7 -0.6**
comp=Z,17nm,1.0s,baz=134,slow=6.4,SNR=15
BVAR Borovoye Array 67.42 327 P **P** **14 38 30.7 -0.6**
BVAR Borovoye Array 67.42 327 P **P** **14 38 30.7 -0.6**
BRVK Borovoye 67.49 327 *d iP* **P** **14 38 31.5 -0.2**
BRVK pmax pmax
comp=Z,53nm,1.3s
BRVK Borovoye 67.49 327 *eP* **P** **14 38 30.9 -0.8**
comp=Z,43nm,1.1s
BRVK Borovoye 67.49 327 P **P** **14 38 30.5 -1.2**
comp=Z,203nm,1.1s,SNR=7.6
ABKAR Akbulak array 72.26 321 *eP* **P** **14 38 59.9 -1.2**
comp=Z,13nm,1.0s
AKTO Aktyubinsk 73.76 322 P **P** **14 39 09.4 -0.6**
comp=Z,7.7nm,0.6s,baz=119,slow=6.4,SNR=15
AKTO Aktyubinsk 73.76 322 P **P** **14 39 09.4 -0.6**
AKTO Aktyubinsk 73.76 322 P **P** **14 39 09.4 -0.6**
SVE Sverdlovsk 74.06 328 *eP* **P** **14 39 11.3 -0.3**
SVE pmax pmax
comp=Z,41nm,1.2s
ARU Arti 75.04 328 *d iP* **P** **14 39 16.5 -0.7**
ARU 14 42 02.8
ARU S **S** **14 48 53.5 +1.3**
ARU SS **SS** **14 53 37.7 -3.8**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 75.04 328 *eP* **P** **14 39 15.8 -1.4**
QRN Al-Qurain 78.52 298 *eP* **P** **14 39 36.1 -1.4**
QRN AMb AMB 14 39 37.6
comp=Z,50nm,0.8s
UMR Umm Al-Rimmam 78.73 299 *eP* **P** **14 39 37.6 -1.1**
UMR AMb AMB 14 39 38.7
comp=Z,23nm,0.8s
MIB Mutribah 79.07 299 *eP* **P** **14 39 38.9 -1.5**
MIB AMb AMB 14 39 40.6
comp=Z,30nm,0.7s
NAY Al-Naaiem 79.13 299 *eP* **P** **14 39 39.0 -1.9**
NAY AMb AMB 14 39 40.8
comp=Z,22nm,0.8s
OPO Ambohidratompo 81.37 251 P **P** **14 39 52.4 -0.8**
comp=Z,7.3nm,0.8s,baz=58,slow=3.6,SNR=7.6
OPO Ambohidratompo 81.37 251 P **P** **14 39 52.4 -0.8**
VNDA Vanda 83.36 173 P **P** **14 40 03.0 +0.8**
comp=Z,3.1nm,0.9s,baz=352,slow=4.4,SNR=4.6
VNDA Vanda 83.36 173 P **P** **14 40 03.0 +0.8**
COLD Coldfoot 83.90 23 *eP* **P** **14 40 07.3 +2.0**
comp=Z,12nm,0.9s
PMR Palmer 83.94 29 *eP* **P** **14 40 06.5 +1.0**
PMR Palmer 83.94 29 *eP* **P** **14 40 06.5 +1.0**
VRHR Novokhopersk 84.14 321 *eP* **P** **14 40 06.2 -0.6**
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 85.11 25 P **P** **14 40 11.9 +0.5**
comp=Z,4.0nm,1.1s,baz=237,slow=5.0,SNR=8.4
ILAR Eielson Array 85.11 25 P **P** **14 40 11.9 +0.5**
VORD Divnogorie 85.62 321 *eP* **P** **14 40 13.3 -0.9**
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 85.69 321 *eP* **P** **14 40 13.4 -1.2**
OBN Obninsk 87.16 325⇑ *eP* **P** **14 40 21.8 +0.1**
OBN *e* 14 43 50.0
OBN *e*S **S** **14 50 55.7 -2.5**
OBN pmax pmax
comp=Z,64nm,2.5s
OBN MLR MLR
comp=Z,5μm,19.0s
ASF Jabal al Asfar 88.01 302 P **P** **14 40 26.1 -0.3**
comp=Z,9.6nm,0.9s,baz=331,slow=2.9,SNR=11
ASF Jabal al Asfar 88.01 302 P **P** **14 40 26.1 -0.3**
KMBO Kilima Mbogo 89.65 269 *eP* **P** **14 40 34.7 0.0**
comp=Z,16nm,1.3s
BRTR Keskin Array B 90.13 310 P **P** **14 40 35.3 -1.0**
comp=Z,5.1nm,0.9s,baz=115,slow=6.1,SNR=8.9
BRTR Keskin Array B 90.13 310 P **P** **14 40 35.3 -1.0**
ARCES ARCESS Array B 90.53 340 P **P** **14 40 36.6 -0.8**
comp=Z,11nm,0.7s,baz=87,slow=7.7,SNR=28
ARCES ARCESS Array B 90.53 340 P **P** **14 40 36.6 -0.8**
SPITS Spitsbergen Ar 90.55 349 P **P** **14 40 37.9 +0.5**
comp=Z,5.9nm,0.8s,baz=110,slow=6.3,SNR=5.2
SPITS Spitsbergen Ar 90.55 349 P **P** **14 40 37.9 +0.5**
FINES FINESS Array B 91.93 332 P **P** **14 40 43.3 -0.7**
comp=Z,2.9nm,0.8s,baz=46,slow=5.5,SNR=6.1
FINES FINESS Array B 91.93 332 P **P** **14 40 43.3 -0.7**
AKASG Malin Array Be 92.00 321 P **P** **14 40 43.0 -1.6**
comp=Z,4.2nm,0.7s,baz=70,slow=4.9,SNR=8.7
AKASG Malin Array Be 92.00 321 P **P** **14 40 43.0 -1.6**
AKASG Malin Array Be 92.00 321 P **P** **14 40 43.0 -1.6**
KIS Kishinev 92.80 317 *eP* P 14 40 45.0 -3.3
KIS Kishinev 92.80 317 *e*UNK P 14 40 45.0 -3.3
MLR Muntele Rosu 95.01 316 P **P** **14 40 58.3 -0.4**
comp=Z,1.8nm,0.9s,baz=111,slow=13,SNR=3.8
MLR Muntele Rosu 95.01 316 P **P** **14 40 58.3 -0.4**
KOLS Kolonicke sedl 96.75 320 *eP* **P** **14 41 08.0 +1.6**
KOLS pmax pmax
comp=Z,11nm,1.4s
KOLS Kolonicke sedl 96.75 320 *eP* **P** **14 41 08.0 +1.6**
UZH Uzhgorod 96.81 320 *eP* P 14 41 09.0 +2.4
UZH *e* 14 41 15.8
UZH *e* 14 41 26.6
CRVS Cervenica-Dubn 97.28 320 *eP* Pdif 14 41 09.5 +0.6
CRVS pmax pmax
comp=Z,9.0nm,1.1s
CRVS Cervenica-Dubn 97.28 320 *eP* Pdif 14 41 09.5 +0.6
RES Resolute Bay 97.85 10 P Pdif 14 41 11.3 +0.5
comp=Z,4.3nm,0.9s,baz=334,slow=7.4,SNR=6.5
RES Resolute Bay 97.85 10 *eP* Pdif 14 41 10.3 -0.5
comp=Z,7.8nm,1.3s
NB2 NORSAR Subarra 98.88 334 P **P** **14 41 14.3 -1.4**
comp=Z,2.4nm,0.7s,baz=66,slow=4.6
NOA NORSAR Array B 98.88 334 P **P** **14 41 14.4 -1.3**
comp=Z,2.4nm,0.8s,baz=66,slow=4.5,SNR=5.1
NOA NORSAR Array B 98.88 334 P **P** **14 41 14.4 -1.3**
YKA Yellowknife Ar 99.51 24 P **Pdif** **14 41 18.3 -0.2**
comp=Z,0.7nm,0.7s,baz=305,slow=4.3,SNR=3.5
YKA Yellowknife Ar 99.51 24 P **Pdif** **14 41 18.3 -0.2**
GERES GERESS Array B 102.19 322 P **Pdif** **14 41 30.5 -0.3**
comp=Z,0.8nm,0.7s,baz=57,slow=8.1,SNR=4.0
GERES GERESS Array B 102.19 322 P **Pdif** **14 41 30.5 -0.3**
SNAA Sanae 105.19 195 *e*PKiKP **PKiKP** **14 45 58.6 +1.0**
VNA2 Neumayer--Watz 106.80 194 *ep*Pdiff pPdif 14 41 57.4 -5.7
VNA2 Neumayer--Watz 106.80 194 *es*Pdiff 14 42 04.5
VNA3 Neumayer Olymp 107.12 193 *ep*Pdiff pPdif 14 42 01.5 -3.1
TORD Torodi Ar. Bea 123.03 288 PKP **PKPdf** **14 46 33.0 -0.1**
comp=Z,2.9nm,0.8s,baz=63,slow=0.8,SNR=5.8
TORD Torodi Ar. Bea 123.03 288 PKP **PKPdf** **14 46 33.0 -0.1**
JTS JuntasAbangare 145.44 66 PKPbc **PKPab** **14 47 16.3 +1.3**
comp=Z,4.7nm,0.6s,baz=255,slow=21,SNR=3.7
JTS JuntasAbangare 145.44 66 PKPbc **PKPab** **14 47 16.3 +1.3**
CFAA Coronel Fontan 148.81 155 PKPbc **PKPbc** **14 47 23.9 0.0**
comp=Z,0.8nm,0.5s,baz=219,slow=3.0,SNR=5.2
CFAA Coronel Fontan 148.81 155 PKPbc **PKPbc** **14 47 23.9 0.0**

IDC ***16*** *14:31:55.9±0.6,3.6°N×126.4°E,h0km,mb4.3/17, mb1 4.4/17,mb1mx4.3/27,mbtmp4.3/17,MS5.1/1, Ms1 5.1/1,ms1mx4.2/47,Error ellipse: s-maj=31.9km s-min=13.3km az=77.0*

ISCJB ***16*** *14:32:01.1±0.5,3.54°N±0.07°×126.6°E±0.1,h53km, mb4.2/17,Error ellipse: s-maj=16.8km s-min=8.1km az=157.0*

ISC 16 14:32:03.1±0.7,3.53°N±0.09°×126.5°E±0.1,h53km,n33,
σ0.93/32,mb4.3/21,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.97**	**329**⇑	*eP*	**P**		**Pn**	**14 32 48.5**	**+0.6**
MATI	**Mati**	**3.40**	**356**	*eP*	**P**		**Pn**	**14 32 56.4**	**+2.7**
MATI				*eS*	Sn		14 33 52.6		+20
CTBH	**Cotabato--PC H**	**4.29**	**329**⇓	*iP*	Pn		14 33 10.2		+4.3
BUKP	**Musuan**	**4.55**	**342**	*eP*	**P**		**Pn**	**14 33 10.8**	**+1.3**
PAGZ	**Pagadian**	**5.29**	**324**	*eP*	Pn		14 33 23.2		+3.6
IPIL	**Ipil**	**5.75**	**318**	*eP*	**P**		**Pn**	**14 33 27.8**	**+1.8**
KAPI	**Kappang**	**10.83**	**218**	LR	LR		14 38 56.4		
	comp=Z,11μm,21.9s,baz=277,slow=39								
FITZ	**Fitzroy Crossi**	**21.51**	**182**	P	**P**		**14 36 49.0**		**+1.2**
	4.1nm,0.8s,baz=49,slow=11,SNR=3.4								
WRA	**Warramunga Arr**	**24.57**	**162**	P	**P**		**14 37 17.8**		**-0.5**
	6.1nm,0.8s,baz=344,slow=10,SNR=6.9								
ASAR	**Alice Springs**	**27.98**	**165**	P	**P**		**14 37 49.5**		**+0.4**
	0.6nm,0.5s,baz=341,slow=7.2,SNR=4.1								
ASAR				PcP	**PcP**		**14 41 04.0**		**+0.7**
	0.5nm,0.5s,baz=348,slow=2.0,SNR=4.4								
CMAR	**Chiang Mai Arr**	**30.77**	**301**	P	**P**		**14 38 13.9**		**+0.1**
	1.2nm,0.8s,baz=110,slow=6.8,SNR=5.1								
KSRS	**Korea Array**	**33.79**	**2**	P	**P**		**14 38 38.6**		**-1.4**
	2.8nm,0.7s,baz=183,slow=9.7,SNR=9.1								
STKA	**Stephens Creek**	**38.03**	**159**	P	**P**		**14 39 16.1**		**-0.2**
	5.2nm,0.7s,baz=327,slow=6.2,SNR=5.8								
USRK	**Ussuriysk Arra**	**40.80**	**6**	P	**P**		**14 39 38.3**		**-1.0**
	1.0nm,0.6s,baz=196,slow=9.0,SNR=4.3								
ASAJ	**Asahikawa**	**42.85**	**17**	P	**P**		**14 39 55.6**		**-0.5**
	5.9nm,0.7s,baz=231,slow=11,SNR=9.3								
TAPN	**Taplejung**	**43.94**	**307**	*eP*	**P**		**14 40 05.5**		**0.0**
	16nm,1.0s								
ODAN	**Odare**	**43.99**	**306**	*eP*	**P**		**14 40 05.3**		**-0.5**
	9.6nm,0.8s								
RAMN	**Ramite**	**44.67**	**305**	*eP*	**P**		**14 40 11.0**		**-0.3**
JIRN	**Jiri**	**45.29**	**306**	*eP*	**P**		**14 40 16.7**		**+0.3**
GUN	**Gumba**	**45.65**	**306**	*eP*	**P**		**14 40 19.4**		**+0.2**
SONM	**Songino Array**	**47.41**	**342**	P	**P**		**14 40 31.5**		**-0.8**
	0.9nm,0.5s,baz=158,slow=7.4,SNR=6.1								
SONM				PcP	**PcP**		**14 42 02.8**		**+0.6**
	0.7nm,0.7s,baz=173,slow=3.9,SNR=3.8								
KOLN	**Koldanda**	**47.44**	**305**	*eP*	**P**		**14 40 33.6**		**+0.6**
	9.9nm,0.4s								
DANN	**Dangsing**	**47.54**	**306**	*eP*	**P**		**14 40 34.1**		**+0.2**
PYUN	**Piuthan**	**48.06**	**305**	*eP*	**P**		**14 40 38.6**		**+0.7**
	10nm,0.6s								
PETK	**Petropavlovsk-**	**55.71**	**22**	P	**P**		**14 41 34.1**		**0.0**
	3.6nm,0.7s,baz=178,slow=6.2,SNR=5.6								
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**		**14 42 07.7**		**-1.0**
	0.6nm,0.4s,baz=135,slow=7.6,SNR=3.2								
KURBB	**Kurchatov Arra**	**61.78**	**328**	P	**P**		**14 42 16.3**		**0.0**
	5.9nm,0.6s,baz=130,slow=6.4,SNR=29								
BVAR	**Borovoye Array**	**67.36**	**327**	P	**P**		**14 42 52.6**		**-0.1**
	1.0nm,0.5s,baz=66,slow=4.4,SNR=5.5								
AKTO	**Aktyubinsk**	**73.67**	**322**	P	**P**		**14 43 30.6**		**-0.6**
	1.7nm,0.6s,baz=103,slow=12,SNR=3.8								
BRTR	**Keskin Array B**	**89.96**	**310**	P	**P**		**14 44 56.1**		**-1.1**
	1.2nm,0.9s,baz=119,slow=4.4,SNR=3.6								
ARCES	**ARCESS Array B**	**90.55**	**340**	P	**P**		**14 44 58.5**		**-0.7**
	4.4nm,0.7s,baz=78,slow=6.3,SNR=11								
SPITS	**Spitsbergen Ar**	**90.63**	**349**	P	**P**		**14 45 00.4**		**+1.0**
	12nm,1.1s,baz=85,slow=9.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**122.75**	**289**	PKP	**PKPdf**		**14 50 53.9**		**-0.3**
	0.9nm,1.0s,baz=93,slow=3.4,SNR=3.5								

ISCJB ***16*** *14:34:02.8±0.5,23.68°N±0.03°×122.59°E±0.02,h24km±5km, Error ellipse: s-maj=4.5km s-min=2.9km az=160.6*

TAP ***16*** *14:34:03.9,23.74°N×122.60E,h55km±1km,ML3.2,D*

JMA ***16*** *14:34:04.5±0.2,23.77°N×122.59E,h44km,M2.0*

ISC 16 14:34:05.5±2.8,23.8°N±0.1×122.61E±0.05,h29km±23km,
n36,σ0.93/11,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.77**	**28**	P	P		Pn	14 34 19.3	-1.1
YOJ				S	S		**Sb**	**14 34 30.2**	**-0.4**
HWA	**Hwalien**	**0.94**	**282**	*eP*	P		Pn	14 34 20.9	-1.9
	baz=278								
TWD	**Chiawan**	**0.97**	**288**	*eP*	P		Pn	14 34 20.5	-2.7

	baz=284							
TWD				*e*S		Sn	14 34 34.2	-1.9
	baz=284							
ENA	**Nanau**	**1.02**	**309**	P		Pn	14 34 22.6	-1.3
	baz=321							
ENA				*e*S		Sn	14 34 36.3	-1.0
	baz=321							
ESL	**Shilin**	**1.08**	**272**	P		Pn	14 34 21.4	-3.2
	baz=269							
TWC	**Suao**	**1.08**	**320**	*e*P		Pn	14 34 23.6	-1.1
	baz=322							
TWC				*e*S		Sn	14 34 36.2	-2.4
	baz=322							
HATJ	**Hateruma jima**	**1.13**	**76**	P		Pn	14 34 24.4	-0.9
HATJ				*e*S		**Sn**	**14 34 38.9**	**-1.0**
IRIF	**Iriomote-Funau**	**1.17**	**61**	P		Pn	14 34 25.1	-0.7
IRIF				*e*S		Sn	14 34 39.5	-1.3
EHY	**Hungye**	**1.21**	**257**	P		Pn	14 34 23.9	-2.5
	baz=259							
EHY				S		Sn	14 34 38.7	-3.3
	baz=259							
TWE	**Neicheng**	**1.27**	**318**	*e*P		Pn	14 34 26.6	-0.7
	baz=320							
TWE				*e*S		Sn	14 34 42.6	-0.9
	baz=320							
TWF1	**Yuli**	**1.28**	**251**	P		Pn	14 34 24.7	-2.7
	baz=247							
TWF1				*e*S		Sn	14 34 40.0	-3.5
	baz=247							
ENTT	**Nioudou**	**1.28**	**312**	*e*P		Pn	14 34 26.8	-0.7
	baz=314							
ENTT				*e*S		Sn	14 34 42.6	-1.1
	baz=314							
WHF	**Hehuan Shan**	**1.28**	**287**	*e*P		Pn	14 34 25.6	-2.3
	baz=280							
WHF				*e*S		Sn	14 34 41.8	-2.5
	baz=280							
NNS	**Nan Shan**	**1.31**	**301**	P		Pn	14 34 26.5	-1.4
	baz=302							
NNS				*e*S		Sn	14 34 42.0	-2.5
	baz=302							
CHKT	**Chengkung**	**1.33**	**240**	*e*P		Pn	14 34 24.6	-3.4
	baz=233							
CHKT				*e*S		Sn	14 34 39.2	-5.5
	baz=233							
JKRS	**Kuro-shima**	**1.36**	**70**	P		Pn	14 34 28.0	-0.5
JKRS				*e*S		**Sn**	**14 34 45.7**	**+0.1**
NSK	**Sanguang**	**1.45**	**308**	*e*P		Pn	14 34 28.6	-1.2
	baz=310							
NSK				*e*S		Sn	14 34 46.9	-1.1
	baz=310							
JIJ	**Ishigaki jima**	**1.52**	**67**	P		Pn	14 34 29.8	-0.9
JIJ				S		Sn	14 34 47.9	-1.6
SMLT	**Sun Moon Lake**	**1.57**	**274**	*i* P		Pn	14 34 29.8	-1.7
	baz=275							
SMLT				*e*S		Sn	14 34 49.2	-1.8
	baz=275							
ELDTW	**Lidau**	**1.57**	**248**	*e*P		Pn	14 34 28.8	-2.8
	baz=240							
ELDTW				*e*S		Sn	14 34 46.5	-4.5
	baz=240							
TYC	**Yuchr**	**1.61**	**275**	*e*P		Pn	14 34 30.4	-1.6
	baz=276							
TYC				*e*S		**Sn**	**14 34 50.4**	**-1.3**
	baz=276							
ALS	**Alishan**	**1.68**	**261**	*i* P		Pn	14 34 31.8	-1.3
	baz=256							
ALS				*e*S		Sn	14 34 51.1	-2.7
	baz=256							
NSTT	**Nanjuang**	**1.70**	**300**	*e*P		Pn	14 34 33.0	-0.2
	baz=302							
NSTT				*e*S		**Sn**	**14 34 53.1**	**-0.8**
	baz=302							
TWG	**Pinlang**	**1.70**	**236**	*e*P		Pn	14 34 30.7	-2.6
	baz=231							
TWG				*e*S		Sn	14 34 50.0	-4.1
	baz=231							
TWS1	**Kuangyinshan**	**1.71**	**321**	*e*P		Pn	14 34 32.6	-0.7
	baz=322							
TWS1				*e*S		**Sn**	**14 34 54.6**	**+0.4**
	baz=322							
TWQ1	**Liyutan**	**1.77**	**289**	*e*P		Pn	14 34 33.9	-0.3
	baz=291							
TWQ1				*e*S		**Sn**	**14 34 55.5**	**-0.3**
	baz=291							
WGK	**Gukeng**	**1.88**	**268**	*e*P		**Pn**	**14 34 36.5**	**+0.9**
	baz=258							
CHN4	**Tsaushan**	**1.90**	**257**	*e*P		Pn	14 34 34.8	-1.2
	baz=254							
CHN4				*e*S		**Sn**	**14 34 58.3**	**-0.6**
	baz=254							
ECL	**Taimali**	**1.92**	**233**	*e*P		Pn	14 34 33.2	-3.0
	baz=241							
ECL				*e*S		Sn	14 34 54.9	-4.6
	baz=241							
SGST	**Jiashian**	**1.99**	**250**	*e*P		Pn	14 34 36.9	-0.3
	baz=244							
SGST				*e*S		Sn	14 34 58.3	-2.8
	baz=244							
LAY	**Lan-yu**	**1.99**	**210**	*e*P		Pn	14 34 33.8	-3.4
	baz=213							
LAY				*e*S		Sn	14 34 54.9	-6.2
	baz=213							
CHN1	**Nanshi**	**2.00**	**253**	P		Pn	14 34 36.9	-0.5
	baz=253							
CHN1				*e*S		**Sn**	**14 35 01.7**	**+0.3**
	baz=253							
TWK	**Hsinying**	**2.01**	**256**	*e*P		Pn	14 34 36.1	-1.4
	baz=256							
TWK				*e*S		**Sn**	**14 35 00.8**	**-0.9**
	baz=256							
JTJ	**Tarama**	**2.10**	**65**	P		Pn	14 34 38.4	-0.2
EAST	**Anshuo**	**2.13**	**230**	*e*P		Pn	14 34 37.3	-1.9
	baz=235							
EAST				*e*S		Sn	14 35 00.4	-4.4
	baz=235							
SCZT	**Fangliau**	**2.31**	**233**	*e*P		Pn	14 34 41.5	0.0
	baz=233							

IDC 16 14:35:29.9±2.5, 23°.54S×179°.97E, h532km±24km, mb3.7/8, mb1 3.8/8, mb1mx3.4/21, mbtmp3.7/8, Error ellipse: s-maj=26.8km s-min=19.7km az=19.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.45**	**270**	P	P	14 41 08.6	+0.6
	17nm,0.4s,baz=96,slow=11,SNR=78						
PMG	**Port Moresby**	**34.35**	**289**	P	P	14 41 32.6	+0.1
	7.9nm,0.8s,baz=190,slow=6.6,SNR=3.9						
STKA	**Stephens Creek**	**34.83**	**248**	P	P	14 41 36.1	-0.3
	1.2nm,0.4s,baz=91,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**42.07**	**260**	P	P	14 42 34.9	-0.5
	3.1nm,0.6s,baz=93,slow=7.5,SNR=47						
ASAR				ScP	ScP	14 47 17.6	-0.1
	1.9nm,0.7s,baz=106,slow=4.5,SNR=11						
WRA	**Warramunga Arr**	**42.41**	**266**	P	P	14 42 37.1	-0.9
	3.1nm,0.3s,baz=90,slow=6.0,SNR=152						
WRA				ScP	ScP	14 47 18.6	-0.4
	1.5nm,0.9s,baz=127,slow=3.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**50.83**	**265**	P	P	14 43 42.0	+0.3
	1.7nm,0.4s,baz=238,slow=20,SNR=9.2						
QSPA	**South Pole Qui**	**66.54**	**180**	P	P	14 45 26.9	+0.1
	12nm,1.0s,baz=159,slow=0.3,SNR=21						
TXAR	**Lajitas Array**	**90.26**	**58**	P	P	14 47 34.6	+0.4
	2.1nm,0.8s,baz=207,slow=7.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**114.97**	**316**	PKP	PKPdf	14 53 08.5	-1.6
	0.5nm,0.6s,baz=113,slow=1.9,SNR=5.6						
BVAR	**Borovoye Array**	**120.15**	**319**	PKP	PKPdf	14 53 19.0	-1.0
	0.5nm,0.3s,baz=117,slow=2.1,SNR=4.4						
ARCES	**ARCESS Array B**	**131.53**	**348**	PKP	PKPdf	14 53 40.5	-0.8
	2.5nm,0.8s,baz=69,slow=3.0,SNR=3.9						
HFS	**Hagfors**	**142.19**	**349**	PKhKP	PKPpre	14 53 56.7	
	2.0nm,0.4s,baz=46,slow=4.3,SNR=11						
AKASG	**Malin Array Be**	**144.65**	**328**	PKP	PKPdf	14 54 05.0	-0.7
	0.9nm,0.4s,baz=44,slow=4.2,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.53**	**295**	PKPbc	PKPbc	14 54 14.9	+0.3
	0.5nm,0.3s,baz=57,slow=3.1,SNR=4.3						

*DDA **16** 14:48:52.6, 37°.90N×29°.18E, h9km, MD2.8*
*CSEM **16** 14:48:52.9±0.2, 37°.91N×29°.18E, h10km, MD2.8, Error ellipse: s-maj=5.0km s-min=2.9km az=110.0*
*ISCJB **16** 14:48:53.1±0.5, 37°.91N±0°.02×29°.17E±0°.05, h10km±4km, Error ellipse: s-maj=6.4km s-min=3.6km az=19.1*

*ISK **16** 14:48:53.0, 37°.92N×29°.14E, h12km, MD2.8*
ISC 16 14:48:52.8±0.9, 37°.91N±0°.02×29°.19E±0°.03, h11km±9km, n24, σ0°.46/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**219**	*e*PG	**Pb**	**14 48 58.2**	**-0.2**
DENT				*e*SG	**Sg**	**14 49 00.4**	**+0.6**
DENT	**Denizli**	**0.19**	**219**	*e*Pg	**Pb**	**14 48 58.2**	**-0.2**
DENT				*e*Sg	**Sg**	**14 49 00.4**	**+0.6**
DNZL	**Cakiroluk**	**0.24**	**207**	*i* P	**Pg**	**14 48 57.4**	**-0.5**
DNZL				*i* S	**Sg**	**14 49 01.4**	**+0.1**
DNZL	**Cakiroluk**	**0.24**	**207**	*i* P	**Pg**	**14 48 57.4**	**-0.5**
DNZL				*i* S	**Sg**	**14 49 01.4**	**+0.1**
KHL	**Karahalli**	**0.49**	**32**	*e*PG	**Pb**	**14 49 03.3**	**-0.3**
KHL				*e*SG	**Sb**	**14 49 10.9**	**0.0**
KHL	**Karahalli**	**0.49**	**32**	*e*Pg	**Pb**	**14 49 03.3**	**-0.3**
KHL				*e*Sg	**Sb**	**14 49 10.9**	**0.0**
KHAL	**Karahalli**	**0.52**	**27**	*i* P	**Pg**	**14 49 02.8**	**-0.2**
KHAL				*i* S	**Sg**	**14 49 10.3**	**+0.3**
KHAL	**Karahalli**	**0.52**	**27**	*i* P	**Pg**	**14 49 02.8**	**-0.2**
KHAL				*i* S	**Sg**	**14 49 10.3**	**+0.3**
GOLH	**Golhisar**	**0.73**	**156**	*i* P	**Pg**	**14 49 06.5**	**-0.4**
GOLH				*i* S	**Sb**	**14 49 18.1**	**+0.4**
GOLH	**Golhisar**	**0.73**	**156**	*i* P	**Pg**	**14 49 06.5**	**-0.4**
GOLH				*i* S	**Sb**	**14 49 18.1**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*PG	**Pg**	**14 49 07.3**	**+0.2**
KULA				*e*SG	**Sg**	**14 49 17.1**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**326**	*e*Pg	**Pg**	**14 49 07.3**	**+0.2**
KULA				*e*Sg	**Sg**	**14 49 17.1**	**+0.4**
YER	**Yerkesik**	**1.05**	**223**	*e*PG	**Pn**	**14 49 14.0**	**+0.4**
YER	**Yerkesik**	**1.05**	**223**	*e*Pg	**Pn**	**14 49 14.0**	**+0.4**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pb**	**14 49 13.2**	**-0.1**
AYDN				*i* S	**Sb**	**14 49 26.8**	**-0.4**
AYDN	**Tasoluk**	**1.06**	**257**	*i* P	**Pb**	**14 49 13.2**	**-0.1**
AYDN				*i* S	**Sb**	**14 49 26.8**	**-0.4**
DEMI	**Demirci**	**1.19**	**342**	*e*P	**Pb**	**14 49 15.4**	**-0.1**
DEMI				*e*S	**Sb**	**14 49 29.9**	**-1.1**
DEMI	**Demirci**	**1.19**	**342**	*e*P	**Pb**	**14 49 15.4**	**-0.1**
DEMI				*e*S	**Sb**	**14 49 29.9**	**-1.1**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pg**	**14 49 15.9**	**-0.1**
GDZ				*i* S	**Sb**	**14 49 30.6**	**-0.8**
GDZ	**Gediz**	**1.20**	**11**	*i* P	**Pg**	**14 49 15.9**	**-0.1**
GDZ				*i* S	**Sb**	**14 49 30.6**	**-0.8**
ALT	**Altintas**	**1.36**	**32**	*e*PN	**Pb**	**14 49 18.2**	**-0.1**
ALT	**Altintas**	**1.36**	**32**	*e*Pn	**Pb**	**14 49 18.2**	**-0.1**
TVSB	**Tavsanli**	**1.56**	**8**	*e*PN	**Pn**	**14 49 21.1**	**+0.5**
TVSB	**Tavsanli**	**1.56**	**8**	*e*Pn	**Pn**	**14 49 21.1**	**+0.5**

*IDC **16** 14:55:29.3±0.7, 3°.55N×126°.51E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, Error ellipse: s-maj=49.4km s-min=13.8km az=76.0*
*ISCJB **16** 14:55:34.6±0.5, 3°.63N±0°.06×126°.9E±0°.1, h48km, mb4.0/11, Error ellipse: s-maj=15.8km s-min=6.2km az=156.7*
*DJA **16** 14:55:41.4±2.5, 3°N±25°×12°7E±°, h30km, M4.1/3, mb4.3/2, MLv4.0/3*
ISC 16 14:55:36.2±0.7, 3°.65N±0°.09×126°.9E±0°.1, h48km, n20, σ1°29/21, mb3.9/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.89**	**171**	P	**Pn**	**14 56 19.5**	**-0.2**
MNI	**Manado**	**3.02**	**224**	P	**Pn**	**14 56 22.6**	**+1.0**
LBMI	**Labuha**	**4.29**	**172**	P	**Pn**	**14 56 39.4**	**+0.4**
CTBH	**Cotabato--PC H**	**4.45**	**323**	*i* eP	**Pn**	**14 56 42.6**	**+1.5**
BUKP	**Musuan**	**4.60**	**336**	*e*P	**Pn**	**14 56 45.2**	**+1.9**
BUKP				*e*S	Px	14 57 01.7	
PAGZ	**Pagadian**	**5.47**	**320**	*e*P	**Pn**	**14 56 55.4**	**+0.2**
IPIL	**Ipil**	**5.98**	**314**	*e*P	**Pn**	**14 57 03.3**	**+1.1**
SWI	**Sorong**	**6.22**	**136**	P	**Pn**	**14 57 07.9**	**+2.4**
	22nm,0.9s						
FAKI	**Fak Fak**	**8.41**	**141**	P	**Pn**	**14 57 37.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P	**P**	**15 00 21.2**	**-1.5**
	1.7nm,0.5s,baz=326,slow=13,SNR=12						
WRA	**Warramunga Arr**	**24.54**	**163**	P	**P**	**15 00 50.4**	**-1.1**
	3.2nm,0.5s,baz=343,slow=10,SNR=26						
ASAR	**Alice Springs**	**27.98**	**166**	P	**P**	**15 01 22.3**	**-0.3**
	0.2nm,0.3s,baz=349,slow=13,SNR=15						
ASAR				PcP	**PcP**	**15 04 37.9**	**+0.9**
	0.4nm,0.4s,baz=350,slow=2.0,SNR=8.4						
KSRS	**Korea Array**	**33.66**	**1**	P	**P**	**15 02 13.5**	**+1.1**
	1.0nm,0.7s,baz=184,slow=10.0,SNR=3.6						
STKA	**Stephens Creek**	**37.98**	**160**	P	**P**	**15 02 49.2**	**-0.3**
	0.9nm,0.5s,baz=334,slow=11,SNR=6.0						
ASAJ	**Asahikawa**	**42.61**	**17**	P	**P**	**15 03 28.9**	**+1.2**
	5.4nm,0.7s,baz=223,slow=7.2,SNR=6.6						
SONM	**Songino Array**	**47.44**	**341**	P	**P**	**15 04 05.4**	**-0.8**
	0.2nm,0.3s,baz=156,slow=6.9,SNR=8.4						
KURBB	**Kurchatov Arra**	**61.92**	**327**	P	**P**	**15 05 49.8**	**-1.1**
	2.5nm,0.6s,baz=131,slow=6.6,SNR=31						
BVAR	**Borovoye Array**	**67.50**	**327**	P	**P**	**15 06 26.0**	**-1.2**
	0.3nm,0.4s,baz=131,slow=6.7,SNR=3.8						
AKTO	**Akhinsk**	**73.85**	**322**	P	**P**	**15 07 04.9**	**-1.0**
	1.3nm,0.7s,baz=122,slow=3.5,SNR=7.2						
ARCES	**ARCESS Array B**	**90.60**	**340**	P	**P**	**15 08 32.2**	**-0.8**
	3.5nm,0.8s,baz=69,slow=6.6,SNR=7.8						

*SZGRF **16** 15:22:25.6, 53°.93N×38°.21W, h33km, mb4.5, North Atlantic Ocean*
*MOS **16** 15:22:38.0±0.9, 55°.64N×34°.96W, h10km, mb4.9/44, Error ellipse: s-maj=9.0km s-min=7.3km az=138.5*
*ISCJB **16** 15:22:38.6±0.1, 55°.59N±0°.05×34°.99W±0°.03, h14km, mb4.6/96, MS4.8/6, Error ellipse: s-maj=6.9km s-min=2.4km az=1.0*
*IDC **16** 15:22:38.1±0.5, 55°.61N×34°.93W, h0km, mb4.3/26, mb1 4.4/28, mb1mx4.3/35, mbtmp4.3/28, ML3.6/2, MS4.6/2, Ms1 4.6/2, ms1mx4.0/55, Error ellipse: s-maj=15.8km s-min=9.9km az=4.0*
*BJI **16** 15:22:38.4, 56°.22N×35°.72W, h11km, mB5.4/11, mb4.7/22, Ms5.1/7, Ms7 4.9/7*
*CSEM **16** 15:22:38.3±0.1, 55°.66N×34°.97W, h2km, mb4.8/57, Error ellipse: s-maj=8.5km s-min=4.0km az=7.0*
*NEIC **16** 15:22:39.8±0.2, 55°.63N×34°.96W, h10km, mb4.8/47, Error ellipse: s-maj=8.4km s-min=3.7km az=189.0*
ISC 16 15:22:40.6±0.4, 55°.64N±0°.07×35°.02W±0°.04, h14km, n509, σ1°09/529, mb4.7/97, MS4.8/6, 101C-85D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.37**	**31**	Pn	Pn	15 25 27.7	+5.4
	1.3nm,0.3s,baz=243,slow=4.5,SNR=4.7						
BORG	**Borgarnes**	**11.37**	**31**	Pn	Pn	15 25 27.7	+5.4
SFJD	**Kangerlussuaq**	**13.58**	**333**	LR	LR	15 30 12.9	
	comp=Z,4µm,21.2s,baz=52,slow=33						
SUMG	**Summit**	**17.07**	**356**	*e*P	**Pn**	**15 26 37.9**	**-0.9**
SUMG				pmax	pmax		
	comp=Z,78nm,1.6s						
SUMG	**Summit**	**17.07**	**356**	*e*P	**Pn**	**15 26 37.9**	**-0.9**
	comp=Z,78nm,1.6s						
SUMG	**Summit**	**17.07**	**356**	*i* P	**Pn**	**15 26 38.3**	**-0.5**
	comp=Z,9.0nm,0.8s						
SUMG	**Summit**	**17.07**	**356**	*i* P	**Pn**	**15 26 38.4**	**-0.4**
	comp=Z,9.0nm,0.8s,SNR=40						
ESK	**Eskdalemuir**	**17.96**	**78**	P	**Pn**	**15 26 48.5**	**-1.0**
ESK				pmax	pmax		
	comp=Z,35nm,1.4s						
ESK	**Eskdalemuir**	**17.96**	**78**	P	**Pn**	**15 26 48.5**	**-1.0**
	comp=Z,35nm,1.4s						
ESK	**Eskdalemuir**	**17.96**	**78**	P	**Pn**	**15 26 48.5**	**-1.0**
	comp=Z,35nm,1.4s						
SCHQ	**Schefferville**	**18.08**	**281**	P	**Pn**	**15 26 50.1**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=83,slow=8.3,SNR=23						
SCHQ	**Schefferville**	**18.08**	**281**	*e*P	**Pn**	**15 26 49.9**	**-1.2**
	comp=Z,37nm,1.1s						
SCHQ	**Schefferville**	**18.08**	**281**	*e*P	**Pn**	**15 26 49.9**	**-1.2**
	comp=Z,37nm,1.1s						
FRB	**Frobisher Bay**	**18.56**	**310**	P	**P**	**15 26 56.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=103,slow=12,SNR=6.2						
FRB	**Frobisher Bay**	**18.56**	**310**	P	**P**	**15 26 56.1**	**-0.5**
FRB	**Frobisher Bay**	**18.56**	**310**	P	**P**	**15 26 56.1**	**-0.5**
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 27 21.7**	**+1.3**
	comp=Z,90nm,1.3s						
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 27 21.7**	**+1.3**
ROSF				pmax	pmax		
	comp=Z,90nm,1.3s						
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 27 21.7**	**+1.3**
	comp=Z,90nm,1.3s						

ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 27 21.7**	**+1.3**
	comp=Z,90nm,1.3s						
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 27 23.6**	**+0.1**
	comp=Z,61nm,1.2s						
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 27 23.6**	**+0.1**
QUIF				pmax	pmax		
	comp=Z,61nm,1.2s						
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 27 23.6**	**+0.1**
	comp=Z,61nm,1.2s						
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 27 23.6**	**+0.1**
	comp=Z,61nm,1.2s						
SGMF	**Saint Gilles**	**21.18**	**97**	*e*P	**P**	**15 27 23.6**	**-1.6**
	comp=Z,53nm,1.2s						
SGMF	**Saint Gilles**	**21.18**	**97**	*e*P	**P**	**15 27 23.6**	**-1.6**
SGMF				pmax	pmax		
	comp=Z,53nm,1.2s						
SGMF	**Saint Gilles**	**21.18**	**97**	*e*P	**P**	**15 27 23.6**	**-1.6**
	comp=Z,53nm,1.2s						
SGMF	**Saint Gilles**	**21.18**	**97**	*e*P	**P**	**15 27 23.6**	**-1.6**
	comp=Z,53nm,1.2s						
DAG	**Danmarks Havn**	**22.05**	**10**	*i* P	**P**	**15 27 35.9**	**+1.5**
	comp=Z,100nm,1.1s						
GRR	**Gorron**	**22.06**	**95**	*e*P	**P**	**15 27 33.8**	**-0.9**
	comp=Z,44nm,1.1s						
GRR	**Gorron**	**22.06**	**95**	*e*P	**P**	**15 27 33.8**	**-0.9**
GRR				pmax	pmax		
	comp=Z,44nm,1.1s						
GRR	**Gorron**	**22.06**	**95**	*e*P	**P**	**15 27 33.8**	**-0.9**
	comp=Z,44nm,1.1s						
GRR	**Gorron**	**22.06**	**95**	*e*P	**P**	**15 27 33.8**	**-0.9**
	comp=Z,44nm,1.1s						
FLN	**La Foliniere**	**22.08**	**94**	*e*P	**P**	**15 27 34.3**	**-0.6**
	comp=Z,103nm,1.4s						
FLN	**La Foliniere**	**22.08**	**94**	*e*P	**P**	**15 27 34.3**	**-0.6**
FLN				pmax	pmax		
	comp=Z,103nm,1.4s						
FLN	**La Foliniere**	**22.08**	**94**	*e*P	**P**	**15 27 34.3**	**-0.6**
	comp=Z,103nm,1.4s						
FLN	**La Foliniere**	**22.08**	**94**	*e*P	**P**	**15 27 34.3**	**-0.6**
	comp=Z,103nm,1.4s						
LDF	**La Druitiere**	**22.37**	**94**	*e*P	**P**	**15 27 36.8**	**-1.2**
	comp=Z,48nm,1.3s						
LDF	**La Druitiere**	**22.37**	**94**	*e*P	**P**	**15 27 36.8**	**-1.2**
LDF				pmax	pmax		
	comp=Z,49nm,1.3s						
LDF	**La Druitiere**	**22.37**	**94**	*e*P	**P**	**15 27 36.8**	**-1.2**
	comp=Z,48nm,1.3s						
LDF	**La Druitiere**	**22.37**	**94**	*e*P	**P**	**15 27 36.8**	**-1.2**
	comp=Z,48nm,1.3s						
MFF	**Saint Martin d**	**23.46**	**98**	*e*P	**P**	**15 27 47.1**	**-2.2**
	comp=Z,18nm,0.9s						
MFF	**Saint Martin d**	**23.46**	**98**	*e*P	**P**	**15 27 47.1**	**-2.2**
MFF				pmax	pmax		
	comp=Z,18nm,0.9s						
MFF	**Saint Martin d**	**23.46**	**98**	*e*P	**P**	**15 27 47.1**	**-2.2**
	comp=Z,18nm,0.9s						
MFF	**Saint Martin d**	**23.46**	**98**	*e*P	**P**	**15 27 47.1**	**-2.2**
	comp=Z,18nm,0.9s						
MTE	**Manteigas**	**23.66**	**119**	*e*P	**P**	**15 27 52.0**	**+0.6**
	comp=Z,74nm,1.8s						
MTE	**Manteigas**	**23.66**	**119**	*e*P	**P**	**15 27 52.0**	**+0.6**
	comp=Z,74nm,1.8s						
NB2	**NORSAR Subarra**	**24.43**	**58**	P	**P**	**15 27 58.1**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=282,slow=11						
NB2	**NORSAR Subarra**	**24.43**	**58**	P	**P**	**15 27 58.1**	**-0.4**
	comp=Z,5.6nm,1.0s,SNR=4.7						
NOA	**NORSAR Array B**	**24.43**	**58**	P	**P**	**15 27 57.1**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=296,slow=8.8,SNR=4.8						
NOA	**NORSAR Array B**	**24.43**	**58**	P	**P**	**15 27 57.1**	**-1.3**
NOA	**NORSAR Array B**	**24.43**	**58**	P	**P**	**15 27 57.1**	**-1.3**
EVOP	**Sao Brissos**	**24.82**	**122**	*e*P	**P**	**15 28 01.2**	**-0.9**
EVOP	**Sao Brissos**	**24.82**	**122**	*e*P	**P**	**15 28 01.2**	**-0.9**
EVOP	**Sao Brissos**	**24.82**	**122**	*e*P	**P**	**15 28 01.2**	**-0.9**
EVO	**Evora**	**24.87**	**122**	*e*P	**P**	**15 28 01.2**	**-1.4**
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P	**P**	**15 28 02.8**	**-0.6**
	comp=Z,16nm,1.0s						
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P	**P**	**15 28 02.8**	**-0.6**
TCF				pmax	pmax		
	comp=Z,16nm,1.0s						
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P	**P**	**15 28 02.8**	**-0.6**
	comp=Z,16nm,1.0s						
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P	**P**	**15 28 02.8**	**-0.6**
	comp=Z,16nm,1.0s						
RJF	**Les Rejaudoux**	**25.16**	**99**	*e*P	**P**	**15 28 04.3**	**-0.8**
	comp=Z,12nm,1.0s						
RJF	**Les Rejaudoux**	**25.16**	**99**	*e*P	**P**	**15 28 04.3**	**-0.8**
RJF				pmax	pmax		
	comp=Z,12nm,1.0s						
RJF	**Les Rejaudoux**	**25.16**	**99**	*e*P	**P**	**15 28 04.3**	**-0.8**
	comp=Z,12nm,1.0s						
RJF	**Les Rejaudoux**	**25.16**	**99**	*e*P	**P**	**15 28 04.3**	**-0.8**
	comp=Z,12nm,1.0s						
BGF	**Bois d'Agland**	**25.17**	**95**	*e*P	**P**	**15 28 04.0**	**-1.2**
BGF	**Bois d'Agland**	**25.17**	**95**	*e*P	**P**	**15 28 04.0**	**-1.2**
BGF	**Bois d'Agland**	**25.17**	**95**	*e*P	**P**	**15 28 04.0**	**-1.2**
BGF	**Bois d'Agland**	**25.17**	**95**	*e*P	**P**	**15 28 04.0**	**-1.2**
SSF	**Saint Saulge**	**25.25**	**94**	*e*P	**P**	**15 28 05.1**	**-0.9**
	comp=Z,29nm,1.2s						
SSF	**Saint Saulge**	**25.25**	**94**	*e*P	**P**	**15 28

GRF pmax pmax
comp=Z,8.0nm,0.9s
GRF Grafenberg Arr 28.23 83 *eP* **P 15 28 33.5 +0.7**
comp=Z,8.0nm,0.9s
RES Resolute Bay 29.58 332 P **P 15 28 44.6 +0.2**
comp=Z,3.8nm,1.0s,baz=95,slow=9.6,SNR=9.4
RES Resolute Bay 29.58 332 *eP* **P 15 28 45.0 +0.6**
comp=Z,6.7nm,1.1s
RES Resolute Bay 29.58 332 *eP* **P 15 28 45.0 +0.6**
comp=Z,6.7nm,1.1s
ARCES ARCESS Array B 29.64 38 P **P 15 28 43.9 -1.1**
comp=Z,3.8nm,0.9s,baz=277,slow=9.7,SNR=4.8
ARCES ARCESS Array B 29.64 38 P **P 15 28 43.9 -1.1**
ARCES ARCESS Array B 29.64 38 P **P 15 28 43.9 -1.1**
SADO Sadowa 29.77 267 P **P 15 28 45.5 -0.9**
comp=Z,7.7nm,0.9s,baz=76,slow=11,SNR=5.5
SADO Sadowa 29.77 267 P **P 15 28 45.5 -0.9**
SADO Sadowa 29.77 267 P **P 15 28 45.5 -0.9**
KHC Kasperske Hory 29.84 82 *eP* **P 15 28 47.9 +0.8**
KHC Kasperske Hory 29.84 82 *eP* **P 15 28 47.9 +0.8**
KHC Kasperske Hory 29.84 82 *eP* **P 15 28 47.9 +0.8**
GERES GERESS Array B 30.06 82 P **P 15 28 46.7 -2.4**
comp=Z,1.2nm,0.9s,baz=324,slow=8.3,SNR=8.5
GERES GERESS Array B 30.06 82 P **P 15 28 46.7 -2.4**
GERES GERESS Array B 30.06 82 P **P 15 28 46.7 -2.4**
DPC Dobruska-Polom 30.75 78 *eP* **P 15 28 55.4 +0.3**
DPC Dobruska-Polom 30.75 78 *eP* **P 15 28 55.4 +0.3**
DPC Dobruska-Polom 30.75 78 *eP* **P 15 28 55.4 +0.3**
KAF Kangasniemi 31.25 53 *eP* **P 15 28 57.4 -1.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s
KAF Kangasniemi 31.25 53 *ep* **P 15 28 57.4 -1.9**
comp=Z,8.5nm,0.7s
KAF Kangasniemi 31.25 53 *eP* **P 15 28 57.4 -1.9**
comp=Z,9.0nm,0.7s
FINES FINESS Array B 31.34 54 P **P 15 28 58.5 -1.6**
comp=Z,4.4nm,0.8s,baz=292,slow=10,SNR=7.7
FINES FINESS Array B 31.34 54 P **P 15 28 58.5 -1.6**
FINES FINESS Array B 31.34 54 P **P 15 28 58.5 -1.6**
VYHS Vyhne 33.12 79 *eP* **P 15 29 16.1 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.6s
VYHS Vyhne 33.12 79 *eP* **P 15 29 16.1 +0.2**
VYHS Vyhne 33.12 79 *eP* **P 15 29 16.1 +0.2**
comp=Z,5.0nm,1.6s
JOF Joensuu 33.22 50 *eP* P 15 29 12.8 -3.8
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 33.22 50 *ep* P 15 29 12.8 -3.8
comp=Z,2.5nm,0.7s
CRVS Cervenica-Dubn 34.36 77 *eP* **P 15 29 26.8 +0.2**
CRVS pmax pmax
comp=Z,7.0nm,1.3s
CRVS Cervenica-Dubn 34.36 77 *eP* **P 15 29 26.8 +0.2**
CRVS Cervenica-Dubn 34.36 77 *eP* **P 15 29 26.8 +0.2**
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 34.79 77 *eP* **P 15 29 30.8 +0.4**
KOLS pmax pmax
comp=Z,4.0nm,1.4s
KOLS Kolonicke sedl 34.79 77 *eP* **P 15 29 30.8 +0.4**
KOLS Kolonicke sedl 34.79 77 *eP* **P 15 29 30.8 +0.4**
comp=Z,4.0nm,1.4s
EYMN Ely 34.89 281 *eP* **P 15 29 30.8 -0.4**
comp=Z,13nm,0.9s
EYMN Ely 34.89 281 *eP* **P 15 29 30.8 -0.4**
comp=Z,13nm,0.9s
UZH Uzhgorod 34.97 77 *eP* **P 15 29 29.4 -2.5**
UZH Uzhgorod 34.97 77 *eP* **P 15 29 29.4 -2.5**
TMCR Tamitsa 35.63 46 *eP* **P 15 29 37.0 -0.4**
TMCR pmax pmax
comp=Z,40nm,0.5s
TMCR Tamitsa 35.63 46 *eP* **P 15 29 37.0 -0.4**
comp=Z,40nm,0.5s
ULM Lac du Bonnet 36.02 288 P **P 15 29 39.4 -1.5**
comp=Z,11nm,0.9s,baz=66,slow=7.8,SNR=9.9
ULM Lac du Bonnet 36.02 288 P **P 15 29 39.4 -1.5**
ULM Lac du Bonnet 36.02 288 P **P 15 29 39.4 -1.5**
KEST Kesra 36.03 105 P **P 15 29 40.8 -0.4**
comp=Z,1.5nm,0.9s,baz=60,slow=14,SNR=3.3
KEST Kesra 36.03 105 P **P 15 29 40.8 -0.4**
KEST Kesra 36.03 105 P **P 15 29 40.8 -0.4**
FFC Flin Flon 36.90 297 *i* P **P 15 29 48.9 +0.5**
FFC Flin Flon 36.90 297 *i* P **P 15 29 48.9 +0.5**
SFIN Scholer Farm 37.08 268 ⇓P **P 15 29 49.3 -0.8**
baz=37
BUR08 Bucovina Ar. S 37.13 76 *eP* **P 15 29 51.1 +0.5**
BUR08 Bucovina Ar. S 37.13 76 *eP* **P 15 29 51.1 +0.5**
SPMN St. Paul 37.21 279 ⇓P **P 15 29 50.0 -1.1**
baz=37
KMSC Kings Mountain 37.54 257 ⇓P **P 15 29 53.7 -0.3**
baz=38
KIEV Kiev 37.59 70 *eP* **P 15 29 53.4 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 37.59 70 *eP* **P 15 29 53.4 -0.8**
comp=Z,7.8nm,0.8s
KIEV Kiev 37.59 70 *eP* **P 15 29 53.4 -0.8**
comp=Z,7.8nm,0.8s
AK01 Malin Array Si 37.59 70 *eP* **P 15 29 53.4 -0.8**
AK01 Malin Array Si 37.59 70 *eP* **P 15 29 53.4 -0.8**
AKASG Malin Array Be 37.59 70 P **P 15 29 51.9 -2.3**
comp=Z,5.3nm,0.8s,baz=304,slow=8.4,SNR=16
AKASG Malin Array Be 37.59 70 *ce* **P 15 29 53.7 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 37.59 70 P **P 15 29 51.9 -2.3**
AKASG Malin Array Be 37.59 70 *eP* **P 15 29 53.7 -0.6**
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 37.60 51 *eP* **P 15 29 53.2 -1.0**
KLMR pmax pmax
comp=Z,57nm,1.7s
KLMR Klimovskoe 37.60 51 *eP* **P 15 29 53.2 -1.0**
comp=Z,57nm,1.7s
AK02 Malin Array Si 37.60 70 *eP* **P 15 29 53.5 -0.9**
AK02 Malin Array Si 37.60 70 *eP* **P 15 29 53.5 -0.9**
YKW3 Yellowknife Ar 38.98 314 *eP* **P 15 30 05.3 -0.5**
comp=Z,0.2nm,1.2s
YKW3 Yellowknife Ar 38.98 314 *eP* **P 15 30 05.3 -0.5**
comp=Z,0.2nm,1.2s
YKA Yellowknife Ar 39.00 313 P **P 15 30 05.9 0.0**
comp=Z,1.4nm,0.7s,baz=61,slow=9.0,SNR=30
YKA PcP **PcP 15 32 15.8 -0.1**
comp=Z,0.6nm,0.8s,baz=55,slow=3.2,SNR=5.7
YKA Yellowknife Ar 39.00 313 P **P 15 30 06.0 0.0**
YKA PcP **PcP 15 32 15.8 -0.1**
YKA Yellowknife Ar 39.00 313 P **P 15 30 06.0 0.0**
OBN Obninsk 39.01 60 ⇓*i* *e* P **P 15 30 05.8 -0.3**
OBN 15 31 38.3
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,700nm,16.0s
OBN Obninsk 39.01 60 *i* P **P 15 30 05.8 -0.3**
comp=Z,15nm,1.0s
SIUC Southern Illin 40.11 267 P **P 15 30 17.1 +1.6**
comp=Z,16nm,0.6s
SIUC Southern Illin 40.11 267 P **P 15 30 17.1 +1.6**
comp=Z,16nm,0.6s
A24A Westby 41.13 291 ⇑P **P 15 30 23.0 -0.9**
baz=41
A23A Redstone 41.57 291 ⇑P **P 15 30 26.6 -0.9**
baz=41
B23A Brockton 41.93 291 ⇑P **P 15 30 32.3 +1.9**
baz=42
C24A Savage 42.20 289 ⇓P **P 15 30 32.7 +0.1**
baz=42
C23A Lambert 42.43 290 ⇓P **P 15 30 35.9 +1.3**
baz=42,SNR=6.5
VSR Storozhevoye 42.47 64 *eP* **P 15 30 33.8 -1.0**
VSR Storozhevoye 42.47 64 *eP* **P 15 30 33.8 -1.0**
OXF Oxford 42.51 264 P **P 15 30 34.2 -1.0**
OXF pmax pmax
comp=Z,33nm,0.9s
OXF Oxford 42.51 264 P **P 15 30 34.2 -1.0**
comp=Z,33nm,0.9s
OXF Oxford 42.51 264 P **P 15 30 34.2 -1.0**
comp=Z,33nm,0.9s
A21A Bergtoll Ranch 42.63 292 ⇑P **P 15 30 36.4 +0.3**
baz=42
VORD Divnogorie 42.69 64 *eP* **P 15 30 36.2 -0.3**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 42.69 64 *eP* **P 15 30 36.2 -0.3**
D23A Lindsay 42.83 289 ⇑P **P 15 30 38.5 +0.7**
baz=43
C22A Vida 42.84 290 ⇑P **P 15 30 38.3 +0.4**
baz=43
B21A Ellsworth Farm 43.02 292 ⇓P **P 15 30 40.1 +0.8**
baz=43
D22A Cohagen 43.37 290 ⇓P **P 15 30 43.4 +1.2**
baz=43,SNR=5.4
B20A Solberg Farm, 43.54 292 ⇑P **P 15 30 44.1 +0.5**
baz=43
A19A Klindworth Far 43.62 293 ⇓P **P 15 30 44.1 0.0**
baz=44
E22A Miles City 43.69 289 ⇓P **P 15 30 46.0 +1.2**
baz=44,SNR=6.8
VRHR Novokhopersk 43.79 62 *eP* **P 15 30 44.1 -1.3**
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=Z,7.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.3s
VRHR Novokhopersk 43.79 62 *eP* **P 15 30 44.1 -1.3**
D21A La Casta Ranch 43.85 290 ⇑P **P 15 30 46.9 +0.8**
baz=44
C20A Veseth Ranch, 43.98 292 ⇓P **P 15 30 47.5 +0.4**
baz=44
H24A Dirks Ranch, A 44.01 286 ⇑P **P 15 30 47.7 +0.3**
baz=44,SNR=9.6
F22A Rosebud 44.27 288 ⇓P **P 15 30 50.2 +0.7**
baz=44
D20A Manuel Ranch, 44.44 291 ⇑P **P 15 30 51.7 +0.9**
baz=44,SNR=5.7
C19A Slack Wire Ran 44.52 292 ⇑P **P 15 30 51.5 +0.1**
baz=44,SNR=5.2
G22A Birney 44.65 288 ⇑P **P 15 30 52.7 +0.1**
baz=44
EGMT Eagleton 44.71 293 *eP* **P 15 30 51.9 -1.0**
comp=E,36nm,1.0s
EGMT Eagleton 44.71 293 ⇑P **P 15 30 52.9 0.0**
baz=44,SNR=5.6
EGMT Eagleton 44.71 293 *eP* **P 15 30 51.9 -1.0**
comp=E,36nm,1.0s
D19A Cripps Ranch, 44.79 292 ⇓P **P 15 30 54.1 +0.5**
baz=45,SNR=6.6
E20A Meyer Farm, Mu 44.81 290 ⇓P **P 15 30 53.7 -0.1**
baz=45
B17A L&G Farms, Che 45.08 294 ⇑P **P 15 30 56.2 +0.3**
baz=45,SNR=5.0
E19A Rath Farm, Rou 45.19 291 ⇓P **P 15 30 56.3 -0.5**
baz=45
D18A Linhart Farms, 45.26 292 ⇑P **P 15 30 58.0 +0.7**
baz=45,SNR=5.8
C17A Wharram Farm, 45.48 293 ⇑P **P 15 30 59.6 +0.6**
baz=45,SNR=13
ANN Anapa 45.56 72 *eP* P 15 31 04.3 +4.7
ANN pmax pmax
comp=Z,92nm,1.4s
ANN MLR MLR
comp=Z,559nm,14.0s
SOKR Solikamsk 45.58 45 *eP* **P 15 31 00.1 +0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR Solikamsk 45.58 45 *eP* **P 15 31 00.1 +0.5**
comp=Z,20nm,1.0s
I22A 9 Mile Ranch, 45.62 286 ⇓P **P 15 31 00.3 0.0**
baz=46
A15A Johnson Ranch, 45.64 296 ⇓P **P 15 30 59.4 -1.0**
baz=46
F19A Roth Farm, Mol 45.66 290 ⇑P **P 15 31 00.4 -0.2**
baz=46
G20A Bridger 45.69 289 ⇑P **P 15 31 00.3 -0.5**
baz=46,SNR=5.0
E18A Harlowton 45.72 291 ⇓P **P 15 30 59.7 -1.3**
baz=46
D17A Six Diamond Ra 45.75 293 ⇓P **P 15 31 00.2 -1.1**
baz=46
C16A Fuhringer Ranc 45.88 294 ⇓P **P 15 31 03.0 +0.7**
baz=46
B15A Bradely Ranch, 45.98 295 ⇓P **P 15 31 02.2 -0.9**
baz=46
A14A Double T Ranch 46.00 296 ⇓P **P 15 31 03.5 +0.3**
baz=46,SNR=5.7
F18A Big Timber 46.04 291 ⇑P **P 15 31 02.4 -1.2**
baz=46
H20A Greybull 46.05 288 ⇑P **P 15 31 03.5 -0.1**
baz=46
GCMT Greycliff 46.09 291 *eP* **P 15 31 04.0 0.0**
comp=Z,5.4nm,0.9s
GCMT Greycliff 46.09 291 *eP* **P 15 31 04.0 0.0**
comp=Z,5.4nm,0.9s
I21A Big Trails, Te 46.12 287 ⇓P **P 15 31 04.0 -0.2**
baz=46,SNR=13
D16A Dana Ranch, Ca 46.28 293 ⇑P **P 15 31 06.3 +0.9**
baz=46,SNR=7.5
E17A Martinsdale 46.28 292 ⇑P **P 15 31 06.2 +0.7**
baz=46,SNR=5.2
B14A Marquette Ranc 46.31 295 ⇑P **P 15 31 04.7 -1.0**
baz=46
RLMT Red Lodge 46.31 290 ⇓P **P 15 31 04.8 -1.0**
baz=46
G18A Lazy EL Ranch, 46.34 290 ⇑P **P 15 31 05.7 -0.4**
baz=46
C15A Salmond Ranch, 46.35 294 ⇓P **P 15 31 05.0 -1.0**
baz=46
H19A Powell 46.46 289 ⇓P **P 15 31 06.1 -0.8**
baz=46
I20A Worland 46.48 288 ⇑P **P 15 31 06.5 -0.5**
baz=46
J21A Lysite 46.51 287 ⇑P **P 15 31 06.9 -0.5**
baz=46
A13A Flathead Natio 46.53 297 ⇑P **P 15 31 08.0 +0.6**
baz=46,SNR=6.4
F17A Fitzpatrick Pl 46.54 291 ⇑P **P 15 31 06.9 -0.6**
baz=46
E16A East Helena 46.67 293 ⇓P **P 15 31 09.0 +0.5**
baz=46,SNR=12
D15A Lincoln 46.78 294 ⇓P **P 15 31 10.3 +0.9**
baz=47,SNR=7.6
J20A Shoshoni 46.85 287 ⇑P **P 15 31 09.4 -0.5**
baz=47
BR131 Keskin Array S 46.88 80 *eP* **P 15 31 10.2 -0.1**
comp=Z,4.1nm,0.7s
BR131 Keskin Array S 46.88 80 *eP* **P 15 31 10.2 -0.1**
comp=Z,4.1nm,0.7s
BRTR Keskin Array B 46.88 80 P **P 15 31 11.2 +0.9**
comp=Z,6.0nm,0.8s,baz=317,slow=5.4,SNR=26
BRTR Keskin Array B 46.88 80 P **P 15 31 11.2 +0.9**
BRTR Keskin Array B 46.88 80 *eP* **P 15 31 11.1 +0.9**
comp=Z,6.0nm,0.8s
I19A Meeetse 46.89 288 ⇑P **P 15 31 09.8 -0.5**
baz=47
B13A Whitefish 46.91 296 ⇓P **P 15 31 09.4 -1.0**
baz=47
BOZ Bozeman (W) 47.22 292 *eP* **P 15 31 13.5 +0.6**
BOZ pmax pmax
comp=Z,15nm,1.0s
BOZ Bozeman (W) 47.22 292 *eP* **P 15 31 13.5 +0.6**
comp=Z,15nm,1.0s
BOZ Bozeman (W) 47.22 292 ⇑P **P 15 31 12.8 -0.1**
baz=47,SNR=17
BOZ Bozeman (W) 47.22 292 *eP* **P 15 31 13.5 +0.6**
comp=Z,15nm,1.0s
SWMT Swartz Lake 47.24 295 *eP* **P 15 31 12.3 -0.6**
comp=Z,15nm,1.3s
SWMT Swartz Lake 47.24 295 *eP* **P 15 31 12.3 -0.6**
comp=Z,15nm,1.3s
D14A Greenough 47.26 294 ⇑P **P 15 31 12.7 -0.4**
baz=47
R27A Eads 47.39 278 ⇓P **P 15 31 14.3 +0.1**
baz=47
C13A Hot Springs 47.42 296 ⇑P **P 15 31 13.7 -0.6**
baz=47
B12A Libby 47.42 297 ⇓P **P 15 31 13.6 -0.7**
baz=47
J19A Crowheart 47.43 288 ⇑P **P 15 31 13.7 -0.8**
baz=47
LRM Limekiln Ridge 47.54 292 *eP* **P 15 31 17.9 +2.4**
comp=Z,44nm,0.8s
LRM Limekiln Ridge 47.54 292 *eP* **P 15 31 17.9 +2.4**
comp=Z,44nm,0.8s
F15A Butte 47.55 292 ⇓P **P 15 31 14.9 -0.6**
baz=47,SNR=5.5
G16A Moss Hill, Enn 47.59 291 ⇓P **P 15 31 16.0 +0.2**
baz=47,SNR=5.3
K19A Absolon Red Bu 47.62 287 ⇑P **P 15 31 15.8 -0.2**
baz=48
M21A Separation Pea 47.63 285 ⇑P **P 15 31 16.5 +0.2**
baz=48,SNR=11
WMOK Wichita Mounta 47.65 272 *eP* **P 15 31 15.3 -0.9**
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 47.65 272 *eP* **P 15 31 15.3 -0.9**
comp=Z,9.4nm,0.9s
WMOK Wichita Mounta 47.65 272 *eP* **P 15 31 15.3 -0.9**
comp=Z,9.4nm,0.9s
E14A Clinton 47.69 294 ⇑P **P 15 31 17.1 +0.6**
baz=48,SNR=7.1
R26A Arlington 47.75 279 ⇑P **P 15 31 16.9 -0.1**
baz=48
Q25A Bedland, Calha 47.77 280 ⇑P **P 15 31 16.9 -0.4**
baz=48
L20A Wamsutter 47.90 286 ⇓P **P 15 31 17.9 -0.3**
baz=48
ISCO Idaho Springs 47.91 282 ⇑P **P 15 31 18.0 -0.5**
baz=48
J18A Kendall Valley 47.99 288 ⇓P **P 15 31 19.0 0.0**
baz=48
G15A Dillon 48.00 292 ⇓P **P 15 31 18.3 -0.7**
baz=48,SNR=5.6
E13A Victor 48.03 294 ⇑P **P 15 31 18.8 -0.4**
baz=48
BW06 Boulder Array 48.04 287 ⇓P **P 15 31 18.9 -0.5**
baz=48
PDAR Pinedale Array 48.04 287 P **P 15 31 18.8 -0.6**
comp=Z,6.8nm,1.0s,baz=68,slow=7.6,SNR=16
PDAR Pinedale Array 48.04 287 P **P 15 31 18.8 -0.6**
PDAR Pinedale Array 48.04 287 P **P 15 31 18.8 -0.6**
C11A Tepee Creek (N 48.17 297 ⇓P **P 15 31 19.3 -0.8**
baz=48,SNR=5.5
O22A Kremmling 48.18 283 ⇓P **P 15 31 19.8 -0.8**
baz=48,SNR=5.9
T27A Campo 48.21 277 ⇓P **P 15 31 20.1 -0.6**
baz=48
S26A Kim 48.24 278 ⇑P **P 15 31 20.4 -0.5**
baz=48
ARU Arti 48.30 48 *c* *iP* **P 15 31 21.6 +0.7**
ARU 15 33 11.9
ARU S **S 15 38 22.7 +2.8**
ARU SS **SS 15 41 46.0 -2.7**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 48.30 48 *eP* **P 15 31 21.1 +0.2**
comp=Z,27nm,1.3s
ARU Arti 48.30 48 *eP* **P 15 31 21.1 +0.2**
comp=Z,27nm,1.3s
ARU S **S 15 38 22.7 +2.8**
NEW Newport 48.33 298 ⇑P **P 15 31 21.2 -0.1**
baz=48
MCMT McKenzie Canyo 48.41 292 *eP* **P 15 31 23.7 +1.5**
comp=Z,5.0nm,1.2s
MCMT McKenzie Canyo 48.41 292 *eP* **P 15 31 23.7 +1.5**
comp=Z,5.0nm,1.2s
F13A Darby 48.54 293 ⇑P **P 15 31 22.6 -0.5**
baz=48
T26A Comanche Natio 48.62 278 ⇓P **P 15 31 23.8 0.0**
baz=48
Q23A Hartsel 48.66 281 ⇑P **P 15 31 23.8 -0.5**
baz=48
N20A Spence Gulch, 48.66 285 ⇓P **P 15 31 23.7 -0.5**
baz=48
P22A Eagle 48.69 282 ⇑P **P 15 31 23.3 -1.0**
baz=49
H14A Leadore 48.83 292 ⇓P **P 15 31 25.9 +0.6**
baz=49,SNR=5.2
SVE Sverdlovsk 48.90 47 *eP* **P 15 31 26.1 +0.6**
SVE pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 48.93 69 *eP* **P 15 31 26.2 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
G13A Cobalt 48.96 293 ⇑P **P 15 31 27.3 +0.9**
baz=49,SNR=6.6
K16A Soda Springs 49.09 289 ⇑P **P 15 31 26.8 -0.6**
baz=49
T25A Trinidad 49.11 278 ⇑P **P 15 31 27.8 +0.2**
baz=49
N19A John Jarvie Ra 49.12 285 ⇑P **P 15 31 27.4 -0.2**
baz=49
R23A Moffat 49.15 280 ⇑P **P 15 31 27.7 -0.3**
baz=49
J15A Blackfoot 49.16 290 ⇑P **P 15 31 29.4 +1.5**
baz=49,SNR=5.1
ILAR Eielson Array 49.18 328 P **P 15 31 28.2 +0.7**
comp=Z,11nm,1.1s,baz=39,slow=6.3,SNR=24
ILAR PcP **PcP 15 32 49.7 -0.8**
comp=Z,0.5nm,0.8s,baz=11,slow=2.6,SNR=3.6
ILAR Eielson Array 49.18 328 P **P 15 31 28.2 +0.7**
ILAR PcP **PcP 15 32 49.7 -0.8**
ILAR Eielson Array 49.18 328 P **P 15 31 28.2 +0.7**
ILAR Eielson Array 49.18 328 PcP **PcP 15 32 49.7 -0.8**
KBZ Khabaz 49.20 69 P **P 15 31 28.2 +0.3**
comp=Z,5.4nm,1.1s,baz=317,slow=11,SNR=5.6
KBZ Khabaz 49.20 69 P **P 15 31 28.3 +0.3**
KBZ Khabaz 49.20 69 P **P 15 31 28.2 +0.3**
KBZ Khabaz 49.20 69 P **P 15 31 28.2 +0.3**
U26A Atchley Ranch, 49.26 277 ⇑P **P 15 31 28.8 0.0**
baz=49
Q22A Crested Butte, 49.28 282 ⇓P **P 15 31 28.7 -0.4**
baz=49
H13A Challis 49.33 292 ⇓P **P 15 31 30.7 +1.5**
baz=49,SNR=6.1
N18A Larsen Ranch, 49.33 286 ⇑P **P 15 31 29.9 +0.6**
baz=49,SNR=5.2
I14A Mackay 49.34 291 ⇓P **P 15 31 30.4 +1.2**
baz=49,SNR=5.9
O19A Miners Draw (B 49.50 285 ⇑P **P 15 31 30.9 +0.4**
baz=49,SNR=17
M17A Scullys Gap (B 49.53 287 ⇑P **P 15 31 30.3 -0.5**
baz=49
U25A Circle Dot Ran 49.63 278 ⇑P **P 15 31 31.6 0.0**
baz=50
R22A Saguache, Gunn 49.65 281 ⇓P **P 15 31 31.3 -0.5**
baz=50
I13A Wildhorse Cree 49.70 291 ⇓P **P 15 31 31.1 -1.0**
baz=50,SNR=10.0
K15A Arbon 49.70 289 ⇓P **P 15 31 31.7 -0.3**
baz=50
J14A Carey 49.79 291 ⇓P **P 15 31 32.7 0.0**
baz=50
W27A Bowe Ranch, En 49.84 275 ⇑P **P 15 31 33.9 +0.9**
baz=50
P19A Cripple Cowboy 49.89 284 ⇓P **P 15 31 33.9 +0.3**
baz=50
HWUT Hardware Ranch 49.92 288 *eP* **P 15 31 33.7 0.0**
comp=Z,15nm,0.8s
HWUT Hardware Ranch 49.92 288 *eP* **P 15 31 33.7 0.0**
comp=Z,15nm,0.8s
Q20A Ridgley Place, 49.99 283 ⇑P **P 15 31 34.8 +0.5**
baz=50
R21A Cimarron 49.99 282 ⇑P **P 15 31 34.9 +0.6**
baz=50
S22A 4UR Ranch, Cre 50.03 281 ⇑P **P 15 31 35.3 +0.5**
baz=50
J13A Cove Ranch, Pi 50.08 291 ⇓P **P 15 31 36.2 +1.3**
baz=50,SNR=6.4
HLID Hailey 50.10 291 *eP* **P 15 31 35.8 +0.7**
comp=Z,6.1nm,0.8s
HLID Hailey 50.10 291 ⇓P **P 15 31 36.2 +1.2**
baz=50,SNR=6.3
HLID Hailey 50.10 291 *eP* **P 15 31 35.8 +0.7**
comp=Z,6.1nm,0.8s
K14A Jones Ranch, D 50.14 290 ⇑P **P 15 31 35.1 -0.2**
baz=50
V25A Rancho No Teng 50.15 277 ⇓P **P 15 31 35.4 -0.1**
baz=50
N16A Rees Ranch, Co 50.35 287 ⇑P **P 15 31 36.3 -0.7**
baz=50
O17A Robinson Place 50.46 286 ⇓P **P 15 31 37.0 -0.8**
baz=50
W25A X Bar L Ranch, 50.51 277 ⇑P **P 15 31 38.6 +0.3**
baz=50
MALT Malatya 50.53 78 *eP* **P 15 31 38.1 -0.2**
MALT pmax pmax
comp=Z,5.0nm,0.9s
MALT Malatya 50.53 78 *eP* **P 15 31 38.1 -0.2**
comp=Z,5.5nm,0.9s
MALT Malatya 50.53 78 *eP* **P 15 31 38.1 -0.2**
comp=Z,5.5nm,0.9s
T22A Edith 50.59 280 ⇑P **P 15 31 38.7 -0.3**
baz=50
S21A Coal Bank Pass 50.62 281 ⇓P **P 15 31 39.1 -0.1**
baz=50
332A Millersview 50.66 269 ⇑P **P 15 31 39.0 -0.2**
baz=51

PV01	**Paradox Valley**	50.72	282	*e*P		P	15 31 38.7	-1.2
	comp=Z,220nm,0.5s							
PV01	**Paradox Valley**	50.72	282	*e*P		P	15 31 38.7	-1.2
	comp=Z,220nm,0.5s							
TORD	**Torodi Ar. Bea**	51.02	131	P		P	15 31 40.2	-1.9
	comp=Z,4.9nm,0.9s,baz=336,slow=7.2,SNR=19							
TORD	**Torodi Ar. Bea**	51.02	131	P		P	15 31 40.2	-1.9
TORD	**Torodi Ar. Bea**	51.02	131	P		P	15 31 40.2	-1.9
W24A	**Lazy 6 Ranch,**	51.05	277	⇓P		P	15 31 42.9	+0.6
	baz=51,SNR=5.2							
432A	**Menard**	51.07	269	⇑P		P	15 31 42.6	+0.3
	baz=51							
SRU	**San Rafael**	51.10	285	⇓P		P	15 31 42.5	-0.2
	baz=51							
X25A	**Clemmons Ranch**	51.13	276	⇓P		P	15 31 42.8	0.0
	baz=51							
V22A	**San Miguel Ran**	51.38	279	⇓P		P	15 31 44.8	-0.1
	baz=51							
229A	**Bryant Ranch,**	51.40	272	⇓P		P	15 31 45.3	+0.4
	baz=51							
U21A	**Nageezi**	51.43	280	⇓P		P	15 31 45.5	+0.3
	baz=51							
330A	**Mertzon**	51.46	271	⇓P		P	15 31 45.4	+0.1
	baz=51							
DUG	**Dugway**	51.59	287	⇓P		P	15 31 47.2	+1.0
	baz=51							
Y25A	**Mesa, Roswell**	51.59	276	⇑P		P	15 31 47.0	+0.7
	baz=52,SNR=5.2							
Z26A	**Caprock**	51.66	275	⇓P		P	15 31 47.0	+0.1
	baz=52,SNR=5.6							
431A	**Sonora**	51.68	270	⇑P		P	15 31 46.7	-0.2
	baz=52							
532A	**Rocksprings**	51.70	269	⇑P		P	15 31 47.0	-0.1
	baz=52							
S18A	**Hurst Farm, Bl**	51.82	283	⇑P		P	15 31 49.3	+1.1
	baz=52,SNR=18							
329A	**Wagon Wheel Ra**	51.85	271	⇑P		P	15 31 47.4	-0.8
	baz=52							
Y24A	**Capitan**	52.00	276	⇑P		P	15 31 49.5	0.0
	baz=52							
531A	**Rocksprings**	52.03	269	⇑P		P	15 31 49.6	0.0
	baz=52							
632A	**Uvalde**	52.10	268	⇑P		P	15 31 50.6	+0.6
	baz=52							
126A	**Clayton Basin,**	52.15	274	⇓P		P	15 31 50.8	+0.3
	baz=52							
227A	**Bennet, Jal**	52.20	273	⇑P		P	15 31 51.3	+0.4
	baz=52							
U19A	**Dine' College,**	52.39	281	⇓P		P	15 31 52.7	+0.2
	baz=52							
MSU	**Marysvale**	52.44	285	*e*P		P	15 31 54.7	+2.0
MSU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MSU	**Marysvale**	52.44	285	*e*P		P	15 31 54.7	+2.0
	comp=Z,5.3nm,1.0s							
MSU	**Marysvale**	52.44	285	*e*P		P	15 31 54.7	+2.0
	comp=Z,5.3nm,1.0s							
530A	**J-C Ranch, Com**	52.49	270	⇑P		P	15 31 52.3	-0.7
	baz=52							
125A	**Gardner Draw,**	52.50	275	⇓P		P	15 31 52.4	-0.7
	baz=52							
BNM	**Barren Site**	52.51	277	*e*P		P	15 31 54.4	+1.1
	comp=Z,4.0nm,1.1s							
BNM	**Barren Site**	52.51	277	*e*P		P	15 31 54.4	+1.1
	comp=Z,4.0nm,1.1s							
GNI	**Garni**	52.68	72	*e*P		P	15 31 55.9	+1.5
	comp=Z,21nm,1.0s							
GNI	**Garni**	52.68	72	*e*P		P	15 31 55.9	+1.5
	comp=Z,21nm,1.0s							
428A	**Kincaid Ranch,**	52.82	271	⇑P		P	15 31 55.4	-0.1
	baz=53							
Y22A	**Socorro**	52.86	277	⇓P		P	15 31 55.3	-0.5
	baz=53							
124A	**Stringfield Ra**	52.92	275	⇑P		P	15 31 56.0	-0.3
	baz=53							
Z23A	**Rita Site, Whi**	52.94	276	⇑P		P	15 31 56.1	-0.2
	baz=53							
X21A	**Alamocita Cree**	52.94	278	⇑P		P	15 31 56.0	-0.6
	baz=53							
225A	**Deer Hill, Car**	53.00	274	⇑P		P	15 31 57.6	+0.7
	baz=53,SNR=11							
427A	**Hayter Ranch,**	53.13	272	⇓P		P	15 31 58.2	+0.4
	baz=53							
Y21A	**Point of Rocks**	53.20	278	⇑P		P	15 31 58.6	+0.2
	baz=53							
528A	**Cox Ranch, San**	53.30	271	⇑P		P	15 31 59.0	-0.1
	baz=53							
Z22A	**Elephant Butte**	53.36	277	⇑P		P	15 32 00.2	+0.7
	baz=53,SNR=10							
MNTX	**Cornudas Mount**	53.62	274	⇓P		P	15 32 01.2	0.0
	baz=54							
426A	**McDonald Obser**	53.63	272	⇓P		P	15 32 01.5	0.0
	baz=54,SNR=12							
R13A	**O'Grain Ranch,**	53.65	286	⇓P		P	15 32 00.8	-0.8
	baz=54							
Y20A	**Horse Springs,**	53.67	278	⇓P		P	15 32 01.7	-0.2
	baz=54							
527A	**Woodward Ranch**	53.78	272	⇓P		P	15 32 02.1	-0.5
	baz=54							
ABKAR	**Akbulak array**	53.83	54	*e*P		P	15 32 02.9	+0.3
	comp=Z,13nm,1.3s							
ABKAR	**Akbulak array**	53.83	54	*e*P		P	15 32 02.9	+0.3
	comp=Z,13nm,1.3s							
324A	**Moseley Ranch,**	53.87	274	⇑P		P	15 32 02.5	-0.7
	baz=54							
628A	**Black Gap, Mar**	53.87	271	⇑P		P	15 32 02.3	-0.8
	baz=54							
U15A	**North Rim**	54.00	284	⇑P		P	15 32 03.4	-1.0
	baz=54							
627A	**Terlingua Ranc**	54.18	271	⇑P		P	15 32 05.4	-0.1
	baz=54							
Z20A	**Nine Sixteen R**	54.38	278	⇓P		P	15 32 06.8	-0.2
	baz=54							
DBIC	**Dimbokro**	54.41	142	P		P	15 32 04.5	-2.5
	comp=Z,3.1nm,0.6s,baz=340,slow=4.4,SNR=4.7							
DBIC	**Dimbokro**	54.41	142	*e*P		P	15 32 07.2	+0.1
	comp=Z,31nm,1.5s							
DBIC	**Dimbokro**	54.41	142	*e*P		P	15 32 07.2	+0.1
	comp=Z,31nm,1.5s							
R11A	**Troy Canyon, C**	54.41	287	⇓P		P	15 32 06.8	-0.3
	baz=54,SNR=5.1							
TXAR	**Lajitas Array**	54.43	271	P		P	15 32 06.5	-0.8
	comp=Z,1.4nm,0.8s,baz=45,slow=7.3,SNR=8.6							
TXAR	**Lajitas Array**	54.43	271	P		P	15 32 06.5	-0.8
TXAR	**Lajitas Array**	54.43	271	P		P	15 32 06.5	-0.8
626A	**Big Bend Ranch**	54.52	272	⇑P		P	15 32 07.9	0.0
	baz=54							
LIC	**Lamto**	54.76	143	*e*P		P	15 32 08.1	-1.5
	comp=Z,30nm,1.1s							
LIC	**Lamto**	54.76	143	*e*P		P	15 32 08.1	-1.5
	comp=Z,30nm,1.1s							
LIC	**Lamto**	54.76	143	*e*P		P	15 32 08.1	-1.5
	comp=Z,30nm,1.1s							
X16A	**Lo Mia Camp, P**	55.01	281	⇑P		P	15 32 11.1	-0.4
	baz=55							
220A	**Playas Peak, P**	55.24	277	⇓P		P	15 32 12.6	-0.6
	baz=55							
BRVK	**Borovoye**	55.50	45	*d i*P		P	15 32 15.0	+0.5
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BRVK	**Borovoye**	55.50	45	*e*P		P	15 32 15.1	+0.5
	comp=Z,6.9nm,1.1s							
BRVK	**Borovoye**	55.50	45	*e*P		P	15 32 15.1	+0.5
	comp=Z,6.9nm,1.1s							
NVAR	**Mina Array Bea**	55.81	289	P		P	15 32 18.5	+1.2
	comp=Z,1.4nm,0.6s,baz=59,slow=6.8,SNR=11							
NVAR	**Mina Array Bea**	55.81	289	P		P	15 32 18.5	+1.2
NVAR	**Mina Array Bea**	55.81	289	P		P	15 32 18.5	+1.2
GRAC	**Grapevine Rang**	56.36	288	⇑P		P	15 32 20.7	-0.4
	baz=56							
CWC	**Cottonwood Cre**	57.16	288	⇑P		P	15 32 27.0	+0.1
	baz=57							
IRM	**Iron Mountain**	57.25	284	⇑P		P	15 32 27.3	-0.1
	baz=57							
HEC	**Hector,Ludlow**	57.40	285	⇓P		P	15 32 28.4	-0.1
	baz=57							
113A	**Mohawk Valley,**	57.53	282	⇑P		P	15 32 29.0	-0.2
	baz=57							
214A	**Organ Pipe Nat**	57.60	280	⇓P		P	15 32 29.4	-0.5
	baz=58							
LRMC	**Laurel Mountai**	57.66	287	⇓P		P	15 32 29.3	-1.1
	baz=58							
BC3	**Big Chuckawall**	57.80	284	⇓P		P	15 32 31.4	+0.1
	baz=58							
GLA	**Glamis**	57.90	283	⇓P		P	15 32 31.8	-0.2
	baz=58							
PFO	**Pinyon Flat Ob**	58.38	284	⇑P		P	15 32 36.0	+0.6
	baz=58							
NVS	**Novosibirsk**	58.89	37	⇑*i*P		P	15 32 38.8	+0.3
NVS				*e*			15 33 33.5	
NVS				pmax		pmax		
	comp=N,7.0nm,1.4s							
NVS				pmax		pmax		
	comp=Z,24nm,1.4s							
ROSC	**El Rosal**	59.57	227	P		P	15 32 45.8	+1.6
	comp=Z,9.6nm,0.5s,baz=99,slow=21,SNR=4.0							
ROSC	**El Rosal**	59.57	227	P		P	15 32 45.8	+1.6
ROSC	**El Rosal**	59.57	227	P		P	15 32 45.8	+1.6
ZALV	**Zalesovo Beam**	60.16	36	P		P	15 32 47.4	+0.2
	comp=Z,1.8nm,0.6s,baz=314,slow=8.8,SNR=12							
ZALV	**Zalesovo Beam**	60.16	36	P		P	15 32 47.4	+0.2
ZALV	**Zalesovo Beam**	60.16	36	P		P	15 32 47.4	+0.2
ZALV	**Zalesovo Beam**	60.16	36	P		P	15 32 47.4	+0.2
KURK	**Kurchatov**	60.58	42	*d i*P		P	15 32 50.0	-0.1
KURK				pmax		pmax		
	comp=Z,11nm,1.3s							
KURK	**Kurchatov**	60.58	42	*e*P		P	15 32 49.8	-0.3
	comp=Z,13nm,1.2s							
KURK	**Kurchatov**	60.58	42	*e*P		P	15 32 49.8	-0.3
	comp=Z,13nm,1.2s							
KURBB	**Kurchatov Arra**	60.62	42	P		P	15 32 50.6	+0.2
	comp=Z,6.1nm,0.7s,baz=324,slow=7.2,SNR=60							
KRAR	**Krasnoyarsk**	60.93	30	*e*P		P	15 32 53.0	+0.6
KRAR				pmax		pmax		
	comp=Z,15nm,1.3s							
KRAR	**Krasnoyarsk**	60.93	30	*e*P		P	15 32 53.0	+0.6
	comp=Z,15nm,1.3s							
SEY	**Seymchan**	61.63	356	⇑*i*P		P	15 32 57.7	+0.6
SEY	**Seymchan**	61.63	356	*i*P		P	15 32 57.7	+0.6
YAK	**Yakutsk**	62.06	8	*e*P		P	15 32 58.8	-1.2
YAK				*e*			15 33 04.0	
YAK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
YAK	**Yakutsk**	62.06	8	*e*P		P	15 32 58.8	-1.2
	comp=Z,8.0nm,0.8s							
KKAR	**Karatay Array**	63.28	52	*e*P		P	15 33 08.8	+0.3
KKAR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KKAR	**Karatay Array**	63.28	52	*e*P		P	15 33 08.8	+0.3
	comp=Z,2.9nm,1.0s							
KKAR	**Karatay Array**	63.28	52	*e*P		P	15 33 08.8	+0.3
	comp=Z,2.9nm,1.0s							
EKS2	**Erkin-Say**	65.08	50	*e*P		P	15 33 22.1	+1.7
EKS2				pmax		pmax		
	comp=Z,18nm,1.1s							
EKS2	**Erkin-Say**	65.08	50	*e*P		P	15 33 22.1	+1.7
	comp=Z,18nm,1.1s							
EKS2	**Erkin-Say**	65.08	50	*e*P		P	15 33 22.1	+1.7
	comp=Z,18nm,1.1s							
MK31	**Makanchi Array**	65.18	42	*e*P		P	15 33 21.0	+0.1
MK31	**Makanchi Array**	65.18	42	*e*P		P	15 33 21.0	+0.1
MK31	**Makanchi Array**	65.18	42	*e*P		P	15 33 21.0	+0.1
HVS	**Khovu-Aksy**	65.41	33	⇑*i*P		P	15 33 22.8	+0.4
HVS				pmax		pmax		
	comp=Z,39nm,1.3s							
AAK	**Ala-Archa**	65.41	50	P		P	15 33 23.6	+0.9
	comp=Z,4.5nm,1.1s,baz=318,slow=1.6,SNR=13							
AAK				LR		LR	15 59 47.2	
	comp=Z,286nm,20.9s,slow=34							
AAK	**Ala-Archa**	65.41	50	LR		LR	15 59 47.2	
	comp=Z,286nm,20.9s,slow=36							
AAK	**Ala-Archa**	65.41	50	P		P	15 33 23.6	+0.9
AAK	**Ala-Archa**	65.41	50	P		P	15 33 23.6	+0.9
AAK	**Ala-Archa**	65.41	50	P		P	15 33 23.6	+0.9
KSH	**Kashi**	68.60	51	*e*P		P	15 33 45.0	+2.1
KSH				pP		pP	15 33 50.8	+3.3
KSH				sP		sP	15 33 52.6	+3.4
KSH				*e*PcP		PcP	15 34 11.6	+3.7
KSH				*e*PP		PP	15 36 18.1	+4.3
KSH				ScP			15 38 12.4	
KSH				PcS			15 38 14.3	
KSH				S		S	15 42 45.1	+0.2
KSH				sS		sS	15 42 53.1	+0.7
KSH				ScS		SKSac	15 43 41.3	-0.3
KSH				SS		SS	15 47 10.6	+2.4
KSH				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KSH				pmax		pmax		
	comp=Z,190nm,6.0s							
KSH				LR		LR		
	comp=N,150nm,5.9s							
KSH				LR		LR		
	comp=E,270nm,9.1s							
KSH				LR		LR		
	comp=Z,480nm,14.7s							
WMQ	**Urumqi**	69.73	40	*e*P		P	15 33 52.9	+3.1
PETK	**Petropavlovsk-**	71.11	352	P		P	15 33 59.3	+1.3
	comp=Z,4.8nm,1.0s,baz=237,slow=7.8,SNR=3.8							
PETK	**Petropavlovsk-**	71.11	352	P		P	15 33 59.3	+1.3
PETK	**Petropavlovsk-**	71.11	352	P		P	15 33 59.3	+1.3
PETK	**Petropavlovsk-**	71.11	352	P		P	15 33 59.3	+1.3
SONM	**Songino Array**	71.94	26	P		P	15 34 02.7	-0.5
	comp=Z,1.0nm,0.8s,baz=324,slow=5.9,SNR=5.3							
SONM	**Songino Array**	71.94	26	P		P	15 34 02.7	-0.5
SONM	**Songino Array**	71.94	26	P		P	15 34 02.7	-0.5
ULN	**Ulaanbaatar**	72.07	26	*e*P		P	15 34 04.3	+0.3
	comp=Z,7.7nm,1.4s							
ULN	**Ulaanbaatar**	72.07	26	*e*P		P	15 34 04.3	+0.3
	comp=Z,7.7nm,1.4s							
LPAZ	**La Paz**	76.91	213	P		P	15 34 34.5	+1.6
	comp=Z,2.9nm,0.9s,baz=10,slow=3.0,SNR=8.3							
LPAZ	**La Paz**	76.91	213	P		P	15 34 34.5	+1.6
LPAZ	**La Paz**	76.91	213	P		P	15 34 34.5	+1.6
GTA	**Gaotai**	77.81	34	*e*P		P	15 34 38.9	+1.6
GTA				pP		pP	15 34 43.9	+2.0
GTA				sP		sP	15 34 46.6	+3.0
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MDJ	**Mudanjiang**	79.28	11	P		P	15 34 43.6	-1.5
MDJ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,600nm,9.4s							
CN2	**Changchun**	79.56	14	*e*P		P	15 34 43.0	-3.7
HHC	**Hu-ho-hao-te**	79.77	25	*e*P		P	15 34 47.1	-0.9
HHC				pP		pP	15 34 51.8	-0.8
HHC				sP		sP	15 34 54.1	-0.2
HHC				PP		PP	15 37 48.9	+0.5
HHC				S		S	15 44 46.3	-3.9
HHC				sS		sS	15 44 54.1	-3.7
HHC				SKS		SKSac	15 44 57.8	-6.6
HHC				SS		SS	15 49 56.3	-1.3
HHC				pmax		pmax		
	comp=Z,8.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,560nm,10.2s							
HHC				LR		LR		
	comp=N,500nm,17.8s							
HHC				LR		LR		
	comp=E,410nm,19.6s							
HHC				LR		LR		
	comp=Z,570nm,19.8s							
LZH	**Lanzhou**	82.12	33	*e*P		P	15 35 04.5	+3.8
LZH				pP		PcP	15 35 09.3	+3.2
LZH				sP		sP	15 35 11.0	+4.0
LZH				pmax		pmax		
	comp=Z,14nm,1.2s							
CD2	**Chengdu**	86.88	35	P		P	15 35 24.6	-0.1
CD2				pP		pP	15 35 29.4	0.0
CD2				sP		sP	15 35 31.6	+0.5
CD2				PP		PP	15 38 48.4	+1.7
CD2				SKS		SKSac	15 45 48.4	-2.9
CD2				S		SKKSac	15 45 59.6	-0.2
CD2				sS		sS	15 46 07.1	-3.0
CD2				SS		SS	15 51 43.3	+0.2
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,1μm,10.7s							
CD2				LR		LR		
	comp=N,720nm,15.5s							
CD2				LR		LR		
	comp=Z,690nm,14.3s							
NJ2	**Nanjing**	89.84	22	*e*P		P	15 35 36.5	-2.2
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KMI	**Kunming**	91.88	38	P		P	15 35 49.1	+0.5
KMI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
GYA	**Guiyang**	91.94	34	*e*P		P	15 35 48.0	-0.7
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
WRA	**Warramunga Arr**	143.47	17	PKP		PKPbc	15 42 12.6	+0.9
	comp=Z,0.5nm,0.7s,baz=323,slow=2.4,SNR=2.5							
WRA	**Warramunga Arr**	143.47	17	PKP		PKPbc	15 42 12.6	+0.9
WRA	**Warramunga Arr**	143.47	17	PKIKP		PKPbc	15 42 12.6	+0.8
AS31	**Alice Springs**	147.03	19	*e*PKP		**PKPdf**	15 42 21.6	+1.0
AS31	**Alice Springs**	147.03	19	*e*PKIKP		**PKPdf**	15 42 21.6	+1.0
ASAR	**Alice Springs**	147.03	19	PKPbc		**PKPdf**	15 42 21.9	+1.3
	comp=Z,3.7nm,0.9s,baz=348,slow=2.7,SNR=22							
ASAR	**Alice Springs**	147.03	19	PKPbc		**PKPdf**	15 42 21.9	+1.3
ASAR	**Alice Springs**	147.03	19	PKPbc		**PKPdf**	15 42 21.9	+1.3

IDC 16 15:23:53.2±9.4, 3°.18N×126°.60E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, MS4.4/1, Ms1 4.4/1, ms1mx3.2/35, Error ellipse: s-maj=191.0km s-min=150.4km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.20	162	P		P	P	15 29 10.2	-1.5
	1.8nm,0.8s,baz=343,slow=10,SNR=7.1								
ASAR	**Alice Springs**	27.61	165	P		P	P	15 29 42.4	-0.2
	0.1nm,0.3s,baz=339,slow=9.9,SNR=8.7								
STKA	**Stephens Creek**	37.66	159	P		P	P	15 31 12.0	+1.7
	2.1nm,0.9s,baz=0.0,slow=5.1,SNR=2.9								

IDC ***16*** *15:25:09.1±0.6,20°.54S×175°.61W,h0km,mb4.2/12, mb1 4.5/12,mb1mx4.3/22,mbtmp4.2/12,MS4.4/2, Ms1 4.4/2,ms1mx3.6/43,Error ellipse: s-maj=29.7km s-min=16.7km az=143.0*

ISCJB ***16*** *15:25:13.1±0.3,20°.82S±0°.09×175°.61W±0°.06,h33km, mb4.7/29,MS4.8/5, Error ellipse: s-maj=12.7km s-min=6.7km az=163.0*

BJI ***16*** *15:25:16.7,21°.08S×175°.17W,h84km,mB5.5/9,mb4.9/19, Ms5.4/7,Ms7 5.0/7*

NEIC ***16*** *15:25:20.4±2.4,20°.62S×175°.71W,h86km±21km,mb5.0/9, Error ellipse: s-maj=19.0km s-min=11.7km az=136.0*

ISC 16 15:25:14.5±0.5, 20°.69S±0°.09×175°.49W±0°.08, h35km, n114, σ1°68/126, mb4.7/29, MS5.0/5, 24C-26D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	6.78	295	*e*P		**Pn**		15 26 53.4	+1.8
	96nm,1.0s								
MSVF	**Nonsavu**	6.78	295	Pn		**Pn**		15 26 54.0	+2.4
	589nm,1.0s,SNR=16								
DZM	**Mont Dzumac**	16.89	262	Pn		P		15 29 11.6	+1.5
	0.3nm,0.3s,baz=69,slow=19,SNR=8.6								
DZM	**Mont Dzumac**	16.89	262	*e*P		P		15 29 12.1	+2.1
DZM	**Mont Dzumac**	16.89	262	Pn		P		15 29 11.6	+1.5
RPZ	**Rata Peaks**	25.56	203	P		P		15 30 40.6	+0.5
	8.9nm,0.6s,baz=360,slow=5.0,SNR=9.4								
RPZ				LR		LR		15 40 17.7	
	comp=Z,947nm,18.8s,baz=214,slow=35								
RPZ	**Rata Peaks**	25.56	203	P		P		15 30 40.6	+0.5
CTA	**Charters Tower**	35.81	264	P		P		15 32 10.8	0.0
	9.2nm,0.9s,baz=82,slow=9.8,SNR=5.8								
CTA	**Charters Tower**	35.81	264	P		P		15 32 10.8	0.0
CTAO	**Charters Tower**	35.81	264	*e*P		P		15 32 11.3	+0.4
	11nm,0.9s								
STKA	**Stephens Creek**	39.83	245	P		P		15 32 45.1	+0.4
	2.8nm,0.9s,baz=74,slow=15,SNR=4.3								
STKA	**Stephens Creek**	39.83	245	P		P		15 32 45.1	+0.4
AS31	**Alice Springs**	46.76	257	P		P		15 33 38.5	-2.3
ASAR	**Alice Springs**	46.76	257	P		P		15 33 39.5	-1.3
	3.2nm,0.9s,baz=91,slow=8.2,SNR=22								
ASAR				PcP		**PcP**		15 35 12.7	-1.2
	1.7nm,1.0s,baz=104,slow=3.6,SNR=5.6								
ASAR	**Alice Springs**	46.76	257	P		P		15 33 39.5	-1.3
ASAR				PcP		**PcP**		15 35 12.7	-1.2
WRAB	**Tennant Creek**	46.89	262	*e*P		P		15 33 40.2	-1.7
	6.9nm,1.1s								
WRA	**Warramunga Arr**	46.90	262	P		P		15 33 39.6	-2.3
	2.7nm,0.8s,baz=95,slow=8.2,SNR=25								
WRA	**Warramunga Arr**	46.90	262	P		P		15 33 39.6	-2.3
VNDA	**Vanda**	57.94	186	P		P		15 35 03.4	+0.6
	0.8nm,0.6s,baz=95,slow=4.1,SNR=3.8								
VNDA	**Vanda**	57.94	186	P		P		15 35 03.4	+0.6
QSPA	**South Pole Qui**	69.38	180	LR		LR		15 59 35.0	
	comp=Z,246nm,21.7s,slow=30								
QSPA	**South Pole Qui**	69.38	180	*e*P		P		15 36 18.8	+0.2
	6.7nm,1.0s								
ISA	**Isabella**	77.81	44	⇓P		P		15 37 09.0	+0.6
	baz=78								
LRMC	**Laurel Mountai**	78.21	45	⇑P		P		15 37 11.9	+1.2
	baz=78								
BELC	**Belle Mtn. Jos**	78.50	47	⇑P		P		15 37 13.5	+1.1
	baz=79								
CWC	**Cottonwood Cre**	78.52	44	⇑P		P		15 37 13.5	+1.0
	baz=79								
MPMC	**Manual Prospec**	78.69	44	⇓P		P		15 37 14.8	+1.3
	baz=79								
HEC	**Hector,Ludlow**	78.75	46	⇓P		P		15 37 14.3	+0.6
	baz=80								
IRM	**Iron Mountain**	79.17	47	⇓P		P		15 37 17.2	+1.3
	baz=80								
GRAC	**Grapevine Rang**	79.31	44	⇑P		P		15 37 18.1	+1.4
	baz=80								
NVAR	**Mina Array Bea**	79.57	42	P		P		15 37 18.2	0.0
	3.1nm,0.8s,baz=228,slow=9.8,SNR=12								
NVAR	**Mina Array Bea**	79.57	42	P		P		15 37 18.2	0.0
LDFC	**Landfair**	79.71	46	*e*P		P		15 37 20.3	+1.3
	58nm,1.6s								
Y14A	**Wickenburg**	80.54	48	⇓P		P		15 37 24.4	+1.1
	baz=81								
W13

TXAR	**Lajitas Array**	**85.19**	**56**	P	**P**	**15 37 48.8**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=221,slow=6.6,SNR=10						
TXAR	**Lajitas Array**	**85.19**	**56**	P	**P**	**15 37 48.8**	**+1.1**
BNM	**Barren Site**	**85.19**	**51**	*e*P	**P**	**15 37 48.9**	**+1.1**
	comp=Z,30nm,1.8s						
LPM	**Los Pinos Moun**	**85.27**	**51**	*e*P	**P**	**15 37 49.9**	**+1.8**
	comp=Z,25nm,1.5s						
J14A	**Carey**	**85.36**	**40**	⇑P	**P**	**15 37 49.4**	**+1.2**
	baz=86						
124A	**Stringfield Ra**	**85.37**	**53**	⇑P	**P**	**15 37 49.9**	**+1.2**
	baz=86						
O17A	**Robinson Place**	**85.40**	**44**	⇓P	**P**	**15 37 50.1**	**+1.4**
	baz=86						
627A	**Terlingua Ranc**	**85.46**	**56**	⇑P	**P**	**15 37 49.9**	**+0.9**
	baz=86						
426A	**McDonald Obser**	**85.51**	**55**	⇑P	**P**	**15 37 50.5**	**+1.0**
	baz=86						
225A	**Deer Hill, Car**	**85.57**	**53**	⇓P	**P**	**15 37 51.2**	**+1.6**
	baz=86						
F12A	**Elk City**	**85.72**	**38**	⇑P	**P**	**15 37 50.9**	**+1.0**
	baz=86						
S20A	**Disappointment**	**85.78**	**47**	⇑P	**P**	**15 37 51.8**	**+1.2**
	baz=86						
125A	**Gardner Draw,**	**85.95**	**53**	⇓P	**P**	**15 37 53.0**	**+1.6**
	baz=86						
427A	**Hayter Ranch,**	**86.08**	**55**	⇓P	**P**	**15 37 53.3**	**+1.3**
	baz=86						
TRF	**Thorofare Moun**	**86.16**	**11**	*e*P	**P**	**15 37 49.5**	**-2.3**
	comp=Z,39nm,1.6s						
C11A	**Tepee Creek (N**	**86.38**	**35**	⇓P	**P**	**15 37 53.6**	**+0.5**
	baz=87						
Z26A	**Caprock**	**86.73**	**53**	⇑P	**P**	**15 37 56.2**	**+0.9**
	baz=87						
S22A	**4UR Ranch, Cre**	**86.79**	**48**	⇑P	**P**	**15 37 56.9**	**+1.2**
	baz=87						
429A	**Davenport Ranc**	**87.14**	**56**	⇓P	**P**	**15 37 57.6**	**+0.4**
	baz=87						
530A	**J-C Ranch, Com**	**87.36**	**57**	⇑P	**P**	**15 37 59.3**	**+0.9**
	baz=88						
J18A	**Kendall Valley**	**87.44**	**42**	⇓P	**P**	**15 37 59.1**	**+0.4**
	baz=88						
PDAR	**Pinedale Array**	**87.50**	**42**	P	**P**	**15 37 58.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=230,slow=3.1,SNR=6.5						
PDAR	**Pinedale Array**	**87.50**	**42**	P	**P**	**15 37 58.5**	**-0.4**
VNA3	**Neumayer Olymp**	**87.78**	**175**	*e*P	P	15 37 54.4	-5.2
ILAR	**Eielson Array**	**88.00**	**12**	P	**P**	**15 37 59.3**	**-1.1**
	comp=Z,1.1nm,1.1s,baz=234,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**88.00**	**12**	P	**P**	**15 37 59.3**	**-1.1**
VNA2	**Neumayer--Watz**	**88.25**	**176**	*e*P	**P**	**15 37 59.5**	**-2.3**
B14A	**Marquette Banc**	**88.32**	**36**	⇓P	**P**	**15 38 02.6**	**+0.1**
	baz=89						
M21A	**Separation Pea**	**88.32**	**44**	⇓P	**P**	**15 38 03.4**	**+0.5**
	baz=89						
A14A	**Double T Ranch**	**88.58**	**36**	⇓P	**P**	**15 38 04.1**	**+0.4**
	baz=89						
GYA	**Guiyang**	**88.79**	**299**	P	**P**	**15 38 04.8**	**-0.5**
GYA				pP	pP	15 38 27.0	+11
GYA				sP	sP	15 38 36.4	+16
GYA				PP	**PP**	**15 41 36.8**	**+1.9**
GYA				SKS	SKSac	15 48 24.0	-8.5
GYA				S	**SKKSac**	**15 48 42.3**	**-1.6**
GYA				sS	sS	15 49 21.8	+13
GYA				SS	**SS**	**15 54 39.0**	**-4.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,540nm,18.6s						
GYA				LR	LR		
	comp=E,520nm,19.7s						
GYA				LR	LR		
	comp=Z,480nm,18.6s						
A15A	**Johnson Ranch,**	**88.96**	**36**	⇓P	**P**	**15 38 05.9**	**+0.4**
	baz=89						
C17A	**Wharram Farm,**	**89.33**	**38**	⇓P	**P**	**15 38 07.8**	**+0.6**
	baz=90						
XAN	**Xi'an**	**90.13**	**306**	P	**P**	**15 38 10.8**	**-0.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**91.18**	**313**	*e*P	**P**	**15 38 17.6**	**+1.5**
HHC				pP	pP	15 38 38.4	+11
HHC				sP	sP	15 38 46.6	+15
HHC				PP	**PP**	**15 41 57.3**	**+3.7**
HHC				S	**S**	**15 49 06.8**	**-5.2**
HHC				sS	sS	15 49 42.5	+12
HHC				SS	**SS**	**15 55 15.8**	**-1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,300nm,3.9s						
HHC				LR	LR		
	comp=N,2μm,16.7s						
HHC				LR	LR		
	comp=E,240nm,18.0s						
HHC				LR	LR		
	comp=Z,380nm,19.0s						
KMI	**Kunming**	**91.54**	**296**	P	**P**	**15 38 18.3**	**+0.1**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**92.40**	**289**	P	**P**	**15 38 23.1**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=127,slow=3.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**92.40**	**289**	P	**P**	**15 38 23.1**	**+1.0**
CD2	**Chengdu**	**92.88**	**302**	P	**P**	**15 38 24.4**	**+0.3**
CD2				pP	pP	15 38 46.8	+12
CD2				sP	sP	15 38 55.6	+16
CD2				PP	**PP**	**15 42 09.8**	**+2.7**
CD2				SKS	**SKSac**	**15 48 49.0**	**-6.6**
CD2				S	**SKKSac**	**15 49 19.8**	**+5.8**
CD2				sS	sS	15 49 58.3	+12
CD2				SS	**SS**	**15 55 38.3**	**-3.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,1μm,10.3s						
CD2				LR	LR		
	comp=N,630nm,16.7s						
CD2				LR	LR		
	comp=Z,350nm,11.9s						
LZH	**Lanzhou**	**94.76**	**307**	*e*P	P	15 38 36.5	+3.7
LZH				pP	pP	15 38 57.3	+13
LZH				sP	sP	15 39 06.5	+19
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
YKA	**Yellowknife Ar**	**95.71**	**24**	P	**P**	**15 38 36.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=243,slow=4.5,SNR=10						
YKA	**Yellowknife Ar**	**95.71**	**24**	P	**P**	**15 38 36.1**	**-0.1**
KSH	**Kashi**	**116.93**	**305**	*e*PKP	**PKPdf**	**15 43 54.0**	**-1.8**
KSH				*es*PKP		15 44 30.8	
KSH				*e*PP	**PP**	**15 45 09.6**	**+4.2**
KSH				PKS	**PKSdf**	**15 47 29.8**	**-2.8**
KSH				SKS	SKSdf	15 50 55.1	-10
KSH				SKKS	SKKSac	15 51 52.3	-11
KSH				AMB	AMB		
	comp=Z,200nm,6.3s						
KSH				LR	LR		
	comp=N,100nm,8.1s						
KSH				LR	LR		
	comp=E,120nm,5.9s						
KSH				LR	LR		
	comp=Z,190nm,7.5s						
AKASG	**Malin Array Be**	**144.28**	**333**	PKP	**PKPab**	**15 44 44.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=48,slow=4.8,SNR=4.9						
AKASG	**Malin Array Be**	**144.28**	**333**	PKP	**PKPab**	**15 44 44.1**	**-0.5**
MALT	**Malatya**	**145.90**	**308**	*e*PKPbc	**PKPbc**	**15 44 50.8**	**+0.1**
BR131	**Keskin Array S**	**148.69**	**314**	*e*PKPbc	**PKPbc**	**15 44 58.1**	**-0.3**
BRTR	**Keskin Array B**	**148.69**	**314**	PKPbc	**PKPbc**	**15 44 57.9**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=142,slow=4.5,SNR=13						
BRTR	**Keskin Array B**	**148.69**	**314**	PKPbc	**PKPbc**	**15 44 57.9**	**-0.6**
CLL	**Collm**	**148.72**	**350**	*e*PKPbc	**PKPbc**	**15 44 58.0**	**+0.1**
	comp=Z,4.0nm,0.9s						
CLL				*e*PKPab	**PKPab**	**15 45 02.0**	**+0.4**
KHC	**Kasperske Hory**	**150.71**	**348**	*e*PKP	**PKPbc**	**15 45 03.0**	**+0.1**
GERES	**GERESS Array B**	**150.96**	**347**	PKPbc	**PKPbc**	**15 45 02.8**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=0.0,slow=1.9,SNR=9.6						
GERES	**GERESS Array B**	**150.96**	**347**	PKPbc	**PKPbc**	**15 45 02.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**172.03**	**160**	PKPab	**PKPab**	**15 46 44.1**	**+0.8**
	comp=Z,2.4nm,1.1s,baz=188,slow=2.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**172.03**	**160**	PKPab	**PKPab**	**15 46 44.1**	**+0.8**

IDC 16 15:26:49.3±6.7, 3°15N×127°10E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=112.9km s-min=91.5km az=126.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.16**	**184**	P	P	15 31 36.1	-0.2
	2.4nm,0.9s,baz=9.5,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**24.02**	**163**	P	P	15 32 05.8	-0.4
	2.8nm,0.8s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.46**	**166**	P	P	15 32 38.0	+0.7
	0.1nm,0.3s,baz=345,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**37.46**	**160**	P	P	15 34 04.4	-0.3
	1.4nm,0.8s,baz=328,slow=13,SNR=2.4						

IDC 16 15:42:12.9±6.7, 3°25N×127°58E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=111.0km s-min=90.9km az=127.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.31**	**185**	P	P	15 47 02.2	+0.8
	1.5nm,0.9s,baz=14,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**23.99**	**164**	P	P	15 47 28.6	-0.8
	4.5nm,0.7s,baz=343,slow=10,SNR=32						
ASAR	**Alice Springs**	**27.46**	**167**	P	P	15 48 00.5	-0.4
	0.4nm,0.6s,baz=347,slow=7.1,SNR=4.7						
STKA	**Stephens Creek**	**37.39**	**160**	P	P	15 49 28.1	+0.4
	1.3nm,0.7s,baz=2.1,slow=8.5,SNR=5.5						

*JMA **16** 15:54:29.3±0.2, 25°16N×122°71E, h0km, M2.2*
*ISCJB **16** 15:54:30.4±0.4, 24°26N±0°02×122°26E±0°02, h33km±3km, Error ellipse: s-maj=4.3km s-min=3.0km az=161.6*
*TAP **16** 15:54:30.2, 24°27N×122°24E, h26km, ML2.8, D*
ISC 16 15:54:30.3±1.0, 24°26N±0°04×122°26E±0°03, h29km±11km, n30, σ0.9 71/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.50**	**290**	P	**Pb**	**15 54 40.7**	**-0.1**
	baz=289						
ENA				S	**Sb**	**15 54 48.3**	**+0.5**
	baz=289						
TWC	**Suao**	**0.51**	**313**	P	**Pb**	**15 54 40.7**	**-0.1**
	baz=314						
TWC				S	**Sb**	**15 54 48.0**	**-0.1**
	baz=314						
TWD	**Chiawan**	**0.63**	**254**	*i* P	**Pb**	**15 54 42.4**	**-0.4**
	baz=251						
TWD				S	**Sb**	**15 54 51.9**	**+0.5**
	baz=251						
HWA	**Hwalien**	**0.66**	**245**	*e*P	**Pn**	**15 54 43.7**	**0.0**
	baz=242						
HWA				*e*S	**Sn**	**15 54 53.2**	**0.0**
	baz=242						
TWE	**Neicheng**	**0.71**	**311**	P	**Pb**	**15 54 44.1**	**-0.1**
	baz=311						
TWE				S	**Sb**	**15 54 53.9**	**+0.3**
	baz=311						
YOJ	**Yonaguni jima**	**0.71**	**74**	P	**Pb**	**15 54 44.2**	**-0.1**
YOJ				S	**Sn**	**15 54 54.5**	**0.0**
ENTT	**Nioudou**	**0.74**	**301**	P	**Pb**	**15 54 44.6**	**0.0**
	baz=301						
ENTT				S	**Sb**	**15 54 54.7**	**+0.3**
	baz=301						
TWB1	**Santiao Chiao**	**0.79**	**342**	*e*P	**Pb**	**15 54 45.0**	**-0.5**
	baz=343						
TWB1				*e*S	**Sb**	**15 54 55.4**	**-0.4**
	baz=343						
NNS	**Nan Shan**	**0.83**	**283**	*e*P	**Pb**	**15 54 45.8**	**-0.4**
	baz=281						
NNS				*e*S	**Sb**	**15 54 57.3**	**+0.2**
	baz=281						
ESL	**Shilin**	**0.88**	**240**	*e*P	**Pb**	**15 54 46.8**	**-0.2**
	baz=237						
ESL				*e*S	**Sb**	**15 54 58.1**	**-0.3**
	baz=237						
WHF	**Hehuan Shan**	**0.91**	**263**	*i* P	**Pn**	**15 54 46.9**	**-0.7**
	baz=261						
WHF				S	**Sb**	**15 54 59.1**	**-0.8**
	baz=261						
NWF	**Wu-fen Shan**	**0.92**	**332**	*e*P	**Pn**	**15 54 47.2**	**-0.2**
	baz=332						
NWF				*e*S	**Sb**	**15 54 59.5**	**-0.1**
	baz=332						
NSK	**Sanguang**	**0.92**	**297**	*e*P	**Pn**	**15 54 47.4**	**0.0**
	baz=296						
NSK				*e*S	**Sb**	**15 54 59.5**	**-0.1**
	baz=296						
EHY	**Hungye**	**1.14**	**229**	*e*P	**Pn**	**15 54 50.0**	**-0.3**
	baz=227						
EHY				*e*S	**Sn**	**15 55 03.8**	**-1.2**
	baz=227						
NSTT	**Nanjuang**	**1.20**	**288**	*e*P	**Pn**	**15 54 51.7**	**+0.4**
	baz=287						
NSTT				*e*S	**Sn**	**15 55 06.2**	**-0.4**
	baz=287						
TWF1	**Yuli**	**1.26**	**224**	*e*P	**Pn**	**15 54 51.0**	**-1.1**
	baz=222						
TWF1				*e*S	**Sn**	**15 55 07.0**	**-1.0**
	baz=222						
SMLT	**Sun Moon Lake**	**1.30**	**253**	*e*P	**Pn**	**15 54 52.9**	**+0.3**
	baz=252						
SMLT				*e*S	**Sn**	**15 55 09.0**	**0.0**
	baz=252						
TYC	**Yuchr**	**1.33**	**255**	*e*P	**Pn**	**15 54 53.6**	**+0.7**
	baz=253						
TYC				*e*S	**Sn**	**15 55 09.9**	**+0.3**
	baz=253						
IRIF	**Iriomote-Funau**	**1.34**	**87**	P	**Pn**	**15 54 52.9**	**-0.3**
IRIF				S	**Sn**	**15 55 10.2**	**+0.1**
TWQ1	**Liyutan**	**1.36**	**274**	*e*P	**Pn**	**15 54 53.9**	**+0.6**
	baz=273						
TWQ1				*e*S	**Sn**	**15 55 10.9**	**+0.5**
	baz=273						
CHKT	**Chengkung**	**1.42**	**215**	*e*P	**Pn**	**15 54 54.9**	**+0.7**
	baz=214						
CHKT				*e*S	**Sn**	**15 55 09.1**	**-2.7**
	baz=214						
ALS	**Alishan**	**1.52**	**241**	*e*P	**Pn**	**15 54 56.2**	**+0.3**
	baz=239						
ALS				*e*S	**Sn**	**15 55 15.3**	**+0.4**
	baz=239						
ELDTW	**Lidau**	**1.56**	**227**	*e*P	**Pn**	**15 54 55.2**	**-1.0**
	baz=225						
ELDTW				*e*S	**Sn**	**15 55 14.7**	**-0.8**
	baz=225						
JKRS	**Kuro-shima**	**1.60**	**90**	P	**Pn**	**15 54 57.4**	**+0.8**
JKRS				*e*S	**Sn**	**15 55 17.2**	**+0.9**
JIJ	**Ishigaki jima**	**1.72**	**86**	P	**Pn**	**15 54 58.2**	**-0.2**
JIJ				*e*S	**Sn**	**15 55 18.6**	**-0.8**
CHN4	**Tsaushan**	**1.77**	**240**	*e*P	**Pn**	**15 54 59.3**	**+0.2**
	baz=238						
CHN4				*e*S	**Sn**	**15 55 21.3**	**+0.7**
	baz=238						
TWG	**Pinlang**	**1.80**	**217**	*e*P	**Pn**	**15 55 00.4**	**+1.0**
	baz=216						
TWG				*e*S	**Sn**	**15 55 21.8**	**+0.5**
	baz=216						
TTN	**Taitung**	**1.81**	**214**	*e*P	**Pn**	**15 55 00.5**	**+0.9**
	baz=213						
TTN				*e*S	**Sn**	**15 55 22.5**	**+0.9**
	baz=213						
CHN1	**Nanshi**	**1.91**	**236**	*e*P	**Pn**	**15 55 02.4**	**+1.4**
	baz=235						
CHN1				*e*S	**Sn**	**15 55 24.4**	**+0.3**
	baz=235						
SGST	**Jiashian**	**1.93**	**233**	*e*P	**Pn**	**15 55 02.8**	**+1.5**
	baz=231						
SGST				*e*S	**Sn**	**15 55 25.4**	**+0.8**
	baz=231						

IDC 16 15:57:13.2±7.9, 3°30N×127°18E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/51, Error ellipse: s-maj=146.8km s-min=125.3km az=79.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.07**	**337**	LR	LR	15 59 59.4	
	comp=Z,498nm,19.0s,baz=224,slow=41						
WRA	**Warramunga Arr**	**24.15**	**163**	P	P	16 02 30.1	-1.0
	2.2nm,0.7s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**27.59**	**167**	P	P	16 03 03.0	+0.6
	0.2nm,0.6s,baz=342,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**37.57**	**160**	P	P	16 04 29.8	+0.4
	2.1nm,0.9s,baz=339,slow=8.6,SNR=3.9						

IDC 16 15:59:15.8±2.5, 13°97S×167°57E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, MS3.9/1, Ms1 3.9/1, ms1mx3.2/43, Error ellipse: s-maj=85.4km s-min=28.1km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.71**	**229**	P	P	16 05 24.4	+0.6
	1.5nm,0.6s,baz=50,slow=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**32.30**	**255**	P	P	16 05 45.9	-0.8
	0.6nm,0.6s,baz=86,slow=8.5,SNR=6.2						
ASAR	**Alice Springs**	**33.22**	**248**	P	P	16 05 54.4	-0.4
	0.6nm,0.5s,baz=77,slow=9.1,SNR=14						
CBIJ	**Chichi jima**	**47.68**	**329**	LR	LR	16 26 51.2	
	comp=Z,126nm,18.9s,baz=136,slow=35						
CMAR	**Chiang Mai Arr**	**74.91**	**294**	P	P	16 10 59.9	+0.8
	0.8nm,1.1s,baz=101,slow=4.8,SNR=4.4						
SONM	**Songino Array**	**82.06**	**323**	P	P	16 11 38.1	-0.1
	0.2nm,0.7s,baz=112,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**85.72**	**18**	P	P	16 11 56.0	-0.3
	0.3nm,0.8s,baz=226,slow=7.4,SNR=3.0						

*IDC **16** 16:10:11.2±0.8, 3°46N×126°45E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, Error ellipse: s-maj=64.7km s-min=14.4km az=80.0*
*DJA **16** 16:10:15.3±1.6, 4°N±8°×12°7E±°, h20km±16km, M4.5/7, mb4.6/6, mb5.7/2, MLv4.4/7, Mw(mB)5.2/2*
*ISCJB **16** 16:10:16.4±0.6, 3°51N±0°05×126°62E±0°07, h53km, mb3.7/9, Error ellipse: s-maj=10.1km s-min=7.3km az=165.4*
ISC 16 16:10:18.4±0.7, 3°50N±0°07×126°63E±0°09, h53km, n22, σ1 9 17/23, mb3.9/9, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**280**	P	**Pn**	**16 10 36.3**	**-1.4**
SGSI				S	**Sn**	**16 10 54.2**	**+2.2**
MNI	**Manado**	**2.71**	**221**	P	**Pn**	**16 10 58.6**	**-0.9**
TNTI	**Ternate**	**2.81**	**165**	P	**Pn**	**16 11 02.0**	**+1.1**
GSPH	**General Santos**	**3.06**	**327**	⇓*i*P	Pn	16 10 56.0	-8.5
KMSI	**Cibinong**	**3.93**	**222**	P	**Pn**	**16 11 17.1**	**+0.9**
LBMI	**Labuha**	**4.20**	**168**	P	**Pn**	**16 11 18.5**	**-1.5**
CTBH	**Cotabato--PC H**	**4.39**	**327**	⇑*i*P	**Pn**	**16 11 21.6**	**-0.9**
MRSI	**Marisa**	**5.56**	**237**	P	**Pn**	**16 11 40.1**	**+1.5**
	78nm,0.7s,1μm0.4nm						
LUWI	**Luwuk**	**5.93**	**221**	P	Pn	16 11 47.5	+3.8
	70nm,0.9s,0.3nm						
APSI	**Ampana**	**6.63**	**229**	P	**Pn**	**16 11 52.7**	**-0.6**
	570nm,0.8s,26μm						
MYLDM	**Lahad Datu**	**8.27**	**282**	P	**Pn**	**16 12 14.5**	**-1.3**
	22nm,1.3s						
KDI	**Kendari**	**8.42**	**208**	P	**Pn**	**16 12 15.7**	**-2.1**
	11nm,0.7s						
KKM	**Kota Kinabalu**	**10.68**	**284**	P	**Pn**	**16 12 49.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.49**	**183**	P	**P**	**16 15 02.5**	**-0.3**
	1.1nm,0.5s,baz=13,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**16 15 31.8**	**-1.2**
	3.1nm,0.5s,baz=345,slow=11,SNR=41						
WRA				PcP	**PcP**	**16 19 11.1**	**+0.5**
	0.4nm,0.5s,baz=327,slow=2.2,SNR=4.7						
ASAR	**Alice Springs**	**27.92**	**166**	P	**P**	**16 16 03.5**	**-0.3**
	0.3nm,0.4s,baz=345,slow=7.1,SNR=14						
ASAR				PcP	**PcP**	**16 19 19.2**	**+0.8**
	0.5nm,0.4s,baz=351,slow=2.2,SNR=8.9						
KSRS	**Korea Array**	**33.81**	**2**	P	**P**	**16 16 55.0**	**-0.4**
	1.2nm,0.6s,baz=182,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**16 17 30.7**	**-0.4**
	2.5nm,0.6s,baz=314,slow=9.0,SNR=7.5						
USRK	**Ussuriysk Arra**	**40.81**	**6**	P	**P**	**16 17 55.5**	**+0.9**
	1.1nm,0.5s,baz=204,slow=6.8,SNR=3.4						
SONM	**Songino Array**	**47.48**	**342**	P	**P**	**16 18 48.1**	**-0.1**
	0.3nm,0.5s,baz=160,slow=8.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**16 20 23.5**	**-1.0**
	0.3nm,0.3s,baz=132,slow=6.4,SNR=3.5						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**16 22 50.7**	**+1.0**
	0.3nm,0.6s,baz=248,slow=5.6,SNR=3.7						

IDC 16 16:16:28.1±1.9, 20°53S×175°74W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.0/19, mbtmp3.9/7, MS4.6/2, Ms1 4.6/2, ms1mx3.5/44, Error ellipse: s-maj=117.6km s-min=23.3km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.57**	**256**	P	P	16 24 57.6	-0.5
	1.2nm,0.9s,baz=85,slow=7.4,SNR=6.4						
ASAR				PcP	PcP	16 26 32.5	+0.1
	1.0nm,1.0s,baz=117,slow=4.2,SNR=4.9						
WRA	**Warramunga Arr**	**46.69**	**262**	P	P	16 24 58.6	-0.5
	0.6nm,0.7s,baz=95,slow=9.5,SNR=6.1						
NVAR	**Mina Array Bea**	**79.60**	**42**	P	P	16 28 37.4	-0.1
	3.0nm,1.0s,baz=231,slow=9.4,SNR=9.0						
USHA	**Ushuaia**	**82.94**	**146**	LR	LR	16 59 17.8	
	comp=Z,332nm,18.7s,baz=221,slow=31						
TXAR	**Lajitas Array**	**85.30**	**56**	P	P	16 29 07.8	+0.4
	1.0nm,0.9s,baz=216,slow=6.2,SNR=5.0						
PDAR	**Pinedale Array**	**87.54**	**42**	P	P	16 29 18.6	+0.3
	0.6nm,0.9s,baz=210,slow=5.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**92.12**	**289**	P	P	16 29 41.4	+1.4
	0.4nm,0.5s,baz=109,slow=2.8,SNR=5.0						
YKA	**Yellowknife Ar**	**95.66**	**24**	P	P	16 29 54.4	-0.8
	0.1nm,0.5s,baz=238,slow=4.5,SNR=3.9						
SONM	**Songino Array**	**97.17**	**318**	LR	LR	17 07 42.2	
	comp=Z,320nm,21.1s,baz=352,slow=32						
BRTR	**Keskin Array B**	**148.41**	**314**	PKPbc	PKPbc	16 36 16.2	-0.8
	1.2nm,0.8s,baz=142,slow=3.5,SNR=6.5						
GERES	**GERESS Array B**	**150.75**	**347**	PKPbc	PKPbc	16 36 21.3	-1.1
	0.2nm,0.3s,baz=42,slow=2.2,SNR=5.7						
GERES				PKPab	PKPab	16 36 29.1	-0.2
	0.6nm,0.7s,baz=172,slow=0.9,SNR=4.2						

*IDC **16** 16:17:11.6±0.9, 3°68N×126°80E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/48, Error ellipse: s-maj=47.1km s-min=16.2km az=70.0*
*DJA **16** 16:17:15.5±1.4, 4°N±9°×12°7E±°, h27km±14km, M4.5/8, mb4.5/8, mb5.3/3, MLv4.5/8, Mw(mB)4.7/3*
*ISCJB **16** 16:17:16.4±0.6, 3°63N±0°06×126°69E±0°06, h53km, mb3.8/8, Error ellipse: s-maj=9.5km s-min=7.1km az=41.4*
ISC 16 16:17:18.5±0.8, 3°64N±0°08×126°62E±0°08, h53km, n22, σ1 9 06/21, mb3.8/8, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.09**	**273**	P	**Pn**	**16 17 36.6**	**-1.0**
SGSI				S	**Sn**	**16 17 51.4**	**-0.3**
MNI	**Manado**	**2.81**	**219**	P	**Pn**	**16 18 01.3**	**+0.2**
TNTI	**Ternate**	**2.94**	**165**	P	**Pn**	**16 18 03.8**	**+1.0**
DAV	**Davao City (W)**	**3.56**	**343**	LR	LR	16 19 45.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.7s,baz=157,slow=8.7,SNR=5.4						

IDC 16 16:35:15.3±2.8, 20.°64S×175.°67W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, Error ellipse: s-maj=175.7km s-min=25.4km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.61	257	P	P	16 43 45.2	-0.3
	1.0nm,0.9s,baz=86,slow=7.7,SNR=6.4						
WRA	Warramunga Arr	46.74	262	P	P	16 43 46.4	-0.2
	0.5nm,0.8s,baz=94,slow=8.8,SNR=4.7						
NVAR	Mina Array Bea	79.65	42	P	P	16 47 25.7	+0.7
	1.1nm,0.9s,baz=224,slow=8.3,SNR=4.3						
TXAR	Lajitas Array	85.31	56	P	P	16 47 54.6	0.0
	0.4nm,0.8s,baz=211,slow=7.1,SNR=4.6						
CMAR	Chiang Mai Arr	92.22	289	P	P	16 48 28.3	+0.7
	0.4nm,0.9s,baz=131,slow=2.5,SNR=3.3						
YKA	Yellowknife Ar	95.74	24	P	P	16 48 41.8	-0.9
	0.1nm,0.3s,baz=219,slow=4.5,SNR=4.4						
GERES	GERESS Array B	150.87	347	PKPbc	PKPbc	16 55 08.9	-1.0
	0.5nm,0.8s,baz=29,slow=3.0,SNR=3.5						

*ISCJB **16** 16:47:44.2±0.6, 63.°32S±0.°09×166.°5W±0.°2, h10km, mb4.6/13, MS4.7/11, Error ellipse: s-maj=15.7km s-min=10.1km az=136.5*

*IDC **16** 16:47:44.2±0.5, 63.°30S×166.°30W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.6/16, mbtmp4.5/11, ML3.8/1, MS4.7/11, Ms1 4.7/11, ms1mx4.4/26, Error ellipse: s-maj=26.6km s-min=15.7km az=33.0*

*NEIC **16** 16:47:45.6±0.3, 63.°31S×166.°43W, h10km, mb4.8/7, Error ellipse: s-maj=12.0km s-min=8.5km az=224.0*

ISC 16 16:47:45.7±0.5, 63.°3S±0.°1×166.°4W±0.°1, h10km, n72, σ0.s97/63, mb4.8/13, MS4.7/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	16.79	199	eP	Pn	16 51 40.8	+0.4
	79nm,1.4s						
VNDA	Vanda	17.36	203	P	Pn	16 51 48.2	+0.6
	0.3nm,0.3s,baz=62,slow=14,SNR=15						
VNDA	Vanda	17.36	203	eP	Pn	16 51 47.4	-0.2
	88nm,1.6s						
RPZ	Rata Peaks	23.53	316	P	P	16 52 57.2	+1.5
	11nm,0.9s,baz=142,slow=7.8,SNR=6.1						
RPZ				LR	LR	17 00 05.8	
	comp=Z,2μm,20.3s,baz=324,slow=32						
RPZ	Rata Peaks	23.53	316	P	P	16 52 56.4	+0.8
	206nm,1.8s						
QSPA	South Pole Qui	26.79	180	P	P	16 53 25.5	-0.1
	23nm,1.0s,baz=51,slow=6.3,SNR=14						
QSPA				LR	LR	17 02 44.1	
	comp=Z,1μm,18.3s,baz=245,slow=34						
QSPA	South Pole Qui	26.79	180	eP	P	16 53 24.9	-0.6
	27nm,1.0s						
URZ	Urewera	26.99	331	LR	LR	17 01 53.2	
	comp=Z,1μm,21.6s,baz=154,slow=31						
MAW	Mawson	44.66	204	LR	LR	17 13 47.8	
	comp=Z,734nm,20.9s,baz=147,slow=35						
VNA3	Neumayer Olymp	44.76	170	eP	P	16 55 58.2	-0.4
SNAA	Sanae	44.81	173	eP	P	16 55 58.4	-0.7
	16nm,1.1s						
STKA	Stephens Creek	45.13	289	P	P	16 56 03.5	+1.5
	4.8nm,0.9s,baz=144,slow=10,SNR=5.3						
STKA				LR	LR	17 12 05.7	
	comp=Z,844nm,19.3s,baz=92,slow=32						
STKA	Stephens Creek	45.13	289	eP	P	16 56 01.7	-0.2
VNA2	Neumayer--Watz	45.25	170	eP	P	16 56 02.3	-0.2
	baz=189,slow=6.7						
VNA1	Neumayer--Stat	45.45	170	eP	P	16 56 05.1	+1.1
USHA	Ushuaia	46.25	128	P	P	16 56 11.2	+0.7
	8.8nm,0.7s,baz=234,slow=12,SNR=3.2						
USHA	Ushuaia	46.25	128	P	P	16 56 11.2	+0.7
CTA	Charters Tower	53.68	301	LR	LR	17 19 04.6	
	comp=Z,664nm,18.6s,baz=150,slow=35						
AS31	Alice Springs	55.59	286	eP	P	16 57 21.2	-0.1
ASAR	Alice Springs	55.59	286	P	P	16 57 21.4	+0.2
	5.0nm,1.0s,baz=150,slow=7.5,SNR=33						
ASAR	Alice Springs	55.59	286	P	P	16 57 21.4	+0.2
PLCA	Paso Flores	56.98	116	LR	LR	17 15 59.3	
	comp=Z,572nm,18.2s,baz=188,slow=30						
PLCA	Paso Flores	56.98	116	eP	P	16 57 32.4	+1.4
WRA	Warramunga Arr	58.68	289	P	P	16 57 42.8	-0.4
	3.5nm,0.9s,baz=156,slow=5.9,SNR=15						
WRA	Warramunga Arr	58.68	289	P	P	16 57 42.8	-0.4
WRAB	Tennant Creek	58.69	289	eP	P	16 57 42.3	-0.9
	5.4nm,1.0s						
TRQA	Tornquist	62.69	121	P	P	16 58 08.3	-1.9
	28nm,1.3s						
FITZ	Fitzroy Crossi	64.10	281	P	P	16 58 20.6	+0.9
	7.4nm,1.0s,baz=163,slow=11,SNR=3.4						
FITZ	Fitzroy Crossi	64.10	281	P	P	16 58 20.6	+0.9
CPUP	Villa Florida	74.86	119	P	P	16 59 25.3	-0.9
	4.2nm,0.8s,baz=206,slow=3.7,SNR=4.7						
CPUP				LR	LR	17 27 16.6	
	comp=Z,435nm,20.3s,baz=198,slow=32						
CPUP	Villa Florida	74.86	119	P	P	16 59 25.3	-0.9
LPAZ	La Paz	79.27	105	P	P	16 59 51.2	-0.6
	3.6nm,0.9s,baz=176,slow=3.9,SNR=4.8						
LPAZ	La Paz	79.27	105	eP	P	16 59 52.1	+0.2
BOSA	Boshof	87.92	190	LR	LR	17 37 16.3	
	comp=Z,545nm,18.6s,baz=183,slow=34						
BDFB	Brasilia	88.16	122	P	P	17 00 38.5	+1.7
	3.9nm,0.8s,baz=181,slow=9.2,SNR=4.5						
BDFB				LR	LR	17 39 24.5	
	comp=Z,547nm,18.1s,baz=236,slow=35						
BDFB	Brasilia	88.16	122	P	P	17 00 38.5	+1.7
TSUM	Tsumeb	97.70	184	LR	LR	17 41 25.7	
	comp=Z,482nm,20.4s,baz=185,slow=33						
ILAR	Eielson Array	128.59	11	PKP	PKPdf	17 06 50.5	-0.6
	0.9nm,0.7s,baz=224,slow=1.8,SNR=8.2						
ILAR	Eielson Array	128.59	11	PKP	PKPdf	17 06 50.5	-0.6
TORD	Torodi Ar. Bea	129.20	165	PKP	PKPdf	17 06 54.5	+0.6
	0.9nm,0.8s,baz=168,slow=1.0,SNR=3.8						
TORD	Torodi Ar. Bea	129.20	165	PKP	PKPdf	17 06 54.5	+0.6
SONM	Songino Array	130.12	298	PKP	PKPdf	17 06 54.7	0.0
	0.3nm,0.7s,baz=125,slow=1.2,SNR=4.4						
SONM	Songino Array	130.12	298	PKP	PKPdf	17 06 54.7	0.0
YKA	Yellowknife Ar	131.35	29	PKP	PKPdf	17 06 56.2	-0.2
	0.2nm,0.6s,baz=204,slow=1.4,SNR=5.1						
YKA	Yellowknife Ar	131.35	29	PKP	PKPdf	17 06 56.2	-0.2
ZALV	Zalesovo Beam	143.66	289	PKP	PKPbc	17 07 16.9	+0.1
	1.0nm,0.7s,baz=245,slow=3.1,SNR=5.9						
ZALV	Zalesovo Beam	143.66	289	PKP	PKPbc	17 07 16.9	+0.1
KURK	Kurchatov	144.09	281	ePKP	PKPab	17 07 16.6	-1.1
RES	Resolute Bay	145.30	26	PKPbc	PKPbc	17 07 21.2	-0.2
	6.9nm,1.0s,baz=225,slow=6.2,SNR=13						
RES	Resolute Bay	145.30	26	ePKP	PKPbc	17 07 18.8	-2.6
FRB	Frobisher Bay	145.76	52	PKPbc	PKPdf	17 07 21.9	-0.7
	6.5nm,1.0s,baz=256,slow=2.8,SNR=6.8						
FRB	Frobisher Bay	145.76	52	PKPbc	PKPdf	17 07 21.9	-0.7
BVAR	Borovoye Array	149.36	277	PKPbc	PKPbc	17 07 32.8	-0.6
	4.1nm,0.7s,baz=156,slow=2.7,SNR=25						
BVAR	Borovoye Array	149.36	277	PKPbc	PKPbc	17 07 32.8	-0.6
BRVK	Borovoye	149.43	277	ePKPbc	PKPbc	17 07 32.6	-0.9
GNI	Garni	150.37	233	PKPbc	PKPbc	17 07 37.0	+0.6
	3.7nm,0.6s,baz=221,slow=18,SNR=2.3						
GNI	Garni	150.37	233	ePKPbc	PKPbc	17 07 37.0	+0.6
MALT	Malatya	150.83	223	PKPbc	PKPbc	17 07 38.7	+1.2
ABKAR	Akbulak array	151.43	263	ePKPbc	PKPbc	17 07 38.4	0.0
AKTO	Aktyubinsk	153.14	262	PKPbc	PKPbc	17 07 40.9	-1.3
	3.0nm,0.9s,baz=198,slow=4.5,SNR=3.7						
AKTO	Aktyubinsk	153.14	262	PKPbc	PKPbc	17 07 40.9	-1.3
BRTR	Keskin Array B	153.52	216	PKPbc	PKPbc	17 07 43.4	-0.2
	2.4nm,0.9s,baz=156,slow=4.9,SNR=9.5						
BRTR	Keskin Array B	153.52	216	PKPbc	PKPbc	17 07 43.4	-0.2
BR131	Keskin Array S	153.52	216	ePKPbc	PKPbc	17 07 42.9	-0.7
ESDC	Sonseca Array	154.11	148	PKPbc	PKPbc	17 07 44.4	-0.4
	0.5nm,0.4s,baz=170,slow=1.2,SNR=7.2						
ESDC	Sonseca Array	154.11	148	PKPbc	PKPbc	17 07 44.4	-0.4
SUMG	Summit	159.15	42	*i* P	PKPab	17 08 21.0	+1.3
	5.7nm,1.0s						
MLR	Muntele Rosu	160.81	207	PKPab	PKPab	17 08 25.8	-1.5
	0.5nm,0.8s,baz=144,slow=8.3,SNR=3.1						
MLR	Muntele Rosu	160.81	207	PKPab	PKPab	17 08 25.8	-1.5
GERES	GERESS Array B	165.50	180	PKPab	PKPab	17 08 49.4	+1.7
	0.4nm,0.8s,baz=206,slow=4.0,SNR=3.4						
GERES	GERESS Array B	165.50	180	PKPab	PKPab	17 08 49.4	+1.7
CLL	Collm	167.96	178	e(PKPab)	PKPab	17 09 05.0	+6.6
	comp=Z,6.0nm,1.2s						

*DDA **16** 16:48:35.3, 41.°76N×37.°81E, h21km, ML3.6*

*ISK **16** 16:48:36.2, 41.°64N×37.°64E, h8km, MD3.5*

*CSEM **16** 16:48:36.8±0.2, 41.°73N×37.°67E, h10km, MD3.5, Error ellipse: s-maj=7.5km s-min=3.7km az=1.0*

ISC 16 16:48:36.1±3.1, 41.°79N±0.°04×37.°72E±0.°02, h15km±22km, n62, σ1.s13/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESPY	Espiye-Giresun	1.16	139	ePN	Pn	16 48 57.4	-0.3
ESPY				eSN	Sb	16 49 11.4	-1.2
ESPY	Espiye-Giresun	1.16	139	ePn	Pn	16 48 57.4	-0.3
ESPY				eSn	Sb	16 49 11.4	-1.2
ERBA	Erbaa	1.33	214	*i* P	Pn	16 48 59.6	-0.5
ERBA				*i* S	Sn	16 49 16.7	-0.8
ERBA	Erbaa	1.33	214	*i* P	Pn	16 48 59.6	-0.5
ERBA				*i* S	Sn	16 49 16.7	-0.8
RSDY	Resadiye-TOKAT	1.42	192	ePN	Pn	16 49 01.2	-0.1
RSDY	Resadiye-TOKAT	1.42	192	ePn	Pn	16 49 01.3	-0.1
KVT	Kavak	1.45	241	ePN	Pn	16 49 02.0	+0.4
KVT				eSN	Sn	16 49 20.0	-0.4
KVT	Kavak	1.45	241	ePn	Pn	16 49 02.1	+0.4
KVT				eSn	Sn	16 49 20.0	-0.4
SUSE	Susehri	1.62	167	*i* P	Pb	16 49 05.3	-0.5
SUSE				*i* S	Sb	16 49 26.7	+0.6
SUSE	Susehri	1.62	167	*i* P	Pb	16 49 05.3	-0.5
SUSE				*i* S	Sb	16 49 26.7	+0.6
MACK	Trabzon	1.76	118	eP	Pn	16 49 06.7	+0.6
MACK				*i* S	Sn	16 49 28.8	+0.6
MACK	Trabzon	1.76	118	eP	Pn	16 49 06.7	+0.6
MACK				*i* S	Sn	16 49 28.8	+0.6
DIKM	Dikmen	1.85	266	ePN	Pn	16 49 07.9	+0.7
DIKM				eSN	Sn	16 49 30.0	-0.3
DIKM	Dikmen	1.85	266	ePn	Pn	16 49 07.9	+0.7
DIKM				eSn	Sn	16 49 30.0	-0.3
GUMT	Gumushane	1.88	134	ePN	Pn	16 49 08.3	+0.5
GUMT	Gumushane	1.88	134	ePn	Pn	16 49 08.3	+0.5
KELT	Kelkit	2.01	144	*i* P	Pn	16 49 11.0	+1.4
KELT				*i* S	Sn	16 49 35.7	+1.1
KELT	Kelkit	2.01	144	*i* P	Pn	16 49 11.0	+1.4
KELT				*i* S	Sn	16 49 35.7	+1.1
BYBT	Boyabat	2.24	263	ePN	Pn	16 49 13.6	+1.0
BYBT	Boyabat	2.24	263	ePn	Pn	16 49 13.6	+1.0
BAYT	Ayd˜–ntepe-Bay	2.30	127	ePN	Pn	16 49 15.3	+1.7
BAYT	Ayd˜–ntepe-Bay	2.30	127	ePn	Pn	16 49 15.3	+1.7
EZC	Erzincan	2.38	148	ePN	Pn	16 49 15.7	+1.0
EZC	Erzincan	2.38	148	ePn	Pn	16 49 15.7	+1.0
ILIC	ilic-Erzincan	2.42	164	ePN	Pn	16 49 15.8	+0.6
ILIC	ilic-Erzincan	2.42	164	ePn	Pn	16 49 15.8	+0.6
PZAR	Pazar-Rize	2.46	103	ePN	Pb	16 49 18.9	-1.2
PZAR	Pazar-Rize	2.46	103	ePn	Pb	16 49 18.9	-1.2
ERZN	Erzincan	2.68	145	ePN	Pn	16 49 20.0	+1.3
KOPT	Kop Dagi	2.75	129	eP	Pn	16 49 22.3	+2.4
KOPT				*i* S	Sb	16 49 58.3	-0.4
KOPT	Kop Dagi	2.75	129	eP	Pn	16 49 22.3	+2.4
BZK	Bozkurt	2.78	275	ePN	Pn	16 49 21.8	+1.8
BZK	Bozkurt	2.78	275	ePn	Pn	16 49 21.8	+1.8
YOZ	Yozgat	2.82	221	ePN	Pn	16 49 20.9	+0.2
YOZ	Yozgat	2.82	221	ePn	Pn	16 49 20.9	+0.2
DARE	Darende-Malaty	2.84	179	ePN	Pb	16 49 26.5	+0.1
CORM	Corum	2.84	236	ePN	Pn	16 49 22.1	+1.1
CORM	Corum	2.84	236	ePn	Pn	16 49 22.1	+1.1
TOS	Tosya	2.88	256	ePN	Pn	16 49 22.5	+1.0
TOS	Tosya	2.88	256	ePn	Pn	16 49 22.5	+1.0
BCA	Borcka	2.95	95	ePN	Pn	16 49 21.1	-1.2
DBAD	Bademkaya	3.09	103	eP	Pn	16 49 24.7	+0.4
DBAD				eS	Sn	16 49 59.6	-1.5
DBAD	Bademkaya	3.09	103	eP	Pn	16 49 24.7	+0.4
DBAD				eS	Sn	16 49 59.6	-1.5
DDEM	Demirkent	3.16	105	eP	Pn	16 49 26.6	+1.2
DDEM				*i* S	Sn	16 50 03.3	+0.4
DDEM	Demirkent	3.16	105	eP	Pn	16 49 26.6	+1.2
DDEM				*i* S	Sn	16 50 03.3	+0.4
PTK	Pertek	3.17	156	ePN	Pn	16 49 27.1	+1.6
PTK	Pertek	3.17	156	ePn	Pn	16 49 27.1	+1.6
ARTV	Artvin	3.22	99	eP	Pn	16 49 27.9	+1.6
ARTV				*i* S	Sn	16 50 03.5	-1.0
ARTV	Artvin	3.22	99	eP	Pn	16 49 27.9	+1.6
ARTV				*i* S	Sn	16 50 03.5	-1.0
DAGI	Agillar	3.23	101	eP	Pn	16 49 26.7	+0.4
DAGI				*i* S	Sn	16 50 05.2	+0.5
BNN	Bunyan	3.27	207	ePN	Pn	16 49 26.8	-0.1
BNN	Bunyan	3.27	207	ePn	Pn	16 49 26.8	-0.1
EZM	Erzurum	3.34	123	ePN	Pn	16 49 30.4	+2.4
MYA	Malataya	3.50	171	ePN	Pn	16 49 30.9	+0.8
MYA	Malataya	3.50	171	ePn	Pn	16 49 30.9	+0.8
MALT	Malatya	3.52	171	ePN	Pn	16 49 31.3	+1.1
MALT	Malatya	3.52	171	ePn	Pn	16 49 31.3	+1.1
BNGB	Bingˆ¶l	3.59	140	ePN	Pn	16 49 33.3	+1.9
BINT	Bingol	3.60	143	ePn	Pn	16 49 33.3	+1.9
ONI	Oni	4.33	77	P	Pn	16 49 43.2	+1.7
ONI				S	Sn	16 50 29.9	-1.8
ONI	Oni	4.33	77	P	Pn	16 49 43.2	+1.7
ONI				S	Sn	16 50 29.9	-1.8
AKH	Akhalkalaki	4.34	93	P	Sn	16 50 32.8	+0.6

*IDC **16** 16:57:49.8±1.1, 45.°66N×106.°46W, h0km, mb1 3.2/3, mb1mx3.1/28, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=34.9km s-min=8.4km az=132.0*

*ISCJB **16** 16:57:50.1±0.2, 45.°85N±0.°01×106.°67W±0.°02, h0km, Error ellipse: s-maj=1.9km s-min=1.8km az=162.1*

*NEIC **16** 16:57:51.3±1.1, 45.°64N×106.°41W, h0km, ML2.6, Error ellipse: s-maj=15.8km s-min=12.6km az=195.0, Suspected Mining explosion.*

NEIC 35 km [20 miles] SSE of Colstrip.

ISC 16 16:57:50.6±0.7, 45.°75N±0.°02×106.°57W±0.°02, h0km, n65, σ1.s40/74, 28C-45D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
F22A	Rosebud	0.22	81	P	Pg	16 57 56.3	+1.5
	baz=0.2,SNR=44						
F22A				⇓S	Sg	16 58 00.4	+2.8
	baz=0.2						
F21A	Absaloka Mine,	0.40	281	⇓P	Pg	16 57 56.5	-1.7
	baz=0.5,SNR=25						
F21A				⇓S	Sg	16 57 59.8	-3.6
	baz=0.5						
G22A	Birney	0.56	160	⇑P	Pn	16 58 03.5	-2.5
	baz=0.4,SNR=19						
G22A				⇑S	Sb	16 58 12.4	+0.5
	baz=0.4						
G21A	Lodge Grass	0.69	221	⇓P	Pg	16 58 04.3	+0.5
	baz=0.7,SNR=38						
G21A				⇓S	Sg	16 58 13.4	+0.8
	baz=0.7						
F23A	Volborg	0.81	91	⇓P	Pb	16 58 07.4	-0.3
	baz=0.7,SNR=21						
F23A				⇑S	Sn	16 58 19.8	-2.4
	baz=0.7						
E22A	Miles City	0.82	32	P	Pg	16 58 05.1	-1.1
	baz=0.9,SNR=42						
E22A				⇓Sb	Sg	16 58 18.1	+1.3
	baz=0.9						
E21A	Keefer Ranch,	0.87	336	⇓P	Pg	16 58 04.8	-2.5
	baz=1.0,SNR=5.6						
E21A				⇓S	Sg	16 58 14.0	-4.6
	baz=1.0						
G23A	Biddle	0.99	123	⇓P	Pn	16 58 11.1	-0.7
	baz=0.8,SNR=35						
G23A				⇓S	Sn	16 58 26.4	-0.1
	baz=0.8						
E23A	Ismay	1.16	49	⇑P	Pg	16 58 11.8	-1.0
	baz=1.2,SNR=12						
E23A				⇑S	Sg	16 58 27.7	0.0
	baz=1.2						
H22A	Clearmont	1.16	172	⇑P	Pn	16 58 14.2	0.0
	baz=1.0,SNR=32						
H21A	Big Horn, Sher	1.17	197	⇓P	Pn	16 58 13.7	-0.6
	baz=1.1,SNR=15						
G20A	Bridger	1.27	246	⇓P	Pg	16 58 13.2	-1.8
	baz=1.3						
E20A	Meyer Farm, Mu	1.33	305	⇑P	Pn	16 58 12.7	-3.8
	baz=1.5,SNR=28						
D21A	La Casta Ranch	1.35	348	⇑P	Pn	16 58 13.3	-3.5
	baz=1.5						
D21A				⇓S	Sg	16 58 30.7	-3.4
	baz=1.5						
D22A	Cohagen	1.43	11	⇓P	Pn	16 58 15.3	-2.6
	baz=1.5,SNR=21						
H23A	Clabaugh Cattl	1.44	145	⇓S	Sn	16 58 40.8	+3.1
	baz=1.3						
F24A	Ekalaka	1.49	85	⇓P	Pb	16 58 18.8	-0.4
	baz=1.4						
F24A				⇓S	Sn	16 58 40.4	+1.6
	baz=1.4						
G24A	Alzada	1.57	105	⇓P	Pb	16 58 20.2	-0.3
	baz=1.4,SNR=10						
G24A				⇑S	Sn	16 58 43.0	+2.2
	baz=1.4						
H20A	Greybull	1.62	219	⇑S	Sn	16 58 42.5	+0.5
	baz=1.6						
F19A	Roth Farm, Mol	1.67	275	⇓Pb	Pn	16 58 19.6	-1.6
	baz=1.8,SNR=86						
F19A				⇑S	Sn	16 58 40.8	-2.5
	baz=1.8						
E19A	Rath Farm, Rou	1.70	296	⇑P	Pn	16 58 19.0	-2.6
	baz=1.8,SNR=51						
E19A				⇓S	Sn	16 58 41.1	-3.1
	baz=1.8						
D23A	Lindsay	1.71	33	⇑P	Pn	16 58 20.3	-1.4
	baz=1.7,SNR=14						
D20A	Manuel Ranch,	1.73	322	⇑Pb	Pn	16 58 19.9	-2.1
	baz=1.9						
D20A				⇓S	Sn	16 58 41.8	-3.0
	baz=1.9						
H24A	Dirks Ranch, A	1.74	124	⇑P	Pg	16 58 22.8	-1.0
	baz=1.6,SNR=39						
H24A				⇓S	Sg	16 58 48.1	+1.7
	baz=1.6						
E24A	Baker	1.77	62	⇑P	Pn	16 58 22.1	-0.4
	baz=1.7,SNR=34						
E24A				⇑S	Sg	16 58 46.7	-0.7
	baz=1.7						
I22A	9 Mile Ranch,	1.85	178	⇑P	Pg	16 58 24.4	-1.7
	baz=1.7,SNR=29						
I22A				⇑Sb	Sg	16 58 52.9	+2.8
	baz=1.7						
I23A	Meade Ranch, G	1.95	156	⇓Sb	Sg	16 58 56.3	+3.1
	baz=1.8						
I21A	Big Trails, Te	2.00	195	⇑P	Pn	16 58 25.8	0.0
	baz=1.9,SNR=31						
I21A				⇓Sb	Sg	16 58 56.2	+1.3
	baz=1.9						
RLMT	Red Lodge	2.00	253	ePn	Pn	16 58 25.8	0.0
RLMT				eSn	Sn	16 58 52.0	+0.2
RLMT	Red Lodge	2.00	253	⇓Pb	Pn	16 58 26.0	+0.2
	baz=2.1,SNR=51						
RLMT				⇓Sb	Sn	16 58 52.5	+0.8
	baz=2.1						
RLMT				⇓Sb	Sn	16 58 52.5	+0.8
	baz=2.1						
H19A	Powell	2.02	239	⇑Pb	Pn	16 58 27.0	+1.0
	baz=2.1,SNR=14						
H19A				⇓Sb	Sn	16 58 53.9	+1.8
	baz=2.1						
C22A	Vida	2.06	13	Pb	Pn	16 58 26.1	-0.3
	baz=2.1,SNR=22						
C22A				⇓Sb	Sn	16 58 53.6	+0.8
	baz=2.1						
D24A	Glendive	2.07	48	⇑Pb	Pn	16 58 27.9	+1.2
	baz=2.1						
D24A				⇓Sb	Sb	16 58 55.6	+0.3
	baz=2.1						
I20A	Worland	2.11	212	⇓Pb	Pb	16 58 29.1	-0.7
	baz=2.1,SNR=23						
I20A				⇑Sb	Sg	16 58 58.2	-0.2
	baz=2.1						
C21A	Desert Coulee	2.11	350	⇑Pb	Pn	16 58 26.7	-0.5
	baz=2.2						
C21A				⇓Sb	Sn	16 58 54.1	-0.2
	baz=2.2						
D19A	Cripps Ranch,	2.14	312	⇑Pb	Pn	16 58 27.0	-0.7
	baz=2.3,SNR=5.8						
D19A				⇓Sb	Sn	16 58 54.1	-0.8
	baz=2.3						
G18A	Lazy EL Ranch,	2.15	260	⇓Pb	Pn	16 58 27.8	-0.1
	baz=2.2,SNR=38						
G18A				⇓Sb	Sn	16 58 55.9	+0.6
	baz=2.2						
GCMT	Greycliff	2.17	272	eP	Pn	16 58 27.4	-0.7
C20A	Veseth Ranch,	2.20	334	⇓Pb	Pn	16 58 28.2	-0.2
	baz=2.3						
C20A				⇓Sb	Sn	16 58 56.1	-0.3
	baz=2.3						
F18A	Big Timber	2.21	275	⇓P	Pn	16 58 26.4	-2.2
	baz=2.3,SNR=40						
F18A				⇓Sb	Sn	16 58 56.4	-0.3
	baz=2.3						
C23A	Lambert	2.27	24	⇓Pb	Pn	16 58 29.8	+0.4
	baz=2.3						
C23A				⇓Sb	Sn	16 58 59.6	+1.6
	baz=2.3						
C24A	Savage	2.32	39	⇑Pb	Pn	16 58 31.2	+1.2
	baz=2.3						
C24A				⇓Sb	Sn	16 59 01.6	+2.3
	baz=2.3						
RSSD	Black Hills	2.42	131	ePg	Pb	16 58 33.4	-1.8
H18A	Shoshone NF, C	2.44	245	⇓P	Pn	16 58 30.4	-1.4
	baz=2.5,SNR=18						
E18A	Harlowton	2.47	291	⇑Pb	Pn	16 58 32.4	+0.2
	baz=2.6						
E17A	Martinsdale	3.07	285	⇑P	Pn	16 58 38.4	-2.1
	baz=3.2						
YNR	Norris Junctio	3.08	252	Pn	Pn	16 58 43.4	+2.6
EGMT	Eagleton	3.16	317	ePn	Pn	16 58 43.0	+1.4
DGMT	Dagmar	3.17	30	ePn	Pn	16 58 44.6	+2.8
D17A	Six Diamond Ra	3.18	298	⇓P	Pn	16 58 39.7	-2.3
	baz=3.3						
FLWY	Flagg Ranch	3.37	242	eP	Pn	16 58 47.8	+3.1
BOZ	Bozeman (W)	3.55	270	ePn	Pn	16 58 48.8	+1.8
MOOW	Moose Ponds	3.58	238	ePg	Pb	16 58 55.9	+0.9
PDAR	Pinedale Array	3.67	217	Pn	Pn	16 58 50.5	+1.6
	0.2nm,0.3s,baz=47,slow=12,SNR=8.5						
PDAR				Pg	Pb	16 58 57.8	+1.3
	0.7nm,0.3s,baz=43,slow=17,SNR=18						
PDAR				Lg	Lg	16 59 44.4	
	3.0nm,0.3s,baz=40,slow=31,SNR=12						
PDAR	Pinedale Array	3.67	217	Pn	Pn	16 58 50.5	+1.6
PDAR				Pg	Pb	16 58 57.8	+1.3
PDAR				Lg	Lg	16 59 44.4	
HRY	Holter Researc	3.78	287	ePn	Pn	16 58 53.8	+3.6
TPAW	Teton Pass	3.86	236	ePg	Pb	16 59 03.3	+3.7
LRM	Limekiln Ridge	4.12	273	ePg	Pb	16 59 03.5	-0.6
SRU	San Rafael	7.25	205	P	Pn	16 59 37.4	-0.5
	1.8nm,0.4s						
NEW	Newport	7.64	293	Lg	Lg	17 01 48.7	
	0.2nm,0.3s,baz=1.5,slow=16,SNR=4.1						
NEW	Newport	7.64	293	Lg	Lg	17 01 48.7	
ULM	Lac du Bonnet	8.47	54	Pn	Pn	16 59 51.7	-2.7
	0.2nm,0.3s,baz=248,slow=11,SNR=1.9						
ULM				Lg	Lg	17 02 09.9	
	0.2nm,0.3s,baz=211,slow=5.9,SNR=3.0						
ULM	Lac du Bonnet	8.47	54	Pn	Pn	16 59 51.7	-2.7
ULM				Lg	Lg	17 02 09.9	
YKA	Yellowknife Ar	17.41	347	Pn	Pn	17 01 51.0	-3.5
	0.1nm,0.3s,baz=162,slow=13,SNR=4.4						
YKA	Yellowknife Ar	17.41	347	Pn	Pn	17 01 51.0	-3.5

IDC 16 17:11:00.5±9.0, 2.°18N×126.°93E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=169.4km s-min=138.9km az=77.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.15	162	P	P	17 16 08.6	-0.1
	1.0nm,0.4s,baz=341,slow=11,SNR=13						
ASAR	Alice Springs	26.57	166	P	P	17 16 40.8	+0.3
	0.2nm,0.3s,baz=345,slow=11,SNR=8.4						
STKA	Stephens Creek	36.62	159	P	P	17 18 08.4	-0.3
	1.9nm,0.8s,baz=333,slow=9.1,SNR=5.1						

IDC 16 17:18:48.6±2.2, 4.°92S×152.°14E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=154.3km s-min=30.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.87	228	P	P	17 23 54.1	+0.1
	0.2nm,0.5s,baz=52,slow=9.9,SNR=4.2						
ASAR	Alice Springs	25.62	222	P	P	17 24 19.9	-0.1
	0.3nm,0.9s,baz=56,slow=9.7,SNR=4.5						
ILAR	Eielson Array	82.52	22	P	P	17 31 13.0	0.0
	0.3nm,0.6s,baz=254,slow=5.5,SNR=4.6						

CSEM ***16*** *17:27:52.7±0.1, 38.18°N×22.08°E, h10km, MD3.0, Error ellipse: s-maj=3.4km s-min=2.5km az=95.0*
ISCJB ***16*** *17:27:53.2±0.4, 38.19°N±0.02°×22.08°E±0.04, h10km±4km, Error ellipse: s-maj=5.1km s-min=3.8km az=176.7*
THE ***16*** *17:27:53.5, 38.20°N×22.09°E, h10km±2km, ML1.8/3, Error ellipse: s-maj=2.9km s-min=0.6km az=312.0*
ATH ***16*** *17:27:53.2, 38.19°N×22.07°E, h14km±2km, MD3.0/7*
ISC 16 17:27:53.1±0.9,**38.18N**±0.02×**22.06E**±0.03,**h12**km±5km, **n29**,σ0**37**/53,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.09**	**314**	P	**Pg**	**17 27 55.8**	**-0.1**
LAKA				S	**Sg**	**17 27 57.7**	**-0.2**
LAKA	**Lakka**	**0.09**	**314**	*e*PG	**Pg**	**17 27 55.9**	**0.0**
LAKA				*e*SG	**Sg**	**17 27 57.6**	**-0.3**
LAKA	**Lakka**	**0.09**	**314**	P	**Pg**	**17 27 55.8**	**-0.1**
LAKA				S	**Sg**	**17 27 57.7**	**-0.2**
TRIZ	**Trizonia**	**0.19**	**2**	P	**Pg**	**17 27 57.2**	**0.0**
TRIZ				S	**Sg**	**17 28 00.4**	**+0.3**
TRIZ	**Trizonia**	**0.19**	**2**	*e*PG	**Pg**	**17 27 57.2**	**0.0**
TRIZ				*e*SG	**Sg**	**17 28 00.0**	**-0.1**
TRIZ	**Trizonia**	**0.19**	**2**	P	**Pg**	**17 27 57.2**	**0.0**
TRIZ				*e*Sg	**Sg**	**17 28 00.0**	**-0.1**
TRIZ				S	**Sg**	**17 28 00.4**	**+0.3**
KALE	**Kalithea**	**0.22**	**15**	P	**Pg**	**17 27 57.8**	**-0.1**
KALE				S	**Sg**	**17 28 01.4**	**+0.3**
KALE	**Kalithea**	**0.22**	**15**	*e*PG	**Pg**	**17 27 57.8**	**-0.1**
KALE				*e*SG	**Sg**	**17 28 01.5**	**+0.3**
KALE	**Kalithea**	**0.22**	**15**	P	**Pg**	**17 27 57.8**	**-0.1**
KALE				S	**Sg**	**17 28 01.4**	**+0.3**
EFP	**Efpalio**	**0.28**	**334**	P	**Pg**	**17 27 58.8**	**0.0**
EFP				S	**Sg**	**17 28 02.9**	**+0.2**
EFP	**Efpalio**	**0.28**	**334**	P	**Pg**	**17 27 58.8**	**0.0**
EFP				S	**Sg**	**17 28 02.9**	**+0.2**
GUR	**Goura**	**0.33**	**137**	P	**Pg**	**17 27 59.5**	**-0.2**
GUR				S	**Sg**	**17 28 04.8**	**+0.7**
GUR	**Goura**	**0.33**	**137**	P	**Pg**	**17 27 59.5**	**-0.2**
GUR				S	**Sg**	**17 28 04.8**	**+0.7**
DSF	**Desfina**	**0.43**	**57**	P	**Pg**	**17 28 01.1**	**-0.6**
DSF				S	**Sg**	**17 28 07.6**	**+0.1**
DSF	**Desfina**	**0.43**	**57**	P	**Pg**	**17 28 01.1**	**-0.6**
DSF				S	**Sg**	**17 28 07.6**	**+0.1**
RLS	**Riolos of Patr**	**0.49**	**256**	*e*PG	**Pg**	**17 28 02.7**	**+0.1**
RLS				*e*SB	**Sb**	**17 28 10.5**	**-0.1**
RLS	**Riolos of Patr**	**0.49**	**256**	*e*Pg	**Pg**	**17 28 02.7**	**+0.1**
RLS				*e*Sb	**Sb**	**17 28 10.5**	**-0.1**
AMT	**Artemida-Makis**	**0.70**	**204**	P	**Pg**	**17 28 06.8**	**+0.1**
AMT				S	**Sn**	**17 28 18.8**	**-0.8**
AMT	**Artemida-Makis**	**0.70**	**204**	P	**Pg**	**17 28 06.8**	**+0.1**
AMT				S	**Sn**	**17 28 18.8**	**-0.8**
EVR	**Evrytania**	**0.77**	**345**	*e*PB	**Pg**	**17 28 07.7**	**-0.2**
EVR				*e*SB	**Sg**	**17 28 18.6**	**+0.6**
EVR	**Evrytania**	**0.77**	**345**	*e*Pb	**Pg**	**17 28 07.7**	**-0.2**
EVR				*e*Sb	**Sg**	**17 28 18.6**	**+0.6**
LKR	**Lokris**	**0.87**	**57**	*e*PB	**Pb**	**17 28 10.6**	**+0.4**
LKR	**Lokris**	**0.87**	**57**	*e*Pb	**Pb**	**17 28 10.6**	**+0.4**
ITM	**Ithomi**	**1.00**	**186**	*e*PB	**Pg**	**17 28 11.6**	**-0.7**
ITM				*e*SB	**Sn**	**17 28 27.5**	**+0.5**
ITM	**Ithomi**	**1.00**	**186**	*e*Pb	**Pg**	**17 28 11.6**	**-0.7**
ITM				*e*Sb	**Sn**	**17 28 27.5**	**+0.5**
THL	**Klokotos Trika**	**1.39**	**358**	*e*PG	**Pb**	**17 28 18.8**	**-0.1**
THL	**Klokotos Trika**	**1.39**	**358**	*e*Pg	**Pb**	**17 28 18.8**	**-0.1**
VLI	**Veliai**	**1.61**	**154**	*e*PG	**Pb**	**17 28 22.9**	**+0.1**
VLI	**Veliai**	**1.61**	**154**	*e*Pg	**Pb**	**17 28 22.9**	**+0.1**

IDC 16 17:30:42.9±7.2,**15.34S**×**172.91W**,**h0**km,**mb3.8**/2, **mb1 4.1**/2,**mb1mx3.6**/21,**mbtmp3.8**/2,**Error ellipse: s-maj=341.3km s-min=25.0km az=140.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.80**	**38**	Pn	Pn	17 31 14.2	-1.1
	18nm,0.3s,baz=37,slow=12,SNR=15						
AFI				Sn	Sn	17 31 31.1	-7.8
	80nm,0.3s,baz=61,slow=19,SNR=22						
WRA	**Warramunga Arr**	**50.31**	**257**	P	P	17 39 41.2	-0.7
	0.6nm,0.8s,baz=92,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**50.58**	**252**	P	P	17 39 43.4	-0.4
	2.1nm,0.8s,baz=89,slow=7.7,SNR=26						
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc	PKPab	17 50 27.2	0.0
	2.1nm,1.0s,baz=105,slow=1.8,SNR=8.8						

ISCJB ***16*** *17:33:39.6±0.4, 0.02S±0.08×17.30W±0.07, h12km, mb4.4/35, MS3.4/1, Error ellipse: s-maj=12.2km s-min=8.0km az=144.5*
IDC ***16*** *17:33:39.2±0.5, 0.03N×17.35W, h0km, mb4.3/18, mb1 4.5/20, mb1mx4.3/29, mbtmp4.3/20, ML4.7/2, MS3.5/3, Ms1 3.5/3, ms1mx3.3/47, Error ellipse: s-maj=18.2km s-min=13.9km az=149.0*
NEIC ***16*** *17:33:40.9±0.3, 0.07S×17.32W, h10km, mb4.7/14, Error ellipse: s-maj=10.4km s-min=6.4km az=146.0*
ISC 16 17:33:41.2±0.5,**0.0N**±0.1×**17.34W**±0.0,**h12**km,**n85**, σ1**905**/74,**mb4.5**/35,**North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**13.75**	**63**	*e*Pn	**Pn**	**17 36 55.8**	**-0.4**
	baz=252						
LIC				*e*Sn	Sn	17 39 18.3	-11
	62nm,0.5s						
LIC	**Lamto**	**13.75**	**63**	*e*Pn	**Pn**	**17 36 55.8**	**-0.4**
LIC				*e*Sn	Sn	17 39 18.3	-11
DBIC	**Dimbokro**	**14.10**	**62**	Pn	**Pn**	**17 36 59.3**	**-1.7**
	7.5nm,0.3s,baz=231,slow=14,SNR=65						
DBIC				Sn	Sn	17 39 25.2	-12
	3.4nm,0.3s,baz=143,slow=13,SNR=5.9						
DBIC				LR	LR	17 40 42.6	
	comp=Z,199nm,21.7s,baz=338,slow=30						
DBIC	**Dimbokro**	**14.10**	**62**	Pn	**Pn**	**17 36 59.3**	**-1.7**
DBIC				Sn	Sn	17 39 25.2	-12
BBTS	**Babate**	**14.57**	**3**	Pn	Pn	17 37 03.7	-3.7
	7.4nm,0.3s,baz=331,slow=1.7,SNR=9.8						
BBTS				Sn	Sn	17 39 32.4	-17
	7.1nm,0.3s,baz=28,slow=22,SNR=6.9						
BBTS				LR	LR	17 41 27.9	
	comp=Z,432nm,21.2s,baz=237,slow=32						
BBTS	**Babate**	**14.57**	**3**	Pn	Pn	17 37 03.7	-3.7
BBTS				Sn	Sn	17 39 32.4	-17
RCBR	**Riachuelo**	**19.42**	**252**	P	**P**	**17 38 06.3**	**-1.3**
	1.0nm,0.3s,baz=85,slow=16,SNR=14						
RCBR	**Riachuelo**	**19.42**	**252**	P	**P**	**17 38 06.3**	**-1.3**
TOA0	**Torodi Ar. Sit**	**22.94**	**55**	*e*P	**P**	**17 38 44.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**22.94**	**55**	P	**P**	**17 38 45.2**	**-0.4**
	17nm,1.0s,baz=241,slow=9.5,SNR=20						
TORD	**Torodi Ar. Bea**	**22.94**	**55**	P	**P**	**17 38 45.2**	**-0.4**
TAM	**Tamanrasset**	**31.74**	**43**	*e*P	**P**	**17 40 06.5**	**+0.9**
	5.2nm,1.0s						
BDFB	**Brasilia**	**34.05**	**241**	P	**P**	**17 40 26.6**	**+0.9**
	3.7nm,0.8s,baz=74,slow=6.9,SNR=4.4						
BDFB	**Brasilia**	**34.05**	**241**	P	**P**	**17 40 26.6**	**+0.9**
PSMN	**Pico do Norte,**	**37.49**	**350**	*e*T	T	18 19 52.8	
PSMA	**Santa Maria**	**37.49**	**350**	*e*T	T	18 19 52.9	
CMLA	**Cha da Macela**	**38.31**	**350**	*e*T	T	18 20 58.0	
TSUM	**Tsumeb**	**39.22**	**121**	P	**P**	**17 41 09.9**	**+0.1**
	8.7nm,0.9s,baz=305,slow=7.0,SNR=8.0						
TSUM	**Tsumeb**	**39.22**	**121**	P	**P**	**17 41 09.9**	**+0.1**
ADH	**Angra Heroismo**	**39.51**	**348**	*e*T	T	18 19 32.7	
PCAN	**Candelaria**	**39.61**	**346**	*e*T	T	18 22 33.3	
PICO	**Pico**	**39.63**	**346**	*e*T	T	18 22 33.0	
CALA	**Caldeira**	**39.77**	**346**	*e*T	T	18 22 34.1	
ETSF	**Etsaut**	**45.27**	**17**	*e*P	**P**	**17 41 59.6**	**+0.8**
	11nm,1.1s						
ETSF	**Etsaut**	**45.27**	**17**	*e*P	**P**	**17 41 59.6**	**+0.8**
	11nm,1.1s						
SJPF	**Ste Jean**	**45.28**	**17**	*e*P	**P**	**17 41 59.7**	**+0.9**
	15nm,1.0s						
SJPF	**Ste Jean**	**45.28**	**17**	*e*P	**P**	**17 41 59.7**	**+0.9**
	15nm,1.0s						
EPF	**Esparros**	**45.67**	**18**	*e*P	**P**	**17 42 02.9**	**+1.0**
	22nm,1.2s						
EPF	**Esparros**	**45.67**	**18**	*e*P	**P**	**17 42 02.9**	**+1.0**
	22nm,1.2s						
SIV	**San Ignacio**	**45.98**	**248**	P	**P**	**17 42 03.7**	**-1.1**
	3.3nm,0.9s,baz=88,slow=7.9,SNR=11						
SIV	**San Ignacio**	**45.98**	**248**	P	**P**	**17 42 03.7**	**-1.1**
SAML	**Samuel**	**46.51**	**258**	*e*P	**P**	**17 42 07.9**	**-1.1**
	3.4nm,0.8s						
LBTB	**Lobatse**	**48.39**	**124**	P	**P**	**17 42 22.8**	**-0.7**
	5.2nm,0.7s,baz=309,slow=10,SNR=9.3						
LBTB	**Lobatse**	**48.39**	**124**	P	**P**	**17 42 22.8**	**-0.7**
ORIF	**Oris-en-Rattie**	**49.22**	**22**	*e*P	**P**	**17 42 31.8**	**+2.2**
ORIF	**Oris-en-Rattie**	**49.22**	**22**	*e*P	**P**	**17 42 31.8**	**+2.2**
MBDF	**Montbardon**	**49.40**	**23**	*e*P	**P**	**17 42 32.4**	**+1.4**
	11nm,0.9s						
MBDF	**Montbardon**	**49.40**	**23**	*e*P	**P**	**17 42 32.4**	**+1.4**
	11nm,0.9s						
BOSA	**Boshof**	**49.68**	**129**	P	**P**	**17 42 32.5**	**-1.0**
	6.9nm,1.1s,baz=330,slow=3.1,SNR=4.2						
BOSA	**Boshof**	**49.68**	**129**	P	**P**	**17 42 32.5**	**-1.0**
LPG	**La Plagne**	**50.04**	**22**	*e*P	**P**	**17 42 37.6**	**+1.5**
	4.7nm,0.8s						
LPG	**La Plagne**	**50.04**	**22**	*e*P	**P**	**17 42 37.6**	**+1.5**
	4.7nm,0.8s						
LPL	**La Plagne**	**50.05**	**22**	*e*P	**P**	**17 42 37.5**	**+1.4**
LPL	**La Plagne**	**50.05**	**22**	*e*P	**P**	**17 42 37.5**	**+1.4**
SSF	**Saint Saulge**	**50.27**	**18**	*e*P	**P**	**17 42 38.3**	**+0.8**
	10.0nm,1.1s						
SSF	**Saint Saulge**	**50.27**	**18**	*e*P	**P**	**17 42 38.3**	**+0.8**
	10.0nm,1.1s						
LDF	**La Druitiere**	**50.63**	**15**	*e*P	**P**	**17 42 41.2**	**+1.1**
	26nm,1.5s						
LDF	**La Druitiere**	**50.63**	**15**	*e*P	**P**	**17 42 41.2**	**+1.1**
	26nm,1.5s						
LPAZ	**La Paz**	**52.62**	**249**	P	**P**	**17 42 56.9**	**+0.6**
	1.3nm,0.7s,baz=44,slow=4.4,SNR=7.0						
LPAZ	**La Paz**	**52.62**	**249**	P	**P**	**17 42 56.9**	**+0.6**
GERES	**GERESS Array B**	**55.52**	**24**	P	**P**	**17 43 16.4**	**+0.1**
	1.6nm,0.7s,baz=212,slow=7.3,SNR=17						
GERES	**GERESS Array B**	**55.52**	**24**	P	**P**	**17 43 16.4**	**+0.1**
CLL	**Collm**	**57.19**	**22**	*e*P	**P**	**17 43 28.0**	**0.0**
CFAA	**Coronel Fontan**	**57.45**	**232**	LR	LR	18 06 53.2	
	comp=Z,26nm,18.9s,baz=249,slow=35						
MORC	**Moravsky Berou**	**57.86**	**26**	*e*P	**P**	**17 43 33.4**	**+0.5**
	2.7nm,0.9s						
BRTR	**Keskin Array B**	**60.94**	**43**	P	**P**	**17 43 55.5**	**+1.0**
	1.0nm,0.6s,baz=250,slow=5.7,SNR=6.9						
BRTR	**Keskin Array B**	**60.94**	**43**	P	**P**	**17 43 55.5**	**+1.0**
KIEV	**Kiev**	**64.05**	**31**	*e*P	**P**	**17 44 14.7**	**-0.2**
	5.2nm,1.0s						
AKASG	**Malin Array Be**	**64.06**	**31**	P	**P**	**17 44 14.1**	**-0.9**
	1.1nm,0.6s,baz=232,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**64.06**	**31**	P	**P**	**17 44 14.1**	**-0.9**
NB2	**NORSAR Subarra**	**64.68**	**15**	P	**P**	**17 44 18.9**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=209,slow=6.5						
NOA	**NORSAR Array B**	**64.68**	**15**	P	**P**	**17 44 19.4**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=210,slow=6.5,SNR=5.4						
NOA	**NORSAR Array B**	**64.68**	**15**	P	**P**	**17 44 19.4**	**+0.5**
KBZ	**Khabaz**	**68.90**	**42**	P	**P**	**17 44 46.7**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=224,slow=5.2,SNR=4.9						
KBZ	**Khabaz**	**68.90**	**42**	P	**P**	**17 44 46.7**	**+0.7**
FINES	**FINESS Array B**	**69.56**	**21**	P	**P**	**17 44 49.3**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=213,slow=6.3,SNR=12						
FINES	**FINESS Array B**	**69.56**	**21**	P	**P**	**17 44 49.3**	**-0.5**
KAF	**Kangasniemi**	**70.09**	**20**	*ep*	**P**	**17 44 50.2**	**-2.9**
	comp=Z,3.4nm,0.9s						
VNA2	**Neumayer--Watz**	**71.12**	**177**	*e*P	P	17 45 11.0	+12
	baz=338,slow=8.1						
JOF	**Josiu**	**72.39**	**21**	*ep*	**P**	**17 45 05.4**	**-1.5**
	comp=Z,4.3nm,0.8s						
ABKAR	**Akbulak array**	**81.70**	**40**	*e*P	**P**	**17 45 59.9**	**+0.3**
	comp=Z,1.2nm,0.7s						
ECSD	**EROS Data Cent**	**82.23**	**314**	*e*P	**P**	**17 46 03.9**	**+1.2**
	comp=Z,4.6nm,0.9s						
ULM	**Lac du Bonnet**	**82.66**	**321**	P	**P**	**17 46 04.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=71,slow=2.5,SNR=5.7						
ULM	**Lac du Bonnet**	**82.66**	**321**	P	**P**	**17 46 04.8**	**+0.2**
MAW	**Mawson**	**86.28**	**158**	P	**P**	**17 46 22.6**	**0.0**
	comp=Z,15nm,1.0s,baz=94,slow=4.6,SNR=3.6						
MAW	**Mawson**	**86.28**	**158**	P	**P**	**17 46 22.6**	**0.0**
TXAR	**Lajitas Array**	**86.78**	**299**	P	**P**	**17 46 25.6**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=120,slow=7.4,SNR=15						
TXAR	**Lajitas Array**	**86.78**	**299**	P	**P**	**17 46 25.6**	**-0.5**
QSPA	**South Pole Qui**	**90.08**	**180**	P	**P**	**17 46 42.4**	**+1.5**
	comp=Z,3.5nm,1.0s,baz=241,slow=18,SNR=7.6						
QSPA	**South Pole Qui**	**90.08**	**180**	P	**P**	**17 46 42.5**	**+1.5**
AAK	**Ala-Archa**	**91.34**	**48**	*e*P	**P**	**17 46 48.6**	**+1.2**
	comp=Z,12nm,0.8s						
PDAR	**Pinedale Array**	**91.62**	**313**	P	**P**	**17 46 49.0**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=117,slow=8.7,SNR=4.5						
PDAR	**Pinedale Array**	**91.62**	**313**	P	**P**	**17 46 49.0**	**+0.2**
YKA	**Yellowknife Ar**	**93.35**	**333**	P	**P**	**17 46 54.7**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=84,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**93.35**	**333**	P	**P**	**17 46 54.8**	**-1.3**

BJI ***16*** *17:41:59.6, 3.25N×126.84E, h24km, mB5.4/44, mb5.1/57, Ms5.4/68, Ms7 5.2/63*
IDC ***16*** *17:42:00.9±0.4, 3.62N×126.70E, h0km, mb5.0/27, mb1 5.0/28, mb1mx5.0/30, mbtmp4.9/28, ML3.4/1, MS5.1/19, Ms1 5.1/19, ms1mx4.9/38, Error ellipse: s-maj=17.7km s-min=9.4km az=82.0*
NEIC ***16*** *17:42:03.6±2.8, 3.60N×126.70E, h18km±17km, mb5.3/68, MS5.3/161, MW5.6, Error ellipse: s-maj=7.1km s-min=4.5km az=72.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^17Nm; Mrr0.99; Mθθ-0.01; Mφφ-0.98; Mrθ0.99; Mθφ0.10; Mφr-2.50; Best double couple: Mo2.90000×10^17 NP1:φs7.00000°, δ11.00000°, λ117.00000°. NP2:φs160.00000°, δ80.00000°, λ85.00000°. Principal axes: T 2.9000, Plg54.0000°, Azm63.0000°; N -0.0600, Plg4.0000°, Azm160.0000°; P -2.8300, Plg34.0000°, Azm253.0000°;*
MOS ***16*** *17:42:04.6±1.6, 3.64N×126.68E, h33km, mb5.6/56, MS5.2/43 Error ellipse: s-maj=9.8km s-min=4.7km az=116.5*
ISCJB ***16*** *17:42:05.6±0.4, 3.69N±0.02×126.80E±0.03, h44km±3km, mb5.2/154, MS5.3/213, Error ellipse: s-maj=4.3km s-min=3.1km az=162.9*
GCMT ***16*** *17:42:06.8±0.1, 3.71N×126.50E, h13km, MW5.7, Moment Tensor Solution. s90,c138; s36,c40; Moment tensor: Scale 10^17Nm; Mrr2.12±.05; Mθθ0.66±.04; Mφφ-2.77±.05; Mrθ1.37±.14; Mθφ0.01±.03; Mφr-2.55±.18; Best double couple: Mo3.80000×10^17 NP1:φs24.00000°, δ26.00000°, λ134.00000°. NP2:φs158.00000°, δ71.00000°, λ71.00000°. Principal axes: T 3.7300, Plg59.0000°, Azm41.0000°; N 0.2100, Plg18.0000°, Azm164.0000°; P -3.9300, Plg24.0000°, Azm262.0000°; Data Used: II IU IC G CN. Surface waves: sta= 91, comp=160, per= 50.*
AUST ***16*** *17:42:09.3, 3.50N×126.50E, h60km*
DJA ***16*** *17:42:10.2±0.3, 4°N±3°×12°7E±°, h43km±4km, M5.4/70, mb5.3/70, mB5.8/64, MLv5.6/15, Mw(mB)5.4/64, Mwp5.9/5*
ISC 16 17:42:04.8±0.3,**3.60N**±0.03×**126.73E**±0.04,**h25**km±1km, **h25**km:**pP-P**,**n665**,σ1**985**/589,**mb5.3**/152,**MS5.3**/214, **22C-35D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.20**	**274**	P	**Pn**	**17 42 24.8**	**-1.2**
SGSI				S	**Sn**	**17 42 41.1**	**-0.4**
MNI	**Manado**	**2.86**	**221**	P	**Pn**	**17 42 49.7**	**+0.9**
MNI				S	**Sn**	**17 43 20.7**	**-1.8**
TNTI	**Ternate**	**2.88**	**167**	P	**Pn**	**17 42 50.8**	**+1.6**
DAV	**Davao City (W)**	**3.63**	**342**	Pn	**Pn**	**17 43 02.1**	**+2.7**
	42nm,0.3s,baz=26,slow=7.5,SNR=12						
DAV				LR	LR	17 44 46.1	
	comp=Z,14μm,19.0s,baz=152,slow=46						
DAV	**Davao City (W)**	**3.63**	**342**	Pn	**Pn**	**17 43 02.1**	**+2.7**
DAV	**Davao City (W)**	**3.63**	**342**	P	Pb	17 43 04.9	-3.4
	SNR=56						
DAV	**Davao City (W)**	**3.63**	**342**	P	Pb	17 43 04.6	-3.7
DMPH	**Davao City--Mi**	**3.67**	**341**	*e*P	**Pn**	**17 43 02.4**	**+2.5**
DMPH				*e*S	Sn	17 43 26.2	-16
KCP	**Kidapawan**	**3.76**	**334**	*e*P	Pb	17 43 06.2	-4.4
KCP				*i* S	**Sb**	**17 43 52.7**	**-2.9**
KMSI	**Cibinong**	**4.07**	**222**	P	**Pn**	**17 43 08.1**	**+2.5**
LBMI	**Labuha**	**4.28**	**170**	P	**Pn**	**17 43 10.6**	**+2.1**
CTBH	**Cotabato--PC H**	**4.36**	**326**	*e*P	**Pn**	**17 43 10.7**	**+1.1**
BUKP	**Musuan**	**4.56**	**339**	*e*P	**Pn**	**17 43 12.6**	**+0.2**
CGP	**Cagayan de Oro**	**5.23**	**337**	*e*P	**Pn**	**17 43 22.1**	**+0.7**
PAGZ	**Pagadian**	**5.37**	**322**	*e*P	**Pn**	**17 43 24.7**	**+1.3**
PAGZ				*e*S	**Pb**	**17 43 36.3**	**-1.7**
BUTP	**Butuan**	**5.44**	**348**	*e*P	Pn	17 43 28.3	+3.9
MRSI	**Marisa**	**5.70**	**237**	P	**Pn**	**17 43 28.2**	**+0.2**
	2μm,1.1s,18μm6.2nm						
IPIL	**Ipil**	**5.87**	**315**	*e*P	**Pn**	**17 43 31.6**	**+1.4**
LUWI	**Luwuk**	**6.08**	**221**	P	Pn	17 43 37.7	+4.6
	1μm,1.2s,27μm59μm9.5nm						
SWI	**Sorong**	**6.34**	**134**	P	**Pn**	**17 43 39.1**	**+2.4**
	baz=6.5,SNR=137						
SWI				S	Sn	17 44 55.0	+6.6
	baz=6.5,SNR=5.3						
SWI	**Sorong**	**6.34**	**134**	P	**Pn**	**17 43 39.1**	**+2.4**
	691nm,1.0s,7μm101μm2.4nm						
TBP	**Tagbilaran**	**6.69**	**335**	*e*P	Pn	17 43 44.8	+3.3
APSI	**Ampana**	**6.77**	**229**	P	Pn	17 43 46.4	+3.7
	765nm,1.0s,29μm5.4nm						
LLP	**Lapu-Lapu**	**7.21**	**338**	*e*P	**Pn**	**17 43 50.7**	**+2.0**
MSAI	**Masohi**	**7.24**	**162**	P	Pn	17 43 55.0	+5.8
	36nm,1.2s,719nm0.2nm						
AAI	**Ambon**	**7.39**	**169**	P	Pn	17 43 55.9	+4.8
	baz=7.4,SNR=12						
AAI	**Ambon**	**7.39**	**169**	P	Pn	17 43 55.8	+4.7
	165nm,0.8s,3μm0.7nm						
PLP	**Palo**	**7.71**	**347**	*e*P	**Pn**	**17 43 57.9**	**+2.3**
MYLDM	**Lahad Datu**	**8.35**	**281**	P	Pn	17 44 07.8	+3.4
MYLDM	**Lahad Datu**	**8.35**	**281**	P	Pn	17 44 08.0	+3.6
	231nm,1.7s,12μm154μm2.2nm						
FAKI	**Fak Fak**	**8.51**	**140**	P	Pn	17 44 11.1	+4.5
	233nm,1.0s,3μm0.8nm						
PALU	**Palau**	**8.56**	**64**	P	Pn	17 44 14.8	+7.6
	baz=8.8,SNR=8.2						
KDI	**Kendari**	**8.56**	**209**	P	**Pn**	**17 44 06.6**	**-0.6**
	304nm,0.8s,5μm						
TSM	**Tawau**	**8.86**	**275**	P	**Pn**	**17 44 12.9**	**+1.5**
TTSI	**Tana Toraja**	**9.55**	**226**	P	Pn	17 44 25.7	+4.8
	366nm,1.3s,5μm19μm						
SDKM	**Sandakan**	**9.72**	**282**	P	**Pn**	**17 44 24.4**	**+1.3**
BBSI	**Bau Bau**	**9.94**	**205**	P	Pn	17 44 30.6	+4.4
	207nm,1.4s,5μm						
SPSI	**Sidrap Palu**	**10.24**	**223**	P	Pn	17 44 34.7	+4.4
	154nm,1.0s,4μm16μm						
SMKI	**Samarinda**	**10.33**	**247**	P	Pn	17 44 37.3	+5.8
	285nm,1.0s,4μm						
KDM	**Kudat**	**10.39**	**289**	P	Pn	17 44 36.1	+3.8
BAKI	**Biak**	**10.51**	**117**	P	Pn	17 44 41.4	+7.4
	290nm,1.3s,9μm						
KKM	**Kota Kinabalu**	**10.75**	**283**	*e*P	**Pn**	**17 44 38.2**	**+0.8**
	83nm,0.9s						
KKM	**Kota Kinabalu**	**10.75**	**283**	P	**Pn**	**17 44 40.5**	**+3.1**
	baz=11,SNR=16						
KKM	**Kota Kinabalu**	**10.75**	**283**	P	**Pn**	**17 44 40.0**	**+2.6**
KKM	**Kota Kinabalu**	**10.75**	**283**	P	Pn	17 44 41.8	+4.4
	242nm,0.8s,6μm						
TLE	**Tual**	**10.97**	**147**	P	Pn	17 44 45.2	+5.0
	baz=11,SNR=27						
TLE	**Tual**	**10.97**	**147**	P	Pn	17 44 46.1	+5.9
	249nm,1.2s,8μm						
KAPI	**Kappang**	**11.04**	**219**	Pn	**Pn**	**17 44 40.5**	**-0.7**
	0.3nm,0.3s,baz=60,slow=20,SNR=2.1						
KAPI	**Kappang**	**11.04**	**219**	Pn	**Pn**	**17 44 40.5**	**-0.7**
KAPI	**Kappang**	**11.04**	**219**	P	Pn	17 44 46.9	+5.7
	78nm,1.1s,2μm						
BKSI	**Bulukumba**	**11.05**	**217**	P	Pn	17 44 46.0	+4.6
	86nm,1.1s,2μm						
TGY	**Tagaytay City**	**11.90**	**332**	Pn	Pn	17 44 58.7	+5.7
	70nm,0.3s,baz=186,slow=12,SNR=2.7						
TGY				LR	LR	17 51 28.6	
	comp=Z,52nm,18.0s,baz=148,slow=48						
TGY	**Tagaytay City**	**11.90**	**332**	Pn	Pn	17 44 58.7	+5.7
KBKI	**Kotabaru**	**12.59**	**237**	P	P	17 45 08.9	-4.8
	110nm,1.5s,2μm						
MMRI	**Maumere**	**12.96**	**200**	P	P	17 45 25.1	+7.3
BTM	**Bintulu**	**13.63**	**269**	P	Pn	17 45 20.3	+3.7
BBKI	**Banjar Baru**	**13.80**	**240**	P	**P**	**17 45 25.4**	**-1.8**
	556nm,1.0s,15μm						
SBUM	**Sibu**	**14.53**	**266**	P	**Pn**	**17 45 32.1**	**+3.1**
SBUM	**Sibu**	**14.53**	**266**	P	Pn	17 45 32.3	+3.3
	158nm,2.1s,6μm						
WSI	**Waingapu**	**14.66**	**206**	P	P	17 45 43.1	+6.4
	baz=14,SN

comp=N,14µm,18.9s
QZH LR LR
comp=E,7µm,17.4s
QZH LR LR
comp=E,19µm,18.8s
SBJI Serang 22.72 245 P P 17 47 18.8 +14
SKJI Sukabumi 22.73 242 P P 17 47 16.7 +12
MYKOM Kota Tinggi 22.92 266 P **P** **17 47 07.8 +0.5**
MYKOM Kota Tinggi 22.92 266 P **P** **17 47 10.3 +3.1**
comp=Z,59nm,1.8s,comp=Z,3µm
JOW Kunigami 23.15 4 P **P** **17 47 08.2 -1.2**
comp=Z,44nm,0.6s,baz=194,slow=8.5,SNR=25
JOW Kunigami 23.15 4 *eP* **P** **17 47 09.1 -0.3**
comp=Z,36nm,0.8s
GZH Guangzhou 23.30 327 P **P** **17 47 14.5 +3.6**
GZH S **S** **17 51 27.8 +5.7**
GZH LR LR
comp=N,8µm,20.9s
GZH LR LR
comp=E,5µm,20.4s
GZH LR LR
comp=Z,14µm,22.0s
CGJI Cibinong 23.32 244 P **P** **17 47 12.0 +0.7**
comp=Z,148nm,1.0s,comp=Z,3µm
KGM Kluang 23.43 267 P **P** **17 47 13.7 +1.3**
COEN Coen 23.89 137 *eP* **P** **17 47 15.9 -0.8**
comp=Z,241nm,1.0s
COEN Coen 23.89 137 P **P** **17 47 16.6 -0.1**
baz=24,SNR=11
KASI Kota Agung 23.98 248 P **P** **17 47 21.6 +3.9**
comp=Z,153nm,1.2s,comp=Z,3µm
PMG Port Moresby 24.11 123 P **P** **17 47 17.3 -1.5**
comp=Z,18nm,0.8s,baz=290,slow=3.2,SNR=3.8
PMG Port Moresby 24.11 123 P **P** **17 47 17.3 -1.5**
PMG LR LR
comp=Z,4µm,22.0s
LWLI Liwa 24.21 249 P **P** **17 47 21.9 +2.0**
comp=Z,188nm,0.9s,comp=Z,3µm
WRAB Tennant Creek 24.56 163 *eP* **P** **17 47 21.2 -1.7**
WRAB pmax pmax
comp=Z,273nm,0.9s
WRAB MLR MLR
comp=Z,2µm,21.0s
WRAB Tennant Creek 24.56 163 *eP* **P** **17 47 21.2 -1.7**
comp=Z,273nm,0.9s
WRAB LR LR
comp=Z,2µm,21.0s
WRA Warramunga Arr 24.56 163 P **P** **17 47 21.6 -1.3**
comp=Z,190nm,0.9s,baz=343,slow=9.9,SNR=105
WRA P3KPbc 18 20 33.5
comp=Z,0.5nm,0.8s,baz=159,slow=4.0,SNR=4.6
WRA Warramunga Arr 24.56 163 P **P** **17 47 21.6 -1.3**
WRA *e* 18 20 33.5
FRIM Kepong 25.06 270 P **P** **17 47 28.9 +1.4**
KSI Kapahiang 25.17 254 P P 17 47 38.5 +10
XMIS Christmas Isla 25.22 236 P P 17 47 35.4 +6.5
baz=25,SNR=4.2
MBWA Marble Bar 25.55 195 *eP* **P** **17 47 32.9 +1.1**
comp=Z,134nm,1.3s
MBWA LR LR
comp=Z,2µm,19.0s
IPM Ipoh 25.65 273 *eP* **P** **17 47 33.6 +0.7**
comp=Z,156nm,1.1s
IPM Ipoh 25.65 273 P **P** **17 47 34.1 +1.1**
IPM Ipoh 25.65 273 P **P** **17 47 35.6 +2.7**
comp=Z,156nm,1.1s,comp=Z,3µm
BKNI Bangkinang 25.88 263 P **P** **17 47 39.4 +4.5**
comp=Z,164nm,1.3s,comp=Z,3µm
KULM Kulim 26.05 275 *eP* **P** **17 47 37.2 +0.7**
comp=Z,171nm,1.3s
KULM LR LR
comp=Z,10µm,22.0s
KULM Kulim 26.05 275 P **P** **17 47 38.0 +1.5**
KULM Kulim 26.05 275 P **P** **17 47 39.5 +3.0**
comp=Z,121nm,1.3s,comp=Z,2µm
PPI Padang Panjang 26.62 262 P **P** **17 47 44.7 +3.0**
comp=Z,66nm,1.6s,comp=Z,1µm
QIS Mount Isa 27.13 153 P **P** **17 47 45.6 -0.6**
baz=27,SNR=30
MNSI Mandailing Nat 27.27 265 P P 17 47 52.6 +5.1
comp=Z,142nm,0.9s,comp=Z,10µm
CBIJ Chichi jima 27.64 31 P **P** **17 47 48.7 -2.0**
comp=Z,78nm,0.6s,baz=273,slow=14,SNR=4.2
CBIJ LR LR 17 59 34.6
comp=Z,3µm,18.1s,baz=215,slow=38
CBIJ Chichi jima 27.64 31 P **P** **17 47 48.7 -2.0**
PSI Prapat 27.77 269 P **P** **17 47 51.5 -0.6**
comp=Z,24nm,1.0s,baz=336,slow=2.3,SNR=7.6
PSI LR LR 17 59 46.7
comp=Z,5µm,20.6s,baz=256,slow=38
PSI Prapat 27.77 269 P **P** **17 47 51.5 -0.6**
PSI Prapat 27.77 269 P **P** **17 47 52.6 +0.5**
baz=28,SNR=5.9
PSI Prapat 27.77 269 P **P** **17 47 52.4 +0.3**
comp=Z,48nm,1.4s,comp=Z,1µm
SSE Sheshan 27.84 350 *eP* **P** **17 47 52.5 +0.1**
SSE pP **pP** **17 47 58.9 -0.9**
SSE sP **sP** **17 48 01.8 -1.1**
SSE S **S** **17 52 34.4 +0.2**
SSE sS **sS** **17 52 44.4 -2.1**
SSE pmax pmax
comp=Z,21nm,0.6s
SSE pmax pmax
comp=Z,280nm,6.3s
SSE LR LR
comp=N,2µm,26.3s
SSE LR LR
comp=E,6µm,26.3s
SSE LR LR
comp=Z,5µm,20.7s
AS31 Alice Springs 27.99 166 *eP* **P** **17 47 52.6 -1.2**
ASAR Alice Springs 27.99 166 P **P** **17 47 52.7 -1.2**
comp=Z,7.6nm,0.6s,baz=341,slow=6.1,SNR=91
ASAR P3KPbc 18 20 23.6
comp=Z,0.5nm,0.9s,baz=156,slow=2.6,SNR=4.1
ASAR Alice Springs 27.99 166 P **P** **17 47 52.7 -1.2**
ASAR *e* 18 20 23.6
GSI Gunungsitoli 29.21 266 P **P** **17 48 04.3 -0.6**
baz=29,SNR=7.6
GSI S S 17 52 33.2 -23
baz=29,SNR=31
GSI Gunungsitoli 29.21 266 P **P** **17 48 06.5 +1.6**
comp=Z,44nm,0.9s,comp=Z,3µm
WHN Wuhan 29.24 338 ⇑P **P** **17 48 04.1 -0.7**
WHN S **S** **17 52 53.3 -2.9**
WHN LR LR
comp=N,15µm,20.4s
WHN LR LR
comp=E,3µm,15.0s
NJ2 Nanjing 29.25 346 *eP* **P** **17 48 05.1 +0.2**
NJ2 pP **pP** **17 48 12.6 +0.2**
NJ2 sP **sP** **17 48 15.0 -0.4**
NJ2 S **S** **17 52 53.0 -3.4**
NJ2 pmax pmax
comp=Z,30nm,1.2s
NJ2 pmax pmax
comp=Z,420nm,10.6s
NJ2 LR LR
comp=N,3µm,19.2s
NJ2 LR LR
comp=E,8µm,25.8s
NJ2 LR LR
comp=Z,3µm,23.4s
JNU Nakatsue 29.62 7 P **P** **17 48 08.3 0.0**
comp=Z,30nm,0.8s,baz=245,slow=1.1,SNR=14
JNU Nakatsue 29.62 7 *eP* **P** **17 48 07.7 -0.5**
comp=Z,27nm,1.0s
GYA Guiyang 29.77 322 P **P** **17 48 12.8 +3.1**
GYA sP **sP** **17 48 21.5 +1.2**
GYA PP **PnPn** **17 49 10.0 +4.2**
GYA PcP **PcP** **17 51 14.4 +1.1**
GYA S **S** **17 53 08.0 +3.1**
GYA sS **sS** **17 53 17.3 +0.1**
GYA SS **SnSn** **17 54 44.3 +8.6**
GYA ScP **ScP** **17 54 54.5 +0.6**
GYA ScS **ScS** **17 58 48.3 -0.9**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,4.9s
GYA LR LR
comp=N,590nm,16.6s
GYA LR LR
comp=E,530nm,17.7s
GYA LR LR
comp=Z,620nm,17.6s

CTA Charters Tower 30.37 142 P **P** **17 48 15.8 +0.9**
comp=Z,7.3nm,1.0s,baz=299,slow=12,SNR=4.6
CTA Charters Tower 30.37 142 P **P** **17 48 15.8 +0.9**
CTAO Charters Tower 30.37 142 *eP* **P** **17 48 16.6 +1.6**
CTAO pmax pmax
comp=Z,39nm,1.3s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO Charters Tower 30.37 142 *eP* **P** **17 48 16.6 +1.6**
comp=Z,39nm,1.3s
CTAO LR LR
comp=Z,3µm,19.0s
CM31 Chiang Mai Arr 30.93 301 *eP* **P** **17 48 19.6 -0.4**
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 30.93 301 P **P** **17 48 19.8 -0.3**
comp=Z,13nm,0.7s,baz=118,slow=7.3,SNR=50
CMAR LR LR 18 00 29.6
comp=Z,4µm,21.9s,baz=131,slow=36
CMAR Chiang Mai Arr 30.93 301 P **P** **17 48 19.8 -0.3**
MEEK Meekatharra 31.07 194 P **P** **17 48 20.5 -0.6**
baz=31,SNR=39
CHTO Chiang Mai 31.09 301 *eP* **P** **17 48 20.4 -1.0**
CHTO pmax pmax
comp=Z,18nm,0.6s
CHTO MLR MLR
comp=Z,4µm,22.0s
CHTO Chiang Mai 31.09 301 *eP* **P** **17 48 20.4 -1.0**
comp=Z,18nm,0.6s
CHTO LR LR
comp=Z,4µm,22.0s
CHTO Chiang Mai 31.09 301 P **P** **17 48 21.7 +0.3**
SNR=18
CHTO mb 17 48 25.5
SNR=40
CHTO Chiang Mai 31.09 301 P **P** **17 48 21.1 -0.3**
comp=Z,40nm,0.9s,comp=Z,741nm
ENH Enshi 31.14 330 *eP* **P** **17 48 19.9 -1.8**
comp=Z,28nm,0.8s
ENH LR LR
comp=Z,12µm,20.0s
KMI Kunming 31.47 315 P **P** **17 48 26.6 +1.7**
KMI pP **pP** **17 48 30.0 -2.4**
KMI sP **sP** **17 48 33.8 -1.6**
KMI PP **PnPn** **17 49 29.0 +0.7**
KMI S **S** **17 53 29.9 -1.9**
KMI sS **sS** **17 53 42.5 -1.6**
KMI SS **SnSn** **17 55 24.3 +7.0**
KMI ScS **ScS** **17 58 57.1 -0.6**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI pmax pmax
comp=Z,300nm,4.8s
KMI LR LR
comp=N,3µm,17.7s
KMI LR LR
comp=E,3µm,15.0s
KMI LR LR
comp=Z,3µm,23.1s
COCO West Island 33.60 242 PFAKE 17 48 50.0 +6.6
COCO LR LR
comp=Z,4µm,21.0s
TIA Tai'an 33.64 346 *eP* **P** **17 48 44.0 +0.5**
KSAR Wonju Array Be 33.70 2 P **P** **17 48 43.8 -0.2**
KSRS Korea Array 33.71 2 P **P** **17 48 43.8 -0.3**
comp=Z,23nm,0.7s,baz=178,slow=9.5,SNR=68
INCN Inchon 33.72 360 *eP* **P** **17 48 43.7 -0.5**
comp=Z,29nm,0.7s
INCN LR LR
comp=Z,4µm,22.0s
MORW Morawa 34.07 197 P **P** **17 48 48.0 +0.7**
baz=34,SNR=18
FORT Forrest 34.21 178 *eP* **P** **17 48 47.1 -1.4**
comp=Z,94nm,0.8s
FORT Forrest 34.21 178 P **P** **17 48 48.1 -0.4**
baz=34,SNR=18
MAJO Matsushiro 34.44 16 *eP* **P** **17 48 48.5 -2.0**
MAJO pmax pmax
comp=Z,22nm,1.0s
MAJO MLR MLR
comp=Z,7µm,20.0s
MAJO Matsushiro 34.44 16 *eP* **P** **17 48 48.5 -2.0**
comp=Z,22nm,1.0s
MAJO LR LR
comp=Z,7µm,20.0s
MAT Matsushiro 34.44 16 P **P** **17 48 48.4 -2.1**
MAT S **S** **17 54 22.0 +4.6**
MJAR Matsushiro Arr 34.44 16 P **P** **17 48 49.4 -1.1**
comp=Z,9.2nm,1.1s,baz=203,slow=9.2,SNR=14
MJAR LR LR 18 02 48.0
comp=Z,6µm,19.6s,baz=200,slow=36
MJAR Matsushiro Arr 34.44 16 P **P** **17 48 49.4 -1.1**
QLP Quilpie 34.45 152 P **P** **17 48 49.3 -1.4**
baz=35,SNR=14
XAN Xi'an 34.53 333 P **P** **17 48 49.0 -2.3**
XAN pP **pP** **17 48 55.8 -3.0**
XAN S S 17 54 12.8 -6.0
XAN SS **SnSn** **17 56 38.3 +7.1**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,54nm,5.1s
XAN LR LR
comp=N,4µm,26.0s
XAN LR LR
comp=E,2µm,29.9s
XAN LR LR
comp=Z,2µm,19.5s
CD2 Chengdu 34.74 324 P **P** **17 48 56.4 +3.2**
CD2 pP **pP** **17 49 02.6 +1.9**
CD2 sP **sP** **17 49 05.6 +1.8**
CD2 PP **PP** **17 50 14.5 +2.2**
CD2 S **S** **17 54 26.0 +3.7**
CD2 sS **sS** **17 54 36.3 +1.7**
CD2 SS **SnSn** **17 56 40.5 +4.0**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,390nm,5.3s
CD2 LR LR
comp=N,4µm,21.4s
CD2 LR LR
comp=Z,5µm,19.0s
KMBL Kambalda 35.08 187 P P 17 48 59.3 +3.2
baz=35,SNR=5.7
BLDU Ballidu 35.35 195 P **P** **17 48 59.3 +1.0**
baz=35,SNR=6.3
DL2 Dalian 35.45 353 P **P** **17 48 58.8 -0.3**
DL2 S **S** **17 54 31.5 -1.2**
DL2 pmax pmax
comp=Z,60nm,0.9s
DL2 pmax pmax
comp=Z,260nm,4.1s
DL2 LR LR
comp=N,2µm,18.2s
DL2 LR LR
comp=E,1µm,16.8s
DL2 LR LR
comp=Z,2µm,19.5s
HNR Honiara 35.55 112 PFAKE 17 49 10.0 +10
HNR LR LR
comp=Z,1µm,20.0s
KLBR Kellerberrin 36.03 193 P **P** **17 49 05.2 +1.1**
baz=36,SNR=28
RMQ Roma 36.73 146 P **P** **17 49 11.8 +1.6**
baz=37,SNR=10
EIDS Eidsvold 37.25 142 *eP* **P** **17 49 13.2 -1.5**
comp=Z,40nm,1.0s
EIDS Eidsvold 37.25 142 P **P** **17 49 14.3 -0.4**
baz=37,SNR=15
BBOO Buckleboo 37.28 167 *eP* **P** **17 49 13.5 -1.3**
comp=Z,459nm,0.8s
BBOO Buckleboo 37.28 167 P **P** **17 49 13.9 -0.9**
baz=37,SNR=27
NWAO Narrogin (SRO) 37.43 193 P **P** **17 49 16.4 +0.3**
comp=Z,12nm,0.7s,baz=25,slow=8.5,SNR=18
NWAO Narrogin (SRO) 37.43 193 P **P** **17 49 16.4 +0.3**
NWAO LR LR
comp=Z,1µm,21.0s
BJT Baijiatuan 37.49 347 *eP* **P** **17 49 17.1 +0.6**
comp=Z,138nm,0.8s
BJT LR LR
comp=Z,2µm,21.0s
IMP Imphal 37.94 307 *eP* **P** **17 49 18.0 -2.7**
IMP *ex* x 17 51 45.0
STKA Stephens Creek 38.01 159 P **P** **17 49 21.0 0.0**
comp=Z,27nm,0.4s,baz=340,slow=7.3,SNR=64

STKA Stephens Creek 38.01 159 *eP* **P** **17 49 20.3 -0.8**
comp=Z,13nm,0.7s
STKA Stephens Creek 38.01 159 P **P** **17 49 20.2 -0.8**
baz=38,SNR=121
SNY Shenyang 38.16 356 ⇑P **P** **17 49 22.4 +0.2**
SNY S **S** **17 55 15.6 +1.6**
SNY pmax pmax
comp=Z,53nm,0.8s
SNY pmax pmax
comp=Z,2µm,4.7s
SNY LR LR
comp=N,1µm,18.2s
SNY LR LR
comp=E,4µm,20.0s
SNY LR LR
comp=Z,4µm,18.6s
LZH Lanzhou 38.61 330 *eP* **P** **17 49 25.8 -0.5**
LZH pP **pP** **17 49 30.6 -3.2**
LZH sP **sP** **17 49 33.9 -3.0**
LZH PcP **PcP** **17 51 37.8 -0.6**
LZH *eS* **S** **17 55 18.0 -3.4**
LZH SS **SnSn** **17 58 09.0 -1.1**
LZH pmax pmax
comp=Z,32nm,1.1s
LZH pmax pmax
comp=Z,150nm,5.2s
LZH LR LR
comp=N,2µm,12.2s
LZH LR LR
comp=E,5µm,15.1s
LZH LR LR
comp=Z,6µm,17.6s
RKGY Rocky Gully 39.10 193 P **P** **17 49 31.0 +0.8**
baz=39,SNR=15
CMSA Cobar Meteorol 39.34 154 P **P** **17 49 32.2 0.0**
baz=40,SNR=30
HHC Hu-ho-hao-te 39.52 342 *eP* **P** **17 49 36.8 +3.1**
HHC pP **pP** **17 49 44.3 +3.0**
HHC sP **sP** **17 49 47.6 +3.3**
HHC PP **PnPn** **17 51 12.8 +5.1**
HHC S **S** **17 55 39.4 +4.6**
HHC sS **sS** **17 55 50.8 +3.6**
HHC SS **SS** **17 58 27.9 -2.0**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,360nm,5.4s
HHC LR LR
comp=N,2µm,18.8s
HHC LR LR
comp=E,3µm,22.0s
HHC LR LR
comp=Z,4µm,21.7s
VLA Vladivostok 39.62 6 *eP* **P** **17 49 32.6 -1.7**
SHL Shillong 39.95 307 *eP* **P** **17 49 39.0 +1.4**
SHL *ex* x 17 55 39.0
SHL *e*SCS 17 59 44.0
CN2 Changchun 40.05 359 *eP* **P** **17 49 38.6 +0.7**
CN2 *es*P **sP** **17 49 49.4 +0.8**
CN2 *eS* **S** **17 55 43.9 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2µm,20.0s
CN2 LR LR
comp=E,1µm,20.0s
CN2 LR LR
comp=Z,3µm,22.0s
USRK Ussuriysk Arra 40.70 6 P **P** **17 49 43.5 +0.2**
comp=Z,11nm,0.5s,baz=196,slow=8.2,SNR=22
MDJ Mudanjiang 40.92 3 P **P** **17 49 45.9 +0.7**
MDJ pP **pP** **17 49 52.3 -0.4**
MDJ sP **sP** **17 49 54.8 -1.0**
MDJ PcP **PcP** **17 51 44.6 -0.8**
MDJ ScP **ScP** **17 55 33.9 +0.2**
MDJ PcS **PcS** **17 55 36.3 +0.2**
MDJ S **S** **17 55 52.6 -2.8**
MDJ SS **SS** **17 58 55.1 -2.6**
MDJ ScS **ScS** **17 59 48.8 +0.2**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,500nm,5.3s
MDJ LR LR
comp=N,2µm,16.8s
MDJ LR LR
comp=E,3µm,23.1s
MDJ LR LR
comp=Z,3µm,29.4s
MDJ Mudanjiang 40.92 3 *eP* **P** **17 49 45.4 +0.3**
comp=Z,85nm,1.1s
MDJ LR LR
comp=Z,2µm,20.0s
ERM Erimo 40.97 19 *eP* **P** **17 49 43.4 -2.2**
ERM pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 40.97 19 PFAKE 17 50 00.0 +14
ERM LR LR
comp=Z,6µm,20.0s
ARMA Armidale 41.36 147 *eP* **P** **17 49 49.0 -0.1**
comp=Z,36nm,0.8s
ARMA Armidale 41.36 147 P **P** **17 49 49.2 +0.1**
baz=42,SNR=18
CAL Calcutta 41.67 300 *eP* **P** **17 49 50.7 -0.9**
CAL *eS* **S** **17 56 06.6 -0.6**
LSA Lhasa 42.52 311 P **P** **17 49 58.8 -0.3**
LSA LR LR
comp=N,1µm,23.8s
LSA LR LR
comp=E,1µm,26.4s
LSA Lhasa 42.52 311 *eP* **P** **17 49 58.0 -1.1**
LSA pmax pmax
comp=Z,34nm,0.7s
LSA MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 42.52 311 *eP* **P** **17 49 58.0 -1.1**
comp=Z,34nm,0.7s
LSA LR LR
comp=Z,2µm,20.0s
ARPS Mount Arapiles 42.57 162 P **P** **17 50 01.1 +2.3**
baz=43,SNR=16
ASAJ Asahikawa 42.71 17 *eP* **P** **17 50 00.2 +0.4**
comp=Z,56nm,1.3s
YNG Young 42.87 153 P P 17 50 04.6 +3.3
baz=43,SNR=6.9
GTA Gaotai 43.20 329 *eP* **P** **17 50 02.5 -1.6**
GTA pP **pP** **17 50 10.3 -1.4**
GTA sP **sP** **17 50 13.3 -1.4**
GTA S **S** **17 56 28.0 -1.6**
GTA SS **SS** **17 59 36.4 -6.7**
GTA ScS **ScS** **18 00 03.0 -0.1**
GTA pmax pmax
comp=Z,92nm,4.5s
GTA LR LR
comp=N,6µm,22.3s
GTA LR LR
comp=E,3µm,22.8s
GTA LR LR
comp=Z,8µm,20.2s
YUK Yuzh-Kuril'sk 43.67 20 *i*P P 17 50 03.8 -3.7
YUK *i*S **S** **17 56 33.1 -2.8**
YUK *i*SS **SS** **17 59 56.3 +4.5**
YUK pmax pmax
comp=N,80nm,1.0s
YUK pmax pmax
comp=E,121nm,1.0s
YUK pmax pmax
comp=Z,189nm,1.0s
YUK pmax pmax
comp=Z,343nm,1.0s
YUK MLR MLR
comp=N,1µm,18.0s
YUK MLR MLR
comp=E,679nm,18.0s
YUK MLR MLR
comp=Z,2µm,18.0s
CAN Canberra 44.00 154 *eP* **P** **17 50 10.5 +0.1**
CAN pmax pmax
comp=Z,25nm,0.8s
CAN MLR MLR
comp=Z,2µm,19.0s
CAN Canberra 44.00 154 *eP* **P** **17 50 10.5 +0.1**
comp=Z,25nm,0.8s
CAN LR LR

	comp=Z,2µm,19.0s								
TAPN	**Taplejung**	**44.09**	**306**	*e*	P	**P**	**17 50 10.1**	**-1.5**	
	comp=Z,73nm,0.9s								
ODAN	**Odare**	**44.14**	**306**	*e*	P	**P**	**17 50 10.4**	**-1.5**	
	comp=Z,80nm,0.9s								
TOO	**Toolangi**	**44.52**	**159**		P	P	17 50 19.3	+4.8	
	baz=45,SNR=6.3								
RAMN	**Ramite**	**44.82**	**305**	*e*	P	**P**	**17 50 15.8**	**-1.6**	
HABR	**Khabarovsk**	**45.27**	**8**	*de*	P	P	17 50 15.6	-4.6	
HABR				*e*	*SP	sP	17 50 24.4	-6.5	
HABR							17 52 01.5		
HABR					*eS	**S**	**17 56 55.7**	**-3.3**	
HABR				*e*	*SS	sS	17 57 05.7	-5.9	
HABR				*e*			18 00 11.6		
HABR					MLR	MLR			
	comp=Z,3µm,19.0s								
YSS	**Yuzh-Sakhalins**	**45.36**	**15**⇑	*e*	P	**P**	**17 50 22.0**	**+1.0**	
YSS				*e*	*SP	**sP**	**17 50 31.1**	**-0.6**	
YSS				*e*	S	**S**	**17 57 03.0**	**+2.5**	
YSS				*e*	SS	ScS	18 00 08.0	-8.1	
YSS					pmax	pmax			
	comp=Z,60nm,1.0s								
YSS					smax	smax			
	comp=N,800nm,15.0s								
YSS					smax	smax			
	comp=E,500nm,15.0s								
YSS					MLR	MLR			
	comp=N,2µm,19.0s								
YSS					MLR	MLR			
	comp=Z,2µm,19.0s								
YSS	**Yuzh-Sakhalins**	**45.36**	**15**	*e*	P	**P**	**17 50 19.9**	**-1.2**	
	comp=Z,101nm,1.1s								
YSS					LR	LR			
	comp=Z,889nm,20.0s								
JIRN	**Jiri**	**45.45**	**306**	*e*	P	**P**	**17 50 21.2**	**-1.3**	
KLR	**Kul'dur**	**45.66**	**5**	*e*	P	P	17 50 19.3	-4.1	
KLR				*e*	S	**S**	**17 57 01.0**	**-3.7**	
KLR					pmax	pmax			
	comp=Z,100nm,1.8s								
KLR					MLR	MLR			
	comp=E,900nm,13.0s								
KLR					MLR	MLR			
	comp=Z,2µm,13.0s								
GUN	**Gumba**	**45.80**	**306**	*e*	P	**P**	**17 50 23.4**	**-1.8**	
	comp=Z,46nm,0.4s								
HIA	**Hailar**	**45.89**	**354**	*e*	P	**P**	**17 50 25.2**	**+0.1**	
	comp=Z,89nm,1.0s								
HIA					LR	LR			
	comp=Z,4µm,20.0s								
PALK	**Pallekele**	**45.95**	**277**	*e*	P	**P**	**17 50 24.4**	**-1.8**	
	comp=Z,24nm,1.0s								
PALK	**Pallekele**	**45.95**	**277**		P	**P**	**17 50 25.7**	**-0.6**	
	SNR=6.4								
PALK					mb		17 50 39.1		
	SNR=9.9								
PALK	**Pallekele**	**45.95**	**277**		P	P	**17 50 26.6**	**+0.4**	
	comp=Z,29nm,1.2s,comp=Z,523nm								
PKI	**Pulchoki**	**46.04**	**305**	*e*	P	**P**	**17 50 25.5**	**-1.6**	
PKIN	**Phulchoki**	**46.05**	**305**	*e*	P	**P**	**17 50 25.7**	**-1.5**	
TARA	**Tarawa**	**46.20**	**92**		PFAKE		17 50 40.0	+12	
TARA					LR	LR			
	comp=Z,4µm,21.0s								
KKN	**Kakani**	**46.23**	**306**	*e*	P	**P**	**17 50 26.2**	**-2.3**	
DMN	**Daman**	**46.30**	**305**	*e*	P	**P**	**17 50 26.6**	**-2.5**	
	comp=Z,92nm,1.1s								
DZM	**Mont Dzumac**	**46.46**	**125**	*e*	P	**P**	**17 50 31.5**	**+1.3**	
	comp=Z,90nm,1.1s								
DZM				*e*	S	**S**	**17 57 13.1**	**-4.1**	
	comp=Z,4µm,29.1s								
DZM				*e*	LR	LR	18 03 31.7		
	comp=Z,4µm,25.4s								
DZM	**Mont Dzumac**	**46.46**	**125**	*e*	P	**P**	**17 50 30.7**	**+0.5**	
DZM	**Mont Dzumac**	**46.46**	**125**	*e*	P	**P**	**17 50 30.6**	**+0.4**	
	comp=Z,25nm,0.7s								
GKN	**Gorkha**	**46.84**	**306**	*e*	P	**P**	**17 50 31.5**	**-1.7**	
ULN	**Ulaanbaatar**	**47.24**	**342**	*e*	P	**P**	**17 50 34.0**	**-1.9**	
	comp=Z,40nm,1.0s								
ULN					LR	LR			
	comp=Z,4µm,22.0s								
ULN	**Ulaanbaatar**	**47.24**	**342**		P	**P**	**17 50 38.3**	**+2.4**	
	SNR=22								
ULN					mb		17 50 55.3		
	SNR=43								
ULN	**Ulaanbaatar**	**47.24**	**342**		P	**P**	**17 50 35.6**	**-0.4**	
	comp=Z,45nm,1.0s,comp=Z,578nm								
SONM	**Songino Array**	**47.42**	**341**		P	**P**	**17 50 37.7**	**+0.4**	
	comp=Z,7.0nm,0.6s,baz=162,slow=6.7,SNR=38								
SONM					LR	LR	18 12 16.7		
	comp=Z,5µm,21.5s,baz=155,slow=38								
SONM	**Songino Array**	**47.42**	**341**		P	**P**	**17 50 37.7**	**+0.4**	
KOLN	**Koldanda**	**47.59**	**305**	*e*	P	**P**	**17 50 36.6**	**-2.6**	
DANN	**Dangsing**	**47.69**	**306**	*e*	P	**P**	**17 50 37.2**	**-2.8**	
	comp=Z,116nm,0.6s								
PYUN	**Piuthan**	**48.22**	**305**	*e*	P	**P**	**17 50 42.4**	**-1.6**	
	comp=Z,231nm,1.0s								
HYB	**Hyderabad**	**49.16**	**290**	*i*	P	**P**	**17 50 50.0**	**-1.1**	
HYB				*e*	S	**S**	**17 57 56.0**	**+0.5**	
CIT	**Chita**	**49.49**	**349**	*e*	P	**P**	**17 50 53.3**	**+0.2**	
CIT				*e*			17 53 41.4		
CIT					pmax	pmax			
	comp=Z,138nm,2.6s								
TRD	**Trivandrum**	**49.70**	**278**⇓	*ex*		x	17 51 23.4		
TRD				*ex*		x	17 58 11.4		
TAU	**Tasmania Unive**	**49.90**	**160**		PFAKE		17 51 10.0	+14	
TAU					LR	LR			
	comp=Z,2µm,19.0s								
ZAK	**Zakamensk**	**50.64**	**341**	*e*	P	**P**	**17 51 01.8**	**-0.2**	
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
AKL	**Akola**	**51.24**	**294**	*e*	P	**P**	**17 51 05.7**	**-1.1**	
AKL					AMP		17 51 07.0		
	comp=Z,59nm,0.9s								
AKL				*i*	x	x	17 58 18.1		
TLY	**Talaya**	**51.65**	**342**	*e*	P	**P**	**17 51 09.3**	**-0.1**	
TLY				*e*			17 53 01.4		
TLY				*e*			18 00 47.4		
TLY					pmax	pmax			
	comp=Z,44nm,1.1s								
TLY					MLR	MLR			
	comp=Z,3µm,23.0s								
TLY	**Talaya**	**51.65**	**342**	*e*	P	**P**	**17 51 08.9**	**-0.5**	
	comp=Z,41nm,1.0s								
TLY					LR	LR			
	comp=Z,3µm,22.0s								
TLY	**Talaya**	**51.65**	**342**		P	**P**	**17 51 10.8**	**+1.4**	
	SNR=16								
TLY					mb		17 51 27.8		
	SNR=16								
IRK	**Irkutsk**	**51.95**	**343**	*e*	P	**P**	**17 51 13.4**	**+1.8**	
IRK					pmax	pmax			
	comp=Z,67nm,2.2s								
MOY	**Mondy**	**52.50**	**340**	*e*	P	**P**	**17 51 18.3**	**+2.4**	
MOY					pmax	pmax			
	comp=Z,79nm,3.7s								
WMQ	**Urumqi**	**52.83**	**325**		P	**P**	**17 51 21.0**	**+2.6**	
WMQ					PcP	**PcP**	**17 52 30.3**	**+2.8**	
WMQ					PP	**PP**	**17 53 22.3**	**+4.3**	
WMQ					S	**S**	**17 58 47.1**	**+1.5**	
WMQ					sS	**sS**	**17 58 58.8**	**+0.4**	
WMQ					ScS	**ScS**	**18 01 05.8**	**-0.9**	
WMQ					SS	**SS**	**18 02 23.8**	**-0.9**	
WMQ					pmax	pmax			
	comp=Z,20nm,1.8s								
WMQ					pmax	pmax			
	comp=Z,550nm,4.0s								
WMQ					LR	LR			
	comp=N,6µm,20.0s								
WMQ					LR	LR			
	comp=E,3µm,21.0s								
WMQ					LR	LR			
	comp=Z,3µm,25.0s								
DDI	**Dehra Dun**	**53.04**	**306**	*e*	P	**P**	**17 51 18.8**	**-1.4**	
DDI				*ex*		x	17 54 06.5		
NDI	**New Delhi**	**53.19**	**303**	*ex*		P	17 51 15.0	-6.2	
NDI				*ex*		x	17 54 04.5		
POO	**Poona**	**53.76**	**290**⇓	*i*	P	P	17 51 21.0	-4.6	
	comp=Z,90nm,1.0s								
SMLA	**Simla**	**54.04**	**306**	*i*	P	**P**	**17 51 26.1**	**-1.2**	
SMLA				*i*	S	**S**	**17 59 02.1**	**-0.2**	
HVS	**Khovu-Aksy**	**54.85**	**335**	*e*	P	**P**	**17 51 32.4**	**-0.7**	
HVS					pmax	pmax			
	comp=Z,58nm,0.7s								
MSVF	**Nonsavu**	**54.86**	**115**	*e*	P	**P**	**17 51 34.0**	**+0.3**	
MSVF					pmax	pmax			
	comp=Z,82nm,1.2s								
MSVF					MLR	MLR			
	comp=Z,2µm,22.0s								
MSVF	**Nonsavu**	**54.86**	**115**	*e*	P	**P**	**17 51 34.0**	**+0.3**	
	comp=Z,82nm,1.2s								
MSVF					LR	LR			
	comp=Z,2µm,22.0s								
BOD	**Bodaibo**	**54.99**	**352**	*e*	P	**P**	**17 51 33.5**	**-0.3**	
BOD					pmax	pmax			
	comp=Z,41nm,1.2s								
DGAR	**Diego Garcia**	**55.25**	**258**		PFAKE		17 51 50.0	+14	
DGAR					LR	LR			
	comp=Z,2µm,20.0s								
DLH	**Dalhousie**	**55.48**	**307**	*e*	P	**P**	**17 51 36.0**	**-2.2**	
PEA0B	**Petropavlovsk-**	**55.55**	**22**	*e*	P	**P**	**17 51 38.7**	**+0.7**	
PETK	**Petropavlovsk-**	**55.55**	**22**		P	**P**	**17 51 38.8**	**+0.9**	
	comp=Z,15nm,0.6s,baz=192,slow=4.6,SNR=25								
PETK	**Petropavlovsk-**	**55.55**	**22**		P	**P**	**17 51 38.8**	**+0.9**	
PETK	**Petropavlovsk-**	**55.55**	**22**		P	**P**	**17 51 38.8**	**+0.9**	
THN	**Thein Dam**	**55.65**	**307**	*e*	P	**P**	**17 51 37.0**	**-2.0**	
THN				*ex*		x	17 54 24.5		
PET	**Petropavlovsk**	**55.84**	**23**	*e*	P	**P**	**17 51 41.7**	**+1.7**	
PET				*e*	S	**S**	**17 59 26.7**	**+0.9**	
PET					pmax	pmax			
	comp=Z,700nm,12.3s								
PET					pmax	pmax			
	comp=Z,69nm,1.3s								
PET					MLR	MLR			
	comp=Z,2µm,18.0s								
PET					MLR	MLR			
	comp=Z,2µm,18.0s								
PET	**Petropavlovsk**	**55.84**	**23**		PFAKE		17 51 50.0	+10	
PET					LR	LR			
	comp=Z,2µm,19.0s								
MK31	**Makanchi Array**	**57.66**	**325**	*e*	P	**P**	**17 51 51.7**	**-1.4**	
MK31					pmax	pmax			
	comp=Z,12nm,0.5s								
MK31	**Makanchi Array**	**57.66**	**325**	*e*	P	**P**	**17 51 51.2**	**-1.9**	
KSH	**Kashi**	**58.13**	**315**		P	P	**17 51 56.6**	**-0.1**	
KSH					pP	**pP**	**17 52 04.8**	**+0.2**	
KSH					*eS	**sP**	**17 52 07.9**	**+0.3**	
KSH					*ePcP	**PcP**	**17 52 46.9**	**-1.3**	
KSH					PP	**PP**	**17 54 08.0**	**+2.4**	
KSH					*eScP	**ScP**	**17 56 44.6**	**-2.4**	
KSH					PcS	**PcS**	**17 56 46.9**	**-2.9**	
KSH					S	**S**	**17 59 55.5**	**-1.3**	
KSH					sS	**sS**	**18 00 09.1**	**-0.6**	
KSH					ScS	**ScS**	**18 01 41.3**	**-3.9**	
KSH					SS	**SS**	**18 03 49.3**	**+0.7**	
KSH					pmax	pmax			
	comp=Z,81nm,1.7s								
KSH					pmax	pmax			
	comp=Z,190nm,4.2s								
KSH					LR	LR			
	comp=N,1µm,18.4s								
KSH					LR	LR			
	comp=E,1µm,16.4s								
KSH					LR	LR			
	comp=Z,2µm,24.7s								
YAK	**Yakutsk**	**58.34**	**2**	*e*	P	**P**	**17 51 56.8**	**-0.7**	
YAK				*e*	*PP	**pP**	**17 52 06.9**	**+1.6**	
YAK				*e*			17 52 47.5		
YAK				*e*			17 54 09.9		
YAK				*e*	S	**S**	**17 59 57.5**	**-0.8**	
YAK				*e*	*SS	**sS**	**18 00 10.6**	**-0.6**	
YAK				*e*			18 01 43.2		
YAK				*e*	SS	**SS**	**18 03 45.6**	**-5.0**	
YAK					pmax	pmax			
	comp=Z,95nm,1.2s								
YAK					pmax	pmax			
	comp=N,68nm,1.6s								
YAK					pmax	pmax			
	comp=E,12nm,1.8s								
YAK					pmax	pmax			
	comp=Z,248nm,6.1s								
YAK					pmax	pmax			
	comp=E,38nm,1.9s								
YAK					pmax	pmax			
	comp=N,72nm,2.3s								
YAK					smax	smax			
	comp=E,1µm,8.9s								
YAK					smax	smax			
	comp=N,851nm,7.2s								
YAK					MLR	MLR			
	comp=N,1µm,19.0s								
YAK					MLR	MLR			
	comp=Z,1µm,17.0s								
YAK					MLR	MLR			
	comp=E,2µm,18.0s								
YAK	**Yakutsk**	**58.34**	**2**	*e*	P	**P**	**17 51 57.3**	**-0.2**	
	comp=E,108nm,0.9s								
YAK					LR	LR			
	comp=Z,2µm,21.0s								
KRAR	**Krasnoyarsk**	**58.86**	**339**	*e*	P	**P**	**17 51 59.9**	**-1.4**	
KRAR					pmax	pmax			
	comp=Z,18nm,1.0s								
KZA	**Kyzart**	**59.71**	**318**		P	**P**	**17 52 08.4**	**+0.4**	
	SNR=17								
TKM2	**Tokmak 2**	**59.84**	**319**		PFAKE		17 52 20.0	+11	
TKM2					LR	LR			
	comp=Z,4µm,22.0s								
TKM2	**Tokmak 2**	**59.84**	**319**		P	**P**	**17 52 08.6**	**-0.1**	
	SNR=33								
KBK	**Karagaybulak**	**60.16**	**318**		P	**P**	**17 52 11.9**	**+1.1**	
	SNR=20								
UCH	**Uchtor**	**60.27**	**317**		P	**P**	**17 52 14.6**	**+2.7**	
	SNR=6.1								
CHMS	**Chumysh**	**60.43**	**318**		P	**P**	**17 52 12.1**	**-0.4**	
	SNR=12								
AAK	**Ala-Archa**	**60.45**	**318**	*e*	P	**P**	**17 52 12.3**	**-0.5**	
AAK					pmax	pmax			
	comp=Z,95nm,1.0s								
AAK					MLR	MLR			
	comp=Z,4µm,21.0s								
AAK	**Ala-Archa**	**60.45**	**318**	*e*	P	**P**	**17 52 12.2**	**-0.5**	
	comp=Z,95nm,1.0s								
AAK					LR	LR			
	comp=Z,4µm,21.0s								
AAK	**Ala-Archa**	**60.45**	**318**		P	P	17 52 16.2	+3.4	
	SNR=14								
FRU	**Bishkek**	**60.45**	**318**	*e*	P	**P**	**17 52 15.0**	**+2.4**	
FRU					pmax	pmax			
	comp=Z,110nm,2.4s								
FRU					MLR	MLR			
	comp=Z,3µm,21.0s								
ZAA0	**Zalesovo Array**	**60.70**	**333**	*e*	P	**P**	**17 52 13.6**	**-0.4**	
ZALV	**Zalesovo Beam**	**60.70**	**333**		P	**P**	**17 52 13.8**	**-0.2**	
	comp=Z,4.6nm,0.4s,baz=114,slow=7.2,SNR=21								
ZALV					LR	LR	18 22 18.8		
	comp=Z,2µm,19.0s,baz=134,slow=40								
ZALV	**Zalesovo Beam**	**60.70**	**333**		P	**P**	**17 52 13.8**	**-0.2**	
ZALV	**Zalesovo Beam**	**60.70**	**333**		P	**P**	**17 52 13.8**	**-0.2**	
USP	**Ospenovka**	**60.71**	**319**		P	**P**	**17 52 14.2**	**-0.2**	
	SNR=16								
AML	**Almayashu**	**60.78**	**317**		P	**P**	**17 52 15.4**	**+0.1**	
	SNR=45								
EKS2	**Erkin-Say**	**60.94**	**318**	*e*	P	**P**	**17 52 15.7**	**-0.4**	
EKS2					pmax	pmax			
	comp=Z,26nm,0.8s								
EKS2					MLR	MLR			
	comp=Z,4µm,22.0s								
EKS2	**Erkin-Say**	**60.94**	**318**	*e*	P	**P**	**17 52 15.7**	**-0.4**	
	comp=Z,26nm,0.8s								
EKS2					LR	LR			
	comp=Z,4µm,22.0s								
EKS2	**Erkin-Say**	**60.94**	**318**		P	**P**	**17 52 16.2**	**+0.1**	
	SNR=50								
KBL	**Kabul**	**61.60**	**308**	*e*	P	**P**	**17 52 19.0**	**-1.8**	
KBL					pmax	pmax			
	comp=Z,35nm,1.1s								
KBL	**Kabul**	**61.60**	**308**	*e*	P	**P**	**17 52 19.0**	**-1.8**	
	comp=Z,35nm,1.1s								
KBL	**Kabul**	**61.60**	**308**		P	**P**	**17 52 19.9**	**-0.8**	
	baz=62,SNR=7.4								
RPZ	**Rata Peaks**	**61.66**	**145**	*e*	P	**P**	**17 52 21.2**	**+0.5**	
	comp=Z,38nm,0.8s								
KURBB	**Kurchatov Arra**	**61.84**	**327**		LR	LR	18 22 56.0		
	comp=Z,1µm,20.3s,baz=110,slow=40								
KURK	**Kurchatov**	**61.85**	**328**⇓	*i*	P	**P**	**17 52 19.9**	**-1.9**	
KURK					pmax	pmax			
	comp=Z,63nm,0.8s								
KURK	**Kurchatov**	**61.85**	**328**	*e*	P	**P**	**17 52 20.1**	**-1.7**	
	comp=Z,57nm,0.7s								
KURK	**Kurchatov**	**61.85**	**328**		P	**P**	**17 52 21.8**	**0.0**	
	SNR=32								
KURK					mb		17 52 25.7		
	SNR=72								
NVS	**Novosibirsk**	**61.98**	**333**	*e*	P	**P**	**17 52 20.7**	**-1.9**	
NVS				*e*			17 53 07.3		
NVS				*e*	S	S	18 00 38.0	-7.4	
NVS				*i*			18 02 05.8		
NVS					pmax	pmax			
	comp=Z,44nm,1.0s								
NVS					pmax	pmax			
	comp=N,16nm,0.1s								
NVS					pmax	pmax			
	comp=E,19nm,1.2s								
NVS					smax	smax			
	comp=N,7.0nm,2.0s								
NVS					smax	smax			
	comp=E,31nm,2.2s								
SEY	**Seymchan**	**62.16**	**13**⇓	*i*	P	**P**	**17 52 23.2**	**-0.5**	
FX1	**Attu Island--F**	**62.19**	**30**	*e*	P	**P**	**17 52 24.9**	**+0.8**	
RAO	**Raoul Island**	**62.26**	**126**		PFAKE		17 52 40.0	+15	
RAO					LR	LR			
	comp=Z,2µm,22.0s								
KHZ	**Kahutara**	**62.36**	**142**	*e*	P	**P**	**17 52 24.6**	**-0.8**	
SNZO	**South Karori**	**62.47**	**141**		PFAKE		17 52 40.0	+14	
SNZO					LR	LR			
	comp=Z,2µm,20.0s								
KK31	**Karatay Array**	**63.32**	**317**	*i*	P	**P**	**17 52 30.8**	**-1.1**	
KK31					pmax	pmax			
	comp=Z,24nm,0.8s								
KKAR	**Karatay Array**	**63.32**	**317**	*e*	P	**P**	**17 52 30.1**	**-1.8**	
KKAR					pmax	pmax			
	comp=Z,16nm,0.8s								
KKAR	**Karatay Array**	**63.32**	**317**	*e*	P	**P**	**17 52 30.1**	**-1.8**	
	comp=Z,16nm,0.8s								
VOSK	**Vostochnaya**	**66.97**	**327**		P	**P**	**17 52 54.0**	**-1.4**	
VOSK					pmax	pmax			
	comp=Z,31nm,0.8s								
BVAR	**Borovoye Array**	**67.42**	**327**		LR	LR	18 26 50.5		
	comp=Z,2µm,20.5s,baz=217,slow=36								
BVAR	**Borovoye Array**	**67.42**	**327**		LR	LR	18 26 50.5		
	comp=Z,2µm,20.5s,baz=217,slow=40								
BRVK	**Borovoye**	**67.50**	**327**	*c*	*P	**P**	**17 52 57.4**	**-1.3**	
BRVK					pmax	pmax			
	comp=Z,46nm,1.0s								
BRVK	**Borovoye**	**67.50**	**327**	*e*	P	**P**	**17 52 56.8**	**-1.8**	
	comp=Z,38nm,0.8s								
BRVK					LR	LR			
	comp=Z,2µm,21.0s								
BRVK	**Borovoye**	**67.50**	**327**		P	**P**	**17 52 58.8**	**+0.2**	
	SNR=17								
BRVK					mb		17 53 03.2		
	SNR=36								
ZRNK	**Zerenda**	**68.15**	**327**		P	**P**	**17 53 01.7**	**-1.1**	
ZRNK					pmax	pmax			
	comp=Z,34nm,0.8s								
JMDO	**Jabal Madar**	**68.88**	**292**		P	**P**	**17 53 08.2**	**+0.3**	
	SNR=6.2								
BILL	**Bilibino**	**69.68**	**15**	*e*	P	**P**	**17 53 11.9**	**-0.1**	
BILL					pmax	pmax			
	comp=Z,161nm,2.2s								
BILL					MLR	MLR			
	comp=Z,2µm,21.0s								
BILL	**Bilibino**	**69.68**	**15**	*e*	P	**P**	**17 53 11.9**	**-0.1**	
	comp=Z,161nm,2.2s								
BILL					LR	LR			
	comp=Z,2µm,21.0s								
HOQ	**Hoqain**	**69.71**	**294**		P	**P**	**17 53 13.5**	**+0.4**	
	SNR=6.2								
CASY	**Casey**	**70.69**	**187**		PFAKE		17 53 30.0	+12	
CASY					LR	LR			
	comp=Z,1µm,20.0s								
DRV	**Dumont d'Urvil**	**70.75**	**174**		P	PcP	17 54 09.0	+30	
DRV					S	S	18 02 19.0	-12	
DRV					L	L	18 10 00.0		
DRV					R	R	18 16 00.0		
ASHO	**Ashiyiah**	**70.95**	**295**		P	**P**	**17 53 21.6**	**+0.9**	
	SNR=5.9								
ASHO					mb		17 53 23.6		
	SNR=11								
MSEY	**Mahe Island**	**71.66**	**264**		PFAKE		17 53 40.0	+15	
MSEY					LR	LR			
	comp=Z,2µm,22.0s								
AB31	**Akbulak array**	**72.25**	**321**	*i*	P	**P**	**17 53 26.8**	**-1.2**	
AB31					pmax	pmax			
	comp=Z,8.0nm,0.6s								
ABKAR	**Akbulak array**	**72.25**	**321**	*e*	P	**P**	**17 53 26.1**	**-1.8**	
	comp=Z,9.8nm,0.6s								
UNV	**Unalaska Valle**	**73.53**	**35**	*e*	P	**P**	**17 53 34.7**	**-0.7**	
RER	**Riviere de l'E**	**73.67**	**247**		PFAKE		17 53 50.0	+13	
RER					LR	LR			
	comp=Z,3µm,19.0s								
SVE	**Sverdlovsk**	**74.07**	**328**⇑	*e*	P	**P**	**17 53 37.7**	**-0.9**	
SVE				*e*	S	**SKiKP**	**18 03 07.1**	**+1.8**	
SVE					pmax	pmax			
	comp=Z,51nm,1.4s								
GAMB	**Gambell**	**74.51**	**24**	*e*	P	**P**	**17 53 41.4**	**+0.4**	
	comp=Z,34nm,1.1s								
ARU	**Arti**	**75.04**	**328**	*d*	*P	**P**	**17 53 43.2**	**-1.0**	
ARU							17 56 29.1		
ARU					S	**S**	**18 03 21.1**	**+0.4**	
ARU					SS	**SS**	**18 08 05.0**	**-4.7**	
ARU					pmax	pmax			
	comp=Z,16nm,0.7s								
ARU	**Arti**	**75.04**	**328**	*e*	P	**P**	**17 53 42.0**	**-2.2**	
	comp=Z,22nm,0.8s								
ARU					LR	LR			
	comp=Z,1µm,22.0s								
ARU	**Arti**	**75.04**	**328**		P	**P**	**17 53 42.8**	**-1.4**	
	comp=Z,158nm,0.9s,SNR=9.6								
XMAS	**Kiritimati**	**75.73**	**89**		PFAKE		17 54 00.0	+11	
XMAS					LR	LR			
	comp=Z,761nm,20.0s								
TNA	**Tin City**	**76.70**	**23**	*e*	P	**P**	**17 53 56.2**	**+2.7**	
	comp=Z,12nm,1.1s								
SOKR	**Solikamsk**	**76.82**	**331**	*e*	P	P	17 53 57.6	+3.4	
SOKR					S	**S**	**18 03 39.9**	**-0.2**	
SOKR					pmax	pmax			
	comp=Z,20nm,1.5s								
QRN	**Al-Qurain**	**78.47**	**298**	*e*	P	**P**	**17 54 01.7**	**-2.5**	
QRN					AMb	AMB	17 54 07.0		
	comp=Z,47nm,0.6s								
UMR	**Umm Al-Rimmam**	**78.67**	**299**	*e*	P	**P**	**17 54 03.8**	**-1.5**	
UMR					AMb	AMB	17 54 08.2		
	comp=Z,51nm,1.0s								
RDF	**Al-Radifah**	**78.80**	**299**	*e*	P	**P**	**17 54 04.4**	**-1.6**	
RDF					AMb	AMB	17 54 09.3		
	comp=Z,51nm,1.3s								
MIB	**Mutribah**	**79.01**	**300**	*e*	P	**P**	**17 54 05.2**	**-1.9**	
MIB					AMb	AMB	17 54 09.2		
	comp=Z,51nm,0.7s								
NAY	**Al-Naaiem**	**79.08**	**299**	*e*	P	**P**	**17 54 05.4**	**-2.1**	
NAY					AMb	AMB	17 54 10.3		
	comp=Z,28nm,0.8s								
MAK	**Makhachkala**	**79.67**	**313**	*e*	P	P	17 54 05.4	-5.0	
MAK				*e*			17 54 14.7		
MAK				*e*	S	**S**	**18 04 07.1**	**-4.3**	
MAK				*e*			18 04 27.5		
MAK				*e*	SS	**SS**	**18 09 16.8**	**-3.2**	
MAK					pmax	pmax			
	comp=Z,119nm,1.4s								
DGRG	**David-gareji**	**81.14**	**311**		P	**P**	**17 54 20.7

KBZ **Khabaz** 83.06 313 P **P** 17 54 29.0 +0.6
comp=Z,3.2nm,0.7s,baz=42,slow=4.7,SNR=6.7
KBZ LR LR 18 39 37.6
comp=Z,987nm,18.0s,baz=254,slow=42
KBZ Khabaz 83.06 313 LR LR 18 39 37.6
comp=Z,986nm,18.0s,baz=254,slow=40
KBZ Khabaz 83.06 313 P **P** **17 54 29.0 +0.6**
KBZ Khabaz 83.06 313 P **P** **17 54 29.0 +0.6**
KIV Kislovodsk 83.22 314 *e*P **P** **17 54 28.2 -1.2**
KIV *e* 17 57 47.1
KIV *e*S **S** **18 04 46.6 -1.9**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 83.22 314 *e*P **P** **17 54 29.2 -0.2**
comp=Z,6.4nm,0.6s
KIV LR LR
comp=Z,2μm,20.0s
VNDA Vanda 83.30 173 P **P** **17 54 28.7 -0.3**
comp=Z,2.7nm,0.6s,baz=315,slow=6.3,SNR=8.4
VNDA Vanda 83.30 173 P **P** **17 54 28.7 -0.3**
MAW Mawson 83.64 200 LR LR 18 28 31.0
comp=Z,734nm,21.7s,baz=54,slow=33
TRF Thorofare Moun 83.65 27 *e*P P 17 54 25.4 -5.9
comp=Z,81nm,1.5s
COLD Coldfoot 84.01 23 *e*P **P** **17 54 34.3 +1.5**
comp=Z,49nm,1.1s
PMR Palmer 84.06 29 *e*P **P** **17 54 33.0 -0.1**
PMR pmax pmax
comp=Z,65nm,1.2s
PMR Palmer 84.06 29 *e*P **P** **17 54 33.0 -0.1**
comp=Z,65nm,1.2s
VRHR Novokhopersk 84.14 321 *e*P **P** **17 54 32.7 -1.1**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR MLR MLR
comp=N,370nm,21.0s
VRHR MLR MLR
comp=E,1μm,21.0s
VRHR MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 84.21 172 PFAKE 17 54 40.0 +6.4
SBA LR LR
comp=Z,1μm,19.0s
SML Sawmill 84.45 28 *e*P **P** **17 54 35.2 0.0**
SML pmax pmax
comp=Z,17nm,0.9s
SML Sawmill 84.45 28 *e*P **P** **17 54 35.2 0.0**
comp=Z,17nm,0.9s
COLA College 84.81 25 PFAKE 17 54 50.0 +13
COLA LR LR
comp=Z,1μm,20.0s
PPT Papeete 85.08 108 LR LR 18 26 57.8
comp=Z,919nm,21.9s,baz=272,slow=32
PPT Papeete 85.08 108 LR LR 18 26 57.8
comp=Z,918nm,22.0s,baz=271,slow=30
PPT2 Papeete2 85.08 108 *e*S S 18 04 59.0 -8.9
comp=Z,617nm,24.2s
PPT2 *e*SS **SS** **18 10 39.6 -2.2**
comp=Z,758nm,28.2s
PPT2 *e*LQ LQ 18 17 52.6
comp=Z,3μm,37.8s
PPT2 *e*LR LR 18 21 34.7
comp=Z,3μm,31.0s
ILAR Eielson Array 85.22 25 P **P** **17 54 38.8 -0.2**
comp=Z,6.2nm,1.0s,baz=267,slow=5.4,SNR=22
ILAR Eielson Array 85.22 25 P **P** **17 54 38.8 -0.2**
SOC Sochi 85.37 313 *e*P **P** **17 54 37.5 -2.7**
SOC *e**SP sP 17 54 45.2 -6.1
SOC *e*S **SKSac** **18 05 00.2 -3.7**
SOC pmax pmax
comp=Z,27nm,0.6s
SOC MLR MLR
comp=Z,833nm,18.0s
KLMR Klimovskoe 85.51 331 *e*P **P** **17 54 38.4 -2.1**
KLMR pmax pmax
comp=Z,167nm,1.4s
VORD Divnogorie 85.61 321 *e*P **P** **17 54 42.9 +1.7**
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=N,8.0nm,0.3s
VORD pmax pmax
comp=E,30nm,0.7s
DIV Divide 85.66 29 *e*P **P** **17 54 42.3 +1.0**
comp=E,122nm,1.3s
VSR Storozhevoye 85.69 321 *e*P **P** **17 54 40.5 -1.1**
TBI Tubuai 85.74 114 *e*S S 18 05 04.1 -10
comp=E,374nm,28.0s
TBI *e*SS **SS** **18 10 47.1 -4.1**
comp=E,645nm,26.5s
TBI *e*LQ LQ 18 18 08.3
comp=E,789nm,34.5s
TBI *e*LR LR 18 21 51.8
comp=E,2μm,30.5s
PAX Paxson 85.81 27 *e*P **P** **17 54 42.9 +0.8**
PAX pmax pmax
comp=Z,94nm,1.9s
PAX Paxson 85.81 27 *e*P **P** **17 54 42.9 +0.8**
comp=Z,94nm,1.9s
TMCR Tamitsa 86.21 334 *e*P **P** **17 54 46.5 +2.7**
TMCR pmax pmax
comp=Z,45nm,0.8s
MALT Malatya 86.46 308 ⇑P **P** **17 54 47.7 +1.9**
MALT Malatya 86.46 308 *e*P **P** **17 54 48.1 +2.3**
comp=Z,23nm,1.3s
MALT LR LR
comp=Z,805nm,20.0s
MALT Malatya 86.46 308 ⇑*i*P **P** **17 54 47.7 +1.9**
MOS Moscow 86.54 325 *e*P **P** **17 54 44.4 -1.3**
MOS *e* 18 05 19.5
MOS pmax pmax
comp=Z,141nm,1.2s
MOS MLR MLR
comp=Z,1μm,19.0s
ANN Anapa 86.99 315 *e*P **P** **17 54 45.6 -2.5**
ANN *e**PP **pP** **17 54 53.5 -2.8**
ANN *e* 17 58 11.1
ANN *e*S S 18 05 10.7 -15
ANN *e* 18 05 21.9
ANN pmax pmax
comp=Z,36nm,0.7s
OBN Obninsk 87.16 325⇑ *e*P **P** **17 54 48.7 0.0**
OBN *i* S S 18 05 12.8 -14
OBN pmax pmax
comp=Z,166nm,1.7s
OBN Obninsk 87.16 325 *e*P **P** **17 54 50.4 +1.7**
comp=Z,40nm,0.6s
OBN LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 87.47 338 PFAKE 17 55 00.0 +10
LVZ LR LR
comp=Z,2μm,19.0s
EGAK Eagle 87.67 25 *e*P **P** **17 54 51.6 +0.6**
EGAK LR LR
comp=Z,860nm,19.0s
DAWY Dawson 88.49 26 *e*P **P** **17 54 55.9 +0.9**
JOF Joensuu 89.29 333 *e*P **P** **17 54 56.7 -2.0**
JOF pmax pmax
comp=Z,15nm,0.6s
JOF Joensuu 89.29 333 *e*p **P** **17 54 56.7 -2.0**
comp=Z,15nm,0.6s
KMBO Kilima Mbogo 89.55 269 *e*P **P** **17 55 00.1 -1.1**
comp=Z,22nm,1.1s
KMBO LR LR
comp=Z,998nm,22.0s
KMBO Kilima Mbogo 89.55 269 P **P** **17 55 01.8 +0.5**
SNR=10
KMBO mb 17 55 05.6
SNR=15
EIL Elat 89.78 300 P **P** **17 55 01.4 -0.3**
baz=90,SNR=7.4
KEV Kevo 90.01 340 *e*P **P** **17 55 02.8 +0.9**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 90.01 340 PFAKE 17 55 10.0 +8.1
KEV LR LR
comp=Z,1μm,20.0s
KEV Kevo 90.01 340 *e*p **P** **17 55 02.8 +0.9**
comp=Z,6.8nm,0.7s
BR131 Keskin Array S 90.10 310 *e*P **P** **17 55 01.2 -2.0**
comp=Z,8.5nm,0.8s

BRTR Keskin Array B 90.10 310 P **P** **17 55 01.9 -1.3**
comp=Z,7.0nm,0.8s,baz=112,slow=4.5,SNR=37
BRTR LR LR 18 44 23.6
comp=Z,1μm,21.3s,baz=52,slow=42
BRTR Keskin Array B 90.10 310 P **P** **17 55 01.9 -1.3**
BRTR Keskin Array B 90.10 310 LR LR 18 44 23.6
comp=Z,1μm,21.3s,baz=52,slow=40
INK Inuvik 90.28 21 PKKPbc PKKPbc 18 12 33.1 -2.0
comp=Z,0.8nm,0.7s,baz=234,slow=1.6,SNR=3.5
INK LR LR 18 37 42.7
comp=Z,855nm,21.8s,baz=87,slow=37
INK Inuvik 90.28 21 *e*P **P** **17 55 03.4 +0.2**
comp=Z,22nm,1.2s
INK PKKPbc **PKKPbc** **18 12 33.1 -2.0**
ARCES ARCESS Array B 90.57 340 P **P** **17 55 03.7 -0.8**
comp=Z,14nm,0.7s,baz=96,slow=3.7,SNR=25
ARCES LR LR 18 43 54.5
comp=Z,1μm,19.3s,baz=79,slow=41
ARCES ARCESS Array B 90.57 340 P **P** **17 55 03.7 -0.8**
ARCES ARCESS Array B 90.57 340 LR LR 18 43 54.5
comp=Z,1μm,19.2s,baz=79,slow=39
CSS Prodhromos 90.74 305 PFAKE 17 55 20.0 +14
CSS LR LR
comp=Z,722nm,20.0s
KBS Kingsbay 91.13 350 PFAKE 17 55 20.0 +13
KBS LR LR
comp=Z,2μm,19.0s
KAF Kangasniemi 91.71 332 *e*P **P** **17 55 09.4 -0.5**
KAF pmax pmax
comp=Z,11nm,0.8s
KAF Kangasniemi 91.71 332 *e*p **P** **17 55 09.4 -0.5**
comp=Z,11nm,0.8s
FINES FINESS Array B 91.94 332 P **P** **17 55 10.8 -0.2**
comp=Z,4.0nm,0.7s,baz=80,slow=3.2,SNR=18
FINES LR LR 18 42 42.3
comp=Z,1μm,19.8s,baz=354,slow=40
FINES FINESS Array B 91.94 332 P **P** **17 55 10.8 -0.2**
AKASG Malin Array Be 91.99 321 P **P** **17 55 09.8 -1.7**
comp=Z,8.2nm,0.7s,baz=72,slow=4.3,SNR=18
AKASG LR LR 18 43 29.7
comp=Z,1μm,19.3s,baz=80,slow=40
AKASG Malin Array Be 91.99 321 P **P** **17 55 09.8 -1.7**
AKASG Malin Array Be 91.99 321 P **P** **17 55 09.8 -1.7**
AKASG Malin Array Be 91.99 321 LR LR 18 43 29.7
comp=Z,1μm,19.3s,baz=80,slow=38
AK01 Malin Array Si 92.00 321 *e*P **P** **17 55 09.8 -1.8**
KIEV Kiev 92.00 321 *e*P **P** **17 55 09.8 -1.8**
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV MLR MLR
comp=Z,1μm,20.0s
KIEV Kiev 92.00 321 *e*P **P** **17 55 09.8 -1.8**
comp=Z,12nm,0.9s
KIEV LR LR
comp=Z,1μm,20.0s
AK02 Malin Array Si 92.01 321 *e*P **P** **17 55 10.0 -1.5**
MICGM Minsk 92.23 325⇓*e*P P 17 55 02.0 -11
MNK Minsk 92.25 325⇓*e*P P 17 55 02.0 -11
MNK pmax pmax
comp=Z,80nm,1.0s
ISP Isparta 92.71 308 PFAKE 17 55 30.0 +15
ISP LR LR
comp=Z,1μm,21.0s
TLCR 93.04 315⇑*i*P **P** **17 55 18.2 +1.7**
QSPA South Pole Qui 93.51 180 P **P** **17 55 18.8 +0.5**
comp=Z,3.0nm,0.7s,baz=46,slow=0.5,SNR=18
QSPA South Pole Qui 93.51 180 P **P** **17 55 18.9 +0.5**
QSPA LR LR
comp=Z,1μm,19.0s
CFR Carcaliu 93.52 316⇑*i*P **P** **17 55 18.7 0.0**
CFR Carcaliu 93.52 316⇑*i*P **P** **17 55 18.6 -0.1**
VRI Vrincioaia 94.39 316⇓*i*P **P** **17 55 22.0 -0.7**
VRI Vrincioaia 94.39 316⇓*i*P **P** **17 55 22.0 -0.7**
PLOR Plostina 94.44 316⇓*i*P **P** **17 55 22.6 -0.4**
PLOR Plostina 94.44 316⇓*i*P **P** **17 55 22.6 -0.4**
MLR Muntele Rosu 94.99 316⇓*i*P **P** **17 55 25.0 -0.6**
SUW Suwalki 95.03 325 *e*P **P** **17 55 26.4 +0.9**
SUW Suwalki 95.03 325 *e*P **P** **17 55 24.9 -0.5**
SUW pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 95.03 325 *e*P **P** **17 55 24.9 -0.5**
comp=Z,54nm,1.0s
SUW Suwalki 95.03 325 *e*P **P** **17 55 26.3 +0.9**
BURAR Bucovina Array 95.09 318⇓*i*P **P** **17 55 25.7 -0.3**
BUR08 Bucovina Ar. S 95.10 318 *e*P **P** **17 55 25.3 -0.8**
DOPR Dopca 95.29 317⇑*i*P **P** **17 55 29.7 +2.9**
LVV L'vov 95.42 321 *e*P P 17 55 34.4 +7.1
LVV MLR MLR
comp=N,200nm,20.0s
LVV MLR MLR
comp=E,700nm,20.0s
LVV MLR MLR
comp=Z,800nm,20.0s
VOIR 95.62 316⇓P **P** **17 55 29.3 +0.9**
VOIR 95.62 316⇓*i*P **P** **17 55 29.3 +0.9**
MBAR Mbarara 96.02 270 PFAKE 17 55 40.0 +9.0
MBAR LR LR
comp=Z,589nm,21.0s
KWP Kalwaria Pacla 96.30 321 *e*P **P** **17 55 31.7 +0.3**
KWP Kalwaria Pacla 96.30 321⇓P **P** **17 55 31.9 +0.5**
KWP Kalwaria Pacla 96.30 321 *e*P **P** **17 55 31.3 -0.1**
comp=Z,15nm,0.9s
KWP LR LR
comp=Z,2μm,21.0s
KWP Kalwaria Pacla 96.30 321⇓*i*P **P** **17 55 31.9 +0.5**
KWP Kalwaria Pacla 96.30 321 *e*P **P** **17 55 31.6 +0.3**
KOLS Kolonicke sedl 96.74 320 *e*P **P** **17 55 35.4 +2.0**
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 96.74 320 *e*P **P** **17 55 35.4 +2.0**
TRPA Tarpa 96.75 319⇑*i*P P 17 55 21.4 -12
UZH Uzhgorod 96.80 320 *e*P **P** **17 55 34.7 +1.1**
UZH *e* 17 55 42.5
UZH *e* 18 06 10.7
UZH *e*S **S** **18 06 50.0 -4.1**
DRGR 96.94 318⇓P **P** **17 55 34.2 -0.2**
DRGR 96.94 318⇓*i*P **P** **17 55 34.2 -0.2**
CRVS Cervenica-Dubn 97.27 320 *e*P Pdif 17 55 37.2 +1.4
CRVS pmax pmax
comp=Z,23nm,1.0s
CRVS Cervenica-Dubn 97.27 320 *e*P Pdif 17 55 37.2 +1.4
VTS Vitosha 97.48 314⇑P **P** **17 55 36.5 -0.6**
VTS Vitosha 97.48 314⇑*i*P **P** **17 55 36.5 -0.6**
BZS Buzias 97.94 317⇓P **P** **17 55 37.8 -1.0**
BZS Buzias 97.94 317⇓*i*P **P** **17 55 37.8 -1.0**
OJC Ojcow 97.98 322 *e*P Pdif 17 55 40.2 +1.2
OJC Ojcow 97.98 322 *e*P Pdif 17 55 40.2 +1.2
PSZ Piszkesteto 98.53 319 PFAKE 17 55 50.0 +8.5
PSZ LR LR
comp=Z,1μm,20.0s
NB2 NORSAR Subarra 98.90 334 P **P** **17 55 42.8 0.0**
baz=65,slow=4.4
NB2 NORSAR Subarra 98.90 334 P **P** **17 55 42.8 0.0**
comp=Z,4.0nm,0.8s,baz=65,slow=4.4
NOA NORSAR Array B 98.90 334 P **P** **17 55 42.7 -0.2**
comp=Z,5.8nm,0.8s,baz=66,slow=4.6,SNR=19
NOA LR LR 18 49 47.0
comp=Z,1μm,18.6s,baz=65,slow=41
NOA NORSAR Array B 98.90 334 P **P** **17 55 42.7 -0.2**
NOA NORSAR Array B 98.90 334 LR LR 18 49 47.0
comp=Z,1μm,18.6s,baz=80,slow=39
RKT Rikitea 99.03 113 *e*LR LR 18 27 53.0
comp=Z,1μm,34.2s
VYHS Vyhne 99.05 320 *e*P **Pdif** **17 55 45.5 +1.7**
VYHS pmax pmax
comp=Z,9.0nm,1.7s
VYHS Vyhne 99.05 320 PDIF **Pdif** **17 55 45.5 +1.7**
OKC Ostrava-Krasne 99.11 322 *e*P **Pdif** **17 55 46.7 +2.7**
OKC MLR MLR
comp=Z,800nm,18.6s
OKC Ostrava-Krasne 99.11 322 *e*PDIF **Pdif** **17 55 46.7 +2.7**
OKC AMS AMS 18 40 00.0
comp=Z,800nm,18.6s
LSZ Lusaka 99.17 255 *e*P **Pdif** **17 55 43.6 -1.5**
comp=Z,6.2nm,0.8s
LSZ LR LR
comp=Z,2μm,22.0s
MORC Moravsky Berou 99.50 322⇓P **Pdif** **17 55 45.7 -0.1**
MORC Moravsky Berou 99.50 322⇓*i*P **Pdif** **17 55 45.7 -0.1**
YKA Yellowknife Ar 99.61 24 P **Pdif** **17 55 46.1 +0.2**
comp=Z,1.0nm,0.8s,baz=296,slow=4.3,SNR=15
YKA PKKPbc **PKKPbc** **18 12 06.2 -3.8**
comp=Z,0.2nm,0.5s,baz=121,slow=2.9,SNR=5.3
YKA Yellowknife Ar 99.61 24 P **Pdif** **17 55 46.1 +0.2**
YKA PKKPbc **PKKPbc** **18 12 06.2 -3.8**

PKSM Moragy 99.80 318⇓P **Pdif** **17 55 47.3 +0.2**
PKSM Moragy 99.80 318⇓*i*P **Pdif** **17 55 47.3 +0.2**
KRLC Kraliky 99.88 322 *e*PDIF **Pdif** **17 55 48.9 +1.4**
KSP Ksiaz 99.94 323 *e*P **Pdif** **17 55 48.4 +0.7**
KSP MLR MLR
comp=Z,3μm,21.1s
DPC Dobruska-Polom 100.08 322 *e*P **Pdif** **17 55 50.3 +1.9**
DPC *e* 18 07 16.4
DPC MLR MLR
comp=Z,1μm,20.2s
DPC Dobruska-Polom 100.08 322 *e*PDIF **Pdif** **17 55 50.3 +1.9**
DPC *e*SDIF 18 07 16.4
DPC AMS AMS 18 51 40.0
comp=Z,1μm,20.2s
TIR Tirane 100.19 313 PFAKE 17 56 00.0 +11
TIR LR LR
comp=Z,1μm,22.0s
KONO Kongsberg 100.22 333 PFAKE 17 56 00.0 +11
KONO LR LR
comp=Z,2μm,19.0s
UPC Upice 100.22 323 *e*P **Pdif** **17 55 50.3 +1.4**
UPC Upice 100.22 323 *e*PDIF **Pdif** **17 55 50.3 +1.4**
VRAC Vranov 100.23 321⇑*i*P **Pdif** **17 55 51.3 +2.3**
NLWA Neilton Lookou 100.34 41 PFAKE 17 56 00.0 +10
NLWA LR LR
comp=Z,911nm,20.0s
TREC Trest 100.93 322 *e*P **Pdif** **17 55 54.9 +2.8**
TREC MLR MLR
comp=Z,1μm,20.5s
TREC Trest 100.93 322 *e*PDIF **Pdif** **17 55 54.9 +2.8**
TREC AMS AMS 18 42 00.0
comp=Z,1μm,20.5s
PVCC Panska Ves 101.08 323 *e*P **Pdif** **17 55 53.6 +0.9**
PVCC MLR MLR
comp=Z,1μm,16.5s
PVCC Panska Ves 101.08 323 *e*PDIF **Pdif** **17 55 53.6 +0.9**
PVCC AMS AMS 18 40 40.0
comp=Z,1μm,16.5s
PRU Pruhonice 101.28 322 *e*P **Pdif** **17 55 55.6 +2.0**
PRU *e* 18 07 29.0
PRU MLR MLR
comp=Z,1μm,18.1s
PRU Pruhonice 101.28 322 *e*PDIF **Pdif** **17 55 55.6 +2.0**
PRU *ex* x 17 56 07.0
PRU *e*SDIF 18 07 29.0
PRU AMS AMS 18 48 00.0
comp=Z,1μm,18.1s
BRG Berggiesshubel 101.34 323 *e*PDIF **Pdif** **17 55 55.4 +1.4**
comp=Z,8.7nm,1.1s
BRG *e* 17 58 41.6
comp=Z,4.0nm,0.9s
BRG *e*PP **PP** **18 00 05.2 +2.2**
comp=Z,18nm,1.7s
BRG SKS 18 06 35.0
BRG SDIF **Sdif** **18 07 32.0 -0.3**
BRG SS **SS** **18 14 36.0 +3.5**
BRG
comp=N,2μm,24.2s
BRG
comp=E,903nm,23.6s
BRG
comp=Z,1μm,20.3s
BRG Berggiesshubel 101.34 323 *e*P **Pdif** **17 55 55.3 +1.4**
BRG *e* 18 00 05.2
BRG 18 06 35.0
BRG S **Sdif** **18 07 32.0 -0.3**
BRG SS **SS** **18 14 36.0 +3.5**
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,18nm,1.7s
BRG MLR MLR
comp=N,2μm,24.2s
BRG MLR MLR
comp=E,903nm,23.6s
BRG MLR MLR
comp=Z,1μm,20.3s
CLL Collm 101.74 324 *e*P **Pdif** **17 55 58.0 +2.4**
CLL *e* 18 06 36.0
CLL *e*S **Sdif** **18 07 35.0 -0.6**
CLL pmax pmax
comp=Z,26nm,1.8s
CLL MLR MLR
comp=Z,2μm,20.8s
CLL Collm 101.74 324 *e*Pdif **Pdif** **17 55 58.0 +2.4**
comp=Z,26nm,1.8s
CLL *e*PPPP 18 04 12.0
CLL *e* 18 04 57.0
CLL *e*SKSac **SKSac** **18 06 36.0 +2.4**
CLL *e*Sdif **Sdif** **18 07 35.0 -0.6**
CLL *e*PS **PS** **18 09 12.0 +1.1**
CLL *e* 18 09 40.0
CLL *e*SS **SS** **18 14 42.0 +4.0**
CLL *e*(SSS) 18 19 06.0
CLL *e*SSSS 18 21 42.0
CLL *e* 18 24 06.0
CLL Lm MLR 18 48 00.0
comp=N,1μm,20.3s
CLL Lm MLR 18 48 00.0
comp=E,1μm,20.6s
CLL Lm MLR 18 48 00.0
comp=Z,2μm,20.8s
KHC Kasperske Hory 102.16 322 *e*P **Pdif** **17 55 59.3 +1.7**
KHC *e* 18 07 36.8
KHC MLR MLR
comp=Z,1μm,17.8s
KHC Kasperske Hory 102.16 322 *e*PDIF **Pdif** **17 55 59.3 +1.7**
KHC *ex* x 17 56 15.3
KHC *e*SDIF 18 07 36.8
KHC AMS AMS 18 50 40.0
comp=Z,1μm,17.8s
GERES GERESS Array B 102.18 322 P **Pdif** **17 55 57.9 +0.1**
comp=Z,2.0nm,0.9s,baz=74,slow=5.7,SNR=14
GERES GERESS Array B 102.18 322 P **Pdif** **17 55 57.9 +0.1**
TIP Timpagrande 103.04 311 PFAKE 17 56 10.0 +8.2
TIP LR LR
comp=Z,943nm,22.0s
HAWA Hanford 103.48 41 PFAKE 17 56 10.0 +6.5
HAWA LR LR
comp=Z,1μm,21.0s
CUC Castrocucco 103.52 312 PFAKE 17 56 10.0 +6.1
CUC LR LR
comp=Z,979nm,22.0s
NEW Newport 104.33 38 PFAKE 17 56 20.0 +13
NEW LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 104.54 315 PFAKE 17 56 20.0 +12
AQU LR LR
comp=Z,1μm,19.0s
SUR Sutherland 105.36 238 PFAKE 18 00 40.0
SUR LR LR
comp=Z,2μm,22.0s
BMO Blue Mountains 105.48 42 PFAKE 18 00 40.0
BMO LR LR
comp=Z,815nm,21.0s
WDD Wield Dalam 105.66 309 PFAKE 18 00 40.0
WDD LR LR
comp=Z,598nm,22.0s
BFO Black Forest 105.68 322 PFAKE 18 00 40.0
BFO LR LR
comp=Z,1μm,20.0s
TUE Stuetta 105.79 320 PFAKE 18 00 40.0
TUE LR LR
comp=Z,2μm,21.0s
VLC Villacollemand 105.99 318 PFAKE 18 00 40.0
VLC LR LR
comp=Z,1μm,22.0s
WLF Walferdange 106.41 324 PFAKE 18 00 40.0
WLF LR LR
comp=Z,2μm,19.0s
ECH Echery 106.44 323 PFAKE 18 00 40.0
ECH LR LR
comp=Z,1μm,20.0s
VNA2 Neumayer--Watz 106.70 194 *es*Pdiff 17 56 28.6
MSO Missoula 106.88 39 PFAKE 18 00 40.0
MSO LR LR
comp=Z,498nm,20.0s
NVAR Mina Array Bea 106.99 48 Pdiff **Pdif** **17 56 22.1 +2.4**
comp=Z,0.5nm,0.7s,baz=258,slow=5.0,SNR=3.8
NVAR PKKPab **PKKPab** **18 12 03.5 +1.0**
comp=Z,0.7nm,0.8s,baz=133,slow=5.7,SNR=3.7
NVAR Mina Array Bea 106.99 48 Pdif **Pdif** **17 56 22.1 +2.4**
NVAR PKKPab **PKKPab** **18 12 03.5 +1.0**

BMN	**Battle Mountai**	**107.11**	**46**	PFAKE		18 00 40.0			
BMN				LR	LR				
comp=Z,1µm,22.0s									
HLID	**Hailey**	**107.90**	**42**	PFAKE		18 00 40.0			
HLID				LR	LR				
comp=Z,680nm,21.0s									
TPH	**Tonopah**	**107.91**	**48**	PFAKE		18 00 40.0			
TPH				LR	LR				
comp=Z,1µm,19.0s									
BNI	**Bardonecchia**	**108.07**	**320**	PFAKE		18 00 40.0			
BNI				LR	LR				
comp=Z,2µm,20.0s									
DAC	**Darwin (Calif)**	**108.22**	**50**	PFAKE		18 00 40.0			
DAC				LR	LR				
comp=Z,1µm,19.0s									
ESK	**Eskdalemuir**	**108.36**	**332**	PFAKE		18 00 40.0			
ESK				LR	LR				
comp=Z,2µm,20.0s									
VSL	**Villasalto**	**108.38**	**314**	PFAKE		18 00 40.0			
VSL				LR	LR				
comp=Z,601nm,21.0s									
BOZ	**Bozeman (W)**	**108.83**	**39**	PFAKE		18 00 40.0			
BOZ				LR	LR				
comp=Z,568nm,19.0s									
EGMT	**Eagleton**	**108.89**	**36**	PFAKE		18 00 40.0			
EGMT				LR	LR				
comp=Z,855nm,21.0s									
TSUM	**Tsumeb**	**109.25**	**251**	PFAKE		18 00 50.0			
TSUM				LR	LR				
comp=Z,1µm,20.0s									
SSB	**Saint Sauveur**	**109.34**	**321**	PFAKE		18 00 40.0			
SSB				LR	LR				
comp=Z,2µm,22.0s									
FFC	**Flin Flon**	**109.34**	**28**	PFAKE		18 00 40.0			
FFC				LR	LR				
comp=Z,915nm,21.0s									
SFJD	**Kangerlussuaq**	**109.54**	**359**	PFAKE		18 00 40.0			
SFJD				LR	LR				
comp=Z,819nm,19.0s									
PFO	**Pinyon Flat Ob**	**109.96**	**52**	PFAKE		18 00 50.0			
PFO				LR	LR				
comp=Z,2µm,20.0s									
LKWY	**Lake**	**110.09**	**40**	PFAKE		18 00 50.0			
LKWY				LR	LR				
comp=Z,1µm,20.0s									
DUG	**Dugway**	**110.33**	**45**	PFAKE		18 00 50.0			
DUG				LR	LR				
comp=Z,935nm,21.0s									
AHID	**Auburn Hatcher**	**110.43**	**42**	PFAKE		18 00 50.0			
AHID				LR	LR				
comp=Z,874nm,20.0s									
RLMT	**Red Lodge**	**110.55**	**39**	PFAKE		18 00 50.0			
RLMT				LR	LR				
comp=Z,468nm,20.0s									
HWUT	**Hardware Ranch**	**110.61**	**43**	PFAKE		18 00 50.0			
HWUT				LR	LR				
comp=Z,861nm,21.0s									
MVU	**Marysvale**	**111.43**	**46**	PFAKE		18 00 50.0			
MVU				LR	LR				
comp=Z,1µm,22.0s									
BW06	**Boulder Array**	**111.45**	**41**	PFAKE		18 00 50.0			
BW06				LR	LR				
comp=Z,993nm,20.0s									
PDAR	**Pinedale Array**	**111.45**	**41**	PKKPbc	PKKPbc	18 11 33.1	-0.5		
comp=Z,0.2nm,0.5s,baz=205,slow=6.6,SNR=3.7									
PDAR	**Pinedale Array**	**111.45**	**41**	PKKPbc	PKKPbc	18 11 33.1	-0.5		
DGMT	**Dagmar**	**111.84**	**34**	PFAKE		18 00 50.0			
DGMT				LR	LR				
comp=Z,702nm,19.0s									
WUAZ	**Wupatki**	**113.21**	**49**	PFAKE		18 00 50.0			
WUAZ				LR	LR				
comp=Z,919nm,21.0s									
RSSD	**Black Hills**	**114.29**	**38**	*e*PKIKP	PKPdf	18 00 46.4	+3.5		
RSSD	**Black Hills**	**114.29**	**38**	*e*PKIKP	PKPdf	18 00 46.4	+3.5		
MVCO	**Mesa Verde**	**114.64**	**46**	PFAKE		18 01 00.0	+16		
MVCO				LR	LR				
comp=Z,1µm,21.0s									
TUC	**Tucson**	**114.88**	**52**	PFAKE		18 01 00.0	+16		
TUC				LR	LR				
comp=Z,1µm,19.0s									
ULM	**Lac du Bonnet**	**115.07**	**29**	PKP	**PKPdf**	**18 00 46.2**	**+2.3**		
comp=Z,1.2nm,0.5s,baz=68,slow=3.6,SNR=2.9									
ULM	**Lac du Bonnet**	**115.07**	**29**	PKP	**PKPdf**	**18 00 46.2**	**+2.3**		
ISCO	**Idaho Springs**	**115.47**	**42**	PFAKE		18 01 00.0	+15		
ISCO				LR	LR				
comp=Z,841nm,22.0s									
AGMN	**Agassiz Nation**	**116.37**	**30**	PFAKE		18 01 00.0	+14		
AGMN				LR	LR				
comp=Z,1µm,20.0s									
TAM	**Tamanrasset**	**116.95**	**298**	PFAKE		18 01 00.0	+12		
TAM				LR	LR				
comp=Z,572nm,22.0s									
ANMO	**Albuquerque**	**117.11**	**48**	PKP	**PKPdf**	**18 00 50.0**	**+1.5**		
comp=Z,0.6nm,0.4s,baz=190,slow=6.2,SNR=4.0									
ANMO	**Albuquerque**	**117.11**	**48**	PKP	**PKPdf**	**18 00 50.0**	**+1.5**		
ANMO				LR	LR				
comp=Z,652nm,20.0s									
OGNE	**Ogallala**	**117.23**	**40**	PFAKE		18 01 00.0	+12		
OGNE				LR	LR				
comp=Z,763nm,22.0s									
PAB	**San Pablo**	**117.87**	**319**	PFAKE		18 01 00.0	+10		
PAB				LR	LR				
comp=Z,692nm,20.0s									
T26A	**Comanche Natio**	**118.13**	**44**	⇓P	**PKPdf**	**18 00 50.0**	**-0.5**		
baz=118									
EYMN	**Ely**	**118.75**	**28**	PFAKE		18 01 00.0	+8.9		
EYMN				LR	LR				
comp=Z,860nm,19.0s									
ECSD	**EROS Data Cent**	**118.89**	**35**	*e*PKPdf	**PKPdf**	**18 00 52.6**	**+1.1**		
ECSD				LR	LR				
comp=Z,837nm,20.0s									
MTE	**Manteigas**	**119.46**	**321**	PFAKE		18 01 00.0	+7.3		
MTE				LR	LR				
comp=Z,1µm,19.0s									
125A	**Gardner Draw,**	**119.46**	**49**	⇓P	**PKPdf**	**18 00 52.7**	**-0.4**		
baz=119									
Z27A	**Tatum**	**120.25**	**48**	⇑P	**PKPdf**	**18 00 53.6**	**-0.9**		
baz=120									
AMTX	**Amarillo**	**120.61**	**46**	PFAKE		18 01 10.0	+15		
AMTX				LR	LR				
comp=Z,984nm,19.0s									
COWI	**Conover**	**121.19**	**28**	PFAKE		18 01 10.0	+14		
COWI				LR	LR				
comp=Z,1µm,22.0s									
427A	**Hayter Ranch,**	**121.22**	**51**	⇑P	**PKPdf**	**18 00 55.7**	**-0.7**		
baz=121									
TXAR	**Lajitas Array**	**121.68**	**52**	PKP	**PKPdf**	**18 00 58.9**	**+1.6**		
comp=Z,0.6nm,0.5s,baz=318,slow=1.7,SNR=5.0									
TXAR	**Lajitas Array**	**121.68**	**52**	PKP	**PKPdf**	**18 00 58.9**	**+1.6**		
KSU1	**Kansas State U**	**121.71**	**39**	PFAKE		18 01 10.0	+13		
KSU1				LR	LR				
comp=Z,804nm,20.0s									
627A	**Terlingua Ranc**	**121.84**	**52**	⇓P	**PKPdf**	**18 00 57.6**	**-0.1**		
baz=122									
SCIA	**State Center**	**121.98**	**34**	PFAKE		18 01 10.0	+13		
SCIA				LR	LR				
comp=Z,834nm,21.0s									
528A	**Cox Ranch, San**	**122.00**	**51**	⇓P	**PKPdf**	**18 00 57.6**	**-0.4**		
baz=122									
529A	**Stev Forest Ra**	**122.46**	**51**	⇓P	**PKPdf**	**18 00 58.8**	**-0.1**		
baz=122									
RTC	**Rabat Centre**	**122.48**	**314**	PFAKE		18 01 10.0	+11		
RTC				LR	LR				
comp=Z,627nm,22.0s									
429A	**Davenport Ranc**	**122.48**	**50**	⇓P	**PKPdf**	**18 00 59.1**	**+0.2**		
baz=122									
WMOK	**Wichita Mounta**	**122.72**	**44**	PFAKE		18 01 10.0	+11		
WMOK				LR	LR				
comp=Z,926nm,20.0s									
TOA0	**Torodi Ar. Sit**	**122.96**	**288**	*e*PKPdf	**PKPdf**	**18 01 00.2**	**+0.1**		
TORD	**Torodi Ar. Bea**	**122.96**	**288**	PKP	**PKPdf**	**18 01 00.9**	**+0.9**		
comp=Z,5.5nm,0.8s,baz=44,slow=1.3,SNR=20									
TORD				PKKPbc	**PKKPab**	**18 10 52.6**	**+0.5**		
comp=Z,0.4nm,0.6s,baz=267,slow=2.7,SNR=3.9									
TORD	**Torodi Ar. Bea**	**122.96**	**288**	PKP	**PKPdf**	**18 01 00.9**	**+0.9**		
TORD				PKKPbc	**PKKPab**	**18 10 52.6**	**+0.5**		
HDIL	**Hopedale**	**125.07**	**33**	PFAKE		18 01 10.0	+6.6		
HDIL				LR	LR				
comp=Z,596nm,21.0s									
MIAR	**Mount Ida**	**126.38**	**42**	*e*PKIKP	**PKPdf**	**18 01 07.4**	**+1.3**		
MIAR				MLR	MLR				
comp=Z,808nm,21.0s									
MIAR	**Mount Ida**	**126.38**	**42**	*e*PKPdf	**PKPdf**	**18 01 07.4**	**+1.3**		
MIAR				LR	LR				
comp=Z,808nm,21.0s									

AAM	**Ann Arbor**	**126.64**	**28**	PFAKE		18 01 20.0	+14		
AAM				LR	LR				
comp=Z,930nm,21.0s									
KVTX	**Kingsville**	**127.02**	**51**	PFAKE		18 01 20.0	+13		
KVTX				LR	LR				
comp=Z,572nm,19.0s									
NATX	**Nacogdoches**	**127.24**	**45**	PFAKE		18 01 20.0	+12		
NATX				LR	LR				
comp=Z,842nm,20.0s									
LONY	**Lake Ozonia**	**128.34**	**19**	PFAKE		18 01 20.0	+10		
LONY				LR	LR				
comp=Z,572nm,20.0s									
ERPA	**Erie**	**128.43**	**25**	PFAKE		18 01 20.0	+10		
ERPA				LR	LR				
comp=Z,837nm,21.0s									
ACSO	**Alum Creek Sta**	**128.57**	**29**	PFAKE		18 01 20.0	+10		
ACSO				LR	LR				
comp=Z,887nm,21.0s									
WVT	**Waverly**	**128.96**	**36**	*e*PKIKP	**PKPdf**	**18 01 12.7**	**+1.7**		
WVT	**Waverly**	**128.96**	**36**	*e*PKPdf	**PKPdf**	**18 01 12.7**	**+1.7**		
NCB	**Newcomb**	**129.03**	**19**	PFAKE		18 01 20.0	+9.1		
NCB				LR	LR				
comp=Z,848nm,22.0s									
OXF	**Oxford**	**129.08**	**39**	PFAKE		18 01 20.0	+8.8		
OXF				LR	LR				
comp=Z,811nm,21.0s									
LBNH	**Lisbon**	**129.51**	**17**	PFAKE		18 01 20.0	+8.2		
LBNH				LR	LR				
comp=Z,807nm,20.0s									
PLAL	**Pickwick Lake**	**129.59**	**37**	PFAKE		18 01 20.0	+7.8		
PLAL				LR	LR				
comp=Z,730nm,21.0s									
VBMS	**Vicksburg**	**129.81**	**42**	PFAKE		18 01 20.0	+7.3		
VBMS				LR	LR				
comp=Z,857nm,20.0s									
BINY	**Binghamton**	**129.96**	**22**	PFAKE		18 01 20.0	+7.2		
BINY				LR	LR				
comp=Z,782nm,20.0s									
LRAL	**Lakeview Retre**	**131.56**	**39**	PFAKE		18 01 30.0	+14		
LRAL				LR	LR				
comp=Z,843nm,21.0s									
SHEL	**Horse Pasture**	**131.71**	**252**	PFAKE		18 01 30.0	+13		
SHEL				LR	LR				
comp=Z,2µm,21.0s									
EFI	**East Falkland**	**131.92**	**176**	PFAKE		18 01 30.0	+14		
EFI				LR	LR				
comp=Z,554nm,20.0s									
BLA	**Blacksburg**	**132.18**	**29**	PFAKE		18 01 30.0	+13		
BLA				LR	LR				
comp=Z,1µm,21.0s									
CBN	**Corbin**	**132.79**	**26**	PFAKE		18 01 30.0	+12		
CBN				LR	LR				
comp=Z,1µm,22.0s									
BRAL	**Brewton**	**132.86**	**41**	PFAKE		18 01 30.0	+11		
BRAL				LR	LR				
comp=Z,1µm,20.0s									
GOGA	**Godfrey**	**133.42**	**35**	PFAKE		18 01 30.0	+10		
GOGA				LR	LR				
comp=Z,1µm,21.0s									
CNNC	**Cliffs of the**	**134.98**	**29**	PFAKE		18 01 30.0	+7.6		
CNNC				LR	LR				
comp=Z,871nm,21.0s									
NHSC	**New Hope**	**135.49**	**33**	PFAKE		18 01 30.0	+6.6		
NHSC				LR	LR				
comp=Z,680nm,20.0s									
TEIG	**Tepich**	**138.27**	**54**	PFAKE		18 01 40.0	+11		
TEIG				LR	LR				
comp=Z,513nm,22.0s									
TGUH	**Tegucigalpa,Un**	**141.99**	**62**	PFAKE		18 01 50.0	+14		
TGUH				LR	LR				
comp=Z,488nm,22.0s									
BBSR	**BB Station**	**142.62**	**16**	PFAKE		18 01 50.0	+14		
BBSR				LR	LR				
comp=Z,608nm,21.0s									
PAYG	**Puerto Ayora**	**142.90**	**86**	PFAKE		18 01 50.0	+13		
PAYG				LR	LR				
comp=Z,569nm,19.0s									
TRQA	**Tornquist**	**144.80**	**168**	*e*PKPdf	**PKPab**	**18 01 38.9**	**-0.1**		
TRQA				LR	LR				
comp=Z,701nm,20.0s									
SACV	**Santiago Islan**	**145.30**	**303**	PFAKE		18 01 50.0	+8.4		
SACV				LR	LR				
comp=Z,649nm,19.0s									
JTS	**JuntasAbangare**	**145.56**	**66**	*e*PKPdf	**PKPab**	**18 01 43.8**	**+1.3**		
JTS				LR	LR				
comp=Z,586nm,22.0s									
MTDJ	**Mount Denham**	**147.72**	**47**	PFAKE		18 02 00.0	+9.3		
MTDJ				LR	LR				
comp=Z,559nm,21.0s									
GTBY	**Guantanamo Bay**	**148.26**	**42**	PFAKE		18 02 00.0	+7.3		
GTBY				LR	LR				
comp=Z,764nm,22.0s									
CFAA	**Coronel Fontan**	**148.79**	**155**	PKPbc	**PKPbc**	**18 01 50.8**	**-0.1**		
comp=Z,1.6nm,0.6s,baz=232,slow=3.6,SNR=19									
CFAA	**Coronel Fontan**	**148.79**	**155**	PKPbc	**PKPbc**	**18 01 50.8**	**-0.1**		
GRTK	**Grand Turk**	**149.52**	**34**	PFAKE		18 02 00.0	+2.3		
GRTK				LR	LR				
comp=Z,553nm,20.0s									
LCO	**Las Campanas**	**149.79**	**149**	*e*PKPbc	**PKPbc**	**18 01 54.3**	**+0.6**		
LCO				LR	LR				
comp=Z,611nm,20.0s									
BCIP	**Isla Barro Col**	**150.64**	**64**	PFAKE		18 02 00.0	-2.6		
BCIP				LR	LR				
comp=Z,676nm,22.0s									
SDDR	**Presa de Saban**	**151.40**	**38**	PFAKE		18 02 00.0	+2.5		
SDDR				LR	LR				
comp=Z,1µm,22.0s									
OTAV	**Otavalo**	**154.55**	**82**	PFAKE		18 02 10.0	+4.8		
OTAV				LR	LR				
comp=Z,633nm,20.0s									
SJG	**San Juan**	**154.97**	**30**	PFAKE		18 02 10.0	+4.7		
SJG				LR	LR				
comp=Z,479nm,21.0s									
NNA	**Nana**	**155.23**	**111**	PFAKE		18 02 10.0	-12		
NNA				LR	LR				
comp=Z,649nm,21.0s									
LVC	**Limon Verde**	**155.78**	**143**	PFAKE		18 02 10.0	+12		
LVC				LR	LR				
comp=Z,22nm,20.0s									
CPUP	**Villa Florida**	**157.07**	**171**	PKP	**PKPdf**	**18 01 59.2**	**+0.1**		
comp=Z,0.4nm,0.4s,baz=28,slow=9.9,SNR=3.4									
CPUP				PKPab	**PKPab**	**18 02 30.1**	**+0.8**		
comp=Z,3.1nm,0.6s,baz=133,slow=4.6,SNR=6.9									
CPUP	**Villa Florida**	**157.07**	**171**	PKP	**PKPdf**	**18 01 59.2**	**+0.1**		
CPUP				PKPab	**PKPab**	**18 02 30.1**	**+0.8**		
ANWB	**Willy Bob**	**157.26**	**21**	PFAKE		18 02 10.0	+10		
ANWB				LR	LR				
comp=Z,660nm,19.0s									
SPB	**Sao Paulo**	**159.34**	**195**	PFAKE		18 02 10.0	+8.0		
SPB				LR	LR				
comp=Z,633nm,20.0s									
FDF	**Fort de France**	**160.18**	**23**	PFAKE		18 02 10.0	+6.8		
FDF				LR	LR				
comp=Z,924nm,21.0s									
LPAZ	**La Paz**	**160.71**	**132**	PKP	**PKPdf**	**18 02 04.8**	**+0.3**		
comp=Z,1.0nm,0.7s,baz=156,slow=0.5,SNR=5.5									
LPAZ				PKPab	**PKPab**	**18 02 47.1**	**+0.9**		
comp=Z,2.2nm,0.7s,baz=70,slow=4.3,SNR=4.8									
LPAZ	**La Paz**	**160.71**	**132**	PKP	**PKPdf**	**18 02 04.8**	**+0.3**		
LPAZ				PKPab	**PKPab**	**18 02 47.1**	**+0.9**		
BBGH	**Gun Hill**	**162.23**	**20**	PFAKE		18 02 20.0	+15		
BBGH				LR	LR				
comp=Z,2µm,21.0s									
GRGR	**Grenville**	**162.28**	**28**	PFAKE		18 02 20.0	+15		
GRGR				LR	LR				
comp=Z,757nm,21.0s									
RCBR	**Riachuelo**	**162.55**	**262**	PFAKE		18 02 20.0	+14		
RCBR				LR	LR				
comp=Z,1µm,22.0s									
SIV	**San Ignacio**	**165.49**	**149**	PKP	**PKPdf**	**18 02 08.6**	**+0.3**		
comp=Z,1.6nm,1.0s,baz=135,slow=4.6,SNR=4.1									
SIV				PKPab	**PKPab**	**18 03 07.4**	**+1.0**		
comp=Z,2.5nm,0.8s,baz=202,slow=4.6,SNR=5.1									
SIV	**San Ignacio**	**165.49**	**149**	PKP	**PKPdf**	**18 02 08.6**	**+0.3**		
SIV				PKPab	**PKPab**	**18 03 07.4**	**+1.0**		
SAML	**Samuel**	**168.81**	**119**	*e*PKPdf	**PKPdf**	**18 02 11.1**	**+0.3**		
SAML				LR	LR				
comp=Z,637nm,20.0s									

*BJI **16** 17:44:46.9,3.04N×127.07E,h33km,mB5.3/30,mb5.0/44, Ms5.4/29,Ms7 5.2/29*
*IDC **16** 17:44:48.5±0.5,3.61N×126.58E,h0km,mb4.8/24, mb1 4.9/24,mb1mx4.9/27,mbtmp4.8/24,MS5.1/12,*

Ms1 5.1/12,ms1mx4.8/37,Error ellipse: s-maj=24.6km s-min=9.8km az=79.0
*MOS **16** 17:44:51.6±1.0,3.64N×126.51E,h33km,mb5.4/35,Error ellipse: s-maj=14.6km s-min=6.4km az=113.0*
*NEIC **16** 17:44:53.5±0.2,3.69N×126.75E,h35km,mb5.2/13,Error ellipse: s-maj=7.9km s-min=5.2km az=73.0*
*ISCJB **16** 17:44:53.4±0.6,3.68N±0.02×126.73E±0.03,h49km±5km, mb5.0/79,MS5.1/17,Error ellipse: s-maj=5.2km s-min=3.8km az=157.7*
*DJA **16** 17:44:56.0±0.9,4.4N±4.4×12.7E±°,h17km±9km,M5.2/27, mB5.7/9,mb5.0/27,MLv5.3/6,Mw(mB)5.3/9*
*AUST **16** 17:44:57.5±0.5,3.64N×126.94E,h68km,Error ellipse: s-maj=1.4km s-min=0.7km az=232.0*

ISC 16 17:44:54.3±0.3,3.63N±0.03×126.73E±0.04,h40km±2km, h40km:pP-P,n293,σ1§56/325,mb5.0/78,MS5.2/18,9C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.20**	**273**	P	**Pn**	**17 45 12.7**	**-1.9**
MNI	**Manado**	**2.88**	**221**	P	**Pn**	**17 45 36.6**	**-1.1**
MNI				S	**Sn**	**17 46 12.3**	**+1.1**
TNTI	**Ternate**	**2.91**	**167**	P	**Pn**	**17 45 38.3**	**+0.2**
TNTI				S	**Sn**	**17 46 15.8**	**+3.9**
MATI	**Mati**	**3.33**	**352**	*e*P	Pn	17 45 49.9	+6.0
MATI				*e*S	Sn	17 46 53.5	+31
DAV	**Davao City (W)**	**3.60**	**341**	Pn	Pn	17 45 52.8	+5.1
57nm,0.3s,baz=60,slow=18,SNR=3.6							
DAV	**Davao City (W)**	**3.60**	**341**	Pn	Pn	17 45 52.8	+5.1
DAV	**Davao City (W)**	**3.60**	**341**	P	Pn	17 45 53.2	+5.5
KCP	**Kidapawan**	**3.73**	**334**	⇓*e*P	Pn	17 45 53.9	+4.4
KCP				*i* S	Sn	17 46 42.9	+11
KMSI	**Cibinong**	**4.10**	**222**	P	**Pn**	**17 45 55.9**	**+1.5**
LBMI	**Labuha**	**4.31**	**170**	P	**Pn**	**17 45 58.0**	**+0.6**
BUKP	**Musuan**	**4.54**	**339**	*e*P	Pn	17 46 04.3	+3.8
PAGZ	**Pagadian**	**5.35**	**322**	*e*P	**Pn**	**17 46 12.6**	**+0.9**
MRSI	**Marisa**	**5.72**	**237**	P	**Pn**	**17 46 16.3**	**-0.5**
IPIL	**Ipil**	**5.85**	**315**	*e*P	**Pn**	**17 46 19.1**	**+0.6**
LUWI	**Luwuk**	**6.10**	**221**	P	Pn	17 46 25.5	+3.5
SWI	**Sorong**	**6.36**	**135**	P	**Pn**	**17 46 27.0**	**+1.5**
baz=6.2,SNR=13							
SWI				S	**Sn**	**17 47 39.0**	**+2.2**
baz=6.2,SNR=5.0							
SWI	**Sorong**	**6.36**	**135**	P	**Pn**	**17 46 26.7**	**+1.2**
291nm,1.1s,1.2nm							
TBP	**Tagbilaran**	**6.66**	**335**	*e*P	**Pn**	**17 46 30.3**	**+0.6**
APSI	**Ampana**	**6.79**	**228**	P	Pn	17 46 36.2	+4.7
APSI				S	**Sn**	**17 47 48.1**	**+0.4**
AAI	**Ambon**	**7.42**	**169**	P	Pn	17 46 44.5	+4.5
baz=7.4,SNR=4.3							
AAI	**Ambon**	**7.42**	**169**	P	**Pn**	**17 46 42.8**	**+2.8**
139nm,1.2s,0.6nm							
PCI	**Palu**	**8.23**	**237**	S	Sn	17 48 11.7	-11
baz=8.4,SNR=5.7							
MYLDM	**Lahad Datu**	**8.35**	**281**	P	**Pn**	**17 46 54.7**	**+1.8**
346nm,1.1s							
FAKI	**Fak Fak**	**8.53**	**140**	P	**Pn**	**17 46 56.8**	**+1.5**
PALU	**Palau**	**8.54**	**64**	P	Pn	17 47 06.5	+11
baz=8.4,SNR=3.5							
PALU				S	**Sn**	**17 48 27.9**	**-2.8**
baz=8.4,SNR=3.1							
KDI	**Kendari**	**8.59**	**209**	P	**Pn**	**17 46 54.3**	**-1.8**
153nm,0.8s							
TTSI	**Tana Toraja**	**9.58**	**226**	P	**Pn**	**17 47 09.9**	**+0.2**
358nm,1.2s,12µm							
SPSI	**Sidrap Palu**	**10.26**	**223**	P	Pn	17 47 16.5	-2.6
96nm,1.5s							
KKM	**Kota Kinabalu**	**10.75**	**283**	*e*P	**Pn**	**17 47 27.9**	**+2.0**
KKM	**Kota Kinabalu**	**10.75**	**283**	P	Pn	17 47 32.6	+6.7
baz=11,SNR=3.7							
KKM	**Kota Kinabalu**	**10.75**	**283**	P	**Pn**	**17 47 26.6**	**+0.7**
86nm,1.6s,9µm							
TLE	**Tual**	**10.99**	**147**	P	Pn	17 47 33.0	+4.0
baz=11,SNR=6.7							
TLE	**Tual**	**10.99**	**147**	P	**Pn**	**17 47 31.6**	**+2.6**
138nm,2.4s							
KAPI	**Kappang**	**11.06**	**219**	Pn	**Pn**	**17 47 32.5**	**+2.4**
2.1nm,0.3s,baz=63,slow=14,SNR=2.8							
KAPI	**Kappang**	**11.06**	**219**	Pn	**Pn**	**17 47 32.5**	**+2.4**
KBKI	**Kotabaru**	**12.61**	**237**	P	**Pn**	**17 47 53.3**	**+2.2**
75nm,1.5s,3µm							
MMRI	**Maumere**	**12.98**	**200**	P	Pn	17 47 59.7	+3.4
BBKI	**Banjar Baru**	**13.82**	**239**	P	**Pn**	**17 48 09.4**	**+1.7**
211nm,3.1s							
SBUM	**Sibu**	**14.54**	**266**	P	**P**	**17 48 24.7**	**+1.3**
75nm,1.2s,4µm							
JAY	**Jayapura**	**15.24**	**113**	P	**P**	**17 48 32.1**	**+0.9**
84nm,0.9s,5µm							
KHKI	**Kahang-Kahang**	**16.28**	**223**	P	**P**	**17 48 43.3**	**+0.6**
101nm,1.5s							
PBKI	**Pangkalan Bun**	**16.32**	**248**	P	**P**	**17 48 43.6**	**+0.5**
SRBI	**Singaraja**	**16.36**	**225**	P	**P**	**17 48 43.3**	**-0.2**
122nm,2.0s							
KSM	**Kuching**	**16.55**	**263**	*e*P	**P**	**17 48 45.7**	**0.0**
KSM	**Kuching**	**16.55**	**263**	P	**P**	**17 48 46.8**	**+1.1**
62nm,1.5s,2µm							
KMMI	**Kalianget**	**16.58**	**230**	P	**P**	**17 48 48.0**	**+2.0**
70nm,1.4s							
IGBI	**Denpasar**	**16.92**	**223**	P	**P**	**17 48 50.1**	**+0.3**
53nm,1.1s							
MTN	**Manton Dam**	**16.94**	**165**	P	**Pn**	**17 48 47.2**	**-1.3**
baz=17,SNR=5.7							
NBBI	**Negara**	**16.97**	**225**	P	**P**	**17 48 53.2**	**+2.8**
222nm,1.1s							
BLJI	**Banyuglugur**	**17.31**	**229**	P	**P**	**17 48 56.6**	**+2.5**
84nm,1.0s,2µm							
JAGI	**Jajag, Banyuwa**	**17.38**	**226**	P	**P**	**17 48 55.6**	**+0.7**
GMJI	**Gumukmas**	**17.76**	**228**	P	**P**	**17 48 59.3**	**+0.2**
83nm,1.2s							
SJI	**Sawahan**	**18.72**	**233**	P	**Pn**	**17 49

ASAR S S 17 55 32.9 +9.2
comp=Z,2.5nm,0.9s,baz=353,slow=22,SNR=3.8
ASAR Alice Springs 28.02 166 P **P** **17 50 42.9 +1.1**
ASAR PcP **PcP** **17 53 56.5 +0.4**
ASAR S S 17 55 32.9 +9.2
WHN Wuhan 29.21 338 P **P** **17 50 53.0 +0.7**
GSI Gunungsitoli 29.22 266 P P 17 50 56.8 +4.2
baz=29,SNR=3.3
GSI S S 17 55 19.6 -23
baz=29,SNR=9.5
NJ2 Nanjing 29.23 346 *e*P **P** **17 50 53.8 +1.4**
NJ2 pmax pmax
comp=Z,20nm,1.0s
JNU Nakatsue 29.59 7 P **P** **17 50 53.9 -1.8**
comp=Z,16nm,0.6s,baz=135,slow=3.7,SNR=7.2
JNU Nakatsue 29.59 7 *e*P **P** **17 50 52.6 -3.0**
GYA Guiyang 29.75 322 P **P** **17 50 58.9 +1.7**
GYA sP **sP** **17 51 13.0 -0.1**
GYA PP **PnPn** **17 51 57.4 +3.5**
GYA PcP **PcP** **17 54 02.8 +2.2**
GYA S **S** **17 55 52.5 +1.5**
GYA sS **sS** **17 56 08.0 -1.4**
GYA ScP **ScP** **17 57 40.4 +0.8**
GYA ScS **ScS** **18 01 34.3 -0.6**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,550nm,16.4s
GYA LR LR
comp=E,510nm,17.0s
GYA LR LR
comp=Z,680nm,17.3s
CTAO Charters Tower 30.39 142 P **P** **17 51 00.8 -2.0**
CTAO Charters Tower 30.39 142 P **P** **17 51 00.8 -2.0**
CM31 Chiang Mai Arr 30.92 301 *e*P **P** **17 51 07.5 -0.1**
CMAR Chiang Mai Arr 30.92 301 P **P** **17 51 07.2 -0.5**
comp=Z,7.1nm,0.8s,baz=109,slow=6.7,SNR=6.6
CMAR ScP **ScP** **17 57 46.8 +3.3**
comp=Z,3.9nm,1.1s,baz=144,slow=1.9,SNR=8.9
CMAR Chiang Mai Arr 30.92 301 P **P** **17 51 07.2 -0.5**
CMAR ScP **ScP** **17 57 46.8 +3.3**
CHTO Chiang Mai 31.07 301 *e*P **P** **17 51 06.9 -2.1**
CHTO Chiang Mai 31.07 301 *e*P **P** **17 51 06.9 -2.1**
MEEK Meekatharra 31.10 194 P **P** **17 51 10.3 +1.2**
baz=31,SNR=6.5
ENH Enshi 31.11 330 *e*P **P** **17 51 07.9 -1.2**
KMI Kunming 31.45 315 P P 17 51 15.4 +3.0
KMI S **S** **17 56 20.8 +2.8**
KMI pmax pmax
comp=Z,7.0nm,1.6s
KMI pmax pmax
comp=Z,100nm,4.4s
KMI LR LR
comp=N,3μm,16.4s
KMI LR LR
comp=E,3μm,15.4s
KMI LR LR
comp=Z,3μm,16.4s
KSAR Wonju Array Be 33.67 2 P **P** **17 51 31.6 +0.3**
KSRS Korea Array 33.68 2 P **P** **17 51 31.6 +0.2**
comp=Z,12nm,0.6s,baz=181,slow=9.1,SNR=15
INCN Inchon 33.69 360 *e*P **P** **17 51 31.0 -0.6**
comp=Z,17nm,0.6s
MORW Morawa 34.09 197 P **P** **17 51 37.8 +2.6**
baz=34,SNR=4.0
MAT Matsushiro 34.42 16 P **P** **17 51 35.5 -2.4**
MJAR Matsushiro Arr 34.42 16 P **P** **17 51 38.3 +0.4**
comp=Z,4.9nm,0.7s,baz=189,slow=8.9,SNR=5.9
MJAR Matsushiro Arr 34.42 16 P **P** **17 51 38.3 +0.4**
XAN Xi'an 34.51 333 P **P** **17 51 37.8 -1.0**
XAN pP pP 17 51 45.3 -4.6
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,69nm,7.9s
CD2 Chengdu 34.72 324 P **P** **17 51 43.1 +2.4**
CD2 pP **pP** **17 51 53.0 +1.1**
CD2 sP **sP** **17 51 57.0 +0.3**
CD2 PP **PP** **17 53 00.8 +0.8**
CD2 S **S** **17 57 10.3 +2.0**
CD2 sS **sS** **17 57 26.5 -0.4**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,340nm,6.5s
CD2 LR LR
comp=N,4μm,16.6s
CD2 LR LR
comp=Z,5μm,16.6s
DL2 Dalian 35.42 353 P **P** **17 51 47.4 +0.9**
DL2 *e*S **S** **17 57 19.8 +1.2**
DL2 pmax pmax
comp=Z,50nm,0.7s
DL2 pmax pmax
comp=Z,200nm,7.2s
DL2 LR LR
comp=N,1μm,19.7s
DL2 LR LR
comp=E,2μm,17.6s
DL2 LR LR
comp=Z,2μm,17.2s
EIDS Eidsvold 37.27 142 *e*P **P** **17 52 01.1 -1.4**
EIDS Eidsvold 37.27 142 P **P** **17 52 02.1 -0.5**
baz=37,SNR=5.4
BBOO Buckleboo 37.30 167 *e*P **P** **17 52 03.0 +0.3**
BBOO Buckleboo 37.30 167 P **P** **17 52 03.4 +0.7**
baz=38,SNR=9.4
BJT Baijiatuan 37.46 347 *e*P **P** **17 52 03.8 -0.2**
comp=Z,68nm,0.7s
STKA Stephens Creek 38.04 159 P **P** **17 52 10.2 +1.3**
comp=Z,33nm,1.0s,baz=332,slow=7.3,SNR=8.5
STKA Stephens Creek 38.04 159 *e*P **P** **17 52 08.1 -0.8**
LZH Lanzhou 38.59 330 *e*P P 17 52 17.1 +3.4
LZH pP pP 17 52 26.3 +1.3
LZH sP sP 17 52 29.9 +0.2
LZH PP **PnPn** **17 53 49.6 +4.8**
LZH PcP **PcP** **17 54 27.9 +2.2**
LZH *e*S **ScP** **17 58 11.0 +0.2**
LZH sS sS 17 58 27.3 +1.2
LZH pmax pmax
comp=Z,34nm,1.2s
LZH pmax pmax
comp=Z,260nm,5.0s
LZH LR LR
comp=N,2μm,11.8s
LZH LR LR
comp=E,6μm,16.8s
LZH LR LR
comp=Z,8μm,17.6s
HHC Hu-ho-hao-te 39.49 342 *e*P **P** **17 52 23.0 +1.9**
HHC pP **pP** **17 52 32.8 +0.4**
HHC sP **sP** **17 52 36.8 -0.4**
HHC PP **PnPn** **17 53 58.5 +3.0**
HHC S **S** **17 58 23.3 +2.6**
HHC sS **sS** **17 58 39.1 -0.3**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,260nm,7.8s
HHC LR LR
comp=N,3μm,20.6s
HHC LR LR
comp=E,3μm,23.3s
HHC LR LR
comp=Z,4μm,22.0s
CN2 Changchun 40.02 359 *e*P **P** **17 52 27.3 +2.0**
CN2 *es*P **sP** **17 52 41.0 -0.4**
CN2 *e*S **S** **17 58 30.4 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,3μm,19.0s
CN2 LR LR
comp=E,1μm,19.0s
CN2 LR LR
comp=Z,3μm,18.0s
USRK Ussuriysk Arra 40.67 6 P **P** **17 52 31.3 +0.6**
comp=Z,11nm,0.7s,baz=192,slow=6.8,SNR=10.0
MDJ Mudanjiang 40.90 3 P **P** **17 52 32.8 +0.3**
MDJ pmax pmax
comp=Z,30nm,0.8s
MDJ pmax pmax
comp=Z,320nm,6.1s
MDJ Mudanjiang 40.90 3 *e*P **P** **17 52 32.1 -0.4**
ARMA Armidale 41.38 147 *e*P **P** **17 52 37.0 +0.1**
ARMA Armidale 41.38 147 P **P** **17 52 37.8 +0.9**
baz=41,SNR=15
LSA Lhasa 42.51 311 *e*P **P** **17 52 47.4 +0.9**
LSA Lhasa 42.51 311 *e*P **P** **17 52 47.4 +0.9**
ASAJ Asahikawa 42.69 17 *e*P **P** **17 52 47.5 +0.3**
TAPN Taplejung 44.08 306 *e*P **P** **17 52 58.6 -0.5**
ODAN Odare 44.13 306 *e*P **P** **17 52 58.8 -0.6**
RAMN Ramite 44.81 305 *e*P **P** **17 53 04.5 -0.4**
comp=Z,24nm,0.6s
HABR Khabarovsk 45.24 8 P P 17 53 04.0 -3.6
HABR *e**PP pP 17 53 13.2 -5.8
HABR *e**SP sP 17 53 17.9 -5.9
HABR 17 54 49.9
HABR *e*S **S** **17 59 42.0 -2.9**
HABR *e**SS sS 17 59 57.5 -6.4
HABR *e* 18 02 58.6
HABR *e*SS **SS** **18 03 05.6 -3.0**
HABR pmax pmax
comp=E,70nm,2.8s
HABR pmax pmax
comp=Z,104nm,2.1s
HABR pmax pmax
comp=N,30nm,2.1s
HABR MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 45.34 15‖ *e*P **P** **17 53 09.4 +1.0**
YSS *e* 17 53 20.0
YSS *e* 17 53 26.0
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=E,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 45.34 15 *e*P **P** **17 53 07.8 -0.6**
comp=Z,9.9nm,0.7s
JIRN Jiri 45.43 306 *e*P **P** **17 53 08.9 -1.1**
GUN Gumba 45.78 306 *e*P **P** **17 53 11.6 -1.1**
comp=Z,44nm,0.5s
HIA Hailar 45.86 354 *e*P **P** **17 53 12.6 0.0**
PKI Pulchoki 46.03 305 *e*P **P** **17 53 14.5 -0.1**
KKN Kakani 46.22 306 *e*P **P** **17 53 15.0 -1.0**
DMN Daman 46.29 305 *e*P **P** **17 53 16.3 -0.3**
DZM Mont Dzumac 46.48 125 *e*P **P** **17 53 17.9 -0.1**
GKN Gorkha 46.83 306 *e*P **P** **17 53 19.6 -1.1**
ULN Ulaanbaatar 47.21 342 *e*P **P** **17 53 22.3 -1.1**
SONM Songino Array 47.39 341 P **P** **17 53 25.4 +0.7**
comp=Z,7.3nm,0.8s,baz=166,slow=7.6,SNR=10.0
SONM PcP **PcP** **17 54 56.2 +1.2**
comp=Z,2.6nm,0.7s,baz=167,slow=4.7,SNR=4.0
SONM Songino Array 47.39 341 P **P** **17 53 25.4 +0.7**
SONM PcP **PcP** **17 54 56.2 +1.2**
KOLN Koldanda 47.58 305 *e*P **P** **17 53 25.1 -1.5**
comp=Z,51nm,0.5s
DANN Dangsing 47.67 306 *e*P **P** **17 53 25.8 -1.7**
comp=Z,71nm,0.7s
PYUN Piuthan 48.21 305 *e*P **P** **17 53 28.9 -2.6**
comp=Z,109nm,0.9s
TLY Talaya 51.62 342 *e*P **P** **17 53 57.6 +0.8**
TLY pmax pmax
comp=Z,13nm,1.1s
TLY Talaya 51.62 342 *e*P **P** **17 53 58.2 +1.4**
comp=Z,24nm,1.2s
IRK Irkutsk 51.92 343 *e*P P 17 54 06.7 +7.7
IRK pmax pmax
comp=Z,46nm,1.9s
WMQ Urumqi 52.81 325 P **P** **17 54 07.4 +1.6**
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ LR LR
comp=N,3μm,19.0s
WMQ LR LR
comp=E,2μm,20.0s
WMQ LR LR
comp=Z,4μm,20.0s
HVS Khovu-Aksy 54.83 335 *e*P **P** **17 54 18.5 -2.0**
HVS pmax pmax
comp=Z,71nm,1.3s
MSVF Nonsavu 54.87 115 *e*P **P** **17 54 22.4 +1.1**
MSVF pmax pmax
comp=Z,54nm,1.3s
MSVF Nonsavu 54.87 115 *e*P **P** **17 54 22.4 +1.1**
comp=Z,54nm,1.3s
BOD Bodaibo 54.96 352 *e*P **P** **17 54 20.9 -0.3**
BOD pmax pmax
comp=Z,15nm,1.4s
PETK Petropavlovsk- 55.52 22 P **P** **17 54 26.3 +1.0**
comp=Z,21nm,0.9s,baz=181,slow=4.7,SNR=17
PETK LR LR 18 17 07.1
comp=Z,1μm,19.0s,baz=220,slow=35
PETK Petropavlovsk- 55.52 22 P **P** **17 54 26.3 +1.0**
PETK Petropavlovsk- 55.52 22 P **P** **17 54 26.3 +1.0**
MK31 Makanchi Array 57.64 325 *e*P **P** **17 54 39.1 -1.4**
MK31 Makanchi Array 57.64 325 *e*P **P** **17 54 39.1 -1.4**
KSH Kashi 58.12 315 P **P** **17 54 44.1 0.0**
KSH *ep*P **pP** **17 54 53.8 -2.1**
KSH *es*P **sP** **17 54 58.8 -1.7**
KSH *e*PcP **PcP** **17 55 35.8 +0.3**
KSH *e*PP **PP** **17 56 56.3 +3.1**
KSH ScP **ScP** **17 59 31.6 -1.2**
KSH PcS **PcS** **17 59 35.3 -1.8**
KSH S **S** **18 02 42.3 -0.5**
KSH ScS **ScS** **18 04 28.3 -2.6**
KSH pmax pmax
comp=Z,20nm,1.3s
KSH pmax pmax
comp=Z,210nm,7.0s
KSH LR LR
comp=N,3μm,22.4s
KSH LR LR
comp=E,1μm,16.4s
KSH LR LR
comp=Z,2μm,16.0s
YAK Yakutsk 58.31 2 *e*P **P** **17 54 44.4 -0.4**
YAK *e**PP **pP** **17 54 54.1 -2.5**
YAK *e* 17 55 34.8
YAK *e*PPP PPP 17 58 17.0
YAK *e*S **S** **18 02 47.3 +3.2**
YAK *e**SS **sS** **18 03 04.1 +0.5**
YAK *e* 18 04 33.0
YAK *e*SS **SS** **18 06 39.5 +2.9**
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,46nm,1.2s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=Z,237nm,4.1s
YAK smax smax
comp=N,263nm,8.0s
YAK smax smax
comp=E,235nm,5.2s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK Yakutsk 58.31 2 *e*P **P** **17 54 44.5 -0.3**
AAK Ala-Archa 60.43 318 P **P** **17 54 58.6 -1.5**
AAK Ala-Archa 60.43 318 P **P** **17 54 58.6 -1.5**
ZAA0 Zalesovo Array 60.68 333 *e*P **P** **17 55 00.5 -0.8**
ZALV Zalesovo Beam 60.68 333 P **P** **17 54 59.9 -1.5**
comp=Z,6.0nm,0.6s,baz=121,slow=5.7,SNR=5.6
ZALV Zalesovo Beam 60.68 333 P **P** **17 54 59.9 -1.5**
ZALV Zalesovo Beam 60.68 333 P **P** **17 54 59.9 -1.5**
EKS2 Erkin-Say 60.92 318 *e*P **P** **17 55 03.0 -0.4**
EKS2 Erkin-Say 60.92 318 *e*P **P** **17 55 03.0 -0.4**
KBL Kabul 61.58 308 *e*P **P** **17 55 06.9 -1.3**
KBL Kabul 61.58 308 *e*P **P** **17 55 06.9 -1.3**
KBL Kabul 61.58 308 P **P** **17 55 08.6 +0.5**
baz=62,SNR=4.3
RPZ Rata Peaks 61.68 145 P **P** **17 55 08.3 -0.1**
comp=Z,14nm,0.9s,baz=341,slow=3.8,SNR=3.8
RPZ Rata Peaks 61.68 145 P **P** **17 55 08.3 -0.1**
KURK Kurchatov 61.82 328 *e*P **P** **17 55 08.1 -1.1**
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 61.82 328 *e*P **P** **17 55 09.4 +0.3**
KURK Kurchatov 61.82 328 P **P** **17 55 10.8 +1.6**
comp=Z,400nm,0.8s,SNR=14
NVS Novosibirsk 61.96 333⇑ *i*P **P** **17 55 09.1 -0.9**
NVS *e*S S 18 03 39.6 +8.3
NVS *e* 18 04 51.4
NVS pmax pmax
comp=Z,22nm,1.1s
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax smax
comp=N,12nm,2.2s
NVS smax smax
comp=E,25nm,2.5s
SEY Seymchan 62.13 13 *e*P **P** **17 55 09.9 -1.1**
KKAR Karatay Array 63.30 317 *e*P **P** **17 55 17.0 -2.3**
KKAR Karatay Array 63.30 317 *e*P **P** **17 55 17.0 -2.3**
BRVK Borovoye 67.47 327 *e*P **P** **17 55 44.2 -1.8**
BRVK pmax pmax
comp=Z,45nm,1.2s
BRVK Borovoye 67.47 327 *e*P **P** **17 55 43.3 -2.7**
BRVK Borovoye 67.47 327 P **P** **17 55 44.0 -2.0**
comp=Z,272nm,1.0s,SNR=8.7
ABKAR Abkulak array 72.23 321 *e*P **P** **17 56 13.5 -1.8**
UNV Unalaska Valle 73.50 35 *e*P **P** **17 56 22.2 -0.6**
SVE Sverdlovsk 74.05 328⇑ *e*P **P** **17 56 28.5 +2.6**
SVE pmax pmax
comp=Z,28nm,1.1s
GAMB Gambell 74.49 24 *e*P **P** **17 56 29.4 +1.1**
ARU Arti 75.02 328 *d i*P **P** **17 56 31.6 0.0**
ARU 17 59 17.6
ARU S **S** **18 06 10.0 +3.5**
ARU SS **SS** **18 10 57.8 +2.1**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU Arti 75.02 328 *e*P **P** **17 56 30.4 -1.1**
RAR Rarotonga 76.00 113 LR LR 18 25 27.3
comp=Z,478nm,18.8s,baz=87,slow=32
TNA Tin City 76.68 23 *e*P **P** **17 56 38.8 -2.0**
SOKR Solikamsk 76.80 331 *e*P **P** **17 56 43.0 +1.4**
SOKR pmax pmax
comp=Z,20nm,1.4s
QRN Al-Qurain 78.46 298 *e*P **P** **17 56 49.8 -1.8**
QRN AMb AMB 17 56 52.4
comp=Z,44nm,1.1s
MIB Mutribah 79.00 300 *e*P **P** **17 56 52.5 -2.0**
MIB AMb AMB 17 56 56.0
comp=Z,20nm,1.1s
NAY Al-Naaiem 79.07 299 *e*P **P** **17 56 52.5 -2.5**
NAY AMb AMB 17 56 55.8
comp=Z,17nm,1.0s
OPO Ambohidratompo 81.26 251 P **P** **17 57 08.0 +0.9**
comp=Z,3.2nm,0.7s,baz=57,slow=4.7,SNR=5.2
OPO Ambohidratompo 81.26 251 P **P** **17 57 08.0 +0.9**
ABPO Ambohimpanom 81.28 250 *e*P **P** **17 57 05.7 -1.5**
ABPO pmax pmax
comp=Z,7.0nm,0.8s
ABPO Ambohimpanom 81.28 250 *e*P **P** **17 57 05.7 -1.5**
comp=Z,7.1nm,0.8s
GNI Garni 81.55 310 P **P** **17 57 06.7 -1.6**
ZEI Tsey 82.28 312 *e*P **P** **17 57 12.0 -0.2**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
VNDA Vanda 83.33 173 P **P** **17 57 17.1 +0.6**
comp=Z,3.6nm,0.9s,baz=301,slow=7.4,SNR=3.5
VNDA LR LR 18 34 54.6
comp=Z,1μm,18.1s,baz=342,slow=36
VNDA Vanda 83.33 173 P **P** **17 57 17.1 +0.6**
TRF Thorofare Moun 83.63 27 *e*P **P** **17 57 18.0 -0.5**
MAW Mawson 83.66 200 LR LR 18 30 52.6
comp=Z,941nm,22.0s,baz=52,slow=33
COLD Coldfoot 83.98 23 *e*P **P** **17 57 21.5 +1.4**
PMR Palmer 84.03 29 *e*P **P** **17 57 19.1 -1.3**
PMR pmax pmax
comp=Z,46nm,1.2s
PMR Palmer 84.03 29 *e*P **P** **17 57 19.1 -1.3**
comp=Z,46nm,1.2s
VRHR Novokhopersk 84.12 321 *e*P **P** **17 57 20.6 -0.5**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VRHR pmax pmax
comp=Z,8.0nm,0.5s
SML Sawmill 84.42 28 *e*P **P** **17 57 22.7 +0.2**
SML pmax pmax
comp=Z,34nm,1.5s
SML Sawmill 84.42 28 *e*P **P** **17 57 22.7 +0.2**
comp=Z,34nm,1.5s
ILAR Eielson Array 85.19 25 P **P** **17 57 26.5 +0.2**
comp=Z,3.3nm,0.8s,baz=246,slow=6.3,SNR=8.7
ILAR LR LR 18 37 09.0
comp=Z,846nm,19.2s,baz=88,slow=37
ILAR Eielson Array 85.19 25 P **P** **17 57 26.5 +0.2**
KLMR Klimovskoe 85.49 331 *e*P **P** **17 57 26.3 -1.5**
KLMR pmax pmax
comp=Z,62nm,1.2s
VORD Divnogorie 85.59 321 *e*P **P** **17 57 27.0 -1.5**
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,30nm,1.0s
DIV Divide 85.63 29 *e*P **P** **17 57 30.4 +1.8**
comp=Z,45nm,0.8s
VSR Storozhevoye 85.67 321 *e*P **P** **17 57 27.2 -1.7**
PAX Paxson 85.79 27 *e*P **P** **17 57 30.8 +1.4**
PAX Paxson 85.79 27 *e*P **P** **17 57 30.8 +1.4**
TMCR Tamitsa 86.19 334 *e*P P 17 57 37.0 +5.9
TMCR pmax pmax
comp=Z,57nm,1.6s
MALT Malatya 86.44 308 *e*P **P** **17 57 33.4 +0.2**
MALT pmax pmax
comp=Z,17nm,1.4s
MALT Malatya 86.44 308 *e*P **P** **17 57 33.4 +0.2**
comp=Z,17nm,1.4s
MOS Moscow 86.52 325 *e*P **P** **17 57 30.1 -2.9**
MOS pmax pmax
comp=Z,62nm,1.4s
ANN Anapa 86.97 315 *e*P P 17 57 30.3 -5.1
ANN *e**PP pP 17 57 43.8 -3.9
ANN *e* 18 08 00.7
ANN pmax pmax
comp=Z,53nm,1.1s
OBN Obninsk 87.14 325⇑ *e*P **P** **17 57 34.7 -1.3**
OBN *e* 18 00 59.5
OBN *e*S S 18 08 06.3 -6.2
OBN *e*SS **SS** **18 14 02.2 +5.9**
OBN pmax pmax
comp=Z,39nm,1.1s
OBN Obninsk 87.14 325 *e*P **P** **17 57 34.9 -1.2**
comp=Z,17nm,0.5s
DAWY Dawson 88.46 26 P **P** **17 57 42.6 +0.4**
JOF Joensuu 89.27 333 *e*P **P** **17 57 45.4 -0.6**
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 89.27 333 *ep* **P** **17 57 45.4 -0.6**
comp=Z,9.6nm,0.6s
KMBO Kilima Mbogo 89.55 269 *e*P **P** **17 57 47.3 -1.4**
KEV Kevo 89.98 340 *e*P **P** **17 57 49.0 -0.2**
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 89.98 340 *ep* **P** **17 57 49.0 -0.2**
comp=Z,3.5nm,0.7s
BR131 Keskin Array S 90.08 310 *e*P **P** **17 57 50.3 -0.3**
comp=Z,6.1nm,0.8s
BRTR Keskin Array B 90.08 310 P **P** **17 57 49.0 -1.6**
comp=Z,8.9nm,0.9s,baz=113,slow=5.4,SNR=13
BRTR Keskin Array B 90.08 310 P **P** **17 57 49.0 -1.6**
INK Inuvik 90.25 21 *e*P **P** **17 57 49.7 -0.8**
ARCES ARCESS Array B 90.54 340 P **P** **17 57 50.8 -1.0**
comp=Z,3.5nm,0.6s,baz=71,slow=4.1,SNR=8.1
ARCES ARCESS Array B 90.54 340 P **P** **17 57 50.8 -1.0**
KAF Kangasniemi 91.69 332 *e*P **P** **17 57 55.6 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 91.69 332 *ep* **P** **17 57 55.6 -1.6**
comp=Z,2.7nm,0.6s
FINES FINESS Array B 91.92 332 P **P** **17 57 57.1 -1.2**
comp=Z,2.2nm,0.5s,baz=62,slow=5.8,SNR=6.9
FINES LR LR 18 46 53.9
comp=Z,2μm,21.3s,baz=354,slow=41
FINES FINESS Array B 91.92 332 P **P** **17 57 57.1 -1.2**
AKASG Malin Array Be 91.97 321 P **P** **17 57 57.6 -1.2**
comp=Z,3.8nm,0.7s,baz=68,slow=4.9,SNR=7.0

AKASG	**Malin Array Be**	**91.97**	**321**	*i* P	**P**	**17 57 57.5**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AKASG	**Malin Array Be**	**91.97**	**321**	P	**P**	**17 57 57.6**	**-1.2**
AK01	**Malin Array Si**	**91.98**	**321**	*e*P	**P**	**17 57 57.3**	**-1.6**
KIEV	**Kiev**	**91.98**	**321**	*e*P	**P**	**17 57 56.7**	**-2.2**
KIEV				pmax	pmax			
	comp=Z,11nm,1.2s							
KIEV	**Kiev**	**91.98**	**321**	*e*P	**P**	**17 57 56.7**	**-2.2**
	comp=Z,11nm,1.2s							
AK02	**Malin Array Si**	**91.99**	**321**	*e*P	**P**	**17 57 57.5**	**-1.4**
QSPA	**South Pole Qui**	**93.54**	**180**	P	**P**	**17 58 06.7**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=327,slow=9.1,SNR=3.6							
QSPA	**South Pole Qui**	**93.54**	**180**	P	**P**	**17 58 06.7**	**+0.8**
SUW	**Suwalki**	**95.00**	**325**	*e*P	**P**	**17 58 11.4**	**-1.3**
SUW	**Suwalki**	**95.00**	**325**	*e*P	**P**	**17 58 11.2**	**-1.5**
SUW	**Suwalki**	**95.00**	**325**	*e*P	**P**	**17 58 11.2**	**-1.5**
SUW	**Suwalki**	**95.00**	**325**	*e*P	**P**	**17 58 11.4**	**-1.3**
BUR08	**Bucovina Ar. S**	**95.08**	**318**	*e*P	**P**	**17 58 12.1**	**-1.2**
KOLS	**Kolonicke sedl**	**96.72**	**320**	*e*P	**P**	**17 58 19.3**	**-1.4**
KOLS				pmax	pmax			
	comp=Z,14nm,1.6s							
KOLS	**Kolonicke sedl**	**96.72**	**320**	*e*P	**P**	**17 58 19.3**	**-1.4**
UZH	**Uzhgorod**	**96.78**	**320**	*e*P	**P**	**17 58 20.8**	**-0.1**
UZH				*e*		17 58 27.6		
UZH				*e*		17 58 37.5		
UZH				*e*S	**S**	**18 09 35.7**	**-4.1**
CRVS	**Cervenica-Dubn**	**97.25**	**320**	*e*P	**P**	**17 58 22.0**	**-1.1**
CRVS				pmax	pmax			
	comp=Z,18nm,1.1s							
CRVS	**Cervenica-Dubn**	**97.25**	**320**	*e*P	**P**	**17 58 22.0**	**-1.1**
NB2	**NORSAR Subarra**	**98.88**	**334**	P	**P**	**17 58 28.6**	**-1.5**
	baz=68,slow=4.4							
NB2	**NORSAR Subarra**	**98.88**	**334**	P	**P**	**17 58 28.6**	**-1.5**
	comp=Z,4.9nm,1.0s,baz=68,slow=4.4							
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**	**17 58 28.9**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=68,slow=4.6,SNR=4.9							
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**	**17 58 28.9**	**-1.2**
VYHS	**Vyhne**	**99.03**	**320**	*e*P	**Pdif**	**17 58 29.2**	**-1.9**
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.7s							
VYHS	**Vyhne**	**99.03**	**320**	PDIF	**Pdif**	**17 58 29.2**	**-1.9**
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**17 58 33.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=298,slow=4.7,SNR=4.3							
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**17 58 33.7**	**+0.5**
GERES	**GERESS Array B**	**102.16**	**322**	P	**Pdif**	**17 58 45.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=64,slow=7.7,SNR=4.9							
GERES	**GERESS Array B**	**102.16**	**322**	P	**Pdif**	**17 58 45.5**	**+0.4**
Z27A	**Tatum**	**120.22**	**48**	⇑P	**PKPdf**	**18 03 41.1**	**-0.7**
	baz=120							
328A	**Wristen Ranch,**	**121.42**	**50**	⇑P	**PKPdf**	**18 03 44.2**	**+0.1**
	baz=121							
428A	**Kincaid Ranch,**	**121.81**	**50**	⇓P	**PKPdf**	**18 03 45.2**	**+0.3**
	baz=122							
529A	**Stev Forest Ra**	**122.44**	**51**	⇓P	**PKPdf**	**18 03 45.9**	**-0.2**
	baz=122							
429A	**Davenport Ranc**	**122.46**	**50**	⇓P	**PKPdf**	**18 03 46.2**	**+0.1**
	baz=122							
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	**18 03 46.8**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=68,slow=1.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	**18 03 46.8**	**-0.5**
431A	**Sonora**	**123.42**	**49**	⇑P	**PKPdf**	**18 03 48.1**	**+0.1**
	baz=123							
332A	**Millersview**	**123.73**	**48**	⇓P	**PKPdf**	**18 03 49.1**	**+0.6**
	baz=124							
631A	**Perdido Creek**	**124.03**	**51**	⇑P	**PKPdf**	**18 03 49.8**	**+0.6**
	baz=124							
MIAR	**Mount Ida**	**126.35**	**42**	*e*PKIKP	**PKPdf**	**18 03 54.4**	**+1.0**
MIAR	**Mount Ida**	**126.35**	**42**	*e*PKPdf	**PKPdf**	**18 03 54.4**	**+1.0**
JTS	**JuntasAbangare**	**145.55**	**66**	PKPbc	**PKPab**	**18 04 31.9**	**+2.1**
	comp=Z,9.6nm,0.5s,baz=190,slow=6.4,SNR=8.2							
JTS	**JuntasAbangare**	**145.55**	**66**	*e*PKPdf	**PKPab**	**18 04 29.7**	**-0.1**
JTS				PKPbc	**PKPab**	**18 04 31.9**	**+2.1**
CFAA	**Coronel Fontan**	**148.81**	**155**	PKPbc	**PKPbc**	**18 04 38.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=219,slow=3.2,SNR=9.8							
CFAA	**Coronel Fontan**	**148.81**	**155**	PKPbc	**PKPbc**	**18 04 38.8**	**+0.5**
LCO	**Las Campanas**	**149.81**	**149**	*e*PKPbc	**PKPbc**	**18 04 41.9**	**+0.8**

IDC ***16*** *17:56:50.6±1.6,3˚.63N×126˚.82E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/23,mbtmp3.7/5, Error ellipse: s-maj=106.9km s-min=22.5km az=69.0*

ISCJB ***16*** *17:56:55.7±1.5,3˚.5N±0˚.3×126˚.6E±0˚.6,h48km,mb3.7/5, Error ellipse: s-maj=97.3km s-min=13.5km az=156.8*

ISC 16 17:56:57.5±1.6,3˚.5N±0˚.3×126˚.6E±0˚.7,h48km,n6,σ0s45/6, mb3.9/5,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.38**	**328**	⇑*i*P	**Pn**	**17 58 01.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.47**	**182**	P	**P**	**18 01 42.1**	**0.0**
	1.5nm,0.9s,baz=356,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**18 02 11.9**	**-0.6**
	2.7nm,0.8s,baz=344,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**27.91**	**166**	P	**P**	**18 02 43.5**	**+0.1**
	0.3nm,0.3s,baz=344,slow=11,SNR=16						
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**18 04 11.1**	**+0.4**
	1.4nm,0.7s,baz=339,slow=8.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**61.87**	**328**	P	**P**	**18 07 11.7**	**-0.2**
	0.5nm,0.5s,baz=129,slow=6.9,SNR=4.4						

IDC ***16*** *18:02:22.8±1.1,43˚.58N×105˚.36W,h0km,mb4.0/3, mb1 3.9/8,mb1mx3.6/30,mbtmp3.7/8,ML3.4/5,MS4.5/2, Ms1 4.6/2,ms1mx3.2/57, Error ellipse: s-maj=25.1km s-min=7.6km az=149.0*

ISCJB ***16*** *18:02:23.4±0.2,43˚.68N±0˚.01×105˚.34W±0˚.02,h0km, mb4.1/3,MS4.7/2, Error ellipse: s-maj=2.1km s-min=1.7km az=162.0*

NEIC ***16*** *18:02:23.8±0.6,43˚.66N×105˚.33W,h0km,ML3.3, Error ellipse: s-maj=8.1km s-min=7.3km az=148.0, Suspected Mining explosion.*

NEIC 70 km [45 miles] S of Gillette.

ISC 16 18:02:23.7±0.6,43˚.66N±0˚.02×105˚.32W±0˚.02,h0km,n135, σ0s90/161,mb4.1/3,52C-52D,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.30**	**213**	⇑P	**Pb**	**18 02 30.8**	**-1.3**
	baz=0.3,SNR=307						
J23A				⇓S	**Sg**	**18 02 34.0**	**+0.7**
	baz=0.3						
I23A	**Meade Ranch, G**	**0.32**	**342**	P	**Pg**	**18 02 30.8**	**+0.9**
	baz=0.3,SNR=51						
I23A				⇓S	**Sg**	**18 02 34.6**	**+0.6**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.55**	**68**	⇓P	**Pg**	**18 02 34.6**	**+0.5**
	baz=0.5,SNR=178						
J24A	**Dixon Ranch, L**	**0.58**	**124**	P	**Pg**	**18 02 35.5**	**+0.6**
	baz=0.6,SNR=13						
J24A				⇓S	**Sg**	**18 02 44.0**	**+1.6**
	baz=0.6						
I22A	**9 Mile Ranch,**	**0.87**	**286**	⇓P	**Pg**	**18 02 40.6**	**+0.1**
	baz=0.9,SNR=97						
I22A				⇓S	**Sg**	**18 02 51.1**	**-0.6**
	baz=0.9						
J22A	**Midwest**	**0.87**	**254**	⇑P	**Pg**	**18 02 40.6**	**+0.1**
	baz=0.9,SNR=79						
J22A				⇑Sb	**Sb**	**18 02 53.9**	**-0.3**
	baz=0.9						
H23A	**Clabaugh Cattl**	**0.91**	**357**	P	**Pg**	**18 02 40.8**	**-0.3**
	baz=0.9,SNR=26						
K23A	**Bowen Ranch, D**	**0.93**	**194**	⇑P	**Pb**	**18 02 42.3**	**-0.4**
	baz=0.9						
K23A				⇑Sb	**Sb**	**18 02 55.8**	**+0.1**
	baz=0.9						
K24A	**Anderson Ranch**	**1.00**	**158**	⇓P	**Pg**	**18 02 43.3**	**+0.3**
	baz=1.0,SNR=56						
K24A				⇑Sb	**Sn**	**18 02 58.9**	**-1.2**
	baz=1.0						
RSSD	**Black Hills**	**1.04**	**63**	*e*P	**Pg**	**18 02 43.0**	**-0.6**
H22A	**Clearmont**	**1.19**	**322**	⇓P	**Pg**	**18 02 46.3**	**-0.3**
	baz=1.2,SNR=61						
H24A	**Dirks Ranch, A**	**1.22**	**27**	P	**Pg**	**18 02 46.2**	**-1.0**
	baz=1.2,SNR=238						
H24A				⇓S	**Sg**	**18 03 03.8**	**+0.7**
	baz=1.2						
K22A	**Casper**	**1.33**	**222**	⇑P	**Pg**	**18 02 48.8**	**-0.5**
	baz=1.3						
I21A	**Big Trails, Te**	**1.44**	**277**	⇑P	**Pn**	**18 02 49.7**	**-1.4**
	baz=1.4						
I21A				⇑S	**Sg**	**18 03 09.6**	**-0.2**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.49**	**134**	⇑P	**Pn**	**18 02 52.0**	**+0.1**
	baz=1.5,SNR=43						
G23A	**Biddle**	**1.54**	**358**	⇓P	**Pn**	**18 02 52.1**	**-0.5**
	baz=1.5,SNR=101						
G23A				⇓S	**Sn**	**18 03 14.0**	**+0.6**
	baz=1.5						
L23A	**Garrett**	**1.57**	**190**	⇑P	**Pn**	**18 02 52.8**	**-0.2**
	baz=1.6,SNR=71						
L23A				⇑S	**Sg**	**18 03 14.2**	**+0.2**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.57**	**309**	⇓P	**Pn**	**18 02 52.7**	**-0.3**
	baz=1.6,SNR=70						
J21A	**Lysite**	**1.57**	**259**	Pb	**Pn**	**18 02 52.7**	**-0.4**
	baz=1.6,SNR=66						
L24A	**Wheatland**	**1.64**	**170**	⇓P	**Pn**	**18 02 54.0**	**+0.1**
	baz=1.6,SNR=22						
G22A	**Birney**	**1.71**	**336**	⇑P	**Pn**	**18 02 54.7**	**-0.2**
	baz=1.7,SNR=69						
K21A	**Alcova**	**1.74**	**235**	⇑Pb	**Pn**	**18 02 56.0**	**+0.6**
	baz=1.7,SNR=47						
K21A				⇑Sb	**Sg**	**18 03 19.6**	**-0.1**
	baz=1.7						
G24A	**Alzada**	**1.79**	**21**	⇓P	**Pn**	**18 02 56.1**	**+0.1**
	baz=1.8,SNR=25						
G24A				⇓S	**Sn**	**18 03 20.5**	**+1.0**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.80**	**146**	⇓Pb	**Pb**	**18 02 57.6**	**0.0**
	baz=1.8,SNR=29						
L25A				⇓Sb	**Sg**	**18 03 22.4**	**+0.8**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.82**	**207**	⇓Pb	**Pb**	**18 02 57.7**	**-0.2**
	baz=1.8,SNR=12						
L22A				⇓Sb	**Sg**	**18 03 22.2**	**+0.1**
	baz=1.8						
J20A	**Shoshoni**	**2.03**	**262**	⇑Pb	**Pb**	**18 03 01.0**	**-0.5**
	baz=2.0,SNR=112						
J20A				⇑Sg	**Sg**	**18 03 30.3**	**+1.3**
	baz=2.0						
I20A	**Worland**	**2.05**	**279**	⇑Pb	**Pn**	**18 03 01.1**	**+1.5**
	baz=2.0,SNR=120						
I20A				⇑Sb	**Sb**	**18 03 28.5**	**+0.5**
	baz=2.0						
F23A	**Volborg**	**2.06**	**358**	⇑P	**Pn**	**18 02 59.8**	**+0.1**
	baz=2.1,SNR=96						
F23A				⇑Sb	**Sb**	**18 03 29.3**	**+0.9**
	baz=2.1						
G21A	**Lodge Grass**	**2.07**	**320**	⇓P	**Pn**	**18 02 59.5**	**-0.3**
	baz=2.1,SNR=34						
H20A	**Greybull**	**2.10**	**294**	⇑P	**Pn**	**18 02 60.0**	**-0.2**
	baz=2.1,SNR=22						
H20A				⇓Sb	**Sb**	**18 03 29.8**	**+0.5**
	baz=2.1						
M24A	**Cheyenne**	**2.22**	**170**	⇑Pb	**Pb**	**18 03 05.0**	**+0.3**
	baz=2.2						
M24A				⇑Sb	**Sg**	**18 03 35.1**	**+0.1**
	baz=2.2						
F22A	**Rosebud**	**2.22**	**343**	⇓P	**Pn**	**18 03 01.6**	**-0.3**
	baz=2.2,SNR=48						
F22A				⇓Sb	**Sb**	**18 03 33.4**	**+0.5**
	baz=2.2						
F24A	**Ekalaka**	**2.28**	**16**	⇑P	**Pn**	**18 03 02.8**	**+0.1**
	baz=2.3						
L26A	**Underwood Farm**	**2.31**	**134**	⇑Sb	**Sg**	**18 03 37.7**	**-0.3**
	baz=2.3						
M25A	**Palm-Egli Farm**	**2.41**	**157**	⇑P	**Pb**	**18 03 06.3**	**-1.8**
	baz=2.4,SNR=18						
M25A				⇓Sb	**Sg**	**18 03 40.3**	**-0.8**
	baz=2.4						
K20A	**Yellowstone Ra**	**2.42**	**247**	⇓Pb	**Pb**	**18 03 07.4**	**-0.8**
	baz=2.4						
K20A				⇑Sb	**Sb**	**18 03 39.2**	**+0.4**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.45**	**112**	⇑Sb	**Sb**	**18 03 40.3**	**+0.8**
	baz=2.5						
F21A	**Absaloka Mine,**	**2.52**	**330**	⇓P	**Pn**	**18 03 05.8**	**-0.2**
	baz=2.5						
F21A				⇓Sb	**Sb**	**18 03 41.6**	**+0.2**
	baz=2.5						
M21A	**Separation Pea**	**2.54**	**217**	⇑P	**Pn**	**18 03 08.2**	**+1.8**
	baz=2.5,SNR=75						
M21A				⇑Sb	**Sb**	**18 03 43.0**	**+0.8**
	baz=2.5						
G20A	**Bridger**	**2.59**	**308**	P	**Pn**	**18 03 06.9**	**-0.1**
	baz=2.6,SNR=85						
I19A	**Meeteetse**	**2.68**	**279**	⇑P	**Pn**	**18 03 09.3**	**+1.0**
	baz=2.7,SNR=35						
I19A				⇑Sb	**Sb**	**18 03 45.9**	**-0.3**
	baz=2.7						
K19A	**Absolon Red Bu**	**2.71**	**253**	⇑P	**Pn**	**18 03 09.8**	**+1.1**
	baz=2.7,SNR=59						
K19A				⇑Sb	**Sb**	**18 03 47.0**	**+0.1**
	baz=2.7						
J19A	**Crowheart**	**2.74**	**263**	⇓Sb	**Sb**	**18 03 47.7**	**-0.3**
	baz=2.7						
N23A	**Red Feather La**	**2.80**	**190**	⇑P	**Pn**	**18 03 11.4**	**+1.4**
	baz=2.8,SNR=23						
E22A	**Miles City**	**2.82**	**351**	⇓P	**Pn**	**18 03 09.5**	**-0.6**
	baz=2.8,SNR=7.2						
H19A	**Powell**	**2.82**	**292**	⇓P	**Pn**	**18 03 11.3**	**+1.1**
	baz=2.8,SNR=27						
E23A	**Ismay**	**2.84**	**0**	⇓P	**Pn**	**18 03 10.5**	**+0.1**
	baz=2.8						
N24A	**Carr**	**2.85**	**173**	⇑P	**Pn**	**18 03 11.4**	**+0.8**
	baz=2.9						
N22A	**Wattenberg Ran**	**2.97**	**197**	⇓Pb	**Pb**	**18 03 17.3**	**-0.4**
	baz=3.0						
E24A	**Baker**	**2.99**	**14**	⇑P	**Pn**	**18 03 12.8**	**+0.3**
	baz=3.0,SNR=18						
M20A	**Sweetwater, Wa**	**3.02**	**225**	⇓Pb	**Pb**	**18 03 18.3**	**-0.3**
	baz=3.0						
RLMT	**Red Lodge**	**3.18**	**299**	*e*P	**Pn**	**18 03 15.4**	**+0.2**
RLMT	**Red Lodge**	**3.18**	**299**	⇓P	**Pn**	**18 03 15.8**	**+0.6**
	baz=3.2,SNR=19						
BW06	**Boulder Array**	**3.22**	**255**	*e*P	**Pn**	**18 03 16.3**	**+0.6**
BW06	**Boulder Array**	**3.22**	**255**	⇓P	**Pn**	**18 03 16.3**	**+0.6**
	baz=3.2						
PDAR	**Pinedale Array**	**3.22**	**255**	Pn	**Pn**	**18 03 16.8**	**+1.0**
	5.0nm,0.3s,baz=73,slow=16,SNR=83						
PDAR				Pg	**Pb**	**18 03 22.4**	**+0.6**
	10nm,0.3s,baz=65,slow=19,SNR=69						
PDAR				Lg	Lg	18 04 02.9	
	23nm,0.3s,baz=71,slow=35,SNR=14						
PDAR	**Pinedale Array**	**3.22**	**255**	Pn	**Pn**	**18 03 16.8**	**+1.0**
PDAR				Pg	**Pb**	**18 03 22.4**	**+0.6**
PDAR				Lg	Lg	18 04 02.9	
I18A	**Diamond G Ranc**	**3.26**	**272**	⇑P	**Pn**	**18 03 17.0**	**+0.7**
	baz=3.2						
H18A	**Shoshone NF, C**	**3.29**	**290**	⇓P	**Pn**	**18 03 17.0**	**+0.4**
	baz=3.3,SNR=21						
F19A	**Roth Farm, Mol**	**3.39**	**312**	⇑P	**Pn**	**18 03 18.5**	**+0.6**
	baz=3.4,SNR=135						
J18A	**Kendall Valley**	**3.45**	**264**	⇓P	**Pn**	**18 03 20.3**	**+1.4**
	baz=3.4,SNR=8.8						
G18A	**Lazy EL Ranch,**	**3.46**	**300**	⇑P	**Pn**	**18 03 19.7**	**+0.7**
	baz=3.4,SNR=53						
E20A	**Meyer Farm, Mu**	**3.47**	**326**	⇑P	**Pn**	**18 03 20.0**	**+1.0**
	baz=3.5						
D23A	**Lindsay**	**3.52**	**1**	⇓P	**Pn**	**18 03 20.1**	**+0.4**
	baz=3.5,SNR=14						
N27A	**Anderson Farm,**	**3.52**	**143**	⇓P	**Pn**	**18 03 20.3**	**+0.5**
	baz=3.5,SNR=14						
D24A	**Glendive**	**3.53**	**11**	⇓P	**Pn**	**18 03 20.7**	**+0.9**
	baz=3.5						
D22A	**Cohagen**	**3.54**	**351**	⇓P	**Pn**	**18 03 20.1**	**0.0**
	baz=3.5,SNR=8.3						
OGNE	**Ogallala**	**3.65**	**137**	*e*P	**Pn**	**18 03 23.2**	**+1.7**
OGNE	**Ogallala**	**3.65**	**137**	⇓P	**Pn**	**18 03 22.3**	**+0.9**
	baz=3.6,SNR=8.6						
E19A	**Rath Farm, Rou**	**3.73**	**320**	⇑P	**Pn**	**18 03 22.1**	**-0.4**
	baz=3.7,SNR=8.1						
GCMT	**Greycliff**	**3.76**	**306**	*e*P	**Pn**	**18 03 23.4**	**+0.4**
LOHW	**Long Hollow**	**3.83**	**271**	*e*P	**Pn**	**18 03 23.2**	**-1.0**
F18A	**Big Timber**	**3.85**	**307**	⇑P	**Pn**	**18 03 25.0**	**+0.7**
	baz=3.8,SNR=19						
ISCO	**Idaho Springs**	**3.86**	**183**	*e*P	**Pn**	**18 03 26.0**	**+1.4**
FLWY	**Flagg Ranch**	**3.91**	**278**	*e*P	**Pn**	**18 03 25.8**	**+0.6**
MOOW	**Moose Ponds**	**3.93**	**273**	*e*P	**Pn**	**18 03 27.1**	**+1.5**
SNOW	**Snow King Moun**	**3.95**	**269**	*e*Pg	**Pb**	**18 03 34.2**	**-0.2**
YNR	**Norris Junctio**	**3.99**	**287**	*e*Pg	**Pb**	**18 03 36.9**	**+1.9**
REDW	**Red Top Meadow**	**4.03**	**268**	*e*P	**Pn**	**18 03 27.6**	**+0.7**
YFT	**Old Faithful**	**4.05**	**283**	*e*P	Pn	18 03 30.9	+3.8
IMW	**Indian Meadow**	**4.07**	**275**	*e*P	**Pn**	**18 03 26.0**	**-1.5**
TPAW	**Teton Pass**	**4.09**	**270**	*e*P	**Pn**	**18 03 28.9**	**+1.1**
P23A	**Jefferson**	**4.30**	**185**	⇑P	**Pn**	**18 03 32.2**	**+1.5**
	baz=4.3,SNR=5.2						
AHID	**Auburn Hatcher**	**4.32**	**260**	*e*Pg	**Pb**	**18 03 43.4**	**+2.9**
P26A	**Davis Ranch, A**	**4.35**	**159**	⇓P	**Pn**	**18 03 32.3**	**+1.0**
	baz=4.4,SNR=14						
E18A	**Harlowton**	**4.36**	**313**	⇓P	**Pn**	**18 03 31.8**	**+0.5**
	baz=4.3,SNR=7.5						
RRI2	**Red Ridge**	**4.37**	**268**	*e*P	**Pn**	**18 03 30.6**	**-1.1**
P27A	**Ficken Ranch,**	**4.58**	**152**	⇑P	**Pn**	**18 03 35.1**	**+0.7**
	baz=4.6,SNR=10						
SMCO	**Snowmass**	**4.64**	**196**	*e*Pg	**Pb**	**18 03 48.7**	**+2.4**
Q25A	**Bedland, Calha**	**4.81**	**170**	⇓P	**Pn**	**18 03 38.5**	**+1.0**
	baz=4.8,SNR=7.1						
E17A	**Martinsdale**	**4.82**	**308**	⇓P	**Pn**	**18 03 38.6**	**+1.0**
	baz=4.8,SNR=12						
DGMT	**Dagmar**	**4.88**	**9**	*e*P	**Pn**	**18 03 38.3**	**0.0**
HWUT	**Hardware Ranch**	**5.04**	**248**	*e*P	**Pn**	**18 03 40.0**	**-0.7**
	16nm,0.5s						
D17A	**Six Diamond Ra**	**5.14**	**315**	⇑P	**Pn**	**18 03 42.2**	**+0.1**
	baz=5.1,SNR=15						
E16A	**East Helena**	**5.34**	**305**	⇑P	**Pn**	**18 03 44.9**	**+0.2**
	baz=5.3,SNR=11						
EGMT	**Eagleton**	**5.35**	**326**	*e*Pn	**Pn**	**18 03 45.6**	**+0.7**
	17nm,0.5s						
P18A	**Preston Nutter**	**5.46**	**224**	⇑P	**Pn**	**18 03 48.0**	**+1.5**
	baz=5.5,SNR=15						
DAU	**Daniels Canyon**	**5.48**	**236**	*e*P	**Pn**	**18 03 48.8**	**+2.0**
	15nm,0.5s						
LRM	**Limekiln Ridge**	**5.52**	**296**	*e*P	**Pn**	**18 03 48.5**	**+1.1**
	33nm,0.6s						
HRY	**Holter Researc**	**5.52**	**306**	*e*P	**Pn**	**18 03 47.5**	**+0.3**
	45nm,0.6s						
R25A	**Fountain Ranch**	**5.56**	**171**	⇓P	**Pn**	**18 03 48.5**	**+0.7**
	baz=5.6,SNR=5.4						
HVU	**Hansel Valley**	**5.80**	**254**	*e*P	**Pn**	**18 03 51.8**	**+0.7**
	6.4nm,0.6s						
E15A	**Deer Lodge**	**5.88**	**301**	⇓P	**Pn**	**18 03 52.5**	**+0.4**
	baz=5.9,SNR=15						
PV04	**Paradox Valley**	**5.91**	**208**	*e*P	**Pn**	**18 03 54.3**	**+1.6**
SRU	**San Rafael**	**5.99**	**222**	*e*P	**Pn**	**18 03 54.2**	**+0.4**
	16nm,0.4s						
PV01	**Paradox Valley**	**6.04**	**205**	*e*P	**Pn**	**18 03 56.1**	**+1.6**
	593nm,0.6s						
S26A	**Kim**	**6.19**	**166**	⇑P	**Pn**	**18 03 56.9**	**+0.4**
	baz=6.2,SNR=8.2						
ECSD	**EROS Data Cent**	**6.32**	**86**	*e*P	**Pn**	**18 03 57.0**	**-1.1**
	10.0nm,0.6s						
CHMT	**Chamberlain Mo**	**6.47**	**303**	*e*P	**Pn**	**18 04 00.9**	**+0.5**
	1.6nm,0.4s						
DUG	**Dugway**	**6.57**	**241**	*e*P	**Pn**	**18 04 02.2**	**+0.6**
	4.2nm,0.5s						
DUG	**Dugway**	**6.57**	**241**	⇓P	**Pn**	**18 04 02.4**	**+0.7**
	baz=6.6,SNR=8.6						
D14A	**Greenough**	**6.70**	**304**	⇓P	**Pn**	**18 04 03.4**	**0.0**
	baz=6.7,SNR=12						
B15A	**Bradely Ranch,**	**6.86**	**315**	⇑P	**Pn**	**18 04 05.2**	**-0.4**
	baz=6.8,SNR=8.0						
T27A	**Campo**	**6.88**	**162**	⇑P	**Pn**	**18 04 06.2**	**+0.3**
	baz=6.9,SNR=12						
S18A	**Hurst Farm, Bl**	**6.94**	**212**	⇓P	**Pn**	**18 04 07.4**	**+0.6**
	baz=6.9,SNR=23						
D13A	**Huson**	**7.29**	**301**	⇓P	**Pn**	**18 04 11.6**	**+0.1**
	baz=7.3,SNR=6.5						
MVU	**Marysvale**	**7.32**	**228**	*e*P	**Pn**	**18 04 11.3**	**-0.7**
	4.8nm,0.6s						
YBMT	**Yellow Bay**	**7.39**	**308**	*e*P	**Pn**	**18 04 14.0**	**+1.1**
	4.8nm,0.3s						
ANMO	**Albuquerque**	**8.74**	**186**	Pn	**Pn**	**18 04 30.4**	**-1.1**
	0.3nm,0.3s,baz=14,slow=8.3,SNR=2.8						
ANMO				Lg	Lg	18 06 55.5	
	0.1nm,0.3s,baz=360,slow=19,SNR=1.9						
ANMO	**Albuquerque**	**8.74**	**186**	Pn	**Pn**	**18 04 30.4**	**-1.1**
ANMO				Lg	Lg	18 06 55.5	
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	**18 04 36.2**	**-1.7**
	2.7nm,0.3s,baz=233,slow=14,SNR=14						
ULM				Pg		18 05 13.6	
	1.1nm,0.3s,baz=230,slow=13,SNR=4.8						
ULM				Lg	Lg	18 07 07.5	
	0.2nm,0.3s,baz=323,slow=20,SNR=1.9						
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	**18 04 36.2**	**-1.7**
ULM				Pg		18 05 13.6	
ULM				Lg	Lg	18 07 07.5	
WUAZ	**Wupatki**	**9.37**	**212**	*e*P	**Pn**	**18 04 40.4**	**+0.2**
	6.9nm,0.6s						
NVAR	**Mina Array Bea**	**11.10**	**246**	Pn	**Pn**	**18 05 06.1**	**+2.3**
	0.1nm,0.3s,baz=59,slow=11,SNR=3.3						
NVAR	**Mina Array Bea**	**11.10**	**246**	Pn	**Pn**	**18 05 06.1**	**+2.3**
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**18 06 53.8**	**+0.2**
	0.1nm,0

PCI	Palu	8.11 237	S	Sn	18 36 34.9	+1.7		
	baz=8.0,SNR=16							
KAPI	Kappang	10.95 219	Pn	Pn	18 35 43.8	+2.1		
	0.6nm,0.3s,baz=61,slow=19,SNR=4.2							
MTN	Manton Dam	16.91 165	P	Pn	18 36 58.4	-2.4		
	baz=17,SNR=7.6							
KDU	Kakadu	17.16 160	P	Pn	18 37 03.8	-0.2		
	baz=17,SNR=5.1							
FITZ	Fitzroy Crossi	21.56 183	P	P	18 37 52.5	-0.3		
	5.9nm,0.8s,baz=18,slow=8.1,SNR=19							
FITZ	Fitzroy Crossi	21.56 183	P	P	18 37 52.7	-0.1		
	baz=22,SNR=18							
JOW	Kunigami	23.19 4	P	P	18 38 10.5	+0.5		
	13nm,0.8s,baz=188,slow=5.2,SNR=5.8							
WRA	Warramunga Arr	24.57 162	P	P	18 38 21.6	-1.2		
	9.3nm,0.5s,baz=334,slow=11,SNR=69							
WRA			PcP	PcP	18 42 01.1	+1.1		
	0.8nm,0.5s,baz=330,slow=2.3,SNR=5.8							
PPI	Padang Panjang	26.51 262	P	P	18 38 40.0	-0.5		
	baz=26,SNR=3.1							
QIS	Mount Isa	27.15 153	P	P	18 38 51.8	+5.6		
	baz=27,SNR=5.6							
ASAR	Alice Springs	27.99 166	P	P	18 38 52.9	-0.8		
	0.9nm,0.5s,baz=349,slow=7.2,SNR=26							
ASAR			PcP	PcP	18 42 09.1	+1.2		
	1.2nm,0.5s,baz=348,slow=2.1,SNR=12							
GSI	Gunungsitoli	29.11 266	S	S	18 43 34.5	-18		
	baz=29,SNR=29							
JNU	Nakatsue	29.67 7	P	P	18 39 08.0	-0.6		
	9.9nm,1.0s,baz=149,slow=3.9,SNR=2.6							
CMAR	Chiang Mai Arr	30.86 301	P	P	18 39 19.6	+0.3		
	1.9nm,0.9s,baz=115,slow=6.9,SNR=16							
MEEK	Meekatharra	31.01 194	P	P	18 39 21.0	+0.6		
	baz=31,SNR=6.8							
KSRS	Korea Array	33.74 2	P	P	18 39 44.8	+0.6		
	2.5nm,0.7s,baz=181,slow=9.9,SNR=12							
MORW	Morawa	34.00 197	P	P	18 39 48.9	+2.3		
	baz=34,SNR=3.3							
MJAR	Matsushiro Arr	34.51 17	P	P	18 39 51.5	+0.6		
	0.4nm,0.5s,baz=184,slow=9.6,SNR=4.3							
BBOO	Buckleboo	37.27 167	P	P	18 40 14.7	+0.2		
	baz=37,SNR=7.2							
NWAO	Narrogin (SRO)	37.37 193	P	P	18 40 14.8	-0.6		
	8.6nm,0.9s,baz=27,slow=14,SNR=2.9							
STKA	Stephens Creek	38.02 159	P	P	18 40 20.4	-0.5		
	2.9nm,0.4s,baz=341,slow=6.5,SNR=22							
STKA			PcP	PcP	18 42 36.7	+1.1		
	1.9nm,0.6s,baz=329,slow=5.9,SNR=4.0							
STKA	Stephens Creek	38.02 159	P	P	18 40 20.6	-0.2		
	baz=38,SNR=25							
USRK	Ussuriysk Arra	40.74 6	P	P	18 40 43.0	-0.3		
	2.4nm,0.5s,baz=198,slow=7.3,SNR=8.0							
ASAJ	Asahikawa	42.77 17	P	P	18 41 01.0	+1.0		
	2.3nm,0.6s,baz=203,slow=16,SNR=7.1							
TAPN	Taplejung	44.02 306	eP	P	18 41 09.3	-1.4		
	5.9nm,0.6s							
ODAN	Odare	44.08 306	eP	P	18 41 10.4	-0.7		
	5.7nm,0.5s							
TOO	Toolangi	44.53 159	P	P	18 40 57.5	-17		
	baz=45,SNR=4.5							
RAMN	Ramite	44.75 305	eP	P	18 41 15.4	-1.1		
	5.5nm,0.5s							
JIRN	Jiri	45.38 306	eP	P	18 41 20.3	-1.3		
	1.9nm,0.5s							
GUN	Gumba	45.73 306	eP	P	18 41 22.8	-1.6		
	16nm,0.5s							
PKI	Pulchoki	45.97 306	eP	P	18 41 24.7	-1.6		
KKN	Kakani	46.17 306	eP	P	18 41 26.3	-1.4		
DMN	Daman	46.23 305	eP	P	18 41 27.4	-0.8		
GKN	Gorkha	46.77 306	eP	P	18 41 31.4	-0.9		
SONM	Songino Array	47.41 342	P	P	18 41 36.3	-0.6		
	1.0nm,0.6s,baz=159,slow=7.5,SNR=12							
SONM			PcP	PcP	18 43 07.9	+1.1		
	0.6nm,0.8s,baz=151,slow=3.3,SNR=3.0							
KOLN	Koldanda	47.53 305	eP	P	18 41 37.9	-0.4		
	17nm,0.5s							
DANN	Dangsing	47.62 306	eP	P	18 41 38.4	-0.7		
	19nm,0.6s							
PYUN	Piuthan	48.15 305	eP	P	18 41 43.0	-0.1		
	23nm,0.6s							
PETK	Petropavlovsk-	55.62 22	P	P	18 42 39.9	+1.9		
	2.5nm,0.7s,baz=186,slow=6.0,SNR=5.3							
ZALV	Zalesovo Beam	60.68 333	P	P	18 43 12.1	-1.3		
	0.8nm,0.4s,baz=118,slow=6.1,SNR=6.4							
KURBB	Kurchatov Arra	61.81 327	P	P	18 43 20.6	-0.6		
	4.7nm,0.6s,baz=129,slow=6.3,SNR=21							
BVAR	Borovoye Array	67.39 327	P	P	18 43 57.0	-0.5		
	3.7nm,0.9s,baz=143,slow=11,SNR=16							
AKTO	Aktyubinsk	73.72 322	P	P	18 44 36.2	+0.2		
	2.8nm,0.6s,baz=77,slow=4.6,SNR=17							
ILAR	Eielson Array	85.29 25	P	P	18 45 39.2	+0.5		
	0.6nm,0.6s,baz=249,slow=4.8,SNR=5.3							
BRTR	Keskin Array B	90.04 310	P	P	18 46 01.8	-0.4		
	2.0nm,1.0s,baz=106,slow=4.7,SNR=6.5							
ARCES	ARCESS Array B	90.56 340	P	P	18 46 03.5	-0.3		
	1.5nm,0.7s,baz=78,slow=6.3,SNR=4.1							
FINES	FINESS Array B	91.92 332	P	P	18 46 10.4	+0.2		
	2.9nm,0.9s,baz=25,slow=6.3,SNR=6.6							
AKASG	Malin Array Be	91.95 321	P	P	18 46 10.7	+0.1		
	0.7nm,0.5s,baz=63,slow=4.4,SNR=4.6							
YKA	Yellowknife Ar	99.69 24	P	Pdif	18 46 46.7	+1.2		
	0.1nm,0.6s,baz=299,slow=4.5,SNR=3.8							
TORD	Torodi Ar. Bea	122.87 288	PKP	PKPdf	18 51 59.4	+0.4		
	1.3nm,0.8s,baz=56,slow=1.8,SNR=8.6							

ISCJB ***16*** *18:40:51.3±1.3,36°.09N±0°.02×77°.32E±0°.04,h11km±8km, mb4.0/30,Error ellipse: s-maj=6.0km s-min=3.3km az=155.0*

IDC ***16*** *18:40:52.3±0.7,36°.13N×77°.09E,h0km,mb3.9/14, mb1 4.1/19,mb1mx3.9/30,mbtmp3.9/19,ML3.7/5,MS3.4/1, Ms1 3.4/1,ms1mx2.6/49,Error ellipse: s-maj=18.9km s-min=14.3km az=46.0*

BJI ***16*** *18:40:54.1,35°.80N×77°.10E,h105km,mb4.2/3*

MOS ***16*** *18:40:55.4±1.3,36°.12N×77°.02E,h33km,mb4.9/9,Error ellipse: s-maj=11.9km s-min=6.0km az=113.3*

NEIC ***16*** *18:40:55.6±2.9,36°.12N×77°.09E,h20km±20km,mb4.6/13, Error ellipse: s-maj=10.5km s-min=9.1km az=188.0*

NNC ***16*** *18:41:01.3±1.4,36°.95N×77°.07E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=11.1km s-min=6.0km az=171.0*

ISC 16 18:40:52.9±1.8,36°.05N±0°.03×77°.18E±0°.05,h7km±11km, n163,σ1s55/157,mb4.1/30,3C-7D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSH	Kashi	3.59	345	P		Pn	18 41 47.5	-1.6
KSH				S		Sn	18 42 32.0	+0.2
KSH				smax		smax		
	comp=N,1μm,0.8s							
KSH				smax		smax		
	comp=E,1μm,0.6s							
DLH	Dalhousie	3.64	196	eP		Pn	18 41 55.0	+5.1
DLH				ex		Sg	18 42 48.0	-1.9
CHCP	Chirah Chowk	4.01	235	P		Pn	18 41 56.4	+1.7
SDNR	Sundarnagar	4.54	182	eP		Pn	18 42 06.0	+3.9
SDNR				ex		Sg	18 43 15.0	-3.8
CEP	Cherat	4.87	244	P		Pn	18 42 06.2	-0.4
CEP				S		Sn	18 43 07.0	+3.7
SMLA	Simla	4.91	180	eP		Pn	18 42 10.6	+3.5
SMLA				eS		Sn	18 43 06.1	+2.0
SMLA				AML		AML	18 43 31.2	
	comp=N,2μm,0.4s							
SMLA				⇓AML		AML	18 43 34.1	
	comp=E,2μm,0.5s							
THW	Thamme Wali	5.54	236	P		Pn	18 42 15.8	0.0
DDI	Dehra Dun	5.76	172	eP		Pn	18 42 21.5	+2.7
DDI				ex		Pg	18 42 50.0	+6.8
KZA	Kyzart	6.21	347	P		Pn	18 42 28.7	+3.4
	SNR=10.0							
AML	Almayashu	6.65	337	P		Pn	18 42 37.3	+5.9
	SNR=8.7							
KBK	Karagaybulak	6.82	346	P		Pn	18 42 38.4	+4.9
	SNR=20							
KBL	Kabul	6.82	260	eP		Pn	18 42 31.5	-2.1
KBL				pmax		pmax		
	comp=Z,7.0nm,0.4s							
KBL	Kabul	6.82	260	eP		Pn	18 42 31.5	-2.1
	comp=Z,6.8nm,0.4s							
AAK	Ala-Archa	6.90	343	Pn		Pn	18 42 38.3	+3.8
AAK				Lg		Lg	18 44 23.7	
	comp=Z,1.6nm,0.3s,baz=135,slow=8.9,SNR=15							
AAK				LR		LR	18 45 36.6	
	comp=Z,1.9nm,0.3s,baz=216,slow=19,SNR=3.2							
AAK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
AAK				MLR		MLR		
	comp=Z,299nm,19.6s							
AAK	Ala-Archa	6.90	343	eP		Pn	18 42 37.1	+2.6
	comp=Z,86nm,0.6s							
AAK				Lg		Lg	18 44 23.7	
AAK	Ala-Archa	6.90	343	P		Pn	18 42 38.9	+4.3
	SNR=15							
TKM2	Tokmak 2	6.97	350	⇓Pn		Pn	18 42 32.4	-3.2
	comp=Z,13nm,1.1s							
TKM2				⇓Pg		Pb	18 42 52.6	-1.9
	comp=Z,16nm,0.6s							
TKM2				⇓Lg		Lg	18 44 14.5	
	comp=Z,190nm,1.5s							
TKM2	Tokmak 2	6.97	350	eP		Pn	18 42 35.6	0.0
TKM2	Tokmak 2	6.97	350	eP		Pn	18 42 35.6	0.0
TKM2	Tokmak 2	6.97	350	P		Pn	18 42 37.3	+1.7
	SNR=11							
FRU	Bishkek	7.06	344	eP		Pn	18 42 44.0	+7.3
FRU				pmax		pmax		
	comp=Z,60nm,1.9s							
FRU				pmax		pmax		
	comp=E,260nm,1.9s							
EKS2	Erkin-Say	7.11	339	eP		Pn	18 42 38.8	+1.4
EKS2				pmax		pmax		
	comp=Z,13nm,0.7s							
EKS2	Erkin-Say	7.11	339	eP		Pn	18 42 38.8	+1.4
	comp=Z,13nm,0.7s							
EKS2	Erkin-Say	7.11	339	P		Pn	18 42 42.4	+5.0
	SNR=9.3							
KNDC	Almaty	7.16	359	⇓Pg		Pb	18 42 55.7	-1.9
	comp=Z,48nm,0.7s							
KNDC				⇓Lg		Lg	18 44 20.8	
	comp=Z,231nm,1.1s							
CHMS	Chumysh	7.19	346	P		Pn	18 42 41.8	+3.4
	SNR=14							
NDI	New Delhi	7.34	180	eP		Pn	18 42 45.0	+4.4
NDI				ex		x	18 45 03.0	
USP	Ospenovka	7.50	345	P		Pn	18 42 46.9	+4.2
	SNR=6.5							
AYAN	Aya Nagar	7.54	180	eP		Pn	18 42 46.0	+2.7
AYAN				eS		Sn	18 44 06.1	-2.9
SONA	Sohna	7.78	181	eP		Pn	18 42 49.0	+2.5
SONA				eS		Sn	18 44 12.8	-1.9
KHET	Khetri	8.04	189	eP		Pn	18 42 53.0	+2.9
KHET				eS		Sn	18 44 18.2	-3.0
KK31	Karatay Array	8.72	326	⇑Pn		Pn	18 43 01.2	+1.8
	comp=Z,5.9nm,0.7s,baz=133,slow=12,SNR=46							
KK31				⇓Sn		Sn	18 44 34.5	-3.5
	comp=Z,6.8nm,0.6s,baz=137,slow=21,SNR=4.8							
KKAR	Karatay Array	8.72	326	eP		Pn	18 43 00.6	+1.1
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
KKAR	Karatay Array	8.72	326	eP		Pn	18 43 00.6	+1.1
	comp=Z,3.3nm,0.4s							
AGRA	Agra	8.81	176	eP		Pn	18 43 03.7	+3.0
AGRA				eS		Sn	18 44 37.4	-2.9
AGRA				AML		AML	18 44 41.7	
	comp=N,84nm,0.3s							
AGRA				AML		AML	18 44 43.3	
	comp=E,72nm,0.5s							
PYUN	Piuthan	9.33	147	eP		Pn	18 43 09.6	+1.6
	comp=E,94nm,0.5s							
DANN	Dangsing	9.48	142	eP		Pn	18 43 10.9	+0.7
	comp=E,34nm,0.4s							
DANN				eS		Sn	18 44 58.2	+1.0
KOLN	Koldanda	9.89	145	eP		Pn	18 43 16.4	+0.7
	comp=E,49nm,0.5s							
KOLN				eS		Sn	18 45 08.3	+1.2
GKN	Gorkha	10.21	140	eP		Pn	18 43 20.3	+0.2
GKN				eS		Sn	18 45 14.0	-0.9
KKN	Kakani	10.73	138	eP		Pn	18 43 26.1	-1.0
	comp=E,28nm,0.6s							
DMN	Daman	10.78	139	eP		Pn	18 43 27.2	-0.7
	comp=E,25nm,0.6s							
PKIN	Phulchoki	10.96	138	eP		Pn	18 43 30.0	-0.4
	comp=E,14nm,0.4s							
GUN	Gumba	10.97	135	eP		Pn	18 43 29.5	-1.1
	comp=E,16nm,0.4s							
PKI	Pulchoki	10.97	138	eP		Pn	18 43 30.0	-0.6
	comp=E,26nm,0.6s							
WMQ	Urumqi	11.19	43	P		Pn	18 43 33.3	0.0
WMQ				S		Sn	18 45 48.9	+10
WMQ				LR		LR		
	comp=N,140nm,23.0s							
WMQ				LR		LR		
	comp=E,170nm,25.0s							
JIRN	Jiri	11.34	135	eP		Pn	18 43 35.6	0.0
	comp=E,14nm,0.5s							
MK31	Makanchi Array	11.40	18	Pn		Pn	18 43 36.0	-0.1
	comp=E,2.4nm,0.5s,baz=203,slow=13,SNR=21							
MK31				⇑Sn		Sn	18 45 39.8	-3.9
	comp=E,2.9nm,0.5s,baz=198,slow=25,SNR=4.4							
RAMN	Ramite	12.11	136	eP		Pn	18 43 44.9	-1.2
	comp=E,21nm,0.5s							
TAPN	Taplejung	12.46	131	eP		Pn	18 43 49.8	-1.2
	comp=E,37nm,1.0s							
ODAN	Odare	12.64	134	eP		Pn	18 43 51.5	-1.8
	comp=E,16nm,0.5s							
KURBB	Kurchatov Arra	14.60	3	Pn		Pn	18 44 18.6	-1.2
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=6.7							
KURBB				Lg		Lg	18 48 31.7	
	baz=193,slow=28,SNR=4.6							
KURK	Kurchatov	14.70	4	P		Pn	18 44 18.6	-2.5
KURK	Kurchatov	14.70	4	Pn		Pn	18 44 18.6	-2.5
KURK				Lg		Lg	18 48 31.7	
BVAR	Borovoye Array	17.64	346	P		P	18 44 59.5	-0.5
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=4.2							
BVAR				Lg		Lg	18 50 04.6	
	comp=E,0.1nm,0.3s,baz=158,slow=23,SNR=4.1							
BVAR	Borovoye Array	17.64	346	P		P	18 44 59.5	-0.5
BVAR	Borovoye Array	17.64	346	P		P	18 44 59.5	-0.5
BVAR				Lg		Lg	18 50 04.6	
BRVK	Borovoye	17.69	346	eP		P	18 45 00.8	+0.3
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BRVK	Borovoye	17.69	346	eP		P	18 45 00.8	+0.3
	comp=Z,6.6nm,0.8s							
GTA	Gaotai	18.21	73	eP		P	18 45 10.5	+4.0
GTA				pP		pP	18 45 17.6	+9.0
GTA				sP		sP	18 45 20.8	+11
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
HYB	Hyderabad	18.60	176	*i* P		P	18 45 09.0	-1.8
HYB				eS		S	18 48 52.0	+8.9
ZAA0	Zalesovo Array	18.68	14	eP		P	18 45 08.8	-2.6
ZALV	Zalesovo Beam	18.68	14	P		P	18 45 09.7	-1.6
	comp=Z,0.1nm,0.3s,baz=195,slow=10,SNR=5.5							
ZALV	Zalesovo Beam	18.68	14	P		P	18 45 09.7	-1.6
ZALV	Zalesovo Beam	18.68	14	P		P	18 45 09.7	-1.6
NVS	Novosibirsk	19.25	11	⇑*i*P		P	18 45 16.3	-1.4
NVS				pmax		pmax		
	comp=N,15nm,2.0s							
NVS				pmax		pmax		
	comp=E,10.0nm,2.0s							
NVS				pmax		pmax		
	comp=Z,28nm,2.0s							
AKTO	Aktyubinsk	19.96	322	P		P	18 45 23.4	-2.0
	comp=Z,1.2nm,0.3s,baz=121,slow=14,SNR=16							
AKTO	Aktyubinsk	19.96	322	P		P	18 45 23.5	-2.0
AKTO	Aktyubinsk	19.96	322	P		P	18 45 23.4	-2.0
WSAR	Wadi Sarin	20.52	237	P		P	18 45 32.6	+0.9
	comp=Z,3.8nm,0.8s,baz=54,slow=4.4,SNR=4.5							
WSAR	Wadi Sarin	20.52	237	P		P	18 45 32.6	+0.9
ZAK	Zakamensk	23.65	45	eP		P	18 46 04.7	-0.1
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s							
ARU	Arti	23.96	334	P		P	18 46 08.1	+0.5
SONM	Songino Array	24.57	52	P		P	18 46 15.4	+2.0
	comp=Z,2.3nm,0.5s,baz=251,slow=10,SNR=34							
SONM	Songino Array	24.57	52	P		P	18 46 15.4	+2.0
ULN	Ulaanbaatar	25.00	53	eP		P	18 46 19.1	+1.7
	comp=Z,3.7nm,0.8s							
GNI	Garni	25.77	289	P		P	18 46 29.3	+4.8
	comp=Z,1.2nm,0.4s,baz=47,slow=13,SNR=3.1							
GNI	Garni	25.77	289	P		P	18 46 29.3	+4.8
CM31	Chiang Mai Arr	26.00	127	eP		P	18 46 29.4	+2.9
	comp=Z,1.2nm,0.6s							
CMAR	Chiang Mai Arr	26.00	127	P		P	18 46 28.5	+1.9
	comp=Z,1.1nm,0.6s,baz=309,slow=10,SNR=13							
CMAR	Chiang Mai Arr	26.00	127	P		P	18 46 28.5	+1.9
KBZ	Khabaz	27.25	297	P		P	18 46 42.1	+4.5
	comp=Z,2.5nm,1.0s,baz=55,slow=12,SNR=3.9							
KBZ	Khabaz	27.25	297	P		P	18 46 42.1	+4.5
KBZ	Khabaz	27.25	297	P		P	18 46 42.1	+4.5
BRTR	Keskin Array B	34.31	290	P		P	18 46 42.1	+4.5
	comp=Z,0.7nm,0.7s,baz=112,slow=8.1,SNR=4.5							
BRTR	Keskin Array B	34.31	290	P		P	18 47 40.5	+0.5
AKASG	Malin Array Be	37.13	309	P		P	18 48 03.8	-0.1
	comp=Z,0.3nm,0.3s,baz=63,slow=6.8,SNR=4.2							
AKASG	Malin Array Be	37.13	309	P		P	18 48 03.8	-0.1
AKASG	Malin Array Be	37.13	309	P		P	18 48 03.8	-0.1
JOF	Joensuu	38.81	328	eP		P	18 48 16.8	-1.2
JOF				pmax		pmax		
	comp=Z,6.0nm,0.5s							
JOF	Joensuu	38.81	328	ep		P	18 48 16.8	-1.2
	comp=Z,6.0nm,0.5s							
FIA1	FINESS Array S	40.68	325	eP		P	18 48 33.6	+0.1
FINES	FINESS Array B	40.68	325	P		P	18 48 32.2	-1.4
	comp=Z,5.9nm,0.5s,baz=109,slow=8.3,SNR=39							
FINES	FINESS Array B	40.68	325	P		P	18 48 32.2	-1.4
KAF	Kangasniemi	40.75	326	eP		P	18 48 32.0	-2.1
KAF				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KAF	Kangasniemi	40.75	326	ep		P	18 48 32.0	-2.1
	comp=Z,1.4nm,0.5s							
ARCES	ARCESS Array B	43.51	336	P		P	18 48 57.0	+0.3
	comp=Z,1.5nm,0.5s,baz=108,slow=7.8,SNR=12							
ARCES	ARCESS Array B	43.51	336	P		P	18 48 57.0	+0.3
NB2	NORSAR Subarra	47.74	323	P		P	18 49 29.9	-0.3
	comp=Z,1.5nm,0.7s,baz=90,slow=7.9							
NOA	NORSAR Array B	47.74	323	P		P	18 49 30.3	+0.1
	comp=Z,2.0nm,0.7s,baz=91,slow=7.7,SNR=4.4							
NOA	NORSAR Array B	47.74	323	P		P	18 49 30.3	+0.1
PAGF	Fort de Pagny	52.47	307	eP		P	18 50 07.0	+0.8
	comp=Z,1.0nm,0.6s							
PAGF	Fort de Pagny	52.47	307	eP		P	18 50 07.0	+0.8
	comp=Z,1.0nm,0.6s							
LPG	La Plagne	52.60	303	eP		P	18 50 08.1	+0.5
	comp=Z,6.2nm,0.8s							
LPG	La Plagne	52.60	303	eP		P	18 50 08.1	+0.5
LPG				pmax		pmax		
	comp=Z,6.0nm,0.8s							
LPG	La Plagne	52.60	303	eP		P	18 50 08.1	+0.5
	comp=Z,6.2nm,0.8s							
LPL	La Plagne	52.60	303	eP		P	18 50 06.6	-0.9
	comp=Z,8.3nm,0.9s							
LPL	La Plagne	52.60	303	eP		P	18 50 06.6	-0.9
LPL				pmax		pmax		
	comp=Z,8.0nm,0.9s							
LPL	La Plagne	52.60	303	eP		P	18 50 06.6	-0.9
	comp=Z,8.3nm,0.9s							
GIVF	Givet	52.67	309	eP		P	18 50 09.2	+1.5
GIVF	Givet	52.67	309	eP		P	18 50 09.2	+1.5
GIVF	Givet	52.67	309	eP		P	18 50 09.2	+1.5
CABF	La Chapelle	52.74	305	eP		P	18 50 08.6	+0.2
	comp=Z,6.3nm,0.8s							
CABF	La Chapelle	52.74	305	eP		P	18 50 08.6	+0.2
CABF				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CABF	La Chapelle	52.74	305	eP		P	18 50 08.6	+0.2
	comp=Z,6.3nm,0.8s							
MBDF	Montbardon	52.80	303	eP		P	18 50 09.7	+0.8
	comp=Z,5.6nm,0.7s							
MBDF	Montbardon	52.80	303	eP		P	18 50 09.7	+0.8
MBDF				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MBDF	Montbardon	52.80	303	eP		P	18 50 09.7	+0.8
	comp=Z,5.6nm,0.7s							
MEZF	Maizieres J'vi	52.92	307	eP		P	18 50 09.5	0.0
	comp=Z,7.5nm,0.6s							
MEZF	Maizieres J'vi	52.92	307	eP		P	18 50 09.5	0.0
	comp=Z,7.5nm,0.6s							
SFTF	Sexfontaines	53.01	307	eP		P	18 50 10.4	+0.2
SFTF	Sexfontaines	53.01	307	eP		P	18 50 10.4	+0.2
BAIF	Baives	53.06	310	eP		P	18 50 10.0	-0.6
BAIF	Baives	53.06	310	eP		P	18 50 10.0	-0.6
BAIF	Baives	53.06	310	eP		P	18 50 10.0	-0.6
LOR	Lormes	54.02	306	eP		P	18 50 17.9	+0.2
	comp=Z,5.9nm,0.8s							
LOR	Lormes	54.02	306	eP		P	18 50 17.9	+0.2
	comp=Z,5.9nm,0.8s							
SMF	Signal de Mont	54.22	306	eP		P	18 50 19.1	0.0
	comp=Z,3.7nm,0.6s							
SMF	Signal de Mont	54.22	306	eP		P	18 50 19.1	0.0
SMF				pmax		pmax		
	comp=Z,4.0nm,0.6s							
SMF	Signal de Mont	54.22	306	eP		P	18 50 19.1	0.0
	comp=Z,3.7nm,0.6s							
SSF	Saint Saulge	54.31	306	eP		P	18 50 19.7	-0.1
SSF	Saint Saulge	54.31	306	eP		P	18 50 19.7	-0.1
SSF	Saint Saulge	54.31	306	eP		P	18 50 19.7	-0.1
AVF	Avril sur Loir	54.49	306	eP		P	18 50 21.1	0.0
	comp=Z,5.9nm,0.8s							
AVF	Avril sur Loir	54.49	306	eP		P	18 50 21.1	0.0
AVF				pmax		pmax		
	comp=Z,6.0nm,0.8s							
AVF	Avril sur Loir	54.49	306	eP		P	18 50 21.1	0.0
	comp=Z,5.9nm,0.8s							
BGF	Bois d'Agland	54.90	306	eP		P	18 50 22.3	-1.7
BGF	Bois d'Agland	54.90	306	eP		P	18 50 22.3	-1.7
BGF	Bois d'Agland	54.90	306	eP		P	18 50 22.3	-1.7
TCF	Toulx Ste Croi	55.40	306	eP		P	18 50 28.1	+0.4
	comp=Z,7.5nm,0.9s							
TCF	Toulx Ste Croi	55.40	306	eP		P	18 50 28.1

0.4nm,0.3s,baz=156,slow=20,SNR=5.6
FITZ Fitzroy Crossi 13.42 203 P **Pn** **19 01 15.4 +0.4**
baz=14,SNR=11
FITZ S Sn 19 03 30.4 -12
baz=14,SNR=4.5
DAV Davao City (W) 13.81 337 LR LR 19 05 53.2
comp=Z,132nm,18.8s,baz=330,slow=34
COEN Coen 14.48 125 S **Sn** **19 04 08.6 +0.2**
baz=15,SNR=3.9
WRA Warramunga Arr 14.52 168 Pn **Pn** **19 01 28.3 -1.2**
0.3nm,0.3s,baz=347,slow=10,SNR=12
WRA Sn Sn 19 03 59.8 -10
0.9nm,0.3s,baz=341,slow=22,SNR=13
ASAR Alice Springs 18.08 172 P **Pn** **19 02 15.4 +1.3**
0.7nm,0.3s,baz=349,slow=9.5,SNR=72
ASAR S Sn 19 05 25.0 -10
0.1nm,0.3s,baz=350,slow=23,SNR=5.8
STKA Stephens Creek 27.86 161 P **P** **19 03 51.2 +0.4**
1.9nm,1.0s,baz=333,slow=6.8,SNR=3.7
CMAR Chiang Mai Arr 39.73 308 P **P** **19 05 33.8 0.0**
0.3nm,0.6s,baz=137,slow=7.2,SNR=5.1

IDC 16 19:04:49.1±0.5, 24°.93N×142°.70E, h0km, mb3.8/19, mb1 4.0/20, mb1mx4.0/26, mbtmp3.8/20, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/46, Error ellipse: s-maj=21.6km s-min=13.9km az=90.0, Volcano Islands region

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.21 348**	Pn	Pb	19 05 30.1	0.0
	53nm,0.3s,baz=261,slow=19,SNR=27					
CBIJ			Sn	Sg	19 05 59.5	-0.8
	118nm,0.3s,baz=294,slow=22,SNR=6.5					
JHJ	**Hachijo jima 2**	**8.55 343**	Pn	Pn	19 06 57.5	+3.3
	4.3nm,0.3s,baz=258,slow=20,SNR=3.3					
JHJ			Sn	Sn	19 08 29.1	-2.4
	4.5nm,0.3s,baz=254,slow=18,SNR=2.6					
MJAR	**Matsushiro Arr**	**12.20 343**	Pn	Pn	19 07 45.3	+1.0
	1.0nm,0.3s,baz=159,slow=9.8,SNR=16					
KSRS	**Korea Array**	**17.74 318**	P	P	19 09 00.7	+2.2
	0.2nm,0.3s,baz=127,slow=12,SNR=14					
KSRS			LR	LR	19 15 52.6	
	comp=Z,87nm,18.6s,baz=305,slow=37					
ASAJ	**Asahikawa**	**19.14 360**	P	Pn	19 09 19.3	+4.6
	0.3nm,0.3s,baz=206,slow=21,SNR=6.0					
USRK	**Ussuriysk Arra**	**21.12 338**	P	P	19 09 36.2	+0.9
	1.4nm,0.6s,baz=151,slow=10,SNR=6.4					
SONM	**Songino Array**	**36.62 318**	P	P	19 11 55.6	-1.7
	0.3nm,0.4s,baz=126,slow=8.3,SNR=7.1					
CMAR	**Chiang Mai Arr**	**41.03 270**	P	P	19 12 36.1	+1.6
	0.2nm,0.5s,baz=56,slow=8.4,SNR=4.3					
WRA	**Warramunga Arr**	**45.34 191**	P	P	19 13 08.1	-1.1
	1.2nm,0.6s,baz=12,slow=8.7,SNR=15					
FITZ	**Fitzroy Crossi**	**45.83 203**	P	P	19 13 14.0	+0.5
	1.5nm,0.8s,baz=18,slow=9.6,SNR=2.3					
ASAR	**Alice Springs**	**49.05 191**	P	P	19 13 37.8	-0.4
	0.2nm,0.5s,baz=8.2,slow=6.1,SNR=4.5					
ZALV	**Zalesovo Beam**	**51.44 320**	P	P	19 13 55.0	-0.9
	0.8nm,0.5s,baz=97,slow=7.6,SNR=5.5					
STKA	**Stephens Creek**	**56.49 181**	P	P	19 14 33.2	+0.2
	0.8nm,0.7s,baz=354,slow=9.2,SNR=2.5					
ILAR	**Eielson Array**	**59.39 28**	P	P	19 14 52.9	-0.2
	0.6nm,0.9s,baz=256,slow=5.7,SNR=4.6					
YKA	**Yellowknife Ar**	**73.82 28**	P	P	19 16 25.3	0.0
	0.8nm,0.7s,baz=292,slow=5.7,SNR=14					
RES	**Resolute Bay**	**74.05 13**	P	P	19 16 27.0	+0.6
	1.4nm,1.0s,baz=332,slow=6.9,SNR=6.3					
ARCES	**ARCESS Array B**	**75.74 341**	P	P	19 16 36.8	+0.5
	8.5nm,1.1s,baz=4.3,slow=4.9,SNR=4.0					
FINES	**FINESS Array B**	**80.09 334**	P	P	19 17 00.5	-0.1
	2.5nm,0.4s,baz=68,slow=5.2,SNR=28					
NVAR	**Mina Array Bea**	**81.49 52**	P	P	19 17 09.6	+0.7
	0.2nm,0.3s,baz=240,slow=3.0,SNR=2.8					
AKASG	**Malin Array Be**	**84.64 324**	P	P	19 17 25.1	+0.5
	0.3nm,0.4s,baz=50,slow=4.9,SNR=3.4					
PDAR	**Pinedale Array**	**85.42 45**	P	P	19 17 29.1	0.0
	0.3nm,0.8s,baz=275,slow=4.3,SNR=3.0					
NB2	**NORSAR Subarra**	**85.79 339**	P	P	19 17 29.5	-0.8
	comp=Z,0.9nm,0.5s,baz=55,slow=5.1					
NOA	**NORSAR Array B**	**85.79 339**	P	P	19 17 29.6	-0.6
	comp=Z,1.8nm,0.8s,baz=47,slow=4.7,SNR=6.4					
BRTR	**Keskin Array B**	**87.82 313**	P	P	19 17 40.5	-0.3
	comp=Z,0.7nm,0.9s,baz=144,slow=5.2,SNR=3.2					
EIL	**Elat**	**91.98 304**	LR	LR	20 07 19.0	
	comp=Z,80nm,18.9s,baz=88,slow=41					
GERES	**GERESS Array B**	**93.60 329**	P	P	19 18 06.8	-0.6
	comp=Z,0.2nm,0.3s,baz=52,slow=8.6,SNR=3.8					
PLCA	**Paso Flores**	**148.15 128**	PKPbc	PKPbc	19 24 37.4	+0.2
	comp=Z,1.8nm,0.9s,baz=272,slow=8.0,SNR=3.8					
LPAZ	**La Paz**	**149.94 79**	PKPbc	PKPbc	19 24 41.8	-1.2
	comp=Z,1.3nm,0.7s,baz=242,slow=3.9,SNR=6.0					
LPAZ			PKPab	PKPab	19 24 47.5	-1.1
	comp=Z,1.2nm,0.7s,baz=327,slow=5.3,SNR=3.9					

WEL 16 19:17:35.4±0.7, 36°.78S×177°.49E, h215km±8km, ML3.5/8, 2C, Error ellipse: s-maj=14.4km s-min=10.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.43 155**	⇑PN	Pn	19 18 09.5	-0.3
PUZ			SN	S	19 18 36.1	-0.6
MWZ	**Matawai**	**1.56 179**	PN	Pn	19 18 11.4	+0.4
MWZ			SN	S	19 18 38.3	-0.3
CNGZ	**Carnagh Statio**	**1.80 162**	*e*PN	Pn	19 18 13.5	+0.5
BHHZ	**Black Hill Sta**	**2.93 202**	PN	Pn	19 18 24.7	-0.4
KAHZ	**Kahuranaki**	**3.05 189**	PN	Pn	19 18 26.6	+0.2
PNHZ	**Pukenui**	**3.29 198**	PN	Pn	19 18 28.5	-0.7
MRZ	**Mangatainoka R**	**4.16 200**	PN	Pn	19 18 38.0	-1.6
MRZ			SN	S	19 19 28.2	-1.8
TIWZ	**Tintock**	**4.19 197**	⇑PN	Pn	19 18 38.7	-1.3
KIW	**Kapiti Island**	**4.55 206**	PN	Pn	19 18 42.5	-2.0
CAW	**Cannon Point**	**4.72 203**	PN	Pn	19 18 44.4	-2.2
SNZO	**South Karori**	**5.02 205**	PN	Pn	19 18 47.9	-2.5
TCW	**Tory Channel**	**5.09 208**	PN	Pn	19 18 48.9	-2.3
TCW			SN	S	19 18 48.5	-2.5
TUWZ	**Tuamarina**	**5.41 210**	PN	Pn	19 18 52.6	-2.6

*IDC **16** 19:28:32.8±1.2, 5°.91S×122°.82E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/22, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=42.6km s-min=19.0km az=52.0*
*ISCJB **16** 19:28:34.6±0.7, 5°.92S±0°.06×122°.90E±0°.06, h33km, mb3.7/3, Error ellipse: s-maj=11.1km s-min=5.9km az=44.1*
*DJA **16** 19:28:34.4±0.7, 6°S±5°×12°3E±°, h19km±5km, M3.9/7, MLv3.9/7*
ISC 16 19:28:36.5±0.9, 5°.91S±0°.06×122°.92E±0°.09, h35km, n14, σ1°23/16, mb3.7/3, Sulawesi

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**0.55 321**	P	Pn	19 28 43.6	-4.2
BBSI			S	**Sn**	**19 28 54.0**	**-1.7**
KDI	**Kendari**	**1.96 351**	P	**Pn**	**19 29 05.8**	**-1.5**
MMRI	**Maumere**	**2.79 194**	P	**Pn**	**19 29 18.6**	**-0.1**
BKSI	**Bulukumba**	**2.84 282**	P	**Pn**	**19 29 18.4**	**-1.0**
BKSI			S	**Sn**	**19 29 52.7**	**+0.3**
KAPI	**Kappang**	**3.28 286**	Pn	**Pn**	**19 29 23.9**	**-1.5**
	4.6nm,0.3s,baz=155,slow=9.3,SNR=17					
KAPI			Sn	**Sn**	**19 30 02.1**	**-1.0**
	22nm,0.3s,baz=57,slow=23,SNR=16					
KAPI	**Kappang**	**3.28 286**	P	**Pn**	**19 29 24.2**	**-1.1**
SPSI	**Sidrap Palu**	**3.69 302**	P	**Pn**	**19 29 30.2**	**-0.8**
SPSI			S	**Sn**	**19 30 13.9**	**+0.7**
TTSI	**Tana Toraja**	**4.20 313**	P	**Pn**	**19 29 38.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.40 168**	Pn	**Pn**	**19 31 29.4**	**-1.3**
	0.1nm,0.3s,baz=344,slow=12,SNR=2.2					
WRA	**Warramunga Arr**	**17.83 143**	P	**P**	**19 32 41.5**	**-0.9**
	0.1nm,0.3s,baz=317,slow=12,SNR=3.9					
ASAR	**Alice Springs**	**20.58 150**	P	Pn	19 33 15.7	+0.7
	0.9nm,0.6s,baz=334,slow=13,SNR=12					
CMAR	**Chiang Mai Arr**	**33.84 316**	P	**P**	**19 35 17.6**	**+1.7**
	0.3nm,0.8s,baz=138,slow=7.2,SNR=5.1					
SONM	**Songino Array**	**55.46 347**	P	**P**	**19 38 09.4**	**+1.5**
	0.4nm,0.5s,baz=156,slow=7.9,SNR=3.3					
ZALV	**Zalesovo Beam**	**67.65 337**	P	**P**	**19 39 30.3**	**+0.5**
	1.1nm,0.7s,baz=145,slow=5.3,SNR=4.4					

*AUST **16** 19:30:56.0±0.2, 6°.61S×130°.23E, h89km, Error ellipse: s-maj=1.0km s-min=0.7km az=242.0*

*IDC **16** 19:30:57.6±3.3, 6°.59S×129°.89E, h110km±30km, mb3.8/13, mb1 4.0/16, mb1mx3.9/22, mbtmp3.9/16, Error ellipse: s-maj=22.2km s-min=11.1km az=75.0*
*ISCJB **16** 19:30:59.7±0.3, 6°.64S±0°.03×130°.04E±0°.04, h146km, mb3.8/14, Error ellipse: s-maj=5.7km s-min=4.3km az=157.7*
*DJA **16** 19:31:00.8±0.2, 7°S±3°×13°0E±°, h110km±6km, M4.8/17, mB5.6/6, mb4.7/17, MLv4.7/8, Mw(mB)5.2/6*
ISC 16 19:31:00.8±0.4, 6.72S±0°.05×130°.01E±0°.06, h146km, n68, σ1°76/69, mb3.9/14, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.19 357**	P	Pn	19 31 29.8	-8.1
TLE	**Tual**	**2.92 69**	P	**Pn**	**19 31 47.1**	**+0.2**
	baz=2.7,SNR=698					
TLE			S	**Sn**	**19 32 22.3**	**-0.3**
	baz=2.7,SNR=11					
TLE	**Tual**	**2.92 69**	P	**Pn**	**19 31 46.9**	**0.0**
TLE			S	**Sn**	**19 32 21.8**	**-0.8**
AAI	**Ambon**	**3.51 329**	P	**Pn**	**19 31 55.0**	**+0.4**
	baz=3.6,SNR=7.8					
AAI	**Ambon**	**3.51 329**	P	**Pn**	**19 31 55.0**	**+0.4**
MSAI	**Masohi**	**3.52 342**	P	**Pn**	**19 31 55.0**	**+0.3**
FAKI	**Fak Fak**	**4.38 31**	P	Pn	19 32 02.5	-3.5
FAKI			S	Sn	19 32 47.4	-9.4
SWI	**Sorong**	**5.95 12**	P	Pn	19 32 23.1	-3.8
	baz=5.8,SNR=70					
SWI			S	Sn	19 33 24.7	-9.4
	baz=5.8,SNR=10					
SWI	**Sorong**	**5.95 12**	P	**Pn**	**19 32 23.9**	**-2.9**
	58nm,0.7s,5μm1.0nm					
MTN	**Manton Dam**	**6.18 170**	P	**Pn**	**19 32 29.7**	**-0.2**
	baz=6.3,SNR=72					
MTN			S	**Sn**	**19 33 35.9**	**-3.8**
	baz=6.3,SNR=25					
KDU	**Kakadu**	**6.41 158**	P	**Pn**	**19 32 32.4**	**-0.5**
	baz=6.5,SNR=92					
KDU			S	**Sn**	**19 33 41.5**	**-3.5**
	baz=6.5,SNR=6.0					
LBMI	**Labuha**	**6.54 337**	P	**Pn**	**19 32 33.2**	**-1.5**
	50nm,0.7s,0.2nm					
BAKI	**Biak**	**8.19 48**	P	**Pn**	**19 32 55.5**	**-1.3**
	1μm,0.8s,7μm					
MNI	**Manado**	**9.61 327**	P	Pn	19 33 31.7	+16
BKSI	**Bulukumba**	**9.93 278**	P	**Pn**	**19 33 20.5**	**+0.5**
	19nm,1.4s					
WSI	**Waingapu**	**10.05 252**	P	**Pn**	**19 33 21.3**	**-0.3**
	baz=10,SNR=9.4					
WSI			S	Sn	19 35 04.4	-8.5
	baz=10,SNR=8.5					
WSI	**Waingapu**	**10.05 252**	P	**Pn**	**19 33 21.2**	**-0.3**
	210nm,0.7s,4μm					
SPSI	**Sidrap Palu**	**10.56 285**	P	**Pn**	**19 33 28.6**	**+0.3**
	10nm,1.2s					
MRSI	**Marisa**	**10.77 311**	P	**Pn**	**19 33 30.8**	**-0.3**
	16nm,1.0s					
FITZ	**Fitzroy Crossi**	**12.09 200**	P	**Pn**	**19 33 45.8**	**-2.5**
	4.5nm,0.3s,baz=35,slow=11,SNR=49					
FITZ			S	Sn	19 35 50.8	-11
	11nm,0.3s,baz=26,slow=20,SNR=13					
FITZ	**Fitzroy Crossi**	**12.09 200**	P	**Pn**	**19 33 46.9**	**-1.5**
	baz=12,SNR=74					
FITZ			S	Sn	19 35 52.1	-10
	baz=12,SNR=8.3					
WRA	**Warramunga Arr**	**13.80 163**	P	**Pn**	**19 34 07.3**	**-3.1**
	1.6nm,0.3s,baz=332,slow=13,SNR=40					
WRA			S	Sn	19 36 32.0	-11
	7.6nm,0.3s,baz=335,slow=22,SNR=12					
SMKI	**Samarinda**	**14.21 295**	P	Pn	19 34 11.9	-3.7
	116nm,0.5s					
COEN	**Coen**	**14.81 120**	P	**P**	**19 34 25.3**	**+0.1**
	baz=15,SNR=28					
COEN			S	Sn	19 36 56.0	-12
	baz=15,SNR=4.7					
BBKI	**Banjar Baru**	**15.45 281**	P	**P**	**19 34 33.7**	**+1.3**
	80nm,0.7s,4μm					
QIS	**Mount Isa**	**16.61 147**	P	**Pn**	**19 34 46.6**	**+1.4**
	baz=17,SNR=5.2					
PMG	**Port Moresby**	**17.19 100**	P	**Pn**	**19 34 53.0**	**+0.8**
	0.7nm,0.3s,baz=281,slow=10,SNR=3.2					
ASAR	**Alice Springs**	**17.26 168**	P	**Pn**	**19 34 53.2**	**+0.1**
	4.0nm,0.3s,baz=345,slow=9.6,SNR=244					
ASAR			S	**S**	**19 37 59.1**	**-5.8**
	2.7nm,0.3s,baz=351,slow=29,SNR=9.8					
KKM	**Kota Kinabalu**	**18.72 312**	P	**Pn**	**19 35 09.7**	**-0.8**
	baz=19,SNR=5.4					
UGM	**Wanagama**	**19.36 265**	P	Pn	19 35 24.4	+6.4
	baz=20,SNR=3.5					
CTA	**Charters Tower**	**20.62 132**	P	Pn	19 35 31.4	-1.3
	14nm,0.7s,baz=318,slow=12,SNR=16					
KSM	**Kuching**	**21.28 292**	P	**P**	**19 35 37.2**	**+1.2**
	7.3nm,2.6s					
MEEK	**Meekatharra**	**22.59 207**	P	**P**	**19 35 50.6**	**+1.4**
	baz=23,SNR=8.3					
MEEK			S	Sn	19 40 02.9	-10
	baz=23,SNR=3.5					
QLP	**Quilpie**	**23.95 147**	P	**P**	**19 36 03.3**	**+1.6**
	baz=24,SNR=25					
KMBL	**Kambalda**	**25.67 196**	P	**P**	**19 36 18.7**	**+1.5**
	baz=26,SNR=21					
MORW	**Morawa**	**25.85 209**	P	**P**	**19 36 20.2**	**+1.4**
	baz=26,SNR=5.3					
MORW			S	S	19 41 15.7	+38
	baz=26,SNR=6.5					
BBOO	**Buckleboo**	**26.56 169**	P	**P**	**19 36 26.3**	**+1.1**
	baz=27,SNR=30					
BLDU	**Ballidu**	**26.85 206**	P	**P**	**19 36 29.4**	**+1.6**
	baz=27,SNR=11					
STKA	**Stephens Creek**	**27.27 158**	P	**P**	**19 36 32.8**	**+1.3**
	6.6nm,0.5s,baz=335,slow=8.0,SNR=31					
STKA	**Stephens Creek**	**27.27 158**	P	**P**	**19 36 32.9**	**+1.3**
	baz=27,SNR=30					
KLBR	**Kellerberrin**	**27.27 203**	P	**P**	**19 36 33.2**	**+1.7**
	baz=28,SNR=11					
NWAO	**Narrogin (SRO)**	**28.65 203**	P	**P**	**19 36 45.4**	**+1.6**
	2.6nm,0.3s,baz=42,slow=9.1,SNR=9.6					
CMSA	**Cobar Meteorol**	**28.72 151**	P	**P**	**19 36 46.3**	**+2.0**
	baz=29,SNR=20					
ARMA	**Armidale**	**31.11 142**	P	**P**	**19 37 08.2**	**+2.6**
	baz=31,SNR=5.8					
ARPS	**Mount Arapiles**	**31.80 162**	P	**P**	**19 37 13.8**	**+2.4**
	baz=32,SNR=16					
YNG	**Young**	**32.27 151**	P	**P**	**19 37 17.9**	**+2.2**
	baz=32,SNR=22					
CMAR	**Chiang Mai Arr**	**39.56 310**	P	**P**	**19 38 17.8**	**-0.2**
	1.3nm,0.6s,baz=135,slow=6.8,SNR=19					
CMAR			PcP	**PcP**	**19 40 24.1**	**+1.6**
	0.6nm,0.7s,baz=189,slow=1.9,SNR=5.4					
MJAR	**Matsushiro Arr**	**43.72 10**	P	**P**	**19 38 49.8**	**-1.6**
	1.3nm,0.7s,baz=194,slow=11,SNR=4.0					
KSRS	**Korea Array**	**43.99 358**	P	**P**	**19 38 53.6**	**+0.1**
	0.8nm,0.8s,baz=180,slow=9.7,SNR=5.1					
USRK	**Ussuriysk Arra**	**50.72 2**	P	**P**	**19 39 45.0**	**-0.4**
	1.5nm,0.6s,baz=183,slow=7.5,SNR=5.2					
ASAJ	**Asahikawa**	**51.86 12**	P	**P**	**19 39 53.5**	**-0.5**
	1.6nm,0.6s,baz=190,slow=18,SNR=3.2					
SONM	**Songino Array**	**58.18 341**	P	**P**	**19 40 39.5**	**0.0**
	1.0nm,0.9s,baz=153,slow=6.1,SNR=6.4					
TKM2	**Tokmak 2**	**69.78 320**	P	**P**	**19 41 56.2**	**+0.6**
	SNR=8.1					
AAK	**Ala-Archa**	**70.33 320**	P	**P**	**19 41 59.7**	**+0.8**
	SNR=8.8					
AML	**Almayashu**	**70.61 319**	P	**P**	**19 42 01.9**	**+1.0**
	SNR=9.4					
USP	**Ospenovka**	**70.64 320**	P	**P**	**19 42 01.4**	**+0.8**
	SNR=13					
EKS2	**Erkin-Say**	**70.81 320**	P	**P**	**19 42 02.6**	**+0.9**
	SNR=11					
ZALV	**Zalesovo Beam**	**71.34 334**	P	**P**	**19 42 03.5**	**-0.9**
	1.2nm,0.6s,baz=120,slow=5.2,SNR=7.4					
VNDA	**Vanda**	**72.72 173**	P	**P**	**19 42 13.2**	**+0.8**
	1.5nm,0.6s,baz=305,slow=5.7,SNR=5.9					
BVAR	**Borovoye Array**	**77.83 328**	P	**P**	**19 42 41.3**	**-0.7**
	1.3nm,0.8s,baz=120,slow=10,SNR=8.3					
BVAR			pP	**pP**	**19 43 13.4**	**-4.8**
	1.0nm,0.9s,baz=191,slow=2.4,SNR=2.9					
AKTO	**Aktyubinsk**	**83.86 322**	P	**P**	**19 43 13.8**	**-0.3**
	0.9nm,0.5s,baz=102,slow=8.0,SNR=5.2					
ILAR	**Eielson Array**	**93.09 25**	P	**P**	**19 43 55.6**	**-2.1**
	0.5nm,0.7s,baz=267,slow=4.6,SNR=6.1					
VNA2	**Neumayer--Watz**	**97.50 193**	*e*P	**PP**	**19 48 16.6**	**+0.2**
VNA3	**Neumayer Olymp**	**97.76 192**	*e*P	**PP**	**19 48 22.2**	**+3.9**
TORD	**Torodi Ar. Bea**	**128.76 281**	PKP	**PKPdf**	**19 49 51.8**	**-0.1**
	0.6nm,0.6s,baz=46,slow=1.6,SNR=5.6					
CPUP	**Villa Florida**	**146.38 168**	PKPbc	**PKPab**	**19 50 26.5**	**+0.2**
	2.0nm,0.4s,baz=210,slow=2.0,SNR=10					
LPAZ	**La Paz**	**150.93 142**	PKPbc	**PKPbc**	**19 50 39.5**	**+1.5**
	2.8nm,0.4s,baz=34,slow=3.2,SNR=18					
LPAZ			PKPab	**PKPab**	**19 50 47.9**	**+2.2**
	2.8nm,0.5s,baz=237,slow=2.0,SNR=11					
SIV	**San Ignacio**	**154.91 154**	PKPab	**PKPab**	**19 51 03.2**	**+1.5**
	1.4nm,0.9s,baz=209,slow=9.2,SNR=4.8					

*NIED **16** 19:31:00, 34°.60N×138°.20E, h260km, Mw4.2 Best double couple: M0 2.42000×10^15 NP1:ϕs35.00000°, δ85.00000°, λ-156.00000°. NP2:ϕs303.00000°, δ66.00000°, λ-5.00000°.*
*ISCJB **16** 19:31:29.8±0.3, 34°.64N±0°.04×138°.12E±0°.04, h271km±2km, mb3.6/14, Error ellipse: s-maj=6.6km s-min=5.2km az=135.9*
*JMA **16** 19:31:30.2±0.2, 34°.61N×138°.18E, h271km±2km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs46.00000°, δ71.00000°, λ-152.00000°. NP2: ϕs306.00000°, δ64.00000°, λ-21.00000°. Principal axes: T Plg5.0000°, Azm175.0000°; N Plg57.0000°, Azm77.0000°; P Plg33.0000°, Azm268.0000°;*
*IDC **16** 19:31:31.0±0.6, 34°.52N×138°.02E, h267km±7km, mb3.4/14, mb1 3.6/19, mb1mx3.5/29, mbtmp3.4/19 Error ellipse: s-maj=12.9km s-min=11.5km az=58.0*
ISC 16 19:31:30.9±0.6, 34°.63N±0°.05×138°.11E±0°.05, h267km±5km, n56, σ0°.95/73, mb3.8/14, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
JSG	**Sagara**	**0.07 57**	⇓P	**Pn**	**19 32 05.4**	**+0.3**
JSG			S	S	**19 32 32.6**	**+0.6**
JKKG	**Kakegawa**	**0.19 323**	P	**Pn**	**19 32 04.9**	**-0.2**
JKKG			S	**S**	**19 32 31.9**	**-0.2**
TK02	**Tokai 2**	**0.75 203**	P	**Pn**	**19 32 06.5**	**+0.1**
TK02			S	**S**	**19 32 34.9**	**+0.4**
JYN	**Shimob**	**0.93 22**	P	**Pn**	**19 32 07.7**	**+0.2**
JOD2	**Odawara 2**	**1.02 52**	⇓P	**Pn**	**19 32 07.9**	**0.0**
JOD2			S	**S**	**19 32 37.0**	**-0.1**
JIE	**Ise**	**1.19 259**	P	**Pn**	**19 32 08.7**	**-0.1**
TTO1	**TONANKAI O.B.S**	**1.49 228**	⇑P	**Pn**	**19 32 10.7**	**+0.2**
TTO1			S	**S**	**19 32 43.4**	**+1.5**
JRY	**Ryogami san**	**1.52 25**	⇓P	**Pn**	**19 32 11.6**	**+0.6**
JRY			S	**S**	**19 32 41.6**	**-1.3**
JGM	**Miyama**	**1.56 313**	P	**Pn**	**19 32 11.8**	**+0.5**
MJAR	**Matsushiro Arr**	**1.91 2**	P	**Pn**	**19 32 14.2**	**+0.2**
	14nm,0.3s,baz=187,slow=9.9,SNR=326					
MJAR			S	**S**	**19 32 47.4**	**-0.8**
	5.2nm,0.3s,baz=185,slow=17,SNR=9.2					
MAT	**Matsushiro**	**1.91 2**	P	**Pn**	**19 32 14.3**	**+0.3**
MAT			S	**S**	**19 32 47.7**	**-0.5**
MAT	**Matsushiro**	**1.91 2**	P	**Pn**	**19 32 14.3**	**+0.3**
MAT			S	**S**	**19 32 47.6**	**-0.6**
JHJ	**Hachijo jima 2**	**2.05 137**	P	**Pn**	**19 32 14.6**	**-0.8**
	51nm,0.3s,baz=40,slow=21,SNR=36					
JHJ			S	**S**	**19 32 51.0**	**+0.4**
	164nm,0.3s,baz=53,slow=21,SNR=10.0					
JHJ2	**Mitsune**	**2.08 136**	P	**Pn**	**19 32 14.7**	**-0.9**
JHJ2			S	**S**	**19 32 50.5**	**-0.4**
JAG	**Ashikaga**	**2.10 31**	P	**Pn**	**19 32 14.9**	**-0.7**
JAG			S	**S**	**19 32 48.3**	**-2.8**
JWY	**Kouya**	**2.12 259**	⇓P	**Pn**	**19 32 15.8**	**-0.2**
JWY			S	**S**	**19 32 50.1**	**-1.6**
JKG	**Kaga**	**2.19 319**	⇑P	**Pn**	**19 32 16.8**	**+0.4**
JWZ	**Kozaga**	**2.27 242**	P	**Pn**	**19 32 16.4**	**-0.9**
JWZ			S	**S**	**19 32 51.9**	**-2.2**
JWT	**Wachi**	**2.32 287**	⇑P	**Pn**	**19 32 17.7**	**0.0**
JWT			S	**S**	**19 32 53.5**	**-1.2**
BSO1	**Boso 1**	**2.36 89**	P	**Pn**	**19 32 16.6**	**-0.9**
BSO1			S	**S**	**19 32 52.9**	**-1.6**
JSZ	**Suzu**	**2.87 348**	P	**Pn**	**19 32 23.3**	**+0.2**
JNS	**Sasagawa**	**3.32 17**	P	**Pn**	**19 32 27.9**	**0.0**
JNS			S	**S**	**19 33 11.3**	**-1.9**
JFT	**Otama**	**3.40 31**	P	**Pn**	**19 32 28.6**	**-0.1**
JFT			S	**S**	**19 33 12.4**	**-2.3**
JNU	**Nakatsue**	**6.20 258**	P	**Pn**	**19 33 01.4**	**-0.6**
	2.6nm,0.3s,baz=65,slow=6.1,SNR=29					
CBIJ	**Chichi jima**	**8.29 154**	P	Pn	19 33 21.6	-6.4
	27nm,0.3s,baz=270,slow=15,SNR=14					
CBIJ			S	S	19 34 47.9	-15
	66nm,0.3s,baz=269,slow=22,SNR=16					
KSRS	**Korea Array**	**8.72 292**	P	**Pn**	**19 33 34.0**	**+0.9**
	0.3nm,0.3s,baz=112,slow=13,SNR=23					
ASAJ	**Asahikawa**	**10.08 19**	P	**Pn**	**19 33 48.4**	**-1.8**
	2.2nm,0.3s,baz=218,slow=16,SNR=26					
ASAJ			S	S	19 35 35.4	-8.2
	0.6nm,0.3s,baz=221,slow=18,SNR=4.9					
USRK	**Ussuriysk Arra**	**10.65 336**	P	**Pn**	**19 33 57.6**	**+0.4**
	0.5nm,0.3s,baz=145,slow=11,SNR=15					
PETK	**Petropavlovsk-**	**23.11 31**	P	**P**	**19 36 15.5**	**+2.1**
	4.3nm,0.9s,baz=224,slow=12,SNR=3.1					
SONM	**Songino Array**	**27.04 309**	P	**P**	**19 36 50.2**	**+1.3**
	3.5nm,0.9s,baz=114,slow=8.6,SNR=28					
CMAR	**Chiang Mai Arr**	**38.29 255**	P	**P**	**19 38 24.6**	**-1.5**
	1.0nm,0.3s,baz=46,slow=7.9,SNR=16	

UPP ***16*** *19:39:01.8, 51.74N × 15.63E, h0km, ML1.9, Suspected Mining explosion.*

ISC 16 19:38:57.1±0.5, 51.54N±0.02 × 16.11E±0.02, h0km, n100, σ1f39/157, mb3.4/4, 10C-15D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**171**	*e*	**Pg**	**19 39 11.4**	**+0.8**
KSP				*e*	**Sg**	**19 39 20.2**	**+0.5**
KSP	**Ksiaz**	**0.70**	**171**	*e*	**Pg**	**19 39 10.9**	**+0.3**
	baz=358						
KSP				*i*	**Sg**	**19 39 20.2**	**+0.5**
KSP	**Ksiaz**	**0.70**	**171**	*e*	**Pg**	**19 39 11.3**	**+0.8**
KSP				*e*	**Sg**	**19 39 20.1**	**+0.5**
KSP	**Ksiaz**	**0.70**	**171**	*e*	Pn	19 39 23.5	+9.2
UPC	**Upice**	**1.03**	**184**	*e*	**Pg**	**19 39 17.3**	**+0.4**
UPC	**Upice**	**1.03**	**184**	Pg	**Pg**	**19 39 17.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*	**Pg**	**19 39 20.2**	**+0.2**
DPC				*e*	**Sg**	**19 39 35.0**	**-0.5**
	comp=Z,69nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*	**Pg**	**19 39 20.1**	**+0.1**
	baz=358						
DPC				Sg	**Sg**	**19 39 35.0**	**-0.5**
	69nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*	**Pg**	**19 39 24.1**	**+0.2**
PVCC				*e*	**Sg**	**19 39 42.7**	**+0.1**
	comp=Z,304nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*	**Pg**	**19 39 24.2**	**+0.3**
	baz=46						
PVCC				Sg	**Sb**	**19 39 42.7**	**+0.1**
	304nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**19 39 25.3**	**-0.2**
BRG				PG	**Pg**	**19 39 26.9**	**+0.8**
BRG				SG	**Sn**	**19 39 46.5**	**+0.6**
	129nm,0.5s						
KRLC	**Kraliky**	**1.52**	**164**	*e*	Pn	**19 39 25.7**	**+0.1**
KRLC				*e*	**Sb**	**19 39 45.2**	**-0.9**
KRLC	**Kraliky**	**1.52**	**164**	Pg	Pn	**19 39 25.7**	**+0.1**
KRLC				Sg	**Sb**	**19 39 45.2**	**-0.9**
PRU	**Pruhonice**	**1.84**	**213**	*e*	Pn	**19 39 29.9**	**-0.1**
PRU				*e*	**Pb**	**19 39 31.8**	**+0.2**
PRU				*e*	**Sb**	**19 39 55.2**	**0.0**
	comp=Z,55nm,0.3s						
PRU	**Pruhonice**	**1.84**	**213**	Pn	**Pn**	**19 39 29.9**	**-0.1**
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pb**	**19 39 31.8**	**+0.2**
PRU				Sg	**Sb**	**19 39 55.2**	**0.0**
	55nm,0.3s						
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*	Pn	**19 39 33.4**	**+0.6**
GKP				*e*	Sg	19 40 04.8	+7.7
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*	Pn	**19 39 33.4**	**+0.6**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*	Pn	**19 39 33.4**	**+0.6**
GKP				*e*	Sn	19 40 04.7	+7.7
CLL	**Collm**	**1.96**	**264**	*e*	Pn	**19 39 32.0**	**+0.5**
CLL				*i*	Pg	**19 39 34.9**	**+0.3**
CLL				*e*		19 39 39.0	
CLL				*i*	Sg	**19 40 00.7**	**+0.7**
	comp=Z,45nm,0.6s						
RAC	**Raciborz**	**1.97**	**137**	*e*	Pg	**19 39 34.4**	**+0.7**
RAC				*e*	Sg	**19 39 59.9**	**+1.2**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓	Pn	**19 39 31.9**	**0.0**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓	Pn	**19 39 31.9**	**0.0**
MORC				*e*	Sn	**19 39 58.3**	**+0.8**
	comp=Z,54nm,0.3s,baz=336						
MORC				S	Sb	**19 39 59.4**	**+0.1**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*	Pb	**19 39 37.6**	**+0.9**
OKC				*e*	Sb	**19 40 04.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg	Pb	**19 39 37.6**	**+0.9**
OKC				Sg	Sb	**19 40 04.2**	**+0.5**
VRAC	**Vranov**	**2.25**	**172**	Pn	Pn	**19 39 35.9**	**+0.3**
	comp=Z,6.8nm,0.3s,baz=325,slow=17,SNR=15						
VRAC				Lg	Lg	19 40 08.3	
	comp=Z,15nm,0.3s,baz=85,slow=23,SNR=10						
VRAC	**Vranov**	**2.25**	**172**	⇓	Pn	**19 39 36.3**	**+0.7**
VRAC	**Vranov**	**2.25**	**172**	*e*	Pn	**19 39 35.6**	**0.0**
	baz=355						
VRAC	**Vranov**	**2.25**	**172**	⇓	Pn	**19 39 36.3**	**+0.7**
VRAC				*e*	Sb	**19 40 07.8**	**+0.8**
	comp=Z,38nm,0.3s,baz=355						
VRAC				S	Sg	**19 40 08.2**	**-1.2**
TREC	**Trest**	**2.28**	**190**	*e*	Pn	**19 39 36.6**	**+0.6**
TREC				*e*	Pb	**19 39 39.7**	**+0.6**
TREC	**Trest**	**2.28**	**190**	Pn	Pn	**19 39 36.6**	**+0.6**
TREC	**Trest**	**2.28**	**190**	Pg	Pb	**19 39 39.7**	**+0.6**
KRUC	**Moravsky**	**2.48**	**176**	*e*	Pn	**19 39 39.1**	**+0.3**
	baz=358						
KRUC				*e*	Sb	**19 40 15.5**	**+1.8**
	comp=Z,55nm,0.6s,baz=358						
NKC	**Novy Kostel**	**2.66**	**242**	*e*	Pn	**19 39 41.9**	**+0.7**
NKC				*e*	Pg	**19 39 47.4**	**-0.7**
NKC				*e*	Sg	**19 40 23.5**	**+0.9**
	comp=Z,79nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	Pn	**19 39 41.9**	**+0.7**
NKC	**Novy Kostel**	**2.66**	**242**	Pg	Pg	**19 39 47.4**	**-0.7**
NKC				Sg	Sg	**19 40 23.5**	**+0.9**
	comp=Z,79nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*	Pg	**19 39 48.9**	**+0.4**
OJC				*e*	Sg	**19 40 24.5**	**+1.3**
OJC	**Ojcow**	**2.68**	**118**	*e*	Pg	**19 39 48.9**	**+0.4**
OJC				*e*	Sg	**19 40 24.5**	**+1.3**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*	Pn	**19 39 44.8**	**+0.2**
KHC				*e*	Pb	**19 39 51.0**	**+1.2**
KHC				*e*	Sn	**19 40 19.1**	**-1.1**
KHC				*e*	Sg	**19 40 29.6**	**-0.7**
	comp=Z,29nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	Pn	**19 39 44.8**	**+0.2**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	Pn	**19 39 47.6**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=28,slow=12,SNR=108						
GERES				Pg	Pb	**19 39 54.3**	**+1.0**
	comp=Z,8.3nm,0.3s,baz=36,slow=15,SNR=41						
GERES				Sn	Sn	**19 40 25.0**	**-0.3**
	comp=Z,5.6nm,0.3s,baz=31,slow=29,SNR=5.4						
GERES				Lg	Lg	19 40 34.0	
	comp=Z,10nm,0.3s,baz=31,slow=23,SNR=11						
SMOL	**Smolenice**	**3.14**	**164**	*e*	Pg	**19 39 58.5**	**+1.2**
SMOL	**Smolenice**	**3.14**	**164**	*e*	Sg	**19 40 38.3**	**+0.3**
SMOL	**Smolenice**	**3.14**	**164**	*e*	Sg	**19 40 38.3**	**+0.3**
NIE	**Niedzica**	**3.42**	**127**	*e*	Pg	**19 40 02.4**	**-0.2**
NIE				*e*	Sg	**19 40 47.0**	**+0.1**
VYHS	**Vyhne**	**3.52**	**149**	*e*	PN	**19 39 52.9**	**-0.1**
VYHS				*e*		19 40 04.7	
VYHS	**Vyhne**	**3.52**	**149**	*e*	Pn	**19 39 52.9**	**-0.1**
VYHS				*e*	Sb	**19 40 45.7**	**+2.3**
CONA	**Conrad Observa**	**3.62**	**183**	⇓	Pn	**19 39 55.1**	**+0.7**
CONA				⇑	Sg	**19 40 50.8**	**-2.4**
	comp=Z,34nm,0.4s						
CONA	**Conrad Observa**	**3.62**	**183**	Pn	Pn	**19 39 55.1**	**+0.7**
CONA				Sg	Sg	**19 40 50.8**	**-2.4**
	comp=Z,34nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*i*	Pn	**19 39 55.3**	**+0.5**
BSD				*i*	Sn	**19 40 35.7**	**-2.9**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i*	Pn	**19 39 55.3**	**+0.5**
BSD				*i*	Sn	**19 40 35.7**	**-2.9**
MOA	**Molln**	**3.88**	**199**	⇑	Pn	**19 39 58.7**	**+0.7**
MOA				⇑	Sg	**19 41 00.9**	**-0.8**
	comp=Z,45nm,0.6s						
MOA	**Molln**	**3.88**	**199**	Pn	Pn	**19 39 58.7**	**+0.7**
MOA				Sg	Sg	**19 41 00.9**	**-0.8**
	comp=Z,45nm,0.6s						
ARSA	**Arzberg**	**4.31**	**185**	⇑	Sg	**19 41 13.3**	**-2.1**
	comp=Z,24nm,0.5s						
ARSA	**Arzberg**	**4.31**	**185**	Sg	Sg	**19 41 13.3**	**-2.1**
	comp=Z,24nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*	PN	**19 40 05.2**	**+1.0**
CRVS				*e*		19 40 21.0	
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*	Pn	**19 40 05.2**	**+1.0**
CRVS				*e*	Sb	**19 41 12.1**	**+5.3**
PSZ	**Piszkesteto**	**4.38**	**144**	⇓	Pn	**19 40 06.1**	**+1.3**
PSZ	**Piszkesteto**	**4.38**	**144**	⇓	Pn	**19 40 06.1**	**+1.3**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*	Pb	**19 40 23.1**	**-2.4**
KWP	**Kalwaria Pacla**	**4.62**	**112**	⇓	Pb	**19 40 21.9**	**+3.0**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*	Pb	**19 40 23.1**	**-2.4**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*	Pb	**19 40 23.1**	**-2.4**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*	PN	**19 40 09.5**	**-0.2**
KOLS				*e*		19 40 30.0	
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*	Pn	**19 40 09.5**	**-0.2**
KOLS				*e*	Sg	**19 41 26.3**	**-2.8**
BLEU	**Blekinge**	**4.78**	**358**	*i*	Pn	**19 40 10.9**	**+0.6**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑	Pn	**19 40 12.1**	**+1.1**
KBA				⇓	Sg	**19 41 29.7**	**-2.0**
	comp=Z,23nm,0.6s						
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	Pn	**19 40 12.1**	**+1.1**
KBA				Sg	Sg	**19 41 29.7**	**-2.0**
	comp=Z,23nm,0.6s						
BJUU	**Bjuv**	**4.90**	**339**	*e*	Pn	**19 40 11.6**	**-0.3**
DEL	**Delary**	**5.12**	**346**	*e*	Pn	**19 40 14.8**	**-0.1**
DEL				S	Sn	**19 41 11.5**	**-3.1**
WATA	**Walderalm**	**5.14**	**217**	⇑	Pn	**19 40 15.9**	**+0.5**
WATA				⇑	Sg	**19 41 43.2**	**+1.0**
	comp=Z,12nm,0.6s						
WATA	**Walderalm**	**5.14**	**217**	Pn	Pn	**19 40 15.9**	**+0.5**
WATA				Sg	Sg	**19 41 43.2**	**+1.0**
	comp=Z,12nm,0.6s						
WTTA	**Wattenberg**	**5.18**	**216**	⇓	Pn	**19 40 16.6**	**+0.7**
WTTA				⇓	Sg	**19 41 44.8**	**+1.4**
	comp=Z,9.9nm,0.5s						
WTTA	**Wattenberg**	**5.18**	**216**	Pn	Pn	**19 40 16.6**	**+0.7**
WTTA				Sg	Sg	**19 41 44.8**	**+1.4**
	comp=Z,9.9nm,0.5s						
MOTA	**Moosalm**	**5.32**	**220**	⇑	Pn	**19 40 18.4**	**+0.6**
MOTA				⇓	Sg	**19 41 48.1**	**+0.3**
	comp=Z,4.8nm,0.4s						
MOTA	**Moosalm**	**5.32**	**220**	Pn	Pn	**19 40 18.4**	**+0.6**
MOTA				Sg	Sg	**19 41 48.1**	**+0.3**
	comp=Z,4.8nm,0.4s						
ABTA	**Abfaltersbach**	**5.34**	**208**	⇓	Pn	**19 40 19.7**	**+1.5**
ABTA	**Abfaltersbach**	**5.34**	**208**	Pn	Pn	**19 40 19.7**	**+1.5**
VXJU	**Vaexsjoe**	**5.44**	**353**	*i*	Pn	**19 40 19.8**	**+0.5**
PKSM	**Moragy**	**5.58**	**162**	⇑	Pn	**19 40 22.3**	**+1.0**
PKSM	**Moragy**	**5.58**	**162**	⇑	Pn	**19 40 22.3**	**+1.0**
OSKU	**Oskarshamn**	**5.67**	**360**	*i*	Pn	**19 40 23.2**	**+0.7**
FABU	**Falkenberg**	**5.82**	**341**	*i*	Pn	**19 40 24.5**	**-0.1**
ASPU	**Aespoe**	**5.90**	**3**	*i*	Pn	**19 40 27.0**	**+1.4**
GNOU	**Gnosjoe**	**5.93**	**348**	*i*	Pn	**19 40 26.1**	**+0.1**
EKSU	**Eksjoe**	**6.07**	**356**	*i*	Pn	**19 40 28.6**	**+0.7**
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn	Pn	**19 40 31.8**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=44,slow=15,SNR=8.9						
DAVOX				Sn	Sn	**19 41 39.2**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=345,slow=20,SNR=1.9						
DAVOX				Lg	Lg	19 42 13.1	
	comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=2.6						
BORU	**Boraas**	**6.41**	**344**	*e*	Pn	**19 40 32.9**	**+0.3**
LNKU	**Linkoeping**	**6.71**	**357**	*e*	Pn	**19 40 37.1**	**+0.4**
BURAR	**Bucovina Array**	**7.10**	**120**	⇓	Pn	**19 40 43.0**	**+0.7**
BURAR	**Bucovina Array**	**7.10**	**120**	⇓	Pn	**19 40 43.0**	**+0.7**
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	Pn	**19 40 59.5**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=280,slow=12,SNR=6.9						
AKASG				Sn	Sn	**19 42 27.6**	**-5.3**
	comp=Z,1.1nm,0.3s,baz=278,slow=24,SNR=3.7						
AKASG				Lg	Lg	19 43 24.8	
	baz=283,slow=30,SNR=4.0						
HFS	**Hagfors**	**8.72**	**352**	Pn	Pn	**19 41 04.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=161,slow=15,SNR=3.2						
HFS				Sn	Sn	**19 42 40.1**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=176,slow=22,SNR=4.0						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	Pn	**19 41 20.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=3.5						
NOA				Sn	Sn	**19 43 06.8**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=133,slow=23,SNR=2.8						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	Pn	**19 41 38.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=7.5						
FINES				Sn	Sn	19 43 37.7	-10
	comp=Z,0.2nm,0.3s,baz=209,slow=20,SNR=4.3						
FINES				Lg	Lg	19 44 53.6	
	baz=220,slow=23,SNR=2.2						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**19 43 12.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=195,slow=13,SNR=8.2						
BVAR	**Borovoye Array**	**32.58**	**66**	P	**P**	**19 45 31.7**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=312,slow=6.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**40.03**	**202**	P	**P**	**19 46 34.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=358,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**19 49 05.2**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=29,slow=6.8,SNR=6.4						
PDAR	**Pinedale Array**	**74.92**	**322**	P	**P**	**19 50 41.6**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=40,slow=4.9,SNR=2.5						

ISCJB ***16*** *19:39:15.0±0.5, 4.92N±0.03 × 82.67W±0.05, h12km, mb4.0/13, MS3.8/4, Error ellipse: s-maj=8.1km s-min=4.0km az=154.9*

IDC ***16*** *19:39:15.3±0.8, 4.77N × 82.66W, h0km, mb3.9/11, mb1 4.2/14, mb1mx4.1/27, mbtmp4.0/14, ML3.8/3, MS3.8/6, Ms1 3.8/6, ms1mx3.4/39, Error ellipse: s-maj=31.9km s-min=14.5km az=57.0*

NEIC ***16*** *19:39:16.4±0.5, 4.74N × 82.70W, h10km, mb4.6/4, Error ellipse: s-maj=15.1km s-min=8.3km az=61.0*

CASC ***16*** *19:39:19.1±1.9, 4.96N × 82.77W, h35km±93km, MD4.3, mb4.6(NEIC)*

ISC 16 19:39:16.6±0.6, 4.88N±0.06 × 82.71W±0.07, h12km, n62, σ1f50/61, mb4.1/13, MS3.7/4, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**3.78**	**353**	⇑	*e*P	**Pn**	**19 40 13.1**	**-1.7**
ACR					*e*S	**Sn**	**19 40 57.2**	**-2.0**
TBS2		**3.89**	**1**	*e*	P	**Pn**	**19 40 16.5**	**+0.1**
TBS2					*e*S	**Sn**	**19 40 59.4**	**-2.8**
QCR	**Quepos**	**4.74**	**342**	⇓	*i*P	**Pn**	**19 40 26.7**	**-1.3**
QCR					*e*S	**Sn**	**19 41 20.7**	**-2.3**
BUS	**Buena Vista**	**4.76**	**347**	⇓	*i*P	**Pn**	**19 40 28.3**	**-0.4**
BUS					*e*S	**Sn**	**19 41 22.4**	**-1.7**
BCIP	**Isla Barro Col**	**5.13**	**34**	*e*	P	**Pn**	**19 40 34.3**	**+1.0**
	53nm,0.6s						
LAJ	**Bijagual**	**5.15**	**344**	⇑	*e*P	**Pn**	**19 40 32.5**	**-1.3**
LAJ					*e*S	**Sn**	**19 41 28.4**	**-4.9**
UPIG		**5.16**	**37**	*e*	P	**Pn**	**19 40 34.6**	**+0.8**
UPIG					*e*S	**Sn**	**19 41 31.8**	**-1.4**
SJS	**Escuela Geolog**	**5.20**	**345**	*e*	P	**Pn**	**19 40 33.5**	**-1.0**
SJS					*e*S	**Sn**	**19 41 36.2**	**+1.7**
CGA2	**Cerro Gallo 2**	**5.39**	**341**	*e*	P	**Pn**	**19 40 36.4**	**-0.7**
JTS	**JuntasAbangare**	**5.82**	**338**	Pn	Pn	**19 40 41.9**	**-0.9**
	73nm,0.3s,baz=112,slow=10,SNR=76						
JTS				Sn	Sn	**19 41 47.8**	**-1.8**
	17nm,0.3s,baz=288,slow=20,SNR=16						
JTS				LR	LR	19 42 43.6	
	comp=Z,690nm,21.7s,baz=120,slow=35						
JTS	**JuntasAbangare**	**5.82**	**338**	Pn	Pn	**19 40 41.9**	**-0.9**
JTS				Sn	Sn	**19 41 47.8**	**-1.8**
OTAV	**Otavalo**	**6.27**	**137**	*e*	P	**Pn**	**19 40 48.2**	**-1.2**
	15nm,0.7s						
ROSC	**El Rosal**	**8.35**	**90**	Pn	Pn	19 41 23.3	+5.3
	3.1nm,0.3s,baz=97,slow=17,SNR=5.2						
ROSC				Sn	Sn	**19 42 52.3**	**-0.1**
	2.2nm,0.3s,baz=101,slow=19,SNR=1.8						
ROSC	**El Rosal**	**8.35**	**90**	*e*	P	Pn	19 41 23.0	+5.0
ROSC					Sn	Sn	**19 42 52.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**10.17**	**334**	*e*	P	Pn	19 41 47.4	+4.9
	38nm,0.4s						
ATAH	**Atahualpa**	**12.69**	**160**	Pn	Pn	**19 42 17.6**	**+0.2**
	0.4nm,0.3s,baz=58,slow=7.0,SNR=3.6						
ATAH				LR	LR	19 46 39.2	
	comp=Z,556nm,20.9s,baz=76,slow=35						
ATAH	**Atahualpa**	**12.69**	**160**	Pn	Pn	**19 42 17.6**	**+0.2**
CMIG	**Matias Romero**	**17.02**	**316**	*e*	P	**Pn**	**19 43 17.4**	**+1.0**
	0.2nm,0.3s,baz=95,slow=3.1,SNR=4.9						
CMIG	**Matias Romero**	**17.02**	**316**	*e*	P	**P**	**19 43 17.4**	**+1.0**
NNA	**Nana**	**17.74**	**161**	*e*	P	**Pn**	**19 43 23.1**	**-0.6**
	1.0nm,0.3s,baz=318,slow=13,SNR=3.3						
NNA	**Nana**	**17.74**	**161**	*e*	P	**Pn**	**19 43 23.1**	**-0.6**
LRS	**Lares**	**20.45**	**48**	*e*	P	Pn	19 43 55.8	-0.6
SJG	**San Juan**	**20.86**	**50**	*e*	P	Pn	19 44 00.5	-0.6
	28nm,0.8s,baz=270,slow=8.5,SNR=5.5						
SJG				LR	LR	19 51 09.9	
	comp=Z,131nm,19.1s,baz=180,slow=34						
SJG	**San Juan**	**20.86**	**50**	*e*	P	Pn	19 44 00.5	-0.6
SAML	**Samuel**	**23.82**	**125**	*e*	P	**P**	**19 44 27.8**	**-2.0**
	24nm,1.0s						
LPAZ	**La Paz**	**25.50**	**146**	*e*	P	**P**	**19 44 45.6**	**-0.1**
	3.0nm,0.6s,baz=333,slow=8.6,SNR=17						
LPAZ	**La Paz**	**25.50**	**146**	*e*	P	**P**	**19 44 45.1**	**-0.7**
	4.4nm,0.8s						
SIV	**San Ignacio**	**29.81**	**134**	*e*	P	**P**	**19 45 23.1**	**-0.7**
	2.9nm,1.0s,baz=319,slow=12,SNR=7.3						
SIV	**San Ignacio**	**29.81**	**134**	*e*	P	**P**	**19 45 23.1**	**-0.7**
BLA	**Blacksburg**	**32.25**	**3**	*e*	P	**P**	**19 45 46.8**	**+1.7**
	17nm,0.8s						
ANMO	**Albuquerque**	**37.12**	**327**	LR	LR	20 02 41.6	
	comp=Z,131nm,21.4s,baz=67,slow=38						
CPUP	**Villa Florida**	**39.59**	**143**	P	P	**P**	**19 46 46.6**	**-1.4**
	0.4nm,0.4s,baz=340,slow=12,SNR=3.9						
CPUP	**Villa Florida**	**39.59**	**143**	P	P	**P**	**19 46 46.6**	**-1.4**
BDFB	**Brasilia**	**39.94**	**121**	LR	LR	20 04 33.2	
	comp=Z,91nm,18.8s,baz=163,slow=38						
WUAZ	**Wupatki**	**40.35**	**323**	*e*	P	P	19 46 57.6	+3.1
	9.6nm,0.9s						
PDAR	**Pinedale Array**	**44.62**	**332**	P	P	**P**	**19 47 30.9**	**+1.6**
	0.7nm,0.8s,baz=134,slow=7.7,SNR=4.6						
PDAR	**Pinedale Array**	**44.62**	**332**	P	P	**P**	**19 47 30.9**	**+1.6**
NVAR	**Mina Array Bea**	**46.48**	**321**	P	P	**P**	**19 47 46.5**	**+2.5**
	4.0nm,0.8s,baz=134,slow=7.3,SNR=18						
NVAR	**Mina Array Bea**	**46.48**	**321**	P	P	**P**	**19 47 46.5**	**+2.5**
YKA	**Yellowknife Ar**	**62.12**	**344**	P	P	**P**	**19 49 38.0**	**+0.8**
	0.5nm,0.8s,baz=140,slow=6.4,SNR=12						
YKA	**Yellowknife Ar**	**62.12**	**344**	P	P	**P**	**19 49 38.0**	**+0.8**
ILAR	**Eielson Array**	**74.79**	**336**	P	P	**P**	**19 50 57.1**	**+0.6**
	0.8nm,1.0s,baz=134,slow=1.7,SNR=4.4						
ILAR	**Eielson Array**	**74.79**	**336**	P	P	**P**	**19 50 57.1**	**+0.6**
MDT	**Midelt**	**77.37**	**58**	P	P	**P**	**19 51 11.7**	**-0.3**
	2.1nm,0.8s,baz=290,slow=9.3,SNR=4.9						
MDT	**Midelt**	**77.37**	**58**	P	P	**P**	**19 51 11.7**	**-0.3**
ESDC	**Sonseca Array**	**78.24**	**51**	P	P	**P**	**19 51 17.0**	**+0.3**
	0.2nm,0.4s,baz=269,slow=5.5,SNR=4.6						
ESDC	**Sonseca Array**	**78.24**	**51**	P	P	**P**	**19 51 17.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.47**	**77**	P	P	**P**	**19 51 47.4**	**+2.4**
	0.6nm,0.8s,baz=285,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**83.47**	**77**	P	P	**P**	**19 51 47.4**	**+2.4**
AFI	**Afiamalu**	**90.25**	**256**	LR	LR	LR	20 24 07.0	
	comp=Z,211nm,18.1s,baz=299,slow=30						
SONM	**Songino Array**	**126.90**	**352**	PKP	**PKPdf**	**19 58 21.1**	**+0.2**
	0.2nm,0.6s,baz=245,slow=1.2,SNR=2.4						
SONM	**Songino Array**	**126.90**	**352**	PKP	**PKPdf**	**19 58 21.1**	**+0.2**
ASAR	**Alice Springs**	**140.09**	**238**	PKP	**PKPdf**	**19 58 44.4**	**-1.8**
	0.5nm,0.9s,baz=129,slow=2.6,SNR=4.3						
ASAR	**Alice Springs**	**140.09**	**238**	PKP	**PKPdf**	**19 58 44.4**	**-1.8**
WRA	**Warramunga Arr**	**140.97**	**244**	PKP	**PKPdf**	**19 58 46.1**	**-1.6**
	1.0nm,0.9s,baz=93,slow=2.2,SNR=4.5						
WRA	**Warramunga Arr**	**140.97**	**244**	PKP	**PKPdf**	**19 58 46.1**	**-1.6**
PYUN	**Piuthan**	**144.43**	**22**	*e*P	PKPbc	19 58 52.4	0.0
DANN	**Dangsing**	**144.49**	**21**	*e*P	PKPbc	19 58 52.9	+0.3
	9.0nm,0.8s						
GKN	**Gorkha**	**145.11**	**20**	*e*P	**PKPbc**	**19 58 54.3**	**-0.2**
	31nm,1.3s						
KKN	**Kakani**	**145.51**	**19**	*e*P	**PKPbc**	**19 58 55.6**	**-0.3**
	14nm,0.8s						
GUN	**Gumba**	**145.59**	**18**	*e*P	**PKPdf**	**19 58 54.4**	**-1.8**
	53nm,1.4s						
DMN	**Daman**	**145.63**	**19**	*e*P	**PKPdf**	**19 58 55.9**	**-0.2**
	29nm,1.3s						

NIED ***16*** *19:52:00, 24.80N × 143.00E, h11km, Mw4.5 Best double couple: M07.01000×1015 NP1:φs66.00000°, δ81.00000°, λ138.00000°. NP2:φs164.00000°, δ49.00000°, λ12.00000°.*

BJI ***16*** *19:52:53.2, 24.70N × 143.13E, h33km, mB4.9/16, mb4.6/25, Ms4.4/20, Ms7 4.3/21*

IDC ***16*** *19:52:53.5±0.4, 24.88N × 142.65E, h0km, mb4.5/29, mb1 4.7/31, mb1mx4.7/34, mbtmp4.5/31, ML4.2/2, MS4.0/24, Ms1 4.0/24, ms1mx3.8/44, Error ellipse: s-maj=15.0km s-min=11.3km az=99.0*

ISCJB ***16*** *19:52:56.8±1.4, 25.00N±0.03 × 142.60E±0.05, h29km±9km, mb4.6/91, MS4.1/29, Error ellipse: s-maj=7.6km s-min=5.0km az=1.9*

JMA ***16*** *19:52:56.4±0.2, 24.83N × 143.04E, h106km, M4.8*

MOS ***16*** *19:52:56.9±1.0, 24.87N × 142.60E, h33km, mb5.0/34, MS4.5/4, Error ellipse: s-maj=12.0km s-min=5.7km az=115.6*

*NE

YSS pmax pmax
comp=Z,20nm,1.0s
YSS smax smax
comp=E,800nm,9.0s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 22.01 0 *e*P **P 19 57 52.7 +2.6**
comp=Z,37nm,0.9s
MDJ Mudanjiang 22.32 335 *e*P **P 19 57 52.3 -1.2**
comp=Z,23nm,1.2s
SNY Shenyang 23.08 322 ⇓P **P 19 58 01.3 -0.2**
SNY S **S 20 02 08.5 -1.9**
SNY pmax pmax
comp=Z,25nm,0.9s
SNY pmax pmax
comp=Z,210nm,3.5s
SNY LR LR
comp=N,420nm,15.0s
SNY LR LR
comp=E,310nm,14.2s
SNY LR LR
comp=Z,280nm,14.3s
DAV Davao City (W) 24.05 225 LR LR 20 05 24.3
comp=Z,364nm,20.2s,baz=13,slow=31
HABR Khabarovsk 24.26 348*ce*P **P 19 58 14.0 +1.3**
HABR *e**SP **sP 19 58 24.6 -1.0**
HABR PPP PPP 19 58 50.6
HABR S **S 20 02 31.3 +1.9**
HABR *e*SS **sS 20 02 45.0 +0.8**
HABR *e*SS **SnSn 20 03 14.1 +0.8**
HABR *e* 20 09 13.6
HABR pmax pmax
comp=E,50nm,3.4s
HABR pmax pmax
comp=N,61nm,2.3s
HABR pmax pmax
comp=Z,106nm,2.3s
HABR MLR MLR
comp=Z,106nm,14.0s
WHN Wuhan 25.57 289 *e*P P 19 58 29.9 +5.1
WHN LR LR
comp=Z,840nm,14.6s
KLR Kul'dur 25.72 344 *e*P **P 19 58 23.4 -2.6**
KLR MLR MLR
comp=Z,2μm,12.0s
SMPI Sarmi 26.99 189 P P 19 58 53.7 +16
MYLDM Lahad Datu 30.30 234 P P 19 59 03.0 -4.3
comp=Z,24nm,1.3s
XAN Xi'an 30.56 295 P **P 19 59 10.3 +0.8**
XAN pP **pP 19 59 17.3 -1.3**
XAN sP **sP 19 59 20.1 -2.3**
XAN S **S 20 04 06.0 -3.4**
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,21nm,5.6s
XAN LR LR
comp=N,140nm,19.5s
XAN LR LR
comp=E,87nm,16.9s
XAN LR LR
comp=Z,88nm,18.2s
MRSI Marisa 31.42 223 P **P 19 59 16.1 -1.0**
LZH Lanzhou 34.97 298 *e*P **P 19 59 48.8 +0.6**
LZH pP **pP 19 59 55.1 -2.2**
LZH sP **sP 19 59 59.0 -2.1**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH LR LR
comp=N,130nm,12.2s
LZH LR LR
comp=E,200nm,11.1s
LZH LR LR
comp=Z,350nm,12.8s
KMI Kunming 36.00 279 P **P 19 59 58.8 +1.6**
KMI pP **pP 20 00 07.3 +0.9**
KMI sP **sP 20 00 13.3 +3.1**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,100nm,3.6s
KMI LR LR
comp=N,140nm,10.9s
KMI LR LR
comp=E,330nm,17.0s
KMI LR LR
comp=Z,370nm,17.3s
ULN Ulaanbaatar 36.16 318 *e*P **P 19 59 57.4 -0.9**
comp=Z,3.4nm,0.7s
ULN Ulaanbaatar 36.16 318 P **P 19 59 57.8 -0.5**
comp=Z,6.3nm,1.1s
FX1 Attu Island--F 36.22 31 LR LR 20 13 28.8
comp=Z,142nm,19.6s,baz=328,slow=34
SONM Songino Array 36.55 318 LR LR 20 15 49.2
comp=Z,322nm,18.7s,baz=3.0,slow=40
SONM Songino Array 36.55 318 P **P 20 00 00.8 -0.7**
comp=Z,1.0nm,0.5s,baz=127,slow=8.0,SNR=15
SONM PcP **PcP 20 02 25.0 +0.5**
comp=Z,1.9nm,0.9s,baz=124,slow=3.2,SNR=4.7
SONM LR LR 20 15 49.2
comp=Z,322nm,18.6s,baz=3.0,slow=38
SONM Songino Array 36.55 318 P **P 20 00 00.8 -0.7**
SONM PcP **PcP 20 02 25.0 +0.5**
KAPI Kappang 37.10 220 P **P 20 00 05.8 -0.6**
comp=Z,8.1nm,0.8s,baz=31,slow=8.2,SNR=4.8
KAPI LR LR 20 12 20.0
comp=Z,106nm,21.5s,baz=181,slow=31
KAPI Kappang 37.10 220 P **P 20 00 05.8 -0.6**
YAK Yakutsk 38.13 350 *e*P **P 20 00 13.9 -0.6**
YAK pmax pmax
comp=Z,11nm,1.1s
YAK Yakutsk 38.13 350 *e*P **P 20 00 14.9 +0.4**
comp=Z,16nm,0.8s
SEY Seymchan 38.58 7⇑*i*P **P 20 00 18.1 -0.2**
GTA Gaotai 38.61 303 *e*P **P 20 00 19.3 +0.2**
GTA S **S 20 06 13.1 -0.5**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,82nm,4.5s
GTA LR LR
comp=N,310nm,14.0s
GTA LR LR
comp=E,250nm,15.0s
GTA LR LR
comp=Z,270nm,13.5s
BOD Bodaibo 38.69 336 *e*P **P 20 00 19.1 -0.2**
BOD pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 39.50 320 *e*P **P 20 00 23.9 -2.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 39.87 322 *e*P **P 20 00 29.4 +0.2**
TLY *e*PPP PPP 20 02 42.0
TLY *e*S **S 20 06 27.3 -4.5**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,310nm,17.0s
CHTO Chiang Mai 40.81 270 *e*P **P 20 00 38.4 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 40.81 270 *e*P **P 20 00 38.4 +1.0**
comp=Z,7.9nm,1.0s
CHTO Chiang Mai 40.81 270 P **P 20 00 34.5 -2.9**
comp=Z,8.5nm,1.2s
CM31 Chiang Mai Arr 40.91 270 *e*P **P 20 00 40.2 +1.9**
comp=Z,2.3nm,0.6s
CMAR Chiang Mai Arr 40.91 270 P **P 20 00 40.0 +1.7**
comp=Z,3.1nm,0.9s,baz=61,slow=8.0,SNR=26
CMAR LR LR 20 18 05.4
comp=Z,262nm,18.6s,baz=182,slow=37
CMAR Chiang Mai Arr 40.91 270 P **P 20 00 40.0 +1.7**
CTAO Charters Tower 44.86 175 *e*P **P 20 01 09.5 -0.7**
CTAO pmax pmax
comp=Z,17nm,1.1s
CTAO Charters Tower 44.86 175 *e*P **P 20 01 09.5 -0.7**
comp=Z,17nm,1.1s
WRAB Tennant Creek 45.28 191 *e*P **P 20 01 12.0 -1.4**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 45.28 191 *e*P **P 20 01 12.0 -1.4**
comp=Z,17nm,0.9s
WRA Warramunga Arr 45.29 191 P **P 20 01 12.6 -1.0**
comp=Z,8.5nm,0.6s,baz=8.1,slow=8.7,SNR=76
WRA Warramunga Arr 45.29 191 P **P 20 01 12.6 -1.0**

BILL Bilibino 45.51 12 *e*P **P 20 01 15.2 +0.4**
BILL pmax pmax
comp=Z,14nm,1.1s
BILL Bilibino 45.51 12 *e*P **P 20 01 15.2 +0.4**
comp=Z,14nm,1.1s
LSA Lhasa 45.64 288 *e*P **P 20 01 18.5 +1.6**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 45.64 288 *e*P **P 20 01 18.5 +1.6**
comp=Z,3.9nm,0.8s
FITZ Fitzroy Crossi 45.81 203 P **P 20 01 17.4 -0.2**
comp=Z,3.8nm,0.7s,baz=70,slow=1.9,SNR=10.0
FITZ LR LR 20 17 54.4
comp=Z,82nm,20.8s,baz=111,slow=33
FITZ Fitzroy Crossi 45.81 203 P **P 20 01 17.4 -0.2**
PSI Prapat 47.41 249 P **P 20 01 31.9 +1.3**
comp=Z,10nm,0.7s,baz=40,slow=5.3,SNR=9.3
PSI LR LR 20 20 55.0
comp=Z,206nm,18.6s,baz=243,slow=35
PSI Prapat 47.41 249 P **P 20 01 31.9 +1.3**
PSI Prapat 47.41 249 P P 20 01 25.2 -5.3
comp=Z,17nm,0.9s
WMQ Urumqi 48.15 307 *e*P **P 20 01 36.1 +0.2**
WMQ pmax pmax
comp=Z,10.0nm,1.2s
WMQ LR LR
comp=N,130nm,17.0s
WMQ LR LR
comp=E,160nm,20.0s
WMQ LR LR
comp=Z,190nm,18.0s
TAPN Taplejung 48.98 285 *e*P **P 20 01 44.1 +1.3**
comp=Z,20nm,0.9s
AS31 Alice Springs 49.00 191 *e*P **P 20 01 41.7 -0.8**
ASAR Alice Springs 49.01 191 P **P 20 01 41.0 -1.5**
comp=Z,1.5nm,0.8s,baz=12,slow=7.4,SNR=22
ASAR PcP **PcP 20 03 06.7 +0.5**
comp=Z,2.3nm,0.9s,baz=358,slow=3.8,SNR=5.7
ASAR Alice Springs 49.01 191 P **P 20 01 41.0 -1.5**
ASAR PcP **PcP 20 03 06.7 +0.5**
ODAN Odare 49.35 285 *e*P **P 20 01 46.7 +1.2**
comp=Z,42nm,1.1s
RAMN Ramite 50.02 285 *e*P **P 20 01 51.8 +1.1**
comp=Z,25nm,0.9s
JIRN Jiri 50.25 286 *e*P **P 20 01 54.2 +1.6**
comp=Z,8.7nm,0.6s
GUN Gumba 50.48 287 *e*P **P 20 01 55.6 +1.4**
comp=Z,36nm,0.8s
PKI Pulchoki 50.95 286 *e*P **P 20 01 58.6 +0.8**
KKN Kakani 51.02 286 *e*P **P 20 01 59.1 +0.9**
comp=Z,38nm,1.2s
DMN Daman 51.21 286 *e*P **P 20 02 00.5 +0.9**
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 51.38 320 *e*P **P 20 01 59.9 -0.2**
ZALV Zalesovo Beam 51.38 320 P **P 20 01 60.0 -0.1**
comp=Z,2.8nm,0.5s,baz=93,slow=5.9,SNR=20
ZALV PcP **PcP 20 03 14.2 -0.3**
comp=Z,2.7nm,0.7s,baz=106,slow=3.2,SNR=4.8
ZALV LR LR 20 25 16.9
comp=Z,204nm,19.1s,baz=250,slow=38
ZALV Zalesovo Beam 51.38 320 P **P 20 02 00.0 -0.1**
ZALV 20 03 14.2
ZALV Zalesovo Beam 51.38 320 P **P 20 01 60.0 -0.1**
ZALV PcP **PcP 20 03 14.2 -0.3**
GKN Gorkha 51.54 287 *e*P **P 20 02 02.9 +0.9**
comp=Z,50nm,1.2s
MK31 Makanchi Array 52.15 311 P **P 20 02 06.1 0.0**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 52.15 311 *e*P **P 20 02 06.0 -0.1**
DANN Dangsing 52.24 288 *e*P **P 20 02 08.7 +1.3**
comp=Z,39nm,0.7s
NVS Novosibirsk 52.45 321 *e*P P 20 01 55.4 -13
KURK Kurchatov 54.77 316 *e*P **P 20 02 24.9 -0.3**
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 54.77 316 *e*P **P 20 02 24.4 -0.9**
comp=Z,20nm,1.1s
STKA Stephens Creek 56.47 181 P **P 20 02 36.4 -1.1**
comp=Z,7.2nm,0.9s,baz=335,slow=5.9,SNR=14
STKA Stephens Creek 56.47 181 P **P 20 02 36.4 -1.1**
TKM2 Tokmak 2 56.97 306 *e*P **P 20 02 42.3 +0.9**
TKM2 pmax pmax
comp=Z,51nm,1.0s
TKM2 Tokmak 2 56.97 306 *e*P **P 20 02 42.3 +0.9**
comp=Z,51nm,1.0s
AAK Ala-Archa 57.80 306 *e*P **P 20 02 47.5 +0.3**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 57.80 306 *e*P **P 20 02 47.5 +0.3**
comp=Z,23nm,1.1s
EKS2 Erkin-Say 58.33 306 *e*P **P 20 02 51.2 +0.4**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 58.33 306 *e*P **P 20 02 51.2 +0.4**
comp=Z,4.2nm,0.9s
AFI Afiamalu 58.91 126 LR LR 20 23 39.7
comp=Z,202nm,19.8s,baz=299,slow=31
ILAR Eielson Array 59.47 28 P **P 20 02 57.3 -0.9**
comp=Z,6.6nm,1.0s,baz=257,slow=5.8,SNR=17
ILAR Eielson Array 59.47 28 P **P 20 02 57.3 -0.9**
VOSK Vostochnaya 59.55 318 P **P 20 02 58.1 -0.8**
VOSK pmax pmax
comp=Z,8.0nm,1.0s
BVA0 Borovoye Array 59.89 318 *i* P **P 20 03 01.2 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 59.89 318 P **P 20 03 01.4 0.0**
comp=Z,5.1nm,0.4s,baz=91,slow=7.7,SNR=50
BVAR Borovoye Array 59.89 318 P **P 20 03 01.4 0.0**
BVAR Borovoye Array 59.89 318 P **P 20 03 01.4 0.0**
BRVK Borovoye 59.96 318 *e*P **P 20 03 01.7 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 59.96 318 *e*P **P 20 03 01.6 -0.1**
comp=Z,6.9nm,0.6s
ZRNK Zerenda 60.73 318 P **P 20 03 06.7 -0.4**
ZRNK pmax pmax
comp=Z,9.0nm,1.1s
KBL Kabul 63.32 298 *e*P **P 20 03 25.1 0.0**
KBL pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 63.32 298 *e*P **P 20 03 25.1 0.0**
comp=Z,20nm,0.9s
INK Inuvik 64.88 24 P **P 20 03 34.3 0.0**
comp=Z,6.5nm,0.9s,baz=286,slow=5.6,SNR=13
INK Inuvik 64.88 24 P **P 20 03 34.3 0.0**
SVE Sverdlovsk 65.17 323⇓*e*P **P 20 03 36.6 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.9s
SVE MLR MLR
comp=Z,386nm,17.0s
ARU Arti 66.37 323*c i*P **P 20 03 44.0 -0.2**
ARU 20 06 07.7
ARU S **S 20 12 32.8 +1.0**
ARU SS **SS 20 16 48.9 +0.8**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 66.37 323 *e*P **P 20 03 43.8 -0.4**
comp=Z,7.3nm,0.6s
AB31 Akbulak array 66.88 315 *i* P **P 20 03 46.9 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 66.88 315 *e*P **P 20 03 47.1 -0.4**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 67.85 317 P **P 20 03 52.9 -0.8**
comp=Z,4.1nm,0.9s,baz=73,slow=12,SNR=12
AKTO Aktyubinsk 67.85 317 P **P 20 03 52.9 -0.8**
AKTO Aktyubinsk 67.85 317 P **P 20 03 52.9 -0.8**
RAR Rarotonga 72.39 124 LR LR 20 31 59.8
comp=Z,111nm,20.7s,baz=7.3,slow=32
SPITS Spitsbergen Ar 72.59 350 P **P 20 04 25.5 +3.1**
comp=Z,4.3nm,0.8s,baz=100,slow=8.1,SNR=5.4
SPITS Spitsbergen Ar 72.59 350 P **P 20 04 25.5 +3.1**
YKW3 Yellowknife Ar 73.87 28 *e*P **P 20 04 29.6 -0.4**
comp=Z,0.1nm,1.0s
YKA Yellowknife Ar 73.90 28 P **P 20 04 29.9 -0.3**
comp=Z,3.5nm,0.9s,baz=291,slow=5.6,SNR=43
YKA Yellowknife Ar 73.90 28 P **P 20 04 29.9 -0.3**
TMCR Tamitsa 73.94 334 *e*P **P 20 04 27.4 -3.0**
TMCR pmax pmax
comp=Z,28nm,1.1s
RES Resolute Bay 74.10 13 P **P 20 04 31.4 +0.2**
comp=Z,5.2nm,0.9s,baz=313,slow=7.1,SNR=21
RES Resolute Bay 74.10 13 P **P 20 04 31.4 +0.2**
KLMR Klimovskoe 74.65 330 *e*P **P 20 04 34.9 +0.3**

KLMR pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 75.72 341 P **P 20 04 41.5 +0.9**
comp=Z,6.4nm,0.9s,baz=69,slow=6.9,SNR=7.1
ARCES ARCESS Array B 75.72 341 P **P 20 04 41.5 +0.9**
JOF Joensuu 77.19 334 *e*P **P 20 04 47.9 -1.2**
JOF pmax pmax
comp=Z,11nm,0.7s
JOF Joensuu 77.19 334 *ep* **P 20 04 47.9 -1.2**
comp=Z,11nm,0.7s
VRHR Novokhopersk 77.51 321 *e*P **P 20 04 49.7 -1.4**
VRHR pmax pmax
comp=Z,6.0nm,0.9s
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
NEW Newport 78.29 42 P **P 20 04 55.4 -0.2**
comp=E,5.0nm,0.8s,baz=356,slow=2.5,SNR=6.8
NEW Newport 78.29 42 P **P 20 04 55.4 -0.2**
PPT Papeete 78.41 116 LR LR 20 32 17.7
comp=E,158nm,20.9s,baz=357,slow=30
OBN Obninsk 78.52 326⇓*e*P **P 20 04 56.9 +0.3**
OBN *e*S **S 20 14 54.7 +4.0**
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,300nm,21.0s
VSR Storozhevoye 78.86 321 *e*P **P 20 04 58.8 +0.2**
VORD Divnogorie 78.90 321 *e*P **P 20 04 58.9 +0.1**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
ZEI Tsey 79.48 312 *e*P **P 20 05 01.7 -0.8**
ZEI pmax pmax
comp=Z,6.0nm,1.2s
KAF Kangasniemi 79.59 335 *e*P **P 20 05 01.5 -0.9**
KAF pmax pmax
comp=Z,16nm,0.6s
KAF Kangasniemi 79.59 335 *ep* **P 20 05 01.5 -0.9**
comp=Z,16nm,0.6s
KBZ Khabaz 79.75 313 P **P 20 05 03.9 +0.3**
comp=Z,7.0nm,0.9s,baz=108,slow=2.6,SNR=13
KBZ LR LR 20 43 13.9
comp=Z,135nm,19.6s,baz=290,slow=38
KBZ Khabaz 79.75 313 P **P 20 05 03.9 +0.3**
KBZ Khabaz 79.75 313 P **P 20 05 03.9 +0.3**
BSMT Bassoo Peak 79.89 42 *e*P **P 20 05 04.2 -0.3**
comp=Z,4.4nm,1.1s
FIA1 FINESS Array S 80.06 334 *e*P **P 20 05 04.4 -0.5**
FINES FINESS Array B 80.06 334 P **P 20 05 05.2 +0.3**
comp=Z,8.0nm,0.4s,baz=64,slow=5.4,SNR=92
FINES FINESS Array B 80.06 334 P **P 20 05 05.2 +0.3**
JTMT Jette 80.24 42 *e*P **P 20 05 06.7 +0.3**
comp=Z,11nm,1.3s
SWMT Swartz Lake 80.52 42 *e*P **P 20 05 07.4 -0.4**
comp=Z,0.8nm,0.5s
SLMT Seeley Lake 80.94 42 *e*P **P 20 05 09.9 -0.3**
comp=Z,4.7nm,1.0s
NVAR Mina Array Bea 81.60 52 P **P 20 05 13.9 0.0**
comp=Z,3.2nm,0.9s,baz=276,slow=5.0,SNR=14
NVAR Mina Array Bea 81.60 52 P **P 20 05 13.9 0.0**
KBD Kabd 82.20 298 *e*P **P 20 05 17.5 +0.6**
LRM Limekiln Ridge 82.23 43 *e*P **P 20 05 17.3 +0.1**
comp=Z,78nm,1.2s
MIB Mutribah 82.23 299 *e*P **P 20 05 17.6 +0.5**
MIB AMb AMB 20 05 18.3
comp=Z,24nm,1.0s
RDF Al-Radifah 82.42 298 *e*P **P 20 05 19.0 +0.9**
RDF AMb AMB 20 05 19.8
comp=Z,22nm,1.4s
NAY Al-Naaiem 82.53 299 *e*P **P 20 05 19.0 +0.3**
NAY AMb AMB 20 05 26.5
comp=Z,16nm,0.9s
FFC Flin Flon 83.42 32 *e*P **P 20 05 23.3 +0.5**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 83.42 32 *e*P **P 20 05 23.3 +0.5**
comp=Z,12nm,1.0s
AKASG Malin Array Be 84.58 324 P **P 20 05 28.2 -0.6**
comp=Z,1.8nm,0.6s,baz=47,slow=6.3,SNR=8.1
AKASG Malin Array Be 84.58 324*ce*P **P 20 05 28.2 -0.6**
AKASG Malin Array Be 84.58 324*ce*P **P 20 05 28.5 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 84.58 324 P **P 20 05 28.2 -0.6**
AK01 Malin Array Si 84.60 324 *e*P **P 20 05 28.0 -0.8**
KIEV Kiev 84.60 324 *e*P **P 20 05 27.8 -1.0**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 84.60 324 *e*P **P 20 05 27.8 -1.0**
comp=Z,9.0nm,0.9s
AK02 Malin Array Si 84.62 324 *e*P **P 20 05 28.9 -0.1**
DUG Dugway 84.63 48 *e*P **P 20 05 29.6 +0.1**
DUG pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway 84.63 48 *e*P **P 20 05 29.6 +0.1**
comp=Z,8.8nm,1.2s
MALT Malatya 85.18 310 *e*P **P 20 05 33.0 +0.8**
MALT pmax pmax
comp=Z,7.0nm,1.1s
MALT Malatya 85.18 310 *e*P **P 20 05 33.0 +0.8**
comp=Z,6.9nm,1.1s
PDAR Pinedale Array 85.52 45 P **P 20 05 33.6 -0.4**
comp=Z,1.7nm,0.9s,baz=267,slow=2.5,SNR=8.7
PDAR LR LR 20 40 29.4
comp=Z,121nm,19.8s,baz=253,slow=33
PDAR Pinedale Array 85.52 45 P **P 20 05 33.6 -0.4**
SUW Suwalki 85.69 329 *e*P **P 20 05 34.3 +0.1**
SUW Suwalki 85.69 329 *e*P **P 20 05 33.4 -0.9**
SUW pmax pmax
comp=Z,59nm,0.9s
SUW Suwalki 85.69 329 *e*P **P 20 05 33.4 -0.9**
comp=Z,59nm,0.9s
SUW Suwalki 85.69 329 *e*P **P 20 05 34.3 +0.1**
NB2 NORSAR Subarra 85.77 339 P **P 20 05 33.9 -0.7**
baz=49,slow=4.6
NB2 NORSAR Subarra 85.77 339 P **P 20 05 33.9 -0.7**
comp=Z,20nm,1.1s,baz=49,slow=4.6
NOA NORSAR Array B 85.77 339 P **P 20 05 34.1 -0.5**
comp=Z,14nm,1.0s,baz=46,slow=4.8,SNR=27
NOA LR LR 20 49 47.2
comp=Z,82nm,19.4s,baz=35,slow=40
NOA NORSAR Array B 85.77 339 P **P 20 05 34.1 -0.5**
BR131 Keskin Array S 87.74 313 *e*P **P 20 05 44.5 -0.3**
comp=Z,0.7nm,0.7s
BRTR Keskin Array B 87.74 313 P **P 20 05 44.3 -0.5**
comp=Z,1.5nm,0.8s,baz=95,slow=3.9,SNR=9.7
BRTR Keskin Array B 87.74 313 P **P 20 05 44.3 -0.5**
BUR08 Bucovina Ar. S 88.50 323 P **P 20 05 47.5 -0.6**
ULM Lac du Bonnet 89.09 33 P **P 20 05 50.6 -0.1**
comp=Z,1.1nm,0.4s,baz=299,slow=8.5,SNR=3.4
ULM Lac du Bonnet 89.09 33 P **P 20 05 50.6 -0.1**
CRVS Cervenica-Dubn 89.71 326 *e*P **P 20 05 54.7 +1.0**
CRVS pmax pmax
comp=Z,6.0nm,1.2s
CRVS Cervenica-Dubn 89.71 326 *e*P **P 20 05 54.7 +1.0**
NIE Niedzica 89.96 326 *e*P **P 20 05 55.4 +0.5**
NIE Niedzica 89.96 326 *e*P **P 20 05 55.4 +0.5**
OKC Ostrava-Krasne 90.76 328 *e*P **P 20 05 59.4 +0.9**
OKC *e* 20 06 07.7
OKC Ostrava-Krasne 90.76 328 *e*P **P 20 05 59.4 +0.9**
OKC *ex* x 20 06 07.7
DPC Dobruska-Polom 91.28 329 *e*P **P 20 06 01.4 +0.4**
DPC *e* 20 06 11.2
DPC Dobruska-Polom 91.28 329 *e*P **P 20 06 01.4 +0.4**
DPC *e*pP **pP 20 06 11.2 +0.1**
VYHS Vyhne 91.30 326 *e*P **P 20 06 01.4 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 91.30 326 *e*P **P 20 06 01.4 +0.3**
UPC Upice 91.32 329 *e*P **P 20 06 01.3 +0.1**
UPC *e* 20 06 11.3
UPC Upice 91.32 329 *e*P **P 20 06 01.3 +0.1**
UPC *e*pP **pP 20 06 11.3 +0.1**
ANMO Albuquerque 91.62 50 P **P 20 06 02.0 -1.1**
comp=Z,3.3nm,1.0s,baz=312,slow=1.7,SNR=4.5
ANMO Albuquerque 91.62 50 P **P 20 06 02.0 -1.1**
BRG Berggiesshubel 92.02 330 *e*P pP 20 06 19.1 +4.7
comp=Z,5.0nm,1.0s
CLL Collm 92.12 331 *i* P **P 20 06 04.2 -0.6**
CLL *e* 20 06 19.0

CLL				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CLL	**Collm**	**92.12**	**331**	*i* P	**P**	**20**	**06**	**04.2 -0.6**
	comp=Z,6.0nm,1.1s							
CLL				*e*pP	**pP**	**20**	**06**	**19.0 +4.1**
PRU	**Pruhonice**	**92.36**	**329**	*e*P	**P**	**20**	**06**	**05.7 -0.3**
PRU	**Pruhonice**	**92.36**	**329**	*e*P	**P**	**20**	**06**	**05.7 -0.3**
KHC	**Kasperske Hory**	**93.41**	**329**	*e*P	**P**	**20**	**06**	**10.8 -0.1**
KHC				*e*		20	06	19.0
KHC	**Kasperske Hory**	**93.41**	**329**	*e*P	**P**	**20**	**06**	**10.8 -0.1**
KHC				*ex*	x	20	06	19.0
GERES	**GERESS Array B**	**93.56**	**329**	P	**P**	**20**	**06**	**10.9 -0.7**
	comp=Z,2.0nm,0.9s,baz=41,slow=4.3,SNR=13							
GERES				LR	LR	20	51	46.4
	comp=Z,89nm,18.4s,baz=264,slow=38							
GERES	**GERESS Array B**	**93.56**	**329**	P	**P**	**20**	**06**	**10.9 -0.7**
TXAR	**Lajitas Array**	**96.63**	**54**	P	**P**	**20**	**06**	**26.7 +0.7**
	comp=Z,0.9nm,0.9s,baz=38,slow=4.6,SNR=3.2							
TXAR				LR	LR	20	50	54.5
	comp=Z,78nm,18.9s,baz=105,slow=36							
TXAR	**Lajitas Array**	**96.63**	**54**	P	**P**	**20**	**06**	**26.8 +0.7**
TORD	**Torodi Ar. Bea**	**126.27**	**310**	PKP	**PKPdf**	**20**	**11**	**58.8 -0.1**
	comp=Z,0.7nm,1.0s,baz=36,slow=1.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**126.27**	**310**	PKP	**PKPdf**	**20**	**11**	**58.8 -0.1**
PLCA	**Paso Flores**	**148.23**	**128**	PKPbc	**PKPbc**	**20**	**12**	**41.4 -0.3**
	comp=Z,7.5nm,1.0s,baz=215,slow=4.5,SNR=7.8							
PLCA	**Paso Flores**	**148.23**	**128**	PKPbc	**PKPbc**	**20**	**12**	**41.4 -0.3**
LPAZ	**La Paz**	**150.07**	**79**	PKPbc	**PKPbc**	**20**	**12**	**48.3 +0.7**
	comp=Z,5.1nm,0.8s,baz=351,slow=4.9,SNR=9.2							
LPAZ				PKPab	**PKPab**	**20**	**12**	**52.4 -1.1**
	comp=Z,4.2nm,0.7s,baz=342,slow=8.5,SNR=6.7							
LPAZ	**La Paz**	**150.07**	**79**	PKPbc	**PKPbc**	**20**	**12**	**48.3 +0.7**
LPAZ				*e*PKPdf	**PKPbc**	**20**	**12**	**48.4 +0.7**
LPAZ				PKPab	**PKPab**	**20**	**12**	**52.4 -1.1**
SAML	**Samuel**	**150.79**	**62**	*e*PKPdf	**PKPdf**	**20**	**12**	**42.2 -0.9**
CFAA	**Coronel Fontan**	**152.12**	**111**	PKPbc	**PKPbc**	**20**	**12**	**50.9 -0.5**
	comp=Z,0.5nm,0.8s,baz=249,slow=3.1,SNR=5.4							
CFAA	**Coronel Fontan**	**152.12**	**111**	PKPbc	**PKPbc**	**20**	**12**	**50.9 -0.5**
SIV	**San Ignacio**	**156.17**	**73**	PKP	**PKPdf**	**20**	**12**	**50.9 +0.2**
	comp=Z,1.7nm,0.9s,baz=310,slow=7.9,SNR=5.0							
SIV	**San Ignacio**	**156.17**	**73**	PKP	**PKPdf**	**20**	**12**	**50.9 +0.2**

VIE ***16*** *19:58:30.1, 17°.52S×179°.87W, h513km, mb3.9 194 km ENE of Suva*

ISCJB ***16*** *19:58:34.9±0.5, 18°.08S±0°.1×179°.81W±0°.10, h600km, mb4.1/19, Error ellipse: s-maj=17.2km s-min=10.2km az=150.5*

IDC ***16*** *19:58:35.9±1.7, 17°.91S×179°.78W, h598km±22km, mb3.5/18, mb1 3.8/20, mb1mx3.7/25, mbtmp3.6/20, Error ellipse: s-maj=16.7km s-min=10.3km az=154.0*

ISC 16 19:58:36.4±0.5, 18°.08S±0°.1×179°.87W±0°.09, h600km, n31, σ1°.71/31, mb4.0/19, 3C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
AFI	**Afiamalu**	**8.78**	**64**	P	**P**	**20**	**00**	**43.1 -0.2**
	20nm,0.3s,baz=224,slow=2.9,SNR=17							
AFI				S	**S**	**20**	**02**	**31.3 +4.0**
	2.0nm,0.3s,baz=246,slow=20,SNR=2.3							
DZM	**Mont Dzumac**	**13.49**	**250**	P	**P**	**20**	**01**	**31.6 +1.3**
	2.6nm,0.3s,baz=72,slow=16,SNR=20							
DZM	**Mont Dzumac**	**13.49**	**250**	*e*P	**P**	**20**	**01**	**31.3 +1.0**
RPZ	**Rata Peaks**	**26.78**	**195**	P	**P**	**20**	**03**	**29.2 -0.8**
	8.2nm,0.5s,baz=9.3,slow=3.7,SNR=7.5							
PPT	**Papeete**	**28.84**	**94**	P	**P**	**20**	**03**	**46.0 -2.3**
	27nm,0.6s,baz=239,slow=19,SNR=4.4							
STKA	**Stephens Creek**	**37.38**	**241**	P	**P**	**20**	**05**	**00.8 +1.1**
	29nm,0.5s,baz=91,slow=9.6,SNR=87							
WRA	**Warramunga Arr**	**43.25**	**260**	P	**P**	**20**	**05**	**46.0 -0.5**
	7.7nm,0.5s,baz=95,slow=7.1,SNR=99							
WRA				S	S	20	11	26.2 -5.4
	1.1nm,0.7s,baz=96,slow=14,SNR=6.3							
ASAR	**Alice Springs**	**43.43**	**254**	P	**P**	**20**	**05**	**48.3 +0.3**
	101nm,0.6s,baz=89,slow=8.1,SNR=1118							
ASAR				S	**S**	**20**	**11**	**31.0 -3.1**
	4.7nm,0.9s,baz=92,slow=16,SNR=27							
FITZ	**Fitzroy Crossi**	**51.64**	**261**	P	**P**	**20**	**06**	**49.3 +0.1**
	3.3nm,0.6s,baz=103,slow=6.5,SNR=18							
VNDA	**Vanda**	**60.26**	**185**	P	**P**	**20**	**07**	**48.3 +0.8**
	0.7nm,0.6s,baz=49,slow=6.7,SNR=2.6							
MJAR	**Matsushiro Arr**	**67.14**	**324**	P	**P**	**20**	**08**	**31.1 -0.7**
	3.7nm,0.6s,baz=165,slow=6.2,SNR=10							
FX1	**Attu Island--F**	**70.82**	**356**	P	**P**	**20**	**08**	**51.5 -1.9**
	5.7nm,0.6s,baz=180,slow=1.0,SNR=3.3							
KSRS	**Korea Array**	**73.83**	**319**	P	**P**	**20**	**09**	**11.7 +0.6**
	1.1nm,0.8s,baz=126,slow=5.9,SNR=3.8							
YBH	**Yreka Blue Hor**	**79.47**	**40**	P	**P**	**20**	**09**	**41.6 -0.2**
	6.3nm,0.5s,baz=294,slow=12,SNR=3.7							
NVAR	**Mina Array Bea**	**80.45**	**44**	P	**P**	**20**	**09**	**46.8 -0.4**
	4.7nm,0.8s,baz=230,slow=4.1,SNR=20							
ILAR	**Eielson Array**	**86.28**	**14**	P	P	20	10	12.8 -2.3
	2.0nm,0.8s,baz=230,slow=6.0,SNR=17							
TXAR	**Lajitas Array**	**87.21**	**58**	P	**P**	**20**	**10**	**21.0 +0.5**
	4.8nm,0.9s,baz=222,slow=5.0,SNR=19							
ANMO	**Albuquerque**	**87.24**	**52**	P	**P**	**20**	**10**	**20.2 -0.4**
	0.9nm,0.5s,baz=206,slow=6.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**87.60**	**290**	P	**P**	**20**	**10**	**24.0 +1.6**
	0.4nm,0.9s,baz=134,slow=3.9,SNR=4.0							
PDAR	**Pinedale Array**	**88.37**	**44**	P	**P**	**20**	**10**	**24.8 -0.9**
	1.4nm,0.8s,baz=202,slow=2.3,SNR=10							
SONM	**Songino Array**	**92.70**	**320**	P	**P**	**20**	**10**	**46.9 +1.5**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.4							
YKA	**Yellowknife Ar**	**94.98**	**25**	P	**P**	**20**	**10**	**53.6 -1.7**
	0.5nm,0.6s,baz=245,slow=4.6,SNR=6.6							
ARCES	**ARCESS Array B**	**126.13**	**349**	PKP	**PKPdf**	**20**	**16**	**29.0 -1.8**
	2.5nm,0.8s,baz=17,slow=0.9,SNR=7.1							
FINES	**FINESS Array B**	**132.87**	**343**	PKP	**PKPdf**	**20**	**16**	**43.2 -0.6**
	2.8nm,1.1s,baz=0.0,slow=3.8,SNR=4.3							
BRTR	**Keskin Array B**	**143.83**	**314**	PKP	PKPbc	20	17	03.0 -1.0
	0.4nm,0.6s,baz=13,slow=3.1,SNR=2.8							
CLL	**Collm**	**145.21**	**346**	⇑*i*P	**PKPdf**	**20**	**17**	**06.6 +0.2**
	comp=Z,6.0nm,0.8s							
BRG	**Berggiesshubel**	**145.38**	**345**	*e*(P)	**PKPdf**	**20**	**17**	**07.4 +0.7**
	comp=Z,4.5nm,0.9s							
GERES	**GERESS Array B**	**147.30**	**343**	PKPbc	**PKPdf**	**20**	**17**	**12.5 +2.3**
	comp=Z,1.0nm,0.5s,baz=13,slow=2.9,SNR=13							
KBA	**Koelnbreinsper**	**149.00**	**342**	⇑*i*PKPbc	**PKPdf**	**20**	**17**	**16.0 +2.9**
	comp=Z,2.8nm,0.8s							
WTTA	**Wattenberg**	**149.30**	**345**	⇑*i*PKPbc	**PKPbc**	**20**	**17**	**17.5 -1.2**
	comp=Z,2.6nm,0.4s							
ABTA	**Abfaltersbach**	**149.54**	**343**	⇓*i*PKPbc	**PKPdf**	**20**	**17**	**17.4 +3.6**
	comp=Z,3.2nm,0.8s							

IDC 16 20:06:04.6±1.3, 24°.78N×142°.18E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=55.5km s-min=22.3km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CBIJ	**Chichi jima**	**2.31**	**0**	Pn	Pn	20	06	45.1 +1.2
	7.8nm,0.3s,baz=281,slow=19,SNR=19							
CBIJ				Sn	Sn	20	07	14.3 +1.3
	24nm,0.3s,baz=289,slow=23,SNR=14							
WRA	**Warramunga Arr**	**45.10**	**190**	P	P	20	14	23.1 +0.3
	0.5nm,0.6s,baz=0.4,slow=8.7,SNR=7.5							
ZALV	**Zalesovo Beam**	**51.24**	**320**	P	P	20	15	09.8 -0.1
	0.4nm,0.5s,baz=115,slow=6.8,SNR=3.3							
YKA	**Yellowknife Ar**	**74.18**	**28**	P	P	20	17	42.5 -0.4
	0.1nm,0.5s,baz=292,slow=5.9,SNR=3.1							
FINES	**FINESS Array B**	**80.02**	**334**	P	P	20	18	15.4 -0.3
	5.4nm,1.0s,baz=64,slow=6.5,SNR=7.0							

ISCJB ***16*** *20:06:46.7±0.6, 37°.85N±0°.06×135°.50E±0°.09, h365km, mb2.7/1, Error ellipse: s-maj=9.2km s-min=8.0km az=169.9*

JMA ***16*** *20:06:46.7±0.4, 37°.75N×135°.48E, h371km±4km, M2.7*

IDC ***16*** *20:06:47.1±1.3, 37°.74N×135°.58E, h371km±23km, mb2.6/1, mb1 2.8/5, mb1mx2.5/27, mbtmp2.8/5, Error ellipse: s-maj=31.4km s-min=27.9km az=124.0*

ISC 16 20:06:46.7±1.0, 37°.84N±0°.08×135°.56E±0°.09, h365km, n16, σ1°.33/20, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JHG	**Hegura jima**	**1.08**	**89**	P	**Pn**	**20**	**07**	**35.5 +1.2**
JSD	**Sado**	**2.15**	**84**	P	**Pn**	**20**	**07**	**41.3 +1.0**
MAT	**Matsushiro**	**2.48**	**121**	P	**Pn**	**20**	**07**	**43.4 +0.5**
MAT				S	**S**	**20**	**08**	**28.7 +0.5**
MAT	**Matsushiro**	**2.48**	**121**	P	**Pn**	**20**	**07**	**43.6 +0.7**
MJAR	**Matsushiro Arr**	**2.48**	**121**	P	**Pn**	**20**	**07**	**43.8 +0.9**
	1.2nm,0.3s,baz=297,slow=9.4,SNR=23							
JNG	**Nsakai**	**2.49**	**124**	P	**Pn**	**20**	**07**	**43.7 +0.6**
JNG				*e*S	**S**	**20**	**08**	**28.5 +0.1**
JWT	**Wachi**	**2.56**	**183**	P	**Pn**	**20**	**07**	**43.5 -0.1**
JWT				*e*S	**S**	**20**	**08**	**26.8 -2.5**
JAW	**Awa shima**	**2.97**	**77**	P	**Pn**	**20**	**07**	**48.6 +1.7**
JRY	**Ryogami san**	**3.24**	**123**	P	**Pn**	**20**	**07**	**51.1 +1.7**
JIE	**Ise**	**3.57**	**165**	P	**Pn**	**20**	**07**	**52.7 +0.3**
JFT	**Otama**	**3.81**	**93**	P	**Pn**	**20**	**07**	**55.1 +0.5**
JHJ	**Hachijo jima 2**	**5.84**	**143**	P	Pn	20	08	10.8 -5.4
	4.4nm,0.3s,baz=0.0,slow=20,SNR=2.7							
JHJ				S	**S**	**20**	**09**	**28.5 -0.4**
	5.5nm,0.3s,baz=60,slow=20,SNR=2.8							
KSRS	**Korea Array**	**6.07**	**269**	P	**Pn**	**20**	**08**	**19.6 +0.9**
	0.2nm,0.3s,baz=89,slow=13,SNR=4.5							
USRK	**Ussuriysk Arra**	**6.90**	**338**	P	**P**	**20**	**08**	**30.1 +0.9**
	1.0nm,0.3s,baz=146,slow=11,SNR=12							
ASAJ	**Asahikawa**	**8.22**	**38**	P	**Pn**	**20**	**08**	**44.4 +1.0**
	1.3nm,0.3s,baz=242,slow=12,SNR=20							
ASAJ				S	**S**	**20**	**10**	**15.8 -3.2**
	0.4nm,0.3s,baz=304,slow=33,SNR=9.8							
CMAR	**Chiang Mai Arr**	**37.30**	**249**	P	**P**	**20**	**13**	**25.1 -0.3**
	0.3nm,0.6s,baz=47,slow=9.1,SNR=3.7							

IDC 16 20:17:04.5±2.2, 24°.77N×142°.02E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/25, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=138.0km s-min=22.3km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CBIJ	**Chichi jima**	**2.32**	**4**	Pn	Pn	20	17	44.6 +0.6
	7.1nm,0.3s,baz=249,slow=15,SNR=11							
CBIJ				Sn	Sn	20	18	13.4 +0.1
	24nm,0.3s,baz=104,slow=23,SNR=13							
MJAR	**Matsushiro Arr**	**12.18**	**345**	Pn	Pn	20	20	00.1 +0.7
	0.3nm,0.3s,baz=160,slow=10,SNR=5.3							
WRA	**Warramunga Arr**	**45.07**	**190**	P	P	20	25	22.5 +0.1
	0.3nm,0.5s,baz=12,slow=8.9,SNR=5.7							
FINES	**FINESS Array B**	**79.96**	**334**	P	P	20	29	14.9 -0.4
	0.7nm,0.3s,baz=55,slow=5.7,SNR=10							

ISK ***16*** *20:27:28.8, 38°.46N×39°.59E, h10km, MD2.8*

ISCJB ***16*** *20:27:30.8±0.5, 38°.54N±0°.04×39°.52E±0°.05, h24km±7km, Error ellipse: s-maj=6.3km s-min=6.0km az=146.6*

DDA ***16*** *20:27:30.2, 38°.47N×39°.53E, h7km, MD2.8*

CSEM ***16*** *20:27:30.5±0.3, 38°.53N×39°.45E, h20km, MD2.8, Error ellipse: s-maj=8.1km s-min=7.8km az=115.0*

ISC 16 20:27:30.0±1.3, 38°.52N±0°.03×39°.50E±0°.04, h13km±11km, n18, σ0°.72/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PTK	**Pertek**	**0.38**	**348**	*e*PG	**Pg**	**20**	**27**	**38.3 +0.6**
PTK				*e*SG	**Sb**	**20**	**27**	**45.3 +0.7**
PTK	**Pertek**	**0.38**	**348**	*e*Pg	**Pg**	**20**	**27**	**38.3 +0.6**
PTK				*e*Sg	**Sb**	**20**	**27**	**45.3 +0.7**
ELZG	**Elazig**	**0.40**	**267**	*e*P	**Pg**	**20**	**27**	**38.0 -0.1**
ELZG				*i* S	**Sb**	**20**	**27**	**46.1 +0.9**
ELZG	**Elazig**	**0.40**	**267**	*e*P	**Pg**	**20**	**27**	**38.0 -0.1**
ELZG				*i* S	**Sb**	**20**	**27**	**46.1 +0.9**
DIYA	**Diyarbakir**	**0.77**	**140**	*e*P	**Pb**	**20**	**27**	**45.4 +0.1**
DIYA				*i* S	**Sb**	**20**	**27**	**56.0 +0.2**
DIYA	**Diyarbakir**	**0.77**	**140**	*e*P	**Pb**	**20**	**27**	**45.4 +0.1**
DIYA				*i* S	**Sb**	**20**	**27**	**56.0 +0.2**
BINT	**Bingol**	**0.85**	**65**	*e*Pg	**Pn**	**20**	**27**	**48.4 +0.5**
MYA	**Malataya**	**0.86**	**257**	*e*PG	**Pg**	**20**	**27**	**46.1 -0.6**
MYA	**Malataya**	**0.86**	**257**	*e*Pg	**Pg**	**20**	**27**	**46.1 -0.6**
MALT	**Malatya**	**0.86**	**256**	*e*PG	**Pg**	**20**	**27**	**46.6 -0.2**
MALT				*e*SG	**Sn**	**20**	**28**	**00.7 +0.2**
MALT	**Malatya**	**0.86**	**256**	*e*Pg	**Pg**	**20**	**27**	**46.6 -0.2**
BNGB	**Bing ¶ll**	**1.04**	**63**	*e*PG	**Pb**	**20**	**27**	**48.4 -1.5**
ERZN	**Erzincan**	**1.08**	**9**	*e*PN	**Pb**	**20**	**27**	**50.9 +0.3**
ILIC	**ilic-Erzincan**	**1.18**	**322**	*e*PN	**Pg**	**20**	**27**	**53.0 +0.4**
ILIC	**ilic-Erzincan**	**1.18**	**322**	*e*Pn	**Pg**	**20**	**27**	**53.1 +0.4**
URFA	**Urfa**	**1.20**	**206**	*e*PN	**Pn**	**20**	**27**	**52.6 0.0**
URFA				*e*SN	**Sn**	**20**	**28**	**09.1 +0.3**
URFA	**Urfa**	**1.20**	**206**	*e*Pn	**Pn**	**20**	**27**	**52.6 0.0**
URFA				*e*Sn	**Sn**	**20**	**28**	**09.1 +0.3**
EZC	**Erzincan**	**1.23**	**355**	*e*Pn	**Pn**	**20**	**27**	**50.9 -2.2**

ISCJB ***16*** *20:49:01.0±0.2, 45°.11N±0°.01×106°.90W±0°.02, h0km, Error ellipse: s-maj=2.1km s-min=2.1km az=44.0*

IDC ***16*** *20:49:00.4±1.4, 44°.53N×106°.28W, h0km, mb1 3.2/3, mb1mx3.1/28, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=46.0km s-min=9.1km az=140.0*

NEIC ***16*** *20:49:01.2±0.9, 45°.32N×106°.82W, h0km, ML2.4, Error ellipse: s-maj=18.7km s-min=9.7km az=167.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] N of Sheridan.

ISC 16 20:49:00.3±0.7, 45°.08N±0°.02×106°.88W±0°.02, h0km, n59, σ0°.86/81, 29C-35D, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
G21A	**Lodge Grass**	**0.28**	**302**	⇑P	**Pg**	**20**	**49**	**06.1 +0.6**
	baz=0.3,SNR=79							
G21A				⇓S	**Sg**	**20**	**49**	**09.4 +0.3**
	baz=0.3							
G22A	**Birney**	**0.43**	**71**	⇓P	**Pb**	**20**	**49**	**09.9 -1.0**
	baz=0.4,SNR=19							
H21A	**Big Horn, Sher**	**0.47**	**195**	⇓P	**Pb**	**20**	**49**	**10.5 -1.0**
	baz=0.7,SNR=16							
H22A	**Clearmont**	**0.61**	**142**	⇑P	**Pb**	**20**	**49**	**13.6 -0.3**
	baz=0.8,SNR=15							
F21A	**Absaloka Mine,**	**0.76**	**347**	⇑P	**Pg**	**20**	**49**	**14.9 0.0**
	baz=0.5							
F21A				⇓S	**Sg**	**20**	**49**	**25.2 +0.4**
	baz=0.5							
F22A	**Rosebud**	**0.82**	**32**	⇑P	**Pg**	**20**	**49**	**16.6 +0.5**
	baz=0.6,SNR=36							
G20A	**Bridger**	**0.96**	**279**	P	**Pg**	**20**	**49**	**18.3 -0.4**
	baz=1.0,SNR=81							
H20A	**Greybull**	**1.00**	**234**	⇓P	**Pg**	**20**	**49**	**19.5 +0.1**
	baz=1.2,SNR=13							
G23A	**Biddle**	**1.06**	**83**	⇓P	**Pb**	**20**	**49**	**21.5 0.0**
	baz=1.0,SNR=52							
G23A				⇓S	**Sb**	**20**	**49**	**36.4 +0.5**
	baz=1.0							
F23A	**Volborg**	**1.22**	**58**	⇑P	**Pg**	**20**	**49**	**23.8 +0.2**
	baz=1.1							
F23A				⇓S	**Sb**	**20**	**49**	**41.1 +0.6**
	baz=1.1							
I22A	**9 Mile Ranch,**	**1.22**	**167**	⇓P	**Pn**	**20**	**49**	**24.7 0.0**
	baz=1.4,SNR=34							
I22A				⇑S	**Sn**	**20**	**49**	**41.9 -0.2**
	baz=1.4							
I21A	**Big Trails, Te**	**1.30**	**193**	⇑P	**Pg**	**20**	**49**	**25.0 -0.3**
	baz=1.5,SNR=58							
I20A	**Worland**	**1.44**	**219**	⇓P	**Pn**	**20**	**49**	**27.7 -0.1**
	baz=1.7,SNR=8.4							
I20A				⇑S	**Sn**	**20**	**49**	**47.9 +0.4**
	baz=1.7							
E21A	**Keefer Ranch,**	**1.47**	**355**	⇓S	**Sn**	**20**	**49**	**48.3 +0.2**
	baz=1.2							
E22A	**Miles City**	**1.50**	**25**	⇑P	**Pn**	**20**	**49**	**28.5 -0.1**
	baz=1.3							
E22A				⇓S	**Sn**	**20**	**49**	**49.7 +0.7**
	baz=1.3							
H19A	**Powell**	**1.56**	**255**	⇑P	**Pn**	**20**	**49**	**29.5 +0.1**
	baz=1.7,SNR=16							
H19A				⇓S	**Sb**	**20**	**49**	**50.8 +0.5**
	baz=1.7							
F19A	**Roth Farm, Mol**	**1.65**	**299**	⇑P	**Pn**	**20**	**49**	**30.5 -0.2**
	baz=1.6,SNR=47							
F19A				⇓S	**Sn**	**20**	**49**	**52.8 +0.2**
	baz=1.6							
E20A	**Meyer Farm, Mu**	**1.67**	**329**	⇓P	**Pn**	**20**	**49**	**31.1 +0.1**
	baz=1.5,SNR=36							
E20A				⇑S	**Sn**	**20**	**49**	**53.7 +0.6**
	baz=1.5							
H24A	**Dirks Ranch, A**	**1.68**	**101**	P	**Pb**	**20**	**49**	**32.2 0.0**
	baz=1.7,SNR=48							
H24A				⇑S	**Sg**	**20**	**49**	**54.6 +0.3**
	baz=1.7							
J22A	**Midwest**	**1.69**	**170**	⇓P	**Pb**	**20**	**49**	**32.1 -0.3**
	baz=1.9,SNR=12							
J22A				⇓S	**Sg**	**20**	**49**	**55.1 +0.4**
	baz=1.9							
RLMT	**Red Lodge**	**1.69**	**272**	*e*P	**Pn**	**20**	**49**	**30.9 -0.5**
RLMT	**Red Lodge**	**1.69**	**272**	⇓P	**Pn**	**20**	**49**	**31.4 +0.1**
	baz=1.7,SNR=18							
RLMT				⇓S	**Sn**	**20**	**49**	**54.0 +0.2**
	baz=1.7							
RLMT				⇓S	**Sn**	**20**	**49**	**54.0 +0.2**
	baz=1.7							
G24A	**Alzada**	**1.75**	**81**	⇑P	**Pb**	**20**	**49**	**32.9 -0.6**
	baz=1.7,SNR=14							
G24A				⇓S	**Sg**	**20**	**49**	**56.8 +0.1**
	baz=1.7							
J21A	**Lysite**	**1.78**	**194**	⇑P	**Pn**	**20**	**49**	**33.2 +0.6**
	baz=2.0,SNR=5.4							
J21A				⇑S	**Sb**	**20**	**49**	**57.4 +0.5**
	baz=2.0							
I19A	**Meeteetse**	**1.84**	**236**	⇑P	**Pn**	**20**	**49**	**33.7 +0.3**
	baz=2.0							
F24A	**Ekalaka**	**1.87**	**65**	⇓S	**Sb**	**20**	**49**	**59.9 +0.5**
	baz=1.7							
G18A	**Lazy EL Ranch,**	**1.92**	**278**	P	**Pn**	**20**	**49**	**34.8 +0.4**
	baz=1.9,SNR=38							
G18A				⇑S	**Sn**	**20**	**49**	**59.5 +0.3**
	baz=1.9							
E19A	**Rath Farm, Rou**	**1.92**	**317**	⇓P	**Pn**	**20**	**49**	**34.6 +0.2**
	baz=1.8,SNR=16							
E19A				⇑S	**Sn**	**20**	**50**	**00.2 +0.9**
	baz=1.8							
J23A	**Dilts Ranch, B**	**1.93**	**150**	⇓P	**Pn**	**20**	**49**	**35.3 +0.8**
	baz=2.1,SNR=16							
J23A				⇓S	**Sg**	**20**	**50**	**02.0 -0.2**
	baz=2.1							
J20A	**Shoshoni**	**1.93**	**207**	⇑Sb	**Sg**	**20**	**50**	**02.6 +0.2**
	baz=2.2							
D21A	**La Casta Ranch**	**1.99**	**358**	⇑P	**Pn**	**20**	**49**	**35.6 +0.4**
	baz=1.8,SNR=9.2							
D21A				⇑S	**Sb**	**20**	**50**	**02.6 -0.1**
	baz=1.8							
I24A	**Kuemmerle Ranc**	**2.02**	**126**	⇓P	**Pn**	**20**	**49**	**36.5 +0.8**
	baz=2.1,SNR=11							
I24A				⇓S	**Sb**	**20**	**50**	**04.1 +0.4**
	baz=2.1							
H18A	**Shoshone NF, C**	**2.02**	**259**	⇓P	**Pn**	**20**	**49**	**36.0 +0.1**
	baz=2.1,SNR=12							
H18A				⇑S	**Sn**	**20**	**50**	**02.9 +0.9**
	baz=2.1							
GCMT	**Greycliff**	**2.09**	**291**	*e*P	**Pn**	**20**	**49**	**36.7 -0.1**
D22A	**Cohagen**	**2.12**	**13**	⇓P	**Pn**	**20**	**49**	**37.9 +0.7**
	baz=1.9,SNR=5.7							
D22A				⇑S	**Sb**	**20**	**50**	**06.0 -0.6**
	baz=1.9							
F18A	**Big Timber**	**2.16**	**293**	⇑P	**Pn**	**20**	**49**	**37.9 +0.2**
	baz=2.1,SNR=20							
F18A				⇑S	**Sn**	**20**	**50**	**05.9 +0.6**
	baz=2.1							
RSSD	**Black Hills**	**2.24**	**114**	*e*P	**Pb**	**20**	**49**	**40.7 -1.1**
E24A	**Baker**	**2.33**	**50**	⇑P	**Pn**	**20**	**49**	**40.7 +0.8**
	baz=2.1,SNR=8.0							
J24A	**Dixon Ranch, L**	**2.37**	**137**	⇑Sb	**Sg**	**20**	**50**	**16.0 -0.3**
	baz=2.5							
D23A	**Lindsay**	**2.39**	**28**	⇓P	**Pn**	**20**	**49**	**41.6 +0.8**
	baz=2.2,SNR=9.2							
J19A	**Crowheart**	**2.40**	**222**	⇓Sb	**Sb**	**20**	**50**	**15.3 +0.7**
	baz=2.6							
K21A	**Alcova**	**2.46**	**186**	⇓Sb	**Sb**	**20**	**50**	**18.2 +1.7**
	baz=2.7							
E18A	**Harlowton**	**2.59**	**306**	⇑P	**Pn**	**20**	**49**	**43.6 0.0**
	baz=2.5,SNR=10							
YNR	**Norris Junctio**	**2.73**	**264**	*e*P	**Pb**	**20**	**49**	**48.8 -1.3**
FLWY	**Flagg Ranch**	**2.91**	**251**	*e*P	**Pn**	**20**	**49**	**50.9 +2.8**
C23A	**Lambert**	**

IDC 16 21:44:14.0±1.0, 3°61'N×126°83'E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, Error ellipse: s-maj=64.4km s-min=15.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	P	21 49 06.1	+0.4
	3.3nm,0.9s,baz=6.6,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**24.54**	**163**	P	P	21 49 34.8	-0.9
	5.9nm,0.8s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	21 50 06.8	+0.2
	0.4nm,0.4s,baz=345,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**31.01**	**301**	P	P	21 50 33.7	0.0
	0.5nm,0.7s,baz=110,slow=6.9,SNR=4.1						
STKA	**Stephens Creek**	**37.98**	**159**	P	P	21 51 34.1	+0.4
	1.5nm,0.4s,baz=339,slow=9.5,SNR=4.9						
SONM	**Songino Array**	**47.44**	**341**	P	P	21 52 50.2	-0.4
	0.4nm,0.9s,baz=165,slow=10,SNR=2.8						
SONM				PcP	PcP	21 54 21.5	+0.4
	0.4nm,0.9s,baz=163,slow=3.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	P	21 54 35.3	+0.1
	1.1nm,0.6s,baz=128,slow=6.2,SNR=6.7						
BVAR	**Borovoye Array**	**67.47**	**327**	P	P	21 55 11.9	+0.2
	1.9nm,1.0s,baz=126,slow=7.5,SNR=4.7						
BRTR	**Keskin Array B**	**90.17**	**310**	P	P	21 57 16.2	-0.6
	1.1nm,1.0s,baz=140,slow=4.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**123.05**	**288**	PKP	PKPdf	22 03 13.0	-0.6
	0.5nm,0.8s,baz=26,slow=2.9,SNR=3.3						

*IDC **16** 21:52:55.1±3.9, 31°38'N×70°34'E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.3/30, mbtmp3.5/6, ML3.9/1, Error ellipse: s-maj=116.8km s-min=27.5km az=131.0*

ISC 16 21:53:00.7±1.3, 31°4'N±0.1×70°2'E±0.1, h35km, n23, σ1§29/23, mb3.4/4, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.88**	**43**	⇑P	**Pn**	**21 53 32.0**	**+1.7**
THW				S	Sn	21 53 59.0	+6.2
SARP	**Sargodha**	**2.14**	**76**	P	Pn	21 53 37.6	+3.7
CEP	**Cherat**	**2.78**	**30**	P	**Pn**	**21 53 44.6**	**+1.7**
CEP				S	Sn	21 54 22.0	+6.6
CHCP	**Chirah Chowk**	**3.40**	**48**	P	**Pn**	**21 53 53.6**	**+2.4**
PYUN	**Piuthan**	**11.56**	**103**	*eP*	**Pn**	**21 55 44.2**	**+0.7**
	12nm,0.4s						
AAK	**Ala-Archa**	**11.70**	**16**	Pn	**Pn**	**21 55 44.6**	**-0.6**
	0.8nm,0.3s,baz=163,slow=7.8,SNR=22						
AAK				Sn	**Sn**	**21 57 53.1**	**-1.5**
	0.1nm,0.3s,baz=319,slow=19,SNR=6.1						
DANN	**Dangsing**	**12.13**	**101**	*eP*	**Pn**	**21 55 51.8**	**+0.5**
KOLN	**Koldanda**	**12.18**	**104**	*eP*	**Pn**	**21 55 51.1**	**-0.9**
	8.6nm,0.5s						
GKN	**Gorkha**	**12.97**	**102**	*eP*	**Pn**	**21 56 02.1**	**-0.6**
DMN	**Daman**	**13.49**	**103**	*eP*	**Pn**	**21 56 09.6**	**-0.3**
KKN	**Kakani**	**13.58**	**102**	*eP*	**Pn**	**21 56 09.8**	**-1.2**
	7.9nm,0.6s						
PKIN	**Phulchoki**	**13.75**	**102**	*eP*	**Pn**	**21 56 12.0**	**-1.4**
PKI	**Pulchoki**	**13.76**	**102**	*eP*	**Pn**	**21 56 12.4**	**-1.2**
GUN	**Gumba**	**14.04**	**100**	*eP*	**Pn**	**21 56 17.0**	**-0.5**
	30nm,0.9s						
JIRN	**Jiri**	**14.38**	**101**	*eP*	**Pn**	**21 56 21.8**	**-0.4**
RAMN	**Ramite**	**14.97**	**103**	*eP*	**Pn**	**21 56 27.4**	**-2.5**
ODAN	**Odare**	**15.66**	**103**	*eP*	**Pn**	**21 56 37.5**	**-1.5**
TAPN	**Taplejung**	**15.76**	**100**	*eP*	**Pn**	**21 56 39.1**	**-1.2**
KURBB	**Kurchatov Arra**	**20.16**	**15**	P	**P**	**21 57 30.8**	**-1.0**
	0.9nm,0.8s,baz=206,slow=10,SNR=7.4						
BVAR	**Borovoye Array**	**21.59**	**0**	P	**P**	**21 57 47.2**	**-0.1**
	0.6nm,0.5s,baz=173,slow=11,SNR=5.7						
ZALV	**Zalesovo Beam**	**24.84**	**21**	P	**P**	**21 58 18.7**	**-0.9**
	0.8nm,0.4s,baz=224,slow=9.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**65.05**	**271**	P	**P**	**22 03 38.1**	**+0.2**
	0.2nm,0.7s,baz=62,slow=4.6,SNR=3.5						
YKA	**Yellowknife Ar**	**86.34**	**2**	P	**P**	**22 05 39.3**	**+0.5**
	0.1nm,0.4s,baz=347,slow=5.3,SNR=3.1						

*ISCJB **16** 22:11:19.4±0.8, 9°24S±0°06×107°18E±0°07, h21km, mb3.5/4, Error ellipse: s-maj=11.6km s-min=5.9km az=139.4*

*IDC **16** 22:11:20.7±3.8, 8°89S×107°74E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=136.2km s-min=27.4km az=58.0*

*DJA **16** 22:11:22.8±0.4, 9°S±4°×107°7E±°, h40km±30km, M4.2/14, mb4.5/1, MLv4.1/14*

ISC 16 22:11:21.9±1.1, 9°09S±0°08×107°31E±0°07, h21km, n17, σ1§29/18, mb3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.61**	**18**	P	**Pb**	**22 11 50.4**	**-0.5**
CISI				S	**Sb**	**22 12 10.6**	**-0.2**
CLJI	**Cilicap**	**2.17**	**51**	P	**Pn**	**22 11 53.8**	**-3.1**
SKJI	**Sukabumi**	**2.20**	**340**	P	**Pn**	**22 11 57.0**	**-0.3**
SKJI				S	**Sn**	**22 12 24.4**	**+0.5**
DBJI	**Dramaga**	**2.58**	**348**	P	**Pn**	**22 12 04.5**	**+2.0**
TGJI	**Tegal**	**2.85**	**39**	P	**Pn**	**22 12 07.5**	**+1.3**
CGJI	**Cibinong**	**2.94**	**327**	P	**Pn**	**22 12 08.0**	**+0.7**
CGJI				S	**Sn**	**22 12 42.3**	**+0.3**
BJII	**Banjamegara**	**2.95**	**54**	P	Pb	22 12 10.0	-3.9
UGM	**Wanagama**	**3.39**	**70**	P	**Pn**	**22 12 13.7**	**0.0**
PCJI	**Pacitan**	**3.93**	**77**	P	**Pn**	**22 12 22.9**	**+1.9**
KASI	**Kota Agung**	**4.51**	**322**	P	**Pn**	**22 12 27.6**	**-1.4**
PWJI	**Pagerwojo**	**4.58**	**77**	P	**Pn**	**22 12 31.2**	**+1.3**
GMJI	**Gumukmas**	**6.12**	**83**	P	Pn	22 12 54.6	+3.4
FITZ	**Fitzroy Crossi**	**19.93**	**119**	P	**P**	**22 15 51.7**	**-0.8**
	0.2nm,0.3s,baz=297,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**28.26**	**115**	P	**P**	**22 17 13.6**	**-0.3**
	0.2nm,0.3s,baz=287,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**29.27**	**123**	P	**P**	**22 17 22.5**	**-0.3**
	0.2nm,0.3s,baz=302,slow=8.7,SNR=3.9						
STKA	**Stephens Creek**	**39.04**	**130**	P	**P**	**22 18 47.4**	**0.0**
	2.2nm,0.6s,baz=307,slow=8.6,SNR=8.9						
SONM	**Songino Array**	**56.68**	**359**	P	**P**	**22 21 04.6**	**+0.8**
	0.2nm,0.4s,baz=176,slow=7.1,SNR=5.0						

*IDC **16** 22:36:15.0±0.6, 3°63N×126°54E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/24, mbtmp4.2/18, MS3.7/11, Ms1 3.7/11, ms1mx3.4/34, Error ellipse: s-maj=31.0km s-min=13.3km az=77.0*

*MOS **16** 22:36:18.1±1.2, 3°66N×126°46E, h33km, mb4.8/15, Error ellipse: s-maj=22.9km s-min=7.7km az=111.6*

*ISCJB **16** 22:36:20.3±0.3, 3°73N±0°03×126°60E±0°05, h53km, mb4.4/38, MS3.7/12, Error ellipse: s-maj=7.0km s-min=4.3km az=11.4*

*NEIC **16** 22:36:20.2±0.3, 3°70N×126°61E, h35km, mb4.6/15, Error ellipse: s-maj=10.2km s-min=5.7km az=77.0*

*DJA **16** 22:36:23.3±1.1, 4°N±10°×12°6E±°, h10km, M4.7/7, mb4.9/5, mB5.3/3, MLv4.5/7, Mw(mB)4.8/3*

ISC 16 22:36:22.2±0.5, 3°74N±0°05×126°64E±0°07, h53km, n120, σ1§31/114, mb4.4/37, MS3.7/12, 5C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**267**	P	**Pn**	**22 36 39.1**	**-2.4**
GSPH	**General Santos**	**2.88**	**324**	⇑*eP*	**Pn**	**22 37 03.9**	**-1.8**
MNI	**Manado**	**2.91**	**218**	P	**Pn**	**22 37 03.7**	**-2.3**
MNI				S	**Sn**	**22 37 38.6**	**-1.1**
TNTI	**Ternate**	**3.04**	**166**	P	**Pn**	**22 37 09.5**	**+1.7**
DAV	**Davao City (W)**	**3.47**	**342**	Pn	Pn	22 37 17.9	+4.1
	9.0nm,0.3s,baz=90,slow=6.1,SNR=3.2						
DAV				Sn	Sn	22 38 04.6	+11
	24nm,0.3s,baz=120,slow=20,SNR=3.9						
DAV	**Davao City (W)**	**3.47**	**342**	Pn	Pn	22 37 17.9	+4.1
DAV				Sn	Sn	22 38 04.6	+11
KMSI	**Cibinong**	**4.12**	**220**	P	**Pn**	**22 37 21.6**	**-1.0**
CTBH	**Cotabato--PC H**	**4.20**	**326**	⇑*iP*	**Pn**	**22 37 22.1**	**-1.7**
LBMI	**Labuha**	**4.43**	**169**	P	**Pn**	**22 37 29.2**	**+2.2**
MRSI	**Marisa**	**5.71**	**236**	P	**Pn**	**22 37 44.1**	**-0.3**
	181nm,1.1s,2μm0.6nm						
MRSI				S	**Sn**	**22 38 49.1**	**+0.4**
	181nm,1.1s,2μm0.6nm						
LUWI	**Luwuk**	**6.12**	**219**	P	**Pn**	**22 37 52.9**	**+2.7**
	300nm,1.1s,3μm0.9nm						
MYLDM	**Lahad Datu**	**8.24**	**280**	P	**Pn**	**22 38 20.7**	**+1.5**
	55nm,1.2s						
KDI	**Kendari**	**8.64**	**208**	P	**Pn**	**22 38 22.6**	**-2.0**
	32nm,0.8s						
TTSI	**Tana Toraja**	**9.59**	**225**	P	**Pn**	**22 38 38.9**	**+1.3**
KAPI	**Kappang**	**11.09**	**218**	Pn	**Pn**	**22 38 56.2**	**-2.0**
	0.4nm,0.3s,baz=62,slow=17,SNR=4.3						
KAPI	**Kappang**	**11.09**	**218**	Pn	**Pn**	**22 38 56.1**	**-2.0**
BBKI	**Banjar Baru**	**13.79**	**239**	P	P	22 39 45.4	+3.3
SBUM	**Sibu**	**14.46**	**265**	P	**P**	**22 39 51.1**	**+1.7**
STKI	**Sintang**	**15.59**	**257**	P	P	22 40 10.2	+8.2
KSM	**Kuching**	**16.47**	**263**	Pn	**Pn**	**22 40 08.7**	**-1.2**
	20nm,1.1s						
KSM				*e*Sn	**S**	**22 43 27.1**	**+5.6**
TPUB	**Ta-pu**	**20.30**	**344**	*e*Pn	**P**	**22 40 51.7**	**-2.1**
	27nm,0.6s						
GUMO	**Guam**	**20.49**	**60**	LR	LR	22 47 09.4	
	comp=Z,260nm,20.1s,baz=255,slow=32						
SSLB	**Suanglung**	**20.68**	**345**	*e*Pn	**P**	**22 40 55.8**	**-2.1**
	21nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	**P**	**22 41 07.7**	**-1.5**
	5.3nm,0.9s,baz=7.7,slow=11,SNR=7.5						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	*e*P	**P**	**22 41 08.5**	**-0.6**
JOW	**Kunigami**	**23.02**	**4**	LR	LR	22 49 04.0	
	comp=Z,156nm,21.4s,baz=170,slow=33						
JOW	**Kunigami**	**23.02**	**4**	P	P	22 41 17.7	-5.1
	5.5nm,0.8s						
WRAB	**Tennant Creek**	**24.71**	**162**	*e*P	**P**	**22 41 37.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,48nm,0.9s						
WRAB	**Tennant Creek**	**24.71**	**162**	*e*P	**P**	**22 41 37.3**	**-1.4**
	comp=Z,48nm,0.9s						
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**22 41 37.3**	**-1.4**
	comp=Z,9.5nm,0.6s,baz=343,slow=10.0,SNR=23						
WRA				S	**S**	**22 45 57.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=15,SNR=7.4						
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**22 41 37.3**	**-1.4**
WRA				S	**S**	**22 45 57.4**	**+0.1**
CBIJ	**Chichi jima**	**27.57**	**31**	LR	LR	22 51 37.0	
	comp=Z,119nm,20.0s,baz=156,slow=33						
PSI	**Prapat**	**27.69**	**269**	LR	LR	22 53 34.6	
	comp=Z,230nm,19.9s,baz=254,slow=38						
AS31	**Alice Springs**	**28.14**	**166**	*e*P	**P**	**22 42 09.9**	**+0.3**
ASAR	**Alice Springs**	**28.14**	**166**	P	**P**	**22 42 08.6**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=347,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**28.14**	**166**	P	**P**	**22 42 08.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**22 42 34.1**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=120,slow=8.3,SNR=6.7						
CMAR				LR	LR	22 54 29.8	
	comp=Z,103nm,20.8s,baz=120,slow=36						
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**22 42 34.1**	**+1.0**
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P	**P**	**22 42 37.1**	**+2.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P	**P**	**22 42 37.1**	**+2.6**
	comp=Z,3.2nm,0.9s						
ENH	**Enshi**	**30.98**	**330**	*e*P	**P**	**22 42 34.8**	**+0.1**
	comp=Z,8.1nm,0.7s						
KSAR	**Wonju Array Be**	**33.56**	**2**	P	**P**	**22 42 58.1**	**+1.0**
KSRS	**Korea Array**	**33.58**	**2**	P	**P**	**22 42 58.2**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=186,slow=11,SNR=6.8						
MJAR	**Matsushiro Arr**	**34.34**	**17**	LR	LR	22 56 50.1	
	comp=Z,137nm,19.5s,baz=210,slow=36						
BJT	**Baijiatuau**	**37.34**	**347**	*e*P	**P**	**22 43 27.4**	**-2.2**
	comp=Z,27nm,0.8s						
STKA	**Stephens Creek**	**38.17**	**159**	P	**P**	**22 43 35.7**	**-0.9**
	comp=Z,4.7nm,0.6s,baz=327,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.17**	**159**	*e*P	**P**	**22 43 36.5**	**-0.2**
USRK	**Ussuriysk Arra**	**40.57**	**6**	P	**P**	**22 43 57.3**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=202,slow=9.5,SNR=9.4						
ARMA	**Armidale**	**41.52**	**147**	*e*P	**P**	**22 44 01.9**	**-2.8**
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**42.37**	**311**	*e*P	**P**	**22 44 12.7**	**+0.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**42.37**	**311**	*e*P	**P**	**22 44 12.7**	**+0.7**
	comp=Z,5.9nm,0.7s						
TAPN	**Taplejung**	**43.94**	**306**	*e*P	**P**	**22 44 23.7**	**-0.9**
	comp=Z,5.6nm,0.5s						
ODAN	**Odare**	**43.99**	**306**	*e*P	**P**	**22 44 24.0**	**-1.0**
RAMN	**Ramite**	**44.67**	**305**	*e*P	**P**	**22 44 30.2**	**-0.2**
KLR	**Kul'dur**	**45.53**	**5**	*e*P	**P**	**22 44 36.2**	**-0.4**
GUN	**Gumba**	**45.65**	**306**	*e*P	**P**	**22 44 37.4**	**-0.9**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**46.15**	**305**	*e*P	**P**	**22 44 41.6**	**-0.5**
GKN	**Gorkha**	**46.69**	**306**	*e*P	**P**	**22 44 44.8**	**-1.4**
ULN	**Ulaanbaatar**	**47.08**	**342**	*e*P	**P**	**22 44 49.6**	**+0.7**
	comp=Z,4.5nm,1.0s						
SONM	**Songino Array**	**47.26**	**341**	P	**P**	**22 44 51.0**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=154,slow=8.5,SNR=13						
SONM				PcP	**PcP**	**22 46 21.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=151,slow=3.3,SNR=2.2						
SONM				LR	LR	23 06 05.6	
	comp=Z,108nm,19.5s,baz=359,slow=38						
SONM	**Songino Array**	**47.26**	**341**	P	**P**	**22 44 51.0**	**+0.7**
SONM				PcP	**PcP**	**22 46 21.4**	**+0.6**
KOLN	**Koldanda**	**47.45**	**305**	*e*P	**P**	**22 44 51.7**	**-0.5**
	comp=Z,8.0nm,0.4s						
DANN	**Dangsing**	**47.54**	**306**	*e*P	**P**	**22 44 51.8**	**-1.2**
	comp=Z,11nm,0.5s						
PYUN	**Piuthan**	**48.07**	**305**	*e*P	**P**	**22 44 56.4**	**-0.6**
	comp=Z,26nm,0.9s						
ZAK	**Zakamensk**	**50.49**	**341**	*e*P	**P**	**22 45 15.1**	**+0.1**
ZAK				*e*		22 46 33.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s						
TLY	**Talaya**	**51.49**	**342**	*e*P	**P**	**22 45 20.2**	**-2.2**
TLY				*e*		22 46 41.3	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,75nm,21.0s						
HVS	**Khovu-Aksy**	**54.69**	**335**	*e*P	**P**	**22 45 45.7**	**-0.3**
HVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BOD	**Bodaibo**	**54.84**	**352**	*e*P	**P**	**22 45 48.3**	**+1.4**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**22 45 51.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=205,slow=6.4,SNR=2.7						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**22 45 51.8**	**+0.4**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**22 45 51.8**	**+0.4**
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**22 46 05.3**	**-0.8**
MK31				*e*		22 46 58.3	
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**22 46 05.3**	**-0.8**
MK31				*e*PcP	**PcP**	**22 46 58.2**	**-0.9**
MKAR	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**22 46 05.7**	**-0.4**
MKAR	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**22 46 05.7**	**-0.4**
YAK	**Yakutsk**	**58.20**	**2**	*e*P	P	22 46 14.6	+4.0
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**58.20**	**2**	*e*P	P	22 46 05.6	-5.0
	comp=Z,12nm,0.4s						
AAK	**Ala-Archa**	**60.29**	**318**	*e*P	**P**	**22 46 25.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	**Ala-Archa**	**60.29**	**318**	*e*P	**P**	**22 46 25.4**	**-0.3**
	comp=Z,8.4nm,0.6s						
ZAA0	**Zalesovo Array**	**60.54**	**333**	*e*P	**P**	**22 46 25.8**	**-1.2**
ZALV	**Zalesovo Beam**	**60.54**	**333**	P	**P**	**22 46 27.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=131,slow=7.4,SNR=5.0						
ZALV				LR	LR	23 14 46.6	
	comp=Z,34nm,19.3s,baz=248,slow=38						
ZALV	**Zalesovo Beam**	**60.54**	**333**	P	**P**	**22 46 27.2**	**+0.3**
ZALV	**Zalesovo Beam**	**60.54**	**333**	P	**P**	**22 46 27.2**	**+0.3**
KBL	**Kabul**	**61.45**	**307**	*e*P	**P**	**22 46 33.2**	**-0.6**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBL	**Kabul**	**61.45**	**307**	*e*P	**P**	**22 46 33.2**	**-0.6**
	comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**61.69**	**328**	*e*P	**P**	**22 46 34.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**61.69**	**328**	*e*P	**P**	**22 46 33.8**	**-1.0**
	comp=Z,6.5nm,0.7s						
NVS	**Novosibirsk**	**61.82**	**333**	*e*P	**P**	**22 46 34.6**	**-1.0**
NVS				pmax	pmax		
	comp=Z,12nm,2.0s						
NVS				pmax	pmax		
	comp=N,10.0nm,2.5s						
NVS				pmax	pmax		
	comp=E,18nm,3.3s						
SEY	**Seymchan**	**62.04**	**13**	*e*P	P	22 46 41.9	+5.0
BRVK	**Borovoye**	**67.34**	**327**	*e*P	**P**	**22 47 11.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABKAR	**Akbulak array**	**72.09**	**321**	*e*P	**P**	**22 47 40.5**	**-0.4**
AKTO	**Aktyubinsk**	**73.60**	**322**	P	**P**	**22 47 49.5**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=81,slow=6.8,SNR=10.0						
AKTO				LR	LR	23 21 55.6	
	comp=Z,83nm,19.2s,baz=128,slow=37						
AKTO	**Aktyubinsk**	**73.60**	**322**	P	**P**	**22 47 49.5**	**-0.4**
AKTO	**Aktyubinsk**	**73.60**	**322**	P	**P**	**22 47 49.5**	**-0.4**
SVE	**Sverdlovsk**	**73.91**	**328**	*e*P	**P**	**22 47 51.3**	**-0.3**
SVE				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**74.88**	**328**	*c*/*iP*	**P**	**22 47 56.8**	**-0.4**
ARU				S	**S**	**22 57 32.1**	**+1.8**
ARU				SS	**SS**	**23 02 19.0**	**-0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GNI	**Garni**	**81.41**	**310**	LR	LR	23 25 31.4	
	comp=Z,32nm,20.0s,baz=282,slow=36						
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**22 48 53.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=265,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**22 48 53.9**	**+1.5**
OBN	**Obninsk**	**87.00**	**325**	⇓*eP*	**P**	**22 49 01.3**	**-0.5**
OBN				*e*S	S	22 59 28.2	-8.2
OBN				pmax	pmax		
	comp=Z,13nm,1.2s						
BRTR	**Keskin Array B**	**89.95**	**310**	P	**P**	**22 49 16.0**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=145,slow=4.5,SNR=3.8						
BRTR	**Keskin Array B**	**89.95**	**310**	P	**P**	**22 49 16.0**	**-0.3**
INK	**Inuvik**	**90.19**	**21**	P	**P**	**22 49 19.0**	**+2.4**
	comp=Z,1.9nm,1.0s,baz=270,slow=3.3,SNR=3.7						
INK	**Inuvik**	**90.19**	**21**	P	**P**	**22 49 19.0**	**+2.4**
ARCES	**ARCESS Array B**	**90.41**	**340**	P	**P**	**22 49 17.5**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=67,slow=6.9,SNR=3.9						
ARCES	**ARCESS Array B**	**90.41**	**340**	P	**P**	**22 49 17.5**	**-0.1**
FINES	**FINESS Array B**	**91.78**	**332**	P	**P**	**22 49 24.0**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=35,slow=5.1,SNR=2.8						
FINES	**FINESS Array B**	**91.78**	**332**	P	**P**	**22 49 24.0**	**-0.1**
AKASG	**Malin Array Be**	**91.83**	**321**	P	**P**	**22 49 24.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=66,slow=5.4,SNR=4.2						
AKASG	**Malin Array Be**	**91.83**	**321**	P	**P**	**22 49 24.0**	**-0.6**
AKASG	**Malin Array Be**	**91.83**	**321**	P	**P**	**22 49 24.0**	**-0.6**
VRI	**Vrincioaia**	**94.23**	**316**	⇑*iP*	**P**	**22 49 36.8**	**+1.0**
MLR	**Muntele Rosu**	**94.83**	**316**	⇓*iP*	P	22 49 43.6	+4.9
BURAR	**Bucovina Array**	**94.94**	**318**	⇑*iP*	**P**	**22 49 38.8**	**-0.3**
DRGR		**96.78**	**318**	⇓*iP*	**P**	**22 49 47.8**	**+0.3**
NOA	**NORSAR Array B**	**98.74**	**334**	LR	LR	23 37 11.1	
	comp=Z,52nm,20.2s,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**99.53**	**24**	P	**Pdif**	**22 50 00.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=292,slow=4.2,SNR=3.1						
YKA	**Yellowknife Ar**	**99.53**	**24**	P	**Pdif**	**22 50 00.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**22 55 13.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=62,slow=2.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**22 55 13.7**	**+0.2**

GUC 16 23:03:05.4±0.8, 32°57S×71°73W, h25km±6km, MD3.5, ML3.0, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**83**	⇓*iP*	Pb	23 03 12.2	+0.3
PACH				*i* S	Sb	23 03 16.7	+0.5
IHA	**Instituto Hidr**	**0.46**	**170**	*eP*	Pb	23 03 14.7	-0.3
IHA				*i* S	Sb	23 03 21.1	-0.4
CHNG	**Los Chungos**	**0.71**	**16**	⇑*iP*	Pb	23 03 18.6	-0.6
CHNG				*i* S	Sb	23 03 28.5	-0.1
CHNG				AML	AML	23 03 29.0	
	comp=E,646nm,0.3s						
ROCH	**El Roble**	**0.73**	**124**	⇓*iP*	Pb	23 03 19.1	-0.7
ROCH				*i* S	Sb	23 03 28.7	-0.9
ROCH				AML	AML	23 03 31.8	
	comp=N,967nm,0.4s						
JACH	**Jahuel**	**0.97**	**97**	⇑*iP*	Pn	23 03 22.8	-0.8
JACH				*i* S	Sb	23 03 36.0	-0.2
PEL	**Peldehue**	**1.05**	**123**	⇑*iP*	Pn	23 03 24.3	-0.3
PEL				*e*S	Sb	23 03 38.2	-0.3
PEL				AML	AML	23 03 40.5	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.20**	**140**	*i*

3.9nm,0.6s,baz=23,slow=9.9,SNR=15
FITZ Fitzroy Crossi 21.63 183 *e*P **P 23 39 09.3 -1.5**
FITZ Fitzroy Crossi 21.63 183 P **P 23 39 09.8 -1.0**
baz=24,SNR=4.3
JOW Kunigami 23.11 4 P **P 23 39 28.6 +2.0**
13nm,0.7s,baz=202,slow=6.9,SNR=5.6
JOW Kunigami 23.11 4 P **P 23 39 28.6 +2.0**
2.3nm,1.4s
WRAB Tennant Creek 24.61 162 *e*P **P 23 39 38.8 -2.0**
WRAB pmax pmax
comp=Z,33nm,1.0s
WRAB Tennant Creek 24.61 162 *e*P **P 23 39 38.8 -2.0**
comp=Z,34nm,1.0s
WRA Warramunga Arr 24.61 163 P **P 23 39 39.1 -1.8**
comp=Z,21nm,0.8s,baz=343,slow=10,SNR=38
WRA S **S 23 44 02.9 +2.1**
comp=Z,0.6nm,0.3s,baz=342,slow=18,SNR=3.6
WRA Warramunga Arr 24.61 163 P **P 23 39 39.1 -1.8**
WRA S **S 23 44 02.9 +2.1**
MBWA Marble Bar 25.57 195 *e*P **P 23 39 49.3 -0.3**
IPM Ipoh 25.61 273 *e*P **P 23 39 53.1 +3.1**
comp=Z,31nm,1.2s
PSI Prapat 27.73 269 LR LR 23 51 53.2
comp=Z,220nm,20.5s,baz=269,slow=38
ASAR Alice Springs 28.04 166 P **P 23 40 10.4 -1.4**
comp=Z,1.8nm,0.6s,baz=352,slow=8.0,SNR=17
ASAR PcP **PcP 23 43 26.1 -0.3**
comp=Z,2.2nm,0.7s,baz=341,slow=2.4,SNR=10
ASAR Alice Springs 28.04 166 P **P 23 40 10.4 -1.4**
ASAR PcP **PcP 23 43 26.1 -0.3**
GSI Gunungsitoli 29.18 266 P P 23 40 05.2 -17
baz=29,SNR=4.7
JNU Nakatsue 29.59 7 P **P 23 40 26.0 +0.5**
comp=Z,6.3nm,0.8s,baz=216,slow=8.7,SNR=4.6
JNU Nakatsue 29.59 7 P **P 23 40 26.0 +0.5**
CMAR Chiang Mai Arr 30.88 301 P **P 23 40 37.7 +0.6**
comp=Z,1.1nm,0.4s,baz=122,slow=7.4,SNR=14
CMAR ScP **ScP 23 47 16.8 +1.7**
comp=Z,0.4nm,0.4s,baz=153,slow=2.7,SNR=5.2
CMAR LR LR 23 54 50.6
comp=Z,132nm,18.2s,baz=301,slow=40
CMAR Chiang Mai Arr 30.88 301 P **P 23 40 37.6 +0.6**
CMAR ScP **ScP 23 47 16.8 +1.7**
CHTO Chiang Mai 31.03 301 *e*P **P 23 40 39.2 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 31.03 301 *e*P **P 23 40 39.2 +0.8**
comp=Z,4.6nm,0.7s
MEEK Meekatharra 31.10 194 P **P 23 40 38.0 -0.9**
baz=33,SNR=4.5
KSAR Wonju Array Be 33.66 2 P **P 23 41 02.6 +1.5**
KSRS Korea Array 33.67 2 P **P 23 41 02.6 +1.4**
comp=Z,3.8nm,0.5s,baz=181,slow=9.9,SNR=17
MJAR Matsushiro Arr 34.42 17 P **P 23 41 08.2 +0.4**
comp=Z,0.6nm,0.3s,baz=188,slow=9.5,SNR=3.1
MJAR LR LR 23 54 55.5
comp=Z,149nm,20.2s,baz=200,slow=36
MJAR Matsushiro Arr 34.42 17 P **P 23 41 08.2 +0.4**
XAN Xi'an 34.48 333 P **P 23 41 07.0 -1.4**
XAN pmax pmax
comp=Z,17nm,5.1s
XAN LR LR
comp=N,140nm,31.2s
XAN LR LR
comp=E,50nm,27.3s
XAN LR LR
comp=Z,56nm,16.9s
EIDS Eidsvold 37.31 142 P **P 23 41 31.9 -0.8**
baz=39,SNR=3.2
BBOO Buckleboo 37.33 167 P **P 23 41 32.1 -0.7**
baz=39,SNR=7.9
BJT Baijiatuan 37.44 347 *e*P **P 23 41 32.0 -1.6**
STKA Stephens Creek 38.06 159 P **P 23 41 38.2 -0.8**
comp=Z,10.0nm,0.8s,baz=332,slow=8.7,SNR=19
STKA PcP **PcP 23 43 53.9 -0.2**
comp=Z,2.4nm,0.7s,baz=9.0,slow=3.2,SNR=3.5
STKA Stephens Creek 38.06 159 *e*P **P 23 41 36.6 -2.4**
comp=Z,2.2nm,0.8s
STKA PcP **PcP 23 43 53.9 -0.2**
STKA Stephens Creek 38.06 159 P **P 23 41 38.7 -0.3**
baz=40,SNR=6.6
USRK Ussuriysk Arra 40.66 6 P **P 23 42 01.6 +1.1**
comp=Z,3.0nm,0.6s,baz=205,slow=6.9,SNR=7.9
MDJ Mudanjiang 40.89 3 P **P 23 42 04.0 +1.6**
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,59nm,4.4s
ARMA Armidale 41.42 147 *e*P P 23 42 01.8 -5.3
comp=Z,189nm,2.5s
LSA Lhasa 42.47 311 *e*P **P 23 42 16.6 +0.5**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 42.47 311 *e*P **P 23 42 16.6 +0.5**
comp=Z,9.5nm,0.6s
ASAJ Asahikawa 42.69 17 P **P 23 42 18.6 +1.5**
comp=Z,3.8nm,0.4s,baz=239,slow=11,SNR=5.2
ASAJ Asahikawa 42.69 17 *e*P **P 23 42 14.2 -3.0**
comp=Z,13nm,1.3s
YNG Young 42.93 153 P **P 23 42 19.0 -0.2**
baz=45,SNR=5.6
GTA Gaotai 43.15 329 *e*P **P 23 42 22.8 +1.6**
GTA pmax pmax
comp=Z,3.0nm,0.7s
TAPN Taplejung 44.03 306 *e*P **P 23 42 28.2 -0.5**
comp=Z,5.2nm,0.4s
ODAN Odare 44.09 306 *e*P **P 23 42 28.5 -0.5**
comp=Z,12nm,0.7s
RAMN Ramite 44.77 305 *e*P **P 23 42 34.2 -0.3**
comp=Z,8.4nm,0.6s
JIRN Jiri 45.39 306 *e*P **P 23 42 39.1 -0.5**
KLR Kul'dur 45.63 5 *e*P **P 23 42 38.2 -2.4**
GUN Gumba 45.74 306 *e*P **P 23 42 41.6 -0.7**
comp=Z,9.1nm,0.4s
HIA Hailar 45.84 354 P **P 23 42 42.0 -0.4**
comp=Z,20nm,1.1s
KKN Kakani 46.18 306 *e*P **P 23 42 44.5 -1.1**
comp=Z,5.4nm,0.5s
GKN Gorkha 46.79 306 *e*P **P 23 42 49.4 -0.9**
comp=Z,4.5nm,0.4s
ULN Ulaanbaatar 47.19 342 *e*P **P 23 42 52.3 -0.8**
comp=Z,5.4nm,1.0s
ULN *e*PcP **PcP 23 44 24.3 -0.1**
SONM Songino Array 47.37 341 P **P 23 42 54.6 +0.1**
comp=Z,1.4nm,0.7s,baz=153,slow=8.9,SNR=17
SONM PcP **PcP 23 44 25.4 +0.4**
comp=Z,1.1nm,0.7s,baz=139,slow=3.5,SNR=4.0
SONM LR LR 00 06 24.8
comp=Z,85nm,20.6s,baz=354,slow=41
SONM Songino Array 47.37 341 P **P 23 42 54.6 +0.1**
SONM PcP **PcP 23 44 25.4 +0.4**
KOLN Koldanda 47.54 305 *e*P **P 23 42 55.8 -0.5**
comp=Z,16nm,0.5s
DANN Dangsing 47.63 306 *e*P **P 23 42 56.0 -1.1**
comp=Z,22nm,0.6s
PYUN Piuthan 48.16 305 *e*P **P 23 43 00.8 -0.3**
comp=Z,44nm,1.0s
HYB Hyderabad 49.11 290 *i* P **P 23 43 07.5 -0.8**
ZAK Zakamensk 50.59 341 *e*P P 23 43 29.7 +11
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY Talaya 51.60 342 *e*P P 23 43 16.8 -10
TLY *e* 23 44 40.1
TLY *e*PPP PPP 23 45 20.3
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,60nm,18.0s
MOY Mondy 52.45 340 *e*P P 23 43 43.5 +10
HVS Khovu-Aksy 54.80 335 *e*P **P 23 43 50.6 +0.4**
HVS pmax pmax
comp=Z,22nm,1.1s
BOD Bodaibo 54.95 352 *e*P **P 23 43 52.0 +1.0**
PETK Petropavlovsk- 55.53 22 P **P 23 43 56.2 +0.9**
comp=Z,7.4nm,0.9s,baz=150,slow=4.1,SNR=4.1
PETK Petropavlovsk- 55.53 22 P **P 23 43 56.2 +0.9**
PETK Petropavlovsk- 55.53 22 P **P 23 43 56.2 +0.9**
MK31 Makanchi Array 57.60 325 *e*P **P 23 44 10.2 -0.1**
MK31 Makanchi Array 57.60 325 *e*P **P 23 44 10.2 -0.1**
MKAR Makanchi Array 57.60 325 *e*P **P 23 44 09.8 -0.5**
MKAR Makanchi Array 57.60 325 *e*P **P 23 44 09.8 -0.5**
YAK Yakutsk 58.30 2 *e*P P 23 44 19.4 +4.6
YAK *e* 23 44 36.9
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
TKM2 Tokmak 2 59.78 319 *e*P **P 23 44 25.6 -0.2**
TKM2 *e* 23 45 12.1
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 59.78 319 *e*P **P 23 44 25.6 -0.2**
comp=Z,3.8nm,0.8s
TKM2 *e*PcP **PcP 23 45 12.1 -0.2**
AAK Ala-Archa 60.39 318 P **P 23 44 29.9 0.0**
comp=Z,1.7nm,0.9s,baz=134,slow=8.1,SNR=5.8
AAK Ala-Archa 60.39 318 *e*P **P 23 44 29.9 0.0**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 60.39 318 *e*P **P 23 44 29.9 0.0**
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 60.65 333 *e*P **P 23 44 30.6 -0.5**
ZALV Zalesovo Beam 60.65 333 P **P 23 44 29.9 -1.2**
comp=Z,1.6nm,0.5s,baz=116,slow=6.8,SNR=8.4
ZALV LR LR 00 12 40.2
comp=Z,52nm,18.2s,baz=213,slow=38
ZALV Zalesovo Beam 60.65 333 P **P 23 44 29.9 -1.2**
ZALV Zalesovo Beam 60.65 333 P **P 23 44 29.9 -1.2**
EKS2 Erkin-Say 60.89 318 *e*P **P 23 44 34.0 +0.8**
EKS2 pmax pmax
comp=Z,6.0nm,1.1s
EKS2 Erkin-Say 60.89 318 *e*P **P 23 44 34.0 +0.8**
comp=Z,5.5nm,1.1s
KBL Kabul 61.54 308 *e*P **P 23 44 37.4 -0.5**
KBL pmax pmax
comp=Z,10.0nm,1.4s
KBL Kabul 61.54 308 *e*P **P 23 44 37.4 -0.5**
comp=Z,9.7nm,1.4s
RPZ Rata Peaks 61.71 145 LR LR 00 13 34.6
comp=Z,143nm,18.3s,baz=234,slow=38
KURBB Kurchatov Arra 61.79 327 P **P 23 44 38.3 -0.7**
comp=Z,1.8nm,0.5s,baz=130,slow=6.4,SNR=23
KURK Kurchatov 61.79 328*c i*P **P 23 44 39.5 +0.5**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 61.79 328 *e*P **P 23 44 38.3 -0.7**
comp=Z,8.0nm,0.8s
NVS Novosibirsk 61.93 333 *e*P **P 23 44 40.2 +0.4**
NVS pmax pmax
comp=N,3.0nm,1.3s
NVS pmax pmax
comp=E,4.0nm,1.3s
NVS pmax pmax
comp=Z,8.0nm,1.3s
SEY Seymchan 62.13 13 *e*P **P 23 44 41.1 +0.1**
FX1 Attu Island--F 62.18 30 LR LR 00 10 48.5
comp=Z,56nm,18.2s,baz=278,slow=35
KKAR Karatay Array 63.27 317 *e*P **P 23 44 48.7 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 63.27 317 *e*P **P 23 44 48.7 -0.4**
comp=Z,2.5nm,0.6s
BVAR Borovoye Array 67.37 327 P **P 23 45 15.3 -0.1**
comp=Z,4.1nm,0.8s,baz=119,slow=5.6,SNR=15
BVAR Borovoye Array 67.37 327 P **P 23 45 15.3 -0.1**
BVAR Borovoye Array 67.37 327 P **P 23 45 15.3 -0.1**
BRVK Borovoye 67.44 327*c i*P **P 23 45 16.1 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 67.44 327 *e*P **P 23 45 16.5 +0.6**
comp=Z,12nm,1.1s
ABKAR Akbulak array 72.19 321 *e*P **P 23 45 44.2 -0.9**
SVE Sverdlovsk 74.01 328 *e*P **P 23 45 56.7 +0.9**
SVE pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 74.99 328*d i*P **P 23 46 01.1 -0.3**
ARU 23 48 48.0
ARU S **S 23 55 38.4 +0.8**
ARU SS **SS 00 00 25.7 -0.7**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 74.99 328 *e*P **P 23 46 00.4 -1.0**
comp=Z,66nm,2.3s
VNDA Vanda 83.34 173 P **P 23 46 46.8 +0.1**
comp=Z,1.2nm,0.9s,baz=306,slow=6.8,SNR=2.6
VNDA Vanda 83.34 173 P **P 23 46 46.8 +0.1**
COLD Coldfoot 83.99 23 *e*P P 23 46 46.3 -3.9
comp=Z,18nm,1.1s
PMR Palmer 84.04 29 *e*P **P 23 46 52.0 +1.4**
PMR pmax pmax
comp=Z,24nm,1.1s
PMR Palmer 84.04 29 *e*P **P 23 46 52.0 +1.4**
comp=Z,24nm,1.1s
VRHR Novokhopersk 84.08 321 *e*P **P 23 46 49.1 -1.9**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
ILAR Eielson Array 85.20 25 P **P 23 46 56.7 +0.3**
comp=E,1.6nm,0.9s,baz=249,slow=4.8,SNR=9.7
ILAR Eielson Array 85.20 25 P **P 23 46 56.7 +0.3**
KLMR Klimovskoe 85.46 331 *e*P **P 23 46 55.0 -2.7**
KLMR pmax pmax
comp=Z,44nm,1.4s
VORD Divnogorie 85.55 321 *e*P **P 23 46 58.0 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 85.63 321 *e*P **P 23 46 58.1 -0.7**
MALT Malatya 86.40 308 *e*P **P 23 47 03.3 +0.2**
MALT pmax pmax
comp=Z,5.0nm,1.2s
MALT Malatya 86.40 308 *e*P **P 23 47 03.3 +0.2**
comp=Z,5.1nm,1.2s
OBN Obninsk 87.11 325⇑*i*P **P 23 47 06.1 +0.1**
OBN *i* 23 50 30.0
OBN *e*S **S 23 57 39.6 -4.1**
OBN pmax pmax
comp=Z,48nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
KMBO Kilima Mbogo 89.51 269 *e*P **P 23 47 19.1 +0.6**
comp=Z,6.9nm,1.4s
BR131 Keskin Array S 90.05 310 *e*P **P 23 47 19.9 -0.6**
comp=Z,2.5nm,0.9s
BRTR Keskin Array B 90.05 310 P **P 23 47 19.6 -0.9**
comp=Z,2.4nm,0.9s,baz=111,slow=5.1,SNR=13
BRTR Keskin Array B 90.05 310 P **P 23 47 19.6 -0.9**
INK Inuvik 90.26 21 P P 23 47 16.8 -3.8
ARCES ARCESS Array B 90.52 340 P **P 23 47 21.5 -0.4**
comp=Z,4.3nm,0.8s,baz=85,slow=4.3,SNR=4.1
ARCES LR LR 00 31 56.8
comp=Z,97nm,19.3s,baz=17,slow=38
ARCES ARCESS Array B 90.52 340 P **P 23 47 21.5 -0.4**
FINES FINESS Array B 91.89 332 P **P 23 47 28.9 +0.6**
comp=Z,1.2nm,0.7s,baz=52,slow=3.1,SNR=8.3
FINES LR LR 00 33 38.4
comp=Z,66nm,19.1s,baz=129,slow=39
FINES FINESS Array B 91.89 332 P **P 23 47 28.9 +0.6**
AKASG Malin Array Be 91.93 321 P **P 23 47 28.3 -0.5**
comp=Z,1.6nm,0.6s,baz=66,slow=4.8,SNR=7.2
AKASG Malin Array Be 91.93 321*ce*P **P 23 47 29.1 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 91.93 321 P **P 23 47 28.3 -0.5**
VRI Vrincioaia 94.33 316⇑*i*P **P 23 47 40.0 0.0**
VRI Vrincioaia 94.33 316⇑*i*P **P 23 47 40.0 0.0**
PLOR Plostina 94.39 316⇑*i*P **P 23 47 40.5 +0.2**
PLOR Plostina 94.39 316⇑*i*P **P 23 47 40.5 +0.2**
MLR Muntele Rosu 94.94 316⇑*i*P **P 23 47 42.9 0.0**
BURAR Bucovina Array 95.04 318⇑*i*P **P 23 47 43.5 +0.2**
BUR08 Bucovina Ar. S 95.04 318 *e*P **P 23 47 42.7 -0.6**
KWP Kalwaria Pacla 96.25 321⇑P **P 23 47 48.6 -0.1**
KWP Kalwaria Pacla 96.25 321⇑*i*P **P 23 47 48.6 -0.1**
KOLS Kolonicke sedl 96.69 320 *e*P **P 23 47 52.4 +1.8**
KOLS pmax pmax
comp=Z,198nm,3.6s
KOLS Kolonicke sedl 96.69 320 *e*P **P 23 47 52.4 +1.8**
UZH Uzhgorod 96.74 320 *e*P P 23 47 54.7 +3.8
UZH *e* 23 48 12.9
DRGR 96.88 318⇓P **P 23 47 52.0 +0.3**
DRGR 96.88 318⇓*i*P **P 23 47 52.0 +0.3**
CRVS Cervenica-Dubn 97.21 320 *e*P Pdif 23 47 53.7 +0.6
CRVS pmax pmax
comp=Z,14nm,1.5s
CRVS Cervenica-Dubn 97.21 320 *e*P Pdif 23 47 53.7 +0.6
NOA NORSAR Array B 98.85 334 P Pdif 23 48 00.3 +0.1
comp=Z,0.8nm,0.8s,baz=67,slow=4.5,SNR=2.6
NOA LR LR 00 38 11.0
comp=Z,48nm,20.0s,baz=30,slow=39
NOA NORSAR Array B 98.85 334 P Pdif 23 48 00.3 +0.1
YKA Yellowknife Ar 99.59 24 P **Pdif 23 48 04.2 +0.9**
comp=Z,0.3nm,0.8s,baz=299,slow=4.5,SNR=7.1
YKA Yellowknife Ar 99.59 24 P **Pdif 23 48 04.2 +0.9**
GERES GERESS Array B 102.13 322 P **Pdif 23 48 14.5 -0.6**
comp=Z,0.2nm,0.3s,baz=40,slow=3.8,SNR=4.7
GERES GERESS Array B 102.13 322 P **Pdif 23 48 14.5 -0.6**
TXAR Lajitas Array 121.68 52 PKP **PKPdf 23 53 15.8 +0.9**
comp=Z,0.5nm,0.7s,baz=245,slow=1.4,SNR=8.5
TXAR Lajitas Array 121.68 52 PKP **PKPdf 23 53 15.8 +0.9**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 23 53 17.3 -0.2**
comp=Z,2.2nm,0.8s,baz=58,slow=2.0,SNR=14
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 23 53 17.3 -0.2**
LPAZ La Paz 160.76 132 PKP **PKPdf 23 54 22.6 +0.5**
comp=Z,1.8nm,0.8s,baz=287,slow=1.8,SNR=7.5
LPAZ La Paz 160.76 132 PKP **PKPdf 23 54 22.6 +0.5**
SIV San Ignacio 165.55 149 PKPab **PKPab 23 55 24.4 +0.2**
comp=Z,1.6nm,0.9s,baz=220,slow=4.9,SNR=5.4
SIV San Ignacio 165.55 149 PKPab **PKPab 23 55 24.4 +0.2**

MAN 16 23:38:54,16.26N×122.51E,h15km,mb4.2,ML3.0,MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PALP	**Palanan**	**0.80**	**354**	*e*P		Pb	23 39 09.8	+0.1
PALP				*e*S		Sn	23 39 22.4	-0.1
CAUP	**Cauayan**	**0.95**	**316**	*e*P		Pb	23 39 11.0	-1.2
BALP	**Baler**	**1.04**	**240**	*e*P		Pb	23 39 13.1	-0.6

*IDC **16** 23:39:11.1±0.6,3.59N×126.61E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.1/25,mbtmp4.1/15,MS4.0/2, Ms1 4.0/2,ms1mx3.0/38,Error ellipse: s-maj=32.2km s-min=13.6km az=77.0*
*ISCJB **16** 23:39:16.1±0.4,3.60N±0.07×126.6E±0.1,h53km, mb4.0/17,MS4.1/2,Error ellipse: s-maj=19.6km s-min=8.4km az=162.8*
*NEIC **16** 23:39:16.1±0.3,3.61N×126.66E,h35km,mb3.9/5,Error ellipse: s-maj=12.8km s-min=5.4km az=71.0*

ISC 16 23:39:18.1±0.6,3.59N±0.09×126.7E±0.2,h53km,n39, s0852/39,mb4.0/16,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**21.58**	**183**	P		**P**	**23 44 02.3**	**-1.1**
	3.3nm,0.8s,baz=5.1,slow=8.8,SNR=3.4							
FITZ	**Fitzroy Crossi**	**21.58**	**183**	*e*P		**P**	**23 44 03.0**	**-0.4**
	4.1nm,0.9s							
WRAB	**Tennant Creek**	**24.57**	**162**	*e*P		**P**	**23 44 32.9**	**-0.3**
WRA	**Warramunga Arr**	**24.57**	**162**	P		**P**	**23 44 33.0**	**-0.2**
	6.2nm,0.8s,baz=343,slow=10,SNR=11							
WRA	**Warramunga Arr**	**24.57**	**162**	P		**P**	**23 44 33.0**	**-0.2**
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**	**23 45 04.5**	**+0.4**
	0.3nm,0.3s,baz=340,slow=7.5,SNR=5.7							
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**	**23 45 04.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P		**P**	**23 45 30.6**	**+0.8**
	0.8nm,0.4s,baz=114,slow=6.7,SNR=5.7							
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P		**P**	**23 45 30.6**	**+0.8**
CHTO	**Chiang Mai**	**31.04**	**301**	*e*P		**P**	**23 45 30.8**	**-0.4**
	1.1nm,0.4s							
KSAR	**Wonju Array Be**	**33.71**	**2**	P		**P**	**23 45 54.0**	**-0.3**
KSRS	**Korea Array**	**33.72**	**2**	P		**P**	**23 45 54.0**	**-0.4**
	2.4nm,0.7s,baz=180,slow=9.4,SNR=8.1							
STKA	**Stephens Creek**	**38.02**	**159**	P		**P**	**23 46 31.3**	**0.0**
	1.9nm,0.4s,baz=346,slow=8.7,SNR=6.8							
STKA	**Stephens Creek**	**38.02**	**159**	*e*P		**P**	**23 46 31.1**	**-0.2**
	0.9nm,0.8s							
USRK	**Ussuriysk Arra**	**40.72**	**6**	P		**P**	**23 46 53.8**	**+0.3**
	1.0nm,0.6s,baz=201,slow=7.2,SNR=4.5							
ASAJ	**Asahikawa**	**42.75**	**17**	P		**P**	**23 47 10.8**	**+0.6**
	3.5nm,0.5s,baz=141,slow=18,SNR=6.1							
ASAJ	**Asahikawa**	**42.75**	**17**	*e*P		**P**	**23 47 09.9**	**-0.3**
	1.5nm,0.6s							
DZM	**Mont Dzumac**	**46.51**	**125**	LR		LR	00 05 49.4	
	comp=Z,156nm,18.4s,baz=302,slow=34							
ULN	**Ulaanbaatar**	**47.23**	**342**	*e*P		**P**	**23 47 44.9**	**-1.1**
	1.5nm,0.8s							
SONM	**Songino Array**	**47.41**	**342**	P		**P**	**23 47 47.2**	**-0.1**
	0.6nm,0.6s,baz=159,slow=7.9,SNR=6.1							
SONM				PcP		**PcP**	**23 49 18.0**	**+0.8**
	0.4nm,0.7s,baz=147,slow=4.4,SNR=3.0							
SONM	**Songino Array**	**47.41**	**342**	P		**P**	**23 47 47.2**	**-0.1**
SONM				PcP		**PcP**	**23 49 18.0**	**+0.8**
PETK	**Petropavlovsk-**	**55.59**	**22**	P		**P**	**23 48 48.1**	**0.0**
	3.5nm,0.6s,baz=193,slow=6.1,SNR=4.1							
PETK	**Petropavlovsk-**	**55.59**	**22**	P		**P**	**23 48 48.1**	**0.0**
MK31	**Makanchi Array**	**57.63**	**325**	*e*P		**P**	**23 49 02.2**	**-0.7**
AAK	**Ala-Archa**	**60.41**	**318**	*e*P		**P**	**23 49 22.0**	**-0.4**
ZALV	**Zalesovo Beam**	**60.68**	**333**	P		**P**	**23 49 23.9**	**+0.1**
	0.4nm,0.3s,baz=126,slow=7.3,SNR=2.8							
ZALV	**Zalesovo Beam**	**60.68**	**333**	P		**P**	**23 49 23.9**	**+0.1**
KURBB	**Kurchatov Arra**	**61.82**	**327**	P		**P**	**23 49 31.4**	**-0.2**
	2.1nm,0.6s,baz=130,slow=6.5,SNR=18							
KURK	**Kurchatov**	**61.82**	**328**	*e*P		**P**	**23 49 31.0**	**-0.5**
URZ	**Urewera**	**62.49**	**137**	*e*P		**P**	**23 49 36.3**	**+0.1**
BVAR	**Borovoye Array**	**67.40**	**327**	P		**P**	**23 50 07.6**	**-0.3**
	0.9nm,0.7s,baz=111,slow=8.1,SNR=6.1							
BVAR	**Borovoye Array**	**67.40**	**327**	P		**P**	**23 50 07.6**	**-0.3**
AKTO	**Aktyubinsk**	**73.73**	**322**	LR		LR	00 23 33.6	
	comp=Z,118nm,20.5s,baz=97,slow=36							
BRTR	**Keskin Array B**	**90.06**	**310**	P		**P**	**23 52 12.8**	**+0.1**
	0.6nm,0.9s,baz=121,slow=5.6,SNR=3.2							
BRTR	**Keskin Array B**	**90.06**	**310**	P		**P**	**23 52 12.8**	**+0.1**
YKA	**Yellowknife Ar**	**99.66**	**24**	P		**Pdif**	**23 52 56.8**	**+1.0**
	0.3nm,1.0s,baz=291,slow=5.2,SNR=4.1							
YKA	**Yellowknife Ar**	**99.66**	**24**	P		**Pdif**	**23 52 56.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP		**PKPdf**	**23 58 09.8**	**+0.3**
	1.2nm,1.2s,baz=96,slow=2.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP		**PKPdf**	**23 58 09.8**	**+0.3**

IDC 16 23:42:10.8±0.7,3.45N×126.50E,h0km,mb4.0/13, mb1 4.2/13,mb1mx4.1/24,mbtmp4.0/13,MS4.0/1, Ms1 4.0/1,ms1mx2.7/37,1C,Error ellipse: s-maj=40.3km s-min=14.1km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CTBH	**Cotabato--PC H**	**4.37**	**329**⇑	*i*P		Pb	23 43 25.8	-2.6
FITZ	**Fitzroy Crossi**	**21.43**	**182**	P		P	23 47 01.4	+0.8
	2.1nm,0.5s,baz=23,slow=9.3,SNR=8.8							
WRA	**Warramunga Arr**	**24.49**	**162**	P		P	23 47 31.6	-0.4
	9.6nm,0.7s,baz=342,slow=10,SNR=12							
ASAR	**Alice Springs**	**27.90**	**165**	P		P	23 48 02.9	+0.1
	1.1nm,0.5s,baz=353,slow=7.8,SNR=10							
CMAR	**Chiang Mai Arr**	**30.81**	**301**	P		P	23 48 29.4	+0.8
	0.6nm,0.3s,baz=121,slow=8.4,SNR=4.6							
KSRS	**Korea Array**	**33.87**	**2**	P		P	23 48 55.3	+0.2
	1.6nm,0.6s,baz=179,slow=9.1,SNR=5.7							
HNR	**Honiara**	**35.71**	**111**	LR		LR	00 04 11.7	
	comp=Z,228nm,18.1s,baz=125,slow=37							
STKA	**Stephens Creek**	**37.95**	**159**	P		P	23 49 29.6	-0.7
	3.6nm,0.6s,baz=329,slow=7.7,SNR=8.2							
SONM	**Songino Array**	**47.49**	**342**	P		P	23 50 47.0	-0.7
	0.4nm,0.6s,baz=140,slow=7.0,SNR=4.1							
SONM				PcP		PcP	23 52 18.2	+0.2
	0.6nm,0.9s,baz=153,slow=3.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**60.73**	**333**	P		P	23 52 23.6	-0.5
	0.3nm,0.3s,baz=109,slow=7.8,SNR=3.0							
KURBB	**Kurchatov Arra**	**61.85**	**328**	P		P	23 52 31.5	-0.3
	1.5nm,0.7s,baz=132,slow=6.1,SNR=8.9							
BVAR	**Borovoye Array**	**67.43**	**327**	P		P	23 53 08.5	+0.3
	0.7nm,0.7s,baz=134,slow=6.2,SNR=4.4							
ILAR	**Eielson Array**	**85.46**	**25**	P		P	23 54 50.8	+0.6
	0.4nm,0.9s,baz=260,slow=5.4,SNR=3.4							
BRTR	**Keskin Array B**	**90.02**	**310**	P		P	23 55 12.0	-0.9
	0.7nm,0.8s,baz=134,slow=6.2,SNR=5.6							
YKA	**Yellowknife Ar**	**99.85**	**24**	P		Pdif	23 55 56.8	-0.2
	0.1nm,0.3s,baz=294,slow=4.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP		PKPdf	00 01 09.9	0.0
	0.7nm,0.7s,baz=79,slow=1.9,SNR=8.4							

*CSEM **16** 23:45:34.3,37.95N×23.15E,h5km,ML1.0,After ATH*
ATH 16 23:45:34.3,37.95N×23.15E,h5km±3km,ML1.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.16**	**297**	*e*PG	Pg	23 45 37.4	-0.2
LTK				*e*SG	Sg	23 45 40.4	+0.6
LTK	**Loutraki**	**0.16**	**297**	*e*Pg	Pg	23 45 37.4	-0.2
LTK				*e*Sg	Sg	23 45 40.4	+0.6
NAIG	**Nisos Aigina**	**0.33**	**125**	*e*PB	Pg	23 45 40.9	+0.2
NAIG	**Nisos Aigina**	**0.33**	**125**	*e*Pb	Pg	23 45 40.9	+0.2
ATH	**Athens Observa**	**0.45**	**87**	*e*PG	Pg	23 45 42.8	-0.2
ATH	**Athens Observa**	**0.45**	**87**	*e*Pg	Pg	23 45 42.8	-0.2
DID	**Didima**	**0.45**	**171**	*e*PB	Pg	23 45 43.0	0.0
DID				*e*SB	Sg	23 45 50.2	+1.3
DID	**Didima**	**0.45**	**171**	*e*Pb	Pg	23 45 43.0	0.0
DID				*e*Sb	Sg	23 45 50.2	+1.3
PTL	**Penteli**	**0.57**	**80**	*e*PB	Pg	23 45 45.6	+0.2
PTL	**Penteli**	**0.57**	**80**	*e*Pb	Pg	23 45 45.6	+0.2
LKR	**Lokris**	**0.71**	**350**	*e*PB	Pg	23 45 48.4	+0.4
LKR	**Lokris**	**0.71**	**350**	*e*Pb	Pg	23 45 48.4	+0.4

WEL 16 23:48:51.1±0.8, 38.12S×176.11E, h160km±8km, ML3.5/3, 2C-1D, Error ellipse: s-maj=11.8km s-min=6.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**1.09**	**164**	⇑PN	Pn	23 49 17.9	+0.3
BKZ					Sn	23 49 36.7	-1.4
MWZ	**Matawai**	**1.14**	**101**	PN	Pn	23 49 17.7	-0.3
MWZ					Sn	23 49 36.4	-2.3
BHHZ	**Black Hill Sta**	**1.37**	**181**	PN	Pn	23 49 20.6	+0.4
KAHZ	**Kahuranaki**	**1.78**	**161**	PN	Pn	23 49 24.8	+0.5
KAHZ					Sn	23 49 49.4	-0.7
PRHZ	**Porangahau**	**2.18**	**169**	PN	Pn	23 49 28.8	-0.1
MRZ	**Mangatainoka R**	**2.57**	**189**	⇑PN	Pn	23 49 32.9	-0.6
MRZ					Sn	23 50 04.5	-2.0
TIWZ	**Tintock**	**2.66**	**184**	⇓PN	Pn	23 49 34.1	-0.6
HOWZ	**Holdsworth Sta**	**2.81**	**189**	PN	Pn	23 49 35.6	-0.9
MTW	**Mount Morrison**	**3.07**	**189**	PN	Pn	23 49 38.3	-1.4
TCW	**Tory Channel**	**3.40**	**204**	SN	Sn	23 50 22.3	-2.5

ISCJB ***16*** *23:59:18.7±0.7, 12.21S±0.08×166.1E±0.1, h30km, mb4.0/12, MS3.4/3, Error ellipse: s-maj=16.5km s-min=11.4km az=0.7*

NEIC ***16*** *23:59:24.0±1.2, 12.22S×166.05E, h63km±10km, mb4.0/3, Error ellipse: s-maj=12.0km s-min=8.7km az=71.0*

IDC ***16*** *23:59:25.2±5.2, 12.29S×166.05E, h73km±48km, mb3.8/9, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, ML3.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/23, Error ellipse: s-maj=29.2km s-min=27.6km az=92.0*

ISC 16 23:59:20.5±0.7, 12.15S±0.09×166.2E±0.1, h30km, n36, σ1§38/37, mb4.1/12, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.71**	**293**	LR	LR	00 02 40.2	
	comp=Z,96nm,20.1s,baz=92,slow=29						
HNR	**Honiara**	**6.71**	**293**	Pn	**Pn**	**00 00 58.2**	**+1.3**
DZM	**Mont Dzumac**	**9.87**	**179**	P	**Pn**	**00 01 42.3**	**+1.8**
	0.9nm,0.3s,baz=346,slow=18,SNR=9.0						
DZM				S	Sn	00 03 39.1	+8.7
	0.3nm,0.3s,baz=29,slow=19,SNR=2.3						
DZM				LR	LR	00 04 16.3	
	comp=Z,79nm,18.1s,baz=35,slow=30						
DZM	**Mont Dzumac**	**9.87**	**179**	P	**Pn**	**00 01 42.3**	**+1.8**
DZM				S	Sn	00 03 39.1	+8.7
CTA	**Charters Tower**	**20.70**	**245**	LR	LR	00 10 20.5	
	comp=Z,125nm,19.4s,baz=49,slow=32						
CTAO	**Charters Tower**	**20.70**	**245**	*e*P	**P**	**00 03 57.7**	**-0.8**
STKA	**Stephens Creek**	**29.96**	**225**	LR	LR	00 16 41.4	
	comp=Z,114nm,18.9s,baz=24,slow=35						
STKA	**Stephens Creek**	**29.96**	**225**	*e*P	**P**	**00 05 25.7**	**-0.6**
	0.4nm,0.6s						
WRAB	**Tennant Creek**	**31.52**	**252**	*e*P	**P**	**00 05 38.7**	**-1.6**
	3.4nm,1.0s						
WRA	**Warramunga Arr**	**31.54**	**252**	P	**P**	**00 05 39.3**	**-1.0**
	0.4nm,0.3s,baz=82,slow=9.5,SNR=5.5						
WRA	**Warramunga Arr**	**31.54**	**252**	P	**P**	**00 05 39.3**	**-1.0**
RPZ	**Rata Peaks**	**31.73**	**173**	P	**P**	**00 05 41.4**	**-0.4**
	7.5nm,0.7s,baz=3.1,slow=4.8,SNR=4.1						
RPZ	**Rata Peaks**	**31.73**	**173**	P	**P**	**00 05 41.4**	**-0.4**
ASAR	**Alice Springs**	**32.71**	**245**	P	**P**	**00 05 49.0**	**-1.6**
	1.0nm,0.8s,baz=70,slow=9.2,SNR=10.0						
ASAR				pP	**pP**	**00 06 00.7**	**+1.2**
	2.3nm,0.9s,baz=73,slow=9.5,SNR=11						
ASAR				LR	LR	00 17 10.5	
	comp=Z,101nm,20.7s,baz=348,slow=33						
ASAR	**Alice Springs**	**32.71**	**245**	P	**P**	**00 05 49.0**	**-1.6**
ASAR				pP	**pP**	**00 06 00.7**	**+1.2**
KSRS	**Korea Array**	**61.03**	**326**	P	**P**	**00 09 31.2**	**-0.1**
	0.9nm,0.5s,baz=134,slow=7.0,SNR=4.1						
KSAR	**Wonju Array Be**	**61.04**	**326**	P	**P**	**00 09 31.2**	**-0.3**
USRK	**Ussuriysk Arra**	**64.12**	**333**	P	**P**	**00 09 52.4**	**+0.5**
	2.5nm,0.9s,baz=143,slow=6.7,SNR=6.0						
ULN	**Ulaanbaatar**	**79.45**	**324**	*e*P	**P**	**00 11 24.2**	**0.0**
	9.3nm,1.2s						
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**00 11 26.4**	**+0.3**
	0.8nm,0.5s,baz=139,slow=5.8,SNR=18						
SONM				pP	**pP**	**00 11 39.2**	**+3.5**
	0.6nm,0.8s,baz=131,slow=3.9,SNR=5.6						
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**00 11 26.4**	**+0.3**
SONM				pP	**pP**	**00 11 39.2**	**+3.5**
ILAR	**Eielson Array**	**84.41**	**18**	P	**P**	**00 11 50.1**	**+0.4**
	0.3nm,0.7s,baz=232,slow=5.6,SNR=2.5						
ILAR	**Eielson Array**	**84.41**	**18**	P	**P**	**00 11 50.1**	**+0.4**
MK31	**Makanchi Array**	**94.62**	**317**	*e*P	**P**	**00 12 37.6**	**-1.0**
ZALV	**Zalesovo Beam**	**94.70**	**324**	P	**P**	**00 12 37.7**	**-1.0**
	1.8nm,0.8s,baz=108,slow=3.6,SNR=10						
ZALV	**Zalesovo Beam**	**94.70**	**324**	P	**P**	**00 12 37.7**	**-1.0**
YKA	**Yellowknife Ar**	**95.75**	**27**	P	**P**	**00 12 43.5**	**+0.3**
	0.1nm,0.4s,baz=259,slow=4.8,SNR=2.7						
YKA	**Yellowknife Ar**	**95.75**	**27**	P	**P**	**00 12 43.5**	**+0.3**
ARCES	**ARCESS Array B**	**117.50**	**345**	PKP	**PKPdf**	**00 18 00.8**	**-2.1**
	3.7nm,0.9s,baz=116,slow=2.1,SNR=4.8						
ARCES	**ARCESS Array B**	**117.50**	**345**	PKP	**PKPdf**	**00 18 00.8**	**-2.1**
FINES	**FINESS Array B**	**122.95**	**338**	PKP	**PKPdf**	**00 18 12.8**	**-0.7**
	2.3nm,0.9s,baz=11,slow=2.8,SNR=3.8						
FINES	**FINESS Array B**	**122.95**	**338**	PKP	**PKPdf**	**00 18 12.8**	**-0.7**
KEST	**Kesra**	**148.55**	**322**	PKPbc	**PKPbc**	**00 19 04.1**	**-0.9**
	1.5nm,1.0s,baz=135,slow=4.3,SNR=6.0						
KEST	**Kesra**	**148.55**	**322**	PKPbc	**PKPbc**	**00 19 04.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.84**	**275**	PKP	**PKPdf**	**00 19 21.6**	**-1.1**
	0.7nm,0.9s,baz=157,slow=1.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**164.84**	**275**	PKP	**PKPdf**	**00 19 21.6**	**-1.1**

IDC 17 00:08:28.9±2.4, 3.59S×88.36E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.6/5, Error ellipse: s-maj=70.7km s-min=38.9km az=142.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.26**	**25**	P	P	00 13 49.6	+1.7
	1.3nm,0.8s,baz=206,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**53.60**	**15**	P	P	00 17 50.8	-1.2
	0.2nm,0.4s,baz=197,slow=8.1,SNR=6.7						
KURBB	**Kurchatov Arra**	**54.66**	**352**	P	P	00 17 58.8	-0.7
	0.5nm,0.7s,baz=184,slow=6.4,SNR=8.2						
BRTR	**Keskin Array B**	**66.11**	**316**	P	P	00 19 18.4	+0.1
	0.4nm,0.6s,baz=142,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**87.57**	**283**	P	P	00 21 20.4	+0.7
	0.3nm,0.6s,baz=84,slow=5.1,SNR=4.4						
TXAR	**Lajitas Array**	**151.96**	**23**	PKPbc	PKPbc	00 28 26.4	-0.5
	0.8nm,0.4s,baz=278,slow=0.4,SNR=28						

WEL 17 00:31:46.8±0.4, 36.37S×177.63E, h186km±4km, ML4.2/9, 6C-12D, Error ellipse: s-maj=6.4km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.31**	**156**	⇑PN	Pn	00 32 17.7	+0.2
MXZ					Sn	00 32 41.2	-0.3
PUZ	**Puketiti**	**1.78**	**164**	PN	Pn	00 32 21.7	-0.2
PUZ					Sn	00 32 47.9	-1.5
URZ	**Urewera**	**1.94**	**192**	⇓PN	Pn	00 32 23.9	+0.4
URZ					Sn	00 32 52.4	+0.1
MWZ	**Matawai**	**1.97**	**182**	PN	Pn	00 32 24.0	+0.1
MWZ					Sn	00 32 53.3	+0.3
CNGZ	**Carnagh Statio**	**2.17**	**168**	⇓PN	Pn	00 32 26.8	+0.8
RAHZ	**Arahi**	**2.58**	**189**	PN	Pn	00 32 31.2	+0.4
KNZ	**Kokohu**	**2.65**	**179**	⇑PN	Pn	00 32 31.2	-0.3
MHGZ	**Mahia Peninsul**	**2.79**	**175**	PN	Pn	00 32 33.2	0.0
NMHZ	**Naumai**	**2.80**	**193**	PN	Pn	00 32 34.1	+0.6
BKZ	**Black Stump Fm**	**2.94**	**197**	⇑PN	Pn	00 32 34.8	-0.2
MCHZ	**McNeill Hill**	**3.16**	**193**	PN	Pn	00 32 37.8	+0.2
OTVZ	**Oturere**	**3.20**	**208**	PN	Pn	00 32 39.1	+0.8
NGZ	**Ngauruhoe**	**3.23**	**209**	PN	Pn	00 32 39.7	+1.0
CKHZ	**Cape Kidnapper**	**3.32**	**187**	PN	Pn	00 32 38.9	-0.6
FWVZ	**Far West T-bar**	**3.32**	**209**	PN	Pn	00 32 40.5	+0.6
BHHZ	**Black Hill Sta**	**3.35**	**201**	⇓PN	Pn	00 32 39.7	-0.4
TRVZ	**Turoa**	**3.36**	**209**	PN	Pn	00 32 40.8	+0.5
WNVZ	**Wahianoa**	**3.37**	**208**	⇓PN	Pn	00 32 40.6	+0.3
MOVZ	**Moawhango**	**3.38**	**205**	⇓PN	Pn	00 32 40.1	-0.3
MTVZ	**Mangateitei**	**3.46**	**209**	PN	Pn	00 32 42.0	+0.6
KAHZ	**Kahuranaki**	**3.48**	**190**	⇓PN	Pn	00 32 41.0	-0.5
PXZ	**Pawanui**	**3.71**	**189**	⇑PN	Pn	00 32 43.0	-1.3
PNHZ	**Pukenui**	**3.72**	**197**	⇓PN	Pn	00 32 43.3	-1.2
WPHZ	**Waipukurau**	**3.81**	**194**	PN	Pn	00 32 44.4	-1.2
TSZ	**Takapari Road**	**3.91**	**199**	⇓PN	Pn	00 32 45.6	-1.4
PRHZ	**Porangahau**	**3.97**	**191**	⇑PN	Pn	00 32 46.4	-1.3
WAZ	**Wanganui**	**3.97**	**211**	PN	Pn	00 32 47.5	-0.2
DVHZ	**Dannevirke**	**4.09**	**196**	PN	Pn	00 32 47.6	-1.6
POWZ	**Post Office Ro**	**4.28**	**199**	PN	Pn	00 32 50.2	-1.3
BFZ	**Birch Farm**	**4.44**	**194**	PN	Pn	00 32 51.8	-1.9
MRZ	**Mangatainoka R**	**4.58**	**200**	⇓PN	Pn	00 32 53.1	-2.3
TIWZ	**Tintock**	**4.61**	**197**	PN	Pn	00 32 53.8	-2.0
HOWZ	**Holdsworth Sta**	**4.82**	**199**	⇑PN	Pn	00 32 55.9	-2.6
OGWZ	**Otaki Gorge**	**4.84**	**203**	PN	Pn	00 32 56.6	-2.2
TMWZ	**Te Maipa**	**4.93**	**195**	⇓PN	Pn	00 32 57.5	-2.4
KIW	**Kapiti Island**	**4.97**	**205**	PN	Pn	00 32 58.0	-2.4
MTW	**Mount Morrison**	**5.07**	**198**	PN	Pn	00 32 58.9	-2.7
CAW	**Cannon Point**	**5.14**	**202**	⇓PN	Pn	00 32 59.9	-2.7
TRWZ	**Traveller**	**5.25**	**196**	⇓PN	Pn	00 33 01.4	-2.6
PAWZ	**Paruwai Farm**	**5.29**	**198**	PN	Pn	00 33 01.5	-3.1
DUWZ	**D'Urville Isla**	**5.30**	**212**	PN	Pn	00 33 02.3	-2.4
MSWZ	**Moikau Station**	**5.37**	**199**	PN	Pn	00 33 02.4	-3.3
BHW	**Baring Head**	**5.47**	**202**	PN	Pn	00 33 03.7	-3.2
TCW	**Tory Channel**	**5.50**	**207**	PN	Pn	00 33 04.1	-3.1
PLWZ	**Palliser**	**5.52**	**199**	PN	Pn	00 33 04.1	-3.4
TUWZ	**Tuamarina**	**5.82**	**208**	PN	Pn	00 33 08.4	-2.9
BSWZ	**Blackbirch Sta**	**6.09**	**207**	PN	Pn	00 33 12.0	-2.9
KHZ	**Kahutara**	**6.82**	**206**	PN	Pn	00 33 20.3	-4.1
LTZ	**Lake Taylor**	**7.63**	**211**	PN	Pn	00 33 31.4	-3.8
MQZ	**McQueen's Vall**	**8.26**	**206**	PN	Pn	00 33 38.2	-5.2
CTZ	**Chatham Island**	**8.58**	**151**	PN	Pn	00 33 53.6	+6.1
ODZ	**Otahua Downs**	**10.16**	**209**	PN	Pn	00 34 04.4	-3.7

KRSC 17 00:36:43.1±0.1, 56.17N×163.31E, h16km±15km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.28**	**278**	*e*P	Pb	00 36 49.5	-0.2
KBTR				*i* S	Sg	00 36 53.5	+0.3
KBG	**Krutoberegovo**	**0.35**	**284**	*e*P	Pb	00 36 50.7	-0.2
KBG				*i* S	Sb	00 36 56.1	-0.1
SMKR	**Semkarok**	**1.10**	**293**	*e*P	Pb	00 37 03.6	+0.3
SMKR				*i* S	Sg	00 37 19.5	+0.4
BDR	**Baidarnaya**	**1.24**	**290**	*e*P	Pn	00 37 05.9	+0.1
BDR				*i* S	Sg	00 37 23.5	+0.2
SRKR	**Sorokina**	**1.29**	**293**	*e*P	Pn	00 37 06.6	+0.1
SRKR				*i* S	Sg	00 37 24.5	-0.3
ZLN	**Zelenaya**	**1.41**	**265**	*e*P	Pb	00 37 09.2	0.0
ZLN				*i* S	Sg	00 37 28.6	-0.4
CIRR	**Tsirk**	**1.44**	**269**	*e*P	Pb	00 37 09.6	-0.1
CIRR				*i* S	Sg	00 37 29.3	-0.5
LGNR	**Loginova**	**1.47**	**268**	*e*P	Pb	00 37 10.0	-0.4
LGNR				*i* S	Sb	00 37 29.5	+0.4
BZGR	**Bezymyannyi-Gr**	**1.48**	**262**	*e*P	Pb	00 37 10.2	-0.2
BZGR				*i* S	Sb	00 37 29.7	+0.5
KLY	**Klyuchi**	**1.49**	**277**	*e*P	Pn	00 37 07.7	-1.5
KLY				*i* S	Sn	00 37 26.3	-2.0
KRSR	**Krestovskiy**	**1.54**	**273**	*e*P	Pn	00 37 10.0	0.0
KRSR				*i* S	Sn	00 37 30.0	+0.3
BZWR	**Bezymyannyi-We**	**1.59**	**264**	*e*P	Pb	00 37 12.0	-0.4
BZWR				*i* S	Sb	00 37 33.3	+0.9
BZMR	**Bezymyannaya**	**1.60**	**263**	*e*P	Pb	00 37 11.9	-0.6
BZMR				*i* S	Sb	00 37 32.9	+0.3
KIRR	**Kirishev**	**1.68**	**264**	*e*P	Pn	00 37 12.8	+0.8
KIRR				*i* S	Sb	00 37 35.4	+0.6
KPT	**Kopyto**	**1.74**	**265**	*e*P	Pb	00 37 14.2	-0.6
KPT				*i* S	Sb	00 37 37.5	+0.9
KMNR	**Kamenistaya**	**1.78**	**258**	*e*P	Pb	00 37 14.9	-0.5
KMNR				*i* S	Sb	00 37 38.3	+0.7
BKI	**Bering**	**1.79**	**122**	*e*P	Pn	00 37 13.7	+0.4
BKI				*i* S	Sn	00 37 36.3	+0.6
MKZ	**Mys Kozlova**	**1.85**	**210**	*e*P	Pn	00 37 13.2	-0.9
MKZ				*i* S	Sn	00 37 35.3	-1.9
KOZ	**Kozyrevsk**	**1.93**	**268**	*e*P	Pb	00 37 17.3	-0.6
KOZ				*i* S	Sb	00 37 42.8	+1.1
TUMR	**Tumrok**	**2.00**	**245**	*e*P	Pn	00 37 17.5	+1.2
TUMR				*i* S	Sb	00 37 42.6	-1.4
SRDR	**Sredinnyy**	**2.01**	**276**	*e*P	Pb	00 37 18.3	-1.1
SRDR				*i* S	Sb	00 37 44.4	+0.2
ESO	**Esso**	**2.60**	**266**	*e*P	Pb	00 37 26.9	-2.4
ESO				*i* S	Sb	00 37 59.1	-1.9
SDLR	**Sedlovina**	**3.87**	**223**	*e*P	Pn	00 37 43.2	+1.1
SDLR				*i* S	Sn	00 38 27.9	+0.6
SMAR	**Somma**	**3.91**	**224**	*e*P	Pn	00 37 44.0	+1.2
AVH	**Avacha**	**3.94**	**224**	*e*P	Pn	00 37 46.3	+3.4
UGLR	**Uglovaya**	**3.95**	**223**	*e*P	Pn	00 37 44.0	+0.9
GNL	**Ganaly**	**3.97**	**234**	*e*P	Pn	00 37 45.1	+1.7
ASAK	**Asacha**	**4.94**	**222**	*e*P	Pn	00 37 59.4	+2.6

NIED ***17*** *00:40:00, 38.00N×142.70E, h26km, Mw4.4 Best double couple: M0=4.96000×10^15 NP1:φ=7.00000°, δ=50.00000°, λ=66.00000°. NP2:φ=222.00000°, δ=46.00000°, λ=116.00000°.*

JMA ***17*** *00:40:01.9±0.1, 38.01N×142.63E, h34km±2km, M4.6*

JMA Felt I J1.

ISCJB ***17*** *00:40:01.2±0.9, 37.98N±0.03×142.58E±0.04, h16km±5km, mb4.6/87, MS3.9/11, Error ellipse: s-maj=5.9km s-min=4.3km az=136.5*

BJI ***17*** *00:40:03.6, 38.00N×142.48E, h38km, mB4.8/13, mb4.7/31, Ms4.1/12, Ms7 3.9/11*

SZGRF ***17*** *00:40:04.6, 37.01N×143.18E, h59km, mb4.7, Off east coast of Honshu, Japan*

MOS ***17*** *00:40:04.0±0.9, 38.02N×142.50E, h33km, mb4.8/55, Error ellipse: s-maj=8.4km s-min=5.2km az=114.8*

IDC ***17*** *00:40:05.5±0.4, 38.00N×142.53E, h33km±2km, mb4.2/24, mb1 4.4/31, mb1mx4.4/34, mbtmp4.3/31, ML3.9/6, MS3.7/11, Ms1 3.7/11, ms1mx3.3/51, Error ellipse: s-maj=12.1km s-min=8.6km az=116.0*

NEIC ***17*** *00:40:05.3±0.2, 38.01N×142.57E, mb4.9/35, MW4.4(NIED), Error ellipse: s-maj=5.0km s-min=3.6km az=130.0*

NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi.

ISC 17 00:40:05.6±0.3, 38.02N±0.04×142.47E±0.04, h35km±1km, h35km:pP-P, n298, σ1§09/368, mb4.6/87, MS3.9/11, 19C-26D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.98**	**297**	⇓P	**Pn**	**00 40 21.4**	**-1.4**
JIO				*e*S	**Sn**	**00 40 35.6**	**+0.1**
OFUJ	**Ofunato**	**1.23**	**330**	⇓P	**Pn**	**00 40 24.5**	**-1.8**
JMM	**Marumori**	**1.33**	**264**	⇓P	**Pn**	**00 40 26.5**	**-1.2**
JMM				*e*S	**Sn**	**00 40 43.6**	**-0.6**
JMK	**Ichinoseki**	**1.35**	**314**	⇓P	**Pn**	**00 40 26.7**	**-1.2**
JMK				*e*S	**Sn**	**00 40 44.7**	**+0.1**
JFK	**Kawauchi**	**1.42**	**243**	⇓P	**Pn**	**00 40 27.5**	**-1.4**
JFK				*e*S	**Sn**	**00 40 45.5**	**-0.9**
JOU	**Okura**	**1.46**	**284**	⇓P	**Pn**	**00 40 29.6**	**-0.5**
JOU				*e*S	**Sn**	**00 40 48.3**	**+0.9**
JOM	**Ohasama**	**1.72**	**328**	⇓P	**Pn**	**00 40 32.1**	**-0.9**
JFT	**Otama**	**1.76**	**254**	⇓P	**Pn**	**00 40 33.6**	**0.0**
JFT				*e*S	**Sn**	**00 40 56.4**	**+1.6**
JYK	**Kaneyama**	**1.88**	**299**	⇓P	**Pn**	**00 40 34.7**	**-0.5**
JYS	**Shirataka**	**1.90**	**277**	⇓P	**Pn**	**00 40 35.2**	**-0.3**
JYS				*e*S	**Sn**	**00 41 00.0**	**+1.7**
JRG	**Rokugo**	**1.99**	**314**	⇓P	**Pn**	**00 40 36.2**	**-0.5**
JYA	**Atsumi**	**2.24**	**286**	P	**Pn**	**00 40 40.0**	**-0.1**
JFY	**Yanaizu**	**2.27**	**255**	P	**Pn**	**00 40 40.6**	**0.0**
MJAR	**Matsushiro Arr**	**3.70**	**248**	Pn	**Pn**	**00 41 02.3**	**+2.1**
	7.7nm,0.3s,baz=64,slow=11,SNR=70						
MJAR				Sn	**Sb**	**00 41 53.3**	**-1.3**
	12nm,0.3s,baz=334,slow=12,SNR=4.7						
MJAR				LR	LR	00 42 38.0	
	comp=Z,1μm,18.5s,baz=65,slow=41						
MJAR	**Matsushiro Arr**	**3.70**	**248**	Pn	**Pn**	**00 41 02.3**	**+2.1**
MJAR				Sn	**Sb**	**00 41 53.3**	**-1.3**
MAJO	**Matsushiro**	**3.70**	**248**	*e*P	**Pn**	**00 41 00.8**	**+0.5**
MAJO				*e*		00 41 43.9	
MAJO	**Matsushiro**	**3.70**	**248**	*e*Pn	**Pn**	**00 41 00.8**	**+0.5**
MAJO				*e*Sn	**Sn**	**00 41 43.9**	**+1.1**
ERM	**Erimo**	**4.03**	**7**	*e*P	**Pn**	**00 41 06.7**	**+2.0**
ERM				*e*		00 41 47.0	
ERM	**Erimo**	**4.03**	**7**	*e*Pn	**Pn**	**00 41 06.7**	**+2.0**
ERM				*e*Sn	**Sn**	**00 41 47.0**	**-3.6**
JHJ	**Hachijo jima 2**	**5.36**	**205**	Pn	**Pn**	**00 41 22.4**	**-0.7**
	86nm,0.3s,baz=150,slow=1.8,SNR=16						
JHJ				Sn	**Sn**	**00 42 19.9**	**-3.6**
	94nm,0.3s,baz=256,slow=23,SNR=5.6						
JHJ				LR	LR	00 42 47.1	
	comp=Z,251nm,21.2s,baz=250,slow=30						
ASAJ	**Asahikawa**	**6.09**	**1**	Pn	**Pn**	**00 41 34.0**	**+0.9**
	2.9nm,0.3s,baz=212,slow=9.8,SNR=9.3						
ASAJ				Sn	**Sn**	**00 42 40.0**	**-1.5**
	4.4nm,0.3s,baz=1.6,slow=25,SNR=3.1						
ASAJ				LR	LR	00 44 36.4	
	comp=Z,685nm,21.3s,baz=359,slow=44						
ASAJ	**Asahikawa**	**6.09**	**1**	*e*Pn	**Pn**	**00 41 32.8**	**-0.2**
ASAJ				*e*Sn	**Sn**	**00 42 39.2**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**6.53**	**22**	*i* P	**Pn**	**00 41 36.0**	**-3.1**
YUK				*i* S	**Sn**	**00 42 46.9**	**-5.5**
YUK				pmax	pmax		
	comp=N,49nm,0.3s						
YUK				pmax	pmax		
	comp=E,74nm,0.3s						
YUK				pmax	pmax		
	comp=Z,237nm,0.3s						
YUK				smax	smax		
	comp=N,337nm,0.6s						
YUK				smax	smax		
	comp=E,235nm,0.6s						
YUK				MLR	MLR		
	comp=N,186nm,14.0s						
YUK				MLR	MLR		
	comp=E,82nm,14.0s						
YUK				MLR	MLR		
	comp=Z,225nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.93**	**1**	*e*P	**Pn**	**00 42 13.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,600nm,18.0s						
YSS	**Yuzh-Sakhalins**	**8.93**	**1**	*e*Pn	**Pn**	**00 42 10.5**	**-1.5**
	comp=Z,20nm,0.6s						
VLA	**Vladivostok**	**9.52**	**306**	*e*P	**Pn**	**00 42 21.2**	**+1.1**
VLA				pmax	pmax		
	comp=Z,132nm,1.3s						
USRK	**Ussuriysk Arra**	**10.02**	**311**	Pn	**Pn**	**00 42 28.9**	**+2.0**
	comp=Z,1.7nm,0.3s,baz=122,slow=13,SNR=63						
USRK				LR	LR	00 46 13.5	
	comp=Z,515nm,18.8s,baz=272,slow=36						
JNU	**Nakatsue**	**10.62**	**246**	Pn	**Pn**	**00 42 37.1**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=55,slow=8.4,SNR=9.4						
JNU				LR	LR	00 47 09.3	
	comp=Z,581nm,18.7s,baz=57,slow=40						
JNU	**Nakatsue**	**10.62**	**246**	*e*Pn	**Pn**	**00 42 37.2**	**+1.9**
CBIJ	**Chichi jima**	**10.90**	**181**	Pn	**Pn**	**00 42 38.7**	**-0.3**
	comp=Z,20nm,0.3s,baz=279,slow=15,SNR=9.1						
CBIJ				Sn	Sn	00 44 28.9	-11
	comp=Z,4.9nm,0.3s,baz=139,slow=22,SNR=3.4						
CBIJ	**Chichi jima**	**10.90**	**181**	Pn	**Pn**	**00 42 38.7**	**-0.3**
CBI

comp=Z,17nm,0.6s
YAK smax smax
comp=E,79nm,3.5s
YAK smax smax
comp=N,133nm,3.0s
YAK MLR MLR
comp=Z,248nm,17.0s
YAK MLR MLR
comp=N,70nm,10.0s
YAK MLR MLR
comp=E,79nm,13.0s
SEY Seymchan 25.67 10 *e*P **P 00 45 31.9 +0.1**
BOD Bodaibo 27.16 326 *e*P **P 00 45 45.1 -0.3**
BOD pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 27.33 272 P **P 00 45 48.1 +0.9**
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,17nm,6.1s
XAN LR LR
comp=N,110nm,18.1s
XAN LR LR
comp=Z,48nm,16.8s
ULN Ulaanbaatar 27.51 302 *e*P **P 00 45 49.7 +0.8**
comp=Z,7.6nm,0.9s
SONM Songino Array 27.95 302 P **P 00 45 53.6 +0.8**
comp=Z,3.1nm,0.6s,baz=117,slow=8.5,SNR=44
SONM Songino Array 27.95 302 P **P 00 45 53.6 +0.8**
ENH Enshi 28.26 264 *e*P **P 00 45 55.1 -0.4**
comp=Z,49nm,0.8s
ZAK Zakamensk 30.33 307⇑ *i*P **P 00 46 14.0 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 30.34 309 *e*P **P 00 46 13.3 -0.4**
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,199nm,17.0s
TLY Talaya 30.34 309 *e*P **P 00 46 14.4 +0.7**
comp=Z,4.6nm,0.8s
TLY *e*pP **pP 00 46 23.4 -0.3**
LZH Lanzhou 30.74 278 *e*P **P 00 46 18.0 +0.4**
LZH pP **pP 00 46 25.0 -2.6**
LZH sP **sP 00 46 29.1 -2.7**
LZH pmax pmax
comp=Z,14nm,1.1s
MOY Mondy 31.96 309 *e*P **P 00 46 28.4 +0.3**
GYA Guiyang 32.22 260⇑ *i*P **P 00 46 29.9 -0.7**
GYA pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 32.85 16 *e*P **P 00 46 34.6 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 32.85 16 *e*P **P 00 46 34.6 -0.9**
comp=Z,7.6nm,1.2s
GTA Gaotai 33.09 286 *e*P **P 00 46 39.0 +0.9**
GTA pP **pP 00 46 51.3 +3.1**
GTA sP **sP 00 46 56.4 +4.0**
GTA pmax pmax
comp=Z,17nm,1.0s
QIZ Qiongzhong 34.10 245 P **P 00 46 44.8 -2.2**
QIZ S **S 00 52 08.6 -2.0**
QIZ pmax pmax
comp=Z,12nm,1.8s
QIZ LR LR
comp=Z,220nm,15.4s
KMI Kunming 35.94 261 P **P 00 47 03.1 0.0**
KMI pmax pmax
comp=Z,11nm,0.7s
HVS Khovu-Aksy 36.45 307 *e*P **P 00 47 06.9 -0.1**
HVS pmax pmax
comp=Z,19nm,1.3s
WMQ Urumqi 41.15 296 P **P 00 47 47.5 +1.1**
WMQ pmax pmax
comp=Z,23nm,1.4s
ZAA0 Zalesovo Array 41.88 312 *e*P **P 00 47 52.2 0.0**
ZALV Zalesovo Beam 41.88 312 P **P 00 47 52.6 +0.5**
comp=Z,5.3nm,0.5s,baz=86,slow=7.6,SNR=39
ZALV PcP **PcP 00 49 47.4 +0.1**
comp=Z,3.1nm,0.5s,baz=87,slow=3.1,SNR=6.1
ZALV Zalesovo Beam 41.88 312 P **P 00 47 52.6 +0.5**
ZALV 00 49 47.4
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 41.88 312 P **P 00 47 52.6 +0.5**
ZALV PcP **PcP 00 49 47.4 +0.1**
CHTO Chiang Mai 42.35 256 *e*P **P 00 47 56.7 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CHTO Chiang Mai 42.35 256 *e*P **P 00 47 56.7 +0.3**
comp=Z,3.9nm,0.5s
CMAR Chiang Mai Arr 42.56 255 P **P 00 47 58.9 +0.7**
comp=Z,1.3nm,0.3s,baz=44,slow=7.4,SNR=10
CMAR pP **pP 00 48 08.3 0.0**
comp=Z,1.3nm,0.4s,baz=54,slow=9.6,SNR=2.1
CMAR Chiang Mai Arr 42.56 255 P **P 00 47 58.9 +0.7**
CMAR pP **pP 00 48 08.3 0.0**
NVS Novosibirsk 42.77 313 *i*P **P 00 47 59.1 -0.3**
NVS pmax pmax
comp=Z,15nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.4s
MK31 Makanchi Array 44.31 301 *e*P **P 00 48 11.9 -0.1**
MK31 Makanchi Array 44.31 301 *e*P **P 00 48 11.8 -0.1**
MKAR Makanchi Array 44.31 301 *e*P **P 00 48 12.6 +0.6**
MKAR Makanchi Array 44.31 301 *e*P **P 00 48 12.6 +0.6**
KDAK Kodiak Island 45.81 43 P **P 00 48 23.3 -0.3**
comp=E,9.0nm,0.7s,baz=290,slow=3.5,SNR=7.0
KDAK pP **pP 00 48 33.3 -0.6**
comp=E,14nm,0.9s,baz=307,slow=7.9,SNR=2.7
KDAK Kodiak Island 45.81 43 P **P 00 48 23.3 -0.3**
KDAK pP **pP 00 48 33.3 -0.6**
KURK Kurchatov 45.99 307*c i*P **P 00 48 25.2 +0.1**
KURK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 45.99 307 *e*P **P 00 48 25.3 +0.1**
KURK pmax pmax
comp=Z,18nm,0.8s
KURK Kurchatov 45.99 307 *e*P **P 00 48 25.2 +0.1**
comp=Z,18nm,0.8s
TAPN Taplejung 46.71 274 *e*P **P 00 48 32.1 +0.6**
comp=Z,16nm,0.8s
ODAN Odare 47.19 273 *e*P **P 00 48 35.8 +0.6**
KAPI Kappang 47.74 211 P **P 00 48 39.3 +0.2**
comp=Z,12nm,0.6s,baz=91,slow=1.4,SNR=6.1
KAPI Kappang 47.74 211 P **P 00 48 39.3 +0.2**
JIRN Jiri 47.76 275 *e*P **P 00 48 40.6 +0.8**
comp=Z,4.7nm,0.6s
RAMN Ramite 47.77 274 *e*P **P 00 48 40.0 +0.3**
comp=Z,29nm,0.8s
GUN Gumba 47.89 275 *e*P **P 00 48 41.3 +0.5**
comp=Z,27nm,0.5s
ILAR Eielson Array 48.22 33 P **P 00 48 42.5 +0.2**
comp=Z,2.7nm,0.7s,baz=267,slow=6.7,SNR=30
ILAR pP **pP 00 48 52.4 -0.3**
comp=Z,3.5nm,0.8s,baz=269,slow=6.5,SNR=14
ILAR Eielson Array 48.22 33 P **P 00 48 42.5 +0.2**
ILAR pP **pP 00 48 52.4 -0.3**
KKN Kakani 48.42 276 *e*P **P 00 48 45.2 +0.5**
comp=Z,23nm,0.6s
PKI Pulchoki 48.42 275 *e*P **P 00 48 44.8 0.0**
comp=Z,16nm,0.7s
PKIN Phulchoki 48.43 275 *e*P **P 00 48 44.5 -0.3**
comp=Z,11nm,0.5s
DMN Daman 48.64 275 *e*P **P 00 48 46.8 +0.3**
comp=Z,15nm,0.5s
GKN Gorkha 48.83 276 *e*P **P 00 48 48.1 +0.3**
comp=Z,38nm,0.7s
DANN Dangsing 49.36 277 *e*P **P 00 48 52.7 +0.7**
comp=Z,72nm,0.6s
KOLN Koldanda 49.75 276 *e*P **P 00 48 54.6 -0.3**
comp=Z,22nm,0.7s
TKM2 Tokmak 2 49.90 298 *e*P **P 00 48 56.1 +0.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 49.90 298 *e*P **P 00 48 56.1 +0.2**
comp=Z,6.4nm,0.8s
PYUN Piuthan 50.08 277 *e*P **P 00 48 57.7 +0.3**
comp=Z,114nm,1.0s
BVAR Borovoye Array 50.53 312 LR LR 01 11 22.0
comp=Z,94nm,19.2s,baz=245,slow=37
BRVK Borovoye 50.59 312*d i*P **P 00 49 01.4 +0.8**
BRVK pmax pmax
comp=Z,12nm,2.5s
BRVK Borovoye 50.59 312 *e*P **P 00 49 01.3 +0.7**
comp=Z,4.5nm,0.9s
AAK Ala-Archa 50.76 298 *e*P **P 00 49 04.8 +2.5**
AAK pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 50.76 298 *e*P **P 00 49 04.8 +2.5**
comp=Z,10nm,0.6s
EKS2 Erkin-Say 51.25 298 *e*P **P 00 49 06.6 +0.6**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 51.25 298 *e*P **P 00 49 06.6 +0.6**
comp=Z,2.3nm,0.8s
PSI Prapat 53.02 239 P **P 00 49 19.5 +0.2**
comp=Z,4.7nm,0.6s,baz=12,slow=5.1,SNR=8.5
PSI Prapat 53.02 239 P **P 00 49 19.5 +0.2**
KKAR Karatay Array 53.36 300 *e*P **P 00 49 21.1 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 53.36 300 *e*P **P 00 49 21.1 -0.3**
comp=Z,1.9nm,0.6s
SVE Sverdlovsk 54.97 318⇑ *e*P **P 00 49 33.6 +0.7**
SVE *e*S **S 00 57 12.4 +0.3**
SVE pmax pmax
comp=Z,16nm,0.8s
SVE MLR MLR
comp=Z,459nm,21.0s
ARU Arti 56.18 318*c i*P **P 00 49 41.7 +0.1**
ARU 00 51 43.5
ARU S **S 00 57 31.4 +3.1**
ARU SS **SS 01 01 16.1 +1.6**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 56.18 318 *e*P **P 00 49 41.6 0.0**
comp=Z,11nm,0.9s
KBL Kabul 57.84 291 *e*P **P 00 49 54.2 +0.2**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 57.84 291 *e*P **P 00 49 54.2 +0.2**
comp=Z,6.6nm,0.9s
ABKAR Akbulak array 57.95 310 *e*P **P 00 49 54.0 -0.2**
FITZ Fitzroy Crossi 58.02 199 P **P 00 49 55.8 +0.9**
comp=Z,7.9nm,0.9s,baz=12,slow=7.3,SNR=8.3
FITZ Fitzroy Crossi 58.02 199 P **P 00 49 55.8 +0.9**
WRA Warramunga Arr 58.16 189 P **P 00 49 55.4 -0.5**
comp=Z,11nm,0.9s,baz=8.5,slow=7.3,SNR=55
WRA pP **pP 00 50 05.2 -1.3**
comp=Z,7.0nm,0.8s,baz=6.8,slow=7.4,SNR=8.6
WRA sP **sP 00 50 12.0 +1.5**
comp=Z,4.7nm,0.8s,baz=6.0,slow=7.4,SNR=4.8
WRA Warramunga Arr 58.16 189 P **P 00 49 55.4 -0.5**
WRA pP **pP 00 50 05.2 -1.3**
WRA sP **sP 00 50 12.1 +1.5**
HYB Hyderabad 59.06 268 *i*P **P 00 50 01.0 -1.5**
RES Resolute Bay 61.44 15 *e*P **P 00 50 17.9 +0.1**
comp=Z,5.8nm,0.9s
ASAR Alice Springs 61.88 189 P **P 00 50 21.6 +0.1**
comp=Z,2.9nm,0.7s,baz=12,slow=6.9,SNR=26
ASAR pP **pP 00 50 31.0 -1.0**
comp=Z,2.1nm,0.8s,baz=8.6,slow=6.4,SNR=5.6
ASAR Alice Springs 61.88 189 P **P 00 50 21.6 +0.1**
ASAR pP **pP 00 50 31.0 -1.0**
YKA Yellowknife Ar 62.54 31 P **P 00 50 25.3 0.0**
comp=Z,1.6nm,0.7s,baz=304,slow=6.6,SNR=38
YKA pP **pP 00 50 35.6 -0.4**
comp=Z,1.2nm,0.7s,baz=302,slow=6.3,SNR=8.3
YKA Yellowknife Ar 62.54 31 P **P 00 50 25.3 0.0**
YKA pP **pP 00 50 35.6 -0.4**
ARCES ARCESS Array B 63.37 339 P **P 00 50 32.5 +1.6**
comp=Z,2.3nm,0.8s,baz=64,slow=8.4,SNR=4.3
ARCES ARCESS Array B 63.37 339 P **P 00 50 32.5 +1.6**
DAG Danmarks Havn 64.86 355 *i*P **P 00 50 40.0 -0.5**
comp=Z,44nm,0.9s
DAG *e* 00 52 07.4
JOF Joensuu 65.49 332 *e*P **P 00 50 43.6 -1.1**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 65.49 332 *ep* **P 00 50 43.6 -1.1**
comp=Z,1.9nm,0.5s
OBN Obninsk 67.81 323 *e*P **P 00 50 58.8 -0.8**
OBN *i* 00 51 11.3
OBN pmax pmax
comp=Z,27nm,2.5s
OBN MLR MLR
comp=Z,100nm,12.0s
KAF Kangasniemi 67.81 333 *e*P **P 00 50 57.2 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 67.81 333 *ep* **P 00 50 57.2 -2.4**
comp=Z,3.6nm,0.7s
FINES FINESS Array B 68.33 332 P **P 00 51 03.4 +0.5**
comp=Z,8.1nm,0.8s,baz=59,slow=7.4,SNR=13
FINES pP **pP 00 51 12.8 -0.8**
comp=Z,6.2nm,0.8s,baz=31,slow=7.8,SNR=5.3
FINES FINESS Array B 68.33 332 P **P 00 51 03.4 +0.5**
FINES pP **pP 00 51 12.8 -0.8**
VSR Storozhevoye 68.74 319 *e*P **P 00 51 05.0 -0.6**
VORD Divnogorie 68.82 319 *e*P **P 00 51 04.5 -1.6**
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,1.0s
STKA Stephens Creek 69.54 181 P **P 00 51 10.5 -0.1**
comp=E,4.0nm,0.8s,baz=324,slow=10,SNR=3.9
STKA Stephens Creek 69.54 181 P **P 00 51 10.5 -0.1**
SUMG Summit 69.70 0 *i*P **P 00 51 12.1 +0.4**
comp=E,5.5nm,0.9s
ZEI Tsey 70.83 310 *e*P **P 00 51 17.7 -1.2**
ZEI pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 70.89 311 *e*P **P 00 51 19.6 +0.5**
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,68nm,18.0s
KIV Kislovodsk 70.89 311 *e*P **P 00 51 20.1 +1.0**
KBZ Khabaz 70.89 311 P **P 00 51 20.0 +1.0**
comp=Z,5.5nm,0.9s,baz=72,slow=2.6,SNR=14
KBZ pP **pP 00 51 31.8 +2.1**
comp=Z,1.9nm,0.8s,baz=23,slow=9.1,SNR=3.0
KBZ Khabaz 70.89 311 P **P 00 51 20.0 +1.0**
KBZ *PP **pP 00 51 31.8 +2.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.89 311 P **P 00 51 20.0 +1.0**
KBZ pP **pP 00 51 31.8 +2.1**
FFC Flin Flon 72.42 33 *e*P **P 00 51 28.2 +0.2**
FFC Flin Flon 72.42 33 *e*P **P 00 51 28.2 +0.2**
HRY Holter Researc 72.67 44 *e*P **P 00 51 30.4 +0.6**
LRM Limekiln Ridge 72.86 45 *e*P **P 00 51 31.6 +0.5**
ANN Anapa 73.45 314 *e*P **P 00 51 37.1 +2.9**
ANN pmax pmax
comp=Z,77nm,1.2s
NB2 NORSAR Subarra 73.60 338 P **P 00 51 34.9 0.0**
comp=Z,2.2nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.60 338 P **P 00 51 34.9 0.0**
comp=Z,4.2nm,0.8s,baz=38,slow=5.9,SNR=8.2
NOA pP **pP 00 51 44.6 -1.1**
comp=Z,1.9nm,0.7s,baz=38,slow=6.0,SNR=3.8
NOA LR LR 01 26 43.4
comp=Z,106nm,18.6s,baz=130,slow=38
NOA NORSAR Array B 73.60 338 P **P 00 51 34.9 0.0**
NOA pP **pP 00 51 44.6 -1.1**
NVAR Mina Array Bea 73.73 54 P **P 00 51 36.9 +0.6**
comp=Z,1.2nm,0.7s,baz=296,slow=6.1,SNR=7.7
NVAR pP **pP 00 51 48.0 +0.8**
comp=Z,1.6nm,0.8s,baz=288,slow=5.7,SNR=4.9
NVAR Mina Array Bea 73.73 54 P **P 00 51 36.9 +0.6**
NVAR pP **pP 00 51 48.0 +0.8**
AKASG Malin Array Be 74.03 323 P **P 00 51 37.4 -0.1**
comp=Z,4.2nm,0.6s,baz=45,slow=6.2,SNR=10
AKASG pP **pP 00 51 47.5 -0.8**
comp=Z,1.1nm,0.4s,baz=47,slow=6.0,SNR=3.8
AKASG Malin Array Be 74.03 323 P **P 00 51 37.4 -0.1**
AKASG *PP **pP 00 51 47.5 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 74.03 323 P **P 00 51 37.4 -0.1**
AKASG pP **pP 00 51 47.5 -0.8**
PDAR Pinedale Array 76.38 46 P **P 00 51 51.6 +0.1**
comp=Z,1.1nm,0.7s,baz=298,slow=2.0,SNR=10
PDAR pP **pP 00 52 02.3 -0.1**
comp=Z,1.7nm,0.7s,baz=267,slow=1.4,SNR=8.9
PDAR Pinedale Array 76.38 46 P **P 00 51 51.6 +0.1**
PDAR pP **pP 00 52 02.3 -0.1**
MALT Malatya 76.82 308⇓ *i*P **P 00 51 55.7 +1.8**
MALT Malatya 76.82 308 *e*P **P 00 51 54.3 +0.3**
comp=Z,4.9nm,1.1s
MALT Malatya 76.82 308⇓ *i*P **P 00 51 55.7 +1.8**
KWP Kalwaria Pacla 77.81 325⇓ *i*P **P 00 51 59.5 +0.3**
KWP Kalwaria Pacla 77.81 325⇓ *i*P **P 00 51 59.5 +0.3**
BUR08 Bucovina Ar. S 78.04 322 *e*P **P 00 52 00.7 +0.1**
BURAR Bucovina Array 78.05 322⇓ *i*P **P 00 52 01.4 +0.7**
TESR 78.11 321⇓ *i*P **P 00 52 01.4 +0.5**
ULM Lac du Bonnet 78.22 34 P **P 00 52 00.6 -0.7**
comp=Z,0.8nm,0.4s,baz=290,slow=5.4,SNR=4.2
ULM Lac du Bonnet 78.22 34 P **P 00 52 00.7 -0.7**
CFR Carcaliu 78.26 319⇑ *i*P **P 00 52 02.0 +0.3**
CFR Carcaliu 78.26 319⇑ *i*P **P 00 52 02.0 +0.3**
KOLS Kolonicke sedl 78.51 324 *e*P **P 00 52 03.7 +0.7**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 78.51 324 *e*P **P 00 52 03.7 +0.7**
KOLS *e* 01 15 06.1
VRI Vrincioaia 78.51 320⇓ *i*P **P 00 52 03.9 +0.8**
VRI Vrincioaia 78.51 320⇓ *i*P **P 00 52 03.9 +0.8**
BRTR Keskin Array B 78.82 312 P **P 00 52 05.7 +0.6**
comp=Z,1.1nm,0.8s,baz=66,slow=4.2,SNR=7.4
BRTR pP **pP 00 52 15.5 -0.5**
comp=Z,1.7nm,0.9s,baz=132,slow=3.7,SNR=6.4
BRTR Keskin Array B 78.82 312 P **P 00 52 05.7 +0.6**
BRTR pP **pP 00 52 15.5 -0.5**
CRVS Cervenica-Dubn 78.91 325 *e*P **P 00 52 08.1 +2.9**
CRVS Cervenica-Dubn 78.91 325 *e*P **P 00 52 08.1 +2.9**
TRPA Tarpa 78.96 324⇑ *i*P **P 00 52 06.1 +0.6**
VOIR 79.66 321⇓ *i*P **P 00 52 10.5 +1.0**
VOIR 79.66 321⇓ *i*P **P 00 52 10.5 +1.0**
DRGR 79.84 323⇓ *i*P **P 00 52 10.8 +0.4**
MORC Moravsky Berou 79.99 327⇑ *i*P **P 00 52 11.7 +0.6**
MORC Moravsky Berou 79.99 327⇑ *i*P **P 00 52 11.7 +0.6**
DPC Dobruska-Polom 80.06 328 *e*P **P 00 52 12.2 +0.7**
DPC *e* 00 52 23.6
DPC Dobruska-Polom 80.06 328 *e*P **P 00 52 12.2 +0.7**
DPC *ep*P **pP 00 52 23.6 +1.2**
PSZ Piszkesteto 80.34 325⇑ *i*P **P 00 52 14.6 +1.5**
PSZ Piszkesteto 80.34 325⇑ *i*P **P 00 52 14.6 +1.5**
VYHS Vyhne 80.39 326 *e*P **P 00 52 14.0 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 80.39 326 *e*P **P 00 52 14.0 +0.7**
VYHS *ep*P **pP 00 52 25.3 +1.1**
CLL Collm 80.65 331⇓ *i*P **P 00 52 15.0 +0.4**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 80.65 331⇓ *i*P **P 00 52 15.0 +0.4**
comp=Z,9.0nm,1.2s
CLL *ep*P **pP 00 52 25.0 -0.5**
CLL *es*P **sP 00 52 30.0 +0.5**
PRU Pruhonice 81.08 329 *e*P **P 00 52 17.8 +0.9**
PRU *e* 00 52 26.8
PRU Pruhonice 81.08 329 *e*P **P 00 52 17.8 +0.9**
PRU *ep*P **pP 00 52 26.8 -1.0**
NKC Novy Kostel 81.72 330 *e*P **P 00 52 22.3 +2.0**
NKC Novy Kostel 81.72 330 *e*P **P 00 52 22.3 +2.0**
CONA Conrad Observa 82.11 327⇑ *i*P **P 00 52 23.4 +0.9**
comp=Z,3.2nm,1.0s
KHC Kasperske Hory 82.14 329 *e*P **P 00 52 22.9 +0.3**
KHC *e* 00 52 34.0
KHC Kasperske Hory 82.14 329 *e*P **P 00 52 22.9 +0.3**
KHC *ep*P **pP 00 52 34.0 +0.5**
GERES GERESS Array B 82.31 329 P **P 00 52 23.8 +0.3**
comp=Z,0.8nm,0.5s,baz=42,slow=6.0,SNR=13
GERES pP **pP 00 52 34.0 -0.5**
comp=Z,0.4nm,0.4s,baz=46,slow=5.8,SNR=3.9
GERES GERESS Array B 82.31 329 P **P 00 52 23.8 +0.3**
GERES pP **pP 00 52 34.0 -0.5**
VTS Vitosha 82.61 319⇑ *i*P **P 00 52 26.7 +1.4**
VTS Vitosha 82.61 319⇑ *i*P **P 00 52 26.7 +1.4**
GRF Grafenberg Arr 82.63 331 *e*P **P 00 52 25.8 +0.7**
GRF pmax pmax
comp=Z,7.0nm,1.4s
GRF Grafenberg Arr 82.63 331 *e*P **P 00 52 25.8 +0.7**
comp=Z,7.0nm,1.4s
SOKA Soboth 83.44 327⇑ *i*P **P 00 52 29.6 +0.2**
comp=Z,4.9nm,0.9s
SCHQ Schefferville 84.16 17 P **P 00 52 33.2 +0.3**
comp=Z,2.6nm,0.7s,baz=327,slow=1.6,SNR=8.0
SCHQ LR LR 01 36 37.6
comp=Z,53nm,19.8s,baz=52,slow=40
SCHQ Schefferville 84.16 17 P **P 00 52 33.2 +0.3**
GIVF Givet 84.64 334 *e*P **P 00 52 35.4 0.0**
comp=Z,9.9nm,0.9s
GIVF Givet 84.64 334 *e*P **P 00 52 35.4 0.0**
GIVF pmax pmax
comp=Z,10.0nm,0.9s
GIVF Givet 84.64 334 *e*P **P 00 52 35.4 0.0**
comp=Z,9.9nm,0.9s
BAIF Baives 84.89 334 *e*P **P 00 52 36.6 0.0**
BAIF Baives 84.89 334 *e*P **P 00 52 36.6 0.0**
BAIF Baives 84.89 334 *e*P **P 00 52 36.6 0.0**
DAVA Damuels 85.10 330⇓ *i*P **P 00 52 38.0 +0.1**
comp=Z,7.0nm,1.1s
CDF Champ du Feu 85.18 332 *e*P **P 00 52 38.3 +0.1**
comp=Z,7.7nm,0.9s
CDF Champ du Feu 85.18 332 *e*P **P 00 52 38.3 +0.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s
CDF Champ du Feu 85.18 332 *e*P **P 00 52 38.3 +0.1**
comp=Z,7.7nm,0.9s
APE Apeiranthos 85.30 314⇑ *i*P **P 00 52 42.1 +3.1**
APE Apeiranthos 85.30 314⇑ *i*P **P 00 52 42.1 +3.1**
PAGF Fort de Pagny 85.63 333 *e*P **P 00 52 40.0 -0.4**
comp=Z,2.4nm,0.7s
PAGF Fort de Pagny 85.63 333 *e*P **P 00 52 40.0 -0.4**
comp=Z,2.4nm,0.6s
HAU Haudompre 85.86 332 *e*P **P 00 52 41.3 -0.3**
HAU *eR*
comp=Z,59nm,18.8s
HAU Haudompre 85.86 332 *e*P **P 00 52 41.3 -0.3**
HAU Haudompre 85.86 332 *e*P **P 00 52 41.3 -0.3**
MEZF Maizieres J'vi 85.91 333 *e*P **P 00 52 42.1 +0.3**
comp=Z,9.1nm,0.7s
MEZF Maizieres J'vi 85.91 333 *e*P **P 00 52 42.1 +0.3**
comp=Z,9.1nm,0.7s
SFTF Sexfontaines 86.17 333 *e*P **P 00 52 43.1 +0.1**
comp=Z,13nm,0.9s
SFTF Sexfontaines 86.17 333 *e*P **P 00 52 43.1 +0.1**
comp=Z,13nm,0.9s
CABF La Chapelle 87.12 332 *e*P **P 00 52 47.7 -0.2**
CABF La Chapelle 87.12 332 *e*P **P 00 52 47.7 -0.2**
CABF La Chapelle 87.12 332 *e*P **P 00 52 47.7 -0.2**
LOR Lormes 87.38 333 *e*P **P 00 52 49.0 0.0**
comp=Z,9.1nm,0.9s
LOR *eR*
comp=Z,86nm,17.8s
LOR Lormes 87.38 333 *e*P **P 00 52 49.0 0.0**
comp=Z,9.1nm,0.9s
FLN La Foliniere 87.55 336 *e*P **P 00 52 49.8 +0.1**
comp=Z,6.1nm,0.6s
FLN *eR*
comp=Z,141nm,20.8s
FLN La Foliniere 87.55 336 *e*P **P 00 52 49.8 +0.1**
FLN pmax pmax
comp=Z,6.0nm,0.6s
FLN La Foliniere 87.55 336 *e*P **P 00 52 49.8 +0.1**
comp=Z,6.1nm,0.6s
LDF La Druitiere 87.58 336 *e*P **P 00 52 49.9 0.0**
comp=Z,5.6nm,0.7s
LDF La Druitiere 87.58 336 *e*P **P 00 52 49.9 0.0**
LDF pmax pmax
comp=Z,6.0nm,0.7s
LDF La Druitiere 87.58 336 *e*P **P 00 52 49.9 0.0**
comp=Z,5.6nm,0.7s
SSF Saint Saulge 87.69 333 *e*P **P 00 52 50.5 0.0**
comp=Z,19nm,1.3s
SSF Saint Saulge 87.69 333 *e*P **P 00 52 50.5 0.0**
SSF pmax pmax
comp=Z,19nm,1.3s
SSF Saint Saulge 87.69 333 *e*P **P 00 52 50.5 0.0**
comp=Z,19nm,1.3s
LPG La Plagne 87.80 331 *e*P **P 00 52 51.7 +0.3**
comp=Z,6.9nm,0.9s
LPG La Plagne 87.80 331 *e*P **P 00 52 51.7 +0.3**

LPG				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LPG	**La Plagne**	**87.80**	**331**	*eP*	**P**	**00 52 51.7**	**+0.3**		
	comp=Z,6.9nm,0.9s								
AVF	**Avril sur Loir**	**87.97**	**333**	*eP*	**P**	**00 52 52.0**	**+0.2**		
	comp=Z,15nm,1.0s								
AVF	**Avril sur Loir**	**87.97**	**333**	*eP*	**P**	**00 52 52.0**	**+0.2**		
AVF				pmax	pmax				
	comp=Z,15nm,1.0s								
AVF	**Avril sur Loir**	**87.97**	**333**	*eP*	**P**	**00 52 52.0**	**+0.2**		
	comp=Z,15nm,1.0s								
GRR	**Gorron**	**88.00**	**337**	*eP*	**P**	**00 52 52.2**	**+0.3**		
	comp=Z,24nm,1.0s								
GRR	**Gorron**	**88.00**	**337**	*eP*	**P**	**00 52 52.2**	**+0.3**		
GRR				pmax	pmax				
	comp=Z,24nm,1.0s								
GRR	**Gorron**	**88.00**	**337**	*eP*	**P**	**00 52 52.2**	**+0.3**		
	comp=Z,24nm,1.0s								
BGF	**Bois d'Agland**	**88.35**	**333**	*eP*	**P**	**00 52 53.9**	**+0.3**		
	comp=Z,3.6nm,0.5s								
BGF	**Bois d'Agland**	**88.35**	**333**	*eP*	**P**	**00 52 53.9**	**+0.3**		
BGF				pmax	pmax				
	comp=Z,4.0nm,0.5s								
BGF	**Bois d'Agland**	**88.35**	**333**	*eP*	**P**	**00 52 53.9**	**+0.3**		
	comp=Z,3.6nm,0.5s								
MBDF	**Montbardon**	**88.44**	**330**	*eP*	**P**	**00 52 53.9**	**-0.4**		
	comp=Z,8.4nm,1.0s								
MBDF	**Montbardon**	**88.44**	**330**	*eP*	**P**	**00 52 53.9**	**-0.4**		
MBDF				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MBDF	**Montbardon**	**88.44**	**330**	*eP*	**P**	**00 52 53.9**	**-0.4**		
	comp=Z,8.4nm,1.0s								
SGMF	**Saint Gilles**	**88.64**	**337**	*eP*	**P**	**00 52 55.2**	**+0.3**		
	comp=Z,6.8nm,0.7s								
SGMF	**Saint Gilles**	**88.64**	**337**	*eP*	**P**	**00 52 55.2**	**+0.3**		
SGMF				pmax	pmax				
	comp=Z,7.0nm,0.7s								
SGMF	**Saint Gilles**	**88.64**	**337**	*eP*	**P**	**00 52 55.2**	**+0.3**		
	comp=Z,6.8nm,0.7s								
TXAR	**Lajitas Array**	**88.86**	**53**	P	**P**	**00 52 56.1**	**-0.4**		
	comp=Z,0.5nm,0.6s,baz=297,slow=3.6,SNR=9.0								
TXAR				pP	**pP**	**00 53 05.6**	**-1.9**		
	comp=Z,0.4nm,0.6s,baz=289,slow=2.5,SNR=4.8								
TXAR	**Lajitas Array**	**88.86**	**53**	P	**P**	**00 52 56.1**	**-0.4**		
TXAR				pP	**pP**	**00 53 05.6**	**-1.9**		
QUIF	**Quistinic**	**89.12**	**338**	*eP*	**P**	**00 52 57.1**	**-0.1**		
QUIF	**Quistinic**	**89.12**	**338**	*eP*	**P**	**00 52 57.1**	**-0.1**		
QUIF	**Quistinic**	**89.12**	**338**	*eP*	**P**	**00 52 57.1**	**-0.1**		
RJF	**Les Rejaudoux**	**89.90**	**334**	*eP*	**P**	**00 53 01.5**	**+0.6**		
RJF				eR					
	comp=Z,52nm,21.3s								
RJF	**Les Rejaudoux**	**89.90**	**334**	*eP*	**P**	**00 53 01.5**	**+0.6**		
RJF	**Les Rejaudoux**	**89.90**	**334**	*eP*	**P**	**00 53 01.5**	**+0.6**		
CAF	**Calviac**	**90.04**	**333**	*eP*	**P**	**00 53 01.6**	**0.0**		
	comp=Z,6.9nm,0.9s								
CAF	**Calviac**	**90.04**	**333**	*eP*	**P**	**00 53 01.6**	**0.0**		
CAF				pmax	pmax				
	comp=Z,7.0nm,0.9s								
CAF	**Calviac**	**90.04**	**333**	*eP*	**P**	**00 53 01.6**	**0.0**		
	comp=Z,6.9nm,0.9s								
LFF	**La Frestale**	**90.49**	**334**	*eP*	**P**	**00 53 03.8**	**+0.1**		
LFF	**La Frestale**	**90.49**	**334**	*eP*	**P**	**00 53 03.8**	**+0.1**		
LFF	**La Frestale**	**90.49**	**334**	*eP*	**P**	**00 53 03.8**	**+0.1**		
SJPF	**Ste Jean**	**92.77**	**334**	*eP*	**P**	**00 53 15.1**	**+0.8**		
	comp=Z,11nm,1.0s								
SJPF	**Ste Jean**	**92.77**	**334**	*eP*	**P**	**00 53 15.1**	**+0.8**		
SJPF				pmax	pmax				
	comp=Z,11nm,1.0s								
SJPF	**Ste Jean**	**92.77**	**334**	*eP*	**P**	**00 53 15.1**	**+0.8**		
	comp=Z,11nm,1.0s								
TORD	**Torodi Ar. Bea**	**117.22**	**316**	PKP	**PKPdf**	**00 58 46.2**	**-1.5**		
	comp=Z,0.4nm,0.6s,baz=28,slow=1.3,SNR=6.8								
TORD				pPKP	**pPKPdf**	**00 58 57.8**	**-1.2**		
	comp=Z,0.5nm,0.7s,baz=30,slow=2.0,SNR=2.8								
TORD	**Torodi Ar. Bea**	**117.22**	**316**	PKP	**PKPdf**	**00 58 46.2**	**-1.5**		
TORD				pPKP	**pPKPdf**	**00 58 57.8**	**-1.2**		
DBIC	**Dimbokro**	**126.13**	**318**	PKP	**PKPdf**	**00 59 04.2**	**-0.6**		
	comp=Z,2.4nm,0.8s,baz=188,slow=18,SNR=3.7								
DBIC	**Dimbokro**	**126.13**	**318**	PKP	**PKPdf**	**00 59 04.2**	**-0.6**		
VNA2	**Neumayer--Watz**	**143.50**	**196**	*e*PKPdf	PKPbc	00 59 32.9	+0.2		
	baz=118,slow=2.9								
VNA3	**Neumayer Olymp**	**143.73**	**195**	*e*PKPdf	PKPbc	00 59 33.3	-0.1		
LPAZ	**La Paz**	**145.47**	**60**	PKPbc	**PKPab**	**00 59 41.5**	**+0.1**		
	comp=Z,5.3nm,0.9s,baz=332,slow=2.9,SNR=19								
LPAZ				pPKPbc	pPKPbc	00 59 51.7	-0.8		
	comp=Z,2.2nm,0.8s,baz=346,slow=8.5,SNR=4.1								
LPAZ	**La Paz**	**145.47**	**60**	*e*PKPdf	**PKPab**	**00 59 41.4**	**+0.1**		
LPAZ				pPKPbc	pPKPbc	00 59 51.7	-0.8		
PLCA	**Paso Flores**	**154.42**	**106**	PKPbc	**PKPbc**	**01 00 02.2**	**+0.1**		
	comp=Z,1.9nm,0.9s,baz=28,slow=18,SNR=2.8								
PLCA	**Paso Flores**	**154.42**	**106**	PKPbc	**PKPbc**	**01 00 02.2**	**+0.1**		

*ISCJB **17** 00:41:29.4±1.1,5.°71S±0.°08×146.°6E±0.°1,h52km,mb3.9/6, MS4.0/1,Error ellipse: s-maj=19.1km s-min=10.6km az=168.5*

*IDC **17** 00:41:36.4±3.8,5.°93S×146.°59E,h102km±37km,mb3.6/6, mb1 3.8/8,mb1mx3.6/18,mbtmp3.6/8,MS4.0/1,Ms1 4.2/1, ms1mx2.8/28,Error ellipse: s-maj=32.7km s-min=26.2km az=122.0*

ISC 17 00:41:31.1±1.1,5.°73S±0.°10×146.°5E±0.°2,h52km,n14, σ0s92/14,mb3.9/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.71**	**170**	P	Pn	00 42 30.7	+4.6
	10.0nm,0.3s,baz=28,slow=2.9,SNR=20						
PMG				S	**Sn**	**00 43 09.5**	**+0.9**
	8.7nm,0.3s,baz=359,slow=17,SNR=6.4						
CTA	**Charters Tower**	**14.28**	**181**	P	**P**	**00 44 56.0**	**-0.4**
	0.5nm,0.3s,baz=7.1,slow=13,SNR=5.1						
KDU	**Kakadu**	**15.46**	**242**	P	**P**	**00 45 08.2**	**-1.4**
	baz=3.0,SNR=8.6						
MTN	**Manton Dam**	**16.72**	**244**	P	**P**	**00 45 23.3**	**-0.2**
	baz=4.0,SNR=4.0						
WRA	**Warramunga Arr**	**18.42**	**219**	P	**P**	**00 45 42.2**	**-0.1**
	1.2nm,0.3s,baz=40,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.56**	**213**	P	**P**	**00 46 16.8**	**+0.4**
	4.5nm,0.6s,baz=45,slow=8.4,SNR=46						
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**00 46 38.9**	**-0.4**
	4.5nm,0.5s,baz=53,slow=9.2,SNR=41						
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**00 46 38.8**	**-0.4**
	baz=9.6,SNR=8.6						
STKA	**Stephens Creek**	**26.42**	**189**	P	**P**	**00 47 02.6**	**-0.4**
	0.6nm,0.4s,baz=14,slow=18,SNR=2.9						
CMAR	**Chiang Mai Arr**	**52.67**	**298**	P	**P**	**00 50 42.8**	**+2.0**
	2.3nm,0.6s,baz=123,slow=5.7,SNR=9.3						
CMAR				LR	LR	01 11 54.9	
	comp=Z,163nm,20.8s,baz=219,slow=34						
ZALV	**Zalesovo Beam**	**78.51**	**328**	P	**P**	**00 53 25.8**	**-0.9**
	0.4nm,0.5s,baz=118,slow=6.9,SNR=3.9						
ILAR	**Eielson Array**	**85.43**	**23**	P	**P**	**00 54 02.8**	**0.0**
	0.2nm,0.6s,baz=259,slow=5.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**144.53**	**285**	PKP	**PKPab**	**01 01 00.7**	**-0.7**
	1.2nm,0.6s,baz=61,slow=3.7,SNR=23						
DBIC	**Dimbokro**	**151.50**	**273**	PKPbc	**PKPbc**	**01 01 20.8**	**+0.3**
	6.6nm,1.1s,baz=159,slow=22,SNR=9.1						

*IDC **17** 00:47:53.5±0.7,3.°48N×126.°40E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.9/24,mbtmp3.9/11,Error ellipse: s-maj=52.9km s-min=14.6km az=70.0*

*ISCJB **17** 00:47:58.2±0.5,3.°50N±0.°08×126.°4E±0.°2,h53km, mb4.0/15,Error ellipse: s-maj=31.6km s-min=8.5km az=163.5*

*NEIC **17** 00:47:58.3±0.4,3.°48N×126.°41E,h35km,mb4.0/6,Error ellipse: s-maj=25.6km s-min=6.5km az=73.0*

ISC 17 00:48:00.3±0.7,3.°5N±0.°1×126.°4E±0.°2,h53km,n30, σ1s03/35,mb3.9/15,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.62**	**347**	Pn	**Pn**	**00 48 52.3**	**-1.6**
CTBH	**Cotabato--PC H**	**4.26**	**330**	⇓*iP*	Pn	00 49 07.6	+4.9
FITZ	**Fitzroy Crossi**	**21.50**	**182**	P	**P**	**00 52 44.6**	**-0.2**
	2.0nm,0.7s,baz=246,slow=24,SNR=6.0						
FITZ	**Fitzroy Crossi**	**21.50**	**182**	*eP*	**P**	**00 52 44.2**	**-0.7**
	3.0nm,0.7s						
WRAB	**Tennant Creek**	**24.58**	**162**	*eP*	**P**	**00 53 14.8**	**-0.8**
	11nm,0.8s						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**00 53 14.6**	**-1.1**
	10nm,0.9s,baz=343,slow=10,SNR=18						
WRA				PcP	**PcP**	**00 56 53.9**	**+1.2**
	0.4nm,0.4s,baz=328,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**00 53 14.6**	**-1.1**
WRA				PcP	**PcP**	**00 56 53.9**	**+1.2**
ASAR	**Alice Springs**	**28.00**	**165**	P	**P**	**00 53 45.0**	**-1.4**
	0.2nm,0.4s,baz=277,slow=18,SNR=4.1						
ASAR				PcP	**PcP**	**00 57 01.9**	**+1.3**
	0.9nm,0.5s,baz=342,slow=1.9,SNR=8.0						
ASAR	**Alice Springs**	**28.00**	**165**	P	**P**	**00 53 45.0**	**-1.4**
ASAR				PcP	**PcP**	**00 57 01.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**30.70**	**301**	P	**P**	**00 54 09.6**	**-0.8**
	0.5nm,0.3s,baz=119,slow=6.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.70**	**301**	P	**P**	**00 54 09.6**	**-0.8**
KSAR	**Wonju Array Be**	**33.79**	**2**	P	**P**	**00 54 37.6**	**+0.4**
KSRS	**Korea Array**	**33.80**	**2**	P	**P**	**00 54 37.6**	**+0.3**
	1.5nm,0.5s,baz=182,slow=9.7,SNR=6.1						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**00 55 13.1**	**-0.7**
	2.7nm,0.6s,baz=16,slow=10.0,SNR=6.5						
STKA				PcP	**PcP**	**00 57 29.1**	**+0.8**
	1.2nm,0.6s,baz=304,slow=2.5,SNR=4.1						
STKA	**Stephens Creek**	**38.05**	**159**	*eP*	**P**	**00 55 13.0**	**-0.9**
	1.2nm,0.9s						
STKA				PcP	**PcP**	**00 57 29.1**	**+0.8**
ULN	**Ulaanbaatar**	**47.22**	**342**	P	**P**	**00 56 28.1**	**0.0**
	0.9nm,0.6s						
SONM	**Songino Array**	**47.39**	**342**	P	**P**	**00 56 29.3**	**-0.1**
	0.4nm,0.6s,baz=145,slow=8.0,SNR=3.2						
SONM	**Songino Array**	**47.39**	**342**	P	**P**	**00 56 29.3**	**-0.1**
MK31	**Makanchi Array**	**57.54**	**325**	*eP*	**P**	**00 57 44.0**	**-0.5**
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**	**00 58 05.0**	**-0.6**
	0.2nm,0.4s,baz=144,slow=5.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**	**00 58 05.0**	**-0.6**
KURBB	**Kurchatov Arra**	**61.74**	**328**	P	**P**	**00 58 14.2**	**+1.0**
	3.2nm,0.8s,baz=130,slow=6.3,SNR=4.8						
KURK	**Kurchatov**	**61.74**	**328**	*eP*	**P**	**00 58 13.8**	**+0.6**
	4.2nm,0.8s						
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**00 58 51.4**	**+1.7**
	2.7nm,1.0s,baz=126,slow=7.3,SNR=4.1						
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**00 58 51.4**	**+1.7**
ABKAR	**Akbulak array**	**72.11**	**321**	*eP*	**P**	**00 59 19.3**	**+0.1**
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**01 00 55.3**	**+1.1**
	0.2nm,0.4s,baz=127,slow=2.2,SNR=3.3						
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**01 00 55.3**	**+1.1**
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	**PKPdf**	**01 06 52.4**	**+1.2**
	0.3nm,0.6s,baz=96,slow=1.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	**PKPdf**	**01 06 52.4**	**+1.2**

*VIE **17** 00:50:46.0±0.3,45.°56N×14.°30E,h12km±2km,ML1.6/1, Error ellipse: s-maj=2.8km s-min=1.1km az=179.0 25 km NNW of Rijeka*

*LJU **17** 00:50:46.6,45.°62N×14.°26E,h15km,ML1.5*

CSEM 17 00:50:46.5±0.3,45.°60N×14.°25E,h18km±2km,ML2.2/6, 6C-6D,Error ellipse: s-maj=3.8km s-min=2.1km az=17.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDS	**Knezji Dol**	**0.12**	**129**	*i* Pg	Pg	00 50 50.4	-0.1
KNDS				*i* Sg	Sg	00 50 53.1	0.0
KNDS							
	comp=Z,60nm,0.1s						
KNDS	**Knezji Dol**	**0.12**	**129**	Pg	Pg	00 50 50.4	0.0
KNDS				*i* Sg	Sg	00 50 53.1	0.0
	comp=Z,60nm,0.1s						
SKDS	**Skadanscina**	**0.17**	**252**	⇓*i*Pg	Pb	00 50 51.3	0.0
SKDS				*i* Sg	Sb	00 50 54.7	+0.3
SKDS							
	comp=Z,75nm,0.0s						
SKDS	**Skadanscina**	**0.17**	**252**	⇓*i*Pg	Pb	00 50 51.3	+0.1
SKDS				*i* Sg	Sb	00 50 54.7	+0.3
	comp=Z,75nm,0.0s						
CEY	**Cerknica**	**0.18**	**42**	⇓*i*Pg	Pg	00 50 50.9	-0.4
CEY				*i* Sg	Sg	00 50 53.9	-0.6
CEY							
	comp=Z,50nm,0.1s						
CEY	**Cerknica**	**0.18**	**42**	⇓*i*Pg	Pg	00 50 50.9	-0.4
CEY				*i* Sg	Sg	00 50 53.9	-0.6
	comp=Z,50nm,0.1s						
JAVS	**Javornik**	**0.32**	**336**	*i* Pg	Pg	00 50 53.1	-0.4
JAVS				*i* Sg	Sg	00 50 58.2	-0.1
JAVS							
	comp=Z,13nm,0.1s						
JAVS	**Javornik**	**0.32**	**336**	*i* Pg	Pg	00 50 53.1	-0.4
JAVS				*e*Sg	Sb	00 50 58.8	-0.1
TRI	**Trieste**	**0.36**	**288**	⇑*e*Pg	Pg	00 50 53.9	-0.1
TRI				*e*Sg	Sb	00 50 59.9	+0.2
TRI	**Trieste**	**0.36**	**288**	⇑*e*Pg	Pg	00 50 53.9	-0.1
TRI				*e*Sg	Sb	00 50 59.9	+0.2
GBRS	**Gornja Briga**	**0.40**	**100**	⇓*i*Pg	Pg	00 50 54.8	0.0
GBRS				*i* Sg	Sb	00 51 00.9	-0.1
	comp=Z,22nm,0.1s						
VISS	**Visnje**	**0.46**	**64**	*i* Pg	Pg	00 50 55.7	-0.2
VISS				*i* Sg	Sg	00 51 02.0	-0.2
VISS							
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**0.46**	**64**	*i* Pg	Pg	00 50 55.7	-0.2
VISS				*i* Sg	Sg	00 51 02.0	-0.2
	comp=Z,6.0nm,0.1s						
CRNS	**Crni Vrh**	**0.48**	**1**	*i* Pg	Pg	00 50 55.9	-0.4
CRNS				*e*Sg	Sb	00 51 03.1	-0.2
CRNS							
	comp=Z,9.0nm,0.1s						
VOJS	**Vojsko**	**0.50**	**329**	*i* Pg	Pg	00 50 56.3	-0.5
VOJS				*e*Sg	Sb	00 51 04.0	-0.2
VOJS	**Vojsko**	**0.50**	**329**	*i* Pg	Pg	00 50 56.3	-0.5
VOJS				*e*Sg	Sb	00 51 04.0	-0.1
SABO	**M.te Sabotino**	**0.59**	**310**	*e*Pg	Pg	00 50 57.9	-0.4
SABO				*e*Sg	Sb	00 51 06.7	+0.2
SABO	**M.te Sabotino**	**0.59**	**310**	*e*Pg	Pg	00 50 57.9	-0.5
SABO				*e*Sg	Sb	00 51 06.7	+0.1
VNDS	**Vrh nad Dolski**	**0.59**	**32**	*i* Pg	Pg	00 50 58.0	-0.3
MOZS	**Mozjanca**	**0.71**	**11**	*i* Pg	Pg	00 51 00.6	+0.2
MOZS							
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.71**	**11**	*i* Pg	Pg	00 51 00.6	+0.1
	comp=Z,2.0nm,0.1s						
BOJS	**Bojanci**	**0.71**	**97**	*i* Pg	Pg	00 51 00.9	+0.4
BOJS	**Bojanci**	**0.71**	**97**	*i* Pg	Pg	00 51 00.9	+0.4
CADS	**Cadrg**	**0.72**	**330**	*e*Pg	Pb	00 51 00.3	-0.4
CADS				*e*Sg	Sg	00 51 11.0	+0.5
CADS	**Cadrg**	**0.72**	**330**	*e*Pg	Pb	00 51 00.3	-0.4
CADS				*e*Sg	Sg	00 51 11.0	+0.5
OBKA	**Obir**	**0.93**	**13**	⇑*i*Pg	Pb	00 51 04.5	+0.2
OBKA				⇓*i*Sg	Sn	00 51 18.3	+0.4
	comp=Z,2.5nm,0.2s						
OBKA	**Obir**	**0.93**	**13**	Pg	Pb	00 51 04.5	+0.2
OBKA				Sg	Sn	00 51 18.3	+0.4
	comp=Z,2.5nm,0.2s						
VINO	**Villanova**	**0.94**	**314**	⇑*e*Pg	Pb	00 51 04.3	-0.1
VINO	**Villanova**	**0.94**	**314**	⇑*e*Pg	Pb	00 51 04.3	-0.1
ACOM	**Acomizza, Ital**	**1.08**	**332**	*e*Pg	Pg	00 51 08.9	+1.3
ACOM	**Acomizza, Ital**	**1.08**	**332**	*e*Pg	Pg	00 51 08.9	+1.2
NVLJ	**Novalja**	**1.13**	**157**	*i* Pg	Pg	00 51 09.3	+1.0
NVLJ				*i* Sg	Sg	00 51 24.9	+1.9
ZOU	**Zoufplan**	**1.30**	**318**	⇑*e*Pg	Pg	00 51 11.9	-0.1
ZOU				*e*Sg	Sg	00 51 29.9	+0.7

*ISCJB **17** 00:52:01.0±0.7,38.°75N±0.°03×21.°82E±0.°07,h21km±5km, Error ellipse: s-maj=8.9km s-min=5.5km az=1.9*

*THE **17** 00:52:01.2,38.°75N×21.°85E,h17km±2km,ML1.7/3,Error ellipse: s-maj=2.3km s-min=0.4km az=295.0*

*ATH **17** 00:52:01.2,38.°76N×21.°81E,h19km±1km,MD2.6/9*

*CSEM **17** 00:52:01.0±0.2,38.°76N×21.°85E,h16km±1km,MD2.6, Error ellipse: s-maj=4.6km s-min=2.7km az=84.0*

ISC 17 00:52:01.1±1.1,38.°75N±0.°02×21.°86E±0.°04,h15km±9km, n25,σ0s30/48,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.17**	**347**	P	**Pg**	**00 52 05.4**	**0.0**
EVR				S	**Sb**	**00 52 08.9**	**-0.4**
EVR	**Evrytania**	**0.17**	**347**	*e*PB	**Pg**	**00 52 05.5**	**0.0**
EVR				*e*SB	**Sb**	**00 52 09.2**	**-0.1**
EVR	**Evrytania**	**0.17**	**347**	*e*Pb	**Pg**	**00 52 05.5**	**0.0**
EVR				S	**Sb**	**00 52 08.9**	**-0.4**
EVR				*e*Sb	**Sb**	**00 52 09.2**	**-0.1**
EFP	**Efpalio**	**0.33**	**173**	P	**Pg**	**00 52 07.9**	**0.0**
EFP				S	**Sb**	**00 52 13.6**	**0.0**
EFP	**Efpalio**	**0.33**	**173**	*e*PB	**Pg**	**00 52 07.9**	**0.0**
EFP				*e*SB	**Sb**	**00 52 14.0**	**+0.4**
EFP	**Efpalio**	**0.33**	**173**	*e*Pb	**Pg**	**00 52 07.9**	**0.0**
EFP				S	**Sb**	**00 52 13.6**	**0.0**
EFP				*e*Sb	**Sb**	**00 52 14.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.34**	**39**	P	**Pg**	**00 52 08.3**	**+0.2**
MAKR				S	**Sb**	**00 52 13.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.34**	**39**	P	**Pg**	**00 52 08.3**	**+0.2**
MAKR				S	**Sb**	**00 52 13.9**	**-0.1**
TRIZ	**Trizonia**	**0.42**	**156**	P	**Pg**	**00 52 09.4**	**-0.2**
TRIZ				S	**Sb**	**00 52 16.4**	**0.0**
TRIZ	**Trizonia**	**0.42**	**156**	*e*PB	**Pg**	**00 52 09.4**	**-0.2**
TRIZ				*e*SB	**Sb**	**00 52 17.1**	**+0.7**
TRIZ	**Trizonia**	**0.42**	**156**	*e*Pb	**Pg**	**00 52 09.4**	**-0.2**
TRIZ				S	**Sb**	**00 52 16.4**	**0.0**
TRIZ				*e*Sb	**Sb**	**00 52 17.1**	**+0.7**
KALE	**Kalithea**	**0.42**	**148**	P	**Pg**	**00 52 09.3**	**-0.4**
KALE				S	**Sb**	**00 52 16.2**	**-0.3**
KALE	**Kalithea**	**0.42**	**148**	*e*PB	**Pg**	**00 52 09.3**	**-0.4**
KALE				*e*SB	**Sb**	**00 52 16.3**	**-0.3**
KALE	**Kalithea**	**0.42**	**148**	*e*Pb	**Pg**	**00 52 09.3**	**-0.4**
KALE				S	**Sb**	**00 52 16.2**	**-0.3**
LAKA	**Lakka**	**0.52**	**169**	P	**Pg**	**00 52 11.8**	**+0.4**
LAKA	**Lakka**	**0.52**	**169**	*e*PN	**Pg**	**00 52 11.1**	**-0.3**
LAKA				*e*SN	**Sb**	**00 52 19.7**	**+0.4**
LAKA	**Lakka**	**0.52**	**169**	*e*Pn	**Pg**	**00 52 11.1**	**-0.3**
LAKA				*e*Sn	**Sb**	**00 52 19.7**	**+0.4**
RLS	**Riolos of Patr**	**0.76**	**204**	*e*PN	**Pn**	**00 52 16.8**	**-0.4**
RLS	**Riolos of Patr**	**0.76**	**204**	*e*Pn	**Pn**	**00 52 16.8**	**-0.4**
GUR	**Goura**	**0.90**	**155**	*e*PB	**Pb**	**00 52 18.2**	**-0.2**
GUR				*e*SN	**Sn**	**00 52 32.1**	**+0.1**
GUR	**Goura**	**0.90**	**155**	*e*Pb	**Pb**	**00 52 18.2**	**-0.2**
GUR				*e*Sn	**Sn**	**00 52 32.1**	**+0.1**
LKR	**Lokris**	**0.90**	**96**	*e*PN	**Pn**	**00 52 19.3**	**+0.1**
LKR				*e*SN	**Sn**	**00 52 32.2**	**+0.3**
LKR	**Lokris**	**0.90**	**96**	*e*Pn	**Pn**	**00 52 19.3**	**+0.1**
LKR				*e*Sn	**Sn**	**00 52 32.2**	**+0.3**
VLS	**Valsamata**	**1.15**	**240**	*e*PN	**Pb**	**00 52 22.9**	**+0.3**
VLS	**Valsamata**	**1.15**	**240**	*e*Pn	**Pb**	**00 52 22.9**	**+0.3**

*ISCJB **17** 00:59:11.4±0.3,53.°66N±0.°02×108.°69E±0.°04,h10km, mb3.9/14,MS3.3/2,Error ellipse: s-maj=3.9km s-min=2.2km az=136.4*

*MOS **17** 00:59:12.6±1.1,53.°66N×108.°62E,h15km,mb4.5/5,Error ellipse: s-maj=10.1km s-min=7.1km az=58.8*

*IDC **17** 00:59:12.5±0.8,53.°68N×108.°57E,h0km,mb3.8/11, mb1 3.9/14,mb1mx3.7/30,mbtmp3.7/14,ML3.5/3,MS3.3/3, Ms1 3.3/3,ms1mx2.8/52,Error ellipse: s-maj=18.7km s-min=16.1km az=92.0*

*NEIC **17** 00:59:14.2±0.4,53.°70N×108.°52E,h10km,mb4.3/4,Error ellipse: s-maj=7.0km s-min=6.5km az=124.0*

*BYKL **17** 00:59:14.1±0.2,53.°67N×108.°59E,h11km±5km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 54.00 58.00 -55.00 16 0 IEC + 181.00 46.00 -133.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 120.00 7.00 214.00 29.00 18.00 60.00 IEC + 0.00 0.00 0.00 0.00 0.00 0.00 IEC*

ISC 17 00:59:12.8±0.3,53.°64N±0.°02×108.°71E±0.°02,h10km,n93, σ1s75/138,mb3.9/14,4C-7D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.38**	**176**	⇑*i*Pg	**Pb**	**00 59 21.7**	**+0.1**
MXMB				Pmax		00 59 22.2	
	5μm,0.6s						
MXMB				*e*Sg	**Sb**	**00 59 27.7**	**+0.1**
MXMB				Smax		00 59 28.3	
	23μm,0.9s						
OGRR	**Ongureny**	**0.66**	**270**	⇓*i*PG	**Pb**	**00 59 25.3**	**-1.1**
OGRR				*i*		00 59 33.4	
OGRR				pmax	pmax		
	comp=Z,511nm,0.

KMO *i* Sg **Sg** **01 00 38.5 -0.1**
KMO Smax 01 00 42.2
comp=N,2µm,1.2s
KMO *e*SgSg **SnSn** **01 00 44.8 +5.5**
LSTR **Listvyanka** **2.95 234**⇓ *i*Pn **Pn** **01 00 00.8 +1.1**
LSTR *e*Pg **Pb** **01 00 04.6 -0.8**
LSTR Pmax 01 00 09.9
comp=N,96nm,0.6s
LSTR *e*Sg **Sb** **01 00 41.0 -0.5**
LSTR Smax 01 00 49.1
comp=N,1µm,1.1s
IRK **Irkutsk** **3.03 244** *e*PN **Pn** **01 00 01.3 +0.6**
IRK **Irkutsk** **3.03 244** *e*Pn **Pn** **01 00 02.2 +1.5**
IRK *e*Pg **Pb** **01 00 06.7 0.0**
IRK Pmax 01 00 17.7
comp=N,340nm,0.4s
IRK *e*Sg **Sb** **01 00 44.7 +1.0**
IRK Smax 01 00 54.0
comp=N,4µm,0.8s
YOA **Uoyan** **3.04 34** *e*PN **Pg** **01 00 09.9 -1.2**
YOA *i* 01 00 50.8
YOA pmax pmax
comp=Z,385nm,0.5s
YOA smax smax
comp=E,3µm,1.0s
YOA **Uoyan** **3.04 34** *e* **Pb** **01 00 06.1 -0.9**
YOA *e*Pg **Pg** **01 00 10.6 -0.5**
YOA Pmax 01 00 12.0
comp=E,367nm,0.5s
YOA *i* Sg **Sg** **01 00 51.2 +0.7**
YOA Smax 01 01 02.3
comp=E,3µm,1.2s
CIT **Chita** **3.36 117** *e*PN **Pb** **01 00 14.7 +2.3**
CIT *e* 01 00 59.1
CIT pmax pmax
comp=Z,224nm,0.9s
CIT smax smax
comp=E,1µm,1.9s
CIT **Chita** **3.36 117** *e*Pn **Pn** **01 00 07.6 +2.3**
CIT *e*Pg **Pb** **01 00 14.8 +2.3**
CIT Pmax 01 00 17.1
comp=E,301nm,1.1s
CIT *e*Sg **Sg** **01 00 59.1 -1.5**
CIT *e*SgSg **SbSb** **01 01 04.0 +5.6**
CIT max 01 01 06.4
comp=E,1µm,1.4s
UKT **Uakit** **3.41 55** *e*PN **Pg** **01 00 18.4 +0.3**
UKT *e* 01 01 01.8
UKT pmax pmax
comp=Z,190nm,0.7s
UKT smax smax
comp=E,439nm,0.8s
UKT **Uakit** **3.41 55**⇓ *i*Pn **Pn** **01 00 08.4 +2.3**
UKT *e*Pg **Pb** **01 00 14.6 +1.3**
UKT *e* 01 00 18.3
UKT max 01 00 22.7
comp=E,111nm,1.6s
UKT *e*Sg **Sg** **01 01 00.8 -1.4**
UKT *e* 01 01 07.8
UKT max 01 01 09.5
comp=E,469nm,1.3s
TLY **Talaya** **3.66 240** *e*PN **Pn** **01 00 10.1 +0.7**
TLY *e* 01 00 21.3
TLY *e* 01 01 05.0
TLY **Talaya** **3.66 240** *e*Pn **Pn** **01 00 10.1 +0.7**
TLY *e*Pg **Pg** **01 00 21.3 -1.4**
TLY *e*Sg **Sg** **01 01 05.0 -5.1**
TLY **Talaya** **3.66 240**⇓ *i*Pn **Pn** **01 00 10.2 +0.8**
TLY *e*Pg **Pb** **01 00 16.3 -1.1**
TLY *e* 01 00 20.3
TLY max 01 00 21.1
comp=E,61nm,0.9s
TLY *e*Sn **Sn** **01 00 55.4 +2.9**
TLY *e*Sg **Sb** **01 01 04.1 +2.3**
TLY Smax 01 01 07.2
comp=E,644nm,1.1s
ARS **Arshan** **4.19 248** *e*PN **Pn** **01 00 16.0 -0.7**
ARS *e* 01 00 26.8
ARS **Arshan** **4.19 248** *e*Pn **Pn** **01 00 16.1 -0.7**
ARS *e*Pg **Pb** **01 00 26.9 +0.4**
ARS Pmax 01 00 36.3
comp=E,154nm,0.5s
ARS *e*Sg **Sb** **01 01 20.0 +2.9**
ARS Smax 01 01 25.4
comp=E,2µm,1.0s
KPC **Khapcheranga** **4.56 148** *e*PN **Pn** **01 00 22.6 +0.8**
KPC *e* 01 00 35.9
KPC *e*S **Sn** **01 01 15.1 +0.2**
KPC *e* 01 01 37.0
KPC pmax pmax
comp=Z,72nm,0.5s
KPC smax smax
comp=E,517nm,0.7s
KPC **Khapcheranga** **4.56 148** *e*Pn **Pn** **01 00 22.6 +0.8**
KPC *e* 01 00 27.5
KPC *e*Pg **Pb** **01 00 35.9 +3.0**
KPC Pmax 01 00 41.9
comp=E,72nm,1.2s
KPC *e*Sn **Sn** **01 01 14.7 -0.2**
KPC *e*Sg **Sg** **01 01 36.9 -2.2**
KPC *e* 01 01 47.9
KPC max 01 01 48.5
comp=E,565nm,1.3s
ZAK **Zakamensk** **4.68 228** *e*PN **Pn** **01 00 24.7 +1.2**
ZAK *e* 01 00 38.5
ZAK *e* 01 01 38.8
ZAK pmax pmax
comp=Z,31nm,0.6s
ZAK smax smax
comp=E,170nm,0.9s
ZAK **Zakamensk** **4.68 228** *e*Pn **Pn** **01 00 25.3 +1.8**
ZAK *e* 01 00 39.4
ZAK max 01 00 50.6
comp=E,19nm,0.6s
ZAK *e*Sg **Sg** **01 01 38.3 -4.6**
ZAK Smax 01 01 55.2
comp=E,172nm,1.0s
NLYR **Nelyaty** **4.93 52** *e*PN **Pn** **01 00 29.2 +2.3**
NLYR *e* 01 00 43.6
NLYR *e* 01 01 48.8
NLYR pmax pmax
comp=Z,56nm,0.5s
NLYR smax smax
comp=N,1µm,1.1s
NLYR **Nelyaty** **4.93 52** *e*Pn Pn 01 00 30.5 +3.6
NLYR *e*Pg Pg 01 00 44.1 -3.0
NLYR Pmax 01 00 55.6
comp=N,58nm,0.8s
NLYR *e*Sg **Sg** **01 01 50.3 -0.7**
NLYR Smax 01 01 56.8
comp=N,1µm,1.0s
MOY **Mondy** **5.09 250** *e*PN Pn 01 00 31.9 +2.7
MOY *e* 01 00 47.3
MOY *e*S **Sn** **01 01 28.3 +0.2**
MOY *e* 01 01 48.2
MOY pmax pmax
comp=Z,95nm,0.9s
MOY smax smax
comp=E,1µm,1.3s
MOY **Mondy** **5.09 250**⇑ *i*Pn Pn 01 00 31.9 +2.7
MOY *e*Pg **Pb** **01 00 43.0 +1.0**
MOY Pmax 01 00 54.0
comp=E,95nm,1.1s
MOY *e*Sn **Sn** **01 01 29.9 +1.8**
MOY *e*Sg Sb 01 01 48.2 +4.9
MOY *e* 01 01 58.2
MOY max 01 01 59.7
comp=E,1µm,1.4s
BOD **Bodaibo** **5.14 33** *e*PN **Pn** **01 00 31.1 +1.3**
BOD *e* 01 00 47.5
BOD *e* 01 01 53.6
BOD pmax pmax
comp=Z,21nm,0.7s
BOD smax smax
comp=E,276nm,0.8s
BOD **Bodaibo** **5.14 33** *e*Pn **Pn** **01 00 31.6 +1.8**
BOD *e*Pg Pg 01 00 46.7 -4.5
BOD Pmax 01 00 56.9
comp=E,15nm,0.6s
BOD *e*Sg **Sg** **01 01 53.3 -4.5**
BOD Smax 01 01 58.7
comp=E,141nm,0.8s
ORL **Orlik** **5.47 262** *e*PN Pn 01 00 36.8 +2.3
ORL *e* 01 00 52.9
ORL *e* 01 02 02.1
ORL pmax pmax
comp=Z,56nm,0.6s
ORL smax smax
comp=N,394nm,0.9s
ORL **Orlik** **5.47 262** *e*Pn **Pn** **01 00 35.1 +0.6**
ORL max 01 00 37.9
comp=N,83nm,1.0s
ORL *e*Sn **Sn** **01 01 36.7 -0.8**
ORL *e*Sg Sg 01 02 02.0 -6.4
ORL Smax 01 02 06.0
comp=N,363nm,0.8s
ULN **Ulaanbaatar** **5.88 191** *e*Pn **Pn** **01 00 42.0 +1.9**
comp=N,14nm,0.5s
ULN Pg **Pg** **01 01 03.6 -1.7**
ULN *e*Sg **Sg** **01 02 21.1 -0.3**
ULN **Ulaanbaatar** **5.88 191** *e*Pn Pn 01 00 42.7 +2.6
ULN *e*Pg Pg 01 01 00.5 -4.8
ULN *e* 01 01 56.5
ULN *e*Sg **Sg** **01 02 17.2 -4.2**
SONM **Songino Array** **6.00 195** Pn **Pn** **01 00 43.8 +2.1**
comp=N,1.4nm,0.3s,baz=9.8,slow=14,SNR=60
SONM Pg Pg 01 01 02.4 -5.2
comp=N,3.0nm,0.3s,baz=4.6,slow=16,SNR=20
SONM Lg Lg 01 02 21.5
comp=N,15nm,0.3s,baz=3.5,slow=27,SNR=13
SONM **Songino Array** **6.00 195** Pn **Pn** **01 00 43.8 +2.1**
SONM Pg Pg 01 01 02.4 -5.2
SONM Lg Lg 01 02 21.5
CRS **Chara** **6.36 55** *e*PG Pg 01 01 11.0 -3.6
CRS *e* 01 02 32.3
CRS pmax pmax
comp=E,64nm,1.1s
CRS smax smax
comp=E,327nm,1.2s
CRS **Chara** **6.36 55** *e* Pb 01 01 00.0 -3.6
CRS *e*Pg Pg 01 01 09.5 -5.1
CRS Pmax 01 01 18.9
comp=E,68nm,1.5s
CRS *e*Sg **Sg** **01 02 32.4 -4.5**
CRS Smax 01 02 40.2
comp=E,326nm,1.6s
TUP **Tupik** **6.67 79** *e*PN **Pn** **01 00 52.8 +2.0**
TUP *e* 01 01 14.0
TUP *e*S **Sn** **01 02 08.4 +1.5**
TUP *e* 01 02 41.6
TUP pmax pmax
comp=Z,14nm,0.7s
TUP smax smax
comp=N,590nm,1.4s
TUP **Tupik** **6.67 79** *e*Pn **Pn** **01 00 52.9 +2.1**
TUP *e*Pg Pb 01 01 14.5 +5.7
TUP Pmax 01 01 22.2
comp=N,15nm,1.7s
TUP *e*Sn **Sn** **01 02 03.2 -3.7**
TUP *e*Sg Sg 01 02 41.5 -5.3
TUP Smax 01 02 50.7
comp=N,594nm,1.4s
HIA **Hailar** **8.16 118** *e*Sg Sg 01 03 27.7 -6.9
HIA *e* 01 04 15.5
KRAR **Krasnoyarsk** **9.44 291** *e*P **Pn** **01 01 29.3 +0.6**
HVS **Khovu-Aksy** **9.51 261** *e*P **Pn** **01 01 29.7 -0.1**
ZAA0 **Zalesovo Array** **14.11 281** *e*Pn **Pn** **01 02 32.1 -0.4**
ZAA0 Sn **Sn** **01 05 09.7 +0.8**
ZALV **Zalesovo Beam** **14.11 281** Pn **Pn** **01 02 32.8 +0.3**
comp=N,0.1nm,0.3s,baz=79,slow=11,SNR=12
ZALV Lg Lg 01 06 35.2
comp=N,0.4nm,0.3s,baz=87,slow=28,SNR=8.1
ZALV **Zalesovo Beam** **14.11 281** P **Pn** **01 02 32.8 +0.3**
ZALV **Zalesovo Beam** **14.11 281** Pn **Pn** **01 02 32.8 +0.3**
ZALV Lg Lg 01 06 35.2
USRK **Ussuriysk Arra** **17.91 112** Lg Lg 01 08 37.1
comp=N,0.1nm,0.3s,baz=308,slow=31,SNR=4.1
USRK LR LR 01 11 01.4
comp=N,76nm,19.0s,baz=16,slow=39
MK31 **Makanchi Array** **18.17 259** *e*P **P** **01 03 24.8 -0.5**
MK31 **Makanchi Array** **18.17 259** *e*Pn **P** **01 03 24.8 -0.5**
KURK **Kurchatov** **18.61 273** *e*P **Pn** **01 03 29.7 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK **Kurchatov** **18.61 273** *e*P **Pn** **01 03 29.7 -0.6**
comp=Z,2.3nm,0.8s
KURK Lg Lg 01 08 57.4
KURBB **Kurchatov Arra** **18.70 273** P **P** **01 03 29.8 -1.2**
comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=7.6
KURBB Lg Lg 01 08 57.4
comp=Z,0.0nm,0.3s,baz=70,slow=32,SNR=5.2
KSRS **Korea Array** **20.94 133** LR LR 01 12 58.2
comp=Z,60nm,19.4s,baz=195,slow=39
BVAR **Borovoye Array** **22.71 284** P **P** **01 04 13.7 -0.7**
comp=Z,1.5nm,0.6s,baz=74,slow=8.5,SNR=12
BVAR **Borovoye Array** **22.71 284** P **P** **01 04 13.7 -0.7**
BVAR **Borovoye Array** **22.71 284** P **P** **01 04 13.7 -0.7**
BRVK **Borovoye** **22.76 284** *e*P **P** **01 04 15.0 +0.1**
BRVK **Borovoye** **22.76 284** *e*P **P** **01 04 14.2 -0.7**
comp=Z,5.9nm,0.6s
AAK **Ala-Archa** **25.10 258** P **P** **01 04 38.9 +1.2**
comp=Z,0.9nm,0.4s,baz=122,slow=8.4,SNR=4.9
AAK **Ala-Archa** **25.10 258** P **P** **01 04 38.9 +1.2**
AAK **Ala-Archa** **25.10 258** *e*P **P** **01 04 37.9 +0.3**
comp=Z,4.6nm,0.5s
SVE **Sverdlovsk** **27.14 296** *e*P P 01 05 05.4 +10
SVE pmax pmax
comp=Z,5.0nm,0.7s
BILL **Bilibino** **30.17 39** *e*P **P** **01 05 24.5 +1.9**
BILL pmax pmax
comp=Z,3.0nm,0.4s
BILL **Bilibino** **30.17 39** *e*P **P** **01 05 24.5 +1.9**
comp=Z,2.9nm,0.4s
ARCES **ARCESS Array B** **39.02 326** P **P** **01 06 39.7 +0.7**
comp=Z,3.4nm,0.9s,baz=49,slow=5.5,SNR=2.6
ARCES **ARCESS Array B** **39.02 326** P **P** **01 06 39.6 +0.7**
FINES **FINESS Array B** **42.16 315** P **P** **01 07 05.6 +0.7**
comp=Z,1.8nm,0.7s,baz=74,slow=8.1,SNR=6.1
FINES **FINESS Array B** **42.16 315** P **P** **01 07 05.6 +0.7**
NOA **NORSAR Array B** **48.39 320** P **P** **01 07 55.7 +1.3**
comp=Z,0.3nm,0.6s,baz=48,slow=6.8,SNR=2.7
NOA **NORSAR Array B** **48.39 320** P **P** **01 07 55.7 +1.3**
ILAR **Eielson Array** **48.52 34** P **P** **01 07 56.2 +0.9**
comp=Z,1.6nm,0.9s,baz=304,slow=6.8,SNR=14
ILAR **Eielson Array** **48.52 34** P **P** **01 07 56.2 +0.9**
BRTR **Keskin Array B** **50.97 286** P **P** **01 08 16.2 +1.7**
comp=Z,0.4nm,0.6s,baz=54,slow=6.3,SNR=3.2
BRTR **Keskin Array B** **50.97 286** P **P** **01 08 16.2 +1.7**
ASF **Jabal al Asfar** **54.31 277** LR LR 01 32 39.4
comp=Z,52nm,18.0s,baz=172,slow=37
YKA **Yellowknife Ar** **59.31 22** P **P** **01 09 15.0 +0.9**
comp=Z,0.4nm,0.7s,baz=332,slow=6.7,SNR=5.8
YKA **Yellowknife Ar** **59.31 22** P **P** **01 09 15.1 +0.9**
WRA **Warramunga Arr** **76.55 155** P **P** **01 11 04.6 +1.6**
comp=Z,0.9nm,0.9s,baz=349,slow=6.1,SNR=3.6
WRA **Warramunga Arr** **76.55 155** P **P** **01 11 04.6 +1.6**
ASAR **Alice Springs** **80.02 157** P **P** **01 11 24.2 +2.0**
comp=Z,0.7nm,0.8s,baz=358,slow=5.6,SNR=5.1
ASAR **Alice Springs** **80.02 157** P **P** **01 11 24.2 +2.0**
TORD **Torodi Ar. Bea** **89.32 291** P **P** **01 12 10.3 +0.9**
comp=Z,0.4nm,0.6s,baz=26,slow=4.9,SNR=8.0
TORD **Torodi Ar. Bea** **89.32 291** P **P** **01 12 10.3 +0.9**

ISCJB ***17*** *01:03:05.1±1.0,9.°81N±0.°03×91.°78E±0.°03,h15km±8km, mb4.6/55,MS3.8/23,Error ellipse: s-maj=6.8km s-min=4.1km az=42.7*
MOS ***17*** *01:03:07.4±1.0,9.°83N×91.°90E,h33km,mb4.9/22,Error ellipse: s-maj=10.8km s-min=6.1km az=113.6*
BJI ***17*** *01:03:07.5,9.°64N×91.°83E,h42km,mB4.8/22,mb4.7/32, Ms4.3/19,Ms7 4.1/18*
IDC ***17*** *01:03:10.3±0.8,9.°82N×91.°81E,h37km±6km,mb4.3/21, mb1 4.3/23,mb1mx4.1/36,mbtmp4.3/23,ML4.2/2,MS3.8/18, Ms1 3.8/18,ms1mx3.5/51,Error ellipse: s-maj=23.2km s-min=10.0km az=51.0*
NEIC ***17*** *01:03:10.3±0.2,9.°82N×91.°84E,mb4.8/20,Error ellipse: s-maj=6.7km s-min=4.1km az=223.0*
DJA ***17*** *01:03:12.0±2.3,10.°N±6.°×9.°2E±2.°4,h41km±12km,M4.6/6, mB5.1/4,mb4.7/6,Mw(mB)4.4/4*
ISC 17 01:03:09.9±0.4,9.°85N±0.°04×91.°80E±0.°04,h34km±1km, h35km:pP-P,n190,σ1°85/245,mb4.7/55,MS3.8/24,9C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.54**	**141**	P		**Pn**	**01 04 29.7**	**-0.3**
LHMI	**Lhok Sumawe**	**6.86**	**132**	P		**Pn**	**01 04 48.8**	**+0.7**
KULM	**Kulim**	**9.87**	**117**	*e*Pn		**Pn**	**01 05 30.0**	**+0.6**
KULM	**Kulim**	**9.87**	**117**	P		**Pn**	**01 05 30.9**	**+1.5**
KULM	**Kulim**	**9.87**	**117**	P		**Pn**	**01 05 30.0**	**+0.6**
	47nm,0.9s,479nm							
PSI	**Prapat**	**9.95**	**134**	Pn		**Pn**	**01 05 30.0**	**-0.7**
	0.5nm,0.3s,baz=329,slow=19,SNR=5.8							
PSI				Sn		**Sn**	**01 07 18.2**	**-3.1**
	1.2nm,0.3s,baz=215,slow=10,SNR=3.7							
PSI	**Prapat**	**9.95**	**134**	Pn		**Pn**	**01 05 30.0**	**-0.7**
PSI				Sn		**Sn**	**01 07 18.2**	**-3.1**
IPM	**Ipoh**	**10.59**	**120**	*e*Pn		**Pn**	**01 05 39.1**	**-0.2**
IPM	**Ipoh**	**10.59**	**120**	P		**Pn**	**01 05 39.7**	**+0.4**
IPM	**Ipoh**	**10.59**	**120**	P		**Pn**	**01 05 38.8**	**-0.5**
	95nm,1.0s,680nm							
CM31	**Chiang Mai Arr**	**11.01**	**38**	*e*Pn		**Pn**	**01 05 44.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.01**	**38**	Pn		**Pn**	**01 05 46.0**	**+1.0**
	1.3nm,0.3s,baz=232,slow=14,SNR=38							
CMAR				Sn		**Sn**	**01 07 41.6**	**-5.4**
	0.2nm,0.3s,baz=236,slow=28,SNR=3.1							
CMAR	**Chiang Mai Arr**	**11.01**	**38**	Pn		**Pn**	**01 05 46.0**	**+1.0**
CMAR				Sn		**Sn**	**01 07 41.6**	**-5.4**
PALK	**Pallekele**	**11.27**	**258**	*e*Pn		**Pn**	**01 05 48.5**	**-0.2**
PALK				*e*S		Sn	01 07 41.6	-12
CHTO	**Chiang Mai**	**11.28**	**37**	*e*P		**Pn**	**01 05 48.8**	**+0.1**
CHTO	**Chiang Mai**	**11.28**	**37**	*e*Pn		**Pn**	**01 05 48.8**	**+0.1**
CHTO				*e*S		Sn	01 07 38.4	-15
CHTO	**Chiang Mai**	**11.28**	**37**	P		**Pn**	**01 05 49.1**	**+0.4**
	14nm,1.0s							
VIS	**Vishakhapatnam**	**11.35**	**314**	*i* P		**Pn**	**01 05 49.4**	**-0.4**
VIS				*i* S		Sn	01 07 43.1	-12
FRIM	**Kepong**	**11.76**	**123**	P		**Pn**	**01 05 55.3**	**0.0**
BWNR	**Bhubaneshwar**	**11.89**	**332**	*e*P		Pn	01 05 46.0	-11
BWNR				*e*S		Sn	01 07 43.0	-26
PPI	**Padang Panjang**	**13.34**	**140**	P		**P**	**01 06 28.8**	**+2.7**
PDSI	**Padang**	**13.73**	**141**	P		**P**	**01 06 32.7**	**+2.2**
KGM	**Kluang**	**13.84**	**123**	P		**P**	**01 06 30.9**	**-0.8**
MYKOM	**Kota Tinggi**	**14.40**	**123**	P		**P**	**01 06 35.4**	**-2.5**
HYB	**Hyderabad**	**14.91**	**302**	*i* P		**Pn**	**01 06 37.5**	**-0.8**
	60nm,1.0s							
HYB				*e*S		**Sn**	**01 09 21.0**	**-1.4**
IMP	**Imphal**	**14.99**	**8**	*ex*		Pn	01 06 36.0	-3.4
NGP	**Nagpur**	**16.64**	**314**	*e*P		**Pn**	**01 07 00.1**	**-0.4**
NGP				AMb		AMB	01 07 01.5	
	comp=Z,24nm,0.9s							
NGP				*ex*		x	01 09 47.2	
KSI	**Kapahiang**	**17.19**	**141**	P		**P**	**01 07 09.5**	**+0.6**
ODAN	**Odare**	**17.43**	**347**	*e*P		**Pn**	**01 07 08.9**	**-1.7**
	comp=Z,109nm,0.3s							
RAMN	**Ramite**	**17.71**	**345**	*e*P		**Pn**	**01 07 11.5**	**-2.6**
	comp=Z,155nm,0.3s							
TAPN	**Taplejung**	**17.83**	**348**	*e*P		**Pn**	**01 07 12.6**	**-3.1**
	comp=Z,75nm,0.3s							
AKL	**Akola**	**17.87**	**309**	*e*P		**Pn**	**01 07 15.0**	**-1.0**
AKL				AMb		AMB	01 07 21.0	
	comp=Z,118nm,1.0s							
AKL				*ex*		x	01 10 20.6	
KMI	**Kunming**	**18.41**	**33**	P		**Pn**	**01 07 23.6**	**+0.9**
KMI				pP		**pP**	**01 07 33.3**	**+1.8**
KMI				sP		**sP**	**01 07 39.0**	**+3.1**
KMI				PP		**PnPn**	**01 07 41.3**	**+6.6**
KMI				S		**Sn**	**01 10 47.3**	**-0.3**
KMI				sS		**sS**	**01 11 01.0**	**-4.5**
KMI				SS		**SnSn**	**01 11 10.8**	**+9.0**
KMI				pmax		pmax		
	comp=Z,11nm,0.7s							
KMI				pmax		pmax		
	comp=Z,89nm,3.7s							
KMI				LR		LR		
	comp=N,170nm,21.4s							
KMI				LR		LR		
	comp=E,140nm,20.4s							
KMI				LR		LR		
	comp=Z,130nm,24.3s							
JIRN	**Jiri**	**18.49**	**344**	*e*P		**P**	**01 07 23.2**	**-0.3**
PPBI	**Pangkal Pinang**	**18.61**	**129**	P		**Pn**	**01 07 25.1**	**+0.2**
	comp=Z,39nm,1.1s,comp=Z,3µm							
PKI	**Pulchoki**	**18.63**	**342**	*e*P		**P**	**01 07 24.1**	**-0.9**
	comp=Z,78nm,0.3s							
PKIN	**Phulchoki**	**18.64**	**342**	*e*P		**P**	**01 07 25.0**	**-0.1**
	comp=Z,119nm,0.3s							
PKIN				*e*S		Sn	01 10 39.7	-14
DMN	**Daman**	**18.76**	**341**	*e*P		**P**	**01 07 26.6**	**+0.2**
	comp=Z,86nm,0.2s							
GUN	**Gumba**	**18.81**	**344**	*e*P		**P**	**01 07 27.2**	**+0.2**
	comp=Z,118nm,0.4s							
KKN	**Kakani**	**18.88**	**342**	*e*P		**P**	**01 07 27.9**	**+0.3**
	comp=Z,59nm,0.4s							
GKN	**Gorkha**	**19.28**	**340**	*e*P		**Pn**	**01 07 32.9**	**-0.2**
	comp=Z,189nm,0.3s							
POO	**Poona**	**19.41**	**298**⇓ *i*P			**P**	**01 07 34.0**	**+0.6**
	comp=Z,60nm,0.8s							
POO				*i* PP		**PnPn**	**01 07 47.0**	**-1.3**
POO				*i* x		x	01 10 56.0	
KOLN	**Koldanda**	**19.43**	**338**	*e*P		**Pn**	**01 07 34.4**	**-0.6**
	comp=Z,91nm,0.3s							
LSA	**Lhasa**	**19.76**	**358**	P		**Pn**	**01 07 38.6**	**-0.5**
LSA	**Lhasa**	**19.76**	**358**	*e*P		**Pn**	**01 07 38.6**	**-0.5**
LSA				*e*S		**S**	**01 11 15.6**	**-3.1**
LSA				pmax		pmax		
	comp=Z,104nm,0.8s							
LSA	**Lhasa**	**19.76**	**358**	*e*P		**Pn**	**01 07 38.6**	**-0.5**
	comp=Z,104nm,0.8s							
LSA				*e*S		**S**	**01 11 15.6**	**-3.1**
KASI	**Kota Agung**	**19.83**	**140**	P		**P**	**01 07 36.2**	**-1.6**
DANN	**Dangsing**	**19.90**	**339**	*e*P		**P**	**01 07 39.4**	**+0.6**
	comp=Z,62nm,0.3s							
PYUN	**Piuthan**	**19.96**	**337**	*e*P		**P**	**01 07 40.4**	**+1.0**
	comp=Z,100nm,0.3s							
KSM	**Kuching**	**20.19**	**113**	*e*P		**P**	**01 07 42.6**	**+0.8**
	comp=Z,31nm,0.9s							
KSM	**Kuching**	**20.19**	**113**	P		Pn	01 07 43.7	-0.2
KSM	**Kuching**	**20.19**	**113**	P		**P**	**01 07 42.5**	**+0.6**
	comp=Z,33nm,1.0s,comp=Z,543nm							
SBUM	**Sibu**	**21.58**	**109**	P		**P**	**01 07 56.9**	**+0.1**
SBUM	**Sibu**	**21.58**	**109**	P		**P**	**01 07 56.1**	**-0.7**
GYA	**Guiyang**	**21.70**	**38**⇑ *i*P			**P**	**01 07 57.9**	**-0.2**
GYA				pP		**pP**	**01 08 09.3**	**+2.1**
GYA				PP		**PnPn**	**01 08 26.3**	**+6.7**
GYA				S		**S**	**01 11 54.0**	**-2.6**
GYA				sS		**sS**	**01 12 10.9**	**-0.2**
GYA				SS		**SnSn**	**01 12 31.8**	**+10**
GYA				ScP		**ScP**	**01 15 34.8**	**+1.5**
GYA				pmax		pmax		
	comp=Z,30nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=N,540nm,15.4s							
GYA				LR		LR		
	comp=E,500nm,16.0s							
GYA				LR		LR		
	comp=Z,510nm,15.3s							
STKI	**Sintang**	**21.86**	**115**	P		P	01 07 53.1	-6.7
NDI	**New Delhi**	**23.21**	**326**	*e*S		**S**	**01 12 27.0**	**+3.5**
CD2	**Chengdu**	**23.73**	**26**	P		**P**	**01 08 18.8**	**-0.2**
CD2				pP		**pP**	**01 08 28.4**	**-0.2**
CD2				sP		**sP**	**01 08 32.6**	**-0.2**
CD2				PP		**PnPn**	**01 08 52.3**	**+5.0**
CD2				S		**S**	**01 12 28.6**	**-3.4**
CD2				sS		**sS**	**01 12 44.4**	**-3.8**
CD2				SS		**SnSn**	**01 13 19.1**	**+7.3**
CD2				pmax		pmax		
	comp=Z,60nm,0.7s							
CD2				pmax		pmax		
	comp=Z,150nm,5.2s							
CD2				LR		LR		
	comp=N,150nm,8.9s							
CD2				LR		LR		
	comp=Z,180nm,4.9s							
DDI	**Dehra Dun**	**24.07**	**330**	*e*S		**S**	**01 12 40.2**	**+2.6**
KKM	**Kota Kinabalu**	**24.47**	**97**	*e*P		**P**	**01 08 23.2**	**-2.9**
KKM	**Kota Kinabalu**	**24.47**	**97**	P		**P**	**01 08 23.4**	**-2.6**
SDKM	**Sandakan**	**25.50**	**98**	P		**P**	**01 08 35.9**	**+0.5**
ENH	**Enshi**	**26.17**	**37**	*e*P		**P**	**01 08 40.2**	**-1.1**
	comp=Z,16nm,0.6s							
TSM	**Tawau**	**26.44**	**100**	P		**P**	**01 08 43.5**	**-0.4**
MYLDM	**Lahad Datu**	**26.86**	**98**	P		**P**	**01 08 48.8**	**+1.2**
LZH	**Lanzhou**	**28.32**	**21**	*e*P		**P**	**01 09 01.0**	**+0.3**
LZH				pP		**pP**	**01 09 10.3**	**-0.2**
LZH				sP		**sP**	**01 09 14.3**	**-0.4**
LZH				pmax		pmax		
	comp=Z,44nm,1.5s							
LZH				pmax		pmax		
	comp=Z,220nm,5.1s							

XAN	**Xi'an**	**28.75**	**31**	P	**P**	**01 09 02.6**	**-1.8**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,17nm,5.3s						
XAN				LR	LR		
	comp=N,110nm,22.0s						
XAN				LR	LR		
	comp=E,38nm,18.1s						
XAN				LR	LR		
	comp=Z,45nm,20.7s						
GTA	**Gaotai**	**30.30**	**12**	*e*P	**P**	**01 09 18.8**	**+0.7**
GTA				pP	**pP**	**01 09 28.1**	**+0.1**
GTA				sP	**sP**	**01 09 32.4**	**+0.2**
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
YULB	**Yu-li**	**31.22**	**61**	*e*P	**P**	**01 09 26.6**	**+0.2**
	comp=Z,11nm,0.9s						
KAPI	**Kappang**	**31.52**	**117**	P	**P**	**01 09 28.8**	**-0.1**
	comp=Z,19nm,1.0s,baz=273,slow=5.9,SNR=4.2						
KAPI				LR	LR	01 22 36.2	
	comp=Z,110nm,19.9s,baz=118,slow=37						
KAPI	**Kappang**	**31.52**	**117**	*e*P	**P**	**01 09 28.9**	**-0.1**
	comp=Z,19nm,1.0s						
KBL	**Kabul**	**32.21**	**323**	P	**P**	**01 09 34.8**	**-0.4**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**32.21**	**323**	P	**P**	**01 09 34.8**	**-0.4**
	comp=Z,3.8nm,0.8s						
KSH	**Kashi**	**32.75**	**337**	P	**P**	**01 09 38.8**	**-0.9**
KSH				*e*pP	**pP**	**01 09 49.3**	**-0.3**
KSH				*e*sP	**sP**	**01 09 52.4**	**-1.4**
KSH				*e*PP	**PnPn**	**01 10 48.8**	**+0.2**
KSH				PcP	**PcP**	**01 12 23.8**	**-0.9**
KSH				S	**S**	**01 14 51.3**	**-3.0**
KSH				sS	**sS**	**01 15 08.6**	**-2.1**
KSH				*e*ScP	**ScP**	**01 16 04.0**	**-2.3**
KSH				PcS	**PcS**	**01 16 07.3**	**-2.7**
KSH				SS	**SnSn**	**01 16 52.9**	**+1.2**
KSH				ScS	**ScS**	**01 20 03.3**	**-2.8**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
KSH				LR	LR		
	comp=N,130nm,5.3s						
KSH				LR	LR		
	comp=E,170nm,4.8s						
KSH				LR	LR		
	comp=Z,150nm,8.1s						
WMQ	**Urumqi**	**34.03**	**355**	P	**P**	**01 09 52.1**	**+1.3**
WMQ				LR	LR		
	comp=Z,31nm,19.0s						
KZA	**Kyzart**	**35.24**	**338**	P	**P**	**01 10 03.1**	**+1.4**
	SNR=5.8						
HHC	**Hu-ho-hao-te**	**35.48**	**26**	*e*P	**P**	**01 10 05.5**	**+2.1**
HHC				pP	**pP**	**01 10 15.3**	**+1.9**
HHC				sP	**sP**	**01 10 19.1**	**+1.6**
HHC				PP	**PP**	**01 11 25.3**	**+0.9**
HHC				S	**S**	**01 15 38.4**	**+1.8**
HHC				sS	**sS**	**01 15 52.5**	**-0.5**
HHC				SS	**SnSn**	**01 17 54.5**	**-3.5**
HHC				ScS	**ScS**	**01 20 20.5**	**0.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,93nm,8.8s						
HHC				LR	LR		
	comp=N,160nm,15.5s						
HHC				LR	LR		
	comp=E,110nm,16.6s						
HHC				LR	LR		
	comp=Z,300nm,16.7s						
KBK	**Karagaybulak**	**35.86**	**339**	P	**P**	**01 10 08.6**	**+1.9**
	SNR=10						
TKM2	**Tokmak 2**	**35.86**	**340**	*i* P	**P**	**01 10 08.9**	**+2.2**
TKM2	**Tokmak 2**	**35.86**	**340**	*e*P	**P**	**01 10 07.2**	**+0.4**
	comp=Z,42nm,0.8s						
TKM2	**Tokmak 2**	**35.86**	**340**	P	**P**	**01 10 08.9**	**+2.2**
	SNR=7.1						
AML	**Almayashu**	**35.88**	**337**	P	**P**	**01 10 08.4**	**+1.3**
	SNR=30						
AAK	**Ala-Archa**	**36.00**	**338**	P	**P**	**01 10 09.6**	**+1.7**
	comp=Z,11nm,1.0s,baz=155,slow=6.7,SNR=24						
AAK				LR	LR	01 25 50.9	
	comp=Z,124nm,21.2s,baz=147,slow=38						
AAK	**Ala-Archa**	**36.00**	**338**	*e*P	**P**	**01 10 09.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,91nm,1.1s						
AAK	**Ala-Archa**	**36.00**	**338**	*e*P	**P**	**01 10 09.1**	**+1.2**
	comp=Z,91nm,1.1s						
AAK	**Ala-Archa**	**36.00**	**338**	P	**P**	**01 10 09.3**	**+1.5**
	SNR=14						
CHMS	**Chumysh**	**36.23**	**339**	P	**P**	**01 10 10.8**	**+1.2**
	SNR=6.1						
EKS2	**Erkin-Say**	**36.30**	**337**	*e*P	**P**	**01 10 11.9**	**+1.6**
EKS2				pmax	pmax		
	comp=Z,13nm,0.8s						
EKS2	**Erkin-Say**	**36.30**	**337**	*e*P	**P**	**01 10 11.9**	**+1.6**
	comp=Z,14nm,0.8s						
EKS2	**Erkin-Say**	**36.30**	**337**	P	**P**	**01 10 12.0**	**+1.6**
	SNR=16						
USP	**Ospenovka**	**36.55**	**339**	P	**P**	**01 10 13.8**	**+1.4**
	SNR=5.3						
MK31	**Makanchi Array**	**37.70**	**349**	*e*P	**P**	**01 10 22.4**	**+0.3**
MK31	**Makanchi Array**	**37.70**	**349**	*e*P	**P**	**01 10 22.4**	**+0.3**
KKAR	**Karatay Array**	**37.98**	**334**	*e*P	**P**	**01 10 25.4**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**37.98**	**334**	*e*P	**P**	**01 10 25.4**	**+0.8**
	comp=Z,6.7nm,0.6s						
JOW	**Kunigami**	**38.34**	**59**	P	**P**	**01 10 28.4**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=236,slow=3.6,SNR=7.7						
JOW				LR	LR	01 29 13.7	
	comp=Z,64nm,19.9s,baz=125,slow=41						
JOW	**Kunigami**	**38.34**	**59**	P	**P**	**01 10 28.4**	**+0.7**
SONM	**Songino Array**	**39.82**	**15**	P	**P**	**01 10 39.8**	**-0.1**
	comp=Z,4.4nm,0.4s,baz=204,slow=9.0,SNR=59						
SONM				LR	LR	01 27 58.3	
	comp=Z,68nm,20.6s,baz=170,slow=37						
SONM	**Songino Array**	**39.82**	**15**	P	**P**	**01 10 39.8**	**-0.1**
ULN	**Ulaanbaatar**	**40.02**	**16**	*e*P	**P**	**01 10 41.1**	**-0.6**
	comp=Z,12nm,1.4s						
HVS	**Khovu-Aksy**	**41.19**	**2**	*e*P	**P**	**01 10 50.3**	**-0.9**
HVS				pmax	pmax		
	comp=Z,29nm,0.9s						
KURBB	**Kurchatov Arra**	**42.10**	**347**	P	**P**	**01 10 58.7**	**+0.2**
	comp=Z,10.0nm,0.8s,baz=172,slow=7.3,SNR=39						
KURK	**Kurchatov**	**42.17**	**348**	*e*P	**P**	**01 10 58.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,30nm,1.7s						
KURK	**Kurchatov**	**42.17**	**348**	*e*P	**P**	**01 10 58.6**	**-0.5**
	comp=Z,23nm,1.3s						
KSRS	**Korea Array**	**42.58**	**44**	LR	LR	01 29 38.1	
	comp=Z,40nm,18.5s,baz=66,slow=37						
FITZ	**Fitzroy Crossi**	**43.44**	**130**	P	**P**	**01 11 09.1**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=312,slow=6.9,SNR=12						
FITZ	**Fitzroy Crossi**	**43.44**	**130**	*e*P	**P**	**01 11 09.2**	**-0.7**
	comp=Z,84nm,2.8s						
ZALV	**Zalesovo Beam**	**44.34**	**354**	P	**P**	**01 11 16.7**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=170,slow=9.0,SNR=28						
ZALV				LR	LR	01 32 46.4	
	comp=Z,94nm,18.4s,baz=242,slow=40						
ZALV	**Zalesovo Beam**	**44.34**	**354**	P	**P**	**01 11 16.7**	**+0.2**
ZALV	**Zalesovo Beam**	**44.34**	**354**	P	**P**	**01 11 16.7**	**+0.2**
CN2	**Changchun**	**44.67**	**35**	*e*P	**P**	**01 11 18.5**	**-0.9**
CN2				*e*pP	**pP**	**01 11 28.4**	**-1.1**
CN2				*e*S	**S**	**01 17 51.6**	**-1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				LR	LR		
	comp=N,500nm,20.0s						
CN2				LR	LR		
	comp=E,400nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
NVS	**Novosibirsk**	**45.39**	**353**	*i* P	**P**	**01 11 24.0**	**-0.9**
NVS				*e*		01 13 11.7	
NVS				pmax	pmax		
	comp=Z,26nm,1.8s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.4s						
BVAR	**Borovoye Array**	**46.40**	**342**	P	**P**	**01 11 33.1**	**+0.1**
	comp=E,3.0nm,0.4s,baz=142,slow=9.0,SNR=40						
BVAR				LR	LR	01 31 52.8	
	comp=E,75nm,21.4s,baz=346,slow=37						
BVAR	**Borovoye Array**	**46.40**	**342**	P	**P**	**01 11 33.1**	**+0.1**
BRVK	**Borovoye**	**46.46**	**342**	*c i*P	**P**	**01 11 33.8**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRVK	**Borovoye**	**46.46**	**342**	*e*P	**P**	**01 11 33.3**	**-0.1**
	comp=Z,12nm,1.0s						
ABKAR	**Akbulak array**	**47.41**	**332**	*e*P	**P**	**01 11 41.5**	**+0.6**
MDJ	**Mudanjiang**	**47.53**	**36**	P	**P**	**01 11 43.5**	**+1.6**
MDJ				pP	**pP**	**01 11 52.5**	**+0.3**
MDJ				sP	**sP**	**01 11 56.4**	**+0.1**
MDJ				PP	**PP**	**01 13 34.9**	**+1.2**
MDJ				PcS	**PcS**	**01 17 08.3**	**+1.4**
MDJ				S	**S**	**01 18 37.4**	**+2.7**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,24nm,3.6s						
MDJ				LR	LR		
	comp=N,32nm,43.1s						
MDJ				LR	LR		
	comp=E,31nm,33.5s						
MDJ				LR	LR		
	comp=Z,29nm,26.7s						
NWAO	**Narrogin (SRO)**	**48.96**	**151**	P	**P**	**01 11 53.8**	**+0.7**
	comp=Z,9.6nm,0.8s,baz=318,slow=4.7,SNR=4.3						
NWAO	**Narrogin (SRO)**	**48.96**	**151**	P	**P**	**01 11 53.8**	**+0.7**
WRA	**Warramunga Arr**	**51.28**	**125**	P	**P**	**01 12 10.6**	**-0.3**
	comp=Z,8.3nm,0.5s,baz=306,slow=8.4,SNR=63						
WRA	**Warramunga Arr**	**51.28**	**125**	P	**P**	**01 12 10.6**	**-0.3**
WRAB	**Tennant Creek**	**51.28**	**125**	*e*P	**P**	**01 12 10.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**51.28**	**125**	*e*P	**P**	**01 12 10.2**	**-0.7**
	comp=Z,13nm,0.7s						
GNI	**Garni**	**51.41**	**314**	*e*P	**P**	**01 12 13.0**	**+1.1**
	comp=Z,10nm,1.0s						
HABR	**Khabarovsk**	**52.81**	**35**	*e*P	**P**	**01 12 20.0**	**-1.8**
HABR				*e**PP	**pP**	**01 12 29.6**	**-2.5**
HABR				*e*S	**S**	**01 19 46.7**	**-1.2**
HABR				*e**SS	**sS**	**01 20 03.3**	**-1.7**
HABR				*e*		01 22 06.7	
HABR				*e*SS	**SS**	**01 23 26.8**	**-0.2**
HABR				*e*SSS	SSS	01 25 15.4	
HABR				pmax	pmax		
	comp=N,7.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,8.0nm,0.7s						
HABR				pmax	pmax		
	comp=Z,30nm,0.9s						
AS31	**Alice Springs**	**52.95**	**130**	*e*P	**P**	**01 12 22.9**	**-0.4**
ASAR	**Alice Springs**	**52.95**	**130**	P	**P**	**01 12 22.7**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=310,slow=7.3,SNR=45						
ASAR				PcP	**PcP**	**01 13 32.2**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=310,slow=3.4,SNR=7.7						
ASAR				LR	LR	01 38 22.0	
	comp=Z,55nm,18.2s,baz=87,slow=40						
ASAR	**Alice Springs**	**52.95**	**130**	P	**P**	**01 12 22.7**	**-0.6**
ASAR				PcP	**PcP**	**01 13 32.2**	**+0.3**
ZEI	**Tsey**	**53.03**	**317**	*e*P	**P**	**01 12 24.7**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ARU	**Arti**	**53.19**	**338**	*d i*P	**P**	**01 12 24.4**	**-0.1**
ARU						01 14 23.9	
ARU				S	**S**	**01 19 55.5**	**+2.6**
ARU				SS	**SS**	**01 23 29.1**	**-3.7**
ARU				pmax	pmax		
	comp=Z,32nm,1.7s						
ARU	**Arti**	**53.19**	**338**	*e*P	**P**	**01 12 24.9**	**+0.4**
	comp=Z,31nm,1.3s						
KBZ	**Khabaz**	**54.08**	**318**	P	**P**	**01 12 32.0**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=180,slow=8.1,SNR=3.4						
KBZ	**Khabaz**	**54.08**	**318**	P	**P**	**01 12 32.0**	**+0.8**
KBZ	**Khabaz**	**54.08**	**318**	P	**P**	**01 12 32.0**	**+0.8**
KIV	**Kislovodsk**	**54.31**	**318**	*e*P	**P**	**01 12 33.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**54.31**	**318**	*e*P	**P**	**01 12 33.5**	**+0.4**
	comp=Z,9.7nm,1.1s						
KIV				*e*		01 12 45.5	
MALT	**Malatya**	**55.43**	**310**	*e*P	**P**	**01 12 41.9**	**+0.6**
MALT				*e*		01 12 52.6	
MALT				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MALT	**Malatya**	**55.43**	**310**	*e*P	**P**	**01 12 41.9**	**+0.6**
	comp=Z,4.9nm,1.3s						
MALT				*e*		01 12 52.6	
SOKR	**Solikamsk**	**56.14**	**339**	⇑*i*P	**P**	**01 12 46.7**	**+0.9**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**58.90**	**20**	*e*P	**P**	**01 13 03.5**	**-1.7**
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
BRTR	**Keskin Array B**	**59.40**	**310**	P	**P**	**01 13 08.3**	**-1.0**
	comp=N,1.4nm,0.7s,baz=122,slow=7.6,SNR=11						
BRTR				pP	**pP**	**01 13 19.9**	**+0.1**
	comp=N,1.4nm,0.8s,baz=133,slow=6.9,SNR=6.7						
BRTR	**Keskin Array B**	**59.40**	**310**	P	**P**	**01 13 08.3**	**-1.0**
BRTR				pP	**pP**	**01 13 19.9**	**+0.1**
CTA	**Charters Tower**	**61.28**	**119**	LR	LR	01 40 09.0	
	comp=N,54nm,20.3s,baz=50,slow=36						
STKA	**Stephens Creek**	**63.13**	**133**	P	**P**	**01 13 34.5**	**0.0**
	comp=N,6.5nm,0.7s,baz=314,slow=6.3,SNR=14						
STKA				LR	LR	01 45 18.0	
	comp=N,97nm,19.7s,baz=207,slow=40						
STKA	**Stephens Creek**	**63.13**	**133**	*e*P	**P**	**01 13 34.5**	**0.0**
	comp=N,1.6nm,0.9s						
KLMR	**Klimovskoe**	**63.69**	**334**	*e*P	**P**	**01 13 36.5**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s						
VRI	**Vrincioaia**	**65.69**	**316**	⇑P	**P**	**01 13 51.5**	**+0.5**
VRI	**Vrincioaia**	**65.69**	**316**	⇑*i*P	**P**	**01 13 51.5**	**+0.5**
PLOR	**Plostina**	**65.73**	**316**	⇓P	**P**	**01 13 52.4**	**+1.0**
PLOR	**Plostina**	**65.73**	**316**	⇓*i*P	**P**	**01 13 52.4**	**+1.0**
MLR	**Muntele Rosu**	**66.15**	**315**	P	**P**	**01 13 54.6**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=101,slow=0.7,SNR=11						
MLR	**Muntele Rosu**	**66.15**	**315**	P	**P**	**01 13 54.6**	**+0.4**
MLR	**Muntele Rosu**	**66.15**	**315**	⇑*i*P	**P**	**01 13 54.5**	**+0.3**
VOIR		**66.76**	**315**	⇑P	**P**	**01 13 56.5**	**-1.5**
VOIR		**66.76**	**315**	⇑*i*P	**P**	**01 13 56.5**	**-1.5**
ARR	**Arges**	**67.04**	**315**	⇑*i*P	**P**	**01 13 58.9**	**-0.9**
JOF	**Joensuu**	**68.08**	**335**	*e*P	**P**	**01 14 04.5**	**-1.4**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JOF	**Joensuu**	**68.08**	**335**	*e*p	**P**	**01 14 04.5**	**-1.4**
	comp=Z,3.6nm,0.5s						
DRGR		**68.59**	**316**	⇓P	**P**	**01 14 09.7**	**+0.2**
DRGR		**68.59**	**316**	⇓*i*P	**P**	**01 14 09.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**69.73**	**319**	*e*P	**P**	**01 14 17.0**	**+0.5**
CRVS				pmax	pmax		
	comp=Z,109nm,3.5s						
CRVS	**Cervenica-Dubn**	**69.73**	**319**	*e*P	**P**	**01 14 17.0**	**+0.5**
FINES	**FINESS Array B**	**69.90**	**332**	P	**P**	**01 14 17.1**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=93,slow=6.6,SNR=14						
FINES				pP	**pP**	**01 14 28.3**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=155,slow=5.9,SNR=2.6						
FINES	**FINESS Array B**	**69.90**	**332**	P	**P**	**01 14 17.1**	**-0.1**
FINES				pP	**pP**	**01 14 28.3**	**+0.5**
KAF	**Kangasniemi**	**69.99**	**333**	*e*P	**P**	**01 14 16.4**	**-1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**69.99**	**333**	*e*p	**P**	**01 14 16.4**	**-1.4**
	comp=Z,1.6nm,0.5s						
VYHS	**Vyhne**	**71.40**	**318**	*e*P	**P**	**01 14 26.0**	**-0.7**
VYHS				pmax	pmax		
	comp=Z,24nm,2.8s						
VYHS	**Vyhne**	**71.40**	**318**	*e*P	**P**	**01 14 26.0**	**-0.7**
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**01 14 33.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=73,slow=4.2,SNR=11						
ARCES				LR	LR	01 47 54.9	
	comp=Z,116nm,19.8s,baz=123,slow=37						
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**01 14 33.8**	**+0.2**
BRG	**Berggiesshubel**	**74.77**	**320**	*e*(P)	**P**	**01 14 46.7**	**+0.2**
	comp=Z,7.9nm,1.4s						
BRG	**Berggiesshubel**	**74.77**	**320**	*e*P	**P**	**01 14 46.7**	**+0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HFS	**Hagfors**	**75.60**	**330**	P	**P**	**01 14 50.8**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=96,slow=5.0,SNR=19						
HFS	**Hagfors**	**75.60**	**330**	P	**P**	**01 14 50.8**	**-0.3**
NB2	**NORSAR Subarra**	**76.89**	**330**	P	**P**	**01 14 57.7**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=97,slow=5.3						
NOA	**NORSAR Array B**	**76.89**	**330**	P	**P**	**01 14 57.6**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=94,slow=5.9,SNR=4.5						
NOA				LR	LR	01 52 02.4	
	comp=Z,51nm,18.1s,baz=100,slow=38						
NOA	**NORSAR Array B**	**76.89**	**330**	P	**P**	**01 14 57.6**	**-0.9**
DAVOX	**Davos/Dischmat**	**77.37**	**316**	LR	LR	01 56 21.4	
	comp=Z,57nm,18.1s,baz=188,slow=41						
SPITS	**Spitsbergen Ar**	**77.44**	**348**	LR	LR	01 57 24.4	
	comp=Z,59nm,19.1s,baz=220,slow=42						
JMIC	**Jan Mayen**	**84.10**	**341**	LR	LR	01 59 22.1	
	comp=Z,87nm,18.8s,baz=57,slow=40						
TORD	**Torodi Ar. Bea**	**87.90**	**283**	P	**P**	**01 15 57.9**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=78,slow=5.4,SNR=2.3						
TORD				pP	**pP**	**01 16 10.0**	**+2.3**
	comp=Z,0.9nm,0.9s,baz=66,slow=4.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**87.90**	**283**	P	**P**	**01 15 57.9**	**+1.1**
TORD				pP	**pP**	**01 16 10.0**	**+2.3**
RPZ	**Rata Peaks**	**89.07**	**135**	LR	LR	01 56 29.5	
	comp=Z,94nm,20.7s,baz=332,slow=36						
URZ	**Urewera**	**92.37**	**128**	LR	LR	02 01 56.1	
	comp=Z,80nm,18.6s,baz=298,slow=38						
RES	**Resolute Bay**	**95.52**	**2**	P	**P**	**01 16 30.8**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=358,slow=3.8,SNR=7.4						
RES	**Resolute Bay**	**95.52**	**2**	P	**P**	**01 16 30.8**	**-0.1**
SFJD	**Kangerlussuaq**	**98.67**	**346**	LR	LR	02 10 18.6	
	comp=Z,64nm,18.5s,baz=38,slow=41						
YKA	**Yellowknife Ar**	**105.03**	**12**	PP	PP	01 21 30.3	-3.3
	comp=Z,0.2nm,0.8s,baz=335,slow=7.8,SNR=3.6						
YKA	**Yellowknife Ar**	**105.03**	**12**	PP	PP	01 21 30.3	-3.3

TIR **17** *01:12:19.9±2.7, 40.91°N×19.98°E, h13km±56km, ML2.5*
THE **17** *01:12:20.2, 41.03°N×19.89°E, h0km×3km, ML2.5/4, Error ellipse: s-maj=3.5km s-min=1.1km az=306.0*
CSEM **17** *01:12:20.1±0.3, 41.03°N×19.93°E, h2km, ML2.5/4, Error ellipse: s-maj=6.1km s-min=3.8km az=79.0*
PDG **17** *01:12:23.3±0.2, 41.17°N×19.81°E, h11km, ML2.5/9, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*

ISC 17 01:12:20.2±1.1, 41.02N±0.02×19.93E±0.03, h4km±10km, **n43,σ0.84/74, 5C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**352**	*e*PG		**Pg**	**Pg**	**01 12 27.1**	**+0.4**
TIR				*e*SG		**Sb**	**Sb**	**01 12 34.1**	**-0.4**
TIR	**Tirane**	**0.34**	**352**	P		**Pg**	**Pg**	**01 12 27.1**	**+0.4**
TIR	**Tirane**	**0.34**	**352**	P		**Pg**	**Pg**	**01 12 27.1**	**+0.4**
PHP	**Peshkopia**	**0.77**	**30**	*e*PG		**Pg**	**Pg**	**01 12 34.3**	**-0.7**
PHP				*e*SG		**Sb**	**Sb**	**01 12 47.2**	**+0.1**
PHP	**Peshkopia**	**0.77**	**30**	P		**Pg**	**Pg**	**01 12 34.3**	**-0.7**
PHP				S		**Sb**	**Sb**	**01 12 46.6**	**-0.5**
PHP	**Peshkopia**	**0.77**	**30**	P		**Pg**	**Pg**	**01 12 34.3**	**-0.7**
PHP				S		**Sb**	**Sb**	**01 12 46.6**	**-0.5**
LSK	**Leskovik**	**1.00**	**149**	*e*PG		**Pg**	**Pg**	**01 12 39.0**	**-0.4**
LSK				*e*SG		**Sb**	**Sb**	**01 12 54.0**	**+0.2**
PUK	**Puka**	**1.03**	**358**	*e*PG		**Pg**	**Pg**	**01 12 39.8**	**-0.1**
PUK				*e*SG		**Sn**	**Sn**	**01 12 58.8**	**+2.4**
PUK	**Puka**	**1.03**	**358**	*e*Pg		**Pg**	**Pg**	**01 12 39.8**	**-0.1**
	SNR=94								
PUK				*e*Sg		**Sn**	**Sn**	**01 12 58.8**	**+2.4**
	SNR=94								
NEST	**Nestorio**	**1.04**	**125**	P		**Pg**	**Pg**	**01 12 39.3**	**-0.9**
NEST				S		**Sn**	**Sn**	**01 12 57.2**	**+0.5**
NEST	**Nestorio**	**1.04**	**125**	P		**Pg**	**Pg**	**01 12 39.3**	**-0.9**
NEST				S		**Sn**	**Sn**	**01 12 57.2**	**+0.5**
BIA	**Bitola**	**1.05**	**89**	P		**Pg**	**Pg**	**01 12 40.0**	**-0.4**
BIA				S		**Sn**	**Sn**	**01 12 56.4**	**-0.6**
BIA	**Bitola**	**1.05**	**89**	*i* Pg		**Pg**	**Pg**	**01 12 39.6**	**-0.8**
BIA				*e*Sg		**Sn**	**Sn**	**01 12 56.4**	**-0.6**
BIA	**Bitola**	**1.05**	**89**	*i* Pg		**Pg**	**Pg**	**01 12 39.6**	**-0.8**
BIA	**Bitola**	**1.05**	**89**	P		**Pg**	**Pg**	**01 12 40.0**	**-0.4**
BIA				S		**Sn**	**Sn**	**01 12 56.4**	**-0.6**
ULC	**Ulcinj**	**1.08**	**332**	⇓*i*Pg		**Pg**	**Pg**	**01 12 40.1**	**-0.8**
ULC				*e*Sg		**Sg**	**Sg**	**01 12 54.1**	**-0.8**
FNA	**Florina**	**1.12**	**101**	P		**Pg**	**Pg**	**01 12 41.3**	**-0.4**
FNA				S		**Sn**	**Sn**	**01 12 58.5**	**-0.1**
FNA	**Florina**	**1.12**	**101**	P		**Pg**	**Pg**	**01 12 41.3**	**-0.4**
FNA				S		**Sn**	**Sn**	**01 12 58.5**	**-0.1**
KEK	**Kerkira**	**1.30**	**184**	P		**Pb**	**Pb**	**01 12 45.1**	**-0.2**
KEK				S		**Sn**	**Sn**	**01 13 03.9**	**+0.8**
KEK	**Kerkira**	**1.30**	**184**	P		**Pb**	**Pb**	**01 12 45.1**	**-0.2**
KEK				S		**Sn**	**Sn**	**01 13 03.9**	**+0.8**
BCI	**Bajram Curri**	**1.35**	**4**	*e*PG		**Pb**	**Pb**	**01 12 46.2**	**0.0**
BCI				*e*SG		**Sn**	**Sn**	**01 13 07.1**	**+2.7**
SKO	**Skopje**	**1.48**	**49**	*e*Pn		**Pn**	**Pn**	**01 12 47.1**	**-0.6**
SKO	**Skopje**	**1.48**	**49**	*e*Pn		**Pn**	**Pn**	**01 12 47.5**	**-0.2**
TTG	**Podgorica**	**1.50**	**341**	⇑*i*Pg		**Pn**	**Pn**	**01 12 47.3**	**-0.6**
TTG				*e*Sg		**Sg**	**Sg**	**01 13 08.6**	**+0.2**
BUM	**Brajici-Budva**	**1.50**	**329**	⇓*i*Pg		**Pn**	**Pn**	**01 12 47.3**	**-0.7**
BUM				*e*Sg		**Sb**	**Sb**	**01 13 07.9**	**

VVLD Villa Vallelon 0.32 244 Pg Pg 01 12 57.8 -0.2
VVLD Sg Sg 01 13 03.0 +0.7
18µm,0.5s
VVLD Villa Vallelon 0.32 244 Pg Pg 01 12 57.8 -0.2
VVLD Sg Sg 01 13 03.0 +0.7
18µm,0.5s
RNI2 Rionero Sannit 0.33 161 Pg Pg 01 12 57.8 -0.4
RNI2 Sg Sg 01 13 03.2 +0.7
12µm,0.5s
RNI2 Rionero Sannit 0.33 161 Pg Pg 01 12 57.8 -0.4
RNI2 Sg Sg 01 13 03.2 +0.7
12µm,0.5s
CAFR Castel Frentan 0.33 49⇑*i*Pg Pg 01 12 58.2 -0.1
CAFR Sg Sb 01 13 04.7 -0.7
26µm,0.8s
CAFR Castel Frentan 0.33 49⇑*i*Pg Pg 01 12 58.2 -0.1
CAFR Sg Sb 01 13 04.7 -0.7
26µm,0.8s
SDI San Donato 0.34 206⇑*i*Pg Pg 01 12 57.6 -0.7
SDI San Donato 0.34 206⇑*i*Pg Pg 01 12 57.6 -0.7
POFI Posta Fibreno 0.37 217 Pg Pg 01 12 58.3 -0.6
POFI Sg Sg 01 13 04.1 +0.3
8µm,0.6s
POFI Posta Fibreno 0.37 217 Pg Pg 01 12 58.3 -0.6
POFI Sg Sg 01 13 04.1 +0.3
8µm,0.6s
VCEL Villa Celiera 0.40 342 Pg Pg 01 12 59.7 +0.1
VCEL Sg Sb 01 13 07.2 -0.4
19µm,0.3s
VCEL Villa Celiera 0.40 342 Pg Pg 01 12 59.7 +0.1
VCEL Sg Sb 01 13 07.2 -0.4
19µm,0.3s
CERA Filignano 0.41 179 Pg Pg 01 12 58.8 -1.0
CERA Sg Sg 01 13 05.7 +0.5
11µm,0.6s
CERA Filignano 0.41 179 Pg Pg 01 12 58.8 -1.0
CERA Sg Sg 01 13 05.7 +0.5
11µm,0.6s
MIDA Miranda 0.41 153 Pg Pg 01 12 59.0 -0.8
MIDA Sg Sg 01 13 05.7 +0.5
12µm,0.4s
MIDA Miranda 0.41 153 Pg Pg 01 12 59.0 -0.8
MIDA Sg Sg 01 13 05.7 +0.5
12µm,0.4s
PTQR Pietraquaria 0.45 272 Pg Pg 01 13 00.2 -0.3
PTQR Pietraquaria 0.45 272 Pg Pg 01 13 00.2 -0.3
TRIV Trivento 0.47 121 Pg Pg 01 13 00.1 -0.8
3µm,0.4s
TRIV Trivento 0.47 121 Pg Pg 01 13 00.1 -0.8
3µm,0.4s
FRES Fresagrandinar 0.49 94⇑*i*Pg Pg 01 13 00.3 -1.0
FRES Sg Sg 01 13 08.9 +1.1
3µm,0.5s
FRES Fresagrandinar 0.49 94⇑*i*Pg Pg 01 13 00.3 -1.0
FRES Sg Sg 01 13 08.9 +1.1
3µm,0.5s
GUAR Guarcino 0.56 248 Pg Pg 01 13 01.7 -0.9
GUAR Sg Sb 01 13 11.7 -0.3
4µm,0.6s
GUAR Guarcino 0.56 248 Pg Pg 01 13 01.7 -0.9
AQU L'Aquila 0.57 308⇓*i*Pg Pg 01 13 02.1 -0.6
AQU Sg Sb 01 13 12.1 -0.1
5µm,0.5s
AQU L'Aquila 0.57 308⇑*i*P Pg 01 13 01.9 -0.8
AQU L'Aquila 0.57 308⇑*i*P Pg 01 13 01.9 -0.8
VAGA Valle Agricola 0.62 164 Pg Pg 01 13 02.4 -1.3
5µm,0.6s
VAGA Valle Agricola 0.62 164 Pg Pg 01 13 02.4 -1.3
5µm,0.6s
BSSO Busso 0.64 136 Pg Pg 01 13 03.0 -1.0
3µm,1.1s
BSSO Busso 0.64 136 Pg Pg 01 13 03.0 -1.0
3µm,1.1s
TERO Teramo 0.68 334 Pn Pg 01 13 04.1 -0.8
TERO Teramo 0.68 334 Pn Pg 01 13 04.1 -0.8
SGG Gregorio Mates 0.68 156 Pn Pg 01 13 04.0 -0.9
4µm,0.6s
CAMP Campotosto 0.69 320 Pg Pg 01 13 04.0 -1.0
CAMP Sg Sb 01 13 15.6 -0.1
501nm,0.6s
CAMP Campotosto 0.69 320 Pg Pg 01 13 04.0 -1.0
CAMP Sg Sb 01 13 15.6 -0.1
501nm,0.6s
RFI Roccamonfina 0.71 181 Pn Pg 01 13 04.7 -0.7
417nm,0.6s
FIAM Fiamignano 0.71 292⇓*i*Pn Pg 01 13 04.1 -1.3
3µm,0.7s
FIAM Fiamignano 0.71 292⇓*i*Pn Pg 01 13 04.1 -1.3
3µm,0.7s
GIUL Giuliano Di Ro 0.72 232⇓*i*Pg Pg 01 13 04.4 -1.2
3µm,0.6s
GIUL Giuliano Di Ro 0.72 232⇓*i*Pg Pg 01 13 04.4 -1.2
3µm,0.6s
PTRJ Pietraroja 0.76 149 Pn Pg 01 13 04.8 -1.4
14µm,0.7s
CIGN Sant'Elia a Pi 0.76 118 Pn Pg 01 13 04.7 -1.6
945nm,0.6s
CERT Cerreto 0.77 266 Pn Pg 01 13 05.1 -1.4
7µm,0.6s
CERT Cerreto 0.77 266 Pn Pg 01 13 05.1 -1.4
7µm,0.6s
TRTR Tortoreto Alta 0.80 355 Pn Pg 01 13 07.2 +0.1
8µm,0.7s
TRTR Tortoreto Alta 0.80 355 Pn Pg 01 13 07.2 +0.1
8µm,0.7s
MSC Monte Massico 0.82 182 Pn Pg 01 13 06.1 -1.3
MODR Mondragone 0.87 186 Pn Pg 01 13 07.1 -1.3
1µm,0.4s
MODR Mondragone 0.87 186 Pn Pg 01 13 07.1 -1.3
1µm,0.4s
FG2 Serracapriola 0.89 103 Pn Pg 01 13 06.5 -2.2
1µm,0.2s
MELA Melanico ??? S 0.89 110 Pn Pg 01 13 06.5 -2.3
1µm,0.4s
LNSS Leonessa 0.93 310 Pn Pg 01 13 08.2 -1.4
4µm,0.5s
LNSS Leonessa 0.93 310 Pn Pg 01 13 08.2 -1.4
4µm,0.5s
MTCE Montecelio 0.94 271 Pn Pg 01 13 08.2 -1.6
2µm,0.7s
MTCE Montecelio 0.94 271 Pn Pg 01 13 08.2 -1.6
2µm,0.7s
OFFI Offida 0.95 346 Pn Pg 01 13 09.8 -0.3
12µm,0.9s
OFFI Offida 0.95 346 Pn Pg 01 13 09.8 -0.3
12µm,0.9s
PSB1 Pescosannita 0.99 142 Pn Pg 01 13 08.7 -2.0
2µm,0.9s
IPES Pescosannita 0.99 141 Pn Pg 01 13 08.7 -2.1
RMP Rome, Mte Porz 0.99 259 Pn Pg 01 13 09.1 -1.7
3µm,0.7s
RMP Rome, Mte Porz 0.99 259 Pn Pg 01 13 09.1 -1.7
3µm,0.7s
RDP Rocca di Papa 1.00 256 Pn Pg 01 13 09.3 -1.5
5µm,0.6s
RDP Rocca di Papa 1.00 256 Pn Pg 01 13 09.3 -1.5
5µm,0.6s
GUMA Gualdo di Mace 1.05 357 Pn Pn 01 13 12.7 -0.1
3µm,0.3s
GUMA Gualdo di Mace 1.05 357 Pn Pn 01 13 12.7 -0.1
3µm,0.3s
MNS Montasola 1.05 291 Pn Pg 01 13 10.2 -1.8
2µm,0.7s
MNS Montasola 1.05 291 Pn Pg 01 13 10.2 -1.8
2µm,0.7s
NRCA Norcia 1.06 322 Pn Pg 01 13 09.9 -2.1
NRCA Norcia 1.06 322 Pn Pg 01 13 09.9 -2.1
MOCO Biccari - m.te 1.07 126 Pn Pg 01 13 10.1 -2.2
509nm,0.7s
MRB1 Monte Rocchett 1.14 140 Pn Pg 01 13 11.4 -2.2
2µm,0.6s
MRB1 Monte Rocchett 1.14 140 Pn Pg 01 13 11.4 -2.2
2µm,0.6s
FG5 Orsara di Pugl 1.19 127 Pn Pb 01 13 11.9 -2.7
593nm,0.6s
OVO Vesuviano 1.22 166 Pn Pb 01 13 14.4 -0.6
OVO Vesuviano 1.22 166 Pn Pb 01 13 14.4 -0.6
FDMO Fiordimonte 1.23 327 Pn Pn 01 13 13.0 -2.2
976nm,0.4s
FDMO Fiordimonte 1.23 327 Pn Pn 01 13 13.0 -2.2
976nm,0.4s
CESI CESI - Serrava 1.29 321 Pn Pn 01 13 14.2 -1.8
762nm,0.4s
CESI CESI - Serrava 1.29 321 Pn Pn 01 13 14.2 -1.8
762nm,0.4s
VENT Ventotene 1.29 200 Pn Pn 01 13 14.8 -1.2
665nm,0.4s
VENT Ventotene 1.29 200 Pn Pn 01 13 14.8 -1.2
665nm,0.4s
SGRT San Giovanni R 1.32 101 Pn Pn 01 13 15.1 -1.4
878nm,0.3s
SGRT San Giovanni R 1.32 101 Pn Pn 01 13 15.1 -1.4
878nm,0.3s
SGTA Sant Agata di 1.34 130 Pn Pn 01 13 14.1 -2.7
997nm,0.6s
CAFE Carife 1.35 136 Pn Pn 01 13 14.1 -2.8
409nm,0.5s
CSSN Cassano Irpino 1.38 146 Pn Pn 01 13 15.9 -1.4
296nm,0.6s
CSSN Cassano Irpino 1.38 146 Pn Pn 01 13 15.9 -1.4
296nm,0.6s
SNAL S. Angelo Dei 1.41 140 Pn Pn 01 13 17.3 -0.4
1µm,0.7s
SNAL S. Angelo Dei 1.41 140 Pn Pn 01 13 17.3 -0.4
1µm,0.7s
ASSB Assisi San Ben 1.44 316 Pn Pn 01 13 16.8 -1.3
973nm,0.6s
ASSB Assisi San Ben 1.44 316 Pn Pn 01 13 16.8 -1.3
973nm,0.6s
MSAG Monte S. Angel 1.45 101 Pn Pn 01 13 17.6 -0.7
2µm,0.4s
MSAG Monte S. Angel 1.45 101 Pn Pn 01 13 17.6 -0.7
2µm,0.4s
SNTG Esanatoglia 1.47 328 Pn Pn 01 13 17.4 -1.2
301nm,0.3s
SNTG Esanatoglia 1.47 328 Pn Pn 01 13 17.4 -1.2
301nm,0.3s
MS1 Monte Sant'Ang 1.48 101 *e*Pn Pn 01 13 18.1 -0.6
MS1 *e*Sn Sg 01 13 39.5 +0.3
CING Cingoli 1.49 337 Pn Pn 01 13 18.4 -0.4
684nm,0.5s
CING Cingoli 1.49 337 Pn Pn 01 13 18.4 -0.4
684nm,0.5s
TOLF Tolfa 1.50 273 Pn Pn 01 13 18.6 -0.3
354nm,0.6s
TOLF Tolfa 1.50 273 Pn Pn 01 13 18.6 -0.3
354nm,0.6s
MCRV Calabrutti - M 1.51 144 Pn Pn 01 13 17.9 -1.2
488nm,0.5s
MCRV Calabrutti - M 1.51 144 Pn Pn 01 13 17.9 -1.2
488nm,0.5s
AOI Ancona 1.57 349 Pn Pn 01 13 19.8 -0.1
923nm,0.7s
AOI Ancona 1.57 349 Pn Pn 01 13 19.8 -0.1
923nm,0.7s
MURB Monte Urbino 1.66 319 Pn Pn 01 13 21.9 +0.7
2µm,0.8s
MURB Monte Urbino 1.66 319 Pn Pn 01 13 21.9 +0.7
2µm,0.8s
MGAB Montegabbione 1.67 303 Pn Pn 01 13 21.9 +0.7
535nm,0.5s
MGAB Montegabbione 1.67 303 Pn Pn 01 13 21.9 +0.7
535nm,0.5s
MRLC Muro Lucano 1.68 138 Pn Pn 01 13 20.6 -0.8
430nm,0.8s
MRLC Muro Lucano 1.68 138 Pn Pn 01 13 20.6 -0.8
430nm,0.8s
ARVD Arcevia 1.68 333 Pn Pn 01 13 21.3 -0.1
446nm,0.6s
ARVD Arcevia 1.68 333 Pn Pn 01 13 21.3 -0.1
446nm,0.6s
SACS San Casciano d 1.77 299 Pn Pn 01 13 23.4 +0.8
314nm,0.7s
PALZ Palazzo San Ge 1.81 125 Pn Pn 01 13 23.2 0.0
761nm,0.8s
PALZ Palazzo San Ge 1.81 125 Pn Pn 01 13 23.2 0.0
761nm,0.8s
PIEI Pieia 1.87 325 Pn Pn 01 13 24.4 +0.3
268nm,0.6s
PIEI Pieia 1.87 325 Pn Pn 01 13 24.4 +0.3
268nm,0.6s
MRVN Minervino Murg 1.90 119 Pn Pn 01 13 23.6 -0.8
231nm,0.9s
MRVN Minervino Murg 1.90 119 Pn Pn 01 13 23.6 -0.8
231nm,0.9s
ACER Acerenza 1.90 129 Pn Pn 01 13 24.5 0.0
585nm,0.8s
ACER Acerenza 1.90 129 Pn Pn 01 13 24.5 0.0
585nm,0.8s
FSSB Fossombrone 1.91 332 Pn Pn 01 13 25.1 +0.5
853nm,0.5s
FSSB Fossombrone 1.91 332 Pn Pn 01 13 25.1 +0.5
853nm,0.5s
CDT Castel del Mon 1.94 118 *e*Pn Pn 01 13 23.8 -1.1
CDT *e*Sn Sn 01 13 49.7 +0.2
CMPR Campora 1.95 150 Pn Pn 01 13 24.8 -0.4
222nm,0.8s
CMPR Campora 1.95 150 Pn Pn 01 13 24.8 -0.4
222nm,0.8s
BADI Badiali 1.98 320 Pn Pn 01 13 26.0 +0.4
456nm,0.7s
BADI Badiali 1.98 320 Pn Pn 01 13 26.0 +0.4
456nm,0.7s
CAFI Castiglion Fio 2.00 312 Pn Pn 01 13 26.7 +0.9
237nm,0.8s
CAFI Castiglion Fio 2.00 312 Pn Pn 01 13 26.7 +0.9
237nm,0.8s
ARCI Arcidosso 2.05 295 Pn Pn 01 13 27.8 +1.2
235nm,1.7s
ARCI Arcidosso 2.05 295 Pn Pn 01 13 27.8 +1.2
235nm,1.7s
PARC Parchiule 2.09 322 Pn Pb 01 13 28.9 -1.0
299nm,0.8s
PESA Pesaro 2.11 336 Pn Pn 01 13 28.1 +0.8
557nm,0.7s
PESA Pesaro 2.11 336 Pn Pn 01 13 28.1 +0.8
557nm,0.7s
MAON Monte Argentar 2.18 282 Pn Pn 01 13 28.4 +0.2
94nm,0.6s
MAON Monte Argentar 2.18 282 Pn Pn 01 13 28.4 +0.2
94nm,0.6s
AMUR Altamura 2.24 119 Pn Pn 01 13 28.5 -0.6
228nm,0.7s
AMUR Altamura 2.24 119 Pn Pn 01 13 28.5 -0.6
228nm,0.7s
SG1 Sgolgore (BA) 2.32 119 *e*Pn Pn 01 13 29.6 -0.7
SG1 *e*Sn Sn 01 13 59.9 +0.9
BAI Bari 2.34 112 *e*Pn Pn 01 13 30.4 0.0
BAI *e*Sn Sb 01 14 01.2 -1.8
NVLJ Novalja 2.63 14 *i* Pn Pn 01 13 33.4 -1.0
NVLJ Sn Sn 01 14 06.5 0.0
NVLJ Novalja 2.63 14 *i* Pn Pn 01 13 33.4 -1.0
NVLJ Sn Sn 01 14 06.5 0.0
STON Ston 2.87 71 *e*Pn Pn 01 13 37.2 -0.4
STON Ston 2.87 71 *e*Pn Pn 01 13 37.2 -0.4
HCY Herceg Novi 3.36 81⇓*i*Pn Pn 01 13 45.1 +0.6
HCY *e*Sn Sn 01 14 25.8 +1.2
HCY Herceg Novi 3.36 81⇓*i*Pn Pn 01 13 45.1 +0.6
HCY *e*Sn Sn 01 14 25.8 +1.2
BRY Bratogost 3.47 74⇑*i*Pn Pn 01 13 46.3 +0.2
BRY *e*Sn Sn 01 14 29.0 +1.6
BRY Bratogost 3.47 74⇑*i*Pn Pn 01 13 46.3 +0.2
BRY *e*Sn Sn 01 14 29.0 +1.6
OSPF L'Ospedale 3.62 266 P Pn 01 13 47.7 -0.4
OSPF L'Ospedale 3.62 266 P Pn 01 13 47.7 -0.4
BUM Brajici-Budva 3.64 84⇓*i*Pn Pn 01 13 49.1 +0.7
BUM *e*Sn Sn 01 14 33.1 +1.4
BUM Brajici-Budva 3.64 84⇓*i*Pn Pn 01 13 49.1 +0.7
BUM *e*Sn Sn 01 14 33.1 +1.4
PGF Pioggiola 3.75 280 *e*Pn Pn 01 13 49.3 -0.7
SNR=1.0
PGF *e*Sn Sn 01 14 29.9 -4.5
12nm,0.4s
PGF Pioggiola 3.75 280 *e*Pn Pn 01 13 49.3 -0.7
SNR=1.0
PGF *e*Sn Sn 01 14 29.9 -4.5
6.2nm,0.4s
NKY Niksic 3.78 76⇓*i*Pn Pn 01 13 51.2 +0.9
NKY *e*Sn Sn 01 14 36.6 +1.6
NKY Niksic 3.78 76⇓*i*Pn Pn 01 13 51.2 +0.9
NKY *e*Sn Sn 01 14 36.6 +1.6
UPM Unac-Piva 3.81 70⇓*i*Pn Pn 01 13 51.9 +1.1
UPM *e*Sn Sn 01 14 36.9 +1.1
UPM Unac-Piva 3.81 70⇓*i*Pn Pn 01 13 51.9 +1.1
UPM *e*Sn Sn 01 14 36.9 +1.1
ULC Ulcinj 3.90 89⇓*i*Pn Pn 01 13 52.2 +0.2
ULC *e*Sn Sn 01 14 39.7 +1.7
ULC Ulcinj 3.90 89⇓*i*Pn Pn 01 13 52.2 +0.2
ULC *e*Sn Sn 01 14 39.7 +1.7
PDG Podgorica 3.92 82⇓*i*Pn Pn 01 13 52.5 +0.3
PDG *e*Sn Sn 01 14 39.7 +1.4
TTG Podgorica 3.92 82⇓*i*Pn Pn 01 13 52.5 +0.3
TTG *e*Sn Sn 01 14 39.7 +1.3
VOY Vojsko 4.02 359 *e*Pn Pn 01 13 53.2 -0.5
VOY *e* 01 13 56.8
VOY *e*Sn Sn 01 14 41.1 +0.1
VOY Vojsko 4.02 359 *e*Pn Pn 01 13 53.2 -0.5
VOY *e*Sn Sn 01 14 41.1 +0.1
PLE Pljevlja 4.18 70⇓*i*Pn Pn 01 13 56.2 +0.3
PLE *e*Sn Sn 01 14 45.6 +0.6
PLE Pljevlja 4.18 70⇓*i*Pn Pn 01 13 56.2 +0.3
PLE *e*Sn Sn 01 14 45.6 +0.6
BEY Berane 4.44 77 *e*Pn Pn 01 14 00.7 +1.3
BEY *e*Sn Sn 01 14 51.7 +0.4
IVA Berane 4.44 77 *e*Pn Pn 01 14 00.7 +1.3
IVA *e*Sn Sn 01 14 51.7 +0.3
PVY Plav 4.45 80⇑*i*Pn Pn 01 14 00.8 +1.2
PVY *e*Sn Sn 01 14 52.4 +0.7
PVY Plav 4.45 80⇑*i*Pn Pn 01 14 00.8 +1.2
PVY *e*Sn Sn 01 14 52.4 +0.7
OBKA Obir 4.51 5⇑*i*Pn Pn 01 13 59.5 -0.9
OBKA ⇑*i*Sn Sn 01 14 52.1 -1.0
OBKA Obir 4.51 5 Pn Pn 01 13 59.5 -0.9
OBKA Sn Sn 01 14 52.1 -1.0
MYKA Terra Mystica 4.63 357⇓*i*Pn Pn 01 14 01.1 -0.9
MYKA ⇓*i*Sn Sn 01 14 55.5 -0.4
MYKA Terra Mystica 4.63 357 Pn Pn 01 14 01.1 -0.9
MYKA Sn Sn 01 14 55.5 -0.4
SOKA Soboth 4.72 9⇑*i*Pn Pn 01 14 02.1 -1.2
SOKA ⇑*i*Sn Sn 01 14 57.6 -0.7
SOKA Soboth 4.72 9 Pn Pn 01 14 02.1 -1.2
SOKA Sn Sn 01 14 57.6 -0.7
IVAS Ivanjica 4.79 69 *e*Pn Pn 01 14 05.1 +1.0
ABTA Abfaltersbach 4.86 348⇑*i*Pn Pn 01 14 04.8 -0.3
ABTA Abfaltersbach 4.86 348 Pn Pn 01 14 04.8 -0.3
DIVS Divibare 4.86 63 *e*Pn Pn 01 14 05.7 +0.6
KBA Koelnbreinsper 5.09 355⇓*i*Pn Pn 01 14 07.9 -0.5
KBA ⇑*i*Sn Sn 01 15 06.8 -0.6
KBA Koelnbreinsper 5.09 355 Pn Pn 01 14 07.9 -0.5
KBA Sn Sn 01 15 06.8 -0.6
SAOF Saorge 5.13 295 P Pn 01 14 09.2 +0.4
SAOF Saorge 5.13 295 P Pn 01 14 09.2 +0.4
SBF Sospel 5.17 293 *e*Pn Pn 01 14 09.6 +0.2
SNR=1.0
SBF *e*Sn Sn 01 15 03.8 -5.4
14nm,0.7s
SBF Sospel 5.17 293 *e*Pn Pn 01 14 09.6 +0.2
SNR=1.0
SBF *e*Sn Sn 01 15 03.8 -5.4
7.2nm,0.7s
TRUS Trudelj 5.18 63 *e*Pn Pn 01 14 08.6 -0.9
AUTN L'Aution 5.22 295 P Pn 01 14 09.8 -0.4
AUTN S Sb 01 15 28.3 +2.2
AUTN L'Aution 5.22 295 P Pn 01 14 09.8 -0.4
AUTN S Sb 01 15 28.3 +2.2
FGSL Fruska Gora 5.26 51 *e*Pn Pn 01 14 11.1 +0.5
GRUS Gruza 5.27 67 *e*Pn Pn 01 14 11.1 +0.4
TOUF Mont Tournerai 5.34 294 P Pn 01 14 13.0 +1.1
TOUF Mont Tournerai 5.34 294 P Pn 01 14 13.0 +1.1
ARSA Arzberg 5.35 11⇑*i*Pn Pn 01 14 10.3 -1.6
ARSA ⇑*i*Sn Sn 01 15 11.9 -1.7
ARSA Arzberg 5.35 11 Pn Pn 01 14 10.3 -1.6
ARSA Sn Sn 01 15 11.9 -1.7
PKSM Moragy 5.36 37⇓*i*P Pn 01 14 13.8 +1.8
PKSM Moragy 5.36 37⇓*i*P Pn 01 14 13.8 +1.8
MVIF Mont Vial 5.37 293 P Pn 01 14 12.0 -0.3
MVIF S Sb 01 15 30.7 +0.2
MVIF Mont Vial 5.37 293 P Pn 01 14 12.0 -0.3
MVIF S Sb 01 15 30.7 +0.2
SELS Selova 5.38 75 *e*Pn Pn 01 14 12.5 +0.2
CALN Calern 5.51 291 P Pn 01 14 13.9 -0.3
CALN Calern 5.51 291 P Pn 01 14 13.9 -0.3
WTTA Wattenberg 5.52 343⇓*i*Pn Pn 01 14 13.9 -0.4
WTTA ⇑*i*Sn Sn 01 15 16.7 -1.3
WTTA Wattenberg 5.52 343 Pn Pn 01 14 13.9 -0.4
WTTA Sn Sn 01 15 16.7 -1.3
FETA Feichten 5.53 336⇑*i*Pn Pn 01 14 14.3 -0.1
FETA ⇑*i*Sn Sn 01 15 18.2 -0.1
FETA Feichten 5.53 336 Pn Pn 01 14 14.3 -0.1
FETA Sn Sn 01 15 18.2 -0.1
BIA Bitola 5.58 98 *i* Pn Pn 01 14 15.2 +0.2
BIA Bitola 5.58 98 *i* Pn Pn 01 14 15.2 +0.2
WATA Walderalm 5.60 343⇑*i*Pn Pn 01 14 14.9 -0.5
WATA Walderalm 5.60 343 Pn Pn 01 14 14.9 -0.5
DAVOX Davos/Dischmat 5.61 330 Pn Pn 01 14 15.7 +0.2
1.2nm,0.3s,baz=177,slow=19,SNR=30
DAVOX Sn Sn 01 15 23.0 +2.7
1.9nm,0.3s,baz=319,slow=21,SNR=3.3
FRF La Foret Royal 5.63 288 *e*Pn Pn 01 14 14.8 -0.9
SNR=1.0
FRF La Foret Royal 5.63 288 *e*Pn Pn 01 14 14.8 -0.9
SNR=1.0
LMR La Mourre 5.68 286 *e*Pn Pn 01 14 15.8 -0.6
SNR=1.0
LMR *e*Sn Sn 01 15 16.4 -5.4
5.0nm,0.6s
LMR La Mourre 5.68 286 *e*Pn Pn 01 14 15.8 -0.6
SNR=1.0
LMR *e*Sn Sn 01 15 16.4 -5.4
2.5nm,0.6s
MOTA Moosalm 5.72 340⇑*i*Pn Pn 01 14 16.9 -0.2
MOTA ⇓*i*Sn Sn 01 15 23.7 +0.7
MOTA Moosalm 5.72 340 Pn Pn 01 14 16.9 -0.2
MOTA Sn Sn 01 15 23.7 +0.7
RJOB Jochberg 5.79 352 *e*Pn Pn 01 14 17.9 0.0
RJOB *e*Sn Sn 01 15 24.6 +0.1
BARS Barje 5.84 79 *e*Pn Pn 01 14 18.7 +0.2
MOA Molln 5.84 2⇑*i*Pn Pn 01 14 18.0 -0.6
MOA ⇓*i*Sn Sn 01 15 25.1 -0.7
MOA Molln 5.84 2 Pn Pn 01 14 18.0 -0.6
MOA Sn Sn 01 15 25.1 -0.7
MBDF Montbardon 5.93 300 *e*Pn Pn 01 14 19.0 -0.9
MBDF Montbardon 5.93 300 *e*P Pn 01 14 22.0 +2.1
SNR=1.0
MBDF Montbardon 5.93 300 *e*Pn Pn 01 14 19.0 -0.9
MBDF Montbardon 5.93 300 *e*P Pn 01 14 22.0 +2.1
SNR=1.0
RETA Reutte 5.94 338⇑*i*Pn Pn 01 14 20.5 +0.5
RETA Reutte 5.94 338 Pn Pn 01 14 20.5 +0.5
OBER Oberstdorf 6.01 335 *e*Pn Pn 01 14 21.6 +0.7
OBER *e*Sn Sn 01 15 30.8 +0.9
DAVA Damuels 6.04 332⇑*i*Pn Pn 01 14 21.5 +0.1
DAVA ⇑*i*Sn Sn 01 15 31.8 +1.0
DAVA Damuels 6.04 332 Pn Pn 01 14 21.5 +0.1
DAVA Sn Sn 01 15 31.8 +1.0
CONA Conrad Observa 6.06 12⇓*i*Pn Pn 01 14 20.8 -0.9
CONA ⇑*i*Sn Sn 01 15 29.5 -1.8
CONA Conrad Observa 6.06 12 Pn Pn 01 14 20.8 -0.9
CONA Sn Sn 01 15 29.5 -1.8
LPG La Plagne 6.30 306 *e*Pn Pn 01 14 23.8 -1.4
SNR=1.0
LPG *e*Sn Sn 01 15 31.7 -5.8
5.5nm,0.6s,SNR=1.0
LPG La Plagne 6.30 306 *e*Pn Pn 01 14 23.8 -1.4
SNR=1.0
LPG *e*Sn Sn 01 15 31.7 -5.8
2.8nm,0.6s,SNR=1.0
LPL La Plagne 6.33 306 *e*Pn Pn 01 14 23.5 -1.9
LPL La Plagne 6.33 306 *e*P Pn 01 14 26.9 +1.5
SNR=1.0
LPL *e*Sn Sn 01 15 30.8 -7.1
7.6nm,0.4s,SNR=1.0
LPL La Plagne 6.33 306 *e*Pn Pn 01 14 23.5 -1.9
LPL La Plagne 6.33 306 *e*P Pn 01 14 26.9 +1.5
SNR=1.0
LPL *e*Sn Sn 01 15 30.8 -7.1
3.8nm,0.4s,SNR=1.0
VAY Valandovo 6.45 93 *e*Pn Pn 01 14 25.4 -1.5
VAY Valandovo 6.45 93 *e*Pn Pn 01 14 25.9 -1.0
ZAPS Zavoj 6.49 76 *e*Pn Pn 01 14 27.9 +0.4
SMRF Simiane la Rot 6.49 290 *e*P Pn 01 14 29.0 +1.5
SMRF Simiane la Rot 6.49 290 *e*P Pn 01 14 29.0 +1.5
BZS Buzias 6.58 54⇑*i*P Pn 01 14 28.6 -0.1
BZS Buzias 6.58 54⇑*i*P Pn 01 14 28.6 -0.1
ORIF Oris-en-Rattie 6.59 299 *e*Pn Pn 01 14 26.6 -2.3
ORIF Oris-en-Rattie 6.59 299 *e*P Pn 01 14 31.9 +3.0
SNR=1.0
ORIF Oris-en-Rattie 6.59 299 *e*Pn Pn 01 14 26.6 -2.3
ORIF Oris-en-Rattie 6.59 299 *e*P Pn 01 14 31.9 +3.0
SNR=1.0
GEC2 GERESS Array S 6.84 358 *e*Pn Pn 01 14 32.7 +0.4
GEC2 *e*Sn Sn 01 15 47.0 -3.4
GERES GERESS Array B 6.84 358 Pn Pn 01 14 31.1 -1.2
1.1nm,0.3s,baz=175,slow=13,SNR=29

GERES				Sn		Sn	01 15 48.5	-1.8
	2.0nm,0.3s,baz=164,slow=24,SNR=8.3							
VTS	Vitosha	6.85	82	P		Pn	01 14 33.9	+1.4
VTS	Vitosha	6.85	82	P		Pn	01 14 33.9	+1.4
KHC	Kasperske Hory	7.13	358	ePN		Pn	01 14 35.0	-1.3
KHC				eSN		Sn	01 15 53.2	-4.2
KHC	Kasperske Hory	7.13	358	Pn		Pn	01 14 35.0	-1.3
WET	Wettzell	7.18	354	ePn		Pn	01 14 35.3	-1.6
WET				eSn		Sn	01 15 53.8	-4.8
KEST	Kesra	7.25	212	Pn		Pn	01 14 41.3	+3.3
	0.3nm,0.3s,baz=169,slow=5.1,SNR=18							
KEST				Sn		Sn	01 16 00.5	+0.1
	baz=266,slow=22,SNR=1.8							
MMB	Musomiste	7.28	90	P		Pn	01 14 34.0	-4.3
MPEP	Malo Peshtene	7.30	76	P		Pn	01 14 40.2	+1.6
CABF	La Chapelle	7.31	312	ePn		Pn	01 14 36.5	-2.3
CABF	La Chapelle	7.31	312	eP		Pn	01 14 41.1	+2.3
	SNR=1.0							
CABF	La Chapelle	7.31	312	ePn		Pn	01 14 36.5	-2.3
CABF	La Chapelle	7.31	312	eP		Pn	01 14 41.1	+2.3
	SNR=1.0							
VYHS	Vyhne	7.32	26	ePN		Pn	01 14 38.0	-0.9
VYHS				eSN		Sn	01 15 57.9	-4.3
VYHS	Vyhne	7.32	26	ePn		Pn	01 14 38.0	-0.9
TREC	Trest	7.36	8	ePN		Pn	01 14 37.9	-1.5
TREC	Trest	7.36	8	Pn		Pn	01 14 37.9	-1.5
VIVF	Saint-Julien-l	7.37	296	ePn		Pn	01 14 37.3	-2.2
VIVF	Saint-Julien-l	7.37	296	eP		Pn	01 14 41.8	+2.3
	SNR=1.0							
VIVF	Saint-Julien-l	7.37	296	ePn		Pn	01 14 37.3	-2.2
VIVF	Saint-Julien-l	7.37	296	eP		Pn	01 14 41.8	+2.3
	SNR=1.0							
VRAC	Vranov	7.52	13	Pn		Pn	01 14 42.7	+1.1
	0.4nm,0.3s,baz=193,slow=13,SNR=3.9							
VRAC				Sn		Sn	01 16 06.2	-0.8
	0.4nm,0.3s,baz=70,slow=19,SNR=2.4							
PGB	Panagyurishte	7.55	83	P		Pn	01 14 43.4	+1.3
PGB	Panagyurishte	7.55	83	P		Pn	01 14 43.4	+1.3
HINF	Hinteralfeld	7.71	321	ePn		Pn	01 14 42.5	-1.8
	SNR=1.0							
HINF				eSn		Sn	01 16 04.6	-7.1
	5.8nm,0.3s							
HINF	Hinteralfeld	7.71	321	ePn		Pn	01 14 42.5	-1.8
	SNR=1.0							
HINF				eSn		Sn	01 16 04.6	-7.1
	2.9nm,0.3s							
LASF	Ste Croix	7.72	289	ePn		Pn	01 14 43.0	-1.3
	SNR=1.0							
LASF	Ste Croix	7.72	289	ePn		Pn	01 14 43.0	-1.3
	SNR=1.0							
LOT	Lotru	7.86	61	i/P		Pn	01 14 47.8	+1.4
LOT	Lotru	7.86	61	i/P		Pn	01 14 47.8	+1.4
CDF	Champ du Feu	7.97	326	ePn		Pn	01 14 46.5	-1.4
	SNR=1.0							
CDF				eSn		Sn	01 16 10.1	-8.1
	7.2nm,0.5s							
CDF	Champ du Feu	7.97	326	ePn		Pn	01 14 46.5	-1.4
	SNR=1.0							
CDF				eSn		Sn	01 16 10.1	-8.1
	3.6nm,0.5s							
PRU	Pruhonice	7.99	2	ePN		Pn	01 14 47.2	-0.8
PRU				eSN		Sn	01 16 13.3	-5.2
PRU	Pruhonice	7.99	2	Pn		Pn	01 14 47.2	-0.8
RZN	Rozhen	8.00	89	P		Pn	01 14 50.3	+1.9
RZN	Rozhen	8.00	89	P		Pn	01 14 50.3	+1.9
HAU	Haudompre	8.08	320	ePn		Pn	01 14 47.1	-2.2
	SNR=1.0							
HAU				eSn		Sn	01 16 13.5	-7.4
	11nm,0.4s							
HAU	Haudompre	8.08	320	ePn		Pn	01 14 47.1	-2.2
	SNR=1.0							
HAU				eSn		Sn	01 16 13.5	-7.4
	5.4nm,0.4s							
MORC	Moravsky Berou	8.15	16	i/P		Pn	01 14 51.9	+1.6
MORC	Moravsky Berou	8.15	16	i/P		Pn	01 14 51.9	+1.6
NKC	Novy Kostel	8.29	353	ePN		Pn	01 14 52.6	+0.4
NKC				eSN		Sn	01 16 22.0	-4.1
NKC	Novy Kostel	8.29	353	Pn		Pn	01 14 52.6	+0.4
SMF	Signal de Mont	8.63	306	ePn		Pn	01 14 55.9	-1.0
	SNR=1.0							
SMF				eSn		Sn	01 16 26.6	-7.8
	3.1nm,0.5s							
SMF	Signal de Mont	8.63	306	ePn		Pn	01 14 55.9	-1.0
	SNR=1.0							
SMF				eSn		Sn	01 16 26.6	-7.8
	1.5nm,0.5s							
CRVS	Cervenica-Dubn	8.65	35	ePN		Pn	01 14 56.2	-0.9
CRVS	Cervenica-Dubn	8.65	35	ePn		Pn	01 14 56.2	-0.9
SFTF	Sexfontaines	8.86	317	ePn		Pn	01 14 57.7	-2.3
	baz=140							
SFTF	Sexfontaines	8.86	317	ePn		Pn	01 14 57.7	-2.3
	baz=140							
BRG	Berggiesshubel	8.87	360	SG		Sn	01 16 35.0	-5.0
	3.5nm,0.7s							
SZH	Strazhica	8.88	78	eP		Pn	01 15 01.3	+1.0
SZH	Strazhica	8.88	78	eP		Pn	01 15 01.3	+1.0
LOR	Lormes	8.94	309	ePn		Pn	01 14 59.6	-1.5
	baz=125,SNR=1.0							
LOR				eSn		Sn	01 16 34.2	-7.7
	2.7nm,0.3s							
LOR	Lormes	8.94	309	ePn		Pn	01 14 59.6	-1.5
	SNR=1.0							
LOR				eSn		Sn	01 16 34.2	-7.7
	1.4nm,0.3s							
SSF	Saint Saulge	9.04	308	ePn		Pn	01 15 01.7	-0.7
SSF	Saint Saulge	9.04	308	ePn		Pn	01 15 01.7	-0.7
CAF	Calviac	9.16	293	eP		Pn	01 15 06.1	+2.0
CAF	Calviac	9.16	293	eP		Pn	01 15 06.1	+2.0
BGF	Bois d'Agland	9.20	303	ePn		Pn	01 15 02.9	-1.8
	SNR=1.0							
BGF	Bois d'Agland	9.20	303	ePn		Pn	01 15 02.9	-1.8
	SNR=1.0							
MLR	Muntele Rosu	9.31	64	Pn		Pn	01 15 09.0	+2.7
	0.1nm,0.3s,baz=260,slow=11,SNR=4.8							
CLL	Collm	9.33	356	ePn		Pn	01 15 06.0	-0.3
CLL				eSn		Sn	01 16 44.0	-7.3
CLL				e			01 16 57.0	
CLL				e			01 17 15.0	
CLL				eSg			01 17 58.0	
BRTR	Keskin Array B	15.03	92	Pn		P	01 16 32.8	+2.8
	0.1nm,0.3s,baz=305,slow=7.4,SNR=3.5							
HFS	Hagfors	18.15	359	P		P	01 17 05.2	+1.0
	0.1nm,0.3s,baz=93,slow=25,SNR=2.7							
MMAI	Mount Meron Ar	19.16	111	P		Pn	01 17 16.2	-0.3
	0.3nm,0.3s,baz=310,slow=11,SNR=4.2							
FINES	FINESS Array B	20.78	16	P		P	01 17 30.9	-2.0
	1.6nm,0.7s,baz=189,slow=11,SNR=6.6							
TORD	Torodi Ar. Bea	30.69	204	P		P	01 19 07.4	+0.4
	0.5nm,0.6s,baz=14,slow=9.4,SNR=10							
BVAR	Borovoye Array	38.68	54	P		P	01 20 17.1	+1.4
	0.9nm,0.8s,baz=263,slow=7.3,SNR=6.7							
AAK	Ala-Archa	43.87	68	P		P	01 20 60.0	+1.3
	1.2nm,0.8s,baz=319,slow=4.4,SNR=3.9							
KURBB	Kurchatov Arra	44.09	56	P		P	01 20 59.8	-0.3
	0.5nm,0.7s,baz=294,slow=9.0,SNR=5.3							
ZALV	Zalesovo Beam	46.95	50	P		P	01 21 23.7	+1.1
	0.2nm,0.3s,baz=289,slow=10,SNR=2.7							
YKA	Yellowknife Ar	68.00	337	P		P	01 23 50.2	-0.7
	0.2nm,0.6s,baz=35,slow=5.4,SNR=5.1							

*ISCJB **17** 01:13:31.0±0.2, 60.26N±0.02×152.15W±0.04, h102km±2km, mb4.0/28, Error ellipse: s-maj=4.1km s-min=2.8km az=146.9*

*IDC **17** 01:13:30.0±1.1, 60.28N×152.35W, h73km±11km, mb3.8/26, mb1 3.9/31, mb1mx3.9/36, mbtmp3.8/31, Error ellipse: s-maj=10.9km s-min=8.7km az=126.0*

*NEIC **17** 01:13:33.1, 60.24N×152.15W, h90km, mb3.9/3, After AEIC.*

NEIC Felt [III] at Anchorage, Homer and Kenai. Also felt at Elmendorf AFB and Ninilchik.

ISC 17 01:13:31.6±0.5, 60.26N±0.03×152.19W±0.03, h91km±4km, n160, σ1°17/183, mb4.0/28, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDT	Redoubt	0.34	341	P	Pn	01 13 46.4	+1.0
RSO	Redoubt South	0.35	307	P	Pn	01 13 46.8	+1.2
RDN	Redoubt North	0.39	312	P	Pn	01 13 46.8	+1.0
INE	Iliamna NE	0.48	246	P	Pn	01 13 47.1	+0.7
IVE	Iliamna Volcan	0.48	240	P	Pn	01 13 47.2	+0.8
IVE				S	Sn	01 13 58.8	+1.5
ILW	Iliamna West	0.51	248	P	Pn	01 13 47.5	+0.8
NKA	Nikishka	0.68	43	P	Pn	01 13 51.0	+3.1
OPT	Oil Point	0.80	221	P	Pn	01 13 50.2	+1.0
BRLK	Bradley Lake	0.82	126	P	Pn	01 13 50.1	+0.7
BRLK				S	Sn	01 14 04.1	+1.4
SLKM	Skilak Lake	1.01	75	P	Pn	01 13 52.4	+0.9
BGL	Barrier Glacie	1.02	354	P	Pn	01 13 52.8	+1.2
CGLM	Capps Glacier	1.06	5	P	Pn	01 13 53.3	+1.2
AUL	Augustine Lava	1.08	216	P	Pn	01 13 53.4	+1.2
AUL				S	Sn	01 14 09.1	+1.4
AUNW	Augustine NWes	1.09	217	P	Pn	01 13 53.3	+0.9
AUW	Augustine West	1.10	217	P	Pn	01 13 53.4	+0.9
AUI	Augustine Isla	1.12	215	P	Pn	01 13 53.4	+0.8
AUI				S	Sn	01 14 09.2	+0.7
NCG	North Capps Gl	1.15	1	P	Pn	01 13 54.2	+1.0
STLK	Strandline Lak	1.26	8	P	Pn	01 13 55.6	+1.1
SEW	Seward	1.38	95	P	Pn	01 13 56.2	+0.4
SEW				S	Sn	01 14 14.0	-0.1
SUA	Susitna One	1.40	30	P	Pn	01 13 57.7	+1.4
SUA				S	Sn	01 14 16.8	+1.9
MCNL	McNeil River	1.53	226	P	Pn	01 13 58.1	+0.4
FOSS	Fourpeaked Sta	1.65	208	P	Pn	01 13 59.6	+0.3
SKT	Skwentna	1.76	10	P	Pn	01 14 01.5	+0.8
KAPH	Katmai Pasha	2.00	214	P	Pn	01 14 04.4	+0.6
PMR	Palmer	2.01	47	P	Pn	01 14 04.2	+0.4
PMR				S	Sn	01 14 28.0	-0.4
KAHC	Katmai Hardscr	2.16	223	P	Pn	01 14 06.4	+0.4
CUT	Chulitna	2.35	22	P	Pn	01 14 09.3	+1.0
SML	Sawmill	2.44	49	P	Pn	01 14 10.1	+0.5
SML				S	Sn	01 14 38.2	-0.5
KAKN	Katmai Knife C	2.46	218	P	Pn	01 14 10.4	+0.5
KVTA	Katmai Vly 10	2.46	222	P	Pn	01 14 10.5	+0.6
KDAK	Kodiak Island	2.49	185	P	Pn	01 14 09.7	-0.6
	69nm,0.3s,baz=36,slow=8.7,SNR=3265							
KDAK				S	Sn	01 14 36.8	-3.0
	59nm,0.3s,baz=46,slow=13,SNR=4.4							
KDAK	Kodiak Island	2.49	185	P	Pn	01 14 09.6	-0.6
KDAK				S	Sn	01 14 36.8	-3.0
KCE	Katmai Mt Cerb	2.54	219	P	Pn	01 14 11.9	+1.0
KABU	Katmai Buttres	2.55	220	P	Pn	01 14 11.9	+0.8
PPLA	Purkeypile	2.65	0	P	Pn	01 14 13.7	+1.2
SCM	Sheep Creek Mo	2.84	54	P	Pn	01 14 15.6	+0.5
VLZ	Valdez	3.01	71	P	Pn	01 14 16.9	-0.2
MID	Middleton Isla	3.07	103	P	Pn	01 14 18.6	+0.7
EYAK	Cordova Ski Ar	3.21	82	P	Pn	01 14 19.0	-0.8
TT01	Tatalina	3.23	327	P	Pn	01 14 20.6	+0.4
DIV	Divide	3.27	72	P	Pn	01 14 20.3	-0.5
KLU	Klutina	3.31	65	P	Pn	01 14 21.3	0.0
TRF	Thorofare Moun	3.33	15	P	Pn	01 14 22.9	+1.2
RND	Reindeer	3.54	25	P	Pn	01 14 25.8	+1.4
CHUM	Lake Minchumin	3.64	359	P	Pn	01 14 26.1	+0.5
DHY	Denali Highway	3.64	37	P	Pn	01 14 26.8	+1.0
GOAT	Goat Mountain	3.71	82	P	Pn	01 14 26.0	-0.8
BMRM	Bremner River	3.81	76	P	Pn	01 14 27.1	-0.9
HARP	HAARP	4.02	54	P	Pn	01 14 31.4	+0.6
NICHA	Nichawak Mount	4.10	87	P	Pn	01 14 32.3	+0.4
PAX	Paxson	4.21	47	P	Pn	01 14 34.3	+0.8
BERG	Berg Lake	4.22	84	P	Pn	01 14 33.8	+0.2
VRDI	Verde Repeater	4.40	73	P	Pn	01 14 35.5	-0.7
GRIN	Grindle Hills	4.42	86	P	Pn	01 14 36.8	+0.6
KHIT	Khitrov Hills	4.45	84	P	Pn	01 14 37.5	+0.8
ANNW	Aniakchak Nort	4.56	226	P	Pn	01 14 39.2	+0.9
NEA	Nenana	4.57	17	P	Pn	01 14 39.0	+0.7
KULT	Kultieth River	4.72	86	P	Pn	01 14 40.8	+0.5
BARK	Barkley Ridge	4.82	84	P	Pn	01 14 42.5	+0.7
HDA	Harding Lake	4.83	28	P	Pn	01 14 42.6	+0.8
MLY	Manley	4.84	7	P	Pn	01 14 43.4	+1.4
CCB	Clear Creek Bu	4.85	23	P	Pn	01 14 42.6	+0.5
MENT	Mentasta	4.86	53	ePn	Pn	01 14 43.4	+1.2
MENT				eSn	Sn	01 15 36.9	-0.2
ISLE	Juniper Island	4.89	82	P	Pn	01 14 43.5	+0.7
KIAG	Kiagna River	4.89	78	P	Pn	01 14 42.3	-0.6
BALM	Baldy	4.91	77	P	Pn	01 14 42.5	-0.4
GCSA	Galena City Sc	5.00	336	P	Pn	01 14 45.5	+1.4
BAGL	Bagley Icefiel	5.02	83	P	Pn	01 14 45.1	+0.8
COLA	College	5.05	22	P	Pn	01 14 45.5	+0.8
MDM	Murphy Dome	5.06	19	P	Pn	01 14 45.8	+0.8
MESA	MESA	5.11	86	P	Pn	01 14 46.5	+0.8
DOT	Dot Lake	5.13	45	P	Pn	01 14 46.8	+0.9
IL1	Eielson Array	5.15	26	P	Pn	01 14 46.5	+0.3
ILAR	Eielson Array	5.15	26	P	Pn	01 14 46.1	-0.1
	12nm,0.3s,baz=214,slow=13,SNR=426							
ILAR				S	Sn	01 15 41.4	-2.8
	19nm,0.3s,baz=204,slow=16,SNR=8.2							
ILAR	Eielson Array	5.15	26	P	Pn	01 14 46.1	-0.1
ILAR				S	Sn	01 15 41.4	-2.8
GLM	Gilmore Dome	5.24	23	P	Pn	01 14 48.0	+0.6
TABL	Table Mountain	5.49	83	P	Pn	01 14 51.4	+0.4
SAMH	Samovar Hills	5.69	86	P	Pn	01 14 54.8	+1.2
BCA3	Beaver Creek A	5.70	56	P	Pn	01 14 54.1	+0.4
IM3	Indian Mountai	5.79	354	P	Pn	01 14 55.0	+0.2
PRP	Porcupine Dome	6.09	27	P	Pn	01 14 59.9	+0.8
PNL	Peninsula	6.45	90	P	Pn	01 15 04.0	+0.1
EGAK	Eagle	6.82	44	ePn	Pn	01 15 08.8	-0.1
	43nm,0.7s							
COLD	Coldfoot	7.05	6	P	Pn	01 15 12.5	+0.5
DAWY	Dawson	7.10	52	P	Pn	01 15 13.5	+0.8
HYT	Haines Junctio	7.27	79	P	Pn	01 15 15.6	+0.5
BM3	Burnt Mountain	7.93	22	P	Pn	01 15 23.4	-0.6
SKAG	Skagway	8.52	88	P	Pn	01 15 31.8	-0.2
WHY	Whitehorse	8.56	80	P	Pn	01 15 33.0	+0.3
TNA	Tin City	8.92	313	ePn	Pn	01 15 39.0	+1.6
	11nm,0.6s							
WRAK	Wrangell Islan	11.10	102	ePn	Pn	01 16 08.5	+1.5
	18nm,0.6s							
INK	Inuvik	11.39	37	P	Pn	01 16 10.4	-0.5
	0.2nm,0.3s,baz=225,slow=16,SNR=15							
INK				S	Sn	01 18 12.4	-3.5
	0.1nm,0.3s,baz=344,slow=5.4,SNR=2.8							
INK	Inuvik	11.39	37	ePn	Pn	01 16 10.4	-0.5
	11nm,0.9s							
INK				Sn	Sn	01 18 14.0	-1.9
DLBC	Dease Lake	11.44	89	P	Pn	01 16 13.2	+1.3
	0.8nm,0.3s,baz=305,slow=8.9,SNR=28							
DLBC				S	Sn	01 18 17.4	-0.2
	0.6nm,0.3s,baz=188,slow=26,SNR=5.2							
DLBC	Dease Lake	11.44	89	ePn	Pn	01 16 12.4	+0.6
DLBC				eSn	Sn	01 18 18.3	+0.8
BBB	Bella Bella	15.56	111	P	P	01 17 10.6	+2.7
	0.4nm,0.3s,baz=116,slow=5.2,SNR=3.9							
BBB				S	Sn	01 19 55.5	-1.7
	0.5nm,0.3s,baz=350,slow=21,SNR=2.6							
BBB	Bella Bella	15.56	111	P	P	01 17 10.6	+2.7
BBB				S	Sn	01 19 55.5	-1.7
YKW3	Yellowknife Ar	17.96	66	P	Pn	01 17 35.5	+0.6
	0.1nm,1.0s							
YKA	Yellowknife Ar	17.98	67	P	Pn	01 17 35.6	+0.5
	0.3nm,0.3s,baz=275,slow=9.8,SNR=40							
YKA				PcP	PcP	01 22 04.1	-0.8
	0.1nm,0.3s,baz=291,slow=1.5,SNR=8.0							
YKA				ScP	ScP	01 25 31.1	-0.6
	0.0nm,0.3s,baz=291,slow=1.8,SNR=4.7							
YKA	Yellowknife Ar	17.98	67	P	Pn	01 17 35.6	+0.5
YKA				PcP	PcP	01 22 04.1	-0.8
YKA				ScP	ScP	01 25 31.1	-0.6
FX1	Attu Island--F	20.27	264	P	P	01 17 59.5	+0.1
	18nm,0.6s,baz=184,slow=10,SNR=13							
FX1	Attu Island--F	20.27	264	eP	P	01 18 00.8	+1.3
RES	Resolute Bay	24.87	32	P	P	01 18 45.6	+0.4
	0.7nm,0.4s,baz=270,slow=9.9,SNR=9.3							
RES	Resolute Bay	24.87	32	eP	P	01 18 45.2	0.0
	2.3nm,0.6s							
PETK	Petropavlovsk-	27.83	278	P	P	01 19 12.1	+0.1
	1.5nm,0.4s,baz=76,slow=11,SNR=6.8							
PETK	Petropavlovsk-	27.83	278	P	P	01 19 12.1	+0.1
NVAR	Mina Array Bea	30.50	120	P	P	01 19 38.7	+2.7
	0.2nm,0.3s,baz=306,slow=13,SNR=2.6							
NVAR	Mina Array Bea	30.50	120	P	P	01 19 38.7	+2.7
PDAR	Pinedale Array	31.06	105	P	P	01 19 42.8	+1.8
	0.3nm,0.4s,baz=354,slow=3.1,SNR=4.9							
PDAR	Pinedale Array	31.06	105	P	P	01 19 42.8	+1.8
ULM	Lac du Bonnet	32.63	82	P	P	01 19 55.5	+1.1
	0.8nm,0.4s,baz=315,slow=11,SNR=2.5							
ULM	Lac du Bonnet	32.63	82	P	P	01 19 55.5	+1.1
ASAJ	Asahikawa	41.25	277	P	P	01 21 07.9	+0.5
	1.9nm,0.5s,baz=283,slow=2.3,SNR=4.6							
ASAJ	Asahikawa	41.25	277	P	P	01 21 07.9	+0.5
SCHQ	Schefferville	43.08	58	P	P	01 21 22.5	+0.4
	2.0nm,0.9s,baz=41,slow=18,SNR=3.4							
SCHQ	Schefferville	43.08	58	P	P	01 21 22.5	+0.4
TXAR	Lajitas Array	44.70	112	P	P	01 21 37.3	+1.9
	0.4nm,0.5s,baz=314,slow=5.4,SNR=10							
TXAR				sP	sP	01 22 03.3	-3.9
	0.2nm,0.4s,baz=332,slow=5.8,SNR=2.8							
TXAR	Lajitas Array	44.70	112	P	P	01 21 37.3	+1.9
TXAR				sP	sP	01 22 03.3	-3.9
USRK	Ussuriysk Arra	46.36	286	P	P	01 21 47.5	-0.8
	1.7nm,0.7s,baz=68,slow=6.2,SNR=4.1							
MJAR	Matsushiro Arr	49.17	274	P	P	01 22 09.7	-0.3
	0.8nm,0.5s,baz=348,slow=6.6,SNR=4.8							
MJAR	Matsushiro Arr	49.17	274	P	P	01 22 09.7	-0.3
TKL	Tuckaleechee C	49.27	88	P	P	01 22 11.6	+0.7
	1.1nm,0.5s,baz=50,slow=15,SNR=2.6							
TKL	Tuckaleechee C	49.27	88	P	P	01 22 11.6	+0.7
ARCES	ARCESS Array B	50.49	1	P	P	01 22 18.4	-1.3
	3.2nm,0.9s,baz=343,slow=7.8,SNR=5.4							
ARCES	ARCESS Array B	50.49	1	P	P	01 22 18.4	-1.3
KSRS	Korea Array	53.52	283	P	P	01 22 43.0	+0.6
	6.2nm,0.8s,baz=36,slow=6.9,SNR=16							
KSAR	Wonju Array Be	53.55	283	P	P	01 22 43.0	+0.3
ULN	Ulaanbaatar	54.68	306	eP	P	01 22 51.0	0.0
	7.6nm,1.0s							
SONM	Songino Array	54.97	306	P	P	01 22 53.7	+0.7
	11nm,0.8s,baz=39,slow=7.2,SNR=98							
SONM	Songino Array	54.97	306	P	P	01 22 53.7	+0.7
ZALV	Zalesovo Beam	57.41	324	P	P	01 23 09.9	-0.2
	2.8nm,0.6s,baz=28,slow=7.2,SNR=16							
ZALV	Zalesovo Beam	57.41	324	P	P	01 23 09.9	-0.2
FINES	FINESS Array B	58.62	1	P	P	01 23 17.3	-1.1
	3.6nm,1.0s,baz=1.9,slow=11,SNR=6.8							
FINES	FINESS Array B	58.62	1	P	P	01 23 17.3	-1.1
HFS	Hagfors	59.44	8	P	P	01 23 24.9	+0.7
	2.4nm,0.9s,baz=32,slow=3.7,SNR=8.0							
HFS	Hagfors	59.44	8	P	P	01 23 24.9	+0.7
JOW	Kunigami	61.96	275	P	P	01 23 40.9	-0.9
	4.0nm,0.5s,baz=337,slow=11,SNR=4.3							
JOW	Kunigami	61.96	275	P	P	01 23 40.9	-0.9
BVAR	Borovoye Array	62.03	332	P	P	01 23 41.6	-0.2
	1.0nm,0.5s,baz=32,slow=6.6,SNR=8.5							
BVAR	Borovoye Array	62.03	332	P	P	01 23 41.6	-0.2
MK31	Makanchi Array	64.48	322	eP	P	01 23 56.0	-2.2
ABKAR	Akbulak array	67.78	338	eP	P	01 24 18.0	-1.1
	0.4nm,0.4s							
AKASG	Malin Array Be	69.39	359	P	P	01 24 28.4	-0.7
	0.6nm,0.4s,baz=0.1,slow=5.5,SNR=3.5							
AKASG				pP	PcP	01 24 51.3	-0.6
	0.3nm,0.3s,baz=2.9,slow=6.2,SNR=2.2							
AKASG	Malin Array Be	69.39	359	P	P	01 24 28.4	-0.7
AKASG				pP	PcP	01 24 51.4	-0.6
GERES	GERESS Array B	70.65	10	P	P	01 24 36.8	-0.3
	0.3nm,0.5s,baz=350,slow=5.4,SNR=3.9							
GERES	GERESS Array B	70.65	10	P	P	01 24 36.8	-0.3
ESDC	Sonseca Array	77.06	25	P	P	01 25 15.0	+0.5
	0.1nm,0.3s,baz=352,slow=9.0,SNR=3.7							
ESDC	Sonseca Array	77.06	25	P	P	01 25 15.0	+0.5
GNI	Garni	78.98	347	P	P	01 25 29.7	+4.4
	1.5nm,0.3s,baz=34,slow=22,SNR=5.0							
GNI	Garni	78.98	347	P	P	01 25 29.7	+4.4
BRTR	Keskin Array B	80.26	355	P	P	01 25 31.0	-1.2
	0.3nm,0.7s,baz=354,slow=5.0,SNR=4.2							
BRTR	Keskin Array B	80.26	355	P	P	01 25 31.0	-1.2
CMAR	Chiang Mai Arr	83.12	295	P	P	01 25 46.8	-0.5
	0.9nm,0.3s,baz=12,slow=6.3,SNR=7.3							
CMAR	Chiang Mai Arr	83.12	295	P	P	01 25 46.8	-0.5
KEST	Kesra	83.16	15	P	P	01 25 47.5	+0.2
	1.0nm,0.9s,baz=329,slow=13,SNR=10							
KEST	Kesra	83.16	15	P	P	01 25 47.5	+0.2
MMAI	Mount Meron Ar	86.86	354	pP	pP	01 26 24.5	-5.4
	0.4nm,0.3s,baz=351,slow=16,SNR=1.9							
MMAI	Mount Meron Ar	86.86	354	pP	pP	01 26 24.5	-5.4
BOSA	Boshof	148.31	4	PKPbc	PKPbc	01 33 05.7	-1.2
	3.0nm,0.6s,baz=185,slow=6.3,SNR=6.5							
BOSA	Boshof	148.31	4	PKPbc	PKPbc	01 33 05.7	-1.

MMAI	**Mount Meron Ar**	**151.40**	**281**	PKPbc	**PKPbc**	02 12 01.6	-0.3
BRTR	**Keskin Array B**	**152.86**	**296**	PKPbc	**PKPbc**	02 12 03.9	-1.2
	comp=Z,0.4nm,0.5s,baz=130,slow=3.3,SNR=4.3						
BRTR	**Keskin Array B**	**152.86**	**296**	PKPbc	**PKPbc**	02 12 03.9	-1.2
TORD	**Torodi Ar. Bea**	**161.36**	**181**	PKPab	**PKPab**	02 12 53.2	+0.2
	comp=Z,1.0nm,0.7s,baz=177,slow=3.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**161.36**	**181**	PKPab	**PKPab**	02 12 53.2	+0.2

CSEM ***17*** *02:00:37.5, 35°.05N× 22°.36E, h22km±4km,* **MD3.6/27, Central Mediterranean Sea**

ATH 17 02:00:37.5, 35°.05N× 22°.36E, h22km±4km, MD3.6/27,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**1.32**	**74**	*e*PN	Pb	02 01 02.7	+1.0
KARN	**Karanos**	**1.32**	**74**	*e*Pn	Pb	02 01 02.7	+1.0
KYTH	**Kithira**	**1.35**	**24**	*e*PN	Pb	02 01 03.6	+1.5
KYTH	**Kithira**	**1.35**	**24**	*e*Pn	Pb	02 01 03.6	+1.5
GVD	**Gavdhos**	**1.44**	**98**	*e*PN	Pb	02 01 04.0	+0.5
GVD	**Gavdhos**	**1.44**	**98**	*e*Pn	Pb	02 01 04.0	+0.5
DYR	**Agios Nikonas**	**1.71**	**359**	*e*PN	Pb	02 01 09.2	+0.9
DYR	**Agios Nikonas**	**1.71**	**359**	*e*Pn	Pb	02 01 09.3	+1.0
VLI	**Veliai**	**1.73**	**16**	*e*PN	Pb	02 01 10.0	+1.4
VLI	**Veliai**	**1.73**	**16**	*e*Pn	Pb	02 01 10.0	+1.4
PYL	**PYLOS**	**1.91**	**345**	*e*PN	Pb	02 01 10.8	-0.8
PYL	**PYLOS**	**1.91**	**345**	*e*Pn	Pb	02 01 10.8	-0.8
SIVA	**Sivas**	**2.01**	**90**	*e*PN	Pb	02 01 12.3	-1.1
SIVA				*e*SN	Sb	02 01 37.6	-0.3
SIVA	**Sivas**	**2.01**	**90**	*e*Pn	Pb	02 01 12.3	-1.1
SIVA				*e*Sn	Sb	02 01 37.6	-0.3
IDI	**Anoyia**	**2.09**	**83**	*e*PB	Pb	02 01 13.3	-1.5
IDI				*e*SN	Sb	02 01 40.0	-0.3
IDI	**Anoyia**	**2.09**	**83**	*e*Pb	Pb	02 01 13.3	-1.5
IDI				*e*Sn	Sb	02 01 40.0	-0.3
ITM	**Ithomi**	**2.15**	**351**	*e*PN	Pb	02 01 14.6	-1.3
ITM	**Ithomi**	**2.15**	**351**	*e*Pn	Pb	02 01 14.6	-1.3
AMT	**Artemida-Makis**	**2.53**	**348**	*e*PN	Pb	02 01 20.0	-2.3
AMT	**Artemida-Makis**	**2.53**	**348**	*e*Pn	Pb	02 01 20.0	-2.3
DID	**Didima**	**2.55**	**16**	*e*PN	Pn	02 01 19.1	+1.5
DID	**Didima**	**2.55**	**16**	*e*Pn	Pn	02 01 19.1	+1.5
LAST	**Lasithi**	**2.56**	**87**	*e*PB	Pb	02 01 20.8	-2.0
LAST	**Lasithi**	**2.56**	**87**	*e*Pb	Pb	02 01 20.8	-2.0
NAIG	**Nisos Aigina**	**2.85**	**18**	*e*PN	Pn	02 01 23.4	+1.7
NAIG	**Nisos Aigina**	**2.85**	**18**	*e*Pn	Pn	02 01 23.4	+1.7
GUR	**Goura**	**2.88**	**360**	*e*PN	Pn	02 01 25.1	+2.9
GUR	**Goura**	**2.88**	**360**	*e*Pn	Pn	02 01 25.1	+2.9
LTK	**Loutraki**	**3.01**	**9**	*e*PN	Pn	02 01 25.9	+2.0
LTK	**Loutraki**	**3.01**	**9**	*e*Pn	Pn	02 01 25.9	+2.0
RLS	**Riolos of Patr**	**3.09**	**347**	*e*PN	Pn	02 01 27.9	+3.0
RLS				*e*SN	Sn	02 02 04.7	+3.6
RLS	**Riolos of Patr**	**3.09**	**347**	*e*Pn	Pn	02 01 27.9	+3.0
RLS				*e*Sn	Sn	02 02 04.7	+3.6
LAKA	**Lakka**	**3.20**	**355**	*e*PN	Pn	02 01 29.7	+3.2
LAKA	**Lakka**	**3.20**	**355**	*e*Pn	Pn	02 01 29.7	+3.2
PTL	**Penteli**	**3.23**	**22**	*e*PN	Pn	02 01 28.3	+1.4
PTL	**Penteli**	**3.23**	**22**	*e*Pn	Pn	02 01 28.3	+1.4
TRIZ	**Trizonia**	**3.32**	**356**	*e*PN	Pn	02 01 28.9	+0.8
TRIZ	**Trizonia**	**3.32**	**356**	*e*Pn	Pn	02 01 28.9	+0.8
KALE	**Kalithea**	**3.34**	**357**	*e*PN	Pn	02 01 30.7	+2.2
KALE	**Kalithea**	**3.34**	**357**	*e*Pn	Pn	02 01 30.7	+2.2
EFP	**Efpalio**	**3.39**	**354**	*e*PB	Pb	02 01 33.4	-3.5
EFP	**Efpalio**	**3.39**	**354**	*e*Pb	Pb	02 01 33.4	-3.5
VLS	**Valsamata**	**3.43**	**336**	*e*PN	Pn	02 01 31.4	+1.7
VLS	**Valsamata**	**3.43**	**336**	*e*Pn	Pn	02 01 31.4	+1.7
LKR	**Lokris**	**3.63**	**8**	*e*PN	Pn	02 01 34.3	+1.9
LKR	**Lokris**	**3.63**	**8**	*e*Pn	Pn	02 01 34.3	+1.9
EVR	**Evrytania**	**3.88**	**354**	*e*PN	Pn	02 01 39.8	+3.8
EVR	**Evrytania**	**3.88**	**354**	*e*Pn	Pn	02 01 39.8	+3.8
LKD2	**Lefkada island**	**3.97**	**340**	*e*PN	Pn	02 01 39.8	+2.7
LKD2	**Lefkada island**	**3.97**	**340**	*e*Pn	Pn	02 01 39.8	+2.7
CHOS	**Chios island**	**4.46**	**41**	*e*PN	Pn	02 01 45.3	+1.4
CHOS	**Chios island**	**4.46**	**41**	*e*Pn	Pn	02 01 45.3	+1.4
THL	**Klokotos Trika**	**4.51**	**357**	*e*PN	Pn	02 01 46.2	+1.7
THL				*e*SN	Sn	02 02 37.9	+1.6
THL	**Klokotos Trika**	**4.51**	**357**	*e*Pn	Pn	02 01 46.3	+1.8
THL				*e*Sn	Sn	02 02 37.9	+1.6
STON	**Ston**	**8.61**	**336**	*e*Pn	Pn	02 02 39.6	-1.1
STON				Sn	Sn	02 04 07.6	-10

IDC ***17*** *02:28:38.4±0.6, 3°.37N× 126°.33E, h0km, mb4.3/18, mb1 4.3/18, mb1mx4.3/25, mbtmp4.3/18, MS3.4/2, Ms1 3.4/2, ms1mx2.6/37, Error ellipse: s-maj=35.5km s-min=12.2km az=81.0*

ISCJB ***17*** *02:28:43.5±0.3, 3°.45N±0°.03× 126°.60E±0°.08, h53km, mb4.4/28, MS3.3/1, Error ellipse: s-maj=11.1km s-min=4.9km az=175.1*

DJA ***17*** *02:28:43.2±3.8, 4°N±32°× 12°6E±1°.1, h47km±17km, M4.6/6, mB5.1/4, mb4.7/6, MLv4.6/5, Mw(mB)4.4/4*

NEIC ***17*** *02:28:44.1±1.2, 3°.35N× 126°.37E, h43km±11km, mb4.5/13, Error ellipse: s-maj=15.4km s-min=5.4km az=77.0*

AUST ***17*** *02:29:05.9, 3°.50N× 127°.50E, h300km*

ISC 17 02:28:45.7±0.5, 3°.46N±0°.05× 126°.5E±0°.1, h53km, n88, σ1§17/84, mb4.4/28, 5C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.62**	**220**	P	**Pn**	**02 29 26.0**	**+0.4**
MNI				S	Sn	02 29 47.2	-9.0
TNTI	**Ternate**	**2.79**	**163**	P	Pn	02 29 31.9	+4.0
DAV	**Davao City (W)**	**3.71**	**345**	Pn	**Pn**	**02 29 40.8**	**+0.2**
	107nm,0.3s,baz=64,slow=1.9,SNR=2.7						
DAV				Sn	**Sn**	**02 30 20.0**	**-3.1**
	60nm,0.3s,baz=87,slow=4.1,SNR=3.7						
DAV				LR	LR	02 31 32.7	
	comp=Z,443nm,18.3s,baz=65,slow=46						
DAV	**Davao City (W)**	**3.71**	**345**	*e*Pn	**Pn**	**02 29 39.4**	**-1.2**
DAV				*e*Sn	**Sn**	**02 30 22.5**	**-0.6**
CTBH	**Cotabato--PC H**	**4.38**	**329**	⇓*i*P	**Pn**	**02 29 51.8**	**+2.1**
MRSI	**Marisa**	**5.46**	**237**	P	**Pn**	**02 30 05.5**	**+1.0**
	112nm,1.1s,1μm0.3nm						
LUWI	**Luwuk**	**5.84**	**220**	P	Pn	02 30 13.0	+3.3
	165nm,0.9s,2μm0.7nm						
KDI	**Kendari**	**8.34**	**208**	P	**Pn**	**02 30 45.8**	**+1.8**
	25nm,0.7s,510nm0.1nm						
TTSI	**Tana Toraja**	**9.32**	**226**	P	**Pn**	**02 30 57.4**	**0.0**
	43nm,1.2s,3μm						
WSI	**Waingapu**	**14.45**	**205**	P	P	02 32 27.4	+15
	baz=15,SNR=4.0						
MTN	**Manton Dam**	**16.82**	**164**	P	**Pn**	**02 32 36.6**	**-1.1**
	baz=17,SNR=7.6						
KDU	**Kakadu**	**17.09**	**160**	P	**P**	**02 32 42.9**	**+0.8**
	baz=17,SNR=3.6						
FITZ	**Fitzroy Crossi**	**21.44**	**182**	P	**P**	**02 33 28.3**	**-1.2**
	7.6nm,0.8s,baz=9.3,slow=7.9,SNR=13						
FITZ	**Fitzroy Crossi**	**21.44**	**182**	*e*P	**P**	**02 33 28.0**	**-1.5**
	4.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.44**	**182**	P	**P**	**02 33 30.3**	**+0.8**
	baz=22,SNR=6.8						
JOW	**Kunigami**	**23.30**	**4**	P	**P**	**02 33 51.0**	**+2.0**
	7.7nm,0.6s,baz=153,slow=14,SNR=2.9						
JOW	**Kunigami**	**23.30**	**4**	P	**P**	**02 33 51.0**	**+2.0**
WRAB	**Tennant Creek**	**24.48**	**162**	*e*P	**P**	**02 33 58.7**	**-1.3**
	9.4nm,0.6s						
WRAB				*e*PcP	**PcP**	**02 37 41.7**	**+4.0**
WRA	**Warramunga Arr**	**24.48**	**162**	P	**P**	**02 33 58.5**	**-1.5**
	8.6nm,0.8s,baz=343,slow=10,SNR=30						
WRA	**Warramunga Arr**	**24.48**	**162**	P	**P**	**02 33 58.5**	**-1.5**
MBWA	**Marble Bar**	**25.36**	**195**	*e*P	**P**	**02 34 05.9**	**-2.0**
	10nm,0.9s						
AS31	**Alice Springs**	**27.90**	**165**	*e*P	**P**	**02 34 29.6**	**-1.3**
ASAR	**Alice Springs**	**27.90**	**165**	P	**P**	**02 34 29.6**	**-1.2**
	1.3nm,0.6s,baz=350,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**27.90**	**165**	P	**P**	**02 34 29.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**02 34 58.3**	**+1.2**
	2.7nm,0.7s,baz=112,slow=7.0,SNR=8.9						
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**02 34 58.3**	**+1.2**
MEEK	**Meekatharra**	**30.88**	**194**	P	**P**	**02 34 57.5**	**+0.3**
	baz=31,SNR=7.1						
CHTO	**Chiang Mai**	**31.00**	**302**	P	P	02 34 54.6	-3.8
KSAR	**Wonju Array Be**	**33.85**	**2**	P	**P**	**02 35 23.8**	**+0.7**
KSRS	**Korea Array**	**33.86**	**2**	P	**P**	**02 35 23.8**	**+0.6**
	2.1nm,0.6s,baz=176,slow=9.9,SNR=7.6						
MJAR	**Matsushiro Arr**	**34.64**	**17**	LR	LR	02 49 25.7	
	comp=Z,60nm,20.1s,baz=245,slow=36						
BBOO	**Buckleboo**	**37.18**	**167**	P	**P**	**02 35 51.4**	**-0.3**
	baz=37,SNR=10						
NWAO	**Narrogin (SRO)**	**37.24**	**193**	P	**P**	**02 35 52.2**	**-0.1**
	8.9nm,0.9s,baz=26,slow=12,SNR=3.4						
NWAO	**Narrogin (SRO)**	**37.24**	**193**	*e*P	**P**	**02 35 50.5**	**-1.8**
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**02 35 57.5**	**-0.8**
	2.0nm,0.4s,baz=325,slow=9.6,SNR=13						
STKA	**Stephens Creek**	**37.95**	**159**	*e*P	**P**	**02 35 57.1**	**-1.1**
	1.1nm,0.9s						
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**02 35 57.8**	**-0.4**
	baz=38,SNR=8.2						
USRK	**Ussuriysk Arra**	**40.86**	**6**	P	**P**	**02 36 22.9**	**+0.5**
	2.2nm,0.8s,baz=185,slow=6.1,SNR=6.5						
ASAJ	**Asahikawa**	**42.91**	**17**	P	**P**	**02 36 39.8**	**+0.7**
	2.7nm,0.5s,baz=254,slow=17,SNR=4.9						
ASAJ	**Asahikawa**	**42.91**	**17**	*e*P	**P**	**02 36 39.7**	**+0.7**
ULN	**Ulaanbaatar**	**47.32**	**342**	*e*P	**P**	**02 37 14.2**	**0.0**
SONM	**Songino Array**	**47.49**	**342**	P	**P**	**02 37 16.2**	**+0.6**
	0.6nm,0.6s,baz=158,slow=9.3,SNR=6.4						
SONM				PcP	**PcP**	**02 38 45.7**	**+0.6**
	0.6nm,0.6s,baz=166,slow=3.9,SNR=5.4						
SONM	**Songino Array**	**47.49**	**342**	P	**P**	**02 37 16.2**	**+0.6**
SONM				PcP	**PcP**	**02 38 45.7**	**+0.6**
HMDM	**Hanimaadhoo**	**53.22**	**276**	S	S	02 45 12.0	-15
	baz=54,SNR=3.2						
PETK	**Petropavlovsk-**	**55.75**	**22**	P	**P**	**02 38 17.6**	**+0.6**
	5.8nm,1.0s,baz=257,slow=4.0,SNR=3.8						
PETK	**Petropavlovsk-**	**55.75**	**22**	P	**P**	**02 38 17.6**	**+0.6**
MK31	**Makanchi Array**	**57.67**	**325**	*e*P	**P**	**02 38 30.0**	**-0.7**
MK31				*e*PcP	**PcP**	**02 39 23.3**	**0.0**
TKM2	**Tokmak 2**	**59.82**	**319**	*e*P	**P**	**02 38 44.4**	**-1.6**
	3.9nm,1.0s						
AAK	**Ala-Archa**	**60.43**	**318**	P	**P**	**02 38 51.0**	**+0.9**
	0.8nm,0.5s,baz=127,slow=5.4,SNR=4.1						
AAK	**Ala-Archa**	**60.43**	**318**	*e*P	**P**	**02 38 49.3**	**-0.8**
	5.7nm,0.9s						
ZAA0	**Zalesovo Array**	**60.74**	**333**	*e*P	**P**	**02 38 50.6**	**-1.2**
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**02 38 50.6**	**-1.1**
	1.3nm,0.7s,baz=126,slow=7.5,SNR=7.8						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**02 38 50.6**	**-1.1**
EKS2	**Erkin-Say**	**60.92**	**318**	*e*P	**P**	**02 38 52.7**	**-0.7**
	9.1nm,1.5s						
KURK	**Kurchatov**	**61.87**	**328**	*e*P	**P**	**02 38 58.3**	**-1.1**
	12nm,0.7s						
KKAR	**Karatay Array**	**63.30**	**317**	*e*P	**P**	**02 39 09.2**	**0.0**
	2.7nm,0.8s						
BRVK	**Borovoye**	**67.51**	**327**	*e*P	**P**	**02 39 35.4**	**-0.8**
	9.0nm,0.8s						
ABKAR	**Akbulak array**	**72.24**	**321**	*e*P	**P**	**02 40 04.1**	**-1.2**
	3.5nm,0.8s						
ARU	**Arti**	**75.06**	**328**	*e*P	**P**	**02 40 20.0**	**-1.7**
	3.5nm,0.6s						
BR131	**Keskin Array S**	**90.05**	**310**	*e*P	**P**	**02 41 38.9**	**-1.3**
	0.9nm,0.7s						
BRTR	**Keskin Array B**	**90.05**	**310**	P	**P**	**02 41 39.5**	**-0.6**
	1.4nm,0.8s,baz=114,slow=5.5,SNR=11						
BRTR	**Keskin Array B**	**90.05**	**310**	P	**P**	**02 41 39.5**	**-0.6**
ARCES	**ARCESS Array B**	**90.64**	**340**	P	**P**	**02 41 41.4**	**-0.7**
	4.4nm,0.8s,baz=47,slow=2.1,SNR=4.1						
ARCES	**ARCESS Array B**	**90.64**	**340**	P	**P**	**02 41 41.4**	**-0.7**
FINES	**FINESS Array B**	**91.98**	**332**	P	**P**	**02 41 47.8**	**-0.7**
	0.5nm,0.3s,baz=74,slow=4.9,SNR=5.1						
FINES	**FINESS Array B**	**91.98**	**332**	P	**P**	**02 41 47.8**	**-0.7**
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**02 41 47.8**	**-1.0**
	2.5nm,0.7s,baz=69,slow=4.6,SNR=7.8						
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**02 41 47.8**	**-1.0**
TIRR	**Tirgusor**	**93.39**	**315**	⇑*i*P	P	02 41 48.1	-7.3
TESR		**94.31**	**317**	⇑*i*P	**P**	**02 41 59.2**	**-0.4**
VRI	**Vrincioaia**	**94.36**	**316**	⇑*i*P	**P**	**02 42 00.1**	**+0.3**
MLR	**Muntele Rosu**	**94.96**	**316**	⇑*i*P	**P**	**02 42 02.7**	**-0.1**
BURAR	**Bucovina Array**	**95.08**	**318**	⇑*i*P	**P**	**02 42 03.2**	**0.0**
BUR08	**Bucovina Ar. S**	**95.08**	**318**	*e*P	**P**	**02 42 02.8**	**-0.4**
KOLS	**Kolonicke sedl**	**96.73**	**320**	*e*P	**P**	**02 42 11.1**	**+0.5**
TRPA	**Tarpa**	**96.73**	**319**	⇑*i*P	P	02 42 23.3	+13
DRGR		**96.91**	**318**	⇑*i*P	**P**	**02 42 11.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**97.26**	**320**	*e*P	Pdif	02 42 13.2	+0.2
VTS	**Vitosha**	**97.44**	**314**	⇑*i*P	P	02 42 09.5	-4.6
NOA	**NORSAR Array B**	**98.94**	**334**	P	**P**	**02 42 19.0**	**-1.2**
	1.7nm,0.8s,baz=53,slow=2.0,SNR=3.2						
NOA	**NORSAR Array B**	**98.94**	**334**	P	**P**	**02 42 19.0**	**-1.2**
VYHS	**Vyhne**	**99.04**	**320**	PDIF	**Pdif**	**02 42 22.7**	**+1.7**
SCHQ	**Schefferville**	**120.86**	**9**	PKP	**PKPdf**	**02 47 33.3**	**+1.2**
	1.3nm,0.8s,baz=0.0,slow=8.1,SNR=3.3						
SCHQ	**Schefferville**	**120.86**	**9**	PKP	**PKPdf**	**02 47 33.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**02 47 37.0**	**+0.2**
	0.6nm,0.6s,baz=51,slow=1.5,SNR=8.7						
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**02 47 37.0**	**+0.2**
CFAA	**Coronel Fontan**	**148.74**	**155**	PKPbc	**PKPbc**	**02 48 28.8**	**+0.9**
	0.4nm,0.6s,baz=230,slow=4.7,SNR=6.9						
CFAA	**Coronel Fontan**	**148.74**	**155**	PKPbc	**PKPbc**	**02 48 28.8**	**+0.9**

ISCJB ***17*** *02:31:23.9±0.4, 16°.89N±0°.02× 100°.27W±0°.02, h33km±2km, mb4.5/70, MS4.0/12, Error ellipse: s-maj=4.3km s-min=2.5km az=22.9*

MEX ***17*** *02:31:25.5±0.5, 16°.85N× 100°.34W, h17km±9km, MD4.8*

NEIC ***17*** *02:31:25.5, 16°.85N× 100°.34W, h17km, mb4.6/72, MD4.8(MEX), After MEX.*

NEIC Felt at Acapulco.

IDC ***17*** *02:31:26.6±5.2, 17°.06N× 100°.02W, h33km±38km, mb4.2/11, mb1 4.4/15, mb1mx4.2/27, mbtmp4.2/15, ML4.0/4, MS3.9/16, Ms1 3.9/16, ms1mx3.7/33, Error ellipse: s-maj=28.3km s-min=12.0km az=51.0*

ISC 17 02:31:24.4±0.8, 16°.90N±0°.04× 100°.30W±0°.02, h27km±5km, n531, σ1§12/562, mb4.7/71, MS4.1/12, 148C-165D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.15**	**13**	*e*P	**Pb**	**02 31 29.5**	**-0.3**
CAIG				*e*S	**Sb**	**02 31 33.2**	**-0.2**
CAIG	**El Cayaco**	**0.15**	**13**	*e*P	**Pb**	**02 31 29.5**	**-0.3**
CAIG				*e*S	**Sb**	**02 31 33.2**	**-0.2**
ACP2	**Acapulco**	**0.40**	**94**	*e*P	**Pb**	**02 31 32.9**	**-0.2**
ACP2				*i* S	**Sb**	**02 31 38.8**	**-0.2**
ACX	**Acapulco**	**0.43**	**94**	*i* P	**Pb**	**02 31 33.3**	**-0.2**
ACX	**Acapulco**	**0.43**	**94**	*i* P	**Pb**	**02 31 33.3**	**-0.2**
MEIG	**Mezcala**	**1.21**	**32**	*e*P	**Pn**	**02 31 44.5**	**-1.1**
MEIG				*e*S	**Sn**	**02 32 00.0**	**-1.2**
MEIG	**Mezcala**	**1.21**	**32**	*e*P	**Pn**	**02 31 44.5**	**-1.1**
MEIG				*e*S	**Sn**	**02 32 00.0**	**-1.2**
ZIIG	**Zihuatanejo**	**1.31**	**302**	*e*P	**Pn**	**02 31 45.6**	**-1.4**
ZIIG				*i* S	**Sn**	**02 32 01.7**	**-2.0**
ZIIG	**Zihuatanejo**	**1.31**	**302**	*e*P	**Pn**	**02 31 45.6**	**-1.4**
ZIIG				*i* S	**Sn**	**02 32 01.7**	**-2.0**
ARIG	**Puente Sto Nin**	**1.37**	**358**	*e*P	**Pn**	**02 31 47.3**	**-0.6**
ARIG				*e*S	**Sn**	**02 32 04.5**	**-0.7**
PLIG	**Platanillo**	**1.67**	**27**	*e*P	**Pn**	**02 31 51.4**	**-0.6**
PLIG				*i* S	**Sn**	**02 32 11.7**	**-0.9**
PLIG	**Platanillo**	**1.67**	**27**	*e*P	**Pn**	**02 31 51.4**	**-0.6**
PLIG				*i* S	**Sn**	**02 32 11.7**	**-0.9**
HMTT	**Tlapaneco**	**1.89**	**62**	*e*P	**Pn**	**02 31 54.7**	**-0.3**
HMTT				*i* S	**Sn**	**02 32 17.8**	**-0.3**
PNIG	**Pinotepa**	**2.15**	**103**	*e*P	**Pn**	**02 31 57.6**	**-0.9**
PNIG				*i* S	**Sn**	**02 32 22.6**	**-1.7**
PNIG	**Pinotepa**	**2.15**	**103**	*e*P	**Pn**	**02 31 57.6**	**-0.9**
PNIG				*i* S	**Sn**	**02 32 22.6**	**-1.7**
YAIG	**Yautepec**	**2.28**	**31**	*e*P	**Pn**	**02 32 00.9**	**+0.4**
YAIG				*e*S	**Sn**	**02 32 28.4**	**+0.7**
YAIG	**Yautepec**	**2.28**	**31**	*e*P	**Pn**	**02 32 00.9**	**+0.4**
YAIG				*e*S	**Sn**	**02 32 28.4**	**+0.7**
MZVM		**2.49**	**24**	*e*P	**Pn**	**02 32 03.9**	**+0.6**
MZVM				*i* S	**Sn**	**02 32 33.0**	**+0.1**
UTMO	**Huajuapan**	**2.56**	**68**	*e*P	**Pn**	**02 32 04.0**	**-0.4**
UTMO				*i* S	**Sn**	**02 32 34.8**	**+0.1**
UTMO	**Huajuapan**	**2.56**	**68**	*e*P	**Pn**	**02 32 04.0**	**-0.4**
UTMO				*i* S	**Sn**	**02 32 34.8**	**+0.1**
UNM	**Universidad Na**	**2.64**	**24**	*e*P	**Pn**	**02 32 05.6**	**0.0**
UNM				*i* S	**Sn**	**02 32 37.5**	**+0.6**
UNM	**Universidad Na**	**2.64**	**24**	*e*P	**Pn**	**02 32 05.6**	**0.0**
UNM				*i* S	**Sn**	**02 32 37.5**	**+0.6**
PPM	**Popocatepetl**	**2.68**	**36**	*e*P	**Pn**	**02 32 06.3**	**0.0**
PPM				*i* S	**Sn**	**02 32 39.0**	**+0.9**
PPM	**Popocatepetl**	**2.68**	**36**	*e*P	**Pn**	**02 32 06.3**	**0.0**
PPM				*i* S	**Sn**	**02 32 39.0**	**+0.9**
AZVM	**Cuida Lopez Ma**	**2.84**	**20**	*e*P	**Pn**	**02 32 08.2**	**-0.1**
AZVM				*i* S	**Sn**	**02 32 42.7**	**+0.9**
MOIG	**Morelia**	**2.89**	**343**	*e*P	**Pn**	**02 32 09.7**	**+0.8**
MOIG				*i* S	**Sn**	**02 32 42.8**	**-0.1**
MOIG	**Morelia**	**2.89**	**343**	*e*P	**Pn**	**02 32 09.7**	**+0.8**
MOIG				*i* S	**Sn**	**02 32 42.8**	**-0.1**
PTVM	**Pico Tres Padr**	**2.91**	**23**	*e*P	**Pn**	**02 32 09.4**	**+0.2**
PTVM				*i* S	**Sn**	**02 32 43.8**	**+0.4**
PTVM	**Pico Tres Padr**	**2.91**	**23**	*e*P	**Pn**	**02 32 09.4**	**+0.2**
PTVM				*i* S	**Sn**	**02 32 43.8**	**+0.4**
PHPU	**Puebla**	**2.94**	**43**	*i* P	**Pn**	**02 32 08.8**	**-0.9**
PHPU				*i* S	**Sn**	**02 32 44.8**	**+0.5**
URUA	**Uruapan**	**3.02**	**326**	*i* P	**Pn**	**02 32 11.2**	**+0.5**
URUA				*i* S	**Sn**	**02 32 45.5**	**-0.6**
IIO	**Organos**	**3.07**	**29**	*e*P	**Pn**	**02 32 11.7**	**+0.2**
IIO				*i* S	**Sn**	**02 32 48.1**	**+0.6**
IIO	**Organos**	**3.07**	**29**	*e*P	**Pn**	**02 32 11.7**	**+0.2**
IIO				*i* S	**Sn**	**02 32 48.1**	**+0.6**
TPIG	**Tehuac#an**	**3.18**	**61**	*e*P	**Pn**	**02 32 12.3**	**-0.6**
TPIG				*e*S	**Sn**	**02 32 50.0**	**-0.1**
TPIG	**Tehuac#an**	**3.18**	**61**	*e*P	**Pn**	**02 32 12.3**	**-0.6**
TPIG				*e*S	**Sn**	**02 32 50.0**	**-0.1**
MMIG	**Aquila**	**3.21**	**296**	*e*P	**Pn**	**02 32 12.0**	**-1.2**
MMIG				*i* S	**Sn**	**02 32 49.6**	**-1.0**
MMIG	**Aquila**	**3.21**	**296**	*e*P	**Pn**	**02 32 12.0**	**-1.2**
MMIG				*i* S	**Sn**	**02 32 49.6**	**-1.0**
VHO	**Vista Hermosa**	**3.42**	**87**	*e*P	**Pn**	**02 32 16.3**	**+0.1**
VHO				*i* S	**Sn**	**02 32 55.4**	**-0.6**
VHO	**Vista Hermosa**	**3.42**	**87**	*e*P	**Pn**	**02 32 16.3**	**+0.1**
VHO				*i* S	**Sn**	**02 32 55.4**	**-0.6**
OXBJ	**Oaxaca**	**3.43**	**87**	*i* P	**Pn**	**02 32 16.2**	**-0.1**
OXBJ				*i* S	**Sn**	**02 32 54.8**	**-1.4**
DEIG	**Demacu**	**3.59**	**19**	*i* P	**Pn**	**02 32 18.6**	**+0.1**
DEIG				*i* S	**Sn**	**02 33 01.2**	**+1.0**
DEIG	**Demacu**	**3.59**	**19**	*i* P	**Pn**	**02 32 18.6**	**+0.1**
DEIG				*i* S	**Sn**	**02 33 01.2**	**+1.0**
R15V		**4.17**	**303**	*i* P	**Pn**	**02 32 26.4**	**+0.1**
R15V				*i* S	**Sn**	**02 33 13.9**	**-0.3**
HUIG	**Huatulco**	**4.18**	**105**	*e*P	**Pn**	**02 32 26.7**	**+0.2**
HUIG				*i* S	**Sn**	**02 33 13.8**	**-0.7**
HUIG	**Huatulco**	**4.18**	**105**	*e*P	**Pn**	**02 32 26.7**	**+0.2**
HUIG				*i* S	**Sn**	**02 33 13.8**	**-0.7**
CMIG	**Matias Romero**	**5.19**	**87**	Pn	**Pn**	**02 32 39.8**	**-0.5**
	24nm,0.3s,baz=260,slow=12,SNR=232						
CMIG				Sn	**Sn**	**02 33 33.9**	**-5.5**
	15nm,0.3s,baz=260,slow=13,SNR=6.1						
CMIG				Lg	Lg	02 34 02.4	
	26nm,0.3s,baz=77,slow=12,SNR=4.8				

baz=16,SNR=27
320A Kipp Ranch, An 16.20 334 ⇓P P 02 35 12.5 -0.8
baz=16,SNR=11
JTS JuntasAbangare 16.30 112 Pn P 02 35 15.7 +1.3
9.6nm,0.3s,baz=313,slow=6.3,SNR=30
JTS LR LR 02 40 49.1
comp=Z,194nm,19.3s,baz=342,slow=35
JTS JuntasAbangare 16.30 112 ePn P 02 35 14.9 +0.5
104nm,1.0s
Z30A Sanderson Ranc 16.33 358 ⇓P Pn 02 35 11.4 -0.6
baz=16,SNR=22
Z29A Hungry Hill Ra 16.34 356 ⇓P Pn 02 35 11.4 -0.6
baz=16,SNR=15
222A Williams Famil 16.34 339 ⇑P Pn 02 35 13.0 +0.8
baz=16
124A Stringfield Ra 16.41 344 ⇓P Pn 02 35 14.4 +1.3
baz=16,SNR=19
Z28A Tucker Farm, M 16.43 354 ⇑P Pn 02 35 13.5 +0.3
baz=16,SNR=28
221A Mesquite Ranch 16.50 337 ⇓P Pn 02 35 15.8 +1.6
baz=17,SNR=8.6
319A Douglas 16.56 332 ⇑P P 02 35 17.4 0.0
baz=17,SNR=12
123A Bell Site, Whi 16.57 342 ⇓P Pn 02 35 15.7 +0.7
baz=17
Z26A Caprock 16.63 349 ⇑P Pn 02 35 15.6 -0.2
baz=17,SNR=12
220A Playas Peak, P 16.70 335 ⇓P Pn 02 35 17.3 +0.6
baz=17,SNR=13
Z25A Roswell 16.79 347 ⇑P Pn 02 35 16.3 -1.5
baz=17
Y29A Porterfield Fa 16.93 356 ⇓P Pn 02 35 18.0 -1.6
baz=17,SNR=20
121A Cookes Peak, D 16.97 338 ⇑P P 02 35 21.7 -0.2
baz=17,SNR=18
Z24A Sheeppen Canyo 16.98 345 ⇓P P 02 35 21.8 -0.3
baz=17,SNR=12
Y28A McKinney Farm, 17.03 354 ⇓P Pn 02 35 20.5 -0.3
baz=17,SNR=22
Y27A Causey 17.11 352 ⇓P Pn 02 35 21.2 -0.6
baz=17
MSTX Muleshoe 17.14 353 ⇑P Pn 02 35 21.5 -0.7
baz=17,SNR=34
Z23A Rita Site, Whi 17.15 343 ⇓P P 02 35 23.6 -0.2
baz=17,SNR=19
Y26A Elida 17.24 350 ⇓P Pn 02 35 23.8 +0.3
baz=17
120A U Bar Ranch, L 17.30 336 ⇓P P 02 35 25.9 +0.3
baz=17,SNR=11
Z22A Elephant Butte 17.36 341 ⇑P P 02 35 26.2 0.0
baz=18,SNR=27
Y25A Mesa, Roswell 17.40 348 ⇑P Pn 02 35 25.8 +0.3
baz=18,SNR=7.3
X29A Tulia 17.52 356 ⇓P Pn 02 35 25.9 -1.0
baz=18,SNR=8.9
Y24A Capitan 17.57 346 ⇓P Pn 02 35 28.0 +0.3
baz=18,SNR=11
X28A Dimmitt 17.63 355 ⇓P Pn 02 35 27.8 -0.5
baz=18
Z21A St. Cloud Mine 17.64 339 ⇓P P 02 35 30.0 +0.7
baz=18,SNR=15
VBMS Vicksburg 17.64 28 ePn Pn 02 35 26.1 -2.2
24nm,0.6s
Y23A Lovelace Mesa, 17.73 344 ⇓P P 02 35 30.8 +0.5
baz=18,SNR=21
Z20A Nine Sixteen R 17.79 337 ⇑P P 02 35 31.6 +0.7
baz=18,SNR=13
WMOK Wichita Mounta 17.82 4 ePn Pn 02 35 27.9 -2.6
20nm,0.9s
X27A F and S Farms, 17.85 352 ⇑P Pn 02 35 30.6 -0.4
baz=18,SNR=5.1
X26A CR and CF Fran 17.86 351 ⇑P Pn 02 35 30.7 -0.4
baz=18,SNR=11
AMTX Amarillo 17.95 356 eP Pn 02 35 31.3 -0.9
62nm,1.1s
AMTX Amarillo 17.95 356 ⇑P Pn 02 35 31.0 -1.2
baz=18,SNR=9.1
X25A Clemmons Ranch 17.98 348 ⇓P Pn 02 35 32.3 -0.4
baz=18
Y22A Socorro 17.99 342 ⇓P P 02 35 34.2 +1.1
baz=18,SNR=8.9
TUC Tucson 18.04 330 ePn P 02 35 34.6 +0.9
10nm,0.9s
BNM Barren Site 18.09 343 ePn P 02 35 35.0 +0.7
13nm,1.1s
W29A Amraillo 18.18 356 ⇓P Pn 02 35 33.9 -1.2
baz=18,SNR=5.6
W27A Bowe Ranch, En 18.26 353 ⇓P Pn 02 35 35.2 -0.8
baz=18,SNR=18
Y21A Point of Rocks 18.28 340 ⇓P Pn 02 35 38.8 +2.4
baz=18,SNR=14
W28A Vega 18.36 355 ⇑P P 02 35 36.3 -0.9
baz=18
X23A Hourglass Bar 18.38 344 ⇓P P 02 35 37.3 -0.1
baz=18
Y20A Horse Springs, 18.43 338 ⇑P Pn 02 35 39.4 +1.2
baz=18,SNR=14
LAZ Ladron 18.48 342 ePn Pn 02 35 40.1 +1.4
X22A Bernardo 18.53 342 ⇓P P 02 35 39.7 +0.5
baz=19
MIAR Mount Ida 18.58 18 eP P 02 35 37.7 -1.7
37nm,1.1s
W25A X Bar L Ranch, 18.62 349 ⇑P P 02 35 39.6 -0.4
baz=19,SNR=20
X21A Alamocita Cree 18.71 340 ⇑P Pn 02 35 42.6 +0.8
baz=19,SNR=18
W24A Lazy 6 Ranch, 18.80 347 ⇓P P 02 35 42.5 +0.5
baz=19,SNR=19
214A Organ Pipe Nat 18.80 325 ⇑P Pn 02 35 44.0 +1.4
baz=19,SNR=5.7
ANMO Albuquerque 18.80 344 P Pn 02 35 43.1 +0.5
0.4nm,0.3s,baz=152,slow=12,SNR=18
ANMO Lg Lg 02 41 19.8
0.0nm,0.3s,baz=68,slow=19,SNR=2.7
ANMO LR LR 02 43 26.2
comp=Z,378nm,18.3s,baz=2.0,slow=38
ANMO Albuquerque 18.80 344 eP P 02 35 42.8 +0.7
18nm,1.1s
ANMO Lg Lg 02 41 19.8
V28A Channing 18.85 355 ⇓P P 02 35 41.9 -0.6
baz=19
W23A Werner Place, 18.92 345 ⇓P P 02 35 44.2 +0.8
baz=19,SNR=6.6
X20A Quemado 19.04 339 ⇑P Pn 02 35 46.5 +0.9
baz=19,SNR=17
V26A Tequesquite Ra 19.07 351 ⇓P P 02 35 44.7 -0.3
baz=19,SNR=24
UALR University of 19.17 20 eP P 02 35 44.8 -1.1
24nm,0.9s
V25A Rancho No Teng 19.25 349 ⇓P P 02 35 46.4 -0.6
baz=19
V24A Rampart Ranch, 19.26 348 ⇓P P 02 35 47.2 -0.1
baz=19,SNR=13
TUL1 Tulsa 19.35 11 ⇓P Pn 02 35 49.3 +0.2
baz=20,SNR=12
V23A Ortiz Mt. (NFS 19.48 346 ⇑P P 02 35 50.3 +0.7
baz=20
X18A Snowflake 19.57 336 ⇓P P 02 35 51.7 +1.2
baz=20,SNR=16
W20A Ramah 19.57 340 ⇓P P 02 35 51.5 +0.9
baz=20,SNR=6.6
U26A Atchley Ranch, 19.66 352 ⇑P P 02 35 51.6 +0.1
baz=20,SNR=20
U25A Circle Dot Ran 19.76 350 ⇑P P 02 35 52.6 0.0
baz=20
V22A San Miguel Ran 19.83 344 ⇑P P 02 35 53.9 +0.5
baz=20,SNR=10
U24A Moreno Valley 19.93 348 ⇑P P 02 35 54.5 0.0
baz=20
V21A Milan 19.93 342 ⇓P P 02 35 55.3 +0.8
baz=20
Z14A Wintersburg 19.96 328 ⇓P Pn 02 35 57.1 +0.7
baz=20
W18A Petrified Fore 20.00 337 ⇑P P 02 35 56.3 +1.1
baz=20
U23A El Rito 20.04 346 ⇑P P 02 35 56.4 +0.6
baz=20,SNR=15
LRAL Lakeview Retre 20.05 34 eP P 02 35 54.8 -0.8
22nm,0.9s
OXF Oxford 20.07 27 eP P 02 35 55.6 -0.2
28nm,0.9s
X16A Lo Mia Camp, P 20.10 332 ⇑P Pn 02 35 58.8 +0.6
baz=20,SNR=46
V20A Brimhall 20.18 340 ⇑P P 02 35 58.3 +1.1
baz=20,SNR=6.8
U22A Llaves 20.25 345 ⇑P P 02 35 59.2 +1.2
baz=20,SNR=5.2
T26A Comanche Natio 20.40 352 ⇓P P 02 35 59.2 -0.4
baz=20,SNR=6.5
Y14A Wickenburg 20.45 328 ⇑P P 02 36 01.6 +1.7
baz=20,SNR=6.2
T25A Trinidad 20.48 351 ⇓P P 02 36 01.2 +0.7
baz=21
U21A Nageezi 20.52 343 ⇑P P 02 36 01.1 +0.3
baz=21
T24A Torres, Weston 20.53 349 ⇓P P 02 36 01.5 +0.5
baz=21
T23A Casias Ranch, 20.69 347 ⇓P P 02 36 03.0 +0.3
baz=21,SNR=8.2
U20A Newcomb 20.72 341 ⇓P P 02 36 03.9 +0.9
baz=21
GLA Glamis 20.74 324 eP Pn 02 36 05.7 0.0
21nm,1.0s
GLA Glamis 20.74 324 ⇑P Pn 02 36 05.8 +0.1
baz=21
S26A Kim 20.83 353 ⇓P P 02 36 04.1 -0.1
baz=21
T22A Edith 20.87 345 ⇓P P 02 36 05.3 +0.7
baz=21
U19A Dine' College, 20.87 339 ⇓P P 02 36 05.7 +1.0
baz=21,SNR=11
S25A Robets Cordova 21.00 351 ⇑P P 02 36 06.0 0.0
baz=21,SNR=8.2
WUAZ Wupatki 21.00 334 eP P 02 36 07.4 +1.4
31nm,1.0s
WUAZ Wupatki 21.00 334 ⇑P P 02 36 08.2 +2.1
baz=21,SNR=23
T21A Navajo Lake 21.01 344 ⇓P P 02 36 06.8 +0.6
baz=21,SNR=5.6
PLAL Pickwick Lake 21.06 29 eP P 02 36 12.5 +6.0
18nm,0.6s
Y12C Blythe 21.09 325 ⇑P P 02 36 09.0 +2.1
baz=21,SNR=18
S24A Houein Ranch, 21.11 349 ⇑P P 02 36 07.6 +0.3
baz=21,SNR=8.2
DVTC Desert V Tower 21.21 321 ⇓P P 02 36 11.0 +2.7
baz=21
PDMCI Parker Dam,Lak 21.31 327 ⇓P P 02 36 10.9 +1.8
baz=21,SNR=9.8
S23A Nye Farm, Mont 21.32 347 ⇓P P 02 36 10.0 +0.4
baz=21,SNR=15
BCIP Isla Barro Col 21.35 109 eP P 02 36 11.0 +1.2
R27A Eads 21.42 355 ⇓P P 02 36 09.7 -0.7
baz=22,SNR=7.7
R25A Fountain Ranch 21.45 351 ⇑P P 02 36 10.6 -0.3
baz=22,SNR=6.8
MVCO Mesa Verde 21.49 342 eP P 02 36 11.8 +0.5
12nm,0.8s
MVCO Mesa Verde 21.49 342 ⇓P P 02 36 11.8 +0.5
baz=22,SNR=12
R26A Arlington 21.50 353 ⇓P P 02 36 11.0 -0.3
baz=22,SNR=18
BC3 Big Chuckawall 21.54 324 ⇓P P 02 36 13.4 +1.6
baz=22,SNR=8.7
S22A 4UR Ranch, Cre 21.55 346 ⇓P P 02 36 12.6 +0.6
baz=22,SNR=9.9
MONP Monument Peak 21.57 321 ⇓P P 02 36 14.8 +2.6
baz=22
BAR Barrett 21.58 320 P P 02 36 14.1 +2.0
GLAT Glass 21.63 25 eP P 02 36 10.9 -1.6
R24A Sanders Place, 21.66 350 ⇓P P 02 36 13.1 -0.1
baz=22
S21A Coal Bank Pass 21.71 344 ⇓P P 02 36 14.1 +0.3
baz=22,SNR=16
IRM Iron Mountain 21.75 325 ⇑P P 02 36 16.2 +2.3
baz=22,SNR=20
R23A Moffat 21.76 348 ⇓P P 02 36 14.5 +0.2
baz=22,SNR=9.0
W13A Hualapai Mount 21.81 329 ⇑P P 02 36 16.8 +2.0
baz=22,SNR=23
UTMT University of 21.86 25 P P 02 36 12.7 -2.4
126nm,0.8s
NEE2 Needles Airpor 21.92 327 ⇓P P 02 36 17.9 +2.2
baz=22
R22A Saguache, Gunn 21.99 346 ⇓P P 02 36 17.4 +0.6
baz=22,SNR=12
S20A Disappointment 22.02 343 ⇓P P 02 36 17.7 +0.6
baz=22,SNR=12
PFO Pinyon Flat Ob 22.09 322 eP P 02 36 20.4 +2.7
52nm,1.8s
PFO Pinyon Flat Ob 22.09 322 ⇑P P 02 36 19.9 +2.2
baz=22
BELC Belle Mtn. Jos 22.10 323 ⇑P P 02 36 19.6 +1.7
baz=22,SNR=7.3
Q26A Hugo 22.12 353 ⇑P P 02 36 17.7 -0.3
baz=22
KSCO Kaye Shedlock' 22.12 355 ⇑P P 02 36 17.7 -0.3
baz=22
WVT Waverly 22.12 28 eP P 02 36 16.0 -1.9
15nm,0.7s
U15A North Rim 22.17 334 ⇑P P 02 36 19.7 +1.0
baz=22,SNR=13
Q25A Bedland, Calha 22.20 352 ⇓P P 02 36 18.8 -0.1
baz=22
SWET Sewanee 22.30 32 eP P 02 36 18.1 -1.7
22nm,1.1s
R21A Cimarron 22.31 345 ⇑P P 02 36 20.4 +0.2
baz=22,SNR=8.2
KSU1 Kansas State U 22.35 8 eP P 02 36 19.1 -1.2
156nm,1.4s
GOGA Godfrey 22.36 40 eP P 02 36 19.0 -1.5
24nm,0.9s
R20A Redvale 22.36 343 ⇑P P 02 36 21.0 +0.3
baz=22,SNR=12
PV01 Paradox Valley 22.37 343 eP P 02 36 21.8 +1.1
S18A Hurst Farm, Bl 22.40 339 ⇑P P 02 36 20.9 -0.3
baz=22,SNR=9.4
LDFC Landfair 22.42 327 eP P 02 36 24.1 +2.8
24nm,0.9s
Q23A Hartsel 22.45 349 ⇓P P 02 36 21.1 -0.6
baz=23
GMRC Granite Mounta 22.49 325 ⇓P P 02 36 23.5 +1.5
baz=23,SNR=6.5
MURC Murrieta 22.53 321 ⇓P P 02 36 24.6 +2.2
baz=23
Q22A Crested Butte, 22.63 346 ⇓P P 02 36 23.6 0.0
baz=23
P27A Fien Ranch, 22.66 355 ⇑P P 02 36 23.4 -0.3
baz=23
PV04 Paradox Valley 22.70 342 eP P 02 36 24.4 +0.1
PV10 Paradox Valley 22.73 342 eP P 02 36 24.1 -0.5
P26A Davis Ranch, A 22.73 354 ⇑P P 02 36 23.8 -0.7
baz=23
Q21A Lamborn Mesa, 22.76 345 ⇓P P 02 36 24.8 -0.1
baz=23
P25A Willow Gulch B 22.78 352 ⇓P P 02 36 24.3 -0.8
baz=23
HEC Hector,Ludlow 22.89 324 ⇑P P 02 36 27.8 +1.6
baz=23,SNR=6.3
P23A Jefferson 22.91 349 ⇓P P 02 36 26.8 +0.3
baz=23,SNR=5.7
SIUC Southern Illin 22.92 23 P P 02 36 25.2 -1.1
31nm,0.8s
TUQ Turquoise Moun 23.12 326 ⇓P P 02 36 30.3 +1.7
baz=23,SNR=16
CPCT Cooper Cave 23.22 34 eP P 02 36 28.9 -0.5
ISCO Idaho Springs 23.28 350 eP P 02 36 30.0 -0.3
7.6nm,0.7s
ISCO Idaho Springs 23.28 350 ⇑P P 02 36 29.9 -0.5
baz=23,SNR=20
O27A Beecher Island 23.28 356 ⇑P P 02 36 29.7 -0.5
baz=23
P22A Eagle 23.30 347 ⇑P P 02 36 30.4 0.0
baz=23,SNR=6.3
P21A Newcastle 23.39 346 ⇑P P 02 36 31.0 -0.3
baz=24
O26A Horse Wrangler 23.40 354 ⇓P P 02 36 30.3 -1.1
baz=24
GSC Goldstone 23.50 324 eP P 02 36 34.2 +1.8
19nm,1.5s
GSC Goldstone 23.50 324 ⇑P P 02 36 34.2 +1.8
baz=24
O24A Longmont 23.51 351 ⇑P P 02 36 31.9 -0.5
baz=24
P20A De Beque 23.59 344 ⇓P P 02 36 33.4 +0.1
baz=24
SHOC Shoshone 23.66 326 ⇓P P 02 36 35.6 +1.8
baz=24
O23A Lake Granby, G 23.73 349 ⇑P P 02 36 34.3 -0.4
baz=24,SNR=12
TKL Tuckaleechee C 23.78 35 P P 02 36 33.0 -1.9
8.2nm,0.6s,baz=194,slow=12,SNR=15
TKL LR LR 02 46 06.0
comp=Z,111nm,21.6s,baz=32,slow=37
TKL Tuckaleechee C 23.78 35 eP P 02 36 33.1 -1.9
O22A Kremmling 23.80 348 ⇑P P 02 36 35.2 -0.2
baz=24,SNR=16
ARUT Antelope Range 23.80 334 eP P 02 36 36.3 +1.0
SRU San Rafael 23.86 340 eP P 02 36 35.8 -0.1
12nm,1.1s
SRU San Rafael 23.86 340 ⇓P P 02 36 36.1 +0.3
baz=24,SNR=5.1
P19A Cripple Cowboy 23.88 343 ⇓P P 02 36 36.6 +0.5
baz=24,SNR=8.7
EDW2 Edwards Air Fo 23.89 322 ⇑P P 02 36 37.8 +1.8
baz=24
N27A Anderson Farm, 23.90 356 ⇓P P 02 36 36.2 +0.1
baz=24,SNR=5.1
Q16A Castle Valley 23.91 339 ⇑P P 02 36 36.8 +0.5
baz=24
MSU Marysvale 23.91 337 eP P 02 36 37.8 +1.4
MVU Marysvale 23.92 336 eP P 02 36 37.9 +1.4
6.6nm,0.9s
O21A Pagoda 24.05 346 ⇑P P 02 36 37.4 -0.3
baz=24
GTBY Guantanamo Bay 24.08 79 eP P 02 36 39.1 +1.2
41nm,0.9s
LRMC Laurel Mountai 24.13 323 ⇓P P 02 36 40.3 +1.9
baz=24
O20A White River Ci 24.16 345 ⇑P P 02 36 39.4 +0.8
baz=24,SNR=11
N24A Carr 24.17 351 ⇑P P 02 36 38.5 -0.2
baz=24,SNR=7.5
P18A Preston Nutter 24.24 341 ⇓P P 02 36 40.2 +0.6
baz=24,SNR=10
TMUT Trail Mountain 24.26 339 P P 02 36 38.0 -1.6
9.3nm,0.7s
P17A Butcher Ranch, 24.26 340 ⇓P P 02 36 40.2 +0.6
baz=24
NHSC New Hope 24.28 45 eP P 02 36 40.4 +0.9
131nm,1.1s
JSC Jenkinsville 24.31 41 eP P 02 36 39.8 0.0
FURC Furnace Creek, 24.40 326 ⇑P P 02 36 42.6 +2.0
baz=24
N23A Red Feather La 24.40 350 ⇓P P 02 36 41.0 +0.1
baz=24,SNR=6.9
N22A Wattenberg Ran 24.40 349 ⇑P P 02 36 41.1 +0.1
baz=24,SNR=7.9
MPMC Manual Prospec 24.44 325 ⇓P P 02 36 43.3 +2.0
baz=24,SNR=6.4
BGNE Belgrade 24.49 4 ⇓P P 02 36 41.8 +0.3
baz=25
O19A Miners Draw (B 24.54 344 ⇑P P 02 36 43.0 +0.9
baz=25,SNR=11
WCI Wyandotte Cave 24.55 27 eP P 02 36 41.3 -0.7
16nm,0.8s
TZTN Tazewell 24.56 34 eP P 02 36 41.4 -0.7
23nm,0.8s
N21A Black Mountain 24.58 347 ⇑P P 02 36 43.5 +1.0
baz=25,SNR=20
M25A Palm-Egli Farm 24.66 353 ⇑P P 02 36 43.4 +0.2
baz=25
ISA Isabella 24.71 323 eP P 02 36 46.3 +2.7
34nm,1.8s
PHWY Pilot Hill 24.72 351 eP P 02 36 43.7 -0.1
10.0nm,0.7s
M24A Cheyenne 24.79 352 ⇓P P 02 36 44.6 +0.2
baz=25,SNR=5.2
N20A Spence Gulch, 24.82 346 ⇑P P 02 36 45.2 +0.5
baz=25,SNR=8.0
O17A Robinson Place 24.91 341 ⇑P P 02 36 46.7 +1.2
baz=25,SNR=7.6
M23A Laramie 24.92 350 ⇓P P 02 36 46.2 +0.6
baz=25
M22A Cedar Creek Ra 25.01 349 ⇓P P 02 36 46.9 +0.4
baz=25
CWC Cottonwood Cre 25.04 324 ⇑P P 02 36 49.4 +2.8
baz=25
MPU Maple Canyon 25.05 339 eP P 02 36 47.7 +1.0
5.2nm,0.9s
GRAC Grapevine Rang 25.07 326 ⇑P P 02 36 49.5 +2.7
baz=25
N19A John Jarvie Ra 25.11 344 ⇑P P 02 36 48.2 +1.0
baz=25,SNR=9.4
O16A Springville 25.17 340 ⇑P P 02 36 49.0 +1.2
baz=25
VES Vestal, Richgr 25.20 322 ⇓P P 02 36 50.6 +2.7
baz=25
R11A Troy Canyon, C 25.23 331 ⇓P P 02 36 50.3 +2.0
baz=25,SNR=12
DAU Daniels Canyon 25.28 340 eP P 02 36 50.7 +1.8
M21A Separation Pea 25.36 348 ⇑P P 02 36 50.1 +0.5
baz=26,SNR=11
HDIL Hopedale 25.43 20 eP P 02 36 48.1 -1.7
23nm,0.7s
L23A Garrett 25.55 351 ⇓P P 02 36 51.5 +0.2
baz=26
O15A The Old Anders 25.57 338 ⇑P P 02 36 52.8 +1.3
baz=26
L22A Ellis Ranch, M 25.59 349 ⇓P P 02 36 53.5 +1.9
baz=26,SNR=5.5
RCTC Rector, Farmer 25.61 323 ⇑P P 02 36 55.2 +3.6
baz=26,SNR=5.7
DUG Dugway 25.62 337 eP P 02 36 53.1 +1.2
8.7nm,0.8s
DUG Dugway 25.62 337 ⇓P P 02 36 52.9 +1.0
baz=26,SNR=15
N17A Moffit Pass 25.63 341 ⇑P P 02 36 53.1 +1.1
baz=26
M19A Rock Springs 25.68 345 ⇓P P 02 36 52.8 +0.4
baz=26
L20A Wamsutter 25.95 346 ⇓P P 02 36 55.5 +0.6
baz=26,SNR=5.8
M17A Scullys Gap (B 26.06 342 ⇑P P 02 36 56.6 +0.6
baz=26
N15A Stansbury Isla 26.13 339 ⇓P P 02 36 57.7 +1.2
baz=26
K23A Bowen Ranch, D 26.17 351 ⇓P P 02 36 57.1 +0.3
baz=26
K22A Casper 26.21 350 ⇑P P 02 36 57.7 +0.6
baz=26
M16A Huntsville 26.21 340 ⇓P P 02 36 58.5 +1.3
baz=26
L19A Farson 26.29 345 ⇑P P 02 36 58.4 +0.4
baz=26
L18A Fontenelle, Gr 26.30 343 ⇑P P 02 36 59.4 +1.3
baz=26,SNR=5.3
K21A Alcova 26.32 348 ⇓P P 02 36 59.4 +1.2
baz=26,SNR=9.9
HWUT Hardware Ranch 26.46 341 eP P 02 37 01.0 +1.6
8.7nm,0.9s
NV11 Mina Array Sit 26.55 327 eP P 02 37 02.1 +1.8
M15A Larsen Ranch, 26.62 339 ⇑P P 02 37 01.8 +0.9
baz=27
NVAR Mina Array Bea 26.63 327 P P 02 37 03.5 +2.4
9.1nm,0.8s,baz=151,slow=9.5,SNR=41
NVAR LR LR 02 47 43.1
comp=Z,294nm,20.0s,baz=222,slow=37
NVAR Mina Array Bea 26.63 327 P P 02 37 03.5 +2.4
BLA Blacksburg 26.78 37 eP P 02 37 02.2 -0.1
30nm,0.8s
ECSD EROS Data Cent 26.93 6 eP P 02 37 02.4 -1.1
16nm,0.8s
BW06 Boulder Array 26.96 345 eP P 02 37 04.7 +0.6
4.2nm,0.8s
BW06 Boulder Array 26.96 345 ⇓P P 02 37 03.8 -0.2
baz=27,SNR=7.3
PDAR Pinedale Array 26.96 345 P P 02 37 04.6 +0.5
4.6nm,0.7s,baz=142,slow=10.0,SNR=27
PDAR LR LR 02 48 38.5
comp=Z,258nm,18.0s,baz=355,slow=38
PDAR Pinedale Array 26.96 345 P P 02 37 04.6 +0.5
K18A Toltan Ranch, 26.97 344 ⇑P P 02 37 04.8 +0.7
baz=27
HVU Hansel Valley 27.01 339 eP P 02 37 05.7 +1.3
6.6nm,0.8s
J21A Lysite 27.05 348 ⇓P P 02 37 05.1 +0.3
baz=27
CNNC Cliffs of the 27.07 43 eP P 02 37 04.9 +0.1
23nm,0.7s
L15A Malad City 27.08 340 ⇓P P 02 37 05.5 +0.5
baz=27,SNR=9.3
OTAV Otavalo 27.16 125 eP P 02 37 09.9 +3.6
15nm,1.3s
J20A Shoshoni 27.18 348 ⇓P P 02 37 06.5 +0.6
baz=27,SNR=5.1
I22A 9 Mile Ranch, 27.41 350 ⇓P P 02 37 08.3 +0.4
baz=28
I21A Big Trails, Te 27.47 349 ⇓P P 02 37 08.8 +0.3
baz=28
J18A Kendall Valley 27.50 344 ⇑P P 02 37 09.0 +0.2
baz=28,SNR=9.2
K15A Arbon 27.74 340 ⇓P P 02 37 11.9 +1.0
baz=28,SNR=5.7

I20A	Worland baz=28	27.77 348	⇑P	P	02 37 11.7 +0.6
J17A	Brown Place, J baz=28	27.82 344	⇑P	P	02 37 12.3 +0.6
K14A	Jones Ranch, D baz=28,SNR=12	27.83 339	⇑P	P	02 37 12.4 +0.7
H24A	Dirks Ranch, A baz=28	27.99 354	⇑P	P	02 37 13.5 +0.4
J16A	Bone baz=28	27.99 342	⇓P	P	02 37 13.8 +0.6
H21A	Big Horn, Sher baz=28,SNR=6.4	28.22 350	⇓P	P	02 37 15.5 +0.3
I17A	Pilgrim Ck. baz=28	28.30 344	⇑P	P	02 37 16.6 +0.6
J15A	Blackfoot baz=28	28.35 341	⇑P	P	02 37 17.4 +1.0
H19A	Powell baz=29	28.63 347	⇑P	P	02 37 19.4 +0.5
J14A	Carey baz=29	28.63 340	⇑P	P	02 37 19.7 +0.8
J13A	Cove Ranch, Pi baz=29,SNR=6.1	28.92 339	⇑P	P	02 37 21.6 +0.1
F23A	Volborg baz=29	29.05 353	⇑P	P	02 37 22.2 -0.2
RLMT	Red Lodge 91nm,3.0s	29.12 347	*eP*	P	02 37 23.8 +0.5
RLMT	Red Lodge baz=29	29.12 347	⇓P	P	02 37 23.4 +0.1
HLID	Hailey 4.2nm,0.9s	29.15 339	*eP*	P	02 37 24.6 +1.0
HLID	Hailey baz=29,SNR=8.0	29.15 339	⇑P	P	02 37 24.7 +1.2
I14A	Mackay baz=29,SNR=5.2	29.15 340	⇑P	P	02 37 23.8 +0.2
I13A	Wildhorse Cree baz=30,SNR=5.4	29.36 339	⇓P	P	02 37 26.5 +1.1
MFID	Camas Ranch 19nm,1.5s	29.54 337	*eP*	P	02 37 28.1 +1.3
MFID	Camas Ranch baz=30,SNR=6.7	29.54 337	⇓P	P	02 37 27.7 +0.8
F20A	Billings baz=30	29.55 349	⇑P	P	02 37 27.2 +0.3
I12A	Atlanta baz=30	29.61 338	⇑P	P	02 37 28.6 +1.0
H14A	Leadore baz=30,SNR=11	29.74 341	⇑P	P	02 37 30.1 +1.3
E22A	Miles City baz=30	29.82 352	⇓P	P	02 37 29.1 -0.2
G16A	Moss Hill, Enn baz=30	29.84 344	⇑P	P	02 37 31.0 +1.4
F18A	Big Timber baz=30	29.97 347	⇑P	P	02 37 31.2 +0.6
H13A	Challis baz=30	29.98 340	⇑P	P	02 37 31.8 +1.0
E21A	Keefer Ranch, baz=30	30.09 351	⇓P	P	02 37 31.2 -0.4
H12A	Diamond D Ranc baz=30,SNR=10	30.17 339	⇓P	P	02 37 34.0 +1.5
F17A	Fitzpatrick Pl baz=30	30.18 346	⇑P	P	02 37 34.2 +1.6
BOZ	Bozeman (W) 26nm,2.6s	30.19 344	*eP*	P	02 37 33.4 +0.8
DLMT	Dillon 5.9nm,1.0s	30.19 343	*eP*	P	02 37 34.0 +1.4
E20A	Meyer Farm, Mu baz=30	30.23 349	⇓P	P	02 37 32.9 +0.1
E19A	Rath Farm, Rou baz=30,SNR=5.6	30.31 348	⇑P	P	02 37 34.0 +0.4
D24A	Glendive baz=30	30.31 355	⇓P	P	02 37 33.8 +0.2
G14A	Jackson baz=30,SNR=6.9	30.34 341	⇑P	P	02 37 34.9 +0.9
G13A	Cobalt baz=31,SNR=9.2	30.44 340	⇓P	P	02 37 35.8 +0.9
D22A	Cohagen baz=31,SNR=10	30.55 352	⇑P	P	02 37 35.8 +0.1
COWI	Conover	30.57 15	*eP*	P	02 37 42.3 +6.5
LRM	Limekiln Ridge	30.57 343	*eP*	P	02 37 37.5 +1.4
D21A	La Casta Ranch baz=31	30.59 351	⇓P	P	02 37 36.3 +0.3
F15A	Butte baz=31	30.60 343	⇓P	P	02 37 36.7 +0.4
E18A	Harlowton baz=31	30.64 347	⇑P	P	02 37 37.0 +0.4
C24A	Savage baz=31	30.73 355	⇑P	P	02 37 37.3 0.0
E17A	Martinsdale baz=31,SNR=5.7	30.75 346	⇓P	P	02 37 38.0 +0.3
D20A	Manuel Ranch, baz=31,SNR=5.7	30.80 350	⇓P	P	02 37 37.8 0.0
G12A	Big Creek, Yel baz=31	30.84 339	⇑P	P	02 37 39.4 +1.0
D19A	Cripps Ranch, baz=31,SNR=7.4	31.00 349	⇓P	P	02 37 39.7 0.0
E16A	East Helena baz=31,SNR=6.8	31.02 345	⇑P	P	02 37 40.4 +0.4
C23A	Lambert baz=31,SNR=5.4	31.08 354	⇓P	P	02 37 40.6 +0.2
F13A	Darby baz=31,SNR=6.8	31.10 341	⇓P	P	02 37 41.1 +0.4
E15A	Deer Lodge baz=31	31.18 343	⇓P	P	02 37 41.3 -0.1
D18A	Linhart Farms, baz=31	31.21 347	⇑P	P	02 37 42.3 +0.7
HRY	Holter Researc	31.23 345	*eP*	P	02 37 42.9 +1.1
BMO	Blue Mountains 6.6nm,0.9s	31.32 336	*eP*	P	02 37 42.8 +0.2
C21A	Desert Coulee baz=32	31.34 351	⇑P	P	02 37 43.1 +0.5
D17A	Six Diamond Ra baz=32,SNR=13	31.36 346	⇑P	P	02 37 43.2 +0.2
C20A	Veseth Ranch, baz=32	31.38 350	⇑P	P	02 37 43.4 +0.5
E14A	Clinton baz=32	31.41 342	⇑P	P	02 37 44.1 +0.7
D16A	Dana Ranch, Ca baz=32,SNR=6.9	31.45 345	⇑P	P	02 37 44.0 +0.2
AGMN	Agassiz Nation 10nm,0.8s	31.52 6	*eP*	P	02 37 43.4 -0.8
C19A	Slack Wire Ran baz=32	31.58 349	⇑P	P	02 37 45.3 +0.5
E13A	Victor baz=32,SNR=8.1	31.64 342	⇑P	P	02 37 45.9 +0.6
B23A	Brockton baz=32	31.71 354	⇑P	P	02 37 46.8 +0.9
C17A	Wharram Farm, baz=32,SNR=16	31.84 347	⇓P	P	02 37 47.4 +0.4
MSO	Missoula 34nm,2.6s	31.91 342	*eP*	P	02 37 48.8 +1.0
MSO	Missoula baz=32	31.91 342	⇓P	P	02 37 48.3 +0.5
D14A	Greenough baz=32	32.02 343	⇓P	P	02 37 49.2 +0.5
A24A	Westby baz=32	32.08 355	⇓P	P	02 37 49.4 +0.3
SLMT	Seeley Lake 2.6nm,1.0s	32.16 343	*eP*	P	02 37 48.9 -1.1
C16A	Fuhringer Ranc baz=32,SNR=5.6	32.22 345	⇑P	P	02 37 50.6 +0.1
B19A	Brinkman Farms baz=32,SNR=5.4	32.26 349	⇑P	P	02 37 50.6 -0.1
D13A	Huson baz=32,SNR=15	32.30 342	⇑P	P	02 37 51.6 +0.5
A22A	Carney Farms, baz=32	32.33 353	⇓P	P	02 37 51.8 +0.5
C15A	Salmond Ranch, baz=32	32.41 344	⇑P	P	02 37 52.8 +0.6
A21A	Bergtoll Ranch baz=33	32.46 352	⇓P	P	02 37 52.6 +0.1
B17A	L&G Farms, Che baz=33	32.47 347	⇑P	P	02 37 52.8 +0.3
A20A	Cobblestone Ra baz=33	32.49 351	⇓P	P	02 37 53.0 +0.2
D12A	Red Ives Fores baz=33	32.54 341	⇓P	P	02 37 53.5 +0.2
SWMT	Swartz Lake	32.55 343	*eP*	P	02 37 54.1 +0.7
A19A	Klindworth Far baz=33,SNR=5.3	32.68 350	⇑P	P	02 37 54.1 -0.3
C14A	Swan Lake baz=33	32.71 343	⇓P	P	02 37 55.5 +0.7
C13A	Hot Springs baz=33	32.87 342	⇑P	P	02 37 56.3 +0.2
B15A	Bradely Ranch, baz=33	32.90 345	⇑P	P	02 37 56.4 0.0
A17A	Triple J Farms baz=33	33.06 347	⇑P	P	02 37 58.1 +0.3
B14A	Marquette Ranc baz=33	33.12 344	⇓P	P	02 37 58.8 +0.4
C12B	Naegeli Ranch, baz=33	33.16 341	⇑P	P	02 37 59.2 +0.5
A16A	West Butte Ran baz=33	33.26 346	⇑P	P	02 37 59.8 +0.2
ULM	Lac du Bonnet 5.1nm,0.7s,baz=188,slow=9.1,SNR=14	33.46 5	P	P	02 37 59.5 -1.6
ULM	Lac du Bonnet 6.9nm,0.8s	33.46 5	*eP*	P	02 37 59.4 -1.7
B13A	Whitefish baz=34,SNR=5.3	33.46 343	⇓P	P	02 38 01.7 +0.4
C11A	Tepee Creek (N baz=34	33.52 340	⇓P	P	02 38 01.9 0.0
A15A	Johnson Ranch, baz=34	33.56 345	⇑P	P	02 38 02.2 0.0
A14A	Double T Ranch baz=34	33.73 344	⇑P	P	02 38 04.1 +0.4
B12A	Libby baz=34	33.88 342	⇑P	P	02 38 05.7 +0.9
A13A	Flathead Natio baz=34	33.95 343	⇑P	P	02 38 06.2 +0.6
NEW	Newport 80nm,2.8s	34.18 340	*eP*	P	02 38 08.2 +0.7
NEW	Newport baz=34	34.18 340	⇓P	P	02 38 08.4 +1.0
A12A	Yaak River Ran baz=34	34.31 342	⇓P	P	02 38 09.4 +0.7
FFC	Flin Flon 4.6nm,0.7s	37.77 358	*eP*	P	02 38 37.1 -0.9
SCHQ	Schefferville 4.4nm,0.6s,baz=235,slow=7.0,SNR=18	45.76 26	P	P	02 39 43.2 -0.2
SCHQ	Schefferville 115nm,2.6s	45.76 26	*eP*	P	02 39 42.5 -0.9
LPAZ	La Paz 1.7nm,0.8s,baz=325,slow=8.3,SNR=8.2	45.76 134	P	P	02 39 45.5 +1.0
LPAZ	La Paz 3.1nm,0.9s	45.76 134	*eP*	P	02 39 45.6 +1.0
YKA	Yellowknife Ar 4.7nm,0.7s,baz=160,slow=7.4,SNR=82	46.64 351	P	P	02 39 49.6 -0.6
YKA	Yellowknife Ar	46.64 351	P	P	02 39 49.6 -0.6
YKW3	Yellowknife Ar 0.1nm,0.8s	46.70 351	*eP*	P	02 39 49.6 -1.0
TAOE	Nuku Hiva Isla 46nm,0.2s	46.99 240	*eT*	T	03 30 03.8
RKT	Rikitea 17nm,0.2s	52.26 221	*eT*	T	03 36 43.3
INK	Inuvik 6.1nm,0.8s	55.53 346	*eP*	P	02 40 57.7 +0.8
PMOR	Pomariorio Ree 7.3nm,0.2s	56.66 239	*eT*	T	03 42 08.7
ILAR	Eielson Array 1.7nm,0.9s,baz=147,slow=5.4,SNR=11	57.11 338	P	P	02 41 09.4 +1.1
ILAR	Eielson Array	57.11 338	P	P	02 41 09.4 +1.1
CFAA	Coronel Fontan 0.1nm,0.4s,baz=281,slow=8.8,SNR=4.5	57.21 147	P	P	02 41 10.7 +1.3
CFAA	Coronel Fontan	57.21 147	P	P	02 41 10.7 +1.3
RES	Resolute Bay 9.1nm,1.4s	57.87 2	*eP*	P	02 41 12.8 -0.6
PPT	Papeete comp=Z,190nm,19.5s,baz=73,slow=32	59.39 237	LR	LR	03 02 49.3
PPT2	Papeete2 175nm,24.8s,baz=51	59.40 237	*e*LR	LR	02 58 48.0
CPUP	Villa Florida 4.5nm,0.9s,baz=303,slow=10,SNR=7.4	59.92 135	P	P	02 41 28.3 -0.1
CPUP	comp=Z,46nm,18.4s,baz=132,slow=35		LR	LR	03 06 36.4
CPUP	Villa Florida	59.92 135	*eP*	P	02 41 28.3 -0.1
BDFB	Brasilia 6.4nm,0.8s,baz=279,slow=6.0,SNR=10	60.87 119	P	P	02 41 36.0 +0.8
BDFB	Brasilia	60.87 119	P	P	02 41 36.0 +0.8
TBI	Tubuai 2µm,38.5s	62.51 232	*e*S	S	02 50 21.3 +9.2
TBI	112nm,23.5s		*e*LR	LR	03 00 28.2
TBI	7.7nm,0.3s		*e*T	T	03 49 28.7
SUMG	Summit 298nm,3.0s	65.69 17	*eP*	P	02 42 06.3 -0.4
SUMG	Summit 10nm,0.9s	65.69 17	*i* P	P	02 42 05.5 -1.2
JMIC	Jan Mayen comp=Z,128nm,18.6s,baz=261,slow=38	74.74 20	LR	LR	03 18 52.0
ROSF	Rostrenen	82.12 42	*eP*	P	02 43 42.0 -0.8
ROSF	Rostrenen	82.12 42	*eP*	P	02 43 42.0 -0.8
GRR	Gorron 5.8nm,0.7s	83.64 41	*eP*	P	02 43 50.5 -0.1
GRR	Gorron 5.8nm,0.7s	83.64 41	*eP*	P	02 43 50.5 -0.1
FLN	La Foliniere 19nm,1.0s	83.77 41	*eP*	P	02 43 51.3 0.0
FLN	La Foliniere 19nm,1.0s	83.77 41	*eP*	P	02 43 51.3 0.0
LDF	La Druitiere	84.05 41	*eP*	P	02 43 52.5 -0.2
LDF	La Druitiere	84.05 41	*eP*	P	02 43 52.5 -0.2
ESDC	Sonseca Array 0.5nm,0.5s,baz=308,slow=6.3,SNR=5.7	84.14 50	P	P	02 43 53.0 -0.4
ESDC	Sonseca Array	84.14 50	P	P	02 43 53.0 -0.4
NOA	NORSAR Array B comp=Z,56nm,18.9s,baz=0.0,slow=35	85.32 27	LR	LR	03 21 19.7
ETSF	Etsaut 4.9nm,0.7s	85.59 47	*eP*	P	02 44 00.2 -0.5
ETSF	Etsaut 4.9nm,0.7s	85.59 47	*eP*	P	02 44 00.2 -0.5
LFF	La Frestale 9.4nm,0.8s	85.80 44	*eP*	P	02 44 01.0 -0.6
LFF	La Frestale 9.4nm,0.8s	85.80 44	*eP*	P	02 44 01.0 -0.6
EPF	Esparros 18nm,1.2s	86.17 46	*eP*	P	02 44 02.8 -0.7
EPF	Esparros 18nm,1.2s	86.17 46	*eP*	P	02 44 02.8 -0.7
RJF	Les Rejaudoux 3.7nm,0.6s	86.20 44	*eP*	P	02 44 02.6 -1.0
RJF	Les Rejaudoux 3.7nm,0.6s	86.20 44	*eP*	P	02 44 02.6 -1.0
BAIF	Baives 5.3nm,0.8s	86.20 39	*eP*	P	02 44 02.8 -0.6
BAIF	Baives 5.3nm,0.8s	86.20 39	*eP*	P	02 44 02.8 -0.6
TCF	Toulx Ste Croi 4.9nm,0.7s	86.31 43	*eP*	P	02 44 03.1 -1.0
TCF	Toulx Ste Croi 4.9nm,0.7s	86.31 43	*eP*	P	02 44 03.1 -1.0
SSF	Saint Saulge 5.9nm,0.8s	86.87 42	*eP*	P	02 44 05.7 -1.1
SSF	Saint Saulge 5.9nm,0.8s	86.87 42	*eP*	P	02 44 05.7 -1.1
AVF	Avril sur Loir	86.87 42	*eP*	P	02 44 05.5 -1.3
AVF	Avril sur Loir	86.87 42	*eP*	P	02 44 05.5 -1.3
LOR	Lormes 7.4nm,0.6s	87.01 41	*eP*	P	02 44 06.8 -0.8
LOR	Lormes 7.4nm,0.6s	87.01 41	*eP*	P	02 44 06.8 -0.8
VIVF	Saint-Julien-l 5.9nm,0.8s	88.44 43	*eP*	P	02 44 14.4 -0.1
VIVF	Saint-Julien-l 5.9nm,0.8s	88.44 43	*eP*	P	02 44 14.4 -0.1
ORIF	Oris-en-Rattie	89.21 43	*eP*	P	02 44 17.6 -0.6
ORIF	Oris-en-Rattie	89.21 43	*eP*	P	02 44 17.6 -0.6
DAVOX	Davos/Dischmat comp=Z,57nm,18.1s,baz=273,slow=39	90.98 40	LR	LR	03 30 31.6
GERES	GERESS Array B comp=Z,87nm,18.5s,baz=99,slow=37	92.31 37	LR	LR	03 27 30.1
LIC	Lamto 48nm,1.2s	93.23 83	*eP*	P	02 44 35.8 -1.5
LIC	Lamto 48nm,1.2s	93.23 83	*eP*	P	02 44 35.8 -1.5
DBIC	Dimbokro comp=Z,60nm,18.6s,baz=285,slow=34	93.26 82	LR	LR	03 23 50.2
VYHS	Vyhne	95.41 36	*eP*	P	02 44 51.9 +5.2
CRVS	Cervenica-Dubn	96.63 34	*eP*	P	02 44 59.6 +7.4
KOLS	Kolonicke sedl	97.05 34	*eP*	Pdif	02 45 03.8 +10
TORD	Torodi Ar. Bea comp=Z,82nm,19.6s,baz=270,slow=32	97.39 74	LR	LR	03 23 55.6
DZM	Mont Dzumac 144nm,23.2s	99.11 250	*e*LR	LR	03 17 46.4
DZM	Mont Dzumac comp=Z,80nm,18.0s,baz=204,slow=30	99.11 250	LR	LR	03 21 51.4
WRA	Warramunga Arr 0.4nm,0.3s,baz=90,slow=3.8,SNR=5.5	128.26 258	PKP	PKPdf	02 50 29.5 +0.2
WRA	Warramunga Arr	128.26 258	PKP	PKPdf	02 50 29.5 +0.2

IDC 17 02:39:56.4±8.2, 18°18N×143°38E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.4/40, Error ellipse: s-maj=224.3km s-min=49.0km az=17.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W) comp=Z,142nm,18.2s,baz=237,slow=34	20.56	240	LR	LR	LR	02 51 40.9	
KSRS	Korea Array 1.9nm,0.6s,baz=147,slow=7.8,SNR=5.9	23.51	328	P	P	P	02 45 07.8	-0.3
SONM	Songino Array 0.3nm,0.4s,baz=124,slow=7.4,SNR=7.7	42.20	323	P	P	P	02 47 51.9	+0.6
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=101,slow=7.5,SNR=2.8	57.10	323	P	P	P	02 49 43.8	-0.8
YKA	Yellowknife Ar 0.3nm,0.6s,baz=287,slow=5.5,SNR=6.4	79.47	28	P	P	P	02 52 04.7	+0.1

IDC 17 02:48:03.6±1.0, 3.50N×126.31E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=93.6km s-min=16.7km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 2.0nm,1.0s,baz=12,slow=11,SNR=3.6	21.48	182	P	P	P	02 52 54.7	+0.7
WRA	Warramunga Arr 4.9nm,0.8s,baz=344,slow=10,SNR=18	24.60	162	P	P	P	02 53 25.6	-0.1
ASAR	Alice Springs 0.4nm,0.7s,baz=350,slow=8.5,SNR=4.3	28.00	165	P	P	P	02 53 57.1	+0.6
KSRS	Korea Array 1.4nm,0.7s,baz=188,slow=11,SNR=4.1	33.82	2	P	P	P	02 54 48.0	+0.4
STKA	Stephens Creek 2.2nm,0.6s,baz=340,slow=8.0,SNR=7.4	38.07	159	P	P	P	02 55 23.2	-0.9
SONM	Songino Array 0.5nm,0.6s,baz=154,slow=8.7,SNR=5.9	47.38	342	P	P	P	02 56 39.8	+0.1
ZALV	Zalesovo Beam 0.4nm,0.4s,baz=125,slow=9.7,SNR=2.1	60.60	333	P	P	P	02 58 15.4	-0.6

IDC 17 03:16:35.7±1.4, 39.50S×173.90E, h208km±13km, mb3.2/5, mb1 3.4/7, mb1mx3.3/19, mbtmp3.3/7, Error ellipse: s-maj=18.9km s-min=15.0km az=89.0
ISCJB 17 03:16:36.2±0.4, 39.52S±0.04×174.12E±0.06, h240km±3km, mb3.4/5, Error ellipse: s-maj=8.7km s-min=5.3km az=43.5
WEL 17 03:16:38.4±0.3, 39.53S×174.31E, h235km±2km, ML4.2/18, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0

ISC 17 03:16:36.7±0.8, 39.53S±0.06×174.17E±0.06, h243km±6km, n88, σ1.29/103, mb3.4/5, 13C-30D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DFE	Dawson Falls	0.21	346	PN	Pn	Pn	03 17 09.0	+0.7
NRZ	Ngariki Road	0.26	317	PN	Pn	Pn	03 17 09.0	+0.7
RAEZ	Rainy Point	0.30	36	PN	Pn	Pn	03 17 08.4	+0.1
RAEZ				SN	S	S	03 17 32.5	-0.6
DREZ	Durham Road	0.34	4	PN	Pn	Pn	03 17 08.8	+0.4
DREZ				SN	S	S	03 17 32.8	-0.4
NWEZ	Newall Road	0.34	317	PN	Pn	Pn	03 17 09.3	+0.9
NWEZ				SN	S	S	03 17 33.5	+0.3
WAZ	Wanganui	0.67	110	⇓PN	Pn	Pn	03 17 10.4	+1.0
WAZ				SN	S	S	03 17 34.1	-0.9
PKVZ	Pokaka	0.94	76	⇓PN	Pn	Pn	03 17 10.7	0.0
PKVZ				SN	S	S	03 17 35.2	-2.1
MTVZ	Mangateitei	1.02	82	⇓PN	Pn	Pn	03 17 11.4	+0.2
MTVZ				SN	S	S	03 17 36.0	-2.1
TWVZ	Taurewa	1.09	66	⇓PN	Pn	Pn	03 17 11.4	-0.2
TWVZ				SN	S	S	03 17 36.3	-2.7
TRVZ	Turoa	1.09	78	⇓PN	Pn	Pn	03 17 11.9	+0.1
TRVZ				SN	S	S	03 17 36.5	-2.8
FWVZ	Far West T-bar	1.11	76	PN	Pn	Pn	03 17 11.5	-0.4
FWVZ				SN	S	S	03 17 36.7	-2.7
DRZ	Dome Shelter	1.11	77	PN	Pn	Pn	03 17 12.0	0.0
DRZ				SN	S	S	03 17 36.6	-3.1
WPVZ	Whakapapa	1.12	74	PN	Pn	Pn	03 17 11.8	0.0
WNVZ	Wahianoa	1.13	80	⇓PN	Pn	Pn	03 17 12.1	+0.2
HIZ	Hauiti	1.15	28	⇓PN	Pn	Pn	03 17 11.5	-0.4
HIZ				SN	S	S	03 17 36.8	-2.7
NGZ	Ngauruhoe	1.17	73	PN	Pn	Pn	03 17 12.2	0.0
NGZ				SN	S	S	03 17 37.3	-2.7
WTVZ	West Tongariro	1.18	70	⇓PN	Pn	Pn	03 17 12.2	+0.1
TUVZ	Tukino	1.18	78	⇓PN	Pn	Pn	03 17 12.5	+0.3
TUVZ				SN	S	S	03 17 37.5	-2.6
OTVZ	Oturere	1.22	73	⇓PN	Pn	Pn	03 17 12.7	+0.2
KRVZ	Karewarewa	1.22	70	⇓PN	Pn	Pn	03 17 12.5	+0.1
MOVZ	Moawhango	1.23	85	⇓PN	Pn	Pn	03 17 12.3	-0.2
DUWZ	D'Urville Isla	1.29	188	⇑PN	Pn	Pn	03 17 13.5	+0.7
KATZ	Kakaramea	1.31	66	PN	Pn	Pn	03 17 13.0	-0.1
RATZ	Rangitukua	1.41	63	⇓PN	Pn	Pn	03 17 13.5	-0.2
RITZ	Rihia Road	1.42	68	PN	Pn	Pn	03 17 13.9	+0.1
KIW	Kapiti Island	1.45	157	PN	Pn	Pn	03 17 14.2	+0.3
BHHZ	Black Hill Sta	1.47	89	⇓PN	Pn	Pn	03 17 13.8	-0.3
WATZ	Wairara	1.47	57	⇓PN	Pn	Pn	03 17 14.2	0.0
TSZ	Takapari Road	1.48	112	⇓PN	Pn	Pn	03 17 14.5	+0.3
OGWZ	Otaki Gorge	1.50	149	⇑PN	Pn	Pn	03 17 14.9	+0.6
MRZ	Mangatainoka R	1.57	137	PN	Pn	Pn	03 17 15.1	+0.3
PNHZ	Pukenui	1.61	104	⇓PN	Pn	Pn	03 17 15.5	+0.3
HATZ	Hinemaiaia	1.62	68	PN	Pn	Pn	03 17 14.8	-0.6
HATZ				SN	S	S	03 17 41.9	-3.8
TCW	Tory Channel	1.68	177	PN	Pn	Pn	03 17 16.3	+0.6
HOWZ	Holdsworth Sta	1.71	143	⇑PN	Pn	Pn	03 17 16.2	+0.2
DVHZ	Dannevirke	1.72	117	⇓PN	Pn	Pn	03 17 16.3	+0.2
CAW	Cannon Point	1.72	157	⇑PN	Pn	Pn	03 17 16.5	+0.4
NNZ	Nelson	1.79	199	⇑PN	Pn	Pn	03 17 17.3	+0.7
QRZ	Quartz Range	1.81	224	⇑PN	Pn	Pn	03 17 17.0	+0.2
TIWZ	Tintock	1.81	134	PN	Pn	Pn	03 17 17.2	+0.3
WEL	Wellington	1.81	166	PN	Pn	Pn	03 17 17.2	+0.4
WPHZ	Waipukurau	1.83	108	⇓PN	Pn	Pn	03 17 17.4	+0.4
BKZ	Black Stump Fm	1.84	79	⇑PN	Pn	Pn	03 17 16.8	-0.4
TUWZ	Tuamarina	1.91	185	PN	Pn	Pn	03 17 18.1	+0.5
MTW	Mount Morrison	1.92	148	⇑PN	Pn	Pn	03 17 18.0	+0.2
ALRZ	Allen Road	1.95	61	PN	Pn	Pn	03 17 17.3	-0.8
BHW	Baring Head	1.95	164	PN	Pn	Pn	03 17 18.2	+0.2
MCHZ	McNeill Hill	1.96	88	⇓PN	Pn	Pn	03 17 18.9	+0.8
BFZ	Birch Farm	1.97	126	⇑PN	Pn	Pn	03 17 18.4	+0.2
PRHZ	Porangahau	2.04	112	⇓PN	Pn	Pn	03 17 19.0	+0.5
TMWZ	Te Maipa	2.06	141	PN	Pn	Pn	03 17 19.3	+0.3
MSWZ	Moikau Station	2.06	157	⇑PN	Pn	Pn	03 17 19.2	+0.2
PAWZ	Paruwai Farm	2.09	153	⇑PN	Pn	Pn	03 17 19.5	+0.2
NMHZ	Naumai	2.09	79	⇓PN	Pn	Pn	03 17 20.0	+0.5
KAHZ	Kahuranaki	2.11	98	⇓PN	Pn	Pn	03 17 20.2	+0.6
PXZ	Pawanui	2.14	104	⇓PN	Pn	Pn	03 17 20.1	+0.4
BSWZ	Blackbirch Sta	2.19	186	PN	Pn	Pn	03 17 20.8	+0.5
TRWZ	Traveller	2.20	149	PN	Pn	Pn	03 17 20.6	+0.2
PLWZ	Palliser	2.20	158	⇑PN	Pn	Pn	03 17 20.5	+0.1
CKHZ	Cape Kidnapper	2.25	94	⇓PN	Pn	Pn	03 17 21.5	+0.6
RAHZ	Arahi	2.35	76	PN	Pn	Pn	03 17 21.8	-0.1
THZ	Tophouse	2.43	203	⇓PN	Pn	Pn	03 17 23.0	+0.3
URZ	Urewera 41nm,0.3s,baz=252,slow=7.2,SNR=206	2.62	62	P	Pn	Pn	03 17 23.2	-1.5
URZ				S	S	S	03 17 56.2	-6.3
URZ	23nm,0.3s,baz=164,slow=20,SNR=21 Urewera	2.62	62	⇓PN	Pn	Pn	03 17 23.2	-1.5
KNZ	Kokohu	2.77	81	PN	Pn	Pn	03 17 25.8	-0.4
MWZ	Matawai	2.88	67	⇓PN	Pn	Pn	03 17 26.3	-1.2
MHGZ	Mahia Peninsul	2.92	84	PN	Pn	Pn	03 17 27.8	0.0
KHZ	Kahutara	2.92	189	PN	Pn	Pn	03 17 27.8	+0.1
PRGZ	Paritu Road	2.95	79	⇓PN	Pn	Pn	03 17 27.9	-0.3
CNGZ	Carnagh Statio	3.32	73	⇑PN	Pn	Pn	03 17 32.0	-0.3
LTZ	Lake Taylor	3.55	203	PN	Pn	Pn	03 17 34.7	-0.2
MQZ	McQueen's Vall	4.33	195	PN	Pn	Pn	03 17 42.6	-1.3
WVZ	Waitaha Valley	4.39	215	⇓PN	Pn	Pn	03 17 43.7	-0.9
RPZ	Rata Peaks 4.7nm,0.3s,baz=344,slow=2.

IDC ***17*** *03:23:38.5±0.6,3˚.60N×126˚.56E,h0km,mb4.3/16, mb1 4.3/16,mb1mx4.3/26,mbtmp4.3/16,MS3.2/3, Ms1 3.2/3,ms1mx2.7/36,Error ellipse: s-maj=36.4km s-min=12.6km az=80.0*

ISCJB ***17*** *03:23:43.5±0.3,3˚.55N±0˚.04×126˚.53E±0˚.09,h53km, mb4.3/25,MS3.2/2,Error ellipse: s-maj=12.4km s-min=5.7km az=167.8*

NEIC ***17*** *03:23:43.4±0.2,3˚.61N×126˚.55E,h35km,mb4.4/11,Error ellipse: s-maj=13.9km s-min=4.6km az=78.0*

AUST ***17*** *03:23:43.4,3˚.50N×126˚.50E,h35km*

ISC 17 03:23:45.4±0.5,**3˚.55N**±0˚.06×**126˚.56E**±0˚.09,**h53**km,**n59,** σ1§**15**/60,**mb4.3**/24,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.63**	**345**	LR	LR	03 26 12.2	
	comp=Z,228nm,20.1s,baz=318,slow=43						
DAV	**Davao City (W)**	**3.63**	**345**	*e*Pn	Pn	03 24 35.1	-4.1
DAV				Sn	**Sn**	**03 25 22.6**	**+1.7**
PCI	**Palu**	**8.04**	**237**	P	**Pn**	**03 25 38.2**	**-1.5**
	baz=8.0,SNR=6.2						
PCI				S	**Sn**	**03 27 04.8**	**-4.5**
	baz=8.0,SNR=20						
KDU	**Kakadu**	**17.16**	**160**	P	**Pn**	**03 27 41.2**	**-0.5**
	baz=17,SNR=5.6						
KDU				S	Sn	03 30 31.8	-20
	baz=17,SNR=3.6						
FITZ	**Fitzroy Crossi**	**21.53**	**182**	P	**P**	**03 28 31.0**	**+0.7**
	2.8nm,0.6s,baz=42,slow=8.4,SNR=13						
FITZ	**Fitzroy Crossi**	**21.53**	**182**	*e*P	**P**	**03 28 30.3**	**+0.1**
	3.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.53**	**182**	P	**P**	**03 28 31.0**	**+0.7**
	baz=22,SNR=3.8						
JOW	**Kunigami**	**23.21**	**4**	P	**P**	**03 28 47.1**	**-0.9**
	13nm,0.7s,baz=192,slow=14,SNR=5.7						
JOW	**Kunigami**	**23.21**	**4**	P	**P**	**03 28 47.1**	**-0.9**
KGM	**Kluang**	**23.26**	**267**	P	**P**	**03 28 52.1**	**+3.5**
WRAB	**Tennant Creek**	**24.56**	**162**	*e*P	**P**	**03 29 00.1**	**-0.3**
	34nm,0.8s						
WRA	**Warramunga Arr**	**24.56**	**162**	P	**P**	**03 29 00.5**	**-0.1**
	31nm,0.8s,baz=343,slow=10,SNR=84						
WRA	**Warramunga Arr**	**24.56**	**162**	P	**P**	**03 29 00.5**	**-0.1**
AS31	**Alice Springs**	**27.98**	**166**	*e*P	**P**	**03 29 31.8**	**+0.5**
ASAR	**Alice Springs**	**27.98**	**166**	P	**P**	**03 29 31.5**	**+0.1**
	2.1nm,0.6s,baz=347,slow=13,SNR=16						
ASAR	**Alice Springs**	**27.98**	**166**	P	**P**	**03 29 31.5**	**+0.1**
GSI	**Gunungsitoli**	**29.04**	**266**	S	**S**	**03 34 33.6**	**+4.7**
	baz=29,SNR=6.3						
JNU	**Nakatsue**	**29.70**	**7**	P	**P**	**03 29 45.6**	**-1.0**
	8.5nm,0.9s,baz=255,slow=4.7,SNR=4.8						
JNU	**Nakatsue**	**29.70**	**7**	P	**P**	**03 29 45.6**	**-1.0**
MEEK	**Meekatharra**	**30.97**	**194**	P	**P**	**03 29 59.1**	**+1.2**
	baz=31,SNR=4.0						
KSAR	**Wonju Array Be**	**33.76**	**2**	P	**P**	**03 30 22.1**	**0.0**
KSRS	**Korea Array**	**33.77**	**2**	P	**P**	**03 30 22.1**	**-0.1**
	5.0nm,0.6s,baz=179,slow=9.6,SNR=16						
KSRS				LR	LR	03 45 15.6	
	comp=Z,27nm,19.2s,baz=135,slow=38						
MJAR	**Matsushiro Arr**	**34.55**	**17**	LR	LR	03 41 51.5	
	comp=Z,70nm,20.1s,baz=235,slow=32						
BJT	**Baijiatuan**	**37.51**	**347**	*e*P	**P**	**03 30 53.5**	**-0.7**
	26nm,0.8s						
STKA	**Stephens Creek**	**38.02**	**159**	P	**P**	**03 30 59.0**	**+0.3**
	5.9nm,0.6s,baz=341,slow=7.2,SNR=20						
STKA	**Stephens Creek**	**38.02**	**159**	*e*P	**P**	**03 30 59.1**	**+0.5**
	1.2nm,0.7s						
STKA	**Stephens Creek**	**38.02**	**159**	P	**P**	**03 30 59.2**	**+0.5**
	baz=38,SNR=17						
USRK	**Ussuriysk Arra**	**40.77**	**6**	P	**P**	**03 31 21.1**	**-0.3**
	3.8nm,0.7s,baz=195,slow=7.2,SNR=12						
MDJ	**Mudanjiang**	**40.99**	**3**	*e*P	**P**	**03 31 22.4**	**-0.7**
	12nm,0.7s						
ASAJ	**Asahikawa**	**42.82**	**17**	*e*P	**P**	**03 31 37.4**	**-0.7**
	2.2nm,0.8s						
TAPN	**Taplejung**	**43.99**	**307**	*e*P	**P**	**03 31 48.0**	**-0.2**
	4.5nm,0.4s						
ODAN	**Odare**	**44.04**	**306**	*e*P	**P**	**03 31 48.1**	**-0.4**
	8.6nm,0.4s						
RAMN	**Ramite**	**44.71**	**305**	*e*P	**P**	**03 31 54.4**	**+0.4**
	7.0nm,0.6s						
GUN	**Gumba**	**45.69**	**306**	*e*P	**P**	**03 32 01.3**	**-0.5**
	10nm,0.4s						
ULN	**Ulaanbaatar**	**47.24**	**342**	*e*P	**P**	**03 32 12.1**	**-1.3**
	2.2nm,0.7s						
SONM	**Songino Array**	**47.42**	**342**	P	**P**	**03 32 14.3**	**-0.4**
	0.7nm,0.6s,baz=159,slow=7.5,SNR=8.4						
SONM				PcP	**PcP**	**03 33 45.2**	**+0.6**
	0.6nm,0.9s,baz=170,slow=5.1,SNR=2.6						
SONM	**Songino Array**	**47.42**	**342**	P	**P**	**03 32 14.3**	**-0.4**
SONM				PcP	**PcP**	**03 33 45.2**	**+0.6**
KOLN	**Koldanda**	**47.49**	**305**	*e*P	**P**	**03 32 15.3**	**-0.4**
	11nm,0.4s						
DANN	**Dangsing**	**47.58**	**306**	*e*P	**P**	**03 32 15.9**	**-0.7**
	19nm,0.5s						
PYUN	**Piuthan**	**48.11**	**305**	*e*P	**P**	**03 32 20.4**	**-0.2**
	8.3nm,0.5s						
PETK	**Petropavlovsk-**	**55.66**	**22**	P	**P**	**03 33 16.0**	**-0.1**
	5.1nm,0.7s,baz=174,slow=6.0,SNR=6.5						
PETK	**Petropavlovsk-**	**55.66**	**22**	P	**P**	**03 33 16.0**	**-0.1**
MK31	**Makanchi Array**	**57.61**	**325**	*e*P	**P**	**03 33 29.9**	**-0.2**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**03 33 51.0**	**-0.1**
	0.6nm,0.3s,baz=94,slow=6.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**03 33 51.0**	**-0.1**
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	**P**	**03 33 59.1**	**+0.3**
	1.5nm,0.4s,baz=124,slow=6.0,SNR=12						
KURK	**Kurchatov**	**61.80**	**328**	*e*P	**P**	**03 33 58.5**	**-0.3**
	4.7nm,0.6s						
KKAR	**Karatay Array**	**63.25**	**317**	*e*P	**P**	**03 34 09.1**	**+0.5**
	1.4nm,0.6s						
MCQ	**Macquarie Isla**	**63.79**	**160**	P	**P**	**03 34 12.3**	**+0.5**
	baz=64,SNR=3.1						
BVAR	**Borovoye Array**	**67.38**	**327**	P	**P**	**03 34 35.5**	**+0.4**
	1.2nm,0.5s,baz=114,slow=7.2,SNR=9.7						
BVAR	**Borovoye Array**	**67.38**	**327**	P	**P**	**03 34 35.5**	**+0.4**
BRVK	**Borovoye**	**67.45**	**327**	*e*P	**P**	**03 34 35.4**	**-0.2**
	4.1nm,0.8s						
ABKAR	**Akbulak array**	**72.18**	**321**	*e*P	**P**	**03 35 03.7**	**-1.0**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.34**	**25**	P	**P**	**03 36 16.6**	**0.0**
	0.4nm,0.5s,baz=241,slow=5.3,SNR=7.0						
ILAR	**Eielson Array**	**85.34**	**25**	P	**P**	**03 36 16.6**	**0.0**
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**03 36 39.2**	**-0.5**
	1.3nm,0.8s,baz=112,slow=5.9,SNR=10						
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**03 36 39.2**	**-0.5**
YKA	**Yellowknife Ar**	**99.74**	**24**	P	**Pdif**	**03 37 23.3**	**-0.2**
	0.1nm,0.5s,baz=295,slow=4.2,SNR=2.7						
YKA	**Yellowknife Ar**	**99.74**	**24**	P	**Pdif**	**03 37 23.3**	**-0.2**

IDC 17 03:30:47.3±3.6,**0˚.01N**×**121˚.46E**,**h219**km±37km,**mb3.2**/5, **mb1 3.2**/7,**mb1mx3.1**/23,**mbtmp3.1**/7,**Error ellipse: s-maj=66.1km s-min=13.8km az=66.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.28**	**199**	P	Pn	03 32 05.3	-0.4
	1.3nm,0.3s,baz=94,slow=14,SNR=5.4						
FITZ	**Fitzroy Crossi**	**18.46**	**167**	P	P	03 34 48.1	+1.1
	0.1nm,0.3s,baz=35,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**23.51**	**148**	P	P	03 35 37.4	-0.4
	0.4nm,0.5s,baz=326,slow=11,SNR=6.9						
WRA				pP	pP	03 36 21.8	+4.0
	1.0nm,0.6s,baz=332,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**26.46**	**154**	P	P	03 36 04.3	-0.1
	0.4nm,0.5s,baz=345,slow=14,SNR=7.2						
ASAR				PcP	PcP	03 39 23.9	+0.3
	0.3nm,0.3s,baz=350,slow=1.9,SNR=6.1						
STKA	**Stephens Creek**	**37.00**	**151**	P	P	03 37 35.5	-0.5
	1.2nm,0.7s,baz=300,slow=14,SNR=3.6						
SONM	**Songino Array**	**49.40**	**347**	P	P	03 39 15.0	0.0
	1.4nm,0.6s,baz=164,slow=9.0,SNR=16						
ZALV	**Zalesovo Beam**	**61.67**	**336**	P	P	03 40 41.9	0.0
	0.7nm,0.4s,baz=104,slow=4.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**118.92**	**285**	PKP	PKPdf	03 49 09.9	-0.8
	0.5nm,0.8s,baz=61,slow=1.6,SNR=4.2						

ISCJB ***17*** *03:33:58.4±0.9,23˚.88N±0˚.02×122˚.54E±0˚.02,h7km±6km, Error ellipse: s-maj=3.2km s-min=2.7km az=157.4*

TAP ***17*** *03:33:59.8,23˚.95N×122˚.53E,h25km,ML3.6,C*

JMA ***17*** *03:34:00.5±0.3,23˚.99N×122˚.55E,h18km,M2.9*

ISC 17 03:33:59.5±1.9,**23˚.90N**±0˚.03×**122˚.53E**±0˚.02,**h19**km±4km,

n45,σ0§**81**/86,**2C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**38**	P	**Pb**	**03 34 12.6**	**-0.7**
YOJ				*e*S	**Sb**	**03 34 21.1**	**-1.6**
TWD	**Chiawan**	**0.87**	**282**	*i* P	**Pb**	**03 34 15.8**	**-0.3**
	baz=279						
TWD				*e*S	**Sb**	**03 34 27.3**	**0.0**
	baz=279						
ENA	**Nanau**	**0.89**	**306**	P	**Pb**	**03 34 16.2**	**-0.2**
	baz=304						
ENA				*e*S	**Sb**	**03 34 28.4**	**+0.5**
	baz=304						
TWC	**Suao**	**0.94**	**319**	⇑*i*P	**Pb**	**03 34 16.6**	**-0.7**
	baz=317						
TWC				*e*S	**Sb**	**03 34 28.6**	**-0.8**
	baz=317						
ESL	**Shilin**	**1.01**	**266**	*e*P	**Pb**	**03 34 17.4**	**-1.0**
	baz=262						
ESL				*e*S	**Sb**	**03 34 30.8**	**-0.4**
	baz=262						
ILA	**Ilan**	**1.12**	**321**	*e*P	**Pn**	**03 34 19.8**	**-0.4**
	baz=311						
ILA				*e*S	**Sn**	**03 34 35.4**	**+0.4**
	baz=311						
TWE	**Neicheng**	**1.14**	**316**	*e*P	**Pn**	**03 34 20.2**	**-0.2**
	baz=315						
TWE				*e*S	**Sb**	**03 34 35.2**	**+0.3**
	baz=315						
ENTT	**Nioudou**	**1.15**	**310**	*e*P	**Pn**	**03 34 20.3**	**-0.3**
	baz=294						
ENTT				*e*S	**Sn**	**03 34 36.3**	**+0.5**
	baz=294						
EHY	**Hungye**	**1.17**	**251**	*e*P	**Pn**	**03 34 20.5**	**-0.4**
	baz=248						
EHY				*e*S	**Sb**	**03 34 35.9**	**-0.1**
	baz=248						
HATJ	**Hateruma jima**	**1.18**	**82**	P	**Pn**	**03 34 21.1**	**+0.2**
HATJ				*e*S	**Sn**	**03 34 36.7**	**+0.3**
IRIF	**Iriomote-Funau**	**1.18**	**68**	P	**Pn**	**03 34 21.3**	**+0.3**
IRIF				*e*S	**Sb**	**03 34 36.4**	**+0.2**
WHF	**Hehuan Shan**	**1.18**	**282**	⇓P	**Pn**	**03 34 20.8**	**-0.6**
	baz=280						
WHF				*e*S	**Sb**	**03 34 36.6**	**-0.1**
	baz=280						
NNS	**Nan Shan**	**1.19**	**297**	P	**Pn**	**03 34 21.0**	**-0.2**
	baz=295						
NNS				*e*S	**Sg**	**03 34 37.9**	**-0.2**
	baz=295						
TWB1	**Santiao Chiao**	**1.21**	**336**	*e*P	**Pn**	**03 34 21.2**	**-0.2**
	baz=352						
TWB1				*e*S	**Sb**	**03 34 37.1**	**0.0**
	baz=352						
TWF1	**Yuli**	**1.25**	**245**	*e*P	**Pn**	**03 34 22.0**	**0.0**
	baz=242						
TWF1				*e*S	**Sb**	**03 34 38.2**	**-0.1**
	baz=242						
NSK	**Sanguang**	**1.32**	**306**	*e*P	**Pn**	**03 34 22.8**	**-0.2**
	baz=291						
NSK				*e*S	**Sb**	**03 34 41.3**	**+1.0**
	baz=291						
CHKT	**Chengkung**	**1.33**	**234**	*e*P	**Pn**	**03 34 22.7**	**-0.4**
	baz=219						
NWF	**Wu-fen Shan**	**1.35**	**330**	*e*P	**Pn**	**03 34 22.9**	**-0.6**
	baz=329						
NWF				S	**Sb**	**03 34 42.0**	**+0.7**
	baz=329						
JKRS	**Kuro-shima**	**1.40**	**76**	P	**Pb**	**03 34 25.1**	**+0.2**
JKRS				*e*S	**Sb**	**03 34 43.0**	**+0.7**
TAP1	**Taipei**	**1.46**	**321**	*e*P	**Pn**	**03 34 25.3**	**+0.4**
	baz=320						
TAP1				*e*S	**Sb**	**03 34 44.7**	**+0.5**
	baz=320						
TAP	**Taipei**	**1.47**	**321**	*e*P	**Pn**	**03 34 24.8**	**-0.2**
	baz=320						
TAP				*e*S	**Sb**	**03 34 44.8**	**+0.2**
	baz=320						
SMLT	**Sun Moon Lake**	**1.49**	**270**	*e*P	**Pn**	**03 34 25.7**	**+0.4**
	baz=268						
SMLT				*e*S	**Sn**	**03 34 44.2**	**-0.2**
	baz=268						
TYC	**Yuchr**	**1.53**	**271**	*e*P	**Pn**	**03 34 26.0**	**+0.2**
	baz=269						
TYC				*e*S	**Sn**	**03 34 45.1**	**0.0**
	baz=269						
JIJ	**Ishigaki jima**	**1.55**	**72**	P	**Pn**	**03 34 26.5**	**+0.5**
JIJ				S	**Sn**	**03 34 45.2**	**-0.3**
ELDTW	**Lidau**	**1.56**	**243**	*e*P	**Pn**	**03 34 26.2**	**-0.1**
	baz=241						
ELDTW				*e*S	**Sn**	**03 34 44.7**	**-1.2**
	baz=241						
TWS1	**Kuangyinshan**	**1.57**	**320**	*e*P	**Pn**	**03 34 26.9**	**+0.5**
	baz=338						
TWS1				*e*S	**Sb**	**03 34 47.7**	**+0.3**
	baz=338						
ALS	**Alishan**	**1.63**	**257**	*e*P	**Pn**	**03 34 28.4**	**+1.0**
	baz=255						
ALS				*e*S	**Sn**	**03 34 48.7**	**+0.7**
	baz=255						
TWQ1	**Liyutan**	**1.67**	**286**	*e*P	**Pn**	**03 34 28.9**	**+1.2**
	baz=285						
TWQ1				*e*S	**Sb**	**03 34 50.7**	**+0.5**
	baz=285						
TTN	**Taitung**	**1.71**	**228**	*e*P	**Pn**	**03 34 28.2**	**+0.1**
	baz=226						
TCU	**Taichung**	**1.71**	**279**	*e*P	**Pn**	**03 34 29.5**	**+1.2**
	baz=277						
TCU				*e*S	**Sb**	**03 34 51.9**	**+0.3**
	baz=277						
TWG	**Pinlang**	**1.71**	**232**	*e*P	**Pn**	**03 34 28.3**	**0.0**
	baz=219						
TWG				*e*S	**Sn**	**03 34 48.9**	**-0.8**
	baz=219						
CHN5	**Tsauling**	**1.72**	**260**	*e*P	**Pn**	**03 34 29.7**	**+1.2**
	baz=259						
CHN5				*e*S	**Sb**	**03 34 52.4**	**+0.5**
	baz=259						
CHN4	**Tsaushan**	**1.86**	**253**	*e*P	**Pb**	**03 34 32.5**	**-0.4**
	baz=252						
CHN4				*e*S	**Sb**	**03 34 56.0**	**+0.3**
	baz=252						
WTP	**Ta-pu**	**1.87**	**250**	*e*P	**Pn**	**03 34 32.1**	**+1.6**
	baz=238						
WTP				*e*S	**Sb**	**03 34 56.3**	**+0.1**
	baz=238						
SGST	**Jiashian**	**1.96**	**246**	*e*P	**Pb**	**03 34 34.0**	**-0.6**
	baz=244						
SGST				*e*S	**Sb**	**03 34 58.6**	**-0.1**
	baz=244						
CHN1	**Nanshi**	**1.97**	**249**	*e*P	**Pb**	**03 34 34.2**	**-0.5**
	baz=248						
CHN1				*e*S	**Sb**	**03 34 59.4**	**+0.5**
	baz=248						
CHY	**Chiayi**	**1.97**	**259**	*e*P	**Pn**	**03 34 33.0**	**+1.2**
	baz=257						
CHY				*e*S	**Sb**	**03 34 58.0**	**-0.9**
	baz=257						
TWK	**Hsinying**	**1.98**	**252**	*e*P	**Pn**	**03 34 33.5**	**+1.6**
	baz=250						
TWK				*e*S	**Sb**	**03 34 58.9**	**-0.2**
	baz=250						
LAY	**Lan-yu**	**2.06**	**206**	⇑*i*P	**Pn**	**03 34 32.2**	**-0.9**
	baz=205						
LAY				*e*S	**Sn**	**03 34 55.3**	**-2.9**
	baz=205						
JTJ	**Tarama**	**2.12**	**69**	P	**Pn**	**03 34 34.5**	**+0.6**
EAST	**Anshuo**	**2.16**	**226**	*e*P	**Pn**	**03 34 34.7**	**+0.2**
	baz=225						
EAST				*e*S	**Sn**	**03 35 00.6**	**-0.2**
	baz=225						
SCZT	**Fangliau**	**2.32**	**230**	*e*P	**Pb**	**03 34 39.6**	**-1.1**
	baz=220						
TSEB	**Hengchuen, Pin**	**2.49**	**217**	*e*P	**Pn**	**03 34 40.7**	**+1.7**
	baz=226						
TSEB				*e*S	**Sn**	**03 35 11.4**	**+2.6**
	baz=226						
HEN	**Hengchun**	**2.50**	**222**	*e*P	**Pn**	**03 34 40.5**	**+1.4**
	baz=220						
HEN				*e*S	**Sn**	**03 35 10.4**	**+1.3**
	baz=220						
TWK1	**Hengchun**	**2.51**	**220**	*e*P	**Pn**	**03 34 40.1**	**+0.8**
	baz=218						
TWK1				*e*S	**Sn**	**03 35 10.6**	**+1.2**
	baz=218						

IDC ***17*** *03:35:14.5±9.5,42˚.28N×127˚.45W,h0km,mb3.1/3,*

mb1 3.4/3,mb1mx3.2/26,mbtmp3.2/3,Error ellipse: s-maj=163.0km s-min=46.0km az=14.0

NEIC ***17*** *03:35:23.4±1.2,43˚.16N×127˚.03W,h10km,ML3.2,Error ellipse: s-maj=13.9km s-min=6.8km az=57.0*

ISCJB ***17*** *03:35:24.0±1.1,43˚.28N±0˚.06×126˚.83W±0˚.10,h10km, mb3.1/2,Error ellipse: s-maj=11.6km s-min=7.0km az=144.4*

ISC 17 03:35:23.1±1.8,**43˚.22N**±0˚.07×**127˚.0W**±0˚.1,**h10**km,**n34,** σ1§**67**/39,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.96**	**99**	*e*Pn	**Pn**	**03 35 56.4**	**-0.1**
KEBM				*e*Sn	**Sn**	**03 36 19.0**	**-2.1**
KBO	**Bosley Butte**	**2.26**	**116**	*e*Pn	**Pn**	**03 36 00.9**	**+0.3**
KBO				*e*Sn	**Sn**	**03 36 24.5**	**-4.0**
RNO	**Roman Nose**	**2.44**	**73**	P	**Pn**	**03 36 03.2**	**+0.1**
COR	**Corvallis**	**2.98**	**62**	*e*Pn	**Pn**	**03 36 11.1**	**+0.7**
COR				*e*Sn	**Sn**	**03 36 46.0**	**-0.1**
HUMO	**Hull Mountain**	**3.01**	**100**	*e*Pn	**Pn**	**03 36 11.7**	**+0.8**
HUMO				*e*Sn	**Sn**	**03 36 46.6**	**-0.3**
BBOR	**Butler Butte**	**3.16**	**95**	P	**Pn**	**03 36 14.4**	**+1.3**
BROR	**Big Rock Looko**	**3.43**	**71**	P	**Pn**	**03 36 17.9**	**+1.3**
KMOR	**Kings Mountain**	**3.46**	**45**	P	**Pn**	**03 36 17.5**	**+0.3**
YBH	**Yreka Blue Hor**	**3.48**	**114**	*e*Pn	**Pn**	**03 36 18.2**	**+0.8**
FRIS	**Frissel Point**	**3.66**	**73**	P	**Pn**	**03 36 21.4**	**+1.4**
H04A	**Detroit Lake**	**3.75**	**65**	P	**Pn**	**03 36 22.4**	**+1.3**
G04A	**Mulino**	**3.79**	**57**	P	**Pn**	**03 36 23.1**	**+1.6**
NLO	**Nicolai Mounta**	**3.81**	**40**	P	**Pn**	**03 36 22.7**	**+0.9**
HUOR	**Husband**	**3.82**	**75**	P	**Pn**	**03 36 23.9**	**+1.7**
F04A	**Amboy**	**4.23**	**49**	P	**Pn**	**03 36 29.1**	**+1.5**
MTMW	**Mount Mitchell**	**4.40**	**49**	P	**Pn**	**03 36 31.2**	**+1.2**
VLL	**Laurance Lake**	**4.40**	**58**	P	**Pn**	**03 36 31.9**	**+1.8**
FL2	**Flat Top 2**	**4.43**	**46**	P	**Pn**	**03 36 32.1**	**+1.6**
NLWA	**Neilton Lookou**	**4.71**	**27**	*e*Pn	**Pn**	**03 36 34.8**	**+0.6**
NLWA				*e*Sn	**Sn**	**03 37 25.2**	**-3.6**
VIPM	**Ingram Point**	**4.76**	**72**	P	**Pn**	**03 36 36.5**	**+1.4**
LON	**Longmire**	**5.08**	**44**	*e*Pn	**Pn**	**03 36 41.3**	**+2.0**
LON				*e*Sn	**Sn**	**03 37 36.8**	**-1.3**
PGC	**Sidney**	**5.95**	**23**	*e*Pn	**Pn**	**03 36 52.4**	**+1.1**
PGC				*e*Sn	**Sn**	**03 37 55.4**	**-4.0**
HAWA	**Hanford**	**6.16**	**57**	*e*Pn	**Pn**	**03 36 56.2**	**+2.0**
BMO	**Blue Mountains**	**7.15**	**74**	*e*Pn	**Pn**	**03 37 09.2**	**+1.4**
BSMT	**Bassoo Peak**	**9.71**	**57**	*e*Pn	**Pn**	**03 37 44.0**	**+1.0**
SLMT	**Seeley Lake**	**10.31**	**62**	Pn	**Pn**	**03 37 52.2**	**+0.9**
LRM	**Limekiln Ridge**	**10.69**	**71**	*e*Pn	**Pn**	**03 37 57.8**	**+1.4**
DCID1	**Drake Creek**	**11.49**	**83**	*e*Pn	**Pn**	**03 38 09.5**	**+2.1**
YKA	**Yellowknife Ar**	**20.62**	**16**	P	Pn	03 40 06.0	+1.4
	0.2nm,0.7s,baz=205,slow=11,SNR=5.4						
YKA	**Yellowknife Ar**	**20.62**	**16**	P	Pn	03 40 06.0	+1.4
ULM	**Lac du Bonnet**	**22.32**	**61**	P	**P**	**03 40 21.8**	**+1.1**
	0.7nm,0.5s,baz=270,slow=11,SNR=4.3						
ULM	**Lac du Bonnet**	**22.32**	**61**	P	**P**	**03 40 21.8**	**+1.1**
ILAR	**Eielson Array**	**24.34**	**339**	P	**P**	**03 40 40.5**	**-0.3**
	0.3nm,0.8s,baz=135,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**24.34**	**339**	P	**P**	**03 40 40.5**	**-0.3**

AUST ***17*** *03:45:33.4,16˚.13S×173˚.93W,h300km*

ISCJB ***17*** *03:45:53.0±0.6,16˚.3S±0˚.2×176˚.3W±0˚.1,h364km, mb3.8/10,Error ellipse: s-maj=25.4km s-min=10.5km az=148.0*

IDC ***17*** *03:45:53.4±2.0,16˚.29S×176˚.31W,h353km±22km, mb3.5/10,mb1 3.8/11,mb1mx3.6/21,mbtmp3.5/11,Error ellipse: s-maj=28.7km s-min=12.2km az=141.0*

ISC 17 03:45:54.4±0.7,**16˚.3S**±0˚.2×**176˚.2W**±0˚.1,**h364**km,**n21,** σ0§**96**/20,**mb3.8**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.93**	**61**	P	**Pn**	**03 47 13.5**	**-0.5**
	7.8nm,0.3s,baz=47,slow=3.5,SNR=11						
URZ	**Urewera**	**22.62**	**194**	P	**P**	**03 50 23.6**	**-1.5**
	2.8nm,0.3s,baz=339,slow=16,SNR=5.7						
COEN	**Coen**	**39.21**	**268**	P	**P**	**03 52 50.0**	**+0.9**
	baz=41,SNR=11						
STKA	**Stephens Creek**	**41.22**	**240**	P	**P**	**03 53 05.7**	**+0.5**
	1.4nm,0.4s,baz=77,slow=9.0,SNR=6.1						
STKA	**Stephens Creek**	**41.22**	**240**	P	**P**	**03 53 06.0**	**+0.8**
	baz=43,SNR=5.4						
BBOO	**Buckleboo**	**45.99**	**240**	P	**P**	**03 53 42.9**	**+0.1**
	baz=48,SNR=10.0						
WRA	**Warramunga Arr**	**46.98**	**258**	P	**P**	**03 53 50.0**	**-0.7**
	2.9nm,0.6s,baz=91,slow=7.3,SNR=34						
ASAR	**Alice Springs**	**47.23**	**253**	P	**P**	**03 53 52.3**	**-0.3**
	10.0nm,0.3s,baz=87,slow=8.1,SNR=175						
KDU	**Kakadu**	**49.69**	**267**	P	**P**	**03 54 11.1**	**-0.1**
	baz=52,SNR=9.1						
MTN	**Manton Dam**	**50.95**	**267**	P	**P**	**03 54 20.4**	**0.0**
	baz=53,SNR=5.7						
FITZ	**Fitzroy Crossi**	**55.36**	**259**	P	**P**	**03 54 52.8**	**+0.6**
	baz=58,SNR=5.5						
MEEK	**Meekatharra**	**60.94**	**248**	P	**P**	**03 55 30.3**	**-0.2**
	baz=63,SNR=3.8						
PETK	**Petropavlovsk-**	**72.72**	**344**	P	**P**	**03 56 42.1**	**-1.3**
	2.1nm,0.6s,baz=131,slow=4.4,SNR=3.3						
KSM	**Kuching**	**74.57**	**276**	P	P	03 56 48.9	-6.0
	baz=77,SNR=10						
NVAR	**Mina Array Bea**	**76.85**	**43**	P	**P**

IDC 17 04:02:04.9±2.8, 32°.55S×178°.38W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/18, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=69.0km s-min=43.6km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.78**	**212**	Pn	Pn	04 03 44.8	-0.8
	1.4nm,0.3s,baz=15,slow=8.5,SNR=6.8						
URZ				Sn	Sn	04 04 57.7	-5.8
	1.1nm,0.3s,baz=168,slow=18,SNR=4.3						
ASAR	**Alice Springs**	**42.72**	**269**	P	P	04 10 03.5	-0.4
	0.6nm,0.6s,baz=105,slow=7.6,SNR=8.5						
WRA	**Warramunga Arr**	**43.90**	**275**	P	P	04 10 13.7	+0.2
	0.8nm,0.3s,baz=115,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**147.04**	**339**	PKPbc	PKPbc	04 21 48.0	-0.8
	1.1nm,0.4s,baz=38,slow=4.6,SNR=22						

*NEIC **17** 04:05:15.4, 42°.07S×72°.45W, h11km, ML3.8(GUC), After GUC.*
NEIC Felt [IV] at Hornopiren.

GUC 17 04:05:15.4±0.6, 42°.07S×72°.45W, h11km±6km, ML3.8, 5C-4D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOCH	**HornopirØn**	**0.17**	**11**	↓*i*P	Pg	04 05 18.9	-0.2
HOCH				*i* S	Sg	04 05 21.3	-0.4
HOCH	**HornopirØn**	**0.17**	**11**	↓*i*P	Pg	04 05 18.9	-0.2
HOCH				*i* S	Sg	04 05 21.3	-0.4
HOCH				AML	AML	04 05 24.4	
	comp=E,21μm,0.4s						
HUNY	**Huinay**	**0.31**	**175**	↑*i*P	Pg	04 05 21.5	-0.2
HUNY				*i* S	Sg	04 05 25.7	-0.2
HUNY	**Huinay**	**0.31**	**175**	↑*i*P	Pg	04 05 21.5	-0.2
HUNY				*i* S	Sg	04 05 25.7	-0.2
HUNY				AML	AML	04 05 26.5	
	comp=N,16μm,0.2s						
PUEL	**Puelo Alto**	**0.42**	**16**	↑*i*P	Pg	04 05 23.6	-0.1
PUEL				*i* S	Sg	04 05 29.2	-0.1
PMCH	**Puerto Montt**	**0.67**	**330**	↓*i*P	Pg	04 05 27.8	-0.6
PMCH				*i* S	Sg	04 05 37.1	0.0
PMCH	**Puerto Montt**	**0.67**	**330**	↓*i*P	Pg	04 05 27.8	-0.6
PMCH				*i* S	Sg	04 05 37.1	0.0
PMCH				AML	AML	04 05 37.8	
	comp=E,12μm,0.3s						
FUTA	**Futaleufœ**	**1.20**	**159**	↑*i*P	Pn	04 05 37.2	-0.9
FUTA				*i* S	Sb	04 05 52.9	-0.9
FUTA	**Futaleufœ**	**1.20**	**159**	↑*i*P	Pn	04 05 37.2	-0.9
FUTA				*i* S	Sb	04 05 52.9	-0.9
PUYE	**Entre Lagos**	**1.39**	**355**	*e*P	Pn	04 05 40.5	-0.2
PUYE				*i* S	Sg	04 05 59.6	-0.5
PUYE	**Entre Lagos**	**1.39**	**355**	*e*P	Pn	04 05 40.5	-0.2
PUYE				*i* S	Sg	04 05 59.6	-0.5
PUYE				AML	AML	04 06 00.9	
	comp=N,4μm,0.2s						
PLCA	**Paso Flores**	**1.96**	**48**	*e*Pn	Pn	04 05 49.1	+0.5
PLCA				*i* Pg	Pb	04 05 50.8	-0.4
PLCA				eS	Sb	04 06 16.5	+0.9
VLCH	**Valdivia**	**2.34**	**345**	*e*P	Pn	04 05 54.1	+0.3
VLCH				eS	Sn	04 06 24.1	+1.6
VLCH	**Valdivia**	**2.34**	**345**	*e*P	Pn	04 05 54.1	+0.3
VLCH				eS	Sn	04 06 24.1	+1.6
TRQA	**Tornquist**	**8.97**	**67**	*e*Pn	Pn	04 07 25.3	+0.4

IDC 17 04:05:56.5±13.0, 17°.01S×178°.68W, h476km±138km, mb3.2/6, mb1 3.4/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=91.0km s-min=42.7km az=112.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.35**	**259**	P	P	04 11 55.0	+0.7
	1.7nm,0.4s,baz=113,slow=7.7						
STKA	**Stephens Creek**	**38.84**	**240**	P	P	04 12 39.9	+0.1
	1.7nm,0.3s,baz=98,slow=10.0,SNR=5.1						
WRA	**Warramunga Arr**	**44.55**	**259**	P	P	04 13 24.4	-0.9
	0.5nm,0.3s,baz=95,slow=6.9,SNR=9.0						
ASAR	**Alice Springs**	**44.79**	**253**	P	P	04 13 26.8	-0.4
	5.7nm,0.7s,baz=86,slow=8.3,SNR=51						
MJAR	**Matsushiro Arr**	**67.03**	**323**	P	P	04 16 01.5	-0.1
	0.7nm,0.3s,baz=154,slow=8.1,SNR=4.2						
ILAR	**Eielson Array**	**85.07**	**13**	P	P	04 17 40.3	-0.5
	0.2nm,0.4s,baz=206,slow=5.9,SNR=3.2						
BRTR	**Keskin Array B**	**143.97**	**316**	PKP	PKPab	04 24 37.1	+0.4
	0.4nm,0.4s,baz=63,slow=1.4,SNR=5.7						
GERES	**GERESS Array B**	**146.68**	**345**	PKPbc	PKPbc	04 24 44.0	-0.4
	0.2nm,0.4s,baz=32,slow=6.0,SNR=3.3						

GUC 17 04:08:49.7±0.9, 31°.92S×69°.26W, h144km±15km, MD3.8, ML3.7, 3C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**1.65**	**212**	↑*i*P	Pn	04 09 22.4	+1.5
FCH				eS	Sn	04 09 46.9	+2.1
FCH				AML	AML	04 09 47.9	
	comp=E,474nm,0.3s						
CMCH	**Combarbala**	**1.67**	**296**	↓*i*P	Pn	04 09 21.1	+0.3
CMCH				*i* S	Sn	04 09 45.2	+0.7
CMCH				AML	AML	04 09 47.0	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**1.72**	**224**	↓*i*P	Pn	04 09 21.6	+0.4
PEL				eS	Sn	04 09 45.7	+0.2
PEL				AML	AML	04 09 46.8	
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**1.82**	**234**	↑*i*P	Pn	04 09 23.0	+0.3
ROCH				*i* S	Sn	04 09 48.5	+0.6
ROCH				AML	AML	04 09 52.2	
	comp=N,671nm,0.2s						
CLCH	**Cerro Calan**	**1.83**	**216**	↑*e*P	Pn	04 09 23.3	+0.8
CLCH				eS	Sn	04 09 48.4	+0.6
CLCH				AML	AML	04 09 52.3	
	comp=N,767nm,1.2s						
CHNG	**Los Chungos**	**1.91**	**270**	*e*P	Pn	04 09 24.0	+0.6
CHNG				eS	Sn	04 09 49.6	+0.4
STL	**Santa Lucia**	**1.91**	**217**	*e*P	Pn	04 09 23.8	+0.3
STL				eS	Sn	04 09 50.6	+1.2
PACH	**Papudo**	**1.95**	**251**	↓*e*P	Pn	04 09 24.2	+0.3
ANTU	**Antumapu**	**2.01**	**215**	*e*P	Pn	04 09 25.7	+1.0
ANTU				AML	AML	04 09 56.1	
	comp=E,725nm,0.4s						
LMEL	**Las Melosas**	**2.08**	**202**	↓*e*P	Pn	04 09 26.4	+0.7
LMEL				eS	Sn	04 09 57.1	+3.8
LMEL				AML	AML	04 10 04.6	
	comp=N,332nm,0.1s						
TLL	**Tololo Astrono**	**2.19**	**322**	*e*P	Pn	04 09 27.9	+0.8
TLL				eS	Sn	04 09 56.5	+0.6
LCO	**Las Campanas**	**3.16**	**336**	*e*P	Pn	04 09 39.9	+0.6
LCO				eS	Sn	04 10 16.9	-0.6
LCO				AML	AML	04 10 18.3	
	comp=E,113nm,0.4s						

IDC 17 04:11:20.0±2.6, 20°.18S×179°.98E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=202.1km s-min=33.9km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.74**	**257**	P	P	04 19 18.6	-0.7
	0.2nm,0.3s,baz=99,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**42.76**	**262**	P	P	04 19 20.0	+0.5
	0.3nm,0.3s,baz=96,slow=8.4,SNR=10.0						
NWAO	**Narrogin (SRO)**	**56.81**	**243**	LR	LR	04 45 31.1	
	comp=Z,72nm,21.3s,baz=289,slow=36						
TXAR	**Lajitas Array**	**88.49**	**58**	P	P	04 24 15.0	+0.1
	0.3nm,0.7s,baz=213,slow=6.1,SNR=4.9						
BRTR	**Keskin Array B**	**145.21**	**311**	PKPbc	PKPbc	04 30 58.4	-1.3
	0.6nm,0.6s,baz=72,slow=4.7,SNR=4.8						

IDC 17 04:27:47.5±0.9, 3°.56N×126°.40E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/23, mbtmp4.1/9, 1D, Error ellipse: s-maj=56.6km s-min=14.9km az=82.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.22**	**330**	↓*i*P	Pb	04 28 59.2	-3.4
FITZ	**Fitzroy Crossi**	**21.54**	**182**	P	P	04 32 39.4	+0.9
	2.5nm,0.8s,baz=128,slow=1.2,SNR=7.8						
WRA	**Warramunga Arr**	**24.63**	**162**	P	P	04 33 09.6	-0.3
	16nm,0.8s,baz=343,slow=10,SNR=56						
ASAR	**Alice Springs**	**28.04**	**165**	P	P	04 33 40.9	+0.2
	0.4nm,0.5s,baz=346,slow=7.1,SNR=5.4						
KSRS	**Korea Array**	**33.76**	**2**	P	P	04 34 31.2	+0.3
	2.8nm,0.5s,baz=181,slow=9.9,SNR=9.6						
STKA	**Stephens Creek**	**38.09**	**159**	P	P	04 35 07.7	-0.5
	2.2nm,0.6s,baz=345,slow=9.3,SNR=7.8						
USRK	**Ussuriysk Array**	**40.77**	**6**	P	P	04 35 30.2	-0.1
	1.9nm,0.7s,baz=178,slow=6.9,SNR=6.6						
SONM	**Songino Array**	**47.35**	**342**	P	P	04 36 23.4	+0.1
	0.8nm,1.0s,baz=153,slow=7.6,SNR=3.9						
PETK	**Petropavlovsk-**	**55.71**	**22**	P	P	04 37 25.5	-0.2
	2.2nm,0.6s,baz=202,slow=3.9,SNR=3.8						
AKTO	**Aktyubinsk**	**73.58**	**322**	P	P	04 39 22.0	-0.5
	1.1nm,0.6s,baz=80,slow=4.4,SNR=4.8						

*CSEM **17** 04:30:48.1, 40°.98N×20°.16E, h6km, After TIR*
*TIR **17** 04:30:48.1±1.8, 40°.98N×20°.16E, h6km±999km*

ISC 17 04:30:49.3±2.4, 41°.01N±0°.10×20°.02E±0°.09, h9km±11km, n10, σ1°56/18, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.36**	**341**	*e*PG	**Pg**	**04 30 56.1**	**-0.3**
TIR				*e*SG	**Sb**	**04 31 03.3**	**-0.4**
TIR	**Tirane**	**0.36**	**341**	*e*Pg	**Pg**	**04 30 56.1**	**-0.3**
	SNR=90						
TIR				*e*Sg	**Sb**	**04 31 03.3**	**-0.4**
	SNR=90						
PHP	**Peshkopia**	**0.75**	**25**	*e*PG	**Pb**	**04 31 03.1**	**-1.5**
PHP				*e*SG	**Sb**	**04 31 13.1**	**-1.8**
PHP	**Peshkopia**	**0.75**	**25**	*e*Pg	**Pb**	**04 31 03.1**	**-1.5**
	SNR=90						
PHP				*e*Sg	**Sb**	**04 31 13.1**	**-1.8**
	SNR=90						
BIA	**Bitola**	**0.99**	**89**	*e*Pg	**Pn**	**04 31 10.1**	**+0.6**
BIA				*e*Sg	**Sn**	**04 31 25.3**	**+1.7**
PUK	**Puka**	**1.04**	**355**	*e*PG	**Pn**	**04 31 09.6**	**-0.6**
PUK				*e*SG	**Sn**	**04 31 26.8**	**+1.9**
PUK	**Puka**	**1.04**	**355**	*e*Pg	**Pn**	**04 31 09.6**	**-0.6**
	SNR=90						
PUK				*e*Sg	**Sn**	**04 31 26.8**	**+1.9**
	SNR=90						
BCI	**Bajram Curri**	**1.36**	**2**	*e*PG	**Pg**	**04 31 15.1**	**-0.3**
BCI				*e*SG	**Sg**	**04 31 35.4**	**+2.4**
BCI	**Bajram Curri**	**1.36**	**2**	*e*Pg	**Pg**	**04 31 15.1**	**-0.3**
	SNR=90						
BCI				*e*Sg	**Sg**	**04 31 35.4**	**+2.4**
	SNR=90						
VAY	**Valandovo**	**1.95**	**80**	*e*Pg	Pn	04 31 17.9	-4.7

*IDC **17** 04:30:58.1±1.5, 38°.19N×22°.00E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.5/25, mbtmp4.0/4, Error ellipse: s-maj=44.4km s-min=26.1km az=122.0*
*ATH **17** 04:31:05.2, 38°.12N×22°.06E, h58km±1km, ML3.2*
*ISCJB **17** 04:31:05.2±0.3, 38°.13N±0°.02×22°.05E±0°.03, h65km±2km, mb3.8/4, Error ellipse: s-maj=3.4km s-min=3.1km az=6.1*
*CSEM **17** 04:31:06.5±0.1, 38°.12N×22°.07E, h47km±2km, ML3.2, Error ellipse: s-maj=2.5km s-min=2.2km az=68.0*
*THE **17** 04:31:06.2, 38°.12N×22°.07E, h56km, ML3.6/14, Error ellipse: s-maj=0.8km s-min=0.4km az=270.0*
*SOF **17** 04:31:16.1, 39°.06N×22°.76E, h2km, MD3.1*

ISC 17 04:31:05.7±0.8, 38°.12N±0°.02×22°.07E±0°.02, h55km±4km, n171, σ1°90/231, mb3.9/4, 7C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.14**	**331**	P	**Pn**	**04 31 14.4**	**+0.1**
LAKA				S	**Sn**	**04 31 21.0**	**+0.5**
LAKA	**Lakka**	**0.14**	**331**	*e*P	**Pn**	**04 31 14.4**	**+0.1**
LAKA				*e*S	**Sn**	**04 31 20.8**	**+0.3**
LAKA	**Lakka**	**0.14**	**331**	*e*P	**Pn**	**04 31 14.4**	**+0.1**
LAKA				*e*S	**Sn**	**04 31 20.8**	**+0.3**
TRIZ	**Trizonia**	**0.25**	**1**	P	**Pn**	**04 31 15.3**	**+0.4**
TRIZ				S	**Sn**	**04 31 22.8**	**+1.3**
TRIZ	**Trizonia**	**0.25**	**1**	*e*P	**Pn**	**04 31 15.3**	**+0.4**
TRIZ	**Trizonia**	**0.25**	**1**	*e*P	**Pn**	**04 31 15.3**	**+0.4**
TRIZ				S	**Sn**	**04 31 22.8**	**+1.3**
PSA1	**Psathopyrgos**	**0.25**	**325**	*e*P	**Pn**	**04 31 14.8**	**-0.1**
UPR	**University Cam**	**0.27**	**307**	P	**Pn**	**04 31 15.3**	**+0.2**
UPR				S	**Sn**	**04 31 22.6**	**+0.8**
UPR	**University Cam**	**0.27**	**307**	*e*P	**Pn**	**04 31 15.3**	**+0.2**
UPR				*e*S	**Sn**	**04 31 23.2**	**+1.4**
UPR	**University Cam**	**0.27**	**307**	*e*P	**Pn**	**04 31 15.3**	**+0.2**
UPR				S	**Sn**	**04 31 22.6**	**+0.8**
KALE	**Kalithea**	**0.28**	**12**	P	**Pn**	**04 31 15.7**	**+0.5**
KALE				S	**Sn**	**04 31 22.9**	**+0.8**
KALE	**Kalithea**	**0.28**	**12**	*e*P	**Pn**	**04 31 15.7**	**+0.5**
KALE	**Kalithea**	**0.28**	**12**	*e*P	**Pn**	**04 31 15.7**	**+0.5**
KALE				S	**Sn**	**04 31 22.9**	**+0.8**
GUR	**Goura**	**0.28**	**130**	P	**Pn**	**04 31 15.3**	**0.0**
GUR				S	**Sn**	**04 31 22.8**	**+0.5**
GUR	**Goura**	**0.28**	**130**	*e*P	**Pn**	**04 31 15.3**	**0.0**
GUR				*e*S	**Sn**	**04 31 22.7**	**+0.5**
GUR	**Goura**	**0.28**	**130**	*e*P	**Pn**	**04 31 15.3**	**0.0**
GUR				*e*S	**Sn**	**04 31 22.7**	**+0.5**
EFP	**Efpalio**	**0.33**	**338**	P	**Pn**	**04 31 16.1**	**+0.5**
EFP				S	**Sn**	**04 31 23.9**	**+1.2**
EFP	**Efpalio**	**0.33**	**338**	*e*P	**Pn**	**04 31 16.0**	**+0.5**
EFP	**Efpalio**	**0.33**	**338**	P	**Pn**	**04 31 16.1**	**+0.5**
EFP				S	**Sn**	**04 31 23.9**	**+1.2**
DSF	**Desfina**	**0.47**	**51**	P	**Pn**	**04 31 17.2**	**+0.2**
DSF				S	**Sn**	**04 31 25.9**	**+0.8**
DSF	**Desfina**	**0.47**	**51**	P	**Pn**	**04 31 17.2**	**+0.2**
DSF				S	**Sn**	**04 31 25.9**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**263**	P	**Pn**	**04 31 16.7**	**-0.3**
RLS				S	**Sn**	**04 31 26.0**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**263**	*e*P	**Pn**	**04 31 17.0**	**0.0**
RLS				*e*S	**Sn**	**04 31 26.0**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**263**	*e*P	**Pn**	**04 31 17.0**	**0.0**
RLS				*e*S	**Sn**	**04 31 26.0**	**+0.8**
AMT	**Artemida-Makis**	**0.65**	**206**	P	**Pn**	**04 31 19.3**	**+0.2**
AMT				S	**Sn**	**04 31 29.9**	**+1.1**
AMT	**Artemida-Makis**	**0.65**	**206**	*e*P	**Pn**	**04 31 19.2**	**+0.2**
AMT				*e*S	**Sn**	**04 31 30.1**	**+1.3**
AMT	**Artemida-Makis**	**0.65**	**206**	*e*P	**Pn**	**04 31 19.3**	**+0.2**
AMT				S	**Sn**	**04 31 29.9**	**+1.1**
LTK	**Loutraki**	**0.72**	**97**	P	**Pn**	**04 31 20.2**	**+0.3**
LTK				S	**Sn**	**04 31 30.9**	**+0.6**
LTK	**Loutraki**	**0.72**	**97**	*e*P	**Pn**	**04 31 20.1**	**+0.2**
LTK				*e*S	**Sn**	**04 31 30.8**	**+0.5**
LTK	**Loutraki**	**0.72**	**97**	P	**Pn**	**04 31 20.2**	**+0.3**
LTK				*e*S	**Sn**	**04 31 30.8**	**+0.5**
VLX	**Vlachokerasia**	**0.79**	**161**	P	**Pn**	**04 31 21.6**	**+0.6**
VLX				S	**Sn**	**04 31 33.4**	**+1.4**
VLX	**Vlachokerasia**	**0.79**	**161**	*e*P	**Pn**	**04 31 21.5**	**+0.6**
VLX	**Vlachokerasia**	**0.79**	**161**	*e*P	**Pn**	**04 31 21.5**	**+0.6**
VLX				S	**Sn**	**04 31 33.4**	**+1.4**
AXAR	**Agios Charalam**	**0.80**	**36**	P	**Pn**	**04 31 21.6**	**+0.7**
AXAR	**Agios Charalam**	**0.80**	**36**	P	**Pn**	**04 31 21.6**	**+0.7**
EVR	**Evrytania**	**0.82**	**346**	P	**Pn**	**04 31 22.9**	**+1.6**
EVR	**Evrytania**	**0.82**	**346**	*e*P	**Pn**	**04 31 22.0**	**+0.7**
EVR				*e*S	**Sn**	**04 31 33.9**	**+1.1**
EVR	**Evrytania**	**0.82**	**346**	*e*P	**Pn**	**04 31 22.0**	**+0.7**
EVR				*e*S	**Sn**	**04 31 33.9**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.90**	**3**	P	**Pn**	**04 31 23.5**	**+1.3**
MAKR	**Makrakomi, Fth**	**0.90**	**3**	P	**Pn**	**04 31 23.5**	**+1.3**
LKR	**Lokris**	**0.91**	**54**	P	**Pn**	**04 31 22.8**	**+0.5**
LKR				S	**Sn**	**04 31 35.9**	**+1.4**
LKR	**Lokris**	**0.91**	**54**	*e*P	**Pn**	**04 31 22.6**	**+0.3**
LKR				*e*S	**Sn**	**04 31 36.0**	**+1.4**
LKR	**Lokris**	**0.91**	**54**	P	**Pn**	**04 31 22.8**	**+0.5**
LKR				S	**Sn**	**04 31 35.9**	**+1.4**
ITM	**Ithomi**	**0.94**	**187**	P	**Pn**	**04 31 23.7**	**+0.9**
ITM	**Ithomi**	**0.94**	**187**	*e*P	**Pn**	**04 31 23.8**	**+0.9**
ITM				*e*S	**Sn**	**04 31 36.4**	**+0.9**
ITM	**Ithomi**	**0.94**	**187**	P	**Pn**	**04 31 23.7**	**+0.9**
ITM				*e*S	**Sn**	**04 31 36.4**	**+0.9**
ATAL	**Atalanti**	**0.94**	**52**	P	**Pn**	**04 31 23.3**	**+0.5**
ATAL				S	**Sn**	**04 31 36.6**	**+1.1**
ATAL	**Atalanti**	**0.94**	**52**	P	**Pn**	**04 31 23.3**	**+0.5**
ATAL				S	**Sn**	**04 31 36.6**	**+1.1**
KFL	**Anninata**	**1.01**	**270**	P	**Pn**	**04 31 24.3**	**+0.6**
KFL	**Anninata**	**1.01**	**270**	P	**Pn**	**04 31 24.3**	**+0.6**
DID	**Didima**	**1.11**	**123**	P	**Pn**	**04 31 25.0**	**-0.1**
DID				S	**Sn**	**04 31 40.1**	**+0.6**
DID	**Didima**	**1.11**	**123**	P	**Pn**	**04 31 25.0**	**-0.1**
DID				S	**Sn**	**04 31 40.1**	**+0.6**
VLS	**Valsamata**	**1.16**	**273**	P	**Pn**	**04 31 25.9**	**+0.2**
VLS	**Valsamata**	**1.16**	**273**	*e*P	**Pn**	**04 31 26.0**	**+0.2**
VLS	**Valsamata**	**1.16**	**273**	*e*P	**Pn**	**04 31 26.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.18**	**107**	*e*P	**Pn**	**04 31 26.3**	**+0.3**
NAIG	**Nisos Aigina**	**1.18**	**107**	*e*P	**Pn**	**04 31 26.3**	**+0.3**
PYL	**PYLOS**	**1.25**	**192**	P	**Pn**	**04 31 27.8**	**+0.9**
PYL				S	**Sn**	**04 31 43.5**	**+0.8**
PYL	**PYLOS**	**1.25**	**192**	*e*P	**Pn**	**04 31 27.5**	**+0.6**
PYL	**PYLOS**	**1.25**	**192**	*e*P	**Pn**	**04 31 27.5**	**+0.6**
PYL				S	**Sn**	**04 31 43.5**	**+0.8**
LKD2	**Lefkada island**	**1.29**	**302**	P	**Pn**	**04 31 28.2**	**+0.7**
LKD2	**Lefkada island**	**1.29**	**302**	P	**Pn**	**04 31 28.2**	**+0.7**
ATH	**Athens Observa**	**1.31**	**96**	P	**Pn**	**04 31 28.3**	**+0.6**
ATH				S	**Sn**	**04 31 45.0**	**+0.8**
ATH	**Athens Observa**	**1.31**	**96**	*e*P	**Pn**	**04 31 28.1**	**+0.4**
ATH				*e*S	**Sn**	**04 31 44.8**	**+0.6**
ATH	**Athens Observa**	**1.31**	**96**	P	**Pn**	**04 31 28.3**	**+0.6**
ATH				*e*S	**Sn**	**04 31 44.8**	**+0.6**
MRKA	**Markates**	**1.33**	**63**	P	**Pn**	**04 31 28.6**	**+0.6**
MRKA				S	**Sn**	**04 31 45.9**	**+1.2**
MRKA	**Markates**	**1.33**	**63**	P	**Pn**	**04 31 28.6**	**+0.6**
MRKA				S	**Sn**	**04 31 45.9**	**+1.2**
DYR	**Agios Nikonas**	**1.37**	**171**	P	**Pn**	**04 31 30.4**	**+1.8**
DYR	**Agios Nikonas**	**1.37**	**171**	*e*P	**Pn**	**04 31 29.5**	**+0.9**
DYR	**Agios Nikonas**	**1.37**	**171**	*e*P	**Pn**	**04 31 29.5**	**+0.9**
ERET	**Eretria**	**1.41**	**76**	P	**Pn**	**04 31 29.7**	**+0.6**
ERET	**Eretria**	**1.41**	**76**	P	**Pn**	**04 31 29.7**	**+0.6**
PTL	**Penteli**	**1.42**	**92**	P	**Pn**	**04 31 29.7**	**+0.4**
PTL				S	**Sn**	**04 31 47.4**	**+0.5**
PTL	**Penteli**	**1.42**	**92**	*e*P	**Pn**	**04 31 29.7**	**+0.4**
PTL	**Penteli**	**1.42**	**92**	*e*P	**Pn**	**04 31 29.7**	**+0.4**
PTL				*e*S	**Sn**	**04 31 47.2**	**+0.3**
PTL	**Penteli**	**1.42**	**92**	*e*P	**Pn**	**04 31 29.7**	**+0.4**
PTL				S	**Sn**	**04 31 47.4**	**+0.5**
THL	**Klokotos Trika**	**1.44**	**358**	P	**Pn**	**04 31 30.3**	**+0.8**
THL	**Klokotos Trika**	**1.44**	**358**	*e*P	**Pn**	**04 31 30.4**	**+0.9**
THL	**Klokotos Trika**	**1.44**	**358**	*e*P	**Pn**	**04 31 30.5**	**+0.9**
THL	**Klokotos Trika**	**1.44**	**358**	P	**Pn**	**04 31 30.3**	**+0.8**
SKIA	**Skiathos**	**1.52**	**46**	P	**Pn**	**04 31 31.1**	**+0.6**
SKIA				S	**Sn**	**04 31 50.2**	**+1.0**
SKIA	**Skiathos**	**1.52**	**46**	P	**Pn**	**04 31 31.1**	**+0.6**
SKIA				S	**Sn**	**04 31 50.2**	**+1.0**
XOR	**Xorichti**	**1.53**	**35**	P	**Pn**	**04 31 31.1**	**+0.4**
XOR				S	**Sn**	**04 31 50.0**	**+0.5**
XOR	**Xorichti**	**1.53**	**35**	P	**Pn**	**04 31 31.1**	**+0.4**
XOR				S	**Sn**	**04 31 50.0**	**+0.5**
VLI	**Veliai**	**1.56**	**153**	P	**Pn**	**04 31 31.3**	**+0.1**
VLI	**Veliai**	**1.56**	**153**	*e*P	**Pn**	**04 31 31.2**	**+0.1**
VLI	**Veliai**	**1.56**	**153**	P	**Pn**	**04 31 31.3**	**+0.1**
AOS	**Alonnisos**	**1.77**	**53**	P	**Pn**	**04 31 34.2**	**+0.3**
AOS				S	**Sn**	**04 31 55.7**	**+0.4**
AOS	**Alonnisos**	**1.77**	**53**	P	**Pn**	**04 31 34.2**	**+0.3**
AOS				S	**Sn**	**04 31 55.7**	**+0.4**
MEV	**Metsovon**	**1.79**	**339**	P	**Pn**	**04 31 37.0**	**+2.7**
MEV	**Metsovon**	**1.79**	**339**	P	**Pn**	**04 31 37.0**	**+2.7**
RGA	**Parga**	**1.80**	**312**	P	**Pn**	**04 31 35.0**	**+0.6**
RGA	**Parga**	**1.80**	**312**	P	**Pn**	**04 31 35.0**	**+0.6**
JAN	**Janina**	**1.80**	**329**	P	**Pn**	**04 31 36.2**	**+1.7**
JAN	**Janina**	**1.80**	**329**	*e*P	**Pn**	**04 31 35.2**	**+0.7**
JAN	**Janina**	**1.80**	**329**	*e*P	**Pn**	**04 31 35.2**	**+0.7**
MRMA	**Marmari**	**1.83**	**91**	P	**Pn**	**04 31 35.5**	**+0.8**
MRMA	**Marmari**	**1.83**	**91**	P	**Pn**	**04 31 35.5**	**+0.8**
IGT	**Igoumenitsa**	**1.96**	**317**	P	**Pn**	**04 31 37.0**	**+0.5**
IGT	**Igoumenitsa**	**1.96**	**317**	P	**Pn**	**04 31 37.0**	**+0.5**
KYTH	**Kithira**	**1.99**	**157**	P	**Pn**	**04 31 38.3**	**+1.3**
KYTH	**Kithira**	**1.99**	**157**	P	**Pn**	**04 31 38.3**	**+1.3**
KZN	**Kozani**	**2.20**	**354**	P	**Pn**	**04 31 41.1**	**+1.2**
KZN	**Kozani**	**2.20**	**354**	P	**Pn**	**04 31 41.1**	**+1.2**
PAIG	**Paliouri**	**2.20**	**34**	P	**Pn**	**04 31 40.0**	**+0.2**
PAIG	**Paliouri**	**2.20**	**34**	P	**Pn**	**04 31 40.0**	**+0.2**
KEK	**Kerkira**	**2.38**	**313**	*e*P	**Pn**	**04 31 42.9**	**+0.6**
**KEK

DJA 17 04:45:48.3±1.1,4˚N±8˚×12˚7E±˚,h65km±12km,M4.7/6, mB5.0/1,mb4.6/6,MLv4.7/3,Mw(mB)4.3/1

ISC 17 04:45:46.8±0.5,3˚59N±0˚06×126˚7E±0˚1,h53km,n76, σ1§11/61,mb4.4/22,MS3.3/5,1C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MNI	**Manado**	**2.83**	**221**	P Pn	04 46 39.9	+10
MNI				S Sn	04 47 14.3	+12
TNTI	**Ternate**	**2.88**	**167**	P **Pn**	**04 46 30.0**	**-0.2**
GSPH	**General Santos**	**3.03**	**325**	⇓*i*P **Pn**	**04 46 32.1**	**-0.3**
DAV	**Davao City (W)**	**3.63**	**342**	*e*Pn **Pn**	**04 46 38.5**	**-2.0**
DAV				*e*Sn **Sn**	**04 47 19.7**	**-2.5**
DMPH	**Davao City--Mi**	**3.67**	**341**	⇑*e*P Pn	04 46 44.7	+3.7
DMPH				*e*S **Sn**	**04 47 25.5**	**+2.5**
KMSI	**Cibinong**	**4.05**	**222**	P Pn	04 46 57.7	+11
CTBH	**Cotabato--PC H**	**4.36**	**326**	⇓*i*P **Pn**	**04 46 51.9**	**+1.5**
BUKP	**Musuan**	**4.56**	**339**	*e*P **Pn**	**04 46 54.8**	**+1.4**
CGP	**Cagayan de Oro**	**5.23**	**338**	*e*P **Pn**	**04 47 03.9**	**+1.5**
PAGZ	**Pagadian**	**5.37**	**322**	*e*P **Pn**	**04 47 05.1**	**+0.8**
MRSI	**Marisa**	**5.68**	**237**	P Pn	04 47 14.0	+5.4
LUWI	**Luwuk** 154nm,1.0s,1µm0.6nm	**6.05**	**221**	P Pn	04 47 23.3	+10
PCI	**Palu** baz=8.0,SNR=14	**8.19**	**237**	P Pn	04 47 37.8	-5.3
PCI	baz=8.0,SNR=4.5			S Sn	04 48 42.9	-31
MYLDM	**Lahad Datu** 42nm,1.0s	**8.33**	**281**	P Pn	04 47 50.0	+5.0
KDI	**Kendari**	**8.54**	**209**	P Pn	04 48 03.6	+16
PALU	**Palau** baz=8.8,SNR=3.0	**8.59**	**64**	P Pn	04 47 52.3	+3.8
TTSI	**Tana Toraja** 18nm,1.1s	**9.53**	**226**	P Pn	04 48 07.9	+6.5
WSI	**Waingapu** baz=14,SNR=3.7	**14.64**	**206**	P **P**	**04 49 15.5**	**-0.5**
MTN	**Manton Dam** baz=17,SNR=5.3	**16.91**	**165**	P **Pn**	**04 49 38.4**	**-1.5**
KDU	**Kakadu** baz=17,SNR=3.3	**17.16**	**161**	P **Pn**	**04 49 43.5**	**+0.6**
YULB	**Yu-li** 6.7nm,0.7s	**20.37**	**346**	*e*P **P**	**04 50 16.2**	**-2.9**
TPUB	**Ta-pu** 17nm,0.3s	**20.45**	**344**	*e*P **P**	**04 50 18.0**	**-2.1**
GUMO	**Guam** comp=Z,41nm,19.1s,baz=80,slow=35	**20.51**	**60**	LR LR	04 57 47.5	
SSLB	**Suanglung** 12nm,0.6s	**20.83**	**345**	*e*P **P**	**04 50 22.3**	**-1.9**
FITZ	**Fitzroy Crossi** 3.7nm,0.5s,baz=6.0,slow=7.3,SNR=20	**21.58**	**183**	P **P**	**04 50 31.3**	**-0.8**
FITZ	**Fitzroy Crossi** 6.1nm,0.9s	**21.58**	**183**	*e*P **P**	**04 50 32.6**	**+0.4**
FITZ	**Fitzroy Crossi** baz=22,SNR=14	**21.58**	**183**	P **P**	**04 50 32.7**	**+0.5**
JOW	**Kunigami** 6.8nm,0.5s,baz=183,slow=7.2,SNR=4.3	**23.16**	**4**	P **P**	**04 50 47.6**	**-1.1**
JOW	**Kunigami**	**23.16**	**4**	P **P**	**04 50 47.6**	**-1.1**
WRAB	**Tennant Creek** 29nm,0.8s	**24.56**	**162**	*e*P **P**	**04 51 00.9**	**-0.9**
WRA	**Warramunga Arr** 29nm,0.7s,baz=343,slow=10,SNR=96	**24.56**	**162**	P **P**	**04 51 01.1**	**-0.7**
WRA	**Warramunga Arr**	**24.56**	**162**	P **P**	**04 51 01.1**	**-0.7**
AS31	**Alice Springs**	**27.99**	**166**	*e*P **P**	**04 51 33.5**	**+0.7**
ASAR	**Alice Springs** 1.6nm,0.6s,baz=349,slow=7.5,SNR=16	**27.99**	**166**	P **P**	**04 51 32.4**	**-0.4**
ASAR	**Alice Springs**	**27.99**	**166**	P **P**	**04 51 32.4**	**-0.4**
SISI	**Saibi**	**28.03**	**260**	P P	04 51 41.3	+8.1
CMAR	**Chiang Mai Arr** 0.7nm,0.4s,baz=113,slow=6.2,SNR=7.0	**30.92**	**301**	P **P**	**04 51 59.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.92**	**301**	P **P**	**04 51 59.5**	**+0.6**
KSAR	**Wonju Array Be**	**33.70**	**2**	P **P**	**04 52 23.6**	**+0.7**
KSRS	**Korea Array** 3.1nm,0.7s,baz=181,slow=9.7,SNR=8.8	**33.72**	**2**	P **P**	**04 52 23.6**	**+0.6**
KSRS	comp=Z,45nm,19.0s,baz=145,slow=39			LR LR	05 07 31.7	
MORW	**Morawa** baz=34,SNR=6.4	**34.05**	**197**	S S	04 57 24.5	-24
QLP	**Quilpie** baz=35,SNR=4.7	**34.46**	**152**	P P	04 52 19.8	-10
MJAR	**Matsushiro Arr** comp=Z,50nm,18.2s,baz=170,slow=36	**34.46**	**16**	LR LR	05 06 08.7	
HNR	**Honiara** comp=Z,100nm,19.8s,baz=336,slow=34	**35.57**	**112**	LR LR	05 05 55.9	
BBOO	**Buckleboo** baz=37,SNR=6.4	**37.27**	**167**	P **P**	**04 52 54.0**	**+0.4**
BJT	**Baijiatuau** 14nm,0.5s	**37.49**	**347**	*e*P **P**	**04 52 54.6**	**-0.8**
STKA	**Stephens Creek** 9.5nm,0.6s,baz=334,slow=7.9,SNR=24	**38.01**	**159**	P **P**	**04 53 00.4**	**+0.5**
STKA	**Stephens Creek** 1.9nm,0.7s	**38.01**	**159**	*e*P **P**	**04 53 00.1**	**+0.2**
STKA	**Stephens Creek** baz=38,SNR=14	**38.01**	**159**	P **P**	**04 53 00.4**	**+0.5**
USRK	**Ussuriysk Arra** 2.0nm,0.7s,baz=195,slow=7.5,SNR=6.4	**40.71**	**6**	P **P**	**04 53 22.8**	**+0.6**
ARMA	**Armidale** baz=42,SNR=4.7	**41.37**	**147**	P **P**	**04 53 30.4**	**+2.5**
SONM	**Songino Array** 0.6nm,0.6s,baz=174,slow=4.3,SNR=2.7	**47.42**	**341**	PcP **PcP**	**04 55 47.2**	**+1.3**
SONM	**Songino Array**	**47.42**	**341**	PcP **PcP**	**04 55 47.2**	**+1.3**
NFK	**Norfolk Island** baz=51,SNR=3.7	**51.16**	**132**	P P	04 54 49.5	+4.7
PETK	**Petropavlovsk-** 4.2nm,1.0s,baz=191,slow=5.9,SNR=3.6	**55.57**	**22**	P **P**	**04 55 17.1**	**+0.4**
PETK	**Petropavlovsk-**	**55.57**	**22**	P **P**	**04 55 17.1**	**+0.4**
MK31	**Makanchi Array**	**57.65**	**325**	*e*P **P**	**04 55 30.9**	**-0.8**
AAK	**Ala-Archa** 15nm,0.8s	**60.44**	**318**	*e*P **P**	**04 55 52.0**	**+0.7**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=120,slow=6.2,SNR=3.1	**60.70**	**333**	P **P**	**04 55 51.8**	**-0.8**
ZALV	comp=Z,31nm,18.1s,baz=131,slow=38			LR LR	05 24 35.4	
ZALV	**Zalesovo Beam**	**60.70**	**333**	P **P**	**04 55 51.8**	**-0.8**
EKS2	**Erkin-Say** 2.2nm,0.6s	**60.93**	**318**	*e*P **P**	**04 55 55.3**	**+0.7**
KURBB	**Kurchatov Arra** 4.9nm,0.6s,baz=131,slow=6.5,SNR=50	**61.84**	**327**	P **P**	**04 56 00.0**	**-0.4**
KURK	**Kurchatov** 9.4nm,0.6s	**61.84**	**328**	*e*P **P**	**04 56 00.1**	**-0.2**
BVAR	**Borovoye Array** 3.0nm,0.6s,baz=126,slow=7.5,SNR=13	**67.42**	**327**	P **P**	**04 56 36.7**	**-0.1**
BVAR	**Borovoye Array**	**67.42**	**327**	P **P**	**04 56 36.7**	**-0.1**
ABKAR	**Akbulak array** 1.4nm,0.7s	**72.24**	**321**	*e*P **P**	**04 57 05.2**	**-1.2**
AKTO	**Aktyubinsk** 1.8nm,0.5s,baz=90,slow=4.4,SNR=7.0	**73.75**	**322**	P **P**	**04 57 14.9**	**-0.5**
AKTO	**Aktyubinsk**	**73.75**	**322**	P **P**	**04 57 14.9**	**-0.5**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=243,slow=7.0,SNR=3.2	**85.24**	**25**	P **P**	**04 58 18.5**	**+1.0**
ILAR	**Eielson Array**	**85.24**	**25**	P **P**	**04 58 18.5**	**+1.0**
BRTR	**Keskin Array B** 0.9nm,0.9s,baz=143,slow=4.3,SNR=4.1	**90.09**	**310**	P **P**	**04 58 40.6**	**-0.9**
BRTR	**Keskin Array B**	**90.09**	**310**	P **P**	**04 58 40.6**	**-0.9**
ARCES	**ARCESS Array B** 3.8nm,0.9s,baz=68,slow=6.7,SNR=8.9	**90.57**	**340**	P **P**	**04 58 42.7**	**-0.2**
ARCES	**ARCESS Array B**	**90.57**	**340**	P **P**	**04 58 42.7**	**-0.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=42,slow=1.6,SNR=3.7	**122.94**	**288**	PKP **PKPdf**	**05 04 38.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP **PKPdf**	**05 04 38.7**	**+0.5**

ISCJB 17 04:54:15.0±1.3,36˚3N±0˚1×71˚7E±0˚2,h114km,Error ellipse: s-maj=33.1km s-min=6.3km az=147.4

NNC 17 04:54:21.1±2.3,36˚99N×70˚35E,h0km,mb3.8,mpv3.8, Error ellipse: s-maj=32.5km s-min=17.1km az=96.0

ISC 17 04:54:16.1±2.0,36˚3N±0˚2×71˚7E±0˚3,h114km,n12, σ0§91/13,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
KK31	**Karatay Array** 3.3nm,0.4s,baz=182,slow=13,SNR=84	**6.86**	**353**	⇑Pn **Pn**	**04 55 55.1**	**+1.1**
KK31	2.4nm,0.5s,baz=184,slow=23,SNR=7.7			⇓Sn **Sn**	**04 57 09.8**	**-0.7**
PYUN	**Piuthan** 12nm,0.3s	**12.56**	**127**	*e*P **Pn**	**04 57 10.5**	**-0.5**
DANN	**Dangsing** 7.6nm,0.4s	**12.89**	**125**	*e*P **Pn**	**04 57 14.7**	**-0.7**
KOLN	**Koldanda** 5.1nm,0.4s	**13.17**	**127**	*e*P **Pn**	**04 57 19.5**	**+0.5**
GKN	**Gorkha** 7.8nm,0.4s	**13.70**	**124**	*e*P **Pn**	**04 57 25.6**	**-0.3**
PKIN	**Phulchoki** 5.5nm,0.3s	**14.49**	**123**	*e*P **Pn**	**04 57 35.3**	**-0.8**
PKI	**Pulchoki** 4.6nm,0.4s	**14.50**	**123**	*e*P **Pn**	**04 57 36.2**	**-0.1**
GUN	**Gumba** 3.2nm,0.3s	**14.61**	**121**	*e*P **Pn**	**04 57 37.2**	**-0.5**
JIRN	**Jiri** 2.0nm,0.3s	**14.98**	**121**	*e*P **Pn**	**04 57 42.1**	**-0.3**
AB31	**Akbulak array** 0.6nm,0.3s,baz=159,slow=11,SNR=34	**15.54**	**330**	Pn **Pn**	**04 57 46.9**	**-1.9**
AB31	0.6nm,0.5s,baz=151,slow=22,SNR=4.9			⇑Sn Sn	05 00 26.5	-14
TAPN	**Taplejung** 3.9nm,0.3s	**16.24**	**119**	*e*P **P**	**04 57 59.4**	**+0.5**
AKTO	**Aktyubinsk** 0.8nm,1.1s	**17.25**	**329**	⇓Pn **Pn**	**04 58 10.7**	**+0.9**
AKTO				⇓Sn Sn	05 01 08.5	-13

IDC 17 04:59:38.1±2.9,32˚63S×178˚55W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/18,mbtmp3.8/3,ML3.6/1,Error ellipse: s-maj=70.2km s-min=44.9km az=122.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
URZ	**Urewera** 1.2nm,0.3s,baz=132,slow=17,SNR=14	**6.64**	**211**	P Pn	05 01 16.7	-0.3
URZ	1.3nm,0.3s,baz=193,slow=18,SNR=7.4			Sn Sn	05 02 26.5	-6.8
ASAR	**Alice Springs** 0.6nm,0.6s,baz=114,slow=7.9,SNR=9.1	**42.57**	**270**	P P	05 07 36.0	-0.1
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=114,slow=7.8,SNR=8.9	**43.76**	**275**	P P	05 07 45.5	-0.2
FINES	**FINESS Array B** 1.0nm,0.3s,baz=53,slow=5.4,SNR=4.6	**147.06**	**338**	PKPbc PKPbc	05 19 21.3	-0.8

IDC 17 05:09:20.1±0.9,21˚02N×143˚72E,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.7/24,mbtmp3.7/7,MS2.5/1,Ms1 2.7/1, ms1mx1.8/42,Error ellipse: s-maj=42.2km s-min=21.0km az=103.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=15,slow=8.8,SNR=2.5	**41.73**	**193**	P P	05 17 11.0	-0.1
CMAR	**Chiang Mai Arr** comp=Z,4.9nm,18.1s,baz=220,slow=39	**42.12**	**275**	LR LR	05 36 27.0	
ASAR	**Alice Springs** 0.3nm,0.7s,baz=16,slow=11,SNR=3.4	**45.44**	**193**	P P	05 17 40.5	-0.5
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=92,slow=7.2,SNR=3.5	**55.05**	**322**	P P	05 18 54.2	+0.7
ILAR	**Eielson Array** 0.6nm,0.8s,baz=248,slow=5.5,SNR=5.8	**62.41**	**27**	P P	05 19 42.6	-2.0
YKA	**Yellowknife Ar** 0.5nm,0.4s,baz=291,slow=5.7,SNR=10	**76.81**	**28**	P P	05 21 14.2	+0.7
NVAR	**Mina Array Bea** 0.9nm,0.7s,baz=266,slow=5.5,SNR=8.4	**83.17**	**52**	P P	05 21 50.0	+1.2
FINES	**FINESS Array B** 2.9nm,1.0s,baz=46,slow=6.0,SNR=2.7	**84.00**	**335**	P P	05 21 51.6	-0.6

IDC 17 05:46:08.6±0.9,6˚34N×92˚20E,h0km,mb4.1/10, mb1 4.3/12,mb1mx4.1/28,mbtmp4.1/12,ML4.2/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/47,Error ellipse: s-maj=36.0km s-min=17.0km az=49.0

ISCJB 17 05:46:10.7±0.7,6˚3N±0˚1×92˚4E±0˚1,h26km,mb4.3/15, MS3.0/1,Error ellipse: s-maj=19.5km s-min=7.2km az=43.8

NEIC 17 05:46:14.2±0.5,6˚43N×92˚36E,h35km,mb4.5/6,Error ellipse: s-maj=14.7km s-min=7.5km az=45.0

ISC 17 05:46:12.7±0.8,6˚4N±0˚1×92˚4E±0˚1,h26km,n53, σ1§30/51,mb4.3/15,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
PSI	**Prapat** 1.7nm,0.3s,baz=327,slow=18,SNR=5.5	**7.44**	**118**	P Pn	**05 48 01.2**	**+1.4**
PSI	1.2nm,0.3s,baz=346,slow=19,SNR=2.3			Sn **Sn**	**05 49 21.2**	**-2.4**
PSI	comp=Z,116nm,18.6s,baz=319,slow=42			LR LR	05 51 27.7	
PSI	**Prapat**	**7.44**	**118**	P Pn	**05 48 01.2**	**+1.4**
PSI				Sn **Sn**	**05 49 21.2**	**-2.4**
KULM	**Kulim**	**8.32**	**97**	*e*P **Pn**	**05 48 11.9**	**+0.2**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=222,slow=15,SNR=8.1	**13.62**	**28**	P Pn	**05 49 24.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**13.62**	**28**	P **Pn**	**05 49 24.8**	**+0.5**
VIS	**Vishakhapatnam**	**14.32**	**323**	*e*P **Pn**	**05 49 32.3**	**-1.5**
VIS				*e*S Sn	05 51 56.6	-15
VIS	comp=N,8.5nm,0.1s			AML AML	05 51 59.6	
VIS	comp=E,5.6nm,0.1s			AML AML	05 51 59.6	
ODAN	**Odare** comp=E,14nm,0.6s	**20.92**	**347**	*e*P Pn	05 50 57.3	+0.9
RAMN	**Ramite** comp=E,38nm,0.8s	**21.19**	**346**	*e*P **P**	**05 51 00.6**	**+4.0**
TAPN	**Taplejung** comp=E,20nm,0.8s	**21.33**	**349**	*e*P **P**	**05 50 58.4**	**+0.3**
JIRN	**Jiri** comp=E,12nm,0.8s	**21.97**	**345**	*e*P **P**	**05 51 06.9**	**+1.8**
DMN	**Daman**	**22.22**	**343**	*e*P **P**	**05 51 09.9**	**+2.2**
GUN	**Gumba** comp=E,32nm,0.7s	**22.29**	**345**	*e*P **P**	**05 51 09.5**	**+1.0**
KKN	**Kakani**	**22.34**	**343**	*e*P **P**	**05 51 10.6**	**+1.7**
GKN	**Gorkha**	**22.73**	**342**	*e*P **P**	**05 51 14.1**	**+1.1**
DANN	**Dangsing** comp=E,13nm,0.8s	**23.33**	**341**	*e*P **P**	**05 51 19.4**	**+0.1**
PYUN	**Piuthan** comp=E,29nm,0.8s	**23.36**	**339**	*e*P **P**	**05 51 20.7**	**+1.1**
AAK	**Ala-Archa** comp=E,1.4nm,0.6s,baz=160,slow=5.0,SNR=5.8	**39.42**	**339**	P **P**	**05 53 41.6**	**+0.9**
AAK	**Ala-Archa** comp=E,27nm,1.4s	**39.42**	**339**	*e*P **P**	**05 53 41.9**	**+1.1**
MK31	**Makanchi Array**	**41.19**	**349**	*e*P **P**	**05 53 54.6**	**-0.6**
KKAR	**Karatay Array** comp=E,3.7nm,1.0s	**41.35**	**336**	*e*P **P**	**05 53 55.9**	**-0.6**
SONM	**Songino Array** comp=E,1.9nm,0.7s,baz=195,slow=8.5,SNR=15	**43.02**	**14**	P **P**	**05 54 09.8**	**-0.4**
SONM	**Songino Array**	**43.02**	**14**	P **P**	**05 54 09.8**	**-0.4**
JNU	**Nakatsue** comp=E,19nm,20.3s,baz=47,slow=39	**44.56**	**48**	LR LR	06 15 08.3	
KURBB	**Kurchatov Arra** comp=E,3.0nm,0.7s,baz=171,slow=7.0,SNR=33	**45.59**	**348**	P **P**	**05 54 30.4**	**-0.1**
KURBB	comp=E,0.3nm,0.3s,baz=162,slow=3.1,SNR=5.8			PcP **PcP**	**05 56 08.1**	**-0.6**
KURK	**Kurchatov** comp=E,5.3nm,1.2s	**45.66**	**348**	*e*P **P**	**05 54 30.9**	**-0.2**
KURK				PcP **PcP**	**05 56 08.1**	**-0.9**
ZAA0	**Zalesovo Array**	**47.83**	**354**	*e*P **P**	**05 54 48.0**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,3.3nm,0.6s,baz=172,slow=7.0,SNR=17	**47.83**	**354**	P **P**	**05 54 48.1**	**+0.1**
ZALV	**Zalesovo Beam**	**47.83**	**354**	P **P**	**05 54 48.1**	**+0.1**
WRA	**Warramunga Arr** comp=E,2.8nm,0.9s,baz=303,slow=8.5,SNR=4.8	**48.88**	**123**	P **P**	**05 54 57.1**	**+0.4**
WRA	**Warramunga Arr**	**48.88**	**123**	P **P**	**05 54 57.1**	**+0.4**
WRAB	**Tennant Creek** comp=E,6.6nm,0.8s	**48.88**	**123**	*e*P **P**	**05 54 57.2**	**+0.5**
ASAR	**Alice Springs** comp=E,0.7nm,0.5s,baz=298,slow=7.9,SNR=9.0	**50.35**	**128**	P **P**	**05 55 08.6**	**+0.6**
ASAR	**Alice Springs**	**50.35**	**128**	P **P**	**05 55 08.6**	**+0.6**
ABKAR	**Akbulak array** comp=E,2.0nm,0.6s	**50.73**	**333**	*e*P **P**	**05 55 10.0**	**-0.3**
KBZ	**Khabaz** comp=E,1.3nm,0.3s,baz=72,slow=6.4,SNR=4.0	**57.03**	**319**	P **P**	**05 55 55.7**	**-0.7**
KBZ	**Khabaz**	**57.03**	**319**	P **P**	**05 55 55.7**	**-0.7**
BRTR	**Keskin Array B** comp=E,1.4nm,0.8s,baz=127,slow=7.6,SNR=9.1	**62.08**	**312**	P **P**	**05 56 30.6**	**-1.0**
BRTR	**Keskin Array B**	**62.08**	**312**	P **P**	**05 56 30.6**	**-1.0**
TIXI	**Tiksi** comp=E,7.7nm,0.6s	**69.05**	**12**	*e*P **P**	**05 57 15.2**	**-0.5**
FINES	**FINESS Array B** comp=E,3.4nm,0.8s,baz=107,slow=6.4,SNR=5.6	**73.21**	**333**	P **P**	**05 57 40.1**	**-1.1**
FINES	**FINESS Array B**	**73.21**	**333**	P **P**	**05 57 40.1**	**-1.1**
GERES	**GERESS Array B** comp=E,1.6nm,0.7s,baz=90,slow=5.3,SNR=13	**77.77**	**318**	P **P**	**05 58 07.7**	**0.0**
GERES	**GERESS Array B**	**77.77**	**318**	P **P**	**05 58 07.7**	**0.0**
TBI	**Tubuai** comp=E,118nm,27.5s	**118.35**	**113**	*e*LR LR	06 00 37.7	
PPT2	**Papeete2** comp=E,146nm,30.0s	**118.63**	**106**	*e*LR LR	06 00 57.3	
NVAR	**Mina Array Bea** comp=E,0.4nm,0.6s,baz=324,slow=2.5,SNR=3.2	**127.10**	**30**	PKP **PKPdf**	**06 05 16.7**	**+1.3**
NVAR	**Mina Array Bea**	**127.10**	**30**	PKP **PKPdf**	**06 05 16.7**	**+1.3**
PDAR	**Pinedale Array** comp=E,0.5nm,0.8s,baz=48,slow=2.2,SNR=4.0	**127.19**	**20**	PKP **PKPdf**	**06 05 15.1**	**-0.5**
PDAR	**Pinedale Array**	**127.19**	**20**	PKP **PKPdf**	**06 05 15.1**	**-0.5**
TXAR	**Lajitas Array** comp=E,0.1nm,0.4s,baz=119,slow=3.0,SNR=4.3	**141.30**	**23**	PKP **PKPdf**	**06 05 45.0**	**+2.9**
TXAR	**Lajitas Array**	**141.30**	**23**	PKP **PKPdf**	**06 05 45.0**	**+2.9**
CPUP	**Villa Florida** comp=E,1.6nm,0.7s,baz=100,slow=2.3,SNR=8.9	**144.95**	**232**	PKP PKPbc	06 05 47.9	+0.3
CPUP	**Villa Florida**	**144.95**	**232**	PKP PKPbc	06 05 47.9	+0.3

AUST 17 05:49:37.1±2.0,21˚15S×178˚27W,h280km,Error ellipse: s-maj=2.0km s-min=1.1km az=287.0

ISCJB 17 05:49:40.8±0.8,21˚44S±0˚05×178˚01W±0˚05, h356km±8km,mb4.5/56,Error ellipse: s-maj=9.8km s-min=5.8km az=137.6

BJI 17 05:49:41.6,21˚45S×177˚83W,h367km,mB4.9/17, mb4.5/22

DJA 17 05:49:42.8±1.1,21˚S±14˚×17˚8W±1˚0,h358km±18km, M5.1/10,mb5.1/10

NEIC 17 05:49:44.4±1.0,21˚55S×177˚94W,h389km±9km,mb4.7/35, Error ellipse: s-maj=10.1km s-min=8.4km az=137.0

IDC 17 05:49:45.2±0.8,21˚48S×178˚02W,h393km±7km,mb3.9/21, mb1 4.1/21,mb1mx4.1/24,mbtmp3.9/21,Error ellipse: s-maj=14.7km s-min=9.7km az=138.0

ISC 17 05:49:43.0±0.3,21˚56S±0˚05×177˚90W±0˚05, h372km±2km,h372km;pP-P,n237,σ1§49/273,mb4.5/56, 22C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MSVF	**Nonsavu**	**5.39**	**314**	*e*Pn **Pn**	**05 51 09.8**	**+1.8**
RAO	**Raoul Island**	**7.66**	**180**	*e*Pn **Pn**	**05 51 32.3**	**-1.2**
RAO				*e*Sn **S**	**05 53 03.4**	**-0.3**
NIUE	**Niue** baz=8.1,SNR=26	**7.87**	**73**	P **Pn**	**05 51 35.3**	**-0.8**
NIUE	baz=8.1,SNR=26			S **S**	**05 53 04.4**	**-4.1**
AFI	**Afiamalu** 40nm,0.3s,baz=157,slow=3.1,SNR=57	**9.58**	**38**	P Pn	05 51 51.2	-5.0
AFI	111nm,0.3s,baz=42,slow=20,SNR=12			S S	05 53 30.9	-15
AFI	**Afiamalu**	**9.58**	**38**	*e*Pn Pn	05 51 51.1	-5.2
AFI				*e*Sn S	05 53 34.1	-11
DZM	**Mont Dzumac** 4.4nm,0.3s,baz=80,slow=17,SNR=43	**14.56**	**265**	P **Pn**	**05 52 54.4**	**+0.2**
DZM	**Mont Dzumac**	**14.56**	**265**	P **Pn**	**05 52 54.4**	**+0.2**
NOUC	**Port Laguerre**	**14.69**	**265**	*e*P Pn	05 52 59.0	+3.4
NFK	**Norfolk Island** baz=15,SNR=3.5	**14.81**	**237**	S S	05 55 13.9	-19
OUZ	**Omahuta** 15nm,0.6s	**15.53**	**207**	*e*P **Pn**	**05 53 07.0**	**+1.8**
URZ	**Urewera** 9.7nm,0.3s,baz=343,slow=3.3,SNR=45	**17.20**	**193**	P **P**	**05 53 19.0**	**-1.1**
URZ	3.6nm,0.3s,baz=60,slow=20,SNR=5.3			S **S**	**05 56 16.7**	**-3.3**
URZ	**Urewera** 118nm,0.8s	**17.20**	**193**	*e*P **P**	**05 53 19.5**	**-0.6**
URZ				*e*S **S**	**05 56 21.3**	**+1.3**
KHZ	**Kahutara** 14nm,0.5s	**22.01**	**197**	*e*P **P**	**05 54 09.0**	**+1.5**
RPZ	**Rata Peaks** 8.8nm,0.4s,baz=41,slow=3.2,SNR=4.9	**23.93**	**200**	P **P**	**05 54 25.6**	**+0.7**
RPZ	**Rata Peaks** 13nm,0.8s	**23.93**	**200**	*e*P **P**	**05 54 27.1**	**+2.2**
WHZ	**Wether Hill Ro**	**26.90**	**202**	*e*P **P**	**05 54 54.7**	**+3.4**
EIDS	**Eidsvold** 14nm,0.8s	**28.68**	**256**	*e*P **P**	**05 55 07.4**	**+0.1**
EIDS	**Eidsvold** baz=28,SNR=12	**28.68**	**256**	P **P**	**05 55 07.5**	**+0.1**
ARMA	**Armidale** 7.6nm,0.5s	**28.71**	**246**	*e*P **P**	**05 55 08.7**	**+1.0**
ARMA	**Armidale** baz=28,SNR=8.2	**28.71**	**246**	P **P**	**05 55 09.0**	**+1.3**
MGCD	**Mangrove Creek** baz=30,SNR=17	**29.76**	**240**	P **P**	**05 55 18.2**	**+1.5**
RMQ	**Roma** baz=31,SNR=12	**30.80**	**254**	P **P**	**05 55 27.3**	**+1.4**
CNB	**Canberra Magne** baz=32,SNR=23	**31.73**	**237**	P **P**	**05 55 35.3**	**+1.4**
YNG	**Young** baz=32,SNR=9.3	**32.22**	**240**	P **P**	**05 55 39.6**	**+1.4**
CTAO	**Charters Tower** 37nm,0.7s	**33.50**	**266**	*e*P **P**	**05 55 49.5**	**+0.2**
CMSA	**Cobar Meteorol** baz=34,SNR=30	**33.92**	**245**	P **P**	**05 55 53.0**	**+0.3**
QLP	**Quilpie** baz=35,SNR=21	**34.85**	**254**	P **P**	**05 56 00.9**	**+0.3**
TOO	**Toolangi** baz=35,SNR=13	**35.36**	**235**	P **P**	**05 56 05.6**	**+0.7**
PMG	**Port Moresby** 105nm,1.0s	**35.69**	**284**	*e*P **P**	**05 56 07.4**	**-0.4**
PMG	**Port Moresby** 107nm,0.9s	**35.69**	**284**	P **P**	**05 56 05.9**	**-1.9**
TAU	**Tasmania Unive** 18nm,0.8s	**35.95**	**226**	*e*P **P**	**05 56 11.0**	**+1.3**
PATS	**Pohnpei** baz=36,SNR=3.4	**36.62**	**318**	S S	06 01 53.1	+22
STKA	**Stephens Creek** 19nm,0.6s,baz=91,slow=9.2,SNR=100	**37.43**	**245**	P **P**	**05 56 22.9**	**+0.6**
STKA	**Stephens Creek** 13nm,1.3s	**37.43**	**245**	*e*P **P**	**05 56 22.6**	**+0.3**
STKA	**Stephens Creek** baz=37,SNR=64	**37.43**	**245**	P **P**	**05 56 22.5**	**+0.3**
COEN	**Coen** 222nm,0.8s	**37.76**	**275**	*e*P **P**	**05 56 25.2**	**+0.1**
COEN	**Coen** baz=37,SNR=21	**37.76**	**275**	P **P**	**05 56 25.3**	**+0.1**
ARPS	**Mount Arapiles** baz=38,SNR=13	**37.99**	**237**	P **P**	**05 56 27.4**	**+0.5**
BBOO	**Buckleboo** 262nm,0.9s	**42.17**	**245**	*e*P **P**	**05 57 00.3**	**-0.5**
BBOO	**Buckleboo** baz=42,SNR=61	**42.17**	**245**	P **P**	**05 57 00.5**	**-0.4**
AS31	**Alice Springs**	**44.38**	**258**	*e*P **P**	**05 57 17.7**	**-0.8**
ASAR	**Alice Springs** 19nm,0.6s,baz=96,slow=8.0,SNR=173	**44.38**	**258**	P **P**	**05 57 17.8**	**-0.7**
ASAR	4.6nm,0.8s,baz=103,slow=4.2,SNR=6.5			PcP **PcP**	**05 58 54.3**	**-0.7**
ASAR	0.2nm,0.6s,baz=99,slow=17,SNR=4.2	

CASY	**Casey**	**63.05**	**206**	*e*P		**P**		**05 59 31.8**	**+0.3**
	31nm,0.8s								
UGM	**Wanagama**	**70.04**	**269**	P		**P**		**06 00 15.6**	**-0.7**
	baz=70,SNR=12								
JOW	**Kunigami**	**70.92**	**310**	*e*P		**P**		**06 00 21.0**	**-0.1**
	13nm,1.0s								
MJAR	**Matsushiro Arr**	**71.12**	**324**	P		**P**		**06 00 21.2**	**-0.9**
	3.2nm,0.5s,baz=156,slow=5.8,SNR=7.7								
MJAR	**Matsushiro Arr**	**71.12**	**324**	P		**P**		**06 00 21.2**	**-0.9**
JNU	**Nakatsue**	**73.11**	**317**	P		**P**		**06 00 33.7**	**-0.2**
	7.3nm,0.8s,baz=110,slow=4.9,SNR=4.5								
JNU	**Nakatsue**	**73.11**	**317**	*e*P		**P**		**06 00 33.7**	**-0.2**
	8.1nm,1.1s								
KSM	**Kuching**	**73.66**	**278**	*e*P		**P**		**06 00 37.3**	**-0.2**
	43nm,0.8s								
KSM	**Kuching**	**73.66**	**278**	P		**P**		**06 00 37.2**	**-0.2**
	63nm,0.9s								
YULB	**Yu-li**	**74.16**	**304**	*e*P		**P**		**06 00 39.4**	**-0.8**
	12nm,1.0s								
NACB	**Ninganchiao**	**74.35**	**304**	*e*P		**P**		**06 00 40.3**	**-0.9**
	37nm,1.1s								
TPUB	**Ta-pu**	**74.63**	**303**	*e*P		**P**		**06 00 41.6**	**-1.3**
	73nm,0.8s								
SSLB	**Suanglung**	**74.64**	**304**	*e*P		**P**		**06 00 42.2**	**-0.6**
	24nm,0.7s								
ASAJ	**Asahikawa**	**74.70**	**332**	P		**P**		**06 00 43.7**	**+1.0**
	3.5nm,0.7s,baz=149,slow=5.9,SNR=3.2								
ASAJ	**Asahikawa**	**74.70**	**332**	*e*P		**P**		**06 00 43.9**	**+1.2**
	2.1nm,0.8s								
YHNB	**Yeheng**	**74.78**	**305**	*e*P		**P**		**06 00 43.7**	**-0.1**
	23nm,0.8s								
PEA0B	**Petropavlovsk-**	**77.31**	**345**	*e*P		**P**		**06 00 56.9**	**-0.2**
PETK	**Petropavlovsk-**	**77.31**	**345**	P		**P**		**06 00 57.3**	**+0.2**
	7.0nm,0.7s,baz=148,slow=8.4,SNR=10								
PETK	**Petropavlovsk-**	**77.31**	**345**	P		**P**		**06 00 57.3**	**+0.2**
KSRS	**Korea Array**	**77.74**	**319**	P		**P**		**06 00 59.9**	**+0.1**
	2.1nm,0.7s,baz=138,slow=6.8,SNR=5.7								
KSAR	**Wonju Array Be**	**77.76**	**319**	P		**P**		**06 00 59.9**	**0.0**
USRK	**Ussuriysk Arra**	**79.88**	**326**	P		**P**		**06 01 11.8**	**+0.6**
	1.9nm,0.6s,baz=106,slow=6.8,SNR=4.8								
ISA	**Isabella**	**80.00**	**45**	*e*P		**P**		**06 01 12.6**	**+0.4**
	8.6nm,1.3s								
CMB	**Columbia Colle**	**80.17**	**43**	*e*P		**P**		**06 01 13.5**	**+0.6**
	5.0nm,1.1s								
NJ2	**Nanjing**	**80.63**	**310**	*e*P		**P**		**06 01 16.8**	**+1.4**
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
MDJ	**Mudanjiang**	**81.44**	**325**	P		**P**		**06 01 20.3**	**+1.0**
MDJ					pP	**pP**		**06 02 42.5**	**-1.7**
MDJ					sP	**sP**		**06 03 20.6**	**-2.6**
MDJ					PP	**PP**		**06 04 31.3**	**-0.6**
MDJ					S	**S**		**06 11 00.4**	**+1.6**
MDJ					sS	**sS**		**06 13 26.6**	**-2.9**
MDJ					SS	**SS**		**06 16 25.4**	**-0.1**
MDJ					pmax	pmax			
	comp=Z,9.0nm,1.6s								
NVAR	**Mina Array Bea**	**81.72**	**43**	P		**P**		**06 01 22.0**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=222,slow=8.1,SNR=26								
NVAR					pP	**pP**		**06 02 50.0**	**+3.7**
	comp=Z,1.2nm,0.9s,baz=221,slow=8.1,SNR=4.9								
NVAR	**Mina Array Bea**	**81.72**	**43**	P		**P**		**06 01 22.0**	**+0.7**
NVAR					pP	**pP**		**06 02 50.0**	**+3.7**
MOD	**Modoc**	**82.57**	**39**	*e*P		**P**		**06 01 25.8**	**+0.4**
	comp=Z,5.6nm,0.9s								
CN2	**Changchun**	**83.19**	**322**	*e*P		P		06 01 32.8	+4.4
IPM	**Ipoh**	**83.36**	**277**	*e*P		**P**		**06 01 29.8**	**-0.2**
	comp=Z,36nm,0.6s								
IPM	**Ipoh**	**83.36**	**277**	P		**P**		**06 01 29.6**	**-0.4**
	comp=Z,64nm,0.8s								
TUC	**Tucson**	**83.55**	**52**	*e*P		**P**		**06 01 32.0**	**+1.4**
PSI	**Prapat**	**84.68**	**275**	P		**P**		**06 01 35.7**	**-1.0**
	comp=Z,17nm,0.9s,baz=163,slow=1.9,SNR=11								
PSI	**Prapat**	**84.68**	**275**	P		**P**		**06 01 35.7**	**-1.0**
PSI	**Prapat**	**84.68**	**275**	P		**P**		**06 01 35.9**	**-0.8**
	baz=84,SNR=8.0								
PSI	**Prapat**	**84.68**	**275**	P		**P**		**06 01 35.7**	**-1.0**
	comp=Z,28nm,1.0s								
ENH	**Enshi**	**86.71**	**304**	*e*P		**P**		**06 01 46.5**	**+0.5**
	comp=Z,9.7nm,0.7s								
VNA3	**Neumayer Olymp**	**87.08**	**176**	*e*P		**P**		**06 01 47.3**	**+0.2**
VNA3	**Neumayer Olymp**	**87.08**	**176**	*e*PcP		**PcP**		**06 01 51.8**	**+3.0**
GYA	**Guiyang**	**87.25**	**300**	P		**P**		**06 01 50.0**	**+1.2**
GYA					pP	**pP**		**06 03 15.3**	**+0.3**
GYA					sP	**sP**		**06 03 52.3**	**-1.4**
GYA					PP	**PP**		**06 05 22.8**	**+3.5**
GYA					SKS	**SKSac**		**06 11 39.4**	**-1.0**
GYA					S	**S**		**06 11 57.8**	**+0.9**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VNA2	**Neumayer--Watz**	**87.53**	**177**	*e*P		**P**		**06 01 49.1**	**-0.1**
TXAR	**Lajitas Array**	**87.54**	**57**	P		**P**		**06 01 51.3**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=218,slow=6.6,SNR=29								
TXAR					pP	**pP**		**06 03 20.0**	**+3.6**
	comp=Z,1.8nm,1.0s,baz=216,slow=6.2,SNR=7.7								
TXAR	**Lajitas Array**	**87.54**	**57**	P		**P**		**06 01 51.3**	**+1.2**
TXAR					pP	**pP**		**06 03 20.0**	**+3.6**
VNA1	**Neumayer--Stat**	**87.75**	**177**	*e*P		**P**		**06 01 50.6**	**+0.4**
ANMO	**Albuquerque**	**87.99**	**51**	*e*P		**P**		**06 01 52.5**	**+0.3**
GDL2	**Guadalupe Moun**	**88.28**	**54**	*e*P		**P**		**06 01 54.4**	**+0.9**
MCMT	**McKenzie Canyo**	**88.69**	**40**	*e*P		**P**		**06 01 55.8**	**+0.5**
XAN	**Xi'an**	**88.85**	**307**	P		**P**		**06 01 56.4**	**+0.4**
XAN					pmax	pmax			
	comp=Z,4.0nm,1.2s								
XAN					LR	LR			
	comp=N,88nm,29.8s								
XAN					LR	LR			
	comp=E,37nm,28.5s								
XAN					LR	LR			
	comp=Z,33nm,16.8s								
ILAR	**Eielson Array**	**89.32**	**13**	P		**P**		**06 01 56.0**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=219,slow=5.6,SNR=12								
ILAR	**Eielson Array**	**89.32**	**13**	P		**P**		**06 01 56.0**	**-1.5**
QLMT	**Earthquake Lak**	**89.55**	**41**	*e*P		**P**		**06 02 00.1**	**+0.8**
	comp=Z,0.2nm,0.3s								
PDAR	**Pinedale Array**	**89.66**	**43**	P		**P**		**06 01 59.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=210,slow=2.8,SNR=19								
PDAR	**Pinedale Array**	**89.66**	**43**	P		**P**		**06 01 59.8**	**-0.1**
BOZ	**Bozeman (W)**	**89.86**	**40**	*e*P		**P**		**06 02 01.0**	**+0.4**
	comp=Z,1.0nm,0.9s								
KMI	**Kunming**	**89.92**	**297**	P		**P**		**06 02 03.8**	**+2.4**
KMI					pmax	pmax			
	comp=Z,10.0nm,1.5s								
KMI					pmax	pmax			
	comp=Z,57nm,4.7s								
KMI					LR	LR			
	comp=N,160nm,25.7s								
KMI					LR	LR			
	comp=E,150nm,27.5s								
KMI					LR	LR			
	comp=Z,120nm,18.3s								
HHC	**Hu-ho-hao-te**	**90.16**	**314**	*e*P		**P**		**06 02 01.5**	**-0.6**
HHC					pP	**pP**		**06 03 30.5**	**+1.8**
HHC					sP	**sP**		**06 04 09.3**	**+2.1**
HHC					PP	**PP**		**06 05 43.9**	**+1.9**
HHC					SKS	**SKSac**		**06 11 54.5**	**-2.3**
HHC					S	**S**		**06 12 19.8**	**-3.4**
HHC					sS	**sS**		**06 14 57.4**	**0.0**
HHC					SS	**SS**		**06 18 34.6**	**+1.6**
HHC					pmax	pmax			
	comp=Z,21nm,1.2s								
HHC					pmax	pmax			
	comp=Z,110nm,8.3s								
HHC					LR	LR			
	comp=N,2μm,17.8s								
HHC					LR	LR			
	comp=E,190nm,15.5s								
HHC					LR	LR			
	comp=Z,140nm,19.0s								
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P		**P**		**06 02 05.6**	**+1.3**
	comp=Z,10nm,1.0s,baz=121,slow=3.1,SNR=49								
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P		**P**		**06 02 05.6**	**+1.3**
CHTO	**Chiang Mai**	**90.69**	**290**	*e*P		**P**		**06 02 05.7**	**+0.8**
	comp=Z,17nm,1.3s								
CHTO	**Chiang Mai**	**90.69**	**290**	P		**P**		**06 02 03.5**	**-1.4**
CD2	**Chengdu**	**91.44**	**303**	P		**P**		**06 02 08.6**	**+0.5**
CD2					pP	**pP**		**06 03 34.8**	**-0.1**
CD2					sP	**sP**		**06 04 12.0**	**-1.4**
CD2					PP	**PP**		**06 05 54.8**	**+2.6**
CD2					SKS	**SKSac**		**06 12 04.3**	**-0.1**
CD2					S	**S**		**06 12 33.8**	**-1.2**
CD2					sS	**sS**		**06 15 05.8**	**-3.8**
CD2					SS	**SS**		**06 18 53.6**	**+2.0**
CD2					pmax	pmax			
	comp=Z,20nm,0.5s								
CD2					pmax	pmax			
	comp=Z,90nm,6.5s								
LZH	**Lanzhou**	**93.49**	**307**	*e*P		**P**		**06 02 19.3**	**+1.7**
LZH					pP	**pP**		**06 03 40.0**	**-4.4**
LZH					pmax	pmax			
	comp=Z,14nm,1.0s								
LCO	**Las Campanas**	**93.71**	**123**	P		P		06 02 12.1	-6.9
	baz=94,SNR=4.6								
SONM	**Songino Array**	**96.61**	**319**	P		**P**		**06 02 32.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.8,SNR=3.7								
SONM	**Songino Array**	**96.61**	**319**	P		**P**		**06 02 32.4**	**+1.0**
YKA	**Yellowknife Ar**	**97.43**	**25**	P		**P**		**06 02 33.3**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=242,slow=4.5,SNR=4.1								
YKA					pP	**pP**		**06 04 05.9**	**+4.2**
	comp=Z,0.1nm,0.7s,baz=251,slow=4.3,SNR=2.5								
YKA					PKKPbc	**PKKPbc**		**06 19 09.7**	**-3.6**
	comp=Z,0.1nm,0.4s,baz=31,slow=2.5,SNR=9.1								
YKA	**Yellowknife Ar**	**97.43**	**25**	P		**P**		**06 02 33.3**	**-1.3**
YKA					pP	**pP**		**06 04 05.9**	**+4.2**
YKA					PKKPbc	**PKKPbc**		**06 19 09.7**	**-3.6**
KURK	**Kurchatov**	**114.83**	**317**	PKP		PKPdf		06 07 37.9	-1.8
KURK				*e*PKPdf		**PKiKP**		**06 07 39.0**	**-0.7**
KURBB	**Kurchatov Arra**	**114.88**	**317**	PKP		PKPdf		06 07 37.9	-1.9
	comp=Z,2.4nm,0.7s,baz=94,slow=1.9,SNR=26								
KSH	**Kashi**	**115.57**	**305**	*e*PKP		**PKPdf**		**06 07 42.9**	**+1.2**
KSH				*e*PP		PP		06 08 57.8	+7.4
KSH				*es*PKP				06 09 44.9	
KSH				PKS		**PKSdf**		**06 11 19.9**	**+1.5**
KSH				SKS		**SKSdf**		**06 14 20.8**	**+3.0**
KSH				SKKS		**SKKSac**		**06 15 12.4**	**+0.2**
KSH				SS		**SS**		**06 24 27.3**	**+6.6**
KSH				AMB		AMB			
	comp=Z,47nm,4.8s								
KSH				LR		LR			
	comp=N,150nm,9.1s								
KSH				LR		LR			
	comp=E,97nm,6.9s								
KSH				LR		LR			
	comp=Z,120nm,7.4s								
BVAR	**Borovoye Array**	**119.95**	**320**	PKP		**PKPdf**		**06 07 48.0**	**-1.5**
	comp=Z,4.0nm,0.6s,baz=92,slow=1.1,SNR=21								
BVAR	**Borovoye Array**	**119.95**	**320**	PKP		**PKPdf**		**06 07 48.0**	**-1.5**
KBL	**Kabul**	**120.48**	**298**	*e*PKPdf		**PKPdf**		**06 07 52.3**	**+0.9**
SPITS	**Spitsbergen Ar**	**122.92**	**357**	PKP		**PKPdf**		**06 07 53.5**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=35,slow=7.1,SNR=5.8								
SPITS	**Spitsbergen Ar**	**122.92**	**357**	PKP		**PKPdf**		**06 07 53.5**	**-1.1**
BOSA	**Boshof**	**125.35**	**205**	PKP		**PKPdf**		**06 08 00.7**	**-0.3**
	comp=Z,5.7nm,1.0s,baz=244,slow=3.8,SNR=3.4								
BOSA	**Boshof**	**125.35**	**205**	PKP		**PKPdf**		**06 08 00.7**	**-0.3**
ARU	**Arti**	**126.12**	**325**	*e*PKPdf		**PKPdf**		**06 08 00.1**	**-1.2**
ABKAR	**Akbulak array**	**126.92**	**316**	*e*PKPdf		**PKPdf**		**06 08 02.1**	**-0.8**
AKTO	**Aktyubinsk**	**127.92**	**318**	PKP		**PKPdf**		**06 08 04.2**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=92,slow=3.9,SNR=14								
AKTO	**Aktyubinsk**	**127.92**	**318**	PKP		**PKPdf**		**06 08 04.2**	**-0.6**
ARCES	**ARCESS Array B**	**129.97**	**349**	PKP		**PKPdf**		**06 08 06.9**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=77,slow=3.0,SNR=16								
ARCES	**ARCESS Array B**	**129.97**	**349**	PKP		**PKPdf**		**06 08 06.9**	**-1.3**
FINES	**FINESS Array B**	**136.81**	**343**	PKhKP		PKPpre		06 08 14.3	
	comp=Z,1.9nm,0.8s,baz=20,slow=2.8,SNR=4.2								
FINES				PKP		**PKPdf**		**06 08 21.4**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=42,slow=3.1,SNR=6.1								
FINES				SKP				06 11 17.0	
	comp=Z,2.4nm,0.8s,baz=17,slow=6.6,SNR=4.5								
FINES	**FINESS Array B**	**136.81**	**343**	PKPpre		PKPpre		06 08 14.3	
FINES				PKP		**PKPdf**		**06 08 21.4**	**+0.1**
FINES				SKP				06 11 17.0	
ERZM	**Erzurum**	**141.99**	**308**	*i* P		**PKPdf**		**06 08 27.3**	**-4.4**
KOPT	**Kop Dagi**	**142.59**	**308**	*i* P		**PKPdf**		**06 08 30.2**	**-2.6**
KELT	**Kelkit**	**143.45**	**309**	*i* P		PKPab		06 08 31.7	0.0
GRSN	**GIRESUNGRSN**	**143.89**	**311**	*i* P		PKPab		06 08 31.3	-1.8
AKASG	**Malin Array Be**	**143.98**	**330**	PKP		PKPab		06 08 31.6	-1.5
	comp=Z,7.8nm,0.5s,baz=42,slow=4.3,SNR=36								
AKASG	**Malin Array Be**	**143.98**	**330**	PKP		PKPab		06 08 31.6	-1.5
KIEV	**Kiev**	**143.99**	**330**	*e*PKPdf		PKPab		06 08 31.4	-1.7
AK01	**Malin Array Si**	**143.99**	**330**	*e*PKPdf		PKPab		06 08 31.5	-1.6
AK02	**Malin Array Si**	**144.02**	**330**	*e*PKPdf		**PKPab**		**06 08 31.7**	**-1.5**
ELZG	**Elazig**	**144.17**	**306**	*i* P		PKPbc		06 08 34.9	+0.3
SUSE	**Susehri**	**144.19**	**310**	*i* P		**PKPdf**		**06 08 35.0**	**-0.5**
KEMA	**Kemaliye**	**144.29**	**308**	*i* P		PKPbc		06 08 34.9	+0.1
MBAR	**Mbarara**	**144.41**	**235**	PKP		PKPbc		06 08 34.6	-1.4
	comp=Z,18nm,0.7s,baz=124,slow=7.7,SNR=14								
MBAR	**Mbarara**	**144.41**	**235**	PKP		PKPbc		06 08 34.6	-1.4
MALT	**Malatya**	**144.64**	**306**	*e*PKPdf		PKPbc		06 08 35.8	-0.2
MALT	**Malatya**	**144.64**	**306**	⇑*i* P		**PKPdf**		**06 08 36.9**	**+0.7**
AKCD	**Akcadag**	**145.02**	**307**	*i* P		**PKPab**		**06 08 37.5**	**-0.2**
GZT	**Gaziantep**	**145.58**	**305**	*i* P		**PKPdf**		**06 08 38.1**	**+0.2**
PINB	**Pinarbasi**	**146.03**	**308**	*i* P		**PKPdf**		**06 08 38.7**	**0.0**
KUZU	**Kuzuini**	**146.12**	**304**	*i* P		**PKPbc**		**06 08 39.5**	**-0.9**
CTKT	**Corum**	**146.44**	**312**	*i* P		**PKPbc**		**06 08 40.4**	**-0.9**
BALT	**Daday**	**146.99**	**314**	*i* P		**PKPbc**		**06 08 42.1**	**-0.7**
YAYL	**Yayladag**	**147.08**	**303**	*i* P		**PKPbc**		**06 08 41.8**	**-1.3**
CDAG	**Cicekdag**	**147.14**	**311**	*i* P		**PKPdf**		**06 08 41.4**	**+1.0**
GEDT	**Eldivan**	**147.43**	**313**	*i* P		**PKPbc**		**06 08 43.2**	**-0.8**
KWP	**Kalwaria Pacla**	**147.58**	**335**	*e*PKP		**PKPbc**		**06 08 43.5**	**-0.4**
KWP	**Kalwaria Pacla**	**147.58**	**335**	*e*PKPbc		**PKPbc**		**06 08 42.6**	**-1.3**
KWP	**Kalwaria Pacla**	**147.58**	**335**	⇑*i* P		**PKPbc**		**06 08 43.4**	**-0.4**
KWP	**Kalwaria Pacla**	**147.58**	**335**	*e*PKP		**PKPbc**		**06 08 43.5**	**-0.4**
BR131	**Keskin Array S**	**147.61**	**311**	*e*PKPdf		**PKPbc**		**06 08 41.5**	**+0.3**
BR131				*e*PKPbc		**PKPbc**		**06 08 44.0**	**-0.4**
BRTR	**Keskin Array B**	**147.61**	**311**	PKPbc		**PKPbc**		**06 08 43.4**	**-1.1**
	comp=Z,12nm,0.6s,baz=143,slow=4.7,SNR=67								
BRTR	**Keskin Array B**	**147.61**	**311**	PKPbc		**PKPbc**		**06 08 43.4**	**-1.1**
GULE	**Gulek**	**147.71**	**306**	*i* P		**PKPbc**		**06 08 44.2**	**-0.6**
TLCR		**147.82**	**323**	⇓*i* P		**PKPbc**		**06 08 44.1**	**-0.5**
BUR08	**Bucovina Ar. S**	**148.01**	**330**	*e*PKPbc		**PKPbc**		**06 08 45.7**	**+0.5**
GHRR		**148.01**	**326**	⇑*i* P		**PKPbc**		**06 08 46.9**	**+1.8**
BURAR	**Bucovina Array**	**148.02**	**330**	⇑*i* P		**PKPbc**		**06 08 46.0**	**+0.8**
CFR	**Carcaliu**	**148.20**	**324**	⇓*i* P		**PKPbc**		**06 08 45.2**	**-0.4**
KOLS	**Kolonicke sedl**	**148.30**	**334**	*e*PKP		**PKPbc**		**06 08 45.8**	**0.0**
TIRR	**Tirgusor**	**148.49**	**323**	⇓*i* P		**PKPbc**		**06 08 47.0**	**+0.7**
VRI	**Vrincioaia**	**148.50**	**326**	⇓*i* P		**PKPbc**		**06 08 46.9**	**+0.5**
PLOR	**Plostina**	**148.55**	**326**	⇑*i* P		**PKPbc**		**06 08 46.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**148.65**	**335**	*e*PKP		**PKPbc**		**06 08 47.1**	**+0.5**
KSP	**Ksiaz**	**148.72**	**343**	*e*PKP		**PKPbc**		**06 08 46.8**	**0.0**
KSP	**Ksiaz**	**148.72**	**343**	*e*PKP		**PKPbc**		**06 08 46.7**	**0.0**
HENT	**Hendek**	**148.98**	**315**	*i* P		**PKPbc**		**06 08 46.4**	**-1.3**
CLL	**Collm**	**149.11**	**347**	⇑*i* PKPbc		**PKPbc**		**06 08 47.3**	**-0.4**
CLL				*i* PKPab		**PKPab**		**06 08 52.9**	**-0.4**
	comp=Z,7.0nm,0.9s								
DOPR	**Dopca**	**149.11**	**328**	⇑*i* P		**PKPbc**		**06 08 47.8**	**-0.1**
MLR	**Muntele Rosu**	**149.16**	**326**	PKPbc		**PKPbc**		**06 08 47.1**	**-1.0**
	baz=301,slow=5.9								
MLR	**Muntele Rosu**	**149.16**	**326**	PKPbc		**PKPbc**		**06 08 47.1**	**-1.0**
MLR	**Muntele Rosu**	**149.16**	**326**	⇑*i* P		**PKPbc**		**06 08 47.3**	**-0.9**
DPC	**Dobruska-Polom**	**149.16**	**342**	⇑*e*PKP		**PKPbc**		**06 08 47.4**	**-0.5**
KRLC	**Kraliky**	**149.27**	**341**	⇑*e*PKP		**PKPbc**		**06 08 48.0**	**-0.2**
MORC	**Moravsky Berou**	**149.30**	**340**	⇑*i* P		**PKPdf**		**06 08 44.2**	**+0.7**
BRG	**Berggiesshubel**	**149.30**	**345**	*e*PKP		**PKPbc**		**06 08 47.2**	**-0.9**
	comp=Z,5.3nm,0.6s								
ERMK	**Ermenek**	**149.33**	**306**	*i* P		**PKPbc**		**06 08 48.1**	**-0.9**
PVCC	**Panska Ves**	**149.47**	**344**	⇑*e*PKP		**PKPbc**		**06 08 48.2**	**-0.4**
CSS	**Prodhromos**	**149.56**	**303**	*e*PKPbc		**PKPbc**		**06 08 49.1**	**-0.3**
VOIR		**149.65**	**327**	⇑*i* P		**PKPbc**		**06 08 49.1**	**-0.2**
BORA	**Eskisehir**	**149.74**	**314**	*i* P		**PKPbc**		**06 08 47.5**	**-2.2**
ARR	**Arges**	**149.91**	**327**	⇑*i* P		**PKPbc**		**06 08 50.4**	**+0.5**
GAZI	**Gazipasa**	**149.93**	**306**	*i* P		**PKPbc**		**06 08 48.7**	**-1.4**
VYHS	**Vyhne**	**149.97**	**338**	*e*PKP		**PKPbc**		**06 08 49.6**	**-0.3**
VYHS				*e*				06 08 57.6	
PRU	**Pruhonice**	**149.97**	**344**	⇑*e*PKP		**PKPbc**		**06 08 49.3**	**-0.5**
PRU				*e*PKPab		**PKPbc**		**06 08 56.0**	**-0.9**
PSZ	**Piszkesteto**	**150.06**	**336**	⇓*i* P		**PKPbc**		**06 08 50.1**	**-0.1**
NKC	**Novy Kostel**	**150.24**	**347**	⇑*e*PKP		**PKPbc**		**06 08 50.2**	**-0.3**
TREC	**Trest**	**150.34**	**342**	⇑*e*PKP		**PKPbc**		**06 08 50.2**	**-0.5**
GDZ	**Gediz**	**150.78**	**313**	*i* P		**PKPbc**		**06 08 50.8**	**-1.5**
KHC	**Kasperske Hory**	**151.01**	**344**	*e*PKPbc		**PKPbc**		**06 08 51.4**	**-0.9**
KHC				*e*PKPab		**PKPab**		**06 09 01.2**	**-0.1**
KHC	**Kasperske Hory**	**151.01**	**344**	⇑*e*PKP		**PKPbc**		**06 08 52.0**	**-0.3**
KHC				*e*PKPAB		**PKPab**		**06 09 01.1**	**-0.2**
GRF	**Grafenberg Arr**	**151.01**	**348**	*e*PKP		**PKPbc**		**06 08 51.5**	**-0.8**
KHAL	**Karahalli**	**151.11**	**312**	*i* P		**PKPbc**		**06 08 51.5**	**-1.4**
BZS	**Buzias**	**151.17**	**331**	⇑*i* P		**PKPbc**		**06 08 51.9**	**-0.8**
GERES	**GERESS Array B**	**151.24**	**344**	PKPbc		**PKPbc**		**06 08 51.2**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=29,slow=3.0,SNR=21								
GERES	**GERESS Array B**	**151.24**	**344**	PKPbc		**PKPbc**		**06 08 51.2**	**-1.7**
CONA	**Conrad Observa**	**151.46**	**340**	⇑*i* PKiKP		**PKPbc**		**06 08 53.1**	**-0.4**
	comp=Z,4.5nm,0.6s								
BALY	**Balya**	**151.69**	**316**	*i* P		**PKPbc**		**06 08 52.4**	**-1.8**
PKSM	**Moragy**	**151.95**	**335**	⇑*i* P		**PKPbc**		**06 08 53.5**	**-0.9**
AKAS	**Kas**	**151.95**	**307**	*i* P		**PKPbc**		**06 08 53.2**	**-1.7**
AYDN	**Tasoluk**	**152.56**	**312**	*e*P		**PKPbc**		**06 08 54.9**	**-1.3**
VTS	**Vitosha**	**152.58**	**325**	⇓*i* P		**PKPbc**		**06 08 56.5**	**+0.3**
URLA	**Izmir**	**153.09**	**314**	*i* P		**PKPbc**		**06 08 55.1**	**-2.2**
WTTA	**Wattenberg**	**153.22**	**346**	⇑*i* PKPbc		**PKPbc**		**06 08 56.1**	**-1.3**
	comp=Z,5.8nm,0.9s								
DAVOX	**Davos/Dischmat**	**154.06**	**348**	PKPbc		**PKPbc**		**06 08 57.4**	**-1.8**
	comp=Z,3.8nm,0.6s,baz=228,slow=9.5,SNR=9.3								
DAVOX	**Davos/Dischmat**	**154.06**	**348**	PKPbc		**PKPbc**		**06 08 57.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**171.63**	**177**	PKP		**PKPdf**		**06 09 06.8**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=360,slow=0.6,SNR=8.3								
TORD				PKPab		**PKPab**		**06 10 32.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=170,slow=4.1,SNR=19								
TORD	**Torodi Ar. Bea**	**171.63**	**177**	PKP		**PKPdf**		**06 09 06.8**	**-1.4**
TORD				PKPab		**PKPab**		**06 10 32.2**	**+0.4**

*ISCJB **17** 05:57:50.8±0.6, 10.56N±0.04×62.56W±0.03, h105km±7km, Error ellipse: s-maj=6.4km s-min=4.0km az=156.3*
*FUNV **17** 05:57:52.1, 10.63N×62.48W, h102km, MW3.1*
*TRN **17** 05:57:54.8, 10.57N×62.45W, h85km, MD3.0*

ISC 17 05:57:51.1±1.3, 10.56N±0.04×62.55W±0.03, h108km±9km, n22, σ1°26/38, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**74**	⇓*i* P		**Pn**		**05 58 07.0**	**+0.2**
GUIV						eS		**Sn**	**05 58 16.5**	**-2.0**
GUNV	**Guanoco**	**0.55**	**225**

YKA	Yellowknife Ar	99.71	24	P	Pdif	06 31 04.0	+0.7
	0.1nm,0.8s,baz=130,slow=0.5,SNR=3.7						
YKA	Yellowknife Ar	99.71	24	P	Pdif	06 31 04.0	+0.7
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	06 36 16.2	-0.5
	0.5nm,0.8s,baz=52,slow=2.8,SNR=3.2						
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	06 36 16.2	-0.5

NEIC ***17*** *06:53:13.2, 38.60S×176.74E, h69km, ML4.0(WEL), After WEL.*

WEL 17 06:53:12.7±0.1, 38.60S×176.75E, h75km±1km, ML4.0/18, 17C-26D, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRRZ	Plateau Road	0.30	289	⇓P*	Pn	06 53 24.0	-0.4
PRRZ				S*	Sn	06 53 32.4	-0.6
PRRZ	Plateau Road	0.30	289	P*	Pn	06 53 24.0	-0.4
PRRZ				S*	Sn	06 53 32.6	-0.4
RRRZ	Republican Roa	0.31	324	P*	Pn	06 53 24.1	-0.4
RRRZ	Republican Roa	0.31	324	P*	Pn	06 53 24.1	-0.4
ALRZ	Allen Road	0.32	276	⇓P*	Pn	06 53 24.2	-0.3
ALRZ				S*	Sn	06 53 32.5	-0.8
ALRZ	Allen Road	0.32	276	P*	Pn	06 53 24.2	-0.3
TARZ	Mount Tarawera	0.41	332	⇓P*	Pn	06 53 25.2	0.0
TARZ	Mount Tarawera	0.41	332	P*	Pn	06 53 25.2	0.0
RAHZ	Arahi	0.41	141	⇑PN	Pn	06 53 25.5	+0.2
RAHZ				SN	Sn	06 53 35.3	+0.7
RAHZ	Arahi	0.41	141	Pn	Pn	06 53 25.5	+0.2
HRRZ	Handcock Road	0.42	299	⇓P*	Pn	06 53 24.8	-0.4
HRRZ	Handcock Road	0.42	299	P*	Pn	06 53 24.9	-0.4
URZ	Urewera	0.44	40	⇓P*	Pn	06 53 25.0	-0.4
URZ				S*	Sn	06 53 34.0	-0.8
URZ	Urewera	0.44	40	P*	Pn	06 53 25.0	-0.4
EDRZ	Edgecumbe	0.49	359	⇓P*	Pn	06 53 25.5	-0.4
EDRZ	Edgecumbe	0.49	359	P*	Pn	06 53 25.5	-0.4
NMHZ	Naumai	0.51	175	⇑PN	Pn	06 53 26.4	+0.4
NMHZ				SN	Sn	06 53 37.5	+1.5
NMHZ	Naumai	0.51	175	Pn	Pn	06 53 26.4	+0.4
MKRZ	Makatiti	0.51	334	P*	Pn	06 53 25.9	-0.1
MKRZ	Makatiti	0.51	334	P*	Pn	06 53 25.9	-0.1
OMRZ	Omania	0.57	328	P*	Pn	06 53 26.2	-0.2
OMRZ	Omania	0.57	328	P*	Pn	06 53 26.4	-0.2
HATZ	Hinemaiaia	0.59	240	P*	Pn	06 53 26.5	-0.4
HATZ	Hinemaiaia	0.59	240	P*	Pn	06 53 26.5	-0.4
BKZ	Black Stump Fm	0.61	199	⇑P*	Pn	06 53 26.8	-0.3
BKZ				S*	Sn	06 53 37.2	-0.5
BKZ	Black Stump Fm	0.61	199	P*	Pn	06 53 26.8	-0.3
BKZ				S*	Sn	06 53 37.2	-0.5
WHTZ	Whakaora	0.62	263	⇓P*	Pn	06 53 27.4	+0.1
WHTZ	Whakaora	0.62	263	P*	Pn	06 53 27.4	+0.1
MWZ	Matawai	0.66	67	⇓P*	Pn	06 53 27.6	0.0
MWZ	Matawai	0.66	67	P*	Pn	06 53 27.6	0.0
KARZ	Kaharoa	0.70	325	P*	Pn	06 53 27.7	-0.2
KARZ	Kaharoa	0.70	325	P*	Pn	06 53 27.7	-0.2
OPRZ	Ohinepanea	0.76	348	⇑P*	Pn	06 53 28.2	-0.4
OPRZ	Ohinepanea	0.76	348	P*	Pn	06 53 28.2	-0.4
WATZ	Wairara	0.81	262	⇓P*	Pn	06 53 29.0	-0.1
WATZ	Wairara	0.81	262	P*	Pn	06 53 29.0	-0.1
RATZ	Rangitukua	0.81	250	P*	Pn	06 53 29.1	-0.2
RATZ	Rangitukua	0.81	250	P*	Pn	06 53 29.1	-0.2
KNZ	Kokohu	0.84	121	⇑PN	Pn	06 53 29.2	-0.3
KNZ	Kokohu	0.84	121	Pn	Pn	06 53 29.2	-0.3
MCHZ	McNeill Hill	0.85	183	⇑PN	Pn	06 53 30.2	+0.5
MCHZ	McNeill Hill	0.85	183	Pn	Pn	06 53 30.2	+0.6
KATZ	Kakaramea	0.91	245	⇓P*	Pn	06 53 30.3	-0.2
KATZ	Kakaramea	0.91	245	P*	Pn	06 53 30.3	-0.2
PRGZ	Paritu Road	0.94	111	PN	Pn	06 53 31.1	+0.3
PRGZ	Paritu Road	0.94	111	Pn	Pn	06 53 31.1	+0.3
TGRZ	Tauranga	0.95	336	⇑P*	Pn	06 53 30.7	-0.1
TGRZ	Tauranga	0.95	336	P*	Pn	06 53 30.7	-0.1
KRVZ	Karewarewa	1.00	240	⇓P*	Pn	06 53 31.6	0.0
KRVZ	Karewarewa	1.00	240	P*	Pn	06 53 31.6	0.0
OTVZ	Oturere	1.02	236	⇓P*	Pn	06 53 31.9	0.0
OTVZ	Oturere	1.02	236	P*	Pn	06 53 31.9	0.0
BHHZ	Black Hill Sta	1.04	211	⇑P*	Pn	06 53 31.8	-0.2
BHHZ	Black Hill Sta	1.04	211	P*	Pn	06 53 31.8	-0.2
WTVZ	West Tongariro	1.04	240	⇓P*	Pn	06 53 32.1	0.0
WTVZ	West Tongariro	1.04	240	P*	Pn	06 53 32.1	0.0
MHGZ	Mahia Peninsul	1.06	122	PN	Pn	06 53 32.2	0.0
MHGZ	Mahia Peninsul	1.06	122	Pn	Pn	06 53 32.2	0.0
NGZ	Ngauruhoe	1.07	237	⇓P*	Pn	06 53 32.5	0.0
NGZ	Ngauruhoe	1.07	237	P*	Pn	06 53 32.5	0.0
TUVZ	Tukino	1.09	231	⇓P*	Pn	06 53 32.7	0.0
TUVZ	Tukino	1.09	231	P*	Pn	06 53 32.7	0.0
CKHZ	Cape Kidnapper	1.09	167	⇑PN	Pn	06 53 32.5	-0.1
CKHZ	Cape Kidnapper	1.09	167	Pn	Pn	06 53 32.5	-0.1
WIZ	White Island	1.12	18	P*	Pn	06 53 32.8	0.0
WIZ	White Island	1.12	18	P*	Pn	06 53 32.9	0.0
WPVZ	Whakapapa	1.12	237	⇓P*	Pn	06 53 33.1	+0.1
WPVZ	Whakapapa	1.12	237	P*	Pn	06 53 33.1	+0.1
MOVZ	Moawhango	1.12	223	⇓P*	Pn	06 53 32.8	-0.2
MOVZ	Moawhango	1.12	223	P*	Pn	06 53 32.8	-0.2
TWVZ	Taurewa	1.13	245	⇓P*	Pn	06 53 32.9	-0.2
TWVZ	Taurewa	1.13	245	P*	Pn	06 53 32.9	-0.2
FWVZ	Far West T-bar	1.14	234	P*	Pn	06 53 33.1	-0.4
FWVZ	Far West T-bar	1.14	234	P*	Pn	06 53 33.1	-0.4
CNGZ	Carnagh Statio	1.15	85	PN	Pn	06 53 33.8	+0.6
CNGZ	Carnagh Statio	1.15	85	Pn	Pn	06 53 33.8	+0.6
WNVZ	Wahianoa	1.16	230	⇓P*	Pn	06 53 33.6	0.0
WNVZ	Wahianoa	1.16	230	P*	Pn	06 53 33.6	0.0
TRVZ	Turoa	1.17	233	⇓P*	Pn	06 53 33.7	-0.1
TRVZ	Turoa	1.17	233	P*	Pn	06 53 33.7	-0.1
KAHZ	Kahuranaki	1.20	175	⇑PN	Pn	06 53 33.7	-0.3
KAHZ	Kahuranaki	1.20	175	Pn	Pn	06 53 33.8	-0.3
MTVZ	Mangateitei	1.27	231	⇓P*	Pn	06 53 35.0	0.0
MTVZ	Mangateitei	1.27	231	P*	Pn	06 53 35.0	0.0
PUZ	Puketiti	1.29	67	PN	Pn	06 53 35.1	0.0
PUZ	Puketiti	1.29	67	Pn	Pn	06 53 35.1	0.0
PKVZ	Pokaka	1.30	237	P*	Pn	06 53 35.3	+0.1
PKVZ	Pokaka	1.30	237	P*	Pn	06 53 35.3	+0.1
TOZ	Tahuroa Road	1.31	311	⇑P*	Pn	06 53 35.6	+0.4
TOZ	Tahuroa Road	1.31	311	P*	Pn	06 53 35.6	+0.4
PNHZ	Pukenui	1.39	198	⇑PN	Pn	06 53 35.5	-0.9
PNHZ	Pukenui	1.39	198	Pn	Pn	06 53 35.5	-0.9
PXZ	Pawanui	1.44	177	⇑PN	Pn	06 53 35.9	-1.0
PXZ	Pawanui	1.44	177	Pn	Pn	06 53 36.0	-1.0
HIZ	Hauiti	1.49	273	⇓PN	Pn	06 53 38.2	+0.6
HIZ	Hauiti	1.49	273	Pn	Pn	06 53 38.2	+0.6
WPHZ	Waipukurau	1.49	189	PN	Pn	06 53 36.5	-1.2
WPHZ	Waipukurau	1.49	189	Pn	Pn	06 53 36.5	-1.2
TSZ	Takapari Road	1.59	202	⇑PN	Pn	06 53 37.9	-1.1
TSZ	Takapari Road	1.59	202	Pn	Pn	06 53 37.9	-1.1
MXZ	Matakaoa Point	1.60	50	P*	Pn	06 53 40.1	+1.0
MXZ	Matakaoa Point	1.60	50	P*	Pn	06 53 40.1	+1.0
VRZ	Vera Road	1.64	251	⇓P*	Pn	06 53 40.2	+0.5
VRZ	Vera Road	1.64	251	P*	Pn	06 53 40.1	+0.5
PRHZ	Porangahau	1.67	183	PN	Pn	06 53 38.6	-1.4
DVHZ	Dannevirke	1.76	195	PN	Pn	06 53 39.6	-1.7
DVHZ	Dannevirke	1.76	195	Pn	Pn	06 53 39.6	-1.7
WAZ	Wanganui	1.80	229	PN	Pn	06 53 42.3	+0.6
WAZ	Wanganui	1.80	229	Pn	Pn	06 53 42.3	+0.6
MKAZ	Moumakai	1.94	319	PN	Pn	06 53 44.2	+0.6
MKAZ	Moumakai	1.94	319	Pn	Pn	06 53 44.2	+0.6
POWZ	Post Office Ro	1.95	203	PN	Pn	06 53 40.2	-3.5
POWZ	Post Office Ro	1.95	203	Pn	Pn	06 53 40.2	-3.5
RAEZ	Rainy Point	1.96	249	PN	Pn	06 53 45.2	+1.3
RAEZ	Rainy Point	1.96	249	Pn	Pn	06 53 45.2	+1.3
KUZ	Kuaotunu	2.02	336	⇑PN	Pn	06 53 44.9	+0.3
KUZ	Kuaotunu	2.02	336	Pn	Pn	06 53 44.9	+0.3
DREZ	Durham Road	2.08	253	⇓PN	Pn	06 53 46.8	+1.3
DREZ	Durham Road	2.08	253	Pn	Pn	06 53 46.8	+1.3
NEZ	North Egmont	2.18	251	⇑PN	Pn	06 53 48.4	+1.5
NEZ	North Egmont	2.18	251	Pn	Pn	06 53 48.4	+1.5
OTAZ	Otara	2.19	318	Pn	Pn	06 53 47.2	+0.2
DFE	Dawson Falls	2.19	250	PN	Pn	06 53 48.8	+1.8
DFE	Dawson Falls	2.19	250	Pn	Pn	06 53 48.8	+1.8
PKE	Pukeiti	2.24	254	PN	Pn	06 53 48.6	+1.0
PKE	Pukeiti	2.24	254	Pn	Pn	06 53 48.6	+1.0
TIWZ	Tintock	2.28	197	PN	Pn	06 53 46.1	-2.2
TIWZ	Tintock	2.28	197	Pn	Pn	06 53 46.1	-2.1
NRZ	Ngariki Road	2.32	250	Pn	Pn	06 53 49.7	+1.0
NWEZ	Newall Road	2.35	252	PN	Pn	06 53 50.0	+0.9
NWEZ	Newall Road	2.35	252	Pn	Pn	06 53 50.0	+0.9
HOWZ	Holdsworth Sta	2.49	202	PN	Pn	06 53 48.3	-2.7
HOWZ	Holdsworth Sta	2.49	202	Pn	Pn	06 53 48.3	-2.7
OGWZ	Otaki Gorge	2.53	208	PN	Pn	06 53 49.6	-1.9
OGWZ	Otaki Gorge	2.53	208	Pn	Pn	06 53 49.6	-1.9
TMWZ	Te Maipa	2.60	195	PN	Pn	06 53 49.8	-2.7
TMWZ	Te Maipa	2.60	195	Pn	Pn	06 53 49.8	-2.7
KIW	Kapiti Island	2.67	212	PN	Pn	06 53 51.3	-2.2
KIW	Kapiti Island	2.67	212	Pn	Pn	06 53 51.3	-2.2
MTW	Mount Morrison	2.73	200	PN	Pn	06 53 51.3	-3.1
MTW	Mount Morrison	2.73	200	Pn	Pn	06 53 51.3	-3.1
CAW	Cannon Point	2.83	207	⇓PN	Pn	06 53 52.8	-2.7
CAW	Cannon Point	2.83	207	Pn	Pn	06 53 52.8	-2.7
TRWZ	Traveller	2.92	196	PN	Pn	06 53 53.7	-3.1
TRWZ	Traveller	2.92	196	Pn	Pn	06 53 53.7	-3.1
PAWZ	Paruwai Farm	2.96	200	PN	Pn	06 53 54.1	-3.3
PAWZ	Paruwai Farm	2.96	200	Pn	Pn	06 53 54.1	-3.3
MSWZ	Moikau Station	3.04	202	PN	Pn	06 53 55.1	-3.5
MSWZ	Moikau Station	3.04	202	Pn	Pn	06 53 55.1	-3.5
DUWZ	D'Urville Isla	3.10	224	⇓PN	Pn	06 53 57.3	-2.1
DUWZ	D'Urville Isla	3.10	224	Pn	Pn	06 53 57.3	-2.1
BHW	Baring Head	3.16	207	PN	Pn	06 53 56.5	-3.5
BHW	Baring Head	3.16	207	Pn	Pn	06 53 56.5	-3.5
PLWZ	Palliser	3.19	201	PN	Pn	06 53 56.8	-3.7
PLWZ	Palliser	3.19	201	Pn	Pn	06 53 56.8	-3.7
TCW	Tory Channel	3.23	215	PN	Pn	06 53 58.1	-3.0
TCW	Tory Channel	3.23	215	Pn	Pn	06 53 58.1	-3.0
WCZ	Waipu Caves	3.27	323	⇑PN	Pn	06 54 02.6	+1.0
WCZ	Waipu Caves	3.27	323	Pn	Pn	06 54 02.6	+1.0
TUWZ	Tuamarina	3.56	216	PN	Pn	06 54 02.5	-2.9
TUWZ	Tuamarina	3.56	216	Pn	Pn	06 54 02.5	-2.9
BSWZ	Blackbirch Sta	3.82	214	PN	Pn	06 54 05.7	-3.3
BSWZ	Blackbirch Sta	3.82	214	Pn	Pn	06 54 05.7	-3.3
THZ	Tophouse	4.32	222	PN	Pn	06 54 12.7	-3.3
THZ	Tophouse	4.32	222	Pn	Pn	06 54 12.7	-3.3
KHZ	Kahutara	4.54	212	PN	Pn	06 54 15.5	-3.2
DSZ	Denniston Nort	4.93	229	PN	Pn	06 54 20.4	-3.8
DSZ	Denniston Nort	4.93	229	Pn	Pn	06 54 20.4	-3.8
MQZ	McQueen's Vall	5.97	210	PN	Pn	06 54 33.0	-5.4
MQZ	McQueen's Vall	5.97	210	Pn	Pn	06 54 33.0	-5.4
FOZ	Fox Glacier	7.29	225	PN	Pn	06 54 51.3	-5.0
FOZ	Fox Glacier	7.29	225	Pn	Pn	06 54 51.3	-5.0
ODZ	Otahua Downs	7.89	213	PN	Pn	06 54 59.6	-5.0
ODZ	Otahua Downs	7.89	213	Pn	Pn	06 54 59.6	-5.0

TIF 17 06:59:17.4, 43.51N×45.05E, h9km±5km, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	Oni	1.49	233	P	Pg	06 59 46.5	+0.5
ONI				S	Sg	07 00 06.3	+0.8
GOR	Gori	1.67	205	P	Sn	07 00 11.9	+3.4
TBLG	Delisi	1.79	188	P	Pb	06 59 50.6	+0.2
TBLG				S	Sg	07 00 15.2	+0.2
DGRG	David-gareji	2.07	173	P	Pb	06 59 55.7	+0.5
DGRG				S	Sg	07 00 24.0	0.0
AKH	Akhalkalaki	2.39	209	P	Pg	07 00 03.8	+0.3
AKH				S	Sb	07 00 32.6	+1.9
AB31	Akbulak array	11.77	56	⇓Pn	Pn	07 02 09.5	+4.2
	0.3nm,0.6s,baz=246,slow=12,SNR=4.8						
AB31				⇑Sn	Sn	07 04 12.4	-4.4
	0.1nm,0.3s,baz=247,slow=23,SNR=3.1						

ISCJB ***17*** *07:18:11.8±0.6, 36.98N±0.04×22.14E±0.05, h14km±6km, Error ellipse: s-maj=8.1km s-min=5.6km az=40.0*
ATH ***17*** *07:18:11.7, 37.01N×22.06E, h23km±4km, MD3.0/6*
CSEM ***17*** *07:18:11.6±0.2, 36.98N×22.14E, h11km±1km, MD3.0, Error ellipse: s-maj=6.3km s-min=5.4km az=108.0*
THE ***17*** *07:18:12.3, 36.97N×22.16E, h2km±27km, ML1.6/2, Error ellipse: s-maj=27.4km s-min=0.7km az=213.0*

ISC 17 07:18:11.9±1.0, 36.97N±0.03×22.14E±0.03, h14km±8km, n17, σ0946/27, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYR	Agios Nikonas	0.26	143	P	Pg	07 18 16.9	-0.6
DYR				S	Sg	07 18 21.6	+0.4
DYR	Agios Nikonas	0.26	143	P	Pg	07 18 16.9	-0.6
DYR				S	Sg	07 18 21.6	+0.4
ITM	Ithomi	0.27	321	P	Pg	07 18 17.4	-0.1
ITM				S	Sg	07 18 21.7	+0.3
ITM	Ithomi	0.27	321	ePB	Pg	07 18 17.4	-0.1
ITM				eSB	Sg	07 18 21.5	+0.1
ITM	Ithomi	0.27	321	P	Pg	07 18 17.4	-0.1
ITM				S	Sg	07 18 21.7	+0.3
PYL	PYLOS	0.33	256	P	Pg	07 18 18.3	-0.3
PYL				S	Sb	07 18 24.2	-0.5
PYL	PYLOS	0.33	256	ePB	Pg	07 18 18.2	-0.3
PYL	PYLOS	0.33	256	P	Pg	07 18 18.3	-0.3
PYL				S	Sb	07 18 24.2	-0.5
VLX	Vlachokerasia	0.44	26	P	Pg	07 18 20.4	-0.2
VLX				S	Sg	07 18 27.1	+0.5
VLX	Vlachokerasia	0.44	26	ePB	Pg	07 18 20.5	-0.2
VLX				eSB	Sb	07 18 27.3	-0.8
VLX	Vlachokerasia	0.44	26	ePb	Pg	07 18 20.5	-0.2
VLX				S	Sg	07 18 27.1	+0.5
GUR	Goura	0.97	10	ePN	Pg	07 18 30.6	-0.1
GUR	Goura	0.97	10	ePn	Pg	07 18 30.6	-0.1
KYTH	Kithira	1.00	134	ePN	Pn	07 18 32.5	+0.9
KYTH	Kithira	1.00	134	ePn	Pn	07 18 32.5	+0.9
DID	Didima	1.02	58	ePN	Pn	07 18 31.8	-0.1
DID	Didima	1.02	58	ePn	Pn	07 18 31.8	-0.1

AUST ***17*** *07:20:11.9, 16.50S×170.00E, h25km*
ISCJB ***17*** *07:20:28.6±3.3, 18.22S±0.06×168.24E±0.08, h29km±23km, mb4.7/36, MS3.8/11, Error ellipse: s-maj=12.8km s-min=10.0km az=169.9*
MOS ***17*** *07:20:29.8±1.4, 18.06S×168.03E, h33km, mb5.2/5, Error ellipse: s-maj=13.7km s-min=10.8km az=8.2*
IDC ***17*** *07:20:30.4±5.5, 18.19S×168.28E, h33km±40km, mb4.2/17, mb1 4.4/19, mb1mx4.4/24, mbtmp4.3/19, ML4.6/2, MS3.7/12, Ms1 3.8/12, ms1mx3.5/38, Error ellipse: s-maj=18.9km s-min=17.1km az=106.0*
BJI ***17*** *07:20:31.0, 17.97S×169.00E, h65km, mB5.0/13, mb4.8/18, Ms5.0/5, Ms7 4.6/5*
NEIC ***17*** *07:20:35.0±1.1, 18.15S×168.11E, h70km±9km, mb4.5/14, Error ellipse: s-maj=9.8km s-min=7.5km az=165.0*
NEIC Felt at Port-Vila.

ISC 17 07:20:33.8±0.5, 18.37S±0.05×168.21E±0.08, h63km±3km, n145, σ1956/158, mb4.7/36, 8C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.04	204	ePn	Pn	07 21 31.3	-2.0
	47nm,0.2s						
DZM				eSn	Sn	07 22 15.7	-3.8
	123nm,0.2s						
DZM	Mont Dzumac	4.04	204	Pn	Pn	07 21 31.1	-2.2
	6.1nm,0.3s,baz=91,slow=20,SNR=75						
DZM				Sn	Sn	07 22 16.8	-2.7
	19nm,0.3s,baz=130,slow=23,SNR=8.6						
DZM				LR	LR	07 23 08.0	
	comp=Z,686nm,20.7s,baz=22,slow=37						
DZM	Mont Dzumac	4.04	204	eP	Pn	07 21 30.6	-2.7
DZM				eS	Sn	07 22 15.5	-4.0
DZM	Mont Dzumac	4.04	204	Pn	Pn	07 21 31.1	-2.2
DZM				Sn	Sn	07 22 16.8	-2.7
NOUC	Port Laguerre	4.13	205	eP	Pn	07 21 32.6	-1.8
NOUC				eS	Sn	07 22 19.4	-2.0
MSVF	Nonsavu	9.38	88	eP	Pn	07 22 49.9	+3.6
MSVF	Nonsavu	9.38	88	ePn	Pn	07 22 49.9	+3.6
HNR	Honiara	11.96	317	Pn	Pn	07 23 18.7	-2.9
	25nm,0.3s,baz=138,slow=2.5,SNR=9.0						
HNR				LR	LR	07 27 15.2	
	comp=Z,176nm,18.2s,baz=258,slow=34						
HNR	Honiara	11.96	317	ePn	Pn	07 23 18.1	-3.5
	161nm,0.6s						
EIDS	Eidsvold	17.35	243	eP	P	07 24 33.7	+1.4
	15nm,1.0s						
OUZ	Omahuta	17.46	165	eP	P	07 24 35.4	+2.1
	11nm,0.8s						
ARMA	Armidale	19.26	228	P	Pn	07 25 03.9	+9.0
	baz=22,SNR=6.3						
RMQ	Roma	19.70	242	P	Pn	07 25 01.4	+1.4
	baz=22,SNR=6.0						
CTA	Charters Tower	20.81	262	P	P	07 25 11.2	+1.1
	15nm,1.0s,baz=87,slow=14,SNR=3.8						
CTA				LR	LR	07 32 29.9	
	comp=Z,242nm,18.9s,baz=46,slow=34						
CTA	Charters Tower	20.81	262	P	P	07 25 11.2	+1.1
URZ	Urewera	21.29	160	P	P	07 25 16.2	+1.1
	6.4nm,0.6s,baz=333,slow=13,SNR=2.4						
URZ				LR	LR	07 32 28.3	
	comp=Z,194nm,19.7s,baz=161,slow=34						
URZ	Urewera	21.29	160	eP	P	07 25 20.9	+5.8
	14nm,0.7s						
QLP	Quilpie	23.59	245	P	P	07 25 40.6	+1.6
	baz=26,SNR=9.6						
CMSA	Cobar Meteorol	24.21	233	P	P	07 25 46.6	+2.0
	baz=27,SNR=8.2						
COEN	Coen	24.44	277	eP	P	07 25 46.7	-0.1
	73nm,1.2s						
RPZ	Rata Peaks	25.39	175	LR	LR	07 34 55.2	
	comp=Z,158nm,18.9s,baz=334,slow=34						
STKA	Stephens Creek	27.51	236	P	P	07 26 16.3	+1.8
	3.3nm,0.7s,baz=54,slow=8.5,SNR=9.2						
STKA	Stephens Creek	27.51	236	eP	P	07 26 16.7	+2.3
	1.4nm,0.9s						
STKA	Stephens Creek	27.51	236	P	P	07 26 16.8	+2.3
	baz=30,SNR=7.0						
WRAB	Tennant Creek	32.00	262	eP	P	07 26 53.1	-1.2
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRAB	Tennant Creek	32.00	262	eP	P	07 26 53.1	-1.2
	comp=Z,4.3nm,0.9s						
WRA	Warramunga Arr	32.01	262	P	P	07 26 53.3	-1.1
	comp=Z,0.6nm,0.4s,baz=80,slow=6.2,SNR=16						
WRA				PcP	PcP	07 29 43.0	-0.1
	comp=Z,1.4nm,0.7s,baz=89,slow=2.8,SNR=8.6						
WRA	Warramunga Arr	32.01	262	P	P	07 26 53.3	-1.1
WRA				PcP	PcP	07 29 43.0	-0.1
AS31	Alice Springs	32.41	255	eP	P	07 26 57.5	-0.4
ASAR	Alice Springs	32.41	255	P	P	07 26 57.6	-0.3
	comp=Z,3.3nm,0.5s,baz=82,slow=8.4,SNR=39						
ASAR				PcP	PcP	07 29 44.5	+0.2
	comp=Z,1.3nm,0.8s,baz=93,slow=3.3,SNR=6.3						
ASAR				LR	LR	07 39 49.7	
	comp=Z,178nm,20.8s,baz=358,slow=36						
ASAR	Alice Springs	32.41	255	P	P	07 26 57.6	-0.3
ASAR				PcP	PcP	07 29 44.5	+0.2
TBI	Tubuai	39.76	105	eLR	LR	07 39 34.5	
	comp=Z,102nm,26.8s						
PPT2	Papeete2	40.09	96	eLR	LR	07 39 46.3	
	comp=Z,105nm,27.5s						
PPT	Papeete	40.09	96	LR	LR	07 40 25.7	
	comp=Z,152nm,21.9s,baz=289,slow=30						
FITZ	Fitzroy Crossi	40.37	263	P	P	07 28 06.0	+0.2
	comp=Z,5.1nm,0.6s,baz=122,slow=7.4,SNR=26						
FITZ				LR	LR	07 44 47.3	
	comp=Z,159nm,20.6s,baz=177,slow=36						
FITZ	Fitzroy Crossi	40.37	263	eP	P	07 28 06.3	+0.6
	comp=Z,7.5nm,0.6s						
FITZ	Fitzroy Crossi	40.37	263	P	P	07 28 06.5	+0.8
	baz=42,SNR=7.5						
MBWA	Marble Bar	45.58	258	eP	P	07 28 48.2	+0.3
	comp=Z,4.6nm,0.8s						
MEEK	Meekatharra	46.33	250	P	P	07 28 54.0	+0.3
	baz=48,SNR=16						
WSI	Waingapu	47.17	274	S	S	07 36 00.9	+12
	baz=49,SNR=7.6						
NWAO	Narrogin (SRO)	47.76	242	P	P	07 29 04.9	+0.2
	comp=Z,4.8nm,0.6s,baz=340,slow=14,SNR=4.4						
NWAO	Narrogin (SRO)	47.76	242	P	P	07 29 04.9	+0.2
CBIJ	Chichi jima	51.77	330	LR	LR	07 50 56.4	
	comp=Z,60nm,18.7s,baz=105,slow=35						
VNDA	Vanda	59.27	182	P	P	07 30 30.4	+2.0
	comp=Z,1.4nm,0.8s,baz=29,slow=5.6,SNR=2.8						
VNDA				LR	LR	07 50 31.1	
	comp=Z,112nm,19.9s

ISA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ISA	**Isabella**	**87.69**	**51**	*eP*		**P**	**07 33 18.2**	**+2.4**	
	comp=Z,4.3nm,0.8s								
NVAR	**Mina Array Bea**	**88.96**	**49**	P		**P**	**07 33 21.9**	**-0.1**	
	comp=Z,2.4nm,0.8s,baz=231,slow=7.7,SNR=14								
NVAR	**Mina Array Bea**	**88.96**	**49**	P		**P**	**07 33 21.9**	**-0.1**	
ZAK	**Zakamensk**	**89.03**	**325**	*eP*		**P**	**07 33 20.6**	**-1.2**	
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.2s								
BBB	**Bella Bella**	**89.28**	**33**	P		**P**	**07 33 22.1**	**-0.7**	
	comp=Z,17nm,0.9s,baz=329,slow=20,SNR=2.7								
BBB	**Bella Bella**	**89.28**	**33**	P		**P**	**07 33 22.1**	**-0.7**	
ILAR	**Eielson Array**	**89.69**	**18**	P		**P**	**07 33 22.6**	**-1.8**	
	comp=Z,1.5nm,0.6s,baz=239,slow=4.8,SNR=32								
ILAR	**Eielson Array**	**89.69**	**18**	P		**P**	**07 33 22.6**	**-1.8**	
VNA3	**Neumayer Olymp**	**90.61**	**181**	*eP*		**P**	**07 33 29.7**	**+0.8**	
VNA2	**Neumayer--Watz**	**90.89**	**181**	*eP*		**P**	**07 33 31.0**	**+0.8**	
HVS	**Khovu-Aksy**	**94.78**	**322**⇑	*eP*		**P**	**07 33 47.5**	**-0.9**	
HVS					pmax	pmax			
	comp=Z,10.0nm,1.0s								
WMQ	**Urumqi**	**95.90**	**314**	*eP*		**P**	**07 33 53.8**	**+0.1**	
KRAR	**Krasnoyarsk**	**97.13**	**327**⇑	*eP*		Pdif	07 33 59.2	+0.3	
KRAR					pmax	pmax			
	comp=Z,33nm,0.5s								
TXAR	**Lajitas Array**	**97.20**	**62**	P		**P**	**07 33 59.5**	**-0.5**	
	comp=Z,0.4nm,0.8s,baz=220,slow=5.8,SNR=6.6								
TXAR					LR	LR	08 14 03.5		
	comp=Z,67nm,18.2s,baz=190,slow=33								
TXAR	**Lajitas Array**	**97.20**	**62**	P		**P**	**07 33 59.5**	**-0.5**	
YKA	**Yellowknife Ar**	**100.34**	**27**	P		**Pdif**	**07 34 11.8**	**-1.3**	
	comp=Z,0.1nm,0.5s,baz=256,slow=4.8,SNR=5.7								
YKA	**Yellowknife Ar**	**100.34**	**27**	P		**Pdif**	**07 34 11.8**	**-1.3**	
ARU	**Arti**	**115.97**	**324**	*e*PKIKP		**PKPdf**	**07 39 08.7**	**-0.4**	
ARU	**Arti**	**115.97**	**324**	*e*PKPdf		**PKPdf**	**07 39 08.7**	**-0.4**	
AKTO	**Aktyubinsk**	**116.77**	**318**	PKP		**PKPdf**	**07 39 10.7**	**-0.2**	
	comp=Z,0.4nm,0.4s,baz=167,slow=1.9,SNR=3.8								
AKTO	**Aktyubinsk**	**116.77**	**318**	PKIKP		**PKPdf**	**07 39 10.7**	**-0.2**	
AKTO	**Aktyubinsk**	**116.77**	**318**	PKP		**PKPdf**	**07 39 10.7**	**-0.2**	
SPITS	**Spitsbergen Ar**	**118.63**	**354**	PKP		**PKPdf**	**07 39 12.7**	**-1.0**	
	comp=Z,2.1nm,0.5s,baz=101,slow=4.5,SNR=3.7								
SPITS	**Spitsbergen Ar**	**118.63**	**354**	PKP		**PKPdf**	**07 39 12.7**	**-1.0**	
ARCES	**ARCESS Array B**	**123.98**	**345**	PKP		**PKPdf**	**07 39 23.3**	**-0.9**	
	comp=Z,5.7nm,0.7s,baz=83,slow=1.9,SNR=35								
ARCES	**ARCESS Array B**	**123.98**	**345**	PKP		**PKPdf**	**07 39 23.3**	**-0.9**	
SCHQ	**Schefferville**	**124.77**	**35**	PKP		**PKPdf**	**07 39 25.2**	**-0.9**	
	comp=Z,0.6nm,0.7s,baz=281,slow=16,SNR=2.3								
SCHQ	**Schefferville**	**124.77**	**35**	PKP		**PKPdf**	**07 39 25.2**	**-0.9**	
FINES	**FINESS Array B**	**129.41**	**338**	PKP		**PKPdf**	**07 39 34.1**	**-0.6**	
	comp=Z,0.6nm,0.4s,baz=341,slow=2.9,SNR=7.2								
FINES	**FINESS Array B**	**129.41**	**338**	PKP		**PKPdf**	**07 39 34.1**	**-0.6**	
AKASG	**Malin Array Be**	**134.22**	**324**	PKP		**PKPdf**	**07 39 44.6**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=57,slow=3.3,SNR=4.7								
AKASG	**Malin Array Be**	**134.22**	**324**	PKIKP		**PKPdf**	**07 39 44.6**	**+0.4**	
AKASG	**Malin Array Be**	**134.22**	**324**	PKP		**PKPdf**	**07 39 44.6**	**+0.4**	
NOA	**NORSAR Array B**	**134.35**	**345**	PKP		**PKPdf**	**07 39 43.9**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=36,slow=2.1,SNR=3.4								
NOA	**NORSAR Array B**	**134.35**	**345**	PKP		**PKPdf**	**07 39 43.9**	**-0.3**	
KOLS	**Kolonicke sedl**	**138.96**	**326**	*e*PKIKP		**PKPdf**	**07 39 54.1**	**+1.0**	
KOLS	**Kolonicke sedl**	**138.96**	**326**	*e*PKP		**PKPdf**	**07 39 54.1**	**+1.0**	
CRVS	**Cervenica-Dubn**	**139.41**	**326**	*e*PKIKP		**PKPdf**	**07 39 57.1**	**+3.2**	
CRVS	**Cervenica-Dubn**	**139.41**	**326**	*e*PKP		**PKPdf**	**07 39 57.1**	**+3.2**	
VYHS	**Vyhne**	**141.03**	**327**	*e*PKIKP		**PKPdf**	**07 39 59.1**	**+2.3**	
VYHS	**Vyhne**	**141.03**	**327**	*e*PKP		**PKPdf**	**07 39 59.1**	**+2.3**	
GERES	**GERESS Array B**	**143.27**	**332**	PKhKP		PKPpre	07 39 57.8		
	comp=Z,0.9nm,0.6s,baz=31,slow=3.1,SNR=5.8								
GERES	**GERESS Array B**	**143.27**	**332**	PKPpre		PKPpre	07 39 57.8		
KBA	**Koelnbreinsper**	**144.71**	**330**⇑	*i*PKPdf		**PKPab**	**07 40 01.9**	**-0.5**	
	comp=Z,5.6nm,0.6s								
VNDS	**Vrh nad Dolski**	**144.72**	**327**	*i* PKPbc		**PKPab**	**07 40 02.2**	**-0.2**	
BEBN	**Eben Emael**	**144.78**	**341**	PKP		**PKPdf**	**07 40 03.8**	**+0.4**	
MEM	**Membach**	**144.84**	**340**	PKP		PKPbc	07 40 02.5	-0.2	
LJU	**Ljubljana**	**144.85**	**328**	*i* PKPbc		PKPbc	07 40 02.8	0.0	
MYKA	**Terra Mystica**	**144.88**	**329**⇑	*i*PKPdf		**PKPab**	**07 40 02.2**	**-0.8**	
	comp=Z,6.2nm,0.5s								
CEY	**Cerknica**	**145.11**	**327**	*i* PKPbc		**PKPbc**	**07 40 03.5**	**-0.2**	
BCLA	**Clavier**	**145.23**	**341**	PKP		**PKPab**	**07 40 03.8**	**-0.3**	
ABTA	**Abfaltersbach**	**145.34**	**330**⇓	*i*PKPdf		**PKPbc**	**07 40 03.7**	**-0.8**	
	comp=Z,19nm,0.7s,SNR=12								
SNF	**Seneffe**	**145.46**	**342**	PKP		**PKPdf**	**07 40 04.1**	**-0.4**	
MOTA	**Moosalm**	**145.55**	**332**⇑	*i*PKPdf		**PKPdf**	**07 40 04.8**	**-0.2**	
	comp=Z,20nm,0.8s								
RETA	**Reutte**	**145.59**	**333**⇑	*i*PKPab		**PKPdf**	**07 40 04.2**	**-0.8**	
	comp=Z,6.6nm,0.6s								
WLF	**Walferdange**	**145.60**	**339**	PKP		**PKPab**	**07 40 05.8**	**+0.4**	
WLF	**Walferdange**	**145.60**	**339**	*e*PKIKP		**PKPab**	**07 40 05.7**	**+0.3**	
WLF	**Walferdange**	**145.60**	**339**	*e*PKPdf		**PKPab**	**07 40 05.7**	**+0.3**	
DOU	**Dourbes**	**145.73**	**341**	PKP		**PKPbc**	**07 40 05.2**	**-0.3**	
BFO	**Black Forest**	**145.93**	**336**	*e*PKP2		**PKPdf**	**07 40 04.9**	**-0.6**	
BFO	**Black Forest**	**145.93**	**336**	*e*PKPdf		**PKPdf**	**07 40 04.9**	**-0.6**	
FETA	**Feichten**	**145.96**	**332**⇑	*i*PKPab		**PKPbc**	**07 40 06.4**	**-0.1**	
	comp=Z,25nm,1.1s,SNR=12								
DAVA	**Damuels**	**146.12**	**333**⇑	*i*PKPab		**PKPbc**	**07 40 06.8**	**-0.3**	
	comp=Z,10nm,0.8s								
ECH	**Echery**	**146.47**	**337**	*e*PKP2		**PKPbc**	**07 40 07.1**	**-0.7**	
ECH	**Echery**	**146.47**	**337**	*e*PKPdf		**PKPbc**	**07 40 07.1**	**-0.7**	
FUORN	**Ofenpass-Fuorn**	**146.47**	**332**	*e*PKPdf		**PKPbc**	**07 40 08.5**	**+0.3**	
TUE	**Stuetta**	**146.99**	**333**	*e*PKPbc		**PKPbc**	**07 40 09.8**	**+0.1**	
SENIN	**Lac Senin/Sane**	**147.93**	**335**	*e*PKPbc		**PKPbc**	**07 40 11.6**	**-0.7**	
BNI	**Bardonecchia**	**149.25**	**334**	*e*PKP2		**PKPbc**	**07 40 15.4**	**-0.2**	
BNI	**Bardonecchia**	**149.25**	**334**	*e*PKPbc		**PKPbc**	**07 40 15.4**	**-0.2**	
TORD	**Torodi Ar. Bea**	**166.03**	**250**	PKP		**PKPdf**	**07 40 32.1**	**-0.4**	
	comp=Z,0.9nm,0.9s,baz=118,slow=1.0,SNR=5.2								
TORD					PKPab	**PKPab**	**07 41 33.2**	**+0.2**	
	comp=Z,1.0nm,1.0s,baz=101,slow=3.0,SNR=2.7								
TORD	**Torodi Ar. Bea**	**166.03**	**250**	PKP		**PKPdf**	**07 40 32.1**	**-0.4**	
TORD					PKPab	**PKPab**	**07 41 33.2**	**+0.2**	

NNC 17 07:21:25.9±8.9, 37.30N×70.06E, h0km, mb3.5, mpv3.3, 2C-2D, Error ellipse: s-maj=111.8km s-min=71.1km az=85.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.81**	**3**	⇑Pn		Pn	Pn	07 22 56.5	+3.1
	0.3nm,0.2s,baz=174,slow=12,SNR=18								
KK31				⇓Sn		Sn	Sn	07 24 07.1	+6.4
	0.3nm,0.3s,baz=186,slow=23,SNR=5.0								
TKM2	**Tokmak 2**	**7.04**	**35**	⇓Pn		Pn	Pn	07 23 09.7	-0.8
	2.2nm,0.5s								
AB31	**Akbulak array**	**14.02**	**332**	⇑Pn		Pn	Pn	07 24 42.9	-2.8
	0.4nm,0.7s,baz=156,slow=12,SNR=8.6								

IDC 17 07:25:13.5±2.5, 4.74N×93.45E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, ML4.0/2, Error ellipse: s-maj=84.3km s-min=26.3km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.79**	**109**	Pn		Pn	Pn	07 26 41.3	+0.4
	0.7nm,0.3s,baz=313,slow=19,SNR=3.6								
CMAR	**Chiang Mai Arr**	**14.65**	**21**	Pn		Pn	Pn	07 28 43.1	+0.8
	0.7nm,0.3s,baz=219,slow=11,SNR=5.3								
WRA	**Warramunga Arr**	**47.08**	**123**	P		P	P	07 33 47.0	-0.5
	0.5nm,0.8s,baz=311,slow=9.1,SNR=5.0								
KURBB	**Kurchatov Arra**	**47.42**	**347**	P		P	P	07 33 49.4	-0.3
	0.5nm,0.3s,baz=171,slow=6.8,SNR=6.0								
ASAR	**Alice Springs**	**48.50**	**127**	P		P	P	07 33 58.8	+0.2
	0.2nm,0.6s,baz=312,slow=7.4,SNR=3.7								

*BJI **17** 07:33:01.1, 65.30N×150.19W, h14km, mB4.9/4, mb4.5/3, Ms4.5/2, Ms7 4.2/2*

*NEIC **17** 07:33:03.6, 65.59N×149.92W, h14km, ML4.0(AEIC), After AEIC.*

NEIC Felt [II] at Fairbanks, Fort Wainwright and North Pole. Also felt at Nenana and Pump Station No. 7.

*IDC **17** 07:33:05.7±0.7, 65.69N×149.26W, h0km, mb4.0/9, mb1 4.1/14, mb1mx3.9/32, mbtmp3.9/14, ML3.6/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/47, Error ellipse: s-maj=14.7km s-min=7.9km az=49.0*

ISC 17 07:33:04.7±0.5, 65.59N±0.04×149.83W±0.03, h14km±2km, n246, σ1961/271, mb4.1/11, 83C-71D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLY	**Manley**	**0.68**	**215**	P		**Pg**	**Pg**	**07 33 16.2**	**-1.7**
MDM	**Murphy Dome**	**0.92**	**132**	P		**Pg**	**Pg**	**07 33 21.9**	**-0.6**
MDM				S		**Sg**	**Sg**	**07 33 33.6**	**-1.0**
NEA	**Nenana**	**1.06**	**162**	P		**Pg**	**Pg**	**07 33 23.8**	**-1.4**
COLA	**College**	**1.10**	**130**	P		**Pg**	**Pg**	**07 33 24.3**	**-1.6**
COLA				S		**Sb**	**Sb**	**07 33 40.2**	**+0.5**
GLM	**Gilmore Dome**	**1.19**	**119**	P		**Pb**	**Pb**	**07 33 25.8**	**-1.3**
CCB	**Clear Creek Bu**	**1.27**	**137**	P		**Pn**	**Pn**	**07 33 26.8**	**-1.3**
IL1	**Eielson Array**	**1.49**	**122**	P		**Pn**	**Pn**	**07 33 29.8**	**-1.3**
ILAR	**Eielson Array**	**1.49**	**122**	Pn		**Pn**	**Pn**	**07 33 29.8**	**-1.3**
	136nm,0.3s,baz=303,slow=13,SNR=869								
ILAR				Pg		**Pb**	**Pb**	**07 33 32.3**	**+0.2**
	248nm,0.3s,baz=307,slow=18,SNR=562								
ILAR				Sn		**Sn**	**Sn**	**07 33 48.7**	**-1.6**
	1µm,0.3s,baz=292,slow=16,SNR=62								
ILAR				Lg		Lg	Lg	07 33 50.9	
	1µm,0.3s,baz=307,slow=30,SNR=58								
ILAR	**Eielson Array**	**1.49**	**122**	Pn		**Pn**	**Pn**	**07 33 29.8**	**-1.3**
ILAR				Pg		**Pb**	**Pb**	**07 33 32.3**	**+0.2**
ILAR				Sn		**Sn**	**Sn**	**07 33 48.7**	**-1.6**
ILAR				Lg		Lg	Lg	07 33 50.9	
COLD	**Coldfoot**	**1.66**	**355**	P		**Pn**	**Pn**	**07 33 32.0**	**-1.4**
COLD				S		**Sn**	**Sn**	**07 33 54.9**	**+0.5**
IM3	**Indian Mountai**	**1.66**	**286**	P		**Pn**	**Pn**	**07 33 31.6**	**-1.8**
HDA	**Harding Lake**	**1.70**	**133**	P		**Pn**	**Pn**	**07 33 33.1**	**-0.9**
PRP	**Porcupine Dome**	**1.79**	**90**	P		**Pn**	**Pn**	**07 33 34.1**	**-1.3**
CHUM	**Lake Minchumin**	**2.02**	**213**	P		**Pn**	**Pn**	**07 33 37.0**	**-1.2**
TRF	**Thorofare Moun**	**2.15**	**185**	P		**Pn**	**Pn**	**07 33 38.7**	**-1.7**
RND	**Reindeer**	**2.23**	**169**	P		**Pn**	**Pn**	**07 33 40.7**	**-0.6**
HUR	**Hurricane**	**2.62**	**178**	P		**Pn**	**Pn**	**07 33 46.5**	**-0.1**
DHY	**Denali Highway**	**2.74**	**156**	P		**Pn**	**Pn**	**07 33 48.4**	**+0.1**
BM3	**Burnt Mountain**	**2.79**	**46**	P		**Pn**	**Pn**	**07 33 47.4**	**-1.6**
PPLA	**Purkeypile**	**2.89**	**202**	P		**Pn**	**Pn**	**07 33 49.1**	**-1.4**
GCSA	**Galena City Sc**	**3.09**	**257**	P		**Pn**	**Pn**	**07 33 50.9**	**-2.2**
DOT	**Dot Lake**	**3.15**	**125**	P		**Pn**	**Pn**	**07 33 52.4**	**-1.6**
PAX	**Paxson**	**3.24**	**142**	P		**Pn**	**Pn**	**07 33 55.0**	**-0.2**
SKT	**Skwentna**	**3.70**	**193**	P		**Pn**	**Pn**	**07 34 01.1**	**-0.4**
EGAK	**Eagle**	**3.75**	**99**	*e*Pn		**Pn**	**Pn**	**07 34 00.7**	**-1.4**
EGAK				*e*Pg		**Pb**	**Pb**	**07 34 13.6**	**+3.0**
EGAK				*e*Sg		**Sg**	**Sg**	**07 35 01.0**	**-3.9**
MENT	**Mentasta**	**3.76**	**132**	*e*Pn		**Pn**	**Pn**	**07 34 01.0**	**-1.4**
MENT				*e*Pg		**Pg**	**Pg**	**07 34 15.2**	**-1.5**
MENT				*e*Sg		**Sg**	**Sg**	**07 35 03.9**	**-1.5**
HARP	**HAARP**	**3.80**	**145**	P		**Pn**	**Pn**	**07 34 03.1**	**+0.3**
TT01	**Tatalina**	**3.81**	**228**	P		**Pn**	**Pn**	**07 34 00.7**	**-2.3**
SML	**Sawmill**	**3.85**	**169**	P		**Pn**	**Pn**	**07 34 03.2**	**-0.4**
PMR	**Palmer**	**4.02**	**175**	P		**Pn**	**Pn**	**07 34 05.5**	**-0.3**
SUA	**Susitna One**	**4.16**	**186**	P		**Pn**	**Pn**	**07 34 07.5**	**-0.3**
STLK	**Strandline Lak**	**4.20**	**193**	P		**Pn**	**Pn**	**07 34 08.2**	**-0.2**
BCA3	**Beaver Creek A**	**4.32**	**122**	P		**Pn**	**Pn**	**07 34 08.2**	**-1.8**
NCG	**North Capps Gl**	**4.33**	**195**	P		**Pn**	**Pn**	**07 34 09.6**	**-0.5**
CGLM	**Capps Glacier**	**4.41**	**194**	P		**Pn**	**Pn**	**07 34 11.4**	**+0.2**
FIB	**Fire Island**	**4.44**	**182**	P		**Pn**	**Pn**	**07 34 12.8**	**+1.2**
BGL	**Barrier Glacie**	**4.49**	**196**	P		**Pn**	**Pn**	**07 34 12.7**	**+0.3**
SPBG	**Spurr Blockage**	**4.49**	**196**	P		**Pn**	**Pn**	**07 34 12.6**	**+0.3**
SPU	**Mount Spurr**	**4.53**	**194**	*e*Pn		**Pn**	**Pn**	**07 34 12.6**	**-0.3**
DAWY	**Dawson**	**4.71**	**104**	P		**Pn**	**Pn**	**07 34 14.7**	**-0.7**
DIV	**Divide**	**4.83**	**156**	P		**Pn**	**Pn**	**07 34 17.6**	**+0.6**
SVW2	**Sparrevohn**	**5.20**	**213**	*e*Pn		**Pn**	**Pn**	**07 34 20.5**	**-1.5**
BMRM	**Bremner River**	**5.20**	**151**	P		**Pn**	**Pn**	**07 34 23.2**	**+1.1**
VRDI	**Verde Repeater**	**5.23**	**144**	P		**Pn**	**Pn**	**07 34 23.9**	**+1.3**
RSO	**Redoubt South**	**5.31**	**196**	*e*Pn		**Pn**	**Pn**	**07 34 24.4**	**+0.7**
SEW	**Seward**	**5.51**	**178**	*e*Pn		**Pn**	**Pn**	**07 34 27.3**	**+1.1**
	45nm,0.9s								
BALM	**Baldy**	**5.67**	**140**	P		**Pn**	**Pn**	**07 34 28.9**	**+0.3**
KIAG	**Kiagna River**	**5.77**	**141**	P		**Pn**	**Pn**	**07 34 30.2**	**+0.2**
BRLK	**Bradley Lake**	**5.86**	**185**	P		**Pn**	**Pn**	**07 34 31.7**	**+0.5**
KHIT	**Khitrov Hills**	**5.97**	**147**	P		**Pn**	**Pn**	**07 34 34.0**	**+1.4**
INK	**Inuvik**	**6.96**	**60**	Pn		**Pn**	**Pn**	**07 34 45.1**	**-0.9**
	1.7nm,0.3s,baz=246,slow=17,SNR=53								
INK				Sn		**Sn**	**Sn**	**07 36 01.5**	**-3.3**
	2.4nm,0.3s,baz=320,slow=22,SNR=6.0								
INK				Lg		Lg	Lg	07 36 46.1	
	1.1nm,0.3s,baz=151,slow=31,SNR=2.2								
INK	**Inuvik**	**6.96**	**60**	P		**Pn**	**Pn**	**07 34 45.1**	**-0.9**
INK				Sn		**Sn**	**Sn**	**07 36 01.5**	**-3.3**
INK				Lg		Lg	Lg	07 36 46.1	
HYT	**Haines Junctio**	**7.33**	**125**	P		**Pn**	**Pn**	**07 34 51.0**	**-0.4**
TNA	**Tin City**	**7.50**	**278**	P		**Pn**	**Pn**	**07 34 52.5**	**-1.0**
KDAK	**Kodiak Island**	**7.94**	**191**	Pn		**Pn**	**Pn**	**07 34 59.2**	**-0.3**
	0.9nm,0.3s,baz=272,slow=21,SNR=7.8								
KDAK				Sn		**Sn**	**Sn**	**07 36 27.4**	**-1.7**
	0.5nm,0.3s,baz=303,slow=23,SNR=2.7								
KDAK	**Kodiak Island**	**7.94**	**191**	Pn		**Pn**	**Pn**	**07 34 59.2**	**-0.3**
KDAK				Sn		**Sn**	**Sn**	**07 36 27.4**	**-1.7**
GAMB	**Gambell**	**9.53**	**269**	*e*Pn		Pn	**Pn**	**07 35 19.0**	**-2.3**
	12nm,1.3s								
DLBC	**Dease Lake**	**11.70**	**118**	Pn		**Pn**	**Pn**	**07 35 51.1**	**+0.1**
	0.3nm,0.3s,baz=325,slow=13,SNR=6.6								
DLBC				Lg		Lg	Lg	07 39 08.4	
	0.7nm,0.3s,baz=61,slow=19,SNR=6.9								
DLBC	**Dease Lake**	**11.70**	**118**	Pn		**Pn**	**Pn**	**07 35 51.1**	**+0.1**
DLBC				Lg		Lg	Lg	07 39 08.4	
YKW3	**Yellowknife Ar**	**15.56**	**85**	*e*P		**Pn**	**Pn**	**07 36 42.0**	**-1.3**
YKA	**Yellowknife Ar**	**15.59**	**85**	Pn		Pn	**Pn**	**07 36 39.7**	**-4.1**
	0.2nm,0.3s,baz=291,slow=13,SNR=19								
YKA				Sn		Sn	Sn	07 39 25.8	-10
	0.1nm,0.3s,baz=298,slow=22,SNR=4.4								
YKA	**Yellowknife Ar**	**15.59**	**85**	Pn		Pn	Pn	07 36 39.7	-4.1
YKA				Sn		Sn	Sn	07 39 25.8	-10
BBB	**Bella Bella**	**17.36**	**130**	LR		LR	LR	07 44 20.9	
	comp=Z,73nm,19.6s,baz=284,slow=39								
RES	**Resolute Bay**	**19.90**	**40**	P		**Pn**	**Pn**	**07 37 37.6**	**+0.6**
	0.1nm,0.3s,baz=106,slow=21,SNR=5.0								
RES	**Resolute Bay**	**19.90**	**40**	P		**Pn**	**Pn**	**07 37 37.6**	**+0.6**
A12A	**Yaak River Ran**	**24.43**	**116**	⇑P		**P**	**P**	**07 38 24.1**	**+1.4**
	baz=24								
NEW	**Newport**	**24.44**	**119**	LR		LR	LR	07 50 06.8	
	comp=Z,49nm,20.4s,baz=108,slow=42								
NEW	**Newport**	**24.44**	**119**	⇓P		**P**	**P**	**07 38 24.6**	**+1.8**
	baz=24								
B12A	**Libby**	**24.84**	**117**	⇑P		**P**	**P**	**07 38 28.2**	**+1.9**
	baz=25								
A13A	**Flathead Natio**	**24.89**	**115**	⇓P		**P**	**P**	**07 38 28.0**	**+1.1**
	baz=25								
A14A	**Double T Ranch**	**25.23**	**113**	⇑P		**P**	**P**	**07 38 31.3**	**+1.2**
	baz=25								
B13A	**Wtwfish**	**25.33**	**116**	⇓P		**P**	**P**	**07 38 32.3**	**+1.5**
	baz=25								
A15A	**Johnson Ranch,**	**25.50**	**113**	⇑P		**P**	**P**	**07 38 32.7**	**+0.4**
	baz=25								
C13A	**Hot Springs**	**25.87**	**117**	⇑P		**P**	**P**	**07 38 37.2**	**+1.5**
	baz=26,SNR=8.3								
A16A	**West Butte Ran**	**25.96**	**111**	⇑P		**P**	**P**	**07 38 37.4**	**+0.8**
	baz=26								
B15A	**Bradely Ranch,**	**26.10**	**113**	⇓P		**P**	**P**	**07 38 39.6**	**+1.7**
	baz=26								
C14A	**Swan Lake**	**26.10**	**115**	⇓P		**P**	**P**	**07 38 39.2**	**+1.3**
	baz=26								
D12A	**Red Ives Fores**	**26.11**	**118**	⇓P		**P**	**P**	**07 38 39.4**	**+1.5**
	baz=26								
D13A	**Huson**	**26.40**	**117**	⇑P		**P**	**P**	**07 38 41.7**	**+1.1**
	baz=26								
C15A	**Salmond Ranch,**	**26.53**	**114**	⇑P		**P**	**P**	**07 38 43.4**	**+1.6**
	baz=26								
D14A	**Greenough**	**26.77**	**116**	⇑P		**P**	**P**	**07 38 45.4**	**+1.5**
	baz=27								
B17A	**L&G Farms, Che**	**26.80**	**111**	⇑P		**P**	**P**	**07 38 46.0**	**+1.9**
	baz=27								
MSO	**Missoula**	**26.82**	**117**	⇑P		**P**	**P**	**07 38 45.5**	**+1.2**
	baz=27								
D15A	**Lincoln**	**27.17**	**115**	⇑P		**P**	**P**	**07 38 49.0**	**+1.4**
	baz=27,SNR=5.0								
E14A	**Clinton**	**27.33**	**117**	⇑P		**P**	**P**	**07 38 50.3**	**+1.2**
	baz=27								
C17A	**Wharram Farm,**	**27.35**	**112**	⇓P		**P**	**P**	**07 38 50.3**	**+1.2**
	baz=27								
B19A	**Brinkman Farms**	**27.39**	**109**	⇑P		**P**	**P**	**07 38 50.6**	**+1.2**
	baz=27								
EGMT	**Eagleton**	**27.42**	**110**	⇑P		**P**	**P**	**07 38 51.1**	**+1.3**
	baz=27								
A20A	**Cobblestone Ra**	**27.45**	**107**	⇑P		**P**	**P**	**07 38 51.9**	**+1.9**
	baz=27								
D16A	**Dana Ranch, Ca**	**27.55**	**114**	⇑P		**P**	**P**	**07 38 52.1**	**+1.2**
	baz=28								
F13A	**Darby**	**27.56**	**119**	⇑P		**P**	**P**	**07 38 52.4**	**+1.4**
	baz=28								
E15A	**Deer Lodge**	**27.64**	**116**	⇓P		**P**	**P**	**07 38 52.8**	**+1.0**
	baz=28								
G12A	**Big Creek, Yel**	**27.76**	**121**	⇓P		**P**	**P**	**07 38 54.4**	**+1.5**
	baz=28								
D17A	**Six Diamond Ra**	**27.78**	**112**	⇑P		**P**	**P**	**07 38 53.9**	**+0.9**
	baz=28								
E16A	**East Helena**	**27.91**	**114**	⇑P		**P**	**P**	**07 38 55.7**	**+1.5**
	baz=28								
G13A	**Cobalt**	**28.19**	**119**	⇑P		**P**	**P**	**07 38 58.1**	**+1.4**
	baz=28								
F15A	**Butte**	**28.19**	**116**	⇑P		**P**	**P**	**07 38 57.8**	**+1.0**
	baz=28								
C20A	**Veseth Ranch,**	**28.36**	**109**	⇓P		**P**	**P**	**07 38 58.9**	**+0.8**
	baz=28								
H12A	**Diamond D Ranc**	**28.43**	**121**	⇓P		**P**	**P**	**07 39 00.2**	**+1.3**
	baz=28								
H13A	**Challis**	**28.64**	**120**	⇑P		**P**	**P**	**07 39 01.8**	**+1.2**
	baz=29,SNR=6.3								
G15A	**Dillon**	**28.77**	**117**	⇓P		**P**	**P**	**07 39 03.4**	**+1.6**
	baz=29								
D20A	**Manuel Ranch,**	**28.82**	**109**	⇓P		**P**	**P**	**07 39 03.9**	**+1.7**
	baz=29								
H14A	**Leadore**	**28.91**	**119**	⇑P		**P**	**P**	**07 39 05.0**	**+1.8**
	baz=29								
G16A	**Moss Hill, Enn**	**28.97**	**116**	⇓P		**P**	**P**	**07 39 05.2**	**+1.6**
	baz=29								
I12A	**Atlanta**	**28.99**	**122**	⇑P		**P**	**P**	**07 39 06.0**	**+2.1**
	baz=29								
MFID	**Camas Ranch**	**29.08**	**123**

	baz=40						
W23A	**Werner Place,**	**39.85**	**118**	⇑P	**P**	**07 40 40.0**	**+2.2**
	baz=40						
X21A	**Alamocita Cree**	**39.90**	**120**	⇑P	**P**	**07 40 40.6**	**+2.4**
	baz=40						
W24A	**Lazy 6 Ranch,**	**40.08**	**117**	⇑P	**P**	**07 40 41.7**	**+2.1**
	baz=40						
V26A	**Tequesquite Ra**	**40.17**	**115**	⇑P	**P**	**07 40 42.4**	**+2.1**
	baz=40						
Y20A	**Horse Springs,**	**40.17**	**121**	⇓P	**P**	**07 40 42.6**	**+2.2**
	baz=40						
214A	**Organ Pipe Nat**	**40.44**	**128**	⇑P	**P**	**07 40 44.8**	**+2.4**
	baz=40						
X24A	**Lazy VL Ranch,**	**40.65**	**118**	⇑P	**P**	**07 40 47.1**	**+2.7**
	baz=41						
Y22A	**Socorro**	**40.65**	**120**	⇑P	**P**	**07 40 46.7**	**+2.3**
	baz=41						
Y23A	**Lovelace Mesa,**	**40.99**	**119**	⇓P	**P**	**07 40 49.4**	**+2.3**
	baz=41						
Y24A	**Capitan**	**41.22**	**118**	⇓P	**P**	**07 40 51.7**	**+2.6**
	baz=41						
Z22A	**Elephant Butte**	**41.26**	**120**	⇓P	**P**	**07 40 51.7**	**+2.4**
	baz=41						
Y25A	**Mesa, Roswell**	**41.49**	**117**	⇑P	**P**	**07 40 53.2**	**+1.9**
	baz=41						
121A	**Cookes Peak, D**	**41.62**	**122**	⇓P	**P**	**07 40 54.7**	**+2.4**
	baz=42						
AMTX	**Amarillo**	**41.77**	**113**	⇓P	**P**	**07 40 54.9**	**+1.4**
	baz=42						
Z24A	**Sheeppen Canyo**	**41.78**	**118**	⇓P	**P**	**07 40 55.3**	**+1.7**
	baz=42						
X28A	**Dimmitt**	**41.90**	**114**	⇓P	**P**	**07 40 55.2**	**+0.7**
	baz=42						
220A	**Playas Peak, P**	**41.93**	**123**	⇑P	**P**	**07 40 56.8**	**+2.0**
	baz=42						
Z25A	**Roswell**	**42.06**	**118**	⇑P	**P**	**07 40 57.1**	**+1.2**
	baz=42						
X29A	**Tulia**	**42.15**	**114**	⇓P	**P**	**07 40 57.6**	**+1.0**
	baz=42						
MSTX	**Muleshoe**	**42.17**	**115**	⇓P	**P**	**07 40 57.9**	**+1.2**
	baz=42						
124A	**Stringfield Ra**	**42.31**	**119**	⇓P	**P**	**07 40 59.4**	**+1.4**
	baz=42						
Z26A	**Caprock**	**42.34**	**117**	⇓P	**P**	**07 40 59.3**	**+1.2**
	baz=42						
125A	**Gardner Draw,**	**42.64**	**118**	⇑P	**P**	**07 41 02.4**	**+1.9**
	baz=43						
225A	**Deer Hill, Car**	**43.07**	**118**	⇓P	**P**	**07 41 06.3**	**+2.2**
	baz=43						
TUL1	**Tulsa**	**43.18**	**106**	⇑P	**P**	**07 41 05.1**	**+0.4**
	baz=43						
MNTX	**Cornudas Mount**	**43.24**	**119**	⇓P	**P**	**07 41 06.4**	**+1.1**
	baz=43						
325A	**Bean Ranch, Si**	**43.68**	**119**	⇓P	**P**	**07 41 10.4**	**+1.4**
	baz=44						
425A	**Indio Mountain**	**44.21**	**119**	⇓P	**P**	**07 41 15.4**	**+2.2**
	baz=44,SNR=6.2						
428A	**Kincaid Ranch,**	**45.10**	**117**	⇑P	**P**	**07 41 21.9**	**+1.6**
	baz=45						
526A	**Mary Lane Ranc**	**45.19**	**119**	⇑P	**P**	**07 41 23.0**	**+1.9**
	baz=45						
527A	**Woodward Ranch**	**45.29**	**118**	⇓P	**P**	**07 41 23.1**	**+1.3**
	baz=45						
429A	**Davenport Ranc**	**45.49**	**116**	⇓P	**P**	**07 41 23.7**	**+0.3**
	baz=45						
528A	**Cox Ranch, San**	**45.57**	**117**	⇑P	**P**	**07 41 25.0**	**+0.9**
	baz=46						
332A	**Millersview**	**45.62**	**113**	⇓P	**P**	**07 41 25.0**	**+0.7**
	baz=46						
626A	**Big Bend Ranch**	**45.63**	**119**	⇑P	**P**	**07 41 25.8**	**+1.3**
	baz=46						
431A	**Sonora**	**45.92**	**115**	⇓P	**P**	**07 41 27.4**	**+0.7**
	baz=46						
627A	**Terlingua Ranc**	**45.99**	**119**	⇑P	**P**	**07 41 28.5**	**+1.1**
	baz=46						
TXAR	**Lajitas Array**	**46.00**	**119**	P	**P**	**07 41 29.2**	**+1.7**
	1.8nm,0.8s,baz=331,slow=6.9,SNR=26						
TXAR	**Lajitas Array**	**46.00**	**119**	P	**P**	**07 41 29.2**	**+1.7**
628A	**Black Gap, Mar**	**46.15**	**118**	⇑P	**P**	**07 41 29.5**	**+0.9**
	baz=46						
531A	**Rocksprings**	**46.41**	**115**	⇓P	**P**	**07 41 31.4**	**+0.8**
	baz=46						
532A	**Rocksprings**	**46.68**	**114**	⇓P	**P**	**07 41 33.3**	**+0.6**
	baz=47						
MDJ	**Mudanjiang**	**46.74**	**285**	P	P	07 41 30.8	-2.2
MDJ				pP	pP	07 41 33.8	-3.5
MDJ				ScP	**ScP**	**07 46 58.4**	**-0.5**
MDJ				PcS	**PcS**	**07 46 59.8**	**-1.1**
MDJ				S	**S**	**07 48 20.1**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,5.0nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,78nm,4.2s						
631A	**Perdido Creek**	**47.07**	**115**	⇓P	**P**	**07 41 36.2**	**+0.4**
	baz=47						
632A	**Uvalde**	**47.28**	**115**	⇑P	**P**	**07 41 38.3**	**+0.9**
	baz=47						
732A	**Laxson Ranch,**	**47.91**	**115**	⇑P	**P**	**07 41 43.4**	**+1.1**
	baz=48						
CN2	**Changchun**	**49.08**	**287**	*e*P	**P**	**07 41 49.5**	**-1.6**
SONM	**Songino Array**	**52.74**	**305**	P	**P**	**07 42 21.3**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=36,slow=5.9,SNR=5.2						
SONM	**Songino Array**	**52.74**	**305**	P	**P**	**07 42 21.3**	**+2.5**
ZALV	**Zalesovo Beam**	**53.74**	**323**	P	**P**	**07 42 28.3**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=12,slow=8.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**53.74**	**323**	P	**P**	**07 42 28.3**	**+2.5**
HHC	**Hu-ho-hao-te**	**56.95**	**297**	*e*P	**P**	**07 42 48.3**	**-1.0**
HHC				sP	**sP**	**07 42 55.3**	**0.0**
HHC				PP	**PP**	**07 44 55.9**	**+0.5**
HHC				PcS	**PcS**	**07 47 43.3**	**-2.0**
HHC				S	**S**	**07 50 40.1**	**-2.5**
HHC				ScS	**ScS**	**07 52 33.5**	**-4.4**
HHC				SS	**SS**	**07 54 27.6**	**-2.7**
HHC				pmax	pmax		
	comp=Z,78nm,4.4s						
HHC				LR	LR		
	comp=N,100nm,15.5s						
HHC				LR	LR		
	comp=E,120nm,17.8s						
HHC				LR	LR		
	comp=Z,62nm,17.8s						
BVAR	**Borovoye Array**	**57.78**	**333**	P	P	07 42 58.1	+3.3
	comp=Z,1.2nm,0.6s,baz=45,slow=6.5,SNR=7.3						
BVAR	**Borovoye Array**	**57.78**	**333**	P	P	07 42 58.1	+3.3
KURK	**Kurchatov**	**58.21**	**326**	P	P	07 43 02.1	+4.3
KURBB	**Kurchatov Arra**	**58.31**	**326**	P	P	07 43 02.1	+3.5
	comp=Z,0.7nm,0.6s,baz=30,slow=6.3,SNR=6.6						
WMQ	**Urumqi**	**62.22**	**316**	*e*P	**P**	**07 43 27.8**	**+2.3**
AKTO	**Aktyubinsk**	**62.34**	**340**	P	P	07 43 30.8	+4.6
	comp=Z,0.8nm,0.7s,baz=324,slow=8.0,SNR=3.4						
AKTO	**Aktyubinsk**	**62.34**	**340**	P	P	07 43 30.8	+4.6
LZH	**Lanzhou**	**63.98**	**300**	*e*P	**P**	**07 43 36.0**	**-1.4**
LZH				pP	**pP**	**07 43 41.0**	**-0.8**
LZH				sP	**sP**	**07 43 43.0**	**-0.5**
CD2	**Chengdu**	**68.66**	**298**	P	P	**07 44 07.1**	**-0.2**
CD2				pP	**pP**	**07 44 11.8**	**+0.1**
CD2				sP	**sP**	**07 44 14.1**	**+0.7**
CD2				PP	**PP**	**07 46 40.3**	**+1.9**
CD2				S	**S**	**07 53 07.3**	**-2.2**
CD2				sS	**sS**	**07 53 14.6**	**-2.3**
CD2				SS	**SS**	**07 57 32.3**	**-0.9**
CD2				pmax	pmax		
	comp=Z,60nm,4.7s						
KSH	**Kashi**	**69.37**	**324**	*e*P	**P**	**07 44 12.8**	**+1.1**
KSH				*es*P	**sP**	**07 44 19.4**	**+1.6**
KSH				*e*PcP	**PcP**	**07 44 36.8**	**+1.6**
KSH				*e*PP	**PP**	**07 46 49.5**	**+5.1**
KSH				S	**S**	**07 53 18.8**	**+0.8**
KSH				ScS	**SKSac**	**07 54 11.0**	**-0.3**
KSH				pmax	pmax		
	comp=Z,56nm,6.8s						
KSH				LR	LR		
	comp=N,75nm,9.0s						
KSH				LR	LR		
	comp=E,52nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,6.2s						
GYA	**Guiyang**	**71.58**	**293**	*e*P	**P**	**07 44 23.8**	**-1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						

IDC 17 07:35:05.5±6.9,5°56'S×145°71'E,h59km±61km,mb3.5/3, mb1 3.8/5,mb1mx3.5/18,mbtmp3.7/5,ML3.7/2,Error ellipse: s-maj=67.6km s-min=40.3km az=46.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.08**	**159**	P		Pn	07 36 06.4	+0.9
	4.8nm,0.3s,baz=129,slow=21,SNR=21							
PMG				S		Sn	07 36 52.1	0.0
	3.8nm,0.3s,baz=228,slow=20,SNR=7.6							
WRA	**Warramunga Arr**	**18.07**	**217**	P		Pn	07 39 13.3	+0.7
	1.1nm,0.3s,baz=38,slow=11,SNR=52							
ASAR	**Alice Springs**	**21.29**	**211**	P		P	07 39 46.6	-0.8
	1.6nm,0.4s,baz=48,slow=8.6,SNR=33							
FITZ	**Fitzroy Crossi**	**23.23**	**236**	P		P	07 40 06.8	-1.0
	1.9nm,0.6s,baz=56,slow=5.6,SNR=9.0							
STKA	**Stephens Creek**	**26.46**	**188**	P		P	07 40 38.7	+1.5
	0.9nm,0.4s,baz=8.4,slow=11,SNR=4.2							

TRN 17 07:45:45.3,16°74N×61°84W,h109km,MD3.3,M3.7(FDF), 9C-3D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.31**	**358**	⇑*i*P		Pn	07 46 02.5	+1.4
BPA				*e*S		Sn	07 46 13.7	+0.8
SEG	**Port Louis**	**0.47**	**136**	*e*P		Pn	07 46 03.0	+1.2
LZG	**Guadaloupe-1**	**0.60**	**174**	⇑*i*P		Pn	07 46 03.8	+1.0
BCG	**Bois Riant Cap**	**0.68**	**162**	⇑*i*P		Pn	07 46 04.7	+1.2
SCG	**Saint Claude**	**0.72**	**167**	⇑*i*P		Pn	07 46 05.2	+1.3
DOG	**Dongo Capester**	**0.73**	**163**	*e*P		Pn	07 46 05.2	+1.3
PHG	**Guadaloupe-2**	**0.74**	**165**	*e*P		Pn	07 46 05.4	+1.3
HMG	**Houelmont**	**0.76**	**170**	⇑*i*P		Pn	07 46 05.3	+1.1
SFG	**Saint Francois**	**0.79**	**128**	⇑*i*P		Pn	07 46 05.8	+1.5
DEG	**La Desirade**	**0.86**	**119**	⇓*i*P		Pn	07 46 06.3	+1.2
DEG				⇓*e*S		Sn	07 46 21.3	+1.2
TBG	**Guadaloupe-3**	**0.90**	**168**	⇑*i*P		Pn	07 46 06.5	+1.1
MGG	**Marie-Galante**	**0.96**	**148**	⇑*i*P		Pn	07 46 07.7	+1.7
DVCT	**Vielle Casse P**	**1.19**	**159**	⇓*e*P		Pn	07 46 10.1	+1.6
DVCT				*e*S		Sn	07 46 27.7	+1.6
DWS	**Wesley**	**1.27**	**156**	*e*P		Pn	07 46 10.9	+1.6
DWS				*e*S		Sn	07 46 29.2	+1.6
SEUS	**St. Eustatius**	**1.32**	**305**	*e*Pg		Pn	07 46 09.9	0.0
SEUS				*e*Sg		Sn	07 46 28.0	-0.6
DSTT	**Stowe**	**1.57**	**161**	⇑*e*P		Pn	07 46 14.9	+1.9
DSTT				*e*S		Sn	07 46 35.4	+1.4
FDF	**Fort de France**	**2.10**	**161**	*e*P		Pn	07 46 20.4	+0.8
FDF				*e*S		Sn	07 46 46.9	+1.0
BIM	**Bigot**	**2.33**	**161**	*e*P		Pn	07 46 23.8	+1.2
MVM	**Montagne Vaucl**	**2.35**	**157**	*e*P		Pn	07 46 24.3	+1.4
SLW	**Petit Mônier**	**2.84**	**162**	*e*P		Pn	07 46 29.4	+0.2
MCLT	**Moule a Chique**	**3.13**	**164**	*e*P		Pn	07 46 34.2	+1.1
SVB	**Belmont**	**3.49**	**170**	*e*P		Pn	07 46 39.0	+1.1
TOSP	**Speyside**	**5.55**	**167**	*e*P		Pn	07 47 07.1	+1.4

IDC 17 07:55:30.6±2.3,17°53S×178°67W,h565km±76km, mb3.3/3,mb1 3.3/5,mb1mx3.0/21,mbtmp3.2/5,Error ellipse: s-maj=111.6km s-min=58.2km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**62**	P		P	07 57 24.6	0.0
	1.7nm,0.3s,baz=309,slow=10,SNR=1.4							
DZM	**Mont Dzumac**	**14.72**	**250**	P		P	07 58 36.5	-0.6
	0.3nm,0.3s,baz=79,slow=22,SNR=1.5							
STKA	**Stephens Creek**	**38.60**	**241**	P		P	08 02 06.2	+0.2
	1.5nm,0.4s,baz=92,slow=8.7,SNR=11							
WRA	**Warramunga Arr**	**44.46**	**259**	P		P	08 02 52.1	-0.3
	0.8nm,0.5s,baz=96,slow=6.9,SNR=27							
ASAR	**Alice Springs**	**44.66**	**254**	P		P	08 02 53.7	-0.3
	7.8nm,0.5s,baz=89,slow=8.1,SNR=149							

*MOS **17** 08:07:18.8±1.4,36°79N×22°02E,h10km,mb4.5/26,Error ellipse: s-maj=9.5km s-min=4.8km az=71.5*
*IDC **17** 08:07:19.6±0.6,36°95N×22°25E,h0km,mb4.1/23, mb1 4.1/28,mb1mx4.1/39,mbtmp4.0/28,ML4.2/4,MS3.4/18, Ms1 3.4/18,ms1mx3.2/46,Error ellipse: s-maj=16.4km s-min=12.3km az=18.0*
*NEIC **17** 08:07:21.3,36°99N×22°17E,h12km,mb4.2/4, ML4.2(ATH),After ATH.*
NEIC Felt at Kalamata.
*ISCJB **17** 08:07:21.6±0.3,36°92N±0°02×22°08E±0°02,h21km±2km, mb4.1/33,MS3.5/12,Error ellipse: s-maj=2.8km s-min=2.4km az=41.5*
*CSEM **17** 08:07:21.8±0.1,36°95N×22°14E,h10km,mb4.2/26,Mw4.2, Error ellipse: s-maj=3.4km s-min=2.7km az=51.0*
*ATH **17** 08:07:21.3,36°99N×22°17E,h12km±1km,ML4.2*
*THE **17** 08:07:21.9,36°98N×22°17E,h2km±1km,ML4.2/10,Error ellipse: s-maj=1.2km s-min=0.6km az=232.0*
*SOF **17** 08:07:22.7,37°02N×22°63E,h2km,MD3.4*
ISC 17 08:07:21.7±0.8,36°96N±0°02×22°16E±0°02,h11km±5km, n419,σ1s34/475,mb4.2/33,MS3.4/12,13C-14D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.24**	**146**	P		**Pg**	**08 07 26.4**	**-0.3**
DYR				S		**Sg**	**08 07 30.7**	**+0.6**
DYR	**Agios Nikonas**	**0.24**	**146**	*e*PG		**Pg**	**08 07 26.4**	**-0.3**
DYR				*e*SG		**Sg**	**08 07 30.7**	**+0.6**
DYR	**Agios Nikonas**	**0.24**	**146**	P		**Pg**	**08 07 26.4**	**-0.3**
DYR				S		**Sg**	**08 07 30.4**	**+0.3**
DYR				*e*Sg		Sg	08 07 30.7	+0.5
ITM	**Ithomi**	**0.29**	**319**	P		**Pg**	**08 07 27.0**	**-0.5**
ITM				S		**Sg**	**08 07 31.5**	**0.0**
ITM	**Ithomi**	**0.29**	**319**	*e*PG		**Pg**	**08 07 26.7**	**-0.8**
ITM				*e*SG		**Sg**	**08 07 31.3**	**-0.2**
ITM	**Ithomi**	**0.29**	**319**	*e*Pg		**Pg**	**08 07 26.7**	**-0.8**
ITM	**Ithomi**	**0.29**	**319**	P		**Pg**	**08 07 27.0**	**-0.5**
ITM				S		**Sg**	**08 07 30.9**	**-0.6**
ITM				*e*Sg		**Sg**	**08 07 31.3**	**-0.2**
PYL	**PYLOS**	**0.34**	**259**	P		**Pg**	**08 07 28.0**	**-0.6**
PYL				S		**Sg**	**08 07 34.0**	**+0.8**
PYL	**PYLOS**	**0.34**	**259**	*e*PG		**Pg**	**08 07 28.0**	**-0.6**
PYL				*e*SB		**Sg**	**08 07 33.9**	**+0.8**
PYL	**PYLOS**	**0.34**	**259**	P		**Pg**	**08 07 28.0**	**-0.6**
PYL				S		**Sg**	**08 07 33.2**	**+0.1**
PYL				*e*Sb		**Sg**	**08 07 33.9**	**+0.8**
VLX	**Vlachokerasia**	**0.44**	**23**	P		**Pg**	**08 07 29.9**	**-0.5**
VLX				S		**Sg**	**08 07 36.8**	**+0.5**
VLX	**Vlachokerasia**	**0.44**	**23**	*e*PB		**Pg**	**08 07 29.9**	**-0.5**
VLX	**Vlachokerasia**	**0.44**	**23**	P		**Pg**	**08 07 29.9**	**-0.5**
VLX				S		**Sg**	**08 07 36.8**	**+0.5**
VLI	**Veliai**	**0.67**	**111**	P		**Pg**	**08 07 34.7**	**+0.1**
VLI				S		**Sg**	**08 07 44.0**	**+0.6**
VLI	**Veliai**	**0.67**	**111**	*e*PB		**Pg**	**08 07 34.6**	**0.0**
VLI				*e*SB		**Sg**	**08 07 43.6**	**+0.2**
VLI	**Veliai**	**0.67**	**111**	P		**Pg**	**08 07 34.7**	**+0.1**
VLI				*e*Sb		**Sg**	**08 07 43.6**	**+0.2**
VLI				S		**Sg**	**08 07 44.0**	**+0.6**
AMT	**Artemida-Makis**	**0.67**	**328**	P		**Pg**	**08 07 34.3**	**-0.5**
AMT				S		**Sb**	**08 07 44.5**	**-0.4**
AMT	**Artemida-Makis**	**0.67**	**328**	*e*PB		**Pg**	**08 07 34.2**	**-0.5**
AMT				*e*SB		**Sg**	**08 07 43.6**	**-0.1**
AMT	**Artemida-Makis**	**0.67**	**328**	P		**Pg**	**08 07 34.3**	**-0.5**
AMT				S		**Sg**	**08 07 43.5**	**-0.1**
KYTH	**Kithira**	**0.98**	**134**	P		**Pg**	**08 07 40.5**	**0.0**
KYTH	**Kithira**	**0.98**	**134**	*e*PN		**Pg**	**08 07 40.7**	**+0.2**
KYTH	**Kithira**	**0.98**	**134**	P		**Pg**	**08 07 40.5**	**0.0**
DIDY	**Didyma**	**0.98**	**58**	P		**Pg**	**08 07 40.1**	**-0.5**
DIDY	**Didyma**	**0.98**	**58**	P		**Pg**	**08 07 40.1**	**-0.5**
GUR	**Goura**	**0.98**	**8**	P		**Pg**	**08 07 39.1**	**-1.5**
GUR				S		**Sb**	**08 07 53.9**	**+0.1**
GUR	**Goura**	**0.98**	**8**	*e*PG		**Pg**	**08 07 39.1**	**-1.5**
GUR	**Goura**	**0.98**	**8**	P		**Pg**	**08 07 39.1**	**-1.5**
GUR				S		**Sb**	**08 07 54.3**	**+0.5**
DID	**Didima**	**1.01**	**57**	P		**Pb**	**08 07 40.7**	**-0.6**
DID				S		**Sn**	**08 07 55.9**	**-0.3**
DID	**Didima**	**1.01**	**57**	*e*PB		**Pb**	**08 07 40.5**	**-0.8**
DID	**Didima**	**1.01**	**57**	P		**Pb**	**08 07 40.7**	**-0.6**
DID				S		**Sn**	**08 07 55.9**	**-0.3**
RLS	**Riolos of Patr**	**1.23**	**333**	P		**Pn**	**08 07 44.1**	**-0.7**
RLS				S		**Sn**	**08 08 02.3**	**+1.0**
RLS	**Riolos of Patr**	**1.23**	**333**	*e*PG		**Pn**	**08 07 43.9**	**-0.9**
RLS	**Riolos of Patr**	**1.23**	**333**	P		**Pn**	**08 07 44.1**	**-0.7**
RLS				S		**Sn**	**08 08 01.5**	**+0.2**
LTK	**Loutraki**	**1.24**	**31**	P		**Pn**	**08 07 44.4**	**-0.5**
LTK				S		**Sg**	**08 08 03.2**	**+1.7**
LTK	**Loutraki**	**1.24**	**31**	*e*PB		**Pn**	**08 07 44.1**	**-0.8**
LTK				*e*SB		**Sb**	**08 08 00.3**	**-0.8**
LTK	**Loutraki**	**1.24**	**31**	*e*Pb		**Pn**	**08 07 44.1**	**-0.8**
LTK	**Loutraki**	**1.24**	**31**	P		**Pn**	**08 07 44.4**	**-0.5**
LTK				*e*Sb		**Sb**	**08 08 00.3**	**-0.8**
LTK				S		**Sg**	**08 08 03.2**	**+1.7**
LAKA	**Lakka**	**1.28**	**354**	P		**Pn**	**08 07 44.6**	**-1.0**
LAKA				S		**Sg**	**08 08 04.1**	**+1.1**
LAKA	**Lakka**	**1.28**	**354**	*e*PN		**Pn**	**08 07 44.4**	**-1.2**
LAKA				*e*SB		**Sb**	**08 08 02.5**	**+0.1**
LAKA	**Lakka**	**1.28**	**354**	P		**Pn**	**08 07 44.6**	**-1.0**
LAKA				S		**Sb**	**08 08 02.5**	**+0.1**
NAIG	**Nisos Aigina**	**1.32**	**53**	*e*PB		**Pb**	**08 07 46.5**	**0.0**
NAIG	**Nisos Aigina**	**1.32**	**53**	*e*Pb		**Pb**	**08 07 46.5**	**0.0**
UPR	**University Cam**	**1.35**	**347**	P		**Pn**	**08 07 46.1**	**-0.4**
UPR	**University Cam**	**1.35**	**347**	*e*PB		**Pn**	**08 07 46.6**	**+0.1**
UPR	**University Cam**	**1.35**	**347**	P		**Pn**	**08 07 46.4**	**-0.1**
UPR				S		**Sg**	**08 08 06.1**	**+0.9**
PSA1	**Psathopyrgos**	**1.38**	**351**	*e*PB		**Pn**	**08 07 46.8**	**0.0**
KALE	**Kalithea**	**1.43**	**359**	P		**Pn**	**08 07 46.9**	**-0.7**
KALE				S		**Sb**	**08 08 06.9**	**+0.4**
KALE	**Kalithea**	**1.43**	**359**	*e*PG		**Pn**	**08 07 47.0**	**-0.7**
KALE	**Kalithea**	**1.43**	**359**	P		**Pn**	**08 07 46.9**	**-0.7**
KALE				S		**Sb**	**08 08 06.9**	**+0.4**
DSF	**Desfina**	**1.48**	**11**	P		**Pn**	**08 07 48.4**	**+0.2**
DSF				S		**Sg**	**08 08 09.0**	**-0.2**
DSF	**Desfina**	**1.48**	**11**	P		**Pn**	**08 07 48.5**	**+0.2**
DSF				S		**Sg**	**08 08 09.0**	**-0.2**
EFP	**Efpalio**	**1.48**	**352**	P		**Pn**	**08 07 48.1**	**-0.1**
EFP	**Efpalio**	**1.48**	**352**	*e*PG		**Pn**	**08 07 47.7**	**-0.5**
EFP	**Efpalio**	**1.48**	**352**	*e*Pg		**Pn**	**08 07 47.7**	**-0.5**
EFP	**Efpalio**	**1.48**	**352**	P		**Pn**	**08 07 48.1**	**-0.1**
KFL	**Anninata**	**1.58**	**317**	P		**Pb**	**08 07 50.5**	**-0.5**
KFL	**Anninata**	**1.58**	**317**	P		**Pb**	**08 07 50.5**	**-0.5**
ATH	**Athens Observa**	**1.59**	**50**	P		**Pn**	**08 07 50.4**	**+0.6**
ATH				S		**Sb**	**08 08 11.7**	**+0.4**
ATH	**Athens Observa**	**1.59**	**50**	*e*PB		**Pb**	**08 07 50.9**	**-0.3**
ATH				*e*SB		**Sg**	**08 08 12.8**	**-0.2**
ATH	**Athens Observa**	**1.59**	**50**	P		**Pn**	**08 07 50.4**	**+0.6**
ATH	**Athens Observa**	**1.59**	**50**	*e*Pb		**Pb**	**08 07 50.9**	**-0.3**
ATH				S		**Sb**	**08 08 11.7**	**+0.4**
ATH				*e*Sb		**Sg**	**08 08 12.8**	**-0.2**
ATHU	**Athens Univers**	**1.63**	**52**	P		**Pb**	**08 07 51.2**	**-0.6**
ATHU				S		**Sg**	**08 08 14.1**	**-0.1**
ATHU	**Athens Univers**	**1.63**	**52**	P		**Pb**	**08 07 51.2**	**-0.6**
ATHU				S		**Sg**	**08 08 14.1**	**-0.1**
PTL	**Penteli**	**1.73**	**51**	P		**Pb**	**08 07 52.8**	**-0.8**
PTL				S		**Sb**	**08 08 15.6**	**+0.2**
PTL	**Penteli**	**1.73**	**51**	*e*PN		**Pb**	**08 07 52.9**	**-0.7**
PTL	**Penteli**	**1.73**	**51**	P		**Pb**	**08 07 52.8**	**-0.8**
PTL				S		**Sb**	**08 08 15.6**	**+0.2**
VLS	**Valsamata**	**1.74**	**315**	P		**Pn**	**08 07 52.8**	**+0.9**
VLS	**Valsamata**	**1.74**	**315**	*e*PG		**Pn**	**08 07 52.6**	**+0.7**
VLS	**Valsamata**	**1.74**	**315**	P		**Pn**	**08 07 52.8**	**+0.9**
LKR	**Lokris**	**1.81**	**21**	P		**Pb**	**08 07 53.9**	**-0.9**
LKR				S		**Sb**	**08 08 16.9**	**-0.6**
LKR	**Lokris**	**1.81**	**21**	*e*PN		**Pb**	**08 07 54.1**	**-0.7**
LKR	**Lokris**	**1.81**	**21**	P		**Pb**	**08 07 53.9**	**-0.9**
LKR				S		**Sb**	**08 08 16.9**	**-0.6**
AXAR	**Agios Charalam**	**1.84**	**12**	P		**Pb**	**08 07 54.8**	**-0.6**
AXAR	**Agios Charalam**	**1.84**	**12**	P		**Pb**	**08 07 54.8**	**-0.6**
ATAL	**Atalanti**	**1.86**	**21**	P		**Pn**	**08 07 54.5**	**+1.1**
ATAL	**Atalanti**	**1.86**	**21**	P		**Pn**	**08 07 54.5**	**+1.1**
ERET	**Eretria**	**1.97**	**41**	P		**Pn**	**08 07 56.2**	**+1.1**
ERET				S		**Sb**	**08 08 21.4**	**-0.8**
ERET	**Eretria**	**1.97**	**41**	P		**Pn**	**08 07 56.2**	**+1.1**
ERET				S		**Sb**	**08 08 21.4**	**-0.8**
EVR	**Evrytania**	**1.97**	**352**	*e*PN		**Pb**	**08 07 56.6**	**-1.0**
EVR	**Evrytania**	**1.97**	**352**	*e*Pn		**Pb**	**08 07 56.6**	**-1.0**
MRKA	**Markates**	**2.07**	**33**	P		**Pn**	**08 07 57.4**	**+0.9**
MRKA				S		**Sn**	**08 08 23.2**	**+0.9**
MRKA	**Markates**	**2.07**	**33**	P		**Pn**	**08 07 57.4**	**+0.9**
MRKA				S		**Sn**	**08 08 23.2**	**+0.9**
MRMA	**Marmari**	**2.07**	**58**	P		**Pn**	**08 07 57.5**	**+1.1**
MRMA				S		**Sb**	**08 08 24.1**	**-1.0**
MRMA	**Marmari**	**2.07**	**58**	P		**Pn**	**08 07 57.5**	**+1.1**
MRMA				S		**Sb**	**08 08 24.1**	**-1.0**

SOH	**Sokhos**	**3.96**	**13**	*e*PN	**Pn**	**08 08 24.5 +2.0**			
SOH	**Sokhos**	**3.96**	**13**	*e*Pn	**Pn**	**08 08 24.5 +2.0**			
BIA	**Bitola**	**4.10**	**351**	*e*Pn	Pn	08 08 29.0 +4.6			
BIA	**Bitola**	**4.10**	**351**	*e*Pn	Pn	08 08 28.9 +4.6			
BODT	**Bodrum**	**4.12**	**87**	*e*P	Pn	08 08 28.4 +3.8			
BLCB	**Balcova**	**4.12**	**68**	*e*P	**Pn**	**08 08 27.0 +2.4**			
KARP	**Karpathos**	**4.28**	**108**	*e*PN	**Pn**	**08 08 29.6 +2.8**			
KARP	**Karpathos**	**4.28**	**108**	*e*Pn	**Pn**	**08 08 29.6 +2.8**			
IZM	**Izmir**	**4.29**	**69**	*e*P	**Pn**	**08 08 29.6 +2.6**			
EZN	**Ezine**	**4.34**	**48**	*e*P	**Pn**	**08 08 27.9 +0.3**			
DAT	**Datca**	**4.35**	**91**	*e*P	Pn	08 08 32.1 +4.3			
VAY	**Valandovo**	**4.36**	**4**	*i* P	**Pn**	**08 08 30.7 +2.8**			
VAY				S	**Sn**	**08 09 19.5 +0.8**			
VAY	**Valandovo**	**4.36**	**4**	*e*Pn	**Pn**	**08 08 30.0 +2.1**			
VAY	**Valandovo**	**4.36**	**4**	*e*Pn	**Pn**	**08 08 30.5 +2.6**			
VAY				S	**Sn**	**08 09 19.5 +0.8**			
NVR	**Nevrokopi**	**4.58**	**16**	*e*PN	**Pn**	**08 08 33.5 +2.6**			
NVR	**Nevrokopi**	**4.58**	**16**	*e*Pn	**Pn**	**08 08 33.5 +2.6**			
TIR	**Tirane**	**4.73**	**339**	*e*Pg	**Pg**	**08 08 55.4 +3.2**			
TIR	**Tirane**	**4.73**	**339**	*e*Pg	**Pg**	**08 08 55.4 +3.2**			
MMB	**Musomiste**	**4.78**	**14**	*i* P	**Pn**	**08 08 34.5 +0.9**			
MMB				S	**Sn**	**08 09 30.8 +1.8**			
MMB	**Musomiste**	**4.78**	**14**	*i* P	**Pn**	**08 08 34.5 +0.9**			
MMB				S	**Sn**	**08 09 30.8 +1.8**			
TIP	**Timpagrande**	**4.80**	**299**	*e*Pn	**Pn**	**08 08 34.4 +0.4**			
TIP	**Timpagrande**	**4.80**	**299**	*e*Pn	**Pn**	**08 08 34.4 +0.4**			
GELI	**Tayfur-Gelibol**	**4.81**	**43**	*e*P	**Pn**	**08 08 34.0 0.0**			
ARG	**Arkhangelos**	**4.86**	**97**	*e*PN	Pn	08 08 37.9 +3.2			
ARG	**Arkhangelos**	**4.86**	**97**	*e*Pn	Pn	08 08 37.9 +3.2			
ENEZ	**Enez**	**4.89**	**38**	*e*P	**Pn**	**08 08 34.4 -0.7**			
YER	**Yerkesik**	**4.90**	**86**	*e*P	Pn	08 08 39.6 +4.3			
LPK	**Lapseki**	**4.95**	**45**	*e*P	**Pn**	**08 08 36.4 +0.4**			
ALN	**Alexandroupoli**	**4.96**	**36**	P	**Pn**	**08 08 36.4 +0.3**			
ALN	**Alexandroupoli**	**4.96**	**36**	P	**Pn**	**08 08 36.4 +0.3**			
LTBQ	**Tobruq** SNR=108	**5.11**	**163**	*i* P	**Pn**	**08 08 40.1 +2.0**			
LTBQ	SNR=108			*e*S	**Sn**	**08 09 36.9 -0.2**			
RZN	**Rozhen**	**5.12**	**22**	*i* P	**Pn**	**08 08 40.0 +1.6**			
RZN				S	**Sn**	**08 09 37.6 0.0**			
RZN	**Rozhen**	**5.12**	**22**	*i* P	**Pn**	**08 08 40.0 +1.6**			
RZN				S	**Sn**	**08 09 37.6 0.0**			
BALB	**Balikesir**	**5.23**	**58**	*e*P	**Pn**	**08 08 41.5 +1.7**			
KRBG	**Karabiga-Canak**	**5.28**	**48**	*e*P	**Pn**	**08 08 41.5 +1.0**			
GONE	**Gonen-Balikesi**	**5.31**	**53**	*e*P	**Pn**	**08 08 42.3 +1.3**			
RKY	**Sarkoy-Tekirda**	**5.40**	**45**	*e*P	**Pn**	**08 08 42.5 +0.3**			
MFT	**Murefte**	**5.53**	**45**	*e*P	**Pn**	**08 08 44.7 +0.7**			
VTS	**Vitosha**	**5.68**	**8**	⇑P	**Pn**	**08 08 48.8 +2.7**			
VTS	**Vitosha**	**5.68**	**8**	⇑*i*P	**Pn**	**08 08 48.8 +2.7**			
VTS	**Vitosha**	**5.68**	**8**	*i* P	Pn	08 08 49.8 +3.7			
VTS				S	**Sn**	**08 09 50.0 -1.4**			
VTS	**Vitosha**	**5.68**	**8**	P	**Pn**	**08 08 48.8 +2.7**			
VTS				S	**Sn**	**08 09 50.0 -1.4**			
SG1	**Sgolgore (BA)**	**5.77**	**314**	*e*Pn	**Pn**	**08 08 49.2 +2.0**			
SG1				*e*Sn	**Sn**	**08 09 52.8 -0.6**			
CUC	**Castrocucco** 46nm,0.7s	**5.83**	**303**	*e*Pn	**Pn**	**08 08 50.0 +2.0**			
CUC	**Castrocucco** 46nm,0.7s	**5.83**	**303**	*e*Pn	**Pn**	**08 08 50.0 +2.0**			
EDRB	**Edirne**	**6.03**	**35**	*e*P	**Pn**	**08 08 50.0 -0.8**			
CDT	**Castel del Mon**	**6.16**	**314**	*e*Pn	**Pn**	**08 08 53.4 +0.8**			
CDT				*e*Sn	**Sn**	**08 10 00.9 -2.1**			
ELL	**Elmali**	**6.21**	**90**	*e*P	Pn	08 08 58.5 +5.0			
LJBD	**Adjabya** SNR=105	**6.25**	**196**	*i* P	**Pn**	**08 08 52.1 -1.7**			
TVSB	**Tavsanli**	**6.26**	**64**	*e*P	**Pn**	**08 08 56.6 +2.5**			
SLVT	**Silivri**	**6.34**	**46**	*e*P	**Pn**	**08 08 55.8 +0.7**			
ARMT	**Armutlu**	**6.35**	**53**	*e*P	**Pn**	**08 08 56.1 +0.9**			
CTKS	**Kestanelik-??a**	**6.52**	**47**	*e*P	**Pn**	**08 08 57.7 +0.2**			
YLV	**Yalova**	**6.68**	**55**	*e*P	**Pn**	**08 09 01.2 +1.4**			
BCK	**Bucak**	**6.74**	**83**	*e*P	Pn	08 09 04.8 +4.2			
STON	**Ston**	**6.83**	**331**	*i* Pn	**Pn**	**08 09 03.1 +1.4**			
STON				Sn	**Sn**	**08 10 18.0 -1.3**			
STON	**Ston**	**6.83**	**331**	*i* Pn	**Pn**	**08 09 03.1 +1.4**			
STON				Sn	**Sn**	**08 10 18.0 -1.3**			
CAVI	**Cavuskoy**	**6.83**	**59**	*e*Pn	**Pn**	**08 09 03.5 +1.7**			
SZH	**Strazhica**	**6.93**	**23**	*i* P	Pn	08 09 09.8 +6.7			
GULT	**Gulveren**	**7.39**	**60**	*e*P	**Pn**	**08 09 11.0 +1.4**			
KIZT	**Kizilcal**	**7.92**	**73**	*e*P	**Pn**	**08 09 19.2 +2.4**			
VOIR		**8.74**	**13**	⇓P	**Pn**	**08 09 30.9 +2.8**			
VOIR		**8.74**	**13**	⇓*i*P	**Pn**	**08 09 30.9 +2.8**			
VOIR		**8.74**	**13**	P	**Pn**	**08 09 30.9 +2.8**			
TIRR	**Tirgusor**	**8.86**	**30**	⇓P	Pn	08 09 35.2 +5.6			
TIRR	**Tirgusor**	**8.86**	**30**	⇓*i*P	Pn	08 09 35.2 +5.6			
MLR	**Muntele Rosu** 0.2nm,0.3s,baz=187,slow=11,SNR=9.1	**8.98**	**17**	Pn	Pn	08 09 35.7 +4.2			
MLR	comp=Z,62nm,18.4s,baz=48,slow=42			LR	LR	08 13 38.9			
MLR	**Muntele Rosu**	**8.98**	**17**	Pn	Pn	08 09 35.7 +4.2			
MLR	**Muntele Rosu**	**8.98**	**17**	⇓*i*P	Pn	08 09 35.5 +4.1			
NVLJ	**Novalja**	**9.39**	**326**	*e*Pn	**Pn**	**08 09 37.7 +0.9**			
NVLJ				Sn	**Sn**	**08 11 18.3 -4.1**			
NVLJ	**Novalja**	**9.39**	**326**	*e*Pn	**Pn**	**08 09 37.7 +0.9**			
BR131	**Keskin Array S** 2.9nm,0.6s	**9.43**	**70**	*e*Pn	Pn	08 09 42.0 +4.4			
BRTR	**Keskin Array B** 0.6nm,0.3s,baz=252,slow=13,SNR=22	**9.43**	**70**	Pn	Pn	08 09 41.3 +3.7			
BRTR	comp=Z,153nm,18.5s,baz=318,slow=44			LR	LR	08 14 07.6			
BRTR	**Keskin Array B**	**9.43**	**70**	Pn	Pn	08 09 41.3 +3.7			
PLOR	**Plostina**	**9.50**	**19**	⇑P	Pn	08 09 42.8 +4.4			
PLOR	**Plostina**	**9.50**	**19**	⇑*i*P	Pn	08 09 42.8 +4.4			
VRI	**Vrincioaia**	**9.53**	**20**	⇑P	Pn	08 09 43.5 +4.7			
VRI	**Vrincioaia**	**9.53**	**20**	⇑*i*P	Pn	08 09 43.5 +4.7			
KEST	**Kesra** 0.1nm,0.3s,baz=125,slow=5.7,SNR=5.4	**10.41**	**267**	Pn	**Pn**	**08 09 51.9 +0.9**			
KEST	0.1nm,0.3s,baz=21,slow=17,SNR=3.1			Sn	**Sn**	**08 11 46.5 -1.2**			
KEST	comp=Z,52nm,19.2s,baz=210,slow=42			LR	LR	08 14 43.8			
KEST	**Kesra**	**10.41**	**267**	Pn	**Pn**	**08 09 51.9 +0.9**			
KEST				Sn	**Sn**	**08 11 46.5 -1.2**			
KEST	**Kesra**	**10.41**	**267**	Pn	**Pn**	**08 09 51.9 +0.9**			
KEST				Sn	**Sn**	**08 11 46.5 -1.2**			
VOY	**Vojsko**	**10.97**	**328**	*e*Pn	**Pn**	**08 10 01.0 +2.4**			
VOY				*e*		08 10 11.8			
VOY				*e*Sn	**Sn**	**08 11 58.7 -2.7**			
VOY	**Vojsko**	**10.97**	**328**	*e*Pn	**Pn**	**08 10 01.0 +2.4**			
PSZ	**Piszkesteto**	**11.07**	**352**	⇓P	Pn	08 09 53.4 -6.6			
PSZ	**Piszkesteto**	**11.07**	**352**	⇓*i*P	Pn	08 09 53.4 -6.6			
OBKA	**Obir**	**11.10**	**332**	⇓*i*Pn	**Pn**	**08 10 00.6 +0.2**			
OBKA				⇑*i*Sn	**Sn**	**08 11 60.0 -4.5**			
OBKA	**Obir**	**11.10**	**332**	Pn	**Pn**	**08 10 00.6 +0.2**			
MMAI	**Mount Meron Ar** 1.5nm,0.3s,baz=310,slow=13,SNR=4.0	**11.55**	**106**	Pn	**Pn**	**08 10 05.8 -0.8**			
MMAI	2.3nm,0.3s,baz=299,slow=21,SNR=2.7			Sn	**Sn**	**08 12 12.9 -2.7**			
MMAI	**Mount Meron Ar**	**11.55**	**106**	Pn	**Pn**	**08 10 05.8 -0.8**			
MMAI				Sn	**Sn**	**08 12 12.9 -2.7**			
MMAI	**Mount Meron Ar**	**11.55**	**106**	Pn	**Pn**	**08 10 05.8 -0.8**			
VYHS	**Vyhne**	**11.78**	**349**	*e*P	**Pn**	**08 10 10.5 +0.9**			
VYHS	**Vyhne**	**11.78**	**349**	*e*PN	**Pn**	**08 10 10.5 +0.9**			
VYHS				*e*		08 12 21.9			
VYHS	**Vyhne**	**11.78**	**349**	*e*P	**Pn**	**08 10 10.5 +0.9**			
CRVS	**Cervenica-Dubn**	**11.94**	**358**	*e*P	Pn	08 10 16.0 +4.2			
CRVS	**Cervenica-Dubn**	**11.94**	**358**	*e*Pn	Pn	08 10 16.0 +4.2			
CRVS				*e*		08 12 55.0			
KOLS	**Kolonicke sedl**	**11.96**	**0**	*e*P	Pn	08 10 16.9 +4.8			
KOLS	**Kolonicke sedl**	**11.96**	**0**	*e*PN	Pn	08 10 16.9 +4.8			
MOA	**Molln**	**12.34**	**334**	⇑*i*Pn	**Pn**	**08 10 17.8 +0.6**			
MOA				⇑*i*Sn	**Sn**	**08 12 30.0 -4.7**			
MOA	**Molln**	**12.34**	**334**	Pn	**Pn**	**08 10 17.8 +0.6**			
EIL	**Elat** 0.7nm,0.3s,baz=96,slow=23,SNR=2.6	**12.93**	**121**	Pn	**Pn**	**08 10 23.8 -1.5**			
EIL	0.6nm,0.3s,baz=18,slow=11,SNR=2.8			Sn	**Sn**	**08 12 46.1 -3.0**			
EIL	**Elat**	**12.93**	**121**	Pn	**Pn**	**08 10 23.8 -1.5**			
EIL				Sn	**Sn**	**08 12 46.1 -3.0**			
EIL	**Elat**	**12.93**	**121**	Pn	**Pn**	**08 10 23.8 -1.5**			
MALT	**Malatya**	**12.96**	**79**	⇓P	**Pn**	**08 10 27.6 +1.7**			
MALT	**Malatya** 3.8nm,0.8s	**12.96**	**79**	⇓*e*Pn	Pn	08 10 30.4 +4.5			
MALT	**Malatya**	**12.96**	**79**	⇓*i*P	**Pn**	**08 10 27.6 +1.7**			
MALT	**Malatya**	**12.96**	**79**	P	**Pn**	**08 10 27.6 +1.7**			
VRAC	**Vranov** 0.8nm,0.3s,baz=152,slow=10,SNR=2.7	**12.99**	**344**	Pn	**Pn**	**08 10 27.9 +1.8**			
VRAC	**Vranov**	**12.99**	**344**	Pn	**Pn**	**08 10 27.9 +1.8**			
VRAC	**Vranov** 1.0nm,0.3s	**12.99**	**344**	P	**Pn**	**08 10 27.9 +1.8**			
ASF	**Jabal al Asfar** 0.5nm,0.3s,baz=165,slow=6.1,SNR=3.0	**13.05**	**107**	Pn	**Pn**	**08 10 29.8 +2.7**			
ASF				LR	LR	08 15 56.9			
	comp=Z,40nm,18.7s,baz=337,slow=40								
ASF	**Jabal al Asfar**	**13.05**	**107**	Pn	**Pn**	**08 10 29.8 +2.7**			
GERES	**GERESS Array B** 0.4nm,0.3s,baz=360,slow=27,SNR=5.3	**13.38**	**335**	Pn	**Pn**	**08 10 31.4 -0.2**			
GERES	**GERESS Array B**	**13.38**	**335**	Pn	**Pn**	**08 10 31.4 -0.2**			
GERES	**GERESS Array B**	**13.38**	**335**	P	**Pn**	**08 10 31.4 -0.2**			
DAVOX	**Davos/Dischmat** 0.2nm,0.3s,baz=157,slow=15,SNR=3.2	**13.40**	**321**	Pn	Pn	08 10 36.7 +4.8			
DAVOX	0.3nm,0.3s,baz=311,slow=22,SNR=4.2			Sn	**Sn**	**08 13 00.3 -0.6**			
DAVOX	comp=Z,92nm,20.7s,baz=128,slow=40			LR	LR	08 16 14.9			
DAVOX	**Davos/Dischmat**	**13.40**	**321**	Pn	Pn	08 10 36.7 +4.8			
DAVOX				Sn	**Sn**	**08 13 00.3 -0.6**			
DAVOX	**Davos/Dischmat**	**13.40**	**321**	S	**Sn**	**08 13 00.3 -0.6**			
KHC	**Kasperske Hory**	**13.67**	**335**	*e*P	**P**	**08 10 44.5 +0.2**			
KHC	**Kasperske Hory**	**13.67**	**335**	*e*P	**P**	**08 10 44.5 +0.2**			
ANN	**Anapa**	**13.94**	**51**	*e*P	Pn	08 10 34.4 -4.7			
ANN	comp=Z,35nm,1.0s			pmax	pmax				
AKASG	**Malin Array Be**	**14.64**	**18**	Pn	**Pn**	**08 10 51.4 +2.8**			
	comp=Z,0.8nm,0.3s,baz=118,slow=23,SNR=4.1								
AKASG	**Malin Array Be**	**14.64**	**18**	P	**Pn**	**08 10 51.4 +2.8**			
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax				
AKASG	**Malin Array Be**	**14.64**	**18**	Pn	**Pn**	**08 10 51.4 +2.8**			
AKASG	**Malin Array Be**	**14.64**	**18**	Pn	**Pn**	**08 10 51.4 +2.8**			
BRG	**Berggiesshubel** comp=Z,3.1nm,0.8s	**15.10**	**340**	*e*(P)	P	08 11 09.7 +10			
BRG	**Berggiesshubel**	**15.10**	**340**	*e*P	P	08 11 09.7 +10			
BRG	comp=Z,3.0nm,0.8s			pmax	pmax				
CLL	**Collm**	**15.76**	**338**	*i* P	**P**	**08 11 08.7 +1.3**			
CLL	**Collm** comp=Z,8.0nm,1.2s	**15.76**	**338**	*i* sP	**P**	**08 11 08.7 +1.3**			
CLL				*e*PP	**PnPn**	**08 11 14.0 +2.1**			
CLL				*i* sPP		08 11 17.0			
CLL	**Collm**	**15.76**	**338**	*i* P	**P**	**08 11 08.7 +1.3**			
KIV	**Kislovodsk**	**17.09**	**60**	*e*P	**P**	**08 11 22.1 -0.2**			
KIV	comp=Z,10.0nm,1.0s			pmax	pmax				
KIV	comp=Z,37nm,14.0s			MLR	MLR				
KIV	**Kislovodsk** comp=Z,37nm,14.0s	**17.09**	**60**	*e*P	**P**	**08 11 22.1 -0.2**			
KBZ	**Khabaz** comp=Z,0.3nm,0.3s,baz=264,slow=7.1,SNR=8.9	**17.17**	**60**	P	**P**	**08 11 24.8 +1.8**			
KBZ	comp=Z,95nm,18.0s,baz=332,slow=42			LR	LR	08 19 12.9			
KBZ	**Khabaz**	**17.17**	**60**	P	**P**	**08 11 24.8 +1.8**			
KBZ	comp=Z,95nm,18.0s			MLR	MLR				
KBZ	**Khabaz**	**17.17**	**60**	P	**P**	**08 11 24.9 +1.8**			
KBZ	**Khabaz** comp=Z,95nm,18.0s	**17.17**	**60**	P	**P**	**08 11 24.8 +1.8**			
ZEI	**Tsey**	**17.65**	**64**	*e*P	**P**	**08 11 29.8 +1.2**			
ZEI	comp=Z,14nm,1.2s			pmax	pmax				
ZEI	**Tsey** comp=Z,14nm,1.2s	**17.65**	**64**	*e*P	**P**	**08 11 29.8 +1.2**			
GNI	**Garni** comp=Z,161nm,19.1s,baz=271,slow=41	**17.94**	**73**	LR	LR	08 19 30.8			
VORD	**Divnogorie**	**18.59**	**36**	*e*P	**Pn**	**08 11 39.4 +0.5**			
VORD	comp=N,20nm,0.8s			pmax	pmax				
VORD	comp=Z,7.0nm,0.8s			pmax	pmax				
VORD	comp=E,20nm,0.6s			pmax	pmax				
VORD	**Divnogorie**	**18.59**	**36**	*e*P	**Pn**	**08 11 39.4 +0.5**			
VSR	**Storozhevoye**	**18.70**	**35**	*e*P	**P**	**08 11 38.5 -1.4**			
VSR	**Storozhevoye**	**18.70**	**35**	*e*P	**P**	**08 11 38.5 -1.4**			
VRHR	**Novokhopersk**	**19.80**	**38**	*e*P	**Pn**	**08 11 53.1 -0.3**			
VRHR	comp=N,7.0nm,0.6s			pmax	pmax				
VRHR	comp=Z,10.0nm,0.6s			pmax	pmax				
VRHR	comp=E,10.0nm,0.9s			pmax	pmax				
VRHR	**Novokhopersk**	**19.80**	**38**	*e*P	**Pn**	**08 11 53.1 -0.3**			
OBN	**Obninsk**	**20.65**	**24**	⇑*e*P	Pn	08 12 02.5 -0.9			
OBN				*e*		08 12 18.8			
OBN	comp=Z,21nm,1.0s			pmax	pmax				
OBN	comp=Z,100nm,14.0s			MLR	MLR				
OBN	**Obninsk** comp=Z,21nm,1.0s	**20.65**	**24**	*e*P	Pn	08 12 02.5 -0.9			
ESDC	**Sonseca Array** comp=Z,1.0nm,0.4s,baz=81,slow=10,SNR=9.4	**20.65**	**286**	P	**P**	**08 12 01.6 +0.2**			
ESDC	**Sonseca Array**	**20.65**	**286**	P	**P**	**08 12 01.6 +0.2**			
ESDC	**Sonseca Array**	**20.65**	**286**	P	**P**	**08 12 01.6 +0.2**			
VSU	**Vasula** comp=Z,25nm,1.3s	**21.72**	**7**	⇓*e*P	**P**	**08 12 12.3 -0.3**			
VSU	comp=Z,25nm,1.3s			pmax	pmax				
VSU	**Vasula**	**21.72**	**7**	*e*P	**P**	**08 12 12.3 -0.3**			
MDT	**Midelt** comp=Z,1.1nm,0.6s,baz=14,slow=13,SNR=2.8	**22.32**	**267**	P	**P**	**08 12 19.7 +0.3**			
MDT	comp=Z,63nm,19.2s,baz=98,slow=40			LR	LR	08 22 12.4			
MDT	**Midelt**	**22.32**	**267**	P	**P**	**08 12 19.7 +0.3**			
MDT	**Midelt**	**22.32**	**267**	P	**P**	**08 12 19.7 +0.3**			
HFS	**Hagfors** comp=Z,3.2nm,0.5s,baz=155,slow=11,SNR=7.6	**23.82**	**349**	P	**P**	**08 12 33.7 -0.7**			
HFS	**Hagfors**	**23.82**	**349**	P	**P**	**08 12 33.7 -0.7**			
HFS	**Hagfors** comp=Z,3.0nm,0.5s	**23.82**	**349**	P	**P**	**08 12 33.7 -0.7**			
FINES	**FINESS Array B** comp=Z,2.2nm,0.7s,baz=157,slow=10,SNR=4.8	**24.63**	**5**	P	**P**	**08 12 40.8 -1.1**			
FINES	comp=Z,3.4nm,1.0s,baz=132,slow=2.1,SNR=3.6			PcP	**PcP**	**08 16 18.8 -0.3**			
FINES	comp=Z,148nm,19.5s,baz=318,slow=39			LR	LR	08 23 17.5			
FINES	**FINESS Array B**	**24.63**	**5**	P	**P**	**08 12 40.8 -1.1**			
FINES				PcP	**PcP**	**08 16 18.8 -0.3**			
FINES	**FINESS Array B** comp=Z,2.2nm,0.7s	**24.63**	**5**	P	**P**	**08 12 40.8 -1.1**			
FINES	**FINESS Array B** comp=Z,148nm,19.5s	**24.63**	**5**	PcP	**PcP**	**08 16 18.8 -0.3**			
NB2	**NORSAR Subarra** comp=Z,5.7nm,1.1s,baz=160,slow=10	**25.07**	**347**	P	**P**	**08 12 45.7 -0.3**			
NB2	**NORSAR Subarra** comp=Z,5.7nm,1.1s,SNR=6.0	**25.07**	**347**	P	**P**	**08 12 45.7 -0.3**			
NOA	**NORSAR Array B** comp=Z,3.6nm,0.9s,baz=156,slow=9.4,SNR=5.6	**25.07**	**347**	P	**P**	**08 12 45.1 -0.9**			
NOA	**NORSAR Array B**	**25.07**	**347**	P	**P**	**08 12 45.1 -0.9**			
NOA	**NORSAR Array B** comp=Z,4.0nm,0.9s	**25.07**	**347**	P	**P**	**08 12 45.1 -0.9**			
KLMR	**Klimovskoe**	**26.32**	**19**	*e*P	**P**	**08 13 00.7 +3.5**			
KLMR	comp=Z,23nm,1.4s			pmax	pmax				
AKTK	**Aktyubinsk** comp=Z,64nm,19.0s	**28.90**	**51**	P	**P**	**08 13 20.1 -0.4**			
AKTO	**Aktyubinsk** comp=Z,1.6nm,0.6s,baz=257,slow=11,SNR=6.4	**28.90**	**51**	P	**P**	**08 13 20.1 -0.4**			
AKTO	comp=Z,64nm,19.0s,baz=80,slow=44			LR	LR	08 28 14.0			
AKTO	**Aktyubinsk**	**28.90**	**51**	P	**P**	**08 13 20.1 -0.4**			
AKTO	comp=Z,2.0nm,0.6s			pmax	pmax				
AKTO	comp=Z,64nm,19.0s			MLR	MLR				
AKTO	**Aktyubinsk**	**28.90**	**51**	P	**P**	**08 13 20.1 -0.4**			
AKTO	**Aktyubinsk**	**28.90**	**51**	P	**P**	**08 13 20.1 -0.4**			
ABKAR	**Akbulak array** comp=Z,1.0nm,0.7s	**29.88**	**54**	*e*P	**P**	**08 13 29.8 +0.7**			
ABKAR	**Akbulak array** comp=Z,1.0nm,0.7s	**29.88**	**54**	*e*P	**P**	**08 13 29.8 +0.7**			
TOA0	**Torodi Ar. Sit**	**29.97**	**223**	*e*P	**P**	**08 13 29.5 -0.7**			
TOA0	**Torodi Ar. Sit**	**29.97**	**223**	*e*P	**P**	**08 13 29.5 -0.7**			
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.8s,baz=30,slow=8.4,SNR=11	**29.97**	**223**	P	**P**	**08 13 30.1 0.0**			
TORD	comp=Z,100nm,18.8s,baz=15,slow=37			LR	LR	08 25 55.9			
TORD	**Torodi Ar. Bea**	**29.97**	**223**	P	**P**	**08 13 30.1 0.0**			
TORD	**Torodi Ar. Bea**	**29.97**	**223**	P	**P**	**08 13 30.1 0.0**			
ARU	**Arti** comp=Z,7.0nm,1.7s	**31.13**	**40**	*d i*P	**P**	**08 13 41.6 +1.5**			
ARU	**Arti** comp=Z,7.0nm,1.7s	**31.13**	**40**	*i* P	**P**	**08 13 41.6 +1.5**			
ARU						08 14 40.3			
ARU				S	**S**	**08 18 49.3 +3.9**			
ARU				SS	**SnSn**	**08 20 30.6 +3.8**			
ARU				pmax	pmax				
ARU				S	**S**	**08 18 49.3 +3.9**			
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.6s,baz=197,slow=8.7,SNR=9.8	**32.68**	**2**	P	**P**	**08 13 52.8 -0.8**			
ARCES	comp=Z,2.8nm,0.9s,baz=191,slow=4.4,SNR=3.8			PcP	**PcP**	**08 16 38.3 -0.7**			
ARCES	comp=Z,97nm,18.5s,baz=182,slow=38			LR	LR	08 28 00.7			
ARCES	**ARCESS Array B**	**32.68**	**2**	P	**P**	**08 13 52.8 -0.8**			
ARCES				PcP	**PcP**	**08 16 38.3 -0.7**			
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.6s	**32.68**	**2**	P	**P**	**08 13 52.8 -0.8**			
ARCES	**ARCESS Array B** comp=Z,97nm,18.5s	**32.68**	**2**	PcP	**PcP**	**08 16 38.3 -0.7**			
BRVK	**Borovoye** comp=Z,15nm,2.5s	**36.86**	**49**	⇑*e*P	**P**	**08 14 29.5 -0.3**			
BRVK				pmax	pmax				
BRVK	**Borovoye** comp=Z,3.0nm,0.7s	**36.86**	**49**	*e*P	**P**	**08 14 32.3 +2.5**			
BRVK	**Borovoye** comp=Z,15nm,2.5s	**36.86**	**49**	*e*P	**P**	**08 14 29.5 -0.3**			
BVAR	**Borovoye Array** comp=Z,2.4nm,0.7s,baz=255,slow=5.7,SNR=13	**36.92**	**49**	P	**P**	**08 14 30.3 -0.1**			
BVAR	**Borovoye Array**	**36.92**	**49**	P	**P**	**08 14 30.3 -0.1**			
BVAR	comp=Z,2.0nm,0.7s			pmax	pmax				
BVAR	**Borovoye Array**	**36.92**	**49**	P	**P**	**08 14 30.3 -0.1**			
BVAR	**Borovoye Array** comp=Z,2.0nm,0.7s	**36.92**	**49**	P	**P**	**08 14 30.3 -0.1**			
DBIC	**Dimbokro** comp=Z,50nm,18.9s,baz=189,slow=39	**38.94**	**226**	LR	LR	08 32 38.7			
AAK	**Ala-Archa** comp=Z,1.0nm,0.6s,baz=212,slow=5.4,SNR=3.9	**40.07**	**65**	P	**P**	**08 14 57.5 +0.3**			
AAK	**Ala-Archa**	**40.07**	**65**	P	**P**	**08 14 57.5 +0.3**			
AAK	comp=Z,1.0nm,0.6s			pmax	pmax				
AAK	**Ala-Archa** comp=Z,8.6nm,0.9s	**40.07**	**65**	*e*P	**P**	**08 14 57.7 +0.5**			
AAK	**Ala-Archa** comp=Z,8.6nm,0.9s	**40.07**	**65**	*e*P	**P**	**08 14 57.7 +0.5**			
SPITS	**Spitsbergen Ar** comp=Z,10nm,1.1s,baz=157,slow=11,SNR=3.1	**41.40**	**358**	P	**P**	**08 15 08.0 +0.5**			
SPITS	**Spitsbergen Ar**	**41.40**	**358**	P	**P**	**08 15 08.0 +0.5**			
SPITS	**Spitsbergen Ar** comp=Z,10.0nm,1.1s	**41.40**	**358**	P	**P**	**08 15 08.0 +0.5**			
KURBB	**Kurchatov Arra** comp=Z,29nm,18.3s,baz=165,slow=39	**41.92**	**53**	LR	LR	08 34 37.9			
KURK	**Kurchatov**	**41.97**	**52**	*c i*P	**P**	**08 15 11.5 -1.0**			
KURK	comp=Z,6.0nm,1.2s			pmax	pmax				
KURK	**Kurchatov** comp=Z,3.3nm,0.8s	**41.97**	**52**	*e*P	**P**	**08 15 11.2 -1.3**			
KURK	**Kurchatov** comp=Z,6.0nm,1.2s	**41.97**	**52**	*i* P	**P**	**08 15 11.5 -1.0**			
NVS	**Novosibirsk** comp=N,6.0nm,1.4s	**44.56**	**46**	*i* P	**P**	**08 15 32.5 -0.8**			
NVS	comp=E,5.0nm,1.4s			pmax	pmax				
NVS	comp=Z,12nm,1.4s			pmax	pmax				
NVS	**Novosibirsk**	**44.56**	**46**	*i* P	**P**	**08 15 32.5 -0.8**			
MK31	**Makanchi Array**	**44.84**	**58**	*e*P	**P**	**08 15 33.9 -1.8**			
MK31	**Makanchi Array**	**44.84

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOCI	**Noci**	**0.13**	**357**	Pg	Pg	08 45 13.1	+0.7
NOCI				Sg	Sg	08 45 15.4	+1.0
	2μm,0.2s						
NOCI	**Noci**	**0.13**	**357**	Pg	Pg	08 45 13.1	+0.7
NOCI				Sg	Sg	08 45 15.4	+1.0
	2μm,0.2s						
MATE	**Matera**	**0.28**	**269**	Pg	Pg	08 45 15.8	+0.8
MATE				Sg	Sb	08 45 20.5	-1.3
	272nm,0.2s						
MATE	**Matera**	**0.28**	**269**	Pg	Pg	08 45 15.8	+0.8
MATE				Sg	Sb	08 45 20.5	-1.3
	272nm,0.2s						
SG1	**Sgolgore (BA)**	**0.35**	**302**	*e*Pg	Pg	08 45 16.8	+0.3
SG1				*e*Sg	Sg	08 45 22.5	+1.3
AMUR	**Altamura**	**0.44**	**305**	Pg	Pg	08 45 18.2	+0.1
AMUR				Sg	Sg	08 45 25.0	+1.2
AMUR	**Altamura**	**0.44**	**305**	Pg	Pg	08 45 18.2	+0.1
AMUR				Sg	Sg	08 45 25.0	+1.2
BAI	**Bari**	**0.47**	**342**	*e*Pg	Pg	08 45 17.4	-1.3
MIGL	**Miglionico**	**0.48**	**264**	Pg	Pg	08 45 19.6	+0.7
MIGL				Sg	Sb	08 45 27.9	+0.1
	436nm,0.2s						
MIGL	**Miglionico**	**0.48**	**264**	Pg	Pg	08 45 19.6	+0.7
MIGL				Sg	Sb	08 45 27.9	+0.1
	436nm,0.2s						
CRAC	**Craco**	**0.57**	**240**	Pg	Pg	08 45 21.0	+0.5
CRAC				Sg	Sb	08 45 30.5	+0.3
	247nm,0.5s						
CRAC	**Craco**	**0.57**	**240**	Pg	Pg	08 45 21.0	+0.5
CRAC				Sg	Sb	08 45 30.5	+0.3
	247nm,0.5s						
CDT	**Castel del Mon**	**0.74**	**305**	*e*Pg	Pn	08 45 25.8	-0.7
CDT				*e*Sg	Sb	08 45 35.5	+0.3
MRVN	**Minervino Murg**	**0.78**	**302**	Pg	Pg	08 45 24.7	+0.1
MRVN				Sg	Sb	08 45 36.5	+0.1
MRVN	**Minervino Murg**	**0.78**	**302**	Pg	Pg	08 45 24.7	+0.1
MRVN				Sg	Sb	08 45 36.5	+0.1
ACER	**Acerenza**	**0.87**	**279**	Pg	Pb	08 45 27.4	+0.3
ACER	**Acerenza**	**0.87**	**279**	Pg	Pb	08 45 27.4	+0.3
SIRI	**Monte Sirino -**	**1.04**	**243**	Pg	Pg	08 45 28.4	-1.2
SIRI	**Monte Sirino -**	**1.04**	**243**	Pg	Pg	08 45 28.4	-1.2

MEX 17 08:55:28.9±0.8, 17°56N×101°29W, h24km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.17**	**286**	*i* P	Pb	08 55 33.1	-1.1
ZIIG				*i* S	Sb	08 55 36.6	-1.1
CAIG	**El Cayaco**	**1.10**	**117**	*e*P	Pn	08 55 45.5	-3.4
CAIG				*i* S	Sb	08 55 59.7	-3.5
ARIG	**Puente Sto Nin**	**1.15**	**51**	*e*P	Pn	08 55 46.1	-3.4
ARIG				*i* S	Sn	08 56 00.3	-4.3
ACX	**Acapulco**	**1.53**	**116**	*i* P	Pn	08 55 51.7	-3.0
ACX				*i* S	Sn	08 56 09.7	-4.2
MEIG	**Mezcala**	**1.63**	**77**	*e*P	Pn	08 55 54.1	-2.1
MEIG				*i* S	Sn	08 56 13.2	-3.4
PLIG	**Platanillo**	**1.89**	**64**	*e*P	Pn	08 55 58.4	-1.5
PLIG				*i* S	Sn	08 56 20.0	-3.0
MMIG	**Aquila**	**2.09**	**291**	*e*P	Pn	08 56 00.0	-2.4
MMIG				*i* S	Sn	08 56 24.6	-3.0
PNIG	**Pinotepa**	**3.24**	**111**	*e*P	Pn	08 56 16.4	-1.9
PNIG				*e*S	Sn	08 56 53.3	-2.9

NNC 17 08:56:34.8±3.3, 53°21N×87°37E, h0km, mb3.8, mpv3.4, 5C-7D, Error ellipse: s-maj=24.9km s-min=16.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.96**	**249**	⇑Pn	Pn	08 58 05.7	+1.5
	2.6nm,0.5s						
KURK				⇑Sn	Sn	08 59 15.2	+2.1
	2.3nm,0.8s						
KURK				⇓Lg	Lg	08 59 46.5	
	16nm,1.0s						
KURBB	**Kurchatov Arra**	**6.05**	**248**	⇑Pn	Pn	08 58 07.0	+1.5
	1.3nm,0.4s						
KURBB				⇓Sn	Sn	08 59 17.5	+2.1
	1.2nm,0.6s						
KURBB				⇓Lg	Lg	08 59 48.7	
	3.2nm,0.9s						
MK31	**Makanchi Array**	**7.21**	**209**	⇓Pn	Pn	08 58 24.6	+3.1
	0.7nm,0.3s,baz=29,slow=13,SNR=67						
MK31				⇓Sn	Sn	08 59 49.5	+5.5
	4.6nm,0.9s,baz=31,slow=26,SNR=6.5						
MK31				⇑Lg	Lg	09 00 24.9	
	5.0nm,0.9s,baz=34,slow=29,SNR=4.1						
VOSK	**Vostochnaya**	**9.90**	**274**	⇓Sn	Sn	09 00 49.5	-0.6
	2.1nm,0.7s						
ZRNK	**Zerenda**	**11.05**	**276**	⇓Pn	Pn	08 59 09.5	-4.5
	3.1nm,1.3s						
ZRNK				⇑Sn	Sn	09 01 16.6	-1.6
	1.6nm,0.7s						

MOS ***17*** *08:56:52.3±0.9, 20°.26S×178°.70W, h569km, mb4.6/26, Error ellipse: s-maj=10.3km s-min=9.1km az=147.3*
BJI ***17*** *08:56:54.6, 20°.21S×178°.15W, h615km, mB5.0/13, mb4.7/29*
AUST ***17*** *08:56:54.4±0.0, 20°.32S×178°.29W, h607km, Error ellipse: s-maj=1.5km s-min=1.3km az=277.0*
SZGRF ***17*** *08:56:55.1, 20°.61S×178°.47W, h600km, Fiji Islands region*
ISCJB ***17*** *08:56:56.4±0.7, 20°.36S±0°.05×178°.78W±0°.03, h618km±8km, mb4.7/111, Error ellipse: s-maj=8.4km s-min=4.5km az=164.1*
NEIC ***17*** *08:56:57.3±0.5, 20°.35S×178°.74W, h619km±6km, mb4.7/79, Error ellipse: s-maj=6.3km s-min=4.0km az=157.0*
BGS ***17*** *08:56:57.8±5.5, 20°.35S×178°.74W, h619km, mb4.7(NEIC)*
IDC ***17*** *08:56:57.5±0.7, 20°.39S×178°.67W, h621km±8km, mb4.1/27, mb1 4.2/29, mb1mx4.1/31, mbtmp4.1/29, Error ellipse: s-maj=10.3km s-min=7.8km az=161.0*

ISC 17 08:56:56.3±0.4, 20°.40S±0°.06×178°.57W±0°.05, h613km±3km, h613km; pP-P, n849, σ1912/934, mb4.6/111, 211C-212D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16**	**309**	*e*P	P	**08 58 23.2**	**-0.8**
MSVF	**Nonsavu**	**4.16**	**309**	*e*Pn	P	**08 58 23.2**	**-0.8**
NIUE	**Niue**	**8.25**	**82**	P	P	**08 58 56.1**	**-2.4**
	baz=8.0,SNR=6.2						
NIUE				S	S	09 00 48.5	+10
	baz=8.0,SNR=3.6						
RAO	**Raoul Island**	**8.83**	**176**	*e*Pn	P	08 58 59.5	-4.3
	276nm,0.6s						
AFI	**Afiamalu**	**9.15**	**46**	P	P	08 59 03.5	-3.9
	11nm,0.3s,baz=24,slow=5.1,SNR=21						
AFI				S	S	09 00 46.9	-7.8
	7.1nm,0.3s,baz=98,slow=22,SNR=6.1						
AFI	**Afiamalu**	**9.15**	**46**	*e*Pn	P	08 59 03.1	-4.2
AFI				*e*Sn	S	09 00 47.4	-7.2
DZM	**Mont Dzumac**	**14.07**	**261**	P	P	**08 59 54.3**	**-1.3**
	13nm,0.3s,baz=81,slow=14,SNR=48						
DZM				S	S	**09 02 25.8**	**+3.8**
	baz=332,slow=14,SNR=7.5						
DZM	**Mont Dzumac**	**14.07**	**261**	*e*P	P	**08 59 52.7**	**-2.9**
DZM				*e*S	S	**09 02 25.5**	**+3.4**
DZM	**Mont Dzumac**	**14.07**	**261**	P	P	**08 59 54.3**	**-1.3**
DZM				S	S	**09 02 25.8**	**+3.8**
NOUC	**Port Laguerre**	**14.21**	**260**	*e*P	P	**08 59 54.4**	**-2.4**
NFK	**Norfolk Island**	**14.96**	**232**	P	P	**09 00 04.9**	**+1.3**
	baz=15,SNR=4.4						
NFK				S	S	09 02 43.3	+7.0
	baz=15,SNR=4.1						
OUZ	**Omahuta**	**16.30**	**203**	*e*P	P	**09 00 17.7**	**+2.0**
	142nm,0.7s						
RAR	**Rarotonga**	**17.59**	**96**	P	P	**09 00 27.8**	**+0.1**
	2.5nm,0.3s,baz=270,slow=11,SNR=2.9						
RAR	**Rarotonga**	**17.59**	**96**	P	P	**09 00 27.8**	**+0.1**
URZ	**Urewera**	**18.18**	**191**	P	P	**09 00 29.9**	**-2.9**
	4.3nm,0.3s,baz=3.1,slow=5.5,SNR=24						
URZ	**Urewera**	**18.18**	**191**	*e*P	P	**09 00 29.8**	**-3.1**
	34nm,0.7s						
KHZ	**Kahutara**	**22.94**	**195**	*e*P	P	**09 01 12.6**	**-2.8**
	24nm,0.9s						
TARA	**Tarawa**	**23.17**	**338**	*e*P	P	**09 01 17.8**	**-0.2**
	213nm,0.8s						
RPZ	**Rata Peaks**	**24.81**	**198**	P	P	**09 01 32.3**	**+0.3**
	5.6nm,0.5s,baz=63,slow=22,SNR=6.9						
RPZ	**Rata Peaks**	**24.81**	**198**	*e*P	P	**09 01 32.4**	**+0.4**
	8.3nm,0.6s						
ODZ	**Otahua Downs**	**26.15**	**198**	*e*P	P	**09 01 44.4**	**+0.7**
	54nm,1.0s						
PPT	**Papeete**	**27.55**	**89**	P	P	**09 01 56.7**	**+0.3**
	51nm,1.0s,baz=355,slow=11,SNR=3.6						
PPT	**Papeete**	**27.55**	**89**	P	P	**09 01 56.7**	**+0.3**
WHZ	**Wether Hill Ro**	**27.74**	**200**	*e*P	P	**09 01 58.0**	**+0.5**
WHZ				*es*P	sP	09 04 36.8	-8.3
EIDS	**Eidsvold**	**28.36**	**254**	*e*P	P	**09 02 03.1**	**-0.2**
	14nm,0.7s						
EIDS	**Eidsvold**	**28.36**	**254**	P	P	**09 02 03.1**	**-0.2**
	baz=29,SNR=13						
ARMA	**Armidale**	**28.63**	**244**	*e*P	P	**09 02 06.1**	**+0.4**
	9.3nm,0.6s						
ARMA	**Armidale**	**28.63**	**244**	P	P	**09 02 06.4**	**+0.7**
	baz=29,SNR=18						
MGCD	**Mangrove Creek**	**29.80**	**238**	P	P	**09 02 16.3**	**+0.7**
	baz=30,SNR=6.1						
RMQ	**Roma**	**30.52**	**252**	P	P	**09 02 22.9**	**+1.0**
	baz=31,SNR=7.0						
CNB	**Canberra Magne**	**31.84**	**235**	P	P	**09 02 33.6**	**+0.5**
	baz=32,SNR=14						
CTA	**Charters Tower**	**32.97**	**264**	P	P	**09 02 43.0**	**+0.4**
	39nm,0.4s,baz=91,slow=11,SNR=117						
CTA				PcP	**PcP**	**09 05 08.0**	**+0.1**
	5.0nm,0.7s,baz=90,slow=3.9,SNR=3.9						
CTA	**Charters Tower**	**32.97**	**264**	P	P	**09 02 43.0**	**+0.4**
CTA				PcP	**PcP**	**09 05 08.0**	**+0.1**
CTAO	**Charters Tower**	**32.97**	**264**	*e*P	P	**09 02 42.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,47nm,0.5s						
CTAO	**Charters Tower**	**32.97**	**264**	*e*P	P	**09 02 42.8**	**+0.1**
	comp=Z,47nm,0.5s						
CMSA	**Cobar Meteorol**	**33.85**	**244**	P	P	**09 02 50.0**	**+0.1**
	baz=34,SNR=35						
QLP	**Quilpie**	**34.58**	**253**	P	P	**09 02 56.0**	**0.0**
	baz=33,SNR=33						
PMG	**Port Moresby**	**34.80**	**283**	P	P	**09 02 58.2**	**+0.2**
	comp=Z,15nm,0.5s,baz=90,slow=7.3,SNR=7.3						
PMG	**Port Moresby**	**34.80**	**283**	P	P	**09 02 58.2**	**+0.2**
TOO	**Toolangi**	**35.52**	**233**	P	P	**09 03 04.0**	**+0.3**
	baz=36,SNR=22						
COEN	**Coen**	**37.04**	**274**	*e*P	P	**09 03 16.7**	**+0.2**
	comp=Z,24nm,0.4s						
COEN	**Coen**	**37.04**	**274**	P	P	**09 03 16.8**	**+0.4**
	baz=37,SNR=16						
STKA	**Stephens Creek**	**37.35**	**244**	P	P	**09 03 19.2**	**+0.5**
	comp=Z,11nm,0.5s,baz=91,slow=9.7,SNR=90						
STKA				PcP	**PcP**	**09 05 21.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=43,slow=5.3,SNR=2.8						
STKA	**Stephens Creek**	**37.35**	**244**	*e*P	P	**09 03 18.8**	**+0.1**
	comp=Z,3.7nm,0.7s						
STKA				PcP	**PcP**	**09 05 21.1**	**+0.2**
STKA	**Stephens Creek**	**37.35**	**244**	P	P	**09 03 19.2**	**+0.5**
	baz=38,SNR=76						
ARPS	**Mount Arapiles**	**38.09**	**236**	P	P	**09 03 24.9**	**+0.2**
	baz=38,SNR=10						
QIS	**Mount Isa**	**39.10**	**262**	P	P	**09 03 32.8**	**-0.2**
	baz=39,SNR=5.6						
BBOO	**Buckleboo**	**42.11**	**243**	*e*P	P	**09 03 56.5**	**-0.1**
	comp=Z,569nm,0.6s						
BBOO	**Buckleboo**	**42.11**	**243**	P	P	**09 03 56.6**	**-0.1**
	baz=42,SNR=100						
JAY	**Jayapura**	**43.51**	**289**	P	P	**09 04 08.3**	**+0.6**
	baz=44,SNR=17						
AS31	**Alice Springs**	**44.02**	**257**	*e*P	P	**09 04 11.1**	**-0.6**
ASAR	**Alice Springs**	**44.02**	**257**	P	P	**09 04 11.4**	**-0.2**
	comp=Z,11nm,0.6s,baz=97,slow=7.8,SNR=233						
ASAR				PcP	**PcP**	**09 05 43.4**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=103,slow=4.0,SNR=18						
ASAR				S	**S**	**09 09 59.1**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=92,slow=15,SNR=8.9						
ASAR	**Alice Springs**	**44.02**	**257**	P	P	**09 04 11.4**	**-0.2**
ASAR				PcP	**PcP**	**09 05 43.4**	**+0.1**
ASAR				S	**S**	**09 09 59.1**	**-1.7**
WRAB	**Tennant Creek**	**44.08**	**262**	*e*P	P	**09 04 11.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,29nm,1.5s						
WRAB	**Tennant Creek**	**44.08**	**262**	*e*P	P	**09 04 11.1**	**-0.9**
	comp=Z,29nm,1.5s						
WRA	**Warramunga Arr**	**44.08**	**262**	P	P	**09 04 11.5**	**-0.6**
	comp=Z,8.1nm,0.5s,baz=97,slow=8.1,SNR=286						
WRA				PcP	**PcP**	**09 05 43.6**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=93,slow=3.6,SNR=7.3						
WRA				S	**S**	**09 09 59.5**	**-2.2**
	comp=Z,2.0nm,0.8s,baz=96,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**44.08**	**262**	P	P	**09 04 11.5**	**-0.6**
WRA				PcP	**PcP**	**09 05 43.6**	**+0.2**
WRA				S	**S**	**09 09 59.5**	**-2.2**
KDU	**Kakadu**	**47.41**	**271**	P	P	**09 04 36.9**	**-0.4**
	baz=48,SNR=33						
MTN	**Manton Dam**	**48.63**	**271**	P	P	**09 04 45.4**	**-0.9**
	baz=49,SNR=36						
MTN				S	**S**	**09 11 02.7**	**-2.0**
	baz=49,SNR=6.0						
FORT	**Forrest**	**48.84**	**247**	*e*P	P	**09 04 46.7**	**-1.0**
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**48.84**	**247**	P	P	**09 04 47.5**	**-0.2**
	baz=49,SNR=7.6						
GUMO	**Guam**	**49.33**	**310**	P	P	**09 04 50.4**	**-1.0**
	comp=Z,80nm,0.8s,baz=201,slow=22,SNR=3.6						
GUMO	**Guam**	**49.33**	**310**	P	P	**09 04 50.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**52.51**	**262**	P	P	**09 05 14.3**	**0.0**
	comp=Z,6.4nm,0.5s,baz=104,slow=3.2,SNR=44						
FITZ	**Fitzroy Crossi**	**52.51**	**262**	*e*P	P	**09 05 14.5**	**+0.1**
	comp=Z,7.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.51**	**262**	P	P	**09 05 14.4**	**0.0**
	baz=53,SNR=11						
MBWA	**Marble Bar**	**57.35**	**257**	*e*P	P	**09 05 47.1**	**-0.8**
	comp=Z,8.6nm,0.5s						
MEEK	**Meekatharra**	**57.44**	**251**	P	P	**09 05 47.9**	**-0.7**
	baz=58,SNR=8.4						
BLDU	**Balliduu**	**58.60**	**246**	P	P	**09 05 56.1**	**-0.2**
	baz=59,SNR=5.6						
MORW	**Mawa**	**59.37**	**248**	P	P	**09 06 00.9**	**-0.5**
	baz=60,SNR=4.0						
CBIJ	**Chichi jima**	**60.62**	**320**	P	P	**09 06 09.1**	**-0.4**
	comp=Z,50nm,0.8s,baz=252,slow=22,SNR=2.8						
CBIJ	**Chichi jima**	**60.62**	**320**	P	P	**09 06 09.1**	**-0.4**
KKM	**Kota Kinabalu**	**69.22**	**285**	*e*P	P	**09 07 04.3**	**+0.5**
	comp=Z,20nm,0.9s						
UGM	**Wanagama**	**69.43**	**269**	P	P	**09 07 04.9**	**-0.1**
	baz=70,SNR=4.0						
QSPA	**South Pole Qui**	**69.67**	**180**	P	P	**09 07 06.6**	**+1.1**
	comp=Z,4.4nm,0.9s,baz=14,slow=3.1,SNR=28						
QSPA				pP	**pP**	**09 09 11.4**	**+2.9**
	comp=Z,4.9nm,0.9s,baz=11,slow=3.4,SNR=6.3						
QSPA	**South Pole Qui**	**69.67**	**180**	*e*P	P	**09 07 06.5**	**+1.0**
	comp=Z,3.2nm,0.7s						
JOW	**Kunigami**	**69.69**	**310**	P	P	**09 07 06.9**	**+0.7**
	comp=Z,13nm,0.4s,baz=128,slow=5.9,SNR=8.4						
JOW	**Kunigami**	**69.69**	**310**	*e*P	P	**09 07 06.6**	**+0.4**
	comp=Z,6.3nm,0.5s						
MJAR	**Mashiro Arr**	**69.81**	**324**	P	P	**09 07 06.4**	**-0.4**
	comp=Z,14nm,0.6s,baz=160,slow=6.3,SNR=52						
MJAR	**Matsushiro Arr**	**69.81**	**324**	P	P	**09 07 06.4**	**-0.4**
MAJO	**Matsushiro**	**69.82**	**324**	*e*P	P	**09 07 06.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**69.82**	**324**	*e*P	P	**09 07 06.5**	**-0.3**
	comp=Z,13nm,0.6s						
MAT	**Matsushiro**	**69.82**	**324**	P	P	**09 07 06.3**	**-0.5**
ERM	**Erimo**	**71.48**	**331**	⇑*e*P	P	**09 07 18.4**	**+2.1**
ERM				pmax	pmax		
	comp=Z,25nm,1.3s						
JNU	**Nakatsue**	**71.84**	**317**	P	P	**09 07 18.6**	**-0.1**
	comp=Z,24nm,0.9s,baz=97,slow=4.7,SNR=14						
JNU	**Nakatsue**	**71.84**	**317**	*e*P	P	**09 07 18.5**	**-0.2**
	comp=Z,26nm,0.9s						
TWG	**Pinlang**	**72.88**	**303**	*e*P	P	**09 07 22.9**	**-1.9**
	comp=Z,96nm,0.6s						
YULB	**Yu-li**	**73.00**	**304**	*e*P	P	**09 07 24.6**	**-1.0**
	comp=Z,9.3nm,0.8s						
NACB	**Ningamchiao**	**73.18**	**304**	*e*P	P	**09 07 25.4**	**-1.1**
	comp=Z,15nm,0.6s						
FX1	**Attu Island--F**	**73.33**	**355**	*e*P	P	**09 07 25.4**	**-1.3**
ASAJ	**Asahikawa**	**73.39**	**332**	P	P	**09 07 28.9**	**+1.7**
	comp=Z,31nm,0.5s,baz=217,slow=6.4,SNR=56						
ASAJ	**Asahikawa**	**73.39**	**332**	*e*P	P	**09 07 28.9**	**+1.7**
	comp=Z,57nm,1.0s						
SSLB	**Suanglung**	**73.47**	**304**	*e*P	P	**09 07 26.9**	**-1.4**
	comp=Z,29nm,0.5s						
TPUB	**Ta-pu**	**73.47**	**303**	*e*P	P	**09 07 26.6**	**-1.6**
	comp=Z,56nm,0.7s						
YHNB	**Yeheng**	**73.61**	**305**	*e*P	P	**09 07 28.8**	**-0.3**
	comp=Z,22nm,0.8s						
TATO	**Taipei**	**73.69**	**305**	*e*P	P	**09 07 28.9**	**-0.5**
	comp=Z,22nm,0.5s						
AKUT	**Akutan**	**75.04**	**8**	*e*P	P	**09 07 35.7**	**-0.5**
	comp=Z,14nm,0.4s						
YSS	**Yuzh-Sakhalins**	**75.57**	**334**	⇓*e*P	P	**09 07 41.0**	**+1.7**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**75.57**	**334**	*e*P	P	**09 07 40.1**	**+0.7**
	comp=Z,43nm,0.9s						
PETK	**Petropavlovsk-**	**76.04**	**346**	P	P	**09 07 41.8**	**0.0**
	comp=Z,33nm,0.8s,baz=146,slow=8.5,SNR=34						
PETK	**Petropavlovsk-**	**76.04**	**346**	P	P	**09 07 41.8**	**0.0**
PETK	**Petropavlovsk-**	**76.04**	**346**	P	P	**09 07 41.8**	**0.0**
KSRS	**Korea Array**	**76.46**	**319**	P	P	**09 07 45.4**	**+0.9**
	comp=Z,8.8nm,0.7s,baz=128,slow=5.9,SNR=17						
KSAR	**Wonju Array Be**	**76.48**	**319**	P	P	**09 07 45.4**	**+0.8**
SAO	**San Andreas Ge**	**78.33**	**44**	*e*P	P	**09 07 56.0**	**+1.4**
SAO				pmax	pmax		
	comp=Z,16nm,0.8s						
SAO	**San Andreas Ge**	**78.33**	**44**	*e*P	P	**09 07 56.0**	**+1.4**
	comp=Z,16nm,0.8s						
USRK	**Ussuriysk Arra**	**78.58**	**326**	P	P	**09 07 57.1**	**+1.5**
	comp=Z,16nm,0.7s,baz=118,slow=3.3,SNR=47						
KIPM	**Iron Peak**	**78.90**	**40**	*e*P	P	**09 07 59.4**	**+1.6**
	comp=Z,16nm,0.7s						
ARVC	**Arvin**	**79.11**	**46**	⇑P	P	**09 08 00.3**	**+1.6**
	baz=79						
VES	**Vestal, Richgr**	**79.34**	**45**	⇓P	P	**09 08 01.6**	**+1.6**
	baz=80,SNR=5.5						
MURC	**Murrieta**	**79.38**	**48**	⇓P	P	**09 08 01.8**	**+1.5**
	baz=80						
NJ2	**Nanjing**	**79.41**	**310**	*e*P	P	**09 08 01.6**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,40nm,1.2s						
BFSC	**Mount Baldy Ra**	**79.42**	**47**	⇓P	P	**09 08 01.9**	**+1.3**
	baz=80						
RCTC	**Rector, Farmer**	**79.50**	**45**	⇑P	P	**09 08 02.3**	**+1.5**
	baz=80						
EDW2	**Edwards Air Fo**	**79.54**	**47**	⇓P	P	**09 08 02.3**	**+1.2**
	baz=80,SNR=5.8						
MONP	**Monument Peak**	**79.55**	**49**	⇑P	P	**09 08 02.8**	**+1.3**
	baz=80						
ISA	**Isabella**	**79.65**	**46**	*e*P	P	**09 08 02.7**	**+1.0**
ISA				pmax	pmax		
	comp=Z,19nm,1.2s						
ISA	**Isabella**	**79.65**	**46**	*e*P	P	**09 08 02.7**	**+1.0**
	comp=Z,19nm,1.2s						
ISA	**Isabella**	**79.65**	**46**	⇑P	P	**09 08 03.0**	**+1.3**
	baz=80,SNR=8.7						
DVTC	**Desert V Tower**	**79.65**	**49**	⇑P	P	**09 08 03.5**	**+1.7**
	baz=80						
CMB	**Columbia Colle**	**79.75**	**43**	*e*P	P	**09 08 03.1**	**+0.9**
CMB				pmax	pmax		
	comp=Z,22nm,1.4s						
CMB	**Columbia Colle**	**79.75**	**43**	*e*P	P	**09 08 03.1**	**+0.9**
	comp=Z,22nm,1.4s						
PFO	**Pinyon Flat Ob**	**79.91**	**49**	⇓P	P	**09 08 04.5**	**+1.3**
	baz=80						
BBRC	**Big Bear Solar**	**79.94**	**48**	⇓P	P	**09 08 04.7**	**+1.2**
	baz=80						
WDC	**Whiskeytown Da**	**79.94**	**40**	*e*P	P	**09 08 04.2**	**+1.2**
WDC				pmax	pmax		
	comp=Z,32nm,1.4s						
WDC	**Whiskeytown Da**	**79.94**	**40**	*e*P	P	**09 08 04.2**	**+1.2**
	comp=Z,32nm,1.4s						
LRMC	**Laurel Mountai**	**80.08**	**46**	⇓P	P	**09 08 05.7**	**+1.7**
	baz=80						
HABR	**Khabarovsk**	**80.10**	**331**	*e*P	P	**09 08 03.1**	**-0.5**
HABR				*e*		09 08 08.0	
HABR				*e**PP	pP	09 10 03.5	-8.2
HABR				*e**SP	sP	09 11 01.7	-12
HABR				PPP	PPP	09 13 09.8	
HABR				S	**SKSac**	**09 17 22.4**	**-0.7**
HABR				*e*		09 17 35.7	
HABR				*e*SS	**SS**	**09 22 49.0**	**+0.6**
HABR				pmax	pmax		
	comp=N,8.0nm,0.7s						
HABR				pmax	pmax		
	comp=Z,50nm,1.5s						
HABR				pmax	pmax		
	comp=E,16nm,1.1s						
HABR				MLR	MLR		
	comp=Z,88nm,23.0s						
MDJ	**Mudanjiang**	**80.13**	**325**	P	P	**09 08 04.9**	**+1.0**
MDJ				pP	**pP**	**09 10 12.3**	**+0.3**
MDJ				sP	**sP**	**09 11 14.3**	**+0.4**
MDJ				PP	**PP**	**09 11 17.8**	**-0.4**
MDJ				S	**S**	**09 17 19.8**	**+0.5**
MDJ				ScS	**ScS**	**09 17 34.3**	**+0.2**
MDJ				sS	**sS**	**09 21 07.5**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,26nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,69nm,4.0s						
CWC	**Cottonwood Cre**	**80.35**	**45**	⇓P	P	**09 08 06.9**	**+1.5**
	baz=81,SNR=8.4						
BELC	**Belle Mtn. Jos**	**80.44**	**48**	⇑P	P	**09 08 07.4**	**+1.5**
	baz=81,SNR=7.5						
MLAC	**Mammoth Lakes**	**80.52**	**44**	⇓P	P	**09 08 08.0**	**+1.6**
	baz=81						
MPMC	**Manual Prospec**	**80.53**	**46**	⇓P	P	**09 08 07.7**	**+1.3**
	baz=81,SNR=8.9						
YBH	**Yreka Blue Hor**	**80.55**	**39**	*e*P	P	**09 08 07.6**	**+1.4**
	comp

W13A Hualapai Mount 82.50 48 ⇓P P 09 08 17.9 +1.5
baz=83,SNR=14
Y14A Wickenburg 82.53 50 ⇓P P 09 08 18.1 +1.6
baz=83
IPM Ipoh 82.59 278 eP P 09 08 17.7 +0.6
comp=Z,21nm,0.7s
R11A Troy Canyon, C 83.06 45 ⇑P P 09 08 20.3 +1.1
baz=83
BMN Battle Mountai 83.14 42 eP P 09 08 20.9 +1.4
BMN pmax pmax
comp=Z,18nm,0.9s
BMN Battle Mountai 83.14 42 eP P 09 08 20.9 +1.4
comp=Z,18nm,0.9s
TUC Tucson 83.34 52 eP P 09 08 22.5 +1.9
TUC pmax pmax
comp=Z,11nm,0.9s
TUC Tucson 83.34 52 eP P 09 08 22.4 +1.9
comp=Z,11nm,0.9s
X16A Lo Mia Camp, P 83.89 50 ⇑P P 09 08 25.1 +1.7
baz=84,SNR=13
PSI Prapat 83.95 275 P P 09 08 23.3 -0.7
comp=Z,8.2nm,0.8s
PSI Prapat 83.95 275 P P 09 08 23.3 -0.7
319A Douglas 84.02 54 ⇑P P 09 08 26.2 +2.2
baz=84,SNR=16
SPU Mount Spurr 84.06 13 eP P 09 08 22.4 -1.0
GAMB Gambell 84.07 3 eP P 09 08 24.0 +0.7
comp=Z,17nm,0.9s
ARUT Antelope Range 84.20 46 eP P 09 08 26.3 +1.5
ARUT Antelope Range 84.20 46 eP P 09 08 26.3 +1.5
U15A North Rim 84.29 48 ⇓P P 09 08 27.0 +1.6
baz=85,SNR=25
WUAZ Wupatki 84.48 49 eP P 09 08 26.9 +0.7
comp=Z,8.6nm,1.0s
WUAZ Wupatki 84.48 49 ⇓P P 09 08 27.5 +1.3
baz=85,SNR=5.2
320A Kipp Ranch, An 84.57 54 ⇑P P 09 08 29.0 +2.3
baz=85,SNR=25
ELK Elko 84.57 43 eP P 09 08 27.5 +0.9
220A Playas Peak, P 84.83 53 ⇓P P 09 08 29.8 +1.8
baz=85,SNR=11
X18A Snowflake 85.02 51 ⇑P P 09 08 30.4 +1.5
baz=85,SNR=5.3
PMR Palmer 85.05 14 eP P 09 08 27.7 -0.4
PMR pmax pmax
comp=Z,39nm,1.4s
PMR Palmer 85.05 14 eP P 09 08 27.7 -0.4
comp=Z,39nm,1.4s
120A U Bar Ranch, L 85.05 53 ⇓P P 09 08 30.7 +1.6
baz=85,SNR=6.9
HAWA Hanford 85.19 37 eP P 09 08 30.3 +1.1
comp=Z,38nm,1.4s
Z20A Nine Sixteen R 85.35 52 ⇓P P 09 08 32.3 +1.9
baz=86,SNR=9.5
MVU Marysvale 85.40 46 eP P 09 08 32.2 +1.6
comp=Z,6.6nm,1.3s
MSU Marysvale 85.42 46 eP P 09 08 32.7 +1.9
MSU Marysvale 85.42 46 eP P 09 08 32.7 +1.9
DIV Divide 85.43 15 eP P 09 08 30.3 +0.3
comp=Z,37nm,1.0s
BJI Beijing 85.45 316 P P 09 08 30.8 +0.3
BJI SS SS 09 24 06.9 +0.1
BJI pmax pmax
comp=Z,23nm,0.7s
221A Mesquite Ranch 85.45 54 ⇓P P 09 08 33.0 +2.1
baz=86
BMO Blue Mountains 85.57 39 eP P 09 08 32.0 +0.9
BMO pmax pmax
comp=Z,7.0nm,0.7s
BMO Blue Mountains 85.57 39 eP P 09 08 32.0 +0.9
comp=Z,6.7nm,0.7s
MFID Camas Ranch 85.66 41 eP P 09 08 32.6 +1.0
comp=Z,11nm,0.9s
MFID Camas Ranch 85.66 41 ⇑P P 09 08 32.9 +1.3
baz=86,SNR=12
121A Cookes Peak, D 85.68 53 ⇑P P 09 08 33.8 +1.7
baz=86,SNR=7.1
DUG Dugway 85.86 44 ⇑P P 09 08 33.8 +1.1
baz=86
Y20A Horse Springs, 85.88 52 ⇓P P 09 08 34.7 +1.7
baz=86,SNR=7.6
P15A Leamington 85.89 45 ⇓P P 09 08 34.0 +1.2
baz=86
222A Williams Famil 86.00 54 ⇑P P 09 08 35.0 +1.5
baz=86,SNR=5.3
TNA Tin City 86.08 4 eP P 09 08 34.0 +1.2
comp=Z,9.3nm,0.8s
X20A Quemado 86.08 51 ⇑P P 09 08 35.7 +1.7
baz=86,SNR=6.2
Z21A St. Cloud Mine 86.12 52 ⇑P P 09 08 35.9 +1.7
baz=86
O15A The Old Anders 86.13 45 ⇓P P 09 08 36.2 +2.2
baz=86
GYA Guiyang 86.14 300 P P 09 08 35.4 +1.1
GYA pP pP 09 10 47.3 +2.4
GYA sP sP 09 11 48.5 +2.3
GYA PP PP 09 12 09.3 +2.4
GYA SKS SKSac 09 18 01.6 -1.4
GYA S S 09 18 18.8 -0.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 86.16 347 ⇓⇑P P 09 08 33.4 +0.1
I12A Atlanta 86.29 40 ⇑P P 09 08 36.3 +1.6
baz=87
Q16A Castle Valley 86.31 46 ⇑P P 09 08 36.5 +1.6
baz=87
W20A Ramah 86.36 51 ⇑P P 09 08 36.7 +1.4
baz=87
U19A Dine' College, 86.40 49 ⇓P P 09 08 36.6 +1.2
baz=87,SNR=10
N15A Stansbury Isla 86.41 44 ⇓P P 09 08 36.3 +1.1
baz=87
Y21A Point of Rocks 86.44 52 ⇓P P 09 08 37.5 +1.8
baz=87,SNR=10
TRF Thorofare Moun 86.47 12 eP P 09 08 33.7 -1.3
comp=Z,31nm,0.7s
TMUT Trail Mountain 86.47 46 eP P 09 08 37.7 +1.9
S18A Hurst Farm, Bl 86.51 48 ⇑P P 09 08 37.3 +1.3
baz=87
X21A Alamocita Cree 86.56 51 ⇓P P 09 08 37.9 +1.7
baz=87,SNR=6.6
HLID Hailey 86.60 41 eP P 09 08 37.5 +1.4
comp=Z,12nm,0.9s
HLID Hailey 86.60 41 ⇑P P 09 08 37.6 +1.4
baz=87,SNR=23
Z22A Elephant Butte 86.63 53 ⇑P P 09 08 37.8 +1.3
baz=87,SNR=9.6
J13A Cove Ranch, Pi 86.66 41 ⇑P P 09 08 38.0 +1.5
baz=87,SNR=28
HVU Hansel Valley 86.70 43 eP P 09 08 37.5 +0.9
HVU pmax pmax
comp=Z,5.0nm,1.0s
HVU Hansel Valley 86.70 43 eP P 09 08 37.5 +0.9
comp=Z,5.2nm,1.0s
O16A Springville 86.73 45 ⇓P P 09 08 38.0 +1.1
baz=87
M15A Larsen Ranch, 86.75 44 ⇑P P 09 08 37.7 +0.9
baz=87,SNR=6.7
K14A Jones Ranch, D 86.84 42 ⇑P P 09 08 38.3 +1.1
baz=87,SNR=5.9
SRU San Rafael 86.84 46 eP P 09 08 38.2 +0.8
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael 86.84 46 eP P 09 08 38.2 +0.8
comp=Z,6.4nm,0.8s
SRU San Rafael 86.84 46 ⇑P P 09 08 38.5 +1.1
baz=87
H12A Diamond D Ranc 86.86 40 ⇓P P 09 08 38.6 +1.2
baz=87,SNR=42
123A Bell Site, Whi 86.88 54 ⇑P P 09 08 39.3 +1.6
baz=87
G12A Big Creek, Yel 86.90 39 ⇓P P 09 08 38.6 +1.1
baz=87,SNR=24
U20A Newcomb 86.92 49 ⇑P P 09 08 39.1 +1.2
baz=87
Y22A Socorro 86.93 52 ⇓P P 09 08 38.9 +1.0
baz=87
324A Moseley Ranch, 86.94 55 ⇓P P 09 08 39.1 +1.1
baz=87,SNR=21
W21A San Fidel 86.97 51 ⇑P P 09 08 39.2 +1.1
baz=87
I13A Wildhorse Cree 86.97 41 ⇓P P 09 08 39.3 +1.4
baz=87,SNR=11
LAZ Ladron 87.02 52 eP P 09 08 40.0 +1.7
425A Indio Mountain 87.04 56 ⇓P P 09 08 40.1 +1.6
baz=87,SNR=8.0
L15A Malad City 87.06 43 ⇓P P 09 08 39.4 +1.1
baz=87,SNR=6.0
N16A Rees Ranch, Co 87.11 44 ⇑P P 09 08 39.9 +1.3
baz=87
MNTX Cornudas Mount 87.13 55 eP P 09 08 39.8 +1.1
comp=Z,12nm,1.3s
MNTX Cornudas Mount 87.13 55 ⇑P P 09 08 40.0 +1.3
baz=87,SNR=15
X22A Bernardo 87.16 52 ⇓P P 09 08 40.3 +1.4
baz=87
Z23A Rita Site, Whi 87.18 53 ⇓P P 09 08 40.5 +1.5
baz=87
626A Big Bend Ranch 87.18 57 ⇓P P 09 08 40.5 +1.5
baz=87,SNR=20
224A Cornudas Mount 87.19 54 ⇓P P 09 08 40.5 +1.4
baz=87,SNR=11
M16A Huntsville 87.20 44 ⇑P P 09 08 40.2 +1.1
baz=88
O17A Robinson Place 87.23 45 ⇓P P 09 08 40.7 +1.5
baz=88,SNR=13
H13A Challis 87.23 40 ⇓P P 09 08 40.4 +1.4
baz=88,SNR=16
BNM Barren Site 87.28 52 eP P 09 08 41.1 +1.5
P18A Preston Nutter 87.28 46 ⇑P P 09 08 40.6 +1.0
baz=88
325A Bean Ranch, Si 87.31 55 ⇑P P 09 08 40.9 +1.2
baz=88,SNR=8.9
K15A Arbon 87.32 42 ⇓P P 09 08 40.9 +1.4
baz=88
LPM Los Pinos Moun 87.35 52 eP P 09 08 41.4 +1.5
I14A Mackay 87.39 41 ⇑P P 09 08 41.9 +2.0
baz=88,SNR=23
HWUT Hardware Ranch 87.39 44 eP P 09 08 40.9 +1.0
comp=Z,20nm,1.6s
526A Mary Lane Ranc 87.43 57 ⇑P P 09 08 41.8 +1.5
baz=88
TXAR Lajitas Array 87.45 58 P P 09 08 42.0 +1.6
comp=Z,8.0nm,0.8s,baz=221,slow=6.0,SNR=91
TXAR pP pP 09 10 54.1 +2.5
comp=Z,1.2nm,1.0s,baz=210,slow=4.3,SNR=6.4
TXAR Lajitas Array 87.45 58 P P 09 08 42.0 +1.6
TXAR pP pP 09 10 54.1 +2.5
MENT Mentasta 87.48 15 eP P 09 08 39.9 +0.2
PV10 Paradox Valley 87.50 47 eP P 09 08 41.0 +0.4
comp=Z,83nm,0.7s
124A Stringfield Ra 87.52 54 ⇑P P 09 08 41.9 +1.2
baz=88,SNR=7.1
G13A Cobalt 87.53 40 ⇓P P 09 08 41.6 +1.2
baz=88,SNR=14
N17A Moffit Pass 87.54 45 ⇑P P 09 08 41.7 +0.9
baz=88
U21A Nageezi 87.56 50 ⇓P P 09 08 42.2 +1.3
baz=88,SNR=16
PV04 Paradox Valley 87.61 48 eP P 09 08 42.0 +1.0
Y23A Lovelace Mesa, 87.61 53 ⇑P P 09 08 42.1 +1.0
baz=88,SNR=8.6
NEW Newport 87.61 36 eP P 09 08 41.2 +0.7
comp=Z,4.6nm,0.8s
NEW Newport 87.61 36 ⇑P P 09 08 41.3 +0.8
baz=88
Q19A Hogan Spring (87.63 47 ⇓P P 09 08 42.1 +1.1
baz=88,SNR=9.5
XAN Xi'an 87.65 308 P P 09 08 41.9 +0.8
XAN S S 09 18 37.3 +4.5
XAN pmax pmax
comp=Z,8.0nm,0.9s
L16A Fish Haven 87.68 43 ⇓P P 09 08 42.3 +1.0
baz=88
PV01 Paradox Valley 87.72 48 eP P 09 08 42.1 +0.6
S20A Disappointment 87.72 48 ⇑P P 09 08 42.7 +1.1
baz=88,SNR=5.2
627A Terlingua Ranc 87.72 58 ⇓P P 09 08 43.4 +1.7
baz=88,SNR=21
426A McDonald Obser 87.73 56 ⇑P P 09 08 43.3 +1.5
baz=88,SNR=21
225A Deer Hill, Car 87.74 55 ⇓P P 09 08 43.2 +1.5
baz=88,SNR=9.0
J15A Blackfoot 87.75 42 ⇑P P 09 08 43.2 +1.8
baz=88,SNR=25
O18A Roosevelt 87.75 45 ⇑P P 09 08 42.6 +1.0
baz=88,SNR=5.8
ANMO Albuquerque 87.76 51 eP P 09 08 42.6 +0.8
comp=Z,8.8nm,1.1s
H14A Leadore 87.80 40 ⇑P P 09 08 43.1 +1.3
baz=88,SNR=24
527A Woodward Ranch 87.84 57 ⇓P P 09 08 43.4 +1.2
baz=88,SNR=14
F13A Darby 87.84 39 ⇓P P 09 08 42.6 +0.7
baz=88,SNR=16
Z24A Sheeppen Canyo 87.86 53 ⇑P P 09 08 43.4 +1.1
baz=88,SNR=6.2
V22A San Miguel Ran 87.87 50 ⇑P P 09 08 43.5 +1.1
baz=88
R20A Redvale 87.87 48 ⇑P P 09 08 43.2 +0.9
baz=88
M17A Scully's Gap (B 87.91 44 ⇓P P 09 08 43.4 +1.1
baz=88
T21A Navajo Lake 87.91 49 ⇑P P 09 08 43.6 +1.1
baz=88
D12A Red Ives Fores 87.93 38 ⇓P P 09 08 42.8 +0.7
baz=88
K16A Soda Springs 87.99 43 ⇓P P 09 08 44.1 +1.4
baz=88,SNR=13
I15A Monteview 88.02 41 ⇑P P 09 08 44.5 +1.8
baz=88,SNR=7.9
S21A Coal Bank Pass 88.04 49 ⇓P P 09 08 44.1 +0.9
baz=88,SNR=6.5
326A Caldwell Ranch 88.05 56 ⇓P P 09 08 44.2 +1.1
baz=88
Y24A Capitan 88.06 53 ⇑P P 09 08 44.5 +1.3
baz=88,SNR=36
G14A Jackson 88.07 40 ⇑P P 09 08 44.4 +1.3
baz=88,SNR=5.8
W23A Wexer Place, 88.08 51 ⇑P P 09 08 44.4 +1.0
baz=88
L17A Cokeville 88.08 44 ⇓P P 09 08 43.8 +0.6
baz=88
125A Gardner Draw, 88.10 54 ⇑P P 09 08 44.3 +1.0
baz=88
U22A Llaves 88.12 50 ⇓P P 09 08 44.6 +1.1
baz=88
GDL2 Guadalupe Moun 88.13 55 eP P 09 08 44.8 +1.4
628A Black Gap, Mar 88.14 58 ⇑P P 09 08 45.0 +1.5
baz=88,SNR=13
P19A Cripple Cowboy 88.14 46 ⇓P P 09 08 44.6 +1.1
baz=88,SNR=5.1
J16A Bone 88.20 42 ⇓P P 09 08 45.3 +1.7
baz=88,SNR=26
C12B Naegeli Ranch, 88.22 37 ⇓P P 09 08 44.5 +1.1
baz=88
MCMT McKenzie Canyo 88.23 40 eP P 09 08 45.1 +1.3
COLA College 88.23 13 eP P 09 08 42.3 -0.6
COLA pmax pmax
comp=Z,31nm,0.7s
COLA College 88.23 13 eP P 09 08 42.3 -0.6
comp=Z,31nm,0.7s
H15A Lima 88.24 41 ⇓P P 09 08 45.5 +1.6
baz=88,SNR=16
VNA3 Neumayer Olymp 88.27 176 eP P 09 08 43.4 +0.1
E13A Victor 88.28 39 ⇓P P 09 08 44.0 +0.2
baz=88
M18A Lyman 88.28 44 ⇓P P 09 08 45.2 +1.1
baz=88,SNR=8.9
Q20A Ridgley Place, 88.29 47 ⇓P P 09 08 45.4 +1.2
baz=88,SNR=10
427A Hayter Ranch, 88.30 56 ⇓P P 09 08 45.8 +1.5
baz=88,SNR=22
V23A Ortiz Mt. (NFS 88.32 51 ⇑P P 09 08 46.0 +1.6
baz=89,SNR=6.4
N18A Larsen Ranch, 88.32 45 ⇓P P 09 08 45.3 +1.1
baz=89,SNR=12
Z25A Roswell 88.32 54 ⇓P P 09 08 45.7 +1.4
baz=89,SNR=6.5
ILAR Eielson Array 88.34 13 P P 09 08 42.9 -0.6
comp=Z,12nm,0.8s,baz=220,slow=5.6,SNR=129
ILAR pP pP 09 10 56.1 +1.0
comp=Z,0.2nm,0.6s,baz=320,slow=33,SNR=2.3
ILAR Eielson Array 88.34 13 P P 09 08 42.9 -0.6
ILAR pP pP 09 10 56.1 +1.0
O19A Miners Draw (B 88.36 46 ⇑P P 09 08 45.6 +1.2
baz=89,SNR=9.6
T22A Edith 88.37 49 ⇓P P 09 08 45.5 +0.8
baz=89
K17A Gardner Place, 88.38 43 ⇑P P 09 08 46.0 +1.5
baz=89,SNR=12
F14A Wisdom 88.42 39 ⇓P P 09 08 45.6 +1.0
baz=89
D13A Huson 88.47 38 ⇓P P 09 08 45.6 +0.9
baz=89,SNR=5.2
P20A De Beque 88.48 47 ⇑P P 09 08 46.3 +1.3
baz=89,SNR=7.9
528A Cox Ranch, San 88.50 57 ⇑P P 09 08 46.6 +1.4
baz=89,SNR=6.3
R21A Cimarron 88.53 48 ⇓P P 09 08 46.9 +1.5
baz=89,SNR=13
L18A Fontenelle, Gr 88.54 44 ⇓P P 09 08 46.3 +1.0
baz=89
B12A Libby 88.57 36 ⇑P P 09 08 46.4 +1.3
baz=89,SNR=8.6
U23A El Rito 88.57 50 ⇓P P 09 08 47.1 +1.5
baz=89,SNR=7.0
I16A Newdale 88.58 42 ⇓P P 09 08 47.0 +1.7
baz=89
126A Clayton Basin, 88.58 54 ⇑P P 09 08 46.4 +0.9
baz=89
N19A John Jarvie Ra 88.61 45 ⇑P P 09 08 46.3 +0.7
baz=89,SNR=6.0
G15A Dillon 88.62 40 ⇓P P 09 08 46.8 +1.3
baz=89,SNR=16
Y25A Mesa, Roswell 88.62 53 ⇑P P 09 08 46.7 +0.9
baz=89
MSO Missoula 88.62 38 ⇓P P 09 08 46.3 +0.9
baz=89
W24A Lazy 6 Ranch, 88.65 52 ⇑P P 09 08 46.6 +0.7
baz=89,SNR=11
DLMT Dillon 88.66 40 eP P 09 08 46.9 +1.2
comp=Z,26nm,1.5s
E14A Clinton 88.67 39 ⇑P P 09 08 46.5 +0.8
baz=89,SNR=8.1
BSMT Bassoo Peak 88.69 37 eP P 09 08 46.4 +0.6
VNA2 Neumayer--Watz 88.71 177 eP P 09 08 44.3 -1.0
C13A Hot Springs 88.71 37 ⇑P P 09 08 46.2 +0.4
baz=89
REDW Red Top Meadow 88.72 42 eP P 09 08 47.4 +1.2
comp=Z,22nm,1.2s
Q21A Lamborn Mesa, 88.73 48 ⇑P P 09 08 47.2 +1.0
baz=89
S22A 4UR Ranch, Cre 88.76 49 ⇑P P 09 08 47.4 +0.9
baz=89
A12A Yaak River Ran 88.79 36 ⇑P P 09 08 47.4 +1.3
baz=89,SNR=11
428A Kincaid Ranch, 88.81 57 ⇓P P 09 08 47.7 +1.1
baz=89
J17A Brown Place, J 88.81 43 ⇑P P 09 08 48.0 +1.5
baz=89,SNR=22
KMI Kunming 88.83 297 P P 09 08 48.3 +1.3
KMI pmax pmax
comp=Z,22nm,0.9s
SNOW Snow King Moun 88.83 42 eP P 09 08 48.1 +1.5
comp=Z,21nm,1.0s
O20A White River Ci 88.88 46 ⇓P P 09 08 48.0 +1.1
baz=89,SNR=5.5
Z26A Caprock 88.88 54 ⇓P P 09 08 47.7 +0.8
baz=89
K18A Toltan Ranch, 88.88 43 ⇓P P 09 08 48.2 +1.3
baz=89,SNR=26
X25A Clemmons Ranch 88.90 53 ⇑P P 09 08 47.9 +0.8
baz=89
M19A Rock Springs 88.92 45 ⇑P P 09 08 48.0 +0.9
baz=89,SNR=7.7
529A Stev Forest Ra 88.93 57 ⇑P P 09 08 47.9 +0.7
baz=89,SNR=7.2
IMW Indian Meadow 88.93 42 eP P 09 08 48.8 +1.6
comp=Z,16nm,0.9s
F15A Butte 88.96 40 ⇓P P 09 08 47.9 +0.8
baz=89,SNR=5.4
V24A Rampart Ranch, 88.98 51 ⇓P P 09 08 48.6 +1.1
baz=89,SNR=5.2
LRM Limekiln Ridge 88.98 40 eP P 09 08 48.6 +1.3
MOOW Moose Ponds 88.98 42 eP P 09 08 48.4 +1.1
comp=Z,2.0nm,0.7s
328A Wristen Ranch, 88.98 56 ⇑P P 09 08 48.3 +0.9
baz=89
LOHW Long Hollow 89.00 42 eP P 09 08 48.8 +1.4
comp=Z,6.5nm,0.7s
D14A Greenough 89.01 38 ⇑P P 09 08 47.5 +0.3
baz=89,SNR=6.3
R22A Saguache, Gunn 89.03 48 ⇓P P 09 08 48.5 +0.7
baz=89
G16A Moss Hill, Enn 89.07 40 ⇓P P 09 08 48.9 +1.3
baz=89,SNR=8.3
L19A Farson 89.07 44 ⇓P P 09 08 48.9 +1.1
baz=89,SNR=19
CHMT Chamberlain Mo 89.07 39 eP P 09 08 48.0 +0.3
QLMT Earthquake Lak 89.10 41 eP P 09 08 50.0 +2.1
127A Arkansas Junct 89.10 55 ⇓P P 09 08 49.0 +1.0
baz=89,SNR=6.6
P21A Newcastle 89.14 47 ⇑P P 09 08 48.9 +0.8
baz=89
H16A Russell Place, 89.14 41 ⇑P P 09 08 49.9 +1.9
baz=89,SNR=13
B13A Whitefish 89.15 37 ⇑P P 09 08 48.0 +0.3
baz=89,SNR=6.1
I17A Pilgrim Ck. 89.17 42 ⇑P P 09 08 49.7 +1.5
baz=89,SNR=6.5
E15A Deer Lodge 89.18 39 ⇓P P 09 08 49.2 +1.2
baz=89,SNR=6.6
FLWY Flagg Ranch 89.18 42 eP P 09 08 50.0 +1.9
comp=Z,14nm,0.9s
J18A Kendall Valley 89.18 43 ⇑P P 09 08 49.4 +1.2
baz=89,SNR=54
N20A Spence Gulch, 89.19 46 ⇑P P 09 08 49.7 +1.3
baz=90,SNR=17
Q22A Crested Butte, 89.21 48 ⇑P P 09 08 49.6 +1.1
baz=90,SNR=9.0
C14A Swan Lake 89.23 38 ⇓P P 09 08 48.8 +0.6
baz=90
BW06 Boulder Array 89.26 43 eP P 09 08 49.3 +0.6
comp=Z,13nm,1.0s
BW06 Boulder Array 89.26 43 ⇓P P 09 08 49.6 +0.9
baz=90,SNR=14
PDAR Pinedale Array 89.26 43 P P 09 08 49.4 +0.7
comp=Z,12nm,0.9s,baz=210,slow=3.3,SNR=74
PDAR Pinedale Array 89.26 43 P P 09 08 49.4 +0.7
Y26A Elida 89.27 53 ⇓P P 09 08 49.6 +0.8
baz=90
SMCO Snowmass 89.31 48 eP P 09 08 50.2 +1.1
comp=Z,5.1nm,0.8s
W25A X Bar L Ranch, 89.35 52 ⇓P P 09 08 49.9 +0.7
baz=90,SNR=10
BOZ Bozeman (W) 89.39 40 eP P 09 08 50.1 +1.1
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 89.39 40 eP P 09 08 50.1 +1.1
comp=Z,8.8nm,1.0s
BOZ Bozeman (W) 89.39 40 ⇑P P 09 08 50.1 +1.1
baz=90,SNR=7.3
429A Davenport Ranc 89.39 57 ⇓P P 09 08 50.4 +1.0
baz=90,SNR=18
O21A Pagoda 89.44 46 ⇓P P 09 08 50.5 +1.0
baz=90
228A UT Block 9, Go 89.46 55 ⇑P P 09 08 50.4 +0.7
baz=90
F16A Kennard Place, 89.46 40 ⇑P P 09 08 50.7 +1.4
baz=90
A13A Flathead Natio 89.48 36 ⇑P P 09 08 50.5 +1.2
baz=90
V25A Rancho No Teng 89.50 51 ⇓P P 09 08 50.9 +1.1
baz=90,SNR=7.9
DAWY Dawson 89.51 16 eP P 09 08 49.4 +0.3
I18A Diamond G Ranc 89.55 43 ⇓P P 09 08 51.1 +1.2
baz=90
M20A Sweetwater, Wa 89.55 45 ⇑P P 09 08 51.1 +1.1
baz=90,SNR=5.8
X26A CR and CF Fran 89.55 53 ⇑P P 09 08 51.2 +1.2
baz=90
D15A Lincoln 89.57 39 ⇑P P 09 08 50.9 +1.0
baz=90,SNR=6.2
CMAR Chiang Mai Arr 89.58 290 P P 09 08 50.9 +0.5
comp=Z,12nm,0.8s,baz=121,slow=2.7,SNR=58
CMAR Chiang Mai Arr 89.58 290 P P 09 08 50.9 +0.5
530A J-C Ranch, Com 89.64 58 ⇓P P 09 08 51.5 +1.1
baz=90
P22A Eagle 89.64 47 ⇑P P 09 08 51.5 +1.0
baz=90
N21A Black Mountain 89.66 46 ⇓P P 09 08 51.5 +1.0
baz=90,SNR=14
R23A Moffat 89.66 49 ⇓P P 09 08 51.7 +1.1
baz=90
329A Wagon Wheel Ra 89.67 56 ⇑P P 09 08 51.5 +0.9
baz=90
L20A Wamsutter 89.69 45 ⇓P P 09 08 51.8 +1.2
baz=90,SNR=14
CHTO Chiang Mai 89.71 290 eP P 09 08 52.3 +1.3
CHTO pmax pmax
comp=Z,17nm,0.7s
CHTO Chiang Mai 89.71 290 eP P 09 08 52.3 +1.3

comp=Z,17nm,0.7s
T24A **Torres, Weston** 89.72 50 ⇑P P 09 08 51.9 +0.9
baz=90
PLCA **Paso Flores** 89.73 134 P P 09 08 52.8 +2.0
comp=Z,1.0nm,0.8s,baz=79,slow=8.2,SNR=2.3
PLCA **Paso Flores** 89.73 134 P P 09 08 52.8 +2.0
K19A **Absolon Red Bu** 89.75 44 ⇓P P 09 08 51.2 +0.3
baz=90
128A **Castleberry Fa** 89.75 55 ⇓P P 09 08 52.1 +1.1
baz=90,SNR=5.5
Y27A **Causey** 89.75 54 ⇑P P 09 08 51.8 +0.8
baz=90,SNR=6.1
G17A **Pierce Place,** 89.76 41 ⇓P P 09 08 52.5 +1.7
baz=90
HRY **Holter Researc** 89.80 39 *e*P P 09 08 51.8 +0.9
E16A **East Helena** 89.81 39 ⇓P P 09 08 51.9 +1.0
baz=90,SNR=5.1
B14A **Marquette Ranc** 89.82 37 ⇓P P 09 08 51.7 +0.7
baz=90,SNR=31
J19A **Crowheart** 89.82 43 ⇓P P 09 08 52.0 +0.9
baz=90,SNR=11
WALA **Waterton Lakes** 89.82 36 *e*P P 09 08 51.5 +0.5
comp=Z,0.2nm,0.9s
S24A **Houchin Ranch,** 89.86 50 ⇓P P 09 08 52.8 +1.1
baz=90
COLD **Coldfoot** 89.88 11 *e*P P 09 08 51.5 +0.9
comp=Z,10nm,0.8s
C15A **Salmond Ranch,** 89.89 38 ⇑P P 09 08 52.0 +0.7
baz=90
U25A **Circle Dot Ran** 89.90 51 ⇑P P 09 08 52.5 +0.8
baz=90,SNR=5.8
631A **Perdido Creek** 89.95 59 ⇓P P 09 08 53.1 +1.3
baz=90,SNR=15
430A **Baggett Ranch,** 89.97 57 ⇓P P 09 08 52.8 +0.8
baz=90
K20A **Yellowstone Ra** 90.00 44 ⇓P P 09 08 52.3 +0.3
baz=90,SNR=5.7
229A **Bryant Ranch,** 90.00 56 ⇑P P 09 08 52.7 +0.6
baz=90
O22A **Kremmling** 90.05 47 ⇓P P 09 08 53.5 +1.1
baz=90,SNR=13
A14A **Double T Ranch** 90.05 37 ⇓P P 09 08 52.9 +0.9
baz=90,SNR=13
MSTX **Muleshoe** 90.09 54 ⇑P P 09 08 53.3 +0.8
baz=90
V26A **Tequesquite Ra** 90.10 52 ⇓P P 09 08 53.2 +0.6
baz=90
F17A **Fitzpatrick Pl** 90.10 40 ⇑P P 09 08 53.9 +1.5
baz=90,SNR=6.6
D16A **Dana Ranch, Ca** 90.13 39 ⇑P P 09 08 53.4 +0.9
baz=90,SNR=6.7
M21A **Separation Pea** 90.15 45 ⇓P P 09 08 53.6 +0.8
baz=90,SNR=12
732A **Laxson Ranch,** 90.17 59 ⇓P P 09 08 54.0 +1.1
baz=90
P23A **Jefferson** 90.18 48 ⇑P P 09 08 54.2 +1.1
baz=90
R24A **Sanders Place,** 90.19 49 ⇑P P 09 08 53.8 +0.8
baz=90
B15A **Bradely Ranch,** 90.20 38 ⇑P P 09 08 52.8 +0.2
baz=90,SNR=5.1
T25A **Trinidad** 90.21 50 ⇑P P 09 08 54.3 +1.2
baz=90,SNR=5.4
129A **Stewart Farms,** 90.23 55 ⇓P P 09 08 54.1 +1.0
baz=90
I19A **Meeteetse** 90.23 43 ⇑P P 09 08 54.1 +1.1
baz=90
330A **Mertzon** 90.27 57 ⇑P P 09 08 53.5 +0.2
baz=90
531A **Rocksprings** 90.27 58 ⇓P P 09 08 54.5 +1.1
baz=90,SNR=6.8
CD2 **Chengdu** 90.29 303 P P 09 08 53.8 +0.4
CD2 pP **pP** 09 11 07.1 +1.7
CD2 sP **sP** 09 12 07.3 +1.1
CD2 PP **PP** 09 12 41.8 +2.5
CD2 SKS **SKSac** 09 18 26.3 -0.7
CD2 S **S** 09 18 54.4 -2.4
CD2 sS **sS** 09 22 50.8 -1.9
CD2 SS **SS** 09 25 17.9 +1.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.9s
L21A **Rawlins** 90.31 45 ⇓P P 09 08 54.0 +0.5
baz=91,SNR=5.7
W27A **Bowe Ranch, En** 90.32 53 ⇓P P 09 08 54.1 +0.5
baz=91
U26A **Atchley Ranch,** 90.38 51 ⇓P P 09 08 54.5 +0.6
baz=91,SNR=7.1
N22A **Wattenberg Ran** 90.40 46 ⇑P P 09 08 55.4 +1.4
baz=91,SNR=16
C16A **Fuhringer Ranc** 90.41 38 ⇑P P 09 08 54.3 +0.7
baz=91,SNR=7.8
S25A **Robets Cordova** 90.42 50 ⇓P P 09 08 55.1 +1.0
baz=91,SNR=6.0
431A **Sonora** 90.43 57 ⇓P P 09 08 54.8 +0.7
baz=91
A15A **Johnson Ranch,** 90.44 37 ⇑P P 09 08 54.4 +0.6
baz=91,SNR=8.0
Y28A **McKinney Farm,** 90.46 54 ⇑P P 09 08 54.7 +0.5
baz=91
Q24A **Divide** 90.48 48 ⇑P P 09 08 55.3 +0.8
baz=91
G18A **Lazy EL Ranch,** 90.49 41 ⇑P P 09 08 55.4 +1.3
baz=91
J20A **Shoshoni** 90.49 43 ⇑P P 09 08 55.6 +1.4
baz=91,SNR=9.8
O23A **Lake Granby, G** 90.50 47 ⇓P P 09 08 55.7 +1.2
baz=91,SNR=6.0
ISCO **Idaho Springs** 90.53 47 ⇓P P 09 08 55.7 +1.0
baz=91
H19A **Powell** 90.54 42 ⇑P P 09 08 55.7 +1.4
baz=91
M22A **Cedar Creek Ra** 90.57 46 ⇓P P 09 08 55.6 +0.8
baz=91,SNR=7.6
RLMT **Red Lodge** 90.58 41 ⇓P P 09 08 55.8 +1.2
baz=91
Z29A **Hungry Hill Ra** 90.61 55 ⇓P P 09 08 55.8 +0.9
baz=91
632A **Uvalde** 90.62 59 ⇓P P 09 08 56.2 +1.3
baz=91,SNR=9.0
F18A **Big Timber** 90.68 41 ⇑P P 09 08 56.2 +1.3
baz=91
K21A **Alcova** 90.70 44 ⇓P P 09 08 56.1 +0.9
baz=91
D17A **Six Diamond Ra** 90.70 39 ⇓P P 09 08 56.4 +1.3
baz=91,SNR=15
B16A **M & M Farms, S** 90.74 38 ⇑P P 09 08 55.6 +0.4
baz=91,SNR=5.8
I20A **Worland** 90.74 43 ⇑P P 09 08 56.2 +0.9
baz=91
R25A **Fountain Ranch** 90.74 49 ⇑P P 09 08 56.0 +0.5
baz=91,SNR=5.6
X28A **Dimmitt** 90.75 53 ⇑P P 09 08 56.1 +0.5
baz=91
532A **Rocksprings** 90.77 58 ⇑P P 09 08 56.7 +1.1
baz=91,SNR=5.8
N23A **Red Feather La** 90.78 46 ⇑P P 09 08 57.0 +1.2
baz=91,SNR=7.2
331A **San Angelo** 90.82 57 ⇓P P 09 08 56.4 +0.6
baz=91
T26A **Comanche Natio** 90.82 50 ⇓P P 09 08 56.5 +0.6
baz=91
Y29A **Porterfield Fa** 90.88 54 ⇓P P 09 08 56.9 +0.8
baz=91,SNR=5.8
E18A **Harlowton** 90.88 40 ⇓P P 09 08 57.2 +1.3
baz=91,SNR=6.8
C17A **Wharram Farm,** 90.90 39 ⇑P P 09 08 56.9 +1.0
baz=91,SNR=17
J21A **Lysite** 90.90 44 ⇑P P 09 08 57.1 +1.0
baz=91,SNR=8.8
L22A **Ellis Ranch, M** 90.96 45 ⇑P P 09 08 57.9 +1.4
baz=91,SNR=6.1
O24A **Longmont** 91.04 47 ⇑P P 09 08 58.0 +1.2
baz=91
Z30A **Sanderson Ranc** 91.06 55 ⇓P P 09 08 58.0 +1.1
baz=91
H20A **Greybull** 91.07 42 ⇓P P 09 08 57.6 +0.8
baz=91
X29A **Tulia** 91.09 54 ⇓P P 09 08 57.9 +0.7
baz=91
S26A **Kim** 91.10 50 ⇑P P 09 08 57.9 +0.8
baz=91,SNR=8.5
F19A **Roth Farm, Mol** 91.12 41 ⇑P P 09 08 57.8 +0.8
baz=91
432A **Menard** 91.15 58 ⇑P P 09 08 57.9 +0.5
baz=91,SNR=6.5
231A **Bronte** 91.15 56 ⇑P P 09 08 57.7 +0.3
baz=91,SNR=5.4
K22A **Casper** 91.18 45 ⇓P P 09 08 58.2 +0.8
baz=91
M23A **Laramie** 91.19 46 ⇓P P 09 08 58.4 +0.8
baz=91,SNR=6.7
B17A **L&G Farms, Che** 91.20 38 ⇓P P 09 08 58.1 +0.8
baz=92
I21A **Big Trails, Te** 91.21 43 ⇓P P 09 08 58.2 +0.7
baz=92,SNR=5.4
V28A **Channing** 91.23 52 ⇑P P 09 08 58.4 +0.7
baz=92
D18A **Linhart Farms,** 91.25 39 ⇑P P 09 08 59.0 +1.4
baz=92
332A **Millersview** 91.38 57 ⇓P P 09 08 59.2 +0.7
baz=92,SNR=11
R26A **Arlington** 91.40 50 ⇑P P 09 08 59.2 +0.7
baz=92,SNR=9.4
T27A **Campo** 91.41 51 ⇑P P 09 08 59.4 +0.8
baz=92
N24A **Carr** 91.48 47 ⇑P P 09 09 00.2 +1.3
baz=92
L23A **Garrett** 91.49 45 ⇓P P 09 09 00.0 +1.1
baz=92,SNR=8.1
E19A **Rath Farm, Rou** 91.51 40 ⇓P P 09 08 59.9 +1.2
baz=92
J22A **Midwest** 91.56 44 ⇑P P 09 08 59.8 +0.7
baz=92,SNR=6.4
A17A **Triple J Farms** 91.58 38 ⇓P P 09 09 00.1 +1.1
baz=92,SNR=9.3
EGMT **Eagleton** 91.68 39 ⇓P P 09 09 00.4 +1.0
baz=92
H21A **Big Horn, Sher** 91.74 43 ⇑P P 09 09 00.9 +1.0
baz=92
I22A **9 Mile Ranch,** 91.77 43 ⇓P P 09 09 00.9 +0.8
baz=92
D19A **Cripps Ranch,** 91.79 40 ⇑P P 09 09 01.2 +1.2
baz=92,SNR=6.5
M24A **Cheyenne** 91.79 46 ⇑P P 09 09 01.6 +1.2
baz=92
K23A **Bowen Ranch, D** 91.82 45 ⇓P P 09 09 01.2 +0.8
baz=92
YAK **Yakutsk** 91.82 338 *e*P P 09 08 57.7 -1.9
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK **Yakutsk** 91.82 338 *e*P P 09 08 58.5 -1.2
comp=E,33nm,0.5s
B18A **Beardsley Farm** 91.85 38 ⇓P P 09 09 01.1 +0.8
baz=92,SNR=6.6
R27A **Eads** 91.86 50 ⇓P P 09 09 01.2 +0.6
baz=92
ABTX **Abilene, Hawle** 91.94 56 ⇓P P 09 09 01.9 +0.9
baz=92
C19A **Slack Wire Ran** 91.96 39 ⇓P P 09 09 02.1 +1.3
baz=92,SNR=9.8
P26A **Davis Ranch, A** 92.00 48 ⇑P P 09 09 02.2 +1.0
baz=92
A18A **Metzger Ranch,** 92.06 38 ⇑P P 09 09 01.9 +0.7
baz=92,SNR=9.2
D20A **Manuel Ranch,** 92.20 40 ⇑P P 09 09 03.0 +1.1
baz=92,SNR=5.9
LZH **Lanzhou** 92.29 308 *e*P P 09 09 03.5 +0.8
LZH pP **pP** 09 11 12.0 -2.9
LZH sP **sP** 09 12 12.8 -2.8
LZH pmax pmax
comp=Z,16nm,1.3s
P27A **Ficken Ranch,** 92.54 49 ⇓P P 09 09 04.6 +0.9
baz=93
C20A **Veseth Ranch,** 92.57 40 ⇑P P 09 09 04.5 +1.0
baz=93
A19A **Klindworth Far** 92.70 38 ⇑P P 09 09 05.3 +1.1
baz=93
J24A **Dixon Ranch, L** 92.71 45 ⇑P P 09 09 05.5 +1.1
baz=93
D21A **La Casta Ranch** 92.88 40 ⇓P P 09 09 06.3 +1.3
baz=93
B20A **Solberg Farm,** 92.90 39 ⇑P P 09 09 06.2 +1.2
baz=93
N27A **Anderson Farm,** 93.08 48 ⇓P P 09 09 06.9 +0.8
baz=93
A20A **Cobblestone Ra** 93.16 39 ⇑P P 09 09 07.1 +0.9
baz=93,SNR=8.5
C21A **Desert Coulee** 93.17 40 ⇓P P 09 09 07.5 +1.2
baz=93
F23A **Volborg** 93.27 42 ⇑P P 09 09 07.8 +1.0
baz=94
H24A **Dirks Ranch, A** 93.39 43 ⇑P P 09 09 08.0 +0.5
baz=94
D22A **Cohagen** 93.42 41 ⇑P P 09 09 08.6 +1.1
baz=94
K26A **Motz Farm, Whi** 93.43 46 ⇓P P 09 09 08.8 +1.1
baz=94
A21A **Bergtoll Ranch** 93.80 39 ⇑P P 09 09 09.9 +0.9
baz=94
C22A **Vida** 93.86 40 ⇓P P 09 09 10.6 +1.1
baz=94
D23A **Lindsay** 94.02 41 ⇑P P 09 09 11.7 +1.5
baz=94
B22A **Reddig Ranch S** 94.04 40 ⇓P P 09 09 11.5 +1.3
baz=94
C23A **Lambert** 94.31 40 ⇑P P 09 09 12.9 +1.4
baz=95
INK **Inuvik** 94.32 15 *e*P P 09 09 10.1 -0.8
comp=Z,10nm,1.3s
A22A **Carney Farms,** 94.39 39 ⇓P P 09 09 12.7 +0.9
baz=95
C24A **Savage** 94.66 41 ⇑P P 09 09 14.3 +1.3
baz=95
B23A **Brockton** 94.71 40 ⇓P P 09 09 14.8 +1.5
baz=95
ULN **Ulaanbaatar** 94.94 319 *e*P P 09 09 13.9 -0.5
comp=Z,2.5nm,0.8s
DGMT **Dagmar** 95.19 40 ⇓P P 09 09 16.8 +1.3
baz=95
SONM **Songino Array** 95.33 319 P P 09 09 16.0 -0.2
comp=Z,1.3nm,0.8s,baz=133,slow=2.6,SNR=5.6
SONM **Songino Array** 95.33 319 P P 09 09 16.0 -0.2
A24A **Westby** 95.50 40 ⇓P P 09 09 17.9 +1.1
baz=96
YKA **Yellowknife Ar** 96.65 25 P P 09 09 21.3 -0.2
comp=Z,1.2nm,0.7s,baz=244,slow=4.5,SNR=37
YKA PKiKP **PKiKP** 09 13 53.8 -0.4
comp=Z,0.2nm,0.6s,baz=248,slow=1.5,SNR=5.4
YKA **Yellowknife Ar** 96.65 25 P P 09 09 21.3 -0.2
YKA PKiKP **PKiKP** 09 13 53.8 -0.4
ZAK **Zakamensk** 98.22 321 *e*P Pdif 09 09 27.2 -1.8
ZAK pmax pmax
comp=Z,1.0nm,1.2s
ZALV **Zalesovo Beam** 110.08 321 PKiKP **PKiKP** 09 14 18.0 -1.1
MK31 **Makanchi Array** 110.74 314 *i* PKiKP **PKiKP** 09 14 19.5 -1.1
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 **Makanchi Array** 110.74 314 *e*PKPdf **PKiKP** 09 14 19.6 -1.1
MKAR **Makanchi Array** 110.74 314 *e*PKiKP **PKiKP** 09 14 19.6 -1.0
MKAR **Makanchi Array** 110.74 314 *e*PKiKP **PKiKP** 09 14 19.6 -1.0
KURK **Kurchatov** 113.56 317 *c i*PKiKP **PKiKP** 09 14 24.8 -1.0
KURK **Kurchatov** 113.56 317 *e*PKPdf **PKiKP** 09 14 24.7 -1.1
KURBB **Kurchatov Arra** 113.61 317 PKiKP **PKiKP** 09 14 24.9 -1.0
comp=Z,4.4nm,0.7s,baz=95,slow=1.8,SNR=22
KSH **Kashi** 114.39 305 *e*PKP PKPdf 09 14 28.0 0.0
KSH *e*PP PP 09 15 43.4 +7.0
KSH *es*PKP 09 17 45.4
KSH PKS **PKSdf** 09 18 05.3 +0.5
KSH SKS **SKSdf** 09 20 45.8 +2.9
KSH SKKS **SKKSac** 09 21 33.8 -0.5
KSH SS **SS** 09 30 50.4 +6.3
KSH AMB AMB
comp=Z,66nm,4.0s
AAK **Ala-Archa** 115.82 308 PKP **PKPdf** 09 14 30.2 -0.4
comp=Z,1.2nm,0.3s,baz=283,slow=3.4,SNR=4.7
AAK **Ala-Archa** 115.82 308 PKiKP **PKPdf** 09 14 30.3 -0.4
AAK **Ala-Archa** 115.82 308 PKP **PKPdf** 09 14 30.2 -0.4
FRB **Frobisher Bay** 116.95 28 PKP **PKPdf** 09 14 31.1 -0.8
comp=Z,2.6nm,0.5s,baz=52,slow=15,SNR=14
FRB **Frobisher Bay** 116.95 28 PKP **PKPdf** 09 14 31.1 -0.8
BVA0 **Borovoye Array** 118.66 320 PKiKP **PKPdf** 09 14 34.8 -0.8
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR **Borovoye Array** 118.66 320 PKP **PKPdf** 09 14 34.9 -0.7
comp=Z,11nm,0.5s,baz=96,slow=1.7,SNR=52
BVAR **Borovoye Array** 118.66 320 PKiKP **PKPdf** 09 14 34.9 -0.7
BVAR **Borovoye Array** 118.66 320 PKP **PKPdf** 09 14 34.9 -0.7
BRVK **Borovoye** 118.72 320 *d i*PKiKP **PKPdf** 09 14 34.9 -0.8
BRVK **Borovoye** 118.72 320 *e*PKPdf **PKPdf** 09 14 34.5 -1.2
SCHQ **Schefferville** 118.92 38 PKP **PKPdf** 09 14 35.1 -1.0
comp=Z,1.5nm,0.9s,baz=271,slow=12,SNR=2.7
SCHQ **Schefferville** 118.92 38 PKP **PKPdf** 09 14 35.1 -1.0
KBL **Kabul** 119.37 299 *e*PKiKP **PKPdf** 09 14 38.2 +0.4
KBL **Kabul** 119.37 299 *e*PKPdf **PKPdf** 09 14 38.2 +0.4
SPITS **Spitsbergen Ar** 121.73 356 PKP **PKPdf** 09 14 40.6 -0.3
comp=Z,11nm,0.7s,baz=215,slow=1.7,SNR=3.6
SPITS **Spitsbergen Ar** 121.73 356 PKP **PKPdf** 09 14 40.6 -0.3
DAG **Danmarks Havn** 122.69 5 *i* P **PKPdf** 09 14 41.2 -1.5
comp=Z,22nm,0.9s
SFJD **Kangerlussuaq** 123.05 22 *i* P **PKPdf** 09 14 42.6 -1.0
SUMG **Summit** 123.18 13 *e*PKiKP **PKPdf** 09 14 44.0 -0.3
SUMG **Summit** 123.18 13 *e*PKPdf **PKPdf** 09 14 44.0 -0.3
SUMG **Summit** 123.18 13 *i* P **PKPdf** 09 14 43.9 -0.3
comp=Z,5.2nm,1.0s
SOKR **Solikamsk** 124.73 329 *e*PKiKP **PKPdf** 09 14 46.4 -0.6
SOKR pmax pmax
comp=Z,20nm,0.9s
ARU **Arti** 124.82 325 *i* PKiKP **PKPdf** 09 14 47.1 -0.2
ARU 09 16 41.4
ARU 09 20 55.6
ARU SS SS 09 32 51.8 -2.7
ARU **Arti** 124.82 325 *e*PKPdf **PKPdf** 09 14 47.0 -0.2
AB31 **Akbulak array** 125.65 317 PKiKP **PKPdf** 09 14 48.7 -0.4
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR **Akbulak array** 125.65 317 *e*PKPdf **PKPdf** 09 14 48.8 -0.3
BOSA **Boshof** 126.11 206 PKP **PKPdf** 09 14 51.5 +0.6
comp=Z,4.7nm,0.8s,baz=215,slow=1.7,SNR=3.6
BOSA **Boshof** 126.11 206 PKP **PKPdf** 09 14 51.5 +0.6
AKTO **Aktyubinsk** 126.64 318 PKP **PKPdf** 09 14 51.3 +0.3
comp=Z,7.4nm,0.8s,baz=103,slow=3.2,SNR=28
AKTO **Aktyubinsk** 126.64 318 PKiKP **PKPdf** 09 14 51.3 +0.3
AKTO **Aktyubinsk** 126.64 318 PKP **PKPdf** 09 14 51.3 +0.3
NRS **Narsarsuaq** 127.89 27 *i* P **PKPdf** 09 14 53.3 +0.3
comp=Z,3.6nm,0.9s
KEV **Kevo** 128.27 349 *e*PKiKP **PKPdf** 09 14 52.6 -0.9
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV **Kevo** 128.27 349 *ep* **PKPdf** 09 14 52.6 -0.9
comp=Z,4.9nm,0.7s
ARCES **ARCESS Array B** 128.73 349 PKP **PKPdf** 09 14 54.1 -0.3
comp=Z,7.9nm,0.6s,baz=76,slow=0.9,SNR=33
ARCES **ARCESS Array B** 128.73 349 PKP **PKPdf** 09 14 54.1 -0.3
KLMR **Klimovskoe** 131.57 336 *e*PKiKP **PKPdf** 09 14 58.8 -1.2
KLMR pmax pmax
comp=Z,19nm,1.5s
JOF **Joensuu** 132.87 342 *e*PKiKP **PKPdf** 09 15 01.9 -0.5
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF **Joensuu** 132.87 342 *ep* **PKPdf** 09 15 01.9 -0.5
comp=Z,8.8nm,0.6s
KAF **Kangasniemi** 134.91 344 *e*PKiKP **PKPdf** 09 15 04.5 -1.7
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF **Kangasniemi** 134.91 344 *ep* **PKPdf** 09 15 04.5 -1.7
comp=Z,4.9nm,0.6s
FINES **FINESS Array B** 135.53 343 PKP **PKPdf** 09 15 08.1 +0.7
comp=Z,3.5nm,0.5s,baz=29,slow=3.2,SNR=12
FINES **FINESS Array B** 135.53 343 PKP **PKPdf** 09 15 08.1 +0.7
VRHR **Novokhopersk** 136.12 324 *e*PKiKP **PKPdf** 09 15 07.0 -1.8
VRHR pmax pmax
comp=Z,9.0nm,0.4s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.5s
OBN **Obninsk** 136.42 331 *i* PKiKP **PKPdf** 09 15 09.3 +0.1
OBN pmax pmax
comp=Z,16nm,1.0s
VSR **Storozhevoye** 137.39 325 *e*PKiKP **PKPdf** 09 15 12.5 +1.4
VORD **Divnogorie** 137.46 325 *e*PKiKP **PKPdf** 09 15 11.8 +0.5
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,130nm,0.9s
VORD pmax pmax
comp=E,30nm,0.6s
ZEI **Tsey** 138.07 312 *i* PKiKP **PKPdf** 09 15 14.5 +1.5
ZEI pmax pmax
comp=Z,4.0nm,1.1s
KBZ **Khabaz** 138.44 314 PKP **PKPdf** 09 15 14.2 +0.9
comp=Z,1.4nm,0.8s,baz=178,slow=1.2,SNR=5.3
KBZ **Khabaz** 138.44 314 PKiKP **PKPdf** 09 15 14.2 +0.9
KBZ **Khabaz** 138.44 314 PKP **PKPdf** 09 15 14.2 +0.9
NOA **NORSAR Array B** 138.82 353 PKhKP PKPpre 09 15 04.9
comp=Z,3.6nm,0.7s,baz=19,slow=2.4,SNR=11
NOA PKP **PKiKP** 09 15 15.6 -0.3
comp=Z,2.4nm,0.6s,baz=14,slow=4.1,SNR=6.3
NOA **NORSAR Array B** 138.82 353 PKPpre PKPpre 09 15 04.9
NOA PKP **PKiKP** 09 15 15.6 -0.3
HFS **Hagfors** 139.36 351 PKhKP PKPpre 09 15 06.1
comp=Z,8.8nm,0.5s,baz=64,slow=3.4,SNR=35
HFS **Hagfors** 139.36 351 PKPpre PKPpre 09 15 06.1
MVH1 **Achvaich** 142.30 5 *e*P **PKPdf** 09 15 16.5 -3.3
MVH1 **Achvaich** 142.30 5 P **PKPdf** 09 15 16.5 -3.3
SUW **Suwalki** 142.56 339 *e*PKP **PKPdf** 09 15 18.1 -2.3
SUW **Suwalki** 142.56 339 *e*PKP **PKPdf** 09 15 18.0 -2.3
KAC **Achnashellach** 142.62 6 *e*P **PKPdf** 09 15 17.4 -3.0
KAC **Achnashellach** 142.62 6 P **PKPdf** 09 15 17.4 -3.0
AKASG **Malin Array Be** 142.67 331 PKhKP PKPpre 09 15 17.3
comp=Z,31nm,0.5s,baz=44,slow=4.4,SNR=138
AKASG **Malin Array Be** 142.67 331 PKHKP PKPpre 09 15 17.3
AKASG **Malin Array Be** 142.67 331 PKPpre PKPpre 09 15 17.3
KIEV **Kiev** 142.68 331 *e*PKHKP PKPpre 09 15 17.4
KIEV **Kiev** 142.68 331 *e*PKPdf **PKPdf** 09 15 17.4 -3.3
MCD **Coleburn Disti** 142.71 4 *e*P **PKPdf** 09 15 17.3 -3.2
MCD **Coleburn Disti** 142.71 4 P **PKPdf** 09 15 17.3 -3.2
MDO **Dochfour** 142.76 5 *e*P **PKPdf** 09 15 17.7 -2.9
MDO **Dochfour** 142.76 5 P **PKPdf** 09 15 17.7 -2.9
MALT **Malatya** 143.45 307 ⇑PKiKP **PKPdf** 09 15 22.5 -0.1
MALT **Malatya** 143.45 307 *e*PKPdf **PKPdf** 09 15 22.2 -0.4
MALT **Malatya** 143.45 307 ⇑*i*P **PKPdf** 09 15 22.5 -0.1
MUD **Monsted U'grnd** 143.54 353 *i* P PKPab 09 15 20.9 0.0
comp=Z,56nm,1.1s
SIM **Simferopol'** 143.57 320 *d i*PKiKP **PKPdf** 09 15 22.0 -0.5
SIM pmax pmax
comp=Z,76nm,0.7s
ELO **Logie Almond** 143.78 5 *e*P PKPbc 09 15 21.2 -0.6
ELO **Logie Almond** 143.78 5 P PKPbc 09 15 21.2 -0.6
BSD **Bornholm Skovb** 143.87 347 ⇓*i*P PKPbc 09 15 21.6 -0.5
comp=Z,82nm,0.8s
EAB **Aberfoyle** 144.01 5 *e*P PKPbc 09 15 21.9 -0.5
EAB **Aberfoyle** 144.01 5 P PKPbc 09 15 21.9 -0.5
ESY **Stoneypath** 144.41 4 *e*P **PKPdf** 09 15 23.0 -0.5
ESY **Stoneypath** 144.41 4 P **PKPdf** 09 15 23.0 -0.5
EAU **Auchinoon** 144.42 5 *e*P **PKPdf** 09 15 23.5 -0.1
EAU **Auchinoon** 144.42 5 P **PKPdf** 09 15 23.5 -0.1
EBL **Broad Law** 144.52 4 *e*P **PKPdf** 09 15 23.7 0.0
EBL **Broad Law** 144.52 4 P **PKPdf** 09 15 23.7 0.0
ESK **Eskdalemuir** 144.97 5 *e*P **PKPdf** 09 15 24.0 -0.5
ESK **Eskdalemuir** 144.97 5 P **PKPdf** 09 15 24.0 -0.5
ESK **Eskdalemuir** 144.97 5 *i* PKiKP PKPbc 09 15 25.7 +0.3
ESK **Eskdalemuir** 144.97 5 *e*PKPdf **PKPdf** 09 15 24.5 0.0
GKP **Gorka Klasztor** 145.00 343 *e*PKP PKPbc 09 15 25.9 +0.3
GKP **Gorka Klasztor** 145.00 343 *e*PKP PKPbc 09 15 25.8 +0.2
ECK **Cauldkaine Hil** 145.11 5 *e*P **PKPdf** 09 15 25.1 +0.3
ECK **Cauldkaine Hil** 145.11 5 P **PKPdf** 09 15 25.1 +0.3
BEL **Belsk** 145.17 339 *e*PKP **PKPbc** 09 15 26.6 +0.5
BEL **Belsk** 145.17 339 *e*PKP **PKPbc** 09 15 26.6 +0.5
KIS **Kishinev** 145.36 326 *e*PKiKP **PKPdf** 09 15 25.0 -0.4
KIS **Kishinev** 145.36 326 *e*P **PKPdf** 09 15 25.0 -0.4
LVV **L'vov** 145.58 334 *i* PKiKP **PKPdf** 09 15 26.2 +0.4
BSEG **Bad Segeberg** 145.84 351 *e*PKP2 **PKPbc** 09 15 28.4 +0.5
BSEG **Bad Segeberg** 145.84 351 *e*PKPbc **PKPbc** 09 15 28.4 +0.5
KWP **Kalwaria Pacla** 146.27 335 *e*PKP **PKPbc** 09 15 29.5 +0.2
KWP **Kalwaria Pacla** 146.27 335 ⇓PKP2 **PKPbc** 09 15 29.6 +0.2
KWP **Kalwaria Pacla** 146.27 335 ⇓*i*P **PKPbc** 09 15 29.6 +0.2
KWP **Kalwaria Pacla** 146.27 335 *e*PKP **PKPbc** 09 15 29.5 +0.2
BR131 **Keskin Array S** 146.38 312 *e*PKPdf **PKPdf** 09 15 28.2 +0.6
BR131 *e*PKPbc **PKPbc** 09 15 29.9 -0.3
BRTR **Keskin Array B** 146.38 312 PKP **PKPdf** 09 15 27.5 -0.1
comp=Z,14nm,0.7s,baz=142,slow=4.0,SNR=56
BRTR PKPbc **PKPbc** 09 15 30.0 -0.1
comp=Z,14nm,0.7s,baz=136,slow=4.5,SNR=56
BRTR **Keskin Array B** 146.38 312 PKP **PKPdf** 09 15 27.5 -0.1
BRTR PKPbc **PKPbc** 09 15 30.0 -0.1
TLCR 146.52 324 ⇑PKP2 **PKPbc** 09 15 30.3 +0.2
TLCR 146.52 324 ⇑*i*P **PKPbc** 09 15 30.3 +0.2
BUR08 **Bucovina Ar. S** 146.70 330 *e*PKPbc **PKPbc** 09 15 31.4 +0.8
BURAR **Bucovina Array** 146.71 330 ⇓*i*P **PKPbc** 09 15 31.4 +0.7
TESR 146.79 327 ⇓*i*P **PKPbc** 09 15 30.8 0.0
LHO **Holmfirth** 146.82 4 *e*P **PKPbc** 09 15 30.3 -0.4

LHO	Holmfirth	146.82	4	P		PKPbc	09 15 30.3	-0.4
WLF1	Llynfaes	146.87	6	eP		PKPbc	09 15 30.0	-0.8
WLF1	Llynfaes	146.87	6	P		PKPbc	09 15 30.0	-0.8
OJC	Ojcow	146.87	338	ePKP2		PKPbc	09 15 31.1	+0.2
OJC	Ojcow	146.87	338	ePKPdf		PKPbc	09 15 31.1	+0.2
OJC	Ojcow	146.87	338	ePKP		PKPbc	09 15 30.9	0.0
YRC	Rhoscolyn	146.88	7	eP		PKPbc	09 15 30.2	-0.5
YRC	Rhoscolyn	146.88	7	P		PKPbc	09 15 30.2	-0.5
CFR	Carcaliu	146.89	324	⇓PKP2		PKPbc	09 15 31.1	0.0
CFR	Carcaliu	146.89	324	⇓iP		PKPbc	09 15 31.1	0.0
WPM1	Penmaenmawr	146.95	6	eP		PKPbc	09 15 29.8	-1.2
WPM1	Penmaenmawr	146.95	6	P		PKPbc	09 15 29.8	-1.2
KOLS	Kolonicke sedl	147.00	334	ePKP2		PKPbc	09 15 31.8	+0.5
KOLS	Kolonicke sedl	147.00	334	ePKP		PKPbc	09 15 31.8	+0.5
KBI1	Birley Grange	147.13	3	eP		PKPbc	09 15 30.9	-0.6
KBI1	Birley Grange	147.13	3	P		PKPbc	09 15 30.9	-0.6
TIRR	Tirgusor	147.19	323	⇓PKIKP		PKPbc	09 15 31.8	-0.1
TIRR	Tirgusor	147.19	323	⇓iP		PKPbc	09 15 31.8	-0.1
VRI	Vrincioaia	147.19	327	⇓PKP2		PKPbc	09 15 32.0	+0.1
VRI	Vrincioaia	147.19	327	⇓iP		PKPbc	09 15 32.0	+0.1
UZH	Uzhgorod	147.22	334	⇓iPKP2		PKPbc	09 15 32.4	+0.6
PLOR	Plostina	147.24	327	⇓PKIKP		PKPbc	09 15 31.9	-0.2
PLOR	Plostina	147.24	327	⇓iP		PKPbc	09 15 31.9	-0.2
NRDL	Niedersach Rie	147.27	350	ePKPbc		PKPbc	09 15 32.1	+0.4
MMAI	Mount Meron Ar	147.30	300	PKPbc		PKPbc	09 15 33.3	+0.6
	comp=Z,33nm,0.6s,baz=60,slow=4.9,SNR=40							
MMAI	Mount Meron Ar	147.30	300	PKPbc		PKPbc	09 15 33.3	+0.6
CRVS	Cervenica-Dubn	147.34	335	ePKIKP		PKPbc	09 15 32.1	-0.1
CRVS				e			09 15 37.0	
CRVS	Cervenica-Dubn	147.34	335	ePKP		PKPbc	09 15 32.1	-0.1
CRVS				e			09 15 37.0	
NIE	Niedzica	147.36	337	ePKP2		PKPbc	09 15 33.0	+0.8
NIE	Niedzica	147.36	337	ePKP		PKPbc	09 15 33.0	+0.8
FOEL	Foel Wylfa	147.38	5	eP		PKPbc	09 15 31.8	-0.3
FOEL	Foel Wylfa	147.38	5	P		PKPbc	09 15 31.8	-0.3
KSP	Ksiaz	147.44	342	ePKP		PKPbc	09 15 32.9	+0.6
KSP	Ksiaz	147.44	342	ePKP2		PKPbc	09 15 32.9	+0.6
KSP	Ksiaz	147.44	342	ePKP		PKPbc	09 15 32.9	+0.6
MANR	Mangalia	147.49	322	⇑iP		PKPbc	09 15 33.4	+0.7
TRPA	Tarpa	147.51	333	⇓iP		PKPbc	09 15 32.7	+0.1
TRPA	Tarpa	147.51	333	⇓e		PKPbc	09 15 32.8	+0.1
OKC	Ostrava-Krasne	147.76	340	i PKP2		PKPbc	09 15 33.6	+0.4
OKC	Ostrava-Krasne	147.76	340	⇑iPKP		PKPbc	09 15 33.6	+0.4
OKC				ePKPAB		PKPab	09 15 38.5	+0.6
IBBN	Ibbenburen	147.78	353	ePKPbc		PKPbc	09 15 33.8	+0.7
IBBN				ePKPab		PKPab	09 15 38.0	+0.2
ISR	Istrita	147.79	326	⇓PKIKP		PKPbc	09 15 32.4	-1.1
ISR	Istrita	147.79	326	⇓iP		PKPbc	09 15 32.4	-1.1
DOPR	Dopca	147.80	328	⇓iP		PKPbc	09 15 34.2	+0.7
UPC	Upice	147.82	342	i PKP2		PKPbc	09 15 33.7	+0.4
UPC	Upice	147.82	342	⇑iPKP		PKPbc	09 15 33.7	+0.4
UPC				ePKPAB		PKPab	09 15 38.9	+0.8
CLL	Collm	147.84	346	⇓ePKIKP		PKPdf	09 15 30.0	+0.6
CLL				i			09 15 38.3	
CLL				pmax	pmax			
	comp=Z,69nm,0.8s							
CLL				pmax	pmax			
	comp=Z,29nm,0.7s							
CLL	Collm	147.84	346	ePKPbc		PKPbc	09 15 33.6	+0.2
CLL	Collm	147.84	346	ePKPdf		PKPdf	09 15 30.0	+0.6
CLL				⇓iPKPbc		PKPbc	09 15 33.6	+0.2
	comp=Z,69nm,0.8s							
CLL				⇑iPKPab		PKPab	09 15 38.3	+0.1
	comp=Z,29nm,0.7s							
MLR	Muntele Rosu	147.85	327	PKPbc		PKPbc	09 15 33.5	-0.2
	comp=Z,4.1nm,0.6s,baz=331,slow=6.7,SNR=25							
MLR	Muntele Rosu	147.85	327	PKPbc		PKPbc	09 15 33.5	-0.2
MLR	Muntele Rosu	147.85	327	⇑iP		PKPbc	09 15 33.7	-0.1
CLZ	Clausthal	147.85	350	ePKP2		PKPbc	09 15 34.1	+0.7
CLZ	Clausthal	147.85	350	ePKPdf		PKPdf	09 15 30.1	+0.6
CLZ				ePKPbc		PKPbc	09 15 34.1	+0.7
DPC	Dobruska-Polom	147.87	342	i PKP2		PKPbc	09 15 34.2	+0.7
DPC	Dobruska-Polom	147.87	342	ePKPdf		PKPbc	09 15 33.6	+0.1
DPC	Dobruska-Polom	147.87	342	⇑iPKP		PKPbc	09 15 34.2	+0.7
DPC				ePKPAB		PKPab	09 15 39.3	+0.9
KRLC	Kraliky	147.98	341	⇑ePKP		PKPbc	09 15 34.2	+0.4
KRLC				ePKPAB		PKPab	09 15 39.3	+0.4
MORC	Moravsky Berou	148.00	340	⇑PKP2		PKPbc	09 15 34.4	+0.5
MORC	Moravsky Berou	148.00	340	ePKPbc		PKPbc	09 15 33.9	0.0
MORC	Moravsky Berou	148.00	340	⇑iP		PKPbc	09 15 34.4	+0.5
BRG	Berggiesshubel	148.03	345	ePKP		PKPdf	09 15 30.1	+0.3
	comp=Z,5.9nm,1.2s							
BRG				i			09 15 34.1	
	comp=Z,30nm,0.7s							
BRG				i			09 15 39.1	
	comp=Z,25nm,0.8s							
BRG				epPKP		pPKPdf	09 17 50.3	-1.1
	comp=Z,5.8nm,0.4s							
BRG	Berggiesshubel	148.03	345	ePKHKP	PKPpre		09 15 30.1	
BRG				i			09 15 39.1	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BRG				pmax	pmax			
	comp=Z,30nm,0.7s							
BRG				pmax	pmax			
	comp=Z,25nm,0.8s							
BRG				pmax	pmax			
	comp=Z,6.0nm,0.4s							
BRG	Berggiesshubel	148.03	345	ePKPdf		PKPdf	09 15 30.4	+0.6
BRG				ePKPbc		PKPbc	09 15 34.3	+0.5
BRG				ePKPab		PKPab	09 15 39.1	+0.1
PVCC	Panska Ves	148.19	344	i PKP2		PKPbc	09 15 34.9	+0.6
PVCC	Panska Ves	148.19	344	⇑iPKP		PKPbc	09 15 34.9	+0.6
WTSB	Winterswijk	148.22	354	ePKP		PKPbc	09 15 34.4	+0.1
MCH1	Michaelchurch	148.28	5	eP		PKPbc	09 15 33.3	-1.1
MCH1	Michaelchurch	148.28	5	P		PKPbc	09 15 33.3	-1.1
VOIR		148.34	327	⇓PKHKP		PKPbc	09 15 34.9	0.0
VOIR		148.34	327	⇓iP		PKPbc	09 15 34.9	0.0
SSW	Stow on the Wo	148.39	4	eP		PKPbc	09 15 34.6	-0.1
SSW	Stow on the Wo	148.39	4	P		PKPbc	09 15 34.6	-0.1
CSS	Prodhromos	148.40	304	ePKPbc		PKPbc	09 15 34.8	-0.5
DRGR		148.47	332	⇓PKHKP		PKPbc	09 15 35.2	0.0
DRGR		148.47	332	⇓iP		PKPbc	09 15 35.2	0.0
ARR	Arges	148.60	328	⇓iP		PKPbc	09 15 35.8	+0.3
VYHS	Vyhne	148.67	338	ePKHKP		PKPbc	09 15 35.9	+0.4
VYHS				e			09 15 42.4	
VYHS	Vyhne	148.67	338	ePKP		PKPbc	09 15 35.9	+0.4
VYHS				e			09 15 42.4	
BUG	Bochum--Univer	148.69	353	ePKPbc		PKPbc	09 15 35.7	+0.3
PRU	Pruhonice	148.69	344	i PKHKP		PKPbc	09 15 35.8	+0.3
PRU				e			09 15 42.1	
PRU	Pruhonice	148.69	344	⇑iPKP		PKPbc	09 15 35.8	+0.3
PRU				ePKPAB		PKPab	09 15 42.1	+0.4
VRAC	Vranov	148.71	341	PKPbc		PKPbc	09 15 36.0	+0.4
	comp=Z,12nm,0.9s,baz=103,slow=1.9,SNR=10.0							
VRAC				PKPab		PKPab	09 15 42.8	+1.0
	comp=Z,12nm,0.9s,baz=343,slow=2.4,SNR=7.2							
VRAC	Vranov	148.71	341	PKPbc		PKPbc	09 15 36.0	+0.4
VRAC				PKPab		PKPab	09 15 42.8	+1.0
VRAC	Vranov	148.71	341	⇓iP		PKPbc	09 15 36.0	+0.4
PSZ	Piszkesteto	148.75	336	ePKHKP		PKPbc	09 15 35.9	+0.1
PSZ	Piszkesteto	148.75	336	ePKPdf		PKPbc	09 15 35.9	+0.1
PSZ	Piszkesteto	148.75	336	⇓iP		PKPbc	09 15 35.9	+0.1
PSZ	Piszkesteto	148.75	336	⇓e		PKPbc	09 15 36.0	+0.1
MOX	Moxa	148.76	347	ePKHKP		PKPbc	09 15 36.1	+0.4
MOX	Moxa	148.76	347	ePKPdf		PKPdf	09 15 31.3	+0.3
MOX				ePKPbc		PKPbc	09 15 36.1	+0.4
TANN	Tannenbergstha	148.80	346	ePKPbc		PKPbc	09 15 36.3	+0.5
UBBA	Unterbreizbach	148.90	349	ePKPbc		PKPbc	09 15 36.1	+0.3
UBBA				ePKPab		PKPab	09 15 42.4	0.0
HUMR	Humele	149.01	326	⇑iP		PKPbc	09 15 36.3	-0.1
TREC	Trest	149.06	342	i PKHKP		PKPbc	09 15 36.6	+0.1
TREC	Trest	149.06	342	⇑iPKP		PKPbc	09 15 36.6	+0.1
SMOL	Smolenice	149.14	339	ePKP2		PKPbc	09 15 37.8	+1.1
SMOL	Smolenice	149.14	339	ePKP		PKPbc	09 15 37.8	+1.1
BUD	Budapest	149.44	336	⇓eP		PKPbc	09 15 37.6	+0.2
ROTZ	Rotzenmuhle	149.47	346	ePKPbc		PKPbc	09 15 38.0	+0.6
BEBN	Eben Emael	149.48	355	PKPbc		PKPbc	09 15 37.6	+0.2
BEBN				PKPab		PKPab	09 15 44.9	0.0
HGN	Heimansgroeve	149.49	354	ePKP		PKPbc	09 15 37.2	-0.2
	comp=Z,31nm,1.0s							
MEM	Membach	149.64	354	PKPbc		PKPbc	09 15 38.0	+0.2
TNS	Taunus Mts	149.73	351	ePKHKP		PKPbc	09 15 38.4	+0.3
TNS	Taunus Mts	149.73	351	ePKPbc		PKPbc	09 15 38.4	+0.3
KHC	Kasperske Hory	149.73	344	i PKHKP		PKPbc	09 15 38.4	+0.3
KHC				e			09 15 46.8	
KHC	Kasperske Hory	149.73	344	ePKPdf		PKPbc	09 15 36.9	-1.1
KHC				ePKPab		PKPab	09 15 46.4	+0.3
KHC	Kasperske Hory	149.73	344	⇑iPKP		PKPbc	09 15 38.4	+0.3
KHC				ePKPAB		PKPab	09 15 46.8	+0.7
GRF	Grafenberg Arr	149.75	347	ePKP2		PKPab	09 15 46.4	+0.3
GRF	Grafenberg Arr	149.75	347	ePKPbc		PKPbc	09 15 38.5	+0.4
GRF				ePKPab		PKPab	09 15 46.4	+0.3
BZS	Buzias	149.86	331	⇓PKHKP		PKPbc	09 15 38.4	0.0
BZS	Buzias	149.86	331	⇓iP		PKPbc	09 15 38.4	0.0
SNF	Seneffe	149.87	356	PKPbc		PKPbc	09 15 38.4	+0.2
SNF				PKPab		PKPab	09 15 46.6	0.0
BCLA	Clavier	149.89	355	PKPbc		PKPbc	09 15 38.9	+0.5
BCLA				PKPab		PKPab	09 15 46.5	-0.2
WET	Wettzell	149.89	345	ePKP2		PKPab	09 15 47.2	+0.4
WET	Wettzell	149.89	345	ePKPbc		PKPbc	09 15 38.6	+0.1
WET				ePKPab		PKPab	09 15 47.2	+0.4
GEC2	GERESS Array S	149.96	344	ePKHKP		PKPbc	09 15 39.0	+0.3
GEC2	GERESS Array S	149.96	344	ePKPbc		PKPbc	09 15 39.0	+0.3
GERES	GERESS Array B	149.96	344	PKP		PKPdf	09 15 32.8	-0.2
	comp=Z,12nm,0.7s,baz=48,slow=2.0,SNR=30							
GERES				PKPbc		PKPbc	09 15 38.6	-0.1
	comp=Z,12nm,0.7s,baz=45,slow=2.1,SNR=58							
GERES	GERESS Array B	149.96	344	PKP		PKPdf	09 15 32.8	-0.2
GERES				PKPbc		PKPbc	09 15 38.6	-0.1
SOP	Sopron	150.15	339	⇓e		PKPbc	09 15 39.4	+0.4
CONA	Conrad Observa	150.16	340	⇑iPKPdf		PKPdf	09 15 33.3	0.0
	comp=Z,2.6nm,0.7s,SNR=12							
CONA				⇓iPKiKP		PKiKP	09 15 39.7	-0.1
	comp=Z,21nm,0.7s							
CONA				⇑iPKPab		PKPab	09 15 49.1	+1.1
	comp=Z,7.4nm,0.7s							
DOU	Dourbes	150.26	356	PKPbc		PKPbc	09 15 39.5	+0.3
DOU				PKPab		PKPab	09 15 48.1	-0.2
WLF	Walferdange	150.56	354	PKPbc		PKPbc	09 15 40.8	+0.9
WLF				PKPab		PKPab	09 15 49.9	+0.4
WLF	Walferdange	150.56	354	ePKIKP		PKPbc	09 15 41.1	+1.2
WLF	Walferdange	150.56	354	ePKPbc		PKPbc	09 15 40.8	+0.9
WLF	Walferdange	150.56	354	ePKPdf		PKPbc	09 15 41.1	+1.2
PKSM	Moragy	150.64	335	⇑PKIKP		PKPbc	09 15 40.1	-0.1
PKSM	Moragy	150.64	335	⇑iP		PKPbc	09 15 40.1	-0.1
PKSM	Moragy	150.64	335	⇓e		PKPbc	09 15 40.1	-0.1
MOA	Molln	150.71	342	⇓iPKPbc		PKPbc	09 15 40.4	+0.1
	comp=Z,7.2nm,0.6s							
MOA				⇑iPKPab		PKPab	09 15 50.9	+0.7
	comp=Z,6.4nm,0.6s							
STU	Stuttgart	151.02	349	ePKPbc		PKPbc	09 15 41.3	+0.3
BEHE	Becsehely	151.12	338	⇑e		PKPbc	09 15 41.7	+0.4
FUR	Furstenfeldbru	151.18	346	ePKIKP		PKPab	09 15 52.5	+0.3
FUR	Furstenfeldbru	151.18	346	ePKPbc		PKPbc	09 15 41.6	+0.2
FUR				ePKPab		PKPab	09 15 52.5	+0.3
RJOB	Jochberg	151.22	344	ePKPbc		PKPbc	09 15 41.3	-0.3
RJOB				ePKPab		PKPab	09 15 52.9	+0.5
VTS	Vitosha	151.28	325	⇑PKIKP		PKPbc	09 15 41.8	-0.2
VTS	Vitosha	151.28	325	⇑iP		PKPbc	09 15 41.8	-0.2
SOKA	Soboth	151.53	340	⇑iPKPdf		PKPdf	09 15 35.0	-0.5
	comp=Z,2.0nm,0.8s							
SOKA				⇓iPKPbc		PKPbc	09 15 41.9	-0.4
	comp=Z,8.9nm,0.8s							
SOKA				⇓iPKPab		PKPab	09 15 52.7	-1.2
	comp=Z,11nm,1.4s							
BFO	Black Forest	151.59	350	ePKPbc		PKPbc	09 15 42.4	+0.1
BFO				ePKPab		PKPab	09 15 53.6	-0.3
BFO	Black Forest	151.59	350	ePKPbc		PKPbc	09 15 42.2	-0.1
BFO				ePKPab		PKPab	09 15 53.6	-0.3
KBA	Koelnbreinsper	151.68	343	⇑iPKPdf		PKPdf	09 15 35.1	-0.7
	comp=Z,2.8nm,1.1s							
KBA				⇓iPKPbc		PKPbc	09 15 41.3	-1.5
	comp=Z,10nm,0.6s,SNR=7.0							
RETA	Reutte	151.94	346	⇑iPKiKP		PKPbc	09 15 43.3	+0.1
	comp=Z,7.1nm,0.5s							
RETA				⇑iPKPab		PKPab	09 15 55.8	+0.3
	comp=Z,9.8nm,0.7s							
WTTA	Wattenberg	151.95	345	⇑iPKPdf		PKPdf	09 15 36.2	0.0
	comp=Z,4.4nm,0.7s							
WTTA				⇓iPKiKP		PKPbc	09 15 43.4	0.0
	comp=Z,20nm,0.5s							
WTTA				⇑iPKPab		PKPab	09 15 55.6	-0.1
	comp=Z,15nm,0.6s							
MOTA	Moosalm	152.00	346	⇑iPKPdf		PKPdf	09 15 36.1	-0.1
	comp=Z,3.7nm,0.6s							
MOTA				⇑iPKiKP		PKPbc	09 15 43.4	0.0
	comp=Z,8.7nm,0.7s							
MOTA				⇑iPKPab		PKPab	09 15 56.2	+0.3
	comp=Z,11nm,0.7s							
MYKA	Terra Mystica	152.00	342	⇑iPKPdf		PKPdf	09 15 35.6	-0.5
	comp=Z,2.8nm,0.7s							
MYKA				⇑iPKPbc		PKPbc	09 15 42.8	-0.6
	comp=Z,10nm,0.5s							
MYKA				⇑iPKPab		PKPab	09 15 55.5	-0.3
	comp=Z,7.0nm,0.6s							
ABTA	Abfaltersbach	152.21	344	⇑iPKPdf		PKPdf	09 15 36.0	-0.4
	comp=Z,8.9nm,0.9s							
ABTA				⇓iPKPbc		PKPbc	09 15 43.3	-0.5
	comp=Z,22nm,0.6s							
ABTA				⇑iPKPab		PKPab	09 15 56.3	-0.4
	comp=Z,14nm,0.7s							
DAVA	Damuels	152.31	348	⇑iPKiKP		PKiKP	09 15 44.3	0.0
	comp=Z,5.9nm,0.5s							
FETA	Feichten	152.39	346	⇑iPKPdf		PKPdf	09 15 37.0	+0.2
	comp=Z,8.8nm,0.9s							
FETA				⇑iPKPbc		PKPbc	09 15 43.9	-0.4
	comp=Z,12nm,0.7s							
FETA				⇓iPKPab		PKPab	09 15 57.3	-0.2
	comp=Z,15nm,1.3s							
VOY	Vojsko	152.46	341	eP		PKPdf	09 15 36.8	-0.1
VOY				e			09 15 43.6	
VOY				e			09 15 50.2	
BOJS	Bojanci	152.49	339	i P		PKPbc	09 15 44.5	+0.2
DAVOX	Davos/Dischmat	152.80	347	PKP		PKPdf	09 15 37.6	+0.1
	comp=Z,5.2nm,0.9s,baz=355,slow=1.7,SNR=6.1							
DAVOX				PKPbc		PKiKP	09 15 45.4	+0.1
	comp=Z,21nm,0.6s,baz=223,slow=3.0,SNR=26							
DAVOX	Davos/Dischmat	152.80	347	PKP		PKPdf	09 15 37.6	+0.1
DAVOX				PKPbc		PKiKP	09 15 45.4	+0.1
FUORN	Ofenpass-Fuorn	152.87	347	ePKPdf		PKPdf	09 15 38.3	+0.6
TUE	Stuetta	153.20	348	ePKPbc		PKPbc	09 15 45.4	-0.8
APE	Apeiranthos	153.24	314	⇑PKIKP		PKPbc	09 15 43.8	-2.5
APE	Apeiranthos	153.24	314	⇑iP		PKPbc	09 15 43.8	-2.5
SENIN	Lac Senin/Sane	153.66	351	ePKPbc		PKPbc	09 15 47.7	+0.6
SENIN				ePKPab		PKPab	09 16 03.2	+0.2
BNI	Bardonecchia	155.04	351	ePKP2		PKPab	09 16 09.5	+0.6
BNI	Bardonecchia	155.04	351	ePKPab		PKPab	09 16 09.5	+0.6
ESDC	Sonseca Array	160.24	12	PKPab		PKPab	09 16 31.6	0.0
	comp=Z,1.0nm,0.5s,baz=337,slow=4.5,SNR=9.1							
ESDC	Sonseca Array	160.24	12	PKPab		PKPab	09 16 31.6	0.0
KEST	Kesra	163.22	337	PKPab		PKPab	09 16 45.0	+0.2
	comp=Z,2.5nm,0.9s,baz=202,slow=13,SNR=4.9							
KEST	Kesra	163.22	337	PKPab		PKPab	09 16 45.0	+0.2
DBIC	Dimbokro	165.05	155	PKP		PKPdf	09 15 51.5	-0.7
	comp=Z,8.3nm,1.1s,baz=184,slow=10,SNR=4.0							
DBIC	Dimbokro	165.05	155	PKP		PKPdf	09 15 51.5	-0.7
TORD	Torodi Ar. Bea	172.78	182	PKP		PKPdf	09 15 56.0	-1.0
	comp=Z,3.0nm,0.9s,baz=286,slow=0.3,SNR=16							
TORD				PKPab		PKPab	09 17 27.5	+0.1
	comp=Z,0.8nm,0.6s,baz=175,slow=4.5,SNR=4.9							
TORD	Torodi Ar. Bea	172.78	182	PKP		PKPdf	09 15 56.0	-1.0
TORD				PKPab		PKPab	09 17 27.5	+0.1

ROM 17 08:59:15.3±0.3, 42.35N×13.35E, h9km±1km, Md1.8/2, Ml1.8/1, Error ellipse: s-maj=3.6km s-min=1.3km az=72.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.04	89	Pg	Pg	08 59 17.5	+0.4
AQU				Sg	Sg	08 59 18.7	+0.2
	411nm,0.1s						
CAMP	Campotosto	0.19	13	Pg	Pg	08 59 19.9	+0.5
CAMP				Sg	Sg	08 59 23.3	+1.1
VCEL	Villa Celiera	0.36	83	Pg	Pg	08 59 23.1	+0.4
VCEL				Sg	Sb	08 59 29.2	-0.9

BJI 17 08:59:31.3, 20.42S×178.63W, h590km, mB4.7/13, mb4.6/23
NEIC 17 08:59:33.6±0.6, 20.40S×178.60W, h601km±6km, mb4.6/29, Error ellipse: s-maj=8.9km s-min=6.6km az=143.0
AUST 17 08:59:33.0±0.0, 20.32S×178.31W, h611km, Error ellipse: s-maj=1.9km s-min=1.5km az=266.0
ISCJB 17 08:59:33.1±0.7, 20.38S±0.06×178.67W±0.06, h603km±9km, mb4.5/60, Error ellipse: s-maj=10.6km s-min=7.5km az=142.7
IDC 17 08:59:34.8±1.4, 20.36S×178.68W, h605km±16km, mb3.9/28, mb1 4.0/29, mb1mx3.9/31, mbtmp3.9/29, Error ellipse: s-maj=11.1km s-min=9.6km az=151.0
SZGRF 17 08:59:34.1, 20.25S×178.42W, h600km, Fiji Islands region

ISC 17 08:59:33.8±0.4, 20.29S±0.06×178.56W±0.05, h600km±3km, h601km±pP-P, n240, σ1.34/314, mb4.5/60, 24C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.10	308	ePn	P	09 01 01.2	+1.1
NIUE	Niue	8.22	83	S	S	09 03 28.2	+13
	baz=8.0,SNR=3.6						
AFI	Afiamalu	9.07	47	P	P	09 01 41.7	-1.9
	12nm,0.3s,baz=66,slow=3.6,SNR=13						
AFI				S	S	09 03 26.1	-3.9
	5.9nm,0.3s,baz=47,slow=21,SNR=6.5						
AFI	Afiamalu	9.07	47	ePn	P	09 01 41.9	-1.7
AFI				eSn	S	09 03 24.7	-5.3
DZM	Mont Dzumac	14.10	260	P	P	09 02 32.9	-0.9
	2.3nm,0.3s,baz=223,slow=20,SNR=3.3						
DZM				S	S	09 05 03.9	+2.9
	0.1nm,0.3s,baz=329,slow=14,SNR=6.5						
DZM	Mont Dzumac	14.10	260	P	P	09 02 32.9	-0.9
DZM				S	S	09 05 03.9	+2.9
OUZ	Omahuta	16.40	203	eP	P	09 02 55.9	+1.2
	129nm,0.8s						
URZ	Urewera	18.30	191	P	P	09 03 08.8	-3.0
	2.9nm,0.3s,baz=26,slow=3.0,SNR=11						
URZ	Urewera	18.30	191	eP	P	09 03 09.9	-1.9
	29nm,0.6s						
KHZ	Kahutara	23.05	195	eP	P	09 03 51.7	-2.8
	12nm,0.6s						
RPZ	Rata Peaks	24.92	198	P	P	09 04 10.8	-0.3
	5.4nm,0.4s,baz=346,slow=6.2,SNR=6.0						
RPZ	Rata Peaks	24.92	198	eP	P	09 04 08.7	-2.4
	7.2nm,0.7s						
PPT	Papeete	27.53	89	P	P	09 04 35.4	+1.1
	47nm,0.8s,baz=324,slow=3.9,SNR=3.5						
PPT	Papeete	27.53	89	P	P	09 04 35.4	+1.1
EIDS	Eidsvold	28.40	254	eP	P	09 04 41.0	-0.8
	3.3nm,0.5s						
EIDS	Eidsvold	28.40	254	P	P	09 04 41.9	+0.2
	baz=29,SNR=3.1						
ARMA	Armidale	28.69	243	eP	P	09 04 43.9	-0.5
	7.0nm,0.7s						
ARMA	Armidale	28.69	243	P	P	09 04 44.7	+0.3
	baz=29,SNR=6.5						
CTA	Charters Tower	32.99	264	P	P	09 05 21.0	-0.1
	20nm,0.5s,baz=94,slow=10.0,SNR=20						
CTA				PcP	PcP	09 07 46.8	+0.1
	6.3nm,0.9s,baz=52,slow=3.8,SNR=3.5						
CTA	Charters Tower	32.99	264	P	P	09 05 21.0	-0.1
CTA				PcP	PcP	09 07 46.8	+0.1
CTAO	Charters Tower	32.99	264	eP	P	09 05 20.6	-0.5
	19nm,0.4s						
CMSA	Cobar Meteorol	33.91	243	P	P	09 05 28.7	+0.1
	baz=34,SNR=6.0						
QLP	Quilpie	34.62	252	P	P	09 05 34.3	-0.3
	baz=35,SNR=9.0						
P

CMB	**Columbia Colle**	**79.67**	**43**	*eP*	**P**	**09 10 41.3**	**+1.1**		
	comp=Z,3.4nm,1.0s								
MDJ	**Mudanjiang**	**80.05**	**325**	P	**P**	**09 10 42.9**	**+0.9**		
MDJ				pP	**pP**	**09 12 46.9**	**-1.0**		
MDJ				sP	**sP**	**09 13 47.3**	**-1.3**		
MDJ				PP	**PP**	**09 13 56.1**	**+0.3**		
MDJ				S	**SKSac**	**09 20 00.5**	**-2.2**		
MDJ				ScS	**ScS**	**09 20 14.6**	**+1.7**		
MDJ				pmax	pmax				
	comp=Z,12nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,60nm,4.7s								
MDJ	**Mudanjiang**	**80.05**	**325**	*eP*	**P**	**09 10 43.3**	**+1.3**		
	comp=Z,5.4nm,0.6s								
NVAR	**Mina Array Bea**	**81.23**	**44**	P	**P**	**09 10 50.1**	**+1.6**		
	comp=Z,1.3nm,0.7s,baz=224,slow=9.0,SNR=6.0								
NVAR	**Mina Array Bea**	**81.23**	**44**	P	**P**	**09 10 50.1**	**+1.6**		
CN2	**Changchun**	**81.82**	**323**	*eP*	**P**	**09 10 51.4**	**+0.3**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
IPM	**Ipoh**	**82.59**	**278**	*eP*	**P**	**09 10 56.0**	**+0.3**		
	comp=Z,14nm,0.6s								
PSI	**Prapat**	**83.95**	**275**	P	**P**	**09 11 01.8**	**-0.8**		
	comp=Z,8.7nm,0.8s,baz=151,slow=0.9,SNR=6.5								
PSI	**Prapat**	**83.95**	**275**	P	**P**	**09 11 01.8**	**-0.8**		
GAMB	**Gambell**	**83.96**	**3**	*eP*	**P**	**09 11 02.5**	**+1.2**		
	comp=Z,7.7nm,0.9s								
BJI	**Beijing**	**85.38**	**316**	P	**P**	**09 11 09.3**	**+0.5**		
BJI				pmax	pmax				
	comp=Z,14nm,0.6s								
ENH	**Enshi**	**85.49**	**304**	*eP*	**P**	**09 11 10.4**	**+0.8**		
	comp=Z,19nm,0.8s								
TNA	**Tin City**	**85.97**	**4**	*eP*	**P**	**09 11 12.5**	**+1.6**		
	comp=Z,2.4nm,0.6s								
GYA	**Guiyang**	**86.09**	**300**	*eP*	**P**	**09 11 13.0**	**+0.3**		
GYA				pP	**pP**	**09 13 22.5**	**+1.5**		
GYA				sP	**sP**	**09 14 21.3**	**+0.1**		
GYA				PP	**PP**	**09 14 48.0**	**+3.2**		
GYA				SKS	**SKSac**	**09 20 42.3**	**-0.2**		
GYA				S	**S**	**09 20 58.9**	**+0.7**		
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
TRF	**Thorofare Moun**	**86.36**	**12**	*eP*	**P**	**09 11 12.2**	**-0.9**		
	comp=Z,123nm,2.3s								
TXAR	**Lajitas Array**	**87.39**	**58**	P	**P**	**09 11 20.7**	**+2.0**		
	comp=Z,2.0nm,0.8s,baz=217,slow=6.5,SNR=12								
TXAR				pP	**pP**	**09 13 32.4**	**+4.8**		
	comp=Z,1.0nm,1.0s,baz=232,slow=4.1,SNR=4.2								
TXAR	**Lajitas Array**	**87.39**	**58**	P	**P**	**09 11 20.7**	**+2.0**		
TXAR				pP	**pP**	**09 13 32.4**	**+4.8**		
XAN	**Xi'an**	**87.59**	**308**	P	**P**	**09 11 20.3**	**+0.9**		
XAN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
COLA	**College**	**88.12**	**13**	*eP*	**P**	**09 11 20.9**	**-0.1**		
	comp=Z,12nm,0.7s								
ILAR	**Eielson Array**	**88.23**	**13**	P	**P**	**09 11 21.1**	**-0.5**		
	comp=Z,4.1nm,0.7s,baz=217,slow=5.5,SNR=24								
ILAR	**Eielson Array**	**88.23**	**13**	P	**P**	**09 11 21.1**	**-0.5**		
VNA3	**Neumayer Olymp**	**88.38**	**176**	*eP*	**P**	**09 11 21.9**	**-0.5**		
KMI	**Kunming**	**88.79**	**297**	P	P	09 11 21.6	-3.8		
KMI				pmax	pmax				
	comp=Z,15nm,1.4s								
VNA2	**Neumayer--Watz**	**88.82**	**177**	*eP*	**P**	**09 11 24.4**	**0.0**		
HHC	**Hu-ho-hao-te**	**88.83**	**315**	*eP*	**P**	**09 11 23.8**	**-1.3**		
HHC				pP	**pP**	**09 13 34.0**	**-0.5**		
HHC				sP	**sP**	**09 14 32.9**	**-1.5**		
HHC				SKS	**SKSac**	**09 20 55.9**	**-2.2**		
HHC				S	**S**	**09 21 20.3**	**-2.7**		
HHC				sS	**sS**	**09 25 10.9**	**-2.9**		
HHC				SS	**SS**	**09 27 36.3**	**+1.6**		
HHC				pmax	pmax				
	comp=Z,19nm,1.6s								
HHC				pmax	pmax				
	comp=Z,84nm,8.3s								
YBMT	**Yellow Bay**	**89.04**	**37**	*e*PKiKP	**PKiKP**	**09 16 16.0**	**-4.5**		
PDAR	**Pinedale Array**	**89.17**	**43**	P	**P**	**09 11 27.8**	**+1.0**		
	comp=Z,0.4nm,0.6s,baz=190,slow=3.6,SNR=4.1								
PDAR	**Pinedale Array**	**89.17**	**43**	P	**P**	**09 11 27.8**	**+1.0**		
DAWY	**Dawson**	**89.41**	**16**	*eP*	**P**	**09 11 27.4**	**+0.2**		
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**	**09 11 30.4**	**+1.6**		
	comp=Z,9.1nm,0.9s,baz=128,slow=2.9,SNR=23								
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**	**09 11 30.4**	**+1.6**		
CHTO	**Chiang Mai**	**89.68**	**290**	*eP*	**P**	**09 11 30.5**	**+1.1**		
	comp=Z,12nm,0.8s								
COLD	**Coldfoot**	**89.77**	**11**	*eP*	**P**	**09 11 29.8**	**+1.1**		
	comp=Z,4.3nm,0.8s								
PLCA	**Paso Flores**	**89.79**	**134**	P	**P**	**09 11 31.6**	**+1.9**		
	comp=Z,1.5nm,0.9s,baz=197,slow=6.8,SNR=2.6								
PLCA	**Paso Flores**	**89.79**	**134**	P	**P**	**09 11 31.6**	**+1.9**		
CD2	**Chengdu**	**90.24**	**303**	P	**P**	**09 11 32.3**	**+0.5**		
CD2				pP	**pP**	**09 13 42.1**	**+0.6**		
CD2				PP	**PP**	**09 15 20.6**	**+3.4**		
CD2				SKS	**SKSac**	**09 21 06.8**	**+0.4**		
CD2				S	**S**	**09 21 35.8**	**-0.1**		
CD2				sS	**sS**	**09 25 26.0**	**-1.6**		
CD2				SS	**SS**	**09 28 00.0**	**+5.0**		
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,110nm,5.9s								
INK	**Inuvik**	**94.21**	**15**	*eP*	**P**	**09 11 48.5**	**-0.5**		
	comp=Z,1.3nm,0.7s								
SONM	**Songino Array**	**95.25**	**319**	P	**P**	**09 11 55.4**	**+0.9**		
	comp=Z,0.6nm,0.7s,baz=136,slow=7.1,SNR=3.4								
SONM	**Songino Array**	**95.25**	**319**	P	**P**	**09 11 55.4**	**+0.9**		
YKA	**Yellowknife Ar**	**96.54**	**25**	P	**P**	**09 11 59.7**	**+0.1**		
	comp=Z,0.3nm,0.7s,baz=244,slow=4.6,SNR=5.6								
YKA	**Yellowknife Ar**	**96.54**	**25**	P	**P**	**09 11 59.7**	**+0.1**		
ZALV	**Zalesovo Beam**	**110.00**	**321**	PKiKP	**PKiKP**	**09 16 56.4**	**-1.3**		
	comp=Z,2.1nm,0.5s,baz=104,slow=1.3,SNR=5.6								
ZALV	**Zalesovo Beam**	**110.00**	**321**	PKiKP	**PKiKP**	**09 16 56.4**	**-1.3**		
MK31	**Makanchi Array**	**110.68**	**314**	*e*PKiPdf		09 16 57.6			
MKAR	**Makanchi Array**	**110.68**	**314**	*e*PKiKP	**PKiKP**	**09 16 58.1**	**-1.1**		
KURK	**Kurchatov**	**113.49**	**317**	*e*PKiKP	**PKiKP**	**09 17 03.3**	**-1.1**		
KURBB	**Kurchatov Arra**	**113.54**	**317**	PKiKP	**PKiKP**	**09 17 03.2**	**-1.3**		
	comp=Z,2.7nm,0.7s,baz=85,slow=1.6,SNR=12								
KSH	**Kashi**	**114.34**	**305**	*e*PKP	PKPdf	09 17 06.3	-0.3		
KSH				*e*PP	PP	09 18 19.9	+5.4		
KSH				PKS	**PKSdf**	**09 20 40.6**	**-2.8**		
KSH				SKS	**SKSdf**	**09 23 20.9**	**-1.7**		
KSH				SKKS	**SKKSac**	**09 24 09.6**	**-4.0**		
KSH				SS	**SS**	**09 33 27.4**	**+4.9**		
KSH				AMB	AMB				
	comp=Z,82nm,5.5s								
FRB	**Frobisher Bay**	**116.85**	**28**	PKP	**PKPdf**	**09 17 09.5**	**-0.9**		
	comp=Z,0.9nm,0.5s,baz=358,slow=1.8,SNR=4.8								
FRB	**Frobisher Bay**	**116.85**	**28**	PKP	**PKPdf**	**09 17 09.5**	**-0.9**		
BVAR	**Borovoye Array**	**118.58**	**320**	PKP	**PKPdf**	**09 17 13.1**	**-1.0**		
	comp=Z,5.7nm,0.5s,baz=148,slow=1.1,SNR=22								
BVAR	**Borovoye Array**	**118.58**	**320**	PKP	**PKPdf**	**09 17 13.1**	**-1.0**		
BRVK	**Borovoye**	**118.65**	**320**	*e*PKPdf	**PKPdf**	**09 17 12.6**	**-1.7**		
KKAR	**Karatay Array**	**118.71**	**309**	*e*PKPdf	**PKPdf**	**09 17 13.3**	**-1.5**		
SCHQ	**Schefferville**	**118.83**	**38**	PKP	**PKPdf**	**09 17 14.6**	**0.0**		
	comp=Z,1.3nm,0.9s,baz=210,slow=12,SNR=2.5								
SCHQ	**Schefferville**	**118.83**	**38**	PKP	**PKPdf**	**09 17 14.6**	**0.0**		
KBL	**Kabul**	**119.33**	**299**	*e*PKPdf	**PKPdf**	**09 17 14.9**	**-1.5**		
SPITS	**Spitsbergen Ar**	**121.63**	**356**	PKP	**PKPdf**	**09 17 18.9**	**-0.5**		
	comp=Z,5.6nm,0.8s,baz=60,slow=4.9,SNR=7.8								
SPITS	**Spitsbergen Ar**	**121.63**	**356**	PKP	**PKPdf**	**09 17 18.9**	**-0.5**		
ARU	**Arti**	**124.73**	**325**	*e*PKPdf	**PKPdf**	**09 17 25.3**	**-0.5**		
ABKAR	**Akbulak array**	**125.58**	**317**	*e*PKPdf	**PKPdf**	**09 17 27.5**	**-0.2**		
AKTO	**Aktyubinsk**	**126.56**	**318**	PKP	**PKPdf**	**09 17 29.7**	**+0.1**		
	comp=Z,3.5nm,0.7s,baz=118,slow=3.3,SNR=9.2								
AKTO	**Aktyubinsk**	**126.56**	**318**	PKP	**PKPdf**	**09 17 29.7**	**+0.1**		
KEV	**Kevo**	**128.17**	**349**	*e*pkp	**PKPdf**	**09 17 31.2**	**-0.8**		
ARCES	**ARCESS Array B**	**128.62**	**349**	PKP	**PKPdf**	**09 17 32.4**	**-0.5**		
	comp=Z,4.4nm,0.6s,baz=145,slow=4.4,SNR=16								
ARCES	**ARCESS Array B**	**128.62**	**349**	PKP	**PKPdf**	**09 17 32.4**	**-0.5**		
JOF	**Joensuu**	**132.77**	**342**	*e*pkp	**PKPdf**	**09 17 39.0**	**-1.9**		
KAF	**Kangasniemi**	**134.81**	**344**	*e*pkp	**PKPdf**	**09 17 39.6**	**-5.1**		
FINES	**FINESS Array B**	**135.43**	**343**	PKhKP	PKPpre	09 17 38.2			
	comp=Z,1.1nm,0.6s,baz=240,slow=37,SNR=3.6								
FINES				PKP	**PKiKP**	**09 17 47.8**	**+0.2**		
	comp=Z,3.3nm,0.7s,baz=32,slow=2.6,SNR=7.9								
FINES				SKPbc	**SKPbc**	**09 20 22.5**	**+1.0**		
	comp=Z,2.1nm,0.8s,baz=219,slow=1.2,SNR=3.7								
FINES	**FINESS Array B**	**135.43**	**343**	PKPpre	PKPpre	09 17 38.2			
FINES				PKP	**PKiKP**	**09 17 47.8**	**+0.2**		
FINES				SKPbc	**SKPbc**	**09 20 22.5**	**+1.0**		
NOA	**NORSAR Array B**	**138.71**	**353**	PKhKP	PKPpre	09 17 43.2			
	comp=Z,1.5nm,0.6s,baz=12,slow=2.3,SNR=6.1								
NOA				PKP	**PKiKP**	**09 17 53.9**	**-0.6**		
	comp=Z,2.3nm,0.7s,baz=14,slow=4.1,SNR=5.0								
NOA	**NORSAR Array B**	**138.71**	**353**	PKPpre	PKPpre	09 17 43.2			
NOA				PKP	**PKiKP**	**09 17 53.9**	**-0.6**		
HFS	**Hagfors**	**139.25**	**351**	PKhKP	PKPpre	09 17 44.3			
	comp=Z,4.4nm,0.4s,baz=66,slow=3.7,SNR=16								
HFS				PKP	**PKPdf**	**09 17 54.0**	**+1.0**		
	comp=Z,3.7nm,0.8s,baz=0.0,slow=3.3,SNR=3.9								
HFS	**Hagfors**	**139.25**	**351**	PKPpre	PKPpre	09 17 44.3			
HFS				PKP	**PKPdf**	**09 17 54.0**	**+1.0**		
AKASG	**Malin Array Be**	**142.58**	**331**	PKhKP	PKPpre	09 17 55.5			
	comp=Z,18nm,0.5s,baz=43,slow=4.3,SNR=52								
AKASG				SKPbc	**SKPbc**	**09 20 41.7**	**+0.4**		
	comp=Z,0.4nm,0.4s,baz=48,slow=2.8,SNR=4.5								
AKASG	**Malin Array Be**	**142.58**	**331**	PKPpre	PKPpre	09 17 55.5			
AKASG				SKPbc	**SKPbc**	**09 20 41.7**	**+0.4**		
MALT	**Malatya**	**143.39**	**307**	*e*PKPdf	PKPbc	09 18 00.1	+0.1		
BSEG	**Bad Segeberg**	**145.73**	**351**	*e*PKPbc	**PKPbc**	**09 18 06.4**	**+0.1**		
BR131	**Keskin Array S**	**146.31**	**312**	*e*PKPdf	**PKPdf**	**09 18 06.3**	**0.0**		
BR131				*e*PKPbc	**PKPbc**	**09 18 08.1**	**-0.5**		
BRTR	**Keskin Array B**	**146.31**	**312**	PKP	**PKPdf**	**09 18 06.3**	**0.0**		
	comp=Z,7.4nm,0.7s,baz=134,slow=4.3,SNR=16								
BRTR				PKPbc	**PKPbc**	**09 18 08.6**	**-0.1**		
	comp=Z,3.4nm,0.7s,baz=116,slow=2.9,SNR=7.0								
BRTR	**Keskin Array B**	**146.31**	**312**	PKP	**PKPdf**	**09 18 06.3**	**0.0**		
BRTR				PKPbc	**PKPbc**	**09 18 08.6**	**-0.1**		
TLCR		**146.44**	**324**	⇑*i*P	**PKPbc**	**09 18 08.5**	**-0.1**		
BUR08	**Bucovina Ar. S**	**146.61**	**330**	*e*PKPbc	**PKPbc**	**09 18 09.4**	**+0.2**		
BURAR	**Bucovina Array**	**146.62**	**330**	⇑*i*P	**PKPbc**	**09 18 09.7**	**+0.5**		
TESR		**146.71**	**328**	⇓*i*P	**PKPbc**	**09 18 09.0**	**-0.3**		
OJC	**Ojcow**	**146.78**	**338**	*e*PKP	**PKPbc**	**09 18 09.2**	**-0.2**		
CFR	**Carcaliu**	**146.81**	**325**	⇓*i*P	**PKPbc**	**09 18 09.3**	**-0.3**		
KOLS	**Kolonicke sedl**	**146.90**	**335**	*e*PKP	**PKPbc**	**09 18 10.3**	**+0.6**		
VRI	**Vrincioaia**	**147.11**	**327**	⇑*i*P	**PKPbc**	**09 18 10.2**	**-0.2**		
TIRR	**Tirgusor**	**147.11**	**323**	⇑*i*P	**PKPbc**	**09 18 10.4**	**0.0**		
PLOR	**Plostina**	**147.16**	**327**	⇑*i*P	**PKPbc**	**09 18 10.8**	**+0.2**		
NRDL	**Niedersach Rie**	**147.16**	**350**	*e*PKPbc	**PKPbc**	**09 18 09.8**	**-0.4**		
CRVS	**Cervenica-Dubn**	**147.25**	**335**	*e*PKP	**PKPbc**	**09 18 10.9**	**+0.2**		
CRVS				*e*		09 18 15.1			
MMAI	**Mount Meron Ar**	**147.26**	**300**	PKPbc	**PKPbc**	**09 18 11.5**	**+0.2**		
	comp=Z,16nm,0.5s,baz=70,slow=5.8,SNR=18								
MMAI				PKPab	**PKPab**	**09 18 15.7**	**+0.5**		
	comp=Z,12nm,0.6s,baz=78,slow=6.1,SNR=9.7								
MMAI	**Mount Meron Ar**	**147.26**	**300**	PKPbc	**PKPbc**	**09 18 11.5**	**+0.2**		
MMAI				PKPab	**PKPab**	**09 18 15.7**	**+0.5**		
NIE	**Niedzica**	**147.26**	**337**	*e*PKP	**PKPbc**	**09 18 11.1**	**+0.4**		
KSP	**Ksiaz**	**147.34**	**342**	*e*PKP	**PKPbc**	**09 18 11.2**	**+0.4**		
KSP	**Ksiaz**	**147.34**	**342**	*e*PKP	**PKPbc**	**09 18 11.2**	**+0.4**		
TRPA	**Tarpa**	**147.42**	**333**	⇓*i*P	**PKPbc**	**09 18 11.0**	**-0.1**		
OKC	**Ostrava-Krasne**	**147.66**	**340**	⇑*e*PKP	**PKPbc**	**09 18 11.8**	**+0.2**		
OKC				*e*PKPAB	**PKPab**	**09 18 19.0**	**+2.9**		
IBBN	**Ibbenburen**	**147.67**	**353**	*e*PKPbc	**PKPbc**	**09 18 11.4**	**-0.2**		
ISR	**Istrita**	**147.71**	**326**	⇑*i*P	**PKPbc**	**09 18 12.3**	**+0.3**		
DOPR	**Dopca**	**147.72**	**328**	⇑*i*P	**PKPbc**	**09 18 12.6**	**+0.6**		
UPC	**Upice**	**147.72**	**342**	⇑*e*PKP	**PKPbc**	**09 18 11.8**	**0.0**		
UPC				*e*PKPAB	**PKPab**	**09 18 18.0**	**+1.7**		
CLL	**Collm**	**147.74**	**346**	*e*PKPbc	**PKPbc**	**09 18 11.8**	**0.0**		
CLL	**Collm**	**147.74**	**346**	⇓*i*PKPbc	**PKPbc**	**09 18 11.8**	**0.0**		
	comp=Z,32nm,0.8s								
CLL				⇑*i*PKPab	**PKPab**	**09 18 16.4**	**0.0**		
	comp=Z,16nm,0.7s								
CLZ	**Clausthal**	**147.75**	**350**	*e*PKPbc	**PKPbc**	**09 18 12.2**	**+0.3**		
MLR	**Muntele Rosu**	**147.77**	**327**	PKPbc	**PKPbc**	**09 18 11.9**	**-0.3**		
	comp=Z,2.5nm,0.6s,baz=229,slow=0.9,SNR=8.1								
MLR				PKPab	**PKPab**	**09 18 18.0**	**+1.1**		
	comp=Z,1.9nm,0.6s,baz=332,slow=20,SNR=5.6								
MLR	**Muntele Rosu**	**147.77**	**327**	PKPbc	**PKPbc**	**09 18 11.9**	**-0.3**		
MLR				PKPab	**PKPab**	**09 18 18.0**	**+1.1**		
MLR	**Muntele Rosu**	**147.77**	**327**	⇓*i*P	**PKPbc**	**09 18 12.3**	**+0.1**		
DPC	**Dobruska-Polom**	**147.77**	**342**	*e*PKPbc	**PKPbc**	**09 18 12.5**	**+0.5**		
DPC	**Dobruska-Polom**	**147.77**	**342**	⇑*e*PKP	**PKPbc**	**09 18 12.5**	**+0.5**		
DPC				*e*PKPAB	**PKPab**	**09 18 17.3**	**+0.7**		
KRLC	**Kraliky**	**147.88**	**341**	⇑*e*PKP	**PKPbc**	**09 18 12.7**	**+0.4**		
MORC	**Moravsky Berou**	**147.91**	**340**	*e*PKPbc	**PKPbc**	**09 18 12.7**	**+0.3**		
MORC	**Moravsky Berou**	**147.91**	**340**	⇑*i*P	**PKPbc**	**09 18 12.7**	**+0.3**		
BRG	**Berggiesshubel**	**147.93**	**345**	*e*PKP	**PKPbc**	**09 18 12.3**	**+0.1**		
	comp=Z,16nm,0.9s								
BRG				*i*		09 18 17.2			
	comp=Z,12nm,0.8s								
BRG	**Berggiesshubel**	**147.93**	**345**	*e*PKPdf	**PKPdf**	**09 18 08.8**	**+0.5**		
BRG				*e*PKPbc	**PKPbc**	**09 18 12.4**	**+0.1**		
BRG				*e*PKPab	**PKPab**	**09 18 17.2**	**0.0**		
PVCC	**Panska Ves**	**148.09**	**344**	⇑*e*PKP	**PKPbc**	**09 18 13.2**	**+0.5**		
VOIR		**148.26**	**328**	⇓*i*P	**PKPbc**	**09 18 13.3**	**-0.1**		
CSS	**Prodhromos**	**148.35**	**304**	*e*PKPbc	**PKPbc**	**09 18 13.2**	**-0.7**		
DRGR		**148.38**	**332**	⇑*i*P	**PKPbc**	**09 18 13.6**	**-0.1**		
ARR	**Arges**	**148.52**	**328**	⇑*i*P	**PKPbc**	**09 18 14.3**	**+0.3**		
VYHS	**Vyhne**	**148.57**	**338**	*e*PKP	**PKPbc**	**09 18 14.1**	**+0.1**		
VYHS				*e*		09 18 20.7			
BUG	**Bochum--Univer**	**148.58**	**353**	*e*PKPbc	**PKPbc**	**09 18 13.6**	**-0.2**		
PRU	**Pruhonice**	**148.59**	**344**	⇑*e*PKP	**PKPbc**	**09 18 14.0**	**0.0**		
PRU				*e*PKPAB	**PKPab**	**09 18 19.4**	**-0.5**		
VRAC	**Vranov**	**148.62**	**341**	PKPbc	**PKPbc**	**09 18 14.5**	**+0.4**		
	comp=Z,3.0nm,0.3s,baz=130,slow=3.6,SNR=5.3								
VRAC				PKPab	**PKPab**	**09 18 20.6**	**+0.5**		
	comp=Z,4.5nm,0.6s,baz=194,slow=3.2,SNR=2.7								
VRAC	**Vranov**	**148.62**	**341**	PKPbc	**PKPbc**	**09 18 14.5**	**+0.4**		
VRAC				PKPab	**PKPab**	**09 18 20.6**	**+0.5**		
VRAC	**Vranov**	**148.62**	**341**	⇑*i*P	**PKPbc**	**09 18 12.0**	**-2.1**		
PSZ	**Piszkesteto**	**148.66**	**336**	*e*PKPbc	**PKPbc**	**09 18 14.4**	**+0.1**		
PSZ	**Piszkesteto**	**148.66**	**336**	⇑*i*P	**PKPbc**	**09 18 14.4**	**+0.1**		
MOX	**Moxa**	**148.66**	**348**	*e*PKPbc	**PKPbc**	**09 18 14.1**	**0.0**		
TANN	**Tannenbergstha**	**148.70**	**346**	*e*PKPbc	**PKPbc**	**09 18 14.5**	**+0.2**		
UBBA	**Unterbreizbach**	**148.80**	**350**	*e*PKPbc	**PKPbc**	**09 18 14.5**	**+0.2**		
ROTZ	**Rotzenmuhle**	**149.36**	**346**	*e*PKPdf	**PKPdf**	**09 18 12.3**	**+1.6**		
ROTZ				*e*PKPbc	**PKPbc**	**09 18 16.1**	**+0.2**		
MEM	**Membach**	**149.53**	**354**	PKPbc	**PKPbc**	**09 18 16.1**	**-0.1**		
MEM				PKPab	**PKPab**	**09 18 23.8**	**0.0**		
TNS	**Taunus Mts**	**149.62**	**351**	*e*PKPbc	**PKPbc**	**09 18 16.7**	**+0.2**		
TNS				*e*PKPab	**PKPab**	**09 18 24.0**	**-0.3**		
KHC	**Kasperske Hory**	**149.63**	**344**	*e*PKPbc	**PKPbc**	**09 18 16.7**	**+0.1**		
KHC				*e*PKPab	**PKPab**	**09 18 24.6**	**+0.3**		
KHC	**Kasperske Hory**	**149.63**	**344**	⇑*e*PKP	**PKPbc**	**09 18 16.5**	**0.0**		
KHC				*e*PKPAB	**PKPab**	**09 18 24.6**	**+0.3**		
SNF	**Seneffe**	**149.76**	**356**	PKPbc	**PKPbc**	**09 18 16.8**	**+0.1**		
SNF				PKPab	**PKPab**	**09 18 24.4**	**-0.3**		
BZS	**Buzias**	**149.77**	**331**	⇓*i*P	**PKPbc**	**09 18 16.5**	**-0.4**		
WET	**Wettzell**	**149.79**	**345**	*e*PKPbc	**PKPab**	**09 18 24.8**	**-0.2**		
GEC2	**GERESS Array S**	**149.86**	**344**	*e*PKPdf	**PKPdf**	**09 18 13.9**	**+2.3**		
GEC2				*e*PKPbc	**PKPbc**	**09 18 17.1**	**-0.1**		
GERES	**GERESS Array B**	**149.86**	**344**	PKPbc	**PKPbc**	**09 18 17.0**	**-0.1**		
	comp=Z,5.6nm,0.7s,baz=42,slow=2.2,SNR=15								
GERES				PKPab	**PKPab**	**09 18 25.6**	**+0.2**		
	comp=Z,1.1nm,0.6s,baz=353,slow=5.4,SNR=3.7								
GERES	**GERESS Array B**	**149.86**	**344**	PKPbc	**PKPbc**	**09 18 17.0**	**-0.1**		
GERES				PKPab	**PKPab**	**09 18 25.6**	**+0.2**		
CONA	**Conrad Observa**	**150.06**	**340**	⇓*i*PKiKP	**PKPbc**	**09 18 17.9**	**+0.2**		
	comp=Z,9.7nm,0.6s								
DOU	**Dourbes**	**150.16**	**356**	PKPbc	**PKPbc**	**09 18 18.0**	**+0.3**		
WLF	**Walferdange**	**150.45**	**354**	PKPbc	**PKPbc**	**09 18 18.9**	**+0.5**		
WLF	**Walferdange**	**150.45**	**354**	*e*PKPbc	**PKPbc**	**09 18 18.9**	**+0.5**		
PKSM	**Moragy**	**150.55**	**335**	⇓*i*P	**PKPbc**	**09 18 18.2**	**-0.5**		
FUR	**Furstenfeldbru**	**151.08**	**346**	*e*PKPab	**PKPab**	**09 18 30.8**	**+0.4**		
RJOB	**Jochberg**	**151.12**	**344**	*e*PKPbc	**PKPbc**	**09 18 19.7**	**-0.4**		
VTS	**Vitosha**	**151.19**	**325**	⇓*i*P	**PKPbc**	**09 18 20.0**	**-0.5**		
BFO	**Black Forest**	**151.48**	**350**	*e*PKPbc	**PKPbc**	**09 18 20.6**	**-0.2**		
BFO				*e*PKPab	**PKPab**	**09 18 31.6**	**-0.5**		
BFO	**Black Forest**	**151.48**	**350**	*e*PKPbc	**PKPbc**	**09 18 20.7**	**-0.2**		
BFO				*e*PKPab	**PKPab**	**09 18 31.7**	**-0.4**		
WTTA	**Wattenberg**	**151.84**	**345**	⇑*i*PKPbc	**PKPbc**	**09 18 21.3**	**-0.5**		
	comp=Z,9.3nm,0.5s								
WTTA				⇑*i*PKPab	**PKPab**	**09 18 33.9**	**0.0**		
	comp=Z,8.6nm,0.6s								
MYKA	**Terra Mystica**	**151.90**	**342**	⇑*i*PKPbc	**PKPbc**	**09 18 20.7**	**-1.2**		
	comp=Z,4.5nm,0.5s								
DAVOX	**Davos/Dischmat**	**152.69**	**347**	PKPbc	**PKPbc**	**09 18 23.8**	**+0.1**		
	comp=Z,9.7nm,0.5s,baz=233,slow=4.2,SNR=13								
DAVOX				PKPab	**PKPab**	**09 18 37.4**	**-0.1**		
	comp=Z,1.9nm,0.5s,baz=34,slow=1.2,SNR=3.0								
DAVOX	**Davos/Dischmat**	**152.69**	**347**	PKPbc	**PKPbc**	**09 18 23.8**	**+0.1**		
DAVOX				PKPab	**PKPab**	**09 18 37.4**	**-0.1**		
FUORN	**Ofenpass-Fuorn**	**152.76**	**347**	*e*PKPbc	**PKPbc**	**09 18 23.9**	**-0.1**		
FUORN				*e*PKPab	**PKPab**	**09 18 38.2**	**+0.3**		
APE	**Apeiranthos**	**153.17**	**314**	⇑*i*P	**PKPbc**	**09 18 23.0**	**-1.9**		
ESDC	**Sonseca Array**	**160.13**	**12**	PKPab	**PKPab**	**09 19 10.1**	**+0.4**		
	comp=Z,0.2nm,0.3s,baz=336,slow=3.4,SNR=4.8								
ESDC	**Sonseca Array**	**160.13**	**12**	PKPab	**PKPab**	**09 19 10.1**	**+0.4**		
TORD	**Torodi Ar. Bea**	**172.89**	**182**	PKP	**PKPdf**	**09 18 34.5**	**-1.3**		
	comp=Z,1.5nm,0.8s,baz=341,slow=1.1,SNR=7.3								
TORD				PKPab	**PKPab**	**09 20 07.1**	**+0.6**		
	comp=Z,0.4nm,0.6s,baz=187,slow=5.0,SNR=2.7								
TORD	**Torodi Ar. Bea**	**172.89**	**182**	PKP	**PKPdf**	**09 18 34.5**	**-1.3**		
TORD				PKPab	**PKPab**	**09 20 07.1**	**+0.6**		

**IDC

425A	Indio Mountain baz=58	57.83	10	⇑P	P	09 18 05.2	+0.4
426A	McDonald Obser baz=58	57.87	11	⇓P	P	09 18 05.3	+0.1
530A	J-C Ranch, Com baz=58,SNR=16	57.87	14	⇑P	P	09 18 05.3	+0.3
319A	Douglas baz=58,SNR=5.3	57.91	5	⇑P	P	09 18 06.3	+0.9
320A	Kipp Ranch, An baz=58,SNR=5.9	57.94	6	⇑P	P	09 18 06.6	+1.0
531A	Rocksprings baz=58	58.05	14	⇓P	P	09 18 06.4	+0.1
427A	Hayter Ranch, baz=58	58.15	11	⇓P	P	09 18 07.3	+0.3
428A	Kincaid Ranch, baz=58,SNR=6.9	58.16	12	⇓P	P	09 18 07.7	+0.6
532A	Rocksprings baz=58,SNR=12	58.16	15	⇑P	P	09 18 07.4	+0.3
429A	Davenport Ranc baz=59,SNR=7.6	58.22	13	⇑P	P	09 18 07.6	+0.2
214A	Organ Pipe Nat baz=59	58.30	2	⇑P	P	09 18 08.8	+0.9
324A	Moseley Ranch, baz=59,SNR=8.4	58.41	9	⇑P	P	09 18 08.8	-0.1
325A	Bean Ranch, Si baz=59	58.41	10	⇓P	P	09 18 08.9	0.0
220A	Playas Peak, P baz=59	58.50	6	⇑P	P	09 18 10.3	+0.8
430A	Baggett Ranch, baz=59	58.51	13	⇓P	P	09 18 09.4	-0.1
431A	Sonora baz=59,SNR=12	58.54	14	⇑P	P	09 18 10.0	+0.3
MNTX	Cornudas Mount baz=59	58.67	9	⇓P	P	09 18 10.6	+0.1
221A	Mesquite Ranch baz=59	58.68	7	⇓P	P	09 18 11.5	+0.8
328A	Wristen Ranch, baz=59	58.78	12	⇑P	P	09 18 11.3	0.0
223A	Chaparral, Ant baz=59	58.84	8	⇑P	P	09 18 11.8	0.0
222A	Williams Famil baz=59	58.85	7	⇑P	P	09 18 12.5	+0.6
432A	Menard baz=59	58.91	15	⇓P	P	09 18 11.8	-0.4
DVTC	Desert V Tower baz=59	58.99	358	⇑P	P	09 18 14.1	+1.2
224A	Cornudas Mount baz=59,SNR=17	59.02	9	⇓P	P	09 18 13.7	+0.5
329A	Wagon Wheel Ra baz=59,SNR=5.3	59.04	13	⇓P	P	09 18 13.3	+0.1
113A	Mohawk Valley, baz=60	59.09	1	⇑P	P	09 18 14.6	+1.2
330A	Mertzon baz=60,SNR=9.0	59.12	13	⇑P	P	09 18 13.9	+0.2
120A	U Bar Ranch, L baz=60	59.13	6	⇑P	P	09 18 14.9	+1.0
225A	Deer Hill, Car baz=60	59.16	10	⇑P	P	09 18 14.0	-0.1
331A	San Angelo baz=60,SNR=5.1	59.18	14	⇑P	P	09 18 14.0	-0.1
121A	Cookes Peak, D baz=60,SNR=10	59.20	7	⇑P	P	09 18 15.1	+0.7
GDL2	Guadalupe Moun 0.9nm,0.4s	59.32	10	eP	P	09 18 15.0	-0.1
332A	Millersview baz=60,SNR=6.3	59.41	15	⇑P	P	09 18 15.4	-0.2
SCI	San Clemente I baz=60	59.42	356	⇑P	P	09 18 18.0	+2.4
122A	Conniff Cattle baz=60	59.45	7	⇓P	P	09 18 17.0	+1.0
123A	Bell Site, Whi baz=60	59.48	8	⇓P	P	09 18 17.3	+1.1
228A	UT Block 9, Go baz=60	59.53	12	⇑P	P	09 18 16.5	-0.1
230A	Sterling City baz=60	59.60	13	⇓P	P	09 18 17.0	0.0
124A	Stringfield Ra baz=60,SNR=5.3	59.65	9	⇓P	P	09 18 17.9	+0.4
Z14A	Wintersburg baz=60	59.70	2	⇓P	P	09 18 18.5	+0.9
Z20A	Nine Sixteen R baz=60	59.70	6	⇑P	P	09 18 18.6	+0.8
125A	Gardner Draw, baz=60,SNR=15	59.72	10	⇓P	P	09 18 17.9	0.0
126A	Clayton Basin, baz=60	59.81	10	⇓P	P	09 18 18.6	+0.1
231A	Bronte baz=60	59.81	14	⇑P	P	09 18 18.2	-0.2
127A	Arkansas Junct baz=60	59.95	11	⇑P	P	09 18 19.4	-0.1
BC3	Big Chuckawall baz=60	59.98	359	⇑P	P	09 18 20.8	+1.2
Z21A	St. Cloud Mine baz=60,SNR=5.4	59.98	7	⇑P	P	09 18 20.7	+0.9
Z22A	Elephant Butte baz=60,SNR=5.9	60.00	7	⇓P	P	09 18 20.3	+0.4
128A	Castleberry Fa baz=60	60.05	12	⇑P	P	09 18 20.2	+0.1
Y12C	Blythe baz=60	60.06	0	⇑P	P	09 18 21.2	+1.1
Z23A	Rita Site, Whi baz=60	60.10	8	⇑P	P	09 18 21.3	+0.8
Y14A	Wickenburg baz=61	60.27	1	⇑P	P	09 18 22.6	+1.0
Z24A	Sheeppen Canyo baz=61	60.28	9	⇑P	P	09 18 21.8	-0.1
Z25A	Roswell baz=61,SNR=5.6	60.32	9	⇓P	P	09 18 21.9	-0.1
BELC	Belle Mtn. Jos baz=61	60.33	359	⇑P	P	09 18 23.3	+1.2
Z26A	Caprock baz=61	60.43	10	⇓P	P	09 18 22.2	-0.5
IRM	Iron Mountain baz=61	60.48	359	⇑P	P	09 18 24.3	+1.4
Y20A	Horse Springs, baz=61,SNR=6.0	60.51	6	⇑P	P	09 18 24.3	+0.9
WHTX	Lake Whitney baz=61	60.54	17	⇓P	P	09 18 23.0	-0.4
PDMCI	Parker Dam,Lak baz=61	60.61	0	⇑P	P	09 18 25.1	+1.3
ABTX	Abilene, Hawle baz=61	60.62	14	⇑P	P	09 18 24.2	+0.2
BFSC	Mount Baldy Ra baz=61	60.62	357	⇑P	P	09 18 25.1	+1.0
Y21A	Point of Rocks baz=61,SNR=14	60.67	7	⇓P	P	09 18 25.4	+0.8
Y22A	Socorro baz=61,SNR=8.2	60.68	7	⇓P	P	09 18 25.0	+0.5
Z28A	Tucker Farm, M baz=61	60.71	12	⇑P	P	09 18 25.0	+0.3
Y23A	Lovelace Mesa, baz=61,SNR=7.1	60.78	8	⇓P	P	09 18 25.6	+0.4
X16A	Lo Mia Camp, P baz=61	60.80	3	⇓P	P	09 18 26.3	+1.0
Z29A	Hungry Hill Ra baz=61,SNR=6.3	60.81	12	⇓P	P	09 18 24.8	-0.6
Y24A	Capitan baz=61,SNR=7.9	60.85	9	⇑P	P	09 18 26.2	+0.4
LENM	Lemitar 11nm,1.2s	60.90	7	eP	P	09 18 26.9	+0.9
Z30A	Sanderson Ranc baz=61	60.95	13	⇓P	P	09 18 25.8	-0.5
Y25A	Mesa, Roswell baz=61	60.96	9	⇑P	P	09 18 26.4	0.0
X18A	Snowflake baz=61,SNR=7.9	61.00	4	⇑P	P	09 18 27.6	+0.9
X21A	Alamocita Cree baz=62,SNR=6.4	61.09	6	⇑P	P	09 18 27.8	+0.4
GMRC	Granite Mounta baz=62	61.10	359	⇑P	P	09 18 28.4	+1.1
LAZ	Ladron 2.7nm,1.2s	61.12	7	eP	P	09 18 28.5	+1.0
X20A	Quemado baz=62	61.12	6	⇑P	P	09 18 28.2	+0.6
Y27A	Causey baz=62,SNR=16	61.16	11	⇑P	P	09 18 27.3	-0.4
RPZ	Rata Peaks comp=Z,207nm,18.3s,baz=26,slow=32	61.21	233	LR	LR	09 41 06.6	
MSTX	Muleshoe baz=62,SNR=5.5	61.31	11	⇓P	P	09 18 28.0	-0.8
Y28A	McKinney Farm, baz=62,SNR=6.8	61.34	12	⇓P	P	09 18 28.5	-0.5
Y29A	Porterfield Fa baz=62,SNR=7.6	61.40	12	⇑P	P	09 18 28.8	-0.5
X23A	Hourglass Bar baz=62	61.40	8	⇓P	P	09 18 29.8	+0.4
W13A	Hualapai Mount baz=62	61.41	1	⇓P	P	09 18 30.5	+0.9
X25A	Clemmons Ranch baz=62	61.55	9	⇓P	P	09 18 30.3	-0.1
GSC	Goldstone baz=62	61.65	358	⇓P	P	09 18 32.2	+1.2
W20A	Ramah baz=62	61.70	6	⇑P	P	09 18 32.1	+0.6
X26A	CR and CF Fran baz=62	61.70	10	⇑P	P	09 18 31.4	0.0
W21A	San Fidel baz=62	61.77	6	⇑P	P	09 18 32.6	+0.7
W22A	Albuquerque baz=62	61.81	7	⇓P	P	09 18 33.4	+1.2
LRMC	Laurel Mountai baz=62	61.86	357	⇓P	P	09 18 33.5	+1.1
WUAZ	Wupatki 8.2nm,1.4s	61.90	3	eP	P	09 18 33.5	+0.7
WUAZ	Wupatki baz=62	61.90	3	⇑P	P	09 18 33.9	+1.2
X28A	Dimmitt baz=62	61.94	12	⇓P	P	09 18 32.8	-0.2
W23A	Werner Place, baz=62,SNR=11	61.98	8	⇑P	P	09 18 33.8	+0.4
ISA	Isabella baz=62	62.08	356	⇑P	P	09 18 35.1	+1.2
W24A	Lazy 6 Ranch, baz=62,SNR=9.8	62.12	8	⇑P	P	09 18 34.6	+0.2
SHOC	Shoshone baz=63	62.23	358	⇑P	P	09 18 35.8	+1.0
W25A	X Bar L Ranch, baz=63,SNR=8.6	62.26	9	⇓P	P	09 18 35.3	+0.1
VES	Vestal, Richgr baz=63	62.30	356	⇓P	P	09 18 35.8	+0.7
W27A	Bowe Ranch, En baz=63	62.33	11	⇓P	P	09 18 35.5	-0.1
AMTX	Amarillo baz=63	62.39	12	⇑P	P	09 18 36.3	+0.3
BDFB	Brasilia comp=Z,244nm,20.5s,baz=216,slow=32	62.42	94	LR	LR	09 41 46.6	
MPMC	Manual Prospec baz=63	62.43	357	⇑P	P	09 18 37.3	+1.0
V23A	Ortiz Mt. (NFS baz=63	62.55	8	⇑P	P	09 18 37.1	0.0
V22A	San Miguel Ran baz=63	62.64	7	⇑P	P	09 18 38.2	+0.4
U15A	North Rim baz=63,SNR=8.1	62.77	2	⇓P	P	09 18 39.7	+1.0
U19A	Dine' College, baz=63	62.80	5	⇓P	P	09 18 39.3	+0.4
VNDA	Vanda comp=Z,252nm,21.3s,baz=90,slow=29	62.80	194	LR	LR	09 38 28.3	
FURC	Furnace Creek, baz=63	62.81	358	⇑P	P	09 18 40.0	+1.4
V25A	Rancho No Teng baz=63	62.85	9	⇑P	P	09 18 39.1	-0.1
V26A	Tequesquite Ra baz=63,SNR=7.0	62.93	10	⇑P	P	09 18 39.3	-0.3
U21A	Nageezi baz=64,SNR=9.6	63.07	6	⇑P	P	09 18 41.0	+0.4
U22A	Llaves baz=64	63.10	7	⇓P	P	09 18 41.3	+0.5
U23A	El Rito baz=64,SNR=14	63.13	8	⇓P	P	09 18 41.8	+0.7
U24A	Moreno Valley baz=64,SNR=10	63.32	8	⇑P	P	09 18 43.5	+1.1
U25A	Circle Dot Ran baz=64,SNR=5.3	63.43	9	⇑P	P	09 18 43.0	0.0
U26A	Atchley Ranch, baz=64	63.52	10	⇑P	P	09 18 43.4	-0.2
QSPA	South Pole Qui 5.2nm,1.2s,baz=166,slow=2.8,SNR=4.3	63.52	180	P	P	09 18 43.7	+0.5
QSPA	comp=Z,116nm,18.8s,baz=257,slow=33			LR	LR	09 43 31.0	
QSPA	South Pole Qui	63.52	180	P	P	09 18 43.7	+0.5
T21A	Navajo Lake baz=64	63.64	6	⇑P	P	09 18 44.6	+0.2
T22A	Edith baz=64,SNR=9.8	63.73	7	⇓P	P	09 18 45.5	+0.5
MVCO	Mesa Verde baz=64,SNR=6.2	63.77	5	⇑P	P	09 18 45.7	+0.5
T23A	Casias Ranch, baz=64	63.84	8	⇑P	P	09 18 46.1	+0.3
T24A	Torres, Weston baz=64	64.00	8	⇓P	P	09 18 47.3	+0.4
T25A	Trinidad baz=65	64.16	9	⇓P	P	09 18 47.9	+0.1
S21A	Coal Bank Pass baz=65,SNR=5.9	64.28	6	⇑P	P	09 18 49.0	+0.3
T26A	Comanche Natio baz=65,SNR=5.9	64.31	10	⇑P	P	09 18 48.7	0.0
T27A	Campo baz=65	64.34	10	⇓P	P	09 18 48.7	-0.1
S20A	Disappointment baz=65	64.40	5	⇓P	P	09 18 49.7	+0.3
S22A	4UR Ranch, Cre baz=65	64.46	7	⇓P	P	09 18 50.1	+0.2
S24A	Houchin Ranch, baz=65	64.54	8	⇑P	P	09 18 50.5	+0.1
R11A	Troy Canyon, C baz=65,SNR=5.7	64.66	359	⇓P	P	09 18 52.2	+1.2
S25A	Robets Cordova baz=65	64.67	9	⇓P	P	09 18 51.2	+0.1
PV01	Paradox Valley 1um,1.8s	64.68	5	eP	P	09 18 51.4	+0.2
R20A	Redvale baz=65,SNR=7.0	64.75	5	⇑P	P	09 18 52.0	+0.3
S26A	Kim baz=65	64.77	10	⇑P	P	09 18 51.8	+0.1
NVAR	Mina Array Bea 2.3nm,0.8s,baz=190,slow=10.0,SNR=19	64.83	357	P	P	09 18 53.3	+1.1
NVAR	Mina Array Bea	64.83	357	P	P	09 18 53.3	+1.1
R22A	Saguache, Gunn baz=65	64.94	7	⇑P	P	09 18 53.4	+0.4
R21A	Cimarron baz=65,SNR=11	65.00	6	⇑P	P	09 18 53.8	+0.5
R23A	Moffat baz=65	65.01	8	⇓P	P	09 18 53.5	+0.1
R24A	Sanders Place, baz=66	65.14	8	⇓P	P	09 18 54.3	+0.1
R25A	Fountain Ranch baz=66	65.17	9	⇓P	P	09 18 54.1	-0.2
Q16A	Castle Valley baz=66	65.30	3	⇓P	P	09 18 55.7	+0.6
R26A	Arlington baz=66	65.44	10	⇓P	P	09 18 55.7	-0.3
Q19A	Hogan Spring (baz=66,SNR=9.4	65.44	5	⇓P	P	09 18 56.5	+0.5
Q20A	Ridgley Place, baz=66	65.52	5	⇓P	P	09 18 56.9	+0.3
R27A	Eads baz=66	65.52	10	⇑P	P	09 18 56.3	-0.2
SRU	San Rafael baz=66,SNR=6.6	65.52	3	⇓P	P	09 18 56.7	+0.1
Q22A	Crested Butte, baz=66,SNR=6.8	65.56	7	⇑P	P	09 18 57.0	0.0
P17A	Butcher Ranch, baz=66	65.87	3	⇑P	P	09 18 59.4	+0.5
P15A	Leamington baz=66	65.91	2	⇓P	P	09 19 00.0	+1.0
Q25A	Bedland, Calha baz=66	65.92	9	⇓P	P	09 18 58.7	-0.5
P16A	Fountain Green baz=66	65.97	2	⇓P	P	09 19 00.5	+1.0
P18A	Preston Nutter baz=66	66.05	4	⇑P	P	09 19 00.5	+0.3
P20A	De Beque baz=66	66.05	5	⇑P	P	09 19 00.2	+0.2
P19A	Cripple Cowboy baz=66	66.14	5	⇑P	P	09 19 00.8	+0.2
P23A	Jefferson baz=67	66.18	7	⇓P	P	09 19 01.4	+0.4
P22A	Eagle baz=67,SNR=7.2	66.30	7	⇑P	P	09 19 02.0	+0.4
DUG	Dugway baz=67,SNR=7.8	66.52	1	⇓P	P	09 19 03.5	+0.6
O16A	Springville baz=67	66.57	3	⇓P	P	09 19 04.0	+0.7
O17A	Robinson Place baz=67	66.59	3	⇑P	P	09 19 03.8	+0.3
O15A	The Old Anders baz=67	66.61	2	⇑P	P	09 19 04.7	+1.2
ISCO	Idaho Springs baz=67	66.62	7	⇑P	P	09 19 03.8	0.0
P26A	Davis Ranch, A baz=67,SNR=5.4	66.69	9	⇑P	P	09 19 04.0	0.0
O20A	White River Ci baz=67	66.69	5	⇓P	P	09 19 04.7	+0.5
O18A	Roosevelt baz=67	66.70	4	⇑P	P	09 19 04.7	+0.6
O19A	Miners Draw (B baz=67	66.79	5	⇓P	P	09 19 05.0	+0.3
O22A	Kremmling baz=67,SNR=6.2	66.88	7	⇑P	P	09 19 06.0	+0.6
N15A	Stansbury Isla baz=68	67.22	2	⇑P	P	09 19 07.9	+0.5
N16A	Rees Ranch, Co baz=68	67.25	3	⇑P	P	09 19 08.4	+0.8
N17A	Moffit Pass baz=68,SNR=10	67.33	3	⇓P	P	09 19 08.7	+0.4
N19A	John Jarvie Ra baz=68	67.38	4	⇓P	P	09 19 08.6	+0.2
N20A	Spence Gulch, baz=68,SNR=6.0	67.39	5	⇓P	P	09 19 08.6	0.0
N18A	Larsen Ranch, baz=68	67.43	4	⇓P	P	09 19 08.7	-0.1
KSU1	Kansas State U 13nm,1.0s	67.52	15	eP	P	09 19 09.0	-0.1
N22A	Wattenberg Ran baz=68,SNR=5.8	67.52	7	⇓P	P	09 19 09.6	+0.1
M16A	Huntsville baz=68,SNR=5.4	67.67	2	⇑P	P	09 19 10.2	-0.1
N23A	Red Feather La baz=68	67.67	7	⇑P	P	09 19 10.5	+0.1
M15A	Larsen Ranch, baz=68	67.79	2	⇑P	P	09 19 11.1	+0.1
M18A	Lyman baz=68	67.85	4	⇑P	P	09 19 11.3	-0.1
M20A	Sweetwater, Wa baz=68	68.05	5	⇓P	P	09 19 12.7	0.0
M22A	Cedar Creek Ra baz=68	68.10	6	⇑P	P	09 19 13.8	+0.7
L15A	Malad City baz=69	68.33	2	⇑P	P	09 19 14.1	-0.3
M24A	Cheyenne baz=69	68.36	8	⇑P	P	09 19 15.1	+0.5
L17A	Cokeville baz=69	68.48	3	⇓P	P	09 19 14.9	-0.5
L20A	Wamsutter baz=69,SNR=6.6	68.55	5	⇑P	P	09 19 15.6	-0.2
L19A	Farson baz=69,SNR=5.8	68.57	4	⇓P	P	09 19 15.4	-0.6
L21A	Rawlins baz=69	68.58	6	⇓P	P	09 19 15.7	-0.4
K14A	Jones Ranch, D baz=69	68.86	1	⇓P	P	09 19 17.8	+0.2
K18A	Toltan Ranch, baz=70	69.06	4	⇓P	P	09 19 18.9	-0.1
K17A	Gardner Place, baz=70	69.13	3	⇓P	P	09 19 19.0	-0.4
K16A	Soda Springs baz=70	69.18	2	⇓P	P	09 19 19.7	-0.1
K20A	Yellowstone Ra baz=70	69.19	5	⇓P	P	09 19 19.3	-0.5
BW06	Boulder Array baz=70,SNR=6.4	69.22	4	⇑P	P	09 19 19.0	-1.0
PDAR	Pinedale Array 2.1nm,0.9s,baz=167,slow=7.2,SNR=15	69.22	4	P	P	09 19 19.2	-0.8
PDAR	comp=Z,93nm,19.8s,baz=239,slow=32			LR	LR	09 44 41.0	
PDAR	Pinedale Array	69.22	4	P	P	09 19 19.2	-0.8
K21A	Alcova baz=70	69.26	6	⇓P	P	09 19 19.8	-0.4
K19A	Absolon Red Bu baz=70	69.32	4	⇑P	P	09 19 20.0	-0.6
K22A	Casper baz=70,SNR=5.7	69.34	6	⇑P	P	09 19 20.5	-0.2
K23A	Bowen Ranch, D baz=70,SNR=7.5	69.54	7	⇑P	P	09 19 21.9	0.0
J16A	Bone baz=70,SNR=6.6	69.62	2	⇑P	P	09 19 22.4	-0.1
J18A	Kendall Valley baz=70,SNR=7.0	69.63	4	⇑P	P	09 19 21.7	-0.9
J13A	Cove Ranch, Pi baz=70	69.70	0	⇑P	P	09 19 23.4	+0.5
MFID	Camas Ranch baz=70	69.72	359	⇑P	P	09 19 23.6	+0.6
J15A	Blackfoot baz=70,SNR=7.3	69.72	2	⇑P	P	09 19 23.3	+0.3
J19A	Crowheart baz=70	69.75	4	⇑P	P	09 19 22.7	-0.5
HLID	Hailey baz=70,SNR=13	69.86	0	⇑P	P	09 19 24.4	+0.5
J20A	Shoshoni baz=70,SNR=11	69.90	5	⇑P	P	09 19 23.9	-0.2
J21A	Lysite baz=70,SNR=6.4	69.95	6	⇑P	P	09 19 24.3	-0.1
DCID1	Drake Creek 23nm,1.2s	69.96	3	eP	P	09 19 25.2	+0.7
I12A	Atlanta baz=70	70.09	360	⇑P	P	09 19 25.8	+0.5
J22A	Midwest baz=70	70.10	6	⇑P	P	09 19 24.8	-0.6
I18A	Diamond G Ranc baz=70	70.13	4	⇑P	P	09 19 25.2	-0.4
I13A	Wildhorse Cree baz=71,SNR=6.4	70.21	0	⇑P	P	09 19 26.4	+0.3
I16A	Newdale baz=71	70.23	2	⇑P	P	09 19 25.8	-0.3
I14A	Mackay baz=71,SNR=7.8	70.23	1	⇑P	P	09 19 26.9	+0.7
I21A	Big Trails, Te baz=71,SNR=18	70.43	6	⇓P	P	09 19 27.0	-0.3
I20A	Worland baz=71,SNR=5.6	70.49	5	⇑P	P	09 19 27.2	-0.5
I19A	Meeteetse baz=71,SNR=5.6	70.52	4	⇑P	P	09 19 27.4	-0.6
I22A	9 Mile Ranch, baz=71,SNR=6.1	70.58	6	⇓P	P	09 19 27.9	-0.4
H12A	Diamond D Ranc baz=71	70.85	360	⇓P	P	09 19 30.5	+0.6
H14A	Leadore baz=71	70.92	1	⇑P	P	09 19 30.9	+0.5
H15A	Lima baz=71,SNR=9.7	70.94	1	⇑P	P	09 19 30.9	+0.4
H20A	Greybull baz=71	71.04	5	⇓P	P	09 19 30.7	-0.2
DZM	Mont Dzumac 333nm,27.2s	71.05	254	eLR	LR	09 40 56.5	
H16A	Russell Place, baz=72,SNR=6.8	71.07	2	⇓P	P	09 19 31.8	+0.5
H19A	Powell baz=72	71.15	4	⇑P	P	09 19 31.6	-0.1
BMO	Blue Mountains 10nm,1.7s	71.20	358	eP	P	09 19 32.3	+0.4
H22A	Clearmont baz=72	71.29	6	⇓P	P	09 19 32.3	-0.2
G13A	Cobalt baz=72	71.39	0	⇑P	P	09 19 33.4	+0.3
G12A	Big Creek, Yel baz=72,SNR=5.1	71.43	359	⇑P	P	09 19 33.6	+0.1
G15A	Dillon baz=72	71.49	2	⇓P	P	09 19 34.0	+0.2
G16A	Moss Hill, Enn baz=72	71.57	2	⇓P	P	09 19 34.3	0.0
RLMT	Red Lodge baz=72	71.58	4	⇑P	P	09 19 34.2	-0.2
H24A	Dirks Ranch, A baz=72	71.63	7	⇑P	P	09 19 33.8	-0.7
G17A	Pierce Place, baz=72	71.70	3	⇑P	P	09 19 35.6	+0.6
G20A	Bridger baz=72,SNR=8.2	71.75	5	⇓P	P	09 19 34.7	-0.6
G18A	Lazy EL Ranch, baz=72,SNR=8.2	71.76	4	⇓P	P	09 19 34.9	-0.4
G21A	Lodge Grass baz=72	71.83	5	⇑P	P	09 19 35.2	-0.5
G22A	Birney baz=72	71.91	6	⇑P	P	09 19 35.7	-0.5
G23A	Biddle baz=72,SNR=5.7	71.98	7	⇑P	P	09 19 35.9	-0.8
BOZ	Bozeman (W) 13nm,2.0s	71.99	2	eP	P	09 19 37.0	+0.2
F13A	Darby baz=72,SNR=8.1	72.09	0	⇓P	P	09 19 37.6	+0.3
F16A	Kennard Place, baz=72,SNR=6.2	72.13	2	⇓P	P	09 19 37.7	+0.2
F15A	Butte baz=73	72.16	2	⇑P	P	09 19 38.5	+0.7
G24A	Alzada baz=73	72.22	7	⇑P	P	09 19 37.6	-0.4
F17A	Fitzpatrick Pl baz=73,SNR=5.4	72.29	3	⇓P	P	09 19 38.9	+0.4
F19A	Roth Farm, Mol baz=73	72.33	4	⇓P	P	09 19 38.7	0.0
F20A	Billings baz=73	72.33	5	⇓P	P	09 19 38.7	-0.1
F18A	Big Timber	72.34	4	⇓P	P	09 19 38.6	-0.2

baz=73
F23A **Volborg** 72.50 7 ⇓P P 09 19 38.9 -0.8
baz=73,SNR=9.1
E14A **Clinton** 72.72 1 ⇓P P 09 19 41.4 +0.3
baz=73
E13A **Victor** 72.74 0 ⇑P P 09 19 41.3 +0.1
baz=73,SNR=6.0
E15A **Deer Lodge** 72.74 1 ⇓P P 09 19 41.2 0.0
baz=73,SNR=5.5
E16A **East Helena** 72.88 2 ⇑P P 09 19 42.2 +0.2
baz=73,SNR=7.4
E19A **Rath Farm, Rou** 72.95 4 ⇑P P 09 19 42.2 -0.1
baz=73
E18A **Harlowton** 72.98 3 ⇓P P 09 19 42.9 +0.3
baz=73,SNR=6.2
HRY **Holter Researc** 73.05 2 *e*P P 09 19 43.4 +0.4
7.6nm,1.3s
MSO **Missoula** 73.13 0 ⇑P P 09 19 43.9 +0.4
baz=74
E22A **Miles City** 73.15 6 ⇑P P 09 19 43.2 -0.3
baz=74
CHMT **Chamberlain Mo** 73.22 1 *e*P P 09 19 44.6 +0.4
4.9nm,1.3s
D12A **Red Ives Fores** 73.36 359 ⇓P P 09 19 45.1 +0.3
baz=74
D15A **Lincoln** 73.36 1 ⇑P P 09 19 44.8 -0.1
baz=74
D16A **Dana Ranch, Ca** 73.38 2 ⇓P P 09 19 45.8 +0.8
baz=74
D14A **Greenough** 73.39 1 ⇓P P 09 19 45.1 +0.1
baz=74
D13A **Huson** 73.39 0 ⇑P P 09 19 45.3 +0.4
baz=74
E24A **Baker** 73.45 7 ⇓P P 09 19 45.0 -0.2
baz=74
D17A **Six Diamond Ra** 73.53 3 ⇓P P 09 19 46.0 +0.1
baz=74,SNR=9.2
SLMT **Seeley Lake** 73.55 1 *e*P P 09 19 46.4 +0.4
9.9nm,1.4s
D20A **Manuel Ranch,** 73.62 5 ⇓P P 09 19 46.2 -0.1
baz=74
D18A **Linhart Farms,** 73.62 3 ⇑P P 09 19 46.6 +0.3
baz=74
D19A **Cripps Ranch,** 73.64 4 ⇑P P 09 19 46.6 +0.1
baz=74
D21A **La Casta Ranch** 73.68 5 ⇑P P 09 19 46.8 +0.1
baz=74
SWMT **Swartz Lake** 73.81 0 *e*P P 09 19 48.2 +0.7
6.2nm,1.3s
D22A **Cohagen** 73.84 6 ⇓P P 09 19 47.5 0.0
baz=74,SNR=10
D23A **Lindsay** 73.95 7 ⇑P P 09 19 48.4 +0.1
baz=74
C13A **Hot Springs** 73.98 360 ⇓P P 09 19 48.5 +0.1
baz=74,SNR=6.6
C17A **Wharram Farm,** 74.01 3 ⇓P P 09 19 48.6 0.0
baz=74,SNR=5.4
JTMT **Jette** 74.05 0 *e*P P 09 19 49.2 +0.3
1.2nm,0.6s
C14A **Swan Lake** 74.07 1 ⇓P P 09 19 49.6 +0.7
baz=74
C15A **Salmond Ranch,** 74.09 1 ⇓P P 09 19 49.7 +0.5
baz=74
C16A **Fuhringer Ranc** 74.14 2 ⇓P P 09 19 49.6 +0.2
baz=74,SNR=5.3
C19A **Slack Wire Ran** 74.20 4 ⇓P P 09 19 50.0 +0.4
baz=75,SNR=7.1
C20A **Veseth Ranch,** 74.25 5 ⇑P P 09 19 49.5 -0.4
baz=75
C24A **Savage** 74.39 7 ⇑P P 09 19 50.7 0.0
baz=75,SNR=5.5
C21A **Desert Coulee** 74.43 5 ⇑P P 09 19 50.3 -0.7
baz=75
EGMT **Eagleton** 74.45 3 ⇓P P 09 19 51.3 +0.2
baz=75
C22A **Vida** 74.45 6 ⇑P P 09 19 51.1 0.0
baz=75,SNR=8.9
C23A **Lambert** 74.58 7 ⇑P P 09 19 51.8 -0.1
baz=75
NEW **Newport** 74.60 358 LR LR 09 47 31.4
comp=Z,124nm,18.8s,baz=157,slow=32
NEW **Newport** 74.60 358 ⇓P P 09 19 52.4 +0.4
baz=75
B15A **Bradely Ranch,** 74.63 1 ⇓P P 09 19 52.6 +0.3
baz=75
B17A **L&G Farms, Che** 74.67 3 ⇓P P 09 19 52.6 +0.3
baz=75
B14A **Marquette Ranc** 74.67 1 ⇓P P 09 19 52.8 +0.3
baz=75,SNR=7.6
B13A **Whitefish** 74.67 0 ⇑P P 09 19 52.6 +0.2
baz=75
B16A **M & M Farms, S** 74.75 2 ⇓P P 09 19 53.2 +0.3
baz=75
B18A **Beardsley Farm** 74.82 3 ⇓P P 09 19 53.8 +0.6
baz=75,SNR=6.1
B20A **Solberg Farm,** 74.97 4 ⇑P P 09 19 54.4 +0.3
baz=75
B21A **Ellsworth Farm** 75.03 5 ⇓P P 09 19 54.1 -0.3
baz=75
A13A **Flathead Natio** 75.23 0 ⇑P P 09 19 56.0 +0.3
baz=76
A12A **Yaak River Ran** 75.24 359 ⇑P P 09 19 55.9 +0.3
baz=76
B23A **Brockton** 75.25 7 ⇑P P 09 19 55.3 -0.4
baz=76
A14A **Double T Ranch** 75.28 1 ⇑P P 09 19 56.4 +0.4
baz=76,SNR=5.9
A15A **Johnson Ranch,** 75.30 1 ⇑P P 09 19 55.8 -0.2
baz=76
A17A **Triple J Farms** 75.32 3 ⇑P P 09 19 56.6 +0.4
baz=76,SNR=5.5
A18A **Metzger Ranch,** 75.34 3 ⇑P P 09 19 56.6 +0.4
baz=76,SNR=6.6
DGMT **Dagmar** 75.34 7 *e*P P 09 19 56.6 +0.3
16nm,1.1s
DGMT **Dagmar** 75.34 7 ⇓P P 09 19 56.1 -0.2
baz=76
A19A **Klindworth Far** 75.41 4 ⇓P P 09 19 57.0 +0.4
baz=76,SNR=5.0
A20A **Cobblestone Ra** 75.41 5 ⇑P P 09 19 56.8 +0.1
baz=76
A21A **Bergtoll Ranch** 75.60 5 ⇓P P 09 19 58.0 +0.3
baz=76
A22A **Carney Farms,** 75.69 6 ⇑P P 09 19 58.1 -0.1
baz=76
A24A **Westby** 75.81 7 ⇓P P 09 19 59.1 +0.2
baz=76
ULM **Lac du Bonnet** 78.33 12 P P 09 20 12.1 -0.8
3.8nm,0.7s,baz=211,slow=6.6,SNR=9.1
ULM **Lac du Bonnet** 78.33 12 P P 09 20 12.1 -0.8
DLBC **Dease Lake** 85.74 352 P P 09 20 52.4 +0.6
8.7nm,0.9s,baz=158,slow=6.1,SNR=6.3
DLBC **Dease Lake** 85.74 352 P P 09 20 52.4 +0.6
MAW **Mawson** 86.02 179 LR LR 09 54 44.5
comp=Z,232nm,19.1s,baz=301,slow=32
STKA **Stephens Creek** 87.02 236 LR LR 09 50 33.4
comp=Z,162nm,20.9s,baz=24,slow=29
YKA **Yellowknife Ar** 88.83 360 P P 09 21 05.5 -1.0
1.0nm,0.8s,baz=175,slow=5.1,SNR=22
YKA **Yellowknife Ar** 88.83 360 P P 09 21 05.5 -1.0
SCHQ **Schefferville** 90.88 25 LR LR 09 58 29.5
comp=Z,68nm,19.8s,baz=293,slow=33
ASAR **Alice Springs** 97.09 239 LR LR 09 59 48.1
comp=Z,287nm,18.6s,baz=108,slow=32
SONM **Songino Array** 141.74 315 PKhKP PKPpre 09 27 38.9
0.3nm,0.5s,baz=90,slow=4.3,SNR=3.2
SONM PKP **PKPdf** 09 27 44.4 -0.2
2.1nm,1.0s,baz=104,slow=1.7,SNR=8.4
SONM **Songino Array** 141.74 315 PKPpre PKPpre 09 27 38.9
SONM PKP **PKPdf** 09 27 44.4 -0.2
MLR **Muntele Rosu** 143.39 49 PKhKP PKPpre 09 27 44.0
0.2nm,0.4s,baz=10,slow=5.4,SNR=4.2
MLR **Muntele Rosu** 143.39 49 PKPpre PKPpre 09 27 44.0
IDI **Anoyia** 144.36 66 *e*PKPdf PKPbc 09 27 48.2 +0.2
CMAR **Chiang Mai Arr** 148.10 262 PKPbc **PKPbc** 09 28 00.1 +0.6
0.7nm,0.3s,baz=149,slow=0.9,SNR=12
CMAR **Chiang Mai Arr** 148.10 262 PKPbc **PKPbc** 09 28 00.1 +0.6
ZAA0 **Zalesovo Array** 149.19 338 *e*PKPdf **PKPdf** 09 27 56.6 -0.4
ZAA0 *e*PKPbc **PKPbc** 09 28 00.3 -1.0
ZAA0 *e*PKPab **PKPab** 09 28 04.8 -0.8
ZALV **Zalesovo Beam** 149.19 338 PKPbc **PKPbc** 09 28 00.3 -1.0
3.4nm,0.7s,baz=12,slow=2.9,SNR=14
ZALV **Zalesovo Beam** 149.19 338 PKPbc **PKPbc** 09 28 00.3 -1.0
ARU **Arti** 149.82 8 *e*PKPbc **PKPbc** 09 28 02.2 -0.5
ARU *e*PKPab **PKPab** 09 28 07.5 -0.7
BR131 **Keskin Array S** 150.51 56 *e*PKPbc **PKPbc** 09 28 04.4 -0.8
BR131 *e*PKPab **PKPab** 09 28 10.9 -0.9
BRTR **Keskin Array B** 150.51 56 PKPbc **PKPbc** 09 28 04.7 -0.5
3.9nm,1.0s,baz=222,slow=1.7,SNR=19
BRTR **Keskin Array B** 150.51 56 PKPbc **PKPbc** 09 28 04.7 -0.5
BVAR **Borovoye Array** 153.39 353 PKPbc **PKPbc** 09 28 10.6 -0.5
1.7nm,0.7s,baz=8.1,slow=2.1,SNR=6.3
BVAR **Borovoye Array** 153.39 353 PKPbc **PKPbc** 09 28 10.6 -0.5
KURK **Kurchatov** 153.94 341 PKPbc **PKPbc** 09 28 11.3 -1.0
KURBB **Kurchatov Arra** 154.05 341 PKPbc **PKPbc** 09 28 11.3 -1.3
3.4nm,1.0s,baz=14,slow=2.0,SNR=7.2

CSEM ***17*** *09:16:01.6,36˚.96N×22˚.13E,h14km,MD2.9,After ATH*
ATH 17 09:16:01.6,36˚.96N×22˚.12E,h14km±1km,MD2.9/5,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYR	**Agios Nikonas**	**0.26**	**139**	*e*PG	Pg	09 16 07.4	+0.2
DYR				*e*SG	Sg	09 16 11.1	+0.1
DYR	**Agios Nikonas**	**0.26**	**139**	*e*Pg	Pg	09 16 07.4	+0.2
DYR				*e*Sg	Sg	09 16 11.1	+0.1
ITM	**Ithomi**	**0.27**	**325**	*e*PG	Pg	09 16 06.7	-0.7
ITM				*e*SG	Sg	09 16 12.0	+0.7
ITM	**Ithomi**	**0.27**	**325**	*e*Pg	Pg	09 16 06.7	-0.7
ITM				*e*Sg	Sg	09 16 12.0	+0.7
PYL	**PYLOS**	**0.31**	**258**	*e*PB	Pg	09 16 08.1	+0.1
PYL	**PYLOS**	**0.31**	**258**	*e*Pb	Pg	09 16 08.1	+0.1
VLX	**Vlachokerasia**	**0.46**	**27**	*e*PB	Pg	09 16 10.6	-0.3
VLX				*e*SB	Sg	09 16 17.3	+0.1
VLX	**Vlachokerasia**	**0.46**	**27**	*e*Pb	Pg	09 16 10.6	-0.3
VLX				*e*Sb	Sg	09 16 17.3	+0.1
VLI	**Veliai**	**0.70**	**110**	*e*PB	Pb	09 16 15.5	-0.1
VLI				*e*SB	Sb	09 16 24.8	-0.3
VLI	**Veliai**	**0.70**	**110**	*e*Pb	Pb	09 16 15.5	-0.1
VLI				*e*Sb	Sb	09 16 24.8	-0.3
KYTH	**Kithira**	**1.00**	**132**	*e*PN	Pg	09 16 21.0	0.0
KYTH	**Kithira**	**1.00**	**132**	*e*Pn	Pg	09 16 21.0	0.0
DID	**Didima**	**1.04**	**58**	*e*PB	Pb	09 16 21.2	-0.3
DID	**Didima**	**1.04**	**58**	*e*Pb	Pb	09 16 21.3	-0.2
THL	**Klokotos Trika**	**2.60**	**358**	*e*PN	Pb	09 16 45.7	-2.3
THL	**Klokotos Trika**	**2.60**	**358**	*e*Pn	Pb	09 16 45.7	-2.3

ISCJB ***17*** *09:23:13.5±0.7,23˚.92S±0˚.06×67˚.10W±0˚.06,h185km±9km,*
mb3.3/4,Error ellipse: s-maj=10.6km s-min=8.6km
az=43.2
GUC ***17*** *09:23:15.2±0.5,23˚.75S×67˚.46W,h216km±16km,ML4.1*
IDC ***17*** *09:23:15.1±2.7,23˚.94S×66˚.95W,h185km±25km,mb3.1/4,*
mb1 3.3/8,mb1mx3.3/20,mbtmp3.2/8,Error ellipse:
s-maj=24.7km s-min=17.2km az=51.0
ISC 17 09:23:14.0±1.0,23˚.93S±0˚.07×67˚.07W±0˚.07,
h175km±10km,n19,σ1§22/29,mb3.4/4,7C-1D,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.60**	**297**	⇑*i*P	**Pn**	**09 23 58.9**	**+1.0**
PB06				*e*S	**Sn**	**09 24 31.7**	**-0.2**
PB06				AML	AML	09 24 33.0	
	comp=N,580nm,0.3s						
PB04	**Plate Boundary**	**2.78**	**306**	⇑*e*P	Pn	09 24 06.0	+6.3
PB04				*e*S	Sn	09 24 44.5	+9.3
PB04				AML	AML	09 24 50.7	
	comp=N,432nm,0.2s						
PB09	**Plate Boundary**	**2.92**	**316**	⇑*e*P	**Pn**	**09 24 03.4**	**+1.8**
PB09				*e*S	**Sn**	**09 24 39.5**	**+0.8**
CEN1	**Los Morros**	**2.92**	**280**	⇓*e*P	**Pn**	**09 24 03.1**	**+1.5**
CEN1				*e*S	**Sn**	**09 24 40.1**	**+1.5**
CEN1				AML	AML	09 24 44.8	
	comp=N,128nm,0.9s						
ANCH	**Antofagasta**	**3.07**	**274**	⇑*i*P	**Pn**	**09 24 03.4**	**+0.1**
ANCH				*i*S	**Sn**	**09 24 40.1**	**-1.6**
MECH	**Mejillones**	**3.21**	**284**	⇑*i*P	**Pn**	**09 24 05.5**	**+0.5**
MECH				*i*S	**Sn**	**09 24 43.7**	**-1.0**
MECH				AML	AML	09 24 45.6	
	comp=N,312nm,0.3s						
PB07	**Plate Boundary**	**3.40**	**310**	⇑*e*P	**Pn**	**09 24 08.1**	**+0.5**
PB07				*e*S	**Sn**	**09 24 48.1**	**-1.2**
PB01	**Plate Boundary**	**3.64**	**322**	⇑*e*P	**Pn**	**09 24 11.1**	**+0.6**
PB01				*e*S	**Sn**	**09 24 53.9**	**-0.8**
PB01				AML	AML	09 24 55.1	
	comp=E,405nm,0.2s						
HMBC	**Humberstone**	**4.48**	**324**	*e*P	**Pn**	**09 24 20.6**	**-0.7**
HMBC				*e*S	**Sn**	**09 25 11.5**	**-2.3**
MNMC	**Minimini**	**5.32**	**333**	*e*P	**Pn**	**09 24 32.8**	**+0.4**
MNMC				*e*S	**Sn**	**09 25 32.6**	**-1.3**
LPAZ	**La Paz**	**7.67**	**352**	P	**Pn**	**09 25 06.3**	**+2.8**
	comp=E,0.5nm,0.3s,baz=154,slow=7.9,SNR=18						
LPAZ				S	**Sn**	**09 26 31.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=144,slow=25,SNR=3.3						
CPUP	**Villa Florida**	**9.14**	**107**	P	**Pn**	**09 25 22.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=228,slow=8.1,SNR=3.0						
SIV	**San Ignacio**	**9.70**	**37**	P	**Pn**	**09 25 29.2**	**-0.7**
	comp=E,0.3nm,0.3s,baz=225,slow=15,SNR=7.7						
SIV				S	**Sn**	**09 27 16.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=245,slow=18,SNR=2.8						
BDFB	**Brasilia**	**19.72**	**69**	P	**P**	**09 27 30.6**	**+0.3**
	comp=E,1.5nm,0.3s,baz=242,slow=11,SNR=21						
TXAR	**Lajitas Array**	**63.59**	**324**	P	**P**	**09 33 26.7**	**+0.5**
	comp=E,0.1nm,0.5s,baz=131,slow=9.7,SNR=2.5						
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**09 33 42.9**	**-0.3**
	comp=E,0.6nm,0.5s,baz=30,slow=19,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.60**	**69**	P	**P**	**09 34 45.0**	**-0.6**
	comp=E,0.3nm,0.3s,baz=244,slow=6.4,SNR=9.5						
YKA	**Yellowknife Ar**	**94.04**	**340**	P	**P**	**09 36 12.1**	**+0.4**
	comp=E,0.1nm,0.5s,baz=135,slow=5.0,SNR=4.0						
WRA	**Warramunga Arr**	**131.66**	**207**	PKP	**PKPdf**	**09 42 06.7**	**-0.1**
	comp=E,0.3nm,0.6s,baz=158,slow=1.8,SNR=3.4						

BJI ***17*** *09:30:51.3,3˚.43N×126˚.68E,h38km,mB4.9/23,mb4.8/30,*
Ms4.5/28,Ms7 4.1/27
MOS ***17*** *09:30:52.1±1.2,3˚.58N×126˚.29E,h33km,mb5.0/23,Error*
ellipse: s-maj=14.9km s-min=6.6km az=113.7
NEIC ***17*** *09:30:54.2±0.2,3˚.61N×126˚.36E,h35km,mb4.9/29,Error*
ellipse: s-maj=8.7km s-min=5.2km az=74.0
ISCJB ***17*** *09:30:55.1±0.5,3˚.69N±0˚.02×126˚.56E±0˚.04,h57km±5km,*
mb4.7/77,MS4.0/24,Error ellipse: s-maj=6.0km
s-min=3.7km az=165.9
AUST ***17*** *09:30:57.7,3˚.50N×126˚.50E,h60km*
IDC ***17*** *09:30:57.9±2.1,3˚.53N×126˚.28E,h69km±19km,mb4.1/28,*
mb1 4.2/30,mb1mx4.2/34,mbtmp4.2/30,MS4.0/11,
Ms1 4.0/11,ms1mx3.6/38,Error ellipse: s-maj=16.0km
s-min=7.6km az=83.0
DJA ***17*** *09:30:58.6±1.3,4˚.N±4˚×12˚.7E±˚,h33km±12km,M4.9/24,*
mB5.2/6,mb4.8/24,MLv5.1/6,Mw(mB)4.6/6
ISC 17 09:30:55.4±0.4,3.71N±0.03×126.62E±0.05,h42km±3km,
n217,σ1§69/260,mb4.7/77,MS3.9/24,7C-4D,Talaud
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.08**	**269**	P	Sn	09 31 35.4	+7.4
MNI	**Manado**	**2.86**	**218**	P	**Pn**	**09 31 38.3**	**-0.4**
MNI				S	**Sn**	**09 32 13.0**	**+1.1**
GSPH	**General Santos**	**2.89**	**325**	⇑*e*P	**Pn**	**09 31 37.7**	**-1.4**
TNTI	**Ternate**	**3.01**	**166**	P	**Pn**	**09 31 41.8**	**+1.1**
TNTI				S	**Sn**	**09 32 16.8**	**+1.3**
DAV	**Davao City (W)**	**3.50**	**343**	P	Pn	09 31 51.7	+4.3
	48nm,0.3s,baz=57,slow=19,SNR=6.2						
DAV	**Davao City (W)**	**3.50**	**343**	P	Pn	09 31 51.7	+4.3
DMPH	**Davao City--Mi**	**3.53**	**342**	⇑*e*P	**Pn**	**09 31 49.2**	**+1.4**
DMPH				*e*S	Sn	09 32 35.0	+6.7
KMSI	**Cibinong**	**4.08**	**220**	P	**Pn**	**09 31 56.7**	**+1.4**
CTBH	**Cotabato--PC H**	**4.21**	**326**	⇑*i*P	**Pn**	**09 31 57.6**	**+0.4**
LBMI	**Labuha**	**4.41**	**168**	P	**Pn**	**09 32 00.6**	**+0.7**
BUKP	**Musuan**	**4.42**	**340**	*e*P	**Pn**	**09 32 00.0**	**-0.1**
PAGZ	**Pagadian**	**5.22**	**322**	*e*P	**Pn**	**09 32 10.8**	**-0.3**
MRSI	**Marisa**	**5.67**	**236**	P	**Pn**	**09 32 17.3**	**+0.1**
	466nm,0.7s,4μm1.4nm						
MRSI				S	**Sn**	**09 33 19.8**	**-1.2**
	466nm,0.7s,4μm1.4nm						
LUWI	**Luwuk**	**6.08**	**219**	P	**Pn**	**09 32 25.5**	**+2.6**
	568nm,1.1s,5μm1.8nm						
NLAI	**Namlea**	**6.92**	**176**	P	**Pn**	**09 32 36.8**	**+2.5**
	71nm,0.6s,1μm0.4nm						
PCI	**Palu**	**8.18**	**236**	S	Sn	09 34 04.2	-19
	baz=8.0,SNR=8.4						
MYLDM	**Lahad Datu**	**8.22**	**281**	P	Pn	09 32 58.6	+6.3
MYLDM	**Lahad Datu**	**8.22**	**281**	P	**Pn**	**09 32 54.2**	**+1.9**
	99nm,1.3s,2μm						
KDI	**Kendari**	**8.60**	**208**	P	**Pn**	**09 32 58.8**	**+1.4**
	48nm,0.7s						
PALU	**Palu**	**8.62**	**65**	P	Pn	09 33 02.2	+4.5
	baz=8.8,SNR=5.0						
FAKI	**Fak Fak**	**8.66**	**139**	P	**Pn**	**09 32 59.7**	**+1.4**
	89nm,1.0s						
TSM	**Tawau**	**8.74**	**274**	P	Pn	09 33 05.3	+5.9
TTSI	**Tana Toraja**	**9.54**	**225**	P	**Pn**	**09 33 11.7**	**+1.3**
	87nm,0.9s,685nm						
SDKM	**Sandakan**	**9.58**	**282**	P	Pn	09 33 17.5	+6.6
SPSI	**Sidrap Palu**	**10.24**	**222**	P	**Pn**	**09 33 21.4**	**+1.5**
	39nm,1.0s						
KKM	**Kota Kinabalu**	**10.62**	**283**	*e*Pn	Pn	09 33 20.6	-4.6
KKM	**Kota Kinabalu**	**10.62**	**283**	P	Pn	09 33 28.6	+3.4
	baz=11,SNR=3.5						
KKM	**Kota Kinabalu**	**10.62**	**283**	P	Pn	09 33 29.3	+4.0
KKM	**Kota Kinabalu**	**10.62**	**283**	P	**Pn**	**09 33 27.5**	**+2.3**
	32nm,1.2s						
KAPI	**Kappang**	**11.05**	**218**	P	**Pn**	**09 33 29.1**	**-1.9**
	0.2nm,0.3s,baz=44,slow=23,SNR=2.5						
KAPI	**Kappang**	**11.05**	**218**	*e*Pn	Pn	09 33 27.8	-3.2
	29nm,1.0s						
KAPI	**Kappang**	**11.05**	**218**	P	**Pn**	**09 33 30.3**	**-0.7**
	28nm,1.1s						
TLE	**Tual**	**11.12**	**147**	P	**Pn**	**09 33 34.0**	**+2.1**
	100nm,2.3s						
BBKI	**Banjar Baru**	**13.75**	**239**	P	Pn	09 34 11.4	+3.4
	83nm,1.6s						
SBUM	**Sibu**	**14.43**	**265**	P	**P**	**09 34 22.9**	**-0.2**
SBUM	**Sibu**	**14.43**	**265**	P	**Pn**	**09 34 19.4**	**+2.3**
	33nm,1.4s,592nm						
JAY	**Jayapura**	**15.38**	**113**	P	**P**	**09 34 34.1**	**+0.3**
	baz=15,SNR=5.4						
STKI	**Sintang**	**15.55**	**257**	P	**P**	**09 34 36.1**	**+0.4**
KHKI	**Kahang-Kahang**	**16.26**	**222**	P	**Pn**	**09 34 41.9**	**+1.0**
	52nm,0.9s						
SRBI	**Singaraja**	**16.33**	**224**	P	**Pn**	**09 34 42.7**	**+0.9**
MTN	**Manton Dam**	**17.04**	**165**	P	**Pn**	**09 34 49.8**	**-1.0**
	baz=17,SNR=5.9						
KDU	**Kakadu**	**17.30**	**160**	P	**P**	**09 34 56.0**	**+1.1**
	baz=17,SNR=3.4						
MMPI	**Merauke**	**18.30**	**131**	P	Pn	09 35 25.4	+19
	baz=18,SNR=5.5						
SJI	**Sawahan**	**18.67**	**232**	P	**Pn**	**09 35 13.5**	**+2.6**
	58nm,1.0s						
PWJI	**Pagerwojo**	**18.82**	**232**	P	**Pn**	**09 35 13.8**	**+1.3**
	44nm,1.0s						
YULB	**Yu-li**	**20.23**	**346**	*e*P	**P**	**09 35 26.1**	**-1.1**
	22nm,1.2s						
TPUB	**Ta-pu**	**20.32**	**344**	*e*P	**P**	**09 35 26.3**	**-1.8**
	26nm,0.7s						
GUMO	**Guam**	**20.52**	**60**	LR	LR	09 41 55.1	
	comp=Z,276nm,20.2s,baz=274,slow=31						
GUMO	**Guam**	**20.52**	**60**	*e*PcP	**PcP**	**09 39 39.7**	**-1.2**
SSLB	**Suanglung**	**20.70**	**345**	*e*P	**P**	**09 35 30.6**	**-1.6**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P	**P**	**09 35 41.4**	**-1.5**
	12nm,0.8s,baz=17,slow=10.0,SNR=28						
FITZ				S	**S**	**09 39 39.0**	**-1.8**
	5.6nm,1.0s,baz=186,slow=19,SNR=3.4						
FITZ	**Fitzroy Crossi**	**21.69**	**183**	*e*P	**P**	**09 35 42.0**	**-0.8**
	133nm,2.0s						
FITZ				S	**S**	**09 39 39.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P	**P**	**09 35 41.6**	**-1.3**
	baz=22,SNR=26						
FITZ				S	**S**	**09 39 37.3**	**-3.5**
	baz=22,SNR=3.0						
QIZ	**Qiongzhong**	**22.37**	**314**	P	**P**	**09 35 51.1**	**+0.9**
QIZ				sP	sP	09 36 03.3	-2.7
QIZ				S	**S**	**09 39 56.9**	**+3.3**
QIZ				LR	LR		
	comp=N,250nm,18.8s						
QIZ				LR	LR		
	comp=Z,290nm,21.1s						
MYKOM	**Kota Tinggi**	**22.82**	**266**	P	P	09 35 59.7	+4.7
	comp=Z,16nm,1.1s						
JOW	**Kunigami**	**23.05**	**4**	P	**P**	**09 36 00.8**	**+3.6**
	comp=Z,20nm,0.8s,baz=127,slow=20,SNR=4.2						
JOW	**Kunigami**	**23.05**	**4**	*e*P	**P**	**09 35 57.8**	**+0.6**
	comp=Z,13nm,0.9s						
COEN	**Coen**	**24.04**	**137**	*e*P	**P**	**09 36 05.0**	**-1.9**
	comp=Z,141nm,1.4s						
COEN	**Coen**	**24.04**	**137**	P	**P**	**09 36 06.6**	**-0.2**
	baz=24,SNR=5.8						
WRAB	**Tennant Creek**	**24.69**	**162**	*e*P	**P**	**09 36 10.9**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,134nm,1.1s						
WRAB	**Tennant Creek**	**24.69**	**162**	*e*P	**P**	**09 36 10.9**	**-1.8**
	comp=Z,134nm,1.1s						
WRA	**Warramunga Arr**	**24.70**	**162**	P	**P**	**09 36 10.9**	**-1.9**
	comp=Z,86nm,0.9s,baz=344,slow=10,SNR=109						
WRA				S	**S**	**09 40 28.9**	**-3.0**
	comp=Z,4.5nm,1.0s,baz=338,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**24.70**	**162**	P	**P**	**09 36 10.9**	**-1.9**
WRA				S	**S**	**09 40 28.9**	**-3.0**
FRIM	**Kepong**	**24.95**	**270**	P	**P**	**09 36 18.9**	**+3.8**
IPM	**Ipoh**	**25.54**	**273**	*e*P	**P**	**09 36 16.2**	**-4.2**
	comp=Z,26nm,1.1s						
IPM	**Ipoh**	**25.54**	**273**	P	**P**	**09 36 24.3**	**+3.8**
IPM	**Ipoh**	**25.54**	**273**	P	**P**	**09 36 22.6**	**+2.1**
	comp=Z,25nm,1.3s						
MBWA	**Marble Bar**	**25.62**	**195**	*e*P	**P**	**09 36 22.0**	**+0.9**
	comp=Z,39nm,1.3s						
KULM	**Kulim**	**25.93**	**274**	*e*P	P	09 36 30.7	+6.7
	comp=Z,17nm,1.0s						
KULM	**Kulim**	**25.93**	**274**	P	**P**	**09 36 27.9**	**+3.9**
KULM	**Kulim**	**25.93**	**274**	P	P	09 36 28.8	+4.7
	comp=Z,17nm,1.2s						
MNSI	**Mandailing Nat**	**27.17**	**265**	P	P	09 36 40.1	+4.9
QIS	**Mount Isa**	**27.28**	**153**	P	**P**	**09 36 35.9**	**-0.2**
	baz=27,SNR=5.6						
CBIJ	**Chichi jima**	**27.61**	**31**	P	**P**	**09 36 42.1**	**+3.1**
	comp=Z,66nm,1.0s,baz=260,slow=21,SNR=3.1						
CBIJ	**Chichi jima**	**27.61**	**31**	P	**P**	**09 36 42.1**	**+3.1**
PSI	**Prapat**	**27.66**	**269**	P	**P**	**09 36 35.0**	**-4.7**
	comp=Z,1.3nm,0.3s,baz=184,slow=17,SNR=7.3						
PSI				LR	LR	09 47 59.0	
	comp=Z,318nm,21.9s,baz=247,slow=37						
PSI	**Prapat**	**27.66**	**269**	P	**P**	**09 36 35.0**	**-4.7**
PSI	**Prapat**	**27.66**	**269**	P	**P**	**09 36 39.9**	**+0.1**
	baz=28,SNR=3.8						
AS31	**Alice Springs**	**28.12**	**166**	*e*P	**P**	**09 36 43.5**	**-0.2**
ASAR	**Alice Springs**	**28.12**	**166**	P	**P**	**09 36 42.1**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=350,slow=7.4,SNR=27						
ASAR				PcP	**PcP**	**09 39 60.0**	**+2.7**
	comp=Z,1.4nm,0.5s,baz=347,slow=2.3,SNR=4.5						
ASAR	**Alice Springs**	**28.12**	**166**	P	**P**	**09 36 42.1**	**-1.5**
ASAR				PcP	**PcP**	**09 39 60.0**	**+2.7**
NJ2	**Nanjing**	**29.12**	**346**	*e*P	**P**	**09 36 55.3**	**+2.9**
NJ2				S	**S**	**09 41 43.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,110nm,15.7s						

MEEK	**Meekatharra**	**31.14**	**194**	P	**P**	**09 37 10.1**	**-0.2**
	baz=31,SNR=10						
KMI	**Kunming**	**31.31**	**315**	P	**P**	**09 37 14.3**	**+2.1**
KMI				pP	**pP**	**09 37 24.3**	**+0.6**
KMI				sP	**sP**	**09 37 28.8**	**+0.1**
KMI				PP	**PnPn**	**09 38 19.0**	**+3.4**
KMI				S	S	09 42 22.0	+5.4
KMI				sS	**sS**	**09 42 37.5**	**+1.7**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
KMI				LR	LR		
	comp=N,73nm,20.2s						
KMI				LR	LR		
	comp=E,150nm,20.2s						
KMI				LR	LR		
	comp=Z,190nm,21.0s						
KSAR	**Wonju Array Be**	**33.59**	**2**	P	**P**	**09 37 32.8**	**+1.1**
KSRS	**Korea Array**	**33.61**	**2**	P	**P**	**09 37 32.8**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=180,slow=9.7,SNR=9.7						
MORW	**Morawa**	**34.13**	**197**	P	**P**	**09 37 37.7**	**+1.2**
	baz=34,SNR=4.0						
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**09 37 40.3**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=197,slow=11,SNR=5.5						
MJAR				LR	LR	09 51 04.6	
	comp=Z,243nm,20.2s,baz=200,slow=35						
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**09 37 40.3**	**+1.8**
XAN	**Xi'an**	**34.38**	**333**	P	**P**	**09 37 36.3**	**-2.4**
XAN				pP	pP	09 37 44.9	-5.4
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				LR	LR		
	comp=N,180nm,23.3s						
XAN				LR	LR		
	comp=E,74nm,25.9s						
XAN				LR	LR		
	comp=Z,54nm,19.4s						
CD2	**Chengdu**	**34.59**	**324**	P	**P**	**09 37 42.0**	**+1.5**
CD2				pP	**pP**	**09 37 52.1**	**0.0**
CD2				sP	**sP**	**09 37 56.3**	**-0.9**
CD2				PP	**PP**	**09 38 59.6**	**+0.1**
CD2				S	**S**	**09 43 09.0**	**+1.9**
CD2				sS	**sS**	**09 43 25.8**	**-0.6**
CD2				SS	**SnSn**	**09 45 23.1**	**+1.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,5.5s						
CD2				LR	LR		
	comp=N,380nm,12.5s						
CD2				LR	LR		
	comp=Z,230nm,13.1s						
QLP	**Quilpie**	**34.60**	**151**	P	**P**	**09 37 39.4**	**-1.1**
	baz=35,SNR=7.2						
BJT	**Baijiatuau**	**37.36**	**347**	*e*P	**P**	**09 38 02.8**	**-1.3**
	comp=Z,26nm,0.6s						
BJI	**Beijing**	**37.38**	**347**	P	**P**	**09 38 02.8**	**-1.4**
BJI				PP	**PnPn**	**09 39 31.1**	**+0.1**
BJI				S	S	09 43 58.0	+8.6
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
BJI				LR	LR		
	comp=N,91nm,22.2s						
BJI				LR	LR		
	comp=E,170nm,23.6s						
BJI				LR	LR		
	comp=Z,62nm,27.8s						
EIDS	**Eidsvold**	**37.41**	**142**	*e*P	**P**	**09 38 03.7**	**-0.9**
	comp=Z,33nm,1.4s						
EIDS	**Eidsvold**	**37.41**	**142**	P	**P**	**09 38 03.6**	**-0.9**
	baz=37,SNR=4.5						
BBOO	**Buckleboo**	**37.41**	**167**	*e*P	**P**	**09 38 04.2**	**-0.3**
	comp=Z,203nm,1.3s						
BBOO	**Buckleboo**	**37.41**	**167**	P	**P**	**09 38 04.1**	**-0.3**
	baz=37,SNR=21						
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P	**P**	**09 38 03.6**	**-1.7**
	comp=Z,14nm,0.9s,baz=80,slow=12,SNR=5.0						
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P	**P**	**09 38 03.6**	**-1.7**
STKA	**Stephens Creek**	**38.15**	**159**	P	**P**	**09 38 09.7**	**-1.1**
	comp=Z,16nm,0.6s,baz=334,slow=8.3,SNR=51						
STKA				PcP	**PcP**	**09 40 27.4**	**+2.4**
	comp=Z,1.6nm,0.5s,baz=325,slow=6.2,SNR=3.0						
STKA	**Stephens Creek**	**38.15**	**159**	*e*P	**P**	**09 38 10.1**	**-0.7**
	comp=Z,3.8nm,0.8s						
STKA				PcP	**PcP**	**09 40 27.4**	**+2.4**
STKA	**Stephens Creek**	**38.15**	**159**	P	**P**	**09 38 10.1**	**-0.7**
	baz=38,SNR=33						
LZH	**Lanzhou**	**38.46**	**330**	*e*P	**P**	**09 38 13.3**	**-0.3**
LZH				pP	**pP**	**09 38 22.8**	**-2.5**
LZH				sP	sP	09 38 26.3	-4.0
LZH				*e*S	**S**	**09 44 07.0**	**+0.7**
LZH				sS	sS	09 44 22.0	-3.7
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,4.1s						
LZH				LR	LR		
	comp=N,1μm,14.7s						
LZH				LR	LR		
	comp=E,1μm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,16.7s						
HHC	**Hu-ho-hao-te**	**39.38**	**342**	*e*P	**P**	**09 38 22.0**	**+0.8**
HHC				pP	**pP**	**09 38 31.8**	**-1.1**
HHC				sP	sP	09 38 35.8	-2.1
HHC				PP	**PnPn**	**09 39 57.4**	**+2.2**
HHC				PcS	**PcS**	**09 44 18.6**	**-0.2**
HHC				S	**S**	**09 44 21.9**	**+2.0**
HHC				sS	**sS**	**09 44 38.0**	**-1.4**
HHC				SS	**SS**	**09 47 10.0**	**-5.2**
HHC				ScS	**ScS**	**09 48 25.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,10.7s						
HHC				LR	LR		
	comp=N,600nm,14.3s						
HHC				LR	LR		
	comp=E,100nm,17.7s						
HHC				LR	LR		
	comp=Z,210nm,21.0s						
CMSA	**Cobar Meteorol**	**39.48**	**154**	P	**P**	**09 38 21.6**	**-0.3**
	baz=40,SNR=6.8						
SHL	**Shillong**	**39.80**	**306**	*e*P	**P**	**09 38 27.0**	**+2.1**
CN2	**Changchun**	**39.94**	**359**	*e*P	**P**	**09 38 27.3**	**+1.7**
CN2				*es*P	**sP**	**09 38 41.0**	**-1.4**
CN2				*e*S	**S**	**09 44 30.4**	**+2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
USRK	**Ussuriysk Arra**	**40.60**	**6**	P	**P**	**09 38 33.0**	**+1.9**
	comp=Z,4.6nm,0.9s,baz=198,slow=9.8,SNR=6.6						
MDJ	**Mudanjiang**	**40.83**	**3**	P	**P**	**09 38 32.0**	**-0.9**
MDJ				pP	pP	09 38 40.9	-3.8
MDJ				sP	sP	09 38 44.8	-4.9
MDJ				ScP	**ScP**	**09 44 20.0**	**+0.3**
MDJ				PcS	**PcS**	**09 44 23.8**	**-0.2**
MDJ				S	**S**	**09 44 41.3**	**+0.2**
MDJ				sS	sS	09 44 56.4	-4.2
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MDJ				pmax	pmax		
	comp=Z,53nm,5.1s						
MDJ				LR	LR		
	comp=N,64nm,23.7s						
MDJ				LR	LR		
	comp=E,82nm,27.4s						
MDJ				LR	LR		
	comp=Z,98nm,22.4s						
MDJ	**Mudanjiang**	**40.83**	**3**	*e*P	**P**	**09 38 31.6**	**-1.3**
	comp=Z,14nm,0.9s						
ARMA	**Armidale**	**41.51**	**147**	*e*P	**P**	**09 38 39.3**	**+0.4**
	comp=Z,244nm,3.0s						
ARMA	**Armidale**	**41.51**	**147**	P	**P**	**09 38 39.1**	**+0.2**
	baz=42,SNR=8.6						
LSA	**Lhasa**	**42.37**	**311**	P	**P**	**09 38 45.8**	**-0.6**
LSA	**Lhasa**	**42.37**	**311**	*e*P	**P**	**09 38 46.0**	**-0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**42.37**	**311**	*e*P	**P**	**09 38 46.0**	**-0.4**
	comp=Z,10nm,0.6s						
ASAJ	**Asahikawa**	**42.65**	**17**	P	**P**	**09 38 50.2**	**+2.4**
	comp=Z,5.7nm,0.7s,baz=206,slow=13,SNR=9.8						
ASAJ				LR	LR	09 56 29.0	
	comp=Z,283nm,19.9s,baz=173,slow=36						
ASAJ	**Asahikawa**	**42.65**	**17**	*e*P	**P**	**09 38 50.5**	**+2.7**
	comp=Z,13nm,1.1s						
ARPS	**Mount Arapiles**	**42.70**	**162**	P	**P**	**09 38 49.0**	**+0.6**
	baz=43,SNR=7.5						
YUK	**Yuzh-Kuril'sk**	**43.61**	**20**	*d* *i*P	**P**	**09 38 53.3**	**-2.3**
YUK				*i* S	**S**	**09 45 20.8**	**-1.3**
YUK				*i* SS	**SS**	**09 48 40.4**	**+2.1**
YUK				pmax	pmax		
	comp=Z,54nm,4.5s						
YUK				MLR	MLR		
	comp=N,101nm,22.0s						
YUK				MLR	MLR		
	comp=Z,151nm,22.0s						
YSS	**Yuzh-Sakhalins**	**45.30**	**16**	*e*P	**P**	**09 39 11.0**	**+2.0**
YSS				*e*		09 39 25.0	
KLR	**Kul'dur**	**45.57**	**5**	*e*P	P	09 39 08.0	-3.1
DZM	**Mont Dzumac**	**46.62**	**125**	P	**P**	**09 39 20.8**	**+0.8**
	comp=Z,9.0nm,0.7s,baz=302,slow=17,SNR=8.7						
DZM	**Mont Dzumac**	**46.62**	**125**	P	**P**	**09 39 20.8**	**+0.8**
ULN	**Ulaanbaatar**	**47.10**	**342**	*e*P	**P**	**09 39 25.7**	**+2.3**
	comp=Z,6.4nm,0.9s						
SONM	**Songino Array**	**47.28**	**342**	P	**P**	**09 39 24.2**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=156,slow=9.3,SNR=11						
SONM				PcP	**PcP**	**09 40 57.6**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=142,slow=5.6,SNR=4.4						
SONM	**Songino Array**	**47.28**	**342**	P	**P**	**09 39 24.2**	**-0.6**
SONM				PcP	**PcP**	**09 40 57.6**	**+2.2**
TLY	**Talaya**	**51.52**	**342**	*e*P	**P**	**09 39 55.1**	**-1.8**
TLY				*e*		09 41 05.1	
TLY				*e*		09 41 54.5	
TLY				*e*S	**S**	**09 47 11.1**	**-3.2**
TLY				*e*SSS	SSS	09 52 28.2	
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ	**Urumqi**	**52.68**	**325**	*e*P	**P**	**09 40 07.0**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ				LR	LR		
	comp=N,350nm,28.0s						
WMQ				LR	LR		
	comp=Z,150nm,23.0s						
HVS	**Khovu-Aksy**	**54.71**	**335**	*i*P	**P**	**09 40 18.7**	**-1.8**
HVS				pmax	pmax		
	comp=Z,15nm,1.3s						
BOD	**Bodaibo**	**54.87**	**352**	*e*P	**P**	**09 40 21.5**	**+0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MSVF	**Nonsavu**	**55.01**	**115**	*e*P	**P**	**09 40 24.9**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,45nm,1.5s						
MSVF	**Nonsavu**	**55.01**	**115**	*e*P	**P**	**09 40 24.9**	**+1.7**
	comp=Z,45nm,1.5s						
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**09 40 27.6**	**+1.6**
	comp=Z,3.3nm,0.6s,baz=180,slow=5.7,SNR=5.7						
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**09 40 27.7**	**+1.6**
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**09 40 27.6**	**+1.6**
MK31	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**09 40 39.0**	**-1.5**
MK31	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**09 40 39.0**	**-1.5**
MKAR	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**09 40 39.4**	**-1.1**
MKAR	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**09 40 39.4**	**-1.1**
KSH	**Kashi**	**57.98**	**315**	*e*P	**P**	**09 40 43.9**	**-0.2**
KSH				*e*pP	**pP**	**09 40 53.3**	**-3.0**
KSH				*e*sP	sP	09 40 57.6	-3.6
KSH				*e*PcP	**PcP**	**09 41 34.9**	**-1.0**
KSH				*e*PP	**PP**	**09 42 55.5**	**+2.6**
KSH				*e*ScP	**ScP**	**09 45 31.8**	**-1.0**
KSH				PcS	**PcS**	**09 45 34.8**	**-2.6**
KSH				S	**S**	**09 48 40.1**	**-1.6**
KSH				sS	sS	09 48 59.0	-3.0
KSH				ScS	**ScS**	**09 50 28.3**	**-2.3**
KSH				SS	**SS**	**09 52 34.8**	**+1.4**
KSH				pmax	pmax		
	comp=Z,53nm,4.3s						
KSH				LR	LR		
	comp=N,220nm,7.4s						
KSH				LR	LR		
	comp=E,130nm,5.8s						
KSH				LR	LR		
	comp=Z,150nm,5.8s						
YAK	**Yakutsk**	**58.23**	**2**	*e*P	P	09 40 49.4	+4.2
YAK				*e*		09 41 03.4	
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
TKM2	**Tokmak 2**	**59.69**	**319**	*e*P	**P**	**09 40 55.8**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,48nm,2.6s						
TKM2	**Tokmak 2**	**59.69**	**319**	*e*P	**P**	**09 40 55.8**	**-0.2**
	comp=Z,48nm,2.6s						
AAK	**Ala-Archa**	**60.30**	**318**	P	**P**	**09 40 59.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=181,slow=16,SNR=4.3						
AAK	**Ala-Archa**	**60.30**	**318**	P	**P**	**09 40 59.3**	**-0.8**
AAK	**Ala-Archa**	**60.30**	**318**	P	**P**	**09 40 59.3**	**-0.8**
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	**P**	**09 40 59.6**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=116,slow=6.8,SNR=6.3						
ZALV				LR	LR	10 08 34.5	
	comp=Z,69nm,18.4s,baz=221,slow=37						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	**P**	**09 40 59.6**	**-1.8**
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	**P**	**09 40 59.6**	**-1.8**
EKS2	**Erkin-Say**	**60.79**	**318**	*e*P	**P**	**09 41 03.7**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKS2	**Erkin-Say**	**60.79**	**318**	*e*P	**P**	**09 41 03.7**	**+0.3**
	comp=Z,3.2nm,0.7s						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	**P**	**09 41 07.8**	**-1.4**
	comp=Z,8.2nm,0.9s,baz=128,slow=4.8,SNR=42						
KURK	**Kurchatov**	**61.70**	**328**	*i*P	**P**	**09 41 07.7**	**-1.5**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**61.70**	**328**	*e*P	**P**	**09 41 08.0**	**-1.3**
	comp=Z,13nm,0.9s						
RPZ	**Rata Peaks**	**61.81**	**145**	P	**P**	**09 41 10.3**	**+0.2**
	comp=Z,14nm,1.0s,baz=47,slow=5.1,SNR=3.6						
RPZ	**Rata Peaks**	**61.81**	**145**	P	**P**	**09 41 10.3**	**+0.2**
NVS	**Novosibirsk**	**61.84**	**333**	*e*P	**P**	**09 41 08.7**	**-1.4**
SEY	**Seymchan**	**62.08**	**13**	*e*P	**P**	**09 41 14.6**	**+3.0**
KK31	**Karatay Array**	**63.17**	**317**	*i*P	**P**	**09 41 17.8**	**-1.5**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**63.17**	**317**	*e*P	**P**	**09 41 18.7**	**-0.6**
KKAR	**Karatay Array**	**63.17**	**317**	*e*P	**P**	**09 41 18.7**	**-0.6**
BVA0	**Borovoye Array**	**67.28**	**327**	P	**P**	**09 41 43.5**	**-2.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BVAR	**Borovoye Array**	**67.28**	**327**	P	**P**	**09 41 45.3**	**-0.4**
	comp=Z,5.8nm,1.1s,baz=126,slow=7.5,SNR=13						
BVAR				LR	LR	10 15 27.1	
	comp=Z,84nm,19.0s,baz=262,slow=40						
BVAR	**Borovoye Array**	**67.28**	**327**	P	**P**	**09 41 45.3**	**-0.4**
BVAR	**Borovoye Array**	**67.28**	**327**	P	**P**	**09 41 45.3**	**-0.4**
BRVK	**Borovoye**	**67.35**	**327**	*i*eP	**P**	**09 41 45.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**67.35**	**327**	*e*P	**P**	**09 41 45.9**	**-0.2**
	comp=Z,13nm,1.0s						
BILL	**Bilibino**	**69.60**	**15**	*e*P	**P**	**09 41 59.3**	**-0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BILL	**Bilibino**	**69.60**	**15**	*e*P	**P**	**09 41 59.3**	**-0.6**
	comp=Z,3.4nm,0.3s						
AB31	**Akbulak array**	**72.09**	**321**	*i*P	**P**	**09 42 13.8**	**-1.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**72.09**	**321**	*e*P	**P**	**09 42 13.9**	**-1.5**
AKTO	**Aktyubinsk**	**73.61**	**322**	LR	LR	10 19 41.3	
	comp=Z,146nm,19.2s,baz=105,slow=40						
AKTO	**Aktyubinsk**	**73.61**	**322**	P	**P**	**09 42 22.9**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GAMB	**Gambell**	**74.47**	**24**	*e*P	**P**	**09 42 30.2**	**+1.2**
	comp=Z,4.9nm,0.3s						
ARU	**Arti**	**74.89**	**328**	*d* *i*P	**P**	**09 42 29.6**	**-2.1**
ARU						09 45 15.0	
ARU				S	**S**	**09 52 06.2**	**+0.4**
ARU				SS	**SS**	**09 56 52.6**	**-2.0**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU	**Arti**	**74.89**	**328**	*e*P	**P**	**09 42 30.6**	**-1.1**
	comp=Z,4.0nm,0.3s						
COLD	**Coldfoot**	**83.96**	**23**	*e*P	**P**	**09 43 21.5**	**+0.6**
	comp=Z,11nm,1.1s						
VRHR	**Novokhopersk**	**83.98**	**321**	*e*P	**P**	**09 43 20.7**	**-0.6**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ILAR	**Eielson Array**	**85.17**	**25**	P	**P**	**09 43 27.3**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=252,slow=5.9,SNR=9.1						
ILAR				LR	LR	10 24 29.8	
	comp=Z,57nm,18.4s,baz=241,slow=38						
ILAR	**Eielson Array**	**85.17**	**25**	P	**P**	**09 43 27.3**	**+0.2**
KLMR	**Klimovskoe**	**85.37**	**331**	*i*eP	**P**	**09 43 27.4**	**-0.7**
KLMR				*e*S	S	09 53 49.0	-6.7
KLMR				pmax	pmax		
	comp=Z,31nm,1.5s						
VORD	**Divnogorie**	**85.45**	**321**	*e*P	**P**	**09 43 29.5**	**+0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=N,20nm,0.6s						
VORD				pmax	pmax		
	comp=E,9.0nm,0.6s						
VSR	**Storozhevoye**	**85.53**	**321**	*e*P	**P**	**09 43 26.8**	**-2.3**
TMCR	**Tamitsa**	**86.07**	**334**	*e*P	**P**	**09 43 28.6**	**-2.9**
TMCR				pmax	pmax		
	comp=Z,13nm,1.4s						
ANN	**Anapa**	**86.83**	**315**	*e*P	**P**	**09 43 38.4**	**+2.8**
ANN				pmax	pmax		
	comp=Z,55nm,1.0s						
OBN	**Obninsk**	**87.01**	**325**	*i*eP	**P**	**09 43 36.0**	**-0.3**
OBN				pmax	pmax		
	comp=Z,30nm,1.6s						
KMBO	**Kilima Mbogo**	**89.44**	**269**	*e*P	**P**	**09 43 47.9**	**-1.1**
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**89.95**	**310**	P	**P**	**09 43 49.1**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=142,slow=6.3,SNR=5.9						
BRTR	**Keskin Array B**	**89.95**	**310**	P	**P**	**09 43 49.1**	**-1.6**
INK	**Inuvik**	**90.23**	**21**	P	**P**	**09 43 51.7**	**+0.5**
	comp=Z,1.6nm,1.1s,baz=268,slow=6.7,SNR=4.6						
INK	**Inuvik**	**90.23**	**21**	P	**P**	**09 43 51.7**	**+0.5**
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**09 43 51.3**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=60,slow=7.2,SNR=5.5						
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**09 43 51.3**	**-0.9**
FINES	**FINESS Array B**	**91.80**	**332**	P	**P**	**09 43 58.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=46,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**91.80**	**332**	P	**P**	**09 43 58.4**	**-0.3**
AKASG	**Malin Array Be**	**91.84**	**321**	P	**P**	**09 43 57.6**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=72,slow=4.5,SNR=5.0						
AKASG	**Malin Array Be**	**91.84**	**321**	P	**P**	**09 43 57.7**	**-1.4**
AKASG	**Malin Array Be**	**91.84**	**321**	P	**P**	**09 43 57.6**	**-1.4**
BUR08	**Bucovina Ar. S**	**94.95**	**318**	*e*P	**P**	**09 44 12.9**	**-0.8**
CRVS	**Cervenica-Dubn**	**97.11**	**320**	*e*P	**P**	**09 44 23.1**	**-0.3**
CRVS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CRVS	**Cervenica-Dubn**	**97.11**	**320**	*e*P	**P**	**09 44 23.1**	**-0.3**
NOA	**NORSAR Array B**	**98.76**	**334**	P	**P**	**09 44 29.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=89,slow=3.6,SNR=3.1						
NOA				LR	LR	10 31 57.5	
	comp=Z,91nm,18.3s,baz=260,slow=37						
NOA	**NORSAR Array B**	**98.76**	**334**	P	**P**	**09 44 29.1**	**-1.4**
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**09 44 35.1**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=292,slow=4.0,SNR=5.8						
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**09 44 35.0**	**+1.1**
TXAR	**Lajitas Array**	**121.70**	**52**	PKP	**PKPdf**	**09 49 46.7**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=184,slow=2.0,SNR=5.6						
TXAR	**Lajitas Array**	**121.70**	**52**	PKP	**PKPdf**	**09 49 46.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**09 49 47.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=50,slow=1.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**09 49 47.8**	**-0.2**
GLMI	**Grayling**	**124.20**	**26**	*e*Pdif	**Pdif**	**09 46 22.5**	**-1.5**
OTAV	**Otavalo**	**154.65**	**82**	*e*PKPdf	**PKPdf**	**09 50 44.3**	**-0.8**
OTAV				*e*PKPbc	**PKPbc**	**09 50 53.2**	**-0.4**
OTAV				*e*PKPab	**PKPab**	**09 51 08.8**	**+0.3**

IDC ***17*** *09:41:06.2±4.6, 3˚.55N×126˚.64E, h18km±28km, mb4.1/13, mb1 4.1/13, mb1mx4.0/24, mbtmp4.1/13, Error ellipse: s-maj=38.1km s-min=11.9km az=76.0*

ISCJB ***17*** *09:41:08.1±0.3, 3˚.61N±0˚.03×126˚.87E±0˚.05, h48km, mb4.1/18, Error ellipse: s-maj=6.7km s-min=4.0km az=177.3*

NEIC ***17*** *09:41:08.2±0.4, 3˚.65N×126˚.78E, h35km, mb4.3/9, Error ellipse: s-maj=25.6km s-min=6.9km az=77.0*

DJA ***17*** *09:41:13.4±1.1, 3˚N±7˚×12˚7E±˚, h142km±14km, M4.6/4, mb4.8/1, mB5.0/1, MLv4.5/4, Mw(mB)4.3/1*

AUST ***17*** *09:41:25.8±4.8, 3˚.16N×127˚.48E, h204km, Error ellipse: s-maj=3.6km s-min=1.4km az=228.0*

ISC 17 09:41:09.9±0.5, 3˚.61N±0˚.04×126˚.82E±0˚.06, h48km, n59,
σ1§62/64, mb4.1/18, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TNTI	**Ternate**	**2.87**	**169**	P	**Pn**	**09 41 53.8**	**+0.5**
TNTI				S	**Sn**	**09 42 28.9**	**+2.3**
MNI	**Manado**	**2.93**	**223**	P	**Pn**	**09 41 55.6**	**+1.6**
MNI				S	**Sn**	**09 42 31.5**	**+3.5**
GSPH	**General Santos**	**3.09**	**323**	*i*eP	**Pn**	**09 41 55.9**	**-0.4**
DAV	**Davao City (W)**	**3.65**	**340**	Pn	**Pn**	**09 42 06.5**	**+2.6**
	52nm,0.3s,baz=348,slow=5.9,SNR=2.6						
DAV	**Davao City (W)**	**3.65**	**340**	Pn	**Pn**	**09 42 06.5**	**+2.6**
DMPH	**Davao City--Mi**	**3.69**	**339**	*i*eP	**Pn**	**09 42 06.2**	**+1.7**
KMSI	**Cibinong**	**4.14**	**223**	P	**Pn**	**09 42 13.1**	**+2.4**
KMSI				S	**Sn**	**09 42 59.3**	**+1.4**
LBMI	**Labuha**	**4.28**	**171**	P	**Pn**	**09 42 13.3**	**+0.8**
LBMI				S	**Sn**	**09 43 00.4**	**-0.8**
CTBH	**Cotabato--PC H**	**4.41**	**325**	*i*P	**Pn**	**09 42 15.3**	**+1.0**
BUKP	**Musuan**	**4.59**	**338**	*e*P	**Pn**	**09 42 18.6**	**+1.7**
PAGZ	**Pagadian**	**5.42**	**321**	*e*P	**Pn**	**09 42 29.3**	**+1.0**
MRSI	**Marisa**	**5.79**	**238**	P	**Pn**	**09 42 35.1**	**+1.8**
MRSI				S	**Sn**

STKA	**Stephens Creek**	**37.99**	**159**	P		**P**	**09 48 23.2**	**-0.1**
	baz=38,SNR=6.2								
USRK	**Ussuriysk Arra**	**40.68**	**6**	P		**P**	**09 48 47.4**	**+1.8**
	2.2nm,0.7s,baz=211,slow=6.3,SNR=3.5								
ASAJ	**Asahikawa**	**42.68**	**17**	P		**P**	**09 49 03.0**	**+1.0**
	1.6nm,0.5s,baz=189,slow=32,SNR=3.9								
ASAJ	**Asahikawa**	**42.68**	**17**	P		**P**	**09 49 03.0**	**+1.0**
SONM	**Songino Array**	**47.44**	**341**	P		**P**	**09 49 39.1**	**-0.8**
	1.0nm,0.7s,baz=153,slow=7.7,SNR=9.1								
SONM	**Songino Array**	**47.44**	**341**	P		**P**	**09 49 39.1**	**-0.8**
KAAM	**Kaadhehdhoo**	**53.87**	**268**	P		P	09 50 34.8	+5.9	
	baz=54,SNR=3.2								
PETK	**Petropavlovsk-**	**55.50**	**22**	P		**P**	**09 50 39.4**	**-0.6**
	4.0nm,1.0s,baz=213,slow=3.9,SNR=5.0								
PETK	**Petropavlovsk-**	**55.50**	**22**	P		**P**	**09 50 39.4**	**-0.6**
MK31	**Makanchi Array**	**57.70**	**325**	*eP*		**P**	**09 50 55.3**	**-0.5**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P		**P**	**09 51 16.4**	**-0.1**
	0.6nm,0.4s,baz=115,slow=6.5,SNR=3.3								
ZALV	**Zalesovo Beam**	**60.73**	**333**	P		**P**	**09 51 16.4**	**-0.1**
KURBB	**Kurchatov Arra**	**61.89**	**327**	P		**P**	**09 51 23.8**	**-0.6**
	3.5nm,0.8s,baz=126,slow=6.0,SNR=24								
KURK	**Kurchatov**	**61.89**	**327**	*eP*		**P**	**09 51 25.1**	**+0.7**
	5.0nm,0.7s								
BVAR	**Borovoye Array**	**67.47**	**327**	P		**P**	**09 52 00.3**	**-0.5**
	1.4nm,0.7s,baz=137,slow=7.7,SNR=7.7								
BVAR	**Borovoye Array**	**67.47**	**327**	P		**P**	**09 52 00.3**	**-0.5**
ABKAR	**Akbulak array**	**72.30**	**321**	*eP*		**P**	**09 52 29.1**	**-1.3**
	1.4nm,0.7s								
ILAR	**Eielson Array**	**85.17**	**25**	P		P	09 53 44.3	+3.4	
	0.3nm,0.7s,baz=253,slow=5.2,SNR=3.8								
ILAR	**Eielson Array**	**85.17**	**25**	P		P	09 53 44.3	+3.4	
BRTR	**Keskin Array B**	**90.17**	**310**	P		**P**	**09 54 06.4**	**+0.8**
	0.6nm,0.7s,baz=126,slow=1.7,SNR=2.8								
BRTR	**Keskin Array B**	**90.17**	**310**	P		**P**	**09 54 06.4**	**+0.8**
NOA	**NORSAR Array B**	**98.93**	**334**	P		**P**	**09 54 44.3**	**-0.8**
	1.2nm,0.7s,baz=282,slow=8.8,SNR=2.4								
NOA	**NORSAR Array B**	**98.93**	**334**	P		**P**	**09 54 44.3**	**-0.8**

IDC 17 09:49:54.6±2.5,11°.08S×162°.31E,h59km±21km,mb3.6/10, mb1 3.8/13,mb1mx3.7/23,mbtmp3.7/13,ML4.1/3, MS3.6/4,Ms1 3.6/4,ms1mx3.2/21,Error ellipse: s-maj=20.2km s-min=13.6km az=78.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.84**	**305**	P	Pn	09 50 37.7	+0.1
	25nm,0.3s,baz=178,slow=4.2,SNR=4.6						
HNR				S	Sn	09 51 11.3	+0.6
	77nm,0.3s,baz=356,slow=20,SNR=10.0						
HNR				LR	LR	09 51 46.4	
	comp=Z,789nm,18.1s,baz=225,slow=39						
DZM	**Mont Dzumac**	**11.62**	**161**	*e*Pn	Pn	09 52 37.8	-0.1
	1.4nm,0.2s						
DZM				*e*LR	LR	09 55 24.6	
	293nm,23.6s						
DZM	**Mont Dzumac**	**11.62**	**161**	P	Pn	09 52 37.6	-0.3
	0.6nm,0.3s,baz=326,slow=20,SNR=7.8						
DZM				S	Sn	09 54 44.9	-1.4
	baz=267,slow=24,SNR=1.7						
CTA	**Charters Tower**	**17.86**	**238**	P	Pn	09 53 59.9	+0.8
	0.6nm,0.3s,baz=64,slow=13,SNR=10						
CTA				LR	LR	10 00 03.7	
	comp=Z,135nm,20.3s,baz=45,slow=34						
STKA	**Stephens Creek**	**28.18**	**220**	P	P	09 55 42.4	+0.8
	0.7nm,0.8s,baz=322,slow=16,SNR=2.4						
STKA				LR	LR	10 06 35.3	
	comp=Z,206nm,19.6s,baz=24,slow=36						
WRA	**Warramunga Arr**	**28.32**	**248**	P	P	09 55 43.5	+0.5
	0.6nm,0.6s,baz=78,slow=8.9,SNR=10						
WRA				PcP	PcP	09 58 54.4	-0.5
	0.8nm,0.9s,baz=81,slow=3.3,SNR=5.9						
WRA				LR	LR	10 05 59.6	
	comp=Z,142nm,21.5s,baz=95,slow=34						
ASAR	**Alice Springs**	**29.78**	**241**	P	P	09 55 55.7	-0.3
	0.6nm,0.7s,baz=66,slow=9.9,SNR=7.1						
ASAR				PcP	PcP	09 58 58.2	-0.4
	0.6nm,0.9s,baz=68,slow=4.4,SNR=4.2						
FITZ	**Fitzroy Crossi**	**36.11**	**255**	P	P	09 56 50.5	-0.7
	1.0nm,0.6s,baz=255,slow=23,SNR=5.1						
PPT2	**Papeete2**	**46.97**	**104**	*e*LR	LR	10 11 52.1	
	240nm,28.8s						
TBI	**Tubuai**	**47.45**	**111**	*e*LR	LR	10 12 05.1	
	202nm,29.0s						
ASAJ	**Asahikawa**	**57.78**	**343**	P	P	09 59 39.7	0.0
	1.0nm,0.3s,baz=334,slow=33,SNR=3.8						
USRK	**Ussuriysk Arra**	**61.52**	**336**	P	P	10 00 05.0	-0.3
	0.9nm,0.6s,baz=151,slow=4.4,SNR=2.6						
SONM	**Songino Array**	**76.73**	**325**	P	P	10 01 39.0	-0.7
	0.5nm,0.8s,baz=143,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**84.65**	**19**	P	P	10 02 23.0	+1.5
	0.4nm,0.7s,baz=253,slow=4.6,SNR=3.9						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	P	10 02 42.2	+0.3
	0.9nm,0.7s,baz=260,slow=9.9,SNR=1.6						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	P	10 03 16.0	-1.6
	0.3nm,1.0s,baz=263,slow=4.9,SNR=4.5						

*ISCJB **17** 09:50:35.4±0.7,59°.29N±0°.03×27°.1E±0°.1,h0km,Error ellipse: s-maj=7.4km s-min=4.1km az=179.9*
*NAO **17** 09:50:36.1±1.1,59°.30N×27°.12E,ML2.3*
*BER **17** 09:50:36.7±2.6,59°.32N×27°.16E,h0km,ML2.3(NAO), Suspected explosion*
*HEL **17** 09:50:36.5±0.2,59°.28N×27°.20E,h0km,ML1.9,Explosion*
*CSEM **17** 09:50:36.5±0.3,59°.30N×26°.96E,h2km,ML2.3,Error ellipse: s-maj=7.0km s-min=4.4km az=93.0,Mining explosion.*
*IDC **17** 09:50:38.3±2.3,59°.41N×27°.26E,h0km,mb1 3.4/3, mb1mx3.0/25,mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=18.7km s-min=13.1km az=116.0*

ISC 17 09:50:35.0±0.9,59°.24N±0°.03×27°.15E±0°.05,h0km,n39, σ1§39/55,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.80**	**196**	Pg	**Pn**	**09 50 52.7**	**-0.7**
VSU				Lg	Lg	09 51 04.0	
VSU	**Vasula**	**0.80**	**196**	Pg	**Pn**	**09 50 52.7**	**-0.7**
VSU				Lg	Lg	09 51 04.0	
VSU	**Vasula**	**0.80**	**196**	*e*P	**Pb**	**09 50 51.5**	**-0.3**
VSU	**Vasula**	**0.80**	**196**	*e*P	**Pn**	**09 50 52.8**	**-0.7**
	SNR=90						
VSU				*e*S	**Sb**	**09 51 04.0**	**+0.9**
	350nm,0.8s,SNR=90						
VSU				Lg	Lg	09 51 04.0	
	SNR=90						
VJF	**Virojoki**	**1.32**	**9**	*e*P	**Pg**	**09 50 59.4**	**-1.0**
VJF				*e*S	**Sg**	**09 51 15.6**	**-1.9**
VJF				MSG		09 51 16.1	
	comp=Z,9.6nm,0.2s						
VJF				*e*Rg	Rg	09 51 21.2	
VJF	**Virojoki**	**1.32**	**9**	P	**Pg**	**09 50 59.3**	**-1.0**
VJF				S	**Sg**	**09 51 15.5**	**-1.9**
PVF	**Pernaja**	**1.47**	**334**	*e*P	**Pn**	**09 51 02.1**	**-0.5**
PVF				MSG	**Sg**	**09 51 20.3**	**-1.7**
	comp=Z,7.7nm,0.2s						
PVF				*e*S	**Sg**	**09 51 20.3**	**-1.7**
PVF	**Pernaja**	**1.47**	**334**	P	**Pn**	**09 51 02.1**	**-0.5**
PVF				S	**Sg**	**09 51 20.3**	**-1.7**
MEF	**Metsahovi**	**1.71**	**306**	*e*PG	**Pb**	**09 51 07.1**	**-0.1**
MEF				*e*SG	**Sb**	**09 51 28.9**	**-0.3**
MEF				MSG		09 51 28.9	
	comp=Z,5.7nm,0.2s						
MEF	**Metsahovi**	**1.71**	**306**	Pg	**Pb**	**09 51 07.1**	**-0.1**
MEF				*e*S	**Sn**	**09 51 28.6**	**+0.2**
	comp=Z,21nm,0.5s,SNR=50						
FIA0	**FINESS Array S**	**2.28**	**347**	Pn	**Pn**	**09 51 14.2**	**+0.4**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**09 51 15.7**	**-1.2**
	baz=163,slow=16						
FIA0				Lg	Lg	09 51 45.2	
	baz=166,slow=37						
FIA0				Rg	Rg	09 51 58.4	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.28**	**347**	Pn	**Pn**	**09 51 14.2**	**+0.4**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**09 51 15.7**	**-1.2**
	baz=163,slow=16						
FIA0				Lg	Lg	09 51 45.2	
	baz=166,slow=37						
FIA0				Rg	Rg	09 51 58.4	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.28**	**347**	*e*P	**Pn**	**09 51 14.5**	**+0.7**
FIA0				*e*S	**Sn**	**09 51 42.0**	**-0.5**
FIA0				*e*RG	Rg	09 51 59.2	
FIA0	**FINESS Array S**	**2.28**	**347**	Pn	**Pn**	**09 51 14.2**	**+0.4**
	baz=164,slow=16,SNR=8.7						
FIA0	**FINESS Array S**	**2.28**	**347**	P	**Pn**	**09 51 14.5**	**+0.7**
FIA0	**FINESS Array S**	**2.28**	**347**	Pg	**Pb**	**09 51 15.7**	**-1.2**
	baz=163,slow=14,SNR=90						
FIA0				S	**Sn**	**09 51 42.0**	**-0.5**
FIA0				Lg	Lg	09 51 45.2	
	baz=166,slow=30						
FINES	**FINESS Array B**	**2.28**	**347**	Pn	**Pn**	**09 51 14.5**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=164,slow=16,SNR=6.7						
FINES				Pg	**Pb**	**09 51 15.9**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=164,slow=15,SNR=11						
FINES				Sn	**Sn**	**09 51 42.7**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=161,slow=26,SNR=8.9						
FINES				Lg	Lg	09 51 45.2	
	comp=Z,4.0nm,0.3s,baz=176,slow=25,SNR=25						
FINES				Rg	Rg	09 51 57.8	
	comp=Z,47nm,0.9s,baz=161,slow=30,SNR=13						
KAF	**Kangasniemi**	**2.92**	**352**	*e*P	**Pn**	**09 51 24.5**	**+1.9**
KAF				*e*S	**Sn**	**09 51 58.6**	**+0.4**
KAF				MSG		09 51 58.6	
	comp=Z,2.7nm,0.2s						
KAF	**Kangasniemi**	**2.92**	**352**	P	**Pn**	**09 51 24.4**	**+1.9**
SLIT	**Slitere, Latvi**	**3.02**	**240**	*e*P	**Pb**	**09 51 28.3**	**-1.2**
	SNR=50						
KEF	**Keuruu**	**3.15**	**340**	*e*SB	**Sb**	**09 52 10.4**	**-0.2**
KEF				MSG		09 52 10.4	
	comp=Z,2.0nm,0.4s						
KEF	**Keuruu**	**3.15**	**340**	Sb	**Sb**	**09 52 10.4**	**-0.2**
RAF	**Rauma**	**3.24**	**306**	*e*P	Pn	09 51 29.4	+2.4
RAF				*e*SG	**Sb**	**09 52 15.5**	**+2.4**
RAF				MSG		09 52 15.5	
	comp=Z,2.2nm,0.4s						
RAF	**Rauma**	**3.24**	**306**	P	Pn	09 51 29.3	+2.4
RAF				*e*S	Sn	09 51 58.5	-7.6
	comp=Z,7.9nm,0.5s,SNR=50						
RAF				Sg	**Sb**	**09 52 15.5**	**+2.4**
SUF	**Sumiainen**	**3.53**	**353**	MSG	**Sb**	**09 52 21.9**	**+0.3**
	comp=Z,5.0nm,0.4s						
SUF				*e*SB	**Sb**	**09 52 21.9**	**+0.3**
SUF	**Sumiainen**	**3.53**	**353**	Sb	**Sb**	**09 52 21.9**	**+0.3**
JOF	**Joensuu**	**4.21**	**27**	*e*P	Pn	**09 52 42.5**	**+2.2**
JOF				*e*SG	**Sb**	**09 52 43.4**	**+2.2**
JOF				MSG		09 52 43.4	
	comp=Z,3.1nm,0.4s						
JOF	**Joensuu**	**4.21**	**27**	P	Pn	09 51 42.5	+2.2
HFS	**Hagfors**	**6.87**	**283**	Sn	**Sn**	**09 53 32.6**	**-3.1**
	baz=107,slow=28						
HFS				Lg	Lg	09 54 06.7	
	baz=87,slow=37						
HFS	**Hagfors**	**6.87**	**283**	Sn	**Sn**	**09 53 32.6**	**-3.1**
	baz=107,slow=28						
HFS				Lg	Lg	09 54 06.7	
	baz=87,slow=37						
HFS	**Hagfors**	**6.87**	**283**	Sn	**Sn**	**09 53 32.6**	**-3.1**
	baz=107,slow=26,SNR=2.8						
HFS				Lg	Lg	09 54 06.7	
	baz=87,slow=35,SNR=3.8						
NB2	**NORSAR Subarra**	**8.16**	**290**	Pn	**Pn**	**09 52 33.9**	**-0.6**
NB2	**NORSAR Subarra**	**8.16**	**290**	Pn	**Pn**	**09 52 33.9**	**-0.6**
NB2	**NORSAR Subarra**	**8.16**	**290**	Pn	**Pn**	**09 52 33.9**	**-0.6**
NOA	**NORSAR Array B**	**8.16**	**290**	Pn	**Pn**	**09 52 34.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=168,slow=10,SNR=1.6						
NOA				Sn	**Sn**	**09 54 04.3**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=121,slow=22,SNR=0.9						
NOA				Lg	Lg	09 54 53.6	
	comp=Z,0.4nm,0.3s,baz=61,slow=22,SNR=2.1						
ARA0	**ARCESS Array S**	**10.37**	**357**	Pn	**Pn**	**09 53 03.3**	**-1.4**
	baz=171,slow=16						
ARA0				Sn	Sn	09 54 52.0	-9.5
	baz=173,slow=28						
ARA0	**ARCESS Array S**	**10.37**	**357**	Pn	**Pn**	**09 53 03.3**	**-1.4**
	baz=171,slow=16						
ARA0				Sn	Sn	09 54 52.0	-9.5
	baz=173,slow=28						
ARA0	**ARCESS Array S**	**10.37**	**357**	Pn	**Pn**	**09 53 03.3**	**-1.4**
	baz=171,slow=14,SNR=9.9						
ARCES	**ARCESS Array B**	**10.37**	**357**	Pn	**Pn**	**09 53 03.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=6.7						
ARCES				Sn	Sn	09 54 53.2	-8.2
	comp=Z,0.2nm,0.3s,baz=28,slow=2.9,SNR=3.2						
ARCES				Lg	Lg	09 55 57.5	
	comp=Z,0.3nm,0.3s,baz=169,slow=27,SNR=3.2						

NEIC 17 09:59:05.0,40°.82N×116°.03W,h8km,ML3.8(REN),After REN.,Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**0.60**	**97**	*e*Pg	Pg	09 59 16.2	-0.8
ELK				*e*Sg	Sg	09 59 24.3	-0.8
BMN	**Battle Mountai**	**0.99**	**247**	*e*Pg	Pg	09 59 24.3	0.0
BMN				*e*Sg	Sg	09 59 37.4	0.0
DUG	**Dugway**	**2.53**	**103**	*e*Pn	Pn	09 59 47.0	+0.5
DUG				*e*Sn	Sn	10 00 17.5	-0.2
MFID	**Camas Ranch**	**2.59**	**3**	*e*Pn	Pn	09 59 46.3	-1.1
MFID				*e*Sg	Sg	10 00 28.3	-0.4
HVU	**Hansel Valley**	**2.63**	**68**	*e*Pn	Pn	09 59 48.4	+0.4
HVU				*e*Pg	Pg	09 59 54.9	-0.7
HVU				*e*Sg	Sg	10 00 28.1	-1.8
NV11	**Mina Array Sit**	**2.90**	**215**	*e*Pn	Pn	09 59 51.1	-0.6
NV11				*e*Pg	Pb	09 59 58.9	+1.7
NV11				*e*Sg	Sg	10 00 36.2	-2.3
HLID	**Hailey**	**2.99**	**23**	*e*Pn	Pn	09 59 55.0	+2.1
HLID				*e*Sg	Sg	10 00 40.2	-1.2
CTU	**Camp Tracy**	**3.25**	**91**	*e*Pn	Pn	09 59 54.3	-2.3
CTU				*e*Pg	Pg	10 00 07.4	-0.1
CTU				*e*Sg	Sg	10 00 48.9	-1.0
MOD	**Modoc**	**3.40**	**290**	*e*Pn	Pn	09 59 59.2	+0.7
MOD				*e*Sg	Sg	10 00 56.3	+1.8
HWUT	**Hardware Ranch**	**3.45**	**75**	*e*Pn	Pn	09 59 58.7	-0.7
HWUT				*e*Sg	Sg	10 00 55.4	-1.0
ARUT	**Antelope Range**	**3.63**	**146**	*e*Pn	Pn	10 00 02.4	+0.6
ARUT				*e*Pg	Pg	10 00 13.8	-1.1
ARUT				*e*Sn	Sn	10 00 46.3	+1.2
MVU	**Marysvale**	**3.75**	**127**	*e*Pn	Pn	10 00 04.7	+1.2
MVU				*e*Sg	Sg	10 01 02.4	-3.4
MSU	**Marysvale**	**3.76**	**127**	*e*Pn	Pn	10 00 04.7	+1.1
CCUT	**Cedar City**	**3.87**	**147**	*e*Pn	Pn	10 00 05.7	+0.6
CCUT				*e*Pg	Pg	10 00 18.0	-1.5
CCUT				*e*Sg	Sg	10 01 07.3	-2.5
TMUT	**Trail Mountain**	**4.00**	**111**	*e*Pn	Pn	10 00 05.7	-1.3
TMUT				*e*Pg	Pg	10 00 21.1	-1.0
TMUT				*e*Sg	Sg	10 01 11.9	-2.3
BMO	**Blue Mountains**	**4.14**	**347**	*e*Pn	Pn	10 00 09.5	+0.9
BMO				*e*Sg	Sg	10 01 16.5	-1.6
CMB	**Columbia Colle**	**4.38**	**232**	*e*Pn	Pn	10 00 11.8	0.0
CMB				*e*Pg	Pg	10 00 26.4	-2.6
MCMT	**McKenzie Canyo**	**4.63**	**29**	*e*Pn	Pn	10 00 19.1	+3.5
MCMT				*e*Sg	Sg	10 01 32.5	-1.9
IMW	**Indian Meadow**	**4.86**	**49**	*e*Pn	Pn	10 00 19.1	+0.2
MOOW	**Moose Ponds**	**4.89**	**52**	*e*Pn	Pn	10 00 20.5	+1.4
LOHW	**Long Hollow**	**4.90**	**54**	*e*Pn	Pn	10 00 18.4	-0.8
WDC	**Whiskeytown Da**	**4.96**	**269**	*e*Pg	Pg	10 00 41.1	+1.0
DLMT	**Dillon**	**5.18**	**28**	*e*Pn	Pn	10 00 24.5	+1.4
GSC	**Goldstone**	**5.55**	**187**	*e*Pn	Pn	10 00 27.9	-0.1
GSC				*e*Pg	Pg	10 00 48.4	-3.0
LDFC	**Landfair**	**5.78**	**173**	*e*Pn	Pn	10 00 30.4	-0.8
	10nm,0.5s						
LDFC				*e*Pg	Pg	10 00 52.8	-3.1
LDFC				*e*Sg	Sg	10 02 05.5	-5.4
BOZ	**Bozeman (W)**	**5.79**	**32**	*e*Pg	Pg	10 00 53.6	-2.5
	4.2nm,1.3s						
SLMT	**Seeley Lake**	**6.67**	**15**	*e*Pn	Pn	10 00 43.1	-0.4
SLMT				*e*Sg	Sg	10 02 36.6	-2.9

IDC 17 10:04:23.4±1.3,27°.07S×176°.17W,h0km,mb4.2/8, mb1 4.3/8,mb1mx4.2/15,mbtmp4.1/8,MS3.7/6,Ms1 3.7/6, ms1mx3.3/35,Error ellipse: s-maj=43.8km s-min=27.6km az=142.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.57**	**284**	LR	LR	10 13 16.8	
	comp=Z,185nm,19.9s,baz=204,slow=32						
PPT	**Papeete**	**26.31**	**74**	LR	LR	10 16 50.5	
	comp=Z,159nm,20.8s,baz=209,slow=28						
HNR	**Honiara**	**28.57**	**303**	LR	LR	10 19 20.4	
	comp=Z,170nm,19.2s,baz=124,slow=31						
STKA	**Stephens Creek**	**36.91**	**252**	P	P	10 11 35.1	+1.0
	1.3nm,0.6s,baz=112,slow=11,SNR=4.5						
STKA				LR	LR	10 25 29.3	
	comp=Z,84nm,18.9s,baz=24,slow=34						
ASAR	**Alice Springs**	**45.01**	**263**	P	P	10 12 40.0	-0.9
	1.3nm,0.8s,baz=96,slow=6.9,SNR=19						
ASAR				LR	LR	10 30 58.1	
	comp=Z,68nm,18.6s,baz=197,slow=35						
WRA	**Warramunga Arr**	**45.70**	**268**	P	P	10 12 45.1	-1.4
	5.4nm,0.6s,baz=106,slow=7.7,SNR=44						
MJAR	**Matsushiro Arr**	**76.47**	**324**	P	P	10 16 14.9	-0.1
	2.5nm,0.7s,baz=167,slow=6.3,SNR=8.9						
VNA3	**Neumayer Olymp**	**81.50**	**176**	*e*P	P	10 16 41.7	-0.6
VNA2	**Neumayer--Watz**	**81.96**	**176**	*e*P	P	10 16 44.7	0.0
KSRS	**Korea Array**	**82.89**	**318**	P	P	10 16 51.9	+2.0
	1.0nm,0.7s,baz=142,slow=6.4,SNR=4.4						
PETK	**Petropavlovsk-**	**83.02**	**344**	P	P	10 16 50.0	-0.2
	2.0nm,0.8s,baz=142,slow=7.3,SNR=3.4						
NVAR	**Mina Array Bea**	**84.70**	**42**	pP	P	10 17 09.7	+10
	0.7nm,0.8s,baz=207,slow=9.6,SNR=2.8						
TXAR	**Lajitas Array**	**89.23**	**56**	pP	P	10 17 31.9	+10
	0.4nm,0.9s,baz=224,slow=3.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**93.84**	**289**	P	P	10 17 45.0	+1.8
	0.6nm,0.4s,baz=132,slow=3.7,SNR=6.0						
ILAR	**Eielson Array**	**94.33**	**12**	P	P	10 17 43.0	-1.2
	0.2nm,0.6s,baz=224,slow=5.6,SNR=6.3						
LPAZ	**La Paz**	**98.00**	**113**	LR	LR	10 52 35.8	
	comp=Z,40nm,18.1s,baz=123,slow=30						
NOA	**NORSAR Array B**	**145.67**	**354**	PKPbc	PKPdf	10 24 03.0	-0.2
	0.9nm,0.6s,baz=3.2,slow=2.3,SNR=3.8						
AKASG	**Malin Array Be**	**149.49**	**328**	PKPbc	PKPbc	10 24 13.4	-0.9
	1.7nm,0.6s,baz=39,slow=4.0,SNR=6.6						
BRTR	**Keskin Array B**	**152.23**	**305**	PKPbc	PKPbc	10 24 20.6	-0.8
	0.4nm,0.9s,baz=152,slow=5.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**166.01**	**171**	PKPab	PKPab	10 25 30.9	-0.1
	0.7nm,0.7s,baz=187,slow=4.2,SNR=5.5						

*ISCJB **17** 10:18:43.2±0.2,23°.84N±0°.01×121°.69E±0°.02,h14km, Error ellipse: s-maj=2.3km s-min=1.7km az=44.6*
*JMA **17** 10:18:44.7±0.2,24°.06N×121°.63E,h79km,M3.6*
*TAP **17** 10:18:44.5,23°.91N×121°.57E,h42km,ML3.9,B*
ISC 17 10:18:43.0±0.8,23°.85N±0°.02×121°.66E±0°.02,h14km,n67, σ1§05/106,7C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns**	**0.14**	**281**	P	Pb	10 18 51.0	+3.7
	baz=248						
ESF				*e*S	**Sb**	**10 18 55.8**	**+5.5**
	baz=248						
HWA	**Hwalien**	**0.14**	**341**	*e*P	Pb	10 18 51.7	+4.3
	baz=20						
HWA				*e*S	Sb	10 18 56.6	+6.3
	baz=20						
TEGC	**Jichi Village**	**0.17**	**218**	P	Pb	10 18 52.2	+4.2
	baz=186						
TEGC				S	Sb	10 18 58.0	+6.7
	baz=186						
TWD	**Chiawan**	**0.24**	**347**	⇓*i*P	**Pb**	**10 18 51.8**	**+2.6**
	baz=4.0						
TWD				*i* S	**Sb**	**10 18 56.6**	**+3.3**
	baz=4.0						
WHF	**Hehuan Shan**	**0.47**	**310**	⇓*i*P	**Pb**	**10 18 54.2**	**+0.9**
	baz=307						
WHF				*e*S	**Sb**	**10 19 00.7**	**+0.5**
	baz=307						
EHP	**Heping Village**	**0.47**	**10**	*e*P	**Pb**	**10 18 54.1**	**+1.1**
	baz=16						
ENA	**Nanau**	**0.59**	**8**	⇓*i*P	**Pb**	**10 18 55.6**	**+0.5**
	baz=10.0						
TWF1	**Yuli**	**0.59**	**214**	⇑*e*P	**Pb**	**10 18 55.6**	**+0.4**
	baz=210						
TWT	**Tachien**	**0.60**	**313**	⇓*i*P	**Pb**	**10 18 56.2**	**+0.9**
	baz=312						
TWT				S	**Sb**	**10 19 03.8**	**0.0**
	baz=312						
NNS	**Nan Shan**	**0.65**	**337**	⇓*i*P	**Pb**	**10 18 56.4**	**+0.2**
	baz=345						
NNS				*i* S	**Sg**	**10 19 04.5**	**+0.2**
	baz=345						
SMLT	**Sun Moon Lake**	**0.69**	**273**	⇑*i*P	**Pb**	**10 18 57.3**	**+0.3**
	baz=267						
TYC	**Yuchr**	**0.73**	**275**	⇑*i*P	**Pb**	**10 18 57.6**	**+0.1**
	baz=269						
TWC	**Suao**	**0.78**	**13**	*e*P	**Pb**	**10 18 58.5**	**+0.1**
	baz=12						
TWC				*e*S	**Sn**	**10 19 10.0**	**-1.1**
	baz=12						
CHKT	**Chengkung**	**0.79**	**200**	*e*P	**Pb**	**10 18 59.2**	**+0.7**
	baz=199						
CHKT				*e*S	**Sn**	**10 19 10.8**	**-0.5**
	baz=199						
ENTT	**Nioudou**	**0.80**	**354**

	baz=11							
TWB1				*e*S		**Sb**	**10 19 20.5**	**-0.4**
	baz=11							
NCU	**National Centr**	**1.20**	**339**	*e*P		**Pn**	**10 19 05.1**	**-0.2**
	baz=342							
NCU				*e*S		**Sb**	**10 19 20.6**	**-0.2**
	baz=342							
TWK	**Hsinying**	**1.22**	**242**	*e*P		**Pn**	**10 19 05.9**	**+0.3**
	baz=236							
TWK				*e*S		**Sb**	**10 19 21.5**	**+0.1**
	baz=236							
CHN1	**Nanshi**	**1.23**	**238**	*e*P		**Pn**	**10 19 06.0**	**+0.3**
	baz=233							
CHN1				*e*S		**Sb**	**10 19 21.7**	**+0.1**
	baz=233							
NWF	**Wu-fen Shan**	**1.23**	**5**	*e*P		**Pn**	**10 19 05.1**	**-0.7**
	baz=10.0							
NWF				*e*S		**Sb**	**10 19 20.5**	**-1.2**
	baz=10.0							
SGST	**Jiashian**	**1.24**	**233**	*e*P		**Pb**	**10 19 06.6**	**+0.3**
	baz=218							
SGST				*e*S		**Sg**	**10 19 23.3**	**+0.1**
	baz=218							
TWS1	**Kuangyinshan**	**1.27**	**350**	*e*P		**Pn**	**10 19 05.4**	**-0.9**
	baz=9.0							
WSF	**Szhu**	**1.33**	**261**	*e*P		**Pn**	**10 19 07.1**	**0.0**
	baz=257							
WSF				*e*S		**Sb**	**10 19 24.5**	**-0.1**
	baz=257							
YOJ	**Yonaguni jima**	**1.38**	**63**	*i* P		**Pn**	**10 19 08.0**	**+0.1**
	baz=66							
YOJ				S		**Sn**	**10 19 25.3**	**-0.6**
	baz=66							
YOJ	**Yonaguni jima**	**1.38**	**63**	P		**Pn**	**10 19 08.0**	**+0.1**
YOJ				S		**Sn**	**10 19 25.4**	**-0.6**
ECL	**Taimali**	**1.40**	**208**	*e*P		**Pn**	**10 19 06.3**	**-1.8**
	baz=193							
CHN8	**Yiju**	**1.42**	**250**	*e*P		**Pn**	**10 19 07.2**	**-1.1**
	baz=245							
CHN8				*e*S		**Sn**	**10 19 26.4**	**-0.3**
	baz=245							
TWY	**Chenhua**	**1.43**	**358**	*e*P		**Pn**	**10 19 07.3**	**-1.2**
	baz=2.0							
SCLT	**Jiali**	**1.50**	**244**	*e*P		**Pn**	**10 19 09.0**	**-0.4**
	baz=239							
SCLT				*e*S		**Sn**	**10 19 29.0**	**+0.2**
	baz=239							
TWM1	**Shoushan**	**1.52**	**228**	*e*P		**Pg**	**10 19 12.1**	**-0.2**
	baz=233							
TAI1	**Yung-k'ang**	**1.54**	**239**	*e*P		**Pb**	**10 19 11.2**	**-0.1**
	baz=233							
EAST	**Anshuo**	**1.63**	**207**	*e*P		**Pn**	**10 19 11.9**	**+0.5**
	baz=191							
TAW	**Tawu**	**1.64**	**205**	*e*P		**Pb**	**10 19 13.0**	**0.0**
	baz=190							
SCZT	**Fangliau**	**1.75**	**213**	*e*P		**Pn**	**10 19 13.9**	**+1.0**
	baz=223							
SCZT				*e*S		**Sn**	**10 19 35.6**	**+0.6**
	baz=223							
LAY	**Lan-yu**	**1.80**	**183**	*e*P		**Pn**	**10 19 12.7**	**-1.0**
	baz=175							
TWP	**Hsiaoliuchiu**	**1.91**	**219**	*e*P		**Pb**	**10 19 18.6**	**+1.0**
	baz=228							
WDGT	**Dungji**	**1.92**	**253**	*e*P		**Pn**	**10 19 14.4**	**-0.8**
	baz=248							
WDGT				*e*S		**Sn**	**10 19 36.1**	**-3.1**
	baz=248							
PNG	**Penghu**	**1.94**	**262**	*e*P		**Pn**	**10 19 14.4**	**-1.2**
	baz=259							
IRIF	**Iriomote-Funau**	**1.96**	**75**	P		**Pn**	**10 19 16.3**	**+0.5**
IRIF				S		**Sn**	**10 19 40.1**	**-0.1**
HATJ	**Hateruma jima**	**1.98**	**83**	P		**Pn**	**10 19 16.8**	**+0.7**
HATJ				S		**Sn**	**10 19 41.2**	**+0.5**
HEN	**Hengchun**	**2.02**	**205**	*e*P		**Pn**	**10 19 17.7**	**+1.1**
	baz=188							
TWK1	**Hengchun**	**2.05**	**203**	*e*P		**Pn**	**10 19 17.2**	**+0.1**
	baz=188							
TSEB	**Hengchuen, Pin**	**2.06**	**200**	*e*P		**Pn**	**10 19 17.9**	**+0.8**
	baz=187							
JKRS	**Kuro-shima**	**2.19**	**79**	P		**Pn**	**10 19 19.9**	**+1.0**
JKRS				S		**Sn**	**10 19 47.1**	**+1.3**
JIJ	**Ishigaki jima**	**2.33**	**77**	P		**Pn**	**10 19 21.2**	**+0.3**
JIJ				S		**Sn**	**10 19 48.3**	**-1.1**
JTJ	**Tarama**	**2.89**	**73**	P		**Pn**	**10 19 29.0**	**+0.4**
JTJ				*e*S		**Sn**	**10 20 02.2**	**-1.0**
JOGS	**Gusukube**	**3.54**	**74**	P		**Pn**	**10 19 38.4**	**+0.8**

MEX 17 11:16:36.1±0.5, 17°.95N×100°.63W, h57km±8km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.42**	**39**	*e*P	Pn	11 16 45.3	-1.8
ARIG				*i* S	Sn	11 16 53.1	-1.9
ZIIG	**Zihuatanejo**	**0.87**	**247**	*i* P	Pn	11 16 51.6	-0.7
ZIIG				*i* S	Sn	11 17 02.8	-1.4
CAIG	**El Cayaco**	**0.96**	**159**	*e*P	Pn	11 16 52.2	-1.4
CAIG				*i* S	Sn	11 17 04.7	-1.7
PLIG	**Platanillo**	**1.16**	**68**	*i* P	Pn	11 16 54.7	-1.5
PLIG				*e*S	Sn	11 17 09.6	-1.7

IDC 17 11:33:38.2±3.0, 22°.31N×143°.65E, h119km±27km, mb3.2/8, mb1 3.4/10, mb1mx3.3/25, mbtmp3.2/10, Error ellipse: s-maj=33.5km s-min=16.2km az=97.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.94**	**345**	P	Pn	11 34 51.8	+1.4
	3.9nm,0.3s,baz=287,slow=20,SNR=5.0						
CBIJ				S	Sn	11 35 46.0	-0.5
	11nm,0.3s,baz=122,slow=23,SNR=11						
MJAR	**Matsushiro Arr**	**14.95**	**343**	P	Pn	11 37 03.6	+0.2
	0.5nm,0.3s,baz=139,slow=9.4,SNR=5.7						
KSRS	**Korea Array**	**20.29**	**322**	P	Pn	11 38 09.5	+1.9
	1.4nm,0.6s,baz=149,slow=9.1,SNR=6.1						
SONM	**Songino Array**	**39.15**	**320**	P	P	11 40 55.1	+0.8
	0.5nm,0.5s,baz=135,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**42.97**	**193**	P	P	11 41 25.5	-0.2
	0.2nm,0.3s,baz=14,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**46.68**	**192**	P	P	11 41 54.5	-0.5
	0.1nm,0.4s,baz=12,slow=7.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**54.00**	**321**	P	P	11 42 49.6	-0.2
	0.4nm,0.4s,baz=87,slow=7.6,SNR=3.7						
ILAR	**Eielson Array**	**61.30**	**27**	P	P	11 43 40.2	-0.5
	0.3nm,0.6s,baz=269,slow=5.9,SNR=4.0						
YKA	**Yellowknife Ar**	**75.71**	**28**	P	P	11 45 10.6	+0.4
	0.3nm,0.4s,baz=292,slow=5.7,SNR=7.3						
NVAR	**Mina Array Bea**	**82.42**	**52**	P	P	11 45 48.0	+0.4
	0.5nm,0.8s,baz=281,slow=0.8,SNR=4.6						
FINES	**FINESS Array B**	**82.81**	**335**	P	P	11 45 48.4	-0.5
	0.8nm,0.4s,baz=66,slow=4.7,SNR=6.4						

MAN 17 11:38:54, 10°.19N×126°.43E, h33km, mb4.9, ML3.9, MS3.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.45**	**213**	*e*P	Pn	11 39 18.5	+0.5
MSLP	**Maasin**	**1.55**	**268**	*e*P	Pn	11 39 19.4	+0.2
MSLP				*e*S	Sn	11 39 39.6	+1.3
PLP	**Palo**	**1.72**	**304**	⇓*e*P	Pn	11 39 22.8	+1.1
PLP				*e*S	Sn	11 39 44.1	+1.5
LLP	**Lapu-Lapu**	**2.43**	**273**	*e*P	Pn	11 39 32.5	+1.1
LLP				*e*S	Sn	11 40 01.6	+1.6
TBP	**Tagbilaran**	**2.58**	**259**	*e*P	Pn	11 39 35.2	+1.8
BUKP	**Musuan**	**2.67**	**211**	*e*P	Pn	11 39 36.8	+2.0
GUIM	**Jordan**	**3.80**	**277**	*e*P	Pn	11 39 52.5	+2.2
PAGZ	**Pagadian**	**3.81**	**233**	*e*P	Pn	11 39 52.7	+2.3

IDC 17 12:02:51.9±12.0, 6°.17S×129°.58E, h250km±132km, mb1 2.4/3, mb1mx2.3/17, mbtmp2.2/3, Error ellipse: s-maj=81.9km s-min=69.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.47**	**198**	P	Pn	12 05 39.8	-1.5
	0.1nm,0.3s,baz=17,slow=11,SNR=3.5						
FITZ				S	S	12 08 01.9	+1.7
	0.0nm,0.3s,baz=30,slow=9.6,SNR=2.6						
WRA	**Warramunga Arr**	**14.45**	**162**	P	Pn	12 06 04.2	-1.4
	0.1nm,0.3s,baz=349,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**17.89**	**167**	P	P	12 06 44.1	+0.6
	baz=349,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**92.78**	**25**	P	P	12 15 35.8	+0.1
	0.3nm,0.5s,baz=268,slow=4.8,SNR=6.8						

IDC 17 12:10:50.4±1.6, 2°.59N×124°.68E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.2/39, 1C, Error ellipse: s-maj=193.4km s-min=24.2km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.63**	**355**	⇑*i* P	Pn	12 12 01.1	-0.5
WRA	**Warramunga Arr**	**24.32**	**157**	P	P	12 16 09.2	-0.7
	0.8nm,0.3s,baz=335,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.60**	**161**	P	P	12 16 41.5	+1.9
	0.2nm,0.4s,baz=338,slow=7.4,SNR=9.4						
JNU	**Nakatsue**	**30.93**	**10**	LR	LR	12 27 43.3	
	comp=Z,34nm,19.4s,baz=338,slow=33						
STKA	**Stephens Creek**	**37.85**	**156**	P	P	12 18 08.1	-1.0
	0.7nm,0.3s,baz=336,slow=7.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**61.61**	**329**	P	P	12 21 09.4	-0.4
	0.6nm,0.7s,baz=129,slow=6.6,SNR=6.1						

NNC 17 12:14:46.7±3.7, 53°.86N×85°.51E, h0km, mb3.5, mpv3.0, 7C-5D, Error ellipse: s-maj=34.2km s-min=13.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**5.37**	**236**	⇓Pn	Pn	12 16 11.1	+3.1
	0.6nm,0.5s,baz=52,slow=14						
MK31	**Makanchi Array**	**7.36**	**198**	⇑Pn	Pn	12 16 37.2	+1.8
	0.2nm,0.2s,baz=28,slow=14,SNR=62						
MK31				⇓Sn	Sn	12 18 06.3	+6.6
	0.6nm,0.6s						
MK31				⇑Lg	Lg	12 18 39.5	
	3.1nm,0.8s,baz=21,slow=31,SNR=4.0						
VOSK	**Vostochnaya**	**8.78**	**268**	⇑Pn	Pn	12 16 54.1	-0.7
	0.8nm,0.6s						
VOSK				⇓Sn	Sn	12 18 35.1	+0.7
	2.3nm,1.2s						
BVA0	**Borovoye Array**	**9.07**	**271**	⇑Pn	Pn	12 16 57.5	-1.2
	0.4nm,1.0s,baz=58,slow=16,SNR=3.9						
BVA0				⇑Sn	Sn	12 18 42.2	+0.8
	0.2nm,0.8s						
BRVK	**Borovoye**	**9.12**	**271**	⇓Pn	Pn	12 17 01.6	+2.1
	3.0nm,1.0s						
BRVK				⇓Sn	Sn	12 18 44.6	+1.7
	3.8nm,1.2s						
ZRNK	**Zerenda**	**9.90**	**271**	⇑Pn	Pn	12 17 11.8	+1.7
	2.4nm,0.9s						
ZRNK				⇑Sn	Sn	12 18 58.5	-3.4
	2.2nm,1.2s						

DDA 17 12:26:51.7, 36°.42N×37°.28E, h7km, MD3.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.40**	**335**	*e*P	Pg	12 26 59.0	-0.4
KUZU				*e*S	Sb	12 27 08.2	+0.7
GZT	**Gaziantep**	**0.96**	**13**	*e*P	Pg	12 27 10.3	-0.2
GZT				*e*S	Sb	12 27 24.0	-0.1

IDC 17 12:29:26.4±3.9, 12°.02N×145°.01E, h85km±57km, mb3.3/6, mb1 3.4/6, mb1mx3.2/26, mbtmp3.3/6, MS3.4/1, Ms1 3.4/1, ms1mx2.4/16, Error ellipse: s-maj=388.7km s-min=16.6km az=85.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.57**	**355**	P	Pn	12 29 52.6	-0.2
	13nm,0.3s,baz=144,slow=16,SNR=11						
GUMO				S	Sn	12 30 12.8	0.0
	32nm,0.3s,baz=96,slow=23,SNR=15						
WRA	**Warramunga Arr**	**33.45**	**198**	P	P	12 35 58.2	+0.7
	0.4nm,0.9s,baz=9.9,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**37.09**	**197**	P	P	12 36 27.9	-0.8
	0.5nm,1.1s,baz=11,slow=10,SNR=3.4						
SONM	**Songino Array**	**48.09**	**326**	P	P	12 37 57.8	+0.1
	0.4nm,0.5s,baz=140,slow=6.2,SNR=3.4						
SONM				LR	LR	12 56 40.7	
	comp=Z,42nm,21.8s,baz=79,slow=34						
ZALV	**Zalesovo Beam**	**62.98**	**325**	P	P	12 39 43.8	-0.2
	0.2nm,0.3s,baz=98,slow=7.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**65.91**	**320**	P	P	12 40 03.0	-0.2
	0.8nm,0.5s,baz=104,slow=7.1,SNR=12						
BVAR	**Borovoye Array**	**71.24**	**322**	P	P	12 40 36.7	+0.3
	0.7nm,0.3s,baz=103,slow=8.1,SNR=6.5						

*ISCJB **17** 12:30:33.7±0.6, 39°.45N±0°.04×28°.16E±0°.04, h13km±5km, Error ellipse: s-maj=6.8km s-min=4.4km az=31.0*
*ISK **17** 12:30:33.5, 39°.45N×28°.15E, h13km, MD2.6*
*DDA **17** 12:30:33.8, 39°.47N×28°.15E, h7km, MD2.8*
*CSEM **17** 12:30:33.7±0.1, 39°.45N×28°.15E, h12km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.7km az=44.0*

ISC 17 12:30:33.5±1.1, 39°.46N±0°.03×28°.16E±0°.02, h11km±11km, n23, σ0°.40/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**310**	*e*PG	**Pg**	**12 30 39.7**	**+0.5**
BALB				*e*SG	**Sb**	**12 30 45.1**	**0.0**
BALB	**Balikesir**	**0.28**	**310**	*e*Pg	**Pg**	**12 30 39.7**	**+0.5**
BALB				*e*Sg	**Sb**	**12 30 45.1**	**0.0**
DURS	**Dursunbey**	**0.28**	**60**	*i* Pg	**Pg**	**12 30 39.4**	**+0.1**
DURS				*i* Sg	**Sb**	**12 30 44.8**	**-0.6**
DST	**Dursunbey**	**0.39**	**68**	*e*PG	**Pg**	**12 30 41.5**	**+0.3**
DST				*e*SG	**Sb**	**12 30 48.0**	**-0.3**
DST	**Dursunbey**	**0.39**	**68**	*e*Pg	**Pg**	**12 30 41.5**	**+0.3**
DST				*e*Sg	**Sb**	**12 30 48.0**	**-0.3**
BALY	**Balya**	**0.50**	**304**	*e*P	**Pg**	**12 30 43.3**	**0.0**
BALY				*e*S	**Sb**	**12 30 51.2**	**-0.4**
BALY	**Balya**	**0.50**	**304**	*e*P	**Pg**	**12 30 43.3**	**0.0**
BALY				*e*S	**Sb**	**12 30 51.2**	**-0.4**
DEMI	**Demirci**	**0.60**	**134**	*e*P	**Pg**	**12 30 45.5**	**+0.3**
DEMI				*e*S	**Sg**	**12 30 52.5**	**-0.7**
DEMI	**Demirci**	**0.60**	**134**	*e*P	**Pg**	**12 30 45.5**	**+0.3**
DEMI				*e*S	**Sg**	**12 30 52.5**	**-0.7**
AKHS	**Akhisar**	**0.64**	**205**	*e*P	**Pg**	**12 30 45.6**	**-0.3**
AKHS				*e*S	**Sb**	**12 30 56.3**	**+0.8**
AKHS	**Akhisar**	**0.64**	**205**	*e*P	**Pg**	**12 30 45.6**	**-0.3**
AKHS				*e*S	**Sb**	**12 30 56.3**	**+0.8**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*PG	**Pg**	**12 30 46.7**	**-0.1**
GONE				*e*SG	**Sb**	**12 30 57.0**	**+0.1**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*Pg	**Pg**	**12 30 46.7**	**-0.1**
GONE				*e*Sg	**Sb**	**12 30 57.0**	**+0.1**
TVSB	**Tavsanli**	**1.01**	**90**	*e*PG	**Pn**	**12 30 53.5**	**-0.1**
TVSB	**Tavsanli**	**1.01**	**90**	*e*Pg	**Pn**	**12 30 53.5**	**-0.1**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*PG	**Pg**	**12 30 53.5**	**+0.3**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*Pg	**Pg**	**12 30 53.5**	**+0.3**
ARMT	**Armutlu**	**1.23**	**26**	*e*PN	**Pg**	**12 30 57.4**	**+0.3**
ARMT	**Armutlu**	**1.23**	**26**	*e*Pn	**Pg**	**12 30 57.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**329**	*e*PN	**Pn**	**12 30 59.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.44**	**329**	*e*Pn	**Pn**	**12 30 59.5**	**0.0**
YLV	**Yalova**	**1.45**	**40**	*e*PN	**Pn**	**12 31 00.2**	**+0.6**
YLV	**Yalova**	**1.45**	**40**	*e*Pn	**Pn**	**12 31 00.2**	**+0.6**

WEL 17 12:39:38.2±0.4, 38°.17S×176°.12E, h150km±4km, ML3.5/13, 6C, Error ellipse: s-maj=3.3km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.79**	**97**	⇑PN	Pn	12 40 01.2	-0.1
URZ				SN	Sn	12 40 18.6	-0.3
BKZ	**Black Stump Fm**	**1.04**	**164**	⇑PN	Pn	12 40 03.3	-0.1
RAHZ	**Arahi**	**1.06**	**135**	PN	Pn	12 40 03.9	+0.4
RAHZ				SN	Sn	12 40 22.9	-0.1
MWZ	**Matawai**	**1.12**	**99**	PN	Pn	12 40 04.2	+0.1
MWZ				SN	Sn	12 40 23.5	-0.4
WNVZ	**Wahianoa**	**1.23**	**199**	⇑PN	Pn	12 40 05.4	+0.2
MOVZ	**Moawhango**	**1.27**	**193**	PN	Pn	12 40 05.2	-0.4
MTVZ	**Mangateitei**	**1.31**	**202**	⇑PN	Pn	12 40 06.1	+0.2
BHHZ	**Black Hill Sta**	**1.32**	**182**	⇑PN	Pn	12 40 05.6	-0.3
MCHZ	**McNeill Hill**	**1.35**	**161**	PN	Pn	12 40 06.8	+0.5
MCHZ				SN	Sn	12 40 27.6	-0.2
KNZ	**Kokohu**	**1.49**	**125**	PN	Pn	12 40 07.5	-0.1
CKHZ	**Cape Kidnapper**	**1.66**	**154**	SN	Sn	12 40 32.3	-1.3
MHGZ	**Mahia Peninsul**	**1.71**	**126**	PN	Pn	12 40 09.9	-0.1
KAHZ	**Kahuranaki**	**1.73**	**160**	PN	Pn	12 40 10.1	-0.2
PNHZ	**Pukenui**	**1.74**	**178**	PN	Pn	12 40 09.7	-0.7
WAZ	**Wanganui**	**1.81**	**209**	⇑PN	Pn	12 40 11.1	-0.1
TSZ	**Takapari Road**	**1.89**	**184**	PN	Pn	12 40 11.2	-0.9
WPHZ	**Waipukurau**	**1.91**	**173**	PN	Pn	12 40 11.4	-0.8
PXZ	**Pawanui**	**1.95**	**163**	PN	Pn	12 40 11.9	-0.8
DVHZ	**Dannevirke**	**2.13**	**179**	PN	Pn	12 40 13.4	-1.4
POWZ	**Post Office Ro**	**2.23**	**187**	PN	Pn	12 40 14.7	-1.4
BFZ	**Birch Farm**	**2.51**	**178**	PN	Pn	12 40 17.7	-1.8
MRZ	**Mangatainoka R**	**2.52**	**189**	PN	Pn	12 40 17.7	-1.9
TIWZ	**Tintock**	**2.61**	**184**	PN	Pn	12 40 18.7	-2.0
OGWZ	**Otaki Gorge**	**2.74**	**195**	PN	Pn	12 40 20.4	-1.9
HOWZ	**Holdsworth Sta**	**2.76**	**190**	PN	Pn	12 40 20.2	-2.4
KIW	**Kapiti Island**	**2.84**	**199**	PN	Pn	12 40 21.2	-2.4
TMWZ	**Te Maipa**	**2.94**	**183**	PN	Pn	12 40 22.4	-2.4
MTW	**Mount Morrison**	**3.02**	**189**	PN	Pn	12 40 23.0	-2.8
CAW	**Cannon Point**	**3.04**	**195**	PN	Pn	12 40 23.6	-2.5
WEL	**Wellington**	**3.28**	**198**	PN	Pn	12 40 26.3	-2.8
MSWZ	**Moikau Station**	**3.31**	**191**	PN	Pn	12 40 26.4	-3.1
TCW	**Tory Channel**	**3.35**	**204**	PN	Pn	12 40 27.4	-2.7
PLWZ	**Palliser**	**3.46**	**191**	PN	Pn	12 40 28.2	-3.3
TUWZ	**Tuamarina**	**3.66**	**207**	PN	Pn	12 40 31.0	-3.0
THZ	**Tophouse**	**4.36**	**214**	PN	Pn	12 40 40.2	-3.0
KHZ	**Kahutara**	**4.68**	**204**	PN	Pn	12 40 43.8	-3.5

*ISCJB **17** 12:56:53.4±0.8, 28°.41S±0°.05×67°.55W±0°.08, h128km±11km, mb3.8/3, Error ellipse: s-maj=11.1km s-min=8.7km az=176.6*
*GUC **17** 12:56:55.3±0.9, 28°.44S×67°.65W, h130km, ML4.1*
*IDC **17** 12:56:55.4±0.8, 28°.52S×67°.50W, h137km±7km, mb3.6/3, mb1 3.6/6, mb1mx3.5/19, mbtmp3.4/6, Error ellipse: s-maj=30.2km s-min=12.6km az=108.0*

ISC 17 12:56:54.5±0.8, 28°.38S±0°.06×67°.62W±0°.07, h131km±9km, n15, σ1°.64/23, 3C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.63**	**292**	*e*P	**Pn**	**12 57 36.3**	**-0.1**
CPCH				*e*S	**Sn**	**12 58 08.0**	**-0.7**
VACH	**Vallenar**	**2.77**	**265**	⇑*i* P	Pn	12 57 33.3	-4.9
VACH				*e*S	**Sn**	**12 58 06.4**	**-5.5**
VACH				AML	AML	12 58 07.6	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**2.78**	**256**	⇑*i* P	**Pn**	**12 57 39.8**	**+1.2**
LCO				*e*S	**Sn**	**12 58 13.6**	**+1.1**
LCO				AML	AML	12 58 15.8	
	comp=E,513nm,0.2s						
CFAA	**Coronel Fontan**	**3.26**	**189**	P	**Pn**	**12 57 44.9**	**+0.3**
	comp=E,4.3nm,0.3s,baz=356,slow=9.8,SNR=268						
CFAA				S	**Sn**	**12 58 21.9**	**-1.4**
	comp=E,11nm,0.3s,baz=272,slow=20,SNR=27						
TLL	**Tololo Astrono**	**3.30**	**237**	⇑*i* P	**Pn**	**12 57 46.3**	**+0.9**
TLL				*e*S	**Sn**	**12 58 25.6**	**+1.0**
TLL				AML	AML	12 58 28.2	
	comp=E,187nm,0.1s						
CMCH	**Combarbala**	**4.05**	**226**	*e*P	**Pn**	**12 57 54.4**	**-0.6**
CMCH				*i* S	**Sn**	**12 58 41.5**	**-0.5**
FCH	**Farellones**	**5.44**	**204**	*e*P	**Pn**	**12 58 14.7**	**+0.9**
FCH				*e*S	**Sn**	**12 59 13.4**	**-2.1**
CPUP	**Villa Florida**	**9.37**	**80**	P	**Pn**	**12 59 05.2**	**-1.2**
	comp=E,0.8nm,0.3s,baz=242,slow=11,SNR=5.3						
SIV	**San Ignacio**	**13.74**	**28**	P	**Pn**	**13 00 03.9**	**-0.1**
	comp=E,0.3nm,0.3s,baz=217,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**78.68**	**68**	P	**P**	**13 08 43.0**	**+0.5**
	comp=E,1.6nm,0.6s,baz=271,slow=4.4,SNR=14						
PDAR	**Pinedale Array**	**80.64**	**330**	P	**P**	**13 08 53.9**	**+1.1**
	comp=E,0.5nm,0.5s,baz=127,slow=7.8,SNR=6.6						
YKA	**Yellowknife Ar**	**98.03**	**340**	P	Pdif	13 10 15.5	+0.2
	comp=E,0.1nm,0.5s,baz=141,slow=4.0,SNR=5.2						
ASAR	**Alice Springs**	**124.25**	**204**	PKP	**PKPdf**	**13 15 38.0**	**-0.4**
	comp=E,0.4nm,0.6s,baz=141,slow=1.7,SNR=12						
ASAR				pPKP	**pPKPdf**	**13 16 14.3**	**+0.8**
	comp=E,0.2nm,0.5s,baz=135,slow=1.8,SNR=2.0						
WRA	**Warramunga Arr**	**127.48**	**206**	PKP	**PKPdf**	**13 15 44.5**	**-0.2**
	comp=E,0.6nm,0.6s,baz=169,slow=1.7,SNR=15						
WRA				pPKP	**pPKPdf**	**13 16 20.8**	**+1.0**
	comp=E,0.2nm,0.4s,baz=161,slow=1.8,SNR=2.3						
ZALV	**Zalesovo Beam**	**147.47**	**31**	PKPbc	**PKPbc**	**13 16 22.0**	**-0.6**
	comp=E,2.7nm,0.3s,baz=306,slow=4.3,SNR=16						
ZALV				pPKPbc	**pPKPbc**	**13 16 59.1**	**+1.6**
	comp=E,0.8nm,0.3s,baz=323,slow=17,SNR=3.3						

ISC 17 12:58:24.6±4.0, 42°.5N±0°.3×42°.1E±0°.3, h35km, n5, σ0°.55/9, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.98**	**83**	P	**Pn**	**12 58 41.9**	**0.0**
DBOC

CMCH			AML	AML	13 06 53.3
	comp=N,1μm,0.6s				
TLL	**Tololo Astrono**	**2.85 353**	*e*P	Pn	13 06 39.2 +0.5

MEX 17 13:08:53.7±0.6, 16°30'N×98°27'W, h31km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**55**	*e*P	Pb	13 08 58.1	-1.6
PNIG				*i* S	Sb	13 09 02.5	-1.3
UTMO	**Huajuapan**	**1.59**	**16**	*e*P	Pn	13 09 18.5	-1.5
UTMO				*i* S	Sn	13 09 36.5	-3.2
VHO	**Vista Hermosa**	**1.66**	**62**	*i* P	Pn	13 09 18.4	-2.6
VHO				*i* S	Sn	13 09 38.5	-3.0
CAIG	**El Cayaco**	**2.06**	**292**	*i* P	Pn	13 09 25.5	-0.7
CAIG				*i* S	Sn	13 09 47.5	-3.3
HUIG	**Huatulco**	**2.14**	**104**	*i* P	Pn	13 09 26.0	-1.4
HUIG				*e*S	Sn	13 09 51.0	-2.0
TPIG	**Tehuac#an**	**2.28**	**22**	*i* P	Pn	13 09 27.9	-1.7
TPIG				*i* S	Sn	13 09 53.7	-3.1
CMIG	**Matias Romero**	**3.34**	**76**	*i* P	Pn	13 09 41.4	-2.4
CMIG				*i* S	Sn	13 10 19.5	-3.0

*ISCJB **17** 13:11:31.5±0.5, 40°.35N±0°.02×25°.77E±0°.03, h8km±4km, Error ellipse: s-maj=3.4km s-min=3.4km az=145.7*
*ISK **17** 13:11:31.5, 40°.34N×25°.80E, h7km, MD2.9*
*CSEM **17** 13:11:31.6±0.1, 40°.35N×25°.75E, h10km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.6km az=166.0*
*THE **17** 13:11:32.0, 40°.35N×25°.78E, h12km, ML2.5/3, Error ellipse: s-maj=1.0km s-min=0.5km az=56.0*
*DDA **17** 13:11:33.4, 40°.31N×25°.95E, h7km, MD3.0*
ISC 17 13:11:31.7±1.0, 40°.35N±0°.02×25°.77E±0°.02, h13km±9km, n53, σ0°.56/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.48**	**37**	*e*PG	**Pg**	**13 11 41.3**	**+0.1**
ENEZ				*e*SG	**Sb**	13 11 48.6	-0.5
ENEZ	**Enez**	**0.48**	**37**	*e*Pg	**Pg**	**13 11 41.3**	**+0.1**
ENEZ				*e*Sg	**Sb**	13 11 48.6	-0.5
GELI	**Tayfur-Gelibol**	**0.54**	**85**	*e*PG	**Pg**	**13 11 42.4**	**+0.1**
GELI				*e*SG	**Sg**	13 11 49.8	+0.3
GELI	**Tayfur-Gelibol**	**0.54**	**85**	*e*Pg	**Pg**	**13 11 42.4**	**+0.1**
GELI				*e*Sg	**Sg**	13 11 49.8	+0.3
BOZC	**Bozcaada**	**0.56**	**157**	*e*P	**Pg**	13 11 42.8	+0.2
BOZC				*e*S	**Sg**	13 11 49.8	-0.2
ALN	**Alexandroupoli**	**0.58**	**21**	P	**Pg**	13 11 43.1	0.0
ALN				S	**Sg**	13 11 51.1	+0.3
ALN	**Alexandroupoli**	**0.58**	**21**	P	**Pg**	13 11 43.1	0.0
ALN				S	**Sg**	13 11 51.1	+0.3
LIA	**Limnos Island**	**0.64**	**225**	P	**Pg**	13 11 44.3	+0.2
LIA				S	**Sb**	13 11 53.7	+0.2
LIA	**Limnos Island**	**0.64**	**225**	P	**Pg**	13 11 44.3	+0.2
LIA				S	**Sb**	13 11 53.7	+0.2
EZN	**Ezine**	**0.68**	**141**	*e*PG	**Pg**	13 11 44.5	-0.4
EZN	**Ezine**	**0.68**	**141**	*e*Pg	**Pg**	13 11 44.5	-0.4
LPK	**Lapseki**	**0.76**	**88**	*e*PG	**Pg**	13 11 46.1	-0.3
LPK				*e*SG	**Sg**	13 11 56.2	-0.1
LPK	**Lapseki**	**0.76**	**88**	*e*Pg	**Pg**	13 11 46.1	-0.3
LPK				*e*Sg	**Sg**	13 11 56.2	-0.1
RKY	**Sarkoy-Tekirda**	**1.12**	**72**	*e*PN	**Pb**	13 11 52.3	-0.7
RKY	**Sarkoy-Tekirda**	**1.12**	**72**	*e*Pn	**Pb**	13 11 52.3	-0.7
SART	**Tekirdag**	**1.13**	**72**	*e*P	**Pb**	13 11 52.5	-0.6
SART				*e*S	**Sg**	13 12 08.3	+0.2
SART	**Tekirdag**	**1.13**	**72**	*e*P	**Pb**	13 11 52.5	-0.6
SART				*e*S	**Sg**	13 12 08.3	+0.2
SIGR	**SIGRI**	**1.14**	**177**	P	**Pb**	13 11 53.0	-0.3
SIGR				S	**Sg**	13 12 08.5	0.0
SIGR	**SIGRI**	**1.14**	**177**	P	**Pb**	13 11 53.0	-0.3
SIGR				S	**Sg**	13 12 08.5	0.0
KAVA	**Kavala**	**1.15**	**304**	P	**Pb**	13 11 53.2	-0.3
KAVA				S	**Sg**	13 12 09.1	+0.3
KAVA	**Kavala**	**1.15**	**304**	P	**Pb**	13 11 53.2	-0.3
KAVA				S	**Sg**	13 12 09.1	+0.3
KRBG	**Karabiga-Canak**	**1.17**	**88**	*e*PN	**Pn**	13 11 53.0	-0.8
KRBG	**Karabiga-Canak**	**1.17**	**88**	*e*Pn	**Pn**	13 11 53.0	-0.8
PRK	**Paraskevi**	**1.17**	**161**	P	**Pn**	13 11 53.6	-0.2
PRK				S	**Sn**	13 12 09.5	-0.1
PRK	**Paraskevi**	**1.17**	**161**	P	**Pn**	13 11 53.6	-0.2
PRK				S	**Sn**	13 12 09.5	-0.1
MFT	**Murefte**	**1.23**	**69**	*e*PN	**Pb**	13 11 54.9	0.0
MFT	**Murefte**	**1.23**	**69**	*e*Pn	**Pb**	13 11 54.9	0.0
AYVA	**Ayvalik**	**1.26**	**145**	*e*P	**Pb**	13 11 55.5	+0.1
AYVA				*e*S	**Sb**	13 12 11.6	+0.1
AYVA	**Ayvalik**	**1.26**	**145**	*e*P	**Pb**	13 11 55.5	+0.1
OUR	**Ouranopolis**	**1.37**	**270**	P	**Pn**	13 11 55.9	-0.6
OUR				S	**Sb**	13 12 14.9	+0.4
OUR	**Ouranopolis**	**1.37**	**270**	P	**Pn**	13 11 55.9	-0.6
OUR				S	**Sb**	13 12 14.9	+0.4
TKR	**Tekirdag**	**1.49**	**64**	*e*PN	**Pb**	13 11 59.1	-0.1
TKR	**Tekirdag**	**1.49**	**64**	*e*Pn	**Pb**	13 11 59.1	-0.1
GONE	**Gonen-Balikesi**	**1.50**	**101**	*e*PN	**Pb**	13 11 58.9	-0.5
GONE	**Gonen-Balikesi**	**1.50**	**101**	*e*Pn	**Pb**	13 11 58.9	-0.5
BALY	**Balya**	**1.55**	**113**	*e*P	**Pb**	13 12 00.3	+0.1
BALY				*e*S	**Sb**	13 12 19.7	-0.1
BALY	**Balya**	**1.55**	**113**	*e*P	**Pb**	13 12 00.3	+0.1
BALY				*e*S	**Sb**	13 12 19.7	-0.1
EDRB	**Edirne**	**1.66**	**26**	*e*PN	**Pb**	13 12 01.6	-0.6
EDRB	**Edirne**	**1.66**	**26**	*e*Pn	**Pb**	13 12 01.6	-0.6
NVR	**Nevrokopi**	**1.76**	**305**	P	**Pn**	13 12 01.6	-0.3
NVR				S	**Sn**	13 12 24.7	+0.5
NVR	**Nevrokopi**	**1.76**	**305**	P	**Pn**	13 12 01.6	-0.3
NVR				S	**Sn**	13 12 24.7	+0.5
SRS	**Serrai**	**1.82**	**295**	P	**Pn**	13 12 02.7	-0.1
SRS	**Serrai**	**1.82**	**295**	P	**Pn**	13 12 02.7	-0.1
CHOS	**Chios island**	**1.98**	**173**	P	**Pn**	13 12 04.7	-0.2
CHOS				S	**Sn**	13 12 29.3	-0.3
CHOS	**Chios island**	**1.98**	**173**	P	**Pn**	13 12 04.7	-0.2
CTYL	**Yal??k??y-??at**	**2.21**	**59**	*e*PN	**Pb**	13 12 10.0	-1.6
CTYL	**Yal??k??y-??at**	**2.21**	**59**	*e*Pn	**Pb**	13 12 10.0	-1.6
CTKS	**Kestanelik-??a**	**2.26**	**66**	*e*PN	**Pn**	13 12 09.9	+1.2
CTKS	**Kestanelik-??a**	**2.26**	**66**	*e*Pn	**Pn**	13 12 09.9	+1.2
DST	**Dursunbey**	**2.31**	**108**	*e*PN	**Pn**	13 12 10.8	+1.2
DST	**Dursunbey**	**2.31**	**108**	*e*Pn	**Pn**	13 12 10.8	+1.2
ARMT	**Armutlu**	**2.37**	**84**	*e*PN	**Pn**	13 12 11.8	+1.5
ARMT	**Armutlu**	**2.37**	**84**	*e*Pn	**Pn**	13 12 11.8	+1.5

IDC 17 13:39:00.6±1.4, 3°.55N×126°.78E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=132.9km s-min=19.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**163**	P	P	13 44 21.4	-0.5
	10nm,0.8s,baz=343,slow=10,SNR=51						
ASAR	**Alice Springs**	**27.93**	**166**	P	P	13 44 52.5	-0.2
	0.5nm,0.6s,baz=348,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	13 46 20.6	+0.6
	3.6nm,0.7s,baz=338,slow=8.2,SNR=12						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	13 49 22.2	+0.2
	0.6nm,0.6s,baz=131,slow=6.4,SNR=9.3						
BVAR	**Borovoye Array**	**67.50**	**327**	P	P	13 49 58.1	-0.3
	0.4nm,0.6s,baz=108,slow=4.7,SNR=4.5						

MEX 17 13:46:15.4±0.8, 15°38N×96°43W, h19km±46km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.49**	**39**	*e*P	Pg	13 46 23.7	-1.8
HUIG				*i* S	Sg	13 46 30.2	-2.0
VHO	**Vista Hermosa**	**1.71**	**350**	*i* P	Pn	13 46 41.1	-3.3
VHO				*i* S	Sn	13 47 01.2	-4.8
PNIG	**Pinotepa**	**1.92**	**302**	*e*P	Pn	13 46 43.8	-3.4
PNIG				*i* S	Sn	13 47 07.5	-3.3
CMIG	**Matias Romero**	**2.26**	**41**	*e*P	Pn	13 46 49.7	-2.1
CMIG				*i* S	Sn	13 47 16.8	-2.4
UTMO	**Huajuapan**	**2.77**	**332**	*i* P	Pn	13 46 55.9	-3.2
UTMO				*i* S	Sn	13 47 29.0	-3.2
TPIG	**Tehuac#an**	**3.15**	**344**	*i* S	Sn	13 47 37.7	-3.8

*IDC **17** 13:56:38.8±1.6, 44°.67N×130°.13W, h0km, mb3.5/5, mb1 3.8/9, mb1mx3.6/29, mbtmp3.5/9, ML3.4/4, MS3.2/7, Ms1 3.2/7, ms1mx3.0/41, Error ellipse: s-maj=34.4km s-min=17.7km az=37.0*
*ISCJB **17** 13:56:40.1±0.6, 44°.67N±0°.07×130°.00W±0°.07, h15km, mb3.9/6, MS3.3/6, Error ellipse: s-maj=10.5km s-min=6.6km az=15.5*
*NEIC **17** 13:56:40.3±0.9, 44°.65N×130°.16W, h10km, mb4.2/4, Error ellipse: s-maj=11.4km s-min=8.1km az=49.0*
*BJI **17** 13:56:41.5, 44°.84N×131°.00W, h10km, mB5.3/3, mb4.6/3, Ms4.6/3, Ms7 4.2/3*
ISC 17 13:56:41.2±0.6, 44°.57N±0°.10×130°.21W±0°.07, h15km, n54, σ1°.77/69, mb4.0/6, MS3.2/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMOR	**Kings Mountain**	**4.88**	**75**	P	**Pn**	**13 57 51.1**	**-3.0**
COR	**Corvallis**	**4.94**	**87**	*e*Pn	**Pn**	**13 57 52.7**	**-2.1**
NLWA	**Neilton Lookou**	**5.25**	**55**	*e*Pn	**Pn**	**13 57 57.7**	**-1.4**
OOW	**Octopus West**	**5.25**	**51**	P	**Pn**	**13 57 58.1**	**-1.0**
OBC	**Olympics--Boni**	**5.49**	**49**	P	**Pn**	**13 58 01.4**	**-1.0**
BROR	**Big Rock Looko**	**5.57**	**90**	P	**Pn**	**13 58 02.0**	**-1.5**
OSD	**Olympics--Snow**	**5.57**	**52**	P	**Pn**	**13 58 02.6**	**-1.1**
HUMO	**Hull Mountain**	**5.62**	**108**	*e*Pn	**Pn**	**13 58 01.8**	**-2.4**
FL2	**Flat Top 2**	**5.77**	**71**	P	**Pn**	**13 58 04.7**	**-1.7**
YBH	**Yreka Blue Hor**	**6.17**	**115**	LR	LR	14 00 21.7	
	comp=Z,401nm,20.2s,baz=250,slow=36						
PGC	**Sidney**	**6.19**	**46**	*e*P	**Pn**	**13 58 10.5**	**-1.5**
	4.1nm,0.5s						
VFP	**Flag Point**	**6.25**	**80**	P	**Pn**	**13 58 12.1**	**-1.0**
LON	**Longmire**	**6.28**	**67**	*e*Pn	**Pn**	**13 58 11.7**	**-1.6**
	11nm,0.6s						
MOD	**Modoc**	**7.71**	**107**	P	**Pn**	**13 58 32.2**	**-0.8**
HAWA	**Hanford**	**7.72**	**73**	*e*Pn	**Pn**	**13 58 31.9**	**-1.2**
BMO	**Blue Mountains**	**9.20**	**84**	*e*Pn	**Pn**	**13 58 51.8**	**-1.5**
	4.0nm,0.5s						
NEW	**Newport**	**9.77**	**63**	Pn	**Pn**	**13 58 59.6**	**-1.5**
	0.2nm,0.3s,baz=253,slow=14,SNR=3.8						
NEW				LR	LR	14 02 09.8	
	comp=Z,171nm,19.8s,baz=267,slow=34						
NEW	**Newport**	**9.77**	**63**	Pn	**Pn**	**13 58 59.6**	**-1.5**
NVAR	**Mina Array Bea**	**10.83**	**120**	Pn	**Pn**	**13 59 17.4**	**+1.6**
	0.3nm,0.3s,baz=295,slow=13,SNR=9						
NVAR				LR	LR	14 03 08.9	
	comp=Z,157nm,21.9s,baz=45,slow=36						
NVAR	**Mina Array Bea**	**10.83**	**120**	Pn	**Pn**	**13 59 17.4**	**+1.6**
SLMT	**Seeley Lake**	**11.95**	**71**	*e*Pn	**Pn**	**13 59 29.2**	**-1.9**
	15nm,1.4s						
CHMT	**Chamberlain Mo**	**12.08**	**73**	*e*Pn	**Pn**	**13 59 30.8**	**-2.2**
MCMT	**McKenzie Canyo**	**12.36**	**83**	*e*P	**Pn**	**13 59 38.1**	**+1.3**
	8.6nm,1.7s						
EGMT	**Eagleton**	**14.55**	**69**	P	**Pn**	**14 00 06.0**	**-0.6**
	14nm,0.9s						
MSU	**Marysvale**	**14.79**	**108**	*e*P	**P**	**14 00 16.9**	**+1.1**
	11nm,1.5s						
RLMT	**Red Lodge**	**14.87**	**80**	*e*P	**P**	**14 00 17.8**	**+1.0**
	7.3nm,1.1s						
LDFC	**Landfair**	**14.96**	**124**	*e*P	**P**	**14 00 17.4**	**-0.3**
	20nm,1.2s						
PDAR	**Pinedale Array**	**15.05**	**90**	Pn	**Pn**	**14 00 15.0**	**+1.4**
	0.0nm,0.3s,baz=291,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**15.05**	**90**	Pn	**Pn**	**14 00 15.0**	**+1.4**
SRU	**San Rafael**	**15.64**	**104**	*e*P	**P**	**14 00 26.7**	**+1.3**
	20nm,1.2s						
PV01	**Paradox Valley**	**17.45**	**104**	P	**Pn**	**14 00 43.6**	**-0.6**
YKA	**Yellowknife Ar**	**20.11**	**21**	P	**P**	**14 01 13.0**	**-1.1**
	0.0nm,0.3s,baz=214,slow=11,SNR=10.0						
YKA	**Yellowknife Ar**	**20.11**	**21**	P	**P**	**14 01 13.1**	**-1.1**
LAZ	**Ladron**	**20.43**	**112**	P	**P**	**14 01 18.0**	**-0.2**
	5.3nm,1.4s						
ANMO	**Albuquerque**	**20.57**	**110**	P	**P**	**14 01 20.2**	**+0.6**
	1.0nm,0.7s,baz=360,slow=7.2,SNR=3.5						
ANMO	**Albuquerque**	**20.58**	**110**	P	**P**	**14 01 20.2**	**+0.6**
FFC	**Flin Flon**	**20.78**	**51**	*e*P	**P**	**14 01 21.4**	**0.0**
	14nm,1.4s						
ILAR	**Eielson Array**	**22.28**	**341**	P	**P**	**14 01 36.9**	**-0.7**
	1.8nm,1.0s,baz=153,slow=8.0,SNR=14						
ILAR				LR	LR	14 08 40.1	
	comp=Z,59nm,21.6s,baz=356,slow=32						
ILAR	**Eielson Array**	**22.28**	**341**	P	**P**	**14 01 36.9**	**-0.7**
ULM	**Lac du Bonnet**	**23.78**	**64**	P	**P**	**14 01 52.3**	**-0.7**
	1.4nm,0.4s,baz=264,slow=6.1,SNR=5.9						
ULM				LR	LR	14 11 04.2	
	comp=Z,107nm,21.4s,baz=335,slow=37						
ULM	**Lac du Bonnet**	**23.78**	**64**	P	**P**	**14 01 52.3**	**-0.7**
ECSD	**EROS Data Cent**	**24.03**	**80**	*e*P	**P**	**14 01 54.4**	**-1.1**
	6.9nm,1.1s						
TXAR	**Lajitas Array**	**25.95**	**117**	P	**P**	**14 02 12.8**	**-0.3**
	0.3nm,0.3s,baz=300,slow=8.2,SNR=3.6						
TXAR				LR	LR	14 12 54.2	
	comp=Z,72nm,19.4s,baz=185,slow=38						
TXAR	**Lajitas Array**	**25.95**	**117**	P	**P**	**14 02 12.8**	**-0.3**
LPIG	**La Paz**	**26.08**	**135**	LR	LR	14 09 55.5	
	comp=Z,5.9nm,21.6s,baz=160,slow=30						
PETK	**Petropavlovsk-**	**46.33**	**308**	P	**P**	**14 05 05.2**	**-1.1**
	2.9nm,1.1s,baz=86,slow=8.5,SNR=4.3						
PETK	**Petropavlovsk-**	**46.33**	**308**	P	**P**	**14 05 05.2**	**-1.1**
MDJ	**Mudanjiang**	**66.47**	**310**	P	**P**	**14 07 29.6**	**-0.3**
MDJ				pP	**pP**	**14 07 32.8**	**-2.0**
MDJ				sP	**sP**	**14 07 34.1**	**-2.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CN2	**Changchun**	**69.26**	**311**	*e*P	**P**	**14 07 47.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**78.51**	**317**	*e*P	**P**	**14 08 42.0**	**+0.2**
HHC				PP	**PP**	**14 11 41.0**	**+2.3**
HHC				S	**S**	**14 18 37.3**	**-0.3**
HHC				sS	**sS**	**14 18 43.4**	**-2.3**
HHC				SKS	**SKSac**	**14 18 51.0**	**-5.3**
HHC				ScS	**SKKSac**	**14 18 58.5**	**+1.1**
HHC				SS	**SS**	**14 23 40.8**	**+1.0**
HHC				LR	LR		
	comp=N,100nm,16.6s						
HHC				LR	LR		
	comp=E,110nm,15.5s						
HHC				LR	LR		
	comp=Z,100nm,17.8s						
WMQ	**Urumqi**	**85.74**	**334**	*e*P	**P**	**14 09 21.9**	**+2.3**
CD2	**Chengdu**	**90.22**	**316**	P	**P**	**14 09 42.3**	**+1.0**
KSH	**Kashi**	**93.03**	**340**	*e*P	**P**	**14 09 57.0**	**+2.7**
KSH				*e*pP	**pP**	**14 10 01.9**	**+2.6**
KSH				*e*sP	**sP**	**14 10 04.0**	**+2.9**
KSH				*e*PP	PP	14 13 41.9	+5.7
KSH				SKS	**SKSac**	**14 20 28.5**	**+0.6**
KSH				S	**ScS**	**14 21 01.3**	**-0.7**
KSH				sS	**sS**	**14 21 07.8**	**-0.6**
KSH				SS	**SS**	**14 27 18.3**	**+5.7**
KSH				pmax	pmax		
	comp=Z,68nm,4.6s						
KSH				LR	LR		
	comp=N,77nm,4.9s						
KSH				LR	LR		
	comp=E,72nm,6.3s						
KSH				LR	LR		
	comp=Z,160nm,5.8s						
KMI	**Kunming**	**95.46**	**313**	P	**P**	**14 10 06.3**	**+0.5**
KMI				pP	**pP**	**14 10 09.3**	**-1.5**
KMI				sP	**sP**	**14 10 10.8**	**-1.8**
KMI				S	**S**	**14 21 18.8**	**-3.1**
KMI				pmax	pmax		
	comp=Z,39nm,3.9s						
KMI				LR	LR		
	comp=N,83nm,21.5s						
KMI				LR	LR		
	comp=E,67nm,20.8s						
KMI				LR	LR		
	comp=Z,73nm,23.6s						

IDC 17 14:03:03.9±2.6, 3°.84S×111°.15W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/24, mbtmp4.0/4, MS3.2/2, Ms1 3.3/2, ms1mx2.7/46, Error ellipse: s-maj=130.4km s-min=56.6km az=112.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.19**	**31**	LR	LR	14 09 19.1	
	comp=Z,50nm,20.0s,baz=122,slow=31						
TORD	**Torodi Ar. Bea**	**21.16**	**37**	P	P	14 07 51.2	+0.4
	1.9nm,0.7s,baz=224,slow=9.5,SNR=5.8						
GERES	**GERESS Array B**	**56.76**	**19**	P	P	14 12 48.5	-1.2
	1.0nm,0.6s,baz=184,slow=7.4,SNR=7.6						
LPAZ	**La Paz**	**57.27**	**253**	LR	LR	14 35 28.1	
	comp=Z,42nm,18.2s,baz=74,slow=34						
FINES	**FINESS Array B**	**71.13**	**18**	P	P	14 14 24.7	+0.7
	1.0nm,0.6s,baz=218,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**77.34**	**12**	P	P	14 15 00.7	+0.6
	7.2nm,1.1s,baz=250,slow=1.8,SNR=4.3						
ASAR	**Alice Springs**	**136.32**	**130**	PKP	PKPdf	14 22 27.0	-1.5
	0.7nm,1.1s,baz=231,slow=3.1,SNR=5.1						
WRA	**Warramunga Arr**	**138.66**	**126**	PKP	PKPdf	14 22 33.9	+1.0
	0.3nm,0.5s,baz=238,slow=2.6,SNR=12						

IDC 17 14:30:09.2±4.1, 3°.10N×127°.04E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=105.8km s-min=52.9km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.12**	**184**	P	P	14 34 55.9	+0.3
	1.8nm,1.0s,baz=6.3,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**24.00**	**163**	P	P	14 35 24.8	-1.0
	0.9nm,0.6s,baz=341,slow=10,SNR=14						
WRA				S		14 39 45.6	+1.7
	0.2nm,0.8s,baz=188,slow=14,SNR=5.0						
ASAR	**Alice Springs**	**27.43**	**166**	P	P	14 35 57.0	+0.1
	0.1nm,0.4s,baz=340,slow=8.7,SNR=8.1						
STKA	**Stephens Creek**	**37.44**	**159**	P	P	14 37 24.4	0.0
	2.8nm,1.0s,baz=347,slow=10.0,SNR=3.3						

*IDC **17** 14:39:09.1±0.5, 3°.45N×126°.50E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/25, mbtmp4.2/18, MS3.2/5, Ms1 3.3/5, ms1mx2.8/32, Error ellipse: s-maj=28.0km s-min=12.3km az=76.0*
*ISCJB **17** 14:39:14.6±0.4, 3°.59N±0°.04×126°.67E±0°.06, h53km, mb4.1/18, MS3.1/5, Error ellipse: s-maj=9.2km s-min=5.5km az=170.0*
*DJA **17** 14:39:20.4±2.5, 3°N×22°×12°7E±°, h41km±74km, M4.6/5, mB5.0/3, mb4.8/5, MLv4.5/4, Mw(mB)4.3/3*
ISC 17 14:39:16.3±0.5, 3°.56N±0°.07×126°.69E±0°.09, h53km, n42, σ1°29/43, mb4.4/24, MS3.1/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.80**	**221**	P	**Pn**	**14 39 59.3**	**+0.6**
TNTI	**Ternate**	**2.85**	**166**	P	**Pn**	**14 39 58.8**	**-0.6**
KMSI	**Cibinong**	**4.02**	**222**	P	**Pn**	**14 40 17.6**	**+2.3**
LBMI	**Labuha**	**4.25**	**169**	P	**Pn**	**14 40 19.7**	**+1.1**
CTBH	**Cotabato--PC H**	**4.37**	**326**	↑*i*P	**Pn**	**14 40 19.2**	**-1.0**
BUKP	**Musuan**	**4.58**	**339**	*e*P	**Pn**	**14 40 25.1**	**+1.9**
PAGZ	**Pagadian**	**5.38**	**322**	*e*P	**Pn**	**14 40 33.4**	**-0.7**
MRSI	**Marisa**	**5.65**	**237**	P	**Pn**	**14 40 39.0**	**+1.3**
	161nm,0.7s,1μm						
IPIL	**Ipil**	**5.87**	**316**	*e*P	**Pn**	**14 40 39.6**	**-1.1**
LUWI	**Luwuk**	**6.02**	**221**	P	**Pn**	**14 40 45.3**	**+2.5**
	278nm,1.1s,2μm1.0nm						
SWI	**Sorong**	**6.34**	**134**	P	**Pn**	**14 40 48.5**	**+1.3**
	50nm,0.7s						
KDI	**Kendari**	**8.51**	**209**	P	**Pn**	**14 41 16.2**	**-0.7**
	34nm,0.9s						
TTSI	**Tana Toraja**	**9.50**	**226**	P	**Pn**	**14 41 32.3**	**+1.8**
GUMO	**Guam**	**20.53**	**60**	LR	LR	14 49 39.7	
	comp=Z,41nm,22.0s,baz=191,slow=30						
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P	**P**	**14 43 59.4**	**-2.0**
	5.1nm,0.4s,baz=16,slow=13,SNR=14						
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**14 44 29.6**	**-1.5**
	9.3nm,0.5s,baz=341,slow=10,SNR=68						
WRA				PcP	**PcP**	**14 48 09.5**	**+1.0**
	0.6nm,0.5s,baz=333,slow=2.3,SNR=5.2						
ASAR	**Alice Springs**	**27.96**	**166**	P	**P**	**14 45 00.8**	**-1.3**
	1.1nm,0.5s,baz=349,slow=7.5,SNR=28						
ASAR				PcP	**PcP**	**14 48 17.1**	**+0.7**
	1.0nm,0.4s,baz=348,slow=2.0,SNR=12						
CMAR	**Chiang Mai Arr**	**30.92**	**301**	P	**P**	**14 45 28.2**	**-0.2**
	1.6nm,0.8s,baz=112,slow=7.0,SNR=12						
CMAR				LR	LR	15 00 08.8	
	comp=Z,35nm,18.0s,baz=140,slow=41						
KSRS	**Korea Array**	**33.75**	**2**	P	**P**	**14 45 53.8**	**+0.9**
	1.3nm,0.5s,baz=181,slow=9.8,SNR=8.4						
KSRS				LR	LR	14 59 16.2	
	comp=Z,30nm,20.2s,baz=215,slow=36						
MJAR	**Matsushiro Ar**	**34.49**	**16**	P	**P**	**14 46 02.1**	**+2.7**
	0.7nm,0.7s,baz=196,slow=6.4,SNR=2.8						
MJAR				LR	LR	14 58 27.1	
	comp=Z,45nm,19.7s,baz=205,slow=33						
HNR	**Honiara**	**35.57**	**112**	LR	LR	14 59 27.4	
	comp=Z,100nm,18.7s,baz=59,slow=34						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**14 46 28.6**	**-0.6**
	2.4nm,0.4s,baz=337,slow=7.1,SNR=16						
STKA				PcP	**PcP**	**14 48 45.2**	**+1.1**
	2.1nm,0.5s,baz=337,slow=7.5,SNR=5.6						
ASAJ	**Asahikawa**	**42.76**	**17**	P	**P**	**14 47 10.1**	**+1.5**
	3

PAWZ	**Paruwai Farm**	**1.71**	**124**	PN	Pn	14 43 38.8	-0.1
PLWZ	**Palliser**	**1.72**	**132**	⇑PN	Pn	14 43 38.9	-0.2
PKVZ	**Pokaka**	**1.80**	**51**	PN	Pn	14 43 39.5	-0.5
MTVZ	**Mangateitei**	**1.81**	**55**	PN	Pn	14 43 39.7	-0.6
TIWZ	**Tintock**	**1.82**	**102**	⇑PN	Pn	14 43 40.0	-0.2
DSZ	**Denniston Nort**	**1.86**	**225**	⇓PN	Pn	14 43 40.3	-0.3
TSZ	**Takapari Road**	**1.89**	**79**	PN	Pn	14 43 40.4	-0.5
TRWZ	**Traveller**	**1.89**	**121**	PN	Pn	14 43 40.8	-0.2
TMWZ	**Te Maipa**	**1.91**	**111**	⇑PN	Pn	14 43 41.0	-0.1
WNVZ	**Wahianoa**	**1.93**	**56**	PN	Pn	14 43 40.8	-0.8
FWVZ	**Far West T-bar**	**1.94**	**53**	PN	Pn	14 43 41.1	-0.8
WPVZ	**Whakapapa**	**1.97**	**52**	⇓PN	Pn	14 43 41.1	-0.9
KHZ	**Kahutara**	**1.98**	**180**	⇓PN	Pn	14 43 42.0	0.0
MOVZ	**Moawhango**	**1.98**	**60**	⇓PN	Pn	14 43 41.0	-1.2
TWVZ	**Taurewa**	**2.00**	**48**	PN	Pn	14 43 41.3	-1.0
TUVZ	**Tukino**	**2.00**	**55**	PN	Pn	14 43 41.7	-0.7
DVHZ	**Dannevirke**	**2.01**	**87**	PN	Pn	14 43 42.1	-0.2
NGZ	**Ngauruhoe**	**2.02**	**52**	PN	Pn	14 43 41.6	-1.1
WTVZ	**West Tongariro**	**2.05**	**51**	⇓PN	Pn	14 43 41.9	-1.1
BFZ	**Birch Farm**	**2.07**	**98**	PN	Pn	14 43 42.7	-0.4
KRVZ	**Karewarewa**	**2.10**	**51**	PN	Pn	14 43 42.5	-1.1
PNHZ	**Pukenui**	**2.10**	**77**	PN	Pn	14 43 42.7	-0.7
BHHZ	**Black Hill Sta**	**2.15**	**65**	PN	Pn	14 43 42.7	-1.4
HIZ	**Hauiti**	**2.17**	**28**	⇓PN	Pn	14 43 43.1	-1.1
KATZ	**Kakaramea**	**2.21**	**49**	PN	Pn	14 43 43.9	-0.9
WPHZ	**Waipukurau**	**2.25**	**82**	PN	Pn	14 43 44.6	-0.5
RATZ	**Rangitukua**	**2.32**	**48**	PN	Pn	14 43 45.5	-0.6
PRHZ	**Porangahau**	**2.37**	**87**	PN	Pn	14 43 46.4	-0.1
LTZ	**Lake Taylor**	**2.53**	**202**	PN	Pn	14 43 47.8	-0.7
PXZ	**Pawanui**	**2.57**	**82**	⇑PN	Pn	14 43 48.4	-0.6
BKZ	**Black Stump Fm**	**2.60**	**62**	⇓PN	Pn	14 43 47.8	-1.6
MCHZ	**McNeill Hill**	**2.62**	**69**	PN	Pn	14 43 48.9	-0.6
KAHZ	**Kahuranaki**	**2.63**	**77**	PN	Pn	14 43 49.2	-0.6
NMHZ	**Naumai**	**2.85**	**63**	PN	Pn	14 43 51.8	-0.7
TOZ	**Tahuroa Road**	**3.10**	**30**	PN	Pn	14 43 53.9	-1.6
RAHZ	**Arahi**	**3.12**	**62**	PN	Pn	14 43 54.4	-1.5
CRLZ	**Canterbury Las**	**3.21**	**192**	PN	Pn	14 43 55.1	-1.8
MQZ	**McQueen's Vall**	**3.34**	**191**	PN	Pn	14 43 56.4	-2.1
WVZ	**Waitaha Valley**	**3.37**	**218**	⇓PN	Pn	14 43 57.5	-1.4
KNZ	**Kokohu**	**3.48**	**67**	PN	Pn	14 43 58.4	-1.9
MKAZ	**Moumakai**	**3.55**	**21**	PN	Pn	14 44 00.6	-0.7
MHGZ	**Mahia Peninsul**	**3.60**	**71**	PN	Pn	14 44 00.4	-1.4
MWZ	**Matawai**	**3.73**	**57**	PN	Pn	14 44 01.2	-2.4
RPZ	**Rata Peaks**	**3.77**	**209**	PN	Pn	14 44 02.0	-2.0
FOZ	**Fox Glacier**	**4.25**	**221**	PN	Pn	14 44 07.1	-3.1
PUZ	**Puketiti**	**4.35**	**59**	PN	Pn	14 44 08.9	-2.8
LBZ	**Lake Benmore**	**4.67**	**211**	PN	Pn	14 44 13.2	-2.5
ODZ	**Otahua Downs**	**5.08**	**204**	PN	Pn	14 44 19.2	-1.8
WKZ	**Wanaka**	**5.52**	**216**	PN	Pn	14 44 23.4	-3.5
TUZ	**Tuapeka**	**6.21**	**206**	PN	Pn	14 44 34.2	-1.9

*DDA **17** 14:43:19.7,39°.11N×29°.02E,h8km,MD3.0*
*ISCJB **17** 14:43:20.1±0.4,39°.11N±0°.02×29°.03E±0°.02,h2km±5km,*
Error ellipse: s-maj=4.2km s-min=2.9km az=2.1
*ISK **17** 14:43:20.0,39°.12N×29°.04E,h5km,MD2.9*
*CSEM **17** 14:43:20.4±0.1,39°.12N×29°.04E,h2km,MD3.0,Error*
ellipse: s-maj=2.0km s-min=1.6km az=7.0

ISC 17 14:43:20.4±0.9,**39°.12N**±0°.02×**29°.03E**±0°.02,**h8**km±8km,
n56,σ0**58**/80,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pg**	**14 43 25.6**	**0.0**
DEMI				*i* S	**Sg**	**14 43 29.2**	**+0.2**
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pg**	**14 43 25.6**	**0.0**
DEMI				*i* S	**Sg**	**14 43 29.2**	**+0.2**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**14 43 27.1**	**-0.3**
GDZ				*i* S	**Sg**	**14 43 32.5**	**+0.5**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**14 43 27.1**	**-0.3**
GDZ				*i* S	**Sg**	**14 43 32.5**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**14 43 29.3**	**-0.3**
TVSB				*e*SG	**Sg**	**14 43 35.7**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**14 43 29.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**14 43 35.7**	**-0.1**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pg**	**14 43 32.1**	**+0.4**
DST	**Dursunbey**	**0.58**	**327**	*e*Pg	**Pg**	**14 43 32.1**	**+0.4**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**14 43 33.0**	**0.0**
DURS				*i* S	**Sg**	**14 43 41.3**	**-0.1**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**14 43 33.0**	**0.0**
DURS				*i* S	**Sg**	**14 43 41.3**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**14 43 33.0**	**-0.3**
KULA				*e*SG	**Sg**	**14 43 41.6**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**14 43 33.0**	**-0.3**
KULA				*e*Sg	**Sg**	**14 43 41.6**	**-0.4**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**14 43 36.7**	**+0.4**
KHAL				*i* S	**Sg**	**14 43 47.0**	**-0.1**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**14 43 36.7**	**+0.4**
KHAL				*i* S	**Sg**	**14 43 47.0**	**-0.1**
ALT	**Altintas**	**0.84**	**94**	*e*PG	**Pg**	**14 43 36.3**	**-0.3**
ALT				*e*SG	**Sb**	**14 43 49.1**	**+0.3**
ALT	**Altintas**	**0.84**	**94**	*e*Pg	**Pg**	**14 43 36.3**	**-0.3**
ALT				*e*Sg	**Sb**	**14 43 49.1**	**+0.3**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pb**	**14 43 37.7**	**-0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pb**	**14 43 37.7**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**14 43 38.1**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**14 43 38.1**	**-0.2**
AKHS	**Akhisar**	**0.98**	**256**	*i* P	**Pg**	**14 43 39.0**	**-0.2**
AKHS				*i* S	**Sg**	**14 43 52.2**	**+0.3**
AKHS	**Akhisar**	**0.98**	**256**	*i* P	**Pg**	**14 43 39.0**	**-0.2**
AKHS				*i* S	**Sg**	**14 43 52.2**	**+0.3**
AKS	**Akhisar**	**0.98**	**256**	*e*PG	**Pg**	**14 43 39.2**	**0.0**
AKS	**Akhisar**	**0.98**	**256**	*e*Pg	**Pg**	**14 43 39.2**	**0.0**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pg**	**14 43 40.3**	**+0.1**
BALB				*e*SG	**Sn**	**14 43 55.7**	**-0.1**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pg**	**14 43 40.3**	**+0.1**
BALB				*e*Sg	**Sn**	**14 43 55.7**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pg**	**14 43 44.2**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pg**	**14 43 44.3**	**-0.1**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**14 43 44.0**	**-0.3**
BALY				*i* S	**Sg**	**14 44 00.6**	**-0.3**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**14 43 44.0**	**-0.3**
BALY				*i* S	**Sg**	**14 44 00.6**	**-0.3**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**14 43 45.1**	**-0.3**
BORA				*i* S	**Sb**	**14 44 03.0**	**-0.1**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**14 43 45.1**	**-0.3**
BORA				*i* S	**Sb**	**14 44 03.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pb**	**14 43 46.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pb**	**14 43 46.7**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**14 43 47.9**	**+0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**14 43 47.9**	**+0.2**
SEYT	**Eskypehyr**	**1.47**	**74**	*i* P	**Pb**	**14 43 47.7**	**-0.3**
SEYT				*i* S	**Sn**	**14 44 05.8**	**-0.8**
SEYT	**Eskypehyr**	**1.47**	**74**	*i* P	**Pb**	**14 43 47.7**	**-0.3**
SEYT				*i* S	**Sn**	**14 44 05.8**	**-0.8**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pn**	**14 43 47.7**	**+0.5**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pn**	**14 43 47.7**	**+0.5**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**14 43 51.8**	**+0.8**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**14 43 51.8**	**+0.8**
HRT	**Hereke**	**1.77**	**16**	*e*PN	**Pb**	**14 43 52.4**	**-0.7**
HRT	**Hereke**	**1.77**	**16**	*e*Pn	**Pb**	**14 43 52.4**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*PN	**Pn**	**14 43 55.0**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*Pn	**Pn**	**14 43 55.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**14 43 57.5**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*Pn	**Pn**	**14 43 57.5**	**+1.4**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**14 43 57.8**	**+1.2**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**14 43 57.8**	**+1.2**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*PN	**Pn**	**14 43 57.8**	**+1.2**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*Pn	**Pn**	**14 43 57.8**	**+1.2**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**14 43 58.5**	**+0.8**
KIZT	**Kizilcal**	**2.23**	**95**	*e*Pn	**Pn**	**14 43 58.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.35**	**304**	*e*PN	**Pb**	**14 44 01.4**	**-1.5**
GELI	**Tayfur-Gelibol**	**2.35**	**304**	*e*Pn	**Pb**	**14 44 01.4**	**-1.5**

*TIR **17** 14:56:22.4±2.7,40°.15N×19°.84E,h7km±11km,ML3.4*
*ATH **17** 14:56:24.8,40°.21N×19°.69E,h12km±3km,MD3.3/6*
*THE **17** 14:56:26.3,40°.16N×19°.84E,h0km±1km,ML2.3/5,Error*
ellipse: s-maj=2.3km s-min=0.8km az=292.0
*CSEM **17** 14:56:26.5±0.3,40°.16N×19°.84E,h2km,ML3.4,Error*
ellipse: s-maj=6.5km s-min=3.5km az=99.0

ISC 17 14:56:26.5±1.1,**40°.15N**±0°.02×**19°.85E**±0°.04,**h5**km±9km,
n36,σ0**84**/62,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.19**	**41**	*i* Pg	**Pg**	**14 56 29.8**	**-0.4**
TPE				*i* SG	**Sg**	**14 56 33.0**	**+0.3**
TPE	**Tepelena**	**0.19**	**41**	*i* Pg	**Pg**	**14 56 29.8**	**-0.4**
	SNR=11						
TPE				*i* Sg	**Sg**	**14 56 33.0**	**+0.3**
	SNR=11						
KEK	**Kerkira**	**0.44**	**185**	P	**Pg**	**14 56 34.4**	**-0.6**
KEK				S	**Sg**	**14 56 41.4**	**+0.6**
KEK	**Kerkira**	**0.44**	**185**	*e*PG	**Pg**	**14 56 34.3**	**-0.7**
KEK				*e*SB	**Sg**	**14 56 41.5**	**+0.6**
KEK	**Kerkira**	**0.44**	**185**	P	**Pg**	**14 56 34.4**	**-0.6**
KEK				S	**Sg**	**14 56 41.4**	**+0.6**
LSK	**Leskovik**	**0.57**	**90**	*i* PG	**Pg**	**14 56 37.4**	**-0.2**
LSK				*i* SG	**Sg**	**14 56 46.2**	**+1.1**
LSK	**Leskovik**	**0.57**	**90**	*i* Pg	**Pg**	**14 56 37.4**	**-0.2**
	SNR=9.0						
LSK				*i* Sg	**Sg**	**14 56 46.2**	**+1.1**
	SNR=9.0						
IGT	**Igoumenitsa**	**0.72**	**149**	P	**Pg**	**14 56 39.7**	**-0.7**
IGT				S	**Sb**	**14 56 50.9**	**-0.9**
IGT	**Igoumenitsa**	**0.72**	**149**	P	**Pg**	**14 56 39.7**	**-0.7**
IGT				S	**Sb**	**14 56 50.9**	**-0.9**
JAN	**Janina**	**0.92**	**123**	P	**Pg**	**14 56 44.4**	**+0.3**
JAN				S	**Sb**	**14 56 57.3**	**-0.1**
JAN	**Janina**	**0.92**	**123**	*e*PN	**Pb**	**14 56 44.9**	**0.0**
JAN				*e*SB	**Sn**	**14 56 58.8**	**-0.8**
JAN	**Janina**	**0.92**	**123**	P	**Pg**	**14 56 44.4**	**+0.3**
JAN	**Janina**	**0.92**	**123**	*e*Pn	**Pb**	**14 56 44.9**	**0.0**
JAN				S	**Sb**	**14 56 57.3**	**-0.1**
JAN				*e*Sb	**Sn**	**14 56 58.8**	**-0.8**
RGA	**Parga**	**0.92**	**155**	P	**Pg**	**14 56 43.7**	**-0.4**
RGA				S	**Sb**	**14 56 57.2**	**-0.2**
RGA	**Parga**	**0.92**	**155**	P	**Pg**	**14 56 43.7**	**-0.4**
RGA				S	**Sb**	**14 56 57.2**	**-0.2**
NEST	**Nestorio**	**0.95**	**74**	P	**Pg**	**14 56 44.3**	**-0.5**
NEST				S	**Sg**	**14 56 57.7**	**+0.5**
NEST	**Nestorio**	**0.95**	**74**	P	**Pg**	**14 56 44.3**	**-0.5**
NEST				S	**Sg**	**14 56 57.7**	**+0.5**
TIR	**Tirane**	**1.19**	**1**	*i* PG	**Pn**	**14 56 52.2**	**+2.4**
FNA	**Florina**	**1.32**	**61**	P	**Pn**	**14 56 51.2**	**-0.5**
FNA				S	**Sn**	**14 57 10.4**	**+0.7**
FNA	**Florina**	**1.32**	**61**	P	**Pn**	**14 56 51.2**	**-0.5**
FNA				S	**Sn**	**14 57 10.4**	**+0.7**
LKD2	**Lefkada island**	**1.50**	**155**	P	**Pb**	**14 56 54.3**	**-0.5**
LKD2				S	**Sg**	**14 57 15.4**	**+0.7**
LKD2	**Lefkada island**	**1.50**	**155**	*e*PB	**Pg**	**14 56 55.2**	**0.0**
LKD2				*e*SB	**Sg**	**14 57 17.2**	**+2.5**
LKD2	**Lefkada island**	**1.50**	**155**	P	**Pb**	**14 56 54.3**	**-0.5**
LKD2	**Lefkada island**	**1.50**	**155**	*e*Pb	**Pg**	**14 56 55.2**	**0.0**
LKD2				S	**Sg**	**14 57 15.4**	**+0.7**
LKD2				*e*Sb	**Sg**	**14 57 17.2**	**+2.5**
PHP	**Peshkopia**	**1.59**	**16**	*i* PN	**Pg**	**14 56 56.8**	**-0.2**
PHP				*i* SN	**Sg**	**14 57 18.8**	**+1.1**
PHP	**Peshkopia**	**1.59**	**16**	*i* Pn	**Pg**	**14 56 56.8**	**-0.2**
	SNR=5.0						
PHP				*i* Sn	**Sg**	**14 57 18.8**	**+1.1**
	SNR=5.0						
THL	**Klokotos Trika**	**1.77**	**109**	P	**Pn**	**14 56 58.1**	**+0.4**
THL	**Klokotos Trika**	**1.77**	**109**	*e*PN	**Pb**	**14 56 58.6**	**-0.7**
THL	**Klokotos Trika**	**1.77**	**109**	P	**Pn**	**14 56 58.1**	**+0.4**
THL	**Klokotos Trika**	**1.77**	**109**	*e*Pn	**Pb**	**14 56 58.6**	**-0.7**
PUK	**Puka**	**1.89**	**1**	*i* PN	**Pn**	**14 56 59.7**	**+0.3**
PUK				*i* SN	**Sg**	**14 57 26.8**	**-0.3**
PUK	**Puka**	**1.89**	**1**	*i* Pn	**Pn**	**14 56 59.7**	**+0.3**
	SNR=5.0						
LIT	**Litokhoron**	**2.02**	**91**	*e*PN	**Pb**	**14 57 02.6**	**-1.2**
LIT	**Litokhoron**	**2.02**	**91**	*e*Pn	**Pb**	**14 57 02.6**	**-1.2**
VLS	**Valsamata**	**2.06**	**164**	*e*PN	**Pb**	**14 57 03.5**	**-0.8**
VLS	**Valsamata**	**2.06**	**164**	*e*Pn	**Pb**	**14 57 03.5**	**-0.8**

*ISCJB **17** 15:09:12.0±0.5,38°.45N±0°.03×22°.42E±0°.03,h5km±9km,*
Error ellipse: s-maj=5.9km s-min=3.2km az=164.1
*THE **17** 15:09:12.0,38°.46N×22°.42E,h0km±1km,ML1.9/3,Error*
ellipse: s-maj=1.5km s-min=0.3km az=344.0
*ATH **17** 15:09:12.6,38°.42N×22°.43E,h4km,MD2.8/9*
*CSEM **17** 15:09:12.1±0.1,38°.45N×22°.42E,h2km,ML1.9/3,Error*
ellipse: s-maj=2.5km s-min=1.5km az=161.0

ISC 17 15:09:12.1±0.9,**38°.44N**±0°.03×**22°.42E**±0°.02,**h5**km±8km,
n32,σ0**47**/53,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.09**	**112**	P	**Pg**	**15 09 13.9**	**-0.1**
DSF				S	**Sg**	**15 09 15.4**	**0.0**
DSF	**Desfina**	**0.09**	**112**	P	**Pg**	**15 09 13.9**	**-0.1**
DSF				S	**Sg**	**15 09 15.4**	**0.0**
KALE	**Kalithea**	**0.23**	**257**	P	**Pg**	**15 09 16.5**	**-0.1**
KALE				S	**Sg**	**15 09 20.3**	**+0.7**
KALE	**Kalithea**	**0.23**	**257**	*e*PG	**Pg**	**15 09 16.5**	**-0.1**
KALE				*e*SG	**Sg**	**15 09 20.3**	**+0.7**
KALE	**Kalithea**	**0.23**	**257**	P	**Pg**	**15 09 16.5**	**-0.1**
KALE				S	**Sg**	**15 09 20.3**	**+0.7**
TRIZ	**Trizonia**	**0.29**	**254**	P	**Pg**	**15 09 17.4**	**-0.2**
TRIZ				S	**Sg**	**15 09 21.9**	**+0.4**
TRIZ	**Trizonia**	**0.29**	**254**	*e*PG	**Pg**	**15 09 17.5**	**-0.2**
TRIZ				*e*SG	**Sg**	**15 09 22.1**	**+0.6**
TRIZ	**Trizonia**	**0.29**	**254**	*e*Pg	**Pg**	**15 09 17.5**	**-0.2**
TRIZ				S	**Sg**	**15 09 21.9**	**+0.4**
AXAR	**Agios Charalam**	**0.37**	**30**	P	**Pg**	**15 09 19.2**	**-0.1**
AXAR				S	**Sg**	**15 09 24.4**	**+0.2**
AXAR	**Agios Charalam**	**0.37**	**30**	P	**Pg**	**15 09 19.2**	**-0.1**
AXAR				S	**Sg**	**15 09 24.4**	**+0.2**
LAKA	**Lakka**	**0.41**	**240**	P	**Pg**	**15 09 19.6**	**-0.3**
LAKA				S	**Sg**	**15 09 26.0**	**+0.8**
LAKA	**Lakka**	**0.41**	**240**	*e*PG	**Pg**	**15 09 19.8**	**-0.1**
LAKA	**Lakka**	**0.41**	**240**	*e*Pg	**Pg**	**15 09 19.8**	**-0.1**
LAKA				S	**Sg**	**15 09 26.0**	**+0.8**
EFP	**Efpalio**	**0.41**	**268**	P	**Pg**	**15 09 19.5**	**-0.5**
EFP				S	**Sg**	**15 09 26.1**	**+0.8**
EFP	**Efpalio**	**0.41**	**268**	*e*PG	**Pg**	**15 09 19.8**	**-0.2**
EFP				*e*SG	**Sg**	**15 09 26.4**	**+1.1**
EFP	**Efpalio**	**0.41**	**268**	P	**Pg**	**15 09 19.5**	**-0.5**
EFP	**Efpalio**	**0.41**	**268**	*e*Pg	**Pg**	**15 09 19.8**	**-0.2**
EFP				S	**Sg**	**15 09 26.1**	**+0.8**
LKR	**Lokris**	**0.50**	**65**	P	**Pg**	**15 09 21.4**	**-0.2**
LKR				S	**Sg**	**15 09 28.5**	**+0.4**
LKR	**Lokris**	**0.50**	**65**	*e*PG	**Pg**	**15 09 22.0**	**+0.4**
LKR	**Lokris**	**0.50**	**65**	P	**Pg**	**15 09 21.4**	**-0.2**
LKR	**Lokris**	**0.50**	**65**	*e*Pg	**Pg**	**15 09 22.0**	**+0.4**
LKR				S	**Sg**	**15 09 28.5**	**+0.4**
GUR	**Goura**	**0.51**	**187**	*e*PG	**Pg**	**15 09 21.8**	**-0.1**
GUR	**Goura**	**0.51**	**187**	*e*Pg	**Pg**	**15 09 21.8**	**-0.1**
ATAL	**Atalanti**	**0.53**	**62**	P	**Pg**	**15 09 22.4**	**+0.1**
ATAL				S	**Sg**	**15 09 30.2**	**+1.0**
ATAL	**Atalanti**	**0.53**	**62**	P	**Pg**	**15 09 22.4**	**+0.1**
ATAL				S	**Sg**	**15 09 30.2**	**+1.0**
LTK	**Loutraki**	**0.60**	**134**	P	**Pg**	**15 09 24.0**	**+0.3**
LTK				S	**Sb**	**15 09 33.1**	**-0.7**
LTK	**Loutraki**	**0.60**	**134**	*e*PG	**Pg**	**15 09 23.9**	**+0.3**
LTK	**Loutraki**	**0.60**	**134**	*e*Pg	**Pg**	**15 09 23.9**	**+0.3**
LTK				S	**Sb**	**15 09 33.1**	**-0.7**
EVR	**Evrytania**	**0.67**	**315**	*e*PB	**Pb**	**15 09 26.2**	**-0.2**
EVR	**Evrytania**	**0.67**	**315**	*e*Pb	**Pb**	**15 09 26.2**	**-0.2**
DID	**Didima**	**1.14**	**145**	*e*PN	**Pn**	**15 09 34.6**	**0.0**
DID	**Didima**	**1.14**	**145**	*e*Pn	**Pn**	**15 09 34.6**	**0.0**

*TAP **17** 15:17:11.9,23°.89N×121°.61E,h40km,ML2.8,C*
*ISCJB **17** 15:17:12.3±0.3,23°.90N±0°.02×121°.63E±0°.02,h38km±7km,*
Error ellipse: s-maj=3.9km s-min=2.6km az=44.3
*JMA **17** 15:17:12.6±0.3,24°.04N×121°.64E,h82km,MD2.7*

ISC 17 15:17:12.4±1.1,**23°.88N**±0°.02×**121°.61E**±0°.03,**h34**km±2km,
n43,σ0**74**/74,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=4.0	**0.09**	**357**	*e*P	**Pb**	**15 17 18.5**	**+0.2**
ESF	**Shoufeng Towns** baz=266	**0.10**	**263**	*e*P	**Pb**	**15 17 18.6**	**+0.3**
ESL	**Shilin** baz=249	**0.18**	**247**	*e*P	**Pb**	**15 17 19.5**	**+0.6**
TWD	**Chiawan** baz=352	**0.20**	**356**	*e*P	**Pb**	**15 17 19.3**	**+0.2**
TWD	baz=352			S	**Sb**	**15 17 24.3**	**+0.6**
WHF	**Hehuan Shan** baz=309	**0.41**	**310**	*e*P	**Pb**	**15 17 21.7**	**-0.4**
WHF	baz=309			*e*S	**Sb**	**15 17 28.2**	**-0.5**
EHY	**Hungye** baz=219	**0.46**	**215**	*e*P	**Pb**	**15 17 21.6**	**-0.9**
TWT	**Tachien** baz=311	**0.54**	**313**	*e*P	**Pb**	**15 17 23.8**	**-0.1**
TWT	baz=311			S	**Sb**	**15 17 31.5**	**-0.3**
ENA	**Nanau** baz=4.0	**0.56**	**12**	*e*P	**Pn**	**15 17 23.1**	**-0.7**
ENA	baz=4.0			*e*S	**Sb**	**15 17 31.2**	**-0.7**
NNS	**Nan Shan** baz=341	**0.59**	**339**	*i* P	**Pn**	**15 17 24.1**	**-0.4**
NNS	baz=341			S	**Sb**	**15 17 32.3**	**-0.8**
TWF1	**Yuli** baz=216	**0.60**	**209**	*e*P	**Pn**	**15 17 23.3**	**-1.2**
SMLT	**Sun Moon Lake** baz=272	**0.65**	**270**	P	**Pn**	**15 17 25.2**	**-0.1**
SMLT	baz=272			S	**Sn**	**15 17 34.4**	**0.0**
TYC	**Yuchr** baz=276	**0.69**	**272**	*e*P	**Pn**	**15 17 25.6**	**-0.1**
TYC	baz=276			*e*S	**Sb**	**15 17 35.9**	**+0.4**
ENTT	**Nioudou** baz=356	**0.75**	**357**	*i* P	**Pn**	**15 17 26.1**	**-0.6**
ENTT	baz=356			S	**Sn**	**15 17 36.1**	**-0.8**
TWC	**Suao** baz=7.0	**0.76**	**17**	*e*P	**Pn**	**15 17 26.3**	**-0.3**
TWC	baz=7.0			*e*S	**Sn**	**15 17 36.7**	**-0.2**
CHKT	**Chengkung** baz=208	**0.81**	**196**	*e*P	**Pn**	**15 17 27.1**	**-0.3**
CHKT	baz=208			*e*S	**Sn**	**15 17 38.5**	**+0.3**
NSK	**Sanguang** baz=350	**0.82**	**344**	*e*P	**Pn**	**15 17 27.3**	**-0.3**
NSK	baz=350			S	**Sn**	**15 17 37.8**	**-0.8**
ALS	**Alishan** baz=237	**0.83**	**243**	*e*P	**Pn**	**15 17 28.2**	**+0.3**
ALS	baz=237			*e*S	**Sn**	**15 17 39.6**	**+0.6**
TWE	**Neicheng** baz=3.0	**0.84**	**4**	P	**Pn**	**15 17 27.0**	**-0.8**
TWE	baz=3.0			*e*S	**Sn**	**15 17 37.9**	**-0.9**
WNT	**Mingjian** baz=269	**0.85**	**270**	*e*P	**Pn**	**15 17 28.5**	**+0.6**
WNT	baz=269			*e*S	**Sb**	**15 17 40.2**	**+0.4**
ELDTW	**Lidau** baz=213	**0.88**	**218**	*e*P	**Pn**	**15 17 27.7**	**-0.7**
ELDTW	baz=213			*e*S	**Sn**	**15 17 39.0**	**-1.1**
TCU	**Taichung** baz=286	**0.89**	**287**	*e*P	**Pn**	**15 17 28.8**	**+0.3**
TWQ1	**Liyutan** baz=301	**0.89**	**301**	*e*P	**Pn**	**15 17 29.0**	**+0.4**
TWQ1	baz=301			*e*S	**Sn**	**15 17 40.8**	**+0.5**
NSTT	**Nanjuang** baz=310	**0.93**	**323**	*e*P	**Pn**	**15 17 29.6**	**+0.5**
NSTT	baz=310			*e*S	**Sn**	**15 17 41.1**	**-0.1**
NSY	**Sanyi** baz=304	**0.94**	**305**	*e*P	**Pn**	**15 17 29.9**	**+0.7**
NSY	baz=304			*e*S	**Sn**	**15 17 42.1**	**+0.6**
WGK	**Gukeng** baz=259	**0.98**	**259**	*e*P	**Pn**	**15 17 30.2**	**+0.5**
WGK	baz=259			*e*S	**Sn**	**15 17 43.4**	**+1.0**
**CHN4

ATAB	**Bozova**	**1.06**	**17**	*i* P	**Pb**	**15 19 19.9**	**+0.1**
ATAB				*i* S	**Sb**	**15 19 34.3**	**+0.6**
KSRV	**Kasrt alli**	**1.07**	**123**	*e*P	**Pg**	**15 19 20.0**	**-0.1**
KSRV				*e*S	**Sg**	**15 19 34.3**	**+0.3**
KSRV				AML	AML	15 19 38.2	
	comp=Z,175nm,0.5s						
KSRV	**Kasrt alli**	**1.07**	**123**	*e*P	**Pg**	**15 19 20.0**	**-0.1**
	SNR=143						
KSRV				*e*S	**Sg**	**15 19 34.3**	**+0.3**
	comp=Z,175nm,0.5s,SNR=142						
MNKR	**ALMNKUR**	**1.22**	**114**	*e*P	Pn	15 19 18.1	-4.2
MNKR				*e*S	Sb	15 19 32.7	-5.4
MNKR				AML	AML	15 19 37.4	
	comp=Z,1μm,0.2s						
YAYL	**Yayladag**	**1.51**	**255**	*i* P	**Pn**	**15 19 27.0**	**+0.7**
YAYL				*i* S	**Sn**	**15 19 46.3**	**+0.4**
YAYL	**Yayladag**	**1.51**	**255**	*i* P	**Pn**	**15 19 27.0**	**+0.7**
YAYL				*i* S	**Sn**	**15 19 46.3**	**+0.4**
AKCD	**Akcadag**	**1.84**	**1**	*e*P	**Pn**	**15 19 30.5**	**-0.5**
AKCD				*e*S	**Sn**	**15 19 54.0**	**-0.2**
AKCD	**Akcadag**	**1.84**	**1**	*e*P	**Pn**	**15 19 30.5**	**-0.5**
AKCD				*e*S	**Sn**	**15 19 54.0**	**-0.2**
HAWK	**Haweek**	**2.28**	**213**	*e*P	Pn	15 19 34.8	-2.1
HAWK				*e*S	**Sn**	**15 20 04.2**	**-0.7**
HAWK				AML	AML	15 20 11.2	
	comp=E,32nm,0.4s						
HAWK				AML	AML	15 20 16.3	
	comp=N,44nm,0.4s						
HAWK	**Haweek**	**2.28**	**213**	*e*P	Pn	15 19 34.8	-2.1
	SNR=113						
HAWK				*e*S	**Sn**	**15 20 04.2**	**-0.7**
	comp=N,44nm,0.4s,SNR=113						

IDC ***17*** *15:48:19.2±0.7, 0.°62S×133.°23E, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.3/20, mbtmp4.4/10, ML4.5/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/38, Error ellipse: s-maj=43.4km s-min=15.5km az=84.0*

ISCJB ***17*** *15:48:22.7±0.4, 0.°60S±0.°04×133.°20E±0.°04, h32km, mb4.2/14, MS3.5/6, Error ellipse: s-maj=5.9km s-min=5.8km az=152.0*

DJA ***17*** *15:48:24.2±1.2, 1.°S±4.°×13.°3E±.°, h12km±9km, M5.0/12, mB5.7/4, mb4.9/12, MLv4.9/10, Mw(mB)5.3/4*

NEIC ***17*** *15:48:26.7±2.4, 0.°69S×133.°22E, h56km±23km, mb4.2/7, Error ellipse: s-maj=16.8km s-min=9.4km az=59.0*

ISC 17 15:48:24.4±0.5, 0.°59S±0.°06×133.°22E±0.°05, h32km, n64, σ1#27/64, mb4.3/14, MS3.5/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.98**	**262**	P	**Pn**	**15 48 54.3**	**-1.3**
SWI				S	**Sn**	**15 49 16.6**	**-2.7**
FAKI	**Fak Fak**	**2.50**	**203**	P	**Pn**	**15 49 03.0**	**+0.1**
BAKI	**Biak**	**2.95**	**102**	P	**Pn**	**15 49 10.3**	**+1.3**
BAKI				S	**Sb**	**15 49 48.9**	**-3.0**
TLE	**Tual**	**5.03**	**185**	P	**Pn**	**15 49 38.0**	**+0.3**
TLE				S	**Sn**	**15 50 35.5**	**+0.7**
MSAI	**Masohi**	**5.08**	**237**	P	**Pn**	**15 49 40.0**	**+1.6**
MSAI				S	**Sn**	**15 50 38.1**	**+2.1**
BNDI	**Bandanaira**	**5.12**	**220**	P	**Pn**	**15 49 39.2**	**+0.4**
LBMI	**Labuha**	**5.72**	**270**	P	**Pn**	**15 49 47.6**	**+0.5**
	165nm,0.6s,2μm0.6nm						
AAI	**Ambon**	**5.88**	**238**	P	**Pn**	**15 49 49.3**	**-0.1**
	900nm,0.6s,9μm3.4nm						
TNTI	**Ternate**	**6.01**	**283**	P	**Pn**	**15 49 51.3**	**+0.2**
	63nm,0.8s,0.3nm						
DAV	**Davao City (W)**	**10.77**	**315**	LR	LR	15 55 29.3	
	comp=Z,136nm,19.4s,baz=57,slow=40						
KDI	**Kendari**	**11.10**	**252**	P	Pn	15 51 05.5	+4.5
BBSI	**Bau Bau**	**11.69**	**245**	P	**Pn**	**15 51 08.9**	**-0.1**
	39nm,1.0s						
MMRI	**Maumere**	**13.54**	**234**	P	P	15 51 39.0	-4.1
TTSI	**Tana Toraja**	**13.61**	**260**	P	**Pn**	**15 51 36.1**	**+0.8**
	19nm,1.6s						
SPSI	**Sidrap Palu**	**13.85**	**256**	P	**Pn**	**15 51 38.7**	**+0.2**
	23nm,0.7s						
BKSI	**Bulukumba**	**13.89**	**250**	P	**Pn**	**15 51 37.0**	**-2.2**
	31nm,0.9s						
KAPI	**Kappang**	**14.14**	**252**	Pn	**Pn**	**15 51 45.0**	**+2.3**
	2.6nm,0.3s,baz=123,slow=7.5,SNR=9.9						
KAPI				LR	LR	15 57 40.0	
	comp=Z,88nm,18.9s,baz=344,slow=40						
KAPI	**Kappang**	**14.14**	**252**	Pn	**Pn**	**15 51 45.0**	**+2.3**
KAPI	**Kappang**	**14.14**	**252**	P	**Pn**	**15 51 44.9**	**+2.3**
COEN	**Coen**	**16.54**	**144**	*e*P	**Pn**	**15 52 13.2**	**-0.8**
GUMO	**Guam**	**18.22**	**39**	LR	LR	15 58 33.1	
	comp=Z,119nm,18.0s,baz=332,slow=34						
FITZ	**Fitzroy Crossi**	**18.93**	**203**	P	**P**	**15 52 40.0**	**-2.7**
	1.5nm,0.3s,baz=42,slow=9.8,SNR=25						
FITZ				S	Sn	15 55 57.0	-18
	0.5nm,0.3s,baz=133,slow=22,SNR=3.9						
FITZ				LR	LR	16 00 03.2	
	comp=Z,113nm,19.7s,baz=42,slow=37						
FITZ	**Fitzroy Crossi**	**18.93**	**203**	*e*P	**P**	**15 52 39.5**	**-3.2**
	16nm,0.8s						
FITZ				S	Sn	15 55 57.0	-18
WRAB	**Tennant Creek**	**19.25**	**177**	*e*P	**P**	**15 52 45.5**	**-0.8**
	12nm,0.6s						
WRA	**Warramunga Arr**	**19.26**	**177**	P	**P**	**15 52 44.9**	**-1.5**
	1.3nm,0.3s,baz=355,slow=11,SNR=85						
WRA				S	Sn	15 56 08.5	-14
	0.5nm,0.3s,baz=1.7,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**19.26**	**177**	P	**P**	**15 52 44.9**	**-1.5**
WRA				S	Sn	15 56 08.5	-14
SBUM	**Sibu**	**21.21**	**278**	P	**P**	**15 53 10.6**	**+3.0**
AS31	**Alice Springs**	**22.94**	**178**	*e*P	**P**	**15 53 25.6**	**-0.5**
ASAR	**Alice Springs**	**22.95**	**178**	P	**P**	**15 53 25.8**	**-0.4**
	10nm,0.4s,baz=357,slow=11,SNR=180						
ASAR				S	**S**	**15 57 35.0**	**+0.7**
	8.0nm,1.1s,baz=1.1,slow=21,SNR=11						
ASAR				LR	LR	16 01 50.6	
	comp=Z,70nm,21.3s,baz=4.4,slow=35						
ASAR	**Alice Springs**	**22.95**	**178**	P	**P**	**15 53 25.8**	**-0.4**
ASAR				S	**S**	**15 57 35.0**	**+0.7**
CTA	**Charters Tower**	**23.20**	**147**	P	**P**	**15 53 30.4**	**+1.8**
	5.6nm,0.6s,baz=329,slow=14,SNR=7.7						
CTA	**Charters Tower**	**23.20**	**147**	P	**P**	**15 53 30.4**	**+1.8**
MBWA	**Marble Bar**	**24.31**	**212**	*e*P	**P**	**15 53 39.4**	**+0.1**
	35nm,1.0s						
STKA	**Stephens Creek**	**32.11**	**167**	P	**P**	**15 54 48.5**	**-0.3**
	6.5nm,0.8s,baz=330,slow=8.0,SNR=14						
STKA				LR	LR	16 08 20.5	
	comp=Z,78nm,20.9s,baz=22,slow=38						
STKA	**Stephens Creek**	**32.11**	**167**	*e*P	**P**	**15 54 47.9**	**-0.9**
	1.6nm,0.8s						
MJAR	**Matsushiro Arr**	**37.24**	**7**	LR	LR	16 07 36.6	
	comp=Z,101nm,20.2s,baz=185,slow=31						
KSRS	**Korea Array**	**38.17**	**353**	LR	LR	16 12 02.2	
	comp=Z,62nm,18.0s,baz=319,slow=37						
CMAR	**Chiang Mai Arr**	**38.64**	**301**	P	P	15 55 49.8	+4.6
	0.2nm,0.3s,baz=104,slow=7.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**38.64**	**301**	P	P	15 55 49.8	+4.6
ULN	**Ulaanbaatar**	**53.37**	**338**	*e*P	**P**	**15 57 41.5**	**+0.6**
	1.9nm,0.9s						
SONM	**Songino Array**	**53.59**	**338**	P	**P**	**15 57 43.1**	**+0.6**
	0.6nm,0.6s,baz=160,slow=4.7,SNR=3.5						
SONM				PcP	**PcP**	**15 58 49.1**	**+0.3**
	0.6nm,0.6s,baz=133,slow=6.1,SNR=2.6						
SONM	**Songino Array**	**53.59**	**338**	P	**P**	**15 57 43.1**	**+0.6**
SONM				PcP	**PcP**	**15 58 49.1**	**+0.3**
PETK	**Petropavlovsk-**	**57.29**	**17**	P	**P**	**15 58 08.2**	**-0.7**
	3.4nm,0.9s,baz=164,slow=6.0,SNR=5.5						
PETK				LR	LR	16 21 22.4	
	comp=Z,36nm,18.5s,baz=298,slow=35						
PETK	**Petropavlovsk-**	**57.29**	**17**	P	**P**	**15 58 08.2**	**-0.7**
MK31	**Makanchi Array**	**64.81**	**324**	*e*P	**P**	**15 59 01.0**	**+0.8**
ZALV	**Zalesovo Beam**	**67.41**	**331**	P	**P**	**15 59 16.1**	**-0.6**
	1.1nm,0.6s,baz=108,slow=4.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**67.41**	**331**	P	**P**	**15 59 16.1**	**-0.6**
KURK	**Kurchatov**	**68.88**	**326**	P	**P**	**15 59 26.6**	**+0.7**
KURBB	**Kurchatov Arra**	**68.89**	**326**	P	**P**	**15 59 26.6**	**+0.7**
	7.2nm,0.9s,baz=122,slow=5.5						
BRVK	**Borovoye**	**74.55**	**326**	P	**P**	**15 59 59.3**	**-0.6**
	3.2nm,0.6s						
ABKAR	**Akbulak array**	**79.58**	**320**	*e*P	**P**	**16 00 28.5**	**+0.1**
	1.8nm,0.7s						
ABKAR				*e*		16 00 40.0	
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**16 01 02.4**	**-0.1**
	1.1nm,0.6s,baz=258,slow=5.0,SNR=20						
ILAR				LR	LR	16 38 38.5	
	comp=Z,72nm,19.0s,baz=12,slow=35						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**16 01 02.4**	**-0.1**
ARCES	**ARCESS Array B**	**96.70**	**340**	P	**P**	**16 01 51.4**	**+0.2**
	2.4nm,0.8s,baz=87,slow=7.4,SNR=4.3						
ARCES	**ARCESS Array B**	**96.70**	**340**	P	**P**	**16 01 51.4**	**+0.2**
YKA	**Yellowknife Ar**	**100.62**	**26**	P	**Pdif**	**16 02 08.6**	**-0.3**
	0.1nm,0.5s,baz=295,slow=4.3,SNR=4.0						
YKA	**Yellowknife Ar**	**100.62**	**26**	P	**Pdif**	**16 02 08.7**	**-0.3**
VYHS	**Vyhne**	**106.39**	**321**	PDIF	**Pdif**	**16 02 35.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**130.40**	**287**	PKP	**PKPdf**	**16 07 31.7**	**-1.0**
	0.3nm,0.7s,baz=69,slow=2.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**130.40**	**287**	PKP	**PKPdf**	**16 07 31.7**	**-1.0**
CPUP	**Villa Florida**	**151.36**	**160**	PKPbc	**PKPbc**	**16 08 15.7**	**0.0**
	3.0nm,0.8s,baz=83,slow=7.4,SNR=5.4						
CPUP	**Villa Florida**	**151.36**	**160**	PKPbc	**PKPbc**	**16 08 15.7**	**0.0**
LPAZ	**La Paz**	**153.07**	**129**	PKPbc	**PKPbc**	**16 08 20.1**	**-0.4**
	1.3nm,0.9s,baz=4.4,slow=2.1,SNR=4.8						
LPAZ	**La Paz**	**153.07**	**129**	PKPbc	**PKPbc**	**16 08 20.1**	**-0.4**

ISCJB ***17*** *15:54:20.4±0.4, 37.°21N±0.°04×28.°17E±0.°03, h9km±6km, Error ellipse: s-maj=7.0km s-min=3.7km az=18.7*

ISK ***17*** *15:54:20.4, 37.°21N×28.°18E, h8km, ML1.9*

DDA ***17*** *15:54:20.2, 37.°22N×28.°17E, h7km, MD2.8*

CSEM ***17*** *15:54:20.5±0.1, 37.°23N×28.°19E, h2km, ML1.9, Error ellipse: s-maj=3.5km s-min=2.4km az=23.0*

ISC 17 15:54:20.4±0.9, 37.°23N±0.°03×28.°18E±0.°02, h10km±8km, n26, σ0#85/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**138**	*e*PG	**Pg**	**15 54 23.1**	**-0.4**
YER				*e*SG	**Sg**	**15 54 26.0**	**+0.4**
YER	**Yerkesik**	**0.13**	**138**	*e*Pg	**Pg**	**15 54 23.1**	**-0.4**
YER				*e*Sg	**Sg**	**15 54 26.0**	**+0.4**
MLSB	**Milas**	**0.33**	**282**	*e*PG	**Pg**	**15 54 27.2**	**+0.3**
MLSB				*e*SG	**Sb**	**15 54 33.1**	**-0.7**
MLSB	**Milas**	**0.33**	**282**	*e*Pg	**Pg**	**15 54 27.2**	**+0.3**
MLSB				*e*Sg	**Sb**	**15 54 33.1**	**-0.7**
AYDN	**Tasoluk**	**0.49**	**331**	*i* P	**Pg**	**15 54 30.2**	**+0.2**
AYDN				*i* S	**Sg**	**15 54 37.5**	**+1.0**
AYDN	**Tasoluk**	**0.49**	**331**	*i* P	**Pg**	**15 54 30.2**	**+0.2**
AYDN				*i* S	**Sg**	**15 54 37.5**	**+1.0**
TURN	**Turunc**	**0.49**	**136**	*i* P	**Pg**	**15 54 29.0**	**-1.1**
TURN				*i* S	**Sg**	**15 54 36.4**	**-0.1**
TURN	**Turunc**	**0.49**	**136**	*i* P	**Pg**	**15 54 29.0**	**-1.1**
TURN				*i* S	**Sg**	**15 54 36.4**	**-0.1**
BDRM	**Kayabasi**	**0.61**	**254**	*i* P	**Pg**	**15 54 31.7**	**-0.5**
BDRM				*i* S	**Sg**	**15 54 40.2**	**0.0**
BDRM	**Kayabasi**	**0.61**	**254**	*i* P	**Pg**	**15 54 31.7**	**-0.5**
BDRM				*i* S	**Sg**	**15 54 40.2**	**0.0**
DAT	**Datca**	**0.69**	**224**	*e*PG	**Pg**	**15 54 33.8**	**0.0**
DAT	**Datca**	**0.69**	**224**	*e*Pg	**Pg**	**15 54 33.8**	**0.0**
BODT	**Bodrum**	**0.71**	**257**	*e*PG	**Pg**	**15 54 34.4**	**+0.2**
BODT				*e*SG	**Sb**	**15 54 44.8**	**0.0**
BODT	**Bodrum**	**0.71**	**257**	*e*Pg	**Pg**	**15 54 34.4**	**+0.2**
BODT				*e*Sg	**Sb**	**15 54 44.8**	**0.0**
DNZL	**Cakiroluk**	**0.83**	**56**	*i* P	**Pg**	**15 54 35.9**	**-0.6**
DNZL				*i* S	**Sb**	**15 54 48.3**	**-0.2**
DNZL	**Cakiroluk**	**0.83**	**56**	*i* P	**Pg**	**15 54 35.9**	**-0.6**
DNZL				*i* S	**Sb**	**15 54 48.3**	**-0.2**
GCAM	**G?zelcaml?**	**0.88**	**302**	*i* P	**Pb**	**15 54 38.0**	**+0.1**
GCAM				*e*S	**Sg**	**15 54 48.1**	**-0.9**
GCAM	**G?zelcaml?**	**0.88**	**302**	*i* P	**Pb**	**15 54 38.0**	**+0.1**
GCAM				*e*S	**Sg**	**15 54 48.1**	**-0.9**
FETY	**Fethiye**	**0.94**	**129**	*e*PG	**Pg**	**15 54 38.3**	**-0.2**
FETY	**Fethiye**	**0.94**	**129**	*e*Pg	**Pg**	**15 54 38.3**	**-0.2**
IZM	**Izmir**	**1.37**	**328**	*e*PN	**Pg**	**15 54 46.7**	**-0.1**
IZM	**Izmir**	**1.37**	**328**	*e*Pn	**Pg**	**15 54 46.7**	**-0.1**
AKAS	**Kas**	**1.52**	**130**	*e*P	**Pg**	**15 54 49.4**	**-0.2**
AKAS				*i* S	**Sg**	**15 55 13.7**	**+4.3**
AKAS	**Kas**	**1.52**	**130**	*e*P	**Pg**	**15 54 49.4**	**-0.2**
KHL	**Karahalli**	**1.53**	**44**	*e*PN	**Pb**	**15 54 48.8**	**-0.1**
KHL	**Karahalli**	**1.53**	**44**	*e*Pn	**Pb**	**15 54 48.8**	**-0.1**

AUST ***17*** *15:58:47.1±2.8, 4.°12S×131.°51E, h1km, Error ellipse: s-maj=1.3km s-min=0.8km az=256.0*

ISCJB ***17*** *15:58:49.6±0.6, 4.°19S±0.°05×131.°63E±0.°07, h29km, mb3.7/2, Error ellipse: s-maj=11.1km s-min=5.8km az=160.8*

DJA ***17*** *15:58:51.3±0.8, 4.°S±5.°×13.°2E±.°, h110km±13km, M4.2/8, mb4.8/2, mB4.8/1, MLv3.9/8, Mw(mB)4.1/1*

IDC ***17*** *15:58:51.3±2.8, 4.°49S×130.°83E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=100.0km s-min=27.3km az=60.0*

ISC 17 15:58:50.3±0.8, 4.°20S±0.°05×131.°49E±0.°05, h29km, n23, σ2#72/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.48**	**31**	P	**Pn**	**15 59 14.9**	**-0.1**
BNDI	**Bandanaira**	**1.61**	**258**	P	**Pn**	**15 59 19.8**	**+0.4**
TLE	**Tual**	**1.90**	**139**	P	**Pb**	**15 59 25.8**	**+1.5**
	baz=1.9,SNR=10						
TLE	**Tual**	**1.90**	**139**	P	**Pb**	**15 59 25.2**	**+0.9**
MSAI	**Masohi**	**2.69**	**288**	P	**Pn**	**15 59 33.6**	**+1.9**
SWI	**Sorong**	**3.32**	**356**	P	**Pn**	**15 59 39.3**	**-1.0**
	baz=3.3,SNR=16						
SWI				S	**Sn**	**16 00 15.7**	**-3.1**
	baz=3.3,SNR=7.0						
SWI	**Sorong**	**3.32**	**356**	P	**Pn**	**15 59 40.6**	**+0.3**
AAI	**Ambon**	**3.33**	**279**	P	Pn	15 59 44.2	+3.8
	baz=3.3,SNR=16						
AAI	**Ambon**	**3.33**	**279**	P	Pn	15 59 43.5	+3.1
LBMI	**Labuha**	**5.33**	**311**	P	**Pn**	**16 00 09.2**	**+1.3**
	71nm,0.5s,1μm0.3nm						
KDU	**Kakadu**	**8.49**	**173**	P	**Pn**	**16 00 53.0**	**+1.5**
	baz=8.6,SNR=17						
KDU				S	**Sn**	**16 02 29.0**	**+2.7**
	baz=8.6,SNR=5.9						
MTN	**Manton Dam**	**8.60**	**182**	P	**Pn**	**16 00 54.8**	**+1.9**
	baz=8.7,SNR=50						
PCI	**Palu**	**12.09**	**285**	S	Sn	16 03 47.4	-7.3
	baz=12,SNR=24						
FITZ	**Fitzroy Crossi**	**14.96**	**202**	Pn	**Pn**	**16 02 17.1**	**-2.8**
	0.7nm,0.3s,baz=38,slow=12,SNR=28						
FITZ				Sn	Sn	16 04 56.4	-8.3
	0.5nm,0.3s,baz=204,slow=19,SNR=4.5						
FITZ	**Fitzroy Crossi**	**14.96**	**202**	P	**Pn**	**16 02 18.2**	**-1.6**
	baz=15,SNR=7.3						
FITZ				S	**Sn**	**16 04 59.5**	**-5.2**
	baz=15,SNR=3.8						
COEN	**Coen**	**15.06**	**131**	P	**Pn**	**16 02 21.1**	**-0.2**
	baz=15,SNR=8.0						
WRA	**Warramunga Arr**	**15.89**	**170**	Pn	**Pn**	**16 02 31.2**	**-0.9**
	0.3nm,0.3s,baz=356,slow=13,SNR=18						
WRA				Sn	**Sn**	**16 05 20.6**	**-6.9**
	0.4nm,0.3s,baz=345,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**19.50**	**173**	P	**Pn**	**16 03 18.1**	**+1.5**
	0.5nm,0.3s,baz=349,slow=11,SNR=28						
ASAR				S	**S**	**16 06 50.4**	**-3.7**
	0.1nm,0.3s,baz=358,slow=27,SNR=4.2						
MEEK	**Meekatharra**	**25.49**	**208**	P	**P**	**16 04 17.3**	**+1.0**
	baz=26,SNR=7.6						
KMBL	**Kambalda**	**28.50**	**197**	P	P	16 04 46.0	+2.8
	baz=29,SNR=4.4						
STKA	**Stephens Creek**	**29.12**	**162**	P	P	16 04 53.4	+4.6
	1.6nm,0.9s,baz=343,slow=13,SNR=3.4						
BLDU	**Ballidu**	**29.75**	**206**	P	P	16 04 57.1	+2.8
	baz=30,SNR=6.3						
CMAR	**Chiang Mai Arr**	**39.18**	**306**	P	**P**	**16 06 18.2**	**+2.2**
	0.4nm,0.3s,baz=132,slow=7.1,SNR=4.4						

ISCJB ***17*** *16:01:10.8±0.5, 38.°39N±0.°03×22.°45E±0.°03, h13km±4km, Error ellipse: s-maj=5.9km s-min=3.3km az=155.5*

THE ***17*** *16:01:11.4, 38.°39N×22.°44E, h10km±1km, ML2.0/4, Error ellipse: s-maj=1.5km s-min=0.4km az=148.0*

ATH ***17*** *16:01:11.1, 38.°48N×22.°38E, h22km±4km, MD2.8/8*

CSEM ***17*** *16:01:11.8±0.1, 38.°42N×22.°43E, h2km, ML2.0/4, Error ellipse: s-maj=2.9km s-min=2.1km az=151.0*

ISC 17 16:01:11.9±1.0, 38.°43N±0.°02×22.°42E±0.°02, h5km±7km, n31, σ0#65/60, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.09**	**102**	P	**Pg**	**16 01 13.6**	**-0.2**
DSF				S	**Sg**	**16 01 15.1**	**0.0**
DSF	**Desfina**	**0.09**	**102**	P	**Pg**	**16 01 13.6**	**-0.2**
DSF				S	**Sg**	**16 01 15.1**	**0.0**
KALE	**Kalithea**	**0.22**	**261**	P	**Pg**	**16 01 16.1**	**-0.2**
KALE				S	**Sg**	**16 01 20.0**	**+0.7**
KALE	**Kalithea**	**0.22**	**261**	*e*PB	**Pg**	**16 01 16.2**	**-0.1**
KALE				*e*SB	**Sg**	**16 01 20.0**	**+0.7**
KALE	**Kalithea**	**0.22**	**261**	*e*Pb	**Pg**	**16 01 16.2**	**-0.1**
KALE				S	**Sg**	**16 01 20.0**	**+0.7**
TRIZ	**Trizonia**	**0.28**	**257**	P	**Pg**	**16 01 17.1**	**-0.3**
TRIZ				S	**Sg**	**16 01 21.9**	**+0.8**
TRIZ	**Trizonia**	**0.28**	**257**	*e*PB	**Pg**	**16 01 17.1**	**-0.3**
TRIZ				*e*SB	**Sg**	**16 01 21.8**	**+0.7**
TRIZ	**Trizonia**	**0.28**	**257**	P	**Pg**	**16 01 17.1**	**-0.3**
TRIZ				S	**Sg**	**16 01 21.9**	**+0.8**
AXAR	**Agios Charalam**	**0.39**	**29**	P	**Pg**	**16 01 19.4**	**0.0**
AXAR				S	**Sg**	**16 01 25.9**	**+1.4**
AXAR	**Agios Charalam**	**0.39**	**29**	P	**Pg**	**16 01 19.4**	**0.0**
AXAR				S	**Sg**	**16 01 25.9**	**+1.4**
LAKA	**Lakka**	**0.40**	**242**	P	**Pg**	**16 01 19.2**	**-0.4**
LAKA				S	**Sg**	**16 01 24.4**	**-0.4**
LAKA	**Lakka**	**0.40**	**242**	*e*PB	**Pg**	**16 01 19.4**	**-0.2**
LAKA				*e*SB	**Sg**	**16 01 26.2**	**+1.4**
LAKA	**Lakka**	**0.40**	**242**	*e*Pb	**Pg**	**16 01 19.4**	**-0.2**
LAKA				S	**Sg**	**16 01 24.4**	**-0.4**
LAKA				*e*Sb	**Sg**	**16 01 26.2**	**+1.4**
EFP	**Efpalio**	**0.41**	**270**	P	**Pg**	**16 01 19.2**	**-0.5**
EFP				S	**Sg**	**16 01 25.6**	**+0.5**
EFP	**Efpalio**	**0.41**	**270**	*e*PB	**Pg**	**16 01 19.3**	**-0.5**
EFP				*e*SB	**Sg**	**16 01 25.5**	**+0.5**
EFP	**Efpalio**	**0.41**	**270**	*e*Pb	**Pg**	**16 01 19.3**	**-0.5**
EFP				*e*Sb	**Sg**	**16 01 25.5**	**+0.5**
GUR	**Goura**	**0.49**	**187**	P	**Pg**	**16 01 20.7**	**-0.8**
GUR	**Goura**	**0.49**	**187**	*e*PN	**Pg**	**16 01 22.0**	**+0.5**
GUR	**Goura**	**0.49**	**187**	P	**Pg**	**16 01 20.7**	**-0.8**
GUR	**Goura**	**0.49**	**187**	*e*Pn	**Pg**	**16 01 22.0**	**+0.5**
LKR	**Lokris**	**0.51**	**64**	P	**Pg**	**16 01 20.7**	**-0.9**
LKR				S	**Sg**	**16 01 28.6**	**+0.4**
LKR	**Lokris**	**0.51**	**64**	*e*PN	**Pg**	**16 01 20.9**	**-0.7**
LKR				*e*SN	**Sg**	**16 01 29.7**	**+1.5**
LKR	**Lokris**	**0.51**	**64**	*e*Pn	**Pg**	**16 01 20.9**	**-0.7**
LKR				S	**Sg**	**16 01 28.6**	**+0.4**
LKR				*e*Sn	**Sg**	**16 01 29.7**	**+1.5**
ATAL	**Atalanti**	**0.54**	**61**	P	**Pg**	**16 01 22.0**	**-0.3**
ATAL				S	**Sg**	**16 01 29.5**	**+0.2**
ATAL	**Atalanti**	**0.54**	**61**	P	**Pg**	**16 01 22.0**	**-0.3**
ATAL				S	**Sg**	**16 01 29.5**	**+0.2**
LTK	**Loutraki**	**0.59**	**133**	*e*PN	**Pg**	**16 01 23.6**	**+0.3**
LTK				*e*SN	**Sb**	**16 01 32.9**	**-0.5**
LTK	**Loutraki**	**0.59**	**133**	*e*Pn	**Pg**	**16 01 23.6**	**+0.3**
LTK				*e*Sn	**Sb**	**16 01 32.9**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**339**	P	**Pg**	**16 01 23.8**	**-0.2**
MAKR				S	**Sb**	**16 01 34.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**339**	P	**Pg**	**16 01 23.8**	**-0.2**
MAKR				S	**Sb**	**16 01 34.0**	**-0.5**
DID	**Didima**	**1.12**	**145**	*e*PN	**Pn**	**16 01 34.1**	**-0.2**
DID				*e*SN	**Sn**	**16 01 50.5**	**+0.3**
DID	**Didima**	**1.12**	**145**	*e*Pn	**Pn**	**16 01 34.1**	**-0.2**
DID				*e*Sn	**Sn**	**16 01 50.5**	**+0.3**

MEX 17 16:03:09.0±0.6, 16.°12N×98.°21W, h6km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**17**	*i* P	Pg	16 03 14.1	-0.6
PNIG				*i* S	Sg	16 03 18.7	+0.2
HUIG	**Huatulco**	**2.05**	**99**	*i* P	Pn	16 03 41.3	-2.9
HUIG				*i* S	Sn	16 04 05.3	-4.8
CAIG	**El Cayaco**	**2.18**	**295**	*i* P	Pn	16 03 41.3	-4.6
CAIG				*i* S	Sn	16 04 08.8	-4.4
MEIG	**Mezcala**	**2.25**	**323**	*e*P	Pn	16 03 43.8	-3.2
MEIG				*i* S	Sn	16 04 11.1	-4.1
PLIG	**Platanillo**	**2.58**	**332**	*e*P	Pn	16 03 49.0	-2.5

DMN	**Daman**	**73.75**	**350**	*e*P	**P**	**16 23 56.6**	**-0.1**
	8.8nm,0.7s							
GUMO	**Guam**	**73.85**	**50**	LR	LR	16 53 28.5		
	comp=Z,63nm,18.9s,baz=354,slow=33							
KKN	**Kakani**	**73.91**	**350**	*e*P	**P**	**16 23 57.3**	**-0.2**
	29nm,1.4s							
GUN	**Gumba**	**73.96**	**351**	*e*P	**P**	**16 23 58.3**	**+0.3**
	30nm,0.9s							
KOLN	**Koldanda**	**74.11**	**349**	*e*P	**P**	**16 23 58.2**	**-0.5**
GKN	**Gorkha**	**74.20**	**350**	*e*P	**P**	**16 23 59.0**	**-0.1**
	22nm,1.2s							
ATD	**Arta Tunnel**	**74.29**	**306**	LR	LR	16 51 23.1		
	comp=Z,68nm,18.1s,baz=117,slow=32							
PYUN	**Piuthan**	**74.52**	**348**	*e*P	**P**	**16 24 00.6**	**-0.4**
	17nm,0.9s							
DANN	**Dangsing**	**74.66**	**349**	*e*P	**P**	**16 24 01.5**	**-0.5**
	13nm,0.6s							
LSA	**Lhasa**	**75.31**	**356**	*e*P	**P**	**16 24 05.9**	**-0.1**
	4.1nm,0.8s							
WSAR	**Wadi Sarin**	**76.60**	**325**	LR	LR	16 50 50.2		
	comp=Z,108nm,20.6s,baz=175,slow=30							
TBI	**Tubuai**	**89.26**	**123**	*e*LR	LR	16 53 44.8		
	102nm,27.0s							
AAK	**Ala-Archa**	**90.12**	**344**	LR	LR	17 02 23.9		
	comp=Z,114nm,18.4s,baz=167,slow=33							
PLCA	**Paso Flores**	**92.93**	**190**	LR	LR	17 03 58.7		
	comp=Z,150nm,18.6s,baz=172,slow=33							
PPT2	**Papeete2**	**93.62**	**120**	*e*LR	LR	16 55 45.9		
	88nm,22.2s							
PPT	**Papeete**	**93.63**	**120**	LR	LR	16 58 52.1		
	comp=Z,228nm,18.7s,baz=266,slow=30							
SONM	**Songino Array**	**93.77**	**7**	LR	LR	17 04 54.2		
	comp=Z,78nm,18.5s,baz=47,slow=34							
RKT	**Rikitea**	**97.34**	**134**	*e*T	T	18 14 26.0		
	6.0nm,0.2s							
ZALV	**Zalesovo Beam**	**99.86**	**353**	LR	LR	17 07 59.7		
	comp=Z,108nm,19.3s,baz=212,slow=33							
INK	**Inuvik**	**146.45**	**31**	PKPbc	**PKPbc**	**16 32 01.6**	**-0.6**
	2.5nm,0.8s,baz=309,slow=4.7,SNR=8.8							
INK	**Inuvik**	**146.45**	**31**	PKPbc	**PKPbc**	**16 32 01.6**	**-0.6**
RES	**Resolute Bay**	**150.69**	**6**	PKPbc	**PKPbc**	**16 32 12.4**	**-0.7**
	1.2nm,0.9s,baz=44,slow=2.8,SNR=5.7							
RES	**Resolute Bay**	**150.69**	**6**	PKPbc	**PKPbc**	**16 32 12.4**	**-0.7**
NVAR	**Mina Array Bea**	**153.81**	**94**	PKPbc	**PKPbc**	**16 32 20.4**	**-1.0**
	0.6nm,0.7s,baz=264,slow=3.6,SNR=3.2							
NVAR	**Mina Array Bea**	**153.81**	**94**	PKPbc	**PKPbc**	**16 32 20.4**	**-1.0**
YKA	**Yellowknife Ar**	**155.97**	**35**	PKP	**PKPdf**	**16 32 15.2**	**-0.3**
	0.1nm,0.4s,baz=278,slow=9.3,SNR=3.2							
YKA				PKPbc	PKPab	16 32 24.0	-19	
	0.3nm,0.8s,baz=305,slow=2.3,SNR=6.2							
YKA	**Yellowknife Ar**	**155.97**	**35**	PKP	**PKPdf**	**16 32 15.2**	**-0.3**
YKA				PKPbc	PKPab	16 32 24.0	-19	

MEX 17 16:20:28.8±1.4, 17°26N×101°21W, h16km±16km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.42**	**324**	*e*P	Pg	16 20 36.1	-1.2
ZIIG				*e*S	Sg	16 20 41.3	-1.9
CAIG	**El Cayaco**	**0.93**	**103**	*i* P	Pb	16 20 42.8	-3.7
CAIG				*i* S	Sb	16 20 54.3	-4.2
ARIG	**Puente Sto Nin**	**1.30**	**39**	*i* P	Pn	16 20 48.0	-4.4
ARIG				*i* S	Sb	16 21 03.6	-6.0
PLIG	**Platanillo**	**1.98**	**55**	*e*P	Pn	16 20 59.6	-2.1
PLIG				*i* S	Sn	16 21 23.1	-3.2

IDC 17 16:27:40.6±2.7, 20°30S×68°73W, h125km±23km, mb3.6/5, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, MS3.6/2, Ms1 3.6/2, ms1mx2.6/27, Error ellipse: s-maj=32.7km s-min=21.3km az=79.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.04**	**8**	P	Pn	16 28 42.5	+0.9
	3.2nm,0.3s,baz=191,slow=7.8,SNR=59						
LPAZ				S	Sn	16 29 34.0	+5.3
	0.7nm,0.3s,baz=248,slow=3.5,SNR=4.8						
SIV	**San Ignacio**	**8.45**	**61**	P	Pn	16 29 39.2	-1.1
	2.3nm,0.3s,baz=261,slow=12,SNR=24						
SIV				LR	LR	16 32 49.0	
	comp=Z,84nm,18.4s,slow=36						
CPUP	**Villa Florida**	**12.07**	**122**	P	Pn	16 30 28.5	-0.1
	0.4nm,0.3s,baz=275,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**20.42**	**184**	P	P	16 32 07.7	-0.3
	2.1nm,0.9s,baz=29,slow=10.0,SNR=3.7						
DBIC	**Dimbokro**	**68.24**	**74**	LR	LR	17 05 31.3	
	comp=Z,159nm,21.5s,baz=114,slow=33						
ULM	**Lac du Bonnet**	**74.23**	**342**	P	P	16 39 02.5	-1.1
	1.0nm,0.5s,baz=151,slow=5.0,SNR=3.9						
SCHQ	**Schefferville**	**74.85**	**1**	P	P	16 39 06.9	-0.1
	1.1nm,0.6s,baz=138,slow=2.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P	P	16 39 19.4	+0.3
	0.7nm,0.5s,baz=254,slow=5.7,SNR=13						
TORD				pP	pP	16 39 47.8	-2.6
	1.3nm,0.7s,baz=249,slow=5.2,SNR=6.9						
YKA	**Yellowknife Ar**	**90.12**	**341**	P	P	16 40 26.3	+0.3
	0.8nm,0.7s,baz=133,slow=4.7,SNR=24						
YKA				pP	pP	16 40 54.1	-4.2
	0.3nm,0.7s,baz=134,slow=4.6,SNR=3.5						
ASAR	**Alice Springs**	**131.04**	**208**	PKP	PKPdf	16 46 38.4	0.0
	0.2nm,0.4s,baz=124,slow=1.8,SNR=8.1						
WRA	**Warramunga Arr**	**134.06**	**211**	PKP	PKPdf	16 46 44.1	+0.1
	0.4nm,0.7s,baz=149,slow=1.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**140.25**	**33**	PKP	PKPdf	16 46 54.8	+0.3
	0.5nm,0.9s,baz=293,slow=3.1,SNR=2.9						

IDC 17 16:51:51.9±1.5, 2°58S×141°24E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=61.8km s-min=22.7km az=105.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.53**	**201**	P	P	16 56 08.6	-1.5
	0.1nm,0.3s,baz=20,slow=12,SNR=8.2						
FITZ	**Fitzroy Crossi**	**21.73**	**224**	P	P	16 56 44.7	-0.2
	1.3nm,0.6s,baz=75,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**22.13**	**198**	P	P	16 56 49.5	+0.2
	0.5nm,0.5s,baz=28,slow=10,SNR=15						
ZALV	**Zalesovo Beam**	**73.11**	**329**	P	P	17 03 24.9	+0.9
	0.5nm,0.5s,baz=121,slow=5.9,SNR=3.4						
BVAR	**Borovoye Array**	**80.66**	**325**	P	P	17 04 07.1	+0.4
	0.4nm,0.5s,baz=109,slow=5.6,SNR=4.5						
ILAR	**Eielson Array**	**84.67**	**24**	P	P	17 04 26.6	-0.7
	0.4nm,0.9s,baz=260,slow=5.4,SNR=5.1						

IDC 17 17:06:03.5±2.1, 20°67S×177°67W, h419km±26km, mb3.2/7, mb1 3.4/9, mb1mx3.2/21, mbtmp3.2/9, Error ellipse: s-maj=36.2km s-min=14.1km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.76**	**41**	P	P	17 08 09.4	+2.1
	1.3nm,0.3s,baz=211,slow=18,SNR=4.3						
AFI				S	S	17 09 45.6	-3.5
	1.9nm,0.3s,baz=17,slow=19,SNR=3.6						
URZ	**Urewera**	**18.11**	**193**	P	P	17 09 48.7	+0.4
	0.7nm,0.3s,baz=348,slow=4.2,SNR=7.7						
STKA	**Stephens Creek**	**38.00**	**244**	P	P	17 12 44.0	+0.2
	2.0nm,1.1s,baz=85,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**44.78**	**257**	P	P	17 13 37.4	-0.9
	2.4nm,0.6s,baz=94,slow=8.1,SNR=62						
WRA	**Warramunga Arr**	**44.88**	**262**	P	P	17 13 38.4	-0.8
	0.5nm,0.4s,baz=97,slow=7.7,SNR=45						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	P	17 14 42.3	+0.2
	0.6nm,0.4s,baz=84,slow=11,SNR=8.4						
PETK	**Petropavlovsk-**	**76.51**	**345**	P	P	17 17 09.7	+1.0
	0.4nm,0.7s,baz=123,slow=4.4,SNR=4.2						
ILAR	**Eielson Array**	**88.41**	**13**	P	P	17 18 09.2	+0.1
	0.2nm,0.3s,baz=217,slow=5.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**90.46**	**289**	P	P	17 18 21.4	+1.8
	0.9nm,0.7s,baz=147,slow=3.6,SNR=7.4						
AKASG	**Malin Array Be**	**143.31**	**331**	PKP	PKPab	17 24 45.9	-0.5
	2.3nm,0.5s,baz=43,slow=4.1,SNR=8.9						
BRTR	**Keskin Array B**	**147.18**	**312**	PKPbc	PKPbc	17 24 58.5	-0.4
	0.5nm,0.6s,baz=148,slow=7.3,SNR=3.6						
GERES	**GERESS Array B**	**150.44**	**345**	PKPbc	PKPbc	17 25 05.8	-0.7
	0.2nm,0.5s,baz=45,slow=2.5,SNR=2.9						

*ISK **17** 17:13:09.5, 40°.41N×37°.97E, h5km, MD3.5*

*ISCJB **17** 17:13:10.8±0.6, 40°.40N±0°.03×37°.95E±0°.02, h2km±5km, Error ellipse: s-maj=4.2km s-min=2.9km az=1.4*
*DDA **17** 17:13:10.5, 40°.39N×37°.94E, h5km, MD3.6*
*CSEM **17** 17:13:10.9±0.3, 40°.39N×37°.96E, h0km±2km, MD3.6, Error ellipse: s-maj=4.3km s-min=3.2km az=3.0*

ISC 17 17:13:11.0±1.1, 40.40N±0.02×37.96E±0.02, h4km±10km, n81, σ0.93/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUSE	**Susehri**	**0.27**	**136**	*i* P	**Pg**	**17 13 16.6**	**+0.3**
SUSE				*i* S	**Sg**	**17 13 20.9**	**+1.1**
SUSE	**Susehri**	**0.27**	**136**	*i* P	**Pg**	**17 13 16.6**	**+0.3**
SUSE				*i* S	**Sg**	**17 13 20.9**	**+1.1**
RSDY	**Resadiye-TOKAT**	**0.48**	**270**	PG	**Pg**	**17 13 20.2**	**-0.1**
RSDY				*e*SG	**Sb**	**17 13 28.0**	**-1.5**
RSDY	**Resadiye-TOKAT**	**0.48**	**270**	*i* Pg	**Pg**	**17 13 20.2**	**-0.1**
RSDY				*e*Sg	**Sb**	**17 13 28.0**	**-1.5**
GRSN	**GIRESUNGRSN**	**0.57**	**24**	*i* P	**Pg**	**17 13 22.5**	**+0.5**
GRSN				*i* S	**Sg**	**17 13 31.0**	**+1.5**
GRSN	**GIRESUNGRSN**	**0.57**	**24**	*i* P	**Pg**	**17 13 22.5**	**+0.5**
GRSN				*i* S	**Sg**	**17 13 31.0**	**+1.5**
ESPY	**Espiye-Giresun**	**0.78**	**48**	*e*PG	**Pg**	**17 13 26.1**	**+0.2**
ESPY				*e*SG	**Sb**	**17 13 37.3**	**-0.7**
ESPY	**Espiye-Giresun**	**0.78**	**48**	*e*Pg	**Pg**	**17 13 26.1**	**+0.2**
ESPY				*e*Sg	**Sb**	**17 13 37.3**	**-0.7**
ERBA	**Erbaa**	**0.96**	**287**	*i* P	**Pg**	**17 13 29.2**	**-0.2**
ERBA				*i* S	**Sb**	**17 13 42.6**	**-0.7**
ERBA	**Erbaa**	**0.96**	**287**	*i* P	**Pg**	**17 13 29.2**	**-0.2**
ERBA				*i* S	**Sb**	**17 13 42.6**	**-0.7**
KELT	**Kelkit**	**1.02**	**104**	*i* P	**Pg**	**17 13 30.0**	**-0.6**
KELT				*i* S	**Sg**	**17 13 43.6**	**-0.3**
KELT	**Kelkit**	**1.02**	**104**	*i* P	**Pg**	**17 13 30.0**	**-0.6**
KELT				*i* S	**Sg**	**17 13 43.6**	**-0.3**
ILIC	**ilic-Erzincan**	**1.06**	**154**	*e*PG	**Pg**	**17 13 30.8**	**-0.5**
ILIC	**ilic-Erzincan**	**1.06**	**154**	*e*Pg	**Pg**	**17 13 30.8**	**-0.5**
TOKT	**Tokat**	**1.08**	**266**	*e*PN	**Pg**	**17 13 31.1**	**-0.7**
TOKT	**Tokat**	**1.08**	**266**	*e*Pn	**Pg**	**17 13 31.1**	**-0.7**
TOKA	**Tokat**	**1.14**	**267**	*i* P	**Pg**	**17 13 31.4**	**-1.4**
TOKA				*i* S	**Sb**	**17 13 48.2**	**-0.1**
TOKA	**Tokat**	**1.14**	**267**	*i* P	**Pg**	**17 13 31.4**	**-1.4**
TOKA				*i* S	**Sb**	**17 13 48.2**	**-0.1**
GUMT	**Gumushane**	**1.16**	**87**	*e*PN	**Pg**	**17 13 32.5**	**-0.8**
GUMT	**Gumushane**	**1.16**	**87**	*e*Pn	**Pg**	**17 13 32.5**	**-0.8**
KEMA	**Kemaliye**	**1.20**	**160**	*i* P	**Pg**	**17 13 32.8**	**-1.3**
KEMA				*i* S	**Sb**	**17 13 50.8**	**+0.5**
KEMA	**Kemaliye**	**1.20**	**160**	*i* P	**Pg**	**17 13 32.8**	**-1.3**
KEMA				*i* S	**Sb**	**17 13 50.8**	**+0.5**
EZC	**Erzincan**	**1.25**	**121**	*e*PN	**Pg**	**17 13 33.9**	**-1.1**
EZC	**Erzincan**	**1.25**	**121**	*e*Pn	**Pg**	**17 13 33.9**	**-1.1**
DARE	**Darende-Malaty**	**1.45**	**185**	*e*PN	Pg	17 13 44.0	+5.1
MACK	**Trabzon**	**1.48**	**68**	*i* P	**Pb**	**17 13 38.9**	**-0.2**
MACK				*i* S	**Sn**	**17 13 59.5**	**+1.3**
MACK	**Trabzon**	**1.48**	**68**	*i* P	**Pb**	**17 13 38.9**	**-0.2**
MACK				*i* S	**Sn**	**17 13 59.5**	**+1.3**
ERZN	**Erzincan**	**1.58**	**120**	*e*PN	**Pn**	**17 13 39.8**	**-0.1**
KVT	**Kavak**	**1.60**	**296**	*e*PN	**Pn**	**17 13 40.0**	**-0.2**
KVT	**Kavak**	**1.60**	**296**	*e*Pn	**Pn**	**17 13 40.0**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.67**	**90**	*e*PN	**Pn**	**17 13 40.6**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.67**	**90**	*e*Pn	**Pn**	**17 13 40.6**	**-0.5**
PTK	**Pertek**	**1.87**	**143**	*e*PN	**Pn**	**17 13 43.8**	**-0.1**
PTK	**Pertek**	**1.87**	**143**	*e*Pn	**Pn**	**17 13 43.8**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.98**	**210**	*e*PN	**Pg**	**17 13 50.5**	**+1.5**
ELZG	**Elazig**	**2.06**	**157**	*i* P	**Pb**	**17 13 47.7**	**-1.3**
ELZG				*i* S	**Sg**	**17 14 17.2**	**0.0**
ELZG	**Elazig**	**2.06**	**157**	*i* P	**Pb**	**17 13 47.7**	**-1.3**
PINB	**Pinarbasi**	**2.10**	**215**	*i* P	**Pn**	**17 13 48.2**	**+1.1**
PINB				*i* S	**Sg**	**17 14 19.5**	**+1.0**
PINB	**Pinarbasi**	**2.10**	**215**	*i* P	**Pn**	**17 13 48.2**	**+1.1**
AKCD	**Akcadag**	**2.10**	**181**	*e*P	**Pn**	**17 13 48.1**	**+1.0**
AKCD				*e*S	**Sb**	**17 14 16.8**	**+0.6**
AKCD	**Akcadag**	**2.10**	**181**	*e*P	**Pn**	**17 13 48.1**	**+1.0**
AKCD				*e*S	**Sb**	**17 14 16.8**	**+0.6**
MYA	**Malataya**	**2.10**	**170**	*e*PN	**Pn**	**17 13 47.3**	**+0.3**
MYA	**Malataya**	**2.10**	**170**	*e*Pn	**Pn**	**17 13 47.3**	**+0.3**
MALT	**Malatya**	**2.12**	**170**	*e*PN	**Pn**	**17 13 47.7**	**+0.5**
MALT	**Malatya**	**2.12**	**170**	*e*Pn	**Pn**	**17 13 47.7**	**+0.5**
YOZ	**Yozgat**	**2.17**	**250**	*e*PN	**Pn**	**17 13 48.2**	**+0.3**
YOZ	**Yozgat**	**2.17**	**250**	*e*Pn	**Pn**	**17 13 48.2**	**+0.3**
BNN	**Bunyan**	**2.25**	**227**	*e*PN	**Pn**	**17 13 49.5**	**+0.4**
BNN	**Bunyan**	**2.25**	**227**	*e*Pn	**Pn**	**17 13 49.5**	**+0.4**
PZAR	**Pazar-Rize**	**2.36**	**70**	*e*PN	**Pn**	**17 13 50.9**	**+0.4**
PZAR	**Pazar-Rize**	**2.36**	**70**	*e*Pn	**Pn**	**17 13 50.9**	**+0.4**
DIKM	**Dikmen**	**2.40**	**302**	*e*PN	**Pn**	**17 13 51.3**	**+0.4**
DIKM	**Dikmen**	**2.40**	**302**	*e*Pn	**Pn**	**17 13 51.3**	**+0.4**
BINT	**Bingol**	**2.48**	**127**	*e*Pn	**Pn**	**17 13 53.3**	**+1.1**
BNGB	**Bing¶ll**	**2.53**	**123**	*e*PN	**Pn**	**17 13 53.3**	**+0.5**
CORM	**Corum**	**2.56**	**266**	*e*PN	**Pn**	**17 13 53.8**	**+0.5**
CORM	**Corum**	**2.56**	**266**	*e*Pn	**Pn**	**17 13 53.8**	**+0.5**
BYBT	**Boyabat**	**2.64**	**295**	*e*PN	**Pn**	**17 13 55.0**	**+0.6**
BYBT	**Boyabat**	**2.64**	**295**	*e*Pn	**Pn**	**17 13 55.0**	**+0.6**
EZM	**Erzurum**	**2.65**	**100**	*e*PN	**Pn**	**17 13 55.0**	**+0.3**
BCA	**Borcka**	**2.96**	**68**	*e*PN	**Pn**	**17 13 59.5**	**+0.7**
BCA	**Borcka**	**2.96**	**68**	*e*Pn	**Pn**	**17 13 59.5**	**+0.7**
KMRS	**Kahramanmaras**	**3.01**	**196**	*e*PN	**Pn**	**17 14 00.1**	**+0.7**
KMRS	**Kahramanmaras**	**3.01**	**196**	*e*Pn	**Pn**	**17 14 00.1**	**+0.7**
TOS	**Tosya**	**3.06**	**283**	*e*PN	**Pn**	**17 14 00.8**	**+0.7**
DAGI	**Agillar**	**3.08**	**76**	*i* P	**Pb**	**17 14 04.2**	**-2.2**
DAGI				*i* S	**Sb**	**17 14 46.2**	**+1.7**
ARTV	**Artvin**	**3.11**	**74**	*i* P	**Pb**	**17 14 04.3**	**-2.7**
ARTV				*i* S	**Sb**	**17 14 45.2**	**-0.1**
ARTV	**Artvin**	**3.11**	**74**	*i* P	**Pb**	**17 14 04.3**	**-2.7**
GAZ	**Gaziantep**	**3.28**	**191**	*e*PN	**Pn**	**17 14 04.0**	**+0.9**
GAZ	**Gaziantep**	**3.28**	**191**	*e*Pn	**Pn**	**17 14 04.1**	**+0.9**
KOZT	**Kozan**	**3.36**	**210**	*e*PN	**Pn**	**17 14 05.2**	**+1.0**
KOZT	**Kozan**	**3.36**	**210**	*e*Pn	**Pn**	**17 14 05.2**	**+1.0**
BZK	**Bozkurt**	**3.37**	**299**	*e*PN	**Pn**	**17 14 05.2**	**+0.9**
BZK	**Bozkurt**	**3.37**	**299**	*e*Pn	**Pn**	**17 14 05.2**	**+0.9**
KAMT	**Kaman**	**3.43**	**254**	*e*PN	**Pn**	**17 14 06.3**	**+1.1**
NIG	**Nigde**	**3.46**	**230**	*e*PN	**Pn**	**17 14 06.6**	**+0.7**
NIG	**Nigde**	**3.46**	**230**	*e*Pn	**Pn**	**17 14 06.6**	**+0.7**
AFSR	**Af¯ar-Bala (A**	**3.88**	**257**	*e*PN	**Pn**	**17 14 12.6**	**+1.2**
AFSR	**Af¯ar-Bala (A**	**3.88**	**257**	*e*Pn	**Pn**	**17 14 12.6**	**+1.2**
SULT	**Sultanhani-AKS**	**4.09**	**239**	*e*PN	**Pn**	**17 14 15.6**	**+1.2**
SULT	**Sultanhani-AKS**	**4.09**	**239**	*e*Pn	**Pn**	**17 14 15.6**	**+1.2**

*ISK **17** 17:36:22.3, 42°.08N×26°.21E, h3km, MD3.2*
*THE **17** 17:36:22.2, 42°.22N×26°.21E, h0km±3km, ML2.7/3, Error ellipse: s-maj=4.7km s-min=1.5km az=16.0*
*SOF **17** 17:36:22.1, 42°.22N×26°.20E, h10km, MD2.6*
*CSEM **17** 17:36:22.3±0.1, 42°.19N×26°.24E, h2km, ML2.7/3, Error ellipse: s-maj=2.3km s-min=1.9km az=3.0*

ISC 17 17:36:22.2±1.0, 42°.21N±0°.02×26°.22E±0°.02, h7km±9km, n102, σ0.88/142, 6C-7D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.37**	**46**	P	**Pg**	**17 36 29.1**	**-0.4**
JMB	**Yambol**	**0.37**	**46**	*i* Pg	**Pg**	**17 36 29.5**	**0.0**
JMB				Sg	**Sg**	**17 36 34.3**	**-0.1**
JMB	**Yambol**	**0.37**	**46**	P	**Pg**	**17 36 29.1**	**-0.4**
JMB	**Yambol**	**0.37**	**46**	*i* Pg	**Pg**	**17 36 29.5**	**0.0**
JMB				Sg	**Sg**	**17 36 34.3**	**-0.1**
EDRB	**Edirne**	**0.53**	**133**	*e*PG	**Pg**	**17 36 32.0**	**-0.5**
EDRB				*e*SG	**Sg**	**17 36 39.1**	**-0.4**
EDRB	**Edirne**	**0.53**	**133**	*e*Pg	**Pg**	**17 36 32.0**	**-0.5**
EDRB				*e*Sg	**Sg**	**17 36 39.1**	**-0.4**
DIM	**Dimitrovgrad**	**0.54**	**253**	*i* Pg	**Pg**	**17 36 33.0**	**+0.4**
DIM				Sg	**Sg**	**17 36 40.5**	**+0.9**
DIM	**Dimitrovgrad**	**0.54**	**253**	*i* Pg	**Pg**	**17 36 33.0**	**+0.4**
DIM				Sg	**Sg**	**17 36 40.5**	**+0.9**
KDZ	**Kurdzhali**	**0.82**	**227**	*i* P	**Pb**	**17 36 39.2**	**+0.3**
KDZ				Sg	**Sb**	**17 36 51.0**	**+0.8**
KDZ	**Kurdzhali**	**0.82**	**227**	*i* P	**Pb**	**17 36 39.2**	**+0.3**
KDZ				Sg	**Sb**	**17 36 51.0**	**+0.8**
SZH	**Strazhica**	**1.08**	**349**	*i* P	**Pb**	**17 36 43.3**	**+0.1**
SZH				Sg	**Sn**	**17 36 59.0**	**0.0**
SZH	**Strazhica**	**1.08**	**349**	*i* P	**Pb**	**17 36 43.3**	**+0.1**
SZH				Sg	**Sn**	**17 36 59.0**	**0.0**
PLD	**Plovdiv**	**1.13**	**265**	P	**Pg**	**17 36 42.9**	**-1.1**
PLD				S	**Sb**	**17 36 59.1**	**0.0**
PLD	**Plovdiv**	**1.13**	**265**	*i* P	**Pg**	**17 36 42.0**	**-2.0**
PLD				Sg	**Sg**	**17 36 57.0**	**-1.7**
PLD	**Plovdiv**	**1.13**	**265**	P	**Pg**	**17 36 42.9**	**-1.1**
PLD				Sg	**Sg**	**17 36 57.0**	**-1.7**
PLD				S	**Sb**	**17 36 59.1**	**0.0**
PVL	**Pavlikeni**	**1.20**	**327**	P	**Pn**	**17 36 45.8**	**+0.3**
PVL				Sg	**Sn**	**17 37 01.9**	**-0.1**
PVL	**Pavlikeni**	**1.20**	**327**	P	**Pn**	**17 36 45.8**	**+0.3**
PVL				Sg	**Sn**	**17 37 01.9**	**-0.1**
ROIA	**ROIAK**	**1.23**	**44**	*i* P	**Pg**	**17 36 46.0**	**+0.2**
ROIA				Sg	**Sn**	**17 37 02.9**	**+0.1**
RZN	**Rozhen**	**1.24**	**246**	*i* P	**Pb**	**17 36 45.9**	**-0.2**
RZN				S	**Sn**	**17 37 02.6**	**-0.7**
RZN	**Rozhen**	**1.24**	**246**	*i* P	**Pb**	**17 36 45.9**	**-0.2**
RZN				S	**Sn**	**17 37 02.6**	**-0.7**
RZN				Sg	**Sb**	**17 37 02.9**	**+0.6**
NEF	**NEVSHA**	**1.31**	**36**	*i* P	**Pn**	**17 36 47.0**	**0.0**
NEF				Sg	**Sn**	**17 37 05.0**	**+0.2**
NEF	**NEVSHA**	**1.31**	**36**	*i* P	**Pn**	**17 36 47.0**	**0.0**
NEF				Sg	**Sn**	**17 37 05.0**	**+0.2**
PRD	**Provadia**	**1.32**	**41**	P	**Pn**	**17 36 46.5**	**-0.6**
PRD				Sg	**Sn**	**17 37 05.0**	**+0.1**
PRD	**Provadia**	**1.32**	**41**	P	**Pn**	**17 36 46.5**	**-0.6**
PRD				Sg	**Sn**	**17 37 05.0**	**+0.1**
ALN	**Alexandroupoli**	**1.32**	**186**	P	**Pn**	**17 36 47.1**	**0.0**
ALN				S	**Sn**	**17 37 06.3**	**+1.3**
ALN	**Alexandroupoli**	**1.32**	**186**	P	**Pn**	**17 36 47.1**	**0.0**
ENEZ	**Enez**	**1.48**	**182**	*e*PN	**Pn**	**17 36 49.0**	**-0.2**
ENEZ				*e*SN	**Sn**	**17 37 07.7**	**-1.1**
ENEZ	**Enez**	**1.48**	**182**	*e*Pn	**Pn**	**17 36 49.0**	**-0.2**
ENEZ				*e*Sn	**Sn**	**17 37 07.7**	**-1.1**
PGB	**Panagyurishte**	**1.56**	**283**	P	**Pb**	**17 36 51.5**	**0.0**
PGB				S	**Sg**	**17 37 12.3**	**0.0**
PGB	**Panagyurishte**	**1.56**	**283**	P	**Pb**	**17 36 51.5**	**0.0**
PGB				S	**Sg**	**17 37 12.3**	**0.0**
CRLT	**Corlu**	**1.57**	**133**	*e*PN	**Pn**	**17 36 50.7**	**+0.2**
CRLT	**Corlu**	**1.57**	**133**	*e*Pn	**Pn**	**17 36 50.7**	**+0.2**
TKR	**Tekirdag**	**1.57**	**141**	*e*PN	**Pn**	**17 36 50.6**	**0.0**
TKR				*e*SN	**Sn**	**17 37 11.0**	**-0.1**
TKR	**Tekirdag**	**1.57**	**141**	*e*Pn	**Pn**	**17 36 50.6**	**0.0**
TKR				*e*Sn	**Sn**	**17 37 11.0**	**-0.1**
ZIMR		**1.58**	**337**	⇑ *i* P	**Pg**	**17 36 52.9**	**+0.4**
ZIMR		**1.58**	**337**	S	**Sg**	**17 37 15.7**	**+2.8**
MFT	**Murefte**	**1.63**	**150**	*e*PN	**Pn**	**17 36 51.3**	**-0.2**
MFT	**Murefte**	**1.63**	**150**	*e*Pn	**Pn**	**17 36 51.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.68**	**154**	*e*PN	**Pn**	**17 36 51.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.68**	**154**	*e*Pn	**Pn**	**17 36 51.9**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.71**	**115**	*e*PN

MTTG	**Motta San Giov**	**0.89**	**136**	Pg	**Pn**	**17 39 52.8**	**+0.6**
MTTG				Sg	**S**	**17 40 21.6**	**+0.5**
	72nm,0.5s						
GIB	**Gibilmanna**	**0.96**	**227**	Pg	**Pn**	**17 39 52.3**	**-0.4**
GIB	**Gibilmanna**	**0.96**	**227**	Pg	**Pn**	**17 39 52.3**	**-0.4**
GALF	**Gagliano Caste**	**0.98**	**197**	Pg	**Pn**	**17 39 53.3**	**+0.6**
	23nm,0.5s						
GALF	**Gagliano Caste**	**0.98**	**197**	Pg	**Pn**	**17 39 53.3**	**+0.6**
	23nm,0.5s						
CSLB	**Castelbuono**	**0.98**	**224**	Pg	**Pn**	**17 39 52.3**	**-0.4**
CSLB	**Castelbuono**	**0.98**	**224**	Pg	**Pn**	**17 39 52.3**	**-0.4**
SOI	**Samo**	**1.06**	**122**	Pg	**Pn**	**17 39 53.6**	**+0.5**
	61nm,0.5s						
SOI	**Samo**	**1.06**	**122**	Pg	**Pn**	**17 39 53.6**	**+0.5**
	61nm,0.5s						
MPAZ	**Palizzi**	**1.10**	**129**	Pg	**Pn**	**17 39 53.8**	**+0.5**
MPAZ				Sg	**S**	**17 40 22.7**	**-0.3**
	96nm,0.3s						
MPAZ	**Palizzi**	**1.10**	**129**	Pg	**Pn**	**17 39 53.8**	**+0.5**
MPAZ				Sg	**S**	**17 40 22.7**	**-0.3**
	96nm,0.3s						
CARO	**Carolei**	**1.18**	**59**	Pg	**Pn**	**17 39 54.0**	**+0.3**
CARO				Sg	**S**	**17 40 23.5**	**-0.3**
	79nm,0.6s						
CARO	**Carolei**	**1.18**	**59**	Pg	**Pn**	**17 39 54.0**	**+0.3**
CARO				Sg	**S**	**17 40 23.5**	**-0.3**
	79nm,0.6s						
GRI	**Girifalco**	**1.19**	**81**	Pn	**Pn**	**17 39 54.6**	**+0.9**
	69nm,0.4s						
GRI	**Girifalco**	**1.19**	**81**	Pn	**Pn**	**17 39 54.6**	**+0.9**
	69nm,0.4s						
PLAC	**Placanica**	**1.21**	**99**	Pn	**Pn**	**17 39 54.6**	**+0.7**
PLAC				Sn	**S**	**17 40 22.7**	**-1.4**
	85nm,0.4s						
PLAC	**Placanica**	**1.21**	**99**	Pn	**Pn**	**17 39 54.6**	**+0.7**
PLAC				Sn	**S**	**17 40 22.7**	**-1.4**
	85nm,0.4s						
ALJA	**Alia**	**1.28**	**226**	Pn	**Pn**	**17 39 55.0**	**+0.6**
ALJA				Sn	**S**	**17 40 25.1**	**0.0**
ALJA	**Alia**	**1.28**	**226**	Pn	**Pn**	**17 39 55.0**	**+0.6**
ALJA				Sn	**S**	**17 40 25.1**	**0.0**
SERS	**Sersale**	**1.44**	**74**	Pn	**Pn**	**17 39 56.3**	**+0.9**
SERS				Sn	**S**	**17 40 25.8**	**-1.1**
	73nm,0.6s						
SERS	**Sersale**	**1.44**	**74**	Pn	**Pn**	**17 39 56.3**	**+0.9**
SERS				Sn	**S**	**17 40 25.8**	**-1.1**
	73nm,0.6s						
TIP	**Timpagrande**	**1.53**	**69**	Pn	**Pn**	**17 39 57.1**	**+1.1**
TIP				Sn	**S**	**17 40 27.4**	**-0.6**
	61nm,0.6s						
TIP	**Timpagrande**	**1.53**	**69**	Pn	**Pn**	**17 39 57.1**	**+1.1**
TIP				Sn	**S**	**17 40 27.4**	**-0.6**
	61nm,0.6s						
PIPA	**Pietrapaola**	**1.70**	**60**	Pn	**Pn**	**17 39 58.5**	**+1.3**
PIPA	**Pietrapaola**	**1.70**	**60**	Pn	**Pn**	**17 39 58.5**	**+1.3**
DAVOX	**Davos/Dischmat**	**8.93**	**337**	P	**Pn**	**17 41 23.4**	**+2.7**
	0.4nm,0.3s,baz=183,slow=14,SNR=3.6						
GERES	**GERESS Array B**	**10.23**	**355**	P	**Pn**	**17 41 37.4**	**+0.6**
	0.1nm,0.3s,baz=171,slow=12,SNR=7.6						
BRTR	**Keskin Array B**	**14.56**	**80**	P	Pn	17 42 35.0	+4.9
	0.1nm,0.3s,baz=278,slow=9.9,SNR=3.3						
HFS	**Hagfors**	**21.52**	**358**	P	**P**	**17 43 41.7**	**-1.7**
	7.0nm,1.1s,baz=172,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**23.85**	**13**	P	**P**	**17 44 04.5**	**0.0**
	0.9nm,0.3s,baz=185,slow=8.6,SNR=11						
ARCES	**ARCESS Array B**	**31.47**	**7**	P	**P**	**17 45 10.6**	**-1.4**
	4.5nm,1.0s,baz=194,slow=9.9,SNR=5.5						

IDC ***17*** *18:08:32.2±0.4,20.˚03N×147.˚62E,h0km,mb4.8/35, mb1 4.9/39,mb1mx4.9/41,mbtmp4.8/39,ML4.6/3,MS3.8/27, Ms1 3.8/27,ms1mx3.6/55,Error ellipse: s-maj=13.6km s-min=9.7km az=89.0*

ISCJB ***17*** *18:08:33.6±1.0,20.˚02N±0.˚03×147.˚49E±0.˚02,h15km±6km, mb5.0/139,MS3.9/40,Error ellipse: s-maj=4.4km s-min=3.3km az=2.4*

MOS ***17*** *18:08:35.5±0.8,20.˚04N×147.˚58E,h33km,mb5.3/42,Error ellipse: s-maj=9.9km s-min=5.1km az=109.9*

GCMT ***17*** *18:08:37.8±0.3,20.˚11N×147.˚75E,h18km±1km,MW4.8, Moment Tensor Solution. s20,c21; s74,c100; Moment tensor: Scale 10¹⁶Nm; Mrr-2.34±.16; Mθθ0.54±.09; Mφφ1.80±.11; Mrθ-0.17±.21; Mθφ-0.86±.05; Mφr-0.25±.19; Best double couple: M₀2.30000×10¹⁶ NP1:φs147.00000°, δ43.00000°,λ-99.00000°. NP2:φs339.00000°,δ47.00000°, λ-82.00000°. Principal axes: T 2.2400, Plg2.0000°, Azm63.0000°; N 0.1300, Plg6.0000°, Azm153.0000°; P -2.3700, Plg84.0000°, Azm317.0000°; Data Used: IU IC II G CN.*

NEIC ***17*** *18:08:37.5±2.0,20.˚04N×147.˚57E,h34km±14km,mb5.0/53 Error ellipse: s-maj=5.5km s-min=3.8km az=93.0*

BJI ***17*** *18:08:37.2,20.˚19N×147.˚52E,h37km,mB5.0/32,mb5.2/53, Ms4.4/39,Ms7 4.0/38*

DJA ***17*** *18:08:44.6±1.8,20.˚8N±8.˚,14.˚7E±1.˚4,h72km±13km, M5.4/19,mB5.7/4,mb5.0/19,MLv5.7/1,Mw(mB)5.2/4*

ISC 17 18:08:38.2±0.4,20.˚03N±0.˚04×147.˚61E±0.˚05,h40km±2km, h40km;pP-P,n568,σ1§22/652,mb5.0/139,MS3.8/41, 121C-122D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.92**	**203**	Pn	**Pn**	**18 10 18.3**	**+1.3**
	57nm,0.3s,baz=286,slow=2.6,SNR=19						
GUMO				Sn	**Sn**	**18 11 31.2**	**-3.4**
	129nm,0.3s,baz=353,slow=23,SNR=9.1						
GUMO				LR	LR	18 12 47.0	
	comp=Z,765nm,19.6s,baz=24,slow=37						
GUMO	**Guam**	**6.92**	**203**	*e*Pn	**Pn**	**18 10 17.9**	**+0.9**
	203nm,0.6s						
GUMO				Sn	**Sn**	**18 11 31.2**	**-3.4**
GUMO				*e*Sn	Sn	18 11 31.6	-3.0
CBIJ	**Chichi jima**	**8.62**	**326**	Pn	**Pn**	**18 10 37.8**	**-2.5**
	42nm,0.3s,baz=199,slow=22,SNR=32						
CBIJ				Sn	Sn	18 12 09.5	-6.8
	49nm,0.3s,baz=294,slow=23,SNR=7.7						
CBIJ				LR	LR	18 13 34.7	
	comp=Z,295nm,21.5s,baz=143,slow=35						
CBIJ	**Chichi jima**	**8.62**	**326**	Pn	**Pn**	**18 10 37.8**	**-2.5**
CBIJ				Sn	Sn	18 12 09.5	-6.8
JOD2	**Odawara 2**	**16.94**	**335**	P	**Pn**	**18 12 31.9**	**-0.3**
JWZ	**Kozaga**	**17.12**	**324**	P	**P**	**18 12 36.1**	**+0.4**
JRY	**Ryogami san**	**17.67**	**336**	P	**Pn**	**18 12 38.7**	**-2.6**
JMN	**Monobe**	**18.31**	**325**	P	**P**	**18 12 48.0**	**-0.9**
MJAR	**Matsushiro Arr**	**18.40**	**335**	P	**P**	**18 12 47.6**	**-2.3**
	0.8nm,0.3s,baz=163,slow=10,SNR=33						
MJAR	**Matsushiro Arr**	**18.40**	**335**	P	**P**	**18 12 47.6**	**-2.3**
MAJO	**Matsushiro**	**18.40**	**335**	*e*P	**P**	**18 12 47.6**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**18.40**	**335**	*e*P	**P**	**18 12 47.6**	**-2.3**
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**18.40**	**335**	P	**P**	**18 12 47.1**	**-2.8**
MAT				S	**Sn**	**18 16 12.0**	**-2.8**
MAT	**Matsushiro**	**18.40**	**335**	P	**P**	**18 12 49.2**	**-0.7**
JWT	**Wachi**	**18.62**	**327**	P	**P**	**18 12 50.3**	**-2.0**
JMM	**Marumori**	**18.74**	**343**	P	**P**	**18 12 52.9**	**-0.6**
JOW	**Kunigami**	**18.98**	**295**	P	**P**	**18 12 56.2**	**0.0**
	comp=Z,2.0nm,0.3s,baz=151,slow=9.8,SNR=7.5						
JOW				LR	LR	18 19 40.1	
	comp=Z,192nm,19.7s,baz=28,slow=35						
JOW	**Kunigami**	**18.98**	**295**	*e*P	**P**	**18 12 56.0**	**-0.3**
	comp=Z,20nm,0.9s						
JOW	**Kunigami**	**18.98**	**295**	P	**P**	**18 12 56.3**	**0.0**
JAD	**Aida**	**19.02**	**324**	P	**P**	**18 12 56.5**	**-0.2**
JHS	**Saijyo**	**19.65**	**322**	P	**P**	**18 13 04.4**	**+0.8**
JSD	**Sado**	**19.70**	**338**	P	**P**	**18 13 03.3**	**-0.8**
JYA	**Atsumi**	**19.73**	**341**	P	**Pn**	**18 13 05.6**	**-0.5**
JNU	**Nakatsue**	**19.81**	**315**	P	**P**	**18 13 05.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=110,slow=8.6,SNR=9.1						
JNU				LR	LR	18 19 56.9	
	comp=Z,153nm,18.5s,baz=242,slow=34						
JNU	**Nakatsue**	**19.81**	**315**	*e*P	**P**	**18 13 05.2**	**-0.2**
	comp=Z,36nm,1.0s						
JNU	**Nakatsue**	**19.81**	**315**	P	**P**	**18 13 05.8**	**+0.4**
JOM	**Ohasama**	**20.13**	**346**	P	Pn	18 13 10.0	-0.8
JFU	**Fukue jima 2**	**21.02**	**311**	P	**P**	**18 13 18.4**	**-0.1**
JTM	**Tenmabayashi**	**21.43**	**346**	P	**P**	**18 13 22.4**	**-0.4**
JTU	**Tsushima**	**21.64**	**316**	P	**P**	**18 13 27.9**	**+2.8**
JOT	**Ohata**	**22.01**	**347**	P	**P**	**18 13 29.4**	**+0.5**
ERM	**Erimo**	**22.24**	**351**	*e*P	**P**	**18 13 31.6**	**+0.1**
ERM				pmax	pmax		
	comp=Z,31nm,1.0s						
JEW	**Eniwo**	**23.33**	**349**	P	**P**	**18 13 43.2**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**23.98**	**357**	*c* P	**P**	**18 13 48.0**	**-0.9**
YUK				S	**S**	**18 18 03.9**	**+0.9**
YUK				*i* SS	**SnSn**	**18 18 45.7**	**-0.1**
YUK				*e*SSS	SSS	18 19 04.8	
YUK				MLR	MLR		
	comp=Z,80nm,21.0s						
ASAJ	**Asahikawa**	**24.38**	**351**	P	**P**	**18 13 53.8**	**+1.2**
	comp=Z,26nm,0.7s,baz=206,slow=11,SNR=37						
ASAJ	**Asahikawa**	**24.38**	**351**	*e*P	**P**	**18 13 53.4**	**+0.8**
	comp=Z,10nm,0.7s						
ASAJ	**Asahikawa**	**24.38**	**351**	P	**P**	**18 13 53.6**	**+1.0**
KSRS	**Korea Array**	**24.40**	**320**	P	**P**	**18 13 53.0**	**+0.3**
	comp=Z,28nm,0.9s,baz=135,slow=9.5,SNR=47						
KSRS				LR	LR	18 22 32.4	
	comp=Z,131nm,19.4s,baz=125,slow=34						
KSAR	**Wonju Array Be**	**24.41**	**319**	P	**P**	**18 13 53.0**	**+0.1**
YHNB	**Yeheng**	**24.68**	**286**	*e*P	**P**	**18 13 54.8**	**-0.8**
	comp=Z,19nm,0.8s						
DAV	**Davao City (W)**	**24.94**	**242**	LR	LR	18 22 16.7	
	comp=Z,225nm,20.9s,baz=345,slow=33						
SSLB	**Suanglung**	**25.00**	**283**	*e*P	**P**	**18 13 57.5**	**-0.9**
	comp=Z,28nm,0.8s						
INCN	**Inchon**	**25.22**	**318**	*e*P	**P**	**18 13 59.7**	**-0.6**
	comp=Z,63nm,1.0s						
SSE	**Sheshan**	**26.19**	**300**	P	**P**	**18 14 08.6**	**-0.5**
SSE				pP	**pP**	**18 14 21.9**	**+1.8**
SSE				S	**S**	**18 18 36.5**	**-2.0**
SSE				pmax	pmax		
	comp=Z,72nm,0.9s						
SSE				pmax	pmax		
	comp=Z,64nm,3.5s						
SSE				LR	LR		
	comp=N,75nm,22.2s						
SSE				LR	LR		
	comp=E,110nm,22.1s						
SSE				LR	LR		
	comp=Z,71nm,18.5s						
SWI	**Sorong**	**26.22**	**220**	P	**P**	**18 14 08.4**	**-1.1**
	comp=Z,19nm,1.4s						
YSS	**Yuzh-Sakhalins**	**27.15**	**353**	⇓*e*P	**P**	**18 14 17.8**	**+0.2**
YSS				*e*		18 15 15.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**27.15**	**353**	*e*P	**P**	**18 14 17.3**	**-0.2**
	comp=Z,4.5nm,0.4s						
QZH	**Quanzhou**	**27.22**	**286**	⇓*i* P	**P**	**18 14 23.0**	**+4.5**
QZH				S	**S**	**18 18 59.0**	**+4.1**
QZH				LR	LR		
	comp=N,240nm,13.8s						
QZH				LR	LR		
	comp=E,370nm,15.0s						
QZH				LR	LR		
	comp=Z,300nm,13.2s						
USRK	**Ussuriysk Arra**	**27.39**	**335**	P	**P**	**18 14 20.4**	**+0.7**
	comp=Z,13nm,0.8s,baz=146,slow=8.6,SNR=24						
NJ2	**Nanjing**	**28.38**	**301**	*e*P	**P**	**18 14 29.1**	**+0.3**
NJ2				pP	**pP**	**18 14 41.3**	**+1.5**
NJ2				sP	**sP**	**18 14 46.3**	**+1.6**
NJ2				S	**S**	**18 19 12.5**	**-0.5**
NJ2				sS	**sS**	**18 19 27.5**	**-3.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,130nm,6.1s						
NJ2				LR	LR		
	comp=N,130nm,8.5s						
NJ2				LR	LR		
	comp=E,110nm,7.0s						
MDJ	**Mudanjiang**	**28.73**	**333**	P	**P**	**18 14 32.0**	**+0.3**
MDJ				pP	**pP**	**18 14 42.8**	**0.0**
MDJ				sP	**sP**	**18 14 48.1**	**+0.5**
MDJ				S	**S**	**18 19 18.6**	**+0.3**
MDJ				sS	**sS**	**18 19 38.0**	**+1.3**
MDJ				ScP	**ScP**	**18 21 19.4**	**-0.2**
MDJ				PcS	**PcS**	**18 21 24.3**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,13nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,70nm,4.4s						
MDJ				LR	LR		
	comp=N,65nm,22.2s						
MDJ				LR	LR		
	comp=E,72nm,26.7s						
MDJ				LR	LR		
	comp=Z,61nm,25.6s						
PMG	**Port Moresby**	**29.25**	**181**	P	**P**	**18 14 36.9**	**+0.3**
	comp=Z,15nm,0.7s,baz=280,slow=4.1,SNR=6.0						
PMG	**Port Moresby**	**29.25**	**181**	*e*P	**P**	**18 14 36.5**	**0.0**
	comp=Z,20nm,0.8s						
PMG	**Port Moresby**	**29.25**	**181**	P	**P**	**18 14 37.9**	**+1.4**
	comp=Z,28nm,1.2s						
CN2	**Changchun**	**30.08**	**327**	*e*P	**P**	**18 14 45.1**	**+1.4**
CN2				*e*sP	**sP**	**18 15 02.5**	**+2.9**
CN2				*e*S	**S**	**18 19 38.8**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
HABR	**Khabarovsk**	**30.13**	**343**	*e*P	**P**	**18 14 42.7**	**-1.4**
HABR				*e**SP	**sP**	**18 14 55.8**	**-4.2**
HABR				*e*		18 15 39.3	
HABR				S	**S**	**18 19 39.3**	**-0.8**
HABR				*e**SS	**sS**	**18 19 55.0**	**-3.6**
HABR				*e*SS	**SnSn**	**18 21 13.7**	**-1.9**
HABR				*e*		18 25 18.0	
HABR				pmax	pmax		
	comp=E,8.0nm,1.1s						
HABR				pmax	pmax		
	comp=Z,32nm,1.1s						
HABR				pmax	pmax		
	comp=N,11nm,1.1s						
HABR				MLR	MLR		
	comp=Z,111nm,16.0s						
AAI	**Ambon**	**30.31**	**221**	P	**P**	**18 14 43.5**	**-2.5**
	comp=Z,29nm,0.8s						
MRSI	**Marisa**	**31.76**	**235**	P	**P**	**18 14 55.6**	**-3.2**
	comp=Z,21nm,0.9s						
KLR	**Kul'dur**	**31.79**	**340**	*e*P	P	18 14 54.0	-4.7
KLR				pmax	pmax		
	comp=Z,33nm,1.4s						
MYLDM	**Lahad Datu**	**31.92**	**246**	P	**P**	**18 15 00.7**	**+0.5**
KDM	**Kudat**	**32.56**	**251**	P	**P**	**18 15 07.7**	**+1.9**
SDKM	**Sandakan**	**32.83**	**248**	P	**P**	**18 15 08.5**	**+0.2**
TSM	**Tawau**	**32.91**	**246**	P	P	18 15 14.9	+6.0
BJI	**Beijing**	**33.48**	**313**	P	**P**	**18 15 14.0**	**+0.4**
BJI				PP	**PP**	**18 16 29.3**	**-0.5**
BJI				S	**S**	**18 20 33.9**	**+1.3**
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
BJI				LR	LR		
	comp=N,180nm,14.7s						
BJI				LR	LR		
	comp=E,110nm,13.4s						
BJI				LR	LR		
	comp=Z,79nm,21.4s						
KKM	**Kota Kinabalu**	**33.50**	**250**	P	**P**	**18 15 13.5**	**-0.7**
KKM	**Kota Kinabalu**	**33.50**	**250**	P	**P**	**18 15 14.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**33.93**	**11**	*e*P	**P**	**18 15 18.1**	**+0.7**
PETK	**Petropavlovsk-**	**33.93**	**11**	P	**P**	**18 15 18.1**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=179,slow=7.5,SNR=20						
PETK				LR	LR	18 29 00.1	
	comp=Z,65nm,18.7s,baz=15,slow=36						
PETK	**Petropavlovsk-**	**33.93**	**11**	P	**P**	**18 15 18.1**	**+0.7**
PETK	**Petropavlovsk-**	**33.93**	**11**	P	**P**	**18 15 18.1**	**+0.7**
COEN	**Coen**	**34.05**	**188**	*e*P	**P**	**18 15 18.6**	**-0.2**
	comp=Z,65nm,0.8s						
KDI	**Kendari**	**34.22**	**229**	P	**P**	**18 15 17.8**	**-2.4**
	comp=Z,12nm,1.1s						
QIZ	**Qiongzhong**	**35.56**	**275**	P	**P**	**18 15 30.8**	**-1.0**
QIZ				S	**S**	**18 21 03.9**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,11nm,1.4s						
QIZ				LR	LR		
	comp=Z,210nm,17.8s						
TTSI	**Tana Toraja**	**35.64**	**233**	P	**P**	**18 15 30.4**	**-2.1**
	comp=Z,46nm,0.8s,comp=Z,656nm						
ENH	**Enshi**	**35.84**	**294**	*e*P	**P**	**18 15 33.4**	**-0.8**
	comp=Z,19nm,0.8s						
SPSI	**Sidrap Palu**	**36.28**	**232**	P	**P**	**18 15 36.6**	**-1.4**
	comp=Z,32nm,0.8s						
HIA	**Hailar**	**36.70**	**329**	*e*P	**P**	**18 15 41.1**	**-0.2**
	comp=Z,20nm,1.0s						
XAN	**Xi'an**	**36.95**	**300**	P	**P**	**18 15 43.1**	**-0.5**
XAN				pP	**pP**	**18 15 56.5**	**+1.7**
XAN				sP	**sP**	**18 16 03.1**	**+3.4**
XAN				LR	LR		
	comp=N,120nm,19.6s						
XAN				LR	LR		
	comp=Z,56nm,14.4s						
KAPI	**Kappang**	**37.00**	**231**	P	**P**	**18 15 42.9**	**-1.2**
	comp=Z,14nm,0.6s,baz=73,slow=4.1,SNR=8.0						
KAPI				LR	LR	18 27 55.5	
	comp=Z,86nm,21.9s,baz=80,slow=31						
KAPI	**Kappang**	**37.00**	**231**	P	**P**	**18 15 42.9**	**-1.2**
HHC	**Hu-ho-hao-te**	**37.01**	**312**	*e*P	**P**	**18 15 45.0**	**+0.9**
HHC				pP	**pP**	**18 15 54.8**	**-0.5**
HHC				sP	**sP**	**18 15 58.8**	**-1.3**
HHC				PP	**PnPn**	**18 17 11.3**	**+1.9**
HHC				S	**S**	**18 21 27.8**	**+0.7**
HHC				sS	**sS**	**18 21 43.3**	**-2.4**
HHC				PcS	**PcS**	**18 21 53.6**	**+0.8**
HHC				SS	**SnSn**	**18 23 56.6**	**-6.1**
HHC				ScS	**ScS**	**18 25 55.4**	**-0.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,7.1s						
HHC				LR	LR		
	comp=N,240nm,14.3s						
HHC				LR	LR		
	comp=E,120nm,14.3s						
HHC				LR	LR		
	comp=Z,57nm,14.3s						
BTM	**Bintulu**	**37.59**	**248**	P	**P**	**18 15 49.7**	**+0.5**
GYA	**Guiyang**	**38.04**	**288**	⇑*i* P	**P**	**18 15 54.0**	**+0.9**
GYA				pP	**pP**	**18 16 06.3**	**+2.0**
GYA				sP	**sP**	**18 16 12.9**	**+3.8**
GYA				PP	**PnPn**	**18 17 24.3**	**+2.2**
GYA				PcP	**PcP**	**18 18 08.9**	**+0.9**
GYA				S	**S**	**18 21 42.0**	**-1.1**
GYA				ScP	**ScP**	**18 21 51.6**	**-1.0**
GYA				PcS	**PcS**	**18 21 58.9**	**+1.8**
GYA				ScS	**ScS**	**18 25 58.0**	**-4.2**
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=N,680nm,17.8s						
GYA				LR	LR		
	comp=E,520nm,18.3s						
GYA				LR	LR		
	comp=Z,850nm,17.2s						
FX1	**Attu Island--F**	**38.29**	**25**	P	**P**	**18 15 55.8**	**+1.1**
SBUM	**Sibu**	**38.71**	**248**	P	**P**	**18 15 59.2**	**+0.6**
SBUM	**Sibu**	**38.71**	**248**	P	**P**	**18 15 57.5**	**-1.1**
	comp=Z,19nm,1.0s						
CTA	**Charters Tower**	**39.89**	**182**	P	**P**	**18 16 06.9**	**-1.3**
	comp=Z,12nm,1.1s,baz=10,slow=11,SNR=5.3						
CTA	**Charters Tower**	**39.89**	**182**	P	**P**	**18 16 06.9**	**-1.3**
CTAO	**Charters Tower**	**39.89**	**182**	*e*P	**P**	**18 16 07.0**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,27nm,1.3s						
CTAO	**Charters Tower**	**39.89**	**182**	*e*P	**P**	**18 16 07.0**	**-1.3**
	comp=Z,26nm,1.3s						
CD2	**Chengdu**	**40.81**	**294**	P	**P**	**18 16 16.8**	**+0.8**
CD2				pP	**pP**	**18 16 27.6**	**+0.2**
CD2				sP	**sP**	**18 16 32.3**	**+0.2**
CD2				PP	**PnPn**	**18 17 54.6**	**-0.4**
CD2				S	**S**	**18 22 24.3**	**-0.2**
CD2				sS	**sS**	**18 22 42.4**	**-0.9**
CD2				SS	**SS**	**18 25 20.9**	**-5.7**
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				pmax	pmax		
	comp=Z,130nm,5.9s						
CD2				LR	LR		
	comp=N,200nm,12.5s						
CD2				LR	LR		
	comp=Z,210nm,13.1s						
KSM	**Kuching**	**40.85**	**248**	*e*P	**P**	**18 16 15.7**	**-0.8**
	comp=Z,9.1nm,1.0s						
KSM	**Kuching**	**40.85**	**248**	P	**P**	**18 16 16.3**	**-0.1**
LZH	**Lanzhou**	**41.44**	**302**	*e*P	**P**	**18 16 22.3**	**+1.1**
LZH				pP	**pP**	**18 16 35.8**	**+3.2**
LZH				sP	**sP**	**18 16 40.3**	**+3.0**
LZH				PP	**PnPn**	**18 18 02.8**	**+0.5**
LZH				PcP	**PcP**	**18 18 20.1**	**+1.4**
LZH				*e*S	**S**	**18 22 34.1**	**+0.2**
LZH				sS	**sS**	**18 22 54.0**	**+1.3**
LZH				pmax	pmax		
	comp=Z,40nm,1.4s						
LZH				pmax	pmax		
	comp=Z,85nm,4.6s						
KMI	**Kunming**	**41.60**	**286**	P	**P**	**18 16 23.8**	**+1.0**
KMI				pP	**pP**	**18 16 36.3**	**+2.2**
KMI				sP	**sP**	**18 16 41.0**	**+2.1**
KMI				PP	**PnPn**	**18 18 02.9**	**-1.4**
KMI				S	**S**	**18 22 35.4**	**-1.2**
KMI				sS	**sS**	**18 22 58.8**	**+3.4**
KMI				SS	SS	18 25 32.8	-10
KMI				pmax	pmax		
	comp=Z,43nm,1.2s						
KMI				pmax	pmax		
	comp=Z,140nm,5.8s						
KMI				LR	LR		
	comp=N,130nm,17.2s						
KMI				LR	LR		
	comp=E,96nm,19.0s						
KMI				LR	LR		
	comp=Z,120nm,32.3s						
WRAB	**Tennant Creek**	**41.78**	**199**	*e*P	**P**	**18 16 23.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,32nm,0.9s						
WRAB	**Tennant Creek**	**41.78**	**199**	*e*P	**P**	**18 16 23.9**	**0.0**
	comp=Z,32nm,0.9s						
WRAB	**Tennant Creek**	**41.78**	**199**	P	**P**	**18 16 23.9**	**0.0**
	comp=Z,207nm,0.9s,SNR=13						
WRA	**Warramunga Arr**	**41.79**	**199**	P	**P**	**18 16 23.6**	**-0.5**
	comp=Z,21nm,0.8s,baz=19,slow=8.8,SNR=101						
WRA				PcP	**PcP**	**18 18 20.5**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=17,slow=3.4,SNR=4.9						
WRA	**Warramunga Arr**	**41.79**	**199**	P	**P**	**18 16 23.6**	**-0.5**
WRA				PcP	**PcP**	**18 18 20.5**	**+0.7**
ULN	**Ulaanbaatar**	**42.88**	**320**	*e*P	**P**	**18 16 33.0**	**+0.1**
	comp=Z,27nm,1.0s						
ULN				*e*PcP	**PcP**	**18 18 23.8**	**+0.6**
ULN	**Ula

comp=N,35nm,3.0s
YAK smax smax
comp=N,38nm,9.9s
YAK MLR MLR
comp=Z,111nm,18.0s
YAK MLR MLR
comp=N,55nm,17.0s
YAK Yakutsk 43.78 348 *e*P **P 18 16 39.0 -0.6**
comp=N,84nm,0.8s
BOD Bodaibo 45.03 335 *e*P **P 18 16 49.5 -0.2**
BOD pmax pmax
comp=Z,12nm,1.1s
GTA Gaotai 45.20 306 *e*P **P 18 16 52.0 +0.5**
GTA pP **pP 18 17 04.3 +1.4**
GTA sP **sP 18 17 09.5 +1.8**
GTA PcP **PcP 18 18 32.6 +1.3**
GTA S **S 18 23 28.4 -0.4**
GTA sS **sS 18 23 47.5 -0.3**
GTA SS **ScS 18 26 39.8 -5.6**
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,86nm,6.4s
GTA LR LR
comp=N,230nm,17.1s
GTA LR LR
comp=E,96nm,10.2s
GTA LR LR
comp=Z,96nm,14.5s
AS31 Alice Springs 45.43 198 *e*P **P 18 16 52.6 -0.7**
ASAR Alice Springs 45.44 198 P **P 18 16 53.0 -0.4**
comp=Z,5.8nm,0.9s,baz=19,slow=6.8,SNR=37
ASAR LR LR 18 34 03.9
comp=Z,117nm,19.0s,baz=348,slow=34
ASAR Alice Springs 45.44 198 P **P 18 16 53.0 -0.4**
KTGM Kuala Trenggan 45.61 257 P **P 18 16 54.6 -0.3**
DZM Mont Dzumac 45.71 155 *e*LR LR 18 29 40.9
comp=Z,201nm,22.6s
DZM Mont Dzumac 45.71 155 LR LR 18 33 33.5
comp=Z,177nm,20.0s,baz=225,slow=33
CMMT Chiang Mai 45.78 277 P **P 18 16 55.8 -0.4**
comp=Z,6.2nm,0.8s,comp=Z,268nm
CHTO Chiang Mai 45.78 277 *e*P **P 18 16 56.2 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 45.78 277 *e*P **P 18 16 56.2 0.0**
comp=Z,4.6nm,0.8s
CHTO Chiang Mai 45.78 277 P **P 18 16 55.1 -1.1**
comp=Z,6.7nm,0.7s
CM31 Chiang Mai Arr 45.84 277 *e*P **P 18 16 56.1 -0.6**
comp=Z,3.7nm,0.6s
CMAR Chiang Mai Arr 45.84 277 P **P 18 16 57.6 +0.9**
comp=Z,4.7nm,0.9s,baz=104,slow=4.0,SNR=29
CMAR PcP **PcP 18 18 35.0 +1.3**
comp=Z,3.3nm,0.9s,baz=81,slow=1.7,SNR=7.9
CMAR LR LR 18 33 33.0
comp=Z,98nm,21.7s,baz=94,slow=33
CMAR Chiang Mai Arr 45.84 277 P **P 18 16 57.6 +0.9**
CMAR PcP **PcP 18 18 35.0 +1.3**
ZAK Zakamensk 46.20 322 *e*P **P 18 16 59.0 -0.2**
ZAK pmax pmax
comp=Z,13nm,1.2s
MYKOM **Kota Tinggi 46.42 253** P P 18 16 56.0 -5.2
IRK Irkutsk 46.45 324 *e*P **P 18 17 00.8 -0.2**
IRK pmax pmax
comp=Z,37nm,1.0s
TLY Talaya 46.55 323⇓ *i*P **P 18 17 01.2 -0.6**
TLY *e* 18 18 33.4
TLY *e*PPP PPP 18 19 35.9
TLY *e*S S 18 23 38.9 -8.7
TLY pmax pmax
comp=Z,18nm,0.9s
TLY Talaya 46.55 323 *e*P **P 18 17 01.8 0.0**
comp=Z,30nm,1.1s
TLY *e*PcP **PcP 18 18 35.8 +0.2**
TLY Talaya 46.55 323 P **P 18 17 02.8 +0.9**
SNR=15
TLY mb 18 17 03.1
SNR=16
TLY Talaya 46.55 323 P **P 18 17 02.9 +1.1**
comp=Z,124nm,0.7s,SNR=9.3
KGM Kluang 46.80 253 P **P 18 17 02.4 -1.8**
FRIM Kepong 47.82 256 P **P 18 17 13.9 +1.7**
IPM Ipoh 47.88 258 *e*P **P 18 17 13.1 +0.4**
comp=Z,36nm,0.9s
IPM *e*PcP **PcP 18 18 41.5 +0.6**
IPM Ipoh 47.88 258 P **P 18 17 13.7 +1.1**
IPM Ipoh 47.88 258 P **P 18 17 11.1 -1.6**
comp=Z,42nm,1.0s
KULM Kulim 47.91 259 *e*P **P 18 17 13.6 +0.7**
comp=Z,36nm,0.9s
KULM Kulim 47.91 259 P **P 18 17 14.3 +1.4**
KULM Kulim 47.91 259 P **P 18 17 11.4 -1.5**
comp=Z,43nm,1.0s
MSVF Nonsavu 47.97 139 *e*P **P 18 17 14.9 +1.6**
MSVF pmax pmax
comp=Z,18nm,1.0s
MSVF Nonsavu 47.97 139 *e*P **P 18 17 14.8 +1.6**
comp=Z,18nm,1.0s
MOY Mondy 48.04 323 *e*P **P 18 17 13.4 -0.2**
MBWA Marble Bar 49.18 215 *e*P **P 18 17 22.1 -0.4**
comp=Z,14nm,0.8s
PSI Prapat 50.46 257 P **P 18 17 32.2 -0.4**
comp=Z,16nm,1.1s,baz=84,slow=2.4,SNR=7.4
PSI PcP **PcP 18 18 50.7 +0.3**
comp=Z,7.1nm,0.7s,baz=98,slow=6.1,SNR=4.4
PSI LR LR 18 36 23.1
comp=Z,201nm,19.0s,baz=205,slow=33
PSI Prapat 50.46 257 P **P 18 17 32.2 -0.4**
PSI PcP **PcP 18 18 50.7 +0.3**
PSI Prapat 50.46 257 P **P 18 17 29.9 -2.7**
SHL Shillong 51.36 287 *i* P P 18 17 43.0 +3.7
SHL *e*S **S 18 25 00.0 +3.7**
LSA Lhasa 51.69 292 *e*P **P 18 17 43.9 +1.8**
LSA pmax pmax
comp=Z,36nm,0.7s
LSA Lhasa 51.69 292 *e*P **P 18 17 43.9 +1.8**
comp=Z,36nm,0.7s
STKA Stephens Creek 51.93 186 P **P 18 17 42.8 -0.2**
comp=Z,12nm,1.0s,baz=348,slow=8.6,SNR=16
STKA LR LR 18 38 03.1
comp=Z,110nm,19.7s,baz=23,slow=34
STKA Stephens Creek 51.93 186 *e*P **P 18 17 42.9 -0.2**
comp=Z,3.4nm,1.1s
HVS Khovu-Aksy 52.17 320*d* *i*P **P 18 17 45.0 +0.2**
HVS pmax pmax
comp=Z,84nm,1.0s
BBOO Buckleboo 53.69 192 *e*P **P 18 17 56.0 0.0**
comp=Z,548nm,1.1s
TNA Tin City 53.93 21 *e*P **P 18 17 58.5 +1.0**
comp=Z,10nm,1.3s
KRAR Krasnoyarsk 54.09 326⇑ *i*P **P 18 17 58.7 0.0**
KRAR pmax pmax
comp=Z,47nm,1.7s
WMQ Urumqi 54.82 310 P **P 18 18 05.1 +0.7**
WMQ pmax pmax
comp=Z,50nm,1.0s
WMQ LR LR
comp=N,46nm,15.0s
WMQ LR LR
comp=E,54nm,20.0s
WMQ LR LR
comp=Z,64nm,20.0s
TAPN Taplejung 54.90 290⇓ *i*P **P 18 18 06.4 +0.9**
comp=Z,62nm,0.8s
ODAN Odare 55.23 289⇓ *i*P **P 18 18 08.5 +0.7**
comp=Z,79nm,0.8s
RAMN Ramite 55.92 290⇓ *i*P **P 18 18 13.5 +0.7**
comp=Z,66nm,0.7s
JIRN Jiri 56.20 290⇓ *i*P **P 18 18 16.0 +1.1**
GUN Gumba 56.45 291⇓ *i*P **P 18 18 17.7 +1.0**
comp=Z,54nm,0.5s
PKI Pulchoki 56.90 290⇓ *i*P **P 18 18 20.2 +0.3**
comp=Z,45nm,0.5s
PKIN Phulchoki 56.91 290⇓ *i*P **P 18 18 20.3 +0.4**
comp=Z,34nm,0.6s
KKN Kakani 56.99 291⇓ *i*P **P 18 18 20.9 +0.5**
comp=Z,73nm,0.8s
DMN Daman 57.17 290⇓ *i*P **P 18 18 22.2 +0.6**
comp=Z,36nm,0.4s
KDAK Kodiak Island 57.27 33 LR LR 18 38 12.4
comp=Z,166nm,20.0s,baz=29,slow=31
GKN Gorkha 57.53 291⇓ *i*P **P 18 18 24.7 +0.6**
comp=Z,202nm,1.0s
ZAA0 Zalesovo Array 58.08 322 *e*P **P 18 18 26.7 -0.6**
ZAA0 *e*PcP **PcP 18 19 17.9 -0.8**
ZALV Zalesovo Beam 58.08 322 P **P 18 18 26.9 -0.3**
comp=Z,29nm,0.8s,baz=97,slow=6.6,SNR=140
ZALV PcP **PcP 18 19 18.2 -0.5**
comp=Z,7.1nm,0.7s,baz=130,slow=3.8,SNR=5.4
ZALV LR LR 18 42 21.2
comp=Z,39nm,20.2s,baz=65,slow=35
ZALV Zalesovo Beam 58.08 322 P **P 18 18 27.0 -0.3**
ZALV 18 19 18.2
ZALV Zalesovo Beam 58.08 322 P **P 18 18 26.9 -0.3**
ZALV PcP **PcP 18 19 18.2 -0.5**
DANN Dangsing 58.26 292⇓ *i*P **P 18 18 30.2 +0.8**
comp=Z,334nm,0.7s
KOLN Koldanda 58.47 291⇓ *i*P **P 18 18 31.3 +0.6**
comp=Z,57nm,0.7s
MK31 Makanchi Array 58.86 313 *i* P **P 18 18 32.8 -0.1**
MK31 pmax pmax
comp=Z,34nm,0.9s
MK31 Makanchi Array 58.86 313 *e*P **P 18 18 33.1 +0.2**
PYUN Piuthan 58.96 291 *e*P **P 18 18 34.7 +0.5**
comp=Z,137nm,0.9s
NVS Novosibirsk 59.14 323⇓ *i*P **P 18 18 33.8 -0.8**
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,33nm,1.5s
NVS pmax pmax
comp=Z,57nm,1.5s
TRF Thorofare Moun 59.88 27 *e*P **P 18 18 38.8 -1.1**
comp=Z,23nm,1.3s
NWAO Narrogin (SRO) 60.13 209 P **P 18 18 41.1 -0.5**
comp=Z,14nm,1.0s,baz=63,slow=8.8,SNR=5.6
NWAO Narrogin (SRO) 60.13 209 P **P 18 18 41.1 -0.5**
SML Sawmill 60.34 29 *e*P **P 18 18 42.5 -0.3**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 60.34 29 *e*P **P 18 18 42.5 -0.3**
comp=Z,5.0nm,1.0s
KURK Kurchatov 61.50 318*d* *i*P **P 18 18 50.6 -0.3**
KURK pmax pmax
comp=Z,93nm,1.7s
KURK Kurchatov 61.50 318 *e*P **P 18 18 50.8 -0.1**
comp=Z,48nm,0.9s
KURK P'P' 18 48 07.4
KURK Kurchatov 61.50 318 P **P 18 18 51.1 +0.2**
SNR=23
KURK mb 18 18 51.5
SNR=44
KURK Kurchatov 61.50 318 P **P 18 18 50.2 -0.7**
comp=Z,266nm,0.7s,SNR=41
KURBB **Kurchatov Arra 61.55 317** P **P 18 18 51.1 -0.1**
comp=Z,39nm,0.6s,baz=92,slow=7.4,SNR=457
KURBB LR LR 18 44 51.5
comp=Z,73nm,21.9s,baz=135,slow=35
KURBB PKPPKP **P'P'df 18 48 07.4 +0.2**
comp=Z,0.5nm,0.7s,baz=257,slow=3.8,SNR=5.0
ILAR Eielson Array 61.66 26 P **P 18 18 50.5 -1.2**
comp=Z,4.8nm,0.9s,baz=260,slow=5.6,SNR=38
ILAR PcP **PcP 18 19 32.0 -0.8**
comp=Z,0.9nm,0.6s,baz=271,slow=2.9,SNR=5.1
ILAR LR LR 18 40 49.7
comp=Z,102nm,21.2s,baz=271,slow=31
ILAR Eielson Array 61.66 26 P **P 18 18 50.5 -1.2**
ILAR PcP **PcP 18 19 32.0 -0.8**
PAX Paxson 61.89 28 *e*P **P 18 18 53.6 +0.2**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX Paxson 61.89 28 *e*P **P 18 18 53.6 +0.2**
comp=Z,13nm,1.3s
ULHL Ulahol 63.19 308 P **P 18 19 03.5 +0.9**
SNR=10
KSH Kashi 63.58 305 P P 18 19 08.6 +3.5
KSH pP pP 18 19 19.0 +2.0
KSH *e*sP sP 18 19 23.8 +2.1
KSH *e*PcP **PcP 18 19 44.8 +3.4**
KSH *e*PP PP 18 21 31.9 +6.8
KSH *e*ScP 18 23 42.9
KSH PcS 18 23 47.8
KSH S **S 18 27 41.3 +5.0**
KSH sS sS 18 27 56.9 +0.9
KSH ScS **ScS 18 28 55.8 +0.1**
KSH SS **SS 18 31 50.3 +6.4**
KSH pmax pmax
comp=Z,23nm,1.1s
KSH LR LR
comp=N,120nm,5.5s
KSH LR LR
comp=E,160nm,6.0s
KSH LR LR
comp=Z,170nm,8.0s
TKM2 Tokmak 2 63.62 309 P **P 18 19 05.7 +0.2**
TKM2 pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 63.62 309 P **P 18 19 06.4 +0.9**
SNR=40
KZA Kyzart 63.93 308 P **P 18 19 09.3 +1.6**
SNR=24
KBK Karagaybulak 64.11 308 P **P 18 19 09.4 +0.7**
SNR=24
CHMS Chumysh 64.23 309 P **P 18 19 09.5 +0.2**
SNR=7.8
FRU Bishkek 64.34 309 *i* P **P 18 19 11.0 +1.0**
FRU pmax pmax
comp=Z,30nm,2.0s
USP Ospenovka 64.40 309 P **P 18 19 10.9 +0.6**
SNR=16
AAK Ala-Archa 64.45 308 P **P 18 19 11.4 +0.6**
comp=Z,6.9nm,0.7s,baz=109,slow=5.4,SNR=51
AAK Ala-Archa 64.45 308 P **P 18 19 11.4 +0.6**
AAK Ala-Archa 64.45 308 P **P 18 19 11.4 +0.6**
AAK Ala-Archa 64.45 308 P **P 18 19 11.0 +0.2**
comp=Z,69nm,0.9s,SNR=12
AAK Ala-Archa 64.45 308 P **P 18 19 11.4 +0.6**
SNR=14
DAWY Dawson 64.75 28 *e*P **P 18 19 12.7 +0.5**
EKS2 Erkin-Say 64.97 309 *e*P **P 18 19 14.5 +0.3**
EKS2 pmax pmax
comp=Z,12nm,1.0s
EKS2 Erkin-Say 64.97 309 *e*P **P 18 19 14.5 +0.3**
comp=Z,12nm,1.0s
EKS2 Erkin-Say 64.97 309 P **P 18 19 14.9 +0.7**
SNR=16
HYB Hyderabad 65.03 280 *i* P **P 18 19 14.5 -0.3**
AML Almayashu 65.08 308 P **P 18 19 16.3 +1.1**
SNR=33
PALK Pallekele 65.88 269 *e*P **P 18 19 20.2 -0.1**
BVA0 Borovoye Array 66.61 320 *i* P **P 18 19 24.5 +0.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.6s
BVAR Borovoye Array 66.61 320 P **P 18 19 24.7 +0.3**
comp=Z,41nm,0.5s,baz=88,slow=7.3,SNR=385
BVAR LR LR 18 51 13.5
comp=Z,72nm,18.8s,baz=228,slow=38
BVAR Borovoye Array 66.61 320 P **P 18 19 24.7 +0.3**
BVAR Borovoye Array 66.61 320 P **P 18 19 24.7 +0.3**
BRVK Borovoye 66.67 320*d* *i*P **P 18 19 24.8 0.0**
BRVK pmax pmax
comp=Z,84nm,1.3s
BRVK Borovoye 66.67 320 *e*P **P 18 19 24.7 -0.1**
comp=Z,56nm,0.9s
BRVK Borovoye 66.67 320 P **P 18 19 25.5 +0.7**
comp=Z,310nm,0.7s,SNR=22
BRVK Borovoye 66.67 320 P **P 18 19 25.3 +0.6**
SNR=26
BRVK mb 18 19 25.8
SNR=40
RPZ Rata Peaks 66.98 162 *e*P **P 18 19 25.8 -0.9**
comp=Z,46nm,1.2s
KK31 Karatay Array 67.32 309 *i* P **P 18 19 29.2 +0.1**
KK31 pmax pmax
comp=Z,31nm,0.6s
KKAR Karatay Array 67.32 309 *e*P **P 18 19 29.3 +0.2**
KKAR pmax pmax
comp=Z,20nm,0.5s
KKAR Karatay Array 67.32 309 *e*P **P 18 19 29.3 +0.2**
comp=Z,20nm,0.5s
INK Inuvik 67.45 23 *e*P **P 18 19 28.9 -0.5**
comp=Z,6.0nm,1.1s
ZRNK Zerenda 67.45 320 P **P 18 19 29.1 -0.6**
ZRNK pmax pmax
comp=Z,24nm,0.7s
POO Poona 69.08 283⇓ *i*P **P 18 19 38.0 -2.6**
KBL Kabul 69.75 300 *e*P **P 18 19 44.8 +0.1**
KBL pmax pmax
comp=Z,96nm,0.9s
KBL Kabul 69.75 300 *e*P **P 18 19 44.8 +0.1**
comp=Z,96nm,0.9s
SVE Sverdlovsk 71.84 325⇑ *e*P **P 18 19 57.0 +0.3**
SVE *e*S **S 18 29 18.5 +4.2**
SVE pmax pmax
comp=Z,38nm,1.0s
PPT Papeete 72.08 117 LR LR 18 43 53.2
comp=Z,93nm,21.2s,baz=24,slow=29
PPT2 Papeete2 72.09 117 *e*LR LR 18 41 42.4
comp=Z,164nm,30.0s
ARU Arti 73.04 324*c* *i*P **P 18 20 03.5 -0.3**
ARU 18 22 44.3
ARU S **S 18 29 28.5 +0.5**
ARU SS **SS 18 34 12.3 +3.5**
ARU pmax pmax
comp=Z,47nm,1.0s
ARU Arti 73.04 324 *e*P **P 18 20 03.6 -0.3**
comp=Z,40nm,0.9s
ARU Arti 73.04 324 P **P 18 20 03.0 -0.8**
comp=Z,240nm,0.5s,SNR=15
SOKR Solikamsk 73.37 328 *e*P **P 18 20 06.1 +0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
AB31 Akbulak array 73.60 317 *i* P **P 18 20 06.9 -0.4**
AB31 pmax pmax
comp=Z,41nm,0.8s
ABKAR Akbulak array 73.60 317 *e*P **P 18 20 07.1 -0.2**
comp=Z,34nm,0.8s
AKTO Aktyubinsk 74.57 318 P **P 18 20 12.6 -0.4**
comp=Z,12nm,0.6s,baz=88,slow=7.8,SNR=68
AKTO LR LR 18 53 57.1
comp=Z,56nm,19.8s,baz=204,slow=36
AKTO Aktyubinsk 74.57 318 P **P 18 20 12.6 -0.4**
AKTO Aktyubinsk 74.57 318 P **P 18 20 12.6 -0.4**
TBI Tubuai 74.98 122 *e*LR LR 18 42 37.8
comp=Z,721nm,39.2s
YKW3 Yellowknife Ar 75.95 28 *e*P **P 18 20 19.5 -1.1**
YKA Yellowknife Ar 75.97 28 P **P 18 20 20.4 -0.3**
comp=Z,3.4nm,0.6s,baz=288,slow=5.7,SNR=72
YKA Yellowknife Ar 75.97 28 P **P 18 20 20.4 -0.3**
ABKT Ailbek 77.58 306 P **P 18 20 31.6 +1.2**
comp=Z,148nm,0.9s,SNR=9.6
RES Resolute Bay 77.71 14 *e*P **P 18 20 30.3 0.0**
comp=Z,36nm,1.6s
NEW Newport 78.72 43⇓ **P 18 20 36.7 +0.2**
baz=79
TMCR Tamitsa 80.33 335 *e*P P 18 20 41.0 -3.8
TMCR pmax pmax
comp=Z,30nm,1.2s
BSMT Bassoo Peak 80.34 43 *e*P **P 18 20 45.9 +0.4**
comp=Z,4.7nm,1.0s
B13A Whitefish 80.37 42⇓ **P 18 20 46.0 +0.5**
baz=80
APA Apatity 80.42 339⇑ *i*P **P 18 20 45.0 -0.3**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
C13A Hot Springs 80.53 43⇑ **P 18 20 46.7 +0.3**
baz=80
D13A Huson 80.80 43⇑ **P 18 20 47.7 -0.1**
baz=81
A14A Double T Ranch 80.83 41⇑ **P 18 20 48.6 +0.6**
baz=81
PKM Peak Mountain 80.84 56⇑ **P 18 20 48.9 +0.4**
baz=81
NVAR Mina Array Bea 80.91 53 P **P 18 20 49.5 +0.7**
comp=Z,3.9nm,0.8s,baz=265,slow=6.5,SNR=22
NVAR Mina Array Bea 80.91 53 P **P 18 20 49.5 +0.7**
MFID Camas Ranch 81.10 47⇑ **P 18 20 49.9 +0.3**
baz=81
VES Vestal, Richgr 81.12 55⇓ **P 18 20 49.7 0.0**
baz=81
B14A Marquette Ranc 81.13 42⇑ **P 18 20 50.3 +0.6**
baz=81
KLMR Klimovskoe 81.14 332⇑ *i*P **P 18 20 48.9 -0.4**
KLMR *e**PP **pP 18 20 59.3 -2.2**
KLMR *e*S **S 18 30 55.5 -0.5**
KLMR pmax pmax
comp=Z,67nm,3.0s
E13A Victor 81.19 44⇑ **P 18 20 50.5 +0.5**
baz=81
MSO Missoula 81.22 43⇑ **P 18 20 50.6 +0.5**
baz=81
KEV Kevo 81.23 342 *e*P **P 18 20 48.8 -0.7**
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 81.23 342 *ep* **P 18 20 48.8 -0.7**
comp=Z,4.5nm,0.6s
A15A Johnson Ranch, 81.25 41⇑ **P 18 20 50.8 +0.6**
baz=81
F13A Darby 81.32 44⇑ **P 18 20 50.4 -0.3**
baz=81,SNR=14
WBK Wadi Bani Khal 81.33 291 P **P 18 20 52.4 +1.4**
SNR=10
WBK mb 18 20 54.6
SNR=8.6
H12A Diamond D Ranc 81.39 46⇓ **P 18 20 51.5 +0.3**
baz=81
WSAR Wadi Sarin 81.43 292 P **P 18 20 52.6 +1.1**
comp=Z,10nm,0.6s,baz=102,slow=5.9,SNR=16
WSAR Wadi Sarin 81.43 292 P **P 18 20 52.6 +1.1**
I12A Atlanta 81.45 47⇓ **P 18 20 51.6 +0.1**
baz=81
B15A Bradely Ranch, 81.59 42⇑ **P 18 20 52.3 +0.3**
baz=81
G13A Cobalt 81.62 45⇑ **P 18 20 52.3 0.0**
baz=82,SNR=12
C15A Salmond Ranch, 81.75 42⇑ **P 18 20 53.2 +0.2**
baz=82
ARCES ARCESS Array B 81.78 342 P **P 18 20 52.5 0.0**
comp=Z,12nm,0.9s,baz=80,slow=8.8,SNR=13
ARCES ARCESS Array B 81.78 342 P **P 18 20 52.5 0.0**
ARE0 ARCESS Array S 81.78 342 P **P 18 20 52.4 -0.1**
H13A Challis 81.78 46⇑ **P 18 20 53.4 +0.2**
baz=82
SMDO Samad 81.99 292 P **P 18 20 55.6 +1.0**
SNR=6.4
HLID Hailey 82.02 47⇓ **P 18 20 54.8 +0.3**
baz=82
G14A Jackson 82.08 45⇑ **P 18 20 55.0 +0.2**
baz=82
B16A M & M Farms, S 82.09 41⇓ **P 18 20 55.2 +0.5**
baz=82
I13A Wildhorse Cree 82.10 46⇓ **P 18 20 55.2 +0.2**
baz=82
JMDO Jabal Madar 82.16 291 P **P 18 20 56.3 +0.9**
SNR=5.9
JMDO mb 18 20 58.3
SNR=5.1
E15A Deer Lodge 82.20 43⇓ **P 18 20 55.6 +0.2**
baz=82,SNR=6.0
J13A Cove Ranch, Pi 82.24 47⇓ **P 18 20 55.9 +0.3**
baz=82
EDW2 Edwards Air Fo 82.27 56⇑ **P 18 20 56.2 +0.3**
baz=82
MPMC Manual Prospec 82.28 55⇓ **P 18 20 56.4 +0.4**
baz=82
C16A Fuhringer Ranc 82.28 42⇑ **P 18 20 56.2 +0.5**
baz=82
LRMC Laurel Mountai 82.31 55⇑ **P 18 20 56.6 +0.4**
baz=82
H14A Leadore 82.36 45⇓ **P 18 20 56.8 +0.5**
baz=82,SNR=7.1
CIS Catalina Islan 82.43 57⇑ **P 18 20 56.9 +0.3**
baz=82
HOQ Hoqain 82.47 292 P **P 18 20 57.8 +0.8**
SNR=14
F15A Butte 82.51 44⇑ **P 18 20 56.8 -0.2**
baz=82,SNR=5.7
BANOM Banah 82.61 295 P **P 18 20 59.3 +1.6**
SNR=7.9
BANOM mb 18 21 00.1
SNR=19
HRY Holter Researc 82.62 43 P **P 18 20 58.0 +0.5**
comp=Z,9.0nm,0.3s
D16A Dana Ranch, Ca 82.69 43⇑ **P 18 20 58.2 +0.4**
baz=82
B17A L&G Farms, Che 82.69 41⇓ **P 18 20 58.0 +0.2**
baz=82,SNR=5.8
G15A Dillon 82.75 45⇓ **P 18 20 58.3 0.0**
baz=83
E16A East Helena 82.79 43⇑ **P 18 20 58.1 -0.3**
baz=83,SNR=7.5
BSY Bisya 82.84 292 P **P 18 21 00.0 +1.1**
SNR=17
H15A Lima 82.84 45⇓ **P 18 20 59.0 +0.2**
baz=83
R11A Troy Canyon, C 82.95 52⇓ **P 18 20 59.6 +0.1**

baz=83
C17A **Wharram Farm,** 82.96 42 ⇑P P 18 20 59.5 +0.3
baz=83
A18A **Metzger Ranch,** 83.04 40 ⇓P P 18 21 00.2 +0.6
baz=83
GSC **Goldstone** 83.05 55 ⇑P P 18 20 59.7 -0.3
baz=83
DAG **Danmarks Havn** 83.06 357 *i* P P 18 20 58.7 -0.3
comp=Z,47nm,1.0s
DAG *i* 18 21 10.3
F16A **Kennard Place,** 83.09 44 ⇓P P 18 21 00.3 +0.3
baz=83
HATD **Hatta, Dubai** 83.10 294 P P 18 21 01.0 +0.7
SNR=7.1
HATD mb 18 21 02.2
SNR=14
BOZ **Bozeman (W)** 83.14 44 ⇓P P 18 21 00.7 +0.4
baz=83
G16A **Moss Hill, Enn** 83.18 44 ⇓P P 18 21 00.5 -0.1
baz=83,SNR=6.3
D17A **Six Diamond Ra** 83.19 42 ⇑P P 18 21 00.6 +0.1
baz=83,SNR=5.6
ASHO **Ashiyiah** 83.21 294 P P 18 21 02.1 +1.2
SNR=6.3
ASHO mb 18 21 03.2
SNR=10
K14A **Jones Ranch, D** 83.22 47 ⇓P P 18 21 01.4 +0.7
baz=83
SHOC **Shoshone** 83.26 54 ⇓P P 18 21 00.9 0.0
baz=83
B18A **Beardsley Farm** 83.29 41 ⇑P P 18 21 01.3 +0.4
baz=83
NAZ **Nazwa, Dubai** 83.45 294 P P 18 21 02.7 +0.7
SNR=8.4
NAZ mb 18 21 04.2
SNR=4.6
JOF **Joensuu** 83.57 336 *eP* P 18 21 00.2 -1.7
JOF pmax pmax
comp=Z,13nm,0.7s
JOF **Joensuu** 83.57 336 *ep* P 18 21 00.2 -1.7
comp=Z,13nm,0.7s
HEC **Hector,Ludlow** 83.58 55 ⇑P P 18 21 03.4 +0.7
baz=84
F17A **Fitzpatrick Pl** 83.68 43 ⇑P P 18 21 03.6 +0.6
baz=84
TUQ **Turquoise Moun** 83.69 55 ⇑P P 18 21 04.0 +0.7
baz=84
A19A **Klindworth Far** 83.71 40 ⇑P P 18 21 03.9 +0.9
baz=84
H16A **Russell Place,** 83.74 45 ⇑P P 18 21 04.1 +0.6
baz=84
ASUD **Al Ashush, Dub** 83.85 294 P P 18 21 05.1 +0.9
SNR=8.2
ASUD mb 18 21 06.2
SNR=15
E18A **Harlowton** 83.90 43 ⇑P P 18 21 04.4 +0.2
baz=84,SNR=9.9
L15A **Malad City** 83.96 48 ⇑P P 18 21 04.8 +0.2
baz=84
C19A **Slack Wire Ran** 83.99 41 ⇓P P 18 21 05.2 +0.7
baz=84
J16A **Bone** 84.03 46 ⇑P P 18 21 05.1 +0.2
baz=84
YNR **Norris Junctio** 84.11 45 *eP* P 18 21 07.0 +1.6
comp=Z,16nm,1.2s
GMRC **Granite Mounta** 84.11 55 ⇓P P 18 21 05.6 +0.2
baz=84
M15A **Larsen Ranch,** 84.12 48 ⇑P P 18 21 05.7 +0.4
baz=84
BELC **Belle Mtn. Jos** 84.12 56 ⇑P P 18 21 05.8 +0.3
baz=84
VRHR **Novokhopersk** 84.21 322 *eP* P 18 21 04.1 -1.3
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,1.2s
F18A **Big Timber** 84.28 43 ⇓P P 18 21 06.2 +0.2
baz=84,SNR=5.6
MOS **Moscow** 84.32 328 *eP* P 18 21 04.4 -1.4
MOS *e* 18 21 15.6
MOS pmax pmax
comp=Z,89nm,1.2s
DUG **Dugway** 84.32 49 ⇓P P 18 21 06.5 +0.1
baz=84
D19A **Cripps Ranch,** 84.32 42 ⇓P P 18 21 06.9 +0.7
baz=84,SNR=5.9
B20A **Solberg Farm,** 84.34 40 ⇓P P 18 21 06.9 +0.7
baz=84
G18A **Lazy EL Ranch,** 84.61 44 ⇓P P 18 21 08.8 +1.0
baz=84
L16A **Fish Haven** 84.62 47 ⇓P P 18 21 08.5 +0.5
baz=84
C20A **Veseth Ranch,** 84.65 41 ⇓P P 18 21 08.7 +0.9
baz=84
E19A **Rath Farm, Rou** 84.66 42 ⇑P P 18 21 08.6 +0.7
baz=84
BC3 **Big Chuckawall** 84.66 56 ⇓P P 18 21 08.7 +0.5
baz=85
HWUT **Hardware Ranch** 84.68 48 *eP* P 18 21 08.1 -0.1
comp=Z,6.7nm,1.1s
IRM **Iron Mountain** 84.72 56 ⇓P P 18 21 08.8 +0.4
baz=85
A21A **Bergtoll Ranch** 84.78 40 ⇑P P 18 21 09.2 +0.8
baz=85,SNR=5.9
F19A **Roth Farm, Mol** 84.80 43 ⇑P P 18 21 09.2 +0.5
baz=85
D20A **Manuel Ranch,** 84.82 42 ⇓P P 18 21 09.1 +0.4
baz=85,SNR=8.7
RLMT **Red Lodge** 84.88 44 *eP* P 18 21 10.3 +1.1
comp=Z,13nm,1.3s
RLMT **Red Lodge** 84.88 44 ⇓P P 18 21 09.9 +0.7
baz=85,SNR=7.3
B21A **Ellsworth Farm** 84.96 40 ⇓P P 18 21 10.2 +0.9
baz=85
FFC **Flin Flon** 85.01 33 *eP* P 18 21 09.3 -0.1
FFC pmax pmax
comp=Z,18nm,1.1s
FFC **Flin Flon** 85.01 33 *eP* P 18 21 09.3 -0.1
comp=Z,18nm,1.1s
FFC **Flin Flon** 85.01 33 P P 18 21 09.0 -0.4
comp=Z,82nm,0.9s,SNR=10
N16A **Rees Ranch, Co** 85.04 48 ⇓P P 18 21 10.5 +0.4
baz=85
I18A **Diamond G Ranc** 85.07 45 ⇑P P 18 21 10.9 +0.6
baz=85
J18A **Kendall Valley** 85.13 46 ⇑P P 18 21 10.7 +0.1
baz=85
OBN **Obninsk** 85.14 327 *c i* P P 18 21 09.8 -0.2
OBN *i* 18 21 21.4
OBN pmax pmax
comp=Z,55nm,1.6s
OBN **Obninsk** 85.14 327 P P 18 21 08.4 -1.5
comp=Z,69nm,1.5s
C21A **Desert Coulee** 85.16 41 ⇓P P 18 21 10.8 +0.4
baz=85,SNR=7.3
H19A **Powell** 85.24 44 ⇑P P 18 21 11.7 +0.8
baz=85
K18A **Toltan Ranch,** 85.34 46 ⇑P P 18 21 12.2 +0.6
baz=85
GLA **Glamis** 85.36 57 ⇑P P 18 21 12.1 +0.5
baz=85
A22A **Carney Farms,** 85.39 39 ⇓P P 18 21 11.9 +0.4
baz=85
I19A **Meeteetse** 85.49 45 ⇑P P 18 21 12.4 +0.1
baz=85
G20A **Bridger** 85.52 43 ⇑P P 18 21 12.5 +0.2
baz=85,SNR=6.0
D21A **La Casta Ranch** 85.54 41 ⇑P P 18 21 12.6 +0.4
baz=85
VSR **Storozhevoye** 85.55 323 *eP* P 18 21 11.3 -0.8
VORD **Divnogorie** 85.59 323 *eP* P 18 21 11.0 -1.3
VORD pmax pmax
comp=Z,6.0nm,0.6s
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.6s
BW06 **Boulder Array** 85.61 46 ⇓P P 18 21 13.0 0.0
baz=86
PDAR **Pinedale Array** 85.61 46 P P 18 21 12.7 -0.3
comp=E,0.9nm,0.6s,baz=202,slow=0.6,SNR=8.9
PDAR LR LR 18 56 59.0
comp=E,93nm,20.6s,baz=275,slow=34
PDAR **Pinedale Array** 85.61 46 P P 18 21 12.7 -0.3
L18A **Fontenelle, Gr** 85.62 47 ⇓P P 18 21 13.3 +0.3
baz=86

B22A **Reddig Ranch S** 85.63 40 ⇓P P 18 21 13.2 +0.6
baz=86
J19A **Crowheart** 85.76 45 ⇓P P 18 21 14.2 +0.6
baz=86,SNR=6.0
M18A **Lyman** 85.79 47 ⇑P P 18 21 14.0 +0.2
baz=86
O17A **Robinson Place** 85.80 49 ⇑P P 18 21 14.3 +0.4
baz=86
C22A **Vida** 85.94 40 ⇑P P 18 21 15.2 +1.0
baz=86
KAF **Kangasniemi** 85.94 336 *eP* P 18 21 11.9 -1.9
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF **Kangasniemi** 85.94 336 *ep* P 18 21 11.9 -1.9
comp=Z,3.2nm,0.6s
H20A **Greybull** 85.96 44 ⇓P P 18 21 15.1 +0.6
baz=86
Q16A **Castle Valley** 85.97 50 ⇑P P 18 21 15.3 +0.5
baz=86
F21A **Absaloka Mine,** 85.98 43 ⇑P P 18 21 15.4 +1.0
baz=86
D22A **Cohagen** 86.01 41 ⇓P P 18 21 15.3 +0.7
baz=86
L19A **Farson** 86.01 47 ⇓P P 18 21 15.5 +0.5
baz=86
P17A **Butcher Ranch,** 86.07 49 ⇓P P 18 21 15.7 +0.5
baz=86
U15A **North Rim** 86.09 53 ⇑P P 18 21 16.0 +0.5
baz=86
I20A **Worland** 86.10 45 ⇓P P 18 21 15.6 +0.4
baz=86,SNR=5.2
B23A **Brockton** 86.17 40 ⇑P P 18 21 16.0 +0.6
baz=86
G21A **Lodge Grass** 86.17 43 ⇓P P 18 21 16.2 +0.7
baz=86
ZEI **Tsey** 86.20 314 *eP* P 18 21 14.2 -1.7
ZEI pmax pmax
comp=Z,6.0nm,0.9s
N18A **Larsen Ranch,** 86.24 48 ⇑P P 18 21 16.1 0.0
baz=86
C23A **Lambert** 86.34 40 ⇑P P 18 21 16.7 +0.6
baz=86,SNR=9.1
P18A **Preston Nutter** 86.36 49 ⇓P P 18 21 16.9 +0.1
baz=86
SRU **San Rafael** 86.36 50 ⇓P P 18 21 17.0 +0.3
baz=86
J20A **Shoshoni** 86.37 45 ⇑P P 18 21 17.1 +0.5
baz=86
FINES **FINESS Array B** 86.43 336 P P 18 21 14.9 -1.3
comp=Z,3.1nm,0.5s,baz=68,slow=5.1,SNR=52
FINES **FINESS Array B** 86.43 336 P P 18 21 14.9 -1.3
K20A **Yellowstone Ra** 86.48 46 ⇑P P 18 21 17.5 +0.3
baz=86
KBZ **Khabaz** 86.48 315 P P 18 21 16.7 -0.1
comp=Z,7.9nm,0.9s,baz=112,slow=1.5,SNR=22
KBZ LR LR 19 01 57.0
comp=Z,79nm,18.6s,baz=205,slow=37
KBZ **Khabaz** 86.48 315 P P 18 21 16.7 -0.1
KBZ **Khabaz** 86.48 315 P P 18 21 16.7 -0.1
KIV **Kislovodsk** 86.53 316 *eP* P 18 21 16.2 -1.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,74nm,19.0s
KIV **Kislovodsk** 86.53 316 P P 18 21 16.8 -0.4
H21A **Big Horn, Sher** 86.53 44 ⇓P P 18 21 18.2 +0.9
baz=86
F22A **Rosebud** 86.54 42 ⇑P P 18 21 17.6 +0.4
baz=86
A24A **Westby** 86.55 39 ⇑P P 18 21 17.9 +0.7
baz=86
D23A **Lindsay** 86.60 41 ⇓P P 18 21 18.2 +0.7
baz=86,SNR=5.2
N19A **John Jarvie Ra** 86.62 48 ⇑P P 18 21 18.0 +0.1
baz=86
DGMT **Dagmar** 86.64 39 ⇑P P 18 21 18.3 +0.7
baz=86
GNI **Garni** 86.67 312 *eP* P 18 21 17.1 -1.0
comp=Z,8.1nm,1.0s
I21A **Big Trails, Te** 86.70 44 ⇓P P 18 21 18.4 +0.2
baz=87
L20A **Wamsutter** 86.74 46 ⇑P P 18 21 18.8 +0.3
baz=87
J21A **Lysite** 86.80 45 ⇑P P 18 21 18.9 +0.2
baz=87
O19A **Miners Draw (B** 86.89 48 ⇑P P 18 21 19.2 0.0
baz=87
H22A **Clearmont** 86.99 43 ⇓P P 18 21 20.1 +0.5
baz=87
M20A **Sweetwater, Wa** 87.06 47 ⇑P P 18 21 20.5 +0.4
baz=87
F23A **Volborg** 87.11 42 ⇑P P 18 21 20.8 +0.7
baz=87
WUAZ **Wupatki** 87.12 53 ⇓P P 18 21 21.1 +0.7
baz=87
I22A **9 Mile Ranch,** 87.20 44 ⇑P P 18 21 21.3 +0.7
baz=87
RBK **Rabkut** 87.22 288 P P 18 21 21.5 +0.4
SNR=5.3
P19A **Cripple Cowboy** 87.26 49 ⇓P P 18 21 21.3 +0.3
baz=87,SNR=7.1
N20A **Spence Gulch,** 87.28 47 ⇑P P 18 21 21.3 +0.2
baz=87
G23A **Biddle** 87.34 43 ⇑P P 18 21 21.7 +0.5
baz=87
214A **Organ Pipe Nat** 87.35 57 ⇓P P 18 21 22.2 +0.8
baz=87
J22A **Midwest** 87.41 45 ⇓P P 18 21 22.2 +0.5
baz=87
L21A **Rawlins** 87.42 46 ⇑P P 18 21 22.3 +0.5
baz=87
SUMG **Summit** 87.54 2 *i* P P 18 21 22.5 +0.5
comp=Z,4.8nm,0.9s
M21A **Separation Pea** 87.57 46 ⇓P P 18 21 23.0 +0.4
baz=87
N21A **Black Mountain** 87.82 47 ⇑P P 18 21 24.3 +0.6
baz=88
Q20A **Ridgley Place,** 88.02 49 ⇓P P 18 21 25.1 +0.4
baz=88,SNR=12
H24A **Dirks Ranch, A** 88.08 43 ⇓P P 18 21 25.2 +0.4
baz=88
ABTO **Aybut** 88.08 288 P P 18 21 25.6 +0.4
SNR=10
M22A **Cedar Creek Ra** 88.18 46 ⇑P P 18 21 26.3 +0.8
baz=88
R20A **Redvale** 88.27 50 ⇓P P 18 21 26.2 +0.3
baz=88,SNR=5.5
I24A **Kuemmerle Ranc** 88.42 44 ⇓P P 18 21 27.2 +0.7
baz=88
S20A **Disappointment** 88.43 50 ⇓P P 18 21 27.0 +0.2
baz=88
N22A **Wattenberg Ran** 88.53 47 ⇑P P 18 21 28.0 +0.8
baz=88
Q21A **Lamborn Mesa,** 88.58 49 ⇓P P 18 21 28.4 +1.0
baz=88
MVCO **Mesa Verde** 88.58 51 ⇑P P 18 21 28.0 +0.5
baz=88
QRN **Al-Qurain** 88.63 300 *eP* P 18 21 26.6 -0.9
QRN AMb AMB 18 21 28.5
comp=Z,54nm,0.9s
J24A **Dixon Ranch, L** 88.64 44 ⇓P P 18 21 28.4 +0.9
baz=88
MIB **Mutribah** 88.70 301 *eP* P 18 21 26.5 -1.3
MIB AMb AMB 18 21 27.8
comp=Z,103nm,0.6s
O22A **Kremmling** 88.74 48 ⇑P P 18 21 28.6 +0.3
baz=89,SNR=5.5
M23A **Laramie** 88.75 46 ⇑P P 18 21 29.0 +0.9
baz=89
R21A **Cimarron** 88.79 49 ⇓P P 18 21 29.0 +0.6
baz=89,SNR=13
P22A **Eagle** 88.84 48 ⇓P P 18 21 29.4 +0.8
baz=89
N23A **Red Feather La** 88.84 47 ⇓P P 18 21 29.2 +0.5
baz=89,SNR=8.5
RDF **Al-Radifah** 88.86 300 *eP* P 18 21 27.9 -0.7
RDF AMb AMB 18 21 38.6
comp=Z,63nm,1.4s
SMCO **Snowmass** 88.86 49 *eP* P 18 21 29.4 +0.5
comp=Z,9.9nm,1.2s
S21A **Coal Bank Pass** 88.91 50 ⇑P P 18 21 29.7 +0.6
baz=89
NAY **Al-Naaiem** 88.99 301 *eP* P 18 21 28.0 -1.2
NAY AMb AMB 18 21 28.8
comp=Z,48nm,0.6s
Q22A **Crested Butte,** 89.04 49 ⇓P P 18 21 30.3 +0.7
baz=89,SNR=5.0
O23A **Lake Granby, G** 89.16 47 ⇑P P 18 21 30.8 +0.6

baz=89
M24A **Cheyenne** 89.35 46 ⇓P P 18 21 31.6 +0.6
baz=89
ISCO **Idaho Springs** 89.55 48 ⇓P P 18 21 32.7 +0.6
baz=89
S22A **4UR Ranch, Cre** 89.57 50 ⇑P P 18 21 32.9 +0.8
baz=89
N24A **Carr** 89.60 46 ⇓P P 18 21 33.3 +1.2
baz=89
K26A **Motz Farm, Whi** 89.89 44 ⇑P P 18 21 34.3 +1.0
baz=90
Y20A **Horse Springs,** 90.02 54 ⇑P P 18 21 35.2 +0.9
baz=90
R23A **Moffat** 90.09 49 ⇓P P 18 21 35.6 +1.0
baz=90
Z20A **Nine Sixteen R** 90.18 55 ⇑P P 18 21 36.1 +1.1
baz=90,SNR=7.9
Q24A **Divide** 90.24 48 ⇑P P 18 21 36.3 +1.0
baz=90
X21A **Alamocita Cree** 90.25 53 ⇓P P 18 21 36.4 +1.1
baz=90
319A **Douglas** 90.35 56 ⇑P P 18 21 36.8 +1.1
baz=90
120A **U Bar Ranch, L** 90.38 55 ⇓P P 18 21 37.0 +1.2
baz=90
O25A **Wiggins** 90.44 47 ⇓P P 18 21 36.9 +1.0
baz=90
ULM **Lac du Bonnet** 90.49 35 P P 18 21 35.0 -0.8
comp=Z,4.5nm,1.0s,baz=256,slow=6.1,SNR=5.6
ULM **Lac du Bonnet** 90.49 35 P P 18 21 35.0 -0.8
Y21A **Point of Rocks** 90.51 53 ⇓P P 18 21 37.7 +1.1
baz=90
R24A **Sanders Place,** 90.59 49 ⇑P P 18 21 38.0 +1.3
baz=90
P25A **Willow Gulch B** 90.67 47 ⇑P P 18 21 38.0 +0.8
baz=90
220A **Playas Peak, P** 90.72 56 ⇑P P 18 21 38.6 +1.1
baz=91
S24A **Houchin Ranch,** 90.77 49 ⇓P P 18 21 38.5 +0.7
baz=91
Z21A **St. Cloud Mine** 90.81 54 ⇑P P 18 21 39.3 +1.4
baz=91
Q25A **Bedland, Calha** 90.89 48 ⇓P P 18 21 39.2 +1.0
baz=91
121A **Cookes Peak, D** 91.04 55 ⇑P P 18 21 40.4 +1.4
baz=91
T24A **Torres, Weston** 91.14 50 ⇓P P 18 21 40.0 +0.5
baz=91
R25A **Fountain Ranch** 91.21 49 ⇑P P 18 21 40.4 +0.9
baz=91
P26A **Davis Ranch, A** 91.22 47 ⇓P P 18 21 40.7 +1.0
baz=91
AKASG **Malin Array Be** 91.23 326 P P 18 21 37.6 -1.5
comp=Z,1.0nm,0.4s,baz=48,slow=4.8,SNR=7.3
AKASG **Malin Array Be** 91.23 326 P P 18 21 37.7 -1.5
AKASG **Malin Array Be** 91.23 326 P P 18 21 37.6 -1.5
S25A **Robets Cordova** 91.32 49 ⇓P P 18 21 41.0 +0.9
baz=91
Z22A **Elephant Butte** 91.36 54 ⇓P P 18 21 41.6 +1.2
baz=91
AGMN **Agassiz Nation** 91.55 37 *eP* P 18 21 40.5 -0.3
comp=Z,4.0nm,0.3s
T25A **Trinidad** 91.57 49 ⇓P P 18 21 42.4 +1.0
baz=91
W24A **Lazy 6 Ranch,** 91.69 52 ⇓P P 18 21 42.9 +0.9
baz=92
R26A **Arlington** 91.72 48 ⇑P P 18 21 42.7 +0.7
baz=92
Y23A **Lovelace Mesa,** 91.76 53 ⇑P P 18 21 43.0 +0.7
baz=92
MALT **Malatya** 91.88 312 *eP* P 18 21 42.7 +0.1
MALT pmax pmax
comp=Z,13nm,1.4s
MALT **Malatya** 91.88 312 *eP* P 18 21 42.7 +0.1
comp=Z,14nm,1.4s
U25A **Circle Dot Ran** 91.90 50 ⇑P P 18 21 43.3 +0.4
baz=92
NOA **NORSAR Array B** 91.95 340 P P 18 21 42.5 +0.1
comp=Z,0.8nm,0.8s,baz=51,slow=4.3,SNR=3.2
NOA PKKPbc PKKPdf 18 38 52.1 -5.0
comp=Z,1.3nm,0.8s,baz=23,slow=6.8,SNR=3.5
NOA LR LR 19 11 04.1
comp=Z,54nm,18.5s,baz=250,slow=41
NOA **NORSAR Array B** 91.95 340 P P 18 21 42.5 +0.1
NOA PKKPbc PKKPdf 18 38 52.1 -5.0
S26A **Kim** 92.02 49 ⇑P P 18 21 43.9 +0.5
baz=92
T26A **Comanche Natio** 92.13 49 ⇑P P 18 21 44.5 +0.6
baz=92
R27A **Eads** 92.19 48 ⇑P P 18 21 44.8 +0.8
baz=92
SUW **Suwalki** 92.23 331 P P 18 21 43.3 -0.5
SUW **Suwalki** 92.23 331 P P 18 21 43.3 -0.5
U26A **Atchley Ranch,** 92.38 50 ⇓P P 18 21 45.6 +0.5
baz=92
W25A **X Bar L Ranch,** 92.39 51 ⇑P P 18 21 45.8 +0.7
baz=92
Z24A **Sheeppen Canyo** 92.54 53 ⇓P P 18 21 45.6 -0.4
baz=92
RAYN **Ar Rayn** 92.63 296 P P 18 21 45.6 -0.7
comp=Z,78nm,0.8s,SNR=9.6
124A **Stringfield Ra** 92.75 54 ⇑P P 18 21 47.6 +0.7
baz=93
Y25A **Mesa, Roswell** 92.79 52 ⇑P P 18 21 47.5 +0.6
baz=93
T27A **Campo** 92.80 49 ⇓P P 18 21 47.9 +1.0
baz=93
224A **Cornudas Mount** 92.97 54 ⇑P P 18 21 49.0 +1.1
baz=93
Z25A **Roswell** 93.05 53 ⇑P P 18 21 49.0 +0.8
baz=93
T28A **Walsh** 93.21 49 ⇑P P 18 21 49.6 +0.8
baz=93
324A **Moseley Ranch,** 93.27 55 ⇓P P 18 21 50.1 +0.8
baz=93
125A **Gardner Draw,** 93.37 54 ⇓P P 18 21 50.7 +1.0
baz=93
Z26A **Caprock** 93.61 53 ⇓P P 18 21 51.1 +0.4
baz=94
325A **Bean Ranch, Si** 93.70 55 ⇓P P 18 21 52.1 +0.9
baz=94
425A **Indio Mountain** 93.94 55 ⇑P P 18 21 53.7 +1.4
baz=94
BR131 **Keskin Array S** 94.47 315 *eP* P 18 21 52.8 -1.8
comp=Z,3.1nm,1.0s
BRTR **Keskin Array B** 94.47 315 P P 18 21 53.4 -1.2
comp=Z,3.4nm,1.1s,baz=103,slow=3.9,SNR=15
BRTR LR LR 19 05 48.2
comp=Z,28nm,21.0s,baz=167,slow=36
BRTR **Keskin Array B** 94.47 315 P P 18 21 53.4 -1.2
326A **Caldwell Ranch** 94.48 55 ⇑P P 18 21 55.7 +0.9
baz=94
426A **McDonald Obser** 94.73 55 ⇓P P 18 21 56.9 +0.8
baz=95
SPMN **St. Paul** 95.01 38 ⇑P P 18 21 56.3 -0.4
baz=95
626A **Big Bend Ranch** 95.14 56 ⇓P P 18 21 59.0 +1.2
baz=95
527A **Woodward Ranch** 95.29 55 ⇑P P 18 21 59.8 +1.3
baz=95
TXAR **Lajitas Array** 95.61 56 P P 18 22 00.1 +0.2
comp=Z,0.2nm,0.3s,baz=25,slow=4.1,SNR=3.6
TXAR LR LR 19 03 57.9
comp=Z,56nm,19.7s,baz=0.0,slow=35
TXAR **Lajitas Array** 95.61 56 P P 18 22 00.1 +0.2
Z30A **Sanderson Ranc** 95.72 52 ⇑P P 18 22 01.6 +1.2
baz=96
428A **Kincaid Ranch,** 95.74 55 ⇑P P 18 22 01.9 +1.4
baz=96
627A **Terungua Ranc** 95.77 56 ⇑P P 18 22 01.6 +0.9
baz=96
528A **Cox Ranch, San** 95.92 55 ⇓P P 18 22 02.3 +0.9
baz=96
329A **Wagon Wheel Ra** 95.93 54 ⇑P P 18 22 02.3 +1.0
baz=96
628A **Black Gap, Mar** 96.14 56 ⇑P P 18 22 03.2 +0.8
baz=96
CRVS **Cervenica-Dubn** 96.33 328 *eP* P 18 22 02.0 -0.7
CRVS pmax pmax
comp=Z,21nm,1.9s
CRVS **Cervenica-Dubn** 96.33 328 *eP* P 18 22 02.0 -0.7
429A **Davenport Ranc** 96.39 54 ⇓P P 18 22 03.9 +0.4
baz=96
MMAI **Mount Meron Ar** 96.54 308 P P 18 22 03.7 -0.4
comp=Z,5.7nm,0.9s,baz=32,slow=4.9,SNR=5.8
MMAI **Mount Meron Ar** 96.54 308 P P 18 22 03.7 -0.4
531A **Rocksprings** 97.63 54 ⇓P Pdif 18 22 09.8 +0.6
baz=98

332A	**Millersview**	**97.66**	**53**	⇑P	Pdif	18 22 09.5	+0.3
	baz=98						
VYHS	**Vyhne**	**97.90**	**328**	*eP*	**P**	**18 22 08.3**	**-1.5**
VYHS	**Vyhne**	**97.90**	**328**	*eP*	**P**	**18 22 08.3**	**-1.5**
SCHQ	**Schefferville**	**99.85**	**19**	P	**Pdif**	**18 22 18.2**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=337,slow=7.7,SNR=3.6						
SCHQ				LR	LR	19 08 32.5	
	comp=Z,42nm,19.9s,baz=39,slow=36						
SCHQ	**Schefferville**	**99.85**	**19**	P	**Pdif**	**18 22 18.2**	**-0.2**
GERES	**GERESS Array B**	**100.09**	**331**	PP	PP	18 26 27.0	+2.3
	comp=Z,0.4nm,0.6s,baz=59,slow=6.4,SNR=3.5						
GERES	**GERESS Array B**	**100.09**	**331**	PP	PP	18 26 27.0	+2.3
QSPA	**South Pole Qui**	**109.83**	**180**	PKiKP	**PKiKP**	**18 27 04.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=292,slow=4.2,SNR=5.4						
QSPA	**South Pole Qui**	**109.83**	**180**	PKiKP	**PKiKP**	**18 27 04.2**	**-0.3**
LSZ	**Lusaka**	**122.33**	**264**	PKP	**PKPdf**	**18 27 30.7**	**+0.8**
	comp=Z,6.4nm,0.8s,baz=50,slow=6.7,SNR=8.0						
LSZ	**Lusaka**	**122.33**	**264**	PKP	**PKPdf**	**18 27 30.7**	**+0.8**
VNA2	**Neumayer--Watz**	**126.99**	**190**	*eP*	**PKPdf**	**18 27 38.4**	**+1.3**
VNA3	**Neumayer Olymp**	**127.06**	**189**	*eP*	**PKPdf**	**18 27 38.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**132.97**	**312**	PKP	**PKPdf**	**18 27 49.9**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=7.9,slow=2.0,SNR=12						
TORD				PP	PP	18 30 03.4	-12
	comp=Z,0.5nm,0.8s,baz=58,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**132.97**	**312**	PKP	**PKPdf**	**18 27 49.9**	**-0.2**
TORD				PP	PP	18 30 03.4	-12
PLCA	**Paso Flores**	**141.55**	**131**	PKP	**PKPdf**	**18 28 04.2**	**-1.1**
	comp=Z,3.8nm,0.9s,baz=203,slow=5.3,SNR=5.7						
PLCA	**Paso Flores**	**141.55**	**131**	PKP	**PKPdf**	**18 28 04.2**	**-1.1**
DBIC	**Dimbokro**	**142.08**	**312**	PKhKP	PKPpre	18 28 01.8	
	comp=Z,3.4nm,0.8s,baz=36,slow=3.4,SNR=3.7						
DBIC	**Dimbokro**	**142.08**	**312**	PKPpre	PKPpre	18 28 01.8	
LCO	**Las Campanas**	**144.15**	**112**	*e*PKPdf	**PKPdf**	**18 28 09.8**	**-0.7**
LPAZ	**La Paz**	**145.88**	**90**	PKPbc	**PKPbc**	**18 28 15.2**	**+0.4**
	comp=Z,9.7nm,0.4s,baz=338,slow=2.8,SNR=62						
LPAZ	**La Paz**	**145.88**	**90**	*e*PKPdf	**PKPbc**	**18 28 15.3**	**+0.4**
CFAA	**Coronel Fontan**	**145.88**	**117**	PKPbc	**PKPab**	**18 28 14.6**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=244,slow=4.1,SNR=15						
CFAA	**Coronel Fontan**	**145.88**	**117**	PKPbc	**PKPab**	**18 28 14.6**	**+0.3**
SAML	**Samuel**	**148.28**	**74**	*e*PKPdf	**PKPdf**	**18 28 17.5**	**-0.1**
SAML				*e*PKPbc	**PKPbc**	**18 28 20.9**	**-0.1**
SIV	**San Ignacio**	**152.45**	**86**	PKP	**PKPdf**	**18 28 24.8**	**+0.8**
SIV				PKPbc	**PKiKP**	**18 28 31.2**	**0.0**
	comp=Z,3.7nm,0.6s,baz=267,slow=3.9,SNR=12						
SIV				PKPab	**PKPab**	**18 28 42.4**	**+1.1**
	comp=Z,6.9nm,1.1s,baz=9.1,slow=2.6,SNR=6.3						
SIV	**San Ignacio**	**152.45**	**86**	PKP	**PKPdf**	**18 28 24.8**	**+0.8**
SIV				PKPbc	**PKiKP**	**18 28 31.2**	**0.0**
SIV				PKPab	**PKPab**	**18 28 42.4**	**+1.1**

IDC 17 18:11:21.5±11.0,**8.94S**×**119.38E**,**h355**km±84km,**mb2.7/2, mb1 2.7/4,mb1mx2.6/21,mbtmp2.5/4,Error ellipse: s-maj=139.6km s-min=92.1km az=71.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.95**	**147**	P	Pn	18 13 50.4	-0.4
	0.0nm,0.3s,baz=335,slow=15,SNR=3.5						
FITZ				S	S	18 15 53.1	-0.4
	0.1nm,0.3s,baz=180,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**18.14**	**129**	P	P	18 15 09.9	+0.1
	0.1nm,0.3s,baz=311,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**20.19**	**138**	P	P	18 15 31.7	+0.6
	0.4nm,0.8s,baz=312,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	**30.76**	**141**	P	P	18 17 04.0	-1.4
	1.7nm,0.7s,baz=298,slow=17,SNR=3.5						

IDC 17 18:23:28.8±3.3,3.42N×127.35E,h0km,mb3.9/4, mb1 1.4/4,mb1mx3.6/22,mbtmp3.9/4,Error ellipse: s-maj=97.9km s-min=56.9km az=84.0

ISC 17 18:23:34.7±1.4,**3.3N**±0.2×**126.3E**±0.4,**h53**km,**n7,**σ1°**66**/9, **mb3.8**/4,**1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.37**	**332**	⇑*iP*	**Pn**	**18 24 39.9**	**+1.3**
PAGZ	**Pagadian**	**5.34**	**327**	*eP*	**Pn**	**18 24 51.9**	**0.0**
IPIL	**Ipil**	**5.78**	**320**	*eP*	**Pn**	**18 24 58.5**	**+0.7**
IPIL				*eS*	**Sn**	**18 26 01.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.32**	**182**	P	**P**	**18 28 19.0**	**+1.7**
	0.9nm,0.6s,baz=12,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**24.45**	**161**	P	**P**	**18 28 45.9**	**-2.8**
	4.0nm,0.6s,baz=344,slow=10,SNR=60						
ASAR	**Alice Springs**	**27.08**	**165**	P	**P**	**18 29 18.9**	**-0.5**
	0.4nm,0.3s,baz=344,slow=7.2,SNR=16						
ASAR				PcP	**PcP**	**18 32 35.5**	**+1.0**
	0.2nm,0.4s,baz=354,slow=2.3,SNR=5.1						
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**18 30 46.8**	**-0.3**
	2.0nm,0.4s,baz=332,slow=11,SNR=6.1						

IDC 17 19:07:25.4±13.0,**46.63S**×**95.94E**,**h0**km,**mb3.8/4, mb1 4.0/4,mb1mx3.9/14,mbtmp3.8/4,MS3.7/8,Ms1 3.7/8, ms1mx3.4/30,Error ellipse: s-maj=295.0km s-min=47.8km az=21.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**21.25**	**57**	LR	LR	19 18 00.8	
	comp=Z,187nm,19.3s,baz=191,slow=30						
FITZ	**Fitzroy Crossi**	**37.52**	**51**	P	P	19 14 41.1	0.0
	1.5nm,1.0s,baz=198,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**37.76**	**84**	LR	LR	19 28 00.4	
	comp=Z,144nm,18.0s,baz=206,slow=33						
ASAR	**Alice Springs**	**38.06**	**66**	P	P	19 14 46.1	+0.4
	0.7nm,0.9s,baz=219,slow=7.1,SNR=4.3						
ASAR				LR	LR	19 29 22.1	
	comp=Z,81nm,18.6s,baz=282,slow=35						
VNDA	**Vanda**	**39.79**	**162**	LR	LR	19 30 45.4	
	comp=Z,131nm,19.0s,baz=244,slow=35						
WRA	**Warramunga Arr**	**41.08**	**63**	P	P	19 15 10.2	-0.7
	1.4nm,0.9s,baz=224,slow=8.7,SNR=9.6						
QSPA	**South Pole Qui**	**43.52**	**180**	LR	LR	19 30 27.1	
	comp=Z,110nm,19.0s,baz=312,slow=32						
PSI	**Prapat**	**49.29**	**4**	LR	LR	19 34 23.7	
	comp=Z,115nm,18.4s,baz=199,slow=33						
BOSA	**Boshof**	**56.93**	**262**	LR	LR	19 35 04.5	
	comp=Z,105nm,20.2s,baz=168,slow=29						
CMAR	**Chiang Mai Air**	**64.83**	**3**	P	P	19 18 06.1	0.0
	0.6nm,0.4s,baz=203,slow=6.6,SNR=12						
ATD	**Arta Tunnel**	**74.82**	**306**	LR	LR	19 44 39.4	
	comp=Z,22nm,19.4s,baz=132,slow=30						

IDC 17 19:08:45.1±16.0,**28.66S**×**178.85E**,**h0**km,**mb3.7/3, mb1 4.0/4,mb1mx3.8/17,mbtmp3.9/4,ML4.5/1,Error ellipse: s-maj=303.2km s-min=46.4km az=66.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.69**	**188**	Pn	Pn	19 11 05.8	0.0
	4.1nm,0.3s,baz=257,slow=2.3,SNR=33						
URZ				Sn	Sn	19 12 41.9	-13
	3.0nm,0.3s,baz=258,slow=21,SNR=18						
STKA	**Stephens Creek**	**32.24**	**255**	P	P	19 15 15.8	+0.5
	1.3nm,0.8s,baz=95,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**40.47**	**266**	P	P	19 16 24.6	-1.2
	0.3nm,0.5s,baz=110,slow=7.1,SNR=6.2						
WRA	**Warramunga Arr**	**41.30**	**272**	P	P	19 16 32.9	+0.4
	0.6nm,0.4s,baz=110,slow=8.0,SNR=23						

IDC 17 19:15:21.8±1.1,5.77S×122.87E,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.8/22,mbtmp4.1/7,ML3.6/1,Error ellipse: s-maj=44.2km s-min=20.1km az=51.0

ISCJB 17 19:15:24.1±0.5,5.81S±0.05×122.87E±0.05,h33km, mb4.3/11,Error ellipse: s-maj=8.9km s-min=5.8km az=43.4

DJA 17 19:15:24.2±0.7,6°S±3°×12°3E±°,h10km,M4.0/4,MLv4.0/4

NEIC 17 19:15:26.1±0.5,5.97S×122.75E,h35km,mb4.4/8,Error ellipse: s-maj=23.3km s-min=7.8km az=55.0

ISC 17 19:15:26.2±0.7,**5.91S**±0.08×**122.81E**±0.09,**h35**km,**n36,** σ1°**31**/33,**mb4.3**/11,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.48**	**331**	P	Pn	19 15 32.4	-4.2
BKSI	**Bulukumba**	**2.74**	**282**	P	**Pn**	**19 16 06.9**	**-0.7**
BKSI				S	**Sn**	**19 16 40.3**	**+0.8**
MMRI	**Maumere**	**2.77**	**192**	P	Pn	19 16 16.1	+8.1
MMRI				S	**Sn**	**19 16 43.6**	**+3.3**
KAPI	**Kappang**	**3.17**	**286**	Pn	**Pn**	**19 16 12.5**	**-1.0**
	6.6nm,0.3s,baz=156,slow=9.5,SNR=48						
KAPI				Sn	**Sn**	**19 16 50.1**	**-0.1**
	7.5nm,0.3s,baz=44,slow=22,SNR=13						
KAPI	**Kappang**	**3.17**	**286**	*eP*	**Pn**	**19 16 11.6**	**-2.0**
KAPI					**Sn**	**19 16 50.1**	**-0.1**
KAPI	**Kappang**	**3.17**	**286**	P	**Pn**	**19 16 12.8**	**-0.8**
TTSI	**Tana Toraja**	**4.12**	**314**	P	**Pn**	**19 16 27.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.43**	**167**	Pn	**Pn**	**19 18 18.8**	**-1.9**
	0.1nm,0.3s,baz=10,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**12.43**	**167**	Pn	**Pn**	**19 18 18.8**	**-1.9**
KKM	**Kota Kinabalu**	**13.58**	**331**	P	**Pn**	19 18 32.4	-4.1
	9.9nm,0.9s						
WRA	**Warramunga Arr**	**17.89**	**142**	P	**Pn**	**19 19 29.6**	**-2.9**
	0.1nm,0.3s,baz=317,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**17.89**	**142**	P	**Pn**	**19 19 29.6**	**-2.9**
WRAB	**Tennant Creek**	**17.89**	**142**	P	**Pn**	**19 19 31.7**	**-0.7**
	7.7nm,1.1s						
AS31	**Alice Springs**	**20.63**	**150**	P	Pn	19 20 03.7	-1.5
ASAR	**Alice Springs**	**20.63**	**150**	P	Pn	19 20 05.1	-0.2
	2.7nm,0.9s,baz=330,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.63**	**150**	P	Pn	19 20 05.1	-0.2
KULM	**Kulim**	**24.76**	**296**	P	**P**	**19 20 44.3**	**-0.6**
	9.9nm,1.1s						
PSI	**Prapat**	**25.37**	**289**	P	**P**	**19 20 51.1**	**+0.6**
	5.0nm,0.5s,baz=134,slow=12,SNR=6.9						
PSI	**Prapat**	**25.37**	**289**	P	**P**	**19 20 51.1**	**+0.6**
STKA	**Stephens Creek**	**31.24**	**148**	P	**P**	**19 21 43.1**	**+0.5**
	3.0nm,1.0s,baz=320,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**31.24**	**148**	P	**P**	**19 21 43.1**	**+0.5**
CM31	**Chiang Mai Arr**	**33.77**	**316**	*eP*	P	19 21 58.5	-6.4
	4.4nm,0.4s						
ENH	**Enshi**	**38.18**	**341**	P	**P**	**19 22 42.5**	**-0.1**
LSA	**Lhasa**	**46.66**	**321**	*eP*	**P**	**19 23 53.5**	**+1.3**
	3.7nm,1.0s						
ULN	**Ulaanbaatar**	**55.32**	**347**	P	**P**	**19 24 55.9**	**-0.6**
SONM	**Songino Array**	**55.44**	**347**	P	**P**	**19 24 57.0**	**-0.3**
	0.9nm,0.7s,baz=161,slow=9.4,SNR=4.2						
SONM	**Songino Array**	**55.44**	**347**	P	**P**	**19 24 57.0**	**-0.3**
MK31	**Makanchi Array**	**63.56**	**330**	*eP*	**P**	**19 25 54.1**	**+0.8**
KBL	**Kabul**	**64.68**	**313**	*eP*	**P**	**19 26 01.3**	**+0.2**
	2.5nm,0.8s						
TKM2	**Tokmak 2**	**64.72**	**323**	P	**P**	**19 26 02.1**	**+0.8**
	1.6nm,0.9s						
AAK	**Ala-Archa**	**65.22**	**323**	P	**P**	**19 26 05.7**	**+1.3**
	1.1nm,0.8s,baz=151,slow=6.0,SNR=8.2						
AAK	**Ala-Archa**	**65.22**	**323**	*eP*	**P**	**19 26 04.9**	**+0.5**
	6.6nm,0.8s						
ZAA0	**Zalesovo Array**	**67.61**	**337**	*eP*	**P**	**19 26 18.3**	**-0.9**
ZALV	**Zalesovo Beam**	**67.61**	**337**	P	**P**	**19 26 19.2**	**0.0**
	3.9nm,0.9s,baz=122,slow=5.4,SNR=14						
ZALV	**Zalesovo Beam**	**67.61**	**337**	P	**P**	**19 26 19.2**	**0.0**
KURK	**Kurchatov**	**68.01**	**331**	*eP*	**P**	**19 26 21.7**	**0.0**
	6.3nm,1.1s						

ISK 17 19:30:55.5,39.07N×29.21E,h9km,MD2.8

ISCJB 17 19:30:56.1±0.5,39.11N±0.03×29.10E±0.03,h5km±7km, Error ellipse: s-maj=4.9km s-min=4.4km az=174.7

DDA 17 19:30:56.1,39.15N×29.08E,h7km,MD2.9

CSEM 17 19:30:56.2±0.2,39.10N×29.13E,h8km,MD2.9,Error ellipse: s-maj=4.4km s-min=4.0km az=89.0

ISC 17 19:30:55.9±1.1,**39.10N**±0.02×**29.15E**±0.02,**h3**km±11km, **n32,**σ0°**49**/46,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.26**	**93**	*i* P	**Pb**	**19 31 03.0**	**-0.2**
GDZ				*i* S	**Sb**	**19 31 07.6**	**-0.5**
GDZ	**Gediz**	**0.26**	**93**	*i* P	**Pb**	**19 31 03.0**	**-0.2**
GDZ				*i* S	**Sb**	**19 31 07.6**	**-0.5**
DEMI	**Demirci**	**0.34**	**260**	*i* P	**Pg**	**19 31 02.6**	**0.0**
DEMI				*i* S	**Sg**	**19 31 06.7**	**-0.4**
DEMI	**Demirci**	**0.34**	**260**	*i* P	**Pg**	**19 31 02.6**	**0.0**
DEMI				*i* S	**Sg**	**19 31 06.7**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**34**	*e*PG	**Pg**	**19 31 04.6**	**+0.5**
TVSB				*e*SG	**Sg**	**19 31 10.6**	**+1.0**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**19 31 04.6**	**+0.5**
TVSB				*e*Sg	**Sg**	**19 31 10.6**	**+1.0**
DST	**Dursunbey**	**0.65**	**321**	*e*PG	**Pb**	**19 31 09.8**	**0.0**
DST	**Dursunbey**	**0.65**	**321**	*e*Pg	**Pb**	**19 31 09.9**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*PG	**Pg**	**19 31 09.7**	**+0.3**
KULA				*e*SG	**Sg**	**19 31 19.1**	**+0.7**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**19 31 09.7**	**+0.3**
KULA				*e*Sg	**Sg**	**19 31 19.1**	**+0.7**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**19 31 09.1**	**-0.7**
DURS				*i* S	**Sg**	**19 31 09.1**	**-0.7**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**19 31 09.1**	**-0.7**
DURS				*i* S	**Sg**	**19 31 18.7**	**-0.5**
ALT	**Altintas**	**0.75**	**93**	*e*PG	**Pg**	**19 31 09.6**	**-0.6**
ALT	**Altintas**	**0.75**	**93**	*e*Pg	**Pg**	**19 31 09.6**	**-0.6**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**19 31 12.4**	**+0.3**
KHAL				*i* S	**Sb**	**19 31 23.3**	**+0.3**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**19 31 12.4**	**+0.3**
KHAL				*i* S	**Sb**	**19 31 23.3**	**+0.3**
KHL	**Karahalli**	**0.83**	**159**	*e*PG	**Pg**	**19 31 10.9**	**-0.9**
KHL	**Karahalli**	**0.83**	**159**	*e*Pg	**Pg**	**19 31 10.9**	**-0.9**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*PN	**Pn**	**19 31 19.8**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pn**	**19 31 19.8**	**-0.1**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pb**	**19 31 20.7**	**+0.2**
BORA				*i* S	**Sn**	**19 31 38.7**	**+0.5**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pb**	**19 31 20.7**	**+0.2**
BORA				*i* S	**Sn**	**19 31 38.7**	**+0.5**
GEMT	**Gemlik**	**1.33**	**1**	*e*PN	**Pn**	**19 31 21.3**	**0.0**
GEMT	**Gemlik**	**1.33**	**1**	*e*Pn	**Pn**	**19 31 21.3**	**0.0**
YLV	**Yalova**	**1.47**	**7**	*e*PN	**Pn**	**19 31 23.2**	**-0.2**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**19 31 23.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*PN	**Pn**	**19 31 23.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pn**	**19 31 23.4**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*PN	**Pn**	**19 31 23.5**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**19 31 23.5**	**+0.1**
GULT	**Gulveren**	**1.69**	**38**	*e*PN	**Pn**	**19 31 25.9**	**-0.5**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**19 31 25.9**	**-0.5**

ISCJB 17 20:01:46.9±1.2,14.80S±0.07×167.1E±0.2,h150km, mb3.8/7,Error ellipse: s-maj=22.9km s-min=8.8km az=172.7

IDC 17 20:01:47.2±4.8,14.77S×167.34E,h152km±44km,mb3.6/7, mb1 3.8/8,mb1mx3.6/20,mbtmp3.6/8,Error ellipse: s-maj=36.8km s-min=26.1km az=157.0

AUST 17 20:01:53.1,14.50S×170.00E,h450km

ISC 17 20:01:47.1±1.1,**14.81S**±0.08×**167.3E**±0.2,**h150**km,**n22,** σ1°**86**/24,**mb3.8/7,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.27**	**186**	P	**Pn**	**20 03 32.9**	**+2.1**
	3.4nm,0.3s,baz=172,slow=11,SNR=16						
DZM				S	**Sn**	**20 04 52.6**	**+0.4**
	0.5nm,0.3s,baz=312,slow=22,SNR=3.4						
DZM	**Mont Dzumac**	**7.27**	**186**	*eP*	**Pn**	**20 03 31.6**	**+0.9**
DZM				*eS*	**Sn**	**20 04 51.6**	**-0.6**
NFK	**Norfolk Island**	**14.18**	**178**	P	**Pn**	**20 05 02.2**	**+1.0**
	baz=15,SNR=4.2						
LHI	**Lord Howe Isla**	**18.26**	**203**	S	**S**	**20 09 03.9**	**-6.1**
	baz=20,SNR=3.6						
RMQ	**Roma**	**20.83**	**233**	P	Pn	20 06 21.6	+0.2
	baz=23,SNR=7.7						
QLP	**Quilpie**	**24.48**	**238**	P	**P**	**20 06 54.2**	**+1.8**
	baz=27,SNR=5.5						
CMSA	**Cobar Meteorol**	**25.82**	**226**	P	**P**	**20 07 06.3**	**+1.8**
	baz=28,SNR=5.7						
STKA	**Stephens Creek**	**28.95**	**230**	P	**P**	**20 07 34.1**	**+1.9**
	5.3nm,0.5s,baz=45,slow=7.5,SNR=18						
STKA				PcP	**PcP**	**20 10 37.6**	**0.0**
	2.1nm,0.7s,baz=120,slow=5.3,SNR=3.8						
STKA	**Stephens Creek**	**28.95**	**230**	P	**P**	**20 07 34.2**	**+1.9**
	baz=31,SNR=17						
WRA	**Warramunga Arr**	**31.81**	**256**	P	**P**	**20 07 57.4**	**-0.4**
	0.9nm,0.5s,baz=84,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**32.65**	**249**	P	**P**	**20 08 04.8**	**-0.3**
	2.0nm,0.3s,baz=81,slow=8.9,SNR=48						
ASAR				PcP	**PcP**	**20 10 47.0**	**-0.7**
	0.5nm,0.6s,baz=69,slow=2.3,SNR=6.4						
BBOO	**Buckleboo**	**33.53**	**232**	P	**P**	**20 08 14.1**	**+1.5**
	baz=36,SNR=18						
SWI	**Sorong**	**38.18**	**288**	P	**P**	**20 08 50.3**	**-2.1**
	baz=41,SNR=6.6						
FITZ	**Fitzroy Crossi**	**40.01**	**259**	P	**P**	**20 09 07.4**	**-0.1**
	2.3nm,0.5s,baz=81,slow=7.8,SNR=19						
FITZ	**Fitzroy Crossi**	**40.01**	**259**	P	**P**	**20 09 07.9**	**+0.4**
	baz=43,SNR=8.9						
MEEK	**Meekatharra**	**46.76**	**247**	P	**P**	**20 10 02.0**	**+0.4**
	baz=49,SNR=6.6						
PCI	**Palu**	**48.84**	**282**	S	S	20 17 04.5	-5.6
	baz=51,SNR=3.9						
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P	**P**	**20 13 13.8**	**+1.4**
	0.7nm,0.8s,baz=136,slow=4.2,SNR=5.4						
SONM	**Songino Array**	**82.56**	**324**	P	**P**	**20 13 54.4**	**+1.1**
	0.3nm,0.5s,baz=133,slow=5.1,SNR=2.7						
ILAR	**Eielson Array**	**86.60**	**18**	P	**P**	**20 14 11.2**	**-1.8**
	0.5nm,0.8s,baz=244,slow=6.0,SNR=4.1						
ARCES	**ARCESS Array B**	**120.33**	**345**	PKP	**PKPdf**	**20 20 18.9**	**-1.0**
	4.8nm,0.9s,baz=48,slow=1.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.91**	**265**	PKPab	**PKPab**	**20 22 35.5**	**-0.2**
	0.9nm,0.8s,baz=102,slow=4.0,SNR=5.2						

IDC 17 20:33:44.5±0.5,3.45N×126.60E,h0km,mb4.4/18, mb1 4.5/18,mb1mx4.4/23,mbtmp4.4/18,MS3.9/15, Ms1 4.0/15,ms1mx3.7/30,Error ellipse: s-maj=28.2km s-min=9.2km az=80.0

MOS 17 20:33:47.4±1.5,3.52N×126.49E,h33km,mb4.9/21,Error ellipse: s-maj=15.3km s-min=7.1km az=112.2

BJI 17 20:33:47.8,3.49N×126.88E,h48km,mB4.9/22,mb4.4/33, Ms4.3/27,Ms7 4.1/28

NEIC 17 20:33:48.3±0.4,3.67N×126.78E,h35km,mb4.7/29,Error ellipse: s-maj=14.7km s-min=6.8km az=69.0

ISCJB 17 20:33:50.9±0.5,3.55N±0.02×126.66E±0.03,h67km±4km, mb4.5/67,Error ellipse: s-maj=6.0km s-min=3.6km az=158.8

DJA 17 20:33:54.0±0.8,3°N±6°×12°7E±°,h46km±19km,M4.6/17, mB5.0/9,mb4.8/17,MLv4.8/3,Mw(mB)4.4/9

AUST 17 20:33:54.9±0.7,3.47N×126.64E,h95km,Error ellipse: s-maj=1.4km s-min=0.8km az=268.0

ISC 17 20:33:50.5±0.4,**3.58N**±0.03×**126.69E**±0.04,**h44**km±2km, **n193,**σ1°**80**/222,**mb4.6**/66,**MS3.9**/27,**7C-6D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.81**	**221**	P	**Pn**	**20 34 33.7**	**+0.7**
MNI				S	**Sn**	**20 35 08.6**	**+2.9**
TNTI	**Ternate**	**2.87**	**166**	P	**Pn**	**20 34 34.7**	**+0.9**
GSPH	**General Santos**	**3.04**	**325**	⇑*eP*	**Pn**	**20 34 33.9**	**-2.3**
DAV	**Davao City (W)**	**3.64**	**342**	Pn	Pn	20 34 47.9	+3.5
	69nm,0.3s,baz=228,slow=10,SNR=5.4						
DAV				LR	LR	20 36 21.9	
	comp=Z,1μm,19.5s,baz=219,slow=42						
DAV	**Davao City (W)**	**3.64**	**342**	Pn	Pn	20 34 47.9	+3.5
DMPH	**Davao City--Mi**	**3.68**	**341**	⇑*eP*	**Pn**	**20 34 47.7**	**+2.8**
DMPH				*eS*	**Sn**	**20 35 31.1**	**+4.1**
LBMI	**Labuha**	**4.26**	**169**	P	**Pn**	**20 34 54.2**	**+1.2**
CTBH	**Cotabato--PC H**	**4.36**	**326**	⇑*iP*	**Pn**	**20 34 56.2**	**+1.9**
BUKP	**Musuan**	**4.57**	**339**	*eP*	**Pn**	**20 34 58.8**	**+1.6**
PAGZ	**Pagadian**	**5.37**	**322**	*eP*	**Pn**	**20 35 08.4**	**+0.3**
IPIL	**Ipil**	**5.86**	**316**	⇓*iP*	**Pn**	**20 35 13.8**	**-1.0**
LUWI	**Luwuk**	**6.03**	**221**	P	**Pn**	**20 35 19.9**	**+2.6**
	503nm,1.1s,5μm						
SWI	**Sorong**	**6.35**	**134**	P	**Pn**	**20 35 23.4**	**+1.7**
	baz=6.3,SNR=22						
SWI				S	**Sn**	**20 36 36.1**	**+3.2**
	baz=6.3,SNR=6.2						
SWI	**Sorong**	**6.35**	**134**	P	**Pn**	**20 35 23.1**	**+1.5**
	256nm,0.9s,2μm						
MSLP	**Maasin**	**6.76**	**345**	*eP*	Pn	20 35 33.0	+5.7
MSAI	**Masohi**	**7.23**	**162**	P	Pn	20 35 37.7	+4.0
	18nm,1.1s,508nm						
AAI	**Ambon**	**7.37**	**168**	P	Pn	20 35 43.6	+8.0
	baz=7.3,S

PSI	Prapat	27.73	269	LR	LR	20 50 43.5					
	comp=Z,163nm,19.3s,baz=209,slow=37										
AS31	Alice Springs	27.98	166	eP	P	20 39 36.2	-1.1				
ASAR	Alice Springs	27.98	166	P	P	20 39 36.5	-0.8				
	comp=Z,5.6nm,0.6s,baz=343,slow=6.6,SNR=73										
ASAR				PcP	PcP	20 42 52.4	+0.6				
	comp=Z,1.4nm,0.4s,baz=353,slow=2.1,SNR=5.5										
ASAR				S	S	20 44 24.3	+5.7				
	comp=Z,1.0nm,0.9s,baz=205,slow=32,SNR=4.2										
ASAR	Alice Springs	27.98	166	P	P	20 39 36.5	-0.8				
ASAR				PcP	PcP	20 42 52.4	+0.6				
ASAR				S	S	20 44 24.3	+5.7				
NJ2	Nanjing	29.27	346	eP	P	20 39 48.5	-0.1				
NJ2				pmax	pmax						
	comp=Z,10.0nm,0.6s										
GYA	Guiyang	29.76	322	P	P	20 39 54.3	+1.1				
GYA				pP	pP	20 40 03.8	-1.2				
GYA				PP	PnPn	20 40 52.1	+1.9				
GYA				PcP	PcP	20 42 56.5	+0.1				
GYA				S	S	20 44 46.4	-0.5				
GYA				sS	sS	20 45 03.3	-3.2				
GYA				ScP	ScP	20 46 33.9	-1.2				
GYA				ScS	ScS	20 50 28.3	-2.1				
GYA				pmax	pmax						
	comp=Z,10.0nm,0.8s										
GYA				LR	LR						
	comp=N,380nm,18.0s										
GYA				LR	LR						
	comp=E,220nm,18.4s										
GYA				LR	LR						
	comp=Z,350nm,17.9s										
CMAR	Chiang Mai Arr	30.91	301	P	P	20 40 03.5	+0.1				
	comp=Z,1.2nm,0.7s,baz=120,slow=7.3,SNR=6.9										
CMAR				LR	LR	20 54 41.2					
	comp=Z,192nm,18.1s,baz=25,slow=41										
CMAR	Chiang Mai Arr	30.91	301	P	P	20 40 03.5	+0.1				
MEEK	Meekatharra	31.04	194	P	P	20 40 04.1	-0.3				
	baz=31,SNR=10										
CHTO	Chiang Mai	31.07	301	eP	P	20 40 03.9	-0.9				
CHTO				pmax	pmax						
	comp=Z,5.0nm,1.0s										
CHTO	Chiang Mai	31.07	301	eP	P	20 40 03.9	-0.9				
	comp=Z,4.9nm,1.0s										
KMI	Kunming	31.46	315	P	P	20 40 09.8	+1.4				
KMI				pP	pP	20 40 19.4	-0.7				
KMI				sP	sP	20 40 23.6	-1.8				
KMI				PP	PnPn	20 41 15.0	+2.5				
KMI				S	S	20 45 14.4	+0.7				
KMI				sS	sS	20 45 34.9	+1.5				
KMI				pmax	pmax						
	comp=Z,4.0nm,1.0s										
KMI				pmax	pmax						
	comp=Z,88nm,4.5s										
KMI				LR	LR						
	comp=N,180nm,16.4s										
KMI				LR	LR						
	comp=E,130nm,21.1s										
KMI				LR	LR						
	comp=Z,180nm,19.6s										
KSAR	Wonju Array Be	33.72	2	P	P	20 40 27.6	-0.1				
KSRS	Korea Array	33.73	2	P	P	20 40 27.6	-0.2				
	comp=Z,3.9nm,0.7s,baz=180,slow=9.8,SNR=9.8										
MORW	Morawa	34.03	197	P	P	20 40 30.2	-0.3				
	baz=34,SNR=3.5										
QLP	Quilpie	34.45	151	P	P	20 40 33.7	-0.5				
	baz=34,SNR=8.7										
MJAR	Matsushiro Arr	34.48	17	P	P	20 40 37.1	+2.8				
	comp=Z,1.3nm,0.7s,baz=175,slow=9.5,SNR=3.8										
MJAR				LR	LR	20 54 28.4					
	comp=Z,229nm,19.6s,baz=190,slow=36										
MJAR	Matsushiro Arr	34.48	17	P	P	20 40 37.1	+2.8				
XAN	Xi'an	34.53	333	P	P	20 40 34.5	-0.4				
XAN				pmax	pmax						
	comp=Z,2.0nm,0.9s										
XAN				pmax	pmax						
	comp=Z,12nm,5.2s										
XAN				LR	LR						
	comp=N,190nm,26.1s										
XAN				LR	LR						
	comp=E,58nm,18.3s										
XAN				LR	LR						
	comp=Z,74nm,24.8s										
CD2	Chengdu	34.74	324	P	P	20 40 37.6	+0.8				
CD2				pP	pP	20 40 47.8	-0.8				
CD2				sP	sP	20 40 51.9	-1.9				
CD2				PP	PP	20 41 55.6	-0.6				
CD2				S	S	20 46 05.3	+1.1				
CD2				sS	sS	20 46 21.9	-2.1				
CD2				SS	SnSn	20 48 19.8	-0.6				
CD2				pmax	pmax						
	comp=Z,20nm,0.5s										
CD2				pmax	pmax						
	comp=Z,60nm,4.3s										
CD2				LR	LR						
	comp=N,270nm,13.7s										
CD2				LR	LR						
	comp=Z,370nm,20.2s										
HNR	Honiara	35.57	112	LR	LR	20 53 47.0					
	comp=Z,165nm,19.0s,baz=86,slow=34										
KLBR	Kellerberrin	35.99	193	P	P	20 40 47.3	-0.1				
	baz=36,SNR=9.5										
RMQ	Roma	36.73	146	P	P	20 40 53.8	0.0				
	baz=37,SNR=5.2										
EIDS	Eidsvold	37.26	142	eP	P	20 40 57.5	-0.8				
	comp=Z,34nm,0.9s										
EIDS	Eidsvold	37.26	142	P	P	20 40 57.8	-0.4				
	baz=37,SNR=15										
BBOO	Buckleboo	37.26	167	P	P	20 40 58.3	+0.1				
	baz=37,SNR=15										
NWAO	Narrogin (SRO)	37.40	193	P	P	20 40 59.6	+0.2				
	comp=Z,6.9nm,0.5s,baz=27,slow=11,SNR=5.5										
NWAO	Narrogin (SRO)	37.40	193	P	P	20 40 59.5	+0.2				
BJI	Beijing	37.52	347	P	P	20 41 00.1	-0.2				
BJI				PP	PP	20 42 25.9	-0.7				
BJI				S	S	20 46 47.4	+1.1				
BJI				pmax	pmax						
	comp=Z,18nm,1.2s										
BJI				LR	LR						
	comp=N,87nm,23.1s										
BJI				LR	LR						
	comp=E,160nm,20.8s										
BJI				LR	LR						
	comp=Z,62nm,18.5s										
STKA	Stephens Creek	38.00	159	P	P	20 41 04.1	-0.3				
	comp=Z,46nm,0.7s,baz=338,slow=8.5,SNR=62										
STKA	Stephens Creek	38.00	159	eP	P	20 41 03.9	-0.6				
	comp=Z,10nm,0.8s										
STKA				ePP	PP	20 42 26.2	-5.8				
STKA	Stephens Creek	38.00	159	P	P	20 41 04.2	-0.3				
	baz=38,SNR=41										
LZH	Lanzhou	38.61	330	eP	P	20 41 11.3	+1.5				
LZH				pP	pP	20 41 22.3	+0.5				
LZH				sP	sP	20 41 26.1	-0.9				
LZH				pmax	pmax						
	comp=Z,17nm,1.3s										
LZH				LR	LR						
	comp=N,170nm,15.4s										
LZH				LR	LR						
	comp=E,220nm,13.5s										
LZH				LR	LR						
	comp=Z,390nm,16.6s										
CMSA	Cobar Meteorol	39.33	154	P	P	20 41 15.9	+0.3				
	baz=39,SNR=11										
SHL	Shillong	39.93	307	eP	P	20 41 23.0	+2.0				
CN2	Changchun	40.07	359	eP	P	20 41 21.3	-0.3				
CN2				epP	pP	20 41 31.0	-2.6				
CN2				eS	S	20 47 24.4	-0.2				
CN2				pmax	pmax						
	comp=Z,10.0nm,0.6s										
USRK	Ussuriysk Arra	40.73	6	P	P	20 41 29.8	+2.8				
	comp=Z,2.1nm,0.6s,baz=182,slow=3.1,SNR=5.7										
MDJ	Mudanjiang	40.95	3	P	P	20 41 27.8	-1.1				
MDJ				pP	pP	20 41 36.6	-4.3				
MDJ				PP	PP	20 43 02.4	-1.6				
MDJ				ScP	ScP	20 47 14.9	-0.1				
MDJ				PcS	PcS	20 47 18.5	-0.9				
MDJ				S	S	20 47 38.1	+0.4				
MDJ				sS	sS	20 47 53.3	-4.5				
MDJ				pmax	pmax						
	comp=Z,9.0nm,2.1s										
MDJ				pmax	pmax						
	comp=Z,83nm,4.3s										
MDJ				LR	LR						
	comp=N,62nm,26.2s										
MDJ				LR	LR						
	comp=E,56nm,28.5s										
MDJ				LR	LR						
	comp=Z,82nm,28.5s										
ARMA	Armidale	41.36	147	eP	P	20 41 32.8	+0.2				
	comp=Z,26nm,0.8s										
ARMA	Armidale	41.36	147	P	P	20 41 33.3	+0.7				
	baz=42,SNR=16										
LSA	Lhasa	42.51	312	P	P	20 41 41.3	-1.1				
ARPS	Mount Arapiles	42.55	162	P	P	20 41 42.9	+0.8				
	baz=43,SNR=6.3										
ASAJ	Asahikawa	42.75	17	P	P	20 41 46.3	+2.7				
	comp=Z,5.0nm,0.7s,baz=244,slow=20,SNR=6.8										
ASAJ				LR	LR	20 59 22.6					
	comp=Z,231nm,20.8s,baz=340,slow=36										
ASAJ	Asahikawa	42.75	17	P	P	20 41 46.3	+2.7				
GTA	Gaotai	43.21	329	eP	P	20 41 49.5	+2.0				
GTA				pmax	pmax						
	comp=Z,3.0nm,1.3s										
TAPN	Taplejung	44.07	306	eP	P	20 41 53.1	-1.8				
	comp=Z,11nm,0.8s										
ODAN	Odare	44.12	306	eP	P	20 41 53.6	-1.7				
	comp=Z,12nm,0.7s										
RAMN	Ramite	44.80	305	eP	P	20 41 59.4	-1.3				
	comp=Z,8.3nm,0.5s										
HABR	Khabarovsk	45.30	8	P	P	20 42 00.9	-3.0				
HABR				e*PP	pP	20 42 10.6	-5.5				
HABR				e*SP	sP	20 42 14.5	-6.7				
HABR				e		20 43 46.6					
HABR				eS	S	20 48 38.5	-2.8				
HABR				e*SS	sS	20 48 55.4	-6.2				
HABR				pmax	pmax						
	comp=N,16nm,1.6s										
HABR				pmax	pmax						
	comp=E,45nm,2.2s										
HABR				pmax	pmax						
	comp=Z,17nm,1.5s										
HABR				MLR	MLR						
	comp=Z,95nm,18.0s										
YSS	Yuzh-Sakhalins	45.40	15	eP	P	20 42 06.5	+1.8				
JIRN	Jiri	45.43	306	eP	P	20 42 04.3	-1.5				
KLR	Kul'dur	45.69	5	eP	P	20 42 02.8	-4.2				
GUN	Gumba	45.78	306	eP	P	20 42 06.3	-2.3				
	comp=Z,23nm,0.7s										
PALK	Pallekele	45.91	277	P	P	20 42 07.8	-1.6				
	comp=Z,8.2nm,1.1s										
PKI	Pulchoki	46.02	306	eP	P	20 42 08.4	-2.1				
KKN	Kakani	46.22	306	eP	P	20 42 09.9	-1.9				
	comp=Z,11nm,0.9s										
DMN	Daman	46.28	305	eP	P	20 42 11.5	-0.9				
GKN	Gorkha	46.82	306	eP	P	20 42 14.1	-2.4				
	comp=Z,7.5nm,0.6s										
ULN	Ulaanbaatar	47.25	342	eP	P	20 42 18.4	-1.2				
	comp=Z,10nm,1.4s										
SONM	Songino Array	47.43	341	P	P	20 42 21.1	+0.3				
	comp=Z,1.5nm,0.6s,baz=157,slow=7.9,SNR=15										
SONM				LR	LR	21 05 13.7					
	comp=Z,142nm,20.4s,baz=19,slow=40										
SONM	Songino Array	47.43	341	P	P	20 42 21.1	+0.3				
KOLN	Koldanda	47.58	305	eP	P	20 42 20.6	-1.9				
	comp=Z,8.9nm,0.3s										
DANN	Dangsing	47.67	306	eP	P	20 42 21.3	-2.0				
	comp=Z,22nm,0.5s										
PYUN	Piuhan	48.20	305	eP	P	20 42 25.7	-1.6				
	comp=Z,14nm,0.7s										
ZAK	Zakamensk	50.65	341	eP	P	20 42 43.6	-1.9				
ZAK				e		20 42 52.1					
ZAK				e		20 44 02.6					
ZAK				pmax	pmax						
	comp=Z,1.0nm,1.5s										
TLY	Talaya	51.66	342	eP	P	20 42 46.6	-6.3				
TLY				e		20 44 13.2					
TLY				pmax	pmax						
	comp=Z,1.0nm,0.6s										
TLY				MLR	MLR						
	comp=Z,65nm,16.0s										
MOY	Mondy	52.51	340	eP	P	20 43 08.0	+8.7				
WMQ	Urumqi	52.83	325	eP	P	20 43 02.6	+0.8				
WMQ				pmax	pmax						
	comp=Z,6.0nm,1.3s										
WMQ				LR	LR						
	comp=N,290nm,29.0s										
WMQ				LR	LR						
	comp=E,130nm,27.0s										
WMQ				LR	LR						
	comp=Z,130nm,22.0s										
HVS	Khovu-Aksy	54.86	335⇑	eP	P	20 43 16.0	-0.5				
HVS				pmax	pmax						
	comp=Z,19nm,1.3s										
MSVF	Nonsavu	54.89	114	eP	P	20 43 18.7	+1.4				
MSVF				pmax	pmax						
	comp=Z,12nm,0.9s										
MSVF	Nonsavu	54.89	114	eP	P	20 43 18.6	+1.4				
	comp=Z,12nm,0.9s										
BOD	Bodaibo	55.01	352	eP	P	20 43 17.4	+0.1				
BOD				pmax	pmax						
	comp=Z,6.0nm,1.4s										
PETK	Petropavlovsk-	55.59	22	P	P	20 43 21.7	+0.1				
	comp=Z,5.5nm,0.9s,baz=197,slow=4.5,SNR=6.9										
PETK				LR	LR	21 07 16.8					
	comp=Z,45nm,19.0s,baz=336,slow=36										
PETK	Petropavlovsk-	55.59	22	P	P	20 43 21.7	+0.1				
PETK	Petropavlovsk-	55.59	22	P	P	20 43 21.7	+0.1				
MK31	Makanchi Array	57.66	325	eP	P	20 43 34.3	-2.2				
MK31	Makanchi Array	57.66	325	eP	P	20 43 34.3	-2.2				
KSH	Kashi	58.12	315	P	P	20 43 42.3	+2.3				
KSH				pP	pP	20 43 53.1	+0.6				
KSH				esP	sP	20 43 57.1	-0.5				
KSH				ePcP	PcP	20 44 32.3	+1.0				
KSH				ePP	PP	20 45 53.3	+4.2				
KSH				eScP	ScP	20 48 29.9	+1.7				
KSH				PcS	PcS	20 48 33.8	+0.9				
KSH				S	S	20 51 41.1	+2.7				
KSH				sS	sS	20 51 58.1	-1.2				
KSH				ScS	ScS	20 53 26.6	+0.2				
KSH				SS	SS	20 55 35.3	+4.8				
KSH				pmax	pmax						
	comp=Z,13nm,1.5s										
KSH				pmax	pmax						
	comp=Z,88nm,6.5s										
KSH				LR	LR						
	comp=N,95nm,7.1s										
KSH				LR	LR						
	comp=E,150nm,9.4s										
KSH				LR	LR						
	comp=Z,190nm,6.7s										
YAK	Yakutsk	58.36	2	eP	P	20 43 44.3	+3.3				
YAK				e*PP	pP	20 43 51.9	-1.7				
YAK				e		20 44 30.9					
YAK				e		20 45 47.9					
YAK				ePPP	PPP	20 47 12.7					
YAK				eS	S	20 51 49.7	+9.3				
YAK				e		20 53 29.9					
YAK				eSS	SS	20 55 30.0	-3.1				
YAK				eSSS	SSS	20 57 58.4					
YAK				pmax	pmax						
	comp=Z,15nm,0.9s										
YAK				pmax	pmax						
	comp=N,9.0nm,1.2s										
YAK				pmax	pmax						
	comp=E,2.0nm,1.2s										
YAK				pmax	pmax						
	comp=Z,52nm,2.8s										
YAK				pmax	pmax						
	comp=N,15nm,2.7s										
YAK				pmax	pmax						
	comp=E,24nm,3.8s										
YAK				smax	smax						
	comp=E,68nm,3.2s										
YAK				smax	smax						
	comp=N,24nm,3.0s										
YAK				MLR	MLR						
	comp=Z,89nm,18.0s										
YAK				MLR	MLR						
	comp=N,44nm,26.0s										
YAK	Yakutsk	58.36	2	P	P	20 43 40.2	-0.8				
	comp=N,18nm,0.8s										
TKM2	Tokmak 2	59.83	319	eP	P	20 43 49.4	-2.5				
TKM2				pmax	pmax						
	comp=Z,4.0nm,0.9s										
TKM2	Tokmak 2	59.83	319	eP	P	20 43 49.4	-2.5				
	comp=Z,3.6nm,0.9s										
ZAA0	Zalesovo Array	60.70	333	eP	P	20 43 56.2	-1.2				
ZALV	Zalesovo Beam	60.70	333	P	P	20 43 57.8	+0.4				
	comp=Z,0.8nm,0.3s,baz=104,slow=6.3,SNR=4.6										
ZALV				LR	LR	21 10 48.8					
	comp=Z,93nm,20.1s,baz=244,slow=37										
ZALV	Zalesovo Beam	60.70	333	P	P	20 43 57.8	+0.4				
ZALV	Zalesovo Beam	60.70	333	P	P	20 43 57.8	+0.4				
EKS2	Erkin-Say	60.93	318	eP	P	20 43 57.3	-2.0				
EKS2				pmax	pmax						
	comp=Z,9.0nm,1.2s										
EKS2	Erkin-Say	60.93	318	eP	P	20 43 57.3	-2.0				
	comp=Z,9.4nm,1.2s										
KBL	Kabul	61.58	308	eP	P	20 44 01.1	-2.9				
KBL				pmax	pmax						
	comp=Z,6.0nm,1.0s										
KBL	Kabul	61.58	308	eP	P	20 44 01.1	-2.9				
	comp=Z,6.0nm,1.0s										
KURK	Kurchatov	61.85	328⇓	eP	P	20 44 03.7	-1.5				
KURK				pmax	pmax						
	comp=Z,6.0nm,0.6s										
KURK	Kurchatov	61.85	328	eP	P	20 44 02.1	-3.0				
	comp=Z,7.5nm,0.6s										
NVS	Novosibirsk	61.99	333	eP	P	20 44 04.4	-1.6				
SEY	Seymchan	62.19	13⇑	eP	P	20 44 07.8	+0.6				
KKAR	Karatay Array	63.31	317	eP	P	20 44 14.5	-0.7				
KKAR				pmax	pmax						
	comp=Z,2.0nm,0.6s										
KKAR	Karatay Array	63.31	317	eP	P	20 44 14.4	-0.7				
	comp=Z,1.7nm,0.6s										
BRVK	Borovoye	67.50	327⇑	eP	P	20 44 42.7	+0.7				
BRVK				pmax	pmax						
	comp=Z,15nm,1.3s										
BRVK	Borovoye	67.50	327	eP	P	20 44 39.7	-2.2				
	comp=Z,14nm,1.1s										
ABKAR	Akbulak array	72.24	321	eP	P	20 45 09.1	-2.2				
	comp=Z,3.0nm,0.8s										
SVE	Sverdlovsk	74.07	329⇓	iP	P	20 45 24.6	+2.8				
SVE				pmax	pmax						
	comp=Z,10.0nm,1.5s										
ARU	Arti	75.04	328	dP	P	20 45 27.8	+0.3				
ARU				S	S	20 55 06.2	+4.0				
ARU				SS	SS	20 59 49.7	-2.0				
ARU				pmax	pmax						
	comp=Z,7.0nm,1.2s										
ARU	Arti	75.04	328	eP	P	20 45 24.7	-2.8				
	comp=Z,4.2nm,0.6s										
ZEI	Tsey	82.29	313	eP	P	20 46 08.1	+0.1				
ZEI				pmax	pmax						
	comp=Z,6.0nm,1.4s										
VNDA	Vanda	83.28	173	P	P	20 46 12.0	0.0				
	comp=Z,6.1nm,0.9s,baz=292,slow=3.6,SNR=5.6										
VNDA				LR	LR	21 19 38.6					
	comp=Z,130nm,18.5s,baz=109,slow=33										
VNDA	Vanda	83.28	173	P	P	20 46 12.0	0.0				
COLD	Coldfoot	84.05	23	P	P	20 46 17.4	+1.2				
	comp=Z,8.3nm,1.0s										
PMR	Palmer	84.10	29	P	P	20 46 16.2	-0.4				
PMR				pmax	pmax						
	comp=Z,32nm,1.3s										
PMR	Palmer	84.10	29	P	P	20 46 16.2	-0.4				
	comp=Z,32nm,1.3s										
ILAR	Eielson Array	85.26	25	P	P	20 46 24.1	+1.7				
	comp=Z,1.3nm,1.0s,baz=270,slow=5.4,SNR=8.2										
ILAR	Eielson Array	85.26	25	P	P	20 46 24.1	+1.7				
KLMR	Klimovskoe	85.52	331	iP	P	20 46 22.6	-1.1				
KLMR				pmax	pmax						
	comp=Z,33nm,1.1s										
TMCR	Tamitsa	86.22	334	eP	P	20 46 25.7	-1.4				
TMCR				pmax	pmax						
	comp=Z,13nm,1.1s										
MALT	Malatya	86.44	308	P	P	20 46 25.1	-3.8				
MALT				pmax	pmax						
	comp=Z,5.0nm,1.3s										
MALT	Malatya	86.44	308	P	P	20 46 25.1	-3.8				
	comp=Z,4.6nm,1.3s										
OBN	Obninsk	87.16	325⇑	eP	P	20 46 33.4	+1.5				
OBN				pmax	pmax						
	comp=Z,16nm,1.0s										
KMBO	Kilima Mbogo	89.51	269	eP	P	20 46 44.6	+0.3				
	comp=Z,6.1nm,1.4s										
BRTR	Keskin Array B	90.09	310	P	P	20 46 45.4	-0.9				
	comp=Z,1.1nm,0.8s,baz=120,slow=4.4,SNR=6.7										
BRTR	Keskin Array B	90.09	310	P	P	20 46 45.4	-0.9				
ARCES	ARCESS Array B	90.58	340	P	P	20 46 48.7	+0.9				
	comp=Z,9.0nm,1.1s,baz=9.7,slow=8.6,SNR=3.6										
ARCES				LR	LR	21 33 37.8					
	comp=Z,137nm,19.2s,baz=28,slow=40										
ARCES	ARCESS Array B	90.58	340	P	P	20 46 48.7	+0.9				
SPITS	Spitsbergen Ar	90.62	349	P	P	20 46 48.8	+1.0				
	comp=Z,1.1nm,0.9s,baz=115,slow=7.4,SNR=4.3										
SPITS	Spitsbergen Ar	90.62	349	P	P	20 46 48.8	+1.0				
FINES	FINESS Array B	91.95	332	P	P	20 46 53.9	-0.3				
	comp=Z,1.1nm,0.8s,baz=117,slow=0.4,SNR=3.4										
FINES				LR	LR	21 37 09.5					
	comp=Z,151nm,19.1s,baz=313,slow=41										
FINES	FINESS Array B	91.95	332	P	P	20 46 53.9	-0.3				
BUR08	Bucovina Ar. S	95.09	318	eP	P	20 47 06.9	-2.3				
KOLS	Kolonicke sedl	96.73	320	eP	P	20 47 19.1	+2.6				
KOLS				pmax	pmax						
	comp=Z,35nm,2.3s										
KOLS	Kolonicke sedl	96.73	320	eP	P	20 47 19.1	+2.6				
CRVS	Cervenica-Dubn	97.26	320	eP	Pdif	20 47 20.2	+1.2				
CRVS				pmax	pmax						
	comp=Z,12nm,1.7s										
CRVS	Cervenica-Dubn	97.26	320	eP	Pdif	20 47 20.2	+1.2				
NOA	NORSAR Array B	98.90	334	LR	LR	21 36 59.2					
	comp=Z,99nm,19.6s,baz=0.0,slow=38										
YKA	Yellowknife Ar	99.65	24	P	Pdif	20 47 28.5	-0.7				
	comp=Z,0.3nm,0.9s,baz=282,slow=3.6,SNR=4.3										
YKA	Yellowknife Ar	99.65	24	P	Pdif	20 47 28.6	-0.7				
TORD	Torodi Ar. Bea	122.93	288	PKP	PKPdf	20 52 43.9	+0.9				
	comp=Z,0.7nm,0.9s,baz=63,slow=1.9,SNR=4.3										
TORD	Torodi Ar. Bea	122.93	288	PKP	PKPdf	20 52 43.9	+0.9				

IDC ***17*** *20:43:10.9±1.3, 3°.74N×126°.84E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/22, mbtmp3.9/7, Error ellipse: s-maj=70.6km s-min=17.9km az=65.0*
ISCJB ***17*** *20:43:16.5±0.7, 3°.75N±0°.06×126°.77E±0°.07, h53km, mb3.9/7, Error ellipse: s-maj=10.

IDC ***17*** *21:15:54.1±1.1,23˚.63N×122˚.42E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/24,mbtmp3.7/6,ML3.1/1,MS3.0/4, Ms1 3.0/4,ms1mx2.6/36,Error ellipse: s-maj=42.3km s-min=20.7km az=75.0*

ISCJB ***17*** *21:15:56.4±0.4,23˚.57N±0˚.02×122˚.48E±0˚.01,h17km±3km, mb3.6/5,MS3.0/2,Error ellipse: s-maj=3.1km s-min=2.0km az=155.3*

TAP ***17*** *21:15:58.4,23˚.59N×122˚.43E,h35km,ML4.3,C*

JMA ***17*** *21:15:58.3±0.4,23˚.64N×122˚.44E,h55km,MS3.2*

ISC 17 21:15:56.1±1.9,23˚.55N±0˚.02×122˚.45E±0˚.02,h15km±13km, n81,σ0°88/141,mb3.6/5,16C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.85**	**281**	*e*P	**Pb**	**21 16 12.9**	**+0.3**
	baz=281						
TEGC				*e*S	**Sg**	**21 16 24.1**	**+0.2**
	baz=281						
HWA	**Hwalien**	**0.89**	**299**	⇑*i*P	**Pb**	**21 16 13.2**	**0.0**
	baz=300						
HWA				*e*S	**Sb**	**21 16 24.6**	**-0.2**
	baz=300						
ESF	**Shoufeng Towns**	**0.92**	**290**	*e*P	**Pb**	**21 16 13.3**	**-0.5**
	baz=299						
ESF				*e*S	**Sb**	**21 16 24.8**	**-1.1**
	baz=299						
TWD	**Chiawan**	**0.94**	**304**	⇑*i*P	**Pb**	**21 16 13.9**	**-0.2**
	baz=306						
TWD				*e*S	**Sb**	**21 16 25.5**	**-1.1**
	baz=306						
EHY	**Hungye**	**1.04**	**268**	⇑*i*P	**Pb**	**21 16 15.8**	**0.0**
	baz=268						
EHY				S	**Sb**	**21 16 28.4**	**-0.9**
	baz=268						
YOJ	**Yonaguni jima**	**1.04**	**29**	P	**Pb**	**21 16 16.1**	**+0.3**
YOJ				*e*S	**Sb**	**21 16 28.8**	**-0.4**
TWF1	**Yuli**	**1.08**	**260**	⇓*i*P	**Pb**	**21 16 16.3**	**-0.2**
	baz=251						
TWF1				*e*S	**Sb**	**21 16 30.1**	**-0.3**
	baz=251						
ENA	**Nanau**	**1.09**	**323**	⇑*i*P	**Pb**	**21 16 16.7**	**+0.1**
	baz=324						
CHKT	**Chengkung**	**1.10**	**246**	⇓*i*P	**Pb**	**21 16 16.1**	**-0.7**
	baz=236						
CHKT				S	**Sb**	**21 16 28.9**	**-2.0**
	baz=236						
TWC	**Suao**	**1.19**	**332**	P	**Pn**	**21 16 18.1**	**-0.1**
	baz=335						
TWC				*e*S	**Sb**	**21 16 32.0**	**-1.5**
	baz=335						
WHF	**Hehuan Shan**	**1.24**	**299**	*i* P	**Pn**	**21 16 18.6**	**-0.6**
	baz=301						
WHF				S	**Sb**	**21 16 33.9**	**-1.5**
	baz=301						
NNS	**Nan Shan**	**1.33**	**312**	⇑P	**Pn**	**21 16 20.1**	**-0.1**
	baz=314						
HATJ	**Hateruma jima**	**1.34**	**68**	P	**Pn**	**21 16 20.7**	**+0.5**
HATJ				S	**Sn**	**21 16 37.3**	**-0.4**
ENTT	**Nioudou**	**1.35**	**323**	⇑*i*P	**Pn**	**21 16 20.7**	**+0.2**
	baz=326						
ENTT				*e*S	**Sn**	**21 16 36.7**	**-1.5**
	baz=326						
TWT	**Tachien**	**1.36**	**301**	⇑*i*P	**Pn**	**21 16 21.1**	**+0.3**
	baz=303						
TWT				*e*S	**Sn**	**21 16 36.7**	**-1.9**
	baz=303						
TWE	**Neicheng**	**1.37**	**328**	⇑*i*P	**Pn**	**21 16 21.3**	**+0.6**
	baz=331						
TWE				*e*S	**Sn**	**21 16 37.5**	**-1.0**
	baz=331						
ELDTW	**Lidau**	**1.37**	**255**	⇑P	**Pn**	**21 16 20.6**	**-0.2**
	baz=255						
IRIF	**Iriomote-Funau**	**1.40**	**56**	P	**Pb**	**21 16 21.9**	**-0.1**
IRIF				S	**Sn**	**21 16 39.7**	**+0.3**
TTN	**Taitung**	**1.44**	**237**	*e*P	**Pn**	**21 16 21.2**	**-0.4**
	baz=236						
TTN				*e*S	**Sn**	**21 16 39.0**	**-1.3**
	baz=236						
SMLT	**Sun Moon Lake**	**1.46**	**283**	⇑*i*P	**Pn**	**21 16 22.4**	**+0.4**
	baz=294						
SMLT				*e*S	**Sn**	**21 16 39.6**	**-1.4**
	baz=294						
TWG	**Pinlang**	**1.47**	**240**	*e*P	**Pn**	**21 16 21.7**	**-0.3**
	baz=232						
TWG				*e*S	**Sn**	**21 16 39.1**	**-1.8**
	baz=232						
NSK	**Sanguang**	**1.50**	**318**	⇑*i*P	**Pn**	**21 16 22.9**	**+0.4**
	baz=309						
NSK				*e*S	**Sn**	**21 16 40.2**	**-1.7**
	baz=309						
TYC	**Yuchr**	**1.50**	**284**	⇑*i*P	**Pn**	**21 16 23.0**	**+0.5**
	baz=295						
TYC				*e*S	**Sn**	**21 16 41.3**	**-0.6**
	baz=295						
TWB1	**Santiao Chiao**	**1.51**	**344**	*e*P	**Pn**	**21 16 23.0**	**+0.4**
TWB1				*e*S	**Sn**	**21 16 40.7**	**-1.4**
ALS	**Alishan**	**1.51**	**269**	⇑*i*P	**Pb**	**21 16 23.9**	**-0.1**
	baz=271						
ALS				*e*S	**Sn**	**21 16 41.7**	**-0.9**
	baz=271						
JKRS	**Kuro-shima**	**1.58**	**64**	P	**Pn**	**21 16 24.3**	**+0.7**
JKRS				S	**Sn**	**21 16 43.3**	**-0.4**
NWF	**Wu-fen Shan**	**1.63**	**338**	*e*P	**Pn**	**21 16 25.4**	**+1.1**
	baz=354						
NWF				*e*S	**Sn**	**21 16 44.1**	**-1.1**
	baz=354						
WNT	**Mingjian**	**1.65**	**282**	*e*P	**Pb**	**21 16 25.9**	**-0.4**
	baz=285						
WNT				*e*S	**Sb**	**21 16 46.8**	**-0.2**
	baz=285						
ECL	**Taimali**	**1.68**	**236**	⇓P	**Pn**	**21 16 24.4**	**-0.5**
	baz=248						
ECL				*e*S	**Sn**	**21 16 43.3**	**-2.9**
	baz=248						
TAP1	**Taipei**	**1.71**	**330**	*e*P	**Pb**	**21 16 26.8**	**-0.4**
	baz=333						
TAP1				*e*S	**Sn**	**21 16 47.0**	**+0.1**
	baz=333						
NSTT	**Nanjuang**	**1.71**	**309**	*e*P	**Pb**	**21 16 26.9**	**-0.3**
	baz=313						
NSTT				S	**Sb**	**21 16 48.7**	**+0.2**
	baz=313						
TAP	**Taipei**	**1.71**	**330**	*e*P	**Pb**	**21 16 26.9**	**-0.4**
	baz=333						
TAP				*e*S	**Sb**	**21 16 47.0**	**-0.1**
	baz=333						
WTP	**Ta-pu**	**1.72**	**260**	P	**Pb**	**21 16 27.1**	**-0.3**
	baz=262						
WTP				*e*S	**Sb**	**21 16 48.6**	**-0.3**
	baz=262						
CHN4	**Tsaushan**	**1.72**	**264**	*e*P	**Pb**	**21 16 27.6**	**+0.2**
	baz=260						
CHN4				*e*S	**Sb**	**21 16 49.0**	**+0.2**
	baz=260						
LAY	**Lan-yu**	**1.72**	**209**	⇓*e*P	**Pn**	**21 16 24.7**	**-0.9**
	baz=207						
TWQ1	**Liyutan**	**1.73**	**298**	⇑*i*P	**Pb**	**21 16 27.6**	**0.0**
	baz=301						
TWQ1				*e*S	**Sb**	**21 16 49.0**	**-0.2**
	baz=301						
TCU	**Taichung**	**1.73**	**290**	*e*P	**Pb**	**21 16 27.6**	**-0.1**
	baz=294						
TCU				*e*S	**Sn**	**21 16 48.7**	**+1.1**
	baz=294						
WGK	**Gukeng**	**1.74**	**275**	*e*P	**Pn**	**21 16 26.1**	**+0.3**
	baz=278						
WGK				*e*S	**Sb**	**21 16 49.5**	**0.0**
	baz=278						
JIJ	**Ishigaki jima**	**1.74**	**62**	P	**Pn**	**21 16 25.8**	**0.0**
JIJ				S	**Sn**	**21 16 46.6**	**-1.2**
NSY	**Sanyi**	**1.77**	**299**	P	**Pb**	**21 16 28.0**	**-0.3**
	baz=303						
NSY				*e*S	**Sb**	**21 16 50.5**	**+0.1**
	baz=303						
SGST	**Jiashian**	**1.78**	**255**	*e*P	**Pb**	**21 16 28.1**	**-0.4**
	baz=251						
SGST				*e*S	**Sb**	**21 16 50.1**	**-0.5**
	baz=251						
CHN1	**Nanshi**	**1.81**	**259**	*e*P	**Pb**	**21 16 28.7**	**-0.2**
	baz=261						
CHN1				*e*S	**Sb**	**21 16 51.2**	**-0.2**
	baz=261						
TWS1	**Kuangyinshan**	**1.81**	**329**	P	**Pn**	**21 16 28.1**	**+1.4**
	baz=332						
TWS1				*e*S	**Sn**	**21 16 49.4**	**0.0**
	baz=332						
CHN2	**Minshiung**	**1.82**	**270**	*e*P	**Pb**	**21 16 29.0**	**0.0**
	baz=273						
CHN2				*e*S	**Sb**	**21 16 51.8**	**+0.2**
	baz=273						
NCU	**National Centr**	**1.82**	**321**	*e*P	**Pb**	**21 16 28.8**	**-0.4**
	baz=325						
NCU				*e*S	**Sn**	**21 16 50.4**	**+0.5**
	baz=325						
TWK	**Hsinying**	**1.83**	**261**	P	**Pb**	**21 16 29.1**	**-0.2**
	baz=264						
TWK				*e*S	**Sb**	**21 16 51.5**	**-0.5**
	baz=264						
HSN	**Hsinchu**	**1.84**	**313**	*e*P	**Pb**	**21 16 28.9**	**-0.5**
	baz=318						
HSN				*e*S	**Sn**	**21 16 51.4**	**+1.2**
	baz=318						
CHY	**Chiayi**	**1.86**	**269**	*e*P	**Pb**	**21 16 29.1**	**-0.8**
	baz=272						
CHY				*e*S	**Sb**	**21 16 52.4**	**-0.6**
	baz=272						
TAW	**Tawu**	**1.86**	**231**	*e*P	**Pn**	**21 16 27.8**	**+0.3**
	baz=240						
TAW				*e*S	**Sn**	**21 16 49.1**	**-1.6**
	baz=240						
EAST	**Anshuo**	**1.88**	**232**	*e*P	**Pn**	**21 16 27.7**	**-0.1**
	baz=241						
TWY	**Chenhua**	**1.89**	**336**	*e*P	**Pn**	**21 16 29.1**	**+1.4**
	baz=351						
TWY				*e*S	**Sn**	**21 16 52.1**	**+0.8**
	baz=351						
CHN3	**Shinhua**	**1.98**	**257**	*e*P	**Pb**	**21 16 32.5**	**+0.7**
	baz=259						
CHN3				*e*S	**Sb**	**21 16 56.9**	**+0.7**
	baz=259						
SGLT	**Jiouru**	**1.98**	**246**	*e*P	**Pb**	**21 16 31.8**	**-0.1**
	baz=242						
TWM1	**Shoushan**	**2.00**	**249**	*e*P	**Pb**	**21 16 32.0**	**-0.2**
	baz=251						
TWM1				*e*S	**Sb**	**21 16 57.8**	**+0.7**
	baz=251						
WSF	**Szhu**	**2.05**	**273**	*e*P	**Pb**	**21 16 32.3**	**-0.7**
	baz=276						
WSF				S	**Sn**	**21 16 57.1**	**+1.8**
	baz=276						
SCZT	**Fangliau**	**2.06**	**236**	*e*P	**Pn**	**21 16 31.3**	**+1.1**
	baz=236						
SCZT				*e*S	**Sn**	**21 16 56.1**	**+0.5**
	baz=236						
CHN8	**Yiju**	**2.07**	**265**	*e*P	**Pb**	**21 16 32.9**	**-0.4**
	baz=268						
CHN8				*e*S	**Sb**	**21 16 58.1**	**-0.8**
	baz=268						
TAI1	**Yung-k'ang**	**2.11**	**256**	*e*P	**Pn**	**21 16 31.9**	**+1.1**
	baz=259						
TAI1				*e*S	**Sn**	**21 16 58.6**	**+1.9**
	baz=259						
SCLT	**Jiali**	**2.11**	**260**	*e*P	**Pb**	**21 16 33.2**	**-0.8**
	baz=263						
SCLT				*e*S	**Sb**	**21 16 59.4**	**-0.7**
	baz=263						
TSEB	**Hengchuen, Pin**	**2.18**	**221**	*e*P	**Pn**	**21 16 32.8**	**+1.0**
	baz=233						
TSEB				*e*S	**Sn**	**21 17 00.6**	**+2.0**
	baz=233						
KAU	**Kaohsiung**	**2.21**	**244**	*e*P	**Pb**	**21 16 35.0**	**-0.7**
	baz=262						
KAU				*e*S	**Sb**	**21 17 02.3**	**-0.5**
	baz=262						
HEN	**Hengchun**	**2.21**	**226**	*e*P	**Pn**	**21 16 33.1**	**+0.9**
	baz=226						
HEN				*e*S	**Sn**	**21 16 59.6**	**+0.3**
	baz=226						
TWK1	**Hengchun**	**2.21**	**224**	P	**Pn**	**21 16 33.1**	**+0.8**
	baz=223						
TWK1				*e*S	**Sn**	**21 16 58.7**	**-0.6**
	baz=223						
TWP	**Hsiaoliuchiu**	**2.27**	**238**	*e*P	**Pb**	**21 16 36.1**	**-0.7**
	baz=233						
TWP				*e*S	**Sb**	**21 17 05.7**	**+1.0**
	baz=233						
JTJ	**Tarama**	**2.32**	**62**	P	**Pn**	**21 16 34.5**	**+0.7**
JTJ				S	**Sn**	**21 17 01.4**	**-0.7**
WDGT	**Dungji**	**2.58**	**264**	⇑*i*P	**Pn**	**21 16 38.7**	**+1.3**
	baz=268						
WDGT				S	**Sn**	**21 17 07.5**	**-1.0**
	baz=268						
PNG	**Penghu**	**2.66**	**271**	⇑*i*P	**Pn**	**21 16 39.8**	**+1.4**
	baz=289						
PNG				*e*S	**Sn**	**21 17 10.5**	**+0.1**
	baz=289						
JMJ	**Miyako jima 2**	**2.88**	**64**	*e*S	**Sn**	**21 17 15.6**	**-0.3**
JOGS	**Gusukube**	**2.95**	**65**	P	**Pn**	**21 16 43.4**	**+0.9**
JOGS				*e*S	**Sn**	**21 17 17.6**	**-0.1**
KNM	**Kinmen**	**3.78**	**284**	*e*P	**Pn**	**21 16 55.9**	**+2.1**
	baz=289						
KNM				*e*S	**Sn**	**21 17 38.5**	**+0.5**
	baz=289						
JKE	**Kume jima 2**	**4.81**	**54**	P	**Pn**	**21 17 07.7**	**-0.2**
JKE				*e*S	**Sn**	**21 18 02.8**	**-0.6**
JOW	**Kunigami**	**6.20**	**57**	Pn	**Pn**	**21 17 25.6**	**-1.6**
	1.0nm,0.3s,baz=137,slow=20,SNR=9.5						
KSRS	**Korea Array**	**14.63**	**17**	LR	LR	21 24 15.2	
	comp=Z,38nm,20.3s,baz=170,slow=34						
CBIJ	**Chichi jima**	**18.18**	**75**	LR	LR	21 26 05.9	
	comp=Z,63nm,21.1s,baz=105,slow=34						
GUMO	**Guam**	**23.41**	**111**	LR	LR	21 29 12.0	
	comp=Z,49nm,19.0s,baz=267,slow=34						
SONM	**Songino Array**	**27.41**	**336**	P	**P**	**21 21 40.9**	**-0.3**
	0.9nm,0.9s,baz=148,slow=9.1,SNR=6.7						
PETK	**Petropavlovsk-**	**39.75**	**33**	LR	LR	21 40 32.2	
	comp=Z,20nm,18.1s,baz=226,slow=37						
ZALV	**Zalesovo Beam**	**41.41**	**327**	P	**P**	**21 23 40.5**	**-1.3**
	0.6nm,0.6s,baz=120,slow=8.8,SNR=3.8						
WRA	**Warramunga Arr**	**44.76**	**164**	P	**P**	**21 24 09.4**	**+0.2**
	1.4nm,1.0s,baz=345,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**48.24**	**166**	P	**P**	**21 24 38.1**	**+1.6**
	0.8nm,0.5s,baz=335,slow=5.9,SNR=8.6						
YKA	**Yellowknife Ar**	**83.09**	**23**	P	**P**	**21 28 21.9**	**+1.0**
	0.3nm,0.6s,baz=311,slow=5.0,SNR=7.5						

THE ***17*** *21:18:05.7,36˚.96N×22˚.16E,h2km±20km,ML2.1/3,Error ellipse: s-maj=20.6km s-min=0.4km az=224.0*

CSEM ***17*** *21:18:05.5±0.1,36˚.96N×22˚.15E,h5km,ML2.1/3,Error ellipse: s-maj=2.4km s-min=1.7km az=55.0*

ATH 17 21:18:05.7,36˚.97N×22˚.15E,h5km±1km,MD2.9/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.25**	**145**	P	**Pg**	**21 18 10.7**	**0.0**
DYR				S	**Sg**	**21 18 14.2**	**+0.1**
DYR	**Agios Nikonas**	**0.25**	**145**	*e*PG	**Pg**	**21 18 10.9**	**+0.2**
DYR				*e*SG	**Sg**	**21 18 15.0**	**+0.9**
DYR	**Agios Nikonas**	**0.25**	**145**	P	**Pg**	**21 18 10.7**	**0.0**
DYR				S	**Sg**	**21 18 14.2**	**+0.1**
DYR				*e*Sg	**Sb**	**21 18 15.0**	**-2.6**
ITM	**Ithomi**	**0.28**	**320**	P	**Pg**	**21 18 11.0**	**-0.1**
ITM				S	**Sg**	**21 18 15.3**	**+0.5**
ITM	**Ithomi**	**0.28**	**320**	*e*PG	**Pg**	**21 18 11.2**	**+0.1**
ITM				*e*SG	**Sg**	**21 18 15.7**	**+0.9**
ITM	**Ithomi**	**0.28**	**320**	P	**Pg**	**21 18 11.2**	**+0.1**
ITM				S	**Sg**	**21 18 15.3**	**+0.5**
ITM				*e*Sg	**Sb**	**21 18 15.7**	**-2.5**
PYL	**PYLOS**	**0.34**	**257**	P	**Pg**	**21 18 12.2**	**0.0**
PYL				S	**Sg**	**21 18 17.6**	**+0.9**
PYL	**PYLOS**	**0.34**	**257**	*e*PB	**Pg**	**21 18 12.2**	**0.0**
PYL				*e*SB	**Sg**	**21 18 17.7**	**+1.0**
PYL	**PYLOS**	**0.34**	**257**	P	**Pg**	**21 18 12.2**	**0.0**
PYL				S	**Sg**	**21 18 17.6**	**+0.9**
VLX	**Vlachokerasia**	**0.44**	**25**	P	**Pg**	**21 18 14.3**	**-0.1**
VLX				S	**Sg**	**21 18 21.0**	**+0.8**
VLX	**Vlachokerasia**	**0.44**	**25**	*e*PB	**Pg**	**21 18 14.4**	**0.0**
VLX				*e*SB	**Sg**	**21 18 21.2**	**+1.0**
VLX	**Vlachokerasia**	**0.44**	**25**	P	**Pg**	**21 18 14.4**	**0.0**
VLX				S	**Sg**	**21 18 20.8**	**+0.6**
VLX				*e*Sb	**Sb**	**21 18 21.2**	**-1.9**
AMT	**Artemida-Makis**	**0.66**	**328**	P	**Pg**	**21 18 18.5**	**0.0**
AMT				S	**Sb**	**21 18 28.3**	**-1.1**
AMT	**Artemida-Makis**	**0.66**	**328**	*e*PB	**Pg**	**21 18 18.9**	**+0.4**
AMT				*e*SB	**Sb**	**21 18 28.5**	**-0.9**
AMT	**Artemida-Makis**	**0.66**	**328**	P	**Pg**	**21 18 18.5**	**0.0**
AMT	**Artemida-Makis**	**0.66**	**328**	*e*Pb	**Pg**	**21 18 18.9**	**+0.4**
AMT				S	**Sg**	**21 18 27.5**	**+0.3**
AMT				*e*Sb	**Sb**	**21 18 28.5**	**-0.9**
VLI	**Veliai**	**0.68**	**111**	P	**Pg**	**21 18 18.4**	**-0.4**
VLI				S	**Sg**	**21 18 28.1**	**+0.5**
VLI	**Veliai**	**0.68**	**111**	*e*PB	**Pg**	**21 18 18.4**	**-0.4**
VLI				*e*SB	**Sb**	**21 18 29.9**	**+0.1**
VLI	**Veliai**	**0.68**	**111**	P	**Pg**	**21 18 18.4**	**-0.4**
VLI				S	**Sg**	**21 18 28.1**	**+0.5**
VLI				*e*Sb	**Sb**	**21 18 29.9**	**+0.1**
GUR	**Goura**	**0.98**	**9**	P	**Pg**	**21 18 23.8**	**-0.8**
GUR	**Goura**	**0.98**	**9**	*e*PG	**Pg**	**21 18 23.8**	**-0.8**
GUR	**Goura**	**0.98**	**9**	P	**Pg**	**21 18 23.8**	**-0.8**
GUR				S	**Sg**	**21 18 37.1**	**-0.3**
KYTH	**Kithira**	**0.99**	**134**	P	**Pg**	**21 18 24.2**	**-0.6**
KYTH	**Kithira**	**0.99**	**134**	*e*PN	**Pb**	**21 18 25.8**	**+0.4**
KYTH	**Kithira**	**0.99**	**134**	P	**Pg**	**21 18 24.2**	**-0.6**
KYTH	**Kithira**	**0.99**	**134**	*e*Pn	**Pb**	**21 18 25.8**	**+0.4**
DID	**Didima**	**1.02**	**58**	P	**Pg**	**21 18 25.1**	**-0.2**
DID				S	**Sb**	**21 18 39.5**	**-0.2**
DID	**Didima**	**1.02**	**58**	*e*PB	**Pg**	**21 18 25.2**	**-0.1**
DID	**Didima**	**1.02**	**58**	*e*Pb	**Pg**	**21 18 25.2**	**-0.1**
DID				S	**Sb**	**21 18 39.5**	**-0.2**
RLS	**Riolos of Patr**	**1.21**	**334**	*e*PB	**Pg**	**21 18 28.7**	**-0.3**
RLS				*e*SB	**Sb**	**21 18 45.4**	**+0.2**
RLS	**Riolos of Patr**	**1.21**	**334**	*e*Pb	**Pg**	**21 18 28.7**	**-0.3**
RLS				*e*Sb	**Sb**	**21 18 45.4**	**+0.2**
LTK	**Loutraki**	**1.24**	**31**	P	**Pg**	**21 18 29.3**	**-0.2**
LTK	**Loutraki**	**1.24**	**31**	*e*PG	**Pg**	**21 18 28.8**	**-0.7**
LTK				*e*SB	**Sb**	**21 18 46.3**	**+0.4**
LTK	**Loutraki**	**1.24**	**31**	*e*Pg	**Pg**	**21 18 28.8**	**-0.7**
LTK	**Loutraki**	**1.24**	**31**	P	**Pg**	**21 18 29.3**	**-0.2**
LTK				*e*Sb	**Sb**	**21 18 46.3**	**+0.4**
LAKA	**Lakka**	**1.27**	**354**	P	**Pg**	**21 18 29.3**	**-0.9**
LAKA	**Lakka**	**1.27**	**354**	*e*PG	**Pg**	**21 18 29.4**	**-0.8**
LAKA				*e*SB	**Sn**	**21 18 47.5**	**-0.3**
LAKA	**Lakka**	**1.27**	**354**	P	**Pg**	**21 18 29.3**	**-0.9**
LAKA				*e*Sb	**Sn**	**21 18 47.5**	**-0.3**
TRIZ	**Trizonia**	**1.39**	**358**	*e*PB	**Pg**	**21 18 32.7**	**+0.2**
TRIZ	**Trizonia**	**1.39**	**358**	*e*Pb	**Pg**	**21 18 32.7**	**+0.2**
KALE	**Kalithea**	**1.42**	**360**	*e*PB	**Pb**	**21 18 32.8**	**0.0**
KALE	**Kalithea**	**1.42**	**360**	*e*Pb	**Pb**	**21 18 32.8**	**0.0**
EFP	**Efpalio**	**1.47**	**352**	*e*PB	**Pg**	**21 18 33.7**	**-0.2**
EFP	**Efpalio**	**1.47**	**352**	*e*Pb	**Pg**	**21 18 33.7**	**-0.2**
KARN	**Karanos**	**2.12**	**137**	*e*PN	**Pb**	**21 18 44.8**	**+0.1**
KARN	**Karanos**	**2.12**	**137**	*e*Pn	**Pb**	**21 18 44.8**	**+0.1**

CSEM ***17*** *21:19:50.0±0.2,43˚.40N×12˚.73E,h5km,ML2.8/18,Error ellipse: s-maj=3.4km s-min=2.8km az=43.0*

ROM 17 21:19:49.6±0.1,43˚.41N×12˚.71E,h7km±1km,Md2.5/23, Ml2.1/19,Error ellipse: s-maj=1.1km s-min=1.0km az=58.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.18**	**314**	Pg	Pg	21 19 53.8	+0.5
PIEI				Sg	Sg	21 19 56.9	+1.1
	1μm,0.2s						
PIEI	**Pieia**	**0.18**	**314**	Pg	Pg	21 19 53.8	+0.5
PIEI				Sg	Sg	21 19 56.9	+1.1
	1μm,0.2s						
ARVD	**Arcevia**	**0.19**	**64**	Pg	Pg	21 19 54.3	+0.8
ARVD				Sg	Sg	21 19 57.8	+1.6
	882nm,0.1s						
ARVD	**Arcevia**	**0.19**	**64**	Pg	Pg	21 19 54.3	+0.8
ARVD				Sg	Sg	21 19 57.8	+1.6
	882nm,0.1s						
MURB	**Monte Urbino**	**0.20**	**222**	Pg	Pg	21 19 54.7	+0.9
MURB				Sg	Sg	21 19 58.7	+2.1
	4μm,0.2s						
MURB	**Monte Urbino**	**0.20**	**222**	Pg	Pg	21 19 54.7	+0.9
MURB				Sg	Sg	21 19 58.7	+2.1
	4μm,0.2s						
SNTG	**Esanatoglia**	**0.23**	**133**	Pg	Pg	21 19 54.9	+0.6
SNTG	**Esanatoglia**	**0.23**	**133**	Pg	Pg	21 19 54.9	+0.6
FSSB	**Fossombrone**	**0.28**	**10**	Pg	Pg	21 19 55.7	+0.4
FSSB				Sg	Sb	21 20 00.7	-1.4
	1μm,0.1s						
FSSB	**Fossombrone**	**0.28**	**10**	Pg	Pg	21 19 55.7	+0.4
FSSB				Sg	Sb	21 20 00.7	-1.4
	1μm,0.1s						
CDCA	**Citt' di Caste**	**0.35**	**277**	Pg	Pb	21 19 57.8	-0.3
CDCA				Sg	Sb	21 20 02.8	-1.0
	75nm,0.4s						
CDCA	**Citt' di Caste**	**0.35**	**277**	Pg	Pb	21 19 57.8	-0.3
CDCA				Sg	Sb	21 20 02.8	-1.0
	75nm,0.4s						
BADI	**Badiali**	**0.35**	**286**	Pg	Pg	21 19 56.9	+0.4
BADI				Sg	Sb	21 20 03.1	-0.9
	182nm,0.2s						
BADI	**Badiali**	**0.35**	**286**	Pg	Pg	21 19 56.9	+0.4
BADI				Sg	Sb	21 20 03.1	-0.9
	182nm,0.2s						
CING	**Cingoli**	**0.36**	**96**	Pg	Pg	21 19 57.2	+0.5
CING				Sg	Sb	21 20 03.3	-0.9
	92nm,0.2s						
CING	**Cingoli**	**0.36**	**96**	Pg	Pg	21 19 57.2	+0.5
CING				Sg	Sb	21 20 03.3	-0.9
	92nm,0.2s						
ASSB	**Assisi San Ben**	**0.37**	**186**	Pg	Pg	21 19 57.3	+0.3
ASSB				Sg	Sb	21 20 03.9	-0.8
	158nm,0.4s						
ASSB	**Assisi San Ben**	**0.37**	**186**	Pg	Pg	21 19 57.3	+0.3
ASSB				Sg	Sb	21 20 03.9	-0.8
	158nm,0.4s						
PARC	**Parchiule**	**0.41**	**305**	Pg	Pg	21 19 58.1	+0.3
PARC				Sg	Sb	21 20 05.1	-0.8
	154nm,0.5s						
PARC	**Parchiule**	**0.41**	**305**	Pg	Pg	21 19 58.1	+0.3
PARC				Sg	Sb	21 20 05.1	-0.8
	154nm,0.5s						
CESI	**CESI - Serrava**	**0.43**	**161**	Pg	Pg	21 19 58.2	+0.1
CESI				Sg	Sb	21 20 05.6	-0.8
	42nm,0.3s						
CESI	**CESI - Serrava**	**0.43**	**161**	Pg	Pg	21 19 58.2	+0.1
CESI				Sg	Sb	21 20 05.6	-0.8
	42nm,0.3s						
FDMO	**Fiordimonte**	**0.47**	**144**	Pg	Pg	21 19 58.9	+0.2
FDMO				Sg	Sb	21 20 06.6	-0.7
	126nm,0.2s						
FDMO	**Fiordimonte**	**0.47**	**144**	Pg	Pg	21 19 58.9	+0.2
FDMO				Sg	Sb	21 20 06.6	-0.7
	126nm,0.2s

	38nm,1.3s							
LNSS	**Leonessa**	**0.85**	**163**	Pn	Pg	21	20	06.0 0.0
LNSS				Sn	Sb	21	20	18.9 +0.5
	84nm,0.3s							
LNSS	**Leonessa**	**0.85**	**163**	Pn	Pg	21	20	06.0 0.0
LNSS				Sn	Sb	21	20	18.9 +0.5
	84nm,0.3s							
CAMP	**Campotosto**	**1.02**	**149**	Pn	Pg	21	20	08.6 -0.7
CAMP				Sn	Sb	21	20	24.2 +0.8
	7.0nm,0.6s							
CAMP	**Campotosto**	**1.02**	**149**	Sn	Pg	21	20	08.6 -0.7
CAMP				Sn	Sb	21	20	24.2 +0.8
	7.0nm,0.6s							
MNS	**Montasola**	**1.03**	**181**	Pn	Pb	21	20	09.7 -0.1
	20nm,0.5s							
MNS	**Montasola**	**1.03**	**181**	Pn	Pb	21	20	09.7 -0.1
	20nm,0.5s							
NVLJ	**Novalja**	**1.94**	**53** *i*	Pn	Pn	21	20	22.8 0.0
NVLJ				Sn	Sn	21	20	47.0 -0.4
NVLJ	**Novalja**	**1.94**	**53** *i*	Pn	Pn	21	20	22.8 -0.1

IDC 17 21:33:44.0±1.7, 25°.61N×109°.47W, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.6/25, mbtmp3.3/5, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.9/15, Error ellipse: s-maj=38.9km s-min=22.2km az=108.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.68**	**207**	Pn	Pn	21 34 14.7	0.0
	1.8nm,0.3s,baz=293,slow=1.3,SNR=14						
LPIG				Sn		21 34 33.6	-3.4
	5.2nm,0.3s,baz=347,slow=10,SNR=6.0						
TXAR	**Lajitas Array**	**6.35**	**53**	Pn	Pn	21 35 19.9	+0.9
	0.2nm,0.3s,baz=228,slow=13,SNR=4.8						
TXAR				Lg	Lg	21 37 16.9	
	2.7nm,0.3s,baz=128,slow=27,SNR=10						
ANMO	**Albuquerque**	**9.66**	**15**	Lg	Lg	21 38 48.5	
	0.2nm,0.3s,baz=130,slow=21,SNR=4.4						
NVAR	**Mina Array Bea**	**14.81**	**332**	Pn	Pn	21 37 17.9	+2.9
	0.3nm,0.3s,baz=155,slow=12,SNR=6.5						
CMIG	**Matias Romero**	**16.00**	**119**	LR	LR	21 43 20.8	
	comp=Z,59nm,19.2s,baz=124,slow=36						
PDAR	**Pinedale Array**	**17.12**	**360**	P	Pn	21 37 45.2	+0.2
	0.0nm,0.3s,baz=180,slow=7.4,SNR=6.1						
NEW	**Newport**	**23.40**	**347**	LR	LR	21 49 12.2	
	comp=Z,50nm,19.7s,baz=219,slow=40						
TKL	**Tuckaleechee C**	**24.21**	**59**	LR	LR	21 49 53.8	
	comp=Z,53nm,20.3s,baz=212,slow=40						
YKA	**Yellowknife Ar**	**37.04**	**356**	P	P	21 40 53.5	-1.8
	0.1nm,0.5s,baz=178,slow=8.2,SNR=3.9						
ILAR	**Eielson Array**	**45.92**	**339**	P	P	21 42 09.1	+0.9
	0.5nm,0.9s,baz=146,slow=6.6,SNR=5.0						

IDC 17 21:44:32.2±1.8, 9°.54S×118°.28E, h0km, mb4.0/3, mb1 4.2/6, mb1mx3.8/21, mbtmp4.0/6, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/39, Error ellipse: s-maj=69.0km s-min=20.8km az=62.0
DJA 17 21:44:35.7±0.6, 9°.5S×117°.8E±°, h122km±12km, M4.5/16, mb4.4/3, mB5.2/1, MLv4.5/16, Mw(mB)4.5/1
AUST 17 21:44:48.4±10.0, 10°.63S×118°.87E, h13km±1km, Error ellipse: s-maj=2.8km s-min=1.2km az=308.0
ISC 17 21:44:33.1±1.1, 9°.54S±0°.06×118°.4E±0°.1, h10km, n33, σ1§77/19, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.87**	**94**	P	Pg	21 45 17.4	+8.4
	baz=1.7,SNR=4.7						
WSI	**Waingapu**	**1.87**	**94**	P	Pg	21 45 18.4	+9.4
KHKI	**Kahang-Kahang**	**3.00**	**293**	P	Pn	21 45 11.9	-8.9
KHKI				S	Pg	21 45 40.6	+10
DNP	**Denpasar**	**3.27**	**285**	P	Pn	21 45 15.0	-10
DNP				S	Pg	21 45 46.9	+11
IGBI	**Denpasar**	**3.30**	**282**	P	Pn	21 45 14.5	-10
SRBI	**Singaraja**	**3.47**	**294**	P	Pn	21 45 18.2	-9.1
MMRI	**Maumere**	**3.89**	**77**	P	**Pb**	**21 45 41.1**	**-0.7**
NBBI	**Negara**	**3.92**	**287**	P	Pn	21 45 20.4	-13
NBBI				S	Pg	21 45 53.7	+5.4
JAGI	**Jajag, Banyuwa**	**4.33**	**284**	P	Pn	21 45 28.7	-10
JAGI				S	Pg	21 46 09.2	+13
BKSI	**Bulukumba**	**4.52**	**22**	P	**Pn**	**21 45 43.2**	**+1.5**
BKSI				S	**Sn**	**21 46 34.2**	**-0.1**
KAPI	**Kappang**	**4.69**	**17**	Pn	**Pn**	**21 45 44.0**	**0.0**
	4.2nm,0.3s,baz=192,slow=6.5,SNR=26						
KAPI				Sn	**Sn**	**21 46 36.4**	**-2.1**
	40nm,0.3s,baz=107,slow=22,SNR=42						
KAPI	**Kappang**	**4.69**	**17**	P	**Pn**	**21 45 44.0**	**0.0**
KMMI	**Kalianget**	**5.04**	**299**	P	Pn	21 45 37.7	-11
GMJI	**Gumukmas**	**5.06**	**284**	P	Pn	21 45 37.2	-12
GMJI				S	Pg	21 46 27.8	+18
BLJI	**Banyuglugur**	**5.08**	**290**	P	Pn	21 45 37.9	-11
SPSI	**Sidrap Palu**	**5.70**	**14**	P	**Pn**	**21 45 56.5**	**-1.4**
	12nm,0.7s,0.1nm						
BBSI	**Bau Bau**	**5.76**	**46**	P	Pn	21 46 04.5	+5.7
KRKI	**Karangkates**	**6.04**	**283**	P	Pn	21 45 55.4	-7.2
PWJI	**Pagerwojo**	**6.70**	**282**	P	Pn	21 46 03.1	-8.5
	140nm,0.6s,2µm0.9nm						
SJI	**Sawahan**	**6.81**	**285**	P	Pn	21 46 07.0	-6.2
FITZ	**Fitzroy Crossi**	**11.03**	**141**	Pn	**Pn**	**21 47 12.4**	**+1.3**
	0.7nm,0.3s,baz=330,slow=7.3,SNR=26						
FITZ				Sn	**Sn**	**21 49 11.7**	**-3.0**
	1.2nm,0.3s,baz=177,slow=19,SNR=7.6						
FITZ	**Fitzroy Crossi**	**11.03**	**141**	P	**Pn**	**21 47 13.1**	**+2.0**
	baz=9.9,SNR=9.7						
FITZ				S	**Sn**	**21 49 14.5**	**-0.2**
	baz=9.9,SNR=4.4						
MTN	**Manton Dam**	**12.91**	**106**	P	Pn	21 47 40.8	+4.0
	baz=12,SNR=4.8						
MTN				S	**Sn**	**21 50 02.6**	**+1.9**
	baz=12,SNR=4.5						
MEEK	**Meekatharra**	**17.01**	**179**	P	**Pn**	**21 48 30.1**	**-1.2**
	baz=16,SNR=18						
MEEK				S	Sn	21 51 19.9	-21
	baz=16,SNR=8.4						
WRA	**Warramunga Ar**	**18.54**	**126**	P	**Pn**	**21 48 52.2**	**+1.9**
	0.3nm,0.3s,baz=296,slow=15,SNR=21						
WRA				S	**Sn**	**21 52 13.7**	**-4.0**
	0.2nm,0.3s,baz=293,slow=24,SNR=5.5						
MORW	**Morawa**	**19.56**	**186**	P	**Pn**	**21 49 01.8**	**-0.7**
	baz=19,SNR=12						
MORW				S	Sn	21 52 16.9	-25
	baz=19,SNR=4.5						
ASAR	**Alice Springs**	**20.41**	**135**	P	Pn	21 49 12.8	0.0
	4.9nm,0.7s,baz=311,slow=9.7,SNR=30						
ASAR				S	Sn	21 52 59.2	-3.8
	0.9nm,0.7s,baz=309,slow=24,SNR=5.9						
ASAR				LR	LR	21 58 20.7	
	comp=Z,86nm,20.9s,baz=264,slow=40						
BLDU	**Ballidu**	**21.03**	**184**	P	P	21 49 22.5	+5.3
	baz=20,SNR=11						
KLBR	**Kellerberrin**	**21.95**	**181**	P	P	21 49 35.4	+8.2
	baz=21,SNR=5.1						
STKA	**Stephens Creek**	**30.92**	**139**	P	**P**	**21 50 50.8**	**+0.5**
	3.7nm,0.6s,baz=302,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**30.92**	**139**	P	**P**	**21 50 51.0**	**+0.7**
	baz=30,SNR=5.1						
GUMO	**Guam**	**34.90**	**49**	LR	LR	22 04 27.9	
	comp=Z,71nm,18.8s,baz=91,slow=34						
ZALV	**Zalesovo Beam**	**69.33**	**340**	P	**P**	**21 55 41.4**	**+0.7**
	0.3nm,0.5s,baz=146,slow=4.5,SNR=3.1						

IDC 17 21:52:25.8±0.8, 1°.52N×122°.54E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/24, mbtmp4.0/10, ML4.2/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=41.8km s-min=14.6km az=75.0
DJA 17 21:52:27.0±0.4, 2°N±3°×12°.2E±°, h10km, M4.6/10, mB5.0/6, mb4.7/10, MLv4.8/6, Mw(mB)4.3/6
ISCJB 17 21:52:28.8±0.4, 1°.50N±0°.04×122°.27E±0°.04, h38km, mb4.2/13, MS3.3/4, Error ellipse: s-maj=6.3km s-min=5.3km az=177.1
NEIC 17 21:52:30.6±0.3, 1°.46N×122°.45E, h35km, mb4.4/8, Error ellipse: s-maj=15.4km s-min=6.5km az=73.0
ISC 17 21:52:30.7±0.6, 1°.50N±0°.05×122°.29E±0°.06, h38km, n44, σ1§15/45, mb4.3/13, MS3.4/4, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.08**	**199**	P	**Pn**	**21 52 47.4**	**-1.9**
MRSI				S	**Sn**	**21 53 01.1**	**-1.9**
KMSI	**Cibinong**	**1.92**	**119**	P	**Pn**	**21 53 02.4**	**+1.5**
MNI	**Manado**	**2.55**	**91**	P	**Pn**	**21 53 09.2**	**-0.4**
MNI				S	**Sn**	**21 53 38.5**	**-0.9**
LUWI	**Luwuk**	**2.57**	**169**	P	**Pn**	**21 53 12.1**	**+2.2**
TTSI	**Tana Toraja**	**5.15**	**209**	P	**Pn**	**21 53 46.6**	**+1.3**
	131nm,0.5s,2µm						
MYLDM	**Lahad Datu**	**5.26**	**314**	P	**Pn**	**21 53 45.0**	**-1.9**
	72nm,1.6s,2µm						
KDI	**Kendari**	**5.43**	**177**	P	**Pn**	**21 53 49.3**	**+0.1**
	88nm,0.7s,994nm0.3nm						
LBMI	**Labuha**	**5.63**	**112**	P	**Pn**	**21 53 51.7**	**-0.2**
	93nm,0.9s,2µm0.5nm						
SPSI	**Sidrap Palu**	**5.99**	**205**	P	**Pn**	**21 53 57.4**	**+0.6**
	77nm,0.8s,792nm						
CTBH	**Cotabato--PC H**	**6.01**	**19** *i*	P	**Pn**	**21 53 56.6**	**-0.5**
BBSI	**Bau Bau**	**6.95**	**178**	P	Pn	21 54 15.7	+5.6
KAPI	**Kappang**	**6.95**	**201**	Pn	**Pn**	**21 54 10.1**	**0.0**
	1.5nm,0.3s,baz=44,slow=6.1,SNR=7.1						
KAPI				LR	LR	21 57 25.0	
	comp=Z,355nm,18.5s,baz=163,slow=42						
KAPI	**Kappang**	**6.95**	**201**	Pn	**Pn**	**21 54 10.1**	**0.0**
KAPI	**Kappang**	**6.95**	**201**	P	**Pn**	**21 54 09.3**	**-0.8**
	29nm,1.1s						
BKSI	**Bulukumba**	**7.12**	**198**	P	**Pn**	**21 54 12.6**	**+0.3**
	39nm,0.7s						
KKM	**Kota Kinabalu**	**7.56**	**307**	P	**Pn**	**21 54 17.3**	**-1.2**
	30nm,1.1s						
AAI	**Ambon**	**7.83**	**131**	P	Pn	21 54 29.7	+7.5
MSAI	**Masohi**	**8.20**	**126**	P	**Pn**	**21 54 29.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**19.76**	**171**	P	**P**	**21 56 56.7**	**-0.9**
	1.0nm,0.3s,baz=6.2,slow=8.1,SNR=20						
FITZ				LR	LR	22 05 08.2	
	comp=Z,99nm,19.8s,baz=9.0,slow=39						
FITZ	**Fitzroy Crossi**	**19.76**	**171**	*eP*	**P**	**21 56 56.6**	**-0.9**
	6.5nm,0.8s						
WRAB	**Tennant Creek**	**24.37**	**152**	*eP*	**P**	**21 57 44.0**	**-1.4**
	12nm,1.1s						
WRAB				S	**S**	**22 02 03.7**	**+1.1**
WRA	**Warramunga Arr**	**24.37**	**152**	P	**P**	**21 57 44.6**	**-0.9**
	2.7nm,0.6s,baz=331,slow=10,SNR=26						
WRA	**Warramunga Arr**	**24.37**	**152**	P	**P**	**21 57 44.6**	**-0.9**
ASAR	**Alice Springs**	**27.45**	**156**	P	**P**	**21 58 13.9**	**+0.6**
	1.9nm,0.6s,baz=344,slow=14,SNR=18						
ASAR				PcP	**PcP**	**22 01 31.6**	**+0.1**
	0.6nm,0.5s,baz=341,slow=1.9,SNR=4.8						
ASAR				LR	LR	22 09 59.3	
	comp=Z,152nm,19.7s,baz=302,slow=38						
ASAR	**Alice Springs**	**27.45**	**156**	P	**P**	**21 58 13.9**	**+0.6**
ASAR				PcP	**PcP**	**22 01 31.6**	**+0.1**
CTAO	**Charters Tower**	**31.82**	**134**	*eP*	**P**	**21 58 50.9**	**-1.2**
	3.7nm,0.6s						
JNU	**Natsizue**	**32.47**	**13**	LR	LR	22 11 19.9	
	comp=Z,31nm,19.7s,baz=151,slow=35						
KSRS	**Korea Array**	**36.15**	**8**	LR	LR	22 14 28.8	
	comp=Z,32nm,18.8s,baz=325,slow=37						
MJAR	**Matsushiro Arr**	**37.85**	**21**	P	**P**	**21 59 43.7**	**-0.3**
	0.6nm,0.4s,baz=190,slow=9.3,SNR=4.1						
MJAR	**Matsushiro Arr**	**37.85**	**21**	P	**P**	**21 59 43.7**	**-0.3**
STKA	**Stephens Creek**	**37.91**	**153**	P	**P**	**21 59 44.1**	**-0.3**
	3.8nm,0.6s,baz=335,slow=7.9,SNR=8.3						
STKA				LR	LR	22 17 36.9	
	comp=Z,87nm,18.6s,baz=0.3,slow=40						
STKA	**Stephens Creek**	**37.91**	**153**	*eP*	**P**	**21 59 44.1**	**-0.3**
	0.7nm,0.6s						
ULN	**Ulaanbaatar**	**48.03**	**346**	*eP*	**P**	**22 01 07.5**	**+1.1**
	2.5nm,0.8s						
SONM	**Songino Array**	**48.16**	**346**	P	**P**	**22 01 09.3**	**+1.9**
	2.4nm,0.7s,baz=162,slow=8.8,SNR=25						
SONM	**Songino Array**	**48.16**	**346**	P	**P**	**22 01 09.3**	**+1.9**
MK31	**Makanchi Array**	**56.97**	**328**	*eP*	**P**	**22 02 13.8**	**+1.3**
AAK	**Ala-Archa**	**59.13**	**320**	P	**P**	**22 02 29.8**	**+1.9**
	1.0nm,0.6s,baz=131,slow=8.8,SNR=6.3						
AAK	**Ala-Archa**	**59.13**	**320**	*eP*	**P**	**22 02 29.4**	**+1.6**
	4.2nm,0.5s						
KBL	**Kabul**	**59.44**	**310**	*eP*	**P**	**22 02 30.8**	**+0.6**
	2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**60.66**	**336**	P	**P**	**22 02 38.3**	**+0.4**
	0.9nm,0.4s,baz=110,slow=6.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.66**	**336**	P	**P**	**22 02 38.3**	**+0.4**
KURK	**Kurchatov**	**61.33**	**330**	*eP*	**P**	**22 02 43.7**	**+1.2**
	8.7nm,0.8s						
ILAR	**Eielson Array**	**89.00**	**25**	P	**P**	**22 05 20.6**	**-0.8**
	0.2nm,0.5s,baz=253,slow=4.2,SNR=6.0						
ILAR	**Eielson Array**	**89.00**	**25**	P	**P**	**22 05 20.6**	**-0.8**

IDC 17 21:57:27.6±8.0, 2°.53N×126°.94E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=130.4km s-min=100.4km az=136.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.54**	**184**	P	Pn	22 02 09.5	-0.5
	0.8nm,0.4s,baz=23,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**23.48**	**162**	P	P	22 02 38.7	-0.5
	6.5nm,1.0s,baz=338,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.90**	**166**	P	P	22 03 09.8	-0.9
	0.3nm,0.6s,baz=358,slow=7.8,SNR=4.4						
STKA	**Stephens Creek**	**36.94**	**159**	P	P	22 04 38.8	+0.2
	2.6nm,0.6s,baz=345,slow=11,SNR=5.8						

IDC 17 21:59:36.2±1.3, 19°.61N×13°.15W, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.6/28, mbtmp3.9/8, ML3.9/4, MS3.0/3, Ms1 3.0/3, ms1mx2.8/27, Error ellipse: s-maj=29.7km s-min=16.9km az=113.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**5.89**	**214**	Pn	Pn	22 01 05.9	+1.1
	17nm,0.3s,baz=59,slow=1.7,SNR=76						
BBTS				Sn	Sn	22 02 12.3	-0.7
	14nm,0.3s,baz=338,slow=22,SNR=9.0						
BBTS				Lg	Lg	22 02 43.6	
	17nm,0.3s,baz=348,slow=20,SNR=4.1						
BBTS				LR	LR	22 03 22.0	
	comp=Z,103nm,18.9s,baz=7.9,slow=38						
DBIC	**Dimbokro**	**15.18**	**147**	Pn	Pn	22 03 10.5	-1.5
	0.5nm,0.3s,baz=313,slow=15,SNR=15						
DBIC				Sn	Sn	22 05 52.6	-8.4
	2.0nm,0.3s,baz=211,slow=21,SNR=5.7						
DBIC				Lg	Lg	22 07 37.0	
	1.4nm,0.3s,baz=33,slow=23,SNR=4.3						
DBIC				LR	LR	22 09 17.4	
	comp=Z,87nm,18.5s,baz=26,slow=38						
MDT	**Midelt**	**15.21**	**28**	Pn	Pn	22 03 11.5	-1.0
	0.1nm,0.3s,baz=248,slow=11,SNR=3.8						
MDT				Lg	Lg	22 07 31.1	
	0.5nm,0.3s,baz=308,slow=16,SNR=3.9						
TORD	**Torodi Ar. Bea**	**15.62**	**112**	Pn	Pn	22 03 17.4	-0.5
	0.3nm,0.3s,baz=301,slow=13,SNR=12						
TORD				Sn	Sn	22 06 03.9	-7.9
	0.9nm,0.3s,baz=299,slow=21,SNR=9.7						
TORD				Lg	Lg	22 07 53.4	
	baz=291,slow=26,SNR=2.9						
TORD				LR	LR	22 09 18.9	
	comp=Z,46nm,18.9s,baz=285,slow=37						
ESDC	**Sonseca Array**	**21.50**	**20**	P	P	22 04 26.0	-0.8
	0.5nm,0.5s,baz=200,slow=9.9,SNR=4.4						
GERES	**GERESS Array B**	**36.28**	**30**	P	P	22 06 41.4	-0.1
	0.3nm,0.3s,baz=218,slow=8.5,SNR=5.1						
BRTR	**Keskin Array B**	**44.75**	**53**	P	P	22 07 52.7	+1.0
	0.2nm,0.6s,baz=258,slow=5.3,SNR=2.6						
FINES	**FINESS Array B**	**49.95**	**23**	P	P	22 08 31.1	-0.6
	4.6nm,1.1s,baz=276,slow=7.3,SNR=3.4						

IDC 17 22:11:48.1±2.7, 14°.87S×178°.33W, h373km±39km, mb3.4/7, mb1 3.7/8, mb1mx3.4/21, mbtmp3.5/8, Error ellipse: s-maj=90.4km s-min=13.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.42**	**82**	P	Pn	22 13 24.3	-0.2
	15nm,0.3s,baz=134,slow=1.5,SNR=14						
CTA	**Charters Tower**	**34.13**	**256**	P	P	22 18 01.4	+1.7
	5.4nm,0.5s,baz=98,slow=10,SNR=7.8						
STKA	**Stephens Creek**	**40.23**	**238**	P	P	22 18 50.2	0.0
	1.0nm,0.5s,baz=80,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**45.33**	**257**	P	P	22 19 29.6	-1.3
	0.4nm,0.2s,baz=80,slow=5.9,SNR=34						
ASAR	**Alice Springs**	**45.76**	**251**	P	P	22 19 33.6	-0.5
	10nm,0.4s,baz=84,slow=8.4,SNR=156						
NVAR	**Mina Array Bea**	**77.20**	**44**	P	P	22 23 02.6	+0.4
	0.8nm,0.7s,baz=225,slow=8.5,SNR=6.1						
ILAR	**Eielson Array**	**82.93**	**13**	P	P	22 23 31.3	-0.3
	0.8nm,0.6s,baz=230,slow=6.2,SNR=8.4						
PDAR	**Pinedale Array**	**85.11**	**44**	P	P	22 23 43.2	-0.1
	0.5nm,0.6s,baz=206,slow=3.2,SNR=5.3						
GERES	**GERESS Array B**	**144.71**	**346**	PKP	PKPbc	22 30 40.8	-0.1
	0.5nm,0.6s,baz=29,slow=3.0,SNR=4.3						

IDC 17 22:19:42.3±3.7, 24°.52S×179°.92W, h478km±34km, mb3.6/8, mb1 3.8/8, mb1mx3.5/19, mbtmp3.6/8, Error ellipse: s-maj=32.6km s-min=25.4km az=105.0
ISCJB 17 22:19:46.3±0.6, 24°.60S±0°.09×179°.70E±0°.09, h517km, mb3.9/8, Error ellipse: s-maj=13.2km s-min=9.5km az=142.1
AUST 17 22:19:53.5, 23°.20S×179°.25E, h600km
ISC 17 22:19:46.5±0.8, 24°.7S±0°.1×179°.9E±0°.1, h517km, n22, σ1§14/21, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**11.00**	**61**	S	**S**	**22 24 17.0**	**+0.6**
	baz=11,SNR=4.6						
DZM	**Mont Dzumac**	**12.61**	**279**	P	**P**	**22 22 32.4**	**+0.9**
	0.4nm,0.3s,baz=117,slow=11,SNR=4.3						
URZ	**Urewera**	**13.73**	**189**	S	**S**	**22 25 07.7**	**-0.7**
	0.6nm,0.3s,baz=64,slow=22,SNR=5.1						
CMSA	**Cobar Meteorol**	**30.82**	**249**	P	**P**	**22 25 20.4**	**+0.5**
	baz=31,SNR=9.2						
CTA	**Charters Tower**	**31.37**	**272**	P	**P**	**22 25 25.3**	**+0.5**
	13nm,0.4s,baz=93,slow=11,SNR=21						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**22 25 50.1**	**+0.5**
	3.8nm,0.4s,baz=98,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**22 25 50.2**	**+0.5**
	baz=34,SNR=14						
COEN	**Coen**	**36.13**	**280**	S	S	22 30 35.0	-33
	baz=35,SNR=6.8						
PATS	**Pohnpei**	**37.73**	**323**	S	S	22 31 06.3	-25
	baz=36,SNR=3.8						
BBOO	**Buckleboo**	**39.03**	**248**	P	**P**	**22 26 28.0**	**-0.5**
	baz=39,SNR=18						
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**22 26 50.5**	**-0.3**
	2.6nm,0.7s,baz=94,slow=8.2,SNR=32						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**22 26 53.4**	**-0.9**
	9.0nm,0.6s,baz=101,slow=8.1,SNR=55						
WRA				ScP	**ScP**	**22 31 41.2**	**+3.4**
	1.7nm,1.1s,baz=100,slow=3.8,SNR=13						
KDU	**Kakadu**	**46.25**	**276**	P	**P**	**22 27 24.2**	**-1.1**
	baz=46,SNR=6.2						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	P	**P**	**22 27 58.1**	**-0.1**
	baz=50,SNR=8.9						
MORW	**Morawa**	**56.49**	**250**	P	**P**	**22 28 38.9**	**-0.5**
	baz=56,SNR=3.7						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**22 29 37.8**	**+0.4**
	0.8nm,0.6s,baz=328,slow=4.8,SNR=3.3						
MJAR	**Matsushiro Arr**	**72.48**	**326**	P	**P**	**22 30 18.8**	**-1.7**
	1.3nm,0.8s,baz=176,slow=6.8,SNR=6.5						
PPI	**Padang Panjang**	**80.24**	**274**	P	P	22 30 56.2	-7.5
	baz=80,SNR=6.1						
USRK	**Ussuriysk Arra**	**81.36**	**327**	P	**P**	**22 31 08.6**	**-0.1**
	1.5nm,0.8s,baz=91,slow=14,SNR=4.1						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**22 31 51.1**	**+1.4**
	0.6nm,0.3s,baz=142,slow=3.8,SNR=6.8						
AKASG	**Kalin Array Be**	**145.57**	**327**	PKPbc	**PKPdf**	**22 38 25.0**	**-0.4**
	1.0nm,0.4s,baz=42,slow=4.3,SNR=5.4						
BRTR	**Keskin Array B**	**147.96**	**306**	PKPbc	**PKPbc**	**22 38 32.8**	**-1.0**
	0.9nm,0.7s,baz=145,slow=4.7,SNR=7.6						
BRTR				PKPab	**PKPab**	**22 38 37.6**	**-0.7**
	1.3nm,0.6s,baz=111,slow=3.5,SNR=12						

IDC 17 22:33:39.5±0.9, 39°.46N×73°.88E, h0km, mb3.7/8, mb1 3.8/13, mb1mx3.6/31, mbtmp3.6/13, ML3.3/5, Error ellipse: s-maj=18.7km s-min=12.0km az=95.0
NNC 17 22:33:44.3±2.8, 39°.74N×73°.80E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=24.7km s-min=11.7km az=8.0
ISC 17 22:33:44.3±1.0, 39°.71N±0°.09×73°.80E±0°.08, h29km, n33, σ1§48/25, mb3.8/8, 10C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.42**	**358**	P	**Pb**	**22 34 26.2**	**-1.1**
	SNR=122						
UCH	**Uchtor**	**2.57**	**12**	P	**Pb**	**22 34 29.1**	**-0.9**
	SNR=8.3						
KZA	**Kyzart**	**2.60**	**24**	P	**Pb**	**22 34 30.9**	**+0.4**
	SNR=119						
EKS2	**Erkin-Say**	**2.95**	**360**	P	Pb	22 34 33.4	-2.8
	SNR=70						
AAK	**Ala-Archa**	**2.96**	**10**	Pn	**Pb**	**22 34 34.2**	**-2.3**
	14nm,0.3s,baz=160,slow=6.4,SNR=101						
AAK				Pg	Pn	22 34 37.8	+8.3
	22nm,0.3s,baz=173,slow=11,SNR=104						
AAK				Lg	Lg	22 35 19.0	
	15nm,0.3s,baz=34,slow=16,SNR=12						

TORD	**Torodi Ar. Bea**	**68.00**	**269**	P		**P**		**22 44 40.3**	**-0.7**
	0.4nm,0.6s,baz=41,slow=4.1,SNR=5.3								
YKA	**Yellowknife Ar**	**77.92**	**4**	P		**P**		**22 45 40.0**	**+1.0**
	0.2nm,0.6s,baz=349,slow=5.1,SNR=7.9								
WRA	**Warramunga Arr**	**81.89**	**124**	P		**P**		**22 46 00.1**	**-1.0**
	0.6nm,0.5s,baz=324,slow=4.9,SNR=14								
ASAR	**Alice Springs**	**84.35**	**127**	P		**P**		**22 46 12.7**	**-1.0**
	0.4nm,0.6s,baz=319,slow=5.1,SNR=6.6								

ECX 17 22:40:25.1±0.5, 29°.98N×116°.45W, h4km, MD3.3, ML3.5, 5C-2D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.36**	**38**	*eP*	Pn	22 40 49.1	-2.3
SPX				*eS*	Sg	22 41 07.4	-2.3
ECNX	**Esteban Cantu**	**1.68**	**356**	*e*PN	Pn	22 40 54.7	-0.8
ECNX				*e*Pg	Pg	22 40 58.0	+0.6
ECNX				*e*		22 41 20.6	
	comp=E,689nm,0.3s						
ECNX				*e*S	Sg	22 41 22.6	+3.2
PBX	**Punta Banda**	**1.77**	**352**	*e*PN	Pn	22 40 56.0	-0.6
PBX				*e*S	Sn	22 41 19.4	-0.3
PBX				*e*		22 41 20.7	
	comp=N,468nm,0.4s						
RDX	**Rancho Dawling**	**1.99**	**13**	*e*PN	Pn	22 40 59.8	0.0
RDX				*e*S	Sn	22 41 26.1	+0.7
RDX				*e*		22 41 30.4	
	comp=N,336nm,0.4s						
CBX	**Cerro Bola**	**2.34**	**356**	*e*PN	Pn	22 41 04.4	-0.1
CBX				*e*S	Sn	22 41 34.6	+0.8
RMX	**La Rumorosa**	**2.64**	**7**	*e*S	Sn	22 41 42.1	+0.9

IDC 17 22:49:03.6±1.1, 30°.44N×83°.78E, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.7/29, mbtmp3.8/12, MS3.4/5, Ms1 3.4/5, ms1mx2.9/42, Error ellipse: s-maj=27.2km s-min=23.1km az=25.0
BJI 17 22:49:08.0, 30°.80N×83°.80E, h10km, mb4.1/7
ISC 17 22:49:09.7±0.9, 30°.8N±0°.1×83°.83E±0°.10, h35km, n24, σ2s 25/19, mb3.5/11, MS3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.36**	**250**	*e*P	Pn	22 50 04.9	+5.0
PTH				*e*S	Sn	22 50 49.2	+11
LGTI	**Lohaghat**	**3.38**	**248**	*e*P	Pn	22 50 09.9	+10
DDI	**Dehra Dun**	**5.00**	**266**	*ex*	P	22 50 23.0	
LSA	**Lhasa**	**6.42**	**98**	Pn	**Pn**	**22 50 44.8**	**+2.6**
KSH	**Kashi**	**10.83**	**326**	P	**Pn**	**22 51 41.5**	**-0.8**
KSH				S	**Sn**	**22 53 43.8**	**+1.5**
AAK	**Ala-Archa**	**13.99**	**330**	Pn	**P**	**22 52 30.0**	**-3.0**
	0.1nm,0.3s,baz=146,slow=11,SNR=4.1						
AAK				LR	LR	22 58 46.3	
	comp=Z,101nm,21.9s,baz=281,slow=41						
GTA	**Gaotai**	**15.65**	**52**	*e*P	**P**	**22 52 52.4**	**+1.0**
GTA				pP	**pP**	**22 52 56.8**	**-3.7**
GTA				sP	**sP**	**22 53 00.0**	**-5.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMI	**Kunming**	**17.62**	**104**	P	P	22 53 19.5	+6.1
KMI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**18.39**	**128**	P	**P**	**22 53 21.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=12						
KURBB	**Kurchatov Arra**	**20.22**	**350**	P	Pn	22 53 42.9	-0.7
	comp=Z,8.6nm,0.9s,baz=174,slow=10,SNR=112						
ZALV	**Zalesovo Beam**	**23.17**	**1**	P	**P**	**22 54 14.1**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=193,slow=11,SNR=9.5						
SONM	**Songino Array**	**24.25**	**39**	P	**P**	**22 54 25.4**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=226,slow=10,SNR=17						
BVAR	**Borovoye Array**	**24.30**	**340**	P	**P**	**22 54 24.7**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=142,slow=7.5,SNR=7.4						
AKTO	**Aktyubinsk**	**27.52**	**323**	P	**P**	**22 54 54.4**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=125,slow=16,SNR=3.7						
AKTO				LR	LR	23 07 11.8	
	comp=Z,76nm,21.9s,baz=335,slow=39						
PSI	**Prapat**	**31.27**	**150**	LR	LR	23 08 32.7	
	comp=Z,154nm,18.3s,baz=59,slow=38						
KBZ	**Khabaz**	**34.71**	**303**	P	**P**	**22 55 57.3**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=90,slow=6.4,SNR=3.9						
KSRS	**Korea Array**	**36.84**	**67**	LR	LR	23 12 49.4	
	comp=Z,42nm,18.1s,baz=154,slow=38						
BRTR	**Keskin Array B**	**41.49**	**297**	P	**P**	**22 56 53.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=111,slow=6.9,SNR=4.6						
MJAR	**Matsushiro Arr**	**45.12**	**67**	LR	LR	23 17 27.1	
	comp=Z,36nm,19.3s,baz=250,slow=38						
FINES	**FINESS Array B**	**48.15**	**327**	P	**P**	**22 57 46.7**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=120,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**69.98**	**129**	P	**P**	**23 00 15.9**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=325,slow=6.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.72**	**277**	P	**P**	**23 00 56.6**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=49,slow=5.5,SNR=2.6						
ILAR	**Eielson Array**	**76.91**	**20**	P	**P**	**23 01 00.5**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=291,slow=4.6,SNR=4.6						
YKA	**Yellowknife Ar**	**85.88**	**8**	P	**P**	**23 01 46.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=338,slow=5.0,SNR=7.7						

ISK 17 22:56:23.8, 39°.00N×27°.70E, h13km, MD2.8
DDA 17 22:56:23.4, 38°.99N×27°.72E, h19km, MD2.5
ISCJB 17 22:56:24.1±0.4, 39°.01N±0°.02×27°.71E±0°.03, h11km±3km, Error ellipse: s-maj=4.3km s-min=3.5km az=25.7
CSEM 17 22:56:24.1±0.1, 39°.00N×27°.71E, h12km, MD2.5, Error ellipse: s-maj=3.1km s-min=2.4km az=109.0
ISC 17 22:56:24.2±0.8, 39°.00N±0°.02×27°.71E±0°.02, h15km±5km, n39, σ0s 57/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.14**	**145**	*e*PG	**Pg**	**22 56 27.8**	**-0.2**
AKS				*e*SG	**Sg**	**22 56 30.8**	**+0.2**
AKS	**Akhisar**	**0.14**	**145**	*e*Pg	**Pg**	**22 56 27.8**	**-0.2**
AKS				*e*Sg	**Sg**	**22 56 30.8**	**+0.2**
AKHS	**Akhisar**	**0.14**	**145**	*i* P	**Pg**	**22 56 27.8**	**-0.3**
AKHS				*i* S	**Sg**	**22 56 30.6**	**0.0**
AKHS	**Akhisar**	**0.14**	**145**	*i* P	**Pg**	**22 56 27.8**	**-0.3**
AKHS				*i* S	**Sg**	**22 56 30.6**	**0.0**
BALB	**Balikesir**	**0.66**	**12**	*e*PG	**Pg**	**22 56 37.3**	**+0.3**
BALB				*e*SG	**Sb**	**22 56 46.9**	**+0.6**
BALB	**Balikesir**	**0.66**	**12**	*e*Pg	**Pg**	**22 56 37.3**	**+0.3**
BALB				*e*Sg	**Sb**	**22 56 46.9**	**+0.6**
IZM	**Izmir**	**0.69**	**210**	*e*PG	**Pg**	**22 56 37.4**	**-0.3**
IZM				*e*SG	**Sb**	**22 56 48.0**	**+0.7**
IZM	**Izmir**	**0.69**	**210**	*e*Pg	**Pg**	**22 56 37.4**	**-0.3**
IZM				*e*Sg	**Sb**	**22 56 48.0**	**+0.7**
BALY	**Balya**	**0.75**	**355**	*i* P	**Pg**	**22 56 38.3**	**-0.5**
BALY				*i* S	**Sg**	**22 56 48.3**	**-0.3**
BALY	**Balya**	**0.75**	**355**	*i* P	**Pg**	**22 56 38.3**	**-0.5**
BALY				*i* S	**Sg**	**22 56 48.3**	**-0.3**
BLCB	**Balcova**	**0.80**	**221**	*e*PG	**Pg**	**22 56 40.0**	**+0.2**
BLCB				*e*SG	**Sb**	**22 56 51.1**	**+0.7**
BLCB	**Balcova**	**0.80**	**221**	*e*Pg	**Pg**	**22 56 40.0**	**+0.2**
BLCB				*e*Sg	**Sb**	**22 56 51.1**	**+0.7**
DURS	**Dursunbey**	**0.85**	**44**	*i* P	**Pg**	**22 56 40.3**	**-0.4**
DURS				*i* S	**Sg**	**22 56 50.5**	**-1.3**
DURS	**Dursunbey**	**0.85**	**44**	*i* P	**Pg**	**22 56 40.3**	**-0.4**
DURS				*i* S	**Sg**	**22 56 50.5**	**-1.3**
AYVA	**Ayvalik**	**0.85**	**292**	*i* P	Pg	22 56 36.1	-4.6
AYVA				*i* S	**Sb**	**22 56 52.9**	**+1.1**
KULA	**Kula-Manisa**	**0.89**	**123**	*e*PG	**Pg**	**22 56 41.1**	**-0.3**
KULA	**Kula-Manisa**	**0.89**	**123**	*e*Pg	**Pg**	**22 56 41.1**	**-0.3**
DST	**Dursunbey**	**0.93**	**49**	*e*PG	**Pg**	**22 56 41.7**	**-0.5**
DST	**Dursunbey**	**0.93**	**49**	*e*Pg	**Pg**	**22 56 41.7**	**-0.5**
GONE	**Gonen-Balikesi**	**1.05**	**359**	*e*PG	**Pb**	**22 56 43.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.05**	**359**	*e*Pg	**Pb**	**22 56 43.5**	**-0.5**
URLA	**Izmir**	**1.08**	**234**	*i* P	**Pb**	**22 56 44.2**	**-0.3**
URLA				*i* S	**Sb**	**22 56 58.6**	**+0.2**
URLA	**Izmir**	**1.08**	**234**	*i* P	**Pb**	**22 56 44.2**	**-0.3**
URLA				*i* S	**Sb**	**22 56 58.6**	**+0.2**
AYDN	**Tasoluk**	**1.34**	**174**	*i* P	**Pn**	**22 56 47.3**	**-1.1**
AYDN				*i* S	**Sb**	**22 57 06.4**	**+0.4**
AYDN	**Tasoluk**	**1.34**	**174**	*i* P	**Pn**	**22 56 47.3**	**-1.1**
AYDN				*i* S	**Sb**	**22 57 06.4**	**+0.4**
EZN	**Ezine**	**1.35**	**308**	*e*PN	**Pn**	**22 56 49.1**	**+0.6**
EZN	**Ezine**	**1.35**	**308**	*e*Pn	**Pn**	**22 56 49.1**	**+0.6**
GDZ	**Gediz**	**1.38**	**86**	*i* P	**Pn**	**22 56 49.7**	**+0.6**
GDZ				*i* S	**Sb**	**22 57 08.2**	**+0.8**
GDZ	**Gediz**	**1.38**	**86**	*i* P	**Pn**	**22 56 49.7**	**+0.6**
GDZ				*i* S	**Sb**	**22 57 08.2**	**+0.8**
ORLT	**Orhaneli**	**1.39**	**41**	*e*PN	**Pn**	**22 56 49.5**	**+0.4**
ORLT	**Orhaneli**	**1.39**	**41**	*e*Pn	**Pn**	**22 56 49.5**	**+0.4**
KRBG	**Karabiga-Canak**	**1.43**	**347**	*e*PN	**Pn**	**22 56 49.8**	**+0.3**
KRBG	**Karabiga-Canak**	**1.43**	**347**	*e*Pn	**Pn**	**22 56 49.8**	**+0.3**
TVSB	**Tavsanli**	**1.44**	**71**	*e*PN	**Pn**	**22 56 50.5**	**+0.8**
TVSB	**Tavsanli**	**1.44**	**71**	*e*Pn	**Pn**	**22 56 50.5**	**+0.8**
KHAL	**Karahalli**	**1.53**	**114**	*i* P	**Pb**	**22 56 52.7**	**+0.4**
KHAL				*i* S	**Sn**	**22 57 10.4**	**-0.3**
KHAL	**Karahalli**	**1.53**	**114**	*i* P	**Pb**	**22 56 52.7**	**+0.4**
KHAL				*i* S	**Sn**	**22 57 10.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.69**	**326**	*e*PN	**Pn**	**22 56 53.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.69**	**326**	*e*Pn	**Pn**	**22 56 53.6**	**+0.4**

IDC 17 23:01:33.7±1.1, 30°.56N×83°.80E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/29, mbtmp3.7/10, MS3.0/3, Ms1 3.0/3, ms1mx2.6/44, Error ellipse: s-maj=29.3km s-min=22.8km az=49.0
ISCJB 17 23:01:37.3±0.9, 30°.7N±0°.1×83°.6E±0°.1, h26km, mb3.6/9, MS2.9/1, Error ellipse: s-maj=21.2km s-min=8.8km az=40.7
ISC 17 23:01:38.0±0.8, 30°.67N±0°.10×83°.7E±0°.1, h26km, n16, σ1s 22/15, mb3.6/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.22**	**249**	*e*P	**Pb**	**23 02 34.2**	**-0.2**
LGTI				*e*S	Sb	23 03 28.4	+15
DDI	**Dehra Dun**	**4.87**	**267**	*ex*	x	23 02 56.2	
LSA	**Lhasa**	**6.54**	**97**	P	Pn	23 03 16.5	+3.5
LSA				pmax	pmax		
	comp=Z,30nm,1.3s						
KSH	**Kashi**	**10.84**	**327**	Pn	**Pn**	**23 04 11.6**	**-0.1**
KSH				Sn	**Sn**	**23 06 12.3**	**+0.1**
KSH				smax	smax		
	comp=N,5.0nm,1.0s						
KSH				smax	smax		
	comp=E,4.0nm,1.0s						
AAK	**Ala-Archa**	**14.02**	**331**	Pn	**P**	**23 04 59.9**	**-2.9**
	comp=E,0.1nm,0.3s,baz=169,slow=16,SNR=2.9						
AAK				LR	LR	23 11 27.3	
	comp=E,49nm,21.8s,baz=125,slow=42						
CMAR	**Chiang Mai Arr**	**18.43**	**128**	P	**Pn**	**23 05 52.2**	**+0.5**
	comp=E,0.6nm,0.3s,baz=308,slow=11,SNR=6.8						
CMAR				LR	LR	23 13 42.7	
	comp=E,41nm,20.9s,baz=185,slow=40						
KURBB	**Kurchatov Arra**	**20.30**	**351**	P	**P**	**23 06 12.6**	**+0.8**
	comp=E,5.2nm,0.8s,baz=173,slow=10,SNR=55						
KURBB				LR	LR	23 15 16.8	
	comp=E,54nm,19.9s,baz=310,slow=40						
ZALV	**Zalesovo Beam**	**23.27**	**2**	P	**P**	**23 06 43.2**	**-0.2**
	comp=E,1.4nm,0.8s,baz=188,slow=10.0,SNR=9.4						
BVAR	**Borovoye Array**	**24.35**	**340**	P	**P**	**23 06 54.3**	**+0.6**
	comp=E,0.5nm,0.6s,baz=140,slow=12,SNR=5.2						
SONM	**Songino Array**	**24.42**	**39**	P	**P**	**23 06 54.9**	**+0.4**
	comp=E,1.0nm,0.7s,baz=225,slow=8.8,SNR=15						
AKTO	**Aktyubinsk**	**27.52**	**323**	P	**P**	**23 07 24.6**	**+2.2**
	comp=E,0.6nm,0.6s,baz=146,slow=16,SNR=3.8						
KBZ	**Khabaz**	**34.66**	**304**	P	**P**	**23 08 26.3**	**+1.1**
	comp=E,1.5nm,0.9s,baz=76,slow=6.2,SNR=3.8						
FINES	**FINESS Array B**	**48.17**	**327**	P	**P**	**23 10 16.6**	**+0.9**
	comp=E,3.8nm,1.0s,baz=95,slow=6.3,SNR=5.3						
WRA	**Warramunga Arr**	**70.02**	**129**	P	**P**	**23 12 46.8**	**-0.9**
	comp=E,0.3nm,0.3s,baz=324,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.60**	**277**	P	**P**	**23 13 27.0**	**+0.3**
	comp=E,0.6nm,0.9s,baz=48,slow=5.0,SNR=3.9						
YKA	**Yellowknife Ar**	**86.00**	**8**	P	**P**	**23 14 15.3**	**-0.5**
	comp=E,0.2nm,0.5s,baz=337,slow=4.9,SNR=4.7						

IDC 17 23:11:52.2±1.5, 3°.71N×126°.87E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.8/5, Error ellipse: s-maj=96.6km s-min=24.9km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	P	23 16 45.0	+0.1
	1.4nm,0.5s,baz=12,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	23 17 14.1	-0.4
	3.7nm,0.7s,baz=343,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	23 17 45.9	+0.3
	0.5nm,0.5s,baz=350,slow=15,SNR=7.4						
STKA	**Stephens Creek**	**38.06**	**159**	P	P	23 19 12.4	-0.1
	0.9nm,0.4s,baz=354,slow=10,SNR=7.4						
SONM	**Songino Array**	**47.37**	**341**	P	P	23 20 27.9	-0.2
	0.3nm,0.7s,baz=159,slow=7.6,SNR=4.0						

IDC 17 23:14:42.4±0.4, 25°.78N×67°.30E, h0km, mb4.6/35, mb1 4.7/36, mb1mx4.7/39, mbtmp4.6/36, ML4.4/1, MS4.4/36, Ms1 4.4/36, ms1mx4.3/44, Error ellipse: s-maj=13.0km s-min=9.4km az=15.0
ISCJB 17 23:14:43.3±0.1, 25°.90N±0°.02×67°.29E±0°.02, h15km, mb4.8/179, MS4.5/63, Error ellipse: s-maj=3.6km s-min=2.1km az=1.1
TEH 17 23:14:45.0, 25°.88N×67°.22E, h15km, ML4.9
MOS 17 23:14:46.0±1.2, 25°.93N×67°.27E, h33km, mb5.0/74, MS4.4/28, Error ellipse: s-maj=5.4km s-min=3.1km az=119.7
BJI 17 23:14:46.7, 26°.16N×67°.80E, h10km, mB5.0/45, mb4.8/47, Ms5.0/51, Ms7 4.7/45
NEIC 17 23:14:47.2±1.8, 25°.91N×67°.24E, h27km±12km, mb5.0/60, Error ellipse: s-maj=6.1km s-min=3.6km az=191.0
NEIC Felt [II] at Karachi.
SZGRF 17 23:14:47.2, 24°.62N×66°.08E, h30km, mb4.7, Pakistan
GCMT 17 23:14:48.9±0.2, 25°.84N×67°.42E, h12km, MW5.0, Moment Tensor Solution. s52,c77; s86,c144; Moment tensor: Scale 10^16 Nm; Mrr 4.63±.08; Mθθ -0.86±.08; Mϕϕ -3.77±.09; Mrθ -0.85±.28; Mθϕ -1.52±.07; Mϕr 0.56±.24; Best double couple: Mo 4.60000×10^16 NP1: ϕs 214.00000°, δ 45.00000°, λ 106.00000°. NP2: ϕs 12.00000°, δ 47.00000°, λ 75.00000°. Principal axes: T 4.8300, Plg 79.0000°, Azm 209.0000°; N -0.4100, Plg 11.0000°, Azm 23.0000°; P -4.4200, Plg 1.0000°, Azm 113.0000°; Data Used: IU II IC G CN.
DJA 17 23:14:56.5±1.6, 26°.N±9°.×6°.8E±°, h102km±19km, M4.8/9, mB5.3/3, mb4.8/9, Mw(mB) 4.8/3
ISC 17 23:14:45.9±0.3, 25°.97N±0°.04×67°.26E±0°.03, h17km±1km, h17km:pP-P, n753, σ1s 39/799, mb4.9/179, MS4.5/64, 114C-19D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**6.66**	**84**	*e*P	**Pn**	**23 16 21.0**	**-1.9**
AJM				*i* x	**Sg**	**23 18 21.0**	**+1.5**
THW	**Thamme Wali**	**7.84**	**29**	P	**Pn**	**23 16 38.5**	**-0.7**
WBK	**Wadi Bani Khal**	**8.27**	**248**	P	**Pn**	**23 16 43.1**	**-1.9**
	SNR=31						
WBK				P	P	23 16 43.5	
	SNR=44						
WBK				ml		23 16 59.7	
	SNR=28						
WBK				ml		23 18 24.5	
	SNR=36						
WSAR	**Wadi Sarin**	**8.31**	**253**	Pn	**Pn**	**23 16 43.6**	**-1.9**
	5.1nm,0.3s,baz=86,slow=13,SNR=46						
WSAR				Sn	**Sn**	**23 18 13.4**	**-5.5**
	2.4nm,0.3s,baz=46,slow=7.7,SNR=3.9						
WSAR	**Wadi Sarin**	**8.31**	**253**	Pn	**Pn**	**23 16 43.6**	**-1.9**
WSAR				Sn	**Sn**	**23 18 13.4**	**-5.5**
KBL	**Kabul**	**8.68**	**10**	*e*P	**Pn**	**23 16 51.5**	**+0.7**
KBL				*e*		23 18 27.5	
KBL	**Kabul**	**8.68**	**10**	*e*Pn	**Pn**	**23 16 51.5**	**+0.7**
KBL				*e*Sn	**Sn**	**23 18 27.5**	**-0.9**
CEP	**Cherat**	**8.80**	**26**	P	**Pn**	**23 16 52.4**	**-0.1**
CEP				S	**Sn**	**23 18 29.0**	**-2.4**
SMDO	**Samad**	**8.87**	**253**	P	**Pn**	**23 16 51.9**	**-1.5**
	SNR=34						
SMDO				P	P	23 16 51.9	
	SNR=61						
SMDO				ml		23 17 28.6	
	SNR=26						
SMDO				ml		23 18 40.8	
	SNR=40						
JMDO	**Jabal Madar**	**9.09**	**249**	P	**Pn**	**23 16 55.4**	**-0.9**
	SNR=69						
JMDO				P	P	23 16 56.1	
	SNR=84						
JMDO				ml		23 17 03.8	
	SNR=47						
NDI	**New Delhi**	**9.26**	**71**	*ex*	Pn	23 16 55.0	-3.6
NDI				*e*S	Sn	23 18 35.0	-7.4
CHCP	**Chirah Chowk**	**9.27**	**33**	P	**Pn**	**23 16 58.4**	**-0.3**
HOQ	**Hoqain**	**9.34**	**257**	P	**Pn**	**23 16 58.6**	**-1.2**
	SNR=28						
HOQ				P	P	23 16 59.2	
	SNR=27						
HOQ				ml		23 17 16.8	
	SNR=22						
POO	**Poona**	**9.60**	**139**	*e*P	**Pn**	**23 17 02.0**	**-1.3**
	30nm,1.0s						
POO				*i* x	x	23 18 42.0	
IBND	**Bandar-abas**	**9.69**	**281**	*e*P	**Pn**	**23 17 06.6**	**+2.1**
BHK	**Bhakra**	**9.70**	**54**	*e*P	**Pn**	**23 17 04.3**	**-0.4**
BHK				*ex*	x	23 18 52.1	
BSY	**Bisya**	**9.71**	**253**	P	**Pn**	**23 17 04.9**	**+0.1**
	SNR=152						
BSY				P	P	23 17 05.2	
	SNR=153						
THN	**Thein Dam**	**9.80**	**47**	*e*P	**Pn**	**23 17 05.0**	**-1.0**
THN				*ex*	x	23 19 00.0	
BANOM	**Banah**	**9.86**	**272**	P	**Pn**	**23 17 07.9**	**+1.0**
	SNR=17						
DLH	**Dalhousie**	**10.03**	**47**	*e*P	**Pn**	**23 17 08.0**	**-1.4**
DLH				*ex*	x	23 18 59.0	
ARQ	**Araqi**	**10.11**	**257**	P	**Pn**	**23 17 11.8**	**+1.5**
	SNR=108						
SMLA	**Simla**	**10.12**	**57**	*i* P	**Pn**	**23 17 09.2**	**-1.1**
SMLA				*e*S	Sn	23 18 56.2	-7.2
HATD	**Hatta, Dubai**	**10.12**	**266**	P	**Pn**	**23 17 12.6**	**+2.1**
	SNR=14						
HATD				P	P	23 17 12.7	
	SNR=13						
SDNR	**Sundarnagar**	**10.15**	**55**	*e*P	**Pn**	**23 17 10.0**	**-0.8**
SDNR				*ex*	x	23 19 01.0	
ASHO	**Ashiyiah**	**10.21**	**265**	P	**Pn**	**23 17 13.4**	**+1.7**
	SNR=34						
AKL	**Akola**	**10.39**	**118**	*e*P	**Pn**	**23 17 11.8**	**-2.3**
AKL				AMb	AMB	23 17 20.3	
	comp=Z,27nm,0.5s						
AKL				*i* x	x	23 19 18.6	
DDI	**Dehra Dun**	**10.47**	**63**	*ex*	Pn	23 17 11.7	-3.5
DDI				*ex*	x	23 20 39.5	
NAZ	**Nazwa, Dubai**	**10.52**	**267**	P	**Pn**	**23 17 17.5**	**+1.6**
	SNR=32						
NAZ				P	P	23 17 18.2	
	SNR=20						
KAD	**Karad**	**10.76**	**142**	*i* x	Sn	23 19 25.5	+6.2
ASUD	**Al Ashush, Dub**	**10.87**	**265**	P	**Pn**	**23 17 22.1**	**+1.4**
	SNR=19						
ASUD				P	P	23 17 23.5	
	SNR=9.7						
IBAF	**Bafgh**	**11.68**	**301**	P	Pn	23 17 35.4	+3.6
IBAF	**Bafgh**	**11.68**	**301**	*e*P	Pn	23 17 35.5	+3.6
NGP	**Nagpur**	**11.83**	**111**	*ex*	Pn	23 17 29.0	-4.9
NGP				AMb	AMB	23 17 33.5	
	comp=Z,50nm,1.3s						
NGP				*e*S	Sn	23 19 33.5	-12
IMYA	**Miami**	**12.01**	**331**	P	**Pn**	**23 17 37.3**	**+0.9**
IMYA	**Miami**	**12.01**	**331**	*e*P	**Pn**	**23 17 37.4**	**+1.0**
PTH	**Pithoragarh**	**12.02**	**70**	*e*P	**Pn**	**23 17 37.5**	**+0.9**
PTH				*ex*	x	23 19 41.9	
LGTI	**Lohaghat**	**12.02**	**70**	*e*P	Pn	23 17 33.1	-3.3
LGTI				*ex*	x	23 19 45.2	
IMOG	**Moghan**	**12.17**	**328**	P	**Pn**	**23 17 39.1**	**+0.5**
IMOG	**Moghan**	**12.17**	**328**	*e*P	**Pn**	**23 17 39.1**	**+0.5**
ISRO	**Mashad**	**12.27**	**329**	*e*P	**Pn**	**23 17 40.3**	**+0.4**
IMEH	**Mehriz**	**12.34**	**299**	*e*P	**Pn**	**23 17 43.0**	**+2.0**
IPAY	**Payeh**	**12.61**	**328**	P	**Pn**	**23 17 45.4**	**+0.8**
IPAY	**Payeh**	**12.61**	**328**	*e*P	**Pn**	**23 17 45.4**	**+0.8**
IKRD	**Kardeh**	**13.10**	**327**	P	Pn	23 17 44.3	-7.0
IKRD	**Kardeh**	**13.10**	**327**	*e*P	Pn	23 17 44.4	-6.9
IPAR	**Pars**	**13.14**	**290**	P	**Pn**	**23 17 52.1**	**+0.1**
IPAR	**Pars**	**13.14**	**290**	*e*P	**Pn**	**23 17 52.1**	**+0.1**
HYB	**Hyderabad**	**13.51**	**127**	P	Pn	23 17 52.5	-4.3
HYB	**Hyderabad**	**13.51**	**127**	P	Pn	23 17 52.5	-4.3
HYB				S	S	23 20 39.0	-11
HYB	**Hyderabad**	**13.51**	**127**	*i* P	**Pn**	**23 17 55.0**	**-1.8**
HYB				*e*S	**Sn**	**23 20 26.0**	**-0.7**
PYUN	**Piuthan**	**14.18**	**78**	*e*P	Pn	23 18 02.3	-3.9
ABKT	**Ailbek**	**14.21**	**329**	Pn	**Pn**	**23 18 07.6**	**+1.2**
	comp=Z,180nm,0.8s,SNR=6.7						
KOLN	**Koldanda**	**14.70**	**79**	*e*P	Pn	23 18 08.4	-4.8
	comp=Z,102nm,0.6s						
IZEF	**Zefreh**	**14.71**	**301**	*e*P	**Pn**	**23 18 14.0**	**+0.5**
RBK	**Rabkut**	**14.76**	**238**	P	**Pn**	**23 18 15.5**	**+1.6**
	SNR=32						
RBK				P	**P**	**23 18 19.4**	**-0.4**
	SNR=8.6						
IANJ	**Anjilo**	**14.86**	**313**	*e*P	**Pn**	**23 18 16.3**	**+0.9**
DANN	**Dangsing**	**14.88**	**77**	*e*P	Pn	23 18 11.1	-4.7
	comp=Z,409nm,1.1s						
IMND	**Minoodasht**	**15.10**	**321**	*e*P	**P**	**23 18 26.0**	**+2.5**
KSH	**Kashi**	**15.36**	**26**	P	Pn	23 18 14.5	-7.4
KSH				*e*pP	P	23 18 18.6	-7.9
KSH				*e*sP	sP	23 18 21.9	-12
KSH				*e*PP	**PnPn**	**23 18 26.6**	**-3.6**
KSH				S	Sn	23 20 57.1	-15
KSH				sS	S	23 21 08.4	-19
KSH				*e*ScP	**ScP**	**23 26 56.3**	**-3.1**
KSH				ScS	**ScS**	**23 30 36.1**	**-1.6**
KS

AAK	**Ala-Arcba**	**17.65**	**18**	Pn	**Pn**	**23 18 49.7**	**-1.4**	**ARTV**	**Artvin**	**25.86**	**312**	*i* P	**P**	**23 20 17.4**	**+0.6**
	comp=Z,278nm,0.6s,SNR=13							**KAAM**	**Kaadhehdhoo**	**25.93**	**167**	P	P	23 20 22.9	+5.6
AAK	**Ala-Arcba**	**17.65**	**18**	P	**Pn**	**23 18 49.2**	**-1.9**		comp=Z,27nm,1.0s						
	SNR=43							**DBAD**	**Bademkaya**	**25.94**	**312**	*i* P	**P**	**23 20 17.1**	**-0.3**
UMR	**Umm Al-Rimmam**	**17.66**	**286**	*e*P	**P**	**23 18 52.1**	**+0.2**	**KURBB**	**Kurchatov Arra**	**26.09**	**16**	P	**P**	**23 20 19.0**	**+0.5**
UMR				AMb	AMB	23 18 55.9			comp=Z,12nm,0.8s,baz=211,slow=8.9,SNR=119						
	comp=Z,145nm,0.7s							KURBB				LR	LR	23 31 08.8	
RDF	**Al-Radifah**	**17.74**	**284**	*e*P	**P**	**23 18 52.8**	**0.0**		comp=Z,188nm,20.6s,baz=210,slow=38						
RDF				AMb	AMB	23 18 58.0		**KURK**	**Kurchatov**	**26.20**	**16***c*	*i*P	**P**	**23 20 19.9**	**+0.5**
	comp=Z,244nm,0.9s							KURK				pmax	pmax		
KBK	**Karagaybulak**	**17.80**	**19**	P	**P**	**23 18 53.5**	**-0.1**		comp=Z,26nm,1.3s						
KBK	**Karagaybulak**	**17.80**	**19**	P	**P**	**23 18 53.5**	**-0.1**	**KURK**	**Kurchatov**	**26.20**	**16**	P	**P**	**23 20 20.0**	**+0.5**
KBK	**Karagaybulak**	**17.80**	**19**	P	**P**	**23 18 53.5**	**-0.1**	**KURK**	**Kurchatov**	**26.20**	**16**	P	**P**	**23 20 20.4**	**+0.9**
	SNR=18								SNR=10						
ULHL	**Ulahol**	**17.84**	**22**	P	**P**	**23 18 55.5**	**+1.4**	KURK				mb		23 20 25.7	
	SNR=40								SNR=23						
FRU	**Bishkek**	**17.87**	**18**	*e*P	**Pn**	**23 18 53.0**	**-0.6**	KURK				mb		23 20 25.7	
FRU				pmax	pmax				SNR=23						
	comp=Z,80nm,1.8s							**KBZ**	**Khabaz**	**26.56**	**318**	P	P	**23 20 24.8**	**+2.0**
FRU				MLR	MLR				comp=Z,15nm,0.9s,baz=124,slow=8.5,SNR=33						
	comp=E,4μm,10.0s							**KBZ**	**Khabaz**	**26.56**	**318**	P	P	**23 20 24.8**	**+2.0**
MIB	**Mutribah**	**18.01**	**287**	*e*P	**P**	**23 18 55.9**	**+0.1**	KBZ				pmax	pmax		
MIB				AMb	AMB	23 19 03.7			comp=Z,15nm,0.9s						
	comp=Z,250nm,1.0s							**KBZ**	**Khabaz**	**26.56**	**318**	P	P	**23 20 24.8**	**+2.0**
NAY	**Al-Naaiem**	**18.03**	**285**	*e*P	**P**	**23 18 56.4**	**+0.3**	**KIV**	**Kislovodsk**	**26.81**	**318**	*e*P	**P**	**23 20 26.9**	**+1.7**
NAY				AMb	AMB	23 19 01.5		KIV				*e*S	**S**	**23 25 00.8**	**+0.1**
	comp=Z,132nm,1.2s							KIV				pmax	pmax		
ODAN	**Odare**	**18.06**	**83**	*e*P	**Pn**	**23 18 51.7**	**-4.6**		comp=Z,35nm,1.0s						
	comp=Z,194nm,0.8s							KIV				MLR	MLR		
CHMS	**Chumysh**	**18.06**	**18**	P	**Pn**	**23 18 54.4**	**-1.6**		comp=Z,170nm,15.0s						
	SNR=13							**KIV**	**Kislovodsk**	**26.81**	**318**	*e*P	**P**	**23 20 26.9**	**+1.7**
TKM2	**Tokmak 2**	**18.24**	**20**	*e*P	**Pn**	**23 18 56.1**	**-2.2**		comp=Z,35nm,0.9s						
TKM2				pmax	pmax			**KIV**	**Kislovodsk**	**26.81**	**318**	P	P	**23 20 27.3**	**+2.1**
	comp=Z,33nm,0.8s								SNR=12						
TKM2	**Tokmak 2**	**18.24**	**20**	*e*Pn	**Pn**	**23 18 56.1**	**-2.2**	KIV				mb		23 20 41.8	
	comp=Z,33nm,0.8s								SNR=17						
TKM2	**Tokmak 2**	**18.24**	**20**	P	**Pn**	**23 18 56.2**	**-2.2**	**KIV**	**Kislovodsk**	**26.81**	**318**	P	P	**23 20 26.0**	**+0.8**
	SNR=22								comp=Z,162nm,0.9s,SNR=11						
USP	**Ospenovka**	**18.24**	**17**	P	**Pn**	**23 18 57.9**	**-0.3**	**BVAR**	**Borovoye Array**	**27.12**	**4**	P	P	**23 20 29.3**	**+1.5**
USP	**Ospenovka**	**18.24**	**17**	P	**Pn**	**23 18 57.9**	**-0.3**		comp=Z,7.6nm,0.8s,baz=173,slow=10.0,SNR=21						
USP	**Ospenovka**	**18.24**	**17**	P	**Pn**	**23 18 57.9**	**-0.3**	BVAR				LR	LR	23 33 25.3	
	SNR=17								comp=Z,482nm,18.1s,baz=195,slow=41						
TAPN	**Taplejung**	**18.34**	**81**	*e*P	**Pn**	**23 18 55.0**	**-4.7**	**BVAR**	**Borovoye Array**	**27.12**	**4**	P	P	**23 20 29.3**	**+1.5**
	comp=Z,63nm,0.6s							BVAR				pmax	pmax		
IKOM	**Komasi**	**18.92**	**300**	P	**P**	**23 19 05.8**	**-0.2**		comp=Z,8.0nm,0.8s						
IKOM	**Komasi**	**18.92**	**300**	*e*P	**P**	**23 19 05.8**	**-0.2**	BVAR				MLR	MLR		
AAA	**Alma-Ata**	**18.99**	**22**	*i* P	**Pn**	**23 19 07.3**	**0.0**		comp=Z,482nm,18.1s						
AAA				*i* S	**Sn**	**23 22 38.4**	**-1.1**	**BVAR**	**Borovoye Array**	**27.12**	**4**	P	P	**23 20 29.3**	**+1.5**
AAA				pmax	pmax			**ATD**	**Arta Tunnel**	**27.14**	**243**	P	P	**23 20 28.3**	**-0.1**
	comp=Z,700nm,5.4s								comp=Z,20nm,0.9s,baz=14,slow=6.8,SNR=8.5						
AAA				smax	smax			**ATD**	**Arta Tunnel**	**27.14**	**243**	P	P	**23 20 28.3**	**-0.1**
	comp=E,1μm,6.4s							**BRVK**	**Borovoye**	**27.15**	**4**⇑	*e*P	**P**	**23 20 28.9**	**+0.9**
AAA				MLR	MLR			BRVK				pmax	pmax		
	comp=Z,900nm,8.0s								comp=Z,24nm,1.3s						
CAL	**Calcutta**	**19.52**	**96**	*e*P	**Pn**	**23 19 13.7**	**0.0**	**BRVK**	**Borovoye**	**27.15**	**4**	*e*P	**P**	**23 20 29.1**	**+1.1**
CAL				*ex*	x	23 22 47.8			comp=Z,28nm,1.1s						
IVIS	**Veis**	**19.56**	**301**	P	**P**	**23 19 13.8**	**+0.9**	**BRVK**	**Borovoye**	**27.15**	**4**	P	P	**23 20 29.6**	**+1.6**
IVIS	**Veis**	**19.56**	**301**	*e*P	**P**	**23 19 13.8**	**+0.9**		comp=Z,139nm,0.9s,SNR=7.8						
TRD	**Trivandrum**	**19.67**	**150**⇑	*e*P	Pn	23 19 27.4	+12	**BRVK**	**Borovoye**	**27.15**	**4**	P	P	**23 20 30.2**	**+2.2**
TRD				*e*S	**Sn**	**23 23 01.4**	**+5.3**	BRVK	SNR=10.0					23 20 33.4	
IGHG	**Ghaleghazi**	**19.71**	**300**	P	**P**	**23 19 14.8**	**+0.1**					mb			
IGHG	**Ghaleghazi**	**19.71**	**300**	*e*P	**P**	**23 19 14.9**	**+0.2**		SNR=23						
RAYN	**Ar Rayn**	**19.90**	**268**	Pn	**Pn**	**23 19 17.9**	**-0.5**	**ASF**	**Jabal al Asfar**	**27.19**	**290**	P	P	**23 20 30.7**	**+2.0**
	comp=Z,192nm,0.9s,SNR=18								comp=Z,2.8nm,0.8s,baz=304,slow=8.5,SNR=6.2						
IDHR	**Dehrash**	**19.98**	**301**	P	**P**	**23 19 16.6**	**-1.0**	ASF				LR	LR	23 33 24.4	
IDHR	**Dehrash**	**19.98**	**301**	*e*P	**P**	**23 19 16.6**	**-1.0**		comp=Z,775nm,20.1s,baz=329,slow=41						
ISRB	**Sarab**	**20.36**	**310**	P	**P**	**23 19 22.6**	**+0.9**	**ASF**	**Jabal al Asfar**	**27.19**	**290**	P	P	**23 20 30.7**	**+2.0**
ISRB	**Sarab**	**20.36**	**310**	*e*P	**P**	**23 19 22.7**	**+1.0**	**MALT**	**Malatya**	**27.22**	**304**	*e*P	**P**	**23 20 30.6**	**+1.6**
IBST	**Bostanabad**	**20.83**	**309**	P	**P**	**23 19 27.1**	**+0.2**	MALT				pmax	pmax		
IBST	**Bostanabad**	**20.83**	**309**	*e*P	**P**	**23 19 27.1**	**+0.2**		comp=Z,7.0nm,0.9s						
IHRS	**Heris**	**21.03**	**311**	P	**P**	**23 19 29.1**	**+0.1**	**MALT**	**Malatya**	**27.22**	**304**	*e*P	**P**	**23 20 30.6**	**+1.6**
IHRS	**Heris**	**21.03**	**311**	*e*P	**P**	**23 19 29.2**	**+0.2**		comp=Z,6.6nm,0.9s						
BHD	**Baghdad**	**21.15**	**295**	*i* P	**P**	**23 19 28.0**	**-2.0**	**KELT**	**Kelkit**	**27.26**	**308**	*i* P	**P**	**23 20 27.7**	**-1.7**
BHD				*i* S	**S**	**23 23 20.0**	**-4.7**	**AKCD**	**Akcadag**	**27.59**	**304**	*i* P	**P**	**23 20 33.5**	**+1.1**
LSA	**Lhasa**	**21.45**	**75**	P	**P**	**23 19 33.9**	**+0.1**	**GZT**	**Gaziantep**	**27.59**	**302**	*i* P	P	23 20 25.4	-6.9
LSA				S	**S**	**23 23 29.3**	**-2.2**	**SUSE**	**Susehri**	**28.03**	**308**	*i* P	**P**	**23 20 37.6**	**+1.3**
LSA				LR	LR			**YAYL**	**Yayladag**	**28.41**	**298**	*i* P	**P**	**23 20 36.9**	**-2.8**
	comp=N,980nm,15.7s							**SOC**	**Sochi**	**28.45**	**315**	*e*P	**P**	**23 20 39.4**	**-0.4**
LSA				LR	LR			SOC				*e**SP	**sP**	**23 20 47.6**	**+0.4**
	comp=E,1μm,13.3s							SOC				*e*		23 21 34.1	
LSA	**Lhasa**	**21.45**	**75**	*e*P	**P**	**23 19 33.9**	**+0.1**	SOC				*e*S	**S**	**23 25 26.2**	**-0.1**
LSA				*e*S	**S**	**23 23 32.6**	**+1.1**	SOC				*e**SS	sS	23 25 41.6	+6.5
LSA				pmax	pmax			SOC				*e*SS	**SnSn**	**23 26 44.4**	**-0.6**
	comp=Z,52nm,0.8s							SOC				pmax	pmax		
LSA	**Lhasa**	**21.45**	**75**	*e*P	**P**	**23 19 33.9**	**+0.1**		comp=Z,14nm,0.8s						
	comp=Z,52nm,0.8s							SOC				MLR	MLR		
LSA				*e*S	**S**	**23 23 32.5**	**+1.1**		comp=Z,354nm,15.0s						
ITBZ	**Tabriz**	**21.60**	**310**	P	**P**	**23 19 35.4**	**+0.3**	**MMAI**	**Mount Meron Ar**	**28.52**	**292**	P	P	**23 20 41.5**	**+0.9**
ITBZ	**Tabriz**	**21.60**	**310**	*e*P	**P**	**23 19 35.4**	**+0.3**		comp=Z,2.5nm,0.7s,baz=80,slow=14,SNR=5.7						
AGT	**Agartala**	**21.86**	**90**	*ex*	x	23 13 39.0		MMAI				PcP	**PcP**	**23 23 53.2**	**+1.1**
IMRD	**Marand**	**22.14**	**310**	P	**P**	**23 19 41.1**	**+0.2**		comp=Z,2.0nm,0.7s,baz=87,slow=4.3,SNR=3.9						
IMRD	**Marand**	**22.14**	**310**	*e*P	**P**	**23 19 41.1**	**+0.2**	MMAI				LR	LR	23 34 29.9	
SHL	**Shillong**	**22.18**	**86**	*e*P	**P**	**23 19 44.0**	**+2.6**		comp=Z,950nm,19.3s,baz=80,slow=42						
SHL				*e*S	**S**	**23 23 48.0**	**+2.7**	**MMAI**	**Mount Meron Ar**	**28.52**	**292**	P	P	**23 20 41.5**	**+0.9**
PALK	**Pallekele**	**22.59**	**143**	*e*P	**P**	**23 19 46.4**	**+0.7**	MMAI				PcP	**PcP**	**23 23 53.2**	**+1.1**
	comp=Z,15nm,1.0s							**EIL**	**Elat**	**28.76**	**285**	P	P	**23 20 43.9**	**+1.2**
PALK	**Pallekele**	**22.59**	**143**	P	**P**	**23 19 44.7**	**-0.9**		comp=Z,3.3nm,0.8s,baz=114,slow=12,SNR=3.1						
	comp=Z,80nm,1.0s,SNR=5.2							EIL				LR	LR	23 34 52.1	
PALK	**Pallekele**	**22.59**	**143**	P	P	23 19 50.0	+4.4		comp=Z,1μm,19.1s,baz=193,slow=42						
	comp=Z,18nm,1.1s							**EIL**	**Elat**	**28.76**	**285**	P	P	**23 20 43.9**	**+1.2**
HAKT	**HAKKARI**	**23.05**	**306**	*i* P	**P**	**23 19 51.0**	**+0.4**	**ERBA**	**Erbaa**	**29.23**	**308**	*i* P	**P**	**23 20 47.7**	**+0.9**
MAK	**Makhachkala**	**23.41**	**321**	*e*P	**P**	**23 19 52.4**	**-1.4**	**BNN**	**Bunyan**	**29.31**	**304**	P	**P**	**23 20 50.3**	**+2.7**
MAK				*e*PPP	PPP	23 20 26.8		**GULE**	**Gulek**	**29.73**	**300**	*i* P	**P**	**23 20 52.4**	**+0.9**
MAK				*e*S	**S**	**23 24 06.1**	**-0.1**	**CHTO**	**Chiang Mai**	**30.10**	**97**	*e*P	**P**	**23 20 53.6**	**-1.1**
MAK				*e*SSS	SSS	23 25 02.3		CHTO				pmax	pmax		
MAK				pmax	pmax				comp=Z,37nm,1.3s						
	comp=Z,90nm,0.9s							**CHTO**	**Chiang Mai**	**30.10**	**97**	*e*P	**P**	**23 20 53.6**	**-1.1**
GNI	**Garni**	**23.49**	**313**	P	**P**	**23 19 56.2**	**+1.3**		comp=Z,37nm,1.3s						
	comp=Z,8.4nm,0.7s,baz=41,slow=4.7,SNR=12							**CHTO**	**Chiang Mai**	**30.10**	**97**	P	P	**23 20 54.1**	**-0.6**
GNI				LR	LR	23 31 23.6			SNR=9.6						
	comp=Z,732nm,19.4s,baz=339,slow=42							CHTO				mb		23 20 57.1	
GNI	**Garni**	**23.49**	**313**	*e*P	**P**	**23 19 56.4**	**+1.4**		SNR=16						
BDHA	**Al Bayda'**	**23.58**	**244**	*e*P	**P**	**23 19 56.4**	**+0.4**	CHTO				mb		23 20 57.1	
BDHA				AMb	AMB	23 19 57.5			SNR=16						
	comp=Z,24nm,0.8s							**CHTO**	**Chiang Mai**	**30.10**	**97**	P	P	**23 20 54.1**	**-0.6**
DGRG	**David-gareji**	**23.77**	**316**	P	**P**	**23 19 59.2**	**+1.7**		comp=Z,30nm,1.2s						
DGRG				S	Sn	23 24 29.6	-4.9	**CMMT**	**Chiang Mai**	**30.10**	**97**	P	P	**23 20 54.5**	**-0.2**
LBOS		**23.89**	**244**	*e*P	**P**	**23 19 59.4**	**+0.3**		comp=Z,27nm,1.1s,comp=Z,320nm						
LBOS				AMb	AMB	23 20 00.5		**CM31**	**Chiang Mai Arr**	**30.22**	**98**	*e*P	**P**	**23 20 55.4**	**-0.3**
	comp=Z,104nm,1.1s								comp=Z,3.8nm,0.6s						
AB31	**Akbulak array**	**23.93**	**348***ce*	P	**P**	**23 19 59.9**	**+1.0**	**CMAR**	**Chiang Mai Arr**	**30.22**	**98**	P	P	**23 20 54.6**	**-1.1**
AB31				pmax	pmax				comp=Z,5.6nm,0.7s,baz=290,slow=9.7,SNR=24						
	comp=Z,29nm,0.6s							CMAR				LR	LR	23 35 25.0	
AB31	**Akbulak array**	**23.93**	**348**	P	**P**	**23 19 59.0**	**+0.1**		comp=Z,959nm,18.2s,baz=294,slow=41						
ABKAR	**Akbulak array**	**23.93**	**348**	*e*P	**P**	**23 19 60.0**	**+1.1**	**CMAR**	**Chiang Mai Arr**	**30.22**	**98**	P	P	**23 20 54.6**	**-1.1**
MK31	**Makanchi Array**	**23.97**	**26***ce*	P	**P**	**23 19 59.1**	**-0.2**	**GTA**	**Gaotai**	**30.33**	**56**	*e*P	**P**	**23 20 57.0**	**+0.4**
MK31				pmax	pmax			GTA				pP	**pP**	**23 21 01.3**	**-0.6**
	comp=Z,22nm,0.9s							GTA				sP	**sP**	**23 21 04.4**	**+0.3**
MK31	**Makanchi Array**	**23.97**	**26**	*e*P	**P**	**23 19 59.2**	**-0.1**	GTA				S	**S**	**23 25 56.3**	**+0.1**
MKAR	**Makanchi Array**	**23.97**	**26**	*e*P	**P**	**23 19 58.9**	**-0.4**	GTA				sS	**sS**	**23 26 04.6**	**-0.3**
MKAR	**Makanchi Array**	**23.97**	**26**	*e*P	**P**	**23 19 58.9**	**-0.4**	GTA				pmax	pmax		
DHBB	**Dhamar BB**	**24.22**	**247**	*e*P	**P**	**23 20 02.4**	**+0.2**		comp=Z,5.0nm,0.7s						
TBLG	**Delisi**	**24.32**	**316**	*e*P	**P**	**23 20 04.1**	**+1.5**	GTA				pmax	pmax		
TBLG	**Delisi**	**24.32**	**316**	P	**P**	**23 20 04.8**	**+2.1**		comp=Z,88nm,4.0s						
TBLG				S	**S**	**23 24 27.2**	**+6.2**	GTA				LR	LR		
KZR	**Kazreti**	**24.34**	**315**	P	**P**	**23 20 04.7**	**+1.9**		comp=N,4μm,16.9s						
WMQ	**Urumqi**	**24.35**	**38**	P	**P**	**23 20 03.8**	**+0.9**	GTA				LR	LR		
WMQ				PcP	**PcP**	**23 23 40.9**	**-1.3**		comp=E,950nm,14.5s						
WMQ				S	**S**	**23 24 20.8**	**-0.7**	GTA				LR	LR		
WMQ				pmax	pmax				comp=Z,1μm,15.2s						
	comp=Z,37nm,1.4s							**CSS**	**Prodhromos**	**30.46**	**295**	*e*P	**P**	**23 20 57.7**	**-0.1**
WMQ				pmax	pmax				comp=Z,11nm,0.9s						
	comp=Z,410nm,3.6s							**ANN**	**Anapa**	**30.48**	**316**	*e*P	**P**	**23 20 58.7**	**+1.0**
WMQ				LR	LR			ANN				*e**PP	**pP**	**23 21 04.5**	**+1.5**
	comp=Z,600nm,17.0s							ANN				*e*S	**S**	**23 25 59.5**	**+1.4**
GOR	**Gori**	**24.86**	**316**	P	**P**	**23 20 09.7**	**+2.3**	ANN				pmax	pmax		
AKH	**Akhalkalaki**	**24.95**	**314**	P	**P**	**23 20 11.1**	**+2.6**		comp=Z,45nm,1.6s						
AKH				S	S	23 24 43.7	+12	ANN				MLR	MLR		
ZEI	**Tsey**	**25.42**	**317**	*e*P	**P**	**23 20 14.5**	**+1.8**		comp=N,337nm,16.0s						
ZEI				pmax	pmax			ANN				MLR	MLR		
	comp=Z,25nm,0.8s								comp=E,340nm,16.0s						
AKTK	**Aktyubinsk**	**25.44**	**346**	P	**P**	**23 20 13.1**	**+0.5**	ANN				MLR	MLR		
AKTO	**Aktyubinsk**	**25.44**	**346**	P	**P**	**23 20 13.4**	**+0.8**		comp=Z,336nm,16.0s						
	comp=Z,22nm,0.8s,baz=162,slow=5.9,SNR=55							**CTKT**	**Corum**	**30.62**	**307**	*i* P	**P**	**23 20 59.1**	**-0.1**
AKTO				LR	LR	23 32 08.2		**ZAA0**	**Zalesovo Array**	**30.84**	**20**	*e*P	**P**	**23 20 59.8**	**-1.1**
	comp=Z,583nm,18.0s,baz=319,slow=41							ZAA0				*e*PcP	**PcP**	**23 23 57.4**	**-0.1**
AKTO	**Aktyubinsk**	**25.44**	**346**	*i* P	**P**	**23 20 13.1**	**+0.5**	**ZALV**	**Zalesovo Beam**	**30.84**	**20**	P	P	**23 21 00.6**	**-0.2**
AKTO				pmax	pmax				comp=Z,4.6nm,0.5s,baz=232,slow=9.4,SNR=26						
	comp=Z,6.0nm,0.9s							ZALV				LR	LR	23 35 44.4	
AKTO	**Aktyubinsk**	**25.44**	**346**	P	**P**	**23 20 13.4**	**+0.8**		comp=Z,181nm,19.6s,baz=34,slow=41						
ONI	**Oni**	**25.59**	**316**	P	**P**	**23 20 16.3**	**+2.2**	**ZALV**	**Zalesovo Beam**	**30.84**	**20**	P	P	**23 21 00.6**	**-0.2**
ONI				S	S	23 25 03.0	+22	ZALV				pmax	pmax		
DAGI	**Agillar**	**25.82**	**312**	*i* P	**P**	**23 20 17.5**	**+1.1**		comp=Z,5.0nm,0.5s						
DDEM	**Demirkent**	**25.85**	**312**	*i* P	**P**	**23 20 17.8**	**+1.2**	ZALV				MLR	MLR		
									comp=Z,181nm,19.6s						
								ZALV	**Zalesovo Beam**	**30.84**	**20**	P	P	**23 21 00.6**	**-0.2**

ARU	**Arti**	**31.08**	**351***d*	*i*P	**P**	**23 21 03.7**	**+0.8**
ARU						23 22 01.9	
ARU				S	**S**	**23 26 08.2**	**+1.0**
ARU				SS	**SnSn**	**23 27 46.9**	**-1.8**
ARU				pmax	pmax		
	comp=Z,17nm,1.2s						
ARU				MLR	MLR		
	comp=Z,716nm,15.0s						
ARU	**Arti**	**31.08**	**351**	*e*P	**P**	**23 21 04.2**	**+1.3**
	comp=Z,98nm,2.3s						
ARU	**Arti**	**31.08**	**351**	P	**P**	**23 21 04.0**	**+1.1**
	comp=Z,63nm,1.0s,SNR=5.7						
NVS	**Novosibirsk**	**31.15**	**18**	*e*P	**P**	**23 21 02.6**	**-0.9**
NVS				pmax	pmax		
	comp=Z,17nm,1.7s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
BR131	**Keskin Array S**	**31.20**	**304**	*e*P	**P**	**23 21 03.8**	**-0.6**
	comp=E,2.1nm,0.9s						
BR131				*e*PcP	**PcP**	**23 23 58.8**	**-0.2**
BRTR	**Keskin Array B**	**31.20**	**304**	P	**P**	**23 21 04.2**	**-0.1**
	comp=E,1.1nm,0.8s,baz=116,slow=8.7,SNR=12						
BRTR				PcP	**PcP**	**23 23 59.4**	**+0.4**
	comp=E,1.5nm,0.8s,baz=140,slow=5.6,SNR=5.2						
BRTR				LR	LR	23 35 42.5	
	comp=E,515nm,21.7s,baz=102,slow=40						
BRTR	**Keskin Array B**	**31.20**	**304**	P	**P**	**23 21 04.3**	**-0.1**
BRTR				PcP	**PcP**	**23 23 59.4**	**+0.4**
SVE	**Sverdlovsk**	**31.20**	**353**⇑	*i*P	**P**	**23 21 05.4**	**+1.5**
SVE				pmax	pmax		
	comp=Z,23nm,1.5s						
SVE				MLR	MLR		
	comp=Z,624nm,12.0s						
VRHR	**Novokhopersk**	**31.81**	**329**	*e*P	**P**	**23 21 08.4**	**-1.0**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.7s						
KMI	**Kunming**	**31.97**	**84**	P	**P**	**23 21 08.9**	**-2.5**
KMI				pP	**pP**	**23 21 17.8**	**+1.1**
KMI				sP	**sP**	**23 21 21.3**	**+2.5**
KMI				PP	**PnPn**	**23 22 17.8**	**+1.3**
KMI				S	**S**	**23 26 21.1**	**-1.3**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				pmax	pmax		
	comp=Z,95nm,6.2s						
KMI				LR	LR		
	comp=N,1μm,12.3s						
KMI				LR	LR		
	comp=E,660nm,13.0s						
KMI				LR	LR		
	comp=Z,1μm,15.5s						
SRDT	**SRDT**	**31.98**	**105**	P	**P**	**23 21 13.7**	**+2.4**
KDHN	**Kadinhani**	**32.05**	**302**	*i* P	**P**	**23 21 10.8**	**-1.0**
HVS	**Khovu-Aksy**	**32.22**	**32**⇑	*e*P	**P**	**23 21 13.7**	**+0.6**
HVS				pmax	pmax		
	comp=Z,56nm,1.7s						
HVS	**Khovu-Aksy**	**32.22**	**32**	P	**P**	**23 21 13.8**	**+0.6**
CD2	**Chengdu**	**32.38**	**73**	P	**P**	**23 21 15.6**	**+0.9**
CD2				pP	**pP**	**23 21 20.0**	**0.0**
CD2				sP	**sP**	**23 21 22.6**	**+0.4**
CD2				PP	**PnPn**	**23 22 23.6**	**+2.1**
CD2				S	**S**	**23 26 28.3**	**0.0**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,130nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,16.1s						
CD2				LR	LR		
	comp=Z,1μm,9.5s						
SIM	**Simferopol'**	**32.66**	**314***c*	*i*P	**P**	**23 21 17.0**	**+0.1**
SIM				S	**S**	**23 26 36.0**	**+3.8**
SIM				pmax	pmax		
	comp=Z,19μm,0.7s						
LZH	**Lanzhou**	**32.77**	**63**	*e*P	**P**	**23 21 19.3**	**+1.1**
LZH				pP	**pP**	**23 21 23.3**	**-0.2**
LZH				sP	**sP**	**23 21 26.1**	**+0.4**
LZH				*e*S	**S**	**23 26 34.4**	**-0.1**
LZH				sS	**sS**	**23 26 41.1**	**-2.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,210nm,5.4s						
LZH				LR	LR		
	comp=N,2μm,12.9s						
LZH				LR	LR		
	comp=E,540nm,12.6s						
LZH				LR	LR		
	comp=Z,3μm,14.4s						
VORD	**Divnogorie**	**32.84**	**327**	*e*P	**P**	**23 21 17.7**	**-0.7**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VSR	**Storozhevoye**	**33.06**	**327**	*e*P	**P**	**23 21 20.2**	**-0.1**
GOLH	**Golhisar**	**33.81**	**299**	*i* P	**P**	**23 21 27.0**	**-0.2**
SOKR	**Solikamsk**	**34.36**	**351**	*e*P	**P**	**23 21 33.3**	**+1.8**
SOKR				S	S	23 27 04.7	+6.5
SOKR				pmax	pmax		
	comp=Z,40nm,1.5s						
SOKR				MLR	MLR		
	comp=Z,730nm,21.0s						
TURN	**Turunc**	**34.52**	**298**	*i* P	**P**	**23 21 35.5**	**+2.3**
GYA	**Guiyang**	**35.27**	**80**⇑	*i*P	**P**	**23 21 38.1**	**-1.8**
GYA				PP	**PP**	**23 23 01.3**	**+1.3**
GYA				S	**S**	**23 27 12.8**	**-0.4**
GYA				ScP	**ScP**	**23 27 55.0**	**-0.6**
GYA				ScS	**ScS**	**23 31 58.3**	**-1.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,680nm,16.0s						
GYA				LR	LR		
	comp=E,520nm,17.4s						
GYA				LR	LR		
	comp=Z,750nm,16.9s						
MOY	**Mondy**	**36.20**	**36**	*e*P	**P**	**23 21 49.1**	**+1.5**
MOY				pmax	pmax		
	comp=Z,22nm,2.8s						
TIRR	**Tirgusor**	**36.28**	**311**	⇑P	**P**	**23 21 48.5**	**+0.2**
TIRR	**Tirgusor**	**36.28**	**311**	*e*P	**P**	**23 21 49.0**	**+0.7**
	comp=Z,155nm,2.3s						
TIRR	**Tirgusor**	**36.28**	**311

comp=Z,6.0nm,1.2s
KIS Kishinev 36.86 315 *e*P **P 23 21 55.0 +1.9**
KIS *e* 23 22 04.0
KIS Kishinev 36.86 315 *e*P **P 23 21 55.0 +1.9**
ENH Enshi 37.34 73 *e*P **P 23 21 56.9 -0.6**
IDI Anoyia 37.38 295 *e*P **P 23 21 58.4 +0.5**
comp=Z,23nm,0.7s
PGOR Pogoanele 37.39 311⇑*i*P **P 23 21 59.5 +1.8**
SIVA Sivas 37.44 294 P **P 23 22 01.4 +3.1**
SONM Songino Array 37.60 44 P **P 23 22 01.0 +1.4**
comp=Z,23nm,1.0s,baz=249,slow=8.6,SNR=143
SONM LR LR 23 38 07.5
comp=Z,657nm,18.8s,baz=132,slow=37
SONM Songino Array 37.60 44 P **P 23 22 01.0 +1.4**
TLY Talaya 37.63 37 *e*P **P 23 22 00.0 +0.3**
TLY *e* 23 23 30.5
TLY *e*S **S 23 27 52.5 +3.9**
TLY *e*SSS SSS 23 30 53.9
TLY *e* 23 32 04.5
TLY pmax pmax
comp=Z,13nm,1.5s
TLY MLR MLR
comp=Z,396nm,15.0s
TLY Talaya 37.63 37 *e*P **P 23 22 01.1 +1.5**
comp=Z,27nm,1.6s
TLY Talaya 37.63 37 P **P 23 22 01.6 +1.9**
SNR=7.1
TLY mb 23 22 05.1
SNR=7.7
ISR Istrita 37.75 311⇑P **P 23 22 03.0 +2.1**
ISR Istrita 37.75 311 P **P 23 22 03.0 +2.1**
ISR Istrita 37.75 311⇑*i*P **P 23 22 03.0 +2.1**
VRI Vrincioaia 37.85 312⇑P **P 23 22 03.2 +1.6**
VRI Vrincioaia 37.85 312 P **P 23 22 03.1 +1.5**
VRI Vrincioaia 37.85 312⇑*i*P **P 23 22 03.2 +1.6**
PLOR Plostina 37.89 312⇓P **P 23 22 03.6 +1.6**
PLOR Plostina 37.89 312⇓*i*P **P 23 22 03.6 +1.6**
KULM Kulim 37.98 117 *e*P **P 23 22 03.7 +0.7**
comp=Z,28nm,0.8s
GVD Gavdhos 38.03 294 *e*P **P 23 22 03.4 +0.2**
comp=Z,47nm,0.9s
ULN Ulaanbaatar 38.03 44 *e*P **P 23 22 03.6 +0.3**
comp=Z,24nm,1.1s
ULN Ulaanbaatar 38.03 44 P **P 23 22 04.6 +1.3**
SNR=15
ULN mb 23 22 07.9
SNR=28
ULN Ulaanbaatar 38.03 44 P **P 23 22 04.1 +0.8**
AK02 Malin Array Si 38.08 321 *e*P **P 23 22 03.2 -0.3**
AKASG Malin Array Be 38.09 321 P **P 23 22 03.4 -0.1**
comp=Z,1.7nm,0.4s,baz=122,slow=7.4,SNR=7.5
AKASG LR LR 23 40 13.0
comp=Z,287nm,21.3s,baz=125,slow=40
AKASG Malin Array Be 38.09 321 *i* P **P 23 22 06.6 +3.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 38.09 321 P **P 23 22 03.4 -0.1**
TESR 38.10 313 P **P 23 22 04.1 +0.4**
TESR 38.10 313⇑*i*P **P 23 22 04.1 +0.4**
KIEV Kiev 38.10 321 *e*P **P 23 22 03.4 -0.2**
KIEV pmax pmax
comp=Z,147nm,2.6s
KIEV Kiev 38.10 321 *e*P **P 23 22 03.4 -0.2**
comp=Z,147nm,2.6s
PSI Prapat 38.15 122 P **P 23 22 03.7 -0.9**
comp=Z,23nm,0.9s,baz=293,slow=7.8,SNR=11
PSI LR LR 23 39 43.1
comp=Z,962nm,20.2s,baz=322,slow=39
PSI Prapat 38.15 122 P **P 23 22 05.5 +0.9**
KARN Karanos 38.18 295 P **P 23 22 05.3 +0.7**
MLR Muntele Rosu 38.26 311 P **P 23 22 07.7 +2.5**
MLR Muntele Rosu 38.26 311⇓*i*P **P 23 22 07.6 +2.4**
HUMR Humele 38.67 310⇑*i*P **P 23 22 09.4 +0.9**
IPM Ipoh 38.76 118 *e*P **P 23 22 08.2 -1.4**
comp=Z,24nm,1.1s
DOPR Dopca 38.77 312⇓*i*P **P 23 22 10.6 +1.2**
VOIR 38.85 311⇑P **P 23 22 10.0 -0.2**
VOIR 38.85 311 P **P 23 22 09.9 -0.2**
VOIR 38.85 311⇑*i*P **P 23 22 10.0 -0.2**
SRS Serrai 38.98 304 P **P 23 22 11.9 +0.7**
SRS Serrai 38.98 304 P **P 23 22 11.9 +0.7**
ARR Arges 39.12 311 P **P 23 22 13.1 +0.7**
ARR Arges 39.12 311⇑*i*P **P 23 22 13.1 +0.7**
BUR01 Bucovina Ar. S 39.37 314 P **P 23 22 15.5 +1.0**
BURAR Bucovina Array 39.37 314⇓*i*P **P 23 22 15.5 +1.0**
BUR08 Bucovina Ar. S 39.39 314 *e*P **P 23 22 15.6 +1.0**
HHC Hu-ho-hao-te 39.43 57 *e*P **P 23 22 15.9 +0.8**
HHC pP **pP 23 22 20.4 -0.1**
HHC sP **sP 23 22 22.9 +0.3**
HHC PP **PnPn 23 23 50.6 +2.2**
HHC PcS **PcS 23 28 13.3 +0.4**
HHC S **S 23 28 17.1 +0.9**
HHC sS **sS 23 28 24.3 -0.8**
HHC ScS **ScS 23 32 22.0 -1.0**
HHC pmax pmax
comp=Z,22nm,1.4s
HHC pmax pmax
comp=Z,140nm,6.2s
HHC LR LR
comp=N,1μm,13.7s
HHC LR LR
comp=E,960nm,15.9s
HHC LR LR
comp=Z,890nm,17.8s
VTS Vitosha 39.51 306⇑P **P 23 22 16.2 +0.4**
VTS Vitosha 39.51 306 P **P 23 22 16.6 +0.8**
VTS Vitosha 39.51 306⇑*i*P **P 23 22 16.2 +0.4**
KMBO Kilima Mbogo 39.57 232 *e*P **P 23 22 17.4 +0.7**
comp=Z,12nm,1.3s
KLMR Klimovskoe 39.66 339 *e*P **P 23 22 15.9 -0.7**
KLMR pmax pmax
comp=Z,37nm,0.9s
LOT Lotru 39.73 311 P **P 23 22 17.5 0.0**
LOT Lotru 39.73 311⇑*i*P **P 23 22 17.6 0.0**
QIZ Qiongzhong 39.81 91 P **P 23 22 18.3 -0.1**
QIZ PP **PP 23 23 49.8 -0.2**
QIZ pmax pmax
comp=Z,6.0nm,1.4s
QIZ pmax pmax
comp=Z,88nm,7.8s
QIZ LR LR
comp=N,620nm,20.4s
QIZ LR LR
comp=E,240nm,19.6s
GRG Griva 39.85 304 P **P 23 22 20.3 +1.8**
GRG Griva 39.85 304 P **P 23 22 20.3 +1.8**
ITM Ithomi 39.87 298 P **P 23 22 21.7 +3.0**
MNSI Mandailing Nat 39.95 124 P **P 23 22 20.5 +1.0**
FNA Florina 40.60 303 P **P 23 22 25.5 +0.8**
FNA Florina 40.60 303 P **P 23 22 25.5 +0.8**
SKO Skopje 40.71 305 *e*P **P 23 22 25.1 -0.4**
DRGR 40.78 312⇓P **P 23 22 27.1 +1.0**
DRGR 40.78 312 P **P 23 22 27.5 +1.4**
DRGR 40.78 312⇓*i*P **P 23 22 27.1 +1.0**
BZS Buzias 41.24 310⇓P **P 23 22 30.9 +1.1**
BZS Buzias 41.24 310 P **P 23 22 30.8 +1.0**
BZS Buzias 41.24 310⇓*i*P **P 23 22 30.9 +1.1**
PPI Padang Panjang 41.39 124 P P 23 22 34.5 +3.1
WHN Wuhan 41.50 72⇑P **P 23 22 32.8 +0.6**
WHN S **S 23 28 49.1 +2.0**
WHN LR LR
comp=N,2μm,11.4s
WHN LR LR
comp=E,1μm,14.8s
WHN LR LR
comp=Z,1μm,15.8s
UZH Uzhgorod 41.54 315 *e*P **P 23 22 34.5 +2.2**
UZH *e*S **S 23 28 49.8 +2.5**
UZH *e*SS SS 23 31 40.0 -12
KWP Kalwaria Pacla 41.58 317 *e*P **P 23 22 34.0 +1.3**
KWP Kalwaria Pacla 41.58 317⇑P **P 23 22 33.9 +1.3**
KWP Kalwaria Pacla 41.58 317 *e*P **P 23 22 32.6 -0.1**
comp=Z,25nm,0.3s
KWP Kalwaria Pacla 41.58 317⇑*i*P **P 23 22 33.9 +1.3**
KWP Kalwaria Pacla 41.58 317 *e*P **P 23 22 33.9 +1.3**
KOLS Kolonicke sedl 41.64 315 *e*P **P 23 22 34.5 +1.3**
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 41.64 315 P P 23 22 36.7 +3.5
KOLS Kolonicke sedl 41.64 315 *e*P **P 23 22 34.5 +1.3**
CRVS Cervenica-Dubn 42.15 315 *e*P **P 23 22 38.1 +0.8**
CRVS pmax pmax
comp=Z,13nm,1.4s
CRVS Cervenica-Dubn 42.15 315 P **P 23 22 41.1 +3.8**
CRVS Cervenica-Dubn 42.15 315 *e*P **P 23 22 38.1 +0.8**
TMCR Tamitsa 42.63 342 *e*P **P 23 22 41.3 +0.4**
TMCR pmax pmax
comp=Z,29nm,0.7s
SUW Suwalki 42.84 323 *e*P **P 23 22 43.1 +0.4**
SUW Suwalki 42.84 323 *e*P **P 23 22 43.2 +0.4**
SUW pmax pmax
comp=Z,29nm,0.9s
SUW Suwalki 42.84 323 *e*P **P 23 22 43.2 +0.4**
comp=Z,29nm,0.9s
SUW Suwalki 42.84 323 *e*P **P 23 22 43.1 +0.4**
BJI Beijing 42.84 58 P **P 23 22 43.9 +0.9**
BJI pmax pmax
comp=Z,27nm,1.0s
BJI pmax pmax
comp=Z,150nm,5.0s
BJI LR LR
comp=N,430nm,16.9s
BJI LR LR
comp=E,730nm,16.9s
BJI LR LR
comp=Z,630nm,22.5s
PSZ Piszkesteto 42.91 313 *e*P **P 23 22 44.9 +1.3**
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 42.91 313 *e*P **P 23 22 44.9 +1.3**
comp=Z,13nm,1.1s
VSU Vasula 43.10 330 P **P 23 22 45.5 +0.7**
VSU Vasula 43.10 330 P **P 23 22 45.5 +0.7**
PKSM Moragy 43.39 311⇓P **P 23 22 48.2 +0.8**
PKSM Moragy 43.39 311 P **P 23 22 48.0 +0.6**
PKSM Moragy 43.39 311⇓*i*P **P 23 22 48.2 +0.8**
OJC Ojcow 43.55 317 *e*P **P 23 22 49.4 +0.8**
OJC pmax pmax
comp=Z,168nm,2.9s
OJC Ojcow 43.55 317 *e*P **P 23 22 49.4 +0.8**
comp=Z,168nm,2.9s
VYHS Vyhne 43.73 314 *e*P **P 23 22 50.4 +0.3**
VYHS pmax pmax
comp=Z,9.0nm,1.8s
VYHS Vyhne 43.73 314 P **P 23 22 52.1 +2.0**
VYHS Vyhne 43.73 314 *e*P **P 23 22 50.4 +0.3**
JOF Joensuu 43.88 337 *e*P **P 23 22 50.6 -0.4**
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 43.88 337 P **P 23 22 53.0 +2.0**
JOF Joensuu 43.88 337 *e*p **P 23 22 50.6 -0.4**
comp=Z,8.3nm,0.6s
TIP Timpagrande 44.02 300 *e*P **P 23 22 54.3 +1.7**
comp=Z,23nm,0.9s
OKC Ostrava-Krasne 44.48 316 *e*P **P 23 22 56.2 +0.1**
OKC Ostrava-Krasne 44.48 316 *e*P **P 23 22 56.2 +0.1**
JAVC Velka Javorina 44.56 314 P P 23 23 01.0 +4.2
JAVC Velka Javorina 44.56 314 P P 23 23 01.0 +4.2
SMOL Smolenice 44.65 314 *e*P **P 23 22 59.9 +2.4**
SMOL Smolenice 44.65 314 *e*P **P 23 22 59.9 +2.4**
CUC Castrocucco 44.77 301 *e*P **P 23 22 59.9 +1.3**
comp=Z,50nm,0.9s
FINES FINESS Array B 44.97 333 P **P 23 22 59.6 -0.1**
comp=Z,7.3nm,0.7s,baz=119,slow=7.3,SNR=24
FINES LR LR 23 44 15.6
comp=Z,818nm,18.7s,baz=117,slow=39
FINES FINESS Array B 44.97 333 P **P 23 22 59.6 -0.1**
KOGS Kog 45.06 311 *i* P **P 23 23 01.1 +0.4**
KSI Kapahiang 45.15 125 P **P 23 23 04.5 +2.6**
KSI Kapahiang 45.15 125 P **P 23 23 04.5 +2.6**
NJ2 Nanjing 45.18 70 *e*P **P 23 23 01.8 -0.1**
NJ2 pP **pP 23 23 05.3 -2.1**
NJ2 sP **sP 23 23 06.5 -3.0**
NJ2 PP **PP 23 24 46.0 -1.6**
NJ2 S **S 23 29 42.5 +1.4**
NJ2 sS **sS 23 29 52.5 +2.5**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,100nm,5.3s
NJ2 LR LR
comp=N,250nm,13.6s
NJ2 LR LR
comp=E,470nm,12.7s
NJ2 LR LR
comp=Z,2μm,14.3s
KAF Kangasniemi 45.24 334 *e*P **P 23 23 01.6 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 45.24 334 *e*p **P 23 23 01.6 -0.4**
comp=Z,7.9nm,0.7s
VRAC Vranov 45.35 315 P **P 23 23 06.2 +3.2**
KRUC Moravsky 45.43 314 P **P 23 23 05.6 +2.0**
KRUC Moravsky 45.43 314 P **P 23 23 05.6 +2.0**
BOJS Bojanci 45.62 309 *i* P **P 23 23 06.4 +1.1**
ARSA Arzberg 45.68 312 P **P 23 23 06.5 +0.8**
ARSA Arzberg 45.68 312⇑*i*P **P 23 23 06.0 +0.3**
comp=Z,20nm,1.5s
BOD Bodaibo 45.73 33 *e*P **P 23 23 05.8 -0.1**
BOD pmax pmax
comp=Z,6.0nm,1.3s
DPC Dobruska-Polom 45.74 316 *e*P **P 23 23 07.2 +1.0**
DPC MLR MLR
comp=Z,300nm,18.3s
DPC Dobruska-Polom 45.74 316 P **P 23 23 09.3 +3.1**
DPC Dobruska-Polom 45.74 316 *e*P **P 23 23 07.2 +1.0**
DPC AMS AMS 23 47 00.0
comp=Z,300nm,18.3s
PERS Pernice 45.87 311 *i* P **P 23 23 07.5 +0.3**
SOKA Soboth 45.93 311⇑*i*P **P 23 23 08.0 +0.2**
comp=Z,7.0nm,1.1s
UPC Upice 45.97 316 *e*P **P 23 23 07.2 -0.7**
UPC Upice 45.97 316 *e*P **P 23 23 07.2 -0.7**
OBKA Obir 46.24 310 P **P 23 23 13.0 +2.8**
LVZ Lovozero 46.36 344⇓*e*P **P 23 23 11.3 +0.5**
LVZ pmax pmax
comp=Z,116nm,2.5s
LVZ Lovozero 46.36 344 *e*P P 23 23 14.2 +3.4
APA Apatity 46.44 343⇑*i*P **P 23 23 12.0 +0.7**
APA *i* 23 24 40.0
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 46.52 46 *e*P **P 23 23 12.4 +0.1**
comp=Z,10nm,0.8s
MSF Maaselka 46.57 340 P **P 23 23 14.9 +2.5**
MSF Maaselka 46.57 340 P **P 23 23 14.9 +2.5**
MOA Molln 46.61 312 P **P 23 23 15.7 +2.6**
CADS Cadrg 46.76 311 *i* P **P 23 23 14.0 -0.2**
PRU Pruhonice 46.79 315 *e*P P 23 23 18.9 +4.5
PRU *e* 23 23 33.8
PRU Pruhonice 46.79 315 *e*P P 23 23 18.9 +4.5
PRU *ex* x 23 23 33.8
KBA Koelnbreinsper 47.13 311 P **P 23 23 18.0 +0.7**
KBA Koelnbreinsper 47.13 311 P **P 23 23 18.0 +0.7**
KBA Koelnbreinsper 47.13 311⇑*i*P **P 23 23 17.5 +0.2**
comp=Z,18nm,1.0s,SNR=7.8
GEC2 GERESS Array S 47.14 314 *e*P **P 23 23 18.0 +0.8**
GEC2 GERESS Array S 47.14 314 *e*P **P 23 23 18.0 +0.8**
GERES GERESS Array S 47.14 314 P **P 23 23 17.2 0.0**
comp=Z,2.4nm,0.8s,baz=98,slow=6.9,SNR=15
GERES PcP **PcP 23 24 48.6 -0.1**
comp=Z,2.2nm,0.8s,baz=90,slow=4.0,SNR=5.6
GERES LR LR 23 48 52.8
comp=Z,283nm,18.6s,baz=110,slow=43
GERES GERESS Array B 47.14 314 P **P 23 23 17.2 0.0**
GERES PcP **PcP 23 24 48.6 -0.1**
KHC Kasperske Hory 47.26 314 *e*P **P 23 23 18.1 0.0**
KHC *e* 23 23 30.5
KHC MLR MLR
comp=Z,300nm,23.0s
KHC Kasperske Hory 47.26 314 P **P 23 23 18.0 0.0**
KHC Kasperske Hory 47.26 314 *e*P **P 23 23 18.1 0.0**
KHC *es*P **sP 23 23 30.5 +4.8**
KHC AMS AMS 23 46 10.0
comp=Z,300nm,23.0s
BRG Berggiesshubel 47.34 316 *e*P **P 23 23 19.4 +0.8**
comp=Z,8.1nm,1.0s
BRG
comp=N,933nm,18.8s
BRG
comp=E,603nm,12.9s
BRG
comp=Z,522nm,15.8s
BRG Berggiesshubel 47.34 316 *e*P **P 23 23 19.4 +0.8**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,933nm,18.8s
BRG MLR MLR
comp=E,603nm,12.9s
BRG MLR MLR
comp=Z,522nm,15.8s
BRG Berggiesshubel 47.34 316 P **P 23 23 21.2 +2.6**
ABTA Abfaltersbach 47.66 311⇑*i*P **P 23 23 21.1 -0.2**
comp=Z,14nm,0.9s,SNR=8.0
CLL Collm 48.00 317 *e*P **P 23 23 25.0 +1.3**
CLL *e*S **S 23 30 22.0 +1.2**
CLL *e*SSS SSS 23 34 42.0
CLL LmH 23 46 00.0
comp=N,1μm,20.0s
CLL LmH 23 46 00.0
comp=E,300nm,21.5s
KSM Kuching 48.03 113 *e*P **P 23 23 25.8 +1.3**
comp=E,22nm,1.1s
WTTA Wattenberg 48.31 311 P **P 23 23 26.3 -0.1**
WTTA Wattenberg 48.31 311 P **P 23 23 26.3 -0.1**
WTTA Wattenberg 48.31 311⇑*i*P **P 23 23 25.8 -0.7**
comp=E,16nm,0.9s
SSLB Suanglung 48.48 80 *e*P **P 23 23 30.7 +2.8**
comp=E,18nm,1.1s
GRB4 Grafenberg Arr 48.62 314 P **P 23 23 29.9 +1.3**
YHNB Yeheng 48.64 79 *e*P **P 23 23 29.5 +0.3**
comp=E,27nm,1.1s
MOTA Moosalm 48.68 311⇑*i*P **P 23 23 28.1 -1.2**
comp=E,9.3nm,0.8s,SNR=9.8
MOX Moxa 48.75 316 P **P 23 23 30.7 +1.1**
MOX Moxa 48.75 316 P **P 23 23 30.7 +1.1**
GRF Grafenberg Arr 48.87 314 *e*P **P 23 23 31.3 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.4s
GRF Grafenberg Arr 48.87 314 *e*P **P 23 23 31.3 +0.8**
comp=Z,10.0nm,1.4s
FETA Feichten 48.90 311⇑*i*P **P 23 23 30.3 -0.7**
comp=Z,18nm,1.0s,SNR=10
RETA Reutte 48.92 311⇓*i*P **P 23 23 29.9 -1.1**
comp=Z,5.6nm,0.7s,SNR=7.6
FUORN Ofenpass-Fuorn 49.19 310 *e*P **P 23 23 33.5 +0.2**
comp=Z,7.4nm,0.8s
DAVA Damuels 49.50 311 P **P 23 23 35.0 -0.6**
DAVA Damuels 49.50 311⇑*i*P **P 23 23 34.7 -0.8**
comp=Z,19nm,1.0s
KEV Kevo 49.65 343 *e*P **P 23 23 36.9 +0.8**
KEV pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 49.65 343 *ep* **P 23 23 36.9 +0.8**
comp=Z,7.7nm,0.8s
CLZ Clausthal 49.71 317 P P 23 23 40.6 +3.7
CLZ Clausthal 49.71 317 P P 23 23 40.6 +3.7
VSL Villasalto 49.74 301 *e*P **P 23 23 37.3 0.0**
comp=Z,25nm,1.1s
TUE Stuetta 49.81 310 *e*P **P 23 23 37.4 -0.6**
comp=Z,11nm,0.8s
HFA0 Hagfors New Ar 49.87 328 P **P 23 23 37.0 -0.9**
CN2 Changchun 49.91 54 *e*P **P 23 23 40.8 +2.3**
CN2 *es*P **sP 23 23 47.8 +1.6**
CN2 *e*S **S 23 30 49.9 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,600nm,14.0s
ARCES ARCESS Array B 49.92 342 P **P 23 23 39.0 +0.8**
comp=Z,12nm,0.8s,baz=144,slow=6.8,SNR=28
ARCES LR LR 23 45 05.7
comp=Z,632nm,19.6s,baz=129,slow=36
ARCES ARCESS Array B 49.92 342 P **P 23 23 39.0 +0.8**
PGF Pioggiola 49.95 305 *e*P **P 23 23 37.6 -1.4**
comp=Z,42nm,1.5s
PGF Pioggiola 49.95 305 *e*P **P 23 23 37.6 -1.4**
PGF pmax pmax
comp=Z,42nm,1.5s
PGF Pioggiola 49.95 305 *e*P **P 23 23 37.6 -1.4**
comp=Z,42nm,1.5s
MUGIO Muggio 49.99 309 P **P 23 23 40.6 +1.4**
KEST Kesra 50.03 296 P **P 23 23 39.3 -0.4**
comp=Z,5.0nm,0.8s,baz=300,slow=0.7,SNR=15
KEST Kesra 50.03 296 *e*P **P 23 23 40.3 +0.6**
BNALP Bannalp 50.47 310 P **P 23 23 42.5 -0.4**
SLE Schleitheim 50.47 312 P **P 23 23 43.7 +0.9**
SLE Schleitheim 50.47 312 P **P 23 23 43.7 +0.9**
SAOF Saorge 51.01 307 P **P 23 23 47.0 +0.2**
SAOF Saorge 51.01 307 P **P 23 23 47.0 +0.2**
SAOF Saorge 51.01 307 *e*P **P 23 23 46.4 -0.4**
SBF Sospel 51.09 307 *e*P **P 23 23 46.7 -0.8**
comp=Z,43nm,0.8s
SBF Sospel 51.09 307 *e*P **P 23 23 46.7 -0.8**
SBF Sospel 51.09 307 *e*P **P 23 23 46.7 -0.8**
AUTN L'Aution 51.10 307 *e*P **P 23 23 47.4 -0.4**
AUTN L'Aution 51.10 307 *e*P **P 23 23 47.4 -0.4**
AUTN L'Aution 51.10 307 *e*P **P 23 23 47.4 -0.4**
BBS Basel-Blauen 51.12 311 *e*P **P 23 23 46.7 -1.0**
BBS Basel-Blauen 51.12 311 *e*P **P 23 23 46.7 -1.0**
REVF Revere 51.14 306 *e*P **P 23 23 48.0 +0.1**
REVF Revere 51.14 306 *e*P **P 23 23 48.0 +0.1**
REVF Revere 51.14 306 *e*P **P 23 23 48.0 +0.1**
SENIN Lac Senin/Sane 51.22 310 *e*P **P 23 23 48.0 -0.7**
comp=Z,11nm,0.8s
TOUF Mont Tournerai 51.23 307 *e*P **P 23 23 48.1 -0.6**
TOUF Mont Tournerai 51.23 307 *e*P **P 23 23 48.1 -0.6**
TOUF Mont Tournerai 51.23 307 *e*P **P 23 23 48.1 -0.6**
MVIF Mont Vial 51.30 307 *e*P **P 23 23 47.7 -1.5**
MVIF Mont Vial 51.30 307 *e*P **P 23 23 47.7 -1.5**
MVIF Mont Vial 51.30 307 *e*P **P 23 23 47.7 -1.5**
NB2 NORSAR Subarra 51.30 329 P **P 23 23 48.0 -0.8**
comp=Z,2.7nm,0.7s,baz=108,slow=7.4
NB2 NORSAR Subarra 51.30 329 P **P 23 23 52.0 +3.2**
NB2 NORSAR Subarra 51.30 329 P **P 23 23 52.0 +3.2**
NOA NORSAR Array B 51.30 329 P **P 23 23 48.1 -0.7**
comp=Z,3.8nm,0.7s,baz=108,slow=7.4,SNR=9.4
NOA LR LR 23 47 00.5
comp=Z,261nm,19.9s,baz=115,slow=38
NOA NORSAR Array B 51.30 329 P **P 23 23 48.1 -0.7**
BOURR Bourrignon 51.31 311 P **P 23 23 49.3 +0.2**
CDF Champ du Feu 51.33 312⇑*i*P **P 23 23 48.2 -1.1**
comp=Z,10nm,0.9s
CDF Champ du Feu 51.33 312⇑*i*P **P 23 23 48.2 -1.1**
CDF Champ du Feu 51.33 312⇑*i*P **P 23 23 48.2 -1.1**
IBBN Ibbenburen 51.37 317 P **P 23 23 51.6 +2.2**
ECH Echery 51.40 312 *e*P **P 23 23 48.6 -1.1**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 51.40 312 *e*P **P 23 23 48.6 -1.1**
comp=Z,17nm,1.1s
ECH Echery 51.40 312 *e*P **P 23 23 49.0 -0.7**
RUP Ruppelstein 51.56 314 *e*P **P 23 23 50.8 -0.1**
RUP Ruppelstein 51.56 314 *e*P **P 23 23 50.8 -0.1**
MBDF Montbardon 51.57 308⇑*i*P **P 23 23 49.9 -1.3**
comp=Z,36nm,0.9s
MBDF Montbardon 51.57 308⇑*i*P **P 23 23 49.9 -1.3**
MBDF Montbardon 51.57 308⇑*i*P **P 23 23 49.9 -1.3**
LOMF Lomont 51.58 311 *e*P **P 23 23 50.8 -0.4**
LOMF Lomont 51.58 311 *e*P **P 23 23 50.8 -0.4**
LOMF Lomont 51.58 311 *e*P **P 23 23 50.8 -0.4**
HINF Hinteralfeld 51.58 312⇑*i*P **P 23 23 50.1 -1.0**
comp=Z,9.3nm,0.8s
HINF Hinteralfeld 51.58 312⇑*i*P **P 23 23 50.1 -1.0**
HINF Hinteralfeld 51.58 312⇑*i*P **P 23 23 50.1 -1.0**
LPG La Plagne 51.59 309⇑*i*P **P 23 23 50.5 -1.0**
comp=Z,32nm,1.2s
LPG La Plagne 51.59 309⇑*i*P **P 23 23 50.5 -1.0**
LPG La Plagne 51.59 309⇑*i*P **P 23 23 50.5 -1.0**
LPL La Plagne 51.60 309⇑*i*P **P 23 23 50.5 -1.0**
comp=Z,42nm,1.2s
LPL La Plagne 51.60 309⇑*i*P **P 23 23 50.5 -1.0**
LPL La Plagne 51.60 309⇑*i*P **P 23 23 50.5 -1.0**
BNI Bardonecchia 51.63 308 *e*P **P 23 23 50.6 -1.1**
BNI pmax pmax
comp=Z,11nm,0.9s
BNI Bardonecchia 51.63 308 *e*P **P 23 23 50.6 -1.1**
comp=Z,11nm,0.9s
OGAG Argentiere 51.73 307 P **P 23 23 54.3 +1.9**
LMR La Mourre 51.77 306 *e*P **P 23 23 51.4 -1.1**
LMR La Mourre 51.77 306 *e*P **P 23 23 51.4 -1.1**
LMR La Mourre 51.77 306 *e*P **P 23 23 51.4 -1.1**

HAU	**Haudompre**	**51.93**	**312**	⇑	*i*P	**P**	**23 23 52.7**	**-1.0**
HAU					*e*R			
	comp=Z,308nm,19.2s							
HAU	**Haudompre**	**51.93**	**312**	⇑	*i*P	**P**	**23 23 52.7**	**-1.0**
HAU	**Haudompre**	**51.93**	**312**	⇑	*i*P	**P**	**23 23 52.7**	**-1.0**
KSAR	**Wonju Array Be**	**52.04**	**62**		P	**P**	**23 23 53.9**	**-0.8**
CABF	**La Chapelle**	**52.06**	**310**	⇑	*i*P	**P**	**23 23 54.6**	**-0.2**
	comp=Z,60nm,1.1s							
CABF	**La Chapelle**	**52.06**	**310**	⇑	*i*P	**P**	**23 23 54.6**	**-0.2**
CABF	**La Chapelle**	**52.06**	**310**	⇑	*i*P	**P**	**23 23 54.6**	**-0.2**
KSRS	**Korea Array**	**52.07**	**62**		P	**P**	**23 23 53.9**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=267,slow=7.2,SNR=9.6							
KSRS					LR	LR	23 47 07.2	
	comp=Z,534nm,21.9s,baz=268,slow=37							
ORIF	**Oris-en-Rattie**	**52.20**	**308**		*e*P	**P**	**23 23 53.8**	**-2.1**
	comp=Z,9.5nm,0.8s							
ORIF					*e*R			
	comp=Z,453nm,22.0s							
ORIF	**Oris-en-Rattie**	**52.20**	**308**		*e*P	**P**	**23 23 53.8**	**-2.1**
ORIF					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**52.20**	**308**		*e*P	**P**	**23 23 53.8**	**-2.1**
	comp=Z,9.5nm,0.8s							
PAGF	**Fort de Pagny**	**52.37**	**312**		*e*P	**P**	**23 23 55.8**	**-1.1**
	comp=Z,3.6nm,0.8s							
PAGF	**Fort de Pagny**	**52.37**	**312**		*e*P	**P**	**23 23 55.8**	**-1.1**
	comp=Z,3.6nm,0.8s							
SMRF	**Simiane la Rot**	**52.43**	**307**		*e*P	**P**	**23 23 57.8**	**+0.3**
	comp=Z,48nm,1.6s							
SMRF	**Simiane la Rot**	**52.43**	**307**		*e*P	**P**	**23 23 57.8**	**+0.3**
	comp=Z,48nm,1.6s							
MEZF	**Maizieres J'vi**	**52.81**	**312**	⇑	*i*P	**P**	**23 23 59.1**	**-1.1**
	comp=Z,18nm,0.8s							
MEZF	**Maizieres J'vi**	**52.81**	**312**	⇑	*i*P	**P**	**23 23 59.1**	**-1.1**
	comp=Z,18nm,0.8s							
SFTF	**Sexfontaines**	**52.81**	**312**	⇑	*i*P	**P**	**23 23 59.8**	**-0.4**
	comp=Z,54nm,1.2s							
SFTF	**Sexfontaines**	**52.81**	**312**	⇑	*i*P	**P**	**23 23 59.8**	**-0.4**
	comp=Z,54nm,1.2s							
MDJ	**Mudanjiang**	**52.89**	**52**		P	**P**	**23 24 00.8**	**0.0**
MDJ					pP	**pP**	**23 24 03.8**	**-2.6**
MDJ					sP	**sP**	**23 24 05.3**	**-3.2**
MDJ					ScP	**ScP**	**23 29 07.1**	**+0.5**
MDJ					PcS	**PcS**	**23 29 08.3**	**-0.1**
MDJ					S	**S**	**23 31 30.3**	**+1.2**
MDJ					sS	**sS**	**23 31 35.5**	**-2.7**
MDJ					pmax	pmax		
	comp=Z,8.0nm,1.2s							
MDJ					pmax	pmax		
	comp=Z,95nm,5.3s							
MDJ					LR	LR		
	comp=N,640nm,16.6s							
MDJ					LR	LR		
	comp=E,220nm,14.5s							
MDJ					LR	LR		
	comp=Z,440nm,20.2s							
GIVF	**Givet**	**53.02**	**314**		*e*P	**P**	**23 24 01.5**	**-0.2**
GIVF	**Givet**	**53.02**	**314**		*e*P	**P**	**23 24 01.5**	**-0.2**
GIVF	**Givet**	**53.02**	**314**		*e*P	**P**	**23 24 01.5**	**-0.2**
VIVF	**Saint-Julien-l**	**53.06**	**308**	⇑	*i*P	**P**	**23 24 01.3**	**-0.8**
	comp=Z,42nm,1.3s							
VIVF	**Saint-Julien-l**	**53.06**	**308**	⇑	*i*P	**P**	**23 24 01.3**	**-0.8**
VIVF	**Saint-Julien-l**	**53.06**	**308**	⇑	*i*P	**P**	**23 24 01.3**	**-0.8**
SSB	**Saint Sauveur**	**53.14**	**308**		*e*P	**P**	**23 24 00.6**	**-2.2**
SSB					pmax	pmax		
	comp=Z,27nm,1.4s							
SSB	**Saint Sauveur**	**53.14**	**308**		*e*P	**P**	**23 24 00.6**	**-2.2**
	comp=Z,27nm,1.4s							
BAIF	**Baives**	**53.42**	**314**		*e*P	**P**	**23 24 03.5**	**-1.1**
	comp=Z,15nm,1.0s							
BAIF	**Baives**	**53.42**	**314**		*e*P	**P**	**23 24 03.5**	**-1.1**
BAIF					pmax	pmax		
	comp=Z,15nm,1.0s							
BAIF	**Baives**	**53.42**	**314**		*e*P	**P**	**23 24 03.5**	**-1.1**
	comp=Z,15nm,1.0s							
LOR	**Lormes**	**53.60**	**311**	⇑	*i*P	**P**	**23 24 05.0**	**-1.0**
	comp=Z,13nm,0.8s							
LOR					*e*R			
	comp=Z,322nm,19.5s							
LOR	**Lormes**	**53.60**	**311**	⇑	*i*P	**P**	**23 24 05.0**	**-1.0**
SMF	**Signal de Mont**	**53.61**	**310**	⇑	*i*P	**P**	**23 24 05.3**	**-0.8**
	comp=Z,28nm,0.9s							
SMF	**Signal de Mont**	**53.61**	**310**	⇑	*i*P	**P**	**23 24 05.3**	**-0.8**
SMF	**Signal de Mont**	**53.61**	**310**	⇑	*i*P	**P**	**23 24 05.3**	**-0.8**
LASF	**Ste Croix**	**53.67**	**307**	⇑	*i*P	**P**	**23 24 06.1**	**-0.5**
	comp=Z,32nm,1.0s							
LASF	**Ste Croix**	**53.67**	**307**	⇑	*i*P	**P**	**23 24 06.1**	**-0.5**
PLDF	**La Plantade**	**53.78**	**309**		*e*P	**P**	**23 24 07.3**	**-0.1**
PLDF	**La Plantade**	**53.78**	**309**		*e*P	**P**	**23 24 07.3**	**-0.1**
PLDF	**La Plantade**	**53.78**	**309**		*e*P	**P**	**23 24 07.3**	**-0.1**
SSF	**Saint Saulge**	**53.84**	**311**	⇑	*i*P	**P**	**23 24 07.0**	**-0.8**
	comp=Z,22nm,1.0s							
SSF	**Saint Saulge**	**53.84**	**311**	⇑	*i*P	**P**	**23 24 07.0**	**-0.8**
SSF	**Saint Saulge**	**53.84**	**311**	⇑	*i*P	**P**	**23 24 07.0**	**-0.8**
AVF	**Avril sur Loir**	**53.95**	**310**	⇑	*i*P	**P**	**23 24 07.6**	**-1.0**
	comp=Z,16nm,0.9s							
AVF	**Avril sur Loir**	**53.95**	**310**	⇑	*i*P	**P**	**23 24 07.6**	**-1.0**
AVF	**Avril sur Loir**	**53.95**	**310**	⇑	*i*P	**P**	**23 24 07.6**	**-1.0**
LBL	**Lubilhac**	**54.06**	**308**		*e*P	**P**	**23 24 09.6**	**+0.1**
LBL	**Lubilhac**	**54.06**	**308**		*e*P	**P**	**23 24 09.6**	**+0.1**
LBL	**Lubilhac**	**54.06**	**308**		*e*P	**P**	**23 24 09.6**	**+0.1**
AGO	**Saint Agoulin**	**54.12**	**309**		*e*P	**P**	**23 24 09.5**	**-0.3**
AGO	**Saint Agoulin**	**54.12**	**309**		*e*P	**P**	**23 24 09.5**	**-0.3**
PYM	**Petit Puy Mans**	**54.21**	**309**		*e*P	**P**	**23 24 10.4**	**-0.2**
PYM	**Petit Puy Mans**	**54.21**	**309**		*e*P	**P**	**23 24 10.4**	**-0.2**
PYM	**Petit Puy Mans**	**54.21**	**309**		*e*P	**P**	**23 24 10.4**	**-0.2**
BGF	**Bois d'Agland**	**54.30**	**310**	⇑	*i*P	**P**	**23 24 10.3**	**-0.9**
	comp=Z,14nm,0.7s							
BGF	**Bois d'Agland**	**54.30**	**310**	⇑	*i*P	**P**	**23 24 10.3**	**-0.9**
BGF	**Bois d'Agland**	**54.30**	**310**	⇑	*i*P	**P**	**23 24 10.3**	**-0.9**
KLR	**Kul'dur**	**54.34**	**47**		*e*P	P	23 24 07.7	-3.7
KLR					pmax	pmax		
	comp=E,28nm,1.6s							
KLR					pmax	pmax		
	comp=Z,62nm,1.6s							
HYF	**Humbligny**	**54.43**	**311**		*e*P	**P**	**23 24 11.9**	**-0.2**
HYF	**Humbligny**	**54.43**	**311**		*e*P	**P**	**23 24 11.9**	**-0.2**
YAK	**Yakutsk**	**54.51**	**31**		*e*P	P	23 24 09.1	-3.3
YAK					*e**PP	pP	23 24 18.2	+0.3
YAK					*e*		23 26 12.1	
YAK					*e*PPP	PPP	23 27 23.0	
YAK					*e*S	**S**	**23 31 48.4**	**-2.1**
YAK					*e*		23 33 53.4	
YAK					*e*SS	**SKiKP**	**23 35 23.1**	**+1.9**
YAK					pmax	pmax		
	comp=Z,24nm,1.0s							
YAK					pmax	pmax		
	comp=E,14nm,1.3s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.1s							
YAK					pmax	pmax		
	comp=Z,12nm,0.8s							
YAK					pmax	pmax		
	comp=N,3.0nm,0.8s							
YAK					smax	smax		
	comp=N,59nm,12.8s							
YAK					smax	smax		
	comp=E,53nm,16.3s							
YAK					MLR	MLR		
	comp=Z,359nm,20.0s							
YAK					MLR	MLR		
	comp=E,285nm,19.0s							
YAK					MLR	MLR		
	comp=N,226nm,19.0s							
YAK	**Yakutsk**	**54.51**	**31**		P	**P**	**23 24 12.4**	**0.0**
USRK	**Ussuriysk Arra**	**54.63**	**53**		P	**P**	**23 24 13.1**	**-0.5**
	comp=N,3.7nm,0.8s,baz=303,slow=6.1,SNR=7.3							
USRK					LR	LR	23 47 56.3	
	comp=N,424nm,20.0s,baz=256,slow=36							
LRDF	**Laroque-de-Fa**	**54.69**	**306**		*e*P	**P**	**23 24 13.8**	**-0.3**
LRDF	**Laroque-de-Fa**	**54.69**	**306**		*e*P	**P**	**23 24 13.8**	**-0.3**
TCF	**Toulx Ste Croi**	**54.75**	**310**	⇑	*i*P	**P**	**23 24 13.8**	**-0.7**
	comp=N,12nm,0.8s							
TCF	**Toulx Ste Croi**	**54.75**	**310**	⇑	*i*P	**P**	**23 24 13.8**	**-0.7**
TCF	**Toulx Ste Croi**	**54.75**	**310**	⇑	*i*P	**P**	**23 24 13.8**	**-0.7**
CFON	**Fontmartina**	**54.86**	**304**		P	**P**	**23 24 15.3**	**-0.1**
MTLF	**Montolieu**	**54.90**	**306**	⇑	*i*P	**P**	**23 24 15.0**	**-0.6**
	comp=N,15nm,0.8s							
MTLF	**Montolieu**	**54.90**	**306**	⇑	*i*P	**P**	**23 24 15.0**	**-0.6**
MTLF	**Montolieu**	**54.90**	**306**	⇑	*i*P	**P**	**23 24 15.0**	**-0.6**
CAF	**Calviac**	**54.91**	**308**	⇑	*i*P	**P**	**23 24 15.3**	**-0.4**
	comp=N,48nm,1.1s							
CAF	**Calviac**	**54.91**	**308**	⇑	*i*P	**P**	**23 24 15.3**	**-0.4**
CAF	**Calviac**	**54.91**	**308**	⇑	*i*P	**P**	**23 24 15.3**	**-0.4**
JNU	**Nakatsue**	**55.08**	**66**		P	**P**	**23 24 17.1**	**+0.1**
	comp=N,19nm,1.0s,baz=346,slow=6.2,SNR=4.9							
JNU					LR	LR	23 50 26.3	
	comp=N,617nm,18.8s,baz=111,slow=39							
JNU	**Nakatsue**	**55.08**	**66**		*e*P	**P**	**23 24 19.9**	**+2.8**
CLLI	**Llivia**	**55.14**	**305**		P	**P**	**23 24 18.0**	**+0.5**
RJF	**Les Rejaudoux**	**55.28**	**308**	⇑	*i*P	**P**	**23 24 17.9**	**-0.4**
	comp=N,35nm,1.2s							
RJF					*e*R			
	comp=N,337nm,21.0s							
RJF	**Les Rejaudoux**	**55.28**	**308**	⇑	*i*P	**P**	**23 24 17.9**	**-0.4**
RJF	**Les Rejaudoux**	**55.28**	**308**	⇑	*i*P	**P**	**23 24 17.9**	**-0.4**
MLS	**Moulis**	**55.75**	**306**		*e*P	**P**	**23 24 20.5**	**-1.2**
MLS	**Moulis**	**55.75**	**306**		*e*P	**P**	**23 24 20.5**	**-1.2**
CSOR	**Sort**	**55.77**	**305**		P	**P**	**23 24 21.0**	**-1.0**
LFF	**La Frestale**	**55.85**	**308**	⇑	*i*P	**P**	**23 24 21.9**	**-0.4**
	comp=N,37nm,1.0s							
LFF	**La Frestale**	**55.85**	**308**	⇑	*i*P	**P**	**23 24 21.9**	**-0.4**
LFF	**La Frestale**	**55.85**	**308**	⇑	*i*P	**P**	**23 24 21.9**	**-0.4**
TAM	**Tamanrasset**	**55.86**	**281**		*e*P	**P**	**23 24 23.2**	**+0.2**
TAM					pmax	pmax		
	comp=Z,12nm,1.0s							
TAM	**Tamanrasset**	**55.86**	**281**		*e*P	**P**	**23 24 23.2**	**+0.2**
	comp=Z,12nm,1.0s							
EPOB	**Poblet**	**55.92**	**304**		P	**P**	**23 24 20.8**	**-2.2**
LDF	**La Druitiere**	**56.25**	**313**		*e*P	**P**	**23 24 24.0**	**-1.2**
LDF	**La Druitiere**	**56.25**	**313**		*e*P	**P**	**23 24 24.0**	**-1.2**
LDF	**La Druitiere**	**56.25**	**313**		*e*P	**P**	**23 24 24.0**	**-1.2**
EPF	**Esparros**	**56.29**	**306**	⇑	*i*P	**P**	**23 24 23.8**	**-1.8**
	comp=Z,8.3nm,0.8s							
EPF	**Esparros**	**56.29**	**306**	⇑	*i*P	**P**	**23 24 23.8**	**-1.8**
EPF	**Esparros**	**56.29**	**306**	⇑	*i*P	**P**	**23 24 23.8**	**-1.8**
MFF	**Saint Martin d**	**56.36**	**310**		*e*P	**P**	**23 24 24.9**	**-1.1**
	comp=Z,41nm,1.5s							
MFF	**Saint Martin d**	**56.36**	**310**		*e*P	**P**	**23 24 24.9**	**-1.1**
MFF					pmax	pmax		
	comp=Z,41nm,1.5s							
MFF	**Saint Martin d**	**56.36**	**310**		*e*P	**P**	**23 24 24.9**	**-1.1**
	comp=Z,41nm,1.5s							
FLN	**La Foliniere**	**56.48**	**313**		*e*P	**P**	**23 24 25.9**	**-0.9**
	comp=Z,35nm,1.1s							
FLN					*e*R			
	comp=Z,384nm,20.5s							
FLN	**La Foliniere**	**56.48**	**313**		*e*P	**P**	**23 24 25.9**	**-0.9**
FLN					pmax	pmax		
	comp=Z,35nm,1.1s							
FLN	**La Foliniere**	**56.48**	**313**		*e*P	**P**	**23 24 25.9**	**-0.9**
	comp=Z,35nm,1.1s							
ERTA	**Horta de San J**	**56.52**	**303**		P	**P**	**23 24 26.5**	**-0.8**
GRR	**Gorron**	**56.75**	**312**		*e*P	**P**	**23 24 27.8**	**-0.9**
GRR	**Gorron**	**56.75**	**312**		*e*P	**P**	**23 24 27.8**	**-0.9**
GRR	**Gorron**	**56.75**	**312**		*e*P	**P**	**23 24 27.8**	**-0.9**
ETSF	**Etsaut**	**56.96**	**306**		*e*P	**P**	**23 24 29.9**	**-0.5**
	comp=Z,30nm,0.9s							
ETSF	**Etsaut**	**56.96**	**306**		*e*P	**P**	**23 24 29.9**	**-0.5**
ETSF	**Etsaut**	**56.96**	**306**		*e*P	**P**	**23 24 29.9**	**-0.5**
ATE	**Arette**	**57.05**	**306**		P	**P**	**23 24 31.5**	**+0.5**
EMOS	**Mosqueruela**	**57.20**	**303**		P	**P**	**23 24 32.6**	**+0.3**
EBEN	**Beniarda**	**57.25**	**301**		P	**P**	**23 24 31.8**	**-0.7**
SJPF	**Ste Jean**	**57.42**	**306**	⇑	*i*P	**P**	**23 24 33.1**	**-0.5**
	comp=Z,15nm,0.9s							
SJPF	**Ste Jean**	**57.42**	**306**	⇑	*i*P	**P**	**23 24 33.1**	**-0.5**
SJPF	**Ste Jean**	**57.42**	**306**	⇑	*i*P	**P**	**23 24 33.1**	**-0.5**
ECHE	**Chera**	**57.69**	**302**		P	**P**	**23 24 35.4**	**-0.2**
ECHE	**Chera**	**57.69**	**302**		P	**P**	**23 24 35.4**	**-0.2**
SGMF	**Saint Gilles**	**57.89**	**312**	⇑	*i*P	**P**	**23 24 36.2**	**-0.6**
	comp=Z,32nm,0.9s							
SGMF	**Saint Gilles**	**57.89**	**312**	⇑	*i*P	**P**	**23 24 36.2**	**-0.6**
SGMF	**Saint Gilles**	**57.89**	**312**	⇑	*i*P	**P**	**23 24 36.2**	**-0.6**
KBS	**Kingsbay**	**58.24**	**349**		*e*P	**P**	**23 24 38.6**	**-0.2**
KBS	**Kingsbay**	**58.24**	**349**		*e*P	**P**	**23 24 38.6**	**-0.2**
ETOB	**Tobarra**	**58.28**	**301**		P	**P**	**23 24 38.9**	**-0.9**
QUIF	**Quistinic**	**58.32**	**312**	⇑	*i*P	**P**	**23 24 38.8**	**-1.0**
QUIF	**Quistinic**	**58.32**	**312**	⇑	*i*P	**P**	**23 24 38.8**	**-1.0**
QUIF	**Quistinic**	**58.32**	**312**	⇑	*i*P	**P**	**23 24 38.8**	**-1.0**
ROSF	**Rostrenen**	**58.36**	**312**		*e*P	**P**	**23 24 39.0**	**-1.1**
	comp=Z,43nm,1.1s							
ROSF	**Rostrenen**	**58.36**	**312**		*e*P	**P**	**23 24 39.0**	**-1.1**
ROSF					pmax	pmax		
	comp=Z,43nm,1.1s							
ROSF	**Rostrenen**	**58.36**	**312**		*e*P	**P**	**23 24 39.0**	**-1.1**
	comp=Z,43nm,1.1s							
MRSI	**Mina**	**58.40**	**107**		P	**P**	**23 24 41.6**	**+0.8**
EVIA	**Vianos**	**59.02**	**301**		P	**P**	**23 24 44.3**	**-0.7**
EVIA	**Vianos**	**59.02**	**301**		P	**P**	**23 24 44.3**	**-0.7**
EHUE	**Huescar**	**59.23**	**300**		P	**P**	**23 24 45.5**	**-1.0**
EHUE	**Huescar**	**59.23**	**300**		P	**P**	**23 24 45.5**	**-1.0**
EQES	**Quesada**	**59.61**	**300**		P	**P**	**23 24 47.5**	**-1.6**
EBER	**Berja**	**59.64**	**299**		P	**P**	**23 24 48.6**	**-0.8**
GUD	**Guadarrama**	**59.94**	**304**		P	**P**	**23 24 50.5**	**-0.8**
GUD	**Guadarrama**	**59.94**	**304**		P	**P**	**23 24 50.5**	**-0.8**
ESDC	**Sonseca Array**	**59.96**	**302**		P	**P**	**23 24 50.4**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=63,slow=7.1,SNR=21							
ESDC	**Sonseca Array**	**59.96**	**302**		P	**P**	**23 24 50.7**	**-0.7**
EGUA	**Guajares**	**60.18**	**299**		P	**P**	**23 24 51.7**	**-1.2**
EGUA	**Guajares**	**60.18**	**299**		P	**P**	**23 24 51.7**	**-1.2**
PAB	**San Pablo**	**60.27**	**302**		*e*P	**P**	**23 24 53.0**	**-0.6**
PAB	**San Pablo**	**60.27**	**302**		*e*P	**P**	**23 24 53.0**	**-0.6**
EARI	**Faridas**	**60.29**	**307**		P	**P**	**23 24 52.4**	**-1.2**
ERON	**Agron**	**60.33**	**299**		P	**P**	**23 24 52.7**	**-1.4**
MAJO	**Matsushiro**	**60.34**	**61**		P	**P**	**23 24 55.4**	**+1.4**
MAJO	**Matsushiro**	**60.34**	**61**		P	**P**	**23 24 55.4**	**+1.4**
MJAR	**Matsushiro Arr**	**60.35**	**61**		P	**P**	**23 24 55.2**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=281,slow=6.7,SNR=8.1							
MJAR					LR	LR	23 53 29.3	
	comp=Z,295nm,19.4s,baz=250,slow=38							
MJAR	**Matsushiro Arr**	**60.35**	**61**		P	**P**	**23 24 55.2**	**+1.1**
PBRG	**Braganca**	**61.65**	**305**		*e*P	**P**	**23 25 01.4**	**-1.5**
	comp=Z,18nm,1.5s							
YSS	**Yuzh-Sakhalins**	**61.86**	**49**		*e*P	**P**	**23 25 06.0**	**+2.0**
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**61.86**	**49**		P	**P**	**23 25 06.7**	**+2.7**
ASAJ	**Asahikawa**	**62.21**	**52**		LR	LR	23 52 41.5	
	comp=Z,444nm,21.7s,baz=319,slow=37							
EMIN	**Mina Concepcio**	**62.41**	**301**		P	**P**	**23 25 06.4**	**-1.6**
EBAD	**Badajoz**	**62.46**	**302**		P	**P**	**23 25 06.9**	**-1.4**
TOA0	**Torodi Ar. Sit**	**62.53**	**272**		*e*P	**P**	**23 25 08.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**62.53**	**272**		P	**P**	**23 25 08.2**	**-0.9**
	comp=Z,10nm,0.8s,baz=62,slow=6.1,SNR=83							
TORD					LR	LR	23 55 45.4	
	comp=Z,273nm,19.6s,baz=70,slow=39							
TORD	**Torodi Ar. Bea**	**62.53**	**272**		P	**P**	**23 25 08.2**	**-0.9**
PCBR	**Castelo Branco**	**62.59**	**303**		*e*P	**P**	**23 25 08.8**	**-0.3**
	comp=Z,35nm,1.5s							
PGAV	**Gavieira, Arco**	**62.74**	**306**		*e*P	**P**	**23 25 09.1**	**-1.2**
	comp=Z,24nm,1.3s							
EVO	**Evora**	**63.27**	**302**		*e*P	**P**	**23 25 13.8**	**+0.1**
	comp=Z,7.8nm,0.6s							
EVO					*e*R			
	comp=Z,234nm,20.0s							
EVO	**Evora**	**63.27**	**302**		*e*P	**P**	**23 25 13.3**	**-0.4**
	comp=Z,29nm,1.2s							
EVOP	**Sao Brissos**	**63.36**	**302**		*e*P	**P**	**23 25 13.8**	**-0.4**
EVOP					pmax	pmax		
	comp=Z,8.0nm,0.6s							
EVOP	**Sao Brissos**	**63.36**	**302**		*e*P	**P**	**23 25 13.8**	**-0.4**
	comp=Z,7.8nm,0.6s							
PNCL	**Nicolau / Gran**	**63.76**	**302**		*e*P	**P**	**23 25 16.7**	**-0.2**
	comp=Z,58nm,2.2s							
DAG	**Danmarks Havn**	**63.98**	**345**		P	**P**	**23 25 18.5**	**+0.8**
DAG	**Danmarks Havn**	**63.98**	**345**		P	**P**	**23 25 18.5**	**+0.8**
DAG	**Danmarks Havn**	**63.98**	**345**	*i*	P	**P**	**23 25 18.2**	**+0.5**
	comp=Z,114nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**64.54**	**52**	*d*	*i*P	**P**	**23 25 19.3**	**-2.6**
YUK					*i*		23 27 41.7	
YUK					*i* PPP	PPP	23 29 13.4	
YUK					*i* S	**S**	**23 33 59.0**	**-1.4**
NLAI	**Namlea**	**64.72**	**107**		P	**P**	**23 25 25.7**	**+2.2**
LBTB	**Lobatse**	**64.72**	**222**		*e*P	**P**	**23 25 23.5**	**+0.1**
	comp=Z,14nm,0.8s							
SEY	**Seymchan**	**65.02**	**30**		P	**P**	**23 25 24.9**	**+0.2**
SEY	**Seymchan**	**65.02**	**30**		P	**P**	**23 25 24.9**	**+0.2**
CBIJ	**Chichi jima**	**66.05**	**70**		LR	LR	23 54 45.3	
	comp=Z,152nm,21.6s,baz=119,slow=36							
BOSA	**Boshof**	**67.62**	**220**		P	**P**	**23 25 40.5**	**-1.5**
	comp=Z,11nm,0.8s,baz=57,slow=6.5,SNR=21							
BOSA					LR	LR	23 53 07.6	
	comp=Z,192nm,18.8s,baz=24,slow=34							
BOSA	**Boshof**	**67.62**	**220**		P	**P**	**23 25 40.5**	**-1.5**
BILL	**Bilibino**	**69.48**	**23**		*e*P	**P**	**23 25 52.5**	**-0.4**
BILL					pmax	pmax		
	comp=Z,24nm,1.4s							
BILL	**Bilibino**	**69.48**	**23**		*e*P	**P**	**23 25 52.5**	**-0.4**
	comp=Z,24nm,1.4s							
PETK	**Petropavlovsk-**	**69.92**	**40**		LR	LR	00 00 17.6	
	comp=Z,219nm,18.7s,baz=284,slow=39							
SUMG	**Summit**	**70.01**	**342**		*e*P	**P**	**23 25 58.0**	**+1.4**
SUMG					pmax	pmax		
	comp=Z,143nm,2.1s							
SUMG	**Summit**	**70.01**	**342**		*e*P	**P**	**23 25 58.0**	**+1.4**
	comp=Z,143nm,2.1s							
SUMG	**Summit**	**70.01**	**342**		*i* P	**P**	**23 25 57.7**	**+1.1**
	comp=Z,7.0nm,0.8s							
DBIC	**Dimbokro**	**71.04**	**268**		P	**P**	**23 26 02.7**	**-0.7**
	comp=Z,5.3nm,0.6s,baz=41,slow=7.1,SNR=16							
DBIC					LR	LR	00 00 26.7	
	comp=Z,301nm,18.0s,baz=157,slow=39							
DBIC	**Dimbokro**	**71.04**	**268**		*e*P	**P**	**23 26 03.1**	**-0.3**
	comp=Z,31nm,1.4s							
LIC	**Lamto**	**71.38**	**268**		*e*P	**P**	**23 26 04.7**	**-0.7**
	comp=Z,37nm,0.9s							
LIC					*e*R			
	comp=Z,319nm,19.5s							
LIC	**Lamto**	**71.38**	**268**		*e*P	**P**	**23 26 04.7**	**-0.7**
	comp=Z,37nm,0.9s							
FITZ	**Fitzroy Crossi**	**71.68**	**121**		P	**P**	**23 26 05.1**	**-2.0**
	comp=Z,5.5nm,1.0s,baz=319,slow=4.0,SNR=4.7							
FITZ					LR	LR	23 57 44.0	
	comp=Z,260nm,18.1s,baz=304,slow=36							
FITZ	**Fitzroy Crossi**	**71.68**	**121**		*e*P	**P**	**23 26 05.7**	**-1.3**
	comp=Z,9.5nm,1.1s							
GUMO	**Guam**	**73.18**	**83**		LR	LR	00 00 16.7	
	comp=Z,114nm,18.4s,baz=333,slow=37							
RES	**Resolute Bay**	**78.92**	**355**		*e*P	**P**	**23 26 48.4**	**+0.5**
	comp=Z,33nm,2.3s							
GAMB	**Gambell**	**79.40**	**23**		*e*P	**P**	**23 26 50.5**	**-0.1**
	comp=Z,5.7nm,0.8s							
TNA	**Tin City**	**79.50**	**20**		*e*P	**P**	**23 26 52.8**	**+1.7**
	comp=Z,17nm,1.7s							
WRA	**Warramunga Arr**	**79.51**	**118**		P	**P**	**23 26 50.2**	**-1.8**
	comp=Z,7.0nm,1.0s,baz=313,slow=4.7,SNR=20							
WRA					LR	LR	00 06 47.2	
	comp=Z,126nm,20.3s,baz=275,slow=39							
WRA	**Warramunga Arr**	**79.51**	**118**		P	**P**	**23 26 50.2**	**-1.8**
WRAB	**Tennant Creek**	**79.51**	**118**		*e*P	**P**	**23 26 50.3**	**-1.7**
WRAB					pmax	pmax		
	comp=Z,16nm,1.2s							
WRAB	**Tennant Creek**	**79.51**	**118**		*e*P	**P**	**23 26 50.3**	**-1.7**
	comp=Z,16nm,1.2s							
ASAR	**Alice Springs**	**81.18**	**122**		P	**P**	**23 26 58.8**	**-2.2**
	comp=Z,5.2nm,1.0s,baz=310,slow=5.6,SNR=17							
ASAR					LR	LR	00 03 26.3	
	comp=Z,228nm,18.6s,baz=314,slow=36							
ASAR	**Alice Springs**	**81.18**	**122**		P	**P**	**23 26 58.8**	**-2.2**
AS31	**Alice Springs**	**81.18**	**122**		*e*P	**P**	**23 27 01.0**	**+0.1**
COLD

AFI	**Afiamalu**	**5.94**	**45**	LR	LR	23 57 31.8			
	comp=Z,254nm,20.6s,baz=349,slow=31								
STKA	**Stephens Creek**	**40.43**	**242**	P	P	00 02 10.4	0.0		
	1.2nm,0.5s,baz=62,slow=11,SNR=5.2								
WRA	**Warramunga Arr**	**46.73**	**259**	P	P	00 03 01.2	-0.1		
	1.3nm,0.3s,baz=97,slow=7.1,SNR=39								
ASAR	**Alice Springs**	**46.82**	**254**	P	P	00 03 01.8	-0.3		
	14nm,0.7s,baz=87,slow=8.6,SNR=133								

*DDA **17** 23:58:05.8,37°.90N×27°.12E,h29km,MD3.0*
*ISCJB **17** 23:58:06.5±0.5,37°.90N±0°.02×27°.12E±0°.05,h7km±4km, Error ellipse: s-maj=6.5km s-min=3.0km az=162.4*
*ISK **17** 23:58:06.3,37°.92N×27°.17E,h6km,MD3.0*
*CSEM **17** 23:58:06.9±0.2,37°.90N×27°.13E,h10km,MD3.0, Error ellipse: s-maj=6.0km s-min=3.2km az=75.0*

ISC 17 23:58:06.7±0.9, 37°.90N±0°.02×27°.13E±0°.03, h13km±7km, n46, σ0s83/68, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.22**	**159**	*i*	P		**Pg**	**23 58 11.4**	**0.0**
GCAM				*i*	S		**Sg**	**23 58 14.3**	**-0.3**
GCAM	**G?zelcaml?**	**0.22**	**159**	*i*	P		**Pg**	**23 58 11.4**	**0.0**
GCAM				*i*	S		**Sg**	**23 58 14.3**	**-0.3**
BLCB	**Balcova**	**0.49**	**351**		PG		**Pg**	**23 58 16.0**	**-0.3**
BLCB					SG		**Sg**	**23 58 22.7**	**-0.1**
BLCB	**Balcova**	**0.49**	**351**	*i*	Pg		**Pg**	**23 58 16.0**	**-0.3**
BLCB				*i*	Sg		**Sg**	**23 58 22.7**	**-0.1**
IZM	**Izmir**	**0.50**	**12**		PG		**Pg**	**23 58 16.5**	**-0.2**
IZM				*e*	SG		**Sg**	**23 58 24.0**	**+0.6**
IZM	**Izmir**	**0.50**	**12**	*i*	Pg		**Pg**	**23 58 16.5**	**-0.2**
IZM				*e*	Sg		**Sg**	**23 58 24.0**	**+0.6**
URLA	**Izmir**	**0.62**	**317**	*i*	P		**Pg**	**23 58 18.5**	**-0.4**
URLA				*i*	S		**Sg**	**23 58 27.5**	**+0.3**
URLA	**Izmir**	**0.62**	**317**	*i*	P		**Pg**	**23 58 18.5**	**-0.4**
URLA				*i*	S		**Sg**	**23 58 27.5**	**+0.3**
AYDN	**Tasoluk**	**0.64**	**112**	*i*	P		**Pg**	**23 58 19.6**	**+0.4**
AYDN				*i*	S		**Sb**	**23 58 28.6**	**0.0**
AYDN	**Tasoluk**	**0.64**	**112**	*i*	P		**Pg**	**23 58 19.6**	**+0.4**
AYDN				*i*	S		**Sb**	**23 58 28.6**	**0.0**
MLSB	**Milas**	**0.79**	**140**	*e*	PG		**Pg**	**23 58 21.7**	**-0.4**
MLSB				*e*	SG		**Sg**	**23 58 32.5**	**+0.1**
MLSB	**Milas**	**0.79**	**140**	*e*	Pg		**Pg**	**23 58 21.7**	**-0.4**
MLSB				*e*	Sg		**Sg**	**23 58 32.5**	**+0.1**
BODT	**Bodrum**	**0.85**	**170**	*e*	PG		**Pb**	**23 58 24.1**	**+0.7**
BODT				*e*	SG		**Sb**	**23 58 35.3**	**+0.6**
BODT	**Bodrum**	**0.85**	**170**	*e*	Pg		**Pb**	**23 58 24.1**	**+0.7**
BODT				*e*	Sg		**Sb**	**23 58 35.3**	**+0.6**
BDRM	**Kayabasi**	**0.87**	**163**	*i*	P		**Pg**	**23 58 23.2**	**-0.4**
BDRM				*i*	S		**Sg**	**23 58 34.9**	**-0.1**
BDRM	**Kayabasi**	**0.87**	**163**	*i*	P		**Pg**	**23 58 23.2**	**-0.4**
BDRM				*i*	S		**Sg**	**23 58 34.9**	**-0.1**
AKHS	**Akhisar**	**1.11**	**29**	*i*	P		**Pb**	**23 58 27.5**	**-0.3**
AKHS				*i*	S		**Sn**	**23 58 43.3**	**+0.1**
AKHS	**Akhisar**	**1.11**	**29**	*i*	P		**Pb**	**23 58 27.5**	**-0.3**
AKHS				*i*	S		**Sn**	**23 58 43.3**	**+0.1**
AKS	**Akhisar**	**1.11**	**28**	*e*	PN		**Pb**	**23 58 27.0**	**-0.8**
AKS	**Akhisar**	**1.11**	**28**	*e*	Pn		**Pb**	**23 58 27.0**	**-0.8**
YER	**Yerkesik**	**1.19**	**130**	*e*	PN		**Pn**	**23 58 29.3**	**+0.1**
YER	**Yerkesik**	**1.19**	**130**	*e*	Pn		**Pn**	**23 58 29.3**	**+0.1**
DAT	**Datca**	**1.22**	**163**	*e*	PN		**Pg**	**23 58 30.4**	**+0.1**
DAT	**Datca**	**1.22**	**163**	*e*	Pn		**Pg**	**23 58 30.4**	**+0.1**
KULA	**Kula-Manisa**	**1.35**	**63**	*e*	PN		**Pb**	**23 58 32.1**	**+0.2**
KULA	**Kula-Manisa**	**1.35**	**63**	*e*	Pn		**Pb**	**23 58 32.1**	**+0.2**
AYVA	**Ayvalik**	**1.45**	**346**	*i*	P		**Pb**	**23 58 33.9**	**+0.4**
AYVA				*i*	S		**Sn**	**23 58 51.4**	**-0.1**
AYVA	**Ayvalik**	**1.45**	**346**	*i*	P		**Pb**	**23 58 33.9**	**+0.4**
AYVA				*i*	S		**Sn**	**23 58 51.4**	**-0.1**
APE	**Apeiranthos**	**1.52**	**237**	*e*	PN		**Pb**	**23 58 35.3**	**+0.5**
APE	**Apeiranthos**	**1.52**	**237**	*e*	Pn		**Pb**	**23 58 35.3**	**+0.5**
TURN	**Turunc**	**1.56**	**131**	*i*	P		**Pn**	**23 58 32.3**	**-1.8**
TURN				*i*	S		**Sn**	**23 58 50.9**	**-3.2**
TURN	**Turunc**	**1.56**	**131**	*i*	P		**Pn**	**23 58 32.3**	**-1.8**
BALB	**Balikesir**	**1.83**	**18**	*e*	PN		**Pb**	**23 58 39.1**	**-0.9**
BALB	**Balikesir**	**1.83**	**18**	*e*	Pn		**Pb**	**23 58 39.1**	**-0.9**
BALY	**Balya**	**1.87**	**12**	*i*	P		**Pn**	**23 58 37.8**	**-0.7**
BALY	**Balya**	**1.87**	**12**	*i*	P		**Pn**	**23 58 37.8**	**-0.7**
KHAL	**Karahalli**	**1.92**	**75**	*i*	P		**Pn**	**23 58 40.1**	**+0.9**
KHAL	**Karahalli**	**1.92**	**75**	*i*	P		**Pn**	**23 58 40.1**	**+0.9**
KHL	**Karahalli**	**1.93**	**77**	*e*	PN		**Pn**	**23 58 40.6**	**+1.2**
KHL	**Karahalli**	**1.93**	**77**	*e*	Pn		**Pn**	**23 58 40.6**	**+1.2**
DURS	**Dursunbey**	**1.99**	**31**	*i*	P		**Pn**	**23 58 41.2**	**+1.0**
DURS	**Dursunbey**	**1.99**	**31**	*i*	P		**Pn**	**23 58 41.2**	**+1.0**
GDZ	**Gediz**	**2.19**	**57**	*i*	P		**Pb**	**23 58 45.2**	**-1.1**
GDZ				*i*	S		**Sg**	**23 59 18.9**	**+1.8**
GDZ	**Gediz**	**2.19**	**57**	*i*	P		**Pb**	**23 58 45.2**	**-1.1**
ELL	**Elmali**	**2.49**	**117**	*e*	PN		**Pn**	**23 58 48.8**	**+1.7**
ELL	**Elmali**	**2.49**	**117**	*e*	Pn		**Pn**	**23 58 48.8**	**+1.7**

*BJI **18** 00:29:22.4,30°.40N×83°.10E,h6km,mB4.2/4,mb4.1/10, Ms3.9/6,Ms7 3.8/4*
*NDI **18** 00:29:23.0±3.1,31°.47N×84°.17E,h33km,ML3.9, mb4.1(NEIC)*
*IDC **18** 00:29:28.4±1.2,30°.58N×83°.71E,h0km,mb4.1/16, mb1 4.2/18,mb1mx4.0/34,mbtmp4.1/18,ML4.1/2,MS3.5/16, Ms1 3.5/16,ms1mx3.3/49,Error ellipse: s-maj=28.3km s-min=18.1km az=18.0*
*ISCJB **18** 00:29:29.4±0.3,30°.54N±0°.04×83°.64E±0°.04,h18km, mb4.0/28,MS3.4/15,Error ellipse: s-maj=5.7km s-min=4.3km az=164.1*
*MOS **18** 00:29:32.0±0.9,30°.63N×83°.71E,h33km,mb4.1/20,Error ellipse: s-maj=11.6km s-min=5.8km az=111.9*
*NEIC **18** 00:29:33.4±2.1,30°.63N×83°.73E,h32km±16km,mb4.1/4, Error ellipse: s-maj=11.3km s-min=5.7km az=218.0*

ISC 18 00:29:31.5±0.4, 30°.60N±0°.05×83°.73E±0°.04, h18km, n107, σ1s35/105, mb4.1/28, MS3.5/16, 5C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.22**	**252**	*e*	P		**Pb**	**00 30 28.4**	**+0.2**
PTH				*e*	S		**Sg**	**00 31 12.4**	**-2.5**
LGTI	**Lohaghat**	**3.23**	**250**	*e*	P		**Pg**	**00 30 34.2**	**+0.8**
LGTI				*e*	S		**Sg**	**00 31 18.7**	**+3.5**
DDI	**Dehra Dun**	**4.90**	**268**	*e*	P		Pn	00 30 40.5	-3.9
DDI				*ex*			x	00 32 18.0	
BISR	**Bishrakh**	**5.84**	**251**	*e*	P		**Pn**	**00 30 56.3**	**-0.8**
NDI	**New Delhi**	**5.98**	**253**	*e*	P		**Pn**	**00 30 58.0**	**-1.1**
KKR	**Kurukshetra**	**6.01**	**266**	*ex*			x	00 31 43.1	
KKR						AML	AML	00 32 27.3	
	comp=Z,266nm,0.2s								
AGRA	**Agra**	**6.08**	**238**	*e*	P		**Pn**	**00 31 00.9**	**+0.5**
AGRA				*ex*			x	00 32 03.2	
AGRA						AML	AML	00 32 55.7	
	comp=E,98nm,0.3s								
AGRA						AML	AML	00 32 59.1	
	comp=N,75nm,0.2s								
AYAN	**Aya Nagar**	**6.12**	**252**	*e*	P		**Pn**	**00 31 01.0**	**-0.1**
AYAN				*ex*			x	00 32 48.7	
LSA	**Lhasa**	**6.49**	**96**		Pn		**Pn**	**00 31 08.5**	**+1.9**
LSA	**Lhasa**	**6.49**	**96**	*e*	P		**Pn**	**00 31 08.8**	**+2.3**
LSA	**Lhasa**	**6.49**	**96**	*e*	Pn		**Pn**	**00 31 08.8**	**+2.3**
KUDL	**Kundal**	**6.77**	**251**	*e*	P		**Pn**	**00 31 09.4**	**-0.6**
KUDL				*e*	S		**Sn**	**00 32 24.2**	**-2.4**
KHET	**Khetri**	**7.36**	**252**	*e*	P		**Pn**	**00 31 17.9**	**-0.2**
KHET				*e*	S		**Sn**	**00 32 38.5**	**-2.6**
SHL	**Shillong**	**8.77**	**123**	*ex*			**Pn**	**00 31 40.0**	**+2.4**
SHL				*ex*			Sn	00 33 23.0	+6.8
KSH	**Kashi**	**10.93**	**327**		Pn		**Pn**	**00 32 05.0**	**-2.1**
KSH					Sn		**Sn**	**00 34 06.1**	**-2.9**
KSH					smax		smax		
	comp=N,15nm,1.1s								
KSH					smax		smax		
	comp=E,18nm,1.1s								
KBL	**Kabul**	**12.99**	**291**	*e*	P		**Pn**	**00 32 36.8**	**+1.4**
KBL				*e*				00 34 57.6	
KBL	**Kabul**	**12.99**	**291**	*e*	Pn		**Pn**	**00 32 36.8**	**+1.4**
KBL				*e*	Sn		**Sn**	**00 34 57.6**	**-2.0**
TKM2	**Tokmak 2**	**13.91**	**334**	*e*	P		**Pn**	**00 32 47.5**	**-0.4**
TKM2					pmax		pmax		
	comp=Z,8.0nm,1.4s								
TKM2	**Tokmak 2**	**13.91**	**334**	*e*	Pn		**Pn**	**00 32 47.5**	**-0.4**
	comp=Z,8.1nm,1.4s								
HYB	**Hyderabad**	**13.94**	**201**	*i*	P		Pn	00 32 44.5	-3.8
HYB				*e*				00 35 24.0	
AAK	**Ala-Archa**	**14.11**	**331**		Pn		**Pn**	**00 32 49.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=142,slow=9.2,SNR=3.8								
AAK					Sn		**Sn**	**00 35 31.3**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=196,slow=18,SNR=2.1								
AAK					LR		LR	00 39 08.7	
	comp=Z,232nm,21.3s,baz=278,slow=41								
AAK	**Ala-Archa**	**14.11**	**331**	*i*	P		**Pn**	**00 32 51.5**	**+1.0**
AAK					pmax		pmax		
	comp=Z,14nm,1.7s								
AAK	**Ala-Archa**	**14.11**	**331**	*e*	P		**Pn**	**00 32 50.9**	**+0.4**
AAK					Sn		**Sn**	**00 35 31.3**	**+4.6**
EKS2	**Erkin-Say**	**14.44**	**329**	*e*	P		**Pn**	**00 32 55.9**	**+0.9**
EKS2	**Erkin-Say**	**14.44**	**329**	*e*	Pn		**Pn**	**00 32 55.9**	**+0.9**
POO	**Poona**	**14.99**	**219**	*e*	P		**Pn**	**00 33 04.0**	**+1.4**
GTA	**Gaotai**	**15.83**	**52**	*e*	P		**P**	**00 33 16.5**	**-0.8**
GTA					pmax		pmax		
	comp=Z,10.0nm,1.4s								
GTA					LR		LR		
	comp=N,71nm,8.6s								
GTA					LR		LR		
	comp=E,97nm,10.5s								
GTA					LR		LR		
	comp=Z,110nm,6.6s								
MK31	**Makanchi Array**	**16.21**	**356**	*ce*	P		**Pn**	**00 33 18.2**	**-0.1**
MK31					pmax		pmax		
	comp=Z,7.0nm,0.8s								
MK31	**Makanchi Array**	**16.21**	**356**	*e*	Pn		**Pn**	**00 33 18.4**	**+0.1**
MKAR	**Makanchi Array**	**16.21**	**356**	*e*	Pn		**Pn**	**00 33 18.7**	**+0.4**
MKAR	**Makanchi Array**	**16.21**	**356**	*e*	Pn		**Pn**	**00 33 18.7**	**+0.4**
KKAR	**Karatay Array**	**16.34**	**323**	*e*	P		**Pn**	**00 33 17.6**	**-2.3**
KKAR	**Karatay Array**	**16.34**	**323**	*e*	Pn		**Pn**	**00 33 17.6**	**-2.3**
KMI	**Kunming**	**17.67**	**103**		P		**Pn**	**00 33 34.5**	**-2.4**
KMI					pP		**pP**	**00 33 43.8**	**+0.9**
KMI					pmax		pmax		
	comp=Z,17nm,0.9s								
KMI					LR		LR		
	comp=N,630nm,17.7s								
KMI					LR		LR		
	comp=E,260nm,15.5s								
KMI					LR		LR		
	comp=Z,310nm,11.8s								
CHTO	**Chiang Mai**	**18.11**	**127**		P		**P**	**00 33 42.3**	**-0.2**
CHTO					pmax		pmax		
	comp=Z,33nm,1.8s								
CHTO	**Chiang Mai**	**18.11**	**127**		P		**P**	**00 33 42.3**	**-0.2**
	comp=Z,33nm,1.8s								
CM31	**Chiang Mai Arr**	**18.35**	**128**	*e*	P		**Pn**	**00 33 45.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**18.35**	**128**		P		**P**	**00 33 44.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=307,slow=12,SNR=15								
CMAR					LR		LR	00 41 36.6	
	comp=Z,118nm,19.6s,baz=315,slow=40								
CMAR	**Chiang Mai Arr**	**18.35**	**128**		P		**P**	**00 33 44.5**	**-0.7**
KURBB	**Kurchatov Arra**	**20.38**	**350**		P		**P**	**00 34 06.2**	**-0.9**
	comp=Z,17nm,0.9s,baz=173,slow=10.0,SNR=164								
KURBB					LR		LR	00 43 11.2	
	comp=Z,197nm,19.0s,baz=195,slow=40								
KURK	**Kurchatov**	**20.46**	**351**	*d*	P		**P**	**00 34 06.9**	**-1.1**
KURK					pmax		pmax		
	comp=Z,31nm,1.0s								
KURK	**Kurchatov**	**20.46**	**351**	*e*	P		**P**	**00 34 07.0**	**-0.9**
XAN	**Xi'an**	**21.55**	**74**		P		**P**	**00 34 17.8**	**-2.2**
XAN					pP		**pP**	**00 34 22.9**	**-2.2**
XAN					pmax		pmax		
	comp=Z,4.0nm,1.1s								
XAN					pmax		pmax		
	comp=Z,23nm,5.5s								
XAN					LR		LR		
	comp=N,130nm,15.7s								
HVS	**Khovu-Aksy**	**21.82**	**17**	*e*	P		**P**	**00 34 22.7**	**-0.1**
HVS					pmax		pmax		
	comp=Z,29nm,1.0s								
ZAA0	**Zalesovo Array**	**23.35**	**2**	*e*	P		**P**	**00 34 37.7**	**-1.0**
ZALV	**Zalesovo Beam**	**23.35**	**2**		P		**P**	**00 34 37.5**	**-1.2**
	comp=Z,5.1nm,0.8s,baz=187,slow=10,SNR=31								
ZALV					LR		LR	00 45 38.5	
	comp=Z,59nm,18.1s,baz=130,slow=42								
ZALV	**Zalesovo Beam**	**23.35**	**2**		P		**P**	**00 34 37.5**	**-1.2**
ZALV					pmax		pmax		
	comp=Z,5.0nm,0.8s								
ZALV					MLR		MLR		
	comp=Z,59nm,18.1s								
ZALV	**Zalesovo Beam**	**23.35**	**2**		P		**P**	**00 34 37.5**	**-1.2**
WSAR	**Wadi Sarin**	**23.52**	**258**		LR		LR	00 44 09.8	
	comp=Z,45nm,18.3s,baz=344,slow=38								
BVA0	**Borovoye Array**	**24.44**	**340**		P		**P**	**00 34 48.7**	**-0.3**
BVA0					pmax		pmax		
	comp=Z,1.0nm,1.5s								
BVAR	**Borovoye Array**	**24.44**	**340**		P		**P**	**00 34 48.8**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=139,slow=9.8,SNR=13								
BVAR					LR		LR	00 44 08.4	
	comp=Z,43nm,19.3s,baz=310,slow=36								
BVAR	**Borovoye Array**	**24.44**	**340**		P		**P**	**00 34 48.8**	**-0.2**
BVAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
BVAR					MLR		MLR		
	comp=Z,43nm,19.3s								
BVAR	**Borovoye Array**	**24.44**	**340**		P		**P**	**00 34 48.8**	**-0.2**
SONM	**Songino Array**	**24.45**	**39**		P		**P**	**00 34 49.9**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=226,slow=10,SNR=32								
SONM					LR		LR	00 46 07.0	
	comp=Z,73nm,18.1s,baz=182,slow=41								
SONM	**Songino Array**	**24.45**	**39**		P		**P**	**00 34 49.9**	**+0.6**
BRVK	**Borovoye**	**24.50**	**340**	*e*	P		**P**	**00 34 49.7**	**+0.1**
BRVK					pmax		pmax		
	comp=Z,6.0nm,2.5s								
BRVK	**Borovoye**	**24.50**	**340**	*e*	P		**P**	**00 34 49.4**	**-0.1**
	comp=Z,29nm,2.1s								
ZAK	**Zakamensk**	**24.60**	**31**	*e*	P		**P**	**00 34 50.3**	**-0.3**
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.2s								
ULN	**Ulaanbaatar**	**24.83**	**39**	*e*	P		**P**	**00 34 52.5**	**-0.3**
	comp=Z,4.5nm,1.0s								
AB31	**Akbulak array**	**25.90**	**323**	*ce*	P		**P**	**00 35 02.6**	**+0.3**
AB31					pmax		pmax		
	comp=Z,4.0nm,0.6s								
ABKAR	**Akbulak array**	**25.90**	**323**	*e*	P		**P**	**00 35 02.7**	**+0.4**
AKTO	**Aktyubinsk**	**27.60**	**323**		P		**P**	**00 35 18.1**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=116,slow=10,SNR=6.2								
AKTO					LR		LR	00 47 36.9	
	comp=Z,169nm,20.8s,baz=139,slow=39								
AKTO	**Aktyubinsk**	**27.60**	**323**		P		**P**	**00 35 18.2**	**+0.5**
AKTO					pmax		pmax		
	comp=Z,2.0nm,1.0s								
AKTO					MLR		MLR		
	comp=Z,169nm,20.8s								
AKTO	**Aktyubinsk**	**27.60**	**323**		P		**P**	**00 35 18.1**	**+0.5**
SVE	**Sverdlovsk**	**30.78**	**335**	*e*	P		**P**	**00 35 46.2**	**+0.4**
SVE					pmax		pmax		
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**31.28**	**333**	*d*	P		**P**	**00 35 50.2**	**+0.1**
ARU								00 36 51.6	
ARU					S		**S**	**00 40 56.2**	**+0.4**
ARU					pmax		pmax		
	comp=Z,13nm,2.5s								
GNI	**Garni**	**32.97**	**298**		LR		LR	00 50 32.6	
	comp=Z,52nm,19.2s,baz=325,slow=38								
ZEI	**Tsey**	**33.87**	**302**	*e*	P		**P**	**00 36 14.4**	**+1.1**
ZEI					pmax		pmax		
	comp=Z,6.0nm,1.3s								
BOD	**Bodaibo**	**34.28**	**29**	*e*	P		**P**	**00 36 17.7**	**+1.3**
BOD					pmax		pmax		
	comp=Z,4.0nm,1.4s								
KBZ	**Khabaz**	**34.73**	**304**		P		**P**	**00 36 21.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=116,slow=4.5,SNR=6.6								
KBZ	**Khabaz**	**34.73**	**304**		P		**P**	**00 36 21.0**	**+0.6**
KBZ					pmax		pmax		
	comp=Z,2.0nm,0.9s								
KBZ	**Khabaz**	**34.73**	**304**		P		**P**	**00 36 21.0**	**+0.6**
KIV	**Kislovodsk**	**34.92**	**304**	*e*	P		**P**	**00 36 22.3**	**+0.1**
KIV					pmax		pmax		
	comp=Z,5.0nm,1.0s								
KIV					MLR		MLR		
	comp=Z,29nm,15.0s								
KSRS	**Korea Array**	**37.00**	**67**		LR		LR	00 53 14.7	
	comp=Z,85nm,18.8s,baz=160,slow=39								
JOW	**Kunigami**	**39.06**	**84**		P		**P**	**00 36 57.1**	**-0.4**
	comp=Z,17nm,0.8s,baz=242,slow=6.6,SNR=6.0								
JOW	**Kunigami**	**39.06**	**84**		P		**P**	**00 36 57.1**	**-0.4**
MMAI	**Mount Meron Ar**	**40.86**	**286**		PP		PP	00 38 42.6	-4.1
	comp=Z,0.3nm,0.2s,baz=94,slow=9.4,SNR=5.1								
MMAI	**Mount Meron Ar**	**40.86**	**286**		PP		PP	00 38 42.6	-4.1
BR131	**Keskin Array S**	**41.49**	**297**	*e*	P		**P**	**00 37 18.6**	**+0.9**
	comp=Z,0.5nm,0.6s								
BRTR	**Keskin Array B**	**41.49**	**297**		P		**P**	**00 37 18.0**	**+0.3**
	comp=Z,1.8nm,1.2s,baz=114,slow=5.5,SNR=8.2								
BRTR	**Keskin Array B**	**41.49**	**297**		P		**P**	**00 37 18.0**	**+0.3**
AKASG	**Malin Array Be**	**44.83**	**313**	*ce*	P		**P**	**00 37 45.4**	**+1.1**
MJAR	**Matsushiro Arr**	**45.28**	**67**		LR		LR	00 58 09.6	
	comp=Z,60nm,18.3s,baz=255,slow=38								
JOF	**Joensuu**	**46.29**	**330**	*e*	P		**P**	**00 37 54.6**	**-1.1**
JOF					pmax		pmax		
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**46.29**	**330**	*ep*			**P**	**00 37 54.6**	**-1.1**
	comp=Z,2.3nm,0.6s								
MLR	**Muntele Rosu**	**46.90**	**305**		LR		LR	01 03 04.9	
	comp=Z,20nm,19.2s,baz=297,slow=43								
FINES	**FINESS Array B**	**48.25**	**327**		P		**P**	**00 38 11.1**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=106,slow=10,SNR=9.2								
FINES	**FINESS Array B**	**48.25**	**327**		P		**P**	**00 38 11.1**	**+0.1**
ARCES	**ARCESS Array B**	**50.67**	**337**		P		**P**	**00 38 29.1**	**-0.3**
	comp=Z,8.9nm,0.9s,baz=96,slow=9.2,SNR=3.6								
ARCES	**ARCESS Array B**	**50.67**	**337**		P		**P**	**00 38 29.1**	**-0.3**
SEY	**Seymchan**	**53.56**	**32**	*e*	P		**P**	**00 38 51.6**	**+0.6**
HFS	**Hagfors**	**54.14**	**325**		LR		LR	01 03 41.5	
	comp=Z,128nm,19.7s,baz=102,slow=38								
NB2	**NORSAR Subarra**	**55.35**	**326**		P		**P**	**00 39 03.0**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=88,slow=7.4								
NOA	**NORSAR Array B**	**55.35**	**326**		P		**P**	**00 39 02.5**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=88,slow=7.1,SNR=3.7								
NOA					LR		LR	01 04 04.5	
	comp=Z,55nm,19.1s,baz=225,slow=38								
NOA	**NORSAR Array B**	**55.35**	**326**		P		**P**	**00 39 02.5**	**-1.5**
SPITS	**Spitsbergen Ar**	**55.67**	**347**		P		**P**	**00 39 05.5**	**-0.5**
	comp=Z,8.0nm,0.9s,baz=119,slow=6.9,SNR=2.3								
SPITS	**Spitsbergen Ar**	**55.67**	**347**		P		**P**	**00 39 05.5**	**-0.5**
DAVOX	**Davos/Dischmat**	**57.81**	**309**		LR		LR	01 08 55.8	
	comp=Z,76nm,18.2s,baz=255,slow=41								
TORD	**Torodi Ar. Bea**	**76.65**	**277**		P		**P**	**00 41 20.7**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=48,slow=3.3,SNR=5.4								
TORD	**Torodi Ar. Bea**	**76.65**	**277**		P		**P**	**00 41 20.7**	**-1.0**
ILAR	**Eielson Array**	**77.11**	**20**		P		**P**	**00 41 24.8**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=304,slow=5.3,SNR=4.0								
ILAR	**Eielson Array**	**77.11**	**20**		P		**P**	**00 41 24.8**	**+1.3**
INK	**Inuvik**	**77.59**	**13**		P		**P**	**00 41 26.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=321,slow=5.8,SNR=2.7								
INK	**Inuvik**	**77.59**	**13**		P		**P**	**00 41 26.4**	**+0.4**
BOSA	**Boshof**	**81.07**	**229**		LR		LR	01 17 51.8	
	comp=Z,92nm,18.0s,baz=153,slow=36								
YKA	**Yellowknife Ar**	**86.07**	**8**		P		**P**	**00 42 09.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=336,slow=5.0,SNR=16								
YKA	**Yellowknife Ar**	**86.07**	**8**		P		**P**	**00 42 09.7**	**-1.1**

*NIED **18** 00:30:00.36°.70N×142°.20E,h23km,Mw4.1 Best double couple: Ms1.61000×10^15 NP1:φ=19.00000°,δ70.00000°, λ81.00000°. NP2:φ=224.00000°,δ22.00000°,λ113.00000°.*
*ISCJB **18** 00:30:28.2±1.4,36°.70N±0°.04×142°.27E±0°.04,h7km±9km, mb3.9/24,MS3.7/2,Error ellipse: s-maj=6.9km s-min=5.4km az=176.4*
*JMA **18** 00:30:29.8±0.3,36°.69N×142°.21E,h18km±4km,M4.0*
*NEIC **18** 00:30:35.6±1.1,36°.75N×141°.95E,h38km±9km,mb4.3/3, Error ellipse: s-maj=11.4km s-min=7.8km az=146.0*
*IDC **18** 00:30:35.1±4.2,36°.70N×141°.97E,h33km±32km,mb3.6/20, mb1 3.8/25,mb1mx3.7/35,mbtmp3.6/25,ML4.0/3,MS3.4/5, Ms1 3.4/5,ms1mx2.9/49,Error ellipse: s-maj=16.7km s-min=14.6km az=126.0*

ISC 18 00:30:30.2±2.8, 36°.68N±0°.05×142°.10E±0°.05, h5km±16km, n66, σ1s19/81, mb3.9/24, 2D, Off east coast of Honshu

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

YKA	**Yellowknife Ar**	**63.83**	**30**	P		**P**	**00 41 03.9**	**+0.6**
FINES	**FINESS Array B**	**69.38**	**333**	P		**P**	**00 41 38.6**	**-0.1**
	2.9nm,1.0s,baz=89,slow=6.0,SNR=2.9							
FINES	**FINESS Array B**	**69.38**	**333**	P		**P**	**00 41 38.6**	**-0.1**
NEW	**Newport**	**70.00**	**44**	P		**P**	**00 41 43.5**	**+0.7**
	0.9nm,0.6s,baz=292,slow=5.4,SNR=2.2							
NEW	**Newport**	**70.00**	**44**	P		**P**	**00 41 43.5**	**+0.7**
KBZ	**Khabaz**	**71.55**	**311**	P		**P**	**00 41 53.0**	**+0.8**
	2.0nm,0.8s,baz=329,slow=3.5,SNR=6.0							
KBZ	**Khabaz**	**71.55**	**311**	P		**P**	**00 41 53.0**	**+0.8**
NVAR	**Mina Array Bea**	**74.75**	**53**	P		**P**	**00 42 14.3**	**+2.7**
	0.2nm,0.5s,baz=297,slow=5.0,SNR=2.3							
NVAR	**Mina Array Bea**	**74.75**	**53**	P		**P**	**00 42 14.3**	**+2.7**
AKASG	**Malin Array Be**	**74.91**	**323**	P		**P**	**00 42 10.9**	**-1.1**
	1.5nm,0.6s,baz=45,slow=5.6,SNR=7.1							
AKASG	**Malin Array Be**	**74.91**	**323**	P		**P**	**00 42 10.9**	**-1.1**
BRTR	**Keskin Array B**	**79.50**	**312**	P		**P**	**00 42 37.6**	**-0.5**
	0.8nm,1.0s,baz=134,slow=5.3,SNR=4.7							
BRTR	**Keskin Array B**	**79.50**	**312**	P		**P**	**00 42 37.6**	**-0.5**
TXAR	**Lajitas Array**	**89.90**	**53**	P		**P**	**00 43 32.4**	**+1.7**
	0.1nm,0.3s,baz=335,slow=4.0,SNR=4.8							
TXAR	**Lajitas Array**	**89.90**	**53**	P		**P**	**00 43 32.4**	**+1.7**

*IDC **18** 00:36:51.7±1.0,21˚09N×121˚79E, h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/23,mbtmp3.6/7,Error ellipse: s-maj=50.8km s-min=19.6km az=71.0*
*TAP **18** 00:36:55.3,21˚09N×121˚32E, h90km±1km, ML3.6, C*
ISC 18 00:36:56.2±4.6, 21˚0N±0˚3×121˚4E±0˚1, h51km±56km, n19, σ0§61/18, mb3.4/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**1.04**	**334**	P	**Pn**	**00 37 14.7**	**+0.3**
	baz=326						
TSEB				*e*S	**Sn**	**00 37 28.9**	**+1.1**
	baz=326						
LAY	**Lan-yu**	**1.08**	**8**	P	**Pn**	**00 37 14.7**	**-0.3**
	baz=13						
LAY				*e*S	**Sn**	**00 37 29.2**	**+0.3**
	baz=13						
TWK1	**Hengchun**	**1.12**	**331**	*i* P	**Pn**	**00 37 15.1**	**-0.4**
	baz=331						
TWK1				S	**Sn**	**00 37 29.7**	**-0.1**
	baz=331						
HEN	**Hengchun**	**1.20**	**329**	P	**Pn**	**00 37 16.4**	**-0.3**
	baz=323						
HEN				*e*S	**Sn**	**00 37 32.1**	**+0.2**
	baz=323						
TAW	**Tawu**	**1.46**	**341**	*e*P	**Pn**	**00 37 19.2**	**-0.9**
	baz=350						
EAST	**Anshuo**	**1.50**	**340**	*e*P	**Pn**	**00 37 20.5**	**-0.2**
	baz=350						
EAST				*e*S	**Sn**	**00 37 39.2**	**0.0**
	baz=350						
SCZT	**Fangliau**	**1.57**	**333**	*e*P	**Pn**	**00 37 21.7**	**0.0**
	baz=327						
SCZT				*e*S	**Sn**	**00 37 39.8**	**-1.2**
	baz=327						
TWP	**Hsiaoliuchiu**	**1.68**	**325**	*e*S	**Sn**	**00 37 42.9**	**-0.5**
	baz=325						
TWM1	**Shoushan**	**2.06**	**334**	*e*P	**Pn**	**00 37 29.2**	**+0.9**
	baz=324						
TWM1				*e*S	**Sn**	**00 37 52.8**	**0.0**
	baz=324						
CHN1	**Nanshi**	**2.35**	**340**	*e*P	**Pn**	**00 37 32.5**	**+0.2**
	baz=351						
TWK	**Hsinying**	**2.44**	**340**	*e*P	Pn	00 37 34.5	+0.9
	baz=350						
CHN4	**Tsaushan**	**2.49**	**343**	*e*P	**Pn**	**00 37 34.7**	**+0.5**
	baz=343						
SONM	**Songino Array**	**29.41**	**339**	P	P	00 42 57.2	+2.3
	0.7nm,0.6s,baz=157,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**42.59**	**162**	P	P	00 44 49.1	+1.7
	0.2nm,0.3s,baz=343,slow=9.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.07**	**329**	P	P	00 44 54.7	+3.8
	0.6nm,0.5s,baz=122,slow=7.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**44.72**	**322**	P	P	00 45 06.9	+2.6
	0.3nm,0.7s,baz=123,slow=7.2,SNR=3.8						
ASAR	**Alice Springs**	**46.01**	**164**	P	P	00 45 17.5	+2.8
	0.2nm,0.4s,baz=341,slow=8.8,SNR=4.0						
ILAR	**Eielson Array**	**71.98**	**27**	P	P	00 48 15.1	+0.9
	0.2nm,0.6s,baz=287,slow=6.1,SNR=3.7						
YKA	**Yellowknife Ar**	**85.85**	**23**	P	P	00 49 32.0	+1.9
	0.2nm,0.6s,baz=312,slow=4.7,SNR=9.2						

*ISK **18** 01:08:24.9, 39˚28N×41˚58E, h8km, MD3.0*
*DDA **18** 01:08:24.3, 39˚25N×41˚62E, h7km, MD3.1*
*CSEM **18** 01:08:24.9±0.2, 39˚29N×41˚61E, h2km, MD3.0, Error ellipse: s-maj=6.7km s-min=4.4km az=82.0*
ISC 18 01:08:24.8±0.9, 39˚26N±0˚02×41˚67E±0˚03, h13km±7km, n28, σ1§03/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.19**	**239**	*e*PG	**Pg**	**01 08 28.7**	**-0.5**
VRTB				*e*SG	**Sg**	**01 08 32.8**	**+0.6**
VRTB	**Varto-Mus**	**0.19**	**239**	*e*Pg	**Pg**	**01 08 28.7**	**-0.5**
VRTB				*e*Sg	**Sg**	**01 08 32.8**	**+0.6**
ERZM	**Erzurum**	**0.69**	**340**	*i* P	**Pg**	**01 08 37.5**	**-0.8**
ERZM				*i* S	**Sb**	**01 08 48.0**	**-0.4**
ERZM	**Erzurum**	**0.69**	**340**	*i* P	**Pg**	**01 08 37.5**	**-0.8**
ERZM				*i* S	**Sb**	**01 08 48.0**	**-0.4**
EZM	**Erzurum**	**0.69**	**340**	*e*PG	**Pg**	**01 08 37.4**	**-0.8**
EZM				*e*SG	**Sb**	**01 08 47.7**	**-0.7**
HOMI	**Horasan**	**0.81**	**13**	*i* P	**Pg**	**01 08 39.4**	**-1.1**
HOMI				*i* S	**Sb**	**01 08 52.4**	**+0.6**
BNGB	**Bing˚¶l**	**0.81**	**251**	*e*PG	**Pg**	**01 08 39.1**	**-1.5**
BNGB				*e*SG	**Sg**	**01 08 50.8**	**-0.5**
TATV	**Tatvan**	**0.88**	**148**	*e*P	**Pg**	**01 08 40.2**	**-1.8**
TATV				*e*S	**Sg**	**01 08 53.3**	**-0.2**
TATV	**Tatvan**	**0.88**	**148**	*e*P	**Pg**	**01 08 40.2**	**-1.8**
TATV				*e*S	**Sg**	**01 08 53.3**	**-0.2**
BTMT	**Batman**	**1.07**	**187**	*e*PN	**Pn**	**01 08 48.0**	**+2.3**
BTMT	**Batman**	**1.07**	**187**	*e*Pn	**Pn**	**01 08 48.0**	**+2.3**
KOPT	**Kop Dagi**	**1.18**	**310**	*i* P	**Pg**	**01 08 46.7**	**-0.9**
KOPT				*i* S	**Sn**	**01 09 05.1**	**+1.7**
KOPT	**Kop Dagi**	**1.18**	**310**	*i* P	**Pg**	**01 08 46.7**	**-0.9**
BEST	**Besiri**	**1.40**	**193**	*e*P	**Pn**	**01 08 50.4**	**+0.2**
BEST				*i* S	**Sg**	**01 09 10.6**	**+0.7**
ERZN	**Erzincan**	**1.54**	**283**	*e*PN	**Pn**	**01 08 52.5**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.63**	**314**	*e*PN	**Pn**	**01 08 53.8**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.63**	**314**	*e*Pn	**Pn**	**01 08 53.8**	**+0.3**
DDEM	**Demirkent**	**1.63**	**2**	*e*P	**Pb**	**01 08 54.7**	**-0.2**
DDEM				*i* S	**Sg**	**01 09 18.1**	**+0.7**
DDEM	**Demirkent**	**1.63**	**2**	*e*P	**Pb**	**01 08 54.7**	**-0.2**
DDEM				*i* S	**Sg**	**01 09 18.1**	**+0.7**
CLDR	**Caldiran**	**1.75**	**93**	*e*PN	**Pb**	**01 08 57.5**	**+0.5**
CLDR	**Caldiran**	**1.75**	**93**	*e*Pn	**Pb**	**01 08 57.5**	**+0.5**
PTK	**Pertek**	**1.81**	**259**	*e*PN	**Pn**	**01 08 56.4**	**+0.5**
PTK	**Pertek**	**1.81**	**259**	*e*Pn	**Pn**	**01 08 56.4**	**+0.5**
MARD	**Mardin**	**2.06**	**200**	*e*P	**Pn**	**01 09 01.2**	**+1.9**
MARD				*e*S	**Sn**	**01 09 23.1**	**-1.9**
GUMT	**Gumushane**	**2.07**	**306**	*e*PN	**Pn**	**01 08 59.7**	**+0.3**
GUMT	**Gumushane**	**2.07**	**306**	*e*Pn	**Pn**	**01 08 59.7**	**+0.3**
ILIC	**ilic-Erzincan**	**2.41**	**276**	*e*PN	**Pn**	**01 09 04.7**	**+0.6**
ILIC	**ilic-Erzincan**	**2.41**	**276**	*e*Pn	**Pn**	**01 09 04.7**	**+0.6**

*ISCJB **18** 01:09:33.8±0.6, 21˚24S±0˚04×68˚6W±0˚1, h114km±11km, mb3.9/2, Error ellipse: s-maj=17.4km s-min=6.7km az=3.1*
*GUC **18** 01:09:35.1±0.9, 21˚27S×68˚84W, h120km±6km, ML3.9*
*IDC **18** 01:09:58.0±21.0, 19˚27S×67˚57W, h240km±119km, mb3.5/2, mb1 3.3/5, mb1mx3.0/20, mbtmp3.3/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/26, Error ellipse: s-maj=403.5km s-min=37.7km az=16.0*
ISC 18 01:09:35.2±0.9, 21˚27S±0˚04×68˚8W±0˚1, h120km±11km, n17, σ1§10/23, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.68**	**219**	⇑*i* P	**Pn**	**01 09 54.8**	**+0.2**
PB09				*i* S	**Sn**	**01 10 09.6**	**+0.3**
PB09				AML	AML	01 10 10.7	
	comp=N,6μm,0.6s						
PB01	**Plate Boundary**	**0.70**	**289**	⇑*i* P	**Pn**	**01 09 54.5**	**-0.1**
PB01				*i* S	**Sn**	**01 10 09.2**	**-0.1**
PB07	**Plate Boundary**	**1.13**	**246**	⇑*i* P	**Pn**	**01 09 59.0**	**+0.3**
PB07				*i* S	**Sn**	**01 10 16.8**	**+0.3**
PB07				AML	AML	01 10 18.3	
	comp=N,2μm,0.5s						
PB04	**Plate Boundary**	**1.19**	**214**	*e*P	Pn	01 10 05.0	+5.8
PB04				*i* S	Sn	01 10 27.1	+10
PB04				AML	AML	01 10 31.3	
	comp=E,975nm,0.5s						
MACH	**Maria Elena**	**1.29**	**225**	*e*P	**Pn**	**01 10 00.9**	**+0.3**
MACH				*e*S	**Sn**	**01 10 20.1**	**+0.3**
HMBC	**Humberstone**	**1.43**	**313**	⇑*i* P	**Pn**	**01 10 02.4**	**+0.3**
HMBC				*i* S	**Sn**	**01 10 22.7**	**+0.3**
HMBC				AML	AML	01 10 23.5	
	comp=N,3μm,0.3s						
PB06	**Plate Boundary**	**1.61**	**207**	⇓*i* P	**Pn**	**01 10 04.4**	**+0.3**
PB06				*i* S	**Sn**	**01 10 26.3**	**+0.3**
PB06				AML	AML	01 10 27.2	
	comp=E,2μm,0.2s						
PSGC	**Pisagua**	**2.09**	**323**	⇑*i* P	**Pn**	**01 10 09.7**	**-0.3**
PSGC				*i* S	**Sn**	**01 10 36.7**	**+0.3**
PSGC				AML	AML	01 10 40.6	
	comp=E,778nm,0.4s						
MECH	**Mejillones**	**2.39**	**220**	*e*P	Pn	01 10 16.7	+3.1
MECH				*i* S	**Sn**	**01 10 43.8**	**+0.7**
MECH				AML	AML	01 10 59.7	
	comp=E,398nm,0.2s						
CEN1	**Los Morros**	**2.48**	**212**	*e*P	**Pn**	**01 10 16.6**	**+1.6**
CEN1				*e*S	**Sn**	**01 10 47.0**	**+1.6**
ANCH	**Antofagasta**	**2.83**	**212**	*e*P	**Pn**	**01 10 20.6**	**+1.3**
ANCH				*e*S	**Sn**	**01 10 50.5**	**-2.8**
LPAZ	**La Paz**	**4.99**	**7**	P	**Pn**	**01 10 50.8**	**+2.0**
	comp=E,2.3nm,0.3s,baz=196,slow=4.2,SNR=43						
SIV	**San Ignacio**	**9.00**	**56**	P	Pn	01 11 38.5	-3.7
	comp=E,0.7nm,0.3s,baz=242,slow=12,SNR=15						
BDFB	**Brasilia**	**20.47**	**78**	P	**P**	**01 14 02.3**	**-1.4**
	comp=E,0.5nm,0.3s,baz=242,slow=9.4,SNR=5.9						
JTS	**JuntasAbangare**	**35.16**	**332**	LR	LR	01 29 43.0	
	comp=E,66nm,20.4s,baz=32,slow=35						
DBIC	**Dimbokro**	**68.55**	**73**	P	**P**	**01 20 25.3**	**-0.1**
	comp=E,1.6nm,0.7s,baz=243,slow=6.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.16**	**70**	P	**P**	**01 21 15.9**	**-0.3**
	comp=E,1.3nm,0.7s,baz=255,slow=5.5,SNR=16						

IDC 18 01:16:06.2±2.5, 3˚85N×93˚93W, h0km, mb3.6/6, mb1 4.0/6,mb1mx3.8/23,mbtmp3.6/6,MS3.5/4,Ms1 3.5/4, ms1mx3.0/26,Error ellipse: s-maj=94.2km s-min=28.3km az=52.0,Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**18.96**	**125**	LR	LR	01 26 15.1	
	comp=Z,109nm,19.7s,baz=76,slow=32						
TXAR	**Lajitas Array**	**26.97**	**341**	P	P	01 21 50.9	+1.0
	0.5nm,0.8s,baz=160,slow=9.7,SNR=6.9						
TXAR				LR	LR	01 32 07.9	
	comp=Z,60nm,18.7s,baz=355,slow=36						
LPAZ	**La Paz**	**32.42**	**129**	LR	LR	01 34 03.1	
	comp=Z,86nm,19.4s,baz=233,slow=33						
TKL	**Tuckaleechee C**	**33.01**	**15**	P	P	01 22 43.2	-0.1
	2.7nm,0.8s,baz=221,slow=6.3,SNR=3.9						
SIV	**San Ignacio**	**38.02**	**122**	P	P	01 23 26.7	+0.2
	0.5nm,0.5s,baz=286,slow=6.9,SNR=3.3						
PDAR	**Pinedale Array**	**41.17**	**342**	P	P	01 23 53.1	+0.4
	1.0nm,0.9s,baz=158,slow=7.6,SNR=7.5						
PDAR				LR	LR	01 41 04.3	
	comp=Z,88nm,19.1s,baz=310,slow=36						
YKA	**Yellowknife Ar**	**60.49**	**349**	P	P	01 26 16.9	-0.9
	0.3nm,0.9s,baz=156,slow=6.9,SNR=3.4						
ILAR	**Eielson Array**	**71.46**	**339**	P	P	01 27 27.8	-0.5
	0.5nm,0.9s,baz=157,slow=4.9,SNR=4.3						

*NNC **18** 01:45:12.8±5.6, 37˚65N×71˚50E, h207km±83km, mb2.6, mpv3.6, Error ellipse: s-maj=57.8km s-min=32.7km az=16.0*
ISC 18 01:45:04.9±3.6, 37˚2N±0˚2×71˚1E±0˚1, h68km, n10, σ1§44/12, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.31**	**21**	P	**Pn**	**01 46 23.7**	**+1.8**
	SNR=97						
KZA	**Kyzart**	**5.82**	**32**	P	**Pn**	**01 46 28.2**	**-0.7**
	SNR=5.2						
EKS2	**Erkin-Say**	**5.82**	**20**	P	**Pn**	**01 46 31.2**	**+2.4**
	SNR=15						
KK31	**Karatay Array**	**5.92**	**356**	⇓P	Pn	01 46 34.8	+4.9
	5.2nm,0.4s,baz=177,slow=13,SNR=103						
KK31				S	**Sn**	**01 47 37.1**	**+0.8**
	15nm,0.5s,baz=168,slow=21,SNR=23						
AAK	**Ala-Archa**	**6.01**	**24**	P	**Pn**	**01 46 32.5**	**+1.2**
	SNR=18						
KBK	**Karagaybulak**	**6.19**	**27**	P	**Pn**	**01 46 35.2**	**+1.5**
	SNR=6.1						
CHMS	**Chumysh**	**6.42**	**24**	P	**Pn**	**01 46 37.7**	**+0.9**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.66**	**30**	⇑P	**Pn**	**01 46 40.1**	**-0.1**
	2.8nm,0.7s						
TKM2				⇑S	**Sn**	**01 47 53.8**	**-1.0**
	1.1nm,0.6s						
TKM2	**Tokmak 2**	**6.66**	**30**	P	**Pn**	**01 46 40.2**	**-0.1**
	SNR=8.9						
AB31	**Akbulak array**	**14.53**	**330**	⇑P	**Pn**	**01 48 26.3**	**-0.4**
	0.6nm,0.3s,baz=137,slow=13,SNR=36						
AB31				S	**Sn**	**01 51 04.7**	**-1.7**
	0.6nm,0.7s,baz=155,slow=21,SNR=6.5						

*ISK **18** 01:46:27.4, 39˚85N×38˚65E, h8km, MD3.3*
*ISCJB **18** 01:46:28.1±0.5, 39˚84N±0˚02×38˚66E±0˚03, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=173.7*
*DDA **18** 01:46:28.1, 39˚83N×38˚65E, h7km, MD3.3*
*CSEM **18** 01:46:28.4±0.1, 39˚84N×38˚67E, h8km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.8km az=89.0*
ISC 18 01:46:28.4±1.0, 39˚85N±0˚02×38˚63E±0˚02, h8km±10km, n56, σ0§94/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.40**	**187**	*e*PG	**Pg**	**01 46 35.8**	**-0.5**
ILIC				*e*SG	**Sg**	**01 46 41.5**	**0.0**
ILIC	**ilic-Erzincan**	**0.40**	**187**	*e*Pg	**Pg**	**01 46 35.8**	**-0.5**
ILIC				*e*Sg	**Sg**	**01 46 41.6**	**0.0**
SUSE	**Susehri**	**0.49**	**318**	*i* P	**Pb**	**01 46 38.5**	**-0.8**
SUSE				*i* S	**Sb**	**01 46 46.6**	**-0.1**
SUSE	**Susehri**	**0.49**	**318**	*i* P	**Pb**	**01 46 38.5**	**-0.8**
SUSE				*i* S	**Sb**	**01 46 46.6**	**-0.1**
EZC	**Erzincan**	**0.56**	**100**	*e*PG	**Pg**	**01 46 39.0**	**-0.4**
EZC	**Erzincan**	**0.56**	**100**	*e*Pg	**Pg**	**01 46 39.0**	**-0.4**
KELT	**Kelkit**	**0.56**	**58**	*i* P	**Pg**	**01 46 39.4**	**0.0**
KELT				*i* S	**Sg**	**01 46 47.5**	**+0.7**
KELT	**Kelkit**	**0.56**	**58**	*i* P	**Pg**	**01 46 39.4**	**0.0**
KEMA	**Kemaliye**	**0.59**	**190**	*i* P	**Pg**	**01 46 39.3**	**-0.5**
KEMA				*i* S	**Sg**	**01 46 48.3**	**+0.8**
KEMA	**Kemaliye**	**0.59**	**190**	*i* P	**Pg**	**01 46 39.3**	**-0.5**
KEMA				*i* S	**Sg**	**01 46 48.3**	**+0.8**
ERZN	**Erzincan**	**0.88**	**107**	*e*PG	**Pg**	**01 46 44.1**	**-1.3**
ERZN				*e*SG	**Sb**	**01 46 57.8**	**-0.3**
GUMT	**Gumushane**	**0.89**	**47**	*e*PG	**Pg**	**01 46 45.1**	**-0.5**
GUMT	**Gumushane**	**0.89**	**47**	*e*Pg	**Pg**	**01 46 45.1**	**-0.5**
ESPY	**Espiye-Giresun**	**1.07**	**4**	*e*PG	**Pg**	**01 46 48.6**	**-0.3**
ESPY				*e*SG	**Sb**	**01 47 03.1**	**-0.2**
ESPY	**Espiye-Giresun**	**1.07**	**4**	*e*Pg	**Pg**	**01 46 48.6**	**-0.3**
ESPY				*e*Sg	**Sb**	**01 47 03.1**	**-0.2**
DARE	**Darende-Malaty**	**1.10**	**216**	*e*PN	Pn	01 46 56.2	+6.0
GRSN	**GIRESUNGRSN**	**1.11**	**346**	*i* P	**Pg**	**01 46 49.3**	**-0.4**
GRSN				*i* S	**Sn**	**01 47 06.0**	**+0.2**
GRSN	**GIRESUNGRSN**	**1.11**	**346**	*i* P	**Pg**	**01 46 49.3**	**-0.4**
GRSN				*i* S	**Sn**	**01 47 06.0**	**+0.2**
PTK	**Pertek**	**1.12**	**148**	*e*PN	**Pg**	**01 46 49.5**	**-0.5**
PTK				*e*SN	**Sg**	**01 47 04.6**	**0.0**
PTK	**Pertek**	**1.12**	**148**	*e*Pn	**Pg**	**01 46 49.5**	**-0.5**
PTK				*e*Sn	**Sg**	**01 47 04.6**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.14**	**299**	*e*PN	**Pg**	**01 46 49.6**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.14**	**299**	*e*Pn	**Pg**	**01 46 49.6**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.28**	**64**	*e*PN	**Pn**	**01 46 51.4**	**-1.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.28**	**64**	*e*Pn	**Pn**	**01 46 51.4**	**-1.4**
ELZG	**Elazig**	**1.38**	**168**	*i* P	**Pn**	**01 46 53.5**	**-0.6**
ELZG				*i* S	**Sg**	**01 47 12.7**	**0.0**
ELZG	**Elazig**	**1.38**	**168**	*i* P	**Pn**	**01 46 53.5**	**-0.6**
ELZG				*i* S	**Sg**	**01 47 12.7**	**0.0**
MACK	**Trabzon**	**1.40**	**38**	*i* P	**Pb**	**01 46 54.3**	**-0.5**
MACK				*i* S	**Sg**	**01 47 15.2**	**+1.9**
MACK	**Trabzon**	**1.40**	**38**	*i* P	**Pb**	**01 46 54.3**	**-0.5**
MACK				*i* S	**Sg**	**01 47 15.2**	**+1.9**
KOPT	**Kop Dagi**	**1.45**	**83**	*i* P	**Pg**	**01 46 56.2**	**0.0**
KOPT				*i* S	**Sg**	**01 47 20.0**	**+5.1**
KOPT	**Kop Dagi**	**1.45**	**83**	*i* P	**Pg**	**01 46 56.2**	**0.0**
MYA	**Malataya**	**1.53**	**186**	*e*PN	**Pn**	**01 46 55.6**	**-0.5**
MYA	**Malataya**	**1.53**	**186**	*e*PN	**Pn**	**01 46 55.6**	**-0.5**
MALT	**Malatya**	**1.54**	**186**	*e*PN	**Pn**	**01 46 56.0**	**-0.4**
MALT	**Malatya**	**1.54**	**186**	*e*Pn	**Pn**	**01 46 56.0**	**-0.4**
AKCD	**Akcadag**	**1.65**	**200**	*i* P	**Pb**	**01 46 58.9**	**-0.2**
AKCD				*i* S	**Sg**	**01 47 22.9**	**+1.5**
AKCD	**Akcadag**	**1.65**	**200**	*i* P	**Pb**	**01 46 58.9**	**-0.2**
AKCD				*i* S	**Sg**	**01 47 22.9**	**+1.5**
ERBA	**Erbaa**	**1.66**	**301**	*i* P	**Pb**	**01 46 58.5**	**-0.8**
ERBA				*i* S	**Sg**	**01 47 20.6**	**-1.1**
ERBA	**Erbaa**	**1.66**	**301**	*i* P	**Pb**	**01 46 58.5**	**-0.8**
ERBA				*i* S	**Sg**	**01 47 20.6**	**-1.1**
BINT	**Bingol**	**1.74**	**123**	*e*Pn	**Pn**	**01 46 59.4**	**+0.4**
BNGB	**Bing˚¶l**	**1.80**	**118**	*e*PN	**Pn**	**01 46 59.4**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.90**	**233**	*e*PN	**Pg**	**01 47 06.6**	**+1.7**
EZM	**Erzurum**	**2.10**	**88**	*e*PN	**Pn**	**01 47 03.6**	**-0.6**
VRTB	**Varto-Mus**	**2.29**	**107**	*e*PN	**Pn**	**01 47 06.3**	**-0.4**
VRTB	**Varto-Mus**	**2.29**	**107**	*e*Pn	**Pn**	**01 47 06.3**	**-0.4**
BNN	**Bunyan**	**2.38**	**246**	*e*PN	**Pn**	**01 47 08.2**	**+0.4**
BNN	**Bunyan**	**2.38**	**246**	*e*Pn	**Pn**	**01 47 08.2**	**+0.4**
YOZ	**Yozgat**	**2.56**	**266**	*e*PN	**Pn**	**01 47 10.8**	**+0.4**
YOZ	**Yozgat**	**2.56**	**266**	*e*Pn	**Pn**	**01 47 10.8**	**+0.4**
KMRS	**Kahramanmaras**	**2.71**	**211**	*e*PN	**Pn**	**01 47 12.8**	**+0.5**
KMRS	**Kahramanmaras**	**2.71**	**211**	*e*Pn	**Pn**	**01 47 12.8**	**+0.5**
CORM	**Corum**	**3.09**	**277**	*e*PN	**Pn**	**01 47 18.6**	**+1.0**
CORM	**Corum**	**3.09**	**277**	*e*Pn	**Pn**	**01 47 18.6**	**+1.0**
DIKM	**Dikmen**	**3.13**	**306**	*e*PN	**Pn**	**01 47 18.8**	**+0.8**
DIKM	**Dikmen**	**3.13**	**306**	*e*Pn	**Pn**	**01 47 18.8**	**+0.8**
KOZT	**Kozan**	**3.23**	**224**	*e*PN	**Pn**	**01 47 20.4**	**+1.0**
KOZT	**Kozan**	**3.23**	**224**	*e*Pn	**Pn**	**01 47 20.4**	**+1.0**

IDC 18 01:58:41.0±1.5, 0˚55N×126˚69E, h0km, mb3.3/3, mb1 3.6/3,mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=171.6km s-min=25.0km az=72.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.70**	**160**	P	P	02 03 32.5	-1.3
	1.1nm,0.6s,baz=338,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.07**	**164**	P	P	02 04 08.3	+0.9
	0.4nm,0.4s,baz=344,slow=12,SNR=4.5						
SONM	**Songino Array**	**50.29**	**342**	P	P	02 07 39.2	-0.2
	0.2nm,0.4s,baz=162,slow=8.0,SNR=3.1						

IDC 18 02:00:42.0±5.7, 15˚98S×173˚58W, h0km, mb3.6/3, mb1 3.9/4,mb1mx3.6/21,mbtmp3.6/4,ML1.6/1,MS3.8/3, Ms1 3.8/3,ms1mx3.1/32,Error ellipse: s-maj=265.1km s-min=25.3km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.70**	**40**	Pn	Pn	02 01 26.0	-0.9
	5.8nm,0.3s,baz=216,slow=14,SNR=4.5						
AFI				Sn	Sn	02 01 53.6	-6.8
	22nm,0.3s,baz=293,slow=24,SNR=7.9						
AFI				LR	LR	02 02 03.1	
	comp=Z,2μm,20.9s,baz=281,slow=30						
HNR	**Honiara**	**26.61**	**281**	LR	LR	02 15 57.9	
	comp=Z,111nm,18.8s,baz=28,slow=34						
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	02 09 35.0	-0.1
	0.1nm,0.2s,baz=93,slow=7.7,SNR=8.7						
ASAR	**Alice Springs**	**49.77**	**252**	P	P	02 09 36.0	-0.9
	1.4nm,0.5s,baz=89,slow=8.3,SNR=24						
ILAR	**Eielson Array**	**83.05**	**11**	P	P	02 13 08.4	-0.6
	0.2nm,0.5s,baz=218,slow=5.7,SNR=4

*ISCJB **18** 03:09:04.2±2.2, 37.01N±0.07×142.03E±0.10, h15km±17km, mb3.1/2, Error ellipse: s-maj=14.3km s-min=11.0km az=139.2*
*JMA **18** 03:09:05.8±0.2, 36.93N×141.91E, h28km±3km, M3.1*
ISC 18 03:09:03.9±2.3, 37.06N±0.08×141.99E±0.09, h5km±13km, n11, σ1§31/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.94**	**289**	P		**Pb**		**03 09 22.8**	**+0.1**
JFK				*e*S		**Sb**		**03 09 35.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.95**	**273**	P		**Pg**		**03 09 22.4**	**+0.2**
JHO	**Hitachi**	**1.22**	**249**	P		**Pn**		**03 09 25.6**	**-2.1**
JMM	**Marumori**	**1.24**	**311**	P		**Pn**		**03 09 28.2**	**+0.2**
JMM				*e*S		**Sn**		**03 09 43.7**	**-1.4**
JFT	**Otama**	**1.39**	**290**	P		**Pg**		**03 09 30.3**	**-0.3**
JFT				*e*S		**Sb**		**03 09 46.8**	**-1.7**
JIO	**Ouri**	**1.48**	**340**	P		**Pg**		**03 09 32.6**	**+0.3**
JFY	**Yanaizu**	**1.85**	**281**	P		**Pn**		**03 09 36.7**	**+0.3**
MJAR	**Matsushiro Arr** 5.5nm,0.3s,baz=90,slow=15,SNR=33	**3.08**	**261**	P		**Pn**		**03 09 54.8**	**+1.6**
MJAR				S		**Sn**		**03 10 33.1**	**+2.7**
MAT	**Matsushiro**	**3.08**	**261**	P		**Pn**		**03 09 53.9**	**+0.7**
MAT				S		**Sn**		**03 10 30.6**	**+0.2**
SONM	**Songino Array** 0.3nm,0.5s,baz=99,slow=7.8,SNR=5.6	**28.15**	**304**	P		**P**		**03 14 57.6**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.5s,baz=5.5,slow=7.6,SNR=3.2	**57.15**	**189**	P		**P**		**03 18 51.3**	**-0.5**

*NEIC **18** 03:23:56.7, 19.26N×68.63W, h35km, MD3.7(RSPR), After RSPR.*
RSPR 18 03:23:56.7, 19.26N×68.63W, h35km±27km, MD3.7/12, 19C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.85**	**236**	*e*P			Pn	03 24 09.4	-3.0
DR12				*e*S			Sn	03 24 21.9	-1.8
DR12	**Loma Pena Alta**	**0.85**	**236**	*e*P			Pn	03 24 09.4	-3.0
DR12				*e*S			Sn	03 24 21.9	-1.8
LSP	**Las Mesas**	**1.82**	**126**	*e*P			Pn	03 24 25.4	-0.2
LSP	**Las Mesas**	**1.82**	**126**	*e*P			Pn	03 24 25.4	-0.2
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	*e*P			Pn	03 24 25.6	-1.2
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	*e*S			Sn	03 24 47.9	-1.7
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	*e*P			Pn	03 24 25.6	-1.2
CRPR				*e*S			Sn	03 24 47.9	-1.7
LRS	**Lares**	**1.95**	**119**	*e*P			Pn	03 24 26.8	-0.6
LRS				*e*S			Sn	03 24 49.9	-0.8
LRS	**Lares**	**1.95**	**119**	*e*P			Pn	03 24 26.8	-0.6
LRS				*e*S			Sn	03 24 49.9	-0.8
AOPR	**Arecibo Observ**	**2.00**	**117**	*i*P			Pn	03 24 27.6	-0.5
AOPR	**Arecibo Observ**	**2.00**	**117**	*e*S			Sn	03 24 50.8	-1.1
AOPR	**Arecibo Observ**	**2.00**	**117**	*i*P			Pn	03 24 27.6	-0.5
AOPR				*e*S			Sn	03 24 50.8	-1.1
OBIP	**Obispado Ponce**	**2.27**	**122**	*e*P			Pn	03 24 31.1	-0.6
OBIP	**Obispado Ponce**	**2.27**	**122**	*e*S			Sn	03 24 58.2	-0.4
OBIP	**Obispado Ponce**	**2.27**	**122**	*e*P			Pn	03 24 31.1	-0.6
OBIP				*e*S			Sn	03 24 58.2	-0.4
CELP	**Cerrillos**	**2.27**	**121**	*e*P			Pn	03 24 31.2	-0.7
CELP				*e*S			Sn	03 24 57.5	-1.1
CELP	**Cerrillos**	**2.27**	**121**	*e*P			Pn	03 24 31.2	-0.7
CELP				*e*S			Sn	03 24 57.5	-1.1
SDDR	**Presa de Saban**	**2.53**	**264**	*e*Pn			Pn	03 24 31.3	-4.1
SDDR				*e*Sn			Sn	03 25 00.4	-4.7
SJG	**San Juan**	**2.61**	**116**	*i*P			Pn	03 24 38.5	-0.9
SJG	**San Juan**	**2.61**	**116**	*e*S			Sn	03 25 05.5	-1.5
SJG	**San Juan**	**2.61**	**116**	*e*P			Pn	03 24 36.3	-0.2
SJG	**San Juan**	**2.61**	**116**	*i*P			Pn	03 24 35.5	-0.9
SJG				*e*S			Sn	03 25 05.5	-1.5
CBYP	**Canovanas**	**2.81**	**110**	*e*P			Pn	03 24 37.7	-1.5
CBYP	**Canovanas**	**2.81**	**110**	*e*S			Sn	03 25 11.8	-0.1
CBYP	**Canovanas**	**2.81**	**110**	*e*P			Pn	03 24 37.7	-1.5
CBYP				*e*S			Sn	03 25 11.8	-0.1
CPD	**Cerro la Pandu**	**2.85**	**115**	*e*P			Pn	03 24 38.9	-0.8
CPD	**Cerro la Pandu**	**2.85**	**115**	*e*S			Sn	03 25 11.3	-1.5
CPD	**Cerro la Pandu**	**2.85**	**115**	*e*P			Pn	03 24 38.9	-0.8
CPD				*e*S			Sn	03 25 11.3	-1.5
HUMP	**Col San Antoni**	**2.86**	**113**	*e*P			Pn	03 24 38.4	-1.5
HUMP	**Col San Antoni**	**2.86**	**113**	*e*S			Sn	03 25 11.4	-1.7
HUMP	**Col San Antoni**	**2.86**	**113**	*e*P			Pn	03 24 38.4	-1.5
HUMP				*e*S			Sn	03 25 11.4	-1.7
MTP	**Monte Pirata**	**3.14**	**111**	*e*P			Pn	03 24 42.6	-1.1
MTP	**Monte Pirata**	**3.14**	**111**	*e*S			Sn	03 25 18.5	-1.5
MTP	**Monte Pirata**	**3.14**	**111**	*e*P			Pn	03 24 42.6	-1.1
MTP				*e*S			Sn	03 25 18.5	-1.5
STVI	**Saint Thomas**	**3.60**	**104**	*e*P			Pn	03 24 49.4	-0.6
STVI				*e*S			Sn	03 25 30.5	-0.7
STVI	**Saint Thomas**	**3.60**	**104**	*e*P			Pn	03 24 49.4	-0.6
STVI				*e*S			Sn	03 25 30.5	-0.7

IDC 18 03:35:29.3±5.5, 23.68S×179.93E, h554km±60km, mb3.3/5, mb1 3.5/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=41.6km s-min=28.0km az=23.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.2nm,0.3s,baz=328,slow=2.9,SNR=5.9	**14.73**	**189**	P		P		03 38 34.6	-1.1
URZ				S		S		03 41 07.5	-1.7
CTA	**Charters Tower** 2.1nm,0.3s,baz=90,slow=11,SNR=6.5	**31.41**	**270**	P		P		03 41 06.0	+0.2
STKA	**Stephens Creek** 1.6nm,0.5s,baz=86,slow=11,SNR=6.9	**34.74**	**248**	P		P		03 41 34.0	+0.3
ASAR	**Alice Springs** 2.0nm,0.4s,baz=97,slow=7.4,SNR=8.8	**42.01**	**260**	P		P		03 42 32.7	-0.1
WRA	**Warramunga Arr** 3.4nm,0.4s,baz=93,slow=8.5,SNR=21	**42.36**	**266**	P		P		03 42 34.9	-0.6
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=212,slow=4.4,SNR=5.7	**90.37**	**58**	P		P		03 47 32.5	+0.3
AKASG	**Malin Array Be** 0.6nm,0.3s,baz=48,slow=4.2,SNR=4.9	**144.75**	**327**	PKP		PKPdf		03 54 00.8	-2.3
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=149,slow=5.6,SNR=4.9	**147.40**	**307**	PKPbc		PKPbc		03 54 10.8	-0.6
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=168,slow=4.5,SNR=5.9	**169.39**	**189**	PKPab		PKPab		03 55 50.6	+0.1

*IDC **18** 03:36:01.8±1.1, 0.61S×133.62E, h0km, mb3.9/4, mb1 4.2/7, mb1mx4.0/21, mbtmp4.0/7, ML4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/29, Error ellipse: s-maj=48.5km s-min=20.0km az=88.0*
*DJA **18** 03:36:06.9±0.9, 1°S±12°×13°2E±°, h10km, M4.6/3, mb5.0/3, mB4.9/1, MLv4.4/3, Mw(mB)4.2/1*
ISC 18 03:36:06.2±0.8, 0.85S±0.08×133.32E±0.08, h29km, n15, σ2§35/14, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.32**	**207**	P		**Pb**		**03 36 46.3**	**-1.1**
BAKI	**Biak**	**2.81**	**97**	P		**Pb**		**03 36 54.8**	**-0.9**
TLE	**Tual**	**4.79**	**187**	P		Pn		03 37 21.4	+4.9
MSAI	**Masohi**	**5.04**	**240**	P		Pn		03 37 25.8	+5.9
AAI	**Ambon** 101nm,0.6s	**5.85**	**241**	P		Pn		03 37 34.7	+3.8
NLAI	**Namlea**	**6.65**	**249**	P		**Pn**		**03 37 44.8**	**+2.8**
KAPI	**Kappang** 0.4nm,0.3s,baz=132,slow=7.8,SNR=6.7	**14.17**	**253**	Pn		**P**		**03 39 30.6**	**-1.6**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=39,slow=12,SNR=28	**18.73**	**203**	P		**Pn**		**03 40 24.2**	**+0.9**
FITZ				S		**Sn**		**03 43 46.9**	**-5.3**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=194,slow=14,SNR=3.6	**19.00**	**177**	P		**Pn**		**03 40 27.0**	**+0.4**
WRA	0.3nm,0.3s,baz=355,slow=12,SNR=35			S		**Sn**		**03 43 57.0**	**-1.8**
ASAR	**Alice Springs** 4.3nm,0.7s,baz=5.8,slow=12,SNR=34	**22.69**	**179**	P		**P**		**03 41 07.8**	**+2.1**
STKA	**Stephens Creek** 1.6nm,0.6s,baz=321,slow=9.4,SNR=3.9	**31.84**	**167**	P		**P**		**03 42 31.2**	**+2.6**
STKA				LR		LR		03 57 06.0	
KSRS	**Korea Array** comp=Z,152nm,19.4s,baz=28,slow=40	**38.44**	**353**	LR		LR		03 57 00.2	
SONM	**Songino Array** 0.8nm,0.9s,baz=159,slow=8.6,SNR=4.5	**53.86**	**338**	P		**P**		**03 45 25.9**	**-0.8**
SONM				PcP		**PcP**		**03 46 31.5**	**-0.6**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=160,slow=3.8,SNR=4.2	**86.41**	**25**	P		**P**		**03 48 43.8**	**-1.8**
	0.3nm,0.7s,baz=258,slow=4.3,SNR=4.7								
TORD	**Torodi Ar. Bea** 0.3nm,0.9s,baz=84,slow=3.1,SNR=2.2	**130.56**	**287**	PKP		**PKPdf**		**03 55 16.6**	**+1.3**

IDC 18 03:36:14.0±1.9, 14.38S×69.48W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=82.9km s-min=31.1km az=55.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 6.6nm,0.3s,baz=294,slow=9.6,SNR=122	**2.30**	**146**	Pn		Pn		03 36 53.9	-0.2
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=250,slow=4.8,SNR=3.4	**75.59**	**72**	P		P		03 48 01.4	0.0
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=137,slow=5.2,SNR=13	**84.32**	**341**	P		P		03 48 47.6	0.0
SONM	**Songino Array** 0.6nm,0.6s,baz=306,slow=1.0,SNR=7.0	**146.47**	**5**	PKPbc		PKPdf		03 55 56.6	+0.5

*DDA **18** 03:56:59.9, 39.05N×29.55E, h6km, MD2.5*
*ISCJB **18** 03:57:00.7±0.5, 39.06N±0.03×29.56E±0.04, h5km±8km, Error ellipse: s-maj=5.7km s-min=4.2km az=30.5*
*ISK **18** 03:57:01.0, 39.12N×29.61E, h8km, MD2.7*
*CSEM **18** 03:57:01.2±0.2, 39.12N×29.57E, h5km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.7km az=22.0*
ISC 18 03:57:00.6±1.0, 39.07N±0.02×29.54E±0.02, h4km±8km, n29, σ0§50/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.05**	**294**	*i*Pg		**Pg**		**03 57 01.8**	**-0.1**
GDZ				*i*Sg		**Sg**		**03 57 02.8**	**-0.1**
TVSB	**Tavsanli**	**0.39**	**351**	*e*PG		**Pg**		**03 57 08.0**	**-0.1**
TVSB				*e*SG		**Sg**		**03 57 14.0**	**+0.8**
TVSB	**Tavsanli**	**0.39**	**351**	*e*Pg		**Pg**		**03 57 08.0**	**-0.1**
TVSB				*e*Sg		**Sg**		**03 57 14.0**	**+0.8**
ALT	**Altintas**	**0.44**	**91**	*e*PG		**Pg**		**03 57 08.6**	**-0.6**
ALT				*e*SG		**Sg**		**03 57 15.5**	**+0.5**
ALT	**Altintas**	**0.44**	**91**	*e*Pg		**Pg**		**03 57 08.6**	**-0.6**
ALT				*e*Sg		**Sg**		**03 57 15.5**	**+0.5**
DEMI	**Demirci**	**0.64**	**268**	*e*P		**Pg**		**03 57 12.8**	**-0.1**
DEMI				*e*S		**Sg**		**03 57 21.9**	**+0.6**
DEMI	**Demirci**	**0.64**	**268**	*e*P		**Pg**		**03 57 12.8**	**-0.1**
DEMI				*e*S		**Sg**		**03 57 21.9**	**+0.6**
KHAL	**Karahalli**	**0.70**	**183**	*e*P		**Pg**		**03 57 13.6**	**-0.4**
KHAL				*e*S		**Sg**		**03 57 22.4**	**-0.6**
KHAL	**Karahalli**	**0.70**	**183**	*e*P		**Pg**		**03 57 13.6**	**-0.4**
KHAL				*e*S		**Sg**		**03 57 22.4**	**-0.6**
KHL	**Karahalli**	**0.74**	**181**	*e*PG		**Pb**		**03 57 17.1**	**+0.9**
KHL	**Karahalli**	**0.74**	**181**	*e*Pg		**Pb**		**03 57 17.1**	**+0.9**
KULA	**Kula-Manisa**	**0.88**	**231**	*e*PG		**Pn**		**03 57 19.7**	**-0.2**
KULA	**Kula-Manisa**	**0.88**	**231**	*e*Pg		**Pn**		**03 57 19.7**	**-0.2**
SHUT	**Suhut-Afyon**	**0.94**	**123**	*e*PG		**Pb**		**03 57 20.0**	**+0.4**
SHUT	**Suhut-Afyon**	**0.94**	**123**	*e*Pg		**Pb**		**03 57 20.0**	**+0.4**
DURS	**Dursunbey**	**0.98**	**303**	*e*P		**Pb**		**03 57 19.8**	**-0.5**
DURS				*e*S		**Sn**		**03 57 35.8**	**+0.1**
DURS	**Dursunbey**	**0.98**	**303**	*e*P		**Pb**		**03 57 19.8**	**-0.5**
DURS				*e*S		**Sn**		**03 57 35.8**	**+0.1**
BALB	**Balikesir**	**1.41**	**294**	*e*PN		**Pg**		**03 57 28.1**	**+0.5**
BALB	**Balikesir**	**1.41**	**294**	*e*Pn		**Pg**		**03 57 28.1**	**+0.5**
YLV	**Yalova**	**1.50**	**355**	*e*PN		**Pn**		**03 57 28.1**	**-0.3**
YLV	**Yalova**	**1.50**	**355**	*e*Pn		**Pn**		**03 57 28.1**	**-0.3**
GULT	**Gulveren**	**1.56**	**29**	*e*PN		**Pn**		**03 57 28.6**	**-0.6**
GULT	**Gulveren**	**1.56**	**29**	*e*Pn		**Pn**		**03 57 28.6**	**-0.6**
ARMT	**Armutlu**	**1.58**	**341**	*e*PN		**Pn**		**03 57 29.5**	**0.0**
ARMT	**Armutlu**	**1.58**	**341**	*e*Pn		**Pn**		**03 57 29.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.58**	**76**	*e*PN		**Pn**		**03 57 29.6**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.58**	**76**	*e*Pn		**Pn**		**03 57 29.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.73**	**305**	*e*PN		**Pb**		**03 57 32.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.73**	**305**	*e*Pn		**Pb**		**03 57 32.4**	**-0.6**

IDC 18 04:13:30.4±1.3, 36.36N×70.88E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/26, mbtmp3.4/3, 1D, Error ellipse: s-maj=55.1km s-min=38.8km az=9.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.5nm,0.3s,baz=178,slow=12,SNR=13	**6.75**	**358**	*i*Pn		Pb		04 15 30.1	+1.5
KK31				Sn		Sb		04 16 39.6	-10
TORD	**Torodi Ar. Bea** 3.0nm,0.6s,baz=177,slow=15,SNR=7.5	**65.61**	**269**	P		P		04 24 16.6	0.0
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=60,slow=5.7,SNR=9.2	**81.39**	**3**	P		P		04 25 48.7	0.0
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=352,slow=5.2,SNR=7.4	**82.00**	**122**	P		P		04 25 52.6	+0.1
	0.3nm,0.9s,baz=325,slow=4.9,SNR=5.4								

IDC 18 04:24:09.5±77.0, 23.99S×179.07W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.8/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/32, Error ellipse: s-maj=1398.0km s-min=177.3km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.6s,baz=97,slow=8.1,SNR=3.3	**35.48**	**248**	P		P		04 31 07.8	-0.2
ASAR	**Alice Springs** 0.6nm,0.4s,baz=97,slow=7.8,SNR=9.7	**42.86**	**260**	P		P		04 32 09.6	-0.3
ASAR				LR		LR		04 49 20.3	
	comp=Z,298nm,18.6s,baz=347,slow=35								
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=103,slow=8.4,SNR=18	**43.25**	**266**	P		P		04 32 13.0	0.0

KRSC 18 04:24:25.2±1.2, 50.47N×157.90E, h15km±15km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.00**	**11**	*e*P			Pn	04 24 59.2	+0.8
RUS				*i*S			Sn	04 25 23.8	+0.6
MTVR	**Mutnovka**	**2.02**	**5**	*e*P			Pn	04 24 59.4	+0.4
MTVR				*i*S			Sn	04 25 24.3	+0.2
GRL	**Gorelyy**	**2.09**	**3**	P			Pn	04 25 00.5	+0.7
GRL				*i*S			Sn	04 25 26.5	+0.8
UGLR	**Uglovaya**	**2.80**	**11**	*e*P			Pn	04 25 11.3	+1.7
AVH	**Avacha**	**2.85**	**10**	*e*P			Pn	04 25 12.1	+1.9
SMAR	**Somma**	**2.85**	**11**	P			Pn	04 25 11.9	+1.5
SDLR	**Sedlovina**	**2.88**	**12**	*e*P			Pn	04 25 12.4	+1.7
SPN	**Mys Shipunski**	**2.94**	**26**	*e*P			Pn	04 25 13.3	+1.9
SPN				*i*S			Sn	04 25 48.3	+1.9
MKZ	**Mys Kozlova**	**4.71**	**28**	P			Pn	04 25 38.0	+2.3

*BJI **18** 04:28:48.3, 3.66N×126.49E, h35km, mB4.9/39, mb4.9/53, Ms4.7/49, Ms7 4.4/51*
*MOS **18** 04:28:49.9±1.0, 3.90N×126.48E, h33km, mb5.2/46, Error ellipse: s-maj=11.3km s-min=5.4km az=118.2*
*IDC **18** 04:28:50.1±2.7, 3.78N×126.42E, h24km±17km, mb4.5/30, mb1 4.6/30, mb1mx4.6/32, mbtmp4.5/30, MS4.2/23, Ms1 4.2/23, ms1mx4.1/31, Error ellipse: s-maj=16.7km s-min=8.2km az=72.0*
*ISCJB **18** 04:28:50.0±0.1, 3.95N±0.02×126.63E±0.03, h33km, mb4.9/122, MS4.2/41, Error ellipse: s-maj=4.6km s-min=2.7km az=160.6*
*AUST **18** 04:28:51.4±1.5, 3.79N×126.81E, h28km, Error ellipse: s-maj=1.0km s-min=0.7km az=42.0*
*NEIC **18** 04:28:51.8±0.2, 3.87N×126.44E, h35km, mb5.0/58, Error ellipse: s-maj=7.8km s-min=4.0km az=69.0*
*DJA **18** 04:29:00.7±0.4, 4°N±3°×12°7E±°, h80km±4km, M4.9/42, mB5.3/20, mb4.9/42, MLv5.3/10, Mw(mB)4.7/20*
ISC 18 04:28:51.6±0.3, 3.83N±0.03×126.44E±0.04, h33km±1km, h34km:pP-P, n399, σ1§48/417, mb5.0/121, MS4.2/44, 14C-18D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.92**	**261**	P		P	Sn	04 29 28.3	+8.0
MNI	**Manado**	**2.86**	**214**	P		**Pb**		**04 29 40.7**	**-1.3**
MATI	**Mati**	**3.10**	**357**	*e*P		**Pn**		**04 29 40.7**	**+2.4**
MATI				*e*S		**Sb**		**04 30 23.2**	**-0.5**
TNTI	**Ternate**	**3.17**	**163**	P		**Pn**		**04 29 41.1**	**+1.8**
DAV	**Davao City (W)** 79nm,0.3s,baz=84,slow=0.8,SNR=7.7	**3.33**	**345**	Pn		Pb		04 29 45.5	-4.6
DAV				LR		LR		04 31 25.2	
	comp=Z,4μm,18.4s,baz=180,slow=46								
DAV	**Davao City (W)**	**3.33**	**345**	Pn		Pb		04 29 45.5	-4.6
DAV	**Davao City (W)** SNR=18	**3.33**	**345**	Pn		Pb		04 29 45.8	-4.3
DAV	**Davao City (W)**	**3.33**	**345**	P		Pb		04 29 54.9	+4.8
DMPH	**Davao City--Mi**	**3.37**	**344**	*e*P		Pb		04 29 46.5	-4.1
DMPH				*e*S		**Sb**		**04 30 32.1**	**+0.9**
CTBH	**Cotabato--PC H**	**4.02**	**327**	*e*P		Pb		04 29 55.6	-6.1
KMSI	**Cibinong**	**4.06**	**217**	P		**Pb**		**04 29 59.9**	**-2.6**
BUKP	**Musuan**	**4.25**	**341**	*e*P		**Pn**		**04 29 55.2**	**+1.0**
BUKP				*e*S		**Sb**		**04 30 57.2**	**+0.5**
LBMI	**Labuha**	**4.56**	**167**	P		Pn		04 30 00.9	+2.5
PAGZ	**Pagadian**	**5.02**	**323**	*e*P		Pn		04 30 08.4	+3.7
PAGZ				*e*S		**Sn**		**04 30 59.7**	**-1.8**
BUTP	**Butuan**	**5.17**	**351**	*e*P		Pb		04 30 14.2	-7.2
BUTP				*e*S		**Sb**		**04 31 21.9**	**-1.2**
IPIL	**Ipil**	**5.50**	**316**	*e*P		Pn		04 30 15.2	+3.9
IPIL				*e*S		**Sn**		**04 31 14.6**	**+1.1**
MRSI	**Marisa** 422nm,0.5s,6μm1.9nm	**5.59**	**234**	P		Pb		04 30 18.9	-10
LUWI	**Luwuk** 1μm,0.9s,12μm3.6nm	**6.07**	**217**	P		Pb		04 30 27.4	-9.3
MSLP	**Maasin**	**6.46**	**346**	*e*P		Pn		04 30 30.5	+6.0
MSLP				*e*S		Sn		04 31 30.9	-6.2
NLAI	**Namlea** 135nm,0.6s,2μm0.8nm	**7.05**	**175**	P		**Pn**		**04 30 33.9**	**+1.3**
PLP	**Palo**	**7.43**	**349**	*e*P		Pn		04 30 42.1	+4.3
MSAI	**Masohi** 31nm,0.5s,2μm0.2nm	**7.55**	**161**	P		Pn		04 30 44.4	+5.0
GUIM	**Jordan**	**7.76**	**331**	*e*P		Pn		04 30 50.7	+8.4
BESP	**Borongan**	**7.79**	**353**	*e*P		Pn		04 30 53.8	+11
MYLDM	**Lahad Datu**	**8.03**	**280**	P		Pn		04 30 53.8	+7.8
MYLDM	**Lahad Datu** 268nm,1.1s,3μm	**8.03**	**280**	P		Pn		04 30 55.7	+10
PCI	**Palu** baz=8.4,SNR=9.5	**8.10**	**235**	S		Sb		04 32 35.5	-12
RCP	**Roxas**	**8.51**	**335**	*e*P		Pn		04 30 58.4	+5.8
TSM	**Tawau**	**8.56**	**273**	P		Pn		04 30 58.4	+5.1
PALU	**Palau** baz=8.4,SNR=9.8	**8.72**	**66**	P		**Pn**		**04 30 53.0**	**-2.6**
CUYO	**Cuyo Island**	**8.81**	**323**	*e*P		**Pn**		**04 30 57.9**	**+1.2**
FAKI	**Fak Fak** 99nm,0.8s,1μm	**8.87**	**139**	P		**Pn**		**04 30 58.5**	**+1.0**
SDKM	**Sandakan**	**9.39**	**281**	P		Pn		04 31 11.5	+6.8
TTSI	**Tana Toraja** 130nm,1.1s,2μm	**9.51**	**224**	P		Pn		04 31 14.3	+8.0
BATP	**Bataraza**	**9.90**	**300**	*e*P		Pn		04 31 17.8	+6.0
PVCP	**Virac**	**9.97**	**347**	*e*P		Pn		04 31 18.5	+5.9
KDM	**Kudat**	**10.04**	**288**	P		Pn		04 31 25.9	+12
SMKI	**Samarinda** 121nm,0.9s,5μm	**10.15**	**245**	P		Pn		04 31 29.6	+14
SPSI	**Sidrap Palu** 65nm,0.9s,845nm	**10.21**	**221**	P		Pn		04 31 23.1	+7.1
KKM	**Kota Kinabalu**	**10.42**	**283**	*e*Pn		Pn		04 31 26.8	+7.8
KKM	**Kota Kinabalu** baz=11,SNR=6.7	**10.42**	**283**	P		Pn		04 31 27.7	+8.7
KKM	**Kota Kinabalu**	**10.42**	**283**	P		Pn		04 31 27.4	+8.4
KKM	**Kota Kinabalu** 78nm,1.6s,1μm	**10.42**	**283**	P		Pn		04 31 27.3	+8.4
BAKI	**Biak** 261nm,1.4s,3μm	**10.87**	**117**	P		Pn		04 31 27.7	+2.7
KAPI	**Kappang** 0.4nm,0.3s,baz=42,slow=14,SNR=2.8	**11.04**	**217**	Pn		Pn		04 31 31.4	+4.2
KAPI	comp=Z,2μm,19.6s,baz=203,slow=41			LR		LR		04 36 22.3	
KAPI	**Kappang**	**11.04**	**217**	*e*Pn		Pn		04 31 36.0	+8.8
KAPI	**Kappang** SNR=5.9	**11.04**	**217**	Pn		Pn		04 31 35.9	+8.7
KAPI	**Kappang** 41nm,1.2s,538nm	**11.04**	**217**	P		Pn		04 31 36.6	+9.4
BKSI	**Bulukumba** 27nm,1.1s	**11.06**	**215**	P		Pn		04 31 33.4	+5.8
KBKI	**Kotabaru** 54nm,1.1s	**12.47**	**236**	P		**P**		**04 31 58.6**	**+0.3**
MMRI	**Maumere**	**13.07**	**199**	P		P		04 32 13.7	+8.8
BTM	**Bintulu**	**13.35**	**268**	P		**P**		**04 32 07.3**	**-0.7**
SMPI	**Sarmi**	**13.56**	**115**	P		**P**		**04 32 12.5**	**+2.1**
BBKI	**Banjar Baru** 200nm,1.8s,10μm	**13.67**	**238**	P		**P**		**04 32 12.7**	**+1.1**
SBUM	**Sibu**	**14.26**	**265**	P		**P**		**04 32 18.9**	**+0.7**
SBUM	**Sibu** 94nm,1.7s,2μm	**14.26**	**265**	P		**P**		**04 32 19.1**	**+0.9**
WSI	**Waingapu** baz=15,SNR=4.0	**14.74**	**

KGM Kluang 23.16 266 P **P** **04 33 58.6 +3.1**
KTGM Kuala Trenggan 23.28 275 P P 04 34 01.5 +4.9
COEN Coen 24.25 137 *eP* **P** **04 34 03.6 -2.2**
comp=Z,94nm,0.8s
COEN Coen 24.25 137 P **P** **04 34 04.1 -1.7**
baz=24,SNR=16
PMG Port Moresby 24.48 123 P **P** **04 34 06.4 -1.5**
comp=Z,8.9nm,0.6s,baz=311,slow=17,SNR=4.2
PMG Port Moresby 24.48 123 *eP* **P** **04 34 06.2 -1.8**
comp=Z,57nm,1.4s
FRIM Kepong 24.77 269 P P 04 34 17.0 +6.3
WRAB Tennant Creek 24.86 162 *eP* **P** **04 34 10.1 -1.3**
WRAB pmax pmax
comp=Z,74nm,0.8s
WRAB Tennant Creek 24.86 162 *eP* **P** **04 34 10.1 -1.3**
comp=Z,74nm,0.8s
WRAB Tennant Creek 24.86 162 P **P** **04 34 10.0 -1.3**
comp=Z,367nm,0.8s,SNR=69
WRA Warramunga Arr 24.86 162 P **P** **04 34 10.2 -1.1**
comp=Z,16nm,0.6s,baz=339,slow=10,SNR=151
WRA S **S** **04 38 36.0 +3.6**
comp=Z,3.8nm,1.0s,baz=340,slow=19,SNR=4.7
WRA Warramunga Arr 24.86 162 P **P** **04 34 10.2 -1.1**
WRA S **S** **04 38 36.0 +3.6**
IPM Ipoh 25.36 272 *eP* P 04 34 20.1 +4.2
comp=Z,76nm,1.1s
IPM Ipoh 25.36 272 P P 04 34 20.4 +4.5
IPM Ipoh 25.36 272 P P 04 34 23.0 +7.1
comp=Z,64nm,1.6s,comp=Z,654nm
BKNI Bangkinang 25.62 263 P P 04 34 27.9 +10
comp=Z,107nm,1.4s
MBWA Marble Bar 25.69 195 *eP* **P** **04 34 20.3 +1.5**
KULM Kulim 25.75 274 *eP* P 04 34 23.8 +4.3
comp=Z,85nm,1.3s
KULM Kulim 25.75 274 P P 04 34 26.7 +7.3
KULM Kulim 25.75 274 P P 04 34 26.8 +7.3
comp=Z,49nm,1.4s,comp=Z,539nm
PPI Padang Panjang 26.37 261 P P 04 34 32.7 +7.6
comp=Z,32nm,1.3s
QIS Mount Isa 27.46 152 P **P** **04 34 35.9 +1.0**
baz=27,SNR=11
PSI Prapat 27.49 269 P **P** **04 34 35.0 -0.4**
comp=Z,12nm,1.0s,baz=66,slow=10.0,SNR=7.1
PSI Prapat 27.49 269 P **P** **04 34 35.0 -0.4**
PSI Prapat 27.49 269 P **P** **04 34 37.7 +2.3**
baz=28,SNR=4.2
PSI Prapat 27.49 269 P **P** **04 34 37.9 +2.6**
comp=Z,20nm,1.3s
SSE Sheshan 27.57 350 P **P** **04 34 36.0 +0.3**
SSE pP **pP** **04 34 47.0 +1.7**
SSE S **S** **04 39 16.8 +1.8**
SSE sS sS 04 39 36.1 +5.2
SSE pmax pmax
comp=Z,44nm,1.0s
SSE pmax pmax
comp=Z,120nm,8.8s
SSE LR LR
comp=N,170nm,21.5s
SSE LR LR
comp=E,230nm,21.5s
SSE LR LR
comp=Z,330nm,18.4s
CBIJ Chichi jima 27.60 31 P **P** **04 34 33.1 -2.9**
comp=Z,49nm,0.7s,baz=236,slow=11,SNR=3.8
CBIJ LR LR 04 44 47.1
comp=Z,409nm,18.0s,baz=217,slow=35
CBIJ Chichi jima 27.60 31 P **P** **04 34 33.1 -2.9**
AS31 Alice Springs 28.28 165 *eP* **P** **04 34 41.6 -0.5**
ASAR Alice Springs 28.28 165 P **P** **04 34 41.6 -0.6**
comp=Z,3.4nm,0.5s,baz=346,slow=7.5,SNR=26
ASAR S **S** **04 39 26.2 -0.2**
comp=Z,2.7nm,1.0s,baz=349,slow=26,SNR=4.2
ASAR Alice Springs 28.28 165 P **P** **04 34 41.6 -0.6**
ASAR S **S** **04 39 26.2 -0.2**
NJ2 Nanjing 28.97 347 *eP* **P** **04 34 49.0 +0.9**
NJ2 pP **pP** **04 34 56.8 -1.0**
NJ2 S **S** **04 39 42.0 +5.1**
NJ2 sS sS 04 39 58.0 +5.1
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,120nm,7.5s
NJ2 LR LR
comp=N,500nm,24.4s
NJ2 LR LR
comp=E,590nm,22.4s
NJ2 LR LR
comp=Z,550nm,25.3s
GYA Guiyang 29.41 322 P **P** **04 34 53.8 +1.5**
GYA pP **pP** **04 35 04.3 +2.3**
GYA PP **PnPn** **04 35 51.0 +4.0**
GYA PcP **PcP** **04 38 01.5 +3.6**
GYA S **S** **04 39 45.0 +0.6**
GYA sS sS 04 40 02.4 +2.1
GYA SS **SnSn** **04 41 18.3 +5.5**
GYA ScP **ScP** **04 41 37.6 +0.2**
GYA ScS **ScS** **04 45 30.0 -2.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,660nm,16.8s
GYA LR LR
comp=E,510nm,17.0s
GYA LR LR
comp=Z,760nm,17.3s
JNU Nakatsue 29.44 8 P **P** **04 34 53.1 +0.7**
comp=Z,4.9nm,0.6s,baz=222,slow=5.7,SNR=2.8
JNU LR LR 04 46 12.8
comp=Z,227nm,21.4s,baz=19,slow=35
JNU Nakatsue 29.44 8 P **P** **04 34 53.1 +0.7**
CMAR Chiang Mai Arr 30.57 301 P **P** **04 35 03.9 +1.3**
comp=Z,2.8nm,0.3s,baz=120,slow=7.4,SNR=18
CMAR ScP **ScP** **04 41 41.9 +0.7**
comp=Z,0.9nm,0.3s,baz=116,slow=3.1,SNR=9.9
CMAR LR LR 04 47 21.3
comp=Z,346nm,19.7s,baz=125,slow=36
CMAR Chiang Mai Arr 30.57 301 P **P** **04 35 03.9 +1.3**
CMAR ScP **ScP** **04 41 41.9 +0.7**
CTAO Charters Tower 30.72 141 *eP* **P** **04 35 03.3 -0.5**
CTAO pmax pmax
comp=Z,30nm,1.3s
CTAO Charters Tower 30.72 141 *eP* **P** **04 35 03.3 -0.5**
comp=Z,30nm,1.3s
CHTO Chiang Mai 30.72 301 *eP* **P** **04 35 04.7 +0.8**
CHTO Chiang Mai 30.72 301 *eP* **P** **04 35 04.7 +0.8**
CHTO Chiang Mai 30.72 301 P **P** **04 35 05.4 +1.5**
SNR=9.6
ENH Enshi 30.80 330 *eP* **P** **04 35 03.9 -0.6**
comp=Z,25nm,1.0s
KMI Kunming 31.11 315 P **P** **04 35 08.9 +1.4**
KMI pP **pP** **04 35 19.6 +2.5**
KMI sP sP 04 35 23.8 +2.6
KMI PP **PnPn** **04 36 13.0 +3.4**
KMI S **S** **04 40 11.4 +0.2**
KMI sS sS 04 40 29.0 +1.9
KMI SS **SnSn** **04 41 58.5 +4.3**
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI pmax pmax
comp=Z,90nm,4.7s
KMI LR LR
comp=N,220nm,27.0s
KMI LR LR
comp=E,470nm,23.0s
KMI LR LR
comp=Z,790nm,24.7s
MEEK Meekatharra 31.22 194 P **P** **04 35 09.0 +0.8**
baz=31,SNR=29
KSAR Wonju Array Be 33.48 2 P **P** **04 35 27.7 -0.1**
KSAR PcP **PcP** **04 38 09.7 +1.3**
KSRS Korea Array 33.49 2 P **P** **04 35 27.7 -0.2**
comp=Z,4.5nm,0.7s,baz=179,slow=11,SNR=10
KSRS PcP **PcP** **04 38 09.7 +1.3**
comp=Z,2.1nm,0.7s,baz=171,slow=4.0,SNR=4.0
KSRS LR LR 04 50 35.0
comp=Z,287nm,19.1s,baz=187,slow=39
MORW Morawa 34.20 196 P **P** **04 35 34.9 +0.7**
baz=34,SNR=6.1
XAN Xi'an 34.20 334 P **P** **04 35 32.9 -1.3**
XAN pP **pP** **04 35 41.8 -2.1**
XAN sP **sP** **04 35 46.3 -1.7**
XAN S S 04 40 51.4 -7.4
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN LR LR
comp=N,270nm,18.4s
XAN LR LR
comp=Z,180nm,19.7s
MJAR Matsushiro Arr 34.31 17 P **P** **04 35 33.2 -1.9**
comp=Z,1.7nm,0.4s,baz=191,slow=10,SNR=5.7
MJAR LR LR 04 47 43.7
comp=Z,371nm,20.6s,baz=205,slow=33
MJAR Matsushiro Arr 34.31 17 P **P** **04 35 33.2 -1.9**
CD2 Chengdu 34.40 324 P **P** **04 35 36.8 +0.9**
CD2 pP **pP** **04 35 46.9 +1.2**
CD2 sP **sP** **04 35 51.1 +1.4**
CD2 PP **PP** **04 36 53.3 -1.0**
CD2 S **S** **04 41 00.8 -1.1**
CD2 sS **sS** **04 41 18.8 +0.9**
CD2 SS **SnSn** **04 43 14.3 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,70nm,5.3s
CD2 LR LR
comp=N,650nm,20.2s
CD2 LR LR
comp=Z,800nm,20.8s
FORT Forrest 34.45 178 *eP* **P** **04 35 38.6 +2.4**
comp=Z,58nm,0.9s
QLP Quilpie 34.79 151 P **P** **04 35 39.7 +0.4**
baz=35,SNR=9.7
DL2 Dalian 35.19 353 *eP* **P** **04 35 41.3 -1.3**
DL2 S **S** **04 41 09.8 -3.9**
DL2 pmax pmax
comp=Z,50nm,1.0s
DL2 LR LR
comp=E,200nm,22.6s
DL2 LR LR
comp=Z,200nm,21.6s
KMBL Kambalda 35.27 187 P **P** **04 35 43.8 +0.4**
baz=36,SNR=9.1
BLDU Balliduu 35.49 195 P **P** **04 35 45.9 +0.6**
baz=36,SNR=21
HNR Honiara 35.90 112 LR LR 04 49 06.6
comp=Z,446nm,18.3s,baz=107,slow=34
KLBR Kellerberrin 36.18 193 P **P** **04 35 51.9 +0.6**
baz=36,SNR=10.0
BJT Baijiatuan 37.21 347 *eP* **P** **04 35 59.9 +0.1**
comp=Z,43nm,0.6s
BJI Beijing 37.23 347 P **P** **04 35 59.6 -0.4**
BJI S S 04 41 39.4 -5.4
BJI pmax pmax
comp=Z,44nm,1.1s
BJI pmax pmax
comp=Z,130nm,3.6s
BJI LR LR
comp=N,220nm,23.2s
BJI LR LR
comp=E,290nm,21.2s
BJI LR LR
comp=Z,240nm,27.4s
BBOO Buckleboo 37.56 167 *eP* **P** **04 36 03.2 +0.3**
comp=Z,812nm,1.4s
BBOO Buckleboo 37.56 167 P **P** **04 36 02.9 -0.1**
baz=38,SNR=44
EIDS Eidsvold 37.61 142 *eP* **P** **04 36 03.1 -0.3**
EIDS Eidsvold 37.61 142 P **P** **04 36 03.0 -0.4**
baz=38,SNR=8.7
SNY Shenyang 37.92 357 ⇓P **P** **04 36 06.8 +1.0**
SNY S **S** **04 41 55.8 +0.5**
SNY pmax pmax
comp=Z,27nm,1.4s
SNY pmax pmax
comp=Z,200nm,4.3s
SNY LR LR
comp=N,210nm,15.7s
SNY LR LR
comp=E,440nm,23.5s
SNY LR LR
comp=Z,230nm,26.0s
LZH Lanzhou 38.27 330 *eP* **P** **04 36 09.5 +0.4**
LZH pP **pP** **04 36 18.8 -0.1**
LZH sP **sP** **04 36 23.0 0.0**
LZH *eS* **S** **04 42 04.0 +2.8**
LZH sS **sS** **04 42 18.0 +0.6**
LZH SS **SnSn** **04 44 41.0 -6.6**
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=N,570nm,15.9s
LZH LR LR
comp=E,510nm,14.3s
LZH LR LR
comp=Z,910nm,16.4s
STKA Stephens Creek 38.32 159 P **P** **04 36 08.8 -0.5**
comp=Z,16nm,0.7s,baz=335,slow=8.2,SNR=46
STKA Stephens Creek 38.32 159 *eP* **P** **04 36 09.4 0.0**
comp=Z,7.5nm,0.8s
STKA Stephens Creek 38.32 159 P **P** **04 36 09.4 0.0**
baz=38,SNR=43
HHC Hu-ho-hao-te 39.22 342 *eP* **P** **04 36 16.6 -0.3**
HHC pP **pP** **04 36 26.4 -0.3**
HHC sP **sP** **04 36 30.5 -0.3**
HHC PP **PnPn** **04 37 51.8 +1.7**
HHC S **S** **04 42 16.3 +1.1**
HHC sS **sS** **04 42 32.3 +0.9**
HHC SS **SS** **04 45 02.8 -6.4**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=N,750nm,16.5s
HHC LR LR
comp=E,330nm,16.3s
HHC LR LR
comp=Z,650nm,15.7s
RKGY Rocky Gully 39.26 192 P **P** **04 36 19.1 +1.9**
baz=40,SNR=7.0
CMSA Cobar Meteorol 39.66 154 P **P** **04 36 21.0 +0.4**
baz=40,SNR=9.3
CN2 Changchun 39.82 359 *eP* P 04 36 25.3 +3.6
CN2 *ep*P pP 04 36 36.0 +4.4
CN2 *eS* **S** **04 42 28.3 +4.4**
CN2 SS **SS** **04 45 20.0 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,15.0s
USRK Ussuriysk Arra 40.51 6 P **P** **04 36 26.4 -1.0**
comp=Z,6.7nm,0.8s,baz=191,slow=7.1,SNR=14
USRK LR LR 04 52 26.5
comp=Z,120nm,21.3s,baz=357,slow=35
MDJ Mudanjiang 40.72 3 P **P** **04 36 29.8 +0.6**
MDJ pP **pP** **04 36 38.6 -0.4**
MDJ sP **sP** **04 36 42.8 -0.2**
MDJ PP **PP** **04 38 04.1 +0.7**
MDJ PcP **PcP** **04 38 29.9 -0.4**
MDJ S **S** **04 42 36.1 -1.2**
MDJ SS **SS** **04 45 39.3 +0.5**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,87nm,5.0s
MDJ LR LR
comp=N,150nm,25.5s
MDJ LR LR
comp=E,90nm,30.4s
MDJ LR LR
comp=Z,220nm,25.5s
MDJ Mudanjiang 40.72 3 *eP* **P** **04 36 29.7 +0.6**
comp=Z,30nm,1.0s
ARMA Armidale 41.71 146 *eP* **P** **04 36 38.1 +0.5**
comp=Z,26nm,0.8s
ARMA Armidale 41.71 146 P **P** **04 36 38.2 +0.5**
baz=42,SNR=14
LSA Lhasa 42.16 312 P **P** **04 36 42.4 +0.6**
LSA Lhasa 42.16 312 *eP* **P** **04 36 41.8 0.0**
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 42.16 312 *eP* **P** **04 36 41.8 0.0**
comp=Z,18nm,0.7s
ASAJ Asahikawa 42.58 17 *eP* **P** **04 36 44.0 -0.5**
comp=Z,6.4nm,0.8s
GTA Gaotai 42.87 329 *eP* **P** **04 36 46.5 -0.5**
GTA pP **pP** **04 36 55.8 -1.1**
GTA sP **sP** **04 36 59.6 -1.3**
GTA S **S** **04 43 07.3 -2.3**
GTA sS **sS** **04 43 24.8 -1.1**
GTA SS SS 04 46 12.4 -9.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,92nm,7.4s
GTA LR LR
comp=N,460nm,20.9s
GTA LR LR
comp=E,650nm,20.4s
GTA LR LR
comp=Z,880nm,21.4s
ARPS Mount Arapiles 42.87 162 P **P** **04 36 47.7 +0.8**
baz=43,SNR=7.4
YNG Young 43.20 153 P **P** **04 36 50.7 +1.0**
baz=43,SNR=6.9
YUK Yuzh-Kuril'sk 43.56 20 *i* P P 04 37 00.5 +8.2
YUK *i* 04 38 42.1
YUK pmax pmax
comp=E,127nm,1.3s
YUK pmax pmax
comp=N,103nm,1.3s
YUK pmax pmax
comp=Z,155nm,1.3s
YUK pmax pmax
comp=Z,19nm,10.0s
YUK MLR MLR
comp=N,188nm,22.0s
YUK MLR MLR
comp=Z,140nm,22.0s
YUK MLR MLR
comp=E,111nm,22.0s
TAPN Taplejung 43.73 306 *eP* **P** **04 36 55.3 +0.9**
ODAN Odare 43.78 306 *eP* **P** **04 36 54.3 -0.4**
CAN Canberra 44.33 153 *eP* **P** **04 36 59.6 +0.9**
CAN pmax pmax
comp=Z,64nm,1.4s
CAN Canberra 44.33 153 *eP* **P** **04 36 59.6 +0.9**
comp=Z,64nm,1.4s
RAMN Ramite 44.46 305 *eP* **P** **04 36 59.9 -0.3**
comp=Z,27nm,0.6s
TOO Toolangi 44.84 158 P **P** **04 37 04.7 +2.0**
baz=45,SNR=3.8
JIRN Jiri 45.08 306 *eP* **P** **04 37 05.1 -0.2**
HABR Khabarovsk 45.09 8 *eP* **P** **04 37 02.5 -2.0**
HABR *e**SP **sP** **04 37 16.4 -2.0**
HABR *e* 04 38 42.8
HABR *eS* **S** **04 43 39.9 -1.5**
HABR *e**SS **sS** **04 43 56.6 -1.1**
HABR *e* 04 46 56.9
HABR *e*SSS SSS 04 47 50.5
HABR pmax pmax
comp=E,40nm,2.1s
HABR pmax pmax
comp=N,28nm,2.1s
HABR pmax pmax
comp=Z,79nm,2.1s
HABR MLR MLR
comp=Z,190nm,23.0s
YSS Yuzh-Sakhalins 45.23 16 *eP* **P** **04 37 06.0 +0.4**
GUN Gumba 45.43 306 *eP* **P** **04 37 07.6 -0.5**
comp=Z,44nm,0.8s
HIA Hailar 45.63 354 *eP* **P** **04 37 09.4 +0.5**
comp=Z,58nm,1.2s
PKI Pulchoki 45.68 305 *eP* **P** **04 37 09.1 -0.9**
PKIN Phulchoki 45.69 305 *eP* **P** **04 37 08.7 -1.3**
KKN Kakani 45.87 306 *eP* **P** **04 37 10.8 -0.5**
DMN Daman 45.94 305 *eP* **P** **04 37 11.5 -0.4**
GKN Gorkha 46.48 306 *eP* **P** **04 37 15.3 -0.7**
comp=Z,10.0nm,0.4s
DZM Mont Dzumac 46.83 125 *eP* **P** **04 37 19.1 +0.3**
comp=Z,117nm,1.3s
DZM *eS* **S** **04 44 12.5 +5.1**
comp=Z,182nm,29.1s
DZM *e*LR LR 04 50 42.1
comp=Z,378nm,24.9s
DZM Mont Dzumac 46.83 125 P **P** **04 37 18.7 -0.1**
comp=Z,21nm,0.7s,baz=308,slow=7.5,SNR=16
DZM Mont Dzumac 46.83 125 *eP* **P** **04 37 18.8 +0.1**
comp=Z,70nm,1.2s
ULN Ulaanbaatar 46.94 342 *eP* **P** **04 37 19.0 -0.3**
comp=Z,34nm,1.3s
ULN Ulaanbaatar 46.94 342 P **P** **04 37 19.3 0.0**
SNR=10
SONM Songino Array 47.11 342 P **P** **04 37 20.5 -0.2**
comp=Z,5.2nm,0.7s,baz=159,slow=8.9,SNR=23
SONM LR LR 04 59 53.9
comp=Z,322nm,20.8s,baz=170,slow=40
SONM Songino Array 47.11 342 P **P** **04 37 20.5 -0.2**
KOLN Koldanda 47.23 305 *eP* **P** **04 37 21.7 -0.3**
comp=Z,37nm,0.5s
DANN Dangsing 47.32 306 *eP* **P** **04 37 22.2 -0.6**
comp=Z,62nm,0.6s
HYB Hyderabad 48.81 290 *i* P **P** **04 37 34.0 -0.2**
ZAK Zakamensk 50.34 341 *eP* **P** **04 37 44.5 -0.9**
ZAK *e* 04 39 06.4
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 51.35 342 *eP* P 04 37 49.4 -3.4
TLY *eS* S 04 45 00.6 -9.3
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 51.35 342 *eP* **P** **04 37 53.4 +0.6**
comp=Z,13nm,0.8s
NFK Norfolk Island 51.51 132 S **S** **04 45 14.4 +1.6**
baz=51,SNR=3.7
MOY Mondy 52.19 340 *eP* **P** **04 37 59.6 +0.3**
MOY pmax pmax
comp=Z,20nm,3.1s
WMQ Urumqi 52.48 325 *eP* **P** **04 38 01.1 -0.4**
WMQ sP **sP** **04 38 15.3 -0.2**
WMQ S **S** **04 45 23.1 -2.7**
WMQ ScS **ScS** **04 47 45.3 -3.7**
WMQ SS **SS** **04 48 59.6 -4.6**
WMQ pmax pmax
comp=Z,10.0nm,1.7s
WMQ LR LR
comp=N,570nm,25.0s
WMQ LR LR
comp=E,410nm,29.0s
WMQ LR LR
comp=Z,540nm,22.0s
CLNS Chul'man 52.87 359 *eP* **P** **04 38 02.3 -1.8**
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS pmax pmax
comp=Z,11nm,1.4s
POO Poona 53.41 290 *eP* P 04 38 06.0 -2.7
HVS Khovu-Aksy 54.53 335 *d iP* **P** **04 38 16.7 +0.3**
HVS pmax pmax
comp=Z,60nm,1.7s
BOD Bodaibo 54.73 352 *eP* **P** **04 38 16.7 -0.9**
BOD pmax pmax
comp=Z,21nm,1.2s
MSVF Nonsavu 55.22 115 *eP* **P** **04 38 22.5 +0.6**
MSVF pmax pmax
comp=Z,114nm,1.1s
MSVF Nonsavu 55.22 115 *eP* **P** **04 38 22.5 +0.6**
comp=Z,114nm,1.1s
MSVF Nonsavu 55.22 115 P **P** **04 38 23.0 +1.1**
comp=Z,552nm,1.2s,SNR=25
PETK Petropavlovsk- 55.45 22 P **P** **04 38 22.6 -0.3**
comp=Z,11nm,0.7s,baz=191,slow=7.5,SNR=21
PETK LR LR 05 01 40.4
comp=Z,108nm,19.1s,baz=236,slow=36
PETK Petropavlovsk- 55.45 22 P **P** **04 38 22.6 -0.3**
PETK Petropavlovsk- 55.45 22 P **P** **04 38 22.6 -0.3**
MK31 Makanchi Array 57.31 325 *eP* **P** **04 38 35.6 -0.7**
MK31 Makanchi Array 57.31 325 *eP* **P** **04 38 35.6 -0.7**
KSH Kashi 57.77 315 P **P** **04 38 40.8 +1.0**
KSH pP **pP** **04 38 51.6 +1.6**
KSH sP **sP** **04 38 55.3 +1.3**
KSH PcP **PcP** **04 39 34.3 +1.9**
KSH PP PP 04 40 53.8 +5.6
KSH ScP **ScP** **04 43 30.1 0.0**
KSH PcS **PcS** **04 43 32.8 -0.9**

KSH S **S** **04 46 37.1 +0.1**
KSH sS **sS** **04 46 54.3 +0.5**
KSH ScS **ScS** **04 48 24.6 -2.6**
KSH SS **SS** **04 50 30.8 +2.9**
KSH pmax pmax
comp=Z,15nm,1.1s
KSH pmax pmax
comp=Z,150nm,5.9s
KSH LR LR
comp=N,220nm,10.8s
KSH LR LR
comp=E,170nm,6.3s
KSH LR LR
comp=Z,230nm,10.5s
YAK Yakutsk 58.12 2 *e*P **P** **04 38 40.4 -1.3**
YAK *e**PP **pP** **04 38 49.1 -2.8**
YAK *e* 04 39 32.6
YAK *e* 04 40 48.5
YAK *e*S **S** **04 46 39.8 -0.6**
YAK *e**SS **sS** **04 46 59.1 +1.9**
YAK *e* 04 48 25.1
YAK *e*SS **SS** **04 50 33.6 +1.3**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.4s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK smax smax
comp=N,62nm,2.0s
YAK smax smax
comp=E,162nm,3.4s
YAK MLR MLR
comp=Z,150nm,23.0s
YAK MLR MLR
comp=N,205nm,25.0s
YAK MLR MLR
comp=E,129nm,23.0s
YAK Yakutsk 58.12 2 *e*P **P** **04 38 40.1 -1.6**
comp=E,52nm,0.8s
ULHL Ulahol 58.76 318 P **P** **04 38 47.9 +1.0**
SNR=12
KZA Kyzart 59.35 318 P **P** **04 38 52.7 +1.5**
SNR=20
TKM2 Tokmak 2 59.48 319 *e*P **P** **04 38 50.9 -0.9**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 59.48 319 *e*P **P** **04 38 50.9 -0.9**
comp=Z,6.4nm,0.8s
AAK Ala-Archa 60.09 318 *e*P **P** **04 38 56.1 +0.1**
AAK pmax pmax
comp=Z,53nm,1.3s
AAK Ala-Archa 60.09 318 *e*P **P** **04 38 56.1 +0.1**
comp=Z,53nm,1.3s
AAK Ala-Archa 60.09 318 P **P** **04 38 56.1 +0.1**
comp=Z,38nm,1.4s,SNR=6.1
FRU Bishkek 60.09 318 *e*P **P** **04 38 56.0 +0.2**
USP Ospenovka 60.36 319 P **P** **04 38 58.4 +0.8**
SNR=10
ZAA0 Zalesovo Array 60.37 333 *e*P **P** **04 38 55.8 -1.6**
ZALV Zalesovo Beam 60.37 333 P **P** **04 38 56.3 -1.1**
comp=Z,3.6nm,0.7s,baz=116,slow=6.9,SNR=11
ZALV LR LR 05 07 35.5
comp=Z,212nm,19.0s,baz=75,slow=38
ZALV Zalesovo Beam 60.37 333 P **P** **04 38 56.3 -1.1**
ZALV Zalesovo Beam 60.37 333 P **P** **04 38 56.3 -1.1**
AML Almayashu 60.42 317 P **P** **04 38 59.8 +1.3**
SNR=25
EKS2 Erkin-Say 60.58 318 *e*P **P** **04 38 59.5 +0.2**
EKS2 pmax pmax
comp=Z,21nm,1.2s
EKS2 Erkin-Say 60.58 318 *e*P **P** **04 38 59.5 +0.2**
comp=Z,21nm,1.2s
EKS2 Erkin-Say 60.58 318 P **P** **04 39 00.6 +1.3**
SNR=17
KBL Kabul 61.23 308 *e*P **P** **04 39 02.8 -1.2**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 61.23 308 *e*P **P** **04 39 02.8 -1.2**
comp=Z,12nm,0.9s
KURK Kurchatov 61.50 328 *d* *i*P **P** **04 39 04.7 -0.5**
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 61.50 328 *e*P **P** **04 39 04.5 -0.7**
comp=Z,31nm,0.8s
KURK Kurchatov 61.50 328 P **P** **04 39 05.0 -0.2**
SNR=8.7
KURK Kurchatov 61.50 328 P **P** **04 39 04.3 -0.9**
comp=Z,165nm,0.7s,SNR=22
NVS Novosibirsk 61.66 333 *e*P P 04 39 03.0 -3.1
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
SEY Seymchan 62.00 13⇑ *e*P **P** **04 39 09.2 +0.9**
RPZ Rata Peaks 62.01 145 P **P** **04 39 08.1 -0.6**
comp=E,20nm,1.0s,baz=26,slow=6.8,SNR=4.5
RPZ Rata Peaks 62.01 145 *e*P **P** **04 39 08.0 -0.7**
comp=E,29nm,1.0s
FX1 Attu Island--F 62.14 30 LR LR 05 01 21.4
comp=E,147nm,20.2s,baz=254,slow=31
URZ Urewera 62.81 137 P **P** **04 39 13.8 -0.3**
comp=E,6.9nm,0.8s,baz=333,slow=15,SNR=3.1
URZ Urewera 62.81 137 P **P** **04 39 13.8 -0.3**
KK31 Karatay Array 62.96 317 *c**eP **P** **04 39 14.7 -0.5**
KK31 pmax pmax
comp=Z,28nm,1.1s
KKAR Karatay Array 62.96 317 *e*P **P** **04 39 15.0 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 62.96 317 *e*P **P** **04 39 15.0 -0.1**
comp=Z,6.9nm,0.7s
AFI Afiamalu 63.75 107 P **P** **04 39 20.9 0.0**
comp=Z,95nm,1.0s,baz=270,slow=4.9,SNR=7.9
AFI Afiamalu 63.75 107 P **P** **04 39 20.9 0.0**
VOSK Vostochnaya 66.63 327 P **P** **04 39 37.8 -1.0**
VOSK pmax pmax
comp=Z,26nm,1.1s
BVAR Borovoye Array 67.08 327 P **P** **04 39 41.2 -0.5**
comp=Z,18nm,1.0s,baz=130,slow=8.5,SNR=51
BVAR PcP **PcP** **04 40 08.8 -1.0**
comp=Z,19nm,0.9s,baz=131,slow=6.5,SNR=6.5
BVAR Borovoye Array 67.08 327 P **P** **04 39 41.2 -0.5**
BVAR 04 40 08.8
BVAR Borovoye Array 67.08 327 P **P** **04 39 41.2 -0.5**
BVAR PcP **PcP** **04 40 08.8 -1.0**
BRVK Borovoye 67.15 327 *c* *i*P **P** **04 39 41.0 -1.1**
BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK Borovoye 67.15 327 *e*P **P** **04 39 41.4 -0.7**
comp=Z,20nm,0.8s
BRVK Borovoye 67.15 327 P **P** **04 39 41.8 -0.3**
comp=Z,141nm,1.1s,SNR=8.6
BRVK Borovoye 67.15 327 P **P** **04 39 42.1 0.0**
SNR=9.7
TIXI Tiksi 67.75 1 *e*P **P** **04 39 44.7 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 67.75 1 *e*P **P** **04 39 44.7 -0.8**
comp=Z,8.6nm,0.6s
BILL Bilibino 69.53 15 *e*P P 04 40 02.2 +5.5
BILL *i* 04 40 20.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 69.53 15 *e*P **P** **04 39 57.5 +0.8**
comp=Z,6.1nm,0.9s
AB31 Akbulak array 71.89 321 *ce*P **P** **04 40 11.2 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 71.89 321 *e*P **P** **04 40 10.8 -0.6**
comp=Z,5.7nm,0.6s
SVE Sverdlovsk 73.73 329⇓ *i*P P 04 40 35.3 +13
SVE pmax pmax
comp=Z,26nm,0.8s
GAMB Gambell 74.43 24 *e*P **P** **04 40 26.5 +0.4**
comp=Z,13nm,1.0s
ARU Arti 74.70 328 *d* *i*P **P** **04 40 28.0 +0.1**
ARU 04 43 11.0

ARU S **S** **04 50 03.5 +1.8**
ARU SS **SS** **04 54 48.3 -1.2**
ARU pmax pmax
comp=Z,15nm,1.0s
SOKR Solikamsk 76.48 331 *e*P **P** **04 40 37.6 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 81.94 312 *e*P **P** **04 41 07.8 -0.7**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KDAK Kodiak Island 81.96 32 P **P** **04 41 07.5 -0.4**
comp=Z,9.9nm,0.6s,baz=231,slow=8.0,SNR=8.3
KDAK Kodiak Island 81.96 32 P **P** **04 41 07.5 -0.4**
KBZ Khabaz 82.70 313 P **P** **04 41 12.9 +0.8**
comp=Z,1.3nm,0.7s,baz=110,slow=4.2,SNR=6.3
KBZ LR LR 05 22 18.7
comp=Z,108nm,19.1s,baz=276,slow=39
KBZ Khabaz 82.70 313 P **P** **04 41 13.0 +0.8**
KBZ Khabaz 82.70 313 P **P** **04 41 12.9 +0.8**
KIV Kislovodsk 82.86 314 *e*P P 04 41 07.5 -5.6
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV MLR MLR
comp=Z,82nm,20.0s
VNDA Vanda 83.56 173 P **P** **04 41 16.8 +0.9**
comp=Z,0.8nm,0.4s,baz=23,slow=3.7,SNR=7.7
VNDA LR LR 05 21 25.8
comp=Z,119nm,18.2s,baz=306,slow=38
VNDA Vanda 83.56 173 *e*P **P** **04 41 18.2 +2.3**
comp=Z,8.4nm,0.9s
TRF Thorofare Moun 83.58 27 *e*P **P** **04 41 16.2 -0.3**
comp=Z,23nm,1.1s
RC01 Rabbit Creek A 83.68 29 *e*P **P** **04 41 17.3 +0.4**
comp=Z,17nm,0.8s
VRHR Novokhopersk 83.78 321 *e*P **P** **04 41 16.8 -0.8**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.3s
COLD Coldfoot 83.92 23 *e*P **P** **04 41 19.9 +2.0**
comp=E,17nm,1.1s
PMR Palmer 84.00 29 *e*P **P** **04 41 18.9 +0.5**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 84.00 29 *e*P **P** **04 41 18.9 +0.5**
comp=Z,20nm,1.0s
SML Sawmill 84.39 28 *e*P **P** **04 41 21.5 +1.0**
SML pmax pmax
comp=Z,8.0nm,1.1s
SML Sawmill 84.39 28 *e*P **P** **04 41 21.5 +1.0**
comp=Z,7.6nm,1.1s
ILAR Eielson Array 85.14 25 P **P** **04 41 23.9 -0.2**
comp=Z,1.5nm,0.5s,baz=248,slow=5.7,SNR=40
ILAR LR LR 05 14 38.8
comp=Z,102nm,20.4s,baz=283,slow=32
ILAR Eielson Array 85.14 25 P **P** **04 41 23.9 -0.2**
KLMR Klimovskoe 85.18 331⇑ *i*P **P** **04 41 23.8 -0.6**
KLMR pmax pmax
comp=Z,75nm,1.4s
VORD Divnogorie 85.25 321 *e*P **P** **04 41 23.6 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,1.1s
VSR Storozhevoye 85.33 321 *e*P **P** **04 41 24.8 -0.6**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,1.5s
PPT2 Papeete2 85.42 108 *e*S **S** **04 51 57.9 +1.8**
comp=E,83nm,25.2s
PPT2 *e*LR LR 05 08 41.9
comp=E,296nm,26.0s
DIV Divide 85.60 29 *e*P **P** **04 41 27.6 +0.9**
comp=E,34nm,1.0s
PAX Paxson 85.75 27 *e*P **P** **04 41 28.1 +0.7**
PAX pmax pmax
comp=Z,19nm,1.3s
PAX Paxson 85.75 27 *e*P **P** **04 41 28.1 +0.7**
comp=Z,19nm,1.3s
TMCR Tamitsa 85.88 334 *e*P **P** **04 41 27.1 -0.7**
TMCR pmax pmax
comp=Z,44nm,1.5s
MALT Malatya 86.09 308 *e*P **P** **04 41 30.2 +0.6**
MALT pmax pmax
comp=Z,4.0nm,0.8s
MALT Malatya 86.09 308 *e*P **P** **04 41 30.2 +0.6**
comp=Z,4.2nm,0.8s
TBI Tubuai 86.09 114 *e*S **S** **04 52 03.9 +1.6**
comp=Z,98nm,29.5s
TBI *e*LR LR 05 08 56.3
comp=Z,364nm,29.2s
BMRM Bremner River 86.17 29 *e*P **P** **04 41 30.6 +1.1**
comp=Z,26nm,1.1s
MOS Moscow 86.20 325 *e*P **P** **04 41 27.5 -2.1**
MOS pmax pmax
comp=Z,65nm,1.2s
DOT Dot Lake 86.38 27 *e*P **P** **04 41 30.2 -0.1**
comp=Z,2.7nm,1.1s
ANN Anapa 86.62 315 *e*P P 04 41 35.1 +3.2
ANN pmax pmax
comp=Z,53nm,1.3s
OBN Obninsk 86.81 325 *e*P **P** **04 41 32.4 -0.2**
OBN pmax pmax
comp=Z,55nm,1.6s
APA Apatity 87.65 337⇑ *e*P P 04 41 30.4 -6.0
APA MLR MLR
comp=Z,2μm,25.0s
DAWY Dawson 88.42 26 *e*P **P** **04 41 40.3 +0.1**
JOF Joensuu 88.96 333 *e*P **P** **04 41 40.4 -2.3**
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 88.96 333 *ep* **P** **04 41 40.4 -2.3**
comp=Z,7.3nm,0.8s
KMBO Kilima Mbogo 89.26 269 *e*P **P** **04 41 45.5 0.0**
comp=Z,10.0nm,1.2s
BR131 Keskin Array S 89.74 310 *e*P **P** **04 41 46.1 -1.0**
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 89.74 310 P **P** **04 41 46.2 -0.9**
comp=Z,3.9nm,0.9s,baz=120,slow=4.5,SNR=22
BRTR LR LR 05 26 17.1
comp=Z,67nm,21.0s,baz=276,slow=38
BRTR Keskin Array B 89.74 310 P **P** **04 41 46.2 -0.9**
INK Inuvik 90.18 21 LR LR 05 22 02.0
comp=Z,81nm,19.6s,baz=238,slow=35
INK Inuvik 90.18 21 *e*P **P** **04 41 47.5 -0.8**
comp=Z,8.8nm,1.2s
ARCES ARCESS Array B 90.26 340 P **P** **04 41 47.9 -0.8**
comp=Z,5.8nm,0.8s,baz=84,slow=6.3,SNR=8.5
ARCES LR LR 05 25 15.6
comp=Z,282nm,19.6s,baz=40,slow=38
ARCES ARCESS Array B 90.26 340 P **P** **04 41 47.9 -0.8**
KAF Kangasniemi 91.38 332 *e*P **P** **04 41 53.1 -0.9**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 91.38 332 *ep* **P** **04 41 53.1 -0.9**
comp=Z,5.2nm,0.8s
FINES FINESS Array B 91.61 332 P **P** **04 41 54.7 -0.4**
comp=Z,1.6nm,0.4s,baz=70,slow=4.0,SNR=7.9
FINES LR LR 05 27 31.1
comp=Z,230nm,18.0s,baz=118,slow=38
FINES FINESS Array B 91.61 332 P **P** **04 41 54.7 -0.4**
AKASG Malin Array Be 91.64 321 P **P** **04 41 54.4 -1.1**
comp=Z,2.3nm,0.6s,baz=71,slow=4.7,SNR=13
AKASG LR LR 05 25 22.7
comp=Z,141nm,21.0s,baz=75,slow=37
AKASG Malin Array Be 91.64 321 P **P** **04 41 54.4 -1.1**
AKASG Malin Array Be 91.64 321 P **P** **04 41 54.4 -1.1**
AK01 Malin Array Si 91.64 321 *e*P **P** **04 41 54.2 -1.3**
AK02 Malin Array Si 91.65 321 *e*P **P** **04 41 54.6 -0.9**
CFR Carcaliu 93.16 315 ⇓P **P** **04 42 02.8 +0.2**
CFR Carcaliu 93.16 315 ⇓ *i*P **P** **04 42 02.8 +0.2**
TESR 93.97 317⇑ *i*P **P** **04 42 06.3 -0.1**
VRI Vrincioaia 94.03 316 ⇑P **P** **04 42 06.0 -0.7**
VRI Vrincioaia 94.03 316 ⇑ *i*P **P** **04 42 05.9 -0.7**
PLOR Plostina 94.08 316 ⇓P **P** **04 42 06.9 0.0**
PLOR Plostina 94.08 316 ⇓ *i*P **P** **04 42 06.9 0.0**
MLR Muntele Rosu 94.63 316 ⇓ *i*P **P** **04 42 09.3 -0.3**
SUW Suwalki 94.68 325 *e*P **P** **04 42 08.8 -0.6**
SUW pmax pmax
comp=Z,27nm,0.8s
SUW Suwalki 94.68 325 *e*P **P** **04 42 08.8 -0.6**
comp=Z,27nm,0.8s
BURAR Bucovina Array 94.74 318⇑ *i*P **P** **04 42 09.0 -1.0**
BUR08 Bucovina Ar. S 94.74 318 *e*P **P** **04 42 10.0 0.0**
VOIR 95.26 316 ⇓P **P** **04 42 12.7 +0.3**
VOIR 95.26 316 ⇓ *i*P **P** **04 42 12.7 +0.3**
ARR Arges 95.56 316 ⇓ *i*P **P** **04 42 13.5 -0.3**
KOLS Kolonicke sedl 96.38 320 *e*P **P** **04 42 17.0 -0.3**
KOLS *e* 04 42 29.0
KOLS Kolonicke sedl 96.38 320 *e*P **P** **04 42 17.0 -0.3**
KOLS *e*pP **pP** **04 42 29.0 +0.9**
UZH Uzhgorod 96.44 320⇑ *i*P **P** **04 42 16.8 -0.8**
DRGR 96.58 318 ⇓P **P** **04 42 18.0 -0.4**
DRGR 96.58 318 ⇓ *i*P **P** **04 42 18.0 -0.4**
CRVS Cervenica-Dubn 96.91 320 *e*P **P** **04 42 19.9 +0.2**
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 96.91 320 *e*P **P** **04 42 19.9 +0.2**
VTS Vitosha 97.12 314 ⇓P **P** **04 42 20.3 -0.7**
VTS Vitosha 97.12 314 ⇓ *i*P **P** **04 42 20.3 -0.7**
RES Resolute Bay 97.77 10 P Pdif 04 42 23.0 -0.1
comp=Z,0.6nm,0.7s,baz=314,slow=3.5,SNR=3.6
RES Resolute Bay 97.77 10 *e*P **P** **04 42 22.7 -0.3**
comp=Z,1.5nm,0.9s
NB2 NORSAR Subarra 98.57 334 P **P** **04 42 25.7 -1.3**
baz=66,slow=4.4
NB2 NORSAR Subarra 98.57 334 P **P** **04 42 25.7 -1.3**
comp=Z,9.1nm,1.2s,baz=66,slow=4.4
NOA NORSAR Array B 98.57 334 P **P** **04 42 26.8 -0.2**
comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=4.6
NOA LR LR 05 31 47.8
comp=Z,180nm,19.6s,baz=90,slow=38
NOA NORSAR Array B 98.57 334 P **P** **04 42 26.8 -0.2**
VYHS Vyhne 98.70 320 *e*P **P** **04 42 27.1 -0.7**
VYHS Vyhne 98.70 320 PDIF **P** **04 42 27.1 -0.7**
YKA Yellowknife Ar 99.53 24 P **Pdif** **04 42 30.9 -0.2**
comp=Z,0.5nm,0.6s,baz=297,slow=4.3,SNR=12
YKA Yellowknife Ar 99.53 24 P **Pdif** **04 42 30.9 -0.2**
DPC Dobruska-Polom 99.73 322 *e*P **Pdif** **04 42 32.9 +0.5**
DPC *e* 04 42 43.3
DPC Dobruska-Polom 99.73 322 *e*PDIFF **Pdif** **04 42 32.9 +0.5**
DPC *e*pP **pP** **04 42 43.3 +0.2**
KHC Kasperske Hory 101.81 322 *e*P **Pdif** **04 42 41.9 +0.2**
KHC Kasperske Hory 101.81 322 *e*PDIFF **Pdif** **04 42 41.9 +0.2**
KHC *e*pP pP 04 42 52.1 -0.5
GERES GERESS Array B 101.83 322 P **Pdif** **04 42 41.8 0.0**
comp=Z,1.5nm,0.9s,baz=86,slow=4.3,SNR=9.5
GERES GERESS Array B 101.83 322 P **Pdif** **04 42 41.8 0.0**
FRB Frobisher Bay 111.67 7 PP PP 04 48 05.5 +1.6
comp=Z,0.4nm,0.3s,baz=339,slow=7.9,SNR=3.3
FRB Frobisher Bay 111.67 7 PP PP 04 48 05.5 +1.6
SCHQ Schefferville 120.52 9 PKP **PKPdf** **04 47 40.9 +1.0**
comp=Z,0.8nm,0.5s,baz=266,slow=2.1,SNR=5.6
SCHQ Schefferville 120.52 9 PKP **PKPdf** **04 47 40.9 +1.0**
TXAR Lajitas Array 121.77 52 PKP **PKPdf** **04 47 43.8 +0.7**
comp=Z,0.6nm,0.8s,baz=295,slow=1.2,SNR=4.2
TXAR Lajitas Array 121.77 52 PKP **PKPdf** **04 47 43.8 +0.7**
TOAO Torodi Ar. Sit 122.61 288 *e*PKPdf **PKPdf** **04 47 44.6 -0.4**
TORD Torodi Ar. Bea 122.61 288 PKP **PKPdf** **04 47 44.7 -0.2**
comp=Z,1.0nm,0.7s,baz=59,slow=1.5,SNR=10
TORD Torodi Ar. Bea 122.61 288 PKP **PKPdf** **04 47 44.7 -0.2**
WVT Waverly 128.95 36 *e*PKIKP **PKPdf** **04 47 56.8 +0.3**
WVT Waverly 128.95 36 *e*PKPdf **PKPdf** **04 47 56.8 +0.3**
DBIC Dimbokro 130.27 282 SKPbc **SKPab** **04 51 20.2 -0.1**
comp=Z,3.7nm,0.7s,baz=54,slow=4.2,SNR=5.1
DBIC Dimbokro 130.27 282 SKPbc **SKPab** **04 51 20.2 -0.1**
PLCA Paso Flores 140.20 160 PKP **PKPdf** **04 48 19.1 +1.7**
comp=Z,0.8nm,0.7s,baz=220,slow=1.7,SNR=2.5
PLCA Paso Flores 140.20 160 PKP **PKPdf** **04 48 19.1 +1.7**
TRQA Tornquist 145.07 168 *e*PKPbc **PKPdf** **04 48 26.0 -0.2**
JTS Juntas Abangare 145.74 66 *e*PKPbc **PKPab** **04 48 28.9 +0.2**
GTBY Guantanamo Bay 148.29 41 *e*PKPbc **PKPbc** **04 48 34.9 -0.5**
CFAA Coronel Fontan 149.11 155 PKPbc **PKPbc** **04 48 37.3 +0.1**
comp=Z,0.4nm,0.6s,baz=217,slow=4.4,SNR=3.7
CFAA Coronel Fontan 149.11 155 PKPbc **PKPbc** **04 48 37.3 +0.1**
LCO Las Campanas 150.13 149 *e*PKPbc **PKPbc** **04 48 42.3 +2.2**
OTAV Otavalo 154.80 81 *e*PKPbc **PKPbc** **04 48 51.9 +0.6**
CPUP Villa Florida 157.33 171 PKPab **PKPab** **04 49 15.5 -0.5**
comp=Z,0.4nm,0.4s,baz=217,slow=5.1,SNR=2.7
CPUP Villa Florida 157.33 171 PKPab **PKPab** **04 49 15.5 -0.5**
LPAZ La Paz 161.07 132 PKPab **PKPab** **04 49 31.4 -2.1**
comp=Z,2.4nm,1.0s,baz=224,slow=6.8,SNR=3.5
LPAZ La Paz 161.07 132 *e*PKPdf **PKPdf** **04 48 50.3 -0.1**
LPAZ PKPab **PKPab** **04 49 31.4 -2.1**
SAML Samuel 169.17 118 *e*PKPdf **PKPdf** **04 48 55.8 -0.8**
SAML *e*PKPab **PKPab** **04 50 08.6 +0.1**

CSEM ***18*** *04:36:08.9₅0.3, 71°.10N×15°.80E, h1ᵏᵐ, ML2.9, Error ellipse: s-maj=6.2km s-min=4.7km az=136.0, Suspected Mining explosion.*
NAO ***18*** *04:36:09.7₂1.0, 71°.12N×16°.50E, ML2.6*
BER ***18*** *04:36:12.7₂3.8, 71°.11N×15°.93E, h22ᵏᵐ±24ᵏᵐ, MD2.9, ML2.4, ML2.6(NAO)*
HEL ***18*** *04:36:12.9₀0.5, 70°.91N×16°.09E, h10ᵏᵐ, ML2.9, ML2.4(BER), ML2.3(UPP)*
IDC ***18*** *04:36:12.9₅3.0, 70°.88N×16°.61E, h0ᵏᵐ, mb1 3.2/3, mb1mx3.0/28, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=30.0km s-min=14.2km az=149.0*
UPP ***18*** *04:36:15.2, 70°.80N×16°.66E, h0ᵏᵐ, ML2.3, Suspected Mining explosion.*

ISC 18 04:36:09.0±2.5, 71°.0N±0°.1×15°.95E±0°.09, h0ᵏᵐ, n98, σ1ᵍ34/83, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRO	**Tromso**	**1.72**	**143**	*e*P		**Pn**		**04 36 40.8**	**+0.7**
TRO				*e*S		**Sn**		**04 37 01.3**	**-1.4**
TRO				AML		AML		04 37 02.5	
comp=Z,69nm,0.2s									
TRO	**Tromso**	**1.72**	**143**	*e*P		**Pn**		**04 36 40.8**	**+0.7**
TRO				*e*S		**Sn**		**04 37 01.3**	**-1.4**
TRO				AML		AML		04 37 02.5	
comp=Z,69nm,0.2s									
TRO	**Tromso**	**1.72**	**143**	P		**Pn**		**04 36 40.8**	**+0.7**
TRO				*e*S		**Sn**		**04 37 01.3**	**-1.4**
comp=Z,69nm,0.2s,SNR=55									
KIF	**Kilpisjarvi**	**2.62**	**138**	*e*P		**Pn**		**04 36 53.4**	**+0.9**
KIF				*e*S		Sn		04 37 22.8	-2.2
KIF	**Kilpisjarvi**	**2.62**	**138**	P		**Pn**		**04 36 53.4**	**+0.9**
STEI	**Steigen**	**3.12**	**185**	*e*P		**Pn**		**04 37 00.4**	**+1.2**
STEI				*e*S		Sn		04 37 34.8	-2.3
STEI				AML		AML		04 37 37.4	
comp=Z,24nm,0.4s									
STEI	**Steigen**	**3.12**	**185**	*e*P		**Pn**		**04 37 00.4**	**+1.2**
STEI				*e*S		Sn		04 37 34.8	-2.3
STEI				AML		AML		04 37 37.4	
comp=Z,24nm,0.4s									
STEI	**Steigen**	**3.12**	**185**	P		**Pn**		**04 37 00.4**	**+1.2**
STEI				S		Sn		04 37 34.8	-2.3
comp=Z,24nm,0.4s									
KTK1	**Kautokeino**	**3.21**	**125**	*e*P		**Pn**		**04 37 02.0**	**+1.4**
KTK1				*e*S		**Sn**		**04 37 37.9**	**-1.7**
KTK1	**Kautokeino**	**3.21**	**125**	*e*P		**Pn**		**04 37 02.0**	**+1.4**
KTK1				*e*S		**Sn**		**04 37 37.9**	**-1.7**
KTK1	**Kautokeino**	**3.21**	**125**	*e*P		**Pn**		**04 37 02.0**	**+1.4**
SNR=55									
KTK1				S		**Sn**		**04 37 37.9**	**-1.7**
NIKU	**Nikkaluokta**	**3.35**	**160**	*e*P		**Pn**		**04 37 04.2**	**+1.7**
NIKU	**Nikkaluokta**	**3.35**	**160**	P		**Pn**		**04 37 04.2**	**+1.7**
KUA	**Kurravaara**	**3.45**	**151**	*e*P		**Pn**		**04 37 05.5**	**+1.7**
KUA	**Kurravaara**	**3.45**	**151**	P		**Pn**		**04 37 05.5**	**+1.7**
ARA0	**ARCESS Array S**	**3.57**	**110**	Pn		Pn		04 37 05.6	+0.1
baz=288,slow=12									
ARA0				Sn		Sn		04 37 45.6	-2.7
baz=298,slow=22									
ARA0	**ARCESS Array S**	**3.57**	**110**	Pn		Pn		04 37 05.6	+0.1
baz=288,slow=12									
ARA0				Sn		Sn		04 37 45.6	-2.7
baz=298,slow=22									
ARA0	**ARCESS Array S**	**3.57**	**110**	*e*P		**Pn**		**04 37 06.0**	**+0.6**
ARA0				*e*S		Sn		04 37 44.1	-4.1
ARA0	**ARCESS Array S**	**3.57**	**110**	Pn		Pn		04 37 05.6	+0.1
baz=288,slow=12,SNR=55									
ARA0	**ARCESS Array S**	**3.57**	**110**	P		**Pn**		**04 37 06.0**	**+0.6**
ARA0				Sn		Sn		04 37 45.6	-2.7
comp=Z,10nm,0.2s,baz=298,slow=20,SNR=55									
ARCES	**ARCESS Array B**	**3.57**	**110**	Pn		**Pn**		**04 37 06.4**	**+0.9**
comp=Z,0.2nm,0.3s,baz=297,slow=12,SNR=13									
ARCES				Sn		Sn		04 37 45.3	-2.9
comp=Z,1.4nm,0.3s,baz=303,slow=20,SNR=8.5									

LANU	**Lannavaara**	**3.66**	**142**	*eP*		**Pn**	**04 37 08.2**	**+1.4**
LANU				*eS*		Sn	04 37 48.5	-2.1
LANU	**Lannavaara**	**3.66**	**142**	P		**Pn**	**04 37 08.1**	**+1.4**
LANU				S		**Sn**	**04 37 49.5**	**-1.1**
HEF	**Hetta**	**3.75**	**131**	*eP*		**Pn**	**04 37 09.4**	**+1.3**
HEF				*eS*		Sn	04 37 50.8	-2.1
HEF	**Hetta**	**3.75**	**131**	P		**Pn**	**04 37 09.3**	**+1.3**
SALU	**Saltoluokta**	**3.77**	**165**	*eP*		**Pn**	**04 37 10.2**	**+1.9**
SALU	**Saltoluokta**	**3.77**	**165**	P		**Pn**	**04 37 10.1**	**+1.9**
KEV	**Kevo**	**3.94**	**104**	*eP*		**Pn**	**04 37 11.3**	**+0.7**
KEV				*eS*		Sn	04 37 52.2	-5.2
KEV	**Kevo**	**3.94**	**104**	P		**Pn**	**04 37 11.2**	**+0.7**
MASU	**Masugnsbyn**	**4.18**	**146**	*eP*		**Pn**	**04 37 15.4**	**+1.5**
MASU	**Masugnsbyn**	**4.18**	**146**	P		**Pn**	**04 37 15.3**	**+1.5**
DUNU	**Dundret**	**4.25**	**155**	*eP*		**Pn**	**04 37 17.7**	**+2.8**
DUNU	**Dundret**	**4.25**	**155**	P		**Pn**	**04 37 17.7**	**+2.8**
KONS	**Konsvik**	**4.66**	**194**	*eP*		Pn	04 37 20.6	+0.2
KONS				*eS*		Sn	04 38 10.8	-4.2
KONS					AML	AML	04 38 13.2	
	comp=Z,10nm,0.2s							
KONS	**Konsvik**	**4.66**	**194**	*eP*		Pn	04 37 20.6	+0.2
KONS				*eS*		Sn	04 38 10.8	-4.2
KONS					AML	AML	04 38 13.2	
	comp=Z,10nm,0.2s							
KONS	**Konsvik**	**4.66**	**194**	P		Pn	04 37 20.5	+0.2
FLOS	**Flostrand**	**4.80**	**193**	*eP*		**Pn**	**04 37 23.1**	**+0.8**
FLOS				*eS*		Sn	04 38 15.8	-2.8
FLOS	**Flostrand**	**4.80**	**193**	*eP*		**Pn**	**04 37 23.1**	**+0.8**
FLOS				*eS*		Sn	04 38 15.8	-2.8
FLOS	**Flostrand**	**4.80**	**193**	P		**Pn**	**04 37 23.1**	**+0.8**
STOK	**Stokkvaagen**	**4.83**	**194**	*eP*		**Pn**	**04 37 23.2**	**+0.4**
STOK				*eS*		Sn	04 38 15.7	-3.6
STOK					AML	AML	04 38 18.4	
	comp=Z,15nm,0.5s							
STOK	**Stokkvaagen**	**4.83**	**194**	*eP*		**Pn**	**04 37 23.2**	**+0.4**
STOK				*eS*		Sn	04 38 15.7	-3.6
STOK					AML	AML	04 38 18.4	
	comp=Z,15nm,0.5s							
STOK	**Stokkvaagen**	**4.83**	**194**	P		**Pn**	**04 37 23.1**	**+0.4**
MOR8	**Moi Rana**	**4.90**	**187**	*eP*		Pn	04 37 24.0	+0.1
MOR8				*eS*		Sn	04 38 16.7	-4.5
MOR8					AML	AML	04 38 20.3	
	comp=Z,11nm,0.2s							
MOR8	**Moi Rana**	**4.90**	**187**	*eP*		Pn	04 37 24.0	+0.1
MOR8				*eS*		Sn	04 38 16.7	-4.5
MOR8					AML	AML	04 38 20.3	
	comp=Z,11nm,0.2s							
MOR8	**Moi Rana**	**4.90**	**187**	*eP*		Pn	04 37 24.0	+0.1
	SNR=53							
ERTU	**Ertsjaerv**	**5.03**	**150**	*eP*		**Pn**	**04 37 26.9**	**+1.4**
ERTU	**Ertsjaerv**	**5.03**	**150**	P		**Pn**	**04 37 26.8**	**+1.4**
SGF	**Sodankyl**	**5.20**	**129**	*eP*		**Pn**	**04 37 29.4**	**+1.6**
SGF	**Sodankyl**	**5.20**	**129**	P		**Pn**	**04 37 29.4**	**+1.6**
HARU	**Harads**	**5.21**	**157**	*eP*		**Pn**	**04 37 29.7**	**+1.7**
HARU	**Harads**	**5.21**	**157**	P		**Pn**	**04 37 29.7**	**+1.7**
RNF	**Rovaniemi**	**5.73**	**136**	*eP*		**Pn**	**04 37 37.4**	**+2.2**
RNF	**Rovaniemi**	**5.73**	**136**	P		**Pn**	**04 37 37.3**	**+2.2**
VRF	**Varrio**	**5.83**	**118**	*eP*		**Pn**	**04 37 37.1**	**+0.6**
VRF				*eS*		Sn	04 38 38.0	-6.0
VRF	**Varrio**	**5.83**	**118**	P		**Pn**	**04 37 37.1**	**+0.6**
KALU	**Kalix**	**5.86**	**149**	*eP*		**Pn**	**04 37 38.4**	**+1.5**
KALU	**Kalix**	**5.86**	**149**	P		**Pn**	**04 37 38.3**	**+1.5**
SJUU	**Sjulsmark**	**5.92**	**157**	*eP*		**Pn**	**04 37 39.2**	**+1.5**
SJUU	**Sjulsmark**	**5.92**	**157**	P		**Pn**	**04 37 39.2**	**+1.5**
LILU	**Lilltraesk**	**5.94**	**164**	*eP*		**Pn**	**04 37 39.2**	**+1.2**
LILU	**Lilltraesk**	**5.94**	**164**	P		**Pn**	**04 37 39.2**	**+1.2**
NSS	**Namsos**	**6.69**	**195**	*e*		Sn	04 39 02.0	-3.1
NSS	**Namsos**	**6.69**	**195**	*eS*		Sn	04 39 02.0	-3.1
BURU	**Burvik**	**6.78**	**160**	*eP*		**Pn**	**04 37 51.1**	**+1.5**
BURU	**Burvik**	**6.78**	**160**	P		**Pn**	**04 37 51.0**	**+1.5**
MSF	**Maaselka**	**7.02**	**131**	*eP*		**Pn**	**04 37 53.9**	**+1.0**
MSF	**Maaselka**	**7.02**	**131**	P		**Pn**	**04 37 53.9**	**+1.0**
KU6	**Riekki**	**7.15**	**128**	*eP*		**Pn**	**04 37 55.6**	**+1.0**
KU6	**Riekki**	**7.15**	**128**	P		**Pn**	**04 37 55.6**	**+1.0**
SPA0	**Spitsbergen Ar**	**7.20**	**1**	Pn		Pn	04 37 54.4	-0.9
	baz=168,slow=18							
SPA0					Sn	Sn	04 39 08.6	-9.0
	baz=192,slow=28							
SPA0	**Spitsbergen Ar**	**7.20**	**1**	Pn		Pn	04 37 54.4	-0.9
	baz=168,slow=18							
SPA0					Sn	Sn	04 39 08.6	-9.0
	baz=192,slow=28							
SPA0	**Spitsbergen Ar**	**7.20**	**1**	*e*		Pn	04 37 54.4	-0.9
SPA0				*e*			04 39 08.6	
SPA0	**Spitsbergen Ar**	**7.20**	**1**	Pn		Pn	04 37 54.4	-0.9
	baz=168,slow=18,SNR=55							
BREU	**Bredtraesk**	**7.23**	**171**	*eP*		**Pn**	**04 37 57.2**	**+1.5**
BREU	**Bredtraesk**	**7.23**	**171**	P		**Pn**	**04 37 57.2**	**+1.5**
KJN	**Kajaani**	**8.27**	**141**	*eP*		**Pn**	**04 38 11.2**	**+1.2**
KJN					MPN		04 38 12.3	
	comp=Z,1.0nm,0.2s							
KJN	**Kajaani**	**8.27**	**141**	P		**Pn**	**04 38 11.1**	**+1.2**
VAF	**Ylistaro**	**8.43**	**159**	*eP*		**Pn**	**04 38 13.3**	**+1.2**
VAF					MPN		04 38 15.6	
	comp=Z,0.6nm,0.2s							
VAF	**Ylistaro**	**8.43**	**159**	P		**Pn**	**04 38 13.3**	**+1.2**
SUF	**Sumiainen**	**9.23**	**149**	MPN			04 38 28.1	
	comp=Z,0.5nm,0.2s							
KEF	**Keuruu**	**9.56**	**154**	*eP*		**Pn**	**04 38 28.5**	**+0.9**
KEF					MPN		04 38 29.9	
	comp=Z,0.6nm,0.2s							
KEF	**Keuruu**	**9.56**	**154**	P		**Pn**	**04 38 28.5**	**+0.9**
KAF	**Kangasniemi**	**9.83**	**150**	MPN			04 38 36.3	
	comp=Z,0.5nm,0.2s							
JOF	**Joensuu**	**10.08**	**136**	MPN			04 38 39.9	
	comp=Z,0.3nm,0.2s							
NB2	**NORSAR Subarra**	**10.20**	**193**	Pn		**Pn**	**04 38 37.2**	**+0.7**
	baz=6.2,slow=12							
NB2	**NORSAR Subarra**	**10.20**	**193**	Pn		**Pn**	**04 38 37.2**	**+0.7**
	baz=6.2,slow=12							
NB2	**NORSAR Subarra**	**10.20**	**193**	*eP*		**Pn**	**04 38 37.2**	**+0.7**
NB2	**NORSAR Subarra**	**10.20**	**193**	P		**Pn**	**04 38 37.2**	**+0.7**
NOA	**NORSAR Array B**	**10.20**	**193**	Pn		**Pn**	**04 38 38.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=6.9,slow=12,SNR=4.4							
NOA					Sn	Sn	04 40 28.3	-3.1
	comp=Z,0.1nm,0.3s,baz=14,slow=16,SNR=3.0							
FIA0	**FINESS Array S**	**10.43**	**152**	Pn		Pn	04 38 39.7	+0.2
	baz=354,slow=14							
FIA0					Sn	Sn	04 40 27.8	-9.0
	baz=343,slow=28							
FIA0	**FINESS Array S**	**10.43**	**152**	Pn		Pn	04 38 39.7	+0.2
	baz=354,slow=14							
FIA0					Sn	Sn	04 40 27.8	-9.0
	baz=343,slow=28							
FIA0	**FINESS Array S**	**10.43**	**152**	*eP*		Pn	04 38 39.7	+0.2
FIA0				*eS*		Sn	04 40 27.8	-9.0
FIA0	**FINESS Array S**	**10.43**	**152**	P		Pn	04 38 39.7	+0.2
FINES	**FINESS Array B**	**10.43**	**152**	Pn		**Pn**	**04 38 40.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=4.1							
FINES					Sn	Sn	04 40 30.4	-6.4
	comp=Z,0.4nm,0.3s,baz=340,slow=22,SNR=6.8							
HFS	**Hagfors**	**10.97**	**186**	Pn		**Pn**	**04 38 47.5**	**+0.6**
	baz=16,slow=14							
HFS	**Hagfors**	**10.97**	**186**	Pn		**Pn**	**04 38 47.5**	**+0.6**
	baz=16,slow=14							
HFS	**Hagfors**	**10.97**	**186**	*eP*		**Pn**	**04 38 47.5**	**+0.6**
HFS	**Hagfors**	**10.97**	**186**	P		**Pn**	**04 38 47.5**	**+0.6**

NIED ***18*** *05:01:00, 41.°10N×146.°10E, h8km, Mw3.8 Best double couple: M₀5.65000×10¹⁴ NP1:φ₀274.00000°, δ68.00000°, λ-50.00000°. NP2:φ₀28.00000°, δ45.00000°, λ-148.00000°.*

IDC ***18*** *05:01:18.9±0.8, 40.°78N×146.°19E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.7/27, mbtmp3.6/10, ML3.7/2, Error ellipse: s-maj=28.6km s-min=17.7km az=116.0*

JMA ***18*** *05:01:20.9±0.2, 41.°05N×146.°06E, h51km±4km, M3.9*

ISC 18 05:01:19.8±3.8, 41.°02N±0.°05×145.°95E±0.°07, h13km±24km, n28,σ0°94/27, mb3.5/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**2.18**	**335**	P	**Pn**	**05 01 56.0**	**+0.1**
JAK				*eS*	**Sn**	**05 02 21.7**	**-1.1**
JEM	**Erimo**	**2.32**	**296**	P	**Pn**	**05 01 58.8**	**+1.0**
NEM2	**Nemuro 2**	**2.35**	**356**	P	**Pn**	**05 01 57.9**	**-0.2**
NEM2				*eS*	Sn	05 02 24.9	-1.9
JOB	**Onbets**	**2.46**	**321**	P	**Pn**	**05 02 00.1**	**+0.5**
JOB				*eS*	**Sn**	**05 02 28.7**	**-0.8**
JCH	**Churui**	**2.50**	**310**	P	**Pn**	**05 02 00.9**	**+0.6**
JCH				*eS*	Sn	05 02 28.5	-2.2
JNBK	**Urakawa-nobuka**	**2.71**	**299**	P	**Pn**	**05 02 04.4**	**+1.3**
JNBK				*eS*	**Sn**	**05 02 36.2**	**+0.5**
JNK	**Nakash**	**2.72**	**341**	P	Pn	05 02 02.7	-0.6
JNK				*eS*	Sn	05 02 33.3	-2.8
JAR	**Ashorobuto**	**2.79**	**325**	P	Pn	05 02 04.1	-0.2
JAR				*eS*	Sn	05 02 35.8	-2.0
JRA	**Rausu**	**2.98**	**348**	P	**Pn**	**05 02 06.9**	**+0.1**
JBT2	**Biratori 2**	**3.20**	**304**	P	**Pn**	**05 02 09.8**	**-0.1**
JBT2				*eS*	**Sn**	**05 02 48.1**	**+0.2**
JFR	**Furan**	**3.29**	**312**	P	**Pn**	**05 02 11.5**	**+0.4**
JTKR	**Abashiri--Toko**	**3.31**	**334**	P	**Pn**	**05 02 12.2**	**+0.8**
JTKR				*eS*	**Sn**	**05 02 50.0**	**-0.6**
JANG	**Nango**	**3.43**	**261**	P	Pn	05 02 12.1	-1.0
JANG				*eS*	Sn	05 02 49.4	-4.2
JKK2	**Kamakawa 2**	**3.71**	**321**	P	**Pn**	**05 02 17.6**	**+0.8**
JOT	**Ohata**	**3.71**	**277**	P	**Pn**	**05 02 17.5**	**+0.6**
JOT				*eS*	Sn	05 02 57.0	-3.6
JKB	**Kayabe**	**3.79**	**285**	P	**Pn**	**05 02 18.7**	**+0.7**
JKB				*eS*	Sn	05 03 00.5	-2.0
JEW	**Eniwo**	**3.82**	**300**	P	**Pn**	**05 02 20.4**	**+2.1**
ASAJ	**Asahikawa**	**3.96**	**322**	Pn	Pn	05 02 24.1	+3.8
	2.4nm,0.3s,baz=150,slow=14,SNR=16						
ASAJ					**Sn**	**05 03 07.3**	**+0.6**
	2.5nm,0.3s,baz=273,slow=32,SNR=4.6						
MJAR	**Matsushiro Arr**	**7.52**	**236**	Pn	**Pn**	**05 03 09.2**	**0.0**
	1.8nm,0.3s,baz=36,slow=15,SNR=5.7						
MAT	**Matsushiro**	**7.52**	**236**	P	**Pn**	**05 03 09.1**	**-0.1**
SONM	**Songino Array**	**28.81**	**297**	P	P	05 07 21.6	+3.9
	0.3nm,0.7s,baz=82,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**44.23**	**34**	P	**P**	**05 09 30.7**	**+2.3**
	0.4nm,0.7s,baz=265,slow=8.0,SNR=5.3						
INK	**Inuvik**	**49.21**	**29**	P	P	05 10 10.2	+2.8
	0.5nm,0.7s,baz=304,slow=4.2,SNR=4.1						
RES	**Resolute Bay**	**57.84**	**16**	P	P	05 11 12.9	+2.4
	1.7nm,0.6s,baz=317,slow=7.1,SNR=8.2						
YKA	**Yellowknife Ar**	**58.57**	**32**	P	**P**	**05 11 17.2**	**+1.3**
	0.2nm,0.7s,baz=302,slow=6.0,SNR=8.1						
WRA	**Warramunga Arr**	**61.60**	**192**	P	**P**	**05 11 36.8**	**-0.3**
	1.5nm,0.5s,baz=8.5,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**65.32**	**192**	P	**P**	**05 12 01.8**	**+0.1**
	0.4nm,0.5s,baz=10,slow=12,SNR=5.3						
TXAR	**Lajitas Array**	**84.92**	**55**	P	**P**	**05 13 55.3**	**+0.4**
	0.1nm,0.6s,baz=316,slow=3.8,SNR=2.9						

IDC 18 05:02:39.7±1.5, 3.°61N×126.°93E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.9/4, MS3.8/2, Ms1 3.8/2, ms1mx3.0/36, Error ellipse: s-maj=146.8km s-min=25.3km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	05 08 00.9	-0.1
	6.1nm,0.8s,baz=343,slow=10,SNR=42						
ASAR	**Alice Springs**	**27.95**	**166**	P	P	05 08 31.6	-0.5
	0.3nm,0.6s,baz=339,slow=7.4,SNR=4.5						
NWAO	**Narrogin (SRO)**	**37.48**	**193**	LR	LR	05 25 27.1	
	comp=Z,115nm,18.4s,baz=284,slow=36						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	05 09 59.7	+0.6
	1.5nm,0.4s,baz=352,slow=11,SNR=6.7						
SONM	**Songino Array**	**47.48**	**341**	P	P	05 11 16.3	-0.2
	0.6nm,0.6s,baz=152,slow=7.0,SNR=4.6						
AKTO	**Aktyubinsk**	**73.88**	**322**	LR	LR	05 47 34.8	
	comp=Z,56nm,18.7s,baz=89,slow=36						

GUC 18 05:13:36.5±0.6, 34.°73S×72.°33W, h15km±999km, MD3.5, ML2.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.09**	**45**	*eP*	Pb	05 13 55.2	-1.9
LNV				*i S*	Sb	05 14 09.8	-1.2
CACH	**El Canelo**	**1.56**	**67**	*i P*	Pn	05 14 03.5	-0.3
CACH				*i S*	Sn	05 14 24.3	+0.3
CHCH	**Chadas Angostu**	**1.60**	**61**	*eP*	Pn	05 14 03.8	-0.6
LMEL	**Las Melosas**	**1.97**	**64**	*eP*	Pn	05 14 09.9	+0.3
LMEL				*eS*	Sn	05 14 35.3	+1.1
LMEL				AML	AML	05 14 40.1	
	comp=N,117nm,0.9s						
CLCH	**Cerro Calan**	**2.00**	**49**	*eP*	Pn	05 14 10.6	+0.7
CLCH				*eS*	Sn	05 14 35.9	+1.2
CLCH				AML	AML	05 14 44.9	
	comp=N,91nm,0.5s						

IDC 18 05:15:23.1±2.6, 30.°32S×138.°42E, h0km, mb1 3.4/4, mb1mx3.3/15, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=66.3km s-min=14.7km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.13**	**120**	Pn	Pn	05 16 13.4	-0.4
	0.9nm,0.3s,baz=308,slow=12,SNR=17						
STKA				Pg	Pb	05 16 21.1	+1.4
	4.2nm,0.3s,baz=300,slow=16,SNR=33						
STKA				Lg	Lg	05 17 02.3	
	8.2nm,0.3s,baz=18,slow=24,SNR=8.9						
ASAR	**Alice Springs**	**7.75**	**328**	Pn	Pn	05 17 18.5	+1.1
	0.3nm,0.3s,baz=153,slow=12,SNR=11						
ASAR					Sn	05 18 47.1	+1.1
	0.2nm,0.3s,baz=152,slow=22,SNR=5.5						
WRA	**Warramunga Arr**	**10.97**	**339**	Pn	Pn	05 18 02.0	+0.5
	0.2nm,0.3s,baz=154,slow=13,SNR=15						
WRA					Sn	05 20 05.6	+0.5
	0.1nm,0.3s,baz=160,slow=24,SNR=4.2						
FITZ	**Fitzroy Crossi**	**16.83**	**313**	Pn	Pn	05 19 18.1	-2.1
	0.1nm,0.3s,baz=151,slow=13,SNR=5.1						

IDC 18 05:17:52.0±14.0, 17.°60S×178.°81W, h580km±137km, mb3.5/4, mb1 3.7/4, mb1mx3.0/20, mbtmp3.5/4, Error ellipse: s-maj=105.6km s-min=76.0km az=101.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**241**	P	P	05 24 25.1	-0.1
	4.5nm,0.5s,baz=88,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**44.32**	**259**	P	P	05 25 11.2	-0.5
	1.9nm,0.4s,baz=94,slow=7.4,SNR=63						
WRA				PcP	PcP	05 26 42.6	-0.5
	0.4nm,0.6s,baz=79,slow=4.3,SNR=3.0						
ASAR	**Alice Springs**	**44.51**	**254**	P	P	05 25 13.1	-0.1
	13nm,0.5s,baz=88,slow=8.4,SNR=231						
ASAR				PcP	PcP	05 26 43.1	-0.6
	0.5nm,0.5s,baz=103,slow=3.9,SNR=4.7						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	P	P	05 26 14.2	+0.4
	0.6nm,0.3s,baz=118,slow=5.6,SNR=11						
BRTR	**Keskin Array B**	**144.30**	**315**	PKP	PKPbc	05 36 22.6	-0.3
	0.5nm,0.4s,baz=90,slow=1.4,SNR=3.9						
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	PKPbc	05 36 30.4	-0.5
	0.3nm,0.4s,baz=34,slow=5.0,SNR=3.9						

IDC 18 05:22:19.9±12.0, 24.°59S×179.°37E, h605km±155km, mb3.1/6, mb1 3.4/6, mb1mx3.1/19, mbtmp3.1/6, Error ellipse: s-maj=98.3km s-min=57.5km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.91**	**272**	P	P	05 27 49.9	+0.6
	9.2nm,0.5s,baz=98,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**33.93**	**249**	P	P	05 28 14.3	-0.3
	1.2nm,0.6s,baz=100,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**41.36**	**262**	P	P	05 29 14.8	-0.2
	0.7nm,0.3s,baz=98,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**41.79**	**267**	P	P	05 29 17.7	-0.7
	2.2nm,0.3s,baz=103,slow=8.2,SNR=92						
FITZ	**Fitzroy Crossi**	**50.20**	**266**	P	P	05 30 22.3	+0.4
	1.9nm,0.6s,baz=91,slow=6.8,SNR=9.7						
FITZ	**Fitzroy Crossi**	**50.20**	**266**	P	P	05 30 22.8	+0.9
	baz=25,SNR=6.9						
TXAR	**Lajitas Array**	**91.28**	**58**	P	P	05 34 22.2	-0.1
	0.2nm,0.7s,baz=224,slow=7.0,SNR=4.1						

ISCJB ***18*** *05:27:45.7±0.4, 43.°00N±0.°02×13.°64E±0.°04, h29km±4km, Error ellipse: s-maj=5.0km s-min=4.0km az=164.6*

ROM ***18*** *05:27:45.2±0.2, 42.°99N×13.°63E, h30km±2km, Md2.4/14, Ml2.1/14, Error ellipse: s-maj=1.8km s-min=1.3km az=66.0*

CSEM ***18*** *05:27:45.4±0.1, 42.°99N×13.°63E, h30km, ML2.8/10, Error ellipse: s-maj=2.7km s-min=2.3km az=82.0*

ISC 18 05:27:45.5±0.9, 42.°98N±0.°02×13.°64E±0.°03, h30km±6km, n34,σ0°41/60, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.06**	**142**	Pg	**Pb**	**05 27 50.5**	**-0.2**
OFFI				Sg	**Sb**	**05 27 55.0**	**+0.7**
	2μm,0.4s						
OFFI	**Offida**	**0.06**	**142**	Pg	**Pb**	**05 27 50.5**	**-0.2**
OFFI				Sg	**Sb**	**05 27 55.0**	**+0.7**
	2μm,0.4s						
GUMA	**Gualdo di Mace**	**0.23**	**69**	Pg	**Pb**	**05 27 51.6**	**-0.6**
GUMA				Sg	**Sb**	**05 27 56.5**	**-0.3**
	274nm,0.2s						
GUMA	**Gualdo di Mace**	**0.23**	**69**	Pg	**Pb**	**05 27 51.6**	**-0.6**
GUMA				Sg	**Sb**	**05 27 56.5**	**-0.3**
	274nm,0.2s						
TERO	**Teramo**	**0.36**	**184**	Pg	**Pb**	**05 27 53.5**	**-0.4**
TERO				Sg	**Sb**	**05 27 59.9**	**+0.3**
TERO	**Teramo**	**0.36**	**184**	Pg	**Pb**	**05 27 53.5**	**-0.4**
TERO				Sg	**Sb**	**05 27 59.9**	**+0.3**
FDMO	**Fiordimonte**	**0.41**	**278**	Pg	**Pb**	**05 27 53.9**	**-0.7**
FDMO				Sg	**Sb**	**05 28 00.8**	**0.0**
	115nm,0.2s						
FDMO	**Fiordimonte**	**0.41**	**278**	Pg	**Pb**	**05 27 53.9**	**-0.7**
FDMO				Sg	**Sb**	**05 28 00.8**	**0.0**
	115nm,0.2s						
NRCA	**Norcia**	**0.41**	**249**	Pg	**Pb**	**05 27 54.1**	**-0.6**
NRCA				Sg	**Sb**	**05 28 01.0**	**+0.1**
	176nm,0.1s						
NRCA	**Norcia**	**0.41**	**249**	Pg	**Pb**	**05 27 54.1**	**-0.6**
NRCA				Sg	**Sb**	**05 28 01.0**	**+0.1**
	176nm,0.1s						
CAMP	**Campotosto**	**0.47**	**201**	Pg	**Pb**	**05 27 55.3**	**-0.4**
CAMP				Sg	**Sn**	**05 28 03.5**	**-0.3**
	11nm,0.6s						
CAMP	**Campotosto**	**0.47**	**201**	Pg	**Pb**	**05 27 55.3**	**-0.4**
CAMP				Sg	**Sn**	**05 28 03.5**	**-0.3**
	11nm,0.6s						
CING	**Cingoli**	**0.51**	**321**	Pg	**Pb**	**05 27 55.6**	**-0.6**
CING				Sg	**Sb**	**05 28 03.8**	**+0.3**
	85nm,0.3s						
CING	**Cingoli**	**0.51**	**321**	Pg	**Pb**	**05 27 55.6**	**-0.6**
CING				Sg	**Sb**	**05 28 03.8**	**+0.3**
	85nm,0.3s						
CESI	**CESI - Serrava**	**0.54**	**273**	Pg	**Pb**	**05 27 56.2**	**-0.5**
CESI				Sg	**Sn**	**05 28 05.2**	**-0.1**
	54nm,0.3s						
CESI	**CESI - Serrava**	**0.54**	**273**	Pg	**Pb**	**05 27 56.2**	**-0.5**
CESI				Sg	**Sn**	**05 28 05.2**	**-0.1**
	54nm,0.3s						
AOI	**Ancona**	**0.57**	**357**	Pg	**Pb**	**05 27 56.6**	**-0.6**
AOI				Sg	**Sn**	**05 28 06.5**	**+0.5**
	69nm,0.2s						
AOI	**Ancona**	**0.57**	**357**	Pg	**Pb**	**05 27 56.6**	**-0.6**
AOI				Sg	**Sn**	**05 28 06.5**	**+0.5**
	69nm,0.2s						
LNSS	**Leonessa**	**0.58**	**230**	Pg	**Pb**	**05 27 57.1**	**-0.2**
LNSS				Sg	**Sn**	**05 28 06.6**	**+0.3**
	160nm,0.3s						
LNSS	**Leonessa**	**0.58**	**230**	Pg	**Pb**	**05 27 57.1**	**-0.2**
LNSS				Sg	**Sn**	**05 28 06.6**	**+0.3**
	160nm,0.3s						
SNTG	**Esanatoglia**	**0.58**	**298**	Pg	**Pb**	**05 27 56.7**	**-0.6**
SNTG				Sg	**Sb**	**05 28 05.2**	**-0.2**
	45nm,0.2s						
SNTG	**Esanatoglia**	**0.58**	**298**	Pg	**Pb**	**05 27 56.7**	**-0.6**
SNTG				Sg	**Sb**	**05 28 05.2**	**-0.2**
	45nm,0.2s						
VCEL	**Villa Celiera**	**0.60**	**166**	Pg	**Pn**	**05 27 58.4**	**+0.3**
VCEL				Sg	**Sn**	**05 28 06.7**	**-0.2**
	58nm,0.4s						
VCEL	**Villa Celiera**	**0.60**	**166**	Pg	**Pn**	**05 27 58.4**	**+0.3**
VCEL				Sg	**Sn**	**05 28 06.7**	**-0.2**
	58nm,0.4s						
ASSB	**Assisi San Ben**	**0.72**	**275**	Pg	**Pb**	**05 27 59.3**	**-0.4**
	83nm,0.3s						
ASSB	**Assisi San Ben**	**0.72**	**275**	Pg	**Pb**	**05 27 59.3**	**-0.4**
	83nm,0.3s						
ARVD	**Arcevia**	**0.72**	**316**	Pg	**Pb**	**05 27 59.5**	**-0.2**
	23nm,0.2s						
ARVD	**Arcevia**	**0.72**	**316**	Pg	**Pb**	**05 27 59.5**	**-0.2**
	23nm,0.2s						
MURB	**Monte Urbino**	**0.86**	**289**	Pg	**Pb**	**05 28 01.9**	**-0.1**
	143nm,0.3s				

ARMA	**Armidale**	**9.22**	**33**	*e*Pn	**Pn**	**05 30 33.7**	**+0.1**
ARMA	**Armidale**	**9.22**	**33**	S	Sx	05 33 09.7	
	baz=20,SNR=8.4						
BBOO	**Buckleboo**	**9.63**	**302**	*e*Pn	**Pn**	**05 30 36.5**	**-2.7**
BBOO				*e*Sn	**Sn**	**05 32 24.4**	**-2.7**
BBOO	**Buckleboo**	**9.63**	**302**	P	**Pn**	**05 30 37.8**	**-1.4**
	baz=26,SNR=15						
BBOO	**Buckleboo**	**9.63**	**302**	P	**Pn**	**05 30 37.8**	**-1.4**
	baz=9.7,SNR=15						
QLP	**Quilpie**	**11.75**	**353**	P	**Pn**	**05 31 10.5**	**+2.3**
	baz=12,SNR=6.2						
EIDS	**Eidsvold**	**13.64**	**21**	*e*Pn	**Pn**	**05 31 33.7**	**-0.4**
EIDS	**Eidsvold**	**13.64**	**21**	S	**Pn**	**05 31 36.8**	**+2.8**
	baz=15,SNR=3.3						
FORT	**Forrest**	**16.41**	**292**	*e*Pn	**Pn**	**05 32 07.7**	**-3.1**
	18nm,0.6s						
AS31	**Alice Springs**	**17.76**	**322**	*e*Pn	**Pn**	**05 32 26.3**	**-1.7**
ASAR	**Alice Springs**	**17.76**	**322**	P	**Pn**	**05 32 24.9**	**-3.0**
	0.2nm,0.3s,baz=147,slow=12,SNR=13						
ASAR				S	**Sn**	**05 35 40.1**	**-5.6**
	0.5nm,0.3s,baz=149,slow=22,SNR=4.3						
ASAR				LR	LR	05 39 41.6	
	comp=Z,301nm,22.0s,baz=144,slow=38						
ASAR	**Alice Springs**	**17.76**	**322**	P	**Pn**	**05 32 24.9**	**-3.0**
ASAR				S	**Sn**	**05 35 40.1**	**-5.6**
CTA	**Charters Tower**	**18.15**	**1**	P	**P**	**05 32 37.0**	**+4.1**
	0.6nm,0.3s,baz=194,slow=9.8,SNR=3.2						
CTA				LR	LR	05 38 59.7	
	comp=Z,139nm,18.5s,baz=197,slow=35						
CTA	**Charters Tower**	**18.15**	**1**	P	**P**	**05 32 37.0**	**+4.1**
CTAO	**Charters Tower**	**18.15**	**1**	*e*P	**Pn**	**05 32 32.6**	**0.0**
	41nm,1.8s						
RPZ	**Rata Peaks**	**19.79**	**114**	LR	LR	05 39 19.6	
	comp=Z,312nm,18.6s,baz=169,slow=34						
WRA	**Warramunga Arr**	**20.81**	**328**	P	**P**	**05 33 02.3**	**+0.3**
	15nm,1.0s,baz=153,slow=9.4,SNR=50						
WRA				S	Sn	05 36 59.0	-0.2
	1.1nm,0.8s,baz=152,slow=21,SNR=4.2						
WRA				LR	LR	05 41 46.7	
	comp=Z,239nm,21.4s,baz=140,slow=38						
WRA	**Warramunga Arr**	**20.81**	**328**	P	**P**	**05 33 02.3**	**+0.3**
WRA				S	Sn	05 36 59.0	-0.2
WRAB	**Tennant Creek**	**20.81**	**328**	*e*P	**P**	**05 33 01.4**	**-0.6**
	8.8nm,0.8s						
WRAB				*e*S	**S**	**05 36 53.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**23.77**	**274**	LR	LR	05 41 28.4	
	comp=Z,127nm,20.3s,baz=111,slow=33						
URZ	**Urewera**	**24.53**	**100**	LR	LR	05 41 46.6	
	comp=Z,218nm,20.3s,baz=246,slow=33						
FITZ	**Fitzroy Crossi**	**26.73**	**313**	P	**P**	**05 34 00.1**	**+0.1**
	3.7nm,0.9s,baz=150,slow=7.8,SNR=6.2						
FITZ				LR	LR	05 45 04.7	
	comp=Z,312nm,19.9s,baz=148,slow=37						
FITZ	**Fitzroy Crossi**	**26.73**	**313**	P	**P**	**05 34 00.1**	**+0.1**
VNDA	**Vanda**	**39.93**	**175**	P	**P**	**05 35 51.9**	**-2.3**
	1.3nm,0.7s,baz=355,slow=7.8,SNR=5.1						
VNDA				LR	LR	05 50 25.5	
	comp=Z,168nm,18.7s,baz=86,slow=33						
VNDA	**Vanda**	**39.93**	**175**	P	**P**	**05 35 51.9**	**-2.3**
PALU	**Palau**	**46.61**	**344**	P	P	05 36 55.9	+7.2
	baz=47,SNR=5.1						
QSPA	**South Pole Qui**	**51.82**	**180**	P	**P**	**05 37 26.5**	**-1.7**
	9.9nm,0.9s,baz=5.6,slow=2.3,SNR=23						
QSPA	**South Pole Qui**	**51.82**	**180**	P	**P**	**05 37 26.6**	**-1.7**
PSI	**Prapat**	**59.51**	**302**	LR	LR	06 07 13.3	
	comp=Z,116nm,18.1s,baz=0.3,slow=39						
PPT	**Papeete**	**59.56**	**89**	LR	LR	05 58 54.2	
	comp=Z,103nm,20.7s,baz=190,slow=31						
VNA2	**Neumayer--Watz**	**69.39**	**189**	*e*P	**P**	**05 39 26.3**	**-1.5**
	baz=155,slow=3.3						
CMAR	**Chiang Mai Arr**	**71.54**	**313**	P	**P**	**05 39 42.1**	**+0.5**
	1.2nm,0.4s,baz=159,slow=6.0,SNR=9.5						
CMAR				PcP	**PcP**	**05 40 04.0**	**+3.1**
	0.6nm,0.3s,baz=156,slow=4.9,SNR=4.2						
CMAR				LR	LR	06 13 36.4	
	comp=Z,60nm,18.5s,baz=336,slow=38						
CMAR	**Chiang Mai Arr**	**71.54**	**313**	P	**P**	**05 39 42.1**	**+0.5**
CMAR				PcP	**PcP**	**05 40 04.0**	**+3.1**
GYA	**Guiyang**	**74.11**	**324**	*e*P	**P**	**05 39 58.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**74.79**	**354**	P	**P**	**05 39 60.0**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=180,slow=8.0,SNR=2.6						
MJAR	**Matsushiro Arr**	**74.79**	**354**	P	**P**	**05 39 60.0**	**-0.5**
KMI	**Kunming**	**74.89**	**320**	P	**P**	**05 40 03.6**	**+2.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSAR	**Wonju Array Be**	**77.15**	**345**	P	**P**	**05 40 12.5**	**-1.4**
KSRS	**Korea Array**	**77.16**	**345**	P	**P**	**05 40 12.5**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=170,slow=5.3,SNR=4.0						
KSRS				LR	LR	06 18 28.3	
	comp=Z,33nm,18.0s,baz=142,slow=39						
CD2	**Chengdu**	**79.23**	**324**	P	**P**	**05 40 27.4**	**+1.8**
CD2				pP	**PcP**	**05 40 31.6**	**-2.2**
CD2				sP	**sP**	**05 40 33.9**	**+1.6**
CD2				PP	**PP**	**05 43 29.3**	**+3.6**
CD2				S	**S**	**05 50 27.5**	**+2.4**
CD2				sS	**sS**	**05 50 35.0**	**+1.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,30nm,4.7s						
CD2				LR	LR		
	comp=N,160nm,6.0s						
CD2				LR	LR		
	comp=Z,140nm,6.0s						
BJI	**Beijing**	**82.55**	**338**	P	**P**	**05 40 43.4**	**+0.4**
BJI				S	**S**	**05 51 03.0**	**+3.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,59nm,4.8s						
BJI				LR	LR		
	comp=N,120nm,15.0s						
BJI				LR	LR		
	comp=E,120nm,16.0s						
LZH	**Lanzhou**	**83.56**	**327**	*e*P	**P**	**05 40 49.0**	**+0.4**
LZH				pP	**PcP**	**05 40 53.5**	**+0.7**
LZH				sP	**sP**	**05 40 55.0**	**-0.3**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ	**Mudanjiang**	**83.82**	**348**	P	**P**	**05 40 50.3**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,70nm,4.0s						
HHC	**Hu-ho-hao-te**	**84.75**	**335**	*e*P	**P**	**05 40 55.1**	**+0.6**
HHC				pP	**PcP**	**05 40 59.9**	**+2.0**
HHC				sP	**sP**	**05 41 02.3**	**+1.1**
HHC				PP	**PP**	**05 44 14.8**	**+3.6**
HHC				S	**SKKSac**	**05 51 24.0**	**+0.2**
HHC				sS	**ScS**	**05 51 31.6**	**-1.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,98nm,7.3s						
HHC				LR	LR		
	comp=Z,86nm,17.2s						
BTO	**Baotou**	**85.07**	**333**	*e*P	P	05 40 47.9	-8.1
SONM	**Songino Array**	**92.66**	**335**	P	**P**	**05 41 31.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=142,slow=5.6,SNR=4.7						
SONM	**Songino Array**	**92.66**	**335**	P	**P**	**05 41 31.6**	**-0.4**
KSH	**Kashi**	**100.43**	**312**	*e*P	**Pdif**	**05 42 08.8**	**+1.3**
KSH				*ep*P	pP	05 42 12.9	+0.4
KSH				*es*P	sP	05 42 18.0	+3.7
KSH				*e*PP	**PP**	**05 46 17.8**	**+3.2**
KSH				SKS	**SKSac**	**05 52 45.5**	**-0.3**
KSH				S	SKKSac	05 53 41.3	+21
KSH				sS	**sS**	**05 53 49.4**	**-2.2**
KSH				pmax	pmax		
	comp=Z,69nm,4.6s						
YKA	**Yellowknife Ar**	**127.41**	**35**	PKP	**PKPdf**	**05 47 22.7**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=249,slow=1.5,SNR=7.5						
YKA	**Yellowknife Ar**	**127.41**	**35**	PKP	**PKPdf**	**05 47 22.8**	**-1.5**
BRTR	**Keskin Array B**	**128.44**	**294**	PKP	**PKPdf**	**05 47 27.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=3.6						
BRTR	**Keskin Array B**	**128.44**	**294**	PKP	**PKPdf**	**05 47 27.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**139.16**	**304**	*e*PKP	**PKPdf**	**05 47 48.1**	**+1.3**
TORD	**Torodi Ar. Bea**	**139.49**	**242**	PKhKP	PKPpre	05 47 39.6	
	comp=Z,0.4nm,0.8s,baz=174,slow=1.4,SNR=3.8						
TORD				PKP	**PKPdf**	**05 47 47.1**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=163,slow=2.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**139.49**	**242**	PKPpre	PKPpre	05 47 39.6	
TORD				PKP	**PKPdf**	**05 47 47.1**	**-1.3**
NOA	**NORSAR Array B**	**143.89**	**324**	SKP	**SKPdf**	**05 51 26.1**	**-2.6**
	comp=Z,1.3nm,0.9s,baz=65,slow=4.8,SNR=3.6						
GERES	**GERESS Array B**	**144.26**	**303**	PKP	**PKPab**	**05 47 53.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=98,slow=2.7,SNR=13						
GERES	**GERESS Array B**	**144.26**	**303**	PKP	**PKPab**	**05 47 53.7**	**-0.3**
KEST	**Kesra**	**145.36**	**279**	PKPbc	**PKPbc**	**05 47 58.2**	**0.0**
	comp=Z,4.1nm,1.0s,baz=188,slow=3.9,SNR=7.3						
KEST	**Kesra**	**145.36**	**279**	PKPbc	**PKPbc**	**05 47 58.2**	**0.0**
WTTA	**Wattenberg**	**145.61**	**300**	*i*PKiKP	**PKPdf**	**05 47 57.6**	**-0.9**
	comp=Z,10nm,0.7s						
GRF	**Grafenberg Arr**	**145.88**	**304**	*e*PKP	**PKPdf**	**05 47 58.4**	**-0.3**
MOTA	**Moosalm**	**145.97**	**300**	⇑*i*PKiKP	**PKPdf**	**05 47 58.6**	**-0.5**
	comp=Z,19nm,0.9s						
FETA	**Feichten**	**146.22**	**300**	⇑*i*PKiKP	**PKPdf**	**05 47 59.7**	**+0.2**
	comp=Z,12nm,1.3s						
DAVA	**Damuels**	**146.80**	**300**	⇑*i*PKPab	**PKPdf**	**05 47 59.7**	**-0.9**
	comp=Z,16nm,1.0s						

MEX 18 05:50:37.8±1.1, 16°.20N×94°.57W, h61km±30km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.94**	**341**	*e*P	Pn	05 50 53.3	-1.9
CMIG				*e*S	Sn	05 51 06.0	-2.0
TGIG		**1.50**	**67**	*e*P	Pn	05 51 01.5	-1.2
TGIG				*e*S	Sn	05 51 19.4	-2.0
HUIG	**Huatulco**	**1.54**	**254**	*e*P	Pn	05 51 00.9	-2.1
HUIG				*e*S	Sn	05 51 20.7	-1.4
VHO	**Vista Hermosa**	**2.25**	**293**	*i* P	Pn	05 51 12.5	-0.5
VHO				*i* S	Sn	05 51 37.3	-2.5
CCIG	**Comitan**	**2.34**	**88**	*e*P	Pn	05 51 12.2	-1.9
CCIG				*e*S	Sn	05 51 39.8	-2.2
PNIG	**Pinotepa**	**3.42**	**274**	*i* P	Pn	05 51 26.2	-2.5
PNIG				*i* S	Sn	05 52 05.1	-3.0

IDC 18 05:56:59.7±1.0, 3°.57N×126°.63E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, Error ellipse: s-maj=68.7km s-min=20.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	P	06 01 51.8	+0.9
	0.9nm,0.5s,baz=356,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**24.56**	**162**	P	P	06 02 20.8	-0.8
	5.4nm,0.7s,baz=342,slow=10,SNR=28						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	06 02 52.4	0.0
	0.3nm,0.4s,baz=340,slow=6.7,SNR=5.0						
ASAR				PcP	PcP	06 06 08.5	+0.7
	0.4nm,0.5s,baz=287,slow=1.7,SNR=5.1						
STKA	**Stephens Creek**	**38.02**	**159**	P	P	06 04 20.3	+0.5
	3.7nm,1.0s,baz=343,slow=6.6,SNR=4.5						
SONM	**Songino Array**	**47.42**	**342**	P	P	06 05 35.8	-0.3
	0.3nm,0.6s,baz=159,slow=8.0,SNR=3.5						
MAW	**Mawson**	**83.57**	**200**	P	P	06 09 28.2	-1.2
	6.5nm,0.7s,baz=31,slow=5.9,SNR=2.5						
BRTR	**Keskin Array B**	**90.04**	**310**	P	P	06 10 02.4	+0.5
	0.8nm,0.9s,baz=98,slow=4.4,SNR=3.9						
YKA	**Yellowknife Ar**	**99.69**	**24**	P	Pdif	06 10 44.4	-0.9
	0.2nm,0.9s,baz=287,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKP	PKPdf	06 15 59.1	+0.1
	0.3nm,0.7s,baz=81,slow=2.3,SNR=2.5						

GUC 18 06:11:24.1±0.6, 28°.08S×71°.24W, h42km±4km, ML3.6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.65**	**140**	⇓*i* P	Pn	06 11 31.5	-5.4
VACH				*i* S	Sn	06 11 41.1	-5.0
VACH				AML	AML	06 11 42.1	
	comp=N,7μm,0.3s						
LCO	**Las Campanas**	**1.04**	**153**	⇓*e*P	Pn	06 11 43.4	+0.8
LCO				*i* S	Sn	06 11 58.4	+2.2
LCO				AML	AML	06 11 59.4	
	comp=N,1μm,0.5s						
CPCH	**Copiapo**	**1.06**	**48**	*e*P	Pn	06 11 43.3	+0.7
CPCH				*i* S	Sn	06 11 57.9	+1.7
CPCH				AML	AML	06 12 00.8	
	comp=N,6μm,0.1s						
TLL	**Tololo Astrono**	**2.11**	**170**	*e*P	Pn	06 11 58.6	+1.3
TLL				*i* S	Sn	06 12 24.6	+2.0
TLL				AML	AML	06 12 32.3	
	comp=N,403nm,0.6s						

IDC ***18*** *06:20:47.3±2.4, 52°.43N×175°.86W, h146km±23km, mb3.4/9, mb1 3.6/13, mb1mx3.5/31, mbtmp3.4/13, Error ellipse: s-maj=22.0km s-min=10.9km az=152.0*

ISCJB ***18*** *06:20:48.5±0.2, 52°.72N±0°.07×175°.87W±0°.04, h165km, mb3.5/9, Error ellipse: s-maj=10.4km s-min=3.3km az=171.9*

NEIC ***18*** *06:20:51.8, 52°.06N×175°.74W, h158km, MG3.7(AEIC), After AEIC.*

ISC 18 06:20:49.1±0.6, 52°.5N±0°.1×175°.90W±0°.05, h165km, n198, o0°67/171, mb3.4/9, 91C-77D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOWE	**Korovin West**	**1.02**	**98**	P	Pn	06 21 16.4	+1.0
KOKL	**Mount Kliuchef**	**1.05**	**100**	P	Pn	06 21 16.7	+0.9
KOKV	**Korovin Volcan**	**1.07**	**98**	P	Pn	06 21 17.0	+1.1
KOKV				S	**Sn**	**06 21 37.1**	**+0.6**
ATKA	**Atka Island**	**1.09**	**106**	P	**Pn**	**06 21 15.5**	**-0.5**
ATKA				S	**Sn**	**06 21 36.1**	**-0.5**
KOFP	**Korovin Flat P**	**1.13**	**102**	P	**Pn**	**06 21 17.1**	**+0.7**
CERAA	**Semis' Rag'd T**	**2.79**	**259**	P	Pn	06 21 36.1	+1.7
CEAP	**Semis' Anvil P**	**2.83**	**261**	P	Pn	06 21 36.9	+2.0
CESW	**Semis' Southwe**	**2.86**	**259**	P	Pn	06 21 36.9	+1.7
AMKA	**Amchitka**	**3.18**	**251**	P	Pn	06 21 40.5	+1.2
AMKA				S	**Sn**	**06 22 17.7**	**-0.5**
LSPA	**Little Sitkin**	**3.45**	**263**	P	Pn	06 21 45.3	+2.7
LSPA				S	**Sn**	**06 22 25.8**	**+1.5**
LSSE	**Little Sitkin**	**3.45**	**262**	P	Pn	06 21 45.6	+2.9
OKSP	**Okmok Steeple**	**4.67**	**78**	P	Pn	06 21 59.6	+1.2
OKSO	**Okmok South**	**4.75**	**77**	P	**Pn**	**06 22 00.1**	**+0.7**
OKRE	**Okmok R'deer P**	**4.78**	**75**	P	Pn	06 22 01.2	+1.4
MREP	**Makushin Rep't**	**5.66**	**73**	P	Pn	06 22 12.7	+1.4
UNV	**Unalaska Valle**	**5.80**	**73**	P	**Pn**	**06 22 14.0**	**+0.8**
UNV				S	**Sn**	**06 23 18.8**	**-0.4**
FX1	**Attu Island--F**	**6.66**	**277**	P	**Pn**	**06 22 24.0**	**-0.6**
	2.3nm,0.3s,baz=68,slow=16,SNR=13						
FX1				S	**Sn**	**06 23 39.8**	**+0.2**
	2.1nm,0.3s,baz=300,slow=20,SNR=10						
FX1	**Attu Island--F**	**6.66**	**277**	P	**Pn**	**06 22 25.5**	**+0.9**
KDAK	**Kodiak Island**	**14.30**	**59**	P	**Pn**	**06 24 01.6**	**-2.2**
	6.1nm,0.3s,baz=280,slow=8.6,SNR=38						
PETK	**Petropavlovsk-**	**15.95**	**283**	P	**P**	**06 24 25.1**	**+0.6**
	0.1nm,0.3s,baz=101,slow=13,SNR=3.1						
ILAR	**Eielson Array**	**19.23**	**39**	P	**P**	**06 24 59.2**	**-1.1**
	0.1nm,0.3s,baz=243,slow=10,SNR=15						
ILAR				S	**S**	**06 28 33.4**	**+4.5**
	0.1nm,0.3s,baz=242,slow=17,SNR=7.2						
INK	**Inuvik**	**25.49**	**36**	P	**P**	**06 26 01.7**	**+0.2**
	0.4nm,0.3s,baz=222,slow=4.3,SNR=7.6						
YKA	**Yellowknife Ar**	**33.14**	**48**	P	**P**	**06 27 08.1**	**-1.1**
	0.2nm,0.5s,baz=274,slow=8.9,SNR=9.1						
YKA				PcP	**PcP**	**06 29 47.3**	**-0.6**
	0.3nm,0.4s,baz=282,slow=3.1,SNR=11						
NEW	**Newport**	**36.81**	**72**	⇑P	**P**	**06 27 41.2**	**+0.4**
	baz=37						
A12A	**Yaak River Ran**	**37.34**	**71**	⇓P	**P**	**06 27 45.5**	**+0.2**
	baz=37						
C11A	**Tepee Creek (N**	**37.53**	**73**	⇓P	**P**	**06 27 46.8**	**-0.2**
	baz=37						
C12B	**Naegeli Ranch,**	**38.05**	**72**	⇑P	**P**	**06 27 52.0**	**+0.7**
	baz=38						
D12A	**Red Ives Fores**	**38.46**	**73**	⇑P	**P**	**06 27 55.1**	**+0.4**
	baz=38						
C13A	**Hot Springs**	**38.59**	**72**	⇑P	P	06 27 56.9	+1.1
	baz=38						
E12A	**Beaver Dam Sad**	**38.66**	**74**	⇑P	**P**	**06 27 56.6**	**+0.1**
	baz=38						
F12A	**Elk City**	**39.20**	**75**	⇓P	**P**	**06 28 01.5**	**+0.5**
	baz=39						
MSO	**Missoula**	**39.40**	**73**	⇓P	**P**	**06 28 02.9**	**+0.3**
	baz=39						
D14A	**Greenough**	**39.52**	**72**	⇓P	**P**	**06 28 03.8**	**+0.2**
	baz=39						
H12A	**Diamond D Ranc**	**40.10**	**76**	⇓P	**P**	**06 28 08.7**	**+0.2**
	baz=40						
C16A	**Fuhringer Ranc**	**40.16**	**70**	⇑P	**P**	**06 28 09.0**	**+0.2**
	baz=40						
G13A	**Cobalt**	**40.16**	**75**	⇓P	**P**	**06 28 09.6**	**+0.7**
	baz=40						
A17A	**Triple J Farms**	**40.17**	**68**	⇑P	**P**	**06 28 08.8**	**0.0**
	baz=40						
I12A	**Atlanta**	**40.36**	**77**	⇓P	**P**	**06 28 11.1**	**+0.5**
	baz=40						
E15A	**Deer Lodge**	**40.37**	**72**	⇓P	**P**	**06 28 10.8**	**+0.2**
	baz=40						
H13A	**Challis**	**40.45**	**76**	⇓P	**P**	**06 28 11.8**	**+0.5**
	baz=40						
I13A	**Wildhorse Cree**	**40.89**	**77**	⇓P	**P**	**06 28 15.5**	**+0.4**
	baz=41						
HLID	**Hailey**	**40.92**	**77**	⇑P	**P**	**06 28 15.8**	**+0.6**
	baz=41						
J13A	**Cove Ranch, Pi**	**41.16**	**77**	⇓P	**P**	**06 28 17.8**	**+0.7**
	baz=41,SNR=5.1						
I14A	**Mackay**	**41.28**	**76**	⇓P	**P**	**06 28 18.7**	**+0.5**
	baz=41						
F16A	**Kennard Place,**	**41.31**	**73**	⇓P	**P**	**06 28 18.5**	**+0.1**
	baz=41						
BOZ	**Bozeman (W)**	**41.39**	**73**	⇑P	**P**	**06 28 19.2**	**+0.2**
	baz=41						
B19A	**Brinkman Farms**	**41.41**	**68**	⇓P	**P**	**06 28 19.2**	**+0.2**
	baz=41						
J14A	**Carey**	**41.59**	**77**	⇑P	**P**	**06 28 20.9**	**+0.3**
	baz=41						
NVAR	**Mina Array Bea**	**41.65**	**86**	P	P	06 28 22.5	+1.2
	0.6nm,0.5s,baz=301,slow=7.0,SNR=7.0						
NVAR				PcP	**PcP**	**06 30 15.8**	**+1.0**
	0.5nm,0.6s,baz=319,slow=2.6,SNR=3.9						
C19A	**Slack Wire Ran**	**41.74**	**69**	⇓P	**P**	**06 28 21.9**	**+0.3**
	baz=42						
H16A	**Russell Place,**	**42.14**	**74**	⇓P	**P**	**06 28 25.4**	**+0.2**
	baz=42						
K15A	**Arbon**	**42.55**	**77**	⇑P	P	06 28 29.6	+1.2
	baz=42						
VES	**Vestal, Richgr**	**42.84**	**90**	⇓P	P	06 28 31.8	+1.1
	baz=43						
RLMT	**Red Lodge**	**43.06**	**72**	⇑P	**P**	**06 28 32.8**	**+0.3**
	baz=43						
GRAC	**Grapevine Rang**	**43.13**	**87**	⇑P	P	06 28 34.7	+1.7
	baz=43						
ISA	**Isabella**	**43.33**	**89**	⇑P	P	06 28 35.7	+1.0
	baz=43						
R11A	**Troy Canyon, C**	**43.36**	**84**	⇑P	**P**	**06 28 35.7**	**+0.7**
	baz=43						
L16A	**Fish Haven**	**43.60**	**77**	⇑P	**P**	**06 28 36.9**	**0.0**
	baz=44						
G20A	**Bridger**	**43.62**	**71**	⇓P	**P**	**06 28 36.9**	**0.0**
	baz=44						
MPMC	**Manual Prospec**	**43.67**	**88**	⇓P	P	06 28 38.7	+1.1
	baz=44						
D22A	**Cohagen**	**43.69**	**68**	⇑P	**P**	**06 28 37.9**	**+0.5**
	baz=44						
FURC	**Furnace Creek,**	**43.79**	**87**	⇑P	P	06 28 39.5	+1.3
	baz=44						
DUG	**Dugway**	**43.88**	**80**	⇑P	**P**	**06 28 39.9**	**+0.7**
	baz=44						
M16A	**Huntsville**	**43.91**	**78**	⇑P	**P**	**06 28 39.9**	**+0.6**
	baz=44						
A24A	**Westby**	**43.93**	**65**	⇓P	**P**	**06 28 39.5**	**+0.3**
	baz=44						
K18A	**Toltan Ranch,**	**44.05**	**76**	⇓P	**P**	**06 28 41.4**	**+0.9**
	baz=44						
BW06	**Boulder Array**	**44.26**	**75**	⇑P	**P**	**06 28 42.1**	**-0.1**
	baz=44						
PDAR	**Pinedale Array**	**44.26**	**75**	P	**P**	**06 28 42.3**	**0.0**
	1.6nm,0.4s,baz=296,slow=4.5,SNR=26						
L18A	**Fontenelle, Gr**	**44.49**	**76**	⇑P	**P**	**06 28 44.0**	**+0.1**
	baz=44						
SHOC	**Shoshone**	**44.52**	**87**	⇑P	P	06 28 45.2	+1.1
	baz=44						
GSC	**Goldstone**	**44.59**	**88**	⇑P	P	06 28 45.7	+1.0
	baz=44						
P15A	**Leamington**	**44.59**	**80**	⇑P	**P**	**06 28 45.3**	**+0.5**
	baz=44						
K19A	**Absolon Red Bu**	**44.65**	**75**	⇓P	**P**	**06 28 44.9**	**-0.3**
	baz=44						
M18A	**Lyman**	**44.77**	**77**	⇑P	**P**	**06 28 46.1**	**-0.2**
	baz=45						
BFSC	**Mount Baldy Ra**	**44.78**	**90**	⇓P	P	06 28 47.6	+1.3
	baz=45						
F23A	**Volborg**	**44.94**	**69**	⇑P	**P**	**06 28 46.9**	**-0.4**
	baz=45						
TUQ	**Turquoise Moun**	**45.04**	**88**	⇓P	**P**	**06 28 48.9**	**+0.6**
	baz=45						
K20A	**Yellowstone Ra**	**45.05**	**74**	⇓P	**P**	**06 28 48.0**	**-0.3**
	baz=45						
E24A	**Baker**	**45.08**	**68**	⇓P	**P**	**06 28 47.5**	**-0.9**
	baz=45						
F24A	**Ekalaka**	**45.42**	**69**	⇑P	**P**	**06 28 51.0**	**-0.1**
	baz=45						
N19A	**John Jarvie Ra**	**45.63**	**77**	⇓P	**P**	**06 28 52.6**	**-0.3**
	baz=46						
GMRC	**Granite Mounta**	**45.64**	**88**	⇓P	**P**	**06 28 53.9**	**+0.9**
	baz=45						
J22A	**Midwest**	**45.68**	**72**	⇑P	**P**	**06 28 53

R22A	Saguache, Gunn baz=49	48.76	78	⇓P		P	06 29 18.2 +0.8
Q23A	Hartsel baz=49	48.88	77	⇑P		P	06 29 18.5 +0.3
S22A	4UR Ranch, Cre baz=49	49.03	79	⇑P		P	06 29 19.9 +0.5
T21A	Navajo Lake baz=49	49.11	80	⇓P		P	06 29 20.8 +0.9
O25A	Wiggins baz=49	49.12	74	⇑P		P	06 29 19.8 0.0
X18A	Snowflake baz=49	49.29	84	⇑P		P	06 29 22.2 +1.0
214A	Organ Pipe Nat baz=49	49.30	89	⇓P		P	06 29 22.1 +0.9
R23A	Moffat baz=49	49.34	78	⇑P		P	06 29 22.4 +0.7
U21A	Nageezi baz=49	49.41	81	⇓P		P	06 29 23.0 +0.8
P25A	Willow Gulch B baz=49	49.47	75	⇑P		P	06 29 23.2 +0.6
T22A	Edith baz=49	49.47	79	⇑P		P	06 29 23.6 +1.0
U22A	Llaves baz=50	49.92	80	⇑P		P	06 29 26.8 +0.7
P26A	Davis Ranch, A baz=50	49.93	75	⇑P		P	06 29 26.6 +0.6
S24A	Houchin Ranch, baz=50	50.07	78	⇑P		P	06 29 27.7 +0.4
R25A	Fountain Ranch baz=50	50.29	77	⇑P		P	06 29 29.2 +0.5
U23A	El Rito baz=50,SNR=5.8	50.35	80	⇑P		P	06 29 30.4 +1.1
S25A	Robets Cordova baz=50	50.52	77	⇑P		P	06 29 31.1 +0.6
T24A	Torres, Weston baz=50	50.54	78	⇓P		P	06 29 31.7 +0.9
X21A	Alamocita Cree baz=50	50.66	83	⇑P		P	06 29 33.1 +1.5
R26A	Arlington baz=50	50.69	76	⇑P		P	06 29 31.9 +0.3
V23A	Ortiz Mt. (NFS baz=51	50.75	80	⇑P		P	06 29 33.8 +1.5
T25A	Trinidad baz=51	50.88	78	⇓P		P	06 29 34.3 +1.1
Z20A	Nine Sixteen R baz=51	51.08	84	⇑P		P	06 29 35.7 +1.0
R27A	Eads baz=51	51.08	75	⇑P		P	06 29 35.6 +1.0
S26A	Kim baz=51	51.12	77	⇑P		P	06 29 35.0 +0.1
V24A	Rampart Ranch, baz=51	51.31	80	⇓P		P	06 29 37.8 +1.4
T26A	Comanche Natio baz=51	51.34	77	⇓P		P	06 29 36.4 -0.3
U25A	Circle Dot Ran baz=51	51.38	78	⇓P		P	06 29 37.3 +0.4
Z21A	St. Cloud Mine baz=51	51.50	84	⇑P		P	06 29 38.6 +0.7
W24A	Lazy 6 Ranch, baz=51	51.58	80	⇓P		P	06 29 39.2 +0.8
V25A	Rancho No Teng baz=52	51.63	79	⇓P		P	06 29 39.8 +1.0
U26A	Atchley Ranch, baz=52	51.78	78	⇓P		P	06 29 40.8 +0.9
220A	Playas Peak, P baz=52	51.95	85	⇑P		P	06 29 42.1 +0.9
121A	Cookes Peak, D baz=52	51.97	84	⇓P		P	06 29 42.3 +1.0
Y23A	Lovelace Mesa, baz=52	52.05	82	⇑P		P	06 29 42.8 +0.9
W25A	X Bar L Ranch, baz=52	52.14	79	⇓P		P	06 29 43.0 +0.5
V26A	Tequesquite Ra baz=52	52.15	78	⇓P		P	06 29 43.3 +0.7
T28A	Walsh baz=52	52.26	76	⇓P		P	06 29 43.7 +0.4
Y24A	Capitan baz=52,SNR=7.6	52.43	81	⇑P		P	06 29 45.8 +1.0
Y25A	Mesa, Roswell baz=53	52.88	81	⇑P		P	06 29 48.8 +0.8
Z24A	Sheeppen Canyo baz=53	52.89	82	⇓P		P	06 29 49.6 +1.5
X26A	CR and CF Fran baz=53	52.98	80	⇑P		P	06 29 49.0 +0.3
224A	Cornudas Mount baz=54	53.66	83	⇓P		P	06 29 54.3 +0.6
Z26A	Caprock baz=54	53.76	81	⇓P		P	06 29 54.9 +0.5
125A	Gardner Draw, baz=54	53.78	82	⇑P		P	06 29 55.2 +0.7
Y27A	Causey baz=54	53.83	80	⇓P		P	06 29 55.7 +0.8
MSTX	Muleshoe baz=54	54.01	79	⇑P		P	06 29 56.4 +0.3
MNTX	Cornudas Mount baz=54	54.01	83	⇑P		P	06 29 57.2 +1.1
325A	Bean Ranch, Si baz=54	54.49	83	⇑P		P	06 30 00.4 +0.6
Z28A	Tucker Farm, M baz=54	54.71	80	⇑P		P	06 30 01.3 +0.1
Y29A	Porterfield Fa baz=55	54.74	79	⇑P		P	06 30 02.0 +0.6
128A	Castleberry Fa baz=55	55.12	80	⇓P		P	06 30 04.3 +0.2
326A	Caldwell Ranch baz=55	55.13	83	⇑P		P	06 30 04.3 +0.1
Z29A	Hungry Hill Ra baz=55	55.14	79	⇓P		P	06 30 04.7 +0.4
426A	McDonald Obser baz=55	55.55	83	⇑P		P	06 30 07.5 +0.1
328A	Wristen Ranch, baz=56	55.79	82	⇑P		P	06 30 09.2 +0.3
427A	Hayter Ranch, baz=56	55.81	83	⇓P		P	06 30 09.6 +0.5
526A	Mary Lane Ranc baz=56	55.95	84	⇓P		P	06 30 10.6 +0.4
626A	Big Bend Ranch baz=56	56.28	84	⇑P		P	06 30 12.6 +0.2
428A	Kincaid Ranch, baz=56,SNR=5.2	56.33	82	⇑P		P	06 30 13.1 +0.3
230A	Sterling City baz=56	56.46	80	⇑P		P	06 30 13.6 0.0
528A	Cox Ranch, San baz=56	56.67	83	⇓P		P	06 30 15.6 +0.4
TXAR	Lajitas Array 1.0nm,0.5s,baz=302,slow=5.7,SNR=33	56.73	84	P		P	06 30 15.7 +0.1
TXAR				PcP		PcP	06 31 10.2 +0.6
	0.4nm,0.6s,baz=318,slow=1.2,SNR=6.3						
627A	Terlingua Ranc baz=57	56.81	84	⇓P		P	06 30 16.3 +0.1
429A	Davenport Ranc baz=57	56.88	82	⇑P		P	06 30 16.7 0.0
529A	Stev Forest Ra baz=57	57.04	82	⇓P		P	06 30 17.9 +0.2
628A	Black Gap, Mar baz=57,SNR=5.7	57.09	83	⇑P		P	06 30 18.0 -0.1
430A	Baggett Ranch, baz=57	57.16	81	⇑P		P	06 30 18.6 0.0
331A	San Angelo baz=57	57.28	80	⇓P		P	06 30 19.5 +0.1
530A	J-C Ranch, Com baz=57	57.55	82	⇓P		P	06 30 21.6 +0.3
431A	Sonora baz=57,SNR=5.3	57.62	81	⇑P		P	06 30 21.1 -0.7
332A	Millersview baz=58	57.64	79	⇓P		P	06 30 21.8 0.0
432A	Menard baz=58	57.97	80	⇓P		P	06 30 24.2 0.0
SCHQ	Schefferville 1.7nm,0.8s,baz=307,slow=10,SNR=4.6	57.98	40	P		P	06 30 22.6 -1.4
531A	Rocksprings baz=58	58.02	81	⇓P		P	06 30 24.1 -0.5
631A	Perdido Creek baz=58	58.54	82	⇑P		P	06 30 27.6 -0.6
632A	Uvalde baz=59	58.95	81	⇑P		P	06 30 30.5 -0.5
732A	Laxson Ranch, baz=59	59.40	82	⇑P		P	06 30 34.4 +0.4
WRA	Warramunga Arr 0.5nm,0.8s,baz=34,slow=6.0,SNR=8.9	84.09	226	P		P	06 33 00.9 -0.3
ASAR	Alice Springs 1.2nm,0.7s,baz=26,slow=4.9,SNR=12	87.55	225	P		P	06 33 18.6 +0.4

CSEM ***18*** *06:25:27.8±0.6,51.51N×16.18E,h2km,ML2.9/4, Error ellipse: s-maj=8.6km s-min=5.7km az=1.0*
PRU ***18*** *06:25:28.7,51.49N×16.17E,h0km*

WAR 18 06:25:29.7,51.47N×16.10E,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.64	169	*e*Pg	Pg	06 25 41.6	-0.4
KSP				*e*Sg	Sg	06 25 51.3	+1.1
KSP	Ksiaz	0.64	169	*e*Pg	Pg	06 25 41.5	-0.5
KSP				*e*Sg	Sg	06 25 51.3	+1.1
UPC	Upice	0.96	183	*e*PG	Pg	06 25 47.7	-0.5
UPC				*e*SG	Sg	06 26 00.1	-0.6
	comp=Z,5.6nm,0.3s						
UPC	Upice	0.96	183	Pg	Pg	06 25 47.7	-0.5
UPC				Sg	Sg	06 26 00.1	-0.6
	5.6nm,0.3s						
DPC	Dobruska-Polom	1.13	173	*e*PG	Pg	06 25 50.4	-1.0
DPC				*e*SG	Sg	06 26 05.5	-0.6
	comp=Z,8.8nm,0.2s						
DPC	Dobruska-Polom	1.13	173	Pg	Pg	06 25 50.4	-1.0
DPC				Sg	Sg	06 26 05.5	-0.6
	8.8nm,0.2s						
PVCC	Panska Ves	1.35	226	*e*PG	Pg	06 25 55.0	-0.6
PVCC				*e*SG	Sb	06 26 13.7	0.0
	comp=Z,32nm,0.2s						
PVCC	Panska Ves	1.35	226	Pg	Pg	06 25 55.0	-0.6
PVCC				Sg	Sb	06 26 13.7	0.0
	32nm,0.2s						
PRU	Pruhonice	1.78	214	*e*SG	Sb	06 26 26.5	+0.4
	comp=Z,12nm,0.3s						
PRU	Pruhonice	1.78	214	Sg	Sb	06 26 26.5	+0.4
	12nm,0.3s						
MORC	Moravsky Berou	1.93	151	*e*Pn	Pn	06 26 01.7	-2.1
MORC				*e*Sg	Sn	06 26 29.1	+0.3
CLL	Collm	1.95	266	*e*Pg	Pn	06 26 05.0	+1.0
CLL				*e*Sg	Sg	06 26 32.0	-0.3
	comp=Z,11nm,0.8s						
KHC	Kasperske Hory	2.84	216	*e*SN	Sn	06 26 51.0	-0.4
KHC				*e*SG	Sg	06 27 00.4	-0.8
KHC	Kasperske Hory	2.84	216	Sn	Sn	06 26 51.0	-0.4
KHC				Sg	Sg	06 27 00.4	-0.8

NIED ***18*** *07:37:00,29.70N×142.30E,h5km,Mw3.8 Best double couple: M0 5.87000×10^14 NP1:φs 175.00000°,δ88.00000°, λ-75.00000°. NP2:φs 271.00000°,δ15.00000°, λ-174.00000°.*
ISCJB ***18*** *07:37:03.1±0.9,29.66N±0.06×142.2E±0.2,h24km, mb4.0/3, Error ellipse: s-maj=31.2km s-min=5.5km az=166.7*
JMA ***18*** *07:37:04.6±0.2,29.73N×142.28E,h50km,M3.8*
IDC ***18*** *07:37:07.9±2.7,29.47N×141.80E,h45km±15km,mb3.7/3, mb1 3.7/6,mb1mx3.3/25,mbtmp3.7/6,ML3.3/3, Error ellipse: s-maj=127.3km s-min=8.4km az=75.0*

ISC 18 07:37:04.3±1.2,29.63N±0.08×142.3E±0.3,h24km,n13, σ1°41/17,mb4.0/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	2.53	182	P	Pn	07 37 45.4	+1.5
	4.1nm,0.3s,baz=264,slow=21,SNR=5.7						
CBIJ				S	Sn	07 38 13.3	-0.6
	16nm,0.3s,baz=93,slow=24,SNR=6.3						
CBIJ	Chichi jima	2.53	182	P	Pn	07 37 45.7	+1.9
JHJ2	Mitsune	4.06	329	P	Pn	07 38 04.9	0.0
JHJ2				*e*S	Sn	07 38 50.1	-1.6
JHJ	Hachijo jima 2	4.08	329	P	Pn	07 38 05.2	-0.1
	4.4nm,0.3s,baz=48,slow=22,SNR=3.4						
JHJ				S	Sn	07 38 53.0	+0.7
	9.8nm,0.3s,baz=242,slow=22,SNR=5.3						
BSO1	Boso 1	5.13	348	P	Pn	07 38 20.0	+0.9
BSO3	Boso 3	5.37	344	P	Pn	07 38 23.5	+0.9
JRY	Ryogami san	6.98	337	P	Pn	07 38 46.2	+1.2
JRY				*e*S	Sn	07 40 02.4	-1.2
JHO	Hitachi	7.11	349	P	Pn	07 38 46.8	+0.1
JAG	Ashikaga	7.18	341	*e*S	Sn	07 40 06.4	-2.1
MJAR	Matsushiro Arr	7.69	335	P	Pn	07 38 57.1	+2.3
	1.0nm,0.3s,baz=155,slow=16,SNR=4.8						
WRA	Warramunga Arr	49.88	190	P	P	07 45 54.1	-1.7
	0.3nm,0.4s,baz=7.3,slow=7.8,SNR=13						
FINES	FINESS Array B	75.72	334	P	P	07 48 47.6	+0.1
	5.1nm,1.1s,baz=48,slow=5.7,SNR=4.0						
BRTR	Keskin Array B	84.36	313	P	P	07 49 35.9	+1.1
	0.8nm,0.7s,baz=134,slow=3.6,SNR=5.0						

IDC 18 08:25:17.9±1.1,4.07N×126.78E,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.8/23,mbtmp3.9/7,MS2.8/1,Ms1 2.8/1, ms1mx2.1/38,1C,Error ellipse: s-maj=123.1km s-min=16.3km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.22	338	LR	LR	08 27 39.7	
	comp=Z,149nm,19.1s,baz=242,slow=44						
CTBH	Cotabato--PC H	4.03	321	⇑*i*P	Pn	08 26 24.8	+4.0
WRA	Warramunga Arr	24.99	163	P	P	08 30 43.1	-0.5
	3.2nm,0.6s,baz=344,slow=11,SNR=46						
ASAR	Alice Springs	28.42	166	P	P	08 31 14.1	-0.4
	0.3nm,0.5s,baz=354,slow=8.6,SNR=7.4						
STKA	Stephens Creek	38.42	160	P	P	08 32 42.1	+0.7
	1.8nm,0.6s,baz=337,slow=9.9,SNR=7.7						
SONM	Songino Array	47.00	341	P	P	08 33 50.8	-0.2
	0.6nm,0.6s,baz=158,slow=9.5,SNR=5.5						
ZALV	Zalesovo Beam	60.32	333	P	P	08 35 29.8	+1.4
	0.8nm,0.3s,baz=132,slow=8.8,SNR=3.1						
KURBB	Kurchatov Arra	61.49	327	P	P	08 35 35.5	-0.9
	1.2nm,0.4s,baz=121,slow=6.8,SNR=13						
BVAR	Borovoye Array	67.07	327	P	P	08 36 12.6	-0.5
	0.7nm,0.6s,baz=120,slow=8.5,SNR=3.6						

WEL 18 08:52:19.8±0.1,39.28S×175.41E,h99km±1km,ML3.6/15, 16C-17D,Error ellipse: s-maj=1.2km s-min=0.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKVZ	Pokaka	0.05	252	PN	Pn	08 52 33.4	-0.3
TRVZ	Turoa	0.11	102	⇓PN	Pn	08 52 33.8	-0.2
TRVZ				SN	Sn	08 52 44.2	-0.3
FWVZ	Far West T-bar	0.12	80	PN	Pn	08 52 33.7	-0.3
FWVZ				SN	Sn	08 52 43.8	-0.7
MTVZ	Mangateitei	0.12	156	PN	Pn	08 52 33.7	-0.1
MTVZ				SN	Sn	08 52 44.1	-0.1
DRZ	Dome Shelter	0.12	90	PN	Pn	08 52 33.9	-0.2
DRZ				SN	Sn	08 52 44.9	+0.1
WPVZ	Whakapapa	0.13	57	PN	Pn	08 52 33.6	-0.3
WNVZ	Wahianoa	0.16	109	PN	Pn	08 52 33.7	-0.3
WNVZ				SN	Sn	08 52 43.9	-0.6
NGZ	Ngauruhoe	0.18	57	⇓PN	Pn	08 52 33.8	-0.2
NGZ				SN	Sn	08 52 43.1	-1.5
TUVZ	Tukino	0.19	88	PN	Pn	08 52 34.0	0.0
TUVZ				SN	Sn	08 52 44.9	+0.2
TWVZ	Taurewa	0.20	7	⇓PN	Pn	08 52 33.7	-0.4
WTVZ	West Tongariro	0.21	42	⇓PN	Pn	08 52 33.6	-0.5
OTVZ	Oturere	0.23	61	PN	Pn	08 52 34.1	-0.1
OTVZ				SN	Sn	08 52 45.2	+0.2
KRVZ	Karewarewa	0.26	46	PN	Pn	08 52 33.6	-0.6
MOVZ	Moawhango	0.30	116	⇓PN	Pn	08 52 34.0	-0.4
MOVZ				SN	Sn	08 52 43.7	-1.6
KATZ	Kakaramea	0.37	37	⇓PN	Pn	08 52 34.4	-0.4
RITZ	Rihia Road	0.46	50	PN	Pn	08 52 35.1	-0.2
RATZ	Rangitukua	0.50	35	PN	Pn	08 52 35.1	-0.5
VRZ	Vera Road	0.53	286	⇑PN	Pn	08 52 35.5	-0.1
BHHZ	Black Hill Sta	0.55	113	⇓PN	Pn	08 52 35.5	-0.5
WAZ	Wanganui	0.58	214	⇑PN	Pn	08 52 36.3	+0.1
WATZ	Wairara	0.62	24	⇓PN	Pn	08 52 36.4	-0.1
HATZ	Hinemaiaia	0.66	55	⇓PN	Pn	08 52 36.3	-0.5
WHTZ	Whakaora	0.74	35	⇓PN	Pn	08 52 37.7	+0.1
RAEZ	Rainy Point	0.79	269	⇑PN	Pn	08 52 38.4	+0.5
BKZ	Black Stump Fm	0.85	83	⇓PN	Pn	08 52 38.3	-0.4
MHEZ	Mangahewa	0.86	283	PN	Pn	08 52 39.1	+0.3
HIZ	Hauiti	0.87	330	⇓PN	Pn	08 52 38.7	-0.2
PNHZ	Pukenui	0.89	136	⇓PN	Pn	08 52 38.9	-0.1
TSZ	Takapari Road	0.89	152	PN	Pn	08 52 39.2	+0.1
DREZ	Durham Road	0.94	275	PN	Pn	08 52 39.7	+0.2
DFE	Dawson Falls	1.01	267	PN	Pn	08 52 40.8	+0.4
MCHZ	McNeill Hill	1.01	100	PN	Pn	08 52 40.8	+0.5
NEZ	North Egmont	1.02	270	⇓PN	Pn	08 52 40.9	+0.5
ALRZ	Allen Road	1.02	46	PN	Pn	08 52 40.0	-0.4
NMHZ	Naumai	1.10	81	PN	Pn	08 52 42.0	+0.6
PKE	Pukeiti	1.10	274	⇑PN	Pn	08 52 41.4	+0.1
WPHZ	Waipukurau	1.12	135	PN	Pn	08 52 41.4	-0.1
NRZ	Ngariki Road	1.15	266	PN	Pn	08 52 41.8	+0.1
POWZ	Post Office Ro	1.15	166	PN	Pn	08 52 41.6	-0.3
DVHZ	Dannevirke	1.18	150	PN	Pn	08 52 42.1	-0.1
NWEZ	Newall Road	1.20	270	PN	Pn	08 52 42.5	+0.1
KAHZ	Kahuranaki	1.25	115	PN	Pn	08 52 43.4	+0.3
RRRZ	Republican Roa	1.27	43	⇑PN	Pn	08 52 42.9	-0.4
CKHZ	Cape Kidnapper	1.35	107	⇑PN	Pn	08 52 44.6	+0.4
PXZ	Pawanui	1.35	124	PN	Pn	08 52 42.5	-1.7
PRHZ	Porangahau	1.37	137	PN	Pn	08 52 44.5	0.0
MRZ	Mangatainoka R	1.39	175	⇑PN	Pn	08 52 44.3	-0.4
MRZ				SN	Sn	08 53 01.0	-2.5
TIWZ	Tintock	1.54	166	PN	Pn	08 52 46.2	-0.4
BFZ	Birch Farm	1.54	156	PN	Pn	08 52 46.3	-0.3
TOZ	Tahuroa Road	1.54	3	⇑PN	Pn	08 52 46.3	-0.3
OGWZ	Otaki Gorge	1.55	187	⇑PN	Pn	08 52 46.3	-0.3
HOWZ	Holdsworth Sta	1.62	177	PN	Pn	08 52 46.8	-0.8
KIW	Kapiti Island	1.63	193	⇑PN	Pn	08 52 46.9	-0.8
KNZ	Kokohu	1.78	82	PN	Pn	08 52 48.6	-0.9
CAW	Cannon Point	1.85	188	PN	Pn	08 52 49.4	-1.0
TMWZ	Te Maipa	1.87	169	⇑PN	Pn	08 52 49.9	-0.8
MTW	Mount Morrison	1.88	178	⇑PN	Pn	08 52 49.7	-1.1
DUWZ	D'Urville Isla	1.90	216	PN	Pn	08 52 50.0	-1.2
MHGZ	Mahia Peninsul	1.95	87	PN	Pn	08 52 49.8	-1.9
PRGZ	Paritu Road	1.96	80	PN	Pn	08 52 51.2	-0.6
WEL	Wellington	2.07	193	PN	Pn	08 52 51.8	-1.4
SNZO	South Karori	2.10	195	PN	Pn	08 52 52.2	-1.4
PAWZ	Paruwai Farm	2.10	180	⇑PN	Pn	08 52 52.4	-1.3
TCW	Tory Channel	2.12	204	PN	Pn	08 52 52.5	-1.3
TRWZ	Traveller	2.13	174	PN	Pn	08 52 52.8	-1.3
MSWZ	Moikau Station	2.14	183	⇑PN	Pn	08 52 52.8	-1.4
BHW	Baring Head	2.17	191	PN	Pn	08 52 53.0	-1.5
PLWZ	Palliser	2.29	183	PN	Pn	08 52 54.5	-1.7
CNGZ	Carnagh Statio	2.32	71	PN	Pn	08 52 55.8	-0.7
TUWZ	Tuamarina	2.43	207	PN	Pn	08 52 56.0	-1.9
NNZ	Nelson	2.48	218	PN	Pn	08 52 56.9	-1.8
PUZ	Puketiti	2.53	63	PN	Pn	08 52 57.9	-1.5
KUZ	Kuaotunu	2.54	6	⇑PN	Pn	08 52 58.9	-0.4
QRZ	Quartz Range	2.70	234	PN	Pn	08 52 59.9	-1.6
BSWZ	Blackbirch Sta	2.70	205	PN	Pn	08 52 59.6	-1.9
MXZ	Matakaoa Point	2.85	54	PN	Pn	08 53 02.6	-0.9
THZ	Tophouse	3.13	217	⇓PN	Pn	08 53 05.2	-2.1
KHZ	Kahutara	3.44	204	⇑PN	Pn	08 53 09.0	-2.4
DSZ	Denniston Nort	3.69	227	⇓PN	Pn	08 53 12.3	-2.6
LTZ	Lake Taylor	4.23	213	PN	Pn	08 53 18.5	-3.6
CRLZ	Canterbury Las	4.78	205	⇓PN	Pn	08 53 25.3	-4.1

SKHL 18 08:55:43.5±0.5,50.35N×131.55E,h10km±8km,mb3.6/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	Kul'dur	1.13	173	*e*Pg	Pb	08 56 03.7	-1.4
KLR				*e*Sg	Sb	08 56 18.4	-1.4
EKMR	Ekimchan	2.86	17	*e*Pn	Pn	08 56 29.3	+0.1
EKMR				*e*Pg	Pb	08 56 35.0	+0.3
EKMR				AMB	AMB	08 56 37.7	
	8.0nm,0.4s						
EKMR				AMB	AMB	08 56 37.7	
	7.0nm,0.4s						
EKMR				AMB	AMB	08 56 37.7	
	17nm,0.4s						
EKMR				*e*Sn	Sn	08 57 01.8	-1.9
EKMR				*e*Sg	Sb	08 57 11.8	+2.1
EKMR				A	A	08 57 21.5	
	56nm,0.8s						
EKMR				A	A	08 57 21.5	
	66nm,0.8s						
EKMR				A	A	08 57 21.5	
	82nm,0.8s						
GRNR	Gornyy	3.13	80	*e*Pg	Pb	08 56 40.2	+0.9
GRNR				AMB	AMB	08 56 40.8	
	10.0nm,0.3s						
GRNR				*e*Sg	Sg	08 57 21.5	-2.8
GRNR				A	A	08 57 26.9	
	69nm,0.9s						
YASR	Yasnyy	3.68	324	*e*Pn	Pn	08 56 41.0	+0.5
YASR				*e*Pg	Pb	08 56 50.5	+1.8
YASR				*e*Sg	Sg	08 57 38.4	-3.4
YASR				A	A	08 57 42.5	
	14nm,0.6s						
YASR				A	A	08 57 42.5	
	10.0nm,0.6s						
ZEA	Zeya	4.31	324	*e*Sg	Sg	08 57 56.6	-5.2
ZEA				A	A	08 58 02.4	
	30nm,0.6s						
BMKR	Bomnak	4.67	340	*e*Pn	Pn	08 56 55.4	+1.4
BMKR				*e*Pg	Pb	08 57 08.1	+2.6
BMKR				AMB	AMB	08 57 10.0	
	4.0nm,0.5s						
BMKR				*e*Sg	Sg	08 58 09.0	-4.4
BMKR				A	A	08 58 12.4	
	15nm,0.5s						
KROS	Kirovskiy	4.96	327	*e*Pn	Pn	08 56 58.9	+0.9
KROS				AMB	AMB	08 56 59.6	
	3.0nm,0.6s						
KROS				*e*Sg	Sg	08 58 18.3	-4.4
KROS				A	A	08 58 25.0	
	6.0nm,0.5s						

MEX 18 09:01:02.6±1.7,17.69N×94.63W,h181km±22km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.65	202	*e*P	Pn	09 01 27.7	-0.6
CMIG				*e*S	Sn	09 01 44.9	-3.1
TGIG		1.71	122	*i*P	Pn	09 01 34.0	-2.8
TGIG				*i*S	Sn	09 02 01.8	-1.5
HUIG	Huatulco	2.38	217	*e*P	Pn	09 01 42.1	-1.9
HUIG				*i*S	Sn	09 02 14.2	-1.9
CCIG	Comitan	2.77	120	*i*P	Pn	09 01 46.9	-1.9
CCIG				*i*S	Sn	09 02 21.5	-3.2
PNIG	Pinotepa	3.58	249	*i*P	Pn	09 01 58.4	-0.2
PNIG				*i*S	Sn	09 02 39.8	-2.5

BJI ***18*** *09:03:05.9,3.36N×126.68E,h35km,mB5.4/29,mb5.7/69, Ms5.1/75,Ms7 5.0/66*
ISCJB ***18*** *09:03:08.5±0.1,3.66N±0.02×126.71E±0.02,h35km, mb5.8/205,MS4.8/60,Error ellipse: s-maj=3.1km s-min=2.2km az=171.9*
NEIC ***18*** *09:03:08.5±0.1,3.65N×126.66E,h23km,mb5.8/103, ME5.6,MW5.5,MW5.5,Error ellipse: s-maj=4.7km s-min=3.4km az=74.0 Broadband fault plane solution: P waves. NP1:φs 30.00000°,δ70.00000°,λ120.00000°. NP2:φs 151.00000°,δ36.00000°,λ36.00000°. Principal axes: T Plg55.0000°, Azm338.0000°; N Plg0.0000°, Azm0.0000°; P Plg19.0000°, Azm98.0000°; Moment Tensor Solution. s36 Moment tensor: Scale 10^17 Nm; Mrr 1.44; Mθθ 0.76; Mφφ -2.20; Mrθ 0.11; Mφb 0.34; Mrφ 0.46; Best double couple: M0 2.00000×10^17 NP1:φs 5.00000°, δ53.00000°,λ106.00000°. NP2:φs 160.00000°,δ40.00000°, λ70.00000°. Principal axes: T 1.5300, Plg75.0000°, Azm326.0000°; N 0.7700, Plg12.0000°, Azm

DJA **18** *09:03:14.8±0.3,4˚N±2˝×12˚7E±˚,h78km±4km,M5.4/80, mb5.6/80,mB5.8/66,MLv5.9/10,Mw(mB)5.4/66,Mwp5.7/3*
NEIC **18** *09:03:25.8±0.0,3.95N×127.37E,h32km,Moment Tensor Solution. s155 Moment tensor: Scale 10^{17}Nm; M_{rr}1.83; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-2.27; $M_{r\theta}$0.03; $M_{r\phi}$-0.53; $M_{\theta\phi}$1.58; Best double couple: M_o2.60000×10^{17} NP1:ϕ₁4.00000˚, δ64.00000˚,λ82.00000˚. NP2:ϕ₂201.00000˚,δ27.00000˚, λ105.00000˚. Principal axes: T 2.3800, Plg70.0000˚, Azm257.0000˚; N 0.5100, Plg6.0000˚, Azm6.0000˚; P -2.8900, Plg18.0000˚, Azm99.0000˚;*

ISC 18 09:03:09.6±0.3,3.67N±0.03×126.61E±0.03,h31km±1km, h31km:pP-P,n1163,σ1933/1269,mb5.8/199,MS4.9/63, 225C-167D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.83**	**219**	P		**Pb**		**09 03 56.6**	**-2.9**
TNTI	**Ternate**	**2.97**	**165**	P		**Pn**		**09 03 55.5**	**+0.9**
TNTI				S		**Sn**		**09 04 31.3**	**+2.1**
MATI	**Mati**	**3.28**	**354**	*e*P		Pn		09 04 01.9	+3.1
MATI				*e*S		Sb		09 04 53.0	+6.5
DAV	**Davao City (W)**	**3.54**	**343**	Pn		Pb		09 04 06.2	-5.3
	112nm,0.3s,baz=89,slow=1.8,SNR=41								
DAV				Sn		**Sb**		**09 04 52.2**	**-1.8**
	322nm,0.3s,baz=273,slow=19,SNR=3.7								
DAV	**Davao City (W)**	**3.54**	**343**	*e*Pn		**Pn**		**09 04 04.4**	**+2.0**
DAV				Sn		**Sb**		**09 04 52.2**	**-1.8**
DAV	**Davao City (W)**	**3.54**	**343**	↑*e*P		Pb		09 04 06.7	-4.8
DAV	**Davao City (W)**	**3.54**	**343**	P		Pb		09 04 07.2	-4.3
	SNR=98								
DAV	**Davao City (W)**	**3.54**	**343**	P		Pb		09 04 07.1	-4.3
DMPH	**Davao City--Mi**	**3.57**	**342**	↑*e*P		Pb		09 04 07.8	-4.2
DMPH				*e*S		**Sb**		**09 04 50.1**	**-4.8**
CTBH	**Cotabato--PC H**	**4.25**	**326**	↑*e*P		Pn		09 04 16.1	+3.9
LBMI	**Labuha**	**4.37**	**168**	P		**Pn**		**09 04 15.4**	**+1.6**
BUKP	**Musuan**	**4.46**	**340**	*e*P		Pn		09 04 18.8	+3.6
PAGZ	**Pagadian**	**5.25**	**322**	*e*P		Pn		09 04 29.6	+3.6
BUTP	**Butuan**	**5.36**	**349**	*e*P		Pn		09 04 31.3	+3.9
IPIL	**Ipil**	**5.74**	**316**	↑*i*P		Pn		09 04 37.0	+4.3
IPIL				*e*S		**Sn**		**09 05 38.0**	**+0.5**
LUWI	**Luwuk**	**6.05**	**219**	P		Pn		09 04 42.8	+5.8
	4µm,1.2s,42µm18nm								
TBP	**Tagbilaran**	**6.58**	**336**	*e*P		Pn		09 04 49.0	+4.8
MSLP	**Maasin**	**6.66**	**345**	*e*P		**Pn**		**09 04 47.6**	**+2.3**
NLAI	**Namlea**	**6.88**	**176**	P		**Pn**		**09 04 48.7**	**+0.4**
	595nm,0.6s,8µm3.5nm								
NLAI				S		**Sn**		**09 06 04.0**	**-1.5**
	595nm,0.6s,8µm3.5nm								
LLP	**Lapu-Lapu**	**7.11**	**338**	*e*P		Pn		09 04 55.9	+4.4
LLP				*e*S		**Sb**		**09 06 33.1**	**-3.6**
MSAI	**Masohi**	**7.34**	**162**	P		Pn		09 04 59.1	+4.4
	188nm,1.1s,2µm0.7nm								
AAI	**Ambon**	**7.47**	**168**	P		**Pn**		**09 04 57.7**	**+1.2**
	418nm,0.9s,6µm1.7nm								
AAI				S		**Sn**		**09 06 20.6**	**+0.3**
	418nm,0.9s,6µm1.7nm								
OCLP	**Ormoc**	**7.60**	**345**	*e*P		Pn		09 05 02.5	+4.2
PLP	**Palo**	**7.62**	**348**	↑*e*P		**Pn**		**09 05 01.0**	**+2.4**
GUIM	**Jordan**	**7.98**	**330**	*e*P		Pn		09 05 07.7	+4.2
MYLDM	**Lahad Datu**	**8.23**	**281**	P		Pn		09 05 14.2	+7.3
MYLDM	**Lahad Datu**	**8.23**	**281**	P		Pn		09 05 14.2	+7.3
	1µm,1.4s,11µm61µm								
KDI	**Kendari**	**8.56**	**208**	P		**Pn**		**09 05 13.6**	**+2.2**
	548nm,0.9s,5µm								
KDI				S		**Sn**		**09 06 46.6**	**-0.4**
	548nm,0.9s,5µm								
FAKI	**Fak Fak**	**8.63**	**139**	P		**Pn**		**09 05 12.8**	**+0.4**
	2µm,1.0s,14µm21µm5.3nm								
RCP	**Roxas**	**8.73**	**334**	↓*e*P		Pn		09 05 19.3	+5.6
TSM	**Tawau**	**8.74**	**274**	P		Pn		09 05 18.8	+4.8
BNDI	**Bandanaira**	**8.77**	**158**	P		Pn		09 05 16.6	+2.2
	2µm,1.6s,22µm								
CNP	**Catarman**	**9.00**	**348**	*e*P		Pn		09 05 13.2	-4.2
CUYO	**Cuyo Island**	**9.04**	**322**	*e*P		Pn		09 05 22.0	+4.0
TTSI	**Tana Toraja**	**9.52**	**226**	P		Pn		09 05 29.8	+5.3
	580nm,1.2s,6µm								
SDKM	**Sandakan**	**9.59**	**282**	P		Pn		09 05 29.6	+4.0
OTRP	**Odiongan**	**9.76**	**333**	*e*P		Pn		09 05 34.5	+6.6
BBSI	**Bau Bau**	**9.95**	**204**	P		Pn		09 05 40.9	+10
SPSI	**Sidrap Palu**	**10.21**	**222**	P		Pn		09 05 39.8	+5.7
	268nm,0.9s,3µm								
SMKI	**Samarinda**	**10.25**	**247**	P		Pn		09 05 41.2	+6.6
	400nm,0.9s,5µm								
KDM	**Kudat**	**10.26**	**289**	P		Pn		09 05 40.9	+6.1
SJMP	**San Jose**	**10.29**	**328**	*e*P		Pn		09 05 40.7	+5.5
ENPP	**El Nido**	**10.34**	**317**	*e*P		Pn		09 05 40.6	+4.8
KKM	**Kota Kinabalu**	**10.63**	**283**	*e*Pn		Pn		09 05 44.4	+4.5
KKM				*e*Sn		**Sn**		**09 07 40.5**	**+2.5**
KKM	**Kota Kinabalu**	**10.63**	**283**	P		Pn		09 05 46.2	+6.3
KKM	**Kota Kinabalu**	**10.63**	**283**	P		Pn		09 05 45.7	+5.8
	215nm,1.1s,3µm								
BAKI	**Biak**	**10.64**	**117**	P		**Pn**		**09 05 41.8**	**+1.8**
	850nm,1.2s,11µm								
KAPI	**Kappang**	**11.02**	**219**	Pn		**Pn**		**09 05 47.5**	**+2.4**
	5.8nm,0.3s,baz=63,slow=2.5,SNR=13								
KAPI	**Kappang**	**11.02**	**219**	Pn		**Pn**		**09 05 47.5**	**+2.4**
KAPI				*e*Sn		**Sn**		**09 07 48.7**	**+1.4**
KAPI	**Kappang**	**11.02**	**219**	P		Pn		09 05 50.6	+5.5
	SNR=14								
KAPI	**Kappang**	**11.02**	**219**	Pn		Pn		09 05 50.8	+5.7
	627nm,1.3s,SNR=11								
KAPI	**Kappang**	**11.02**	**219**	P		Pn		09 05 49.4	+4.3
	168nm,1.1s,2µm8µm								
BKSI	**Bulukumba**	**11.04**	**216**	P		Pn		09 05 48.7	+3.3
	109nm,1.1s,1µm								
TLE	**Tual**	**11.08**	**146**	P		Pn		09 05 48.0	+2.0
	2µm,1.1s,17µm								
TGY	**Tagaytay City**	**11.79**	**332**	Pn		Pn		09 06 00.7	+5.0
	32nm,0.3s,baz=284,slow=14,SNR=7.3								
TGY	**Tagaytay City**	**11.79**	**332**	Pn		Pn		09 06 00.7	+5.0
LUBP	**Lubang**	**11.81**	**328**	*e*P		Pn		09 06 01.4	+5.4
KBKI	**Kotabaru**	**12.53**	**237**	P		Pn		09 06 09.8	+4.0
	185nm,1.0s,3µm								
MMRI	**Maumere**	**12.98**	**200**	P		Pn		09 06 15.4	+3.5
	331nm,0.9s,4µm								
SMPI	**Sarmi**	**13.33**	**115**	P		**Pn**		**09 06 16.9**	**+0.1**
	395nm,1.3s,7µm								
BTM	**Bintulu**	**13.51**	**268**	P		**P**		**09 06 25.6**	**-2.5**
SCZP	**Santa Cruz**	**13.72**	**332**	*e*P		Pn		09 06 25.3	+3.2
BBKI	**Banjar Baru**	**13.73**	**239**	P		**P**		**09 06 27.6**	**-2.9**
	454nm,1.4s,9µm								
PALP	**Palanan**	**13.93**	**343**	*e*P		**P**		**09 06 33.2**	**+0.6**
PLKI	**Palangkaraya**	**13.95**	**245**	P		**P**		**09 06 31.5**	**-1.4**
	628nm,1.2s,9µm								
SBUM	**Sibu**	**14.42**	**266**	P		**P**		**09 06 37.9**	**-0.3**
SBUM	**Sibu**	**14.42**	**266**	P		**P**		**09 06 37.3**	**-0.9**
	328nm,1.2s,3µm								
JAY	**Jayapura**	**15.36**	**113**	P		**P**		**09 06 47.0**	**-1.7**
	374nm,1.3s,7µm								
STKI	**Sintang**	**15.54**	**257**	P		**P**		**09 06 52.0**	**+1.4**
	234nm,1.4s,20µm								
PIP	**Pasuquin**	**15.71**	**339**	↓*e*P		**P**		**09 06 51.3**	**-1.1**
PBKI	**Pangkalan Bun**	**16.22**	**247**	P		**P**		**09 07 00.4**	**+2.2**
	601nm,1.0s,8µm								
KHKI	**Kahang-Kahang**	**16.23**	**223**	P		**P**		**09 06 59.7**	**+1.5**
	299nm,1.6s,3µm								
SRBI	**Singaraja**	**16.30**	**224**	P		**P**		**09 07 01.2**	**+2.2**
	438nm,1.2s,4µm								
KSM	**Kuching**	**16.43**	**263**	*e*P		**P**		**09 07 02.6**	**+2.1**
	161nm,0.8s								
KSM	**Kuching**	**16.43**	**263**	P		**P**		**09 07 03.3**	**+2.8**
KSM	**Kuching**	**16.43**	**263**	P		**P**		**09 07 02.7**	**+2.1**
	314nm,1.1s,3µm								
KMMI	**Kalianget**	**16.51**	**230**	P		**P**		**09 07 03.3**	**+1.9**
	211nm,0.9s,3µm								
DNP	**Denpasar**	**16.72**	**223**	P		**P**		**09 07 07.1**	**+3.4**
	741nm,1.1s								
IGBI	**Denpasar**	**16.87**	**223**	P		**P**		**09 07 07.7**	**+2.4**
	125nm,0.8s,18µm								
NBBI	**Negara**	**16.91**	**225**	P		**P**		**09 07 07.0**	**+1.2**
	374nm,1.0s,4µm								
BYJI	**Banyuwangi**	**16.99**	**226**	P		P		09 07 11.7	+5.0
	796nm,0.9s,12µm								
BLJI	**Banyuglugur**	**17.24**	**229**	P		**P**		**09 07 12.2**	**+2.8**
	334nm,0.9s,3µm								
JAGI	**Jajag, Banyuwa**	**17.32**	**226**	P		**P**		**09 07 12.1**	**+1.8**
	422nm,0.9s,3µm								
GMJI	**Gumukmas**	**17.70**	**228**	P		**P**		**09 07 17.5**	**+3.0**
	290nm,1.2s,3µm								
KRKI	**Karangkates**	**18.37**	**230**	P		**Pn**		**09 07 24.3**	**+2.2**
	585nm,0.9s,18µm								
SJI	**Sawahan**	**18.65**	**233**	P		**Pn**		**09 07 25.4**	**-0.2**
	199nm,0.9s,6µm								
PWJI	**Pagerwojo**	**18.79**	**232**	P		**P**		**09 07 26.2**	**-0.3**
	175nm,0.9s,2µm								
PCJI	**Pacitan**	**19.39**	**233**	P		**Pn**		**09 07 34.3**	**-0.1**
	343nm,1.0s,3µm								
UGM	**Wanagama**	**19.75**	**234**	*e*P		**Pn**		**09 07 38.1**	**-0.6**
	352nm,1.1s								
UGM	**Wanagama**	**19.75**	**234**	P		Pn		09 07 46.8	+8.1
TWG	**Pinlang**	**19.78**	**345**	*e*P		**P**		**09 07 35.5**	**-1.8**
	498nm,0.4s								
BJII	**Banjamegara**	**20.10**	**237**	P		Pn		09 07 42.1	-0.8
	211nm,1.9s,4µm								
YULB	**Yu-li**	**20.27**	**346**	*e*Pn		**P**		**09 07 40.3**	**-2.4**
YULB				*e*S		**S**		**09 11 29.4**	**+0.8**
TGJI	**Tegal**	**20.36**	**239**	P		Pn		09 07 45.0	-0.9
	144nm,1.0s,2µm								
TPUB	**Ta-pu**	**20.36**	**344**	*e*P		**P**		**09 07 42.5**	**-1.2**
	772nm,1.2s								
GUMO	**Guam**	**20.55**	**60**	P		**P**		**09 07 45.1**	**-0.6**
	151nm,1.0s,baz=182,slow=17,SNR=3.0								
GUMO				LR		LR		09 14 43.8	
	comp=Z,1µm,19.2s,baz=52,slow=34								
GUMO	**Guam**	**20.55**	**60**	P		**P**		**09 07 45.1**	**-0.6**
SSLB	**Suanglung**	**20.74**	**345**	*e*P		**P**		**09 07 45.9**	**-1.9**
SSLB				S		**S**		**09 11 32.9**	**-4.9**
NACB	**Ninganchiao**	**20.96**	**347**	*e*P		**P**		**09 07 47.9**	**-2.2**
	146nm,0.7s								
PPBI	**Pangkal Pinang**	**21.27**	**255**	P		**P**		**09 07 56.2**	**+2.6**
	139nm,1.1s								
YHNB	**Yeheng**	**21.48**	**347**	*e*P		**P**		**09 07 54.5**	**-1.4**
	271nm,0.6s								
LEM	**Lembang**	**21.64**	**241**	P		**P**		**09 08 00.4**	**+2.7**
	277nm,1.0s,3µm								
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P		**P**		**09 07 57.1**	**-0.5**
	59nm,0.8s,baz=12,slow=10,SNR=82								
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P		**P**		**09 07 57.1**	**-0.5**
	68nm,0.8s								
FITZ				*e*				09 11 49.9	
TATO	**Taipei**	**21.75**	**347**	*e*P		**P**		**09 07 57.2**	**-1.4**
	285nm,1.3s								
TATO	**Taipei**	**21.75**	**347**	P		**P**		**09 07 58.0**	**-0.6**
	SNR=9.2								
CISI	**Cisompet, Garu**	**21.82**	**239**	P		**P**		**09 08 02.9**	**+3.4**
	196nm,1.1s,3µm								
CBJI	**Citeko**	**22.13**	**243**	P		**P**		**09 08 06.1**	**+3.3**
	838nm,1.0s								
DBJI	**Dramaga**	**22.28**	**243**	P		**P**		**09 08 06.8**	**+2.4**
	215nm,1.1s								
QIZ	**Qiongzhong**	**22.40**	**314**	P		**P**		**09 08 05.8**	**+0.1**
QIZ				sP		**sP**		**09 08 17.6**	**-0.5**
QIZ				S		**S**		**09 12 10.9**	**+0.8**
QIZ				sS		Sn		09 12 24.3	+0.8
QIZ				pmax		pmax			
	comp=Z,73nm,1.5s								
QIZ				LR		LR			
	comp=N,2µm,14.0s								
QIZ				LR		LR			
	comp=Z,4µm,19.1s								
QIZ	**Qiongzhong**	**22.40**	**314**	*e*P		**P**		**09 08 05.4**	**-0.2**
	comp=Z,122nm,1.2s								
QZH	**Quanzhou**	**22.52**	**341**	↑*i*P		**P**		**09 08 07.1**	**+0.3**
QZH				S		**S**		**09 12 07.0**	**-5.1**
QZH				pmax		pmax			
	comp=Z,540nm,1.0s								
QZH				LR		LR			
	comp=N,6µm,19.0s								
QZH				LR		LR			
	comp=E,6µm,22.0s								
QZH				LR		LR			
	comp=Z,11µm,23.0s								
SBJI	**Seng**	**22.65**	**245**	P		**P**		**09 08 11.6**	**+3.3**
	comp=Z,349nm,1.4s,comp=Z,10µm								
MYKOM	**Kota Tinggi**	**22.81**	**266**	P		**P**		**09 08 12.2**	**+2.1**
MYKOM	**Kota Tinggi**	**22.81**	**266**	P		**P**		**09 08 11.9**	**+1.8**
	comp=Z,200nm,1.0s,comp=Z,2µm								
JOW	**Kunigami**	**23.09**	**4**	P		**P**		**09 08 13.8**	**+1.1**
	comp=Z,389nm,0.8s,baz=191,slow=10,SNR=55								
JOW	**Kunigami**	**23.09**	**4**	P		**P**		**09 08 13.8**	**+1.1**
BLSI	**Bandar Lampung**	**23.15**	**247**	P		**P**		**09 08 17.0**	**+3.4**
	comp=Z,386nm,1.1s								
GZH	**Guangzhou**	**23.19**	**328**	P		**P**		**09 08 16.8**	**+3.0**
GZH				S		**S**		**09 12 26.4**	**+2.8**
GZH				LR		LR			
	comp=N,3µm,18.6s								
GZH				LR		LR			
	comp=E,2µm,17.6s								
GZH				LR		LR			
	comp=Z,5µm,18.1s								
CGJI	**Cibinong**	**23.25**	**244**	P		**P**		**09 08 14.6**	**+0.1**
	comp=Z,426nm,1.1s,comp=Z,4µm								
KGM	**Kluang**	**23.32**	**267**	P		**P**		**09 08 17.5**	**+2.2**
KTGM	**Kuala Trenggan**	**23.46**	**275**	P		**P**		**09 08 19.4**	**+2.8**
KASI	**Kota Agung**	**23.90**	**248**	P		**P**		**09 08 22.1**	**+1.3**
	comp=Z,390nm,1.0s,comp=Z,3µm								
COEN	**Coen**	**24.01**	**137**	*e*P		**P**		**09 08 18.6**	**-3.2**
	comp=Z,1µm,1.0s								
COEN				*e*S		**S**		**09 12 36.0**	**-1.1**
LWLI	**Liwa**	**24.13**	**249**	P		**P**		**09 08 24.9**	**+1.8**
	comp=Z,332nm,0.9s								
PMG	**Port Moresby**	**24.25**	**123**	P		**P**		**09 08 20.7**	**-3.3**
	comp=Z,33nm,0.9s,baz=304,slow=6.1,SNR=10.0								
PMG	**Port Moresby**	**24.25**	**123**	*e*P		**P**		**09 08 20.9**	**-3.2**
	comp=Z,87nm,0.9s								
PMG	**Port Moresby**	**24.25**	**123**	P		**P**		**09 08 20.8**	**-3.2**
	comp=Z,128nm,0.9s,comp=Z,2µm								
WRAB	**Tennant Creek**	**24.65**	**162**	*e*P		**P**		**09 08 26.0**	**-1.7**
WRAB				*e*S		S		09 12 39.3	-8.1
WRAB				pmax		pmax			
	comp=Z,848nm,0.9s								
WRAB	**Tennant Creek**	**24.65**	**162**	*e*P		**P**		**09 08 26.0**	**-1.7**
	comp=Z,848nm,0.9s								
WRAB				*e*S		S		09 12 39.3	-8.1
WRAB	**Tennant Creek**	**24.65**	**162**	P		**P**		**09 08 26.3**	**-1.4**
	comp=Z,6µm,0.8s								
WRA	**Warramunga Arr**	**24.66**	**162**	P		**P**		**09 08 25.8**	**-1.9**
	comp=Z,682nm,0.8s,baz=343,slow=10,SNR=737								
WRA				PcP		**PcP**		**09 12 04.9**	**0.0**
	comp=Z,8.1nm,0.6s,baz=334,slow=2.0,SNR=4.0								
WRA				S		**S**		**09 12 41.9**	**-5.5**
	comp=Z,25nm,0.7s,baz=344,slow=18,SNR=5.0								
WRA				ScP		**ScP**		**09 15 41.3**	**-0.3**
	comp=Z,17nm,0.9s,baz=344,slow=2.9,SNR=5.7								
WRA	**Warramunga Arr**	**24.66**	**162**	P		**P**		**09 08 25.8**	**-1.9**
WRA				PcP		**PcP**		**09 12 04.9**	**0.0**
WRA				S		**S**		**09 12 41.9**	**-5.5**
WRA				ScP		**ScP**		**09 15 41.3**	**-0.3**
FRIM	**Kepong**	**24.95**	**270**	P		**P**		**09 08 32.2**	**+1.8**
KSI	**Kapahiang**	**25.08**	**253**	P		**P**		**09 08 34.5**	**+2.8**
	comp=Z,281nm,0.9s,comp=Z,10µm								
IPM	**Ipoh**	**25.54**	**273**	*e*P		**P**		**09 08 36.1**	**+0.4**
	comp=Z,96nm,0.8s								
IPM	**Ipoh**	**25.54**	**273**	P		**P**		**09 08 36.9**	**+1.1**
IPM	**Ipoh**	**25.54**	**273**	P		**P**		**09 08 36.6**	**+0.8**
	comp=Z,136nm,1.1s,comp=Z,2µm								
MBWA	**Marble Bar**	**25.58**	**195**	*e*P		**P**		**09 08 36.4**	**+0.4**
	comp=Z,220nm,1.2s								
MBWA	**Marble Bar**	**25.58**	**195**	P		**P**		**09 08 37.7**	**+1.7**
	SNR=11								
CHBT	**CHBT**	**25.65**	**292**	P		**P**		**09 08 38.1**	**+1.4**
	comp=Z,142nm,0.8s								
BKNI	**Bangkinang**	**25.77**	**263**	P		**P**		**09 08 39.4**	**+1.5**
	comp=Z,350nm,1.0s,comp=Z,4µm								
KULM	**Kulim**	**25.93**	**275**	*e*P		**P**		**09 08 40.2**	**+0.8**
	comp=Z,298nm,1.6s								
KULM				*e*PcP		**PcP**		**09 12 08.9**	**+1.1**
KULM	**Kulim**	**25.93**	**275**	P		**P**		**09 08 40.4**	**+1.1**
KULM	**Kulim**	**25.93**	**275**	P		**P**		**09 08 40.4**	**+1.1**
	comp=Z,106nm,1.3s,comp=Z,1µm								
PPI	**Padang Panjang**	**26.52**	**262**	P		**P**		**09 08 45.6**	**+0.9**
	comp=Z,87nm,1.0s,comp=Z,1µm								
MNSI	**Mandailing Nat**	**27.16**	**265**	P		**P**		**09 08 50.8**	**+0.4**
	comp=Z,203nm,0.9s,comp=Z,17µm								
CBIJ	**Chichi jima**	**27.65**	**31**	P		**P**		**09 08 52.6**	**-2.0**
	comp=Z,393nm,1.0s,baz=239,slow=6.8,SNR=8.1								
CBIJ				LR		LR		09 20 05.7	
	comp=Z,2µm,19.4s,baz=147,slow=37								
CBIJ	**Chichi jima**	**27.65**	**31**	P		**P**		**09 08 52.6**	**-2.0**
PSI	**Prapat**	**27.66**	**269**	P		**P**		**09 08 54.4**	**-0.6**
	comp=Z,52nm,0.9s,baz=82,slow=4.1,SNR=35								
PSI	**Prapat**	**27.66**	**269**	P		**P**		**09 08 54.4**	**-0.6**
PSI	**Prapat**	**27.66**	**269**	P		**P**		**09 08 55.5**	**+0.4**
	comp=Z,88nm,1.0s,comp=Z,872nm								
SSE	**Sheshan**	**27.76**	**350**	P		**P**		**09 08 57.1**	**+1.5**
SSE				S		**S**		**09 13 37.9**	**+1.6**
SSE				PcS		**PcS**		**09 15 53.9**	**+0.1**
SSE				pmax		pmax			
	comp=Z,280nm,1.0s								
SSE				pmax		pmax			
	comp=Z,620nm,6.2s								
SSE				LR		LR			
	comp=N,620nm,23.6s								
SSE				LR		LR			
	comp=E,2µm,23.6s								
SSE				LR		LR			
	comp=Z,1µm,20.9s								
AS31	**Alice Springs**	**28.08**	**166**	*e*P		**P**		**09 08 57.2**	**-1.4**
AS31				*e*PcP		**PcP**		**09 12 13.3**	**+0.5**
AS31				*e*S		**S**		**09 13 37.3**	**-4.3**
ASAR	**Alice Springs**	**28.08**	**166**	P		**P**		**09 08 56.8**	**-1.8**
	comp=Z,27nm,0.8s,baz=344,slow=9.6,SNR=192								
ASAR				PcP		**PcP**		**09 12 12.2**	**-0.5**
	comp=Z,13nm,0.6s,baz=346,slow=2.6,SNR=5.0								
ASAR				S		**S**		**09 13 39.7**	**-1.9**
	comp=Z,17nm,1.0s,baz=340,slow=15,SNR=6.0								
ASAR	**Alice Springs**	**28.08**	**166**	P		**P**		**09 08 56.8**	**-1.8**
ASAR				PcP		**PcP**		**09 12 12.2**	**-0.5**
ASAR				S		**S**		**09 13 39.7**	**-1.9**
GSI	**Gunungsitoli**	**29.10**	**266**	P		**P**		**09 09 07.6**	**-0.2**
	comp=Z,122nm,0.8s								
SRDT	**SRDT**	**29.11**	**293**	P		**P**		**09 09 09.9**	**+2.1**
	comp=Z,57nm,0.9s,comp=Z,5µm								
WHN	**Wuhan**	**29.14**	**338**	P		**P**		**09 09 08.9**	**+1.1**
WHN				pP		**pP**		**09 09 14.6**	**-2.3**
WHN				PP		**PP**		**09 10 07.5**	**-6.5**
WHN				S		S		09 13 49.1	-8.9
WHN				pmax		pmax			
	comp=Z,220nm,0.9s								
WHN				LR		LR			
	comp=N,4µm,18.5s								
WHN				LR		LR			
	comp=E,3µm,17.7s								
WHN				LR		LR			
	comp=Z,8µm,20.8s								
NJ2	**Nanjing**	**29.16**	**346**	*e*P		**P**		**09 09 09.8**	**+1.7**
NJ2				pP		**pP**		**09 09 18.8**	**+1.6**
NJ2				sP		sP		09 09 23.1	+2.1
NJ2				S		**S**		**09 14 04.0**	**+5.6**
NJ2				sS		sS		09 14 19.5	+6.1
NJ2				pmax		pmax			
	comp=Z,110nm,1.1s								
NJ2				pmax		pmax			
	comp=Z,480nm,10.8s								
NJ2				LR		LR			
	comp=N,2µm,22.4s								
NJ2				LR		LR			
	comp=E,1µm,22.1s								
NJ2				LR		LR			
	comp=Z,2µm,19.4s								
TPTI		**29.38**	**270**	P		**P**		**09 09 11.1**	**+0.8**
	comp=Z,644nm,1.1s,comp=Z,30µm								
JNU	**Nakatsue**	**29.57**	**7**	P		**P**		**09 09 11.7**	**-0.1**
	comp=Z,278nm,1.0s,baz=181,slow=7.8,SNR=98								
JNU				LR		LR		09 20 59.5	
	comp=Z,2µm,20.8s,baz=342,slow=36								
JNU	**Nakatsue**	**29.57**	**7**	P		**P**		**09 09 11.7**	**-0.1**
GYA	**Guiyang**	**29.65**	**322**	↑*i*P		**P**		**09 09 13.3**	**+0.7**
GYA				pP		pP		09 09 25.4	+3.7
GYA				PP		**PnPn**		**09 10 13.3**	**+5.0**
GYA				PcP		**PcP**		**09 12 17.4**	**+0.6**
GYA				S		**S**		**09 14 09.4**	**+3.0**
GYA				sS		sS		09 14 25.5	+4.1
GYA				SS		**SnSn**		**09 15 45.0**	**+8.3**
GYA				ScP		**ScP**		**09 15 56.6**	**-0.1**
GYA				ScS		**ScS**		**09 19 50.3**	**-1.5**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,160nm,4.8s								
GYA				LR		LR			
	comp=N,1µm,16.9s								
GYA				LR		LR			
	comp=E,610nm,17.2s								
GYA				LR	

MAJO Matsushiro 34.42 17 *e*P P **09 09 52.3 -1.9**
comp=Z,140nm,1.4s
MAJO *e*PcP **PcP** **09 12 30.7 +1.2**
MAT Matsushiro 34.42 17 P **P** **09 09 52.5 -1.7**
MAT S **S** **09 15 19.0 -1.3**
XAN Xi'an 34.42 333 P **P** **09 09 53.9 -0.4**
XAN pP **pP** **09 10 00.9 -2.6**
XAN pmax pmax
comp=Z,44nm,0.8s
XAN LR LR
comp=N,2μm,21.0s
XAN LR LR
comp=Z,900nm,22.3s
CD2 Chengdu 34.63 324⇑ *i*P **P** **09 09 56.3 +0.2**
CD2 pP pP 09 10 11.3 +6.0
CD2 PP **PP** **09 11 15.1 +0.1**
CD2 S **S** **09 15 20.4 -3.4**
CD2 sS sS 09 15 47.3 +8.4
CD2 SS **SnSn** **09 17 38.1 +0.6**
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 pmax pmax
comp=Z,330nm,6.1s
CD2 LR LR
comp=N,2μm,16.7s
CD2 LR LR
comp=Z,3μm,19.0s
DL2 Dalian 35.37 353⇑ *i*P **P** **09 10 04.4 +2.1**
DL2 S **S** **09 15 35.9 +1.0**
DL2 pmax pmax
comp=Z,250nm,1.3s
DL2 LR LR
comp=E,800nm,21.2s
DL2 LR LR
comp=Z,1μm,19.4s
HNR Honiara 35.67 112 LR LR 09 23 37.5
comp=Z,1μm,21.7s,baz=291,slow=34
TIY Taiyuan 36.29 341 *e*P **P** **09 10 10.5 +0.1**
TIY pP **pP** **09 10 19.9 +0.3**
TIY PP **PnPn** **09 11 30.8 -2.0**
TIY S **S** **09 15 45.5 -3.7**
TIY pmax pmax
comp=Z,290nm,6.3s
TIY LR LR
comp=N,1μm,16.2s
TIY LR LR
comp=E,1μm,17.0s
TIY LR LR
comp=Z,2μm,20.0s
BBOO Buckleboo 37.37 167 *e*P **P** **09 10 18.3 -1.2**
comp=Z,1μm,0.8s
BBOO *e*PcP **PcP** **09 12 38.1 -0.1**
EIDS Eidsvold 37.37 142 *e*P **P** **09 10 18.0 -1.7**
comp=Z,52nm,0.8s
EIDS *e*PP PnPn 09 11 52.7 +6.6
BJT Baijiatuau 37.40 347 *e*P **P** **09 10 20.6 +0.9**
comp=Z,1μm,1.1s
BJI Beijing 37.42 347 P **P** **09 10 20.4 +0.6**
BJI S **S** **09 16 04.0 -2.2**
BJI pmax pmax
comp=Z,790nm,1.0s
BJI pmax pmax
comp=Z,1μm,3.6s
BJI LR LR
comp=N,1μm,18.9s
BJI LR LR
comp=E,700nm,18.9s
BJI LR LR
comp=Z,840nm,22.6s
NWAO Narrogin (SRO) 37.46 193 *e*P **P** **09 10 20.1 -0.3**
comp=Z,70nm,1.1s
IMP Imphal 37.81 307 *e*P **P** **09 10 21.0 -2.5**
IMP *ex* x 09 12 35.0
SNY Shenyang 38.09 356⇑ P **P** **09 10 26.9 +1.4**
SNY S **S** **09 16 15.6 -0.7**
SNY pmax pmax
comp=Z,220nm,0.6s
SNY pmax pmax
comp=Z,140nm,3.5s
SNY LR LR
comp=N,850nm,24.7s
SNY LR LR
comp=E,790nm,22.3s
SNY LR LR
comp=Z,1μm,22.9s
STKA Stephens Creek 38.11 159 P **P** **09 10 25.0 -0.8**
comp=Z,252nm,0.9s,baz=338,slow=9.2,SNR=221
STKA S S 09 16 10.3 -6.6
comp=Z,9.9nm,0.9s,baz=102,slow=19,SNR=5.3
STKA Stephens Creek 38.11 159 *e*P **P** **09 10 25.0 -0.8**
comp=Z,39nm,0.8s
STKA S S 09 16 10.3 -6.6
LZH Lanzhou 38.50 330⇑ P **P** **09 10 30.1 +0.9**
LZH pP **pP** **09 10 40.3 +1.8**
LZH sP **sP** **09 10 44.0 +1.7**
LZH S **S** **09 16 20.3 -2.7**
LZH sS **sS** **09 16 38.5 +0.2**
LZH pmax pmax
comp=Z,230nm,1.0s
LZH pmax pmax
comp=Z,600nm,4.0s
LZH LR LR
comp=N,2μm,15.1s
LZH LR LR
comp=E,4μm,16.3s
LZH LR LR
comp=Z,6μm,17.7s
HHC Hu-ho-hao-te 39.42 342 *e*P **P** **09 10 37.9 +1.1**
HHC pP **pP** **09 10 47.8 +1.7**
HHC sP sP 09 10 51.9 +2.0
HHC PP **PnPn** **09 12 13.6 +2.9**
HHC S **S** **09 16 38.0 +1.3**
HHC sS **sS** **09 16 54.1 +2.1**
HHC SS **SS** **09 19 27.5 -4.1**
HHC pmax pmax
comp=Z,230nm,1.1s
HHC pmax pmax
comp=Z,820nm,4.7s
HHC LR LR
comp=N,2μm,16.2s
HHC LR LR
comp=E,1μm,16.1s
HHC LR LR
comp=Z,2μm,17.9s
BTO Baotou 39.70 340 *e*P **P** **09 10 39.8 +0.6**
SHL Shillong 39.82 307⇑ *i*P **P** **09 10 41.0 +0.5**
SHL *e*PCP **PcP** **09 12 49.0 +2.7**
SHL *i* x x 09 16 36.0
SHL *i* SCS 09 20 45.0
CN2 Changchun 39.98 359 *e*P **P** **09 10 41.6 +0.3**
CN2 *ep*P **pP** **09 10 51.5 +0.9**
CN2 *es*P **sP** **09 10 55.4 +1.1**
CN2 *e*S S 09 16 50.8 +6.1
CN2 SS **SS** **09 19 38.3 -4.2**
CN2 pmax pmax
comp=Z,70nm,1.3s
CN2 LR LR
comp=N,800nm,22.0s
CN2 LR LR
comp=E,600nm,22.0s
CN2 LR LR
comp=Z,700nm,23.0s
USRK Ussuriysk Arra 40.65 6 P **P** **09 10 47.6 +0.8**
comp=Z,72nm,0.8s,baz=186,slow=8.0,SNR=142
USRK LR LR 09 26 16.1
comp=Z,951nm,21.9s,baz=181,slow=34
MDJ Mudanjiang 40.87 3 P **P** **09 10 49.9 +1.3**
MDJ pP **pP** **09 10 58.4 +0.5**
MDJ sP **sP** **09 11 02.6 +0.9**
MDJ PcP **PcP** **09 12 49.9 +0.9**
MDJ PcS **PcS** **09 16 40.5 +0.8**
MDJ S **S** **09 16 56.8 -1.1**
MDJ SS **SS** **09 20 03.8 +3.7**
MDJ ScS **ScS** **09 20 52.0 +0.6**
MDJ pmax pmax
comp=Z,370nm,1.1s
MDJ pmax pmax
comp=Z,470nm,11.4s
MDJ LR LR
comp=N,940nm,28.4s
MDJ LR LR
comp=E,770nm,30.5s
MDJ LR LR
comp=Z,1μm,25.3s
MDJ Mudanjiang 40.87 3 *e*P **P** **09 10 50.0 +1.4**
comp=Z,361nm,1.0s
MDJ *e*PcP **PcP** **09 12 50.0 +0.9**
ERM Erimo 40.95 19*ce*P **P** **09 10 50.7 +1.4**
ERM pmax pmax
comp=Z,127nm,1.7s
ERM Erimo 40.95 19 *e*P **P** **09 10 50.9 +1.5**
comp=Z,86nm,1.0s
ERM Erimo 40.95 19 P **P** **09 10 51.8 +2.5**
comp=Z,497nm,0.8s,SNR=8.2
ARMA Armidale 41.48 147 *e*P **P** **09 10 53.5 -0.5**
comp=Z,210nm,1.0s
LSA Lhasa 42.39 312 P **P** **09 11 02.9 +1.0**
LSA S **S** **09 17 23.8 +1.8**
LSA LR LR
comp=N,290nm,26.5s
LSA LR LR
comp=E,430nm,22.8s
LSA Lhasa 42.39 312 *e*P **P** **09 11 03.2 +1.3**
LSA pmax pmax
comp=Z,90nm,0.7s
LSA Lhasa 42.39 312 *e*P **P** **09 11 03.2 +1.3**
comp=Z,90nm,0.7s
ASAJ Asahikawa 42.69 17 P **P** **09 11 04.4 +0.9**
comp=Z,224nm,0.8s,baz=216,slow=7.7,SNR=128
ASAJ Asahikawa 42.69 17 P **P** **09 11 04.4 +0.9**
GTA Gaotai 43.09 329 P **P** **09 11 07.4 +0.3**
GTA pP pP 09 11 23.0 +6.6
GTA PcP **PcP** **09 12 57.8 +1.1**
GTA S **S** **09 17 30.9 -0.4**
GTA sS **sS** **09 17 46.0 -0.7**
GTA SS SS 09 20 37.8 -6.7
GTA pmax pmax
comp=Z,49nm,1.3s
GTA pmax pmax
comp=Z,220nm,5.0s
GTA LR LR
comp=N,2μm,21.6s
GTA LR LR
comp=E,3μm,21.4s
GTA LR LR
comp=Z,4μm,22.1s
YUK Yuzh-Kuril'sk 43.65 20 *i* P P 09 11 01.0 -10
YUK *i* PPP PPP 09 13 34.2
YUK *i* SS SS 09 20 45.4 -10
YUK *i* SSS SSS 09 21 44.2
YUK pmax pmax
comp=Z,922nm,1.4s
YUK pmax pmax
comp=N,298nm,1.4s
YUK pmax pmax
comp=E,875nm,1.4s
YUK pmax pmax
comp=Z,1μm,1.4s
YUK MLR MLR
comp=Z,518nm,21.0s
YUK MLR MLR
comp=N,421nm,21.0s
YUK MLR MLR
comp=E,147nm,21.0s
TAPN Taplejung 43.96 306 *e*P **P** **09 11 14.4 -0.1**
comp=E,397nm,1.2s
ODAN Odare 44.01 306 *e*P **P** **09 11 15.1 +0.3**
comp=E,192nm,0.7s
CAN Canberra 44.11 153 *e*P **P** **09 11 15.5 +0.3**
CAN *e* 09 13 03.1
CAN pmax pmax
comp=Z,94nm,0.9s
CAN Canberra 44.11 153 *e*P **P** **09 11 15.5 +0.3**
comp=Z,94nm,0.9s
CAN *e* 09 13 03.1
RAMN Ramite 44.69 305 *e*P **P** **09 11 20.5 +0.3**
comp=Z,273nm,1.0s
HABR Khabarovsk 45.22 8*ce*P **P** **09 11 24.9 +1.1**
HABR *e**SP **sP** **09 11 36.7 -0.2**
HABR *e* 09 13 01.5
HABR 09 13 09.2
HABR PPP PPP 09 13 48.7
HABR *e*S **S** **09 18 01.9 +0.2**
HABR *e**SS **sS** **09 18 18.3 +1.2**
HABR *e* 09 21 16.6
HABR *e*SSS SSS 09 22 15.5
HABR pmax pmax
comp=Z,501nm,1.6s
HABR pmax pmax
comp=E,131nm,1.6s
HABR pmax pmax
comp=N,128nm,1.1s
HABR pmax pmax
comp=Z,824nm,1.9s
HABR MLR MLR
comp=Z,498nm,21.0s
JIRN Jiri 45.31 306 *e*P **P** **09 11 25.6 +0.3**
comp=Z,88nm,1.0s
YSS Yuzh-Sakhalins 45.33 16⇑ *i*P **P** **09 11 26.0 +1.3**
YSS *e**PP pP 09 11 37.0 +2.9
YSS *e* 09 13 06.0
YSS *e*S **S** **09 18 05.0 +1.6**
YSS pmax pmax
comp=Z,260nm,1.1s
YSS MLR MLR
comp=Z,600nm,19.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=E,500nm,19.0s
YSS Yuzh-Sakhalins 45.33 16 *e*P **P** **09 11 25.0 +0.3**
comp=E,299nm,1.0s
YSS *e*PcP **PcP** **09 13 05.3 +1.3**
KLR Kul'dur 45.61 5κ *i*P **P** **09 11 24.7 -2.1**
KLR *e*S **S** **09 18 05.0 -2.3**
KLR pmax pmax
comp=N,76nm,1.4s
KLR pmax pmax
comp=E,52nm,1.4s
KLR pmax pmax
comp=Z,490nm,1.4s
KLR MLR MLR
comp=E,1μm,20.0s
GUN Gumba 45.67 306 *e*P **P** **09 11 28.3 +0.2**
comp=E,674nm,1.1s
HIA Hailar 45.81 354 *e*P **P** **09 11 29.8 +1.3**
comp=E,264nm,1.1s
HIA *e*PcP **PcP** **09 13 07.1 +1.5**
PALK Pallekele 45.83 277 *e*P **P** **09 11 29.6 +0.4**
comp=E,94nm,1.1s
PALK *e*PcP **PcP** **09 13 07.7 +1.3**
PALK Pallekele 45.83 277 P **P** **09 11 30.1 +0.9**
SNR=18
PALK Pallekele 45.83 277 P **P** **09 11 29.9 +0.7**
comp=E,353nm,0.8s,SNR=19
PKI Pulchoki 45.91 305 *e*P **P** **09 11 29.6 -0.4**
comp=E,311nm,1.4s
PKIN Phulchoki 45.92 305 *e*P **P** **09 11 30.3 +0.3**
comp=E,77nm,1.0s
KKN Kakani 46.10 306 *e*P **P** **09 11 31.1 -0.3**
comp=E,165nm,1.0s
DMN Daman 46.17 305 *e*P **P** **09 11 31.9 -0.1**
comp=E,270nm,1.2s
DZM Mont Dzumac 46.59 125 *e*P **P** **09 11 34.0 -1.1**
comp=E,113nm,1.1s
DZM *e*S **S** **09 18 27.2 +4.8**
comp=E,1μm,30.6s
DZM *e*LR LR 09 24 48.7
comp=E,987nm,24.6s
DZM Mont Dzumac 46.59 125 *e*P **P** **09 11 32.2 -3.0**
DZM Mont Dzumac 46.59 125 *e*P **P** **09 11 34.1 -1.1**
comp=E,39nm,0.8s
GKN Gorkha 46.71 306 *e*P **P** **09 11 35.9 -0.2**
comp=E,279nm,1.2s
MDRS Chennai 46.74 284 *ex* x 09 18 07.2
ULN Ulaanbaatar 47.14 342 *e*P **P** **09 11 40.0 +0.8**
ULN *e*PcP **PcP** **09 13 11.3 +0.8**
ULN LR LR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 47.14 342 P **P** **09 11 40.2 +1.1**
SNR=68
SONM Songino Array 47.32 342 P **P** **09 11 40.7 +0.3**
comp=Z,33nm,0.6s,baz=160,slow=7.7,SNR=176
SONM PcP **PcP** **09 13 11.5 +0.4**
comp=Z,28nm,0.8s,baz=168,slow=3.5,SNR=6.7
SONM LR LR 09 34 37.3
comp=Z,1μm,20.1s,baz=156,slow=40
SONM Songino Array 47.32 342 P **P** **09 11 40.7 +0.3**
SONM PcP **PcP** **09 13 11.5 +0.4**
KOLN Koldanda 47.47 305 *e*P **P** **09 11 42.2 +0.2**
comp=Z,132nm,0.5s
DANN Dangsing 47.56 306 *e*P **P** **09 11 42.6 -0.3**
comp=Z,310nm,0.7s
PYUN Piuthan 48.09 305 *e*P **P** **09 11 47.4 +0.5**
HYB Hyderabad 49.03 290 *i* P **P** **09 11 53.5 -0.6**
comp=Z,150nm,1.0s
CIT Chita 49.41 349 *e*P **P** **09 11 58.2 +1.8**
CIT *e* 09 12 07.1
CIT *e* 09 13 13.8
CIT *e* 09 13 48.8
CIT pmax pmax
comp=Z,498nm,1.5s
ZAK Zakamensk 50.55 341 *e*P **P** **09 12 05.0 -0.1**
ZAK *e* 09 13 23.7
ZAK pmax pmax
comp=Z,23nm,1.3s
LGTI Lohaghat 50.83 305 *e*P **P** **09 12 09.7 +2.2**
LGTI *ex* x 09 13 29.3
AKL Akola 51.10 294⇑ *i*P **P** **09 12 10.1 +0.4**
AKL *i* x x 09 14 21.6
TLY Talaya 51.55 342*c i*P **P** **09 12 13.1 +0.5**
TLY *e* 09 13 25.1
TLY *e* 09 14 07.5
TLY *e* 09 21 57.1
TLY pmax pmax
comp=Z,71nm,0.9s
TLY MLR MLR
comp=Z,1μm,21.0s
TLY Talaya 51.55 342 *e*P **P** **09 12 13.8 +1.2**
comp=Z,156nm,1.3s
TLY LR LR
comp=Z,1μm,21.0s
TLY Talaya 51.55 342 P **P** **09 12 14.2 +1.6**
SNR=49
TLY Talaya 51.55 342 P **P** **09 12 14.6 +2.0**
comp=Z,421nm,0.8s,SNR=21
IRK Irkutsk 51.85 343 *e*P **P** **09 12 15.3 +0.5**
IRK *e* 09 14 17.8
IRK pmax pmax
comp=Z,187nm,1.6s
MOY Mondy 52.40 340 *e*P **P** **09 12 20.2 +1.2**
MOY pmax pmax
comp=Z,138nm,2.9s
WMQ Urumqi 52.71 325 P **P** **09 12 21.8 +0.4**
WMQ PcP **PcP** **09 13 30.4 -0.5**
WMQ PP **PP** **09 14 24.8 +3.9**
WMQ S **S** **09 19 43.8 -3.6**
WMQ ScS **ScS** **09 22 03.3 -5.8**
WMQ SS **SS** **09 23 21.9 -4.4**
WMQ pmax pmax
comp=Z,110nm,1.2s
WMQ LR LR
comp=N,1μm,23.0s
WMQ LR LR
comp=E,2μm,22.0s
WMQ LR LR
comp=Z,2μm,23.0s
SKR Severo-Kuril's 53.02 23 *e*P P 09 12 20.0 -3.4
SKR *e* 09 12 33.0
SKR *e* 09 13 26.0
SKR *e* 09 14 32.0
SKR *e*PPP PPP 09 15 30.0
SKR pmax pmax
comp=Z,130nm,1.0s
SKR pmax pmax
comp=Z,1μm,8.0s
CLNS Chul'man 53.04 359 *e*P **P** **09 12 24.6 +1.1**
CLNS *e**PP **pP** **09 12 29.7 -3.3**
CLNS *e* 09 13 32.3
CLNS *e* 09 14 25.9
CLNS *e*PPP PPP 09 15 33.9
CLNS *e*S S 09 19 58.6 +7.3
CLNS *e*SS **SS** **09 23 32.7 +1.8**
CLNS pmax pmax
comp=Z,78nm,1.2s
CLNS pmax pmax
comp=N,55nm,1.1s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=E,25nm,1.1s
CLNS pmax pmax
comp=Z,26nm,1.1s
CLNS pmax pmax
comp=N,30nm,1.1s
CLNS smax smax
comp=E,109nm,11.2s
CLNS smax smax
comp=N,199nm,12.1s
CLNS MLR MLR
comp=Z,502nm,19.0s
CLNS MLR MLR
comp=N,496nm,20.0s
CLNS MLR MLR
comp=E,348nm,14.0s
NDI New Delhi 53.06 303 *ex* x 09 12 20.0
KAD Karad 53.12 289⇓ *i*P **P** **09 12 23.9 -1.0**
POO Poona 53.63 290⇓ *i*P **P** **09 12 26.0 -2.6**
comp=E,210nm,1.0s
SMLA Simla 53.91 306 *i* P **P** **09 12 31.0 +0.7**
AJM Ajmer 54.60 300 *i* P **P** **09 12 35.0 -0.6**
HVS Khovu-Aksy 54.75 335*d i*P **P** **09 12 37.3 +1.1**
BOD Bodaibo 54.91 352⇓ *i*P **P** **09 12 37.7 +0.6**
BOD pmax pmax
comp=Z,81nm,1.4s
MSVF Nonsavu 54.99 115 *e*P **P** **09 12 39.0 +0.5**
MSVF pmax pmax
comp=Z,147nm,1.0s
MSVF Nonsavu 54.99 115 *e*P **P** **09 12 39.0 +0.5**
comp=Z,147nm,1.0s
MSVF Nonsavu 54.99 115 P **P** **09 12 39.0 +0.5**
comp=Z,887nm,0.9s,SNR=42
THN Thein Dam 55.52 307 *i* x x 09 12 20.5
PEA0B Petropavlovsk- 55.53 22 *e*P **P** **09 12 42.5 +0.8**
PETK Petropavlovsk- 55.53 22 P **P** **09 12 42.5 +0.8**
comp=Z,184nm,0.9s,baz=201,slow=6.2,SNR=237
PETK Petropavlovsk- 55.53 22 P **P** **09 12 42.5 +0.8**
PETK pmax pmax
comp=Z,184nm,0.9s
PETK Petropavlovsk- 55.53 22 P **P** **09 12 42.5 +0.8**
PET Petropavlovsk 55.83 23*c i*P **P** **09 12 44.5 +0.7**
PET *e* 09 13 42.6
PET *e*S **S** **09 20 28.0 -0.9**
PET pmax pmax
comp=Z,800nm,5.6s
PET pmax pmax
comp=Z,207nm,1.0s
PET MLR MLR
comp=Z,700nm,22.0s
PET MLR MLR
comp=Z,700nm,15.0s
PET Petropavlovsk 55.83 23 *e*P **P** **09 12 44.5 +0.7**
comp=Z,243nm,1.1s
PET *e*PcP **PcP** **09 13 42.9 +0.4**
MK31 Makanchi Array 57.54 325 *i* P **P** **09 12 56.0 -0.2**
MK31 pmax pmax
comp=Z,98nm,0.7s
MK31 Makanchi Array 57.54 325 *e*P **P** **09 12 56.3 +0.1**
MK31 *e*S S 09 21 08.0 +16
KSH Kashi 58.01 315⇑ *i*P **P** **09 13 01.0 +1.3**
KSH pP pP 09 13 17.1 +7.8
KSH PcP **PcP** **09 13 52.1 +0.6**
KSH *e*PP **PP** **09 15 12.4 +3.9**
KSH *e*ScP **ScP** **09 17 46.5 -3.1**
KSH PcS **PcS** **09 17 53.3 +0.3**
KSH S **S** **09 20 55.4 -3.1**
KSH ScS **ScS** **09 22 43.3 -4.1**
KSH SS **SS** **09 24 53.3 +3.3**
KSH pmax pmax
comp=Z,220nm,1.3s
KSH LR LR
comp=N,460nm,13.0s
KSH LR LR
comp=E,690nm,16.0s
KSH LR LR
comp=Z,1μm,19.7s
YAK Yakutsk 58.27 2*c i*P **P** **09 13 01.4 +0.5**
YAK *e**PP pP 09 13 13.5 +2.9
YAK *e* 09 13 52.5
YAK *e* 09 15 10.0
YAK *e*S **S** **09 20 59.9 -0.9**
YAK *e**SS sS 09 21 18.7 +2.0
YAK *e* 09 22 46.5
YAK pmax pmax
comp=Z,404nm,1.0s

YAK pmax pmax
comp=N,142nm,1.1s
YAK pmax pmax
comp=E,21nm,0.9s
YAK pmax pmax
comp=Z,78nm,1.5s
YAK pmax pmax
comp=N,147nm,2.0s
YAK pmax pmax
comp=E,51nm,1.7s
YAK smax smax
comp=N,214nm,2.7s
YAK smax smax
comp=E,205nm,2.0s
YAK MLR MLR
comp=N,829nm,24.0s
YAK MLR MLR
comp=Z,1µm,28.0s
YAK MLR MLR
comp=E,376nm,21.0s
YAK Yakutsk 58.27 2 *e*P **P** **09 13 01.9 +0.9**
YAK *e*PcP **PcP** **09 13 53.1 +1.2**
ULHL Ulahol 58.99 318 P **P** **09 13 08.5 +1.9**
SNR=85
KZA Kyzart 59.58 318 P **P** **09 13 11.8 +0.9**
SNR=199
TKM2 Tokmak 2 59.72 319 *e*P **P** **09 13 11.8 +0.1**
TKM2 Tokmak 2 59.72 319 *e*P **P** **09 13 11.8 +0.1**
comp=E,139nm,1.0s
TKM2 Tokmak 2 59.72 319 P **P** **09 13 11.7 +0.1**
SNR=48
KBK Karagaybulak 60.03 318 P **P** **09 13 15.9 +2.1**
SNR=17
UCH Uchtor 60.14 317 P **P** **09 13 15.7 +0.9**
SNR=34
CHMS Chumnysh 60.31 318 P **P** **09 13 16.9 +1.5**
SNR=15
AAK Ala-Archa 60.33 318 *e*P **P** **09 13 15.9 +0.1**
AAK pmax pmax
comp=Z,531nm,1.4s
AAK Ala-Archa 60.33 318 *e*P **P** **09 13 15.8 +0.1**
comp=Z,122nm,1.4s
AAK Ala-Archa 60.33 318 P **P** **09 13 16.3 +0.5**
comp=Z,277nm,0.9s,SNR=19
AAK Ala-Archa 60.33 318 P **P** **09 13 16.4 +0.6**
SNR=54
AAK Ala-Archa 60.33 318 P **P** **09 13 17.3 +1.5**
SNR=26
FRU Bishkek 60.33 318 *e*P **P** **09 13 17.0 +1.4**
FRU pmax pmax
comp=Z,102nm,1.8s
USP Ospenovka 60.59 319 P **P** **09 13 18.0 +0.6**
SNR=34
ZAA0 Zalesovo Array 60.59 333 *e*P **P** **09 13 16.4 -0.7**
ZALV Zalesovo Beam 60.59 333 P **P** **09 13 16.3 -0.8**
comp=Z,36nm,0.8s,baz=126,slow=6.7,SNR=79
ZALV LR LR 09 42 09.9
comp=Z,938nm,19.3s,baz=128,slow=39
ZALV Zalesovo Beam 60.59 333 P **P** **09 13 16.3 -0.8**
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV MLR MLR
comp=Z,938nm,19.3s
ZALV Zalesovo Beam 60.59 333 P **P** **09 13 16.3 -0.8**
AML Almayashu 60.66 317 P **P** **09 13 18.9 +0.6**
SNR=201
EKS2 Erkin-Say 60.82 318 *e*P **P** **09 13 19.6 +0.5**
EKS2 pmax pmax
comp=Z,130nm,0.9s
EKS2 Erkin-Say 60.82 318 *e*P **P** **09 13 19.6 +0.5**
comp=Z,130nm,0.9s
EKS2 Erkin-Say 60.82 318 P **P** **09 13 19.6 +0.5**
SNR=84
KBL Kabul 61.47 308 *e*P **P** **09 13 23.4 -0.4**
KBL pmax pmax
comp=Z,168nm,1.2s
KBL Kabul 61.47 308 *e*P **P** **09 13 23.4 -0.4**
comp=Z,168nm,1.2s
KURK Kurchatov 61.73 328 P **P** **09 13 24.8 -0.1**
KURK pmax pmax
comp=Z,297nm,0.8s
KURK Kurchatov 61.73 328 *e*P **P** **09 13 24.7 -0.1**
comp=Z,245nm,0.8s
KURK Kurchatov 61.73 328 P **P** **09 13 25.1 +0.2**
SNR=152
RPZ Rata Peaks 61.78 145 P **P** **09 13 25.1 -0.3**
comp=Z,87nm,0.8s,baz=28,slow=3.7,SNR=3.8
RPZ LR LR 09 41 48.9
comp=Z,1µm,19.3s,baz=305,slow=38
RPZ Rata Peaks 61.78 145 P **P** **09 13 25.1 -0.3**
NVS Novosibirsk 61.88 333 *i* P **P** **09 13 24.7 -1.1**
NVS pmax pmax
comp=N,31nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,99nm,1.0s
SEY Seymchan 62.12 13 *ce*P **P** **09 13 28.2 +0.9**
FX1 Attu Island--F 62.20 30 P **P** **09 13 29.2 +1.2**
comp=Z,214nm,0.9s,baz=297,slow=0.7,SNR=41
FX1 Attu Island--F 62.20 30 *e*P **P** **09 13 28.9 +0.9**
KHZ Kahutara 62.48 142 *e*P **P** **09 13 29.6 -0.5**
comp=Z,48nm,0.8s
URZ Urewera 62.58 137 P **P** **09 13 31.4 +0.6**
comp=Z,21nm,0.7s,baz=323,slow=4.0,SNR=17
URZ Urewera 62.58 137 *e*P **P** **09 13 30.6 -0.2**
comp=Z,43nm,0.9s
KK31 Karatay Array 63.20 317 *i* P **P** **09 13 34.0 -0.9**
KK31 pmax pmax
comp=Z,98nm,0.8s
KKAR Karatay Array 63.20 317 *e*P **P** **09 13 34.5 -0.4**
KKAR pmax pmax
comp=Z,141nm,1.0s
KKAR Karatay Array 63.20 317 *e*P **P** **09 13 34.5 -0.4**
comp=Z,141nm,1.0s
AFI Afiamalu 63.54 107 P **P** **09 13 38.2 +0.5**
comp=Z,65nm,1.0s,baz=264,slow=15,SNR=5.7
AFI Afiamalu 63.54 107 P **P** **09 13 38.2 +0.5**
VOSK Vostochnaya 66.86 327 P **P** **09 13 57.5 -1.0**
VOSK pmax pmax
comp=Z,191nm,1.0s
BVA0 Borovoye Array 67.31 327 P **P** **09 14 00.7 -0.7**
BVA0 pmax pmax
comp=Z,50nm,1.2s
BRVK Borovoye 67.38 327 *c i*P **P** **09 14 01.1 -0.7**
BRVK pmax pmax
comp=Z,498nm,1.2s
BRVK pmax pmax
comp=Z,307nm,1.1s
BRVK Borovoye 67.38 327 *e*P **P** **09 14 01.9 +0.1**
comp=Z,292nm,1.1s
BRVK Borovoye 67.38 327 P **P** **09 14 01.4 -0.4**
comp=Z,1µm,1.0s
BRVK Borovoye 67.38 327 P **P** **09 14 02.1 +0.3**
SNR=114
WBK Wadi Bani Khal 67.97 293 P **P** **09 14 05.6 -0.6**
SNR=19
ZRNK Zerenda 68.03 327 *i* P **P** **09 14 05.1 -0.8**
ZRNK pmax pmax
comp=Z,203nm,0.8s
JMDO Jabal Madar 68.75 292 P **P** **09 14 10.0 -1.0**
SNR=32
SMDO Samad 68.86 293 P **P** **09 14 11.2 -0.6**
SNR=13
IMYA Miami 68.98 308 *e*P **P** **09 14 11.8 -0.6**
IMOG Moghan 69.55 307 *e*P **P** **09 14 15.4 -0.7**
HOQ Hoqain 69.58 294 P **P** **09 14 15.8 -0.3**
SNR=24
BSY Bisya 69.61 293 P **P** **09 14 16.1 -0.3**
SNR=18
BILL Bilibino 69.64 15 ⇑ *i*P **P** **09 14 15.7 0.0**
BILL *e* 09 14 38.3
BILL *i* 09 16 48.3
BILL *i* S **S** **09 23 24.7 +2.9**
BILL *e*SS **SS** **09 27 47.4 -2.7**
BILL pmax pmax
comp=Z,25nm,1.1s
BILL MLR MLR
comp=Z,300nm,18.0s
BILL Bilibino 69.64 15 *e*P **P** **09 14 15.7 0.0**
comp=Z,47nm,1.2s
IPAY Payeh 69.88 307 *e*P **P** **09 14 17.4 -0.7**
IAKL Akhelmad 70.10 308 *e*P **P** **09 14 19.5 0.0**
ARQ Araqi 70.28 293 P **P** **09 14 20.3 -0.2**
SNR=9.1
IKRD Kardeh 70.32 308 *e*P P 09 14 15.6 -5.2

HATD Hatta, Dubai 70.76 295 P **P** **09 14 22.7 -0.7**
SNR=12
ISFR Sfrayin 70.78 308 *e*P **P** **09 14 23.8 +0.2**
ASHO Ashíyiah 70.82 295 P **P** **09 14 23.7 0.0**
SNR=15
ABKT Ailbek 70.84 309 P **P** **09 14 24.1 +0.4**
comp=Z,266nm,1.3s,SNR=11
ISHV Shirvan 71.09 308 *e*P **P** **09 14 25.8 +0.4**
NAZ Nazwa, Dubai 71.20 295 P **P** **09 14 25.3 -0.7**
SNR=9.4
ASUD Al Ashush, Dub 71.47 295 P **P** **09 14 27.9 +0.2**
SNR=9.4
MSEY Mahe Island 71.55 264 *e*P **P** **09 14 28.0 -0.3**
comp=Z,102nm,1.5s
MSEY Mahe Island 71.55 264 P **P** **09 14 28.4 0.0**
SNR=7.3
MRIV Mauritius Mete 71.82 247 *e*P **P** **09 14 30.1 +0.3**
MRIV *e*PP **PP** **09 17 05.4 -4.3**
AB31 Akbulak array 72.13 321 *i* P **P** **09 14 30.6 -0.5**
AB31 pmax pmax
comp=Z,84nm,0.9s
ABKAR Akbulak array 72.13 321 *e*P **P** **09 14 30.8 -0.3**
comp=Z,69nm,0.9s
RBK Rabkut 72.13 287 P **P** **09 14 31.4 -0.4**
SNR=7.8
ABTO Aybut 73.00 287 P **P** **09 14 35.9 -1.1**
SNR=18
UNV Unalaska Valle 73.54 35 *e*P **P** **09 14 39.3 -0.1**
comp=Z,252nm,1.2s
IANJ Anjilo 73.80 306 *e*P **P** **09 14 39.0 -2.6**
ISRV Sarvestan 73.84 299 *e*P **P** **09 14 41.0 -1.1**
IPAR Pars 73.93 300 *e*P **P** **09 14 41.4 -1.2**
AKUT Akutan 74.04 34 *e*P **P** **09 14 42.7 +0.5**
comp=Z,447nm,1.1s
ISHM Shahmirzad 74.35 306 *e*P **P** **09 14 43.2 -1.7**
GAMB Gambell 74.50 24 *e*P **P** **09 14 45.3 +0.5**
comp=Z,244nm,1.3s
IZEF Zefreh 74.83 303 *e*P **P** **09 14 45.9 -1.8**
ARU Arti 74.93 328 *e*P **P** **09 14 47.0 -0.4**
ARU pmax pmax
comp=Z,65nm,0.6s
ARU Arti 74.93 328 *e*P **P** **09 14 47.0 -0.4**
comp=Z,65nm,0.6s
ARU Arti 74.93 328 P **P** **09 14 47.9 +0.5**
comp=Z,668nm,1.0s,SNR=8.1
IGAR Gharneh 75.02 302 *e*P **P** **09 14 48.6 -0.2**
ISFB Sefidab 75.04 304 *e*P **P** **09 14 48.6 -0.1**
KIP Kipapa 75.06 69 *e*P **P** **09 14 50.1 +1.2**
KIP pmax pmax
comp=Z,54nm,0.9s
KIP Kipapa 75.06 69 *e*P **P** **09 14 50.1 +1.2**
comp=Z,54nm,0.9s
IKLH Kolahrood 75.49 303 *e*P **P** **09 14 51.7 +0.2**
IVRN Varamin 75.53 305 *e*P **P** **09 14 51.3 -0.2**
TNA Tin City 76.69 23 *e*P **P** **09 14 59.0 +1.7**
comp=Z,20nm,1.0s
SOKR Solikamsk 76.71 331 *d i*P **P** **09 14 58.1 +0.6**
SOKR S **S** **09 24 46.1 +4.0**
SOKR pmax pmax
comp=Z,120nm,1.4s
SOKR MLR MLR
comp=Z,660nm,15.0s
IGZV Ghazvin 76.88 306 *e*P **P** **09 14 57.1 -2.2**
IRAZ Razeghan 77.03 305 *e*P **P** **09 14 59.9 -0.3**
SDPT Sand Point 77.31 34 *e*P **P** **09 15 01.3 +0.3**
comp=Z,177nm,0.7s
QRN Al-Qurain 78.34 298 *e*P **P** **09 15 06.4 -0.8**
QRN AMb AMB 09 15 08.5
comp=Z,246nm,0.7s
KBD Kabd 78.55 299 *e*P **P** **09 15 07.3 -1.1**
KBD AMb AMB 09 15 09.7
comp=Z,114nm,0.6s
CHGN Chignik 78.64 33 *e*P **P** **09 15 08.4 +0.1**
RDF Al-Radifah 78.67 299 *e*P **P** **09 15 08.3 -0.8**
RDF AMb AMB 09 15 10.7
comp=Z,153nm,0.6s
NAY Al-Naaiem 78.95 299 *e*P **P** **09 15 09.5 -1.1**
NAY AMb AMB 09 15 11.7
comp=Z,122nm,0.8s
MAK Makhachkala 79.54 313 *c i*P P 09 15 08.9 -4.7
MAK *e**PP **PcP** **09 15 22.3 +0.9**
MAK *e*PPP PPP 09 20 06.8
MAK *e*S **S** **09 25 09.1 -4.2**
MAK *e* 09 25 30.3
MAK *e*SS **SS** **09 30 20.9 -0.6**
MAK pmax pmax
comp=Z,165nm,1.4s
RAYN Ar Rayn 80.40 293 P **P** **09 15 18.5 -0.2**
comp=Z,507nm,1.6s,SNR=59
DGRG David-gareji 81.02 311 P **P** **09 15 22.4 +0.7**
ABPO Ambohimpanom 81.18 250 *e*P **P** **09 15 23.2 +0.1**
ABPO pmax pmax
comp=Z,49nm,0.8s
ABPO Ambohimpanom 81.18 250 *e*P **P** **09 15 23.2 +0.1**
comp=Z,49nm,0.8s
GNI Garni 81.43 310 *e*P **P** **09 15 24.9 +0.8**
comp=Z,123nm,1.5s
GNI Garni 81.43 310 P **P** **09 15 24.9 +0.8**
SNR=13
TBLG Delisi 81.51 311 *e*P **P** **09 15 24.3 +0.1**
TBLG Delisi 81.51 311 P **P** **09 15 24.3 +0.1**
BHD Baghdad 81.51 303 *e*P **P** **09 15 22.0 -2.3**
BHD *e*PcP **PcP** **09 15 28.0 -2.3**
BHD *e*pP pP 09 15 40.0 +5.7
BHD *e*PKiP 09 20 50.0
BHD *e*S **S** **09 25 32.0 -2.3**
BHD *e*SKS SKSac 09 25 36.0 -6.1
KZR Kazreti 81.73 311 P **P** **09 15 26.2 +0.8**
GOR Gori 81.99 312 P **P** **09 15 28.0 +1.3**
KDAK Kodiak Island 82.00 32 P **P** **09 15 27.4 +1.0**
comp=Z,59nm,0.7s,baz=237,slow=6.6,SNR=37
KDAK Kodiak Island 82.00 32 *e*P **P** **09 15 27.3 +1.0**
comp=Z,72nm,0.8s
KDAK Kodiak Island 82.00 32 P **P** **09 15 27.6 +1.2**
comp=Z,501nm,0.7s,SNR=17
CLDR Caldiran 82.03 309 *e*P **P** **09 15 28.1 +0.7**
HAKT HAKKARI 82.16 307 *i* P **P** **09 15 28.1 +0.1**
ZEI Tsey 82.17 312 *e*P **P** **09 15 26.8 -1.2**
ZEI pmax pmax
comp=Z,85nm,1.3s
ZEI pmax pmax
comp=N,58nm,1.5s
ZEI pmax pmax
comp=E,73nm,0.9s
RSO Redoubt South 82.20 30 *e*P **P** **09 15 28.2 +0.5**
comp=E,259nm,0.9s
CUKT Cukurca 82.23 307 *e*P **P** **09 15 28.0 -0.3**
AKH Akhalkalaki 82.43 311 P **P** **09 15 30.0 +0.8**
ONI Oni 82.50 312 P **P** **09 15 29.9 +0.5**
KARS Kars 82.72 310 *e*P **P** **09 15 31.7 +1.0**
AGRB Hanur-Agry 82.76 309 *e*P **P** **09 15 31.9 +0.8**
KBZ Khabaz 82.94 313 P **P** **09 15 31.6 0.0**
comp=E,16nm,1.1s,baz=120,slow=5.8,SNR=22
KBZ LR LR 10 00 12.6
comp=E,630nm,19.5s,baz=73,slow=41
KBZ Khabaz 82.94 313 P **P** **09 15 31.6 0.0**
KBZ pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 82.94 313 P **P** **09 15 31.6 0.0**
KIV Kislovodsk 83.10 314 *e*P **P** **09 15 32.4 -0.2**
KIV *e*S **S** **09 25 46.8 -3.6**
KIV *e*SS **SS** **09 31 11.6 -3.1**
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,596nm,19.0s
KIV Kislovodsk 83.10 314 *e*P **P** **09 15 32.9 +0.3**
comp=Z,16nm,0.8s
KIV Kislovodsk 83.10 314 P **P** **09 15 33.0 +0.4**
SNR=7.8
VNDA Vanda 83.38 173 P **P** **09 15 33.5 +0.3**
comp=Z,23nm,1.0s,baz=312,slow=7.1,SNR=56
VNDA LR LR 09 54 32.0
comp=Z,256nm,19.3s,baz=326,slow=37
VNDA Vanda 83.38 173 *e*P **P** **09 15 33.5 +0.3**
comp=Z,28nm,1.1s
VNDA *e*PP **PP** **09 18 41.8 -3.5**
ARTV Artvin 83.60 311 *i* P **P** **09 15 33.4 -2.0**
DAGI Agillar 83.61 311 *i* P **P** **09 15 34.2 -1.2**
TRF Thorofare Moun 83.65 27 *e*P **P** **09 15 34.9 -0.2**
comp=Z,124nm,1.1s
MAW Mawson 83.66 200 P **P** **09 15 35.5 +0.7**
comp=Z,25nm,1.0s,baz=87,slow=8.7,SNR=7.3
MAW Mawson 83.66 200 *e*P **P** **09 15 35.1 +0.4**
comp=Z,7.7nm,0.6s

DDEM Demirkent 83.73 311 *i* P **P** **09 15 36.3 +0.4**
RC01 Rabbit Creek A 83.73 29 *e*P **P** **09 15 35.5 +0.1**
comp=Z,166nm,1.0s
DBAD Bademkaya 83.78 311 *i* P **P** **09 15 36.8 +0.6**
SEW Seward 83.81 30 *e*P **P** **09 15 36.1 +0.4**
comp=Z,142nm,1.0s
COLD Coldfoot 84.00 23 *e*P **P** **09 15 38.5 +1.9**
comp=Z,108nm,1.0s
VRHR Novokhopersk 84.02 321 *e*P **P** **09 15 36.0 -1.0**
VRHR *e*S **S** **09 25 58.5 -0.6**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,80nm,0.8s
VRHR smax smax
comp=E,190nm,3.7s
VRHR smax smax
comp=Z,20nm,1.4s
EZM Erzurum 84.02 310 *e*P **P** **09 15 38.0 +0.4**
PMR Palmer 84.06 29 *e*P **P** **09 15 37.3 +0.3**
PMR pmax pmax
comp=Z,181nm,1.0s
PMR Palmer 84.06 29 *e*P **P** **09 15 37.3 +0.3**
comp=Z,181nm,1.0s
SBA Scott Base 84.29 172 *e*P **P** **09 15 39.1 +1.3**
SBA pmax pmax
comp=Z,39nm,1.0s
SBA Scott Base 84.29 172 *e*P **P** **09 15 39.0 +1.3**
comp=Z,39nm,1.0s
SML Sawmill 84.45 28 *e*P **P** **09 15 39.6 +0.6**
SML pmax pmax
comp=Z,62nm,0.9s
SML Sawmill 84.45 28 *e*P **P** **09 15 39.6 +0.6**
comp=Z,62nm,0.9s
BNGB Bing ¶ll 84.55 309 *e*P **P** **09 15 41.0 +0.8**
KOPT Kop Dagi 84.69 310 *i* P **P** **09 15 42.0 +1.0**
COLA College 84.80 25 *e*P **P** **09 15 41.0 +0.3**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 84.80 25 *e*P **P** **09 15 41.0 +0.3**
comp=Z,23nm,0.9s
BAYT Ayd¨¨ntepe-Bay 84.96 310 *e*P **P** **09 15 43.2 +0.9**
PPT Papeete 85.20 108 LR LR 09 50 29.9
comp=Z,446nm,19.8s,baz=328,slow=33
PPT2 Papeete2 85.21 108 *e*S **S** **09 26 10.9 -1.5**
comp=Z,656nm,26.2s
PPT2 *e*SS **SS** **09 31 46.3 -0.8**
comp=Z,452nm,29.2s
PPT2 *e*LR LR 09 42 37.6
comp=Z,895nm,29.0s
ILAR Eielson Array 85.21 25 P **P** **09 15 42.1 -0.7**
comp=Z,24nm,1.0s,baz=253,slow=5.0,SNR=97
ILAR PKKP **PKKPbc** **09 33 47.9 -3.4**
comp=Z,1.3nm,1.0s,baz=75,slow=1.8,SNR=9.4
ILAR PKPPKP **P'P'df** **09 41 53.4 -2.2**
comp=Z,1.0nm,1.1s,baz=97,slow=0.7,SNR=5.0
ILAR LR LR 09 54 48.1
comp=Z,217nm,20.2s,baz=298,slow=36
ILAR Eielson Array 85.21 25 P **P** **09 15 42.1 -0.7**
ILAR PKKP **PKKPbc** **09 33 47.9 -3.4**
ILAR P'P' 09 41 53.4
SOC Sochi 85.25 313 *c i*P **P** **09 15 42.7 -0.7**
SOC *e*S S 09 26 00.4 -11
SOC pmax pmax
comp=Z,124nm,1.0s
KLMR Klimovskoe 85.40 331 *c i*P **P** **09 15 43.7 -0.1**
KLMR *e*S S 09 26 05.1 -7.4
KLMR pmax pmax
comp=Z,508nm,1.2s
KLMR pmax pmax
comp=Z,19nm,1.5s
VORD Divnogorie 85.49 321 *e*P **P** **09 15 44.0 -0.4**
VORD pmax pmax
comp=Z,160nm,1.1s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,200nm,1.0s
TVO Taravao 85.53 108 *e*T T 09 15 23.3
comp=E,2.6nm,0.2s
VOR Voronezh 85.54 321 ⇑ *i*P **P** **09 15 44.0 -0.7**
VOR pmax pmax
comp=Z,750nm,1.4s
PTK Pertek 85.56 309 *e*P **P** **09 15 46.1 +0.8**
VSR Storozhevoye 85.56 321 *e*P **P** **09 15 44.3 -0.5**
VSR *e*S **S** **09 26 13.2 -1.3**
VSR pmax pmax
comp=Z,150nm,1.0s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,180nm,1.1s
VSR smax smax
comp=N,20nm,0.9s
VSR smax smax
comp=Z,20nm,2.6s
VSR smax smax
comp=E,20nm,0.9s
KELT Kelkit 85.64 310 *i* P **P** **09 15 46.9 +1.2**
DIV Divide 85.66 29 *e*P **P** **09 15 46.4 +1.2**
comp=E,197nm,0.9s
PAX Paxson 85.81 27 *e*P **P** **09 15 46.5 +0.6**
PAX pmax pmax
comp=Z,53nm,1.1s
PAX Paxson 85.81 27 *e*P **P** **09 15 46.5 +0.6**
comp=Z,53nm,1.1s
TBI Tubuai 85.87 114 *e*S **S** **09 26 18.3 -0.3**
comp=Z,815nm,27.0s
TBI *e*LR LR 09 42 51.8
comp=Z,688nm,27.8s
ELZG Elazig 85.88 308 *i* P **P** **09 15 48.1 +1.2**
ESPY Espiye-Giresun 86.02 311 *e*P **P** **09 15 47.2 -0.2**
URFA Urfa 86.04 307 *e*P **P** **09 15 48.4 +0.8**
TMCR Tamitsa 86.10 334 *e*P **P** **09 15 46.6 -0.6**
TMCR pmax pmax
comp=Z,104nm,1.0s
ILIC ilic-Erzincan 86.18 309 *e*P **P** **09 15 49.3 +1.0**
BMRM Bremner River 86.23 29 *e*P **P** **09 15 48.4 +0.4**
comp=Z,101nm,0.9s
KEMA Kemaliye 86.25 309 *i* P **P** **09 15 49.4 +0.8**
MALT Malatya 86.33 308 *e*P **P** **09 15 50.0 +1.0**
MALT Malatya 86.33 308 *e*P **P** **09 15 49.8 +0.8**
MALT *e* 09 19 11.7
MALT pmax pmax
comp=Z,76nm,1.1s
MALT Malatya 86.33 308 *e*P **P** **09 15 49.8 +0.8**
comp=Z,76nm,1.1s
MALT *e*PP **PP** **09 19 11.7 +1.4**
MALT Malatya 86.33 308 ⇑ *i*P **P** **09 15 50.2 +1.2**
GRSN GIRESUNGRSN 86.37 311 *i* P **P** **09 15 48.3 -0.8**
MOS Moscow 86.42 325 *e*P **P** **09 15 47.5 -1.4**
MOS *e* 09 26 21.4
MOS pmax pmax
comp=Z,401nm,1.3s
MOS pmax pmax
comp=Z,800nm,1.8s
MOS MLR MLR
comp=Z,800nm,21.0s
DOT Dot Lake 86.44 27 *e*P **P** **09 15 49.4 +0.4**
comp=Z,49nm,1.3s
MENT Mentasta 86.61 27 *e*P **P** **09 15 50.4 +0.6**
DARE Darende-Malaty 86.79 309 *e*P **P** **09 15 53.5 +2.2**
ANN Anapa 86.86 315 *c i*P **P** **09 15 50.4 -0.9**
ANN *e*S S 09 26 14.7 -13
ANN pmax pmax
comp=Z,350nm,1.3s
GZT Gaziantep 87.04 307 *i* P **P** **09 15 53.5 +0.9**
OBN Obninsk 87.05 325 ⇓ *i*P **P** **09 15 51.4 -0.6**
OBN *e* 09 19 21.4
OBN pmax pmax
comp=Z,551nm,1.8s
OBN Obninsk 87.05 325 *e*P **P** **09 15 51.9 -0.1**
comp=Z,447nm,1.3s
OBN Obninsk 87.05 325 P **P** **09 15 51.3 -0.7**
comp=Z,2µm,1.6s,SNR=7.4
RSDY Resadiye-TOKAT 87.11 310 *e*P **P** **09 15 53.5 +0.8**
GAZ Gaziantep 87.33 307 *e*P **P** **09 15 54.6 +0.7**
LVZ Lovozero 87.37 338 *ce*P **P** **09 15 52.1 -1.3**
LVZ pmax pmax
comp=Z,66nm,1.1s
LVZ Lovozero 87.37 338 *e*P **P** **09 15 52.8 -0.6**
comp=Z,50nm,1.1s
KUZU Kuzuini 87.46 307 *i* P **P** **09 15 54.9 +0.4**

ERBA Erbaa 87.53 310 *i* P P 09 15 55.2 +0.4
KMRS Kahramanmaras 87.57 307 *e*P P 09 15 55.4 +0.4
EGAK Eagle 87.66 25 *e*P P 09 15 55.0 +0.2
comp=Z,17nm,1.0s
SARI SarD1z-Kayseri 87.67 308 *e*P P 09 15 56.9 +1.3
APA Apatity 87.87 337⇑*i*P P 09 15 55.0 -0.7
APA *e*S S 09 26 30.0 -6.2
APA *i* PS PnS 09 27 30.0 -11
APA pmax pmax
comp=Z,44nm,1.0s
APA MLR MLR
comp=Z,4µm,20.0s
YAYL Yayladag 88.28 306 *i* P P 09 15 58.7 +0.2
HAVZ Havza 88.29 311 *i* P P 09 15 58.9 +0.5
KOZT Kozan 88.42 307 *e*P P 09 16 00.2 +1.1
DAWY Dawson 88.48 26 *e*P P 09 15 59.0 +0.3
CTKT Corum 89.03 310 *i* P P 09 16 02.1 +0.1
CORM Corum 89.18 310 *e*P P 09 16 02.9 +0.2
JOF Joensuu 89.18 333 *e*P P 09 15 59.9 -2.1
JOF pmax pmax
comp=Z,27nm,0.5s
JOF Joensuu 89.18 333 *e*p P 09 15 59.9 -2.1
comp=Z,27nm,0.5s
SIM Simferopol' 89.21 315*c i*P P 09 16 02.3 -0.2
SIM pmax pmax
comp=Z,52nm,0.9s
GULE Gulek 89.27 307 *i* P P 09 16 03.1 -0.1
CDAG Cicekdag 89.42 309 *i* P P 09 16 02.1 -1.7
KMBO Kilima Mbogo 89.43 269 *e*P P 09 16 05.5 +1.0
comp=Z,86nm,1.0s
KMBO Kilima Mbogo 89.43 269 P P 09 16 06.0 +1.4
SNR=48
KEV Kevo 89.91 340 *e*P P 09 16 03.0 -2.2
KEV pmax pmax
comp=Z,14nm,0.6s
KEV Kevo 89.91 340 *e*p P 09 16 03.0 -2.2
comp=Z,14nm,0.6s
BR131 Keskin Array S 89.97 310 *e*P P 09 16 05.7 -0.7
comp=Z,38nm,0.9s
BRTR Keskin Array B 89.97 310 P P 09 16 05.4 -1.0
comp=Z,41nm,0.9s,baz=118,slow=4.6,SNR=126
BRTR PP PP 09 19 42.5 +3.0
BRTR comp=Z,3.0nm,0.9s,baz=111,slow=6.9,SNR=4.1 PKPPKP P'P'df 09 41 50.9 +2.7
comp=Z,0.3nm,0.4s,baz=257,slow=4.9,SNR=3.8
BRTR LR LR 10 06 06.5
comp=Z,240nm,19.8s,baz=192,slow=42
BRTR Keskin Array B 89.97 310 P P 09 16 05.4 -1.0
BRTR PP PP 09 19 42.5 +3.0
BRTR P'P' 09 41 50.9
BALT Daday 90.01 311 *i* P P 09 16 06.7 +0.1
INK Inuvik 90.26 21 P P 09 16 06.8 -0.1
comp=Z,30nm,1.2s,baz=293,slow=4.3,SNR=61
INK PKKP PKKPdf 09 33 35.7 +1.2
comp=Z,5.2nm,0.9s,baz=72,slow=3.4,SNR=17
INK Inuvik 90.26 21 *e*P P 09 16 06.9 0.0
comp=Z,34nm,1.1s
INK PKKP PKKPdf 09 33 35.7 +1.2
BBAL Bala 90.38 309 *i* P P 09 16 06.3 -2.0
AFSR Af˙ar-Bala (A 90.43 309 *e*P P 09 16 08.1 -0.5
ARCES ARCESS Array B 90.47 340 P P 09 16 07.5 -0.4
comp=Z,49nm,0.7s,baz=87,slow=7.0,SNR=149
ARCES LR LR 09 59 49.3
comp=Z,774nm,19.3s,baz=335,slow=38
ARCES ARCESS Array B 90.47 340 P P 09 16 07.5 -0.4
ARE0 ARCESS Array S 90.47 340 *e*P P 09 16 07.5 -0.4
CSS Prodhromos 90.61 305 *e*P P 09 16 09.2 -0.2
comp=Z,80nm,0.9s
SKAG Skagway 90.96 30 *e*P P 09 16 11.0 +0.7
comp=Z,28nm,1.0s
GAZI Gazipasa 91.32 306 *i* P P 09 16 11.4 -1.2
KAF Kangasniemi 91.60 332 *e*P P 09 16 11.4 -1.9
KAF pmax pmax
comp=Z,14nm,0.7s
KAF Kangasniemi 91.60 332 *e*p P 09 16 11.4 -1.9
comp=Z,14nm,0.7s
FIA1 FINESS Array S 91.83 332 *e*P P 09 16 13.7 -0.7
FINES FINESS Array B 91.83 332 P P 09 16 13.6 -0.7
comp=Z,16nm,0.8s,baz=72,slow=4.5,SNR=20
FINES LR LR 10 03 08.9
comp=Z,584nm,20.1s,baz=336,slow=39
FINES FINESS Array B 91.83 332 P P 09 16 13.6 -0.7
AKASG Malin Array Be 91.87 321 P P 09 16 14.0 -0.7
comp=Z,29nm,0.8s,baz=73,slow=4.5,SNR=67
AKASG LR LR 10 03 22.1
comp=Z,631nm,21.2s,baz=40,slow=39
AKASG Malin Array Be 91.87 321 P P 09 16 14.0 -0.7
AKASG pmax pmax
comp=Z,29nm,0.8s
AKASG Malin Array Be 91.87 321 P P 09 16 14.0 -0.7
AK01 Malin Array Si 91.88 321 *e*P P 09 16 14.0 -0.8
KIEV Kiev 91.88 321 *e*P P 09 16 13.7 -1.1
KIEV pmax pmax
comp=Z,56nm,1.1s
KIEV Kiev 91.88 321 *e*P P 09 16 13.7 -1.1
comp=Z,56nm,1.1s
AK02 Malin Array Si 91.89 321 *e*P P 09 16 13.9 -1.0
HENT Hendek 91.95 311 *i* P P 09 16 14.4 -1.1
MICGM Minsk 92.11 325 *e* P 09 16 04.0 -12
MNK Minsk 92.14 325 *e*P P 09 16 04.0 -12
SYO Syowa Base 92.33 201⇑*e*P P 09 16 16.4 0.0
SYO Syowa Base 92.33 201⇓*e*PcP PcP 09 16 19.6 +2.4
BORA Eskisehir 92.40 310 *i* P P 09 16 16.7 -0.9
ISP Isparta 92.58 308 ⇑P P 09 16 18.0 -0.5
ISP Isparta 92.58 308⇑*i*P P 09 16 18.0 -0.5
KIS Kishinev 92.66 317 *e*P P 09 16 17.0 -1.5
KIS MLR MLR
comp=Z,700nm,20.0s
KIS Kishinev 92.66 317 *e*P P 09 16 17.0 -1.5
KIS LRM MLR 10 00 50.0
comp=Z,700nm,20.0s
NACGM Naroch 92.67 325 *e* P 09 16 15.0 -3.4
GDZ Gediz 93.24 309 *i* P P 09 16 20.6 -1.0
TIRR Tirgusor 93.30 315 *e*P P 09 16 21.1 -0.4
TIRR Tirgusor 93.30 315 *e*P P 09 16 21.1 -0.4
comp=Z,42nm,1.1s
CFR Carcaliu 93.39 316 ⇑P P 09 16 21.4 -0.5
CFR Carcaliu 93.39 316⇑*i*P P 09 16 21.4 -0.5
QSPA South Pole Qui 93.57 180 *e*P P 09 16 22.8 +0.4
comp=Z,30nm,1.0s
QSPA *e*PP PP 09 20 05.5 -1.6
PSN Preselentsi 93.58 314 *i* P P 09 16 21.8 -1.0
DLBC Dease Lake 93.86 31 P P 09 16 25.0 +1.1
comp=Z,20nm,0.9s,baz=262,slow=5.4,SNR=19
DLBC Dease Lake 93.86 31 *e*P P 09 16 24.8 +0.9
DURS Dursunbey 93.95 310 *i* P P 09 16 23.5 -1.2
TESR 94.20 317⇑*i*P P 09 16 25.7 0.0
VRI Vrincioaia 94.26 316 ⇓P P 09 16 26.2 +0.2
VRI Vrincioaia 94.26 316⇓*i*P P 09 16 26.2 +0.2
VRI Vrincioaia 94.26 316 *i* P P 09 16 25.7 -0.3
NEF NEVSHA 94.30 314 *i* P P 09 16 25.7 -0.5
PLOR Plostina 94.32 316 ⇑P P 09 16 26.4 +0.1
PLOR Plostina 94.32 316⇑*i*P P 09 16 26.4 +0.1
ISR Istrita 94.51 316 ⇓P P 09 16 27.5 +0.3
ISR Istrita 94.51 316⇓*i*P P 09 16 27.5 +0.3
SART Tekirdag 94.77 311 *i* P P 09 16 27.1 -1.4
MLR Muntele Rosu 94.86 316⇓*i*P P 09 16 29.1 +0.2
SUW Suwalki 94.91 325 *e*P P 09 16 28.8 0.0
SUW Suwalki 94.91 325 *e*P P 09 16 27.8 -0.9
SUW pmax pmax
comp=Z,121nm,0.9s
SUW Suwalki 94.91 325 *e*P P 09 16 27.8 -0.9
comp=Z,121nm,0.9s
SUW Suwalki 94.91 325 *e*P P 09 16 28.7 0.0
JMB Yambol 94.93 313 *i* P P 09 16 28.7 -0.4
BURAR Bucovina Array 94.97 318⇑*i*P P 09 16 29.6 +0.3
BUR08 Bucovina Ar. S 94.98 318 *e*P P 09 16 29.9 +0.5
GCAM G?zelcaml? 95.18 308 *i* P P 09 16 30.1 -0.2
SZH Strazhica 95.26 314 *i* P P 09 16 29.1 -1.5
LVV L'vov 95.30 321 *e*P P 09 16 34.8 +4.2
VOIR 95.50 316 ⇑P P 09 16 31.0 -0.7
VOIR 95.50 316⇑*i*P P 09 16 31.0 -0.7
BOZC Bozcaada 95.76 310 *e*P P 09 16 29.7 -3.2
ARR Arges 95.80 316⇑*i*P P 09 16 33.2 +0.1
KWP Kalwaria Pacla 96.18 321 *e*P P 09 16 35.4 +0.8
KWP Kalwaria Pacla 96.18 321 *e*P P 09 16 35.4 +0.8
LOT Lotru 96.38 316⇑*i*P P 09 16 36.0 +0.2
RZN Rozhen 96.43 312 *i* P P 09 16 34.9 -1.3
KOLS Kolonicke sedl 96.62 320 *e*P P 09 16 37.0 +0.4
KOLS pmax pmax
comp=Z,26nm,1.2s
KOLS Kolonicke sedl 96.62 320 *e*P P 09 16 37.0 +0.4
KOLS *e*PP PP 09 20 32.5 +1.4

TRPA Tarpa 96.63 319⇑*i*P P 09 16 25.4 -11
UZH Uzhgorod 96.67 320⇑*i*P P 09 16 37.0 +0.1
UZH *i* 09 16 43.4
UZH *e* 09 22 36.0
UZH *e* 09 27 08.0
UZH *e*S S 09 27 50.0 -6.2
DRGR 96.81 318 ⇓P P 09 16 38.1 +0.4
DRGR 96.81 318⇓*i*P P 09 16 38.1 +0.4
MPEP Malo Peshtene 96.82 314 *i* P P 09 16 37.2 -0.5
BEL Belsk 96.83 323 *e*P P 09 16 38.4 +0.9
BEL Belsk 96.83 323 *e*P P 09 16 38.4 +0.9
CRVS Cervenica-Dubn 97.15 320 *e*P Pdif 09 16 39.6 +0.5
CRVS pmax pmax
comp=Z,63nm,1.1s
CRVS Cervenica-Dubn 97.15 320 *e*P Pdif 09 16 39.6 +0.5
MMB Musomiste 97.18 313 *i* P P 09 16 37.2 -2.2
DAG Danmarks Havn 97.30 352⇑*i*P P 09 16 38.6 -0.5
comp=Z,423nm,0.9s
VTS Vitosha 97.36 314 ⇑P P 09 16 39.7 -0.6
VTS Vitosha 97.36 314⇑*i*P P 09 16 39.7 -0.6
VTS Vitosha 97.36 314 *i* P P 09 16 39.3 -1.0
IDI Anoyia 97.43 306 *e*P P 09 16 40.3 -0.4
comp=Z,25nm,0.9s
IDI *e*PP PP 09 20 38.7 +0.8
KKB Krupnik 97.59 313 *i* P P 09 16 40.1 -1.1
BZS Buzias 97.82 317 ⇓P P 09 16 41.7 -0.4
BZS Buzias 97.82 317⇓*i*P P 09 16 41.7 -0.4
OJC Ojcow 97.86 322 *e*P Pdif 09 16 42.1 -0.2
OJC Ojcow 97.86 322 *e*P Pdif 09 16 42.1 -0.2
RES Resolute Bay 97.89 10 *e*P Pdif 09 16 42.2 +0.4
comp=Z,30nm,0.9s
VAY Valandovo 98.08 312 *i* P P 09 16 41.3 -2.1
VAY Valandovo 98.08 312⇑*i*P P 09 16 41.6 -1.8
GVD Gavdhos 98.16 306 *e*P P 09 16 43.3 -0.6
comp=Z,44nm,0.7s
PSZ Piszkesteto 98.40 319 ⇓P Pdif 09 16 45.2 +0.4
PSZ Piszkesteto 98.40 319 *e*P P 09 16 44.6 -0.2
comp=Z,51nm,1.5s
PSZ Piszkesteto 98.40 319⇓*i*P Pdif 09 16 45.2 +0.4
PSZ Piszkesteto 98.40 319⇓*e*Pdiff Pdif 09 16 45.4 +0.6
NB2 NORSAR Subarra 98.79 334 P P 09 16 45.0 -1.2
baz=66,slow=4.6
NB2 NORSAR Subarra 98.79 334 P P 09 16 45.0 -1.2
comp=Z,17nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.79 334 P P 09 16 45.0 -1.2
comp=Z,17nm,0.8s,baz=66,slow=4.6,SNR=35
NOA LR LR 10 06 11.5
comp=Z,846nm,21.5s,baz=55,slow=38
NOA NORSAR Array B 98.79 334 P P 09 16 45.0 -1.2
VYHS Vyhne 98.93 320 *e*P Pdif 09 16 47.0 -0.1
VYHS pmax pmax
comp=Z,15nm,1.6s
VYHS Vyhne 98.93 320 PDIF Pdif 09 16 47.0 -0.1
VYHS *e*PP PP 09 20 52.9 +4.1
OKC Ostrava-Krasne 98.99 322 *e*P Pdif 09 16 48.2 +0.9
OKC Ostrava-Krasne 98.99 322 *e*PDIFF Pdif 09 16 48.2 +0.9
NAO01 NORSAR Array S 99.02 333 *e*P Pdif 09 16 46.2 -0.9
comp=Z,21nm,1.0s
LSZ Lusaka 99.08 255 *e*P Pdif 09 16 48.2 -0.3
comp=Z,18nm,0.8s
LSZ *e*PP PP 09 20 57.0 +5.8
MORC Moravsky Berou 99.38 322 ⇓P Pdif 09 16 49.8 +0.7
MORC Moravsky Berou 99.38 322 *e*P Pdif 09 16 49.4 +0.3
comp=Z,69nm,1.7s
MORC *e*PP PP 09 20 55.6 +3.3
MORC Moravsky Berou 99.38 322⇓*i*P Pdif 09 16 49.8 +0.7
YKW3 Yellowknife Ar 99.57 24 *e*Pdif Pdif 09 16 49.7 +0.2
comp=Z,0.3nm,1.4s
YKA Yellowknife Ar 99.60 24 P Pdif 09 16 49.8 +0.2
comp=Z,4.3nm,0.8s,baz=300,slow=4.4,SNR=110
YKA PKKPbc PKKPbc 09 33 09.0 -4.9
comp=Z,1.0nm,0.8s,baz=114,slow=2.0,SNR=12
YKA Yellowknife Ar 99.60 24 P Pdif 09 16 49.9 +0.2
YKA PKKPbc PKKPbc 09 33 09.1 -4.9
PKSM Moragy 99.68 318 ⇑P Pdif 09 16 50.1 -0.3
PKSM Moragy 99.68 318⇑*i*P Pdif 09 16 50.1 -0.3
PKSM Moragy 99.68 318⇓*e*Pdiff Pdif 09 16 50.8 +0.4
KSP Ksiaz 99.82 323 *e*P Pdif 09 16 51.7 +0.7
KSP Ksiaz 99.82 323 *e*P Pdif 09 16 51.7 +0.7
KSP Ksiaz 99.82 323 *e*P Pdif 09 16 51.7 +0.7
DPC Dobruska-Polom 99.96 322 *e*P Pdif 09 16 52.3 +0.6
DPC Dobruska-Polom 99.96 322 *e*PDIFF Pdif 09 16 52.3 +0.6
DPC *ex* x 09 16 58.2
UPC Upice 100.10 323 *e*P Pdif 09 16 53.0 +0.8
UPC Upice 100.10 323 *e*PDIFF Pdif 09 16 53.0 +0.8
RUE Ruedersdorf 100.75 325 *e*Pdif Pdif 09 16 56.1 +1.1
TREC Trest 100.81 322 AMS AMS 10 08 40.0
comp=Z,600nm,15.9s
PVCC Panska Ves 100.96 323 *e*P Pdif 09 16 56.8 +0.8
PVCC Panska Ves 100.96 323 *e*PDIFF Pdif 09 16 56.8 +0.8
PRU Pruhonice 101.16 322 *e*P Pdif 09 16 57.9 +1.0
PRU MLR MLR
comp=Z,500nm,23.8s
PRU Pruhonice 101.16 322 *e*PDIFF Pdif 09 16 57.9 +1.0
PRU AMS AMS 10 07 50.0
comp=Z,500nm,23.8s
BRG Berggiesshubel 101.22 323 *e*PDIF Pdif 09 16 57.6 +0.4
comp=Z,26nm,1.1s
BRG *e*PP PP 09 21 06.6 +0.5
comp=Z,29nm,1.5s
BRG
comp=N,1µm,33.3s
BRG
comp=E,917nm,24.1s
BRG
comp=Z,762nm,16.5s
BRG Berggiesshubel 101.22 323 *e*P Pdif 09 16 57.6 +0.4
BRG *e* 09 21 06.6
BRG pmax pmax
comp=Z,26nm,1.1s
BRG pmax pmax
comp=Z,29nm,1.5s
BRG MLR MLR
comp=N,1µm,33.3s
BRG MLR MLR
comp=E,917nm,24.1s
BRG MLR MLR
comp=Z,762nm,16.5s
BRG Berggiesshubel 101.22 323 *e*Pdiff Pdif 09 16 57.5 +0.3
CLL Collm 101.62 324 *e*P Pdif 09 16 59.0 +0.1
CLL *e* 09 21 14.0
CLL *e*S Sdif 09 28 39.0 +1.2
CLL pmax pmax
comp=Z,3.0nm,1.8s
CLL MLR MLR
comp=Z,600nm,21.2s
CLL Collm 101.62 324 *e*Pdiff Pdif 09 16 58.5 -0.4
CLL Collm 101.62 324 *e*Pdif Pdif 09 16 59.0 +0.1
comp=Z,35nm,1.8s
CLL *ep*Pdif *p*Pdif 09 17 05.0 -4.0
CLL *e*PP PP 09 21 14.0 +5.0
CLL *e*SKKSac SKKSac 09 28 08.0 -5.2
CLL *e*Sdif Sdif 09 28 39.0 +1.2
CLL *e*PS PS 09 30 17.0 +3.3
CLL *e*PPS PPS 09 31 06.0
CLL *e*SSS SSS 09 40 00.0
CLL LmV 10 06 00.0
comp=Z,600nm,21.2s
PERS Pernice 101.89 319 *i* P Pdif 09 17 00.9 +0.6
KHC Kasperske Hory 102.04 322 *e*P Pdif 09 17 01.2 +0.3
KHC MLR MLR
comp=Z,400nm,28.0s
KHC Kasperske Hory 102.04 322 *e*PDIFF Pdif 09 17 01.2 +0.3
KHC *ep*P 09 17 08.4
KHC AMS AMS 10 04 30.0
comp=Z,400nm,28.0s
MOA Molln 102.04 320 ⇓P Pdif 09 17 01.1 +0.2
comp=Z,24nm,1.1s
MOA Molln 102.04 320⇓*i*Pdiff Pdif 09 17 01.1 +0.2
comp=Z,24nm,1.1s
GEC2 GERESS Array S 102.06 322 *e*P Pdif 09 17 01.0 -0.1
GEC2 GERESS Array S 102.06 322 *e*Pdiff Pdif 09 17 01.0 -0.1
GERES GERESS Array B 102.06 322 P Pdif 09 17 01.3 +0.2
comp=Z,6.6nm,1.0s,baz=73,slow=4.5,SNR=29
GERES GERESS Array B 102.06 322 P Pdif 09 17 01.3 +0.2
BOJS Bojanci 102.15 318 *i* P Pdif 09 17 02.2 +0.8
TANN Tannenbergstha 102.26 323 *e*Pdiff Pdif 09 17 02.1 +0.2
VISS Visnje 102.33 318 *i* P Pdif 09 17 02.9 +0.6
NKC Novy Kostel 102.34 323 *e*P Pdif 09 17 02.5 +0.3
NKC Novy Kostel 102.34 323 *e*PDIFF Pdif 09 17 02.5 +0.3
WET Wettzell 102.47 322 *e*P Pdif 09 17 03.2 +0.4
WET Wettzell 102.47 322 *e*Pdiff Pdif 09 17 03.2 +0.4
ROTZ Rotzenmuhle 102.65 323 *e*Pdiff Pdif 09 17 03.6 0.0

MOX Moxa 102.68 324 *e*P Pdif 09 17 04.0 +0.3
MOX Moxa 102.68 324 *e*Pdiff Pdif 09 17 04.0 +0.3
YBH Yreka Blue Hor 102.80 46 Pdiff Pdif 09 17 04.8 +0.2
comp=Z,1.2nm,0.7s,baz=239,slow=5.9,SNR=4.0
YBH Yreka Blue Hor 102.80 46 Pdif Pdif 09 17 04.8 +0.2
JAVS Javornik 102.82 319 *i* P Pdif 09 17 04.9 +0.3
NRDL Niedersach Rie 102.83 326 *e*Pdiff Pdif 09 17 04.9 +0.7
CLZ Clausthal 102.94 325 *e*P Pdif 09 17 05.8 +0.9
CLZ Clausthal 102.94 325 *e*Pdiff Pdif 09 17 05.8 +0.9
RJOB Jochberg 103.01 321 *e*Pdiff Pdif 09 17 05.8 +0.5
GRF Grafenberg Arr 103.27 323 *e*P Pdif 09 17 07.3 +0.9
GRF Grafenberg Arr 103.27 323 *e*Pdif Pdif 09 17 07.3 +0.9
GRF *e*L L 10 07 15.1
comp=Z,544nm,20.9s
SUMG Summit 103.29 355 *i* P Pdif 09 17 06.7 +0.2
comp=Z,5.1nm,0.9s
ABTA Abfaltersbach 103.54 320⇑*i*P Pdif 09 17 06.5 -1.2
comp=Z,11nm,1.3s
ABTA Abfaltersbach 103.54 320⇑*i*Pdiff Pdif 09 17 06.5 -1.2
comp=Z,11nm,1.3s
FUR Furstenfeldbru 103.81 321 *e*P Pdif 09 17 09.6 +0.8
FUR Furstenfeldbru 103.81 321 *e*Pdiff Pdif 09 17 09.6 +0.8
WTTA Wattenberg 103.92 321⇑*i*P Pdif 09 17 09.8 +0.3
comp=Z,25nm,1.4s
WTTA Wattenberg 103.92 321⇑*i*Pdiff Pdif 09 17 09.8 +0.3
comp=Z,25nm,1.4s
MOTA Moosalm 104.22 321⇑*i*P Pdif 09 17 10.9 +0.1
comp=Z,14nm,1.2s
MOTA Moosalm 104.22 321⇑*i*Pdiff Pdif 09 17 10.9 +0.1
comp=Z,14nm,1.2s
A13A Flathead Natio 105.73 37 ⇑P PKiKP 09 21 30.4 +0.2
baz=106
D12A Red Ives Fores 105.92 39 ⇓P PKiKP 09 21 30.6 -0.1
baz=106
BSMT Bassoo Peak 105.95 38 *e*Pdif Pdif 09 17 18.9 +0.4
comp=Z,4.4nm,1.1s
E12A Beaver Dam Sad 106.04 40 ⇑P PKiKP 09 21 31.4 +0.4
baz=106
C13A Hot Springs 106.15 38 ⇓P PKiKP 09 21 30.4 -0.7
baz=106
D13A Huson 106.47 39 ⇓P PKiKP 09 21 31.4 -0.2
baz=106
A15A Johnson Ranch, 106.70 36 ⇓P PKiKP 09 21 31.4 -0.7
baz=107
G12A Big Creek, Yel 106.71 41 ⇑P PKiKP 09 21 32.1 -0.2
baz=107
VNA2 Neumayer--Watz 106.73 194 *e*PKiKP PKiKP 09 21 32.7 +1.4
VNA2 Neumayer--Watz 106.73 194 *e*PP PP 09 21 45.6 -1.0
VNA2 Neumayer--Watz 106.73 194 *es*PKiKP sPKiKP 09 21 55.7 +10
VNA2 Neumayer--Watz 106.73 194 *e*P PKKPbc 09 32 48.7 -4.3
MSO Missoula 106.90 39 ⇑P PKiKP 09 21 32.6 +0.1
baz=107
E13A Victor 106.90 39 ⇑P PKiKP 09 21 32.5 0.0
baz=107
PKM Peak Mountain 106.97 52 ⇑P PKiKP 09 21 32.6 -0.4
baz=107
MFID Camas Ranch 107.03 43 ⇓P PKiKP 09 21 32.5 -0.4
baz=107
NVAR Mina Array Bea 107.03 48 Pdiff Pdif 09 17 24.4 +0.8
comp=Z,2.3nm,1.0s,baz=267,slow=5.2,SNR=9.0
NVAR PKiKP PKiKP 09 21 34.4 +1.3
comp=Z,1.1nm,0.9s,baz=257,slow=2.9,SNR=5.0
NVAR PKKPbc PKKPbc 09 32 51.6 +0.2
comp=Z,1.5nm,0.9s,baz=141,slow=3.5,SNR=9.0
NVAR PKKP PKKPab 09 33 06.2 0.0
comp=Z,4.4nm,0.9s,baz=125,slow=4.5,SNR=15
NVAR Mina Array Bea 107.03 48 Pdif Pdif 09 17 24.4 +0.8
NVAR PKiKP PKiKP 09 21 34.4 +1.3
NVAR PKKPbc PKKPbc 09 32 51.6 +0.2
NVAR PKKP PKKPab 09 33 06.2 0.0
D14A Greenough 107.06 38 ⇑P PKiKP 09 21 32.4 -0.4
baz=107
VNA3 Neumayer Olymp 107.06 194 *e*PKiKP PKiKP 09 21 31.7 -0.3
VNA3 Neumayer Olymp 107.06 194 *es*SKSdf sSKSdf 09 29 08.3 +9.5
VNA3 Neumayer Olymp 107.06 194 *e*P PKKPbc 09 33 04.5 +12
F13A Darby 107.08 40 ⇓P PKiKP 09 21 32.2 -0.7
baz=107
B15A Bradely Ranch, 107.10 37 ⇑P PKiKP 09 21 32.5 -0.3
baz=107
H12A Diamond D Ranc 107.24 41 ⇑P PKiKP 09 21 32.6 -0.7
baz=107
CHMT Chamberlain Mo 107.29 38 *e*PKPdf PKiKP 09 21 33.7 +0.3
C15A Salmond Ranch, 107.31 37 ⇑P PKiKP 09 21 32.5 -0.8
baz=107
E14A Clinton 107.35 39 ⇑P PKiKP 09 21 33.3 -0.1
baz=107
I12A Atlanta 107.36 42 ⇑P PKiKP 09 21 32.8 -0.7
baz=107
B16A M & M Farms, S 107.57 36 ⇑P PKiKP 09 21 32.9 -0.8
baz=108
H13A Challis 107.63 41 ⇓P PKiKP 09 21 33.3 -0.6
baz=108
CABF La Chapelle 107.66 321 *e*PKiKP PKiKP 09 21 33.8 -0.1
comp=Z,44nm,1.4s
CABF La Chapelle 107.66 321 *e*PKPdf PKiKP 09 21 33.8 -0.1
F14A Wisdom 107.68 39 ⇑P PKiKP 09 21 33.4 -0.7
baz=108
D15A Lincoln 107.69 38 ⇑P PKiKP 09 21 33.2 -0.8
baz=108
LPG La Plagne 107.72 320 *e*PKiKP PKiKP 09 21 35.7 +1.4
comp=Z,145nm,1.4s
LPG La Plagne 107.72 320 *e*PKPdf PKiKP 09 21 35.7 +1.4
LPL La Plagne 107.72 320 *e*PKiKP PKiKP 09 21 35.5 +1.3
comp=Z,127nm,1.4s
LPL La Plagne 107.72 320 *e*PKPdf PKiKP 09 21 35.5 +1.3
E15A Deer Lodge 107.88 39 ⇑P PKiKP 09 21 33.7 -0.7
baz=108
A17A Triple J Farms 107.91 36 ⇓P PKiKP 09 21 34.1 -0.2
baz=108
HLID Hailey 107.93 42 ⇓P PKiKP 09 21 34.1 -0.5
baz=108
SBF Sospel 107.94 318 *e*PKiKP PKiKP 09 21 34.4 -0.1
comp=Z,113nm,1.5s
SBF Sospel 107.94 318 *e*PKPdf PKiKP 09 21 34.4 -0.1
J13A Cove Ranch, Pi 108.15 42 ⇓P PKiKP 09 21 35.1 +0.1
baz=108
D16A Dana Ranch, Ca 108.29 38 ⇑P PKiKP 09 21 35.2 +0.1
baz=108
EDW2 Edwards Air Fo 108.40 52 ⇑P PKiKP 09 21 35.4 -0.2
baz=108
MPMC Manual Prospec 108.42 50 ⇓P PKiKP 09 21 35.5 -0.3
baz=108
A18A Metzger Ranch, 108.42 35 ⇑P PKiKP 09 21 35.2 0.0
baz=108
LRMC Laurel Mountai 108.45 51 ⇑P PKiKP 09 21 35.0 -0.7
baz=108
C17A Wharram Farm, 108.49 37 ⇓P PKiKP 09 21 35.3 -0.1
baz=108
FRF La Foret Royal 108.59 318 *e*PKiKP PKiKP 09 21 35.8 +0.2
comp=Z,38nm,1.2s
FRF La Foret Royal 108.59 318 *e*PKPdf PKiKP 09 21 35.8 +0.2
H15A Lima 108.66 40 ⇑P PKiKP 09 21 36.0 0.0
baz=108
D17A Six Diamond Ra 108.76 37 ⇑P PKiKP 09 21 35.8 -0.2
baz=109
FURC Furnace Creek, 108.76 50 ⇑P PKiKP 09 21 36.1 0.0
baz=109
LMR La Mourre 108.77 318 *e*PKiKP PKiKP 09 21 35.6 -0.3
comp=Z,34nm,1.4s
LMR La Mourre 108.77 318 *e*PKPdf PKiKP 09 21 35.6 -0.3
F16A Kennard Place, 108.80 39 ⇑P PKiKP 09 21 36.4 +0.3
baz=109
BOZ Bozeman (W) 108.86 39 ⇑P PKiKP 09 21 36.4 +0.1
baz=109
EGMT Eagleton 108.90 36 ⇑P PKiKP 09 21 36.5 +0.3
baz=109
G16A Moss Hill, Enn 108.93 40 ⇑P PKiKP 09 21 36.6 +0.2
baz=109
E17A Martinsdale 108.97 38 ⇑P PKiKP 09 21 37.0 +0.5
baz=109
A19A Klindworth Far 109.05 35 ⇑P PKiKP 09 21 36.6 +0.2
baz=109
R11A Troy Canyon, C 109.07 47 ⇓P PKiKP 09 21 37.2 +0.3
baz=109
SMRF Simiane la Rot 109.12 319 *e*PKiKP PKiKP 09 21 36.1 -0.5
comp=Z,51nm,1.4s
SMRF Simiane la Rot 109.12 319 *e*PKPdf PKiKP 09 21 36.1 -0.5
K14A Jones Ranch, D 109.17 43 ⇑P PKiKP 09 21 37.3 +0.4
baz=109
B19A Brinkman Farms 109.17 36 ⇑P PKiKP 09 21 37.1 +0.5
baz=109
D18A Linhart Farms, 109.27 37 ⇓P PKiKP 09 21 37.3 +0.4
baz=109
J15A Blackfoot 109.31 41 ⇓P PKiKP 09 21 37.8 +0.7
baz=109
VIVF Saint-Julien-l 109.32 320 *e*PKiKP PKiKP 09 21 37.2 +0.2
comp=Z,55nm,1.5s

VIVF	Saint-Julien-I	109.32	320	ePKPdf	PKiKP	09 21 37.2	+0.2
FFC	Flin Flon	109.34	27	eP	Pdif	09 17 33.9	+0.7
FFC	Flin Flon	109.34	27	ePdif	Pdif	09 17 33.9	+0.7
F17A	Fitzpatrick Pl baz=109	109.35	39	⇓P	PKiKP	09 21 38.0	+0.9
BBRC	Big Bear Solar baz=109	109.44	52	⇑P	PKiKP	09 21 38.2	+0.5
C19A	Slack Wire Ran baz=109	109.46	36	⇓P	PKiKP	09 21 38.1	+0.9
H16A	Russell Place, baz=109	109.52	40	⇑P	PKiKP	09 21 38.6	+1.0
A20A	Cobblestone Ra baz=109	109.54	35	⇑P	PKiKP	09 21 38.4	+1.1
K15A	Arbon baz=109	109.54	42	⇓P	PKiKP	09 21 38.3	+0.7
G17A	Pierce Place, baz=109	109.56	39	⇑P	PKiKP	09 21 38.6	+1.0
HEC	Hector,Ludlow baz=110	109.71	51	⇓P	PKiKP	09 21 38.4	+0.3
I16A	Newdale baz=110	109.72	41	⇓P	PKiKP	09 21 38.9	+0.9
TUQ	Turquoise Moun baz=110	109.83	50	⇓P	PKiKP	09 21 39.1	+0.7
D19A	Cripps Ranch, baz=110	109.84	37	⇑P	PKiKP	09 21 38.6	+0.6
F18A	Big Timber baz=110,SNR=7.1	109.93	38	⇑P	PKiKP	09 21 38.9	+0.7
PFO	Pinyon Flat Ob baz=110	110.01	52	⇑P	PKiKP	09 21 39.6	+0.8
C20A	Veseth Ranch, baz=110	110.08	36	⇑P	PKiKP	09 21 39.3	+0.9
LKWY	Lake	110.12	40	eP	Pdif	09 17 36.6	-0.6
LKWY	Lake	110.12	40	ePdif	Pdif	09 17 36.6	-0.6
LASF	Ste Croix comp=Z,64nm,1.4s	110.19	320	ePKIKP	PKiKP	09 21 40.8	+2.2
LASF	Ste Croix	110.19	320	ePKPdf	PKiKP	09 21 40.8	+2.2
E19A	Rath Farm, Rou baz=110	110.23	37	⇑P	PKiKP	09 21 39.5	+0.7
BELC	Belle Mtn. Jos baz=110	110.25	52	⇑P	PKiKP	09 21 39.8	+0.6
GMRC	Granite Mounta baz=110	110.25	51	⇓P	PKiKP	09 21 39.8	+0.6
MONP	Monument Peak baz=110	110.27	53	⇑P	PKiKP	09 21 39.7	+0.3
DUG	Dugway baz=110	110.36	45	⇓P	PKiKP	09 21 39.5	+0.2
REDW	Red Top Meadow	110.36	41	ePKPdf	PKiKP	09 21 40.2	+0.9
SNOW	Snow King Moun	110.38	41	ePKPdf	PKiKP	09 21 40.7	+1.4
F19A	Roth Farm, Mol baz=110	110.43	38	⇓P	PKiKP	09 21 39.6	+0.4
J17A	Brown Place, J baz=110	110.45	41	⇑P	PKiKP	09 21 39.5	+0.1
H18A	Shoshone NF, C baz=110	110.53	39	⇓P	PKiKP	09 21 39.5	0.0
C21A	Desert Coulee baz=110	110.55	35	⇑P	PKiKP	09 21 39.7	+0.4
L16A	Fish Haven baz=110	110.56	42	⇑P	PKiKP	09 21 39.7	+0.1
RLMT	Red Lodge baz=110	110.58	39	⇓P	PKiKP	09 21 39.9	+0.3
A22A	Carney Farms, baz=110	110.62	34	⇓P	PKiKP	09 21 39.8	+0.5
BC3	Big Chuckawall baz=111	110.79	52	⇓P	PKiKP	09 21 40.3	+0.1
IRM	Iron Mountain baz=111	110.86	51	⇑P	PKiKP	09 21 40.3	+0.1
L17A	Cokeville baz=111	110.90	42	⇓P	PKiKP	09 21 40.0	-0.3
GRR	Gorron	110.94	325	ePKIKP	PKiKP	09 21 38.8	-1.1
GRR	Gorron	110.94	325	ePKIKP	PKiKP	09 21 38.8	-1.1
GRR	Gorron	110.94	325	ePKPdf	PKiKP	09 21 38.8	-1.1
H19A	Powell baz=111	110.97	39	⇑P	PKiKP	09 21 40.1	-0.1
J18A	Kendall Valley baz=111	110.97	41	⇓P	PKiKP	09 21 40.7	+0.3
P15A	Leamington baz=111	110.99	45	⇑P	PKiKP	09 21 40.8	+0.3
D21A	La Casta Ranch baz=111	111.00	36	⇑P	PKiKP	09 21 40.7	+0.5
G20A	Bridger baz=111	111.18	38	⇓P	PKiKP	09 21 41.0	+0.4
A23A	Redstone baz=111	111.21	34	⇑P	PKiKP	09 21 41.4	+1.0
K18A	Toltan Ranch, baz=111	111.22	41	⇑P	PKiKP	09 21 41.8	+0.9
O16A	Springville baz=111	111.28	44	⇑P	PKiKP	09 21 41.8	+0.8
C22A	Vida baz=111	111.30	35	⇓P	PKiKP	09 21 41.6	+0.9
M17A	Scullys Gap (B baz=111	111.31	43	⇓P	PKiKP	09 21 41.6	+0.5
B23A	Brockton baz=111	111.42	34	⇑P	PKiKP	09 21 41.7	+0.8
N17A	Moffit Pass baz=111	111.43	43	⇑P	PKiKP	09 21 42.5	+1.1
D22A	Cohagen baz=111	111.44	36	⇓P	PKiKP	09 21 42.0	+1.0
BW06	Boulder Array baz=111	111.48	41	⇑P	PKiKP	09 21 41.9	+0.5
PDAR	Pinedale Array comp=Z,1.3nm,0.8s,baz=250,slow=1.8,SNR=8.6	111.48	41	PKiKP	PKiKP	09 22 42.1	+0.7
PDAR	comp=Z,1.8nm,0.9s,baz=126,slow=4.6,SNR=9.4			PKKPbc	PKKPbc	09 32 34.6	-2.7
PDAR	comp=Z,5.0nm,0.9s,baz=119,slow=5.6,SNR=17			PKKPab	PKKPab	09 32 45.4	-1.1
PDAR	Pinedale Array	111.48	41	PKiKP	PKiKP	09 22 42.1	+0.7
PDAR				PKKPbc	PKKPbc	09 32 34.6	-2.7
PDAR				PKKPab	PKKPab	09 32 45.4	-1.1
W13A	Hualapai Mount baz=111	111.51	50	⇓P	PKiKP	09 21 42.9	+1.2
L18A	Fontenelle, Gr baz=111	111.54	42	⇑P	PKiKP	09 21 42.1	+0.5
J19A	Crowheart baz=112	111.58	40	⇑P	PKiKP	09 21 42.0	+0.5
MTLF	Montolieu	111.58	320	ePKIKP	PKiKP	09 21 41.7	+0.4
MTLF	Montolieu	111.58	320	ePKIKP	PKiKP	09 21 41.7	+0.4
MTLF	Montolieu	111.58	320	ePKPdf	PKiKP	09 21 41.7	+0.4
PDMCI	Parker Dam,Lak baz=112	111.59	51	⇑P	PKiKP	09 21 42.3	+0.8
C23A	Lambert baz=112	111.66	35	⇓P	PKiKP	09 21 42.4	+1.1
H20A	Greybull baz=112,SNR=6.9	111.67	39	⇑P	PKiKP	09 21 42.0	+0.5
A24A	Westby baz=112	111.71	33	⇓P	PKiKP	09 21 42.0	+0.6
M18A	Lyman baz=112	111.74	43	⇓P	PKiKP	09 21 42.4	+0.5
O17A	Robinson Place baz=112	111.81	44	⇑P	PKiKP	09 21 42.5	+0.4
I20A	Worland baz=112,SNR=7.4	111.85	39	⇓P	PKiKP	09 21 42.6	+0.7
DGMT	Dagmar baz=112	111.86	34	⇑P	PKiKP	09 21 42.9	+1.2
L19A	Farson baz=112	111.91	42	⇓P	PKiKP	09 21 43.3	+1.0
K19A	Absolon Red Bu baz=112,SNR=6.1	111.92	41	⇓P	PKiKP	09 21 42.5	+0.3
E22A	Miles City baz=112	111.94	36	⇑P	PKiKP	09 21 42.8	+0.9
D23A	Lindsay baz=112	111.99	35	⇑P	PKiKP	09 21 43.0	+1.0
Q16A	Castle Valley baz=112	112.04	45	⇑P	PKiKP	09 21 43.0	+0.5
F22A	Rosebud baz=112	112.10	37	⇑P	PKiKP	09 21 42.9	+0.6
P17A	Butcher Ranch, baz=112	112.12	45	⇑P	PKiKP	09 21 42.9	+0.3
J20A	Shoshoni baz=112,SNR=5.6	112.16	40	⇓P	PKiKP	09 21 42.7	+0.2
H21A	Big Horn, Sher baz=112	112.20	38	⇑P	PKiKP	09 21 42.8	+0.2
U15A	North Rim baz=112	112.22	48	⇓P	PKiKP	09 21 43.4	+0.3
O18A	Roosevelt baz=112	112.29	44	⇑P	PKiKP	09 21 43.2	+0.3
M19A	Rock Springs baz=112	112.32	42	⇓P	PKiKP	09 21 43.4	+0.4
K20A	Yellowstone Ra baz=112	112.32	41	⇑P	PKiKP	09 21 43.3	+0.4
P18A	Preston Nutter baz=112	112.40	44	⇓P	PKiKP	09 21 43.2	-0.1
SRU	San Rafael baz=112	112.42	45	⇓P	PKiKP	09 21 43.5	+0.3
I21A	Big Trails, Te baz=112	112.44	39	⇓P	PKiKP	09 21 43.1	0.0
J21A	Lysite baz=112	112.57	40	⇓P	PKiKP	09 21 43.8	+0.4
N19A	John Jarvie Ra baz=112	112.58	43	⇑P	PKiKP	09 21 43.7	+0.2
Y14A	Wickenburg baz=112	112.60	51	⇓P	PKiKP	09 21 43.8	+0.3
L20A	Wamsutter baz=112	112.63	41	⇓P	PKiKP	09 21 43.9	+0.3
F23A	Volborg baz=112	112.64	37	⇑P	PKiKP	09 21 43.8	+0.5
I22A	9 Mile Ranch, baz=113	112.91	39	⇑P	PKiKP	09 21 44.2	+0.2
G23A	Biddle baz=113	112.92	37	⇑P	PKiKP	09 21 44.3	+0.4
EPF	Esparros	112.94	320	ePKIKP	PKiKP	09 21 43.1	-0.8
EPF	Esparros	112.94	320	ePKIKP	PKiKP	09 21 43.1	-0.8
EPF	Esparros	112.94	320	ePKPdf	PKiKP	09 21 43.1	-0.8
K21A	Alcova baz=113,SNR=6.3	113.04	40	⇓P	PKiKP	09 21 44.4	+0.1
F24A	Ekalaka baz=113	113.14	36	⇓P	PKiKP	09 21 44.6	+0.3
J22A	Midwest baz=113,SNR=10	113.16	39	⇓P	PKiKP	09 21 44.7	+0.3
N20A	Spence Gulch, baz=113	113.22	42	⇓P	PKiKP	09 21 45.4	+0.6
WUAZ	Wupatki baz=113	113.26	49	⇑P	PKiKP	09 21 45.5	+0.6
P19A	Cripple Cowboy baz=113	113.27	44	⇓P	PKiKP	09 21 45.6	+0.7
L21A	Rawlins baz=113	113.29	41	⇓P	PKiKP	09 21 45.2	+0.4
Q19A	Hogan Spring (baz=113	113.37	45	⇓P	PKiKP	09 21 45.7	+0.7
S18A	Hurst Farm, Bl baz=113	113.39	46	⇓P	PKiKP	09 21 45.6	+0.4
G24A	Alzada baz=113	113.44	37	⇑P	PKiKP	09 21 45.3	+0.4
214A	Organ Pipe Nat baz=113	113.46	53	⇑P	PKiKP	09 21 45.6	+0.4
M21A	Separation Pea baz=113,SNR=8.8	113.46	41	⇓P	PKiKP	09 21 45.6	+0.4
K22A	Casper baz=113,SNR=5.9	113.50	40	⇓P	PKiKP	09 21 45.5	+0.4
O20A	White River Ci baz=113	113.56	43	⇓P	PKiKP	09 21 46.0	+0.6
ETSF	Etsaut comp=Z,11nm,0.9s	113.58	320	ePKIKP	PKiKP	09 21 45.5	+0.3
ETSF	Etsaut	113.58	320	ePKIKP	PKiKP	09 21 45.5	+0.3
ETSF	Etsaut	113.58	320	ePKPdf	PKiKP	09 21 45.5	+0.3
X16A	Lo Mia Camp, P baz=114	113.63	50	⇑P	PKiKP	09 21 46.4	+0.8
H24A	Dirks Ranch, A baz=114	113.66	37	⇓P	PKiKP	09 21 45.8	+0.5
P20A	De Beque baz=114	113.74	44	⇑P	PKiKP	09 21 46.1	+0.4
N21A	Black Mountain baz=114,SNR=8.9	113.76	42	⇓P	PKiKP	09 21 46.6	+0.8
SJPF	Ste Jean comp=Z,44nm,1.5s	113.89	321	ePKIKP	PKiKP	09 21 45.3	-0.4
SJPF	Ste Jean	113.89	321	ePKIKP	PKiKP	09 21 45.3	-0.4
SJPF	Ste Jean	113.89	321	ePKPdf	PKiKP	09 21 45.3	-0.4
O21A	Pagoda baz=114	114.04	43	⇓P	PKPdf	09 21 46.9	+0.6
Q20A	Ridgley Place, baz=114	114.05	44	⇑P	PKPdf	09 21 46.7	+0.4
M22A	Cedar Creek Ra baz=114	114.06	41	⇑P	PKPdf	09 21 47.0	+0.6
PV01	Paradox Valley	114.22	45	ePKPdf	PKPdf	09 21 48.1	+1.3
RSSD	Black Hills	114.31	38	ePKIKP	PKPdf	09 21 47.0	+0.3
RSSD	Black Hills	114.31	38	ePKPdf	PKPdf	09 21 47.0	+0.2
R20A	Redvale baz=114	114.33	45	⇑P	PKPdf	09 21 47.5	+0.6
P21A	Newcastle baz=114	114.38	43	⇑P	PKPdf	09 21 47.6	+0.6
N22A	Wattenberg Ran baz=114,SNR=6.7	114.45	42	⇑P	PKPdf	09 21 48.5	+1.3
S20A	Disappointment baz=114	114.50	45	⇓P	PKPdf	09 21 48.3	+1.0
U19A	Dine' College, baz=114	114.55	47	⇑P	PKPdf	09 21 48.6	+1.1
K24A	Anderson Ranch baz=114	114.56	39	⇑P	PKPdf	09 21 47.2	0.0
MVCO	Mesa Verde baz=115	114.67	46	⇑P	PKPdf	09 21 49.2	+1.5
X18A	Snowflake baz=115	114.72	49	⇓P	PKPdf	09 21 48.5	+0.7
N23A	Red Feather La baz=115	114.74	42	⇑P	PKPdf	09 21 48.5	+0.8
P22A	Eagle baz=115	114.82	43	⇓P	PKPdf	09 21 48.2	+0.3
R21A	Cimarron baz=115	114.84	45	⇓P	PKPdf	09 21 49.2	+1.3
S21A	Coal Bank Pass baz=115	114.98	45	⇑P	PKPdf	09 21 50.0	+1.6
U20A	Newcomb baz=115	115.02	47	⇑P	PKPdf	09 21 49.4	+1.2
Q22A	Crested Butte, baz=115	115.06	44	⇓P	PKPdf	09 21 49.6	+1.2
ULM	Lac du Bonnet comp=Z,4.2nm,0.6s,baz=301,slow=3.1,SNR=7.8	115.07	29	PKP	PKPdf	09 21 46.9	-0.8
ULM	Lac du Bonnet	115.07	29	PKP	PKPdf	09 21 46.9	-0.8
O23A	Lake Granby, G baz=115,SNR=5.1	115.09	42	⇑P	PKPdf	09 21 49.1	+0.6
V20A	Brimhall baz=115	115.30	48	⇑P	PKPdf	09 21 49.2	+0.4
R22A	Saguache, Gunn baz=115	115.45	44	⇓P	PKPdf	09 21 50.3	+1.0
T21A	Navajo Lake baz=115	115.46	46	⇓P	PKPdf	09 21 50.0	+0.9
ISCO	Idaho Springs	115.50	42	ePKIKP	PKPdf	09 21 49.8	+0.6
ISCO	Idaho Springs	115.50	42	ePKPdf	PKPdf	09 21 49.8	+0.6
ISCO	Idaho Springs baz=115,SNR=6.1	115.50	42	⇓P	PKPdf	09 21 49.8	+0.6
P23A	Jefferson baz=115	115.55	43	⇓P	PKPdf	09 21 50.3	+0.9
W20A	Ramah baz=116	115.56	48	⇑P	PKPdf	09 21 50.2	+0.8
K26A	Motz Farm, Whi baz=116	115.59	39	⇓P	PKPdf	09 21 49.5	+0.4
U21A	Nageezi baz=116	115.62	47	⇓P	PKPdf	09 21 51.0	+1.5
S22A	4UR Ranch, Cre baz=116	115.62	45	⇓P	PKPdf	09 21 50.8	+1.3
Q23A	Hartsel baz=116	115.78	43	⇑P	PKPdf	09 21 50.5	+0.7
T22A	Edith baz=116	115.91	46	⇑P	PKPdf	09 21 51.5	+1.5
V21A	Milan baz=116	115.91	47	⇓P	PKPdf	09 21 50.9	+0.8
P24A	Kohler Place, baz=116	116.11	42	⇓P	PKPdf	09 21 51.0	+0.7
R23A	Moffat baz=116	116.12	44	⇓P	PKPdf	09 21 51.4	+0.9
Y20A	Horse Springs, baz=116	116.16	49	⇓P	PKPdf	09 21 51.9	+1.3
K27A	Fleckinger Fa baz=116	116.18	38	⇑P	PKPdf	09 21 50.5	+0.3
S23A	Nye Farm, Mont baz=116	116.22	45	⇓P	PKPdf	09 21 52.4	+1.7
U22A	Llaves baz=116	116.23	46	⇑P	PKPdf	09 21 52.5	+1.8
Z20A	Nine Sixteen R baz=116	116.32	50	⇓P	PKPdf	09 21 52.4	+1.6
O25A	Wiggins baz=116	116.34	41	⇑P	PKPdf	09 21 52.1	+1.4
X21A	Alamocita Cree baz=116	116.38	49	⇓P	PKPdf	09 21 52.4	+1.4
V22A	San Miguel Ran baz=116	116.39	47	⇑P	PKPdf	09 21 52.3	+1.3
319A	Douglas baz=116	116.47	52	⇑P	PKPdf	09 21 52.5	+1.4
T23A	Casias Ranch, baz=116	116.51	45	⇓P	PKPdf	09 21 52.2	+0.9
120A	Bar Ranch, L baz=116	116.52	51	⇑P	PKPdf	09 21 52.4	+1.2
P25A	Willow Gulch B baz=116,SNR=9.4	116.61	42	⇓P	PKPdf	09 21 52.2	+1.0
Y21A	Point of Rocks baz=116	116.65	49	⇑P	PKPdf	09 21 53.3	+1.8
U23A	El Rito baz=117	116.72	46	⇓P	PKPdf	09 21 52.8	+1.2
O26A	Horse Wrangler baz=117	116.80	41	⇓P	PKPdf	09 21 52.2	+0.7
S24A	Houchin Ranch, baz=117	116.81	44	⇓P	PKPdf	09 21 52.9	+1.0
Q25A	Bedland, Calha baz=117,SNR=5.6	116.85	43	⇑P	PKPdf	09 21 52.4	+0.7
220A	Playas Peak, P baz=117	116.86	51	⇓P	PKPdf	09 21 53.1	+1.2
LAZ	Ladron	116.88	48	ePKPdf	PKPdf	09 21 53.3	+1.4
X22A	Bernardo baz=117	116.94	48	⇓P	PKPdf	09 21 53.4	+1.4
Z21A	St. Cloud Mine baz=117	116.94	50	⇑P	PKPdf	09 21 53.4	+1.3
V23A	Ortiz Mt. (NFS baz=117	117.00	47	⇑P	PKPdf	09 21 53.7	+1.6
N27A	Anderson Farm, baz=117	117.01	40	⇑P	PKPdf	09 21 52.4	+0.5
320A	Kipp Ranch, An baz=117	117.08	52	⇑P	PKPdf	09 21 53.5	+1.2
P26A	Davis Ranch, A baz=117,SNR=14	117.13	42	⇑P	PKPdf	09 21 53.3	+1.1
ANMO	Albuquerque comp=Z,4.7nm,0.9s,baz=257,slow=1.5,SNR=20	117.15	48	PKP	PKPdf	09 21 53.9	+1.4
ANMO	Albuquerque	117.15	48	ePKPdf	PKPdf	09 21 53.7	+1.3
ANMO				PKP	PKPdf	09 21 53.9	+1.4
121A	Cookes Peak, D baz=117	117.18	51	⇓P	PKPdf	09 21 54.0	+1.4
T24A	Torres, Weston baz=117	117.19	45	⇑P	PKPdf	09 21 54.0	+1.4
R25A	Fountain Ranch baz=117	117.21	43	⇑P	PKPdf	09 21 53.0	+0.6
Y22A	Socorro baz=117	117.21	49	⇓P	PKPdf	09 21 53.6	+1.1
W23A	Werner Place, baz=117	117.28	47	⇓P	PKPdf	09 21 53.6	+0.9
Q26A	Hugo baz=117,SNR=6.1	117.34	42	⇑P	PKPdf	09 21 53.5	+0.9
S25A	Robets Cordova baz=117	117.34	44	⇑P	PKPdf	09 21 53.6	+0.9
O27A	Beecher Island baz=117	117.37	41	⇓P	PKPdf	09 21 53.2	+0.6
BNM	Barren Site	117.37	48	ePKPdf	PKPdf	09 21 54.0	+1.1
ESDC	Sonseca Array comp=Z,0.4nm,0.3s,baz=7.5,slow=2.8,SNR=5.5	117.43	319	PKP	PKPdf	09 21 53.4	+0.8
ESDC	Sonseca Array	117.43	319	PKP	PKPdf	09 21 53.4	+0.8
Z22A	Elephant Butte baz=117	117.50	49	⇓P	PKPdf	09 21 54.2	+1.1
X23A	Hourglass Bar baz=117	117.51	48	⇑P	PKPdf	09 21 54.0	+0.8
T25A	Trinidad baz=118,SNR=8.0	117.61	45	⇑P	PKPdf	09 21 54.3	+1.0
P27A	Ficken Ranch, baz=118	117.64	41	⇑P	PKPdf	09 21 53.8	+0.7
V24A	Rampart Ranch, baz=118	117.66	46	⇑P	PKPdf	09 21 54.9	+1.4
R26A	Arlington baz=118,SNR=7.0	117.70	43	⇑P	PKPdf	09 21 54.1	+0.8
122A	Conniff Cattle baz=118	117.71	50	⇓P	PKPdf	09 21 55.1	+1.6
W24A	Lazy 6 Ranch, baz=118	117.80	47	⇓P	PKPdf	09 21 55.1	+1.4
222A	Williams Famil baz=118	117.88	51	⇓P	PKPdf	09 21 55.2	+1.3
KSCO	Kaye Shedlock' baz=118	117.89	42	⇑P	PKPdf	09 21 54.7	+1.0
Y23A	Lovelace Mesa, baz=118	117.90	48	⇑P	PKPdf	09 21 55.0	+1.0
U25A	Circle Dot Ran baz=118,SNR=9.7	117.97	45	⇓P	PKPdf	09 21 54.9	+1.0
S26A	Kim baz=118,SNR=6.0	118.03	44	⇑P	PKPdf	09 21 54.7	+0.7
Z23A	Rita Site, Whi baz=118	118.06	49	⇓P	PKPdf	09 21 55.1	+1.0
V25A	Rancho No Teng baz=118,SNR=17	118.08	46	⇓P	PKPdf	09 21 55.3	+1.1
R27A	Eads baz=118,SNR=5.7	118.15	43	⇑P	PKPdf	09 21 54.9	+0.8
T26A	Comanche Natio baz=118,SNR=15	118.16	44	⇑P	PKPdf	09 21 55.4	+1.1
123A	Bell Site, Whi baz=118	118.30	50	⇑P	PKPdf	09 21 56.0	+1.4
Y24A	Capitan baz=118	118.36	48	⇓P	PKPdf	09 21 55.8	+1.0
U26A	Atchley Ranch, baz=118,SNR=7.0	118.44	45	⇓P	PKPdf	09 21 55.8	+1.0
223A	Chaparral, Ant baz=118	118.44	51	⇑P	PKPdf	09 21 56.2	+1.3
W25A	X Bar L Ranch, baz=118,SNR=8.9	118.49	46	⇑P	PKPdf	09 21 56.1	+1.1
X25A	Clemmons Ranch baz=118,SNR=6.2	118.66	47	⇑P	PKPdf	09 21 56.0	+0.7
Z24A	Sheeppen Canyo baz=119	118.68	49	⇑P	PKPdf	09 21 56.8	+1.4
V26A	Tequesquite Ra baz=119,SNR=8.6	118.70	46	⇓P	PKPdf	09 21 55.6	+0.3
T27A	Campo baz=119	118.82	44	⇓P	PKPdf	09 21 56.5	+0.9
124A	Stringfield Ra baz=119	118.89	49	⇑P	PKPdf	09 21 56.9	+1.0
ECSD	EROS Data Cent	118.90	35	ePKPdf	PKPdf	09 21 55.2	-0.1
Y25A	Mesa, Roswell baz=119,SNR=19	118.91	48	⇓P	PKPdf	09 21 56.5	+0.7
POLO	Lamas de Olo	118.93	322	ePKPdf	PKPdf	09 21 56.8	+1.3
PVRL	Vila Real	118.94	322	ePKPdf	PKPdf	09 21 56.7	+1.2
W26A	Owens Ranch, T baz=119,SNR=5.4	119.05	46	⇓P	PKPdf	09 21 57.0	+1.0
224A	Cornudas Mount baz=119	119.11	50	⇓P	PKPdf	09 21 57.4	+1.2
Z25A	Roswell baz=119,SNR=9.4	119.19	49	⇑P	PKPdf	09 21 57.5	+1.2
T28A	Walsh baz=119	119.21	43	⇑P	PKPdf	09 21 56.8	+0.6
X26A	CR and CF Fran baz=119,SNR=9.7	119.27	47	⇑P	PKPdf	09 21 57.2	+0.7
MTE	Manteigas	119.34	321	ePKPdf	PKPdf	09 21 57.2	+0.9
PVIS	Viseu	119.37	322	ePKPdf	PKPdf	09 21 57.3	+0.9
MNTX	Cornudas Mount	119.38	50	ePKPdf	PKPdf	09 21 57.7	+1.2
MNTX				epPKPdf	pPKPdf	09 22 07.9	+1.0
MNTX	Cornudas Mount baz=119	119.38	50	⇑P	PKPdf	09 21 57.8	+1.2
324A	Moseley Ranch, baz=119	119.41	51	⇑P	PKPdf	09 21 57.6	+0.8
BGNE	Belgrade baz=119	119.42	37	⇓P	PKPdf	09 21 56.6	+0.2
125A	Gardner Draw, baz=119,SNR=9.7	119.51	49	⇓P	PKPdf	09 21 57.8	+0.8
Y26A	Elida baz=119	119.55	47	⇓P	PKPdf	09 21 57.6	+0.6
W27A	Bowe Ranch, En baz=120,SNR=9.4	119.57	46	⇓P	PKPdf	09 21 57.8	+0.8
225A	Deer Hill, Car baz=120,SNR=9.1	119.63	50	⇓P	PKPdf	09 21 58.4	+1.1
Z26A	Caprock baz=120,SNR=5.8	119.74	48	⇑P	PKPdf	09 21 57.6	+0.2
PMRV	Marv??o	119.79	320	ePKPdf	PKPdf	09 21 57.8	+0.7
V28A	Channing baz=120,SNR=6.9	119.83	45	⇑P	PKPdf	09 21 58.1	+0.7
325A	Bean Ranch, Si baz=120,SNR=11	119.83	51	⇓P	PKPdf	09 21 58.2	+0.5
GDL2	Guadalupe Moun	119.94	49	ePKPdf	PKPdf	09 21 58.1	+0.4
SPMN	St. Paul baz=120	119.99	31	⇓P	PKPdf	09 21 57.4	+0.1
126A	Clayton Basin, baz=120,SNR=6.4	120.00	49	⇑P	PKPdf	09 21 58.3	+0.5
Y27A	Causey baz=120,SNR=15	120.06	47	⇑P	PKPdf	09 21 58.7	+0.7
425A	Indio Mountain baz=120,SNR=16	120.07	51	⇓P	PKPdf	09 21 58.6	+0.5
V29A	Stinnett baz=120	120.26	44	⇑P	PKPdf	09 21 58.8	+0.6
CLNB	Carlsbad	120.27	49	ePKPdf	PKPdf	09 21 59.3	+0.9
MSTX	Muleshoe baz=120,SNR=12	120.30	47	⇑P	PKPdf	09 21 58.9	+0.5
X28A	Dimmitt baz=120,SNR=12	120.45	46	⇑P	PKPdf	09 21 59.2	+0.5
127A	Arkansas Junct baz=120,SNR=7.4	120.48	49	⇑P	PKPdf	09 21 59.0	+0.2
326A	Caldwell Ranch baz=120	120.62	50	⇓P	PKPdf	09 21 59.5	+0.5
AMTX	Amarillo baz=120	120.64	46	⇓P	PKPdf	09 21 59.8	+0.8
SCHQ	Schefferville comp=Z,10nm,0.9s,baz=285,slow=3.7,SNR=13	120.65	9	PKP	PKPdf	09 21 58.8	+0.5
SCHQ	Schefferville	120.65	9	ePKPdf	PKPdf	09 21 58.9	+0.5
EVO	Evora comp=Z,23nm,0.9s	120.69	320	ePKIKP	PKPdf	09 21 59.8	+0.9
Y28A	McKinney Farm, baz=121,SNR=9.1	120.71	47	⇑P	PKPdf	09 22 00.1	+0.9
EVOP	Sao Brissos	120.77	320	ePKIKP	PKPdf	09 21 59.8	+0.8
EVOP	Sao Brissos	120.77	320	ePKPdf	PKPdf	09 21 59.8	+0.8
X29A	Tulia baz=121	120.85	46	⇓P	PKPdf	09 22 00.3	+0.9
426A	McDonald Obser baz=121,SNR=5.9	120.87	51	⇑P	PKPdf	09 22 00.4	+0.6
Z28A	Tucker Farm, M baz=121	120.91	47

526A	Mary Lane Ranc	121.08	52	⇑P		PKPdf	09 22 00.7 +0.6
	baz=121,SNR=18						
128A	Castleberry Fa	121.15	48	⇓P		PKPdf	09 22 00.6 +0.5
	baz=121,SNR=5.9						
Y29A	Porterfield Fa	121.16	47	⇓P		PKPdf	09 22 00.9 +0.9
	baz=121						
PCVE	Castro Verde	121.21	319	*e*PKPdf		PKPdf	09 22 01.4 +1.5
PNCL	Nicolau / Gran	121.27	319	*e*PKPdf		PKPdf	09 22 00.7 +0.7
626A	Big Bend Ranch	121.27	52	⇓P		PKPdf	09 22 00.9 +0.5
	baz=121,SNR=9.4						
427A	Hayter Ranch,	121.27	50	⇑P		PKPdf	09 22 01.5 +1.2
	baz=121,SNR=18						
228A	UT Block 9, Go	121.31	49	⇓P		PKPdf	09 22 00.9 +0.5
	baz=121						
527A	Woodward Ranch	121.42	51	⇑P		PKPdf	09 22 01.6 +0.8
	baz=121,SNR=28						
Z29A	Hungry Hill Ra	121.42	47	⇑P		PKPdf	09 22 01.1 +0.5
	baz=121						
328A	Wristen Ranch,	121.48	50	⇓P		PKPdf	09 22 01.6 +0.9
	baz=121,SNR=20						
129A	Stewart Farms,	121.61	48	⇑P		PKPdf	09 22 01.8 +0.9
	baz=122,SNR=10.0						
TXAR	Lajitas Array	121.73	52	PKP		PKPdf	09 22 02.0 +0.7
	comp=Z,5.0nm,0.9s,baz=267,slow=1.8,SNR=38						
TXAR				PKKPab		PKKPab	09 32 01.9 +0.6
	comp=Z,0.7nm,0.8s,baz=136,slow=5.0,SNR=8.2						
TXAR	Lajitas Array	121.73	52	PKP		PKPdf	09 22 02.0 +0.7
TXAR				PKKPab		PKKPab	09 32 01.9 +0.6
KSU1	Kansas State U	121.73	39	*e*PKPdf		PKPdf	09 22 01.3 +0.4
Z30A	Sanderson Ranc	121.83	47	⇑P		PKPdf	09 22 01.8 +0.5
	baz=122						
428A	Kincaid Ranch,	121.88	50	⇑P		PKPdf	09 22 02.8 +1.3
	baz=122,SNR=28						
627A	Terlingua Ranc	121.90	52	⇓P		PKPdf	09 22 02.2 +0.6
	baz=122,SNR=36						
229A	Bryant Ranch,	121.97	49	⇓P		PKPdf	09 22 02.1 +0.5
	baz=122						
528A	Cox Ranch, San	122.05	51	⇓P		PKPdf	09 22 02.8 +0.9
	baz=122,SNR=10						
329A	Wagon Wheel Ra	122.06	49	⇓P		PKPdf	09 22 02.7 +0.8
	baz=122,SNR=10						
628A	Black Gap, Mar	122.27	52	⇓P		PKPdf	09 22 03.1 +0.8
	baz=122,SNR=17						
529A	Stev Forest Ra	122.51	51	⇑P		PKPdf	09 22 03.5 +0.8
	baz=122,SNR=36						
230A	Sterling City	122.53	48	⇓P		PKPdf	09 22 03.0 +0.4
	baz=122						
429A	Davenport Ranc	122.53	50	⇓P		PKPdf	09 22 03.3 +0.6
	baz=122,SNR=34						
330A	Mertzon	122.71	49	⇑P		PKPdf	09 22 03.0 0.0
	baz=123						
WMOK	Wichita Mounta	122.76	44	*e*PKIKP		PKPdf	09 22 03.4 +0.4
WMOK				*e*			09 23 37.9
WMOK	Wichita Mounta	122.76	44	*e*PKPdf		PKPdf	09 22 03.4 +0.4
WMOK				*e*PP		PP	09 23 37.9 -2.6
TOA0	Torodi Ar. Sit	122.83	288	*e*PKPdf		PKPdf	09 22 03.6 0.0
TOA0				*e*PP		PP	09 23 42.6 +0.7
TORD	Torodi Ar. Bea	122.83	288	PKP		PKPdf	09 22 03.6 0.0
	comp=Z,19nm,0.9s,baz=90,slow=1.7,SNR=90						
TORD				PP		PP	09 23 44.4 +2.4
	comp=Z,8.1nm,1.0s,baz=67,slow=5.6,SNR=6.4						
TORD				PKKPbc		PKKPbc	09 31 55.4 -0.5
	comp=Z,0.6nm,0.5s,baz=237,slow=3.5,SNR=8.1						
TORD	Torodi Ar. Bea	122.83	288	PKP		PKPdf	09 22 03.6 0.0
TORD				PP		PP	09 23 44.4 +2.4
TORD				PKKPbc		PKKPbc	09 31 55.4 -0.5
430A	Baggett Ranch,	122.96	49	⇓P		PKPdf	09 22 04.4 +0.8
	baz=123						
231A	Bronte	123.09	48	⇓P		PKPdf	09 22 04.0 +0.3
	baz=123						
530A	J-C Ranch, Com	123.18	50	⇓P		PKPdf	09 22 05.0 +1.1
	baz=123						
ABTX	Abilene, Hawle	123.24	47	⇓P		PKPdf	09 22 04.5 +0.5
	baz=123						
331A	San Angelo	123.32	49	⇓P		PKPdf	09 22 04.6 +0.4
	baz=123						
431A	Sonora	123.48	49	⇑P		PKPdf	09 22 05.2 +0.7
	baz=123						
531A	Rocksprings	123.77	50	⇑P		PKPdf	09 22 05.9 +0.8
	baz=124						
332A	Millersview	123.79	48	⇑P		PKPdf	09 22 05.8 +0.7
	baz=124						
432A	Menard	124.00	49	⇓P		PKPdf	09 22 05.9 +0.3
	baz=124						
631A	Perdido Creek	124.10	51	⇑P		PKPdf	09 22 06.4 +0.7
	baz=124						
TUL1	Tulsa	124.13	41	⇑P		PKPdf	09 22 06.1 +0.5
	baz=124						
532A	Rocksprings	124.28	50	⇑P		PKPdf	09 22 06.9 +0.8
	baz=124						
632A	Uvalde	124.67	50	⇑P		PKPdf	09 22 08.0 +1.2
	baz=125						
732A	Laxson Ranch,	124.89	51	⇑P		PKPdf	09 22 08.3 +1.1
	baz=125						
HDIL	Hopedale	125.08	33	*e*PKPdf		PKPdf	09 22 07.3 +0.1
WHTX	Lake Whitney	125.16	46	⇑P		PKPdf	09 22 08.5 +0.9
	baz=125						
SFIN	Scholer Farm	126.38	32	⇑P		PKPdf	09 22 10.1 +0.3
	baz=126						
MIAR	Mount Ida	126.40	41	*e*PKIKP		PKPdf	09 22 10.3 +0.4
MIAR				*e*			09 22 21.1
MIAR	Mount Ida	126.40	41	*e*PKPdf		PKPdf	09 22 10.3 +0.4
MIAR				*ep*PKPdf		pPKPdf	09 22 21.1 +0.8
OLIL	Olney	127.02	34	*e*PKPdf		PKPdf	09 22 11.6 +0.6
SIUC	Southern Illin	127.08	36	*e*PKPdf		PKPdf	09 22 12.0 +0.9
HKT	Hockley	127.42	48	*e*PKIKP		PKPdf	09 22 13.0 +1.1
HKT	Hockley	127.42	48	*e*PKPdf		PKPdf	09 22 13.0 +1.1
USHA	Ushuaia	127.55	169	PKP		PKPdf	09 22 12.1 +0.7
	comp=Z,11nm,0.9s,baz=315,slow=2.9,SNR=4.4						
USHA	Ushuaia	127.55	169	PKP		PKPdf	09 22 12.1 +0.7
BLO	Bloomington	127.56	32	*e*PKIKP		PKPdf	09 22 12.8 +0.8
BLO	Bloomington	127.56	32	*e*PKPdf		PKPdf	09 22 12.8 +0.8
GNAR	Gosnell	127.77	38	*e*PKPdf		PKPdf	09 22 14.0 +1.5
GNAR				*e*SKPdf		SKPdf	09 25 44.8 -1.0
USIN	University of	127.80	34	*e*PKPdf		PKPdf	09 22 13.4 +0.9
HALT	Halls	128.22	37	*e*PKPdf		PKPdf	09 22 14.8 +1.5
WCI	Wyandotte Cave	128.37	33	*e*PKPdf		PKPdf	09 22 13.5 -0.1
ACSO	Alum Creek Sta	128.57	29	*e*PKPdf		PKPdf	09 22 14.5 +0.6
WVT	Waverly	128.98	36	*e*PKIKP		PKPdf	09 22 14.8 0.0
WVT	Waverly	128.98	36	*e*PKPdf		PKPdf	09 22 14.8 0.0
OXF	Oxford	129.10	39	*e*PKIKP		PKPdf	09 22 14.9 -0.2
OXF				*e*			09 22 25.9
OXF	Oxford	129.10	39	*e*PKPdf		PKPdf	09 22 14.9 -0.2
OXF				*ep*PKPdf		pPKPdf	09 22 25.9 +0.5
HNH	Hanover	129.87	18	*e*PKPdf		PKPdf	09 22 18.0 +1.7
HNH				*e*PP		PP	09 24 25.8 -0.9
DBIC	Dimbokro	130.48	282	PKP		PKPdf	09 22 18.5 +0.3
	comp=Z,13nm,0.9s,baz=74,slow=1.8,SNR=11						
DBIC	Dimbokro	130.48	282	*e*PKPdf		PKPdf	09 22 18.5 +0.3
SWET	Sewanee	130.72	36	*e*PKPdf		PKPdf	09 22 18.1 -0.1
LIC	Lamto	130.72	281	⇑*i*PKIKP		PKPdf	09 22 19.7 +1.0
	comp=Z,37nm,0.8s						
LIC	Lamto	130.72	281	⇑*i*PKPdf		PKPdf	09 22 19.7 +1.0
TZTN	Tazewell	131.09	32	*e*PKPdf		PKPdf	09 22 19.5 +0.7
LRAL	Lakeview Retre	131.58	38	*e*PKPdf		PKPdf	09 22 20.0 +0.2
TKL	Tuckaleechee C	131.62	33	PKP		PKPdf	09 22 20.6 +0.6
	comp=Z,20nm,0.9s,baz=213,slow=3.1,SNR=15						
TKL	Tuckaleechee C	131.62	33	*e*PKPdf		PKPdf	09 22 20.5 +0.6
TKL				*e*PP		PP	09 24 36.3 -2.4
KMSC	Kings Mountain	133.32	32	⇓P		PKPdf	09 22 24.1 +1.1
	baz=133						
CMIG	Matias Romero	134.13	62	PKP		PKPdf	09 22 26.4 +1.3
	comp=Z,9.4nm,0.9s,baz=332,slow=2.5,SNR=8.8						
CMIG	Matias Romero	134.13	62	PKP		PKPdf	09 22 26.4 +1.3
TEIG	Tepich	138.32	54	PKP		PKPdf	09 22 34.1 +1.4
	comp=Z,11nm,0.9s,baz=3.8,slow=3.2,SNR=9.0						
TEIG	Tepich	138.32	54	PKP		PKPdf	09 22 34.1 +1.4
PLCA	Paso Flores	139.99	160	PKP		PKPdf	09 22 35.3 -0.1
	comp=Z,19nm,1.0s,baz=266,slow=1.2,SNR=13						
PLCA	Paso Flores	139.99	160	PKP		PKPdf	09 22 35.3 -0.1
PLCA				PKPdf		PKiKP	09 22 35.5 -2.3
TGUH	Tegucigalpa,Un	142.06	62	*e*PKPdf		PKPdf	09 22 37.1 -2.5
PAYG	Puerto Ayora	143.01	86	*e*PKPdf		PKPdf	09 22 40.1 -1.4
PAYG				*e*			09 26 13.8
TRQA	Tornquist	144.88	168	*e*PKPdf		PKPdf	09 22 43.4 -0.7
SACV	Santiago Islan	145.17	303	*e*PKPbc		PKPab	09 22 44.7 -0.1
JTS	JuntasAbangare	145.64	66	PKPbc		PKPab	09 22 46.6 0.0
	baz=236,slow=3.6						
JTS	JuntasAbangare	145.64	66	PKPbc		PKPab	09 22 46.6 0.0
CLCH	Cerro Calan	146.36	154	⇑*e*P		PKPab	09 22 48.7 -0.1
FCH	Farellones	146.53	154	*e*P		PKPbc	09 22 48.4 -0.4
MTDJ	Mount Denham	147.75	47	*e*PKPbc		PKPbc	09 22 53.0 +0.7
BBJ	Bamboo Saint A	147.85	46	*i* P		PKPab	09 22 53.6 -1.4
CMCH	Combarbala	148.00	151	⇓*e*P		PKPbc	09 22 52.7 0.0
BNJ	Bonny Gate	148.12	46	*i* P		PKPab	09 22 54.3 -1.8
GTBY	Guantanamo Bay	148.29	42	*e*PKPdf		PKPbc	09 22 52.0 -1.6
GTBY				*e*PKPbc		PKiKP	09 22 54.7 -0.6
STH	Stony Hill	148.38	46	*i* P		PKPbc	09 22 55.0 +1.0
GWJ	Greenwich	148.44	46	*i* P		PKPbc	09 22 55.3 +1.0
HOJ	Hope	148.47	46	*i* P		PKPbc	09 22 54.6 +0.5
YHJ	Yallahs	148.72	46	*i* P		PKPbc	09 22 55.7 +0.8
CFAA	Coronel Fontan	148.89	155	PKP		PKPdf	09 22 51.8 +0.7
	comp=Z,7.4nm,0.9s,baz=226,slow=3.4,SNR=26						
CFAA	Coronel Fontan	148.89	155	PKP		PKPdf	09 22 51.8 +0.7
TLL	Tololo Astrono	148.91	150	*e*P		PKPdf	09 22 52.0 +0.7
GRTK	Grand Turk	149.53	34	*e*PKPbc		PKPbc	09 22 57.9 +1.2
GRTK				*e*PKPab		PKPab	09 23 03.0 +1.4
LCO	Las Campanas	149.90	149	*e*PKPdf		PKPdf	09 22 53.9 +0.9
LCO				*e*PKPbc		PKiKP	09 22 58.7 -0.1
LCO				*e*PKPab		PKPab	09 23 02.7 -0.6
BCIP	Isla Barro Col	150.71	64	*e*PKPbc		PKPbc	09 23 00.0 +0.2
SDDR	Presa de Saban	151.42	37	*e*PKPdf		PKPdf	09 22 56.2 +0.9
SDDR				*e*PKPbc		PKiKP	09 23 02.2 +0.3
SDDR				*e*PKPab		PKPab	09 23 10.2 +0.7
LRS	Lares	154.47	31	*e*PKPdf		PKPdf	09 22 59.8 +0.1
LRS				*e*PKPab		PKPab	09 23 22.9 +0.6
CRPR	Cabo Rojo, PR	154.57	32	*e*PKPdf		PKPdf	09 22 59.3 -0.5
OTAV	Otavalo	154.65	82	*e*PKPdf		PKPdf	09 23 01.4 +0.8
CELP	Cerrillos	154.78	31	*e*PKPdf		PKPdf	09 23 00.7 +0.6
CELP				*e*PKPab		PKPab	09 23 24.1 +0.5
ATAH	Atahualpa	154.87	99	PKP		PKPdf	09 23 02.6 +1.8
	comp=Z,19nm,1.1s,baz=279,slow=2.3,SNR=13						
ATAH	Atahualpa	154.87	99	PKP		PKPdf	09 23 02.6 +1.8
SJG	San Juan	154.97	30	PKP		PKPdf	09 23 00.2 -0.1
	comp=Z,8.4nm,0.3s,baz=90,slow=1.6,SNR=3.4						
SJG	San Juan	154.97	30	PKP		PKPdf	09 23 00.2 -0.1
MTP	Monte Pirata	155.27	29	*e*PKPdf		PKPdf	09 23 01.6 +0.8
MTP				*e*PKPab		PKPab	09 23 26.0 +0.4
STVI	Saint Thomas	155.33	27	*e*PKPdf		PKPdf	09 23 01.5 +0.7
STVI				*e*PKPab		PKPab	09 23 26.2 +0.4
NNA	Nana	155.36	111	PKP		PKPdf	09 23 01.2 +0.2
	comp=Z,3.0nm,0.3s,baz=199,slow=2.2,SNR=4.6						
NNA	Nana	155.36	111	PKP		PKP	09 23 01.2
NNA				*e*PKPdf		PKPdf	09 23 01.5 +0.4
NNA				*e*PKPbc		PKPab	09 23 11.2 -15
NNA				*e*PKPab		PKPab	09 23 26.5 +0.1
CPUP	Villa Florida	157.15	171	PKP		PKPdf	09 23 03.6 +0.6
	comp=Z,8.3nm,1.0s,baz=184,slow=1.3,SNR=11						
CPUP	Villa Florida	157.15	171	PKP		PKPdf	09 23 03.6 +0.6
ROSC	El Rosal	157.43	68	PKP		PKPdf	09 23 04.7 +0.4
	comp=Z,2.2nm,0.5s,baz=91,slow=21,SNR=5.7						
ROSC	El Rosal	157.43	68	PKP		PKP	09 23 04.7
ROSC				*e*PKPdf		PKPdf	09 23 05.3 +1.0
CAM4	Nova Friburgo	158.66	209	⇑*i*P		PKPab	09 23 41.2 +0.7
CAM4				*i*			09 23 44.2
CAM4				*i*			09 23 50.4
CAM4				*i*			09 24 03.8
CAM4				*i*			09 24 08.6
CAM4				*i*			09 24 21.9
CAM4				*i*			09 24 35.9
LPAZ	La Paz	160.83	132	PKP		PKPdf	09 23 09.6 +1.2
	comp=Z,15nm,1.1s,baz=334,slow=2.6,SNR=26						
LPAZ	La Paz	160.83	132	*e*PKPdf		PKPdf	09 23 09.4 +1.0
LPAZ				PKP		PKP	09 23 09.6
RCBR	Riachuelo	162.44	262	PKP		PKPdf	09 23 10.5 +1.1
	comp=Z,16nm,1.0s,baz=118,slow=1.4,SNR=4.6						
RCBR				PKPab		PKPab	09 23 57.7 +0.4
	comp=Z,61nm,0.9s,baz=82,slow=5.4,SNR=22						
RCBR	Riachuelo	162.44	262	PKP		PKPdf	09 23 10.5 +1.1
RCBR				PKPab		PKPab	09 23 57.7 +0.4
SIV	San Ignacio	165.61	149	PKP		PKPdf	09 23 12.8 +0.6
	comp=Z,7.6nm,1.0s,baz=230,slow=2.7,SNR=20						
SIV	San Ignacio	165.61	149	PKP		PKPdf	09 23 12.8 +0.6
BDFB	Brasília	166.98	204	PKP		PKPdf	09 23 13.4 0.0
	comp=Z,3.0nm,0.5s,baz=53,slow=4.3,SNR=6.7						
BDFB				PKPab		PKPab	09 24 17.7 +0.9
	comp=Z,10nm,1.0s,baz=10.0,slow=2.3,SNR=7.0						
BDFB	Brasília	166.98	204	PKP		PKPdf	09 23 13.4 0.0
BDFB				PKPab		PKPab	09 24 17.7 +0.9
SAML	Samuel	168.94	119	*e*PKPdf		PKPdf	09 23 15.1 +0.4

IDC 18 09:12:57.9±7.5, 18.07S×176.74W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=328.0km s-min=38.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.16	259	P	P	09 21 24.2	-0.5
	0.4nm,0.4s,baz=95,slow=7.0,SNR=11						
ASAR	Alice Springs	46.28	254	P	P	09 21 25.9	+0.2
	1.1nm,0.4s,baz=95,slow=7.4,SNR=17						
ILAR	Eielson Array	85.69	12	P	P	09 25 38.3	0.0
	0.3nm,0.5s,baz=224,slow=4.9,SNR=4.4						

ISCJB 18 09:15:59.0±1.0, 52.90N±0.10×167.38W±0.09, h51km±8km, mb3.8/9, Error ellipse: s-maj=17.7km s-min=5.9km az=157.6
NEIC 18 09:15:59.8, 52.86N×167.36W, h22km, ML3.6(AEIC), After AEIC.
IDC 18 09:16:00.9±6.0, 52.94N×167.33W, h52km±52km, mb3.7/10, mb1 3.9/11, mb1mx3.7/29, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=36.7km s-min=17.9km az=162.0
ISC 18 09:15:59.9±1.7, 52.9N±0.1×167.37W±0.06, h43km±15km, n28, σ0°90/34, mb3.8/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	Magazine Ridge	0.59	327	P	Pn	09 16 11.4	-0.6
OKFG				S	Sn	09 16 21.1	+0.5
OKSO	Okmok South	0.65	313	P	Pn	09 16 11.8	-0.9
OKSO				S	Sn	09 16 21.4	-0.5
OKCE	Okmok Cone E	0.70	317	P	Pn	09 16 13.2	-0.3
OKCE				S	Sn	09 16 26.3	+3.1
NIKO	Nikolski	0.90	274	P	Pn	09 16 14.8	-1.3
NIKO				S	Sn	09 16 27.3	-0.6
MGOD	Makushin Gods	0.93	19	P	Pn	09 16 15.8	-0.8
MREP	Makushin Rep't	0.97	23	P	Pn	09 16 16.9	-0.3
MSW	Makushin Switc	1.06	19	P	Pn	09 16 17.8	-0.5
UNV	Unalaska Valle	1.07	29	P	Pn	09 16 17.1	-1.3
UNV				S	Sn	09 16 32.6	+0.6
MCIR	Makushin Cirqu	1.07	15	P	Pn	09 16 18.7	+0.1
AKRB	Akutan Reef Bi	1.44	32	P	Pn	09 16 23.6	0.0
AKLV	Akutan Long Va	1.51	34	P	Pn	09 16 25.1	+0.6
AKGG	Akutan Green G	1.52	32	P	Pn	09 16 25.1	+0.4
AKUT	Akutan	1.55	37	P	Pn	09 16 25.3	+0.3
WESE	West Dahl East	2.27	46	P	Pn	09 16 35.2	+0.2
KOFP	Korovin Flat P	4.15	264	P	Pn	09 17 02.1	+1.4
ATKA	Atka Island	4.22	263	P	Pn	09 17 02.4	+0.7
SPIA	Saint Paul Isl	4.58	340	P	Pn	09 17 06.3	-0.3
ILAR	Eielson Array	15.82	33	P	Pn	09 19 38.6	-0.6
	0.1nm,0.3s,baz=223,slow=11,SNR=3.9						
PETK	Petropavlovsk-	20.89	285	P	P	09 20 39.3	+1.0
	1.5nm,0.4s,baz=87,slow=11,SNR=17						
INK	Inuvik	22.22	33	P	P	09 20 52.2	-0.1
	2.0nm,0.5s,baz=237,slow=8.8,SNR=13						
YKA	Yellowknife Ar	28.96	50	P	P	09 21 55.0	+0.3
	0.5nm,0.4s,baz=275,slow=7.8,SNR=8.4						
YKA				PcP	PcP	09 25 02.0	-0.3
	0.3nm,0.4s,baz=280,slow=3.0,SNR=7.1						
MJAR	Matsushiro Arr	40.93	269	P	P	09 23 37.8	-0.1
	1.0nm,0.6s,baz=49,slow=6.0,SNR=4.6						
TXAR	Lajitas Array	51.53	91	P	P	09 25 01.2	-0.2
	1.5nm,0.9s,baz=305,slow=4.9,SNR=4.2						
FINES	FINESS Array B	65.48	353	P	P	09 26 36.7	-1.3
	1.9nm,0.8s,baz=15,slow=5.8,SNR=7.0						
CMAR	Chiang Mai Arr	77.67	284	P	P	09 27 52.6	+0.7
	0.7nm,0.3s,baz=26,slow=6.1,SNR=7.9						
BRTR	Keskin Array B	85.95	344	P	P	09 28 36.0	+0.6
	1.8nm,0.8s,baz=36,slow=2.7,SNR=7.4						
WRA	Warramunga Arr	88.30	233	P	P	09 28 46.0	-0.7
	0.3nm,0.7s,baz=95,slow=3.0,SNR=4.5						
ASAR	Alice Springs	91.69	232	P	P	09 29 02.2	-0.2
	0.1nm,0.5s,baz=40,slow=6.1,SNR=4.9						

CSEM 18 09:30:45.0, 44.44N×20.69E, h0km, ML1.1, After BEO
BEO 18 09:30:45.0±1.5, 44.44N×20.69E, h0km, ML1.1/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRUS	Trudelj	0.30	223	*e*Pg	Pg	09 30 50.7	0.0
TRUS				*e*Sg	Sg	09 30 53.5	-1.1
TRUS	Trudelj	0.30	223	*e*Pg	Pg	09 30 50.7	0.0
TRUS				*e*Sg	Sg	09 30 53.5	-1.1
GRUS	Gruza	0.55	178	*e*Sg	Sg	09 31 02.4	-0.4
GRUS	Gruza	0.55	178	*e*Sg	Sg	09 31 02.4	-0.4
DIVS	Divibare	0.61	236	*e*Pg	Pg	09 30 56.1	-0.7
DIVS				*e*Sg	Sg	09 31 04.4	-0.4
DIVS	Divibare	0.61	236	*e*Pg	Pg	09 30 56.1	-0.7
DIVS				*e*Sg	Sg	09 31 04.4	-0.4
IVAS	Ivanjica	0.95	204	*e*Pg	Pg	09 31 00.9	-2.4
IVAS				*e*Sg	Sg	09 31 15.4	-0.2
IVAS	Ivanjica	0.95	204	*e*Pg	Pg	09 31 00.9	-2.4
IVAS				*e*Sg	Sg	09 31 15.4	-0.2

CSEM 18 09:47:05.9±0.1, 40.85N×27.71E, h20km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.0km az=163.0
DDA 18 09:47:05.9, 40.82N×27.78E, h7km, MD3.0, ML3.2
ISK 18 09:47:05.2, 40.81N×27.75E, h14km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKR	Tekirdag	0.24	318	*e*PG	Pb	09 47 11.4	-0.1
TKR				*e*SG	Sb	09 47 15.5	-0.1
TKR	Tekirdag	0.24	318	*e*Pg	Pb	09 47 11.4	0.0
TKR				*e*Sg	Sb	09 47 15.5	-0.1
MFT	Murefte	0.36	267	*e*PG	Pg	09 47 12.8	+0.2
MFT				*e*SG	Sb	09 47 18.8	-0.3
MFT	Murefte	0.36	267	*e*Pg	Pg	09 47 12.8	+0.2
MFT				*e*Sg	Sb	09 47 18.8	-0.3
SART	Tekirdag	0.45	255	*i* P	Pb	09 47 14.7	-0.3
SART				*i* S	Sg	09 47 20.6	+0.1
SART	Tekirdag	0.45	255	*i* P	Pb	09 47 14.7	-0.4
SART				*i* S	Sg	09 47 20.6	+0.1
RKY	Sarkoy-Tekirda	0.45	255	*e*PG	Pg	09 47 14.6	+0.3
RKY				*e*SG	Sb	09 47 21.2	-0.6
RKY	Sarkoy-Tekirda	0.45	255	*e*Pg	Pg	09 47 14.6	+0.3
RKY				*e*Sg	Sb	09 47 21.2	-0.6
KRBG	Karabiga-Canak	0.54	220	*e*PG	Pb	09 47 16.2	-0.2
KRBG	Karabiga-Canak	0.54	220	*e*Pg	Pb	09 47 16.2	-0.3
SLVT	Silivri	0.54	39	*e*PG	Pb	09 47 16.8	+0.2
SLVT	Silivri	0.54	39	*e*Pg	Pb	09 47 16.8	+0.2
CTKS	Kestanelik-??a	0.71	53	*e*PG	Pg	09 47 19.2	+0.1
CTKS	Kestanelik-??a	0.71	53	*e*Pg	Pg	09 47 19.2	+0.1
GONE	Gonen-Balikesi	0.76	184	*e*PG	Pb	09 47 20.6	+0.3
GONE	Gonen-Balikesi	0.76	184	*e*Pg	Pb	09 47 20.6	+0.3
CTYL	Yal??k??y-??at	0.78	31	*e*PG	Pb	09 47 20.6	0.0
CTYL	Yal??k??y-??at	0.78	31	*e*Pg	Pb	09 47 20.6	+0.1
BGKT	Bogazkoy	0.86	64	*e*PG	Pb	09 47 21.9	0.0
BGKT	Bogazkoy	0.86	64	*e*Pg	Pb	09 47 21.9	0.0
LPK	Lapseki	0.87	240	*e*PG	Pg	09 47 22.1	0.0
LPK	Lapseki	0.87	240	*e*Pg	Pg	09 47 22.1	0.0
ARMT	Armutlu	0.88	106	*e*PG	Pn	09 47 22.8	-0.4
ARMT	Armutlu	0.88	106	*e*Pg	Pn	09 47 22.8	-0.4
MDNY	Mudanya-Bursa	0.97	117	*e*PG	Pn	09 47 24.6	+0.2
MDNY	Mudanya-Bursa	0.97	117	*e*Pg	Pn	09 47 24.6	+0.3
ISK	Istanbul-Kandi	1.02	75	*e*PG	Pb	09 47 24.6	-0.1
ISK	Istanbul-Kandi	1.02	75	*e*Pg	Pb	09 47 24.6	-0.1
BUY	Buyukada	1.04	87	*i* P	Pb	09 47 24.9	0.0
BUY				*i* S	Sn	09 47 39.8	+0.2

3.4nm,0.5s,baz=353,slow=8.2,SNR=12
SONM Songino Array 47.39 341 P P 10 02 34.7 -2.1
0.3nm,0.6s,baz=158,slow=8.0,SNR=3.9

IDC 18 10:11:18.3±2.8,3°.15S×100°.26E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.6/24,mbtmp3.6/7,Error ellipse: s-maj=119.0km s-min=19.4km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.51**	**357**	P	P	10 16 09.0	-0.1
	0.5nm,0.3s,baz=186,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**37.20**	**119**	P	P	10 18 31.2	-0.5
	0.3nm,0.4s,baz=299,slow=8.6,SNR=8.7						
ASAR	**Alice Springs**	**38.38**	**125**	P	P	10 18 41.6	-0.1
	0.2nm,0.4s,baz=301,slow=8.2,SNR=6.1						
SONM	**Songino Array**	**51.06**	**5**	P	P	10 20 22.6	0.0
	0.6nm,0.7s,baz=187,slow=8.7,SNR=6.6						
SONM				PcP	PcP	10 21 38.3	-0.2
	0.2nm,0.5s,baz=180,slow=2.9,SNR=2.8						
MKAR	**Makanchi Array**	**52.20**	**344**	P	P	10 20 30.7	-0.3
	1.1nm,0.7s,baz=158,slow=8.7,SNR=13						
KURBB	**Kurchatov Arra**	**56.72**	**344**	P	P	10 21 03.5	-0.2
	0.5nm,0.7s,baz=159,slow=6.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**58.34**	**349**	P	P	10 21 14.7	-0.4
	0.9nm,0.5s,baz=159,slow=6.3,SNR=4.8						
TXAR	**Lajitas Array**	**145.45**	**39**	PKPbc	PKPab	10 30 59.5	0.0
	0.5nm,0.6s,baz=302,slow=0.8,SNR=8.8						

*NEIC **18** 10:13:31.7,35°.42S×178°.82E,h235km,MG4.6(WEL), After WEL.*
WEL 18 10:13:31.4±0.5,35°.34S×178°.93E,h223km±9km,ML4.6/12, 4D,Error ellipse: s-maj=7.0km s-min=6.9km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**193**	PN	Pn	10 14 14.4	+0.2
MXZ				SN	S	10 14 47.4	-0.4
MXZ	**Matakaoa Point**	**2.27**	**193**	Pn	Pn	10 14 14.4	+0.2
MXZ				Sn	S	10 14 46.4	-1.4
PUZ	**Puketiti**	**2.78**	**191**	PN	Pn	10 14 19.8	+0.1
PUZ				SN	S	10 14 57.9	+0.3
PUZ	**Puketiti**	**2.78**	**191**	Pn	Pn	10 14 19.8	+0.1
PUZ				Sn	S	10 14 56.4	-1.2
CNGZ	**Carnagh Statio**	**3.19**	**190**	⇓PN	Pn	10 14 24.8	+0.5
CNGZ				SN	S	10 15 06.1	+0.2
CNGZ	**Carnagh Statio**	**3.19**	**190**	Pn	Pn	10 14 24.8	+0.5
MWZ	**Matawai**	**3.19**	**200**	PN	Pn	10 14 24.4	0.0
MWZ				SN	S	10 15 05.9	-0.1
MWZ	**Matawai**	**3.19**	**200**	Pn	Pn	10 14 24.4	0.0
MWZ				Sn	S	10 15 06.3	-0.1
URZ	**Urewera**	**3.26**	**206**	⇓PN	Pn	10 14 24.4	-0.6
URZ				SN	S	10 15 07.2	0.0
URZ	**Urewera**	**3.26**	**206**	Pn	Pn	10 14 24.4	-0.6
TARZ	**Mount Tarawera**	**3.48**	**213**	PN	Pn	10 14 28.5	+0.7
TARZ				SN	S	10 15 11.7	-0.5
TARZ	**Mount Tarawera**	**3.48**	**213**	Pn	Pn	10 14 28.5	+0.7
RRRZ	**Republican Roa**	**3.56**	**212**	PN	Pn	10 14 28.9	+0.2
PRGZ	**Paritu Road**	**3.67**	**193**	PN	Pn	10 14 29.7	-0.3
PRGZ	**Paritu Road**	**3.67**	**193**	Pn	Pn	10 14 29.7	-0.3
PRRZ	**Plateau Road**	**3.75**	**212**	PN	Pn	10 14 30.8	-0.1
PRRZ	**Plateau Road**	**3.75**	**212**	Pn	Pn	10 14 30.8	-0.1
KNZ	**Kokohu**	**3.81**	**195**	PN	Pn	10 14 30.8	-0.8
KNZ	**Kokohu**	**3.81**	**195**	Pn	Pn	10 14 30.8	-0.8
ALRZ	**Allen Road**	**3.83**	**212**	PN	Pn	10 14 31.6	-0.2
ALRZ	**Allen Road**	**3.83**	**212**	Pn	Pn	10 14 31.6	-0.2
RAHZ	**Arahi**	**3.86**	**202**	PN	Pn	10 14 31.8	-0.5
RAHZ	**Arahi**	**3.86**	**202**	Pn	Pn	10 14 31.8	-0.5
MHGZ	**Mahia Peninsul**	**3.89**	**192**	PN	Pn	10 14 32.5	-0.1
MHGZ	**Mahia Peninsul**	**3.89**	**192**	Pn	Pn	10 14 32.5	-0.1
NMHZ	**Naumai**	**4.11**	**204**	PN	Pn	10 14 35.0	-0.4
NMHZ	**Naumai**	**4.11**	**204**	Pn	Pn	10 14 35.0	-0.4
BKZ	**Black Stump Fm**	**4.28**	**206**	PN	Pn	10 14 36.4	-1.1
BKZ	**Black Stump Fm**	**4.28**	**206**	Pn	Pn	10 14 36.4	-1.1
OUZ	**Omahuta**	**4.36**	**270**	*e*Pn	Pn	10 14 34.6	-3.8
MCHZ	**McNeill Hill**	**4.46**	**203**	PN	Pn	10 14 38.8	-0.8
MCHZ	**McNeill Hill**	**4.46**	**203**	Pn	Pn	10 14 38.8	-0.8
HIZ	**Hauiti**	**4.55**	**225**	PN	Pn	10 14 42.0	+1.4
CKHZ	**Cape Kidnapper**	**4.55**	**198**	PN	Pn	10 14 40.0	-0.7
CKHZ	**Cape Kidnapper**	**4.55**	**198**	Pn	Pn	10 14 40.0	-0.7
WPVZ	**Whakapapa**	**4.71**	**214**	PN	Pn	10 14 42.2	-0.6
WPVZ	**Whakapapa**	**4.71**	**214**	Pn	Pn	10 14 42.2	-0.6
BHHZ	**Black Hill Sta**	**4.73**	**208**	PN	Pn	10 14 41.5	-1.4
BHHZ	**Black Hill Sta**	**4.73**	**208**	Pn	Pn	10 14 41.5	-1.4
KAHZ	**Kahuranaki**	**4.74**	**200**	PN	Pn	10 14 42.0	-1.0
KAHZ	**Kahuranaki**	**4.74**	**200**	Pn	Pn	10 14 42.0	-1.0
FWVZ	**Far West T-bar**	**4.74**	**214**	PN	Pn	10 14 42.3	-1.1
FWVZ	**Far West T-bar**	**4.74**	**214**	Pn	Pn	10 14 42.3	-1.1
MOVZ	**Moawhango**	**4.78**	**211**	PN	Pn	10 14 41.7	-1.9
MOVZ	**Moawhango**	**4.78**	**211**	Pn	Pn	10 14 41.8	-1.9
MTVZ	**Mangateitei**	**4.89**	**213**	Pn	Pn	10 15 04.2	+19
PXZ	**Pawanui**	**4.96**	**199**	PN	Pn	10 14 43.9	-1.8
PXZ	**Pawanui**	**4.96**	**199**	Pn	Pn	10 14 43.9	-1.8
PNHZ	**Pukenui**	**5.05**	**205**	PN	Pn	10 14 45.0	-2.0
PNHZ	**Pukenui**	**5.05**	**205**	Pn	Pn	10 14 45.0	-2.0
PRHZ	**Porangahau**	**5.24**	**200**	PN	Pn	10 14 47.6	-1.7
PRHZ	**Porangahau**	**5.24**	**200**	Pn	Pn	10 14 47.6	-1.7
TSZ	**Takapari Road**	**5.26**	**206**	⇓PN	Pn	10 14 47.3	-2.4
TSZ	**Takapari Road**	**5.26**	**206**	Pn	Pn	10 14 47.3	-2.4
WAZ	**Wanganui**	**5.41**	**214**	PN	Pn	10 14 50.5	-0.8
WAZ	**Wanganui**	**5.41**	**214**	Pn	Pn	10 14 50.5	-0.8
DVHZ	**Dannevirke**	**5.41**	**203**	PN	Pn	10 14 49.2	-2.2
DVHZ	**Dannevirke**	**5.41**	**203**	Pn	Pn	10 14 49.2	-2.2
POWZ	**Post Office Ro**	**5.63**	**205**	PN	Pn	10 14 51.9	-2.2
POWZ	**Post Office Ro**	**5.63**	**205**	Pn	Pn	10 14 51.9	-2.2
BFZ	**Birch Farm**	**5.74**	**201**	PN	Pn	10 14 53.2	-2.4
BFZ	**Birch Farm**	**5.74**	**201**	Pn	Pn	10 14 53.2	-2.3
MRZ	**Mangatainoka R**	**5.93**	**205**	⇓PN	Pn	10 14 55.1	-2.9
MRZ	**Mangatainoka R**	**5.93**	**205**	Pn	Pn	10 14 55.1	-2.9
TIWZ	**Tintock**	**5.93**	**203**	PN	Pn	10 14 55.9	-2.2
TIWZ	**Tintock**	**5.93**	**203**	Pn	Pn	10 14 55.9	-2.2
HOWZ	**Holdsworth Sta**	**6.17**	**205**	PN	Pn	10 14 57.9	-3.1
HOWZ	**Holdsworth Sta**	**6.17**	**205**	Pn	Pn	10 14 57.9	-3.1
OGWZ	**Otaki Gorge**	**6.22**	**207**	PN	Pn	10 14 58.9	-2.8
OGWZ	**Otaki Gorge**	**6.22**	**207**	Pn	Pn	10 14 58.9	-2.8
TMWZ	**Te Maipa**	**6.23**	**202**	PN	Pn	10 14 59.1	-2.8
TMWZ	**Te Maipa**	**6.23**	**202**	Pn	Pn	10 14 59.1	-2.8
KIW	**Kapiti Island**	**6.36**	**209**	PN	Pn	10 15 00.5	-2.9
KIW	**Kapiti Island**	**6.36**	**209**	Pn	Pn	10 15 00.5	-2.9
MTW	**Mount Morrison**	**6.40**	**204**	PN	Pn	10 15 00.7	-3.3
MTW	**Mount Morrison**	**6.40**	**204**	Pn	Pn	10 15 00.7	-3.3
CAW	**Cannon Point**	**6.51**	**207**	PN	Pn	10 15 02.1	-3.2
CAW	**Cannon Point**	**6.51**	**207**	Pn	Pn	10 15 02.1	-3.2
TRWZ	**Traveller**	**6.56**	**202**	PN	Pn	10 15 03.2	-2.9
TRWZ	**Traveller**	**6.56**	**202**	Pn	Pn	10 15 03.2	-2.9
PAWZ	**Paruwai Farm**	**6.63**	**203**	PN	Pn	10 15 03.8	-3.1
PAWZ	**Paruwai Farm**	**6.63**	**203**	Pn	Pn	10 15 03.8	-3.1
MSWZ	**Moikau Station**	**6.72**	**204**	PN	Pn	10 15 04.7	-3.3
MSWZ	**Moikau Station**	**6.72**	**204**	Pn	Pn	10 15 04.7	-3.3
DUWZ	**D'Urville Isla**	**6.73**	**214**	PN	Pn	10 15 05.2	-3.1
DUWZ	**D'Urville Isla**	**6.73**	**214**	Pn	Pn	10 15 05.2	-3.1
WEL	**Wellington**	**6.78**	**208**	PN	Pn	10 15 05.5	-3.3
WEL	**Wellington**	**6.78**	**208**	Pn	Pn	10 15 05.5	-3.3
BHW	**Baring Head**	**6.84**	**207**	PN	Pn	10 15 05.9	-3.6
BHW	**Baring Head**	**6.84**	**207**	Pn	Pn	10 15 06.0	-3.6
PLWZ	**Palliser**	**6.85**	**204**	Pn	Pn	10 15 06.5	-3.4
TCW	**Tory Channel**	**6.91**	**211**	PN	Pn	10 15 06.7	-3.8
TCW	**Tory Channel**	**6.91**	**211**	Pn	Pn	10 15 06.7	-3.8
TUWZ	**Tuamarina**	**7.23**	**211**	PN	Pn	10 15 10.6	-3.9
TUWZ	**Tuamarina**	**7.23**	**211**	Pn	Pn	10 15 10.6	-3.9
NNZ	**Nelson**	**7.31**	**215**	Pn	Pn	10 15 11.5	-4.1
QRZ	**Quartz Range**	**7.45**	**221**	PN	Pn	10 15 13.3	-4.1
QRZ	**Quartz Range**	**7.45**	**221**	Pn	Pn	10 15 13.3	-4.1
BSWZ	**Blackbirch Sta**	**7.49**	**210**	PN	Pn	10 15 14.6	-3.4
BSWZ	**Blackbirch Sta**	**7.49**	**210**	Pn	Pn	10 15 14.6	-3.4
THZ	**Tophouse**	**7.96**	**215**	Pn	Pn	10 15 19.8	-4.3
KHZ	**Kahutara**	**8.22**	**209**	Pn	Pn	10 15 23.8	-3.5
DSZ	**Denniston Nort**	**8.49**	**219**	Pn	Pn	10 15 28.6	-2.2
LTZ	**Lake Taylor**	**9.05**	**213**	Pn	Pn	10 15 33.8	-4.3
CTZ	**Chatham Island**	**9.06**	**159**	Pn	P	10 15 44.1	-2.4
RPZ	**Rata Peaks**	**10.34**	**214**	Pn	Pn	10 15 50.2	-4.3
ODZ	**Otahua Downs**	**11.57**	**211**	Pn	Pn	10 16 07.1	-3.0
JCZ	**Jackson Bay**	**11.71**	**219**	Pn	Pn	10 16 08.1	-3.9
WKZ	**Wanaka**	**12.13**	**216**	Pn	Pn	10 16 12.9	-4.3
TUZ	**Tuapeka**	**12.73**	**211**	Pn	Pn	10 16 22.9	-1.6

IDC 18 10:17:53.0±1.6,2°.46N×93°.52E,h0km,mb3.6/7,mb1 3.8/9, mb1mx3.6/29,mbtmp3.6/9,ML3.9/2,Error ellipse: s-maj=47.5km s-min=18.7km az=50.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.41**	**86**	Pn	Pn	10 19 15.4	+0.2
	1.9nm,0.3s,baz=242,slow=15,SNR=5.3						
PSI				Sn	Sn	10 20 17.6	-0.7
	1.2nm,0.3s,baz=156,slow=20,SNR=3.8						
CMAR	**Chiang Mai Arr**	**16.76**	**18**	Pn	Pn	10 21 49.7	+0.3
	0.2nm,0.3s,baz=215,slow=11,SNR=11						
MKAR	**Makanchi Array**	**45.23**	**349**	P	P	10 26 12.2	+0.2
	0.7nm,0.6s,baz=167,slow=7.6,SNR=9.4						
WRA	**Warramunga Arr**	**45.83**	**121**	P	P	10 26 17.1	-0.1
	0.8nm,0.7s,baz=302,slow=8.7,SNR=9.9						
SONM	**Songino Array**	**46.55**	**12**	P	P	10 26 22.8	+0.2
	0.3nm,0.6s,baz=202,slow=8.1,SNR=3.5						
ASAR	**Alice Springs**	**47.10**	**126**	P	P	10 26 27.2	0.0
	0.4nm,0.6s,baz=299,slow=8.2,SNR=5.8						
KURBB	**Kurchatov Arra**	**49.63**	**348**	P	P	10 26 46.6	+0.4
	0.7nm,0.6s,baz=171,slow=7.0,SNR=8.7						
ZALV	**Zalesovo Beam**	**51.81**	**353**	P	P	10 27 02.0	-0.6
	0.5nm,0.4s,baz=188,slow=8.7,SNR=3.0						
BVAR	**Borovoye Array**	**53.91**	**343**	P	P	10 27 17.1	-1.0
	0.3nm,0.4s,baz=165,slow=6.9,SNR=3.6						

*ISCJB **18** 10:22:28.8±0.5,39°.47N±0°.03×28°.15E±0°.04,h8km±6km, Error ellipse: s-maj=6.6km s-min=3.7km az=43.7*
*ISK **18** 10:22:28.4,39°.48N×28°.16E,h5km,MD2.9*
*DDA **18** 10:22:28.6,39°.49N×28°.14E,h7km,MD2.8*
*CSEM **18** 10:22:29.0±0.2,39°.48N×28°.17E,h10km,MD2.9,Error ellipse: s-maj=4.6km s-min=2.6km az=41.0*
ISC 18 10:22:29.1±1.0,39°.49N±0°.03×28°.16E±0°.03,h13km±9km, n30,σ0°.46/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.27**	**64**	*i* P	**Pg**	**10 22 34.4**	**-0.4**
DURS				*i* S	**Sg**	**10 22 39.9**	**-0.4**
DURS	**Dursunbey**	**0.27**	**64**	*i* P	**Pg**	**10 22 34.4**	**-0.4**
DURS				*i* S	**Sb**	**10 22 39.9**	**-0.4**
BALB	**Balikesir**	**0.27**	**305**	*e*PG	**Pg**	**10 22 34.7**	**-0.1**
BALB	**Balikesir**	**0.27**	**305**	*e*Pg	**Pg**	**10 22 34.7**	**-0.1**
BALY	**Balya**	**0.49**	**301**	*i* P	**Pg**	**10 22 38.2**	**-0.6**
BALY				*i* S	**Sb**	**10 22 46.4**	**-0.4**
BALY	**Balya**	**0.49**	**301**	*i* P	**Pg**	**10 22 38.2**	**-0.6**
BALY				*i* S	**Sb**	**10 22 46.4**	**-0.4**
DEMI	**Demirci**	**0.62**	**136**	*i* P	**Pg**	**10 22 40.5**	**-0.7**
DEMI				*i* S	**Sg**	**10 22 49.9**	**+0.6**
DEMI	**Demirci**	**0.62**	**136**	*i* P	**Pg**	**10 22 40.5**	**-0.7**
DEMI				*i* S	**Sg**	**10 22 49.9**	**+0.6**
GONE	**Gonen-Balikesi**	**0.67**	**327**	*e*PG	**Pg**	**10 22 42.0**	**-0.2**
GONE				*e*SG	**Sb**	**10 22 52.0**	**+0.1**
GONE	**Gonen-Balikesi**	**0.67**	**327**	*e*Pg	**Pg**	**10 22 42.0**	**-0.2**
GONE				*e*Sg	**Sb**	**10 22 52.0**	**+0.1**
BNT	**Bandirma**	**0.89**	**348**	*e*PG	**Pg**	**10 22 45.2**	**-1.1**
BNT				*e*SG	**Sb**	**10 22 58.6**	**+0.4**
BNT	**Bandirma**	**0.89**	**348**	*e*Pg	**Pg**	**10 22 45.2**	**-1.1**
BNT				*e*Sg	**Sb**	**10 22 58.6**	**+0.4**
TVSB	**Tavsanli**	**1.00**	**92**	*e*PG	**Pg**	**10 22 48.0**	**-0.6**
TVSB				*e*SG	**Sn**	**10 23 03.2**	**+0.1**
TVSB	**Tavsanli**	**1.00**	**92**	*e*Pg	**Pg**	**10 22 48.0**	**-0.6**
TVSB				*e*Sg	**Sn**	**10 23 03.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.04**	**32**	*e*PG	**Pb**	**10 22 49.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.04**	**32**	*e*Pg	**Pb**	**10 22 49.0**	**0.0**
KULA	**Kula-Manisa**	**1.04**	**158**	*e*PG	**Pb**	**10 22 48.8**	**-0.3**
KULA				*e*SG	**Sb**	**10 23 03.4**	**+0.7**
KULA	**Kula-Manisa**	**1.04**	**158**	*e*Pg	**Pb**	**10 22 48.8**	**-0.3**
KULA				*e*Sg	**Sb**	**10 23 03.4**	**+0.7**
KRBG	**Karabiga-Canak**	**1.12**	**324**	*e*PN	**Pn**	**10 22 50.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.12**	**324**	*e*Pn	**Pn**	**10 22 50.7**	**+0.2**
ARMT	**Armutlu**	**1.20**	**26**	*e*PN	**Pg**	**10 22 52.1**	**-0.2**
ARMT	**Armutlu**	**1.20**	**26**	*e*Pn	**Pg**	**10 22 52.1**	**-0.2**
GEMT	**Gemlik**	**1.23**	**39**	*e*PN	**Pb**	**10 22 52.5**	**+0.3**
GEMT	**Gemlik**	**1.23**	**39**	*e*Pn	**Pb**	**10 22 52.5**	**+0.3**
LPK	**Lapseki**	**1.40**	**310**	*e*PN	**Pb**	**10 22 55.1**	**+0.1**
LPK	**Lapseki**	**1.40**	**310**	*e*Pn	**Pb**	**10 22 55.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.42**	**328**	*e*PN	**Pb**	**10 22 55.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.42**	**328**	*e*Pn	**Pb**	**10 22 55.5**	**0.0**
GELI	**Tayfur-Gelibol**	**1.59**	**306**	*e*PN	**Pb**	**10 22 58.1**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.59**	**306**	*e*Pn	**Pb**	**10 22 58.1**	**-0.2**

IDC 18 10:24:10.9±1.3,3°.21S×100°.07E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.9/23,mbtmp4.0/9,Error ellipse: s-maj=48.9km s-min=17.4km az=55.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.56**	**357**	P	P	10 29 00.8	-1.4
	1.9nm,0.8s,baz=189,slow=10,SNR=11						
WRA	**Warramunga Arr**	**37.33**	**119**	P	P	10 31 24.9	-0.5
	0.9nm,0.5s,baz=301,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**38.50**	**125**	P	P	10 31 35.0	-0.2
	0.5nm,0.7s,baz=300,slow=8.2,SNR=5.7						
STKA	**Stephens Creek**	**48.30**	**131**	P	P	10 32 54.4	+0.1
	1.7nm,0.7s,baz=344,slow=7.4,SNR=3.1						
SONM	**Songino Array**	**51.13**	**5**	P	P	10 33 16.1	+0.4
	2.4nm,0.7s,baz=187,slow=9.1,SNR=25						
SONM				PcP	PcP	10 34 31.3	-0.1
	0.6nm,0.6s,baz=186,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**52.20**	**345**	P	P	10 33 24.1	+0.5
	3.8nm,0.7s,baz=149,slow=8.1,SNR=43						
USRK	**Ussuriysk Arra**	**55.19**	**28**	P	P	10 33 44.9	-0.6
	2.4nm,0.6s,baz=214,slow=5.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**58.36**	**349**	P	P	10 34 08.0	+0.1
	1.9nm,0.6s,baz=157,slow=7.8,SNR=8.2						
BRTR	**Keskin Array B**	**74.19**	**313**	P	P	10 35 49.3	-0.7
	0.4nm,0.8s,baz=142,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**145.60**	**38**	PKPbc	PKPbc	10 43 52.4	+0.1
	2.2nm,0.7s,baz=302,slow=0.9,SNR=33						

*CSEM **18** 10:32:32.3±0.4,33°.68N×36°.20E,h30km,ML1.8,Error ellipse: s-maj=16.5km s-min=9.3km az=77.0*
*ISCJB **18** 10:32:33.0±0.6,33°.69N±0°.03×36°.27E±0°.08,h32km±5km, Error ellipse: s-maj=10.7km s-min=5.0km az=174.8*
*NSSC **18** 10:32:33.0±3.1,33°.66N×36°.27E,h32km±7km,MD1.2, ML1.7*
*GRAL **18** 10:32:37.4±0.3,33°.82N×35°.82E,h13km±2km,MD2.9*
ISC 18 10:32:32.3±0.9,33°.68N±0°.03×36°.17E±0°.05,h28km±7km, n16,σ1°.13/30,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QASN	**Qassioun**	**0.18**	**149**	*e*P	**Pb**	**10 32 38.0**	**-0.3**
QASN				*e*S	**Sb**	**10 32 42.9**	**+0.6**
QASN				AML	AML	10 32 44.1	
	comp=N,442nm,0.3s						
QASN				AML	AML	10 32 47.5	
	comp=E,590nm,0.4s						
QASN	**Qassioun**	**0.18**	**149**	*e*P	**Pb**	**10 32 38.0**	**-0.3**
	SNR=156						
QASN				*e*S	**Sb**	**10 32 42.9**	**+0.6**
	comp=E,590nm,0.4s,SNR=156						
BRBR	**Barbar**	**0.33**	**213**	*i* P	**Pn**	**10 32 42.8**	**+1.4**
BRBR				*e*S	**Sn**	**10 32 49.3**	**+2.0**
BRBR				AML	AML	10 32 53.8	
	comp=Z,98nm,0.7s						
BRBR				AML	AML	10 32 54.0	
	comp=N,36nm,0.4s						
BRBR				AML	AML	10 33 00.7	
	comp=E,79nm,0.4s						
RCY	**Rachaya**	**0.33**	**236**	*e*P	**Pn**	**10 32 43.6**	**+2.1**
RCY				*e*S	**Sn**	**10 32 48.3**	**+0.9**
TOTH	**TOTAH**	**0.39**	**146**	*e*P	**Pb**	**10 32 40.3**	**-0.7**
TOTH				*e*S	**Sb**	**10 32 47.0**	**+0.1**
TOTH				AML	AML	10 32 53.1	
	comp=N,64nm,0.4s						
TOTH				AML	AML	10 32 55.2	
	comp=Z,52nm,0.4s						
TOTH				AML	AML	10 32 59.5	
	comp=E,97nm,0.5s						
TOTH	**TOTAH**	**0.39**	**146**	*e*P	**Pb**	**10 32 40.3**	**-0.7**
	SNR=130						
TOTH				*e*S	**Sb**	**10 32 47.0**	**+0.1**
	comp=E,97nm,0.5s,SNR=129						
BHL	**Bhannes**	**0.48**	**297**	*e*P	**Pb**	**10 32 41.0**	**-1.4**
BHL	**Bhannes**	**0.48**	**297**	*e*P	**Pb**	**10 32 41.0**	**-1.4**

HWQ	**Hawqa**	**0.62**	**343**	*e*P	**Pn**	**10 32 46.0**	**+0.6**
HWQ				*e*S	**Sb**	**10 32 52.4**	**-0.8**
HWQ	**Hawqa**	**0.62**	**343**	*e*P	**Pn**	**10 32 46.0**	**+0.6**
HWQ				*e*S	**Sb**	**10 32 52.4**	**-0.8**
HAWK	**Haweek**	**0.86**	**13**	*e*P	**Pn**	**10 32 48.9**	**+0.3**
HAWK				*e*S	**Sn**	**10 33 01.5**	**+1.2**
HAWK				AML	AML	10 33 07.8	
	comp=N,17nm,0.4s						
HAWK				AML	AML	10 33 10.9	
	comp=E,13nm,0.4s						
HAWK	**Haweek**	**0.86**	**13**	*e*P	**Pn**	**10 32 48.9**	**+0.3**
	SNR=103						
HAWK				*e*S	**Sn**	**10 33 01.5**	**+1.2**
	comp=E,13nm,0.4s,SNR=103						
TCHB	**Talchebab**	**1.03**	**189**	*e*P	**Pn**	**10 32 48.6**	**-2.3**
TCHB				*e*S	**Sb**	**10 33 04.3**	**-0.3**
TCHB				AML	AML	10 33 06.7	
	comp=E,36nm,0.6s						
TCHB				AML	AML	10 33 09.1	
	comp=N,34nm,0.3s						
TCHB	**Talchebab**	**1.03**	**189**	*e*P	**Pn**	**10 32 48.6**	**-2.3**
	SNR=57						
TCHB				*e*S	**Sb**	**10 33 04.3**	**-0.3**
	comp=N,34nm,0.3s,SNR=58						
SALA	**Sala**	**1.08**	**154**	*e*P	**Pb**	**10 32 52.5**	**-0.1**
SALA				*e*S	**Sn**	**10 33 05.8**	**-0.1**
SALA	**Sala**	**1.08**	**154**	*e*P	**Pb**	**10 32 52.5**	**-0.1**
	SNR=57						
SALA				*e*S	**Sn**	**10 33 05.8**	**-0.1**
	SNR=58						

*DDA **18** 10:47:35.8,37°.48N×35°.69E,h27km,MD3.1*
*ISCJB **18** 10:47:36.8±0.5,37°.51N±0°.03×35°.71E±0°.03,h11km±4km, Error ellipse: s-maj=4.6km s-min=4.4km az=157.2*
*ISK **18** 10:47:36.3,37°.54N×35°.68E,h10km,ML2.4*
*CSEM **18** 10:47:36.9±0.2,37°.50N×35°.69E,h13km±1km,ML2.4, Error ellipse: s-maj=4.1km s-min=3.6km az=13.0*
ISC 18 10:47:36.4±0.9,37°.51N±0°.02×35°.67E±0°.02,h15km±7km, n39,σ0°.72/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.12**	**103**	*e*PG	**Pb**	**10 47 40.3**	**-0.2**
KOZT				*e*SG	**Sg**	**10 47 42.2**	**-0.2**
KOZT	**Kozan**	**0.12**	**103**	*e*Pg	**Pb**	**10 47 40.3**	**-0.2**
KOZT				*e*Sg	**Sg**	**10 47 42.2**	**-0.2**
CEYT	**Ceyhan**	**0.50**	**173**	*e*PG	**Pb**	**10 47 47.0**	**+0.1**
CEYT				*e*SG	**Sb**	**10 47 55.0**	**+1.0**
CEYT	**Ceyhan**	**0.50**	**173**	*e*Pg	**Pb**	**10 47 47.0**	**+0.1**
CEYT				*e*Sg	**Sb**	**10 47 55.0**	**+1.0**
GULE	**Gulek**	**0.75**	**253**	*i* P	**Pb**	**10 47 51.3**	**0.0**
GULE				*i* S	**Sn**	**10 48 03.6**	**-0.2**
GULE	**Gulek**	**0.75**	**253**	*i* P	**Pb**	**10 47 51.3**	**0.0**
GULE				*i* S	**Sn**	**10 48 03.6**	**-0.2**
KRTS	**Karatas**	**0.96**	**194**	*e*PG	**Pn**	**10 47 55.7**	**+0.3**
KRTS	**Karatas**	**0.96**	**194**	*e*Pg	**Pn**	**10 47 55.7**	**+0.3**
KMRS	**Kahramanmaras**	**0.98**	**90**	*e*PG	**Pn**	**10 47 55.2**	**-0.4**
KMRS	**Kahramanmaras**	**0.98**	**90**	*e*Pg	**Pn**	**10 47 55.2**

ISA	**Isabella**	**6.74**	**134**	*e*Pn		**Pn**	**11 06 19.2**	**+1.7**
ISA	**Isabella** baz=6.8	**6.74**	**134**	⇑P		**Pn**	**11 06 18.8**	**+1.3**
BMO	**Blue Mountains**	**6.79**	**48**	*e*Pn		**Pn**	**11 06 20.1**	**+1.9**
ARVC	**Arvin** baz=7.0	**6.96**	**139**	⇓P		**Pn**	**11 06 21.4**	**+0.8**
MFID	**Camas Ranch**	**7.02**	**63**	*e*Pn		Pn	11 06 24.9	+3.4
MFID				*e*Pg		Pb	11 06 47.5	+6.9
R11A	**Troy Canyon, C** baz=7.2	**7.16**	**105**	⇑P		**Pn**	**11 06 23.5**	**0.0**
EDW2	**Edwards Air Fo** baz=7.6	**7.58**	**136**	⇑P		**Pn**	**11 06 30.2**	**+1.0**
HLID	**Hailey**	**8.03**	**64**	*e*Pn		**Pn**	**11 06 37.6**	**+2.2**
DUG	**Dugway**	**8.86**	**88**	*e*Pn		**Pn**	**11 06 48.4**	**+1.7**
NEW	**Newport** comp=Z,67nm,21.8s,baz=51,slow=38	**9.33**	**31**	LR		LR	11 10 21.8	
MCMT	**McKenzie Canyo** 1.1nm,0.7s	**9.54**	**59**	Pn		**Pn**	**11 06 55.5**	**-0.6**
MVU	**Marysvale** 13nm,0.4s	**9.64**	**98**	*e*Pn		**Pn**	**11 06 58.9**	**+1.4**
MSU	**Marysvale**	**9.66**	**98**	*e*Pn		**Pn**	**11 06 59.5**	**+1.7**
MSO	**Missoula**	**9.86**	**47**	*e*Pn		Pn	11 07 04.1	+3.7
TMUT	**Trail Mountain** 6.4nm,0.7s	**10.21**	**93**	*e*Pn		Pn	11 07 09.0	+3.6
SWMT	**Swartz Lake** 1.8nm,0.8s	**10.24**	**44**	*e*Pn		**Pn**	**11 07 08.2**	**+2.6**
SRU	**San Rafael** 9.7nm,0.7s	**10.77**	**93**	Pn		Pn	11 07 16.6	+3.6
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=255,slow=9.9,SNR=3.0	**11.34**	**74**	Pn		**Pn**	**11 07 22.3**	**+1.5**
PDAR	**Pinedale Array**	**11.34**	**74**	Pn		**Pn**	**11 07 22.3**	**+1.5**
PV01	**Paradox Valley** 488nm,1.0s	**12.49**	**96**	Pn		**Pn**	**11 07 38.6**	**+2.0**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=300,slow=20,SNR=2.7	**15.24**	**106**	Pn		**Pn**	**11 08 14.6**	**+0.6**
ANMO	**Albuquerque**	**15.24**	**106**	Pn		**Pn**	**11 08 14.6**	**+0.6**
TXAR	**Lajitas Array** 1.1nm,0.8s,baz=302,slow=8.8,SNR=15	**20.29**	**117**	P		**P**	**11 09 14.5**	**0.0**
TXAR	**Lajitas Array**	**20.29**	**117**	P		**P**	**11 09 14.5**	**0.0**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=197,slow=11,SNR=8.2	**22.78**	**12**	P		**P**	**11 09 40.0**	**-0.9**
YKA	**Yellowknife Ar**	**22.78**	**12**	P		**P**	**11 09 40.0**	**-0.9**

MEX 18 11:04:59.6±0.6, 15°.42N×98°.69W, h13km±13km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**1.11**	**29**	*e*P		Pb	11 05 16.9	-3.9
PNIG				*e*S		Sb	11 05 30.7	-4.5
CAIG	**El Cayaco**	**2.22**	**317**	*e*P		Pn	11 05 33.6	-2.4
CAIG				*i* S		Sn	11 05 58.8	-4.5
VHO	**Vista Hermosa**	**2.50**	**49**	*i* P		Pn	11 05 38.1	-2.1
VHO				*e*S		Sn	11 06 06.4	-4.4
HUIG	**Huatulco**	**2.52**	**82**	*i* P		Pn	11 05 37.6	-2.6
HUIG				*i* S		Sn	11 06 05.9	-4.8
PLIG	**Platanillo**	**3.06**	**345**	*e*P		Pn	11 05 44.5	-3.3
PLIG				*i* S		Sn	11 06 20.8	-3.5
ARIG	**Puente Sto Nin**	**3.26**	**331**	*e*P		Pn	11 05 47.5	-2.9
ARIG				*i* S		Sn	11 06 25.3	-3.8

*ISK **18** 11:21:14.9, 36°.98N×29°.21E, h12km, MD2.8*
*DDA **18** 11:21:14.7, 36°.95N×29°.19E, h7km, MD3.0*
*ISCJB **18** 11:21:15.6±0.5, 36°.96N±0°.03×29°.21E±0°.03, h8km±5km, Error ellipse: s-maj=5.2km s-min=4.1km az=174.9*
*CSEM **18** 11:21:15.5±0.1, 36°.97N×29°.21E, h10km, MD2.8*
ISC 18 11:21:15.7±1.0, 36°.98N±0°.03×29°.21E±0°.02, h11km±9km, n24, σ0°.51/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FETY	**Fethiye**	**0.35**	**196**	*e*PG		**Pg**	**11 21 22.4**	**-0.4**
FETY				*e*SG		**Sg**	**11 21 28.2**	**+0.8**
FETY	**Fethiye**	**0.35**	**196**	*e*Pg		**Pg**	**11 21 22.4**	**-0.4**
FETY				*e*Sg		**Sg**	**11 21 28.2**	**+0.8**
GOLH	**Golhisar**	**0.39**	**47**	*i* P		**Pg**	**11 21 22.9**	**-0.5**
GOLH				*i* S		**Sg**	**11 21 29.3**	**+0.8**
GOLH	**Golhisar**	**0.39**	**47**	*i* P		**Pg**	**11 21 22.9**	**-0.5**
GOLH				*i* S		**Sg**	**11 21 29.3**	**+0.8**
TURN	**Turunc**	**0.49**	**258**	*i* P		**Pn**	**11 21 29.7**	**+1.0**
TURN				*i* S		Sb	11 21 40.3	+6.6
TURN	**Turunc**	**0.49**	**258**	*i* P		**Pn**	**11 21 29.7**	**+1.0**
ELL	**Elmali**	**0.61**	**112**	*e*PG		**Pg**	**11 21 27.2**	**-0.3**
ELL				*e*SG		**Sb**	**11 21 36.2**	**-0.8**
ELL	**Elmali**	**0.61**	**112**	*e*Pg		**Pg**	**11 21 27.2**	**-0.3**
ELL				*e*Sg		**Sb**	**11 21 36.2**	**-0.8**
DNZL	**Cakiroluk**	**0.72**	**350**	*i* P		**Pg**	**11 21 29.4**	**-0.4**
DNZL				*i* S		**Sb**	**11 21 41.1**	**+0.6**
DNZL	**Cakiroluk**	**0.72**	**350**	*i* P		**Pg**	**11 21 29.4**	**-0.4**
DNZL				*i* S		**Sb**	**11 21 41.1**	**+0.6**
YER	**Yerkesik**	**0.76**	**282**	*e*PG		**Pg**	**11 21 29.6**	**-0.8**
YER				*e*SG		**Sb**	**11 21 41.0**	**-0.2**
YER	**Yerkesik**	**0.76**	**282**	*e*Pg		**Pg**	**11 21 29.6**	**-0.8**
YER				*e*Sg		**Sb**	**11 21 41.1**	**-0.2**
KORT	**Korkueli**	**0.92**	**88**	*i* P		**Pb**	**11 21 33.8**	**+0.1**
KORT				*e*S		**Sg**	**11 21 45.2**	**-0.1**
KORT	**Korkueli**	**0.92**	**88**	*i* P		**Pb**	**11 21 33.8**	**+0.1**
KORT				*e*S		**Sg**	**11 21 45.2**	**-0.1**
AYDN	**Tasoluk**	**1.26**	**303**	*i* P		**Pn**	**11 21 39.0**	**-0.4**
AYDN				*i* S		**Sg**	**11 21 56.4**	**+0.1**
AYDN	**Tasoluk**	**1.26**	**303**	*i* P		**Pn**	**11 21 39.0**	**-0.4**
AYDN				*i* S		**Sg**	**11 21 56.4**	**+0.1**
DAT	**Datca**	**1.33**	**260**	*e*PN		**Pn**	**11 21 39.8**	**-0.6**
DAT	**Datca**	**1.33**	**260**	*e*Pn		**Pn**	**11 21 39.8**	**-0.6**
KHAL	**Karahalli**	**1.41**	**9**	*e*P		**Pn**	**11 21 41.3**	**-0.2**
KHAL				*i* S		**Sn**	**11 22 00.6**	**+0.5**
KHAL	**Karahalli**	**1.41**	**9**	*e*P		**Pn**	**11 21 41.3**	**-0.2**
KHAL				*i* S		**Sn**	**11 22 00.6**	**+0.5**
BDRM	**Kayabasi**	**1.42**	**274**	*i* P		**Pb**	**11 21 42.1**	**0.0**
BDRM				*i* S		**Sb**	**11 22 00.1**	**-0.1**
BDRM	**Kayabasi**	**1.42**	**274**	*i* P		**Pb**	**11 21 42.1**	**0.0**
BDRM				*i* S		**Sb**	**11 22 00.1**	**-0.1**
BODT	**Bodrum**	**1.52**	**274**	*e*PN		**Pn**	**11 21 42.9**	**0.0**
BODT	**Bodrum**	**1.52**	**274**	*e*Pn		**Pn**	**11 21 42.9**	**0.0**

*IDC **18** 11:23:41.4±1.2, 30°.90N×78°.11E, h0km, mb3.5/9, mb1 3.6/12, mb1mx3.5/31, mbtmp3.4/12, ML3.2/3, Error ellipse: s-maj=27.1km s-min=22.4km az=61.0*
*ISCJB **18** 11:23:42.9±1.3, 30°.95N±0°.04×78°.43E±0°.06, h16km±10km, mb3.4/9, Error ellipse: s-maj=9.4km s-min=6.3km az=171.4*
*NDI **18** 11:23:47.3±5.4, 30°.86N×78°.11E, h10km, ML3.4*
ISC 18 11:23:45.7±1.5, 30°.87N±0°.05×78°.19E±0°.05, h11km±11km, n23, σ2s14/24, mb3.4/9, 2D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DDI	**Dehra Dun**	**0.56**	**192**	*e*P		**Pg**	**11 23 56.0**	**-0.6**
DDI				*e*S		**Sg**	**11 24 05.0**	**+1.1**
SMLA	**Simla**	**0.92**	**287**	*i* P		**Pg**	**11 24 02.7**	**-0.7**
SMLA				*e*S		**Sb**	**11 24 15.3**	**-0.4**
SMLA	comp=N,3μm,0.2s			⇓AML		AML	11 24 17.3	
SMLA	comp=E,4μm,0.2s			⇓AML		AML	11 24 17.8	
SDNR	**Sundarnagar**	**1.22**	**301**	*e*P		**Pb**	**11 24 08.5**	**-0.3**
SDNR				*e*S		**Sn**	**11 24 27.0**	**+1.7**
KKR	**Kurukshetra**	**1.49**	**233**	*e*P		**Pb**	**11 24 13.8**	**+0.5**
KKR				*e*S		**Sg**	**11 24 33.6**	**0.0**
KKR	comp=Z,1μm,0.2s			AML		AML	11 24 38.3	
BHK	**Bhakra**	**1.61**	**290**	*e*P		**Pb**	**11 24 16.0**	**+0.4**
BHK				*ex*		**Sn**	**11 24 38.8**	**+3.8**
PTH	**Pithoragarh**	**2.19**	**126**	*e*P		**Pn**	**11 24 25.1**	**+2.8**
PTH				*e*S		**Sn**	**11 24 53.3**	**+3.8**
LGTI	**Lohaghat**	**2.27**	**128**	*e*P		**Pn**	**11 24 24.9**	**+1.7**
LGTI				*ex*		x	11 24 27.4	
DLH	**Dalhousie**	**2.52**	**312**	*e*P		**Pn**	**11 24 29.0**	**+2.1**
DLH				*e*S		**Sn**	**11 24 59.0**	**+1.3**
THN	**Thein Dam**	**2.62**	**307**	*ex*		Pn	11 24 22.9	-5.1
THN				*ex*		**Sb**	**11 25 06.9**	**+2.0**
KHET	**Khetri**	**3.47**	**217**	*ex*		Pn	11 24 36.6	-3.1
KHET				*e*S		**Sn**	**11 25 18.8**	**-2.0**
KHET	comp=N,36nm,0.2s			AML		AML	11 25 41.2	
KHET	comp=E,43nm,0.6s			AML		AML	11 25 41.4	
AGRA	**Agra**	**3.63**	**183**	*e*P		**Pn**	**11 24 43.9**	**+2.0**
AGRA				*e*S		**Sn**	**11 25 24.3**	**-0.4**
AGRA	comp=N,110nm,0.3s			AML		AML	11 25 51.0	
AGRA	comp=E,105nm,0.5s			AML		AML	11 25 52.0	
AAK	**Ala-Archa** comp=E,0.1nm,0.3s,baz=164,slow=15,SNR=2.0	**12.11**	**347**	Pn		Pn	11 26 34.1	-4.2
AAK	comp=E,0.1nm,0.3s,baz=196,slow=20,SNR=2.2			Sn		Sn	11 28 46.4	-7.0
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=2.6	**16.22**	**10**	Pn		Pn	11 27 27.8	-5.6
MKAR	comp=E,0.1nm,0.3s,baz=190,slow=22,SNR=5.2			Sn		Sn	11 30 20.2	-13
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=190,slow=10.0,SNR=13	**19.74**	**1**	P		**P**	**11 28 12.4**	**-2.9**
CMAR	**Chiang Mai Arr** comp=E,0.4nm,0.3s,baz=308,slow=9.7,SNR=5.2	**22.50**	**118**	P		**P**	**11 28 43.3**	**-2.1**
BVAR	**Borovoye Array** comp=E,0.2nm,0.4s,baz=146,slow=6.2,SNR=2.7	**22.86**	**348**	P		**P**	**11 28 46.1**	**-2.8**
ZALV	**Zalesovo Beam** comp=E,0.3nm,0.3s,baz=179,slow=12,SNR=2.7	**23.56**	**10**	P		**P**	**11 28 53.8**	**-2.2**
SONM	**Songino Array** comp=E,0.2nm,0.4s,baz=239,slow=9.6,SNR=3.3	**27.40**	**44**	P		**P**	**11 29 29.8**	**-1.5**
FINES	**FINESS Array B** comp=E,0.9nm,0.7s,baz=105,slow=8.8,SNR=3.7	**45.46**	**328**	P		P	11 32 01.3	-3.1
ARCES	**ARCESS Array B** comp=E,4.1nm,1.0s,baz=99,slow=7.5,SNR=4.2	**48.61**	**338**	P		P	11 32 26.3	-2.6
TORD	**Torodi Ar. Bea** comp=E,0.7nm,0.7s,baz=55,slow=5.2,SNR=7.6	**71.88**	**275**	P		P	11 35 06.5	-2.8
ILAR	**Eielson Array** comp=E,0.1nm,0.5s,baz=305,slow=6.4,SNR=3.0	**78.40**	**18**	P		P	11 35 42.7	-3.3
YKA	**Yellowknife Ar** comp=E,0.2nm,0.6s,baz=342,slow=5.2,SNR=4.9	**86.40**	**6**	P		P	11 36 24.8	-3.0

*IDC **18** 11:27:32.4±1.0, 0°.44S×132°.59E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, ML3.9/2, MS3.5/6, Ms1 3.5/6, ms1mx3.1/37, Error ellipse: s-maj=46.6km s-min=12.9km az=79.0*
*DJA **18** 11:27:36.2±0.7, 1°.5S×13°.1E±°, h10km, M4.6/7, MLv4.6/7*
*NEIC **18** 11:27:37.5±0.4, 0°.51S×132°.55E, h35km, mb4.0/5, Error ellipse: s-maj=19.4km s-min=6.7km az=73.0*
NEIC Felt [III] at Sorong.
*AUST **18** 11:27:55.8, 1°.99S×131°.00E, h35km*
ISC 18 11:27:36.5±0.8, 0°.75S±0°.06×131°.45E±0°.07, h10km, n45, σ2s26/37, mb3.8/10, MS3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**0.22**	**240**	P		**Pg**	**11 27 40.2**	**-0.9**
SWI				S		**Sg**	**11 27 43.5**	**-0.6**
FAKI	**Fak Fak**	**2.30**	**160**	P		**Pn**	**11 28 15.5**	**+1.0**
MSAI	**Masohi**	**3.60**	**224**	P		**Pn**	**11 28 34.5**	**+2.0**
MSAI				S		**Sn**	**11 29 19.4**	**+4.3**
LBMI	**Labuha**	**3.95**	**272**	P		**Pn**	**11 28 37.4**	**+0.2**
TNTI	**Ternate**	**4.35**	**290**	P		**Pn**	**11 28 45.5**	**+2.7**
AAI	**Ambon** baz=3.3,SNR=12	**4.37**	**228**	P		**Pn**	**11 28 44.8**	**+1.8**
AAI	**Ambon**	**4.37**	**228**	P		**Pn**	**11 28 43.5**	**+0.5**
AAI				S		**Sb**	**11 29 41.7**	**-4.5**
TLE	**Tual** baz=4.0,SNR=3.5	**5.02**	**165**	P		Pb	11 29 00.1	-4.4
KDU	**Kakadu** baz=11,SNR=17	**11.90**	**175**	P		**Pn**	**11 30 23.8**	**-2.6**
KDU	baz=11,SNR=5.0			S		Sn	11 32 30.6	-8.7
MTN	**Manton Dam** baz=11,SNR=10	**12.02**	**181**	P		**Pn**	**11 30 26.2**	**-1.8**
MTN	baz=11,SNR=5.2			S		**Sn**	**11 32 39.1**	**-3.1**
COEN	**Coen** 164nm,1.4s	**17.52**	**139**	*e*Pn		Pn	11 31 32.8	-8.3
COEN				*e*Sn		Sn	11 34 40.3	-16
COEN	**Coen** baz=17,SNR=7.5	**17.52**	**139**	P		P	11 31 48.9	+6.7
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=33,slow=12,SNR=13	**18.16**	**198**	P		**P**	**11 31 53.7**	**+4.4**
FITZ	0.1nm,0.3s,baz=158,slow=19,SNR=4.1			S		Sn	11 35 01.7	-10
FITZ	comp=Z,116nm,21.0s,baz=28,slow=38			LR		LR	11 39 29.1	
FITZ	**Fitzroy Crossi** 4.4nm,0.7s	**18.16**	**198**	P		**P**	**11 31 53.7**	**+4.4**
FITZ				S		Sn	11 35 01.7	-10
FITZ	**Fitzroy Crossi** baz=17,SNR=6.2	**18.16**	**198**	P		**P**	**11 31 51.5**	**+2.2**
WRAB	**Tennant Creek** 7.8nm,0.8s	**19.27**	**172**	*e*P		**P**	**11 31 59.3**	**-2.2**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=355,slow=12,SNR=18	**19.28**	**172**	P		**P**	**11 32 00.5**	**-1.1**
WRA	0.6nm,0.3s,baz=352,slow=25,SNR=7.2			S		Sn	11 35 30.7	-8.2
WRA	**Warramunga Arr**	**19.28**	**172**	P		**P**	**11 32 00.5**	**-1.1**
WRA				S		Sn	11 35 30.7	-8.2
GUMO	**Guam** comp=Z,75nm,21.1s,baz=79,slow=35	**19.49**	**43**	LR		LR	11 38 21.4	
QIS	**Mount Isa** baz=20,SNR=6.3	**21.24**	**158**	P		P	11 32 30.5	+7.6
KSM	**Kuching** baz=21,SNR=3.8	**21.25**	**276**	P		P	11 32 35.0	+12
AS31	**Alice Springs**	**22.90**	**174**	*e*P		**P**	**11 32 41.0**	**+0.3**
AS31				*e*S		**S**	**11 36 54.3**	**+3.5**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=352,slow=11,SNR=15	**22.90**	**174**	P		**P**	**11 32 40.6**	**-0.1**
ASAR	0.9nm,0.7s,baz=357,slow=17,SNR=5.0			S		**S**	**11 36 54.2**	**+3.5**
ASAR	**Alice Springs**	**22.90**	**174**	P		**P**	**11 32 40.6**	**-0.1**
ASAR				S		**S**	**11 36 54.2**	**+3.5**
PPI	**Padang Panjang** baz=31,SNR=4.9	**31.05**	**270**	P		P	11 34 06.8	+12
GSI	**Gunungsitoli** baz=34,SNR=4.4	**33.93**	**273**	P		**P**	**11 34 17.8**	**-2.5**
JHJ	**Hachijo jima 2** comp=Z,135nm,18.6s,baz=85,slow=32	**34.59**	**12**	LR		LR	11 46 00.7	
CMAR	**Chiang Mai Arr** 0.8nm,0.6s,baz=130,slow=7.6,SNR=7.7	**37.22**	**303**	P		P	11 34 53.0	+4.5
CMAR	**Chiang Mai Arr**	**37.22**	**303**	P		P	11 34 53.0	+4.5
KSRS	**Korea Array** comp=Z,61nm,18.8s,baz=4.8,slow=34	**38.16**	**355**	LR		LR	11 48 42.6	
SONM	**Songino Array** 0.2nm,0.6s,baz=161,slow=6.5,SNR=2.7	**53.08**	**339**	P		**P**	**11 36 53.5**	**-0.7**
SONM	**Songino Array**	**53.08**	**339**	P		**P**	**11 36 53.5**	**-0.7**
PETK	**Petropavlovsk-** comp=Z,44nm,20.2s,baz=359,slow=31	**57.98**	**18**	LR		LR	11 57 24.6	
MK31	**Makanchi Array**	**63.91**	**325**	*e*P		P	11 38 13.9	+4.2
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=117,slow=7.3,SNR=11	**63.91**	**325**	P		**P**	**11 38 09.6**	**-0.1**
MKAR	**Makanchi Array**	**63.91**	**325**	P		**P**	**11 38 09.6**	**-0.1**
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=134,slow=8.3,SNR=2.1	**66.71**	**332**	P		**P**	**11 38 27.4**	**-0.3**
ZALV	**Zalesovo Beam**	**66.71**	**332**	P		**P**	**11 38 27.4**	**-0.3**
KURK	**Kurchatov** 0.6nm,0.8s	**68.04**	**327**	P		**P**	**11 38 35.5**	**-0.6**
KURBB	**Kurchatov Arra** 2.3nm,0.6s,baz=127,slow=5.9,SNR=12	**68.04**	**327**	P		**P**	**11 38 35.5**	**-0.7**
KKAR	**Karatay Array** 1.3nm,0.6s	**69.70**	**317**	*e*P		**P**	**11 38 47.4**	**+0.6**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=121,slow=7.6,SNR=2.9	**73.63**	**327**	P		**P**	**11 39 09.2**	**-0.9**
BVAR	**Borovoye Array**	**73.63**	**327**	P		**P**	**11 39 09.2**	**-0.9**
ILAR	**Eielson Array** 0.1nm,0.5s,baz=260,slow=5.2,SNR=4.1	**87.11**	**25**	P		P	11 40 16.2	-6.2
ILAR	comp=Z,43nm,19.6s,baz=73,slow=36			LR		LR	12 19 00.3	
ILAR	**Eielson Array**	**87.11**	**25**	P		P	11 40 16.2	-6.2

IDC 18 11:36:00.7±2.9, 0°.85S×13°.29W, h0km, mb4.2/10, mb1 4.2/11, mb1mx4.0/28, mbtmp4.1/11, ML3.4/1, MS3.4/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=86.5km s-min=44.6km az=162.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DBIC	**Dimbokro** 0.2nm,0.3s,baz=227,slow=13,SNR=5.2	**11.25**	**48**	Pn		Pn	11 38 42.5	-0.4
DBIC	0.6nm,0.3s,baz=133,slow=19,SNR=4.3			Sn		Sn	11 40 38.9	-11
DBIC	comp=Z,294nm,20.6s,baz=218,slow=33			LR		LR	11 42 10.1	
TORD	**Torodi Ar. Bea** 5.2nm,0.8s,baz=230,slow=11,SNR=35	**20.35**	**46**	P		P	11 40 37.9	-1.0
TORD	0.7nm,0.6s,baz=227,slow=22,SNR=4.9			S		S	11 44 12.9	-15
TORD				LR		LR	11 47 38.1	
RCBR	**Riachuelo** comp=Z,67nm,21.2s,baz=256,slow=28	**23.10**	**257**	LR		LR	11 46 59.4	
CPUP	**Villa Florida** comp=Z,34nm,20.1s,baz=241,slow=33	**49.34**	**235**	LR		LR	12 03 25.4	
GERES	**GERESS Array B** 2.1nm,0.8s,baz=203,slow=5.8,SNR=11	**54.72**	**22**	P		P	11 45 32.2	+0.3
GERES				LR		LR	12 09 20.5	
LPAZ	**La Paz** comp=Z,66nm,18.5s,baz=73,slow=34	**56.15**	**251**	LR		LR	12 08 01.0	
BRTR	**Keskin Array B** 1.3nm,0.9s,baz=229,slow=7.5,SNR=8.5	**58.85**	**41**	P		P	11 46 02.3	+0.7
NOA	**NORSAR Array B** 2.5nm,0.9s,baz=207,slow=6.6,SNR=4.3	**64.54**	**13**	P		P	11 46 39.5	+0.2
NOA				LR		LR	12 17 08.1	
KBZ	**Khabaz** 3.3nm,0.9s,baz=276,slow=4.3,SNR=8.6	**66.84**	**41**	P		P	11 46 55.0	+0.5
FINES	**FINESS Array B** 3.6nm,0.8s,baz=225,slow=4.6,SNR=6.4	**68.99**	**19**	P		P	11 47 07.4	-0.3
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=262,slow=4.7,SNR=7.8	**78.84**	**38**	P		P	11 48 05.2	-0.5
BVAR	**Borovoye Array** 0.5nm,0.7s,baz=254,slow=5.4,SNR=5.8	**86.86**	**37**	P		P	11 48 47.2	0.0
AAK	**Ala-Archa** 3.0nm,0.9s,baz=254,slow=6.5,SNR=5.9	**88.94**	**48**	P		P	11 48 57.6	-0.1
YKA	**Yellowknife Ar** 0.3nm,1.0s,baz=77,slow=5.6,SNR=5.0	**95.98**	**333**	P		P	11 49 28.9	-0.5

DJA 18 11:36:24.8±1.4, 1°.S±11°.×13°.1E±1°.0, h10km, M3.8/7, MLv3.8/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**0.17**	**282**	P		Pg	11 36 26.1	-2.5
FAKI	**Fak Fak**	**2.17**	**158**	P		Pn	11 37 01.8	+0.8
MSAI	**Masohi**	**3.49**	**226**	P		Pn	11 37 20.9	+1.8
BNDI	**Bandanaira**	**3.91**	**203**	P		Pn	11 37 25.0	+0.1
LBMI	**Labuha**	**3.94**	**274**	P		Pn	11 37 28.4	+3.0
AAI	**Ambon**	**4.26**	**229**	P		Pn	11 37 30.4	+0.7

*ISK **18** 11:42:13.2, 37°.57N×36°.42E, h5km, ML1.7*
*CSEM **18** 11:42:14.7±0.3, 37°.37N×36°.41E, h5km, ML1.7, Error ellipse: s-maj=7.9km s-min=5.4km az=37.0*
*DDA **18** 11:42:15.4, 37°.39N×36°.51E, h7km, MD2.9*
ISC 18 11:42:14.7±1.2, 37°.36N±0°.04×36°.42E±0°.04, h6km±11km, n14, σ0°.49/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.41**	**70**	*e*PG		**Pg**	**11 42 21.9**	**-0.7**
KMRS				*e*SG		**Sg**	**11 42 28.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.41**	**70**	*e*Pg		**Pg**	**11 42 21.9**	**-0.7**
KMRS				*e*Sg		**Sg**	**11 42 28.0**	**+0.1**
KOZT	**Kozan**	**0.49**	**284**	*e*PG		**Pg**	**11 42 23.7**	**-0.4**
KOZT	**Kozan**	**0.49**	**284**	*e*Pg		**Pg**	**11 42 23.7**	**-0.4**
GAZ	**Gaziantep**	**0.66**	**107**	*e*PG		**Pb**	**11 42 28.7**	**+0.1**
GAZ				*e*SG		**Sn**	**11 42 40.6**	**-0.7**
GAZ	**Gaziantep**	**0.66**	**107**	*e*Pg		**Pb**	**11 42 28.7**	**+0.1**
KUZU	**Kuzuini**	**0.79**	**138**	*e*P		**Pg**	**11 42 30.2**	**+0.4**
KUZU				*e*S		**Sg**	**11 42 40.0**	**-0.1**
KUZU	**Kuzuini**	**0.79**	**138**	*e*P		**Pg**	**11 42 30.2**	**+0.4**
KUZU				*e*S		**Sg**	**11 42 40.0**	**-0.1**
GZT	**Gaziantep**	**0.91**	**90**	*i* P		**Pg**	**11 42 32.5**	**+0.3**
GZT				*i* S		**Sb**	**11 42 45.7**	**+0.3**
PINB	**Pinarbasi**	**1.31**	**359**	*i* P		**Pn**	**11 42 39.8**	**0.0**
PINB				*i* S		**Sg**	**11 42 57.8**	**+1.0**
PINB	**Pinarbasi**	**1.31**	**359**	*i* P		**Pn**	**11 42 39.8**	**0.0**
PINB				*i* S		**Sg**	**11 42 57.8**	**+1.0**
SARI	**SarD1z-Kayseri**	**1.33**	**9**	*e*PG		Pn	11 42 30.8	-9.1
MALT	**Malatya**	**1.85**	**59**	*e*PN		**Pn**	**11 42 46.8**	**-0.2**
MALT	**Malatya**	**1.85**	**59**	*e*Pn		**Pn**	**11 42 46.8**	**-0.2**

MEX 18 12:11:53.0±0.7, 22°.21N×103°.88W, h69km±14km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.30**	**208**	*i* P		Pn	11 12 13.3	-2.2
ANIG				*i* S		Sn	11 12 30.2	-2.1
ZAIG	**Zacatecas**	**1.33**	**65**	*e*P		Pn	11 12 14.1	-2.0
ZAIG				*i* S		Sn	11 12 31.9	-1.5
SFJM	**Santa Fe**	**1.89**	**155**	*e*P		Pn	11 12 21.8	-1.6
SFJM				*i* S		Sn	11 12 44.4	-2.0
MAIG	**Mazatlaan**	**2.54**	**293**	*i* P		Pn	11 12 31.2	-0.8
MAIG				*i* S		Sn	11 12 50.1	-1.8
EZ5V		**2.73**	**175**	*i* P		Pn	11 12 34.5	-0.4
EZ5V				*i* S		Sn	11 13 05.5	-1.7
CJM	**Chamela**	**2.91**	**202**	*i* P		Pn	11 12 35.7	-1.3
CJM				*i* S		Sn	11 13 09.8	-1.2
R15V		**3.03**	**182**	*e*P		P

comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=9.1
AKTO Aktyubinsk 19.01 337 ⇑P **Pn 12 47 43.8 +1.4**
comp=N,0.5nm,0.9s
VOSK Vostochnaya 19.32 3 ⇓P **P 12 47 45.4 +0.4**
comp=N,3.5nm,0.9s
ZRNK Zerenda 19.53 359 ⇓P **P 12 47 47.0 -0.3**
comp=N,2.6nm,0.9s
BVA0 Borovoye Array 19.61 1 ⇓P **Pn 12 47 49.9 +0.4**
comp=N,0.2nm,0.5s,baz=165,slow=11,SNR=7.8
BVAR Borovoye Array 19.61 1 P **P 12 47 46.4 -1.7**
comp=N,0.3nm,0.3s,baz=161,slow=9.9,SNR=7.5
ZALV Zalesovo Beam 23.21 23 P **P 12 48 25.0 -1.6**
comp=N,0.5nm,0.3s,baz=222,slow=10,SNR=4.4
CMAR Chiang Mai Arr 30.20 112 P **P 12 49 30.9 +0.5**
comp=N,1.0nm,0.8s,baz=294,slow=8.1,SNR=7.5
SONM Songino Array 31.12 51 P **P 12 49 38.1 -0.2**
comp=N,0.4nm,0.7s,baz=251,slow=7.5,SNR=5.2
TORD Torodi Ar. Bea 64.47 269 P **P 12 53 57.0 +0.4**
comp=N,0.6nm,1.0s,baz=62,slow=5.7,SNR=3.4
ILAR Eielson Array 78.06 15 P **P 12 55 16.9 -1.1**
comp=N,0.2nm,0.5s,baz=324,slow=5.6,SNR=2.9
WRA Warramunga Arr 81.41 121 P **P 12 55 37.0 +0.3**
comp=N,0.8nm,0.7s,baz=324,slow=5.0,SNR=15
ASAR Alice Springs 83.50 124 P **P 12 55 48.1 +0.5**
comp=N,0.5nm,0.8s,baz=311,slow=5.2,SNR=5.6
YKA Yellowknife Ar 84.36 2 P **P 12 55 51.4 0.0**
comp=N,0.3nm,0.6s,baz=350,slow=5.1,SNR=12

IDC 18 12:49:03.5±1.6, 5°82S×122°61E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.1/2, MS3.0/1, Ms1 3.2/1, ms1mx2.3/27, Error ellipse: s-maj=57.9km s-min=21.9km az=42.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KAPI	**Kappang**	**2.95**	**286**	Pn	Pn	12 49 51.7	+0.1
	4.1nm,0.3s,baz=112,slow=8.1,SNR=15						
KAPI				Sn	Sn	12 50 28.4	+0.5
	3.8nm,0.3s,baz=38,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**18.09**	**142**	P	Pn	12 53 15.2	-1.1
	0.1nm,0.3s,baz=320,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**20.81**	**150**	P	P	12 53 47.2	+0.6
	1.8nm,0.9s,baz=322,slow=10,SNR=16						
CMAR	**Chiang Mai Arr**	**33.57**	**316**	LR	LR	13 10 56.6	
	comp=Z,24nm,18.4s,baz=190,slow=39						
MKAR	**Makanchi Array**	**63.39**	**330**	P	P	12 59 34.8	0.0
	0.5nm,0.9s,baz=137,slow=6.7,SNR=3.2						

---

*DDA **18** 12:53:22.5, 40°.78N×34°.43E, h7km, MD2.8*
*ISK **18** 12:53:27.0, 40°.72N×34°.90E, h6km, MD2.8*
*CSEM **18** 12:53:27.5±0.2, 40°.70N×34°.88E, h8km, MD2.8, Error ellipse: s-maj=6.5km s-min=4.9km az=103.0*

ISC 18 12:53:22.7±1.4, 40°81N±0°05×34°48E±0°05, h7km±11km, n21, σ1°30/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CTKT	**Corum**	**0.30**	**128**	*i* P	**Pb**	**12 53 30.7**	**+0.1**
CTKT				*i* S	**Sg**	**12 53 33.1**	**+0.4**
CTKT	**Corum**	**0.30**	**128**	*i* P	**Pb**	**12 53 30.7**	**+0.1**
CTKT				*i* S	**Sg**	**12 53 33.1**	**+0.4**
TOS	**Tosya**	**0.41**	**304**	*e*PG	Pn	12 53 42.1	+6.9
TOS				*e*SG	Sb	12 53 51.8	+13
TOS	**Tosya**	**0.41**	**304**	*e*Pg	Pn	12 53 42.1	+6.9
TOS				*e*Sg	Sb	12 53 51.8	+13
CORM	**Corum**	**0.64**	**169**	*e*PG	**Pn**	**12 53 38.7**	**+0.3**
CORM				*e*SG	**Sn**	**12 53 47.2**	**-1.6**
CORM	**Corum**	**0.64**	**169**	*e*Pg	**Pn**	**12 53 38.7**	**+0.3**
CORM				*e*Sg	**Sn**	**12 53 47.3**	**-1.6**
BYBT	**Boyabat**	**0.69**	**18**	*e*PG	Pn	12 53 42.5	+3.5
BYBT	**Boyabat**	**0.69**	**18**	*e*Pg	Pn	12 53 42.5	+3.5
ELDT	**Eldivan**	**0.86**	**249**	*i* P	**Pg**	**12 53 37.9**	**-1.3**
ELDT				*i* S	Sn	12 54 01.0	+6.7
HAVZ	**Havza**	**0.98**	**74**	*i* P	**Pb**	**12 53 42.0**	**-0.1**
HAVZ	**Havza**	**0.98**	**74**	*i* P	**Pb**	**12 53 42.0**	**-0.1**
DIKM	**Dikmen**	**1.03**	**35**	*e*PG	**Pn**	**12 53 45.1**	**+1.5**
DIKM	**Dikmen**	**1.03**	**35**	*e*Pg	**Pn**	**12 53 45.1**	**+1.5**
CDAG	**Cicekdag**	**1.19**	**184**	*i* P	Pn	12 53 49.1	+3.2
CDAG				*i* S	**Sn**	**12 54 04.2**	**+1.8**
CDAG	**Cicekdag**	**1.19**	**184**	*i* P	Pn	12 53 49.1	+3.2
CDAG				*i* S	**Sn**	**12 54 04.2**	**+1.8**
BZK	**Bozkurt**	**1.20**	**343**	*e*PN	Pn	12 53 54.3	+8.3
BZK	**Bozkurt**	**1.20**	**343**	*e*Pn	Pn	12 53 54.3	+8.3
YOZ	**Yozgat**	**1.33**	**151**	*e*PN	**Pg**	**12 53 48.3**	**0.0**
YOZ	**Yozgat**	**1.33**	**151**	*e*Pn	**Pg**	**12 53 48.3**	**0.0**
ERBA	**Erbaa**	**1.74**	**93**	*i* P	**Pb**	**12 53 55.0**	**0.0**
ERBA				*i* S	**Sn**	**12 54 13.6**	**-2.2**
ERBA	**Erbaa**	**1.74**	**93**	*i* P	**Pb**	**12 53 55.0**	**0.0**
ERBA				*i* S	**Sn**	**12 54 13.6**	**-2.2**

IDC 18 13:01:02.3±2.4, 3°66N×126°71E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=219.6km s-min=25.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.63**	**163**	P	P	13 06 24.1	-0.6
	1.4nm,0.6s,baz=342,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**28.05**	**164**	P	P	13 06 56.3	+0.7
	0.1nm,0.3s,baz=342,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	13 10 54.0	-0.1
	0.2nm,0.5s,baz=118,slow=8.7,SNR=2.5						

IDC 18 13:05:27.1±3.1, 15°75S×178°33W, h426km±34km, mb3.5/11, mb1 3.8/11, mb1mx3.5/20, mbtmp3.5/11, Error ellipse: s-maj=23.9km s-min=12.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
URZ	**Urewera**	**22.78**	**189**	P	P	13 09 54.4	-0.6
	4.7nm,0.4s,baz=353,slow=5.8,SNR=13						
WRA	**Warramunga Arr**	**45.13**	**257**	P	P	13 13 04.0	-0.1
	2.2nm,0.7s,baz=90,slow=6.9,SNR=30						
ASAR	**Alice Springs**	**45.48**	**252**	P	P	13 13 07.3	+0.6
	6.7nm,0.7s,baz=84,slow=8.1,SNR=106						
ASAR				S	S	13 19 16.6	+0.4
	0.7nm,0.8s,baz=76,slow=16,SNR=5.4						
MJAR	**Matsushiro Arr**	**66.24**	**323**	P	P	13 15 30.6	-0.9
	0.5nm,0.3s,baz=163,slow=7.0,SNR=5.4						
PETK	**Petropavlovsk-**	**71.63**	**345**	P	P	13 16 03.8	0.0
	4.2nm,0.6s,baz=141,slow=8.3,SNR=8.9						
NVAR	**Mina Array Bea**	**77.83**	**44**	P	P	13 16 40.2	+0.6
	1.8nm,0.8s,baz=235,slow=8.7,SNR=9.9						
ILAR	**Eielson Array**	**83.78**	**13**	P	P	13 17 08.9	-0.8
	2.2nm,0.6s,baz=232,slow=6.1,SNR=33						
TXAR	**Lajitas Array**	**84.79**	**58**	P	P	13 17 16.4	+0.8
	0.6nm,0.3s,baz=224,slow=7.0,SNR=3.8						
PDAR	**Pinedale Array**	**85.75**	**43**	P	P	13 17 20.0	-0.2
	1.1nm,0.6s,baz=199,slow=2.8,SNR=12						
SONM	**Songino Array**	**91.97**	**319**	P	P	13 17 49.0	-0.1
	0.2nm,0.6s,baz=84,slow=1.3,SNR=4.2						
YKA	**Yellowknife Ar**	**92.35**	**25**	P	P	13 17 50.2	0.0
	0.4nm,0.7s,baz=245,slow=4.7,SNR=11						
ARCES	**ARCESS Array B**	**124.22**	**350**	PKP	PKPdf	13 23 35.1	-0.5
	8.3nm,1.0s,baz=31,slow=2.1,SNR=4.1						
FINES	**FINESS Array B**	**131.14**	**345**	PKP	PKPdf	13 23 47.6	-1.3
	2.6nm,1.1s,baz=57,slow=5.1,SNR=2.6						
BRTR	**Keskin Array B**	**143.30**	**317**	PKP	PKPbc	13 24 10.8	+0.8
	4.7nm,0.8s,baz=64,slow=3.4,SNR=23						
GERES	**GERESS Array B**	**145.56**	**346**	PKPbc	PKPbc	13 24 16.6	-0.3
	1.6nm,0.6s,baz=18,slow=4.1,SNR=8.1						

MEX 18 13:17:09.3±0.5, 18°40N×100°67W, h61km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.33**	**111**	*i* P	Pn	13 17 18.5	-1.3
ARIG				*i* S	Sn	13 17 25.2	-2.1
ZIIG	**Zihuatanejo**	**1.09**	**224**	*e*P	Pn	13 17 26.8	-1.8
ZIIG				*i* S	Sn	13 17 41.5	-1.4
PLIG	**Platanillo**	**1.11**	**90**	*i* P	Pn	13 17 27.4	-1.5
PLIG				*i* S	Sn	13 17 42.1	-1.5
CAIG	**El Cayaco**	**1.40**	**164**	*i* P	Pn	13 17 31.0	-1.7
CAIG				*i* S	Sn	13 17 48.4	-1.9

IDC 18 13:26:33.1±3.0, 3°42S×127°23E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=364.5km s-min=27.0km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.83**	**158**	P	Pn	13 30 42.0	-0.9
	0.0nm,0.3s,baz=334,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**21.14**	**163**	P	P	13 31 20.4	+0.5
	0.3nm,0.5s,baz=344,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**63.74**	**327**	P	P	13 37 06.8	-0.1
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.7						

---

*ISK **18** 13:33:44.4, 38°.71N×35°.69E, h5km, ML1.9*
*DDA **18** 13:33:46.7, 38°.68N×35°.87E, h7km, MD2.9*
*CSEM **18** 13:33:46.1±0.2, 38°.77N×35°.92E, h12km, MD2.9, Error ellipse: s-maj=9.0km s-min=6.6km az=42.0*

ISC 18 13:33:46.1±0.9, 38°76N±0°06×35°91E±0°04, h14km±7km, n13, σ1°53/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BNN	**Bunyan**	**0.10**	**331**	*e*PG	**Pg**	**13 33 48.6**	**-0.7**
BNN				*e*SG	**Sg**	**13 33 52.5**	**+0.9**
BNN	**Bunyan**	**0.10**	**331**	*e*Pg	**Pg**	**13 33 48.6**	**-0.7**
BNN				*e*Sg	**Sg**	**13 33 52.5**	**+0.9**
PINB	**Pinarbasi**	**0.40**	**103**	*i* P	**Pg**	**13 33 54.7**	**+0.6**
PINB				*i* S	**Sn**	**13 34 03.9**	**-1.2**
PINB	**Pinarbasi**	**0.40**	**103**	*i* P	**Pg**	**13 33 54.7**	**+0.6**
SARI	**SarD1z-Kayseri**	**0.62**	**98**	*e*PG	**Pg**	**13 33 57.5**	**-0.8**
SARI				*e*SG	**Sb**	**13 34 08.7**	**+1.1**
KOZT	**Kozan**	**1.28**	**183**	*e*PN	**Pn**	**13 34 09.7**	**0.0**
KOZT	**Kozan**	**1.28**	**183**	*e*Pn	**Pn**	**13 34 09.7**	**0.0**
CDAG	**Cicekdag**	**1.47**	**306**	*i* P	Pg	13 34 24.1	+10
CDAG				*i* S	**Sg**	**13 34 38.0**	**+4.6**
DARE	**Darende-Malaty**	**1.49**	**82**	*e*PN	**Pn**	**13 34 12.5**	**-0.1**
DARE	**Darende-Malaty**	**1.49**	**82**	*e*Pn	**Pn**	**13 34 12.5**	**-0.1**
CORM	**Corum**	**1.72**	**325**	*e*PN	**Pb**	**13 34 16.5**	**-1.1**
CORM	**Corum**	**1.72**	**325**	*e*Pn	**Pb**	**13 34 16.5**	**-1.1**
GULE	**Gulek**	**1.73**	**212**	*i* P	Pg	13 34 28.2	+8.9
GULE				*i* S	**Sb**	**13 34 38.9**	**-0.4**

---

*IDC **18** 13:36:59.3±0.6, 3°45N×126°50E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/28, mbtmp4.3/19, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=28.4km s-min=12.8km az=73.0*
*ISCJB **18** 13:37:04.9±0.3, 3°43N±0°05×126°48E±0°08, h53km, mb4.3/21, MS3.3/4, Error ellipse: s-maj=12.5km s-min=5.6km az=156.0*
*AUST **18** 13:37:10.3±0.5, 3°38N×126°59E, h88km, Error ellipse: s-maj=1.2km s-min=0.9km az=262.0*

ISC 18 13:37:06.8±0.5, 3°40N±0°06×126°50E±0°10, h53km, n41, σ1°49/37, mb4.3/20, MS3.4/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DAV	**Davao City (W)**	**3.76**	**346**	LR	LR	13 39 54.9	
	comp=Z,467nm,18.2s,baz=89,slow=47						
PAGZ	**Pagadian**	**5.40**	**325**	*e*P	**Pn**	**13 38 25.4**	**+0.6**
BUTP	**Butuan**	**5.60**	**351**	*e*P	Pn	13 38 34.5	+6.9
LUWI	**Luwuk**	**5.77**	**220**	P	Pn	13 38 38.1	+8.2
	170nm,1.1s,1μm0.6nm						
IPIL	**Ipil**	**5.86**	**318**	*e*P	**Pn**	**13 38 30.3**	**-0.8**
SWI	**Sorong**	**6.37**	**132**	P	Pn	13 38 41.9	+3.7
	baz=6.3,SNR=5.5						
MSLP	**Maasin**	**6.89**	**346**	*e*P	**Pn**	**13 38 44.0**	**-1.2**
PCI	**Palu**	**7.91**	**237**	P	Pn	13 39 06.6	+7.3
	baz=8.0,SNR=4.8						
PALU	**Palau**	**8.86**	**63**	P	**Pn**	**13 39 14.7**	**+2.5**
	baz=8.8,SNR=3.6						
BATP	**Bataraza**	**10.17**	**302**	*e*P	**Pn**	**13 39 31.9**	**+1.6**
MTN	**Manton Dam**	**16.78**	**164**	P	**Pn**	**13 40 56.1**	**-2.1**
	baz=17,SNR=11						
MTN				S	**Sn**	**13 43 59.3**	**-4.6**
	baz=17,SNR=6.0						
KDU	**Kakadu**	**17.05**	**160**	P	**Pn**	**13 41 02.1**	**+0.5**
	baz=17,SNR=8.2						
KDU				S	Sn	13 43 51.2	-19
	baz=17,SNR=5.5						
GUMO	**Guam**	**20.78**	**60**	LR	LR	13 48 49.9	
	comp=Z,54nm,21.0s,baz=99,slow=34						
FITZ	**Fitzroy Crossi**	**21.38**	**182**	P	**P**	**13 41 50.0**	**0.0**
	2.6nm,0.3s,baz=19,slow=9.5,SNR=21						
FITZ	**Fitzroy Crossi**	**21.38**	**182**	P	**P**	**13 41 50.0**	**0.0**
	baz=22,SNR=21						
WRA	**Warramunga Arr**	**24.44**	**162**	P	**P**	**13 42 20.1**	**-0.6**
	3.1nm,0.5s,baz=334,slow=11,SNR=52						
QIS	**Mount Isa**	**27.06**	**152**	P	**P**	**13 42 47.7**	**+3.2**
	baz=27,SNR=6.8						
ASAR	**Alice Springs**	**27.85**	**165**	P	**P**	**13 42 51.0**	**-0.6**
	1.0nm,0.5s,baz=352,slow=7.5,SNR=24						
MEEK	**Meekatharra**	**30.82**	**194**	P	**P**	**13 43 19.2**	**+1.4**
	baz=31,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**13 43 19.1**	**+1.0**
	2.9nm,0.7s,baz=114,slow=6.9,SNR=26						
CMMT	**Chiang Mai**	**30.99**	**302**	P	**P**	**13 43 21.5**	**+2.0**
	6.4nm,0.7s						
CHTO	**Chiang Mai**	**31.00**	**302**	P	**P**	**13 43 21.0**	**+1.5**
	7.2nm,0.8s						
KSRS	**Korea Array**	**33.92**	**2**	P	**P**	**13 43 44.2**	**-0.6**
	3.3nm,0.8s,baz=172,slow=9.4,SNR=8.8						
QLP	**Quilpie**	**34.39**	**151**	P	**P**	**13 43 51.6**	**+2.6**
	baz=34,SNR=4.3						
BBOO	**Buckleboo**	**37.13**	**167**	P	**P**	**13 44 13.4**	**+0.9**
	baz=37,SNR=6.3						
STKA	**Stephens Creek**	**37.90**	**159**	P	**P**	**13 44 19.2**	**+0.2**
	1.9nm,0.3s,baz=358,slow=8.4,SNR=9.9						
STKA	**Stephens Creek**	**37.90**	**159**	P	**P**	**13 44 19.6**	**+0.6**
	baz=38,SNR=7.4						
ASAJ	**Asahikawa**	**42.98**	**17**	P	**P**	**13 44 59.7**	**-1.1**
	6.9nm,0.8s,baz=202,slow=19,SNR=4.6						
SONM	**Songino Array**	**47.54**	**342**	P	**P**	**13 45 36.6**	**-0.5**
	0.6nm,0.6s,baz=152,slow=9.5,SNR=6.5						
SONM				PcP	**PcP**	**13 47 06.9**	**+0.5**
	0.7nm,0.7s,baz=166,slow=3.1,SNR=3.6						
PETK	**Petropavlovsk-**	**55.82**	**22**	P	**P**	**13 46 38.9**	**+0.3**
	4.4nm,0.9s,baz=197,slow=4.6,SNR=8.0						
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**13 46 51.3**	**-0.7**
	4.6nm,0.5s,baz=124,slow=8.5,SNR=9.4						
MKAR				LR	LR	14 12 35.0	
	comp=Z,38nm,18.6s,baz=168,slow=37						
AAK	**Ala-Archa**	**60.45**	**318**	P	**P**	**13 47 11.4**	**0.0**
	1.0nm,0.6s,baz=123,slow=7.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.78**	**333**	P	**P**	**13 47 11.8**	**-1.4**
	0.8nm,0.4s,baz=108,slow=4.8,SNR=8.4						
ZALV				LR	LR	14 15 42.8	
	comp=Z,25nm,20.7s,baz=228,slow=38						
KURBB	**Kurchatov Arra**	**61.89**	**328**	P	**P**	**13 47 19.9**	**-0.8**
	6.3nm,0.7s,baz=127,slow=6.1,SNR=66						
BVAR	**Borovoye Array**	**67.47**	**327**	P	**P**	**13 47 56.5**	**-0.6**
	5.1nm,0.8s,baz=131,slow=8.6,SNR=33						
BVAR				LR	LR	14 18 39.4	
	comp=Z,30nm,19.3s,baz=333,slow=37						
AKTO	**Aktyubinsk**	**73.78**	**322**	P	**P**	**13 48 34.8**	**-0.7**
	1.4nm,0.3s,baz=123,slow=5.2,SNR=10						
ILAR	**Eielson Array**	**85.50**	**25**	P	**P**	**13 49 38.3**	**-0.5**
	0.7nm,0.8s,baz=256,slow=5.4,SNR=4.6						
BRTR	**Keskin Array B**	**90.05**	**310**	P	**P**	**13 50 00.4**	**-1.0**
	1.3nm,0.8s,baz=101,slow=6.4,SNR=6.5						
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**13 50 08.6**	**-1.4**
	2.3nm,0.6s,baz=68,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**99.89**	**24**	P	**Pdif**	**13 50 45.3**	**-0.2**
	0.3nm,0.9s,baz=296,slow=4.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**13 55 58.3**	**+0.3**
	0.6nm,0.7s,baz=59,slow=1.5,SNR=4.9						

IDC 18 13:41:05.5±3.0, 1°70S×136°27E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=108.1km s-min=25.7km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.23**	**186**	P	Pn	13 45 18.7	-1.5
	0.1nm,0.3s,baz=4.8,slow=13,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.36**	**212**	P	Pn	13 45 33.8	0.0
	0.1nm,0.3s,baz=28,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**21.96**	**186**	P	P	13 46 01.8	+0.7
	2.3nm,0.7s,baz=11,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**67.51**	**323**	P	P	13 52 03.2	-0.3
	0.2nm,0.6s,baz=125,slow=5.1,SNR=2.8						

---

*ISK **18** 14:18:31.6, 38°.85N×26°.80E, h7km, MD3.0*
*ISCJB **18** 14:18:32.3±0.5, 38°.84N±0°.02×26°.81E±0°.04, h7km±5km, Error ellipse: s-maj=5.5km s-min=3.6km az=155.4*
*DDA **18** 14:18:32.4, 38°.84N×26°.82E, h7km, MD2.8*
*CSEM **18** 14:18:32.6±0.1, 38°.84N×26°.80E, h10km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.0km az=79.0*

ISC 18 14:18:32.6±1.0, 38°84N±0°02×26°80E±0°03, h11km±9km, n43, σ0°48/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AYVA	**Ayvalik**	**0.48**	**350**	*i* P	**Pg**	**14 18 42.3**	**+0.3**
AYVA				*i* S	**Sg**	**14 18 48.7**	**+0.3**
AYVA	**Ayvalik**	**0.48**	**350**	*i* P	**Pg**	**14 18 42.3**	**+0.3**
AYVA				*i* S	**Sg**	**14 18 48.7**	**+0.3**
BLCB	**Balcova**	**0.49**	**157**	*e*PG	**Pg**	**14 18 41.8**	**-0.5**
BLCB				*e*SG	**Sg**	**14 18 48.8**	**+0.1**
BLCB	**Balcova**	**0.49**	**157**	*e*Pg	**Pg**	**14 18 41.8**	**-0.5**
BLCB				*e*Sg	**Sg**	**14 18 48.8**	**+0.1**
URLA	**Izmir**	**0.50**	**199**	*i* P	**Pg**	**14 18 42.3**	**-0.2**
URLA				*i* S	**Sg**	**14 18 49.6**	**+0.4**
URLA	**Izmir**	**0.50**	**199**	*i* P	**Pg**	**14 18 42.3**	**-0.2**
URLA				*i* S	**Sg**	**14 18 49.6**	**+0.4**
IZM	**Izmir**	**0.57**	**140**	*e*PG	**Pg**	**14 18 43.6**	**-0.1**
IZM				*e*SG	**Sg**	**14 18 51.8**	**+0.5**
IZM	**Izmir**	**0.57**	**140**	*e*Pg	**Pg**	**14 18 43.6**	**-0.1**
IZM				*e*Sg	**Sg**	**14 18 51.8**	**+0.5**
AKHS	**Akhisar**	**0.79**	**87**	*i* P	**Pg**	**14 18 47.9**	**0.0**
AKHS				*i* S	**Sg**	**14 18 58.0**	**-0.3**
AKHS	**Akhisar**	**0.79**	**87**	*i* P	**Pg**	**14 18 47.9**	**0.0**
AKHS				*i* S	**Sg**	**14 18 58.0**	**-0.3**
AKS	**Akhisar**	**0.79**	**87**	*e*PG	**Pg**	**14 18 47.9**	**-0.1**
AKS				*e*SG	**Sg**	**14 18 58.8**	**+0.5**
AKS	**Akhisar**	**0.79**	**87**	*e*Pg	**Pg**	**14 18 47.9**	**-0.1**
AKS				*e*Sg	**Sg**	**14 18 58.8**	**+0.5**
EZN	**Ezine**	**1.05**	**340**	*e*PG	**Pb**	**14 18 51.7**	**-1.1**
EZN				*e*SG	**Sb**	**14 19 06.8**	**+0.2**
EZN	**Ezine**	**1.05**	**340**	*e*Pg	**Pb**	**14 18 51.7**	**-1.1**
EZN				*e*Sg	**Sb**	**14 19 06.8**	**+0.2**
BALY	**Balya**	**1.10**	**35**	*i* P	**Pb**	**14 18 53.3**	**-0.4**
BALY				*i* S	**Sn**	**14 19 09.2**	**0.0**
BALY	**Balya**	**1.10**	**35**	*i* P	**Pb**	**14 18 53.3**	**-0.4**
BALY				*i* S	**Sn**	**14 19 09.2**	**0.0**
BALB	**Balikesir**	**1.16**	**46**	*e*PN	**Pb**	**14 18 54.0**	**-0.7**
BALB				*e*SN	**Sb**	**14 19 09.7**	**0.0**
BALB	**Balikesir**	**1.16**	**46**	*e*Pn	**Pb**	**14 18 54.0**	**-0.7**
BALB				*e*Sn	**Sb**	**14 19 09.7**	**0.0**
BOZC	**Bozcaada**	**1.16**	**330**	*i* P	**Pg**	**14 18 55.2**	**+0.3**
BOZC				*i* S	**Sg**	**14 19 10.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.39**	**29**	*e*PN	**Pn**	**14 18 57.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.39**	**29**	*e*Pn	**Pn**	**14 18 57.6**	**-0.3**
KULA	**Kula-Manisa**	**1.49**	**102**	*e*PN	**Pn**	**14 18 59.6**	**+0.2**
KULA	**Kula-Manisa**	**1.49**	**102**	*e*Pn	**Pn**	**14 18 59.6**	**+0.2**
LPK	**Lapseki**	**1.53**	**359**	*e*PN	**Pn**	**14 18 60.0**	**+0.1**
LPK	**Lapseki**	**1.53**	**359**	*e*Pn	**Pn**	**14 19 00.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.58**	**351**	*e*PN	**Pn**	**14 19 00.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.58**	**351**	*e*Pn	**Pn**	**14 19 00.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.60**	**14**	*e*PN	**Pn**	**14 19 00.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.60**	**14**	*e*Pn	**Pn**	**14 19 00.6**	**-0.2**
DST	**Dursunbey**	**1.61**	**61**	*e*PN	**Pn**	**14 19 00.8**	**-0.2**
DST	**Dursunbey**	**1.61**	**61**	*e*Pn	**Pn**	**14 19 00.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.87**	**9**	*e*PN	**Pn**	**14 19 04.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.87**	**9**	*e*Pn	**Pn**	**14 19 04.9**	**+0.3**
MFT	**Murefte**	**1.98**	**11**	*e*PN	**Pn**	**14 19 07.0**	**+0.9**
MFT	**Murefte**	**1.98**	**11**	*e*Pn	**Pn**	**14 19 07.0**	**+0.9**
APE	**Apeiranthos**	**2.03**	**210**	*e*PN	**Pn**	**14 19 07.2**	**+0.5**
APE	**Apeiranthos**	**2.03**	**210**	*e*Pn	**Pn**	**14 19 07.3**	**+0.5**
TVSB	**Tavsanli**	**2.16**	**73**	*e*PN	**Pn**	**14 19 09.4**	**+0.8**
TVSB	**Tavsanli**	**2.16**	**73**	*e*Pn	**Pn**	**14 19 09.4**	**+0.8**
ARMT	**Armutlu**	**2.35**	**42**	*e*PN	**Pn**	**14 19 11.8**	**+0.8**
ARMT	**Armutlu**	**2.35**	**42**	*e*Pn	**Pn**	**14 19 11.9**	**+0.8**
FETY	**Fethiye**	**2.85**	**140**	*e*PN	**Pn**	**14 19 18.9**	**+

PET				*i* S	**Sn**	14 30 53.2	-3.4
KOK	**Koryaka**	**8.43**	**280**	*e*P	**Pn**	**14 29 24.6**	**+2.1**
RUS	**Russkaya**	**8.55**	**275**	P	**Pn**	**14 29 25.6**	**+1.4**
RUS				S	Sn	14 30 54.2	-5.6
RUS	**Russkaya**	**8.55**	**275**	*e*P	**Pn**	**14 29 25.6**	**+1.4**
RUS				*i* S	Sn	14 30 54.2	-5.6
TILK	**Tilichiki**	**8.63**	**338**	*e*P	Pn	14 29 30.1	+4.9
MTVR	**Mutnovka**	**8.75**	**275**	*e*P	**Pn**	**14 29 28.5**	**+1.5**
MTVR				*i* S	**Sn**	**14 31 00.4**	**-4.5**
ESO	**Esso**	**8.76**	**298**	P	Pn	14 29 30.4	+3.4
ESO	**Esso**	**8.76**	**298**	*e*P	Pn	14 29 30.4	+3.4
GNL	**Ganaly**	**8.84**	**283**	*e*P	**Pn**	**14 29 30.5**	**+2.3**
PETK	**Petropavlovsk-**	**8.99**	**279**	Pn	**Pn**	**14 29 31.8**	**+1.6**
	2.8nm,0.3s,baz=103,slow=19,SNR=156						
PETK				Sn	**Sn**	**14 31 08.4**	**-2.3**
	0.4nm,0.3s,baz=96,slow=23,SNR=2.7						
PETK				LR	LR	14 33 00.9	
	comp=Z,46nm,18.5s,baz=213,slow=38						
PETK	**Petropavlovsk-**	**8.99**	**279**	P	**Pn**	**14 29 31.8**	**+1.6**
PETK						14 31 08.4	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,46nm,18.5s						
PETK	**Petropavlovsk-**	**8.99**	**279**	Pn	**Pn**	**14 29 31.8**	**+1.6**
PETK				Sn	**Sn**	**14 31 08.4**	**-2.3**
APC	**Apacha**	**9.33**	**278**	*e*P	**Pn**	**14 29 37.9**	**+3.1**
APC				*i* S	**Sn**	**14 31 17.3**	**-1.6**
MIPR	**Malaya Ipel'ka**	**9.64**	**274**	*e*P	**Pn**	**14 29 42.0**	**+2.9**
GAMB	**Gambell**	**13.91**	**30**	*e*P	**Pn**	**14 30 39.3**	**+2.0**
	comp=Z,3.4nm,0.9s						
BILL	**Bilibino**	**15.80**	**351**	P	**P**	**14 31 05.5**	**-0.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL	**Bilibino**	**15.80**	**351**	P	**P**	**14 31 05.5**	**-0.7**
	comp=Z,5.4nm,1.1s						
ASAJ	**Asahikawa**	**21.49**	**259**	P	**P**	**14 32 09.6**	**+0.8**
	comp=Z,5.7nm,0.7s,baz=108,slow=20,SNR=2.3						
ASAJ				LR	LR	14 39 45.6	
	comp=Z,39nm,18.3s,baz=184,slow=35						
ASAJ	**Asahikawa**	**21.49**	**259**	P	**P**	**14 32 09.6**	**+0.8**
SML	**Sawmill**	**22.78**	**51**	*e*P	**P**	**14 32 21.2**	**-1.3**
SML				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SML	**Sawmill**	**22.78**	**51**	*e*P	**P**	**14 32 21.2**	**-1.3**
	comp=Z,3.5nm,0.8s						
COLA	**College**	**23.49**	**43**	*e*P	**P**	**14 32 27.8**	**-1.8**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
COLA	**College**	**23.49**	**43**	*e*P	**P**	**14 32 27.8**	**-1.8**
	comp=Z,6.2nm,0.7s						
ILAR	**Eielson Array**	**23.88**	**44**	P	**P**	**14 32 31.2**	**-2.0**
	comp=Z,2.2nm,0.7s,baz=247,slow=8.1,SNR=30						
ILAR	**Eielson Array**	**23.88**	**44**	P	**P**	**14 32 31.2**	**-2.0**
PAX	**Paxson**	**24.23**	**48**	*e*P	**P**	**14 32 36.5**	**-0.2**
PAX	**Paxson**	**24.23**	**48**	*e*P	**P**	**14 32 36.5**	**-0.2**
	comp=Z,5.9nm,0.9s						
YAK	**Yakutsk**	**24.55**	**309**	*e*P	**P**	**14 32 39.2**	**-0.2**
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK	**Yakutsk**	**24.55**	**309**	P	**P**	**14 32 40.1**	**+0.6**
	comp=N,20nm,0.7s						
EGAK	**Eagle**	**26.30**	**44**	*e*P	**P**	**14 32 54.6**	**-0.8**
INK	**Inuvik**	**29.66**	**37**	P	**P**	**14 33 24.8**	**-0.4**
	comp=N,1.2nm,0.7s,baz=266,slow=11,SNR=7.4						
INK	**Inuvik**	**29.66**	**37**	P	**P**	**14 33 24.8**	**-0.4**
BOD	**Bodaibo**	**32.88**	**303**	*e*P	**P**	**14 33 53.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**38.26**	**46**	P	**P**	**14 34 38.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=290,slow=8.2,SNR=11						
YKA	**Yellowknife Ar**	**38.26**	**46**	P	**P**	**14 34 38.0**	**-1.8**
SONM	**Songino Array**	**41.26**	**291**	P	**P**	**14 35 06.4**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=57,slow=8.5,SNR=13						
SONM	**Songino Array**	**41.26**	**291**	P	**P**	**14 35 06.4**	**+1.4**
ZALV	**Zalesovo Beam**	**49.20**	**309**	LR	LR	14 58 46.2	
	comp=Z,33nm,18.6s,baz=243,slow=38						
PDAR	**Pinedale Array**	**50.94**	**68**	P	**P**	**14 36 20.1**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=322,slow=3.3,SNR=7.1						
PDAR	**Pinedale Array**	**50.94**	**68**	P	**P**	**14 36 20.1**	**-1.4**
KURK	**Kurchatov**	**54.19**	**309**	P	**P**	**14 36 46.5**	**+1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**54.19**	**309**	*e*P	**P**	**14 36 44.1**	**-1.0**
	comp=Z,3.9nm,1.0s						
KURBB	**Kurchatov Arra**	**54.29**	**309**	P	**P**	**14 36 46.5**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=52,slow=7.0,SNR=21						
MKAR	**Makanchi Array**	**54.98**	**303**	P	**P**	**14 36 50.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=56,slow=6.6,SNR=7.9						
MKAR	**Makanchi Array**	**54.98**	**303**	P	**P**	**14 36 50.4**	**-0.5**
MKAR	**Makanchi Array**	**54.98**	**303**	P	**P**	**14 36 50.4**	**-0.5**
BVAR	**Borovoye Array**	**56.37**	**315**	P	**P**	**14 37 01.2**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=48,slow=5.9,SNR=9.6						
BVAR	**Borovoye Array**	**56.37**	**315**	P	**P**	**14 37 01.2**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**56.37**	**315**	P	**P**	**14 37 01.2**	**+0.5**
SCHQ	**Schefferville**	**62.20**	**34**	P	**P**	**14 37 40.5**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=320,slow=6.3,SNR=9.2						
SCHQ	**Schefferville**	**62.20**	**34**	P	**P**	**14 37 40.5**	**-0.6**
FINES	**FINESS Array B**	**63.23**	**343**	P	**P**	**14 37 47.9**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=7.8,slow=11,SNR=4.0						
FINES				LR	LR	15 08 00.7	
	comp=Z,54nm,19.3s,baz=147,slow=39						
FINES	**FINESS Array B**	**63.23**	**343**	P	**P**	**14 37 47.9**	**+0.2**
ABKAR	**Akbulak array**	**63.58**	**318**	*e*P	**P**	**14 37 50.9**	**+0.7**
	comp=Z,1.4nm,0.5s						
TXAR	**Lajitas Array**	**63.66**	**76**	P	**P**	**14 37 50.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=297,slow=3.9,SNR=5.0						
TXAR	**Lajitas Array**	**63.66**	**76**	P	**P**	**14 37 50.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**65.61**	**269**	P	**P**	**14 38 05.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=22,slow=7.2,SNR=7.6						
CMAR	**Chiang Mai Arr**	**65.61**	**269**	P	**P**	**14 38 05.3**	**+1.4**
NB2	**NORSAR Subarra**	**65.75**	**350**	P	**P**	**14 38 04.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=16,slow=6.5						
NOA	**NORSAR Array B**	**65.75**	**350**	P	**P**	**14 38 04.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=13,slow=6.6,SNR=5.8						
NOA				LR	LR	15 08 02.5	
	comp=Z,23nm,19.5s,baz=305,slow=37						
NOA	**NORSAR Array B**	**65.75**	**350**	P	**P**	**14 38 04.2**	**0.0**
EKA	**Eskdalemuir Ar**	**72.39**	**357**	P	**P**	**14 38 45.5**	**0.0**
	comp=Z,1.2nm,0.6s,baz=354,slow=4.5,SNR=5.1						
EKA	**Eskdalemuir Ar**	**72.39**	**357**	P	**P**	**14 38 45.5**	**0.0**
GERES	**GERESS Array B**	**77.36**	**346**	P	**P**	**14 39 15.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=23,slow=5.3,SNR=4.3						
GERES	**GERESS Array B**	**77.36**	**346**	P	**P**	**14 39 15.2**	**+0.8**
WRA	**Warramunga Arr**	**79.48**	**216**	P	**P**	**14 39 26.1**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=33,slow=6.2,SNR=15						
WRA	**Warramunga Arr**	**79.48**	**216**	P	**P**	**14 39 26.1**	**-0.2**
ASAR	**Alice Springs**	**83.06**	**215**	P	**P**	**14 39 45.5**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=15,slow=6.1,SNR=7.7						
ASAR	**Alice Springs**	**83.06**	**215**	P	**P**	**14 39 45.5**	**+0.3**

*IDC **18** 14:34:02.0±1.4, 21˚.79N×143˚.63E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/26, mbtmp3.3/5, Error ellipse: s-maj=49.5km s-min=26.7km az=85.0*
*ISCJB **18** 14:34:04.8±1.4, 21˚.8N±0˚.2×143˚.5E±0˚.4, h33km, mb3.3/5, Error ellipse: s-maj=47.4km s-min=26.8km az=177.1*

ISC 18 14:34:07.2±1.4, 21˚.8N±0˚.2×143˚.6E±0˚.3, h35km, n5, σ1s70/5, mb3.3/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.55**	**320**	P	**P**	**14 41 36.6**	**+1.6**
	0.1nm,0.3s,baz=129,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**42.44**	**193**	P	**P**	**14 41 59.0**	**+0.1**
	0.2nm,0.3s,baz=15,slow=9.2,SNR=12						
ZALV	**Zalesovo Beam**	**54.42**	**322**	P	**P**	**14 43 29.4**	**-1.4**
	0.4nm,0.5s,baz=79,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**54.96**	**313**	P	**P**	**14 43 33.7**	**-1.2**
	0.1nm,0.4s,baz=100,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**61.78**	**27**	P	**P**	**14 44 22.2**	**0.0**
	0.3nm,0.8s,baz=266,slow=5.1,SNR=3.9						

*IDC **18** 14:48:52.6±4.9, 30˚.26N×139˚.86E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=182.2km s-min=32.3km az=66.0*

JMA 18 14:49:36.8±0.3, 30˚.13N×139˚.60E, h438km±4km, M3.3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.98**	**4**	P	P	14 50 43.4	+0.8
JHJ2				*e*S	S	14 51 36.1	-0.1
CBIJ	**Chichi jima**	**3.78**	**142**	P	P	14 50 49.2	-0.1
CBIJ				*e*S	S	14 51 46.2	-2.1
BSO1	**Boso 1**	**4.66**	**14**	*e*S	S	14 52 03.6	+2.1
BSO3	**Boso 3**	**4.72**	**9**	*e*S	S	14 52 04.5	+1.3
JIE	**Ise**	**4.91**	**331**	P	S	14 51 00.2	+0.7
HMMJ	**Hamamatsu 2**	**4.97**	**342**	*e*S	S	14 52 05.3	-2.9
JHU	**Hanno**	**5.71**	**357**	P	S	14 51 07.5	0.0
JHU				*e*S	S	14 52 17.9	-3.9
JRY	**Ryogami san**	**5.90**	**354**	P	S	14 51 10.3	+0.8
JRY				*e*S	S	14 52 23.2	-2.2
JHO	**Hitachi**	**6.51**	**7**	P	S	14 51 17.1	+1.1
JHO				*e*S	S	14 52 34.0	-3.1
MKAR	**Makanchi Array**	**46.81**	**308**	P	P	14 57 24.8	-0.5
	0.2nm,0.7s,baz=98,slow=7.4,SNR=3.3						
FITZ	**Fitzroy Crossi**	**49.80**	**197**	P	P	14 57 48.4	+0.5
	1.3nm,0.7s,baz=12,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**50.04**	**186**	P	P	14 57 50.5	+0.8
	0.6nm,0.4s,baz=4.0,slow=8.1,SNR=29						
ASAR	**Alice Springs**	**53.77**	**186**	P	P	14 58 17.9	+1.2
	0.3nm,0.4s,baz=5.9,slow=7.0,SNR=15						
STKA	**Stephens Creek**	**61.70**	**178**	P	P	14 59 13.1	+2.3
	1.1nm,0.8s,baz=349,slow=10,SNR=6.0						

*BJI **18** 14:50:38.2, 52˚.70N×175˚.10W, h218km, mB4.7/11, mb4.5/17*
*ISCJB **18** 14:50:41.4±0.2, 52˚.87N±0˚.04×175˚.08W±0˚.03, h226km±2km, mb4.1/82, Error ellipse: s-maj=7.0km s-min=2.9km az=179.0*
*NEIC **18** 14:50:42.1±0.2, 52˚.76N×175˚.06W, h223km±2km, mb4.4/63, Error ellipse: s-maj=7.2km s-min=3.0km az=172.0*
*IDC **18** 14:50:43.6±1.4, 52˚.90N×175˚.11W, h237km±12km, mb3.7/25, mb1 3.9/28, mb1mx3.8/38, mbtmp3.7/28, Error ellipse: s-maj=13.4km s-min=7.6km az=164.0*

ISC 18 14:50:41.8±0.5, 52˚.74N±0˚.08×175˚.08W±0˚.03, h223km±2km, h223km; pP-P, n462, σ0s98/495, mb4.2/82, 145C-149D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOWE	**Korovin West**	**0.63**	**126**	P	**Pn**	**14 51 12.2**	**+0.1**
KOKV	**Korovin Volcan**	**0.68**	**124**	P	**Pn**	**14 51 12.6**	**+0.2**
KOKV				S	**S**	**14 51 38.0**	**+1.8**
KOKL	**Mount Kliuchef**	**0.68**	**128**	P	**Pn**	**14 51 12.7**	**+0.3**
KOSE	**Korovin Southe**	**0.75**	**122**	P	**Pn**	**14 51 12.8**	**+0.2**
KOFP	**Korovin Flat P**	**0.76**	**128**	P	**Pn**	**14 51 12.8**	**+0.1**
ATKA	**Atka Island**	**0.77**	**135**	P	**Pn**	**14 51 11.7**	**-1.0**
ATKA				S	**S**	**14 51 34.8**	**-1.9**
CERAA	**Semis' Rag'd T**	**3.32**	**257**	P	**Pn**	**14 51 37.1**	**+0.8**
CEAP	**Semis' Anvil P**	**3.36**	**259**	P	**Pn**	**14 51 38.1**	**+1.4**
CESW	**Semis' Southwe**	**3.39**	**258**	P	**Pn**	**14 51 37.7**	**+0.6**
AMKA	**Amchitka**	**3.73**	**251**	P	**Pn**	**14 51 40.9**	**-0.2**
NIKO	**Nikolski**	**3.78**	**84**	P	**Pn**	**14 51 40.9**	**-0.8**
LSPA	**Little Sitkin**	**3.97**	**261**	P	**Pn**	**14 51 45.3**	**+1.3**
LSPA				S	**S**	**14 52 34.8**	**+2.0**
LSSE	**Little Sitkin**	**3.98**	**261**	P	**Pn**	**14 51 45.5**	**+1.4**
LSNW	**Little Sitkin**	**4.00**	**261**	P	**Pn**	**14 51 45.5**	**+1.1**
OKSP	**Okmok Steeple**	**4.13**	**80**	P	**Pn**	**14 51 46.0**	**0.0**
OKSO	**Okmok South**	**4.22**	**79**	P	**Pn**	**14 51 47.7**	**+0.6**
OKSO				S	**S**	**14 52 39.5**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**4.30**	**79**	P	**Pn**	**14 51 48.2**	**+0.2**
OKFG	**Magazine Ridge**	**4.38**	**78**	P	**Pn**	**14 51 49.5**	**+0.6**
OKFG				S	**S**	**14 52 42.3**	**+0.5**
MGOD	**Makushin Gods**	**5.04**	**75**	P	**Pn**	**14 51 57.2**	**0.0**
MSW	**Makushin Switc**	**5.11**	**73**	P	**Pn**	**14 51 58.7**	**+0.6**
UNV	**Unalaska Valle**	**5.26**	**74**	P	**Pn**	**14 51 59.7**	**-0.2**
LVA	**Lava Point**	**5.59**	**72**	P	**Pn**	**14 52 04.7**	**+0.6**
AKGG	**Akutan Green G**	**5.62**	**71**	P	**Pn**	**14 52 04.8**	**+0.3**
AKUT	**Akutan**	**5.74**	**72**	*e*P	**Pn**	**14 52 05.5**	**-0.4**
FX1	**Attu Island--F**	**7.13**	**276**	P	**Pn**	**14 52 24.2**	**+0.5**
	22nm,0.3s,baz=105,slow=4.0,SNR=89						
FX1				S	**S**	**14 53 40.9**	**-4.1**
	8.1nm,0.3s,baz=162,slow=20,SNR=6.7						
FX1	**Attu Island--F**	**7.13**	**276**	P	**Pn**	**14 52 24.8**	**+1.2**
DRIA	**Deer Island**	**7.90**	**69**	P	**Pn**	**14 52 33.6**	**0.0**
GAMB	**Gambell**	**11.21**	**8**	*e*P	**Pn**	**14 53 16.0**	**+0.4**
	20nm,1.3s						
TNA	**Tin City**	**13.36**	**13**	*e*P	**P**	**14 53 44.4**	**-0.2**
	7.6nm,0.6s						
KDAK	**Kodiak Island**	**13.75**	**60**	P	**Pn**	**14 53 45.4**	**-2.1**
	63nm,0.3s,baz=277,slow=7.0,SNR=142						
KDAK				S	S	14 56 12.6	-6.9
	2.6nm,0.3s,baz=349,slow=23,SNR=7.7						
KDAK	**Kodiak Island**	**13.75**	**60**	*e*P	**Pn**	**14 53 44.9**	**-2.6**
	113nm,0.4s						
RSO	**Redoubt South**	**14.46**	**49**	*e*P	**P**	**14 53 58.5**	**+1.3**
	129nm,0.8s						
SEW	**Seward**	**15.90**	**52**	*e*P	**P**	**14 54 10.8**	**-1.9**
	101nm,0.6s						
RC01	**Rabbit Creek A**	**16.07**	**49**	*e*P	**P**	**14 54 14.4**	**-0.3**
	16nm,0.6s						
PETK	**Petropavlovsk-**	**16.38**	**282**	P	**Pn**	**14 54 20.2**	**+0.9**
	1.0nm,0.3s,baz=95,slow=14,SNR=25						
PMR	**Palmer**	**16.52**	**47**	*e*P	**P**	**14 54 18.7**	**-0.9**
	8.7nm,0.6s						
TRF	**Thorofare Moun**	**16.80**	**41**	*e*P	**P**	**14 54 22.5**	**-0.4**
	45nm,0.8s						
SML	**Sawmill**	**16.95**	**47**	*e*P	**P**	**14 54 24.3**	**0.0**
	5.5nm,0.7s						
DIV	**Divide**	**17.92**	**51**	*e*P	**Pn**	**14 54 37.8**	**+0.4**
	39nm,0.5s						
COLA	**College**	**18.42**	**38**	*e*P	**P**	**14 54 39.0**	**-1.1**
	21nm,0.6s						
BMRM	**Bremner River**	**18.44**	**51**	*e*P	**Pn**	**14 54 43.4**	**0.0**
	33nm,0.8s						
PAX	**Paxson**	**18.61**	**45**	*e*P	**P**	**14 54 42.0**	**-0.3**
	44nm,0.8s						
ILAR	**Eielson Array**	**18.74**	**39**	P	**P**	**14 54 41.8**	**-1.9**
	1.0nm,0.3s,baz=242,slow=9.9,SNR=70						
ILAR				S	**S**	**14 58 04.2**	**-0.4**
	0.0nm,0.3s,baz=236,slow=16,SNR=4.1						
ILAR				ScP	**ScP**	**15 02 12.2**	**-2.3**
	0.1nm,0.3s,baz=259,slow=3.2,SNR=7.3						
COLD	**Coldfoot**	**18.91**	**30**	*e*P	**P**	**14 54 46.5**	**+1.1**
	35nm,1.0s						
MENT	**Mentasta**	**19.35**	**46**	P	**P**	**14 54 51.0**	**+0.7**
DOT	**Dot Lake**	**19.43**	**44**	*e*P	**P**	**14 54 50.4**	**-0.7**
	19nm,0.7s						
PNL	**Peninsula**	**20.82**	**56**	*e*P	**P**	**14 55 06.4**	**+0.5**
DAWY	**Dawson**	**21.53**	**44**	*e*P	**P**	**14 55 12.8**	**-0.3**
INK	**Inuvik**	**25.02**	**36**	P	**P**	**14 55 44.5**	**-0.3**
	3.8nm,0.6s,baz=243,slow=6.0,SNR=30						
INK				ScP	**ScP**	**15 02 28.1**	**-2.1**
	0.5nm,0.7s,baz=278,slow=3.4,SNR=3.1						
YKA	**Yellowknife Ar**	**32.62**	**49**	P	**P**	**14 56 51.5**	**-0.5**
	3.0nm,0.6s,baz=282,slow=8.7,SNR=69						
YKA				PcP	**PcP**	**14 59 32.2**	**-0.1**
	0.5nm,0.6s,baz=287,slow=3.0,SNR=9.0						
YKA				ScP	**ScP**	**15 02 52.4**	**-2.1**
	0.2nm,0.4s,baz=284,slow=3.4,SNR=3.9						
HAWA	**Hanford**	**35.80**	**77**	*e*P	**P**	**14 57 20.5**	**+1.0**
	14nm,0.8s						
MAJO	**Matsushiro**	**36.25**	**262**	*e*P	**P**	**14 57 23.6**	**+0.2**
	8.7nm,1.0s						
MJAR	**Matsushiro Arr**	**36.25**	**262**	P	**P**	**14 57 23.8**	**+0.3**
	0.9nm,0.5s,baz=41,slow=8.3,SNR=5.9						
NEW	**Newport**	**36.27**	**73**	⇑P	**P**	**14 57 23.6**	**+0.1**
	baz=36						
MDJ	**Mudanjiang**	**36.60**	**280**	P	P	14 57 22.9	-3.4
MDJ				pP	pP	14 58 06.4	-5.8
MDJ				PP	**PP**	**14 58 49.3**	**-5.2**
MDJ				S	S	15 02 45.0	-7.0
MDJ				PcS	**PcS**	**15 03 32.0**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,34nm,5.8s						
A13A	**Flathead Natio**	**37.51**	**71**	⇓P	**P**	**14 57 33.7**	**-0.3**
	baz=37						
B13A	**Whitefish**	**37.76**	**72**	⇓P	**P**	**14 57 35.5**	**-0.5**
	baz=38						
MOD	**Modoc**	**37.81**	**84**	*e*P	**P**	**14 57 38.1**	**+1.4**
	comp=Z,3.4nm,0.5s						
BMO	**Blue Mountains**	**37.94**	**78**	*e*P	**P**	**14 57 38.2**	**+0.6**
	comp=Z,5.1nm,0.8s						
A14A	**Double T Ranch**	**38.06**	**70**	⇓P	**P**	**14 57 38.4**	**-0.2**
	baz=38,SNR=5.8						
D13A	**Huson**	**38.42**	**73**	⇓P	**P**	**14 57 42.0**	**+0.4**
	baz=38						
A15A	**Johnson Ranch,**	**38.45**	**70**	⇑P	**P**	**14 57 41.8**	**-0.1**
	baz=38						
B14A	**Marquette Ranc**	**38.45**	**71**	⇓P	**P**	**14 57 41.7**	**-0.2**
	baz=38						
F12A	**Elk City**	**38.66**	**76**	⇓P	**P**	**14 57 43.7**	**0.0**
	baz=38,SNR=11						
MSO	**Missoula**	**38.86**	**73**	⇓P	**P**	**14 57 45.5**	**+0.2**
	baz=39						
B15A	**Bradely Ranch,**	**38.88**	**71**	⇑P	**P**	**14 57 45.3**	**-0.2**
	baz=39						
E13A	**Victor**	**38.92**	**74**	⇓P	**P**	**14 57 45.8**	**0.0**
	baz=39						
D14A	**Greenough**	**38.98**	**73**	⇑P	**P**	**14 57 45.9**	**-0.4**
	baz=39,SNR=6.3						
C15A	**Salmond Ranch,**	**39.13**	**71**	⇓P	**P**	**14 57 47.7**	**+0.1**
	baz=39,SNR=9.1						
F13A	**Darby**	**39.19**	**75**	⇑P	**P**	**14 57 48.4**	**+0.4**
	baz=39						
B16A	**M & M Farms, S**	**39.32**	**70**	⇑P	**P**	**14 57 49.7**	**+0.7**
	baz=39						
E14A	**Clinton**	**39.34**	**74**	⇓P	**P**	**14 57 49.9**	**+0.5**
	baz=39						
H12A	**Diamond D Ranc**	**39.56**	**77**	⇑P	**P**	**14 57 51.5**	**+0.2**
	baz=39						
D15A	**Lincoln**	**39.57**	**72**	⇓P	**P**	**14 57 51.2**	**0.0**
	baz=39						
C16A	**Fuhringer Ranc**	**39.62**	**71**	⇑P	**P**	**14 57 51.5**	**-0.1**
	baz=39						
A17A	**Triple J Farms**	**39.62**	**69**	⇓P	**P**	**14 57 50.3**	**-1.2**
	baz=39,SNR=7.3						
MFID	**Camas Ranch**	**39.63**	**79**	⇑P	**P**	**14 57 52.2**	**+0.5**
	baz=40						
G13A	**Cobalt**	**39.63**	**76**	⇑P	**P**	**14 57 51.6**	**-0.1**
	baz=40,SNR=11						
F14A	**Wisdom**	**39.74**	**74**	⇓P	**P**	**14 57 53.3**	**+0.7**
	baz=40						
E15A	**Deer Lodge**	**39.83**	**73**	⇓P	**P**	**14 57 53.8**	**+0.4**
	baz=40						
B17A	**L&G Farms, Che**	**39.90**	**70**	⇓P	**P**	**14 57 53.4**	**-0.4**
	baz=40						
HIA	**Hailar**	**39.91**	**292**	*e*P	**P**	**14 57 53.3**	**-0.4**
	comp=Z,4.8nm,0.8s						
H13A	**Challis**	**39.91**	**77**	⇓P	**P**	**14 57 54.5**	**+0.5**
	baz=40						
D16A	**Dana Ranch, Ca**	**40.14**	**72**	⇓P	**P**	**14 57 56.0**	**+0.2**
	baz=40						
C17A	**Wharram Farm,**	**40.27**	**71**	⇑P	**P**	**14 57 56.3**	**-0.6**
	baz=40						
E16A	**East Helena**	**40.33**	**73**	⇑P	**P**	**14 57 57.4**	**-0.1**
	baz=40						
I13A	**Wildhorse Cree**	**40.36**	**77**	⇓P	**P**	**14 57 58.1**	**+0.3**
	baz=40,SNR=19						
HLID	**Hailey**	**40.38**	**78**	*e*P	**P**	**14 57 58.5**	**+0.5**
	comp=Z,8.6nm,1.0s						
HLID	**Hailey**	**40.38**	**78**	⇑P	**P**	**14 57 58.9**	**+0.9**
	baz=40,SNR=12						
H14A	**Leadore**	**40.40**	**76**	⇓P	**P**	**14 57 58.5**	**+0.3**
	baz=40,SNR=6.4						
B18A	**Beardsley Farm**	**40.43**	**69**	⇑P	**P**	**14 57 58.3**	**+0.2**
	baz=40						
D17A	**Six Diamond Ra**	**40.57**	**71**	⇓P	**P**	**14 57 59.7**	**+0.3**
	baz=40						
MCMT	**McKenzie Canyo**	**40.59**	**75**	*e*P	**P**	**14 57 59.3**	**-0.4**
	comp=Z,1.9nm,0.5s						
G15A	**Dillon**	**40.61**	**75**	⇓P	**P**	**14 57 59.9**	**+0.1**
	baz=40						
J13A	**Cove Ranch, Pi**	**40.62**	**78**	⇓P	**P**	**14 58 00.8**	**+0.9**
	baz=40,SNR=21						
EGMT	**Eagleton**	**40.64**	**69**	P	**P**	**14 57 58.9**	**-1.0**
	comp=Z,3.1nm,0.6s						
EGMT	**Eagleton**	**40.64**	**69**	⇓P	**P**	**14 57 59.9**	**+0.1**
	baz=40						
A19A	**Klindworth Far**	**40.73**	**68**	⇓P	**P**	**14 58 00.2**	**-0.5**
	baz=40						
I14A	**Mackay**	**40.74**	**

baz=43
DUG **Dugway** 43.36 81 *e*P P 14 58 22.8 +0.9
comp=Z,23nm,1.1s
DUG **Dugway** 43.36 81 ⇑P P 14 58 22.9 +0.9
baz=43,SNR=15
A24A **Westby** 43.38 65 ⇑P P 14 58 21.3 -0.6
baz=43
K18A **Toltan Ranch,** 43.52 76 ⇑P P 14 58 24.0 +0.7
baz=43,SNR=6.4
EDW2 **Edwards Air Fo** 43.65 91 ⇓P P 14 58 24.7 +0.4
baz=44
E22A **Miles City** 43.68 69 ⇑P P 14 58 24.6 +0.2
baz=44
BW06 **Boulder Array** 43.73 76 ⇓P P 14 58 25.2 +0.2
baz=44,SNR=13
J19A **Crowheart** 43.73 75 ⇑P P 14 58 25.8 +0.8
baz=44
PDAR **Pinedale Array** 43.73 76 P P 14 58 25.0 0.0
comp=Z,6.5nm,0.6s,baz=325,slow=2.5,SNR=68
N16A **Rees Ranch, Co** 43.75 79 ⇓P P 14 58 25.9 +0.7
baz=44
M17A **Scullys Gap (B** 43.85 78 ⇑P P 14 58 26.3 +0.3
baz=44
I20A **Worland** 43.86 74 ⇑P P 14 58 26.3 +0.4
baz=44
SHOC **Shoshone** 44.01 88 ⇓P P 14 58 28.6 +1.5
baz=44,SNR=5.0
P15A **Leamington** 44.07 81 ⇓P P 14 58 28.3 +0.7
baz=44,SNR=6.4
N17A **Moffit Pass** 44.08 79 ⇓P P 14 58 28.2 +0.4
baz=44
GSC **Goldstone** 44.09 89 ⇓P P 14 58 28.9 +1.1
baz=44,SNR=5.5
K19A **Absolon Red Bu** 44.11 75 ⇑P P 14 58 27.6 -0.4
baz=44,SNR=7.5
O16A **Springville** 44.13 80 ⇑P P 14 58 29.0 +0.8
baz=44
DAU **Daniels Canyon** 44.15 80 *e*P P 14 58 29.3 +0.8
comp=Z,6.3nm,0.9s
G22A **Birney** 44.18 71 ⇓P P 14 58 28.1 -0.3
baz=44
M18A **Lyman** 44.24 78 ⇓P P 14 58 29.3 +0.3
baz=44
J20A **Shoshoni** 44.24 74 ⇑P P 14 58 29.2 +0.3
baz=44,SNR=6.0
L19A **Farson** 44.25 76 ⇓P P 14 58 29.5 +0.4
baz=44
BFSC **Mount Baldy Ra** 44.29 91 ⇓P P 14 58 30.4 +1.0
baz=44
F23A **Volborg** 44.40 70 ⇓P P 14 58 29.9 -0.1
baz=44
I21A **Big Trails, Te** 44.43 73 ⇓P P 14 58 30.4 0.0
baz=44
ARUT **Antelope Range** 44.50 84 *e*P P 14 58 32.4 +1.2
comp=Z,4.6nm,0.8s
K20A **Yellowstone Ra** 44.51 75 ⇓P P 14 58 30.5 -0.6
baz=44,SNR=5.4
H22A **Clearmont** 44.51 72 ⇓P P 14 58 30.5 -0.5
baz=44
TUQ **Turquoise Moun** 44.54 88 ⇑P P 14 58 32.5 +1.1
baz=44
J21A **Lysite** 44.62 74 ⇑P P 14 58 31.8 -0.2
baz=44
HEC **Hector,Ludlow** 44.70 89 ⇑P P 14 58 33.9 +1.3
baz=45
CCUT **Cedar City** 44.70 84 *e*P P 14 58 33.7 +0.9
comp=Z,2.1nm,0.6s
N18A **Larsen Ranch,** 44.75 78 ⇓P P 14 58 32.7 -0.3
baz=45
MVU **Marysvale** 44.78 82 *e*P P 14 58 34.7 +1.3
comp=Z,7.6nm,1.0s
MSU **Marysvale** 44.80 82 *e*P P 14 58 34.7 +1.2
comp=Z,2.5nm,0.6s
I22A **9 Mile Ranch,** 44.85 73 ⇓P P 14 58 34.0 +0.2
baz=45
TMUT **Trail Mountain** 44.88 81 *e*P P 14 58 35.2 +1.0
comp=Z,17nm,0.7s
L20A **Wamsutter** 44.91 76 ⇓P P 14 58 34.8 +0.5
baz=45
MURC **Murrieta** 45.00 91 ⇓P P 14 58 36.1 +1.1
baz=45
P17A **Butcher Ranch,** 45.05 80 ⇑P P 14 58 36.1 +0.7
baz=45
N19A **John Jarvie Ra** 45.09 78 ⇑P P 14 58 35.6 -0.2
baz=45,SNR=5.7
GMRC **Granite Mounta** 45.14 89 ⇑P P 14 58 37.3 +1.2
baz=45,SNR=6.8
J22A **Midwest** 45.14 73 ⇑P P 14 58 36.2 +0.1
baz=45,SNR=9.8
Q16A **Castle Valley** 45.15 81 ⇓P P 14 58 37.2 +1.0
baz=45,SNR=5.5
K21A **Alcova** 45.16 75 ⇓P P 14 58 35.8 -0.5
baz=45,SNR=5.1
P18A **Preston Nutter** 45.25 80 ⇑P P 14 58 38.3 +1.1
baz=45,SNR=10.0
SRU **San Rafael** 45.41 81 *e*P P 14 58 39.0 +0.7
comp=Z,14nm,0.8s
SRU **San Rafael** 45.41 81 ⇓P P 14 58 39.3 +1.0
baz=45,SNR=12
PFO **Pinyon Flat Ob** 45.45 91 ⇓P P 14 58 39.9 +1.3
baz=45
BELC **Belle Mtn. Jos** 45.46 90 ⇑P P 14 58 39.4 +0.8
baz=45
O19A **Miners Draw (B** 45.50 78 ⇑P P 14 58 39.5 +0.6
baz=45,SNR=14
L21A **Rawlins** 45.50 75 ⇓P P 14 58 38.7 -0.3
baz=45,SNR=6.4
N20A **Spence Gulch,** 45.67 77 ⇓P P 14 58 40.6 +0.3
baz=46,SNR=6.3
M21A **Separation Pea** 45.73 76 ⇑P P 14 58 40.6 -0.2
baz=46
IRM **Iron Mountain** 45.87 89 ⇓P P 14 58 42.9 +1.2
baz=46,SNR=5.9
W13A **Hualapai Mount** 46.00 87 ⇓P P 14 58 44.1 +1.1
baz=46,SNR=5.9
P19A **Cripple Cowboy** 46.00 79 ⇓P P 14 58 43.5 +0.6
baz=46,SNR=19
L22A **Ellis Ranch, M** 46.01 75 ⇓P P 14 58 43.2 +0.2
baz=46
BC3 **Big Chuckawall** 46.02 90 ⇓P P 14 58 43.6 +0.6
baz=46
U15A **North Rim** 46.08 85 ⇓P P 14 58 45.2 +1.6
baz=46,SNR=27
O20A **White River Ci** 46.13 78 ⇑P P 14 58 44.2 +0.3
baz=46,SNR=8.1
Q19A **Hogan Spring (** 46.27 80 ⇓P P 14 58 45.1 +0.2
baz=46,SNR=9.0
M22A **Cedar Creek Ra** 46.30 75 ⇓P P 14 58 45.0 -0.3
baz=46
PDMCI **Parker Dam,Lak** 46.38 88 ⇑P P 14 58 46.5 +0.8
baz=46
L23A **Garrett** 46.39 74 ⇓P P 14 58 45.7 -0.2
baz=46,SNR=7.8
P20A **De Beque** 46.44 79 ⇑P P 14 58 46.4 +0.1
baz=46,SNR=5.6
Y12C **Blythe** 46.52 89 ⇑P P 14 58 47.4 +0.6
baz=46
O21A **Pagoda** 46.53 77 ⇓P P 14 58 46.7 -0.4
baz=46
S18A **Hurst Farm, Bl** 46.64 82 ⇑P P 14 58 48.5 +0.5
baz=46,SNR=24
N22A **Wattenberg Ran** 46.76 76 ⇓P P 14 58 49.1 +0.2
baz=47,SNR=5.1
M23A **Laramie** 46.78 75 ⇑P P 14 58 48.6 -0.3
baz=47
GLA **Glamis** 46.82 90 ⇓P P 14 58 50.1 +1.0
baz=47
PV04 **Paradox Valley** 46.84 80 *e*P P 14 58 49.5 +0.1
Q20A **Ridgley Place,** 46.84 79 ⇑P P 14 58 49.3 -0.1
baz=47
P21A **Newcastle** 46.98 78 ⇑P P 14 58 50.9 +0.3
baz=47
N23A **Red Feather La** 47.01 76 ⇓P P 14 58 50.8 +0.1
baz=47
O22A **Kremmling** 47.11 77 ⇑P P 14 58 51.6 -0.1
baz=47
PV01 **Paradox Valley** 47.21 80 *e*P P 14 58 52.5 +0.2
comp=Z,744nm,0.7s
WUAZ **Wupatki** 47.24 85 *e*P P 14 58 53.3 +0.8
comp=Z,9.7nm,1.1s
WUAZ **Wupatki** 47.24 85 ⇑P P 14 58 53.8 +1.3
baz=47,SNR=7.5
R20A **Redvale** 47.29 80 ⇓P P 14 58 53.0 +0.2
baz=47
M24A **Cheyenne** 47.30 74 ⇓P P 14 58 52.6 -0.4
baz=47
Y14A **Wickenburg** 47.32 88 ⇑P P 14 58 54.2 +1.2
baz=47
P22A **Eagle** 47.35 77 ⇓P P 14 58 53.5 +0.2
baz=47
Q21A **Lamborn Mesa,** 47.35 79 ⇑P P 14 58 53.6 +0.3
baz=47
O23A **Lake Granby, G** 47.45 76 ⇓P P 14 58 54.8 +0.6
baz=47,SNR=11
S20A **Disappointment** 47.53 80 ⇓P P 14 58 55.4 +0.6
baz=47,SNR=28
R21A **Cimarron** 47.67 79 ⇑P P 14 58 56.7 +0.9
baz=48,SNR=7.1
N24A **Carr** 47.67 75 ⇑P P 14 58 55.6 -0.2
baz=48
ULN **Ulaanbaatar** 47.70 297 *e*P P 14 58 56.0 +0.1
comp=Z,4.2nm,1.0s
Q22A **Crested Butte,** 47.73 78 ⇑P P 14 58 56.6 +0.3
baz=48,SNR=6.8
MVCO **Mesa Verde** 47.86 81 *e*P P 14 58 57.2 -0.1
comp=Z,3.5nm,0.6s
MVCO **Mesa Verde** 47.86 81 ⇑P P 14 58 57.8 +0.6
baz=48,SNR=6.7
ISCO **Idaho Springs** 47.90 77 ⇑P P 14 58 58.3 +0.7
baz=48,SNR=5.1
X16A **Lo Mia Camp, P** 47.94 86 ⇑P P 14 58 59.3 +1.4
baz=48,SNR=5.9
S21A **Coal Bank Pass** 47.98 80 ⇓P P 14 58 59.3 +0.9
baz=48,SNR=13
U19A **Dine' College,** 48.04 83 ⇓P P 14 59 00.0 +1.4
baz=48
P23A **Jefferson** 48.04 77 ⇑P P 14 58 59.9 +1.2
baz=48
SONM **Songino Array** 48.07 297 P P 14 58 59.1 +0.4
comp=Z,0.7nm,0.4s,baz=51,slow=6.8,SNR=18
SONM ScP ScP 15 03 51.5 -3.8
comp=Z,0.6nm,0.8s,baz=40,slow=3.6,SNR=6.7
R22A **Saguache, Gunn** 48.23 79 ⇓P P 14 59 01.3 +1.0
baz=48,SNR=6.0
Q23A **Hartsel** 48.34 78 ⇓P P 14 59 01.7 +0.6
baz=48
U20A **Newcomb** 48.40 82 ⇓P P 14 59 03.0 +1.7
baz=48
W18A **Petrified Fore** 48.50 84 ⇓P P 14 59 03.5 +1.4
baz=48
S22A **4UR Ranch, Cre** 48.51 79 ⇑P P 14 59 03.5 +1.2
baz=48,SNR=8.2
T21A **Navajo Lake** 48.58 81 ⇓P P 14 59 04.0 +1.2
baz=48
N26A **Koester Ranch,** 48.65 74 ⇓P P 14 59 03.5 +0.4
baz=48
Q24A **Divide** 48.71 77 ⇓P P 14 59 04.5 +0.6
baz=48
X18A **Snowflake** 48.77 85 ⇑P P 14 59 05.6 +1.4
baz=49
214A **Organ Pipe Nat** 48.80 90 ⇓P P 14 59 05.7 +1.4
baz=49
R23A **Moffat** 48.81 78 ⇑P P 14 59 04.9 +0.3
baz=49
V20A **Brimhall** 48.81 83 ⇓P P 14 59 05.5 +0.9
baz=49
U21A **Nageezi** 48.88 81 ⇑P P 14 59 06.2 +1.1
baz=49,SNR=19
P25A **Willow Gulch B** 48.94 76 ⇓P P 14 59 06.8 +1.4
baz=49,SNR=6.8
T22A **Edith** 48.94 80 ⇓P P 14 59 07.0 +1.4
baz=49,SNR=9.9
SPITS **Spitsbergen Ar** 49.15 357 P P 14 59 06.4 +0.1
comp=Z,4.4nm,0.7s,baz=28,slow=8.8,SNR=16
R24A **Sanders Place,** 49.21 78 ⇓P P 14 59 08.2 +0.6
baz=49,SNR=5.6
W20A **Ramah** 49.24 83 ⇑P P 14 59 08.7 +0.8
baz=49
Q25A **Bedland, Calha** 49.28 76 ⇑P P 14 59 08.5 +0.5
baz=49,SNR=5.2
V21A **Milan** 49.31 82 ⇑P P 14 59 09.0 +0.6
baz=49
P26A **Davis Ranch, A** 49.39 75 ⇓P P 14 59 09.9 +1.1
baz=49
U22A **Llaves** 49.40 81 ⇑P P 14 59 09.9 +1.0
baz=49,SNR=10.0
T23A **Casias Ranch,** 49.45 80 ⇓P P 14 59 10.5 +1.1
baz=49
HHC **Hu-ho-hao-te** 49.50 287 *e*P P 14 59 07.0 -2.6
HHC pP **pP** 14 59 56.0 -2.0
HHC sP **sP** 15 00 20.6 -2.3
HHC PP **PP** 15 01 04.9 -0.8
HHC S **S** 15 05 55.9 -3.7
HHC sS **sS** 15 07 21.1 -3.7
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,97nm,6.1s
HHC LR LR
comp=N,240nm,18.6s
HHC LR LR
comp=E,430nm,18.4s
HHC LR LR
comp=Z,130nm,16.1s
S24A **Houchin Ranch,** 49.54 78 ⇑P P 14 59 11.2 +1.1
baz=49,SNR=6.2
X20A **Quemado** 49.64 84 ⇓P P 14 59 12.1 +1.2
baz=50,SNR=8.2
Q26A **Hugo** 49.70 76 ⇓P P 14 59 12.3 +1.2
baz=50
R25A **Fountain Ranch** 49.76 77 ⇓P P 14 59 12.2 +0.6
baz=50,SNR=5.1
U23A **El Rito** 49.83 80 ⇑P P 14 59 13.3 +1.1
baz=50
S25A **Robets Cordova** 49.99 78 ⇑P P 14 59 13.9 +0.6
baz=50,SNR=9.2
T24A **Torres, Weston** 50.01 79 ⇓P P 14 59 14.6 +1.0
baz=50,SNR=12
X21A **Alamocita Cree** 50.14 83 ⇑P P 14 59 16.0 +1.4
baz=50,SNR=15
Y20A **Horse Springs,** 50.15 84 ⇓P P 14 59 16.3 +1.6
baz=50,SNR=9.2
R26A **Arlington** 50.15 77 ⇓P P 14 59 15.0 +0.5
baz=50,SNR=5.8
KSCO **Kaye Shedlock'** 50.17 75 ⇓P P 14 59 15.3 +0.7
baz=50
V23A **Ortiz Mt. (NFS** 50.22 81 ⇑P P 14 59 16.8 +1.6
baz=50
T25A **Trinidad** 50.35 78 ⇓P P 14 59 17.0 +0.9
baz=50,SNR=9.1
Y21A **Point of Rocks** 50.50 84 ⇑P P 14 59 18.8 +1.5
baz=50,SNR=5.2
R27A **Eads** 50.55 76 ⇓P P 14 59 17.9 +0.5
baz=50,SNR=5.2
Z20A **Nine Sixteen R** 50.56 85 ⇑P P 14 59 18.9 +1.2
baz=50,SNR=5.6
X22A **Bernardo** 50.56 83 ⇓P P 14 59 19.5 +1.8
baz=50
S26A **Kim** 50.59 77 ⇓P P 14 59 18.3 +0.5
baz=50,SNR=8.8
W23A **Werner Place,** 50.64 81 ⇑P P 14 59 19.1 +0.8
baz=50
V24A **Rampart Ranch,** 50.78 80 ⇓P P 14 59 20.5 +1.1
baz=51,SNR=14
T26A **Comanche Natio** 50.81 78 ⇑P P 14 59 19.6 +0.1
baz=51
U25A **Circle Dot Ran** 50.84 79 ⇓P P 14 59 20.4 +0.6
baz=51,SNR=13
120A **U Bar Ranch, L** 50.93 86 ⇓P P 14 59 21.6 +1.2
baz=51
Y22A **Socorro** 50.98 83 ⇑P P 14 59 22.1 +1.3
baz=51,SNR=5.0
Z21A **St. Cloud Mine** 50.99 84 ⇑P P 14 59 22.1 +1.2
baz=51
X23A **Hourglass Bar** 51.01 82 ⇑P P 14 59 22.1 +1.1
baz=51
BNM **Barren Site** 51.04 83 *e*P P 14 59 22.4 +1.1
comp=Z,1.4nm,0.4s
NJ2 **Nanjing** 51.04 274 *e*P P 14 59 22.3 +1.3
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
W24A **Lazy 6 Ranch,** 51.05 81 ⇑P P 14 59 22.6 +1.3
baz=51,SNR=10
V25A **Rancho No Teng** 51.10 80 ⇓P P 14 59 22.7 +1.0
baz=51,SNR=11
U26A **Atchley Ranch,** 51.24 79 ⇑P P 14 59 23.3 +0.5
baz=51,SNR=8.5
319A **Douglas** 51.35 87 ⇑P P 14 59 24.8 +1.3
baz=51
220A **Playas Peak, P** 51.44 86 ⇓P P 14 59 25.3 +1.1
baz=51,SNR=12
Z22A **Elephant Butte** 51.45 84 ⇑P P 14 59 25.5 +1.2
baz=51,SNR=6.4
121A **Cookes Peak, D** 51.45 85 ⇓P P 14 59 25.5 +1.1
baz=51
Y23A **Lovelace Mesa,** 51.53 83 ⇑P P 14 59 26.2 +1.3
baz=51,SNR=11
W25A **X Bar L Ranch,** 51.61 80 ⇓P P 14 59 26.2 +0.7
baz=51,SNR=7.5
V26A **Tequesquite Ra** 51.62 79 ⇓P P 14 59 26.0 +0.5
baz=51,SNR=7.6
T28A **Walsh** 51.73 77 ⇓P P 14 59 26.6 +0.4
baz=52
Y24A **Capitan** 51.91 82 ⇓P P 14 59 29.0 +1.2
baz=52,SNR=21
Y25A **Mesa, Roswell** 52.36 82 ⇓P P 14 59 32.1 +1.2
baz=52,SNR=11
Z24A **Sheeppen Canyo** 52.36 83 ⇓P P 14 59 32.0 +0.9
baz=52,SNR=5.3
X26A **CR and CF Fran** 52.46 80 ⇓P P 14 59 32.1 +0.4
baz=52,SNR=6.8
W27A **Bowe Ranch, En** 52.55 79 ⇑P P 14 59 32.5 +0.1
baz=52
124A **Stringfield Ra** 52.75 83 ⇑P P 14 59 34.6 +0.7
baz=53
224A **Cornudas Mount** 53.14 84 ⇓P P 14 59 37.5 +0.8
baz=53
Z26A **Caprock** 53.24 82 ⇑P P 14 59 38.0 +0.6
baz=53,SNR=9.6
125A **Gardner Draw,** 53.26 83 ⇑P P 14 59 38.4 +0.9
baz=53,SNR=9.1
Y27A **Causey** 53.30 80 ⇓P P 14 59 38.3 +0.5
baz=53,SNR=8.9
MSTX **Muleshoe** 53.48 80 ⇓P P 14 59 39.2 +0.1
baz=53
MNTX **Cornudas Mount** 53.49 84 ⇓P P 14 59 40.4 +1.3
baz=53,SNR=16
AMTX **Amarillo** 53.50 79 ⇑P P 14 59 40.0 +0.8
baz=53
225A **Deer Hill, Car** 53.54 83 ⇓P P 14 59 40.5 +0.9
baz=54
324A **Moseley Ranch,** 53.61 84 ⇑P P 14 59 41.1 +0.9
baz=54
126A **Clayton Basin,** 53.65 82 ⇑P P 14 59 41.0 +0.7
baz=54
X29A **Tulia** 53.79 79 ⇓P P 14 59 42.0 +0.7
baz=54
Y28A **McKinney Farm,** 53.84 80 ⇑P P 14 59 42.5 +0.8
baz=54
Z28A **Tucker Farm, M** 54.18 80 ⇓P P 14 59 44.9 +0.8
baz=54
Y29A **Porterfield Fa** 54.21 79 ⇑P P 14 59 45.0 +0.6
baz=54
X30A **Coker Ranch, T** 54.28 78 ⇑P P 14 59 45.4 +0.6
baz=54
425A **Indio Mountain** 54.38 85 ⇓P P 14 59 46.6 +1.0
baz=54,SNR=9.9
128A **Castleberry Fa** 54.59 81 ⇑P P 14 59 47.4 +0.3
baz=54
326A **Caldwell Ranch** 54.61 83 ⇓P P 14 59 47.9 +0.6
baz=54,SNR=5.9
Z29A **Hungry Hill Ra** 54.61 80 ⇓P P 14 59 47.5 +0.3
baz=54
Y30A **Stafford Cattl** 54.66 79 ⇑P P 14 59 48.0 +0.4
baz=54,SNR=5.0
ZALV **Zalesovo Beam** 54.73 315 P P 14 59 47.1 -0.6
comp=Z,0.5nm,0.3s,baz=68,slow=8.1,SNR=3.8
228A **UT Block 9, Go** 54.88 82 ⇑P P 14 59 49.6 +0.5
baz=55
Z30A **Sanderson Ranc** 54.94 80 ⇓P P 14 59 49.5 -0.1
baz=55,SNR=6.5
426A **McDonald Obser** 55.04 84 ⇑P P 14 59 50.9 +0.4
baz=55,SNR=6.9
328A **Wristen Ranch,** 55.27 82 ⇓P P 14 59 52.4 +0.5
baz=55
427A **Hayter Ranch,** 55.29 83 ⇑P P 14 59 52.5 +0.4
baz=55
526A **Mary Lane Ranc** 55.43 85 ⇓P P 14 59 54.0 +0.8
baz=55,SNR=11
527A **Woodward Ranch** 55.66 84 ⇑P P 14 59 55.3 +0.5
baz=56,SNR=5.2
329A **Wagon Wheel Ra** 55.69 82 ⇓P P 14 59 55.3 +0.4
baz=56
626A **Big Bend Ranch** 55.77 85 ⇑P P 14 59 56.1 +0.6
baz=56,SNR=13
428A **Kincaid Ranch,** 55.81 83 ⇓P P 14 59 56.7 +0.9
baz=56,SNR=15
230A **Sterling City** 55.93 81 ⇓P P 14 59 56.9 +0.3
baz=56,SNR=5.8
528A **Cox Ranch, San** 56.15 83 ⇑P P 14 59 58.8 +0.5
baz=56,SNR=17
TXAR **Lajitas Array** 56.21 85 P P 14 59 59.1 +0.5
comp=Z,4.8nm,0.6s,baz=300,slow=5.0,SNR=24
TXAR PcP PcP 15 00 54.4 +0.9
comp=Z,1.6nm,0.6s,baz=292,slow=2.8,SNR=4.7
330A **Mertzon** 56.23 81 ⇓P P 14 59 58.7 -0.1
baz=56
ABTX **Abilene, Hawle** 56.29 79 ⇑P P 14 59 59.3 +0.2
baz=56
627A **Terlingua Ranc** 56.29 84 ⇑P P 14 59 59.8 +0.6
baz=56,SNR=8.7
429A **Davenport Ranc** 56.36 82 ⇑P P 14 59 59.6 -0.1
baz=56,SNR=6.1
231A **Bronte** 56.37 80 ⇑P P 14 59 60.0 +0.3
baz=56
529A **Stev Forest Ra** 56.52 83 ⇓P P 15 00 01.0 +0.2
baz=56
628A **Black Gap, Mar** 56.57 84 ⇓P P 15 00 01.7 +0.5
baz=56,SNR=16
430A **Baggett Ranch,** 56.64 82 ⇑P P 15 00 01.8 +0.2
baz=56,SNR=9.7
331A **San Angelo** 56.75 81 ⇑P P 15 00 02.3 -0.1
baz=57
530A **J-C Ranch, Com** 57.03 82 ⇑P P 15 00 04.7 +0.4
baz=57,SNR=9.6
431A **Sonora** 57.09 81 ⇓P P 15 00 04.7 0.0
baz=57,SNR=9.1
332A **Millersview** 57.11 80 ⇓P P 15 00 05.2 +0.3
baz=57,SNR=12
432A **Menard** 57.44 81 ⇑P P 15 00 07.3 +0.1
baz=57
SCHQ **Schefferville** 57.49 41 P P 15 00 06.2 -1.0
comp=Z,4.0nm,0.7s,baz=334,slow=6.8,SNR=9.5
531A **Rocksprings** 57.50 82 ⇑P P 15 00 07.5 -0.1
baz=57
532A **Rocksprings** 57.91 81 ⇑P P 15 00 10.3 -0.1
baz=58
631A **Perdido Creek** 58.02 82 ⇓P P 15 00 11.0 -0.2
baz=58
WHTX **Lake Whitney** 58.04 78 ⇓P P 15 00 11.5 +0.2
baz=58
632A **Uvalde** 58.43 82 ⇑P P 15 00 14.1 +0.1
baz=58
MIAR **Mount Ida** 58.52 73 *e*P P 15 00 13.6 -0.9
comp=Z,6.4nm,1.1s
732A **Laxson Ranch,** 58.88 83 ⇑P P 15 00 17.4 +0.3
baz=59,SNR=5.3
KURK **Kurchatov** 59.71 315 *e*P P 15 00 22.5 0.0
WMQ **Urumqi** 60.49 304 *e*P P 15 00 31.3 +3.3
CD2 **Chengdu** 60.91 284 P P 15 00 31.6 +0.6
CD2 pP **pP** 15 01 21.8 +0.3
CD2 sP **sP** 15 01 45.4 -0.4
CD2 PP **PP** 15 02 50.1 +2.5
CD2 PcS **PcS** 15 05 14.6 -0.6
CD2 S **S** 15 08 29.6 -1.3
CD2 sS **sS** 15 09 56.8 -2.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,70nm,4.3s
MKAR **Makanchi Array** 60.95 310 P P 15 00 30.4 -0.6
comp=Z,0.3nm,0.3s,baz=47,slow=6.6,SNR=19
MKAR pP **pP** 15 01 24.9 +3.4
comp=Z,0.7nm,0.8s,baz=57,slow=4.7,SNR=3.7
BVAR **Borovoye Array** 61.30 321 P P 15 00 33.1 -0.1
comp=Z,0.7nm,0.5s,baz=64,slow=6.9,SNR=4.7
GYA **Guiyang** 62.43 278 *e*P P 15 00 42.0 +0.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
FINES **FINESS Array B** 64.92 349 P P 15 00 56.2 -0.6
comp=Z,2.5nm,0.9s,baz=20,slow=6.1,SNR=4.5
KMSC **Kings Mountain** 65.02 64 ⇑P P 15 00 56.8 -1.0
baz=65
KMI **Kunming** 65.78 280 P P 15 01 06.1 +3.0
KMI pmax pmax
comp=Z,5.0nm,0.8s
NB2 **NORSAR Subarra** 66.45 357 P P 15 01 06.7 +0.1
comp=Z,1.2nm,0.6s,baz=2.9,slow=6.2
NOA **NORSAR Array B** 66.45 357 P P 15 01 06.9 +0.3
comp=Z,3.2nm,0.9s,baz=1.4,slow=6.2,SNR=8.0
HFS **Hagfors** 67.25 355 P P 15 01 10.4 -1.2
comp=Z,4.0nm,0.6s,baz=341,slow=3.1,SNR=11
AAK **Ala-Archa** 67.71 312 P P 15 01 15.2 +0.2
comp=Z,0.7nm,0.5s,baz=90,slow=6.1,SNR=2.8

KSH	**Kashi**	**69.48**	**309**	*e*P	**P**	**15 01 29.1**	**+3.2**
KSH				*e*PcP	**PcP**	**15 01 50.1**	**+2.5**
KSH				*e*pP	**pP**	**15 02 20.8**	**+3.0**
KSH				*e*sP	**sP**	**15 02 44.3**	**+2.5**
KSH				*e*PP	PP	15 04 08.0	+6.0
KSH				*e*ScP		15 05 30.0	
KSH				PcS		15 05 53.1	
KSH				S	**S**	**15 10 16.8**	**+1.9**
KSH				ScS	**SKKSac**	**15 11 04.5**	**0.0**
KSH				sS	**sS**	**15 11 47.8**	**+2.2**
KSH				SS	**SS**	**15 14 51.0**	**+5.0**
KSH				pmax	pmax		
	comp=Z,57nm,4.1s						
KSH				LR	LR		
	comp=N,91nm,5.2s						
KSH				LR	LR		
	comp=E,84nm,7.2s						
KSH				LR	LR		
	comp=Z,140nm,6.3s						
EKA	**Eskdalemuir Ar**	**72.08**	**5**	P	**P**	**15 01 40.9**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=342,slow=5.0,SNR=8.9						
TAPN	**Taplejung**	**72.84**	**293**	*e*P	**P**	**15 01 46.4**	**0.0**
	comp=Z,5.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**73.12**	**278**	P	**P**	**15 01 47.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=27,slow=7.2,SNR=15						
ODAN	**Odare**	**73.40**	**292**	*e*P	**P**	**15 01 50.2**	**+0.6**
GUN	**Gumba**	**73.43**	**294**	*e*P	**P**	**15 01 49.7**	**-0.2**
	comp=Z,9.2nm,0.4s						
JIRN	**Jiri**	**73.45**	**294**	*e*P	**P**	**15 01 50.1**	**0.0**
RAMN	**Ramite**	**73.78**	**293**	*e*P	**P**	**15 01 51.4**	**-0.4**
	comp=Z,7.9nm,0.3s						
GKN	**Gorkha**	**74.05**	**295**	*e*P	**P**	**15 01 53.0**	**-0.2**
DANN	**Dangsing**	**74.25**	**296**	*e*P	**P**	**15 01 54.9**	**+0.3**
KOLN	**Koldanda**	**74.80**	**296**	*e*P	**P**	**15 01 57.9**	**+0.3**
PYUN	**Piuthan**	**74.87**	**296**	*e*P	**P**	**15 01 57.8**	**-0.3**
	comp=Z,7.1nm,0.4s						
AKASG	**Malin Array Be**	**74.91**	**344**	P	**P**	**15 01 56.5**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=17,slow=6.0,SNR=6.3						
GIVF	**Givet**	**77.53**	**0**	*e*P	**P**	**15 02 12.5**	**+0.1**
	comp=Z,3.1nm,0.4s						
GIVF	**Givet**	**77.53**	**0**	*e*P	**P**	**15 02 12.5**	**+0.1**
	comp=Z,3.1nm,0.4s						
BAIF	**Baives**	**77.57**	**0**	*e*P	**P**	**15 02 13.1**	**+0.5**
	comp=Z,8.5nm,0.6s						
BAIF	**Baives**	**77.57**	**0**	*e*P	**P**	**15 02 13.1**	**+0.5**
	comp=Z,8.5nm,0.6s						
CRVS	**Cervenica-Dubn**	**77.76**	**349**	*e*P	P	15 02 19.0	+5.3
GERES	**GERESS Array B**	**78.51**	**354**	P	**P**	**15 02 17.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=20,slow=3.2,SNR=4.1						
LDF	**La Druitiere**	**78.95**	**3**	*e*P	**P**	**15 02 20.0**	**-0.2**
	comp=Z,3.5nm,0.3s						
LDF	**La Druitiere**	**78.95**	**3**	*e*P	**P**	**15 02 20.0**	**-0.2**
	comp=Z,3.5nm,0.3s						
ROSF	**Rostrenen**	**79.06**	**6**	*e*P	**P**	**15 02 20.7**	**0.0**
ROSF	**Rostrenen**	**79.06**	**6**	*e*P	**P**	**15 02 20.7**	**0.0**
PAGF	**Fort de Pagny**	**79.08**	**359**	⇑*i*P	**P**	**15 02 21.6**	**+0.7**
	comp=Z,7.1nm,0.8s						
PAGF	**Fort de Pagny**	**79.08**	**359**	⇑*i*P	**P**	**15 02 21.6**	**+0.7**
	comp=Z,7.1nm,0.8s						
GRR	**Gorron**	**79.13**	**4**	*e*P	**P**	**15 02 21.2**	**+0.1**
	comp=Z,3.7nm,0.4s						
GRR	**Gorron**	**79.13**	**4**	*e*P	**P**	**15 02 21.2**	**+0.1**
	comp=Z,3.7nm,0.4s						
SGMF	**Saint Gilles**	**79.18**	**5**	⇑*i*P	**P**	**15 02 21.5**	**+0.1**
	comp=Z,6.2nm,0.5s						
SGMF	**Saint Gilles**	**79.18**	**5**	⇑*i*P	**P**	**15 02 21.5**	**+0.1**
	comp=Z,6.2nm,0.5s						
CDF	**Champ du Feu**	**79.20**	**358**	⇑*i*P	**P**	**15 02 21.8**	**+0.1**
	comp=Z,4.7nm,0.4s						
CDF	**Champ du Feu**	**79.20**	**358**	⇑*i*P	**P**	**15 02 21.8**	**+0.1**
	comp=Z,4.7nm,0.4s						
SFTF	**Sexfontaines**	**79.43**	**360**	*e*P	**P**	**15 02 23.1**	**+0.3**
	comp=Z,20nm,0.5s						
SFTF	**Sexfontaines**	**79.43**	**360**	*e*P	**P**	**15 02 23.1**	**+0.3**
	comp=Z,20nm,0.5s						
HAU	**Haudompre**	**79.62**	**359**	⇑*i*P	**P**	**15 02 24.0**	**+0.2**
	comp=Z,10.0nm,0.7s						
HAU	**Haudompre**	**79.62**	**359**	⇑*i*P	**P**	**15 02 24.0**	**+0.2**
	comp=Z,10.0nm,0.7s						
HINF	**Hinteralfeld**	**79.80**	**359**	*e*P	**P**	**15 02 24.8**	**-0.1**
	comp=Z,4.2nm,0.5s						
HINF	**Hinteralfeld**	**79.80**	**359**	*e*P	**P**	**15 02 24.8**	**-0.1**
	comp=Z,4.2nm,0.5s						
SSF	**Saint Saulge**	**80.57**	**1**	⇑*i*P	**P**	**15 02 29.2**	**+0.3**
	comp=Z,6.3nm,0.5s						
SSF	**Saint Saulge**	**80.57**	**1**	⇑*i*P	**P**	**15 02 29.2**	**+0.3**
	comp=Z,6.3nm,0.5s						
AVF	**Avril sur Loir**	**80.83**	**1**	⇑*i*P	**P**	**15 02 30.4**	**+0.1**
	comp=Z,5.0nm,0.5s						
AVF	**Avril sur Loir**	**80.83**	**1**	⇑*i*P	**P**	**15 02 30.4**	**+0.1**
	comp=Z,5.0nm,0.5s						
MFF	**Saint Martin d**	**80.94**	**4**	*e*P	**P**	**15 02 31.1**	**+0.3**
	comp=Z,16nm,0.9s						
MFF	**Saint Martin d**	**80.94**	**4**	*e*P	**P**	**15 02 31.1**	**+0.3**
	comp=Z,16nm,0.9s						
SMF	**Signal de Mont**	**80.99**	**1**	⇑*i*P	**P**	**15 02 31.2**	**+0.1**
	comp=Z,6.2nm,0.5s						
SMF	**Signal de Mont**	**80.99**	**1**	⇑*i*P	**P**	**15 02 31.2**	**+0.1**
	comp=Z,6.2nm,0.5s						
CABF	**La Chapelle**	**81.02**	**359**	*e*P	**P**	**15 02 31.2**	**-0.2**
	comp=Z,6.6nm,0.7s						
CABF	**La Chapelle**	**81.02**	**359**	*e*P	**P**	**15 02 31.2**	**-0.2**
	comp=Z,6.6nm,0.7s						
BGF	**Bois d'Agland**	**81.06**	**1**	*e*P	**P**	**15 02 31.8**	**+0.3**
BGF	**Bois d'Agland**	**81.06**	**1**	*e*P	**P**	**15 02 31.8**	**+0.3**
TCF	**Toulx Ste Croi**	**81.32**	**2**	⇑*i*P	**P**	**15 02 32.9**	**0.0**
	comp=Z,3.6nm,0.4s						
TCF	**Toulx Ste Croi**	**81.32**	**2**	⇑*i*P	**P**	**15 02 32.9**	**0.0**
	comp=Z,3.6nm,0.4s						
RJF	**Les Rejaudoux**	**82.29**	**2**	*e*P	**P**	**15 02 37.8**	**-0.1**
	comp=Z,3.5nm,0.5s						
RJF	**Les Rejaudoux**	**82.29**	**2**	*e*P	**P**	**15 02 37.8**	**-0.1**
	comp=Z,3.5nm,0.5s						
LFF	**La Frestale**	**82.63**	**3**	*e*P	**P**	**15 02 40.0**	**+0.3**
LFF	**La Frestale**	**82.63**	**3**	*e*P	**P**	**15 02 40.0**	**+0.3**
CAF	**Calviac**	**82.68**	**2**	*e*P	**P**	**15 02 40.3**	**+0.3**
CAF	**Calviac**	**82.68**	**2**	*e*P	**P**	**15 02 40.3**	**+0.3**
LASF	**Ste Croix**	**83.56**	**1**	*e*P	**P**	**15 02 45.2**	**+0.7**
	comp=Z,4.2nm,0.7s						
LASF	**Ste Croix**	**83.56**	**1**	*e*P	**P**	**15 02 45.2**	**+0.7**
	comp=Z,4.2nm,0.7s						
SMRF	**Simiane la Rot**	**83.66**	**360**	*e*P	**P**	**15 02 44.9**	**-0.1**
SMRF	**Simiane la Rot**	**83.66**	**360**	*e*P	**P**	**15 02 44.9**	**-0.1**
SBF	**Sospel**	**83.75**	**358**	*e*P	**P**	**15 02 45.7**	**+0.2**
	comp=Z,7.7nm,0.6s						
SBF	**Sospel**	**83.75**	**358**	*e*P	**P**	**15 02 45.7**	**+0.2**
	comp=Z,7.7nm,0.6s						
FRF	**La Foret Royal**	**84.06**	**359**	*e*P	**P**	**15 02 47.2**	**+0.2**
	comp=Z,5.7nm,0.5s						
FRF	**La Foret Royal**	**84.06**	**359**	*e*P	**P**	**15 02 47.2**	**+0.2**
	comp=Z,5.7nm,0.5s						
MTLF	**Montolieu**	**84.27**	**2**	*e*P	**P**	**15 02 48.4**	**+0.4**
	comp=Z,4.8nm,0.8s						
MTLF	**Montolieu**	**84.27**	**2**	*e*P	**P**	**15 02 48.4**	**+0.4**
	comp=Z,4.8nm,0.8s						
LMR	**La Mourre**	**84.29**	**359**	*e*P	**P**	**15 02 48.5**	**+0.4**
LMR	**La Mourre**	**84.29**	**359**	*e*P	**P**	**15 02 48.5**	**+0.4**
SJPF	**Ste Jean**	**84.37**	**5**	*e*P	**P**	**15 02 49.4**	**+0.8**
	comp=Z,3.3nm,0.6s						
SJPF	**Ste Jean**	**84.37**	**5**	*e*P	**P**	**15 02 49.4**	**+0.8**
	comp=Z,3.3nm,0.6s						
EPF	**Esparros**	**84.52**	**3**	*e*P	**P**	**15 02 49.5**	**+0.1**
EPF	**Esparros**	**84.52**	**3**	*e*P	**P**	**15 02 49.5**	**+0.1**
WRA	**Warramunga Arr**	**84.61**	**227**	P	**P**	**15 02 50.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=32,slow=5.8,SNR=11						
ETSF	**Etsaut**	**84.62**	**4**	*e*P	**P**	**15 02 50.4**	**+0.5**
	comp=Z,6.3nm,0.9s						
ETSF	**Etsaut**	**84.62**	**4**	*e*P	**P**	**15 02 50.4**	**+0.5**
	comp=Z,6.3nm,0.9s						
PGF	**Pioggiola**	**85.02**	**357**	*e*P	**P**	**15 02 51.7**	**-0.3**
	comp=Z,5.3nm,0.7s						
PGF	**Pioggiola**	**85.02**	**357**	*e*P	**P**	**15 02 51.7**	**-0.3**
	comp=Z,5.3nm,0.7s						
PSI	**Prapat**	**85.36**	**269**	P	**P**	**15 02 54.1**	**+0.1**
	comp=Z,7.6nm,0.6s,baz=42,slow=5.1,SNR=6.0						
FITZ	**Fitzroy Crossi**	**87.12**	**235**	P	**P**	**15 03 02.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=32,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**88.06**	**225**	P	**P**	**15 03 07.8**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=22,slow=4.9,SNR=27						

*ISCJB **18** 14:55:08.5±0.6,36˚.00N±0˚.04×36˚.29E±0˚.04, h9km±4km, Error ellipse: s-maj=6.8km s-min=4.5km az=27.0*
*ISK **18** 14:55:08.1,36˚.01N×36˚.30E, h7km, MD2.8*
*DDA **18** 14:55:08.8,36˚.12N×36˚.22E, h8km, MD3.1*

*CSEM **18** 14:55:08.6±0.2,36˚.03N×36˚.25E, h5km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.6km az=28.0*

ISC 18 14:55:09.0±0.9, **36˚.06N**±0˚.03×**36˚.25E**±0˚.03, **h9**km±6km, **n26**,σ0°**77**/43, **Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTY	**Hatay**	**0.11**	**304**	*e*Pg	**Pg**	**14 55 11.6**	**0.0**
HTY	**Hatay**	**0.11**	**304**	*e*Pg	**Pg**	**14 55 11.6**	**0.0**
YAYL	**Yayladag**	**0.12**	**259**	*i*P	**Pg**	**14 55 11.4**	**-0.4**
YAYL				*i*S	**Sg**	**14 55 14.2**	**+0.4**
YAYL	**Yayladag**	**0.12**	**259**	*i*P	**Pg**	**14 55 11.4**	**-0.4**
YAYL				*i*S	**Sg**	**14 55 14.2**	**+0.4**
KRTS	**Karatas**	**0.88**	**306**	*e*PG	**Pg**	**14 55 26.0**	**+0.1**
KRTS				*e*SG	**Sn**	**14 55 40.9**	**+0.4**
KRTS	**Karatas**	**0.88**	**306**	*e*Pg	**Pg**	**14 55 26.0**	**+0.1**
KRTS				*e*Sg	**Sn**	**14 55 40.9**	**+0.4**
KUZU	**Kuzuini**	**0.97**	**43**	*i*P	**Pg**	**14 55 26.9**	**-0.8**
KUZU				*i*S	**Sg**	**14 55 40.2**	**-0.3**
KUZU	**Kuzuini**	**0.97**	**43**	*i*P	**Pg**	**14 55 26.9**	**-0.8**
KUZU				*i*S	**Sg**	**14 55 40.2**	**-0.3**
GAZ	**Gaziantep**	**1.35**	**34**	*e*PN	**Pn**	**14 55 34.4**	**+0.2**
GAZ				*e*SN	**Sg**	**14 55 53.1**	**+0.5**
GAZ	**Gaziantep**	**1.35**	**34**	*e*Pn	**Pn**	**14 55 34.4**	**+0.2**
GAZ				*e*Sn	**Sg**	**14 55 53.1**	**+0.5**
KMRS	**Kahramanmaras**	**1.54**	**20**	*e*PN	**Pb**	**14 55 37.4**	**-0.3**
KMRS				*e*SN	**Sb**	**14 55 58.0**	**+0.8**
KMRS	**Kahramanmaras**	**1.54**	**20**	*e*Pn	**Pb**	**14 55 37.4**	**-0.3**
KMRS				*e*Sn	**Sb**	**14 55 58.1**	**+0.8**
MERS	**Mersin**	**1.61**	**301**	*e*PN	**Pb**	**14 55 39.1**	**+0.1**
MERS				*e*SN	**Sb**	**14 56 00.2**	**+0.7**
MERS	**Mersin**	**1.61**	**301**	*e*Pn	**Pb**	**14 55 39.1**	**+0.1**
MERS				*e*Sn	**Sb**	**14 56 00.3**	**+0.7**
GZT	**Gaziantep**	**1.67**	**39**	*i*P	**Pb**	**14 55 39.9**	**-0.2**
GZT				*i*S	**Sn**	**14 55 59.7**	**-0.6**
GULE	**Gulek**	**1.70**	**316**	*i*P	**Pn**	**14 55 39.1**	**0.0**
GULE				*i*S	**Sn**	**14 56 00.5**	**-0.7**
GULE	**Gulek**	**1.70**	**316**	*i*P	**Pn**	**14 55 39.1**	**0.0**
GULE				*i*S	**Sn**	**14 56 00.5**	**-0.7**
HWQ	**Hawqa**	**1.79**	**188**	*e*P	**Pn**	**14 55 39.4**	**-0.9**
HWQ	**Hawqa**	**1.79**	**188**	*e*P	**Pn**	**14 55 39.4**	**-0.9**
FKH	**Fakeheh**	**1.81**	**176**	*e*P	**Pn**	**14 55 39.8**	**-0.8**
FKH	**Fakeheh**	**1.81**	**176**	*e*P	**Pn**	**14 55 39.8**	**-0.8**
URFA	**Urfa**	**2.48**	**55**	*e*PN	**Pn**	**14 55 50.8**	**+1.1**
URFA	**Urfa**	**2.48**	**55**	*e*Pn	**Pn**	**14 55 50.8**	**+1.1**
SARI	**SarD1z-Kayseri**	**2.64**	**8**	*e*PN	**Pn**	**14 55 49.0**	**-3.0**
BHD	**Baghdad**	**7.25**	**110**	*e*Pn	**Pn**	**14 56 55.0**	**-0.2**
BHD				*e*Pg	**Pg**	**14 57 28.0**	**+0.2**
BHD				*e*Sn	**Sn**	**14 58 19.0**	**+1.4**
BHD				*e*Sg	Sg	14 59 09.0	+7.3
BHD	**Baghdad**	**7.25**	**110**	*e*Pn	**Pn**	**14 56 55.0**	**-0.2**

*IDC **18** 15:02:26.0±0.6,3˚.91N×126˚.83E, h0km, mb3.9/12, mb1 4.1/12,mb1mx4.0/24,mbtmp4.0/12,MS3.4/4, Ms1 3.4/4,ms1mx2.9/45, Error ellipse: s-maj=36.2km s-min=10.8km az=71.0*
*ISCJB **18** 15:02:30.0±0.3,4˚.11N±0˚.05×126˚.92E±0˚.06, h36km, mb4.1/19,MS3.5/3, Error ellipse: s-maj=9.9km s-min=4.7km az=148.2*
*NEIC **18** 15:02:31.5±0.4,3˚.97N×126˚.79E, h35km,mb4.6/6, Error ellipse: s-maj=21.9km s-min=8.0km az=72.0*
*AUST **18** 15:02:32.1±1.3,3˚.95N×126˚.89E, h39km, Error ellipse: s-maj=2.0km s-min=1.0km az=35.0*
*DJA **18** 15:02:33.9±1.9,4˚.N±15˚×12˚.7E±1˚.2, h64km±14km, M4.5/4, mb4.5/4, MLv4.6/1*

ISC 18 15:02:32.0±0.5, **4˚.06N**±0˚.06×**126˚.92E**±0˚.08, **h36**km, **n73,**
σ1°**31**/70, **mb4.1**/19, **MS3.4**/3, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.94**	**347**	*e*P	Pn	15 03 20.7	+4.5
DAV	**Davao City (W)**	**3.27**	**336**	LR	LR	15 04 57.8	
	comp=Z,392nm,19.0s,baz=304,slow=45						
TNTI	**Ternate**	**3.29**	**172**	P	**Pn**	**15 03 22.3**	**+1.3**
MNI	**Manado**	**3.32**	**219**	P	**Pn**	**15 03 23.3**	**+1.8**
BUKP	**Musuan**	**4.22**	**334**	*e*P	Pn	15 03 38.5	+4.6
LBMI	**Labuha**	**4.70**	**173**	P	**Pn**	**15 03 42.9**	**+2.5**
BUTP	**Butuan**	**5.05**	**345**	*e*P	Pn	15 03 56.0	+11
PAGZ	**Pagadian**	**5.15**	**317**	*e*P	**Pn**	**15 03 46.4**	**-0.1**
IPIL	**Ipil**	**5.69**	**311**	*e*P	**Pn**	**15 03 56.0**	**+2.0**
MRSI	**Marisa**	**6.11**	**235**	P	**Pn**	**15 04 01.7**	**+1.9**
MSLP	**Maasin**	**6.37**	**341**	*e*P	Pn	15 04 10.8	+7.5
SWI	**Sorong**	**6.54**	**138**	P	**Pn**	**15 04 07.8**	**+2.2**
	baz=6.5,SNR=3.5						
SWI				S	**Sn**	**15 05 18.1**	**-0.8**
	baz=6.5,SNR=4.4						
LUWI	**Luwuk**	**6.54**	**219**	P	Pn	15 04 12.0	+6.3
OCLP	**Ormoc**	**7.31**	**342**	*e*P	Pn	15 04 27.6	+11
MYLDM	**Lahad Datu**	**8.46**	**278**	P	Pn	15 04 36.1	+4.0
	34nm,1.3s						
BATP	**Bataraza**	**10.21**	**298**	*e*P	**Pn**	**15 04 56.2**	**+0.2**
KAPI	**Kappang**	**11.51**	**219**	P	Pn	15 05 08.6	-5.3
SBUM	**Sibu**	**14.76**	**264**	P	**Pn**	**15 05 57.2**	**-1.0**
	13nm,1.1s						
KSM	**Kuching**	**16.79**	**262**	*e*P	**P**	**15 06 27.0**	**+0.7**
KSM	**Kuching**	**16.79**	**262**	P	**P**	**15 06 30.4**	**+4.1**
	baz=17,SNR=3.4						
MTN	**Maton Dam**	**17.31**	**166**	P	**Pn**	**15 06 28.0**	**-2.9**
	baz=17,SNR=19						
KDU	**Kakadu**	**17.53**	**162**	P	**P**	**15 06 35.3**	**+0.9**
	baz=18,SNR=6.4						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**15 07 21.4**	**-2.4**
	1.4nm,0.4s,baz=8.9,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*e*P	**P**	**15 07 22.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**15 07 21.5**	**-2.3**
	baz=22,SNR=4.1						
COEN	**Coen**	**24.09**	**138**	P	**P**	**15 07 44.7**	**+0.3**
	baz=24,SNR=5.2						
WRAB	**Tennant Creek**	**24.94**	**163**	*e*P	**P**	**15 07 50.7**	**-1.3**
	23nm,0.8s						
WRA	**Warramunga Arr**	**24.94**	**163**	P	**P**	**15 07 50.9**	**-1.2**
	23nm,0.7s,baz=342,slow=10,SNR=206						
WRA				S	**S**	**15 12 13.4**	**0.0**
	0.4nm,0.6s,baz=338,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**24.94**	**163**	P	**P**	**15 07 50.9**	**-1.2**
WRA				S	**S**	**15 12 13.4**	**0.0**
MBWA	**Marble Bar**	**26.03**	**195**	*e*P	**P**	**15 08 01.6**	**-0.4**
QIS	**Mount Isa**	**27.45**	**153**	P	**P**	**15 08 15.2**	**+0.4**
	baz=28,SNR=7.9						
ASAR	**Alice Springs**	**28.39**	**166**	P	**P**	**15 08 22.1**	**-1.0**
	0.9nm,0.5s,baz=347,slow=7.6,SNR=38						
ASAR	**Alice Springs**	**28.39**	**166**	P	**P**	**15 08 22.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	**P**	**15 08 44.9**	**-0.3**
	0.7nm,0.6s,baz=125,slow=8.0,SNR=8.9						
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	**P**	**15 08 44.9**	**-0.3**
MEEK	**Meekatharra**	**31.55**	**194**	P	**P**	**15 08 50.7**	**-0.4**
	baz=32,SNR=3.6						
EIDS	**Eidsvold**	**37.49**	**143**	P	**P**	**15 09 43.1**	**+0.7**
	baz=38,SNR=3.5						
BBOO	**Buckleboo**	**37.68**	**167**	P	**P**	**15 09 43.9**	**0.0**
	baz=38,SNR=13						
STKA	**Stephens Creek**	**38.37**	**160**	P	**P**	**15 09 48.9**	**-0.9**
	6.6nm,0.6s,baz=329,slow=8.6,SNR=27						
STKA	**Stephens Creek**	**38.37**	**160**	P	**P**	**15 09 48.9**	**-0.9**
STKA	**Stephens Creek**	**38.37**	**160**	P	**P**	**15 09 50.0**	**+0.3**
	baz=38,SNR=16						
CMSA	**Cobar Meteorol**	**39.66**	**154**	P	**P**	**15 10 02.2**	**+1.7**
	baz=40,SNR=8.8						
ARMA	**Armidale**	**41.64**	**147**	*e*P	**P**	**15 10 18.5**	**+1.4**
	5.9nm,0.7s						
ARMA	**Armidale**	**41.64**	**147**	P	**P**	**15 10 18.5**	**+1.4**
	baz=42,SNR=8.3						
ARPS	**Mount Arapiles**	**42.94**	**162**	P	**P**	**15 10 28.6**	**+1.2**
	baz=43,SNR=9.9						
TAPN	**Taplejung**	**43.98**	**306**	*e*P	**P**	**15 10 35.3**	**-1.0**
	6.5nm,0.6s						
ODAN	**Odare**	**44.03**	**305**	*e*P	**P**	**15 10 35.9**	**-0.8**
	6.0nm,0.7s						
RAMN	**Ramite**	**44.72**	**305**	*e*P	**P**	**15 10 41.7**	**-0.5**
	6.3nm,0.6s						
GUN	**Gumba**	**45.69**	**306**	*e*P	**P**	**15 10 49.2**	**-0.8**
ULN	**Ulaanbaatar**	**46.87**	**342**	P	**P**	**15 11 00.7**	**+1.9**
	2.9nm,1.3s						
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**15 11 00.8**	**+0.7**
	0.4nm,0.6s,baz=160,slow=10,SNR=5.9						
SONM				PcP	PcP	**15 12 32.7**	**+0.9**
	0.5nm,0.7s,baz=156,slow=4.4,SNR=4.6						
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**15 11 00.8**	**+0.7**
SONM				PcP	PcP	**15 12 32.7**	**+0.9**
KOLN	**Koldanda**	**47.49**	**304**	*e*P	**P**	**15 11 03.2**	**-0.8**
	13nm,0.5s						
DANN	**Dangsing**	**47.58**	**305**	*e*P	**P**	**15 11 03.9**	**-0.9**
	14nm,0.5s						
PYUN	**Piuthan**	**48.12**	**305**	*e*P	**P**	**15 11 08.2**	**-0.6**
	9.7nm,0.8s						
PETK	**Petropavlovsk-**	**55.06**	**22**	P	**P**	**15 12 01.2**	**+1.2**
	1.5nm,0.8s,baz=180,slow=2.4,SNR=8.2						
PETK	**Petropavlovsk-**	**55.06**	**22**	P	**P**	**15 12 01.2**	**+1.2**
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**15 12 16.6**	**-0.3**
	0.8nm,0.4s,baz=121,slow=7.7,SNR=25						
MKAR				ScP	**ScP**	**15 17 09.7**	**+1.8**
	0.3nm,0.7s,baz=118,slow=4.5,SNR=3.9						
MKAR				LR	LR	15 39 48.0	
	comp=Z,26nm,18.9s,baz=352,slow=39						
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**15 12 16.6**	**-0.3**
MKAR				ScP	**ScP**	**15 17 09.7**	**+1.8**
NIL	**Nilore**	**57.87**	**307**	*e*P	**P**	**15 12 18.0**	**-2.5**
	11nm,0.6s						
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	**P**	**15 12 37.0**	**-0.4**
	0.5nm,0.4s,baz=119,slow=5.9,SNR=3.1						
ZALV				LR	LR	15 42 49.9	
	comp=Z,23nm,18.6s,baz=73,slow=40						
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	**P**	**15 12 37.0**	**-0.4**
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	**P**	**15 12 45.3**	**-0.2**
	1.5nm,0.7s,baz=130,slow=5.8,SNR=14						
KURK	**Kurchatov**	**61.57**	**327**	P	**P**	**15 12 45.3**	**-0.2**
BVAR	**Borovoye Array**	**67.15**	**327**	P	**P**	**15 13 21.5**	**-0.6**
	0.5nm,0.5s,baz=147,slow=8.1,SNR=3.2						
BVAR	**Borovoye Array**	**67.15**	**327**	P	**P**	**15 13 21.5**	**-0.6**
ABKAR	**Akbulak array**	**72.02**	**321**	*e*P	**P**	**15 13 52.2**	**+0.1**
	0.6nm,0.6s						
VNDA	**Vanda**	**83.73**	**173**	P	**P**	**15 14 56.0**	**-0.7**
	2.0nm,0.8s,baz=315,slow=5.2,SNR=8.1						
VNDA	**Vanda**	**83.73**	**173**	P	**P**	**15 14 56.0**	**-0.7**
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**15 15 01.8**	**-0.3**
	0.4nm,0.7s,baz=241,slow=6.4,SNR=4.8						
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**15 15 01.8**	**-0.3**
RES	**Resolute Bay**	**97.46**	**10**	*e*P	**P**	**15 15 59.8**	**-1.8**
	2.5nm,0.8s						
NOA	**NORSAR Array B**	**98.58**	**334**	LR	LR	16 02 17.3	
	comp=Z,21nm,18.1s,baz=195,slow=36						

IDC 18 15:12:08.7±23.0, **8˚.68S×158˚.56E, h0**km, **mb4.0**/4, **mb1 4.1**/4, **mb1mx3.6**/19, **mbtmp4.0**/4, **MS3.2**/1, **Ms1 3.1**/1, **ms1mx2.4**/37, **Error ellipse: s-maj=383.4km s-min=76.0km az=54.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.97**	**242**	P	P	15 17 44.2	+0.9
	0.9nm,0.3s,baz=70,slow=9.4,SNR=42						
ASAR	**Alice Springs**	**27.91**	**235**	P	P	15 18 00.6	-0.2
	0.6nm,0.5s,baz=63,slow=9.8,SNR=19						
STKA	**Stephens Creek**	**27.96**	**212**	P	P	15 18 01.1	+0.1
	1.7nm,0.8s,baz=36,slow=12,SNR=3.6						
STKA				LR	LR	15 28 33.2	
	comp=Z,46nm,19.3s,baz=304,slow=35						
FITZ	**Fitzroy Crossi**	**33.32**	**250**	P	P	15 18 47.5	-1.0
	0.5nm,0.3s,baz=83,slow=7.9,SNR=7.8						

*IDC **18** 15:17:22.9±1.1,8˚.67N×127˚.18E,

GDZ	**Gediz**	**1.26**	**108**	*i* P	**Pn**	15 28 19.1	-0.4
GDZ				*i* S	**Sb**	15 28 36.2	+0.2
GDZ	**Gediz**	**1.26**	**108**	*i* P	**Pn**	15 28 19.1	-0.4
GDZ				*i* S	**Sb**	15 28 36.2	+0.2
LPK	**Lapseki**	**1.27**	**315**	*e*PN	**Pn**	15 28 18.9	-0.5
LPK	**Lapseki**	**1.27**	**315**	*e*Pn	**Pn**	15 28 19.0	-0.5
EZN	**Ezine**	**1.29**	**286**	*e*PN	**Pn**	15 28 19.4	-0.3
EZN	**Ezine**	**1.29**	**286**	*e*Pn	**Pn**	15 28 19.4	-0.3
ARMT	**Armutlu**	**1.29**	**33**	*e*PN	**Pn**	15 28 19.3	-0.6
ARMT	**Armutlu**	**1.29**	**33**	*e*Pn	**Pn**	15 28 19.3	-0.6
BLCB	**Balcova**	**1.30**	**213**	*e*PN	**Pn**	15 28 19.0	-0.8
BLCB	**Balcova**	**1.30**	**213**	*e*Pn	**Pn**	15 28 19.0	-0.8
RKY	**Sarkoy-Tekirda**	**1.34**	**334**	*e*PN	**Pn**	15 28 19.9	-0.5
RKY	**Sarkoy-Tekirda**	**1.34**	**334**	*e*Pn	**Pn**	15 28 19.9	-0.5
SART	**Tekirdag**	**1.34**	**335**	*i* P	**Pn**	15 28 19.6	-0.9
SART				*i* S	**Sb**	15 28 37.9	-0.2
SART	**Tekirdag**	**1.34**	**335**	*i* P	**Pn**	15 28 19.6	-0.9
SART				*i* S	**Sb**	15 28 37.9	-0.2
MFT	**Murefte**	**1.40**	**339**	*e*PN	**Pn**	15 28 21.6	+0.3
MFT	**Murefte**	**1.40**	**339**	*e*Pn	**Pn**	15 28 21.6	+0.3
GELI	**Tayfur-Gelibol**	**1.45**	**310**	*e*PN	**Pn**	15 28 22.0	+0.1
GELI	**Tayfur-Gelibol**	**1.45**	**310**	*e*Pn	**Pn**	15 28 22.0	+0.1
BOZC	**Bozcaada**	**1.50**	**284**	*i* P	**Pn**	15 28 22.9	+0.3
BOZC				*i* S	**Sn**	15 28 43.5	+1.4
URLA	**Izmir**	**1.53**	**223**	*e*P	Pn	15 28 20.3	-2.8
URLA				*i* S	**Sn**	15 28 42.3	-0.7
URLA	**Izmir**	**1.53**	**223**	*e*P	Pn	15 28 20.3	-2.8
URLA				*i* S	**Sn**	15 28 42.3	-0.7
YLV	**Yalova**	**1.55**	**45**	*e*PN	**Pn**	15 28 24.6	+1.3
YLV	**Yalova**	**1.55**	**45**	*e*Pn	**Pn**	15 28 24.6	+1.3
CAVI	**Cavuskoy**	**1.64**	**63**	*e*PN	**Pn**	15 28 25.1	+0.6
CAVI	**Cavuskoy**	**1.64**	**63**	*e*Pn	**Pn**	15 28 25.1	+0.6
KHL	**Karahalli**	**1.70**	**133**	*e*PN	**Pn**	15 28 26.3	+0.9
KHL	**Karahalli**	**1.70**	**133**	*e*Pn	**Pn**	15 28 26.3	+0.9
ALT	**Altintas**	**1.74**	**103**	*e*PN	**Pn**	15 28 26.6	+0.6
ALT	**Altintas**	**1.74**	**103**	*e*Pn	**Pn**	15 28 26.6	+0.6
SLVT	**Silivri**	**1.76**	**7**	*e*PN	**Pn**	15 28 27.1	+0.9
SLVT	**Silivri**	**1.76**	**7**	*e*Pn	**Pn**	15 28 27.1	+0.9
ISK	**Istanbul-Kandi**	**1.80**	**28**	*e*PN	**Pn**	15 28 27.4	+0.7
ISK	**Istanbul-Kandi**	**1.80**	**28**	*e*Pn	**Pn**	15 28 27.4	+0.7
CTKS	**Kestanelik-??a**	**1.81**	**14**	*e*PN	**Pn**	15 28 27.4	+0.6
CTKS	**Kestanelik-??a**	**1.81**	**14**	*e*Pn	**Pn**	15 28 27.4	+0.6
CTYL	**Yal??k??y-??at**	**2.01**	**8**	*e*PN	**Pn**	15 28 30.4	+0.8
CTYL	**Yal??k??y-??at**	**2.01**	**8**	*e*Pn	**Pn**	15 28 30.4	+0.8
GULT	**Gulveren**	**2.20**	**64**	*e*PN	**Pn**	15 28 33.1	+0.8
GULT	**Gulveren**	**2.20**	**64**	*e*Pn	**Pn**	15 28 33.1	+0.8
EDRB	**Edirne**	**2.53**	**339**	*e*PN	**Pn**	15 28 37.7	+0.9
EDRB	**Edirne**	**2.53**	**339**	*e*Pn	**Pn**	15 28 37.7	+0.9
SVRH	**Sivrihisar-ESK**	**2.78**	**90**	*e*PN	**Pn**	15 28 41.5	+1.2
SVRH	**Sivrihisar-ESK**	**2.78**	**90**	*e*Pn	**Pn**	15 28 41.5	+1.2
KIZT	**Kizilcal**	**3.12**	**100**	*e*PN	**Pn**	15 28 46.4	+1.3
KIZT	**Kizilcal**	**3.12**	**100**	*e*Pn	**Pn**	15 28 46.4	+1.3

MAN 18 15:31:01.7±7.15N×125.55E, h25km, mb4.1, ML2.8, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.08**	**209**	*i* P	Pb	15 31 06.8	+1.2
DMPH				*i* S	Sb	15 31 11.4	+2.8
MATI	**Mati**	**0.73**	**106**	*e*P	Pb	15 31 15.1	-0.1
MATI				*e*S	Sn	15 31 27.4	+1.1
BUKP	**Musuan**	**0.87**	**327**	*e*P	Pb	15 31 17.2	-0.4
BUKP				*e*S	Sn	15 31 29.3	-0.4
PAGZ	**Pagadian**	**2.25**	**288**	*e*P	Pb	15 31 40.2	-0.8
PAGZ				*e*S	Sb	15 32 08.8	+0.3

*NEIC **18** 15:34:55.3, 19.62N×66.35W, h36km, MD3.7(RSPR), After RSPR.*

RSPR 18 15:34:55.3, 19.62N×66.35W, h36km±28km**, MD3.7**/15**, 27C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.32**	**197**	⇑*e*P	Pn	15 35 15.6	-1.6
AOPR	**Arecibo Observ**	**1.32**	**197**	*e*S	Sn	15 35 32.6	-1.0
AOPR	**Arecibo Observ**	**1.32**	**197**	⇑*e*P	Pn	15 35 15.6	-1.6
AOPR				*e*S	Sn	15 35 32.6	-1.0
AGPR	**Aguadilla, PR**	**1.35**	**212**	*e*Pn	Pn	15 35 15.8	-1.8
LRS	**Lares**	**1.40**	**200**	⇑*e*P	Pn	15 35 17.2	-1.1
LRS	**Lares**	**1.40**	**200**	⇑*e*P	Pn	15 35 17.2	-1.1
CBYP	**Canovanas**	**1.42**	**161**	⇑*e*P	Pn	15 35 16.8	-1.8
CBYP	**Canovanas**	**1.42**	**161**	*e*S	Sn	15 35 34.9	-1.2
CBYP	**Canovanas**	**1.42**	**161**	⇑*e*P	Pn	15 35 16.8	-1.8
CBYP				*e*S	Sn	15 35 34.9	-1.2
SJG	**San Juan**	**1.51**	**173**	⇑*e*P	Pn	15 35 18.4	-1.3
SJG	**San Juan**	**1.51**	**173**	*e*S	Sn	15 35 37.1	-1.1
SJG	**San Juan**	**1.51**	**173**	⇑*e*P	Pn	15 35 18.5	-1.3
SJG				*e*S	Sn	15 35 36.2	-2.0
SJG	**San Juan**	**1.51**	**173**	⇑*e*P	Pn	15 35 18.5	-1.3
SJG				*e*S	Sn	15 35 37.1	-1.1
HUMP	**Col San Antoni**	**1.54**	**162**	⇓*e*P	Pn	15 35 18.6	-1.7
HUMP	**Col San Antoni**	**1.54**	**162**	*e*S	Sn	15 35 38.0	-1.0
HUMP	**Col San Antoni**	**1.54**	**162**	⇓*e*P	Pn	15 35 18.6	-1.7
HUMP				*e*S	Sn	15 35 38.0	-1.0
CELP	**Cerrillos**	**1.55**	**188**	⇑*e*P	Pn	15 35 19.0	-1.3
CELP	**Cerrillos**	**1.55**	**188**	⇑*e*P	Pn	15 35 19.0	-1.3
OBIP	**Obispado Ponce**	**1.58**	**189**	⇑*e*P	Pn	15 35 19.8	-1.0
OBIP	**Obispado Ponce**	**1.58**	**189**	*e*S	Sn	15 35 38.8	-1.2
OBIP	**Obispado Ponce**	**1.58**	**189**	⇑*e*P	Pn	15 35 19.8	-1.0
OBIP				*e*S	Sn	15 35 38.8	-1.2
LSP	**Las Mesas**	**1.59**	**206**	⇑*e*P	Pn	15 35 20.0	-0.9
LSP	**Las Mesas**	**1.59**	**206**	⇑*e*P	Pn	15 35 20.0	-0.9
CPD	**Cerro la Pandu**	**1.62**	**165**	⇑*e*P	Pn	15 35 19.9	-1.5
CPD	**Cerro la Pandu**	**1.62**	**165**	*e*S	Sn	15 35 40.2	-0.9
CPD	**Cerro la Pandu**	**1.62**	**165**	⇑*e*P	Pn	15 35 19.9	-1.5
CPD				*e*S	Sn	15 35 40.2	-0.9
MTP	**Monte Pirata**	**1.69**	**153**	⇓*e*P	Pn	15 35 20.8	-1.5
MTP	**Monte Pirata**	**1.69**	**153**	*e*S	Sn	15 35 41.1	-1.6
MTP	**Monte Pirata**	**1.69**	**153**	⇓*e*P	Pn	15 35 20.8	-1.5
MTP				*e*S	Sn	15 35 41.1	-1.6
GBPR	**Guanica, Bosqu**	**1.71**	**197**	⇑*e*P	Pn	15 35 22.4	-0.1
GBPR	**Guanica, Bosqu**	**1.71**	**197**	⇑*e*P	Pn	15 35 22.4	-0.1
CRPR	**Cabo Rojo, PR**	**1.75**	**204**	⇑*e*P	Pn	15 35 22.9	-0.3
CRPR	**Cabo Rojo, PR**	**1.75**	**204**	*e*S	Sn	15 35 43.4	-0.9
CRPR	**Cabo Rojo, PR**	**1.75**	**204**	⇑*e*P	Pn	15 35 22.9	-0.3
CRPR				*e*S	Sn	15 35 43.4	-0.9
STVI	**Saint Thomas**	**1.82**	**133**	⇑*e*P	Pn	15 35 24.0	-0.1
STVI	**Saint Thomas**	**1.82**	**133**	*e*S	Sn	15 35 45.2	-0.8
STVI	**Saint Thomas**	**1.82**	**133**	⇑*e*P	Pn	15 35 24.0	-0.1
STVI				*e*S	Sn	15 35 45.2	-0.8
CDVI	**St. Croix**	**2.39**	**141**	*e*S	Sn	15 35 58.8	-1.0
DR12	**Loma Pena Alta**	**2.98**	**254**	⇑*e*P	Pn	15 35 39.9	-0.2
DR12				*e*S	Sn	15 36 13.3	-1.4
DR12	**Loma Pena Alta**	**2.98**	**254**	⇑*e*P	Pn	15 35 39.9	-0.2
DR12				*e*S	Sn	15 36 13.3	-1.4
SDDR	**Presa de Saban**	**4.70**	**263**	⇑*e*P	Pn	15 36 05.3	+1.4
SDDR	**Presa de Saban**	**4.70**	**263**	*e*S	Sn	15 36 56.9	-0.3
SDDR	**Presa de Saban**	**4.70**	**263**	⇑*e*P	Pn	15 36 05.3	+1.4
SDDR				*e*S	Sn	15 36 56.9	-0.3

MEX 18 15:48:01.9±0.9, 16.34N×98.17W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.06**	**37**	*e*P	Pg	15 48 02.1	-1.4
PNIG				*i* S	Sg	15 48 03.9	-0.6
VHO	**Vista Hermosa**	**1.55**	**62**	*i* P	Pn	15 48 27.0	-3.5
VHO				*i* S	Sn	15 48 47.3	-3.9
HUIG	**Huatulco**	**2.06**	**106**	*i* P	Pn	15 48 33.8	-3.4
HUIG				*i* S	Sn	15 48 58.9	-4.4
CAIG	**El Cayaco**	**2.13**	**289**	*e*P	Pn	15 48 34.1	-4.1
CAIG				*i* S	Sn	15 49 01.3	-3.8
TPIG	**Tehuac#an**	**2.20**	**20**	*i* P	Pn	15 48 36.4	-3.0
TPIG				*i* S	Sn	15 49 03.7	-3.6
PLIG	**Platanillo**	**2.41**	**328**	*e*P	Pn	15 48 38.9	-3.2
PLIG				*e*S	Sn	15 49 08.1	-4.0
YAIG	**Yautepec**	**2.65**	**341**	*i* P	Pn	15 48 43.3	-2.2
YAIG				*i* S	Sn	15 49 14.7	-3.5
CMIG	**Matias Romero**	**3.23**	**76**	*i* P	Pn	15 48 50.3	-3.0
CMIG				*i* S	Sn	15 49 27.9	-4.4

IDC 18 15:48:30.1±2.5, 31.38N×140.75E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=109.7km s-min=18.9km az=72.0,

Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.92**	**335**	Pn	Pn	15 49 03.6	-0.4
	7.6nm,0.3s,baz=108,slow=20,SNR=6.3						
CBIJ	**Chichi jima**	**4.45**	**163**	Pn	Pn	15 49 39.3	+0.5
	3.1nm,0.3s,baz=330,slow=20,SNR=5.9						
CBIJ				Sn	Sn	15 50 28.6	-2.8
	2.9nm,0.3s,baz=319,slow=19,SNR=2.7						
MJAR	**Matsushiro Arr**	**5.56**	**338**	Pn	Pn	15 49 53.0	-1.2
	0.3nm,0.3s,baz=160,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**46.85**	**307**	P	P	15 57 02.4	+0.5
	0.3nm,0.8s,baz=91,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**51.40**	**188**	P	P	15 57 37.1	+0.3
	0.4nm,0.5s,baz=5.0,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**55.13**	**188**	P	P	15 58 03.2	-1.1
	0.1nm,0.6s,baz=1.8,slow=5.3,SNR=5.1						

*ATH **18** 16:20:30.1, 41.31N×19.28E, h5km±4km, MD3.8/13*
*IDC **18** 16:20:32.7±0.8, 41.22N×19.52E, h0km, mb3.9/14, mb1 4.0/20, mb1mx3.9/33, mbtmp3.8/20, ML3.4/6, MS3.1/6, Ms1 3.2/6, ms1mx2.7/50, Error ellipse: s-maj=16.0km s-min=11.5km az=29.0*
*MOS **18** 16:20:33.5±0.9, 40.94N×19.30E, h33km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=5.5km az=69.6*
*PDG **18** 16:20:35.0±0.4, 41.10N×19.54E, h11km, MD3.8/8, ML3.8/10, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*THE **18** 16:20:35.8, 41.17N×19.52E, h5km±1km, ML4.1/6, Error ellipse: s-maj=2.5km s-min=0.8km az=303.0*
*LDG **18** 16:20:35.1±0.1, 41.17N×19.52E, h10km, Ml4.1/10, Error ellipse: s-maj=3.1km s-min=2.4km az=16.0*
*CSEM **18** 16:20:36.6±0.1, 41.15N×19.43E, h20km, mb4.3/7, Ms3.7, Error ellipse: s-maj=3.3km s-min=1.9km az=50.0*
*BEO **18** 16:20:36.6±1.1, 41.16N×19.53E, h11km±4km, ML3.7/8*
*VIE **18** 16:20:37.9±0.5, 41.40N×19.45E, h10km, mb3.3/12, Ms3.7/10, Error ellipse: s-maj=5.4km s-min=2.6km az=24.0 11 km N of Durres*
*TIR **18** 16:20:37.3±3.0, 41.20N×19.67E, h20km±19km, ML4.0*
*PRU **18** 16:20:38.4, 41.59N×19.89E, h0km*

ISC 18 16:20:35.4±0.6, 41.16N±0.01×19.52E±0.02, h18km±3km**, n379, σ1§46/468, mb4.1**/20**, MS3.3**/3**, 44C-42D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**54**	*i* PG	**Pg**	16 20 42.3	0.0
TIR				*i* SG	**Sg**	16 20 47.3	+0.3
TIR	**Tirane**	**0.32**	**54**	P	**Pg**	16 20 42.4	+0.1
TIR				S	**Sg**	16 20 47.3	+0.3
TIR	**Tirane**	**0.32**	**54**	*e*Pg	**Pg**	16 20 42.3	0.0
TIR				*e*Sg	**Sb**	16 20 48.5	+1.0
TIR	**Tirane**	**0.32**	**54**	*i* Pg	**Pg**	16 20 42.3	0.0
	SNR=12						
TIR				*i* Sg	**Sg**	16 20 47.3	+0.3
	SNR=12						
VLO	**Vlora**	**0.69**	**182**	*i* PG	**Pn**	16 20 50.0	-0.3
VLO				*i* PG	**Pn**	16 20 52.4	+2.1
VLO				*i* SG	**Sn**	16 21 02.9	+2.3
VLO				*i* SG	Sg	16 21 05.0	+6.8
VLO	**Vlora**	**0.69**	**182**	P	**Pg**	16 20 49.7	+0.7
VLO				S	**Sn**	16 21 02.5	+1.9
VLO	**Vlora**	**0.69**	**182**	P	**Pg**	16 20 49.7	+0.7
VLO	**Vlora**	**0.69**	**182**	*i* Pg	**Pn**	16 20 52.4	+2.1
	SNR=9.0						
VLO				S	**Sn**	16 21 02.5	+1.9
VLO				*i* Sg	**Sn**	16 21 02.9	+2.3
	SNR=9.0						
ULC	**Ulcinj**	**0.83**	**346**	⇓*i* Pg	**Pg**	16 20 51.8	+0.2
ULC				*e*Sg	**Sn**	16 21 05.0	+0.9
ULC	**Ulcinj**	**0.83**	**346**	⇓*i* Pg	**Pg**	16 20 51.8	+0.2
ULC				*e*Sg	**Sn**	16 21 05.0	+0.9
PHP	**Peshkopia**	**0.87**	**53**	*i* PG	**Pb**	16 20 50.8	-1.2
PHP				*i* SG	**Sb**	16 21 03.7	+0.4
PHP	**Peshkopia**	**0.87**	**53**	P	**Pb**	16 20 50.8	-1.2
PHP	**Peshkopia**	**0.87**	**53**	P	**Pb**	16 20 50.8	-1.2
PHP				*i* Sg	**Sb**	16 21 03.7	+0.4
	SNR=9.0						
PUK	**Puka**	**0.92**	**17**	*i* PG	**Pn**	16 20 53.8	+0.2
PUK				*i* SG	**Sn**	16 21 08.2	+1.7
PUK	**Puka**	**0.92**	**17**	*i* Pg	**Pn**	16 20 53.8	+0.2
	SNR=9.0						
PUK				*i* Sg	**Sn**	16 21 08.2	+1.7
	SNR=9.0						
TPE	**Tepelena**	**0.94**	**157**	*i* PG	**Pg**	16 20 55.6	+1.9
TPE	**Tepelena**	**0.94**	**157**	*i* Pg	**Pg**	16 20 55.6	+1.9
	SNR=9.0						
BUM	**Brajici-Budva**	**1.23**	**338**	⇑*i* Pg	**Pg**	16 20 59.5	+0.2
BUM				*e*Sg	**Sg**	16 21 18.9	+3.5
BUM	**Brajici-Budva**	**1.23**	**338**	⇑*i* Pg	**Pg**	16 20 59.5	+0.2
BUM				*e*Sg	**Sg**	16 21 18.9	+3.5
BCI	**Bajram Curri**	**1.27**	**19**	*i* PG	**Pb**	16 20 59.2	+0.3
BCI				*i* SG	**Sg**	16 21 18.8	+2.2
BCI	**Bajram Curri**	**1.27**	**19**	*i* Pg	**Pb**	16 20 59.2	+0.3
	SNR=9.0						
BCI				*i* Sg	**Sg**	16 21 18.8	+2.2
	SNR=9.0						
TTG	**Podgorica**	**1.28**	**351**	⇑*i* Pg	**Pg**	16 21 00.2	0.0
TTG				*e*Sg	**Sg**	16 21 20.3	+3.3
PDG	**Podgorica**	**1.28**	**351**	*e*Pg	**Pg**	16 21 00.2	0.0
PDG				*e*Sg	**Sg**	16 21 17.5	+0.5
PDG	**Podgorica**	**1.28**	**351**	*e*Pg	**Pg**	16 21 00.2	0.0
PDG				*e*Sg	**Sg**	16 21 17.5	+0.5
LSK	**Leskovik**	**1.30**	**141**	*i* PG	**Pg**	16 21 00.7	+0.1
LSK				*i* SG	**Sg**	16 21 20.5	+2.9
LSK	**Leskovik**	**1.30**	**141**	*i* Pg	**Pg**	16 21 00.7	+0.1
	SNR=9.0						
LSK				*i* Sg	**Sg**	16 21 20.5	+2.9
	SNR=9.0						
BIA	**Bitola**	**1.37**	**95**	P	**Pn**	16 21 00.3	+0.6
BIA				S	**Sg**	16 21 20.0	+0.3
BIA	**Bitola**	**1.37**	**95**	*i* Pg	**Pn**	16 20 59.4	-0.4
BIA				*i* Sg	**Sg**	16 21 19.9	+0.1
BIA	**Bitola**	**1.37**	**95**	*i* Pg	**Pn**	16 20 59.3	-0.4
BIA	**Bitola**	**1.37**	**95**	P	**Pn**	16 21 00.3	+0.6
BIA				S	**Sg**	16 21 20.0	+0.3
NEST	**Nestorio**	**1.38**	**122**	P	**Pb**	16 21 00.8	+0.1
NEST				S	**Sg**	16 21 20.4	+0.4
NEST	**Nestorio**	**1.38**	**122**	P	**Pb**	16 21 00.8	+0.1
NEST				S	**Sg**	16 21 20.4	+0.4
FNA	**Florina**	**1.45**	**104**	P	**Pb**	16 21 01.7	-0.3
FNA				S	**Sg**	16 21 22.3	-0.1
FNA	**Florina**	**1.45**	**104**	P	**Pb**	16 21 01.7	-0.3
FNA				S	**Sg**	16 21 22.3	-0.1
KEK	**Kerkira**	**1.46**	**172**	P	**Pb**	16 21 02.3	+0.2
KEK				S	**Sg**	16 21 23.1	+0.4
KEK	**Kerkira**	**1.46**	**172**	*e*PB	**Pn**	16 21 01.3	+0.3
KEK				*e*SB	**Sg**	16 21 23.3	+0.6
KEK	**Kerkira**	**1.46**	**172**	*e*Pb	**Pn**	16 21 01.3	+0.3
KEK	**Kerkira**	**1.46**	**172**	P	**Pb**	16 21 02.3	+0.2
KEK				*e*Sb	**Sg**	16 21 23.3	+0.6
PVY	**Plav**	**1.47**	**13**	⇓*i* Pg	**Pb**	16 21 02.9	+0.6
PVY				*e*Sg	**Sg**	16 21 25.5	+2.6
PVY	**Plav**	**1.47**	**13**	⇓*i* Pg	**Pb**	16 21 02.9	+0.6
PVY				*e*Sg	**Sg**	16 21 25.5	+2.6
HCY	**Herceg Novi**	**1.50**	**329**	⇑*i* Pg	**Pb**	16 21 02.7	0.0
HCY				*e*Sg	**Sg**	16 21 25.9	+2.1
HCY	**Herceg Novi**	**1.50**	**329**	⇑*i* Pg	**Pb**	16 21 02.7	0.0
SKO	**Skopje**	**1.65**	**60**	P	**Pb**	16 21 06.1	+0.7
SKO				S	**Sg**	16 21 29.3	+0.6
SKO	**Skopje**	**1.65**	**60**	*i* Pn	**Pb**	16 21 05.9	+0.6
SKO	**Skopje**	**1.65**	**60**	*e*Pg	**Pb**	16 21 06.2	+0.8
SKO				*e*Sg	**Sg**	16 21 29.3	+0.6
SKO	**Skopje**	**1.65**	**60**	*i* Pn	**Pn**	16 21 01.4	-2.2
SKO	**Skopje**	**1.65**	**60**	P	**Pb**	16 21 06.1	+0.7
SKO				S	**Sg**	16 21 29.3	+0.6
NKY	**Niksic**	**1.70**	**347**	⇑*i* Pn	**Pb**	16 21 06.7	+0.5
NKY				*e*Sn	**Sg**	16 21 31.1	+0.9
NKY	**Niksic**	**1.70**	**347**	⇑*i* Pn	**Pb**	16 21 06.7	+0.5
BEY	**Berane**	**1.73**	**9**	⇑*i* Pn	**Pb**	16 21 07.2	+0.4
BEY				*e*Sn	**Sg**	16 21 32.1	+0.8
IVA	**Berane**	**1.73**	**9**	⇑*i* Pn	**Pb**	16 21 07.2	+0.4
IVA				*e*Sn	**Sg**	16 21 32.1	+0.8
IGT	**Igoumenitsa**	**1.74**	**159**	P	**Pb**	16 21 06.3	-0.6
IGT				S	**Sg**	16 21 30.6	-0.9
IGT	**Igoumenitsa**	**1.74**	**159**	P	**Pb**	16 21 06.3	-0.6
IGT				S	**Sg**	16 21 30.6	-0.9
JAN	**Janina**	**1.81**	**146**	P	**Pb**	16 21 07.4	-0.7
JAN				S	**Sb**	16 21 31.7	+1.2
JAN	**Janina**	**1.81**	**146**	*e*PG	**Pb**	16 21 07.8	-0.3
JAN				*e*SN	**Sg**	16 21 34.8	+0.9
JAN	**Janina**	**1.81**	**146**	P	**Pb**	16 21 07.4	-0.7
JAN	**Janina**	**1.81**	**146**	*e*Pg	**Pb**	16 21 07.8	-0.3
JAN				S	**Sb**	16 21 31.7	+1.2
BRY	**Bratogost**	**1.89**	**337**	⇓*i* Pn	**Pn**	16 21 08.3	+1.4
BRY				*e*Sn	**Sg**	16 21 35.9	-0.4
BRY	**Bratogost**	**1.89**	**337**	⇓*i* Pn	**Pn**	16 21 08.3	+1.4
MEV	**Metsovon**	**1.89**	**136**	P	**Pb**	16 21 09.8	+0.2
MEV	**Metsovon**	**1.89**	**136**	P	**Pb**	16 21 09.8	+0.2
KZN	**Kozani**	**1.91**	**116**	P	**Pb**	16 21 09.3	-0.5
KZN				S	**Sb**	16 21 34.2	+0.9
KZN	**Kozani**	**1.91**	**116**	*e*PG	**Pb**	16 21 09.5	-0.3
KZN	**Kozani**	**1.91**	**116**	*e*Pg	**Pb**	16 21 09.5	-0.3
KZN				S	**Sb**	16 21 34.2	+0.9
RGA	**Parga**	**1.94**	**161**	P	**Pb**	16 21 09.2	-1.2
RGA	**Parga**	**1.94**	**161**	P	**Pb**	16 21 09.2	-1.2
BAI	**Bari**	**2.00**	**269**	*e*Pn	**Pn**	16 21 09.4	+1.1
BAI				*e*Sn	**Sn**	16 21 33.3	+0.5
UPM	**Unac-Piva**	**2.09**	**348**	⇑*i* Pn	**Pb**	16 21 12.2	-0.8
UPM				*e*Sn	**Sb**	16 21 40.8	+2.1
UPM	**Unac-Piva**	**2.09**	**348**	⇑*i* Pn	**Pb**	16 21 12.2	-0.8
SJES	**Sjenica**	**2.12**	**9**	*e*Pn	**Pb**	16 21 12.6	-0.9
SJES				*e*Sg	**Sg**	16 21 43.7	-0.2
SJES	**Sjenica**	**2.12**	**9**	*e*Pn	**Pb**	16 21 12.6	-0.9
PLE	**Pljevlja**	**2.17**	**357**	*e*Pn	**Pb**	16 21 13.2	-1.1
PLE				*e*Sn	**Sb**	16 21 42.5	+1.6
PLE	**Pljevlja**	**2.17**	**357**	*e*Pn	**Pb**	16 21 13.2	-1.1
PLE				*e*Sn	**Sb**	16 21 42.5	+1.6
SG1	**Sgolgore (BA)**	**2.18**	**262**	*e*Pn	**Pn**	16 21 12.3	+1.5
SG1				*e*Sn	**Sb**	16 21 40.5	-0.5
STON	**Ston**	**2.18**	**322**	*e*Pn	**Pn**	16 21 11.9	+1.1
STON				*e*Sn	**Sn**	16 21 37.7	+0.3
STON	**Ston**	**2.18**	**322**	*e*Pn	**Pn**	16 21 11.9	+1.1
STON				*e*Sn	**Sn**	16 21 37.7	+0.3
GRG	**Griva**	**2.19**	**94**	P	**Pn**	16 21 12.5	+1.5
GRG	**Griva**	**2.19**	**94**	P	**Pn**	16 21 12.5	+1.5
VAY	**Valandovo**	**2.30**	**85**	P	**Pn**	16 21 13.2	+0.7
VAY	**Valandovo**	**2.30**	**85**	⇑*i* Pn	**Pn**	16 21 13.2	+0.7
VAY	**Valandovo**	**2.30**	**85**	P	**Pn**	16 21 13.2	+0.7
VAY	**Valandovo**	**2.30**	**85**	⇑*i* Pn	**Pn**	16 21 13.7	+1.2
SELS	**Selova**	**2.38**	**29**	*e*Pn	**Pn**	16 21 14.7	+1.2
BARS	**Barje**	**2.38**	**45**	*e*Pn	**Pn**	16 21 15.7	+2.1
BARS	**Barje**	**2.38**	**45**	*e*Pn	**Pn**	16 21 15.7	+2.1
CDT	**Castel del Mon**	**2.46**	**269**	*e*Pn	**Pn**	16 21 15.7	+1.1
CDT				*e*Sn	**Sb**	16 21 46.5	-2.5

BOJS Bojanci 5.34 326 *i* Pn **Pn** 16 21 55.3 +1.0
BOJS *i* Sn **Sn** 16 22 54.0 -1.3
BOJS Bojanci 5.34 326 *i* Pn **Pn** 16 21 55.3 +1.0
BOJS *i* Sn **Sn** 16 22 54.0 -1.3
ARR Arges 5.62 40⇑*i*P **Pn** 16 22 00.8 +2.6
ARR Arges 5.62 40⇑*i*P **Pn** 16 22 00.8 +2.6
BEHE Becsehely 5.67 340⇓*e* Pb 16 22 07.7 -6.1
CHOS Chios island 5.74 117 *e*PN **Pn** 16 22 02.6 +2.7
CHOS Chios island 5.74 117 *e*Pn **Pn** 16 22 02.6 +2.7
KNDS Knezji Dol 5.75 321 *i* Pn **Pn** 16 22 01.1 +1.1
KNDS *i* Sn **Sn** 16 23 03.1 -2.5
KNDS *i* 16 23 06.0
KNDS Knezji Dol 5.75 321 *i* Pn **Pn** 16 22 01.1 +1.1
KNDS *i* Sn **Sn** 16 23 03.1 -2.5
VISS Visnje 5.76 325 *i* Pn **Pn** 16 22 00.9 +0.9
VISS *i* Sn **Sn** 16 23 05.2 -0.3
VISS Visnje 5.76 325 *i* Pn **Pn** 16 22 00.9 +0.9
VISS *i* Sn **Sn** 16 23 05.2 -0.3
VOIR 5.88 41 ⇑P **Pn** 16 22 04.1 +2.4
VOIR 5.88 41 ⇑*i*P **Pn** 16 22 04.1 +2.4
VOIR 5.88 41 P **Pn** 16 22 04.1 +2.4
PDKS Podkum 5.90 328 *i* Pn **Pn** 16 22 02.8 +0.9
PDKS Podkum 5.90 328 *i* Pn **Pn** 16 22 02.8 +0.9
LJU Ljubljana 6.08 325 *e*Pn **Pn** 16 22 05.0 +0.6
LJU *e*Sn **Sn** 16 23 13.0 -0.5
JAVS Javornik 6.17 322 *i* Pn **Pn** 16 22 06.3 +0.5
JAVS *i* Sn **Sn** 16 23 14.4 -1.5
JAVS Javornik 6.17 322 *i* Pn **Pn** 16 22 06.3 +0.5
JAVS *i* Sn **Sn** 16 23 14.4 -1.5
APE Apeiranthos 6.21 129⇑*i*P **Pn** 16 22 06.7 +0.5
APE Apeiranthos 6.21 129⇑*i*P **Pn** 16 22 06.7 +0.5
PERS Pernice 6.33 331 *i* Pn **Pn** 16 22 08.3 +0.4
PERS *i* Sn **Sn** 16 23 17.9 -1.9
PERS Pernice 6.33 331 *i* Pn **Pn** 16 22 08.3 +0.4
PERS *i* Sn **Sn** 16 23 17.9 -1.9
BUD Budapest 6.33 357⇓*e*P Pn 16 22 14.1 +6.3
VOY Vojsko 6.36 322 *e*Pn **Pn** 16 22 09.0 +0.7
VOY *e*Sn **Sn** 16 23 18.8 -1.6
VOY Vojsko 6.36 322 *e*Pn **Pn** 16 22 09.0 +0.7
VOY *e*Sn **Sn** 16 23 18.8 -1.6
MLR Muntele Rosu 6.38 45 Pn **Pn** 16 22 11.5 +3.0
0.7nm,0.3s,baz=246,slow=7.4,SNR=8.8
MLR Muntele Rosu 6.38 45⇓*i*P Pn 16 22 12.6 +4.0
MLR Muntele Rosu 6.38 45 P Pn 16 22 12.6 +4.0
SOKA Soboth 6.40 331⇓*i*Pn **Pn** 16 22 09.6 +0.8
SOKA ⇓*i*Sn **Sn** 16 23 20.3 -1.1
SOKA Soboth 6.40 331 Pn **Pn** 16 22 09.6 +0.8
SOKA Sn **Sn** 16 23 20.3 -1.1
DOPR Dopca 6.42 40⇑*i*P **Pn** 16 22 11.8 +2.7
DOPR Dopca 6.42 40⇑*i*P **Pn** 16 22 11.8 +2.7
OBKA Obir 6.44 328⇓*i*Pn **Pn** 16 22 10.1 +0.7
SNR=9.2
OBKA ⇑*i*Sn **Sn** 16 23 22.5 -0.1
OBKA Obir 6.44 328 Pn **Pn** 16 22 10.1 +0.7
SNR=9.2
OBKA Sn **Sn** 16 23 22.5 -0.1
ISR Istrita 6.48 50 ⇑P Pn 16 22 13.7 +3.7
ISR Istrita 6.48 50 ⇑*i*P Pn 16 22 13.7 +3.7
ISR Istrita 6.48 50 P Pn 16 22 13.7 +3.7
ARSA Arzberg 6.73 336⇑*i*Pn **Pn** 16 22 14.0 +0.6
ARSA ⇓*i*Sn **Sn** 16 23 29.8 +0.2
ARSA Arzberg 6.73 336 Pn **Pn** 16 22 14.0 +0.6
ARSA Sn **Sn** 16 23 29.8 +0.2
PSZ Piszkesteto 6.76 2 ⇓P **Pn** 16 22 15.5 +1.7
PSZ Piszkesteto 6.76 2 ⇓*i*P **Pn** 16 22 15.5 +1.7
PSZ Piszkesteto 6.76 2 P **Pn** 16 22 15.5 +1.7
PSZ S **Sn** 16 23 31.0 +0.6
PSZ Piszkesteto 6.76 2⇓*e* **Pn** 16 22 14.7 +0.9
MYKA Terra Mystica 6.92 324⇓*i*Pn **Pn** 16 22 16.5 +0.5
MYKA ⇑*i*Sn **Sn** 16 23 34.1 -0.2
MYKA Terra Mystica 6.92 324 Pn **Pn** 16 22 16.5 +0.5
MYKA Sn **Sn** 16 23 34.1 -0.2
PLOR Plostina 6.99 45 ⇑P Pn 16 22 20.9 +4.0
PLOR Plostina 6.99 45 ⇑*i*P Pn 16 22 20.9 +4.0
PLOR Plostina 6.99 45 P Pn 16 22 20.9 +4.0
VRI Vrincioaia 7.04 46 ⇑P Pn 16 22 21.1 +3.5
VRI Vrincioaia 7.04 46 ⇑*i*P Pn 16 22 21.0 +3.5
VRI Vrincioaia 7.04 46 P Pn 16 22 21.1 +3.5
CONA Conrad Observa 7.25 340⇓*i*Pn **Pn** 16 22 21.2 +0.6
CONA Conrad Observa 7.25 340 Pn **Pn** 16 22 21.2 +0.6
TRPA Tarpa 7.29 16⇓*i*P **Pn** 16 22 22.7 +1.7
TRPA Tarpa 7.29 16⇓*i*P **Pn** 16 22 22.7 +1.7
TIRR Tirgusor 7.32 60 ⇓P **Pn** 16 22 24.0 +2.6
TIRR Tirgusor 7.32 60⇓*i*P **Pn** 16 22 24.0 +2.6
TIRR Tirgusor 7.32 60 P **Pn** 16 22 24.0 +2.6
VYHS Vyhne 7.35 356 *e*P Pn 16 22 25.3 +3.4
VYHS *e* 16 23 48.9
VYHS MLR MLR
comp=Z,300nm,4.3s
VYHS Vyhne 7.35 356 *e*PN Pn 16 22 25.2 +3.4
VYHS *e*SN **Sn** 16 23 48.9 +4.2
VYHS Vyhne 7.35 356 *e*P Pn 16 22 25.3 +3.4
comp=Z,300nm,4.3s
KBA Koelnbreinsper 7.40 325⇓*i*Pn **Pn** 16 22 23.3 +0.7
KBA ⇑*i*Sn **Sn** 16 23 44.3 -1.9
KBA Koelnbreinsper 7.40 325 Pn **Pn** 16 22 23.3 +0.7
KBA Sn **Sn** 16 23 44.3 -1.9
CFR Carcaliu 7.47 55 ⇓P **Pn** 16 22 25.7 +2.3
CFR Carcaliu 7.47 55⇓*i*P **Pn** 16 22 25.6 +2.2
CFR Carcaliu 7.47 55 P **Pn** 16 22 25.7 +2.3
ABTA Abfaltersbach 7.53 320⇓*i*Pn **Pn** 16 22 25.0 +0.6
ABTA ⇓*i*Sn **Sn** 16 23 49.2 -0.2
ABTA Abfaltersbach 7.53 320 Pn **Pn** 16 22 25.0 +0.6
ABTA Sn **Sn** 16 23 49.2 -0.2
MOA Molln 7.67 332⇑*i*Pn **Pn** 16 22 28.0 +1.8
SNR=14
MOA ⇑*i*Sn **Sn** 16 23 52.2 -0.4
MOA Molln 7.67 332 Pn **Pn** 16 22 28.0 +1.8
SNR=14
MOA Sn **Sn** 16 23 52.2 -0.4
CRVS Cervenica-Dubn 7.86 9 *e*P **Pn** 16 22 31.2 +2.3
CRVS *e* 16 24 02.9
CRVS MLR MLR
comp=Z,600nm,4.7s
CRVS Cervenica-Dubn 7.86 9 *e*PN **Pn** 16 22 31.2 +2.3
CRVS *e*SN **Sn** 16 24 02.9 +5.6
CRVS Cervenica-Dubn 7.86 9 *e*P **Pn** 16 22 31.2 +2.3
comp=Z,600nm,4.7s
TLCR 7.89 56 ⇑P Pn 16 22 32.9 +3.7
TLCR 7.89 56⇑*i*P Pn 16 22 32.9 +3.7
TLCR 7.89 56 P Pn 16 22 32.9 +3.7
PGF Pioggiola 7.98 283 *e*P Pn 16 23 53.3 -7.1
comp=Z,6.5nm,0.7s
PGF Pioggiola 7.98 283 *e*P **Pn** 16 22 33.0 +2.4
KOLS Kolonicke sedl 8.01 13 *e*P **Pn** 16 22 33.5 +2.6
KOLS *e* 16 24 02.1
KOLS MLR MLR
comp=Z,400nm,4.0s
KOLS Kolonicke sedl 8.01 13 *e*PN **Pn** 16 22 33.5 +2.6
KOLS *e*SN **Sn** 16 24 02.1 +1.1
KOLS Kolonicke sedl 8.01 13 *e*P **Pn** 16 22 33.5 +2.6
comp=Z,400nm,4.0s
KOLS *e*S **Sn** 16 24 02.1 +1.1
WTTA Wattenberg 8.32 320⇓*i*Pn **Pn** 16 22 35.6 +0.3
SNR=11
WTTA ⇑*i*Sn **Sn** 16 24 08.4 -0.5
WTTA Wattenberg 8.32 320 Pn **Pn** 16 22 35.6 +0.3
SNR=11
WTTA Sn **Sn** 16 24 08.4 -0.5
WATA Walderalm 8.40 320⇓*i*Pn **Pn** 16 22 36.8 +0.4
WATA ⇓*i*Sn **Sn** 16 24 10.2 -0.6
WATA Walderalm 8.40 320 Pn **Pn** 16 22 36.8 +0.4
WATA Sn **Sn** 16 24 10.2 -0.6
FETA Feichten 8.62 316⇑*i*Pn **Pn** 16 22 39.7 +0.3
FETA ⇓*i*Sn **Sn** 16 24 15.6 -0.6
FETA Feichten 8.62 316 Pn **Pn** 16 22 39.7 +0.3
FETA Sn **Sn** 16 24 15.6 -0.6
MOTA Moosalm 8.64 318⇑*i*Pn **Pn** 16 22 40.4 +0.7
MOTA ⇓*i*Sn **Sn** 16 24 16.7 0.0
MOTA Moosalm 8.64 318 Pn **Pn** 16 22 40.4 +0.7
MOTA Sn **Sn** 16 24 16.7 0.0
GERES GERESS Array B 8.72 334 Pn **Pn** 16 22 39.8 -0.9
comp=Z,0.5nm,0.3s,baz=154,slow=13,SNR=12
GERES Sn **Sn** 16 24 16.7 -1.8
comp=Z,0.6nm,0.3s,baz=146,slow=25,SNR=3.6
GERES GERESS Array B 8.72 334 P **Pn** 16 22 39.8 -0.9
comp=Z,1.0nm,0.3s
GERES S **Sn** 16 24 16.7 -1.8
comp=Z,1.0nm,0.3s
MORC Moravsky Berou 8.73 352⇑*i*P Pn 16 22 46.2 +5.4

DAVOX Davos/Dischmat 8.94 312 Pn **Pn** 16 22 44.4 +0.6
comp=Z,0.5nm,0.3s,baz=126,slow=18,SNR=4.1
DAVOX Sn **Sn** 16 24 23.9 -0.1
comp=Z,1.0nm,0.3s,baz=108,slow=19,SNR=3.7
DAVOX LR LR 16 26 00.9
comp=Z,52nm,18.7s,baz=79,slow=37
DAVOX Davos/Dischmat 8.94 312 P **Pn** 16 22 44.4 +0.6
comp=Z,1.0nm,0.3s
DAVOX S **Sn** 16 24 23.9 -0.1
comp=Z,52nm,18.7s
KHC Kasperske Hory 9.01 334 *e*P **Pn** 16 22 44.6 0.0
KHC *e* 16 24 20.2
KHC Kasperske Hory 9.01 334 *e*PN **Pn** 16 22 44.6 0.0
KHC *e*SN Sn 16 24 20.2 -5.3
KHC Kasperske Hory 9.01 334 Pn **Pn** 16 22 44.6 0.0
DAVA Damuels 9.24 315⇑*i*Pn **Pn** 16 22 48.1 +0.2
DAVA ⇓*i*Sn **Sn** 16 24 29.6 -1.8
DAVA Damuels 9.24 315 Pn **Pn** 16 22 48.1 +0.2
DAVA Sn **Sn** 16 24 29.6 -1.8
SBF Sospel 9.33 291 *e*Pn **Pn** 16 22 46.5 -2.5
DPC Dobruska-Polom 9.46 347 *e*SN Sn 16 24 28.8 -7.8
KEST Kesra 9.64 239 Pn **Pn** 16 22 55.2 +1.8
comp=Z,0.0nm,0.3s,baz=76,slow=17,SNR=1.7
FRF La Foret Royal 9.83 288 *e*P Pn 16 22 58.9 +3.1
MBDF Montbardon 10.01 295 *e*Pn **Pn** 16 22 55.9 -2.5
MBDF *e*Sn Sn 16 24 41.1 -9.1
comp=Z,12nm,0.8s
LPG La Plagne 10.26 299 *e*Pn **Pn** 16 23 00.3 -1.7
LPG *e*Sn Sn 16 24 47.9 -8.8
comp=Z,34nm,0.8s
LPG La Plagne 10.26 299 *e*Pn **Pn** 16 23 00.3 -1.7
LPL La Plagne 10.28 299 *e*Pn **Pn** 16 23 00.2 -2.0
LPL *e*Sn Sn 16 24 48.1 -9.0
comp=Z,35nm,0.8s
LPL La Plagne 10.28 299 *e*Pn **Pn** 16 23 00.2 -2.0
ORIF Oris-en-Rattie 10.67 295 *e*Pn **Pn** 16 23 06.2 -1.2
ORIF *e*Sn Sn 16 24 57.5 -8.9
comp=Z,8.1nm,0.6s
ORIF Oris-en-Rattie 10.67 295 *e*Pn **Pn** 16 23 06.2 -1.2
BRTR Keskin Array B 10.86 93 Pn **Pn** 16 23 09.9 -0.2
comp=Z,0.2nm,0.3s,baz=260,slow=12,SNR=5.0
BRTR Keskin Array B 10.86 93 P **Pn** 16 23 09.9 -0.2
CABF La Chapelle 11.12 304 *e*Pn **Pn** 16 23 12.7 -0.8
CABF *e*Sn Sn 16 25 08.9 -8.5
comp=Z,28nm,1.0s
CABF La Chapelle 11.12 304 *e*Pn **Pn** 16 23 12.7 -0.8
HINF Hinteralfeld 11.22 311 *e*Pn **Pn** 16 23 13.0 -2.0
HINF *e*Sn Sn 16 25 11.0 -8.9
comp=Z,5.4nm,0.3s
HINF Hinteralfeld 11.22 311 *e*Pn **Pn** 16 23 13.0 -2.0
CDF Champ du Feu 11.32 314 *e*Pn **Pn** 16 23 16.7 +0.4
CDF Champ du Feu 11.32 314 *e*Pn **Pn** 16 23 16.7 +0.4
HAU Haudompre 11.61 311 *e*Pn **Pn** 16 23 19.2 -1.0
HAU *e*Sn Sn 16 25 19.5 -10
comp=Z,12nm,0.5s
HAU Haudompre 11.61 311 *e*Pn **Pn** 16 23 19.2 -1.0
SMF Signal de Mont 12.56 301 *e*Pn Pn 16 23 30.0 -3.2
SMF *e*Sn Sn 16 25 41.7 -11
comp=Z,5.9nm,0.5s
LOR Lormes 12.78 304 *e*Pn **Pn** 16 23 35.7 -0.5
baz=122
LOR *e*Sn Sn 16 25 48.7 -9.2
comp=Z,9.0nm,0.4s
LOR Lormes 12.78 304 *e*Pn **Pn** 16 23 35.7 -0.5
baz=122
SOC Sochi 15.12 74 *e*P **P** 16 24 13.3 +0.2
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC pmax pmax
comp=Z,24nm,0.8s
SOC Sochi 15.12 74 *e*P **P** 16 24 13.3 +0.2
comp=Z,24nm,0.8s
ASF Jabal al Asfar 16.55 117 LR LR 16 32 25.9
comp=Z,28nm,18.7s,baz=298,slow=43
KIV Kislovodsk 17.28 73 *e*P **P** 16 24 39.3 +2.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,26nm,13.0s
KIV Kislovodsk 17.28 73 *e*P **P** 16 24 39.3 +2.1
comp=Z,26nm,13.0s
VSU Vasula 17.91 12⇓*e*P **Pn** 16 24 41.8 -1.6
VSU pmax pmax
comp=Z,36nm,1.3s
OBN Obninsk 17.94 33 *e*P **P** 16 24 44.5 +0.3
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 17.94 33 *e*P **P** 16 24 44.5 +0.3
comp=Z,100nm,14.0s
ZEI Tsey 18.19 77 *e*P **P** 16 24 51.3 +3.9
ZEI pmax pmax
comp=Z,4.0nm,0.7s
GNI Garni 19.15 85 *e*P **Pn** 16 24 59.1 +0.3
comp=Z,19nm,1.7s
HFS Hagfors 19.34 351 P **P** 16 24 58.9 -0.7
comp=Z,0.1nm,0.3s,baz=180,slow=10,SNR=3.3
HFS LR LR 16 32 05.6
comp=Z,86nm,18.3s,baz=77,slow=36
HFS Hagfors 19.34 351 P **P** 16 24 58.9 -0.7
comp=Z,86nm,18.3s
NB2 NORSAR Subarra 20.55 348 P **P** 16 25 11.7 -1.1
comp=Z,1.9nm,0.8s,baz=163,slow=10
NB2 NORSAR Subarra 20.55 348 P **P** 16 25 11.7 -1.1
comp=Z,1.9nm,0.8s,SNR=4.3
NOA NORSAR Array B 20.55 348 P **P** 16 25 11.7 -1.1
comp=Z,0.9nm,0.7s,baz=153,slow=9.9,SNR=4.3
NOA NORSAR Array B 20.55 348 P **P** 16 25 11.7 -1.1
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 20.58 321 P **P** 16 25 13.3 +0.1
comp=Z,1.9nm,0.6s,baz=122,slow=9.4,SNR=9.5
EKA Eskdalemuir Ar 20.58 321 P **P** 16 25 13.3 +0.1
comp=Z,2.0nm,0.6s
FINES FINESS Array B 20.70 9 P **P** 16 25 12.3 -2.1
comp=Z,2.6nm,0.7s,baz=187,slow=13,SNR=8.3
FINES LR LR 16 34 17.5
comp=Z,110nm,20.2s,baz=311,slow=40
KLMR Klimovskoe 23.21 25 *e*P P 16 25 37.0 -4.1
KLMR pmax pmax
comp=Z,37nm,2.5s
ARU Arti 29.43 45*d i*P **P** 16 26 37.3 -0.4
ARU S **S** 16 31 29.3 -1.4
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 29.43 45 *i* P **P** 16 26 37.3 -0.4
comp=Z,11nm,1.7s
SVE Sverdlovsk 30.64 45⇑*e*P **P** 16 26 48.6 +0.2
SVE pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 30.64 45 *e*P **P** 16 26 48.6 +0.2
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 31.96 214 P **P** 16 27 01.1 +0.7
comp=Z,0.6nm,0.6s,baz=16,slow=7.9,SNR=4.2
AAK Ala-Archa 40.33 69 LR LR 16 49 33.4
comp=Z,38nm,18.3s,baz=355,slow=43
DBIC Dimbokro 40.64 219 LR LR 16 48 37.9
comp=Z,41nm,18.8s,baz=183,slow=41
KURBB Kurchatov Arra 41.14 56 P **P** 16 28 18.0 -0.3
comp=Z,2.8nm,0.8s,baz=286,slow=10,SNR=20
KURBB PcP **PcP** 16 30 17.5 +0.1
comp=Z,0.7nm,0.8s,baz=284,slow=3.5,SNR=4.7
KURK Kurchatov 41.18 56⇑*e*P **P** 16 28 17.7 -1.0
KURK pmax pmax
comp=Z,5.0nm,1.1s
NVS Novosibirsk 43.26 49 *e*P **P** 16 28 35.2 -0.3
NVS pmax pmax
comp=Z,7.0nm,0.9s
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS Novosibirsk 43.26 49 *e*P **P** 16 28 35.2 -0.3
comp=N,3.0nm,0.6s
ZALV Zalesovo Beam 44.33 50 P **P** 16 28 44.0 -0.2
comp=N,5.5nm,0.6s,baz=282,slow=8.9,SNR=28
ZALV Zalesovo Beam 44.33 50 *e*P **P** 16 28 43.9 -0.2
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 44.33 50 *e*P **P** 16 28 43.9 -0.2
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 44.46 61 P **P** 16 28 45.1 -0.2
comp=Z,1.2nm,0.4s,baz=281,slow=7.8,SNR=34
MKAR Makanchi Array 44.46 61 P **P** 16 28 45.1 -0.2
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 44.46 61 P **P** 16 28 45.1 -0.2
comp=Z,1.0nm,0.4s

PYUN Piuthan 52.76 83 *e*P **P** 16 29 48.2 -1.5
comp=Z,12nm,0.7s
DANN Dangsing 53.20 82 *e*P **P** 16 29 51.8 -1.3
comp=Z,33nm,0.9s
KOLN Koldanda 53.39 83 *e*P **P** 16 29 52.6 -1.7
GKN Gorkha 54.04 82 *e*P **P** 16 29 57.4 -1.7
DMN Daman 54.60 82 *e*P **P** 16 30 01.7 -1.6
KKN Kakani 54.64 82 *e*P **P** 16 30 01.9 -1.6
comp=Z,8.4nm,0.6s
PKIN Phulchoki 54.84 82 *e*P **P** 16 30 03.3 -1.7
PKI Pulchoki 54.85 82 *e*P **P** 16 30 03.6 -1.5
GUN Gumba 55.02 82 *e*P **P** 16 30 04.8 -1.6
comp=Z,19nm,0.8s
JIRN Jiri 55.39 82 *e*P **P** 16 30 07.6 -1.5
SCHQ Schefferville 55.77 316 P **P** 16 30 11.4 +0.4
comp=Z,1.5nm,0.8s,baz=43,slow=5.7,SNR=5.0
TLY Talaya 55.86 48 *e*P **P** 16 30 11.9 +0.2
TLY *e* 16 30 18.4
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 55.86 48 *e*P **P** 16 30 11.9 +0.2
comp=Z,3.0nm,0.9s
RAMN Ramite 56.08 82 *e*P **P** 16 30 12.0 -1.9
comp=Z,23nm,0.8s
ZAK Zakamensk 56.20 50 *e*P **P** 16 30 13.7 -0.6
ZAK pmax pmax
comp=Z,1.0nm,1.3s
ZAK Zakamensk 56.20 50 *e*P **P** 16 30 13.7 -0.6
comp=Z,1.0nm,1.3s
TAPN Taplejung 56.69 81 *e*P **P** 16 30 16.7 -1.6
comp=Z,14nm,1.0s
ODAN Odare 56.72 82 *e*P **P** 16 30 17.0 -1.4
comp=Z,23nm,1.0s
GTA Gaotai 59.12 63 *e*P **P** 16 30 34.8 -0.2
GTA pP **pP** 16 30 39.3 -1.4
GTA sP **sP** 16 30 42.5 -0.4
GTA pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 59.19 52 P **P** 16 30 34.9 -0.5
comp=Z,2.3nm,0.8s,baz=290,slow=7.8,SNR=27
LZH Lanzhou 63.58 64 *e*P P 16 31 13.0 +7.8
LZH pP pP 16 31 18.3 +7.3
LZH sP sP 16 31 20.5 +7.4
LZH pmax pmax
comp=Z,16nm,1.3s
CMAR Chiang Mai Arr 70.25 82 P **P** 16 31 46.0 -1.8
comp=Z,0.7nm,0.7s,baz=307,slow=7.2,SNR=11
YKA Yellowknife Ar 70.33 339 P **P** 16 31 47.8 +0.3
comp=Z,0.9nm,0.6s,baz=37,slow=5.3,SNR=24
ILAR Eielson Array 73.87 354 P **P** 16 32 08.4 -0.2
comp=Z,0.6nm,0.6s,baz=0.4,slow=4.5,SNR=13
KSRS Korea Array 78.03 51 P **P** 16 32 31.4 -1.5
comp=Z,1.1nm,0.7s,baz=321,slow=5.6,SNR=4.1
TXAR Lajitas Array 92.37 313 P **P** 16 33 46.7 +1.5
comp=Z,0.3nm,0.6s,baz=72,slow=3.7,SNR=6.7

AUST ***18*** *16:23:47.0,33.˚18S×179.˚55E,h200km*
ISCJB ***18*** *16:23:48.6±0.6,33.˚13S±0.˚04×179.˚51E±0.˚04,h237km±6km, mb4.8/56, Error ellipse: s-maj=6.9km s-min=4.5km az=160.2*
MOS ***18*** *16:23:49.5±1.1,33.˚04S×179.˚53E,h252km,mb5.3/9, Error ellipse: s-maj=11.8km s-min=10.5km az=77.4*
BJI ***18*** *16:23:50.0,33.˚10S×179.˚60E,h250km, mB5.0/16, mb4.7/20*
GCMT ***18*** *16:23:52.3±0.3,32.˚98S×179.˚80E,h254km±2km, MW5.1, Moment Tensor Solution. s43,c49; s74,c95; Moment tensor: Scale 10¹⁶Nm; Mrr-3.14±.19; Mθθ-0.95±.24; Mφφ4.08±.23; Mrθ-1.53±.19; Mθφ0.78±.19; Mφr4.76±.19; Best double couple: M₀6.30000×10¹⁶ NP1:φs34.00000°, δ24.00000°,λ-45.00000°. NP2:φs167.00000°,δ73.00000°, λ-107.00000°. Principal axes: T 6.4400, Plg26.0000°, Azm270.0000°; N -0.3700, Plg17.0000°, Azm172.0000°; P -6.0800, Plg58.0000°, Azm53.0000°; Data Used: II IU G CN IC.*
IDC ***18*** *16:23:52.3±0.5,32.˚97S×179.˚59E,h269km±4km,mb4.4/21, mb1 4.6/22,mb1mx4.5/24,mbtmp4.5/22 Error ellipse: s-maj=11.4km s-min=7.9km az=0.0*
NEIC ***18*** *16:23:52.2±0.2,32.˚99S×179.˚55E,mb5.1/33,Error ellipse: s-maj=9.0km s-min=6.6km az=164.0*
DJA ***18*** *16:23:57.1±1.9,33.˚5±8.˚×18.˚0E±.˚,h319km±25km,M5.0/15, mB5.5/6,mb5.1/15,Mw(mB)4.9/6*

ISC 18 16:23:51.2±0.3,32.˚98S±0.˚05×179.˚65E±0.˚04, h258km±2km, h259km:pP-P,n385,σ1§68/411,mb5.0/54,63C-59D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.26**	**30**	P	**Pn**	**Pn**	**16 24 59.3**	**+0.8**
OUZ	**Omahuta**	**5.50**	**244**	*e*P	**Pn**	**Pn**	**16 25 13.2**	**-0.1**
	223nm,1.0s							
URZ	**Urewera**	**5.67**	**201**	P	Pn	Pn	16 25 10.0	-5.3
	69nm,0.3s,baz=45,slow=2.6,SNR=142							
URZ				S	S	S	16 26 14.5	-8.1
	243nm,0.3s,baz=16,slow=17,SNR=9.6							
URZ	**Urewera**	**5.67**	**201**	*e*P	Pn	Pn	16 25 10.3	-5.0
URZ				*e*S	S	S	16 26 14.5	-8.1
SNZO	**South Karori**	**9.21**	**204**	*e*P	Pn	Pn	16 25 53.3	-6.3
	109nm,0.4s							
KHZ	**Kahutara**	**10.59**	**205**	*e*P	Pn	Pn	16 26 09.6	-7.3
	204nm,0.6s							
KHZ				*e*S	S	S	16 27 55.9	-20
RPZ	**Rata Peaks**	**12.66**	**210**	P	Pn	Pn	16 26 35.9	-6.7
	10nm,0.3s,baz=343,slow=2.2,SNR=26							
RPZ				S	S	S	16 28 45.8	-18
	12nm,0.3s,baz=324,slow=21,SNR=23							
RPZ	**Rata Peaks**	**12.66**	**210**	*e*P	Pn	Pn	16 26 36.0	-6.7
	66nm,0.6s							
RPZ				S	S	S	16 28 45.8	-18
ODZ	**Otahua Downs**	**13.93**	**207**	*e*P	Pn	Pn	16 26 52.7	-5.3
	131nm,0.6s							
MSVF	**Nonsavu**	**15.25**	**354**	*e*P	**Pn**	**Pn**	**16 27 14.2**	**-0.1**
MSVF				pmax	pmax			
	comp=Z,179nm,0.7s							
MSVF	**Nonsavu**	**15.25**	**354**	*e*P	**Pn**	**Pn**	**16 27 14.2**	**-0.1**
	comp=Z,180nm,0.7s							
MSVF	**Nonsavu**	**15.25**	**354**	P	**P**	**P**	**16 27 14.0**	**+0.5**
	comp=Z,µm,0.7s,SNR=80							
DZM	**Mont Dzumac**	**15.96**	**310**	*e*P	**Pn**	**Pn**	**16 27 23.4**	**+0.7**
	comp=Z,825nm,1.2s							
DZM				*e*LR	LR	LR	16 31 08.7	
	comp=Z,130nm,21.6s							
DZM	**Mont Dzumac**	**15.96**	**310**	P	**Pn**	**Pn**	**16 27 23.0**	**+0.4**
	comp=Z,4.9nm,0.3s,baz=126,slow=12,SNR=54							
DZM	**Mont Dzumac**	**15.96**	**310**	*e*P	**Pn**	**Pn**	**16 27 22.5**	**-0.1**
DZM	**Mont Dzumac**	**15.96**	**310**	*e*P	**Pn**	**Pn**	**16 27 22.8**	**+0.2**
	comp=Z,232nm,0.9s							
NOUC	**Port Laguerre**	**16.03**	**309**	*e*P	**Pn**	**Pn**	**16 27 24.0**	**+0.6**
NIUE	**Niue**	**16.70**	**37**	P	**Pn**	**Pn**	**16 27 31.5**	**+0.2**
	baz=17,SNR=4.0							
NIUE				S	S	S	16 30 23.5	-6.9
	baz=17,SNR=12							
LHI	**Lord Howe Isla**	**17.48**	**269**	P	**Pn**	**Pn**	**16 27 39.6**	**-0.7**
	baz=17,SNR=23							
AFI	**Afiamalu**	**20.52**	**24**	P	**P**	**P**	**16 28 10.5**	**-0.1**
	comp=Z,59nm,0.5s,baz=294,slow=20,SNR=21							
AFI				S	S	S	16 31 39.2	-5.3
	comp=Z,18nm,0.7s,baz=134,slow=19,SNR=3.2							
AFI	**Afiamalu**	**20.52**	**24**	*e*P	**P**	**P**	**16 28 10.4**	**-0.1**
	comp=Z,77nm,0.6s							
AFI				S	S	S	16 31 39.2	-5.3
RAR	**Rarotonga**	**21.70**	**62**	P	**P**	**P**	**16 28 22.0**	**+0.1**
	comp=Z,57nm,0.9s,baz=270,slow=19,SNR=5.0							
RAR	**Rarotonga**	**21.70**	**62**	P	**P**	**P**	**16 28 22.0**	**+0.1**
MGCD	**Mangrove Creek**	**23.89**	**262**	P	**P**	**P**	**16 28 44.0**	**+2.3**
	baz=24,SNR=14							
ARMA	**Armidale**	**23.95**	**269**	*e*P	**P**	**P**	**16 28 44.6**	**+2.1**
	comp=Z,59nm,1.1s							
ARMA	**Armidale**	**23.95**	**269**	P	**P**	**P**	**16 28 44.7**	**+2.3**
	baz=24,SNR=19							
MILA	**Mila**	**25.25**	**252**	P	**P**	**P**	**16 28 56.7**	**+2.7**
	baz=25,SNR=6.3							
CAN	**Canberra**	**25.43**	**256**	*e*P	**P**	**P**	**16 28 56.7**	**+1.0**
CAN				pmax	pmax			
	comp=Z,12nm,0.9s							
CAN	**Canberra**	**25.43**	**256**	*e*P	**P**	**P**	**16 28 56.7**	**+1.0**
	comp=Z,12nm,0.9s							
YNG	**Young**	**26.01**	**258**	P	**P**	**P**	**16 29 02.2**	**+1.4**
	baz=26,SNR=6.7							
EIDS	**Eidsvold**	**26.02**	**279**	*e*P	**P**	**P**	**16 29 01.8**	**+0.8**
	comp=Z,82nm,0.8s							
EIDS	**Eidsvold**	**26.02**	**279**	P	**P**	**P**	**16 29 01.9**	**+1.0**
	baz=26,SNR=33							

RMQ **Roma** 27.53 275 P **P** 16 29 16.3 +1.9
baz=27,SNR=20
TOO **Toolangi** 28.17 251 P **P** 16 29 21.8 +1.8
baz=28,SNR=9.3
CMSA **Cobar Meteorol** 28.69 264 P **P** 16 29 25.5 +0.9
baz=28,SNR=120
TBI **Tubuai** 28.78 78 *e*LR LR 16 37 12.4
comp=Z,120nm,25.2s
ARPS **Mount Arapiles** 31.12 252 P **P** 16 29 46.6 +0.7
baz=31,SNR=10
QLP **Quilpie** 31.29 272 P **P** 16 29 48.1 +0.5
baz=31,SNR=41
PAE **Paea** 31.57 69 *e*P **P** 16 29 50.7 +0.7
comp=Z,9.2nm,0.9s
PPT2 **Papeete2** 31.62 69 *e*P **P** 16 29 51.3 +0.8
comp=Z,62nm,1.1s
PPT2 *e*LR LR 16 38 45.7
comp=Z,90nm,23.5s
PPT **Papeete** 31.63 69 P **P** 16 29 51.7 +1.2
comp=Z,43nm,0.9s,baz=275,slow=5.0,SNR=4.6
PPT **Papeete** 31.63 69 P **P** 16 29 51.7 +1.2
STKA **Stephens Creek** 32.03 261 P **P** 16 29 54.0 +0.1
comp=Z,10nm,1.0s,baz=98,slow=9.5,SNR=11
STKA ScP **ScP** 16 35 51.8 -3.8
comp=Z,7.7nm,0.9s,baz=112,slow=4.2,SNR=7.7
STKA **Stephens Creek** 32.03 261 P **P** 16 29 54.0 +0.1
STKA ScP **ScP** 16 35 51.8 -3.8
STKA **Stephens Creek** 32.03 261 P **P** 16 29 54.5 +0.6
baz=32,SNR=10
CTA **Charters Tower** 32.38 285 P **P** 16 29 58.2 +1.2
comp=Z,96nm,0.5s,baz=111,slow=10,SNR=163
CTA S **S** 16 34 52.0 +0.2
comp=Z,2.3nm,0.3s,baz=27,slow=11,SNR=6.8
CTA **Charters Tower** 32.38 285 P **P** 16 29 58.2 +1.2
CTA S **S** 16 34 52.0 +0.2
CTAO **Charters Tower** 32.38 285 *e*P **P** 16 29 58.0 +0.9
CTAO pmax pmax
comp=Z,98nm,0.6s
CTAO **Charters Tower** 32.38 285 *e*P **P** 16 29 58.0 +0.9
comp=Z,98nm,0.6s
TARA **Tarawa** 34.73 348 *e*P **P** 16 30 17.6 +0.3
comp=Z,128nm,0.6s
BBOO **Buckleboo** 36.41 258 *e*P **P** 16 30 30.0 -1.4
comp=Z,278nm,1.0s
BBOO **Buckleboo** 36.41 258 P **P** 16 30 30.4 -1.0
baz=36,SNR=5.6
QIS **Mount Isa** 37.62 279 P **P** 16 30 41.6 -0.1
baz=38,SNR=42
QIS S **S** 16 36 12.2 +0.3
baz=38,SNR=7.8
PMG **Port Moresby** 38.04 301 P **P** 16 30 46.0 +0.7
comp=Z,42nm,0.8s,baz=118,slow=4.9,SNR=26
PMG **Port Moresby** 38.04 301 *e*P **P** 16 30 45.7 +0.5
comp=Z,39nm,1.0s
PMG **Port Moresby** 38.04 301 P **P** 16 30 46.0 +0.7
comp=Z,54nm,0.8s,comp=Z,622nm
COEN **Coen** 38.18 291 *e*P **P** 16 30 47.0 +0.5
comp=Z,243nm,0.6s
COEN **Coen** 38.18 291 P **P** 16 30 47.1 +0.7
baz=38,SNR=77
ASAR **Alice Springs** 41.06 271 P **P** 16 31 09.6 -0.5
comp=Z,66nm,0.7s,baz=111,slow=7.7,SNR=676
ASAR pP **pP** 16 32 06.3 +3.2
comp=Z,22nm,0.8s,baz=110,slow=8.1,SNR=4.7
ASAR S **S** 16 37 01.3 -1.7
comp=Z,8.5nm,0.9s,baz=113,slow=16,SNR=20
ASAR P3KPbc 17 00 38.0
comp=Z,0.1nm,0.6s,baz=311,slow=4.3,SNR=3.0
ASAR **Alice Springs** 41.06 271 P **P** 16 31 09.6 -0.5
ASAR pP **pP** 16 32 06.3 +3.2
ASAR S **S** 16 37 01.3 -1.7
ASAR *e* 17 00 38.0
WRAB **Tennant Creek** 42.28 276 *e*P **P** 16 31 19.1 -0.8
WRAB pmax pmax
comp=Z,88nm,0.8s
WRAB **Tennant Creek** 42.28 276 *e*P **P** 16 31 19.1 -0.8
comp=Z,88nm,0.8s
WRAB **Tennant Creek** 42.28 276 P **P** 16 31 19.0 -0.8
comp=Z,679nm,1.0s,SNR=43
WRA **Warramunga Arr** 42.29 276 P **P** 16 31 19.3 -0.7
comp=Z,78nm,0.8s,baz=115,slow=8.2,SNR=470
WRA ScP **ScP** 16 36 31.4 -2.8
comp=Z,2.7nm,0.8s,baz=123,slow=4.0,SNR=5.5
WRA S **S** 16 37 19.5 -1.6
comp=Z,5.5nm,0.9s,baz=116,slow=14,SNR=7.7
WRA PKiKP **PKiKP** 16 40 10.8 -2.4
comp=Z,0.2nm,0.5s,baz=109,slow=0.3,SNR=5.8
WRA **Warramunga Arr** 42.29 276 P **P** 16 31 19.3 -0.7
WRA ScP **ScP** 16 36 31.4 -2.8
WRA S **S** 16 37 19.5 -1.6
WRA PKiKP **PKiKP** 16 40 10.8 -2.4
FORT **Forrest** 43.51 258 *e*P **P** 16 31 28.0 -1.6
comp=Z,87nm,0.7s
FORT **Forrest** 43.51 258 P **P** 16 31 28.4 -1.1
baz=43,SNR=35
SBA **Scott Base** 45.33 184 *e*P **P** 16 31 44.7 +1.4
SBA pmax pmax
comp=Z,3.0nm,0.6s
SBA **Scott Base** 45.33 184 *e*P **P** 16 31 44.7 +1.4
comp=Z,3.3nm,0.6s
VNDA **Vanda** 45.35 185 P **P** 16 31 43.2 -0.1
comp=Z,1.0nm,0.8s,baz=354,slow=5.7,SNR=3.9
VNDA **Vanda** 45.35 185 P **P** 16 31 43.2 -0.1
KDU **Kakadu** 47.48 284 P **P** 16 32 00.1 -0.7
baz=47,SNR=7.0
KMBL **Kambalda** 48.39 255 P **P** 16 32 05.9 -1.6
baz=48,SNR=12
MTN **Manton Dam** 48.50 283 P **P** 16 32 08.0 -0.5
baz=48,SNR=5.2
FITZ **Fitzroy Crossi** 50.43 273 *e*P **P** 16 32 22.1 -0.9
comp=Z,65nm,1.3s
FITZ **Fitzroy Crossi** 50.43 273 P **P** 16 32 22.4 -0.6
baz=50,SNR=25
KLBR **Kellerberrin** 51.66 254 P **P** 16 32 30.2 -1.8
baz=51,SNR=13
MEEK **Meekatharra** 52.71 260 P **P** 16 32 38.0 -1.8
baz=52,SNR=15
MORW **Morawa** 53.92 256 P **P** 16 32 46.8 -1.7
baz=54,SNR=8.4
MBWA **Marble Bar** 54.01 267 *e*P **P** 16 32 47.4 -1.9
comp=Z,13nm,0.9s
QSPA **South Pole Qui** 57.14 180 P **P** 16 33 11.5 +0.6
comp=Z,42nm,0.8s,baz=31,slow=1.9,SNR=161
QSPA S **S** 16 40 48.0 +2.7
comp=Z,2.4nm,0.9s,baz=129,slow=20,SNR=10.0
QSPA **South Pole Qui** 57.14 180 *e*P **P** 16 33 11.4 +0.5
comp=Z,41nm,0.8s
QSPA S **S** 16 40 48.0 +2.7
KKM **Kota Kinabalu** 71.51 290 P **P** 16 34 45.5 +0.9
baz=72,SNR=3.9
SBUM **Sibu** 72.58 285 P P 16 34 59.2 +8.4
SYO **Syowa Base** 74.15 194‖ *e*P **P** 16 34 57.4 -1.6
SNAA **Sanae** 75.63 179 *e*P **P** 16 35 06.4 -1.1
comp=Z,13nm,1.0s
VNA3 **Neumayer Olymp** 75.86 177 *e*P **P** 16 35 08.5 -0.3
VNA3 **Neumayer Olymp** 75.86 177 *e*pP pP 16 36 04.5 -4.5
VNA2 **Neumayer--Watz** 76.27 178 *e*P **P** 16 35 11.0 -0.1
baz=180,slow=5.3
VNA2 **Neumayer--Watz** 76.27 178 *e*PcP **PcP** 16 35 20.2 -1.6
baz=180,slow=5.3
VNA2 **Neumayer--Watz** 76.27 178 *e*pP pP 16 36 08.7 -2.7
baz=180,slow=5.3
VNA2 **Neumayer--Watz** 76.27 178 *e*sP sP 16 36 35.6 -3.3
baz=180,slow=5.3
VNA2 **Neumayer--Watz** 76.27 178 *e*PP PP 16 38 01.7 -3.7
baz=180,slow=5.3
VNA1 **Neumayer--Stat** 76.51 177 *e*P **P** 16 35 12.4 0.0
MJAR **Matsushiro Arr** 79.26 327 P **P** 16 35 27.2 -0.8
comp=Z,3.3nm,1.0s,baz=160,slow=4.7,SNR=7.3
MJAR **Matsushiro Arr** 79.26 327 P **P** 16 35 27.1 -0.8
EFI **East Falkland** 81.70 148 *i* P **P** 16 35 40.3 -0.4
PLCA **Paso Flores** 82.20 134 P **P** 16 35 45.0 +1.3
comp=Z,18nm,0.6s,baz=232,slow=5.0,SNR=70
PLCA **Paso Flores** 82.20 134 P **P** 16 35 45.0 +1.3
GSI **Gunungsitoli** 84.05 275 P **P** 16 35 52.6 -0.8
baz=84,SNR=8.2
KSRS **Korea Array** 85.05 321 P **P** 16 35 58.6 +0.9
comp=Z,1.2nm,0.5s,baz=143,slow=5.8,SNR=7.2
KSAR **Wonju Array Be** 85.06 321 P **P** 16 35 58.6 +0.8
YSS **Yuzh-Sakhalins** 86.22 336 *e*P **P** 16 36 05.0 +1.7
YSS pmax pmax
comp=Z,30nm,1.0s
YSS **Yuzh-Sakhalins** 86.22 336 *e*P **P** 16 36 04.4 +1.1
comp=Z,21nm,0.9s
NJ2 **Nanjing** 86.44 312 *e*P **P** 16 36 07.0 +2.3
NJ2 pmax pmax
comp=Z,150nm,0.6s

UNV **Unalaska Valle** 87.29 8 *e*P **P** 16 36 08.0 -0.2
SCI **San Clemente I** 87.69 48 ⇓P **P** 16 36 12.8 +2.2
baz=88
BSC **Santa Cruz Isl** 87.70 46 ⇑P **P** 16 36 12.8 +2.0
baz=88
PEA0B **Petropavlovsk-** 87.83 347 *e*P **P** 16 36 11.2 +0.4
PETK **Petropavlovsk-** 87.83 347 P **P** 16 36 11.2 +0.3
comp=Z,25nm,0.8s,baz=132,slow=7.8,SNR=46
PETK **Petropavlovsk-** 87.83 347 P **P** 16 36 11.2 +0.3
PETK **Petropavlovsk-** 87.83 347 P **P** 16 36 11.2 +0.3
CIS **Catalina Islan** 88.06 48 ⇑P **P** 16 36 14.0 +1.5
baz=88
BLG **Laguna Peak** 88.12 47 ⇓P **P** 16 36 14.5 +1.8
baz=88
PKM **Peak Mountain** 88.20 46 ⇑P **P** 16 36 15.7 +2.4
baz=88
USRK **Ussuriysk Arra** 88.23 328 P **P** 16 36 13.6 +0.7
comp=Z,1.4nm,0.7s,baz=151,slow=4.4,SNR=4.3
SMMC **Simmler** 88.37 45 ⇓P **P** 16 36 16.5 +2.6
baz=89
109C **Camp Elliot, M** 88.53 49 ⇓P **P** 16 36 17.0 +2.4
baz=89
OSI **Osito Adit** 88.67 47 ⇓P **P** 16 36 17.0 +1.7
baz=89
MURC **Murrieta** 88.94 48 ⇑P **P** 16 36 18.7 +2.1
baz=89
ARVC **Arvin** 88.95 46 ⇓P **P** 16 36 18.6 +2.1
baz=89
MONP **Monument Peak** 88.97 49 ⇓P **P** 16 36 19.2 +2.2
baz=89
TRQA **Tornquist** 89.01 136 *e*P **P** 16 36 17.6 +0.5
comp=Z,28nm,1.4s
DVTC **Desert V Tower** 89.02 49 ⇓P **P** 16 36 19.0 +2.0
baz=89
BFSC **Mount Baldy Ra** 89.08 47 ⇑P **P** 16 36 19.0 +1.7
baz=89,SNR=11
LCO **Las Campanas** 89.21 124 *e*P **P** 16 36 18.8 +0.3
comp=Z,25nm,1.1s
LCO **Las Campanas** 89.21 124 P **P** 16 36 19.8 +1.4
baz=89,SNR=6.9
VES **Vestal, Richgr** 89.28 45 ⇑P **P** 16 36 19.9 +1.8
baz=90
CFAA **Coronel Fontan** 89.28 128 P **P** 16 36 19.3 +0.8
comp=Z,2.8nm,0.8s,baz=244,slow=3.8,SNR=41
CFAA **Coronel Fontan** 89.28 128 P **P** 16 36 19.3 +0.8
EDW2 **Edwards Air Fo** 89.30 47 ⇑P **P** 16 36 20.1 +1.8
baz=90,SNR=16
PFO **Pinyon Flat Ob** 89.41 49 P **P** 16 36 21.6 +2.7
comp=Z,121nm,0.8s,SNR=7.3
PFO **Pinyon Flat Ob** 89.41 49 ⇓P **P** 16 36 20.5 +1.6
baz=90,SNR=14
ISA **Isabella** 89.53 46 *e*P **P** 16 36 21.1 +1.8
ISA pmax pmax
comp=Z,27nm,1.1s
ISA **Isabella** 89.53 46 *e*P **P** 16 36 21.1 +1.8
comp=Z,27nm,1.1s
ISA **Isabella** 89.53 46 ⇑P **P** 16 36 21.5 +2.2
baz=90,SNR=14
MDJ **Mudanjiang** 89.64 327 P **P** 16 36 18.5 -1.0
MDJ pP **pP** 16 37 19.1 -2.8
MDJ S **S** 16 46 53.0 +5.0
MDJ pmax pmax
comp=Z,11nm,2.3s
PAYG **Puerto Ayora** 89.69 91 *e*P **P** 16 36 23.8 +3.2
comp=Z,28nm,1.0s
LRMC **Laurel Mountai** 89.88 46 ⇑P **P** 16 36 22.9 +1.9
baz=90,SNR=11
BELC **Belle Mtn. Jus** 89.96 48 ⇓P **P** 16 36 23.5 +2.0
baz=90,SNR=25
BC3 **Big Chuckawall** 90.08 49 ⇑P **P** 16 36 24.2 +2.2
baz=90,SNR=22
GLA **Glamis** 90.09 50 *e*P **P** 16 36 24.6 +2.6
GLA pmax pmax
comp=Z,42nm,0.9s
GLA **Glamis** 90.09 50 *e*P **P** 16 36 24.6 +2.6
comp=Z,42nm,0.9s
GLA **Glamis** 90.09 50 ⇓P **P** 16 36 24.5 +2.6
baz=90,SNR=15
HEC **Hector,Ludlow** 90.29 48 ⇓P **P** 16 36 24.3 +1.4
baz=91,SNR=12
GSC **Goldstone** 90.31 47 ⇓P **P** 16 36 24.8 +1.8
baz=91,SNR=8.2
HABR **Khabarovsk** 90.35 332 *e*P **P** 16 36 23.1 +0.4
HABR *e* 16 39 59.6
HABR *e*PPP PPP 16 41 58.2
HABR *e**SS 16 48 04.6
HABR *e*SS **SS** 16 53 07.0 +5.2
HABR *e*SSS SSS 16 56 45.5
HABR pmax pmax
comp=N,13nm,1.8s
HABR pmax pmax
comp=Z,18nm,1.2s
HABR pmax pmax
comp=E,22nm,1.8s
HABR MLR MLR
comp=Z,32nm,17.0s
MPMC **Manual Prospec** 90.39 46 ⇓P **P** 16 36 25.3 +1.8
baz=91,SNR=5.9
113A **Mohawk Valley,** 90.59 51 ⇑P **P** 16 36 26.1 +1.9
baz=91,SNR=6.2
IRM **Iron Mountain** 90.59 49 ⇑P **P** 16 36 26.4 +2.1
baz=91,SNR=22
MLAC **Mammoth Lakes** 90.63 44 ⇓P **P** 16 36 27.0 +2.4
baz=91
GMRC **Granite Mounta** 90.67 48 ⇓P **P** 16 36 26.4 +1.7
baz=91,SNR=7.3
214A **Organ Pipe Nat** 90.70 52 ⇓P **P** 16 36 26.9 +2.0
baz=91
Y12C **Blythe** 90.73 49 ⇓P **P** 16 36 26.6 +1.7
baz=91,SNR=5.1
TUQ **Turquoise Moun** 90.94 47 ⇓P **P** 16 36 28.0 +2.1
baz=91
CN2 **Changchun** 91.01 324 *e*P **P** 16 36 26.1 +0.2
CN2 *e*pP **pP** 16 37 26.0 -2.3
CN2 *e*S **S** 16 46 59.4 -1.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
FURC **Furnace Creek,** 91.04 46 ⇓P **P** 16 36 28.1 +1.9
baz=91
GRAC **Grapevine Rang** 91.08 46 ⇓P **P** 16 36 28.7 +2.2
baz=91
GYA **Guiyang** 91.12 301 P **P** 16 36 29.3 +2.3
GYA pP **pP** 16 37 30.6 +1.2
GYA sP **sP** 16 37 56.5 +0.2
GYA PP **PP** 16 40 11.3 +3.3
GYA SKS **SKSac** 16 46 35.5 +1.3
GYA S **S** 16 47 03.6 +1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.3s
LDFC **Landfair** 91.21 48 *e*P **P** 16 36 29.5 +2.3
comp=Z,29nm,1.0s
KEBM **Edson Butte** 91.25 38 *e*P **P** 16 36 29.1 +2.0
YBH **Yreka Blue Hor** 91.29 39 P **P** 16 36 28.5 +1.2
comp=Z,4.7nm,0.7s,baz=216,slow=1.5,SNR=9.3
YBH **Yreka Blue Hor** 91.29 39 P **P** 16 36 28.5 +1.2
NEE2 **Needles Airpor** 91.32 49 ⇑P **P** 16 36 30.3 +2.7
baz=92
PDMCI **Parker Dam,Lak** 91.33 49 ⇓P **P** 16 36 29.6 +2.0
baz=92
ENH **Enshi** 91.43 306 *e*P **P** 16 36 28.3 +0.1
comp=Z,4.9nm,0.8s
NVAR **Mina Array Bea** 91.48 44 P **P** 16 36 29.6 +1.0
comp=Z,6.9nm,0.8s,baz=222,slow=8.1,SNR=52
NVAR **Mina Array Bea** 91.48 44 P **P** 16 36 29.6 +1.0
Z14A **Wintersburg** 91.50 51 ⇓P **P** 16 36 30.6 +2.2
baz=92
Y14A **Wickenburg** 91.83 50 ⇓P **P** 16 36 32.0 +2.0
baz=92
W13A **Hualapai Mount** 92.00 49 ⇓P **P** 16 36 32.6 +1.6
baz=92,SNR=6.2
TUC **Tucson** 92.27 53 *e*P **P** 16 36 34.4 +2.3
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC **Tucson** 92.27 53 *e*P **P** 16 36 34.4 +2.3
comp=Z,9.1nm,0.8s
CMAR **Chiang Mai Arr** 92.39 290 P **P** 16 36 33.7 +0.8
comp=Z,0.4nm,0.8s,baz=136,slow=4.2,SNR=4.8
CMAR pP **pP** 16 37 36.5 +1.1
comp=Z,0.5nm,0.8s,baz=155,slow=3.3,SNR=2.9
CMAR PP **PP** 16 40 14.4 -3.5
comp=Z,2.6nm,0.9s,baz=136,slow=6.2,SNR=15
CMAR PKKPbc **PKKPbc** 16 53 45.9 +0.9
comp=Z,1.0nm,0.6s,baz=285,slow=4.5,SNR=7.8

CMAR **Chiang Mai Arr** 92.39 290 P **P** 16 36 33.7 +0.8
CMAR pP **pP** 16 37 36.5 +1.1
CMAR PP **PP** 16 40 14.4 -3.5
CMAR PKKPbc **PKKPbc** 16 53 45.9 +0.9
MOD **Modoc** 92.70 40 *e*P **P** 16 36 34.9 +0.9
comp=Z,22nm,1.3s
319A **Douglas** 92.72 54 ⇑P **P** 16 36 36.0 +1.8
baz=93,SNR=5.9
R11A **Troy Canyon, C** 93.03 45 ⇓P **P** 16 36 36.9 +1.3
baz=93
X16A **Lo Mia Camp, P** 93.14 51 ⇓P **P** 16 36 38.1 +1.9
baz=93
320A **Kipp Ranch, An** 93.21 55 ⇑P **P** 16 36 38.5 +2.0
baz=94
KMI **Kunming** 93.22 298 P P 16 36 40.1 +3.2
KMI pP pP 16 37 39.9 +0.6
KMI sP sP 16 38 04.8 -1.4
KMI S **ScS** 16 47 23.3 +0.5
KMI sS sS 16 49 12.0 0.0
KMI SS **SS** 16 53 47.0 +2.8
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI pmax pmax
comp=Z,51nm,6.0s
KMI LR LR
comp=N,82nm,23.2s
KMI LR LR
comp=E,77nm,20.9s
KMI LR LR
comp=Z,62nm,16.5s
220A **Playas Peak, P** 93.55 54 ⇓P **P** 16 36 39.7 +1.6
baz=94
U15A **North Rim** 93.84 49 ⇑P **P** 16 36 41.5 +2.0
baz=94,SNR=12
WUAZ **Wupatki** 93.86 50 ⇓P **P** 16 36 41.2 +1.7
baz=94
120A **U Bar Ranch, L** 93.86 53 ⇑P **P** 16 36 41.5 +1.9
baz=94,SNR=5.8
Z20A **Nine Sixteen R** 94.23 53 ⇑P **P** 16 36 42.9 +1.6
baz=94,SNR=6.5
121A **Cookes Peak, D** 94.42 54 ⇓P **P** 16 36 43.7 +1.5
baz=95
222A **Williams Famil** 94.64 55 ⇑P **P** 16 36 44.6 +1.5
baz=95
Y20A **Horse Springs,** 94.84 53 ⇑P **P** 16 36 45.7 +1.5
baz=95,SNR=6.0
X20A **Quemado** 95.14 52 ⇓P **P** 16 36 47.2 +1.8
baz=95
626A **Big Bend Ranch** 95.24 58 ⇓P **P** 16 36 46.9 +1.1
baz=96,SNR=8.2
425A **Indio Mountain** 95.34 57 ⇓P **P** 16 36 47.8 +1.4
baz=96,SNR=8.9
324A **Moseley Ranch,** 95.37 56 ⇓P **P** 16 36 47.4 +0.9
baz=96,SNR=6.2
Y21A **Point of Rocks** 95.37 53 ⇑P **P** 16 36 48.2 +1.7
baz=96
Z22A **Elephant Butte** 95.41 54 ⇑P **P** 16 36 48.1 +1.5
baz=96,SNR=7.7
TXAR **Lajitas Array** 95.45 59 P **P** 16 36 48.1 +1.3
comp=Z,1.3nm,0.8s,baz=210,slow=6.1,SNR=14
TXAR PP **PP** 16 40 40.7 -1.0
comp=Z,0.6nm,0.8s,baz=216,slow=7.8,SNR=5.1
TXAR **Lajitas Array** 95.45 59 P **P** 16 36 48.1 +1.3
TXAR PP **PP** 16 40 40.7 -1.0
W20A **Ramah** 95.49 51 ⇑P **P** 16 36 49.0 +2.0
baz=96,SNR=5.8
X21A **Alamocita Cree** 95.56 52 ⇓P **P** 16 36 49.1 +1.7
baz=96,SNR=5.7
526A **Mary Lane Ranc** 95.56 58 ⇑P **P** 16 36 48.4 +1.1
baz=96,SNR=7.1
325A **Bean Ranch, Si** 95.69 56 ⇑P **P** 16 36 49.3 +1.3
baz=96
224A **Cornudas Mount** 95.71 55 ⇑P **P** 16 36 49.2 +1.2
baz=96,SNR=5.6
627A **Terlingua Ranc** 95.72 59 ⇑P **P** 16 36 49.1 +1.0
baz=96,SNR=8.4
CD2 **Chengdu** 95.79 303 P **P** 16 36 49.6 +1.4
CD2 pP **pP** 16 37 50.6 -0.2
CD2 sP **sP** 16 38 16.4 -1.2
CD2 PP **PP** 16 40 47.6 +3.4
CD2 SS **SS** 16 54 23.4 +3.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,50nm,5.3s
Y22A **Socorro** 95.81 53 ⇑P **P** 16 36 50.2 +1.7
baz=96
Z23A **Rita Site, Whi** 95.91 54 ⇓P **P** 16 36 50.3 +1.4
baz=96
527A **Woodward Ranch** 95.95 58 ⇑P **P** 16 36 50.1 +0.9
baz=96,SNR=5.7
426A **McDonald Obser** 95.95 57 ⇑P **P** 16 36 50.4 +1.2
baz=96,SNR=7.8
628A **Black Gap, Mar** 96.09 59 ⇑P **P** 16 36 50.8 +1.1
baz=96,SNR=7.2
124A **Stringfield Ra** 96.12 55 ⇓P **P** 16 36 51.4 +1.5
baz=96
MFID **Camas Ranch** 96.17 41 ⇓P **P** 16 36 50.9 +1.1
baz=96
225A **Deer Hill, Car** 96.22 56 ⇑P **P** 16 36 51.8 +1.4
baz=96
326A **Caldwell Ranch** 96.35 57 ⇑P **P** 16 36 51.5 +0.7
baz=97
Y23A **Lovelace Mesa,** 96.42 54 ⇑P **P** 16 36 52.7 +1.4
baz=97
427A **Hayter Ranch,** 96.50 57 ⇑P **P** 16 36 52.9 +1.4
baz=97
Z24A **Sheeppen Canyo** 96.54 54 ⇓P **P** 16 36 53.0 +1.2
baz=97
528A **Cox Ranch, San** 96.55 58 ⇑P **P** 16 36 53.0 +1.2
baz=97
SRU **San Rafael** 96.59 47 ⇑P **P** 16 36 53.5 +1.6
baz=97
HHC **Hu-ho-hao-te** 96.60 315 *e*P **P** 16 36 51.4 -0.4
HHC pP **pP** 16 37 54.3 0.0
HHC sP **sP** 16 38 20.0 -1.2
HHC PP **PP** 16 40 52.6 +2.2
HHC SKS **SKSac** 16 47 02.1 -1.1
HHC S **S** 16 47 47.9 -1.9
HHC sS **sS** 16 49 37.8 -3.0
HHC SS **SS** 16 54 35.0 +3.6
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,95nm,5.7s
125A **Gardner Draw,** 96.64 55 ⇑P **P** 16 36 53.5 +1.3
baz=97
L14A **Malta** 96.76 44 ⇓P **P** 16 36 53.6 +1.1
baz=97
U21A **Nageezi** 96.81 51 ⇑P **P** 16 36 54.6 +1.6
baz=97
Y24A **Capitan** 96.83 54 ⇓P **P** 16 36 54.4 +1.3
baz=97,SNR=7.1
M15A **Larsen Ranch,** 96.87 45 ⇓P **P** 16 36 54.5 +1.5
baz=97
529A **Stev Forest Ra** 96.93 59 ⇓P **P** 16 36 54.2 +0.7
baz=97
428A **Kincaid Ranch,** 96.94 58 ⇑P **P** 16 36 54.9 +1.4
baz=97
Z25A **Roswell** 96.96 55 ⇑P **P** 16 36 55.5 +1.9
baz=97
HLID **Hailey** 97.06 42 ⇓P Pdif 16 36 55.4 +1.5
baz=97
J13A **Cove Ranch, Pi** 97.09 42 ⇓P Pdif 16 36 55.7 +1.7
baz=97
O17A **Robinson Place** 97.12 46 ⇑P Pdif 16 36 56.1 +1.8
baz=97
K14A **Jones Ranch, D** 97.12 43 ⇓P Pdif 16 36 55.8 +1.6
baz=97
328A **Wristen Ranch,** 97.21 57 ⇓P Pdif 16 36 55.6 +0.9
baz=98
L15A **Malad City** 97.24 44 ⇓P Pdif 16 36 56.2 +1.5
baz=98
Y25A **Mesa, Roswell** 97.34 54 ⇓P Pdif 16 36 56.7 +1.4
baz=98
CPRX **Cap Rock** 97.40 55 *e*P Pdif 16 36 56.3 +0.6
comp=Z,5.8nm,0.8s
H12A **Diamond D Ranc** 97.44 41 ⇑P Pdif 16 36 56.9 +1.4
baz=98
429A **Davenport Ranc** 97.44 58 ⇑P Pdif 16 36 56.8 +1.0
baz=98,SNR=13
I13A **Wildhorse Cree** 97.44 42 ⇑P Pdif 16 36 57.4 +1.7
baz=98
Z26A **Caprock** 97.46 55 ⇑P Pdif 16 36 57.3 +1.4
baz=98
K15A **Arbon** 97.58 44 ⇓P Pdif 16 36 58.2 +2.0
baz=98

631A	**Perdido Creek**	**97.73**	**60**	⇑P		Pdif	16 36 57.7	+0.7
	baz=98							
329A	**Wagon Wheel Ra**	**97.86**	**58**	⇑P		Pdif	16 36 58.4	+0.8
	baz=98							
SEY	**Seymchan**	**98.04**	**348**	*i* P		**P**	**16 36 56.7**	**-0.8**
J15A	**Blackfoot**	**98.08**	**43**	⇓P		Pdif	16 37 00.8	+2.4
	baz=98							
S22A	**4UR Ranch, Cre**	**98.12**	**50**	⇑P		Pdif	16 37 00.9	+2.0
	baz=98							
G13A	**Cobalt**	**98.12**	**41**	⇓P		Pdif	16 37 00.2	+1.6
	baz=98							
K16A	**Soda Springs**	**98.22**	**44**	⇓P		Pdif	16 37 00.8	+1.7
	baz=98							
W25A	**X Bar L Ranch,**	**98.23**	**53**	⇑P		Pdif	16 37 00.5	+1.2
	baz=98							
H14A	**Leadore**	**98.30**	**42**	⇓P		**P**	**16 37 01.7**	**+2.3**
	baz=99							
J16A	**Bone**	**98.47**	**43**	⇓P		**P**	**16 37 02.2**	**+1.9**
	baz=99							
V25A	**Rancho No Teng**	**98.48**	**53**	⇑P		**P**	**16 37 01.1**	**+0.6**
	baz=99							
532A	**Rocksprings**	**98.61**	**60**	⇑P		**P**	**16 37 01.8**	**+0.8**
	baz=99							
LZH	**Lanzhou**	**98.67**	**307**	*e*P		**P**	**16 37 02.0**	**+0.7**
LZH				pP		**pP**	**16 38 05.0**	**+1.1**
LZH				sP		**sP**	**16 38 30.5**	**-0.2**
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
MSTX	**Muleshoe**	**98.68**	**55**	⇑P		**P**	**16 37 02.4**	**+1.1**
	baz=99							
C11A	**Tepee Creek (N**	**98.80**	**38**	⇓P		**P**	**16 37 03.5**	**+2.1**
	baz=99							
LPAZ	**La Paz**	**98.87**	**116**	P		**P**	**16 37 04.5**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=204,slow=4.6,SNR=18							
LPAZ	**La Paz**	**98.87**	**116**	P		**P**	**16 37 04.5**	**+1.2**
K18A	**Toltan Ranch,**	**99.01**	**45**	⇓P		**Pdif**	**16 37 04.6**	**+2.0**
	baz=99							
432A	**Menard**	**99.09**	**59**	⇑P		**Pdif**	**16 37 03.9**	**+0.8**
	baz=99							
J18A	**Kendall Valley**	**99.36**	**44**	⇓P		**Pdif**	**16 37 05.8**	**+1.6**
	baz=100							
BW06	**Boulder Array**	**99.37**	**45**	⇑P		**Pdif**	**16 37 05.2**	**+0.9**
	baz=100							
PDAR	**Pinedale Array**	**99.37**	**45**	P		**Pdif**	**16 37 05.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=195,slow=4.4,SNR=10							
PDAR				PP		PP	16 41 05.6	-6.0
	comp=Z,0.9nm,0.9s,baz=193,slow=12,SNR=5.1							
PDAR	**Pinedale Array**	**99.37**	**45**	P		**Pdif**	**16 37 05.2**	**+1.0**
PDAR				PP		PP	16 41 05.6	-6.0
N21A	**Black Mountain**	**99.43**	**47**	⇑P		**Pdif**	**16 37 05.8**	**+1.2**
	baz=100							
I17A	**Pilgrim Ck.**	**99.46**	**43**	⇓P		**Pdif**	**16 37 06.7**	**+2.0**
	baz=100							
H16A	**Russell Place,**	**99.55**	**42**	⇑P		**Pdif**	**16 37 07.2**	**+2.2**
	baz=100							
ILAR	**Eielson Array**	**100.89**	**14**	P		**Pdif**	**16 37 11.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=230,slow=5.9,SNR=11							
ILAR				PP		PP	16 41 14.2	-8.0
	comp=Z,0.8nm,0.9s,baz=216,slow=7.2,SNR=5.5							
ILAR	**Eielson Array**	**100.89**	**14**	P		**Pdif**	**16 37 11.2**	**+1.1**
ILAR				PP		PP	16 41 14.2	-8.0
SONM	**Songino Array**	**103.72**	**318**	PKKPbc	PKKPbc		16 53 14.3	-0.6
	comp=Z,0.9nm,0.7s,baz=266,slow=2.7,SNR=9.6							
SONM				PKKPab	PKKPdf		16 53 36.2	+13
	comp=Z,0.9nm,1.0s,baz=290,slow=7.1,SNR=5.5							
SONM	**Songino Array**	**103.72**	**318**	PKKPbc	PKKPbc		16 53 14.3	-0.6
SONM				PKKPab	PKKPdf		16 53 36.2	+13
YKA	**Yellowknife Ar**	**108.63**	**27**	Pdif		**Pdif**	**16 37 48.3**	**+3.7**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.6,SNR=4.1							
YKA				PKiKP		**PKiKP**	**16 41 47.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=263,slow=1.7,SNR=21							
YKA				PP		**PP**	**16 42 14.5**	**-4.8**
	comp=Z,1.6nm,1.2s,baz=234,slow=5.3,SNR=4.0							
YKA	**Yellowknife Ar**	**108.63**	**27**	Pdif		**Pdif**	**16 37 48.3**	**+3.7**
YKA				PKiKP		**PKiKP**	**16 41 47.7**	**-0.7**
YKA				PP		**PP**	**16 42 14.5**	**-4.8**
ULM	**Lac du Bonnet**	**111.31**	**43**	PKiKP		**PKiKP**	**16 41 52.5**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=246,slow=1.3,SNR=4.5							
ULM	**Lac du Bonnet**	**111.31**	**43**	PKiKP		**PKiKP**	**16 41 52.5**	**-1.4**
WMQ	**Urumqi**	**113.24**	**308**	*e*PKP			16 41 56.6	
LBTB	**Lobatse**	**117.26**	**207**	PKKPbc	PKKPbc		16 52 29.7	-0.7
	comp=Z,1.5nm,0.6s,baz=152,slow=17,SNR=5.0							
LBTB	**Lobatse**	**117.26**	**207**	PKKPbc	PKKPbc		16 52 29.7	-0.7
MKAR	**Makanchi Array**	**117.88**	**310**	PKP		**PKPdf**	**16 42 04.8**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=176,slow=0.8,SNR=37							
MKAR				pP		PP	16 43 12.4	-13
	comp=Z,0.8nm,0.8s,baz=103,slow=3.9,SNR=3.3							
MKAR				PKKPbc		**PKKPbc**	**16 52 27.9**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=286,slow=2.9,SNR=47							
MKAR	**Makanchi Array**	**117.88**	**310**	PKiKP		**PKPdf**	**16 42 04.9**	**-1.8**
MKAR	**Makanchi Array**	**117.88**	**310**	PKP		**PKPdf**	**16 42 04.8**	**-1.8**
MKAR				pP		PP	16 43 12.4	-13
MKAR				PKKPbc		**PKKPbc**	**16 52 27.9**	**-0.5**
ZALV	**Zalesovo Beam**	**118.61**	**318**	PKP		**PKPdf**	**16 42 05.8**	**-2.0**
	comp=Z,2.2nm,0.5s,baz=100,slow=0.5,SNR=13							
ZALV	**Zalesovo Beam**	**118.61**	**318**	PKiKP		**PKPdf**	**16 42 05.8**	**-2.0**
ZALV	**Zalesovo Beam**	**118.61**	**318**	PKP		**PKPdf**	**16 42 05.8**	**-2.0**
NVS	**Novosibirsk**	**119.75**	**319**	*e*PKiKP		**PKPdf**	**16 42 07.8**	**-2.1**
NVS				pmax	pmax			
	comp=N,1.0nm,0.6s							
NVS				pmax	pmax			
	comp=E,2.0nm,0.6s							
NVS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KSH	**Kashi**	**119.81**	**300**	*e*PKP		**PKPdf**	**16 42 13.6**	**+2.9**
KSH				*e*PP		PP	16 43 46.0	+7.3
KSH				PKS		**PKSdf**	**16 45 50.5**	**+3.0**
KSH				SKS		**SKSdf**	**16 49 02.3**	**+4.4**
KSH				AMB	AMB			
	comp=Z,57nm,8.8s							
KSH				LR	LR			
	comp=N,140nm,7.5s							
KSH				LR	LR			
	comp=E,94nm,6.6s							
KSH				LR	LR			
	comp=Z,190nm,5.7s							
RES	**Resolute Bay**	**120.30**	**18**	*e*PKPdf		**PKPdf**	**16 42 09.3**	**-1.2**
KURK	**Kurchatov**	**121.36**	**313***c*	*i*PKiKP		**PKPdf**	**16 42 12.0**	**-1.2**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**121.36**	**313**	*e*PKPdf		**PKPdf**	**16 42 11.7**	**-1.5**
KURBB	**Kurchatov Arra**	**121.39**	**313**	PKP		**PKPdf**	**16 42 11.7**	**-1.6**
	comp=Z,8.2nm,0.6s,baz=115,slow=1.8,SNR=76							
AAK	**Ala-Archa**	**121.85**	**303**	PKP		**PKPdf**	**16 42 13.6**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=151,slow=4.4,SNR=10							
AAK				PKKPbc		**PKKPbc**	**16 52 14.4**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=234,slow=6.2,SNR=7.8							
AAK	**Ala-Archa**	**121.85**	**303***c*	*i*PKIKP		**PKPdf**	**16 42 13.0**	**-1.6**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.2s							
AAK	**Ala-Archa**	**121.85**	**303**	*e*PKPdf		**PKPdf**	**16 42 13.4**	**-1.2**
AAK				PKP		**PKPdf**	**16 42 13.6**	**-1.0**
AAK				PKKPbc		**PKKPbc**	**16 52 14.4**	**+0.5**
KKAR	**Karatay Array**	**124.80**	**303**	*e*PKiKP		**PKPdf**	**16 42 18.6**	**-1.5**
KKAR	**Karatay Array**	**124.80**	**303**	*e*PKPdf		**PKPdf**	**16 42 18.6**	**-1.5**
LSZ	**Lusaka**	**124.81**	**214**	PKKPbc	PKKPbc		16 52 02.6	+0.4
	comp=Z,4.1nm,0.8s,baz=66,slow=4.8,SNR=4.1							
LSZ	**Lusaka**	**124.81**	**214**	PKKPbc	PKKPbc		16 52 02.6	+0.4
BVAR	**Borovoye Array**	**126.81**	**315**	PKP		**PKPdf**	**16 42 22.5**	**-1.1**
	comp=Z,4.5nm,0.5s,baz=100,slow=1.7,SNR=29							
BVAR	**Borovoye Array**	**126.81**	**315**	PKiKP		**PKPdf**	**16 42 22.5**	**-1.1**
BVAR	**Borovoye Array**	**126.81**	**315**	PKP		**PKPdf**	**16 42 22.5**	**-1.1**
BRVK	**Borovoye**	**126.88**	**315***c*	*i*PKIKP		**PKPdf**	**16 42 22.5**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SCHQ	**Schefferville**	**129.48**	**43**	PKP		**PKPdf**	**16 42 27.8**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=325,slow=1.9,SNR=13							
SCHQ				SKPbc	SKPab		16 45 23.8	-1.7
	comp=Z,14nm,1.1s,baz=286,slow=3.4,SNR=11							
SCHQ	**Schefferville**	**129.48**	**43**	PKP		**PKPdf**	**16 42 27.8**	**-0.8**
SCHQ				SKPbc	SKPab		16 45 23.8	-1.7
ARU	**Arti**	**133.75**	**319**	*i* PKIKP		**PKPdf**	**16 42 35.7**	**-0.9**
ARU							16 45 06.0	
ARU				SS	SS		17 02 42.0	+6.9
AKTO	**Aktyubinsk**	**134.30**	**310**	PKP		**PKPdf**	**16 42 36.9**	**-0.9**
	comp=Z,4.5nm,0.6s,baz=108,slow=3.5,SNR=21							
AKTO				SKPbc		**SKPbc**	**16 45 39.0**	**-3.8**
	comp=Z,1.9nm,0.8s,baz=100,slow=9.6,SNR=4.0							
AKTO	**Aktyubinsk**	**134.30**	**310**	PKiKP		**PKPdf**	**16 42 36.9**	**-0.9**
AKTO	**Aktyubinsk**	**134.30**	**310**	PKP		**PKPdf**	**16 42 36.9**	**-0.9**
AKTO				SKPbc		**SKPbc**	**16 45 39.0**	**-3.8**
KEV	**Kevo**	**140.15**	**346**	*e*PKHKP		PKPpre	16 42 40.7	
KEV	**Kevo**	**140.15**	**346**	*ep*		PKPdf	16 42 40.7	-7.3
ARCES	**ARCESS Array B**	**140.64**	**346**	PKhKP		PKPpre	16 42 42.2	
	comp=Z,3.1nm,0.7s,baz=29,slow=2.1,SNR=20							
ARCES				SKPbc		**SKPbc**	**16 46 00.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=17,slow=5.7,SNR=4.7							
ARCES	**ARCESS Array B**	**140.64**	**346**	PKPpre		PKPpre	16 42 42.2	
ARCES				SKPbc		**SKPbc**	**16 46 00.2**	**-0.3**
KLMR	**Klimovskoe**	**142.02**	**329**	*e*PKIKP		**PKPdf**	**16 42 48.0**	**-3.6**
KLMR				*e*			16 45 59.7	
KLMR				pmax	pmax			
	comp=Z,86nm,3.5s							
DGRG	**David-gareji**	**142.98**	**297**	P		**PKPdf**	**16 42 50.0**	**-4.0**
DGRG	**David-gareji**	**142.98**	**297**	P		**PP**	**16 46 06.3**	**-0.8**
TBLG	**Delisi**	**143.46**	**297**	*e*PKIKP		PKPab	16 42 51.9	+0.1
TBLG	**Delisi**	**143.46**	**297**	P		PKPab	16 42 51.9	+0.1
TBLG	**Delisi**	**143.46**	**297**	P		**PP**	**16 46 06.2**	**-3.8**
KZR	**Kazreti**	**143.69**	**296**	P		PKPab	16 42 52.8	0.0
GOR	**Gori**	**143.93**	**298**	P		PKPab	16 42 53.5	-0.3
JOF	**Joensuu**	**144.01**	**336**	*e*PKIKP		**PKPab**	**16 42 52.5**	**-0.7**
JOF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
JOF	**Joensuu**	**144.01**	**336**	*ep*		**PKPab**	**16 42 52.5**	**-0.7**
	comp=Z,6.6nm,0.6s							
ZEI	**Tsey**	**144.09**	**299**	*i* PKIKP		**PKPab**	**16 42 53.2**	**-1.3**
ZEI				pmax	pmax			
	comp=Z,17nm,1.5s							
AKH	**Akhalkalaki**	**144.39**	**297**	P		**PKPab**	**16 42 55.2**	**-0.5**
ONI	**Oni**	**144.42**	**299**	P		**PKPab**	**16 42 55.2**	**-0.4**
VRHR	**Novokhopersk**	**144.54**	**313**	*e*PKIKP		**PKPab**	**16 42 53.4**	**-2.2**
VRHR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VRHR				pmax	pmax			
	comp=Z,20nm,0.9s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.7s							
KBZ	**Khabaz**	**144.79**	**301**	PKP		PKPbc	16 42 56.2	-0.5
	comp=E,13nm,0.9s,baz=151,slow=1.4,SNR=24							
KBZ	**Khabaz**	**144.79**	**301**	PKIKP		PKPbc	16 42 56.2	-0.5
KBZ	**Khabaz**	**144.79**	**301**	PKP		PKPbc	16 42 56.2	-0.5
KIV	**Kislovodsk**	**144.93**	**301**	*e*PKIKP		PKPbc	16 42 55.7	-1.6
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KIV	**Kislovodsk**	**144.93**	**301**	*e*PKP		PKPbc	16 42 56.2	-1.1
MOS	**Moscow**	**145.24**	**322**	*e*PKHKP		PKPpre	16 42 54.3	
MOS				pmax	pmax			
	comp=Z,75nm,0.9s							
VORD	**Divnogorie**	**145.99**	**314**	*e*PKIKP		**PKPdf**	**16 42 58.1**	**-0.7**
VORD				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VORD				pmax	pmax			
	comp=N,10.0nm,0.6s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VSR	**Storozhevoye**	**146.00**	**314**	*e*PKIKP		**PKPdf**	**16 42 57.7**	**-1.1**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,9.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,10.0nm,1.0s							
OBN	**Obninsk**	**146.04**	**322**	*e*PKIKP		**PKPdf**	**16 42 57.8**	**-1.0**
OBN				*i*			16 44 03.9	
OBN				pmax	pmax			
	comp=Z,21nm,1.0s							
KAF	**Kangasniemi**	**146.23**	**338**	*e*PKIKP		**PKPdf**	**16 42 57.9**	**-1.0**
KAF				pmax	pmax			
	comp=Z,9.0nm,0.6s							
KAF	**Kangasniemi**	**146.23**	**338**	*ep*		**PKPdf**	**16 42 57.9**	**-1.0**
	comp=Z,9.1nm,0.6s							
FINES	**FINESS Array B**	**146.80**	**337**	PKPbc	PKPbc		16 43 01.1	-1.0
	comp=Z,21nm,0.7s,baz=36,slow=4.9,SNR=47							
FINES				pPKPbc	pPKPbc		16 44 05.9	-1.0
	comp=Z,8.3nm,0.8s,baz=90,slow=5.7,SNR=2.6							
FINES	**FINESS Array B**	**146.80**	**337**	PKPbc	PKPbc		**16 43 01.1**	**-1.0**
FINES				pPKPbc	pPKPbc		16 44 05.9	-1.0
SOC	**Sochi**	**147.10**	**301**	*e*PKIKP		**PKPdf**	**16 42 59.1**	**-1.9**
SOC				pmax	pmax			
	comp=Z,14nm,0.8s							
MALT	**Malatya**	**148.21**	**291**	*e*PKP2		**PKPbc**	**16 43 06.5**	**-0.3**
MALT	**Malatya**	**148.21**	**291**	*e*PKPbc		**PKPbc**	**16 43 06.5**	**-0.3**
ASF	**Jabal al Asfar**	**148.71**	**279**	PKPbc		**PKPbc**	**16 43 06.9**	**-1.4**
	comp=Z,4.4nm,0.7s,baz=22,slow=4.0,SNR=7.3							
ASF				pPKPbc		**pPKPbc**	**16 44 14.5**	**+1.2**
	comp=Z,6.4nm,0.9s,baz=80,slow=3.8,SNR=5.3							
ASF	**Jabal al Asfar**	**148.71**	**279**	PKPbc		**PKPbc**	**16 43 06.9**	**-1.4**
ASF				pPKPbc		**pPKPbc**	**16 44 14.5**	**+1.2**
MMAI	**Mount Meron Ar**	**150.10**	**280**	PKPbc		**PKPbc**	**16 43 11.1**	**-0.5**
	comp=Z,13nm,0.5s,baz=82,slow=6.0,SNR=20							
MMAI				pPKPbc		**pPKPbc**	**16 44 18.1**	**+1.3**
	comp=Z,16nm,0.7s,baz=63,slow=6.0,SNR=6.8							
MMAI	**Mount Meron Ar**	**150.10**	**280**	PKPbc		**PKPbc**	**16 43 11.1**	**-0.5**
MMAI				pPKPbc		**pPKPbc**	**16 44 18.1**	**+1.3**
NB2	**NORSAR Subarra**	**150.93**	**348**	PKP		**PKPbc**	**16 43 11.6**	**-1.0**
	comp=Z,21nm,1.0s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**150.93**	**348**	PKPbc		**PKPbc**	**16 43 11.6**	**-1.0**
	comp=Z,7.6nm,0.7s,baz=14,slow=4.1,SNR=31							
NOA				pPKPbc		**pPKPbc**	**16 44 18.2**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=29,slow=2.0,SNR=4.4							
NOA	**NORSAR Array B**	**150.93**	**348**	PKPbc		**PKPbc**	**16 43 11.6**	**-1.0**
NOA				pPKPbc		**pPKPbc**	**16 44 18.2**	**+0.4**
NACGM	**Naroch**	**150.96**	**327**	*e*		**PKPdf**	**16 43 09.0**	**+2.2**
HFS	**Hagfors**	**151.29**	**345**	PKPbc		**PKPbc**	**16 43 12.2**	**-1.2**
	baz=111,slow=2.0							
HFS	**Hagfors**	**151.29**	**345**	PKPbc		**PKPbc**	**16 43 12.2**	**-1.2**
BR131	**Keskin Array S**	**151.93**	**294**	*e*PKPbc		**PKPbc**	**16 43 14.1**	**-1.6**
BRTR	**Keskin Array B**	**151.93**	**294**	PKPbc		**PKPbc**	**16 43 13.9**	**-1.8**
	comp=Z,7.4nm,0.7s,baz=130,slow=3.3,SNR=46							
BRTR	**Keskin Array B**	**151.93**	**294**	PKPbc		**PKPbc**	**16 43 13.9**	**-1.8**
AKASG	**Malin Array Be**	**152.00**	**318**	PKPbc		**PKPbc**	**16 43 14.3**	**-1.0**
	comp=Z,11nm,0.7s,baz=66,slow=2.3,SNR=38							
AKASG	**Malin Array Be**	**152.00**	**318**	PKIKP		**PKPbc**	**16 43 14.3**	**-1.0**
AKASG	**Malin Array Be**	**152.00**	**318**	PKPbc		**PKPbc**	**16 43 14.3**	**-1.0**
AK01	**Malin Array Si**	**152.01**	**318**	*e*PKPbc		**PKPbc**	**16 43 13.9**	**-1.3**
KIEV	**Kiev**	**152.01**	**318**	*e*PKIKP		**PKPbc**	**16 43 14.3**	**-1.0**
KIEV	**Kiev**	**152.01**	**318**	*e*PKPbc		**PKPbc**	**16 43 14.3**	**-1.0**
AK02	**Malin Array Si**	**152.03**	**318**	*e*PKPbc		**PKPbc**	**16 43 14.3**	**-1.0**
DBIC	**Dimbokro**	**153.49**	**170**	PKP		**PKPdf**	**16 43 10.8**	**-1.0**
	comp=Z,5.1nm,0.9s,baz=95,slow=3.2,SNR=7.2							
DBIC				PKPbc		**PKPbc**	**16 43 18.5**	**-1.2**
	comp=Z,5.8nm,0.4s,baz=153,slow=2.0,SNR=3.2							
DBIC	**Dimbokro**	**153.49**	**170**	PKP		**PKPdf**	**16 43 10.8**	**-1.0**
DBIC				PKPbc		**PKPbc**	**16 43 18.5**	**-1.2**
LVV	**L'vov**	**155.31**	**320**	*e*PKIKP		**PKPdf**	**16 43 15.0**	**+1.8**
CRVS	**Cervenica-Dubn**	**157.22**	**321**	*e*PKP2		**PKPab**	**16 43 48.4**	**+0.2**
CRVS	**Cervenica-Dubn**	**157.22**	**321**	*e*PKP		**PKPab**	**16 43 48.4**	**+0.2**
EKA	**Eskdalemuir Ar**	**157.56**	**4**	PKPab		**PKPab**	**16 43 48.5**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=340,slow=3.9,SNR=10							
EKA	**Eskdalemuir Ar**	**157.56**	**4**	PKPab		**PKPab**	**16 43 48.5**	**-0.8**
VYHS	**Vyhne**	**158.84**	**323**	*e*PKP2		**PKPab**	**16 43 55.0**	**-0.2**
VYHS	**Vyhne**	**158.84**	**323**	*e*PKP		**PKPab**	**16 43 55.0**	**-0.2**
CLL	**Collm**	**159.24**	**336**	*i* PKP2		**PKPab**	**16 43 56.1**	**-0.6**
CLL				pmax	pmax			
	comp=Z,35nm,0.9s							
CLL	**Collm**	**159.24**	**336**	*i* PKPab		**PKPab**	**16 43 56.1**	**-0.6**
	comp=Z,12nm,0.9s							
BRG	**Berggiesshubel**	**159.26**	**334**	*e*PKP		**PKPab**	**16 43 56.6**	**-0.3**
	comp=Z,12nm,1.4s							
BRG	**Berggiesshubel**	**159.26**	**334**	*e*PKP2		**PKPab**	**16 43 56.6**	**-0.3**
BRG				pmax	pmax			
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**160.18**	**186**	PKP		**PKPdf**	**16 43 19.1**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=207,slow=1.6,SNR=12							
TORD				PKPab		**PKPab**	**16 44 00.2**	**-1.5**
	comp=Z,43nm,1.4s,baz=167,slow=3.5,SNR=14							
TORD	**Torodi Ar. Bea**	**160.18**	**186**	PKP		**PKPdf**	**16 43 19.1**	**-1.1**
TORD				PKPab		**PKPab**	**16 44 00.2**	**-1.5**
GERES	**GERESS Array B**	**160.97**	**331**	PKPab		**PKPab**	**16 44 03.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=42,slow=6.1,SNR=4.3							
GERES	**GERESS Array B**	**160.97**	**331**	PKPab		**PKPab**	**16 44 03.4**	**-1.1**
GRF	**Grafenberg Arr**	**161.21**	**336**	*e*PKP2		**PKPab**	**16 44 05.4**	**-0.1**
GRF	**Grafenberg Arr**	**161.21**	**336**	*e*PKP		**PKPab**	**16 44 05.4**	**-0.1**
BCLA	**Clavier**	**162.08**	**348**	PKPab		**PKPab**	**16 44 08.7**	**-0.4**
DOU	**Dourbes**	**162.50**	**349**	PKPab		**PKPab**	**16 44 10.4**	**-0.6**
ESDC	**Sonseca Array**	**172.71**	**23**	PKP		**PKPdf**	**16 43 29.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=0.6,slow=2.6,SNR=5.7							
ESDC				PKPab		**PKPab**	**16 44 55.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=338,slow=5.0,SNR=7.5							
ESDC	**Sonseca Array**	**172.71**	**23**	PKP		**PKPdf**	**16 43 29.4**	**+0.1**
ESDC				PKPab		**PKPab**	**16 44 55.6**	**-0.9**
MDT	**Midelt**	**176.41**	**91**	PKP		**PKPdf**	**16 43 31.1**	**+0.4**
	comp=Z,6.3nm,1.1s,baz=210,slow=8.1,SNR=4.8							
MDT				PKPab		**PKPab**	**16 45 14.8**	**+1.2**
	comp=Z,7.2nm,1.1s,baz=275,slow=5.0,SNR=5.8							
MDT	**Midelt**	**176.41**	**91**	PKP		**PKPdf**	**16 43 31.1**	**+0.4**
MDT				PKPab		**PKPab**	**16 45 14.8**	**+1.2**

IDC ***18*** *16:33:32.8±4.0, 40.44N×27.22E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.2/26, mbtmp3.3/4, ML2.9/2, MS2.5/2, Ms1 2.5/2, ms1mx2.2/39, Error ellipse: s-maj=62.2km s-min=17.5km az=42.0*

ATH ***18*** *16:33:36.9, 40.80N×27.86E, h33km±19km, MD3.7/8*

SOF ***18*** *16:33:36.3, 40.83N×27.67E, h8km, MD3.3*

ISCJB ***18*** *16:33:37.5±0.3, 40.84N±0.01×27.73E±0.02, h11km±2km, mb3.5/2, Error ellipse: s-maj=2.5km s-min=2.2km az=4.9*

ISK ***18*** *16:33:37.5, 40.80N×27.76E, h11km, ML3.7*

DDA ***18*** *16:33:38.2, 40.81N×27.76E, h7km, MD3.6*

CSEM ***18*** *16:33:38.2±0.1, 40.81N×27.73E, h10km, ML3.7, Error ellipse: s-maj=1.8km s-min=1.5km az=22.0*

THE ***18*** *16:33:39.7, 40.79N×27.60E, h5km±2km, ML3.9/5, Error ellipse: s-maj=2.2km s-min=1.1km az=72.0*

ISC 18 16:33:37.5±1.0, **40.80N**±0.01×**27.74E**±0.01, **h10**km±9km, **n207, σ1$07/260, 21C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.24**	**320**	PG	**Pb**	**16 33 43.4**	**-0.5**
TKR				*e*SG	**Sb**	**16 33 47.3**	**+1.5**
TKR	**Tekirdag**	**0.24**	**320**	*i* Pg	**Pb**	**16 33 43.4**	**-0.5**
TKR				*e*Sg	**Sb**	**16 33 47.3**	**+1.5**
CRLT	**Corlu**	**0.32**	**359**	*e*PG	**Pb**	**16 33 45.2**	**-0.1**
CRLT				*e*SG	**Sb**	**16 33 50.1**	**-0.5**
CRLT	**Corlu**	**0.32**	**359**	*e*Pg	**Pb**	**16 33 45.2**	**-0.1**
CRLT				*e*Sg	**Sb**	**16 33 50.1**	**-0.5**
MFT	**Murefte**	**0.35**	**267**	*e*PG	**Pb**	**16 33 45.3**	**-0.5**
MFT				*e*SG	**Sb**	**16 33 51.1**	**-0.4**
MFT	**Murefte**	**0.35**	**267**	*e*Pg	**Pb**	**16 33 45.3**	**-0.5**
MFT				*e*Sg	**Sb**	**16 33 51.1**	**-0.4**
SART	**Tekirdag**	**0.44**	**255**	*i* P	**Pb**	**16 33 46.8**	**-0.6**
SART				*i* S	**Sb**	**16 33 54.0**	**-0.1**
SART	**Tekirdag**	**0.44**	**255**	*i* P	**Pb**	**16 33 46.8**	**-0.6**
SART				*i* S	**Sb**	**16 33 54.0**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.45**	**255**	*e*PG	**Pb**	**16 33 46.8**	**-0.6**

IZM	**Izmir**	**2.43**	**189**	*e*Pn	**Pn**	**16 34 18.5**	**+1.2**
RZN	**Rozhen**	**2.45**	**292**	*i* P	**Pg**	**16 34 23.5**	**-0.9**
RZN				*i* S	**Sb**	**16 34 54.0**	**+2.1**
KAVA	**Kavala**	**2.46**	**276**	P	**Pn**	**16 34 18.3**	**+0.8**
KAVA				S	**Sn**	**16 34 47.1**	**-0.4**
KAVA	**Kavala**	**2.46**	**276**	P	**Pn**	**16 34 18.3**	**+0.8**
KAVA				S	**Sn**	**16 34 47.1**	**-0.4**
BLCB	**Balcova**	**2.48**	**193**	*e*PN	**Pn**	**16 34 18.9**	**+1.1**
BLCB	**Balcova**	**2.48**	**193**	*e*Pn	**Pn**	**16 34 18.9**	**+1.1**
ALT	**Altintas**	**2.52**	**133**	*e*PN	**Pn**	**16 34 19.6**	**+1.1**
ALT	**Altintas**	**2.52**	**133**	*e*Pn	**Pn**	**16 34 19.7**	**+1.1**
PLD	**Plovdiv**	**2.63**	**301**	P	**Pn**	**16 34 21.2**	**+1.3**
PLD	**Plovdiv**	**2.63**	**301**	*i* P	**Pb**	**16 34 25.9**	**+1.3**
PLD				*i* S	**Sg**	**16 34 59.9**	**-2.0**
PLD	**Plovdiv**	**2.63**	**301**	P	**Pn**	**16 34 21.2**	**+1.3**
MDUB	**Mudurnu**	**2.65**	**96**	*e*PN	**Pn**	**16 34 21.5**	**+1.2**
MDUB	**Mudurnu**	**2.65**	**96**	*e*Pn	**Pn**	**16 34 21.5**	**+1.2**
ESKT	**Eskisehir**	**2.71**	**117**	*e*PN	**Pn**	**16 34 22.4**	**+1.3**
ESKT	**Eskisehir**	**2.71**	**117**	*e*Pn	**Pn**	**16 34 22.4**	**+1.3**
CHOS	**Chios island**	**2.74**	**209**	P	**Pn**	**16 34 22.2**	**+0.6**
CHOS	**Chios island**	**2.74**	**209**	*e*PN	**Pn**	**16 34 21.5**	**-0.1**
CHOS	**Chios island**	**2.74**	**209**	*e*Pn	**Pn**	**16 34 21.5**	**-0.1**
CHOS	**Chios island**	**2.74**	**209**	P	**Pn**	**16 34 22.2**	**+0.6**
SZH	**Strazhica**	**2.81**	**332**	*i* P	**Pn**	**16 34 22.8**	**+0.5**
SZH				*i* S	**Sb**	**16 35 04.6**	**+2.6**
SZH	**Strazhica**	**2.81**	**332**	*i* P	**Pn**	**16 34 22.8**	**+0.5**
KHL	**Karahalli**	**2.83**	**150**	*e*PN	**Pn**	**16 34 24.6**	**+1.7**
KHL	**Karahalli**	**2.83**	**150**	*e*Pn	**Pn**	**16 34 24.6**	**+1.7**
KDZE	**Karadeniz Ereo**	**2.84**	**78**	*e*PN	**Pn**	**16 34 24.1**	**+1.2**
KDZE	**Karadeniz Ereo**	**2.84**	**78**	*e*Pn	**Pn**	**16 34 24.1**	**+1.2**
PSN	**Preselentsi**	**2.89**	**6**	*i* P	**Pn**	**16 34 23.2**	**-0.4**
PSN	**Preselentsi**	**2.89**	**6**	*i* P	**Pn**	**16 34 23.2**	**-0.4**
OUR	**Ouranopolis**	**2.90**	**262**	P	**Pn**	**16 34 23.6**	**-0.1**
OUR	**Ouranopolis**	**2.90**	**262**	P	**Pn**	**16 34 23.6**	**-0.1**
NVR	**Nevrokopi**	**2.98**	**282**	P	**Pn**	**16 34 25.9**	**+1.1**
NVR	**Nevrokopi**	**2.98**	**282**	*e*PN	**Pn**	**16 34 25.6**	**+0.8**
NVR	**Nevrokopi**	**2.98**	**282**	*e*Pn	**Pn**	**16 34 25.6**	**+0.8**
NVR	**Nevrokopi**	**2.98**	**282**	P	**Pn**	**16 34 25.9**	**+1.1**
PVL	**Pavlikeni**	**3.00**	**324**	*i* P	**Pn**	**16 34 26.0**	**+0.9**
PVL	**Pavlikeni**	**3.00**	**324**	*i* P	**Pn**	**16 34 26.0**	**+0.9**
SHUT	**Suhut-Afyon**	**3.12**	**135**	*e*PN	**Pn**	**16 34 28.3**	**+1.5**
SHUT	**Suhut-Afyon**	**3.12**	**135**	*e*Pn	**Pn**	**16 34 28.3**	**+1.5**
MMB	**Musomiste**	**3.13**	**286**	*i* P	**Pg**	**16 34 36.7**	**-0.7**
MMB				*i* S	**Sg**	**16 35 15.2**	**-2.8**
SRS	**Serrai**	**3.16**	**277**	P	**Pn**	**16 34 27.6**	**+0.4**
SRS	**Serrai**	**3.16**	**277**	P	**Pn**	**16 34 27.6**	**+0.4**
PGB	**Panagyurishte**	**3.20**	**304**	*i* P	**Pg**	**16 34 36.7**	**-2.0**
PGB				*i* S	**Sg**	**16 35 18.6**	**-1.5**
SVRH	**Sivrihisar-ESK**	**3.20**	**114**	*e*PN	**Pn**	**16 34 28.6**	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.20**	**114**	*e*Pn	**Pn**	**16 34 28.6**	**+0.8**
DENT	**Denizli**	**3.21**	**161**	*e*PN	**Pn**	**16 34 29.5**	**+1.6**
DENT	**Denizli**	**3.21**	**161**	*e*Pn	**Pn**	**16 34 29.5**	**+1.6**
PLG	**Polygyros**	**3.30**	**264**	P	**Pn**	**16 34 29.9**	**+0.7**
PLG	**Polygyros**	**3.30**	**264**	*e*PN	**Pn**	**16 34 29.3**	**+0.1**
PLG	**Polygyros**	**3.30**	**264**	*e*Pn	**Pn**	**16 34 29.3**	**+0.1**
PLG	**Polygyros**	**3.30**	**264**	P	**Pn**	**16 34 29.9**	**+0.7**
SOH	**Sokhos**	**3.33**	**272**	*e*PN	**Pn**	**16 34 30.0**	**+0.4**
SOH	**Sokhos**	**3.33**	**272**	*e*Pn	**Pn**	**16 34 30.0**	**+0.4**
ZIMR		**3.35**	**329**⇑	*i*P	**Pn**	**16 34 30.7**	**+0.9**
KKB	**Krupnik**	**3.67**	**288**	*i* P	**Pg**	**16 34 45.2**	**-2.5**
KKB				*i* S	**Sg**	**16 35 33.0**	**-2.1**
ISP	**Isparta**	**3.68**	**143**	*e*PN	**Pn**	**16 34 36.7**	**+2.3**
ISP	**Isparta**	**3.68**	**143**	⇓*i*P	**Pb**	**16 34 42.0**	**-0.5**
ISP	**Isparta**	**3.68**	**143**	S	**Sb**	**16 35 26.5**	**-0.7**
ISP	**Isparta**	**3.68**	**143**	*e*Pn	**Pn**	**16 34 36.7**	**+2.3**
KNT	**Kendrikon**	**3.68**	**277**	P	**Pn**	**16 34 35.3**	**+0.9**
KNT	**Kendrikon**	**3.68**	**277**	P	**Pn**	**16 34 35.3**	**+0.9**
TIRR	**Tirgusor**	**3.69**	**7**⇑	*i*P	**Pn**	**16 34 36.4**	**+2.0**
TIRR	**Tirgusor**	**3.69**	**7**⇑	*i*P	**Pn**	**16 34 36.4**	**+2.0**
TIRR				S	**Sn**	**16 35 15.7**	**-2.1**
KIZT	**Kizilcal**	**3.72**	**120**	*e*PN	**Pn**	**16 34 35.9**	**+0.9**
KIZT	**Kizilcal**	**3.72**	**120**	*e*Pn	**Pn**	**16 34 35.9**	**+0.9**
BODT	**Bodrum**	**3.75**	**185**	*e*PN	**Pn**	**16 34 37.2**	**+1.8**
BODT	**Bodrum**	**3.75**	**185**	*e*Pn	**Pn**	**16 34 37.2**	**+1.8**
SAFT	**Safranbolu**	**3.77**	**82**	*e*PN	**Pn**	**16 34 37.4**	**+1.8**
SAFT	**Safranbolu**	**3.77**	**82**	*e*Pn	**Pn**	**16 34 37.4**	**+1.8**
VTS	**Vitosha**	**3.84**	**299**	P	**Pn**	**16 34 37.0**	**+0.4**
VTS	**Vitosha**	**3.84**	**299**	⇓*i*P	**Pn**	**16 34 37.0**	**+0.4**
VTS	**Vitosha**	**3.84**	**299**	*i* P	**Pn**	**16 34 37.3**	**+0.7**
VTS				*i* S	**Sg**	**16 35 36.8**	**-3.8**
VTS	**Vitosha**	**3.84**	**299**	*e*Pn	**Pn**	**16 34 37.5**	**+0.9**
VTS				S	**Sn**	**16 35 19.8**	**-2.0**
MPEP	**Malo Peshtene**	**3.92**	**312**	*i* P	**Pn**	**16 34 38.6**	**+0.9**
MPEP				*i* S	**Sg**	**16 35 42.1**	**-1.2**
VAY	**Valandovo**	**3.94**	**279**	*i* P	**Pg**	**16 34 52.5**	**-0.5**
VAY				*i* S	**Sg**	**16 35 42.5**	**-1.6**
APE	**Apeiranthos**	**4.11**	**206**	*e*PN	**Pn**	**16 34 40.6**	**+0.3**
APE	**Apeiranthos**	**4.11**	**206**⇑	*i*P	**Pn**	**16 34 40.9**	**+0.6**
APE	**Apeiranthos**	**4.11**	**206**	*e*Pn	**Pn**	**16 34 40.6**	**+0.3**
APE	**Apeiranthos**	**4.11**	**206**⇑	*i*P	**Pn**	**16 34 40.9**	**+0.6**
CFR	**Carcaliu**	**4.38**	**4**⇓	*i*P	**Pn**	**16 34 45.0**	**+1.0**
CFR	**Carcaliu**	**4.38**	**4**⇓	*i*P	**Pn**	**16 34 45.0**	**+1.0**
CFR				S	**Sn**	**16 35 34.8**	**-0.2**
ISR	**Istrita**	**4.40**	**349**⇑	*i*P	**Pn**	**16 34 45.7**	**+1.4**
ISR	**Istrita**	**4.40**	**349**⇑	*i*P	**Pn**	**16 34 45.7**	**+1.4**
TLCR		**4.45**	**10**⇓	*i*P	**Pn**	**16 34 46.9**	**+2.0**
TLCR		**4.45**	**10**⇓	*i*P	**Pn**	**16 34 46.9**	**+2.0**
BRTR	**Keskin Array B**	**4.64**	**102**	Pn	**Pn**	**16 34 48.5**	**+0.9**
	0.3nm,0.3s,baz=274,slow=14,SNR=14						
BRTR				Sn	**Sn**	**16 35 40.5**	**-1.1**
	0.7nm,0.3s,baz=280,slow=25,SNR=4.9						
BRTR				Lg	Lg	16 36 10.9	
	0.1nm,0.3s,baz=292,slow=25,SNR=2.5						
BARS	**Barje**	**4.86**	**296**	*e*Pn	**Pn**	**16 34 52.0**	**+1.4**
BARS				*e*Sg	**Sg**	**16 36 13.2**	**-0.4**
MLR	**Muntele Rosu**	**4.87**	**345**	Pn	**Pn**	**16 34 51.6**	**+0.8**
	0.4nm,0.3s,baz=204,slow=14,SNR=9.7						
MLR				Lg	Lg	16 36 15.4	
	0.5nm,0.3s,baz=195,slow=20,SNR=8.6						
MLR	**Muntele Rosu**	**4.87**	**345**⇑	*i*P	**Pn**	**16 34 52.1**	**+1.3**
MLR	**Muntele Rosu**	**4.87**	**345**⇑	*i*P	**Pn**	**16 34 52.1**	**+1.3**
VOIR		**5.03**	**338**⇑	*i*P	**Pn**	**16 34 54.2**	**+1.2**
VOIR		**5.03**	**338**⇑	*i*P	**Pn**	**16 34 54.2**	**+1.2**
VRI	**Vrincioaia**	**5.11**	**352**⇑	*i*P	**Pn**	**16 34 56.1**	**+2.0**
VRI	**Vrincioaia**	**5.11**	**352**⇑	*i*P	**Pn**	**16 34 56.1**	**+2.0**
DOPR	**Dopca**	**5.44**	**342**⇑	*i*P	**Pn**	**16 34 59.5**	**+1.0**
DOPR	**Dopca**	**5.44**	**342**⇑	*i*P	**Pn**	**16 34 59.5**	**+1.0**
LOT	**Lotru**	**5.48**	**329**⇑	*i*P	**Pn**	**16 34 59.9**	**+0.8**
LOT	**Lotru**	**5.48**	**329**⇑	*i*P	**Pn**	**16 34 59.9**	**+0.8**
GRUS	**Gruza**	**6.05**	**303**	*e*Pn	**Pn**	**16 35 07.0**	**+0.1**
BZS	**Buzias**	**6.57**	**319**⇑	*i*P	**Pn**	**16 35 14.3**	**+0.3**
BZS	**Buzias**	**6.57**	**319**	*e*Pn	**Pn**	**16 35 13.1**	**-0.9**
BZS	**Buzias**	**6.57**	**319**⇑	*i*P	**Pn**	**16 35 14.3**	**+0.3**
DIVS	**Divibare**	**6.61**	**302**	*e*Pn	**Pn**	**16 35 14.1**	**-0.6**
BURAR	**Bucovina Array**	**7.05**	**346**⇑	*i*P	**Pn**	**16 35 22.7**	**+2.0**
BURAR	**Bucovina Array**	**7.05**	**346**⇑	*i*P	**Pn**	**16 35 22.7**	**+2.0**
ASF	**Jabal al Asfar**	**11.33**	**137**	LR	LR	16 41 16.9	
	comp=Z,27nm,18.8s,baz=252,slow=41						
VRAC	**Vranov**	**11.58**	**321**	LR	LR	16 40 02.9	
	comp=Z,21nm,18.7s,baz=58,slow=34						
MKAR	**Makanchi Array**	**39.15**	**62**	P	**P**	**16 41 06.6**	**+1.5**
	0.5nm,0.5s,baz=282,slow=7.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**39.74**	**51**	P	**P**	**16 41 10.9**	**+1.1**
	0.5nm,0.4s,baz=286,slow=10,SNR=2.5						

CSEM ***18*** *16:41:53.3,58.82N×15.14E,h0km,ML1.2,Mining explosion. After UPP*

UPP 18 16:41:53.3,58.82N×15.14E,h0km,ML1.2,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNKU	**Linkoeping**	**0.63**	**162**	P	Pg	16 42 05.3	-0.1
NRAU	**Nora**	**0.75**	**356**	P	Pg	16 42 07.5	-0.2
ESKU	**Eskilstuna**	**0.77**	**57**	P	Pg	16 42 07.8	-0.2
VIKU	**Vikbolandet**	**0.88**	**111**	P	Pg	16 42 09.4	-0.7
NASU	**Vaermlandsnaes**	**1.02**	**277**	P	Pg	16 42 12.1	-0.7
BACU	**Backbrunna**	**1.45**	**43**	P	Pn	16 42 20.1	-0.6
FALU	**Falun**	**1.71**	**12**	S	Sg	16 42 48.3	0.0
FLYU	**Flymyra**	**1.92**	**46**	P	Pb	16 42 28.3	-0.8

WAR ***18*** *16:54:28.9,51.54N×16.00E*

ISCJB ***18*** *16:54:28.6±0.6,51.43N±0.03×16.09E±0.03,h0km, Error ellipse: s-maj=4.4km s-min=2.9km az=18.9*

IPEC ***18*** *16:54:28.9±0.3,51.51N×16.21E,h0km,ML2.0/3, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*

CSEM ***18*** *16:54:29.8±0.3,51.44N×16.06E,h2km,ML3.1/9, Error ellipse: s-maj=4.5km s-min=4.0km az=177.0*

PRU ***18*** *16:54:30.9,51.42N×16.09E,h0km*

VIE ***18*** *16:54:32.1±0.4,51.25N×16.08E,h0km,mb2.3/3,ML2.6/4, Error ellipse: s-maj=2.9km s-min=2.5km az=24.0 67 km WNW of Wroclaw Suspected Mining induced.*

ISC 18 16:54:29.3±0.9,51.48N±0.03×16.04E±0.02,h0km,n45, σ1§19/77,7C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**166**	*e*Pg	**Pg**	**16 54 43.3**	**+0.4**
KSP				*e*Sg	**Sg**	**16 54 50.9**	**+0.6**
KSP	**Ksiaz**	**0.66**	**166**	*e*Pg	**Pg**	**16 54 42.1**	**+0.3**
	baz=356						
KSP				*e*Sg	**Sg**	**16 54 49.8**	**-0.5**
	baz=356						
KSP	**Ksiaz**	**0.66**	**166**	*e*Pg	**Pg**	**16 54 42.2**	**+0.4**
KSP				*e*Sg	**Sg**	**16 54 50.9**	**+0.6**
UPC	**Upice**	**0.97**	**181**	*e*PG	**Pb**	**16 54 48.4**	**-0.6**
UPC				*e*SG	**Sg**	**16 55 00.1**	**-0.4**
	comp=Z,33nm,0.4s						
UPC	**Upice**	**0.97**	**181**	Pg	**Pb**	**16 54 48.4**	**-0.6**
UPC				Sg	**Sg**	**16 55 00.1**	**-0.4**
	33nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG	**Pn**	**16 54 51.1**	**-1.5**
DPC				*e*SG	**Sn**	**16 55 05.4**	**-3.6**
	comp=Z,23nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**171**	Pg	**Pn**	**16 54 51.1**	**-1.5**
DPC				*e*Sg	**Sn**	**16 55 05.3**	**-3.7**
	baz=357						
PVCC	**Panska Ves**	**1.33**	**225**	*e*PG	**Pb**	**16 54 55.5**	**+0.5**
PVCC				*e*SG	**Sn**	**16 55 13.1**	**-0.3**
	comp=Z,84nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**225**	Pg	**Pb**	**16 54 55.5**	**+0.5**
PVCC	**Panska Ves**	**1.33**	**225**	*e*Pn	**Pb**	**16 54 56.0**	**+1.0**
	baz=46						
PVCC				Sg	**Sn**	**16 55 13.1**	**-0.3**
	84nm,0.2s						
BRG	**Berggiesshubel**	**1.45**	**246**	PN	**Pb**	**16 54 56.8**	**-0.3**
BRG				PG	**Pg**	**16 54 58.1**	**+1.1**
BRG				SG	**Sn**	**16 55 18.1**	**+1.7**
	48nm,0.3s						
KRLC	**Kraliky**	**1.48**	**161**	*e*PG	**Pb**	**16 54 57.3**	**-0.4**
KRLC				*e*SG	**Sn**	**16 55 15.9**	**-1.4**
KRLC	**Kraliky**	**1.48**	**161**	Pg	**Pb**	**16 54 57.3**	**-0.4**
KRLC				Sg	**Sn**	**16 55 15.9**	**-1.4**
PRU	**Pruhonice**	**1.77**	**213**	*e*PG	**Pg**	**16 55 02.8**	**-0.3**
PRU				*e*SG	**Sg**	**16 55 26.1**	**+0.1**
	comp=Z,13nm,0.4s						
PRU	**Pruhonice**	**1.77**	**213**	Pg	**Pg**	**16 55 02.8**	**-0.3**
PRU				Sg	**Sg**	**16 55 26.1**	**+0.1**
	13nm,0.4s						
CLL	**Collm**	**1.91**	**266**	*e*Pn	**Pb**	**16 55 03.0**	**-1.9**
CLL				*e*Pg	**Pg**	**16 55 06.0**	**+0.2**
CLL				*i*		16 55 09.0	
CLL				*i* Sg	**Sg**	**16 55 32.6**	**+2.1**
	comp=Z,14nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**150**	⇓*i*P	**Pn**	**16 55 03.0**	**-0.7**
MORC	**Moravsky Berou**	**1.96**	**150**	⇓*i*P	**Pn**	**16 55 03.0**	**-0.7**
MORC				*e*Sg	**Sn**	**16 55 29.4**	**+0.4**
	comp=Z,13nm,0.3s,baz=334						
MORC				S	**Sb**	**16 55 30.9**	**+0.2**
VRAC	**Vranov**	**2.20**	**170**⇑	*i*P	**Pn**	**16 55 08.1**	**+1.0**
VRAC	**Vranov**	**2.20**	**170**	S	**Sg**	**16 55 39.6**	**-0.4**
VRAC	**Vranov**	**2.20**	**170**	*e*Pn	**Pn**	**16 55 07.1**	**0.0**
	baz=354						
VRAC	**Vranov**	**2.20**	**170**⇑	*i*P	**Pn**	**16 55 08.1**	**+1.0**
VRAC				*e*Sg	**Sb**	**16 55 38.6**	**+0.8**
	comp=Z,11nm,0.3s,baz=354						
KRUC	**Moravsky**	**2.43**	**174**	*e*Pn	**Pn**	**16 55 10.4**	**+0.2**
	baz=357						
KRUC	**Moravsky**	**2.43**	**174**	*e*Pg	**Pb**	**16 55 13.4**	**-0.4**
	baz=357						
KRUC				*e*Sg	**Sb**	**16 55 45.9**	**+1.6**
	comp=Z,6.0nm,0.3s,baz=357						
OJC	**Ojcow**	**2.70**	**116**	*e*Pg	**Pg**	**16 55 21.7**	**+0.8**
OJC				*e*Sg	**Sg**	**16 55 55.7**	**-0.2**
OJC	**Ojcow**	**2.70**	**116**	*e*Pg	**Pg**	**16 55 21.7**	**+0.8**
OJC				*e*Sg	**Sg**	**16 55 55.7**	**-0.2**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	**Pn**	**16 55 16.6**	**+0.9**
KHC				*e*PG	**Pg**	**16 55 21.9**	**-1.6**
KHC				*e*SN	**Sn**	**16 55 50.9**	**+0.4**
KHC				*e*SG	**Sg**	**16 55 59.8**	**-0.3**
	comp=Z,6.8nm,0.4s						
KHC	**Kasperske Hory**	**2.83**	**215**	Pn	**Pn**	**16 55 16.6**	**+0.9**
VYHS	**Vyhne**	**3.49**	**148**	*e*SG	**Sg**	**16 56 22.7**	**+1.3**
VYHS	**Vyhne**	**3.49**	**148**	*e*Sg	**Sg**	**16 56 22.7**	**+1.3**
CONA	**Conrad Observa**	**3.56**	**182**	⇑*i*Pn	**Pn**	**16 55 25.6**	**-0.2**
CONA				⇓*i*Sg	**Sg**	**16 56 21.5**	**-2.0**
	comp=Z,4.7nm,0.3s						
CONA	**Conrad Observa**	**3.56**	**182**	Pn	**Pn**	**16 55 25.6**	**-0.2**
CONA				Sg	**Sg**	**16 56 21.5**	**-2.0**
	comp=Z,4.7nm,0.3s						
BSD	**Bornholm Skovb**	**3.70**	**350**⇑	*i*P	**Pn**	**16 55 27.4**	**-0.3**
BSD				*i* S	**Sn**	**16 56 10.0**	**-2.0**
BSD	**Bornholm Skovb**	**3.70**	**350**⇑	*i*P	**Pn**	**16 55 27.4**	**-0.3**
BSD				*i* S	**Sn**	**16 56 10.0**	**-2.0**
MOA	**Molln**	**3.81**	**198**⇑	*i*Pn	**Pn**	**16 55 29.7**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**16 56 31.3**	**-0.3**
	comp=Z,9.4nm,0.5s						
MOA	**Molln**	**3.81**	**198**	Pn	**Pn**	**16 55 29.7**	**+0.5**
MOA				Sg	**Sg**	**16 56 31.3**	**-0.3**
	comp=Z,9.4nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.34**	**124**	*e*SN	**Sn**	**16 56 27.1**	**-0.5**
CRVS	**Cervenica-Dubn**	**4.34**	**124**	*e*Sn	**Sn**	**16 56 27.1**	**-0.5**
PSZ	**Piszkesteto**	**4.36**	**143**	S	**Sn**	**16 56 31.0**	**+2.8**
PSZ	**Piszkesteto**	**4.36**	**143**	S	**Sn**	**16 56 31.0**	**+2.8**
KOLS	**Kolonicke sedl**	**4.75**	**120**	*e*PN	**Pn**	**16 55 41.9**	**-0.2**
KOLS	**Kolonicke sedl**	**4.75**	**120**	*e*Pn	**Pn**	**16 55 41.9**	**-0.2**
TRPA	**Tarpa**	**5.38**	**126**	S	**Sn**	**16 56 53.6**	**+0.3**
TRPA	**Tarpa**	**5.38**	**126**	S	**Sn**	**16 56 53.6**	**+0.3**
BZS	**Buzias**	**6.94**	**146**	S	**Sn**	**16 57 33.9**	**+2.3**

IDC 18 17:08:29.4±4.7,11.43S×69.14W,h0km,mb4.1/1, mb1 3.9/2,mb1mx3.5/20,mbtmp3.8/2,ML3.3/1,Error ellipse: s-maj=142.8km s-min=44.0km az=99.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.93**	**169**	Pn	Pn	17 09 45.4	-0.3
	0.8nm,0.3s,baz=196,slow=4.5,SNR=22						
LPAZ				Sn	Sn	17 10 40.6	-3.4
	baz=327,slow=6.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**74.39**	**73**	P	P	17 20 09.9	0.0
	1.0nm,0.5s,baz=256,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**137.28**	**29**	PKP	PKPdf	17 27 54.6	-0.4
	0.3nm,0.4s,baz=344,slow=3.0,SNR=7.4						

MOS ***18*** *17:08:33.5±0.9,0.18N×123.26E,h33km,mb5.3/39, Error ellipse: s-maj=12.2km s-min=5.8km az=110.0*

ISCJB ***18*** *17:08:47.1±0.3,0.05N±0.02×123.57E±0.03,h158km±3km, mb4.7/103, Error ellipse: s-maj=4.3km s-min=3.3km az=157.1*

IDC ***18*** *17:08:47.5±0.7,0.05N×123.42E,h144km±6km,mb4.4/32, mb1 4.5/34,mb1mx4.5/36,mbtmp4.5/34,MS3.7/9, Ms1 3.7/9,ms1mx3.1/47,Error ellipse: s-maj=10.7km s-min=5.8km az=77.0*

AUST ***18*** *17:08:47.5±0.2,0.01N×123.50E,h143km, Error ellipse: s-maj=0.7km s-min=0.6km az=226.0*

GCMT ***18*** *17:08:47.4±0.2,0.10N×123.62E,h136km±2km,MW4.9, Moment Tensor Solution. s33,c45; s76,c111; Moment tensor: Scale 10¹⁶Nm; Mrr2.75±.10; Mθθ-2.14±.14; Mφφ-0.62±.18; Mrθ0.95±.09; Mrφ-1.75±.10; Mθφ0.06±.13; Best double couple: Mo3.20000×10¹⁶ NP1:φ225.00000°, δ38.00000°, λ73.00000° NP2:φ67.00000°, δ54.00000°, λ103.00000°. Principal axes: T 2.9500, Plg77.0000°, Azm22.0000°; N 0.4400, Plg11.0000°, Azm239.0000°; P -3.4000, Plg8.0000°, Azm148.0000°; Data Used: II IC G IU CN.*

DJA ***18*** *17:08:48.7±0.2,0°N±2°×12°4E±°, h99km±7km, M5.1/25, mB5.5/18, mb5.2/25, MLv5.5/17, Mw(mB)5.0/18*

NEIC ***18*** *17:08:49.4±0.8,0.05N×123.43E,h163km±7km,mb4.8/42, Error ellipse: s-maj=7.1km s-min=4.5km az=71.0*

ISC 18 17:08:47.3±0.5,0.01N±0.03×123.53E±0.04,h141km±4km, n368,σ1§50/422,mb4.8/102,13C-10D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.72**	**39**	P	**Pn**	**17 09 08.1**	**-1.0**
LUWI	**Luwuk**	**1.29**	**216**	P	**Pn**	**17 09 13.2**	**-0.8**
LUWI				S	**Sn**	**17 09 32.9**	**-1.5**
MRSI	**Marisa**	**1.66**	**286**	P	**Pn**	**17 09 16.8**	**-1.2**
MNI	**Manado**	**1.94**	**43**	P	**Pn**	**17 09 21.3**	**+0.1**
TNTI	**Ternate**	**3.91**	**79**	P	**Pn**	**17 09 44.9**	**-1.3**
TNTI				S	Sn	17 10 25.3	-6.6
LBMI	**Labuha**	**4.02**	**99**	P	**Pn**	**17 09 45.9**	**-1.8**
LBMI				S	**Sn**	**17 10 30.2**	**-4.3**
KDI	**Kendari**	**4.04**	**193**	P	**Pn**	**17 09 47.2**	**-0.8**
TTSI	**Tana Toraja**	**4.79**	**231**	P	**Pn**	**17 09 58.8**	**+0.9**
SPSI	**Sidrap Palu**	**5.45**	**224**	P	**Pn**	**17 10 07.4**	**+0.8**
	354nm,0.8s,8μm3.4nm						
BBSI	**Bau Bau**	**5.54**	**190**	P	Pn	17 10 14.7	+6.8
	501nm,1.0s,7μm2.5nm						
AAI	**Ambon**	**5.93**	**128**	P	**Pn**	**17 10 13.7**	**+0.6**
	baz=6.0,SNR=53						
AAI	**Ambon**	**5.93**	**128**	P	**Pn**	**17 10 13.1**	**0.0**
	1μm,1.1s,10μm3.2nm						
KAPI	**Kappang**	**6.25**	**217**	P	**Pn**	**17 10 17.0**	**-0.4**
	8.2nm,0.3s,baz=46,slow=6.8,SNR=25						
KAPI				S	**Sn**	**17 11 27.1**	**-0.8**
	32nm,0.3s,baz=100,slow=22,SNR=9.1						
KAPI				LR	LR	17 13 11.3	
	comp=Z,730nm,18.7s,baz=50,slow=42						
KAPI	**Kappang**	**6.25**	**217**	P	**Pn**	**17 10 17.0**	**-0.4**
KAPI				S	**Sn**	**17 11 27.1**	**-0.8**
KAPI	**Kappang**	**6.25**	**217**	P	**Pn**	**17 10 17.5**	**+0.1**
	305nm,0.9s,3μm1.4nm						
BKSI	**Bulukumba**	**6.29**	**213**	P	**Pn**	**17 10 18.5**	**+0.6**
	150nm,0.7s,3μm1.2nm						
SMKI	**Samarinda**	**6.34**	**266**	P	**Pn**	**17 10 19.4**	**+0.9**
	420nm,0.9s,2.3nm						
MSAI	**Masohi**	**6.34**	**122**	P	**Pn**	**17 10 18.9**	**+0.3**
	181nm,1.0s,2μm0.7nm						
TSM	**Tawau**	**7.08**	**307**	P	**Pn**	**17 10 28.1**	**-0.3**
MYLDM	**Lahad Datu**	**7.19**	**316**	P	**Pn**	**17 10 32.0**	**+2.1**
MYLDM	**Lahad Datu**	**7.19**	**316**	P	**Pn**	**17 10 31.4**	**+1.5**
	2μm,0.9s,21μm8.1nm						
DAV	**Davao City (W)**	**7.31**	**16**	P	**Pn**	**17 10 34.5**	**+3.0**
	66nm,0.3s,baz=103,slow=4.5,SNR=21						
DAV	**Davao City (W)**	**7.31**	**16**	P	**Pn**	**17 10 34.5**	**+3.0**
DAV	**Davao City (W)**	**7.31**	**16**	P	Pn	17 10 36.5	+4.9
	673nm,1.5s,10μm2.4nm						
MATI	**Mati**	**7.41**	**21**	*e*P	**Pn**	**17 10 34.3**	**+1.3**
SWI	**Sorong**	**7.78**	**96**	P	**Pn**	**17 10 37.7**	**-0.1**
	baz=7.8,SNR=25						
SWI	**Sorong**	**7.78**	**96**	P	**Pn**	**17 10 37.1**

QIZ Qiongzhong 23.19 325 P **P** **17 13 42.8 +1.0**
QIZ S **S** **17 17 45.4 +2.5**
QIZ pmax pmax
comp=Z,71nm,1.0s
QIZ Qiongzhong 23.19 325 *eP* **P** **17 13 41.8 0.0**
comp=Z,91nm,1.1s
YULB Yu-li 23.35 355 *eP* **P** **17 13 42.1 -1.0**
comp=Z,40nm,1.1s
KULM Kulim 23.44 283 *eP* **P** **17 13 43.8 -0.4**
comp=Z,43nm,1.1s
KULM Kulim 23.44 283 P **P** **17 13 44.7 +0.6**
COEN Coen 23.89 126 *eP* **P** **17 13 48.6 +0.3**
comp=Z,184nm,0.8s
COEN Coen 23.89 126 P **P** **17 13 48.9 +0.7**
baz=24,SNR=44
COEN S **S** **17 17 59.3 +5.0**
baz=24,SNR=7.3
PSI Prapat 24.75 277 P **P** **17 13 55.5 -0.7**
comp=Z,13nm,0.8s,baz=27,slow=2.3,SNR=9.1
PSI Prapat 24.75 277 P **P** **17 13 55.5 -0.7**
PSI Prapat 24.75 277 P **P** **17 13 56.6 +0.3**
baz=25,SNR=7.6
PMG Port Moresby 25.31 112 P **P** **17 14 03.7 +2.6**
comp=Z,9.6nm,0.7s,baz=306,slow=4.2,SNR=5.0
PMG Port Moresby 25.31 112 P **P** **17 14 03.7 +2.6**
AS31 Alice Springs 25.60 158 *eP* **P** **17 14 03.9 +0.3**
ASAR Alice Springs 25.60 158 P **P** **17 14 04.1 +0.5**
comp=Z,4.8nm,0.5s,baz=343,slow=12,SNR=117
ASAR PcP **PcP** **17 17 31.6 +0.5**
comp=Z,7.3nm,0.4s,baz=348,slow=2.3,SNR=19
ASAR S **S** **17 18 20.9 -0.5**
comp=Z,9.0nm,0.9s,baz=348,slow=17,SNR=7.0
ASAR ScP **ScP** **17 20 57.2 -0.3**
comp=Z,3.1nm,0.7s,baz=347,slow=2.9,SNR=6.7
ASAR Alice Springs 25.60 158 P **P** **17 14 04.1 +0.5**
ASAR PcP **PcP** **17 17 31.6 +0.5**
ASAR S **S** **17 18 20.9 -0.5**
ASAR ScP **ScP** **17 20 57.2 -0.3**
QIS Mount Isa 25.79 143 P **P** **17 14 06.5 +1.1**
baz=26,SNR=93
QIS S **S** **17 18 23.1 -1.3**
baz=26,SNR=6.1
GSI Gunungsitoli 25.98 273 P **P** **17 14 06.2 -1.0**
baz=26,SNR=3.8
MEEK Meekatharra 26.91 190 P **P** **17 14 15.4 0.0**
baz=27,SNR=14
MORW Morawa 29.78 193 P **P** **17 14 41.1 +0.3**
baz=30,SNR=5.6
CTA Charters Tower 29.90 133 LR LR 17 26 13.8
comp=Z,96nm,19.2s,baz=80,slow=35
CMAR Chiang Mai Arr 30.33 309 P **P** **17 14 46.2 +0.4**
comp=Z,15nm,0.8s,baz=133,slow=6.8,SNR=103
CMAR PcP **PcP** **17 17 43.3 +0.5**
comp=Z,3.7nm,0.9s,baz=167,slow=1.9,SNR=6.3
CMAR ScP **ScP** **17 21 12.8 +0.7**
comp=Z,1.3nm,1.0s,baz=132,slow=1.4,SNR=5.1
CMAR LR LR 17 28 03.9
comp=Z,78nm,19.9s,baz=125,slow=38
CMAR Chiang Mai Arr 30.33 309 P **P** **17 14 46.2 +0.4**
CMAR PcP **PcP** **17 17 43.3 +0.5**
CMAR ScP **ScP** **17 21 12.8 +0.7**
CHTO Chiang Mai 30.53 309 *eP* **P** **17 14 47.4 -0.1**
CHTO pmax pmax
comp=Z,36nm,0.9s
CHTO Chiang Mai 30.53 309 *eP* **P** **17 14 47.4 -0.1**
comp=Z,36nm,0.9s
GYA Guiyang 30.91 330⇑ *iP* **P** **17 14 52.3 +1.3**
GYA pmax pmax
comp=Z,30nm,0.9s
FORT Forrest 30.92 172 *eP* **P** **17 14 50.9 +0.1**
comp=Z,96nm,0.6s
FORT Forrest 30.92 172 P **P** **17 14 51.3 +0.5**
baz=31,SNR=31
BLDU Ballidu 31.14 191 P **P** **17 14 52.8 +0.1**
baz=31,SNR=18
KMBL Kambalda 31.24 183 P **P** **17 14 54.0 +0.3**
baz=31,SNR=9.5
KMBL S **S** **17 19 48.0 -1.8**
baz=31,SNR=5.5
WHN Wuhan 31.60 345 P **P** **17 14 58.8 +2.0**
KLBR Kellerberrin 31.90 189 P **P** **17 14 59.6 +0.2**
baz=32,SNR=12
KMI Kunming 32.06 323 P **P** **17 15 03.4 +2.2**
KMI S **S** **17 20 07.3 +4.2**
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI pmax pmax
comp=Z,55nm,4.1s
KMI LR LR
comp=N,83nm,11.8s
KMI LR LR
comp=E,110nm,14.8s
KMI LR LR
comp=Z,140nm,18.8s
CBIJ Chichi jima 32.36 32 P **P** **17 15 02.6 -0.9**
comp=Z,186nm,0.4s,baz=123,slow=5.5,SNR=34
CBIJ Chichi jima 32.36 32 P **P** **17 15 02.6 -0.9**
ENH Enshi 32.93 337 *eP* **P** **17 15 09.0 +0.5**
comp=Z,61nm,0.9s
QLP Quilpie 33.11 145 P **P** **17 15 11.7 +1.6**
baz=33,SNR=12
NWAO Narrogin (SRO) 33.29 190 P **P** **17 15 11.6 +0.1**
comp=Z,5.8nm,0.5s,baz=322,slow=7.8,SNR=7.2
NWAO Narrogin (SRO) 33.29 190 P **P** **17 15 11.6 +0.1**
JNU Nakatsue 33.66 11 P **P** **17 15 13.7 -1.1**
comp=Z,3.2nm,0.7s,baz=39,slow=17,SNR=3.7
JNU Nakatsue 33.66 11 P **P** **17 15 13.7 -1.1**
BBOO Buckleboo 34.71 161 *eP* **P** **17 15 24.2 +0.4**
comp=Z,337nm,1.0s
BBOO Buckleboo 34.71 161 P **P** **17 15 24.5 +0.7**
baz=35,SNR=12
RKGY Rocky Gully 34.98 189 P **P** **17 15 28.0 +1.9**
baz=35,SNR=7.8
STKA Stephens Creek 36.02 153 P **P** **17 15 36.0 +1.0**
comp=Z,31nm,0.8s,baz=328,slow=7.7,SNR=91
STKA PcP **PcP** **17 17 58.5 -0.1**
comp=Z,6.9nm,0.5s,baz=355,slow=9.3,SNR=5.3
STKA LR LR 17 31 19.0
comp=Z,106nm,20.6s,baz=26,slow=37
STKA Stephens Creek 36.02 153 P **P** **17 15 36.0 +1.0**
STKA PcP **PcP** **17 17 58.5 -0.1**
STKA Stephens Creek 36.02 153 P **P** **17 15 36.1 +1.0**
baz=36,SNR=82
XAN Xi'an 36.52 339 P **P** **17 15 39.3 0.0**
XAN S **S** **17 21 15.3 +4.1**
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN LR LR
comp=N,100nm,12.6s
XAN LR LR
comp=E,46nm,14.7s
XAN LR LR
comp=Z,49nm,14.0s
HNR Honiara 37.44 106 P **P** **17 15 47.3 0.0**
comp=Z,34nm,0.5s,baz=236,slow=16,SNR=4.2
HNR Honiara 37.44 106 P **P** **17 15 47.4 0.0**
KSAR Wonju Array Be 37.47 6 P **P** **17 15 46.8 -0.4**
KSAR PcP **PcP** **17 18 02.4 -0.3**
KSRS Korea Array 37.48 6 P **P** **17 15 46.8 -0.5**
comp=Z,4.8nm,0.8s,baz=180,slow=9.6,SNR=10
KSRS PcP **PcP** **17 18 02.4 -0.3**
comp=Z,2.8nm,0.8s,baz=185,slow=2.5,SNR=5.5
CMSA Cobar Meteorol 37.75 148 P **P** **17 15 51.5 +1.8**
baz=38,SNR=57
MAJO Matsushiro 38.82 19 *eP* **P** **17 15 56.7 -1.8**
MAJO pmax pmax
comp=Z,12nm,0.6s
MAJO Matsushiro 38.82 19 *eP* **P** **17 15 56.7 -1.8**
comp=Z,12nm,0.6s
MAT Matsushiro 38.82 19 P **P** **17 15 56.7 -1.9**
MJAR Matsushiro Arr 38.82 19 P **P** **17 15 57.0 -1.6**
comp=Z,20nm,0.7s,baz=194,slow=9.8,SNR=79
MJAR PcP **PcP** **17 18 06.6 -0.4**
comp=Z,4.8nm,1.1s,baz=208,slow=2.3,SNR=4.7
MJAR Matsushiro Arr 38.82 19 P **P** **17 15 57.0 -1.6**
MJAR PcP **PcP** **17 18 06.6 -0.4**
SHL Shillong 39.74 312 *eP* **P** **17 16 08.0 +1.4**
LZH Lanzhou 40.30 335⇓ P **P** **17 16 12.8 +1.8**
LZH pmax pmax
comp=Z,73nm,1.2s
LZH pmax pmax
comp=Z,160nm,7.6s
LZH LR LR
comp=N,100nm,11.2s
LZH LR LR
comp=E,360nm,14.3s
LZH LR LR
comp=Z,160nm,13.4s
ARPS Mount Arapiles 40.34 157 P **P** **17 16 12.8 +1.7**
baz=40,SNR=10.0
ARMA Armidale 40.36 141 *eP* **P** **17 16 13.9 +2.3**
comp=Z,8.9nm,0.6s
ARMA Armidale 40.36 141 P **P** **17 16 14.0 +2.5**
baz=40,SNR=16
YNG Young 41.32 148 P **P** **17 16 21.6 +2.4**
baz=42,SNR=25
CAN Canberra 42.42 149 *eP* **P** **17 16 30.3 +2.1**
CAN pmax pmax
comp=Z,26nm,0.6s
CAN Canberra 42.42 149 *eP* **P** **17 16 30.3 +2.1**
comp=Z,26nm,0.6s
TOO Toolangi 42.54 154 P **P** **17 16 31.4 +2.4**
baz=43,SNR=8.5
CNB Canberra Magne 42.61 148 P **P** **17 16 32.5 +2.7**
baz=43,SNR=11
LSA Lhasa 42.71 317 P **P** **17 16 31.8 +0.7**
LSA Lhasa 42.71 317 *eP* **P** **17 16 32.0 +0.9**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.71 317 *eP* **P** **17 16 32.0 +0.9**
comp=Z,13nm,0.6s
TAPN Taplejung 43.84 311 *eP* **P** **17 16 40.2 +0.2**
comp=Z,47nm,0.8s
RAMN Ramite 44.47 310 *eP* **P** **17 16 45.9 +0.9**
comp=Z,97nm,0.6s
USRK Ussuriysk Arra 44.64 9 P **P** **17 16 45.3 -0.4**
comp=Z,12nm,0.7s,baz=191,slow=6.8,SNR=23
GTA Gaotai 44.82 334 *eP* **P** **17 16 48.3 +0.9**
GTA PcP **PcP** **17 18 27.4 +0.5**
GTA pmax pmax
comp=Z,40nm,1.1s
JIRN Jiri 45.15 311 *eP* **P** **17 16 50.8 +0.3**
comp=Z,9.6nm,0.5s
GUN Gumba 45.51 311 *eP* **P** **17 16 52.9 -0.5**
comp=Z,91nm,0.7s
PKI Pulchoki 45.70 310 *eP* **P** **17 16 54.8 0.0**
PKIN Phulchoki 45.71 310 *eP* **P** **17 16 54.9 +0.1**
comp=Z,15nm,0.6s
KKN Kakani 45.91 310 *eP* **P** **17 16 56.4 +0.1**
DMN Daman 45.95 310 *eP* **P** **17 16 56.9 +0.2**
comp=Z,118nm,1.1s
GKN Gorkha 46.51 310 *eP* **P** **17 17 00.9 0.0**
comp=Z,100nm,0.9s
KOLN Koldanda 47.19 309 *eP* **P** **17 17 06.1 -0.2**
comp=Z,105nm,0.7s
DANN Dangsing 47.35 310 *eP* **P** **17 17 06.9 -0.7**
comp=Z,150nm,0.8s
HYB Hyderabad 47.52 294 *iP* **P** **17 17 08.0 -0.7**
PYUN Piuthan 47.82 309 *eP* **P** **17 17 11.0 -0.2**
comp=Z,336nm,0.9s
YUK Yuzh-Kuril'sk 48.15 22 *iP* P 17 17 08.7 -4.4
YUK *iPPP* PPP 17 19 54.4
YUK *iS* **S** **17 24 04.7 +3.5**
YUK *iSS* SS 17 27 23.5 -8.9
YUK *iSSS* SSS 17 28 52.7
YUK pmax pmax
comp=E,381nm,1.3s
YUK pmax pmax
comp=Z,497nm,1.5s
YUK pmax pmax
comp=N,236nm,1.5s
YUK pmax pmax
comp=Z,640nm,1.5s
YUK MLR MLR
comp=E,100nm,22.0s
YUK MLR MLR
comp=Z,124nm,24.0s
YUK MLR MLR
comp=N,160nm,24.0s
HIA Hailar 49.18 357 *eP* **P** **17 17 19.9 -1.1**
comp=N,15nm,0.9s
HABR Khabarovsk 49.30 10*ceP* **P** **17 17 20.7 -1.1**
HABR 17 18 41.5
HABR *e* 17 19 11.7
HABR *ePPP* PPP 17 20 03.4
HABR S **S** **17 24 21.1 +3.9**
HABR *e* 17 27 07.1
HABR *eSS* **SS** **17 27 54.0 +3.2**
HABR *eSSS* SSS 17 29 12.4
HABR pmax pmax
comp=E,16nm,1.4s
HABR pmax pmax
comp=Z,54nm,1.5s
HABR pmax pmax
comp=N,12nm,1.0s
HABR MLR MLR
comp=Z,52nm,18.0s
KLR Kul'dur 49.54 7 *eP* P 17 17 18.6 -5.1
YSS Yuzh-Sakhalins 49.69 17 *eP* **P** **17 17 23.9 -0.9**
YSS pmax pmax
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 49.69 17 *eP* **P** **17 17 23.4 -1.4**
comp=Z,47nm,1.3s
ULN Ulaanbaatar 49.77 346 *eP* **P** **17 17 24.8 -0.8**
comp=Z,7.2nm,0.6s
SONM Songino Array 49.91 345 P **P** **17 17 26.1 -0.6**
comp=Z,10nm,0.7s,baz=160,slow=8.7,SNR=106
SONM pP **pP** **17 17 58.1 -1.0**
comp=Z,6.2nm,0.8s,baz=165,slow=9.0,SNR=4.4
SONM PcP **PcP** **17 18 44.0 -0.9**
comp=Z,3.8nm,0.7s,baz=181,slow=3.6,SNR=4.7
SONM Songino Array 49.91 345 P **P** **17 17 26.1 -0.6**
SONM pP **pP** **17 17 58.1 -1.0**
SONM PcP **PcP** **17 18 44.0 -0.9**
ZAK Zakamensk 53.08 344 *eP* **P** **17 17 48.9 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 54.06 328 P **P** **17 17 57.6 +0.2**
WMQ pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 54.16 345 *eP* **P** **17 17 55.1 -2.8**
TLY *ePPP* PPP 17 21 04.4
TLY *eS* **S** **17 25 18.6 -5.1**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,28nm,16.0s
TLY Talaya 54.16 345 *eP* **P** **17 17 57.3 -0.6**
comp=Z,12nm,1.1s
MOY Mondy 54.88 343 *eP* **P** **17 18 02.3 -0.9**
MOY pmax pmax
comp=Z,13nm,1.7s
CLNS Chul'man 56.66 1 *eP* **P** **17 18 14.6 -1.1**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
HVS Khovu-Aksy 56.86 338*dP* **P** **17 18 16.8 -0.5**
BOD Bodaibo 58.14 354⇑ *iP* **P** **17 18 24.8 -1.2**
BOD pmax pmax
comp=Z,18nm,1.2s
MK31 Makanchi Array 58.89 328 *eP* **P** **17 18 30.4 -1.0**
MK31 Makanchi Array 58.89 328 *eP* **P** **17 18 30.4 -1.0**
MKAR Makanchi Array 58.89 328 P **P** **17 18 30.5 -0.9**
comp=Z,6.3nm,0.5s,baz=126,slow=8.3,SNR=120
MKAR pP **pP** **17 19 04.3 -0.6**
comp=Z,2.5nm,0.5s,baz=133,slow=6.2,SNR=2.2
MKAR PcP **PcP** **17 19 18.1 -1.2**
comp=Z,6.7nm,0.6s,baz=165,slow=3.2,SNR=14
MKAR LR LR 17 43 50.2
comp=Z,60nm,19.6s,baz=275,slow=36
MKAR PKP2bc 17 48 16.1
comp=Z,0.4nm,0.9s,baz=37,slow=0.6,SNR=4.0
MKAR Makanchi Array 58.89 328 P **P** **17 18 30.5 -0.9**
MKAR 17 19 18.1
MKAR Makanchi Array 58.89 328 P **P** **17 18 30.5 -0.9**
MKAR pP **pP** **17 19 04.3 -0.6**
MKAR PcP **PcP** **17 19 18.1 -1.2**
MKAR ⇑ *e* 17 48 16.1
PETK Petropavlovsk- 60.07 23 P **P** **17 18 39.8 +0.4**
comp=Z,16nm,0.7s,baz=203,slow=4.7,SNR=42
PETK Petropavlovsk- 60.07 23 P **P** **17 18 39.8 +0.4**
PETK Petropavlovsk- 60.07 23 P **P** **17 18 39.8 +0.4**
KZA Kyzart 60.30 320 P **P** **17 18 41.6 -0.1**
SNR=11
PET Petropavlovsk 60.39 24⇑ *eP* **P** **17 18 41.6 +0.1**
PET pmax pmax
comp=Z,51nm,1.5s
PET Petropavlovsk 60.39 24 *eP* **P** **17 18 41.9 +0.4**
comp=Z,76nm,1.4s
TKM2 Tokmak 2 60.51 321 *iP* **P** **17 18 42.4 -0.4**
TKM2 Tokmak 2 60.51 321 P **P** **17 18 42.5 -0.4**
SNR=20
RPZ Rata Peaks 60.69 142 P **P** **17 18 45.2 +1.4**
comp=Z,15nm,0.8s,baz=54,slow=1.9,SNR=5.3
RPZ Rata Peaks 60.69 142 P **P** **17 18 45.2 +1.4**
KBK Karagaybulak 60.78 321 P **P** **17 18 44.7 0.0**
SNR=6.9
AAK Ala-Archa 61.06 320 LR LR 17 45 08.4
comp=Z,49nm,19.7s,baz=89,slow=36
AAK Ala-Archa 61.06 320*ciP* **P** **17 18 45.3 -1.2**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 61.06 320 *eP* **P** **17 18 45.9 -0.6**
comp=Z,13nm,0.6s
AAK Ala-Archa 61.06 320 P **P** **17 18 46.3 -0.3**
SNR=8.4
AML Almayashu 61.33 320 P **P** **17 18 48.5 -0.2**
SNR=14
KBL Kabul 61.34 310 *eP* **P** **17 18 47.4 -1.2**
KBL pmax pmax
comp=Z,17nm,0.7s
KBL Kabul 61.34 310 *eP* **P** **17 18 47.4 -1.2**
comp=Z,17nm,0.7s
USP Ospenovka 61.38 321 P **P** **17 18 48.0 -0.5**
SNR=7.4
EKS2 Erkin-Say 61.53 320 *eP* **P** **17 18 49.2 -0.5**
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 61.53 320 *eP* **P** **17 18 49.2 -0.5**
comp=Z,4.7nm,0.6s
EKS2 Erkin-Say 61.53 320 P **P** **17 18 49.5 -0.2**
SNR=8.4
YAK Yakutsk 62.04 3 *eP* **P** **17 18 51.3 -1.2**
YAK *e* 17 19 28.9
YAK pmax pmax
comp=Z,80nm,1.0s
YAK pmax pmax
comp=N,38nm,1.5s
YAK pmax pmax
comp=E,15nm,1.4s
YAK Yakutsk 62.04 3 *eP* **P** **17 18 51.2 -1.3**
comp=E,82nm,0.8s
URZ Urewera 62.14 134 P **P** **17 18 54.4 +0.8**
comp=E,8.1nm,0.4s,baz=261,slow=6.0,SNR=10
URZ Urewera 62.14 134 *eP* **P** **17 18 54.1 +0.5**
comp=E,8.4nm,0.5s
ZAA0 Zalesovo Array 62.53 335 *eP* **P** **17 18 53.5 -2.4**
ZALV Zalesovo Beam 62.53 335 P **P** **17 18 53.4 -2.5**
comp=E,14nm,0.5s,baz=123,slow=6.5,SNR=71
ZALV LR LR 17 46 51.1
comp=E,38nm,18.7s,baz=80,slow=37
ZALV PKP2bc 17 48 04.0
comp=E,0.9nm,0.8s,baz=305,slow=5.2,SNR=4.6
ZALV Zalesovo Beam 62.53 335 P **P** **17 18 53.4 -2.5**
ZALV Zalesovo Beam 62.53 335 P **P** **17 18 53.4 -2.5**
ZALV ⇑ *e* 17 48 04.0
KURBB Kurchatov Arra 63.22 330 PKP2bc 17 48 02.2
comp=E,0.6nm,0.9s,baz=299,slow=3.8,SNR=4.8
KURK Kurchatov 63.24 330*ceP* **P** **17 18 59.2 -1.4**
KURK pmax pmax
comp=Z,48nm,0.9s
KURK Kurchatov 63.24 330 *eP* **P** **17 18 59.0 -1.6**
comp=Z,44nm,0.6s
KURK ⇑ *e* 17 48 02.2
NVS Novosibirsk 63.81 335 *eP* **P** **17 19 01.2 -3.1**
NVS *e* 17 19 35.8
NVS pmax pmax
comp=N,14nm,0.6s
NVS pmax pmax
comp=E,15nm,0.6s
NVS pmax pmax
comp=Z,24nm,0.6s
KKAR Karatay Array 63.85 319 *eP* **P** **17 19 03.2 -1.7**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 63.85 319 *eP* **P** **17 19 03.2 -1.7**
comp=Z,2.3nm,0.6s
SEY Seymchan 66.37 14*ceP* **P** **17 19 20.1 -0.6**
FX1 Attu Island--F 66.88 30 *eP* **P** **17 19 24.6 +0.4**
WSAR Wadi Sarin 67.03 295 P **P** **17 19 24.7 -1.0**
comp=Z,5.5nm,0.6s,baz=111,slow=8.0,SNR=17
WSAR Wadi Sarin 67.03 295 P **P** **17 19 24.7 -1.0**
VOSK Vostochnaya 68.29 329 P **P** **17 19 30.9 -2.1**
VOSK pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 68.75 329 P **P** **17 19 34.3 -1.6**
comp=Z,3.7nm,0.5s,baz=136,slow=9.3,SNR=22
BVAR Borovoye Array 68.75 329 P **P** **17 19 34.3 -1.6**
BVAR Borovoye Array 68.75 329 P **P** **17 19 34.3 -1.6**
BRVK Borovoye 68.82 329*diP* **P** **17 19 34.9 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
ZRNK Zerenda 69.44 328 P **P** **17 19 38.4 -1.7**
ZRNK pmax pmax
comp=Z,10.0nm,0.6s
AB31 Akbulak array 73.05 322 *iP* **P** **17 20 00.1 -1.8**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 73.05 322 *eP* **P** **17 19 59.6 -2.3**
comp=Z,1.9nm,0.6s
BILL Bilibino 73.96 15⇓ *iP* **P** **17 20 06.0 -0.8**
BILL *e* 17 20 22.6
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 73.96 15 *eP* **P** **17 20 05.6 -1.2**
comp=Z,14nm,1.1s
AKTO Aktyubinsk 74.62 323 P **P** **17 20 09.2 -1.9**
AKTO pmax pmax
comp=Z,2.0nm,1.0s
SVE Sverdlovsk 75.49 330⇓ *eP* **P** **17 20 14.2 -1.6**
SVE pmax pmax
comp=Z,34nm,1.0s
ARU Arti 76.40 329*diP* **P** **17 20 19.1 -1.9**
ARU 17 23 08.9
ARU S S 17 30 00.9 +6.3
ARU SS **SS** **17 34 48.7 -3.4**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 76.40 329 *eP* **P** **17 20 18.5 -2.5**
comp=Z,14nm,0.9s
GAMB Gambell 79.08 24 *eP* **P** **17 20 35.6 0.0**
comp=Z,18nm,0.9s
VNDA Vanda 80.18 172 P **P** **17 20 42.3 +0.8**
comp=Z,5.0nm,0.7s,baz=321,slow=6.4,SNR=24
VNDA Vanda 80.18 172 *eP* **P** **17 20 41.9 +0.5**
comp=Z,5.6nm,0.8s
ATD Arta Tunnel 80.87 282 LR LR 17 57 21.2
comp=Z,35nm,19.6s,baz=56,slow=36
DGRG David-gareji 81.12 312 P **P** **17 20 47.0 -0.2**
TNA Tin City 81.24 23 *eP* **P** **17 20 48.6 +1.4**
comp=Z,10nm,0.8s
TBLG Delisi 81.63 312 *eP* **P** **17 20 48.8 -1.1**
TBLG Delisi 81.63 312 P **P** **17 20 48.8 -1.1**
ZEI Tsey 82.38 313 *eP* **P** **17 20 51.3 -2.8**
ZEI pmax pmax
comp=Z,16nm,1.3s
ONI Oni 82.69 313 P **P** **17 20 54.7 -0.8**
KBZ Khabaz 83.22 314 P **P** **17 20 56.4 -1.6**
comp=Z,5.8nm,1.1s,baz=164,slow=0.9,SNR=6.7
KBZ Khabaz 83.22 314 P **P** **17 20 56.4 -1.6**
KBZ Khabaz 83.22 314 P **P** **17 20 56.4 -1.6**
KIV Kislovodsk 83.40 314 *eP* **P** **17 20 57.2 -1.9**
KIV *eS* **S** **17 31 12.3 +3.6**
KIV pmax pmax
comp=Z,25nm,19.2s
KIV MLR MLR
comp=Z,25nm,19.0s
VRHR Novokhopersk 84.90 321 *eP* **P** **17 21 04.0 -2.4**
VRHR pmax pmax
comp=Z,30nm,1.2s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.5s
MALT Malatya 86.14 308 *eP* **P** **17 21 12.2 -0.8**
MALT pmax pmax
comp=Z,11nm,1.2s
MALT Malatya 86.14 308 *eP* **P** **17 21 12.2 -0.8**
comp=Z,11nm,1.2s
MALT Malatya 86.14 308⇓ *iP* **P** **17 21 12.2 -0.8**
KMBO Kilima Mbogo 86.28 269 *eP* **P** **17 21 14.0 -0.4**
comp=Z,3.4nm,0.9s
VORD Divnogorie 86.35 321 *eP* **P** **17 21 11.1 -2.5**
VORD pmax pmax
comp=Z,30nm,1.1s

VORD					pmax	pmax			
	comp=N,20nm,0.7s								
VORD					pmax	pmax			
	comp=E,40nm,0.9s								
VSR	**Storozhevoye**	**86.45**	**321**	*eP*	**P**		**17 21 11.8**	**-2.3**	
VSR					pmax	pmax			
	comp=N,10.0nm,1.1s								
VSR					pmax	pmax			
	comp=E,20nm,1.1s								
VSR					pmax	pmax			
	comp=Z,30nm,1.1s								
KDAK	**Kodiak Island**	**86.72**	**32**	P	**P**		**17 21 15.6**	**+0.4**	
	comp=Z,16nm,0.7s,baz=189,slow=6.5,SNR=13								
KDAK	**Kodiak Island**	**86.72**	**32**	P	**P**		**17 21 15.6**	**+0.4**	
KLMR	**Klimovskoe**	**87.07**	**331**	*eP*	**P**		17 21 10.6	-6.2	
KLMR					pmax	pmax			
	comp=Z,39nm,1.3s								
TMCR	**Tamitsa**	**88.02**	**334**	*eP*	**P**		**17 21 18.7**	**-2.6**	
TMCR					pmax	pmax			
	comp=Z,28nm,1.3s								
OBN	**Obninsk**	**88.25**	**325**	⇓ *iP*	**P**		**17 21 20.9**	**-1.6**	
OBN					pmax	pmax			
	comp=Z,20nm,1.3s								
TRF	**Thorofare Moun**	**88.28**	**27**	*eP*	**P**		**17 21 20.8**	**-2.0**	
	comp=Z,7.2nm,1.0s								
COLD	**Coldfoot**	**88.54**	**23**	*eP*	**P**		**17 21 24.1**	**+0.4**	
	comp=Z,8.6nm,0.5s								
ILAR	**Eielson Array**	**89.82**	**25**	P	**P**		**17 21 27.8**	**-1.9**	
	comp=Z,2.9nm,0.5s,baz=247,slow=4.8,SNR=77								
ILAR	**Eielson Array**	**89.82**	**25**	P	**P**		**17 21 27.8**	**-1.9**	
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**		**17 21 28.8**	**-2.2**	
	comp=Z,2.9nm,1.0s,baz=119,slow=4.4,SNR=8.8								
BRTR					PP	**PP**	**17 25 04.0**	**-1.6**	
	comp=Z,1.0nm,0.9s,baz=80,slow=6.9,SNR=3.7								
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**		**17 21 28.8**	**-2.2**	
BRTR					PP	**PP**	**17 25 04.0**	**-1.6**	
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**		**17 21 31.1**	**+0.7**	
	comp=Z,2.5nm,0.4s,baz=285,slow=1.3,SNR=84								
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**		**17 21 31.1**	**+0.7**	
PAX	**Paxson**	**90.45**	**27**	*eP*	**P**		**17 21 32.3**	**-0.6**	
PAX					pmax	pmax			
	comp=Z,9.0nm,1.0s								
PAX	**Paxson**	**90.45**	**27**	*eP*	**P**		**17 21 32.3**	**-0.6**	
	comp=Z,9.2nm,1.0s								
BMRM	**Bremner River**	**90.91**	**29**	*eP*	**P**		**17 21 34.7**	**-0.2**	
JOF	**Joensuu**	**91.01**	**333**	*eP*	**P**		**17 21 32.7**	**-2.6**	
JOF					pmax	pmax			
	comp=Z,11nm,0.6s								
JOF	**Joensuu**	**91.01**	**333**	*ep*	**P**		**17 21 32.7**	**-2.6**	
	comp=Z,11nm,0.6s								
DOT	**Dot Lake**	**91.07**	**26**	*eP*	**P**		**17 21 34.7**	**-0.9**	
	comp=Z,1.2nm,0.6s								
KEV	**Kevo**	**92.26**	**340**	*eP*	**P**		**17 21 38.9**	**-2.0**	
KEV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**92.26**	**340**	*ep*	**P**		**17 21 38.9**	**-2.0**	
	comp=Z,0.8nm,0.3s								
EGAK	**Eagle**	**92.27**	**25**	*eP*	**P**		**17 21 40.3**	**-0.8**	
	comp=Z,2.8nm,0.7s								
AKASG	**Malin Array Be**	**92.73**	**321**	P	**P**		**17 21 40.8**	**-2.7**	
	comp=Z,1.2nm,0.5s,baz=68,slow=4.7,SNR=8.5								
AKASG	**Malin Array Be**	**92.73**	**321**	P	**P**		**17 21 40.8**	**-2.7**	
AKASG	**Malin Array Be**	**92.73**	**321**	P	**P**		**17 21 40.8**	**-2.7**	
ARCES	**ARCESS Array B**	**92.81**	**340**	P	**P**		**17 21 41.3**	**-2.2**	
	comp=Z,6.8nm,0.7s,baz=81,slow=7.5,SNR=16								
ARCES					LR	LR	18 08 51.7		
	comp=Z,84nm,19.7s,baz=226,slow=39								
ARCES	**ARCESS Array B**	**92.81**	**340**	P	**P**		**17 21 41.3**	**-2.2**	
DAWY	**Dawson**	**93.10**	**26**	*eP*	**P**		**17 21 44.7**	**-0.3**	
KAF	**Kangasniemi**	**93.38**	**332**	*eP*	P		17 21 42.6	-3.7	
KAF					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KAF	**Kangasniemi**	**93.38**	**332**	*ep*	P		17 21 42.6	-3.7	
	comp=Z,1.9nm,0.5s								
FINES	**FINESS Array B**	**93.57**	**331**	P	**P**		**17 21 44.9**	**-2.3**	
	comp=Z,1.5nm,0.5s,baz=56,slow=6.3,SNR=16								
FINES	**FINESS Array B**	**93.57**	**331**	P	**P**		**17 21 44.9**	**-2.3**	
VRI	**Vrincioaia**	**94.74**	**316**	⇑ *iP*	P		17 21 49.6	-3.3	
INK	**Inuvik**	**94.77**	**21**	P	**P**		**17 21 51.7**	**-0.8**	
	comp=Z,4.8nm,0.5s,baz=299,slow=4.0,SNR=40								
INK	**Inuvik**	**94.77**	**21**	*eP*	**P**		**17 21 51.6**	**-0.8**	
	comp=Z,4.1nm,0.6s								
LSZ	**Lusaka**	**95.16**	**255**	*eP*	**P**		**17 21 54.6**	**-0.9**	
	comp=Z,45nm,1.4s								
MLR	**Muntele Rosu**	**95.32**	**316**	⇑ *iP*	**P**		**17 21 52.7**	**-3.0**	
BURAR	**Bucovina Array**	**95.61**	**318**	⇓ *iP*	**P**		**17 21 55.6**	**-1.4**	
BUR08	**Bucovina Ar. S**	**95.62**	**318**	*eP*	**P**		**17 21 55.1**	**-1.9**	
BOSA	**Boshof**	**97.27**	**241**	P	**P**		**17 22 04.8**	**-0.2**	
	comp=Z,3.4nm,0.8s,baz=192,slow=20,SNR=3.7								
BOSA	**Boshof**	**97.27**	**241**	P	**P**		**17 22 04.8**	**-0.2**	
KOLS	**Kolonicke sedl**	**97.39**	**319**	*eP*	**P**		**17 22 03.9**	**-1.0**	
KOLS					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KOLS	**Kolonicke sedl**	**97.39**	**319**	*eP*	**P**		**17 22 03.9**	**-1.0**	
UZH	**Uzhgorod**	**97.42**	**319**	*eP*	**P**		**17 22 02.8**	**-2.2**	
UZH				*e*			17 22 17.1		
CRVS	**Cervenica-Dubn**	**97.92**	**319**	*eP*	**P**		**17 22 06.1**	**-1.2**	
CRVS					pmax	pmax			
	comp=Z,9.0nm,1.4s								
CRVS	**Cervenica-Dubn**	**97.92**	**319**	*e*	**P**		**17 22 06.1**	**-1.2**	
DLBC	**Dease Lake**	**98.56**	**31**	P	Pdif		17 22 10.6	+0.6	
	comp=Z,1.0nm,0.3s,baz=70,slow=26,SNR=3.2								
DLBC	**Dease Lake**	**98.56**	**31**	P	Pdif		17 22 10.6	+0.6	
VYHS	**Vyhne**	**99.71**	**319**	*eP*	**Pdif**		**17 22 14.3**	**-1.0**	
VYHS	**Vyhne**	**99.71**	**319**	PDIF	**Pdif**		**17 22 14.3**	**-1.0**	
NB2	**NORSAR Subarra**	**100.64**	**333**	P	**Pdif**		**17 22 14.9**	**-4.3**	
	comp=Z,0.9nm,0.6s,baz=72,slow=4.4								
NOA	**NORSAR Array B**	**100.64**	**333**	P	**Pdif**		**17 22 16.6**	**-2.6**	
	comp=Z,0.8nm,0.6s,baz=72,slow=4.5,SNR=4.1								
NOA	**NORSAR Array B**	**100.64**	**333**	P	**Pdif**		**17 22 16.6**	**-2.6**	
RES	**Resolute Bay**	**102.01**	**10**	P	**Pdif**		**17 22 23.9**	**-1.0**	
	comp=Z,1.0nm,0.6s,baz=310,slow=8.1,SNR=6.9								
RES	**Resolute Bay**	**102.01**	**10**	P	**Pdif**		**17 22 23.9**	**-1.0**	
YKA	**Yellowknife Ar**	**104.18**	**24**	Pdiff	**Pdif**		**17 22 34.1**	**-0.7**	
	comp=Z,0.5nm,0.6s,baz=297,slow=4.7,SNR=13								
YKA					PKiKP	**PKiKP**	**17 26 50.5**	**-0.4**	
	comp=Z,0.3nm,0.4s,baz=298,slow=1.7,SNR=10								
YKA	**Yellowknife Ar**	**104.18**	**24**	Pdif	**Pdif**		**17 22 34.1**	**-0.7**	
YKA					PKiKP	**PKiKP**	**17 26 50.5**	**-0.4**	
NVAR	**Mina Array Bea**	**111.76**	**48**	PKiKP	**PKiKP**		**17 27 06.1**	**-0.1**	
	comp=Z,0.5nm,0.6s,baz=280,slow=1.2,SNR=5.8								
NVAR	**Mina Array Bea**	**111.76**	**48**	PKiKP	**PKiKP**		**17 27 06.1**	**-0.1**	
EGMT	**Eagleton**	**113.66**	**36**	*e*PKiKP	**PKiKP**		**17 27 08.6**	**-0.7**	
HWUT	**Hardware Ranch**	**115.41**	**43**	*e*PKPdf	**PKPdf**		**17 27 11.7**	**-1.3**	
MSU	**Marysvale**	**116.23**	**46**	*e*PKiKP	**PKPdf**		**17 27 16.0**	**+1.3**	
MSU	**Marysvale**	**116.23**	**46**	*e*PKPdf	**PKPdf**		**17 27 16.0**	**+1.3**	
PDAR	**Pinedale Array**	**116.24**	**41**	PKP	**PKPdf**		**17 27 14.3**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=151,slow=3.4,SNR=6.8								
PDAR					PKKPbc	**PKKPab**	**17 37 48.8**	**-1.0**	
	comp=Z,1.3nm,0.5s,baz=118,slow=6.6,SNR=8.4								
PDAR	**Pinedale Array**	**116.24**	**41**	PKP	**PKPdf**		**17 27 14.3**	**-0.3**	
PDAR					PKKPbc	**PKKPab**	**17 37 48.8**	**-1.0**	
ULM	**Lac du Bonnet**	**119.73**	**28**	PKP	**PKPdf**		**17 27 20.1**	**-0.6**	
	comp=Z,5.0nm,0.7s,baz=347,slow=0.9,SNR=10								
ULM	**Lac du Bonnet**	**119.73**	**28**	PKP	**PKPdf**		**17 27 20.1**	**-0.6**	
ISCO	**Idaho Springs**	**120.26**	**42**	*e*PKiKP	**PKPdf**		**17 27 23.3**	**+0.7**	
ISCO	**Idaho Springs**	**120.26**	**42**	*e*PKPdf	**PKPdf**		**17 27 23.3**	**+0.7**	
TORD	**Torodi Ar. Bea**	**120.92**	**285**	PKP	**PKPdf**		**17 27 23.3**	**-0.7**	
	comp=Z,2.5nm,0.6s,baz=93,slow=1.4,SNR=20								
TORD					pPKP	**pPKPdf**	**17 28 02.5**	**+0.8**	
	comp=Z,1.9nm,0.7s,baz=56,slow=1.6,SNR=5.7								
TORD					PKKPbc	**PKKPab**	**17 37 31.2**	**+1.9**	
	comp=Z,2.0nm,0.7s,baz=291,slow=3.6,SNR=12								
TORD	**Torodi Ar. Bea**	**120.92**	**285**	PKP	**PKPdf**		**17 27 23.3**	**-0.7**	
TORD					pPKP	**pPKPdf**	**17 28 02.5**	**+0.8**	
TORD					PKKPbc	**PKKPab**	**17 37 31.2**	**+1.9**	
BNM	**Barren Site**	**122.09**	**49**	*e*PKPdf	**PKPdf**		**17 27 26.8**	**+0.6**	
SCHQ	**Schefferville**	**124.68**	**7**	PKP	**PKPdf**		**17 27 30.2**	**+0.1**	
	comp=Z,9.7nm,0.6s,baz=342,slow=2.3,SNR=36								
SCHQ	**Schefferville**	**124.68**	**7**	*e*PKPdf	**PKPdf**		**17 27 29.9**	**-0.3**	
SCHQ					PKP	**PKPdf**	**17 27 30.2**	**+0.1**	
TXAR	**Lajitas Array**	**126.39**	**53**	PKP	**PKPdf**		**17 27 35.0**	**+0.6**	
	comp=Z,1.3nm,0.9s,baz=233,slow=0.6,SNR=5.4								
TXAR	**Lajitas Array**	**126.39**	**53**	PKP	**PKPdf**		**17 27 35.0**	**+0.6**	
SADO	**Sadowa**	**131.09**	**21**	PKP	**PKPdf**		**17 27 42.4**	**-0.3**	
	comp=Z,4.5nm,0.6s,baz=289,slow=4.2,SNR=5.4								
SADO	**Sadowa**	**131.09**	**21**	PKP	**PKPdf**		**17 27 42.4**	**-0.3**	
MIAR	**Mount Ida**	**131.17**	**41**	*e*PKiKP	**PKPdf**		**17 27 43.8**	**+0.7**	
MIAR	**Mount Ida**	**131.17**	**41**	*e*PKPdf	**PKPdf**		**17 27 43.8**	**+0.7**	
BINY	**Binghamton**	**134.45**	**20**	*e*PKPdf	**PKPdf**		**17 27 49.4**	**+0.3**	
TEIG	**Tepich**	**142.94**	**55**	*e*PKPdf	**PKPdf**		**17 28 02.2**	**-3.0**	
CFAA	**Coronel Fontan**	**146.66**	**162**	PKPbc	**PKPbc**		**17 28 13.7**	**+0.5**	
	comp=Z,1.4nm,0.5s,baz=212,slow=3.3,SNR=23								
CFAA	**Coronel Fontan**	**146.66**	**162**	PKPbc	**PKPbc**		**17 28 13.7**	**+0.5**	
LCO	**Las Campanas**	**148.11**	**156**	*e*PKPbc	**PKPbc**		**17 28 18.2**	**+0.7**	
JTS	**JuntasAbangare**	**149.88**	**69**	PKPbc	**PKPbc**		**17 28 22.2**	**+0.2**	
	comp=Z,6.7nm,0.3s,baz=326,slow=19,SNR=7.0								
JTS					PKPab	**PKPab**	**17 28 29.6**	**+1.6**	
	comp=Z,3.0nm,0.3s,baz=341,slow=21,SNR=5.8								
JTS	**JuntasAbangare**	**149.88**	**69**	*e*PKPdf	**PKPdf**		**17 28 18.0**	**+0.9**	
JTS					PKPbc	**PKPbc**	**17 28 22.2**	**+0.2**	
JTS					PKPab	**PKPab**	**17 28 29.6**	**+1.6**	
CPUP	**Villa Florida**	**153.82**	**178**	PKP	**PKPdf**		**17 28 23.3**	**+0.7**	
	comp=Z,0.4nm,0.3s,baz=24,slow=3.7,SNR=3.3								
CPUP					PKPbc	**PiKiKP**	**17 28 31.5**	**+0.9**	
	comp=Z,1.5nm,0.4s,baz=189,slow=1.6,SNR=6.9								
CPUP					PKPab	**PKPab**	**17 28 44.3**	**+0.4**	
	comp=Z,1.8nm,0.6s,baz=157,slow=5.9,SNR=4.5								
CPUP	**Villa Florida**	**153.82**	**178**	PKP	**PKPdf**		**17 28 23.3**	**+0.7**	
CPUP					PKPbc	**PiKiKP**	**17 28 31.5**	**+0.9**	
CPUP					PKPab	**PKPab**	**17 28 44.3**	**+0.4**	
RCBR	**Riachuelo**	**158.67**	**254**	PKPab	**PKPab**		**17 29 05.3**	**-0.1**	
	comp=Z,7.3nm,0.9s,baz=160,slow=6.4,SNR=3.7								
LPAZ	**La Paz**	**160.15**	**145**	PKP	**PKPdf**		**17 28 32.4**	**+0.7**	
	comp=Z,2.0nm,0.9s,baz=282,slow=0.4,SNR=7.2								
LPAZ					PKPab	**PKPab**	**17 29 14.3**	**+2.1**	
	comp=Z,3.1nm,0.7s,baz=188,slow=5.5,SNR=7.6								
LPAZ	**La Paz**	**160.15**	**145**	*e*PKPdf	**PKPdf**		**17 28 32.1**	**+0.4**	
LPAZ					PKP	PKP	17 28 32.4		
LPAZ					PKPab	**PKPab**	**17 29 14.3**	**+2.1**	
SIV	**San Ignacio**	**163.48**	**164**	PKP	**PKPdf**		**17 28 35.2**	**+0.9**	
	comp=Z,2.5nm,0.9s,baz=234,slow=2.3,SNR=6.9								
SIV					PKPab	**PKPab**	**17 29 27.1**	**+1.1**	
	comp=Z,1.6nm,0.6s,baz=198,slow=5.4,SNR=5.7								
SIV	**San Ignacio**	**163.48**	**164**	PKP	**PKPdf**		**17 28 35.2**	**+0.9**	
SIV					PKPab	**PKPab**	**17 29 27.1**	**+1.1**	
SAML	**Samuel**	**168.88**	**143**	*e*PKPdf	**PKPdf**		**17 28 37.4**	**-1.2**	

ISCJB ***18*** *17:10:33.5±0.8, 17°.3S±0°.2×174°.4W±0°.2, h100km, mb4.3/10, Error ellipse: s-maj=31.8km s-min=11.7km az=139.2*
NEIC ***18*** *17:10:33.5±1.4, 17°.33S×174°.33W, h87km±14km, mb4.8/2, Error ellipse: s-maj=24.4km s-min=10.4km az=137.0*
IDC ***18*** *17:10:33.5±3.0, 17°.32S×174°.31W, h86km±29km, mb4.0/9, mb1 4.3/10, mb1mx4.0/24, mbtmp4.1/10, Error ellipse: s-maj=38.6km s-min=15.6km az=140.0*

ISC 18 17:10:34.4±0.9, 17°.2S±0°.2×174°.3W±0°.2, h100km, n27, σ1§28/24, mb4.5/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.03**	**37**	P		**P**	**Pn**	**17 11 35.4**	**+1.2**
	143nm,0.3s,baz=43,slow=3.3,SNR=445								
AFI				S			**Sn**	**17 12 17.5**	**-2.9**
	129nm,0.3s,baz=240,slow=21,SNR=11								
AFI	**Afiamalu**	**4.03**	**37**	P		**P**	**Pn**	**17 11 35.4**	**+1.2**
AFI				S			**Sn**	**17 12 17.5**	**-2.9**
MSVF	**Nonsavu**	**7.34**	**264**	*eP*		Pn	17 12 29.7	+11	
DZM	**Mont Dzumac**	**18.80**	**252**	P		Pn	17 14 50.2	+2.4	
	0.6nm,0.3s,baz=108,slow=16,SNR=4.4								
DZM	**Mont Dzumac**	**18.80**	**252**	P		Pn	17 14 50.2	+2.4	
URZ	**Urewera**	**22.34**	**198**	P		**P**	**17 15 23.0**	**-1.0**	
	33nm,0.5s,baz=11,slow=4.2,SNR=60								
URZ	**Urewera**	**22.34**	**198**	*eP*		**P**	**17 15 22.6**	**-1.4**	
	59nm,0.8s								
CTA	**Charters Tower**	**37.45**	**259**	P		**P**	**17 17 37.9**	**-0.4**	
	15nm,1.2s,baz=116,slow=6.8,SNR=5.1								
CTA	**Charters Tower**	**37.45**	**259**	P		**P**	**17 17 37.9**	**-0.4**	
CTAO	**Charters Tower**	**37.45**	**259**	P		**P**	**17 17 38.2**	**-0.1**	
	6.5nm,0.6s								
WRAB	**Tennant Creek**	**48.63**	**258**	*eP*		**P**	**17 19 07.6**	**-0.8**	
	8.5nm,0.6s								
WRA	**Warramunga Arr**	**48.63**	**258**	P		**P**	**17 19 07.8**	**-0.7**	
	5.5nm,0.6s,baz=97,slow=7.1,SNR=20								
WRA	**Warramunga Arr**	**48.63**	**258**	P		**P**	**17 19 07.8**	**-0.7**	
ASAR	**Alice Springs**	**48.78**	**253**	P		**P**	**17 19 09.4**	**-0.2**	
	24nm,0.5s,baz=90,slow=8.5,SNR=73								
ASAR	**Alice Springs**	**48.78**	**253**	P		**P**	**17 19 09.4**	**-0.2**	
FITZ	**Fitzroy Crossi**	**57.03**	**259**	P		**P**	**17 20 10.5**	**+0.2**	
	5.0nm,1.3s,baz=83,slow=8.1,SNR=3.1								
FITZ	**Fitzroy Crossi**	**57.03**	**259**	P		**P**	**17 20 10.5**	**+0.2**	
NVAR	**Mina Array Bea**	**76.19**	**42**	P		**P**	**17 22 13.3**	**+1.2**	
	0.8nm,0.8s,baz=229,slow=10,SNR=5.1								
NVAR	**Mina Array Bea**	**76.19**	**42**	P		**P**	**17 22 13.3**	**+1.2**	
PDAR	**Pinedale Array**	**84.13**	**42**	P		**P**	**17 22 55.3**	**+0.6**	
	1.2nm,0.6s,baz=213,slow=3.8,SNR=9.5								
PDAR	**Pinedale Array**	**84.13**	**42**	P		**P**	**17 22 55.3**	**+0.6**	
ILAR	**Eielson Array**	**84.32**	**11**	P		**P**	**17 22 56.4**	**+1.6**	
	0.3nm,0.5s,baz=227,slow=6.4,SNR=2.7								
ILAR	**Eielson Array**	**84.32**	**11**	P		**P**	**17 22 56.4**	**+1.6**	
CMAR	**Chiang Mai Arr**	**92.36**	**288**	P		P	17 23 36.7	+2.4	
	0.5nm,0.9s,baz=87,slow=2.6,SNR=3.5								
CMAR	**Chiang Mai Arr**	**92.36**	**288**	P		P	17 23 36.7	+2.4	
BRTR	**Keskin Array B**	**146.94**	**319**	PKPbc		**PKPab**	**17 30 07.0**	**-0.4**	
	1.4nm,0.9s,baz=161,slow=3.6,SNR=6.3								
BRTR	**Keskin Array B**	**146.94**	**319**	PKPbc		**PKPab**	**17 30 07.0**	**-0.4**	

IDC 18 17:18:01.6±3.1, 46°.12S×106°.77E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=83.9km s-min=47.1km az=3.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.31**	**54**	P		P	P	17 24 23.1	-0.4
	1.8nm,1.0s,baz=211,slow=8.7,SNR=6.1								
WRA	**Warramunga Arr**	**34.55**	**50**	P		P	P	17 24 52.2	+0.4
	2.6nm,1.1s,baz=212,slow=7.5,SNR=6.4								
CMAR	**Chiang Mai Arr**	**64.66**	**352**	P		P	P	17 28 40.7	-0.3
	1.5nm,0.9s,baz=192,slow=5.9,SNR=13								
YKA	**Yellowknife Ar**	**151.48**	**40**	PKPbc		PKPbc	PKPbc	17 37 55.5	-0.7
	0.4nm,0.9s,baz=280,slow=4.0,SNR=7.1								
YKA				PKPab		PKPab	PKPab	17 38 05.6	+0.9
	0.4nm,0.8s,baz=280,slow=4.0,SNR=4.1								

IDC 18 17:42:09.1±3.0, 22°.98N×11°.71W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/26, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=101.7km s-min=39.6km az=86.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.05**	**125**	Pn		Pn	Pn	17 45 56.8	+0.4
	0.2nm,0.3s,baz=310,slow=12,SNR=8.7								
GERES	**GERESS Array B**	**32.73**	**32**	P		P	P	17 48 43.5	0.0
	0.5nm,0.6s,baz=232,slow=6.6,SNR=4.4								
FINES	**FINESS Array B**	**46.34**	**24**	P		P	P	17 50 37.1	+0.5
	0.9nm,0.8s,baz=216,slow=8.6,SNR=3.7								
KURBB	**Kurchatov Arra**	**72.74**	**42**	P		P	P	17 53 38.6	-0.5
	0.7nm,0.8s,baz=283,slow=6.2,SNR=7.3								
MKAR	**Makanchi Array**	**76.24**	**45**	P		P	P	17 53 59.7	+0.1
	0.4nm,0.6s,baz=289,slow=4.9,SNR=9.9								
WRA	**Warramunga Arr**	**148.30**	**91**	PKPbc		PKPbc	PKPbc	18 01 57.4	-0.7
	0.3nm,0.7s,baz=284,slow=8.6,SNR=5.0								
ASAR	**Alice Springs**	**148.46**	**98**	PKPbc		PKPbc	PKPbc	18 01 58.0	-0.5
	0.3nm,0.6s,baz=288,slow=2.0,SNR=8.1								

IDC 18 17:49:14.0±0.8, 34°.34S×15°.13W, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.8/20, mbtmp4.0/5, MS3.6/9, Ms1 3.6/9, ms1mx3.4/22, Error ellipse: s-maj=31.9km s-min=24.3km az=124.0, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**29.98**	**96**	LR		LR	LR	18 04 47.8	
	comp=Z,122nm,19.0s,baz=252,slow=31								
TSUM	**Tsumeb**	**32.70**	**71**	LR		LR	LR	18 04 40.4	
	comp=Z,44nm,20.6s,baz=175,slow=28								
BOSA	**Boshof**	**34.74**	**92**	LR		LR	LR	18 07 24.4	
	comp=Z,180nm,18.4s,baz=252,slow=31								
BDFB	**Brasilia**	**34.93**	**294**	LR		LR	LR	18 07 24.9	
	comp=Z,95nm,20.6s,baz=344,slow=31								
CPUP	**Villa Florida**	**37.08**	**271**	LR		LR	LR	18 09 03.7	
	comp=Z,128nm,20.8s,baz=140,slow=32								
DBIC	**Dimbokro**	**41.93**	**15**	P		P	P	17 57 07.3	+0.8
	2.6nm,0.8s,baz=186,slow=1.5,SNR=3.6								
DBIC						LR	LR	18 09 32.2	
	comp=Z,44nm,21.7s,baz=343,slow=29								
PLCA	**Paso Flores**	**43.79**	**245**	LR		LR	LR	18 11 14.6	
	comp=Z,94nm,21.6s,baz=161,slow=30								
CFAA	**Coronel Fontan**	**44.22**	**258**	P		P	P	17 57 24.1	-1.0
	0.3nm,0.5s,baz=85,slow=7.3,SNR=8.7								
SIV	**San Ignacio**	**45.00**	**282**	P		P	P	17 57 32.2	+0.7
	2.9nm,0.8s,baz=124,slow=8.5,SNR=14								
TORD	**Torodi Ar. Bea**	**49.86**	**22**	P		P	P	17 58 09.4	+0.3
	2.9nm,0.8s,baz=198,slow=8.0,SNR=15								
TORD				LR		LR	LR	18 15 26.0	
	comp=Z,78nm,18.4s,baz=205,slow=32								
LPAZ	**La Paz**	**50.60**	**277**	LR		LR	LR	18 17 41.5	
	comp=Z,57nm,21.9s,baz=350,slow=34								
VNDA	**Vanda**	**68.38**	**179**	P		P	P	18 00 18.3	+1.5
	0.8nm,0.8s,baz=292,slow=4.2,SNR=3.5								
ASAR	**Alice Springs**	**115.23**	**149**	PKP		PKPdf	PKPdf	18 07 57.0	-1.0
	0.3nm,0.7s,baz=202,slow=1.9,SNR=8.0								
WRA	**Warramunga Arr**	**118.69**	**147**	PKP		PKPdf	PKPdf	18 08 03.4	-1.2
	0.4nm,0.8s,baz=223,slow=2.0,SNR=5.5								
YKA	**Yellowknife Ar**	**124.10**	**326**	PKP		PKPdf	PKPdf	18 08 12.3	-1.2
	0.4nm,0.7s,baz=100,slow=1.8,SNR=8.0								
SONM	**Songino Array**	**134.94**	**54**	PKP		PKPdf	PKPdf	18 08 32.3	-2.5
	0.4nm,0.6s,baz=306,slow=3.4,SNR=3.7								
ILAR	**Eielson Array**	**138.04**	**331**	PKP		PKPdf	PKPdf	18 08 39.9	+0.1
	0.5nm,0.8s,baz=13,slow=1.2,SNR=5.6								

MEX 18 18:14:50.2±0.5, 16°.17N×97°.71W, h5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**299**	*eP*		**Pg**		**18 14 58.2**	**-0.9**
PNIG				*i*	S		Sg	18 15 05.8	+0.7
VHO	**Vista Hermosa**	**1.30**	**46**	*eP*		**Pn**		**18 15 11.3**	**-4.0**
VHO				*eS*		Sg		18 15 27.8	-4.7
HUIG	**Huatulco**	**1.59**	**104**	*eP*		Pn		18 15 16.0	-3.0
HUIG				*i*	S	Sn		18 15 35.1	-4.9
MEIG	**Mezcala**	**2.53**	**314**	*i*	P	Pn		18 15 29.6	-2.5
MEIG				*i*	S	Sn		18 16 00.1	-3.3
CAIG	**El Cayaco**	**2.60**	**290**	*

FITZ	**Fitzroy Crossi**	**41.99**	**267**	P	**P**	**18 49 09.7**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=135,slow=7.1,SNR=3.4						
NWAO	**Narrogin (SRO)**	**47.93**	**245**	LR	LR	19 09 17.5	
	comp=Z,100nm,20.1s,baz=354,slow=35						
VNA3	**Neumayer Olymp**	**87.20**	**180**	*e*P	**P**	**18 54 04.8**	**-0.1**
VNA3	**Neumayer Olymp**	**87.20**	**180**	*e*WP		18 54 10.2	
VNA2	**Neumayer--Watz**	**87.51**	**181**	*e*P	**P**	**18 54 06.6**	**+0.2**
	baz=186,slow=2.4						
VNA2	**Neumayer--Watz**	**87.51**	**181**	*e*WP		18 54 12.1	
	baz=186,slow=2.4						
VNA1	**Neumayer--Stat**	**87.79**	**180**	*e*P	**P**	**18 54 09.1**	**+1.4**
SONM	**Songino Array**	**89.83**	**323**	P	**P**	**18 54 19.0**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=129,slow=5.3,SNR=11						
ARCES	**ARCESS Array B**	**127.78**	**345**	PKP	**PKPdf**	**19 00 22.7**	**-0.9**
	comp=Z,5.1nm,1.0s,baz=0.0,slow=6.1,SNR=3.8						
BRG	**Berggiesshubel**	**145.58**	**333**	*e*	**PKPdf**	**19 00 56.9**	**0.0**
	comp=Z,6.2nm,0.9s						
CLL	**Collm**	**145.63**	**335**	⇓*i*P	**PKPdf**	**19 00 56.9**	**0.0**
	comp=Z,5.0nm,0.6s						
CLL				*e*		19 01 01.0	
GERES	**GERESS Array B**	**147.19**	**331**	PKPbc	**PKPbc**	**19 01 02.1**	**0.0**
	comp=Z,2.3nm,0.9s,baz=45,slow=2.5,SNR=11						
DBIC	**Dimbokro**	**164.23**	**198**	PKPab	**PKPab**	**19 02 17.9**	**+1.1**
	comp=Z,4.7nm,1.1s,baz=143,slow=5.1,SNR=3.8						

IDC 18 18:56:29.5±1.9, 0.58N×126.44E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/20, mbtmp3.3/3, Error ellipse: s-maj=167.4km s-min=24.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**160**	P	P	19 01 23.3	-0.2
	1.0nm,0.8s,baz=338,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.17**	**164**	P	P	19 01 56.9	+0.1
	0.2nm,0.5s,baz=342,slow=9.8,SNR=6.9						
MKAR	**Makanchi Array**	**59.98**	**326**	P	P	19 06 37.9	-0.1
	0.3nm,0.4s,baz=120,slow=7.6,SNR=9.2						

*IDC **18** 19:09:39.8±1.1, 23.60N×121.58E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, Error ellipse: s-maj=43.2km s-min=19.7km az=65.0*
*ISCJB **18** 19:09:43.0±0.2, 23.74N±0.01×121.52E±0.02, h18km±2km, mb3.2/5, Error ellipse: s-maj=2.9km s-min=1.8km az=39.4*
*TAP **18** 19:09:42.6, 23.76N×121.44E, h16km, ML3.8, B*
*JMA **18** 19:09:42.1±0.3, 23.69N×121.39E, h69km, M3.1*

ISC 18 19:09:42.9±0.7, 23.75N±0.02×121.49E±0.02, h17km±4km, n77, σ0991/127, mb3.2/5, 11C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.06**	**136**	P	**Pg**	**19 09 46.8**	**+0.8**
	baz=118						
TEGC				*e*S	**Sg**	**19 09 49.7**	**+1.6**
	baz=118						
ESL	**Shilin**	**0.08**	**317**	⇓*e*P	**Pg**	**19 09 45.5**	**-0.8**
	baz=1.0						
ESF	**Shoufeng Towns**	**0.12**	**6**	⇓P	**Pg**	**19 09 46.5**	**-0.1**
	baz=30						
ESF				S	**Sg**	**19 09 48.8**	**-0.2**
	baz=30						
HWA	**Hwalien**	**0.24**	**25**	⇓*i*P	**Pg**	**19 09 49.0**	**+0.6**
	baz=32						
HWA				S	**Sb**	**19 09 53.3**	**+0.3**
	baz=32						
EHY	**Hungye**	**0.29**	**213**	⇓*i*P	**Pg**	**19 09 48.5**	**-0.6**
	baz=202						
EHY				S	**Sg**	**19 09 52.9**	**-0.6**
	baz=202						
TWD	**Chiawan**	**0.34**	**16**	⇓*i*P	**Pg**	**19 09 50.0**	**0.0**
	baz=18						
TWD				S	**Sg**	**19 09 54.7**	**-0.2**
	baz=18						
TWF1	**Yuli**	**0.44**	**204**	⇑*i*P	**Pg**	**19 09 50.9**	**-0.9**
	baz=203						
TWF1				*e*S	**Sg**	**19 09 57.2**	**-0.5**
	baz=203						
WHF	**Hehuan Shan**	**0.44**	**332**	⇑*i*P	**Pg**	**19 09 51.2**	**-0.9**
	baz=339						
WHF				*e*S	**Sg**	**19 09 56.6**	**-1.5**
	baz=339						
SMLT	**Sun Moon Lake**	**0.56**	**283**	⇑*i*P	**Pg**	**19 09 53.1**	**-0.9**
	baz=284						
SMLT				S	**Sg**	**19 09 59.9**	**-1.7**
	baz=284						
TWT	**Tachien**	**0.58**	**330**	⇑*i*P	**Pg**	**19 09 54.0**	**-0.3**
	baz=333						
TWT				S	**Sg**	**19 10 00.8**	**-1.3**
	baz=333						
EHP	**Heping Village**	**0.60**	**22**	*e*P	**Pg**	**19 09 54.8**	**0.0**
	baz=28						
TYC	**Yuchr**	**0.60**	**285**	⇑*i*P	**Pg**	**19 09 53.7**	**-1.1**
	baz=293						
TYC				*e*S	**Sg**	**19 10 01.2**	**-1.6**
	baz=293						
CHKT	**Chengkung**	**0.66**	**190**	⇓*i*P	**Pg**	**19 09 55.5**	**-0.4**
	baz=172						
CHKT				*e*S	**Sb**	**19 10 05.5**	**+0.6**
	baz=172						
ALS	**Alishan**	**0.68**	**249**	⇓*i*P	**Pg**	**19 09 56.5**	**+0.2**
	baz=246						
ALS				*e*S	**Sg**	**19 10 04.1**	**-1.2**
	baz=246						
NNS	**Nan Shan**	**0.69**	**351**	⇑*i*P	**Pb**	**19 09 56.1**	**-0.6**
	baz=3.0						
NNS				*e*S	**Sb**	**19 10 05.0**	**-1.0**
	baz=3.0						
ENA	**Nanau**	**0.71**	**19**	⇓*i*P	**Pb**	**19 09 55.9**	**-1.0**
	baz=24						
ENA				*e*S	**Sb**	**19 10 06.4**	**0.0**
	baz=24						
ELDTW	**Lidau**	**0.71**	**218**	⇑*e*P	**Pb**	**19 09 55.2**	**-1.7**
	baz=204						
WNT	**Mingjian**	**0.75**	**280**	*i* P	**Pb**	**19 09 57.8**	**+0.3**
	baz=282						
WNT				*e*S	**Sg**	**19 10 08.3**	**+0.8**
	baz=282						
TCU	**Taichung**	**0.84**	**298**	⇑*i*P	**Pb**	**19 09 59.5**	**+0.4**
	baz=301						
TCU				*e*S	**Sg**	**19 10 11.0**	**+0.5**
	baz=301						
WGK	**Gukeng**	**0.86**	**266**	P	**Pb**	**19 09 59.5**	**+0.2**
	baz=265						
WGK				S	**Sg**	**19 10 11.4**	**+0.6**
	baz=265						
ENTT	**Nioudou**	**0.89**	**4**	⇓P	**Pb**	**19 09 58.9**	**-1.0**
	baz=9.0						
ENTT				*e*S	**Sb**	**19 10 10.8**	**-0.6**
	baz=9.0						
TWQ1	**Liyutan**	**0.89**	**312**	⇑*i*P	**Pb**	**19 09 59.9**	**+0.1**
	baz=322						
TWQ1				*e*S	**Sg**	**19 10 12.7**	**+0.9**
	baz=322						
TWC	**Suao**	**0.91**	**21**	P	**Pb**	**19 09 59.1**	**-1.1**
	baz=18						
TWC				*e*S	**Sg**	**19 10 13.4**	**+0.8**
	baz=18						
CHN4	**Tsaushan**	**0.92**	**244**	*e*P	**Pb**	**19 10 00.8**	**+0.4**
	baz=242						
CHN4				S	**Sb**	**19 10 12.5**	**+0.2**
	baz=242						
NSK	**Sanguang**	**0.93**	**352**	⇓*e*P	**Pb**	**19 10 00.1**	**-0.6**
	baz=356						
NSK				*e*S	**Sb**	**19 10 11.8**	**-0.9**
	baz=356						
NSY	**Sanyi**	**0.94**	**315**	*i* P	**Pb**	**19 10 01.3**	**+0.5**
	baz=302						
WTP	**Ta-pu**	**0.95**	**238**	⇑P	**Pb**	**19 10 01.1**	**+0.1**
	baz=236						
WTP				S	**Sb**	**19 10 13.2**	**-0.2**
	baz=236						
CHN2	**Minshiung**	**0.96**	**257**	*e*P	**Pb**	**19 10 01.2**	**+0.1**
	baz=256						
CHN2				*e*S	**Sg**	**19 10 14.3**	**+0.2**
	baz=256						
TWE	**Neicheng**	**0.98**	**9**	P	**Pb**	**19 10 00.1**	**-1.3**
	baz=23						
TWE				S	**Sb**	**19 10 14.5**	**+0.5**
	baz=23						
NSTT	**Nanjuang**	**0.98**	**333**	⇑*i*P	**Pb**	**19 10 01.5**	**0.0**
	baz=336						
NSTT				*e*S	**Sb**	**19 10 14.3**	**0.0**
	baz=336						
TWG	**Pinlang**	**1.01**	**203**	*e*P	**Pb**	**19 10 00.5**	**-1.4**
	baz=185						
CHY	**Chiayi**	**1.01**	**256**	*e*P	**Pb**	**19 10 02.3**	**+0.3**
	baz=254						
CHY				*e*S	**Sn**	**19 10 16.2**	**0.0**
	baz=254						
ILA	**Ilan**	**1.03**	**13**	*e*P	**Pb**	**19 10 01.9**	**-0.4**
	baz=17						
ILA				*e*S	**Sb**	**19 10 16.1**	**+0.5**
	baz=17						
TWK	**Hsinying**	**1.04**	**242**	*e*P	**Pb**	**19 10 02.8**	**+0.3**
	baz=241						
TWK				S	**Sg**	**19 10 16.8**	**+0.1**
	baz=241						
TTN	**Taitung**	**1.04**	**198**	*e*P	**Pb**	**19 10 02.8**	**+0.2**
	baz=193						
CHN1	**Nanshi**	**1.05**	**238**	*e*P	**Pb**	**19 10 02.8**	**+0.1**
	baz=236						
CHN1				*e*S	**Sg**	**19 10 17.0**	**-0.1**
	baz=236						
SGST	**Jiashian**	**1.07**	**232**	*e*P	**Pb**	**19 10 03.2**	**+0.2**
	baz=229						
SGST				*e*S	**Sg**	**19 10 18.4**	**+0.8**
	baz=229						
WTCT	**Ta-ch'eng**	**1.12**	**276**	*e*P	**Pb**	**19 10 03.5**	**-0.2**
	baz=275						
WTCT				*e*S	**Sn**	**19 10 19.0**	**+0.2**
	baz=275						
HSN	**Hsinchu**	**1.15**	**335**	P	**Pg**	**19 10 05.4**	**+0.3**
	baz=321						
HSN				*e*S	**Sg**	**19 10 22.1**	**+2.0**
	baz=321						
WSF	**Szhu**	**1.17**	**265**	*e*P	**Pn**	**19 10 04.2**	**-0.4**
	baz=264						
WSF				*e*S	**Sn**	**19 10 20.5**	**+0.3**
	baz=264						
CHN3	**Shinhua**	**1.24**	**237**	*e*P	**Pg**	**19 10 07.3**	**+0.6**
	baz=236						
CHN3				*e*S	**Sg**	**19 10 25.0**	**+2.0**
	baz=236						
NCU	**National Centr**	**1.24**	**347**	P	**Pb**	**19 10 06.3**	**+0.3**
	baz=350						
NCU				S	**Sg**	**19 10 24.1**	**+0.9**
	baz=350						
CHN8	**Yiju**	**1.25**	**251**	*e*P	**Pb**	**19 10 06.1**	**+0.1**
	baz=251						
CHN8				*e*S	**Sg**	**19 10 23.0**	**-0.2**
	baz=251						
ECL	**Taimali**	**1.25**	**203**	*e*P	**Pn**	**19 10 02.9**	**-2.8**
	baz=185						
TAP	**Taipei**	**1.28**	**1**	*e*P	**Pn**	**19 10 05.6**	**-0.5**
	baz=21						
TAP				*e*S	**Sg**	**19 10 24.4**	**+0.1**
	baz=21						
TAP1	**Taipei**	**1.28**	**1**	*e*P	**Pn**	**19 10 05.0**	**-1.0**
	baz=21						
TAP1				*e*S	**Sn**	**19 10 24.1**	**+1.3**
	baz=21						
SCLT	**Jiali**	**1.32**	**244**	*e*P	**Pn**	**19 10 07.2**	**+0.5**
	baz=244						
SCLT				*e*S	**Sg**	**19 10 25.3**	**-0.4**
	baz=244						
TWB1	**Santiao Chiao**	**1.33**	**20**	*e*P	**Pn**	**19 10 06.3**	**-0.4**
	baz=24						
NWF	**Wu-fen Shan**	**1.34**	**11**	*e*P	**Pn**	**19 10 06.3**	**-0.6**
	baz=26						
NWF				*e*S	**Sg**	**19 10 26.2**	**0.0**
	baz=26						
TWS1	**Kuangyinshan**	**1.34**	**357**	*e*P	**Pn**	**19 10 06.9**	**0.0**
	baz=15						
TWS1				*e*S	**Sg**	**19 10 28.2**	**+1.9**
	baz=15						
TWM1	**Shoushan**	**1.35**	**227**	*e*P	**Pg**	**19 10 09.5**	**+0.5**
	baz=238						
TAI1	**Yung-k'ang**	**1.36**	**239**	*e*P	**Pb**	**19 10 08.4**	**+0.5**
	baz=233						
SGLT	**Jiouru**	**1.38**	**222**	*e*P	**Pb**	**19 10 08.6**	**+0.4**
	baz=209						
SGLT				*e*S	**Sg**	**19 10 30.2**	**+2.7**
	baz=209						
EAST	**Anshuo**	**1.49**	**204**	*e*P	**Pn**	**19 10 08.4**	**-0.5**
	baz=187						
TWY	**Chenhua**	**1.52**	**4**	*e*P	**Pb**	**19 10 10.7**	**0.0**
	baz=8.0						
YOJ	**Yonaguni jima**	**1.56**	**63**	*e*P	**Pn**	**19 10 10.0**	**+0.2**
	baz=64						
YOJ	**Yonaguni jima**	**1.56**	**63**	P	**Pn**	**19 10 09.8**	**0.0**
YOJ				*e*S	**Sn**	**19 10 30.4**	**+0.8**
SCZT	**Fangliau**	**1.59**	**211**	*e*P	**Pb**	**19 10 11.6**	**-0.4**
	baz=204						
LAY	**Lan-yu**	**1.71**	**178**	*e*P	Pn	19 10 08.9	-3.0
	baz=166						
TWP	**Hsiaoliuchiu**	**1.75**	**217**	*e*P	**Pb**	**19 10 14.9**	**+0.4**
	baz=229						
WDGT	**Dungji**	**1.75**	**254**	*e*P	**Pn**	**19 10 12.4**	**-0.1**
	baz=254						
WDGT				*e*S	**Sn**	**19 10 35.0**	**+0.5**
	baz=254						
PNG	**Penghu**	**1.79**	**264**	*e*P	**Pn**	**19 10 12.7**	**-0.3**
	baz=265						
PNG				*e*S	**Sn**	**19 10 36.3**	**+1.0**
	baz=265						
HEN	**Hengchun**	**1.87**	**202**	*e*P	**Pn**	**19 10 15.0**	**+0.8**
	baz=187						
TWK1	**Hengchun**	**1.91**	**200**	*e*P	**Pn**	**19 10 15.9**	**+1.1**
	baz=185						
TSEB	**Hengchuen, Pin**	**1.93**	**197**	*e*P	**Pn**	**19 10 13.7**	**-1.3**
	baz=181						
IRIF	**Iriomote-Funau**	**2.12**	**74**	P	**Pn**	**19 10 17.7**	**0.0**
IRIF				*e*S	**Sn**	**19 10 45.0**	**+1.3**
HATJ	**Hateruma jima**	**2.14**	**81**	S	**Sn**	**19 10 43.8**	**-0.2**
JKRS	**Kuro-shima**	**2.35**	**78**	P	**Pn**	**19 10 20.9**	**+0.1**
JKRS				*e*S	**Sn**	**19 10 50.8**	**+1.5**
JIJ	**Ishigaki jima**	**2.50**	**75**	P	**Pn**	**19 10 22.6**	**-0.2**
JIJ				*e*S	**Sn**	**19 10 52.6**	**-0.3**
KNM	**Kinmen**	**2.87**	**284**	*e*P	**Pn**	**19 10 29.5**	**+1.6**
	baz=281						
KNM				*e*S	**Sn**	**19 11 04.4**	**+2.2**
	baz=281						
JTJ	**Tarama**	**3.06**	**73**	P	**Pn**	**19 10 30.7**	**+0.2**
JTJ				S	**Sn**	**19 11 08.1**	**+1.3**
JOW	**Kunigami**	**6.86**	**62**	Pn	**Pn**	**19 11 21.7**	**-1.1**
	1.9nm,0.3s,baz=93,slow=28,SNR=7.9						
SONM	**Songino Array**	**26.87**	**337**	P	**P**	**19 15 24.1**	**+1.2**
	0.3nm,0.7s,baz=150,slow=9.9,SNR=3.6						
MKAR	**Makanchi Array**	**38.84**	**316**	P	**P**	**19 17 08.4**	**+1.3**
	0.6nm,0.9s,baz=108,slow=9.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.76**	**327**	P	**P**	**19 17 23.1**	**+0.2**
	0.2nm,0.4s,baz=116,slow=9.8,SNR=2.5						
WRA	**Warramunga Arr**	**45.20**	**163**	P	**P**	**19 17 57.1**	**-2.1**
	0.2nm,0.5s,baz=344,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**48.65**	**165**	P	**P**	**19 18 24.4**	**-1.8**
	0.1nm,0.4s,baz=338,slow=6.5,SNR=5.5						

*IDC **18** 19:15:46.1±5.2, 7.56S×127.57E, h126km±47km, mb3.3/4, mb1 3.8/7, mb1mx3.5/19, mbtmp3.6/7, Error ellipse: s-maj=73.0km s-min=18.2km az=61.0*
*ISCJB **18** 19:15:48.3±0.5, 7.72S±0.04×127.51E±0.05, h150km, mb3.5/4, Error ellipse: s-maj=7.6km s-min=5.8km az=177.2*
*AUST **18** 19:15:50.6±1.2, 7.82S×127.60E, h153km, Error ellipse: s-maj=1.4km s-min=0.9km az=269.0*

ISC 18 19:15:48.7±0.7, 7.82S±0.05×127.54E±0.07, h150km, n18, σ2935/24, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**4.16**	**9**	P	**Pn**	**19 16 53.2**	**+2.1**
	baz=4.2,SNR=3.3						
TLE	**Tual**	**5.60**	**67**	P	**Pn**	**19 17 11.7**	**+1.6**
	baz=5.5,SNR=11						
MTN	**Manton Dam**	**6.11**	**145**	P	**Pn**	**19 17 19.5**	**+2.6**
	baz=6.1,SNR=64						
MTN				S	**Sn**	**19 18 28.2**	**+2.2**
	baz=6.1,SNR=8.1						
KDU	**Kakadu**	**6.85**	**135**	P	**Pn**	**19 17 28.9**	**+2.1**
	baz=6.8,SNR=52						
KDU				S	**Sn**	**19 18 40.1**	**-3.5**
	baz=6.8,SNR=20						
WSI	**Waingapu**	**7.39**	**255**	S	**Sn**	**19 18 58.8**	**+2.2**
	baz=7.4,SNR=6.1						
SWI	**Sorong**	**7.85**	**28**	P	**Pn**	**19 17 40.3**	**+0.3**
	baz=7.9,SNR=5.1						
SWI				S	**Sn**	**19 19 06.6**	**-1.0**
	baz=7.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**10.38**	**190**	P	**Pn**	**19 18 14.5**	**+0.7**
	2.9nm,0.3s,baz=37,slow=12,SNR=70						
FITZ				S	**Sn**	**19 20 05.4**	**-3.4**
	1.5nm,0.3s,baz=118,slow=19,SNR=5.6						
FITZ	**Fitzroy Crossi**	**10.38**	**190**	P	**Pn**	**19 18 14.5**	**+0.7**
	baz=10,SNR=67						
WRA	**Warramunga Arr**	**13.73**	**152**	P	**Pn**	**19 18 57.5**	**+0.2**
	1.2nm,0.3s,baz=323,slow=14,SNR=51						
WRA				S	**Sn**	**19 21 24.4**	**-5.0**
	1.2nm,0.3s,baz=325,slow=24,SNR=12						
COEN	**Coen**	**16.51**	**113**	P	**Pn**	**19 19 33.6**	**+1.8**
	baz=16,SNR=5.9						
ASAR	**Alice Springs**	**16.89**	**160**	P	**Pn**	**19 19 39.5**	**+3.2**
	1.9nm,0.3s,baz=337,slow=11,SNR=143						
ASAR				S	**S**	**19 22 41.5**	**-2.9**
	0.4nm,0.3s,baz=328,slow=22,SNR=6.4						
MEEK	**Meekatharra**	**20.54**	**203**	P	Pn	19 20 18.8	-0.7
	baz=21,SNR=3.1						
CMAR	**Chiang Mai Arr**	**38.45**	**313**	P	**P**	**19 22 55.0**	**-1.1**
	0.7nm,0.6s,baz=142,slow=6.5,SNR=9.2						
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**19 25 28.0**	**-1.1**
	0.3nm,0.7s,baz=163,slow=6.8,SNR=3.4						
MKAR	**Makanchi Array**	**67.60**	**328**	P	**P**	**19 26 27.9**	**-1.3**
	0.6nm,0.6s,baz=122,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**71.27**	**335**	P	**P**	**19 26 49.2**	**-2.3**
	0.8nm,0.4s,baz=137,slow=5.6,SNR=5.6						
CPUP	**Villa Florida**	**145.72**	**172**	PKPbc	**PKPbc**	**19 35 11.6**	**+0.9**
	0.4nm,0.3s,baz=198,slow=3.2,SNR=2.9						
LPAZ	**La Paz**	**151.46**	**147**	PKPbc	**PKPbc**	**19 35 25.8**	**-0.9**
	0.7nm,0.4s,baz=153,slow=2.3,SNR=5.1						
LPAZ				PKPab	**PKPab**	**19 35 37.7**	**+2.4**
	0.8nm,0.7s,baz=211,slow=7.4,SNR=3.9						

MEX 18 19:20:34.0±1.1, 15.95N×97.01W, h10km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.89**	**102**	*e*P	Pg	19 20 49.1	-2.1
HUIG				*i* S	Sg	19 21 00.2	-2.6
VHO	**Vista Hermosa**	**1.15**	**14**	*e*P	Pb	19 20 51.6	-4.6
VHO				*i* S	Sb	19 21 06.7	-4.6
PNIG	**Pinotepa**	**1.16**	**292**	*e*P	Pb	19 20 51.7	-4.4
PNIG				*i* S	Sb	19 21 07.7	-3.5
UTMO	**Huajuapan**	**2.01**	**338**	*e*P	Pn	19 21 05.5	-2.9
UTMO				*i* S	Sn	19 21 30.0	-3.9
CMIG	**Matias Romero**	**2.33**	**61**	*e*P	Pn	19 21 10.4	-2.1
CMIG				*i* S	Sn	19 21 37.0	-4.2
TPIG	**Tehuac#an**	**2.48**	**352**	*e*P	Pn	19 21 12.8	-1.8
TPIG				*i* S	Sn	19 21 40.3	-4.9

*ATH **18** 20:11:16.9, 36.17N×27.25E, h9km, MD3.2/5*
*ISCJB **18** 20:11:17.8±3.1, 36.06N±0.05×27.34E±0.06, h5km±25km, Error ellipse: s-maj=9.9km s-min=5.6km az=42.1*
*CSEM **18** 20:11:18.3±0.3, 36.03N×27.36E, h12km, MD3.2, Error ellipse: s-maj=12.7km s-min=6.7km az=138.0*

ISC 18 20:11:17.5±3.6, 36.06N±0.06×27.43E±0.05, h13km±27km, n14, σ1917/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.56**	**204**	*e*PB	**Pb**	**20 11 29.1**	**0.0**
KARP				*e*SB	**Sb**	**20 11 37.8**	**+0.8**
KARP	**Karpathos**	**0.56**	**204**	*e*Pb	**Pb**	**20 11 29.1**	**0.0**
ARG	**Arkhangelos**	**0.58**	**74**	*e*PB	**Pn**	**20 11 31.5**	**0.0**
ARG				*e*SB	**Sb**	**20 11 39.9**	**+2.1**
ARG	**Arkhangelos**	**0.58**	**74**	*e*Pb	**Pb**	**20 11 31.5**	**0.0**
ARG				*e*Sb	**Sb**	**20 11 39.9**	**+2.1**
BDRM	**Kayabasi**	**1.01**	**0**	*i* P	**Pn**	**20 11 38.3**	**+0.9**
BDRM				*i* S	**Sn**	**20 11 50.9**	**-0.6**
BDRM	**Kayabasi**	**1.01**	**0**	*i* P	**Pn**	**20 11 38.3**	**+0.9**
BDRM				*i* S	**Sn**	**20 11 50.9**	**-0.6**
TURN	**Turunc**	**1.25**	**49**	*i* P	**Pn**	**20 11 38.5**	**-2.1**
TURN				*i* S	Sb	20 11 50.0	-6.9
TURN	**Turunc**	**1.25**	**49**	*i* P	**Pn**	**20 11 38.5**	**-2.1**
NPS	**Neapolis**	**1.68**	**242**	*e*PB	**Pn**	**20 11 46.7**	**0.0**
NPS				*e*SB	**Sn**	**20 12 07.6**	**-0.5**
NPS	**Neapolis**	**1.68**	**242**	*e*Pb	**Pn**	**20 11 46.7**	**0.0**
NPS				*e*Sb	**Sn**	**20 12 07.6**	**-0.5**
LAST	**Lasithi**	**1.83**	**241**	*e*PN	**Pb**	**20 11 50.0**	**-0.9**
LAST	**Lasithi**	**1.83**	**241**	*e*Pn	**Pb**	**20 11 50.0**	**-0.9**
IDI	**Anoyia**	**2.21**	**250**	*e*PN	**Pn**	**20 11 54.2**	**+0.2**
IDI	**Anoyia**	**2.21**	**250**	*e*Pn	**Pn**	**20 11 54.2**	**+0.2**

*ISCJB **18** 20:20:18.8±1.5, 6.28S±0.07×154.93E±0.05, h66km±14km, mb4.2/22, Error ellipse: s-maj=11.9km s-min=7.5km az=1.5*
*NEIC **18** 20:20:18.4±0.4, 6.27S×154.92E, mb4.5/7, Error ellipse: s-maj=10.1km s-min=9.0km az=73.0*
*IDC **18** 20:20:18.3±0.5, 6.28S×154.93E, h50km±4km, mb4.1/15, mb1 4.2/19, mb1mx4.1/26, mbtmp4.2/19, MS3.4/10, Ms1 3.4/10, ms1mx3.2/28, Error ellipse: s-maj=16.0km s-min=13.4km az=84.0*
*AUST **18** 20:20:21.5±1.1, 6.31S×154.88E, h75km, Error ellipse: s-maj=2.0km s-min=1.3km az=3.0*

ISC 18 20:20:18.7±0.4, 6.22S±0.06×154.90E±0.05, h53km±3km, h52km:pP-P, n75, σ1939/102, mb4.5/31, MS3.4/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.93**	**123**	P	**Pn**	**20 21 44.3**	**+0.3**
	13nm,0.3s,baz=17,slow=19,SNR=5.7						
HNR				S	**Sn**	**20 22 53.9**	**+3.3**
	8.7nm,0.3s,baz=23,slow=20,SNR=2.8						
HNR				LR	LR	20 23 59.6	
	comp=Z,243nm,18.2s,baz=165,slow=38						
HNR	**Honiara**	**5.93**	**123**	P	**Pn**	**20 21 44.3**	**+0.3**
HNR				S	**Sn**	**20 22 53.9**	**+3.3**
PMG	**Port Moresby**	**8.30**	**247**	P	**Pn**	**20 22 17.6**	**+1.2**
	16nm,0.3s,baz=76,slow=7.1,SNR=41						
PMG				S	**Sn**	**20 23 53.0**	**+4.1**
	3.2nm,0.3s,baz=30,slow=14,SNR=4.9						
PMG	**Port Moresby**	**8.30**	**247**	*e*P	**Pn**	**20 22 17.9**	**+1.4**
	92nm,0.6s						
PMG				S	**Sn**	**20 23 53.0**	**+4.1**
COEN	**Coen**	**13.87**	**235**	P	**Pn**	**20 23 33.0**	**+0.4**
	baz=14,SNR=4.3						
CTA	**Charters Tower**	**16.15**	**211**	P	**Pn**	**20 24 02.4**	**+0.2**
	0.3nm,0.3s,baz=31,slow=16,SNR=3.3						
CTA				LR	LR	20 29 05.4	
	comp=Z,138nm,19.9s,baz=46,slow=33						
CTA	**Charters Tower**	**16.15**	**211**	P	**Pn**	**20 24 02.4**	**+0.2**
DZM	**Mont Dzumac**	**19.31**	**146**	P	**Pn**	**20 24 39.7

1.1nm,0.6s,baz=21,slow=9.0,SNR=4.7
STKA LR LR 20 36 29.3
comp=Z,108nm,19.3s,baz=26,slow=34
STKA Stephens Creek 28.40 204 P **P** **20 26 06.7 -1.5**
FITZ Fitzroy Crossi 30.89 245 *eP* **P** **20 26 29.3 -1.2**
3.0nm,0.7s
FITZ Fitzroy Crossi 30.89 245 P **P** **20 26 29.6 -0.9**
baz=31,SNR=4.8
URZ Urewera 37.73 151 P **P** **20 27 28.8 -0.5**
6.0nm,0.4s,baz=326,slow=2.7,SNR=3.3
URZ Urewera 37.73 151 P **P** **20 27 28.8 -0.5**
RPZ Rata Peaks 39.96 162 P **P** **20 27 47.1 -0.9**
6.7nm,0.6s,baz=218,slow=3.5,SNR=3.8
RPZ Rata Peaks 39.96 162 P **P** **20 27 47.1 -0.9**
MEEK Meekatharra 40.07 235 P **P** **20 27 48.7 -0.5**
baz=40,SNR=7.5
KKM Kota Kinabalu 40.49 287 P **P** **20 27 53.9 +1.0**
baz=40,SNR=5.4
MJAR Matsushiro Arr 45.32 341 LR LR 20 43 45.8
comp=Z,46nm,20.9s,baz=175,slow=31
KSRS Korea Array 50.21 332 LR LR 20 46 59.7
comp=Z,30nm,19.3s,baz=194,slow=32
ENH Enshi 56.65 312 *eP* **P** **20 29 57.1 +0.2**
GSI Gunungsitoli 57.72 275 P **P** **20 30 03.5 -1.1**
baz=58,SNR=6.0
PETK Petropavlovsk- 59.15 2 P **P** **20 30 15.4 +1.5**
5.1nm,0.8s,baz=188,slow=9.0,SNR=6.5
PETK LR LR 20 51 53.8
comp=Z,35nm,19.2s,baz=56,slow=32
PETK Petropavlovsk- 59.15 2 P **P** **20 30 15.4 +1.5**
CM31 Chiang Mai Arr 60.37 295 *eP* **P** **20 30 24.5 +1.6**
10nm,0.8s
CM31 *ep*P **pP** **20 30 38.8 +1.4**
CMAR Chiang Mai Arr 60.37 295 P **P** **20 30 24.6 +1.6**
8.9nm,0.8s,baz=120,slow=5.1,SNR=104
CMAR pP **pP** **20 30 38.0 +0.6**
6.2nm,0.7s,baz=114,slow=4.5,SNR=17
CMAR LR LR 20 55 36.0
comp=Z,18nm,18.1s,baz=195,slow=35
CMAR Chiang Mai Arr 60.37 295 P **P** **20 30 24.6 +1.6**
CMAR pP **pP** **20 30 38.0 +0.6**
CHTO Chiang Mai 60.48 296 *eP* **P** **20 30 24.8 +1.1**
10nm,1.2s
CHTO *ep*P **pP** **20 30 39.2 +1.0**
SONM Songino Array 68.64 327 P **P** **20 31 17.6 +1.1**
1.6nm,0.5s,baz=143,slow=5.1,SNR=36
SONM pP **pP** **20 31 32.0 +0.7**
0.8nm,0.7s,baz=122,slow=4.9,SNR=4.3
SONM Songino Array 68.64 327 P **P** **20 31 17.6 +1.1**
SONM pP **pP** **20 31 32.0 +0.7**
LSA Lhasa 70.76 304 *eP* **P** **20 31 32.0 +1.6**
1.7nm,0.6s
LSA *ep*P **pP** **20 31 45.0 -0.2**
TAPN Taplejung 72.93 301 *eP* **P** **20 31 44.6 +1.4**
4.4nm,0.5s
ODAN Odare 73.06 300 *eP* **P** **20 31 44.5 +0.5**
18nm,0.6s
RAMN Ramite 73.77 300 *eP* **P** **20 31 49.0 +0.9**
5.4nm,0.4s
JIRN Jiri 74.31 301 *eP* **P** **20 31 52.5 +1.1**
BILL Bilibino 74.52 4 *eP* **P** **20 31 52.1 +0.8**
5.6nm,0.8s
BILL *ep*P **pP** **20 32 07.0 +0.8**
GUN Gumba 74.64 301 *eP* **P** **20 31 53.9 +0.6**
13nm,0.6s
PKI Pulchoki 74.95 301 *eP* **P** **20 31 55.9 +0.8**
PKIN Phulchoki 74.97 301 *eP* **P** **20 31 55.6 +0.5**
3.2nm,0.5s
KKN Kakani 75.12 301 *eP* **P** **20 31 56.9 +1.0**
8.2nm,0.4s
DMN Daman 75.22 301 *eP* **P** **20 31 57.7 +1.1**
14nm,0.6s
GKN Gorkha 75.73 301 *eP* **P** **20 31 59.4 +0.1**
KOLN Koldanda 76.56 300 *eP* **P** **20 32 04.7 +0.6**
8.5nm,0.6s
DANN Dangsing 76.56 301 *eP* **P** **20 32 04.6 +0.3**
PYUN Piuthan 77.16 301 *eP* **P** **20 32 08.6 +1.1**
26nm,0.9s
ILAR Eielson Array 82.69 22 P **P** **20 32 35.0 -1.3**
0.4nm,0.5s,baz=230,slow=5.7,SNR=8.8
ILAR pP **pP** **20 32 50.6 -0.9**
0.4nm,0.5s,baz=239,slow=5.0,SNR=3.4
ILAR Eielson Array 82.69 22 P **P** **20 32 35.0 -1.3**
ILAR pP **pP** **20 32 50.6 -0.9**
MKAR Makanchi Array 82.77 319 P **P** **20 32 37.4 +0.2**
4.0nm,0.8s,baz=101,slow=5.5,SNR=44
MKAR pP **pP** **20 32 52.1 -0.2**
3.2nm,0.7s,baz=100,slow=5.8,SNR=11
MKAR Makanchi Array 82.77 319 P **P** **20 32 37.4 +0.2**
MKAR pP **pP** **20 32 52.1 -0.2**
ZALV Zalesovo Beam 83.49 326 P **P** **20 32 39.6 -1.1**
2.7nm,0.8s,baz=106,slow=4.5,SNR=13
ZALV pP **pP** **20 32 54.6 -1.2**
2.7nm,0.8s,baz=104,slow=6.3,SNR=5.8
ZALV Zalesovo Beam 83.49 326 P **P** **20 32 39.6 -1.1**
ZALV pP **pP** **20 32 54.6 -1.2**
QSPA South Pole Qui 83.75 180 *eP* **P** **20 32 40.9 -1.1**
3.2nm,0.5s
QSPA *ep*P **pP** **20 32 54.0 -3.1**
KURK Kurchatov 86.17 322 *eP* **P** **20 32 52.9 -1.4**
KURK pP **pP** **20 33 08.5 -0.9**
KURBB Kurchatov Arra 86.20 322 P **P** **20 32 54.0 -0.4**
0.7nm,0.5s,baz=99,slow=4.8,SNR=11
KURBB pP **pP** **20 33 08.5 -1.1**
0.7nm,0.5s,baz=99,slow=4.7,SNR=7.1
NVAR Mina Array Bea 91.31 52 P **P** **20 33 20.4 +1.2**
1.1nm,0.8s,baz=260,slow=6.0,SNR=7.5
NVAR pP **pP** **20 33 33.6 -0.9**
1.7nm,1.0s,baz=251,slow=6.4,SNR=5.3
NVAR LR LR 21 13 38.0
comp=Z,54nm,18.6s,baz=90,slow=35
NVAR Mina Array Bea 91.31 52 P **P** **20 33 20.4 +1.2**
NVAR pP **pP** **20 33 33.6 -0.9**
BVAR Borovoye Array 91.62 323 P **P** **20 33 19.0 -1.1**
0.7nm,0.7s,baz=70,slow=5.2,SNR=5.5
BVAR pP **pP** **20 33 33.7 -1.7**
0.7nm,0.5s,baz=92,slow=4.5,SNR=5.0
BVAR Borovoye Array 91.62 323 P **P** **20 33 19.0 -1.1**
BVAR pP **pP** **20 33 33.7 -1.7**
YKA Yellowknife Ar 95.70 28 P **P** **20 33 39.0 +0.5**
0.6nm,0.5s,baz=263,slow=4.6,SNR=8.4
YKA pP **pP** **20 33 53.6 -0.2**
1.7nm,1.0s,baz=265,slow=4.6,SNR=6.0
YKA Yellowknife Ar 95.70 28 P **P** **20 33 39.0 +0.5**
YKA pP **pP** **20 33 53.6 -0.2**
TORD Torodi Ar. Bea 152.73 287 PKPbc **PKPbc** **20 40 09.3 -1.4**
1.0nm,0.3s,baz=78,slow=2.2,SNR=28
TORD PKPab **PKPab** **20 40 21.4 -0.2**
1.0nm,0.8s,baz=70,slow=4.2,SNR=5.1
TORD Torodi Ar. Bea 152.73 287 PKPbc **PKPbc** **20 40 09.3 -1.4**
TORD PKPab **PKPab** **20 40 21.4 -0.2**

IDC 18 20:39:58.0±1.9, 3°.89N×127°.34E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=159.4km s-min=23.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.67**	**164**	P		P	P	20 45 19.9	-0.9
	1.8nm,0.7s,baz=344,slow=11,SNR=14								
ASAR	**Alice Springs**	**28.13**	**167**	P		P	P	20 45 53.0	+1.0
	0.3nm,0.6s,baz=345,slow=11,SNR=5.2								
STKA	**Stephens Creek**	**38.07**	**160**	P		P	P	20 47 18.6	+0.1
	1.4nm,0.6s,baz=341,slow=8.8,SNR=3.7								
MKAR	**Makanchi Array**	**57.77**	**325**	P		P	P	20 49 50.9	-0.1
	0.4nm,0.5s,baz=115,slow=7.9,SNR=9.6								

IDC 18 20:53:30.6±2.0, 3°.80N×127°.21E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=150.3km s-min=25.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.62**	**164**	P		P	P	20 58 53.7	+0.8
	1.7nm,0.7s,baz=344,slow=10,SNR=17								
ASAR	**Alice Springs**	**28.07**	**167**	P		P	P	20 59 23.7	-0.4
	0.1nm,0.3s,baz=346,slow=11,SNR=2.5								
STKA	**Stephens Creek**	**38.03**	**160**	P		P	P	21 00 50.1	-0.7
	1.8nm,0.8s,baz=323,slow=10,SNR=2.9								
MKAR	**Makanchi Array**	**57.77**	**325**	P		P	P	21 03 23.6	-0.1
	0.1nm,0.4s,baz=119,slow=6.6,SNR=5.7								

IDC 18 21:21:21.2±2.1, 6°.30S×129°.82E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/27, Error ellipse: s-maj=90.2km s-min=27.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.42**	**199**	Pn		Pn	Pn	21 24 21.2	+1.8
	0.3nm,0.3s,baz=29,slow=12,SNR=20								
FITZ				Sn		Sn	Sn	21 26 28.3	-10
	0.3nm,0.3s,baz=97,slow=18,SNR=4.0								
FITZ				LR		LR	LR	21 29 22.3	
	comp=Z,132nm,20.2s,baz=353,slow=39								
WRA	**Warramunga Arr**	**14.25**	**162**	Pn		Pn	Pn	21 24 43.5	-1.0
	0.2nm,0.3s,baz=342,slow=12,SNR=16								
WRA				Sn		Sn	Sn	21 27 07.3	-16
	0.6nm,0.3s,baz=342,slow=22,SNR=10								
ASAR	**Alice Springs**	**17.70**	**168**	P		Pn	Pn	21 25 28.7	-0.7
	0.1nm,0.3s,baz=349,slow=9.9,SNR=4.0								
ASAR				S		Sn	Sn	21 28 32.6	-15
	0.1nm,0.3s,baz=351,slow=28,SNR=3.9								
MKAR	**Makanchi Array**	**67.55**	**327**	P		P	P	21 32 19.5	0.0
	0.3nm,0.4s,baz=117,slow=8.3,SNR=9.7								

*ISCJB **18** 21:22:26.7±0.4, 24°.47N±0°.03×122°.04E±0°.02, h60km±5km, Error ellipse: s-maj=4.4km s-min=2.7km az=161.9*
*TAP **18** 21:22:26.7, 24°.49N×121°.98E, h61km, ML3.7, B*
*JMA **18** 21:22:26.8±0.2, 24°.75N×122°.11E, h69km±2km, M3.0*
ISC 18 21:22:27.2±1.2, 24°.46N±0°.03×122°.04E±0°.02, h57km±7km, n59, σ0.9s97/102, 4C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.23**	**311**	⇓*iP*		**Pn**	**Pn**	**21 22 36.7**	**+0.2**
	baz=318								
TWC				S		**Sn**	**Sn**	**21 22 43.7**	**+0.6**
	baz=318								
ENA	**Nanau**	**0.28**	**264**	⇓*iP*		**Pn**	**Pn**	**21 22 36.9**	**+0.1**
	baz=254								
ENA				S		**Sn**	**Sn**	**21 22 44.2**	**+0.5**
	baz=254								
EHP	**Heping Village**	**0.31**	**242**	*eP*		**Pn**	**Pn**	**21 22 37.0**	**0.0**
	baz=230								
ILA	**Ilan**	**0.41**	**319**	*eP*		**Pn**	**Pn**	**21 22 38.4**	**+0.5**
	baz=328								
ILA				*eS*		**Sn**	**Sn**	**21 22 46.1**	**+0.4**
	baz=328								
TWE	**Neicheng**	**0.43**	**308**	⇓*iP*		**Pn**	**Pn**	**21 22 38.4**	**+0.2**
	baz=311								
TWE				*eS*		**Sn**	**Sn**	**21 22 46.2**	**+0.1**
	baz=311								
ENTT	**Nioudou**	**0.47**	**293**	⇓*iP*		**Pn**	**Pn**	**21 22 38.6**	**+0.1**
	baz=286								
ENTT				*eS*		**Sn**	**Sn**	**21 22 46.5**	**-0.3**
	baz=286								
TWB1	**Santiao Chiao**	**0.55**	**355**	*eP*		**Pn**	**Pn**	**21 22 39.0**	**-0.5**
	baz=9.0								
TWD	**Chiawan**	**0.55**	**227**	*eP*		**Pn**	**Pn**	**21 22 39.1**	**-0.4**
	baz=215								
TWD				*eS*		**Sn**	**Sn**	**21 22 48.8**	**+0.3**
	baz=215								
NNS	**Nan Shan**	**0.61**	**268**	⇓*eP*		**Pn**	**Pn**	**21 22 39.9**	**-0.4**
	baz=260								
NNS				*eS*		**Sn**	**Sn**	**21 22 49.2**	**-0.6**
	baz=260								
HWA	**Hwalien**	**0.62**	**220**	*eP*		**Pn**	**Pn**	**21 22 40.3**	**0.0**
	baz=205								
NWF	**Wu-fen Shan**	**0.65**	**339**	*eP*		**Pn**	**Pn**	**21 22 40.7**	**-0.1**
	baz=342								
NWF				S		**Sn**	**Sn**	**21 22 50.0**	**-0.7**
	baz=342								
NSK	**Sanguang**	**0.66**	**289**	⇑*iP*		**Pn**	**Pn**	**21 22 40.5**	**-0.3**
	baz=282								
NSK				S		**Sn**	**Sn**	**21 22 50.0**	**-0.7**
	baz=282								
TAP1	**Taipei**	**0.74**	**321**	P		**Pn**	**Pn**	**21 22 41.5**	**-0.3**
	baz=322								
TAP1				*eS*		**Sn**	**Sn**	**21 22 52.3**	**-0.2**
	baz=322								
TAP	**Taipei**	**0.76**	**320**	P		**Pn**	**Pn**	**21 22 41.6**	**-0.4**
	baz=322								
TAP				S		**Sn**	**Sn**	**21 22 52.5**	**-0.2**
	baz=322								
WHF	**Hehuan Shan**	**0.77**	**246**	P		**Pn**	**Pn**	**21 22 42.4**	**-0.3**
	baz=242								
WHF				*eS*		**Sn**	**Sn**	**21 22 53.0**	**-0.8**
	baz=242								
TWT	**Tachien**	**0.81**	**256**	*eP*		**Pn**	**Pn**	**21 22 43.1**	**+0.2**
	baz=252								
TWT				S		**Sn**	**Sn**	**21 22 54.5**	**+0.1**
	baz=252								
ESL	**Shilin**	**0.85**	**221**	⇓*eP*		**Pn**	**Pn**	**21 22 42.1**	**-1.0**
	baz=225								
TWS1	**Kuangyinshan**	**0.85**	**319**	⇓*iP*		**Pn**	**Pn**	**21 22 43.0**	**-0.2**
	baz=327								
TWS1				*eS*		**Sn**	**Sn**	**21 22 55.2**	**+0.2**
	baz=327								
YOJ	**Yonaguni jima**	**0.88**	**90**	⇓*iP*		**Pn**	**Pn**	**21 22 43.8**	**+0.1**
	baz=84								
YOJ				*eS*		**Sn**	**Sn**	**21 22 55.7**	**0.0**
	baz=84								
YOJ	**Yonaguni jima**	**0.88**	**90**	P		**Pn**	**Pn**	**21 22 43.7**	**+0.1**
YOJ				S		**Sn**	**Sn**	**21 22 56.2**	**+0.5**
TWY	**Chenhua**	**0.91**	**334**	*eP*		**Pn**	**Pn**	**21 22 43.7**	**-0.2**
	baz=346								
TWY				*eS*		**Sn**	**Sn**	**21 22 55.3**	**-0.9**
	baz=346								
NCU	**National Centr**	**0.93**	**303**	⇑P		**Pn**	**Pn**	**21 22 43.9**	**-0.3**
	baz=303								
NCU				S		**Sn**	**Sn**	**21 22 56.6**	**-0.1**
	baz=303								
NSTT	**Nanjuang**	**0.96**	**280**	⇑*iP*		**Pn**	**Pn**	**21 22 44.4**	**-0.2**
	baz=279								
NSTT				S		**Sn**	**Sn**	**21 22 57.5**	**0.0**
	baz=279								
HSN	**Hsinchu**	**1.03**	**290**	*eP*		**Pn**	**Pn**	**21 22 44.7**	**-0.8**
	baz=291								
HSN				*eS*		**Sn**	**Sn**	**21 22 58.0**	**-1.2**
	baz=291								
EHY	**Hungye**	**1.15**	**215**	⇓P		**Pn**	**Pn**	**21 22 45.8**	**-1.4**
	baz=212								
EHY				*eS*		**Sn**	**Sn**	**21 22 59.9**	**-2.1**
	baz=212								
TWQ1	**Liyutan**	**1.16**	**265**	⇑*eP*		**Pn**	**Pn**	**21 22 47.3**	**0.0**
	baz=263								
TWQ1				*eS*		**Sn**	**Sn**	**21 23 02.3**	**+0.1**
	baz=263								
NSY	**Sanyi**	**1.17**	**268**	*eP*		**Pn**	**Pn**	**21 22 47.4**	**0.0**
	baz=266								
NSY				*eS*		**Sn**	**Sn**	**21 23 02.4**	**0.0**
	baz=266								
SMLT	**Sun Moon Lake**	**1.19**	**241**	⇓*eP*		**Pn**	**Pn**	**21 22 47.9**	**+0.1**
	baz=231								
SMLT				*eS*		**Sn**	**Sn**	**21 23 03.2**	**+0.2**
	baz=231								
TYC	**Yuchr**	**1.21**	**243**	⇓*iP*		**Pn**	**Pn**	**21 22 48.3**	**+0.4**
	baz=240								
TYC				*eS*		**Sn**	**Sn**	**21 23 04.0**	**+0.6**
	baz=240								
TCU	**Taichung**	**1.28**	**256**	*eP*		**Pn**	**Pn**	**21 22 49.6**	**+0.7**
	baz=255								
TWF1	**Yuli**	**1.29**	**212**	*eP*		**Pn**	**Pn**	**21 22 47.6**	**-1.5**
	baz=219								
WNT	**Mingjian**	**1.37**	**245**	*eP*		**Pn**	**Pn**	**21 22 50.6**	**+0.6**
	baz=254								
WNT				*eS*		**Sn**	**Sn**	**21 23 08.7**	**+1.6**
	baz=254								
ALS	**Alishan**	**1.47**	**230**	*eP*		**Pn**	**Pn**	**21 22 52.3**	**+0.6**
	baz=220								
ALS				*eS*		**Sn**	**Sn**	**21 23 10.8**	**+0.7**
	baz=220								
CHKT	**Chengkung**	**1.49**	**205**	*eP*		**Pn**	**Pn**	**21 22 50.4**	**-1.2**
	baz=192								
CHKT				*eS*		**Sn**	**Sn**	**21 23 07.8**	**-2.2**
	baz=192								
IRIF	**Iriomote-Funau**	**1.54**	**94**	P		**Pn**	**Pn**	**21 22 52.2**	**-0.2**
IRIF				S		**Sn**	**Sn**	**21 23 11.5**	**+0.1**
ELDTW	**Lidau**	**1.57**	**217**	*eP*		**Pn**	**Pn**	**21 22 51.9**	**-1.1**
	baz=210								
HATJ	**Hateruma jima**	**1.66**	**104**	P		**Pn**	**Pn**	**21 22 54.9**	**+0.9**
HATJ				*eS*		**Sn**	**Sn**	**21 23 15.0**	**+0.8**
CHN2	**Minshiung**	**1.70**	**238**	*eP*		**Pn**	**Pn**	**21 22 55.1**	**+0.5**
	baz=248								
CHN2				*eS*		**Sn**	**Sn**	**21 23 16.2**	**+0.9**
	baz=248								
WTCT	**Ta-ch'eng**	**1.71**	**250**	*eP*		**Pn**	**Pn**	**21 22 57.2**	**+2.5**
	baz=258								
WTCT				*eS*		**Sn**	**Sn**	**21 23 15.1**	**-0.4**
	baz=258								
CHN4	**Tsaushan**	**1.72**	**231**	*eP*		**Pn**	**Pn**	**21 22 55.9**	**+1.1**
	baz=221								
CHN4				*eS*		**Sn**	**Sn**	**21 23 17.6**	**+1.8**
	baz=221								
CHY	**Chiayi**	**1.76**	**237**	*eP*		**Pn**	**Pn**	**21 22 57.0**	**+1.7**
	baz=247								
CHY				*eS*		**Sn**	**Sn**	**21 23 17.6**	**+0.9**
	baz=247								
WTP	**Ta-pu**	**1.78**	**228**	*eP*		**Pn**	**Pn**	**21 22 56.4**	**+0.8**
	baz=218								
WTP				*eS*		**Sn**	**Sn**	**21 23 19.7**	**+2.5**
	baz=218								
JKRS	**Kuro-shima**	**1.81**	**97**	P		**Pn**	**Pn**	**21 22 56.4**	**+0.4**
JKRS				*eS*		**Sn**	**Sn**	**21 23 18.5**	**+0.7**
TWK	**Hsinying**	**1.85**	**230**	*eP*		**Pn**	**Pn**	**21 22 57.5**	**+0.9**
	baz=218								
TWK				*eS*		**Sn**	**Sn**	**21 23 19.4**	**+0.4**
	baz=218								
WSF	**Szhu**	**1.85**	**244**	*eP*		**Pn**	**Pn**	**21 22 57.3**	**+0.7**
	baz=242								
WSF				*eS*		**Sn**	**Sn**	**21 23 19.1**	**+0.2**
	baz=242								
TWG	**Pinlang**	**1.86**	**209**	*eP*		**Pn**	**Pn**	**21 22 55.1**	**-1.6**
	baz=197								
CHN1	**Nanshi**	**1.88**	**228**	*eP*		**Pn**	**Pn**	**21 22 57.9**	**+1.0**
	baz=227								
CHN1				*eS*		**Sn**	**Sn**	**21 23 20.5**	**+0.9**
	baz=227								
SGST	**Jiashian**	**1.91**	**225**	*eP*		**Pn**	**Pn**	**21 22 58.1**	**+0.6**
	baz=216								
SGST				*eS*		**Sn**	**Sn**	**21 23 21.5**	**+1.1**
	baz=216								
JIJ	**Ishigaki jima**	**1.92**	**92**	P		**Pn**	**Pn**	**21 22 57.3**	**-0.2**
JIJ				S		**Sn**	**Sn**	**21 23 19.9**	**-0.6**
CHN8	**Yiju**	**2.01**	**237**	*eP*		**Pn**	**Pn**	**21 23 01.5**	**+2.8**
	baz=249								
ECL	**Taimali**	**2.10**	**209**	*eP*		**Pn**	**Pn**	**21 22 58.4**	**-1.6**
	baz=198								
EAST	**Anshuo**	**2.34**	**208**	*eP*		**Pn**	**Pn**	**21 23 03.0**	**-0.3**
	baz=204								
JTJ	**Tarama**	**2.43**	**85**	P		**Pn**	**Pn**	**21 23 04.2**	**-0.3**
JTJ				*eS*		**Sn**	**Sn**	**21 23 33.4**	**+0.4**
LAY	**Lan-yu**	**2.45**	**191**	*eP*		**Pn**	**Pn**	**21 23 01.9**	**-2.9**
	baz=179								
SCZT	**Fangliau**	**2.45**	**212**	*eP*		**Pn**	**Pn**	**21 23 06.2**	**+1.4**
	baz=215								
WDGT	**Dungji**	**2.48**	**242**	*eP*		**Pn**	**Pn**	**21 23 04.2**	**-1.0**
	baz=240								
WDGT				*eS*		**Sn**	**Sn**	**21 23 33.1**	**-1.3**
	baz=240								
HEN	**Hengchun**	**2.72**	**206**	*eP*		**Pn**	**Pn**	**21 23 10.7**	**+2.2**
	baz=221								
TWK1	**Hengchun**	**2.75**	**205**	*eP*		**Pn**	**Pn**	**21 23 08.6**	**-0.3**
	baz=220								
KNM	**Kinmen**	**3.29**	**270**	*eP*		**Pn**	**Pn**	**21 23 15.2**	**-1.0**
	baz=269								

IDC 18 21:27:09.6±13.0, 18°.66N×145°.54E, h326km±139km, mb3.1/7, mb1 3.4/7, mb1mx3.1/24, mbtmp3.1/7, MS3.2/1, Ms1 3.2/1, ms1mx2.2/13, Error ellipse: s-maj=35.7km s-min=19.6km az=80.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.51**	**179**	LR		LR	LR	21 47 08.2	
	comp=Z,36nm,20.4s,baz=51,slow=31								
WRA	**Warramunga Arr**	**39.90**	**197**	P		P	P	21 34 12.4	-0.6
	1.5nm,0.5s,baz=20,slow=8.9,SNR=22								
FITZ	**Fitzroy Crossi**	**41.43**	**209**	P		P	P	21 34 25.7	+0.3
	0.4nm,0.3s,baz=42,slow=9.0,SNR=9.2								
SONM	**Songino Array**	**43.08**	**321**	P		P	P	21 34 37.9	-0.5
	0.2nm,0.7s,baz=131,slow=7.9,SNR=3.2								
MKAR	**Makanchi Array**	**58.38**	**314**	P		P	P	21 36 32.1	+0.6
	0.4nm,0.7s,baz=88,slow=9.1,SNR=5.4								
ILAR	**Eielson Array**	**63.75**	**26**	P		P	P	21 37 06.5	-0.5
	0.3nm,0.8s,baz=258,slow=4.5,SNR=3.4								
YKA	**Yellowknife Ar**	**78.10**	**28**	P		P	P	21 38 34.1	+1.5
	0.4nm,0.6s,baz=288,slow=5.2,SNR=8.2								
NVAR	**Mina Array Bea**	**83.29**	**52**	P		P	P	21 38 59.9	-0.8
	0.5nm,0.5s,baz=250,slow=7.6,SNR=3.3								
FINES	**FINESS Array B**	**86.86**	**335**	P		P	P	21 39 16.2	-1.3
	0.8nm,0.5s,baz=86,slow=2.7,SNR=5.9								

IDC 18 21:30:01.5±2.0, 6°.24S×145°.40E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.4/18, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=40.7km s-min=26.1km az=75.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**151**	Pn		Pn	Pn	21 30 58.9	+0.3
	2.1nm,0.3s,baz=3.4,slow=9.6,SNR=8.5								
PMG				Sn		Sn	Sn	21 31 42.5	+0.8
	1.6nm,0.3s,baz=285,slow=20,SNR=3.7								
WRA	**Warramunga Arr**	**17.35**	**217**	P		P	P	21 34 07.2	+0.4
	0.2nm,0.3s,baz=45,slow=9.7,SNR=14								
ASAR	**Alice Springs**	**20.56**	**211**	P		P	P	21 34 41.3	-0.6
	0.5nm,0.4s,baz=46,slow=8.6,SNR=10								
FITZ	**Fitzroy Crossi**	**22.60**	**237**	P		P	P	21 35 03.5	-0.4
	1.2nm,0.6s,baz=59,slow=12,SNR=4.2								
SONM	**Songino Array**	**63.85**	**332**	P		P	P	21 40 36.0	0.0
	0.4nm,0.9s,baz=131,slow=6.5,SNR=3.8								

MAN 18 21:49:27, 18°.53N×120°.78E, h25km, mb3.8, ML2.5, MS2.1, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.25**	**216**	⇓*iP*		Pn	Pn	21 49 35.1	0.0
SIPP	**Brgy, Tapao**	**0.68**	**207**	⇓*iP*		Pn	Pn	21 49 41.2	+0.2

IDC 18 22:01:20.0±2.2, 3°.95N×126°.04E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=193.3km s-min=27.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.10**	**161**	P		P	P	22 06 46.3	-0.4
	0.6nm,0.5s,baz=340,slow=11,SNR=11								
ASAR	**Alice Springs**	**28.50**	**165**	P		P	P	22 07 17.6	+0.3
	0.2nm,0.6s,baz=344,slow=6.2,SNR=4.2								
MKAR	**Makanchi Array**	**56.99**	**325**	P		P	P	22 11 07.5	+0.1
	0.1nm,0.3s,baz=119,slow=6.9,SNR=4.9								

*ISCJB **18** 22:02:30.9±0.1, 20°.46S±0°.02×68°.79W±0°.04, h108km, mb4.8/91, Error ellipse: s-maj=4.7km s-min=3.2km az=179.0*
*GUC **18** 22:02:31.8±0.8, 20°.50S×69°.22W, h114km±4km, ML5.2*
*IDC **18** 22:02:32

HMBC **Humberstone** 0.89 284⇑ *iP* **Pn** **22 02 51.0 -1.0**
HMBC *i* S **Sn** **22 03 05.3 -1.9**
HMBC AML AML 22 03 09.2
comp=N,106µm,0.5s

PB09 Plate Boundary 1.31 191⇑ *iP* **Pn** **22 02 57.3 +0.7**
PB09 *i* S **Sn** **22 03 16.6 +1.3**
PB09 AML AML 22 03 19.6
comp=E,145µm,0.5s

PSGC Pisagua 1.41 309⇓ *iP* **Pn** **22 02 56.7 -1.0**
PSGC *i* S **Sn** **22 03 15.2 -2.0**
PSGC Pisagua 1.41 309⇓ *iP* **Pn** **22 02 56.7 -1.0**
PSGC *i* S **Sn** **22 03 15.2 -2.0**
PSGC AML AML 22 03 17.9
comp=N,27µm,0.7s

MNMC Minimini 1.49 336⇓ *iP* **Pn** **22 02 58.6 -0.2**
MNMC *i* S **Sn** **22 03 19.4 +0.3**
MNMC AML AML 22 03 20.6
comp=N,60µm,0.2s

PB07 Plate Boundary 1.49 215⇑ *iP* **Pn** **22 02 58.5 -0.2**
PB07 *i* S **Sn** **22 03 18.5 -0.6**
PB07 AML AML 22 03 23.4
comp=N,20µm,0.5s

PB04 Plate Boundary 1.82 195⇑ *iP* Pn 22 03 06.0 +3.4
PB04 *e*S Sn 22 03 32.5 +6.6
PB04 AML AML 22 03 46.9
comp=N,15µm,0.6s

MACH Maria Elena 1.84 203 *eP* **Pn** **22 03 02.9 -0.1**
MACH *i* S **Sn** **22 03 26.2 -0.6**
MACH Maria Elena 1.84 203 *eP* **Pn** **22 03 02.9 -0.1**
MACH *i* S **Sn** **22 03 26.2 -0.6**
LVC Limon Verde 2.10 179 *eP* Pn 22 02 50.8 -16
LVC *i* S Sn 22 03 17.9 -15
PB06 Plate Boundary 2.26 194⇑ *iP* **Pn** **22 03 08.3 -0.1**
PB06 *e*S **Sn** **22 03 35.6 -0.7**
MECH Mejillones 2.93 208 *eP* **Pn** **22 03 16.9 -0.1**
MECH *i* S Sn 22 03 58.6 +6.9
MECH Mejillones 2.93 208 *eP* **Pn** **22 03 16.9 -0.1**
MECH *i* S Sn 22 03 58.6 +6.9
MECH AML AML 22 04 12.8
comp=E,10µm,0.8s

CEN1 Los Morros 3.09 201 *eP* Pn 22 03 20.7 +1.4
ANCH Antofagasta 3.44 203 *eP* **Pn** **22 03 22.0 -1.7**
ANCH Antofagasta 3.44 203 *eP* **Pn** **22 03 22.0 -1.7**
LPAZ La Paz 4.27 11 P **Pn** **22 03 36.6 +1.1**
comp=E,104nm,0.3s,baz=192,slow=7.6,SNR=1184
LPAZ S Sn 22 04 14.8 -10
comp=E,3.8nm,0.3s,baz=162,slow=16,SNR=1.4
LPAZ La Paz 4.27 11 P **Pn** **22 03 36.6 +1.1**
LPAZ S Sn 22 04 14.8 -10
ARE Arequipa 4.68 329 *eP* **Pn** **22 03 39.0 -1.7**
ARE *e*S **Sn** **22 04 32.0 -2.1**
LCO Las Campanas 8.62 190 *e*Pn 22 04 29.9 -4.2
LCO Las Campanas 8.62 190 *eP* Pn 22 04 29.5 -4.6
SIV San Ignacio 8.74 60 P Pn 22 04 32.9 -2.7
comp=E,44nm,0.3s,baz=258,slow=12,SNR=1047
SIV San Ignacio 8.74 60 P Pn 22 04 32.9 -2.7
TLL Tololo Astrono 9.77 189 *eP* Pn 22 04 45.9 -3.7
TLL Tololo Astrono 9.77 189 *eP* Pn 22 04 45.9 -3.7
CFAA Coronel Fontan 11.08 177 P Pn 22 05 02.5 -4.7
comp=E,0.4nm,0.3s,baz=353,slow=13,SNR=13
CFAA S Sn 22 07 02.0 -7.1
comp=E,0.6nm,0.3s,baz=223,slow=19,SNR=4.0
CFAA Coronel Fontan 11.08 177 P Pn 22 05 02.5 -4.7
CFAA S Sn 22 07 02.0 -7.1
NNA Nana 11.35 317 P Pn 22 05 11.9 +1.0
comp=E,2.1nm,0.3s,baz=153,slow=11,SNR=2.7
NNA S Sn 22 07 28.0 +12
comp=E,3.0nm,0.3s,baz=86,slow=19,SNR=2.6
NNA Nana 11.35 317 *e*Pn Pn 22 05 12.8 +1.8
NNA *e*Sn Sn 22 07 23.1 +7.2
CPUP Villa Florida 12.15 121 P Pn 22 05 19.9 -1.6
comp=E,1.4nm,0.3s,baz=286,slow=12,SNR=54
CPUP LR LR 22 10 51.0
comp=E,94nm,20.6s,baz=286,slow=41
CPUP Villa Florida 12.15 121 P Pn 22 05 19.9 -1.6
SAML Samuel 12.77 27 *e*Pn Pn 22 05 25.7 -4.0
comp=E,70nm,0.8s
SAML *e*Sn Sn 22 07 39.3 -11
ATAH Atahualpa 16.12 324 P **P** **22 06 15.2 +1.1**
comp=E,0.3nm,0.3s,baz=311,slow=17,SNR=4.3
ATAH Atahualpa 16.12 324 P **P** **22 06 15.2 +1.1**
TRQA Tornquist 18.51 162 *eP* **P** **22 06 40.4 +0.6**
comp=E,106nm,0.7s
SPB Sao Paulo 20.20 103 *eP* **P** **22 06 56.6 -1.6**
comp=E,20nm,0.6s
PLCA Paso Flores 20.21 183 P Pn 22 06 59.6 -1.7
comp=E,93nm,0.9s,baz=7.4,slow=12,SNR=180
PLCA PcP **PcP** **22 11 09.3 +1.1**
comp=E,2.5nm,0.6s,baz=357,slow=3.8,SNR=3.9
PLCA Paso Flores 20.21 183 *eP* Pn 22 06 59.6 -1.6
comp=E,108nm,0.9s
PLCA PcP **PcP** **22 11 09.3 +1.1**
BDFB Brasilia 20.49 80 P **P** **22 07 00.3 -1.3**
comp=E,34nm,0.5s,baz=255,slow=12,SNR=50
BDFB LR LR 22 15 55.1
comp=E,302nm,19.0s,baz=159,slow=40
BDFB Brasilia 20.49 80 P **P** **22 07 00.3 -1.3**
OTAV Otavalo 22.61 335 *eP* **P** **22 07 26.1 +1.8**
comp=E,36nm,0.9s
CAM4 Nova Friburgo 24.64 99⇑ *iP* **P** **22 07 42.4 -0.5**
CAM4 *i* 22 07 45.7
CAM4 *i* 22 07 49.1
CAM4 *i* 22 07 52.4
CAM4 *i* 22 07 60.0
CAM4 *i* 22 08 04.9
CAM4 *i* 22 08 10.1
CAM4 *i* 22 08 15.0
ROSC El Rosal 25.75 348 P **P** **22 07 53.9 +0.8**
comp=E,15nm,0.5s,baz=283,slow=23,SNR=6.1
ROSC LR LR 22 18 42.1
comp=E,96nm,21.0s,baz=215,slow=38
ROSC El Rosal 25.75 348 P **P** **22 07 53.9 +0.8**
GRGR Grenville 33.22 13 *eP* **P** **22 08 57.5 -1.3**
USHA Ushuaia 34.28 179 P **P** **22 09 07.2 -0.3**
comp=E,16nm,0.8s,baz=338,slow=7.5,SNR=11
USHA Ushuaia 34.28 179 P **P** **22 09 07.2 -0.3**
RCBR Riachuelo 35.24 70 P **P** **22 09 15.5 -0.9**
comp=E,40nm,0.9s,baz=235,slow=8.8,SNR=19
RCBR Riachuelo 35.24 70 *eP* **P** **22 09 15.4 -1.1**
comp=E,53nm,1.0s
BIM Bigot 35.66 13 *eP* **P** **22 09 17.9 -1.9**
FDF Fort de France 35.85 13 *eP* **P** **22 09 19.5 -2.0**
comp=E,113nm,0.5s
FDF Fort de France 35.85 13 *eP* **P** **22 09 19.1 -2.4**
RPN Rapa Nui 37.39 252 P P 22 09 40.6 +6.0
CRPR Cabo Rojo, PR 38.31 3 *eP* **P** **22 09 41.0 -1.2**
comp=E,142nm,0.9s
CRPR *e*pP **pP** **22 10 05.7 -1.1**
OBIP Obispado Ponce 38.38 4 *eP* **P** **22 09 41.0 -1.7**
comp=E,196nm,0.6s
CELP Cerrillos 38.41 4 *eP* **P** **22 09 41.3 -1.7**
SJG San Juan 38.47 4 *eP* **P** **22 09 41.5 -2.1**
comp=E,150nm,0.8s
SJG *e*pP **pP** **22 10 06.4 -1.7**
LSP Las Mesas 38.48 3 *eP* **P** **22 09 42.2 -1.5**
MPR Mayaguez 38.52 3 *eP* **P** **22 09 42.4 -1.6**
comp=E,135nm,0.9s
HUMP Col San Antoni 38.53 5 *eP* **P** **22 09 42.0 -2.0**
LRS Lares 38.61 3 *eP* **P** **22 09 42.8 -2.0**
LRS *e*pP **pP** **22 10 09.2 -0.2**
AOPR Arecibo Observ 38.67 3 *eP* **P** **22 09 42.9 -2.4**
comp=E,101nm,0.6s
STVI Saint Thomas 38.81 6 *eP* **P** **22 09 45.0 -1.4**
comp=E,37nm,0.6s
TEIG Tepich 44.67 334 P **P** **22 10 33.4 -0.7**
comp=E,7.3nm,0.8s,baz=109,slow=1.9,SNR=7.1
TEIG Tepich 44.67 334 *eP* P 22 10 36.4 +2.2
TEIG *e*pP pP 22 11 01.5 +2.2
CMIG Matias Romero 45.20 324 P **P** **22 10 37.6 -0.8**
comp=E,3.1nm,0.8s,baz=212,slow=11,SNR=4.2
CMIG Matias Romero 45.20 324 P **P** **22 10 37.6 -0.8**
NHSC New Hope 54.37 348 *eP* **P** **22 11 48.3 +0.7**
comp=E,113nm,1.0s
NHSC *e*pP **pP** **22 12 13.8 +0.3**
JSC Jenkinsville 55.72 348 *eP* **P** **22 11 57.0 -0.3**
JSC *e*pP **pP** **22 12 24.3 +0.9**
JSC *es*P **sP** **22 12 35.0 -0.3**
KMSC Kings Mountain 56.57 348 ⇑P **P** **22 12 03.4 +0.1**
baz=57
732A Laxson Ranch, 57.37 328 ⇑P **P** **22 12 09.6 +0.5**
baz=58
CPCT Cooper Cave 57.57 345 *eP* **P** **22 12 10.1 -0.3**
CPCT *e*pP **pP** **22 12 36.6 0.0**
TKL Tuckaleechee C 57.59 346 *eP* **P** **22 12 10.3 -0.2**

SWET Sewanee 57.70 344 *eP* **P** **22 12 11.2 -0.2**
SWET *e*pP **pP** **22 12 36.9 -0.7**
632A Uvalde 57.92 328 ⇑P **P** **22 12 13.4 +0.4**
baz=58
631A Perdido Creek 58.23 327 ⇑P **P** **22 12 16.0 +0.8**
baz=58
TZTN Tazewell 58.39 346 *eP* **P** **22 12 17.1 +1.0**
comp=E,35nm,0.4s
TZTN *e*pP **pP** **22 12 46.0 +3.7**
BLA Blacksburg 58.41 349 *eP* **P** **22 12 15.9 -0.4**
comp=E,18nm,0.9s
532A Rocksprings 58.48 329 ⇓P **P** **22 12 17.7 +0.7**
baz=59
531A Rocksprings 58.83 328 ⇓P **P** **22 12 20.0 +0.6**
baz=59
WHTX Lake Whitney 58.90 332 ⇑P **P** **22 12 20.1 +0.4**
baz=59
432A Menard 59.05 329 ⇓P **P** **22 12 21.4 +0.6**
baz=59
WVT Waverly 59.09 342 *eP* **P** **22 12 19.8 -1.1**
comp=E,13nm,0.9s
WVT *e*pP **pP** **22 12 45.6 -1.7**
530A J-C Ranch, Com 59.22 327 ⇑P **P** **22 12 22.1 +0.1**
baz=60
332A Millersview 59.44 329 ⇓P **P** **22 12 23.9 +0.4**
baz=60
628A Black Gap, Mar 59.49 326 ⇓P **P** **22 12 25.2 +1.3**
baz=60
MIAR Mount Ida 59.54 337 *eP* **P** **22 12 24.6 +0.5**
comp=E,11nm,1.0s
MIAR *e*pP **pP** **22 12 49.3 -1.1**
529A Stev Forest Ra 59.65 327 ⇑P **P** **22 12 25.9 +0.9**
baz=60
430A Baggett Ranch, 59.68 328 ⇓P **P** **22 12 25.6 +0.4**
baz=60
331A San Angelo 59.71 329 ⇑P **P** **22 12 25.4 0.0**
baz=60
627A Terlingua Ranc 59.73 325 ⇓P **P** **22 12 26.3 +0.7**
baz=60
TXAR Lajitas Array 59.78 325 P **P** **22 12 26.4 +0.4**
comp=E,0.7nm,0.5s,baz=134,slow=8.9,SNR=5.1
TXAR Lajitas Array 59.78 325 P **P** **22 12 26.4 +0.4**
429A Davenport Ranc 59.88 327 ⇑P **P** **22 12 27.0 +0.4**
baz=60
528A Cox Ranch, San 59.97 326 ⇓P **P** **22 12 27.8 +0.6**
baz=60
PARMO Parma 60.15 341 P **P** **22 12 28.5 +0.4**
330A Mertzon 60.16 328 ⇑P **P** **22 12 28.8 +0.4**
baz=60
626A Big Bend Ranch 60.21 325 ⇓P **P** **22 12 29.6 +0.7**
baz=60
428A Kincaid Ranch, 60.37 327 ⇓P **P** **22 12 31.1 +1.2**
baz=61
527A Woodward Ranch 60.39 326 ⇑P **P** **22 12 30.8 +0.7**
baz=61
ABTX Abilene, Hawle 60.43 330 ⇑P **P** **22 12 31.1 +0.9**
baz=61
230A Sterling City 60.52 329 ⇑P **P** **22 12 32.0 +1.1**
baz=61
526A Mary Lane Ranc 60.58 325 ⇑P **P** **22 12 32.3 +0.8**
baz=61
329A Wagon Wheel Ra 60.62 328 ⇑P **P** **22 12 32.2 +0.6**
baz=61
WCI Wyandotte Cave 60.65 344 P **P** **22 12 33.1 +1.5**
comp=E,80nm,0.7s
427A Hayter Ranch, 60.84 326 ⇓P **P** **22 12 33.8 +0.7**
baz=61
229A Bryant Ranch, 60.92 328 ⇑P **P** **22 12 34.3 +0.6**
baz=61
328A Wristen Ranch, 60.96 327 ⇓P **P** **22 12 34.4 +0.5**
baz=61
SIUC Southern Illin 60.96 342 *eP* **P** **22 12 33.8 +0.1**
comp=E,26nm,0.9s
426A McDonald Obser 61.02 326 ⇑P **P** **22 12 35.3 +0.7**
baz=61
VNA3 Neumayer Olymp 61.03 161 *eP* **P** **22 12 35.6 +1.8**
VNA3 Neumayer Olymp 61.03 161 *e*pP pP 22 13 00.0 -0.3
VNA3 Neumayer Olymp 61.03 161 *e*PP PP 22 14 49.8 +0.6
VNA1 Neumayer--Stat 61.24 161 *eP* **P** **22 12 37.4 +2.2**
SSPA Standing Stone 61.39 352 *eP* **P** **22 12 36.0 -0.5**
comp=E,32nm,1.6s
228A UT Block 9, Go 61.44 328 ⇓P **P** **22 12 37.7 +0.6**
baz=62
129A Stewart Farms, 61.49 329 ⇓P **P** **22 12 38.1 +0.6**
baz=62
326A Caldwell Ranch 61.51 326 ⇓P **P** **22 12 38.4 +0.7**
baz=62
FVM Frnch Village 61.58 341 *eP* **P** **22 12 37.2 -0.6**
comp=E,22nm,0.8s
FVM *e*pP **pP** **22 13 03.4 -0.9**
FVM *es*P **sP** **22 13 16.0 -0.2**
TUL1 Tulsa 61.59 335 ⇑P **P** **22 12 38.4 +0.4**
baz=62
BLO Bloomington 61.59 345 *eP* **P** **22 12 39.2 +1.3**
comp=E,19nm,0.7s
VNA2 Neumayer--Watz 61.61 161 *eP* **P** **22 12 39.5 +1.8**
baz=305,slow=7.3
VNA2 Neumayer--Watz 61.61 161 *e*PcP **PcP** **22 13 18.7 +0.5**
baz=305,slow=7.3
VNA2 Neumayer--Watz 61.61 161 *e*PP PP 22 14 59.0 +4.8
baz=305,slow=7.3
425A Indio Mountain 61.63 325 ⇑P **P** **22 12 38.8 +0.3**
baz=62
Z30A Sanderson Ranc 61.67 330 ⇑P **P** **22 12 39.0 +0.3**
baz=62
227A Bennet, Jal 61.70 327 ⇓P **P** **22 12 39.7 +0.7**
baz=62
ACSO Alum Creek Sta 61.82 348 *eP* **P** **22 12 38.8 -0.6**
comp=E,58nm,0.6s
ACSO *e*pP **pP** **22 13 05.8 -0.1**
325A Bean Ranch, Si 62.08 325 ⇑P **P** **22 12 41.8 +0.2**
baz=62
324A Moseley Ranch, 62.41 325 ⇑P **P** **22 12 43.5 -0.2**
baz=63
GDL2 Guadalupe Moun 62.41 326 *eP* P 22 12 46.2 +2.6
GDL2 *e*pP pP 22 13 10.7 +0.4
ALLY Alegheny Colle 62.70 351 *eP* **P** **22 12 45.6 +0.3**
comp=E,42nm,0.6s
ALLY *e*pP **pP** **22 13 11.9 0.0**
BINY Binghamton 62.72 354 *eP* **P** **22 12 46.1 +0.7**
comp=E,31nm,1.0s
SFIN Scholer Farm 62.88 345 ⇑P **P** **22 12 45.5 -0.9**
baz=63
224A Cornudas Mount 62.92 325 ⇑P **P** **22 12 47.1 0.0**
baz=63
MSTX Muleshoe 63.02 329 ⇑P **P** **22 12 47.9 +0.2**
baz=63
TRY Troy 63.06 356 *eP* **P** **22 12 48.2 +0.6**
comp=E,24nm,0.9s
TRY *e*pP **pP** **22 13 14.1 -0.2**
ERPA Erie 63.13 351 *eP* **P** **22 12 48.4 +0.3**
comp=E,67nm,0.6s
ERPA *e*pP **pP** **22 13 14.7 0.0**
Y27A Causey 63.14 328 ⇓P **P** **22 12 48.4 -0.1**
baz=63
SNAA Sanae 63.24 161 *eP* **P** **22 12 49.4 +0.8**
comp=E,22nm,0.7s
124A Stringfield Ra 63.37 326 ⇓P **P** **22 12 49.8 -0.3**
baz=64
Z25A Roswell 63.44 327 ⇓P **P** **22 12 50.2 -0.3**
baz=64
HDIL Hopedale 63.62 343 *eP* **P** **22 12 51.6 +0.2**
comp=E,38nm,1.2s
Z24A Sheeppen Canyo 63.81 326 ⇑P **P** **22 12 53.4 +0.3**
baz=64
X26A CR and CF Fran 63.99 328 ⇓P **P** **22 12 54.3 +0.1**
baz=64
W27A Bowe Ranch, En 64.04 329 ⇑P **P** **22 12 54.4 0.0**
baz=64
MDV Middlebury 64.30 357 *eP* **P** **22 12 56.1 +0.4**
NCB Newcomb 64.34 356 *eP* **P** **22 12 56.2 +0.2**
comp=E,51nm,1.5s
W26A Owens Ranch, T 64.40 329 ⇓P **P** **22 12 58.0 +1.2**
baz=65
220A Playas Peak, P 64.43 323 ⇑P **P** **22 12 58.2 +1.2**
baz=65
319A Douglas 64.47 322 ⇑P P 22 12 58.7 +1.4
baz=65
121A Cookes Peak, D 64.49 324 ⇑P P 22 12 59.1 +1.6
baz=65
Z22A Elephant Butte 64.60 325 ⇓P **P** **22 12 59.4 +1.3**
baz=65
120A U Bar Ranch, L 64.97 323 ⇑P **P** **22 13 01.8 +1.3**
baz=65
V26A Tequesquite Ra 64.98 329 ⇑P **P** **22 13 01.3 +0.7**
baz=65
LONY Lake Ozonia 65.01 356 *eP* **P** **22 13 00.5 +0.2**

LONY *e*pP **pP** **22 13 27.4 +0.3**
Z21A St. Cloud Mine 65.02 325 ⇑P **P** **22 13 02.2 +1.3**
baz=65
FRNY Flat Rock 65.16 356 *eP* **P** **22 13 01.3 0.0**
comp=E,10nm,0.8s
T28A Walsh 65.28 331 ⇑P **P** **22 13 03.3 +0.9**
baz=66
W24A Lazy 6 Ranch, 65.31 328 ⇓P **P** **22 13 02.8 0.0**
baz=66
Z20A Nine Sixteen R 65.38 324 ⇑P **P** **22 13 04.5 +1.4**
baz=66
V25A Rancho No Teng 65.42 329 ⇑P **P** **22 13 04.1 +0.7**
baz=66
U26A Atchley Ranch, 65.44 330 ⇓P **P** **22 13 04.1 +0.5**
baz=66
Y21A Point of Rocks 65.55 325 ⇓P **P** **22 13 04.7 +0.3**
baz=66
ANMO Albuquerque 65.64 327 *eP* **P** **22 13 05.6 +0.7**
comp=E,4.7nm,1.0s
ANMO *e*pP **PcP** **22 13 33.3 -2.2**
X21A Alamocita Cree 65.95 325 ⇓P **P** **22 13 07.4 +0.5**
baz=66
T26A Comanche Natio 66.00 330 ⇑P **P** **22 13 08.1 +0.9**
baz=66
S26A Kim 66.31 331 ⇓P **P** **22 13 09.6 +0.6**
baz=67
X20A Quemado 66.40 325 ⇑P **P** **22 13 10.7 +0.9**
baz=67
V22A San Miguel Ran 66.62 327 ⇓P **P** **22 13 12.1 +0.9**
baz=67
S25A Robets Cordova 66.79 330 ⇓P **P** **22 13 12.9 +0.8**
baz=67
W20A Ramah 66.84 325 ⇓P **P** **22 13 13.4 +0.8**
baz=67
R26A Arlington 66.85 331 ⇑P **P** **22 13 13.3 +0.8**
baz=67
214A Organ Pipe Nat 66.96 320 ⇓P P 22 13 15.0 +1.8
baz=67,SNR=5.2
S24A Houchin Ranch, 67.14 329 ⇓P **P** **22 13 15.9 +1.4**
baz=67
BGNE Belgrade 67.28 337 ⇑P **P** **22 13 15.5 +0.5**
baz=68
U21A Nageezi 67.40 327 ⇓P **P** **22 13 16.6 +0.5**
baz=68
R24A Sanders Place, 67.57 330 ⇓P **P** **22 13 18.6 +1.5**
baz=68
MAIT Maitri 67.75 159 *eP* P 22 13 08.8 -8.7
R23A Moffat 67.88 329 ⇑P **P** **22 13 20.5 +1.4**
baz=68
X16A Lo Mia Camp, P 67.93 323 ⇑P P 22 13 21.0 +1.6
baz=68
O27A Beecher Island 67.98 333 ⇓P **P** **22 13 20.9 +1.4**
baz=68
S22A 4UR Ranch, Cre 68.01 328 ⇑P P 22 13 21.9 +1.9
baz=68
Z14A Wintersburg 68.04 321 ⇓P P 22 13 22.0 +2.0
baz=68
LIC Lamto 68.17 74⇑ *iP* **P** **22 13 20.2 -0.9**
comp=E,53nm,0.7s,baz=254
LIC Lamto 68.17 74⇑ *iP* **P** **22 13 20.2 -0.9**
comp=E,53nm,0.7s
P25A Willow Gulch B 68.17 331 ⇑P P 22 13 22.4 +1.6
baz=68
Q24A Divide 68.17 330 ⇓P P 22 13 22.6 +1.6
baz=68
S21A Coal Bank Pass 68.42 328 ⇑P **P** **22 13 23.5 +0.9**
baz=69
Y14A Wickenburg 68.48 322 ⇓P P 22 13 24.6 +1.8
baz=69
DBIC Dimbokro 68.51 74 P **P** **22 13 22.6 -0.6**
comp=E,72nm,0.7s,baz=223,slow=6.4,SNR=126
DBIC LR LR 22 40 37.3
comp=E,49nm,18.1s,baz=247,slow=33
DBIC Dimbokro 68.51 74 *eP* **P** **22 13 22.7 -0.6**
comp=E,84nm,0.8s
WUAZ Wupatki 68.70 324 ⇑P P 22 13 26.1 +1.9
baz=69
ECSD EROS Data Cent 68.77 339 *eP* **P** **22 13 24.1 -0.1**
comp=E,7.3nm,0.9s
ECSD *e*pP **pP** **22 13 52.3 +1.1**
S20A Disappointment 68.84 327 ⇓P **P** **22 13 26.4 +1.3**
baz=69
R21A Cimarron 68.85 328 ⇑P P 22 13 26.7 +1.5
baz=69
SPMN St. Paul 68.92 342 ⇓P **P** **22 13 25.7 +0.6**
baz=69
ISCO Idaho Springs 69.06 331 *eP* **P** **22 13 27.5 +1.1**
comp=E,5.4nm,0.9s
ISCO *e*pP **pP** **22 13 55.9 +2.4**
ISCO Idaho Springs 69.06 331 ⇑P **P** **22 13 27.2 +0.7**
baz=69
R20A Redvale 69.12 328 ⇑P **P** **22 13 27.8 +1.0**
baz=69
SMCO Snowmass 69.20 329 *eP* P 22 13 29.2 +1.7
comp=E,60nm,2.5s
PDMCI Parker Dam,Lak 69.40 321 ⇓P P 22 13 29.8 +1.5
baz=70
O23A Lake Granby, G 69.53 331 ⇓P **P** **22 13 30.4 +1.1**
baz=70
S18A Hurst Farm, Bl 69.57 326 ⇓P P 22 13 31.6 +1.9
baz=70
BC3 Big Chuckawall 69.74 320 ⇓P P 22 13 32.5 +1.9
baz=70,SNR=9.6
O22A Kremmling 69.78 330 ⇑P **P** **22 13 32.2 +1.3**
baz=70
MONP Monument Peak 69.81 319 ⇓P P 22 13 33.2 +2.0
baz=70
W13A Hualapai Mount 69.82 322 ⇓P P 22 13 33.4 +2.2
baz=70
BAR Barrett 69.82 318 *eP* P 22 13 33.0 +2.0
comp=E,5.9nm,0.8s
U15A North Rim 69.87 324 ⇓P P 22 13 33.7 +2.1
baz=70
IRM Iron Mountain 69.90 320 ⇓P P 22 13 33.4 +1.9
baz=70,SNR=7.3
M24A Cheyenne 70.04 332 ⇑P P 22 13 34.2 +1.8
baz=70
N23A Red Feather La 70.08 331 ⇓P **P** **22 13 34.2 +1.5**
baz=70
DRLN Deer Lake 70.19 8 *eP* **P** **22 13 32.2 -0.6**
comp=E,21nm,0.8s
DRLN *e*pP **pP** **22 13 59.6 -0.3**
N22A Wattenberg Ran 70.24 331 ⇑P P 22 13 35.3 +1.6
baz=70
BELC Belle Mtn. Jos 70.31 320 ⇓P P 22 13 36.0 +2.0
baz=71
PFO Pinyon Flat Ob 70.32 319 *eP* P 22 13 36.1 +2.0
comp=E,6.9nm,0.8s
PFO Pinyon Flat Ob 70.32 319 ⇓P P 22 13 35.9 +1.8
baz=71
M23A Laramie 70.44 331 ⇑P P 22 13 36.5 +1.6
baz=71
LDFC Landfair 70.52 321 *eP* P 22 13 38.0 +2.7
comp=E,17nm,1.2s
LDFC *e*pP pP 22 14 04.8 +2.4
P19A Cripple Cowboy 70.53 328 ⇓P P 22 13 37.2 +1.8
baz=71
GMRC Granite Mounta 70.64 321 ⇑P P 22 13 38.0 +2.0
baz=71,SNR=13
N21A Black Mountain 70.70 330 ⇑P P 22 13 38.5 +2.0
baz=71
M22A Cedar Creek Ra 70.78 331 ⇓P P 22 13 39.2 +2.2
baz=71
SRU San Rafael 70.91 327 *eP* P 22 13 39.4 +1.7
comp=E,9.9nm,0.8s
SRU San Rafael 70.91 327 ⇑P **P** **22 13 39.2 +1.5**
baz=71
HEC Hector,Ludlow 71.07 320 ⇑P P 22 13 41.0 +2.4
baz=71,SNR=6.7
Q16A Castle Valley 71.10 326 ⇓P P 22 13 40.6 +1.7
baz=71
N20A Spence Gulch, 71.11 329 ⇓P **P** **22 13 40.4 +1.5**
baz=71
O19A Miners Draw (B 71.11 329 ⇓P P 22 13 40.5 +1.6
baz=71
TUQ Turquoise Moun 71.25 321 ⇓P P 22 13 41.4 +1.7
baz=72
CCUT Cedar City 71.27 324 *eP* P 22 13 42.8 +2.9
comp=E,19nm,1.1s
P17A Butcher Ranch, 71.30 327 ⇓P P 22 13 41.6 +1.6
baz=72
M21A Separation Pea 71.30 331 ⇓P **P** **22 13 41.3 +1.2**
baz=72
MSU Marysvale 71.33 325 *eP* P 22 13 42.6 +2.3
MSU *e*pP **PcP** **22 14 01.6 +2.2**
MVU Marysvale 71.34 325 *eP* P 22 13 42.7 +2.3
comp=E,16nm,1.2s
MVU *e*pP pP 22 14 09.0 +1.4

CIS	**Catalina Islan** baz=72	**71.39**	**318**	⇓P	P	22 13 42.9	+2.4
BFSC	**Mount Baldy Ra** baz=72	**71.48**	**319**	⇑P	P	22 13 43.5	+2.3
J24A	**Dixon Ranch, L** baz=72	**71.49**	**333**	⇓P	P	22 13 43.2	+2.2
L21A	**Rawlins** baz=72	**71.58**	**331**	⇓P	**P**	**22 13 43.0**	**+1.3**
M20A	**Sweetwater, Wa** baz=72	**71.59**	**330**	⇓P	**P**	**22 13 42.8**	**+1.0**
N19A	**John Jarvie Ra** baz=72	**71.60**	**329**	⇓P	**P**	**22 13 43.1**	**+1.3**
MWC	**Mount Wilson** comp=E,7.7nm,0.6s	**71.72**	**319**	*eP*	P	22 13 44.4	+1.7
SHOC	**Shoshone** baz=72	**71.77**	**321**	⇑P	**P**	**22 13 43.9**	**+1.2**
O17A	**Robinson Place** baz=72	**71.84**	**328**	⇓P	**P**	**22 13 44.2**	**+0.9**
RSSD	**Black Hills** comp=E,8.0nm,0.9s	**71.88**	**334**	*eP*	**P**	**22 13 44.6**	**+1.1**
RSSD				*epP*	**pP**	**22 14 13.3**	**+2.6**
K21A	**Alcova** baz=72	**72.06**	**331**	⇓P	**P**	**22 13 45.7**	**+1.1**
L20A	**Wamsutter** baz=72	**72.06**	**330**	⇓P	**P**	**22 13 45.2**	**+0.6**
EDW2	**Edwards Air Fo** baz=72	**72.11**	**319**	⇓P	P	22 13 46.6	+1.8
DAU	**Daniels Canyon**	**72.26**	**327**	*eP*	P	22 13 47.6	+1.7
DAU				*epP*	pP	22 14 15.7	+2.5
BLG	**Laguna Peak** baz=73	**72.27**	**318**	⇑P	P	22 13 47.7	+2.0
LRMC	**Laurel Mountai** baz=73	**72.33**	**320**	⇓P	P	22 13 47.6	+1.4
J22A	**Midwest** baz=73	**72.34**	**332**	⇓P	**P**	**22 13 46.4**	**+0.3**
M18A	**Lyman** baz=73	**72.44**	**329**	⇓P	**P**	**22 13 48.1**	**+1.3**
N17A	**Moffit Pass** baz=73	**72.45**	**328**	⇑P	P	22 13 48.9	+1.9
JLU	**Jordanelle** comp=E,20nm,1.5s	**72.50**	**327**	*eP*	P	22 13 49.2	+2.0
JLU				*epP*	pP	22 14 17.7	+3.2
BSC	**Santa Cruz Isl** baz=73	**72.55**	**318**	⇓P	P	22 13 48.9	+1.5
K20A	**Yellowstone Ra** baz=73	**72.57**	**331**	⇑P	**P**	**22 13 48.6**	**+1.1**
MPMC	**Manual Prospec** baz=73	**72.60**	**320**	⇑P	**P**	**22 13 49.2**	**+1.3**
L19A	**Farson** baz=73	**72.62**	**330**	⇑P	**P**	**22 13 49.1**	**+1.3**
I22A	**9 Mile Ranch,** baz=73	**72.72**	**333**	⇑P	**P**	**22 13 49.4**	**+1.1**
M17A	**Scullys Gap (B** baz=73	**72.77**	**328**	⇓P	**P**	**22 13 49.9**	**+1.1**
L18A	**Fontenelle, Gr** baz=73	**72.80**	**329**	⇑P	**P**	**22 13 50.2**	**+1.3**
DUG	**Dugway** comp=E,19nm,1.4s	**72.90**	**326**	*eP*	P	22 13 51.6	+2.0
DUG				*epP*	pP	22 14 18.0	+1.2
DUG	**Dugway** baz=73	**72.90**	**326**	⇑P	P	22 13 51.5	+2.0
ISA	**Isabella** comp=E,8.0nm,0.6s	**72.93**	**320**	*eP*	P	22 13 51.9	+2.2
ISA				*epP*	pP	22 14 19.0	+2.1
ISA	**Isabella** baz=73	**72.93**	**320**	⇓P	P	22 13 51.8	+2.2
K19A	**Absolon Red Bu** baz=73	**72.94**	**330**	⇑P	**P**	**22 13 51.0**	**+1.3**
I21A	**Big Trails, Te** baz=73	**73.01**	**332**	⇓P	**P**	**22 13 51.0**	**+0.9**
G24A	**Alzada** baz=73	**73.03**	**335**	⇑P	**P**	**22 13 51.3**	**+1.2**
R11A	**Troy Canyon, C** baz=73,SNR=8.2	**73.07**	**323**	⇑P	P	22 13 52.5	+1.8
M16A	**Huntsville** baz=73	**73.12**	**328**	⇓P	**P**	**22 13 52.2**	**+1.3**
CWC	**Cottonwood Cre** baz=74	**73.21**	**320**	⇑P	P	22 13 53.2	+1.8
BW06	**Boulder Array** comp=E,2.5nm,0.8s	**73.22**	**330**	*eP*	**P**	**22 13 52.5**	**+1.0**
BW06	**Boulder Array** baz=74	**73.22**	**330**	⇑P	**P**	**22 13 52.1**	**+0.6**
PDAR	**Pinedale Array** comp=E,1.2nm,0.7s,baz=130,slow=8.0,SNR=8.3	**73.22**	**330**	P	**P**	**22 13 50.9**	**-0.6**
PDAR	**Pinedale Array**	**73.22**	**330**	P	**P**	**22 13 50.9**	**-0.6**
PKM	**Peak Mountain** baz=74	**73.25**	**318**	⇑P	**P**	**22 13 53.0**	**+1.3**
N15A	**Stansbury Isla** baz=74	**73.26**	**327**	⇓P	**P**	**22 13 53.1**	**+1.5**
HWUT	**Hardware Ranch** comp=E,11nm,1.0s	**73.31**	**328**	*eP*	**P**	**22 13 53.3**	**+1.3**
HWUT				*epP*	**pP**	**22 14 20.1**	**+0.9**
G23A	**Biddle** baz=74	**73.32**	**334**	⇑P	**P**	**22 13 52.9**	**+1.1**
L17A	**Cokeville** baz=74	**73.34**	**329**	⇑P	P	22 13 53.9	+1.8
K18A	**Toltan Ranch,** baz=74	**73.35**	**330**	⇓P	**P**	**22 13 53.6**	**+1.4**
J19A	**Crowheart** baz=74	**73.37**	**331**	⇓P	**P**	**22 13 53.5**	**+1.3**
F24A	**Ekalaka** baz=74	**73.46**	**335**	⇑P	**P**	**22 13 53.7**	**+1.1**
I20A	**Worland** baz=74	**73.49**	**332**	⇓P	**P**	**22 13 53.8**	**+1.0**
H21A	**Big Horn, Sher** baz=74	**73.55**	**333**	⇓P	**P**	**22 13 54.4**	**+1.2**
L16A	**Fish Haven** baz=74	**73.55**	**328**	⇓P	**P**	**22 13 54.8**	**+1.4**
M15A	**Larsen Ranch,** baz=74,SNR=7.1	**73.65**	**327**	⇑P	**P**	**22 13 55.2**	**+1.4**
G22A	**Birney** baz=74	**73.71**	**333**	⇓P	**P**	**22 13 55.0**	**+1.0**
F23A	**Volborg** baz=74	**73.75**	**334**	⇑P	**P**	**22 13 55.4**	**+1.1**
J18A	**Kendall Valley** baz=74,SNR=7.1	**73.78**	**330**	⇓P	**P**	**22 13 55.8**	**+1.1**
H20A	**Greybull** baz=74	**73.86**	**332**	⇓P	**P**	**22 13 56.2**	**+1.2**
K17A	**Gardner Place,** baz=74	**73.86**	**329**	⇓P	**P**	**22 13 56.5**	**+1.4**
I19A	**Meeteetse** baz=74	**73.95**	**331**	⇓P	**P**	**22 13 57.1**	**+1.5**
E24A	**Baker** baz=74	**74.00**	**335**	⇑P	**P**	**22 13 56.9**	**+1.2**
L15A	**Malad City** baz=74,SNR=8.3	**74.02**	**328**	⇑P	**P**	**22 13 57.2**	**+1.2**
HVU	**Hansel Valley** comp=E,4.0nm,0.9s	**74.05**	**327**	*eP*	**P**	**22 13 57.5**	**+1.3**
F22A	**Rosebud** baz=74	**74.14**	**334**	⇑P	**P**	**22 13 57.9**	**+1.4**
K16A	**Soda Springs** baz=74,SNR=6.6	**74.24**	**329**	⇑P	**P**	**22 13 58.1**	**+0.8**
ULM	**Lac du Bonnet** comp=E,4.3nm,0.5s,baz=145,slow=5.7,SNR=8.2	**74.35**	**342**	P	**P**	**22 13 57.8**	**+0.2**
ULM				*pP*	**pP**	**22 14 24.9**	**0.0**
ULM	**Lac du Bonnet** comp=E,6.9nm,0.6s,baz=168,slow=4.8,SNR=4.7	**74.35**	**342**	P	**P**	**22 13 57.8**	**+0.2**
ULM				*pP*	**pP**	**22 14 24.9**	**0.0**
LOHW	**Long Hollow** comp=E,3.9nm,1.0s	**74.36**	**330**	*eP*	**P**	**22 13 59.5**	**+1.5**
TPAW	**Teton Pass** comp=E,22nm,1.7s	**74.43**	**330**	*eP*	**P**	**22 13 59.9**	**+1.3**
TPAW				*epP*	pP	22 14 29.5	+3.6
H19A	**Powell** baz=75	**74.44**	**332**	⇑P	**P**	**22 13 59.7**	**+1.3**
L14A	**Malta** baz=75	**74.47**	**327**	⇓P	**P**	**22 13 59.6**	**+1.0**
RRI2	**Red Ridge** comp=E,14nm,0.9s	**74.50**	**329**	*eP*	P	22 14 00.7	+1.8
G20A	**Bridger** baz=75	**74.53**	**332**	⇓P	**P**	**22 13 59.7**	**+0.8**
MOOW	**Moose Ponds** comp=E,19nm,1.8s	**74.53**	**330**	*eP*	**P**	**22 14 00.5**	**+1.4**
MOOW				*epP*	**pP**	**22 14 29.8**	**+3.4**
E22A	**Miles City** baz=75	**74.55**	**334**	⇑P	**P**	**22 14 00.0**	**+1.1**
ELK	**Elko**	**74.58**	**325**	P	**P**	**22 14 00.7**	**+1.3**
I17A	**Pilgrim Ck.** baz=75,SNR=7.1	**74.58**	**330**	⇓P	**P**	**22 14 00.8**	**+1.4**
J16A	**Bone** baz=75	**74.58**	**329**	⇑P	**P**	**22 14 00.7**	**+1.4**
K15A	**Arbon** baz=75	**74.59**	**328**	⇑P	P	22 14 01.0	+1.7
NVAR	**Mina Array Bea** comp=E,3.4nm,0.9s,baz=155,slow=7.2,SNR=11	**74.68**	**322**	P	P	22 14 01.9	+1.8
NVAR				*pP*	pP	22 14 28.6	+1.2
NVAR	**Mina Array Bea** comp=E,3.4nm,0.8s,baz=154,slow=6.4,SNR=7.0	**74.68**	**322**	P	P	22 14 01.9	+1.8
NVAR				*pP*	pP	22 14 28.6	+1.2
IMW	**Indian Meadow** comp=E,76nm,2.5s	**74.74**	**330**	*eP*	P	22 14 02.0	+1.7
H18A	**Shoshone NF, C** baz=75,SNR=8.6	**74.75**	**331**	⇑P	**P**	**22 14 01.8**	**+1.5**
FLWY	**Flagg Ranch** comp=E,16nm,0.9s	**74.77**	**330**	*eP*	P	22 14 02.5	+2.2
C24A	**Savage** baz=75	**74.85**	**336**	⇓P	**P**	**22 14 02.0**	**+1.5**
D23A	**Lindsay** baz=75	**74.86**	**335**	⇓P	**P**	**22 14 02.2**	**+1.6**
RLMT	**Red Lodge** comp=E,17nm,1.4s	**74.91**	**332**	*eP*	**P**	**22 14 02.8**	**+1.6**
RLMT	**Red Lodge** baz=75,SNR=6.8	**74.91**	**332**	⇓P	**P**	**22 14 02.5**	**+1.3**
SCHQ	**Schefferville** comp=E,9.8nm,0.6s,baz=186,slow=4.1,SNR=46	**75.05**	**1**	P	**P**	**22 14 01.4**	**-0.1**
SCHQ				*pP*	**pP**	**22 14 28.9**	**0.0**
SCHQ	**Schefferville** comp=E,17nm,0.8s,baz=172,slow=4.4,SNR=9.6	**75.05**	**1**	*eP*	**P**	**22 14 01.1**	**-0.4**
SCHQ				*epP*	**pP**	**22 14 28.6**	**-0.3**
SCHQ				*esP*	**sP**	**22 14 40.2**	**-0.3**
G18A	**Lazy EL Ranch,** baz=76,SNR=8.8	**75.20**	**332**	⇑P	**P**	**22 14 04.1**	**+1.4**
D22A	**Cohagen** baz=76,SNR=7.6	**75.22**	**335**	⇓P	**P**	**22 14 04.3**	**+1.6**
F19A	**Roth Farm, Mol** baz=76,SNR=5.9	**75.34**	**332**	⇑P	**P**	**22 14 04.7**	**+1.2**
C23A	**Lambert** baz=76	**75.36**	**336**	⇓P	**P**	**22 14 04.8**	**+1.3**
D21A	**La Casta Ranch** baz=76,SNR=5.5	**75.48**	**334**	⇑P	**P**	**22 14 05.6**	**+1.3**
H16A	**Russell Place,** baz=76	**75.49**	**330**	⇑P	P	22 14 06.2	+1.7
PPT	**Papeete** comp=E,176nm,20.8s,baz=177,slow=30	**75.50**	**256**	LR	LR	22 41 01.3	
E20A	**Meyer Farm, Mu** baz=76,SNR=8.0	**75.51**	**333**	⇓P	**P**	**22 14 06.0**	**+1.6**
DGMT	**Dagmar** comp=E,18nm,0.8s	**75.54**	**337**	*eP*	**P**	**22 14 06.1**	**+1.6**
DGMT				*epP*	**pP**	**22 14 33.8**	**+1.9**
DGMT	**Dagmar** baz=76	**75.54**	**337**	⇓P	**P**	**22 14 05.9**	**+1.5**
QLMT	**Earthquake Lak** comp=E,0.6nm,0.6s	**75.67**	**330**	*eP*	P	22 14 07.7	+2.1
F18A	**Big Timber** baz=76,SNR=10	**75.72**	**332**	⇓P	**P**	**22 14 07.2**	**+1.5**
E19A	**Rath Farm, Rou** baz=76,SNR=12	**75.75**	**333**	⇓P	**P**	**22 14 07.3**	**+1.4**
B23A	**Brockton** baz=76	**75.83**	**336**	⇓P	**P**	**22 14 07.7**	**+1.6**
A24A	**Westby** baz=76	**75.84**	**337**	⇑P	P	22 14 08.0	+1.8
J13A	**Cove Ranch, Pi** baz=76	**75.93**	**328**	⇓P	P	22 14 08.9	+1.9
D20A	**Manuel Ranch,** baz=76,SNR=7.9	**75.97**	**334**	⇑P	**P**	**22 14 08.5**	**+1.5**
H15A	**Lima** baz=76	**76.08**	**329**	⇑P	**P**	**22 14 09.5**	**+1.6**
C21A	**Desert Coulee** baz=76	**76.13**	**335**	⇑P	**P**	**22 14 09.4**	**+1.5**
F17A	**Fitzpatrick Pl** baz=76,SNR=5.2	**76.14**	**331**	⇓P	**P**	**22 14 09.7**	**+1.6**
G16A	**Moss Hill, Enn** baz=76	**76.15**	**330**	⇑P	**P**	**22 14 09.7**	**+1.5**
HLID	**Hailey** comp=E,14nm,1.1s	**76.17**	**328**	*eP*	P	22 14 10.3	+1.9
HLID	**Hailey** baz=76,SNR=13	**76.17**	**328**	⇑P	P	22 14 10.6	+2.2
I13A	**Wildhorse Cree** baz=77,SNR=5.5	**76.28**	**328**	⇓P	P	22 14 11.0	+1.9
E18A	**Harlowton** baz=77,SNR=7.2	**76.32**	**332**	⇑P	**P**	**22 14 10.5**	**+1.4**
MCMT	**McKenzie Canyo** comp=E,4.6nm,1.0s	**76.34**	**329**	*eP*	**P**	**22 14 10.7**	**+1.3**
MCMT				*epP*	**pP**	**22 14 37.8**	**+0.9**
D19A	**Cripps Ranch,** baz=77,SNR=7.4	**76.34**	**333**	⇑P	**P**	**22 14 10.1**	**+0.9**
BOZ	**Bozeman (W)** baz=77	**76.38**	**331**	⇑P	**P**	**22 14 10.5**	**+1.0**
C20A	**Veseth Ranch,** baz=77,SNR=6.5	**76.41**	**334**	⇓P	**P**	**22 14 10.6**	**+1.1**
G15A	**Dilon** baz=77	**76.42**	**330**	⇑P	**P**	**22 14 10.6**	**+0.8**
A22A	**Carney Farms,** baz=77,SNR=7.4	**76.62**	**336**	⇓P	**P**	**22 14 11.9**	**+1.3**
E17A	**Martinsdale** baz=77,SNR=8.0	**76.66**	**332**	⇑P	**P**	**22 14 12.6**	**+1.6**
I12A	**Atlanta** baz=77,SNR=8.4	**76.70**	**328**	⇑P	P	22 14 13.5	+2.1
D18A	**Linhart Farms,** baz=77	**76.76**	**333**	⇑P	**P**	**22 14 12.9**	**+1.4**
MFID	**Camas Ranch** comp=E,26nm,1.4s	**76.78**	**327**	*eP*	P	22 14 13.9	+2.2
MFID				*epP*	pP	22 14 41.2	+1.9
MFID	**Camas Ranch** baz=77	**76.78**	**327**	⇑P	**P**	**22 14 13.1**	**+1.3**
SBA	**Scott Base** comp=E,157nm,2.8s	**76.79**	**190**	*eP*	P	22 14 14.6	+3.3
H13A	**Challis** baz=77,SNR=10.0	**76.82**	**329**	⇓P	P	22 14 14.0	+2.0
C19A	**Slack Wire Ran** baz=77,SNR=7.6	**76.86**	**333**	⇓P	**P**	**22 14 13.2**	**+1.2**
B20A	**Solberg Farm,** baz=77,SNR=5.4	**77.00**	**334**	⇓P	**P**	**22 14 13.8**	**+1.1**
A21A	**Bergtoll Ranch** baz=77	**77.00**	**335**	⇑P	**P**	**22 14 14.1**	**+1.3**
TORD	**Torodi Ar. Bea** comp=E,21nm,0.4s,baz=254,slow=5.2,SNR=408	**77.08**	**71**	P	**P**	**22 14 13.0**	**-0.8**
TORD				*pP*	**pP**	**22 14 41.3**	**-0.1**
TORD	**Torodi Ar. Bea** comp=E,17nm,0.8s,baz=254,slow=5.3,SNR=5.2	**77.08**	**71**	P	**P**	**22 14 13.0**	**-0.8**
TORD				LR	LR	22 45 44.6	
TORD	**Torodi Ar. Bea** comp=E,46nm,20.9s,baz=200,slow=34	**77.08**	**71**	P	**P**	**22 14 13.0**	**-0.8**
TORD				*pP*	**pP**	**22 14 41.3**	**-0.1**
E16A	**East Helena** baz=77	**77.08**	**331**	⇑P	**P**	**22 14 14.9**	**+1.5**
H12A	**Diamond D Ranc** baz=77,SNR=6.8	**77.11**	**328**	⇑P	P	22 14 15.4	+1.7
D17A	**Six Diamond Ra** baz=77,SNR=8.8	**77.11**	**332**	⇑P	P	22 14 15.3	+1.7
G13A	**Cobalt** baz=78,SNR=26	**77.20**	**329**	⇑P	P	22 14 16.3	+2.2
A20A	**Cobblestone Ra** baz=78	**77.31**	**335**	⇓P	**P**	**22 14 15.5**	**+1.0**
EGMT	**Eagleton** comp=E,17nm,1.1s	**77.39**	**333**	*eP*	**P**	**22 14 16.1**	**+1.1**
EGMT				*epP*	**pP**	**22 14 44.1**	**+1.6**
EGMT	**Eagleton** baz=78	**77.39**	**333**	⇓P	**P**	**22 14 16.1**	**+1.1**
B19A	**Brinkman Farms** baz=78	**77.39**	**334**	⇓P	**P**	**22 14 16.4**	**+1.4**
D16A	**Dana Ranch, Ca** baz=78,SNR=13	**77.40**	**332**	⇑P	P	22 14 17.0	+1.9
E15A	**Deer Lodge** baz=78	**77.43**	**331**	⇑P	**P**	**22 14 16.5**	**+1.1**
SYO	**Syowa Base**	**77.45**	**160**	⇑	*eP*	**P**	**22 14 15.0**	**0.0**
C17A	**Wharram Farm,** baz=78,SNR=5.9	**77.51**	**333**	⇓P	**P**	**22 14 16.7**	**+1.0**
A19A	**Klindworth Far** baz=78	**77.68**	**334**	⇓P	**P**	**22 14 17.5**	**+0.9**
B18A	**Beardsley Farm** baz=78,SNR=7.7	**77.68**	**334**	⇑P	**P**	**22 14 17.8**	**+1.2**
F13A	**Darby** baz=78,SNR=17	**77.75**	**329**	⇓P	P	22 14 18.8	+1.6
G12A	**Big Creek, Yel** baz=78	**77.76**	**328**	⇓P	**P**	**22 14 18.3**	**+1.1**
VNDA	**Vanda** comp=E,3.6nm,0.9s,baz=121,slow=5.6,SNR=17	**77.82**	**190**	P	P	22 14 19.7	+2.8
VNDA	**Vanda** comp=E,38nm,2.1s	**77.82**	**190**	*eP*	P	22 14 19.8	+2.8
E14A	**Clinton** baz=78	**77.82**	**330**	⇑P	**P**	**22 14 19.1**	**+1.6**
D15A	**Lincoln** baz=78	**77.84**	**331**	⇑P	**P**	**22 14 19.1**	**+1.4**
B17A	**L&G Farms, Che** baz=78	**78.03**	**333**	⇑P	**P**	**22 14 19.1**	**+0.5**
C16A	**Fuhringer Ranc** baz=78	**78.07**	**332**	⇑P	**P**	**22 14 19.8**	**+1.0**
A18A	**Metzger Ranch,** baz=78	**78.12**	**334**	⇓P	**P**	**22 14 19.9**	**+0.9**
MOD	**Modoc**	**78.14**	**323**	*eP*	P	22 14 21.3	+1.9
MOD				*epP*	pP	22 14 48.3	+1.3
E13A	**Victor** baz=78,SNR=6.8	**78.17**	**330**	⇑P	P	22 14 21.4	+2.0
F12A	**Elk City** baz=78	**78.17**	**329**	⇑P	P	22 14 21.3	+1.9
D14A	**Greenough** baz=79	**78.32**	**331**	⇓P	**P**	**22 14 21.8**	**+1.6**
C15A	**Salmond Ranch,** baz=79,SNR=13	**78.43**	**332**	⇓P	P	22 14 22.8	+1.9
SLMT	**Seeley Lake**	**78.43**	**331**	*eP*	P	22 14 22.6	+1.7
SLMT				*epP*	pP	22 14 50.0	+1.4
A17A	**Triple J Farms** baz=79	**78.50**	**333**	⇑P	**P**	**22 14 22.5**	**+1.4**
BMO	**Blue Mountains** comp=E,8.4nm,1.1s	**78.55**	**327**	*eP*	**P**	**22 14 22.9**	**+1.3**
BMO				*epP*	**pP**	**22 14 50.0**	**+0.9**
D13A	**Huson** baz=79,SNR=9.0	**78.77**	**330**	⇑P	P	22 14 24.5	+1.9
E12A	**Beaver Dam Sad** baz=79,SNR=5.5	**78.80**	**329**	⇑P	**P**	**22 14 24.4**	**+1.4**
B15A	**Bradely Ranch,** baz=79,SNR=9.6	**78.81**	**332**	⇓P	**P**	**22 14 23.9**	**+1.0**
SWMT	**Swartz Lake**	**78.86**	**331**	*eP*	**P**	**22 14 22.8**	**-0.4**
B14A	**Marquette Ranc** baz=79	**79.17**	**332**	⇑P	**P**	**22 14 26.2**	**+1.3**
JTMT	**Jette**	**79.17**	**331**	*eP*	P	22 14 26.6	+1.8
C13A	**Hot Springs** baz=80	**79.25**	**331**	⇑P	**P**	**22 14 26.6**	**+1.4**
A15A	**Johnson Ranch,** baz=80	**79.39**	**332**	⇑P	**P**	**22 14 27.0**	**+0.9**
BSMT	**Bassoo Peak**	**79.47**	**331**	*eP*	P	22 14 28.3	+1.7
BSMT				*epP*	pP	22 14 57.4	+3.1
A14A	**Double T Ranch** baz=80	**79.69**	**332**	⇓P	**P**	**22 14 28.5**	**+0.8**
B13A	**Whitefish** baz=80	**79.71**	**331**	⇑P	**P**	**22 14 29.0**	**+1.3**
FFC	**Flin Flon** comp=E,7.5nm,1.1s	**80.07**	**341**	*eP*	**P**	**22 14 30.1**	**+0.7**
FFC				*epP*	**pP**	**22 14 58.0**	**+0.8**
B12A	**Libby** baz=81	**80.29**	**331**	⇑P	**P**	**22 14 32.3**	**+1.5**
A12A	**Yaak River Ran** baz=81	**80.66**	**331**	⇑P	**P**	**22 14 33.9**	**+1.1**
HAWA	**Hanford** comp=E,13nm,1.1s	**80.75**	**327**	*eP*	P	22 14 35.2	+2.0
HAWA				*epP*	pP	22 15 04.4	+3.4
NEW	**Newport** baz=81	**80.86**	**330**	⇑P	**P**	**22 14 35.0**	**+1.1**
EVOP	**Sao Brissos** comp=E,21nm,1.0s	**81.82**	**44**	*eP*	**P**	**22 14 38.6**	**-0.5**
EVO	**Evora** comp=E,21nm,1.1s	**81.90**	**44**	*eP*	**P**	**22 14 38.6**	**-0.9**
BOSA	**Boshof** comp=E,4.0nm,0.9s,baz=200,slow=12,SNR=4.3	**83.96**	**118**	P	**P**	**22 14 50.2**	**-0.5**
BOSA				*pP*	**pP**	**22 15 19.6**	**+0.9**
BOSA	**Boshof** comp=E,6.5nm,0.9s,baz=5.0,slow=2.9,SNR=4.0	**83.96**	**118**	P	**P**	**22 14 50.2**	**-0.5**
BOSA				*pP*	**pP**	**22 15 19.6**	**+0.9**
TAM	**Tamanrasset** comp=E,7.6nm,1.0s	**84.42**	**63**	*eP*	**P**	**22 14 52.0**	**-1.1**
TAM				*epP*	**pP**	**22 15 20.6**	**-0.4**
PAB	**San Pablo** comp=E,10nm,0.9s	**84.84**	**45**	*eP*	**P**	**22 14 55.2**	**+0.5**
ESDC	**Sonseca Array** comp=E,4.6nm,0.9s,baz=242,slow=5.2,SNR=17	**85.16**	**45**	P	**P**	**22 14 56.8**	**+0.5**
ESDC	**Sonseca Array**	**85.16**	**45**	P	**P**	**22 14 56.8**	**+0.5**
MAW	**Mawson** comp=E,16nm,0.9s,baz=294,slow=21,SNR=7.8	**85.30**	**163**	P	**P**	**22 14 56.9**	**+0.5**
MAW	**Mawson**	**85.30**	**163**	P	**P**	**22 14 56.9**	**+0.5**
ETSF	**Etsaut** comp=E,14nm,1.2s	**89.01**	**43**	*eP*	**P**	**22 15 14.6**	**-0.2**
ETSF	**Etsaut** comp=E,14nm,1.2s	**89.01**	**43**	*eP*	**P**	**22 15 14.6**	**-0.2**
EPF	**Esparros**	**89.65**	**43**	*eP*	**P**	**22 15 17.4**	**-0.3**
EPF	**Esparros**	**89.65**	**43**	*eP*	**P**	**22 15 17.4**	**-0.3**
YKA	**Yellowknife Ar** comp=E,5.9nm,0.7s,baz=135,slow=4.6,SNR=73	**90.23**	**341**	P	**P**	**22 15 20.4**	**+0.6**
YKA				*pP*	**pP**	**22 15 49.9**	**+1.8**
YKA	**Yellowknife Ar** comp=E,21nm,1.0s,baz=136,slow=4.7,SNR=13	**90.23**	**341**	P	**P**	**22 15 20.4**	**+0.6**
YKA				*pP*	**pP**	**22 15 49.9**	**+1.8**
YKW3	**Yellowknife Ar** comp=E,0.2nm,0.9s	**90.29**	**341**	*eP*	**P**	**22 15 20.6**	**+0.5**
YKW3				*epP*	**pP**	**22 15 49.2**	**+0.8**
LFF	**La Frestale** comp=E,12nm,0.6s	**90.81**	**42**	*eP*	**P**	**22 15 22.5**	**-0.5**
LFF	**La Frestale** comp=E,12nm,0.6s	**90.81**	**42**	*eP*	**P**	**22 15 22.5**	**-0.5**
MFF	**Saint Martin d** comp=E,15nm,1.0s	**91.07**	**40**	*eP*	**P**	**22 15 23.7**	**-0.5**
MFF	**Saint Martin d** comp=E,15nm,1.0s	**91.07**	**40**	*eP*	**P**	**22 15 23.7**	**-0.5**
RJF	**Les Rejaudoux**	**91.47**	**42**	*eP*	**P**	**22 15 25.1**	**-1.0**
RJF	**Les Rejaudoux**	**91.47**	**42**	*eP*	**P**	**22 15 25.1**	**-1.0**
CAF	**Calviac**	**91.64**	**42**	*eP*	**P**	**22 15 26.3**	**-0.6**
CAF	**Calviac**	**91.64**	**42**	*eP*	**P**	**22 15 26.3**	**-0.6**
LDF	**La Druitiere**	**92.05**	**38**	*eP*	**P**	**22 15 27.5**	**-1.2**
LDF	**La Druitiere**	**92.05**	**38**	*eP*	**P**	**22 15 27.5**	**-1.2**
LASF	**Ste Croix**	**92.40**	**44**	*eP*	**P**	**22 15 29.8**	**-0.6**
LASF	**Ste Croix**	**92.40**	**44**	*eP*	**P**	**22 15 29.8**	**-0.6**
KEST	**Kesra** comp=E,1.3nm,0.9s,baz=86,slow=15,SNR=4.2	**92.75**	**53**	P	**P**	**22 15 32.2**	**-0.2**
KEST	**Kesra**	**92.75**	**53**	P	**P**	**22 15 32.2**	**-0.2**
SMF	**Signal de Mont** comp=E,7.3nm,0.9s	**93.53**	**41**	*eP*	**P**	**22 15 34.9**	**-0.7**
SMF	**Signal de Mont** comp=E,7.3nm,0.9s	**93.53**	**41**	*eP*	**P**	**22 15 34.9**	**-0.7**
ORIF	**Oris-en-Rattie**	**94.07**	**43**	*eP*	**P**	**22 15 38.2**	**0.0**
ORIF	**Oris-en-Rattie**	**94.07**	**43**	*eP*	**P**	**22 15 38.2**	**0.0**
LPL	**La Plagne**	**94.86**	**43**	*eP*	**P**	**22 15 41.8**	**-0.2**
LPL	**La Plagne**	**94.86**	**43**	*eP*	**P**	**22 15 41.8**	**-0.2**
LPG	**La Plagne**	**94.87**	**43**	*eP*	**P**	**22 15 42.1**	**0.0**
LPG	**La Plagne**	**94.87**	**43**	*eP*	**P**	**22 15 42.1**	**0.0**
VYHS	**Vyhne**	**103.66**	**43**	PDIF	**Pdif**	**22 16 27.3**	**+6.2**
BRTR	**Keskin Array B** comp=E,1.3nm,0.8s,baz=310,slow=5.1,SNR=6.2	**112.30**	**54**	PP	PP	22 21 38.4	-4.2
BRTR				PKKPbc	**PKKPab**	**22 31 53.9**	**+0.1**
BRTR	**Keskin Array B** comp=E,0.6nm,0.9s,baz=111,slow=3.2,SNR=4.1	**112.30**	**54**	PP	PP	22 21 38.4	-4.2
BRTR				PKKPbc	**PKKPab**	**22 31 53.9**	**+0.1**
KBZ	**Khabaz** comp=E,1.9nm,0.9s,baz=254,slow=7.0,SNR=3.9	**119.53**	**51**	PKP	**PKPdf**	**22 21 10.1**	**+1.1**
KBZ	**Khabaz**	**119.53**	**51**	PKP	**PKPdf**	**22 21 10.1**	**+1.1**
STKA	**Stephens Creek** comp=E,1.2nm,0.6s,baz=197,slow=5.0,SNR=5.1	**120.25**	**210**	PKP	**PKPdf**	**22 21 11.8**	**+1.0**
STKA	**Stephens Creek**	**120.25**	**210**	PKP	**PKPdf**	**22 21 11.8**	**+1.0**
NAY	**Al-Naaiem** comp=Z,3.4nm,1.8s	**122.08**	**68**	*eP*	**PKPdf**	**22 21 14.7**	**+0.3**
NAY				AMb	AMB	22 21 16.3	
MIB	**Mutribah** comp=Z,7.2nm,0.8s	**122.23**	**67**	*eP*	**PKPdf**	**22 21 15.3**	**+0.6**
MIB				AMb	AMB	22 21 18.0	
RDF	**Al-Radifah** comp=Z,9.6nm,1.1s	**122.31**	**68**	*eP*	**PKPdf**	**22 21 15.2**	**+0.4**
RDF				AMb	AMB	22 21 17.9	
ABKAR

KSH				*e*PP	**PP**	22 25 15.5	+2.3
KSH				PKS	**PKSdf**	22 25 29.6	-2.1
KSH				SKS	**SKSdf**	22 28 54.6	-1.2
KSH				SKKS	**SKKSac**	22 31 53.5	-2.1
KSH				SS	**SS**	22 43 49.1	-2.8
KSH				AMB	AMB		
	comp=Z,72nm,5.6s						
KSH				LR	LR		
	comp=N,120nm,6.2s						
KSH				LR	LR		
	comp=E,83nm,7.2s						
KSH				LR	LR		
	comp=Z,170nm,6.8s						
MKAR	**Makanchi Array**	**144.86**	**35**	PKP	**PKPdf**	22 21 56.2	-0.1
	comp=Z,6.4nm,0.8s,baz=327,slow=3.3,SNR=40						
MKAR				pPKP	**pPKPdf**	22 22 25.4	-0.4
	comp=Z,1.8nm,0.5s,baz=318,slow=2.5,SNR=3.4						
MKAR	**Makanchi Array**	**144.86**	**35**	PKP	**PKPdf**	22 21 56.2	-0.1
MKAR				pPKP	**pPKPdf**	22 22 25.4	-0.4
ERM	**Erimo**	**145.47**	**316**	*e*PKPdf	**PKPab**	22 21 58.6	+0.6
ERM				*e*pPKPdf	**pPKPdf**	22 22 27.7	+0.8
GUMO	**Guam**	**146.97**	**263**	PKPbc	**PKPab**	22 22 03.0	-1.5
	comp=Z,137nm,0.9s,baz=149,slow=5.7,SNR=4.4						
GUMO	**Guam**	**146.97**	**263**	PKPbc	**PKPab**	22 22 03.0	-1.5
DDI	**Dehra Dun**	**148.75**	**65**	*ex*	x	22 22 09.0	
HYB	**Hyderabad**	**149.16**	**90**	*i* PKP	**PKPdf**	22 22 05.0	+0.7
WMQ	**Urumqi**	**149.69**	**35**	*e*PKPbc	**PKPdf**	22 22 03.8	-0.7
WMQ				LR	LR		
	comp=N,460nm,28.0s						
WMQ				LR	LR		
	comp=E,190nm,30.0s						
WMQ				LR	LR		
	comp=Z,160nm,21.0s						
USRK	**Ussuriysk Arra**	**150.63**	**328**	PKPbc	**PKPbc**	22 22 12.3	+1.0
	comp=Z,10.0nm,0.7s,baz=19,slow=1.0,SNR=30						
USRK				pPKPbc	**pPKPbc**	22 22 41.7	+1.0
	comp=Z,12nm,0.9s,baz=325,slow=1.1,SNR=8.7						
MJAR	**Matsushiro Arr**	**151.40**	**310**	PKPbc	**PKPbc**	22 22 14.4	+0.9
	comp=Z,4.7nm,0.6s,baz=102,slow=1.2,SNR=19						
MJAR				pPKPbc	**pPKPbc**	22 22 43.8	+1.0
	comp=Z,5.4nm,1.0s,baz=143,slow=0.5,SNR=4.4						
MJAR	**Matsushiro Arr**	**151.40**	**310**	PKPbc	**PKPbc**	22 22 14.4	+0.9
MJAR				pPKPbc	**pPKPbc**	22 22 43.8	+1.0
MAJO	**Matsushiro**	**151.40**	**310**	*e*PKPdf	**PKPdf**	22 22 08.8	+1.5
SONM	**Songino Array**	**152.48**	**7**	PKP	**PKPdf**	22 22 10.2	+1.5
	comp=Z,1.3nm,0.8s,baz=282,slow=1.4,SNR=15						
SONM				PKPbc	**PKiKP**	22 22 16.7	+0.8
	comp=Z,3.0nm,0.7s,baz=300,slow=1.4,SNR=30						
SONM				pPKPbc	**pPKPbc**	22 22 46.3	+1.3
	comp=Z,4.1nm,0.6s,baz=313,slow=1.7,SNR=5.1						
SONM	**Songino Array**	**152.48**	**7**	PKP	**PKPdf**	22 22 10.2	+1.5
SONM				PKPbc	**PKiKP**	22 22 16.7	+0.8
SONM				pPKPbc	**pPKPbc**	22 22 46.3	+1.3
ULN	**Ulaanbaatar**	**152.51**	**6**	*e*PKPdf	**PKPdf**	22 22 09.2	+0.4
CN2	**Changchun**	**153.84**	**336**	*e*PKPbc	**PKPdf**	22 22 12.8	+2.2
KSRS	**Korea Array**	**157.62**	**323**	PKP	**PKPdf**	22 22 17.0	+1.2
	comp=Z,1.1nm,0.8s,baz=73,slow=2.8,SNR=4.6						
KSRS				PKPab	**PKPab**	22 22 48.5	+0.1
	comp=Z,1.3nm,0.6s,baz=61,slow=4.4,SNR=4.1						
KSRS				pPKPab	**pPKPab**	22 23 19.0	+2.2
	comp=Z,2.4nm,0.9s,baz=69,slow=4.4,SNR=3.2						
KSAR	**Wonju Array Be**	**157.65**	**323**	PKP	**PKPdf**	22 22 17.0	+1.1
KSAR				PKPab	**PKPab**	22 22 48.5	0.0
KSAR				pPKPab	**pPKPab**	22 23 19.0	+2.1
GTA	**Gaotai**	**158.83**	**25**	*e*PKP	**PKPdf**	22 22 19.1	+1.7
HHC	**Hu-ho-hao-te**	**159.71**	**359**	*e*PKP	**PKPdf**	22 22 17.1	-1.3
HHC				pPKP	**pPKPdf**	22 22 45.9	-2.1
HHC				sPKP		22 22 54.6	
HHC				PKS	**PKSdf**	22 25 49.6	-2.3
HHC				PP	**PP**	22 26 40.8	+2.6
HHC				SKS	**SKSdf**	22 29 10.3	-3.8
HHC				SKKS	**SKKSac**	22 33 17.9	0.0
HHC				SS	**SS**	22 46 38.0	+1.6
HHC				AMB	AMB		
	comp=Z,63nm,5.5s						
HHC				LR	LR		
	comp=N,190nm,19.2s						
HHC				LR	LR		
	comp=E,190nm,19.3s						
HHC				LR	LR		
	comp=Z,240nm,20.7s						
NJ2	**Nanjing**	**166.53**	**330**	*e*PKP	**PKPdf**	22 22 26.0	+1.0
CD2	**Chengdu**	**167.74**	**31**	PKP	**PKPdf**	22 22 24.8	-1.2
CD2				pPKP	**pPKPdf**	22 22 54.5	-1.2
CD2				sPKP		22 23 06.3	
CD2				PKPab	**PKPab**	22 23 32.6	-0.3
CD2				PKS	**PKSdf**	22 25 56.0	-2.7
CD2				PP	**PP**	22 27 21.8	+0.9
CD2				SKS	**SKSdf**	22 29 15.9	-4.3
CD2				SKKS	**SKKSac**	22 33 56.4	-2.6
CD2				SS	**SS**	22 47 56.6	-3.4
CD2				AMB	AMB		
	comp=Z,90nm,7.1s						
CD2				LR	LR		
	comp=N,120nm,7.7s						
CD2				LR	LR		
	comp=Z,100nm,10.7s						
CMAR	**Chiang Mai Arr**	**168.42**	**98**	PKP	**PKPdf**	22 22 27.8	+1.0
	comp=Z,1.0nm,0.7s,baz=293,slow=1.9,SNR=8.7						
CMAR	**Chiang Mai Arr**	**168.42**	**98**	PKP	**PKPdf**	22 22 27.8	+1.0
KMI	**Kunming**	**171.08**	**57**	PKP	**PKPdf**	22 22 26.1	-2.3
KMI				pPKP	**pPKPdf**	22 22 56.3	-1.8
KMI				sPKP		22 23 10.3	
GYA	**Guiyang**	**172.84**	**33**	*e*PKP	**PKPdf**	22 22 28.0	-1.1
GYA				pPKP	**pPKPdf**	22 22 58.4	-0.4
GYA				sPKP		22 23 09.5	
GYA				PKPab	**PKPab**	22 23 56.8	+1.1
GYA				PKS	**PKSdf**	22 25 59.0	-2.6
GYA				PP	**PP**	22 27 48.1	+1.5
GYA				AMB	AMB		
	comp=Z,110nm,8.0s						

ISK ***18*** *22:05:33.8, 39.07N×41.50E, h20km, MD2.9*
CSEM ***18*** *22:05:33.3±0.3, 38.99N×41.42E, h10km, MD2.9, Error ellipse: s-maj=5.9km s-min=5.9km az=42.0*
ISCJB ***18*** *22:05:34.8±0.5, 39.07N±0.03×41.48E±0.05, h15km±4km, Error ellipse: s-maj=6.3km s-min=4.8km az=159.1*
DDA ***18*** *22:05:34.6, 39.04N×41.56E, h7km, MD2.8*
ISC 18 22:05:34.3±0.9, 39.02N±0.02×41.48E±0.03, h11km±7km, n24,σ1°42/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.14**	**352**	PG	**Pg**	**22 05 38.2**	**+0.5**
VRTB				*e*SG	**Sg**	**22 05 40.2**	**+0.1**
VRTB	**Varto-Mus**	**0.14**	**352**	*i* Pg	**Pg**	**22 05 38.2**	**+0.5**
VRTB				*e*Sg	**Sg**	**22 05 40.2**	**+0.1**
BNGB	**Bing˜¶l**	**0.62**	**267**	*e*PG	**Pb**	**22 05 47.0**	**-0.3**
BNGB				*e*SG	**Sb**	**22 05 56.7**	**+0.6**
BINT	**Bingol**	**0.79**	**260**	*e*Pg	**Pg**	**22 05 47.0**	**-2.5**
BINT				*e*Sg	**Sg**	**22 05 56.7**	**-3.1**
TATV	**Tatvan**	**0.80**	**130**	*i* P	**Pg**	**22 05 49.3**	**-0.5**
TATV				*i* S	**Sg**	**22 06 00.3**	**+0.1**
TATV	**Tatvan**	**0.80**	**130**	*i* P	**Pg**	**22 05 49.3**	**-0.5**
TATV				*i* S	**Sg**	**22 06 00.3**	**+0.1**
BTMT	**Batman**	**0.83**	**180**	*e*PG	**Pn**	**22 05 53.3**	**+1.3**
ERZM	**Erzurum**	**0.89**	**354**	*i* P	**Pg**	**22 05 51.4**	**0.0**
ERZM				*i* S	**Sg**	**22 06 03.0**	**0.0**
ERZM	**Erzurum**	**0.89**	**354**	*i* P	**Pg**	**22 05 51.4**	**0.0**
ERZM				*i* S	**Sg**	**22 06 03.0**	**0.0**
EZM	**Erzurum**	**0.89**	**354**	*e*PG	**Pg**	**22 05 51.2**	**-0.2**
EZM				*e*SG	**Sg**	**22 06 03.2**	**+0.2**
EZM	**Erzurum**	**0.89**	**354**	*e*Pg	**Pg**	**22 05 51.2**	**-0.2**
EZM				*e*Sg	**Sg**	**22 06 03.2**	**+0.2**
HOMI	**Horasan**	**1.07**	**18**	*i* P	**Pb**	**22 05 54.5**	**-0.5**
HOMI				*i* S	**Sn**	**22 06 11.9**	**+1.4**
BEST	**Besiri**	**1.14**	**188**	*i* P	**Pg**	**22 05 57.7**	**+1.5**
BEST				*i* S	**Sn**	**22 06 14.5**	**+2.5**
KOPT	**Kop Dagi**	**1.25**	**323**	*i* P	**Pg**	**22 05 59.1**	**+0.8**
KOPT				*i* S	**Sg**	**22 06 17.9**	**+3.3**
KOPT	**Kop Dagi**	**1.25**	**323**	*i* P	**Pg**	**22 05 59.1**	**+0.8**
KOPT				*i* S	**Sg**	**22 06 17.9**	**+3.3**
AGRB	**Hanur-Agry**	**1.30**	**64**	*e*PN	**Pn**	**22 05 56.6**	**-1.9**
AGRB	**Hanur-Agry**	**1.30**	**64**	*e*Pn	**Pn**	**22 05 56.6**	**-1.9**
GEVA	**Gevas**	**1.43**	**119**	*i* P	**Pb**	**22 06 00.8**	**-0.1**
GEVA				*i* S	**Sg**	**22 06 19.8**	**-0.3**
GEVA	**Gevas**	**1.43**	**119**	*i* P	**Pb**	**22 06 00.8**	**-0.1**
GEVA				*i* S	**Sg**	**22 06 19.8**	**-0.3**
ERZN	**Erzincan**	**1.48**	**293**	*e*PN	**Pn**	**22 05 59.1**	**-1.8**
PTK	**Pertek**	**1.63**	**266**	*e*PN	**Pn**	**22 06 02.2**	**-0.9**
PTK	**Pertek**	**1.63**	**266**	*e*Pn	**Pn**	**22 06 02.2**	**-0.9**
BAYT	**Ayd˜¨ntepe-Bay**	**1.71**	**323**	*e*PN	**Pn**	**22 06 02.3**	**-1.9**
BAYT	**Ayd˜¨ntepe-Bay**	**1.71**	**323**	*e*Pn	**Pn**	**22 06 02.3**	**-1.9**

ISK ***18*** *22:07:26.9, 39.03N×41.54E, h8km, MD3.0*
ISCJB ***18*** *22:07:27.6±0.6, 39.06N±0.02×41.56E±0.04, h5km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=158.3*
DDA ***18*** *22:07:27.7, 39.04N×41.47E, h7km, MD3.0*
CSEM ***18*** *22:07:27.7±0.1, 39.07N×41.56E, h10km, MD3.0, Error ellipse: s-maj=4.3km s-min=2.7km az=54.0*
ISC 18 22:07:27.7±0.9, 39.05N±0.02×41.56E±0.03, h10km±7km, n33,σ0°64/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.14**	**324**	*e*PG	**Pg**	**22 07 31.3**	**+0.3**
VRTB				*e*SG	**Sg**	**22 07 33.3**	**0.0**
VRTB	**Varto-Mus**	**0.14**	**324**	*e*Pg	**Pg**	**22 07 31.3**	**+0.3**
VRTB				*e*Sg	**Sg**	**22 07 33.3**	**0.0**
BNGB	**Bing˜¶l**	**0.69**	**265**	*e*PG	**Pg**	**22 07 40.3**	**-0.8**
BNGB				*e*SG	**Sg**	**22 07 50.1**	**+0.1**
TATV	**Tatvan**	**0.77**	**134**	*i* P	**Pb**	**22 07 43.1**	**-0.3**
TATV				*i* S	**Sb**	**22 07 53.6**	**-0.4**
TATV	**Tatvan**	**0.77**	**134**	*i* P	**Pb**	**22 07 43.1**	**-0.3**
TATV				*i* S	**Sb**	**22 07 53.6**	**-0.4**
ERZM	**Erzurum**	**0.87**	**350**	*i* P	**Pg**	**22 07 44.6**	**+0.1**
ERZM				*i* S	**Sg**	**22 07 54.0**	**-1.8**
ERZM	**Erzurum**	**0.87**	**350**	*i* P	**Pg**	**22 07 44.6**	**+0.1**
ERZM				*i* S	**Sg**	**22 07 54.0**	**-1.8**
EZM	**Erzurum**	**0.87**	**350**	*e*PG	**Pg**	**22 07 44.4**	**-0.1**
EZM				*e*SG	**Sb**	**22 07 56.7**	**-0.2**
HOMI	**Horasan**	**1.03**	**15**	*i* P	**Pb**	**22 07 47.9**	**+0.1**
HOMI				*i* S	**Sn**	**22 08 04.1**	**+1.0**
BEST	**Besiri**	**1.18**	**191**	*i* P	**Pb**	**22 07 50.2**	**-0.1**
BEST				*i* S	**Sn**	**22 08 07.8**	**+1.2**
AGRB	**Hanur-Agry**	**1.23**	**64**	*e*PN	**Pn**	**22 07 50.8**	**-0.4**
AGRB	**Hanur-Agry**	**1.23**	**64**	*e*Pn	**Pn**	**22 07 50.8**	**-0.4**
KOPT	**Kop Dagi**	**1.27**	**320**	*i* P	**Pn**	**22 07 51.0**	**-0.8**
KOPT				*i* S	**Sg**	**22 08 10.1**	**+1.4**
KOPT	**Kop Dagi**	**1.27**	**320**	*i* P	**Pn**	**22 07 51.0**	**-0.8**
KOPT				*i* S	**Sg**	**22 08 10.0**	**+1.4**
VANT	**Van**	**1.47**	**115**	*e*PN	**Pn**	**22 07 54.8**	**+0.3**
VANT	**Van**	**1.47**	**115**	*e*Pn	**Pn**	**22 07 54.8**	**+0.3**
VANB	**Van**	**1.50**	**107**	*e*PN	**Pn**	**22 07 55.2**	**+0.5**
VANB	**Van**	**1.50**	**107**	*e*Pn	**Pn**	**22 07 55.3**	**+0.5**
ERZN	**Erzincan**	**1.52**	**291**	*e*PN	**Pn**	**22 07 55.0**	**-0.1**
DIY	**Diyarbakir**	**1.56**	**223**	*e*PN	**Pn**	**22 07 55.2**	**-0.4**
DIY	**Diyarbakir**	**1.56**	**223**	*e*Pn	**Pn**	**22 07 55.2**	**-0.4**
DIYA	**Diyarbakir**	**1.59**	**226**	*i* P	**Pb**	**22 07 56.8**	**-0.5**
DIYA				*i* S	**Sg**	**22 08 19.3**	**+0.3**
DIYA	**Diyarbakir**	**1.59**	**226**	*i* P	**Pb**	**22 07 56.8**	**-0.5**
DIYA				*i* S	**Sg**	**22 08 19.3**	**+0.3**
SIRN	**S˜¨rnak**	**1.69**	**156**	*i* P	**Pn**	**22 07 57.6**	**+0.2**
SIRN				*i* S	**Sg**	**22 08 21.6**	**-0.4**
SIRN	**S˜¨rnak**	**1.69**	**156**	*i* P	**Pn**	**22 07 57.6**	**+0.2**
SIRN				*i* S	**Sg**	**22 08 21.6**	**-0.4**
PTK	**Pertek**	**1.70**	**265**	*e*PN	**Pn**	**22 07 57.4**	**-0.2**
PTK	**Pertek**	**1.70**	**265**	*e*Pn	**Pn**	**22 07 57.4**	**-0.2**
BAYT	**Ayd˜¨ntepe-Bay**	**1.73**	**321**	*e*PN	**Pn**	**22 07 58.3**	**+0.2**
BAYT	**Ayd˜¨ntepe-Bay**	**1.73**	**321**	*e*Pn	**Pn**	**22 07 58.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.89**	**250**	*e*PN	**Pn**	**22 07 60.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.89**	**250**	*e*Pn	**Pn**	**22 08 00.0**	**-0.2**
ILIC	**ilic-Erzincan**	**2.36**	**281**	*e*PN	**Pn**	**22 08 06.9**	**+0.2**
ILIC	**ilic-Erzincan**	**2.36**	**281**	*e*Pn	**Pn**	**22 08 06.9**	**+0.2**

MEX 18 22:11:53.8±0.9, 16.63N×98.06W, h25km±41km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**195**	*i* P	Pb	22 11 59.4	-0.8
PNIG				*i* S	Sb	22 12 02.3	-2.2
VHO	**Vista Hermosa**	**1.34**	**71**	*e*P	Pn	22 12 15.4	-1.8
VHO				*e*S	Sn	22 12 30.7	-3.8
HUIG	**Huatulco**	**2.06**	**114**	*e*P	Pn	22 12 23.9	-3.0
HUIG				*i* S	Sn	22 12 49.2	-2.6
YAIG	**Yautepec**	**2.42**	**337**	*i* P	Pn	22 13 06.2	-1.1
YAIG				*i* S	Sn	22 12 56.5	-4.3
CMIG	**Matias Romero**	**3.08**	**81**	*e*P	Pn	22 12 38.9	-1.9
CMIG				*i* S	Sn	22 13 13.1	-3.7

ISCJB ***18*** *22:20:41.7±0.6, 45.56N±0.03×26.57E±0.04, h131km±4km, Error ellipse: s-maj=4.4km s-min=4.1km az=170.7*
BUC ***18*** *22:20:41.5±1.4, 45.61N×26.56E, h136km±14km, MD3.5/2, Error ellipse: s-maj=9.4km s-min=8.6km az=323.0*
CSEM ***18*** *22:20:42.2±0.2, 45.57N×26.56E, h127km±2km, MD3.5/2, Error ellipse: s-maj=3.5km s-min=3.4km az=169.0*
ISC 18 22:20:41.2±1.3, 45.59N±0.03×26.57E±0.02, h138km±6km, n125,σ0°97/175, 56C-27D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.27**	**12**	*i* P	**Pn**	**22 21 00.3**	**0.0**
PLOR				*i* S	**Sn**	**22 21 13.6**	**-1.2**
PLOR	**Plostina**	**0.27**	**12**	*i* P	**Pn**	**22 21 00.3**	**0.0**
PLOR	**Plostina**	**0.27**	**12**	*i* S	**Sn**	**22 21 13.6**	**-1.2**
PLOR	**Plostina**	**0.27**	**12**	*i* P	**Pn**	**22 21 00.3**	**0.0**
PLOR				*i* S	**Sn**	**22 21 13.6**	**-1.2**
VRI	**Vrincioaia**	**0.30**	**21**	*i* P	**Pn**	**22 21 00.6**	**+0.3**
VRI				*i* S	**Sn**	**22 21 13.6**	**-1.3**
VRI	**Vrincioaia**	**0.30**	**21**	*i* P	**Pn**	**22 21 00.6**	**+0.3**
VRI	**Vrincioaia**	**0.30**	**21**	S	**Sn**	**22 21 13.6**	**-1.3**
VRI	**Vrincioaia**	**0.30**	**21**	*i* Pg	**Pn**	**22 21 00.5**	**+0.3**
VRI				*i* Sg	**Sn**	**22 21 13.6**	**-1.3**
VRI	**Vrincioaia**	**0.30**	**21**	*i* P	**Pn**	**22 21 00.6**	**+0.3**
VRI				*i* S	**Sn**	**22 21 13.6**	**-1.3**
GRER		**0.35**	**126**	*i* P	**Pn**	**22 21 01.7**	**+1.2**
GRER		**0.35**	**126**	*i* P	**Pn**	**22 21 01.7**	**+1.2**
GRER		**0.35**	**126**	*i* P	**Pn**	**22 21 01.7**	**+1.2**
ODBI	**Odobesti**	**0.38**	**62**	*i* P	**Pn**	**22 21 01.7**	**+1.1**
ODBI				*i* S	**Sn**	**22 21 15.6**	**+0.3**
ODBI	**Odobesti**	**0.38**	**62**	*i* P	**Pn**	**22 21 01.7**	**+1.1**
ODBI	**Odobesti**	**0.38**	**62**	S	**Sn**	**22 21 15.6**	**+0.3**
ODBI	**Odobesti**	**0.38**	**62**	*i* P	**Pn**	**22 21 01.7**	**+1.1**
ODBI				*i* S	**Sn**	**22 21 15.6**	**+0.3**
MLR	**Muntele Rosu**	**0.45**	**258**	*i* P	**Pn**	**22 21 01.4**	**+0.3**
MLR				*i* S	**Sn**	**22 21 14.7**	**-1.4**
MLR	**Muntele Rosu**	**0.45**	**258**	*i* P	**Pn**	**22 21 01.4**	**+0.3**
MLR	**Muntele Rosu**	**0.45**	**258**	S	**Sn**	**22 21 14.7**	**-1.4**
MLR	**Muntele Rosu**	**0.45**	**258**	*i* P	**Pn**	**22 21 01.4**	**+0.3**
MLR				*i* S	**Sn**	**22 21 14.7**	**-1.4**
ISR	**Istrita**	**0.47**	**182**	*i* P	**Pn**	**22 21 01.8**	**+0.7**
ISR	**Istrita**	**0.47**	**182**	*i* P	**Pn**	**22 21 01.8**	**+0.7**
ISR	**Istrita**	**0.47**	**182**	*i* P	**Pn**	**22 21 01.8**	**+0.7**
PETR		**0.48**	**73**	*i* P	**Pn**	**22 21 01.9**	**+0.9**
PETR				*i* S	**Sn**	**22 21 16.1**	**0.0**
PETR		**0.48**	**73**	*i* P	**Pn**	**22 21 01.9**	**+0.9**
PETR		**0.48**	**73**	S	**Sn**	**22 21 16.1**	**0.0**
PETR		**0.48**	**73**	*i* P	**Pn**	**22 21 01.9**	**+0.9**
PETR				*i* S	**Sn**	**22 21 16.1**	**0.0**
SECR			**0.66 213**	*i* P	**Pn**	**22 21 03.0**	**+0.9**
SECR				*i* S	**Sn**	**22 21 17.6**	**-0.4**
SECR			**0.66 213**	*i* P	**Pn**	**22 21 03.0**	**+0.9**
SECR			**0.66 213**	S	**Sn**	**22 21 17.6**	**-0.4**
SECR			**0.66 213**	*i* P	**Pn**	**22 21 03.0**	**+0.9**
SECR				*i* S	**Sn**	**22 21 17.6**	**-0.4**
PGOR	**Pogoanele**	**0.74**	**157**	*i* P	**Pn**	**22 21 03.4**	**+0.7**
PGOR				*i* S	**Sn**	**22 21 19.4**	**+0.5**
PGOR	**Pogoanele**	**0.74**	**157**	*i* P	**Pn**	**22 21 03.4**	**+0.7**
PGOR	**Pogoanele**	**0.74**	**157**	S	**Sn**	**22 21 19.4**	**+0.5**
PGOR	**Pogoanele**	**0.74**	**157**	*i* P	**Pn**	**22 21 03.4**	**+0.7**
PGOR				*i* S	**Sn**	**22 21 19.4**	**+0.5**
GHRR			**0.75 51**	*i* P	**Pn**	**22 21 03.4**	**+0.6**
GHRR				*i* S	**Sn**	**22 21 19.1**	**-0.1**
GHRR			**0.75 51**	*i* P	**Pn**	**22 21 03.4**	**+0.6**
GHRR			**0.75 51**	S	**Sn**	**22 21 19.1**	**-0.1**
GHRR			**0.75 51**	*i* P	**Pn**	**22 21 03.4**	**+0.6**
GHRR				*i* S	**Sn**	**22 21 19.1**	**-0.1**
PLAR	**PLOIESTI**	**0.77**	**210**	*i* S	**Sn**	**22 21 20.3**	**+0.9**
PLAR	**PLOIESTI**	**0.77**	**210**	S	**Sn**	**22 21 20.3**	**+0.9**
PLAR	**PLOIESTI**	**0.77**	**210**	*i* S	**Sn**	**22 21 20.3**	**+0.9**
DOPR	**Dopca**	**0.91**	**295**	*i* P	**Pn**	**22 21 04.3**	**+0.2**
DOPR				*i* S	**Sn**	**22 21 20.5**	**-1.0**
DOPR	**Dopca**	**0.91**	**295**	*i* P	**Pn**	**22 21 04.3**	**+0.2**
DOPR	**Dopca**	**0.91**	**295**	S	**Sn**	**22 21 20.5**	**-1.0**
DOPR	**Dopca**	**0.91**	**295**	*i* P	**Pn**	**22 21 04.3**	**+0.2**
DOPR				*i* S	**Sn**	**22 21 20.5**	**-1.0**

TESR			**0.93**	**3**	*i* P	**Pn**	**22 21 04.2**	**0.0**
TESR					*i* S	**Sn**	**22 21 19.5**	**-2.2**
TESR			**0.93**	**3**	*i* P	**Pn**	**22 21 04.2**	**0.0**
TESR			**0.93**	**3**	S	**Sn**	**22 21 19.5**	**-2.2**
TESR			**0.93**	**3**	*i* P	**Pn**	**22 21 04.2**	**0.0**
TESR					*i* S	**Sn**	**22 21 19.5**	**-2.2**
VOIR			**1.08**	**263**	*i* P	**Pn**	**22 21 05.9**	**+0.3**
VOIR					*i* S	**Sn**	**22 21 22.8**	**-1.4**
VOIR			**1.08**	**263**	*i* P	**Pn**	**22 21 05.9**	**+0.3**
VOIR			**1.08**	**263**	S	**Sn**	**22 21 22.8**	**-1.4**
VOIR			**1.08**	**263**	*i* P	**Pn**	**22 21 05.9**	**+0.3**
VOIR					*i* S	**Sn**	**22 21 22.8**	**-1.4**
AMRR	**Amara**		**1.12**	**151**	*i* P	**Pn**	**22 21 06.6**	**+0.7**
AMRR					*i* S	**Sn**	**22 21 24.2**	**-0.4**
AMRR	**Amara**		**1.12**	**151**	*i* P	**Pn**	**22 21 06.6**	**+0.7**
AMRR	**Amara**		**1.12**	**151**	S	**Sn**	**22 21 24.2**	**-0.4**
AMRR	**Amara**		**1.12**	**151**	*i* P	**Pn**	**22 21 06.6**	**+0.7**
AMRR					*i* S	**Sn**	**22 21 24.2**	**-0.4**
CFR	**Carcaliu**		**1.18**	**110**	*i* P	**Pn**	**22 21 06.7**	**+0.3**
CFR					*i* S	**Sn**	**22 21 25.0**	**-0.6**
CFR	**Carcaliu**		**1.18**	**110**	*i* P	**Pn**	**22 21 06.7**	**+0.3**
CFR	**Carcaliu**		**1.18**	**110**	S	**Sn**	**22 21 25.0**	**-0.6**
CFR	**Carcaliu**		**1.18**	**110**	*i* P	**Pn**	**22 21 06.7**	**+0.3**
CFR					*i* S	**Sn**	**22 21 25.0**	**-0.6**
CIOR	**Ciorogarla**		**1.24**	**204**	*i* P	**Pn**	**22 21 07.7**	**+0.6**
CIOR					*i* S	**Sn**	**22 21 25.8**	**-1.0**
CIOR	**Ciorogarla**		**1.24**	**204**	*i* P	**Pn**	**22 21 07.7**	**+0.6**
CIOR	**Ciorogarla**		**1.24**	**204**	S	**Sn**	**22 21 25.8**	**-1.0**
CIOR	**Ciorogarla**		**1.24**	**204**	*i* P	**Pn**	**22 21 07.7**	**+0.6**
CIOR					*i* S	**Sn**	**22 21 25.8**	**-1.0**
BUC1	**Bucharest**		**1.30**	**197**	*i* P	**Pn**	**22 21 08.4**	**+0.7**
BUC1					*i* S	**Sn**	**22 21 27.0**	**-0.8**
BUC1	**Bucharest**		**1.30**	**197**	*i* P	**Pn**	**22 21 08.4**	**+0.7**
BUC1	**Bucharest**		**1.30**	**197**	S	**Sn**	**22 21 27.0**	**-0.8**
BUC1	**Bucharest**		**1.30**	**197**	*i* P	**Pn**	**22 21 08.4**	**+0.7**
BUC1					*i* S	**Sn**	**22 21 27.0**	**-0.8**
ARR	**Arges**		**1.38**	**262**	*i* P	**Pn**	**22 21 09.8**	**+1.2**
ARR					*i* S	**Sn**	**22 21 29.5**	**0.0**
ARR	**Arges**		**1.38**	**262**	*i* P	**Pn**	**22 21 09.8**	**+1.2**
ARR	**Arges**		**1.38**	**262**	S	**Sn**	**22 21 29.5**	**0.0**
ARR	**Arges**		**1.38**	**262**	*i* P	**Pn**	**22 21 09.8**	**+1.2**
ARR					*i* S	**Sn**	**22 21 29.5**	**0.0**
HUMR	**Humele**		**1.54**	**227**	*i* P	**Pn**	**22 21 10.8**	**+0.5**
HUMR					*i* S	**Sn**	**22 21 31.8**	**-0.8**
HUMR	**Humele**		**1.54**	**227**	*i* P	**Pn**	**22 21 10.8**	**+0.5**
HUMR	**Humele**		**1.54**	**227**	S	**Sn**	**22 21 31.8**	**-0.8**
HUMR	**Humele**		**1.54**	**227**	*i* P	**Pn**	**22 21 10.8**	**+0.5**
HUMR					*i* S	**Sn**	**22 21 31.8**	**-0.8**
TLCR			**1.63**	**103**	*i* P	**Pn**	**22 21 12.2**	**+0.9**
TLCR					*i* S	**Sn**	**22 21 33.6**	**-0.6**
**T

MJAR	**Matsushiro Arr**	**3.32**	**221**	Pn	**Pb**	**22**	**58**	**25.2 -2.9**
	0.7nm,0.3s,baz=30,slow=12,SNR=8.3							
MJAR				Sn	**Sg**	**22**	**59**	**18.3 +2.5**
	0.5nm,0.3s,baz=351,slow=33,SNR=5.1							
MKAR	**Makanchi Array**	**42.74**	**300**	P	P	23	05	11.2 -15
	0.2nm,0.9s,baz=61,slow=5.7,SNR=3.6							
WRA	**Warramunga Arr**	**59.03**	**187**	P	**P**	**23**	**07**	**29.5 +0.4**
	0.5nm,0.5s,baz=5.1,slow=7.2,SNR=8.6							
ASAR	**Alice Springs**	**62.75**	**187**	P	**P**	**23**	**07**	**55.5 +1.1**
	0.3nm,0.7s,baz=353,slow=6.5,SNR=3.0							

IDC ***18*** *23:09:09.2±0.4,3˚.43N×126˚.49E, h0km, mb4.7/29, mb1 4.8/29, mb1mx4.8/31, mbtmp4.7/29, MS3.9/12, Ms1 3.9/12, ms1mx3.6/39, Error ellipse: s-maj=21.6km s-min=8.5km az=77.0*

MOS ***18*** *23:09:12.5±1.2,3˚.54N×126˚.73E, h33km, mb5.2/42, MS4.1/4, Error ellipse: s-maj=13.5km s-min=5.9km az=113.7*

ISCJB ***18*** *23:09:14.7±0.2,3˚.62N±0˚.03×126˚.75E±0˚.03, h48km, mb4.9/108, MS4.0/33, Error ellipse: s-maj=4.6km s-min=3.1km az=169.2*

NEIC ***18*** *23:09:15.3±1.1,3˚.63N×126˚.88E, h44km±9km, mb5.0/45, Error ellipse: s-maj=8.6km s-min=5.0km az=71.0*

DJA ***18*** *23:09:17.4±0.8,4˚N±6˚×12˚7E±˚, h40km±8km, M4.9/17, mB5.3/12, mb5.0/17, MLv5.1/7, Mw(mB)4.7/12*

AUST ***18*** *23:09:21.4,3˚.50N×127˚.00E, h100km*

ISC 18 23:09:16.3±0.3,3˚.62N±0˚.03×126˚.78E±0˚.05, h48km, h48km:pP-P,n342,σ1§87/388,mb4.9/106,MS4.0/33, 26C-17D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.89**	**168**	P	**Pn**	**23 09 59.6**	**-0.3**
MNI	**Manado**	**2.90**	**222**	P	**Pn**	**23 09 57.9**	**-2.2**
DAV	**Davao City (W)**	**3.63**	**341**	Pn	Pn	23 10 14.3	+4.2
	62nm,0.3s,baz=43,slow=3.5,SNR=7.0						
DAV	**Davao City (W)**	**3.63**	**341**	*e*Pn	**Pn**	**23 10 08.8**	**-1.3**
DAV				Sn	**Sn**	**23 10 47.4**	**-4.3**
DMPH	**Davao City--Mi**	**3.67**	**340**	*e*P	Pn	23 10 14.2	+3.7
DMPH				*e*S	**Sn**	**23 10 50.6**	**-2.0**
KMSI	**Cibinong**	**4.12**	**223**	P	**Pn**	**23 10 17.0**	**+0.2**
LBMI	**Labuha**	**4.29**	**170**	P	**Pn**	**23 10 18.8**	**-0.4**
MRSI	**Marisa**	**5.76**	**237**	P	**Pn**	**23 10 37.7**	**-1.6**
	384nm,1.0s,5µm1.7nm						
LUWI	**Luwuk**	**6.12**	**221**	P	**Pn**	**23 10 45.7**	**+1.4**
	814nm,0.9s,8µm2.9nm						
SWI	**Sorong**	**6.32**	**135**	P	**Pn**	**23 10 49.2**	**+2.2**
	baz=6.1,SNR=7.8						
SWI				S	Sn	23 11 50.6	-7.2
	baz=6.1,SNR=24						
SWI	**Sorong**	**6.32**	**135**	P	**Pn**	**23 10 47.8**	**+0.9**
	188nm,1.1s,2µm0.6nm						
NLAI	**Namlea**	**6.82**	**177**	P	**Pn**	**23 10 54.5**	**+0.6**
	61nm,0.6s,1µm0.3nm						
MYLDM	**Lahad Datu**	**8.40**	**281**	P	**Pn**	**23 11 17.2**	**+1.6**
MYLDM	**Lahad Datu**	**8.40**	**281**	P	**Pn**	**23 11 16.9**	**+1.4**
	188nm,1.1s,2µm						
PALU	**Palau**	**8.50**	**64**	P	**Pn**	**23 11 18.9**	**+1.9**
	baz=8.4,SNR=4.5						
PALU				S	Sn	23 12 44.4	-7.3
	baz=8.4,SNR=5.4						
KDI	**Kendari**	**8.60**	**209**	P	**Pn**	**23 11 15.9**	**-2.4**
	117nm,1.3s,1µm						
TSM	**Tawau**	**8.91**	**275**	P	**Pn**	**23 11 20.8**	**-1.8**
TTSI	**Tana Toraja**	**9.60**	**226**	P	**Pn**	**23 11 32.5**	**+0.5**
	163nm,1.0s,2µm						
SDKM	**Sandakan**	**9.76**	**282**	P	**Pn**	**23 11 32.9**	**-1.3**
KDM	**Kudat**	**10.43**	**289**	P	Pn	23 11 55.1	+12
BAKI	**Biak**	**10.48**	**117**	P	Pn	23 11 48.2	+4.2
KKM	**Kota Kinabalu**	**10.80**	**283**	*e*Pn	**Pn**	**23 11 50.0**	**+1.5**
KKM	**Kota Kinabalu**	**10.80**	**283**	P	Pn	23 11 57.9	+9.4
	baz=11,SNR=4.1						
KKM	**Kota Kinabalu**	**10.80**	**283**	P	**Pn**	**23 11 50.7**	**+2.2**
KKM	**Kota Kinabalu**	**10.80**	**283**	P	**Pn**	**23 11 50.0**	**+1.5**
	49nm,1.5s,662nm						
TLE	**Tual**	**10.95**	**147**	S	Sn	23 13 56.9	+5.1
	baz=11,SNR=3.7						
KAPI	**Kappang**	**11.09**	**219**	Pn	**Pn**	**23 11 51.0**	**-1.4**
	0.2nm,0.3s,baz=27,slow=16,SNR=3.7						
KAPI	**Kappang**	**11.09**	**219**	*e*Pn	**Pn**	**23 11 54.2**	**+1.9**
KAPI	**Kappang**	**11.09**	**219**	P	Pn	23 11 56.6	+4.3
MMRI	**Maumere**	**12.99**	**200**	P	P	23 12 34.1	+6.5
BTM	**Bintulu**	**13.68**	**269**	P	**Pn**	**23 12 26.4**	**-1.4**
BBKI	**Banjar Baru**	**13.85**	**240**	P	P	23 12 41.0	+3.8
SBUM	**Sibu**	**14.59**	**266**	P	**Pn**	**23 12 40.6**	**+0.6**
SBUM	**Sibu**	**14.59**	**266**	P	**Pn**	**23 12 40.2**	**+0.2**
	48nm,1.2s,689nm						
STKI	**Sintang**	**15.70**	**257**	P	**P**	**23 13 01.3**	**+3.6**
KHKI	**Kahang-Kahang**	**16.31**	**223**	P	**Pn**	**23 13 03.0**	**+0.8**
	47nm,1.1s						
PBKI	**Pangkalan Bun**	**16.36**	**248**	P	P	23 13 13.6	+8.5
SRBI	**Singaraja**	**16.38**	**225**	P	**Pn**	**23 13 03.6**	**+0.5**
	72nm,1.1s,2µm						
KSM	**Kuching**	**16.59**	**263**	*e*Pn	**Pn**	**23 13 06.7**	**+0.9**
	41nm,1.0s						
KSM	**Kuching**	**16.59**	**263**	P	P	23 13 15.4	+7.7
	baz=17,SNR=6.0						
KSM	**Kuching**	**16.59**	**263**	P	**P**	**23 13 08.0**	**+0.3**
KSM	**Kuching**	**16.59**	**263**	P	**P**	**23 13 09.3**	**+1.6**
MTN	**Manton Dam**	**16.92**	**165**	P	**Pn**	**23 13 06.9**	**-3.0**
	baz=17,SNR=14						
KDU	**Kakadu**	**17.16**	**161**	P	**P**	**23 13 13.9**	**0.0**
	baz=17,SNR=7.3						
JAGI	**Jajag, Banyuwa**	**17.40**	**226**	P	**P**	**23 13 17.1**	**+0.5**
	62nm,0.9s						
GMJI	**Gumukmas**	**17.79**	**228**	P	P	23 13 32.1	+11
SJI	**Sawahan**	**18.75**	**233**	P	**Pn**	**23 13 37.0**	**+4.6**
PWJI	**Pagerwojo**	**18.89**	**232**	P	**Pn**	**23 13 38.8**	**+4.8**
YULB	**Yu-li**	**20.36**	**345**	*e*P	**P**	**23 13 46.8**	**-2.1**
	27nm,0.9s						
GUMO	**Guam**	**20.43**	**60**	LR	LR	23 20 18.2	
	comp=Z,268nm,21.5s,baz=254,slow=32						
TPUB	**Ta-pu**	**20.45**	**344**	*e*P	**P**	**23 13 48.3**	**-1.7**
	48nm,0.8s						
SSLB	**Suanglung**	**20.82**	**345**	*e*Pn	**P**	**23 13 52.6**	**-1.4**
	35nm,0.9s						
YHNB	**Yeheng**	**21.57**	**347**	*e*P	**P**	**23 13 59.8**	**-2.2**
	25nm,0.7s						
YHNB				*e*S	**S**	**23 17 56.4**	**-2.2**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**23 13 58.3**	**-4.2**
	17nm,0.8s,baz=21,slow=9.0,SNR=30						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	*e*P	**P**	**23 14 00.6**	**-1.9**
	24nm,0.8s						
FITZ				*e*S	**S**	**23 17 53.9**	**-5.6**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**23 13 60.0**	**-2.5**
	baz=22,SNR=33						
FITZ				S	**S**	**23 17 54.9**	**-4.6**
	baz=22,SNR=5.4						
DBJI	**Dramaga**	**22.41**	**243**	P	P	23 14 23.9	+13
QIZ	**Qiongzhong**	**22.55**	**314**	P	**P**	**23 14 12.8**	**+0.2**
QIZ				S	**S**	**23 18 20.9**	**+4.1**
QIZ				LR	LR		
	comp=N,350nm,16.4s						
QIZ				LR	LR		
	comp=E,120nm,15.9s						
QIZ				LR	LR		
	comp=Z,390nm,17.2s						
QIZ	**Qiongzhong**	**22.55**	**314**	*e*P	**P**	**23 14 12.2**	**-0.4**
	comp=Z,18nm,1.1s						
QZH	**Quanzhou**	**22.62**	**340**	*i*P	**P**	**23 14 13.9**	**+0.7**
QZH				LR	LR		
	comp=N,1µm,21.8s						
QZH				LR	LR		
	comp=E,600nm,18.2s						
QZH				LR	LR		
	comp=Z,1µm,18.1s						
MYKOM	**Kota Tinggi**	**22.98**	**266**	P	**P**	**23 14 18.9**	**+1.8**
JOW	**Kunigami**	**23.12**	**3**	P	**P**	**23 14 20.1**	**+1.7**
	comp=Z,32nm,0.8s,baz=118,slow=19,SNR=4.1						
JOW	**Kunigami**	**23.12**	**3**	P	**P**	**23 14 20.1**	**+1.7**
KGM	**Kluang**	**23.49**	**267**	P	**P**	**23 14 23.4**	**+1.3**
COEN	**Coen**	**23.86**	**137**	*e*P	**P**	**23 14 22.4**	**-3.2**
	comp=Z,121nm,1.0s						
COEN				PcP	**PcP**	**23 18 05.6**	**-2.2**
COEN	**Coen**	**23.86**	**137**	P	**P**	**23 14 24.7**	**-0.9**
	baz=24,SNR=10						
WRAB	**Tennant Creek**	**24.56**	**163**	*e*P	**P**	**23 14 29.8**	**-2.1**
WRAB				*e*S	**S**	**23 18 49.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,35nm,0.7s						
WRAB	**Tennant Creek**	**24.56**	**163**	*e*P	**P**	**23 14 29.8**	**-2.1**
	comp=Z,35nm,0.7s						
WRAB				*e*S	**S**	**23 18 49.4**	**-0.2**
WRAB	**Tennant Creek**	**24.56**	**163**	P	**P**	**23 14 30.0**	**-1.9**
	comp=Z,301nm,1.0s,SNR=22						
WRA	**Warramunga Arr**	**24.57**	**163**	P	**P**	**23 14 29.9**	**-2.1**
	comp=Z,20nm,0.6s,baz=342,slow=9.8,SNR=91						
WRA				S	**S**	**23 18 52.5**	**+2.8**
	comp=Z,2.4nm,0.8s,baz=336,slow=14,SNR=3.9						
WRA				ScP	**ScP**	**23 21 48.6**	**+4.3**
	comp=Z,1.4nm,0.9s,baz=337,slow=3.1,SNR=5.3						
WRA	**Warramunga Arr**	**24.57**	**163**	P	**P**	**23 14 29.9**	**-2.1**
WRA				S	**S**	**23 18 52.5**	**+2.8**
WRA				ScP	**ScP**	**23 21 48.6**	**+4.3**
FRIM	**Kepong**	**25.11**	**270**	P	**P**	**23 14 39.2**	**+2.2**
MBWA	**Marble Bar**	**25.58**	**195**	*e*P	**P**	**23 14 41.0**	**0.0**
	comp=Z,46nm,1.1s						
IPM	**Ipoh**	**25.70**	**273**	*e*P	**P**	**23 14 43.8**	**+1.4**
	comp=Z,44nm,1.0s						
IPM	**Ipoh**	**25.70**	**273**	P	**P**	**23 14 42.5**	**+0.2**
IPM	**Ipoh**	**25.70**	**273**	P	**P**	**23 14 44.6**	**+2.2**
	comp=Z,45nm,1.1s						
CHBT	**CHBT**	**25.82**	**292**	P	P	23 14 51.1	+7.7
KULM	**Kulim**	**26.10**	**275**	*e*P	**P**	**23 14 46.8**	**+0.8**
	comp=Z,64nm,1.3s						
KULM	**Kulim**	**26.10**	**275**	P	**P**	**23 14 47.3**	**+1.4**
KULM	**Kulim**	**26.10**	**275**	P	**P**	**23 14 47.2**	**+1.2**
	comp=Z,37nm,1.3s,comp=Z,522nm						
PPI	**Padang Panjang**	**26.68**	**262**	P	P	23 14 57.6	+6.5
QIS	**Mount Isa**	**27.12**	**153**	P	**P**	**23 14 55.3**	**+0.2**
	baz=27,SNR=12						
MNSI	**Mandailing Nat**	**27.32**	**265**	P	P	23 15 02.3	+5.4
PSI	**Prapat**	**27.82**	**269**	LR	LR	23 26 20.3	
	comp=Z,347nm,19.1s,baz=59,slow=38						
PSI	**Prapat**	**27.82**	**269**	P	P	23 15 07.4	+5.8
SSE	**Sheshan**	**27.83**	**350**	P	**P**	**23 15 01.4**	**+0.1**
SSE				sP	**sP**	**23 15 17.4**	**-2.1**
SSE				S	**S**	**23 19 43.3**	**+2.1**
SSE				sS	**sS**	**23 20 02.4**	**+0.1**
SSE				pmax	pmax		
	comp=Z,22nm,1.0s						
SSE				pmax	pmax		
	comp=Z,110nm,11.5s						
SSE				LR	LR		
	comp=N,99nm,29.5s						
SSE				LR	LR		
	comp=E,240nm,29.5s						
SSE				LR	LR		
	comp=Z,260nm,19.1s						
ASAR	**Alice Springs**	**28.00**	**166**	P	**P**	**23 15 01.3**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=346,slow=7.0,SNR=29						
ASAR				S	**S**	**23 19 47.4**	**+3.4**
	comp=Z,0.4nm,0.4s,baz=343,slow=19,SNR=5.4						
ASAR	**Alice Springs**	**28.00**	**166**	P	**P**	**23 15 01.3**	**-1.6**
ASAR				S	**S**	**23 19 47.4**	**+3.4**
WHN	**Wuhan**	**29.24**	**338**	P	**P**	**23 15 14.1**	**+0.3**
WHN				S	**S**	**23 20 07.3**	**+3.9**
WHN				LR	LR		
	comp=Z,810nm,22.5s						
NJ2	**Nanjing**	**29.25**	**346**	*e*P	**P**	**23 15 15.0**	**+1.2**
NJ2				pP	**pP**	**23 15 23.3**	**-3.1**
NJ2				sP	**sP**	**23 15 27.1**	**-5.0**
NJ2				S	**S**	**23 20 08.0**	**+4.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,100nm,6.8s						
NJ2				LR	LR		
	comp=N,130nm,21.0s						
NJ2				LR	LR		
	comp=E,450nm,29.4s						
NJ2				LR	LR		
	comp=Z,250nm,21.5s						
SRDT	**SRDT**	**29.28**	**293**	P	**P**	**23 15 15.4**	**+1.0**
GYA	**Guiyang**	**29.78**	**322**	P	**P**	**23 15 21.0**	**+2.1**
GYA				pP	**pP**	**23 15 31.8**	**+0.4**
GYA				PP	**PnPn**	**23 16 18.6**	**+2.4**
GYA				S	**S**	**23 20 14.5**	**+2.2**
GYA				sS	**sS**	**23 20 32.3**	**-1.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,560nm,16.6s						
GYA				LR	LR		
	comp=E,410nm,17.8s						
GYA				LR	LR		
	comp=Z,520nm,17.0s						
CM31	**Chiang Mai Arr**	**30.97**	**301**	*e*P	**P**	**23 15 28.8**	**-0.5**
	comp=Z,7.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.97**	**301**	P	**P**	**23 15 28.5**	**-0.8**
	comp=Z,4.8nm,0.7s,baz=112,slow=6.9,SNR=31						
CMAR				ScP	**ScP**	**23 22 08.1**	**+4.1**
	comp=Z,0.5nm,0.3s,baz=142,slow=1.8,SNR=6.9						
CMAR				LR	LR	23 27 28.7	
	comp=Z,168nm,21.9s,baz=331,slow=36						
CMAR	**Chiang Mai Arr**	**30.97**	**301**	P	**P**	**23 15 28.5**	**-0.8**
CMAR				ScP	**ScP**	**23 22 08.1**	**+4.1**
MEEK	**Meekatharra**	**31.10**	**194**	P	**P**	**23 15 29.1**	**-1.2**
	baz=31,SNR=8.7						
CMMT	**Chiang Mai**	**31.12**	**301**	P	**P**	**23 15 31.1**	**+0.5**
CHTO	**Chiang Mai**	**31.12**	**301**	*e*P	**P**	**23 15 30.4**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	**Chiang Mai**	**31.12**	**301**	*e*P	**P**	**23 15 30.4**	**-0.2**
	comp=Z,8.8nm,0.7s						
CHTO	**Chiang Mai**	**31.12**	**301**	P	**P**	**23 15 30.3**	**-0.3**
ENH	**Enshi**	**31.15**	**330**	*e*P	**P**	**23 15 29.7**	**-1.1**
	comp=Z,11nm,0.7s						
ENH				PP	**PP**	**23 16 39.6**	**-2.1**
KMI	**Kunming**	**31.49**	**315**	P	**P**	**23 15 36.3**	**+2.2**
KMI				pP	**pP**	**23 15 46.3**	**-0.4**
KMI				sP	**sP**	**23 15 50.3**	**-2.1**
KMI				PP	**PnPn**	**23 16 41.0**	**+2.4**
KMI				S	**S**	**23 20 42.1**	**+2.8**
KMI				sS	**sS**	**23 21 00.3**	**-0.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KMI				LR	LR		
	comp=N,190nm,19.8s						
KMI				LR	LR		
	comp=E,170nm,18.5s						
KMI				LR	LR		
	comp=Z,280nm,18.9s						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**23 15 54.0**	**+1.3**
KSAR				ScP	**ScP**	**23 22 18.4**	**+5.6**
KSRS	**Korea Array**	**33.69**	**2**	P	**P**	**23 15 54.0**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=182,slow=9.5,SNR=4.1						
KSRS				ScP	**ScP**	**23 22 18.4**	**+5.6**
	comp=Z,0.7nm,0.3s,baz=190,slow=2.7,SNR=5.3						
FORT	**Forrest**	**34.23**	**178**	*e*P	**P**	**23 15 56.4**	**-1.2**
	comp=Z,39nm,0.8s						
FORT	**Forrest**	**34.23**	**178**	P	**P**	**23 15 59.4**	**+1.8**
	baz=34,SNR=6.7						
MJAR	**Matsushiro Arr**	**34.41**	**16**	P	**P**	**23 16 01.4**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=182,slow=9.5,SNR=4.5						
MJAR				PcP	**PcP**	**23 18 36.0**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=190,slow=3.9,SNR=4.0						
MJAR				LR	LR	23 30 08.0	
	comp=Z,248nm,19.6s,baz=215,slow=36						
MJAR	**Matsushiro Arr**	**34.41**	**16**	P	**P**	**23 16 01.4**	**+2.2**
MJAR				PcP	**PcP**	**23 18 36.0**	**+1.9**
XAN	**Xi'an**	**34.53**	**333**	P	**P**	**23 15 59.8**	**-0.5**
XAN				pP	pP	23 16 07.3	-5.7
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,19nm,4.9s						
XAN				LR	LR		
	comp=N,230nm,23.6s						
XAN				LR	LR		
	comp=E,82nm,27.5s						
XAN				LR	LR		
	comp=Z,78nm,17.1s						
CD2	**Chengdu**	**34.76**	**324**	P	**P**	**23 16 04.4**	**+2.1**
CD2				pP	**pP**	**23 16 14.5**	**-0.5**
CD2				PP	**PP**	**23 17 22.8**	**+0.9**
CD2				S	**S**	**23 21 32.6**	**+3.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,70nm,4.7s						
CD2				LR	LR		
	comp=N,330nm,14.3s						
CD2				LR	LR		
	comp=Z,280nm,18.4s						
HNR	**Honiara**	**35.50**	**112**	LR	LR	23 29 02.0	
	comp=Z,177nm,18.8s,baz=306,slow=33						
KLBR	**Kellerberrin**	**36.06**	**193**	P	**P**	**23 16 15.2**	**+1.8**
	baz=36,SNR=5.2						
EIDS	**Eidsvold**	**37.23**	**142**	*e*P	**P**	**23 16 23.3**	**-0.2**
	comp=Z,22nm,1.0s						
EIDS	**Eidsvold**	**37.23**	**142**	P	**P**	**23 16 22.9**	**-0.6**
	baz=37,SNR=4.5						
EIDS				S	S	23 22 16.1	+8.7
	baz=37,SNR=4.4						
BBOO	**Buckleboo**	**37.28**	**167**	*e*P	**P**	**23 16 22.8**	**-1.0**
	comp=Z,µm,2.3s						
BBOO	**Buckleboo**	**37.28**	**167**	P	**P**	**23 16 23.0**	**-0.8**
	baz=37,SNR=19						
BJT	**Baijiatuan**	**37.48**	**347**	*e*P	**P**	**23 16 25.0**	**-0.4**
	comp=Z,61nm,0.9s						
BJI	**Beijing**	**37.50**	**347**	P	**P**	**23 16 26.0**	**+0.5**
BJI				S	**S**	**23 22 14.4**	**+3.3**
BJI				pmax	pmax		
	comp=Z,43nm,1.0s						
BJI				pmax	pmax		
	comp=Z,69nm,3.6s						
BJI				LR	LR		
	comp=N,110nm,26.8s						
BJI				LR	LR		
	comp=E,270nm,25.1s						
BJI				LR	LR		
	comp=Z,99nm,21.2s						
STKA	**Stephens Creek**	**38.01**	**159**	P	**P**	**23 16 27.8**	**-2.1**
	comp=Z,7.6nm,0.6s,baz=334,slow=9.6,SNR=22						
STKA	**Stephens Creek**	**38.01**	**159**	*e*P	**P**	**23 16 29.2**	**-0.7**
	comp=Z,3.0nm,0.6s						
STKA	**Stephens Creek**	**38.01**	**159**	P	**P**	**23 16 29.3**	**-0.7**
	baz=38,SNR=37						
LZH	**Lanzhou**	**38.62**	**330**	*e*P	**P**	**23 16 37.0**	**+1.7**
LZH				pP	**pP**	**23 16 47.3**	**-0.8**
LZH				sP	**sP**	**23 16 49.0**	**-4.7**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=N,360nm,17.3s						
LZH				LR	LR		
	comp=E,440nm,19.0s						
LZH				LR	LR		
	comp=Z,500nm,20.1s						
RKGY	**Rocky Gully**	**39.13**	**193**	P	**P**	**23 16 40.8**	**+1.5**
	baz=39,SNR=4.8						
CMSA	**Cobar Meteorol**	**39.33**	**154**	P	**P**	**23 16 40.9**	**-0.1**
	baz=39,SNR=4.8						
HHC	**Hu-ho-hao-te**	**39.52**	**342**	*e*P	**P**	**23 16 41.9**	**-0.7**
HHC				pP	**pP**	**23 16 51.8**	**-3.6**
HHC				sP	sP	23 16 55.8	-5.3
HHC				PP	**PnPn**	**23 18 17.1**	**-0.2**
HHC				S	**S**	**23 22 42.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				LR	LR		
	comp=N,190nm,14.1s						
HHC				LR	LR		
	comp=E,190nm,13.4s						
HHC				LR	LR		
	comp=Z,240nm,16.3s						
CN2	**Changchun**	**40.03**	**359**	*e*P	**P**	**23 16 49.3**	**+2.6**
CN2				*e*S	**S**	**23 22 53.4**	**+4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,300nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
USRK	**Ussuriysk Arra**	**40.67**	**6**	P	**P**	**23 16 52.9**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=190,slow=8.0,SNR=17						
USRK				LR	LR	23 33 34.1	
	comp=Z,134nm,21.5s,baz=180,slow=36						
MDJ	**Mudanjiang**	**40.90**	**3**	P	**P**	**23 16 55.3**	**+1.4**
MDJ				pP	**pP**	**23 17 04.1**	**-2.6**
MDJ				ScP	**ScP**	**23 22 41.8**	**+2.1**
MDJ				S	**S**	**23 23 05.4**	**+3.3**
MDJ				sS	**sS**	**23 23 21.3**	**-2.4**
MDJ				pmax	pmax		
	comp=Z,31nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.8s						
MDJ				LR	LR		
	comp=E,130nm,30.5s						
MDJ				LR	LR		
	comp=Z,130nm,25.9s						
MDJ	**Mudanjiang**	**40.90**	**3**	P	**P**	**23 16 51.8**	**-2.0**
	comp=Z,29nm,0.9s						
ARMA	**Armidale**	**41.35**	**147**	*e*P	**P**	**23 16 58.4**	**+0.5**
	comp=Z,9.4nm,0.8s						
ARMA	**Armidale**	**41.35**	**147**	P	**P**	**23 16 58.4**	**+0.5**
	baz=41,SNR=8.7						
LSA	**Lhasa**	**42.55**	**311**	*e*P	**P**	**23 17 08.0**	**-0.2**
LSA				*e*		23 19 00.3	
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**42.55**	**311**	*e*P	**P**	**23 17 08.0**	**-0.2**
	comp=Z,9.0nm,0.6s						
LSA				*e*PcP	**PcP**	**23 19 00.3**	**+0.2**
ASAJ	**Asahikawa**	**42.68**	**17**	P	**P**	**23 17 10.0**	**+1.6**
	comp=Z,15nm,0.7s,baz=243,slow=11,SNR=14						
ASAJ	**Asahikawa**	**42.68**	**17**	P	**P**	**23 17 10.0**	**+1.6**
GTA	**Gaotai**	**43.22**	**329**	*e*P	**P**	**23 17 14.5**	**+1.5**
GTA				pP	**pP**	**23 17 23.5**	**-2.5**
GTA				sP	**sP**	**23 17 28.1**	**-3.5**
GTA				S	**S**	**23 23 39.3**	**+2.6**
GTA				sS	**sS**	**23 23 55.4**	**-3.0**
GTA				SS	**SS**	**23 26 49.8**	**-1.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,88nm,5.7s						
GTA				LR	LR		
	comp=N,240nm,21.6s						
GTA				LR	LR		
	comp=E,240nm,21.1s						
GTA				LR	LR		
	comp=Z,350nm,20.0s						
TAPN	**Taplejung**	**44.12**	**306**	*e*P	**P**	**23 17 19.7**	**-1.0**
	comp=Z,9.8nm,0.8s						
ODAN	**Odare**	**44.17**	**306**	*e*P	**P**	**23 17 20.2**	**-0.8**
	comp=Z,29nm,0.9s						
RAMN	**Ramite**	**44.85**	**305**	*e*P	**P**	**23 17 25.8**	**-0.7**
HABR	**Khabarovsk**	**45.24**	**8**	*e*P	**P**	**23 17 28.4**	**-0.5**
HABR				*e**PP	**pP**	**23 17 38.1**	**-3.8**
HABR				*e*		23 19 06.8

SONM	**Songino Array**	**47.42**	**341**	P	**P**	**23 17 46.0**	**-0.2**
SONM				PcP	**PcP**	**23 19 17.2**	**+1.1**
SONM				ScP	**ScP**	**23 23 10.4**	**+4.0**
KOLN	**Koldanda**	**47.63**	**305**	*e*P	**P**	**23 17 47.3**	**-0.9**
	comp=Z,26nm,0.4s						
DANN	**Dangsing**	**47.72**	**306**	*e*P	**P**	**23 17 47.9**	**-1.1**
	comp=Z,31nm,0.5s						
PYUN	**Piuthan**	**48.25**	**305**	*e*P	**P**	**23 17 52.4**	**-0.7**
	comp=Z,110nm,1.0s						
HYB	**Hyderabad**	**49.20**	**290**	*i* P	**P**	**23 18 00.0**	**-0.3**
ZAK	**Zakamensk**	**50.64**	**341**	*e*P	**P**	**23 18 13.6**	**+2.8**
ZAK				*e*		23 19 27.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
TLY	**Talaya**	**51.65**	**342**	*e*P	**P**	**23 18 17.2**	**-1.0**
TLY				*e*		23 19 38.9	
TLY				*e*S	**S**	**23 25 33.2**	**-2.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,146nm,22.0s						
IRK	**Irkutsk**	**51.95**	**343**	*e*P	P	23 18 29.5	+9.1
IRK				pmax	pmax		
	comp=Z,22nm,1.7s						
MOY	**Mondy**	**52.50**	**340**	*e*P	P	23 18 29.6	+5.0
WMQ	**Urumqi**	**52.84**	**325**	P	**P**	**23 18 26.9**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,14nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.6s						
WMQ				LR	LR		
	comp=N,460nm,28.0s						
WMQ				LR	LR		
	comp=E,190nm,30.0s						
WMQ				LR	LR		
	comp=Z,160nm,21.0s						
DDI	**Dehra Dun**	**53.07**	**306**	*ex*	**P**	**23 18 27.0**	**-2.2**
CLNS	**Chul'man**	**53.09**	**359**	*e*P	**P**	**23 18 27.9**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,22nm,1.4s						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
POO	**Poona**	**53.80**	**290**	*ex*	P	23 18 31.5	-3.2
MSVF	**Nonsavu**	**54.82**	**115**	*e*P	**P**	**23 18 39.8**	**-2.3**
MSVF				pmax	pmax		
	comp=Z,37nm,1.1s						
MSVF	**Nonsavu**	**54.82**	**115**	*e*P	**P**	**23 18 39.8**	**-2.3**
	comp=Z,37nm,1.1s						
MSVF	**Nonsavu**	**54.82**	**115**	P	P	23 18 45.0	+2.9
	comp=Z,153nm,1.1s,SNR=5.2						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**23 18 47.7**	**+1.3**
	comp=Z,16nm,0.9s,baz=212,slow=5.3,SNR=16						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**23 18 47.7**	**+1.3**
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**23 18 47.7**	**+1.3**
THN	**Thein Dam**	**55.67**	**307**	*e*P	**P**	**23 18 45.6**	**-2.4**
MK31	**Makanchi Array**	**57.67**	**325**	*ce*P	**P**	**23 19 01.6**	**-0.4**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 19 01.1**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=124,slow=7.5,SNR=82						
MKAR				PcP	**PcP**	**23 19 54.8**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=119,slow=4.7,SNR=4.7						
MKAR				ScP	**ScP**	**23 23 53.6**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=118,slow=4.4,SNR=3.8						
MKAR				LR	LR	23 47 36.1	
	comp=Z,78nm,18.4s,baz=105,slow=40						
MKAR	**Makanchi Array**	**57.67**	**325**	*i* P	**P**	**23 19 01.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**57.67**	**325**	*e*P	**P**	**23 19 01.3**	**-0.7**
MKAR				PcP	**PcP**	**23 19 54.8**	**+0.2**
MKAR				ScP	**ScP**	**23 23 53.6**	**+2.8**
KSH	**Kashi**	**58.16**	**315**	P	**P**	**23 19 06.6**	**+1.0**
KSH				*ep*P	**pP**	**23 19 17.1**	**-1.9**
KSH				*es*P	**sP**	**23 19 21.8**	**-2.8**
KSH				*ep*PcP	**PcP**	**23 19 56.5**	**-0.3**
KSH				*e*PP	PP	23 21 20.9	+6.1
KSH				*e*ScP	**ScP**	**23 23 53.9**	**+0.6**
KSH				PcS	**PcS**	**23 23 57.0**	**-1.4**
KSH				S	**S**	**23 27 03.6**	**-0.3**
KSH				sS	**sS**	**23 27 22.4**	**-3.9**
KSH				ScS	**ScS**	**23 28 50.9**	**-0.7**
KSH				SS	**SS**	**23 30 59.1**	**+3.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSH				LR	LR		
	comp=N,160nm,6.1s						
KSH				LR	LR		
	comp=E,160nm,5.0s						
KSH				LR	LR		
	comp=Z,240nm,5.8s						
YAK	**Yakutsk**	**58.31**	**2**	*e*P	**P**	**23 19 07.0**	**+0.9**
YAK				pmax	pmax		
	comp=Z,40nm,1.0s						
YAK				pmax	pmax		
	comp=N,18nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**58.31**	**2**	P	**P**	**23 19 04.4**	**-1.7**
	comp=E,53nm,0.9s						
KZA	**Kyzart**	**59.73**	**318**	P	**P**	**23 19 17.8**	**+1.0**
	SNR=8.0						
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**23 19 17.3**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,49nm,1.0s						
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**23 19 17.3**	**-0.2**
	comp=Z,49nm,1.0s						
TKM2	**Tokmak 2**	**59.86**	**319**	P	**P**	**23 19 17.9**	**+0.4**
	SNR=6.8						
AAK	**Ala-Archa**	**60.47**	**318**	*e*P	**P**	**23 19 21.8**	**+0.2**
AAK				*e*		23 21 35.2	
AAK				pmax	pmax		
	comp=Z,67nm,1.3s						
AAK	**Ala-Archa**	**60.47**	**318**	*e*P	**P**	**23 19 21.8**	**+0.2**
	comp=Z,67nm,1.3s						
AAK				*e*PP	**PP**	**23 21 35.2**	**-0.2**
AAK	**Ala-Archa**	**60.47**	**318**	P	**P**	**23 19 22.7**	**+1.1**
	comp=Z,48nm,1.0s,SNR=5.2						
ZAA0	**Zalesovo Array**	**60.71**	**333**	*e*P	**P**	**23 19 21.6**	**-1.2**
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**23 19 22.7**	**0.0**
	comp=Z,4.4nm,0.8s,baz=116,slow=6.8,SNR=11						
ZALV				LR	LR	23 48 52.5	
	comp=Z,86nm,18.3s,baz=176,slow=39						
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**23 19 22.7**	**0.0**
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**23 19 22.7**	**0.0**
USP	**Ospenovka**	**60.73**	**319**	P	**P**	**23 19 23.5**	**+0.3**
	SNR=10						
AML	**Almayashu**	**60.80**	**317**	P	**P**	**23 19 25.0**	**+0.8**
	SNR=11						
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**23 19 25.3**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**23 19 25.2**	**+0.4**
	comp=Z,10nm,1.0s						
EKS2	**Erkin-Say**	**60.96**	**318**	P	**P**	**23 19 24.5**	**-0.4**
	SNR=9.4						
KBL	**Kabul**	**61.63**	**308**	*e*P	**P**	**23 19 29.0**	**-0.7**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBL	**Kabul**	**61.63**	**308**	*e*P	**P**	**23 19 29.0**	**-0.7**
	comp=Z,6.3nm,0.8s						
KBL	**Kabul**	**61.63**	**308**	P	**P**	**23 19 29.8**	**+0.2**
	baz=62,SNR=4.1						
KURK	**Kurchatov**	**61.86**	**328**	*ce*P	**P**	**23 19 29.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,22nm,0.7s						
KURK	**Kurchatov**	**61.86**	**328**	*e*P	**P**	**23 19 29.7**	**-0.9**
KURK	**Kurchatov**	**61.86**	**328**	P	**P**	**23 19 30.0**	**-0.6**
	comp=Z,181nm,0.6s,SNR=17						
NVS	**Novosibirsk**	**61.99**	**333**	*e*P	**P**	**23 19 29.7**	**-1.7**
NVS				*es*	**S**	**23 27 51.7**	**-0.5**
NVS				*e*		23 29 14.7	
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,2.0nm,1.1s						
NVS				smax	smax		
	comp=N,5.0nm,1.7s						
NVS				smax	smax		
	comp=E,14nm,2.4s						
SEY	**Seymchan**	**62.13**	**13**	*ce*P	**P**	**23 19 34.5**	**+2.3**
FX1	**Attu Island--F**	**62.15**	**30**	P	**P**	**23 19 35.1**	**+2.5**
	comp=E,33nm,0.9s,baz=48,slow=14,SNR=4.3						
FX1	**Attu Island--F**	**62.15**	**30**	*e*P	**P**	**23 19 31.0**	**-1.5**
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**23 19 40.3**	**-0.4**
KKAR				*e*		23 21 59.0	
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**23 19 40.3**	**-0.4**
KKAR				*e*PP	**PP**	**23 21 59.0**	**-1.6**
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**23 20 06.7**	**-0.3**
	comp=E,8.5nm,0.8s,baz=129,slow=12,SNR=30						
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**23 20 06.7**	**-0.3**
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**23 20 06.7**	**-0.3**
BRVK	**Borovoye**	**67.51**	**327**	*ce*P	**P**	**23 20 08.1**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,28nm,1.2s						
BRVK	**Borovoye**	**67.51**	**327**	*e*P	**P**	**23 20 08.2**	**+0.7**
	comp=Z,35nm,1.1s						
BRVK	**Borovoye**	**67.51**	**327**	P	**P**	**23 20 08.4**	**+1.0**
	comp=Z,174nm,1.2s,SNR=9.9						
TIXI	**Tiksi**	**67.95**	**1**	*e*P	**P**	**23 20 10.5**	**+0.7**
TIXI	**Tiksi**	**67.95**	**1**	*e*P	**P**	**23 20 10.5**	**+0.7**
BILL	**Bilibino**	**69.64**	**15**	*i* P	**P**	**23 20 23.0**	**+2.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
AB31	**Akbulak array**	**72.27**	**321**	*ce*P	**P**	**23 20 38.8**	**+2.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ABKAR	**Akbulak array**	**72.27**	**321**	*e*P	**P**	**23 20 36.1**	**-0.6**
SVE	**Sverdlovsk**	**74.08**	**328**	*i*e P	**P**	**23 20 47.3**	**+0.1**
SVE				pmax	pmax		
	comp=Z,16nm,1.0s						
ARU	**Arti**	**75.05**	**328**	*c i* P	**P**	**23 20 52.7**	**-0.2**
ARU						23 23 40.7	
ARU				S	**S**	**23 30 30.1**	**+2.8**
ARU				SS	SS	23 35 26.3	+9.4
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	**Arti**	**75.05**	**328**	*e*P	**P**	**23 20 52.4**	**-0.5**
TNA	**Tin City**	**76.67**	**23**	*e*P	**P**	**23 21 02.6**	**+0.7**
	comp=Z,13nm,1.6s						
RAYN	**Ar Rayn**	**80.57**	**293**	P	**P**	**23 21 23.2**	**-1.2**
	comp=Z,47nm,1.1s,SNR=7.3						
DGRG	**David-gareji**	**81.17**	**311**	P	**P**	**23 21 30.2**	**+2.9**
KDAK	**Kodiak Island**	**81.95**	**32**	P	**P**	**23 21 33.2**	**+2.3**
	comp=Z,16nm,0.7s,baz=185,slow=21,SNR=11						
KDAK	**Kodiak Island**	**81.95**	**32**	P	**P**	**23 21 33.2**	**+2.3**
ZEI	**Tsey**	**82.33**	**312**	*e*P	**P**	**23 21 33.8**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,12nm,1.4s						
SPU	**Mount Spurr**	**82.58**	**29**	*e*P	P	23 21 37.2	+3.0
ONI	**Oni**	**82.65**	**312**	P	**P**	**23 21 34.8**	**-0.2**
KBZ	**Khabaz**	**83.09**	**313**	P	**P**	**23 21 38.7**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=43,slow=4.8,SNR=3.6						
KBZ				LR	LR	00 06 58.8	
	comp=Z,60nm,18.3s,baz=248,slow=42						
KBZ	**Khabaz**	**83.09**	**313**	P	**P**	**23 21 38.7**	**+1.6**
KBZ	**Khabaz**	**83.09**	**313**	P	**P**	**23 21 38.7**	**+1.6**
KIV	**Kislovodsk**	**83.25**	**314**	*e*P	**P**	**23 21 38.6**	**+0.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**83.31**	**173**	P	**P**	**23 21 37.5**	**0.0**
	comp=Z,2.4nm,0.8s,baz=323,slow=7.8,SNR=11						
VNDA	**Vanda**	**83.31**	**173**	P	**P**	**23 21 37.5**	**0.0**
TRF	**Thorofare Moun**	**83.61**	**27**	*e*P	**P**	**23 21 38.1**	**-1.6**
	comp=Z,22nm,1.3s						
RC01	**Rabbit Creek A**	**83.69**	**29**	*e*P	**P**	**23 21 39.1**	**-0.7**
	comp=Z,23nm,0.9s						
COLD	**Coldfoot**	**83.97**	**23**	*e*P	**P**	**23 21 40.3**	**-0.9**
	comp=Z,18nm,0.9s						
PMR	**Palmer**	**84.02**	**29**	*e*P	**P**	**23 21 40.3**	**-1.2**
PMR				pmax	pmax		
	comp=Z,30nm,1.0s						
PMR	**Palmer**	**84.02**	**29**	*e*P	**P**	**23 21 40.3**	**-1.2**
	comp=Z,30nm,1.0s						
VRHR	**Novokhopersk**	**84.16**	**321**	*e*P	**P**	**23 21 41.9**	**-0.5**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,8.0nm,1.3s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.7s						
SML	**Sawmill**	**84.41**	**28**	*e*P	**P**	**23 21 45.8**	**+2.3**
SML				pmax	pmax		
	comp=Z,14nm,1.0s						
SML	**Sawmill**	**84.41**	**28**	*e*P	**P**	**23 21 45.8**	**+2.3**
	comp=Z,14nm,1.0s						
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**23 21 48.4**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=245,slow=3.2,SNR=25						
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**23 21 48.4**	**+1.1**
KLMR	**Klimovskoe**	**85.52**	**331**	*d i* P	P	23 21 45.5	-3.6
KLMR				pmax	pmax		
	comp=Z,65nm,1.4s						
VORD	**Divnogorie**	**85.63**	**321**	*e*P	**P**	**23 21 49.0**	**-0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,4.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR	**Storozhevoye**	**85.70**	**321**	*e*P	**P**	**23 21 49.4**	**-0.8**
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.3s						
TMCR	**Tamitsa**	**86.22**	**334**	*e*P	**P**	**23 21 52.1**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,17nm,0.8s						
MALT	**Malatya**	**86.49**	**308**	*e*P	**P**	**23 21 53.9**	**-0.6**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MALT	**Malatya**	**86.49**	**308**	*e*P	**P**	**23 21 53.9**	**-0.6**
	comp=Z,7.6nm,1.0s						
MALT	**Malatya**	**86.49**	**308**	*i* P	**P**	**23 21 55.4**	**+0.9**
MOS	**Moscow**	**86.56**	**325**	*e*P	**P**	**23 21 53.2**	**-1.1**
MOS				pmax	pmax		
	comp=Z,47nm,1.3s						
ANN	**Anapa**	**87.01**	**315**	*e*P	**P**	**23 21 54.7**	**-2.0**
ANN				pmax	pmax		
	comp=Z,65nm,1.4s						
OBN	**Obninsk**	**87.18**	**325**	*e*P	**P**	**23 21 56.9**	**-0.4**
OBN				pmax	pmax		
	comp=Z,39nm,1.2s						
OBN	**Obninsk**	**87.18**	**325**	*e*P	**P**	**23 21 56.7**	**-0.6**
	comp=Z,13nm,0.5s						
APA	**Apatity**	**87.97**	**337**	*e*P	P	23 22 07.0	+6.1
APA				MLR	MLR		
	comp=Z,2μm,20.0s						
DAWY	**Dawson**	**88.45**	**26**	*e*P	**P**	**23 22 02.6**	**-0.7**
JOF	**Joensuu**	**89.30**	**333**	*e*P	**P**	**23 22 06.5**	**-0.7**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JOF	**Joensuu**	**89.30**	**333**	*ep*	**P**	**23 22 06.5**	**-0.7**
	comp=Z,5.5nm,0.6s						
KMBO	**Kilima Mbogo**	**89.60**	**269**	*e*P	**P**	**23 22 09.4**	**-0.7**
	comp=Z,8.9nm,1.1s						
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**23 22 10.6**	**-1.3**
	comp=Z,5.9nm,0.9s,baz=122,slow=4.2,SNR=23						
BRTR				LR	LR	00 12 04.4	
	comp=Z,50nm,18.6s,baz=92,slow=42						
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**23 22 10.6**	**-1.3**
INK	**Inuvik**	**90.25**	**21**	P	**P**	**23 22 12.0**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=279,slow=4.7,SNR=11						
INK	**Inuvik**	**90.25**	**21**	*e*P	**P**	**23 22 10.8**	**-0.8**
	comp=Z,13nm,1.4s						
ARCES	**ARCESS Array B**	**90.57**	**340**	P	**P**	**23 22 12.6**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=81,slow=7.9,SNR=5.2						
ARCES	**ARCESS Array B**	**90.57**	**340**	P	**P**	**23 22 12.6**	**-0.5**
SPITS	**Spitsbergen Ar**	**90.59**	**349**	P	**P**	**23 22 13.3**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=114,slow=4.7,SNR=3.9						
SPITS	**Spitsbergen Ar**	**90.59**	**349**	P	**P**	**23 22 13.3**	**+0.3**
CSS	**Prodhromos**	**90.78**	**305**	*e*P	**P**	**23 22 14.5**	**-0.3**
	comp=Z,15nm,1.0s						
KAF	**Kangasniemi**	**91.72**	**332**	*e*P	P	23 22 14.1	-4.4
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	**Kangasniemi**	**91.72**	**332**	*ep*	P	23 22 14.1	-4.4
	comp=Z,2.4nm,0.6s						
FINES	**FINESS Array B**	**91.95**	**332**	P	**P**	**23 22 18.5**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=50,slow=5.4,SNR=11						
FINES	**FINESS Array B**	**91.95**	**332**	P	**P**	**23 22 18.5**	**-1.1**
AKASG	**Malin Array Be**	**92.01**	**321**	P	**P**	**23 22 19.1**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=70,slow=4.7,SNR=17						
AKASG				LR	LR	00 07 47.2	
	comp=Z,69nm,19.6s,baz=305,slow=38						
AKASG	**Malin Array Be**	**92.01**	**321**	P	**P**	**23 22 19.1**	**-1.0**
AKASG	**Malin Array Be**	**92.01**	**321**	P	**P**	**23 22 19.1**	**-1.0**
KIEV	**Kiev**	**92.02**	**321**	*e*P	**P**	**23 22 19.1**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIEV	**Kiev**	**92.02**	**321**	*e*P	**P**	**23 22 19.1**	**-1.1**
	comp=Z,9.5nm,1.1s						
SYO	**Syowa Base**	**92.34**	**201**	⇑*e*X		23 22 28.6	
CFR	**Carcaliu**	**93.54**	**316**	⇑P	**P**	**23 22 27.7**	**+0.4**
CFR	**Carcaliu**	**93.54**	**316**	⇑P	**P**	**23 22 27.7**	**+0.4**
TESR		**94.35**	**317**	⇑P	**P**	**23 22 30.5**	**-0.5**
VRI	**Vrincioaia**	**94.41**	**316**	⇑P	**P**	**23 22 31.6**	**+0.3**
VRI	**Vrincioaia**	**94.41**	**316**	⇑*i*P	**P**	**23 22 31.6**	**+0.3**
PLOR	**Plostina**	**94.46**	**316**	⇑P	**P**	**23 22 31.1**	**-0.5**
PLOR	**Plostina**	**94.46**	**316**	⇑*i*P	**P**	**23 22 31.1**	**-0.5**
MLR	**Muntele Rosu**	**95.01**	**316**	⇓*i*P	**P**	**23 22 34.2**	**-0.1**
SUW	**Suwalki**	**95.04**	**325**	*e*P	**P**	**23 22 33.3**	**-0.7**
SUW				pmax	pmax		
	comp=Z,41nm,1.2s						
SUW	**Suwalki**	**95.04**	**325**	*e*P	**P**	**23 22 33.3**	**-0.7**
	comp=Z,41nm,1.2s						
BURAR	**Bucovina Array**	**95.11**	**318**	⇓*i*P	**P**	**23 22 34.9**	**+0.3**
BUR08	**Bucovina Ar. S**	**95.12**	**318**	*e*P	**P**	**23 22 34.0**	**-0.6**
LVV	**L'vov**	**95.44**	**321**	*e*P	P	23 22 42.6	+6.7
ARR	**Arges**	**95.94**	**316**	⇓*i*P	**P**	**23 22 36.3**	**-2.1**
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	P	23 22 45.0	+3.0
KOLS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	P	23 22 45.0	+3.0
TRPA	**Tarpa**	**96.77**	**319**	⇓*i*P	**P**	**23 22 41.8**	**-0.2**
UZH	**Uzhgorod**	**96.82**	**320**	⇓*i*P	**P**	**23 22 42.5**	**+0.3**
UZH				*i*		23 22 58.5	
CRVS	**Cervenica-Dubn**	**97.29**	**320**	*e*P	Pdif	23 22 44.9	+0.5
CRVS				pmax	pmax		
	comp=Z,11nm,1.1s						
CRVS	**Cervenica-Dubn**	**97.29**	**320**	*e*P	Pdif	23 22 44.9	+0.5
RES	**Resolute Bay**	**97.91**	**10**	P	Pdif	23 22 47.3	+0.7
	comp=Z,2.2nm,0.8s,baz=329,slow=4.1,SNR=12						
RES	**Resolute Bay**	**97.91**	**10**	P	Pdif	23 22 47.3	+0.7
NB2	**NORSAR Subarra**	**98.91**	**334**	P	**P**	**23 22 50.2**	**-1.2**
	comp=Z,3.8nm,1.1s,baz=69,slow=4.6						
NOA	**NORSAR Array B**	**98.91**	**334**	P	**P**	**23 22 50.0**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=67,slow=4.6,SNR=6.7						
NOA				LR	LR	00 11 10.6	
	comp=Z,85nm,21.2s,baz=20,slow=38						
NOA	**NORSAR Array B**	**98.91**	**334**	P	**P**	**23 22 50.0**	**-1.4**
VYHS	**Vyhne**	**99.07**	**320**	*e*P	**Pdif**	**23 22 57.7**	**+5.3**
VYHS				pmax	pmax		
	comp=Z,6.0nm,2.0s						
VYHS	**Vyhne**	**99.07**	**320**	PDIF	**Pdif**	**23 22 57.7**	**+5.3**
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**23 22 53.3**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=299,slow=4.5,SNR=18						
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**23 22 53.4**	**-0.9**
BRG	**Berggiesshubel**	**101.36**	**323**	*e*P	**Pdif**	**23 23 05.0**	**+2.5**
	comp=Z,16nm,1.6s						
BRG	**Berggiesshubel**	**101.36**	**323**	*e*P	**Pdif**	**23 23 04.9**	**+2.5**
BRG				pmax	pmax		
	comp=Z,16nm,1.6s						
GERES	**GERESS Array B**	**102.20**	**322**	P	**Pdif**	**23 23 05.8**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=72,slow=4.3,SNR=8.1						
GERES	**GERESS Array B**	**102.20**	**322**	P	**Pdif**	**23 23 05.8**	**-0.6**
GRF	**Grafenberg Arr**	**103.41**	**323**	*e*P	**Pdif**	**23 23 05.6**	**-6.1**
GRF				MLR	MLR		
	comp=Z,100nm,18.7s						
GRF	**Grafenberg Arr**	**103.41**	**323**	*e*Pdiff	**Pdif**	**23 23 05.6**	**-6.1**
GRF				*e*L	L	00 12 24.9	
	comp=Z,77nm,18.7s						
Y24A	**Capitan**	**118.27**	**48**	⇑P	**PKPdf**	**23 27 58.6**	**-0.6**
	baz=118						
Y25A	**Mesa, Roswell**	**118.82**	**48**	⇓P	**PKPdf**	**23 28 01.9**	**+1.6**
	baz=119						
425A	**Indio Mountain**	**119.97**	**51**	⇓P	**PKPdf**	**23 28 02.8**	**+0.3**
	baz=120						
Z27A	**Tatum**	**120.19**	**48**	⇑P	**PKPdf**	**23 28 04.0**	**+1.2**
	baz=120						
527A	**Woodward Ranch**	**121.32**	**51**	⇑P	**PKPdf**	**23 28 06.1**	**+0.9**
	baz=121						
129A	**Stewart Farms,**	**121.52**	**48**	⇑P	**PKPdf**	**23 28 06.3**	**+1.0**
	baz=121						
TXAR	**Lajitas Array**	**121.62**	**52**	PKP	**PKPdf**	**23 28 07.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=196,slow=1.1,SNR=8.9						
TXAR	**Lajitas Array**	**121.62**	**52**	PKP	**PKPdf**	**23 28 07.5**	**+1.8**
Z30A	**Sanderson Ranc**	**121.74**	**47**	⇑P	**PKPdf**	**23 28 07.0**	**+1.3**
	baz=122						
627A	**Terlingua Ranc**	**121.79**	**52**	⇑P	**PKPdf**	**23 28 07.8**	**+1.7**
	baz=122						
528A	**Cox Ranch, San**	**121.95**	**51**	⇓P	**PKPdf**	**23 28 06.9**	**+0.6**
	baz=122						
529A	**Stev Forest Ra**	**122.41**	**51**	⇓P	**PKPdf**	**23 28 08.3**	**+1.2**
	baz=122						
429A	**Davenport Ranc**	**122.43**	**50**	⇑P	**PKPdf**	**23 28 07.2**	**+0.1**
	baz=122						
Z32A	**Haskell**	**122.93**	**46**	⇓P	**PKPdf**	**23 28 08.1**	**+0.1**
	baz=123						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKPdf**	**23 28 09.1**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=41,slow=1.9,SNR=11						
TORD	**Tor

JTSN				S	Sn	23 11 53.5	-0.1		
JUS	**Usuki**	**0.55**	**343**	⇓P	**Pn**	**23 11 47.3**	**-0.5**		
JUS				S	Sn	23 11 55.6	-0.2		
JTO	**Tosashimizu**	**0.80**	**66**	⇓P	**Pn**	**23 11 50.8**	**-0.2**		
JTO				S	Sn	23 12 01.4	-0.3		
UWA2	**Uwa jima 2**	**0.89**	**40**	⇓P	**Pn**	**23 11 52.1**	**-0.2**		
UWA2				S	Sn	23 12 03.8	-0.2		
JIU2	**Izumi 2**	**0.95**	**271**	P	**Pn**	**23 11 53.3**	**+0.2**		
JIU2				S	Sn	23 12 05.5	0.0		
JTZ	**Takazaki**	**0.96**	**229**	⇑P	**Pn**	**23 11 53.8**	**+0.6**		
JTZ				eS	Sn	23 12 07.0	+1.4		
JNU	**Nakatsue**	**1.07**	**304**	P	**Pn**	**23 11 55.3**	**+0.5**		
	558nm,0.3s,baz=132,slow=6.3,SNR=3056								
JNU				S	Sn	23 12 08.8	+0.4		
	627nm,0.3s,baz=231,slow=16,SNR=43								
KSRS	**Korea Array**	**5.91**	**327**	P	**Pn**	**23 13 02.6**	**+1.4**		
	0.9nm,0.3s,baz=146,slow=15,SNR=4.0								
KSRS				S	Sn	23 14 09.0	+1.3		
	1.8nm,0.3s,baz=149,slow=24,SNR=6.4								
MAT	**Matsushiro**	**6.54**	**51**	P	**Pn**	**23 13 10.8**	**+1.0**		
MAT				eS	Sn	23 14 24.3	+1.2		
MJAR	**Matsushiro Arr**	**6.54**	**51**	P	**Pn**	**23 13 11.1**	**+1.2**		
	1.3nm,0.3s,baz=246,slow=14,SNR=7.8								
MJAR				LR	LR	23 16 03.0			
	comp=Z,125nm,18.5s,baz=200,slow=40								
JHJ	**Hachijo jima 2**	**6.63**	**83**	P	**Pn**	**23 13 11.6**	**+0.5**		
	15nm,0.3s,baz=245,slow=23,SNR=5.5								
SONM	**Songino Array**	**24.63**	**316**	P	**P**	**23 16 53.1**	**-0.1**		
	1.0nm,1.0s,baz=123,slow=10,SNR=6.5								
DAV	**Davao City (W)**	**26.02**	**195**	LR	LR	23 25 26.5			
	comp=Z,116nm,21.0s,baz=320,slow=32								
KURBB	**Kurchatov Arra**	**42.83**	**311**	P	**P**	**23 19 29.9**	**-0.4**		
	17nm,0.8s,baz=127,slow=6.1,SNR=89								
ILAR	**Eielson Array**	**57.38**	**30**	P	**P**	**23 21 19.2**	**-1.1**		
	0.3nm,0.8s,baz=271,slow=7.2,SNR=4.6								
INK	**Inuvik**	**61.84**	**25**	P	**P**	**23 21 50.7**	**-0.2**		
	1.0nm,0.6s,baz=283,slow=2.9,SNR=5.0								
NVAR	**Mina Array Bea**	**83.85**	**48**	P	**P**	**23 24 02.5**	**+0.3**		
	0.8nm,0.6s,baz=298,slow=5.7,SNR=5.9								

IDC 18 23:28:43.9±5.1, 5°26S×151°48E, h60km±44km, mb3.7/10, mb1 3.9/11, mb1mx3.7/20, mbtmpb3.7/11, ML3.1/1, Error ellipse: s-maj=37.9km s-min=23.6km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.95**	**226**	P	Pn	23 30 09.1	-0.4
	3.1nm,0.3s,baz=16,slow=8.9,SNR=5.1						
PMG				S	Sn	23 31 18.0	+1.6
	1.9nm,0.3s,baz=338,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**22.17**	**227**	P	P	23 33 34.4	-0.7
	4.5nm,0.7s,baz=52,slow=10,SNR=37						
ASAR	**Alice Springs**	**24.94**	**221**	P	P	23 34 01.4	-0.4
	6.4nm,0.7s,baz=58,slow=9.0,SNR=61						
STKA	**Stephens Creek**	**28.06**	**198**	P	P	23 34 30.3	+0.6
	0.6nm,0.4s,baz=10,slow=11,SNR=2.8						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	P	P	23 34 31.6	-0.3
	1.9nm,0.3s,baz=45,slow=7.4,SNR=7.4						
SONM	**Songino Array**	**66.02**	**329**	P	P	23 39 25.8	+1.5
	0.8nm,0.5s,baz=144,slow=5.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**80.81**	**327**	P	P	23 40 49.8	-1.2
	0.4nm,0.3s,baz=96,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**83.07**	**22**	P	P	23 41 01.8	-0.9
	0.8nm,0.6s,baz=250,slow=4.9,SNR=17						
KURBB	**Kurchatov Arra**	**83.35**	**322**	P	P	23 41 04.3	-0.1
	0.3nm,0.7s,baz=110,slow=4.4,SNR=3.2						
NVAR	**Mina Array Bea**	**93.39**	**52**	P	P	23 41 53.2	0.0
	0.2nm,0.6s,baz=263,slow=7.0,SNR=3.5						
YKA	**Yellowknife Ar**	**96.44**	**28**	P	P	23 42 07.3	+1.1
	0.1nm,0.4s,baz=276,slow=5.0,SNR=2.8						
GERES	**GERESS Array B**	**123.75**	**328**	PKP	PKPdf	23 47 34.9	-0.3
	0.4nm,0.5s,baz=92,slow=2.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.19**	**287**	PKPbc	PKPbc	23 48 26.5	-0.2
	1.4nm,0.8s,baz=82,slow=2.0,SNR=36						

GUC 18 23:31:21.7±0.7, 31°75S×71°82W, h32km±1km, MD3.9, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.30**	**116**	⇓*i*P	Pb	23 31 29.1	-0.2
CHNG				*i* S	Sb	23 31 34.7	+0.1
PACH	**Papudo**	**0.85**	**158**	*e*P	Pn	23 31 37.3	-0.1
PACH				*i* S	Sb	23 31 49.2	0.0
IHA	**Instituto Hidr**	**1.28**	**173**	*e*P	Pn	23 31 43.7	+0.4
JACH	**Jahuel**	**1.39**	**132**	*e*P	Pb	23 31 46.2	-1.1
ROCH	**El Roble**	**1.40**	**151**	*e*P	Pn	23 31 46.2	+1.0
ROCH				eS	Sb	23 32 05.3	+0.1
ROCH				AML	AML	23 32 08.2	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.69**	**146**	*e*P	Pb	23 31 50.7	-1.5
PEL				eS	Sb	23 32 12.1	-1.1
PEL				AML	AML	23 32 17.4	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**1.80**	**29**	*e*P	Pn	23 31 52.1	+1.2
TLL				eS	Sb	23 32 16.0	-0.9
TLL				AML	AML	23 32 26.9	
	comp=N,731nm,0.4s						
RCDM	**Rinconada Maip**	**1.93**	**154**	*e*P	Pn	23 31 53.9	+1.5
RCDM				eS	Sn	23 32 17.8	+2.3
CLCH	**Cerro Calan**	**1.96**	**147**	*e*P	Pn	23 31 54.6	+1.7
CLCH				eS	Sb	23 32 19.1	-2.0
CLCH				AML	AML	23 32 25.1	
	comp=E,1μm,0.2s						
FCH	**Farellones**	**2.03**	**141**	*e*P	Pn	23 31 56.0	+1.9
FCH				eS	Sb	23 32 21.9	-1.8
ANTU	**Antumapu**	**2.07**	**151**	eS	Sn	23 32 21.1	+2.1
ANTU				AML	AML	23 32 34.3	
	comp=N,617nm,0.4s						
CHCH	**Chadas Angostu**	**2.39**	**156**	*e*P	Pb	23 32 01.5	-2.6
LMEL	**Las Melosas**	**2.49**	**147**	*e*P	Pn	23 32 02.0	+1.7
LMEL				eS	Sn	23 32 32.9	+3.1
LMEL				AML	AML	23 32 45.0	
	comp=N,391nm,0.2s						
CACH	**El Canelo**	**2.57**	**157**	*e*P	Pn	23 32 03.5	+2.2

*ATH **18** 23:33:29.3, 39°38N×20°47E, h9km±3km, MD3.2/6*
*CSEM **18** 23:33:30.5±0.3, 39°56N×20°48E, h20km, ML2.4/3, Error ellipse: s-maj=11.4km s-min=7.4km az=179.0*
*ISCJB **18** 23:33:31.4±0.6, 39°61N±0°05×20°47E±0°05, h18km±8km, Error ellipse: s-maj=8.0km s-min=5.7km az=154.2*
*THE **18** 23:33:31.3, 39°70N×20°43E, h0km±3km, ML2.4/3, Error ellipse: s-maj=3.1km s-min=0.7km az=46.0*
ISC 18 23:33:30.9±0.9, 39°65N±0°03×20°46E±0°02, h17km±7km, n24, σ0°77/35, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.15**	**221**	P	**Pg**	**23 33 34.8**	**-0.3**
IGT				S	**Sg**	**23 33 38.3**	**+0.3**
IGT	**Igoumenitsa**	**0.15**	**221**	P	**Pg**	**23 33 34.8**	**-0.3**
IGT				S	**Sg**	**23 33 38.3**	**+0.3**
JAN	**Janina**	**0.30**	**89**	P	**Pg**	**23 33 37.2**	**-0.2**
JAN				S	**Sb**	**23 33 42.4**	**0.0**
JAN	**Janina**	**0.30**	**89**	*e*PB	**Pg**	**23 33 37.4**	**0.0**
JAN				*e*SB	**Sb**	**23 33 42.4**	**0.0**
JAN	**Janina**	**0.30**	**89**	*e*Pb	**Pg**	**23 33 37.4**	**0.0**
JAN				S	**Sb**	**23 33 42.4**	**0.0**
RGA	**Parga**	**0.34**	**194**	P	**Pb**	**23 33 38.9**	**+0.4**
RGA				S	**Sb**	**23 33 45.2**	**+1.6**
RGA	**Parga**	**0.34**	**194**	P	**Pb**	**23 33 38.9**	**+0.4**
KEK	**Kerkira**	**0.52**	**277**	P	**Pg**	**23 33 41.0**	**-0.2**
KEK				S	**Sg**	**23 33 47.2**	**-1.0**
KEK	**Kerkira**	**0.52**	**277**	*e*PG	**Pg**	**23 33 41.0**	**-0.2**
KEK				*e*SB	**Sb**	**23 33 49.9**	**+1.2**
KEK	**Kerkira**	**0.52**	**277**	P	**Pg**	**23 33 41.0**	**-0.2**
KEK				S	**Sg**	**23 33 47.2**	**-1.0**
KEK				*e*Sb	**Sb**	**23 33 49.9**	**+1.2**
MEV	**Metsovon**	**0.61**	**77**	P	**Pg**	**23 33 42.5**	**-0.4**
MEV	**Metsovon**	**0.61**	**77**	P	**Pg**	**23 33 42.5**	**-0.4**
NEST	**Nestorio**	**0.89**	**30**	P	**Pb**	**23 33 47.5**	**-0.4**
NEST				S	**Sg**	**23 34 00.2**	**+0.3**
NEST	**Nestorio**	**0.89**	**30**	P	**Pb**	**23 33 47.5**	**-0.4**
NEST				S	**Sg**	**23 34 00.2**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**94**	*e*PB	**Pb**	**23 33 53.5**	**+0.4**
THL	**Klokotos Trika**	**1.20**	**94**	*e*Pb	**Pb**	**23 33 53.5**	**+0.4**
EVR	**Evrytania**	**1.27**	**125**	*e*PB	Pn	23 33 50.8	-3.2
EVR	**Evrytania**	**1.27**	**125**	*e*Pb	Pn	23 33 50.8	-3.2
FNA	**Florina**	**1.33**	**31**	P	**Pb**	**23 33 56.3**	**+0.9**
FNA				S	**Sg**	**23 34 15.4**	**+1.4**
FNA	**Florina**	**1.33**	**31**	P	**Pb**	**23 33 56.3**	**+0.9**
AGG	**Agios Georgios**	**1.58**	**113**	*e*PG	**Pn**	**23 33 56.9**	**-1.2**
AGG	**Agios Georgios**	**1.58**	**113**	*e*Pg	**Pn**	**23 33 56.9**	**-1.2**
LIT	**Litokhoron**	**1.62**	**73**	*e*PN	**Pb**	**23 34 01.4**	**+1.0**
LIT	**Litokhoron**	**1.62**	**73**	*e*Pn	**Pb**	**23 34 01.4**	**+1.0**

IDC 18 23:35:08.2±1.1, 28°15N×104°89E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/26, mbtmpb3.4/6, ML3.4/1, Error ellipse: s-maj=80.6km s-min=18.9km az=61.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**19.69**	**3**	P	Pn	23 39 40.0	-0.5
	0.1nm,0.3s,baz=184,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**25.69**	**322**	P	P	23 40 39.9	-0.1
	0.4nm,0.7s,baz=133,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**29.68**	**336**	P	P	23 41 15.3	-0.2
	0.4nm,0.6s,baz=138,slow=7.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**30.02**	**326**	P	P	23 41 18.4	-0.3
	0.3nm,0.5s,baz=134,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	**55.65**	**146**	P	P	23 44 45.9	-0.4
	0.2nm,0.5s,baz=338,slow=8.2,SNR=4.9						
ASAR	**Alice Springs**	**58.62**	**149**	P	P	23 45 07.5	+0.2
	0.4nm,0.7s,baz=332,slow=6.6,SNR=3.6						

*IDC **19** 00:04:01.9±8.3, 32°74N×138°16E, h292km±53km, mb3.2/5, mb1 3.3/7, mb1mx2.9/29, mbtmpb3.3/7, Error ellipse: s-maj=91.7km s-min=28.2km az=103.0*
*ISCJB **19** 00:04:14.7±0.8, 33°7N±0°1×137°42E±0°07, h359km±5km, mb3.3/5, Error ellipse: s-maj=19.1km s-min=8.4km az=168.8*
*JMA **19** 00:04:14.2±0.3, 33°73N×137°40E, h368km±3km, M3.1*
ISC 19 00:04:15.9±1.2, 33°8N±0°1×137°37E±0°07, h352km±8km, n27, σ0°81/32, mb3.1/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.29**	**264**	P	**Pn**	**00 05 01.0**	**+1.3**
JIE	**Ise**	**0.83**	**319**	P	**Pn**	**00 05 01.8**	**+0.6**
JKN2	**Miekihoku**	**1.02**	**298**	P	**Pn**	**00 05 02.2**	**+0.3**
JWZ	**Kozaga**	**1.40**	**261**	P	**Pn**	**00 05 03.7**	**-0.1**
JAO	**Obara**	**1.50**	**357**	P	**Pn**	**00 05 04.9**	**+0.6**
JWY	**Kouya**	**1.54**	**288**	P	**Pn**	**00 05 04.9**	**+0.3**
JEG	**Eigenji**	**1.59**	**330**	P	**Pn**	**00 05 05.2**	**+0.5**
JGM	**Miyama**	**2.00**	**345**	P	**Pn**	**00 05 07.7**	**+0.3**
JWT	**Wachi**	**2.22**	**314**	P	**Pn**	**00 05 08.9**	**0.0**
JWT				eS	**S**	**00 05 49.9**	**-1.7**
JAI	**Aioi**	**2.43**	**271**	P	**Pn**	**00 05 10.4**	**-0.2**
JRY	**Ryogami san**	**2.58**	**29**	P	**Pn**	**00 05 12.7**	**+0.9**
JRY				eS	**S**	**00 05 57.2**	**+0.5**
JHU	**Hanno**	**2.61**	**37**	P	**Pn**	**00 05 12.3**	**+0.3**
JHU				eS	**S**	**00 05 57.6**	**+0.5**
BSO4	**Boso 4**	**2.74**	**63**	P	**Pn**	**00 05 13.2**	**+0.2**
BSO4				eS	**S**	**00 05 59.0**	**0.0**
BSO3	**Boso 3**	**2.80**	**67**	P	**Pn**	**00 05 12.8**	**-0.5**
BSO3				eS	**S**	**00 05 58.8**	**-0.7**
BSO1	**Boso 1**	**3.12**	**72**	P	**Pn**	**00 05 14.9**	**-0.9**
BSO1				eS	**S**	**00 06 03.2**	**-1.0**
JAG	**Ashikaga**	**3.16**	**32**	P	**Pn**	**00 05 16.8**	**0.0**
JYT	**Yasato**	**3.38**	**43**	P	**Pn**	**00 05 17.6**	**-1.2**
JHS	**Saijyo**	**3.73**	**290**	P	**Pn**	**00 05 22.3**	**0.0**
JHO	**Hitachi**	**3.86**	**42**	P	**Pn**	**00 05 22.3**	**-1.3**
JFK	**Kawauchi**	**4.59**	**38**	P	**Pn**	**00 05 30.1**	**-1.1**
KSRS	**Korea Array**	**8.53**	**298**	P	**Pn**	**00 06 16.0**	**-0.2**
	0.2nm,0.3s,baz=113,slow=12,SNR=4.3						
USRK	**Usuriysk Arra**	**11.22**	**340**	P	**P**	**00 06 48.5**	**-0.1**
	0.4nm,0.3s,baz=173,slow=13,SNR=5.4						
SONM	**Songino Array**	**27.12**	**310**	P	**P**	**00 09 29.9**	**+2.0**
	0.6nm,0.6s,baz=120,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**43.15**	**305**	P	**P**	**00 11 42.8**	**-0.2**
	0.2nm,0.5s,baz=92,slow=9.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**45.49**	**310**	P	**P**	**00 12 00.7**	**-0.4**
	0.3nm,0.3s,baz=89,slow=7.0,SNR=6.1						
PSI	**Prapat**	**47.27**	**238**	P	P	00 12 07.5	-7.9
	11nm,0.7s,baz=54,slow=8.7,SNR=4.8						
FINES	**FINESS Array B**	**70.13**	**332**	P	**P**	**00 14 50.3**	**-0.3**
	1.9nm,1.0s,baz=48,slow=6.2,SNR=5.9						

IDC 19 00:07:59.2±2.0, 0°62N×126°60E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmpb3.4/3, Error ellipse: s-maj=176.4km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.79**	**160**	P	P	00 12 52.1	-0.9
	0.8nm,0.5s,baz=339,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.16**	**164**	P	P	00 13 27.1	+0.6
	0.7nm,0.5s,baz=343,slow=11,SNR=12						
MKAR	**Makanchi Array**	**60.04**	**326**	P	P	00 18 07.9	-0.1
	0.2nm,0.5s,baz=128,slow=8.5,SNR=3.7						

*AUST **19** 00:09:52.5, 26°22S×178°92E, h450km*
IDC 19 00:09:38.0±7.9, 28°90S×178°91W, h408km±72km, mb3.6/7, mb1 3.7/8, mb1mx3.4/21, mbtmpb3.6/8, Error ellipse: s-maj=52.6km s-min=15.7km az=54.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NFK	**Norfolk Island**	**11.52**	**266**	P	P	00 12 09.4	-2.8
	baz=10,SNR=3.6						
DZM	**Mont Dzumac**	**14.87**	**294**	P	P	00 12 50.2	+1.2
	1.1nm,0.3s,baz=127,slow=10,SNR=9.3						
CTA	**Charters Tower**	**32.80**	**278**	P	P	00 15 35.0	-0.6
	3.8nm,0.6s,baz=90,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**34.08**	**255**	P	P	00 15 46.7	+0.5
	2.1nm,0.4s,baz=85,slow=11,SNR=16						
STKA	**Stephens Creek**	**34.08**	**255**	P	P	00 15 46.8	+0.5
	baz=33,SNR=7.5						
ASAR	**Alice Springs**	**42.42**	**266**	P	P	00 16 54.3	-0.7
	1.7nm,0.5s,baz=101,slow=7.3,SNR=34						
WRA	**Warramunga Arr**	**43.27**	**271**	P	P	00 17 00.7	-1.0
	2.8nm,0.7s,baz=109,slow=7.3,SNR=16						
FORT	**Forest**	**45.68**	**254**	P	P	00 17 19.6	-0.8
	baz=45,SNR=7.7						
VNDA	**Vanda**	**49.50**	**185**	P	P	00 17 48.5	0.0
	1.6nm,0.6s,baz=11,slow=7.7,SNR=13						
FITZ	**Fitzroy Crossi**	**51.58**	**269**	P	P	00 18 05.2	+0.4
	2.0nm,0.4s,baz=100,slow=7.0,SNR=23						
FITZ	**Fitzroy Crossi**	**51.58**	**269**	P	P	00 18 05.2	+0.4
	baz=50,SNR=13						
MEEK	**Meekatharra**	**54.76**	**256**	P	P	00 18 26.8	-0.8
	baz=54,SNR=4.3						
PALU	**Palau**	**57.57**	**301**	S	S	00 25 39.6	-33
	baz=55,SNR=4.9						
WSI	**Waingapu**	**59.87**	**276**	P	P	00 18 47.1	-16
	baz=58,SNR=5.1						
QSPA	**South Pole Qui**	**61.20**	**180**	P	P	00 19 11.0	-0.2
	10nm,0.9s,baz=29,slow=1.5,SNR=50						
VNA3	**Neumayer Olymp**	**79.84**	**176**	*e*P	P	00 21 01.5	-0.5
VNA2	**Neumayer--Watz**	**80.27**	**177**	*e*P	P	00 21 04.2	-0.1
MKAR	**Makanchi Array**	**116.21**	**311**	PKP	PKPdf	00 27 33.0	-0.4
	0.2nm,0.4s,baz=108,slow=4.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**119.48**	**314**	PKP	PKPdf	00 27 39.3	-0.2
	0.5nm,0.6s,baz=96,slow=2.9,SNR=7.5						
BVAR	**Borovoye Array**	**124.78**	**317**	PKP	PKPdf	00 27 50.2	+0.5
	0.7nm,0.4s,baz=114,slow=3.6,SNR=6.6						
FINES	**FINESS Array B**	**143.47**	**340**	PKP	PKPab	00 28 21.5	-0.5
	2.9nm,0.9s,baz=42,slow=2.3,SNR=8.0						
AKASG	**Malin Array Ge**	**149.63**	**324**	PKPbc	PKPbc	00 28 39.6	-0.2
	1.9nm,0.6s,baz=43,slow=3.1,SNR=5.3						
BRTR	**Keskin Array B**	**151.18**	**301**	PKPbc	PKPbc	00 28 44.5	+0.5
	1.1nm,0.7s,baz=134,slow=3.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**164.31**	**182**	PKPab	PKPab	00 29 50.3	-0.3
	0.9nm,0.7s,baz=189,slow=3.0,SNR=7.9						

IDC 19 00:13:25.6±1.9, 3°95N×126°65E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmpb3.7/3, Error ellipse: s-maj=169.5km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	00 18 50.6	0.0
	2.7nm,0.7s,baz=342,slow=11,SNR=15						
STKA	**Stephens Creek**	**38.37**	**159**	P	P	00 20 48.4	-0.2
	1.8nm,0.7s,baz=339,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**38.37**	**159**	S	P	00 20 48.8	+0.1
	baz=33,SNR=4.7						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	00 23 15.5	0.0
	0.2nm,0.5s,baz=121,slow=7.8,SNR=6.9						

*CSEM **19** 00:18:38.2±0.1, 67°84N×20°22E, h2km, ML1.0, Error ellipse: s-maj=1.7km s-min=1.4km az=168.0, Mining explosion.*
UPP 19 00:18:38.4, 67°84N×20°19E, h0km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 18 46.8	0.0
NIKU				S	Sg	00 18 53.0	+0.5
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 18 51.6	-0.5
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 18 51.5	-0.6
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 18 52.3	-0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 18 53.3	-0.3
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 18 53.4	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 19 01.2	0.0
KIF	**Kilpisjarvi**	**1.19**	**11**	P	Pg	00 19 01.2	0.0
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 19 04.5	-1.0
HEF	**Hetta**	**1.42**	**65**	P	Pn	00 19 04.4	-1.1
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 19 06.1	-0.6

*CSEM **19** 00:18:45.5, 67°86N×20°20E, h0km, ML1.6, Mining explosion. After UPP*
*UPP **19** 00:18:45.5, 67°86N×20°20E, h0km, ML1.6, Mining explosion.*
HEL 19 00:18:44.3±0.4, 68°13N×20°56E, h0km, ML1.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.19**	**206**	*i* P	Pg	00 18 47.9	-0.1
KUA				*i* S	Sg	00 18 49.6	-1.0
KUA	**Kurravaara**	**0.19**	**206**	P	Pg	00 18 47.9	-0.1
KUA				S	Sg	00 18 49.6	-0.9
LANU	**Lannavaara**	**0.54**	**98**	P	Pn	00 18 58.8	-0.5
MASU	**Masugnsbyn**	**0.87**	**140**	*i* P	Pg	00 19 00.4	-0.6
MASU	**Masugnsbyn**	**0.87**	**140**	P	Pg	00 19 00.4	-0.5
KALU	**Kalix**	**2.53**	**153**	*e*P	Pn	00 19 26.3	-0.2
KALU	**Kalix**	**2.53**	**153**	P	Pn	00 19 26.3	-0.2

*IDC **19** 00:33:34.8±0.6, 31°69S×71°81W, h0km, mb4.5/11, mb1 4.6/15, mb1mx4.5/20, mbtmpb4.4/15, ML4.3/4, MS4.0/14, Ms1 4.0/14, ms1mx3.8/26, Error ellipse: s-maj=22.1km s-min=18.2km az=78.0*
*ISCJB **19** 00:33:37.4±0.8, 31°67S±0°02×71°87W±0°06, h27km±5km, mb4.5/22, MS4.1/10, Error ellipse: s-maj=9.4km s-min=3.6km az=166.6*
*BJI **19** 00:33:37.8, 31°84S×71°35W, h29km, mB4.9/6*
*GUC **19** 00:33:38.5±0.7, 31°77S×71°88W, h28km±2km, ML4.9*
*NEIC **19** 00:33:38.5, 31°77S×71°88W, h28km, mb4.8/10, ML4.9(GUC), After GUC.*
NEIC Felt [II] at Cabildo, Canela, Illapel, Los Vilos and Salamanca.
ISC 19 00:33:39.2±0.8, 31°71S±0°03×71°80W±0°05, h29km±4km, n137, σ1§25/169, mb4.8/21, MS4.2/10, 7C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.31**	**125**	⇓*i*P	**Pb**	**00 33 46.1**	**-0.6**
CHNG				*i* S	**Sb**	**00 33 51.7**	**-0.1**
CHNG	**Los Chungos**	**0.31**	**125**	⇓*i*P	**Pb**	**00 33 46.1**	**-0.6**
CHNG				*i* S	**Sb**	**00 33 51.7**	**-0.1**
PACH	**Papudo**	**0.88**	**160**	⇓*e*P	**Pn**	**00 33 54.0**	**-1.8**
PACH	**Papudo**	**0.88**	**160**	⇓*e*P	**Pn**	**00 33 54.0**	**-1.8**
PTCH	**Petorca**	**0.92**	**127**	*e*P	**Pn**	**00 33 55.6**	**-0.7**
PTCH				*i* S	**Sb**	**00 34 08.4**	**-0.2**
PTCH	**Petorca**	**0.92**	**127**	*e*P	**Pn**	**00 33 55.6**	**-0.7**
PTCH				*i* S	**Sb**	**00 34 08.4**	**-0.2**
PTCH				AML	AML	00 34 09.5	
	comp=N,55μm,0.2s						
IHA	**Instituto Hidr**	**1.32**	**174**	*e*P	**Pn**	**00 34 00.5**	**-1.3**
IHA	**Instituto Hidr**	**1.32**	**174**	*e*P	**Pn**	**00 34 00.5**	**-1.3**
JACH	**Jahuel**	**1.41**	**134**	*e*P	**Pn**	**00 34 03.0**	**0.0**
JACH	**Jahuel**	**1.41**	**134**	*e*P	**Pn**	**00 34 03.0**	**0.0**
ROCH	**El Roble**	**1.43**	**152**	⇑*i*P	**Pn**	**00 34 03.0**	**-0.4**
ROCH				*i* S	**Sb**	**00 34 22.3**	**-0.9**
ROCH				AML	AML	00 34 27.1	
	comp=E,31μm,0.6s						
PEL	**

CPUP				Sn	S	00 39 38.7	-7.0		
	comp=N,0.8nm,0.3s,baz=206,slow=16,SNR=3.1								
CPUP				LR	LR	00 42 28.8			
	comp=N,699nm,21.1s,baz=230,slow=39								
CPUP	**Villa Florida**	**13.74**	**71**	Pn	**Pn**	**00 36 51.6**	**-0.5**		
CPUP				Sn	S	00 39 38.7	-7.0		
ARE	**Arequipa**	**15.18**	**1**	*eP*	**P**	**00 37 19.0**	**+2.3**		
LPAZ	**La Paz**	**15.71**	**13**	Pn	**Pn**	**00 37 19.2**	**+0.1**		
	comp=N,0.3nm,0.3s,baz=204,slow=10,SNR=8.2								
LPAZ	**La Paz**	**15.71**	**13**	*e*Pn	**Pn**	**00 37 19.6**	**+0.5**		
SIV	**San Ignacio**	**18.44**	**34**	P	**P**	**00 37 51.8**	**-0.8**		
	comp=N,0.3nm,0.3s,baz=227,slow=11,SNR=21								
SIV				LR	LR	00 45 30.5			
	comp=N,357nm,19.2s,slow=39								
SIV	**San Ignacio**	**18.44**	**34**	P	**P**	**00 37 51.8**	**-0.8**		
EFI	**East Falkland**	**22.36**	**157**	*eP*	**P**	**00 38 33.6**	**-1.2**		
USHA	**Ushuaia**	**23.24**	**175**	P	**P**	**00 38 44.5**	**+0.6**		
	comp=N,8.9nm,0.9s,baz=335,slow=11,SNR=3.4								
USHA				LR	LR	00 48 48.8			
	comp=N,637nm,19.4s,baz=341,slow=39								
USHA	**Ushuaia**	**23.24**	**175**	P	**P**	**00 38 44.5**	**+0.6**		
SAML	**Samuel**	**24.02**	**21**	*eP*	**P**	**00 38 51.1**	**-0.6**		
	comp=N,7.4nm,1.0s								
ATAH	**Atahualpa**	**25.21**	**344**	LR	LR	00 47 14.8			
	comp=N,123nm,19.4s,baz=24,slow=33								
BDFB	**Brasilia**	**26.93**	**59**	P	**P**	**00 39 17.7**	**-0.6**		
	comp=N,32nm,1.0s,baz=228,slow=7.6,SNR=26								
BDFB				LR	LR	00 51 35.1			
	comp=N,838nm,19.4s,baz=200,slow=40								
BDFB	**Brasilia**	**26.93**	**59**	P	**P**	**00 39 17.7**	**-0.6**		
TRIS	**Tristan da Cun**	**48.69**	**113**	*eP*	**P**	**00 42 21.9**	**+1.0**		
	comp=N,783nm,2.4s								
VNA3	**Neumayer Olymp**	**51.41**	**159**	*eP*	**P**	**00 42 41.9**	**+0.8**		
VNA3	**Neumayer Olymp**	**51.41**	**159**	*ep*P	pP	00 42 52.3	+2.4		
VNA3	**Neumayer Olymp**	**51.41**	**159**	*es*P	sP	00 42 56.7	+3.3		
VNA2	**Neumayer--Watz**	**52.05**	**158**	*eP*	**P**	**00 42 46.1**	**+0.3**		
VNA2	**Neumayer--Watz**	**52.05**	**158**	*ep*P	pP	00 42 56.4	+1.7		
VNA2	**Neumayer--Watz**	**52.05**	**158**	*es*P	sP	00 43 02.0	+3.8		
VNA2	**Neumayer--Watz**	**52.05**	**158**	*e*PP	PP	00 44 44.3	+0.5		
SNAA	**Sanae**	**53.63**	**158**	*eP*	**P**	**00 42 57.8**	**+0.2**		
	comp=N,9.6nm,0.8s								
RKT	**Rikitea**	**56.06**	**262**	*eT*	T	01 43 55.4			
	comp=N,1.7nm,0.2s								
QSPA	**South Pole Qui**	**58.52**	**180**	*eP*	**P**	**00 43 31.7**	**-1.0**		
	comp=N,11nm,1.1s								
TXAR	**Lajitas Array**	**67.84**	**330**	P	**P**	**00 44 35.2**	**+0.4**		
	comp=N,0.7nm,0.7s,baz=155,slow=8.0,SNR=10								
TXAR				LR	LR	01 10 09.3			
	comp=N,91nm,18.8s,baz=320,slow=32								
TXAR	**Lajitas Array**	**67.84**	**330**	P	**P**	**00 44 35.2**	**+0.4**		
TBI	**Tubuai**	**68.07**	**255**	*e*LR	LR	01 05 17.5			
	comp=N,260nm,25.8s								
TBI				*eT*	T	01 58 54.8			
	comp=N,4.5nm,0.2s								
WVT	**Waverly**	**69.14**	**346**	*eP*	**P**	**00 44 42.1**	**-0.5**		
	comp=N,9.0nm,1.0s								
PPT2	**Papeete2**	**70.78**	**261**	*eS*	**S**	**00 54 07.9**	**+1.3**		
	comp=N,53nm,27.0s								
PPT2				*e*LR	LR	01 06 31.9			
	comp=N,86nm,23.5s								
PPT	**Papeete**	**70.79**	**261**	LR	LR	01 07 26.0			
	comp=N,96nm,19.0s,baz=158,slow=29								
ANMO	**Albuquerque**	**73.88**	**331**	*eP*	**P**	**00 45 10.6**	**-0.9**		
DBIC	**Dimbokro**	**74.26**	**72**	P	**P**	**00 45 14.0**	**0.0**		
	comp=N,13nm,0.8s,baz=216,slow=6.3,SNR=18								
DBIC				LR	LR	01 14 45.5			
	comp=N,137nm,20.4s,baz=203,slow=33								
DBIC	**Dimbokro**	**74.26**	**72**	*eP*	**P**	**00 45 14.3**	**+0.4**		
MAW	**Mawson**	**75.32**	**164**	LR	LR	01 16 13.4			
	comp=N,236nm,18.9s,baz=21,slow=34								
SMCO	**Snowmass**	**77.73**	**333**	*eP*	**P**	**00 45 35.2**	**+1.5**		
	comp=N,10nm,1.4s								
ECSD	**EROS Data Cent**	**78.43**	**342**	*eP*	**P**	**00 45 37.0**	**0.0**		
	comp=N,19nm,1.7s								
CCUT	**Cedar City**	**79.08**	**328**	*eP*	**P**	**00 45 42.6**	**+1.6**		
	comp=N,28nm,2.5s								
BOSA	**Boshof**	**80.96**	**118**	P	**P**	**00 45 51.5**	**0.0**		
	comp=N,15nm,0.9s,baz=225,slow=4.6,SNR=15								
BOSA				LR	LR	01 18 21.9			
	comp=N,123nm,19.2s,baz=70,slow=33								
BOSA	**Boshof**	**80.96**	**118**	*eP*	**P**	**00 45 51.6**	**+0.2**		
DUG	**Dugway**	**81.00**	**329**	*eP*	**P**	**00 45 52.0**	**+0.9**		
	comp=N,7.7nm,1.6s								
HWUT	**Hardware Ranch**	**81.64**	**331**	*eP*	**P**	**00 45 54.9**	**+0.3**		
	comp=N,3.2nm,0.9s								
PDAR	**Pinedale Array**	**81.81**	**333**	P	**P**	**00 45 55.4**	**-0.1**		
	comp=N,0.4nm,0.6s,baz=146,slow=8.7,SNR=3.2								
PDAR	**Pinedale Array**	**81.81**	**333**	P	**P**	**00 45 55.4**	**-0.1**		
NVAR	**Mina Array Bea**	**82.12**	**325**	P	**P**	**00 45 58.1**	**+0.9**		
	comp=N,1.6nm,0.8s,baz=158,slow=6.4,SNR=11								
NVAR	**Mina Array Bea**	**82.12**	**325**	P	**P**	**00 45 58.1**	**+0.9**		
LBTB	**Lobatse**	**83.08**	**115**	*eP*	**P**	**00 46 02.7**	**0.0**		
	comp=N,12nm,0.8s								
TOA0	**Torodi Ar. Sit**	**83.24**	**70**	*eP*	**P**	**00 46 03.4**	**+0.1**		
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**00 46 03.1**	**-0.2**		
	comp=N,10nm,0.9s,baz=254,slow=4.6,SNR=52								
TORD				LR	LR	01 20 32.1			
	comp=N,104nm,19.3s,baz=220,slow=34								
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**00 46 03.1**	**-0.2**		
ULM	**Lac du Bonnet**	**84.34**	**345**	P	**P**	**00 46 07.2**	**-1.0**		
	comp=N,2.0nm,0.7s,baz=145,slow=5.2,SNR=4.3								
ULM	**Lac du Bonnet**	**84.34**	**345**	P	**P**	**00 46 07.2**	**-1.0**		
URZ	**Urewera**	**85.35**	**227**	LR	LR	01 14 33.4			
	comp=N,105nm,20.2s,baz=243,slow=29								
SCHQ	**Schefferville**	**86.29**	**3**	P	**P**	**00 46 17.1**	**-0.7**		
	comp=N,4.7nm,1.0s,baz=171,slow=5.3,SNR=5.3								
SCHQ	**Schefferville**	**86.29**	**3**	P	**P**	**00 46 17.1**	**-0.7**		
YKA	**Yellowknife Ar**	**99.96**	**341**	P	**Pdif**	**00 47 19.1**	**-1.5**		
	comp=N,0.3nm,0.7s,baz=144,slow=4.5,SNR=7.2								
YKA	**Yellowknife Ar**	**99.96**	**341**	P	**Pdif**	**00 47 19.1**	**-1.5**		
DZM	**Mont Dzumac**	**102.75**	**234**	*e*LQ	LQ	01 17 00.8			
	comp=N,3μm,36.1s								
DZM				*e*LR	LR	01 21 24.3			
	comp=N,97nm,23.6s								
ASAR	**Alice Springs**	**119.70**	**207**	PKP	**PKPdf**	**00 52 26.5**	**-0.5**		
	comp=N,0.4nm,0.6s,baz=116,slow=2.2,SNR=5.7								
ASAR	**Alice Springs**	**119.70**	**207**	PKP	**PKPdf**	**00 52 26.5**	**-0.5**		
WRA	**Warramunga Arr**	**122.86**	**210**	PKP	**PKPdf**	**00 52 32.1**	**-1.0**		
	comp=N,0.7nm,0.5s,baz=154,slow=1.7,SNR=16								
WRA	**Warramunga Arr**	**122.86**	**210**	PKP	**PKPdf**	**00 52 32.1**	**-1.0**		
BRVK	**Borovoye**	**145.37**	**41**	*e*PKPdf	**PKPab**	**00 53 14.2**	**+0.3**		
BVAR	**Borovoye Array**	**145.44**	**41**	PKPbc	**PKPab**	**00 53 14.6**	**+0.4**		
	comp=N,9.7nm,0.8s,baz=291,slow=2.5,SNR=71								
BVAR	**Borovoye Array**	**145.44**	**41**	PKPbc	**PKPab**	**00 53 14.6**	**+0.4**		
POO	**Poona**	**146.39**	**105**	*ex*	**PKPdf**	**00 53 16.0**	**-0.6**		
KBL	**Kabul**	**147.22**	**74**	PKP	**PKPdf**	**00 53 18.7**	**+0.9**		
KKAR	**Karatay Array**	**148.22**	**58**	*e*PKPbc	**PKPbc**	**00 53 22.8**	**+0.5**		
HYB	**Hyderabad**	**149.63**	**111**	*i* PKP	**PKPbc**	**00 53 25.5**	**-1.1**		
EKS2	**Erkin-Say**	**150.66**	**58**	*e*PKPbc	**PKPbc**	**00 53 29.3**	**+0.8**		
KURBB	**Kurchatov Arra**	**151.03**	**41**	PKPbc	**PKPbc**	**00 53 29.1**	**+0.1**		
	comp=N,5.3nm,0.8s,baz=298,slow=3.0,SNR=48								
KURBB				PKPab	**PKPab**	**00 53 37.3**	**+0.8**		
	comp=N,3.6nm,0.8s,baz=293,slow=3.5,SNR=14								
KURK	**Kurchatov**	**151.04**	**40**	*e*PKPdf	**PKPdf**	**00 53 25.1**	**+2.0**		
KURK				PKPbc	**PKPbc**	**00 53 29.1**	**+0.1**		
KURK				PKPab	**PKPab**	**00 53 37.3**	**+0.7**		
AAK	**Ala-Archa**	**151.19**	**58**	PKPbc	**PKPbc**	**00 53 30.4**	**+0.7**		
	comp=N,3.7nm,0.8s,baz=215,slow=3.4,SNR=16								
AAK	**Ala-Archa**	**151.19**	**58**	*e*PKPbc	**PKPbc**	**00 53 29.7**	**-0.1**		
ZAA0	**Zalesovo Array**	**152.16**	**30**	*e*PKPbc	**PKPbc**	**00 53 31.1**	**-0.3**		
ZALV	**Zalesovo Beam**	**152.16**	**30**	PKP	**PKPdf**	**00 53 24.7**	**0.0**		
	comp=N,0.6nm,0.6s,baz=298,slow=3.1,SNR=4.2								
ZALV				PKPbc	**PKPbc**	**00 53 31.4**	**0.0**		
	comp=N,12nm,0.8s,baz=312,slow=2.9,SNR=56								
ZALV				PKPab	**PKPab**	**00 53 40.3**	**-0.9**		
	comp=N,5.2nm,0.6s,baz=308,slow=3.0,SNR=8.6								
ZALV	**Zalesovo Beam**	**152.16**	**30**	PKP	**PKPdf**	**00 53 24.7**	**0.0**		
ZALV				PKPbc	**PKPbc**	**00 53 31.4**	**0.0**		
ZALV				PKPab	**PKPab**	**00 53 40.3**	**-0.9**		
KSH	**Kashi**	**152.77**	**64**	PKPbc	**PKPbc**	**00 53 33.4**	**0.0**		
KSH				*ep*PKP	**PKPab**	**00 53 43.0**	**-1.4**		
KSH				*es*PKP		00 53 47.1			
KSH				PKS	PKSdf	00 57 07.0	+6.2		
KSH				*e*PP	PP	00 57 25.9	+8.1		
KSH				SKS	**SKSdf**	**01 00 25.3**	**-6.2**		
KSH				SKKS	**SKKSac**	**01 04 08.9**	**+3.0**		
KSH				SS	**SS**	**01 16 49.8**	**+1.8**		
KSH				AMB	AMB				
	comp=Z,78nm,7.1s								
KSH				LR	LR				
	comp=N,67nm,7.6s								
KSH				LR	LR				
	comp=E,64nm,6.2s								
KSH				LR	LR				
	comp=Z,77nm,8.6s								
MK31	**Makanchi Array**	**155.06**	**45**	*e*PKPab	**PKPab**	**00 53 52.6**	**-1.1**		
MKAR	**Makanchi Array**	**155.06**	**45**	PKP	**PKPdf**	**00 53 28.3**	**-0.9**		
	comp=Z,0.4nm,0.8s,baz=288,slow=0.9,SNR=4.4								
MKAR				PKPbc	PKPab	00 53 38.1	-16		
	comp=Z,1.0nm,0.9s,baz=298,slow=3.1,SNR=7.0								
MKAR				PKPab	PKPab	00 53 54.3	+0.5		
	comp=Z,2.9nm,0.9s,baz=291,slow=3.8,SNR=12								
MKAR	**Makanchi Array**	**155.06**	**45**	PKP	**PKPdf**	**00 53 28.3**	**-0.9**		
MKAR				PKPbc	PKPab	00 53 38.1	-16		
MKAR				PKPab	PKPab	00 53 54.3	+0.5		
WMQ	**Urumqi**	**159.83**	**47**	*e*PKP	**PKPdf**	**00 53 35.1**	**-0.2**		
SONM	**Songino Array**	**163.83**	**4**	PKPab	**PKPab**	**00 54 32.7**	**+0.9**		
	comp=Z,1.7nm,0.9s,baz=345,slow=4.2,SNR=10								
SONM	**Songino Array**	**163.83**	**4**	PKPab	**PKPab**	**00 54 32.7**	**+0.9**		
ULN	**Ulaanbaatar**	**163.84**	**3**	*e*PKPab	**PKPab**	**00 54 32.7**	**+0.9**		
CMAR	**Chiang Mai Arr**	**164.38**	**145**	PKP	**PKPdf**	**00 53 40.9**	**+0.3**		
	comp=Z,0.9nm,0.3s,baz=270,slow=1.8,SNR=4.2								
CMAR	**Chiang Mai Arr**	**164.38**	**145**	PKP	**PKPdf**	**00 53 40.9**	**+0.3**		
GTA	**Gaotai**	**169.72**	**39**	*e*PKP	**PKPdf**	**00 53 44.4**	**+0.3**		
GTA				pPKP	**pPKPdf**	**00 53 55.3**	**+1.5**		
GTA				sPKP		00 53 58.8			
GTA				PKPab	**PKPab**	**00 54 59.3**	**+1.2**		
GTA				PP	**PP**	**00 58 50.9**	**+3.1**		
GTA				SKS	**SKSdf**	**01 00 43.0**	**-2.7**		
GTA				SKKS	**SKKSac**	**01 05 33.3**	**+0.2**		
GTA				SS	**SS**	**01 19 42.8**	**-1.0**		
GTA				AMB	AMB				
	comp=Z,64nm,5.5s								
LZH	**Lanzhou**	**174.32**	**38**	*e*PKP	**PKPdf**	**00 53 45.0**	**-1.3**		
LZH				pPKP	**pPKPdf**	**00 53 55.3**	**-0.7**		
LZH				sPKP		00 53 59.8			
GYA	**Guiyang**	**174.60**	**165**	*e*PKP	**PKPdf**	**00 53 46.0**	**-0.7**		
GYA				PKPab	**PKPab**	**00 55 21.3**	**+1.4**		
GYA				PKS	**PKSdf**	**00 57 17.0**	**-2.1**		
GYA				PP	**PP**	**00 59 14.5**	**+3.3**		
GYA				AMB	AMB				
	comp=Z,90nm,8.2s								
CD2	**Chengdu**	**176.11**	**101**	PKP	**PKPdf**	**00 53 46.1**	**-0.7**		

IDC 19 00:46:14.9±6.3, 31°.81N×104°.78E, h67km±63km, mb3.3/4, mb1 3.4/6, mb1mx3.1/28, mbtmp3.3/6, ML4.4/1, Error ellipse: s-maj=59.8km s-min=20.5km az=66.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.30**	**203**	P	Pn	00 49 34.0	-0.1
	0.6nm,0.3s,baz=13,slow=12,SNR=8.7						
SONM	**Songino Array**	**16.05**	**4**	P	Pn	00 49 56.5	-0.1
	baz=186,slow=13,SNR=2.8						
ZALV	**Zalesovo Beam**	**26.35**	**333**	P	P	00 51 44.7	+0.3
	0.4nm,0.6s,baz=141,slow=9.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**27.03**	**322**	P	P	00 51 50.5	-0.1
	0.2nm,0.3s,baz=116,slow=8.5,SNR=3.8						
FINES	**FINESS Array B**	**57.30**	**326**	P	P	00 55 55.3	-0.2
	1.8nm,1.0s,baz=76,slow=8.0,SNR=4.9						
WRA	**Warramunga Arr**	**58.74**	**147**	P	P	00 56 06.1	0.0
	0.5nm,0.7s,baz=340,slow=7.5,SNR=3.2						

GUC 19 00:51:51.6±0.9, 31°.76S×71°.92W, h23km±6km, MD3.9, ML3.7, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.38**	**109**	*i*P	Pb	00 51 59.7	0.0
CHNG				*i* S	Sb	00 52 05.3	+0.2
CHNG				AML	AML	00 52 05.8	
	comp=N,3μm,0.3s						
PACH	**Papudo**	**0.88**	**152**	*e*P	Pb	00 52 07.5	-0.8
PACH				*i* S	Sb	00 52 19.8	+0.1
PTCH	**Petorca**	**0.98**	**121**	*i*P	Pb	00 52 09.2	-0.7
PTCH				*i* S	Sb	00 52 21.8	-0.7
PTCH				AML	AML	00 52 23.7	
	comp=N,7μm,0.2s						
IHA	**Instituto Hidr**	**1.29**	**170**	*e*P	Pn	00 52 13.8	-0.3
ROCH	**El Roble**	**1.43**	**148**	*i*P	Pn	00 52 16.6	+0.1
ROCH				*i* S	Sn	00 52 34.9	+0.1
ROCH				AML	AML	00 52 40.2	
	comp=E,2μm,0.6s						
JACH	**Jahuel**	**1.45**	**130**	*i*P	Pn	00 52 17.1	+0.5
JACH				*i* S	Sn	00 52 35.5	+0.4
PEL	**Peldehue**	**1.73**	**143**	*i*P	Pn	00 52 21.1	+0.7
PEL				*i* S	Sn	00 52 43.0	+1.1
PEL				AML	AML	00 52 45.2	
	comp=E,2μm,0.3s						
TLL	**Tololo Astrono**	**1.85**	**31**	*i*P	Pn	00 52 22.8	+0.5
TLL				*i* S	Sb	00 52 48.0	-0.1
TLL				AML	AML	00 52 52.4	
	comp=N,729nm,1.0s						
RCDM	**Rinconada Maip**	**1.96**	**152**	*i*P	Pn	00 52 24.4	+0.8
RCDM				AML	AML	00 52 54.7	
	comp=E,513nm,0.5s						
SAN	**Santiago**	**2.00**	**148**	*e*P	Pn	00 52 25.5	+1.5
SAN				*e*S	Sb	00 52 50.8	-0.9
SAN				AML	AML	00 53 03.7	
	comp=N,537nm,0.6s						
CLCH	**Cerro Calan**	**2.01**	**145**	*i*P	Pn	00 52 25.2	+1.0
CLCH				*i* S	Sb	00 52 51.9	-0.3
CLCH				AML	AML	00 53 00.3	
	comp=E,1μm,0.4s						
CLCH				AML	AML	00 53 00.9	
	comp=E,2μm,0.4s						
FCH	**Farellones**	**2.08**	**139**	*i*P	Pb	00 52 32.2	+3.0
FCH				*i* S	Sb	00 52 59.7	+4.8
FCH				AML	AML	00 53 03.1	
	comp=E,565nm,0.3s						
ANTU	**Antumapu**	**2.11**	**149**	AML	AML	00 53 06.2	
	comp=N,722nm,0.5s						
SJCH	**San Jose de Ma**	**2.29**	**145**	AML	AML	00 53 07.7	
	comp=N,398nm,0.6s						
LMEL	**Las Melosas**	**2.54**	**146**	*i*P	Pn	00 52 32.9	+1.3
LMEL				*i* S	Sn	00 53 03.8	+1.9
LMEL				AML	AML	00 53 15.9	
	comp=N,592nm,0.2s						
CACH	**El Canelo**	**2.60**	**155**	*i*P	Pn	00 52 34.2	+1.8
LCO	**Las Campanas**	**2.93**	**21**	*i*P	Pn	00 52 37.4	+0.2
LCO				AML	AML	00 53 23.4	
	comp=E,341nm,0.6s						

IDC 19 00:59:54.6±3.1, 30°.44S×138°.18E, h0km, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=79.5km s-min=15.1km az=39.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.26**	**117**	Pn	Pn	01 00 46.8	-0.2
	1.1nm,0.3s,baz=300,slow=12,SNR=21						
STKA				Pg	Pb	01 00 54.3	+0.9
	2.6nm,0.3s,baz=296,slow=15,SNR=26						
STKA				Sn	Sn	01 01 27.7	+1.1
	2.7nm,0.3s,baz=354,slow=18,SNR=6.5						
STKA				Lg	Lg	01 01 38.2	
	6.4nm,0.3s,baz=356,slow=19,SNR=7.7						
ASAR	**Alice Springs**	**7.74**	**330**	Pn	Pn	01 01 48.0	-0.7
	0.1nm,0.3s,baz=148,slow=12,SNR=5.5						
ASAR				Sn	Sn	01 03 17.0	-0.2
	0.1nm,0.3s,baz=153,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**11.01**	**341**	Pn	Pn	01 02 34.1	+0.6
	0.1nm,0.3s,baz=160,slow=12,SNR=8.0						
WRA				Sn	Sn	01 04 33.4	-4.1
	0.1nm,0.3s,baz=163,slow=24,SNR=2.8						
FITZ	**Fitzroy Crossi**	**16.76**	**314**	Pn	Pn	01 03 51.6	+0.8
	0.1nm,0.3s,baz=139,slow=11,SNR=3.2						

IDC 19 01:00:42.0±2.2, 5°.66S×152°.88E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, MS4.2/1, Ms1 4.2/1, ms1mx2.6/33, Error ellipse: s-maj=130.4km s-min=27.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.95**	**230**	P	P	01 05 46.5	-1.7
	0.8nm,0.7s,baz=53,slow=9.9,SNR=6.6						
ASAR	**Alice Springs**	**25.58**	**224**	P	P	01 06 12.9	-0.1
	1.1nm,0.7s,baz=54,slow=9.2,SNR=9.2						
FITZ	**Fitzroy Crossi**	**29.33**	**243**	P	P	01 06 48.6	+1.9
	1.9nm,0.9s,baz=72,slow=9.6,SNR=2.5						
PPT	**Papeete**	**57.40**	**107**	LR	LR	01 31 58.1	
	comp=Z,199nm,19.3s,baz=180,slow=33						
ILAR	**Eielson Array**	**82.92**	**22**	P	P	01 13 09.2	+0.7
	0.4nm,0.8s,baz=241,slow=3.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.63**	**287**	PKPbc	PKPbc	01 20 35.7	-1.4
	0.2nm,0.5s,baz=86,slow=1.8,SNR=7.8						

IDC 19 01:01:11.3±1.3, 3°.88N×126°.57E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.5/26, mbtmp3.5/8, Error ellipse: s-maj=101.7km s-min=16.3km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.86**	**182**	P	P	01 06 06.2	+0.5
	0.7nm,0.6s,baz=16,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**24.87**	**162**	P	P	01 06 36.2	+0.3
	0.8nm,0.6s,baz=342,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	01 07 06.1	-0.7
	0.1nm,0.3s,baz=342,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**47.11**	**342**	P	P	01 09 45.6	+0.3
	0.2nm,0.5s,baz=152,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	01 11 00.7	-0.7
	0.4nm,0.3s,baz=121,slow=7.3,SNR=17						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	P	01 11 29.4	-0.7
	0.4nm,0.4s,baz=128,slow=6.2,SNR=10						
BVAR	**Borovoye Array**	**67.11**	**327**	P	P	01 12 07.1	+0.4
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.8						
AKTO	**Aktyubinsk**	**73.44**	**322**	P	P	01 12 46.3	+0.7
	0.5nm,0.5s,baz=90,slow=8.1,SNR=3.3						

ISK ***19*** *01:18:07.9, 39°.37N×39°.15E, h9km, MD2.7*
DDA ***19*** *01:18:08.8, 39°.38N×39°.15E, h7km, MD2.7*
ISCJB ***19*** *01:18:09.1±0.5, 39°.37N±0°.03×39°.17E±0°.04, h8km±5km, Error ellipse: s-maj=4.7km s-min=4.1km az=25.7*
CSEM ***19*** *01:18:09.1±0.2, 39°.36N×39°.17E, h10km, MD2.7, Error ellipse: s-maj=5.5km s-min=4.1km az=87.0*

ISC 19 01:18:08.9±1.0, 39°.36N±0°.02×39°.16E±0°.03, h8km±12km, n20, σ0°.47/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZC	**Erzincan**	**0.41**	**21**	*e*Pg	**Pb**	**01 18 18.3**	**-0.3**
EZC				*e*Sg	**Sb**	**01 18 25.0**	**-0.2**
ILIC	**ilic-Erzincan**	**0.47**	**281**	*e*PG	**Pg**	**01 18 18.0**	**0.0**
ILIC				*e*SG	**Sg**	**01 18 24.2**	**+0.1**
ILIC	**ilic-Erzincan**	**0.47**	**281**	*e*Pg	**Pg**	**01 18 18.0**	**0.0**
ILIC				*e*Sg	**Sg**	**01 18 24.2**	**+0.1**
ERZN	**Erzincan**	**0.49**	**63**	*e*PG	**Pg**	**01 18 18.3**	**-0.1**
ERZN				*e*SG	**Sg**	**01 18 25.0**	**+0.2**
PTK	**Pertek**	**0.50**	**159**	*e*PG	**Pg**	**01 18 18.1**	**-0.5**
PTK				*e*SG	**Sg**	**01 18 25.9**	**+0.6**
PTK	**Pertek**	**0.50**	**159**	*e*Pg	**Pg**	**01 18 18.1**	**-0.5**
PTK				*e*Sg	**Sg**	**01 18 25.9**	**+0.6**
KEMA	**Kemaliye**	**0.53**	**260**	*e*P	**Pb**	**01 18 20.9**	**+0.5**
KEMA				*e*S	**Sb**	**01 18 27.5**	**-0.8**
KEMA	**Kemaliye**	**0.53**	**260**	*e*P	**Pb**	**01 18 20.9**	**+0.5**
KEMA				*e*S	**Sb**	**01 18 27.5**	**-0.8**
KELT	**Kelkit**	**0.79**	**5**	*e*P	**Pg**	**01 18 24.1**	**0.0**
KELT				*e*S	**Sg**	**01 18 34.4**	**+0.1**
KELT	**Kelkit**	**0.79**	**5**	*e*P	**Pg**	**01 18 24.1**	**0.0**
KELT				*e*S	**Sg**	**01 18 34.4**	**+0.1**
ELZG	**Elazig**	**0.88**	**189**	*e*P	**Pb**	**01 18 26.0**	**-0.4**
ELZG				*e*S	**Sb**	**01 18 39.0**	**+0.6**
ELZG	**Elazig**	**0.88**	**189**	*e*P	**Pb**	**01 18 26.0**

baz=19,SNR=14
CTA Charters Tower 19.28 159 P **P** **01 39 36.6 +0.6**
comp=Z,2.0nm,0.3s,baz=334,slow=9.3,SNR=16
CTA Charters Tower 19.28 159 P **P** **01 39 36.6 +0.6**
CTAO Charters Tower 19.28 159 *e*P **P** **01 39 36.8 +0.9**
CTAO pmax pmax
comp=Z,20nm,0.7s
CTAO Charters Tower 19.28 159 *e*P **P** **01 39 36.8 +0.9**
comp=Z,20nm,0.7s
SPSI Sidrap Palu 19.34 264 P **Pn** **01 39 39.1 +1.2**
comp=Z,70nm,2.6s,comp=Z,3μm
KAPI Kappang 19.48 261 P **Pn** **01 39 41.8 +2.3**
comp=Z,1.5nm,0.3s,baz=92,slow=13,SNR=4.4
KAPI Kappang 19.48 261 P **Pn** **01 39 41.8 +2.3**
comp=Z,2.7nm,1.4s
KAPI Kappang 19.48 261 P Pn 01 39 48.7 +9.2
comp=Z,40nm,1.3s
WSI Waingapu 20.11 247 P **P** **01 39 41.5 -3.6**
baz=20,SNR=5.8
WSI S Sn 01 43 59.7 +27
baz=20,SNR=3.4
WSI Waingapu 20.11 247 P **P** **01 39 42.4 -2.7**
comp=Z,796nm,0.4s,comp=Z,19μm
FITZ Fitzroy Crossi 20.68 219 P **P** **01 39 52.1 +0.9**
comp=Z,18nm,1.0s,baz=45,slow=11,SNR=28
FITZ S **S** **01 43 36.5 -4.5**
comp=Z,28nm,0.9s,baz=172,slow=11,SNR=5.3
FITZ Fitzroy Crossi 20.68 219 P **P** **01 39 52.1 +0.9**
comp=Z,0.5nm,0.3s
FITZ S **S** **01 43 36.5 -4.5**
FITZ Fitzroy Crossi 20.68 219 P **P** **01 39 52.1 +0.9**
baz=21,SNR=41
FITZ S **S** **01 43 39.5 -1.5**
baz=21,SNR=5.0
RCP Roxas 21.09 310⇑ *e*P **P** **01 39 56.6 +1.0**
MYLDM Lahad Datu 21.73 289 P P 01 40 09.2 +6.6
comp=Z,102nm,1.0s,comp=Z,2μm
HNR Honiara 22.05 110 P **P** **01 40 06.5 +0.5**
comp=Z,34nm,0.4s,baz=287,slow=11,SNR=3.2
HNR Honiara 22.05 110 P **P** **01 40 06.5 +0.5**
AS31 Alice Springs 22.07 193 *e*P **P** **01 40 05.7 -0.5**
ASAR Alice Springs 22.07 193 P **P** **01 40 05.5 -0.7**
comp=Z,42nm,0.8s,baz=25,slow=10,SNR=114
ASAR S **S** **01 44 12.2 +4.0**
comp=Z,8.8nm,1.1s,baz=19,slow=23,SNR=4.8
ASAR LR LR 01 50 29.9
comp=Z,1μm,18.6s,baz=15,slow=42
ASAR Alice Springs 22.07 193 P **P** **01 40 05.5 -0.7**
ASAR S **S** **01 44 12.2 +4.0**
KBKI Kotabaru 22.88 266 P **P** **01 40 17.4 +2.5**
comp=Z,67nm,1.9s,comp=Z,4μm
KHKI Kahang-Kahang 24.16 254 P **P** **01 40 28.6 +1.3**
comp=Z,79nm,0.9s,comp=Z,1μm
KKM Kota Kinabalu 24.16 290 *e*P **P** **01 40 26.4 -1.1**
comp=Z,66nm,1.1s
KKM Kota Kinabalu 24.16 290 P **P** **01 40 27.6 +0.1**
baz=24,SNR=12
KKM Kota Kinabalu 24.16 290 P **P** **01 40 27.8 +0.3**
comp=Z,64nm,1.8s,comp=Z,1μm
BBKI Banjar Baru 24.21 266 P **P** **01 40 29.7 +1.9**
comp=Z,260nm,1.4s,comp=Z,5μm
SRBI Singaraja 24.47 255 P P 01 40 40.6 +10
comp=Z,46nm,1.7s
QLP Quilpie 24.91 169 P **P** **01 40 34.6 +0.6**
baz=25,SNR=52
KMMI Kalianget 25.48 258 P **P** **01 40 41.0 +1.7**
comp=Z,167nm,0.9s,comp=Z,4μm
EIDS Eidsvold 25.94 154 *e*P **P** **01 40 44.5 +1.1**
comp=Z,655nm,2.3s
EIDS Eidsvold 25.94 154 P **P** **01 40 46.1 +2.8**
baz=26,SNR=11
RMQ Roma 26.04 160 P **P** **01 40 45.8 +1.5**
baz=26,SNR=28
MBWA Marble Bar 26.75 223 *e*P **P** **01 40 50.9 +0.2**
comp=Z,37nm,1.0s
SBUM Sibu 27.18 279 P **P** **01 40 52.9 -1.8**
comp=Z,16nm,1.3s,comp=Z,983nm
PWJI Pagerwojo 27.76 257 P P 01 41 11.5 +12
comp=Z,31nm,0.6s,comp=Z,2μm
KSM Kuching 28.94 277 P **P** **01 41 11.4 +1.0**
baz=29,SNR=6.1
STKA Stephens Creek 29.78 176 P **P** **01 41 16.8 -0.8**
comp=Z,7.4nm,0.7s,baz=351,slow=9.7,SNR=14
STKA Stephens Creek 29.78 176 *e*P **P** **01 41 17.2 -0.5**
STKA Stephens Creek 29.78 176 P **P** **01 41 17.1 -0.6**
baz=30,SNR=9.6
CMSA Cobar Meteorol 30.01 169 P **P** **01 41 20.4 +0.7**
baz=30,SNR=19
FORT Forrest 30.42 199 *e*P **P** **01 41 23.8 +0.5**
comp=Z,306nm,1.8s
FORT Forrest 30.42 199 P **P** **01 41 23.8 +0.5**
baz=30,SNR=11
ARMA Armidale 30.65 158 *e*P **P** **01 41 28.3 +2.8**
comp=Z,90nm,1.8s
ARMA Armidale 30.65 158 P **P** **01 41 26.8 +1.3**
baz=31,SNR=5.4
BBOO Buckleboo 30.74 185 *e*P **P** **01 41 25.9 -0.3**
comp=Z,781nm,1.0s
BBOO Buckleboo 30.74 185 P **P** **01 41 25.9 -0.3**
baz=31,SNR=14
MEEK Meekatharra 31.35 217 P **P** **01 41 31.7 0.0**
baz=31,SNR=7.3
LEM Lembang 31.68 260 S S 01 46 16.5 -26
baz=32,SNR=4.8
DZM Mont Dzumac 33.26 129 *e*P **P** **01 41 49.0 +0.4**
comp=Z,90nm,1.5s
DZM *e*LR LR 01 50 43.9
comp=Z,2μm,22.7s
DZM Mont Dzumac 33.26 129 P **P** **01 41 48.0 -0.6**
comp=Z,10.0nm,0.9s,baz=344,slow=9.8,SNR=3.8
DZM Mont Dzumac 33.26 129 P **P** **01 41 48.0 -0.6**
YNG Young 33.27 166 P P 01 41 52.4 +4.1
baz=33,SNR=6.4
QZH Quanzhou 33.35 325⇓ *i*P **P** **01 41 50.0 +0.8**
QZH S **S** **01 47 09.0 +0.6**
QZH LR LR
comp=N,470nm,13.5s
QZH LR LR
comp=E,420nm,7.3s
QZH LR LR
comp=Z,930nm,21.8s
ARPS Mount Arapiles 34.66 176 P **P** **01 42 03.5 +3.1**
baz=35,SNR=14
MORW Morawa 34.68 217 P **P** **01 42 00.5 -0.1**
baz=35,SNR=6.0
BLDU Ballidu 35.43 214 P **P** **01 42 07.6 +0.5**
baz=35,SNR=5.7
QIZ Qiongzhong 35.52 307 P **P** **01 42 06.6 -1.4**
QIZ sP **sP** **01 42 20.1 0.0**
QIZ S **S** **01 47 39.3 -2.7**
QIZ sS **sS** **01 47 56.9 +0.7**
QIZ pmax pmax
comp=Z,15nm,1.4s
QIZ pmax pmax
comp=Z,53nm,4.4s
QIZ LR LR
comp=E,180nm,16.9s
QIZ LR LR
comp=Z,440nm,16.9s
KLBR Kellerberrin 35.60 212 P **P** **01 42 09.2 +0.6**
baz=36,SNR=8.3
JNU Nakatsue 35.81 348 P **P** **01 42 07.7 -2.6**
comp=Z,7.9nm,0.8s,baz=155,slow=9.6,SNR=4.4
JNU Nakatsue 35.81 348 P **P** **01 42 07.7 -2.6**
TOO Toolangi 35.86 171 P P 01 42 16.2 +5.4
baz=36,SNR=3.7
NWAO Narrogin (SRO) 36.92 211 P **P** **01 42 18.7 -1.1**
comp=Z,11nm,0.9s,baz=28,slow=10,SNR=2.7
NWAO LR LR 01 58 42.4
comp=Z,3μm,20.0s,baz=289,slow=38
NWAO Narrogin (SRO) 36.92 211 P **P** **01 42 18.7 -1.1**
SSE Sheshan 37.07 334 P **P** **01 42 19.0 -2.1**
SSE pP **pP** **01 42 30.3 +0.6**
SSE PP **PP** **01 43 44.8 -1.2**
SSE S **S** **01 48 04.4 -1.0**
SSE pmax pmax
comp=Z,35nm,0.7s
SSE pmax pmax
comp=Z,78nm,8.0s
SSE LR LR
comp=N,430nm,17.2s
SSE LR LR
comp=E,310nm,17.2s
SSE LR LR
comp=Z,480nm,16.9s
MJAR Matsushiro Arr 38.39 359 P **P** **01 42 30.7 -1.4**
comp=Z,0.8nm,0.3s,baz=180,slow=7.4,SNR=2.7
MJAR Matsushiro Arr 38.39 359 P **P** **01 42 30.7 -1.4**
IPM Ipoh 38.53 280 *e*P **P** **01 42 33.0 -0.8**
comp=Z,21nm,0.9s
IPM Ipoh 38.53 280 P **P** **01 42 34.2 +0.4**
comp=Z,27nm,1.6s
PPI Padang Panjang 38.66 272 P **P** **01 42 35.0 +0.2**
comp=Z,42nm,1.6s,comp=Z,945nm
NJ2 Nanjing 38.93 332 *e*P **P** **01 42 34.3 -2.5**
NJ2 pP **pP** **01 42 44.6 -0.8**
NJ2 sP **sP** **01 42 48.1 -0.8**
NJ2 PP **PnPn** **01 44 07.8 -1.1**
NJ2 S **S** **01 48 30.0 -3.5**
NJ2 sS **sS** **01 48 50.5 +2.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 pmax pmax
comp=Z,160nm,5.7s
NJ2 LR LR
comp=N,1μm,23.7s
NJ2 LR LR
comp=E,560nm,16.7s
NJ2 LR LR
comp=Z,1μm,20.9s
KULM Kulim 39.03 281 *e*P **P** **01 42 37.5 -0.5**
comp=Z,30nm,1.0s
KULM Kulim 39.03 281 P **P** **01 42 38.5 +0.6**
comp=Z,35nm,1.2s,comp=Z,576nm
MNSI Mandailing Nat 39.55 274 P **P** **01 42 43.6 +1.3**
comp=Z,43nm,1.0s,comp=Z,14μm
WHN Wuhan 40.04 326 ⇑P **P** **01 42 46.8 +0.7**
WHN S **S** **01 48 54.5 +4.2**
WHN LR LR
comp=N,540nm,13.1s
WHN LR LR
comp=E,810nm,13.8s
WHN LR LR
comp=Z,860nm,17.2s
PSI Prapat 40.39 277 P **P** **01 42 48.1 -1.2**
comp=Z,27nm,1.1s,baz=97,slow=6.5,SNR=14
PSI Prapat 40.39 277 P **P** **01 42 48.1 -1.2**
PSI Prapat 40.39 277 P **P** **01 42 48.4 -1.0**
baz=40,SNR=15
PSI Prapat 40.39 277 P **P** **01 42 48.8 -0.6**
comp=Z,43nm,1.3s,comp=Z,787nm
KSAR Wonju Array Be 40.62 346 P **P** **01 42 49.4 -1.4**
KSRS Korea Array 40.62 346 P **P** **01 42 49.4 -1.4**
comp=Z,2.1nm,0.7s,baz=156,slow=8.7,SNR=7.4
MSVF Nonsavu 41.34 115 *e*P **P** **01 42 59.5 +2.4**
MSVF pmax pmax
comp=Z,365nm,2.7s
MSVF Nonsavu 41.34 115 *e*P **P** **01 42 59.5 +2.4**
comp=Z,365nm,2.7s
GSI Gunungsitoli 41.59 274 S **S** **01 49 08.5 -5.4**
baz=41,SNR=6.0
GSI Gunungsitoli 41.59 274 P **P** **01 42 59.4 +0.3**
comp=Z,69nm,1.1s
GYA Guiyang 42.18 314 P P 01 43 13.8 +10
GYA pP pP 01 43 14.5 +1.9
GYA sP sP 01 43 20.0 +3.9
GYA PP **PP** **01 44 44.3 +2.3**
GYA ScP **ScP** **01 48 44.3 -2.5**
GYA S **S** **01 49 21.3 -1.2**
GYA sS sS 01 49 40.0 +3.2
GYA SS SS 01 52 23.4 -7.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,460nm,17.6s
GYA LR LR
comp=E,310nm,18.8s
GYA LR LR
comp=Z,420nm,17.0s
LHMI Lhok Sumawe 42.66 280 P **P** **01 43 09.0 +1.1**
comp=Z,70nm,0.8s
ENH Enshi 42.74 321 *e*P **P** **01 43 07.0 -1.3**
KMI Kunming 44.34 310 P **P** **01 43 24.3 +2.8**
KMI pP **pP** **01 43 33.1 +2.9**
KMI sP **sP** **01 43 36.8 +3.1**
KMI PP **PcP** **01 45 06.8 +1.4**
KMI S **S** **01 49 54.4 0.0**
KMI sS **sS** **01 50 09.6 +0.9**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=N,220nm,17.3s
KMI LR LR
comp=E,250nm,19.6s
KMI LR LR
comp=Z,330nm,18.5s
CMAR Chiang Mai Arr 44.39 299 P **P** **01 43 20.8 -1.0**
comp=Z,4.8nm,0.8s,baz=121,slow=6.6,SNR=23
CMAR PcP **PcP** **01 45 07.0 +1.5**
comp=Z,2.1nm,0.8s,baz=108,slow=2.0,SNR=4.7
CMAR Chiang Mai Arr 44.39 299 P **P** **01 43 20.8 -1.0**
CMAR PcP **PcP** **01 45 07.0 +1.5**
CMMT Chiang Mai 44.53 300 P **P** **01 43 23.4 +0.5**
comp=Z,18nm,1.2s,comp=Z,588nm
CHTO Chiang Mai 44.53 300 *e*P **P** **01 43 21.5 -1.4**
CHTO pmax pmax
comp=Z,35nm,1.8s
CHTO Chiang Mai 44.53 300 *e*P **P** **01 43 21.5 -1.4**
comp=Z,36nm,1.8s
CHTO Chiang Mai 44.53 300 P **P** **01 43 22.6 -0.2**
SNR=7.9
CHTO Chiang Mai 44.53 300 P **P** **01 43 22.9 0.0**
comp=Z,12nm,1.5s,comp=Z,380nm
XAN Xi'an 45.72 324 P **P** **01 43 31.1 -1.0**
XAN pP **pP** **01 43 41.9 +1.0**
XAN PP **PP** **01 45 20.8 +1.2**
XAN S **S** **01 50 10.5 -3.2**
XAN ScS **ScS** **01 53 26.1 -0.5**
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,27nm,4.5s
XAN LR LR
comp=N,230nm,15.7s
ASAJ Asahikawa 46.06 4 P P 01 43 31.4 -3.1
comp=N,4.4nm,0.8s,baz=219,slow=6.5,SNR=3.3
ASAJ Asahikawa 46.06 4 P P 01 43 31.4 -3.1
YUK Yuzh-Kuril'sk 46.27 *7c i*P P 01 43 31.2 -5.0
YUK *i* 01 45 12.2
YUK *i* S S 01 50 11.9 -9.3
YUK *i* SS ScS 01 53 38.0 +8.5
YUK *i* SSS SSS 01 54 39.9
YUK pmax pmax
comp=Z,36nm,4.6s
YUK MLR MLR
comp=N,408nm,19.0s
YUK MLR MLR
comp=Z,302nm,19.0s
USRK Ussuriysk Arra 46.46 353 P **P** **01 43 37.2 -0.5**
comp=Z,1.7nm,0.8s,baz=193,slow=8.0,SNR=3.6
USRK LR LR 02 02 13.7
comp=Z,383nm,21.2s,baz=327,slow=35
BJI Beijing 46.81 336 P **P** **01 43 41.3 +0.8**
BJI S **S** **01 50 27.8 -1.3**
BJI pmax pmax
comp=Z,16nm,1.2s
BJI pmax pmax
comp=Z,270nm,3.7s
BJI LR LR
comp=N,570nm,17.8s
BJI LR LR
comp=E,230nm,22.2s
BJI LR LR
comp=Z,330nm,21.3s
CD2 Chengdu 46.91 317 P **P** **01 43 41.3 -0.2**
CD2 pP **pP** **01 43 51.5 +1.2**
CD2 sP **sP** **01 43 55.8 +2.0**
CD2 PP **PP** **01 45 31.3 -1.0**
CD2 S **S** **01 50 30.4 -0.5**
CD2 sS **sS** **01 50 46.1 +0.7**
CD2 SS SS 01 53 48.5 -10
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,140nm,4.3s
CD2 LR LR
comp=N,450nm,19.0s
CD2 LR LR
comp=Z,520nm,19.6s
CN2 Changchun 47.23 347 *e*P **P** **01 43 43.3 -0.5**
CN2 *e*pP **pP** **01 43 53.3 +0.8**
CN2 *e*S **S** **01 50 34.3 -0.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
YSS Yuzh-Sakhalins 48.89 3 *e*P **P** **01 43 55.3 -1.2**
YSS *e*S **S** **01 50 54.0 -4.4**
YSS MLR MLR
comp=Z,300nm,18.0s
HHC Hu-ho-hao-te 49.48 333 *e*P **P** **01 44 01.3 0.0**
HHC pP **pP** **01 44 11.1 +0.9**
HHC sP **sP** **01 44 15.6 +2.0**
HHC PP **PP** **01 45 56.8 +1.0**
HHC S **S** **01 51 06.9 -0.3**
HHC sS **sS** **01 51 23.9 +2.2**
HHC SS **SS** **01 54 34.9 -4.6**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.9s
HHC LR LR
comp=N,350nm,15.5s
HHC LR LR
comp=E,240nm,16.3s
HHC LR LR
comp=Z,590nm,17.6s
LZH Lanzhou 50.15 323 *e*P **P** **01 44 06.5 0.0**
LZH pP **pP** **01 44 17.0 +1.6**
LZH sP **sP** **01 44 21.5 +2.7**
LZH S **S** **01 51 14.3 -2.4**
LZH sS **sS** **01 51 30.5 -0.7**
LZH SS **SS** **01 54 44.5 -5.9**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.0s
LZH LR LR
comp=N,450nm,17.2s
LZH LR LR
comp=E,220nm,13.0s
LZH LR LR
comp=Z,390nm,15.0s
GTA Gaotai 54.73 323 P **P** **01 44 39.8 -0.6**
GTA pP **pP** **01 44 49.8 +0.5**
GTA sP **sP** **01 44 53.8 +1.0**
GTA PcP **PcP** **01 45 42.3 -0.6**
GTA S **S** **01 52 17.5 -1.7**
GTA sS **sS** **01 52 33.4 -0.5**
GTA SS **SS** **01 55 59.6 -3.1**
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=N,170nm,18.1s
GTA LR LR
comp=E,230nm,19.0s
GTA LR LR
comp=Z,380nm,18.5s
ULN Ulaanbaatar 57.00 335 *e*P **P** **01 44 56.3 -0.2**
comp=Z,59nm,2.2s
ULN Ulaanbaatar 57.00 335 P **P** **01 44 56.9 +0.3**
SNR=9.3
ULN Ulaanbaatar 57.00 335 P **P** **01 44 56.6 0.0**
comp=Z,9.1nm,2.1s
PETK Petropavlovsk- 57.13 13 P **P** **01 44 56.3 -0.9**
comp=Z,4.0nm,0.8s,baz=183,slow=7.2,SNR=4.2
PETK LR LR 02 05 57.0
comp=Z,337nm,21.9s,baz=205,slow=32
PETK Petropavlovsk- 57.13 13 P **P** **01 44 56.3 -0.9**
PETK Petropavlovsk- 57.13 13 P **P** **01 44 56.3 -0.9**
SONM Songino Array 57.25 334 P **P** **01 44 57.9 -0.4**
comp=Z,1.2nm,0.7s,baz=151,slow=7.0,SNR=13
SONM Songino Array 57.25 334 P **P** **01 44 57.9 -0.4**
PET Petropavlovsk 57.28 14 *e*P **P** **01 44 58.5 +0.3**
PET *e*S **S** **01 52 51.1 -1.3**
TAPN Taplejung 57.36 304 *e*Pn **P** **01 44 59.1 -0.6**
comp=Z,68nm,1.5s
ODAN Odare 57.45 304 *e*Pn **P** **01 44 59.2 -1.0**
comp=Z,24nm,0.7s
RAMN Ramite 58.13 304 *e*P **P** **01 45 04.4 -0.7**
comp=Z,22nm,0.8s
JIRN Jiri 58.73 304 *e*P **P** **01 45 08.7 -0.7**
GUN Gumba 59.08 304 *e*P **P** **01 45 11.2 -0.6**
comp=Z,30nm,0.9s
PKI Pulchoki 59.35 304 *e*P **P** **01 45 12.5 -1.1**
KKN Kakani 59.53 304 *e*P **P** **01 45 13.9 -0.8**
comp=Z,25nm,0.7s
DMN Daman 59.61 304 *e*P **P** **01 45 15.2 -0.1**
GKN Gorkha 60.14 304 *e*P **P** **01 45 18.0 -0.8**
comp=Z,30nm,0.8s
ZAK Zakamensk 60.52 335 *e*P P 01 45 18.0 -3.0
ZAK pmax pmax
comp=Z,12nm,1.4s
KOLN Koldanda 60.92 303 *e*P **P** **01 45 23.6 -0.7**
comp=Z,8.5nm,0.6s
DANN Dangsing 60.98 304 *e*P **P** **01 45 23.7 -1.1**
comp=Z,18nm,0.6s
TLY Talaya 61.34 336 *e*P P 01 45 22.7 -3.7
TLY *e* 01 55 11.7
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,396nm,19.0s
IRK Irkutsk 61.51 336 *e*P **P** **01 45 28.5 +1.0**
IRK pmax pmax
comp=Z,53nm,1.6s
PYUN Piuthan 61.54 304 *e*P **P** **01 45 27.7 -0.7**
comp=Z,65nm,0.9s
MOY Mondy 62.45 334 *e*P **P** **01 45 34.3 +0.3**
MOY pmax pmax
comp=Z,60nm,2.9s
HYB Hyderabad 62.64 291 *i*P **P** **01 45 34.0 -1.8**
BOD Bodaibo 62.95 345 *e*P **P** **01 45 35.0 -2.0**
BOD pmax pmax
comp=Z,9.0nm,1.7s
YAK Yakutsk 64.29 355 *e*P **P** **01 45 44.1 -1.7**
YAK *e**PP **pP** **01 45 55.5 +0.7**
YAK *e* 01 48 05.0
YAK *e*S **S** **01 54 20.9 -0.7**
YAK *e* 01 55 37.7
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK smax smax
comp=E,156nm,12.4s
YAK smax smax
comp=N,123nm,9.4s
YAK Yakutsk 64.29 355 *e*P **P** **01 45 44.5 -1.3**
comp=N,26nm,0.8s
WMQ Urumqi 64.69 321 P **P** **01 45 49.4 +0.5**
WMQ PcP **PcP** **01 46 22.1 -0.4**
WMQ PP **PP** **01 48 13.8 +2.3**
WMQ S **S** **01 54 25.1 -2.3**
WMQ sS **sS** **01 54 44.3 +2.0**
WMQ ScS **SKSac** **01 55 37.9 -3.7**
WMQ SS **SS** **01 58 39.3 +0.5**
WMQ pmax pmax
comp=Z,23nm,1.5s
WMQ pmax pmax
comp=Z,260nm,4.5s
WMQ LR LR
comp=N,200nm,21.0s
WMQ LR LR
comp=E,74nm,23.0s
WMQ LR LR
comp=Z,130nm,19.0s
HVS Khovu-Aksy 65.47 330 *d i*P **P** **01 45 53.9 +0.1**
SEY Seymchan 65.58 *7ce*P **P** **01 45 53.2 -0.9**
DDI Dehra Dun 66.33 304 *ex* x 01 45 57.8
MK31 Makanchi Array 69.46 322 *e*P **P** **01 46 18.2 -0.9**
MK31 Makanchi Array 69.46 322 *e*P **P** **01 46 18.2 -0.9**
MKAR Makanchi Array 69.46 322 P **P** **01 46 17.9 -1.2**

comp=Z,6.0nm,0.9s,baz=114,slow=6.9,SNR=47
MKAR Makanchi Array 69.46 322 P **P** 01 46 17.9 -1.2
MKAR Makanchi Array 69.46 322 P **P** 01 46 17.9 -1.2
KSH Kashi 70.86 313 *e*P **P** 01 46 29.3 +1.3
KSH *e*pP **pP** 01 46 40.0 +2.9
KSH *e*sP **sP** 01 46 44.1 +3.6
KSH *e*PcP **PcP** 01 46 49.8 +1.3
KSH *e*PP **PP** 01 49 09.3 +4.0
KSH S **S** 01 55 41.9 +0.2
KSH sS **sS** 01 55 59.0 +2.3
KSH SKS **SKSac** 01 56 25.0 -3.7
KSH ScS **SKKSac** 01 56 27.8 -1.0
KSH SS **SS** 02 00 17.4 +2.7
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,140nm,3.0s
KSH LR LR
comp=N,110nm,4.9s
KSH LR LR
comp=E,130nm,6.5s
KSH LR LR
comp=Z,160nm,6.8s
ZAA0 Zalesovo Array 71.52 330 *e*P **P** 01 46 29.5 -1.9
ZALV Zalesovo Beam 71.52 330 P **P** 01 46 29.6 -1.8
comp=Z,3.4nm,0.8s,baz=114,slow=6.7,SNR=17
ZALV Zalesovo Beam 71.52 330 P **P** 01 46 29.7 -1.8
ZALV Zalesovo Beam 71.52 330 P **P** 01 46 29.6 -1.8
PPT2 Papeete2 71.65 108 *e*S **S** 01 55 47.7 -3.6
comp=Z,125nm,24.0s
PPT2 *e*LR LR 02 08 29.2
comp=Z,481nm,27.0s
TBI Tubuai 72.22 114 *e*LR LR 02 08 46.1
comp=Z,332nm,29.8s
TKM2 Tokmak 2 72.28 316 *e*P **P** 01 46 36.7 +0.1
TKM2 pmax pmax
comp=Z,26nm,0.6s
TKM2 Tokmak 2 72.28 316 *e*P **P** 01 46 36.7 +0.1
comp=Z,26nm,0.6s
BILL Bilibino 72.45 10 *e*P **P** 01 46 35.3 -1.4
BILL *e* 01 46 56.7
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,200nm,17.0s
BILL Bilibino 72.45 10 *e*P **P** 01 46 35.4 -1.3
comp=Z,2.1nm,0.5s
NVS Novosibirsk 72.78 330 *i*P **P** 01 46 37.1 -1.8
NVS pmax pmax
comp=N,17nm,2.1s
NVS pmax pmax
comp=E,23nm,2.1s
NVS pmax pmax
comp=Z,51nm,2.1s
AAK Ala-Archa 72.95 316 *e*P **P** 01 46 39.7 -0.8
AAK pmax pmax
comp=Z,52nm,1.4s
AAK Ala-Archa 72.95 316 *e*P **P** 01 46 39.7 -0.8
comp=Z,52nm,1.4s
KURK Kurchatov 73.36 325 *ce*P **P** 01 46 41.6 -0.9
KURK pmax pmax
comp=Z,42nm,2.5s
KURK Kurchatov 73.36 325 *e*P **P** 01 46 41.0 -1.5
comp=Z,22nm,1.4s
KURK Kurchatov 73.36 325 P **P** 01 46 42.3 -0.2
SNR=10
EKS2 Erkin-Say 73.46 316 *e*P **P** 01 46 43.2 -0.2
EKS2 pmax pmax
comp=Z,11nm,1.2s
EKS2 Erkin-Say 73.46 316 *e*P **P** 01 46 43.2 -0.2
comp=Z,11nm,1.2s
KBL Kabul 74.79 307 P P 01 46 44.7 -6.8
baz=75,SNR=4.4
KKAR Karatay Array 75.88 315 *e*P **P** 01 46 57.3 -0.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 75.88 315 *e*P **P** 01 46 57.2 -0.1
comp=Z,1.8nm,0.6s
VNDA Vanda 76.42 175 P **P** 01 46 59.0 -0.8
comp=Z,6.4nm,0.9s,baz=324,slow=6.9,SNR=24
VNDA Vanda 76.42 175 *e*P **P** 01 46 58.3 -1.4
comp=Z,4.9nm,0.8s
BVAR Borovoye Array 78.95 325 P **P** 01 47 13.2 -1.1
comp=Z,9.1nm,0.8s,baz=114,slow=6.8,SNR=33
BVAR Borovoye Array 78.95 325 P **P** 01 47 13.2 -1.1
BVAR Borovoye Array 78.95 325 P **P** 01 47 13.2 -1.1
BRVK Borovoye 79.02 325 *e*P **P** 01 47 13.4 -1.2
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 79.02 325 *e*P **P** 01 47 13.4 -1.2
comp=Z,13nm,0.9s
BRVK Borovoye 79.02 325 P **P** 01 47 14.6 -0.1
SNR=9.2
MAW Mawson 82.87 202 LR LR 02 23 04.4
comp=Z,810nm,18.2s,baz=77,slow=35
HOQ Hoqain 83.23 294 P **P** 01 47 37.8 +0.1
SNR=5.9
HATD Hatta, Dubai 84.41 295 P **P** 01 47 43.8 0.0
SNR=6.0
ABKAR Akbulak array 84.42 320 *e*P **P** 01 47 42.2 -1.0
comp=Z,6.6nm,1.0s
COLD Coldfoot 84.51 22 *e*P **P** 01 47 43.4 +0.1
comp=Z,5.1nm,1.1s
COLA College 84.72 24 *e*P **P** 01 47 44.4 +0.1
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 84.72 24 *e*P **P** 01 47 44.4 +0.1
comp=Z,3.2nm,0.8s
ILAR Eielson Array 85.09 24 P **P** 01 47 44.2 -2.0
comp=Z,4.3nm,1.1s,baz=258,slow=4.9,SNR=18
ILAR LR LR 02 23 24.6
comp=Z,254nm,19.4s,baz=332,slow=34
ILAR Eielson Array 85.09 24 P **P** 01 47 44.2 -2.0
SVE Sverdlovsk 85.35 327 *e*P **P** 01 47 48.2 +0.5
SVE *e* 01 51 10.0
SVE *e*S S 01 58 10.2 -6.4
SVE *e*SS **SS** 02 03 52.2 +0.6
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 86.41 327 *d*iP **P** 01 47 53.1 +0.1
ARU 01 51 14.0
ARU S S 01 58 17.0 -10
ARU SS **SS** 02 04 11.7 +4.5
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 86.41 327 *e*P **P** 01 47 51.5 -1.5
comp=Z,5.4nm,0.9s
QSPA South Pole Qui 87.91 180 P **P** 01 47 59.2 -1.0
comp=Z,10.0nm,1.0s,baz=329,slow=4.2,SNR=52
QSPA LR LR 02 28 18.7
comp=Z,770nm,19.3s,baz=5.2,slow=36
QSPA South Pole Qui 87.91 180 P **P** 01 47 59.2 -1.0
DAWY Dawson 88.12 26 *e*P **P** 01 48 00.1 -1.1
INK Inuvik 90.92 22 *e*P **P** 01 48 12.9 -1.2
comp=Z,2.8nm,1.1s
SPITS Spitsbergen Ar 98.38 350 LR LR 02 32 13.1
comp=Z,165nm,18.4s,baz=60,slow=35
YKA Yellowknife Ar 99.32 27 P **Pdif** 01 48 51.9 -0.6
comp=Z,0.5nm,1.0s,baz=288,slow=4.4,SNR=3.1
YKA PKiKP **PKiKP** 01 53 22.6 +0.4
comp=Z,0.1nm,0.7s,baz=280,slow=1.8,SNR=4.0
YKA Yellowknife Ar 99.32 27 P **Pdif** 01 48 51.9 -0.6
YKA PKiKP **PKiKP** 01 53 22.6 +0.4
NVAR Mina Array Bea 101.18 51 P **Pdif** 01 49 01.6 -0.1
comp=Z,0.4nm,0.7s,baz=236,slow=6.4,SNR=3.3
NVAR Mina Array Bea 101.18 51 P **Pdif** 01 49 01.6 -0.1
VNA2 Neumayer--Watz 103.91 191 *e*P PP 01 53 35.2 +5.5
VNA2 Neumayer--Watz 103.91 191 *ep*PKiKP pPKiKP 01 53 41.8 +1.9
KOLS Kolonicke sedl 108.86 322 *e*P **Pdif** 01 49 38.9 +3.5
KOLS Kolonicke sedl 108.86 322 PDIF **Pdif** 01 49 38.9 +3.5
UZH Uzhgorod 108.95 321 *e*P **Pdif** 01 49 46.0 +10
CRVS Cervenica-Dubn 109.38 322 *e*P **Pdif** 01 49 38.0 +0.4
CRVS Cervenica-Dubn 109.38 322 PDIF **Pdif** 01 49 38.0 +0.4
VYHS Vyhne 111.15 322 *e*P **Pdif** 01 49 44.4 -1.1
VYHS Vyhne 111.15 322 PDIF **Pdif** 01 49 44.4 -1.1
TXAR Lajitas Array 114.67 59 PKP PKPdf 01 53 51.3 -0.5
comp=Z,0.3nm,0.8s,baz=266,slow=3.6,SNR=3.6
TXAR Lajitas Array 114.67 59 PKP PKPdf 01 53 51.3 -0.5
TKL Tuckaleechee C 128.13 45 PKP **PKPdf** 01 54 17.0 -0.4
comp=Z,4.9nm,0.9s,baz=151,slow=4.3,SNR=3.7
TKL Tuckaleechee C 128.13 45 PKP **PKPdf** 01 54 17.0 -0.4
TAM Tamanrasset 130.44 298 *e*PKiKP **PKPdf** 01 54 23.0 +0.7
TAM Tamanrasset 130.44 298 *e*PKPdf **PKPdf** 01 54 23.0 +0.7
TOA0 Tordoi Ar. Sit 136.38 287 *e*PKPdf **PKPdf** 01 54 31.8 -1.6
TORD Tordoi Ar. Bea 136.38 287 PKhKP PKPpre 01 54 25.3
comp=Z,0.2nm,0.5s,baz=48,slow=3.3,SNR=2.8
TORD PKP **PKPdf** 01 54 32.6 -0.9
comp=Z,2.1nm,0.9s,baz=81,slow=1.4,SNR=6.2
TORD Tordoi Ar. Bea 136.38 287 PKPpre PKPpre 01 54 25.3
TORD PKP **PKPdf** 01 54 32.6 -0.9
LVC Limon Verde 143.35 133 *e*PKPdf **PKPdf** 01 54 46.6 +0.4
DBIC Dimbokro 143.72 278 PKP PKPab 01 54 43.6 +0.1
comp=Z,8.0nm,0.7s,baz=68,slow=3.0,SNR=16
DBIC Dimbokro 143.72 278 *e*PKPdf PKPab 01 54 43.1 -0.4
DBIC PKP PKPbc 01 54 43.6 -0.7
ARE Arequipa 144.69 123 *e*PKIKP **PKPdf** 01 54 51.0 +2.2
ARE Arequipa 144.69 123 *e*P **PKPdf** 01 54 51.0 +2.2
ROSC El Rosal 146.58 84 *e*PKPbc **PKPab** 01 54 56.0 +1.1
LPAZ La Paz 147.57 125 PKPbc **PKPbc** 01 54 57.0 +0.3
comp=Z,11nm,1.0s,baz=264,slow=2.3,SNR=17
LPAZ La Paz 147.57 125 *e*PKPbc **PKPbc** 01 54 56.8 +0.1
CPUP Villa Florida 147.67 152 PKPbc **PKPbc** 01 54 55.9 0.0
comp=Z,9.7nm,1.2s,baz=189,slow=5.0,SNR=5.5
CPUP Villa Florida 147.67 152 PKPbc **PKPbc** 01 54 55.9 0.0
SJG San Juan 150.57 55 PKPbc **PKPbc** 01 55 02.3 -1.1
comp=Z,16nm,0.6s,baz=270,slow=2.0,SNR=5.8
SJG San Juan 150.57 55 PKPbc **PKPbc** 01 55 02.4 -1.1
MTP Monte Pirata 151.07 55 *e*PKPbc **PKPbc** 01 55 04.2 -0.4
STVI Saint Thomas 151.43 54 *e*PKPbc **PKPbc** 01 55 04.2 -1.3
SIV San Ignacio 153.24 133 PKPbc **PKPbc** 01 55 09.9 +0.2
comp=Z,2.0nm,0.7s,baz=235,slow=3.7,SNR=11
SIV San Ignacio 153.24 133 PKPbc **PKPbc** 01 55 09.9 +0.2
SAML Samuel 155.31 117 *e*PKPdf **PKPdf** 01 55 02.1 -3.0
SAML *e*PKPbc PKPab 01 55 13.4 -17
SAML *e*PKPab PKPab 01 55 29.7 -0.6

*CSEM **19** 01:43:52.0±1.4, 40.86N×19.57E, h19km, ML2.5, Error ellipse: s-maj=23.6km s-min=18.2km az=172.0*
*TIR **19** 01:43:53.9±1.6, 40.93N×19.45E, h30km±15km, ML2.5*
ISC 19 01:43:52.9±3.2, 40.9N±0.2×19.7E±0.1, h31km±16km, n14, σ1s24/28, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.52**	**15**	*i* PG	**Pb**	**01 44 03.1**	**-0.5**
TIR				*i* SG	**Sb**	**01 44 10.7**	**-0.3**
TIR	**Tirane**	**0.52**	**15**	*i* PG	**Pb**	**01 44 03.1**	**-0.5**
TIR				*i* SG	**Sb**	**01 44 10.7**	**-0.3**
TIR	**Tirane**	**0.52**	**15**	*i* Pg	**Pb**	**01 44 03.1**	**-0.5**
TIR	SNR=11			*i* Sg	**Sb**	**01 44 10.7**	**-0.3**
	SNR=11						
PHP	**Peshkopia**	**1.01**	**34**	*i* PG	**Pb**	**01 44 12.6**	**+0.7**
PHP				*i* SG	**Sb**	**01 44 23.6**	**-1.3**
PHP	**Peshkopia**	**1.01**	**34**	*i* PG	**Pb**	**01 44 12.6**	**+0.7**
PHP				*i* SG	**Sb**	**01 44 23.6**	**-1.3**
PHP	**Peshkopia**	**1.01**	**34**	*i* Pg	**Pb**	**01 44 12.6**	**+0.7**
PHP	SNR=9.0			*i* Sg	**Sb**	**01 44 23.6**	**-1.3**
	SNR=9.0						
PUK	**Puka**	**1.21**	**7**	*i* PG	**Pb**	**01 44 15.4**	**+0.3**
PUK				*i* SG	**Sb**	**01 44 31.8**	**+1.4**
PUK	**Puka**	**1.21**	**7**	*i* PG	**Pb**	**01 44 15.4**	**+0.3**
PUK				*i* SG	**Sb**	**01 44 31.8**	**+1.4**
PUK	**Puka**	**1.21**	**7**	*i* Pg	**Pb**	**01 44 15.4**	**+0.3**
PUK	SNR=9.0			*i* Sg	**Sb**	**01 44 31.8**	**+1.4**
	SNR=9.0						
BCI	**Bajram Curri**	**1.54**	**11**	*i* PG	**Pb**	**01 44 20.3**	**-0.6**
BCI				*i* SG	**Sb**	**01 44 41.6**	**+1.5**
BCI	**Bajram Curri**	**1.54**	**11**	*i* PG	**Pb**	**01 44 20.3**	**-0.6**
BCI				*i* SG	**Sb**	**01 44 41.6**	**+1.5**
BCI	**Bajram Curri**	**1.54**	**11**	*i* Pg	**Pb**	**01 44 20.3**	**-0.6**
BCI	SNR=9.0			*i* Sg	**Sb**	**01 44 41.6**	**+1.5**
	SNR=9.0						
STON	**Ston**	**2.51**	**324**	*e*Pn	**Pn**	**01 44 32.4**	**+0.9**
STON				Sn	**Sn**	**01 44 59.0**	**-2.0**
NVLJ	**Novalja**	**5.14**	**318**	*i* Pn	**Pn**	**01 45 09.1**	**+1.5**
NVLJ				Sn	**Sn**	**01 46 03.0**	**-2.8**

IDC 19 01:44:50.5±1.7, 7.08S×129.90E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=114.0km s-min=20.0km az=76.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.40**	**193**	P	Pn	01 49 06.4	-0.7
	0.1nm,0.3s,baz=18,slow=13,SNR=2.0						
WRA	**Warramunga Arr**	**20.22**	**168**	P	P	01 49 27.0	-0.2
	0.9nm,0.7s,baz=351,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**23.77**	**171**	P	P	01 50 05.1	+0.2
	1.1nm,0.4s,baz=356,slow=8.5,SNR=7.9						
SONM	**Songino Array**	**51.91**	**340**	P	P	01 54 01.2	+0.1
	0.2nm,0.6s,baz=152,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**62.47**	**325**	P	P	01 55 15.8	+0.1
	0.3nm,0.5s,baz=108,slow=8.3,SNR=3.6						
BVAR	**Borovoye Array**	**72.22**	**327**	P	P	01 56 17.1	-0.2
	0.7nm,0.8s,baz=126,slow=7.3,SNR=3.7						

IDC 19 01:58:14.8±1.8, 7.96S×116.57E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=40.7km s-min=24.2km az=58.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.30**	**47**	Pn	Pn	01 59 22.5	+0.8
	2.1nm,0.3s,baz=236,slow=9.6,SNR=4.4						
KAPI				Sn	Sn	02 00 12.5	-0.1
	5.9nm,0.3s,baz=216,slow=19,SNR=6.6						
FITZ	**Fitzroy Crossi**	**13.40**	**140**	Pn	Pn	02 01 26.9	+0.5
	0.1nm,0.3s,baz=308,slow=12,SNR=2.3						
FITZ				Sn	Sn	02 03 46.4	-10
	0.1nm,0.3s,baz=180,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**20.93**	**127**	P	P	02 02 59.0	-0.4
	0.5nm,0.4s,baz=302,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**22.80**	**135**	P	P	02 03 19.6	+0.1
	0.5nm,1.0s,baz=316,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**62.46**	**334**	P	P	02 08 39.9	-0.1
	0.4nm,0.6s,baz=141,slow=8.3,SNR=6.3						

*IDC **19** 02:17:24.3±0.4, 0.69S×133.08E, h0km, mb4.8/22, mb1 5.0/24, mb1mx4.9/30, mbtmp4.8/24, ML4.7/2, MS4.4/22, Ms1 4.4/22, ms1mx4.2/41, Error ellipse: s-maj=19.4km s-min=9.8km az=69.0*
*BJI **19** 02:17:24.1, 1.17S×133.39E, h35km, mB5.1/29, mb4.8/39, Ms4.6/34, Ms7 4.4/35*
*ISCJB **19** 02:17:27.9±0.7, 0.67S±0.03×133.23E±0.03, h36km±5km, mb4.9/94, MS4.3/35, Error ellipse: s-maj=5.4km s-min=4.0km az=144.4*
*MOS **19** 02:17:27.7±1.3, 0.67S×133.06E, h33km, mb5.3/23, Error ellipse: s-maj=12.8km s-min=6.1km az=109.6*
*GCMT **19** 02:17:29.7±0.1, 0.60S×133.06E, h32km, MW5.2, Moment Tensor Solution. s85,c131; s92,c158; Moment tensor: Scale 10^16^Nm; Mrr8.23±.20; Mθθ-6.31±.14; Mφφ-1.92±.18; Mrθ-3.34±.18; Mrφ4.33±.11; Mθφ1.98±.24; Best double couple: Mo9.40000×10^16^ NP1:φs122.00000°, δ33.00000°, λ91.00000°. NP2:φs301.00000°, δ57.00000°, λ90.00000°. Principal axes: T 9.0700, Plg78.0000°, Azm210.0000°; N 0.7400, Plg0.0000°, Azm301.0000°; P -9.8100, Plg12.0000°, Azm31.0000°; Data Used: II IU IC G CN.*
*NEIC **19** 02:17:29.6±0.2, 0.70S×133.13E, h35km, mb5.1/35 Error ellipse: s-maj=6.1km s-min=3.7km az=61.0*
NEIC Felt [III] at Manokwari.
*DJA **19** 02:17:34.4±0.3, 1°S±3°×13°3E±°, h54km±3km, M5.2/66, mb5.2/66, mB5.6/36, MLv5.5/10, Mw(mB)5.1/36*
*AUST **19** 02:17:37.0±0.6, 1°12S×132°98E, h92km, Error ellipse: s-maj=1.4km s-min=0.7km az=33.0*
ISC 19 02:17:30.5±0.5, 0.69S±0.03×133.17E±0.04, h41km±3km, n330, σ1s48/365, mb5.0/94, MS4.3/35, 14C-14D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.40**	**203**	P	**Pn**	**02 18 06.1**	**-1.2**
BAKI	**Biak**	**2.98**	**100**	P	**Pn**	**02 18 14.5**	**-0.8**
TLE	**Tual**	**4.93**	**185**	P	**Pn**	**02 18 43.0**	**+0.8**
TLE	baz=4.5,SNR=89			S	**Sn**	**02 19 41.9**	**+3.9**
	baz=4.5,SNR=15						
TLE	**Tual**	**4.93**	**185**	P	**Pn**	**02 18 43.5**	**+1.3**

MSAI Masohi 4.99 238 P **Pn** 02 18 44.3 +1.3
BNDI Bandanaira 5.01 221 P **Pn** 02 18 43.4 +0.1
LBMI Labuha 5.67 271 P **Pn** 02 18 53.1 +0.7
530nm,1.4s,5μm2.0nm
SMPI Sarmi 5.68 103 P Pn 02 18 59.8 +7.3
198nm,0.6s,37μm3.2nm
AAI Ambon 5.79 239 P **Pn** 02 18 54.4 +0.3
baz=5.4,SNR=16
AAI S **Sn** 02 19 59.9 +0.6
baz=5.4,SNR=5.5
AAI Ambon 5.79 239 P **Pn** 02 18 54.1 +0.1
880nm,0.9s,14μm4.6nm
TNTI Ternate 5.99 284 P **Pn** 02 18 59.5 +2.8
124nm,1.1s,3μm0.8nm
NLAI Namlea 6.57 247 P **Pn** 02 19 04.8 +0.1
352nm,1.0s,8μm2.1nm
PALU Palau 8.09 9 P **Pn** 02 19 23.9 -1.7
baz=8.6,SNR=4.7
LUWI Luwuk 10.40 268 P **Pn** 02 19 58.0 +0.7
177nm,1.9s,3μm
KDI Kendari 11.03 253 P **Pn** 02 20 06.4 +0.5
88nm,1.0s,945nm
MRSI Marisa 11.29 276 P Pn 02 20 13.0 +3.6
57nm,1.2s,932nm
BBSI Bau Bau 11.61 246 P Pn 02 20 20.0 +6.2
117nm,1.2s,2μm
KDU Kakadu 11.94 183 P **Pn** 02 20 15.4 -2.8
baz=12,SNR=203
KDU S Sn 02 22 23.6 -6.6
baz=12,SNR=11
MTN Manton Dam 12.24 189 P **Pn** 02 20 19.4 -3.0
baz=12,SNR=361
MTN S Sn 02 22 30.5 -7.1
baz=12,SNR=30
PCI Palu 13.34 269 S Sn 02 22 36.0 -28
baz=13,SNR=6.8
MMRI Maumere 13.45 234 P **P** 02 20 45.3 -2.1
131nm,1.5s,3μm
TTSI Tana Toraja 13.55 260 P **P** 02 20 51.7 +3.2
SPSI Sidrap Palu 13.78 256 P **P** 02 20 50.8 -0.3
127nm,1.3s,2μm
BKSI Bulukumba 13.82 250 P **Pn** 02 20 46.1 +2.1
102nm,1.3s,1μm
KAPI Kappang 14.07 252 Pn **Pn** 02 20 48.7 +1.3
1.7nm,0.3s,baz=91,slow=8.4,SNR=21
KAPI LR LR 02 26 18.7
comp=Z,831nm,20.1s,baz=85,slow=38
KAPI Kappang 14.07 252 *e*Pn **Pn** 02 20 46.5 -1.0
KAPI *e*Sn **Sn** 02 23 19.5 -2.9
KAPI Kappang 14.07 252 P **Pn** 02 20 47.3 -0.1
SNR=8.4
KAPI Kappang 14.07 252 Pn **Pn** 02 20 49.2 +1.8
526nm,1.0s,SNR=7.8
KAPI Kappang 14.07 252 P **Pn** 02 20 50.3 +2.9
116nm,1.1s,1μm
WSI Waingapu 15.61 235 P **Pn** 02 21 07.8 0.0
baz=15,SNR=4.0
WSI S **S** 02 24 16.9 +3.2
baz=15,SNR=4.7
WSI Waingapu 15.61 235 P **P** 02 21 11.8 +0.4
947nm,0.5s,21μm
MYLDM Lahad Datu 15.77 292 P **P** 02 21 17.1 +3.8
245nm,1.4s,2μm
TSM Tawau 16.07 288 P **Pn** 02 21 11.0 -2.8
PMG Port Moresby 16.39 122 Pn **P** 02 21 20.5 +0.3
1.7nm,0.3s,baz=330,slow=8.2,SNR=13
PMG Port Moresby 16.39 122 *e*Pn **Pn** 02 21 17.3 -0.5
346nm,1.5s
PMG Port Moresby 16.39 122 P **P** 02 21 20.8 +0.7
143nm,1.4s,2μm
COEN Coen 16.48 144 *e*Pn **Pn** 02 21 16.6 -2.4
438nm,1.1s
COEN Coen 16.48 144 P **Pn** 02 21 17.3 -1.6
baz=16,SNR=24
SDKM Sandakan 17.15 292 P **P** 02 21 29.9 +1.3
KKM Kota Kinabalu 18.20 292 *e*P **P** 02 21 39.9 -0.4
96nm,1.4s
KKM Kota Kinabalu 18.20 292 P **Pn** 02 21 41.7 +1.3
baz=18,SNR=14
KKM Kota Kinabalu 18.20 292 P **Pn** 02 21 40.7 +0.2
KKM Kota Kinabalu 18.20 292 P **Pn** 02 21 41.6 +1.2
55nm,1.4s,1μm
GUMO Guam 18.32 39 LR LR 02 27 51.2
comp=Z,644nm,19.3s,baz=270,slow=34
BBKI Banjar Baru 18.52 261 P Pn 02 21 50.8 +6.6
100nm,1.8s,3μm
FITZ Fitzroy Crossi 18.82 203 P **P** 02 21 43.8 -3.0
1.3nm,0.3s,baz=36,slow=13,SNR=43
FITZ S Sn 02 25 03.4 -14
3.0nm,0.3s,baz=143,slow=15,SNR=7.9
FITZ LR LR 02 29 26.7
comp=Z,1μm,21.7s,baz=31,slow=38
FITZ Fitzroy Crossi 18.82 203 P **P** 02 21 43.8 -3.0
FITZ S Sn 02 25 03.4 -14
FITZ Fitzroy Crossi 18.82 203 P **P** 02 21 43.0 -3.9
baz=18,SNR=79
FITZ S Sn 02 25 03.2 -14
baz=18,SNR=7.4
KHKI Kahang-Kahang 19.08 246 P **P** 02 21 50.3 +0.4
91nm,1.1s,3μm
WRAB Tennant Creek 19.16 177 *e*P **P** 02 21 49.0 -1.6
WRAB *e* 02 25 14.9
WRAB pmax pmax
comp=Z,106nm,0.8s
WRAB Tennant Creek 19.16 177 *e*P **P** 02 21 49.0 -1.6
comp=Z,106nm,0.8s
WRAB *e*Sn Sn 02 25 14.9 -11
WRAB Tennant Creek 19.16 177 P **P** 02 21 49.0 -1.6
comp=Z,579nm,1.0s,SNR=95
WRA Warramunga Arr 19.16 177 P **P** 02 21 49.1 -1.6
comp=Z,3.2nm,0.3s,baz=359,slow=11,SNR=74
WRA S Sn 02 25 13.7 -12
comp=Z,3.8nm,0.3s,baz=359,slow=22,SNR=9.3
WRA Warramunga Arr 19.16 177 P **P** 02 21 49.1 -1.6
WRA S Sn 02 25 13.7 -12
SRBI Singaraja 19.34 247 P **Pn** 02 21 53.5 -0.6
comp=Z,120nm,1.3s,comp=Z,4μm
IGBI Denpasar 19.68 245 P **Pn** 02 22 01.0 +2.9
comp=Z,213nm,1.3s
NBBI Negara 19.99 247 P **Pn** 02 22 01.5 -0.3
comp=Z,198nm,1.1s,comp=Z,3μm
KMMI Kalianget 20.17 251 P Pn 02 22 04.4 +0.6
comp=Z,119nm,1.6s,comp=Z,3μm
BYJI Banyuwangi 20.18 248 P Pn 02 22 16.9 +13
BTM Bintulu 20.45 281 P Pn 02 22 06.9 -0.3
JAGI Jajag, Banyuwa 20.46 247 P Pn 02 22 17.8 +11
QIS Mount Isa 20.72 163 P **P** 02 22 06.7 -0.9
baz=20,SNR=27
BLJI Banyuglugur 20.73 250 P Pn 02 22 10.2 -0.2
comp=Z,114nm,1.2s,comp=Z,3μm
GMJI Gumukmas 21.05 248 P P 02 22 18.2 +7.0
comp=Z,63nm,1.2s,comp=Z,2μm
SBUM Sibu 21.18 279 P **P** 02 22 14.2 +1.5
SBUM Sibu 21.18 279 P **P** 02 22 13.9 +1.2
comp=Z,66nm,1.5s,comp=Z,2μm
STKI Sintang 21.71 272 P **P** 02 22 19.3 +1.0
comp=Z,43nm,1.4s,comp=Z,12μm
SJI Sawahan 22.45 251 P **P** 02 22 26.0 -0.4
comp=Z,100nm,1.6s
PWJI Pagerwojo 22.50 251 P **P** 02 22 26.6 -0.3
comp=Z,44nm,1.6s
AS31 Alice Springs 22.85 178 *e*P **P** 02 22 29.5 -1.0
AS31 *e*Sn **S** 02 26 41.9 +4.8
ASAR Alice Springs 22.85 178 P **P** 02 22 29.4 -1.0
comp=Z,150nm,0.9s,baz=1.0,slow=9.4,SNR=33
ASAR S **S** 02 26 40.2 +3.0
comp=Z,69nm,0.8s,baz=2.9,slow=26,SNR=14
ASAR LR LR 02 32 29.5
comp=Z,2μm,19.4s,baz=347,slow=40
ASAR Alice Springs 22.85 178 P **P** 02 22 29.4 -1.0
ASAR S **S** 02 26 40.2 +3.0
KSM Kuching 22.96 275 *e*P **P** 02 22 31.6 -0.1
comp=Z,120nm,1.4s
KSM Kuching 22.96 275 P **P** 02 22 32.2 +0.5
baz=23,SNR=16
KSM Kuching 22.96 275 P **P** 02 22 31.8 +0.1
KSM Kuching 22.96 275 P **P** 02 22 32.4 +0.7
comp=Z,51nm,1.4s,comp=Z,784nm
CTA Charters Tower 23.14 147 P **P** 02 22 33.0 -0.4
comp=Z,190nm,0.9s,baz=325,slow=11,SNR=85
CTA LR LR 02 32 52.5
comp=Z,4μm,18.3s,baz=324,slow=40
CTA Charters Tower 23.14 147 P **P** 02 22 33.0 -0.4
CTAO Charters Tower 23.14 147 *e*P **P** 02 22 34.3 +0.9
CTAO pmax pmax
comp=Z,266nm,1.0s
CTAO Charters Tower 23.14 147 *e*P **P** 02 22 34.3 +0.9

comp=Z,266nm,1.0s
PCJI Pacitan 23.15 251 P **P** **02 22 32.7 -0.8**
comp=Z,82nm,1.2s
SMRI Semarang 23.53 254 P **P** **02 22 38.0 +0.7**
comp=Z,201nm,1.4s
UGM Wanagama 23.68 252 *e*P **P** **02 22 37.6 -1.2**
comp=Z,331nm,1.4s
UGM Wanagama 23.68 252 P **P** **02 22 37.6 -1.2**
baz=23,SNR=5.6
UGM Wanagama 23.68 252 P **P** **02 22 39.9 +1.1**
comp=Z,160nm,1.6s
MBWA Marble Bar 24.21 212 *e*P **P** **02 22 43.7 +0.2**
comp=Z,154nm,1.1s
MBWA Marble Bar 24.21 212 P **P** **02 22 44.1 +0.6**
SNR=9.7
BJII Banjamegara 24.30 254 P **P** **02 22 45.2 +0.6**
comp=Z,226nm,1.9s,comp=Z,4μm
TGJI Tegal 24.76 255 P **P** **02 22 49.0 +0.4**
comp=Z,175nm,2.0s
CISI Cisompet, Garu 26.18 254 P **P** **02 23 00.6 -1.0**
comp=Z,192nm,1.0s
LEM Lembang 26.20 256 P **P** **02 23 04.3 +2.4**
comp=Z,58nm,1.3s
DBJI Dramaga 26.99 257 P P 02 23 15.5 +6.6
comp=Z,69nm,1.1s
JOW Kunigami 27.77 351 LR LR 02 32 42.5
comp=Z,2μm,19.7s,baz=163,slow=33
QLP Quilpie 27.85 158 P **P** **02 23 15.6 -0.8**
baz=28,SNR=56
QZH Quanzhou 29.14 332 ⇓P P 02 23 33.3 +5.5
QZH *e*S **S** **02 28 18.6 +1.4**
QZH LR LR
comp=Z,730nm,16.2s
MEEK Meekatharra 29.35 207 P **P** **02 23 28.7 -1.1**
baz=29,SNR=3.6
RMQ Roma 29.71 151 P **P** **02 23 32.9 -0.1**
baz=30,SNR=7.7
EIDS Eidsvold 30.02 146 *e*P **P** **02 23 35.5 -0.2**
comp=Z,180nm,1.8s
EIDS Eidsvold 30.02 146 P **P** **02 23 35.5 -0.2**
baz=30,SNR=10
QIZ Qiongzhong 30.15 312 P **P** **02 23 36.5 -0.4**
QIZ S **S** **02 28 35.8 +2.5**
QIZ sS **sS** **02 28 54.8 +2.7**
QIZ pmax pmax
comp=Z,19nm,1.3s
QIZ LR LR
comp=N,320nm,19.7s
QIZ LR LR
comp=E,95nm,15.8s
QIZ LR LR
comp=Z,470nm,18.8s
FORT Forrest 30.31 189 *e*P **P** **02 23 38.2 0.0**
comp=Z,80nm,0.9s
FORT Forrest 30.31 189 P **P** **02 23 38.2 0.0**
baz=30,SNR=24
FRIM Kepong 31.77 277 P **P** **02 23 52.6 +1.2**
STKA Stephens Creek 32.02 166 P **P** **02 23 52.2 -0.9**
comp=Z,57nm,0.8s,baz=340,slow=8.3,SNR=127
STKA LR LR 02 38 50.2
comp=Z,2μm,18.1s,baz=106,slow=40
STKA Stephens Creek 32.02 166 *e*P **P** **02 23 52.3 -0.9**
comp=Z,38nm,1.3s
STKA Stephens Creek 32.02 166 P **P** **02 23 52.4 -0.9**
baz=32,SNR=81
BBOO Buckleboo 32.06 175 *e*P **P** **02 23 52.8 -0.8**
BBOO Buckleboo 32.06 175 P **P** **02 23 52.8 -0.8**
baz=32,SNR=30
KMBL Kambalda 32.33 198 P **P** **02 23 55.9 -0.1**
baz=32,SNR=11
IPM Ipoh 32.53 279 *e*P **P** **02 23 57.4 -0.6**
comp=Z,22nm,1.1s
IPM Ipoh 32.53 279 P **P** **02 23 56.5 -1.5**
IPM Ipoh 32.53 279 P **P** **02 23 58.2 +0.2**
comp=Z,19nm,1.4s,comp=Z,485nm
PPI Padang Panjang 32.77 270 P **P** **02 24 00.0 -0.1**
comp=Z,19nm,1.3s
CMSA Cobar Meteorol 32.89 160 P **P** **02 24 00.1 -0.7**
baz=33,SNR=37
KULM Kulim 33.02 281 *e*P **P** **02 24 00.8 -1.5**
comp=Z,21nm,1.2s
KULM Kulim 33.02 281 P **P** **02 24 01.2 -1.1**
KULM Kulim 33.02 281 P P 02 24 10.9 +8.6
comp=Z,18nm,2.1s
SSE Sheshan 33.60 341 P **P** **02 24 07.1 +0.1**
SSE pP **pP** **02 24 18.3 0.0**
SSE S **S** **02 29 29.6 +2.7**
SSE pmax pmax
comp=Z,40nm,0.6s
SSE pmax pmax
comp=Z,120nm,10.2s
SSE LR LR
comp=N,230nm,17.5s
SSE LR LR
comp=E,230nm,17.5s
SSE LR LR
comp=Z,370nm,18.8s
BLDU Ballidu 33.61 206 P **P** **02 24 06.7 -0.5**
baz=33,SNR=14
KLBR Kellerberrin 34.02 204 P **P** **02 24 10.5 -0.2**
baz=34,SNR=5.6
ARMA Armidale 34.37 151 *e*P **P** **02 24 13.8 -0.1**
comp=Z,95nm,0.9s
ARMA Armidale 34.37 151 P **P** **02 24 13.7 -0.2**
baz=34,SNR=52
PSI Prapat 34.41 276 P **P** **02 24 12.9 -1.6**
comp=Z,8.5nm,0.9s,baz=143,slow=6.1,SNR=12
PSI Prapat 34.41 276 P **P** **02 24 12.9 -1.6**
PSI Prapat 34.41 276 P **P** **02 24 13.2 -1.3**
baz=34,SNR=5.0
PSI Prapat 34.41 276 P **P** **02 24 13.4 -1.1**
comp=Z,21nm,1.5s
NJ2 Nanjing 35.28 339 *e*P **P** **02 24 20.3 -1.2**
NJ2 PP **PnPn** **02 25 39.9 -0.7**
NJ2 S **S** **02 29 50.5 -2.2**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,130nm,8.2s
NJ2 LR LR
comp=N,800nm,23.8s
NJ2 LR LR
comp=E,380nm,16.7s
NJ2 LR LR
comp=Z,260nm,20.1s
NWAO Narrogin (SRO) 35.40 203 P **P** **02 24 21.9 -0.7**
comp=Z,14nm,0.8s,baz=40,slow=9.6,SNR=5.6
NWAO LR LR 02 39 39.8
comp=Z,552nm,18.6s,baz=26,slow=38
NWAO Narrogin (SRO) 35.40 203 P **P** **02 24 21.9 -0.7**
WHN Wuhan 35.86 332 *e*P **P** **02 24 26.8 +0.2**
YNG Young 36.34 158 P **P** **02 24 30.5 -0.2**
baz=36,SNR=13
MGCD Mangrove Creek 36.48 154 P **P** **02 24 33.0 +1.2**
baz=36,SNR=4.1
ARPS Mount Arapiles 36.78 168 P **P** **02 24 34.5 +0.1**
baz=37,SNR=50
GYA Guiyang 37.17 319 P **P** **02 24 39.8 +1.8**
GYA pP **pP** **02 24 50.8 +1.4**
GYA PP **PnPn** **02 26 06.8 +2.8**
GYA PcP **PcP** **02 26 58.9 +1.3**
GYA S **S** **02 30 23.4 +1.2**
GYA SS **SnSn** **02 32 55.9 -3.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,560nm,18.6s
GYA LR LR
comp=E,510nm,19.8s
GYA LR LR
comp=Z,520nm,18.0s
MJAR Matsushiro Arr 37.34 7 P **P** **02 24 36.6 -2.5**
comp=Z,1.7nm,0.6s,baz=195,slow=9.6,SNR=4.0
MJAR LR LR 02 36 57.5
comp=Z,584nm,20.5s,baz=170,slow=31
MJAR Matsushiro Arr 37.34 7 P **P** **02 24 36.6 -2.5**
CAN Canberra 37.48 158 *e*P **P** **02 24 40.0 -0.4**
CAN pmax pmax
comp=Z,68nm,1.4s
CAN Canberra 37.48 158 *e*P **P** **02 24 40.0 -0.4**
comp=Z,68nm,1.4s
CNB Canberra Magne 37.60 158 P **P** **02 24 41.7 +0.3**
baz=37,SNR=4.9
KSAR Wonju Array Be 38.26 353 P **P** **02 24 46.4 -0.4**
KSRS Korea Array 38.27 353 P **P** **02 24 46.4 -0.5**
comp=Z,0.6nm,0.3s,baz=180,slow=8.5,SNR=6.1
KSRS LR LR 02 40 18.6
comp=Z,469nm,18.7s,baz=76,slow=36
BSI Banda Aceh 38.32 280 P P 02 24 54.5 +6.7
comp=Z,21nm,1.5s
TOO Toolangi 38.42 164 P **P** **02 24 48.8 +0.5**
baz=38,SNR=30
CMAR Chiang Mai Arr 38.65 301 P **P** **02 24 48.3 -2.1**
comp=Z,1.1nm,0.3s,baz=126,slow=6.8,SNR=11
CMAR Chiang Mai Arr 38.65 301 P **P** **02 24 48.3 -2.1**
DZM Mont Dzumac 38.74 126 *e*P **P** **02 24 50.7 -0.6**
comp=Z,53nm,1.4s
DZM *e*LR LR 02 35 28.9
comp=Z,478nm,22.7s
DZM Mont Dzumac 38.74 126 P **P** **02 24 50.6 -0.6**
comp=Z,6.8nm,0.9s,baz=280,slow=13,SNR=2.8
DZM Mont Dzumac 38.74 126 P **P** **02 24 50.6 -0.6**
CMMT Chiang Mai 38.80 302 P **P** **02 24 53.5 +1.8**
comp=Z,16nm,1.0s,comp=Z,449nm
CHTO Chiang Mai 38.81 302 *e*P **P** **02 24 51.1 -0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 38.81 302 *e*P **P** **02 24 51.1 -0.7**
comp=Z,3.9nm,0.7s
CHTO Chiang Mai 38.81 302 P **P** **02 24 51.9 +0.1**
SNR=5.1
CHTO Chiang Mai 38.81 302 P **P** **02 24 53.0 +1.2**
comp=Z,10nm,1.8s
KMI Kunming 39.06 313 P **P** **02 24 51.6 -2.5**
KMI S **S** **02 30 46.4 -4.6**
KMI SS **SS** **02 33 37.1 -7.4**
KMI pmax pmax
comp=Z,17nm,0.5s
KMI LR LR
comp=N,260nm,24.0s
KMI LR LR
comp=E,280nm,22.8s
KMI LR LR
comp=Z,440nm,24.0s
XAN Xi'an 41.38 329 P **P** **02 25 11.1 -1.8**
XAN pmax pmax
comp=Z,2.0nm,1.2s
XAN pmax pmax
comp=Z,25nm,5.6s
XAN LR LR
comp=N,240nm,20.9s
XAN LR LR
comp=E,120nm,30.0s
XAN LR LR
comp=Z,87nm,22.2s
CD2 Chengdu 42.06 321 P **P** **02 25 19.8 +1.3**
CD2 pP **pP** **02 25 30.0 0.0**
CD2 PP **PP** **02 27 01.0 +4.5**
CD2 PcS **PcS** **02 31 04.9 +0.1**
CD2 S **S** **02 31 37.1 +2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,7.1s
CD2 LR LR
comp=N,410nm,16.6s
CD2 LR LR
comp=E,450nm,15.5s
BJT Baijiatuau 43.40 341 *e*P **P** **02 25 29.2 +0.1**
comp=Z,27nm,0.8s
BJI Beijing 43.41 341 P **P** **02 25 29.0 -0.3**
BJI S **S** **02 31 55.0 +0.3**
BJI pmax pmax
comp=Z,41nm,1.1s
BJI pmax pmax
comp=Z,62nm,3.6s
BJI LR LR
comp=N,280nm,17.0s
BJI LR LR
comp=E,400nm,17.7s
BJI LR LR
comp=Z,240nm,22.0s
MOO Moorlands 43.43 165 P **P** **02 25 30.2 +0.8**
baz=43,SNR=5.4
TAU Tasmania Unive 43.90 165 *e*P **P** **02 25 33.9 +0.7**
TAU pmax pmax
comp=Z,44nm,1.1s
TAU Tasmania Unive 43.90 165 *e*P **P** **02 25 33.9 +0.7**
comp=Z,44nm,1.1s
USRK Ussuriysk Arra 44.71 359 P **P** **02 25 39.4 -0.2**
comp=Z,2.0nm,0.8s,baz=203,slow=8.5,SNR=3.9
USRK LR LR 02 43 26.5
comp=Z,255nm,18.2s,baz=165,slow=35
CN2 Changchun 44.83 352 *e*P **P** **02 25 42.3 +1.7**
CN2 *e*pP **pP** **02 25 52.3 +0.1**
CN2 *e*S **S** **02 32 17.9 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,19.0s
MDJ Mudanjiang 45.23 356 P **P** **02 25 45.8 +2.1**
MDJ pP **pP** **02 25 54.5 -0.8**
MDJ PcP **PcP** **02 27 23.5 +0.2**
MDJ PP **PP** **02 27 31.6 +1.5**
MDJ S **S** **02 32 23.8 +2.9**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,3.7s
MDJ LR LR
comp=N,260nm,9.6s
MDJ LR LR
comp=Z,230nm,11.1s
LZH Lanzhou 45.65 326 *e*P **P** **02 25 48.0 +0.6**
LZH pP **pP** **02 25 58.3 -0.7**
LZH *e*S **S** **02 32 25.0 -2.6**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.5s
LZH LR LR
comp=N,400nm,15.3s
LZH LR LR
comp=E,240nm,13.6s
LZH LR LR
comp=Z,480nm,16.4s
HHC Hu-ho-hao-te 45.78 337 *e*P **P** **02 25 48.0 -0.3**
HHC sP **sP** **02 26 06.5 +1.7**
HHC PP **PP** **02 27 36.8 +0.6**
HHC S **S** **02 32 29.6 +0.3**
HHC SS **ScS** **02 35 47.5 +6.3**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=N,170nm,13.2s
HHC LR LR
comp=E,160nm,14.1s
HHC LR LR
comp=Z,300nm,15.7s
YUK Yuzh-Kuril'sk 45.95 13*d* *i*P **P** **02 25 48.6 -0.8**
YUK *i* 02 27 43.0
YUK *i* PPP PPP 02 28 15.4
YUK *e*S **S** **02 32 31.7 +0.3**
YUK *i* SSS SSS 02 36 47.1
YUK pmax pmax
comp=Z,55nm,5.3s
MSVF Nonsavu 47.24 114 *e*P **P** **02 26 01.0 +0.9**
MSVF pmax pmax
comp=Z,30nm,1.1s
MSVF Nonsavu 47.24 114 *e*P **P** **02 26 01.0 +0.9**
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 48.19 9 *e*P **P** **02 26 06.4 -0.5**
YSS *e* 02 26 17.4
YSS *e*S **S** **02 33 02.0 -1.2**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS MLR MLR
comp=N,300nm,18.0s
LSA Lhasa 50.18 311 P **P** **02 26 22.8 -0.2**
GTA Gaotai 50.25 326 P **P** **02 26 23.0 0.0**
GTA PcP **PcP** **02 27 41.5 -0.1**
GTA PP **PP** **02 28 19.4 +0.7**
GTA S **S** **02 33 32.8 +0.1**
GTA SS **SS** **02 37 03.3 -3.5**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,79nm,6.4s
GTA LR LR
comp=N,160nm,17.1s
GTA LR LR
comp=E,190nm,18.0s
GTA LR LR
comp=Z,250nm,19.5s
TAPN Taplejung 51.81 306 *e*P **P** **02 26 33.7 -1.4**
comp=Z,63nm,1.4s
ODAN Odare 51.86 306 *e*P **P** **02 26 33.5 -1.9**
comp=Z,31nm,0.7s
RAMN Ramite 52.54 305 *e*P **P** **02 26 39.4 -1.1**
comp=Z,46nm,1.0s
JIRN Jiri 53.16 306 *e*P **P** **02 26 43.9 -1.3**
comp=Z,3.7nm,0.4s
ULN Ulaanbaatar 53.44 338 *e*P **P** **02 26 46.6 0.0**
comp=Z,16nm,1.3s
ULN Ulaanbaatar 53.44 338 P **P** **02 26 47.7 +1.1**
SNR=7.1
ULN Ulaanbaatar 53.44 338 P **P** **02 26 47.3 +0.7**
GUN Gumba 53.52 306 *e*P **P** **02 26 46.4 -1.4**
comp=Z,30nm,0.7s
SONM Songino Array 53.66 338 P **P** **02 26 48.2 0.0**
comp=Z,1.7nm,0.8s,baz=149,slow=7.0,SNR=13
SONM PcP **PcP** **02 27 54.4 +0.3**
comp=Z,1.5nm,0.8s,baz=116,slow=3.4,SNR=2.3
SONM LR LR 02 50 04.3
comp=Z,215nm,19.1s,baz=155,slow=37
SONM Songino Array 53.66 338 P **P** **02 26 48.2 0.0**
SONM PcP **PcP** **02 27 54.4 +0.3**
PKI Pulchoki 53.76 305 *e*P **P** **02 26 47.8 -1.8**
comp=Z,11nm,0.5s
KKN Kakani 53.95 306 *e*P **P** **02 26 49.4 -1.4**
DMN Daman 54.02 305 *e*P **P** **02 26 49.8 -1.6**
RPZ Rata Peaks 54.51 147 P **P** **02 26 54.0 -0.3**
comp=Z,40nm,0.9s,baz=307,slow=5.6,SNR=6.0
RPZ Rata Peaks 54.51 147 P **P** **02 26 54.0 -0.3**
GKN Gorkha 54.56 306 *e*P **P** **02 26 54.0 -1.2**
URZ Urewera 54.95 138 P **P** **02 26 57.9 +0.3**
comp=Z,13nm,0.7s,baz=73,slow=2.3,SNR=6.2
URZ Urewera 54.95 138 *e*P **P** **02 26 58.6 +1.0**
KHZ Kahutara 55.09 144 *e*P **P** **02 26 58.0 -0.5**
comp=Z,365nm,1.9s
KOLN Koldanda 55.32 305 *e*P **P** **02 26 59.7 -1.0**
DANN Dangsing 55.41 306 *e*P **P** **02 26 59.9 -1.6**
PYUN Piuthan 55.94 305 *e*P **P** **02 27 04.2 -1.0**
comp=Z,83nm,0.9s
HYB Hyderabad 56.69 291 *i*P **P** **02 27 08.0 -2.5**
ZAK Zakamensk 56.92 338⇑ *i*P **P** **02 27 11.5 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
PETK Petropavlovsk- 57.39 17 P **P** **02 27 15.2 +0.4**
comp=Z,6.3nm,0.9s,baz=210,slow=4.6,SNR=4.6
PETK LR LR 02 48 32.5
comp=Z,119nm,19.1s,baz=119,slow=32
PETK Petropavlovsk- 57.39 17 P **P** **02 27 15.2 +0.4**
PETK Petropavlovsk- 57.39 17 P **P** **02 27 15.2 +0.4**
PET Petropavlovsk 57.61 18 *e*P **P** **02 27 16.0 -0.2**
PET *e*S **S** **02 35 11.6 +0.2**
TLY Talaya 57.84 339 *e*P **P** **02 27 17.5 -0.5**
TLY *e* 02 28 03.3
TLY *e* 02 29 21.9
TLY *e*S **S** **02 35 14.9 +0.3**
TLY pmax pmax
comp=Z,5.0nm,1.4s
IRK Irkutsk 58.08 340 *e*P P 02 27 25.8 +6.2
IRK pmax pmax
comp=Z,41nm,1.1s
MOY Mondy 58.82 337 *e*P **P** **02 27 25.4 +0.5**
WMQ Urumqi 60.05 323 P **P** **02 27 33.8 +0.3**
WMQ PcP **PcP** **02 28 16.3 -2.9**
WMQ S **S** **02 35 42.3 -1.3**
WMQ ScS SKKSac 02 37 18.0 -2.7
WMQ SS **SS** **02 39 39.9 -1.2**
WMQ pmax pmax
comp=Z,24nm,1.3s
WMQ pmax pmax
comp=Z,100nm,4.0s
WMQ LR LR
comp=N,200nm,23.0s
WMQ LR LR
comp=E,110nm,23.0s
WMQ LR LR
comp=Z,120nm,24.0s
BOD Bodaibo 60.31 348 *e*P **P** **02 27 34.3 -0.6**
BOD pmax pmax
comp=Z,17nm,1.4s
HVS Khovu-Aksy 61.51 333⇑ *i*P **P** **02 27 43.5 +0.2**
YAK Yakutsk 62.62 358 *e*P **P** **02 27 49.6 -0.8**
YAK *e* 02 28 30.1
YAK *e* 02 30 06.4
YAK *e*S **S** **02 36 10.7 -4.6**
YAK *e*SS sS 02 36 28.3 -7.0
YAK *i* 02 37 38.7
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,0.4s
YAK smax smax
comp=E,22nm,6.7s
YAK smax smax
comp=N,155nm,11.9s
YAK Yakutsk 62.62 358 *e*P **P** **02 27 50.1 -0.2**
THN Thein Dam 63.35 307 *e*P **P** **02 27 53.0 -2.9**
MK31 Makanchi Array 64.87 324 *e*P **P** **02 28 05.8 +0.2**
MK31 Makanchi Array 64.87 324 *e*P **P** **02 28 05.8 +0.2**
MKAR Makanchi Array 64.87 324 P **P** **02 28 05.5 0.0**
comp=N,7.5nm,0.5s,baz=110,slow=8.2,SNR=50
MKAR LR LR 02 59 29.7
comp=N,121nm,18.9s,baz=135,slow=39
MKAR Makanchi Array 64.87 324 P **P** **02 28 05.6 0.0**
MKAR Makanchi Array 64.87 324 P **P** **02 28 05.5 0.0**
SEY Seymchan 65.08 10*c* *e*P **P** **02 28 07.3 +0.7**
KSH Kashi 65.71 314 *e*P P 02 28 15.0 +3.7
KSH pP pP 02 28 25.5 +2.1
KSH PcP **PcP** **02 28 44.9 +2.5**
KSH *e*PP PP 02 30 42.3 +5.9
KSH PcS 02 32 48.6
KSH S **S** **02 36 58.8 +4.0**
KSH SS **SS** **02 41 15.6 +5.8**
KSH pmax pmax
comp=Z,43nm,0.8s
KSH LR LR
comp=N,150nm,5.7s
KSH LR LR
comp=E,130nm,5.7s
KSH LR LR
comp=Z,170nm,6.1s
TKM2 Tokmak 2 67.31 318 *e*P **P** **02 28 21.8 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 67.31 318 *e*P **P** **02 28 21.8 +0.1**
comp=Z,6.4nm,0.8s
ZAA0 Zalesovo Array 67.47 331 *e*P **P** **02 28 20.8 -1.3**
ZALV Zalesovo Beam 67.47 331 P **P** **02 28 21.6 -0.5**
comp=Z,11nm,0.9s,baz=120,slow=6.7,SNR=28
ZALV Zalesovo Beam 67.47 331 P **P** **02 28 21.6 -0.5**
ZALV Zalesovo Beam 67.47 331 P **P** **02 28 21.6 -0.5**
AAK Ala-Archa 67.94 317 LR LR 03 03 23.7
comp=Z,121nm,19.0s,baz=110,slow=41
AAK Ala-Archa 67.94 317 *e*P P 02 28 22.3 -3.3
AAK pmax pmax
comp=Z,23nm,1.4s
EKS2 Erkin-Say 68.44 317 *e*P **P** **02 28 28.9 +0.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 68.44 317 *e*P **P** **02 28 28.9 +0.2**
comp=Z,5.6nm,0.8s
NVS Novosibirsk 68.75 332⇑ *i*P **P** **02 28 28.3 -1.8**
NVS *e*S S 02 37 21.1 -9.4
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,16nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s
NVS smax smax

	comp=E,47nm,2.9s								
KURK	**Kurchatov**	**68.94**	**326**	*c*	*i*P		**P**	02 28 31.2	**-0.1**
KURK					pmax	pmax			
	comp=Z,49nm,1.2s								
KURK	**Kurchatov**	**68.94**	**326**		*e*P		**P**	02 28 31.0	**-0.4**
	comp=Z,30nm,0.9s								
KURK	**Kurchatov**	**68.94**	**326**		P		**P**	02 28 31.6	**+0.2**
	SNR=14								
KURK	**Kurchatov**	**68.94**	**326**		P		**P**	02 28 31.9	**+0.6**
	comp=Z,181nm,0.8s,SNR=13								
KURBB	**Kurchatov Arra**	**68.94**	**326**		P		**P**	02 28 31.1	**-0.3**
	comp=Z,28nm,0.9s,baz=120,slow=5.8,SNR=70								
KBL	**Kabul**	**69.31**	**307**		*e*P		**P**	02 28 33.6	**-0.7**
KBL					pmax	pmax			
	comp=Z,3.0nm,0.5s								
KBL	**Kabul**	**69.31**	**307**		*e*P		**P**	02 28 33.5	**-0.7**
	comp=Z,3.1nm,0.5s								
KKAR	**Karatay Array**	**70.84**	**316**		*e*P		**P**	02 28 43.4	**+0.1**
KKAR					pmax	pmax			
	comp=Z,28nm,1.1s								
KKAR	**Karatay Array**	**70.84**	**316**		*e*P		**P**	02 28 43.4	**+0.1**
	comp=Z,28nm,1.1s								
BILL	**Bilibino**	**72.31**	**12**		*e*P		**P**	02 28 52.5	**+1.0**
BILL					*e*			02 29 10.5	
BILL					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**74.53**	**326**		P		**P**	02 29 04.5	**-0.5**
	comp=Z,11nm,0.9s,baz=120,slow=5.6,SNR=46								
BVAR	**Borovoye Array**	**74.53**	**326**		P		**P**	02 29 04.5	**-0.5**
BVAR	**Borovoye Array**	**74.53**	**326**		P		**P**	02 29 04.5	**-0.5**
BRVK	**Borovoye**	**74.61**	**326**	⇓	*i*P		**P**	02 29 04.8	**-0.6**
BRVK					pmax	pmax			
	comp=Z,31nm,1.2s								
BRVK	**Borovoye**	**74.61**	**326**		*e*P		**P**	02 29 04.7	**-0.7**
	comp=Z,22nm,1.0s								
BRVK	**Borovoye**	**74.61**	**326**		P		**P**	02 29 05.1	**-0.3**
	comp=Z,125nm,0.8s,SNR=7.5								
BRVK	**Borovoye**	**74.61**	**326**		P		**P**	02 29 05.2	**-0.1**
	SNR=10								
WSAR	**Wadi Sarin**	**76.09**	**294**		P		**P**	02 29 14.2	**-0.3**
	comp=Z,3.4nm,0.4s,baz=78,slow=7.5,SNR=7.1								
WSAR	**Wadi Sarin**	**76.09**	**294**		P		**P**	02 29 14.2	**-0.3**
HOQ	**Hoqain**	**77.33**	**294**		P		**P**	02 29 21.8	**+0.3**
	SNR=6.8								
BSY	**Bisya**	**77.34**	**293**		P		**P**	02 29 21.8	**+0.1**
	SNR=5.5								
PPT	**Papeete**	**77.64**	**108**		LR		LR	02 58 43.9	
	comp=Z,113nm,21.9s,baz=344,slow=32								
PPT2	**Papeete2**	**77.64**	**108**		*e*SS		SS	02 44 18.3	+5.0
	comp=Z,131nm,26.0s								
PPT2					*e*LR		LR	02 53 30.8	
	comp=Z,298nm,32.0s								
ARQ	**Araqi**	**78.03**	**294**		P		**P**	02 29 25.4	**-0.1**
	SNR=6.4								
TBI	**Tubuai**	**78.13**	**114**		*e*SS		SS	02 44 25.0	+4.7
	comp=Z,129nm,31.8s								
TBI					*e*LR		LR	02 53 49.0	
	comp=Z,197nm,30.8s								
VNDA	**Vanda**	**78.31**	**174**		P		**P**	02 29 25.8	**-0.2**
	comp=Z,11nm,0.9s,baz=319,slow=5.5,SNR=37								
VNDA					LR		LR	03 05 14.3	
	comp=Z,642nm,18.3s,baz=348,slow=37								
VNDA	**Vanda**	**78.31**	**174**		*e*P		**P**	02 29 25.7	**-0.2**
	comp=Z,13nm,1.0s								
HATD	**Hatta, Dubai**	**78.54**	**295**		P		**P**	02 29 28.5	**+0.3**
	SNR=6.8								
SBA	**Scott Base**	**79.15**	**173**		*e*P		**P**	02 29 31.2	**+0.7**
SBA					pmax	pmax			
	comp=Z,78nm,1.8s								
SBA	**Scott Base**	**79.15**	**173**		*e*P		**P**	02 29 31.2	**+0.7**
	comp=Z,78nm,1.8s								
ABKAR	**Akbulak array**	**79.63**	**320**		*e*P		**P**	02 29 32.7	**-1.0**
	comp=Z,3.3nm,0.6s								
SVE	**Sverdlovsk**	**81.09**	**328**		*e*P		**P**	02 29 40.8	**-0.5**
SVE					pmax	pmax			
	comp=Z,24nm,1.4s								
AKTO	**Aktyubinsk**	**81.11**	**321**		P		**P**	02 29 40.9	**-0.7**
	comp=Z,1.7nm,0.5s,baz=102,slow=5.4,SNR=11								
AKTO	**Aktyubinsk**	**81.11**	**321**		P		**P**	02 29 40.9	**-0.7**
AKTO	**Aktyubinsk**	**81.11**	**321**		P		**P**	02 29 40.9	**-0.7**
MAW	**Mawson**	**81.94**	**201**		LR		LR	03 02 21.8	
	comp=Z,297nm,20.2s,baz=86,slow=33								
ARU	**Arti**	**82.10**	**327**	*d*	*i*P		**P**	02 29 48.5	**+1.8**
ARU								02 32 54.6	
ARU					S		S	02 40 06.0	+7.7
ARU					pmax	pmax			
	comp=Z,7.0nm,1.0s								
ARU	**Arti**	**82.10**	**327**		*e*P		**P**	02 29 45.5	**-1.2**
	comp=Z,16nm,1.1s								
COLA	**College**	**85.94**	**25**		*e*P		**P**	02 30 05.5	**-0.6**
COLA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
COLA	**College**	**85.94**	**25**		*e*P		**P**	02 30 05.5	**-0.6**
	comp=Z,3.1nm,0.7s								
ILAR	**Eielson Array**	**86.33**	**25**		P		**P**	02 30 06.5	**-1.6**
	comp=Z,3.5nm,0.8s,baz=249,slow=5.2,SNR=29								
ILAR					LR		LR	03 02 02.0	
	comp=Z,170nm,21.9s,baz=252,slow=31								
ILAR	**Eielson Array**	**86.33**	**25**		P		**P**	02 30 06.5	**-1.6**
RDF	**Al-Radifah**	**86.50**	**299**		*e*P		**P**	02 30 09.0	**-0.7**
RDF					AMb		AMB	02 30 10.3	
	comp=Z,27nm,1.4s								
PAX	**Paxson**	**86.68**	**27**		*e*P		**P**	02 30 09.9	**0.0**
PAX					pmax	pmax			
	comp=Z,33nm,1.5s								
PAX	**Paxson**	**86.68**	**27**		*e*P		**P**	02 30 09.9	**0.0**
	comp=Z,33nm,1.5s								
MIB	**Mutribah**	**86.72**	**300**		*e*P		**P**	02 30 09.7	**-1.0**
MIB					AMb		AMB	02 30 11.8	
	comp=Z,40nm,1.2s								
NAY	**Al-Naaiem**	**86.78**	**299**		*e*P		**P**	02 30 09.9	**-1.1**
NAY					AMb		AMB	02 30 11.3	
	comp=Z,21nm,1.2s								
RAYN	**Ar Rayn**	**88.13**	**293**		P		**P**	02 30 16.4	**-1.3**
	comp=Z,67nm,1.1s,SNR=8.9								
DAWY	**Dawson**	**89.49**	**26**		*e*P		**P**	02 30 23.1	**-0.1**
INK	**Inuvik**	**91.87**	**22**		*e*P		**P**	02 30 32.2	**-1.9**
	comp=Z,5.1nm,1.2s								
KMBO	**Kilima Mbogo**	**95.91**	**269**		*e*P		**P**	02 30 54.4	**+0.3**
ARCES	**ARCESS Array B**	**96.78**	**340**		P		**P**	02 30 55.5	**-1.1**
	comp=Z,9.2nm,1.1s,baz=69,slow=4.9,SNR=2.9								
ARCES					LR		LR	03 20 27.1	
	comp=Z,240nm,18.3s,baz=189,slow=39								
ARCES	**ARCESS Array B**	**96.78**	**340**		P		**P**	02 30 55.5	**-1.1**
BRTR	**Keskin Array B**	**97.78**	**310**		LR		LR	03 18 02.3	
	comp=Z,46nm,20.0s,baz=92,slow=37								
FINES	**FINESS Array B**	**98.73**	**332**		LR		LR	03 19 00.6	
	comp=Z,289nm,19.1s,baz=106,slow=38								
YKA	**Yellowknife Ar**	**100.73**	**26**		P		**Pdif**	02 31 13.3	**-1.1**
	comp=Z,1.4nm,1.1s,baz=293,slow=4.8,SNR=8.0								
YKA	**Yellowknife Ar**	**100.73**	**26**		P		**Pdif**	02 31 13.3	**-1.1**
RES	**Resolute Bay**	**100.90**	**12**		*e*Pdif		**Pdif**	02 31 13.6	**-1.3**
	comp=Z,4.6nm,1.2s								
SNAA	**Sanae**	**102.49**	**193**		*e*Pdif		**Pdif**	02 31 22.5	**+0.3**
VNA2	**Neumayer--Watz**	**104.04**	**192**		*e*P		**PP**	02 35 47.3	**+0.9**
CRVS	**Cervenica-Dubn**	**104.66**	**321**		*e*P		**Pdif**	02 31 34.6	**+2.3**
CRVS	**Cervenica-Dubn**	**104.66**	**321**		PDIF		**Pdif**	02 31 34.6	**+2.3**
NVAR	**Mina Array Bea**	**104.89**	**50**		Pdiff		**Pdif**	02 31 33.6	**-0.2**
	comp=Z,0.6nm,1.0s,baz=275,slow=4.4,SNR=3.2								
NVAR	**Mina Array Bea**	**104.89**	**50**		Pdif		**Pdif**	02 31 33.6	**-0.2**
S22A	**4UR Ranch, Cre**	**113.81**	**49**	⇑	P		**PKiKP**	02 36 05.8	**+0.1**
	baz=114								
X21A	**Alamocita Cree**	**114.08**	**52**	⇓	P		PKPdf	02 36 06.1	-0.2
	baz=114								
BNI	**Bardonecchia**	**115.47**	**321**		*e*PKIKP		**PKPdf**	02 36 08.5	**0.0**
BNI	**Bardonecchia**	**115.47**	**321**		*e*PKPdf		**PKPdf**	02 36 08.5	**0.0**
325A	**Bean Ranch, Si**	**117.24**	**55**	⇓	P		**PKPdf**	02 36 11.7	**-0.6**
	baz=117								
Z27A	**Tatum**	**118.04**	**52**	⇓	P		**PKPdf**	02 36 13.8	**0.0**
	baz=118								
MSTX	**Muleshoe**	**118.17**	**51**	⇑	P		**PKPdf**	02 36 14.1	**+0.1**
	baz=118								
526A	**Mary Lane Ranc**	**118.35**	**56**	⇑	P		**PKPdf**	02 36 14.6	**+0.1**
	baz=118								
527A	**Woodward Ranch**	**118.72**	**56**	⇓	P		**PKPdf**	02 36 15.3	**+0.1**
	baz=119								
TXAR	**Lajitas Array**	**118.91**	**57**		PKP		**PKPdf**	02 36 16.9	**+1.4**
	comp=Z,0.5nm,0.9s,baz=197,slow=0.9,SNR=5.0								
TXAR	**Lajitas Array**	**118.91**	**57**		PKP		**PKPdf**	02 36 16.9	**+1.4**
627A	**Terlingua Ranc**	**119.11**	**56**	⇑	P		**PKPdf**	02 36 15.9	**0.0**
	baz=119								
Z29A	**Hungry Hill Ra**	**119.25**	**52**	⇓	P		**PKPdf**	02 36 16.3	**+0.3**
	baz=119								
329A	**Wagon Wheel Ra**	**119.63**	**54**	⇑	P		**PKPdf**	02 36 16.8	**0.0**
	baz=120								
529A	**Stev Forest Ra**	**119.87**	**55**	⇓	P		**PKPdf**	02 36 17.4	**+0.1**
	baz=120								
429A	**Davenport Ranc**	**119.98**	**55**	⇓	P		**PKPdf**	02 36 17.5	**0.0**
	baz=120								
430A	**Baggett Ranch,**	**120.46**	**54**	⇓	P		**PKPdf**	02 36 18.5	**+0.1**
	baz=120								
530A	**J-C Ranch, Com**	**120.59**	**55**	⇑	P		**PKPdf**	02 36 19.3	**+0.6**
	baz=121								
231A	**Bronte**	**120.81**	**53**	⇑	P		**PKPdf**	02 36 18.9	**-0.1**
	baz=121								
331A	**San Angelo**	**120.94**	**53**	⇑	P		**PKPdf**	02 36 19.3	**0.0**
	baz=121								
531A	**Rocksprings**	**121.23**	**55**	⇓	P		**PKPdf**	02 36 20.2	**+0.3**
	baz=121								
232A	**Coleman**	**121.36**	**53**	⇓	P		**PKPdf**	02 36 20.6	**+0.5**
	baz=121								
632A	**Uvalde**	**122.07**	**55**	⇑	P		**PKPdf**	02 36 21.9	**+0.5**
	baz=122								
TOA0	**Torodi Ar. Sit**	**130.38**	**287**		*e*PKPdf		**PKPdf**	02 36 37.9	**+0.2**
TORD	**Torodi Ar. Bea**	**130.38**	**287**		PKP		**PKPdf**	02 36 37.0	**-0.7**
	comp=Z,1.5nm,0.9s,baz=64,slow=2.4,SNR=9.2								
TORD	**Torodi Ar. Bea**	**130.38**	**287**		PKP		**PKPdf**	02 36 37.0	**-0.7**
PLCA	**Paso Flores**	**133.46**	**155**		PKP		**PKPdf**	02 36 44.3	**+1.4**
	comp=Z,4.6nm,0.8s,baz=200,slow=3.6,SNR=10								
PLCA	**Paso Flores**	**133.46**	**155**		*e*PKPdf		**PKPdf**	02 36 44.1	**+1.1**
PLCA					PKP		**PKPdf**	02 36 44.3	**+1.4**
TRQA	**Tornquist**	**138.98**	**162**		*e*PKPdf		**PKPdf**	02 36 53.3	**+0.1**
LCO	**Las Campanas**	**142.66**	**144**		*e*PKPdf		**PKPdf**	02 37 01.0	**+0.6**
NNA	**Nana**	**147.64**	**114**		*e*PKPbc		**PKPbc**	02 37 12.5	**+0.7**
OTAV	**Otavalo**	**148.38**	**91**		*e*PKPbc		**PKPbc**	02 37 14.5	**+0.1**
CPUP	**Villa Florida**	**151.29**	**160**		PKP		**PKPdf**	02 37 15.4	**+0.9**
	comp=Z,2.5nm,0.9s,baz=270,slow=1.0,SNR=4.5								
CPUP					PKPbc		**PKPbc**	02 37 20.7	**+0.2**
	comp=Z,19nm,0.8s,baz=207,slow=1.8,SNR=46								
CPUP	**Villa Florida**	**151.29**	**160**		PKP		**PKPdf**	02 37 15.4	**+0.9**
CPUP					PKPbc		**PKPbc**	02 37 20.7	**+0.2**
ROSC	**El Rosal**	**152.23**	**81**		PKPbc		**PKPbc**	02 37 24.1	**+0.5**
	comp=Z,5.2nm,0.6s,baz=269,slow=4.8,SNR=5.5								
ROSC	**El Rosal**	**152.23**	**81**		*e*PKPbc		**PKPbc**	02 37 24.0	**+0.5**
LPAZ	**La Paz**	**153.04**	**130**		PKP		**PKPdf**	02 37 19.4	**+1.2**
	comp=Z,4.1nm,1.0s,baz=233,slow=3.2,SNR=9.5								
LPAZ					PKPbc		**PKiKP**	02 37 27.0	**+1.4**
	comp=Z,13nm,1.0s,baz=273,slow=3.5,SNR=19								
LPAZ	**La Paz**	**153.04**	**130**		*e*PKPdf		**PKPdf**	02 37 18.8	**+0.6**
LPAZ					PKP		**PKPdf**	02 37 19.4	**+1.2**
LPAZ					*e*PKPbc		**PKiKP**	02 37 26.6	**+1.0**
LPAZ					PKPbc		**PKiKP**	02 37 27.0	**+1.4**
SAML	**Samuel**	**161.10**	**121**		*e*PKPdf		**PKPdf**	02 37 27.7	**+0.1**
SAML					*e*PKPab		**PKPab**	02 38 11.2	**+0.4**

IDC 19 02:25:06.5±1.3, 35.86N×81.31E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/29, mbtmp3.7/11, ML3.0/2, Error ellipse: s-maj=35.2km s-min=18.4km az=38.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.58**	**324**	Pn	Pn	02 27 16.7	+4.5
	0.1nm,0.3s,baz=153,slow=18,SNR=4.6						
AAK				Pg	Pg	02 27 41.4	-10
	0.4nm,0.3s,baz=123,slow=11,SNR=6.6						
AAK				Lg	Lg	02 29 41.0	
	0.4nm,0.3s,baz=211,slow=22,SNR=1.2						
MKAR	**Makanchi Array**	**10.95**	**4**	Pn	Pn	02 27 45.4	+1.1
	0.3nm,0.3s,baz=181,slow=12,SNR=16						
SONM	**Songino Array**	**22.08**	**49**	P	P	02 30 04.3	+1.1
	1.6nm,1.0s,baz=224,slow=10,SNR=4.4						
CMAR	**Chiang Mai Arr**	**23.32**	**133**	P	P	02 30 17.3	+1.1
	1.4nm,0.3s,baz=319,slow=15,SNR=7.9						
FINES	**FINESS Array B**	**42.77**	**324**	P	P	02 33 06.0	+0.7
	3.1nm,1.0s,baz=96,slow=7.7,SNR=4.7						
HFS	**Hagfors**	**48.72**	**322**	P	P	02 33 52.6	+0.2
	1.7nm,0.7s,baz=98,slow=11,SNR=4.8						
NB2	**NORSAR Subarra**	**49.90**	**323**	P	P	02 34 01.5	0.0
	comp=Z,0.7nm,0.8s,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**49.90**	**323**	P	P	02 34 01.5	0.0
	comp=Z,0.9nm,0.7s,baz=90,slow=7.5,SNR=4.0						
PETK	**Petropavlovsk-**	**54.51**	**46**	P	P	02 34 36.3	+0.4
	comp=Z,1.0nm,0.6s,baz=303,slow=6.7,SNR=2.4						
EKA	**Eskdalemuir Ar**	**58.44**	**318**	P	P	02 35 03.4	-0.4
	comp=Z,0.4nm,0.5s,baz=85,slow=8.6,SNR=3.9						
ILAR	**Eielson Array**	**72.85**	**20**	P	P	02 36 35.6	-1.1
	comp=Z,0.4nm,1.0s,baz=324,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**81.15**	**7**	P	P	02 37 21.7	-1.7
	comp=Z,0.3nm,0.6s,baz=342,slow=5.2,SNR=7.8						

KRSC 19 02:29:21.0±0.2, 55.51N×161.92E, h64km±64km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.81**	**309**	*e*P	Pn	02 29 38.6	+1.7
ZLN				*i* S	Sn	02 29 50.6	+1.9
BZGR	**Bezymyannyi-Gr**	**0.82**	**302**	*e*P	Pn	02 29 38.2	+1.2
BZGR				*i* S	Sn	02 29 50.5	+1.7
KBTR	**Krutoberegovo**	**0.86**	**36**	P	Pn	02 29 39.3	+1.8
KBTR				*i* S	Sn	02 29 53.3	+3.7
KBG	**Krutoberegovo**	**0.87**	**30**	*e*P	Pn	02 29 39.2	+1.7
KBG				*i* S	Sn	02 29 53.0	+3.3
CIRR	**Tsirk**	**0.90**	**313**	*e*P	Pn	02 29 39.7	+1.6
CIRR				*i* S	Sn	02 29 53.0	+2.3
LGNR	**Loginova**	**0.90**	**310**	P	Pn	02 29 39.3	+1.0
LGNR				*i* S	Sn	02 29 51.9	+0.8
BZMR	**Bezymyannaya**	**0.91**	**298**	*e*P	Pn	02 29 39.4	+1.1
BZMR				*i* S	Sn	02 29 53.0	+1.9
BZWR	**Bezymyannyi-We**	**0.93**	**300**	*e*P	Pn	02 29 39.7	+1.2
BZWR				*i* S	Sn	02 29 53.6	+2.2
MKZ	**Mys Kozlova**	**0.96**	**187**	P	Pn	02 29 39.7	+1.0
MKZ				*i* S	Sn	02 29 53.1	+1.4
KMNR	**Kamenistaya**	**0.99**	**285**	P	Pn	02 29 40.6	+1.5
KMNR				*i* S	Sn	02 29 55.1	+2.5
KIRR	**Kirishev**	**1.00**	**297**	*e*P	Pn	02 29 40.7	+1.4
KIRR				*i* S	Sn	02 29 55.2	+2.2
TUMR	**Tumrok**	**1.04**	**258**	*e*P	Pn	02 29 41.3	+1.5
TUMR				*i* S	Sn	02 29 56.3	+2.5
KRSR	**Krestovskiy**	**1.04**	**313**	*e*P	Pn	02 29 40.9	+1.0
KRSR				*i* S	Sn	02 29 54.8	+0.9
KPT	**Kopyto**	**1.06**	**296**	*e*P	Pn	02 29 41.5	+1.4
KPT				*i* S	Sn	02 29 56.7	+2.3
KLY	**Klyuchi**	**1.08**	**319**	*e*P	Pn	02 29 40.6	+0.5
KLY				*i* S	Sn	02 29 54.3	-0.1
SMKR	**Semkarok**	**1.10**	**347**	*e*P	Pn	02 29 42.3	+1.7
SMKR				*i* S	Sn	02 29 57.4	+2.1
BDR	**Baidarnaya**	**1.13**	**340**	*e*P	Pn	02 29 42.9	+1.9
BDR				*i* S	Sn	02 29 58.5	+2.5
SRKR	**Sorokina**	**1.22**	**340**	*e*P	Pn	02 29 43.9	+1.7
SRKR				*i* S	Sn	02 30 00.7	+2.7
KOZ	**Kozyrevsk**	**1.28**	**296**	*e*P	Pn	02 29 44.8	+1.9
KOZ				*i* S	Sn	02 30 02.0	+2.8
SRDR	**Sredinnyy**	**1.48**	**304**	*e*P	Pn	02 29 46.9	+1.3
SRDR				*i* S	Sn	02 30 06.4	+2.3
ESO	**Esso**	**1.87**	**284**	*e*P	Pn	02 29 52.3	+1.6
ESO				*i* S	Sn	02 30 14.4	+1.1
KII	**Karymskiy**	**2.06**	**225**	*e*P	Pn	02 29 54.7	+1.3
KII				*i* S	Sn	02 30 20.2	+2.2
BKI	**Bering**	**2.33**	**96**	*e*P	Pn	02 29 58.5	+1.5
BKI				*i* S	Sn	02 30 24.8	+0.3
SPN	**Mys Shipunski**	**2.66**	**205**	*e*P	Pn	02 30 03.0	+1.5
SPN				*i* S	Sn	02 30 33.6	+1.1
NLC	**Nalytchevo**	**2.79**	**214**	*e*P	Pn	02 30 05.7	+2.6
NLC				*i* S	Sn	02 30 37.6	+2.0
SDLR	**Sedlovina**	**2.85**	**220**	P	Pn	02 30 06.7	+2.4
SDLR				*i* S	Sn	02 30 39.7	+2.1
KRER	**Koryakskii**	**2.88**	**221**	*e*P	Pn	02 30 07.5	+2.7
KRER				*i* S	Sn	02 30 40.8	+2.3
SMAR	**Somma**	**2.90**	**220**	*e*P	Pn	02 30 06.9	+1.9
SMAR				*i* S	Sn	02 30 40.8	+2.0
AVH	**Avacha**	**2.92**	**221**	*e*P	Pn	02 30 07.6	+2.5
AVH				*i* S	Sn	02 30 42.4	+3.3
UGLR	**Uglovaya**	**2.93**	**219**	*e*P	Pn	02 30 07.8	+2.5
UGLR				*i* S	Sn	02 30 42.3	+2.9
KOK	**Koryaka**	**2.94**	**222**	*e*P	Pn	02 30 08.1	+2.7
GNL	**Ganaly**	**2.94**	**233**	*e*P	Pn	02 30 07.8	+2.3
RUS	**Russkaya**	**3.68**	**215**	*e*P	Pn	02 30 16.9	+1.5
RUS				*i* S	Sn	02 30 58.5	+1.0
MTVR	**Mutnovka**	**3.75**	**218**	*e*P	Pn	02 30 19.6	+3.1
MTVR				*i* S	Sn	02 31 01.5	+2.0
ASAK	**Asacha**	**3.93**	**219**	*e*P	Pn	02 30 22.2	+3.3
ASAK				*i* S	Sn	02 31 07.5	+3.7

BJI ***19*** *02:32:38.3, 1.28N×96.99E, h37km, mB4.9/19, mb4.7/31, Ms4.3/20, Ms7 4.2/19*

ISCJB ***19*** *02:32:39.5±1.1, 1.62N±0.05×96.87E±0.05, h30km±8km, mb4.5/67, MS4.0/12, Error ellipse: s-maj=9.1km s-min=6.1km az=41.8*

MOS ***19*** *02:32:39.7±0.9, 1.58N×96.87E, h33km, mb4.7/24, Error ellipse: s-maj=10.8km s-min=6.4km az=107.5*

DJA ***19*** *02:32:40.3±4.0, 2.1N±8.9×97.7E±3.7, h21km±10km, M4.5/6, mb4.6/2, mB4.8/2, MLv4.4/6, Mw(mB)4.0/2*

AUST ***19*** *02:32:40.7, 2.00N×97.00E, h0km*

IDC ***19*** *02:32:41.1±0.6, 1.61N×96.90E, h28km±2km, mb4.1/26, mb1 4.2/28, mb1mx4.1/36, mbtmp4.1/28, ML4.1/2, MS3.8/5, Ms1 3.8/5, ms1mx3.3/40, Error ellipse: s-maj=18.3km s-min=10.1km az=47.0*

NEIC ***19*** *02:32:42.1±0.2, 1.63N×96.93E, h35km, mb4.5/18, Error ellipse: s-maj=6.8km s-min=4.6km az=223.0*

ISC 19 02:32:41.3±0.5, 1.58N±0.05×96.79E±0.06, h31km±2km, h31km:pP-P,n176,σ1§41/219, mb4.5/67, MS4.1/14, 9C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.83**	**109**	P	**Pn**	02 32 55.2	**-1.5**
	baz=0.9,SNR=83						
GSI	**Gunungsitoli**	**0.83**	**109**	P	**Pn**	02 32 55.4	**-1.4**
PSI	**Prapat**	**2.45**	**60**	Pn	**Pn**	02 33 17.2	**-2.0**
	9.0nm,0.3s,baz=299,slow=4.6,SNR=20						
PSI				LR	LR	02 33 56.5	
	comp=Z,400nm,21.1s,baz=71,slow=33						
PSI	**Prapat**	**2.45**	**60**	Pn	**Pn**	02 33 17.2	**-2.0**
PSI	**Prapat**	**2.45**	**60**	P	**Pn**	02 33 17.3	**-2.0**
	baz=2.0,SNR=9.8						
PSI	**Prapat**	**2.45**	**60**	P	**Pn**	02 33 17.0	**-2.3**
TSI	**Tuntungan**	**2.60**	**43**	P	**Pn**	02 33 19.3	**-2.0**
MNSI	**Mandailing Nat**	**2.89**	**106**	P	**Pn**	02 33 24.6	**-0.6**
LHMI	**Lhok Sumawe**	**3.63**	**2**	P	Pn	02 33 25.1	-10
PPI	**Padang Panjang**	**4.13**	**119**	P	**Pn**	02 33 42.8	**+0.5**
	baz=4.2,SNR=4.3						
PPI	**Padang Panjang**	**4.13**	**119**	P	**Pn**	02 33 42.6	**+0.4**
BSI	**Banda Aceh**	**4.17**	**339**	P	**Pn**	02 33 40.9	**-1.9**
IPM	**Ipoh**	**5.12**	**56**	*e*Pn	**Pn**	02 33 55.0	**-0.8**
IPM	**Ipoh**	**5.12**	**56**	P	**Pn**	02 33 55.0	**-0.8**
	56nm,0.9s,873nm0.3nm						
KULM	**Kulim**	**5.33**	**46**	*e*Pn	**Pn**	02 33 57.5	**-1.3**
KULM	**Kulim**	**5.33**	**46**	P	**Pn**	02 33 57.5	**-1.3**
CMAR	**Chiang Mai Arr**	**16.91**	**7**	Pn	**Pn**	02 36 36.4	**+0.6**
	0.8nm,0.3s,baz=199,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**16.91**	**7**	Pn	**Pn**	02 36 36.4	**+0.6**
KKM	**Kota Kinabalu**	**19.88**	**77**	*e*P	**P**	02 37 09.3	**-1.0**
	13nm,0.9s						
PCI	**Palu**	**23.17**	**96**	S	**S**	02 41 51.9	**-3.5**
	baz=23,SNR=5.4						
KAPI	**Kappang**	**23.85**	**106**	*e*P	**P**	02 37 51.0	**-1.1**
	14nm,1.0s						
KMI	**Kunming**	**24.10**

BJI S **S** **02 46 51.1 +2.4**
BJI pmax pmax
comp=Z,42nm,0.7s
BJI pmax pmax
comp=Z,240nm,5.3s
BJI LR LR
comp=N,170nm,26.6s
BJI LR LR
comp=E,170nm,24.5s
BJI LR LR
comp=Z,65nm,23.8s
KSH Kashi 42.26 336 *e*P **P** **02 40 31.4 -0.6**
KSH *ep*P **pP** **02 40 40.8 -0.5**
KSH *e*PP **PP** **02 42 12.5 +2.2**
KSH *e*PcP **PcP** **02 42 26.5 +0.9**
KSH ScP **ScP** **02 46 11.6 -2.5**
KSH PcS **PcS** **02 46 16.3 -1.2**
KSH S **S** **02 46 47.8 -3.0**
KSH SS SS 02 49 51.8 -8.1
KSH ScS **ScS** **02 50 28.9 -3.2**
KSH pmax pmax
comp=Z,3.0nm,0.5s
KSH pmax pmax
comp=Z,120nm,6.2s
KSH LR LR
comp=N,140nm,6.4s
KSH LR LR
comp=E,130nm,5.9s
KSH LR LR
comp=Z,210nm,6.8s
WRA Warramunga Arr 42.58 122 P **P** **02 40 33.9 -0.8**
comp=Z,1.5nm,0.6s,baz=301,slow=9.2,SNR=18
WRA Warramunga Arr 42.58 122 P **P** **02 40 33.9 -0.8**
WRAB Tennant Creek 42.58 122 *e*P **P** **02 40 34.0 -0.7**
WRAB pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 42.58 122 *e*P **P** **02 40 34.0 -0.7**
comp=Z,4.2nm,0.6s
WMQ Urumqi 42.84 350 *e*P **P** **02 40 38.8 +2.3**
WMQ LR LR
comp=N,78nm,24.0s
WMQ LR LR
comp=E,120nm,28.0s
WMQ LR LR
comp=Z,73nm,26.0s
FORT Forrest 43.82 140 *e*P **P** **02 40 45.9 +1.3**
comp=Z,11nm,0.6s
ASAR Alice Springs 43.94 127 P **P** **02 40 45.5 -0.3**
comp=Z,1.9nm,0.8s,baz=304,slow=7.6,SNR=15
ASAR pP **pP** **02 40 54.0 -1.2**
comp=Z,1.7nm,0.7s,baz=303,slow=7.2,SNR=6.9
ASAR Alice Springs 43.94 127 P **P** **02 40 45.5 -0.3**
ASAR pP **pP** **02 40 54.0 -1.2**
JNU Nakatsue 44.80 42 LR LR 03 00 30.6
comp=Z,99nm,18.9s,baz=244,slow=37
TKM2 Tokmak 2 45.32 338 *e*P **P** **02 40 57.0 +0.3**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 45.32 338 *e*P **P** **02 40 57.0 +0.3**
comp=Z,8.4nm,1.1s
AAK Ala-Archa 45.50 337 P **P** **02 40 59.1 +1.1**
comp=Z,2.7nm,0.8s,baz=150,slow=8.1,SNR=6.8
AAK PcP **PcP** **02 42 37.6 +1.1**
comp=Z,1.5nm,0.9s,baz=198,slow=3.2,SNR=3.8
AAK Ala-Archa 45.50 337 *ce*P **P** **02 40 59.0 +1.0**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 45.50 337 *e*P **P** **02 40 59.1 +1.1**
comp=Z,45nm,1.4s
AAK PcP **PcP** **02 42 37.6 +1.1**
KSAR Wonju Array Be 45.74 35 P **P** **02 40 59.2 -0.5**
KSAR pP **pP** **02 41 07.5 -1.7**
KSRS Korea Array 45.77 35 P **P** **02 40 59.2 -0.8**
comp=Z,2.8nm,0.6s,baz=221,slow=8.9,SNR=11
KSRS pP **pP** **02 41 07.5 -1.9**
comp=Z,3.5nm,0.6s,baz=230,slow=7.7,SNR=6.9
KSRS LR LR 03 01 34.0
comp=Z,67nm,18.2s,baz=150,slow=38
EKS2 Erkin-Say 45.81 336 *e*P **P** **02 41 02.2 +1.8**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 45.81 336 *e*P **P** **02 41 02.2 +1.8**
comp=Z,4.4nm,0.8s
MK31 Makanchi Array 46.78 346 *ce*P **P** **02 41 08.0 +0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 46.78 346 *e*P **P** **02 41 08.3 +0.4**
MKAR Makanchi Array 46.78 346 P **P** **02 41 08.4 +0.5**
comp=Z,8.9nm,0.7s,baz=160,slow=7.6,SNR=120
MKAR Makanchi Array 46.78 346 P **P** **02 41 08.4 +0.5**
MKAR Makanchi Array 46.78 346 P **P** **02 41 08.4 +0.5**
SONM Songino Array 46.82 9 P **P** **02 41 08.3 0.0**
comp=Z,5.3nm,0.7s,baz=189,slow=9.0,SNR=42
SONM pP **pP** **02 41 16.6 -1.2**
comp=Z,2.5nm,0.4s,baz=198,slow=6.9,SNR=13
SONM PcP **PcP** **02 42 41.5 +0.4**
comp=Z,1.1nm,0.6s,baz=194,slow=3.9,SNR=4.1
SONM Songino Array 46.82 9 P **P** **02 41 08.3 0.0**
SONM pP **pP** **02 41 16.6 -1.2**
SONM PcP **PcP** **02 42 41.5 +0.4**
ULN Ulaanbaatar 46.96 9 *e*P **P** **02 41 09.5 +0.1**
comp=Z,8.2nm,1.1s
ZAK Zakamensk 48.94 6 *e*P **P** **02 41 24.4 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
CN2 Changchun 49.16 27 *e*P P 02 41 32.1 +5.8
TLY Talaya 50.26 6 *e*P **P** **02 41 34.0 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY Talaya 50.26 6 *e*P **P** **02 41 35.3 +0.7**
comp=Z,5.4nm,0.7s
BBOO Buckleboo 50.43 136 P P 02 41 45.7 +10
baz=51,SNR=4.8
KURBB Kurchatov Arra 51.27 345 P **P** **02 41 42.7 +0.6**
comp=Z,3.7nm,0.7s,baz=167,slow=6.9,SNR=31
KURBB pP **pP** **02 41 51.6 0.0**
comp=Z,2.2nm,0.5s,baz=164,slow=6.8,SNR=7.4
KURK Kurchatov 51.33 345 *e*P **P** **02 41 42.8 +0.2**
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 51.33 345 *e*P **P** **02 41 43.2 +0.7**
KURK *ep*P **pP** **02 41 52.1 0.0**
PMG Port Moresby 51.34 103 P **P** **02 41 42.2 -1.1**
comp=Z,8.1nm,0.7s,baz=263,slow=6.8,SNR=2.1
PMG Port Moresby 51.34 103 P **P** **02 41 42.2 -1.1**
HIA Hailar 51.42 19 *e*P **P** **02 41 43.0 -0.4**
comp=Z,7.3nm,0.8s
MJAR Matsushiro Arr 51.69 43 P **P** **02 41 44.6 -1.0**
comp=Z,1.8nm,0.6s,baz=227,slow=6.8,SNR=6.2
MJAR pP **pP** **02 41 53.4 -1.7**
comp=Z,1.9nm,0.6s,baz=217,slow=6.4,SNR=3.6
MJAR Matsushiro Arr 51.69 43 P **P** **02 41 44.6 -1.0**
MJAR pP **pP** **02 41 53.4 -1.7**
USRK Ussuriysk Arra 52.67 31 P **P** **02 41 52.5 -0.2**
comp=Z,6.5nm,0.9s,baz=235,slow=5.9,SNR=10
USRK pP **pP** **02 42 00.5 -1.6**
comp=Z,4.9nm,0.7s,baz=238,slow=6.5,SNR=7.3
CTA Charters Tower 53.03 117 P **P** **02 41 55.2 -0.6**
comp=Z,6.5nm,0.9s,baz=256,slow=8.3,SNR=3.4
CTA Charters Tower 53.03 117 P **P** **02 41 55.2 -0.6**
ZAA0 Zalesovo Array 53.13 351 *e*P **P** **02 41 56.1 +0.2**
ZAA0 *ep*P **pP** **02 42 05.2 -0.2**
ZALV Zalesovo Beam 53.13 351 P **P** **02 41 56.3 +0.5**
comp=Z,14nm,0.6s,baz=181,slow=6.2,SNR=68
ZALV pP **pP** **02 42 05.0 -0.4**
comp=Z,12nm,0.6s,baz=174,slow=6.7,SNR=14
ZALV Zalesovo Beam 53.13 351 P **P** **02 41 56.3 +0.5**
ZALV *e*PP **pP** **02 42 05.0 -0.4**
ZALV Zalesovo Beam 53.13 351 P **P** **02 41 56.3 +0.5**
ZALV pP **pP** **02 42 05.0 -0.4**
STKA Stephens Creek 53.91 132 P **P** **02 42 02.1 +0.1**
comp=Z,1.0nm,0.8s,baz=297,slow=9.0,SNR=2.6
STKA pP **pP** **02 42 10.5 -1.0**
comp=Z,3.5nm,0.7s,baz=331,slow=7.8,SNR=6.3
STKA Stephens Creek 53.91 132 P **P** **02 42 02.1 +0.1**
STKA pP **pP** **02 42 10.5 -1.0**
STKA Stephens Creek 53.91 132 P P 02 42 11.0 +9.0
baz=54,SNR=5.0
NVS Novosibirsk 54.24 350 *e*P **P** **02 42 02.8 -1.2**
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
VOSK Vostochnaya 55.32 341 P **P** **02 42 11.6 -0.3**
VOSK pmax pmax
comp=Z,5.0nm,0.4s
BVA0 Borovoye Array 55.77 341 P **P** **02 42 14.7 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s
BVAR Borovoye Array 55.77 341 P **P** **02 42 15.0 -0.1**
comp=Z,2.1nm,0.5s,baz=147,slow=8.6,SNR=20
BVAR Borovoye Array 55.77 341 P **P** **02 42 15.0 -0.1**
BVAR Borovoye Array 55.77 341 P **P** **02 42 15.0 -0.1**
BRVK Borovoye 55.83 341 ⇓*e*P **P** **02 42 15.1 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 55.83 341 *e*P **P** **02 42 15.6 0.0**
comp=Z,8.3nm,1.4s
CMSA Cobar Meteorol 56.84 130 P P 02 42 32.7 +10
baz=57,SNR=4.8
AB31 Akbulak array 56.99 332 *ce*P **P** **02 42 23.9 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 56.99 332 *e*P **P** **02 42 24.1 +0.2**
comp=Z,3.7nm,0.7s
ABKAR *ep*P **pP** **02 42 32.6 -0.9**
BOD Bodaibo 57.72 11 *e*P **P** **02 42 28.8 0.0**
BOD pmax pmax
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 58.71 332 P **P** **02 42 35.5 -0.4**
comp=Z,1.3nm,0.4s,baz=104,slow=8.6,SNR=12
AKTO Aktyubinsk 58.71 332 P **P** **02 42 35.6 -0.4**
AKTO Aktyubinsk 58.71 332 P **P** **02 42 35.5 -0.4**
YSS Yuzh-Sakhalins 60.27 35 *e*P **P** **02 42 47.0 +0.3**
YSS *e* 02 42 56.8
YUK Yuzh-Kuril'sk 60.58 39 P **P** **02 42 51.2 +2.3**
YUK S S 02 51 13.9 +11
YUK MLR MLR
comp=N,85nm,17.0s
YUK MLR MLR
comp=E,52nm,17.0s
YUK MLR MLR
comp=Z,192nm,17.0s
KBZ Khabaz 63.52 319 P **P** **02 43 09.3 +0.6**
comp=Z,1.4nm,0.7s,baz=83,slow=8.1,SNR=3.9
KBZ Khabaz 63.52 319 P **P** **02 43 09.3 +0.6**
KBZ Khabaz 63.52 319 P **P** **02 43 09.3 +0.6**
KIV Kislovodsk 63.76 319 *e*P **P** **02 43 09.5 -0.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
YAK Yakutsk 65.18 16 *e*P **P** **02 43 17.6 -1.5**
YAK *e* 02 43 26.5
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 65.18 16 *e*P **P** **02 43 18.6 -0.5**
VRHR Novokhopersk 67.59 326 *e*P **P** **02 43 34.5 -0.3**
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.9s
VRHR pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 68.56 312 *e*P **P** **02 43 41.4 +0.1**
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 68.56 312 P **P** **02 43 41.6 +0.2**
comp=Z,0.9nm,0.7s,baz=124,slow=7.2,SNR=9.0
BRTR Keskin Array B 68.56 312 P **P** **02 43 41.6 +0.2**
VSR Storozhevoye 69.03 325 *e*P **P** **02 43 43.5 -0.4**
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.8s
VSR pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 72.09 328 ⇓*e*P **P** **02 44 02.7 +0.3**
OBN *e* 02 46 43.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,21.0s
SEY Seymchan 73.58 23 *ce*P **P** **02 44 11.2 +0.1**
BOSA Boshof 74.61 240 LR LR 03 12 54.7
comp=Z,162nm,18.9s,baz=132,slow=32
DRV Dumont d'Urvil 74.62 164 L L 02 44 00.0
DRV R 02 49 00.0
AKASG Malin Array Be 74.72 322 P **P** **02 44 17.9 -0.1**
comp=Z,1.3nm,0.5s,baz=95,slow=5.0,SNR=5.4
AKASG pP **pP** **02 44 26.4 -1.5**
comp=Z,0.3nm,0.3s,baz=85,slow=5.2,SNR=2.3
AKASG Malin Array Be 74.72 322 *ce*P **P** **02 44 17.8 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 74.72 322 P **P** **02 44 17.9 -0.1**
AKASG pP **pP** **02 44 26.4 -1.5**
VRI Vrincioaia 75.07 317 ⇓P **P** **02 44 20.5 +0.3**
VRI Vrincioaia 75.07 317 ⇓*i*P **P** **02 44 20.5 +0.3**
TESR 75.27 318 ⇑*i*P **P** **02 44 22.0 +0.7**
BURAR Bucovina Array 76.48 319 ⇑*i*P **P** **02 44 29.6 +1.3**
BUR08 Bucovina Ar. S 76.49 319 *e*P **P** **02 44 29.6 +1.2**
JOF Joensuu 77.64 335 *e*P P 02 44 40.5 +6.2
JOF pmax pmax
comp=Z,1.0nm,0.7s
JOF Joensuu 77.64 335 *ep* P 02 44 40.5 +6.2
comp=Z,1.4nm,0.7s
DRGR 77.98 318 ⇑P **P** **02 44 37.1 +0.3**
DRGR 77.98 318 ⇑*i*P **P** **02 44 37.1 +0.3**
KOLS Kolonicke sedl 78.67 320 *e*P **P** **02 44 41.8 +1.4**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 78.67 320 *e*P **P** **02 44 41.8 +1.4**
KOLS *ep*P **pP** **02 44 50.4 0.0**
CRVS Cervenica-Dubn 79.19 319 *e*P **P** **02 44 43.6 +0.3**
CRVS Cervenica-Dubn 79.19 319 *e*P **P** **02 44 43.6 +0.3**
FINES FINESS Array B 79.48 333 P **P** **02 44 44.7 +0.2**
comp=Z,2.8nm,0.7s,baz=104,slow=5.9,SNR=9.4
FINES pP **pP** **02 44 53.5 -1.0**
comp=Z,2.7nm,0.7s,baz=114,slow=7.4,SNR=4.1
FINES FINESS Array B 79.48 333 P **P** **02 44 44.7 +0.2**
FINES pP **pP** **02 44 53.5 -1.0**
KAF Kangasniemi 79.57 333 *e*P **P** **02 44 44.7 -0.3**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 79.57 333 *ep* **P** **02 44 44.7 -0.3**
comp=Z,2.6nm,0.5s
PSZ Piszkesteto 80.06 318 *e*P **P** **02 44 49.2 +1.1**
PSZ pmax pmax
comp=Z,2.0nm,0.7s
PSZ Piszkesteto 80.06 318 *e*P **P** **02 44 49.2 +1.1**
comp=Z,2.2nm,0.7s
VYHS Vyhne 80.84 319 *e*P **P** **02 44 54.3 +2.1**
VYHS Vyhne 80.84 319 *e*P **P** **02 44 54.3 +2.1**
VYHS *e* 03 09 24.1
VYHS *e* 03 09 38.3
MORC Moravsky Berou 81.86 320 *e*P **P** **02 44 58.6 +1.0**
MORC pmax pmax
comp=Z,5.0nm,1.1s
MORC Moravsky Berou 81.86 320 *e*P **P** **02 44 58.6 +1.0**
comp=Z,4.6nm,1.1s
ARCES ARCESS Array B 82.05 340 P **P** **02 44 58.9 +0.7**
comp=Z,5.1nm,0.9s,baz=98,slow=6.4,SNR=9.9
ARCES ARCESS Array B 82.05 340 P **P** **02 44 58.9 +0.7**
GERES GERESS Array B 84.27 319 P **P** **02 45 11.2 +1.0**
comp=Z,0.5nm,0.5s,baz=100,slow=5.5,SNR=8.8
GERES pP **pP** **02 45 19.9 -0.2**
comp=Z,1.4nm,0.8s,baz=85,slow=4.7,SNR=7.2
GERES LR LR 03 30 57.5
comp=Z,158nm,18.1s,baz=187,slow=42
GERES GERESS Array B 84.27 319 P **P** **02 45 11.2 +1.0**
GERES pP **pP** **02 45 19.9 -0.2**
CLL Collm 84.89 321 Lm MLR 02 46 00.0
comp=Z,400nm,18.6s
HFS Hagfors 85.20 330 P **P** **02 45 13.5 -1.0**
comp=Z,1.8nm,0.9s,baz=92,slow=4.3,SNR=2.7
HFS Hagfors 85.20 330 P **P** **02 45 13.5 -1.0**
NB2 NORSAR Subarra 86.48 331 P **P** **02 45 21.0 +0.1**
comp=Z,3.2nm,1.0s,baz=92,slow=5.3
NOA NORSAR Array B 86.48 331 P **P** **02 45 21.0 +0.1**
comp=Z,1.2nm,0.8s,baz=94,slow=5.1,SNR=4.6
NOA pP **pP** **02 45 29.9 -1.0**
comp=Z,1.4nm,0.8s,baz=94,slow=5.0,SNR=5.6
NOA NORSAR Array B 86.48 331 P **P** **02 45 21.0 +0.1**
NOA pP **pP** **02 45 29.9 -1.0**
SPITS Spitsbergen Ar 86.50 348 P **P** **02 45 19.7 -1.0**
comp=Z,10nm,1.0s,baz=126,slow=9.9,SNR=3.2
SPITS Spitsbergen Ar 86.50 348 P **P** **02 45 19.7 -1.0**
DAVOX Davos/Dischmat 86.74 317 P **P** **02 45 22.6 0.0**
comp=Z,1.9nm,0.8s,baz=37,slow=5.1
DAVOX Davos/Dischmat 86.74 317 P **P** **02 45 22.6 0.0**
TXAR Lajitas Array 143.56 31 PKP PKPbc 02 52 12.3 +1.2
comp=Z,0.1nm,0.4s,baz=259,slow=1.6,SNR=3.9
TXAR Lajitas Array 143.56 31 PKP PKPbc 02 52 12.3 +1.2
CPUP Villa Florida 145.00 223 PKPbc **PKPdf** **02 52 17.4 +1.2**
comp=Z,2.9nm,0.8s,baz=100,slow=12,SNR=9.3
CPUP Villa Florida 145.00 223 PKPbc **PKPdf** **02 52 17.4 +1.2**

IDC ***19*** *02:44:34.3±0.7, 12.°11N×143.°65E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/29, mbtmp3.8/13, MS4.1/1, Ms1 4.2/1, ms1mx2.8/37, Error ellipse: s-maj=23.9km s-min=15.0km az=108.0*
ISCJB ***19*** *02:44:36.2±0.6, 12.°07N±0.°08×143.°6E±0.°1, h25km, mb3.9/16, MS4.2/1, Error ellipse: s-maj=17.1km s-min=8.1km az=32.9*
NEIC ***19*** *02:44:39.5±0.5, 12.°09N×143.°65E, h35km, mb4.1/4, Error ellipse: s-maj=16.8km s-min=9.6km az=105.0*
ISC 19 02:44:37.7±0.7, 12.°1N±0.°1×143.°7E±0.°1, h25km, n32, σ0°93/34, mb4.0/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.90**	**36**	Pn	**Pn**	**02 45 08.7**	**+0.1**
	40nm,0.3s,baz=203,slow=13,SNR=12						
GUMO				Sn	**Sn**	**02 45 31.6**	**-0.1**
	101nm,0.3s,baz=31,slow=23,SNR=15						
GUMO				LR	LR	02 45 49.8	
	comp=Z,349nm,19.3s,baz=180,slow=40						
GUMO	**Guam**	**1.90**	**36**	Pn	**Pn**	**02 45 08.7**	**+0.1**
GUMO				Sn	**Sn**	**02 45 31.6**	**-0.1**
WRAB	**Tennant Creek**	**33.09**	**196**	*e*P	**P**	**02 51 12.1**	**+0.3**
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**33.10**	**196**	P	**P**	**02 51 12.6**	**+0.6**
	0.9nm,0.5s,baz=21,slow=9.5,SNR=48						
WRA	**Warramunga Arr**	**33.10**	**196**	P	**P**	**02 51 12.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**34.87**	**211**	P	**P**	**02 51 26.9**	**-0.4**
	0.9nm,0.7s,baz=35,slow=8.2,SNR=2.7						
FITZ	**Fitzroy Crossi**	**34.87**	**211**	*e*P	**P**	**02 51 27.1**	**-0.2**
	16nm,1.9s						
ASAR	**Alice Springs**	**36.77**	**195**	P	**P**	**02 51 44.0**	**+0.4**
	0.3nm,0.5s,baz=13,slow=9.8,SNR=4.2						
ASAR	**Alice Springs**	**36.77**	**195**	P	**P**	**02 51 44.0**	**+0.4**
SONM	**Songino Array**	**47.36**	**326**	P	**P**	**02 53 10.4**	**+0.6**
	0.1nm,0.5s,baz=134,slow=8.3,SNR=2.5						
SONM	**Songino Array**	**47.36**	**326**	P	**P**	**02 53 10.4**	**+0.6**
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**02 54 55.6**	**+0.8**
	0.4nm,0.7s,baz=100,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**02 54 55.6**	**+0.8**
ZALV	**Zalesovo Beam**	**62.23**	**325**	P	**P**	**02 54 57.1**	**-0.2**
	0.4nm,0.3s,baz=96,slow=7.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.23**	**325**	P	**P**	**02 54 57.1**	**-0.2**
KURK	**Kurchatov**	**65.04**	**321**	*e*P	**P**	**02 55 15.7**	**-0.2**
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**65.08**	**320**	P	**P**	**02 55 16.3**	**+0.2**
	0.8nm,0.6s,baz=101,slow=6.9,SNR=9.0						
ILAR	**Eielson Array**	**70.43**	**25**	P	**P**	**02 55 48.6**	**-1.0**
	1.1nm,0.7s,baz=254,slow=5.7,SNR=16						
ILAR	**Eielson Array**	**70.43**	**25**	P	**P**	**02 55 48.6**	**-1.0**
BVAR	**Borovoye Array**	**70.44**	**322**	P	**P**	**02 55 50.0**	**0.0**
	0.4nm,0.3s,baz=106,slow=7.6,SNR=3.6						
BVAR	**Borovoye Array**	**70.44**	**322**	P	**P**	**02 55 50.0**	**0.0**
BRVK	**Borovoye**	**70.51**	**322**	*e*P	**P**	**02 55 50.2**	**-0.1**
	1.2nm,0.6s						
AKTO	**Aktyubinsk**	**78.09**	**319**	P	**P**	**02 56 34.1**	**-0.5**
	0.5nm,0.5s,baz=97,slow=8.6,SNR=3.0						
AKTO	**Aktyubinsk**	**78.09**	**319**	P	**P**	**02 56 34.1**	**-0.5**
YKA	**Yellowknife Ar**	**84.73**	**27**	P	**P**	**02 57 10.1**	**+0.7**
	0.3nm,0.3s,baz=287,slow=5.1,SNR=9.5						
YKA	**Yellowknife Ar**	**84.73**	**27**	P	**P**	**02 57 10.2**	**+0.7**
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**02 57 31.9**	**+2.0**
	0.8nm,0.6s,baz=278,slow=5.1,SNR=8.3						
NVAR				LR	LR	03 34 58.0	
	comp=Z,88nm,18.4s,baz=137,slow=34						
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**02 57 31.9**	**+2.0**
FINES	**FINESS Array B**	**92.07**	**335**	P	**P**	**02 57 43.1**	**-1.5**
	2.1nm,0.9s,baz=46,slow=5.5,SNR=6.9						
FINES	**FINESS Array B**	**92.07**	**335**	P	**P**	**02 57 43.1**	**-1.5**
LPAZ	**La Paz**	**148.85**	**102**	PKPbc	**PKPab**	**03 04 26.9**	**-2.0**
	0.3nm,0.4s,baz=270,slow=4.0,SNR=3.7						
LPAZ	**La Paz**	**148.85**	**102**	PKPbc	**PKPab**	**03 04 26.9**	**-2.0**

IDC 19 02:52:17.3±7.9, 30.°86S×179.°91E, h370km±82km, mb2.8/4, mb1 3.0/4, mb1mx2.9/18, mbtmp2.8/4, Error ellipse: s-maj=86.5km s-min=44.4km az=11.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.74**	**197**	P	P	02 54 09.9	+0.3
	19nm,0.3s,baz=336,slow=3.0,SNR=68						
URZ				S	S	02 55 37.5	-1.9
	13nm,0.3s,baz=260,slow=22,SNR=26						
STKA	**Stephens Creek**	**32.62**	**258**	P	P	02 58 16.5	+0.5
	0.4nm,0.4s,baz=106,slow=7.4,SNR=2.4						
ASAR	**Alice Springs**	**41.29**	**268**	P	P	02 59 27.7	-0.6
	0.2nm,0.3s,baz=110,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**42.32**	**274**	P	P	02 59 36.5	-0.2
	0.4nm,0.3s,baz=111,slow=8.0,SNR=13						
FITZ	**Fitzroy Crossi**	**50.56**	**271**	P	P	03 00 39.8	-0.1
	1.2nm,1.0s,baz=143,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**144.93**	**338**	PKP	PKPdf	03 11 09.1	-1.0
	1.4nm,0.5s,baz=56,slow=3.5,SNR=14						

GUC 19 02:58:05.9±0.7, 31.°74S×71.°85W, h28km±3km, MD3.7, ML2.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.33**	**115**	⇓*i*P	Pb	02 58 13.6	0.0
CHNG				*i* S	Sb	02 58 19.0	+0.1
CHNG				AML	AML	02 58 19.5	
	comp=N,766nm,0.5s						
PACH	**Papudo**	**0.87**	**156**	⇑*i*P	Pn	02 58 21.9	-0.5
PACH				*i* S	Sb	02 58 33.6	-0.3
PTCH	**Petorca**	**0.94**	**124**	⇑*i*P	Pn	02 58 23.1	-0.2
PTCH				*i* S	Sb	02 58 35.8	-0.1
PTCH				AML	AML	02 58 36.3	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**1.42**	**150**	⇓*i*P	Pn	02 58 31.0	+0.9
ROCH				*i* S	Sn	02 58 49.0	+0.8
ROCH				AML	AML	02 58 58.4	
	comp=E,253nm,0.5s						
PEL	**Peldehue**	**1.71**	**145**	⇓*i*P	Pn	02 58 35.1	+1.2
PEL				*i* S	Sb	02 58 56.8	-1.2
PEL				AML	AML	02 58 59.2	
	comp=E,325nm,0.4s						
TLL	**Tololo Astrono**	**1.81**	**30**	*e*P	Pn	02 58 36.5	+1.0
TLL				*i* S	Sb	02 59 00.6	-0.5
TLL				AML	AML	02 59 10.8	
	comp=N,129nm,0.5s						
CLCH	**Cerro Calan**	**1.99**	**146**	*e*P	Pn	02 58 39.2	+1.4
CLCH				*e*S	Sb	02 59 04.4	-1.7
CLCH				AML	AML	02 59 12.6	
	comp=N,278nm,0.5s						
FCH	**Farellones**	**2.06**	**141**	AML	AML	02 59 15.8	
	comp=N,120nm,0.4s						
LMEL	**Las Melosas**	**2.52**	**147**	*e*P	Pn	02 58 47.0	+1.8
LMEL				*i* S	Sn	02 59 17.4	+2.3
LMEL				AML	AML	02 59 29.5	
	comp=N,104nm,0.2s						
CACH	**El Canelo**	**2.59**	**156**	*e*P	Pn	02 58 48.0	+1.8
LCO	**Las Campanas**	**2.90**	**20**	AML	AML	02 59 38.6	
	comp=E,62nm,0.5s						

IDC 19 03:02:36.9±1.9, 0.°02N×124.°90E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=204.7km s-min=26.0km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**156**	P	P	03 07 31.6	-0.1
	1.1nm,0.8s,baz=334,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**25.11**	**160**	P	P	03 08 03.8	0.0
	0.5nm,0.9s,baz=335,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**59.61**	**327**	P	P	03 12 42.7	-0.1
	0.4nm,0.3s,baz=122,slow=8.3,SNR=6.4						

IDC ***19*** *03:20:54.2±0.7,3˚.56N×126˚.57E, h0km, mb4.3/13, mb1 4.4/13,mb1mx4.2/23,mbtmp4.3/13,MS3.4/6, Ms1 3.4/6,ms1mx2.9/43,Error ellipse: s-maj=42.1km s-min=13.6km az=72.0*

ISCJB ***19*** *03:20:59.4±0.4,3˚.56N±0˚.06×126˚.6E±0˚.1,h53km, mb4.3/20,MS3.4/5, Error ellipse: s-maj=17.1km s-min=6.4km az=160.8*

NEIC ***19*** *03:20:59.1±0.3,3˚.55N×126˚.55E,h35km,mb4.3/9,Error ellipse: s-maj=14.5km s-min=5.0km az=72.0*

ISC 19 03:21:01.3±0.5,3˚.52N±0˚.08×126˚.6E±0˚.2,h53km,n54, σ0:70/53,mb4.3/20,MS3.4/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**		**3.41**	**355**	*eP*		Pn	03 21 56.5	+4.4
DAV	**Davao City (W)**		**3.66**	**344**	LR		LR	03 23 34.4	
	comp=Z,363nm,18.3s,baz=108,slow=44								
DAV	**Davao City (W)**		**3.66**	**344**	*ePn*		Pn	03 21 51.3	-4.1
DAV					*eSn*		**Sn**	**03 22 35.2**	**-2.1**
BUKP	**Musuan**		**4.58**	**341**	*eP*		**Pn**	**03 22 10.1**	**+2.1**
MTN	**Manton Dam**		**16.88**	**164**	P		ScP	03 33 01.5	-8.1
	baz=16,SNR=3.7								
KDU	**Kakadu**		**17.14**	**160**	P		**PcS**	**03 33 16.4**	**+0.6**
	baz=17,SNR=4.2								
FITZ	**Fitzroy Crossi**		**21.51**	**182**	P		**P**	**03 25 45.4**	**-0.5**
	3.4nm,0.7s,baz=17,slow=11,SNR=16								
FITZ	**Fitzroy Crossi**		**21.51**	**182**	*eP*		**P**	**03 25 45.1**	**-0.8**
	5.6nm,0.9s								
WRAB	**Tennant Creek**		**24.53**	**162**	*eP*		**P**	**03 26 15.3**	**-0.7**
	35nm,0.8s								
WRA	**Warramunga Arr**		**24.54**	**162**	P		**P**	**03 26 15.6**	**-0.5**
	30nm,0.8s,baz=344,slow=10,SNR=154								
WRA					S		**S**	**03 30 33.3**	**0.0**
	0.5nm,0.8s,baz=339,slow=16,SNR=2.3								
WRA	**Warramunga Arr**		**24.54**	**162**	P		**P**	**03 26 15.6**	**-0.5**
WRA					S		**S**	**03 30 33.3**	**0.0**
AS31	**Alice Springs**		**27.95**	**166**	*eP*		**P**	**03 26 47.0**	**+0.1**
ASAR	**Alice Springs**		**27.96**	**166**	P		**P**	**03 26 47.1**	**+0.1**
	0.7nm,0.3s,baz=337,slow=6.9,SNR=16								
ASAR	**Alice Springs**		**27.96**	**166**	P		**P**	**03 26 47.1**	**+0.1**
JNU	**Nakatsue**		**29.72**	**7**	LR		LR	03 37 29.6	
	comp=Z,86nm,18.3s,baz=225,slow=34								
CMAR	**Chiang Mai Arr**		**30.84**	**301**	P		**P**	**03 27 12.9**	**+0.3**
	1.4nm,0.4s,baz=121,slow=8.1,SNR=5.6								
CMAR	**Chiang Mai Arr**		**30.84**	**301**	P		**P**	**03 27 12.9**	**+0.3**
CHTO	**Chiang Mai**		**30.99**	**301**	*eP*		**P**	**03 27 13.4**	**-0.5**
	2.5nm,0.6s								
KSAR	**Wonju Array Be**		**33.78**	**2**	P		**P**	**03 27 38.2**	**+0.1**
KSRS	**Korea Array**		**33.79**	**2**	P		**P**	**03 27 38.2**	**+0.1**
	1.2nm,0.5s,baz=181,slow=9.4,SNR=5.6								
MJAR	**Matsushiro Arr**		**34.56**	**17**	LR		LR	03 41 21.0	
	comp=Z,40nm,18.5s,baz=115,slow=36								
STKA	**Stephens Creek**		**38.00**	**159**	P		**P**	**03 28 14.7**	**+0.4**
	8.1nm,0.6s,baz=335,slow=8.2,SNR=41								
STKA	**Stephens Creek**		**38.00**	**159**	*eP*		**P**	**03 28 14.4**	**+0.1**
	1.7nm,0.6s								
STKA					*ePP*		**PP**	**03 29 40.9**	**-1.1**
ASAJ	**Asahikawa**		**42.83**	**17**	LR		LR	03 47 06.9	
	comp=Z,43nm,18.4s,baz=284,slow=37								
ASAJ	**Asahikawa**		**42.83**	**17**	*eP*		**P**	**03 28 53.8**	**-0.3**
TAPN	**Taplejung**		**44.01**	**307**	*eP*		**P**	**03 29 04.1**	**-0.1**
	4.6nm,0.4s								
ODAN	**Odare**		**44.06**	**306**	*eP*		**P**	**03 29 04.6**	**+0.1**
	6.6nm,0.4s								
RAMN	**Ramite**		**44.73**	**305**	*eP*		**P**	**03 29 09.7**	**-0.3**
	6.1nm,0.6s								
JIRN	**Jiri**		**45.36**	**306**	*eP*		**P**	**03 29 15.6**	**+0.5**
	1.0nm,0.3s								
GUN	**Gumba**		**45.72**	**306**	*eP*		**P**	**03 29 18.2**	**+0.4**
	5.0nm,0.3s								
ULN	**Ulaanbaatar**		**47.26**	**342**	*eP*		**P**	**03 29 29.0**	**-0.4**
	1.2nm,0.4s								
SONM	**Songino Array**		**47.44**	**342**	P		**P**	**03 29 30.5**	**-0.2**
	1.1nm,0.6s,baz=160,slow=7.1,SNR=13								
SONM					LR		LR	03 49 13.5	
	comp=Z,52nm,18.9s,baz=349,slow=36								
SONM	**Songino Array**		**47.44**	**342**	P		**P**	**03 29 30.5**	**-0.2**
KOLN	**Koldanda**		**47.51**	**305**	*eP*		**P**	**03 29 32.1**	**+0.4**
	9.9nm,0.3s								
DANN	**Dangsing**		**47.60**	**306**	*eP*		**P**	**03 29 32.7**	**+0.2**
	15nm,0.4s								
PYUN	**Piuthan**		**48.13**	**305**	*eP*		**P**	**03 29 37.1**	**+0.6**
	8.1nm,0.4s								
MK31	**Makanchi Array**		**57.63**	**325**	*eP*		**P**	**03 30 45.5**	**-0.5**
MK31					*ePcP*		**PcP**	**03 31 38.8**	**+0.1**
MKAR	**Makanchi Array**		**57.63**	**325**	P		**P**	**03 30 45.9**	**-0.1**
	3.1nm,0.4s,baz=120,slow=8.1,SNR=35								
MKAR					PcP		**PcP**	**03 31 40.6**	**+1.9**
	0.8nm,0.5s,baz=127,slow=3.1,SNR=3.7								
MKAR	**Makanchi Array**		**57.63**	**325**	P		**P**	**03 30 45.9**	**-0.1**
MKAR					PcP		**PcP**	**03 31 40.6**	**+1.9**
AAK	**Ala-Archa**		**60.40**	**318**	*eP*		**P**	**03 31 05.3**	**-0.2**
	2.8nm,0.5s								
ZALV	**Zalesovo Beam**		**60.70**	**333**	P		**P**	**03 31 06.7**	**-0.4**
	1.0nm,0.4s,baz=128,slow=7.3,SNR=6.8								
ZALV	**Zalesovo Beam**		**60.70**	**333**	P		**P**	**03 31 06.7**	**-0.4**
KURK	**Kurchatov**		**61.83**	**328**	*eP*		**P**	**03 31 14.3**	**-0.5**
	9.0nm,0.6s								
KKAR	**Karatay Array**		**63.27**	**317**	*eP*		**P**	**03 31 24.1**	**-0.6**
	2.0nm,0.6s								
ABKAR	**Akbulak array**		**72.21**	**321**	*eP*		**P**	**03 32 20.1**	**-0.6**
	1.0nm,0.6s								
ILAR	**Eielson Array**		**85.36**	**25**	P		**P**	**03 33 32.8**	**+0.3**
	0.2nm,0.7s,baz=271,slow=5.3,SNR=3.0								
ILAR	**Eielson Array**		**85.36**	**25**	P		**P**	**03 33 32.8**	**+0.3**
BRTR	**Keskin Array B**		**90.03**	**310**	P		**P**	**03 33 55.0**	**-0.7**
	0.4nm,0.4s,baz=134,slow=3.6,SNR=4.6								
BRTR	**Keskin Array B**		**90.03**	**310**	P		**P**	**03 33 55.0**	**-0.7**
ARCES	**ARCESS Array B**		**90.58**	**340**	P		**P**	**03 33 57.2**	**-0.3**
	4.3nm,0.8s,baz=71,slow=6.8,SNR=4.5								
ARCES	**ARCESS Array B**		**90.58**	**340**	P		**P**	**03 33 57.2**	**-0.3**
FINES	**FINESS Array B**		**91.94**	**332**	P		**P**	**03 34 04.4**	**+0.6**
	2.7nm,0.9s,baz=56,slow=5.2,SNR=4.6								
FINES	**FINESS Array B**		**91.94**	**332**	P		**P**	**03 34 04.4**	**+0.6**
NOA	**NORSAR Array B**		**98.90**	**334**	LR		LR	04 26 39.5	
	comp=Z,19nm,21.8s,baz=180,slow=40								

ISCJB ***19*** *03:26:38.2±0.3,31˚.63S±0˚.03×69˚.10W±0˚.04,h104km±3km, mb4.6/78, Error ellipse: s-maj=6.1km s-min=4.4km az=2.4*

GUC ***19*** *03:26:38.6±1.0,31˚.65S×69˚.50W,h152km±16km,ML4.2*

IDC ***19*** *03:26:39.8±0.4,31˚.69S×69˚.06W,h111km±3km, mb4.1/16, mb1 4.2/19,mb1mx4.1/24,mbtmp4.1/19,Error ellipse: s-maj=12.6km s-min=11.0km az=67.0*

NEIC ***19*** *03:26:39.7±0.1,31˚.72S×69˚.15W,mb4.6/68,MD4.6(SJA), Error ellipse: s-maj=5.0km s-min=3.2km az=97.0*

NEIC Felt [III] at San Juan.

ISC 19 03:26:39.7±0.3,31˚.64S±0˚.03×69˚.21W±0˚.04,h110km±2km, h109km:pP-P,n558,σ0:95/621,mb4.6/78,189C-179D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**		**0.83**	**88**	P		**Pn**	**03 26 58.6**	**-0.6**
	75nm,0.3s,baz=266,slow=7.5,SNR=4889								
CFAA					S		**Sn**	**03 27 13.1**	**-0.8**
	baz=345,slow=20								
CFAA	**Coronel Fontan**		**0.83**	**88**	P		**Pn**	**03 26 58.6**	**-0.6**
CFAA					S		**Sn**	**03 27 13.1**	**-0.8**
JACH	**Jahuel**		**1.57**	**228**	⇓*iP*		**Pn**	**03 27 07.7**	**+0.3**
JACH	**Jahuel**		**1.57**	**228**	⇓*iP*		**Pn**	**03 27 07.7**	**+0.3**
PTCH	**Petorca**		**1.59**	**247**	⇑*iP*		**Pn**	**03 27 07.3**	**-0.3**
PTCH					*i* S		**Sn**	**03 27 28.9**	**+0.1**
PTCH	**Petorca**		**1.59**	**247**	⇑*iP*		**Pn**	**03 27 07.3**	**-0.3**
PTCH					*i* S		**Sn**	**03 27 28.9**	**+0.1**
PTCH					AML		AML	03 27 29.6	
	comp=N,12μm,0.5s								
FCH	**Farellones**		**1.91**	**208**	⇓*iP*		Pn	03 27 15.3	+3.4
FCH					*i* S		**Sn**	**03 27 40.4**	**+4.0**
FCH					AML		AML	03 27 50.2	
	comp=E,1μm,0.6s								
PEL	**Peldehue**		**1.95**	**220**	⇓*iP*		**Pn**	**03 27 11.8**	**-0.3**
PEL					*i* S		**Sn**	**03 27 36.4**	**-0.4**
PEL					AML		AML	03 27 37.6	
	comp=N,5μm,0.5s								
CHNG	**Los Chungos**		**1.97**	**262**	⇑*iP*		**Pn**	**03 27 11.0**	**-1.2**
CHNG					*i* S		**Sn**	**03 27 35.9**	**-1.1**
CHNG	**Los Chungos**		**1.97**	**262**	⇑*iP*		**Pn**	**03 27 11.0**	**-1.2**
CHNG					*i* S		**Sn**	**03 27 35.9**	**-1.1**
CHNG					AML		AML	03 27 45.0	
	comp=E,3μm,0.5s								
TLL	**Tololo Astrono**		**2.01**	**317**	⇑*iP*		**Pn**	**03 27 13.2**	**+0.2**
TLL					*i* S		**Sn**	**03 27 39.5**	**+0.9**
TLL					AML		AML	03 27 41.9	
	comp=N,3μm,0.7s								
CLCH	**Cerro Calan**		**2.08**	**212**	⇓*iP*		**Pn**	**03 27 13.8**	**+0.1**
CLCH					*i* S		**Sn**	**03 27 40.2**	**+0.5**
CLCH					AML		AML	03 27 49.0	
	comp=E,3μm,0.6s								
CLCH					AML		AML	03 27 51.0	
	comp=E,3μm,0.6s								
PACH	**Papudo**		**2.09**	**244**	⇓*iP*		**Pn**	**03 27 12.7**	**-1.2**
PACH					*eS*		**Sn**	**03 27 38.6**	**-1.5**
PACH	**Papudo**		**2.09**	**244**	⇓*iP*		**Pn**	**03 27 12.7**	**-1.2**
PACH					*eS*		**Sn**	**03 27 38.6**	**-1.5**
FSR	**Penalolen**		**2.14**	**211**	AML		AML	03 27 49.0	
	comp=N,450nm,0.7s								
STL	**Santa Lucia**		**2.16**	**214**	AML		AML	03 27 49.3	
	comp=N,330nm,0.4s								
SAN	**Santiago**		**2.18**	**214**	*i* S		**Sn**	**03 27 42.0**	**-0.1**
SAN					AML		AML	03 27 43.7	
	comp=N,2μm,0.5s								
SJCH	**San Jose de Ma**		**2.21**	**206**	*eP*		**Pn**	**03 27 15.9**	**+0.4**
SJCH					S		**Sn**	**03 27 45.0**	**+2.1**
SJCH	**San Jose de Ma**		**2.21**	**206**	*eP*		**Pn**	**03 27 15.9**	**+0.4**
SJCH					*i* S		**Sn**	**03 27 45.0**	**+2.1**
SJCH					AML		AML	03 27 48.3	
	comp=N,772nm,0.6s								
ANTU	**Antumapu**		**2.27**	**212**	*eP*		**Pn**	**03 27 16.4**	**+0.2**
ANTU					*i* S		**Sn**	**03 27 44.9**	**+0.9**
ANTU	**Antumapu**		**2.27**	**212**	*eP*		**Pn**	**03 27 16.4**	**+0.2**
ANTU					*i* S		**Sn**	**03 27 44.9**	**+0.9**
ANTU					AML		AML	03 27 46.3	
	comp=E,2μm,0.4s								
LMEL	**Las Melosas**		**2.35**	**201**	*eP*		**Pn**	**03 27 18.0**	**+0.6**
LMEL	**Las Melosas**		**2.35**	**201**	*eP*		**Pn**	**03 27 18.0**	**+0.6**
LMEL					AML		AML	03 27 56.0	
	comp=N,651nm,0.3s								
IHA	**Instituto Hidr**		**2.48**	**236**	⇑*iP*		**Pn**	**03 27 17.1**	**-1.7**
IHA	**Instituto Hidr**		**2.48**	**236**	⇑*iP*		**Pn**	**03 27 17.1**	**-1.7**
TACH	**Talagante**		**2.48**	**216**	*eP*		**Pn**	**03 27 18.3**	**-0.6**
TACH	**Talagante**		**2.48**	**216**	*eP*		**Pn**	**03 27 18.3**	**-0.6**
CHCH	**Chadas Angostu**		**2.59**	**208**	⇓*iP*		**Pn**	**03 27 20.4**	**+0.1**
CHCH	**Chadas Angostu**		**2.59**	**208**	⇓*iP*		**Pn**	**03 27 20.4**	**+0.1**
CACH	**El Canelo**		**2.73**	**205**	*eP*		**Pn**	**03 27 22.5**	**+0.3**
CACH	**El Canelo**		**2.73**	**205**	*eP*		**Pn**	**03 27 22.5**	**+0.3**
LCO	**Las Campanas**		**2.92**	**333**	*ePn*		**Pn**	**03 27 24.1**	**-0.9**
LCO					*eSn*		Sn	03 27 52.8	-6.9
LNV	**Longovilo**		**2.96**	**218**	⇑*iP*		**Pn**	**03 27 23.3**	**-1.9**
LNV	**Longovilo**		**2.96**	**218**	⇑*iP*		**Pn**	**03 27 23.3**	**-1.9**
VACH	**Vallenar**		**3.34**	**336**	⇑*iP*		Pn	03 27 23.8	-6.4
VACH					*i* S		Sn	03 28 02.1	-7.1
CPCH	**Copiapo**		**4.38**	**347**	⇓*iP*		**Pn**	**03 27 44.2**	**-0.1**
CPCH					*i* S		**Sn**	**03 28 32.7**	**-1.6**
CPCH	**Copiapo**		**4.38**	**347**	⇓*iP*		**Pn**	**03 27 44.2**	**-0.1**
CPCH					*i* S		**Sn**	**03 28 32.7**	**-1.6**
TRQA	**Tornquist**		**8.73**	**139**	*ePn*		**Pn**	**03 28 41.3**	**-1.7**
PLCA	**Paso Flores**		**9.14**	**186**	P		**Pn**	**03 28 46.9**	**-1.7**
	comp=N,0.2nm,0.3s,baz=11,slow=14,SNR=8.3								
PLCA	**Paso Flores**		**9.14**	**186**	*ePn*		**Pn**	**03 28 46.8**	**-1.7**
CPUP	**Villa Florida**		**11.66**	**66**	P		Pn	03 29 19.1	-3.6
	comp=N,0.9nm,0.3s,baz=225,slow=12,SNR=27								
CPUP	**Villa Florida**		**11.66**	**66**	P		Pn	03 29 19.1	-3.6
LPAZ	**La Paz**		**15.32**	**4**	P		**Pn**	**03 30 11.4**	**+0.8**
	comp=N,0.5nm,0.3s,baz=162,slow=9.8,SNR=36								
LPAZ	**La Paz**		**15.32**	**4**	*ePn*		**Pn**	**03 30 11.3**	**+0.8**
	comp=N,16nm,0.9s								
SIV	**San Ignacio**		**17.25**	**27**	P		**P**	**03 30 33.2**	**-0.5**
	comp=N,1.2nm,0.3s,baz=230,slow=11,SNR=52								
SIV	**San Ignacio**		**17.25**	**27**	P		**P**	**03 30 33.2**	**-0.5**
NNA	**Nana**		**20.79**	**339**	P		**P**	**03 31 12.9**	**+0.6**
	comp=N,4.1nm,0.3s,baz=178,slow=8.6,SNR=4.9								
NNA	**Nana**		**20.79**	**339**	*eP*		**P**	**03 31 12.6**	**+0.4**
	comp=N,7.3nm,0.7s								
EFI	**East Falkland**		**21.63**	**161**	*eP*		**P**	**03 31 18.8**	**-2.1**
	comp=N,28nm,0.8s								
USHA	**Ushuaia**		**23.19**	**179**	P		**P**	**03 31 36.4**	**-0.2**
	comp=N,12nm,0.8s,baz=7.1,slow=12,SNR=4.2								
USHA	**Ushuaia**		**23.19**	**179**	P		**P**	**03 31 36.4**	**-0.2**
SAML	**Samuel**		**23.27**	**15**	*eP*		**P**	**03 31 37.1**	**-0.6**
	comp=N,19nm,0.6s								
BDFB	**Brasilia**		**25.04**	**55**	P		**P**	**03 31 53.7**	**-0.2**
	comp=N,2.7nm,0.7s,baz=202,slow=5.4,SNR=3.9								
BDFB	**Brasilia**		**25.04**	**55**	P		**P**	**03 31 53.7**	**-0.2**
OTAV	**Otavalo**		**32.90**	**343**	*eP*		P	03 33 07.2	+3.2
	comp=N,5.5nm,1.0s								
ROSC	**El Rosal**		**36.62**	**351**	P		**P**	**03 33 37.5**	**+1.5**
	comp=N,9.3nm,0.7s,baz=331,slow=1.2,SNR=11								
ROSC	**El Rosal**		**36.62**	**351**	*eP*		**P**	**03 33 38.0**	**+2.0**
BCIP	**Isla Barro Col**		**41.84**	**344**	*eP*		**P**	**03 34 20.1**	**+1.3**
	comp=N,22nm,0.7s								
JTS	**JuntasAbangare**		**44.34**	**338**	P		**P**	**03 34 40.4**	**+1.3**
	comp=N,8.2nm,0.5s,baz=166,slow=4.2,SNR=9.8								
JTS	**JuntasAbangare**		**44.34**	**338**	*eP*		**P**	**03 34 40.6**	**+1.5**
	comp=N,7.0nm,0.6s								
CELP	**Cerrillos**		**49.50**	**3**	*eP*		**P**	**03 35 18.8**	**-0.3**
SDDR	**Presa de Saban**		**50.38**	**357**	*eP*		**P**	**03 35 26.1**	**+0.4**
	comp=N,12nm,0.8s								
VNA3	**Neumayer Olymp**		**50.66**	**159**	*eP*		P	03 35 32.5	+5.2
VNA3	**Neumayer Olymp**		**50.66**	**159**	*epP*		pP	03 35 53.5	+0.2
VNA3	**Neumayer Olymp**		**50.66**	**159**	*ePP*		PP	03 37 30.4	+6.4
VNA3	**Neumayer Olymp**		**50.66**	**159**	*eScP*		**ScP**	**03 40 29.0**	**-0.1**
VNA3	**Neumayer Olymp**		**50.66**	**159**	*ePcS*		PcS	03 40 38.4	-1.8
VNA2	**Neumayer--Watz**		**51.28**	**158**	*eP*		**P**	**03 35 32.8**	**+0.8**
	baz=288,slow=8.7								
VNA2	**Neumayer--Watz**		**51.28**	**158**	*epP*		pP	03 35 58.5	+0.5
	baz=288,slow=8.7								
VNA2	**Neumayer--Watz**		**51.28**	**158**	*ePP*		PP	03 37 33.2	+3.6
	baz=288,slow=8.7								
VNA2	**Neumayer--Watz**		**51.28**	**158**	*eScP*		**ScP**	**03 40 33.8**	**+2.0**
	baz=288,slow=8.7								
SNAA	**Sanae**		**52.88**	**159**	*eP*		**P**	**03 35 44.2**	**+0.3**
	comp=N,3.6nm,0.8s								
SNAA					*epP*		**pP**	**03 36 10.6**	**+0.5**
CMIG	**Matias Romero**		**54.36**	**329**	P		**P**	**03 35 56.3**	**+1.1**
	comp=N,4.8nm,0.8s,baz=107,slow=4.8,SNR=6.0								
CMIG	**Matias Romero**		**54.36**	**329**	P		**P**	**03 35 56.3**	**+1.1**
TEIG	**Tepich**		**54.72**	**338**	*eP*		**P**	**03 35 58.1**	**+0.3**
	comp=N,45nm,0.6s								
QSPA	**South Pole Qui**		**58.59**	**180**	P		**P**	**03 36 25.6**	**+0.8**
	comp=N,1.9nm,0.6s,baz=166,slow=6.4,SNR=14								
QSPA					*pP*		**pP**	**03 36 52.4**	**+1.0**
	comp=N,11nm,0.9s,baz=153,slow=2.7,SNR=12								
QSPA	**South Pole Qui**		**58.59**	**180**	P		**P**	**03 36 25.6**	**+0.8**
QSPA					*pP*		**pP**	**03 36 52.4**	**+1.0**
NHSC	**New Hope**		**65.23**	**350**	*eP*		**P**	**03 37 10.1**	**+0.8**
	comp=N,89nm,1.3s								
HKT	**Hockley**		**66.27**	**335**	*eP*		**P**	**03 37 17.2**	**+1.2**
	comp=N,10nm,1.3s								
LRAL	**Lakeview Retre**		**66.49**	**344**	*eP*		**P**	**03 37 17.4**	**0.0**
	comp=N,20nm,1.4s								
VBMS	**Vicksburg**		**66.64**	**340**	*eP*		**P**	**03 37 19.4**	**+1.1**
732A	**Laxson Ranch,**		**66.80**	**331**	⇓*P*		**P**	**03 37 20.3**	**+0.9**
	baz=67,SNR=32								
632A	**Uvalde**		**67.40**	**331**	⇓*P*		**P**	**03 37 24.4**	**+1.0**
	baz=68,SNR=21								
631A	**Perdido Creek**		**67.65**	**331**	⇑*P*		**P**	**03 37 25.3**	**+0.4**
	baz=68,SNR=11								
532A	**Rocksprings**		**68.00**	**332**	⇑*P*		**P**	**03 37 28.0**	**+0.9**
	baz=68,SNR=39								
CPCT	**Cooper Cave**		**68.27**	**347**	*eP*		**P**	**03 37 28.8**	**+0.1**
SWET	**Sewanee**		**68.34**	**345**	*eP*		**P**	**03 37 29.4**	**+0.3**
	comp=N,28nm,0.8s								
OXF	**Oxford**		**68.50**	**342**	*eP*		**P**	**03 37 29.7**	**-0.4**
	comp=N,37nm,1.0s								
530A	**J-C Ranch, Com**		**68.61**	**330**	⇑*P*		**P**	**03 37 31.9**	**+1.0**
	baz=69,SNR=14								
432A	**Menard**		**68.61**	**332**	⇓*P*		**P**	**03 37 31.3**	**+0.4**
	baz=69,SNR=17								
WHTX	**Lake Whitney**		**68.71**	**334**	⇑*P*		**P**	**03 37 31.8**	**+0.4**
	baz=69								
628A	**Black Gap, Mar**		**68.71**	**329**	⇓*P*		**P**	**03 37 32.6**	**+1.0**
	baz=69,SNR=28								
431A	**Sonora**		**68.77**	**331**	⇑*P*		**P**	**03 37 32.3**	**+0.4**
	baz=69,SNR=9.6								
627A	**Terlingua Ranc**		**68.90**	**328**	⇓*P*		**P**	**03 37 33.4**	**+0.6**
	baz=69,SNR=10								
TXAR	**Lajitas Array**		**68.92**	**328**	P		**P**	**03 37 33.6**	**+0.7**
	comp=N,4.9nm,0.6s,baz=153,slow=8.5,SNR=99								
TXAR	**Lajitas Array**		**68.92**	**328**	P		**P**	**03 37 33.6**	**+0.7**
529A	**Stev Forest Ra**		**68.97**	**330**	⇓*P*		**P**	**03 37 34.1**	**+0.9**
	baz=69,SNR=43								
332A	**Millersview**		**69.04**	**332**	⇑*P*		**P**	**03 37 34.0**	**+0.4**
	baz=69,SNR=14								
430A	**Baggett Ranch,**		**69.12**	**331**	⇑*P*		**P**	**03 37 34.7**	**+0.6**
	baz=70,SNR=15								
528A	**Cox Ranch, San**		**69.24**	**329**	⇓*P*		**P**	**03 37 35.4**	**+0.5**
	baz=70,SNR=22								
331A	**San Angelo**		**69.25**	**332**	⇓*P*		**P**	**03 37 35.3**	**+0.5**
	baz=70,SNR=15								
429A	**Davenport Ranc**		**69.26**	**330**	⇓*P*		**P**	**03 37 35.8**	**+0.8**
	baz=70,SNR=19								
626A	**Big Bend Ranch**		**69.32**	**328**	⇑*P*		**P**	**03 37 36.6**	**+1.2**
	baz=70,SNR=29								
JSRW	**J. Sargeant Re**		**69.45**	**353**	*eP*		**P**	**03 37 36.5**	**+0.7**
527A	**Woodward Ranch**		**69.59**	**329**	⇓*P*		**P**	**03 37 37.7**	**+0.6**
	baz=70,SNR=11								
330A	**Mertzon**		**69.64**	**331**	⇑*P*		**P**	**03 37 37.5**	**+0.2**
	baz=70,SNR=16								
WVT	**Waverly**		**69.64**	**344**	*eP*		**P**	**03 37 36.8**	**-0.3**
	comp=N,42nm,0.7s								
WVT					*epP*		**pP**	**03 38 05.1**	**+0.6**
WVT					*eSP*		**sP**	**03 38 16.4**	**0.0**
MIAR	**Mount Ida**		**69.72**	**339**	*eP*		**P**	**03 37 37.8**	**+0.2**
	comp=N,15nm,1.3s								
526A	**Mary Lane Ranc**		**69.73**	**328**	⇑*P*		**P**	**03 37 39.0**	**+1.0**
	baz=70								
231A	**Bronte**		**69.75**	**332**	⇑*P*		**P**	**03 37 38.2**	**+0.3**
	baz=70,SNR=20								
230A	**Sterling City**		**70.03**	**331**	⇓*P*		**P**	**03 37 39.8**	**+0.1**
	baz=70								
329A	**Wagon Wheel Ra**		**70.04**	**331**	⇑*P*		**P**	**03 37 40.2**	**+0.5**
	baz=70,SNR=18								
UTMT	**University of**		**70.10**	**343**	*eP*		**P**	**03 37 40.1**	**+0.3**
	comp=N,94nm,0.7s								
ABTX	**Abilene, Hawle**		**70.10**	**333**	⇑*P*		**P**	**03 37 40.3**	**+0.4**
	baz=70,SNR=6.8								
427A	**Hayter Ranch,**		**70.10**	**329**	⇓*P*		**P**	**03 37 40.7**	**+0.5**
	baz=70,SNR=9.1								
426A	**McDonald Obser**		**70.23**	**328**	⇑*P*		**P**	**03 37 41.9**	**+0.9**
	baz=71,SNR=22								
328A	**Wristen Ranch,**		**70.30**	**330**	⇑*P*		**P**	**03 37 41.8**	**+0.5**
	baz=71								
229A	**Bryant Ranch,**		**70.39**	**331**	⇑*P*		**P**	**03 37 42.1**	**+0.2**
	baz=71								
PARMO	**Parma**		**70.62**	**343**	*eP*		**P**	**03 37 43.8**	**+0.7**
425A	**Indio Mountain**		**70.76**	**328**	⇓*P*		**P**	**03 37 44.4**	**+0.2**
	baz=71,SNR=9.2								
326A	**Caldwell Ranch**		**70.76**	**329**	⇑*P*		**P**	**03 37 44.7**	**+0.6**
	baz=71,SNR=14								
228A	**UT Block 9, Go**		**70.85**	**330**	⇑*P*		**P**	**03 37

HDIL	Hopedale comp=N,20nm,0.6s	74.21	344	eP	P	03 38 04.0	-0.3
W25A	X Bar L Ranch, baz=75,SNR=8.2	74.30	331	⇓P	P	03 38 05.5	+0.4
Y22A	Socorro baz=75	74.31	328	⇑P	P	03 38 06.3	+1.1
BNM	Barren Site comp=N,4.2nm,0.9s	74.33	328	eP	P	03 38 06.4	+1.0
Z20A	Nine Sixteen R baz=75	74.37	326	⇓P	P	03 38 06.8	+1.2
LPM	Los Pinos Moun	74.47	329	eP	P	03 38 07.7	+1.5
X23A	Hourglass Bar baz=75,SNR=15	74.50	329	⇓P	P	03 38 07.6	+1.2
V26A	Tequesquite Ra baz=75,SNR=5.2	74.52	331	⇓P	P	03 38 06.7	+0.4
Y21A	Point of Rocks baz=75,SNR=13	74.69	328	⇓P	P	03 38 09.0	+1.5
W24A	Lazy 6 Ranch, baz=75,SNR=8.8	74.70	330	⇑P	P	03 38 08.2	+0.7
LAZ	Ladron comp=N,5.3nm,1.1s	74.77	328	eP	P	03 38 09.2	+1.3
X22A	Bernardo baz=75	74.80	328	⇓P	P	03 38 09.3	+1.3
V25A	Rancho No Teng baz=75,SNR=16	74.90	331	⇑P	P	03 38 09.3	+0.7
ANMO	Albuquerque comp=N,16nm,1.4s	74.93	329	eP	P	03 38 10.0	+1.1
Y20A	Horse Springs, baz=75,SNR=7.7	74.93	327	⇓P	P	03 38 10.2	+1.3
W23A	Werner Place, baz=75,SNR=11	74.98	329	⇓P	P	03 38 10.3	+1.2
T28A	Walsh baz=75	75.01	333	⇑P	P	03 38 09.8	+0.7
U26A	Atchley Ranch, baz=75,SNR=7.9	75.02	332	⇑P	P	03 38 09.9	+0.5
V24A	Rampart Ranch, baz=76,SNR=5.6	75.08	330	⇑P	P	03 38 10.2	+0.5
X21A	Alamocita Cree baz=76,SNR=15	75.10	328	⇑P	P	03 38 11.3	+1.5
T27A	Campo baz=76	75.19	333	⇑P	P	03 38 11.5	+1.3
W22A	Albuquerque baz=76	75.22	329	⇑P	P	03 38 11.9	+1.5
U25A	Circle Dot Ran baz=76,SNR=9.4	75.30	331	⇑P	P	03 38 11.7	+0.8
V23A	Ortiz Mt. (NFS baz=76	75.48	330	⇓P	P	03 38 13.1	+1.1
X20A	Quemado baz=76,SNR=8.1	75.51	327	⇑P	P	03 38 13.6	+1.4
214A	Organ Pipe Nat baz=76	75.52	323	⇑P	P	03 38 13.5	+1.4
T26A	Comanche Natio baz=76	75.64	332	⇑P	P	03 38 13.9	+1.1
U24A	Moreno Valley baz=76	75.67	331	⇑P	P	03 38 14.3	+1.2
T25A	Trinidad baz=76,SNR=12	75.93	332	⇑P	P	03 38 15.8	+1.3
V22A	San Miguel Ran baz=76,SNR=28	75.94	329	⇓P	P	03 38 16.4	+1.7
S26A	Kim baz=76,SNR=9.8	75.97	333	⇑P	P	03 38 15.7	+1.0
U23A	El Rito baz=76,SNR=8.1	75.98	330	⇓P	P	03 38 16.3	+1.5
W20A	Ramah baz=76,SNR=11	75.99	328	⇓P	P	03 38 16.2	+1.2
T24A	Torres, Weston baz=76,SNR=9.5	76.14	331	⇓P	P	03 38 17.3	+1.5
V21A	Milan baz=77	76.17	329	⇓P	P	03 38 17.1	+1.2
X18A	Snowflake baz=77,SNR=5.9	76.18	326	⇑P	P	03 38 17.3	+1.3
R27A	Eads baz=77	76.29	333	⇓P	P	03 38 17.2	+0.8
U22A	Llaves baz=77,SNR=7.8	76.31	330	⇓P	P	03 38 18.4	+1.7
S25A	Robets Cordova baz=77,SNR=9.3	76.39	332	⇓P	P	03 38 18.1	+1.0
T23A	Casias Ranch, baz=77,SNR=6.3	76.52	330	⇑P	P	03 38 19.0	+1.1
V20A	Brimhall baz=77,SNR=8.0	76.54	328	⇓P	P	03 38 19.0	+1.1
R26A	Arlington baz=77	76.56	333	⇑P	P	03 38 19.1	+1.2
W18A	Petrified Fore baz=77	76.56	327	⇓P	P	03 38 19.0	+0.9
113A	Mohawk Valley, baz=77	76.66	323	⇑P	P	03 38 19.5	+1.1
S24A	Houchin Ranch, baz=77,SNR=13	76.69	331	⇑P	P	03 38 20.3	+1.4
U21A	Nageezi baz=77,SNR=18	76.70	329	⇓P	P	03 38 20.2	+1.3
Z14A	Wintersburg baz=77	76.71	324	⇓P	P	03 38 20.2	+1.5
R25A	Fountain Ranch baz=77	76.75	332	⇓P	P	03 38 20.4	+1.4
X16A	Lo Mia Camp, P baz=77,SNR=14	76.80	325	⇑P	P	03 38 20.8	+1.3
KSCO	Kaye Shedlock' baz=77	76.86	334	⇑P	P	03 38 20.9	+1.3
T22A	Edith baz=77,SNR=16	76.86	330	⇑P	P	03 38 21.3	+1.4
U20A	Newcomb baz=77	77.04	328	⇓P	P	03 38 22.1	+1.4
T21A	Navajo Lake baz=78	77.12	329	⇑P	P	03 38 22.5	+1.3
Q26A	Hugo baz=78	77.12	333	⇑P	P	03 38 22.4	+1.2
R24A	Sanders Place, baz=78,SNR=7.7	77.15	332	⇑P	P	03 38 22.7	+1.3
Y14A	Wickenburg baz=78,SNR=5.5	77.19	324	⇑P	P	03 38 22.5	+1.0
P27A	Ficken Ranch, baz=78	77.32	334	⇓P	P	03 38 23.3	+1.2
Q25A	Bedland, Calha baz=78	77.40	333	⇑P	P	03 38 23.5	+0.8
R23A	Moffat baz=78	77.41	331	⇓P	P	03 38 23.9	+1.0
BGNE	Belgrade baz=78	77.44	338	⇓P	P	03 38 23.7	+1.0
S22A	4UR Ranch, Cre baz=78,SNR=7.1	77.45	330	⇓P	P	03 38 24.3	+1.2
P26A	Davis Ranch, A baz=78	77.61	334	⇑P	P	03 38 24.7	+0.9
WUAZ	Wupatki baz=78,SNR=6.0	77.66	326	⇓P	P	03 38 25.6	+1.4
MVCO	Mesa Verde comp=N,8.6nm,1.0s	77.72	329	eP	P	03 38 25.7	+1.0
MVCO	Mesa Verde baz=78,SNR=8.0	77.72	329	⇓P	P	03 38 25.6	+1.0
S21A	Coal Bank Pass baz=78,SNR=9.6	77.79	330	⇑P	P	03 38 26.3	+1.2
Q24A	Divide baz=78,SNR=7.0	77.80	332	⇓P	P	03 38 26.1	+1.0
Y12C	Blythe baz=78	77.82	323	⇓P	P	03 38 26.3	+1.4
R22A	Saguache, Gunn baz=78	77.83	331	⇓P	P	03 38 26.4	+1.1
O27A	Beecher Island baz=78,SNR=5.5	77.84	335	⇑P	P	03 38 26.1	+1.1
P25A	Willow Gulch B baz=78,SNR=9.7	77.89	333	⇓P	P	03 38 26.6	+1.2
BAR	Barrett comp=N,9.6nm,1.3s	78.13	321	eP	P	03 38 28.3	+1.6
MONP	Monument Peak baz=78	78.15	321	⇓P	P	03 38 28.4	+1.3
S20A	Disappointment baz=78,SNR=7.3	78.18	329	⇓P	P	03 38 28.4	+1.3
O26A	Horse Wrangler baz=79	78.19	334	⇓P	P	03 38 28.4	+1.4
BC3	Big Chuckawall baz=79,SNR=6.0	78.23	322	⇓P	P	03 38 28.4	+1.0
R21A	Cimarron baz=79,SNR=5.7	78.28	330	⇑P	P	03 38 28.8	+1.1
O25A	Wiggins baz=79	78.39	333	⇓P	P	03 38 29.6	+1.5
N27A	Anderson Farm, baz=79	78.40	335	⇑P	P	03 38 29.2	+1.1
P23A	Jefferson baz=79	78.42	332	⇓P	P	03 38 29.9	+1.3
Q22A	Crested Butte, baz=79,SNR=8.3	78.43	331	⇑P	P	03 38 29.9	+1.4
IRM	Iron Mountain baz=79	78.46	323	⇑P	P	03 38 29.6	+1.1
R20A	Redvale baz=79,SNR=7.3	78.49	329	⇑P	P	03 38 30.1	+1.3
W13A	Hualapai Mount baz=79	78.55	324	⇓P	P	03 38 30.5	+1.3
Q21A	Lamborn Mesa, baz=79	78.68	330	⇓P	P	03 38 31.2	+1.4
ISCO	Idaho Springs comp=N,5.0nm,0.9s	78.70	332	eP	P	03 38 30.9	+0.9
ISCO	Idaho Springs baz=79,SNR=8.3	78.70	332	⇓P	P	03 38 30.9	+0.9
SMCO	Snowmass comp=N,13nm,1.0s	78.72	331	eP	P	03 38 32.0	+1.7
SMCO				epP	pP	03 38 59.6	+1.3
PFO	Pinyon Flat Ob baz=79	78.72	321	⇓P	P	03 38 31.3	+1.2
BELC	Belle Mtn. Jos baz=79	78.78	322	⇑P	P	03 38 31.5	+1.1
S18A	Hurst Farm, Bl baz=79,SNR=19	78.79	328	⇑P	P	03 38 31.7	+1.2
U15A	North Rim baz=79,SNR=8.9	78.83	326	⇑P	P	03 38 32.1	+1.3
PV04	Paradox Valley	78.89	329	eP	P	03 38 32.6	+1.7
P22A	Eagle baz=79,SNR=5.5	78.99	331	⇑P	P	03 38 32.5	+1.0
BOSA	Boshof comp=N,2.3nm,0.8s,baz=259,slow=5.2,SNR=3.7	79.03	117	P	P	03 38 30.2	-1.9
BOSA	Boshof comp=N,4.6nm,0.8s	79.03	117	eP	P	03 38 32.1	0.0
ECSD	EROS Data Cent comp=N,17nm,1.0s	79.09	340	eP	P	03 38 31.6	-0.1
ECSD				epP	pP	03 39 00.3	+0.6
MURC	Murrieta baz=80	79.12	321	⇓P	P	03 38 33.4	+1.3
O23A	Lake Granby, G baz=80,SNR=11	79.17	332	⇑P	P	03 38 33.9	+1.4
GMRC	Granite Mounta baz=80,SNR=5.5	79.21	323	⇓P	P	03 38 33.8	+1.1
P21A	Newcastle baz=80,SNR=5.1	79.21	331	⇑P	P	03 38 33.9	+1.2
N24A	Carr baz=80	79.30	333	⇓P	P	03 38 34.1	+1.1
O22A	Kremmling baz=80,SNR=7.8	79.38	332	⇓P	P	03 38 34.6	+0.9
Q19A	Hogan Spring (baz=80	79.51	329	⇑P	P	03 38 35.4	+1.2
P20A	De Beque baz=80,SNR=7.7	79.59	330	⇑P	P	03 38 35.8	+1.1
HEC	Hector,Ludlow baz=80,SNR=5.7	79.60	322	⇑P	P	03 38 36.0	+1.3
N23A	Red Feather La baz=80,SNR=5.3	79.77	333	⇓P	P	03 38 36.6	+0.9
M24A	Cheyenne baz=80,SNR=5.4	79.83	334	⇓P	P	03 38 37.2	+1.2
BFSC	Mount Baldy Ra baz=80	79.85	321	⇑P	P	03 38 37.1	+0.9
TUQ	Turquoise Moun baz=80	79.85	323	⇓P	P	03 38 37.3	+1.1
N22A	Wattenberg Ran baz=80,SNR=10	79.89	332	⇑P	P	03 38 37.8	+1.4
PHWY	Pilot Hill comp=N,8.0nm,0.8s	79.92	333	eP	P	03 38 37.5	+0.9
P19A	Cripple Cowboy baz=80,SNR=12	79.95	330	⇓P	P	03 38 37.7	+1.0
K27A	Flueckinger Fa baz=80	79.96	336	⇑P	P	03 38 37.5	+0.9
O20A	White River Ci baz=80	80.05	331	⇓P	P	03 38 38.3	+1.1
SRU	San Rafael comp=N,7.2nm,0.8s	80.19	329	eP	P	03 38 38.7	+0.7
SRU				epP	pP	03 39 07.3	+1.3
SRU	San Rafael baz=81,SNR=6.7	80.19	329	⇑P	P	03 38 38.5	+0.6
CCUT	Cedar City comp=N,7.9nm,1.0s	80.24	326	eP	P	03 38 40.3	+2.0
N21A	Black Mountain baz=81	80.28	331	⇑P	P	03 38 40.0	+1.5
Q16A	Castle Valley baz=81	80.32	328	⇑P	P	03 38 40.0	+1.3
MSU	Marysvale	80.45	327	eP	P	03 38 40.9	+1.5
M22A	Cedar Creek Ra baz=81	80.46	332	⇑P	P	03 38 40.8	+1.4
MVU	Marysvale comp=N,5.4nm,1.0s	80.46	327	eP	P	03 38 41.0	+1.4
EDW2	Edwards Air Fo baz=81	80.51	321	⇓P	P	03 38 40.3	+0.6
O19A	Miners Draw (B baz=81,SNR=8.0	80.56	330	⇑P	P	03 38 40.7	+0.8
N20A	Spence Gulch, baz=81	80.65	331	⇓P	P	03 38 41.0	+0.5
L23A	Garrett baz=81	80.72	333	⇑P	P	03 38 41.6	+0.8
O18A	Roosevelt baz=81	80.91	330	⇓P	P	03 38 43.0	+1.2
L22A	Ellis Ranch, M baz=81	80.93	333	⇑P	P	03 38 42.8	+1.0
M21A	Separation Pea baz=81	80.93	332	⇓P	P	03 38 42.6	+0.7
N19A	Jo Jarvie Ra baz=82,SNR=5.1	81.08	330	⇓P	P	03 38 43.6	+0.9
LBTB	Lobatse comp=N,2.6nm,0.5s,baz=281,slow=6.0,SNR=7.9	81.10	114	P	P	03 38 43.1	-0.1
LBTB				pP	pP	03 39 11.2	-0.2
LBTB	Lobatse comp=N,2.5nm,0.5s,baz=263,slow=4.9,SNR=3.0	81.10	114	P	P	03 38 43.1	-0.1
LBTB				pP	pP	03 39 11.2	-0.2
FURC	Furnace Creek, baz=82	81.13	323	⇓P	P	03 38 44.1	+1.3
TOA0	Torodi Ar. Sit	81.15	69	eP	P	03 38 42.6	-0.8
TORD	Torodi Ar. Bea comp=N,3.7nm,0.7s,baz=261,slow=5.6,SNR=52	81.15	69	P	P	03 38 42.9	-0.5
TORD				pP	pP	03 39 11.9	+0.3
TORD	Torodi Ar. Bea comp=N,4.5nm,0.9s,baz=250,slow=5.1,SNR=9.0	81.15	69	P	P	03 38 42.9	-0.5
TORD				pP	pP	03 39 11.9	+0.3
M20A	Sweetwater, Wa baz=82	81.17	331	⇓P	P	03 38 43.9	+0.7
O17A	Robinson Place baz=82,SNR=7.5	81.17	329	⇓P	P	03 38 44.1	+0.9
K23A	Bowen Ranch, D baz=82,SNR=7.0	81.23	334	⇓P	P	03 38 44.4	+1.0
L21A	Rawlins baz=82	81.24	332	⇑P	P	03 38 44.5	+0.9
P15A	Leamington baz=82	81.35	328	⇑P	P	03 38 45.3	+1.2
N18A	Larsen Ranch, baz=82	81.36	330	⇓P	P	03 38 44.8	+0.7
ISA	Isabella comp=N,4.1nm,0.9s	81.36	321	eP	P	03 38 45.9	+1.7
ISA	Isabella baz=82	81.36	321	⇓P	P	03 38 45.4	+1.2
J24A	Dixon Ranch, L baz=82,SNR=5.7	81.37	335	⇓P	P	03 38 45.2	+1.1
K22A	Casper baz=82,SNR=8.8	81.49	333	⇓P	P	03 38 46.0	+1.2
O16A	Springville baz=82	81.52	329	⇓P	P	03 38 46.5	+1.5
L20A	Wamsutter baz=82	81.66	332	⇓P	P	03 38 46.2	+0.4
K21A	Alcova baz=82,SNR=16	81.76	333	⇑P	P	03 38 47.0	+0.8
I24A	Kuemmerle Ranc baz=82	81.82	335	⇑P	P	03 38 47.2	+0.7
JLU	Jordanelle comp=N,20nm,1.9s	81.82	329	eP	P	03 38 47.6	+0.9
VES	Vestal, Richgr baz=82	81.82	321	⇓P	P	03 38 48.1	+1.7
N17A	Moffit Pass baz=82,SNR=5.2	81.83	329	⇑P	P	03 38 47.5	+0.8
RSSD	Black Hills comp=N,6.1nm,0.8s	81.83	335	eP	P	03 38 46.9	+0.3
R11A	Troy Canyon, C baz=82,SNR=8.0	81.95	325	⇓P	P	03 38 48.3	+0.9
N16A	Rees Ranch, Co baz=82	82.05	329	⇓P	P	03 38 48.2	+0.4
DUG	Dugway comp=N,23nm,1.9s	82.10	328	eP	P	03 38 49.0	+1.0
DUG	Dugway baz=82,SNR=6.7	82.10	328	⇑P	P	03 38 48.7	+0.7
J22A	Midwest baz=82,SNR=7.8	82.12	334	⇑P	P	03 38 48.2	+0.2
L19A	Farson baz=83,SNR=9.8	82.16	331	⇑P	P	03 38 49.0	+0.7
K20A	Yellowstone Ra baz=83	82.21	332	⇓P	P	03 38 48.8	+0.2
L18A	Fontenelle, Gr baz=83	82.30	331	⇓P	P	03 38 49.6	+0.5
J21A	Lysite baz=83	82.44	333	⇓P	P	03 38 50.3	+0.6
M16A	Huntsville baz=83	82.48	329	⇓P	P	03 38 50.4	+0.4
N15A	Stansbury Isla baz=83,SNR=5.6	82.53	328	⇑P	P	03 38 50.6	+0.4
I22A	9 Mile Ranch, baz=83,SNR=10	82.53	334	⇓P	P	03 38 50.6	+0.4
K19A	Absolon Red Bu baz=83,SNR=6.6	82.55	332	⇓P	P	03 38 50.6	+0.2
H24A	Dirks Ranch, A baz=83,SNR=6.8	82.56	335	⇓P	P	03 38 50.5	+0.3
HWUT	Hardware Ranch comp=N,23nm,1.7s	82.69	329	eP	P	03 38 51.6	+0.5
J20A	Shoshoni baz=83	82.69	333	⇑P	P	03 38 52.0	+1.0
I21A	Big Trails, Te baz=83,SNR=7.2	82.77	333	⇓P	P	03 38 51.7	+0.2
L17A	Cokeville baz=83	82.79	330	⇓P	P	03 38 51.5	-0.1
BW06	Boulder Array comp=N,2.7nm,0.8s	82.79	331	eP	P	03 38 51.9	+0.2
BW06	Boulder Array baz=83	82.79	331	⇑P	P	03 38 51.9	+0.2
PDAR	Pinedale Array comp=N,2.3nm,0.7s,baz=131,slow=6.2,SNR=20	82.79	331	P	P	03 38 51.5	-0.2
PDAR	Pinedale Array	82.79	331	P	P	03 38 51.5	-0.2
K18A	Toltan Ranch, baz=83,SNR=7.6	82.89	331	⇓P	P	03 38 52.7	+0.5
M15A	Larsen Ranch, baz=83,SNR=6.9	82.96	329	⇓P	P	03 38 52.6	+0.2
L16A	Fish Haven baz=83,SNR=7.7	82.96	330	⇑P	P	03 38 52.7	+0.2
J19A	Crowheart baz=83,SNR=8.1	83.00	332	⇑P	P	03 38 53.2	+0.5
G24A	Alzada baz=83,SNR=7.2	83.02	336	⇓P	P	03 38 52.9	+0.3
MLAC	Mammoth Lakes baz=83	83.04	322	⇑P	P	03 38 53.7	+0.6
AGMN	Agassiz Nation comp=N,8.1nm,1.0s	83.09	342	eP	P	03 38 52.5	-0.2
I20A	Worland baz=84,SNR=8.0	83.21	333	⇑P	P	03 38 54.0	+0.4
G23A	Biddle baz=84,SNR=6.7	83.25	335	⇓P	P	03 38 53.9	+0.1
K17A	Gardner Place, baz=84	83.35	330	⇓P	P	03 38 54.5	0.0
J18A	Kendall Valley baz=84,SNR=7.6	83.35	331	⇑P	P	03 38 54.5	-0.1
HVU	Hansel Valley comp=N,5.6nm,0.8s	83.36	329	eP	P	03 38 54.9	+0.4
L15A	Malad City baz=84,SNR=5.3	83.37	329	⇓P	P	03 38 54.5	0.0
H21A	Big Horn, Sher baz=84	83.37	334	⇓P	P	03 38 54.3	-0.1
NVAR	Mina Array Bea comp=N,0.8nm,0.4s,baz=150,slow=4.2,SNR=8.0	83.37	323	P	P	03 38 55.5	+0.8
NVAR	Mina Array Bea	83.37	323	P	P	03 38 55.5	+0.8
F24A	Ekalaka baz=84	83.48	336	⇑P	P	03 38 55.2	+0.3
G22A	Birney baz=84	83.59	335	⇑P	P	03 38 55.8	+0.2
H20A	Greybull baz=84,SNR=14	83.61	333	⇓P	P	03 38 55.8	+0.1
I19A	Meeteetse baz=84	83.62	332	⇑P	P	03 38 56.0	+0.2
ELK	Elko comp=N,12nm,1.6s	83.66	327	eP	P	03 38 56.9	+0.7
I18A	Diamond G Ranc baz=84,SNR=8.1	83.67	332	⇓P	P	03 38 56.6	+0.4
K16A	Soda Springs baz=84	83.70	330	⇑P	P	03 38 56.6	+0.4
MDND	Maddock baz=84	83.70	340	⇑P	P	03 38 56.5	+0.5
F23A	Volborg baz=84,SNR=8.2	83.71	335	⇑P	P	03 38 56.1	0.0
LOHW	Long Hollow comp=N,2.2nm,0.8s	83.92	331	eP	P	03 38 57.7	+0.3
G21A	Lodge Grass baz=84	83.94	334	⇑P	P	03 38 57.7	+0.4
TPAW	Teton Pass comp=N,26nm,2.3s	83.97	331	eP	P	03 38 58.3	+0.5
K15A	Arbon baz=84	83.98	329	⇓P	P	03 38 57.9	+0.3
RRI2	Red Ridge comp=N,14nm,1.5s	84.00	331	eP	P	03 38 58.5	+0.6
E24A	Baker baz=84	84.05	336	⇓P	P	03 38 58.0	+0.2
F22A	Rosebud baz=84,SNR=8.0	84.06	335	⇓P	P	03 38 58.0	+0.1
J16A	Bone baz=84,SNR=5.4	84.07	330	⇓P	P	03 38 58.2	+0.1
H19A	Powell baz=85	84.15	333	⇑P	P	03 38 58.6	+0.1
K14A	Jones Ranch, D baz=84	84.15	329	⇑P	P	03 38 58.7	+0.2
I17A	Pilgrim Ck. baz=85	84.17	331	⇑P	P	03 38 59.2	+0.6
IMW	Indian Meadow comp=N,9.9nm,1.4s	84.30	331	eP	P	03 39 00.1	+0.7
G20A	Bridger baz=85,SNR=9.5	84.31	333	⇑P	P	03 38 59.1	-0.2
E23A	Ismay baz=85	84.34	336	⇓P	P	03 38 59.1	-0.1
FLWY	Flagg Ranch comp=N,4.9nm,0.7s	84.35	331	eP	P	03 39 00.2	+0.7
H18A	Shoshone NF, C baz=85,SNR=14	84.42	332	⇑P	P	03 39 00.2	+0.2
I16A	Newdale baz=85	84.50	331	⇑P	P	03 39 00.7	+0.4
E22A	Miles City baz=85	84.52	335	⇓P	P	03 39 00.4	+0.3
D24A	Glendive baz=85	84.54	337	⇓P	P	03 39 00.8	+0.5
RLMT	Red Lodge comp=N,2.9nm,0.6s	84.64	333	eP	P	03 39 01.3	+0.3
RLMT	Red Lodge baz=85	84.64	333	⇓P	P	03 39 01.5	+0.5
D23A	Lindsay baz=85,SNR=11	84.89	336	⇑P	P	03 39 02.6	+0.6
ULM	Lac du Bonnet comp=N,5.4nm,0.7s,baz=166,slow=4.4,SNR=14	84.89	343	P	P	03 39 01.5	-0.3
ULM				pP	pP	03 39 31.3	+1.1
ULM	Lac du Bonnet comp=N,2.0nm,0.6s,baz=135,slow=6.3,SNR=2.3	84.89	343	eP	P	03 39 01.4	-0.4
ULM				pP	pP	03 39 31.3	+1.1
G18A	Lazy EL Ranch, baz=85,SNR=6.9	84.92	333	⇑P	P	03 39 02.4	0.0
J14A	Carey baz=85	84.92	329	⇑P	P	03 39 02.8	+0.3
C24A	Savage baz=85,SNR=9.5	84.94	337	⇑P	P	03 39 02.7	+0.5
YMR	Madison River comp=N,1.8nm,1.2s	84.94	332	eP	P	03 39 03.5	+1.0
I15A	Monteview baz=85	85.03	330	⇑P	P	03 39 03.8	+0.9
H16A	Russell Place, baz=86	85.08	331	⇑P	P	03 39 03.9	+0.7
F19A	Roth Farm, Mol baz=86	85.12	333	⇑P	P	03 39 03.5	+0.3
D22A	Cohagen baz=86,SNR=5.9	85.21	336	⇓P	P	03 39 04.0	+0.4
J13A	Cove Ranch, Pi baz=86,SNR=13	85.27	329	⇑P	P	03 39 04.8	+0.7
E20A	Meyer Farm, Mu baz=86,SNR=12	85.36	334	⇑P	P	03 39 04.8	+0.4
I14A	Mackay baz=86,SNR=8.3	85.38	330	⇓P	P	03 39 05.6	+0.9
G17A	Pierce Place, baz=86	85.39	332	⇑P	P	03 39 05.5	+0.9
D21A	La Casta Ranch baz=86	85.43	335	⇑P	P	03 39 05.1	+0.5
C23A	Lambert baz=86	85.43	337	⇑P	P	03 39 04.8	+0.1
F18A	Big Timber baz=86,SNR=12	85.47	333	⇑P	P	03 39 05.4	+0.5
HLID	Hailey comp=N,5.8nm,1.0s	85.51	329	eP	P	03 39 06.3	+1.0
HLID				epP	pP	03 39 36.1	+2.3
HLID	Hailey baz=86,SNR=12	85.51	329	⇓P	P	03 39 06.3	+1.0
E19A	Rath Farm, Rou baz=86,SNR=18	85.57	334	⇑P	P	03 39 05.9	+0.5
H15A	Lima baz=86	85.59	330	⇑P	P	03 39 06.7	+0.9
C22A	Vida baz=86	85.62	336	⇓P	P	03 39 06.6	+1.0
I13A	Wildhorse Cree baz=86,SNR=16	85.66	329	⇑P	P	03 39 07.1	+0.9
DGMT	Dagmar comp=N,15nm,0.8s	85.68	337	eP	P	03 39 06.3	+0.5
DGMT	Dagmar baz=86,SNR=6.0	85.68	337	⇓P	P	03 39 06.3	+0.5

G16A	**Moss Hill, Enn**	**85.74**	**331**	⇑P		**P**	**03 39 06.9**	**+0.5**
	baz=86							
F17A	**Fitzpatrick Pl**	**85.83**	**332**	⇓P		**P**	**03 39 07.3**	**+0.4**
	baz=86							
MCMT	**McKenzie Canyo**	**85.85**	**331**	*e*P		**P**	**03 39 07.7**	**+0.6**
	comp=N,3.7nm,0.8s							
D20A	**Manuel Ranch,**	**85.86**	**335**	⇑P		**P**	**03 39 07.2**	**+0.4**
	baz=86,SNR=12							
H14A	**Leadore**	**85.90**	**330**	⇑P		**P**	**03 39 07.9**	**+0.7**
	baz=86							
G15A	**Dillon**	**85.97**	**331**	⇑P		**P**	**03 39 08.2**	**+0.6**
	baz=86,SNR=7.2							
BOZ	**Bozeman (W)**	**86.01**	**332**	⇑P		**P**	**03 39 08.0**	**+0.3**
	baz=86							
I12A	**Atlanta**	**86.01**	**329**	⇑P		**P**	**03 39 08.3**	**+0.4**
	baz=86,SNR=8.2							
A24A	**Westby**	**86.01**	**338**	⇑P		**P**	**03 39 08.1**	**+0.7**
	baz=86							
MFID	**Camas Ranch**	**86.03**	**328**	*e*P		**P**	**03 39 08.7**	**+0.9**
	comp=N,21nm,1.8s							
MFID	**Camas Ranch**	**86.03**	**328**	⇓P		**P**	**03 39 08.4**	**+0.6**
	baz=86							
E18A	**Harlowton**	**86.09**	**333**	⇑P		**P**	**03 39 08.3**	**+0.2**
	baz=86							
C21A	**Desert Coulee**	**86.11**	**335**	⇓P		**P**	**03 39 08.2**	**+0.2**
	baz=86,SNR=9.0							
F16A	**Kennard Place,**	**86.12**	**332**	⇓P		**P**	**03 39 08.2**	**0.0**
	baz=86							
B22A	**Reddig Ranch S**	**86.13**	**336**	⇑P		**P**	**03 39 08.7**	**+0.6**
	baz=86							
SCHQ	**Schefferville**	**86.15**	**1**	P		**P**	**03 39 07.3**	**-0.7**
	comp=N,2.5nm,0.5s,baz=228,slow=3.2,SNR=17							
SCHQ	**Schefferville**	**86.15**	**1**	*e*P		**P**	**03 39 07.8**	**-0.2**
DLMT	**Dillon**	**86.17**	**331**	*e*P		**P**	**03 39 09.6**	**+1.0**
	comp=N,12nm,1.4s							
D19A	**Cripps Ranch,**	**86.20**	**334**	⇓P		**P**	**03 39 08.5**	**0.0**
	baz=87,SNR=10							
H13A	**Challis**	**86.24**	**330**	⇓P		**P**	**03 39 09.8**	**+0.9**
	baz=87,SNR=18							
C20A	**Veseth Ranch,**	**86.34**	**335**	⇑P		**P**	**03 39 08.9**	**-0.3**
	baz=87,SNR=6.9							
E17A	**Martinsdale**	**86.37**	**333**	⇑P		**P**	**03 39 10.2**	**+0.7**
	baz=87							
G14A	**Jackson**	**86.44**	**330**	⇑P		**P**	**03 39 10.7**	**+0.7**
	baz=87							
H12A	**Diamond D Ranc**	**86.48**	**329**	⇑P		**P**	**03 39 11.1**	**+1.0**
	baz=87							
LRM	**Limekiln Ridge**	**86.49**	**331**	*e*P		**P**	**03 39 10.9**	**+0.7**
F15A	**Butte**	**86.52**	**331**	⇑P		**P**	**03 39 10.6**	**+0.3**
	baz=87,SNR=5.8							
D18A	**Linhart Farms,**	**86.57**	**334**	⇑P		**P**	**03 39 10.8**	**+0.5**
	baz=87							
B21A	**Ellsworth Farm**	**86.59**	**336**	⇑P		**P**	**03 39 11.1**	**+0.7**
	baz=87							
G13A	**Cobalt**	**86.65**	**330**	⇓P		**P**	**03 39 11.4**	**+0.5**
	baz=87,SNR=10							
A22A	**Carney Farms,**	**86.70**	**337**	⇑P		**P**	**03 39 11.1**	**+0.1**
	baz=87,SNR=6.4							
C19A	**Slack Wire Ran**	**86.74**	**334**	⇓P		**P**	**03 39 11.2**	**+0.1**
	baz=87,SNR=5.9							
E16A	**East Helena**	**86.75**	**332**	⇓P		**P**	**03 39 11.7**	**+0.4**
	baz=87							
F14A	**Wisdom**	**86.86**	**331**	⇓P		**P**	**03 39 12.8**	**+0.9**
	baz=87,SNR=7.0							
D17A	**Six Diamond Ra**	**86.87**	**333**	⇑P		**P**	**03 39 12.2**	**+0.3**
	baz=87,SNR=19							
HRY	**Holter Researc**	**86.96**	**332**	*e*P		**P**	**03 39 12.8**	**+0.5**
	comp=N,0.9nm,0.4s							
MOD	**Modoc**	**86.99**	**324**	*e*P		**P**	**03 39 13.6**	**+1.0**
	comp=N,5.3nm,0.8s							
A21A	**Bergtoll Ranch**	**87.04**	**336**	⇓P		**P**	**03 39 12.7**	**+0.2**
	baz=88							
E15A	**Deer Lodge**	**87.05**	**332**	⇑P		**P**	**03 39 13.3**	**+0.5**
	baz=88							
D16A	**Dana Ranch, Ca**	**87.11**	**333**	⇓P		**P**	**03 39 13.8**	**+0.7**
	baz=88,SNR=6.6							
G12A	**Big Creek, Yel**	**87.15**	**329**	⇓P		**P**	**03 39 13.6**	**+0.2**
	baz=88							
EGMT	**Eagleton**	**87.24**	**334**	*e*P		**P**	**03 39 13.3**	**-0.2**
	comp=N,12nm,1.3s							
EGMT	**Eagleton**	**87.24**	**334**	⇑P		**P**	**03 39 13.4**	**-0.2**
	baz=88,SNR=5.1							
F13A	**Darby**	**87.24**	**330**	⇑P		**P**	**03 39 13.9**	**+0.2**
	baz=88,SNR=6.3							
A20A	**Cobblestone Ra**	**87.30**	**336**	⇓P		**P**	**03 39 14.0**	**+0.2**
	baz=88,SNR=9.3							
C17A	**Wharram Farm,**	**87.30**	**333**	⇑P		**P**	**03 39 13.8**	**-0.1**
	baz=88,SNR=7.5							
B19A	**Brinkman Farms**	**87.30**	**335**	⇓P		**P**	**03 39 14.1**	**+0.3**
	baz=88,SNR=9.5							
E14A	**Clinton**	**87.39**	**331**	⇓P		**P**	**03 39 15.2**	**+0.7**
	baz=88,SNR=5.9							
D15A	**Lincoln**	**87.50**	**332**	⇑P		**P**	**03 39 15.5**	**+0.6**
	baz=88,SNR=6.1							
B18A	**Beardsley Farm**	**87.56**	**334**	⇓P		**P**	**03 39 15.3**	**+0.2**
	baz=88,SNR=12							
F12A	**Elk City**	**87.61**	**330**	⇓P		**P**	**03 39 15.6**	**+0.2**
	baz=88							
A19A	**Klindworth Far**	**87.63**	**335**	⇓P		**P**	**03 39 15.3**	**-0.1**
	baz=88,SNR=5.3							
E13A	**Victor**	**87.70**	**331**	⇑P		**P**	**03 39 16.4**	**+0.5**
	baz=88,SNR=8.2							
C16A	**Fuhringer Ranc**	**87.82**	**333**	⇓P		**P**	**03 39 16.7**	**+0.4**
	baz=88,SNR=13							
B17A	**L&G Farms, Che**	**87.86**	**334**	⇑P		**P**	**03 39 16.7**	**+0.2**
	baz=88							
D14A	**Greenough**	**87.94**	**331**	⇑P		**P**	**03 39 17.4**	**+0.4**
	baz=88							
A18A	**Metzger Ranch,**	**88.02**	**335**	⇑P		**P**	**03 39 17.1**	**-0.1**
	baz=88							
SLMT	**Seeley Lake**	**88.06**	**332**	*e*P		**P**	**03 39 17.7**	**+0.1**
	comp=N,2.4nm,0.7s							
C15A	**Salmond Ranch,**	**88.13**	**332**	⇑P		**P**	**03 39 18.4**	**+0.5**
	baz=88,SNR=6.7							
E12A	**Beaver Dam Sad**	**88.27**	**330**	⇓P		**P**	**03 39 19.1**	**+0.5**
	baz=89							
B16A	**M & M Farms, S**	**88.30**	**333**	⇓P		**P**	**03 39 19.0**	**+0.4**
	baz=89							
D13A	**Huson**	**88.34**	**331**	⇑P		**P**	**03 39 19.4**	**+0.6**
	baz=89							
A17A	**Triple J Farms**	**88.36**	**334**	⇑P		**P**	**03 39 19.0**	**+0.2**
	baz=89,SNR=6.7							
B15A	**Bradely Ranch,**	**88.55**	**333**	⇓P		**P**	**03 39 19.6**	**-0.2**
	baz=89,SNR=6.5							
C14A	**Swan Lake**	**88.58**	**332**	⇓P		**P**	**03 39 20.2**	**+0.2**
	baz=89							
D12A	**Red Ives Fores**	**88.68**	**330**	⇓P		**P**	**03 39 20.3**	**-0.1**
	baz=89							
A16A	**West Butte Ran**	**88.70**	**334**	⇓P		**P**	**03 39 20.6**	**+0.1**
	baz=89,SNR=11							
JTMT	**Jette**	**88.78**	**331**	*e*P		**P**	**03 39 21.6**	**+0.6**
C13A	**Hot Springs**	**88.85**	**331**	⇑P		**P**	**03 39 21.4**	**+0.3**
	baz=89							
B14A	**Marquette Ranc**	**88.87**	**332**	⇓P		**P**	**03 39 21.8**	**+0.4**
	baz=89							
A15A	**Johnson Ranch,**	**89.16**	**333**	⇓P		**P**	**03 39 22.3**	**-0.4**
	baz=90							
B13A	**Whitefish**	**89.36**	**332**	⇓P		**P**	**03 39 23.6**	**0.0**
	baz=90							
A14A	**Double T Ranch**	**89.42**	**333**	⇑P		**P**	**03 39 24.0**	**+0.1**
	baz=90							
C11A	**Tepee Creek (N**	**89.67**	**330**	⇑P		**P**	**03 39 25.2**	**+0.1**
	baz=90							
A13A	**Flathead Natio**	**89.78**	**332**	⇓P		**P**	**03 39 25.8**	**+0.2**
	baz=90							
B12A	**Libby**	**89.89**	**331**	⇓P		**P**	**03 39 26.3**	**+0.3**
	baz=90							
FFC	**Flin Flon**	**90.53**	**342**	*e*P		**P**	**03 39 28.4**	**-0.3**
	comp=N,3.0nm,1.1s							
YKA	**Yellowknife Ar**	**100.62**	**340**	P		**Pdif**	**03 40 13.9**	**-0.6**
	comp=N,0.3nm,0.7s,baz=137,slow=4.5,SNR=8.7							
YKA				pP		pP	03 40 43.5	+0.3
	comp=N,0.3nm,0.9s,baz=141,slow=5.7,SNR=3.1							
YKA	**Yellowknife Ar**	**100.62**	**340**	P		**Pdif**	**03 40 13.9**	**-0.6**
YKA				pP		pP	03 40 43.5	+0.3
BRTR	**Keskin Array B**	**118.59**	**59**	PKP		**PKPdf**	**03 45 14.4**	**-0.4**
	comp=N,0.5nm,0.7s,baz=227,slow=3.5,SNR=3.9							
BRTR	**Keskin Array B**	**118.59**	**59**	PKP		**PKPdf**	**03 45 14.4**	**-0.4**
FINES	**FINESS Array B**	**119.71**	**33**	PKP		**PKPdf**	**03 45 15.7**	**-0.3**
	comp=N,2.2nm,0.9s,baz=232,slow=1.6,SNR=4.4							
FINES	**FINESS Array B**	**119.71**	**33**	PKP		**PKPdf**	**03 45 15.7**	**-0.3**
ASAR	**Alice Springs**	**120.72**	**205**	PKP		**PKPdf**	**03 45 17.9**	**-1.5**
	comp=N,0.5nm,0.6s,baz=164,slow=2.9,SNR=5.0							
ASAR				pPKP		**pPKPdf**	**03 45 48.7**	**-0.5**
	comp=N,0.2nm,0.5s,baz=146,slow=2.2,SNR=1.9							
ASAR	**Alice Springs**	**120.72**	**205**	PKP		**PKPdf**	**03 45 17.9**	**-1.5**
ASAR				pPKP		**pPKPdf**	**03 45 48.7**	**-0.5**
MALT	**Malatya**	**121.71**	**62**	*e*PKPdf		**PKPdf**	**03 45 20.5**	**-0.3**
WRA	**Warramunga Arr**	**123.96**	**207**	PKP		**PKPdf**	**03 45 24.5**	**-1.1**
	comp=N,1.0nm,0.4s,baz=156,slow=1.7,SNR=32							
WRA				pPKP		**pPKPdf**	**03 45 55.0**	**-0.4**
	comp=N,0.9nm,0.7s,baz=165,slow=1.6,SNR=4.8							
WRA	**Warramunga Ar**	**123.96**	**207**	PKP		**PKPdf**	**03 45 24.5**	**-1.1**
WRA				pPKP		**pPKPdf**	**03 45 55.0**	**-0.4**
WRAB	**Tennant Creek**	**123.96**	**207**	*e*PKPdf		**PKPdf**	**03 45 24.5**	**-1.1**
BILL	**Bilibino**	**131.72**	**335**	*e*PKPdf		**PKPdf**	**03 45 37.8**	**-1.0**
ABKAR	**Akbulak array**	**138.35**	**50**	*e*PKPdf		**PKPdf**	**03 45 51.8**	**+0.1**
BRVK	**Borovoye**	**143.87**	**42**	*e*PKPdf		PKPbc	03 45 60.0	+0.4
HYB	**Hyderabad**	**147.57**	**108**	*i* PKP		**PKPbc**	**03 46 10.5**	**-1.2**
EKS2	**Erkin-Say**	**148.74**	**59**	P		**PKPbc**	**03 46 15.2**	**+0.9**
	SNR=9.3							
AML	**Almayashu**	**148.75**	**60**	P		**PKPbc**	**03 46 15.3**	**+0.7**
	SNR=8.0							
USP	**Ospenovka**	**149.17**	**58**	P		**PKPbc**	**03 46 15.6**	**+0.4**
	SNR=5.5							
PSI	**Prapat**	**149.21**	**156**	PKPbc		**PKPbc**	**03 46 15.3**	**-0.9**
	comp=N,4.3nm,0.6s,baz=333,slow=0.2,SNR=4.3							
PSI				pPKPbc		**pPKPbc**	**03 46 44.9**	**-1.0**
	comp=N,5.5nm,0.8s,baz=180,slow=1.9,SNR=2.8							
PSI	**Prapat**	**149.21**	**156**	PKPbc		**PKPbc**	**03 46 15.3**	**-0.9**
PSI				pPKPbc		**pPKPbc**	**03 46 44.9**	**-1.0**
AAK	**Ala-Archa**	**149.27**	**59**	*e*PKPbc		**PKPbc**	**03 46 15.9**	**+0.3**
AAK				*e*PKPab		**PKPab**	**03 46 20.9**	**+0.4**
AAK	**Ala-Archa**	**149.27**	**59**	P		**PKPbc**	**03 46 16.5**	**+0.9**
	SNR=11							
KURK	**Kurchatov**	**149.53**	**42**	*e*PKPbc		**PKPbc**	**03 46 15.6**	**-0.1**
TKM2	**Tokmak 2**	**150.02**	**58**	*e*PKPbc		**PKPbc**	**03 46 17.6**	**+0.1**
TKM2				*e*PKPab		**PKPab**	**03 46 23.1**	**-0.6**
TKM2	**Tokmak 2**	**150.02**	**58**	P		**PKPbc**	**03 46 17.9**	**+0.4**
	SNR=8.5							
KSH	**Kashi**	**150.75**	**65**	*e*PKPbc		**PKPbc**	**03 46 18.8**	**-0.4**
KSH				*e*pPKP		**pPKPdf**	**03 46 43.9**	**+0.4**
KSH				*es*PKP			03 46 55.3	
KSH				PKS		**PKSdf**	**03 49 51.1**	**+2.7**
KSH				*e*PP		PP	03 50 02.8	+5.4
KSH				SKS		**SKSdf**	**03 53 14.8**	**+3.5**
KSH				SKKS		**SKKSac**	**03 56 40.8**	**+3.2**
KSH				SS		**SS**	**04 09 11.4**	**+1.5**
KSH				AMB		AMB		
	comp=Z,97nm,6.0s							
KSH				LR		LR		
	comp=N,73nm,4.7s							
KSH				LR		LR		
	comp=E,46nm,6.4s							
KSH				LR		LR		
	comp=Z,160nm,7.3s							
ZAA0	**Zalesovo Array**	**150.97**	**32**	*e*PKPbc		**PKPbc**	**03 46 18.5**	**-0.5**
ZALV	**Zalesovo Beam**	**150.97**	**32**	PKPbc		**PKPbc**	**03 46 19.2**	**+0.2**
	comp=Z,20nm,0.6s,baz=305,slow=3.4,SNR=99							
ZALV				PKPab		**PKPab**	**03 46 26.9**	**0.0**
	comp=Z,2.1nm,0.6s,baz=305,slow=5.1,SNR=4.5							
ZALV				pPKPbc		**pPKPbc**	**03 46 49.3**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=306,slow=3.2,SNR=3.1							
ZALV	**Zalesovo Beam**	**150.97**	**32**	PKPbc		**PKPbc**	**03 46 19.2**	**+0.2**
ZALV				PKPab		**PKPab**	**03 46 26.9**	**0.0**
ZALV				pPKPbc		**pPKPbc**	**03 46 49.3**	**+0.5**
KULM	**Kulim**	**152.11**	**158**	*e*PKPdf		**PKPdf**	**03 46 15.0**	**-1.2**
KULM				*e*PKPbc		**PKPbc**	**03 46 22.2**	**-0.7**
ASAJ	**Asahikawa**	**152.16**	**306**	PKPbc		**PKPbc**	**03 46 22.3**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=122,slow=2.1,SNR=2.9							
ASAJ				PKPab		**PKPab**	**03 46 30.9**	**-1.3**
	comp=Z,9.7nm,1.0s,baz=124,slow=3.6,SNR=4.6							
ASAJ	**Asahikawa**	**152.16**	**306**	PKPbc		**PKPbc**	**03 46 22.3**	**+0.2**
ASAJ				PKPab		**PKPab**	**03 46 30.9**	**-1.3**
MK31	**Makanchi Array**	**153.42**	**47**	*e*PKPbc		**PKPbc**	**03 46 24.2**	**-0.7**
MK31				*e*PKPab		**PKPab**	**03 46 37.0**	**-0.5**
MKAR	**Makanchi Array**	**153.42**	**47**	PKPbc		**PKPbc**	**03 46 24.5**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=293,slow=2.2,SNR=17							
MKAR				PKPab		**PKPab**	**03 46 37.4**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=302,slow=4.0,SNR=20							
MKAR				pPKPbc		**pPKPbc**	**03 46 54.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=309,slow=1.0,SNR=2.4							
MKAR				pPKPab		**pPKPab**	**03 47 07.2**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=303,slow=4.7,SNR=3.0							
MKAR	**Makanchi Array**	**153.42**	**47**	PKPbc		**PKPbc**	**03 46 24.5**	**-0.4**
MKAR				PKPab		**PKPab**	**03 46 37.4**	**-0.1**
MKAR				pPKPbc		**pPKPbc**	**03 46 54.7**	**+0.1**
MKAR				pPKPab		**pPKPab**	**03 47 07.2**	**+0.8**
MJAR	**Matsushiro Arr**	**156.81**	**290**	PKPab		**PKPab**	**03 46 51.9**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=88,slow=3.4,SNR=5.8							
MJAR	**Matsushiro Arr**	**156.81**	**290**	PKPab		**PKPab**	**03 46 51.9**	**-0.5**
WMQ	**Urumqi**	**158.14**	**50**	*e*PKP		**PKPdf**	**03 46 22.0**	**-1.6**
SONM	**Songino Array**	**163.48**	**10**	PKP		**PKPdf**	**03 46 28.7**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=354,slow=1.4,SNR=3.2							
SONM				PKPab		**PKPab**	**03 47 21.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=354,slow=1.4,SNR=8.5							
SONM	**Songino Array**	**163.48**	**10**	PKP		**PKPdf**	**03 46 28.7**	**-0.6**
SONM				PKPab		**PKPab**	**03 47 21.1**	**0.0**
ULN	**Ulaanbaatar**	**163.55**	**9**	*e*PKPdf		**PKPdf**	**03 46 29.1**	**-0.3**
ULN				*e*PKPab		**PKPab**	**03 47 22.0**	**+0.6**
GTA	**Gaotai**	**168.17**	**46**	*e*PKP		**PKPdf**	**03 46 34.1**	**+0.7**
GTA				pPKP		**pPKPdf**	**03 47 01.6**	**-1.8**
GTA				sPKP			03 47 13.3	
GTA				PKPab		**PKPab**	**03 47 43.6**	**+1.5**
BJI	**Beijing**	**170.55**	**334**	PKP		**PKPdf**	**03 46 34.8**	**+0.2**
BJI				SS		SS	04 12 39.0	+4.3
BJI				LR		LR		
	comp=N,120nm,14.4s							
BJI				LR		LR		
	comp=E,110nm,13.4s							
BJI				LR		LR		
	comp=Z,26nm,17.6s							
HHC	**Hu-ho-hao-te**	**170.79**	**356**	*e*PKP		**PKPdf**	**03 46 33.3**	**-1.6**
HHC				pPKP		**pPKPdf**	**03 47 00.3**	**-4.7**
HHC				sPKP			03 47 10.8	
HHC				PKS		**PKSdf**	**03 50 04.3**	**-3.0**
HHC				PP		**PP**	**03 51 44.3**	**+1.0**
HHC				SKS		**SKSdf**	**03 53 26.0**	**-2.3**
HHC				SKKS		**SKKSac**	**03 58 20.4**	**-0.1**
HHC				SS		**SS**	**04 12 37.4**	**+0.7**
HHC				AMB		AMB		
	comp=Z,97nm,9.3s							
HHC				LR		LR		
	comp=N,150nm,19.1s							
HHC				LR		LR		
	comp=E,120nm,19.4s							
HHC				LR		LR		
	comp=Z,100nm,20.6s							
LZH	**Lanzhou**	**172.72**	**51**	*e*PKP		**PKPdf**	**03 46 37.0**	**+1.0**
LZH				pPKP		**pPKPdf**	**03 47 06.5**	**+0.4**
LZH				sPKP			03 47 17.0	
GYA	**Guiyang**	**173.70**	**144**	*e*PKP		**PKPdf**	**03 46 35.0**	**-1.6**
GYA				pPKP		**pPKPdf**	**03 47 04.5**	**-2.2**
GYA				sPKP			03 47 15.6	
GYA				PKPab		**PKPab**	**03 48 06.4**	**-0.4**
GYA				PKS		**PKSdf**	**03 50 05.3**	**-3.8**
GYA				PP		**PP**	**03 51 59.0**	**+0.7**
GYA				AMB		AMB		
	comp=Z,80nm,8.0s							
CD2	**Chengdu**	**173.93**	**95**	PKP		**PKPdf**	**03 46 35.0**	**-1.5**

*DJA **19** 03:30:19.5±0.9,8°S±14′×10°9E±°, h86km±16km, M3.6/7, MLv3.6/7*
*IDC **19** 03:30:42.8±5.4, 7°.93S×109°.76E, h368km±57km, mb3.0/4, mb1 2.9/5, mb1mx2.7/22, mbtmp2.9/5, Error ellipse: s-maj=68.2km s-min=14.8km az=46.0*

ISC 19 03:30:12.5±1.0, 8°.7S±0°.1×109°.10E±0°.07, h100km±n15, σ1♦87/13, mb3.7/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLJI	**Cilicap**	**0.95**	**355**	P	**Pn**	**03 30 34.4**	**+2.0**
BJII	**Banjamegara**	**1.46**	**24**	P	**Pn**	**03 30 38.8**	**+0.4**
UGM	**Wanagama**	**1.60**	**62**	P	**Pn**	**03 30 41.7**	**+1.7**
	baz=5.5,SNR=92						
UGM	**Wanagama**	**1.60**	**62**	P	**Pn**	**03 30 42.7**	**+2.7**
CISI	**Cisompet, Garu**	**1.69**	**311**	P	**Pn**	**03 30 42.9**	**+1.7**
TGJI	**Tegal**	**1.79**	**1**	P	**Pn**	**03 30 41.3**	**-1.1**
PWJI	**Pagerwojo**	**2.75**	**77**	P	Pn	03 31 03.8	+8.9
SJI	**Sawahan**	**2.80**	**71**	P	Pn	03 30 59.9	+4.2
XMI	**Christmas Isla**	**3.80**	**242**	P	**Sn**	**03 31 53.1**	**+0.2**
	baz=11,SNR=14						
XMIS	**Christmas Isla**	**3.85**	**242**	P	**Sn**	**03 31 52.9**	**-1.1**
	baz=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**18.61**	**122**	P	Pn	03 34 34.1	+11
	0.1nm,0.3s,baz=305,slow=12,SNR=5.1						
FITZ				S	**S**	**03 37 45.7**	**-3.4**
	0.1nm,0.3s,baz=62,slow=17,SNR=1.5						
SONM	**Songino Array**	**56.31**	**358**	P	**P**	**03 39 42.0**	**-1.0**
	0.2nm,0.6s,baz=179,slow=7.7,SNR=2.7						
MKAR	**Makanchi Array**	**60.17**	**339**	P	**P**	**03 40 09.0**	**-0.8**
	0.5nm,0.5s,baz=157,slow=7.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**65.67**	**345**	P	**P**	**03 40 45.9**	**-0.2**
	0.9nm,0.3s,baz=159,slow=6.3,SNR=5.6						
BRTR	**Keskin Array B**	**84.49**	**311**	P	**P**	**03 42 36.1**	**+1.4**
	0.4nm,0.7s,baz=122,slow=6.6,SNR=2.6						

*ISCJB **19** 03:34:22.9±0.5, 31°.17S±0°.04×68°.63W±0°.05, h111km±5km, mb3.4/5, Error ellipse: s-maj=7.5km s-min=6.2km az=20.9*
*GUC **19** 03:34:23.3±0.9, 31°.12S×68°.89W, h149km, MD3.8, ML4.2*
*IDC **19** 03:34:23.7±0.7, 31°.24S×68°.49W, h106km±8km, mb3.4/5, mb1 3.7/9, mb1mx3.6/19, mbtmp3.5/9, MS3.2/1, Ms1 3.2/1, ms1mx2.8/16, Error ellipse: s-maj=28.1km s-min=23.8km az=152.0*

ISC 19 03:34:23.6±0.7, 31°.14S±0°.05×68°.63W±0°.06, h105km±7km, n26, σ1♦03/36, mb3.5/5, 6C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.57**	**144**	P	**Pn**	**03 34 41.0**	**+0.4**
	17nm,0.3s,baz=317,slow=10,SNR=270						
CFAA				S	**Sn**	**03 34 53.5**	**+0.3**
	42nm,0.3s,baz=224,slow=22,SNR=28						
TLL	**Tololo Astrono**	**2.11**	**297**	⇑*i*P	**Pn**	**03 34 58.6**	**+0.6**
TLL				*i* S	**Sn**	**03 35 25.0**	**+0.7**
TLL				AML	AML	03 35 27.4	
	comp=N,1μm,0.6s						
PTCH	**Petorca**	**2.25**	**240**	⇑*i*P	**Pn**	**03 34 59.8**	**+0.1**
PTCH				*i* S	**Sn**	**03 35 27.9**	**+0.6**
PTCH				AML	AML	03 35 29.1	
	comp=N,3μm,0.3s						
CHNG	**Los Chungos**	**2.56**	**253**	⇑*i*P	**Pn**	**03 35 02.8**	**-0.8**
CHNG				*i* S	**Sn**	**03 35 32.4**	**-1.9**
CHNG				AML	AML	03 35 43.2	
	comp=N,626nm,0.3s						
PEL	**Peldehue**	**2.65**	**221**	⇑*i*P	**Pn**	**03 35 04.7**	**-0.1**
PEL				*i* S	**Sn**	**03 35 37.0**	**+0.4**
PEL				AML	AML	03 35 37.6	
	comp=N,738nm,0.5s						
ROCH	**El Roble**	**2.72**	**227**	⇓*i*P	**Pn**	**03 35 05.4**	**-0.6**
ROCH				*i* S	**Sn**	**03 35 38.5**	**0.0**
ROCH				AML	AML	03 35 44.5	
	comp=N,587nm,0.4s						
PACH	**Papudo**	**2.76**	**239**	⇓*i*P	**Pn**	**03 35 05.6**	**-0.8**
PACH				*i* S	**Sn**	**03 35 38.3**	**-0.9**
CLCH	**Cerro Calan**	**2.77**	**215**	⇓*i*P	**Pn**	**03 35 07.0**	**+0.5**
LCO	**Las Campanas**	**2.78**	**319**	⇑*i*P	**Pn**	**03 35 07.0**	**+0.1**
LCO				*i* S	**Sn**	**03 35 40.3**	**+0.3**
LCO				AML	AML	03 35 45.6	
	comp=E,727nm,0.3s						
ANTU	**Antumapu**	**2.95**	**214**	⇑*i*P	**Pn**	**03 35 09.4**	**+0.5**
ANTU				*i* S	**Sn**	**03 35 45.6**	**+1.8**
LMEL	**Las Melosas**	**3.01**	**206**	⇓*i*P	**Pn**	**03 35 11.2**	**+1.5**
LMEL				AML	AML	03 35 58.6	
	comp=N,159nm,0.3s						
VACH	**Vallenar**	**3.16**	**324**	⇓*i*P	Pn	03 35 05.6	-6.0
VACH				*i* S	Sn	03 35 41.5	-7.2
VACH				AML	AML	03 35 46.0	
	comp=E,2μm,0.1s						
CHCH	**Chadas Angostu**	**3.26**	**211**	⇓*i*P	**Pn**	**03 35 13.4**	**+0.3**
CACH	**El Canelo**	**3.40**	**209**	⇓*i*P	**Pn**	**03 35 15.4**	**+0.5**
LNV	**Longovilo**	**3.66**	**219**	⇓*i*P	**Pn**	**03 35 16.4**	**-1.9**
PLCA	**Paso Flores**	**9.69**	**189**	P	**Pn**	**03 36 38.7**	**-1.4**
	comp=E,0.3nm,0.3s,baz=1.0,slow=16,SNR=5.1	

mb4.0/19, Error ellipse: s-maj=10.5km s-min=5.5km az=0.8
IDC 19 04:19:06.3±2.3, 5°.73S×145°.81E, h102km±22km, mb3.8/13, mb1 4.0/15, mb1mx3.9/19, mbtmp3.8/15, Error ellipse: s-maj=22.3km s-min=14.1km az=88.0
NEIC 19 04:19:07.6±1.3, 5°.77S×145°.77E, h118km±12km, mb4.1/9, Error ellipse: s-maj=12.1km s-min=9.1km az=100.0
ISC 19 04:19:03.1±0.5, 5°.64S±0°.05×145°.78E±0°.08, h69km, n70, σ1§23/69, mb4.2/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**160**	P	Pn		04 20 05.3	+3.5
	77nm,0.3s,baz=30,slow=4.3,SNR=134							
PMG				S		**Sn**	**04 20 49.2**	**+1.9**
	46nm,0.3s,baz=151,slow=18,SNR=17							
PMG	**Port Moresby**	**3.99**	**160**	P	Pn		04 20 05.3	+3.5
PMG				S		**Sn**	**04 20 49.2**	**+1.9**
COEN	**Coen**	**8.66**	**197**	*e*Pn	Pn		04 21 09.0	+3.3
	446nm,0.8s							
COEN				*e*Sn		**Sn**	**04 22 41.5**	**-0.4**
COEN	**Coen**	**8.66**	**197**	P	Pn		04 21 09.2	+3.5
	baz=9.2,SNR=93							
COEN				S		**Sn**	**04 22 42.0**	**+0.1**
	baz=9.2,SNR=6.2							
CTA	**Charters Tower**	**14.37**	**178**	P		**P**	**04 22 30.5**	**+2.3**
	1.5nm,0.3s,baz=360,slow=14,SNR=5.6							
CTA	**Charters Tower**	**14.37**	**178**	P		**P**	**04 22 30.5**	**+2.3**
KDU	**Kakadu**	**14.89**	**241**	P		**Pn**	**04 22 28.4**	**-1.5**
	baz=15,SNR=7.3							
MTN	**Manton Dam**	**16.13**	**243**	P		**Pn**	**04 22 46.7**	**+1.0**
	baz=17,SNR=5.0							
PALU	**Palau**	**17.13**	**319**	S		**S**	**04 26 11.9**	**-1.9**
	baz=17,SNR=3.8							
WRAB	**Tennant Creek**	**18.05**	**217**	*e*P		**P**	**04 23 07.7**	**-1.2**
	7.4nm,1.0s							
WRAB				*e*S		**Sn**	**04 26 29.8**	**-0.4**
WRA	**Warramunga Arr**	**18.06**	**217**	P		**P**	**04 23 07.2**	**-1.9**
	0.3nm,0.3s,baz=41,slow=12,SNR=15							
WRA	**Warramunga Arr**	**18.06**	**217**	P		**P**	**04 23 07.2**	**-1.9**
AS31	**Alice Springs**	**21.27**	**211**	*e*P		**P**	**04 23 43.9**	**-0.1**
AS31				*e*S		**S**	**04 27 33.6**	**-3.0**
ASAR	**Alice Springs**	**21.27**	**211**	P		**P**	**04 23 42.6**	**-1.3**
	2.3nm,0.7s,baz=46,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**21.27**	**211**	P		**P**	**04 23 42.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**23.25**	**236**	P		**P**	**04 24 04.9**	**+0.1**
	3.0nm,0.4s,baz=44,slow=7.1,SNR=31							
FITZ	**Fitzroy Crossi**	**23.25**	**236**	*e*P		**P**	**04 24 04.8**	**+0.1**
	2.8nm,0.5s							
FITZ	**Fitzroy Crossi**	**23.25**	**236**	P		**P**	**04 24 04.6**	**-0.1**
	baz=24,SNR=21							
DZM	**Mont Dzumac**	**25.81**	**131**	P		**P**	**04 24 27.2**	**-0.9**
PCI	**Palu**	**26.32**	**279**	P		**P**	**04 24 34.0**	**+1.2**
	baz=27,SNR=3.1							
PCI				S		S	04 29 14.0	+13
	baz=27,SNR=3.1							
STKA	**Stephens Creek**	**26.40**	**188**	P		**P**	**04 24 32.7**	**-0.5**
	2.8nm,0.8s,baz=353,slow=12,SNR=6.7							
STKA	**Stephens Creek**	**26.40**	**188**	*e*P		**P**	**04 24 32.5**	**-0.8**
	0.6nm,0.7s							
STKA	**Stephens Creek**	**26.40**	**188**	P		**P**	**04 24 32.8**	**-0.4**
	baz=27,SNR=5.2							
MEEK	**Meekatharra**	**33.28**	**228**	P		**P**	**04 25 34.4**	**+0.1**
	baz=34,SNR=6.0							
MJAR	**Matsushiro Arr**	**42.55**	**351**	P		**P**	**04 26 51.8**	**-0.3**
	1.0nm,0.4s,baz=190,slow=6.2,SNR=4.1							
MJAR	**Matsushiro Arr**	**42.55**	**351**	P		**P**	**04 26 51.8**	**-0.3**
KSRS	**Korea Array**	**45.99**	**340**	P		**P**	**04 27 20.1**	**+0.6**
	0.8nm,0.4s,baz=156,slow=9.1,SNR=3.9							
KSAR	**Wonju Array Be**	**45.99**	**340**	P		**P**	**04 27 20.1**	**+0.6**
GSI	**Gunungsitoli**	**48.63**	**277**	S		**S**	**04 34 43.3**	**+5.3**
	baz=49,SNR=6.7							
CMAR	**Chiang Mai Arr**	**52.01**	**299**	P		**P**	**04 28 07.2**	**+1.2**
	2.3nm,0.6s,baz=121,slow=6.0,SNR=13							
CMAR	**Chiang Mai Arr**	**52.01**	**299**	P		**P**	**04 28 07.2**	**+1.2**
CHTO	**Chiang Mai**	**52.15**	**299**	*e*P		**P**	**04 28 07.4**	**+0.4**
	4.2nm,0.9s							
PETK	**Petropavlovsk-**	**59.39**	**8**	P		**P**	**04 28 59.6**	**+1.5**
	4.0nm,0.5s,baz=153,slow=4.0,SNR=3.7							
PETK	**Petropavlovsk-**	**59.39**	**8**	P		**P**	**04 28 59.6**	**+1.5**
ULN	**Ulaanbaatar**	**63.22**	**332**	*e*P		**P**	**04 29 23.8**	**-0.6**
	1.4nm,0.6s							
SONM	**Songino Array**	**63.50**	**331**	P		**P**	**04 29 26.8**	**+0.6**
	1.0nm,0.7s,baz=162,slow=6.0,SNR=7.9							
SONM	**Songino Array**	**63.50**	**331**	P		**P**	**04 29 26.8**	**+0.6**
TAPN	**Taplejung**	**64.94**	**304**	*e*P		**P**	**04 29 36.2**	**-0.1**
	17nm,1.1s							
RAMN	**Ramite**	**65.72**	**303**	*e*P		**P**	**04 29 41.4**	**+0.1**
	4.0nm,0.4s							
JIRN	**Jiri**	**66.31**	**303**	*e*P		**P**	**04 29 45.1**	**-0.1**
GUN	**Gumba**	**66.66**	**303**	*e*P		**P**	**04 29 47.6**	**+0.2**
	11nm,0.4s							
KKN	**Kakani**	**67.11**	**303**	*e*P		**P**	**04 29 49.9**	**-0.2**
	19nm,0.8s							
DMN	**Daman**	**67.20**	**303**	*e*P		**P**	**04 29 51.0**	**+0.3**
GKN	**Gorkha**	**67.72**	**303**	*e*P		**P**	**04 29 53.8**	**-0.1**
KOLN	**Koldanda**	**68.51**	**303**	*e*P		**P**	**04 29 58.8**	**-0.1**
DANN	**Dangsing**	**68.57**	**303**	*e*P		**P**	**04 29 58.9**	**-0.4**
	12nm,0.8s							
PYUN	**Piuthan**	**69.13**	**303**	*e*P		**P**	**04 30 02.1**	**-0.6**
	18nm,0.8s							
VNDA	**Vanda**	**72.35**	**176**	P		**P**	**04 30 20.6**	**-0.5**
	0.7nm,1.0s,baz=14,slow=8.3,SNR=2.6							
VNDA	**Vanda**	**72.35**	**176**	P		**P**	**04 30 20.6**	**-0.5**
MK31	**Makanchi Array**	**76.45**	**321**	*e*P		**P**	**04 30 44.9**	**-0.6**
MKAR	**Makanchi Array**	**76.45**	**321**	P		**P**	**04 30 45.5**	**0.0**
	2.5nm,0.7s,baz=100,slow=5.4,SNR=21							
MKAR	**Makanchi Array**	**76.45**	**321**	P		**P**	**04 30 45.5**	**0.0**
ZALV	**Zalesovo Beam**	**78.06**	**328**	P		**P**	**04 30 53.2**	**-1.1**
	1.8nm,0.5s,baz=114,slow=5.4,SNR=8.2							
ZALV	**Zalesovo Beam**	**78.06**	**328**	P		**P**	**04 30 53.2**	**-1.1**
TKM2	**Tokmak 2**	**79.54**	**315**	*e*P		**P**	**04 31 02.6**	**-0.3**
	1.9nm,0.6s							
KURK	**Kurchatov**	**80.20**	**324**	*e*P		**P**	**04 31 05.3**	**-0.7**
	4.0nm,0.8s							
AAK	**Ala-Archa**	**80.23**	**315**	*e*P		P	04 31 02.3	-4.3
	12nm,0.8s							
COLA	**College**	**85.29**	**23**	*e*P		**P**	**04 31 31.2**	**-0.8**
	2.1nm,0.8s							
ILAR	**Eielson Array**	**85.63**	**23**	P		**P**	**04 31 32.6**	**-1.2**
	4.2nm,0.7s,baz=252,slow=5.0,SNR=67							
ILAR	**Eielson Array**	**85.63**	**23**	P		**P**	**04 31 32.6**	**-1.2**
YKA	**Yellowknife Ar**	**99.41**	**28**	P		**Pdif**	**04 32 37.1**	**-0.6**
	0.1nm,0.6s,baz=278,slow=5.0,SNR=5.2							
YKA	**Yellowknife Ar**	**99.41**	**28**	P		**Pdif**	**04 32 37.1**	**-0.6**
GERES	**GERESS Array B**	**120.92**	**325**	PKP		**PKPdf**	**04 37 46.6**	**-1.2**
	0.4nm,0.7s,baz=350,slow=4.0							
GERES	**GERESS Array B**	**120.92**	**325**	PKP		**PKPdf**	**04 37 46.6**	**-1.2**
PLCA	**Paso Flores**	**123.08**	**147**	PKP		**PKPdf**	**04 37 51.3**	**-1.0**
	1.0nm,0.6s,baz=265,slow=4.9,SNR=5.4							
PLCA	**Paso Flores**	**123.08**	**147**	PKP		**PKPdf**	**04 37 51.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**143.83**	**285**	PKP		PKPab	04 38 28.5	-0.2
	1.1nm,0.5s,baz=78,slow=3.4,SNR=41							
TORD	**Torodi Ar. Bea**	**143.83**	**285**	PKP		PKPab	04 38 28.5	-0.2
DBIC	**Dimbokro**	**150.79**	**274**	PKPbc		**PKPbc**	**04 38 48.5**	**-0.3**
	3.1nm,0.5s,baz=88,slow=2.6,SNR=12							
DBIC	**Dimbokro**	**150.79**	**274**	PKPbc		**PKPbc**	**04 38 48.5**	**-0.3**

IDC 19 04:35:22.8±1.6, 30°.82N×83°.52E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.5/27, mbtmp3.6/7, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=52.1km s-min=24.9km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.82**	**331**		LR	LR	04 45 21.3	
	comp=Z,37nm,19.0s,baz=239,slow=43							
MKAR	**Makanchi Array**	**15.98**	**357**	Pn		Pn	04 39 09.7	+0.7
	0.1nm,0.3s,baz=180,slow=9.9,SNR=9.4							
KURBB	**Kurchatov Arra**	**20.13**	**351**	P		P	04 39 57.8	-0.6
	1.9nm,0.8s,baz=170,slow=10,SNR=14							
ZALV	**Zalesovo Beam**	**23.13**	**2**	P		P	04 40 31.4	+1.0
	0.4nm,0.3s,baz=195,slow=10,SNR=3.4							
SONM	**Songino Array**	**24.39**	**39**	P		P	04 40 43.2	+0.3
	0.8nm,0.7s,baz=230,slow=9.8,SNR=8.2							
FINES	**FINESS Array B**	**47.97**	**327**	P		P	04 44 03.4	+0.4
	1.5nm,1.0s,baz=96,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**70.22**	**129**	P		P	04 46 38.1	+0.3
	0.4nm,0.7s,baz=325,slow=6.1,SNR=10							
ILAR	**Eielson Array**	**76.96**	**20**	P		P	04 47 16.4	-0.5
	0.3nm,0.8s,baz=319,slow=5.1,SNR=4.0							
YKA	**Yellowknife Ar**	**85.88**	**8**	P		P	04 48 03.4	-0.7
	0.3nm,0.6s,baz=337,slow=5.1,SNR=8.8							

BYKL 19 04:44:58.3±0.3, 57°.38N×120°.65E
MOS 19 04:44:59.7±1.6, 57°.34N×120°.51E, h4km, mb4.4/1, 3C-1D, Error ellipse: s-maj=33.5km s-min=20.0km az=141.4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.51**	**215**	*e*Pg	Pg		04 45 09.4	-0.2
KHNR				*e*Sg	Sg		04 45 16.8	+0.5
YKLR	**Yuktali**	**0.98**	**140**	*e*Pg	Pg		04 45 16.1	-2.4
YKLR				*e*Pb	Pb		04 45 17.4	-1.8
YKLR				*e*Sg	Sg		04 45 29.3	-1.9
CRS	**Chara**	**1.30**	**251**	*e*P	Pn		04 45 23.9	-0.8
CRS				*e*			04 45 41.4	
CRS				pmax	pmax			
	comp=Z,226nm,0.4s							
CRS				smax	smax			
	comp=E,873nm,0.4s							
CRS	**Chara**	**1.30**	**251**	*i*Pg	Pn		04 45 23.9	-0.8
CRS				*e*Sg	Sb		04 45 41.8	0.0
CRS				Pmax				
	comp=E,226nm,0.8s							
CRS				Smax				
	comp=E,877nm,0.5s							
CLNS	**Chul'man**	**2.44**	**100**	*e*P	Pn		04 45 40.4	0.0
CLNS				*e*			04 46 08.5	
CLNS				pmax	pmax			
	comp=Z,11nm,0.3s							
CLNS				pmax	pmax			
	comp=E,5.0nm,0.2s							
CLNS				pmax	pmax			
	comp=N,3.0nm,0.2s							
CLNS				smax	smax			
	comp=Z,44nm,0.3s							
CLNS				smax	smax			
	comp=N,263nm,0.5s							
CLNS				smax	smax			
	comp=E,207nm,0.4s							
CLNS	**Chul'man**	**2.44**	**100**	*e*Pg	Pn		04 45 40.8	+0.4
CLNS				*e*Sg	Sn		04 46 11.8	+1.0
IENR	**Iengra**	**2.64**	**113**	*e*Pn	Pn		04 45 41.4	-1.7
IENR				*e*Pg	Pb		04 45 45.1	-2.5
IENR				*e*Sg	Sb		04 46 18.2	-2.3
NLYR	**Nelyaty**	**2.77**	**254**	*e*P	Pn		04 45 45.2	+0.3
NLYR				*e*			04 46 25.4	
NLYR				pmax	pmax			
	comp=Z,93nm,0.7s							
NLYR				smax	smax			
	comp=E,663nm,1.1s							
NLYR	**Nelyaty**	**2.77**	**254**	*e*Pn	Pn		04 45 45.4	+0.5
NLYR				↑↑*i*Pg	Pb		04 45 49.9	+0.1
NLYR				*e*PgPg	Pg		04 45 52.8	0.0
NLYR				*e*Sg	Sb		04 46 26.1	+2.0
NLYR				Pmax				
	comp=E,93nm,0.4s							
NLYR				Smax				
	comp=E,660nm,1.4s							
TUP	**Tupik**	**2.94**	**186**	*e*P	Pb		04 45 51.2	-1.5
TUP				*e*			04 46 30.4	
TUP				pmax	pmax			
	comp=Z,55nm,0.6s							
TUP				smax	smax			
	comp=E,425nm,0.8s							
TUP	**Tupik**	**2.94**	**186**	↑*i*Pn	Pn		04 45 46.2	-1.0
TUP				*e*Pg	Pb		04 45 51.0	-1.7
TUP				*e*PgPg	PnPn		04 45 54.2	-0.1
TUP				*e*Sn	Sn		04 46 22.1	-0.9
TUP				*e*Sg	Sb		04 46 30.5	+1.5
TUP				Pmax				
	comp=E,55nm,0.5s							
TUP				Smax				
	comp=E,422nm,0.8s							
TNDR	**Tynda**	**3.22**	**131**	*e*Pn	Pn		04 45 49.7	-1.3
TNDR				*e*Sn	Sn		04 46 26.6	-3.2
TNDR				*e*Sg	Sb		04 46 36.6	-0.4
BOD	**Bodaibo**	**3.54**	**281**	*e*P	Pn		04 45 54.5	-0.8
BOD				*e*			04 46 47.6	
BOD				pmax	pmax			
	comp=Z,37nm,0.8s							
BOD				smax	smax			
	comp=N,196nm,0.2s							
BOD	**Bodaibo**	**3.54**	**281**	*e*Pn	Pn		04 45 55.1	-0.2
BOD				*e*Pg	Pb		04 46 02.6	-0.2
BOD				*e*Sg	Sb		04 46 48.8	+2.8
BOD				Pmax				
	comp=N,37nm,0.7s							
BOD				Smax				
	comp=N,196nm,0.7s							
UKT	**Uakit**	**4.25**	**247**	*e*P	Pb		04 46 15.9	+0.8
UKT				pmax	pmax			
	comp=Z,10.0nm,1.0s							
UKT	**Uakit**	**4.25**	**247**	*e*Pn	Pn		04 46 06.0	+0.7
UKT				*e*Pg	Pb		04 46 16.0	+0.9
UKT				*e*Sg	Sb		04 47 11.1	+4.3
UKT				Pmax				
	comp=Z,17nm,0.5s							
UKT				Smax				
	comp=Z,114nm,1.0s							
KROS	**Kirovskiy**	**4.66**	**126**	↑*i*Pg	Pb		04 46 18.6	-3.4
KROS				*e*Sn	Sn		04 46 56.6	-8.7
KROS				*i*Sg	Sb		04 47 18.1	-0.3
KROS				Pmax				
	comp=Z,7.0nm,0.6s							
KROS				Smax				
	comp=Z,170nm,0.5s							
VTMR	**Vitim**	**4.69**	**300**	*e*Sg	Sb		04 47 24.4	+5.3
YOA	**Uoyan**	**4.99**	**260**	*e*Sg	Sg		04 47 34.1	-5.7
YOA				Smax				
	comp=Z,652nm,1.5s							
KMO	**Kumora**	**5.34**	**258**	*e*Pn	Pn		04 46 19.6	-0.6
KMO				*e*Pg	Pb		04 46 35.8	+2.2
KMO				*e*Sg	Sg		04 47 45.9	-5.4
KMO				Pmax				
	comp=Z,18nm,0.6s							
KMO				Smax				
	comp=Z,164nm,0.9s							
YLYR	**Ulyunkhan**	**5.78**	**249**	*e*P	Pb		04 46 44.8	+3.7
YLYR				pmax	pmax			
	comp=Z,8.0nm,0.7s							
YLYR	**Ulyunkhan**	**5.78**	**249**	*e*Pn	Pn		04 46 26.8	+0.5
YLYR				*e*Pg	Pb		04 46 43.8	+2.7
YLYR				*e*Sg	Sg		04 47 59.0	-6.4
YLYR				Smax				
	comp=Z,80nm,1.3s							
NIZ	**Nizh Angarsk**	**6.26**	**260**	*e*P	Pn		04 46 34.6	+1.8
NIZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
NIZ	**Nizh Angarsk**	**6.26**	**260**	*e*Pn	Pn		04 46 34.6	+1.8
NIZ				*e*			04 46 54.1	
NIZ				*e*Sg	Sg		04 48 14.0	-6.8
NIZ				Smax				
	comp=Z,49nm,0.8s							
CIT	**Chita**	**6.68**	**220**	*e*Sg	Sg		04 48 27.0	-7.3
CIT				Smax				
	comp=Z,298nm,1.6s							
SYVR	**Suvo**	**7.02**	**243**	*e*P	Pb		04 47 05.6	+3.5
SYVR				pmax	pmax			
	comp=Z,18nm,2.8s							
SYVR	**Suvo**	**7.02**	**243**	*e*	Pg		04 47 10.1	-4.0
SYVR				*e*Sg	Sg		04 48 38.4	-6.5
SYVR				Smax				
	comp=Z,134nm,1.0s							
MXMB	**Maximikha**	**7.86**	**244**	*e*Sg	Sg		04 49 04.5	-7.3
MXMB				Smax				
	comp=Z,184nm,1.1s							
OGRR	**Ongureny**	**8.21**	**249**	*e*Sg	Sg		04 49 15.8	-7.5
OGRR				Smax				
	comp=Z,39nm,1.7s							
KPC	**Khapcheranga**	**9.05**	**216**	*e*Pn	Pn		04 47 11.2	+0.1
KPC				*e*Pg			04 47 44.0	
KPC				*e*Sg	Sn		04 49 40.2	+47
KPC				Smax				
	comp=Z,57nm,1.4s							
HRMR	**Khuramsha**	**9.73**	**240**	*e*Sg	Sn		04 50 02.2	+52
HRMR				Smax				
	comp=Z,197nm,1.9s							

IDC 19 04:50:07.3±1.1, 12°.71N×144°.53E, h71km±10km, mb3.7/12, mb1 3.8/12, mb1mx3.7/27, mbtmp3.7/12, MS3.3/3, Ms1 3.3/3, ms1mx2.7/44, Error ellipse: s-maj=25.5km s-min=13.6km az=93.0, South of Mariana Islands

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

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.93**	**21**	P		Pn	04 50 25.7	+0.6
	104nm,0.3s,baz=172,slow=8.6,SNR=30							
GUMO				S		Sn	04 50 38.8	+0.6
	705nm,0.3s,baz=336,slow=20,SNR=58							
CBIJ	**Chichi jima**	**14.48**	**352**	LR		LR	04 58 26.0	
	comp=Z,56nm,18.5s,baz=105,slow=34							
MJAR	**Matsushiro Arr**	**24.40**	**348**	P		P	04 55 19.0	-0.1
	3.8nm,0.6s,baz=166,slow=7.8,SNR=12							
WRA	**Warramunga Arr**	**33.96**	**197**	P		P	04 56 44.2	0.0
	2.0nm,0.6s,baz=21,slow=9.8,SNR=28							
ASAR	**Alice Springs**	**37.62**	**196**	P		P	04 57 15.3	-0.2
	0.7nm,0.7s,baz=15,slow=9.7,SNR=9.3							
ASAR				LR		LR	05 12 16.4	
	comp=Z,69nm,20.0s,baz=355,slow=35							
STKA	**Stephens Creek**	**44.42**	**184**	P		P	04 58 09.8	-1.4
	1.3nm,0.7s,baz=0.0,slow=6.1,SNR=4.9							
SONM	**Songino Array**	**47.26**	**325**	P		P	04 58 33.8	+0.2
	0.6nm,0.6s,baz=137,slow=8.7,SNR=7.2							
SONM				PcP		PcP	05 00 03.9	+0.1
	0.3nm,0.5s,baz=128,slow=2.6,SNR=7.1							
MKAR	**Makanchi Array**	**61.89**	**316**	P		P	05 00 19.9	+0.4
	1.1nm,0.6s,baz=95,slow=8.4,SNR=17							
KURBB	**Kurchatov Arra**	**65.08**	**320**	P		P	05 00 40.2	-0.1
	2.1nm,0.7s,baz=103,slow=6.7,SNR=25							
KURBB				PcP		PcP	05 01 14.2	+1.6
	0.3nm,0.5s,baz=103,slow=6.4,SNR=4.3							
KURBB				LR		LR	05 29 56.9	
	comp=Z,18nm,18.1s,baz=65,slow=37							
ILAR	**Eielson Array**	**69.50**	**25**	P		P	05 01 06.8	-1.3
	0.7nm,0.5s,baz=248,slow=6.0,SNR=21							
BVAR	**Borovoye Array**	**70.41**	**322**	P		P	05 01 13.2	-0.7
	1.1nm,0.6s,baz=100,slow=6.2,SNR=5.4							
YKA	**Yellowknife Ar**	**83.79**	**27**	P		P	05 02 28.8	+0.1
	0.3nm,0.5s,baz=286,slow=5.1,SNR=8.4							
NVAR	**Mina Array Bea**	**87.72**	**51**	P		P	05 02 49.8	+0.8
	0.4nm,0.7s,baz=274,slow=5.3,SNR=3.5							
FINES	**FINESS Array B**	**91.81**	**335**	P		P	05 03 05.3	-1.9
	1.2nm,0.8s,baz=46,slow=5.5,SNR=5.3							
LPAZ	**La Paz**	**148.20**	**100**	PKPbc		PKPbc	05 09 48.2	+1.2
	1.1nm,0.6s,baz=249,slow=4.2,SNR=5.0							

IDC 19 04:55:56.9±1.6, 2°.44S×140°.40E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/31, Error ellipse: s-maj=67.9km s-min=23.2km az=104.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.53**	**15**	LR		LR	05 05 27.0	
	comp=Z,32nm,21.8s,baz=96,slow=34							
WRA	**Warramunga Arr**	**18.38**	**198**	P		Pn	05 00 11.5	-1.9
	0.2nm,0.3s,baz=18,slow=12,SNR=4.9							
FITZ	**Fitzroy Crossi**	**21.25**	**222**	P		P	05 00 44.6	-0.3
	4.7nm,1.0s,baz=52,slow=16,SNR=7.1							
ASAR	**Alice Springs**	**22.02**	**196**	P		P	05 00 54.0	+0.9
	1.1nm,0.4s,baz=30,slow=11,SNR=14							
ZALV	**Zalesovo Beam**	**72.56**	**329**	P		P	05 07 25.5	-0.2
	0.4nm,0.3s,baz=112,slow=6.4,SNR=2.3							
ILAR	**Eielson Array**	**84.89**	**24**	P		P	05 08 33.9	+0.4
	0.2nm,0.5s,baz=251,slow=5.6,SNR=4.4							

IDC 19 04:59:21.3±2.6, 23°.90S×66°.61W, h190km±24km, mb3.1/1, mb1 3.1/5, mb1mx2.9/19, mbtmp2.9/5, Error ellipse: s-maj=37.1km s-min=21.7km az=71.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.71**	**349**	P		Pn	05 01 12.1	+0.5
	0.6nm,0.3s,baz=155,slow=8.3,SNR=16							
LPAZ				S		Sn	05 02 39.2	+0.2
	0.1nm,0.3s,baz=356,slow=23,SNR=3.6							
CPUP	**Villa Florida**	**8.75**	**108**	P		Pn	05 01 25.5	+1.1
	0.1nm,0.3s,baz=240,slow=16,SNR=3.8							
SIV	**San Ignacio**	**9.43**	**34**	P		Pn	05 01 32.0	-1.5
	0.1nm,0.3s,baz=215,slow=12,SNR=2.7							
PLCA	**Paso Flores**	**17.11**	**190**	P		P	05 03 07.1	-0.9
	0.2nm,0.3s,baz=1.7,slow=11,SNR=6.5							
TORD	**Torodi Ar. Bea**	**76.20**	**69**	P		P	05 10 49.0	-0.1
	0.4nm,0.7s,baz=239,slow=5.2,SNR=4.3							
MKAR	**Makanchi Array**	**146.22**	**40**	PKPbc		PKPbc	05 18 38.8	-0.4
	0.2nm,0.6s,baz=313,slow=3.1,SNR=3.8							

DDA 19 05:22:18.9, 38°.45N×39°.15E, h16km, MD2.7
ISCJB 19 05:22:19.4±0.6, 38°.48N±0°.04×39°.16E±0°.04, h10km±5km, Error ellipse: s-maj=6.2km s-min=4.6km az=154.7
ISK 19 05:22:19.1, 38°.51N×39°.13E, h15km, MD2.7
CSEM 19 05:22:19.4±0.3, 38°.50N×39°.13E, h10km, MD2.7, Error ellipse: s-maj=6.3km s-min=5.8km az=172.0
ISC 19 05:22:19.5±0.9, 38°.50N±0°.03×39°.12E±0°.02, h15km±6km, n23, σ0§55/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.11**	**270**	*i*P		**Pb**	**05 22 23.4**	**0.0**
ELZG				*i*S		**Sg**	**05 22 25.5**	**+0.1**
ELZG	**Elazig**	**0.11**	**270**	*i*P		**Pb**	**05 22 23.4**	**0.0**
ELZG				*i*S		**Sg**	**05 22 25.5**	**+0.1**
PTK	**Pertek**	**0.45**	**

DDI	**Dehra Dun**	**5.41**	**138**	*eP*		**Pn**	**05 26 02.0**	**+1.4**
DDI				*ex*		x	05 27 15.5	
NDI	**New Delhi**	**6.39**	**152**	*eS*		**Sn**	**05 27 24.0**	**-2.1**
KHET	**Khetri**	**6.53**	**165**	*eP*		**Pn**	**05 26 17.5**	**+1.6**
KHET				*eS*		**Sn**	**05 27 28.1**	**-1.4**
KUDL	**Kundal**	**6.64**	**159**	*eP*		**Pn**	**05 26 17.2**	**-0.2**
KUDL				*eS*		**Sn**	**05 27 30.7**	**-1.5**
AGRA	**Agra**	**7.97**	**153**	*eP*		**Pn**	**05 26 37.9**	**+2.2**
AGRA				*eS*		**Sn**	**05 28 02.8**	**-2.2**
AGRA					AML	AML	05 29 06.4	
	comp=N,104nm,0.3s							
AGRA					AML	AML	05 29 07.0	
	comp=E,51nm,0.2s							
AAK	**Ala-Archa**	**8.23**	**3**	Pn		**Pn**	**05 26 40.6**	**+1.2**
	comp=E,0.2nm,0.3s,baz=194,slow=17,SNR=3.8							
AAK					Sn	**Sn**	**05 28 13.4**	**+1.7**
	comp=E,0.6nm,0.3s,baz=123,slow=17,SNR=3.0							
TKM2	**Tokmak 2**	**8.62**	**9**	⇓P		Pn	05 26 48.7	+4.0
	comp=E,2.4nm,0.4s							
TKM2				⇑S		**Sn**	**05 28 24.6**	**+3.5**
	comp=E,9.7nm,0.6s							
KK31	**Karatay Array**	**9.07**	**344**	⇓P		**Pn**	**05 26 51.6**	**+0.9**
	comp=E,6.1nm,0.4s,baz=171,slow=13,SNR=144							
KK31				⇓S		**Sn**	**05 28 29.7**	**-2.2**
	comp=E,4.4nm,0.4s,baz=171,slow=24,SNR=14							
PYUN	**Piuthan**	**10.03**	**126**	*eP*		**Pn**	**05 27 03.2**	**-1.0**
	comp=E,24nm,0.4s							
DANN	**Dangsing**	**10.40**	**123**	*eP*		**Pn**	**05 27 08.5**	**-0.8**
	comp=E,27nm,0.6s							
KOLN	**Koldanda**	**10.66**	**126**	*eP*		**Pn**	**05 27 12.5**	**-0.2**
	comp=E,10nm,0.4s							
KOLN				*eS*		**Sn**	**05 29 09.3**	**-2.0**
GKN	**Gorkha**	**11.22**	**122**	*eP*		**Pn**	**05 27 19.8**	**-0.6**
	comp=E,30nm,0.5s							
DMN	**Daman**	**11.79**	**122**	*eP*		**Pn**	**05 27 27.9**	**-0.4**
	comp=E,29nm,0.6s							
KKN	**Kakani**	**11.81**	**121**	*eP*		**Pn**	**05 27 26.9**	**-1.6**
	comp=E,28nm,0.6s							
PKIN	**Phulchoki**	**12.02**	**121**	*eP*		**Pn**	**05 27 30.4**	**-1.0**
	comp=E,18nm,0.5s							
PKI	**Pulchoki**	**12.03**	**121**	*eP*		**Pn**	**05 27 30.6**	**-1.0**
	comp=E,22nm,0.6s							
GUN	**Gumba**	**12.17**	**119**	*eP*		**Pn**	**05 27 32.2**	**-1.3**
	comp=E,14nm,0.5s							
JIRN	**Jiri**	**12.54**	**119**	*eP*		**Pn**	**05 27 37.3**	**-1.3**
	comp=E,7.6nm,0.6s							
RAMN	**Ramite**	**13.25**	**121**	*eP*		**Pn**	**05 27 47.2**	**-1.0**
	comp=E,19nm,0.5s							
TAPN	**Taplejung**	**13.82**	**117**	*eP*		**Pn**	**05 27 54.4**	**-1.7**
	comp=E,9.7nm,0.5s							
ODAN	**Odare**	**13.87**	**119**	*eP*		**Pn**	**05 27 54.7**	**-1.9**
	comp=E,15nm,0.6s							
MK31	**Makanchi Array**	**13.93**	**25**	⇑P		**P**	**05 28 04.6**	**-0.4**
	comp=E,0.7nm,0.5s,baz=204,slow=7.1,SNR=3.0							
MKAR	**Makanchi Array**	**13.93**	**25**	Pn		**Pn**	**05 27 58.3**	**+1.1**
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=5.9							
KURBB	**Kurchatov Arra**	**16.57**	**11**	Pn		**Pn**	**05 28 30.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=203,slow=10,SNR=22							
KURK	**Kurchatov**	**16.67**	**11**	⇑P		**Pn**	**05 28 33.2**	**0.0**
	comp=E,3.1nm,1.1s							
SHL	**Shillong**	**17.92**	**115**	*eP*		**P**	**05 28 52.0**	**+2.4**
AB31	**Akbulak array**	**18.05**	**329**	P		**Pn**	**05 28 49.5**	**-0.8**
	comp=E,4.0nm,0.7s,baz=147,slow=10,SNR=48							
BVA0	**Borovoye Array**	**18.78**	**354**	P		**Pn**	**05 28 59.6**	**+0.3**
	comp=E,0.4nm,0.6s,baz=172,slow=12,SNR=19							
BVAR	**Borovoye Array**	**18.78**	**354**	P		**Pn**	**05 28 59.5**	**+0.3**
	comp=E,0.8nm,0.3s,baz=157,slow=9.4,SNR=11							
AKTO	**Aktyubinsk**	**19.76**	**329**	P		**P**	**05 29 09.1**	**-0.3**
	comp=E,1.1nm,0.3s,baz=136,slow=9.8,SNR=38							
AKTO	**Aktyubinsk**	**19.76**	**329**	⇑P		**P**	**05 29 09.1**	**-0.3**
	comp=E,1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**21.02**	**18**	P		**P**	**05 29 23.6**	**+0.6**
	comp=E,6.3nm,0.4s,baz=213,slow=9.9,SNR=16							
GTA	**Gaotai**	**21.33**	**69**	*eP*		**P**	**05 29 29.3**	**+2.7**
GTA					pmax	pmax		
	comp=E,4.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**27.41**	**119**	P		**P**	**05 30 24.4**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=300,slow=11,SNR=12							
SONM	**Songino Array**	**27.73**	**51**	P		**P**	**05 30 30.3**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=246,slow=9.4,SNR=12							
KOLS	**Kolonicke sedl**	**40.38**	**307**	*eP*		P	05 32 22.0	+4.8
CRVS	**Cervenica-Dubn**	**40.92**	**307**	*eP*		P	05 32 25.9	+4.3
VYHS	**Vyhne**	**42.66**	**306**	*eP*		**P**	**05 32 38.6**	**+2.8**
NB2	**NORSAR Subarra**	**47.44**	**324**	P		**P**	**05 33 11.9**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**47.44**	**324**	P		**P**	**05 33 12.3**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.7,SNR=7.5							
TORD	**Torodi Ar. Bea**	**68.04**	**271**	P		**P**	**05 35 36.4**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=46,slow=5.6,SNR=9.3							
WRA	**Warramunga Arr**	**78.91**	**123**	P		**P**	**05 36 43.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=323,slow=5.5,SNR=11							
ASAR	**Alice Springs**	**81.15**	**126**	P		**P**	**05 36 55.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=315,slow=5.2,SNR=12							
YKA	**Yellowknife Ar**	**83.20**	**4**	P		**P**	**05 37 05.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=347,slow=5.1,SNR=18							

IDC 19 05:34:49.3±1.2,33.83N×127.41E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.6/24,mbtmp3.6/6,MS2.9/1,Ms1 2.9/1, ms1mx2.5/32,Error ellipse: s-maj=90.5km s-min=17.2km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.71**	**331**	LR	LR	05 37 38.6	
	comp=Z,144nm,18.8s,baz=167,slow=46						
FITZ	**Fitzroy Crossi**	**21.86**	**185**	P	P	05 39 43.1	-0.6
	0.6nm,0.5s,baz=347,slow=7.1,SNR=6.9						
WRA	**Warramunga Arr**	**24.58**	**164**	P	P	05 40 11.4	+0.1
	1.5nm,0.6s,baz=344,slow=10,SNR=9.0						
WRA				PcP	PcP	05 43 47.2	-2.3
	0.2nm,0.6s,baz=351,slow=2.5,SNR=3.8						
ASAR	**Alice Springs**	**28.05**	**167**	P	P	05 40 44.0	+1.4
	0.3nm,0.3s,baz=341,slow=9.2,SNR=3.0						
SONM	**Songino Array**	**47.43**	**341**	P	P	05 43 26.4	+0.6
	0.3nm,0.5s,baz=164,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**57.87**	**325**	P	P	05 44 43.0	-0.1
	0.6nm,0.5s,baz=117,slow=8.4,SNR=14						
KURBB	**Kurchatov Arra**	**62.03**	**327**	P	P	05 45 11.4	-0.1
	1.0nm,0.5s,baz=130,slow=6.7,SNR=17						

ISK 19 05:38:58.4,38.48N×39.16E,h3km,MD2.9
DDA 19 05:38:58.4,38.46N×39.15E,h20km,MD2.9
ISCJB 19 05:38:59.1±0.4,38.47N±0.02×39.16E±0.03,h7km,3km, Error ellipse: s-maj=4.2km s-min=3.5km az=13.7
CSEM 19 05:38:59.1±0.2,38.47N×39.16E,h2km,MD2.9,Error ellipse: s-maj=4.6km s-min=4.2km az=10.0
ISC 19 05:38:59.2±0.8,38.46N±0.02×39.17E±0.02,h11km±6km, n45,σ087/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.14**	**126**	*e*PG	**Pg**	**05 39 02.3**	**-0.2**
SVRC				*e*SG	**Sg**	**05 39 05.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.14**	**126**	*e*Pg	**Pg**	**05 39 02.3**	**-0.2**
SVRC				*e*Sg	**Sg**	**05 39 05.0**	**0.0**
ELZG	**Elazig**	**0.15**	**285**	*i* P	**Pg**	**05 39 02.8**	**+0.1**
ELZG				*i* S	**Sg**	**05 39 05.6**	**+0.4**
ELZG	**Elazig**	**0.15**	**285**	*i* P	**Pg**	**05 39 02.8**	**+0.1**
ELZG				*i* S	**Sg**	**05 39 05.6**	**+0.4**
PTK	**Pertek**	**0.47**	**22**	*e*PG	**Pg**	**05 39 07.9**	**-0.5**
PTK				*e*SG	**Sg**	**05 39 15.1**	**+0.5**
PTK	**Pertek**	**0.47**	**22**	*e*Pg	**Pg**	**05 39 07.9**	**-0.5**
PTK				*e*Sg	**Sg**	**05 39 15.1**	**+0.5**
MYA	**Malataya**	**0.60**	**257**	*e*PG	**Pg**	**05 39 10.2**	**-0.6**
MYA	**Malataya**	**0.60**	**257**	*e*Pg	**Pg**	**05 39 10.2**	**-0.6**
MALT	**Malataya**	**0.60**	**256**	*e*PG	**Pg**	**05 39 11.0**	**+0.2**
MALT				*e*SG	**Sb**	**05 39 20.4**	**+0.1**
MALT	**Malataya**	**0.60**	**256**	*e*Pg	**Pg**	**05 39 11.0**	**+0.2**
MALT				*e*Sg	**Sb**	**05 39 20.4**	**+0.1**
DIYA	**Diyarbakir**	**0.92**	**125**	*i* P	**Pb**	**05 39 17.5**	**+0.2**
DIYA				*i* S	**Sb**	**05 39 30.3**	**+0.7**
DIYA	**Diyarbakir**	**0.92**	**125**	*i* P	**Pb**	**05 39 17.5**	**+0.2**
DIYA				*i* S	**Sb**	**05 39 30.3**	**+0.7**
KEMA	**Kemaliye**	**0.96**	**327**	*i* P	**Pg**	**05 39 16.8**	**-1.0**
KEMA				*i* S	**Sg**	**05 39 29.4**	**-1.0**
KEMA	**Kemaliye**	**0.96**	**327**	*i* P	**Pg**	**05 39 16.8**	**-1.0**
KEMA				*i* S	**Sg**	**05 39 29.4**	**-1.0**
AKCD	**Akcadag**	**0.99**	**261**	*i* P	**Pb**	**05 39 17.5**	**-0.9**
AKCD				*i* S	**Sg**	**05 39 29.8**	**-1.4**
AKCD	**Akcadag**	**0.99**	**261**	*i* P	**Pb**	**05 39 17.5**	**-0.9**
AKCD				*i* S	**Sg**	**05 39 29.8**	**-1.4**
DIY	**Diyarbakir**	**1.01**	**124**	*e*PG	**Pb**	**05 39 18.2**	**-0.5**
DIY	**Diyarbakir**	**1.01**	**124**	*e*Pg	**Pb**	**05 39 18.2**	**-0.5**
URFA	**Urfa**	**1.05**	**195**	*e*PG	**Pg**	**05 39 19.7**	**+0.3**
URFA	**Urfa**	**1.05**	**195**	*e*Pg	**Pg**	**05 39 19.7**	**+0.3**
ILIC	**ilic-Erzincan**	**1.10**	**335**	*e*PG	**Pb**	**05 39 19.3**	**-1.0**
ILIC	**ilic-Erzincan**	**1.10**	**335**	*e*Pg	**Pb**	**05 39 19.3**	**-1.0**
DARE	**Darende-Malaty**	**1.17**	**295**	*e*PN	**Pg**	**05 39 24.4**	**+2.7**
DARE	**Darende-Malaty**	**1.17**	**295**	*e*Pn	**Pg**	**05 39 24.4**	**+2.7**
ERZN	**Erzincan**	**1.21**	**21**	*e*PN	**Pn**	**05 39 21.9**	**-0.3**
EZC	**Erzincan**	**1.30**	**6**	*e*Pn	**Pn**	**05 39 21.9**	**-1.6**
GZT	**Gaziantep**	**1.68**	**229**	*i* P	**Pb**	**05 39 29.6**	**-0.6**
GZT				*i* S	**Sb**	**05 39 51.9**	**+0.5**
KELT	**Kelkit**	**1.69**	**2**	*i* P	**Pb**	**05 39 30.7**	**+0.3**
KELT				*i* S	**Sg**	**05 39 53.6**	**+0.1**
KELT	**Kelkit**	**1.69**	**2**	*i* P	**Pb**	**05 39 30.7**	**+0.3**
KELT				*i* S	**Sg**	**05 39 53.6**	**+0.1**
MARD	**Mardin**	**1.71**	**131**	*i* P	**Pn**	**05 39 29.4**	**+0.2**
MARD				*i* S	**Sb**	**05 39 52.5**	**+0.2**
BEST	**Besiri**	**1.75**	**108**	*i* P	**Pn**	**05 39 29.8**	**+0.2**
BEST				*i* S	**Sb**	**05 39 54.3**	**+0.9**
BTMT	**Batman**	**1.85**	**98**	*e*PN	**Pn**	**05 39 30.3**	**-0.6**
BTMT	**Batman**	**1.85**	**98**	*e*Pn	**Pn**	**05 39 30.3**	**-0.6**
VRTB	**Varto-Mus**	**1.92**	**68**	*e*PN	**Pb**	**05 39 33.3**	**-1.0**
VRTB	**Varto-Mus**	**1.92**	**68**	*e*Pn	**Pb**	**05 39 33.3**	**-1.0**
GAZ	**Gaziantep**	**2.01**	**231**	*e*PN	**Pn**	**05 39 34.1**	**+0.9**
GAZ	**Gaziantep**	**2.01**	**231**	*e*Pn	**Pn**	**05 39 34.1**	**+0.9**
GUMT	**Gumushane**	**2.01**	**7**	*e*PN	**Pn**	**05 39 34.2**	**+1.0**
GUMT	**Gumushane**	**2.01**	**7**	*e*Pn	**Pn**	**05 39 34.3**	**+1.0**
KMRS	**Kahramanmaras**	**2.03**	**243**	*e*PN	**Pn**	**05 39 33.9**	**+0.6**
KMRS	**Kahramanmaras**	**2.03**	**243**	*e*Pn	**Pn**	**05 39 33.9**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**2.08**	**21**	*e*PN	**Pn**	**05 39 34.9**	**+0.8**
BAYT	**Ayd¨–ntepe-Bay**	**2.08**	**21**	*e*Pn	**Pn**	**05 39 34.9**	**+0.8**
EZM	**Erzurum**	**2.24**	**49**	*e*PN	**Pn**	**05 39 37.8**	**+1.4**
KUZU	**Kuzuini**	**2.36**	**225**	*i* P	**Pg**	**05 39 43.4**	**-1.1**

ISCJB 19 05:43:28.1±0.8,32.24N±0.02×105.11E±0.03,h3km±5km, mb4.6/79,MS3.3/9,Error ellipse: s-maj=4.3km s-min=3.4km az=152.1
IDC 19 05:43:29.1±0.5,32.20N×105.07E,h0km,mb4.4/25, mb1 4.5/28,mb1mx4.4/33,mbtmp4.4/28,ML4.0/3,MS3.4/8, Ms1 3.4/8,ms1mx3.0/41,Error ellipse: s-maj=16.0km s-min=11.0km az=49.0
BJI 19 05:43:31.9,32.20N×104.90E,h24km,mB4.7/17,mb4.5/24, ML4.4/20,Ms4.3/31,Ms7 4.0/31
NEIC 19 05:43:31.8±0.2,32.20N×105.09E,mb4.8/29,Error ellipse: s-maj=4.6km s-min=4.0km az=48.0
MOS 19 05:43:32.4±0.8,32.17N×105.12E,h33km,mb4.8/46,Error ellipse: s-maj=8.5km s-min=5.1km az=110.6
DJA 19 05:43:35.3±0.5,32.N±4.×10.5E±1.0,h10km,M4.4/9, mB5.5/2,mb4.4/9,Mw(mB)5.0/2
ISC 19 05:43:32.2±0.5,32.15N±0.03×105.10E±0.03,h18km±1km, h18km:pP-P,n283,σ1s34/319,mb4.6/80,MS3.4/9,7C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.69**	**223**	Pn	**Pb**	**05 44 02.3**	**-0.4**
CD2				Pg	**Pg**	**05 44 03.9**	**-0.8**
CD2				Sn	**Sg**	**05 44 25.8**	**-0.8**
CD2				Sg	**Sb**	**05 44 27.5**	**+3.9**
CD2				smax	smax		
	comp=N,6μm,1.1s						
CD2				smax	smax		
	comp=E,6μm,0.7s						
XAN	**Xi'an**	**3.72**	**59**	Pn	**Pn**	**05 44 29.3**	**+0.6**
XAN				Pg	**Pb**	**05 44 38.4**	**+1.1**
XAN				Sn	**Sn**	**05 45 11.3**	**-0.8**
XAN				Sg	**Sb**	**05 45 25.1**	**+3.0**
XAN				smax	smax		
	comp=N,1μm,0.6s						
XAN				smax	smax		
	comp=E,620nm,0.8s						
XAN				LR	LR		
	comp=N,1μm,6.4s						
XAN				LR	LR		
	comp=E,570nm,7.2s						
XAN				LR	LR		
	comp=Z,730nm,7.9s						
LZH	**Lanzhou**	**4.06**	**345**	Pn	**Pn**	**05 44 34.6**	**+1.0**
LZH				Pg	**Pb**	**05 44 45.1**	**+1.8**
LZH				Sg	**Sb**	**05 45 33.1**	**+1.0**
LZH				smax	smax		
	comp=N,3μm,1.0s						
LZH				smax	smax		
	comp=E,1μm,0.7s						
LZH				LR	LR		
	comp=N,4μm,4.8s						
LZH				LR	LR		
	comp=E,4μm,6.2s						
LZH				LR	LR		
	comp=Z,5μm,7.8s						
ENH	**Enshi**	**4.20**	**115**	*e*Pn	**Pn**	**05 44 37.2**	**+1.9**
ENH				*e*Sg	**Sg**	**05 45 44.9**	**-2.1**
GYA	**Guiyang**	**5.83**	**166**	*i* Pn	**Pn**	**05 44 59.6**	**+1.7**
GYA				Sn	**Sn**	**05 46 00.9**	**-3.4**
GYA				Sg	**Sg**	**05 46 39.3**	**-0.2**
GYA				smax	smax		
	comp=N,550nm,0.8s						
GYA				smax	smax		
	comp=E,480nm,0.8s						
KMI	**Kunming**	**7.30**	**197**	Pn	**Pn**	**05 45 19.8**	**+1.7**
KMI				Sn	**Sn**	**05 46 40.3**	**-0.4**
KMI				Sg	**Sg**	**05 47 23.9**	**-2.6**
KMI				smax	smax		
	comp=N,97nm,1.1s						
KMI				smax	smax		
	comp=E,65nm,1.1s						
KMI				LR	LR		
	comp=N,930nm,8.8s						
KMI				LR	LR		
	comp=E,570nm,9.2s						
KMI				LR	LR		
	comp=Z,640nm,12.8s						
WHN	**Wuhan**	**8.07**	**99**	P	Pn	05 45 33.8	+5.4
WHN				LR	LR		
	comp=N,5μm,6.6s						
WHN				LR	LR		
	comp=E,3μm,9.1s						
WHN				LR	LR		
	comp=Z,2μm,5.8s						
GTA	**Gaotai**	**8.42**	**331**	P	**Pn**	**05 45 32.3**	**-1.1**
GTA				pP	pP	05 45 35.5	
GTA				S	**Sn**	**05 47 05.8**	**-2.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,42nm,5.5s						
GTA				LR	LR		
	comp=N,1μm,9.5s						
GTA				LR	LR		
	comp=E,750nm,8.8s						
GTA				LR	LR		
	comp=Z,1μm,9.5s						
BTO	**Baotou**	**9.32**	**24**	*e*P	**Pn**	**05 45 44.6**	**-1.1**
HHC	**Hu-ho-hao-te**	**10.12**	**29**	*e*P	**Pn**	**05 45 56.5**	**-0.1**
HHC				PP	**PnPn**	**05 46 04.8**	**+0.5**
HHC				S	**Sn**	**05 47 49.5**	**-0.1**
HHC				SS	**SnSn**	**05 48 02.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,67nm,5.5s						
HHC				LR	LR		
	comp=N,710nm,6.9s						
HHC				LR	LR		
	comp=E,880nm,6.7s						
HHC				LR	LR		
	comp=Z,710nm,8.7s						
GZH	**Guangzhou**	**11.61**	**139**	P	**Pn**	**05 46 14.5**	**-2.5**
GZH				S	Sn	05 48 12.4	-14
GZH				LR	LR		
	comp=N,700nm,7.9s						
GZH				LR	LR		
	comp=E,780nm,9.1s						
NJ2	**Nanjing**	**11.66**	**87**	*e*P	**Pn**	**05 46 19.9**	**+2.2**
NJ2				pP		05 46 26.8	
NJ2				PP	**PnPn**	**05 46 29.0**	**+3.6**
NJ2				sP		05 46 31.3	
NJ2				S	**Sn**	**05 48 30.0**	**+2.6**
NJ2				sS		05 48 47.0	
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,90nm,4.3s						
NJ2				LR	LR		
	comp=N,400nm,5.6s						
NJ2				LR	LR		
	comp=E,620nm,8.7s						
NJ2				LR	LR		
	comp=Z,600nm,10.0s						
BJI	**Beijing**	**11.92**	**46**	P	**Pn**	**05 46 21.0**	**-0.1**
BJI				S	**Sn**	**05 48 34.5**	**+1.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJI				LR	LR		
	comp=N,370nm,8.6s						
BJI				LR	LR		
	comp=E,360nm,10.1s						
LSA	**Lhasa**	**12.23**	**262**	*e*P	**Pn**	**05 46 26.5**	**+0.7**
LSA	**Lhasa**	**12.23**	**262**	*e*Pn	**Pn**	**05 46 26.5**	**+0.7**
SHL	**Shillong**	**13.31**	**244**	*e*P	**Pn**	**05 46 41.5**	**+1.2**
QIZ	**Qiongzhong**	**13.74**	**161**	P	**Pn**	**05 46 46.1**	**-0.1**
QIZ				S	**Sn**	**05 49 22.3**	**+3.9**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
QIZ				LR	LR		
	comp=N,880nm,10.4s						
QIZ				LR	LR		
	comp=E,160nm,10.1s						
QIZ				LR	LR		
	comp=Z,1μm,9.9s						
QIZ	**Qiongzhong**	**13.74**	**161**	Pn	**P**	**05 46 54.6**	**-0.1**
	comp=Z,19nm,0.9s						
QIZ				*e*Sn	Sn	05 49 26.0	+7.6
SSE	**Sheshan**	**13.75**	**90**	P	**Pn**	**05 46 44.3**	**-1.9**
SSE				S	**Sn**	**05 49 17.5**	**-0.9**
SSE				pmax	pmax		
	comp=Z,41nm,0.6s						
SSE				pmax	pmax		
	comp=Z,42nm,4.6s						
SSE				LR	LR		
	comp=N,380nm,9.0s						
SSE				LR	LR		
	comp=E,260nm,9.0s						
SSE				LR	LR		
	comp=Z,370nm,11.6s						
CMMT	**Chiang Mai**	**14.39**	**204**	P	**P**	**05 46 59.9**	**-2.0**
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**14.39**	**204**	*e*P	**Pn**	**05 46 56.6**	**+1.5**
CHTO	**Chiang Mai**	**14.39**	**204**	*e*Pn	**Pn**	**05 46 56.6**	**+1.5**
CHTO	**Chiang Mai**	**14.39**	**204**	P	**P**	**05 46 59.4**	**-2.5**
	comp=E,6.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**14.72**	**204**	Pn	**Pn**	**05 47 00.9**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=18,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**14.72**	**204**	Pn	**Pn**	**05 47 00.9**	**+1.3**
SONM	**Songino Array**	**15.70**	**3**	Pn	**Pn**	**05 47 11.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=16						
SONM				Lg	Lg	05 51 51.0	
	comp=Z,0.1nm,0.3s,baz=174,slow=28,SNR=3.5						
SONM				LR	LR	05 53 55.8	
	comp=Z,145nm,21.1s,baz=167,slow=40						
SONM	**Songino Array**	**15.70**	**3**	Pn	**Pn**	**05 47 11.8**	**-0.7**
SONM				Lg	Lg	05 51 51.0	
ULN	**Ulaanbaatar**	**15.77**	**5**	*e*Pn	**Pn**	**05 47 13.1**	**-0.2**
	comp=Z,14nm,1.1s						
ULN				*e*Sn	Sn	05 49 58.0	-10
ULN	**Ulaanbaatar**	**15.77**	**5**	P	**P**	**05 47 15.7**	**-1.5**
	comp=Z,13nm,1.1s						
TAPN	**Taplejung**	**15.84**	**257**	*e*P	**Pn**	**05 47 12.6**	**-2.0**
	comp=Z,59nm,1.2s						
RAMN	**Ramite**	**16.91**	**257**	*e*P	**Pn**	**05 47 25.1**	**-3.0**
	comp=Z,30nm,0.7s						
JIRN	**Jiri**	**16.99**	**260**	*e*P	**Pn**	**05 47 27.6**	**-1.7**
GUN	**Gumba**	**17.17**	**261**	*e*P	**Pn**	**05 47 29.5**	**-2.0**
	comp=Z,122nm,1.3s						
PKI	**Pulchoki**	**17.68**	**260**	*e*P	**Pn**	**05 47 35.3**	**-2.5**
	comp=Z,73nm,1.3s						
KKN	**Kakani**	**17.71**	**261**	*e*P	**Pn**	**05 47 35.9**	**-2.2**
	comp=Z,31nm,0.9s						
DMN	**Daman**	**17.92**	**261**	*e*P	**Pn**	**05 47 38.9**	**-1.8**
	comp=Z,33nm,0.8s						
WMQ	**Urumqi**	**17.96**	**315**	*e*P	**P**	**05 47 45.4**	**+4.0**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.0s						
WMQ				LR	LR		
	comp=N,370nm,10.5s						
WMQ				LR	LR		
	comp=E,530nm,13.0s						
WMQ				LR	LR		
	comp=Z,150nm,12.5s						
GKN	**Gorkha**	**18.18**	**262**	*e*P	**Pn**	**05 47 42.1**	**-1.8**
	comp=Z,42nm,0.7s						
SRDT	**SRDT**	**18.54**	**199**	P	**Pn**	**05 47 49.8**	**+1.7**
	comp=Z,16nm,1.2s,comp=Z,2μm						
DANN	**Dangsing**	**18.82**	**264**	*e*P	**P**	**05 47 49.0**	**-2.2**
	comp=Z,24nm,0.7s						
KOLN	**Koldanda**	**19.13**	**262**	*e*P	**P**	**05 47 52.3**	**-2.2**
	comp=Z,17nm,0.7s						
KSAR	**Wonju Array Be**	**19.42**	**68**	P	**Pn**	**05 47 58.8**	**+0.1**
KSRS	**Korea Array**	**19.46**	**68**	P	**Pn**	**05 47 58.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=254,slow=10,SNR=16						
CHBT	**CHBT**	**19.47**	**188**	P	**Pn**	**05 48 01.6**	**+2.3**
	comp=Z,15nm,0.9s,comp=Z,3μm						
PYUN	**Piuthan**	**19.54**	**264**	*e*P	**P**	**05 47 57.5**	**-1.5**
	comp=Z,68nm,0.9s						
TLY	**Talaya**	**19.55**	**357**	*e*P	**P**	**05 47 58.6**	**-0.1**
TLY				*e*S	**S**	**05 51 32.9**	**-5.

comp=Z,14nm,1.0s
BHGR Bahadurgarh 24.50 269 *e*P **P** **05 48 49.8 -0.7**
BHGR AMb AMB 05 48 51.2
comp=Z,170nm,0.2s
KSH Kashi 24.66 296 P **P** **05 48 55.3 +3.3**
KSH *e*pP **pP** **05 49 00.1 +2.5**
KSH *e*sP **sP** **05 49 01.9 +2.0**
KSH *e*PP PnPn 05 49 32.9 +9.2
KSH S **S** **05 53 14.8 +2.1**
KSH sS **sS** **05 53 22.8 +0.9**
KSH *e*ScP **ScP** **05 56 08.1 +1.1**
KSH PcS **PcS** **05 56 09.5 +0.3**
KSH ScS **ScS** **05 59 55.8 +0.9**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,100nm,5.6s
KSH LR LR
comp=N,170nm,6.7s
KSH LR LR
comp=E,210nm,6.7s
KSH LR LR
comp=Z,230nm,7.6s
KUDL Kundal 25.03 268 *e*P **P** **05 48 55.0 -0.2**
KUDL AMb AMB 05 48 58.3
comp=Z,10nm,1.0s
TKM2 Tokmak 2 25.63 303 *e*P **P** **05 49 01.5 +0.7**
TKM2 pmax pmax
comp=Z,39nm,0.6s
TKM2 Tokmak 2 25.63 303 *e*P **P** **05 49 01.5 +0.7**
comp=Z,39nm,0.6s
KHET Khetri 25.63 269 *e*P **P** **05 48 59.5 -1.1**
KHET AMb AMB 05 49 06.0
comp=Z,16nm,1.3s
ZAA0 Zalesovo Array 26.17 332 *e*P **P** **05 49 05.0 -0.3**
ZALV Zalesovo Beam 26.17 332 P **P** **05 49 04.6 -0.7**
comp=Z,5.3nm,0.6s,baz=127,slow=9.4,SNR=11
ZALV Zalesovo Beam 26.17 332 P **P** **05 49 04.6 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 26.17 332 P **P** **05 49 04.6 -0.7**
AAK Ala-Archa 26.34 302 P **P** **05 49 09.9 +2.7**
comp=Z,1.6nm,0.4s,baz=115,slow=16,SNR=5.9
AAK LR LR 06 00 31.5
comp=Z,130nm,19.2s,baz=275,slow=39
AAK Ala-Archa 26.34 302 P **P** **05 49 09.9 +2.7**
AAK pmax pmax
comp=Z,2.0nm,0.4s
AAK MLR MLR
comp=Z,130nm,19.2s
AAK Ala-Archa 26.34 302 P **P** **05 49 09.9 +2.7**
comp=Z,0.9nm,1.1s
BOD Bodaibo 26.38 11 *e*P **P** **05 49 07.4 +0.2**
BOD pmax pmax
comp=Z,6.0nm,1.5s
KURBB Kurchatov Arra 26.94 321 P **P** **05 49 11.8 -0.5**
comp=Z,12nm,0.9s,baz=129,slow=8.7,SNR=29
KURBB PcP **PcP** **05 52 33.3 -0.5**
comp=Z,3.2nm,0.8s,baz=115,slow=2.1,SNR=6.4
KURBB LR LR 06 01 07.0
comp=Z,29nm,20.4s,baz=215,slow=39
KURK Kurchatov 26.94 321 P **P** **05 49 11.8 -0.5**
KURK 05 52 33.3
KURK pmax pmax
comp=Z,13nm,0.9s
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK MLR MLR
comp=Z,29nm,20.4s
KURK Kurchatov 26.94 321 *e*P **P** **05 49 12.2 -0.1**
KURK *e*pP **pP** **05 49 15.8 -2.1**
KURK PcP **PcP** **05 52 33.3 -0.5**
NVS Novosibirsk 27.46 332 *e*P **P** **05 49 14.6 -2.3**
MJAR Matsushiro Arr 27.60 72 P **P** **05 49 16.8 -1.6**
comp=Z,2.1nm,0.5s,baz=270,slow=11,SNR=6.2
MJAR Matsushiro Arr 27.60 72 P **P** **05 49 16.8 -1.6**
HABR Khabarovsk 27.82 45 *e*P P 05 49 32.4 +12
HABR *e*S **S** **05 53 59.9 -2.4**
HABR *e**SS sS 05 54 16.5 +4.9
HABR *e*SS **SnSn** **05 55 15.2 -0.4**
HABR *e* 06 00 04.4
HABR pmax pmax
comp=E,42nm,1.7s
HABR pmax pmax
comp=Z,16nm,0.9s
HABR pmax pmax
comp=N,26nm,2.2s
KKAR Karatay Array 29.30 302 *e*P **P** **05 49 34.7 +1.2**
KKAR *e* 05 52 39.9
KKAR Karatay Array 29.30 302 *e*P **P** **05 49 34.7 +1.2**
KKAR *e*PcP **PcP** **05 52 39.9 0.0**
PSI Prapat 29.77 193 P **P** **05 49 38.9 +1.0**
comp=N,2.2nm,0.4s,baz=341,slow=5.7,SNR=5.0
PSI Prapat 29.77 193 P **P** **05 49 38.9 +1.0**
BVAR Borovoye Array 32.52 320 P **P** **05 50 01.6 -0.1**
comp=N,2.5nm,0.6s,baz=114,slow=7.8,SNR=12
BVAR PcP **PcP** **05 52 47.5 -0.7**
comp=N,2.2nm,0.7s,baz=124,slow=2.6,SNR=5.6
BVAR Borovoye Array 32.52 320 P **P** **05 50 01.6 -0.1**
BVAR 05 52 47.5
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 32.52 320 P **P** **05 50 01.6 -0.1**
BVAR PcP **PcP** **05 52 47.5 -0.7**
BRVK Borovoye 32.59 320⇓ *i*P **P** **05 50 05.3 +3.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 32.59 320 *e*P **P** **05 50 03.1 +0.7**
comp=Z,6.9nm,0.8s
AB31 Akbulak array 37.63 310 *ce*P **P** **05 50 45.7 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 37.63 310 *e*P **P** **05 50 46.0 +0.2**
AKTO Aktyubinsk 39.06 312 P **P** **05 50 58.1 +0.3**
comp=Z,3.5nm,0.6s,baz=100,slow=12,SNR=11
AKTO Aktyubinsk 39.06 312 P **P** **05 50 58.1 +0.3**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 39.06 312 P **P** **05 50 58.1 +0.3**
SVE Sverdlovsk 39.18 322⇑ *e*P **P** **05 50 59.3 +0.6**
SVE *e*S **S** **05 56 58.4 +0.7**
SVE *e* 05 59 35.6
SVE pmax pmax
comp=Z,23nm,1.0s
ARU Arti 40.14 321 *d i*P **P** **05 51 06.5 -0.2**
ARU S **S** **05 57 11.6 -0.5**
ARU SS **SS** **06 00 09.2 -0.6**
ARU pmax pmax
comp=Z,48nm,1.2s
ARU Arti 40.14 321 *e*P **P** **05 51 06.6 -0.2**
comp=Z,27nm,0.7s
TIXI Tiksi 41.56 11 *e*P **P** **05 51 17.3 -1.0**
TIXI Tiksi 41.56 11 *e*P **P** **05 51 17.3 -1.0**
SEY Seymchan 42.76 30⇑ *i*P **P** **05 51 29.1 +1.0**
PETK Petropavlovsk- 42.85 45 P **P** **05 51 29.4 +0.4**
comp=Z,10nm,0.9s,baz=226,slow=6.0,SNR=7.4
PETK LR LR 06 10 14.9
comp=Z,35nm,19.4s,baz=294,slow=38
PETK Petropavlovsk- 42.85 45 P **P** **05 51 29.4 +0.4**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,35nm,19.4s
PETK Petropavlovsk- 42.85 45 P **P** **05 51 29.4 +0.4**
ZEI Tsey 48.76 301 *e*P **P** **05 52 18.2 +2.1**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 49.34 302 P P 05 52 23.9 +3.7
comp=Z,5.4nm,0.9s,baz=219,slow=2.9,SNR=4.6
KBZ Khabaz 49.34 302 P P 05 52 23.9 +3.7
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 49.34 302 P P 05 52 23.9 +3.7
KIV Kislovodsk 49.46 303 *e*P **P** **05 52 19.9 -1.4**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,29nm,16.0s
VRHR Novokhopersk 49.47 312 *e*P **P** **05 52 23.2 +2.1**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.3s
BILL Bilibino 49.87 26 *e*P **P** **05 52 23.9 0.0**
BILL pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 50.70 325 *e*P **P** **05 52 31.7 +1.4**
KLMR pmax pmax
comp=Z,29nm,1.0s
VSR Storozhevoye 51.00 312 *e*P **P** **05 52 32.1 -0.6**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,4.0nm,0.6s
OBN Obninsk 52.28 317 *e*P **P** **05 52 41.1 -1.1**
OBN pmax pmax
comp=Z,4.0nm,0.6s
FITZ Fitzroy Crossi 53.70 156 P **P** **05 52 53.4 +0.4**
comp=Z,4.6nm,1.0s,baz=358,slow=5.4,SNR=9.2
FITZ Fitzroy Crossi 53.70 156 P **P** **05 52 53.4 +0.4**
JOF Joensuu 54.60 327 *e*P **P** **05 53 00.8 +1.7**
JOF Joensuu 54.60 327 *ep* **P** **05 53 00.8 +1.7**
KEV Kevo 56.13 336 *e*P **P** **05 53 11.3 +1.3**
KEV pmax pmax
comp=Z,10.0nm,0.7s
KEV Kevo 56.13 336 *ep* **P** **05 53 11.3 +1.3**
comp=Z,9.5nm,0.7s
ARCES ARCESS Array B 56.66 336 P **P** **05 53 13.4 -0.4**
comp=Z,5.7nm,0.9s,baz=70,slow=7.1,SNR=4.7
ARCES ARCESS Array B 56.66 336 P **P** **05 53 13.4 -0.4**
BR131 Keskin Array S 56.97 299 *e*P **P** **05 53 16.2 -0.4**
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 56.97 299 P **P** **05 53 16.3 -0.4**
comp=Z,2.4nm,0.8s,baz=88,slow=6.0,SNR=9.7
BRTR Keskin Array B 56.97 299 P **P** **05 53 16.3 -0.4**
KAF Kangasniemi 56.98 327 *e*P **P** **05 53 14.3 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 56.98 327 *ep* **P** **05 53 14.3 -1.9**
comp=Z,3.5nm,0.7s
FINES FINESS Array B 57.18 326 P **P** **05 53 17.1 -0.5**
comp=Z,9.5nm,0.7s,baz=80,slow=7.0,SNR=11
FINES FINESS Array B 57.18 326 P **P** **05 53 17.1 -0.5**
AKASG Malin Array Be 57.29 313 P **P** **05 53 17.7 -0.9**
comp=Z,4.6nm,0.6s,baz=64,slow=6.9,SNR=6.9
AKASG Malin Array Be 57.29 313 P **P** **05 53 17.7 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 57.29 313 P **P** **05 53 17.7 -0.9**
AK02 Malin Array Si 57.31 313 P **P** **05 53 18.5 -0.2**
COEN Coen 58.58 135 *e*P **P** **05 53 27.8 -0.1**
comp=Z,71nm,1.0s
WRAB Tennant Creek 58.88 148 *e*P **P** **05 53 29.5 -0.5**
WRAB pmax pmax
comp=Z,13nm,0.8s
WRAB Tennant Creek 58.88 148 *e*P **P** **05 53 29.5 -0.5**
comp=Z,14nm,0.8s
WRA Warramunga Arr 58.88 148 P **P** **05 53 30.9 +0.9**
comp=Z,8.0nm,0.6s,baz=342,slow=7.5,SNR=108
WRA Warramunga Arr 58.88 148 P **P** **05 53 30.9 +0.9**
TNA Tin City 59.99 29 *e*P **P** **05 53 37.6 +0.5**
comp=Z,9.3nm,1.4s
TNA *e*PcP **PcP** **05 54 21.0 -2.1**
AS31 Alice Springs 61.95 150 *e*P **P** **05 53 51.8 +0.7**
ASAR Alice Springs 61.96 150 P **P** **05 53 52.0 +1.0**
comp=Z,5.1nm,0.8s,baz=334,slow=6.1,SNR=50
ASAR Alice Springs 61.96 150 P **P** **05 53 52.0 +1.0**
KOLS Kolonicke sedl 62.10 312 *e*P **P** **05 53 52.2 +0.4**
KOLS Kolonicke sedl 62.10 312 *e*P **P** **05 53 52.1 +0.3**
CRVS Cervenica-Dubn 62.62 312 *e*P **P** **05 53 55.9 +0.7**
CRVS Cervenica-Dubn 62.62 312 *e*P **P** **05 53 55.9 +0.7**
NB2 NORSAR Subarra 64.24 327 P **P** **05 54 04.2 -1.6**
comp=Z,2.8nm,0.6s,baz=71,slow=6.9
NOA NORSAR Array B 64.24 327 P **P** **05 54 04.4 -1.4**
comp=Z,5.0nm,0.7s,baz=71,slow=6.6,SNR=10
NOA NORSAR Array B 64.24 327 P **P** **05 54 04.4 -1.4**
VYHS Vyhne 64.39 313 *e*P **P** **05 54 08.2 +1.2**
VYHS pmax pmax
comp=Z,6.0nm,1.5s
VYHS Vyhne 64.39 313 *e*P **P** **05 54 08.2 +1.2**
MORC Moravsky Berou 64.75 314 *e*P **P** **05 54 10.3 +1.0**
MORC pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 64.75 314 *e*P **P** **05 54 10.3 +1.0**
comp=Z,3.3nm,0.7s
DPC Dobruska-Polom 65.28 315 *e*P **P** **05 54 13.2 +0.4**
DPC pmax pmax
comp=Z,35nm,1.7s
DPC Dobruska-Polom 65.28 315 *e*P **P** **05 54 13.2 +0.4**
comp=Z,35nm,1.7s
NWAO Narrogin (SRO) 65.73 169 LR LR 06 22 21.3
comp=Z,42nm,20.7s,baz=15,slow=35
COLD Coldfoot 66.17 24 *e*P **P** **05 54 18.1 0.0**
comp=Z,4.5nm,0.9s
GERES GERESS Array B 67.43 314 P **P** **05 54 26.1 -0.5**
comp=Z,1.4nm,0.8s,baz=69,slow=7.9,SNR=6.7
GERES LR LR 06 25 17.5
comp=Z,42nm,19.2s,baz=314,slow=37
GERES GERESS Array B 67.43 314 P **P** **05 54 26.1 -0.5**
COLA College 68.12 26 *e*P **P** **05 54 30.4 -0.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 68.12 26 *e*P **P** **05 54 30.4 -0.1**
comp=Z,8.1nm,0.8s
ILAR Eielson Array 68.53 26 P **P** **05 54 31.9 -1.3**
comp=Z,1.0nm,0.7s,baz=286,slow=4.2,SNR=18
ILAR Eielson Array 68.53 26 P **P** **05 54 31.9 -1.3**
GRF Grafenberg Arr 68.57 316 *e*P P 05 54 40.9 +7.2
GRF pmax pmax
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 68.57 316 *e*P P 05 54 40.9 +7.2
comp=Z,3.0nm,0.8s
PMR Palmer 69.22 29 *e*P **P** **05 54 36.7 -0.7**
PMR pmax pmax
comp=Z,43nm,1.7s
PMR Palmer 69.22 29 *e*P **P** **05 54 36.7 -0.7**
comp=Z,43nm,1.7s
SML Sawmill 69.44 29 *e*P **P** **05 54 38.6 -0.3**
SML pmax pmax
comp=Z,2.0nm,0.8s
SML Sawmill 69.44 29 *e*P **P** **05 54 38.6 -0.3**
comp=Z,2.4nm,0.8s
FETA Feichten 70.00 313⇑ *i*P **P** **05 54 45.8 +3.0**
FETA Feichten 70.00 313⇑ *ip*P **P** **05 54 45.8 +3.0**
comp=Z,7.9nm,1.2s
FUORN Ofenpass-Fuorn 70.47 313 *e*P P 05 54 52.5 +6.8
INK Inuvik 70.89 20 *e*P **P** **05 54 47.2 -0.4**
comp=Z,6.5nm,0.9s
CDF Champ du Feu 71.46 316 *e*P **P** **05 54 50.9 -0.7**
CDF Champ du Feu 71.46 316 *e*P **P** **05 54 50.9 -0.7**
CDF Champ du Feu 71.46 316 *e*P **P** **05 54 50.9 -0.7**
DAWY Dawson 71.64 25 *e*P **P** **05 54 51.6 -0.7**
KMBO Kilima Mbogo 71.97 257 *e*P **P** **05 54 56.0 +0.7**
comp=Z,3.5nm,1.1s
HINF Hinteralfeld 71.99 315 *e*P **P** **05 54 54.5 -0.2**
HINF Hinteralfeld 71.99 315 *e*P **P** **05 54 54.5 -0.2**
HINF Hinteralfeld 71.99 315 *e*P **P** **05 54 54.5 -0.2**
STKA Stephens Creek 72.43 148 P **P** **05 54 56.3 -1.0**
comp=Z,2.6nm,0.5s,baz=321,slow=7.8,SNR=7.2
STKA Stephens Creek 72.43 148 P **P** **05 54 56.3 -1.0**
BAIF Baives 72.45 318 *e*P **P** **05 54 57.2 -0.1**
BAIF Baives 72.45 318 *e*P **P** **05 54 57.2 -0.1**
BAIF Baives 72.45 318 *e*P **P** **05 54 57.2 -0.1**
SUMG Summit 72.58 349 *i*P **P** **05 55 01.0 +2.8**
comp=Z,5.1nm,0.9s
RES Resolute Bay 72.62 5 *e*P **P** **05 54 58.1 +0.2**
comp=Z,5.5nm,1.1s
MEZF Maizieres J'vi 72.72 317 *e*P **P** **05 54 58.8 -0.2**
MEZF Maizieres J'vi 72.72 317 *e*P **P** **05 54 58.8 -0.2**
PGF Pioggiola 73.13 310 *e*P **P** **05 55 01.5 -0.2**
PGF Pioggiola 73.13 310 *e*P **P** **05 55 01.5 -0.2**
PGF Pioggiola 73.13 310 *e*P **P** **05 55 01.5 -0.2**
LPG La Plagne 73.15 313 *e*P **P** **05 55 02.0 0.0**
comp=Z,20nm,0.8s
LPG La Plagne 73.15 313 *e*P **P** **05 55 02.0 0.0**
LPG pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 73.15 313 *e*P **P** **05 55 02.0 0.0**
comp=Z,20nm,0.8s
LPL La Plagne 73.16 313 *e*P **P** **05 55 01.9 0.0**
comp=Z,14nm,0.8s
LPL La Plagne 73.16 313 *e*P **P** **05 55 01.9 0.0**
LPL pmax pmax
comp=Z,15nm,0.8s
LPL La Plagne 73.16 313 *e*P **P** **05 55 01.9 0.0**
comp=Z,14nm,0.8s
SBF Sospel 73.51 312 *e*P **P** **05 55 03.3 -0.5**
comp=Z,26nm,0.9s
SBF Sospel 73.51 312 *e*P **P** **05 55 03.3 -0.5**
SBF pmax pmax
comp=Z,26nm,0.9s
SBF Sospel 73.51 312 *e*P **P** **05 55 03.3 -0.5**
comp=Z,26nm,0.9s
MBDF Montbardon 73.51 313 *e*P **P** **05 55 03.6 -0.3**
comp=Z,6.6nm,0.7s
MBDF Montbardon 73.51 313 *e*P **P** **05 55 03.6 -0.3**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 73.51 313 *e*P **P** **05 55 03.6 -0.3**
comp=Z,6.6nm,0.7s
ORIF Oris-en-Rattie 73.97 313 *e*P **P** **05 55 06.0 -0.6**
ORIF *eR*
comp=Z,51nm,17.2s
ORIF Oris-en-Rattie 73.97 313 *e*P **P** **05 55 06.0 -0.6**
ORIF Oris-en-Rattie 73.97 313 *e*P **P** **05 55 06.0 -0.6**
SSF Saint Saulge 74.34 316 *e*P **P** **05 55 07.6 -0.9**
comp=Z,4.7nm,0.8s
SSF Saint Saulge 74.34 316 *e*P **P** **05 55 07.6 -0.9**
SSF pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 74.34 316 *e*P **P** **05 55 07.6 -0.9**
comp=Z,4.7nm,0.8s
SMF Signal de Mont 74.35 315 *e*P **P** **05 55 07.9 -0.7**
comp=Z,12nm,1.0s
SMF Signal de Mont 74.35 315 *e*P **P** **05 55 07.9 -0.7**
SMF pmax pmax
comp=Z,12nm,1.0s
SMF Signal de Mont 74.35 315 *e*P **P** **05 55 07.9 -0.7**
comp=Z,12nm,1.0s
LMR La Mourre 74.36 311 *e*P **P** **05 55 08.1 -0.6**
LMR La Mourre 74.36 311 *e*P **P** **05 55 08.1 -0.6**
LMR La Mourre 74.36 311 *e*P **P** **05 55 08.1 -0.6**
AVF Avril sur Loir 74.57 316 *e*P **P** **05 55 09.2 -0.7**
comp=Z,8.7nm,0.9s
AVF Avril sur Loir 74.57 316 *e*P **P** **05 55 09.2 -0.7**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 74.57 316 *e*P **P** **05 55 09.2 -0.7**
comp=Z,8.7nm,0.9s
VIVF Saint-Julien-l 74.75 314 *e*P **P** **05 55 10.4 -0.6**
VIVF Saint-Julien-l 74.75 314 *e*P **P** **05 55 10.4 -0.6**
VIVF Saint-Julien-l 74.75 314 *e*P **P** **05 55 10.4 -0.6**
TCF Toulx Ste Croi 75.50 316 *e*P **P** **05 55 15.0 -0.3**
TCF Toulx Ste Croi 75.50 316 *e*P **P** **05 55 15.0 -0.3**
TCF Toulx Ste Croi 75.50 316 *e*P **P** **05 55 15.0 -0.3**
FLN La Foliniere 75.74 319 *e*P **P** **05 55 15.9 -0.7**
FLN *eR*
comp=Z,30nm,17.5s
FLN La Foliniere 75.74 319 *e*P **P** **05 55 15.9 -0.7**
FLN La Foliniere 75.74 319 *e*P **P** **05 55 15.9 -0.7**
GRR Gorron 76.16 319 *e*P **P** **05 55 18.4 -0.5**
comp=Z,9.8nm,0.8s
GRR Gorron 76.16 319 *e*P **P** **05 55 18.4 -0.5**
GRR pmax pmax
comp=Z,10.0nm,0.8s
GRR Gorron 76.16 319 *e*P **P** **05 55 18.4 -0.5**
comp=Z,9.8nm,0.8s
CAF Calviac 76.30 315 *e*P **P** **05 55 19.8 -0.1**
CAF Calviac 76.30 315 *e*P **P** **05 55 19.8 -0.1**
CAF Calviac 76.30 315 *e*P **P** **05 55 19.8 -0.1**
RJF Les Rejaudoux 76.43 315 *e*P **P** **05 55 20.7 +0.1**
RJF *eR*
comp=Z,37nm,17.0s
RJF Les Rejaudoux 76.43 315 *e*P **P** **05 55 20.7 +0.1**
RJF Les Rejaudoux 76.43 315 *e*P **P** **05 55 20.7 +0.1**
MFF Saint Martin d 76.72 317 *e*P **P** **05 55 21.9 -0.3**
MFF Saint Martin d 76.72 317 *e*P **P** **05 55 21.9 -0.3**
MFF Saint Martin d 76.72 317 *e*P **P** **05 55 21.9 -0.3**
MTLF Montolieu 77.05 313 *e*P **P** **05 55 23.8 -0.3**
MTLF Montolieu 77.05 313 *e*P **P** **05 55 23.8 -0.3**
MTLF Montolieu 77.05 313 *e*P **P** **05 55 23.8 -0.3**
LFF La Frestale 77.09 315 *e*P **P** **05 55 23.7 -0.6**
LFF La Frestale 77.09 315 *e*P **P** **05 55 23.7 -0.6**
LFF La Frestale 77.09 315 *e*P **P** **05 55 23.7 -0.6**
SGMF Saint Gilles 77.17 319 *e*P **P** **05 55 24.5 -0.2**
SGMF Saint Gilles 77.17 319 *e*P **P** **05 55 24.5 -0.2**
SGMF Saint Gilles 77.17 319 *e*P **P** **05 55 24.5 -0.2**
ROSF Rostrenen 77.52 320 *e*P **P** **05 55 26.5 -0.2**
ROSF Rostrenen 77.52 320 *e*P **P** **05 55 26.5 -0.2**
ROSF Rostrenen 77.52 320 *e*P **P** **05 55 26.5 -0.2**
ETSF Etsaut 78.99 314 *e*P **P** **05 55 34.5 -0.5**
ETSF Etsaut 78.99 314 *e*P **P** **05 55 34.5 -0.5**
ETSF Etsaut 78.99 314 *e*P **P** **05 55 34.5 -0.5**
YKW3 Yellowknife Ar 80.38 17 *e*P **P** **05 55 41.7 -0.4**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 80.44 18 P **P** **05 55 42.1 -0.3**
comp=Z,3.3nm,0.6s,baz=328,slow=5.0,SNR=88
YKA PKKPbc **PKKPbc** **06 14 21.9 -2.3**
comp=Z,0.4nm,0.6s,baz=151,slow=2.1,SNR=10
YKA Yellowknife Ar 80.44 18 P **P** **05 55 42.1 -0.3**
YKA PKKPbc **PKKPbc** **06 14 21.9 -2.3**
ESDC Sonseca Array 82.94 313 P **P** **05 55 56.4 +0.3**
comp=Z,0.9nm,0.8s,baz=45,slow=7.3,SNR=4.6
ESDC Sonseca Array 82.94 313 P **P** **05 55 56.4 +0.3**
FFC Flin Flon 90.39 15 *e*P **P** **05 56 32.0 -0.1**
FFC Flin Flon 90.39 15 *e*P **P** **05 56 32.0 -0.1**
BSMT Bassoo Peak 92.69 26 P **P** **05 56 44.4 +1.1**
SCHQ Schefferville 93.09 355 P **P** **05 56 43.9 -0.8**
comp=Z,4.0nm,0.9s,baz=26,slow=9.9,SNR=2.6
SCHQ Schefferville 93.09 355 P **P** **05 56 43.9 -0.8**
SLMT Seeley Lake 93.68 25 *e*P **P** **05 56 48.1 +0.3**
comp=Z,4.0nm,0.9s
SLMT *ep*P **pP** **05 56 53.0 -0.9**
TORD Torodi Ar. Bea 94.12 288 P **P** **05 56 49.2 -0.9**
comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=3.5
TORD Torodi Ar. Bea 94.12 288 P **P** **05 56 49.2 -0.9**
VNA2 Neumayer--Watz 127.36 202 *e*P **PKPdf** **06 02 35.6 +0.9**
baz=88,slow=2.0
VNA2 Neumayer--Watz 127.36 202 *e*PKP **PKPdf** **06 02 39.5 +4.8**
baz=88,slow=2.0
VNA2 Neumayer--Watz 127.36 202 *e*PP PP 06 04 34.1 -1.0
baz=88,slow=2.0
VNA2 Neumayer--Watz 127.36 202 *e*WP 06 06 08.9
baz=88,slow=2.0
VNA3 Neumayer Olymp 128.03 202 *e*P **PKPdf** **06 02 36.8 +0.8**
VNA3 Neumayer Olymp 128.03 202 *e*PKP **PKPdf** **06 02 40.5 +4.5**
VNA3 Neumayer Olymp 128.03 202 *e*PP PP 06 04 35.3 -4.2
OTAV Otavalo 147.61 7 *e*PKPbc **PKPbc** **06 03 16.8 +0.2**
BDFB Brasilia 150.55 298 PKPbc **PKPbc** **06 03 22.3 -1.3**
comp=Z,1.1nm,0.4s,baz=90,slow=1.0,SNR=2.4
BDFB Brasilia 150.55 298 PKPbc **PKPbc** **06 03 22.3 -1.3**

IDC 19 05:58:06.8±5.4, 19°26N×108°76W, h0km, mb3.3/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.3/5, ML3.3/1, MS3.6/3, Ms1 3.7/3, ms1mx3.3/8, Error ellipse: s-maj=103.2km s-min=18.6km az=142.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**11.05**	**24**	Pn	Pn	06 00 48.8	+2.4
	0.1nm,0.3s,baz=196,slow=13,SNR=8.3						
NVAR	**Mina Array Bea**	**20.83**	**339**	P	P	06 02 50.6	+0.3
	1.6nm,0.8s,baz=164,slow=12,SNR=11						
NVAR				LR	LR	06 09 26.4	
	comp=Z,216nm,21.4s,baz=215,slow=33						
PDAR	**Pinedale Array**	**23.45**	**359**	P	P	06 03 17.5	-0.6
	0.6nm,0.8s,baz=162,slow=10,SNR=5.2						
YBH	**Yreka Blue Hor**	**25.36**	**335**	LR	LR	06 12 53.7	
	comp=Z,105nm,19.2s,baz=159,slow=35						
YKA	**Yellowknife Ar**	**43.39**	**356**	P		06 06 10.2	-0.6
	0.3nm,0.8s,baz=172,slow=8.0,SNR=5.8						
RKT	**Rikitea**	**49.29**	**212**	*e*T	T	07 01 18.3	
	4.2nm,0.3s						
ILAR	**Eielson Array**	**52.07**	**340**	P	P	06 07 18.2	0.0
	0.3nm,0.8s,baz=147,slow=6.4,SNR=4.7						
LPAZ	**La Paz**	**53.33**	**129**	LR	LR	06 26 54.0	
	comp=Z,69nm,18.8s,baz=344,slow=32						
PPT2	**Papeete2**	**54.31**	**230**	*e*LR	LR	06 23 15.1	
	101nm,27.5s						
TBI	**Tubuai**	**58.06**	**225**	*e*LR	LR	06 24 57.7	
	82nm,28.0s						
DZM	**Mont Dzumac**	**92.47**	**248**	*e*LR	LR	06 41 23.0	
	109nm,28.0s						

*ISCJB **19** 06:04:25.9±0.5, 38°47N±0°03×39°17E±0°03, h11km±4km, Error ellipse: s-maj=5.6km s-min=4.3km az=7.6*

*ISK **19** 06:04:25.4, 38.47N×39.18E, h13km, MD2.8*
*CSEM **19** 06:04:25.9±0.2, 38.48N×39.15E, h10km, MD2.8, Error ellipse: s-maj=5.9km s-min=5.2km az=8.0*
*DDA **19** 06:04:26.1, 38.47N×39.13E, h7km, MD2.8*

ISC 19 06:04:26.0±0.9, 38.49N±0.03×39.18E±0.02, h11km±6km, n26, σ0 76/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.15**	**137**	*e*PG		**Pg**	**06 04 29.2**	**-0.3**
SVRC				*e*SG		**Sg**	**06 04 31.5**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.15**	**137**	*e*Pg		**Pg**	**06 04 29.2**	**-0.3**
SVRC				*e*Sg		**Sg**	**06 04 31.5**	**-0.6**
ELZG	**Elazig**	**0.15**	**274**	*i* P		**Pg**	**06 04 29.7**	**+0.1**
ELZG				*i* S		**Sg**	**06 04 32.6**	**+0.4**
ELZG	**Elazig**	**0.15**	**274**	*i* P		**Pg**	**06 04 29.7**	**+0.1**
ELZG				*i* S		**Sg**	**06 04 32.6**	**+0.4**
PTK	**Pertek**	**0.44**	**23**	*e*PG		**Pg**	**06 04 34.9**	**+0.2**
PTK				*e*SG		**Sb**	**06 04 42.0**	**-0.5**
PTK	**Pertek**	**0.44**	**23**	*e*Pg		**Pg**	**06 04 34.9**	**+0.2**
PTK				*e*Sg		**Sb**	**06 04 42.1**	**-0.5**
MYA	**Malataya**	**0.61**	**255**	*e*PG		**Pg**	**06 04 37.3**	**-0.6**
MYA	**Malataya**	**0.61**	**255**	*e*Pg		**Pg**	**06 04 37.3**	**-0.6**
MALT	**Malatya**	**0.61**	**254**	*e*PG		**Pg**	**06 04 37.6**	**-0.3**
MALT				*e*SG		**Sb**	**06 04 47.0**	**-0.5**
MALT	**Malatya**	**0.61**	**254**	*e*Pg		**Pg**	**06 04 37.6**	**-0.3**
MALT				*e*Sg		**Sb**	**06 04 47.0**	**-0.5**
DIYA	**Diyarbakir**	**0.93**	**127**	*i* P		**Pg**	**06 04 44.5**	**+0.3**
DIYA				*i* S		**Sg**	**06 04 56.0**	**-0.2**
DIYA	**Diyarbakir**	**0.93**	**127**	*i* P		**Pb**	**06 04 44.5**	**+0.3**
DIYA				*i* S		**Sg**	**06 04 56.0**	**-0.2**
KEMA	**Kemaliye**	**0.94**	**326**	*i* P		**Pg**	**06 04 43.7**	**-0.5**
KEMA				*i* S		**Sb**	**06 04 57.4**	**+0.4**
KEMA	**Kemaliye**	**0.94**	**326**	*i* P		**Pg**	**06 04 43.7**	**-0.5**
KEMA				*i* S		**Sb**	**06 04 57.4**	**+0.4**
AKCD	**Akcadag**	**1.00**	**259**	*i* P		**Pg**	**06 04 44.3**	**-1.0**
AKCD				*i* S		**Sg**	**06 04 58.3**	**-0.1**
AKCD	**Akcadag**	**1.00**	**259**	*i* P		**Pb**	**06 04 44.3**	**-1.0**
AKCD				*i* S		**Sg**	**06 04 58.3**	**-0.1**
ILIC	**ilic-Erzincan**	**1.07**	**334**	*e*PN		**Pg**	**06 04 46.6**	**-0.1**
ILIC	**ilic-Erzincan**	**1.07**	**334**	*e*Pn		**Pg**	**06 04 46.6**	**-0.1**
URFA	**Urfa**	**1.08**	**195**	*e*PG		**Pg**	**06 04 46.6**	**-0.2**
URFA	**Urfa**	**1.08**	**195**	*e*Pg		**Pg**	**06 04 46.6**	**-0.2**
BINT	**Bingol**	**1.10**	**69**	*e*Pn		**Pn**	**06 04 49.8**	**+2.4**
DARE	**Darende-Malaty**	**1.17**	**294**	*e*PN		**Pb**	**06 04 49.9**	**+1.5**
DARE	**Darende-Malaty**	**1.17**	**294**	*e*Pn		**Pn**	**06 04 49.9**	**+1.5**
ERZN	**Erzincan**	**1.18**	**21**	*e*PN		**Pb**	**06 04 47.9**	**-0.5**
EZC	**Erzincan**	**1.27**	**6**	*e*PN		**Pn**	**06 04 47.9**	**-1.9**
BNGB	**Bingˆll**	**1.28**	**66**	*e*PN		**Pn**	**06 04 49.8**	**-0.1**

IDC 19 06:06:37.3±1.0, 3.90N×126.42E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, Error ellipse: s-maj=105.9km s-min=15.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**182**	P		P	06 11 32.2	+0.3
	0.6nm,0.4s,baz=4.1,slow=14,SNR=4.4							
WRA	**Warramunga Arr**	**24.94**	**162**	P		P	06 12 02.4	-0.2
	2.3nm,0.5s,baz=342,slow=11,SNR=8.6							
ASAR	**Alice Springs**	**28.36**	**165**	P		P	06 12 33.2	-0.1
	0.2nm,0.6s,baz=346,slow=6.9,SNR=3.3							
STKA	**Stephens Creek**	**38.40**	**159**	P		P	06 14 00.5	-0.1
	1.5nm,0.6s,baz=322,slow=10,SNR=4.5							
SONM	**Songino Array**	**47.04**	**342**	P		P	06 15 11.7	+0.9
	0.4nm,0.5s,baz=156,slow=8.4,SNR=6.3							
SONM				PcP		PcP	06 16 42.3	-0.7
	0.1nm,0.5s,baz=143,slow=4.3,SNR=3.9							
MKAR	**Makanchi Array**	**57.24**	**325**	P		P	06 16 27.1	+0.5
	0.6nm,0.4s,baz=118,slow=7.8,SNR=13							
MKAR				PcP		PcP	06 17 22.0	+1.0
	0.3nm,0.7s,baz=127,slow=6.0,SNR=2.4							
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		P	06 16 46.7	-1.0
	0.4nm,0.4s,baz=131,slow=6.7,SNR=2.3							
BVAR	**Borovoye Array**	**67.01**	**327**	P		P	06 17 31.2	-0.9
	0.8nm,0.8s,baz=124,slow=7.3,SNR=3.3							

IDC 19 06:09:24.3±4.9, 2.50S×139.27E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=192.9km s-min=30.5km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.99**	**195**	P		P	06 13 37.7	+1.2
	0.2nm,0.3s,baz=16,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**21.67**	**193**	P		P	06 14 15.8	-0.9
	0.4nm,0.5s,baz=23,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**69.97**	**322**	P		P	06 20 37.6	0.0
	0.3nm,0.5s,baz=101,slow=6.0,SNR=4.3							

IDC 19 06:16:36.3±3.5, 1.97S×139.44E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/25, Error ellipse: s-maj=113.8km s-min=28.2km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.54**	**195**	P		P	06 20 54.3	-0.5
	0.7nm,0.3s,baz=17,slow=12,SNR=26							
FITZ	**Fitzroy Crossi**	**20.98**	**219**	P		P	06 21 21.3	-0.1
	2.0nm,1.1s,baz=60,slow=14,SNR=4.0							
FITZ				LR		LR	06 30 25.5	
	comp=Z,78nm,18.0s,baz=148,slow=40							
ASAR	**Alice Springs**	**22.22**	**194**	P		P	06 21 35.1	+0.4
	2.2nm,0.6s,baz=22,slow=11,SNR=31							
MKAR	**Makanchi Array**	**69.66**	**322**	P		P	06 27 47.8	-0.1
	0.3nm,0.6s,baz=118,slow=8.0,SNR=4.2							

MEX 19 06:31:13.1±0.5, 16.89N×100.44W, h15km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.23**	**46**	*e*P		Pg	06 31 17.7	-0.5
CAIG				*i* S		Sg	06 31 21.0	-0.6
ACX	**Acapulco**	**0.55**	**92**	*e*P		Pg	06 31 21.7	-2.4
ACX				*e*S		Sg	06 31 28.2	-3.4
ZIIG	**Zihuatanejo**	**1.22**	**306**	*e*P		Pn	06 31 31.4	-4.2
ZIIG				*i* S		Sb	06 31 46.7	-4.6
ARIG	**Puente Sto Nin**	**1.39**	**4**	*i* P		Pn	06 31 34.7	-3.4
ARIG				*e*S		Sn	06 31 50.5	-5.7
YAIG	**Yautepec**	**2.36**	**33**	*i* P		Pn	06 31 47.0	-4.5
YAIG				*i* S		Sn	06 32 16.5	-4.0

*IDC **19** 06:57:57.2±5.5, 36.42N×71.09E, h85km±40km, mb3.6/7, mb1 3.6/13, mb1mx3.4/32, mbtmp3.5/13, Error ellipse: s-maj=43.5km s-min=23.5km az=170.0*
*NNC **19** 06:58:00.1±2.9, 36.97N×70.33E, h0km, mb3.8, mpv4.2, Error ellipse: s-maj=35.3km s-min=25.0km az=94.0*

ISC 19 06:58:01.1±2.5, 36.6N±0.2×71.2E±0.2, h100km, n31, σ1 9/14/19, mb3.7/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.88**	**168**	⇓P		Pn	06 58 40.0	-5.4
CEP				S		Sn	06 59 13.0	-6.5
CHCP	**Chirah Chowk**	**3.43**	**149**	P		Pn	06 58 48.2	-4.6
THW	**Thamme Wali**	**3.87**	**173**	P		Pn	06 58 52.3	-6.3
AML	**Almayashu**	**5.82**	**19**	P		**Pn**	**06 59 25.3**	**0.0**
	SNR=54							
UCH	**Uchtor**	**6.15**	**24**	P		**Sn**	**07 00 39.8**	**+0.9**
	SNR=9.6							
EKS2	**Erkin-Say**	**6.34**	**18**	P		**Pn**	**06 59 32.5**	**+0.5**
	SNR=20							
KK31	**Karatay Array**	**6.47**	**356**	Pn		Pn	06 59 33.2	-0.6
	6.4nm,0.3s,baz=176,slow=12,SNR=362							
KK31				⇑Sn		**Sn**	**07 00 43.8**	**-2.4**
	24nm,0.4s,baz=187,slow=24,SNR=4.2							
AAK	**Ala-Archa**	**6.51**	**22**	P		**Pn**	**06 59 34.8**	**+0.4**
	4.7nm,0.3s,baz=174,slow=6.5,SNR=61							
AAK				S		**Sn**	**07 00 48.2**	**+1.0**
	3.0nm,0.3s,baz=331,slow=23,SNR=12							
AAK	**Ala-Archa**	**6.51**	**22**	P		**Pn**	**06 59 34.8**	**+0.4**
	SNR=20							
CHMS	**Chumysh**	**6.92**	**22**	P		**Pn**	**06 59 40.3**	**+0.4**
	SNR=6.4							
USP	**Ospenovka**	**7.09**	**20**	P		**Pn**	**06 59 42.4**	**+0.2**
	SNR=7.1							
TKM2	**Tokmak 2**	**7.13**	**27**	P		**Pn**	**06 59 42.7**	**-0.2**
	SNR=10							
MK31	**Makanchi Array**	**13.09**	**36**	⇑P		**P**	**07 01 08.7**	**-0.9**
	0.5nm,0.5s,baz=212,slow=9.3,SNR=4.0							
MKAR	**Makanchi Array**	**13.09**	**36**	P		**Pn**	**07 01 02.6**	**-0.5**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.2							
KURBB	**Kurchatov Arra**	**14.94**	**18**	P		**Pn**	**07 01 26.9**	**-0.1**
	0.1nm,0.3s,baz=206,slow=10,SNR=9.7							
AB31	**Akbulak array**	**15.03**	**331**	P		Pn	07 01 24.5	-3.5
	1.1nm,0.4s,baz=144,slow=12,SNR=84							
VOSK	**Vostochnaya**	**16.08**	**360**	⇓P		**Pn**	**07 01 41.6**	**+0.4**
	1.0nm,0.4s							
ZRNK	**Zerenda**	**16.38**	**355**	⇓P		**Pn**	**07 01 45.2**	**+0.4**
	2.2nm,0.6s							
BVA0	**Borovoye Array**	**16.39**	**358**	⇑P		**P**	**07 01 49.1**	**+3.0**
	0.1nm,0.5s,baz=160,slow=9.7,SNR=3.6							
BVAR	**Borovoye Array**	**16.39**	**358**	P		**Pn**	**07 01 44.1**	**-1.0**
	0.5nm,0.3s,baz=188,slow=9.0,SNR=8.6							
BVAR				S		Sn	07 04 37.9	-8.7
	0.3nm,0.3s,baz=164,slow=22,SNR=5.4							
AKTO	**Aktyubinsk**	**16.73**	**330**	P		Pn	07 01 47.2	-1.9
	0.4nm,0.3s,baz=147,slow=12,SNR=8.9							
AKTO				S		Sn	07 04 43.8	-11
	0.2nm,0.3s,baz=323,slow=20,SNR=5.9							
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑P		Pn	07 01 47.4	-1.8
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**19.73**	**24**	P		**P**	**07 02 21.4**	**-1.2**
	1.8nm,0.3s,baz=212,slow=9.8,SNR=15							
SONM	**Songino Array**	**28.14**	**55**	P		**P**	**07 03 44.0**	**+0.2**
	0.4nm,0.5s,baz=274,slow=9.9,SNR=4.3							
FINES	**FINESS Array B**	**37.44**	**326**	P		P	07 05 03.7	-0.7
	1.0nm,0.4s,baz=119,slow=10,SNR=9.9							
ARCES	**ARCESS Array B**	**41.07**	**337**	P		P	07 05 34.1	-0.3
	3.8nm,0.9s,baz=111,slow=6.6,SNR=6.0							
NB2	**NORSAR Subarra**	**44.35**	**323**	P		P	07 06 00.2	-0.9
	comp=Z,1.2nm,0.5s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		P	07 06 00.4	-0.7
	comp=Z,1.0nm,0.5s,baz=97,slow=7.8,SNR=6.0							
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P		P	07 08 32.5	-3.8
	comp=Z,0.4nm,0.5s,baz=58,slow=5.1,SNR=4.3							
INK	**Inuvik**	**73.74**	**9**	P		P	07 09 22.0	-1.7
	comp=Z,0.7nm,0.6s,baz=346,slow=9.8,SNR=7.1							
YKA	**Yellowknife Ar**	**81.10**	**3**	P		P	07 10 03.7	-1.1
	comp=Z,0.7nm,0.6s,baz=349,slow=5.4,SNR=27							

*BJI **19** 07:03:28.5, 2.59S×139.31E, h35km, mB5.0/26, mb4.9/41, Ms4.6/32, Ms7 4.4/32*
*IDC **19** 07:03:29.6±0.4, 1.96S×139.06E, h0km, mb4.7/24, mb1 4.8/28, mb1mx4.8/32, mbtmp4.7/28, ML4.3/4, MS4.3/24, Ms1 4.3/24, ms1mx4.1/39, Error ellipse: s-maj=16.3km s-min=10.5km az=71.0*
*AUST **19** 07:03:29.5±2.6, 2.00S×139.10E, h0km, Error ellipse: s-maj=1.2km s-min=0.7km az=31.0*
*ISCJB **19** 07:03:31.9±0.9, 2.02S±0.03×139.09E±0.03, h25km±6km, mb5.0/104, MS4.3/38, Error ellipse: s-maj=5.4km s-min=3.9km az=137.2*
*DJA **19** 07:03:33.9±0.6, 2°S±4°×13°9E±°, h20km±4km, M5.1/68, mb5.2/68, mB5.6/33, MLv5.2/7, Mw(mB)5.1/33*
*MOS **19** 07:03:33.0±1.0, 2.02S×138.97E, h33km, mb5.2/23, Error ellipse: s-maj=12.3km s-min=6.2km az=110.0*
*GCMT **19** 07:03:34.1±0.2, 1.76S×139.20E, h12km, MW5.0, Moment Tensor Solution. s39,c44; s86,c125; Moment tensor: Scale 10^16Nm; Mrr2.95±.13; Mθθ-1.62±.08; Mϕϕ-1.33±.10; Mrθ-2.71±.30; Mrϕ1.45±.06; Mθϕ2.18±.31; Best double couple: M=4.60000×10^16 NP1:φ=135.00000°, δ20.00000°, λ95.00000°. NP2:φ=310.00000°, δ70.00000°, λ88.00000°. Principal axes: T 4.5700, Plg65.0000°, Azm217.0000°; N -0.0200, Plg2.0000°, Azm310.0000°; P -4.5400, Plg25.0000°, Azm41.0000°; Data Used: II IU IC G CN.*
*NEIC **19** 07:03:35.0±0.1, 2.00S×139.02E, h35km, mb5.1/37 Error ellipse: s-maj=5.2km s-min=3.3km az=67.0*
NEIC Felt [IV] at Sarmi.

ISC 19 07:03:35.0±0.3, 1.98S±0.03×139.10E±0.04, h35km±1km, h35km: pP-P, n355, σ1 9/34/402, mb5.1/103, MS4.3/38, 27C-17D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.39**	**269**	P		**Pb**	**07 03 42.3**	**-1.8**
JAY	**Jayapura**	**1.69**	**108**	P		**Pn**	**07 03 59.2**	**-2.9**
	baz=1.7,SNR=11							
JAY				S		**Sn**	**07 04 20.6**	**-2.0**
	baz=1.7,SNR=6.6							
JAY	**Jayapura**	**1.69**	**108**	P		**Pn**	**07 04 00.0**	**-2.1**
WAMI	**Wamena**	**1.93**	**192**	P		**Pb**	**07 04 10.4**	**+0.8**
BAKI	**Biak**	**3.09**	**285**	P		Pn	07 04 18.2	-3.2
FAKI	**Fak Fak**	**6.91**	**262**	P		**Pn**	**07 05 11.9**	**-2.0**
	246nm,1.1s,2µm0.9nm							
TLE	**Tual**	**7.31**	**240**	P		**Pn**	**07 05 19.8**	**+0.4**
	237nm,1.5s,3µm0.9nm							
SWI	**Sorong**	**7.92**	**278**	P		Pn	07 05 32.3	+4.6
	51nm,1.3s,0.3nm							
MSAI	**Masohi**	**10.25**	**262**	P		**Pn**	**07 05 59.9**	**+0.1**
	28nm,0.8s,1µm							
PALU	**Palau**	**10.35**	**334**	S		**Sn**	**07 07 53.4**	**-2.6**
	baz=10,SNR=6.3							
PMG	**Port Moresby**	**10.89**	**133**	Pn		**Pn**	**07 06 07.7**	**-0.9**
	1.0nm,0.3s,baz=102,slow=19,SNR=3.3							
PMG	**Port Moresby**	**10.89**	**133**	*e*Pn		**Pn**	**07 06 08.2**	**-0.3**
PMG	**Port Moresby**	**10.89**	**133**	P		Pn	07 06 17.8	+9.3
AAI	**Ambon**	**11.02**	**261**	P		**Pn**	**07 06 10.6**	**+0.3**
	89nm,0.7s,3µm							
TNTI	**Ternate**	**12.05**	**283**	P		Pn	07 06 28.2	+3.8
	81nm,1.1s,2µm							
NLAI	**Namlea**	**12.05**	**264**	P		**P**	**07 06 38.5**	**+1.7**
KDU	**Kakadu**	**12.50**	**211**	P		**Pn**	**07 06 28.6**	**-1.9**
	baz=12,SNR=30							
COEN	**Coen**	**12.56**	**162**	*e*Pn		**Pn**	**07 06 31.5**	**+0.1**
COEN				*e*Sn		**Sn**	**07 08 49.1**	**-1.1**
COEN	**Coen**	**12.56**	**162**	P		**Pn**	**07 06 31.8**	**+0.4**
	baz=13,SNR=20							
MTN	**Manton Dam**	**13.37**	**216**	P		**Pn**	**07 06 40.5**	**-1.8**
	baz=13,SNR=56							
KMSI	**Cibinong**	**15.33**	**279**	P		**P**	**07 07 13.1**	**-0.2**
	225nm,0.9s,3µm							
LUWI	**Luwuk**	**16.35**	**273**	P		**Pn**	**07 07 20.1**	**-2.0**
	122nm,1.3s,2µm							
GUMO	**Guam**	**16.50**	**20**	LR		LR	07 13 17.0	
	comp=Z,667nm,20.4s,baz=206,slow=36							
KDI	**Kendari**	**16.57**	**263**	P		**Pn**	**07 07 25.1**	**+0.2**
	60nm,1.7s,1µm							
BBSI	**Bau Bau**	**16.86**	**258**	P		**P**	**07 07 29.9**	**-0.4**
	183nm,1.2s,2µm							
MRSI	**Marisa**	**17.33**	**278**	P		**Pn**	**07 07 34.3**	**-0.1**
	60nm,1.0s							
WRAB	**Tennant Creek**	**18.43**	**194**	*e*P		**P**	**07 07 45.9**	**-1.7**
WRAB				*e*S		Sn	07 11 04.4	-8.6
WRAB				pmax		pmax		
	comp=Z,90nm,0.8s							
WRAB	**Tennant Creek**	**18.43**	**194**	*e*P		**P**	**07 07 45.9**	**-1.7**
	comp=Z,90nm,0.8s							
WRAB				*e*S		Sn	07 11 04.3	-8.6
WRAB	**Tennant Creek**	**18.43**	**194**	P		**P**	**07 07 46.0**	**-1.7**
	comp=Z,746nm,0.9s,SNR=73							
WRA	**Warramunga Arr**	**18.45**	**194**	P		**P**	**07 07 46.3**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=17,slow=12,SNR=70							
WRA				S		Sn	07 11 03.7	-10
	comp=Z,0.6nm,0.3s,baz=20,slow=23,SNR=3.9							
WRA				LR		LR	07 15 51.3	
	comp=Z,1µm,19.0s,baz=20,slow=40							
WRA	**Warramunga Arr**	**18.45**	**194**	P		**P**	**07 07 46.3**	**-1.5**
WRA				S		Sn	07 11 03.7	-10
QIS	**Mount Isa**	**18.47**	**179**	P		**P**	**07 07 47.8**	**-0.3**
	baz=19,SNR=5.7							
BKSI	**Bulukumba**	**19.23**	**260**	P		**Pn**	**07 08 00.4**	**+2.9**
	comp=Z,58nm,1.6s,comp=Z,962nm							
PCI	**Palu**	**19.29**	**273**	P		**P**	**07 07 56.1**	**-0.9**
	baz=19,SNR=29							
TTSI	**Tana Toraja**	**19.29**	**266**	P		**Pn**	**07 07 59.9**	**+1.6**
	comp=Z,104nm,1.9s,comp=Z,2µm							
CTA	**Charters Tower**	**19.30**	**159**	P		**Pn**	**07 07 57.9**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=332,slow=11,SNR=23							
CTA	**Charters Tower**	**19.30**	**159**	P		**Pn**	**07 07 57.9**	**-0.6**
CTAO	**Charters Tower**	**19.30**	**159**	*e*P		**Pn**	**07 07 58.1**	**-0.3**
CTAO				pmax		pmax		
	comp=Z,60nm,1.0s							
CTAO	**Charters Tower**	**19.30**	**159**	*e*P		**Pn**	**07 07 58.1**	**-0.3**
	comp=Z,60nm,1.0s							
SPSI	**Sidrap Palu**	**19.40**	**264**	P		**Pn**	**07 07 59.8**	**+0.1**
	comp=Z,68nm,1.9s,comp=Z,1µm							
KAPI	**Kappang**	**19.54**	**261**	P		**P**	**07 07 59.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=75,slow=12,SNR=6.2							
KAPI	**Kappang**	**19.54**	**261**	*e*P		**P**	**07 07 59.9**	**0.0**
	comp=Z,57nm,1.0s							
FITZ	**Fitzroy Crossi**	**20.76**	**219**	P		**P**	**07 08 12.6**	**-0.5**
	comp=Z,41nm,1.1s,baz=43,slow=11,SNR=32							
FITZ				S		S	07 11 52.6	-10
	comp=Z,8.3nm,0.8s,baz=148,slow=9.5,SNR=2.4							
FITZ				LR		LR	07 17 26.8	
	comp=Z,1µm,20.0s,baz=40,slow=40							
FITZ	**Fitzroy Crossi**	**20.76**	**219**	*e*P		**P**	**07 08 12.4**	**-0.6**
	comp=Z,11nm,0.9s							
FITZ				S		S	07 11 52.6	-10
FITZ				*e*S		Sn	07 11 53.8	-15
FITZ	**Fitzroy Crossi**	**20.76**	**219**	P		**P**	**07 08 12.6**	**-0.5**
	baz=21,SNR=14							
FITZ				S		S	07 11 55.1	-8.0
	baz=21,SNR=7.0							
MYLDM	**Lahad Datu**	**21.77**	**289**	P		**P**	**07 08 24.9**	**+0.9**
MYLDM	**Lahad Datu**	**21.77**	**289**	P		**P**	**07 08 25.9**	**+1.9**
	comp=Z,98nm,1.4s,comp=Z,2µm							
HNR	**Honiara**	**22.01**	**110**	P		**P**	**07 08 26.4**	**-0.1**
	comp=Z,134nm,0.9s,baz=218,slow=0.5,SNR=5.7							
HNR	**Honiara**	**22.01**	**110**	*e*P		**P**	**07 08 27.5**	**+1.0**
TSM	**Tawau**	**22.11**	**286**	P		**P**	**07 08 28.2**	**+0.6**
AS31	**Alice Springs**	**22.13**	**193**	*e*P		**P**	**07 08 27.2**	**-0.7**
ASAR	**Alice Springs**	**22.13**	**193**	P		**P**	**07 08 27.2**	**-0.6**
	comp=Z,54nm,0.8s,baz=25,slow=10,SNR=389							
ASAR				S		**S**	**07 12 32.2**	**+2.2**
	comp=Z,8.5nm,0.9s,baz=16,slow=22,SNR=5.0							
ASAR				LR		LR	07 16 34.3	
	comp=Z,546nm,21.9s,baz=14,slow=35							
ASAR	**Alice Springs**	**22.13**	**193**	P		**P**	**07 08 27.2**	**-0.6**
ASAR				S		**S**	**07 12 32.2**	**+2.2**
KBKI	**Kotabaru**	**22.95**	**266**	P		**P**	**07 08 38.9**	**+2.4**
	comp=Z,112nm,1.1s,comp=Z,1µm							
SDKM	**Sandakan**	**23.15**	**289**	P		**P**	**07 08 38.2**	**-0.5**
KKM	**Kota Kinabalu**	**24.20**	**289**	*e*P		**P**	**07 08 48.2**	**-0.6**
	comp=Z,116nm,1.0s							
KKM	**Kota Kinabalu**	**24.20**	**289**	P		**P**	**07 08 48.6**	**-0.2**
	baz=24,SNR=25							
KKM	**Kota Kinabalu**	**24.20**	**289**	P		**P**	**07 08 48.2**	**-0.6**
KKM	**Kota Kinabalu**	**24.20**	**289**	P		**P**	**07 08 48.2**	**-0.6**
	comp=Z,118nm,1.2s,comp=Z,1µm							
KHKI	**Kahang-Kahang**	**24.23**	**254**	P		**P**	**07 08 48.4**	**-0.5**
	comp=Z,72nm,1.0s							
BBKI	**Banjar Baru**	**24.28**	**266**	P		**P**	**07 08 50.2**	**+0.9**
	comp=Z,669nm,1.0s,comp=Z,6µm							
SRBI	**Singaraja**	**24.54**	**255**	P		**P**	**07 08 54.0**	**+2.3**
	comp=Z,56nm,1.4s							
QLP	**Quilpie**	**24.95**	**169**	P		**P**	**07 08 56.3**	**+1.0**
	baz=25,SNR=8.7							
KMMI	**Kalianget**	**25.55**	**258**	P		**P**	**07 09 02.5**	**+1.7**
	comp=Z,407nm,1.0s,comp=Z,3µm							
EIDS	**Eidsvold**	**25.96**	**155**	*e*P		**P**	**07 09 05.0**	**+0.5**
	comp=Z,123nm,0.9s							
EIDS	**Eidsvold**	**25.96**	**155**	P		**P**	**07 09 05.9**	**+1.5**
	baz=26,SNR=29							
BLJI	**Banyuglugur**	**26.04**	**256**	P		**P**	**07 09 07.7**	**+2.4**
	comp=Z,53nm,0.9s,comp=Z,3µm							
RMQ	**Roma**	**26.07**	**160**	P		**P**	**07 09 07.2**	**+1.8**
	baz=26,SNR=64							
GMJI	**Gumukmas**	**26.29**	**255**	P		**P**	**07 09 11.9**	**+4.3**
	comp=Z,38nm,1.2s							
BTM	**Bintulu**	**26.51**	**281**	P		**P**	**07 09 11.2**	**+1.6**
MBWA	**Marble Bar**	**26.82**	**223**	*e*P		**P**	**07 09 11.9**	**-0.4**
	comp=Z,47nm,0.9s							
SBUM	**Sibu**	**27.23**	**279**	P		**P**	**07 09 16.2**	**+0.1**
SBUM	**Sibu**	**27.23**	**279**	P		**P**	**07 09 16.9**	**+0.8**
	comp=Z,41nm,1.1s,comp=Z,492nm							
PWJI	**Pagerwojo**	**27.83**	**257**	P		**P**	**07 09 19.7**	**-1.8**
	comp=Z,36nm,1.1s							
PCJI	**Pacitan**	**28.48**	**256**	P		**P**	**07 09 27.9**	**+0.7**
	comp=Z,64nm,1.3s							
KSM	**Kuching**	**28.99**	**277**	*e*P		**P**	**07 09 32.

SSE S **S** **07 16 28.1 +2.6**
SSE pmax pmax
comp=Z,36nm,0.7s
SSE pmax pmax
comp=Z,88nm,6.9s
SSE LR LR
comp=N,230nm,16.4s
SSE LR LR
comp=E,210nm,16.4s
SSE LR LR
comp=Z,320nm,16.8s
FRIM Kepong 37.82 278 P **P** **07 10 48.5 -0.1**
MJAR Matsushiro Arr 38.34 359 P **P** **07 10 53.0 +0.3**
comp=Z,0.8nm,0.3s,baz=175,slow=9.2,SNR=4.1
MJAR LR LR 07 24 42.5
comp=Z,277nm,19.6s,baz=175,slow=33
MJAR Matsushiro Arr 38.34 359 P **P** **07 10 53.0 +0.3**
IPM Ipoh 38.58 280 *e*P **P** **07 10 54.7 -0.4**
comp=Z,51nm,1.0s
IPM Ipoh 38.58 280 P **P** **07 10 54.9 -0.2**
IPM Ipoh 38.58 280 P **P** **07 10 54.6 -0.5**
comp=Z,70nm,1.1s,comp=Z,913nm
PPI Padang Panjang 38.72 272 P **P** **07 10 55.9 -0.3**
baz=39,SNR=4.6
PPI Padang Panjang 38.72 272 P **P** **07 10 55.5 -0.7**
comp=Z,91nm,1.2s,comp=Z,1µm
NJ2 Nanjing 38.92 332 *e*P **P** **07 10 57.6 +0.1**
NJ2 pP **pP** **07 11 06.6 -1.1**
NJ2 sP **sP** **07 11 10.6 -1.3**
NJ2 PP **PnPn** **07 12 29.8 +0.1**
NJ2 S **S** **07 16 52.5 -1.2**
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 pmax pmax
comp=Z,150nm,8.0s
NJ2 LR LR
comp=N,410nm,15.3s
NJ2 LR LR
comp=E,630nm,21.0s
NJ2 LR LR
comp=Z,280nm,14.1s
KULM Kulim 39.08 281 *e*P **P** **07 10 58.8 -0.5**
comp=Z,88nm,1.1s
KULM Kulim 39.08 281 P **P** **07 10 59.0 -0.3**
KULM Kulim 39.08 281 P **P** **07 10 58.7 -0.5**
comp=Z,77nm,1.3s,comp=Z,798nm
CHBT CHBT 39.33 293 P **P** **07 11 00.6 -0.6**
comp=Z,40nm,1.3s
MNSI Mandailing Nat 39.61 274 P **P** **07 11 03.2 -0.5**
comp=Z,43nm,0.8s,comp=Z,4µm
WHN Wuhan 40.04 326 P **P** **07 11 07.8 +0.9**
WHN S **S** **07 17 06.8 -3.8**
WHN LR LR
comp=Z,470nm,16.1s
PSI Prapat 40.44 277 P **P** **07 11 09.8 -0.9**
comp=Z,58nm,1.0s,baz=113,slow=4.5,SNR=47
PSI Prapat 40.44 277 P **P**
PSI Prapat 40.44 277 P **P** **07 11 09.9 -0.8**
baz=40,SNR=28
PSI Prapat 40.44 277 P **P** **07 11 09.6 -1.1**
comp=Z,102nm,1.2s,comp=Z,1µm
KSAR Wonju Array Be 40.58 346 P **P** **07 11 11.2 -0.1**
KSRS Korea Array 40.59 346 P **P** **07 11 11.2 -0.1**
comp=Z,2.2nm,0.9s,baz=159,slow=7.7,SNR=6.3
KSRS LR LR 07 27 08.6
comp=Z,192nm,18.8s,baz=170,slow=35
MSVF Nonsavu 41.31 115 *e*P **P** **07 11 19.2 +1.5**
MSVF pmax pmax
comp=Z,54nm,1.2s
MSVF Nonsavu 41.31 115 *e*P **P** **07 11 19.2 +1.5**
comp=Z,54nm,1.2s
GSI Gunungsitoli 41.65 274 P **P** **07 11 18.9 -1.6**
baz=42,SNR=5.3
GSI Gunungsitoli 41.65 274 P **P** **07 11 19.1 -1.4**
comp=Z,153nm,1.1s
GYA Guiyang 42.19 314 P **P** **07 11 26.0 +1.1**
GYA PP **PP** **07 13 07.4 +4.4**
GYA PcP **PcP** **07 13 20.6 +1.8**
GYA ScP **ScP** **07 17 06.5 -0.5**
GYA S **S** **07 17 44.0 +1.0**
GYA ScS **ScS** **07 21 23.8 -1.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,560nm,17.6s
GYA LR LR
comp=E,510nm,18.8s
GYA LR LR
comp=Z,620nm,17.0s
LHMI Lhok Sumawe 42.71 280 P **P** **07 11 29.0 -0.2**
comp=Z,238nm,1.0s,comp=Z,2µm
ENH Enshi 42.74 321 *e*P **P** **07 11 28.9 -0.3**
comp=Z,36nm,1.1s
SRDT SRDT 42.80 294 P **P** **07 11 29.6 -0.2**
comp=Z,50nm,0.6s,comp=Z,3µm
KMI Kunming 44.35 310 P **P** **07 11 43.1 +0.6**
KMI pP **pP** **07 11 53.0 +0.2**
KMI PP **PcP** **07 13 25.8 -0.5**
KMI S **S** **07 18 14.1 -0.9**
KMI sS **sS** **07 18 30.1 -1.8**
KMI SS **SS** **07 21 33.9 -0.7**
KMI pmax pmax
comp=Z,26nm,1.0s
KMI LR LR
comp=N,130nm,19.9s
KMI LR LR
comp=E,160nm,24.5s
KMI LR LR
comp=Z,200nm,19.9s
BSI Banda Aceh 44.38 280 P **P** **07 11 41.0 -1.6**
comp=Z,36nm,1.2s
CM31 Chiang Mai Arr 44.42 299 *e*P **P** **07 11 42.8 -0.1**
comp=Z,3.6nm,0.4s
CMAR Chiang Mai Arr 44.42 299 P **P** **07 11 42.7 -0.2**
comp=Z,14nm,0.7s,baz=118,slow=6.4,SNR=60
CMAR PcP **PP** **07 13 26.9 0.0**
comp=Z,4.2nm,0.9s,baz=157,slow=1.9,SNR=5.9
CMAR LR LR 07 33 17.2
comp=Z,116nm,18.3s,baz=115,slow=40
CMAR Chiang Mai Arr 44.42 299 P **P** **07 11 42.7 -0.2**
CMAR PcP **PP** **07 13 26.9 0.0**
CMMT Chiang Mai 44.56 299 P **P** **07 11 43.9 -0.1**
comp=Z,21nm,1.4s,comp=Z,352nm
CHTO Chiang Mai 44.56 299 *e*P **P** **07 11 43.2 -0.8**
CHTO *e* 07 13 27.7
CHTO pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 44.56 299 *e*P **P** **07 11 43.2 -0.8**
comp=Z,28nm,1.3s
CHTO *e* 07 13 27.7
CHTO Chiang Mai 44.56 299 P **P** **07 11 43.4 -0.6**
comp=Z,24nm,1.4s,comp=Z,264nm
ASAJ Asahikawa 46.00 4 P **P** **07 11 54.1 -0.9**
comp=Z,5.1nm,0.8s,baz=219,slow=6.5,SNR=2.5
ASAJ LR LR 07 28 36.4
comp=Z,236nm,21.6s,baz=193,slow=33
ASAJ Asahikawa 46.00 4 P **P** **07 11 54.1 -0.9**
OUZ Omahuta 46.04 140 *e*P P 07 11 59.6 +4.2
comp=Z,34nm,1.3s
YUK Yuzh-Kuril'sk 46.21 7 *c i*P **P** **07 11 56.9 +0.3**
YUK *i* 07 13 45.6
YUK *i* PPP PPP 07 14 29.5
YUK S **S** **07 18 43.6 +2.9**
YUK *i* SSS SSS 07 23 12.6
YUK pmax pmax
comp=Z,42nm,5.2s
YUK MLR MLR
comp=N,90nm,21.0s
YUK MLR MLR
comp=Z,223nm,21.0s
YUK MLR MLR
comp=E,84nm,21.0s
USRK Ussuriysk Arra 46.42 353 P **P** **07 11 58.0 -0.2**
comp=E,4.4nm,1.1s,baz=148,slow=8.6,SNR=4.1
USRK LR LR 07 27 39.8
comp=E,375nm,22.0s,baz=156,slow=31
BJI Beijing 46.79 336 P **P** **07 12 00.4 -0.9**
BJI S **S** **07 18 52.3 +3.1**
BJI pmax pmax
comp=Z,19nm,1.3s
BJI pmax pmax
comp=Z,67nm,3.5s
BJI LR LR
comp=N,230nm,21.8s
BJI LR LR
comp=E,250nm,17.1s
BJI LR LR
comp=Z,210nm,21.4s
CD2 Chengdu 46.91 317 P **P** **07 12 02.8 +0.3**
CD2 pP **pP** **07 12 13.0 +0.2**
CD2 sP **sP** **07 12 17.3 +0.4**
CD2 PP **PP** **07 13 52.9 -0.4**
CD2 PcS **PcS** **07 17 29.0 -1.0**
CD2 S **S** **07 18 50.8 -0.6**
CD2 sS **sS** **07 19 08.0 -0.4**
CD2 SS SS 07 22 10.5 -8.1
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,100nm,3.5s
CD2 LR LR
comp=N,300nm,11.9s
CD2 LR LR
comp=Z,260nm,16.1s
MDJ Mudanjiang 47.17 351 P **P** **07 12 04.1 0.0**
MDJ pP **pP** **07 12 13.1 -1.3**
MDJ sP **sP** **07 12 16.8 -1.8**
MDJ PcP **PcP** **07 13 35.5 +0.2**
MDJ PP **PP** **07 13 54.5 -0.9**
MDJ S **S** **07 18 58.8 +4.4**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,190nm,3.8s
MDJ LR LR
comp=N,210nm,6.0s
MDJ LR LR
comp=Z,320nm,5.3s
CN2 Changchun 47.20 347 *e*P **P** **07 12 06.4 +2.0**
CN2 *e*pP **pP** **07 12 16.5 +1.8**
CN2 *e*S **S** **07 18 57.3 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,300nm,19.0s
YSS Yuzh-Sakhalins 48.84 3 *e*P **P** **07 12 16.6 -0.4**
HHC Hu-ho-hao-te 49.47 333 *e*P **P** **07 12 23.6 +1.5**
HHC pP **pP** **07 12 33.4 +0.9**
HHC sP **sP** **07 12 37.5 +0.9**
HHC PP **PP** **07 14 18.8 +2.2**
HHC S **S** **07 19 28.3 +1.0**
HHC sS **sS** **07 19 45.4 +1.0**
HHC SS **SS** **07 22 56.8 -2.9**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.8s
HHC LR LR
comp=N,280nm,16.5s
HHC LR LR
comp=E,460nm,15.9s
HHC LR LR
comp=Z,300nm,15.5s
LZH Lanzhou 50.14 322 *e*P **P** **07 12 27.5 +0.1**
LZH pP **pP** **07 12 38.0 +0.2**
LZH sP **sP** **07 12 40.1 -1.8**
LZH *e*S **S** **07 19 36.5 -0.5**
LZH sS **sS** **07 19 53.0 -1.1**
LZH SS **SS** **07 23 06.3 -4.5**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,160nm,5.8s
LZH LR LR
comp=N,280nm,13.5s
LZH LR LR
comp=E,230nm,15.0s
LZH LR LR
comp=Z,490nm,16.0s
RPZ Rata Peaks 50.32 150 *e*P **P** **07 12 29.0 +0.6**
comp=Z,70nm,1.2s
GTA Gaotai 54.72 323 P **P** **07 13 01.3 0.0**
GTA pP **pP** **07 13 11.4 -0.4**
GTA sP **sP** **07 13 15.3 -0.6**
GTA S **S** **07 20 37.6 -1.9**
GTA sS **sS** **07 20 54.5 -2.3**
GTA SS **SS** **07 24 21.1 -2.0**
GTA pmax pmax
comp=Z,12nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=N,130nm,18.5s
GTA LR LR
comp=E,150nm,19.0s
GTA LR LR
comp=Z,230nm,17.1s
LSA Lhasa 55.57 308 P **P** **07 13 08.5 +0.6**
LSA Lhasa 55.57 308 *e*P **P** **07 13 08.7 +0.8**
LSA pmax pmax
comp=Z,8.0nm,0.5s
LSA Lhasa 55.57 308 *e*P **P** **07 13 08.7 +0.8**
comp=Z,7.9nm,0.5s
ULN Ulaanbaatar 56.98 335 *e*P **P** **07 13 17.8 +0.5**
comp=Z,12nm,0.9s
ULN Ulaanbaatar 56.98 335 P **P** **07 13 17.6 +0.3**
comp=Z,11nm,1.7s
PETK Petropavlovsk- 57.07 13 P **P** **07 13 18.0 +0.4**
comp=Z,14nm,1.1s,baz=195,slow=10,SNR=4.2
PETK LR LR 07 33 56.0
comp=Z,285nm,21.9s,baz=218,slow=32
PETK Petropavlovsk- 57.07 13 P **P** **07 13 18.0 +0.4**
PETK Petropavlovsk- 57.07 13 P **P** **07 13 18.0 +0.4**
PET Petropavlovsk 57.22 14 *e*P P 07 13 24.5 +5.9
PET *e*S **S** **07 21 15.3 +3.5**
SONM Songino Array 57.24 334 P **P** **07 13 18.9 -0.1**
comp=Z,3.0nm,0.7s,baz=155,slow=8.4,SNR=12
SONM LR LR 07 39 36.1
comp=Z,334nm,18.3s,baz=156,slow=38
SONM Songino Array 57.24 334 P **P** **07 13 18.9 -0.1**
CLNS Chul'man 59.75 351 *e*P **P** **07 13 35.6 -0.7**
CLNS *e* 07 14 23.6
CLNS *e*PPP PPP 07 17 18.9
CLNS *e*S S 07 21 53.1 +8.2
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.3s
CLNS pmax pmax
comp=N,14nm,1.4s
CLNS pmax pmax
comp=Z,7.0nm,1.2s
CLNS smax smax
comp=N,154nm,19.5s
CLNS smax smax
comp=E,193nm,16.5s
ZAK Zakamensk 60.50 335 *e*P **P** **07 13 41.3 -0.4**
ZAK pmax pmax
comp=Z,20nm,1.1s
TLY Talaya 61.32 336 *e*P **P** **07 13 46.1 -1.0**
TLY *e* 07 14 29.6
TLY *e*SSS SSS 07 28 47.7
TLY pmax pmax
comp=Z,9.0nm,1.0s
TLY MLR MLR
comp=Z,186nm,19.0s
TLY Talaya 61.32 336 *e*P **P** **07 13 47.2 +0.1**
comp=Z,37nm,1.7s
FX1 Attu Island--F 61.68 23 LR LR 07 34 38.8
comp=Z,256nm,21.3s,baz=227,slow=30
FX1 Attu Island--F 61.68 23 *e*P **P** **07 13 50.1 +0.7**
MOY Mondy 62.43 334 *e*P **P** **07 13 54.9 +0.2**
MOY pmax pmax
comp=Z,50nm,2.3s
HYB Hyderabad 62.68 291 *i* P **P** **07 13 55.0 -1.9**
BOD Bodaibo 62.92 345 *e*P **P** **07 13 57.0 -0.6**
BOD pmax pmax
comp=Z,16nm,1.6s
YAK Yakutsk 64.25 355 *e*P **P** **07 14 06.7 +0.4**
YAK *e**PP **pP** **07 14 13.6 -3.4**
YAK *e* 07 14 39.9
YAK *e*S **S** **07 22 41.2 -0.1**
YAK pmax pmax
comp=Z,39nm,1.0s
YAK pmax pmax
comp=N,17nm,1.2s
YAK smax smax
comp=N,27nm,1.9s
DRV Dumont d'Urvil 64.56 180 S S 07 22 01.0 -44
WMQ Urumqi 64.69 321 P **P** **07 14 10.1 +0.4**
WMQ pmax pmax
comp=Z,22nm,1.2s
WMQ pmax pmax
comp=Z,190nm,6.0s
WMQ LR LR
comp=N,130nm,22.0s
WMQ LR LR
comp=E,86nm,23.0s
WMQ LR LR
comp=Z,57nm,22.0s
HVS Khovu-Aksy 65.45 330 *c i*P **P** **07 14 14.7 +0.1**
HVS pmax pmax
comp=Z,91nm,1.0s
SEY Seymchan 65.52 7 *e*P **P** **07 14 15.6 +1.0**
DDI Dehra Dun 66.35 304 *e*PN **P** **07 14 19.0 -1.7**
DDI *e*SN 07 14 48.5
MK31 Makanchi Array 69.46 322 *ce*P **P** **07 14 39.6 -0.3**
MK31 pmax pmax
comp=Z,27nm,1.0s
MK31 Makanchi Array 69.46 322 *e*P **P** **07 14 39.7 -0.3**
MKAR Makanchi Array 69.46 322 P **P** **07 14 39.7 -0.2**
comp=Z,8.6nm,0.7s,baz=114,slow=7.1,SNR=65
MKAR LR LR 07 48 31.5
comp=Z,114nm,19.1s,baz=169,slow=39
MKAR Makanchi Array 69.46 322 P **P** **07 14 39.7 -0.2**
MKAR Makanchi Array 69.46 322 P **P** **07 14 39.7 -0.2**
KSH Kashi 70.87 313 P **P** **07 14 50.0 +1.1**
KSH *e*pP **pP** **07 15 01.3 +1.6**
KSH *e*sP **sP** **07 15 05.8 +2.1**
KSH PcP **PcP** **07 15 11.3 +2.0**
KSH *e*PP **PP** **07 17 29.8 +3.5**
KSH S **S** **07 24 00.3 -1.8**
KSH sS **sS** **07 24 20.8 +0.9**
KSH SKS **SKSac** **07 24 46.9 -2.1**
KSH ScS **SKKSac** **07 24 49.1 0.0**
KSH SS **SS** **07 28 39.9 +4.7**
KSH pmax pmax
comp=Z,16nm,1.1s
KSH pmax pmax
comp=Z,94nm,3.0s
KSH LR LR
comp=N,140nm,5.2s
KSH LR LR
comp=E,59nm,6.1s
KSH LR LR
comp=Z,170nm,5.6s
ZAA0 Zalesovo Array 71.51 330 *e*P **P** **07 14 51.1 -1.1**
ZALV Zalesovo Beam 71.51 330 P **P** **07 14 51.1 -1.1**
comp=Z,5.7nm,0.7s,baz=110,slow=5.4,SNR=17
ZALV LR LR 07 49 36.6
comp=Z,84nm,19.6s,baz=99,slow=39
ZALV Zalesovo Beam 71.51 330 P **P** **07 14 51.1 -1.1**
ZALV Zalesovo Beam 71.51 330 P **P** **07 14 51.1 -1.1**
PPT2 Papeete2 71.60 108 *e*LR LR 07 36 52.2
comp=Z,259nm,24.5s
KZA Kyzart 72.25 315 P **P** **07 14 58.5 +1.1**
SNR=7.0
TKM2 Tokmak 2 72.29 316 *e*P **P** **07 14 57.2 -0.2**
TKM2 pmax pmax
comp=Z,27nm,0.6s
TKM2 Tokmak 2 72.29 316 *e*P **P** **07 14 57.2 -0.2**
comp=Z,27nm,0.6s
TKM2 Tokmak 2 72.29 316 P **P** **07 14 57.5 +0.1**
SNR=7.3
BILL Bilibino 72.39 10 *e*P **P** **07 15 00.0 +2.8**
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,100nm,16.0s
NVS Novosibirsk 72.76 330 *e*P **P** **07 14 58.4 -1.3**
NVS pmax pmax
comp=N,14nm,1.1s
NVS pmax pmax
comp=E,20nm,1.1s
NVS pmax pmax
comp=Z,25nm,1.1s
AAK Ala-Archa 72.96 316 P **P** **07 15 01.7 +0.4**
comp=Z,4.3nm,0.9s,baz=217,slow=12,SNR=5.2
AAK Ala-Archa 72.96 316 *e*P **P** **07 15 01.3 -0.1**
AAK pmax pmax
comp=Z,74nm,1.4s
AAK Ala-Archa 72.96 316 *e*P **P** **07 15 01.2 -0.1**
comp=Z,74nm,1.4s
USP Ospenovka 73.16 316 P **P** **07 15 02.5 +0.1**
SNR=10
KURK Kurchatov 73.35 325 *c i*P **P** **07 15 02.7 -0.5**
KURK pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 73.35 325 *e*P **P** **07 15 02.8 -0.5**
comp=Z,24nm,1.2s
KURK Kurchatov 73.35 325 P **P** **07 15 02.1 -1.2**
comp=Z,88nm,1.2s,SNR=14
AML Almayashu 73.36 315 P **P** **07 15 04.6 +0.6**
SNR=14
KURBB Kurchatov Arra 73.36 325 P **P** **07 15 02.8 -0.5**
comp=Z,7.7nm,0.8s,baz=113,slow=5.5,SNR=54
EKS2 Erkin-Say 73.47 316 *e*P **P** **07 15 04.7 +0.4**
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 73.47 316 *e*P **P** **07 15 04.7 +0.4**
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 73.47 316 P **P** **07 15 04.8 +0.5**
SNR=5.6
TIXI Tiksi 73.81 357 *e*P **P** **07 15 04.6 -0.9**
TIXI Tiksi 73.81 357 *e*P **P** **07 15 04.6 -0.9**
KBL Kabul 74.81 306 *e*P **P** **07 15 11.6 -0.8**
KBL Kabul 74.81 306 *e*P **P** **07 15 11.6 -0.8**
KKAR Karatay Array 75.89 315 *e*P **P** **07 15 18.3 +0.1**
KKAR Karatay Array 75.89 315 *e*P **P** **07 15 18.3 +0.1**
VNDA Vanda 76.46 175 P **P** **07 15 20.9 +0.2**
comp=Z,12nm,0.9s,baz=318,slow=6.0,SNR=35
VNDA LR LR 07 49 29.6
comp=Z,217nm,19.3s,baz=347,slow=36
VNDA Vanda 76.46 175 *e*P **P** **07 15 20.6 -0.1**
comp=Z,13nm,0.9s
SBA Scott Base 77.22 174 *e*P **P** **07 15 24.6 -0.5**
SBA pmax pmax
comp=Z,141nm,2.3s
SBA Scott Base 77.22 174 *e*P **P** **07 15 24.6 -0.5**
comp=Z,141nm,2.3s
TNA Tin City 77.34 20 *e*P **P** **07 15 27.5 +1.7**
comp=Z,3.7nm,0.9s
BVAR Borovoye Array 78.94 325 P **P** **07 15 34.9 -0.2**
comp=Z,9.6nm,0.6s,baz=114,slow=6.8,SNR=65
BVAR Borovoye Array 78.94 325 P **P** **07 15 34.9 -0.2**
BVAR Borovoye Array 78.94 325 P **P** **07 15 34.9 -0.2**
BRVK Borovoye 79.02 325 *ce*P **P** **07 15 35.5 0.0**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 79.02 325 *e*P **P** **07 15 35.4 0.0**
comp=Z,18nm,0.9s
BRVK Borovoye 79.02 325 P **P** **07 15 35.7 +0.3**
comp=Z,122nm,0.8s,SNR=14
WBK Wadi Bani Khal 81.65 293 P **P** **07 15 51.0 +0.7**
SNR=5.9
WSAR Wadi Sarin 82.03 294 P **P** **07 15 51.4 -0.9**
comp=Z,8.3nm,1.0s,baz=136,slow=5.7,SNR=9.2
WSAR Wadi Sarin 82.03 294 P **P** **07 15 51.4 -0.9**
JMDO Jabal Madar 82.43 293 P **P** **07 15 53.7 -0.7**
SNR=6.3
SMDO Samad 82.54 293 P **P** **07 15 55.4 +0.3**
SNR=7.0
MAW Mawson 82.94 202 LR LR 07 51 05.9
comp=Z,361nm,18.2s,baz=239,slow=34
HOQ Hoqain 83.27 294 P **P** **07 15 59.2 +0.5**
SNR=16
BSY Bisya 83.30 293 P **P** **07 15 59.1 +0.3**
SNR=6.0
SML Sawmill 83.57 27 *e*P **P** **07 16 00.8 +1.3**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 83.57 27 *e*P **P** **07 16 00.8 +1.3**
comp=Z,4.7nm,1.0s
ARQ Araqi 83.97 294 P **P** **07 16 02.8 +0.5**
SNR=8.3
BANOM Banah 84.39 296 P **P** **07 16 05.3 +0.9**
SNR=9.7
AB31 Akbulak array 84.42 320 *ce*P **P** **07 16 03.6 -0.4**
AB31 pmax pmax

	comp=Z,11nm,0.9s								
ABKAR	**Akbulak array**	**84.42**	**320**	*e*P		**P**		**07 16 03.5**	**-0.6**
	comp=Z,14nm,1.1s								
ASHO	**Ashiyiah**	**84.50**	**295**	P		**P**		**07 16 05.5**	**+0.4**
	SNR=8.5								
ILAR	**Eielson Array**	**85.02**	**24**	P		**P**		**07 16 05.2**	**-1.5**
	comp=Z,6.6nm,0.9s,baz=263,slow=5.1,SNR=34								
ILAR				LR		LR		07 52 27.6	
	comp=Z,160nm,18.3s,baz=261,slow=35								
ILAR	**Eielson Array**	**85.02**	**24**	P		**P**		**07 16 05.2**	**-1.5**
RBK	**Rabkut**	**85.72**	**288**	P		**P**		**07 16 11.3**	**0.0**
	SNR=7.0								
AKTO	**Aktyubinsk**	**85.84**	**321**	P		**P**		**07 16 09.1**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=79,slow=4.8,SNR=10								
AKTO	**Aktyubinsk**	**85.84**	**321**	P		**P**		**07 16 09.1**	**-2.0**
AKTO	**Aktyubinsk**	**85.84**	**321**	P		**P**		**07 16 09.1**	**-2.0**
DOT	**Dot Lake**	**85.94**	**26**	*e*P		**P**		**07 16 11.4**	**0.0**
	comp=Z,6.2nm,1.3s								
ARU	**Arti**	**86.41**	**327**	*d iP*		**P**		**07 16 12.7**	**-1.1**
ARU								07 19 31.9	
ARU				S		S		07 26 35.7	-11
ARU				SS		**SS**		**07 32 24.7**	**-2.8**
ARU				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ARU	**Arti**	**86.41**	**327**	*e*P		**P**		**07 16 12.5**	**-1.2**
	comp=Z,6.3nm,0.3s								
ABTO	**Aybut**	**86.58**	**287**	P		**P**		**07 16 15.7**	**+0.1**
	SNR=10								
EGAK	**Eagle**	**87.41**	**25**	*e*P		**P**		**07 16 19.5**	**+1.1**
	comp=Z,14nm,1.1s								
QSPA	**South Pole Qui**	**87.96**	**180**	LR		LR		07 56 49.4	
	comp=Z,326nm,19.4s,baz=11,slow=36								
QSPA	**South Pole Qui**	**87.96**	**180**	*e*P		**P**		**07 16 20.7**	**-0.6**
	comp=Z,22nm,1.0s								
DAWY	**Dawson**	**88.05**	**26**	*e*P		**P**		**07 16 21.8**	**+0.1**
SYO	**Syowa Base**	**91.57**	**201**	*eX*				07 16 35.4	
KIV	**Kislovodsk**	**95.99**	**314**	*e*P		P		07 16 55.0	-4.0
KIV				pmax		pmax			
	comp=Z,5.0nm,1.0s								
YBH	**Yreka Blue Hor**	**97.43**	**48**	LR		LR		07 51 18.6	
	comp=Z,296nm,21.6s,baz=344,slow=29								
YKA	**Yellowknife Ar**	**99.25**	**27**	P		**Pdif**		**07 17 13.5**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=289,slow=5.1,SNR=5.8								
YKA				PP		**PP**		**07 21 14.5**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=285,slow=7.0,SNR=3.5								
YKA				PKKPbc		PKKPbc		07 33 33.2	-6.8
	comp=Z,0.3nm,0.8s,baz=103,slow=2.8,SNR=5.0								
YKA	**Yellowknife Ar**	**99.25**	**27**	P		**Pdif**		**07 17 13.5**	**+0.5**
YKA				PP		**PP**		**07 21 14.6**	**-1.3**
YKA				PKKPbc		PKKPbc		07 33 33.2	-6.8
ARCES	**ARCESS Array B**	**99.95**	**341**	LR		LR		08 06 31.0	
	comp=Z,130nm,19.7s,baz=181,slow=38								
NVAR	**Mina Array Bea**	**101.10**	**51**	P		**Pdif**		**07 17 24.0**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=266,slow=4.5,SNR=4.8								
NVAR	**Mina Array Bea**	**101.10**	**51**	P		**Pdif**		**07 17 24.0**	**+1.9**
L21A	**Rawlins**	**108.69**	**46**	⇓P		**PKiKP**		**07 22 01.3**	**+0.3**
	baz=109								
KOLS	**Kolonicke sedl**	**108.86**	**322**	*e*P		**Pdif**		**07 18 02.3**	**+6.1**
KOLS	**Kolonicke sedl**	**108.86**	**322**	PDIF		**Pdif**		**07 18 02.3**	**+6.1**
W20A	**Ramah**	**109.38**	**53**	⇑P		**PKiKP**		**07 22 02.1**	**-0.5**
	baz=109								
220A	**Playas Peak, P**	**109.98**	**57**	⇑P		**PKiKP**		**07 22 03.8**	**+0.1**
	baz=110								
Z22A	**Elephant Butte**	**111.01**	**55**	⇓P		**PKiKP**		**07 22 05.9**	**+0.3**
	baz=111								
VYHS	**Vyhne**	**111.14**	**322**	*e*P		**Pdif**		**07 18 11.8**	**+5.5**
VYHS	**Vyhne**	**111.14**	**322**	PDIF		**Pdif**		**07 18 11.8**	**+5.5**
W24A	**Lazy 6 Ranch,**	**111.84**	**53**	⇓P		**PKiKP**		**07 22 07.5**	**+0.3**
	baz=112								
R25A	**Fountain Ranch**	**111.97**	**49**	⇓P		**PKiKP**		**07 22 07.3**	**0.0**
	baz=112								
Y24A	**Capitan**	**112.11**	**54**	⇓P		**PKiKP**		**07 22 07.2**	**-0.6**
	baz=112								
Z24A	**Sheeppen Canyo**	**112.30**	**55**	⇑P		**PKiKP**		**07 22 08.0**	**-0.1**
	baz=112								
V25A	**Rancho No Teng**	**112.31**	**52**	⇓P		**PKiKP**		**07 22 08.3**	**+0.2**
	baz=112								
U25A	**Circle Dot Ran**	**112.33**	**51**	⇑P		**PKiKP**		**07 22 07.5**	**-0.6**
	baz=112								
124A	**Stringfield Ra**	**112.37**	**55**	⇓P		**PKiKP**		**07 22 08.2**	**-0.1**
	baz=112								
MNTX	**Cornudas Mount**	**112.64**	**56**	⇑P		**PKiKP**		**07 22 08.5**	**0.0**
	baz=113								
Y25A	**Mesa, Roswell**	**112.71**	**54**	⇓P		**PKiKP**		**07 22 08.7**	**0.0**
	baz=113								
S26A	**Kim**	**112.73**	**50**	⇑P		**PKiKP**		**07 22 08.7**	**0.0**
	baz=113								
125A	**Gardner Draw,**	**113.03**	**55**	⇑P		**PKiKP**		**07 22 09.1**	**-0.3**
	baz=113								
526A	**Mary Lane Ranc**	**114.08**	**58**	⇓P		PKPdf		07 22 11.1	-0.4
	baz=114								
527A	**Woodward Ranch**	**114.46**	**58**	⇑P		PKPdf		07 22 11.8	-0.4
	baz=114								
427A	**Hayter Ranch,**	**114.48**	**57**	⇑P		PKPdf		07 22 11.8	-0.4
	baz=114								
TXAR	**Lajitas Array**	**114.59**	**59**	PKP		PKPdf		07 22 13.1	+0.6
	comp=Z,1.0nm,1.0s,baz=316,slow=2.6,SNR=7.9								
TXAR	**Lajitas Array**	**114.59**	**59**	PKP		PKPdf		07 22 13.1	+0.6
528A	**Cox Ranch, San**	**115.15**	**58**	⇑P		**PKPdf**		**07 22 12.8**	**-0.8**
	baz=115								
329A	**Wagon Wheel Ra**	**115.52**	**56**	⇓P		**PKPdf**		**07 22 14.0**	**-0.2**
	baz=116								
529A	**Stev Forest Ra**	**115.64**	**57**	⇑P		**PKPdf**		**07 22 14.4**	**-0.1**
	baz=116								
430A	**Baggett Ranch,**	**116.31**	**57**	⇓P		**PKPdf**		**07 22 15.3**	**-0.3**
	baz=116								
530A	**J-C Ranch, Com**	**116.38**	**57**	⇑P		**PKPdf**		**07 22 15.3**	**-0.5**
	baz=116								
231A	**Bronte**	**116.77**	**55**	⇓P		**PKPdf**		**07 22 16.2**	**-0.3**
	baz=117								
331A	**San Angelo**	**116.85**	**56**	⇓P		**PKPdf**		**07 22 16.6**	**-0.1**
	baz=117								
431A	**Sonora**	**116.86**	**56**	⇓P		**PKPdf**		**07 22 16.4**	**-0.3**
	baz=117								
531A	**Rocksprings**	**117.04**	**57**	⇓P		**PKPdf**		**07 22 17.5**	**+0.5**
	baz=117								
Z32A	**Haskell**	**117.07**	**53**	⇑P		**PKPdf**		**07 22 17.0**	**0.0**
	baz=117								
631A	**Perdido Creek**	**117.20**	**58**	⇑P		**PKPdf**		**07 22 17.5**	**+0.1**
	baz=117								
332A	**Millersview**	**117.39**	**56**	⇑P		**PKPdf**		**07 22 17.8**	**+0.1**
	baz=117								
532A	**Rocksprings**	**117.58**	**57**	⇑P		**PKPdf**		**07 22 18.1**	**-0.1**
	baz=118								
632A	**Uvalde**	**117.84**	**58**	⇓P		**PKPdf**		**07 22 18.5**	**-0.1**
	baz=118								
732A	**Laxson Ranch,**	**117.88**	**58**	⇑P		**PKPdf**		**07 22 19.0**	**+0.3**
	baz=118								
WHTX	**Lake Whitney**	**119.09**	**54**	⇑P		**PKPdf**		**07 22 21.1**	**+0.3**
	baz=119								
TUL1	**Tulsa**	**119.12**	**49**	⇑P		**PKPdf**		**07 22 21.1**	**+0.3**
	baz=119								
MIAR	**Mount Ida**	**121.31**	**50**	*e*PKIKP		**PKPdf**		**07 22 23.7**	**-1.4**
MIAR	**Mount Ida**	**121.31**	**50**	*e*PKPdf		**PKPdf**		**07 22 23.7**	**-1.4**
KEST	**Kesra**	**122.68**	**312**	PKP		**PKPdf**		**07 22 28.0**	**+0.2**
	comp=Z,2.5nm,1.1s,baz=225,slow=1.4,SNR=4.0								
KEST	**Kesra**	**122.68**	**312**	PKP		**PKPdf**		**07 22 28.0**	**+0.2**
SCHQ	**Schefferville**	**123.23**	**18**	PKP		**PKPdf**		**07 22 27.7**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=28,slow=12,SNR=4.5								
SCHQ	**Schefferville**	**123.23**	**18**	PKP		**PKPdf**		**07 22 27.7**	**-0.5**
BLO	**Bloomington**	**124.40**	**42**	*e*PKIKP		**PKPdf**		**07 22 30.8**	**-0.1**
BLO	**Bloomington**	**124.40**	**42**	*e*PKPdf		**PKPdf**		**07 22 30.8**	**-0.1**
GOGA	**Godfrey**	**129.38**	**47**	*e*PKIKP		**PKPdf**		**07 22 39.6**	**-1.0**
GOGA	**Godfrey**	**129.38**	**47**	*e*PKPdf		**PKPdf**		**07 22 39.6**	**-1.0**
PLCA	**Paso Flores**	**129.62**	**151**	PKP		**PKPdf**		**07 22 41.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=242,slow=6.4,SNR=5.6								
PLCA	**Paso Flores**	**129.62**	**151**	PKP		**PKPdf**		**07 22 41.3**	**+0.3**
TOA0	**Torodi Ar. Sit**	**136.42**	**287**	*e*PKPdf		**PKPdf**		**07 22 53.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**136.42**	**287**	PKhKP		PKPpre		07 22 44.3	
	comp=Z,1.1nm,0.8s,baz=69,slow=2.9,SNR=6.2								
TORD				PKP		**PKPdf**		**07 22 53.7**	**-0.6**
	comp=Z,8.9nm,1.0s,baz=59,slow=1.7,SNR=18								
TORD	**Torodi Ar. Bea**	**136.42**	**287**	PKPpre		PKPpre		07 22 44.3	
TORD				PKP		**PKPdf**		**07 22 53.7**	**-0.6**
OTAV	**Otavalo**	**142.42**	**92**	*e*PKPdf		**PKPdf**		**07 23 02.3**	**-3.6**
DBIC	**Dimbokro**	**143.77**	**279**	PKP		PKPab		07 23 04.9	+0.3
	comp=Z,36nm,0.9s,baz=67,slow=3.4,SNR=32								
DBIC	**Dimbokro**	**143.77**	**279**	*e*PKPdf		PKPab		07 23 04.8	+0.2
ARE	**Arequipa**	**144.67**	**122**	*e*PKIKP		**PKPdf**		**07 23 10.0**	**+0.5**
ARE	**Arequipa**	**144.67**	**122**	*e*P		**PKPdf**		**07 23 10.0**	**+0.5**
ROSC	**El Rosal**	**146.51**	**84**	PKPbc		**PKPbc**		**07 23 13.7**	**-0.6**
	comp=Z,17nm,0.9s,baz=110,slow=6.1,SNR=17								
ROSC	**El Rosal**	**146.51**	**84**	PKPbc		**PKPbc**		**07 23 13.7**	**-0.6**
LPAZ	**La Paz**	**147.55**	**125**	PKPbc		**PKPdf**		**07 23 16.1**	**+1.2**
	comp=Z,13nm,1.1s,baz=290,slow=1.8,SNR=14								
LPAZ	**La Paz**	**147.55**	**125**	*e*PKPdf		**PKPdf**		**07 23 14.4**	**-0.5**
						PKPbc		**PKPdf**	**07 23 16.1**	**+1.2**
CPUP	**Villa Florida**	**147.68**	**152**	PKPbc		**PKPbc**		**07 23 17.3**	**+0.6**
	comp=Z,13nm,1.1s,baz=217,slow=3.9,SNR=14								
CPUP	**Villa Florida**	**147.68**	**152**	PKPbc		**PKPbc**		**07 23 17.3**	**+0.6**
SDV	**Santo Domingo**	**149.63**	**76**	*e*PKPdf		**PKPdf**		**07 23 17.9**	**+0.2**
SDV				*e*PKPbc		**PKiKP**		**07 23 23.1**	**-0.3**
OBIP	**Obispado Ponce**	**150.15**	**56**	*e*PKPbc		**PKPbc**		**07 23 23.2**	**-0.1**
CELP	**Cerrillos**	**150.16**	**56**	*e*PKPbc		**PKPbc**		**07 23 23.5**	**+0.2**
SJG	**San Juan**	**150.50**	**55**	*e*PKPbc		**PKPbc**		**07 23 24.1**	**0.0**
MTP	**Monte Pirata**	**150.99**	**55**	*e*PKPbc		**PKPbc**		**07 23 25.1**	**-0.1**
STVI	**Saint Thomas**	**151.35**	**54**	*e*PKPbc		**PKPbc**		**07 23 25.3**	**-0.8**
SAML	**Samuel**	**155.28**	**116**	*e*PKPbc		PKPdf		07 23 36.5	+11
SAML				*e*PKPab		**PKPab**		**07 23 51.4**	**+0.5**
BDFB	**Brasilia**	**161.13**	**158**	PKP		**PKPdf**		**07 23 33.7**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=333,slow=2.0,SNR=5.4								
BDFB	**Brasilia**	**161.13**	**158**	PKP		**PKPdf**		**07 23 33.7**	**+0.7**

IDC 19 07:16:43.9±2.5, 1°.83S×139°.96E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=74.2km s-min=22.8km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.82**	**197**	P	P	07 21 04.3	-1.0
	0.5nm,0.3s,baz=20,slow=11,SNR=37						
FITZ	**Fitzroy Crossi**	**21.43**	**220**	P	P	07 21 34.4	+0.7
	1.2nm,0.6s,baz=47,slow=15,SNR=5.3						
FITZ				S	S	07 25 17.4	-15
	2.4nm,0.7s,baz=202,slow=18,SNR=5.6						
ASAR	**Alice Springs**	**22.48**	**195**	P	P	07 21 44.9	-0.2
	2.6nm,0.6s,baz=24,slow=10,SNR=31						
CMAR	**Chiang Mai Arr**	**45.11**	**298**	P	P	07 25 00.6	-1.7
	0.6nm,0.3s,baz=121,slow=6.1,SNR=5.7						
MKAR	**Makanchi Array**	**69.87**	**322**	P	P	07 27 57.9	+1.2
	0.6nm,0.7s,baz=126,slow=7.4,SNR=4.5						
BVAR	**Borovoye Array**	**79.32**	**325**	P	P	07 28 51.8	+0.4
	0.5nm,0.6s,baz=108,slow=4.7,SNR=4.2						

ISK 19 07:25:13.1, 37°.86N×29°.05E, h21km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.10**	**186**	*e*PG	Pb	07 25 17.4	-2.5
KHL	**Karahalli**	**0.60**	**39**	*e*PG	Pb	07 25 25.0	-0.1
KHL				*e*SG	Sn	07 25 34.7	-1.0
KULA	**Kula-Manisa**	**0.72**	**335**	*e*PG	Pn	07 25 28.0	-0.2
KULA				*e*SG	Sn	07 25 38.3	-0.4

NEIC 19 07:25:48.5, 53°.72N×157°.49W, h40km, mb3.5/1, ML3.6(AEIC), After AEIC., South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**2.39**	**314**	P	Pn	07 26 26.5	+1.4
SDPT				S	Sn	07 26 55.9	+2.7
VNWF	**Veniaminof 8**	**2.72**	**335**	P	Pn	07 26 31.2	+1.4
DOL	**Dolgoi Island**	**2.93**	**301**	P	Pn	07 26 33.5	+0.9
PVV	**Pavlof Volcano**	**3.01**	**305**	P	Pn	07 26 35.3	+1.7
PVV				S	Sn	07 27 10.3	+1.9
PS4A	**Pavlof South-4**	**3.02**	**304**	P	Pn	07 26 35.5	+1.6
DRIA	**Deer Island**	**3.06**	**296**	P	Pn	07 26 34.6	+0.2
DT1	**Dutton Round H**	**3.13**	**298**	P	Pn	07 26 35.9	+0.6
ANNE	**Aniakchak Nort**	**3.22**	**354**	P	Pn	07 26 38.0	+1.4
OHAK	**Old Harbor**	**4.25**	**33**	*e*Pn	Pn	07 26 53.7	+3.1
WESN	**West Dahl Nort**	**4.26**	**284**	P	Pn	07 26 51.9	+1.0
AKSA	**Akutan Strait**	**4.87**	**278**	P	Pn	07 26 59.6	+0.4
KDAK	**Kodiak Island**	**4.93**	**32**	P	Pn	07 27 01.8	+1.9
AHB	**Akutan Harbor**	**4.94**	**278**	P	Pn	07 27 00.6	+0.4
AKLV	**Akutan Long Va**	**5.03**	**279**	P	Pn	07 27 01.8	+0.4
ZRO	**Akutan Zero**	**5.04**	**278**	P	Pn	07 27 02.0	+0.6
KAHC	**Katmai Hardscr**	**5.13**	**15**	P	Pn	07 27 04.5	+1.5
UNV	**Unalaska Valle**	**5.35**	**275**	P	Pn	07 27 06.7	+1.0
MSW	**Makushin Switc**	**5.51**	**276**	P	Pn	07 27 08.8	+0.8
FOSS	**Fourpeaked Sta**	**5.51**	**21**	P	Pn	07 27 09.7	+1.7
MSOM	**Makushin Julie**	**5.62**	**275**	P	Pn	07 27 09.7	+0.3
BRLK	**Bradley Lake**	**7.06**	**28**	P	Pn	07 27 30.1	+0.8
SEW	**Seward**	**7.76**	**31**	*e*Pn	Pn	07 27 40.2	+1.5
SEW				*e*Sn	Sn	07 29 00.8	-4.5
RC01	**Rabbit Creek A**	**8.49**	**26**	*e*Pn	Pn	07 27 50.6	+1.9
RC01				*e*Sn	Sn	07 29 21.5	-1.6
BMRM	**Bremner River**	**10.05**	**39**	*e*Pn	Pn	07 28 13.7	+3.5
	14nm,0.5s						
BMRM				*e*Sn	Sn	07 29 58.0	-3.5
PAX	**Paxson**	**11.20**	**29**	*e*Pn	Pn	07 28 25.0	-1.0
	5.4nm,0.8s						
PAX				*e*Sn	Sn	07 30 24.0	-5.7
PNL	**Peninsula**	**11.57**	**52**	*e*Pn	Pn	07 28 34.9	+3.9
	32nm,0.7s						
DOT	**Dot Lake**	**12.13**	**30**	*e*Pn	Pn	07 28 42.4	+3.8
INK	**Inuvik**	**18.47**	**28**	*e*P	Pn	07 30 03.5	+2.5
	2.0nm,0.6s						

DDA 19 07:41:11.9, 37°.89N×29°.03E, h11km, MD3.0
CSEM 19 07:41:12.3±0.1, 37°.87N×29°.04E, h2km, MD3.2, Error ellipse: s-maj=3.3km s-min=2.5km az=112.0

ISK 19 07:41:11.7, 37°.89N×29°.04E, h3km, MD3.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.13**	**181**	*e*PG	Pg	07 41 15.1	+0.8
DENT	**Denizli**	**0.13**	**181**	*e*Pg	Pg	07 41 15.1	+0.7
DNZL	**Cakiroluk**	**0.20**	**177**	*i* P	Pg	07 41 16.5	+0.7
DNZL				*i* S	Sg	07 41 19.4	+0.9
DNZL	**Cakiroluk**	**0.20**	**177**	*i* P	Pg	07 41 16.5	+0.7
DNZL				*i* S	Sg	07 41 19.4	+0.9
KHL	**Karahalli**	**0.58**	**41**	*e*PG	Pg	07 41 23.0	-0.1
KHL				*e*SG	Sb	07 41 32.3	-1.2
KHL	**Karahalli**	**0.58**	**41**	*e*Pg	Pg	07 41 23.0	0.0
KHL				*e*Sg	Sb	07 41 32.3	-1.2
KHAL	**Karahalli**	**0.60**	**37**	*i* P	Pg	07 41 23.3	-0.2
KHAL				*i* S	Sg	07 41 32.1	+0.7
KHAL	**Karahalli**	**0.60**	**37**	*i* P	Pg	07 41 23.3	-0.2
KHAL				*i* S	Sg	07 41 32.1	+0.7
KULA	**Kula-Manisa**	**0.69**	**335**	*e*PG	Pg	07 41 25.8	+0.6
KULA				*e*SG	Sb	07 41 36.2	-0.5
KULA	**Kula-Manisa**	**0.69**	**335**	*e*Pg	Pg	07 41 25.8	+0.6
KULA				*e*Sg	Sb	07 41 36.2	-0.5
GOLH	**Golhisar**	**0.77**	**147**	*e*P	Pg	07 41 27.2	+0.6
GOLH	**Golhisar**	**0.77**	**147**	*e*P	Pg	07 41 27.2	+0.5
AYDN	**Tasoluk**	**0.94**	**257**	*i* P	Pg	07 41 30.3	+0.4
AYDN				*i* S	Sb	07 41 43.1	-0.6
AYDN	**Tasoluk**	**0.94**	**257**	*i* P	Pg	07 41 30.3	+0.4
AYDN				*i* S	Sb	07 41 43.1	-0.7
YER	**Yerkesik**	**0.96**	**219**	*e*PG	Pg	07 41 30.2	0.0
YER	**Yerkesik**	**0.96**	**219**	*e*Pg	Pg	07 41 30.2	0.0
TURN	**Turunc**	**1.07**	**199**	*e*P	Pn	07 41 36.0	+2.4
TURN	**Turunc**	**1.07**	**199**	*e*P	Pn	07 41 36.0	+2.5
MLSB	**Milas**	**1.16**	**240**	*e*PN	Pg	07 41 34.1	+0.1
MLSB	**Milas**	**1.16**	**240**	*e*Pn	Pg	07 41 34.1	+0.1
FETY	**Fethiye**	**1.25**	**178**	*e*PN	Pn	07 41 36.5	+0.4
FETY	**Fethiye**	**1.25**	**178**	*e*Pn	Pn	07 41 36.5	+0.4
GDZ	**Gediz**	**1.25**	**16**	*i* P	Pg	07 41 35.5	-0.5
GDZ				*i* S	Sn	07 41 53.8	0.0
GDZ	**Gediz**	**1.25**	**16**	*i* P	Pg	07 41 35.5	-0.4
GDZ				*i* S	Sn	07 41 53.8	0.0
BCK	**Bucak**	**1.30**	**109**	*e*PN	Pb	07 41 38.2	+1.2
BCK	**Bucak**	**1.30**	**109**	*e*Pn	Pb	07 41 38.2	+1.2
ELL	**Elmali**	**1.33**	**148**	*e*PN	Pb	07 41 38.3	+0.8
ELL	**Elmali**	**1.33**	**148**	*e*Pn	Pb	07 41 38.3	+0.8
SHUT	**Suhut-Afyon**	**1.37**	**60**	*e*PN	Pb	07 41 38.3	+0.2
SHUT	**Suhut-Afyon**	**1.37**	**60**	*e*Pn	Pb	07 41 38.3	+0.2
AKS	**Akhisar**	**1.38**	**316**	*e*PN	Pg	07 41 38.8	+0.6
AKS	**Akhisar**	**1.38**	**316**	*e*Pn	Pg	07 41 38.8	+0.6
IZM	**Izmir**	**1.49**	**291**	*e*PN	Pg	07 41 40.2	-0.1
IZM	**Izmir**	**1.49**	**291**	*e*Pn	Pb	07 41 40.2	+0.1
BDRM	**Kayabasi**	**1.51**	**238**	*i* P	Pn	07 41 39.0	-0.7
BDRM	**Kayabasi**	**1.51**	**238**	*i* P	Pn	07 41 39.0	-0.6
TVSB	**Tavsanli**	**1.60**	**12**	*e*PN	Pg	07 41 42.4	-0.1
TVSB	**Tavsanli**	**1.60**	**12**	*e*Pn	Pg	07 41 42.4	-0.1
BODT	**Bodrum**	**1.60**	**240**	*e*PN	Pb	07 41 41.6	-0.4
BODT	**Bodrum**	**1.60**	**240**	*e*Pn	Pb	07 41 41.6	-0.3
DAT	**Datca**	**1.64**	**226**	*e*PN	Pb	07 41 42.6	-0.1
DAT	**Datca**	**1.64**	**226**	*e*Pn	Pb	07 41 42.6	-0.1
BLCB	**Balcova**	**1.65**	**288**	*e*PN	Pb	07 41 42.7	0.0
BLCB	**Balcova**	**1.65**	**288**	*e*Pn	Pb	07 41 42.7	0.0
DST	**Dursunbey**	**1.75**	**349**	*e*PN	Pb	07 41 44.1	-0.4
DST	**Dursunbey**	**1.75**	**349**	*e*Pn	Pb	07 41 44.1	-0.4
BALB	**Balikesir**	**1.97**	**333**	*e*PN	Pb	07 41 47.2	-1.0
BALB	**Balikesir**	**1.97**	**333**	*e*Pn	Pb	07 41 47.2	-1.0
GONE	**Gonen-Balikesi**	**2.40**	**334**	*e*PN	Pn	07 41 53.6	+1.7
GONE	**Gonen-Balikesi**	**2.40**	**334**	*e*Pn	Pn	07 41 53.6	+1.7

IDC 19 07:49:30.8±6.9, 2°.58S×117°.65E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/43, Error ellipse: s-maj=188.2km s-min=104.5km az=57.0, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.30**	**154**	P	Pn	07 53 33.5	-0.4
	0.1nm,0.3s,baz=343,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**23.74**	**138**	P	P	07 54 44.3	-0.6
	3.1nm,0.6s,baz=316,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.21**	**144**	P	P	07 55 07.2	-0.3
	1.0nm,0.5s,baz=320,slow=8.5,SNR=31						
STKA	**Stephens Creek**	**36.85**	**145**	P	P	07 56 41.7	+0.8
	1.2nm,0.4s,baz=322,slow=9.0,SNR=7.1						
KSRS	**Korea Array**	**40.95**	**13**	LR	LR	08 17 43.4	
	comp=Z,85nm,19.1s,baz=174,slow=41						

IDC 19 07:50:52.1±0.6, 1°.98S×139°.13E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.4/24, mbtmp4.4/15, ML4.5/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/34, Error ellipse: s-maj=24.1km s-min=11.5km az=83.0
AUST 19 07:50:53.1, 1°.95S×139°.01E, h0km
DJA 19 07:50:54.0±0.8, 2°.5S±4°×13°.9E±°, h10km, M4.8/13, mB5.4/5, mb4.8/13, MLv4.8/5, Mw(mB)4.9/5
ISCJB 19 07:50:55.3±0.3, 1°.98S±0°.03×139°.15E±0°.04, h29km, mb4.7/44, MS3.9/13, Error ellipse: s-maj=5.5km s-min=4.0km az=153.8
MOS 19 07:50:55.3±0.8, 1°.98S×139°.12E, h33km, mb4.9/7, Error ellipse: s-maj=18.5km s-min=8.7km az=105.8
BJI 19 07:50:56.5, 2°.27S×138°.97E, h47km, mB5.0/17, mb4.8/29, Ms4.7/15, MS7 4.3/16
NEIC 19 07:50:57.8±0.3, 1°.95S×139°.09E, h35km, mb4.8/13, Error ellipse: s-maj=10.2km s-min=5.6km az=73.0
ISC 19 07:50:57.4±0.3, 2°.00S±0°.04×139°.21E±0°.04, h29km, n130, σ1°99/158, mb4.7/44, MS3.8/13, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.50**	**272**	P	**Pb**	**07 51 05.0**	**-2.7**
JAY	**Jayapura**	**1.58**	**109**	P	**Pn**	**07 51 22.8**	**-0.7**
	baz=1.8,SNR=23						
JAY	**Jayapura**	**1.58**	**109**	P	**Pn**	**07 51 21.3**	**-2.2**
JAY				S	**Sb**	**07 51 45.0**	**-0.6**
BAKI	**Biak**	**3.20**	**285**	P	**Pn**	**07 51 44.5**	**-1.3**
FAKI	**Fak Fak**	**7.01**	**262**	P	**Pn**	**07 52 38.5**	**+0.3**
	96nm,0.8s,871nm0.3nm	

QIZ	**Qiongzhong**	**35.64 307**	P	**P**	**07 57 50.3**	**-2.8**
QIZ			S	**S**	**08 03 26.6**	**-1.2**
QIZ			pmax	pmax		
	comp=Z,11nm,1.5s					
QIZ			pmax	pmax		
	comp=Z,110nm,8.5s					
QIZ			LR	LR		
	comp=N,100nm,15.0s					
QIZ			LR	LR		
	comp=Z,140nm,16.4s					
JNU	**Nakatsue**	**35.81 348**	LR	LR	08 09 55.3	
	comp=Z,83nm,19.7s,baz=218,slow=32					
NWAO	**Narrogin (SRO)**	**37.04 211**	LR	LR	08 14 23.2	
	comp=Z,551nm,19.2s,baz=22,slow=38					
MJAR	**Matsushiro Arr**	**38.36 359**	LR	LR	08 11 56.5	
	comp=Z,83nm,19.8s,baz=185,slow=33					
IPM	**Ipoh**	**38.69 280**	*e*P	**P**	**07 58 18.1**	**-1.0**
PPI	**Padang Panjang**	**38.83 272**	S	S	08 04 04.8	-12
	baz=39,SNR=5.4					
NJ2	**Nanjing**	**38.98 332**	*e*P	**P**	**07 58 18.3**	**-2.9**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KULM	**Kulim**	**39.19 281**	*e*P	**P**	**07 58 22.2**	**-1.1**
	comp=Z,26nm,1.1s					
PSI	**Prapat**	**40.55 277**	P	**P**	**07 58 32.6**	**-2.1**
	comp=Z,20nm,1.1s,baz=255,slow=4.0,SNR=14					
PSI	**Prapat**	**40.55 277**	P	**P**	**07 58 32.6**	**-2.1**
PSI	**Prapat**	**40.55 277**	P	**P**	**07 58 33.2**	**-1.6**
	baz=40,SNR=11					
GYA	**Guiyang**	**42.28 314**	P	**P**	**07 58 49.8**	**+1.0**
GYA			pP	**pP**	**07 59 01.0**	**+3.6**
GYA			PP	**PP**	**08 00 30.4**	**+3.3**
GYA			PcP	**PcP**	**08 00 43.3**	**+1.0**
GYA			ScP	**ScP**	**08 04 30.0**	**-1.2**
GYA			S	**S**	**08 05 06.8**	**-1.2**
GYA			sS	**sS**	**08 05 24.0**	**+1.7**
GYA			ScS	**ScS**	**08 08 45.6**	**-3.8**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,110nm,4.9s					
GYA			LR	LR		
	comp=N,540nm,17.8s					
GYA			LR	LR		
	comp=E,480nm,18.2s					
GYA			LR	LR		
	comp=Z,530nm,17.4s					
KMI	**Kunming**	**44.45 310**	P	**P**	**07 59 09.3**	**+2.9**
KMI			pmax	pmax		
	comp=Z,14nm,0.5s					
CM31	**Chiang Mai Arr**	**44.53 299**	*e*P	**P**	**07 59 05.5**	**-1.4**
	comp=Z,5.1nm,0.9s					
CMAR	**Chiang Mai Arr**	**44.53 299**	P	**P**	**07 59 05.9**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=120,slow=6.4,SNR=23					
CMAR	**Chiang Mai Arr**	**44.53 299**	P	**P**	**07 59 05.9**	**-1.0**
CHTO	**Chiang Mai**	**44.66 299**	*e*P	**P**	**07 59 07.0**	**-1.0**
CHTO			pmax	pmax		
	comp=Z,12nm,1.4s					
CHTO	**Chiang Mai**	**44.66 299**	*e*P	**P**	**07 59 07.0**	**-1.0**
	comp=Z,12nm,1.4s					
XAN	**Xi'an**	**45.79 324**	P	**P**	**07 59 14.6**	**-2.1**
XAN			pP	**pP**	**07 59 24.5**	**-1.0**
XAN			S	S	08 05 48.1	-11
XAN			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BJI	**Beijing**	**46.86 336**	P	**P**	**07 59 26.5**	**+1.6**
BJI			S	**S**	**08 06 16.0**	**+2.3**
BJI			pmax	pmax		
	comp=Z,8.0nm,0.4s					
BJI			pmax	pmax		
	comp=Z,58nm,3.6s					
BJI			LR	LR		
	comp=N,170nm,23.7s					
BJI			LR	LR		
	comp=E,150nm,24.5s					
BJI			LR	LR		
	comp=Z,50nm,26.7s					
CD2	**Chengdu**	**47.00 317**	P	**P**	**07 59 25.9**	**-0.4**
CD2			pP	**pP**	**07 59 36.3**	**+1.3**
CD2			sP	**sP**	**07 59 40.4**	**+1.9**
CD2			PP	**PP**	**08 01 17.0**	**-0.2**
CD2			S	**S**	**08 06 13.6**	**-2.7**
CD2			sS	**sS**	**08 06 30.8**	**+0.1**
CD2			SS	SS	08 09 33.3	-10
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
CD2			pmax	pmax		
	comp=Z,60nm,3.6s					
CD2			LR	LR		
	comp=N,140nm,6.5s					
CD2			LR	LR		
	comp=Z,110nm,10.1s					
HHC	**Hu-ho-hao-te**	**49.54 332**	*e*P	**P**	**07 59 46.6**	**+0.9**
HHC			pP	**pP**	**07 59 56.5**	**+1.9**
HHC			sP	**sP**	**08 00 00.4**	**+2.4**
HHC			PP	**PP**	**08 01 42.0**	**+1.7**
HHC			S	**S**	**08 06 51.3**	**-0.6**
HHC			sS	**sS**	**08 07 07.9**	**+1.5**
HHC			SS	**SS**	**08 10 19.9**	**-4.5**
HHC			pmax	pmax		
	comp=Z,16nm,0.9s					
HHC			pmax	pmax		
	comp=Z,120nm,5.2s					
HHC			LR	LR		
	comp=N,150nm,14.1s					
HHC			LR	LR		
	comp=E,450nm,17.5s					
HHC			LR	LR		
	comp=Z,120nm,15.1s					
LZH	**Lanzhou**	**50.22 322**	*e*P	**P**	**07 59 50.0**	**-1.1**
LZH			pP	**pP**	**07 59 59.5**	**-0.5**
LZH			sP	**sP**	**08 00 03.5**	**+0.1**
LZH			pmax	pmax		
	comp=Z,20nm,1.0s					
GTA	**Gaotai**	**54.80 323**	P	**P**	**08 00 24.5**	**-0.5**
GTA			pP	**pP**	**08 00 34.6**	**+0.7**
GTA			sP	**sP**	**08 00 38.5**	**+1.2**
GTA			S	**S**	**08 08 02.8**	**-1.5**
GTA			sS	**sS**	**08 08 19.3**	**+0.4**
GTA			SS	**SS**	**08 11 46.3**	**-1.6**
GTA			pmax	pmax		
	comp=Z,6.0nm,1.2s					
GTA			pmax	pmax		
	comp=Z,150nm,5.5s					
GTA			LR	LR		
	comp=N,64nm,15.2s					
GTA			LR	LR		
	comp=E,95nm,16.6s					
GTA			LR	LR		
	comp=Z,86nm,16.4s					
SONM	**Songino Array**	**57.30 334**	P	**P**	**08 00 41.8**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=154,slow=7.5,SNR=10					
SONM	**Songino Array**	**57.30 334**	P	**P**	**08 00 41.8**	**-0.9**
ZAK	**Zakamensk**	**60.57 334**	*e*P	**P**	**08 01 04.4**	**-0.9**
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.2s					
TLY	**Talaya**	**61.38 336**	*e*P	**P**	**08 01 08.1**	**-2.6**
TLY			pmax	pmax		
	comp=Z,5.0nm,1.1s					
TLY			MLR	MLR		
	comp=Z,81nm,19.0s					
MOY	**Mondy**	**62.49 334**	*e*P	**P**	**08 01 17.8**	**-0.5**
MOY			pmax	pmax		
	comp=Z,18nm,2.7s					
YAK	**Yakutsk**	**64.28 355**	*e*P	**P**	**08 01 29.0**	**-0.7**
YAK			pmax	pmax		
	comp=Z,15nm,0.8s					
YAK	**Yakutsk**	**64.28 355**	*e*P	**P**	**08 01 28.9**	**-0.7**
	comp=Z,15nm,0.8s					
WMQ	**Urumqi**	**64.77 321**	P	**P**	**08 01 33.0**	**-0.4**
WMQ			pmax	pmax		
	comp=Z,8.0nm,1.5s					
HVS	**Khovu-Aksy**	**65.52 330**	*c*	*i*P	**P**	**08 01 37.8**	**-0.4**
HVS			pmax	pmax		
	comp=Z,54nm,1.2s					
SEY	**Seymchan**	**65.53 7**	*e*P	**P**	**08 01 38.9**	**+1.1**
MK31	**Makanchi Array**	**69.54 322**	*e*P	**P**	**08 02 02.7**	**-0.9**
MK31	**Makanchi Array**	**69.54 322**	*e*P	**P**	**08 02 02.7**	**-0.9**
MKAR	**Makanchi Array**	**69.54 322**	P	**P**	**08 02 03.0**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=112,slow=8.0,SNR=28					
MKAR	**Makanchi Array**	**69.54 322**	P	**P**	**08 02 03.0**	**-0.6**
MKAR	**Makanchi Array**	**69.54 322**	P	**P**	**08 02 03.0**	**-0.6**
KSH	**Kashi**	**70.97 313**	P	**P**	**08 02 13.0**	**+0.4**
KSH			*ep*P	**pP**	**08 02 24.8**	**+3.1**
KSH			*es*P	**sP**	**08 02 28.8**	**+3.7**
KSH			*ep*Pc*P*	**PcP**	**08 02 34.8**	**+1.9**
KSH			*e*PP	**PP**	**08 04 54.3**	**+4.1**
KSH			S	**S**	**08 11 26.4**	**-0.5**
KSH			sS	**sS**	**08 11 43.9**	**+2.0**
KSH			SKS	**SKSac**	**08 12 11.1**	**-2.4**
KSH			ScS	**SKKSac**	**08 12 12.8**	**-0.8**
KSH			SS	**SS**	**08 16 01.4**	**+1.1**
KSH			pmax	pmax		
	comp=Z,7.0nm,1.1s					
KSH			pmax	pmax		
	comp=Z,100nm,4.4s					
KSH			LR	LR		
	comp=N,140nm,5.4s					
KSH			LR	LR		
	comp=E,91nm,5.1s					
KSH			LR	LR		
	comp=Z,200nm,5.7s					
PPT2	**Papeete2**	**71.50 108**	*e*LR	LR	08 24 20.3	
	comp=Z,93nm,25.2s					
ZALV	**Zalesovo Beam**	**71.58 330**	P	**P**	**08 02 13.8**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=98,slow=7.4,SNR=2.8					
ZALV	**Zalesovo Beam**	**71.58 330**	P	**P**	**08 02 13.8**	**-2.0**
ZALV	**Zalesovo Beam**	**71.58 330**	P	**P**	**08 02 13.8**	**-2.0**
BILL	**Bilibino**	**72.39 10**	*e*P	P	08 02 24.0	+3.6
BILL			pmax	pmax		
	comp=Z,2.0nm,1.1s					
NVS	**Novosibirsk**	**72.83 330**	*e*P	**P**	**08 02 20.9**	**-2.4**
KURK	**Kurchatov**	**73.43 325**	*e*P	**P**	**08 02 25.8**	**-1.1**
KURK			pmax	pmax		
	comp=Z,18nm,1.5s					
KURK	**Kurchatov**	**73.43 325**	*e*P	**P**	**08 02 25.8**	**-1.1**
	comp=Z,18nm,1.5s					
VNDA	**Vanda**	**76.44 175**	P	**P**	**08 02 42.5**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=325,slow=7.1,SNR=17					
VNDA	**Vanda**	**76.44 175**	P	**P**	**08 02 42.5**	**-1.3**
BVAR	**Borovoye Array**	**79.02 325**	P	**P**	**08 02 57.9**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=111,slow=8.1,SNR=22					
BVAR	**Borovoye Array**	**79.02 325**	P	**P**	**08 02 57.9**	**-0.7**
BVAR	**Borovoye Array**	**79.02 325**	P	**P**	**08 02 57.9**	**-0.7**
BRVK	**Borovoye**	**79.09 325**	*e*P	**P**	**08 02 58.7**	**-0.4**
BRVK			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BRVK	**Borovoye**	**79.09 325**	*e*P	**P**	**08 02 58.7**	**-0.4**
	comp=Z,6.9nm,0.8s					
ABKAR	**Akbulak array**	**84.51 320**	*e*P	**P**	**08 03 26.8**	**-0.9**
	comp=Z,3.7nm,1.0s					
ILAR	**Eielson Array**	**84.99 24**	P	**P**	**08 03 27.4**	**-2.4**
	comp=Z,2.0nm,0.9s,baz=258,slow=4.4,SNR=12					
ILAR	**Eielson Array**	**84.99 24**	P	**P**	**08 03 27.4**	**-2.4**
AKTO	**Aktyubinsk**	**85.92 321**	P	**P**	**08 03 33.4**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=101,slow=2.7,SNR=4.7					
AKTO	**Aktyubinsk**	**85.92 321**	P	**P**	**08 03 33.4**	**-1.3**
AKTO	**Aktyubinsk**	**85.92 321**	P	**P**	**08 03 33.4**	**-1.3**
QSPA	**South Pole Qui**	**87.94 180**	P	**P**	**08 03 42.6**	**-1.7**
	comp=Z,4.0nm,0.8s,baz=341,slow=4.2,SNR=25					
QSPA	**South Pole Qui**	**87.94 180**	*e*P	**P**	**08 03 43.8**	**-0.5**
DAWY	**Dawson**	**88.02 26**	*e*P	**P**	**08 03 45.4**	**+0.6**
KOLS	**Kolonicke sedl**	**108.94 322**	*e*P	**Pdif**	**08 05 28.1**	**+8.4**
KOLS	**Kolonicke sedl**	**108.94 322**	PDIF	**Pdif**	**08 05 28.1**	**+8.4**
CRVS	**Cervenica-Dubn**	**109.46 322**	*e*P	**Pdif**	**08 05 27.8**	**+5.8**
CRVS	**Cervenica-Dubn**	**109.46 322**	PDIF	**Pdif**	**08 05 27.8**	**+5.8**
TORD	**Torodi Ar. Bea**	**136.53 287**	PKP	**PKPdf**	**08 10 16.2**	**-1.5**
	comp=Z,2.0nm,1.0s,baz=79,slow=1.8,SNR=8.9					
TORD	**Torodi Ar. Bea**	**136.53 287**	PKP	**PKPdf**	**08 10 16.2**	**-1.5**
DBIC	**Dimbokro**	**143.88 279**	PKP	PKPab	08 10 27.8	-0.4
	comp=Z,5.2nm,0.6s,baz=72,slow=3.7,SNR=11					
DBIC	**Dimbokro**	**143.88 279**	PKP	PKPab	08 10 27.8	-0.4
ROSC	**El Rosal**	**146.41 84**	PKPbc	**PKPbc**	**08 10 36.9**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=49,slow=9.2,SNR=5.6					
ROSC	**El Rosal**	**146.41 84**	PKPbc	**PKPbc**	**08 10 36.9**	**-0.4**
LPAZ	**La Paz**	**147.45 125**	PKPbc	**PKPab**	**08 10 41.3**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=262,slow=2.3,SNR=5.9					
LPAZ	**La Paz**	**147.45 125**	PKPbc	**PKPab**	**08 10 41.3**	**-1.1**
CPUP	**Villa Florida**	**147.62 152**	PKPbc	**PKPbc**	**08 10 40.7**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=56,slow=3.6,SNR=5.1					
CPUP	**Villa Florida**	**147.62 152**	PKPbc	**PKPbc**	**08 10 40.7**	**+0.9**

IDC 19 07:59:15.9±2.1, 1°76S×139°30E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/32, Error ellipse: s-maj=73.1km s-min=25.8km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**16.26**	**303**	LR	LR	08 09 28.7	
	comp=Z,174nm,18.2s,baz=120,slow=38						
WRA	**Warramunga Arr**	**18.71**	**195**	P	Pn	08 03 36.4	0.0
	0.7nm,0.3s,baz=18,slow=13,SNR=21						
FITZ	**Fitzroy Crossi**	**21.06**	**219**	P	P	08 04 02.2	+0.5
	2.5nm,0.8s,baz=39,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**22.39**	**193**	P	P	08 04 15.9	-0.2
	2.0nm,0.6s,baz=21,slow=9.8,SNR=13						
MKAR	**Makanchi Array**	**69.40**	**322**	P	P	08 10 25.5	-0.3
	0.2nm,0.4s,baz=115,slow=6.8,SNR=2.9						
VNDA	**Vanda**	**76.67**	**175**	P	P	08 11 08.4	+0.2
	1.1nm,1.0s,baz=320,slow=5.1,SNR=3.3						

IDC 19 08:00:03.7±1.5, 42°22N×131°07E, h573km±20km, mb2.2/2, mb1 2.5/5, mb1mx2.3/27, mbtmp2.3/5, Error ellipse: s-maj=50.1km s-min=29.4km az=155.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Arra**	**2.09**	**19**	P	P	08 01 15.7	0.0
	1.1nm,0.3s,baz=217,slow=8.2,SNR=19						
KSRS	**Korea Array**	**5.34**	**208**	P	P	08 01 37.9	+0.1
	0.5nm,0.3s,baz=16,slow=8.7,SNR=6.5						
SONM	**Songino Array**	**18.29**	**296**	P	P	08 03 43.4	+0.3
	0.1nm,0.3s,baz=91,slow=8.4,SNR=5.8						
ILAR	**Eielson Array**	**49.54**	**34**	P	P	08 08 02.5	+0.2
	0.2nm,0.5s,baz=288,slow=9.1,SNR=4.6						
YKA	**Yellowknife Ar**	**63.20**	**28**	P	P	08 09 35.5	-0.4
	0.1nm,0.4s,baz=310,slow=5.9,SNR=7.3						

*IDC **19** 08:11:40.8±0.5, 2°00S×138°98E, h0km, mb4.3/14, mb1 4.4/17, mb1mx4.3/25, mbtmp4.3/17, ML4.2/3, MS4.0/15, Ms1 4.0/15, ms1mx3.7/39, Error ellipse: s-maj=21.9km s-min=13.6km az=76.0*

*AUST **19** 08:11:41.6, 1°94S×139°51E, h5km*

*ISCJB **19** 08:11:43.4±0.2, 2°08S±0°03×139°11E±0°04, h29km, mb4.6/48, MS4.0/20, Error ellipse: s-maj=6.1km s-min=3.8km az=157.1*

*MOS **19** 08:11:43.9±1.0, 2°06S×138°94E, h33km, mb4.7/7, Error ellipse: s-maj=15.7km s-min=7.8km az=108.4*

*BJI **19** 08:11:43.4, 2°40S×139°07E, h37km, mB5.0/15, mb4.6/26, Ms4.7/14, MS7 4.3/14*

*DJA **19** 08:11:45.8±0.4, 2°S±6°×139°9E±°, h10km, M4.8/18, mB5.6/3, mb4.8/18, MLv4.7/2, Mw(mB)5.1/3*

*NEIC **19** 08:11:46.2±0.3, 2°03S×138°97E, h35km, mb4.7/16, Error ellipse: s-maj=8.6km s-min=5.2km az=68.0*

ISC 19 08:11:42.8±0.6, 2°02S±0°06×139°09E±0°07, h29km, n157, σ2s 04/40, mb4.6/47, MS4.0/20, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.68**	**107**	P	**Pn**	**08 12 09.7**	**-0.6**
	baz=1.3,SNR=9.3						
JAY				S	**Sn**	**08 12 29.8**	**-1.2**
	baz=1.3,SNR=6.9						
JAY	**Jayapura**	**1.68**	**107**	P	**Pn**	**08 12 09.6**	**-0.7**
FAKI	**Fak Fak**	**6.89**	**262**	P	Pb	08 13 31.6	-10
	82nm,0.9s,0.3nm						
SWI	**Sorong**	**7.91**	**278**	S	Sb	08 15 18.6	-15
	baz=8.3,SNR=418						
PMG	**Port Moresby**	**10.87**	**133**	Pn	Pn	08 14 20.8	+4.3
	1.1nm,0.3s,baz=213,slow=5.4,SNR=3.3						
PMG	**Port Moresby**	**10.87**	**133**	Pn	Pn	08 14 20.8	+4.3
KDU	**Kakadu**	**12.46**	**211**	P	Pn	08 14 40.5	+2.2
	baz=13,SNR=11						
KDU				S	**Sn**	**08 16 56.4**	**+0.2**
	baz=13,SNR=3.4						
COEN	**Coen**	**12.53**	**161**	*e*Pn	Pn	08 14 42.0	+2.8
COEN				*e*Sn	**Sn**	**08 16 59.8**	**+2.0**
GUMO	**Guam**	**16.54**	**20**	LR	LR	08 21 15.9	
	comp=Z,400nm,19.2s,baz=96,slow=35						
KDI	**Kendari**	**16.56**	**263**	P	P	08 15 42.6	+7.2
	32nm,1.0s						
WRAB	**Tennant Creek**	**18.39**	**194**	*e*P	**Pn**	**08 15 57.5**	**+1.7**
WRAB				*e*		08 19 15.6	
WRAB				pmax	pmax		
	comp=Z,35nm,0.9s						
WRAB	**Tennant Creek**	**18.39**	**194**	*e*Pn	**Pn**	**08 15 57.5**	**+1.7**
	comp=Z,35nm,0.9s						
WRAB				*e*Sn	**Sn**	**08 19 15.6**	**-5.0**
WRA	**Warramunga Arr**	**18.41**	**194**	P	**Pn**	**08 15 56.6**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=17,slow=12,SNR=96						
WRA				S	**Sn**	**08 19 18.8**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=14,slow=22,SNR=4.3						
WRA				LR	LR	08 23 37.2	
	comp=Z,240nm,19.1s,baz=20,slow=39						
WRA	**Warramunga Arr**	**18.41**	**194**	P	**Pn**	**08 15 56.6**	**+0.7**
WRA				S	**Sn**	**08 19 18.8**	**-2.1**
QIS	**Mount Isa**	**18.43**	**178**	P	Pn	08 16 02.5	+6.3
	baz=19,SNR=4.9						
CTA	**Charters Tower**	**19.27**	**159**	P	**Pn**	**08 16 08.3**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=335,slow=13,SNR=8.6						
CTA	**Charters Tower**	**19.27**	**159**	P	**Pn**	**08 16 08.3**	**+1.9**
CTAO	**Charters Tower**	**19.27**	**159**	*e*P	Pn	08 16 09.6	+3.2
CTAO				pmax	pmax		
	comp=Z,99nm,2.1s						
CTAO	**Charters Tower**	**19.27**	**159**	*e*P	Pn	08 16 09.6	+3.2
	comp=Z,99nm,2.1s						
TTSI	**Tana Toraja**	**19.28**	**267**	P	Pn	08 16 19.5	+13
SPSI	**Sidrap Palu**	**19.39**	**264**	P	Pn	08 16 15.7	+7.8
	comp=Z,33nm,1.4s						
KAPI	**Kappang**	**19.53**	**261**	*e*P	**Pn**	**08 16 10.2**	**+0.6**
WSI	**Waingapu**	**20.17**	**247**	S	Sn	08 20 18.6	+15
	baz=21,SNR=4.4						
FITZ	**Fitzroy Crossi**	**20.73**	**219**	P	Pn	08 16 23.2	-0.4
	comp=Z,7.1nm,1.0s,baz=50,slow=11,SNR=10						
FITZ				S	Sn	08 20 12.6	-4.3
	comp=Z,10.0nm,0.7s,baz=212,slow=12,SNR=6.7						
FITZ				LR	LR	08 25 26.8	
	comp=Z,673nm,20.3s,baz=38,slow=40						
FITZ	**Fitzroy Crossi**	**20.73**	**219**	P	Pn	08 16 23.2	-0.4
FITZ				S	Sn	08 20 12.6	-4.3
FITZ	**Fitzroy Crossi**	**20.73**	**219**	P	Pn	08 16 24.2	+0.6
	baz=21,SNR=18						
FITZ				S	Sn	08 20 12.5	-4.3
	baz=21,SNR=3.7						
MYLDM	**Lahad Datu**	**21.78**	**289**	P	P	08 16 43.1	+11
	comp=Z,34nm,1.3s						
HNR	**Honiara**	**22.00**	**110**	P	P	08 16 38.5	+3.6
	comp=Z,150nm,1.2s,baz=114,slow=2.7,SNR=4.2						
HNR	**Honiara**	**22.00**	**110**	P	P	08 16 38.5	+3.6
AS31	**Alice Springs**	**22.09**	**193**	*e*P	**P**	**08 16 37.7**	**+1.8**
ASAR	**Alice Springs**	**22.09**	**193**	P	**P**	**08 16 37.3**	**+1.4**
	comp=Z,16nm,0.8s,baz=22,slow=11,SNR=133						
ASAR				LR	LR	08 25 08.7	
	comp=Z,198nm,20.5s,baz=14,slow=37						
ASAR	**Alice Springs**	**22.09**	**193**	P	**P**	**08 16 37.3**	**+1.4**
KKM	**Kota Kinabalu**	**24.21**	**289**	*e*P	P	08 16 59.6	+2.2
	comp=Z,143nm,1.9s						
KKM	**Kota Kinabalu**	**24.21**	**289**	P	P	08 16 59.8	+2.5
	baz=25,SNR=4.4						
KKM	**Kota Kinabalu**	**24.21**	**289**	P	P	08 17 03.1	+5.8
	comp=Z,36nm,1.7s						
BBKI	**Banjar Baru**	**24.26**	**266**	P	P	08 17 02.3	+4.6
	comp=Z,159nm,1.3s,comp=Z,3μm						
QLP	**Quilpie**	**24.91**	**169**	P	P	08 17 06.5	+3.1
	baz=25,SNR=34						
KMMI	**Kalianget**	**25.53**	**258**	P	P	08 17 14.0	+4.8
	comp=Z,128nm,1.1s,comp=Z,2μm						
EIDS	**Eidsvold**	**25.93**	**155**	*e*P	P	08 17 16.3	+3.6
	comp=Z,61nm,1.1s						
EIDS	**Eidsvold**	**25.93**	**155**	P	P	08 17 18.6	+5.9
	baz=26,SNR=8.1						
RMQ	**Roma**	**26.04**	**160**	P	P	08 17 19.2	+5.5
	baz=26,SNR=19						
MBWA	**Marble Bar**	**26.79**	**223**	*e*P	P	08 17 23.4	+2.9
SBUM	**Sibu**	**27.23**	**279**	P	P	08 17 30.5	+5.9
	comp=Z,10.0nm,2.0s						
CBIJ	**Chichi jima**	**29.10**	**6**	LR	LR	08 27 22.9	
	comp=Z,184nm,18.5s,baz=115,slow=32						
STKA	**Stephens Creek**	**29.79**	**176**	P	P	08 17 48.8	+1.7
	comp=Z,2.1nm,0.4s,baz=345,slow=8.2,SNR=8.0						
STKA	**Stephens Creek**	**29.79**	**176**	*e*P	P	08 17 50.2	+3.1
STKA	**Stephens Creek**	**29.79**	**176**	P	P	08 17 49.1	+2.0
	baz=30,SNR=8.3						
CMSA	**Cobar Meteorol**	**30.01**	**169**	P	P	08 17 52.6	+3.5
	baz=30,SNR=13						
FORT	**Forrest**	**30.45**	**199**	*e*P	P	08 17 54.9	+1.9
	comp=Z,48nm,1.2s						
FORT	**Forrest**	**30.45**	**199**	P	P	08 17 55.4	+2.4
	baz=31,SNR=9.7						
ARMA	**Armidale**	**30.64**	**158**	*e*P	P	08 18 00.3	+5.5
	comp=Z,107nm,2.4s						
ARMA	**Armidale**	**30.64**	**158**	P	P	08 18 00.3	+5.5
	baz=31,SNR=3.7						
BBOO	**Buckleboo**	**30.76**	**185**	*e*P	P	08 17 59.0	+3.3
	comp=Z,645nm,1.4s						
BBOO	**Buckleboo**	**30.76**	**185**	P	P	08 17 59.1	+3.3
	baz=31,SNR=7.3						
XMIS	**Christmas Isla**	**34.25**	**254**	S	S	08 24 12.0	+20
	baz=35,SNR=3.2						
ARPS	**Mount Arapiles**	**34.67**	**176**	P	**P**	**08 18 27.4**	**-2.4**
	baz=35,SNR=6.6						
MORW	**Morawa**	**34.72**	**217**	P	P	08 18 34.5	+4.0
	baz=35,SNR=3.4						
MORW				S	S	08 24 08.3	+9.5
	baz=35,SNR=4.5						
QIZ	**Qiongzhong**	**35.56**	**307**	P	P	08 18 39.3	+1.5
QIZ				S	S	08 24 16.4	+4.4
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
QIZ				LR	LR		
	comp=N,95nm,16.5s						
QIZ				LR	LR		
	comp=Z,160nm,18.9s						
JNU	**Nakatsue**	**35.81**	**348**	LR	LR	08 30 23.7	
	comp=Z,111nm,21.7s,baz=229,slow=31						
NWAO	**Narrogin (SRO)**	**36.96**	**211**	P	P	08 18 52.5	+2.9
	comp=Z,19nm,1.1s,baz=4.1,slow=9.0,SNR=3.1						
NWAO				LR	LR	08 35 21.7	
	comp=Z,816nm,19.9s,baz=33,slow=38						
NWAO	**Narrogin (SRO)**	**36.96**	**211**	P	P	08 18 52.5	+2.9
IPM	**Ipoh**	**38.58**	**280**	*e*P	P	08 19 05.5	+1.9
	comp=Z,9.9nm,0.6s						
IPM	**Ipoh**	**38.58**	**280**	P	P	08 19 09.3	+5.7
	comp=Z,16nm,1.0s						
PPI	**Padang Panjang**	**38.72**	**272**	P	P	08 19 10.5	+5.8
NJ2	**Nanjing**	**38.95**	**332**	*e*P	P	08 19 08.0	+1.7
NJ2				p

BJI				LR	LR		
	comp=N,160nm,24.8s						
BJI				LR	LR		
	comp=E,160nm,26.7s						
BJI				LR	LR		
	comp=Z,60nm,24.0s						
CD2	**Chengdu**	**46.94**	**317**	P	P	08 20 15.5	+4.3
CD2				pP	pP	08 20 25.8	+5.8
CD2				sP	sP	08 20 30.0	+6.6
CD2				PP	PP	08 22 05.8	+3.8
CD2				PcS	PcS	08 25 41.4	+2.7
CD2				S	S	08 27 04.0	+3.2
CD2				sS	sS	08 27 21.3	+6.1
CD2				SS	**SS**	**08 30 24.0**	**-3.9**
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
CD2				pmax	pmax		
	comp=Z,100nm,6.3s						
CD2				LR	LR		
	comp=N,170nm,7.1s						
CD2				LR	LR		
	comp=Z,140nm,10.7s						
HHC	**Hu-ho-hao-te**	**49.50**	**333**	*e*P	P	08 20 35.8	+4.9
HHC				pP	pP	08 20 45.6	+5.9
HHC				sP	sP	08 20 49.5	+6.3
HHC				PP	PP	08 22 31.3	+5.9
HHC				S	S	08 27 41.4	+4.6
HHC				sS	sS	08 27 57.9	+6.6
HHC				SS	**SS**	**08 31 11.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
HHC				LR	LR		
	comp=N,170nm,15.3s						
HHC				LR	LR		
	comp=E,410nm,16.9s						
HHC				LR	LR		
	comp=Z,120nm,15.1s						
AFI	**Afiamalu**	**49.96**	**106**	LR	LR	08 39 20.4	
	comp=Z,144nm,19.0s,baz=276,slow=33						
LZH	**Lanzhou**	**50.17**	**323**	*e*P	P	08 20 41.0	+4.9
LZH				pP	pP	08 20 51.5	+6.5
LZH				sP	sP	08 20 53.0	+4.6
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
GTA	**Gaotai**	**54.75**	**323**	P	P	08 21 13.9	+3.9
GTA				pP	pP	08 21 24.0	+5.1
GTA				sP	sP	08 21 28.0	+5.6
GTA				S	S	08 28 52.3	+3.3
GTA				sS	sS	08 29 08.1	+4.5
GTA				SS	**SS**	**08 32 35.3**	**+2.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,54nm,4.3s						
GTA				LR	LR		
	comp=N,79nm,16.6s						
GTA				LR	LR		
	comp=E,99nm,16.2s						
GTA				LR	LR		
	comp=Z,100nm,16.2s						
LSA	**Lhasa**	**55.58**	**308**	*e*P	P	08 21 19.2	+2.6
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LSA	**Lhasa**	**55.58**	**308**	*e*P	P	08 21 19.2	+2.6
	comp=Z,3.2nm,0.4s						
ULN	**Ulaanbaatar**	**57.01**	**335**	*e*P	P	08 21 30.1	+4.0
	comp=Z,3.8nm,0.8s						
PETK	**Petropavlovsk-**	**57.11**	**13**	LR	LR	08 42 06.1	
	comp=Z,132nm,21.3s,baz=241,slow=32						
SONM	**Songino Array**	**57.27**	**334**	P	P	08 21 30.5	+2.6
	comp=Z,0.9nm,0.6s,baz=147,slow=8.1,SNR=6.1						
SONM	**Songino Array**	**57.27**	**334**	P	P	08 21 30.5	+2.6
TAPN	**Taplejung**	**57.40**	**304**	*e*P	P	08 21 31.6	+2.2
	comp=Z,21nm,1.1s						
ODAN	**Odare**	**57.48**	**304**	*e*P	P	08 21 31.8	+1.9
RAMN	**Ramite**	**58.17**	**304**	*e*P	P	08 21 36.3	+1.5
	comp=Z,14nm,0.8s						
GUN	**Gumba**	**59.12**	**304**	*e*P	P	08 21 43.2	+1.7
	comp=Z,22nm,0.8s						
PKI	**Pulchoki**	**59.38**	**304**	*e*P	P	08 21 45.2	+1.9
KKN	**Kakani**	**59.57**	**304**	*e*P	P	08 21 46.9	+2.5
GKN	**Gorkha**	**60.18**	**304**	*e*P	P	08 21 50.6	+2.1
	comp=Z,40nm,0.9s						
ZAK	**Zakamensk**	**60.53**	**335**	*e*P	P	08 21 51.2	+0.7
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KOLN	**Koldanda**	**60.96**	**303**	*e*P	P	08 21 56.2	+2.3
	comp=Z,12nm,0.7s						
DANN	**Dangsing**	**61.02**	**304**	*e*P	P	08 21 56.2	+1.7
	comp=Z,14nm,0.7s						
TLY	**Talaya**	**61.35**	**336**	*e*P	P	08 21 59.1	+3.2
TLY				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TLY				MLR	MLR		
	comp=Z,90nm,20.0s						
TLY	**Talaya**	**61.35**	**336**	*e*P	P	08 21 59.9	+4.0
	comp=Z,4.9nm,1.1s						
PYUN	**Piuthan**	**61.58**	**304**	*e*P	P	08 22 00.4	+2.3
	comp=Z,60nm,0.9s						
FX1	**Attu Island--F**	**61.72**	**23**	LR	LR	08 43 10.3	
	comp=Z,168nm,20.3s,baz=50,slow=31						
MOY	**Mondy**	**62.46**	**334**	*e*P	P	08 22 08.0	+4.5
BOD	**Bodaibo**	**62.95**	**345**	*e*P	P	08 22 09.2	+2.8
BOD				pmax	pmax		
	comp=Z,5.0nm,2.3s						
WMQ	**Urumqi**	**64.71**	**321**	*e*P	P	08 22 23.3	+4.8
WMQ				pmax	pmax		
	comp=Z,14nm,1.0s						
HVS	**Khovu-Aksy**	**65.48**	**330**	*e*P	P	08 22 25.4	+2.1
HVS				pmax	pmax		
	comp=Z,48nm,1.2s						
SEY	**Seymchan**	**65.56**	**7**	*e*P	P	08 22 25.9	+2.5
MK31	**Makanchi Array**	**69.48**	**322**	*e*P	P	08 22 50.6	+2.0
MK31	**Makanchi Array**	**69.48**	**322**	*e*P	P	08 22 50.6	+2.0
MKAR	**Makanchi Array**	**69.48**	**322**	P	P	08 22 50.6	+2.0
	comp=Z,1.7nm,0.6s,baz=96,slow=9.0,SNR=17						
MKAR	**Makanchi Array**	**69.48**	**322**	P	P	08 22 50.7	+2.0
MKAR	**Makanchi Array**	**69.48**	**322**	P	P	08 22 50.6	+2.0
KSH	**Kashi**	**70.89**	**313**	*e*P	P	08 23 03.9	+6.3
KSH				*ep*P	**PcP**	**08 23 14.3**	**-3.7**
KSH				*es*P	sP	08 23 19.1	+9.0
KSH				*e*PcP	pP	08 23 24.1	+17
KSH				*e*PP	PP	08 25 45.3	+10
KSH				S	S	08 32 15.8	+4.4
KSH				sS	**SKiKP**	**08 32 35.3**	**-2.9**
KSH				SKS	**ScS**	**08 33 00.3**	**+0.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,74nm,4.6s						
KSH				LR	LR		
	comp=N,110nm,5.6s						
KSH				LR	LR		
	comp=E,76nm,6.6s						
KSH				LR	LR		
	comp=Z,160nm,6.7s						
ZALV	**Zalesovo Beam**	**71.54**	**330**	P	P	08 23 02.0	+1.0
	comp=Z,1.1nm,0.4s,baz=114,slow=7.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**71.54**	**330**	P	P	08 23 02.0	+1.0
ZALV	**Zalesovo Beam**	**71.54**	**330**	P	P	08 23 02.0	+1.0
BILL	**Bilibino**	**72.43**	**10**	*e*P	P	08 23 10.5	+4.5
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVS	**Novosibirsk**	**72.79**	**330**	*e*P	P	08 23 11.3	+2.9
KURK	**Kurchatov**	**73.38**	**325**	*e*P	P	08 23 13.1	+1.1
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**73.38**	**325**	*e*P	P	08 23 13.1	+1.1
	comp=Z,6.5nm,0.9s						
KKAR	**Karatay Array**	**75.91**	**315**	*e*P	P	08 23 28.4	+1.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**75.91**	**315**	*e*P	P	08 23 28.4	+1.5
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**76.43**	**175**	P	P	08 23 30.9	+1.7
	comp=Z,2.3nm,0.8s,baz=309,slow=5.4,SNR=11						
VNDA	**Vanda**	**76.43**	**175**	P	P	08 23 30.9	+1.7
BRVK	**Borovoye**	**79.04**	**325**	*e*P	P	08 23 45.6	+1.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**79.04**	**325**	*e*P	P	08 23 45.6	+1.4
	comp=Z,6.6nm,0.8s						
KDAK	**Kodiak Island**	**80.32**	**30**	LR	LR	08 56 39.7	
	comp=Z,179nm,19.3s,baz=271,slow=34						
MAW	**Mawson**	**82.90**	**202**	LR	LR	08 59 46.1	
	comp=Z,186nm,20.4s,baz=225,slow=35						
ABKAR	**Akbulak array**	**84.45**	**320**	*e*P	P	08 24 14.7	+2.0
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**85.05**	**24**	P	P	08 24 16.6	+1.0
	comp=Z,1.6nm,0.9s,baz=266,slow=4.3,SNR=11						
ILAR				LR	LR	08 56 39.1	
	comp=Z,81nm,20.1s,baz=284,slow=32						
ILAR	**Eielson Array**	**85.05**	**24**	P	P	08 24 16.6	+1.0
AKTO	**Aktyubinsk**	**85.86**	**321**	P	P	08 24 20.7	+0.9
	comp=Z,0.8nm,0.6s,baz=234,slow=3.9,SNR=4.0						
AKTO	**Aktyubinsk**	**85.86**	**321**	P	P	08 24 20.7	+0.9
AKTO	**Aktyubinsk**	**85.86**	**321**	P	P	08 24 20.7	+0.9
QSPA	**South Pole Qui**	**87.92**	**180**	*e*P	P	08 24 31.1	+1.4
	comp=Z,7.3nm,1.0s						
DAWY	**Dawson**	**88.09**	**26**	*e*P	P	08 24 34.2	+3.8
INK	**Inuvik**	**90.90**	**22**	P	P	08 24 46.7	+3.3
	comp=Z,1.2nm,1.0s,baz=257,slow=1.9,SNR=3.0						
INK				LR	LR	09 03 28.3	
	comp=Z,52nm,20.0s,baz=341,slow=34						
INK	**Inuvik**	**90.90**	**22**	P	P	08 24 46.7	+3.3
YKA	**Yellowknife Ar**	**99.28**	**27**	P	**Pdif**	**08 25 25.4**	**+3.6**
	comp=Z,0.1nm,0.7s,baz=284,slow=4.9,SNR=4.8						
YKA	**Yellowknife Ar**	**99.28**	**27**	P	**Pdif**	**08 25 25.4**	**+3.6**
KOLS	**Kolonicke sedl**	**108.89**	**322**	*e*P	Pdif	08 26 14.7	+10
KOLS	**Kolonicke sedl**	**108.89**	**322**	PDIF	Pdif	08 26 14.7	+10
VYHS	**Vyhne**	**111.17**	**322**	*e*P	Pdif	08 26 26.7	+12
VYHS	**Vyhne**	**111.17**	**322**	PDIF	Pdif	08 26 26.7	+12
TXAR	**Lajitas Array**	**114.62**	**59**	PKP	PKPdf	08 30 24.7	+3.5
	comp=Z,0.2nm,0.6s,baz=300,slow=1.0,SNR=3.8						
TXAR	**Lajitas Array**	**114.62**	**59**	PKP	PKPdf	08 30 24.7	+3.5
TUE	**Stuetta**	**117.84**	**323**	*e*PKPdf	**PKPdf**	**08 30 26.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**136.43**	**287**	PKhKP	PKPpre	08 30 58.9	
	comp=Z,0.3nm,0.7s,baz=45,slow=2.9,SNR=2.5						
TORD				PKP	**PKiKP**	**08 31 04.8**	**+0.1**
	comp=Z,2.4nm,1.1s,baz=131,slow=2.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**136.43**	**287**	PKPpre	PKPpre	08 30 58.9	
TORD				PKP	**PKiKP**	**08 31 04.8**	**+0.1**
DBIC	**Dimbokro**	**143.77**	**278**	PKP	**PKPdf**	**08 31 16.3**	**0.0**
	comp=Z,7.2nm,0.6s,baz=77,slow=5.4,SNR=6.3						
DBIC	**Dimbokro**	**143.77**	**278**	*e*PKPdf	**PKPdf**	**08 31 15.5**	**-0.8**
DBIC				PKP	**PKPdf**	**08 31 16.3**	**0.0**
ROSC	**El Rosal**	**146.52**	**84**	PKPbc	**PKPab**	**08 31 25.8**	**+1.8**
	comp=Z,2.7nm,0.5s,baz=93,slow=16,SNR=4.3						
ROSC	**El Rosal**	**146.52**	**84**	*e*PKPdf	**PKPab**	**08 31 22.8**	**-1.2**
ROSC				PKPbc	**PKPab**	**08 31 25.8**	**+1.8**
LPAZ	**La Paz**	**147.53**	**125**	PKPbc	**PKPab**	**08 31 28.9**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=277,slow=2.6,SNR=7.8						
LPAZ	**La Paz**	**147.53**	**125**	PKPbc	**PKPab**	**08 31 28.9**	**+0.8**
CPUP	**Villa Florida**	**147.65**	**152**	PKPbc	**PKPab**	**08 31 27.9**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=354,slow=20,SNR=4.1						
CPUP	**Villa Florida**	**147.65**	**152**	PKPbc	**PKPab**	**08 31 27.9**	**+0.4**

IDC 19 08:15:05.2±1.4, 1°.93S×138°.85E, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.9/18, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=52.4km s-min=24.6km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.43**	**194**	P	P	08 19 22.6	+0.2
	0.6nm,0.3s,baz=13,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**22.13**	**192**	P	P	08 20 02.1	-0.4
	5.2nm,1.0s,baz=25,slow=11,SNR=6.7						
CMAR	**Chiang Mai Arr**	**44.18**	**299**	P	P	08 23 16.6	+0.4
	0.5nm,0.3s,baz=110,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**57.08**	**334**	P	P	08 24 52.8	-0.6
	0.5nm,0.7s,baz=146,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**69.26**	**322**	P	P	08 26 14.0	-0.2
	2.2nm,1.0s,baz=122,slow=6.9,SNR=4.8						
ILAR	**Eielson Array**	**85.07**	**24**	P	P	08 27 42.9	+0.3
	0.6nm,0.9s,baz=264,slow=3.2,SNR=4.0						

*ISCJB **19** 08:19:49.5±0.4, 0°.28N±0°.05×121°.59E±0°.07, h200km, mb3.9/14, Error ellipse: s-maj=10.3km s-min=6.5km az=165.8*
*IDC **19** 08:19:50.1±2.5, 0°.26N×121°.56E, h191km±25km, mb3.7/13, mb1 3.8/15, mb1mx3.7/27, mbtmp3.7/15, Error ellipse: s-maj=20.2km s-min=11.6km az=63.0*
*DJA **19** 08:19:51.6±1.8, 0°.N±15°×12°.1E±1°.0, h152km±20km, M4.3/8, mb4.4/2, MLv4.3/8*

ISC 19 08:19:50.9±0.6, 0°.25N±0°.07×121°.55E±0°.08, h200km, n36, σ0°.84/35, mb4.0/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.46**	**60**	P	Pn	08 20 14.3	-3.5
LUWI	**Luwuk**	**1.77**	**136**	P	**Pn**	**08 20 26.4**	**-0.7**
KMSI	**Cibinong**	**2.46**	**82**	P	**Pn**	**08 20 34.0**	**-0.3**
TTSI	**Tana Toraja**	**3.70**	**208**	P	**Pn**	**08 20 47.9**	**-1.1**
KDI	**Kendari**	**4.31**	**166**	P	**Pn**	**08 20 56.6**	**0.0**
SPSI	**Sidrap Palu**	**4.55**	**203**	P	**Pn**	**08 20 59.1**	**-0.5**
KAPI	**Kappang**	**5.53**	**199**	P	**Pn**	**08 21 10.2**	**-1.9**
	4.2nm,0.3s,baz=319,slow=4.4,SNR=18						
KAPI	**Kappang**	**5.53**	**199**	P	**Pn**	**08 21 11.8**	**-0.3**
	46nm,1.0s,0.2nm						
BKSI	**Bulukumba**	**5.71**	**194**	P	**Pn**	**08 21 14.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.67**	**168**	P	**P**	**08 23 54.6**	**+0.5**
	0.7nm,0.3s,baz=40,slow=7.1,SNR=11						
PSI	**Prapat**	**22.75**	**277**	P	**P**	**08 24 36.2**	**-0.2**
	5.0nm,0.7s,baz=157,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**23.66**	**149**	P	**P**	**08 24 44.0**	**-0.4**
	3.2nm,0.6s,baz=327,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.63**	**154**	P	**P**	**08 25 12.1**	**+0.8**
	0.7nm,0.5s,baz=344,slow=15,SNR=4.7						
CMAR	**Chiang Mai Arr**	**28.64**	**310**	P	**P**	**08 25 30.4**	**+1.3**
	2.5nm,0.7s,baz=135,slow=6.8,SNR=13						
STKA	**Stephens Creek**	**37.16**	**151**	P	**P**	**08 26 43.4**	**+0.7**
	0.7nm,0.4s,baz=354,slow=10,SNR=3.6						
MJAR	**Matsushiro Arr**	**39.28**	**21**	P	**P**	**08 26 59.0**	**-1.3**
	0.9nm,0.6s,baz=184,slow=9.5,SNR=3.2						
TAPN	**Taplejung**	**42.20**	**312**	*e*P	**P**	**08 27 25.2**	**+0.5**
	3.4nm,0.3s						
RAMN	**Ramite**	**42.81**	**311**	*e*P	**P**	**08 27 30.5**	**+0.9**
	11nm,0.6s						
JIRN	**Jiri**	**43.50**	**312**	*e*P	**P**	**08 27 35.8**	**+0.6**
	2.5nm,0.2s						
GUN	**Gumba**	**43.87**	**312**	*e*P	**P**	**08 27 38.7**	**+0.6**
	26nm,0.4s						
KOLN	**Koldanda**	**45.51**	**310**	*e*P	**P**	**08 27 50.7**	**-0.3**
	9.4nm,0.3s						
DANN	**Dangsing**	**45.69**	**311**	*e*P	**P**	**08 27 52.7**	**+0.3**
	19nm,0.4s						
PYUN	**Piuthan**	**46.14**	**310**	*e*P	**P**	**08 27 56.3**	**+0.4**
	24nm,0.5s						
ASAJ	**Asahikawa**	**47.53**	**21**	P	**P**	**08 28 06.4**	**+0.3**
	2.3nm,0.4s,baz=224,slow=9.6,SNR=6.4						
DZM	**Mont Dzumac**	**49.05**	**120**	*e*LR	LR	08 27 38.2	
	395nm,22.9s						
SONM	**Songino Array**	**49.19**	**347**	P	**P**	**08 28 19.7**	**+0.8**
	3.5nm,0.6s,baz=169,slow=8.5,SNR=35						
MKAR	**Makanchi Array**	**57.65**	**329**	P	**P**	**08 29 20.8**	**+0.5**
	3.5nm,0.3s,baz=125,slow=9.1,SNR=62						
MKAR				PcP	**PcP**	**08 30 10.2**	**-0.9**
	0.5nm,0.5s,baz=175,slow=3.4,SNR=3.3						
PETK	**Petropavlovsk-**	**60.64**	**24**	P	**P**	**08 29 41.3**	**+0.6**
	1.3nm,0.6s,baz=217,slow=3.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**61.50**	**336**	P	**P**	**08 29 45.7**	**-0.6**
	2.4nm,0.5s,baz=108,slow=4.8,SNR=12						
AKTO	**Aktyubinsk**	**73.24**	**323**	P	**P**	**08 30 59.9**	**-0.3**
	2.5nm,0.5s,baz=104,slow=5.6,SNR=17						
ILAR	**Eielson Array**	**90.45**	**25**	P	**P**	**08 32 27.1**	**-2.4**
	0.3nm,0.7s,baz=235,slow=5.4,SNR=5.9						
INK	**Inuvik**	**95.27**	**21**	P	**P**	**08 32 51.1**	**-0.4**
	0.4nm,0.5s,baz=248,slow=5.4,SNR=5.6						
YKA	**Yellowknife Ar**	**104.76**	**24**	PKiKP	**PKiKP**	**08 37 48.3**	**-0.1**
	0.1nm,0.4s,baz=306,slow=1.8,SNR=11						
TORD	**Torodi Ar. Bea**	**118.94**	**285**	PKP	**PKPdf**	**08 38 15.9**	**-0.8**
	0.5nm,0.8s,baz=174,slow=1.8,SNR=3.8						
SCHQ	**Schefferville**	**124.67**	**6**	PKP	**PKPdf**	**08 38 26.6**	**0.0**
	1.3nm,0.5s,baz=297,slow=2.3,SNR=5.5						
TXAR	**Lajitas Array**	**127.81**	**52**	PKP	**PKPdf**	**08 38 34.1**	**+0.6**
	0.2nm,0.5s,baz=62,slow=1.3,SNR=6.9						

JMA 19 08:20:01.0±0.2, 30°.16N×132°.40E, h54km, M2.4, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.32**	**292**	P	Pn	08 20 23.4	+0.2
JTN				S	Sn	08 20 40.4	+0.6
JTSR	**Tashiro 2**	**1.62**	**309**	S	Sn	08 20 48.1	+1.0
JNAR	**Kushima--Naru**	**1.67**	**325**	S	Sn	08 20 48.9	+0.7
JTZ	**Takazaki**	**2.07**	**327**	P	Pn	08 20 34.1	+0.8
JTZ				*e*S	Sn	08 20 59.2	+1.2

*IDC **19** 08:27:53.8±0.8, 36°.61N×12°.98E, h0km, mb3.9/15, mb1 4.0/20, mb1mx3.9/34, mbtmp3.9/20, ML4.0/5, MS3.3/10, Ms1 3.3/10, ms1mx3.0/50, Error ellipse: s-maj=20.7km s-min=14.7km az=127.0*
*LDG **19** 08:27:53.6±0.3, 36°.34N×12°.79E, h30km, Ml4.1/8, Error ellipse: s-maj=7.3km s-min=3.2km az=2.0*
*ROM **19** 08:27:54.0±0.2, 36°.47N×12°.73E, h26km±4km, Ml4.1/46, Error ellipse: s-maj=5.3km s-min=3.2km az=49.0*
*NEIC **19** 08:27:54.8±0.5, 36°.59N×12°.82E, h10km, mb3.9/3, ML4.0(ROM), Error ellipse: s-maj=8.2km s-min=5.7km az=196.0*
*ISCJB **19** 08:27:54.7±0.8, 36°.60N±0°.03×12°.74E±0°.02, h23km±7km, mb4.0/19, MS3.4/6, Error ellipse: s-maj=5.4km s-min=3.2km az=2.6*
*CSEM **19** 08:27:55.4±0.2, 36°.51N×12°.81E, h20km, mb3.9/3, Ms3.8, Error ellipse: s-maj=6.1km s-min=3.5km az=11.0*
*VIE **19** 08:28:02.7±1.4, 37°.01N×13°.01E, h10km, mb3.6/5, Ms3.8/5, Error ellipse: s-maj=15.3km s-min=9.3km az=27.0 127 km SSW of Palermo*

ISC 19 08:27:55.7±0.7, 36°.58N±0°.04×12°.77E±0°.03, h16km±4km, n278, σ1°.39/309, mb4.1/19, MS3.4/6, 3C-2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**0.66**	**291**	Pg	**Pg**	**08 28 07.1**	**-1.6**
PTS	**Pantelleria**	**0.66**	**291**	P	**Pg**	**08 28 07.0**	**-1.6**
PTS	**Pantelleria**	**0.66**	**291**	Pg	**Pg**	**08 28 07.1**	**-1.6**
FAVR	**Favara**	**0.99**	**46**	Pg	**Pb**	**08 28 14.5**	**-0.1**
FAVR	**Favara**	**0.99**	**46**	Pg	**Pb**	**08 28 14.5**	**-0.1**
CORL	**Corleone**	**1.38**	**18**	Pg	**Pn**	**08 28 18.9**	**-1.5**
CORL				Sg	**Sn**	**08 28 38.2**	**-0.2**
	4μm,0.5s						
CORL	**Corleone**	**1.38**	**18**	Pg	**Pn**	**08 28 18.9**	**-1.5**
CORL				Sg	**Sn**	**08 28 38.2**	**-0.2**
	4μm,0.5s						
RAFF	**Raffo Rosso**	**1.43**	**63**	Pg	**Pn**	**08 28 19.7**	**-1.4**
RAFF				Sg	**Sn**	**08 28 39.8**	**+0.2**
	7μm,0.8s						
RAFF	**Raffo Rosso**	**1.43**	**63**	Pg	**Pn**	**08 28 19.7**	**-1.4**
RAFF				Sg	**Sn**	**08 28 39.8**	**+0.2**
	7μm,0.8s						
RESU	**Resuttano**	**1.48**	**44**	Pg	**Pn**	**08 28 21.7**	**-0.1**
	2μm,0.8s						
RESU	**Resuttano**	**1.48**	**44**	Pg	**Pn**	**08 28 21.7**	**-0.1**
	2μm,0.8s						
WDD	**Wield Dalam**	**1.59**	**116**	Pg	**Pn**	**08 28 21.3**	**-1.9**
WDD				Sg	**Sn**	**08 28 41.8**	**-1.6**
	2μm,0.6s						
WDD	**Wield Dalam**	**1.59**	**116**	*e*Pn	**Pn**	**08 28 21.0**	**-2.2**
WDD				*e*Sn	**Sn**	**08 28 41.3**	**-2.1**
WDD	**Wield Dalam**	**1.59**	**116**	*e*Pn	**Pn**	**08 28 21.0**	**-2.2**
WDD	**Wield Dalam**	**1.59**	**116**	Pg	**Pn**	**08 28 21.3**	**-1.9**
WDD				*e*Sn	**Sn**	**08 28 41.3**	**-2.1**
WDD				Sg	**Sn**	**08 28 41.8**	**-1.6**
	2μm,0.6s						
HMDC	**Modica**	**1.66**	**76**	Pg	**Pn**	**08 28 22.3**	**-2.0**
HMDC				Sg	**Sn**	**08 28 42.8**	**-2.5**
	2μm,0.5s						
HMDC	**Modica**	**1.66**	**76**	Pg	**Pn**	**08 28 22.3**	**-2.0**
HMDC				Sg	**Sn**	**08 28 42.8**	**-2.5**
	2μm,0.5s						
HVZN	**Vizzini**	**1.67**	**69**	Pg	**Pn**	**08 28 22.6**	**-1.8**
HVZN				Sg	**Sn**	**08 28 45.7**	**+0.1**
	10μm,0.9s						
HVZN	**Vizzini**	**1.67**	**69**	Pg	**Pn**	**08 28 22.6**	**-1.8**
HVZN				Sg	**Sn**	**08 28 45.7**	**+0.1**
	10μm,0.9s						
CSLB	**Castelbuono**	**1.70**	**37**	Pg	**Pn**	**08 28 24.0**	**-0.8**
	514nm,0.2s						
CSLB	**Castelbuono**	**1.70**	**37**	Pg	**Pn**	**08 28 24.0**	**-0.8**
	514nm,0.2s						
GIB	**Gibilmanna**	**1.73**	**35**	Pg	**Pn**	**08 28 24.4**	**-0.8**
	4μm,0.6s						
GIB	**Gibilmanna**	**1.73**	**35**	Pg	**Pn**	**08 28 24.4**	**-0.8**
	4μm,0.6s						
GALF	**Gagliano Caste**	**1.83**	**51**	Pn	**Pn**	**08 28 26.7**	**+0.1**
	3μm,0.7s						
GALF	**Gagliano Caste**	**1.83**	**51**	Pn	**Pn**	**08 28 26.7**	**+0.1**
	3μm,0.7s						
HAVL	**Avola**	**1.93**	**78**	Pg	**Pn**	**08 28 26.0**	**-1.9**
HAVL				Sg	**Sn**	**08 28 50.4**	**-1.5**
	4μm,0.3s						
HAVL	**Avola**	**1.93**	**78**	Pg	**Pn**	**08 28 26.0**	**-1.9**
HAVL				Sg	**Sn**	**08 28 50.4**	**-1.5**
	4μm,0.3s						
SSY	**Sortino**	**1.94**	**72**	Pn	**Pn**	**08 28 26.8**	**-1.2**
SSY				Sn	**Sn**	**08 28 51.5**	**-0.6**
	6μm,0.7s						
SSY	**Sortino**	**1.94**	**72**	Pn	**Pn**	**08 28 26.8**	**-1.2**
SSY				Sn	**Sn**	**08 28 51.5**	**-0.6**
	6μm,0.7s						
HCRL	**Carlentini**	**1.95**	**68**	Pg	**Pn**	**08 28 26.6**	**-1.5**
HCRL				Sg	**Sn**	**08 28 50.8**	**-1.5**
	3μm,0.2s						
**HCR

JOPP	Joppolo	3.20	50	Pn	Pn	08 28 44.0	-1.4	
	195nm,0.4s							
JOPP	Joppolo	3.20	50	Pn	Pn	08 28 44.0	-1.4	
	195nm,0.4s							
PLAC	Placanica	3.46	56	Pn	Pn	08 28 48.9	-0.1	
	299nm,0.9s							
PLAC	Placanica	3.46	56	Pn	Pn	08 28 48.9	-0.1	
	299nm,0.9s							
GRI	Girifalco	3.66	51	Pn	Pn	08 28 51.9	+0.2	
	277nm,1.0s							
GRI	Girifalco	3.66	51	Pn	Pn	08 28 51.9	+0.2	
	277nm,1.0s							
CARO	Carolei	3.82	45	Pn	Pn	08 28 52.5	-1.4	
	373nm,0.6s							
CARO	Carolei	3.82	45	Pn	Pn	08 28 52.5	-1.4	
	373nm,0.6s							
VSL	Villasalto	3.95	318	Pn	Pn	08 28 54.4	-1.3	
	245nm,0.3s							
VSL	Villasalto	3.95	318	*e*Pn	Pn	08 28 54.2	-1.5	
VSL				*e*Sn	Sn	08 29 36.2	-5.6	
VSL	Villasalto	3.95	318	Pn	Pn	08 28 54.4	-1.3	
	245nm,0.3s							
SERS	Sersale	3.96	51	Pn	Pn	08 28 55.8	-0.1	
	241nm,1.3s							
SERS	Sersale	3.96	51	Pn	Pn	08 28 55.8	-0.1	
	241nm,1.3s							
BULG	Bulgheria - Ca	4.05	30	Pn	Pn	08 28 56.1	-1.0	
	121nm,0.3s							
BULG	Bulgheria - Ca	4.05	30	Pn	Pn	08 28 56.1	-1.0	
	121nm,0.3s							
TIP	Timpagrande	4.09	49	Pn	Pn	08 28 58.1	+0.5	
	204nm,1.0s							
TIP	Timpagrande	4.09	49	*e*Pn	Pn	08 28 55.7	-1.9	
TIP				*e*Sg	Sb	08 29 58.7	+2.2	
TIP	Timpagrande	4.09	49	*e*Pn	Pn	08 28 55.7	-1.9	
CUC	Castrocucco	4.17	34	Pn	Pn	08 28 58.0	-0.7	
	123nm,0.5s							
CUC	Castrocucco	4.17	34	*e*Pn	Pn	08 28 57.8	-0.9	
CUC				*e*Sn	Sn	08 29 44.4	-2.8	
CUC	Castrocucco	4.17	34	Pn	Pn	08 28 58.0	-0.7	
	123nm,0.5s							
CUC				*e*Sn	Sn	08 29 44.3	-2.8	
CMPR	Campora	4.23	27	Pn	Pn	08 28 58.7	-0.9	
	75nm,0.8s							
CMPR	Campora	4.23	27	Pn	Pn	08 28 58.7	-0.9	
	75nm,0.8s							
PIPA	Pietrapaola	4.32	47	Pn	Pn	08 29 01.6	+0.9	
	267nm,0.5s							
PIPA	Pietrapaola	4.32	47	Pn	Pn	08 29 01.6	+0.9	
	267nm,0.5s							
SIRI	Monte Sirino -	4.34	33	Pn	Pn	08 29 00.6	-0.6	
	191nm,0.5s							
SIRI	Monte Sirino -	4.34	33	Pn	Pn	08 29 00.6	-0.6	
	191nm,0.5s							
CDRU	Civita di Ruta	4.38	26	Pn	Pn	08 29 00.9	-0.8	
	46nm,0.8s							
CDRU	Civita di Ruta	4.38	26	Pn	Pn	08 29 00.9	-0.8	
	46nm,0.8s							
MCEL	Monticello	4.43	32	Pn	Pn	08 29 01.9	-0.5	
	80nm,0.7s							
MCEL	Monticello	4.43	32	Pn	Pn	08 29 01.9	-0.5	
	80nm,0.7s							
SCHR	S. Chirico Rap	4.45	35	Pn	Pn	08 29 02.3	-0.3	
	37nm,0.6s							
SCHR	S. Chirico Rap	4.45	35	Pn	Pn	08 29 02.3	-0.3	
	37nm,0.6s							
MCRV	Calabrutti - M	4.60	23	Pn	Pn	08 29 04.3	-0.4	
MCRV	Calabrutti - M	4.60	23	Pn	Pn	08 29 04.3	-0.4	
CSSN	Cassano Irpino	4.62	22	Pn	Pn	08 29 06.6	+1.6	
	36nm,0.4s							
CSSN	Cassano Irpino	4.62	22	Pn	Pn	08 29 06.6	+1.6	
	36nm,0.4s							
MODR	Mondragone	4.64	10	Pn	Pn	08 29 05.7	+0.5	
	11nm,0.6s							
MODR	Mondragone	4.64	10	Pn	Pn	08 29 05.7	+0.5	
	11nm,0.6s							
MRLC	Muro Lucano	4.68	26	Pn	Pn	08 29 07.1	+1.3	
	54nm,0.6s							
MRLC	Muro Lucano	4.68	26	Pn	Pn	08 29 07.1	+1.3	
	54nm,0.6s							
RFI	Roccamonfina	4.81	11	Pn	Pn	08 29 08.9	+1.4	
	3.0nm,0.4s							
RFI	Roccamonfina	4.81	11	Pn	Pn	08 29 08.9	+1.4	
	3.0nm,0.4s							
CAFE	Carife	4.84	23	Pn	Pn	08 29 08.9	+0.9	
	50nm,1.1s							
CAFE	Carife	4.84	23	Pn	Pn	08 29 08.9	+0.9	
	50nm,1.1s							
MRB1	Monte Rocchett	4.85	20	Pn	Pn	08 29 09.3	+1.1	
	111nm,0.5s							
MRB1	Monte Rocchett	4.85	20	Pn	Pn	08 29 09.3	+1.1	
	111nm,0.5s							
ACER	Acerenza	4.88	30	Pn	Pn	08 29 09.4	+0.9	
	106nm,0.5s							
ACER	Acerenza	4.88	30	Pn	Pn	08 29 09.4	+0.9	
	106nm,0.5s							
VAGA	Valle Agricola	4.96	13	Pn	Pn	08 29 11.0	+1.4	
	57nm,0.9s							
VAGA	Valle Agricola	4.96	13	Pn	Pn	08 29 11.0	+1.4	
	57nm,0.9s							
PTRJ	Pietraroja	4.97	15	Pn	Pn	08 29 10.6	+0.8	
	131nm,0.8s							
PTRJ	Pietraroja	4.97	15	Pn	Pn	08 29 10.6	+0.8	
	131nm,0.8s							
GIUL	Giuliano Di Ro	4.99	4	Pn	Pn	08 29 10.3	+0.4	
	67nm,0.7s							
GIUL	Giuliano Di Ro	4.99	4	Pn	Pn	08 29 10.3	+0.4	
	67nm,0.7s							
MATE	Matera	5.10	36	Pn	Pn	08 29 12.6	+1.2	
MATE	Matera	5.10	36	Pn	Pn	08 29 12.6	+1.2	
POFI	Posta Fibreno	5.18	8	Pn	Pn	08 29 13.7	+1.0	
	15nm,0.7s							
POFI	Posta Fibreno	5.18	8	Pn	Pn	08 29 13.7	+1.0	
	15nm,0.7s							
SDI	San Donato	5.18	9	Pn	Pn	08 29 13.7	+1.0	
	9.0nm,0.6s							
SDI	San Donato	5.18	9	Pn	Pn	08 29 13.7	+1.0	
	9.0nm,0.6s							
VVLD	Villa Vallelon	5.32	7	Pn	Pn	08 29 15.0	+0.3	
	59nm,0.9s							
VVLD	Villa Vallelon	5.32	7	Pn	Pn	08 29 15.0	+0.3	
	59nm,0.9s							
CERT	Cerreto	5.36	2	Pn	Pn	08 29 15.0	-0.2	
	140nm,0.6s							
CERT	Cerreto	5.36	2	Pn	Pn	08 29 15.0	-0.2	
	140nm,0.6s							
TOLF	Tolfa	5.51	354	Pn	Pn	08 29 17.8	+0.7	
	182nm,0.6s							
TOLF	Tolfa	5.51	354	Pn	Pn	08 29 17.8	+0.7	
	182nm,0.6s							
AQU	L'Aquila	5.79	5	*e*Pn	Pn	08 29 21.3	+0.3	
	18nm,0.5s							
AQU	L'Aquila	5.79	5	*e*Pn	Pn	08 29 21.3	+0.3	
	18nm,0.5s							
PGF	Pioggiola	6.63	335	*e*P	Pn	08 29 33.3	+0.7	
PGF				*e*Sn	Sn	08 30 43.2	-4.7	
	86nm,0.4s							
PGF	Pioggiola	6.63	335	*e*P	Pn	08 29 33.3	+0.7	
PGF				*e*Sn	Sn	08 30 43.2	-4.7	
PGF	Pioggiola	6.63	335	*e*P	Pn	08 29 33.3	+0.7	
MAIM	Mastiano	7.53	347	P	Pn	08 29 44.3	-0.5	
IMI	Imperia	8.21	335	P	Pn	08 29 52.8	-1.5	
LMR	La Mourre	8.28	326	*e*Pn	Pn	08 29 53.6	-1.5	
LMR				*e*Sn	Sn	08 31 20.8	-7.5	
	9.8nm,0.4s							
LMR	La Mourre	8.28	326	*e*Pn	Pn	08 29 53.6	-1.5	
LMR				*e*Sn	Sn	08 31 20.8	-7.5	
LMR	La Mourre	8.28	326	*e*Pn	Pn	08 29 53.6	-1.5	
RORO	Rocca Rossa	8.33	336	P	Pn	08 29 54.9	-1.0	
SBF	Sospel	8.34	332	*e*Pn	Pn	08 29 55.3	-0.7	
SBF				*e*Sn	Sn	08 31 23.2	-6.6	
	47nm,0.5s							
SBF	Sospel	8.34	332	*e*Pn	Pn	08 29 55.3	-0.7	
SBF				*e*Sn	Sn	08 31 23.2	-6.6	
SBF	Sospel	8.34	332	*e*Pn	Pn	08 29 55.3	-0.7	
FRF	La Foret Royal	8.40	328	*e*Pn	Pn	08 29 55.6	-1.2	
FRF				*e*Sn	Sn	08 31 24.5	-6.8	
	15nm,0.6s							
FRF	La Foret Royal	8.40	328	*e*Pn	Pn	08 29 55.6	-1.2	
FRF				*e*Sn	Sn	08 31 24.5	-6.8	
FRF	La Foret Royal	8.40	328	*e*Pn	Pn	08 29 55.6	-1.2	
PCP	Piancastagn	8.57	339	P	Pn	08 29 59.4	+0.2	
STV	Sant Anna di V	8.71	333	P	Pn	08 30 01.0	0.0	
PZZ	Stroppo	9.01	333	P	Pn	08 30 05.2	0.0	
SMRF	Simiane la Rot	9.20	326	*e*Pn	Pn	08 30 07.6	-0.2	
SMRF				*e*Sn	Sn	08 31 43.5	-7.6	
	6.7nm,0.5s							
SMRF	Simiane la Rot	9.20	326	*e*Pn	Pn	08 30 07.6	-0.2	
SMRF				*e*Sn	Sn	08 31 43.5	-7.6	
MBDF	Montbardon	9.32	333	*e*P	Pn	08 30 11.1	+1.5	
MBDF				*e*Sn	Sn	08 31 47.5	-6.7	
	29nm,0.5s							
MBDF	Montbardon	9.32	333	*e*P	Pn	08 30 11.1	+1.5	
MBDF				*e*Sn	Sn	08 31 47.5	-6.7	
MBDF	Montbardon	9.32	333	*e*P	Pn	08 30 11.1	+1.5	
BNI	Bardonecchia	9.63	333	*e*Pn	Pn	08 30 14.0	+0.2	
	17nm,0.7s							
BNI	Bardonecchia	9.63	333	*e*Pn	Pn	08 30 14.0	+0.2	
	17nm,0.7s							
ORIF	Oris-en-Rattie	9.83	330	*e*P	Pn	08 30 16.9	+0.5	
ORIF	Oris-en-Rattie	9.83	330	*e*P	Pn	08 30 16.9	+0.5	
ORIF	Oris-en-Rattie	9.83	330	*e*P	Pn	08 30 16.9	+0.5	
LSD	Lago del Serru	9.84	336	P	Pn	08 30 16.7	0.0	
LPG	La Plagne	10.00	335	*e*P	Pn	08 30 21.6	+2.7	
LPG	La Plagne	10.00	335	*e*PKIKP	Pn	08 30 21.6	+2.7	
LPG	La Plagne	10.00	335	*e*P	Pn	08 30 21.6	+2.7	
LPG	La Plagne	10.00	335	*e*P	Pn	08 30 21.6	+2.7	
LPL	La Plagne	10.02	335	*e*P	Pn	08 30 21.4	+2.2	
LPL	La Plagne	10.02	335	*e*PKIKP	Pn	08 30 21.4	+2.2	
LPL	La Plagne	10.02	335	*e*P	Pn	08 30 21.4	+2.2	
LPL	La Plagne	10.02	335	*e*P	Pn	08 30 21.4	+2.2	
LASF	Ste Croix	10.11	321	*e*Pn	Pn	08 30 18.1	-2.1	
LASF				*e*Sn	Sn	08 32 04.0	-9.3	
	3.7nm,0.4s							
LASF	Ste Croix	10.11	321	*e*Pn	Pn	08 30 18.1	-2.1	
LASF				*e*Sn	Sn	08 32 04.0	-9.3	
LASF	Ste Croix	10.11	321	*e*Pn	Pn	08 30 18.1	-2.1	
VIVF	Saint-Julien-l	10.29	326	*e*Pn	Pn	08 30 20.8	-2.0	
VIVF	Saint-Julien-l	10.29	326	*e*PKIKP	Pn	08 30 20.8	-2.0	
VIVF	Saint-Julien-l	10.29	326	*e*Pn	Pn	08 30 20.8	-2.0	
VIVF	Saint-Julien-l	10.29	326	*e*Pn	Pn	08 30 20.8	-2.0	
DAVOX	Davos/Dischmat	10.42	349	Pn	Pn	08 30 30.0	+5.4	
	2.6nm,0.3s,baz=175,slow=13,SNR=40							
DAVOX	Davos/Dischmat	10.42	349	Pn	Pn	08 30 30.0	+5.4	
MTLF	Montolieu	10.54	313	*e*Pn	Pn	08 30 23.7	-2.4	
MTLF				*e*Sn	Sn	08 32 14.8	-9.0	
	6.3nm,0.5s							
MTLF	Montolieu	10.54	313	*e*PKIKP	Pn	08 30 23.7	-2.4	
MTLF	Montolieu	10.54	313	*e*Pn	Pn	08 30 23.7	-2.4	
MTLF				*e*Sn	Sn	08 32 14.8	-9.0	
MTLF	Montolieu	10.54	313	*e*Pn	Pn	08 30 23.7	-2.4	
FETA	Feichten	10.54	352	⇓*i*Pn	Pn	08 30 29.1	+2.9	
MOTA	Moosalm	10.83	354	⇑*i*Pn	Pn	08 30 32.9	+2.7	
MOA	Molln	11.31	5	⇑*i*Pn	Pn	08 30 38.9	+2.2	
MOA				⇑*i*Sn	Sn	08 32 41.4	-1.4	
MOA	Molln	11.31	5	Pn	Pn	08 30 38.9	+2.2	
MOA				Sn	Sn	08 32 41.4	-1.4	
CONA	Conrad Observa	11.57	10	⇓*i*Pn	Pn	08 30 41.5	+1.3	
CONA	Conrad Observa	11.57	10	Pn	Pn	08 30 41.5	+1.3	
HINF	Hinteralfeld	12.05	341	*e*P	Pn	08 30 48.0	+1.2	
HINF	Hinteralfeld	12.05	341	*e*P	Pn	08 30 48.0	+1.2	
HINF	Hinteralfeld	12.05	341	*e*P	Pn	08 30 48.0	+1.2	
BFO	Black Forest	12.19	346	*e*Pn	Pn	08 30 48.9	+0.2	
	5.2nm,0.6s							
BFO	Black Forest	12.19	346	*e*Pn	Pn	08 30 48.9	+0.2	
	5.2nm,0.6s							
GERES	GERESS Array B	12.28	3	Pn	Pn	08 30 50.5	+0.6	
	0.1nm,0.3s,baz=174,slow=14,SNR=5.3							
GERES				LR	LR	08 36 42.1		
	comp=Z,38nm,18.2s,baz=339,slow=43							
GERES	GERESS Array B	12.28	3	Pn	Pn	08 30 50.5	+0.6	
GERES	GERESS Array B	12.28	3	Pn	Pn	08 30 50.5	+0.6	
ECH	Echery	12.34	342	*e*Pn	Pn	08 30 51.6	+0.9	
	3.0nm,0.4s							
ECH	Echery	12.34	342	*e*Pn	Pn	08 30 51.6	+0.9	
	3.0nm,0.4s							
HAU	Haudompre	12.36	339	*e*P	Pn	08 30 52.7	+1.7	
HAU	Haudompre	12.36	339	*e*P	Pn	08 30 52.7	+1.7	
HAU	Haudompre	12.36	339	*e*P	Pn	08 30 52.7	+1.7	
CDF	Champ du Feu	12.49	343	*e*P	Pn	08 30 55.3	+2.4	
CDF	Champ du Feu	12.49	343	*e*P	Pn	08 30 55.3	+2.4	
CDF	Champ du Feu	12.49	343	*e*P	Pn	08 30 55.3	+2.4	
KHC	Kasperske Hory	12.56	2	*e*P	Pn	08 30 54.5	+0.8	
KHC	Kasperske Hory	12.56	2	P	Pn	08 30 54.5	+0.8	
LOR	Lormes	12.56	331	*e*Pn	Pn	08 30 50.5	-3.2	
	baz=152							
LOR	Lormes	12.56	331	*e*Pn	Pn	08 30 50.5	-3.2	
VYHS	Vyhne	12.71	19	*e*PN	Pn	08 30 56.9	+1.1	
VYHS				*e*		08 42 24.5		
VYHS	Vyhne	12.71	19	*e*Pn	Pn	08 30 56.9	+1.1	
VRAC	Vranov	13.02	11	Pn	Pn	08 30 59.5	-0.5	
	0.5nm,0.3s,baz=180,slow=20,SNR=2.2							
VRAC				LR	LR	08 35 27.9		
	comp=Z,94nm,19.0s,baz=216,slow=35							
VRAC	Vranov	13.02	11	Pn	Pn	08 30 59.5	-0.5	
VRAC	Vranov	13.02	11	Pn	Pn	08 30 59.5	-0.5	
MLR	Muntele Rosu	13.33	44	Pn	Pn	08 31 02.9	-1.5	
	0.1nm,0.3s,baz=180,slow=20,SNR=2.4							
MLR	Muntele Rosu	13.33	44	Pn	Pn	08 31 02.9	-1.5	
MLR	Muntele Rosu	13.33	44	Pn	Pn	08 31 02.9	-1.5	
ESDC	Sonseca Array	13.53	288	Pn	Pn	08 31 09.2	+2.1	
	0.6nm,0.3s,baz=98,slow=13,SNR=22							
ESDC				LR	LR	08 36 18.3		
	comp=Z,61nm,20.0s,baz=30,slow=37							
ESDC	Sonseca Array	13.53	288	Pn	Pn	08 31 09.2	+2.1	
ESDC	Sonseca Array	13.53	288	Pn	Pn	08 31 09.1	+2.1	
KOLS	Kolonicke sedl	14.17	26	*e*PN	Pn	08 31 17.2	+1.5	
KOLS	Kolonicke sedl	14.17	26	*e*Pn	Pn	08 31 17.2	+1.5	
CLL	Collm	14.72	1	*e*PP	P	08 31 31.0	+1.7	
	comp=Z,33nm,1.9s							
MDT	Midelt	14.78	260	LR	LR	08 37 44.9		
	comp=Z,146nm,19.7s,baz=91,slow=40							
BR131	Keskin Array S	16.71	73	*e*Pn	Pn	08 31 48.0	-1.3	
	comp=Z,3.5nm,0.8s							
BR131	Keskin Array S	16.71	73	*e*Pn	Pn	08 31 48.0	-1.3	
	comp=Z,3.5nm,0.8s							
BRTR	Keskin Array B	16.71	73	Pn	P	08 31 50.7	-0.9	
	comp=Z,0.1nm,0.3s,baz=254,slow=9.9,SNR=4.7							
BRTR	Keskin Array B	16.71	73	Pn	P	08 31 50.7	-0.9	
AKASG	Malin Array Be	18.41	35	P	P	08 32 08.7	-1.4	
	comp=Z,0.6nm,0.3s,baz=226,slow=10,SNR=4.1							
AKASG	Malin Array Be	18.41	35	P	P	08 32 08.7	-1.4	
AKASG	Malin Array Be	18.41	35	P	P	08 32 08.7	-1.4	
EKA	Eskdalemuir Ar	21.68	335	P	P	08 32 46.0	+0.4	
	comp=Z,3.0nm,0.8s,baz=144,slow=9.7,SNR=9.8							
EKA	Eskdalemuir Ar	21.68	335	P	P	08 32 46.0	+0.4	
EKA	Eskdalemuir Ar	21.68	335	P	P	08 32 46.0	+0.4	
HFS	Hagfors	23.58	1	P	P	08 33 05.2	-0.2	
	comp=Z,3.8nm,0.7s,baz=171,slow=10,SNR=7.7							
HFS				LR	LR	08 44 40.5		
	comp=Z,66nm,18.2s,baz=174,slow=43							
HFS	Hagfors	23.58	1	P	P	08 33 05.2	-0.2	
HFS	Hagfors	23.58	1	P	P	08 33 05.2	-0.2	
KBZ	Khabaz	24.02	63	P	P	08 33 10.1	+0.3	
	comp=Z,1.4nm,0.6s,baz=241,slow=10,SNR=2.8							
KBZ	Khabaz	24.02	63	P	P	08 33 10.1	+0.3	
KBZ	Khabaz	24.02	63	P	P	08 33 10.1	+0.3	
NB2	NORSAR Subarra	24.50	358	P	P	08 33 13.5	-0.6	
	comp=Z,2.6nm,0.8s,baz=177,slow=9.3							
NB2	NORSAR Subarra	24.50	358	P	P	08 33 13.5	-0.6	
	comp=Z,2.6nm,0.8s,SNR=7.6							
NOA	NORSAR Array B	24.50	358	P	P	08 33 14.0	-0.1	
	comp=Z,1.8nm,0.7s,baz=173,slow=9.9,SNR=6.8							
NOA	NORSAR Array B	24.50	358	P	P	08 33 14.0	-0.1	
TORD	Torodi Ar. Bea	25.36	206	P	P	08 33 22.8	+0.6	
	comp=Z,0.9nm,0.8s,baz=23,slow=8.4,SNR=5.5							
TORD				LR	LR	08 43 27.6		
	comp=Z,86nm,18.6s,baz=5.0,slow=37							
TORD	Torodi Ar. Bea	25.36	206	P	P	08 33 22.8	+0.6	
TORD	Torodi Ar. Bea	25.36	206	P	P	08 33 22.8	+0.6	
FINES	FINESS Array B	26.26	14	P	P	08 33 28.3	-1.7	
	comp=Z,5.5nm,0.8s,baz=215,slow=8.9,SNR=9.8							
FINES				LR	LR	08 44 10.8		
	comp=Z,102nm,18.1s,baz=147,slow=37							
FINES	FINESS Array B	26.26	14	P	P	08 33 28.3	-1.7	
FINES	FINESS Array B	26.26	14	P	P	08 33 28.3	-1.7	
ARCES	ARCESS Array B	33.74	8	P	P	08 34 35.6	-0.5	
	comp=Z,5.0nm,0.9s,baz=182,slow=7.3,SNR=6.6							
ARCES				LR	LR	08 49 08.2		
	comp=Z,132nm,18.1s,baz=343,slow=38							
ARCES	ARCESS Array B	33.74	8	P	P	08 34 35.6	-0.5	
ARCES	ARCESS Array B	33.74	8	P	P	08 34 35.6	-0.5	
DBIC	Dimbokro	33.85	213	P	P	08 34 38.9	+1.3	
	comp=Z,3.6nm,0.8s,baz=80,slow=6.8,SNR=3.5							
DBIC				LR	LR	08 47 55.6		
	comp=Z,66nm,18.6s,baz=326,slow=35							
DBIC	Dimbokro	33.85	213	P	P	08 34 38.9	+1.3	
AKTO	Aktyubinsk	35.06	52	P	P	08 34 47.0	-0.7	
	comp=Z,0.7nm,0.4s,baz=241,slow=10,SNR=3.1							
AKTO	Aktyubinsk	35.06	52	P	P	08 34 47.0	-0.7	
AKTO	Aktyubinsk	35.06	52	P	P	08 34 47.0	-0.7	
ABKAR	Akbulak array	36.22	54	*e*P	P	08 34 56.0	-1.7	
	comp=Z,0.9nm,0.6s							
ABKAR	Akbulak array	36.22	54	*e*P	P	08 34 56.0	-1.7	
	comp=Z,0.9nm,0.6s							
KURK	Kurchatov	48.14	51	*e*P	P	08 36 34.1	-0.7	
	comp=Z,3.5nm,0.8s							
KURK	Kurchatov	48.14	51	*e*P	P	08 36 34.1	-0.7	
	comp=Z,3.5nm,0.8s							
ZALV	Zalesovo Beam	51.30	46	P	P	08 36 57.5	-1.4	
	comp=Z,0.9nm,0.6s,baz=321,slow=11,SNR=3.3							
ZALV				LR	LR	08 59 15.9		
	comp=Z,49nm,20.7s,baz=59,slow=37							
ZALV	Zalesovo Beam	51.30	46	P	P	08 36 57.5	-1.4	
ZALV	Zalesovo Beam	51.30	46	P	P	08 36 57.5	-1.4	
MK31	Makanchi Array	51.35	56	*e*P	P	08 36 59.4	0.0	
MK31	Makanchi Array	51.35	56	*e*P	P	08 36 59.4	0.0	
MKAR	Makanchi Array	51.35	56	P	P	08 36 59.3	-0.1	
	comp=Z,2.4nm,0.6s,baz=281,slow=6.5,SNR=25							
MKAR	Makanchi Array	51.35	56	P	P	08 36 59.3	-0.1	
MKAR	Makanchi Array	51.35	56	P	P	08 36 59.3	-0.1	
GTA	Gaotai	65.96	58	*e*P	P	08 38 42.1	+0.7	
GTA				pP	pP	08 38 46.8	+0.4	
GTA				sP	sP	08 38 49.3	+1.0	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SONM	Songino Array	66.16	47	P	P	08 38 42.2	-0.4	
	comp=Z,1.7nm,0.9s,baz=293,slow=6.9,SNR=12							
SONM	Songino Array	66.16	47	P	P	08 38 42.2	-0.4	
SONM	Songino Array	66.16	47	P	P	08 38 42.2	-0.4	
LZH	Lanzhou	70.38	59	*e*P	P	08 39 14.5	+5.3	
LZH				pP	pP	08 39 19.0	+4.7	
LZH				sP	sP	08 39 21.8	+5.6	
LZH				pmax	pmax			
	comp=Z,16nm,1.4s							
YKA	Yellowknife Ar	72.62	337	P	P	08 39 23.4	+1.4	
	comp=Z,0.2nm,0.5s,baz=43,slow=5.8,SNR=7.9							
YKA	Yellowknife Ar	72.62	337	P	P	08 39 23.4	+1.4	
YKA	Yellowknife Ar	72.62	337	P	P	08 39 23.4	+1.4	
ULM	Lac du Bonnet	73.16	321	P	P	08 39 28.0	+2.6	
	comp=Z,1.5nm,0.6s,baz=102,slow=14,SNR=2.0							
ULM	Lac du Bonnet	73.16	321	P	P	08 39 28.0	+2.6	
PDAR	Pinedale Array	85.15	321	P	P	08 40 32.6	+1.1	
	comp=Z,0.5nm,1.0s,baz=73,slow=6.7,SNR=3.4							
PDAR	Pinedale Array	85.15	321	P	P	08 40 32.6	+1.1	
PDAR	Pinedale Array	85.15	321	P	P	08 40 32.6	+1.1	

JMA 19 08:36:20.7, 36.94N×138.44E, h8km±1km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJN	Nakama	0.28	306	P	Pg	08 36 26.1	-0.1
JJN				*e*S	Sg	08 36 30.4	+0.5
MAT	Matsushiro	0.44	205	P	Pg	08 36 28.8	-0.5
MAT				S	Sg	08 36 34.8	-0.3
MAT	Matsushiro	0.44	205	P	Pg	08 36 28.9	-0.4
MAT				*e*S	Sg	08 36 34.8	-0.3
JNG	Nsakai	0.60	207	P	Pg	08 36 31.8	-0.6
JNG				*e*S	Sg	08 36 39.5	-0.8
JIZZ	Izumozaki	0.63	20	*e*S	Sg	08 36 40.9	-0.2
JRY	Ryogami san	0.99	158	*e*S	Sb	08 36 53.2	-0.3

NEIC ***19*** *08:37:54.0, 36.88S×176.79E, h227km, MG4.0(WEL), After WEL.*

WEL 19 08:37:54.1±0.5, 36.90S×176.85E, h230km±4km, ML3.9/13, 3C, Error ellipse: s-maj=6.6km s-min=5.0km az=90.0, Off east coast of North Island

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

PLWZ	Palliser	4.83	194	PN	Pn	08 39 04.7	-2.5
PLWZ	Palliser	4.83	194	Pn	Pn	08 39 04.7	-2.5
TUWZ	Tuamarina	5.06	206	PN	Pn	08 39 07.9	-2.1
TUWZ	Tuamarina	5.06	206	Pn	Pn	08 39 07.9	-2.1
NNZ	Nelson	5.09	211	PN	Pn	08 39 08.0	-2.4
NNZ	Nelson	5.09	211	Pn	Pn	08 39 08.0	-2.4
QRZ	Quartz Range	5.17	219	PN	Pn	08 39 09.1	-2.3
QRZ	Quartz Range	5.17	219	Pn	Pn	08 39 09.1	-2.3
BSWZ	Blackbirch Sta	5.34	205	PN	Pn	08 39 11.9	-1.5
BSWZ	Blackbirch Sta	5.34	205	Pn	Pn	08 39 11.9	-1.5
THZ	Tophouse	5.74	211	PN	Pn	08 39 16.5	-2.1
THZ	Tophouse	5.74	211	Pn	Pn	08 39 16.5	-2.1
KHZ	Kahutara	6.08	204	PN	Pn	08 39 20.5	-2.3
KHZ	Kahutara	6.08	204	Pn	Pn	08 39 20.5	-2.3
DSZ	Denniston Nort	6.23	217	PN	Pn	08 39 21.6	-3.2
DSZ	Denniston Nort	6.23	217	Pn	Pn	08 39 21.6	-3.2
LTZ	Lake Taylor	6.86	210	PN	Pn	08 39 30.1	-2.6
LTZ	Lake Taylor	6.86	210	Pn	Pn	08 39 30.1	-2.7
WVZ	Waitaha Valley	7.75	215	PN	Pn	08 39 41.2	-2.9
WVZ	Waitaha Valley	7.75	215	Pn	Pn	08 39 41.2	-2.9
ODZ	Otahua Downs	9.39	208	PN	Pn	08 40 02.7	-2.4
ODZ	Otahua Downs	9.39	208	Pn	Pn	08 40 02.7	-2.4
JCZ	Jackson Bay	9.45	218	PN	Pn	08 40 02.8	-3.2
JCZ	Jackson Bay	9.45	218	Pn	Pn	08 40 02.8	-3.2

*IDC **19** 08:55:16.8±3.6, 1°.96S×139°.57E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=151.3km s-min=23.9km az=88.0*
*AUST **19** 08:55:17.3±30.0, 1°.87S×139°.17E, h0km, Error ellipse: s-maj=2.7km s-min=1.5km az=352.0*

ISC 19 08:55:21.3±1.8, 2°.2S±0°.2×139°.2E±0°.1, h29km, n9, σ3s24/6, mb3.4/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.49**	**101**	P	**Pb**	**08 55 47.5**	**-1.0**
	baz=1.7,SNR=9.3						
KDU	**Kakadu**	**12.36**	**212**	P	Pn	08 58 18.3	+2.9
	baz=13,SNR=5.1						
MTN	**Manton Dam**	**13.25**	**217**	P	Pn	08 58 31.0	+3.4
	baz=14,SNR=9.2						
WRA	**Warramunga Arr**	**18.24**	**195**	P	**Pn**	**08 59 35.0**	**+2.5**
	0.3nm,0.3s,baz=18,slow=11,SNR=20						
WRA				S	**Sn**	**09 02 52.0**	**-3.5**
	0.1nm,0.3s,baz=0.4,slow=23,SNR=3.4						
PCI	**Palu**	**19.44**	**274**	P	**Pn**	**08 59 45.5**	**-1.5**
	baz=19,SNR=7.4						
FITZ	**Fitzroy Crossi**	**20.66**	**219**	S	**S**	**09 03 47.3**	**-1.1**
	1.0nm,0.7s,baz=166,slow=17,SNR=2.8						
ASAR	**Alice Springs**	**21.93**	**193**	P	**P**	**09 00 15.5**	**+3.0**
	1.5nm,0.9s,baz=21,slow=9.6,SNR=15						
SONM	**Songino Array**	**57.52**	**334**	P	P	09 05 08.5	+0.4
	0.1nm,0.3s,baz=141,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**69.73**	**322**	P	P	09 06 27.9	-0.8
	0.2nm,0.6s,baz=100,slow=7.4,SNR=3.6						

IDC 19 09:00:27.9±1.1, 12°.85S×167°.65E, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/22, mbtmp3.9/11, ML4.0/2, MS3.4/4, Ms1 3.5/4, ms1mx2.9/35, Error ellipse: s-maj=36.0km s-min=19.6km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.29**	**293**	Pn	Pn	09 02 28.3	-1.1
	4.4nm,0.3s,baz=110,slow=15,SNR=2.3						
HNR				Sn	Sn	09 04 10.6	+6.8
	6.2nm,0.3s,baz=77,slow=18,SNR=2.5						
DZM	**Mont Dzumac**	**9.24**	**187**	Pn	Pn	09 02 41.4	-1.3
	0.6nm,0.3s,baz=9.2,slow=19,SNR=6.0						
DZM				LR	LR	09 05 41.6	
	comp=Z,228nm,21.0s,baz=25,slow=34						
CTA	**Charters Tower**	**21.73**	**248**	LR	LR	09 11 50.6	
	comp=Z,61nm,21.9s,baz=50,slow=31						
STKA	**Stephens Creek**	**30.51**	**227**	P	P	09 06 43.5	+0.6
	4.2nm,0.7s,baz=44,slow=8.9,SNR=14						
STKA				LR	LR	09 18 07.1	
	comp=Z,109nm,18.9s,baz=25,slow=35						
WRA	**Warramunga Arr**	**32.68**	**253**	P	P	09 07 02.0	-0.2
	0.3nm,0.5s,baz=85,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**33.22**	**247**	P	P	09 07 10.9	-0.4
	1.2nm,0.6s,baz=74,slow=9.4,SNR=24						
FITZ	**Fitzroy Crossi**	**40.76**	**257**	P	P	09 08 11.1	0.0
	2.7nm,1.0s,baz=90,slow=4.0,SNR=3.8						
SONM	**Songino Array**	**81.22**	**323**	P	P	09 12 45.0	-0.8
	0.4nm,0.9s,baz=129,slow=4.6,SNR=3.6						
ILAR	**Eielson Array**	**84.63**	**18**	P	P	09 13 03.0	0.0
	0.6nm,0.8s,baz=221,slow=6.8,SNR=3.4						
ILAR				LR	LR	09 45 26.4	
	comp=Z,34nm,21.1s,baz=259,slow=32						
NVAR	**Mina Array Bea**	**85.77**	**49**	P	P	09 13 09.5	-0.1
	0.6nm,0.9s,baz=213,slow=9.7,SNR=3.4						
YKA	**Yellowknife Ar**	**95.71**	**27**	P	P	09 13 54.9	-0.4
	0.1nm,0.6s,baz=251,slow=5.1,SNR=5.8						
MKAR	**Makanchi Array**	**96.10**	**316**	P	P	09 13 58.9	+1.3
	0.9nm,0.8s,baz=100,slow=6.2,SNR=9.5						

IDC 19 09:02:06.2±1.6, 0°.61N×122°.62E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=133.3km s-min=24.3km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.83**	**171**	P	P	09 06 27.8	0.0
	0.1nm,0.3s,baz=338,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**23.44**	**151**	P	P	09 07 17.9	+0.6
	0.4nm,0.4s,baz=328,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**26.51**	**156**	P	P	09 07 45.4	-0.3
	0.3nm,0.5s,baz=332,slow=9.6,SNR=7.5						
STKA	**Stephens Creek**	**36.97**	**153**	P	P	09 09 17.0	-0.4
	0.8nm,0.4s,baz=346,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**57.90**	**328**	P	P	09 12 00.1	0.0
	0.2nm,0.3s,baz=134,slow=8.7,SNR=4.4						

IDC 19 09:10:39.0±1.9, 3°.49N×126°.85E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx1.9/21, Error ellipse: s-maj=170.5km s-min=21.4km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.78**	**340**	LR	LR	09 13 33.3	
	comp=Z,103nm,18.5s,baz=19,slow=46						
WRA	**Warramunga Arr**	**24.42**	**163**	P	P	09 15 58.3	-1.1
	0.4nm,0.7s,baz=342,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**27.85**	**166**	P	P	09 16 31.7	+1.2
	0.1nm,0.7s,baz=344,slow=9.6,SNR=2.7						
MKAR	**Makanchi Array**	**57.82**	**325**	P	P	09 20 32.6	+0.3
	0.1nm,0.4s,baz=124,slow=6.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**62.01**	**327**	P	P	09 21 00.5	-0.5
	0.3nm,0.4s,baz=130,slow=5.7,SNR=3.7						

*ISK **19** 09:24:56.5, 40°.68N×42°.51E, h8km, ML2.6*
*TIF **19** 09:24:56.7, 40°.66N×42°.48E, h8km, 3km*
*CSEM **19** 09:24:56.8±0.3, 40°.61N×42°.50E, h2km, ML2.6, Error ellipse: s-maj=8.5km s-min=6.4km az=3.0*
*DDA **19** 09:24:57.3, 40°.64N×42°.48E, h7km, MD3.0*

ISC 19 09:24:57.4±1.1, 40°.65N±0°.03×42°.51E±0°.02, h4km±10km, n28, σ0s86/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.44**	**93**	*e*PG	**Pg**	**09 25 05.5**	**-0.4**
KARS				*e*SG	**Sg**	**09 25 12.4**	**+0.9**
KARS	**Kars**	**0.44**	**93**	*e*Pg	**Pg**	**09 25 05.5**	**-0.4**
KARS				*e*Sg	**Sg**	**09 25 12.4**	**+0.9**
DAGI	**Agillar**	**0.62**	**313**	*i* P	**Pg**	**09 25 09.2**	**0.0**
DAGI				*i* S	**Sb**	**09 25 18.9**	**-1.1**
DDEM	**Demirkent**	**0.62**	**293**	*i* P	**Pg**	**09 25 09.0**	**-0.4**
DDEM				*i* S	**Sg**	**09 25 18.3**	**+0.8**
DDEM	**Demirkent**	**0.62**	**293**	*i* P	**Pg**	**09 25 09.0**	**-0.4**
DDEM				*i* S	**Sg**	**09 25 18.3**	**+0.8**
DBAD	**Bademkaya**	**0.72**	**301**	*i* P	**Pg**	**09 25 11.0**	**-0.2**
DBAD				*i* S	**Sg**	**09 25 20.4**	**-0.1**
DBAD	**Bademkaya**	**0.72**	**301**	*i* P	**Pg**	**09 25 11.0**	**-0.2**
DBAD				*i* S	**Sg**	**09 25 20.4**	**-0.1**
HOMI	**Horasan**	**0.76**	**217**	*i* P	**Pg**	**09 25 11.0**	**-1.0**
HOMI				*i* S	**Sg**	**09 25 22.5**	**+0.5**
BCA	**Borcka**	**1.04**	**320**	*e*PG	**Pg**	**09 25 16.7**	**-0.6**
BCA	**Borcka**	**1.04**	**320**	*e*Pg	**Pg**	**09 25 16.7**	**-0.6**
AKH	**Akhalkalaki**	**1.06**	**44**	P	**Pg**	**09 25 17.1**	**-0.7**
AKH				S	**Sb**	**09 25 33.0**	**+0.2**
AKH	**Akhalkalaki**	**1.06**	**44**	P	**Pg**	**09 25 17.1**	**-0.7**
AKH				S	**Sb**	**09 25 33.0**	**+0.2**
AGRB	**Hanur-Agry**	**1.14**	**161**	*e*PN	**Pg**	**09 25 18.6**	**-0.6**
AGRB				*e*SN	**Sn**	**09 25 36.7**	**+0.2**
AGRB	**Hanur-Agry**	**1.14**	**161**	*e*Pn	**Pg**	**09 25 18.6**	**-0.6**
AGRB				*e*Sn	**Sn**	**09 25 36.7**	**+0.2**
ERZM	**Erzurum**	**1.15**	**230**	*i* P	**Pg**	**09 25 18.8**	**-0.7**
ERZM				*i* S	**Sn**	**09 25 38.1**	**+1.3**
ERZM	**Erzurum**	**1.15**	**230**	*i* P	**Pg**	**09 25 18.8**	**-0.7**
ERZM				*i* S	**Sn**	**09 25 38.1**	**+1.3**
EZM	**Erzurum**	**1.15**	**230**	*e*PN	**Pg**	**09 25 19.0**	**-0.5**
KOPT	**Kop Dagi**	**1.66**	**248**	*i* P	**Pg**	**09 25 29.5**	**+0.2**
KOPT				*i* S	**Sg**	**09 25 53.7**	**+2.9**
KOPT	**Kop Dagi**	**1.66**	**248**	*i* P	**Pg**	**09 25 29.5**	**+0.2**
GNI	**Garni**	**1.78**	**106**	*e*PN	**Pn**	**09 25 28.6**	**-0.5**
GNI	**Garni**	**1.78**	**106**	*e*Pn	**Pn**	**09 25 28.6**	**-0.5**
TBLG	**Delisi**	**2.00**	**57**	P	**Sg**	**09 26 02.0**	**+0.4**
ONI	**Oni**	**2.06**	**20**	P	**Pb**	**09 25 34.7**	**-0.7**
ONI				S	**Sg**	**09 26 05.7**	**+2.1**
ONI	**Oni**	**2.06**	**20**	P	**Pb**	**09 25 34.7**	**-0.7**
DGRG	**David-gareji**	**2.31**	**69**	P	**Pb**	**09 25 39.8**	**+0.1**
DGRG				S	**Sg**	**09 26 12.8**	**+1.3**
DGRG	**David-gareji**	**2.31**	**69**	P	**Pb**	**09 25 39.8**	**+0.1**
KELT	**Kelkit**	**2.53**	**260**	*i* P	**Pb**	**09 25 42.8**	**-0.8**
KELT	**Kelkit**	**2.53**	**260**	*i* P	**Pb**	**09 25 42.8**	**-0.8**

*CASC **19** 09:45:29.3±2.6, 15°.35N×91°.95W, h224km±24km, MD3.7*
*ISCJB **19** 09:45:35.2±0.8, 15°.3N±0°.1×91°.7W±0°.1, h202km±8km, mb3.1/2, Error ellipse: s-maj=23.9km s-min=18.2km az=11.8*
*IDC **19** 09:45:39.5±6.5, 15°.44N×91°.29W, h222km±68km, mb3.0/2, mb1 3.2/3, mb1mx2.9/22, mbtmp2.8/3, Error ellipse: s-maj=86.2km s-min=18.5km az=61.0*

ISC 19 09:45:36.0±0.9, 15°.2N±0°.1×91°.6W±0°.1, h199km±7km, n14, σ2s51/19, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**0.73**	**125**	*e*P	**Pn**	**09 46 02.6**	**-1.9**
TP2				*e*S	**Sn**	**09 46 29.3**	**+2.8**
JAT	**Jato**	**0.89**	**180**	*e*P	**Pn**	**09 46 03.3**	**-1.7**
JAT				*e*S	**Sn**	**09 46 28.0**	**+0.6**
FUG	**Fuego 3**	**1.08**	**134**	*e*P	**Pn**	**09 46 03.7**	**-2.8**
FUG				*e*S	**Sn**	**09 46 31.7**	**+1.7**
PCG	**Pacaya**	**1.28**	**129**	*e*P	**Pn**	**09 46 05.9**	**-2.2**
PCG				*e*S	**Sn**	**09 46 37.3**	**+4.4**
NBG	**Las Nubes**	**1.39**	**116**	*e*P	**Pn**	**09 46 09.2**	**+0.2**
NBG				*e*S	**Sn**	**09 46 38.8**	**+4.3**
MRL	**Marmol**	**1.88**	**94**	*e*P	**Pn**	**09 46 13.1**	**-0.4**
MRL				*e*S	**Sn**	**09 46 42.0**	**-0.5**
SNVI	**San Vicente**	**3.14**	**120**	*e*S	**Sn**	**09 47 03.4**	**-4.3**
SNVI	**San Vicente**	**3.14**	**120**	*e*P	Px	09 46 52.9	
CNCH	**Conchagua**	**4.16**	**117**	*e*P	Px	09 46 57.7	
TXAR	**Lajitas Array**	**17.91**	**324**	P	**Pn**	**09 49 33.2**	**0.0**
	0.1nm,0.3s,baz=149,slow=12,SNR=7.4						
LPAZ	**La Paz**	**38.96**	**142**	P	**P**	**09 52 44.9**	**+1.0**
	0.6nm,0.6s,baz=350,slow=6.1,SNR=3.9						
YKA	**Yellowknife Ar**	**49.94**	**346**	P	**P**	**09 54 09.3**	**0.0**
	0.4nm,0.6s,baz=147,slow=7.6,SNR=14						
YKA				pP	**pP**	**09 54 51.3**	**-1.9**
	0.3nm,0.7s,baz=148,slow=7.4,SNR=6.1						
WRA	**Warramunga Arr**	**136.02**	**257**	PKP	**PKPdf**	**10 04 34.8**	**+0.5**
	0.2nm,0.8s,baz=85,slow=2.8,SNR=4.4						
ASAR	**Alice Springs**	**136.39**	**252**	PKP	**PKPdf**	**10 04 36.3**	**+1.4**
	0.2nm,0.8s,baz=89,slow=2.7,SNR=3.0						

*NSSC **19** 10:06:34.6±2.0, 33°.15N×35°.29E, h22km±13km, MD1.2, ML1.8*
*CSEM **19** 10:06:34.3±0.7, 33°.15N×35°.34E, h12km, ML1.8, Error ellipse: s-maj=14.9km s-min=6.1km az=69.0*
*GRAL **19** 10:06:41.2±0.3, 33°.39N×35°.70E, h3km, 17km, MD2.8*

ISC 19 10:06:33.9±2.1, 33°.21N±0°.04×35°.37E±0°.09, h7km±10km, n18, σ1s39/28, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.48**	**54**	*e*P	**Pg**	**10 06 44.0**	**+0.7**
RCY				*e*S	**Sg**	**10 06 46.1**	**-3.6**
BHL	**Bhannes**	**0.73**	**19**	*e*P	**Pb**	**10 06 50.4**	**+1.2**
BHL	**Bhannes**	**0.73**	**19**	*e*P	**Pb**	**10 06 50.3**	**+1.2**
TCHB	**Talchebab**	**0.74**	**137**	*e*P	**Pg**	**10 06 46.9**	**-1.2**
TCHB				*e*S	**Sb**	**10 06 59.2**	**-0.2**
TCHB				AML	AML	10 07 01.4	
	comp=N,79nm,0.2s						
TCHB				AML	AML	10 07 06.6	
	comp=E,54nm,0.5s						
TCHB	**Talchebab**	**0.74**	**137**	*e*P	**Pg**	**10 06 46.9**	**-1.2**
	SNR=95						
TCHB				*e*S	**Sb**	**10 06 59.2**	**-0.2**
	comp=E,54nm,0.5s,SNR=94						
TOTH	**TOTAH**	**0.90**	**80**	*e*P	**Pb**	**10 06 52.9**	**+1.0**
TOTH				*e*S	**Sg**	**10 07 04.3**	**+1.4**
TOTH				AML	AML	10 07 09.1	
	comp=N,47nm,0.3s						
TOTH				AML	AML	10 07 09.3	
	comp=E,37nm,0.5s						
TOTH	**TOTAH**	**0.90**	**80**	*e*P	**Pb**	**10 06 52.9**	**+1.0**
	SNR=93						
TOTH				*e*S	**Sg**	**10 07 04.3**	**+1.4**
	comp=E,37nm,0.5s,SNR=93						
HWQ	**Hawqa**	**1.17**	**24**	*e*P	**Pn**	**10 06 57.5**	**+0.6**
HWQ				*e*S	**Sb**	**10 07 09.4**	**-2.6**
HWQ	**Hawqa**	**1.17**	**24**	*e*P	**Pn**	**10 06 57.5**	**+0.6**
HWQ				*e*S	**Sb**	**10 07 09.4**	**-2.6**
SALA	**Sala**	**1.25**	**113**	*e*P	**Pg**	**10 06 58.3**	**+0.4**
SALA				*e*S	**Sn**	**10 07 15.0**	**-0.2**
SALA				AML	AML	10 07 23.9	
	comp=E,2.5nm,0.3s						
SALA				AML	AML	10 07 26.9	
	comp=N,36nm,0.3s						
SALA	**Sala**	**1.25**	**113**	*e*P	**Pg**	**10 06 58.3**	**+0.4**
	SNR=92						
SALA				*e*S	**Sn**	**10 07 15.0**	**-0.2**
	comp=N,36nm,0.3s,SNR=92						
HAWK	**Haweek**	**1.57**	**33**	*e*P	**Pn**	**10 07 03.3**	**+1.0**
HAWK				*e*S	**Sn**	**10 07 23.1**	**+0.2**
HAWK				AML	AML	10 07 30.7	
	comp=N,20nm,0.5s						
HAWK				AML	AML	10 07 31.8	
	comp=E,16nm,0.6s						
HAWK	**Haweek**	**1.57**	**33**	*e*P	**Pn**	**10 07 03.3**	**+1.0**
	SNR=57						
HAWK				*e*S	**Sn**	**10 07 23.1**	**+0.2**
	comp=E,16nm,0.6s,SNR=58						
ZALF	**Zalf**	**1.67**	**99**	*e*P	**Pn**	**10 07 04.1**	**+0.4**
ZALF				*e*S	**Sn**	**10 07 24.0**	**-1.5**
ZALF				AML	AML	10 07 28.4	
	comp=E,23nm,0.2s						
ZALF				AML	AML	10 07 29.5	
	comp=N,8.6nm,0.2s						
ZALF	**Zalf**	**1.67**	**99**	*e*P	**Pn**	**10 07 04.1**	**+0.4**
	SNR=57						
ZALF				*e*S	**Sn**	**10 07 24.0**	**-1.5**
	comp=N,8.6nm,0.2s,SNR=58						
PHP	**Peshkopia**	**14.55**	**310**	*i* PG	P	10 10 35.6	+29
PHP				*i* SG		10 10 42.1	
PUK	**Puka**	**15.09**	**310**	*i* PG	P	10 10 35.2	+22
PUK				*i* SG		10 10 40.2	
POO	**Poona**	**37.36**	**103**	*ex*	x	10 14 52.0	

DDA 19 10:22:37.6, 36°.22N×37°.15E, h7km, MD2.7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.56**	**354**	*i* P	Pg	10 22 47.7	-0.9
KUZU				*i* S	Sn	10 23 00.4	-1.3
YAYL	**Yayladag**	**0.86**	**258**	*i* P	Pg	10 22 54.2	-0.1
YAYL				*i* S	Sn	10 23 08.2	-1.0

*ISK **19** 10:24:41.8, 37°.11N×37°.25E, h5km, ML2.1*
*CSEM **19** 10:24:42.9±0.6, 37°.17N×37°.30E, h5km, ML2.1, Error ellipse: s-maj=16.5km s-min=13.6km az=40.0*
*ISCJB **19** 10:24:43.4±0.9, 37°.14N±0°.06×37°.25E±0°.07, h5km±5km, Error ellipse: s-maj=10.8km s-min=8.3km az=24.9*
*DDA **19** 10:24:44.6, 37°.20N×37°.22E, h7km, MD2.8*

ISC 19 10:24:41.4±1.5, 37°.08N±0°.06×37°.25E±0°.05, h3km±12km, n14, σ0s67/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.10**	**343**	PG	**Pg**	**10 24 43.7**	**+0.4**
GAZ				*e*SG	**Sg**	**10 24 44.4**	**-0.2**
GAZ	**Gaziantep**	**0.10**	**343**	*i* Pg	**Pg**	**10 24 43.7**	**+0.4**
GAZ				*e*Sg	**Sg**	**10 24 44.4**	**-0.2**
KUZU	**Kuzuini**	**0.34**	**204**	*i* P	**Pn**	**10 24 52.5**	**-0.8**
KUZU				*i* S	Sb	10 25 03.6	+7.7
KUZU	**Kuzuini**	**0.34**	**204**	*i* P	**Pn**	**10 24 52.5**	**-0.8**
KUZU				*i* S	Sb	10 25 03.6	+7.7
GZT	**Gaziantep**	**0.37**	**43**	*i* P	**Pb**	**10 24 51.0**	**+0.1**
GZT				*i* S	Sb	10 25 04.8	+7.7
KMRS	**Kahramanmaras**	**0.51**	**327**	*e*PG	**Pb**	**10 24 52.7**	**-0.3**
KMRS				*e*SG	**Sb**	**10 25 00.2**	**-0.6**
KMRS	**Kahramanmaras**	**0.51**	**327**	*e*Pg	**Pb**	**10 24 52.7**	**-0.3**
KMRS				*e*Sg	**Sb**	**10 25 00.2**	**-0.6**
KOZT	**Kozan**	**1.20**	**290**	*e*PN	**Pn**	**10 25 05.3**	**+0.2**
KOZT				*e*SN	**Sn**	**10 25 23.0**	**+1.0**
KOZT	**Kozan**	**1.20**	**290**	*e*Pn	**Pn**	**10 25 05.3**	**+0.2**
KOZT				*e*Sn	**Sn**	**10 25 23.0**	**+1.0**
URFA	**Urfa**	**1.31**	**74**	*e*PN	**Pg**	**10 25 07.0**	**+0.6**
URFA	**Urfa**	**1.31**	**74**	*e*Pn	**Pg**	**10 25 07.0**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.65**	**345**	*e*PN	**Pn**	**10 25 10.5**	**-1.0**
DARE	**Darende-Malaty**	**1.92**	**13**	*e*PN	Pn	10 25 10.5	-4.6
DARE	**Darende-Malaty**	**1.92**	**13**	*e*Pn	Pn	10 25 10.5	-4.6

*ROM **19** 10:25:57.2±0.4, 36°.44N×12°.62E, h84km±7km, Md3.1/18, Ml3.5/11, Error ellipse: s-maj=5.2km s-min=4.3km az=2.0*
*CSEM **19** 10:25:57.2, 36°.44N×12°.62E, h84km, MD3.1/18, After ROM*
*ISCJB **19** 10:25:58.0±0.9, 36°.43N±0°.06×12°.66E±0°.06, h63km±10km, Error ellipse: s-maj=10.6km s-min=8.6km az=176.3*

ISC 19 10:25:59.2±1.5, 36°.45N±0°.07×12°.67E±0°.06, h63km±13km, n41, σ0s97/64, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTS	**Pantelleria**	**0.65**	**304**	Pg	**Pn**	**10 26 13.0**	**0.0**
PTS	**Pantelleria**	**0.65**	**304**	Pg	**Pn**	**10 26 13.0**	**0.0**
FAVR	**Favara**	**1.14**	**44**	Pg	**Pn**	**10 26 18.8**	**-0.4**
	113nm,0.3s						
FAVR	**Favara**	**1.14**	**44**	Pg	**Pn**	**10 26 18.8**	**-0.4**
	113nm,0.3s						
CORL	**Corleone**	**1.52**	**19**	Pg	**Pn**	**10 26 23.1**	**-1.2**
CORL				Sg	**Sn**	**10 26 42.7**	**-0.6**
CORL	**Corleone**	**1.52**	**19**	Pg	**Pn**	**10 26 23.1**	**-1.2**
CORL				Sg	**Sn**	**10 26 42.7**	**-0.6**
RAFF	**Raffo Rosso**	**1.56**	**60**	Pg	**Pn**	**10 26 24.4**	**-0.3**
RAFF				Sg	**Sn**	**10 26 44.1**	**+0.1**
	189nm,0.8s						
RAFF	**Raffo Rosso**	**1.56**	**60**	Pg	**Pn**	**10 26 24.4**	**-0.3**
RAFF				Sg	**Sn**	**10 26 44.1**	**+0.1**
	189nm,0.8s						
WDD	**Wield Dalam**	**1.61**	**111**	Pn	**Pn**	**10 26 26.0**	**+0.6**
	207nm,0.5s						
WDD	**Wield Dalam**	**1.61**	**111**	Pn	**Pn**	**10 26 26.0**	**+0.6**
	207nm,0.5s						
RESU	**Resuttano**	**1.63**	**42**	Pn	**Pn**	**10 26 27.7**	**+2.0**
RESU	**Resuttano**	**1.63**	**42**	Pn	**Pn**	**10 26 27.7**	**+2.0**
HMDC	**Modica**	**1.77**	**73**	Pg	**Pn**	**10 26 26.6**	**-1.0**
HMDC				Sg	**Sn**	**10 26 47.0**	**-2.1**
HMDC	**Modica**	**1.77**	**73**	Pg	**Pn**	**10 26 26.6**	**-1.0**
HMDC				Sg	**Sn**	**10 26 47.0**	**-2.1**
HVZN	**Vizzini**	**1.79**	**66**	Pn	**Pn**	**10 26 27.2**	**-0.7**
HVZN				Sn	**Sn**	**10 26 50.0**	**+0.3**
	606nm,0.5s						
HVZN	**Vizzini**	**1.79**	**66**	Pn	**Pn**	**10 26 27.2**	**-0.7**
HVZN				Sn	**Sn**	**10 26 50.0**	**+0.3**
	606nm,0.5s						
CSLB	**Castelbuono**	**1.85**	**36**	Pg	**Pn**	**10 26 28.3**	**-0.4**
	47nm,0.2s						
CSLB	**Castelbuono**	**1.85**	**36**	Pg	**Pn**	**10 26 28.3**	**-0.4**
	47nm,0.2s						
GIB	**Gibilmanna**	**1.88**	**35**	Pg	**Pn**	**10 26 28.6**	**-0.5**
GIB				Sg	**Sn**	**10 26 53.3**	**+1.5**
	306nm,0.8s						
GIB	**Gibilmanna**	**1.88**	**35**	Pg	**Pn**	**10 26 28.6**	**-0.5**
GIB				Sg	**Sn**	**10 26 53.3**	**+1.5**
	306nm,0.8s						
GALF	**Gagliano Caste**	**1.97**	**50**	Pn	**Pn**	**10 26 31.3**	**+1.0**
GALF				Sn	**Sn**	**10 26 56.1**	**+2.1**
GALF	**Gagliano Caste**	**1.97**	**50**	Pn	**Pn**	**10 26 31.3**	**+1.0**
GALF				Sn	**Sn**	**10 26 56.1**	**+2.1**
HAVL	**Avola**	**2.03**	**75**	Pn	**Pn**	**

NOUC	**Port Laguerre**	**4.50 215**	*e*P	Pn	10 34 21.5	+1.3		
URZ	**Urewera**	**21.00 162**	P	P	10 37 40.3	+0.3		
	3.2nm,0.4s,baz=295,slow=5.5,SNR=9.1							
PMG	**Port Moresby**	**23.05 290**	P	P	10 38 10.6	+10		
	12nm,0.9s,baz=170,slow=11,SNR=3.9							
WRA	**Warramunga Arr**	**32.80 262**	P	P	10 39 26.1	-0.9		
	0.1nm,0.3s,baz=83,slow=6.7,SNR=14							
ASAR	**Alice Springs**	**33.18 255**	P	P	10 39 29.8	-0.4		
	1.0nm,0.4s,baz=80,slow=8.7,SNR=50							
ASAR			pP	pP	10 40 15.6	+4.2		
	0.8nm,0.8s,baz=82,slow=8.0,SNR=2.3							
PETK	**Petropavlovsk-**	**71.89 353**	P	P	10 44 13.4	+0.3		
	2.3nm,0.7s,baz=152,slow=9.4,SNR=6.4							
CMAR	**Chiang Mai Arr**	**78.01 294**	P	P	10 44 50.8	+1.8		
	0.6nm,0.6s,baz=118,slow=3.7,SNR=6.3							
NVAR	**Mina Array Bea**	**88.37 49**	P	P	10 45 42.3	+0.5		
	0.7nm,0.7s,baz=229,slow=8.2,SNR=5.9							
ILAR	**Eielson Array**	**89.48 17**	P	P	10 45 44.9	-1.2		
	0.7nm,0.7s,baz=228,slow=5.2,SNR=8.7							
YKA	**Yellowknife Ar**	**100.00 27**	P	Pdif	10 46 34.5	+0.5		
	0.4nm,0.7s,baz=254,slow=4.7,SNR=15							
MKAR	**Makanchi Array**	**101.03 316**	P	Pdif	10 46 39.6	+0.5		
	0.2nm,0.6s,baz=93,slow=7.2,SNR=2.9							
ARCES	**ARCESS Array B**	**124.22 345**	PKP	PKPdf	10 51 45.0	-1.4		
	0.9nm,0.4s,baz=49,slow=3.1,SNR=6.3							
GERES	**GERESS Array B**	**143.68 332**	PKP	PKPab	10 52 20.9	+0.3		
	0.6nm,0.6s,baz=27,slow=3.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**166.77 249**	PKP	PKPdf	10 52 53.9	-0.7		
	0.6nm,1.0s,baz=129,slow=2.0,SNR=2.8							

NIED ***19*** *10:40:00.31°.80N×129°.40E,h5km,Mw4.4 Best double couple: M₀3.85000×10¹⁵ NP1:φ=100.00000°, δ81.00000°, λ=-38.00000°. NP2:φ=197.00000°, δ53.00000°, λ=-169.00000°.*

ISCJB ***19*** *10:40:07.1±1.0,31°.90N±0°.03×129°.39E±0°.03,h6km±6km, mb4.0/22,MS3.7/17,Error ellipse: s-maj=4.6km s-min=4.3km az=17.5*

IDC ***19*** *10:40:07.9±0.5,32°.04N×129°.32E,h0km,mb3.8/15, mb1 4.1/19,mb1mx4.0/29,mbtmpb3.9/19,ML3.4/4,MS3.6/24, Ms1 3.7/24,ms1mx3.5/47,Error ellipse: s-maj=17.4km s-min=12.7km az=76.0*

JMA ***19*** *10:40:07.4,31°.85N×129°.39E,h11km±1km,M4.3*

JMA Felt II J1.

NEIC ***19*** *10:40:12.8±2.3,32°.04N×129°.37E,h34km±17km,mb4.3/6, Error ellipse: s-maj=8.7km s-min=6.9km az=81.0*

NEIC Recorded [2 JMA] in Kagoshima and [1 JMA] in Kumamoto and Nagasaki.

ISC 19 10:40:07.5±1.4,31°.89N±0°.03×129°.43E±0°.04,h4km±9km, n80,σ0s97/67,mb4.0/22,MS3.7/17,2C-5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.32**	**130**	⇑P		**Pg**	**10 40 13.9**	**+0.2**
JSJ				S		**Sg**	**10 40 18.2**	**+0.3**
NGSJ	**Nagasakinomoza**	**0.81**	**23**	P		**Pg**	**10 40 23.2**	**+0.2**
NGSJ				S		**Sb**	**10 40 35.1**	**-0.4**
JHD	**Hondo**	**0.83**	**46**	⇓P		**Pg**	**10 40 23.9**	**+0.4**
JHD				S		**Sg**	**10 40 35.8**	**+1.4**
JSU	**Suzuyama**	**0.96**	**113**	P		**Pg**	**10 40 25.7**	**-0.1**
JSU				S		**Sb**	**10 40 38.9**	**-0.8**
JFU	**Fukue jima 2**	**0.96**	**323**	⇑P		**Pb**	**10 40 25.9**	**-0.8**
JFU				*e*S		**Sb**	**10 40 39.1**	**-0.7**
JZO	**Okuchi**	**1.03**	**75**	⇓P		**Pb**	**10 40 27.4**	**-0.5**
JZO				eS		**Sb**	**10 40 42.0**	**+0.2**
JIU2	**Izumi 2**	**1.35**	**60**	⇓P		**Pn**	**10 40 32.1**	**-1.1**
JTZ	**Takazaki**	**1.41**	**89**	⇓P		**Pn**	**10 40 32.9**	**-1.2**
JTA	**Tamana**	**1.43**	**41**	⇓P		**Pb**	**10 40 34.4**	**-0.3**
JNU	**Nakatsue**	**1.74**	**45**	Pn		**Pb**	**10 40 39.9**	**-0.2**
	107nm,0.3s,baz=247,slow=6.6,SNR=562							
JNU				Lg		Lg	10 41 03.5	
	224nm,0.3s,baz=125,slow=3.5,SNR=7.4							
JNU	**Nakatsue**	**1.74**	**45**	*e*Pn		**Pn**	**10 40 38.5**	**-0.1**
JNU				*e*Sn		**Sb**	**10 41 01.9**	**-0.4**
JNU				Lg		Lg	10 41 03.5	
JOW	**Kunigami**	**5.13**	**192**	Pn		Pn	10 41 29.5	+4.2
	1.7nm,0.3s,baz=32,slow=9.5,SNR=3.2							
JOW				Sn		**Sn**	**10 42 25.9**	**+0.9**
	1.7nm,0.3s,baz=171,slow=19,SNR=4.0							
JOW				LR		LR	10 43 29.0	
	comp=Z,349nm,18.4s,baz=135,slow=38							
JOW	**Kunigami**	**5.13**	**192**	*e*Pn		Pn	10 41 28.5	+3.2
	14nm,0.6s							
JOW				Sn		**Sn**	**10 42 25.9**	**+0.9**
KSAR	**Wonju Array Be**	**5.69**	**348**	Pn		**Pn**	**10 41 33.4**	**+0.6**
KSAR				Sn		**Sn**	**10 42 39.3**	**+0.8**
KSAR				Lg		Lg	10 43 04.7	
KSRS	**Korea Array**	**5.69**	**348**	Pn		**Pn**	**10 41 33.4**	**+0.6**
	5.5nm,0.3s,baz=164,slow=14,SNR=39							
KSRS				Sn		**Sn**	**10 42 39.3**	**+0.7**
	1.1nm,0.3s,baz=172,slow=30,SNR=3.3							
KSRS				Lg		Lg	10 43 04.7	
	4.0nm,0.3s,baz=169,slow=30,SNR=6.3							
KSRS				LR		LR	10 43 49.0	
	comp=Z,628nm,19.7s,baz=157,slow=40							
MJAR	**Matsushiro Arr**	**8.63**	**55**	Pn		**Pn**	**10 42 15.2**	**+2.0**
	0.3nm,0.3s,baz=241,slow=14,SNR=4.5							
MJAR				Lg		Lg	10 44 44.2	
	0.0nm,0.3s,baz=248,slow=27,SNR=2.8							
MJAR				LR		LR	10 45 49.8	
	comp=Z,368nm,18.2s,baz=220,slow=40							
MJAR	**Matsushiro Arr**	**8.63**	**55**	Pn		**Pn**	**10 42 15.2**	**+2.0**
MJAR				Lg		Lg	10 44 44.2	
JHJ	**Hachijo jima 2**	**8.83**	**79**	LR		LR	10 45 45.2	
	comp=Z,154nm,20.1s,baz=94,slow=38							
CBIJ	**Chichi jima**	**12.09**	**110**	LR		LR	10 47 27.7	
	comp=Z,119nm,18.2s,baz=65,slow=36							
USRK	**Ussuriysk Arra**	**12.46**	**9**	Pn		Pn	10 43 13.1	+7.5
	0.1nm,0.3s,baz=200,slow=14,SNR=2.9							
USRK				LR		LR	10 47 34.2	
	comp=Z,106nm,20.3s,baz=6.2,slow=36							
ASAJ	**Asahikawa**	**16.00**	**37**	Pn		**P**	**10 43 54.8**	**-2.3**
	0.2nm,0.3s,baz=240,slow=20,SNR=3.0							
ASAJ				LR		LR	10 49 25.9	
	comp=Z,131nm,19.7s,baz=198,slow=35							
ASAJ	**Asahikawa**	**16.00**	**37**	Pn		**P**	**10 43 54.8**	**-2.3**
ULN	**Ulaanbaatar**	**23.32**	**320**	*e*P		**P**	**10 45 16.1**	**-0.6**
	12nm,1.2s							
SONM	**Songino Array**	**23.66**	**319**	P		**P**	**10 45 20.3**	**+0.1**
	4.1nm,0.8s,baz=137,slow=10.0,SNR=41							
SONM				LR		LR	10 55 28.2	
	comp=Z,263nm,18.8s,baz=298,slow=39							
SONM	**Songino Array**	**23.66**	**319**	P		**P**	**10 45 20.3**	**+0.1**
PETK	**Petropavlovsk-**	**29.42**	**36**	LR		LR	10 56 52.6	
	comp=Z,64nm,21.2s,baz=76,slow=34							
CMAR	**Chiang Mai Arr**	**30.54**	**251**	P		P	10 46 25.9	+3.7
	0.6nm,0.3s,baz=61,slow=5.9,SNR=6.2							
CMAR				LR		LR	10 59 35.6	
	comp=Z,82nm,18.2s,baz=197,slow=38							
CMAR	**Chiang Mai Arr**	**30.54**	**251**	P		P	10 46 25.9	+3.7
TAPN	**Taplejung**	**36.39**	**274**	*e*P		P	10 47 15.8	+2.3
GUN	**Gumba**	**37.77**	**276**	*e*P		**P**	**10 47 25.7**	**+0.4**
	75nm,1.0s							
PKI	**Pulchoki**	**38.27**	**275**	*e*P		**P**	**10 47 30.8**	**+1.3**
	38nm,1.0s							
PKIN	**Phulchoki**	**38.28**	**275**	*e*P		**P**	**10 47 30.6**	**+1.1**
KKN	**Kakani**	**38.32**	**276**	*e*P		**P**	**10 47 30.4**	**+0.6**
	52nm,1.1s							
ZALV	**Zalesovo Beam**	**38.56**	**318**	P		**P**	**10 47 29.8**	**-1.3**
	0.3nm,0.4s,baz=126,slow=9.1,SNR=2.7							
ZALV				LR		LR	11 04 50.9	
	comp=Z,87nm,19.9s,baz=79,slow=39							
ZALV	**Zalesovo Beam**	**38.56**	**318**	P		**P**	**10 47 29.8**	**-1.3**
MK31	**Makanchi Array**	**38.78**	**306**	*e*P		**P**	**10 47 32.5**	**-0.7**
MKAR	**Makanchi Array**	**38.78**	**306**	P		**P**	**10 47 32.6**	**-0.6**
	1.0nm,0.8s,baz=92,slow=10,SNR=12							
MKAR				PcP		**PcP**	**10 49 47.2**	**+2.5**
	0.9nm,0.9s,baz=70,slow=4.0,SNR=4.1							
MKAR				LR		LR	11 04 53.6	
	comp=Z,96nm,18.1s,baz=79,slow=38							
MKAR	**Makanchi Array**	**38.78**	**306**	P		**P**	**10 47 32.6**	**-0.6**
MKAR				PcP		**PcP**	**10 49 47.2**	**+2.5**
GKN	**Gorkha**	**38.80**	**276**	*e*P		**P**	**10 47 34.7**	**+1.0**
	26nm,1.0s							
DANN	**Dangsing**	**39.44**	**277**	*e*P		**P**	**10 47 39.4**	**+0.1**
	42nm,1.1s							
KOLN	**Koldanda**	**39.74**	**276**	*e*P		P	10 47 43.3	+1.6
PYUN	**Piuthan**	**40.16**	**277**	*e*P		**P**	**10 47 46.0**	**+0.8**
	51nm,1.1s							
PSI	**Prapat**	**40.75**	**231**	LR		LR	11 03 50.3	
	comp=Z,96nm,20.3s,baz=46,slow=35							
KURK	**Kurchatov**	**41.62**	**312**	*e*P		**P**	**10 47 56.3**	**-0.3**
	10nm,1.4s							
KURBB	**Kurchatov Arra**	**41.67**	**312**	LR		LR	11 06 46.3	
	comp=Z,179nm,18.3s,baz=110,slow=38							
AAK	**Ala-Archa**	**44.32**	**300**	LR		LR	11 08 43.7	
	comp=Z,118nm,18.3s,baz=301,slow=39							
KKAR	**Karatay Array**	**47.19**	**301**	*e*P		**P**	**10 48 40.1**	**-1.3**
	2.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**49.84**	**185**	P		P	10 49 04.5	+2.7
	1.3nm,0.7s,baz=18,slow=9.6,SNR=4.0							
FITZ				LR		LR	11 10 04.3	
	comp=Z,23nm,18.9s,baz=268,slow=36							
FITZ	**Fitzroy Crossi**	**49.84**	**185**	*e*P		P	10 49 04.5	+2.7
	2.1nm,0.8s							
HNR	**Honiara**	**50.40**	**139**	LR		LR	11 07 04.4	
	comp=Z,63nm,18.1s,baz=131,slow=32							
WRAB	**Tennant Creek**	**51.74**	**174**	*e*P		**P**	**10 49 17.1**	**+0.9**
	2.0nm,0.9s							
WRA	**Warramunga Arr**	**51.75**	**174**	P		P	10 49 17.6	+1.3
	1.7nm,1.0s,baz=351,slow=8.3,SNR=7.7							
WRA	**Warramunga Arr**	**51.75**	**174**	P		P	10 49 17.6	+1.3
ABKAR	**Akbulak array**	**53.67**	**310**	*e*P		**P**	**10 49 30.1**	**-0.1**
	2.4nm,0.5s							
CTA	**Charters Tower**	**54.14**	**160**	P		P	10 49 37.0	+3.0
	4.7nm,0.8s,baz=0.0,slow=4.0,SNR=3.1							
CTA	**Charters Tower**	**54.14**	**160**	P		P	10 49 37.0	+3.0
AKTO	**Aktyubinsk**	**54.72**	**312**	LR		LR	11 14 30.6	
	comp=Z,143nm,18.6s,baz=263,slow=38							
ASAR	**Alice Springs**	**55.41**	**175**	P		**P**	**10 49 43.9**	**+0.8**
	0.4nm,0.6s,baz=1.1,slow=6.2,SNR=11							
ASAR	**Alice Springs**	**55.41**	**175**	P		**P**	**10 49 43.9**	**+0.8**
ILAR	**Eielson Array**	**59.00**	**30**	P		**P**	**10 50 07.8**	**-0.2**
	0.6nm,0.7s,baz=274,slow=7.5,SNR=9.7							
ILAR				LR		LR	11 17 20.4	
	comp=Z,38nm,18.0s,baz=319,slow=38							
ILAR	**Eielson Array**	**59.00**	**30**	P		**P**	**10 50 07.8**	**-0.2**
DZM	**Mont Dzumac**	**64.30**	**142**	LR		LR	11 15 13.2	
	comp=Z,73nm,18.8s,baz=11,slow=33							
ARCES	**ARCESS Array B**	**65.16**	**338**	LR		LR	11 22 50.0	
	comp=Z,102nm,19.1s,baz=14,slow=39							
KBZ	**Khabaz**	**66.46**	**308**	P		**P**	**10 50 57.4**	**-0.7**
	2.7nm,0.8s,baz=198,slow=3.9,SNR=3.5							
KBZ	**Khabaz**	**66.46**	**308**	P		**P**	**10 50 57.4**	**-0.7**
FINES	**FINESS Array B**	**68.49**	**330**	P		**P**	**10 51 09.9**	**-0.8**
	4.1nm,1.1s,baz=83,slow=4.3,SNR=3.1							
FINES				LR		LR	11 24 06.7	
	comp=Z,110nm,18.0s,baz=142,slow=39							
FINES	**FINESS Array B**	**68.49**	**330**	P		**P**	**10 51 09.9**	**-0.8**
AFI	**Afiamalu**	**72.40**	**119**	P		P	10 51 37.6	+2.3
	10nm,0.7s,baz=16,slow=20,SNR=3.3							
AFI	**Afiamalu**	**72.40**	**119**	P		P	10 51 37.6	+2.3
YKA	**Yellowknife Ar**	**72.98**	**26**	P		**P**	**10 51 37.5**	**-0.5**
	0.2nm,0.7s,baz=300,slow=5.4,SNR=5.9							
YKA	**Yellowknife Ar**	**72.98**	**26**	P		**P**	**10 51 37.5**	**-0.5**
BRTR	**Keskin Array B**	**74.43**	**307**	P		**P**	**10 51 47.5**	**+0.4**
	0.9nm,0.9s,baz=31,slow=6.7,SNR=3.1							
BRTR	**Keskin Array B**	**74.43**	**307**	P		**P**	**10 51 47.5**	**+0.4**
NOA	**NORSAR Array B**	**74.72**	**334**	P		**P**	**10 51 48.5**	**+0.2**
	0.9nm,0.8s,baz=39,slow=2.2,SNR=2.8							
NOA				LR		LR	11 29 25.8	
	comp=Z,41nm,18.1s,baz=215,slow=40							
NOA	**NORSAR Array B**	**74.72**	**334**	P		**P**	**10 51 48.5**	**+0.2**
GERES	**GERESS Array B**	**81.33**	**323**	LR		LR	11 32 05.3	
	comp=Z,77nm,18.9s,baz=62,slow=38							
NVAR	**Mina Array Bea**	**85.86**	**47**	P		**P**	**10 52 49.0**	**0.0**
	0.2nm,0.5s,baz=290,slow=5.6,SNR=2.3							
NVAR	**Mina Array Bea**	**85.86**	**47**	P		**P**	**10 52 49.0**	**0.0**
PDAR	**Pinedale Array**	**88.12**	**39**	P		**P**	**10 53 00.1**	**+0.3**
	0.3nm,0.8s,baz=237,slow=5.0,SNR=2.6							
PDAR	**Pinedale Array**	**88.12**	**39**	P		**P**	**10 53 00.1**	**+0.3**

IDC 19 10:46:21.0±3.4,2°.00S×139°.42E,h0km,mb3.4/3, mb1 3.8/4,mb1mx3.5/18,mbtmpb3.6/4,ML4.0/1,Error ellipse: s-maj=113.6km s-min=26.2km az=90.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52**	**195**	P		P	10 50 38.1	-1.1
	0.5nm,0.3s,baz=16,slow=13,SNR=28							
WRA				S		Sn	10 53 55.1	-12
	0.0nm,0.3s,baz=7.1,slow=22,SNR=3.3							
FITZ	**Fitzroy Crossi**	**20.95**	**219**	P		Pn	10 51 07.3	-1.0
	2.0nm,1.0s,baz=48,slow=13,SNR=1.7							
ASAR	**Alice Springs**	**22.20**	**193**	P		P	10 51 19.4	+0.2
	0.8nm,0.3s,baz=23,slow=10,SNR=17							
MKAR	**Makanchi Array**	**69.66**	**322**	P		P	10 57 32.1	-0.5
	0.2nm,0.8s,baz=111,slow=6.3,SNR=2.9							

ISCJB ***19*** *10:49:03.0±0.5,28°.05S±0°.1×63°.59E±0°.09,h10km, mb4.2/24,MS3.9/12,Error ellipse: s-maj=16.0km s-min=11.8km az=10.3*

IDC ***19*** *10:49:03.4±0.6,28°.00S×63°.56E,h0km,mb4.1/19, mb1 4.2/19,mb1mx4.1/31,mbtmp4.1/19,MS3.7/12, Ms1 3.7/12,ms1mx3.5/33,Error ellipse: s-maj=19.3km s-min=15.3km az=16.0*

NEIC ***19*** *10:49:04.9±0.4,28°.04S×63°.65E,h10km,mb4.6/6,Error ellipse: s-maj=13.9km s-min=9.2km az=193.0*

ISC 19 10:49:04.9±0.6,28°.1S±0°.1×63°.62E±0°.10,h10km,n59, σ0s84/56,mb4.2/24,MS3.8/12,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.78**	**299**	P		**P**	**10 53 16.8**	**+3.2**
	0.6nm,0.3s,baz=122,slow=13,SNR=3.5							
OPO				S		Sn	10 56 15.0	-16
	0.7nm,0.3s,baz=280,slow=19,SNR=4.0							
OPO				LR		LR	10 58 17.0	
	comp=Z,270nm,19.2s,baz=154,slow=31							
OPO	**Ambohidratompo**	**17.78**	**299**	P		**P**	**10 53 16.8**	**+3.2**
OPO				S		Sn	10 56 15.0	-16
BOSA	**Boshof**	**33.68**	**260**	P		**P**	**10 55 46.7**	**+0.4**
	1.1nm,0.5s,baz=134,slow=10,SNR=3.3							
BOSA				LR		LR	11 06 25.5	
	comp=Z,42nm,18.6s,baz=346,slow=31							
BOSA	**Boshof**	**33.68**	**260**	P		**P**	**10 55 46.7**	**+0.4**
LSZ	**Lusaka**	**35.16**	**284**	*e*P		**P**	**10 55 58.4**	**-0.9**
	6.9nm,0.6s							
MAW	**Mawson**	**39.58**	**180**	LR		LR	11 08 21.6	
	comp=Z,165nm,21.9s,baz=288,slow=29							
TSUM	**Tsumeb**	**42.88**	**272**	P		**P**	**10 57 03.6**	**-0.4**
	4.8nm,1.0s,baz=134,slow=1.9,SNR=6.5							
TSUM	**Tsumeb**	**42.88**	**272**	P		**P**	**10 57 03.6**	**-0.4**
NWAO	**Narrogin (SRO)**	**46.05**	**110**	LR		LR	11 13 43.6	
	comp=Z,69nm,18.2s,baz=111,slow=32							
FITZ	**Fitzroy Crossi**	**57.40**	**94**	P		**P**	**10 58 54.0**	**+0.1**
	1.4nm,0.9s,baz=217,slow=10,SNR=2.6							
FITZ	**Fitzroy Crossi**	**57.40**	**94**	P		**P**	**10 58 54.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.50**	**41**	P		**P**	**10 58 55.6**	**+1.1**
	3.6nm,0.9s,baz=230,slow=7.3,SNR=20							
CMAR				LR		LR	11 17 36.7	
	comp=Z,37nm,21.1s,baz=60,slow=30							
CMAR	**Chiang Mai Arr**	**57.50**	**41**	P		**P**	**10 58 55.6**	**+1.1**
QSPA	**South Pole Qui**	**62.10**	**180**	P		**P**	**10 59 26.2**	**+0.4**
	2.8nm,1.1s,baz=215,slow=1.8,SNR=9.6							
QSPA	**South Pole Qui**	**62.10**	**180**	*e*P		**P**	**10 59 26.3**	**+0.5**
	5.5nm,1.1s							
ASAR	**Alice Springs**	**62.61**	**104**	P		**P**	**10 59 30.2**	**+0.4**
	1.6nm,0.8s,baz=249,slow=5.5,SNR=14							
ASAR	**Alice Springs**	**62.61**	**104**	P		**P**	**10 59 30.2**	**+0.4**
WRA	**Warramunga Arr**	**64.33**	**100**	P		**P**	**10 59 41.7**	**+0.4**
	2.7nm,0.9s,baz=247,slow=5.9,SNR=16							
WRA	**Warramunga Arr**	**64.33**	**100**	P		**P**	**10 59 41.7**	**+0.4**
WRAB	**Tennant Creek**	**64.35**	**100**	*e*P		**P**	**10 59 41.6**	**+0.3**
	4.9nm,1.0s							
VNDA	**Vanda**	**64.60**	**166**	LR		LR	11 25 26.5	
	comp=Z,237nm,18.3s,baz=283,slow=34							
STKA	**Stephens Creek**	**66.27**	**115**	P		**P**	**10 59 54.2**	**+0.7**
	1.4nm,1.0s,baz=209,slow=9.8,SNR=3.0							
STKA	**Stephens Creek**	**66.27**	**115**	*e*P		**P**	**10 59 53.5**	**-0.1**
AAK	**Ala-Archa**	**71.04**	**8**	P		**P**	**11 00 23.9**	**+0.8**
	1.1nm,0.6s,baz=214,slow=11,SNR=2.9							
AAK	**Ala-Archa**	**71.04**	**8**	P		**P**	**11 00 23.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**72.57**	**296**	P		**P**	**11 00 32.1**	**-0.6**
	2.5nm,1.0s,baz=115,slow=4.5,SNR=9.9							
TORD				LR		LR	11 30 27.1	
	comp=Z,86nm,20.0s,baz=300,slow=34							
TORD	**Torodi Ar. Bea**	**72.57**	**296**	P		**P**	**11 00 32.1**	**-0.6**
BRTR	**Keskin Array B**	**72.98**	**336**	P		**P**	**11 00 34.5**	**-0.3**
	2.4nm,1.0s,baz=166,slow=6.0,SNR=7.0							
BRTR				LR		LR	11 29 24.1	
	comp=Z,39nm,20.5s,baz=103,slow=33							
BRTR	**Keskin Array B**	**72.98**	**336**	P		**P**	**11 00 34.5**	**-0.3**
KBZ	**Khabaz**	**73.91**	**345**	LR		LR	11 30 53.9	
	comp=Z,77nm,20.9s,baz=202,slow=34							
DBIC	**Dimbokro**	**74.44**	**286**	P		**P**	**11 00 43.8**	**0.0**
	2.2nm,0.8s,baz=124,slow=11,SNR=2.5							
DBIC				LR		LR	11 31 49.3	
	comp=Z,48nm,19.1s,baz=284,slow=34							
DBIC	**Dimbokro**	**74.44**	**286**	P		**P**	**11 00 43.8**	**0.0**
MK31	**Makanchi Array**	**76.38**	**13**	*e*P		**P**	**11 00 53.9**	**-0.3**
MKAR	**Makanchi Array**	**76.38**	**13**	P		**P**	**11 00 53.6**	**-0.6**
	1.0nm,0.8s,baz=190,slow=3.7,SNR=9.8							
MKAR				LR		LR	11 32 37.7	
	comp=Z,30nm,18.6s,baz=174,slow=34							
MKAR	**Makanchi Array**	**76.38**	**13**	P		**P**	**11 00 53.6**	**-0.6**
ABKAR	**Akbulak array**	**77.02**	**358**	*e*P		**P**	**11 00 57.3**	**-0.4**
	1.4nm,0.5s							
AKTO	**Aktyubinsk**	**78.29**	**356**	P		**P**	**11 01 04.3**	**-0.5**
	0.4nm,0.4s,baz=243,slow=9.0,SNR=3.0							
AKTO	**Aktyubinsk**	**78.29**	**356**	P		**P**	**11 01 04.3**	**-0.5**
KURBB	**Kurchatov Arra**	**79.43**	**10**	P		**P**	**11 01 10.4**	**-0.5**
	0.9nm,0.6s,baz=210,slow=6.5,SNR=8.0							
KURK	**Kurchatov**	**79.53**	**10**	*e*P		**P**	**11 01 10.8**	**-0.7**
	2.9nm,1.0s							
BVAR	**Borovoye Array**	**80.94**	**4**	P		**P**	**11 01 18.9**	**-0.3**
	0.8nm,0.5s,baz=165,slow=7.3,SNR=7.2							
BVAR	**Borovoye Array**	**80.94**	**4**	P		**P**	**11 01 18.9**	**-0.3**
RPZ	**Rata Peaks**	**82.53**	**136**	LR		LR	11 31 14.6	
	comp=Z,588nm,20.6s,baz=48,slow=31							
ZALV	**Zalesovo Beam**	**83.69**	**12**	P		**P**	**11 01 33.3**	**-0.2**
	2.7nm,0.7s,baz=219,slow=1.9,SNR=7.8							
ZALV				LR		LR	11 36 36.0	
	comp=Z,34nm,19.4s,baz=65,slow=34							
ZALV	**Zalesovo Beam**	**83.69**	**12**	P		**P**	**11 01 33.3**	**-0.2**
KIEV	**Kiev**	**84.10**	**339**	*e*P		**P**	**11 01 34.8**	**-0.8**
	3.9nm,0.9s							
AKASG	**Malin Array Be**	**84.10**	**339**	P		**P**	**11 01 35.0**	**-0.6**
	1.8nm,0.6s,baz=160,slow=4.9,SNR=4.6							
AKASG	**Malin Array Be**	**84.10**	**339**	P		**P**	**11 01 35.0**	**-0.6**
SONM	**Songino Array**	**84.75**	**27**	P		**P**	**11 01 39.6**	**+0.3**
	1.0nm,0.8s,baz=212,slow=5.2,SNR=7.9							
SONM	**Songino Array**	**84.75**	**27**	P		**P**	**11 01 39.6**	**+0.3**
ILAR	**Eielson Array**	**138.50**	**19**	PKP		**PKPdf**	**11 08 30.6**	**+0.5**
	0.1nm,0.7s,baz=204,slow=5.2,SNR=4.6							
ILAR	**Eielson Array**	**138.50**	**19**	PKP		**PKPdf**	**11 08 30.6**	**+0.5**
YKW3	**Yellowknife Ar**	**145.47**	**359**	*e*PKPbc		**PKPab**	**11 08 42.3**	**-0.5**
YKA	**Yellowknife Ar**	**145.53**	**359**	PKPbc		**PKPbc**	**11 08 41.9**	**-0.8**
	2.1nm,0.8s,baz=348,slow=3.6,SNR=46							
YKA	**Yellowknife Ar**	**145.53**	**359**	PKPbc		**PKPbc**	**11 08 42.0**	**-0.8**
PDAR	**Pinedale Array**	**164.30**	**341**	PKPab		**PKPab**	**11 10 02.7**	**-0.3**
	0.5nm,0.9s,baz=80,slow=2.0,SNR=3.0							
PDAR	**Pinedale Array**	**164.30**	**341**	PKPab		**PKPab**	**11 10 02.7**	**-0.3**
TXAR	**Lajitas Array**	**168.76**	**280**	PKP		**PKPdf**	**11 09 11.6**	**-1.1**
	0.2nm,0.8s,baz=66,slow=5.0,SNR=2.7							
TXAR				PKPab		**PKPab**	**11 10 22.7**	**-0.5**
	0.2nm,0.8s,baz=81,slow=8.1,SNR=3.7							
TXAR	**Lajitas Array**	**168.76**	**280**	PKP		**PKPdf**	**11 09

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.30**	**195**	*e*S	Sb	12 08 22.7	-3.7
AOPR	**Arecibo Observ**	**1.30**	**195**⇑	*e*P	Pn	12 08 05.9	-3.4
AOPR	**Arecibo Observ**	**1.30**	**195**⇑	*e*P	Pn	12 08 05.9	-3.4
AOPR				*e*S	Sb	12 08 22.7	-3.7
CBYP	**Canovanas**	**1.42**	**159**	*e*S	Sn	12 08 25.1	-4.7
CBYP	**Canovanas**	**1.42**	**159**⇑	*e*P	Pn	12 08 07.6	-3.5
CBYP	**Canovanas**	**1.42**	**159**⇑	*e*P	Pn	12 08 07.6	-3.5
CBYP				*e*S	Sn	12 08 25.1	-4.7
CPD	**Cerro la Pandu**	**1.62**	**164**⇑	*e*P	Pn	12 08 11.8	-2.1
CPD	**Cerro la Pandu**	**1.62**	**164**	*e*S	Sn	12 08 30.6	-4.2
CPD	**Cerro la Pandu**	**1.62**	**164**⇑	*e*P	Pn	12 08 11.8	-2.1
CPD				*e*S	Sn	12 08 30.6	-4.2
MTP	**Monte Pirata**	**1.70**	**152**⇑	*e*P	Pn	12 08 11.6	-3.2
MTP	**Monte Pirata**	**1.70**	**152**	*e*S	Sn	12 08 33.0	-3.5
MTP	**Monte Pirata**	**1.70**	**152**⇑	*e*P	Pn	12 08 11.6	-3.2
MTP				*e*S	Sn	12 08 33.0	-3.5

*IDC **19** 12:28:01.8±0.6,3˙66N×126˙40E,h0km,mb4.2/19, mb1 4.3/19,mb1mx4.2/26,mbtmp4.2/19,MS3.6/10, Ms1 3.6/10,ms1mx3.2/42,Error ellipse: s-maj=30.2km s-min=11.9km az=81.0*

*ISCJB **19** 12:28:07.2±0.4,3˙67N±0˙04×126˙57E±0˙08,h53km, mb4.2/23,MS3.6/9,Error ellipse: s-maj=12.1km s-min=6.1km az=174.2*

*NEIC **19** 12:28:07.0±0.3,3˙63N×126˙38E,h35km,mb4.4/5,Error ellipse: s-maj=14.2km s-min=5.5km az=81.0*

*DJA **19** 12:28:29.2±1.0,3˙N±8˙×12˙5E±˚,h10km,M4.3/6,mb4.3/3, mB5.3/1,MLv4.3/6,Mw(mB)4.7/1,Mwp5.7/1*

ISC 19 12:28:09.2±0.5,3˙69N±0˙05×126˙5E±0˙1,h53km,n62, σ0ᵗ99/52,mb4.2/22,MS3.6/9,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.78**	**217**	P	**Pn**	**12 28 52.8**	**+1.5**
MATI	**Mati**	**3.24**	**356**	*e*P	**Pn**	**12 28 59.3**	**+1.6**
KMSI	**Cibinong**	**3.99**	**219**	P	Pn	12 29 17.6	+10
BUKP	**Musuan**	**4.40**	**341**	*e*P	**Pn**	**12 29 14.5**	**+0.9**
PAGZ	**Pagadian**	**5.17**	**323**	*e*P	**Pn**	**12 29 24.6**	**+0.6**
MRSI	**Marisa**	**5.57**	**235**	P	**Pn**	**12 29 31.7**	**+2.2**
IPIL	**Ipil**	**5.64**	**316**	*e*P	**Pn**	**12 29 31.4**	**+0.8**
LUWI	**Luwuk**	**6.00**	**218**	P	Pn	12 29 42.0	+6.5
MYLDM	**Lahad Datu** 28nm,1.5s,0.2nm	**8.12**	**281**	P	Pn	12 30 14.7	+10
KDI	**Kendari** 16nm,0.8s,0.1nm	**8.53**	**207**	P	Pn	12 30 16.0	+5.8
TTSI	**Tana Toraja**	**9.46**	**225**	P	Pn	12 30 33.1	+10
KAPI	**Kappang** comp=Z,302nm,18.4s,baz=65,slow=42	**10.97**	**218**	LR	LR	12 35 39.9	
SBUM	**Sibu**	**14.32**	**265**	P	P	12 31 40.4	+5.5
FITZ	**Fitzroy Crossi** 3.9nm,0.5s,baz=29,slow=9,SNR=16	**21.67**	**182**	P	**P**	**12 32 54.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.67**	**182**	P	**P**	**12 32 54.7**	**-0.9**
WRAB	**Tennant Creek** 16nm,0.8s	**24.71**	**162**	*e*P	**P**	**12 33 23.9**	**-1.7**
WRA	**Warramunga Arr** 13nm,0.7s,baz=343,slow=10.0,SNR=87	**24.72**	**162**	P	**P**	**12 33 24.2**	**-1.5**
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**12 33 24.2**	**-1.5**
MBWA	**Marble Bar**	**25.57**	**195**	*e*P	**P**	**12 33 31.9**	**-1.5**
CBIJ	**Chichi jima** comp=Z,92nm,18.4s,baz=127,slow=33	**27.68**	**31**	LR	LR	12 43 14.6	
AS31	**Alice Springs**	**28.13**	**165**	*e*P	**P**	**12 33 56.2**	**-0.2**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=342,snr=7.6,SNR=31	**28.13**	**165**	P	**P**	**12 33 55.2**	**-1.2**
ASAR	**Alice Springs**	**28.13**	**165**	P	**P**	**12 33 55.2**	**-1.2**
JNU	**Nakatsue** 4.6nm,0.9s,baz=190,slow=17,SNR=2.2	**29.56**	**7**	P	**P**	**12 34 08.8**	**-0.3**
JNU	**Nakatsue**	**29.56**	**7**	P	**P**	**12 34 08.8**	**-0.3**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=113,slow=6.9,SNR=3.2	**30.70**	**301**	P	**P**	**12 34 18.6**	**-0.7**
CMAR				LR	LR	12 48 52.5	
CMAR	**Chiang Mai Arr** comp=Z,58nm,18.1s,baz=110,slow=41	**30.70**	**301**	P	**P**	**12 34 18.6**	**-0.7**
KSAR	**Wonju Array Be**	**33.61**	**2**	P	**P**	**12 34 44.8**	**+0.2**
KSRS	**Korea Array** 1.5nm,0.8s,baz=187,slow=9.8,SNR=6.1	**33.63**	**2**	P	**P**	**12 34 44.8**	**+0.1**
MJAR	**Matsushiro Arr** comp=Z,54nm,18.6s,baz=195,slow=33	**34.42**	**17**	LR	LR	12 47 13.0	
NWAO	**Narrogin (SRO)** 8.0nm,0.9s,baz=32,slow=9.5,SNR=3.9	**37.46**	**193**	P	**P**	**12 35 17.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.46**	**193**	P	**P**	**12 35 17.4**	**-0.3**
STKA	**Stephens Creek** 2.2nm,0.4s,baz=340,slow=6.5,SNR=15	**38.17**	**159**	P	**P**	**12 35 23.2**	**-0.4**
STKA	**Stephens Creek** 1.1nm,0.8s	**38.17**	**159**	*e*P	**P**	**12 35 23.0**	**-0.7**
USRK	**Ussuriysk Arra** 1.1nm,0.4s,baz=176,slow=8.6,SNR=4.5	**40.63**	**6**	P	**P**	**12 35 43.0**	**-1.0**
ASAJ	**Asahikawa** 5.0nm,0.8s,baz=153,slow=14,SNR=4.4	**42.70**	**17**	P	**P**	**12 36 02.3**	**+1.4**
ASAJ				LR	LR	12 55 18.7	
ASAJ	**Asahikawa** comp=Z,77nm,18.5s,baz=292,slow=38	**42.70**	**17**	P	**P**	**12 36 02.3**	**+1.4**
SONM	**Songino Array** 0.5nm,0.4s,baz=145,slow=7.6,SNR=7.4	**47.26**	**342**	P	**P**	**12 36 37.1**	**-0.2**
SONM				LR	LR	12 59 19.0	
SONM	**Songino Array** comp=Z,67nm,18.2s,baz=16,slow=40	**47.26**	**342**	P	**P**	**12 36 37.1**	**-0.2**
PETK	**Petropavlovsk-** 2.2nm,0.4s,baz=194,slow=5.2,SNR=2.8	**55.55**	**22**	P	**P**	**12 37 40.2**	**+1.1**
PETK				LR	LR	13 00 19.1	
PETK	**Petropavlovsk-** comp=Z,24nm,20.9s,baz=20,slow=35	**55.55**	**22**	P	**P**	**12 37 40.2**	**+1.1**
MK31	**Makanchi Array**	**57.46**	**325**	*e*P	**P**	**12 37 52.0**	**-0.8**
MKAR	**Makanchi Array** 1.5nm,0.4s,baz=116,slow=7.5,SNR=33	**57.46**	**325**	P	**P**	**12 37 52.0**	**-0.8**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**12 37 52.0**	**-0.8**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=142,slow=8.2,SNR=4.7	**60.52**	**333**	P	**P**	**12 38 12.2**	**-1.6**
ZALV				LR	LR	13 05 56.0	
ZALV	**Zalesovo Beam** comp=Z,52nm,18.6s,baz=76,slow=38	**60.52**	**333**	P	**P**	**12 38 12.2**	**-1.6**
KURK	**Kurchatov** 3.8nm,0.7s	**61.65**	**328**	*e*P	**P**	**12 38 21.0**	**-0.6**
ABKAR	**Akbulak array** 0.7nm,0.4s	**72.04**	**321**	*e*P	**P**	**12 39 27.1**	**-0.6**
VNDA	**Vanda** 0.8nm,0.8s,baz=321,slow=6.8,SNR=2.9	**83.42**	**173**	P	**P**	**12 40 31.4**	**+1.0**
VNDA	**Vanda**	**83.42**	**173**	P	**P**	**12 40 31.4**	**+1.0**
COLD	**Coldfoot** 5.6nm,1.2s	**84.02**	**23**	*e*P	**P**	**12 40 34.3**	**+0.6**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=246,slow=6.1,SNR=12	**85.23**	**25**	P	**P**	**12 40 39.7**	**-0.2**
ILAR	**Eielson Array**	**85.23**	**25**	P	**P**	**12 40 39.7**	**-0.2**
ARCES	**ARCESS Array B** 7.5nm,0.9s,baz=52,slow=4.8,SNR=5.7	**90.41**	**340**	P	**P**	**12 41 04.4**	**-0.2**
ARCES	**ARCESS Array B**	**90.41**	**340**	P	**P**	**12 41 04.4**	**-0.2**
FINES	**FINESS Array B** 2.3nm,1.0s,baz=68,slow=5.1,SNR=3.6	**91.76**	**332**	P	**P**	**12 41 11.5**	**+0.6**
FINES				LR	LR	13 25 05.8	
FINES	**FINESS Array B** comp=Z,59nm,18.1s,baz=78,slow=37	**91.76**	**332**	P	**P**	**12 41 11.5**	**+0.6**
NOA	**NORSAR Array B** comp=Z,32nm,19.0s,baz=0.0,slow=38	**98.72**	**334**	LR	LR	13 30 53.1	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=299,slow=4.2,SNR=4.1	**99.63**	**24**	P	**Pdif**	**12 41 47.5**	**+0.7**
YKA	**Yellowknife Ar**	**99.63**	**24**	P	**Pdif**	**12 41 47.5**	**+0.7**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=75,slow=1.2,SNR=5.0	**122.72**	**288**	PKP	**PKPdf**	**12 47 00.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP	**PKPdf**	**12 47 00.6**	**+0.4**

*ISK **19** 12:31:15.5,39˙52N×28˙26E,h18km,ML1.8*
*DDA **19** 12:31:16.9,39˙50N×28˙16E,h7km,MD2.7*
*CSEM **19** 12:31:16.4±0.5,39˙49N×28˙20E,h8km,ML1.8,Error ellipse: s-maj=17.6km s-min=7.8km az=32.0*

ISC 19 12:31:16.8±1.2,39˙48N±0˙05×28˙20E±0˙04,h12km±9km,n12,σ0ᵗ99/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.25**	**60**	*i* P	**Pg**	**12 31 21.5**	**-0.5**
DURS				*i* S	**Sg**	**12 31 26.4**	**+0.8**
DURS	**Dursunbey**	**0.25**	**60**	*i* P	**Pg**	**12 31 21.5**	**-0.5**
DURS				*i* S	**Sg**	**12 31 26.4**	**+0.8**
BALB	**Balikesir**	**0.29**	**304**	*e*PG	**Pg**	**12 31 22.4**	**-0.4**
BALB				*e*SG	**Sb**	**12 31 28.4**	**-0.4**
BALB	**Balikesir**	**0.29**	**304**	*e*Pg	**Pg**	**12 31 22.4**	**-0.4**
BALB				*e*Sg	**Sb**	**12 31 28.4**	**-0.4**
GONE	**Gonen-Balikesi**	**0.69**	**325**	*e*PG	**Pg**	**12 31 29.1**	**-1.1**
GONE	**Gonen-Balikesi**	**0.69**	**325**	*e*Pg	**Pg**	**12 31 29.1**	**-1.1**
TVSB	**Tavsanli**	**0.98**	**91**	*e*PG	**Pg**	**12 31 34.1**	**-1.6**
TVSB	**Tavsanli**	**0.98**	**91**	*e*Pg	**Pg**	**12 31 34.1**	**-1.6**
KULA	**Kula-Manisa**	**1.03**	**159**	*e*PG	**Pg**	**12 31 35.8**	**-0.8**
KULA	**Kula-Manisa**	**1.03**	**159**	*e*Pg	**Pg**	**12 31 35.8**	**-0.8**
GDZ	**Gediz**	**1.07**	**111**	*i* P	**Pn**	**12 31 38.2**	**+0.4**
GDZ				*i* S	**Sn**	**12 31 53.6**	**+0.9**
GDZ	**Gediz**	**1.07**	**111**	*i* P	**Pn**	**12 31 38.2**	**+0.4**
GDZ				*i* S	**Sn**	**12 31 53.6**	**+0.9**

*ISCJB **19** 12:31:20.8±0.3,0˙72N±0˙04×123˙69E±0˙05,h264km, mb4.0/19,Error ellipse: s-maj=7.3km s-min=4.5km az=143.7*

*AUST **19** 12:31:23.0±2.0,0˙58N×123˙61E,h270km,Error ellipse: s-maj=2.5km s-min=0.9km az=229.0*

*DJA **19** 12:31:23.3±0.3,1˙N±4˙×12˙4E±˚,h257km±4km,M4.3/18, mB4.9/3,mb4.5/18,MLv4.2/7,Mw(mB)4.2/3*

*IDC **19** 12:31:24.8±0.8,0˙55N×123˙48E,h299km±8km,mb3.6/14, mb1 3.7/16,mb1mx3.6/25,mbtmp3.6/16,Error ellipse: s-maj=16.8km s-min=6.7km az=70.0*

ISC 19 12:31:22.1±0.4,0˙66N±0˙05×123˙68E±0˙06,h264km,n71, σ1ᵗ49/75,mb4.2/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.31**	**105**	P	**Pn**	**12 31 56.7**	**+0.6**
MNI	**Manado**	**1.40**	**56**	P	**Pn**	**12 32 02.2**	**+1.2**
MRSI	**Marisa**	**1.75**	**264**	P	**Pn**	**12 32 03.5**	**-0.1**
LUWI	**Luwuk**	**1.92**	**208**	P	Pn	12 32 15.3	+10
TNTI	**Ternate**	**3.68**	**88**	P	**Pn**	**12 32 23.3**	**+0.4**
TTSI	**Tana Toraja** 166nm,0.8s,1μm0.6nm	**5.33**	**226**	P	**Pn**	**12 32 42.7**	**+0.3**
SPSI	**Sidrap Palu** 45nm,0.7s,0.2nm	**6.03**	**220**	P	**Pn**	**12 32 50.8**	**-0.1**
KAPI	**Kappang** 1.9nm,0.3s,baz=15,slow=7.8,SNR=9.3	**6.87**	**215**	P	**Pn**	**12 33 00.7**	**-0.6**
KAPI	**Kappang** 35nm,1.1s,0.1nm	**6.87**	**215**	P	**Pn**	**12 33 01.3**	**0.0**
KKM	**Kota Kinabalu** baz=9.2,SNR=5.1	**9.18**	**306**	P	**Pn**	**12 33 31.2**	**+0.9**
SBUM	**Sibu** 21nm,0.8s	**11.60**	**279**	P	**P**	**12 34 04.9**	**+1.4**
SRBI	**Singaraja** 55nm,0.9s	**12.11**	**224**	P	**P**	**12 34 10.4**	**+1.2**
KMMI	**Kalianget** 76nm,0.7s	**12.35**	**232**	P	**P**	**12 34 13.9**	**+2.0**
JAGI	**Jajag, Banyuwa** 53nm,1.0s	**13.13**	**226**	P	**P**	**12 34 22.6**	**+2.1**
KSM	**Kuching** baz=13,SNR=21	**13.40**	**274**	P	**P**	**12 34 23.8**	**+0.3**
KSM	**Kuching** 39nm,1.0s	**13.40**	**274**	P	**P**	**12 34 25.1**	**+1.6**
SJI	**Sawahan** 58nm,0.9s,3μm	**14.52**	**235**	P	**Pn**	**12 34 36.2**	**0.0**
MTN	**Manton Dam** baz=15,SNR=44	**15.31**	**151**	P	**Pn**	**12 34 45.4**	**-0.1**
KDU	**Kakadu** baz=16,SNR=47	**15.87**	**147**	P	**P**	**12 34 51.4**	**+0.6**
JAY	**Jayapura** baz=17,SNR=4.9	**17.30**	**101**	S	S	12 38 02.3	-11
LEM	**Lembang** baz=18,SNR=24	**17.67**	**245**	S	S	12 38 01.6	-19
FITZ	**Fitzroy Crossi** 1.7nm,0.3s,baz=349,slow=6.9,SNR=20	**18.74**	**174**	P	**P**	**12 35 21.0**	**-0.9**
FITZ				S	**S**	**12 38 36.5**	**-4.5**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=227,slow=16,SNR=2.1	**18.74**	**174**	P	**P**	**12 35 21.1**	**-0.8**
XMI	**Christmas Isla** baz=19,SNR=22	**21.03**	**238**	S	S	12 38 59.7	-23
XMIS	**Christmas Isla** baz=21,SNR=3.4	**21.07**	**238**	S	S	12 39 01.2	-22
IPM	**Ipoh** baz=21,SNR=4.4	**22.95**	**280**	P	**P**	**12 36 04.5**	**+0.7**
WRA	**Warramunga Arr** 18nm,0.6s	**22.98**	**154**	P	**P**	**12 36 03.9**	**-0.1**
WRA	**Warramunga Arr** 17nm,0.4s,baz=330,slow=10,SNR=56	**22.98**	**154**	S	**S**	**12 39 50.9**	**-3.5**
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=334,slow=16,SNR=5.0	**22.98**	**154**	ScP	**ScP**	**12 42 57.9**	**-0.2**
PPI	**Padang Panjang** 24nm,0.9s	**23.31**	**267**	P	**P**	**12 36 08.8**	**+1.7**
COEN	**Coen** baz=24,SNR=16	**24.16**	**128**	P	**P**	**12 36 15.1**	**+0.4**
PMG	**Port Moresby** 9.6nm,0.7s,baz=340,slow=12,SNR=2.7	**25.42**	**114**	P	**P**	**12 36 27.4**	**+1.3**
ASAR	**Alice Springs** 2.7nm,0.4s,baz=345,slow=14,SNR=14	**26.14**	**158**	P	**P**	**12 36 32.7**	**+0.2**
ASAR				pP	**pP**	**12 37 27.1**	**+3.7**
ASAR	1.2nm,0.5s,baz=338,slow=9.0,SNR=1.9			S	**S**	**12 40 42.8**	**-1.5**
ASAR	2.2nm,1.0s,baz=351,slow=21,SNR=8.9			ScP	**ScP**	**12 43 06.9**	**0.0**
QIS	**Mount Isa** 1.5nm,0.4s,baz=340,slow=3.0,SNR=14	**26.22**	**144**	P	**P**	**12 36 34.0**	**+0.8**
CMAR	**Chiang Mai Arr** baz=26,SNR=23	**30.05**	**308**	P	**P**	**12 37 07.3**	**+0.1**
CMAR	1.2nm,0.6s,baz=135,slow=6.7,SNR=9.3			PcP	**PcP**	**12 40 02.9**	**+0.7**
CMMT	**Chiang Mai** 5.9nm,0.8s	**30.24**	**308**	P	**P**	**12 37 10.0**	**+1.1**
CHTO	**Chiang Mai** 6.5nm,0.8s	**30.25**	**308**	P	**P**	**12 37 09.5**	**+0.6**
FORT	**Forrest** baz=32,SNR=7.9	**31.54**	**173**	P	**P**	**12 37 20.4**	**+0.5**
BBOO	**Buckleboo** baz=35,SNR=12	**35.28**	**162**	P	**P**	**12 37 52.3**	**+0.1**
STKA	**Stephens Creek** 6.9nm,0.5s,baz=328,slow=9.0,SNR=21	**36.53**	**154**	P	**P**	**12 38 03.4**	**+0.6**
STKA	3.8nm,0.7s,baz=311,slow=9.9,SNR=5.3			PP	**PP**	**12 39 27.6**	**-4.7**
STKA	**Stephens Creek** baz=37,SNR=9.6	**36.53**	**154**	P	**P**	**12 38 03.5**	**+0.6**
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=201,slow=9.2,SNR=3.7	**38.16**	**19**	P	**P**	**12 38 15.4**	**-1.0**
CMSA	**Cobar Meteorol** baz=38,SNR=15	**38.22**	**149**	P	**P**	**12 38 18.2**	**+1.3**
ARMA	**Armidale** baz=41,SNR=12	**40.77**	**142**	P	**P**	**12 38 40.2**	**+2.1**
ARPS	**Mount Arapiles** baz=41,SNR=6.9	**40.87**	**158**	P	**P**	**12 38 39.9**	**+1.2**
YNG	**Young** baz=42,SNR=28	**41.79**	**149**	P	**P**	**12 38 47.9**	**+1.8**
MGCD	**Mangrove Creek** baz=43,SNR=5.3	**42.45**	**145**	P	**P**	**12 38 54.1**	**+2.7**
TOO	**Toolangi** baz=43,SNR=7.0	**43.05**	**154**	P	**P**	**12 38 58.1**	**+1.9**
CNB	**Canberra Magne** baz=43,SNR=5.6	**43.08**	**149**	P	**P**	**12 38 58.5**	**+2.0**
ODAN	**Odare**	**43.52**	**310**	*e*P	**P**	**12 38 59.6**	**-0.9**
TAPN	**Taplejung** 8.1nm,0.6s	**43.53**	**311**	*e*P	**P**	**12 39 00.1**	**-0.5**
RAMN	**Ramite** 18nm,0.7s	**44.18**	**309**	*e*P	**P**	**12 39 05.1**	**-0.6**
MILA	**Mila** baz=44,SNR=5.6	**44.33**	**151**	P	**P**	**12 39 08.0**	**+1.6**
JIRN	**Jiri**	**44.85**	**310**	*e*P	**P**	**12 39 10.1**	**-1.0**
GUN	**Gumba** 20nm,0.6s	**45.21**	**310**	*e*P	**P**	**12 39 12.7**	**-1.2**
PKI	**Pulchoki**	**45.41**	**309**	*e*P	**P**	**12 39 14.8**	**-0.6**
PKIN	**Phulchoki**	**45.42**	**309**	*e*P	**P**	**12 39 14.9**	**-0.5**
GKN	**Gorkha** 8.9nm,0.4s	**46.21**	**310**	*e*P	**P**	**12 39 20.6**	**-0.9**
LHI	**Lord Howe Isla** baz=46,SNR=3.2	**46.34**	**137**	S	**S**	**12 45 47.5**	**-1.6**
ASAJ	**Asahikawa** 2.6nm,0.6s,baz=209,slow=13,SNR=3.3	**46.43**	**19**	P	**P**	**12 39 23.6**	**+0.9**
KOLN	**Kolanda** 29nm,0.7s	**46.91**	**309**	*e*P	**P**	**12 39 26.2**	**-0.7**
DANN	**Dangsing** 27nm,0.6s	**47.06**	**309**	*e*P	**P**	**12 39 27.2**	**-1.0**
DZM	**Mont Dzumac** 3.9nm,0.7s,baz=232,slow=12,SNR=3.3	**47.41**	**121**	P	**P**	**12 39 32.0**	**+1.3**
PYUN	**Piuthan** 26nm,0.5s	**47.54**	**309**	*e*P	**P**	**12 39 31.1**	**-0.6**
SONM	**Songino Array** 1.4nm,0.6s,baz=161,slow=9.3,SNR=7.3	**49.33**	**345**	P	**P**	**12 39 44.3**	**-0.6**
MKAR	**Makanchi Array** 2.8nm,0.4s,baz=124,slow=8.1,SNR=35	**58.42**	**328**	P	**P**	**12 40 49.2**	**-1.1**
MKAR	0.9nm,0.4s,baz=164,slow=3.2,SNR=7.7			PcP	**PcP**	**12 41 36.8**	**-1.2**
MKAR	0.5nm,0.6s,baz=120,slow=11,SNR=2.1			pP	pP	12 41 55.7	+7.0
PETK	**Petropavlovsk-** 1.6nm,0.7s,baz=223,slow=5.7,SNR=4.3	**59.42**	**23**	P	**P**	**12 40 57.9**	**+0.9**
ZALV	**Zalesovo Beam**	**62.01**	**335**	P	**P**	**12 41 12.3**	**-2.1**
ZALV	0.5nm,0.4s,baz=97,slow=4.9,SNR=3.5			pP	pP	12 42 19.4	+5.9
ILAR	**Eielson Array** 0.4nm,0.5s,baz=257,slow=5.5,SNR=4.5	**89.17**	**25**	P	**P**	**12 43 46.0**	**-1.6**
BRTR	**Keskin Array B** 0.4nm,0.4s,baz=123,slow=4.4,SNR=3.7	**89.62**	**310**	P	**P**	**12 43 48.2**	**-2.2**
ARCES	**ARCESS Array B** 6.5nm,1.0s,baz=64,slow=6.1,SNR=2.8	**92.26**	**340**	P	**P**	**12 43 59.8**	**-2.1**
TORD	**Torodi Ar. Bea** 0.5nm,0.3s,baz=92,slow=1.7,SNR=15	**120.89**	**286**	PKP	**PKPdf**	**12 49 42.9**	**-1.2**
SCHQ	**Schefferville** 0.8nm,0.4s,baz=233,slow=10,SNR=3.7	**124.02**	**7**	PKP	**PKPdf**	**12 49 49.0**	**0.0**

IDC 19 12:37:30.2±4.7,1˙95S×140˙05E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,Error ellipse: s-maj=176.3km s-min=31.6km az=87.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=17,slow=11,SNR=6.6	**18.73**	**197**	P	Pn	12 41 50.9	-0.1
ASAR	**Alice Springs** 1.1nm,0.6s,baz=26,slow=10,SNR=8.4	**22.39**	**195**	P	P	12 42 30.6	+0.1
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=116,slow=6.7,SNR=2.8	**70.02**	**322**	P	P	12 48 43.7	-0.2

IDC 19 12:55:53.5±7.8,6˙39S×150˙39E,h76km±56km,mb3.1/3, mb1 3.3/4,mb1mx3.1/19,mbtmp3.1/4,ML2.0/1,Error ellipse: s-maj=95.0km s-min=51.3km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.6nm,0.3s,baz=344,slow=7.4,SNR=2.5	**4.38**	**227**	P	Pn	12 56 58.2	+0.4
PMG				S	Sn	12 57 48.3	+0.7
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=144,slow=11,SNR=1.9	**20.60**	**228**	P	P	13 00 26.9	+0.2
ASAR	**Alice Springs** 0.4nm,0.4s,baz=57,slow=8.8,SNR=22	**23.37**	**221**	P	P	13 00 55.8	0.0
FITZ	**Fitzroy Crossi** 0.8nm,0.7s,baz=72,slow=13,SNR=3.7	**26.80**	**242**	P	P	13 01 26.6	-0.2
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=41,slow=3.3,SNR=3.1	**148.45**	**285**	PKPbc	PKPbc	13 15 31.9	-0.7

*MDD **19** 12:58:56.9±3.0,44˙77N×9˙57W,h0km,mb3.7/5,Error ellipse: s-maj=31.0km s-min=17.8km az=144.0,PRXIMO*

*INMG **19** 12:58:58.3±0.9,44˙81N×9˙64W,h10km,ML1.7,Error ellipse: s-maj=8.4km s-min=6.0km az=115.0*

*CSEM **19** 12:58:58.4±0.5,44˙69N×9˙43W,h10km,mb3.7/5,Error ellipse: s-maj=11.1km s-min=5.4km az=140.0*

ISC 19 12:58:57.4±3.7,44˙7N±0˙1×9˙5W±0˙2,h10km,n34, σ0ᵗ67/44,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos** 0.6nm,0.1s,SNR=7.9	**1.81**	**168**	P	**Pn**	**12 59 28.4**	**-0.3**
EMAZ	**Mazaricos** 0.6nm,0.1s,SNR=7.9	**1.81**	**168**	P	Pn	12 59 28.4	-0.3
EPON	**Pontenova** 1.4nm,0.2s,SNR=7.2	**2.19**	**129**	P	**Pn**	**12 59 34.4**	**+0.5**
EPON	**Pontenova** 1.4nm,0.2s,SNR=7.2	**2.19**	**129**	P	**Pn**	**12 59 34.4**	**+0.5**
PGAV	**Gavieira, Arco**	**2.90**	**162**	*e*Pn	**Pn**	**12 59 44.1**	**+0.4**
PGAV	**Gavieira, Arco**	**2.90**	**162**	*e*Pn	**Pn**	**12 59 44.1**	**+0.4**
ELOB	**Lobios** 1.1nm,0.2s,SNR=7.9	**3.04**	**160**	P	**Pn**	**12 59 45.8**	**+0.2**
ELOB	**Lobios** 1.1nm,0.2s,SNR=7.9	**3.04**	**160**	P	**Pn**	**12 59 45.8**	**+0.2**
PCAB	**Cabril**	**3.20**	**160**	*e*Pn	**Pn**	**12 59 48.4**	**+0.7**
PCAB	**Cabril**	**3.20**	**160**	P	**Pn**	**12 59 48.4**	**+0.7**
PCAB	**Cabril**	**3.20**	**160**	P	**Pn**	**12 59 48.4**	**+0.7**
EARI	**Arriondas** 0.2nm,0.1s,SNR=7.5	**3.40**	**113**	P	**Pn**	**12 59 51.0**	**+0.5**
EARI	0.3nm,0.2s,SNR=7.9			S	**Sn**	**13 00 31.1**	**+0.2**
EARI	**Arriondas** 0.2nm,0.1s,SNR=7.5	**3.40**	**113**	P	**Pn**	**12 59 51.0**	**+0.5**
EARI	0.3nm,0.2s,SNR=7.9			S	**Sn**	**13 00 31.1**	**+0.2**
ECAL	**Calabor** 1.8nm,0.2s,SNR=11	**3.43**	**143**	P	**Pn**	**12 59 51.6**	**+0.6**
ECAL	4.3nm,0.4s,SNR=7.9			S	**Sn**	**13 00 32.2**	**+0.5**
ECAL	**Calabor** 1.8nm,0.2s,SNR=11	**3.43**	**143**	P	**Pn**	**12 59 51.6**	**+0.6**
ECAL	4.3nm,0.4s,SNR=7.9			S	**Sn**	**13 00 32.2**	**+0.5**
PBRG	**Braganca**	**3.54**	**145**	*e*Pn	**Pn**	**12 59 53.6**	**+1.1**
PBRG				*e*Sn	**Sn**	**13 00 33.6**	**-0.8**
PBRG	1.2nm,0.1s			A	A	13 00 34.1	
PBRG	**Braganca**	**3.54**	**145**	P	**Pn**	**12 59 53.6**	**+1.1**
PBRG	0.6nm,0.1s			S	**Sn**	**13 00 33.6**	**-0.8**
PBRG	**Braganca**	**3.54**	**145**	P	**Pn**	**12 59 53.6**	**+1.1**
PBRG	0.6nm,0.1s			S	**Sn**	**13 00 33.6**	**-0.8**
POLO	**Lamas de Olo**	**3.57**	**159**	*e*Pn	**Pn**	**12 59 53.5**	**+0.5**
POLO				*e*Sn	**Sn**	**13 00 35.1**	**-0.1**
POLO	0.8nm,0.5s			A	A	13 00 43.2	
POLO	**Lamas de Olo**	**3.57**	**159**	*e*Pn	**Pn

SANV				eS	Sn	13 13 46.3	-2.4	
CURV	**Curarigua**	**4.28**	**42**	eP	Pn	13 13 00.8	+1.1	
CURV				eS	Sn	13 13 45.2	-4.5	
DABV	**Dabajuro**	**4.64**	**28**	eP	Pn	13 13 04.9	+0.5	
DABV				eS	Sn	13 13 52.9	-5.0	
TEPV	**Terepaima**	**4.79**	**49**	eP	Pn	13 13 07.8	+1.3	
BAUV	**El Baul**	**5.22**	**66**	eP	Pn	13 13 13.9	+1.9	
BAUV				eS	Sn	13 14 10.5	-1.2	
MAPV	**Macapo**	**5.29**	**55**	eP	Pn	13 13 14.7	+1.6	
MAPV				eS	Sn	13 14 10.7	-2.7	
IMOV	**Isla Los Monje**	**5.84**	**19**	eP	Pn	13 13 20.4	+0.1	
MONV	**Montecano**	**5.85**	**29**	eP	Pn	13 13 21.1	+0.7	
BIRV	**Birongo**	**7.46**	**60**	eP	Pn	13 13 43.7	+1.7	
BIRV				eS	Sn	13 15 01.8	-3.7	
SJG	**San Juan**	**13.00**	**30**	LR	LR	13 20 36.9		
	comp=Z,20nm,19.1s,baz=360,slow=40							
TEIG	**Tepich**	**20.04**	**313**	P	**P**	**13 16 17.6**	**+0.6**	
	3.7nm,0.4s,baz=77,slow=10.0,SNR=3.7							
LPAZ	**La Paz**	**23.42**	**169**	pP	pP	13 17 25.4	+4.3	
	1.5nm,0.8s,baz=356,slow=14,SNR=4.6							
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**13 18 47.6**	**-0.4**	
	0.6nm,0.7s,baz=123,slow=9.1,SNR=4.4							
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**13 20 21.0**	**+0.9**	
	0.9nm,0.5s,baz=189,slow=13,SNR=4.3							
PDAR	**Pinedale Array**	**48.24**	**324**	P	**P**	**13 20 21.4**	**-0.1**	
	0.3nm,0.5s,baz=131,slow=8.9,SNR=3.0							
NVAR	**Mina Array Bea**	**51.68**	**314**	P	**P**	**13 20 48.1**	**+0.6**	
	0.2nm,0.4s,baz=115,slow=8.3,SNR=3.5							
YKA	**Yellowknife Ar**	**63.37**	**340**	P	**P**	**13 22 08.1**	**-0.3**	
	0.6nm,0.6s,baz=133,slow=6.8,SNR=21							
YKA				pP	**pP**	**13 22 46.7**	**+2.1**	
	0.1nm,0.5s,baz=134,slow=6.5,SNR=2.1							
DBIC	**Dimbokro**	**67.48**	**86**	P	**P**	**13 22 36.2**	**+0.4**	
	1.6nm,0.7s,baz=226,slow=8.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**73.48**	**78**	P	**P**	**13 23 11.8**	**-0.5**	
	0.2nm,0.4s,baz=283,slow=6.9,SNR=6.5							
MKAR	**Makanchi Array**	**122.25**	**20**	PKP	**PKPdf**	**13 30 32.6**	**-0.2**	
	0.2nm,0.4s,baz=341,slow=2.7,SNR=3.8							
SONM	**Songino Array**	**125.59**	**1**	PKP	**PKPdf**	**13 30 40.2**	**+0.9**	
	0.3nm,0.5s,baz=334,slow=1.4,SNR=3.3							
ASAR	**Alice Springs**	**149.31**	**234**	PKPbc	**PKPbc**	**13 31 26.3**	**-1.2**	
	0.2nm,0.5s,baz=118,slow=5.6,SNR=6.6							
WRA	**Warramunga Arr**	**150.56**	**241**	PKPbc	**PKPbc**	**13 31 29.7**	**-0.9**	
	0.5nm,0.6s,baz=109,slow=2.5,SNR=7.9							

ATH ***19*** *13:17:44.7,35°.12N×23°.48E,h40km,ML3.3*
ISCJB ***19*** *13:17:45.2±0.6,35°.10N±0°.05×23°.49E±0°.04,h59km±5km, mb3.9/5,Error ellipse: s-maj=9.4km s-min=3.5km az=32.1*
THE ***19*** *13:17:45.7,35°.05N×23°.47E,h20km±1km,ML3.3/1,Error ellipse: s-maj=2.1km s-min=0.7km az=194.0*
CSEM ***19*** *13:17:46.1±0.2,35°.10N×23°.49E,h30km,ML3.3,Error ellipse: s-maj=5.2km s-min=1.8km az=30.0*
IDC ***19*** *13:17:48.6±8.6,35°.24N×23°.48E,h78km±60km,mb3.5/5, mb1 3.5/7,mb1mx3.2/28,mbtmp3.4/7,ML3.4/2,Error ellipse: s-maj=69.3km s-min=33.4km az=36.0*

ISC 19 13:17:45.2±1.1,35°.08N±0°.05×23°.48E±0°.04,h44km±9km, n89,σ1s20/126,mb3.8/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.48**	**48**	eP	**Pn**	**13 17 55.7**	**-0.3**
KARN				eS	**Sn**	**13 18 03.6**	**0.0**
KARN	**Karanos**	**0.48**	**48**	eP	**Pn**	**13 17 55.7**	**-0.3**
KARN				eS	**Sn**	**13 18 03.6**	**0.0**
GVD	**Gavdhos**	**0.56**	**115**	eP	**Pn**	**13 17 56.5**	**-0.3**
GVD				eS	**Sn**	**13 18 05.5**	**+0.4**
GVD	**Gavdhos**	**0.56**	**115**	eP	**Pn**	**13 17 56.5**	**-0.3**
GVD				eS	**Sn**	**13 18 05.5**	**+0.4**
VAM	**Vamos**	**0.68**	**61**	P	**Pn**	**13 17 58.7**	**+0.3**
VAM				S	**Sn**	**13 18 09.0**	**+1.0**
VAM	**Vamos**	**0.68**	**61**	eP	**Pn**	**13 17 58.6**	**+0.2**
VAM				eS	**Sn**	**13 18 08.2**	**+0.2**
VAM	**Vamos**	**0.68**	**61**	P	**Pn**	**13 17 58.7**	**+0.3**
VAM				eS	**Sn**	**13 18 08.2**	**+0.2**
SIVA	**Sivas**	**1.09**	**93**	eP	**Pn**	**13 18 05.4**	**+1.3**
SIVA				eS	**Sn**	**13 18 19.3**	**+1.2**
SIVA	**Sivas**	**1.09**	**93**	eP	**Pn**	**13 18 05.4**	**+1.3**
SIVA				eS	**Sn**	**13 18 19.3**	**+1.2**
IDI	**Anoyia**	**1.18**	**79**	P	**Pn**	**13 18 06.3**	**+1.0**
IDI				S	**Sn**	**13 18 22.1**	**+1.9**
IDI	**Anoyia**	**1.18**	**79**	eP	**Pn**	**13 18 06.4**	**+1.1**
IDI				eS	**Sn**	**13 18 21.6**	**+1.4**
IDI	**Anoyia**	**1.18**	**79**	eP	**Pn**	**13 18 06.4**	**+1.1**
IDI				eS	**Sn**	**13 18 21.6**	**+1.4**
KYTH	**Kithira**	**1.25**	**343**	P	**Pn**	**13 18 07.7**	**+1.4**
KYTH	**Kithira**	**1.25**	**343**	eP	**Pn**	**13 18 07.0**	**+0.7**
KYTH	**Kithira**	**1.25**	**343**	P	**Pn**	**13 18 07.7**	**+1.4**
LAST	**Lasithi**	**1.64**	**87**	eP	**Pn**	**13 18 13.1**	**+1.4**
LAST				eS	**Sn**	**13 18 33.0**	**+1.4**
LAST	**Lasithi**	**1.64**	**87**	eP	**Pn**	**13 18 13.1**	**+1.4**
LAST				eS	**Sn**	**13 18 33.0**	**+1.4**
VLI	**Veliai**	**1.69**	**345**	P	**Pn**	**13 18 13.9**	**+1.6**
VLI				S	**Sn**	**13 18 35.4**	**+2.6**
VLI	**Veliai**	**1.69**	**345**	eP	**Pn**	**13 18 12.9**	**+0.6**
VLI				eS	**Sn**	**13 18 33.3**	**+0.5**
VLI	**Veliai**	**1.69**	**345**	P	**Pn**	**13 18 13.9**	**+1.6**
VLI				eS	**Sn**	**13 18 33.3**	**+0.5**
NPS	**Neapolis**	**1.76**	**83**	eP	**Pn**	**13 18 13.9**	**+0.7**
NPS				eS	**Sn**	**13 18 35.0**	**+0.6**
NPS	**Neapolis**	**1.76**	**83**	eP	**Pn**	**13 18 13.9**	**+0.7**
NPS				eS	**Sn**	**13 18 35.0**	**+0.6**
XRY	**Khrisi**	**1.83**	**96**	eP	**Pn**	**13 18 15.1**	**+0.9**
XRY	**Khrisi**	**1.83**	**96**	eP	**Pn**	**13 18 15.1**	**+0.9**
DYR	**Agios Nikonas**	**1.92**	**331**	eP	**Pn**	**13 18 15.9**	**+0.5**
DYR				eS	**Sn**	**13 18 38.7**	**+0.3**
DYR	**Agios Nikonas**	**1.92**	**331**	eP	**Pn**	**13 18 15.9**	**+0.5**
DYR				eS	**Sn**	**13 18 38.7**	**+0.3**
ZKR	**Zakros**	**2.25**	**88**	eP	**Pn**	**13 18 21.6**	**+1.7**
ZKR				eS	**Sn**	**13 18 48.4**	**+2.0**
ZKR	**Zakros**	**2.25**	**88**	eP	**Pn**	**13 18 21.6**	**+1.7**
ZKR				eS	**Sn**	**13 18 48.4**	**+2.0**
PYL	**PYLOS**	**2.29**	**323**	eP	**Pn**	**13 18 21.4**	**+0.9**
PYL				eS	**Sn**	**13 18 48.4**	**+0.8**
PYL	**PYLOS**	**2.29**	**323**	eP	**Pn**	**13 18 21.4**	**+0.9**
PYL				eS	**Sn**	**13 18 48.4**	**+0.8**
DIDY	**Didyma**	**2.40**	**355**	P	**Pn**	**13 18 24.1**	**+2.0**
DIDY	**Didyma**	**2.40**	**355**	P	**Pn**	**13 18 24.1**	**+2.0**
DID	**Didima**	**2.43**	**355**	P	**Pn**	**13 18 23.6**	**+1.1**
DID	**Didima**	**2.43**	**355**	eP	**Pn**	**13 18 23.5**	**+1.1**
DID				eS	**Sn**	**13 18 51.3**	**+0.3**
DID	**Didima**	**2.43**	**355**	P	**Pn**	**13 18 23.6**	**+1.1**
DID				eS	**Sn**	**13 18 51.3**	**+0.3**
ITM	**Ithomi**	**2.44**	**330**	eP	**Pn**	**13 18 23.8**	**+1.2**
ITM				eS	**Sn**	**13 18 52.2**	**+0.9**
ITM	**Ithomi**	**2.44**	**330**	eP	**Pn**	**13 18 23.8**	**+1.2**
ITM				eS	**Sn**	**13 18 52.2**	**+0.9**
VLX	**Vlachokerasia**	**2.45**	**339**	eP	**Pn**	**13 18 23.8**	**+1.0**
VLX				eS	**Sn**	**13 18 51.9**	**+0.3**
VLX	**Vlachokerasia**	**2.45**	**339**	eP	**Pn**	**13 18 23.8**	**+1.0**
VLX				eS	**Sn**	**13 18 51.9**	**+0.3**
APE	**Apeiranthos**	**2.59**	**39**	eP	**Pn**	**13 18 25.0**	**+0.4**
APE				eS	**Sn**	**13 18 55.3**	**+0.4**
APE	**Apeiranthos**	**2.59**	**39**	eP	**Pn**	**13 18 25.0**	**+0.4**
APE				eS	**Sn**	**13 18 55.3**	**+0.4**
NAIG	**Nisos Aigina**	**2.67**	**0**	eP	**Pn**	**13 18 27.0**	**+1.2**
NAIG	**Nisos Aigina**	**2.67**	**0**	eP	**Pn**	**13 18 27.0**	**+1.2**
AMT	**Artemida-Makis**	**2.83**	**330**	eP	**Pn**	**13 18 28.4**	**+0.4**
AMT	**Artemida-Makis**	**2.83**	**330**	eP	**Pn**	**13 18 28.4**	**+0.4**
ATH	**Athens Observa**	**2.89**	**4**	eP	**Pn**	**13 18 29.5**	**+0.7**
ATH				eS	**Sn**	**13 19 01.8**	**-0.5**
ATH	**Athens Observa**	**2.89**	**4**	eP	**Pn**	**13 18 29.5**	**+0.7**
ATH				eS	**Sn**	**13 19 01.8**	**-0.5**
LTK	**Loutraki**	**2.97**	**352**	eP	**Pn**	**13 18 31.4**	**+1.6**
LTK	**Loutraki**	**2.97**	**352**	eP	**Pn**	**13 18 31.4**	**+1.6**
GUR	**Goura**	**3.00**	**343**	P	**Pn**	**13 18 31.7**	**+1.4**
GUR	**Goura**	**3.00**	**343**	eP	**Pn**	**13 18 31.5**	**+1.2**
GUR	**Goura**	**3.00**	**343**	eP	**Pn**	**13 18 31.5**	**+1.2**
KARP	**Karpathos**	**3.05**	**80**	eP	**Pn**	**13 18 31.8**	**+0.9**
KARP				eS	**Sn**	**13 19 07.1**	**+0.9**
KARP	**Karpathos**	**3.05**	**80**	eP	**Pn**	**13 18 31.8**	**+0.9**
KARP				eS	**Sn**	**13 19 07.1**	**+0.9**
LAKA	**Lakka**	**3.38**	**340**	eP	**Pn**	**13 18 37.1**	**+1.7**
LAKA	**Lakka**	**3.38**	**340**	eP	**Pn**	**13 18 37.1**	**+1.7**
RLS	**Riolos of Patr**	**3.38**	**332**	eP	**Pn**	**13 18 36.8**	**+1.3**
RLS	**Riolos of Patr**	**3.38**	**332**	eP	**Pn**	**13 18 36.8**	**+1.3**
DSF	**Desfina**	**3.41**	**347**	P	**Pn**	**13 18 37.4**	**+1.5**
DSF	**Desfina**	**3.41**	**347**	P	**Pn**	**13 18 37.4**	**+1.5**
TRIZ	**Trizonia**	**3.47**	**341**	eP	**Pn**	**13 18 38.1**	**+1.5**
TRIZ	**Trizonia**	**3.47**	**341**	eP	**Pn**	**13 18 38.1**	**+1.5**
KALE	**Kalithea**	**3.48**	**342**	eP	**Pn**	**13 18 38.3**	**+1.5**
KALE	**Kalithea**	**3.48**	**342**	eP	**Pn**	**13 18 38.3**	**+1.5**
EFP	**Efpalio**	**3.57**	**340**	eP	**Pn**	**13 18 39.8**	**+1.7**
EFP	**Efpalio**	**3.57**	**340**	eP	**Pn**	**13 18 39.8**	**+1.7**
LKR	**Lokris**	**3.59**	**354**	eP	**Pn**	**13 18 39.3**	**+1.0**
LKR	**Lokris**	**3.59**	**354**	eP	**Pn**	**13 18 39.3**	**+1.0**
VLS	**Valsamata**	**3.87**	**324**	eP	**Pn**	**13 18 43.8**	**+1.7**
VLS	**Valsamata**	**3.87**	**324**	eP	**Pn**	**13 18 43.8**	**+1.7**
ARG	**Arkhangelos**	**3.95**	**72**	eP	**Pn**	**13 18 45.5**	**+2.2**
ARG	**Arkhangelos**	**3.95**	**72**	eP	**Pn**	**13 18 45.5**	**+2.2**
AGG	**Agios Georgios**	**4.04**	**347**	eP	**Pn**	**13 18 46.2**	**+1.6**
AGG	**Agios Georgios**	**4.04**	**347**	eP	**Pn**	**13 18 46.2**	**+1.6**
NEO	**Neokhori**	**4.22**	**357**	eP	**Pn**	**13 18 48.4**	**+1.3**
NEO	**Neokhori**	**4.22**	**357**	eP	**Pn**	**13 18 48.4**	**+1.3**
THL	**Klokotos Trika**	**4.63**	**346**	eP	**Pn**	**13 18 53.7**	**+1.2**
THL	**Klokotos Trika**	**4.63**	**346**	eP	**Pn**	**13 18 53.7**	**+1.2**
BRTR	**Keskin Array B**	**9.32**	**57**	P	**Pn**	**13 19 58.8**	**+1.7**
	0.1nm,0.3s,baz=228,slow=15,SNR=3.4						
GERES	**GERESS Array B**	**15.54**	**335**	P	**P**	**13 21 25.8**	**+0.9**
	0.2nm,0.3s,baz=152,slow=12,SNR=6.7						
KHC	**Kasperske Hory**	**15.83**	**336**	eP	**P**	**13 21 28.5**	**+0.5**
AKASG	**Malin Array Be**	**16.16**	**13**	P	**Pn**	**13 21 30.0**	**+0.9**
	1.1nm,0.3s,baz=206,slow=9.5,SNR=5.0						
HFS	**Hagfors**	**25.86**	**349**	P	**P**	**13 23 11.6**	**-0.8**
	1.6nm,0.4s,baz=152,slow=10,SNR=7.7						
ARCES	**ARCESS Array B**	**34.53**	**1**	P	**P**	**13 24 26.9**	**-1.9**
	2.7nm,0.9s,baz=185,slow=9.1,SNR=4.4						
MKAR	**Makanchi Array**	**44.97**	**56**	P	**P**	**13 25 55.1**	**-0.8**
	0.8nm,0.6s,baz=284,slow=6.7,SNR=9.4						
ZALV	**Zalesovo Beam**	**46.05**	**46**	P	**P**	**13 26 02.8**	**-1.5**
	0.5nm,0.5s,baz=273,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**60.60**	**50**	P	**P**	**13 27 51.1**	**-0.3**
	0.4nm,0.5s,baz=283,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**117.95**	**96**	PKP	**PKPdf**	**13 36 26.3**	**-1.1**
	0.2nm,0.6s,baz=312,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**119.39**	**100**	PKP	**PKPdf**	**13 36 29.4**	**-0.7**
	0.1nm,0.6s,baz=335,slow=1.3,SNR=3.5						

ATH ***19*** *13:28:08.5,37°.61N×22°.51E,h54km±1km,ML2.7*
CSEM ***19*** *13:28:09.3±0.1,37°.59N×22°.52E,h50km±1km,ML2.6/9, Error ellipse: s-maj=1.4km s-min=1.2km az=69.0*

THE 19 13:28:09.5,37°.59N×22°.52E,h52km±1km,ML2.6/9,Error ellipse: s-maj=1.9km s-min=0.6km az=220.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.25**	**206**	P	Pn	13 28 18.4	-0.1
VLX				S	Sn	13 28 24.8	-0.1
VLX	**Vlachokerasia**	**0.25**	**206**	eP	Pn	13 28 18.0	-0.5
VLX				eS	Sn	13 28 24.8	-0.1
VLX	**Vlachokerasia**	**0.25**	**206**	P	Pn	13 28 18.4	-0.1
VLX				S	Sn	13 28 24.8	-0.1
GUR	**Goura**	**0.37**	**338**	P	Pn	13 28 19.6	0.0
GUR				S	Sn	13 28 27.1	+0.2
GUR	**Goura**	**0.37**	**338**	eP	Pn	13 28 19.7	+0.1
GUR				eS	Sn	13 28 26.8	-0.1
GUR	**Goura**	**0.37**	**338**	P	Pn	13 28 19.6	0.0
GUR				eS	Sn	13 28 26.8	-0.1
LTK	**Loutraki**	**0.56**	**39**	P	Pn	13 28 21.7	+0.1
LTK				S	Sn	13 28 30.8	+0.5
LTK	**Loutraki**	**0.56**	**39**	eP	Pn	13 28 21.6	0.0
LTK	**Loutraki**	**0.56**	**39**	P	Pn	13 28 21.6	0.0
LTK				S	Sn	13 28 30.3	0.0
DIDY	**Didyma**	**0.56**	**102**	P	Pn	13 28 21.5	-0.3
DIDY				S	Sn	13 28 30.5	-0.1
DIDY	**Didyma**	**0.56**	**102**	P	Pn	13 28 21.5	-0.3
DIDY				S	Sn	13 28 30.5	-0.1
DID	**Didima**	**0.58**	**98**	P	Pn	13 28 21.7	-0.1
DID				S	Sn	13 28 30.8	0.0
DID	**Didima**	**0.58**	**98**	eP	Pn	13 28 21.7	-0.1
DID				eS	Sn	13 28 31.6	+0.8
DID	**Didima**	**0.58**	**98**	P	Pn	13 28 21.7	-0.1
DID				S	Sn	13 28 30.8	0.0
ITM	**Ithomi**	**0.63**	**229**	P	Pn	13 28 22.5	+0.1
ITM				S	Sn	13 28 32.0	+0.2
ITM	**Ithomi**	**0.63**	**229**	eP	Pn	13 28 22.6	+0.2
ITM				eS	Sn	13 28 32.7	+0.9
ITM	**Ithomi**	**0.63**	**229**	P	Pn	13 28 22.5	+0.1
ITM				S	Sn	13 28 32.0	+0.2
AMT	**Artemida-Makis**	**0.65**	**265**	P	Pn	13 28 22.8	+0.1
AMT				S	Sn	13 28 32.4	+0.2
AMT	**Artemida-Makis**	**0.65**	**265**	eP	Pn	13 28 22.8	+0.1
AMT	**Artemida-Makis**	**0.65**	**265**	P	Pn	13 28 22.5	-0.2
AMT				S	Sn	13 28 32.4	+0.2
LAKA	**Lakka**	**0.77**	**327**	P	Pn	13 28 24.0	-0.3
LAKA				S	Sn	13 28 34.7	-0.5
LAKA	**Lakka**	**0.77**	**327**	eP	Pn	13 28 24.0	-0.3
LAKA				eS	Sn	13 28 35.3	+0.1
LAKA	**Lakka**	**0.77**	**327**	P	Pn	13 28 24.0	-0.3
LAKA				S	Sn	13 28 34.7	-0.5
NAIG	**Nisos Aigina**	**0.79**	**78**	eP	Pn	13 28 24.5	0.0
NAIG	**Nisos Aigina**	**0.79**	**78**	eP	Pn	13 28 24.5	0.0
DSF	**Desfina**	**0.82**	**0**	P	Pn	13 28 24.6	-0.3
DSF				S	Sn	13 28 35.9	-0.3
DSF	**Desfina**	**0.82**	**0**	P	Pn	13 28 24.6	-0.3
DSF				S	Sn	13 28 35.9	-0.3
DYR	**Agios Nikonas**	**0.84**	**190**	P	Pn	13 28 25.4	+0.2
DYR	**Agios Nikonas**	**0.84**	**190**	eP	Pn	13 28 25.7	+0.5
DYR	**Agios Nikonas**	**0.84**	**190**	P	Pn	13 28 25.4	+0.2
TRIZ	**Trizonia**	**0.85**	**336**	P	Pn	13 28 24.9	-0.3
TRIZ				S	Sn	13 28 36.7	-0.1
TRIZ	**Trizonia**	**0.85**	**336**	eP	Pn	13 28 24.6	-0.6
TRIZ				eS	Sn	13 28 36.7	-0.1
TRIZ	**Trizonia**	**0.85**	**336**	P	Pn	13 28 24.9	-0.3
TRIZ				S	Sn	13 28 36.7	-0.1
KALE	**Kalithea**	**0.85**	**340**	P	Pn	13 28 24.9	-0.5
KALE				S	Sn	13 28 36.7	-0.3
KALE	**Kalithea**	**0.85**	**340**	eP	Pn	13 28 24.9	-0.5
KALE				eS	Sn	13 28 36.6	-0.4
KALE	**Kalithea**	**0.85**	**340**	P	Pn	13 28 24.9	-0.5
KALE				S	Sn	13 28 36.7	-0.3
PYL	**PYLOS**	**0.93**	**222**	P	Pn	13 28 26.1	-0.3
PYL	**PYLOS**	**0.93**	**222**	eP	Pn	13 28 26.1	-0.3
PYL	**PYLOS**	**0.93**	**222**	P	Pn	13 28 26.1	-0.3
VLI	**Veliai**	**0.94**	**159**	P	Pn	13 28 25.8	-0.6
VLI				S	Sn	13 28 37.8	-1.0
VLI	**Veliai**	**0.94**	**159**	eP	Pn	13 28 25.8	-0.6
VLI	**Veliai**	**0.94**	**159**	P	Pn	13 28 25.8	-0.6
VLI				S	Sn	13 28 37.8	-1.0
RLS	**Riolos of Patr**	**0.95**	**299**	eP	Pn	13 28 26.7	+0.1
RLS				eS	Sn	13 28 40.1	+0.9
RLS	**Riolos of Patr**	**0.95**	**299**	eP	Pn	13 28 26.7	+0.1
RLS				eS	Sn	13 28 40.1	+0.9
EFP	**Efpalio**	**0.96**	**330**	P	Pn	13 28 26.5	-0.3
EFP	**Efpalio**	**0.96**	**330**	eP	Pn	13 28 25.8	-1.0
EFP				eS	Sn	13 28 39.1	-0.4
EFP	**Efpalio**	**0.96**	**330**	P	Pn	13 28 26.5	-0.3
EFP				eS	Sn	13 28 39.1	-0.4
ATH	**Athens Observa**	**1.02**	**68**	eP	Pn	13 28 27.2	-0.3
ATH				eS	Sn	13 28 41.4	+0.5
ATH	**Athens Observa**	**1.02**	**68**	eP	Pn	13 28 27.2	-0.3
ATH				eS	Sn	13 28 41.4	+0.5
LKR	**Lokris**	**1.12**	**20**	P	Pn	13 28 28.7	-0.2
LKR	**Lokris**	**1.12**	**20**	eP	Pn	13 28 28.0	-0.9
LKR	**Lokris**	**1.12**	**20**	P	Pn	13 28 28.7	-0.2
ATAL	**Atalanti**	**1.17**	**20**	S	Sn	13 28 44.6	+0.2
ATAL	**Atalanti**	**1.17**	**20**	S	Sn	13 28 44.6	+0.2
AXAR	**Agios Charalam**	**1.18**	**5**	P	Pn	13 28 29.8	+0.1
AXAR	**Agios Charalam**	**1.18**	**5**	P	Pn	13 28 29.8	+0.1
KYTH	**Kithira**	**1.37**	**162**	P	Pn	13 28 32.6	+0.2
KYTH	**Kithira**	**1.37**	**162**	eP	Pn	13 28 32.6	+0.2
KYTH	**Kithira**	**1.37**	**162**	P	Pn	13 28 32.6	+0.2
AGG	**Agios Georgios**	**1.44**	**354**	P	Pn	13 28 33.0	-0.2
AGG	**Agios Georgios**	**1.44**	**354**	eP	Pn	13 28 33.1	-0.1
AGG				eS	Sn	13 28 50.8	-0.2
AGG	**Agios Georgios**	**1.44**	**354**	P	Pn	13 28 33.0	-0.2
AGG				eS	Sn	13 28 50.8	-0.2
EVR	**Evrytania**	**1.44**	**337**	eP	Pn	13 28 32.7	-0.6
EVR	**Evrytania**	**1.44**	**337**	eP	Pn	13 28 32.7	-0.6
MRMA	**Marmari**	**1.54**	**72**	P	Pn	13 28 34.7	0.0
MRMA	**Marmari**	**1.54**	**72**	P	Pn	13 28 34.7	0.0

IDC 19 13:38:47.5±3.0,23°.74S×67°.10W,h234km±33km,mb2.9/1, mb1 3.0/3,mb1mx2.9/17,mbtmp2.9/3,Error ellipse: s-maj=69.3km s-min=20.6km az=99.0,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.48**	**352**	P	Pn	13 40 34.2	-0.8
	0.4nm,0.3s,baz=162,slow=9.3,SNR=9.0						
LPAZ				S	S	13 42 01.8	+0.8
	0.2nm,0.3s,baz=31,slow=22,SNR=2.3						
PLCA	**Paso Flores**	**17.19**	**189**	P	P	13 42 32.7	+0.4
	0.1nm,0.3s,baz=0.0,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	P	13 50 12.1	-0.5
	0.2nm,0.4s,baz=260,slow=4.8,SNR=2.6						
ASAR	**Alice Springs**	**128.65**	**205**	PKP	PKPdf	13 57 26.0	-1.5
	0.6nm,1.2s,baz=186,slow=5.6,SNR=3.1						
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	PKPdf	13 57 33.0	-0.6
	0.1nm,0.5s,baz=156,slow=1.9,SNR=5.6						
MKAR	**Makanchi Array**	**146.38**	**39**	PKPbc	PKPbc	13 58 01.2	+0.4
	0.4nm,0.6s,baz=303,slow=4.6,SNR=4.8						

IDC 19 13:39:07.7±0.7,21°.64S×175°.48W,h0km,mb3.9/11, mb1 4.2/13,mb1mx4.1/22,mbtmp4.0/13,ML3.5/2, MS3.7/4,Ms1 3.7/4,ms1mx2.9/34,Error ellipse: s-maj=32.0km s-min=17.3km az=134.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.46**	**25**	Pn	Pn	13 41 11.0	-0.7
	7.2nm,0.3s,baz=316,slow=4.4,SNR=13						
AFI				Sn	Sn	13 42 39.8	-8.2
	3.3nm,0.3s,baz=243,slow=22,SNR=2.3						
DZM	**Mont Dzumac**	**16.79**	**265**	eLR	LR	13 46 24.7	
	92nm,26.4s						
URZ	**Urewera**	**17.75**	**199**	P	Pn	13 43 16.2	0.0
	0.6nm,0.3s,baz=165,slow=15,SNR=4.7						
URZ				S	Sn	13 46 24.6	-10
	0.4nm,0.3s,baz=24,slow=22,SNR=1.6						
TBI	**Tubuai**	**24.09**	**99**	eLR	LR	13 49 01.4	
	87nm,33.8s						
TBI				eT	T	14 08 31.6	
	14nm,0.3s						
PAE	**Paea**	**24.70**	**85**	eT	T	14 09 23.7	
	19nm,0.3s						
PPT2	**Papeete2**	**24.72**	**85**	eLR	LR	13 49 48.3	
	108nm,28.0s						
PPT2				eT	T	14 09 26.3	
	13nm,0.3s						
TVO	**Taravao**	**24.98**	**86**	eT	T	14 09 44.2	
	13nm,0.3s						
CTA	**Charters Tower**	**35.73**	**265**	LR	LR	13 57 31.4	
	comp=Z,75nm,18.0s,baz=48,slow=31						
RKT	**Rikitea**	**37.41**	**100**	eT	T	14 25 08.5	
	4.0nm,0.3s						
STKA	**Stephens Creek**	**39.44**	**246**	P	P	13 46 40.0	+0.4
	1.2nm,0.8s,baz=87,slow=4.1,SNR=3.9						
ASAR	**Alice Springs**	**46.56**	**257**	P	P	13 47 36.9	-0.6
	1.6nm,0.7s,baz=92,slow=8.3,SNR=14						
ASAR				LR	LR	14 05 54.3	
	comp=Z,54nm,21.4s,baz=266,slow=34						
WRA	**Warramunga Arr**	**46.78**	**263**	P	P	13 47 38.6	-0.7
	1.4nm,0.8s,baz=98,slow=8.6,SNR=16						
VNDA	**Vanda**	**57.00**	**186**	P	P	13 48

IGLO				*e*Pn	**Pb**	**13 49 06.0**	**-0.4**
GHVR	**GHOM**	**1.93**	**188**	*e*Pn	**Pb**	**13 49 08.6**	**-0.3**
GHVR				*e*Sg	**Sb**	**13 49 33.3**	**+0.4**
IANJ	**Anjilo**	**2.07**	**116**	*e*Pn	**Pb**	**13 49 10.7**	**-0.7**
IANJ				*e*		13 49 43.6	
	comp=Z,2µm,0.1s						
IANJ	**Anjilo**	**2.07**	**116**	*e*Pn	**Pb**	**13 49 10.7**	**-0.7**
ISFB	**Sefidab**	**2.09**	**166**	*e*Pn	**Pb**	**13 49 10.8**	**-1.0**
ISFB				*e*		13 49 19.4	
	comp=Z,3µm,0.1s						
ISFB	**Sefidab**	**2.09**	**166**	*e*Pn	**Pb**	**13 49 10.8**	**-1.0**
ZNJK	**Zanjan**	**2.39**	**278**	*e*Pn	**Pb**	**13 49 15.7**	**-1.3**
KHMZ	**Khomeyn**	**2.98**	**208**	*e*Pn	Pb	13 49 23.6	-3.4
IKLH	**Kolahrood**	**3.06**	**181**	*e*Pn	**Pn**	**13 49 24.4**	**+2.1**
IKLH				*e*		13 50 10.1	
	comp=Z,2µm,0.1s						
IKLH	**Kolahrood**	**3.06**	**181**	*e*Pn	**Pn**	**13 49 24.4**	**+2.1**
ISRB	**Sarab**	**3.48**	**295**	*e*Pn	**Pn**	**13 49 29.6**	**+1.7**
ISRB				*e*		13 49 42.6	
	comp=Z,556nm,0.1s						
ISRB	**Sarab**	**3.48**	**295**	*e*Pn	**Pn**	**13 49 29.6**	**+1.7**
IZEF	**Zefreh**	**3.53**	**170**	*e*Pn	**Pn**	**13 49 30.6**	**+1.9**
IZEF				*e*		13 50 24.5	
	comp=Z,481nm,0.3s						
IZEF	**Zefreh**	**3.53**	**170**	*e*Pn	**Pn**	**13 49 30.6**	**+1.9**
IPIR	**Pirpir**	**3.75**	**190**	*e*Pn	Pb	13 49 36.3	-3.8
IPIR				*e*		13 49 49.1	
	comp=Z,669nm,0.2s						
IGAR	**Gharneh**	**3.99**	**175**	*e*Pn	Pn	13 49 38.3	+3.3
IGAR				*e*		13 49 50.4	
	comp=Z,368nm,0.2s						
IBST	**Bostanabad**	**4.01**	**290**	*e*Pn	**Pn**	**13 49 36.8**	**+1.5**
IBST				*e*		13 50 48.2	
	comp=Z,363nm,0.3s						
IBST	**Bostanabad**	**4.01**	**290**	*e*Pn	**Pn**	**13 49 36.8**	**+1.5**
IHRS	**Heris**	**4.13**	**299**	*e*Pn	**Pn**	**13 49 38.4**	**+1.4**
IHRS				*e*		13 49 59.2	
	comp=Z,352nm,0.1s						
IHRS	**Heris**	**4.13**	**299**	*e*Pn	**Pn**	**13 49 38.4**	**+1.4**
ISHV	**Shirvan**	**4.99**	**75**	*e*Pn	**Pn**	**13 49 50.2**	**+1.5**
ISHV				*e*		13 51 33.8	
	comp=Z,396nm,0.3s						
ISHV	**Shirvan**	**4.99**	**75**	*e*Pn	**Pn**	**13 49 50.2**	**+1.5**
ISFR	**Sfrayin**	**5.16**	**81**	*e*Pn	**Pn**	**13 49 53.2**	**+2.1**
ISFR	**Sfrayin**	**5.16**	**81**	*e*Pn	**Pn**	**13 49 53.2**	**+2.1**
IKRD	**Kardeh**	**5.55**	**84**	*e*		13 50 19.8	
	comp=Z,49nm,0.1s						
IKRD				*e*Pn	**Pb**	**13 50 09.0**	**-1.8**
IBAF	**Bafgh**	**5.79**	**145**	*e*Pn	**Pn**	**13 50 01.2**	**+1.5**
IBAF				*e*		13 50 11.4	
	comp=Z,90nm,0.2s						
IBAF	**Bafgh**	**5.79**	**145**	*e*Pn	**Pn**	**13 50 01.2**	**+1.5**

*CSEM **19** 13:59:37.0, 39.95N×28.08E, h12km, ML2.1, After ISK*
ISK 19 13:59:37.0, 39.95N×28.08E, h12km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.32**	**287**	*e*Pg	Pg	13 59 43.3	-0.1
GONE				*e*Sg	Sb	13 59 49.1	-0.7
GONE	**Gonen-Balikesi**	**0.32**	**287**	*e*Pg	Pg	13 59 43.3	-0.2
GONE				*e*Sg	Sb	13 59 49.1	-0.6
BALB	**Balikesir**	**0.35**	**206**	*e*PG	Pg	13 59 44.2	+0.2
BALB				*e*SG	Sb	13 59 50.2	-0.4
BALB	**Balikesir**	**0.35**	**206**	*e*Pg	Pg	13 59 44.2	+0.2
BALB				*e*Sg	Sb	13 59 50.2	-0.4
KRBG	**Karabiga-Canak**	**0.74**	**307**	*e*PG	Pb	13 59 52.2	+0.4
KRBG	**Karabiga-Canak**	**0.74**	**307**	*e*Pg	Pb	13 59 52.2	+0.3
MDNY	**Mudanya-Bursa**	**0.74**	**56**	*e*PG	Pb	13 59 51.8	-0.1
MDNY	**Mudanya-Bursa**	**0.74**	**56**	*e*Pg	Pb	13 59 51.8	-0.1
ARMT	**Armutlu**	**0.86**	**44**	*e*PG	Pb	13 59 54.2	+0.4
ARMT	**Armutlu**	**0.86**	**44**	*e*Pg	Pb	13 59 54.2	+0.3
RKY	**Sarkoy-Tekirda**	**1.01**	**317**	*e*PG	Pn	13 59 57.0	-0.1
RKY	**Sarkoy-Tekirda**	**1.01**	**317**	*e*Pg	Pn	13 59 57.0	0.0
LPK	**Lapseki**	**1.09**	**293**	*e*PN	Pn	13 59 58.8	+0.6
LPK	**Lapseki**	**1.09**	**293**	*e*Pn	Pn	13 59 58.8	+0.6
YLV	**Yalova**	**1.16**	**58**	*e*PN	Pg	14 00 00.1	+0.6
YLV	**Yalova**	**1.16**	**58**	*e*Pn	Pg	14 00 00.1	+0.6
TVSB	**Tavsanli**	**1.18**	**115**	*e*PN	Pg	14 00 00.1	+0.3
TVSB	**Tavsanli**	**1.18**	**115**	*e*Pn	Pg	14 00 00.1	+0.3
GELI	**Tayfur-Gelibol**	**1.31**	**290**	*e*PN	Pb	14 00 01.5	0.0
GELI	**Tayfur-Gelibol**	**1.31**	**290**	*e*Pn	Pb	14 00 01.5	0.0
CTKS	**Kestanelik-??a**	**1.32**	**14**	*e*PN	Pn	14 00 01.1	-0.1
CTKS	**Kestanelik-??a**	**1.32**	**14**	*e*Pn	Pn	14 00 01.1	-0.2
ENEZ	**Enez**	**1.67**	**299**	*e*PN	Pn	14 00 06.7	+0.7
ENEZ	**Enez**	**1.67**	**299**	*e*Pn	Pn	14 00 06.7	+0.7

*ROM **19** 14:01:39.1±0.2, 41.91N×15.62E, h1km, Ml3.0/30, Error ellipse: s-maj=3.0km s-min=1.2km az=23.0*
*ISCJB **19** 14:01:40.0±0.5, 41.88N±0.03×15.62E±0.03, h12km±2km, Error ellipse: s-maj=5.0km s-min=3.2km az=22.1*
*CSEM **19** 14:01:40.5±0.2, 41.84N×15.60E, h12km, ML3.7/12, Error ellipse: s-maj=5.5km s-min=3.1km az=19.0*
ISC 19 14:01:40.4±0.9, 41.86N±0.02×15.62E±0.02, h10km±6km, n81, σ0s56/113, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.14**	**137**	Pg	**Pg**	**14 01 43.6**	**0.0**
SGRT				Sg	**Sg**	**14 01 45.9**	**0.0**
	6µm,0.2s						
SGRT	**San Giovanni R**	**0.14**	**137**	Pg	**Pg**	**14 01 43.6**	**0.0**
SGRT				Sg	**Sg**	**14 01 45.9**	**0.0**
	6µm,0.2s						
MSAG	**Monte S. Angel**	**0.26**	**123**	Pg	**Pg**	**14 01 45.8**	**+0.1**
MSAG				Sg	**Sb**	**14 01 51.0**	**-0.8**
	3µm,0.5s						
MSAG	**Monte S. Angel**	**0.26**	**123**	Pg	**Pg**	**14 01 45.8**	**+0.1**
MSAG				Sg	**Sb**	**14 01 51.0**	**-0.8**
	3µm,0.5s						
MS1	**Monte Sant'Ang**	**0.28**	**122**	*e*Pg	**Pg**	**14 01 46.5**	**+0.3**
MS1				*e*Sg	**Sb**	**14 01 52.2**	**-0.3**
FG2	**Serracapriola**	**0.34**	**262**	Pg	**Pg**	**14 01 47.0**	**-0.2**
	1µm,0.3s						
FG2	**Serracapriola**	**0.34**	**262**	Pg	**Pg**	**14 01 47.0**	**-0.2**
	1µm,0.3s						
MELA	**Melanico ??? S**	**0.40**	**248**	Pg	**Pg**	**14 01 48.0**	**-0.2**
MELA				Sg	**Sg**	**14 01 54.3**	**+0.9**
	2µm,0.4s						
MELA	**Melanico ??? S**	**0.40**	**248**	Pg	**Pg**	**14 01 48.0**	**-0.2**
MELA				Sg	**Sg**	**14 01 54.3**	**+0.9**
	2µm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.57**	**250**	Pg	**Pg**	**14 01 51.7**	**+0.2**
CIGN				Sg	**Sb**	**14 02 01.1**	**+0.5**
	201nm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.57**	**250**	Pg	**Pg**	**14 01 51.7**	**+0.2**
CIGN				Sg	**Sb**	**14 02 01.1**	**+0.5**
	201nm,0.5s						
MOCO	**Biccari - m.te**	**0.59**	**216**	Pg	**Pg**	**14 01 51.8**	**-0.1**
FG5	**Orsara di Pugl**	**0.63**	**205**	Pg	**Pb**	**14 01 53.1**	**-0.4**
	301nm,0.3s						
FG5	**Orsara di Pugl**	**0.63**	**205**	Pg	**Pb**	**14 01 53.1**	**-0.4**
	301nm,0.3s						
FRES	**Fresagrandinar**	**0.72**	**280**	Pg	**Pb**	**14 01 54.5**	**-0.5**
	271nm,0.4s						
FRES	**Fresagrandinar**	**0.72**	**280**	Pg	**Pb**	**14 01 54.5**	**-0.5**
	271nm,0.4s						
SGTA	**Sant Agata di**	**0.74**	**195**	Pg	**Pb**	**14 01 55.3**	**-0.2**
SGTA				Sg	**Sn**	**14 02 08.2**	**-0.2**
	420nm,0.3s						
SGTA	**Sant Agata di**	**0.74**	**195**	Pg	**Pb**	**14 01 55.3**	**-0.2**
TRIV	**Trivento**	**0.80**	**264**	Pn	**Pg**	**14 01 55.9**	**0.0**
TRIV				Sn	**Sn**	**14 02 08.4**	**-1.4**
	274nm,0.5s						
TRIV	**Trivento**	**0.80**	**264**	Pn	**Pg**	**14 01 55.9**	**0.0**
TRIV				Sn	**Sn**	**14 02 08.4**	**-1.4**
	274nm,0.5s						
SACR	**S. Croce Del S**	**0.82**	**237**	Pg	**Pb**	**14 01 56.9**	**+0.1**
SACR	**S. Croce Del S**	**0.82**	**237**	Pg	**Pb**	**14 01 56.9**	**+0.1**
BSSO	**Busso**	**0.83**	**248**	Pn	**Pb**	**14 01 56.7**	**-0.2**
	250nm,0.6s						
BSSO	**Busso**	**0.83**	**248**	Pn	**Pb**	**14 01 56.7**	**-0.2**
	250nm,0.6s						
IPES	**Pescosannita**	**0.86**	**224**	Pn	**Pb**	**14 01 57.1**	**-0.2**
CAFE	**Carife**	**0.88**	**199**	Pn	**Pb**	**14 01 57.6**	**-0.1**
CAFE				Sn	**Sn**	**14 02 12.7**	**+1.0**
	148nm,0.5s						
CAFE	**Carife**	**0.88**	**199**	Pn	**Pb**	**14 01 57.6**	**-0.1**
CAFE				Sn	**Sn**	**14 02 12.7**	**+1.0**
	148nm,0.5s						
MRB1	**Monte Rocchett**	**0.88**	**214**	Pn	**Pn**	**14 01 58.6**	**-0.2**
	492nm,0.7s						
MRB1	**Monte Rocchett**	**0.88**	**214**	Pn	**Pn**	**14 01 58.6**	**-0.2**
	492nm,0.7s						
PSB1	**Pescosannita**	**0.88**	**224**	Pn	**Pg**	**14 01 57.2**	**0.0**
PSB1				Sn	**Sn**	**14 02 11.9**	**+0.3**
	259nm,0.5s						
PSB1	**Pescosannita**	**0.88**	**224**	Pn	**Pg**	**14 01 57.2**	**0.0**
PSB1				Sn	**Sn**	**14 02 11.9**	**+0.3**
	259nm,0.5s						
MRVN	**Minervino Murg**	**0.91**	**151**	Pn	**Pg**	**14 01 57.0**	**-0.8**
MRVN				Sn	**Sb**	**14 02 10.5**	**+0.2**
	418nm,0.3s						
MRVN	**Minervino Murg**	**0.91**	**151**	Pn	**Pg**	**14 01 57.0**	**-0.8**
MRVN				Sn	**Sb**	**14 02 10.5**	**+0.2**
	418nm,0.3s						
CDT	**Castel del Mon**	**0.92**	**147**	*e*Pg	**Pg**	**14 01 57.6**	**-0.4**
CDT				*e*Sg	**Sn**	**14 02 11.5**	**-1.1**
PALZ	**Palazzo San Ge**	**0.95**	**164**	Pn	**Pb**	**14 01 59.1**	**+0.2**
	2µm,1.2s						
PALZ	**Palazzo San Ge**	**0.95**	**164**	Pn	**Pb**	**14 01 59.1**	**+0.2**
	2µm,1.2s						
PTRJ	**Pietraroja**	**0.95**	**239**	Pn	**Pg**	**14 01 58.0**	**-0.7**
PTRJ				Sn	**Sn**	**14 02 13.0**	**-0.6**
	835nm,0.6s						
PTRJ	**Pietraroja**	**0.95**	**239**	Pn	**Pg**	**14 01 58.0**	**-0.7**
PTRJ				Sn	**Sn**	**14 02 13.0**	**-0.6**
	835nm,0.6s						
SNAL	**S. Angelo Dei**	**0.98**	**198**	Pn	**Pg**	**14 01 58.8**	**-0.4**
SNAL				Sn	**Sn**	**14 02 15.1**	**+0.9**
	622nm,0.5s						
SNAL	**S. Angelo Dei**	**0.98**	**198**	Pn	**Pg**	**14 01 58.8**	**-0.4**
SNAL				Sn	**Sn**	**14 02 15.1**	**+0.9**
	622nm,0.5s						
SGG	**Gregorio Mates**	**1.04**	**244**	Pn	**Pn**	**14 02 01.1**	**0.0**
	269nm,0.7s						
SGG	**Gregorio Mates**	**1.04**	**244**	Pn	**Pn**	**14 02 01.1**	**0.0**
	269nm,0.7s						
MIDA	**Miranda**	**1.04**	**259**	Pn	**Pb**	**14 01 59.4**	**-1.2**
MIDA				Sn	**Sn**	**14 02 15.3**	**-0.5**
	248nm,0.6s						
MIDA	**Miranda**	**1.04**	**259**	Pn	**Pb**	**14 01 59.4**	**-1.2**
MIDA				Sn	**Sn**	**14 02 15.3**	**-0.5**
	248nm,0.6s						
LPEL	**Lama dei Pelig**	**1.09**	**281**	Pn	**Pb**	**14 02 00.5**	**-0.8**
	245nm,0.3s						
LPEL	**Lama dei Pelig**	**1.09**	**281**	Pn	**Pb**	**14 02 00.5**	**-0.8**
	245nm,0.3s						
CSSN	**Cassano Irpino**	**1.09**	**204**	Pn	**Pg**	**14 02 01.4**	**+0.1**
	58nm,0.3s						
CSSN	**Cassano Irpino**	**1.09**	**204**	Pn	**Pg**	**14 02 01.4**	**+0.1**
	58nm,0.3s						
ACER	**Acerenza**	**1.09**	**167**	Pn	**Pn**	**14 02 01.6**	**-0.2**
ACER				Sn	**Sn**	**14 02 17.7**	**+0.7**
	797nm,0.5s						
ACER	**Acerenza**	**1.09**	**167**	Pn	**Pn**	**14 02 01.6**	**-0.2**
ACER				Sn	**Sn**	**14 02 17.7**	**+0.7**
	797nm,0.5s						
MRLC	**Muro Lucano**	**1.10**	**185**	Pn	**Pn**	**14 02 01.8**	**-0.1**
	694nm,0.9s						
MRLC	**Muro Lucano**	**1.10**	**185**	Pn	**Pn**	**14 02 01.8**	**-0.1**
	694nm,0.9s						
MCRV	**Calabrutti - M**	**1.12**	**198**	Pn	**Pb**	**14 02 01.8**	**-0.2**
	350nm,0.5s						
MCRV	**Calabrutti - M**	**1.12**	**198**	Pn	**Pb**	**14 02 01.8**	**-0.2**
	350nm,0.5s						
VAGA	**Valle Agricola**	**1.13**	**248**	Pn	**Pg**	**14 02 02.1**	**+0.1**
	305nm,0.6s						
VAGA	**Valle Agricola**	**1.13**	**248**	Pn	**Pg**	**14 02 02.1**	**+0.1**
	305nm,0.6s						
AMUR	**Altamura**	**1.20**	**142**	Pn	**Pn**	**14 02 03.0**	**-0.3**
	287nm,0.4s						
AMUR	**Altamura**	**1.20**	**142**	Pn	**Pn**	**14 02 03.0**	**-0.3**
	287nm,0.4s						
CERA	**Filignano**	**1.23**	**258**	Pn	**Pg**	**14 02 05.2**	**+1.3**
	326nm,0.6s						
CERA	**Filignano**	**1.23**	**258**	Pn	**Pg**	**14 02 05.2**	**+1.3**
	326nm,0.6s						
INTR	**Introdacqua**	**1.29**	**278**	Pn	**Pn**	**14 02 03.6**	**-0.9**
	625nm,0.8s						
INTR	**Introdacqua**	**1.29**	**278**	Pn	**Pn**	**14 02 03.6**	**-0.9**
	625nm,0.8s						
SG1	**Sgolgore (BA)**	**1.29**	**141**	*e*Pg	**Pn**	**14 02 04.3**	**-0.2**
SG1				*e*Sg	**Sg**	**14 02 22.4**	**+0.5**
RFI	**Roccamonfina**	**1.34**	**246**	Pn	**Pg**	**14 02 07.4**	**+1.2**
	17nm,0.7s						
RFI	**Roccamonfina**	**1.34**	**246**	Pn	**Pg**	**14 02 07.4**	**+1.2**
	17nm,0.7s						
SDI	**San Donato**	**1.36**	**264**	Pn	**Pb**	**14 02 05.6**	**-0.4**
	38nm,0.2s						
SDI	**San Donato**	**1.36**	**264**	Pn	**Pb**	**14 02 05.6**	**-0.4**
	38nm,0.2s						
CDRU	**Civita di Ruta**	**1.39**	**190**	Pn	**Pb**	**14 02 06.1**	**-0.3**
	103nm,0.6s						
CDRU	**Civita di Ruta**	**1.39**	**190**	Pn	**Pb**	**14 02 06.1**	**-0.3**
	103nm,0.6s						
MIGL	**Miglionico**	**1.40**	**153**	Pn	**Pn**	**14 02 06.0**	**+0.1**
	907nm,0.6s						
MIGL	**Miglionico**	**1.40**	**153**	Pn	**Pn**	**14 02 06.0**	**+0.1**
	907nm,0.6s						
MATE	**Matera**	**1.46**	**145**	Pn	**Pn**	**14 02 06.8**	**+0.1**
	245nm,0.3s						
MATE	**Matera**	**1.46**	**145**	Pn	**Pn**	**14 02 06.8**	**+0.1**
	245nm,0.3s						
NOCI	**Noci**	**1.52**	**134**	Pn	**Pn**	**14 02 07.7**	**0.0**
	231nm,0.4s						
NOCI	**Noci**	**1.52**	**134**	Pn	**Pn**	**14 02 07.7**	**0.0**
	231nm,0.4s						
CMPR	**Campora**	**1.55**	**189**	Pn	**Pn**	**14 02 08.1**	**0.0**
	81nm,0.4s						
CMPR	**Campora**	**1.55**	**189**	Pn	**Pn**	**14 02 08.1**	**0.0**
	81nm,0.4s						
STON	**Ston**	**1.85**	**56**	*e*Pn	**Pb**	**14 02 14.4**	**+0.2**
STON				Sn	**Sg**	**14 02 39.5**	**-0.3**
STON	**Ston**	**1.85**	**56**	*e*Pn	**Pb**	**14 02 14.4**	**+0.2**
STON				Sn	**Sg**	**14 02 39.4**	**-0.3**
NVLJ	**Novalja**	**2.76**	**349**	*e*Pn	**Pn**	**14 02 25.1**	**+0.4**
NVLJ				Sn	**Sn**	**14 02 59.0**	**+0.9**
NVLJ	**Novalja**	**2.76**	**349**	*e*Pn	**Pn**	**14 02 25.0**	**+0.4**
NVLJ				Sn	**Sn**	**14 02 58.9**	**+0.9**

*IDC **19** 14:08:39.2±0.7, 3.66N×126.34E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/26, mbtmp3.9/12, Error ellipse: s-maj=44.9km s-min=13.8km az=72.0*
*ISCJB **19** 14:08:43.8±0.5, 3.75N±0.05×126.74E±0.07, h48km, mb3.9/12, Error ellipse: s-maj=10.0km s-min=7.2km az=175.1*
*AUST **19** 14:08:49.2, 3.50N×127.00E, h100km*
*MAN **19** 14:09:09, 5.89N×125.86E, h187km, mb4.6, ML3.5, MS3.4*
ISC 19 14:08:45.9±0.6, 3.63N±0.07×126.85E±0.08, h48km, n26, σ1s83/24, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.34**	**350**	*e*P	**Pn**	**14 09 36.9**	**+1.2**
MATI				*e*S	Sn	14 10 05.8	-8.4
BUKP	**Musuan**	**4.58**	**337**	*e*P	Pn	14 09 49.9	-2.8
PAGZ	**Pagadian**	**5.43**	**321**	*e*P	**Pn**	**14 10 02.5**	**-1.8**
SWI	**Sorong**	**6.27**	**135**	S	**Sn**	**14 11 22.0**	**-4.3**
	baz=6.1,SNR=9.5						
PCI	**Palu**	**8.34**	**237**	S	**Sn**	**14 12 19.0**	**+1.9**
	baz=8.4,SNR=5.4						
PALU	**Palau**	**8.43**	**64**	P	**Pn**	**14 10 47.7**	**+2.2**
	baz=8.4,SNR=3.7						
TLE	**Tual**	**10.92**	**147**	S	**Sn**	**14 13 18.8**	**-1.8**
	baz=11,SNR=3.1						
MTN	**Manton Dam**	**16.91**	**166**	P	**Pn**	**14 12 37.7**	**-1.6**
	baz=17,SNR=6.1						
KDU	**Kakadu**	**17.15**	**161**	P	**P**	**14 12 43.1**	**-0.2**
	baz=17,SNR=10						
FITZ	**Fitzroy Crossi**	**21.63**	**183**	P	**P**	**14 13 32.4**	**+0.2**
	2.2nm,0.6s,baz=357,slow=6.1,SNR=12						
FITZ	**Fitzroy Crossi**	**21.63**	**183**	P	**P**	**14 13 32.2**	**0.0**
	baz=22,SNR=9.6						
WRA	**Warramunga Arr**	**24.56**	**163**	P	**P**	**14 14 01.9**	**+0.5**
	10nm,0.8s,baz=343,slow=10,SNR=70						
ASAR	**Alice Springs**	**27.99**	**166**	P	**P**	**14 14 33.7**	**+1.4**
	1.0nm,0.5s,baz=345,slow=7.5,SNR=11						
MEEK	**Meekatharra**	**31.13**	**194**	P	**P**	**14 15 01.4**	**+1.3**
	baz=31,SNR=4.4						
BBOO	**Buckleboo**	**37.28**	**167**	P	**P**	**14 15 55.0**	**+1.7**
	baz=37,SNR=5.6						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**14 16 00.1**	**+0.8**
	3.3nm,0.7s,baz=337,slow=7.6,SNR=8.4						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**14 16 01.9**	**+2.5**
	baz=38,SNR=8.2						
YNG	**Young**	**42.84**	**153**	S	S	14 22 50.7	-10
	baz=43,SNR=6.8						
SONM	**Songino Array**	**47.43**	**341**	P	**P**	**14 17 14.9**	**-0.9**
	0.2nm,0.4s,baz=170,slow=8.5,SNR=4.8						
SONM				PcP	**PcP**	**14 18 46.3**	**+0.6**
	0.4nm,0.7s,baz=128,slow=2.4,SNR=2.8						
PETK	**Petropavlovsk-**	**55.47**	**22**	P	**P**	**14 18 17.3**	**+1.6**
	2.5nm,0.9s,baz=138,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**14 18 29.6**	**-2.1**
	0.8nm,0.4s,baz=113,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	P	14 18 49.6	-2.8
	0.3nm,0.3s,baz=193,slow=5.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	**P**	**14 18 58.6**	**-1.7**
	0.7nm,0.4s,baz=126,slow=7.6,SNR=9.8						
BVAR	**Borovoye Array**	**67.47**	**327**	P	**P**	**14 19 35.2**	**-1.5**
	0.3nm,0.5s,baz=133,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**73.81**	**322**	P	**P**	**14 20 13.2**	**-2.2**
	2.0nm,0.7s,baz=359,slow=1.5,SNR=5.3						
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**14 21 18.0**	**+1.4**
	0.4nm,0.8s,baz=252,slow=5.0,SNR=6.1						

*SZGRF **19** 14:15:08.9, 34.67N×24.45E, h10km, mb5.0, MS3.7, Crete, Greece*
*BEO **19** 14:15:10.3±4.8, 34.19N×23.00E, ML5.2/1*
*HLW **19** 14:15:13.8, 35.48N×23.73E, h11km±13km, Md4.3, Ml4.6*
*BJI **19** 14:15:14.9, 35.25N×23.11E, h29km, mB5.1/31, mb5.3/50, Ms4.8/31, Ms7 4.4/29*
*DJA **19** 14:15:15.5±0.7, 35°N±10°×2°3E±1°2, h10km, M5.3/18, mB5.7/6, mb5.3/18, Mw(mB)5.2/6, Mwp5.9/1*
*ISCJB **19** 14:15:15.1±0.4, 35.02N±0.01×23.45E±0.01, h15km±3km, mb5.0/207, MS4.4/38, Error ellipse: s-maj=2.6km s-min=1.6km az=22.3*
*MOS **19** 14:15:17.6±1.0, 35.16N×23.47E, h33km, mb5.3/86, MS4.1/38, Error ellipse: s-maj=4.2km s-min=2.3km az=102.0*
*IDC **19** 14:15:18.6±2.2, 35.13N×23.50E, h29km±14km, mb4.8/33, mb1 4.8/42, mb1mx4.8/45, mbtmp4.8/42, ML4.9/6, MS4.3/25, Ms1 4.3/25, ms1mx4.1/44, Error ellipse: s-maj=11.0km s-min=9.9km az=7.0*
*CSEM **19** 14:15:18.8±0.1, 34.99N×23.43E, h40km, mb4.9/34, Ms4.3, Mw4.4, Error ellipse: s-maj=3.7km s-min=2.2km az=27.0*
*ATH **19** 14:15:19.3, 35.10N×23.44E, h37km, ML4.8*
*PDG **19** 14:15:19.5±0.4, 35.15N×23.14E, h37km±11km, ML4.8/9, Error ellipse: s-maj=7.3km s-min=4.7km az=90.0*
*NEIC **19** 14:15:19.3, 35.10N×23.44E, h37km, mb5.0/143, ML4.8(ATH), After ATH.*
NEIC Felt at Kolymvari, Mourniaos, Pithairion and Vrases.
*BGS **19** 14:15:22.8±2.1, 35.60N×23.41E, h33km, mb5.0*
*GCMT **19** 14:15:24.7±0.4, 34.75N×23.16E, h56km±2km, MW4.9, Moment Tensor Solution. s35,c43; s60,c91; Moment tensor: Scale 10¹⁶Nm; Mrr 1.86±.15; Mθθ -1.60±.12; Mφφ -0.26±.11; Mrθ 0.87±.09; Mrφ 2.11±.10; Mθφ -0.75±.09; Best double couple: M0 2.80000×10¹⁶ NP1: φs 299.00000°, δ 33.00000°, λ 79.00000°. NP2: φs 131.00000°, δ 58.00000°, λ 97.00000°. Principal axes: T 2.1200, Plg 76.0000°, Azm 62.0000°; N 1.2800, Plg 6.0000°, Azm 308.0000°; P -3.4000, Plg 12.0000°, Azm 216.0000°; Data Used: II IU CN IC G.*
*NIC **19** 14:15:27.2±0.5, 36.01N×24.22E, h61km, mb5.0, ML4.5, MW4.0*
*DDA **19** 14:15:42.0, 36.51N×24.89E, h18km, ML4.7*
ISC 19 14:15:18.3±0.2, 35.09N±0.02×23.43E±0.02, h30km±1km, h29km:pP-P, n1548, σ1s59/1706, mb5.1/204, MS4.4/43, 193C-153D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.51**	**52**	*e*PB	**Pn**	**14 15 30.5**	**+0.9**
KARN				*e*SB	**Sn**	**14 15 38.2**	**+0.9**
KARN	**Karanos**	**0.51**	**52**	*e*Pn	**Pn**	**14 15 30.5**	**+0.9**
KARN				Sb	**Sn**	**14 15 38.2**	**+0.9**
GVD	**Gavdhos**	**0.59**	**114**	*e*Pn	**Pn**	**14 15 32.2**	**+1.5**
GVD	**Gavdhos**	**0.59**	**114**	*e*PN	**Pn**	**14 15 32.1**	**+1.4**
GVD				*e*SN	**Sn**	**14 15 40.9**	**+1.5**
GVD	**Gavdhos**	**0.59**	**114**	*e*Pn	**Pn**	**14 15 32.1**	**+1.4**
VAM	**Vamos**	**0.71**	**63**	*e*PN	**Pn**	**14 15 33.7**	**+1.4**
VAM				*e*SN	**Sn**	**14 15 44.1**	**+1.9**
VAM	**Vamos**	**0.71**	**63**	*e*Pn	**Pn**	**14 15 33.7**	**+1.4**
VAM				*e*Sn	**Sn**	**14 15 44.1**	**+1.9**
SIVA	**Sivas**	**1.14**	**93**	*e*PN	**Pb**	**14 15 48.8**	**+1.5**
SIVA				*e*SN	**Sb**	**14 15 55.6**	**+1.9**
**ID

NIS1 Nisyros Isl. 3.40 63 ePN Pn 14 16 12.4 +3.1
NIS1 Nisyros Isl. 3.40 63 ePN Pn 14 16 12.4 +3.1
TRIZ Trizonia 3.45 342 ePN Pn 14 16 13.0 +3.1
TRIZ Trizonia 3.45 342 ePn Pn 14 16 13.0 +3.1
UPR University Cam 3.45 338 ePN Pn 14 16 12.3 +2.3
UPR University Cam 3.45 338 ePn Pn 14 16 12.3 +2.3
KALE Kalithea 3.46 343 ePN Pn 14 16 12.9 +2.8
KALE Kalithea 3.46 343 ePn Pn 14 16 12.9 +2.8
PSA1 Psathopyrgos 3.46 339 ePN Pn 14 16 13.2 +3.1
EFP Efpalio 3.55 340 ePN Pn 14 16 14.5 +3.1
EFP Efpalio 3.55 340 ePn Pn 14 16 14.5 +3.1
LKR Lokris 3.57 355 ePN Pn 14 16 14.6 +2.9
LKR Lokris 3.57 355 ePn Pn 14 16 14.6 +2.9
BODT Bodrum 3.71 57 ePG Pn 14 16 15.3 +1.7
DAT Datca 3.75 63 ePG Pn 14 16 16.1 +1.9
BDRM Kayabasi 3.81 58 iP Pn 14 16 17.0 +2.1
BDRM iS Sn 14 16 47.7 -11
BDRM Kayabasi 3.81 58 iP Pn 14 16 17.0 +2.1
VLS Valsamata 3.84 324 ePN Pn 14 16 17.5 +2.2
VLS Valsamata 3.84 324 ePn Pn 14 16 17.5 +2.2
SLUM 3.88 157 P Pn 14 16 16.9 +1.0
CHOS Chios island 3.91 32 ePN Pn 14 16 18.6 +2.2
CHOS Chios island 3.91 32 ePn Pn 14 16 18.6 +2.2
ARG Arkhangelos 3.99 72 ePN Pn 14 16 20.2 +2.8
ARG Arkhangelos 3.99 72 ePn Pn 14 16 20.2 +2.8
AGG Agios Georgios 4.03 348 ePN Pn 14 16 20.6 +2.7
AGG Agios Georgios 4.03 348 ePn Pn 14 16 20.6 +2.7
GCAM G?zelcaml? 4.03 49 iP Pn 14 16 21.0 +3.1
GCAM iS Sn 14 17 08.1 +4.0
GCAM G?zelcaml? 4.03 49 iP Pn 14 16 21.0 +3.1
GCAM iS Sn 14 17 08.1 +4.0
EVR Evrytania 4.04 342 ePN Pn 14 16 20.8 +2.7
EVR Evrytania 4.04 342 ePn Pn 14 16 20.8 +2.7
AOS Alonnisos 4.09 5 ePN Pn 14 16 21.2 +2.4
AOS Alonnisos 4.09 5 ePn Pn 14 16 21.2 +2.4
URLA Izmir 4.14 37 iP Pn 14 16 21.5 +2.0
URLA iS Sn 14 17 08.3 +1.4
URLA Izmir 4.14 37 iP Pn 14 16 21.5 +2.0
URLA iS Sn 14 17 08.3 +1.4
MLSB Milas 4.15 57 ePG Pn 14 16 22.1 +2.5
NEO Neokhori 4.22 358 ePN Pn 14 16 23.0 +2.5
NEO Neokhori 4.22 358 ePn Pn 14 16 23.0 +2.5
LKD2 Lefkada island 4.31 330 ePN Pn 14 16 24.6 +2.8
LKD2 Lefkada island 4.31 330 ePn Pn 14 16 24.6 +2.8
BLCB Balcova 4.39 40 eP Pn 14 16 25.1 +2.2
AYDN Tasoluk 4.42 53 iP Pn 14 16 26.6 +3.3
AYDN Tasoluk 4.42 53 iP Pn 14 16 26.6 +3.3
YER Yerkesik 4.43 61 eP Pn 14 16 26.2 +2.7
IZM Izmir 4.52 42 eP Pn 14 16 28.0 +3.3
TURN Turunc 4.56 65 iP Pn 14 16 23.5 -1.7
TURN Turunc 4.56 65 iP Pn 14 16 23.5 -1.7
THL Klokotos Trika 4.61 346 ePN Pn 14 16 28.7 +2.8
THL Klokotos Trika 4.61 346 ePn Pn 14 16 28.7 +2.8
PRK Paraskevi 4.73 28 ePN Pn 14 16 29.9 +2.3
PRK Paraskevi 4.73 28 ePn Pn 14 16 29.9 +2.3
FETY Fethiye 4.85 70 eP Pn 14 16 31.2 +2.0
AYVA Ayvalik 4.95 31 iP Pn 14 16 33.2 +2.6
AYVA Ayvalik 4.95 31 iP Pn 14 16 33.2 +2.6
LJBD Adjabya 4.97 214 iP Pn 14 16 31.3 +0.5
SNR=76
JAN Janina 5.00 337 ePN Pn 14 16 34.1 +2.8
JAN Janina 5.00 337 ePn Pn 14 16 34.1 +2.8
HMAT Matruh 5.03 141 S Sn 14 17 26.5 -2.4
baz=146
HMAT AMP 14 17 00.0
comp=N,660µm,0.8s,logA/T=5.9,baz=146
HMAT Matruh 5.03 141 S Sn 14 17 26.5 -2.4
LIT Litokhoron 5.06 352 ePN Pn 14 16 35.0 +2.9
LIT Litokhoron 5.06 352 ePn Pn 14 16 35.0 +2.9
KSL Kastellorizon 5.12 76 ePN Pn 14 16 35.5 +2.5
KSL Kastellorizon 5.12 76 ePn Pn 14 16 35.5 +2.5
AKAS Kas 5.16 75 iP Pn 14 16 35.6 +2.0
AKAS iS Sn 14 17 29.1 -3.1
AKAS Kas 5.16 75 iP Pn 14 16 35.6 +2.0
AKAS iS Sn 14 17 29.1 -3.1
AKHS Akhisar 5.16 42 iP Pn 14 16 36.5 +3.0
AKHS Akhisar 5.16 42 iP Pn 14 16 36.5 +3.0
AKS Akhisar 5.16 42 eP Pn 14 16 36.5 +3.0
BOZC Bozcaada 5.18 23 iP Pn 14 16 35.3 +1.5
DNZL Cakiroluk 5.22 59 iP Pn 14 16 38.3 +3.8
DNZL Cakiroluk 5.22 59 iP Pn 14 16 38.3 +3.8
DENT Denizli 5.25 58 eP Pn 14 16 38.0 +3.3
EZN Ezine 5.26 25 eP Pn 14 16 37.1 +2.3
PLG Polygyros 5.28 0 ePN Pn 14 16 37.5 +2.4
PLG Polygyros 5.28 0 ePn Pn 14 16 37.5 +2.4
KZN Kozani 5.37 346 ePN Pn 14 16 39.6 +3.1
KZN Kozani 5.37 346 ePn Pn 14 16 39.6 +3.1
GOLH Golhisar 5.41 65 iP Pn 14 16 40.1 +3.2
GOLH iS Sn 14 17 33.6 -4.7
KULA Kula-Manisa 5.42 49 eP Pn 14 16 40.5 +3.4
KEK Kerkira 5.45 329 ePN Pn 14 16 39.8 +2.4
KEK Kerkira 5.45 329 ePn Pn 14 16 39.8 +2.4
ELL Elmali 5.51 71 eP Pn 14 16 40.7 +2.2
BALY Balya 5.72 34 iP Pn 14 16 43.8 +2.6
SOH Sokhos 5.73 359 ePN Pn 14 16 44.0 +2.7
SOH Sokhos 5.73 359 ePn Pn 14 16 44.0 +2.7
BALB Balikesir 5.76 37 eP Pn 14 16 44.6 +2.8
DEMI Demirci 5.79 45 iP Pn 14 16 45.7 +3.6
GELI Tayfur-Gelibol 5.83 24 eP Pn 14 16 45.1 +2.6
KHL Karahalli 5.87 55 eP Pn 14 16 46.3 +3.0
KHAL Karahalli 5.87 54 iP Pn 14 16 46.8 +3.5
LPK Lapseki 5.90 26 eP Pn 14 16 46.6 +3.0
KORT Korkueli 5.92 69 iP Pn 14 16 47.0 +2.9
GONE Gonen-Balikesi 6.00 33 eP Pn 14 16 47.8 +2.9
ENEZ Enez 6.04 20 eP Pn 14 16 47.9 +2.4
DURS Dursunbey 6.04 40 iP Pn 14 16 49.7 +4.0
KRBG Karabiga-Canak 6.12 29 eP Pn 14 16 49.2 +2.5
ANTB Antalya 6.13 71 eP Pn 14 16 49.2 +2.4
BIA Bitola 6.15 345 iPn Pn 14 16 48.2 +1.1
ALN Alexandroupoli 6.16 19 ePN Pn 14 16 50.1 +2.9
ALN Alexandroupoli 6.16 19 ePn Pn 14 16 50.1 +2.9
LUJL Ujela 6.22 197 iP Pn 14 16 47.1 -0.9
SNR=70
BCK Bucak 6.25 66 eP Pn 14 16 50.8 +2.3
VAY Valandovo 6.26 354 iP Sn 14 17 50.7 -8.4
VAY Valandovo 6.26 354 iPn Pn 14 16 50.8 +2.3
VAY Valandovo 6.26 354 ePN Pn 14 16 49.8 +1.2
VAY Valandovo 6.26 354 ePn Pn 14 16 49.8 +1.2
NVR Nevrokopi 6.26 3 ePN Pn 14 16 51.4 +2.7
NVR Nevrokopi 6.26 3 Pn Pn 14 16 51.4 +2.7
GDZ Gediz 6.27 49 iP Pn 14 16 53.1 +4.2
RDO Rodhopi 6.27 15 ePN Pn 14 16 52.0 +3.3
RKY Sarkoy-Tekirda 6.33 27 iP Pn 14 16 51.9 +2.3
SART Tekirdag 6.33 27 iP Pn 14 16 52.7 +3.1
ISP Isparta 6.33 62 ⇑P Pn 14 16 51.1 +1.4
ISP Isparta 6.33 62 ePn Pn 14 16 50.1 +0.4
ISP Isparta 6.33 62⇑iP Pn 14 16 51.1 +1.4
ISP Isparta 6.33 62 ePn Pn 14 16 50.2 +0.4
ISP Isparta 6.33 62 P Pn 14 16 51.1 +1.4
TVSB Tavsanli 6.49 46 eP Pn 14 16 54.5 +2.7
MMB Musomiste 6.50 2 eP Pn 14 16 52.7 +0.8
ALT Altintas 6.65 51 eP Pn 14 16 57.2 +3.2
RZN Rozhen 6.67 8 eP Pn 14 16 56.4 +2.0
SHUT Suhut-Afyon 6.68 57 eP Pn 14 16 56.9 +2.5
TIP Timpagrande 6.71 309 ePn Pn 14 16 55.3 +0.4
TIP eSn Sn 14 18 06.1 -4.2
TIP Timpagrande 6.71 309 ePn Pn 14 16 55.3 +0.4
KDZ Kurdzhali 6.74 13 eP Pn 14 16 56.3 +1.2
KKB Krupnik 6.78 358 iP Pn 14 16 58.8 +3.1
TIR Tirane 6.85 337 eP Pn 14 16 57.1 +0.4
TIR pmax pmax
comp=Z,408nm,1.0s
TIR Tirane 6.85 337 ePn Pn 14 16 57.1 +0.4
comp=Z,408nm,1.0s
TIR Tirane 6.85 337 ePn Pn 14 16 56.8 +0.1
TIR Tirane 6.85 337 eP Pn 14 16 57.1 +0.4
comp=Z,408nm,1.0s
LSRT Sirt 6.94 237 iP Pn 14 16 57.3 -0.7
SNR=70
ARMT Armutlu 6.96 37 eP Pn 14 17 00.9 +2.8
SKO Skopje 7.05 348 iPn Pn 14 17 01.0 +1.6
SKO Skopje 7.05 348 ePn Pn 14 17 00.8 +1.4
SKO Skopje 7.05 348 ePn Pn 14 17 00.8 +1.4
PLD Plovdiv 7.08 8 iP Pn 14 17 03.3 +3.5
PLD Plovdiv 7.08 8 ePn Pn 14 17 02.5 +2.7
PLD Plovdiv 7.08 8 ePn Pn 14 17 02.5 +2.7
DIM Dimitrovgrad 7.14 13 iP Pn 14 17 03.4 +2.7
SLVT Silivri 7.20 30 eP Pn 14 17 04.2 +2.7
CAVI Cavuskoy 7.21 43 eP Pn 14 17 04.4 +2.8
YLV Yalova 7.21 39 eP Pn 14 17 04.7 +2.9

EDRB Edirne 7.23 20 eP Pn 14 17 03.3 +1.4
AKMC Akamas 7.30 88 ⇓P Pn 14 17 02.7 -0.2
AKMC Akamas 7.30 88 ⇓P Pn 14 17 02.7 -0.2
WDD Wield Dalam 7.31 279 ePn Pn 14 17 04.6 +1.7
comp=Z,81nm,0.4s
WDD eSn Sn 14 18 18.4 -6.5
WDD Wield Dalam 7.31 279 ePn Pn 14 17 04.6 +1.7
comp=Z,81nm,0.4s
PPCY Paphos 7.32 89 P Pn 14 17 03.2 0.0
PPCY Paphos 7.32 89 P Pn 14 17 03.2 0.0
GAZI Gazipasa 7.33 78 iP Pn 14 17 02.9 -0.3
CTKS Kestanelik-??a 7.33 32 eP Pn 14 17 05.8 +2.6
CTYL Yal??k??y-??at 7.43 29 eP Pn 14 17 07.3 +2.7
PGB Panagyurishte 7.47 4 iP Pn 14 17 06.1 +0.8
VTS Vitosha 7.50 359 ⇑P Pn 14 17 08.0 +2.3
VTS Vitosha 7.50 359⇑iP Pn 14 17 08.0 +2.3
VTS Vitosha 7.50 359 iP Pn 14 17 08.6 +2.9
VTS Vitosha 7.50 359 ePn Pn 14 17 07.8 +2.1
VTS Vitosha 7.50 359 ePn Pn 14 17 07.8 +2.1
ALFC Alevga 7.52 87 P Pn 14 17 04.8 -1.1
comp=Z,20nm,0.3s
ALFC S Sn 14 18 23.5 -6.6
ALFC Alevga 7.52 87 P Pn 14 17 04.8 -1.1
comp=Z,20nm,0.3s
LMSR Misrath 7.54 251 iP Pn 14 17 04.6 -1.6
SNR=70
ULC Ulcinj 7.61 336⇑iPn Pn 14 17 07.0 -0.1
ULC eSn Sn 14 18 27.0 -5.3
ULC Ulcinj 7.61 336⇑iPn Pn 14 17 07.0 -0.1
KIZT Kizilcal 7.75 58 eP Pn 14 17 11.3 +2.2
LEF Lefka 7.76 87 eP Pn 14 17 08.2 -1.0
JMB Yambol 7.77 18 iP Pn 14 17 11.9 +2.6
JMB Yambol 7.77 18 ePn Pn 14 17 11.1 +1.8
JMB Yambol 7.77 18 ePn Pn 14 17 11.1 +1.8
SZAC Souni-Zanaja 7.77 90 P Pn 14 17 10.3 +0.9
comp=Z,14nm,0.4s
SZAC S Sn 14 18 30.0 -6.4
SZAC Souni-Zanaja 7.77 90 P Pn 14 17 10.3 +0.9
comp=Z,14nm,0.4s
CUC Castrocucco 7.78 311 ePn Pn 14 17 10.6 +1.1
CUC eSn Sn 14 18 36.4 -0.1
CUC Castrocucco 7.78 311 ePn Pn 14 17 10.6 +1.1
CUC eSn Sn 14 18 36.4 -0.1
SVRH Sivrihisar-ESK 7.78 54 eP Pn 14 17 12.1 +2.5
BARS Barje 7.82 351 ePn Pn 14 17 11.4 +1.4
BARS Barje 7.82 351 ePn Pn 14 17 11.4 +1.4
LADK Ladik-KONYA 7.83 64 eP Pn 14 17 12.1 +1.9
SG1 Sgolgore (BA) 7.83 319 ePn Pn 14 17 11.1 +0.9
ERMK Ermenek 7.86 76 iP Pn 14 17 13.0 +2.3
PVY Plav 7.97 341 ePn Pn 14 17 12.8 +0.6
PVY eSn Sn 14 18 36.9 -4.4
PVY Plav 7.97 341 ePn Pn 14 17 12.8 +0.6
TTG Podgorica 8.02 337⇑iPn Pn 14 17 13.2 +0.5
TTG eSn Sn 14 18 37.5 -4.9
MAMC Mammari 8.02 87 P Pn 14 17 13.5 +0.7
MAMC Mammari 8.02 87 P Pn 14 17 13.5 +0.7
PDG Podgorica 8.02 337 ePn Pn 14 17 12.2 -0.5
PDG eSn Sn 14 18 38.8 -3.6
PDG Podgorica 8.02 337⇑iPn Pn 14 17 13.2 +0.5
BUM Brajici-Budva 8.03 335⇓iPn Pn 14 17 12.1 -0.8
BUM eSn Sn 14 18 37.3 -5.3
BUM Brajici-Budva 8.03 335⇓iPn Pn 14 17 12.1 -0.8
CSS Prodhromos 8.12 88 P Pn 14 17 14.0 -0.2
comp=Z,8.2nm,0.6s
CSS Prodhromos 8.12 88 eP Pn 14 17 13.6 -0.6
CSS Prodhromos 8.12 88 ePn Pn 14 17 13.1 -1.1
CSS eSn Sn 14 18 38.7 -6.4
CSS Prodhromos 8.12 88 ePn Pn 14 17 13.1 -1.1
CSS Prodhromos 8.12 88 P Pn 14 17 14.0 -0.2
comp=Z,8.2nm,0.6s
MDUB Mudurnu 8.17 47 eP Pn 14 17 17.0 +2.1
ZAPS Zavoj 8.20 356 ePn Pn 14 17 17.1 +1.9
CDT Castel del Mon 8.22 319 ePn Pn 14 17 15.2 -0.3
IVA Berane 8.24 342⇑iPn Pn 14 17 16.2 +0.3
IVA eSn Sn 14 18 43.1 -4.9
BEY Berane 8.25 342⇑iPn Pn 14 17 16.2 +0.3
PVL Pavlikeni 8.25 10 iP Pn 14 17 16.3 +0.4
MPEP Malo Peshtene 8.26 2 iP Pn 14 17 18.2 +2.2
LFK Lefkose 8.28 86 eP Pn 14 17 15.9 -0.4
HCY Herceg Novi 8.30 334⇓iPn Pn 14 17 15.7 -0.8
HCY eSn Sn 14 18 43.3 -5.9
HCY Herceg Novi 8.30 334⇓iPn Pn 14 17 15.7 -0.8
SELS Selova 8.32 348 ePn Pn 14 17 16.5 -0.3
NKY Niksic 8.45 337 ePn Pn 14 17 18.2 -0.5
NKY eSn Sn 14 18 47.4 -5.7
NKY Niksic 8.45 337 ePn Pn 14 17 18.2 -0.5
ROIA ROIAK 8.56 20 iP Pn 14 17 23.1 +2.9
PRD Provadia 8.67 20 iP Pn 14 17 23.4 +1.8
BRY Bratogost 8.68 335⇑iPn Pn 14 17 21.2 -0.7
BRY eSn Sn 14 18 53.4 -5.4
BRY Bratogost 8.68 335⇑iPn Pn 14 17 21.2 -0.7
SULT Sultanhani-AKS 8.68 66 eP Pn 14 17 23.6 +1.7
NEF NEVSHA 8.69 19 iP Pn 14 17 24.6 +2.6
PHNC Paralimni 8.70 88 P Pn 14 17 24.8 +2.8
PHNC S Sn 14 18 59.7 +0.6
KOT Kottamia 8.76 124 P Pn 14 17 21.4 -1.6
baz=126
KOT Kottamia 8.76 124 P Pn 14 17 21.4 -1.6
HSAF As Saff 8.77 126 P Pn 14 17 22.6 -0.5
baz=129
HSAF As Saff 8.77 126 P Pn 14 17 22.6 -0.5
LJFR Jufra 8.79 229 iP Pn 14 17 21.6 -1.8
SNR=70
EREN Erenkoy 8.79 84 eP Pn 14 17 23.4 0.0
BOLS Boljevac 8.80 353 ePn Pn 14 17 23.4 -0.1
BOLS Boljevac 8.80 353 ePn Pn 14 17 23.4 -0.1
PLE Pljevlja 8.81 340⇑iPn Pn 14 17 23.7 +0.1
PLE eSn Sn 14 18 56.8 -5.1
PLE Pljevlja 8.81 340⇑iPn Pn 14 17 23.7 +0.1
UPM Unac-Piva 8.83 338 ePn Pn 14 17 24.1 +0.1
UPM eSn Sn 14 18 57.5 -5.1
UPM Unac-Piva 8.83 338 ePn Pn 14 17 24.1 +0.1
MS1 Monte Sant'Ang 8.84 321 ePn Pn 14 17 27.2 +3.2
IVAS Ivanjica 8.85 344 ePn Pn 14 17 23.6 -0.5
IVAS Ivanjica 8.85 344 ePn Pn 14 17 23.6 -0.5
HHAG Hagoal 8.93 123 P Pn 14 17 24.1 -1.2
baz=125
HHAG Hagoal 8.93 123 P Pn 14 17 24.1 -1.2
STON Ston 8.96 332 iPn Pn 14 17 22.8 -2.7
STON Sn Sn 14 18 57.2 -8.2
GRUS Gruza 9.04 347 ePn Pn 14 17 25.9 -0.8
GRUS Gruza 9.04 347 ePn Pn 14 17 25.9 -0.8
MERS Mersin 9.17 76 eP Pn 14 17 29.1 +0.6
BBLS Lazići 9.30 342 ePn Pn 14 17 29.6 -0.8
BBLS Lazići 9.30 342 ePn Pn 14 17 29.6 -0.8
BR131 Keskin Array S 9.35 57 ePn Pn 14 17 33.7 +2.6
comp=Z,52nm,0.7s
BR131 Keskin Array S 9.35 57 ePn Pn 14 17 33.7 +2.6
comp=Z,52nm,0.7s
BRTR Keskin Array B 9.35 57 Pn Pn 14 17 33.5 +2.4
comp=Z,4.1nm,0.3s,baz=222,slow=14,SNR=60
BRTR LR LR 14 21 55.8
comp=Z,2µm,19.2s,baz=74,slow=43
BRTR ScP ScP 14 27 18.5 -0.8
comp=Z,0.1nm,0.3s,baz=174,slow=1.2,SNR=6.6
BRTR Keskin Array B 9.35 57 Pn Pn 14 17 33.5 +2.4
BRTR ScP ScP 14 27 18.5 -0.8
BRTR Keskin Array B 9.35 57 P Pn 14 17 33.5 +2.4
comp=Z,2µm,19.2s
DIVS Divibare 9.38 345 ePn Pn 14 17 30.3 -1.2
DIVS Divibare 9.38 345 ePn Pn 14 17 30.3 -1.2
TRUS Trudelj 9.42 347 ePn Pn 14 17 31.6 -0.3
TRUS Trudelj 9.42 347 ePn Pn 14 17 31.6 -0.3
GULE Gulek 9.43 73 iP Pn 14 17 34.3 +2.0
GULE Gulek 9.43 73 iP Pn 14 17 34.3 +2.0
HUMR Humele 9.51 7⇑iP Pn 14 17 33.3 +0.2
HUMR Humele 9.51 7⇑iP Pn 14 17 33.3 +0.2
TEKS Tekeris 9.91 344 ePn Pn 14 17 37.3 -1.4
SLTI Sal'it 10.09 103 Pn Pn 14 17 38.1 -3.0
KZIT Kziot 10.11 111 Pn Pn 14 17 39.2 -2.2
TIRR Tirgusor 10.11 21 ⇓P Pn 14 17 43.1 +1.7
TIRR Tirgusor 10.11 21 ePn Pn 14 17 39.0 -2.4
TIRR Tirgusor 10.11 21⇓iP Pn 14 17 43.1 +1.7
TIRR Tirgusor 10.11 21 iP Pn 14 17 42.6 +1.2
TIRR Tirgusor 10.11 21 P Pn 14 17 43.1 +1.7
MMAI Mount Meron Ar 10.15 98 Pn Pn 14 17 39.5 -2.5
comp=Z,22nm,0.3s,baz=285,slow=11,SNR=20
MMAI Sn Sn 14 19 24.8 -10
comp=Z,14nm,0.3s,baz=267,slow=9.1,SNR=3.5
MMAI Mount Meron Ar 10.15 98 Pn Pn 14 17 39.5 -2.5
MMAI Sn Sn 14 19 24.8 -10

MMAI Mount Meron Ar 10.15 98 Pn Pn 14 17 39.5 -2.5
CEYT Ceyhan 10.16 76 eP Pn 14 17 42.1 0.0
CORM Corum 10.23 57 eP Pn 14 17 44.5 +1.3
TOS Tosya 10.25 51 eP Pn 14 17 44.7 +1.4
RTMI Retamim 10.27 110 Pn Pn 14 17 42.1 -1.5
HNKL Nakhl 10.28 117 P Pn 14 17 41.8 -2.0
baz=119
HNKL Nakhl 10.28 117 P Pn 14 17 41.8 -2.0
KOZT Kozan 10.29 73 eP Pn 14 17 44.2 +0.3
ISR Istrita 10.30 12 ⇑P Pn 14 17 46.4 +2.4
ISR Istrita 10.30 12⇑iP Pn 14 17 46.3 +2.3
ISR Istrita 10.30 12 P Pn 14 17 46.4 +2.4
ARR Arges 10.31 5⇑iP Pn 14 17 45.3 +1.1
ARR Arges 10.31 5⇑iP Pn 14 17 45.3 +1.1
KSDI Kefar Szold 10.31 97 Pn Pn 14 17 41.5 -2.7
MMLI Mount Malkishu 10.33 101 Pn Pn 14 17 41.5 -2.9
HWQ Hawqa 10.34 91 eP Pn 14 17 41.8 -2.9
YAYL Yayladag 10.37 81 iP Pn 14 17 42.6 -2.5
RCY Rachaya 10.39 95 eP Pn 14 17 42.5 -2.8
VOIR 10.41 6 ⇑P Pn 14 17 46.5 +0.9
VOIR 10.41 6⇑iP Pn 14 17 46.5 +0.9
VOIR 10.41 6 P Pn 14 17 46.5 +0.9
FGSL Fruska Gora 10.43 346 ePn Pn 14 17 45.0 -0.8
FRGS Fruska Gora 10.43 346 ePn Pn 14 17 45.0 -0.8
YTIR Yattir 10.47 107 Pn Pn 14 17 44.9 -1.5
HMDT Nahal Hemdat 10.47 102 Pn Pn 14 17 44.0 -2.3
COBT Iskenderun 10.52 78 iP Pn 14 17 46.6 -0.6
COBT Iskenderun 10.52 78 iP Pn 14 17 46.6 -0.6
RMNI Mount Ramon 10.53 112 Pn Pn 14 17 45.9 -1.4
MLR Muntele Rosu 10.57 10 Pn Pn 14 17 49.4 +1.7
comp=Z,0.4nm,0.3s,baz=220,slow=5.3,SNR=17
MLR Muntele Rosu 10.57 10 Pn Pn 14 17 49.4 +1.7
MLR Muntele Rosu 10.57 10⇑iP Pn 14 17 50.0 +2.2
MLR Muntele Rosu 10.57 10 Pn Pn 14 17 49.4 +1.7
MLR Muntele Rosu 10.57 10 P Pn 14 17 50.0 +2.2
DSI Dead Sea 10.60 106 Pn Pn 14 17 45.7 -2.4
BZS Buzias 10.61 353 ⇓P Pn 14 17 48.0 -0.2
BZS Buzias 10.61 353⇓iP Pn 14 17 48.0 -0.2
BZS Buzias 10.61 353 ePn Pn 14 17 48.2 0.0
BZS Buzias 10.61 353 ePn Pn 14 17 48.2 0.0
BNN Bunyan 10.62 66 eP Pn 14 17 49.6 +1.1
AQU L'Aquila 10.67 316⇑iP Pn 14 17 47.9 -1.2
AQU L'Aquila 10.67 316 P Pn 14 17 47.9 -1.2
MZDA Masada 10.68 107 Pn Pn 14 17 47.2 -2.0
CFR Carcaliu 10.70 18 ⇑P Pn 14 17 50.8 +1.4
CFR Carcaliu 10.70 18⇑iP Pn 14 17 50.8 +1.4
CFR Carcaliu 10.70 18 P Pn 14 17 50.8 +1.4
ANDN Andirin 10.71 73 iP Pn 14 17 52.3 +2.5
ANDN Andirin 10.71 73 iP Pn 14 17 52.3 +2.5
KRMI Paran Flat 10.74 114 Pn Pn 14 17 48.2 -1.8
DEV Deva 10.79 358 ⇓P Pn 14 17 52.1 +1.4
DEV Deva 10.79 358⇓iP Pn 14 17 52.1 +1.4
DEV Deva 10.79 358 P Pn 14 17 52.1 +1.4
PRNI Paran 10.83 113 Pn Pn 14 17 49.4 -1.9
ZFRI Zfri 10.87 111 Pn Pn 14 17 49.6 -2.2
TLCR 10.89 21 ⇑P Pn 14 17 54.1 +2.0
TLCR 10.89 21⇑iP Pn 14 17 54.0 +2.0
TLCR 10.89 21 P Pn 14 17 54.1 +2.0
DOPR Dopca 10.97 7⇓iP Pn 14 17 54.0 +0.8
DOPR Dopca 10.97 7⇓iP Pn 14 17 54.0 +0.8
HRFI Mount Harif 11.01 114 Pn Pn 14 17 52.0 -1.8
PLOR Plostina 11.03 12 ⇓P Pn 14 17 56.2 +2.2
PLOR Plostina 11.03 12⇓iP Pn 14 17 56.2 +2.2
PLOR Plostina 11.03 12 P Pn 14 17 56.2 +2.2
MBRI Mt Berech 11.04 115 Pn Pn 14 17 52.6 -1.7
VRI Vrincioaia 11.06 12 ⇑P Pn 14 17 56.3 +2.0
VRI Vrincioaia 11.06 12⇑iP Pn 14 17 56.3 +2.0
VRI Vrincioaia 11.06 12 iP Pn 14 17 48.1 -6.2
VRI Vrincioaia 11.06 12 P Pn 14 17 56.3 +2.0
EIL Elat 11.13 116 Pn Pn 14 17 53.4 -2.1
comp=Z,9.5nm,0.3s,baz=251,slow=7.3,SNR=39
EIL Sn Sn 14 19 49.8 -9.2
comp=Z,14nm,0.3s,baz=42,slow=11,SNR=6.2
EIL Elat 11.13 116 Pn Pn 14 17 53.4 -2.1
EIL Sn Sn 14 19 49.8 -9.2
EIL Elat 11.13 116 Pn Pn 14 17 53.4 -2.1
KMRS Kahramanmaras 11.14 74 eP Pn 14 17 55.1 -0.4
KUZU Kuzuini 11.19 77 iP Pn 14 17 56.2 -0.1
KUZU Kuzuini 11.19 77 iP Pn 14 17 56.2 -0.1
SARI SarD1z-Kayseri 11.21 67 eP Pn 14 17 53.5 -3.2
GAZ Gaziantep 11.34 75 eP Pn 14 17 58.1 -0.2
KEST Kesra 11.51 277 Pn Pn 14 18 05.0 +4.3
comp=Z,0.1nm,0.3s,baz=42,slow=7.4,SNR=8.2
KEST Sn Sn 14 20 00.1 -8.1
comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=1.4
KEST Kesra 11.51 277 ePn Pn 14 18 02.8 +2.1
KEST Sn Sn 14 20 00.1 -8.1
NVLJ Novalja 11.52 328 ePn Pn 14 18 00.0 -0.6
NVLJ Sn Sn 14 19 59.4 -8.8
NVLJ Novalja 11.52 328 ePn Pn 14 18 00.0 -0.6
ASF Jabal al Asfar 11.60 101 Pn Pn 14 18 00.1 -1.8
comp=Z,3.2nm,0.3s,baz=150,slow=12,SNR=17
ASF Sn Sn 14 20 02.3 -8.1
comp=Z,1.9nm,0.3s,baz=271,slow=18,SNR=1.6
ASF Jabal al Asfar 11.60 101 Pn Pn 14 18 00.1 -1.8
ASF Sn Sn 14 20 02.3 -8.1
GZT Gaziantep 11.64 75 iP Pn 14 18 02.3 -0.2
TESR 11.67 11⇓iP Pn 14 18 07.1 +4.4
PKSM Moragy 11.69 343 ⇑P Pn 14 18 02.1 -0.8
PKSM Moragy 11.69 343⇑iP Pn 14 18 02.1 -0.8
PKSM Moragy 11.69 343 P Pn 14 18 02.1 -0.8
PKSM Moragy 11.69 343⇓ePn Pn 14 18 00.8 -2.1
HHRG Al Ghardaqah 11.70 129 P Pn 14 18 02.8 -0.3
baz=131
HHRG Al Ghardaqah 11.70 129 P Pn 14 18 02.8 -0.3
DRGR 11.71 358 ⇑P Pn 14 18 04.5 +1.2
DRGR 11.71 358⇑iP Pn 14 18 04.5 +1.2
DRGR 11.71 358 P Pn 14 18 04.5 +1.2
BOJS Bojanci 12.12 332 ePn Pn 14 18 08.1 -0.8
BOJS eSn Sn 14 20 15.8 -7.3
BOJS Bojanci 12.12 332 ePn Pn 14 18 08.1 -0.8
GBRS Gornja Briga 12.32 330 ePn Pn 14 18 10.9 -0.8
BEHE Becsehely 12.43 338⇓ePn Pn 14 18 11.7 -1.4
MALT Malatya 12.46 71 eP Pn 14 18 13.8 +0.1
MALT Malatya 12.46 71 ⇑P Pn 14 18 14.6 +0.9
MALT Malatya 12.46 71 ePn Pn 14 18 12.3 -1.4
comp=Z,21nm,0.7s
MALT Malatya 12.46 71⇑iP Pn 14 18 14.6 +0.9
MALT Malatya 12.46 71 ePn Pn 14 18 12.3 -1.4
comp=Z,21nm,0.7s
MALT Malatya 12.46 71 P Pn 14 18 14.6 +0.9
VISS Visnje 12.54 331 ePn Pn 14 18 13.3 -1.2
VISS eSn Sn 14 20 25.5 -7.6
VISS Visnje 12.54 331 ePn Pn 14 18 13.3 -1.2
KIS Kishinev 12.57 17 eP Pn 14 18 17.0 +2.0
KIS MLR MLR
comp=Z,1µm,13.0s
KIS MLR MLR
comp=N,1µm,14.0s
KIS MLR MLR
comp=Z,2µm,14.0s
KIS Kishinev 12.57 17 eP Pn 14 18 17.0 +2.0
KIS LRM MLR 14 23 30.0
comp=Z,1µm,13.0s
KIS Kishinev 12.57 17 eP Pn 14 18 17.0 +2.0
comp=Z,2µm,14.0s
BUR08 Bucovina Ar. S 12.62 5 ePn Pn 14 18 14.7 -1.1
SIM Simferopol' 12.80 36deP Pn 14 18 22.0 +3.9
SIM pmax pmax
comp=Z,20nm,0.9s
SIM MLR MLR
comp=Z,910nm,19.0s
BUD Budapest 12.82 346⇓epPn P 14 18 30.8 +1.9
LJU Ljubljana 12.86 331 ePn Pn 14 18 18.5 -0.4
TRPA Tarpa 13.05 357⇓iP Pn 14 18 22.5 +1.0
TRPA Tarpa 13.05 357⇓eP Pn 14 18 21.8 +0.3
TRPA Tarpa 13.05 357⇓ePn Pn 14 18 21.8 +0.3
PSZ Piszkesteto 13.09 349 ⇑P Pn 14 18 21.6 -0.5
PSZ Piszkesteto 13.09 349 ePn Pn 14 18 20.7 -1.5
PSZ Piszkesteto 13.09 349⇑iP Pn 14 18 21.6 -0.5
PSZ Piszkesteto 13.09 349 P Pn 14 18 21.6 -0.5
PSZ Piszkesteto 13.09 349⇑ePn Pn 14 18 21.8 -0.3
VOY Vojsko 13.11 329 e(Pn) Pn 14 18 20.3 -2.1
VOY e 14 18 22.4
VOY e 14 18 22.8
VOY eSn Sn 14 20 38.7 -8.4
SOKA Soboth 13.20 334⇓iPn Pn 14 18 22.4 -1.3
comp=Z,9.0nm,0.5s
SOKA Soboth 13.20 334⇓iPn Pn 14 18 22.4 -1.3
comp=Z,9.0nm,0.5s
SOKA Soboth 13.20 334⇓iPn Pn 14 18 22.4 -1.3

comp=Z,9.0nm,0.5s
OBKA Obir 13.23 332⇑*i*Pn Pn 14 18 22.1 -2.0
comp=Z,3.7nm,0.3s
OBKA *i* Sn **Sn 14 20 48.7 -1.5**
OBKA Obir 13.23 332⇑*i*Pn Pn 14 18 22.1 -2.0
comp=Z,3.7nm,0.3s
OBKA ⇓*i*Sn **Sn 14 20 48.7 -1.5**
comp=Z,17nm,0.6s
PGF Pioggiola 13.48 308 *e*P Pn 14 18 28.0 +0.4
comp=Z,88nm,1.3s
PGF Pioggiola 13.48 308 *e*P Pn 14 18 28.0 +0.4
PGF pmax pmax
comp=Z,88nm,1.3s
PGF Pioggiola 13.48 308 *e*P Pn 14 18 28.0 +0.4
comp=Z,88nm,1.3s
PGF Pioggiola 13.48 308 *e*P Pn 14 18 28.0 +0.4
comp=Z,44nm,1.3s
ARSA Arzberg 13.52 336⇑*e*Pn Pn 14 18 26.6 -1.5
comp=Z,9.5nm,0.6s
ARSA ⇑*i*P **P 14 18 39.4 +2.6**
comp=Z,63nm,1.0s
ARSA ⇑*i*Sn **Sn 14 20 51.9 -5.3**
comp=Z,4.0nm,0.5s
UZH Uzhgorod 13.56 357⇓*i*P Pn 14 18 29.9 +1.4
UZH *e*S **Sn 14 21 00.1 +2.1**
UZH MLR MLR
comp=N,600nm,12.0s
UZH MLR MLR
comp=E,1μm,12.0s
UZH MLR MLR
comp=Z,600nm,12.0s
UZH Uzhgorod 13.56 357 *i* P Pn 14 18 29.9 +1.4
SOP Sopron 13.59 340⇓*e*Pn Pn 14 18 26.8 -2.1
MYKA Terra Mystica 13.69 330⇑*i*Pn Pn 14 18 30.5 +0.1
comp=Z,2.9nm,0.4s
MYKA *i* Sn **Sn 14 20 56.4 -4.9**
MYKA Terra Mystica 13.69 330⇑*i*Pn Pn 14 18 30.5 +0.1
comp=Z,2.9nm,0.4s
MYKA ⇑*i*Sn **Sn 14 20 56.4 -4.9**
comp=Z,6.1nm,0.5s
MYKA Terra Mystica 13.69 330⇑*i*Pn Pn 14 18 30.5 +0.1
comp=Z,2.9nm,0.4s
VYHS Vyhne 13.82 347 *e*P Pn 14 18 30.6 -1.5
VYHS *e* 14 21 03.1
VYHS Vyhne 13.82 347 *e*PN Pn 14 18 30.6 -1.5
VYHS *e* 14 18 41.7
VYHS Vyhne 13.82 347 *e*SN Sn 14 21 03.1 -1.4
KOLS Kolonicke sedl 13.86 357 *e*P Pn 14 18 33.7 +1.1
KOLS Kolonicke sedl 13.86 357 *e*PN Pn 14 18 33.7 +1.1
KOLS *e* 14 18 40.1
KOLS Kolonicke sedl 13.86 357 *e*Pn Pn 14 18 33.7 +1.1
CRVS Cervenica-Dubn 13.88 355 *e*P Pn 14 18 33.1 +0.2
CRVS Cervenica-Dubn 13.88 355 *e*PN Pn 14 18 33.0 +0.2
CRVS Cervenica-Dubn 13.88 355 *e*Pn Pn 14 18 33.1 +0.2
CONA Conrad Observa 14.02 339⇓*e*Pn Pn 14 18 34.1 -0.7
comp=Z,12nm,0.8s
CONA Conrad Observa 14.02 339⇓*e*Pn Pn 14 18 34.1 -0.7
comp=Z,12nm,0.8s
CONA Conrad Observa 14.02 339⇓*e*Pn Pn 14 18 34.1 -0.7
comp=Z,12nm,0.8s
SMOL Smolenice 14.14 343 *e*P P 14 18 45.8 +2.2
SMOL Smolenice 14.14 343 *e* P 14 18 45.8 +2.2
SMOL Smolenice 14.14 343 *e*P P 14 18 45.8 +2.2
KBA Koelnbreinsper 14.17 331⇑*i*P Pn 14 18 37.0 0.0
KBA *i* 14 21 07.9
KBA pmax pmax
comp=Z,4.0nm,0.3s
KBA Koelnbreinsper 14.17 331⇑*i*Pn Pn 14 18 37.0 0.0
comp=Z,3.5nm,0.3s
KBA *i* Sn **Sn 14 21 07.9 -5.4**
KBA Koelnbreinsper 14.17 331⇑*i*Pn Pn 14 18 37.0 0.0
comp=Z,3.5nm,0.3s,SNR=9.9
KBA ⇓*i*Sn **Sn 14 21 07.9 -5.4**
comp=Z,3.6nm,0.4s
KBA Koelnbreinsper 14.17 331⇑*i*Pn Pn 14 18 37.0 0.0
comp=Z,3.5nm,0.3s
ABTA Abfaltersbach 14.26 328⇑*e*Pn Pn 14 18 38.9 +0.8
ABTA *i* Sn 14 21 07.6 -7.6
ABTA Abfaltersbach 14.26 328⇑*e*Pn Pn 14 18 38.9 +0.8
SNR=11
ABTA ⇑*i*P P 14 18 48.7 +3.6
comp=Z,106nm,0.9s
ABTA ⇑*i*Sn Sn 14 21 07.6 -7.6
comp=Z,32nm,1.0s
ABTA Abfaltersbach 14.26 328⇑*e*Pn Pn 14 18 38.9 +0.8
ANN Anapa 14.46 44 *e*P P 14 18 46.2 -0.9
ANN pmax pmax
comp=N,41nm,1.0s
ANN pmax pmax
comp=E,48nm,1.0s
ANN pmax pmax
comp=Z,80nm,1.0s
ANN MLR MLR
comp=N,236nm,13.0s
ANN MLR MLR
comp=E,413nm,13.0s
ANN MLR MLR
comp=Z,254nm,13.0s
ANN Anapa 14.46 44 *e*P P 14 18 46.2 -0.9
MOA Molln 14.47 335⇓*i*Pn Pn 14 18 40.6 -0.3
comp=Z,4.3nm,0.3s
MOA Molln 14.47 335⇓*i*Pn Pn 14 18 40.6 -0.3
comp=Z,4.3nm,0.3s,SNR=12
MOA ⇑*i*P **P 14 18 50.1 +2.8**
comp=Z,72nm,0.7s
MOA Molln 14.47 335⇓*i*Pn Pn 14 18 40.6 -0.3
comp=Z,4.3nm,0.3s
NIE Niedzica 14.51 352 *e*P Pn 14 18 42.1 +0.7
NIE Niedzica 14.51 352 *e*P Pn 14 18 42.1 +0.7
NIE *e* 14 18 49.5
KWP Kalwaria Pacla 14.54 358⇑P Pn 14 18 41.7 -0.2
KWP Kalwaria Pacla 14.54 358⇑*i*P Pn 14 18 41.7 -0.2
SET Setif 14.71 280 P P 14 18 54.0 +3.9
LVV L'vov 14.73 2 *e*P P 14 18 49.7 -0.5
LVV MLR MLR
comp=Z,600nm,12.0s
LVV MLR MLR
comp=N,400nm,11.0s
LVV MLR MLR
comp=E,600nm,12.0s
LVV L'vov 14.73 2 *e*P P 14 18 49.7 -0.5
comp=E,400nm,11.0s
WTTA Wattenberg 15.04 328⇑*i*P Pn 14 18 51.0 +2.2
WTTA pmax pmax
comp=Z,33nm,1.1s
WTTA Wattenberg 15.04 328⇑*i*Pn Pn 14 18 51.0 +2.2
comp=Z,33nm,1.1s
WTTA Wattenberg 15.04 328⇑*i*Pn Pn 14 18 51.0 +2.2
comp=Z,33nm,1.1s
WTTA *i* P **P 14 18 56.9 +3.1**
comp=Z,169nm,1.4s,SNR=12
WTTA Wattenberg 15.04 328⇑*i*Pn Pn 14 18 51.0 +2.2
comp=Z,33nm,1.1s
VRAC Vranov 15.08 343 Pn Pn 14 18 47.5 -1.6
comp=Z,0.4nm,0.3s,baz=164,slow=12,SNR=5.7
VRAC Vranov 15.08 343 Pn Pn 14 18 47.5 -1.6
VRAC Vranov 15.08 343⇑*i*P Pn 14 18 51.3 +2.2
VRAC Vranov 15.08 343 *e*P P 14 18 55.3 +1.2
SAOF Saorge 15.11 311 *e*P Pn 14 18 51.7 +2.1
SAOF Saorge 15.11 311 *e*P Pn 14 18 51.7 +2.1
SBF Sospel 15.12 310 *e*P Pn 14 18 48.3 -1.5
comp=Z,77nm,0.9s
SBF Sospel 15.12 310 *e*P Pn 14 18 48.3 -1.5
SBF pmax pmax
comp=Z,77nm,0.9s
SBF Sospel 15.12 310 *e*P Pn 14 18 48.3 -1.5
comp=Z,77nm,0.9s
SOC Sochi 15.18 51 *e*P Pn 14 18 51.1 +0.7
SOC *e* 14 21 41.1
SOC pmax pmax
comp=Z,61nm,1.0s
SOC MLR MLR
comp=Z,996nm,20.0s
AUTN L'Aution 15.20 311 *e*P P 14 18 55.3 -0.3
AUTN L'Aution 15.20 311 *e*P P 14 18 55.3 -0.3
AUTN L'Aution 15.20 311 *e*P P 14 18 55.3 -0.3
FUORN Ofenpass-Fuorn 15.21 323 *e*Pn Pn 14 18 51.0 -0.1
comp=Z,100nm,1.0s
FUORN Ofenpass-Fuorn 15.21 323 *e*Pn Pn 14 18 51.0 -0.1
comp=Z,100nm,1.0s
OKC Ostrava-Krasne 15.24 347 *e*P Pn 14 18 52.8 +1.6
OKC MLR MLR
comp=Z,1μm,18.2s
OKC Ostrava-Krasne 15.24 347 *e*P Pn 14 18 52.8 +1.6
OKC *ex* x 14 18 57.5
OKC AMS AMS 14 26 50.0
comp=Z,1μm,18.2s
FETA Feichten 15.27 325⇑*i*Pn Pn 14 18 53.5 +1.7
comp=Z,5.4nm,0.8s
FETA Feichten 15.27 325⇑*i*Pn Pn 14 18 53.4 +1.7
comp=Z,5.4nm,0.8s
FETA ⇓*e*P **P 14 18 60.0 +3.6**
comp=Z,156nm,1.0s,SNR=43
FETA Feichten 15.27 325⇑*i*Pn Pn 14 18 53.5 +1.7
comp=Z,5.4nm,0.8s
MORC Moravsky Berou 15.30 345⇑P Pn 14 18 50.2 -1.9
MORC Moravsky Berou 15.30 345 *e*Pn Pn 14 18 51.8 -0.3
comp=Z,56nm,0.9s
MORC Moravsky Berou 15.30 345⇑*i*P Pn 14 18 50.2 -1.9
MORC Moravsky Berou 15.30 345 *e*Pn Pn 14 18 51.8 -0.3
comp=Z,56nm,0.9s
MORC Moravsky Berou 15.30 345 *e*P P 14 18 58.0 +1.4
TOUF Mont Tournerai 15.32 310 *e*P P 14 18 55.4 -1.5
TOUF Mont Tournerai 15.32 310 *e*P P 14 18 55.4 -1.5
TOUF Mont Tournerai 15.32 310 *e*P P 14 18 55.4 -1.5
MOTA Moosalm 15.34 327⇓*i*P Pn 14 18 53.1 +0.4
MOTA pmax pmax
comp=Z,18nm,0.8s
MOTA Moosalm 15.34 327⇓*i*Pn Pn 14 18 53.1 +0.4
comp=Z,18nm,0.8s
MOTA Moosalm 15.34 327⇓*i*Pn Pn 14 18 53.1 +0.4
comp=Z,18nm,0.8s,SNR=13
MOTA Moosalm 15.34 327⇓*i*Pn Pn 14 18 53.1 +0.4
comp=Z,18nm,0.8s
OJC Ojcow 15.36 351 *e*P Pn 14 18 50.8 -1.9
OJC Ojcow 15.36 351 *e*P Pn 14 18 52.2 -0.5
OJC pmax pmax
comp=Z,81nm,1.4s
OJC Ojcow 15.36 351 *e*Pn Pn 14 18 52.2 -0.5
comp=Z,81nm,1.4s
OJC Ojcow 15.36 351 *e*Pn Pn 14 18 52.2 -0.5
comp=Z,81nm,1.4s
OJC Ojcow 15.36 351 *e*P Pn 14 18 50.8 -1.9
OJC *e* 14 18 57.4
TREC Trest 15.36 340 *e*P Pn 14 18 51.5 -1.3
TREC MLR MLR
comp=Z,3μm,23.5s
TREC Trest 15.36 340 *e*P Pn 14 18 51.5 -1.3
TREC *ex* x 14 18 59.0
TREC AMS AMS 14 25 40.0
comp=Z,3μm,23.5s
CALN Calern 15.41 309 *e*P Pn 14 18 55.4 +1.7
CALN Calern 15.41 309 *e*P Pn 14 18 55.4 +1.7
LMR La Mourre 15.47 307 *e*P Pn 14 18 53.5 -0.7
comp=Z,24nm,0.9s
LMR La Mourre 15.47 307 *e*P Pn 14 18 53.5 -0.7
LMR pmax pmax
comp=Z,24nm,0.9s
LMR La Mourre 15.47 307 *e*P Pn 14 18 53.5 -0.7
comp=Z,24nm,0.9s
FRF La Foret Royal 15.48 308 *e*P Pn 14 18 54.8 +0.4
comp=Z,36nm,0.9s
FRF La Foret Royal 15.48 308 *e*P Pn 14 18 54.8 +0.4
FRF pmax pmax
comp=Z,36nm,0.9s
FRF La Foret Royal 15.48 308 *e*P Pn 14 18 54.8 +0.4
comp=Z,36nm,0.9s
DAVOX Davos/Dischmat 15.51 323 Pn **P 14 18 57.1 -1.9**
comp=Z,0.6nm,0.3s,baz=165,slow=18,SNR=19
DAVOX Sn Sn 14 21 38.4 -7.4
comp=Z,1.1nm,0.3s,baz=323,slow=22,SNR=2.3
DAVOX Davos/Dischmat 15.51 323 Pn **P 14 18 57.1 -1.9**
DAVOX Sn Sn 14 21 38.4 -7.4
DAVOX Davos/Dischmat 15.51 323 Pn **P 14 18 57.1 -1.9**
GERES GERESS Array B 15.52 335 Pn **Pn 14 18 54.1 -0.8**
comp=Z,0.9nm,0.3s,baz=159,slow=11,SNR=33
GERES PcP **PcP 14 23 57.2 +0.8**
comp=Z,0.1nm,0.3s,baz=150,slow=4.1,SNR=5.2
GERES ScP **ScP 14 27 27.0 -1.3**
comp=Z,0.1nm,0.3s,baz=191,slow=1.4,SNR=6.5
GERES GERESS Array B 15.52 335 Pn **Pn 14 18 54.1 -0.8**
GERES PcP **PcP 14 23 57.2 +0.8**
GERES ScP **ScP 14 27 27.0 -1.3**
GERES GERESS Array B 15.52 335 Pn **Pn 14 18 54.1 -0.8**
TUE Stuetta 15.56 321 *e*Pn Pn 14 18 56.3 +0.6
comp=Z,118nm,1.1s
TUE Stuetta 15.56 321 *e*Pn Pn 14 18 56.3 +0.6
comp=Z,118nm,1.1s
RETA Reutte 15.60 326⇓*e*Pn Pn 14 18 57.3 +1.3
comp=Z,64nm,1.6s
RETA Reutte 15.60 326⇓*e*Pn Pn 14 18 57.3 +1.3
comp=Z,64nm,1.6s
RETA Reutte 15.60 326⇓*e*Pn Pn 14 18 57.3 +1.3
comp=Z,64nm,1.6s
KRLC Kraliky 15.75 344 *e*P P 14 18 59.9 -1.6
KHC Kasperske Hory 15.80 336 *e*P Pn 14 18 57.2 -1.4
KHC pmax pmax
comp=Z,135nm,1.0s
KHC Kasperske Hory 15.80 336 *e*Pn Pn 14 18 57.2 -1.4
comp=Z,135nm,1.0s
KHC Kasperske Hory 15.80 336 *e*P Pn 14 18 57.2 -1.4
KHC *ex* x 14 19 04.3
KHC *e*pP pP 14 19 16.0 +6.0
KHC *ex* x 14 19 32.5
KHC AMS AMS 14 26 10.0
comp=Z,2μm,19.0s
KHC Kasperske Hory 15.80 336 *e*Pn Pn 14 18 57.2 -1.4
comp=Z,135nm,1.0s
DAVA Damuels 15.86 324⇑*i*Pn P 14 19 02.7 -0.2
comp=Z,101nm,0.9s
DAVA Damuels 15.86 324⇑*i*P P 14 19 02.7 -0.2
comp=Z,101nm,0.9s,SNR=9.0
DAVA Damuels 15.86 324 P **P 14 19 02.7 -0.2**
comp=Z,101nm,0.9s,SNR=9.0
FUR Furstenfeldbru 15.89 329 *e*P P 14 19 04.1 +1.0
FUR pmax pmax
comp=Z,283nm,1.0s
FUR Furstenfeldbru 15.89 329 *e*P P 14 19 04.1 +1.0
comp=Z,283nm,1.0s
FUR Furstenfeldbru 15.89 329 *e*P P 14 19 04.1 +1.0
comp=Z,283nm,1.0s
MBDF Montbardon 15.97 312 *e*P Pn 14 19 01.4 +0.5
comp=Z,193nm,1.3s
MBDF Montbardon 15.97 312 *e*P Pn 14 19 01.4 +0.5
MBDF pmax pmax
comp=Z,193nm,1.3s
MBDF Montbardon 15.97 312 *e*P Pn 14 19 01.4 +0.5
comp=Z,193nm,1.3s
WET Wettzell 16.06 334 *e*P P 14 19 06.1 +1.2
WET pmax pmax
comp=Z,189nm,1.1s
WET Wettzell 16.06 334 *e*P P 14 19 06.1 +1.2
comp=Z,189nm,1.1s
WET Wettzell 16.06 334 *e*P P 14 19 06.1 +1.2
comp=Z,189nm,1.1s
DPC Dobruska-Polom 16.11 343 *e*P Pn 14 19 03.5 +1.0
DPC MLR MLR
comp=Z,2μm,18.1s
DPC Dobruska-Polom 16.11 343 *e*Pn Pn 14 19 02.3 -0.2
comp=Z,114nm,0.9s
DPC Dobruska-Polom 16.11 343 *e*P Pn 14 19 03.5 +1.0
DPC *ex* x 14 19 07.1
DPC AMS AMS 14 26 50.0
comp=Z,2μm,18.1s
DPC Dobruska-Polom 16.11 343 *e*Pn Pn 14 19 02.3 -0.2
comp=Z,114nm,0.9s
AK02 Malin Array Si 16.12 13 *e*Pn Pn 14 19 00.6 -2.0
AK01 Malin Array Si 16.15 13 *e*Pn Pn 14 19 01.4 -1.6
KIEV Kiev 16.16 13 *e*P Pn 14 19 01.2 -1.8
KIEV pmax pmax
comp=Z,48nm,0.9s
KIEV Kiev 16.16 13 *e*Pn Pn 14 19 01.2 -1.8
comp=Z,48nm,0.9s
AKASG Malin Array Be 16.16 13 Pn **Pn 14 19 01.3 -1.8**
comp=Z,6.6nm,0.3s,baz=202,slow=12,SNR=36
AKASG Sn **Sn 14 22 05.6 +4.2**
baz=64,slow=9.6,SNR=2.0
AKASG PcP **PcP 14 23 58.0 +0.9**
comp=Z,0.8nm,0.3s,baz=225,slow=1.2,SNR=4.4
AKASG LR LR 14 25 49.9
comp=Z,1μm,21.0s,baz=190,slow=39
AKASG Malin Array Be 16.16 13 P **Pn 14 19 01.3 -1.8**
AKASG 14 22 05.6
AKASG pmax pmax
comp=Z,7.0nm,0.3s
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,1μm,21.0s
AKASG Malin Array Be 16.16 13 Pn **Pn 14 19 01.3 -1.8**
AKASG Sn **Sn 14 22 05.6 +4.2**
AKASG PcP **PcP 14 23 58.0 +0.9**
BNI Bardonecchia 16.20 313 *e*P Pn 14 19 04.2 +0.4
BNI pmax pmax
comp=Z,45nm,1.3s
BNI Bardonecchia 16.20 313 *e*Pn Pn 14 19 04.2 +0.4
comp=Z,45nm,1.3s
BNI Bardonecchia 16.20 313 *e*Pn Pn 14 19 04.2 +0.4
comp=Z,45nm,1.3s
PRU Pruhonice 16.25 339 *e*P Pn 14 19 03.5 -0.7
PRU MLR MLR
comp=Z,2μm,22.8s
PRU Pruhonice 16.25 339 *e*P Pn 14 19 03.5 -0.7
PRU *ex* x 14 19 08.6
PRU AMS AMS 14 26 10.0
comp=Z,2μm,22.8s
UPC Upice 16.33 343 *e*P P 14 19 06.7 -1.2
UPC Upice 16.33 343 *e*P P 14 19 06.7 -1.2
UPC *ex* x 14 19 09.9
UPC Upice 16.33 343 *e*P P 14 19 06.7 -1.2
SMRF Simiane la Rot 16.36 308 *e*P Pn 14 19 06.2 +0.5
comp=Z,45nm,1.1s
SMRF Simiane la Rot 16.36 308 *e*P Pn 14 19 06.2 +0.5
comp=Z,23nm,1.1s
LPG La Plagne 16.40 314 *e*P P 14 19 09.3 +0.2
comp=Z,64nm,1.0s
LPG La Plagne 16.40 314 *e*P P 14 19 09.3 +0.2
LPG pmax pmax
comp=Z,64nm,1.0s
LPG La Plagne 16.40 314 *e*P P 14 19 09.3 +0.2
comp=Z,64nm,1.0s
LPG La Plagne 16.40 314 *e*P P 14 19 09.3 +0.2
comp=Z,32nm,1.0s
LPL La Plagne 16.42 314 *e*P P 14 19 09.5 +0.3
LPL La Plagne 16.42 314 *e*P P 14 19 09.5 +0.3
LPL La Plagne 16.42 314 *e*P P 14 19 09.5 +0.3
LPL La Plagne 16.42 314 *e*P P 14 19 09.5 +0.3
KSP Ksiaz 16.58 344 *e*P Pn 14 19 09.3 +0.9
KSP Ksiaz 16.58 344 *e*P Pn 14 19 07.2 -1.2
KSP Ksiaz 16.58 344 *e*P Pn 14 19 09.3 +0.9
SENIN Lac Senin/Sane 16.59 318 *e*Pn Pn 14 19 09.2 +0.4
comp=Z,18nm,0.7s
SENIN Lac Senin/Sane 16.59 318 *e*Pn Pn 14 19 09.2 +0.4
comp=Z,18nm,0.7s
ORIF Oris-en-Rattie 16.62 311 *e*P Pn 14 19 09.8 +0.8
comp=Z,61nm,1.1s
ORIF *e*R
comp=Z,1μm,19.5s
ORIF Oris-en-Rattie 16.62 311 *e*P Pn 14 19 09.8 +0.8
ORIF pmax pmax
comp=Z,61nm,1.1s
ORIF Oris-en-Rattie 16.62 311 *e*P Pn 14 19 09.8 +0.8
comp=Z,61nm,1.1s
ORIF Oris-en-Rattie 16.62 311 *e*P Pn 14 19 09.8 +0.8
comp=Z,30nm,1.1s
EMHD Djebel Mahouad 16.68 280 P **P 14 19 13.1 +1.0**
EMHD Djebel Mahouad 16.68 280 P **P 14 19 13.1 +1.0**
PVCC Panska Ves 16.73 340 *e*P Pn 14 19 09.8 -0.5
PVCC MLR MLR
comp=Z,2μm,21.3s
PVCC Panska Ves 16.73 340 *e*P Pn 14 19 09.8 -0.5
PVCC *ex* x 14 19 14.0
PVCC AMS AMS 14 26 30.0
comp=Z,2μm,21.3s
ROTZ Rotzenmuhle 16.82 334 *e*P P 14 19 14.8 +1.4
comp=Z,141nm,1.5s
SPAK Spaichingen-Ko 16.96 324 *e*P Pn 14 19 13.5 +0.2
SPAK Spaichingen-Ko 16.96 324 *e*P Pn 14 19 13.5 +0.2
AKH Akhalkalaki 16.96 62 P **Pn 14 19 14.5 +1.0**
AKH Akhalkalaki 16.96 62 P **Pn 14 19 14.5 +1.0**
GRA1 Grafenberg Arr 17.12 332 *e*P P 14 19 18.6 +1.9
comp=Z,500nm,21.7s
GRF Grafenberg Arr 17.12 332 *e*P P 14 19 18.6 +1.9
GRF pmax pmax
comp=Z,359nm,1.3s
GRF MLR MLR
comp=Z,500nm,21.7s
GRF Grafenberg Arr 17.12 332 *e*P P 14 19 18.6 +1.9
comp=Z,359nm,1.3s
GRF *e*L L 14 27 47.6
comp=Z,456nm,21.7s
BBS Basel-Blauen 17.16 321 *e*P Pn 14 19 15.7 -0.1
BBS Basel-Blauen 17.16 321 *e*P Pn 14 19 15.7 -0.1
BBS Basel-Blauen 17.16 321 *e*P Pn 14 19 15.7 -0.1
FELD Feldberg im Sc 17.19 323 *e*P Pn 14 19 16.3 +0.1
FELD Feldberg im Sc 17.19 323 *e*P Pn 14 19 16.3 +0.1
BRG Berggiesshubel 17.21 339 *e*P Pn 14 19 16.1 -0.2
comp=Z,91nm,1.2s
BRG PP **pP 14 19 25.0 -0.6**
BRG SS **S 14 22 37.0 +1.7**
BRG
comp=N,2μm,20.1s
BRG
comp=E,1μm,15.2s
BRG
comp=Z,2μm,20.0s
BRG Berggiesshubel 17.21 339 *e*P Pn 14 19 16.1 -0.2
BRG pmax pmax
comp=Z,91nm,1.2s
BRG MLR MLR
comp=N,2μm,20.1s
BRG MLR MLR
comp=E,1μm,15.2s
BRG MLR MLR
comp=Z,2μm,20.0s
BRG Berggiesshubel 17.21 339 *e*P P 14 19 18.9 +1.2
comp=Z,91nm,1.2s
BRG Berggiesshubel 17.21 339 *e*P Pn 14 19 16.1 -0.2
comp=Z,2μm,20.0s
STU Stuttgart 17.25 327 *e*P Pn 14 19 16.9 0.0
STU pmax pmax
comp=Z,48nm,0.8s
STU Stuttgart 17.25 327 *e*Pn Pn 14 19 16.9 0.0
comp=Z,48nm,0.8s
STU Stuttgart 17.25 327 *e*P Pn 14 19 16.9 0.0
comp=Z,48nm,0.8s
KIV Kislovodsk 17.27 53 *e*P P 14 19 18.0 -0.5
KIV *e*S **Sn 14 22 31.6 +3.2**
KIV pmax pmax
comp=Z,100nm,1.1s
KIV MLR MLR
comp=Z,556nm,14.0s
KIV Kislovodsk 17.27 53 *e*Pn Pn 14 19 15.6 -1.6
comp=Z,75nm,0.8s
KIV Kislovodsk 17.27 53 Pn **P 14 19 20.1 +1.6**
SNR=12
KIV Kislovodsk 17.27 53 Pn **P 14 19 20.0 +1.6**
SNR=12
TANN Tannenbergstha 17.28 336 *e*P P 14 19 18.7 +0.2
comp=Z,80nm,1.1s
ONI Oni 17.28 58 P **P 14 19 19.2 +0.6**
ONI Oni 17.28 58 P **P 14 19 19.2 +0.6**
KBZ Khabaz 17.32 54 P **Pn 14 19 17.4 -0.3**
comp=Z,2.5nm,0.3s,baz=246,slow=7.9,SNR=79
KBZ LR LR 14 27 26.4
comp=Z,1μm,20.6s,baz=262,slow=42
KBZ Khabaz 17.32 54 P **Pn 14 19 17.4 -0.3**
KBZ pmax pmax
comp=Z,3.0nm,0.3s
KBZ MLR MLR
comp=Z,1μm,20.6s
KBZ Khabaz 17.32 54 P **Pn 14 19 17.4 -0.3**
KBZ Khabaz 17.32 54 P **Pn 14 19 17.4 -0.3**
comp=Z,1μm,20.6s
VIVF Saint-Julien-l 17.34 310 *e*P P 14 19 19.3 +0.1
comp=Z,46nm,1.0s
VIVF Saint-Julien-l 17.34 310 *e*P P 14 19 19.3 +0.1
VIVF pmax pmax
comp=Z,46nm,1.0s
VIVF Saint-Julien-l 17.34 310 *e*P P 14 19 19.3 +0.1
comp=Z,46nm,1.0s
VIVF Saint-Julien-l 17.34 310 *e*P P 14 19 19.3 +0.1
comp=Z,23nm,1.0s
BFO Black Forest 17.34 324 *e*P P 14 19 18.8 -0.4
BFO pmax pmax
comp=Z,28nm,0.9s
BFO Black Forest 17.34 324 *e*Pn P 14 19 18.8 -0.4
comp=Z,28nm,0.9s
BFO Black Forest 17.34 324 *e*P P 14 19 18.8 -0.4
comp=Z,28nm,0.9s
CABF La Chapelle 17.41 317 *e*P Pn 14 19 18.5 -0.5
comp=Z,88nm,1.1s
CABF La Chapelle 17.41 317 *e*P Pn 14 19 18.5 -0.5

CABF pmax pmax
comp=Z,88nm,1.1s
CABF La Chapelle 17.41 317 *e*P **Pn 14 19 18.5 -0.5**
comp=Z,88nm,1.1s
CABF La Chapelle 17.41 317 *e*P **Pn 14 19 18.5 -0.5**
comp=Z,44nm,1.1s
LOMF Lomont 17.45 320 *e*P **Pn 14 19 17.2 -2.2**
LOMF Lomont 17.45 320 *e*P **Pn 14 19 17.2 -2.2**
LASF Ste Croix 17.52 307 *e*P **Pn 14 19 20.3 0.0**
comp=Z,55nm,1.0s
LASF Ste Croix 17.52 307 *e*P **Pn 14 19 20.3 0.0**
comp=Z,55nm,1.0s
LASF Ste Croix 17.52 307 *e*P **Pn 14 19 20.3 0.0**
comp=Z,28nm,1.0s
GOR Gori 17.56 61 P P 14 19 27.1 +5.4
MOF Molkenrain 17.61 321 *e*P **P 14 19 22.1 -0.1**
MOF Molkenrain 17.61 321 *e*P **P 14 19 22.1 -0.1**
MOF Molkenrain 17.61 321 *e*P **P 14 19 22.1 -0.1**
GNI Garni 17.61 67 P **Pn 14 19 22.1 +0.5**
comp=Z,1.0nm,0.3s,baz=343,slow=5.9,SNR=11
GNI LR LR 14 27 33.9
comp=Z,2µm,18.2s,baz=266,slow=42
GNI Garni 17.61 67 *e*Pn **Pn 14 19 18.9 -2.7**
comp=Z,98nm,1.2s
GNI Garni 17.61 67 Pn **P 14 19 23.4 +1.0**
SNR=8.8
GNI Garni 17.61 67 *i* P **P 14 19 22.5 +0.1**
comp=Z,67nm,1.7s
GNI Garni 17.61 67 Pn **P 14 19 23.4 +1.0**
SNR=8.8
SSB Saint Sauveur 17.62 311 *e*P **Pn 14 19 21.4 -0.1**
SSB pmax pmax
comp=Z,29nm,1.1s
SSB Saint Sauveur 17.62 311 *e*Pn **Pn 14 19 21.4 -0.1**
comp=Z,29nm,1.1s
SSB Saint Sauveur 17.62 311 *e*P **Pn 14 19 21.4 -0.1**
comp=Z,29nm,1.1s
KZR Kazreti 17.63 63 P **P 14 19 25.8 +3.4**
ZEI Tsey 17.65 58 *e*P **P 14 19 24.0 +1.1**
ZEI pmax pmax
comp=Z,20nm,0.6s
ZEI Tsey 17.65 58 *e*P **P 14 19 24.0 +1.1**
comp=Z,20nm,0.6s
HINF Hinteralfeld 17.73 321 *e*P **Pn 14 19 22.7 -0.2**
HINF Hinteralfeld 17.73 321 *e*P **Pn 14 19 22.7 -0.2**
HINF Hinteralfeld 17.73 321 *e*P **Pn 14 19 22.7 -0.2**
HINF Hinteralfeld 17.73 321 *e*P **Pn 14 19 22.7 -0.2**
MOX Moxa 17.76 335 *e*P **P 14 19 24.0 +0.2**
MOX pmax pmax
comp=Z,29nm,0.9s
MOX Moxa 17.76 335 *e*P **P 14 19 24.0 +0.2**
comp=Z,29nm,0.9s
MOX Moxa 17.76 335 *e*P **P 14 19 24.0 +0.2**
comp=Z,29nm,0.9s
ECH Echery 17.84 322 *e*P **Pn 14 19 24.1 0.0**
ECH pmax pmax
comp=Z,28nm,1.0s
ECH Echery 17.84 322 *e*Pn **Pn 14 19 24.1 0.0**
comp=Z,28nm,1.0s
ECH Echery 17.84 322 *e*P **Pn 14 19 24.1 0.0**
comp=Z,28nm,1.0s
CLL Collm 17.88 338 *i* P **P 14 19 24.8 -0.2**
CLL *e*S **S 14 22 48.0 -0.7**
CLL pmax pmax
comp=Z,33nm,1.6s
CLL MLR MLR
comp=Z,2µm,21.9s
CLL Collm 17.88 338 *i* P **P 14 19 24.8 -0.2**
comp=Z,2µm,21.9s
CDF Champ du Feu 17.91 323 *e*P **P 14 19 25.4 -0.1**
comp=Z,51nm,0.9s
CDF Champ du Feu 17.91 323 *e*P **P 14 19 25.4 -0.1**
CDF pmax pmax
comp=Z,51nm,0.9s
CDF Champ du Feu 17.91 323 *e*P **P 14 19 25.4 -0.1**
comp=Z,51nm,0.9s
CDF Champ du Feu 17.91 323 *e*P **P 14 19 25.4 -0.1**
comp=Z,26nm,0.9s
TBLG Delisi 17.95 62 P **Pn 14 19 25.2 -0.3**
TBLG Delisi 17.95 62 P **Pn 14 19 25.2 -0.3**
TBLG Delisi 17.95 62 P **Pn 14 19 25.2 -0.3**
LANF Langenberg 18.04 325 *e*P **P 14 19 29.1 +2.2**
LANF Langenberg 18.04 325 *e*P **P 14 19 29.1 +2.2**
LANF Langenberg 18.04 325 *e*P **P 14 19 29.1 +2.2**
TOD Tromm 18.04 328 *e*P **P 14 19 28.4 +1.5**
TOD Tromm 18.04 328 *e*P **P 14 19 28.4 +1.5**
TOD Tromm 18.04 328 *e*P **P 14 19 28.4 +1.5**
ETRT Tiaret 18.08 277 P **P 14 19 31.5 +4.0**
HAU Haudompre 18.11 321 *e*P **P 14 19 27.7 0.0**
comp=Z,151nm,1.2s
HAU *e*R
comp=Z,980nm,21.5s
HAU Haudompre 18.11 321 *e*P **P 14 19 27.7 0.0**
HAU pmax pmax
comp=Z,151nm,1.2s
HAU Haudompre 18.11 321 *e*P **P 14 19 27.7 0.0**
comp=Z,151nm,1.2s
HAU Haudompre 18.11 321 *e*P **P 14 19 27.7 0.0**
comp=Z,76nm,1.2s
EANR 'Ain N'Sour 18.20 279 P **P 14 19 31.4 +2.7**
DGRG David-gareji 18.34 63 P **Pn 14 19 31.1 +0.7**
DGRG David-gareji 18.34 63 P **Pn 14 19 31.1 +0.7**
MTLF Montolieu 18.35 303 *e*P **P 14 19 30.1 -0.2**
comp=Z,27nm,0.9s
MTLF Montolieu 18.35 303 *e*P **P 14 19 30.1 -0.2**
MTLF pmax pmax
comp=Z,27nm,0.9s
MTLF Montolieu 18.35 303 *e*P **P 14 19 30.1 -0.2**
comp=Z,27nm,0.9s
MTLF Montolieu 18.35 303 *e*P **P 14 19 30.1 -0.2**
comp=Z,14nm,0.9s
LBL Lubilhac 18.41 309 *e*P **Pn 14 19 31.3 +0.1**
LBL Lubilhac 18.41 309 *e*P **Pn 14 19 31.3 +0.1**
LBL Lubilhac 18.41 309 *e*P **Pn 14 19 31.3 +0.1**
THEF They Montfort 18.44 321 *e*P **Pn 14 19 31.7 +0.2**
THEF They Montfort 18.44 321 *e*P **Pn 14 19 31.7 +0.2**
THEF They Montfort 18.44 321 *e*P **Pn 14 19 31.7 +0.2**
UBBA Unterbreizbach 18.49 332 *e*P **Pn 14 19 33.2 +1.2**
comp=Z,74nm,1.6s
PLDF La Plantade 18.52 312 *e*P **P 14 19 31.6 -0.6**
PLDF La Plantade 18.52 312 *e*P **P 14 19 31.6 -0.6**
PLDF La Plantade 18.52 312 *e*P **P 14 19 31.6 -0.6**
TNS Taunus Mts 18.66 329 *e*P **Pn 14 19 34.6 +0.4**
TNS pmax pmax
comp=Z,94nm,1.2s
TNS Taunus Mts 18.66 329 *e*P **Pn 14 19 34.6 +0.4**
comp=Z,94nm,1.2s
TNS Taunus Mts 18.66 329 *e*P **Pn 14 19 34.6 +0.4**
comp=Z,94nm,1.2s
GKP Gorka Klasztor 18.70 348 *e*P **P 14 19 33.1 -0.9**
GKP Gorka Klasztor 18.70 348 *e*P **P 14 19 33.1 -0.9**
GKP Gorka Klasztor 18.70 348 *e*P **P 14 19 33.1 -0.9**
SMF Signal de Mont 18.73 314 *e*P **P 14 19 34.2 -0.2**
comp=Z,36nm,0.9s
SMF Signal de Mont 18.73 314 *e*P **P 14 19 34.2 -0.2**
SMF pmax pmax
comp=Z,36nm,0.9s
SMF Signal de Mont 18.73 314 *e*P **P 14 19 34.2 -0.2**
comp=Z,36nm,0.9s
SMF Signal de Mont 18.73 314 *e*P **P 14 19 34.2 -0.2**
comp=Z,18nm,0.9s
PAGF Fort de Pagny 18.78 321 *e*P **Pn 14 19 36.1 +0.4**
comp=Z,83nm,1.5s,baz=131
PAGF Fort de Pagny 18.78 321 *e*P **Pn 14 19 36.1 +0.4**
comp=Z,83nm,1.5s
PAGF Fort de Pagny 18.78 321 *e*P **Pn 14 19 36.1 +0.4**
comp=Z,42nm,1.5s,baz=131
PYM Petit Puy Mans 18.79 311 *e*P **Pn 14 19 35.5 -0.4**
PYM Petit Puy Mans 18.79 311 *e*P **Pn 14 19 35.5 -0.4**
PYM Petit Puy Mans 18.79 311 *e*P **Pn 14 19 35.5 -0.4**
ABH Alteburg 18.80 327 *e*P **Pn 14 19 36.8 +0.9**
ABH Alteburg 18.80 327 *e*P **Pn 14 19 36.8 +0.9**
AGO Saint Agoulin 18.86 312 *e*P **P 14 19 35.8 -0.1**
AGO Saint Agoulin 18.86 312 *e*P **P 14 19 35.8 -0.1**
RUP Ruppelstein 18.90 326 *e*P **Pn 14 19 37.7 +0.6**
RUP Ruppelstein 18.90 326 *e*P **Pn 14 19 37.7 +0.6**
RUP Ruppelstein 18.90 326 *e*P **Pn 14 19 37.7 +0.6**
SUW Suwalki 18.92 360 *e*P **P 14 19 35.4 -1.2**
SUW Suwalki 18.92 360 *e*P **P 14 19 35.5 -1.0**
SUW pmax pmax
comp=Z,140nm,0.7s
SUW Suwalki 18.92 360 *e*P **P 14 19 35.5 -1.0**
comp=Z,140nm,0.7s
SUW Suwalki 18.92 360 *e*P **P 14 19 35.5 -1.0**
comp=Z,140nm,0.7s
SUW Suwalki 18.92 360 *e*P **P 14 19 35.3 -1.2**
SFTF Sexfontaines 18.93 319 *e*P **Pn 14 19 38.7 +1.3**
comp=Z,103nm,1.1s,baz=129
SFTF Sexfontaines 18.93 319 *e*P **Pn 14 19 38.7 +1.3**
comp=Z,103nm,1.1s
SFTF Sexfontaines 18.93 319 *e*P **Pn 14 19 38.7 +1.3**
comp=Z,52nm,1.1s,baz=129
CAF Calviac 19.04 308 *e*P **Pn 14 19 38.6 -0.2**
comp=Z,65nm,1.3s
CAF Calviac 19.04 308 *e*P **Pn 14 19 38.6 -0.2**
CAF pmax pmax
comp=Z,65nm,1.3s
CAF Calviac 19.04 308 *e*P **Pn 14 19 38.6 -0.2**
comp=Z,65nm,1.3s
CAF Calviac 19.04 308 *e*P **Pn 14 19 38.6 -0.2**
comp=Z,33nm,1.3s
LOR Lormes 19.05 316 *e*P **Pn 14 19 38.9 +0.1**
comp=Z,65nm,1.1s,baz=120
LOR *e*R
comp=Z,487nm,21.5s
LOR Lormes 19.05 316 *e*P **Pn 14 19 38.9 +0.1**
comp=Z,65nm,1.1s
LOR Lormes 19.05 316 *e*P **Pn 14 19 38.9 +0.1**
comp=Z,32nm,1.1s,baz=120
AVF Avril sur Loir 19.09 314 *e*P **Pn 14 19 38.9 -0.4**
comp=Z,26nm,0.9s
AVF Avril sur Loir 19.09 314 *e*P **Pn 14 19 38.9 -0.4**
AVF pmax pmax
comp=Z,26nm,0.9s
AVF Avril sur Loir 19.09 314 *e*P **Pn 14 19 38.9 -0.4**
comp=Z,26nm,0.9s
AVF Avril sur Loir 19.09 314 *e*P **Pn 14 19 38.9 -0.4**
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 19.10 320 *e*P **Pn 14 19 40.3 +0.8**
comp=Z,213nm,1.1s,baz=126
MEZF Maizieres J'vi 19.10 320 *e*P **Pn 14 19 40.3 +0.8**
comp=Z,213nm,1.1s
MEZF Maizieres J'vi 19.10 320 *e*P **Pn 14 19 40.3 +0.8**
comp=Z,106nm,1.1s,baz=126
SSF Saint Saulge 19.14 315 *e*P **Pn 14 19 39.9 0.0**
comp=Z,54nm,1.0s
SSF Saint Saulge 19.14 315 *e*P **Pn 14 19 39.9 0.0**
SSF pmax pmax
comp=Z,54nm,1.0s
SSF Saint Saulge 19.14 315 *e*P **Pn 14 19 39.9 0.0**
comp=Z,54nm,1.0s
SSF Saint Saulge 19.14 315 *e*P **Pn 14 19 39.9 0.0**
comp=Z,27nm,1.0s
CLZ Clausthal 19.19 335 *e*P **Pn 14 19 40.1 -0.5**
CLZ pmax pmax
comp=Z,48nm,1.0s
CLZ Clausthal 19.19 335 *e*P **Pn 14 19 40.1 -0.5**
comp=Z,48nm,1.0s
CLZ Clausthal 19.19 335 *e*P **Pn 14 19 40.1 -0.5**
comp=Z,48nm,1.0s
BGF Bois d'Agland 19.27 313 *e*P **Pn 14 19 42.0 +0.4**
comp=Z,102nm,1.0s
BGF Bois d'Agland 19.27 313 *e*P **Pn 14 19 42.0 +0.4**
BGF pmax pmax
comp=Z,102nm,1.0s
BGF Bois d'Agland 19.27 313 *e*P **Pn 14 19 42.0 +0.4**
comp=Z,102nm,1.0s
BGF Bois d'Agland 19.27 313 *e*P **Pn 14 19 42.0 +0.4**
comp=Z,51nm,1.0s
WLF Walferdange 19.30 324 P **Pn 14 19 43.3 +1.4**
comp=Z,82nm,1.5s
WLF Walferdange 19.30 324 *e*P **P 14 19 40.9 +0.2**
WLF pmax pmax
comp=Z,155nm,1.3s
WLF Walferdange 19.30 324 *e*P **Pn 14 19 42.0 +0.2**
comp=Z,125nm,1.2s
WLF Walferdange 19.30 324 *e*P **P 14 19 40.9 +0.2**
comp=Z,155nm,1.3s
WLF Walferdange 19.30 324 *e*P **P 14 19 40.9 +0.2**
comp=Z,155nm,1.3s
TCF Toulx Ste Croi 19.54 311 *e*P **Pn 14 19 44.0 -0.7**
comp=Z,86nm,1.4s
TCF Toulx Ste Croi 19.54 311 *e*P **Pn 14 19 44.0 -0.7**
TCF pmax pmax
comp=Z,86nm,1.4s
TCF Toulx Ste Croi 19.54 311 *e*P **Pn 14 19 44.0 -0.7**
comp=Z,86nm,1.4s
TCF Toulx Ste Croi 19.54 311 *e*P **Pn 14 19 44.0 -0.7**
comp=Z,43nm,1.4s
RJF Les Rejaudoux 19.55 308 *e*P **Pn 14 19 44.7 -0.2**
comp=Z,75nm,1.3s
RJF *e*R
comp=Z,843nm,19.2s
RJF Les Rejaudoux 19.55 308 *e*P **Pn 14 19 44.7 -0.2**
RJF pmax pmax
comp=Z,75nm,1.3s
RJF Les Rejaudoux 19.55 308 *e*P **Pn 14 19 44.7 -0.2**
comp=Z,75nm,1.3s
RJF Les Rejaudoux 19.55 308 *e*P **Pn 14 19 44.7 -0.2**
comp=Z,38nm,1.3s
EPF Esparros 19.57 301 *e*P **Pn 14 19 44.9 -0.2**
EPF Esparros 19.57 301 *e*P **Pn 14 19 44.9 -0.2**
EPF Esparros 19.57 301 *e*P **Pn 14 19 44.9 -0.2**
EPF Esparros 19.57 301 *e*P **Pn 14 19 44.9 -0.2**
MNK Minsk 19.65 8 *e*P **P 14 19 41.0 -3.5**
MNK pmax pmax
comp=N,350nm,1.0s
MNK pmax pmax
comp=Z,530nm,0.8s
MICGM Minsk 19.66 8 *e*P **P 14 19 41.0 -3.5**
VSR Storozhevoye 19.72 30 *e*P **P 14 19 44.9 -0.4**
VSR *e*S **Sn 14 23 28.6 +1.2**
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.4s
VSR pmax pmax
comp=Z,30nm,0.4s
VSR smax smax
comp=N,30nm,1.1s
VSR smax smax
comp=E,30nm,1.1s
VSR smax smax
comp=Z,20nm,1.1s
VSR MLR MLR
comp=N,200nm,10.0s
VSR MLR MLR
comp=E,240nm,10.0s
VSR MLR MLR
comp=Z,260nm,10.0s
VSR Storozhevoye 19.72 30 *e*P **P 14 19 44.9 -0.4**
NRDL Niedersach Rie 19.82 335 *e*P **Pn 14 19 47.2 -0.8**
comp=Z,68nm,1.0s
TAM Tamanrasset 19.85 237 *e*P **Pn 14 19 49.5 +0.7**
TAM pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 19.85 237 *e*P **Pn 14 19 49.5 +0.7**
comp=Z,15nm,0.8s
LFF La Frestale 19.91 306 *e*P **Pn 14 19 48.4 -0.8**
comp=Z,34nm,0.7s
LFF La Frestale 19.91 306 *e*P **Pn 14 19 48.4 -0.8**
LFF pmax pmax
comp=Z,34nm,0.7s
LFF La Frestale 19.91 306 *e*P **Pn 14 19 48.4 -0.8**
comp=Z,34nm,0.7s
LFF La Frestale 19.91 306 *e*P **Pn 14 19 48.4 -0.8**
comp=Z,17nm,0.7s
NACGM Naroch 19.95 6 *e*P **P 14 19 43.0 -4.7**
MEM Membach 20.02 326 P Pn 14 19 50.8 +0.4
comp=Z,33nm,1.4s
MEM Membach 20.02 326 P Pn 14 19 50.7 +0.3
comp=Z,33nm,1.4s
BUG Bochum--Univer 20.07 329 *e*P Pn 14 19 50.7 -0.2
comp=Z,75nm,1.0s
VOR Voronezh 20.13 29 P **P 14 19 50.0 +0.4**
VOR pmax pmax
comp=Z,260nm,1.2s
VOR Voronezh 20.13 29 P **P 14 19 50.0 +0.4**
comp=Z,260nm,1.2s
HGN Heimansgroeve 20.16 326 *e*P Pn 14 19 52.0 0.0
comp=Z,65nm,1.2s
HGN *e*S **S 14 23 29.8 -4.9**
HGN *e*L L 14 29 18.9
comp=Z,784nm,19.2s
HGN Heimansgroeve 20.16 326 *e*P Pn 14 19 52.0 0.0
comp=Z,65nm,1.2s
ETSF Etsaut 20.17 300 *e*P Pn 14 19 51.7 -0.6
comp=Z,85nm,1.3s
ETSF pmax pmax
comp=Z,85nm,1.3s
ETSF Etsaut 20.17 300 *e*P Pn 14 19 51.7 -0.6
comp=Z,85nm,1.3s
ETSF Etsaut 20.17 300 *e*P Pn 14 19 51.7 -0.6
comp=Z,42nm,1.3s
BCLA Clavier 20.21 325 P Pn 14 19 51.6 -1.1
comp=Z,24nm,1.9s
BCLA Clavier 20.21 325 P **P 14 19 51.5 +0.9**
comp=Z,24nm,1.9s
GIVF Givet 20.23 324 *e*P Pn 14 19 51.8 -1.1
comp=Z,130nm,1.0s
GIVF Givet 20.23 324 *e*P Pn 14 19 51.8 -1.1
GIVF pmax pmax
comp=Z,131nm,1.0s
GIVF Givet 20.23 324 *e*P Pn 14 19 51.8 -1.1
comp=Z,130nm,1.0s
GIVF Givet 20.23 324 *e*P Pn 14 19 51.8 -1.1
comp=Z,65nm,1.0s
MAK Makhachkala 20.25 60 *e*P Pn 14 19 52.3 -0.8
MAK *e* 14 20 09.1
MAK *e*S **S 14 23 36.0 -0.5**
MAK *e*SSS SSS 14 24 05.1
MAK pmax pmax
comp=Z,474nm,1.4s
MAK MLR MLR
comp=Z,138nm,8.0s
MAK Makhachkala 20.25 60 *e*P Pn 14 19 52.3 -0.8
comp=Z,474nm,1.4s
BEBN Eben Emael 20.30 326 P Pn 14 19 53.6 0.0
comp=Z,22nm,1.3s
BEBN Eben Emael 20.30 326 P Pn 14 19 53.6 0.0
comp=Z,22nm,1.3s
DOU Dourbes 20.34 323 P Pn 14 19 53.3 -0.8
comp=Z,54nm,1.2s
DOU Dourbes 20.34 323 P Pn 14 19 53.3 -0.8
comp=Z,54nm,1.2s
LARF Larrau 20.50 300 *e*P Pn 14 19 55.0 -1.2
LARF Larrau 20.50 300 *e*P Pn 14 19 55.0 -1.2
BAIF Baives 20.51 323 *e*P **P 14 19 54.4 +0.6**
comp=Z,115nm,0.9s
BAIF Baives 20.51 323 *e*P **P 14 19 54.4 +0.6**
BAIF pmax pmax
comp=Z,115nm,0.9s
BAIF Baives 20.51 323 *e*P **P 14 19 54.4 +0.6**
comp=Z,115nm,0.9s
BAIF Baives 20.51 323 *e*P **P 14 19 54.4 +0.6**
comp=Z,58nm,0.9s
IBBN Ibbenburen 20.53 332 *e*P Pn 14 19 55.7 -0.6
comp=Z,168nm,1.7s
WTSB Winterswijk 20.65 330 *e*P Pn 14 19 57.3 -0.4
WTSB Winterswijk 20.65 330 *e*P Pn 14 19 57.3 -0.5
SJPF Ste Jean 20.69 300 *e*P **P 14 19 57.0 +1.1**
comp=Z,108nm,1.2s
SJPF Ste Jean 20.69 300 *e*P **P 14 19 57.0 +1.1**
SJPF pmax pmax
comp=Z,108nm,1.2s
SJPF Ste Jean 20.69 300 *e*P **P 14 19 57.0 +1.1**
comp=Z,108nm,1.2s
SJPF Ste Jean 20.69 300 *e*P **P 14 19 57.0 +1.1**
comp=Z,54nm,1.2s
RGN Rugen 20.70 343 *e*P **P 14 19 55.9 +0.1**
comp=Z,117nm,0.8s
RGN Rugen 20.70 343 *e*P **P 14 19 55.9 +0.1**
comp=Z,117nm,0.8s
VRHR Novokhopersk 20.71 34 *e*P **P 14 19 56.3 +0.4**
VRHR *e*S **S 14 23 43.0 -2.5**
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR smax smax
comp=E,70nm,0.9s
VRHR smax smax
comp=Z,5.0nm,0.4s
VRHR smax smax
comp=N,50nm,0.9s
VRHR MLR MLR
comp=N,140nm,16.0s
VRHR MLR MLR
comp=Z,570nm,16.0s
VRHR MLR MLR
comp=E,190nm,13.0s
VRHR Novokhopersk 20.71 34 *e*P **P 14 19 56.3 +0.4**
SNF Seneffe 20.76 324 P Pn 14 19 58.2 -0.8
comp=Z,33nm,1.2s
SNF Seneffe 20.76 324 P Pn 14 19 58.2 -0.8
comp=Z,33nm,1.2s
MIB Mutribah 20.84 98 *e*P **P 14 19 57.1 -0.4**
MIB AMb AMB 14 19 58.9
comp=Z,478nm,0.6s
MIB Mutribah 20.84 98 *e*P **P 14 19 57.2 -0.4**
comp=Z,478nm,0.6s
BSD Bornholm Skovb 20.88 346 *i* P **P 14 19 56.9 -0.8**
comp=Z,71nm,0.9s
BSD
comp=Z,960nm,17.0s
BSD Bornholm Skovb 20.88 346 *i* P **P 14 19 56.9 -0.8**
comp=Z,71nm,0.9s
NAY Al-Naaiem 20.96 99 *e*P **P 14 19 58.5 -0.4**
NAY AMb AMB 14 20 00.9
comp=Z,131nm,0.7s
NAY Al-Naaiem 20.96 99 *e*P **P 14 19 58.5 -0.4**
comp=Z,131nm,0.7s
BSEG Bad Segeberg 20.97 338 *e*P **P 14 19 59.0 +0.2**
BSEG pmax pmax
comp=Z,441nm,1.1s
BSEG Bad Segeberg 20.97 338 *e*P **P 14 19 59.0 +0.2**
comp=Z,441nm,1.1s
BSEG Bad Segeberg 20.97 338 *e*P **P 14 19 59.0 +0.2**
comp=Z,441nm,1.1s
MFF Saint Martin d 21.14 310 *e*P **P 14 20 01.7 +1.1**
comp=Z,78nm,0.7s
MFF Saint Martin d 21.14 310 *e*P **P 14 20 01.7 +1.1**
MFF pmax pmax
comp=Z,78nm,0.7s
MFF Saint Martin d 21.14 310 *e*P **P 14 20 01.7 +1.1**
comp=Z,78nm,0.7s
MFF Saint Martin d 21.14 310 *e*P **P 14 20 01.7 +1.1**
comp=Z,39nm,0.7s
KBD Kabd 21.35 99 *e*P **P 14 20 03.2 +0.1**
KBD AMb AMB 14 20 04.5
comp=Z,122nm,0.7s
KBD Kabd 21.35 99 *e*P **P 14 20 03.2 +0.1**
comp=Z,122nm,0.7s
LLD Lille Linde 21.68 342 *i* P **P 14 20 07.0 +0.7**
comp=Z,85nm,0.9s
LLD Lille Linde 21.68 342 *i* P **P 14 20 07.0 +0.7**
comp=Z,85nm,0.9s
QRN Al-Qurain 21.70 100 *e*P **P 14 20 07.2 +0.4**
QRN AMb AMB 14 20 09.0
comp=Z,275nm,1.1s
COP Copenhagen 21.95 343 *i* P **P 14 20 10.9 +1.7**
comp=Z,40nm,0.9s
COP
comp=Z,520nm,16.0s
COP Copenhagen 21.95 343 *i* P **P 14 20 10.9 +1.7**
comp=Z,40nm,0.9s
OBN Obninsk 22.00 20 *e*P **P 14 20 08.1 -1.6**
OBN *e* 14 20 28.7
OBN *e* 14 24 09.5
OBN pmax pmax
comp=Z,222nm,1.2s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 22.00 20 *e*P **P 14 20 07.5 -2.2**
comp=Z,67nm,0.6s
ESDC Sonseca Array 22.20 290 P **P 14 20 12.7 +0.5**
comp=Z,5.5nm,0.7s,baz=85,slow=10,SNR=34
ESDC PcP **PcP 14 24 09.2 +1.1**
comp=Z,3.0nm,1.0s,baz=71,slow=2.1,SNR=5.8
ESDC ScP **ScP 14 27 42.7 -0.6**
comp=Z,0.3nm,0.5s,baz=51,slow=2.3,SNR=7.4
ESDC Sonseca Array 22.20 290 P **P 14 20 12.7 +0.5**
ESDC PcP **PcP 14 24 09.2 +1.1**
ESDC ScP **ScP 14 27 42.7 -0.6**
ESDC Sonseca Array 22.20 290 P **P 14 20 12.7 +0.5**
ESLA Sonseca Array 22.20 290 *e*P **P 14 20 13.2 +1.0**
comp=Z,4.6nm,1.0s
ESLA Sonseca Array 22.20 290 *e*P **P 14 20 13.2 +1.0**
comp=Z,4.6nm,1.0s
FLN La Foliniere 22.31 315 *e*P **P 14 20 13.7 +0.5**
comp=Z,273nm,1.0s,baz=124
FLN *e*R
comp=Z,542nm,20.0s
FLN La Foliniere 22.31 315 *e*P **P 14 20 13.7 +0.5**
FLN pmax pmax
comp=Z,273nm,1.0s

FLN La Foliniere 22.31 315 *e*P **P** **14 20 13.7 +0.5**
comp=Z,273nm,1.0s
FLN La Foliniere 22.31 315 *e*P **P** **14 20 13.7 +0.5**
comp=Z,137nm,1.0s,baz=124
GRR Gorron 22.36 314 *e*P **P** **14 20 14.0 +0.3**
comp=Z,223nm,1.0s
GRR Gorron 22.36 314 *e*P **P** **14 20 14.0 +0.3**
GRR pmax pmax
comp=Z,223nm,1.0s
GRR Gorron 22.36 314 *e*P **P** **14 20 14.0 +0.3**
comp=Z,223nm,1.0s
GRR Gorron 22.36 314 *e*P **P** **14 20 14.0 +0.3**
comp=Z,111nm,1.0s
RAYN Ar Rayn 22.38 115 P **P** **14 20 16.5 +2.2**
comp=Z,107nm,0.7s,SNR=7.2
PAB San Pablo 22.49 290 *e*P **P** **14 20 16.4 +1.0**
PAB *e**PP **pP** **14 20 23.6 +0.2**
PAB *e**SP **sP** **14 20 27.5 +0.3**
PAB pmax pmax
comp=Z,42nm,1.3s
PAB San Pablo 22.49 290 *e*P **P** **14 20 16.4 +1.0**
comp=Z,42nm,1.3s
PAB *e*pP **pP** **14 20 23.6 +0.2**
PAB *e*sP **sP** **14 20 27.5 +0.3**
PAB San Pablo 22.49 290 *e*P **P** **14 20 16.4 +1.0**
comp=Z,42nm,1.3s
SARR Saratov 22.65 37*d i*P **P** **14 20 15.5 -1.3**
SARR *i* S S 14 24 14.5 -8.3
SARR pmax pmax
comp=Z,228nm,0.9s
SARR Saratov 22.65 37 *i* P **P** **14 20 15.5 -1.3**
comp=Z,228nm,0.9s
MOS Moscow 22.84 21 *e*P **P** **14 20 17.8 -1.0**
MOS *e* 14 20 29.4
MOS *e* 14 20 58.3
MOS *e*S **S** **14 24 26.7 +0.6**
MOS pmax pmax
comp=Z,228nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.4s
MOS MLR MLR
comp=Z,800nm,16.0s
MOS Moscow 22.84 21 *e*P **P** **14 20 17.8 -1.0**
comp=Z,300nm,1.4s
SGMF Saint Gilles 23.32 312 *e*P **P** **14 20 23.8 +0.2**
comp=Z,102nm,1.0s
SGMF Saint Gilles 23.32 312 *e*P **P** **14 20 23.8 +0.2**
SGMF pmax pmax
comp=Z,102nm,1.0s
SGMF Saint Gilles 23.32 312 *e*P **P** **14 20 23.8 +0.2**
comp=Z,102nm,1.0s
MDT Midelt 23.34 272 P **P** **14 20 26.0 +1.8**
comp=Z,1.1nm,0.3s,baz=83,slow=15,SNR=3.0
MDT Midelt 23.34 272 P **P** **14 20 26.0 +1.8**
MUD Monsted U'grnd 23.48 340 *i* P **P** **14 20 24.7 -0.4**
comp=Z,46nm,1.0s
MUD Monsted U'grnd 23.48 340 *i* P **P** **14 20 24.8 -0.4**
comp=Z,46nm,1.0s,SNR=33
VSU Vasula 23.49 4 *e*P **P** **14 20 23.5 -1.7**
VSU pmax pmax
comp=Z,49nm,0.9s
JSA Saint Aubin 23.50 315 *e*P **P** **14 20 26.1 +0.7**
JSA AMB AMB 14 20 27.3
comp=Z,111nm,1.1s
JSA Saint Aubin 23.50 315 P **P** **14 20 26.1 +0.7**
JSA AMB AMB 14 20 27.3
comp=Z,111nm,1.1s
JSA Saint Aubin 23.50 315 *e*P **P** **14 20 26.1 +0.7**
QUIF Quistinic 23.55 311 *e*P **P** **14 20 26.2 +0.3**
comp=Z,344nm,1.1s
QUIF Quistinic 23.55 311 *e*P **P** **14 20 26.2 +0.3**
QUIF pmax pmax
comp=Z,344nm,1.1s
QUIF Quistinic 23.55 311 *e*P **P** **14 20 26.2 +0.3**
comp=Z,344nm,1.1s
ROSF Rostrenen 23.79 312 *e*P **P** **14 20 28.5 +0.3**
comp=Z,199nm,1.1s
ROSF Rostrenen 23.79 312 *e*P **P** **14 20 28.5 +0.3**
ROSF pmax pmax
comp=Z,199nm,1.1s
ROSF Rostrenen 23.79 312 *e*P **P** **14 20 28.5 +0.3**
comp=Z,199nm,1.1s
SKP1 Kophill 24.05 321 *e*P **P** **14 20 30.9 +0.3**
SKP1 Kophill 24.05 321 P **P** **14 20 30.9 +0.3**
SKP1 Kophill 24.05 321 *e*P **P** **14 20 30.9 +0.3**
PBRG Braganca 24.48 295 *e*P **P** **14 20 36.9 +2.1**
comp=Z,33nm,1.3s
PBRG *e*pP pP 14 20 50.7 +7.3
PBRG Braganca 24.48 295 *e*P **P** **14 20 36.9 +2.1**
comp=Z,33nm,1.3s
MVO Moncorvo 24.64 293 *e*P **P** **14 20 37.1 +0.9**
comp=Z,39nm,1.5s
MVO *e*S **S** **14 24 59.2 +3.4**
MVO *e*LR LR 14 28 13.2
comp=Z,254nm,20.0s
MVO Moncorvo 24.64 293 *e*P **P** **14 20 37.1 +0.9**
comp=Z,39nm,1.5s
MVO *e*S **S** **14 24 59.2 +3.4**
PMRV Marv??o 24.84 289 *e*P **P** **14 20 38.9 +0.8**
comp=Z,31nm,1.8s
PMRV *e*pP **pP** **14 20 51.4 +4.7**
PMRV *e*S **S** **14 25 03.9 +4.9**
PMRV A A 14 36 20.9
comp=Z,202nm,16.0s
PMRV Marv??o 24.84 289 *e*P **P** **14 20 38.9 +0.8**
comp=Z,31nm,1.8s
PMRV *e*S **S** **14 25 03.9 +4.9**
comp=Z,202nm,16.0s
PCBR Castelo Branco 24.92 290 *e*pP **pP** **14 20 51.7 +4.4**
PCBR A A 14 21 39.7
comp=Z,26nm,1.7s
MTE Manteigas 24.98 291 *e*P **P** **14 20 40.3 +0.9**
comp=Z,24nm,1.2s
MTE *e*pP **pP** **14 20 52.5 +4.5**
MTE *e*S **S** **14 25 06.5 +5.2**
MTE *e*LR LR 14 28 21.6
comp=Z,250nm,18.0s
MTE Manteigas 24.98 291 *e*P **P** **14 20 39.7 +0.3**
comp=Z,8.9nm,0.8s
MTE *e*pP **pP** **14 20 48.7 +0.7**
MTE *e*sP **sP** **14 20 52.4 +0.7**
MTE Manteigas 24.98 291 *e*P **P** **14 20 40.3 +0.9**
comp=Z,24nm,1.2s
MTE *e*pP **pP** **14 20 52.5 +4.5**
MTE *e*S **S** **14 25 06.5 +5.2**
PESTR Estremoz 25.00 288 *e*P **P** **14 20 40.5 +1.0**
comp=Z,26nm,1.2s
PESTR Estremoz 25.00 288 *e*P **P** **14 20 40.5 +1.0**
comp=Z,26nm,1.2s
PUL Pulkovo 25.10 8*c i*P **P** **14 20 41.0 +0.9**
PUL pmax pmax
comp=Z,615nm,0.7s
PVAQ Vaqueiros 25.17 284 *e*P **P** **14 20 42.4 +1.4**
comp=Z,29nm,1.9s
PVAQ *e*pP **pP** **14 20 51.7 +2.1**
PVAQ *e*S **S** **14 25 07.7 +3.5**
PVAQ Vaqueiros 25.17 284 *e*P **P** **14 20 42.4 +1.4**
comp=Z,29nm,1.9s
PVAQ *e*pP **pP** **14 20 51.7 +2.1**
PVAQ *e*S **S** **14 25 07.7 +3.5**
POLO Lamas de Olo 25.23 294 *e*P **P** **14 20 42.8 +1.2**
comp=Z,13nm,1.5s
POLO Lamas de Olo 25.23 294 *e*P **P** **14 20 42.8 +1.2**
comp=Z,13nm,1.5s
PVIS Viseu 25.27 292 *e*P **P** **14 20 43.1 +1.2**
comp=Z,23nm,1.6s
PVIS Viseu 25.27 292 *e*P **P** **14 20 43.1 +1.2**
comp=Z,23nm,1.6s
KBI1 Birley Grange 25.29 324 *e*P **P** **14 20 41.4 -0.5**
KBI1 Birley Grange 25.29 324 P **P** **14 20 41.4 -0.5**
KBI1 Birley Grange 25.29 324 *e*P **P** **14 20 41.4 -0.5**
MCH1 Michaelchurch 25.34 320 *e*P **P** **14 20 42.4 +0.1**
MCH1 AMB AMB 14 20 45.0
comp=Z,59nm,1.2s
MCH1 Michaelchurch 25.34 320 P **P** **14 20 42.4 +0.1**
MCH1 AMB AMB 14 20 45.0
comp=Z,59nm,1.2s
MCH1 Michaelchurch 25.34 320 *e*P **P** **14 20 42.4 +0.1**
EVO Evora 25.34 287 *e*P **P** **14 20 44.3 +1.7**
comp=Z,15nm,0.8s
EVO *e*R
comp=Z,359nm,18.8s
EVO Evora 25.34 287 *e*P **P** **14 20 44.2 +1.7**
comp=Z,27nm,1.9s
EVO Evora 25.34 287 *e*P **P** **14 20 44.2 +1.7**
comp=Z,27nm,1.9s

PBDV Barranco-do-Ve 25.35 284 *e*P **P** **14 20 43.7 +1.0**
comp=Z,77nm,1.4s
PBDV Barranco-do-Ve 25.35 284 *e*P **P** **14 20 43.7 +1.0**
comp=Z,77nm,1.4s
PCVE Castro Verde 25.41 285 *e*P **P** **14 20 45.1 +2.0**
comp=Z,42nm,1.5s
PCVE Castro Verde 25.41 285 *e*P **P** **14 20 45.1 +2.0**
comp=Z,42nm,1.5s
EVOP Sao Brissos 25.43 287 *e*P **P** **14 20 44.3 +1.0**
EVOP pmax pmax
comp=Z,15nm,0.8s
EVOP Sao Brissos 25.43 287 *e*P **P** **14 20 44.3 +1.0**
comp=Z,15nm,0.8s
PCAB Cabril 25.43 295 *e*P **P** **14 20 45.0 +1.7**
comp=Z,60nm,1.3s
PCAB *e*pP **pP** **14 20 55.9 +3.9**
PCAB Cabril 25.43 295 *e*P **P** **14 20 45.0 +1.7**
comp=Z,60nm,1.3s
PCAB *e*pP **pP** **14 20 55.9 +3.9**
PMTG Montargil 25.50 288 *e*P **P** **14 20 45.3 +1.4**
comp=Z,25nm,1.6s
PMTG *e*pP **pP** **14 20 54.7 +2.2**
PMTG Montargil 25.50 288 *e*P **P** **14 20 45.3 +1.4**
comp=Z,25nm,1.6s
PMTG *e*pP **pP** **14 20 54.7 +2.2**
HLM1 Long Mynd 25.55 321 *e*P **P** **14 20 44.2 -0.1**
HLM1 AMB AMB 14 20 46.0
comp=Z,40nm,1.4s
HLM1 Long Mynd 25.55 321 P **P** **14 20 44.2 -0.1**
HLM1 AMB AMB 14 20 46.0
comp=Z,40nm,1.4s
HLM1 Long Mynd 25.55 321 *e*P **P** **14 20 44.2 -0.1**
PGAV Gavieira, Arco 25.63 295 *e*S **S** **14 25 10.1 -1.5**
PGAV *e*LR LR 14 28 46.1
comp=Z,317nm,18.0s
PGAV Gavieira, Arco 25.63 295 *e*S **S** **14 25 10.1 -1.5**
HTL Hartland 25.65 317 *e*P **P** **14 20 46.5 +1.3**
HTL AMB AMB 14 20 47.8
comp=Z,71nm,1.1s
HTL Hartland 25.65 317 P **P** **14 20 46.5 +1.3**
HTL AMB AMB 14 20 47.8
comp=Z,71nm,1.1s
HTL Hartland 25.65 317 *e*P **P** **14 20 46.5 +1.3**
HFS Hagfors 25.85 349 P **P** **14 20 46.5 -0.3**
comp=Z,30nm,0.5s,baz=161,slow=11,SNR=53
HFS Hagfors 25.85 349 P **P** **14 20 46.5 -0.3**
FOEL Foel Wylfa 25.92 322 *e*P **P** **14 20 48.3 +0.7**
FOEL AMB AMB 14 20 50.8
comp=Z,65nm,0.9s
FOEL Foel Wylfa 25.92 322 P **P** **14 20 48.3 +0.7**
FOEL AMB AMB 14 20 50.8
comp=Z,65nm,0.9s
FOEL Foel Wylfa 25.92 322 *e*P **P** **14 20 48.3 +0.7**
PTEO Sao Teotonio 25.96 285 *e*P **P** **14 20 51.1 +3.0**
comp=Z,39nm,1.3s
PTEO Sao Teotonio 25.96 285 *e*P **P** **14 20 51.1 +3.0**
comp=Z,39nm,1.3s
KONO Kongsberg 26.19 344 *e*P **P** **14 20 51.1 +1.1**
KONO Kongsberg 26.19 344 *e*P **P** **14 20 49.9 -0.1**
KONO *e**PP **pP** **14 20 57.5 -1.1**
KONO *e**SP **sP** **14 21 01.3 -1.0**
KONO pmax pmax
comp=Z,16nm,0.7s
KONO Kongsberg 26.19 344 *e*P **P** **14 20 49.9 -0.1**
comp=Z,16nm,0.7s
KONO *e*pP **pP** **14 20 57.5 -1.1**
KONO *e*sP **sP** **14 21 01.3 -1.0**
KONO Kongsberg 26.19 344 *e*P **P** **14 20 51.1 +1.1**
SNR=50
FINES FINESS Array B 26.43 3 P **P** **14 20 51.2 -0.9**
comp=Z,30nm,0.9s,baz=160,slow=9.9,SNR=62
FINES PcP **PcP** **14 24 17.6 +0.9**
comp=Z,5.6nm,0.7s,baz=128,slow=2.3,SNR=4.2
FINES LR LR 14 32 15.4
comp=Z,2µm,21.7s,baz=167,slow=38
FINES FINESS Array B 26.43 3 P **P** **14 20 51.2 -0.9**
FINES PcP **PcP** **14 24 17.6 +0.9**
FIA1 FINESS Array S 26.43 3 *e*P **P** **14 20 49.9 -2.2**
NC602 NORSAR Array S 26.79 347 *e*P **P** **14 20 55.0 -0.3**
NC602 NORSAR Array S 26.79 347 *e*P **P** **14 20 55.0 -0.3**
SNR=49
NAO01 NORSAR Array S 27.01 346 *e*P **P** **14 20 56.1 -1.3**
comp=Z,15nm,0.6s
KAF Kangasniemi 27.11 3 *e*P **P** **14 20 56.9 -1.3**
KAF pmax pmax
comp=Z,21nm,0.7s
KAF Kangasniemi 27.11 3 *e*p **P** **14 20 56.9 -1.3**
comp=Z,21nm,0.7s
NB2 NORSAR Subarra 27.13 347 P **P** **14 20 57.6 -0.9**
baz=153,slow=10
NB2 NORSAR Subarra 27.13 347 P **P** **14 20 57.6 -0.9**
comp=Z,1.2nm,0.5s,baz=153,slow=10
NB2 NORSAR Subarra 27.13 347 P **P** **14 20 57.6 -0.9**
baz=153,slow=9.6,SNR=41
NOA NORSAR Array B 27.13 347 P **P** **14 20 57.9 -0.6**
comp=Z,9.6nm,0.7s,baz=148,slow=8.7,SNR=40
NOA NORSAR Array B 27.13 347 P **P** **14 20 57.9 -0.6**
ODD1 Odda 27.14 341 *e*P **P** **14 20 60.0 +1.3**
ODD1 AMB AMB 14 21 02.0
comp=Z,39nm,1.1s
ODD1 Odda 27.14 341 *e*P **P** **14 21 00.0 +1.3**
comp=Z,39nm,1.1s,SNR=41
ECK Cauldkaine Hil 27.19 326 *e*P **P** **14 20 59.3 +0.2**
ECK Cauldkaine Hil 27.19 326 P **P** **14 20 59.3 +0.2**
ECK Cauldkaine Hil 27.19 326 *e*P **P** **14 20 59.3 +0.2**
EKA Eskdalemuir Ar 27.30 326 P **P** **14 21 01.0 +1.0**
comp=Z,22nm,0.8s,baz=127,slow=9.7,SNR=33
EKA Eskdalemuir Ar 27.30 326 P **P** **14 21 01.0 +1.0**
ESK Eskdalemuir 27.31 326 *e*P **P** **14 21 00.5 +0.4**
ESK AMB AMB 14 21 04.6
comp=Z,35nm,1.0s
ESK Eskdalemuir 27.31 326 P **P** **14 21 00.5 +0.4**
ESK AMB AMB 14 21 04.6
comp=Z,35nm,1.0s
ESK Eskdalemuir 27.31 326 *i* P **P** **14 21 01.4 +1.3**
ESK Eskdalemuir 27.31 326 *e*P **P** **14 21 01.0 +0.9**
comp=Z,34nm,1.0s
ESK Eskdalemuir 27.31 326 *e*P **P** **14 21 00.5 +0.4**
EDI Edinburgh 27.66 327 *e*P **P** **14 21 03.7 +0.4**
EDI AMB AMB 14 21 07.4
comp=Z,32nm,1.8s
EDI Edinburgh 27.66 327 P **P** **14 21 03.7 +0.4**
EDI AMB AMB 14 21 07.4
comp=Z,32nm,1.8s
EDI Edinburgh 27.66 327 *e*P **P** **14 21 03.7 +0.4**
KLMR Klimovskoe 27.78 17 *e**PP **P** **14 21 00.1 -4.2**
KLMR pmax pmax
comp=Z,63nm,1.7s
KLMR MLR MLR
comp=Z,655nm,11.0s
ABKT Ailbek 27.93 74 P **P** **14 21 06.7 +0.7**
comp=Z,282nm,0.5s,SNR=9.2
JOF Joensuu 28.29 8 *e*P **P** **14 21 06.5 -2.2**
JOF pmax pmax
comp=Z,6.0nm,0.4s
JOF Joensuu 28.29 8 *e*p **P** **14 21 06.5 -2.2**
comp=Z,5.6nm,0.4s
HYA Hoyanger 28.34 342 *e*P P 14 21 13.7 +4.5
EAB Aberfoyle 28.34 327 *e*P **P** **14 21 10.1 +0.8**
EAB Aberfoyle 28.34 327 P **P** **14 21 10.1 +0.8**
EAB Aberfoyle 28.34 327 *e*P **P** **14 21 10.1 +0.8**
VAL Valentia 29.32 315 *e*P **P** **14 21 15.5 -2.5**
AKTO Aktyubinsk 29.35 48 P **P** **14 21 17.7 -0.6**
comp=Z,6.5nm,0.5s,baz=254,slow=9.1,SNR=18
AKTO S S 14 26 01.0 -8.8
comp=Z,1.3nm,0.7s,baz=24,slow=21,SNR=1.6
AKTO LR LR 14 35 59.6
comp=Z,263nm,19.2s,baz=73,slow=42
AKTO Aktyubinsk 29.35 48 P **P** **14 21 17.7 -0.6**
AKTO S S 14 26 01.0 -8.8
AKTO pmax pmax
comp=Z,7.0nm,0.5s
AKTO smax smax
comp=N,1.0nm,0.7s
AKTO MLR MLR
comp=Z,263nm,19.2s
AKTO Aktyubinsk 29.35 48 P **P** **14 21 17.7 -0.6**
AKTO S S 14 26 01.0 -8.8
TOA0 Torodi Ar. Sit 29.38 227 *e*P **P** **14 21 19.4 +0.5**
TORD Torodi Ar. Bea 29.38 227 P **P** **14 21 19.2 +0.3**
comp=Z,6.8nm,0.7s,baz=34,slow=8.5,SNR=31
TORD PcP **PcP** **14 24 25.5 +0.8**
comp=Z,2.2nm,0.9s,baz=3.3,slow=2.1,SNR=4.3
TORD ScP **ScP** **14 28 03.5 -0.8**
comp=Z,1.5nm,1.1s,baz=45,slow=2.7,SNR=4.1

TORD LR LR 14 34 44.9
comp=Z,405nm,19.0s,baz=30,slow=40
TORD Torodi Ar. Bea 29.38 227 P **P** **14 21 19.2 +0.3**
TORD PcP **PcP** **14 24 25.5 +0.8**
TORD ScP **ScP** **14 28 03.5 -0.8**
NAZ Nazwa, Dubai 29.55 101 P **P** **14 21 21.8 +1.4**
SNR=7.0
FURI Furi 29.57 148 *e*P **P** **14 21 21.3 +0.3**
comp=Z,35nm,0.5s
HATD Hatta, Dubai 30.00 101 P **P** **14 21 25.5 +1.1**
SNR=10
ASHO Ashiyiah 30.01 101 P **P** **14 21 25.4 +0.9**
SNR=7.8
AB31 Akbulak array 30.21 51 *i* P **P** **14 21 25.3 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 30.21 51 *e*P **P** **14 21 24.9 -1.1**
NSS Namsos 30.29 350 *e*P **P** **14 21 25.9 -0.5**
NSS Namsos 30.29 350 *e*P **P** **14 21 26.0 -0.5**
SNR=41
TMCR Tamitsa 30.45 13 *e*P **P** **14 21 26.8 -1.0**
TMCR pmax pmax
comp=Z,41nm,1.3s
ARQ Araqi 31.03 103 P **P** **14 21 34.7 +1.2**
SNR=10.0
HOQ Hoqain 31.54 102 P **P** **14 21 38.7 +0.7**
SNR=9.4
MOR8 Moi Rana 31.57 353 *e*P **P** **14 21 38.4 +0.6**
MOR8 *e*pP **pP** **14 21 49.2 +2.7**
MOR8 Moi Rana 31.57 353 *e*P **P** **14 21 38.4 +0.6**
SNR=40
MOR8 *e*pP **pP** **14 21 49.2 +2.7**
SNR=140
FLOS Flostrand 31.85 352 *e*P **P** **14 21 40.4 +0.3**
BSY Bisya 31.86 104 P **P** **14 21 41.2 +0.4**
SNR=11
STOK Stokkvaagen 31.88 352 *e*P **P** **14 21 41.2 +0.8**
ABTO Aybut 31.91 116 P **P** **14 21 42.7 +1.4**
SNR=6.3
ARU Arti 31.96 37*c i*P **P** **14 21 40.1 -1.2**
ARU 14 22 42.9
ARU S **S** **14 26 48.9 -1.7**
ARU pmax pmax
comp=Z,73nm,1.2s
ARU Arti 31.96 37 *e*P **P** **14 21 40.3 -1.0**
ARU pmax pmax
comp=Z,45nm,0.9s
ARU Arti 31.96 37 *e*P **P** **14 21 40.3 -1.0**
comp=Z,45nm,0.9s
ARU Arti 31.96 37 P **P** **14 21 40.5 -0.8**
comp=Z,338nm,0.7s,SNR=16
KONS Konsvik 32.03 352 *e*P **P** **14 21 42.0 +0.2**
SMDO Samad 32.39 102 P **P** **14 21 46.1 +0.6**
SNR=14
RBK Rabkut 32.49 115 P **P** **14 21 47.5 +1.1**
SNR=6.3
SOKR Solikamsk 32.73 31*c i*P **P** **14 21 47.2 -0.8**
SOKR pmax pmax
comp=Z,90nm,0.9s
SOKR MLR MLR
comp=Z,780nm,23.0s
WSAR Wadi Sarin 32.77 102 P **P** **14 21 49.0 +0.2**
comp=Z,6.7nm,0.7s,baz=281,slow=6.4,SNR=11
WSAR PcP **PcP** **14 24 34.2 +0.6**
comp=Z,7.7nm,0.9s,baz=283,slow=1.8,SNR=3.3
WSAR Wadi Sarin 32.77 102 P **P** **14 21 49.0 +0.2**
WSAR PcP **PcP** **14 24 34.2 +0.6**
JMDO Jabal Madar 32.77 103 P **P** **14 21 49.5 +0.7**
SNR=6.4
APA Apatity 33.03 7Ω *i*P **P** **14 21 50.0 -0.5**
APA *e*S **S** **14 27 02.0 -5.0**
APA pmax pmax
comp=Z,14nm,0.6s
APA MLR MLR
comp=Z,1µm,17.0s
SVE Sverdlovsk 33.17 37*c i*P **P** **14 21 51.8 -0.1**
SVE pmax pmax
comp=Z,89nm,0.9s
SVE MLR MLR
comp=Z,319nm,14.0s
STEI Steigen 33.22 354 *e*P **P** **14 21 52.5 +0.4**
WBK Wadi Bani Khal 33.35 102 P **P** **14 21 55.4 +1.5**
SNR=9.5
KTK1 Kautokeino 33.98 360 *e*P **P** **14 21 56.8 -2.0**
KTK1 AMB AMB 14 22 01.2
comp=Z,196nm,1.7s
KTK1 Kautokeino 33.98 360 *e*P **P** **14 21 56.8 -2.0**
comp=Z,196nm,1.7s,SNR=40
ARCES ARCESS Array B 34.52 1 P **P** **14 22 02.2 -1.3**
comp=Z,10.0nm,0.5s,baz=171,slow=8.6,SNR=73
ARCES LR LR 14 37 05.9
comp=Z,1µm,21.6s,baz=188,slow=38
ARCES ARCESS Array B 34.52 1 P **P** **14 22 02.2 -1.3**
ARE0 ARCESS Array S 34.52 1 *e*P **P** **14 22 02.6 -0.9**
ARE0 ARCESS Array S 34.52 1 *e*P **P** **14 22 03.0 -0.5**
ARE0 ARCESS Array S 34.52 1 *e*P **P** **14 22 02.6 -0.9**
SNR=40
KEV Kevo 34.78 2 *e*P **P** **14 22 04.8 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 34.78 2 *e*p **P** **14 22 04.8 -0.9**
comp=Z,1.2nm,0.3s
KEV Kevo 34.78 2 *e*P **P** **14 22 04.8 -0.9**
comp=Z,1.2nm,0.3s
MBAR Mbarara 36.16 168 P **P** **14 22 19.3 +1.0**
comp=Z,4.4nm,0.2s,baz=341,slow=23,SNR=3.6
MBAR Mbarara 36.16 168 P **P** **14 22 19.3 +1.0**
KK31 Karatay Array 37.00 63 *i* P **P** **14 22 25.6 +0.5**
KK31 pmax pmax
comp=Z,35nm,0.6s
KKAR Karatay Array 37.00 63 *e*P **P** **14 22 25.5 +0.4**
KKAR Karatay Array 37.00 63 *e*P **P** **14 22 25.5 +0.4**
KBL Kabul 37.20 77 *e*P **P** **14 22 26.8 -0.3**
KBL pmax pmax
comp=Z,25nm,1.3s
KBL Kabul 37.20 77 *e*P **P** **14 22 26.8 -0.3**
comp=Z,25nm,1.3s
BRVK Borovoye 37.37 47*c i*P **P** **14 22 27.8 -0.3**
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 37.37 47 *e*P **P** **14 22 28.4 +0.3**
comp=Z,20nm,0.8s
BRVK Borovoye 37.37 47 P **P** **14 22 28.7 +0.6**
SNR=11
BVA0 Borovoye Array 37.43 47 P **P** **14 22 27.9 -0.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.5s
BVAR Borovoye Array 37.43 47 P **P** **14 22 28.7 +0.1**
comp=Z,9.1nm,0.7s,baz=258,slow=6.0,SNR=57
BVAR Borovoye Array 37.43 47 P **P** **14 22 28.7 +0.1**
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 37.43 47 P **P** **14 22 28.7 +0.1**
KMBO Kilima Mbogo 38.28 157 *e*P **P** **14 22 36.5 +0.1**
comp=Z,5.5nm,1.1s
DBIC Dimbokro 38.43 229 P **P** **14 22 37.4 0.0**
comp=Z,12nm,0.6s,baz=20,slow=10.0,SNR=26
DBIC S **S** **14 28 25.6 -5.1**
comp=Z,3.1nm,1.0s,baz=279,slow=23,SNR=2.6
DBIC LR LR 14 38 50.4
comp=Z,236nm,21.7s,baz=16,slow=37
DBIC Dimbokro 38.43 229 *e*P **P** **14 22 37.4 0.0**
comp=Z,24nm,0.8s
DBIC S **S** **14 28 25.6 -5.1**
LIC Lamto 38.88 229 *e*P **P** **14 22 41.2 0.0**
comp=Z,65nm,0.9s,baz=48
LIC *e*R
comp=Z,357nm,21.2s
LIC Lamto 38.88 229 *e*P **P** **14 22 41.2 0.0**
comp=Z,65nm,0.9s
AML Almayashu 39.43 64 P **P** **14 22 46.6 +0.5**
SNR=11
EKS2 Erkin-Say 39.43 63 P **P** **14 22 47.0 +1.3**
SNR=9.0
USP Ospenovka 39.90 62 P **P** **14 22 49.9 +0.5**
SNR=10
AAK Ala-Archa 39.96 63 P **P** **14 22 51.5 +1.3**
comp=Z,40nm,0.9s,baz=239,slow=4.9,SNR=65
AAK Ala-Archa 39.96 63*c i*P **P** **14 22 51.2 +1.0**
AAK pmax pmax
comp=Z,142nm,1.2s
AAK Ala-Archa 39.96 63 *e*P **P** **14 22 50.4 +0.2**
comp=Z,181nm,0.9s
AAK Ala-Archa 39.96 63 P **P** **14 22 51.8 +1.6**
SNR=7.1
AAK Ala-Archa 39.96 63 P **P** **14 22 51.6 +1.5**

SNR=31
FRU Bishkek 40.03 63 *e*P **P** **14 22 52.0 +1.4**
FRU pmax pmax
comp=Z,80nm,1.0s
CHMS Chumysh 40.11 63 P **P** **14 22 51.0 -0.2**
SNR=32
KBK Karagaybulak 40.29 63 P **P** **14 22 54.4 +1.5**
SNR=13
KZA Kyzart 40.59 64 P **P** **14 22 57.5 +1.8**
SNR=14
TKM2 Tokmak 2 40.73 63 *i* P **P** **14 22 57.4 +0.8**
TKM2 Tokmak 2 40.73 63 P **P** **14 22 57.4 +0.8**
SNR=12
ULHL Ulahol 41.29 64 P **P** **14 23 02.9 +1.7**
SNR=7.7
KSH Kashi 41.55 68 P **P** **14 23 02.8 -0.4**
KSH *e*pP **pP** **14 23 11.3 -0.8**
KSH *es*P **sP** **14 23 15.6 -0.1**
KSH *e*PP **PP** **14 24 39.4 0.0**
KSH *e*PcP **PcP** **14 25 02.4 +2.2**
KSH *e*ScP **ScP** **14 28 48.8 +0.6**
KSH PcS **PcS** **14 28 52.1 +0.4**
KSH S **S** **14 29 12.0 -5.3**
KSH sS **sS** **14 29 28.6 -3.3**
KSH SS SS 14 32 10.3 -12
KSH ScS **ScS** **14 33 01.1 -3.6**
KSH pmax pmax
comp=Z,46nm,1.3s
KSH LR LR
comp=N,700nm,10.2s
KSH LR LR
comp=E,420nm,8.0s
KSH LR LR
comp=Z,210nm,6.6s
KURBB Kurchatov Arra 42.27 51 P **P** **14 23 07.8 -1.0**
comp=Z,45nm,0.7s,baz=278,slow=8.6,SNR=361
KURBB PcP **PcP** **14 25 03.4 +1.2**
comp=Z,4.5nm,0.7s,baz=267,slow=4.0,SNR=4.6
KURBB S S 14 29 17.3 -10
comp=Z,0.3nm,0.3s,baz=67,slow=32,SNR=2.4
KURK Kurchatov 42.33 51 *c i*P **P** **14 23 08.9 -0.4**
KURK pmax pmax
comp=Z,38nm,0.7s
KURK Kurchatov 42.33 51 *e*P **P** **14 23 08.5 -0.8**
KURK PcP **PcP** **14 25 03.4 +1.0**
KURK S S 14 29 17.3 -11
KURK Kurchatov 42.33 51 P **P** **14 23 09.5 +0.2**
SNR=10
SCO Scoresbysund 42.90 339 *i* P **P** **14 23 14.8 +1.2**
comp=Z,12nm,0.8s
SPA0 Spitsbergen Ar 43.30 358 *e*P **P** **14 23 17.4 +0.6**
SPA0 Spitsbergen Ar 43.30 358 *e*P **P** **14 23 17.4 +0.6**
SNR=37
SPITS Spitsbergen Ar 43.30 358 P **P** **14 23 17.1 +0.2**
comp=Z,14nm,0.6s,baz=155,slow=12,SNR=38
SPITS Spitsbergen Ar 43.30 358 P **P** **14 23 17.1 +0.2**
KBS Kingsbay 44.21 357 *e*P **P** **14 23 25.3 +1.2**
KBS Kingsbay 44.21 357 *c i*P **P** **14 23 24.9 +0.8**
KBS pmax pmax
comp=Z,69nm,1.7s
KBS Kingsbay 44.21 357 *e*P **P** **14 23 23.9 -0.3**
comp=Z,54nm,1.1s
KBS Kingsbay 44.21 357 *i* P **P** **14 23 24.9 +0.8**
comp=Z,17nm,0.9s,SNR=25
SDNR Sundarnagar 44.45 79 *e*P **P** **14 23 26.6 -0.2**
KHET Khetri 44.74 84 *e*P **P** **14 23 29.0 -0.1**
KKR Kurukshetra 44.87 81 *e*P **P** **14 23 30.1 +0.1**
MK31 Makanchi Array 45.00 56 *i* P **P** **14 23 30.5 -0.4**
MK31 pmax pmax
comp=Z,36nm,0.5s
MK31 Makanchi Array 45.00 56 *e*P **P** **14 23 30.4 -0.5**
MKAR Makanchi Array 45.00 56 P **P** **14 23 30.2 -0.7**
comp=Z,31nm,0.6s,baz=280,slow=6.6,SNR=354
MKAR PcP **PcP** **14 25 12.5 +0.9**
comp=Z,8.6nm,0.7s,baz=281,slow=3.3,SNR=3.3
MKAR ScP **ScP** **14 29 00.4 -1.5**
comp=Z,0.6nm,0.6s,baz=278,slow=4.1,SNR=4.5
MKAR S **S** **14 30 02.3 -5.2**
comp=Z,0.2nm,0.6s,baz=106,slow=3.9,SNR=1.1
MKAR LR LR 14 44 05.9
comp=Z,80nm,20.4s,baz=274,slow=38
MKAR Makanchi Array 45.00 56 P **P** **14 23 30.2 -0.7**
MKAR 14 25 12.5
MKAR S **S** **14 30 02.3 -5.2**
MKAR pmax pmax
comp=Z,31nm,0.6s
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR MLR MLR
comp=Z,80nm,20.4s
MKAR Makanchi Array 45.00 56 P **P** **14 23 30.2 -0.7**
MKAR PcP **PcP** **14 25 12.5 +0.9**
MKAR ScP **ScP** **14 29 00.3 -1.5**
MKAR S **S** **14 30 02.3 -5.2**
NVS Novosibirsk 45.14 45⇑ *i*P **P** **14 23 31.6 -0.2**
NVS *e* 14 25 10.7
NVS *e*S **S** **14 30 04.0 -5.2**
NVS pmax pmax
comp=Z,116nm,1.3s
NVS pmax pmax
comp=N,22nm,1.4s
NVS pmax pmax
comp=E,30nm,1.2s
NVS smax smax
comp=N,15nm,1.3s
KUDL Kundal 45.27 83 *e*P **P** **14 23 34.1 +0.9**
KUDL AMb AMB 14 23 36.7
comp=Z,47nm,1.2s
BHGR Bahadurgarh 45.43 83 *e*P **P** **14 23 33.9 -0.6**
BHGR AMb AMB 14 23 34.7
comp=Z,187nm,0.2s
NDI New Delhi 45.66 82 *ex* x 14 23 34.0
AYAN Aya Nagar 45.66 83 *e*P **P** **14 23 36.5 +0.2**
AYAN AMb AMB 14 23 38.4
comp=Z,48nm,1.2s
SONA Sohna 45.72 83 *e*P **P** **14 23 37.5 +0.7**
SONA AMb AMB 14 23 39.6
comp=Z,28nm,0.8s
DDI Dehra Dun 45.74 80 *e*P **P** **14 23 35.8 -1.2**
DDI *ex* x 14 24 52.5
DAG Danmarks Havn 45.81 348⇑ *i*P **P** **14 23 37.5 +0.7**
comp=Z,92nm,0.7s
DAG
comp=Z,410nm,22.0s
BISR Bishrakh 45.88 82 *e*P **P** **14 23 37.7 -0.3**
ZAA0 Zalesovo Array 46.08 46 *e*P **P** **14 23 37.8 -1.5**
ZALV Zalesovo Beam 46.08 46 P **P** **14 23 38.0 -1.2**
comp=Z,24nm,0.4s,baz=271,slow=9.1,SNR=157
ZALV PP **PP** **14 25 24.5 -2.9**
comp=Z,4.1nm,0.6s,baz=289,slow=10,SNR=2.2
ZALV S **S** **14 30 17.7 -5.1**
comp=Z,0.4nm,0.5s,baz=348,slow=29,SNR=1.7
ZALV LR LR 14 45 55.0
comp=Z,134nm,20.5s,baz=256,slow=40
ZALV Zalesovo Beam 46.08 46 P **P** **14 23 38.0 -1.2**
ZALV 14 25 24.5
ZALV S **S** **14 30 17.7 -5.1**
ZALV pmax pmax
comp=Z,24nm,0.4s
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV MLR MLR
comp=Z,134nm,20.5s
ZALV Zalesovo Beam 46.08 46 P **P** **14 23 38.0 -1.2**
ZALV PP **PP** **14 25 24.5 -2.9**
ZALV S **S** **14 30 17.7 -5.1**
AGRA Agra 46.82 84 *e*P **P** **14 23 45.0 -0.5**
SUMG Summit 48.54 339 *i* P **P** **14 23 59.9 +1.2**
comp=Z,11nm,1.0s
SUMG Summit 48.54 339 *i* P **P** **14 23 59.9 +1.2**
comp=Z,11nm,1.0s
WMQ Urumqi 49.27 59 P **P** **14 24 05.3 +1.1**
WMQ pmax pmax
comp=Z,22nm,1.4s
WMQ pmax pmax
comp=Z,110nm,4.0s
WMQ LR LR
comp=N,250nm,27.0s
WMQ LR LR
comp=E,340nm,29.0s
WMQ LR LR
comp=Z,370nm,26.0s
MSEY Mahe Island 49.72 136 *e*P **P** **14 24 07.9 -0.1**
comp=Z,6.6nm,0.8s
KRAR Krasnoyarsk 50.57 43 *e*P **P** **14 24 14.2 +0.4**
KRAR pmax pmax
comp=Z,50nm,1.3s
PYUN Piuthan 50.57 80 *e*P **P** **14 24 14.9 +0.4**
DANN Dangsing 51.09 80 *e*P **P** **14 24 19.2 +0.6**
comp=Z,316nm,0.8s
KOLN Koldanda 51.20 81 *e*P **P** **14 24 19.4 +0.2**
comp=Z,60nm,0.9s
HVS Khovu-Aksy 51.77 49*c i*P **P** **14 24 23.1 0.0**
HVS pmax pmax
comp=Z,98nm,1.2s
HYB Hyderabad 51.84 95 *i* P **P** **14 24 23.0 -0.9**
GKN Gorkha 51.94 80 *e*P **P** **14 24 24.9 +0.2**
comp=Z,132nm,0.8s
SFJD Kangerlussuaq 52.07 331 *i* P **P** **14 24 26.3 +1.4**
comp=Z,5.5nm,0.9s
SFJD Kangerlussuaq 52.07 331 *i* P **P** **14 24 26.3 +1.4**
comp=Z,5.5nm,0.8s,SNR=23
DMN Daman 52.48 80 *e*P **P** **14 24 29.1 +0.2**
comp=Z,214nm,0.9s
KKN Kakani 52.54 80 *e*P **P** **14 24 29.5 +0.2**
comp=Z,62nm,0.8s
PKIN Phulchoki 52.73 80 *e*P **P** **14 24 30.9 +0.2**
PKI Pulchoki 52.74 80 *e*P **P** **14 24 30.9 0.0**
comp=Z,190nm,1.1s
GUN Gumba 52.98 79 *e*P **P** **14 24 32.9 +0.2**
JIRN Jiri 53.33 79 *e*P **P** **14 24 35.4 +0.1**
comp=Z,16nm,0.7s
RAMN Ramite 53.96 80 *e*P **P** **14 24 39.1 -0.7**
comp=Z,90nm,0.9s
ODAN Odare 54.64 80 *e*P **P** **14 24 43.8 -0.9**
comp=Z,31nm,0.9s
TAPN Taplejung 54.69 79 *e*P **P** **14 24 45.0 -0.1**
comp=Z,82nm,1.1s
MOY Mondy 56.10 47 *e*P **P** **14 24 55.4 +0.6**
MOY pmax pmax
comp=Z,23nm,1.5s
LSA Lhasa 56.46 75 P **P** **14 24 58.5 +0.5**
LSA Lhasa 56.46 75 *e*P **P** **14 24 57.6 -0.4**
LSA *e**PP **pP** **14 25 05.4 -1.8**
LSA *e**SP **sP** **14 25 10.3 -0.4**
LSA pmax pmax
comp=Z,25nm,0.7s
LSA Lhasa 56.46 75 *e*P **P** **14 24 57.6 -0.4**
comp=Z,25nm,0.7s
LSA *ep*P **pP** **14 25 05.4 -1.8**
LSA *es*P **sP** **14 25 10.3 -0.4**
TLY Talaya 57.69 47⇑ *i*P **P** **14 25 04.9 -0.9**
TLY *e*S S 14 32 51.1 -11
TLY *e*SS **SS** **14 36 57.9 +5.5**
TLY pmax pmax
comp=Z,19nm,1.0s
TLY MLR MLR
comp=Z,154nm,20.0s
TLY Talaya 57.69 47 *e*P **P** **14 25 04.9 -0.9**
comp=Z,23nm,1.1s
TLY *ep*P **pP** **14 25 13.4 -1.7**
TLY Talaya 57.69 47 P **P** **14 25 07.4 +1.5**
SNR=14
ZAK Zakamensk 57.85 48⇑ *i*P **P** **14 25 07.7 +0.6**
ZAK pmax pmax
comp=Z,18nm,1.0s
IRK Irkutsk 57.89 46⇓ *i*P **P** **14 25 07.0 -0.3**
IRK pmax pmax
comp=Z,53nm,1.7s
GTA Gaotai 59.24 61 P **P** **14 25 17.5 +0.4**
GTA pP **pP** **14 25 25.0 -1.3**
GTA sP **sP** **14 25 28.4 -1.4**
GTA PcP **PcP** **14 26 06.8 +1.7**
GTA S **S** **14 33 21.1 -2.1**
GTA sS **sS** **14 33 34.1 -4.3**
GTA SS **SS** **14 37 17.9 +0.3**
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.0s
GTA LR LR
comp=N,130nm,20.4s
GTA LR LR
comp=E,140nm,19.5s
GTA LR LR
comp=Z,210nm,19.5s
LBTB Lobatse 59.81 178 *e*P **P** **14 25 22.7 +1.9**
comp=Z,35nm,1.5s
SONM Songino Array 60.63 50 P **P** **14 25 26.1 -0.3**
comp=Z,21nm,0.7s,baz=285,slow=7.4,SNR=210
SONM LR LR 14 55 30.4
comp=Z,151nm,20.0s,baz=299,slow=40
SONM Songino Array 60.63 50 P **P** **14 25 26.1 -0.3**
IMP Imphal 60.84 79 *e*P **P** **14 25 27.0 -1.1**
ULN Ulaanbaatar 61.03 50 *e*P **P** **14 25 28.5 -0.7**
comp=Z,39nm,0.7s
ULN Ulaanbaatar 61.03 50 P **P** **14 25 29.5 +0.4**
SNR=16
ULN Ulaanbaatar 61.03 50 P **P** **14 25 29.0 -0.2**
comp=Z,58nm,0.8s,comp=Z,505nmcomp=Z,6µm
BOD Bodaibo 61.38 38 *e*P **P** **14 25 29.8 -1.4**
BOD pmax pmax
comp=Z,32nm,1.0s
SCHQ Schefferville 62.32 319 P **P** **14 25 38.5 +0.9**
comp=Z,11nm,0.5s,baz=66,slow=5.8,SNR=29
SCHQ LR LR 14 51 59.0
comp=Z,163nm,20.3s,baz=66,slow=35
SCHQ Schefferville 62.32 319 *e*P **P** **14 25 37.7 +0.2**
comp=Z,17nm,0.9s
RES Resolute Bay 63.37 345 *e*P **P** **14 25 45.2 +1.0**
comp=Z,6.0nm,0.8s
BOSA Boshof 63.38 178 P **P** **14 25 45.6 +0.7**
comp=Z,5.6nm,1.0s,baz=14,slow=8.3,SNR=4.8
BOSA LR LR 14 55 57.0
comp=Z,514nm,18.7s,baz=1.0,slow=38
BOSA Boshof 63.38 178 P **P** **14 25 45.6 +0.7**
LZH Lanzhou 63.50 63⇑ P **P** **14 25 46.8 +0.9**
LZH pP **pP** **14 25 56.0 +0.8**
LZH sP **sP** **14 25 58.9 +0.2**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,97nm,4.0s
LZH LR LR
comp=N,150nm,14.6s
LZH LR LR
comp=E,300nm,16.8s
LZH LR LR
comp=Z,220nm,17.0s
CD2 Chengdu 65.74 68⇓ *i*P **P** **14 26 01.3 +0.8**
CD2 pP **pP** **14 26 11.6 +1.8**
CD2 sP **sP** **14 26 15.5 +2.2**
CD2 PP **PP** **14 28 27.4 +2.3**
CD2 PcS 14 30 36.0
CD2 S **S** **14 34 41.8 -3.2**
CD2 sS **sS** **14 34 58.8 -1.5**
CD2 SS **SS** **14 38 56.9 -2.3**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 pmax pmax
comp=Z,90nm,5.5s
CD2 LR LR
comp=N,150nm,6.5s
CD2 LR LR
comp=Z,120nm,14.3s
YAK Yakutsk 66.64 30 *e*P **P** **14 26 04.1 -1.5**
YAK *e**PP **pP** **14 26 14.6 -0.4**
YAK *e* 14 26 35.2
YAK *e*S S 14 34 48.6 -6.2
YAK *e* 14 35 53.7
YAK *e*SSS SSS 14 42 14.5
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK smax smax
comp=E,31nm,11.6s
YAK MLR MLR
comp=E,240nm,20.0s
YAK Yakutsk 66.64 30 *e*P **P** **14 26 02.8 -2.8**
comp=E,83nm,0.8s
HHC Hu-ho-hao-te 66.85 56⇑ P **P** **14 26 08.3 +0.8**
HHC pP **pP** **14 26 18.5 +1.6**
HHC sP **sP** **14 26 22.4 +2.0**
HHC PP **PP** **14 28 36.8 +2.2**
HHC S **S** **14 34 55.8 -2.5**
HHC sS **sS** **14 35 12.8 -0.9**
HHC pmax pmax
comp=Z,65nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=N,500nm,15.1s
HHC LR LR
comp=E,100nm,16.1s
HHC LR LR
comp=Z,200nm,15.7s
CLNS Chul'man 67.14 36 *e*P **P** **14 26 08.9 -0.1**
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=Z,16nm,0.9s
KMI Kunming 67.70 74 P **P** **14 26 13.6 +0.3**
KMI pP **pP** **14 26 22.3 -0.3**
KMI S **S** **14 35 04.3 -4.9**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI LR LR
comp=N,110nm,15.3s
KMI LR LR
comp=E,120nm,22.0s
KMI LR LR
comp=Z,150nm,26.3s
CHTO Chiang Mai 67.81 82 *e*P **P** **14 26 13.0 -0.8**
CHTO pmax pmax
comp=Z,37nm,1.3s
CHTO Chiang Mai 67.81 82 *e*P **P** **14 26 13.0 -0.8**
comp=Z,37nm,1.3s
CHTO Chiang Mai 67.81 82 P **P** **14 26 14.3 +0.6**
SNR=10
CHTO Chiang Mai 67.81 82 P **P** **14 26 13.5 -0.3**
comp=Z,28nm,0.9s
CMMT Chiang Mai 67.81 82 P **P** **14 26 14.0 +0.2**
comp=Z,25nm,0.7s
CMAR Chiang Mai Arr 67.99 82 P **P** **14 26 14.9 0.0**
comp=Z,20nm,0.8s,baz=301,slow=8.1,SNR=126
CMAR PP PP 14 28 37.5 -7.4
comp=Z,1.6nm,0.9s,baz=296,slow=9.9,SNR=4.6
CMAR LR LR 14 59 57.3
comp=Z,65nm,19.3s,baz=287,slow=39
CMAR Chiang Mai Arr 67.99 82 P **P** **14 26 14.9 0.0**
CMAR PP PP 14 28 37.5 -7.4
HIA Hailar 68.08 45 *e*P **P** **14 26 14.7 -0.4**
comp=Z,43nm,0.8s
XAN Xi'an 68.14 63 P **P** **14 26 15.9 +0.2**
XAN pP **pP** **14 26 26.3 +1.3**
XAN S **S** **14 35 18.4 +4.6**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,16nm,6.2s
XAN LR LR
comp=N,140nm,40.3s
GYA Guiyang 70.11 71⇑ *i*P **P** **14 26 30.0 +1.9**
GYA pP **pP** **14 26 40.8 +3.3**
GYA PcP **PcP** **14 26 52.4 +2.3**
GYA PP **PP** **14 29 06.3 +3.0**
GYA S **S** **14 35 35.0 -2.5**
GYA SKS **SKSac** **14 36 23.4 -4.3**
GYA SS **SS** **14 40 05.9 -1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=N,640nm,18.9s
GYA LR LR
comp=E,580nm,18.0s
GYA LR LR
comp=Z,630nm,17.6s
SRDT SRDT 70.28 86 P **P** **14 26 29.3 +0.1**
comp=Z,44nm,0.9s
BJI Beijing 70.34 55 P **P** **14 26 29.3 +0.2**
BJI S **S** **14 35 37.9 -1.5**
BJI SS **SS** **14 40 08.1 -1.6**
BJI pmax pmax
comp=Z,41nm,0.9s
BJI pmax pmax
comp=Z,170nm,3.6s
BJI LR LR
comp=N,120nm,24.3s
BJI LR LR
comp=E,97nm,26.2s
ENH Enshi 70.38 66 *e*P **P** **14 26 29.5 -0.1**
comp=E,29nm,1.0s
ENH *ep*P **pP** **14 26 36.9 -2.1**
ENH *es*P **sP** **14 26 41.1 -1.4**
HNH Hanover 70.44 310 *e*P **P** **14 26 32.5 +2.8**
FRNY Flat Rock 70.68 312 *e*P **P** **14 26 33.2 +2.0**
comp=E,14nm,1.0s
LONY Lake Ozonia 71.40 312 *e*P **P** **14 26 38.1 +2.6**
comp=E,21nm,1.1s
BILL Bilibino 73.48 14 *e*P **P** **14 26 47.8 +0.3**
BILL *e* 14 27 03.9
BILL pmax pmax
comp=Z,18nm,1.2s
BINY Binghamton 73.54 310 *e*P **P** **14 26 49.4 +1.1**
comp=Z,21nm,1.0s
BINY *ep*P **pP** **14 26 58.1 +0.3**
CHBT CHBT 73.77 86 P **P** **14 26 50.3 +0.3**
comp=Z,20nm,1.0s
SEY Seymchan 74.16 22 *e*P **P** **14 26 52.4 +0.9**
CN2 Changchun 74.28 47 *e*P **P** **14 26 52.8 +0.2**
CN2 *ep*P **pP** **14 27 03.1 +1.1**
CN2 *es*P **sP** **14 27 07.1 +1.6**
CN2 *e*S **SKiKP** **14 36 20.4 +2.9**
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
SKLT Songkhla 75.44 91 P **P** **14 26 59.5 -0.3**
comp=Z,40nm,0.8s
INK Inuvik 75.48 351 *e*P **P** **14 26 59.7 +0.6**
comp=Z,11nm,1.1s
SSPA Standing Stone 75.60 310 *e*P **P** **14 27 01.4 +1.1**
comp=Z,16nm,1.0s
ERPA Erie 76.07 312 *e*P **P** **14 27 04.5 +1.6**
comp=Z,36nm,0.9s
MDJ Mudanjiang 76.26 45 P **P** **14 27 03.5 -0.5**
MDJ pP **pP** **14 27 12.8 -0.6**
MDJ sP **sP** **14 27 16.8 -0.1**
MDJ S **S** **14 36 44.6 -1.9**
MDJ sS **sS** **14 36 59.9 -2.2**
MDJ ScS **SKKSac** **14 37 14.1 +0.6**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,130nm,3.6s
MDJ LR LR
comp=N,120nm,13.6s
MDJ LR LR
comp=Z,190nm,7.6s
MDJ Mudanjiang 76.26 45 *e*P **P** **14 27 04.0 0.0**
comp=Z,15nm,1.0s
NJ2 Nanjing 76.33 60 *e*P **P** **14 27 03.8 -0.8**
NJ2 pP **pP** **14 27 13.3 -0.7**
NJ2 sP **sP** **14 27 17.3 -0.2**
NJ2 PP **PP** **14 29 56.4 +0.5**
NJ2 S **S** **14 36 45.5 -2.1**
NJ2 sS **sS** **14 37 02.0 -1.2**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 pmax pmax
comp=Z,100nm,6.7s
NJ2 LR LR
comp=N,300nm,15.1s
NJ2 LR LR
comp=E,380nm,12.0s
NJ2 LR LR
comp=Z,550nm,18.1s
QIZ Qiongzhong 76.47 76 P **P** **14 27 06.3 +0.7**
QIZ S **S** **14 36 48.8 -0.7**
QIZ pmax pmax
comp=Z,18nm,1.0s
KULM Kulim 76.53 93 *e*P **P** **14 27 05.5 -0.4**

KULM **Kulim** 76.53 93 P P 14 27 05.9 0.0
comp=Z,40nm,0.9s
PSI **Prapat** 76.53 96 P P 14 27 06.2 +0.1
comp=Z,25nm,0.7s,baz=299,slow=4.9,SNR=22
PSI **Prapat** 76.53 96 P P 14 27 06.2 +0.1
PSI **Prapat** 76.53 96 P P 14 27 06.2 +0.1
comp=Z,46nm,0.9s
YKW3 **Yellowknife Ar** 77.02 341 eP P 14 27 06.9 -1.0
comp=Z,0.7nm,1.3s
YKW3 ePcP PcP 14 27 19.8 +1.0
YKA **Yellowknife Ar** 77.07 341 P P 14 27 08.5 +0.3
comp=Z,6.9nm,0.8s,baz=37,slow=5.3,SNR=123
YKA **Yellowknife Ar** 77.07 341 P P 14 27 08.5 +0.3
JSRW **J. Sargeant Re** 77.24 307 eP P 14 27 11.2 +1.6
IPM **Ipoh** 77.29 93 eP P 14 27 06.5 -3.8
comp=Z,8.5nm,0.8s
IPM **Ipoh** 77.29 93 P P 14 27 10.6 +0.3
comp=Z,13nm,0.8s
COLD **Coldfoot** 77.89 357 eP P 14 27 12.6 -0.1
COLD ePcP PcP 14 27 22.6 +0.1
USRK **Ussuriysk Arra** 77.90 44 P P 14 27 12.7 -0.4
comp=Z,53nm,0.8s,baz=290,slow=5.0,SNR=113
COWI **Conover** 78.93 319 eP P 14 27 20.1 +1.2
comp=Z,24nm,0.8s
EYMN **Ely** 78.97 322 eP P 14 27 19.5 +0.4
comp=Z,26nm,1.6s
EYMN ePcP PcP 14 27 27.8 +0.2
ACSO **Alum Creek Sta** 79.00 312 eP P 14 27 19.5 +0.1
comp=Z,28nm,1.1s
FFC **Flin Flon** 79.02 331 i P P 14 27 20.7 +1.5
FFC **Flin Flon** 79.02 331 eP P 14 27 20.1 +0.9
comp=Z,30nm,0.8s
TNA **Tin City** 79.29 5 eP P 14 27 21.5 +1.1
comp=Z,23nm,1.2s
KSAR **Wonju Array Be** 79.43 52 P P 14 27 21.9 +0.2
KSRS **Korea Array** 79.45 52 P P 14 27 22.0 +0.1
comp=Z,26nm,0.8s,baz=311,slow=4.7,SNR=67
KSRS LR LR 15 07 09.8
comp=Z,227nm,19.8s,baz=116,slow=39
ULM **Lac du Bonnet** 79.57 325 P P 14 27 22.9 +0.6
comp=Z,9.2nm,0.7s,baz=41,slow=5.1,SNR=12
ULM LR LR 15 03 03.1
comp=Z,255nm,20.7s,baz=50,slow=36
ULM **Lac du Bonnet** 79.57 325 P P 14 27 22.9 +0.6
EGAK **Eagle** 79.73 353 eP P 14 27 22.7 -0.2
comp=Z,5.6nm,0.8s
CELP **Cerrillos** 79.84 285 eP P 14 27 26.4 +2.1
COLA **College** 80.13 356 eP P 14 27 23.5 -1.5
COLA pmax pmax
comp=Z,27nm,1.8s
COLA **College** 80.13 356 eP P 14 27 23.5 -1.5
comp=Z,27nm,1.8s
ILAR **Eielson Array** 80.18 356 P P 14 27 25.9 +0.6
comp=Z,3.4nm,0.9s,baz=359,slow=3.5,SNR=30
ILAR PKKPbc PKKPbc 14 46 10.2 +1.3
comp=Z,0.3nm,0.8s,baz=247,slow=4.1,SNR=4.1
ILAR LR LR 15 04 15.8
comp=Z,130nm,20.3s,baz=350,slow=37
ILAR **Eielson Array** 80.18 356 P P 14 27 25.9 +0.6
ILAR PKKPbc PKKPbc 14 46 10.2 +1.3
DAWY **Dawson** 80.25 352 eP P 14 27 26.1 +0.3
AGMN **Agassiz Nation** 80.91 324 eP P 14 27 29.4 -0.1
comp=Z,6.1nm,0.6s
KMSC **Kings Mountain** 80.99 307 ⇓P P 14 27 31.3 +1.1
baz=81
DOT **Dot Lake** 81.09 354 eP P 14 27 30.8 +0.5
comp=Z,22nm,1.1s
DOT epP pP 14 27 39.5 -0.3
DOT esP sP 14 27 42.4 -0.9
MYKOM **Kota Tinggi** 81.13 94 P P 14 27 31.7 +0.5
comp=Z,29nm,1.2s
SFIN **Scholer Farm** 81.39 314 ⇓P P 14 27 33.2 +0.9
baz=81
SPMN **St. Paul** 81.45 320 ⇓P P 14 27 33.6 +1.1
baz=81
TRF **Thorofare Moun** 81.67 357 eP P 14 27 33.5 0.0
MENT **Mentasta** 81.77 354 eP P 14 27 35.5 +1.7
YSS **Yuzh-Sakhalins** 81.85 37 eP P 14 27 35.0 +0.5
YSS pmax pmax
comp=Z,116nm,0.9s
YSS **Yuzh-Sakhalins** 81.85 37 eP P 14 27 35.0 +0.5
comp=Z,116nm,0.9s
WCI **Wyandotte Cave** 82.26 312 eP P 14 27 37.1 +0.2
WCI **Wyandotte Cave** 82.26 312 eP P 14 27 37.1 +0.2
YHNB **Yeheng** 82.28 65 eP P 14 27 37.8 +0.5
comp=Z,32nm,0.9s
TPUB **Ta-pu** 82.50 67 eP P 14 27 39.5 +1.1
HDIL **Hopedale** 82.57 315 eP P 14 27 40.1 +1.6
comp=Z,24nm,0.8s
CPCT **Cooper Cave** 82.87 308 eP P 14 27 42.1 +2.0
CPCT epP pP 14 27 51.1 +1.4
MDND **Maddock** 83.00 325 ⇓P P 14 27 41.1 +0.6
baz=83
OLIL **Olney** 83.04 313 eP P 14 27 42.0 +1.2
comp=Z,31nm,1.0s
SML **Sawmill** 83.22 356 eP P 14 27 41.7 +0.3
SML e*PP pP 14 27 51.3 +0.3
SML e*SP sP 14 27 54.5 0.0
SML pmax pmax
comp=Z,34nm,2.0s
SML **Sawmill** 83.22 356 eP P 14 27 41.7 +0.3
comp=Z,34nm,2.0s
SML epP pP 14 27 51.3 +0.3
SML esP sP 14 27 54.5 0.0
GOGA **Godfrey** 83.44 306 eP P 14 27 43.9 +0.9
GOGA pmax pmax
comp=Z,24nm,1.2s
GOGA **Godfrey** 83.44 306 eP P 14 27 43.9 +0.9
comp=Z,24nm,1.2s
PMR **Palmer** 83.47 356 eP P 14 27 43.3 +0.6
PMR e*PP pP 14 27 51.1 -1.1
PMR **Palmer** 83.47 356 eP P 14 27 43.3 +0.6
PMR epP pP 14 27 51.1 -1.1
PETK **Petropavlovsk-** 83.60 26 P P 14 27 42.8 -0.8
comp=Z,5.3nm,1.1s,baz=124,slow=13,SNR=5.7
PETK LR LR 15 10 48.0
comp=Z,187nm,19.2s,baz=359,slow=40
PETK **Petropavlovsk-** 83.60 26 P P 14 27 42.8 -0.8
PETK pmax pmax
comp=Z,5.0nm,1.1s
PETK **Petropavlovsk-** 83.60 26 P P 14 27 42.8 -0.8
ASAJ **Asahikawa** 83.74 39 P P 14 27 44.7 +0.3
baz=317,slow=5.9
ASAJ LR LR 15 09 28.6
comp=Z,153nm,19.1s,baz=181,slow=39
ASAJ **Asahikawa** 83.74 39 eP P 14 27 44.2 -0.2
JNU **Nakatsue** 83.98 54 P P 14 27 46.4 +0.5
comp=Z,14nm,0.7s,baz=306,slow=1.4,SNR=13
JNU **Nakatsue** 83.98 54 eP P 14 27 44.7 -1.2
comp=Z,24nm,1.4s
SPU **Mount Spurr** 84.00 358 eP P 14 27 46.1 +0.6
A24A **Westby** 84.18 328 ⇑P P 14 27 47.6 +1.0
baz=84
SIUC **Southern Illin** 84.37 313 eP P 14 27 49.1 +1.4
comp=Z,27nm,0.9s
BDFB **Brasilia** 84.37 247 LR LR 15 05 58.1
comp=Z,242nm,19.0s,baz=58,slow=36
ECSD **EROS Data Cent** 84.46 321 eP P 14 27 48.9 +0.8
comp=Z,22nm,0.8s
A23A **Redstone** 84.53 329 ⇑P P 14 27 49.5 +1.1
baz=84
WVT **Waverly** 84.54 311 eP P 14 27 48.3 -0.3
WVT pmax pmax
comp=Z,7.0nm,1.1s
WVT **Waverly** 84.54 311 eP P 14 27 48.3 -0.3
comp=Z,7.0nm,1.1s
FVM **French Village** 84.92 313 eP P 14 27 51.8 +1.3
FVM pmax pmax
comp=Z,28nm,1.3s
FVM **French Village** 84.92 313 eP P 14 27 51.8 +1.3
comp=Z,28nm,1.3s
A22A **Carney Farms,** 84.94 329 ⇓P P 14 27 51.5 +1.0
baz=85,SNR=24
B23A **Brockton** 84.96 328 ⇑P P 14 27 51.8 +1.2
baz=85
A21A **Bergtoll Ranch** 85.37 330 ⇓P P 14 27 53.5 +0.8
baz=85,SNR=9.0
YUK **Yuzh-Kuril'sk** 85.46 38 P P 14 27 51.3 -1.8
YUK S S 14 38 11.5 -11
ERM **Erimo** 85.50 40 eP P 14 27 53.2 -0.1
ERM **Erimo** 85.50 40 eP P 14 27 53.2 -0.1
B22A **Reddig Ranch S** 85.51 329 ⇓P P 14 27 54.3 +0.9
baz=85
C23A **Lambert** 85.55 328 ⇑P P 14 27 54.7 +1.1
baz=85,SNR=6.4

D24A **Glendive** 85.70 327 ⇑P P 14 27 55.4 +1.1
baz=85
B21A **Ellsworth Farm** 85.84 329 ⇓P P 14 27 56.3 +1.3
baz=86
A20A **Cobblestone Ra** 85.86 330 ⇓P P 14 27 56.3 +1.2
baz=86,SNR=33
C22A **Vida** 85.89 328 ⇓P P 14 27 56.4 +1.2
baz=86,SNR=12
LRAL **Lakeview Retre** 85.98 308 eP P 14 27 56.7 +0.8
E24A **Baker** 86.11 327 ⇓P P 14 27 57.8 +1.5
baz=86
A19A **Klindworth Far** 86.16 331 ⇓P P 14 27 57.7 +1.2
baz=86,SNR=16
B20A **Solberg Farm,** 86.25 330 ⇑P P 14 27 58.2 +1.2
baz=86,SNR=20
C21A **Desert Coulee** 86.35 329 ⇑P P 14 27 58.8 +1.3
baz=86,SNR=7.1
MAJO **Matsushiro** 86.42 47 eP P 14 27 57.6 -0.4
MAJO pmax pmax
comp=Z,38nm,1.3s
MAJO **Matsushiro** 86.42 47 eP P 14 27 57.6 -0.4
comp=Z,38nm,1.3s
MAT **Matsushiro** 86.42 47 P P 14 27 57.5 -0.5
MJAR **Matsushiro Arr** 86.42 47 P P 14 27 58.1 +0.1
comp=Z,15nm,0.8s,baz=302,slow=5.2,SNR=41
MJAR **Matsushiro Arr** 86.42 47 P P 14 27 58.1 +0.1
D22A **Cohagen** 86.48 328 ⇓P P 14 27 59.6 +1.5
baz=86,SNR=19
A18A **Metzger Ranch,** 86.60 331 ⇓P P 14 27 59.9 +1.1
baz=86,SNR=20
E23A **Ismay** 86.60 327 ⇓P P 14 27 60.0 +1.2
baz=86
KSM **Kuching** 86.60 91 eP P 14 28 00.3 +1.1
comp=Z,38nm,1.5s
KSM **Kuching** 86.60 91 P P 14 28 01.3 +2.1
comp=Z,15nm,1.5s
B19A **Brinkman Farms** 86.61 330 ⇑P P 14 28 00.0 +1.2
baz=86,SNR=18
F24A **Ekalaka** 86.72 326 ⇑P P 14 28 00.5 +1.1
baz=86,SNR=6.1
C20A **Veseth Ranch,** 86.81 330 ⇑P P 14 28 01.1 +1.3
baz=86,SNR=34
D21A **La Casta Ranch** 86.90 329 ⇓P P 14 28 01.6 +1.3
baz=87,SNR=6.2
BGNE **Belgrade** 86.90 320 ⇑P P 14 28 01.6 +1.3
baz=87
A17A **Triple J Farms** 86.92 332 ⇑P P 14 28 01.1 +0.9
baz=87
E22A **Miles City** 86.93 328 ⇓P P 14 28 01.2 +0.8
baz=87
B18A **Beardsley Farm** 87.00 331 ⇓P P 14 28 01.8 +1.1
baz=87,SNR=29
G24A **Alzada** 87.10 326 ⇓P P 14 28 01.8 +0.6
baz=87
C19A **Slack Wire Ran** 87.23 330 ⇑P P 14 28 03.1 +1.3
baz=87,SNR=22
F23A **Volborg** 87.24 327 ⇓P P 14 28 02.9 +0.9
baz=87,SNR=18
A16A **West Butte Ran** 87.26 332 ⇑P P 14 28 02.6 +0.5
baz=87
EGMT **Eagleton** 87.28 331 eP P 14 28 03.1 +1.0
comp=Z,45nm,0.9s
EGMT **Eagleton** 87.28 331 ⇑P P 14 28 03.4 +1.2
baz=87,SNR=32
E21A **Keefer Ranch,** 87.34 328 ⇑P P 14 28 03.7 +1.3
baz=87
D20A **Manuel Ranch,** 87.36 329 ⇓P P 14 28 03.6 +1.1
baz=87,SNR=16
B17A **L&G Farms, Che** 87.48 331 ⇑P P 14 28 03.5 +0.5
baz=87,SNR=5.8
F22A **Rosebud** 87.58 327 ⇑P P 14 28 04.3 +0.8
baz=87,SNR=6.0
H24A **Dirks Ranch, A** 87.60 326 ⇑P P 14 28 04.3 +0.6
baz=87
D19A **Cripps Ranch,** 87.61 330 ⇑P P 14 28 04.5 +0.8
baz=87,SNR=9.7
SBUM **Sibu** 87.62 89 P P 14 28 05.9 +1.8
A15A **Johnson Ranch,** 87.67 333 ⇑P P 14 28 04.5 +0.6
baz=87,SNR=32
B16A **M & M Farms, S** 87.74 332 ⇑P P 14 28 04.8 +0.5
baz=87
E20A **Meyer Farm, Mu** 87.82 329 ⇓P P 14 28 05.6 +0.9
baz=88
RSSD **Black Hills** 87.84 325 eP P 14 28 06.5 +1.5
RSSD pmax pmax
comp=Z,11nm,1.2s
RSSD **Black Hills** 87.84 325 eP P 14 28 06.5 +1.5
comp=Z,11nm,1.2s
A14A **Double T Ranch** 87.93 333 ⇑P P 14 28 06.0 +0.8
baz=88,SNR=9.8
D18A **Linhart Farms,** 87.97 330 ⇓P P 14 28 06.6 +1.2
baz=88,SNR=5.3
C17A **Wharram Farm,** 88.00 331 ⇑P P 14 28 06.0 +0.4
baz=88,SNR=11
OHAK **Old Harbor** 88.00 358 epP pP 14 28 17.2 +2.4
G22A **Birney** 88.03 327 ⇓P P 14 28 06.4 +0.7
baz=88
WALA **Waterton Lakes** 88.03 334 eP P 14 28 05.9 +0.2
comp=Z,0.4nm,0.9s
E19A **Rath Farm, Rou** 88.13 329 ⇓P P 14 28 07.3 +1.1
baz=88,SNR=5.1
B15A **Bradely Ranch,** 88.15 332 ⇑P P 14 28 06.4 +0.1
baz=88,SNR=11
C16A **Fuhringer Ranc** 88.25 332 ⇓P P 14 28 07.0 +0.3
baz=88,SNR=6.0
I24A **Kuemmerle Ranc** 88.31 325 ⇓P P 14 28 07.3 +0.2
baz=88
A13A **Flathead Natio** 88.32 334 ⇑P P 14 28 07.8 +0.7
baz=88
D17A **Six Diamond Ra** 88.36 331 ⇓P P 14 28 08.2 +0.8
baz=88,SNR=6.3
F20A **Billings** 88.39 328 ⇓P P 14 28 08.5 +1.0
baz=88,SNR=5.2
K26A **Motz Farm, Whi** 88.50 324 ⇓P P 14 28 08.9 +0.9
baz=88
E18A **Harlowton** 88.52 330 ⇑P P 14 28 09.2 +1.1
baz=88,SNR=8.9
H22A **Clearmont** 88.54 327 ⇑P P 14 28 09.0 +0.8
baz=88,SNR=8.0
C15A **Salmond Ranch,** 88.61 332 ⇑P P 14 28 08.6 +0.1
baz=88
F19A **Roth Farm, Mol** 88.68 329 ⇑P P 14 28 10.0 +1.2
baz=88,SNR=16
J24A **Dixon Ranch, L** 88.73 325 ⇑P P 14 28 09.9 +0.8
baz=88
A12A **Yaak River Ran** 88.77 334 ⇑P P 14 28 09.9 +0.8
baz=88,SNR=12
D16A **Dana Ranch, Ca** 88.80 331 ⇓P P 14 28 10.2 +0.7
baz=88,SNR=10
B13A **Whitefish** 88.81 333 ⇑P P 14 28 10.1 +0.8
baz=88,SNR=8.1
H21A **Big Horn, Sher** 88.82 327 ⇓P P 14 28 10.2 +0.6
baz=88
G20A **Bridger** 88.87 328 ⇑P P 14 28 10.6 +0.8
baz=89,SNR=15
K25A **Mack Ranch, Ha** 88.90 324 ⇓P P 14 28 11.2 +1.2
baz=89,SNR=9.0
F18A **Big Timber** 88.97 329 ⇑P P 14 28 11.3 +1.1
baz=89,SNR=9.8
E17A **Martinsdale** 88.99 330 ⇓P P 14 28 11.3 +1.0
baz=89,SNR=11
GCMT **Greycliff** 89.04 329 eP P 14 28 11.8 +1.3
comp=Z,1.6nm,0.4s
YBMT **Yellow Bay** 89.07 333 eP P 14 28 11.8 +1.2
comp=Z,22nm,1.0s
MIAR **Mount Ida** 89.10 313 eP P 14 28 09.6 -1.3
MIAR e*PP pP 14 28 20.8 +0.3
MIAR pmax pmax
comp=Z,21nm,1.2s
MIAR **Mount Ida** 89.10 313 eP P 14 28 09.6 -1.3
comp=Z,21nm,1.2s
MIAR epP pP 14 28 20.8 +0.3
I22A **9 Mile Ranch,** 89.14 326 ⇑P P 14 28 11.8 +0.7
baz=89,SNR=9.8
D15A **Lincoln** 89.18 332 ⇑P P 14 28 11.7 +0.5
baz=89
E16A **East Helena** 89.26 331 ⇑P P 14 28 12.6 +1.1
baz=89,SNR=7.6
JTMT **Jette** 89.27 333 eP P 14 28 12.5 +0.9
K24A **Anderson Ranch** 89.27 325 ⇑P P 14 28 12.4 +0.6
baz=89
SWMT **Swartz Lake** 89.36 333 eP P 14 28 13.5 +1.6
F17A **Fitzpatrick Pl** 89.36 330 ⇑P P 14 28 13.3 +1.2
baz=89,SNR=10
H20A **Greybull** 89.36 328 ⇓P P 14 28 12.6 +0.6
baz=89,SNR=10
BSMT **Bassoo Peak** 89.36 333 eP P 14 28 13.5 +1.4
G18A **Lazy EL Ranch,** 89.37 329 ⇓P P 14 28 13.1 +0.9
baz=89

SLMT **Seeley Lake** 89.39 332 eP P 14 28 13.1 +0.9
RLMT **Red Lodge** 89.40 329 eP P 14 28 14.3 +1.9
comp=Z,25nm,1.4s
RLMT **Red Lodge** 89.40 329 ⇑P P 14 28 13.8 +1.4
baz=89,SNR=11
C13A **Hot Springs** 89.43 333 ⇑P P 14 28 13.3 +1.0
baz=89,SNR=10
TUL1 **Tulsa** 89.48 315 ⇓P P 14 28 13.4 +0.8
baz=89
J22A **Midwest** 89.52 326 ⇓P P 14 28 12.8 -0.1
baz=89,SNR=9.2
D14A **Greenough** 89.53 332 ⇓P P 14 28 13.1 +0.3
baz=89,SNR=6.8
CHMT **Chamberlain Mo** 89.56 332 eP P 14 28 13.9 +0.8
I21A **Big Trails, Te** 89.57 327 ⇑P P 14 28 13.3 +0.2
baz=89,SNR=18
K23A **Bowen Ranch, D** 89.63 325 ⇓P P 14 28 13.5 +0.1
baz=89
H19A **Powell** 89.64 328 ⇑P P 14 28 14.8 +1.3
baz=89,SNR=9.9
E15A **Deer Lodge** 89.73 331 ⇑P P 14 28 14.8 +1.0
baz=89,SNR=5.0
C12B **Naegeli Ranch,** 89.73 334 ⇑P P 14 28 14.6 +0.9
baz=89,SNR=15
I20A **Worland** 89.84 327 ⇑P P 14 28 15.1 +0.7
baz=90,SNR=18
F16A **Kennard Place,** 89.85 330 ⇓P P 14 28 15.0 +0.7
baz=90
NEW **Newport** 89.85 335 eP P 14 28 15.8 +1.6
comp=Z,21nm,0.9s
NEW **Newport** 89.85 335 ⇑P P 14 28 15.2 +1.0
baz=90,SNR=12
G17A **Pierce Place,** 89.86 330 ⇑P P 14 28 16.0 +1.5
baz=90,SNR=5.4
D13A **Huson** 89.88 333 ⇑P P 14 28 15.1 +0.7
baz=90,SNR=13
MSO **Missoula** 89.90 332 eP P 14 28 15.6 +1.0
MSO **Missoula** 89.90 332 ⇓P P 14 28 14.4 -0.1
baz=90
C11A **Tepee Creek (N** 89.91 334 ⇑P P 14 28 15.0 +0.5
baz=90,SNR=14
H18A **Shoshone NF, C** 89.93 329 ⇓P P 14 28 15.7 +0.8
baz=90,SNR=6.7
BOZ **Bozeman (W)** 89.96 330 eP P 14 28 17.4 +2.5
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ **Bozeman (W)** 89.96 330 eP P 14 28 17.4 +2.5
comp=Z,7.0nm,1.0s
BOZ **Bozeman (W)** 89.96 330 ⇑P P 14 28 16.2 +1.3
baz=90
J21A **Lysite** 90.01 327 ⇑P P 14 28 15.5 +0.3
baz=90,SNR=6.8
O27A **Beecher Island** 90.03 322 ⇓P P 14 28 16.0 +0.7
baz=90
E14A **Clinton** 90.07 332 ⇓P P 14 28 16.2 +0.8
baz=90,SNR=9.0
K22A **Casper** 90.13 326 ⇓P P 14 28 16.2 +0.5
baz=90
I19A **Meeteetse** 90.15 328 ⇑P P 14 28 16.8 +0.9
baz=90,SNR=13
LRM **Limekiln Ridge** 90.15 331 eP P 14 28 17.2 +1.3
F15A **Butte** 90.15 331 ⇑P P 14 28 16.5 +0.7
baz=90,SNR=8.7
L23A **Garrett** 90.16 325 ⇓P P 14 28 16.3 +0.3
baz=90,SNR=9.5
J20A **Shoshoni** 90.29 327 ⇑P P 14 28 17.2 +0.7
baz=90,SNR=13
E13A **Victor** 90.32 332 ⇓P P 14 28 17.1 +0.6
baz=90,SNR=8.5
LKWY **Lake** 90.33 329 eP P 14 28 19.7 +2.9
LKWY pmax pmax
comp=Z,8.0nm,1.1s
LKWY **Lake** 90.33 329 eP P 14 28 19.7 +2.9
comp=Z,7.9nm,1.1s
N25A **Grover** 90.37 323 ⇓P P 14 28 17.8 +0.9
baz=90
G16A **Moss Hill, Enn** 90.38 330 ⇑P P 14 28 18.0 +1.2
baz=90,SNR=12
K21A **Alcova** 90.48 326 ⇑P P 14 28 17.5 +0.1
baz=90,SNR=7.7
F14A **Wisdom** 90.52 331 ⇓P P 14 28 18.2 +0.6
baz=90,SNR=8.6
H17A **Grant Village** 90.54 329 ⇓P P 14 28 20.0 +2.2
baz=90
L22A **Ellis Ranch, M** 90.57 325 ⇑P P 14 28 18.9 +1.0
baz=90,SNR=7.9
H16A **Russell Place,** 90.57 330 ⇑P P 14 28 19.4 +1.6
baz=90,SNR=9.8
DLMT **Dillon** 90.59 331 eP P 14 28 19.5 +1.7
M23A **Laramie** 90.67 324 ⇑P P 14 28 19.3 +0.9
baz=90
PHWY **Pilot Hill** 90.67 324 eP P 14 28 19.8 +1.4
comp=Z,19nm,0.9s
G15A **Dillon** 90.70 331 ⇓P P 14 28 19.5 +1.1
baz=90,SNR=5.9
N24A **Carr** 90.75 323 ⇓P P 14 28 19.9 +1.2
baz=90
I18A **Diamond G Ranc** 90.78 328 ⇓P P 14 28 18.5 -0.3
baz=90,SNR=5.6
J19A **Crowheart** 90.79 327 ⇓P P 14 28 18.9 0.0
baz=90,SNR=8.1
FLWY **Flagg Ranch** 90.85 329 eP P 14 28 22.2 +3.0
comp=Z,29nm,1.8s
F13A **Darby** 90.92 332 ⇓P P 14 28 20.0 +0.7
baz=91,SNR=15
I17A **Pilgrim Ck.** 90.93 329 ⇓P P 14 28 21.2 +1.7
baz=91,SNR=6.8
K20A **Yellowstone Ra** 90.95 327 ⇑P P 14 28 19.9 +0.3
baz=91,SNR=9.3
G14A **Jackson** 91.03 331 ⇓P P 14 28 20.6 +0.6
baz=91
K19A **Absolon Red Bu** 91.05 327 ⇓P P 14 28 20.0 -0.1
baz=91,SNR=6.7
L21A **Rawlins** 91.06 326 ⇓P P 14 28 20.4 +0.2
baz=91
IMW **Indian Meadow** 91.10 329 eP P 14 28 22.4 +2.0
comp=Z,9.2nm,1.0s
MCMT **McKenzie Canyo** 91.13 331 eP P 14 28 20.2 -0.3
comp=Z,4.9nm,1.4s
M22A **Cedar Creek Ra** 91.13 325 ⇓P P 14 28 21.2 +0.6
baz=91,SNR=13
MOOW **Moose Ponds** 91.14 329 eP P 14 28 21.9 +1.4
comp=Z,6.6nm,1.1s
LOHW **Long Hollow** 91.19 329 eP P 14 28 22.2 +1.4
comp=Z,3.9nm,1.1s
N23A **Red Feather La** 91.21 324 ⇓P P 14 28 21.7 +0.7
baz=91,SNR=10
H15A **Lima** 91.22 330 ⇑P P 14 28 22.2 +1.4
baz=91,SNR=6.2
J18A **Kendall Valley** 91.26 328 ⇓P P 14 28 21.8 +0.6
baz=91,SNR=26
F12A **Elk City** 91.30 332 ⇑P P 14 28 21.6 +0.5
baz=91,SNR=20
M21A **Separation Pea** 91.33 325 ⇓P P 14 28 22.0 +0.5
baz=91,SNR=7.1
I16A **Newdale** 91.35 329 ⇓P P 14 28 23.0 +1.6
baz=91
P25A **Willow Gulch B** 91.40 322 ⇓P P 14 28 22.5 +0.7
baz=91
PDAR **Pinedale Array** 91.41 327 P P 14 28 21.7 -0.1
comp=Z,2.5nm,1.0s,baz=66,slow=5.0,SNR=13
PDAR PP PP 14 31 48.1 -11
comp=Z,0.8nm,0.8s,baz=76,slow=7.6,SNR=3.8
PDAR LR LR 15 11 15.0
comp=Z,218nm,19.8s,baz=37,slow=37
PDAR **Pinedale Array** 91.41 327 P P 14 28 21.7 -0.1
PDAR PP PP 14 31 48.1 -11
BW06 **Boulder Array** 91.41 327 eP P 14 28 22.2 +0.4
comp=Z,5.7nm,1.1s
BW06 **Boulder Array** 91.41 327 ⇓P P 14 28 21.8 0.0
baz=91,SNR=5.2
TPAW **Teton Pass** 91.43 329 eP P 14 28 23.6 +1.6
comp=Z,6.0nm,0.9s
G13A **Cobalt** 91.46 331 ⇑P P 14 28 22.6 +0.7
baz=91,SNR=12
L20A **Wamsutter** 91.47 326 ⇓P P 14 28 22.9 +0.9
baz=91
H14A **Leadore** 91.51 331 ⇓P P 14 28 23.1 +0.9
baz=91,SNR=6.6
N22A **Wattenberg Ran** 91.53 324 ⇑P P 14 28 23.0 +0.6
baz=91
RRI2 **Red Ridge** 91.71 329 eP P 14 28 25.1 +1.9
K18A **Toltan Ranch,** 91.73 328 ⇓P P 14 28 23.7 +0.4
baz=91
M20A **Sweetwater, Wa** 91.81 326 ⇓P P 14 28 24.6 +1.0
baz=92,SNR=5.7
L19A **Farson** 91.85 327 ⇓P P 14 28 23.9 +0.1

baz=92
J16A Bone 91.89 329 ⇑P **P** **14 28 25.4 +1.4**
baz=92,SNR=9.2
Q25A Bedland, Calha 91.89 322 ⇓P **P** **14 28 24.4 +0.3**
baz=92
ISCO Idaho Springs 91.90 323 *e*P **P** **14 28 25.3 +1.1**
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 91.90 323 *e*P **P** **14 28 25.3 +1.1**
comp=Z,5.6nm,1.1s
ISCO Idaho Springs 91.90 323 ⇓P **P** **14 28 24.5 +0.3**
baz=92
H13A Challis 91.91 331 ⇑P **P** **14 28 25.0 +1.1**
baz=92,SNR=10.0
R26A Arlington 91.95 321 ⇑P **P** **14 28 24.6 +0.3**
baz=92
N21A Black Mountain 92.07 325 ⇑P **P** **14 28 25.5 +0.6**
baz=92
O22A Kremmling 92.07 324 ⇑P **P** **14 28 25.3 +0.3**
baz=92
I14A Mackay 92.11 330 ⇓P **P** **14 28 26.5 +1.5**
baz=92,SNR=8.3
T28A Walsh 92.13 319 ⇑P **P** **14 28 25.7 +0.6**
baz=92
M19A Rock Springs 92.24 326 ⇓P **P** **14 28 26.5 +0.8**
baz=92
K16A Soda Springs 92.24 329 ⇑P **P** **14 28 26.2 +0.6**
baz=92
HAWA Hanford 92.30 335 *e*P **P** **14 28 27.4 +1.9**
comp=Z,8.9nm,0.8s
Q24A Divide 92.31 322 ⇓P **P** **14 28 26.3 +0.2**
baz=92
SAML Samuel 92.32 261 *e*P **P** **14 28 27.0 +0.9**
comp=Z,3.7nm,1.0s
P23A Jefferson 92.34 323 ⇓P **P** **14 28 27.4 +1.1**
baz=92,SNR=8.1
N20A Spence Gulch, 92.36 325 ⇑P **P** **14 28 27.1 +0.9**
baz=92,SNR=5.1
I13A Wildhorse Cree 92.39 331 ⇓P **P** **14 28 27.4 +1.1**
baz=92
O21A Pagoda 92.47 325 ⇑P **P** **14 28 27.6 +0.8**
baz=92
R25A Fountain Ranch 92.49 321 ⇓P **P** **14 28 27.1 +0.3**
baz=92
P22A Eagle 92.61 324 ⇓P **P** **14 28 27.7 +0.2**
baz=92
J14A Carey 92.64 330 ⇑P **P** **14 28 27.8 +0.4**
baz=92
N19A John Jarvie Ra 92.73 326 ⇑P **P** **14 28 27.9 0.0**
baz=92
K15A Arbon 92.76 329 ⇑P **P** **14 28 29.3 +1.4**
baz=92
HLID Hailey 92.81 331 *e*P **P** **14 28 30.0 +1.9**
comp=Z,16nm,2.1s
BMO Blue Mountains 92.83 333 *e*P **P** **14 28 28.4 +0.3**
BMO pmax pmax
comp=Z,5.0nm,0.8s
BMO Blue Mountains 92.83 333 *e*P **P** **14 28 28.4 +0.3**
comp=Z,5.4nm,0.8s
L16A Fish Haven 92.84 328 ⇑P **P** **14 28 28.9 +0.5**
baz=92
J13A Cove Ranch, Pi 92.85 331 ⇑P **P** **14 28 29.1 +0.8**
baz=92
S25A Robets Cordova 92.94 321 ⇑P **P** **14 28 29.5 +0.6**
baz=93
P21A Newcastle 93.00 324 ⇑P **P** **14 28 29.3 +0.1**
baz=93
SMCO Snowmass 93.05 324 *e*P **P** **14 28 30.4 +0.8**
comp=Z,3.2nm,0.9s
O19A Miners Draw (B 93.18 326 ⇑P **P** **14 28 30.3 +0.4**
baz=93
L15A Malad City 93.26 329 ⇓P **P** **14 28 30.6 +0.3**
baz=93
Q22A Crested Butte, 93.26 323 ⇓P **P** **14 28 31.4 +0.9**
baz=93
X30A Coker Ranch, T 93.43 317 ⇑P **P** **14 28 32.2 +1.1**
baz=93
N17A Moffit Pass 93.44 327 ⇓P **P** **14 28 31.4 +0.1**
baz=93
MFID Camas Ranch 93.49 332 *e*P **P** **14 28 32.7 +1.5**
comp=Z,15nm,1.1s
MFID Camas Ranch 93.49 332 ⇑P **P** **14 28 32.3 +1.1**
baz=93
U26A Atchley Ranch, 93.54 320 ⇑P **P** **14 28 32.3 +0.6**
baz=93
L14A Malta 93.59 329 ⇓P **P** **14 28 32.8 +1.1**
baz=93
P19A Cripple Cowboy 93.64 325 ⇑P **P** **14 28 32.2 +0.1**
baz=93
R22A Saguache, Gunn 93.68 323 ⇓P **P** **14 28 32.8 +0.4**
baz=93
T24A Torres, Weston 93.71 321 ⇓P **P** **14 28 33.2 +0.6**
baz=93
U25A Circle Dot Ran 93.89 320 ⇓P **P** **14 28 34.2 +0.9**
baz=94
R21A Cimarron 93.96 323 ⇓P **P** **14 28 34.1 +0.4**
baz=94
V26A Tequesquite Ra 94.01 320 ⇓P **P** **14 28 34.5 +0.7**
baz=94
ABTX Abilene, Hawle 94.05 315 ⇓P **P** **14 28 35.3 +1.4**
baz=94
S22A 4UR Ranch, Cre 94.09 323 ⇓P **P** **14 28 34.9 +0.6**
baz=94
W27A Bowe Ranch, En 94.18 319 ⇓P **P** **14 28 34.2 -0.4**
baz=94
N15A Stansbury Isla 94.23 328 ⇑P **P** **14 28 35.3 +0.6**
baz=94
P18A Preston Nutter 94.23 326 ⇑P **P** **14 28 35.4 +0.4**
baz=94
Z30A Sanderson Ranc 94.42 316 ⇑P **P** **14 28 36.1 +0.5**
baz=94
PV04 Paradox Valley 94.59 324 *e*P **P** **14 28 37.6 +1.1**
S21A Coal Bank Pass 94.63 323 ⇑P **P** **14 28 37.5 +0.7**
baz=94
PV01 Paradox Valley 94.64 324 *e*P **P** **14 28 37.4 +0.6**
comp=Z,672nm,1.0s
PV01 *es*P **sP** **14 28 50.3 +0.5**
T22A Edith 94.69 322 ⇑P **P** **14 28 37.5 +0.5**
baz=94
S20A Disappointment 94.78 324 ⇑P **P** **14 28 38.1 +0.6**
baz=94
SRU San Rafael 94.78 326 *e*P **P** **14 28 38.3 +0.9**
SRU pmax pmax
comp=Z,6.0nm,1.2s
SRU San Rafael 94.78 326 *e*P **P** **14 28 38.3 +0.9**
comp=Z,5.9nm,1.2s
SRU San Rafael 94.78 326 ⇑P **P** **14 28 38.0 +0.7**
baz=94
DUG Dugway 94.92 328 *e*P **P** **14 28 38.9 +1.0**
DUG pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway 94.92 328 *e*P **P** **14 28 38.9 +1.0**
comp=Z,2.3nm,0.8s
DUG Dugway 94.92 328 ⇑P **P** **14 28 38.6 +0.7**
baz=95
332A Millersview 95.00 314 ⇓P **P** **14 28 39.4 +1.1**
baz=95
W24A Lazy 6 Ranch, 95.32 320 ⇑P **P** **14 28 40.4 +0.5**
baz=95
MVCO Mesa Verde 95.33 323 ⇓P **P** **14 28 40.1 +0.2**
baz=95
ELK Elko 95.50 330 *e*P **P** **14 28 42.2 +1.6**
comp=Z,5.8nm,1.4s
U21A Nageezi 95.53 322 ⇑P **P** **14 28 41.1 +0.2**
baz=95
S18A Hurst Farm, BI 95.67 325 ⇑P **P** **14 28 41.9 +0.3**
baz=95
Y25A Mesa, Roswell 95.92 319 ⇓P **P** **14 28 43.0 +0.4**
baz=96
Z26A Caprock 96.02 318 ⇓P **P** **14 28 43.5 +0.4**
baz=96
125A Gardner Draw, 96.86 318 ⇓P **P** **14 28 47.0 +0.2**
baz=97
X21A Alamocita Cree 97.14 321 ⇓P Pdif 14 28 48.7 +0.4
baz=97
529A Stev Forest Ra 97.37 315 ⇑P Pdif 14 28 49.4 +0.2
baz=97
326A Caldwell Ranch 97.49 317 ⇓P Pdif 14 28 50.3 +0.5
baz=97
R11A Troy Canyon, C 97.65 329 ⇑P Pdif 14 28 51.1 +0.6
baz=97
CPUP Villa Florida 97.71 243 LR LR 15 13 58.7
comp=Z,325nm,21.0s,baz=25,slow=36
U15A North Rim 97.77 325 ⇑P Pdif 14 28 51.6 +0.4
baz=98
MNTX Cornudas Mount 97.98 318 ⇓P Pdif 14 28 51.9 +0.1
baz=98
WUAZ Wupatki 98.08 324 ⇓P Pdif 14 28 53.0 +0.6
baz=98
324A Moseley Ranch, 98.23 318 ⇓P Pdif 14 28 53.4 +0.3
baz=98
526A Mary Lane Ranc 98.50 316 ⇓P Pdif 14 28 54.5 +0.2
baz=98
Z20A Nine Sixteen R 98.60 321 ⇓P Pdif 14 28 55.1 +0.3
baz=98
NVAR Mina Array Bea 98.71 331 P Pdif 14 28 56.2 +0.9
comp=Z,1.2nm,0.8s,baz=46,slow=3.7,SNR=9.0
NVAR PP PP 14 32 47.8 -7.6
comp=Z,0.4nm,0.7s,baz=33,slow=6.9,SNR=3.4
NVAR LR LR 15 13 58.3
comp=Z,241nm,22.0s,baz=189,slow=36
NVAR Mina Array Bea 98.71 331 P Pdif 14 28 56.2 +0.9
NVAR PP PP 14 32 47.9 -7.6
NVAR Mina Array Bea 98.71 331 P Pdif 14 28 56.2 +1.0
TXAR Lajitas Array 98.80 315 P Pdif 14 28 56.0 +0.4
comp=Z,0.5nm,0.6s,baz=49,slow=3.8,SNR=5.4
TXAR LR LR 15 15 40.7
comp=Z,164nm,20.6s,baz=0.0,slow=37
TXAR Lajitas Array 98.80 315 P Pdif 14 28 56.0 +0.4
TXAR Lajitas Array 98.80 315 P Pdif 14 28 56.0 +0.4
comp=Z,164nm,20.6s
WRA Warramunga Arr 118.00 96 PKP **PKPdf** **14 34 02.1 -0.4**
comp=Z,3.2nm,0.5s,baz=319,slow=1.7,SNR=51
WRA Warramunga Arr 118.00 96 PKP **PKPdf** **14 34 02.1 -0.4**
AS31 Alice Springs 119.44 100 *e*PKPdf **PKPdf** **14 34 04.9 -0.3**
ASAR Alice Springs 119.44 100 PKP **PKPdf** **14 34 04.8 -0.4**
comp=Z,6.4nm,0.7s,baz=316,slow=1.4,SNR=78
ASAR PKKPab **PKKPab** **14 44 17.5 -0.8**
comp=Z,0.3nm,0.4s,baz=120,slow=4.0,SNR=7.6
ASAR Alice Springs 119.44 100 PKP **PKPdf** **14 34 04.8 -0.4**
ASAR PKKPab **PKKPab** **14 44 17.5 -0.8**
QSPA South Pole Qui 124.94 180 *e*PKPdf **PKPdf** **14 34 14.7 +0.2**
STKA Stephens Creek 129.06 105 PKP **PKPdf** **14 34 23.1 -0.3**
comp=Z,7.6nm,0.8s,baz=320,slow=3.3,SNR=27
STKA Stephens Creek 129.06 105 PKP **PKPdf** **14 34 23.1 -0.3**
DZM Mont Dzumac 145.23 78 PKPbc **PKPdf** **14 34 53.9 +0.5**
comp=Z,28nm,0.8s,baz=263,slow=23,SNR=12
DZM Mont Dzumac 145.23 78 *e*P **PKPdf** **14 34 53.8 +0.4**
DZM Mont Dzumac 145.23 78 *e*PKPbc **PKPbc** **14 34 52.8 -0.4**
MSVF Nonsavu 151.57 59 *e*PKIKP **PKPdf** **14 35 04.0 +0.1**
MSVF *e* 14 35 10.9
MSVF Nonsavu 151.57 59 *e*PKPdf **PKPdf** **14 35 04.0 +0.1**
MSVF *e*PKPbc **PKiKP** **14 35 10.9 +0.4**

IDC 19 14:24:39.0±2.3, 6.15S×130.21E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/18, mbtmpb3.4/4, ML3.1/3, Error ellipse: s-maj=90.7km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.69**	**200**	Pn	Pn	14 27 41.6	+0.7
	0.2nm,0.3s,baz=33,slow=14,SNR=11						
FITZ				Sn	Sn	14 29 49.1	-14
	0.1nm,0.3s,baz=224,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**14.29**	**164**	Pn	Pn	14 28 00.6	-2.2
	0.0nm,0.3s,baz=346,slow=13,SNR=3.9						
WRA				Sn	Sn	14 30 31.0	-11
	0.2nm,0.3s,baz=333,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**17.78**	**169**	P	P	14 28 48.9	0.0
	0.1nm,0.3s,baz=344,slow=9.6,SNR=12						
ASAR				S	Sn	14 31 55.7	-11
	baz=80,slow=20,SNR=1.7						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	14 35 37.8	0.0
	0.5nm,0.8s,baz=108,slow=7.8,SNR=4.1						

IDC 19 14:35:43.1±4.4, 1.90S×140.08E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmpb3.5/3, ML3.7/1, Error ellipse: s-maj=162.0km s-min=31.3km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.79**	**197**	P	P	14 40 02.8	-1.4
	0.2nm,0.3s,baz=20,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.45**	**195**	P	P	14 40 44.4	+0.5
	1.1nm,0.5s,baz=24,slow=10,SNR=15						
MKAR	**Makanchi Array**	**69.99**	**322**	P	P	14 46 57.0	+0.3
	0.7nm,1.1s,baz=111,slow=7.9,SNR=3.0						

IDC 19 14:37:27.0±62.0, 19.76S×178.09E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmpb3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=1099.0km s-min=142.0km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**24.61**	**192**	LR	LR	14 49 30.9	
	comp=Z,77nm,21.9s,baz=48,slow=29						
STKA	**Stephens Creek**	**34.84**	**242**	P	P	14 44 19.3	-0.6
	1.4nm,0.6s,baz=88,slow=11,SNR=9.9						
WRA	**Warramunga Arr**	**41.06**	**262**	P	P	14 45 13.1	+0.4
	0.3nm,0.8s,baz=94,slow=7.8,SNR=7.2						
ASAR	**Alice Springs**	**41.12**	**256**	P	P	14 45 12.9	-0.2
	0.4nm,0.6s,baz=96,slow=8.0,SNR=6.2						

NEIC 19 14:43:37.8, 54.91N×158.54W, h26km, ML3.6(AEIC), **After AEIC., South of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.20**	**292**	P	Pn	14 43 58.0	-0.8
SDPT				S	Sn	14 44 13.8	-0.4
VNSG	**Veniaminof 6**	**1.26**	**346**	P	Pn	14 43 59.7	-0.2
VNHG	**Veniaminof 1**	**1.36**	**345**	P	Pn	14 44 01.6	+0.3
CHGN	**Chignik**	**1.40**	**3**	*e*Pn	Pn	14 44 00.6	-1.1
VNFG	**Veniaminof 2**	**1.49**	**338**	P	Pn	14 44 03.3	+0.2
PVV	**Pavlof Volcano**	**1.92**	**285**	P	Pn	14 44 09.4	+0.6
PVV				S	Sb	14 44 34.6	-1.0
DOL	**Dolgoi Island**	**1.93**	**278**	P	Pn	14 44 09.2	+0.3
ANPK	**Aniakchak Peak**	**1.95**	**7**	P	Pn	14 44 09.1	-0.3
PS4A	**Pavlof South-4**	**1.95**	**284**	P	Pn	14 44 09.0	-0.2
AZAC	**Aniakchak**	**2.00**	**5**	P	Pn	14 44 10.1	0.0
ANNE	**Aniakchak Nort**	**2.03**	**8**	P	Pn	14 44 10.1	-0.3
ANNW	**Aniakchak Nort**	**2.07**	**5**	P	Pn	14 44 10.1	-0.8
DT1	**Dutton Round H**	**2.16**	**277**	P	Pn	14 44 12.9	+0.8
WESE	**West Dahl East**	**3.54**	**265**	P	Pn	14 44 31.7	+0.6
UNV	**Unalaska Valle**	**4.77**	**260**	*e*Pn	Pn	14 44 46.8	-1.2
RC01	**Rabbit Creek A**	**7.76**	**33**	*e*Pn	Pn	14 45 28.7	-0.3

IDC 19 14:45:12.3±0.7, 17.52N×147.23E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/26, mbtmpb4.0/14, Error ellipse: s-maj=28.4km s-min=13.8km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.52**	**210**	Pn	Pn	14 46 25.2	+3.1
	37nm,0.3s,baz=357,slow=1.4,SNR=33						
GUMO				Sn	Sn	14 47 15.1	-0.2
	21nm,0.3s,baz=158,slow=23,SNR=1.8						
CBIJ	**Chichi jima**	**10.61**	**335**	Pn	Pn	14 47 48.8	+3.2
	3.3nm,0.3s,baz=223,slow=20,SNR=5.0						
CBIJ				Sn	Sn	14 49 39.9	-5.3
	1.6nm,0.3s,baz=267,slow=21,SNR=1.1						
MJAR	**Matsushiro Arr**	**20.56**	**339**	P	P	14 49 52.8	+0.2
	3.7nm,0.5s,baz=161,slow=8.8,SNR=22						
MAT	**Matsushiro**	**20.56**	**339**	P	Pn	14 49 54.2	-0.6
JNU	**Nakatsue**	**21.39**	**320**	S	Sn	14 54 04.4	-3.0
	9.5nm,1.1s,baz=198,slow=22,SNR=7.2						
KSRS	**Korea Array**	**26.12**	**323**	P	P	14 50 48.2	+0.2
	1.8nm,0.6s,baz=149,slow=8.8,SNR=7.1						
PMG	**Port Moresby**	**26.75**	**180**	P	P	14 50 53.8	-0.1
	5.9nm,0.7s,baz=49,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**39.32**	**199**	P	P	14 52 42.8	-0.6
	6.0nm,0.7s,baz=25,slow=9.5,SNR=76						
WRA				PcP	PcP	14 54 52.0	-0.2
	0.3nm,0.5s,baz=17,slow=3.4,SNR=5.0						
ASAR	**Alice Springs**	**42.95**	**198**	P	P	14 53 13.0	-0.3
	0.9nm,0.6s,baz=21,slow=9.0,SNR=15						
ASAR				PcP	PcP	14 55 04.3	+0.3
	0.3nm,0.5s,baz=28,slow=3.6,SNR=4.6						
SONM	**Songino Array**	**44.96**	**321**	P	P	14 53 29.0	-0.4
	0.5nm,0.3s,baz=131,slow=6.5,SNR=14						
CMAR	**Chiang Mai Arr**	**45.82**	**279**	P	P	14 53 37.3	+0.9
	2.5nm,0.9s,baz=72,slow=7.0,SNR=19						
STKA	**Stephens Creek**	**49.41**	**186**	P	P	14 54 04.0	+0.1
	0.8nm,0.6s,baz=8.8,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**59.83**	**323**	P	P	14 55 18.7	-0.7
	1.6nm,0.6s,baz=104,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	**60.32**	**314**	P	P	14 55 22.8	-0.2
	1.0nm,0.5s,baz=89,slow=8.2,SNR=16						
ILAR	**Eielson Array**	**64.06**	**26**	P	P	14 55 48.3	+0.6
	0.3nm,0.9s,baz=235,slow=6.4,SNR=2.9						
YKA	**Yellowknife Ar**	**78.34**	**28**	P	P	14 57 14.1	-0.1
	0.2nm,0.5s,baz=283,slow=5.9,SNR=3.7						
ARCES	**ARCESS Array B**	**84.05**	**342**	P	P	14 57 45.1	+0.6
	11nm,1.1s,baz=63,slow=5.6,SNR=3.6						
FINES	**FINESS Array B**	**88.55**	**336**	P	P	14 58 05.6	-1.1
	1.1nm,0.5s,baz=62,slow=5.0,SNR=11						

IDC 19 14:57:14.5±1.4, 5.70S×130.76E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/18, mbtmpb3.7/6, ML3.8/3, MS4.2/2, Ms1 4.2/2, ms1mx3.0/35, Error ellipse: s-maj=76.4km s-min=21.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.30**	**202**	Pn	Pn	15 00 24.9	+0.1
	0.4nm,0.3s,baz=39,slow=13,SNR=15						
FITZ				Sn	Sn	15 02 43.1	-10
	0.3nm,0.3s,baz=258,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**14.58**	**167**	Pn	Pn	15 00 40.7	-1.6
	0.5nm,0.3s,baz=350,slow=14,SNR=36						
WRA				Sn	Sn	15 03 14.3	-11
	0.6nm,0.3s,baz=354,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**18.12**	**171**	P	Pn	15 01 27.9	+0.1
	0.3nm,0.3s,baz=357,slow=14,SNR=26						
STKA	**Stephens Creek**	**27.95**	**160**	P	P	15 03 07.3	+0.5
	0.8nm,0.8s,baz=344,slow=15,SNR=2.2						
DZM	**Mont Dzumac**	**38.13**	**119**	LR	LR	15 19 18.9	
	comp=Z,286nm,18.2s,baz=202,slow=35						
AFI	**Afiamalu**	**57.09**	**103**	LR	LR	15 29 56.9	
	comp=Z,184nm,19.0s,baz=333,slow=34						
SONM	**Songino Array**	**57.46**	**341**	P	P	15 07 05.4	0.0
	0.2nm,0.3s,baz=171,slow=3.8,SNR=5.9						
MKAR	**Makanchi Array**	**67.56**	**326**	P	P	15 08 12.8	-0.1
	0.8nm,0.4s,baz=119,slow=8.5,SNR=12						

*IDC **19** 14:59:06.8±0.5, 1.90S×139.03E, h0km, mb4.8/15, mb1 4.9/18, mb1mx4.7/26, mbtmpb4.8/18, ML4.9/2, MS4.2/10, Ms1 4.2/10, ms1mx3.8/34, Error ellipse: s-maj=17.0km s-min=10.7km az=78.0*

*MOS **19** 14:59:09.7±1.0, 1.90S×138.97E, h33km, mb5.0/19, Error ellipse: s-maj=13.7km s-min=7.2km az=110.2*

*DJA **19** 14:59:09.4±0.3, 2.2°S×13.9°E, h10km, M4.9/45, mB5.4/19, mb5.1/45, MLv5.0/3, Mw(mB)4.8/19*

*ISCJB **19** 14:59:09.1±0.2, 1.91S±0.03×139.15E±0.04, h29km, mb4.9/73, MS4.1/17, Error ellipse: s-maj=5.6km s-min=3.6km az=154.4*

*GCMT **19** 14:59:10.0±0.3, 1.72S×139.30E, h17km±1km, MW4.9, Moment Tensor Solution. s21,c22; s65,c88; Moment tensor: Scale 10^16Nm; Mrr2.34±.18; Mθθ-0.81±.09; Mφφ-1.53±.13; Mrθ-1.43±.26; Mθφ1.16±.06; Mφr1.55±.31; Best double couple: M☉3.20000×10^16 NP1:φs148.00000°, δ24.00000°, λ98.00000°. NP2:φs319.00000°, δ66.00000°, λ86.00000°. Principal axes: T 3.1500, Plg69.0000°, Azm222.0000°; N 0.0300, Plg3.0000°, Azm321.0000°; P -3.1800, Plg21.0000°, Azm52.0000°; Data Used: II IU IC G CN.*

*BJI **19** 14:59:10.6, 2.04S×139.00E, h43km, mB5.0/23, mb4.8/41, Ms4.6/22, Ms7 4.3/21*

*NEIC **19** 14:59:11.9±0.2, 1.91S×139.00E, h35km, mb4.8/26, Error ellipse: s-maj=6.9km s-min=4.5km az=63.0*

*AUST **19** 14:59:20.8, 2.44S×139.01E, h100km*

ISC 19 14:59:11.6±0.3, 1.98S±0.03×139.08E±0.04, h29km, h29km:pP-P,n233,σ1§58/281, mb4.9/73, MS4.2/19, 6C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.37**	**268**	P	**Pb**	**14 59 18.8**	**-1.1**
JAY	**Jayapura**	**1.71**	**108**	P	**Pn**	**14 59 37.0**	**-2.5**
FAKI	**Fak Fak**	**6.89**	**262**	P	**Pn**	**15 00 52.4**	**+1.7**
	129nm,1.0s,1μm0.4nm						
SWI	**Sorong**	**7.89**	**278**	P	Pn	15 01 13.9	+9.4
	baz=7.9,SNR=4.0						
MSAI	**Masohi**	**10.23**	**262**	P	Pn	15 01 41.3	+4.8
	21nm,1.2s,556nm						
PALU	**Palau**	**10.34**	**334**	P	**Pn**	**15 01 36.8**	**-1.2**
	baz=11,SNR=4.1						
PMG	**Port Moresby**	**10.91**	**133**	Pn	**Pn**	**15 01 46.6**	**+0.7**
	1.2nm,0.3s,baz=303,slow=12,SNR=6.5						
PMG	**Port Moresby**	**10.91**	**133**	*e*Pn	**Pn**	**15 01 47.5**	**+1.6**
PMG	**Port Moresby**	**10.91**	**133**	P	Pn	15 01 54.9	+9.0
AAI	**Ambon**	**11.00**	**261**	P	Pn	15 01 57.3	+10
	baz=11,SNR=3.5						
AAI	**Ambon**	**11.00**	**261**	P	Pn	15 01 57.1	+10
KDU	**Kakadu**	**12.49**	**211**	P	**Pn**	**15 02 06.8**	**-0.8**
	baz=12,SNR=5.4						
KDU				S	**Sn**	**15 04 23.3**	**-2.5**
	baz=12,SNR=7.4						
COEN	**Coen**	**12.57**	**161**	*e*Pn	**Pn**	**15 02 07.9**	**-0.8**
COEN	**Coen**	**12.57**	**161**	P	**Pn**	**15 02 09.4**	**+0.8**
	baz=12,SNR=9.6						
MTN	**Manton Dam**	**13.36**	**216**	P	**Pn**	**15 02 20.4**	**+1.1**
	baz=13,SNR=8.2						
MTN				S	**Sn**	**15 04 46.1**	**-0.9**
	baz=13,SNR=5.6						
LUWI	**Luwuk**	**16.33**	**273**	P	**P**	**15 03 02.9**	**+1.3**
	89nm,1.2s,979nm						
GUMO	**Guam**	**16.50**	**20**	LR	LR	15 08 42.4	
	comp=Z,526nm,18.5s,baz=180,slow=35						
MRSI	**Marisa**	**17.31**	**278**	P	**P**	**15 03 13.8**	**+1.3**
	30nm,1.1s						
WRAB	**Tennant Creek**	**18.44**	**194**	*e*P	**P**	**15 03 24.5**	**-0.4**
WRAB	**Tennant Creek**	**18.44**	**194**	*e*P	**P**	**15 03 24.5**	**-0.4**
WRA	**Warramunga Arr**	**18.45**	**194**	P	**P**	**15 03 24.7**	**-0.3**
	3.8nm,0.3s,baz=16,slow=12,SNR=97						
WRA				S	Sn	15 06 43.7	-7.0
	1.0nm,0.3s,baz=8.0,slow=23,SNR=3.7						
WRA				LR	LR	15 11 28.8	
	comp=Z,770nm,19.4s,baz=15,slow=40						
WRA	**Warramunga Arr**	**18.45**	**194**	P	**P**	**15 03 24.7**	**-0.3**
WRA				S	Sn	15 06 43.7	-7.0
QIS	**Mount Isa**	**18.48**	**178**	P	**P**	**15 03 25.4**	**0.0**
	baz=18,SNR=20						
BKSI	**Bulukumba**	**19.20**	**260**	P	Pn	15 03 42.1	+7.6
TTSI	**Tana Toraja**	**19.27**	**266**	P	Pn	15 03 42.1	+6.9
CTA	**Charters Tower**	**19.32**	**159**	P	**P**	**15 03 35.5**	**+0.9**
	2.2nm,0.3s,baz=339,slow=11,SNR=26						
CTA	**Charters Tower**	**19.32**	**159**	P	**P**	**15 03 35.5**	**+0.9**
CTAO	**Charters Tower**	**19.32**	**159**	*e*P	**P**	**15 03 35.4**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,47nm,0.9s						
CTAO	**Charters Tower**	**19.32**	**159**	*e*P	**P**	**15 03 35.4**	**+0.8**
	comp=Z,47nm,0.9s						
SPSI	**Sidrap Palu**	**19.38**	**264**	P	**Pn**	**15 03 38.3**	**+1.7**
	comp=Z,43nm,1.0s,comp=Z,755nm						
KAPI	**Kappang**	**19.52**	**261**	*e*P	**P**	**15 03 34.0**	**-2.9**
	comp=Z,25nm,0.9s						
KAPI				*ep*P	**pP**	**15 03 43.7**	**-1.0**
KAPI	**Kappang**	**19.52**	**261**	P	**P**	**15 03 43.3**	**+5.0**
	comp=Z,34nm,1.4s,comp=Z,666nm						
FITZ	**Fitzroy Crossi**	**20.75**	**219**	P	**P**	**15 03 50.6**	**+0.4**
	comp=Z,20nm,1.1s,baz=45,slow=11,SNR=14						
FITZ				S	**S**	**15 07 35.6**	**-5.0**
	comp=Z,30nm,0.8s,baz=142,slow=13,SNR=6.3						
FITZ				LR	LR	15 12 42.0	
	comp=Z,648nm,21.6s,baz=40,slow=39						
FITZ	**Fitzroy Crossi**	**20.75**	**219**	P	**P**	**15 03 50.6**	**+0.4**
FITZ				S	**S**	**15 07 35.6**	**-5.0**
FITZ	**Fitzroy Crossi**	**20.75**	**219**	P	**P**	**15 03 51.5**	**+1.2**
	baz=20,SNR=8.4						
FITZ				S	**S**	**15 07 35.8**	**-4.8**
	baz=20,SNR=8.4						
MYLDM	**Lahad Datu**	**21.75**	**289**	P	**P**	**15 04 02.5**	**+1.5**
MYLDM	**Lahad Datu**	**21.75**	**289**	P	**P**	**15 04 02.9**	**+1.9**
	comp=Z,36nm,1.5s						
HNR	**Honiara**	**22.03**	**110**	P	**P**	**15 04 05.0**	**+1.0**
	comp=Z,113nm,0.9s,baz=15,slow=3.9,SNR=6.8						
HNR	**Honiara**	**22.03**	**110**	*e*P	**P**	**15 04 06.7**	**+2.7**
TSM	**Tawau**	**22.09**	**286**	P	**P**	**15 04 05.3**	**+0.7**
AS31	**Alice Springs**	**22.14**	**193**	*e*P	**P**	**15 04 04.7**	**-0.3**
AS31				*ep*P	**pP**	**15 04 15.1**	**+2.1**
AS31				*es*P	**sP**	**15 04 18.4**	**+1.7**
**ASA

comp=Z,12nm,0.8s,baz=16,slow=26,SNR=7.9
ASAR LR LR 15 13 42.9
comp=Z,916nm,18.4s,baz=16,slow=40
ASAR Alice Springs 22.14 193 P **P** **15 04 04.5 -0.6**
ASAR S **S** **15 08 10.8 +3.2**
KBKI Kotabaru 22.92 266 P **P** **15 04 15.7 +2.2**
comp=Z,50nm,0.9s,comp=Z,684nm
SDKM Sandakan 23.13 289 P **P** **15 04 15.0 -0.7**
KDM Kudat 23.89 292 P **P** **15 04 23.3 +0.3**
KKM Kota Kinabalu 24.18 289 *e*P **P** **15 04 25.6 -0.3**
comp=Z,55nm,1.0s
KKM Kota Kinabalu 24.18 289 P **P** **15 04 25.6 -0.3**
baz=24,SNR=6.3
KKM Kota Kinabalu 24.18 289 P **P** **15 04 25.6 -0.3**
KKM Kota Kinabalu 24.18 289 P **P** **15 04 26.4 +0.6**
comp=Z,58nm,1.1s,comp=Z,568nm
BBKI Banjar Baru 24.25 266 P **P** **15 04 28.3 +1.9**
comp=Z,244nm,1.0s
SRBI Singaraja 24.52 255 P P 15 04 34.3 +5.4
comp=Z,39nm,1.1s
QLP Quilpie 24.96 169 P **P** **15 04 33.5 +0.8**
baz=25,SNR=47
KMMI Kalianget 25.53 258 P **P** **15 04 39.7 +1.7**
comp=Z,265nm,1.0s
EIDS Eidsvold 25.98 155 *e*P **P** **15 04 43.1 +1.2**
comp=Z,102nm,1.0s
EIDS Eidsvold 25.98 155 P **P** **15 04 43.0 +1.1**
baz=26,SNR=9.0
RMQ Roma 26.08 160 P **P** **15 04 44.5 +1.6**
baz=26,SNR=46
BTM Bintulu 26.49 281 P **P** **15 04 48.0 +1.3**
MBWA Marble Bar 26.82 223 *e*P **P** **15 04 49.8 +0.2**
comp=Z,25nm,0.8s
SBUM Sibu 27.21 279 P **P** **15 04 54.2 +1.0**
SBUM Sibu 27.21 279 P **P** **15 04 53.8 +0.6**
comp=Z,21nm,1.2s
KSM Kuching 28.97 277 *e*P **P** **15 05 09.1 +0.1**
comp=Z,15nm,1.0s
KSM Kuching 28.97 277 P **P** **15 05 09.2 +0.3**
baz=29,SNR=9.1
KSM Kuching 28.97 277 P **P** **15 05 09.5 +0.6**
KSM Kuching 28.97 277 P **P** **15 05 09.3 +0.4**
comp=Z,18nm,1.3s
STKA Stephens Creek 29.84 176 P **P** **15 05 15.9 -0.5**
comp=Z,10nm,0.7s,baz=327,slow=7.8,SNR=15
STKA Stephens Creek 29.84 176 *e*P **P** **15 05 16.2 -0.2**
STKA Stephens Creek 29.84 176 P **P** **15 05 15.8 -0.5**
baz=30,SNR=38
CMSA Cobar Meteorol 30.06 169 P **P** **15 05 19.0 +0.7**
baz=30,SNR=13
FORT Forrest 30.49 199 *e*P **P** **15 05 22.3 +0.2**
comp=Z,57nm,0.7s
FORT Forrest 30.49 199 P **P** **15 05 22.4 +0.2**
baz=30,SNR=18
ARMA Armidale 30.69 158 *e*P **P** **15 05 26.9 +2.9**
comp=Z,14nm,1.0s
ARMA Armidale 30.69 158 P P 15 05 27.5 +3.5
baz=30,SNR=4.8
BBOO Buckleboo 30.80 185 *e*P **P** **15 05 24.9 0.0**
comp=Z,4μm,2.1s
BBOO Buckleboo 30.80 185 P **P** **15 05 24.9 0.0**
baz=30,SNR=8.6
MEEK Meekatharra 31.42 217 P **P** **15 05 30.5 0.0**
baz=31,SNR=4.5
PPBI Pangkal Pinang 32.92 269 P **P** **15 05 44.5 +0.7**
comp=Z,27nm,1.1s,comp=Z,894nm
DZM Mont Dzumac 33.27 129 *e*LR LR 15 14 41.9
comp=Z,461nm,23.5s
DZM Mont Dzumac 33.27 129 P **P** **15 05 46.6 -0.2**
comp=Z,16nm,1.0s,baz=324,slow=11,SNR=7.0
DZM Mont Dzumac 33.27 129 P **P** **15 05 46.6 -0.2**
YNG Young 33.31 166 P **P** **15 05 47.5 +0.6**
baz=33,SNR=14
CAN Canberra 34.44 166 *e*P **P** **15 05 56.6 -0.1**
CAN *e**PP **pP** **15 06 06.3 +1.0**
CAN *e**SP **sP** **15 06 10.8 +2.0**
CAN Canberra 34.44 166 *e*P **P** **15 05 56.6 -0.1**
CAN *e*pP **pP** **15 06 06.3 +1.0**
CAN *e*sP **sP** **15 06 10.8 +2.0**
CNB Canberra Magne 34.52 165 P **P** **15 05 58.2 +0.7**
baz=34,SNR=5.4
ARPS Mount Arapiles 34.72 176 P **P** **15 05 59.6 +0.6**
baz=34,SNR=9.8
MORW Morawa 34.75 217 P **P** **15 05 59.0 -0.4**
baz=34,SNR=8.2
MYKOM Kota Tinggi 35.42 276 P **P** **15 06 05.9 +0.5**
BLDU Ballidu 35.50 214 P **P** **15 06 06.0 +0.1**
baz=35,SNR=6.6
QIZ Qiongzhong 35.52 307 P **P** **15 06 04.5 -1.7**
QIZ S **S** **15 11 39.4 -0.8**
QIZ pmax pmax
comp=Z,9.0nm,0.9s
QIZ LR LR
comp=N,110nm,14.6s
QIZ LR LR
comp=E,67nm,21.4s
QIZ LR LR
comp=Z,140nm,23.2s
KLBR Kellerberrin 35.67 212 P **P** **15 06 07.2 -0.2**
baz=35,SNR=8.0
TOO Toolangi 35.91 171 P **P** **15 06 10.5 +1.2**
baz=36,SNR=5.8
KGM Kluang 35.97 276 P **P** **15 06 10.5 +0.3**
NWAO Narrogin (SRO) 36.99 211 P **P** **15 06 18.6 0.0**
comp=Z,11nm,0.8s,baz=355,slow=7.1,SNR=4.4
NWAO LR LR 15 22 36.7
comp=Z,791nm,20.3s,baz=29,slow=38
NWAO Narrogin (SRO) 36.99 211 P **P** **15 06 18.6 0.0**
FRIM Kepong 37.80 278 P **P** **15 06 25.9 +0.2**
MJAR Matsushiro Arr 38.33 359 LR LR 15 20 09.7
comp=Z,120nm,18.8s,baz=175,slow=33
IPM Ipoh 38.56 280 *e*P **P** **15 06 31.6 -0.6**
comp=Z,26nm,0.7s
IPM Ipoh 38.56 280 P **P** **15 06 31.8 -0.4**
IPM Ipoh 38.56 280 P **P** **15 06 31.6 -0.6**
comp=Z,46nm,1.3s,comp=Z,538nm
NJ2 Nanjing 38.90 332 *e*P **P** **15 06 33.5 -1.2**
NJ2 pP **pP** **15 06 40.5 -2.8**
NJ2 PP **PnPn** **15 08 07.0 +0.3**
NJ2 S **S** **15 12 31.5 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NJ2 pmax pmax
comp=Z,110nm,5.2s
NJ2 LR LR
comp=N,1μm,21.2s
NJ2 LR LR
comp=E,840nm,15.0s
NJ2 LR LR
comp=Z,200nm,13.8s
KULM Kulim 39.06 281 *e*P **P** **15 06 35.2 -1.2**
comp=Z,36nm,1.0s
KULM Kulim 39.06 281 P **P** **15 06 35.7 -0.6**
KULM Kulim 39.06 281 P **P** **15 06 35.6 -0.8**
comp=Z,43nm,1.1s,comp=Z,426nm
CHBT CHBT 39.30 293 P **P** **15 06 37.8 -0.6**
comp=Z,23nm,1.4s
SKLT Songkhla 39.44 284 P **P** **15 06 39.0 -0.5**
comp=Z,55nm,0.9s,comp=Z,457nm
MNSI Mandailing Nat 39.59 274 P **P** **15 06 40.7 -0.1**
comp=Z,30nm,0.9s,comp=Z,3μm
PSI Prapat 40.42 277 P **P** **15 06 46.9 -1.0**
comp=Z,25nm,0.9s,baz=104,slow=5.1,SNR=22
PSI Prapat 40.42 277 P **P** **15 06 46.9 -1.0**
PSI Prapat 40.42 277 P **P** **15 06 47.2 -0.7**
baz=40,SNR=14
PSI Prapat 40.42 277 P **P** **15 06 46.7 -1.2**
comp=Z,52nm,1.3s,comp=Z,581nm
MSVF Nonsavu 41.33 115 *e*P **P** **15 06 56.5 +1.3**
MSVF pmax pmax
comp=Z,31nm,1.2s
MSVF Nonsavu 41.33 115 *e*P **P** **15 06 56.5 +1.3**
comp=Z,31nm,1.2s
GSI Gunungsitoli 41.62 274 P **P** **15 06 56.0 -1.6**
baz=42,SNR=9.2
GSI Gunungsitoli 41.62 274 P **P** **15 06 56.4 -1.2**
comp=Z,64nm,1.0s
GYA Guiyang 42.17 314 *e*P **P** **15 07 01.4 -0.6**
GYA pP **pP** **15 07 13.8 +3.1**
GYA PP **PP** **15 08 42.3 +2.3**
GYA PcP **PcP** **15 08 56.9 +0.7**
GYA ScP **ScP** **15 12 42.3 -2.6**
GYA S **S** **15 13 19.0 -1.5**
GYA SS SS 15 16 21.4 -7.7
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,640nm,17.9s
GYA LR LR
comp=E,580nm,18.0s
GYA LR LR
comp=Z,630nm,17.6s
LHMI Lhok Sumawe 42.69 280 P **P** **15 07 06.0 -0.3**
comp=Z,140nm,0.7s,comp=Z,2μm
SRDT SRDT 42.77 294 P **P** **15 07 07.0 +0.1**
comp=Z,24nm,1.0s,comp=Z,3μm
KMI Kunming 44.33 310 P **P** **15 07 19.4 -0.2**
KMI pP **pP** **15 07 29.3 +0.9**
KMI sP **sP** **15 07 34.3 +2.4**
KMI pmax pmax
comp=Z,13nm,1.0s
CM31 Chiang Mai Arr 44.40 299 *e*P **P** **15 07 19.3 -0.7**
comp=Z,22nm,1.0s
CM31 *e*pP **pP** **15 07 29.4 +0.6**
CM31 *e*sP **sP** **15 07 33.5 +1.2**
CMAR Chiang Mai Arr 44.40 299 P **P** **15 07 19.6 -0.5**
comp=Z,8.6nm,0.8s,baz=120,slow=6.5,SNR=95
CMAR PcP **PP** **15 09 04.7 +0.7**
comp=Z,1.5nm,0.8s,baz=135,slow=1.7,SNR=4.1
CMAR LR LR 15 25 19.2
comp=Z,81nm,18.8s,baz=281,slow=36
CMAR Chiang Mai Arr 44.40 299 P **P** **15 07 19.6 -0.5**
CMAR PcP **PP** **15 09 04.7 +0.7**
CMMT Chiang Mai 44.53 299 P **P** **15 07 20.7 -0.4**
comp=Z,12nm,1.2s,comp=Z,310nm
CHTO Chiang Mai 44.54 299 *e*P **P** **15 07 20.3 -0.9**
CHTO pmax pmax
comp=Z,13nm,1.2s
CHTO Chiang Mai 44.54 299 *e*P **P** **15 07 20.3 -0.9**
comp=Z,13nm,1.2s
CHTO Chiang Mai 44.54 299 P **P** **15 07 20.2 -0.9**
comp=Z,13nm,1.2s
XAN Xi'an 45.69 324 P **P** **15 07 28.8 -1.3**
XAN pP **pP** **15 07 37.9 -1.0**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,30nm,7.3s
XAN LR LR
comp=N,93nm,15.6s
XAN LR LR
comp=E,36nm,18.2s
BJI Beijing 46.78 336 P **P** **15 07 39.1 +0.6**
BJI pmax pmax
comp=Z,8.0nm,0.6s
CD2 Chengdu 46.89 317 P **P** **15 07 39.8 +0.2**
CD2 pP **pP** **15 07 50.6 +2.2**
CD2 sP **sP** **15 07 55.0 +3.1**
CD2 PP **PP** **15 09 29.9 -0.4**
CD2 PcS **PcS** **15 13 06.1 -1.2**
CD2 S **S** **15 14 27.3 -1.6**
CD2 sS **sS** **15 14 45.4 +2.1**
CD2 SS SS 15 17 47.0 -9.0
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.3s
CD2 LR LR
comp=N,200nm,11.3s
CD2 LR LR
comp=Z,150nm,14.3s
CN2 Changchun 47.19 347 *e*P P 15 07 45.0 +3.4
CN2 *e*pP pP 15 07 56.0 +5.6
CN2 *e*S **S** **15 14 35.9 +3.4**
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,18.0s
HHC Hu-ho-hao-te 49.45 333 *e*P **P** **15 07 59.1 -0.2**
HHC pP **pP** **15 08 09.1 +1.0**
HHC PP **PP** **15 09 54.4 +0.7**
HHC S **S** **15 15 04.8 -0.1**
HHC sS **sS** **15 15 21.0 +1.6**
HHC SS **SS** **15 18 32.3 -4.9**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,77nm,5.6s
HHC LR LR
comp=E,110nm,12.0s
HHC LR LR
comp=Z,180nm,13.6s
LZH Lanzhou 50.12 322 *e*P **P** **15 08 04.5 -0.1**
LZH pP **pP** **15 08 15.5 +2.1**
LZH sP **sP** **15 08 20.0 +3.1**
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.0s
LZH LR LR
comp=N,97nm,12.2s
LZH LR LR
comp=E,110nm,13.5s
LZH LR LR
comp=Z,120nm,15.9s
RPZ Rata Peaks 50.34 150 P **P** **15 08 05.9 0.0**
comp=Z,25nm,0.9s,baz=11,slow=17,SNR=5.6
RPZ PcP **PcP** **15 09 23.7 -0.6**
comp=Z,15nm,1.0s,baz=34,slow=19,SNR=3.1
RPZ Rata Peaks 50.34 150 P **P** **15 08 05.9 0.0**
RPZ PcP **PcP** **15 09 23.7 -0.6**
SHL Shillong 53.23 304 *e*P **P** **15 08 30.0 +2.1**
GTA Gaotai 54.70 323 P **P** **15 08 37.9 -0.6**
GTA pP **pP** **15 08 48.4 +1.0**
GTA sP **sP** **15 08 52.3 +1.5**
GTA PcP **PcP** **15 09 40.5 -0.5**
GTA ScP ScP 15 13 29.4 -8.2
GTA S **S** **15 16 15.9 -1.2**
GTA sS **sS** **15 16 32.8 +1.0**
GTA SS **SS** **15 19 58.9 -1.7**
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,81nm,4.5s
GTA LR LR
comp=N,99nm,15.7s
GTA LR LR
comp=E,92nm,16.1s
GTA LR LR
comp=Z,110nm,16.6s
LSA Lhasa 55.54 308 P **P** **15 08 45.3 +0.2**
LSA Lhasa 55.54 308 *e*P **P** **15 08 43.9 -1.2**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 55.54 308 *e*P **P** **15 08 43.9 -1.2**
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 56.96 335 *e*P **P** **15 08 53.4 -1.1**
comp=Z,6.9nm,0.8s
SONM Songino Array 57.22 334 P **P** **15 08 55.5 -0.7**
comp=Z,2.8nm,0.8s,baz=153,slow=7.9,SNR=20
SONM Songino Array 57.22 334 P **P** **15 08 55.5 -0.7**
TAPN Taplejung 57.36 304 *e*P **P** **15 08 57.4 -0.5**
comp=Z,29nm,1.0s
ODAN Odare 57.45 304 *e*P **P** **15 08 57.8 -0.6**
comp=Z,31nm,0.7s
RAMN Ramite 58.14 304 *e*P **P** **15 09 03.0 -0.3**
comp=Z,30nm,0.8s
JIRN Jiri 58.73 304 *e*P **P** **15 09 07.2 -0.4**
comp=Z,5.7nm,0.8s
GUN Gumba 59.08 304 *e*P **P** **15 09 09.3 -0.7**
comp=Z,31nm,0.8s
PKI Pulchoki 59.35 304 *e*P **P** **15 09 10.8 -1.0**
comp=Z,18nm,0.8s
PKIN Phulchoki 59.36 304 *e*P **P** **15 09 10.7 -1.1**
KKN Kakani 59.53 304 *e*P **P** **15 09 12.2 -0.7**
comp=Z,50nm,0.9s
DMN Daman 59.61 304 *e*P **P** **15 09 13.2 -0.4**
comp=Z,48nm,0.9s
CLNS Chul'man 59.74 351 *e*P **P** **15 09 11.2 -2.4**
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.0s
GKN Gorkha 60.14 304 *e*P **P** **15 09 16.5 -0.5**
comp=Z,53nm,0.8s
ZAK Zakamensk 60.48 335⇑ *i*P **P** **15 09 18.2 -0.7**
ZAK pmax pmax
comp=Z,13nm,1.2s
KOLN Koldanda 60.92 303 *e*P **P** **15 09 22.0 -0.5**
comp=Z,22nm,0.8s
DANN Dangsing 60.98 304 *e*P **P** **15 09 22.2 -0.8**
comp=Z,28nm,0.8s
TLY Talaya 61.30 336⇑ *i*P **P** **15 09 22.8 -1.5**
TLY *e* 15 10 03.8
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY MLR MLR
comp=Z,132nm,18.0s
TLY Talaya 61.30 336 *e*P **P** **15 09 23.9 -0.4**
comp=Z,7.5nm,1.0s
IRK Irkutsk 61.47 336 *e*P **P** **15 09 24.3 -1.2**
IRK pmax pmax
comp=Z,24nm,1.4s
PYUN Piuthan 61.54 303 *e*P **P** **15 09 26.1 -0.5**
comp=Z,154nm,1.0s
MOY Mondy 62.41 334 *e*P **P** **15 09 32.1 +0.2**
MOY pmax pmax
comp=Z,28nm,1.6s
HYB Hyderabad 62.66 291 *i* P **P** **15 09 31.5 -2.6**
BOD Bodaibo 62.90 345 *e*P P 15 09 31.9 -3.0
BOD pmax pmax
comp=Z,8.0nm,1.5s
YAK Yakutsk 64.24 355 *e*P **P** **15 09 41.6 -2.0**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK Yakutsk 64.24 355 *e*P **P** **15 09 42.6 -1.0**
comp=N,17nm,0.8s
WMQ Urumqi 64.67 321 P **P** **15 09 46.6 -0.3**
WMQ pmax pmax
comp=Z,16nm,1.0s
WMQ LR LR
comp=N,70nm,21.0s
WMQ LR LR
comp=E,61nm,28.0s
WMQ LR LR
comp=Z,39nm,24.0s
HVS Khovu-Aksy 65.44 330 *c i*P **P** **15 09 51.5 -0.3**
HVS pmax pmax
comp=Z,159nm,1.6s
MK31 Makanchi Array 69.44 322 *e*P **P** **15 10 15.5 -1.6**
MK31 *e**PP **pP** **15 10 26.7 +0.4**
MK31 *e**SP **sP** **15 10 31.2 +1.5**
MK31 Makanchi Array 69.44 322 *e*P **P** **15 10 15.5 -1.6**
MK31 *e*pP **pP** **15 10 26.7 +0.4**
MK31 *e*sP **sP** **15 10 31.2 +1.5**
MKAR Makanchi Array 69.44 322 P **P** **15 10 16.7 -0.5**
comp=Z,8.4nm,0.7s,baz=113,slow=7.7,SNR=70
MKAR Makanchi Array 69.44 322 *c e*P **P** **15 10 16.7 -0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 69.44 322 *e*P **P** **15 10 16.4 -0.8**
KSH Kashi 70.85 313 P **P** **15 10 27.4 +1.3**
KSH *e*pP **pP** **15 10 40.3 +5.1**
KSH *e*sP **sP** **15 10 42.9 +4.3**
KSH PcP **PcP** **15 10 48.9 +2.3**
KSH *e*PP PP 15 13 08.8 +5.4
KSH S **S** **15 19 41.6 +1.9**
KSH sS **sS** **15 19 58.0 +3.2**
KSH SKS **SKSac** **15 20 24.0 -2.8**
KSH ScS **SKKSac** **15 20 26.8 -0.1**
KSH SS **SS** **15 24 16.9 +4.2**
KSH pmax pmax
comp=Z,45nm,2.0s
KSH LR LR
comp=N,410nm,9.5s
KSH LR LR
comp=E,230nm,8.8s
KSH LR LR
comp=Z,160nm,5.4s
ZAA0 Zalesovo Array 71.49 330 *e*P **P** **15 10 27.3 -2.2**
ZALV Zalesovo Beam 71.49 330 P **P** **15 10 27.7 -1.7**
comp=Z,4.2nm,0.7s,baz=107,slow=5.5,SNR=21
ZALV Zalesovo Beam 71.49 330 P **P** **15 10 27.8 -1.7**
ZALV Zalesovo Beam 71.49 330 P **P** **15 10 27.8 -1.7**
PPT2 Papeete2 71.63 108 *e*LR LR 15 32 25.5
comp=Z,209nm,26.2s
TBI Tubuai 72.21 114 *e*LR LR 15 32 40.3
comp=Z,166nm,24.5s
BILL Bilibino 72.38 10 *e*P **P** **15 10 33.8 -0.8**
BILL *e*SS SS 15 24 34.7 -0.1
BILL pmax pmax
comp=Z,2.0nm,1.2s
NVS Novosibirsk 72.74 330⇑ *i*P **P** **15 10 34.7 -2.2**
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.4s
AAK Ala-Archa 72.94 316 *e*P **P** **15 10 37.3 -1.3**
AAK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 73.33 325 *c i*P **P** **15 10 39.4 -1.1**
KURK pmax pmax
comp=Z,24nm,1.7s
KURK Kurchatov 73.33 325 *e*P **P** **15 10 38.5 -2.0**
comp=Z,12nm,1.0s
KBL Kabul 74.79 306 *e*P **P** **15 10 48.4 -1.3**
KBL *e**PP **pP** **15 10 59.6 +0.7**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 74.79 306 *e*P **P** **15 10 48.4 -1.3**
comp=Z,4.7nm,0.7s
KBL *e*pP **pP** **15 10 59.6 +0.7**
KKAR Karatay Array 75.87 315 *e*P **P** **15 10 55.2 -0.3**
KKAR Karatay Array 75.87 315 *e*P **P** **15 10 55.2 -0.3**
VNDA Vanda 76.47 175 P **P** **15 10 58.1 -0.1**
comp=Z,9.1nm,0.7s,baz=321,slow=5.7,SNR=38
VNDA Vanda 76.47 175 *e*P **P** **15 10 57.9 -0.3**
comp=Z,10nm,0.8s
BRVK Borovoye 79.00 325 *e*P **P** **15 11 12.1 -0.6**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 79.00 325 *e*P **P** **15 11 12.1 -0.6**
comp=Z,15nm,0.8s
MAW Mawson 82.94 202 LR LR 15 46 34.5
comp=Z,313nm,20.9s,baz=303,slow=34
ABKAR Akbulak array 84.40 320 *e*P **P** **15 11 40.4 -0.9**
COLD Coldfoot 84.44 22 *e*P **P** **15 11 42.1 +0.9**
comp=Z,3.8nm,0.9s
ILAR Eielson Array 85.02 24 P **P** **15 11 41.9 -2.2**
comp=Z,2.7nm,0.8s,baz=252,slow=5.0,SNR=25
ILAR Eielson Array 85.02 24 P **P** **15 11 41.9 -2.2**
RKT Rikitea 85.50 113 *e*LR LR 15 38 54.1
comp=Z,192nm,28.2s
DOT Dot Lake 85.94 26 *e*P **P** **15 11 48.3 -0.5**
comp=Z,4.1nm,0.9s
ARU Arti 86.39 327 *d i*P **P** **15 11 48.8 -2.3**
ARU 15 15 05.8
ARU S S 15 22 11.7 -13
ARU SS SS 15 27 56.4 -8.6
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 86.39 327 *e*P **P** **15 11 49.4 -1.6**
comp=Z,5.6nm,1.0s
EGAK Eagle 87.41 25 *e*P **P** **15 11 55.1 -0.8**
comp=Z,6.1nm,1.0s
QSPA South Pole Qui 87.97 180 *e*P **P** **15 11 58.0 -0.7**
comp=Z,16nm,0.9s
DAWY Dawson 88.05 26 *e*P P 15 11 56.0 -3.0
DAWY *e*pP pP 15 12 09.7 +1.3
DAWY *e*sP sP 15 12 13.6 +1.8
DLBC Dease Lake 92.14 32 LR LR 15 47 51.9
comp=Z,96nm,19.2s,baz=169,slow=32
BHD Baghdad 95.01 303 *e*P **P** **15 12 31.4 -0.5**
BHD *e*S **S** **15 23 44.0 -0.9**
YKA Yellowknife Ar 99.25 27 P **Pdif** **15 12 49.6 -0.9**
comp=Z,0.4nm,0.9s,baz=290,slow=4.7,SNR=5.3
YKA PKKPbc **PKKPbc** **15 29 13.7 -3.7**
comp=Z,0.3nm,0.7s,baz=98,slow=2.4,SNR=6.0
YKA Yellowknife Ar 99.25 27 P **Pdif** **15 12 49.5 -0.9**
YKA PKKPbc **PKKPbc** **15 29 13.7 -3.7**
ARCES ARCESS Array B 99.94 341 LR LR 15 59 36.1
comp=Z,101nm,20.2s,baz=60,slow=36
BOZ Bozeman (W) 104.83 43 *e*P **Pdif** **15 13 14.2 -1.7**
BOZ Bozeman (W) 104.83 43 *e*Pdif **Pdif** **15 13 14.2 -1.7**
IMW Indian Meadow 105.70 45 *e*Pdif **Pdif** **15 13 22.0 +2.0**
KOLS Kolonicke sedl 108.84 322 *e*P **Pdif** **15 13 37.1 +3.6**
KOLS Kolonicke sedl 108.84 322 PDIF **Pdif** **15 13 37.1 +3.6**

KOLS			*e*			15 13 46.0	
CRVS	**Cervenica-Dubn**	**109.36 322**	*eP*	**Pdif**	**Pdif**	**15 13 39.1**	**+3.3**
CRVS	**Cervenica-Dubn**	**109.36 322**	PDIF	**Pdif**	**Pdif**	**15 13 39.1**	**+3.3**
VYHS	**Vyhne**	**111.12 322**	*eP*	**Pdif**	**Pdif**	**15 13 48.2**	**+4.6**
VYHS	**Vyhne**	**111.12 322**	PDIF	**Pdif**	**Pdif**	**15 13 48.2**	**+4.6**
TORD	**Torodi Ar. Bea**	**136.40 287**	PKhKP	PKPpre		15 18 19.1	
	comp=Z,0.6nm,0.8s,baz=103,slow=2.8,SNR=3.0						
TORD			PKP	**PKPdf**	**PKPdf**	**15 18 31.0**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=42,slow=0.7,SNR=9.5						
TORD	**Torodi Ar. Bea**	**136.40 287**	PKP	**PKPdf**	**PKPdf**	**15 18 31.0**	**-0.7**
DBIC	**Dimbokro**	**143.75 279**	PKP	PKPbc	PKPab	15 18 42.0	+0.1
	comp=Z,16nm,0.7s,baz=80,slow=4.2,SNR=26						
DBIC	**Dimbokro**	**143.75 279**	*e*PKPdf		PKPab	15 18 41.1	-0.7
DBIC			PKP	PKPbc		15 18 42.0	-0.6
ROSC	**El Rosal**	**146.53 84**	PKPbc	**PKPbc**	**PKPbc**	**15 18 52.2**	**+0.4**
	comp=Z,11nm,0.6s,baz=99,slow=22,SNR=6.6						
ROSC	**El Rosal**	**146.53 84**	PKPbc	**PKPbc**	**PKPbc**	**15 18 52.2**	**+0.4**
LPAZ	**La Paz**	**147.57 125**	PKPbc	**PKPbc**	**PKPbc**	**15 18 55.6**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=281,slow=2.0,SNR=13						
LPAZ	**La Paz**	**147.57 125**	*e*PKPdf		**PKPdf**	**15 18 51.4**	**-0.8**
LPAZ			*e*PKPbc		**PKPbc**	**15 18 54.8**	**-0.2**
LPAZ			PKPbc		**PKPbc**	**15 18 55.6**	**+0.7**
CPUP	**Villa Florida**	**147.70 152**	PKPbc		**PKPbc**	**15 18 54.7**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=224,slow=3.5,SNR=9.6						
CPUP	**Villa Florida**	**147.70 152**	PKPbc		**PKPbc**	**15 18 54.7**	**+0.5**
SJG	**San Juan**	**150.51 55**	*e*PKPbc		**PKPbc**	**15 19 00.8**	**-0.7**
MTP	**Monte Pirata**	**151.01 55**	*e*PKPbc		**PKPbc**	**15 19 01.8**	**-1.0**
STVI	**Saint Thomas**	**151.36 54**	*e*PKPdf		**PKPdf**	**15 18 56.6**	**-0.9**
STVI			*e*PKPbc		**PKPbc**	**15 19 01.9**	**-1.6**
SAML	**Samuel**	**155.30 116**	*e*PKPab		**PKPab**	**15 19 28.2**	**-0.2**
BDFB	**Brasilia**	**161.14 158**	PKP		**PKPdf**	**15 19 09.0**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=32,slow=4.9,SNR=3.5						
BDFB	**Brasilia**	**161.14 158**	PKP		**PKPdf**	**15 19 09.0**	**-1.5**

IDC 19 15:03:57.3±0.9, 1°90S×139°09E, *h*0km, mb4.0/8, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML4.3/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/40, Error ellipse: s-maj=35.9km s-min=13.4km az=84.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52 194**		P	Pn	15 08 15.8	+0.3
	1.0nm,0.3s,baz=17,slow=12,SNR=7.4						
WRA				S	Sn	15 11 33.1	-10
	0.3nm,0.3s,baz=8.8,slow=23,SNR=5.0						
CTA	**Charters Tower**	**19.39 159**		P	P	15 08 25.0	0.0
	0.5nm,0.3s,baz=330,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**22.21 193**		P	P	15 08 56.7	+1.1
	11nm,0.9s,baz=26,slow=8.1,SNR=7.7						
ASAR				S	S	15 13 00.7	-0.5
	2.2nm,0.9s,baz=14,slow=23,SNR=3.6						
STKA	**Stephens Creek**	**29.91 176**		P	P	15 10 08.7	+1.7
	2.0nm,0.7s,baz=336,slow=6.7,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.37 299**		P	P	15 12 10.3	+0.4
	1.6nm,0.6s,baz=119,slow=6.3,SNR=12						
RPZ	**Rata Peaks**	**50.40 150**		LR	LR	15 33 16.9	
	comp=Z,164nm,19.7s,baz=287,slow=35						
SONM	**Songino Array**	**57.15 334**		P	P	15 13 46.0	-0.1
	0.6nm,0.7s,baz=160,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**69.38 322**		P	P	15 15 07.4	+0.3
	1.3nm,0.5s,baz=108,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**71.43 330**		P	P	15 15 18.5	-0.9
	1.1nm,0.6s,baz=118,slow=6.4,SNR=5.0						
VNDA	**Vanda**	**76.55 175**		P	P	15 15 48.3	-0.6
	1.0nm,0.6s,baz=328,slow=7.4,SNR=5.1						
ILAR	**Eielson Array**	**84.94 24**		P	P	15 16 32.5	-1.6
	0.5nm,0.9s,baz=258,slow=4.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**136.39 287**	PKP		PKPdf	15 23 22.1	-0.1
	0.2nm,0.7s,baz=127,slow=0.7,SNR=2.8						
DBIC	**Dimbokro**	**143.75 279**	PKhKP		PKPpre	15 23 32.1	
	1.7nm,0.6s,baz=113,slow=3.5,SNR=5.2						
LPAZ	**La Paz**	**147.61 125**	PKPbc		PKPbc	15 23 46.1	+0.6
	1.1nm,0.6s,baz=255,slow=6.7,SNR=4.2						

*IDC **19** 15:09:27.9±0.8, 1°86S×139°28E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML4.3/2, Error ellipse: s-maj=33.4km s-min=12.0km az=84.0*
*ISCJB **19** 15:09:30.6±0.6, 1°94S±0°05×139°1E±0°1, h29km, mb4.2/17, Error ellipse: s-maj=17.5km s-min=7.2km az=169.9*
*NEIC **19** 15:09:36.8±3.2, 2°00S×139°13E, h68km±29km, mb4.3/11, Error ellipse: s-maj=18.4km s-min=9.1km az=62.0*
ISC 19 15:09:32.4±0.7, 1°98S±0°08×139°1E±0°1, h29km, n55, σ1s07, 52, mb4.4/26, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.43 194**		*eP*	**Pn**	**15 13 46.9**	**+0.9**
	14nm,0.7s						
WRA	**Warramunga Arr**	**18.45 194**		P	**Pn**	**15 13 47.0**	**+0.9**
	0.9nm,0.3s,baz=16,slow=11,SNR=14						
WRA				S	Sn	15 17 03.6	-7.9
	0.1nm,0.3s,baz=5.2,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**18.45 194**		P	**Pn**	**15 13 47.0**	**+0.9**
WRA				S	Sn	15 17 03.6	-7.9
CTA	**Charters Tower**	**19.32 159**		P	**Pn**	**15 13 56.1**	**-0.5**
	0.8nm,0.3s,baz=12,slow=8.5,SNR=6.4						
CTA	**Charters Tower**	**19.32 159**		P	**Pn**	**15 13 56.1**	**-0.5**
CTAO	**Charters Tower**	**19.32 159**		P	**Pn**	**15 13 56.5**	**-0.1**
	7.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.75 219**		S	**S**	**15 17 56.8**	**-4.6**
	3.6nm,0.9s,baz=241,slow=19,SNR=3.0						
AS31	**Alice Springs**	**22.13 193**		*eP*	**P**	**15 14 26.2**	**+0.3**
ASAR	**Alice Springs**	**22.13 193**		P	**P**	**15 14 26.7**	**+0.8**
	9.7nm,0.8s,baz=25,slow=10,SNR=16						
ASAR				S	Sn	15 18 34.2	-6.1
	1.5nm,0.8s,baz=17,slow=25,SNR=5.0						
ASAR	**Alice Springs**	**22.13 193**		P	**P**	**15 14 26.7**	**+0.8**
ASAR				S	Sn	15 18 34.2	-6.1
MBWA	**Marble Bar**	**26.82 223**		*eP*	**P**	**15 15 10.7**	**+0.3**
	11nm,0.8s						
STKA	**Stephens Creek**	**29.83 176**		P	**P**	**15 15 38.0**	**+0.8**
	1.9nm,0.6s,baz=353,slow=8.0,SNR=3.6						
STKA	**Stephens Creek**	**29.83 176**		*eP*	**P**	**15 15 37.5**	**+0.3**
	1.6nm,1.1s						
KULM	**Kulim**	**39.06 281**		*eP*	**P**	**15 16 57.3**	**+0.1**
	5.9nm,0.9s						
TAU	**Tasmania Unive**	**41.41 171**		P	P	15 17 10.4	-5.9
CMAR	**Chiang Mai Arr**	**44.40 299**		P	**P**	**15 17 41.8**	**+0.8**
	1.7nm,0.7s,baz=120,slow=6.5,SNR=16						
CMAR	**Chiang Mai Arr**	**44.40 299**		P	**P**	**15 17 41.8**	**+0.8**
LSA	**Lhasa**	**55.55 308**		P	**P**	**15 19 07.3**	**+1.3**
	2.6nm,0.6s						
ULN	**Ulaanbaatar**	**56.97 335**		*eP*	**P**	**15 19 15.9**	**+0.6**
	1.9nm,0.7s						
SONM	**Songino Array**	**57.22 334**		P	**P**	**15 19 17.7**	**+0.6**
	0.5nm,0.7s,baz=150,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**57.22 334**		P	**P**	**15 19 17.7**	**+0.6**
TAPN	**Taplejung**	**57.37 304**		*eP*	**P**	**15 19 19.2**	**+0.4**
ODAN	**Odare**	**57.45 304**		*eP*	**P**	**15 19 18.7**	**-0.6**
	11nm,0.9s						
RAMN	**Ramite**	**58.14 304**		*eP*	**P**	**15 19 24.8**	**+0.6**
	4.3nm,0.6s						
GUN	**Gumba**	**59.08 304**		*eP*	**P**	**15 19 31.0**	**+0.2**
	7.7nm,0.6s						
PKI	**Pulchoki**	**59.35 304**		*eP*	**P**	**15 19 33.1**	**+0.4**
PKIN	**Phulchoki**	**59.36 304**		*eP*	**P**	**15 19 32.1**	**-0.6**
KKN	**Kakani**	**59.53 304**		*eP*	**P**	**15 19 34.3**	**+0.5**
	9.3nm,0.7s						
DMN	**Daman**	**59.62 304**		*eP*	**P**	**15 19 34.9**	**+0.5**
	11nm,0.8s						
GKN	**Gorkha**	**60.14 304**		*eP*	**P**	**15 19 38.5**	**+0.6**
	13nm,0.8s						
KOLN	**Koldanda**	**60.93 303**		*eP*	**P**	**15 19 43.6**	**+0.3**
	5.7nm,0.7s						
DANN	**Dangsing**	**60.99 304**		*eP*	**P**	**15 19 43.6**	**-0.3**
	6.7nm,0.6s						
PYUN	**Piuthan**	**61.55 303**		*eP*	**P**	**15 19 47.5**	**0.0**
	14nm,0.7s						
MK31	**Makanchi Array**	**69.44 322**		*eP*	**P**	**15 20 38.6**	**+0.6**
MKAR	**Makanchi Array**	**69.44 322**		P	**P**	**15 20 38.6**	**+0.6**
	1.9nm,0.6s,baz=109,slow=7.9,SNR=21						
MKAR	**Makanchi Array**	**69.44 322**		P	**P**	**15 20 38.6**	**+0.6**
ZALV	**Zalesovo Beam**	**71.50 330**		P	**P**	**15 20 49.6**	**-0.7**
	0.9nm,0.5s,baz=111,slow=6.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**71.50 330**		P	**P**	**15 20 49.6**	**-0.7**
KURK	**Kurchatov**	**73.34 325**		P	**P**	**15 21 01.2**	**-0.2**
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**73.35 325**		P	**P**	**15 21 01.9**	**+0.4**
	1.6nm,0.8s,baz=112,slow=5.5,SNR=12						
VNDA	**Vanda**	**76.47 175**		P	**P**	**15 21 20.0**	**+0.9**
	2.0nm,0.6s,baz=325,slow=6.0,SNR=9.6						
VNDA	**Vanda**	**76.47 175**		*eP*	**P**	**15 21 19.6**	**+0.5**
	15nm,1.4s						
BVAR	**Borovoye Array**	**78.93 325**		P	**P**	**15 21 33.6**	**+0.4**
	2.3nm,0.7s,baz=115,slow=8.3,SNR=14						
BVAR	**Borovoye Array**	**78.93 325**		P	**P**	**15 21 33.6**	**+0.4**
BRVK	**Borovoye**	**79.00 325**		*eP*	**P**	**15 21 33.9**	**+0.3**
	3.5nm,0.8s						
ABKAR	**Akbulak arra**	**84.41 320**		P	**P**	**15 22 01.8**	**-0.4**
ILAR	**Eielson Array**	**85.02 24**		P	**P**	**15 22 02.5**	**-2.4**
	0.4nm,0.8s,baz=258,slow=3.8,SNR=6.1						
ILAR	**Eielson Array**	**85.02 24**		P	**P**	**15 22 02.5**	**-2.4**
QSPA	**South Pole Qui**	**87.96 180**		P	**P**	**15 22 19.7**	**+0.1**
	5.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**136.41 287**	PKP		**PKPdf**	**15 28 50.6**	**-1.9**
	0.8nm,1.0s,baz=64,slow=1.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**136.41 287**	PKP		**PKPdf**	**15 28 50.6**	**-1.9**
DBIC	**Dimbokro**	**143.75 279**	PKP		PKPbc	15 29 04.1	+0.6
	3.9nm,0.7s,baz=72,slow=3.6,SNR=7.8						
DBIC	**Dimbokro**	**143.75 279**	PKP		PKPbc	15 29 04.1	+0.6
LPAZ	**La Paz**	**147.57 125**	PKPbc		**PKPbc**	**15 29 16.4**	**+0.6**
	baz=269,slow=3.5						
LPAZ	**La Paz**	**147.57 125**	PKPbc		**PKPbc**	**15 29 16.4**	**+0.6**

*CSEM **19** 15:21:48.5, 44°13N×22°11E, h0km, ML1.3, Suspected Mining explosion. After BEO*
BEO 19 15:21:48.5±0.4, 44°13N×22°11E, h0km, ML1.3/6, Suspected Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLS	**Boljevac**	**0.32 201**		*eSg*	Sg	15 21 57.9	-1.0
BOLS	**Boljevac**	**0.32 201**		*eSg*	Sg	15 21 57.9	-1.0
ZAPS	**Zavoj**	**0.94 156**		*ePg*	Pg	15 22 05.7	-0.8
ZAPS				*eSg*	Sg	15 22 18.5	-0.2
GRUS	**Gruza**	**1.03 257**		*ePg*	Pg	15 22 07.7	-0.7
GRUS				*eSg*	Sg	15 22 22.1	+0.3
GRUS	**Gruza**	**1.03 257**		*ePg*	Pg	15 22 07.7	-0.7
GRUS				*eSg*	Sg	15 22 22.1	+0.3
BARS	**Barje**	**1.33 189**		*ePg*	Pg	15 22 11.7	-2.3
BARS				*eSg*	Sg	15 22 30.4	-0.9
BARS	**Barje**	**1.33 189**		*ePg*	Pg	15 22 11.7	-2.3
BARS				*eSg*	Sg	15 22 30.4	-0.9
IVAS	**Ivanjica**	**1.52 249**		*ePg*	Pn	15 22 16.6	-0.5
IVAS				*eSg*	Sg	15 22 36.3	-1.3
IVAS	**Ivanjica**	**1.52 249**		*ePg*	Pn	15 22 16.6	-0.5
IVAS				*eSg*	Sg	15 22 36.3	-1.3
DIVS	**Divibare**	**1.53 270**		*ePg*	Pn	15 22 16.2	-1.0
DIVS				*eSg*	Sb	15 22 36.6	-1.2
DIVS	**Divibare**	**1.53 270**		*ePg*	Pn	15 22 16.2	-1.0
DIVS				*eSg*	Sb	15 22 36.6	-1.2
BZS	**Buzias**	**1.53 347**		*ePg*	Pn	15 22 15.3	-1.8
BZS				*eSg*	Sb	15 22 36.9	-0.7
BZS	**Buzias**	**1.53 347**		*ePg*	Pn	15 22 15.3	-1.8
BZS				*eSg*	Sb	15 22 36.9	-0.7

*IDC **19** 15:23:01.4±1.3, 21°94N×121°80E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/24, mbtmp3.5/7, Error ellipse: s-maj=51.4km s-min=19.1km az=63.0*
*ISCJB **19** 15:23:04.0±0.5, 21°82N±0°03×121°52E±0°02, h17km±3km, mb3.4/7, Error ellipse: s-maj=4.4km s-min=3.5km az=174.7*
*TAP **19** 15:23:05.3, 21°88N×121°42E, h20km, ML3.8, C*
*JMA **19** 15:23:06.4±0.5, 21°85N×121°57E, h76km, M3.4*
ISC 19 15:23:04.6±1.2, 21°87N±0°04×121°47E±0°03, h16km±7km, n69, σ1s24/118, mb3.4/7, 3C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.19**	**24**	⇓*iP*	**Pb**	**15 23 10.8**	**+1.0**
	baz=46						
LAY				*eS*	**Sg**	**15 23 14.6**	**+2.4**
	baz=46						
TSEB	**Hengchuen, Pin**	**0.53 273**		*i* P	**Pb**	**15 23 16.5**	**+0.9**
	baz=272						
TSEB				*i* S	**Sb**	**15 23 24.9**	**+1.9**
	baz=272						
TWK1	**Hengchun**	**0.62 277**		⇑*iP*	**Pb**	**15 23 17.0**	**-0.2**
	baz=290						
TWK1				*eS*	**Sg**	**15 23 24.4**	**-0.8**
	baz=290						
HEN	**Hengchun**	**0.69 281**		⇑P	**Pb**	**15 23 18.3**	**-0.1**
	baz=292						
HEN				*eS*	**Sg**	**15 23 26.5**	**-0.9**
	baz=292						
TAW	**Tawu**	**0.72 313**		P	**Pg**	**15 23 18.0**	**-0.7**
	baz=314						
TAW				*eS*	**Sg**	**15 23 27.4**	**-0.8**
	baz=314						
EAST	**Anshuo**	**0.77 312**		⇑*iP*	**Pg**	**15 23 18.9**	**-0.8**
	baz=314						
EAST				*eS*	**Sg**	**15 23 27.8**	**-2.0**
	baz=314						
ECL	**Taimali**	**0.87 327**		⇓P	**Pg**	**15 23 20.2**	**-1.4**
	baz=329						
ECL				S	**Sg**	**15 23 31.2**	**-1.8**
	baz=329						
TTN	**Taitung**	**0.93 341**		*eP*	**Pg**	**15 23 22.3**	**-0.4**
	baz=331						
TTN				*eS*	**Sg**	**15 23 34.2**	**-0.7**
	baz=331						
SCZT	**Fangliau**	**0.93 303**		⇓*iP*	**Pg**	**15 23 21.9**	**-0.8**
	baz=312						
TWG	**Pinlang**	**1.02 339**		⇓*iP*	**Pb**	**15 23 22.5**	**-1.4**
	baz=328						
TWG				*eS*	**Sg**	**15 23 35.8**	**-1.9**
	baz=328						
TWP	**Hsiaoliuchiu**	**1.13 295**		⇓*eP*	**Pg**	**15 23 27.5**	**+1.0**
	baz=295						
TWP				*eS*	**Sn**	**15 23 41.6**	**+0.5**
	baz=295						
SSD	**Sandimen**	**1.17 319**		⇓*eP*	**Pn**	**15 23 25.1**	**-1.3**
	baz=327						
CHKT	**Chengkung**	**1.23 356**		*eP*	**Pn**	**15 23 26.0**	**-1.2**
	baz=7.0						
CHKT				*eS*	**Sb**	**15 23 41.3**	**-1.8**
	baz=7.0						
SGLT	**Jiouru**	**1.24 313**		*eP*	**Pg**	**15 23 29.3**	**-0.6**
	baz=323						
SGLT				*eS*	**Sg**	**15 23 45.5**	**+0.6**
	baz=323						
KAU	**Kaohsiung**	**1.28 303**		*eP*	**Pb**	**15 23 28.6**	**+0.2**
	baz=304						
TWM1	**Shoushan**	**1.36 315**		*eP*	**Pg**	**15 23 30.4**	**-0.4**
	baz=316						
ELDTW	**Lidau**	**1.38 342**		*eP*	**Pn**	**15 23 27.7**	**-1.7**
	baz=344						
SGST	**Jiashian**	**1.46 326**		*eP*	**Pb**	**15 23 31.2**	**-0.3**
	baz=327						
SGST				*eS*	**Sb**	**15 23 50.6**	**+0.8**
	baz=327						
TWF1	**Yuli**	**1.48 354**		*eP*	**Pn**	**15 23 29.5**	**-1.3**
	baz=342						
TWF1				*eS*	**Sb**	**15 23 51.1**	**+0.5**
	baz=342						
CHN1	**Nanshi**	**1.57 327**		*eP*	**Pb**	**15 23 33.1**	**-0.4**
	baz=327						
CHN1				*eS*	**Sb**	**15 23 53.5**	**+0.4**
	baz=327						
CHN3	**Shinhua**	**1.58 320**		*eP*	**Pb**	**15 23 33.7**	**+0.3**
	baz=320						
CHN3				*eS*	**Sg**	**15 23 55.5**	**-0.1**
	baz=320						
WTP	**Ta-pu**	**1.58 330**		⇓P	**Pb**	**15 23 33.1**	**-0.5**
	baz=331						
WTP				*eS*	**Sn**	**15 23 52.7**	**+0.4**
	baz=331						
EHY	**Hungye**	**1.64 355**		*eP*	**Pn**	**15 23 31.8**	**-1.1**
	baz=343						
EHY				*eS*	**Sn**	**15 23 54.6**	**+1.0**
	baz=343						
TAI1	**Yung-k'ang**	**1.64 316**		*eP*	**Pn**	**15 23 33.5**	**+0.7**
	baz=316						
TAI1				*eS*	**Sn**	**15 23 53.4**	**-0.1**
	baz=316						
TWK	**Hsinying**	**1.66 327**		*eP*	**Pn**	**15 23 34.2**	**+1.0**
	baz=328						
TWK				*eS*	**Sn**	**15 23 54.5**	**+0.2**
	baz=328						
CHN4	**Tsaushan**	**1.68 331**		P	**Pb**	**15 23 35.0**	**-0.3**
	baz=332						
CHN4				*eS*	**Sb**	**15 23 57.2**	**+0.9**
	baz=332						
ALS	**Alishan**	**1.75 340**		*eP*	**Pn**	**15 23 34.9**	**+0.3**
	baz=341						
ALS				*eS*	**Sn**	**15 23 57.5**	**+0.7**
	baz=341						
SCLT	**Jiali**	**1.75 318**		*eP*	**Pn**	**15 23 35.1**	**+0.6**
	baz=319						
SCLT				*eS*	**Sn**	**15 23 57.7**	**+1.2**
	baz=319						
CHN8	**Yiju**	**1.87 322**		*eP*	**Pn**	**15 23 36.4**	**+0.3**
	baz=323						
CHN8				*eS*	**Sn**	**15 24 00.2**	**+0.8**
	baz=323						
CHY	**Chiayi**	**1.89 329**		*eP*	**Pn**	**15 23 36.6**	**+0.3**
	baz=330						
CHY				*eS*	**Sn**	**15 24 00.7**	**+0.9**
	baz=330						
CHN2	**Minshiung**	**1.89 331**		*eP*	**Pn**	**15 23 37.3**	**+1.0**
	baz=331						
CHN2				*eS*	**Sn**	**15 24 01.0**	**+1.1**
	baz=331						
WGK	**Gukeng**	**1.99 335**		*eP*	**Pn**	**15 23 38.8**	**+1.1**
	baz=336						
WGK				*eS*	**Sn**	**15 24 04.3**	**+1.9**
	baz=336						
SMLT	**Sun Moon Lake**	**2.07 345**		*eP*	**Pn**	**15 23 40.5**	**+1.6**
	baz=346						
SMLT				*eS*	**Sn**	**15 24 05.3**	**+0.8**
	baz=346						
TYC	**Yuchr**	**2.10 345**		*eP*	**Pb**	**15 23 41.1**	**-1.3**
	baz=345						
TYC				*eS*	**Sn**	**15 24 06.8**	**+1.7**
	baz=345						
WSF	**Szhu**	**2.10 327**		*eP*	**Pn**	**15 23 39.7**	**+0.5**
	baz=327						
WSF				*eS*	**Sn**	**15 24 06.2**	**+1.1**
	baz=327						
WNT	**Mingjian**	**2.13 340**		*eP*	**Pn**	**15 23 41.1**	**+1.5**
	baz=340						
WNT				*eS*	**Sn**	**15 24 07.2**	**+1.5**
	baz=340						
WDGT	**Dungji**	**2.17 310**		*eP*	**Pn**	**15 23 39.5**	**-0.7**
	baz=310						
WDGT				*eS*	**Sn**	**15 24 04.7**	**-2.1**
	baz=310						
TWD	**Chiawan**	**2.20 3**		*eP*	**Pn**	**15 23 42.3**	**+1.7**
	baz=12						
TWD				*eS*	**Sn**	**15 24 08.1**	**+0.5**
	baz=12						
WTCT	**Ta-ch'eng**	**2.27 331**		*eP*	**Pn**	**15 23 42.0**	**+0.4**
	baz=332						
WTCT				*eS*	**Sn**	**15 24 10.4**	**+1.2**
	baz=332						
WHF	**Hehuan Shan**	**2.27 355**		*eP*	**Pn**	**15 23 42.6**	**+0.6**
	baz=356						
WHF				*eS*	**Sn**	**15 24 10.6**	**+0.7**
	baz=356						
TCU	**Taichung**	**2.38 342**		*eP*	**Pn**	**15 23 44.6**	**+1.5**
	baz=328						
TWT	**Tachien**	**2.39 354**		*eP*	**Pn**	**15 23 45.3**	**+2.0**
	baz=4.0						
TWT				*eS*	**Sn**	**15 24 14.2**	**+1.8**
	baz=4.0						
PNG	**Penghu**	**2.44 314**		*eP*	**Pn**	**15 23 43.1**	**-0.8**
	baz=314						
PNG				*eS*	**Sn**	**15 24 11.7**	**-1.8**
	baz=314						
TWQ1	**Liyutan**	**2.55 346**		*eP*	**Pn**	**15 23 47.2**	**+1.8**
	baz=345						
TWQ1				*eS*	**Sn**	**15 24 18.6**	**+2.4**
	baz=345						
ENA	**Nanau**	**2.56 6**		*eP*	**Pn**	**15 23 46.1**	**+0.5**
	baz=352						
ENA				*eS*	**Sn**	**15 24 18.5**	**+2.1**
	baz=352						
NNS	**Nan Shan**	**2.56 358**		*eP*	**Pb**	**15 23 48.7**	**-1.7**
	baz=358						
NSY	**Sanyi**	**2.62 346**		*eP*	**Pn**	**15 23 47.6**	**+1.3**
	baz=332						
TWC	**Suao**	**2.75 7**		*eP*	**Pn**	**15 23 50.1**	**+1.9**
	baz=17						
TWC				*eS*	**Sn**	**15 24 22.7**	**+1.6**
	baz=17						
ENTT	**Nioudou**	**2.76 2**		*eP*	**Pn**	**15 23 49.8**	**+1.5**
	baz=354						
ENTT				*eS*	**Sn**	**15 24 23.4**	**+2.0**
	baz=354						
NSTT	**Nanjuang**	**2.78 351**		*eP*	**Pn**	**15 23 50.1**	**+1.5**
	baz=336						
NSTT				*eS*	**Sn**	**15 24 23.6**	**+1.7**
	baz=336						
NSK	**Sanguang**	**2.80 358**		P	**Pn**	**15 23 50.3**	**+1.4**
	baz=358						
NSK				*eS*	**Sn**	**15 24 24.0**	**+1.7**
	baz=358						
TWE	**Neicheng**	**2.84 4**		*eP*	**Pn**	**15 23 52.0**	**+2.5**
	baz=355						
YOJ	**Yonaguni jima**	**2.95 29**		*eP*	**Pn**	**15 23 52.0**	**+1.1**
	baz=28						
YOJ	**Yonaguni jima**	**2.95 29**		P	**Pn**	**15 23 51.5**	**+0.7**
YOJ				*eS*	**Sn**	**15 24 26.6**	**+0.7**
HATJ	**Hateruma jima**	**3.06 44**		P	**Pn**	**15 23 53.0**	**+0.6**
HATJ				*eS*	**Sn**	**15 24 27.6**	**-1.2**
NWF	**Wu-fen Shan**	**3.20 5**		*eP*	**Pn**	**15 23 56.6**	**+2.2**
	baz=355						
NWF				*eS*	**Sn**	**15 24 34.0**	**+1.7**
	baz=355						
IRIF	**Iriomote-Funau**	**3.22 40**		P	**Pn**	**15 23 55.1**	**+0.5**
IRIF				*eS*	**Sn**	**15 24 32.3**	**-0.3**
JKRS	**Kuro-shima**	**3.32 44**		P	**Pn**	**15 23 56.7**

BUM					*e*Sg	**Sg**	15 37 42.1	+0.2
PDG	**Podgorica**	0.44	121		*e*Pg	**Pg**	15 37 37.2	-0.8
PDG					*e*Sg	**Sg**	15 37 43.9	0.0
PDG	**Podgorica**	0.44	121		*e*Pg	**Pg**	15 37 37.2	-0.8
PDG					*e*Sg	**Sg**	15 37 44.3	+0.4
TTG	**Podgorica**	0.45	121	⇓	*i*Pg	**Pg**	15 37 37.0	-1.1
TTG					*e*Sg	**Sg**	15 37 44.3	+0.3
UPM	**Unac-Piva**	0.56	12	⇓	*i*Pg	**Pg**	15 37 39.3	-0.9
UPM					*e*Sg	**Sg**	15 37 48.3	+0.7
UPM	**Unac-Piva**	0.56	12	⇓	*i*Pg	**Pg**	15 37 39.3	-0.9
UPM					*e*Sg	**Sg**	15 37 48.3	+0.7
ULC	**Ulcinj**	0.79	152	⇑	*i*Pg	**Pg**	15 37 43.2	-1.4
ULC					*e*Sg	**Sb**	15 37 55.8	+0.1
ULC	**Ulcinj**	0.79	152	⇑	*i*Pg	**Pg**	15 37 43.2	-1.4
ULC					*e*Sg	**Sb**	15 37 55.8	+0.1
STON	**Ston**	0.80	286		*e*Pg	**Pg**	15 37 43.6	-1.1
STON					Sg	**Sb**	15 37 56.5	+0.7
PLE	**Pljevlja**	0.82	35	⇑	*i*Pg	**Pg**	15 37 44.1	-1.1
PLE					*e*Sg	**Sb**	15 37 57.3	+0.6
PLE	**Pljevlja**	0.82	35	⇑	*i*Pg	**Pg**	15 37 44.1	-1.1
PLE					*e*Sg	**Sb**	15 37 57.3	+0.6
BEY	**Berane**	0.87	76	⇓	*i*Pg	**Pg**	15 37 45.0	-1.2
BEY					*e*Sg	**Sb**	15 37 59.0	+0.8
IVA	**Berane**	0.88	76	⇓	*i*Pg	**Pg**	15 37 45.0	-1.2
IVA					*e*Sg	**Sb**	15 37 59.0	+0.7
PVY	**Plav**	0.90	94	⇓	*i*Pg	**Pg**	15 37 45.8	-0.9
PVY					*e*Sg	**Sb**	15 37 59.6	+0.6
BCI	**Bajram Curri**	1.02	106		*i*Pg	**Pg**	15 37 48.2	-0.8
BCI					*i*SG	**Sb**	15 38 03.4	+1.0
PUK	**Puka**	1.05	126		*i*PG	**Pg**	15 37 48.6	-1.0
PUK					*i*SG	**Sb**	15 38 04.5	+1.2
SJES	**Sjenica**	1.08	56		*e*Pg	**Pg**	15 37 49.3	-0.9
SJES					*e*Sg	**Sg**	15 38 04.3	+0.9
BBLS	**Lazići**	1.30	22		*e*Pg	**Pb**	15 37 53.8	+0.1
BBLS					*e*Sg	**Sg**	15 38 11.9	+0.8
BBLS	**Lazići**	1.30	22		*e*Pg	**Pb**	15 37 53.8	+0.1
BBLS					*e*Sg	**Sg**	15 38 11.9	+0.8
IVAS	**Ivanjica**	1.38	48		*e*Pg	**Pn**	15 37 54.3	-0.2
IVAS					*e*Sg	**Sg**	15 38 13.9	+0.2
IVAS	**Ivanjica**	1.38	48		*e*Pg	**Pn**	15 37 54.3	-0.2
IVAS					*e*Sg	**Sg**	15 38 13.9	+0.2
TIR	**Tirane**	1.56	147		*i*PG	**Pb**	15 37 57.8	-0.3
TIR					*i*SG	**Sg**	15 38 19.9	+0.5
TIR	**Tirane**	1.56	147		*e*Pn	**Pn**	15 37 56.7	-0.1
TIR					*e*Sg	**Sb**	15 38 18.4	+0.7
PHP	**Peshkopia**	1.59	127		*i*PG	**Pb**	15 37 58.6	-0.2
PHP					*i*SG	**Sg**	15 38 21.3	+0.7
PHP	**Peshkopia**	1.59	127		P	**Pb**	15 37 58.6	-0.2
PHP					S	**Sg**	15 38 22.8	+2.2
PHP	**Peshkopia**	1.59	127		P	**Pb**	15 37 58.6	-0.2
PHP					*i*Sg	**Sg**	15 38 21.3	+0.7
	SNR=9.0							
PHP					S	**Sg**	15 38 22.8	+2.2
DIVS	**Divibare**	1.70	32		P	**Pn**	15 37 58.8	-0.2
DIVS					S	**Sb**	15 38 22.9	+0.9
DIVS	**Divibare**	1.70	32		*e*Pn	**Pn**	15 37 58.7	-0.2
DIVS					*e*Sn	**Sb**	15 38 22.7	+0.7
DIVS	**Divibare**	1.70	32		P	**Pn**	15 37 58.8	-0.2
DIVS					*e*Sn	**Sb**	15 38 22.7	+0.7
SELS	**Selova**	1.83	71		*e*Pn	**Pn**	15 38 00.6	-0.1
SELS					*e*Sn	**Sn**	15 38 24.9	+1.1
SELS	**Selova**	1.83	71		*e*Pn	**Pn**	15 38 00.6	-0.1
SELS					*e*Sn	**Sn**	15 38 24.9	+1.1
GRUS	**Gruza**	1.89	49		*e*Pn	**Pn**	15 38 01.8	+0.3
GRUS					*e*Sg	**Sg**	15 38 29.3	-0.8
GRUS	**Gruza**	1.89	49		*e*Pn	**Pn**	15 38 01.8	+0.3
GRUS					*e*Sg	**Sg**	15 38 29.3	-0.8
TEKS	**Tekeris**	1.97	17		*e*Pn	**Pn**	15 38 02.0	-0.6
TEKS					*e*Sn	**Sb**	15 38 28.9	-0.8
TRUS	**Trudelj**	1.98	37		*e*Pn	**Pn**	15 38 02.4	-0.2
TRUS					*e*Sn	**Sn**	15 38 28.7	+1.3
TRUS	**Trudelj**	1.98	37		*e*Pn	**Pn**	15 38 02.4	-0.2
TRUS					*e*Sn	**Sn**	15 38 28.7	+1.3
BARS	**Barje**	2.27	85		*e*Pn	**Pn**	15 38 07.1	+0.4
BARS					*e*Sn	**Sn**	15 38 34.7	+0.1
BARS	**Barje**	2.27	85		*e*Pn	**Pn**	15 38 07.1	+0.4
SG1	**Sgolgore (BA)**	2.39	221		*e*Pn	**Pb**	15 38 10.8	-1.4
SVIS	**Svilajnac**	2.41	47		*e*Pn	**Pn**	15 38 09.0	+0.4
CDT	**Castel del Mon**	2.43	230		*e*Pn	**Pn**	15 38 07.4	-1.4
BIA	**Bitola**	2.53	130		*e*Pn	**Pb**	15 38 12.9	-1.9
BIA	**Bitola**	2.53	130		*e*Pn	**Pb**	15 38 12.8	-1.9
FGSL	**Fruska Gora**	2.61	17		*e*Pn	**Pn**	15 38 11.0	-0.4
FRGS	**Fruska Gora**	2.61	17		*e*Pn	**Pn**	15 38 11.0	-0.4
BOLS	**Boljevac**	2.62	62		*e*Pn	**Pn**	15 38 12.3	+0.8
BOLS	**Boljevac**	2.62	62		*e*Pn	**Pn**	15 38 12.3	+0.8
FNA	**Florina**	2.72	133		P	**Pn**	15 38 14.0	+1.1
FNA					S	**Sb**	15 38 50.3	-1.0
FNA	**Florina**	2.72	133		P	**Pn**	15 38 14.0	+1.1
FNA					S	**Sb**	15 38 50.3	-1.0
ZAPS	**Zavoj**	2.92	77		*e*Pn	**Pn**	15 38 16.6	+1.0
ZAPS					*e*Sn	**Sn**	15 38 51.4	+0.7
ZAPS	**Zavoj**	2.92	77		*e*Pn	**Pn**	15 38 16.6	+1.0
ZAPS					*e*Sn	**Sn**	15 38 51.4	+0.7
KEK	**Kerkira**	3.05	165		P	**Pn**	15 38 16.0	-1.4
GRG	**Griva**	3.22	121		P	**Pn**	15 38 21.0	+1.2
GRG	**Griva**	3.22	121		P	**Pn**	15 38 21.0	+1.2
RHK3	**Tenkes**	3.25	354	⇑	*e*Pn	**Pn**	15 38 19.9	-0.2
RHK3	**Tenkes**	3.25	354	⇑	*e*Pn	**Pn**	15 38 19.9	-0.2
VTS	**Vitosha**	3.30	90		P	**Pn**	15 38 22.5	+1.6
VTS	**Vitosha**	3.30	90	⇑	*i*P	**Pn**	15 38 20.8	-0.1
VTS	**Vitosha**	3.30	90		*e*Pn	**Pn**	15 38 21.9	+1.0
VTS	**Vitosha**	3.30	90		*e*Pn	**Pn**	15 38 21.9	+1.0
VTS	**Vitosha**	3.30	90		P	**Pn**	15 38 22.5	+1.6
IGT	**Igoumenitsa**	3.35	158		P	**Pn**	15 38 21.0	-0.5
IGT	**Igoumenitsa**	3.35	158		P	**Pn**	15 38 21.0	-0.5
NVLJ	**Novalja**	3.39	305		*i*Pn	**Pn**	15 38 23.0	+0.8
NVLJ					Sn	**Sn**	15 39 03.1	+0.8
NVLJ	**Novalja**	3.39	305		*i*Pn	**Pn**	15 38 22.9	+0.8
NVLJ					Sn	**Sn**	15 39 03.0	+0.8
PKSM	**Moragy**	3.55	359	⇑	*i*P	**Pn**	15 38 23.9	-0.4
PKSM	**Moragy**	3.55	359	⇑	*e*Pn	**Pn**	15 38 23.9	-0.4
PKSM					*e*Sn	**Sn**	15 39 05.7	-0.5
BZS	**Buzias**	3.61	34	⇑	*i*P	**Pn**	15 38 24.7	-0.3
BZS	**Buzias**	3.61	34		*e*Pn	**Pn**	15 38 24.2	-0.8
BZS	**Buzias**	3.61	34		*e*Pn	**Pn**	15 38 24.2	-0.8
BZS	**Buzias**	3.61	34	⇑	*i*P	**Pn**	15 38 24.7	-0.3
BOJS	**Bojanci**	3.79	320		*e*Pn	**Pn**	15 38 30.0	+2.4
BOJS					*e*Sn	**Sn**	15 39 13.6	+1.4
BOJS	**Bojanci**	3.79	320		Pn	**Pn**	15 38 30.0	+2.4
BOJS					*e*Sn	**Sn**	15 39 13.6	+1.4
PKS2	**Kecel**	3.84	5	⇑	*e*Pn	**Pn**	15 38 28.0	-0.3
PKS2	**Kecel**	3.84	5	⇑	*e*Pn	**Pn**	15 38 28.0	-0.3
SRS	**Serrai**	3.94	111		P	**Pn**	15 38 31.2	+1.6
SRS	**Serrai**	3.94	111		P	**Pn**	15 38 31.2	+1.6
PKS9	**Tamasi**	3.94	355	⇓	*ec*		15 38 29.7	
PKS6	**Bocsa**	3.98	8	⇑	*e*Pn	**Pn**	15 38 29.7	-0.5
PKS6					*e*Sn	**Sn**	15 39 17.1	+0.3
PKS6	**Bocsa**	3.98	8	⇑	*e*Pn	**Pn**	15 38 29.7	-0.5
PKS6					*e*		15 39 17.1	
GBRS	**Gornja Briga**	4.03	317		*e*Pn	**Pn**	15 38 32.5	+1.6
GBRS					*e*Sn	**Sn**	15 39 20.5	+2.4
BEHE	**Becsehely**	4.06	340	⇑	*e*Pn	**Pn**	15 38 32.1	+0.8
BEHE					*e*Sn	**Sn**	15 39 18.7	0.0
BEHE	**Becsehely**	4.06	340	⇑	*e*PKKPbc	**Pn**	15 38 32.1	+0.8
BEHE					*e*PKKPbc	**Sn**	15 39 18.7	0.0
VISS	**Visnje**	4.21	320		*e*Pn	**Pn**	15 38 35.3	+1.9
VISS					*e*Sn	**Sn**	15 39 25.0	+2.5
VISS	**Visnje**	4.21	320		*e*Pn	**Pn**	15 38 35.3	+1.9
VISS					*e*Sn	**Sn**	15 39 25.0	+2.5
AGG	**Agios Georgios**	4.54	142		P	**Pn**	15 38 38.3	+0.4
AGG	**Agios Georgios**	4.54	142		P	**Pn**	15 38 38.3	+0.4
LOT	**Lotru**	4.57	51	⇓	*i*P	**Pn**	15 38 39.4	+1.0
LOT	**Lotru**	4.57	51	⇓	*i*P	**Pn**	15 38 39.4	+1.0
PKST	**T¨s**	4.62	354	⇓	*e*	**Pn**	15 38 38.8	-0.2
CSKK	**Cs˘‡kako**	4.71	356	⇑	*e*PKKPbc	Pb	15 38 45.9	-6.0
PKSG		4.74	357	⇓	*e*Pn	**Pn**	15 38 40.6	+0.1
PKSG					*e*Sn	**Sn**	15 39 36.8	+1.4
PKSG		4.74	357	⇓	*e*Pn	**Pn**	15 38 40.6	+0.1
PKSG					*e*Sn	**Sn**	15 39 36.0	+0.6
SOKA	**Soboth**	4.81	328	⇓	*i*Pn	**Pn**	15 38 41.4	-0.2
SOKA				⇓	*i*Sn	**Sn**	15 39 36.5	-0.8
SOKA	**Soboth**	4.81	328		Pn	**Pn**	15 38 41.4	-0.2
SOKA					Sn	**Sn**	15 39 36.5	-0.8
BUD	**Budapest**	4.83	2	⇑	*e*Pn	**Pn**	15 38 41.4	-0.4
BUD	**Budapest**	4.83	2	⇑	*e*PKKPbc	**Pn**	15 38 41.4	-0.4
VOY	**Vojsko**	4.84	316		*e*Pn	**Pn**	15 38 42.8	+0.7
VOY					*e*Sn	**Sn**	15 39 38.3	+0.2
VOY	**Vojsko**	4.84	316		*e*Pn	**Pn**	15 38 42.8	+0.7
VOY					*e*Sn	**Sn**	15 39 38.3	+0.2
OBKA	**Obir**	4.88	324	⇑	*i*Pn	**Pn**	15 38 42.1	-0.4
OBKA				⇑	*i*Sn	**Sn**	15 39 39.3	+0.3
OBKA	**Obir**	4.88	324		Pn	**Pn**	15 38 42.1	-0.4
OBKA					Sn	**Sn**	15 39 39.3	+0.3
DRGR		5.00	33	⇓	*i*P	**Pn**	15 38 44.1	-0.2
DRGR		5.00	33	⇓	*i*P	**Pn**	15 38 44.1	-0.2
ARR	**Arges**	5.04	56	⇓	*i*P	**Pn**	15 38 45.9	+1.2
ARR	**Arges**	5.04	56	⇓	*i*P	**Pn**	15 38 45.9	+1.2
ARSA	**Arzberg**	5.13	335	⇓	*i*Pn	**Pn**	15 38 46.7	+0.8
ARSA				⇓	*i*Sn	**Sn**	15 39 44.1	-1.0
ARSA	**Arzberg**	5.13	335		Pn	**Pn**	15 38 46.7	+0.8
PSZ	**Piszkesteto**	5.32	8	⇑	*i*P	**Pn**	15 38 47.7	-0.9
PSZ	**Piszkesteto**	5.32	8	⇑	*e*Pn	**Pn**	15 38 47.8	-0.9
PSZ					*e*Sn	**Sn**	15 39 47.1	-2.8
PSZ	**Piszkesteto**	5.32	8	⇑	*e*Pn	**Pn**	15 38 47.8	-0.9
PSZ					*e*Sn	**Sn**	15 39 47.1	-2.8
VOIR		5.33	56	⇓	*i*P	**Pn**	15 38 49.6	+0.9
VOIR		5.33	56	⇓	*i*P	**Pn**	15 38 49.6	+0.9
CONA	**Conrad Observa**	5.64	340	⇑	*i*Pn	**Pn**	15 38 52.7	-0.4
CONA				⇑	*i*Sn	**Sn**	15 39 58.3	+0.4
CONA	**Conrad Observa**	5.64	340		Pn	**Pn**	15 38 52.7	-0.4
CONA					Sn	**Sn**	15 39 58.3	+0.4
VYHS	**Vyhne**	5.83	1		*e*PN	**Sn**	15 38 55.2	-0.4
VYHS					*e*SN	**Sn**	15 39 59.7	-2.8
VYHS	**Vyhne**	5.83	1		*e*Pn	**Pn**	15 38 55.2	-0.4
KBA	**Koelnbreinsper**	5.85	321	⇑	*i*Pn	**Pn**	15 38 55.7	-0.3
KBA				⇑	*i*Sn	**Sn**	15 40 03.6	+0.6
KBA	**Koelnbreinsper**	5.85	321		Pn	**Pn**	15 38 55.7	-0.3
KBA					Sn	**Sn**	15 40 03.6	+0.6
MOA	**Molln**	6.07	330	⇓	*i*Pn	**Pn**	15 38 58.6	-0.3
MOA				⇓	*i*Sn	**Sn**	15 40 09.8	+1.5
MOA	**Molln**	6.07	330		Pn	**Pn**	15 38 58.6	-0.3
MOA					Sn	**Sn**	15 40 09.9	+1.5
TRPA	**Tarpa**	6.09	25	⇓	*i*P	**Pn**	15 38 58.7	-0.4
TRPA	**Tarpa**	6.09	25	⇓	*i*P	**Pn**	15 38 58.7	-0.4
CRVS	**Cervenica-Dubn**	6.52	16		*e*PN	**Pn**	15 39 05.2	+0.1
CRVS					*e*SN	**Sn**	15 40 15.2	-4.2
CRVS	**Cervenica-Dubn**	6.52	16		*e*Pn	**Pn**	15 39 05.2	+0.1
KOLS	**Kolonicke sedl**	6.74	20		*e*Pn	**Pn**	15 39 10.8	+2.7
KOLS					*e*		16 07 20.4	
KHC	**Kasperske Hory**	7.40	333		*e*PN	**Pn**	15 39 19.4	+2.2
KHC					*ex*	x	15 40 29.0	
KHC					*e*SN	**Sn**	15 40 39.6	-1.5
KHC	**Kasperske Hory**	7.40	333		Pn	**Pn**	15 39 19.4	+2.2
KHC					Sn	**Sn**	15 40 39.6	-1.5

IDC 19 15:39:48.7±10.0, 56.10S×27.39W, h141km±91km, mb3.6/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=39.2km s-min=25.6km az=67.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.98**	**160**	*eP*	P	15 43 36.7	-0.3
VNA2	**Neumayer--Watz**	**17.19**	**158**	*eP*	P	15 43 39.2	0.0
	baz=318,slow=13						
QSPA	**South Pole Qui**	**34.15**	**180**	P	P	15 46 19.8	-0.1
	0.9nm,0.5s,baz=0.1,slow=1.4,SNR=12						
LBTB	**Lobatse**	**49.13**	**73**	LR	LR	16 05 15.7	
	comp=Z,47nm,18.8s,baz=187,slow=31						
LPAZ	**La Paz**	**50.31**	**305**	P	P	15 48 31.5	-0.2
	0.9nm,0.3s,baz=121,slow=4.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P	P	15 51 03.8	+0.1
	0.7nm,0.4s,baz=202,slow=6.5,SNR=8.6						
INK	**Inuvik**	**145.77**	**321**	PKPbc	PKPdf	15 59 08.4	-0.2
	baz=218,slow=0.0						
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc	PKPbc	15 59 20.8	-0.2
	0.4nm,0.baz=119,slow=1.5,SNR=10						
SONM	**Songino Array**	**150.84**	**87**	PKPbc	PKPbc	15 59 23.3	-0.3
	0.7nm,0.6s,baz=228,slow=3.0,SNR=9.3						

*ISCJB **19** 15:41:15.3±0.6, 24.38S±0.04×67.04W±0.07, h165km±8km, mb3.9/7, Error ellipse: s-maj=10.0km s-min=6.5km az=171.6*
*IDC **19** 15:41:15.5±1.6, 24.33S×67.12W, h155km±15km, mb3.8/5, mb1 3.8/10, mb1mx3.6/21, mbtmp3.6/10, Error ellipse: s-maj=23.4km s-min=11.8km az=103.0*
*NEIC **19** 15:41:16.7±0.6, 24.38S×67.00W, h169km±7km, mb4.2/6, Error ellipse: s-maj=10.8km s-min=8.3km az=86.0*
*GUC **19** 15:41:19.2±0.3, 24.17S×67.42W, h200km, ML4.7*

ISC 19 15:41:16.2±0.8, 24.34S±0.05×67.03W±0.07, h161km±9km, n48, σ1°42/58, mb4.1/7, 2C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.44**	**314**	*ePn*	Pn	15 42 02.4	+5.0
LVC				*e*Sn	**Sn**	**15 42 32.7**	**+3.5**
CEN1	**Los Morros**	**3.05**	**287**	⇓ *iP*	**Pn**	**15 42 04.7**	**-0.1**
CEN1				*i* S	**Sn**	**15 42 41.1**	**-1.3**
CEN1	**Los Morros**	**3.05**	**287**	⇓ *iP*	**Pn**	**15 42 04.7**	**-0.1**
CEN1				*i* S	**Sn**	**15 42 41.1**	**-1.3**
CEN1				AML	AML	15 42 44.3	
	comp=E,784nm,0.9s						
ANCH	**Antofagasta**	**3.16**	**281**	⇓ *iP*	**Pn**	**15 42 07.7**	**+1.7**
ANCH				*i* S	**Sn**	**15 42 44.3**	**-0.3**
ANCH	**Antofagasta**	**3.16**	**281**	⇓ *iP*	**Pn**	**15 42 07.7**	**+1.7**
ANCH				*i* S	**Sn**	**15 42 44.3**	**-0.3**
ANCH				AML	AML	15 42 46.0	
	comp=N,2μm,0.0s						
MACH	**Maria Elena**	**3.29**	**310**	⇓ *iP*	**Pn**	**15 42 09.7**	**+1.8**
MACH				S	**Sn**	**15 42 47.2**	**-0.8**
MACH	**Maria Elena**	**3.29**	**310**	⇓ *iP*	**Pn**	**15 42 09.7**	**+1.8**
MACH				*i* S	**Sn**	**15 42 47.2**	**-0.8**
MECH	**Mejillones**	**3.37**	**291**	⇑ *iP*	**Pn**	**15 42 10.2**	**+1.6**
MECH				*e*S	**Sn**	**15 42 48.9**	**-0.4**
MECH	**Mejillones**	**3.37**	**291**	⇑ *iP*	**Pn**	**15 42 10.2**	**+1.6**
MECH				*e*S	**Sn**	**15 42 48.9**	**-0.4**
MECH				AML	AML	15 42 51.8	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**5.70**	**214**	*ePn*	**Pn**	**15 42 37.4**	**-1.9**
LCO				*e*Sn	Sn	15 43 32.0	-13
CFAA	**Coronel Fontan**	**7.32**	**188**	P	**Pn**	**15 43 00.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=11,slow=12,SNR=7.4						
CFAA				S	**Sn**	**15 44 20.1**	**-2.6**
	comp=N,0.1nm,0.3s,baz=130,slow=20,SNR=6.5						
CFAA	**Coronel Fontan**	**7.32**	**188**	P	**Pn**	15 43 00.9	+0.4
CFAA				S	**Sn**	**15 44 20.1**	**-2.6**
LPAZ	**La Paz**	**8.07**	**352**	P	**Pn**	**15 43 12.0**	**+0.8**
	comp=N,5.7nm,0.3s,baz=164,slow=7.4,SNR=87						
LPAZ				S	**Sn**	**15 44 39.2**	**-2.5**
	comp=N,0.5nm,0.3s,baz=61,slow=19,SNR=3.8						
LPAZ	**La Paz**	**8.07**	**352**	*ePn*	**Pn**	**15 43 11.5**	**+0.3**
	comp=N,14nm,0.4s						
LPAZ				*e*Sn	**Sn**	**15 44 36.5**	**-5.1**
LPAZ				S	S	15 44 39.2	
CPUP	**Villa Florida**	**9.00**	**105**	P	**Pn**	**15 43 23.2**	**+0.5**
	comp=N,0.3nm,0.3s,baz=263,slow=19,SNR=2.8						
CPUP	**Villa Florida**	**9.00**	**105**	P	**Pn**	15 43 23.2	+0.5
SIV	**San Ignacio**	**10.01**	**35**	P	**Pn**	15 43 35.7	-0.5
	comp=N,0.9nm,0.3s,baz=225,slow=14,SNR=13						
SIV	**San Ignacio**	**10.01**	**35**	P	**Pn**	15 43 35.7	-0.5
TRQA	**Tornquist**	**14.34**	**164**	*ePn*	**Pn**	**15 44 31.3**	**-0.5**
	comp=N,12nm,0.8s						
NNA	**Nana**	**15.41**	**321**	*ePn*	**P**	**15 44 46.5**	**+0.2**
	comp=N,9.5nm,0.8s						
SAML	**Samuel**	**15.74**	**14**	*ePn*	**Pn**	**15 44 47.6**	**-1.6**
	comp=N,2.5nm,0.6s						
PLCA	**Paso Flores**	**16.62**	**189**	P	**P**	**15 44 58.5**	**-1.0**
	comp=N,0.1nm,0.3s,baz=9.5,slow=6.1,SNR=2.5						
PLCA	**Paso Flores**	**16.62**	**189**	P	**P**	15 44 58.5	-1.0
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**15 45 35.8**	**+1.0**
	comp=N,1.6nm,0.3s,baz=235,slow=11,SNR=12						
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	15 45 35.8	+1.0
VNA3	**Neumayer Olymp**	**56.84**	**161**	*eP*	**P**	15 50 45.0	+1.5
VNA2	**Neumayer--Watz**	**57.41**	**160**	*eP*	**P**	15 50 49.2	+1.7
	baz=288,slow=7.4						
QSPA	**South Pole Qui**	**65.87**	**180**	P	**P**	**15 51 45.6**	**+1.3**
	comp=N,3.1nm,0.7s,baz=286,slow=0.8,SNR=26						
QSPA	**South Pole Qui**	**65.87**	**180**	P	**P**	15 51 45.6	+1.3
VNDA	**Vanda**	**74.37**	**190**	P	**P**	**15 52 34.3**	**-1.3**
	comp=N,0.6nm,0.3s,baz=340,slow=2.6,SNR=9.5						
VNDA	**Vanda**	**74.37**	**190**	P	**P**	15 52 34.3	-1.3
TOA0	**Torodi Ar. Sit**	**76.71**	**69**	*eP*	**P**	15 52 49.1	-0.9
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	15 52 49.6	-0.4
	comp=N,1.0nm,0.5s,baz=256,slow=5.3,SNR=14						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**15 52 49.6**	**-0.4**
HLID	**Hailey**	**80.36**	**327**	*eP*	**P**	**15 53 10.2**	**+0.6**
	comp=N,5.3nm,1.3s						
BOSA	**Boshof**	**80.60**	**117**	P	**P**	**15 53 12.1**	**+0.7**
	comp=N,5.0nm,0.8s,baz=192,slow=3.8,SNR=10						
BOSA	**Boshof**	**80.60**	**117**	P	**P**	15 53 12.1	+0.7
LBTB	**Lobatse**	**82.28**	**114**	P	**P**	15 53 19.7	-0.5
	comp=N,5.2nm,0.9s						
YKA	**Yellowknife Ar**	**94.43**	**340**	P	**P**	**15 54 16.9**	**-0.3**
	comp=N,0.2nm,0.5s,baz=135,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**94.43**	**340**	P	**P**	15 54 16.9	-0.3
KHC	**Kasperske Hory**	**102.19**	**42**	*e*PKP	pPKiKP	15 59 57.5	+1.2
WRA	**Warramunga Arr**	**131.32**	**207**	PKP	**PKPdf**	**16 00 09.7**	**-0.4**
	comp=N,0.3nm,0.6s,baz=159,slow=1.5,SNR=5.3						
WRA	**Warramunga Arr**	**131.32**	**207**	PKP	**PKPdf**	**16 00 09.7**	**-0.4**
ZALV	**Zalesovo Beam**	**143.70**	**28**	PKP	PKPbc	16 00 29.6	0.0
	comp=N,0.8nm,0.6s,baz=318,slow=6.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**143.70**	**28**	PKP	PKPbc	16 00 29.6	0.0
MK31	**Makanchi Array**	**146.80**	**40**	*e*PKPdf	**PKPdf**	**16 00 37.5**	**+0.2**
MK31				*e*PKPbc	**PKPbc**	**16 00 39.5**	**+0.3**
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPbc**	**16 00 39.5**	**+0.2**
	comp=N,1.2nm,0.6s,baz=297,slow=3.1,SNR=16						
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPbc**	**16 00 39.5**	**+0.2**

*ISK **19** 15:50:29.9, 39.67N×29.11E, h5km, MD2.9*
*ISCJB **19

TURN	**Turunc**	**0.47**	**131**	*i* P	**Pg**	**15 53 05.8**	**-1.1**
TURN				*i* S	**Sg**	**15 53 13.9**	**+0.8**
AYDN	**Tasoluk**	**0.52**	**335**	*i* P	**Pg**	**15 53 07.5**	**-0.3**
AYDN				*i* S	**Sg**	**15 53 14.7**	**0.0**
AYDN	**Tasoluk**	**0.52**	**335**	*i* P	**Pg**	**15 53 07.5**	**-0.3**
AYDN				*i* S	**Sg**	**15 53 14.7**	**0.0**
BDRM	**Kayabasi**	**0.58**	**258**	*i* P	**Pb**	**15 53 09.9**	**-0.1**
BDRM				*i* S	**Sb**	**15 53 18.4**	**0.0**
BDRM	**Kayabasi**	**0.58**	**258**	*i* P	**Pb**	**15 53 09.9**	**-0.1**
BDRM				*i* S	**Sb**	**15 53 18.4**	**0.0**
BODT	**Bodrum**	**0.69**	**260**	*e*PG	**Pg**	**15 53 10.8**	**-0.2**
BODT	**Bodrum**	**0.69**	**260**	*e*Pg	**Pg**	**15 53 10.8**	**-0.2**
DNZL	**Cakiroluk**	**0.86**	**54**	*i* P	**Pg**	**15 53 13.6**	**-0.7**
DNZL				*i* S	**Sb**	**15 53 26.8**	**+0.1**
DNZL	**Cakiroluk**	**0.86**	**54**	*i* P	**Pg**	**15 53 13.6**	**-0.7**
DNZL				*i* S	**Sb**	**15 53 26.8**	**+0.1**
DENT	**Denizli**	**0.90**	**51**	*e*PG	**Pg**	**15 53 14.6**	**-0.3**
DENT	**Denizli**	**0.90**	**51**	*e*Pg	**Pg**	**15 53 14.6**	**-0.3**
FETY	**Fethiye**	**0.92**	**126**	*e*PG	**Pg**	**15 53 15.3**	**-0.1**
FETY	**Fethiye**	**0.92**	**126**	*e*Pg	**Pg**	**15 53 15.3**	**-0.1**
GOLH	**Golhisar**	**1.12**	**87**	*e*P	**Pg**	**15 53 19.1**	**-0.1**
GOLH	**Golhisar**	**1.12**	**87**	*e*P	**Pg**	**15 53 19.1**	**-0.1**
KULA	**Kula-Manisa**	**1.38**	**17**	*e*PN	**Pn**	**15 53 22.9**	**-0.2**
KULA	**Kula-Manisa**	**1.38**	**17**	*e*Pn	**Pn**	**15 53 22.9**	**-0.2**
IZM	**Izmir**	**1.40**	**330**	*e*PN	**Pn**	**15 53 22.8**	**-0.6**
IZM	**Izmir**	**1.40**	**330**	*e*Pn	**Pn**	**15 53 22.8**	**-0.6**
ELL	**Elmali**	**1.47**	**107**	*e*PN	**Pn**	**15 53 24.4**	**0.0**
ELL	**Elmali**	**1.47**	**107**	*e*Pn	**Pn**	**15 53 24.4**	**0.0**
KHL	**Karahalli**	**1.57**	**43**	*e*PN	**Pn**	**15 53 25.7**	**0.0**
KHL	**Karahalli**	**1.57**	**43**	*e*Pn	**Pn**	**15 53 25.7**	**0.0**
KHAL	**Karahalli**	**1.58**	**41**	*i* P	**Pn**	**15 53 25.7**	**-0.2**
KHAL				*i* S	**Sg**	**15 53 49.2**	**+0.6**
KHAL	**Karahalli**	**1.58**	**41**	*i* P	**Pn**	**15 53 25.7**	**-0.2**
KHAL				*i* S	**Sg**	**15 53 49.2**	**+0.6**
AKS	**Akhisar**	**1.71**	**351**	*e*PN	**Pn**	**15 53 27.7**	**+0.1**
AKS	**Akhisar**	**1.71**	**351**	*e*Pn	**Pn**	**15 53 27.7**	**+0.1**
ALT	**Altintas**	**2.42**	**39**	*e*PN	**Pn**	**15 53 37.7**	**+0.3**
ALT	**Altintas**	**2.42**	**39**	*e*Pn	**Pn**	**15 53 37.7**	**+0.3**
TVSB	**Tavsanli**	**2.48**	**24**	*e*PN	**Pn**	**15 53 38.6**	**+0.3**
TVSB	**Tavsanli**	**2.48**	**24**	*e*Pn	**Pn**	**15 53 38.6**	**+0.3**

*ISCJB **19** 15:57:16.9±0.6,2.4′40N±0.0′08×78.6′64W±0.0′09, h33km, mb3.6/12, Error ellipse: s-maj=13.0km s-min=11.1km az=29.5*
*IDC **19** 15:57:21.1±8.1,2.4′46N×78.4′40W, h52km±76km, mb3.5/12, mb1 3.7/12, mb1mx3.5/24, mbtmp3.5/12, Error ellipse: s-maj=31.9km s-min=17.6km az=63.0*

ISC 19 15:57:19.4±0.6,2°36N±0′09×78°7W±0′1, h35km, n17, σ1§57/17, mb3.7/12, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**4.97**	**60**	P	**Pn**	**15 58 35.0**	**+3.0**
	4.0nm,0.3s,baz=294,slow=23,SNR=3.9						
ROSC				S	**Sn**	**15 59 28.5**	**-0.1**
	1.4nm,0.3s,baz=86,slow=23,SNR=5.7						
NNA	**Nana**	**14.37**	**173**	P	**P**	**16 00 48.0**	**+1.0**
	0.9nm,0.3s,baz=322,slow=13,SNR=4.1						
LPAZ	**La Paz**	**21.25**	**151**	P	**P**	**16 02 02.5**	**-0.8**
	2.0nm,0.7s,baz=310,slow=11,SNR=7.0						
SIV	**San Ignacio**	**25.19**	**137**	P	**P**	**16 02 41.6**	**-0.3**
	2.4nm,0.7s,baz=325,slow=11,SNR=12						
CFAA	**Coronel Fontan**	**35.20**	**164**	P	**P**	**16 04 10.9**	**+0.5**
	0.1nm,0.5s,baz=338,slow=5.4,SNR=3.7						
PLCA	**Paso Flores**	**43.52**	**171**	P	**P**	**16 05 20.3**	**+0.5**
	2.0nm,0.9s,baz=336,slow=7.3,SNR=3.9						
ULM	**Lac du Bonnet**	**49.91**	**346**	P	**P**	**16 06 08.6**	**-0.9**
	0.6nm,0.3s,baz=180,slow=14,SNR=3.3						
NVAR	**Mina Array Bea**	**50.99**	**320**	P	**P**	**16 06 19.8**	**+1.6**
	0.5nm,0.8s,baz=176,slow=4.0,SNR=3.0						
SCHQ	**Schefferville**	**53.19**	**9**	P	**P**	**16 06 33.2**	**-0.8**
	1.8nm,0.6s,baz=206,slow=5.2,SNR=4.8						
YKA	**Yellowknife Ar**	**65.69**	**343**	P	**P**	**16 07 59.4**	**-0.6**
	0.4nm,0.6s,baz=140,slow=6.0,SNR=14						
YKA				pP	**pP**	**16 08 13.8**	**+3.0**
	0.2nm,0.5s,baz=139,slow=6.2,SNR=4.9						
DBIC	**Dimbokro**	**73.64**	**84**	P	**P**	**16 08 48.9**	**-1.1**
	1.1nm,0.5s,baz=256,slow=6.5,SNR=3.1						
ESDC	**Sonseca Array**	**76.72**	**50**	P	**P**	**16 09 05.8**	**-1.6**
	0.1nm,0.3s,baz=259,slow=6.4,SNR=4.3						
ILAR	**Eielson Array**	**78.71**	**336**	P	**P**	**16 09 17.6**	**-0.3**
	0.4nm,0.7s,baz=98,slow=5.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**80.07**	**77**	P	**P**	**16 09 23.9**	**-2.4**
	0.2nm,0.5s,baz=316,slow=4.0,SNR=2.6						
ASAR	**Alice Springs**	**142.04**	**233**	PKhKP	PKPpre	16 16 42.9	
	0.2nm,0.5s,baz=122,slow=4.0,SNR=6.2						
WRA	**Warramunga Arr**	**143.35**	**239**	PKhKP	PKPpre	16 16 47.9	
	0.5nm,0.7s,baz=108,slow=2.9,SNR=7.9						
FITZ	**Fitzroy Crossi**	**151.50**		PKPbc	**PKPbc**	**16 17 10.6**	**-0.2**
	1.2nm,0.8s,baz=117,slow=4.5,SNR=5.0						

*IDC **19** 16:03:45.6±4.0,29.5′57N×142.1′1E, h0km, mb3.5/5, mb1 3.5/8, mb1mx3.4/27, mbtmp3.5/8, ML3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.0/40, Error ellipse: s-maj=149.0km s-min=16.5km az=74.0*
*JMA **19** 16:03:46.7±0.4,29.8′4N×142.4′8E, h48km, M3.8*
*ISCJB **19** 16:03:47.1±0.9,29.8′8N±0.0′6×142.4′E±0.2, h35km, mb3.6/5, Error ellipse: s-maj=24.9km s-min=5.4km az=165.7*

ISC 19 16:03:48.8±1.3,29°85N±0′07×142°5E±0′2, h35km, n19, σ1§59/28, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.76**	**186**	Pn	Pn	16 04 25.7	-4.9
	1.7nm,0.3s,baz=217,slow=20,SNR=2.9						
CBIJ				Sn	**Sn**	**16 04 58.8**	**-3.9**
	16nm,0.3s,baz=284,slow=23,SNR=9.3						
CBIJ	**Chichi jima**	**2.76**	**186**	*e*S	**Sn**	**16 05 01.1**	**-1.6**
JHJ2	**Mitsune**	**3.99**	**325**	P	**Pn**	**16 04 47.5**	**0.0**
JHJ2				*e*S	**Sn**	**16 05 30.7**	**-2.4**
JHJ	**Hachijo jima 2**	**4.01**	**325**	Pn	**Pn**	**16 04 47.2**	**-0.7**
	3.5nm,0.3s,baz=0.0,slow=20,SNR=4.3						
JHJ				Sn	**Sn**	**16 05 31.4**	**-2.3**
	20nm,0.3s,baz=51,slow=19,SNR=6.1						
BSO1	**Boso 1**	**4.97**	**345**	P	**Pn**	**16 05 00.6**	**+0.2**
BSO1				*e*S	**Sn**	**16 05 57.0**	**+0.6**
JOD2	**Odawara 2**	**6.13**	**333**	P	**Pn**	**16 05 17.5**	**+0.6**
JHU	**Hanno**	**6.58**	**336**	P	**Pn**	**16 05 23.0**	**+0.1**
JHU				*e*S	**Sn**	**16 06 34.9**	**-1.9**
JRY	**Ryogami san**	**6.86**	**335**	P	**Pn**	**16 05 27.8**	**+0.8**
JRY				*e*S	**Sn**	**16 06 43.3**	**-0.6**
JHO	**Hitachi**	**6.94**	**347**	P	**Pn**	**16 05 27.1**	**-0.9**
JHO				*e*S	**Sn**	**16 06 42.5**	**-3.2**
JAG	**Ashikaga**	**7.05**	**339**	P	**Pn**	**16 05 28.9**	**-0.6**
JAG				*e*S	**Sn**	**16 06 45.6**	**-2.7**
MJAR	**Matsushiro Arr**	**7.59**	**333**	Pn	**Pn**	**16 05 37.6**	**+0.7**
	1.4nm,0.3s,baz=159,slow=11,SNR=25						
MJAR				Sn	**Sn**	**16 07 01.4**	**-0.3**
	0.4nm,0.3s,baz=231,slow=31,SNR=4.6						
MAT	**Matsushiro**	**7.59**	**333**	P	**Pn**	**16 05 36.8**	**-0.2**
MAT				*e*S	**Sn**	**16 07 00.8**	**-1.0**
MAT	**Matsushiro**	**7.59**	**333**	P	**Pn**	**16 05 37.9**	**+0.9**
MAT				*e*S	**Sn**	**16 07 01.9**	**+0.1**
USRK	**Ussuriysk Arra**	**16.59**	**333**	LR	LR	16 12 42.5	
	comp=Z,38nm,21.1s,baz=73,slow=32						
SONM	**Songino Array**	**33.00**	**313**	P	**P**	**16 10 22.2**	**+1.7**
	0.4nm,0.5s,baz=125,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**48.99**	**308**	P	**P**	**16 12 33.5**	**+1.5**
	0.6nm,0.5s,baz=89,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**50.13**	**190**	P	**P**	**16 12 40.5**	**-0.3**
	0.3nm,0.5s,baz=6.8,slow=7.7,SNR=11						
KURBB	**Kurchatov Arra**	**51.36**	**313**	P	**P**	**16 12 51.1**	**+1.3**
	0.4nm,0.3s,baz=91,slow=9.0,SNR=9.8						
ASAR	**Alice Springs**	**53.85**	**190**	P	**P**	**16 13 07.7**	**-0.7**
	0.2nm,0.9s,baz=12,slow=6.8,SNR=2.9						

*SOF **19** 16:04:39.1,39.6′69N×23.8′80E, h1km, MD2.8*
*ISCJB **19** 16:04:41.6±0.3,39.7′4N±0.0′01×23.8′86E±0.0′02, h9km±3km, Error ellipse: s-maj=3.0km s-min=1.9km az=18.5*
*THE **19** 16:04:42.8,39.7′4N×23.8′84E, h11km, ML3.6/7, Error ellipse: s-maj=0.8km s-min=0.4km az=96.0*
*ATH **19** 16:04:42.0,39.7′4N×23.8′81E, h27km±1km, ML3.2*
*CSEM **19** 16:04:42.4±0.1,39.7′3N×23.8′81E, h10km, ML3.6/7, Error ellipse: s-maj=3.0km s-min=1.6km az=105.0*

ISC 19 16:04:43.1±0.9,39.7°4N±0′01×23.7°7E±0′02, h11km±7km, n190, σ0§96/254, 8C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.20**	**339**	P	**Pg**	**16 04 47.5**	**0.0**
PAIG				S	**Sg**	**16 04 51.2**	**+0.8**
PAIG	**Paliouri**	**0.20**	**339**	P	**Pg**	**16 04 47.5**	**0.0**
PAIG				S	**Sg**	**16 04 51.2**	**+0.8**
AOS	**Alonnisos**	**0.57**	**172**	P	**Pg**	**16 04 53.8**	**-0.5**
AOS				S	**Sg**	**16 05 02.0**	**+0.2**
AOS	**Alonnisos**	**0.57**	**172**	*e*PN	**Pg**	**16 04 53.8**	**-0.5**
AOS	**Alonnisos**	**0.57**	**172**	P	**Pg**	**16 04 53.8**	**-0.5**
AOS				S	**Sg**	**16 05 02.0**	**+0.2**
XOR	**Xorichti**	**0.58**	**231**	P	**Pg**	**16 04 54.5**	**0.0**
XOR				S	**Sb**	**16 05 03.7**	**0.0**
XOR	**Xorichti**	**0.58**	**231**	P	**Pg**	**16 04 54.5**	**0.0**
XOR				S	**Sb**	**16 05 03.7**	**0.0**
NEO	**Neokhori**	**0.60**	**225**	*e*PN	**Pg**	**16 04 55.0**	**+0.1**
NEO				*e*SN	**Sb**	**16 05 04.3**	**0.0**
NEO	**Neokhori**	**0.60**	**225**	*e*Pn	**Pg**	**16 04 55.0**	**+0.1**
NEO				*e*Sn	**Sb**	**16 05 04.3**	**0.0**
OUR	**Ouranopolis**	**0.62**	**15**	P	**Pg**	**16 04 54.9**	**-0.2**
OUR				S	**Sg**	**16 05 03.3**	**0.0**
OUR	**Ouranopolis**	**0.62**	**15**	P	**Pg**	**16 04 54.9**	**-0.2**
OUR				S	**Sg**	**16 05 03.3**	**0.0**
SKIA	**Skiathos**	**0.62**	**203**	P	**Pg**	**16 04 55.0**	**-0.1**
SKIA				S	**Sb**	**16 05 04.7**	**+0.1**
SKIA	**Skiathos**	**0.62**	**203**	P	**Pg**	**16 04 55.0**	**-0.1**
SKIA				S	**Sb**	**16 05 04.7**	**+0.1**
PLG	**Polygyros**	**0.68**	**338**	P	**Pg**	**16 04 55.3**	**-1.1**
PLG	**Polygyros**	**0.68**	**338**	*e*PN	**Pg**	**16 04 55.4**	**-1.0**
PLG				*e*SN	**Sg**	**16 05 05.1**	**-0.3**
PLG	**Polygyros**	**0.68**	**338**	P	**Pg**	**16 04 55.3**	**-1.1**
PLG				*e*Sn	**Sg**	**16 05 05.1**	**-0.3**
HORT	**Hortiatis**	**1.00**	**329**	P	**Pg**	**16 05 01.3**	**-1.1**
HORT				S	**Sb**	**16 05 16.2**	**+0.4**
HORT	**Hortiatis**	**1.00**	**329**	P	**Pg**	**16 05 01.3**	**-1.1**
HORT				S	**Sb**	**16 05 16.2**	**+0.4**
LIT	**Litokhoron**	**1.05**	**291**	P	**Pb**	**16 05 02.5**	**-0.9**
LIT	**Litokhoron**	**1.05**	**291**	*e*PN	**Pb**	**16 05 02.2**	**-1.2**
LIT				*e*SN	**Sn**	**16 05 18.3**	**-0.2**
LIT	**Litokhoron**	**1.05**	**291**	*e*Pn	**Pb**	**16 05 02.2**	**-1.2**
LIT	**Litokhoron**	**1.05**	**291**	P	**Pb**	**16 05 02.5**	**-0.9**
LIT				*e*Sn	**Sn**	**16 05 18.3**	**-0.2**
THE	**Thessaloniki**	**1.09**	**326**	P	**Pb**	**16 05 03.5**	**-0.4**
THE				S	**Sn**	**16 05 19.4**	**+0.1**
THE	**Thessaloniki**	**1.09**	**326**	P	**Pb**	**16 05 03.5**	**-0.4**
THE				S	**Sn**	**16 05 19.4**	**+0.1**
SOH	**Sokhos**	**1.13**	**344**	P	**Pb**	**16 05 03.8**	**-0.9**
SOH				S	**Sg**	**16 05 19.7**	**+0.1**
SOH	**Sokhos**	**1.13**	**344**	*e*PN	**Pb**	**16 05 03.8**	**-1.1**
SOH				*e*SN	**Sb**	**16 05 19.4**	**0.0**
SOH	**Sokhos**	**1.13**	**344**	P	**Pb**	**16 05 03.8**	**-0.9**
SOH				*e*Sn	**Sb**	**16 05 19.4**	**0.0**
SOH				S	**Sg**	**16 05 19.7**	**+0.1**
ATAL	**Atalanti**	**1.20**	**210**	P	**Pn**	**16 05 04.5**	**-1.3**
ATAL	**Atalanti**	**1.20**	**210**	P	**Pn**	**16 05 04.5**	**-1.3**
LKR	**Lokris**	**1.24**	**209**	P	**Pn**	**16 05 05.1**	**-1.3**
LKR	**Lokris**	**1.24**	**209**	*e*PN	**Pn**	**16 05 05.1**	**-1.3**
LKR				*e*SN	**Sb**	**16 05 22.7**	**+0.1**
LKR	**Lokris**	**1.24**	**209**	P	**Pn**	**16 05 05.1**	**-1.3**
LKR				*e*Sn	**Sb**	**16 05 22.7**	**+0.1**
ERET	**Eretria**	**1.29**	**179**	P	**Pn**	**16 05 05.8**	**-1.4**
ERET	**Eretria**	**1.29**	**179**	P	**Pn**	**16 05 05.8**	**-1.4**
AXAR	**Agios Charalam**	**1.30**	**222**	P	**Pn**	**16 05 06.3**	**-0.9**
AXAR				S	**Sg**	**16 05 25.3**	**+0.3**
AXAR	**Agios Charalam**	**1.30**	**222**	P	**Pn**	**16 05 06.3**	**-0.9**
AXAR				S	**Sg**	**16 05 25.3**	**+0.3**
AGG	**Agios Georgios**	**1.33**	**238**	P	**Pn**	**16 05 25.8**	**-0.8**
AGG				S	**Sg**	**16 05 25.8**	**-0.1**
AGG	**Agios Georgios**	**1.33**	**238**	*e*PN	**Pn**	**16 05 06.5**	**-1.1**
AGG				*e*SN	**Sg**	**16 05 25.7**	**-0.1**
AGG	**Agios Georgios**	**1.33**	**238**	*e*Pn	**Pn**	**16 05 06.5**	**-1.1**
AGG	**Agios Georgios**	**1.33**	**238**	P	**Pn**	**16 05 06.8**	**-0.8**
AGG				*e*Sn	**Sg**	**16 05 25.7**	**-0.1**
THL	**Klokotos Trika**	**1.37**	**263**	P	**Pn**	**16 05 07.1**	**-1.1**
THL	**Klokotos Trika**	**1.37**	**263**	*e*PB	**Pn**	**16 05 07.0**	**-1.1**
THL	**Klokotos Trika**	**1.37**	**263**	P	**Pn**	**16 05 07.1**	**-1.1**
KAVA	**Kavala**	**1.38**	**24**	P	**Pn**	**16 05 06.5**	**-1.8**
KAVA	**Kavala**	**1.38**	**24**	P	**Pn**	**16 05 06.5**	**-1.8**
SRS	**Serrai**	**1.39**	**354**	P	**Pn**	**16 05 07.3**	**-1.1**
SRS	**Serrai**	**1.39**	**354**	P	**Pn**	**16 05 07.3**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.46**	**241**	P	**Pn**	**16 05 09.3**	**-0.2**
MAKR				S	**Sb**	**16 05 28.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.46**	**241**	P	**Pn**	**16 05 09.3**	**-0.2**
MAKR				S	**Sb**	**16 05 28.9**	**-0.1**
KNT	**Kendrikon**	**1.57**	**335**	P	**Pn**	**16 05 10.3**	**-0.7**
KNT	**Kendrikon**	**1.57**	**335**	P	**Pn**	**16 05 10.3**	**-0.7**
GRG	**Griva**	**1.61**	**320**	P	**Pn**	**16 05 11.2**	**-0.3**
GRG				S	**Sn**	**16 05 32.7**	**+0.5**
GRG	**Griva**	**1.61**	**320**	P	**Pn**	**16 05 11.2**	**-0.3**
GRG				S	**Sn**	**16 05 32.7**	**+0.5**
NVR	**Nevrokopi**	**1.61**	**2**	P	**Pn**	**16 05 10.6**	**-1.0**
NVR	**Nevrokopi**	**1.61**	**2**	*e*PN	**Pn**	**16 05 10.5**	**-1.0**
NVR	**Nevrokopi**	**1.61**	**2**	P	**Pn**	**16 05 10.6**	**-1.0**
KZN	**Kozani**	**1.64**	**291**	P	**Pn**	**16 05 11.5**	**-0.4**
KZN	**Kozani**	**1.64**	**291**	*e*PN	**Pn**	**16 05 11.6**	**-0.4**
KZN	**Kozani**	**1.64**	**291**	*e*Pn	**Pn**	**16 05 11.6**	**-0.4**
DSF	**Desfina**	**1.64**	**217**	P	**Pn**	**16 05 10.6**	**-1.4**
DSF	**Desfina**	**1.64**	**217**	P	**Pn**	**16 05 10.6**	**-1.4**
PTL	**Penteli**	**1.69**	**178**	P	**Pn**	**16 05 11.5**	**-1.1**
PTL	**Penteli**	**1.69**	**178**	*e*PB	**Pn**	**16 05 11.3**	**-1.3**
PTL	**Penteli**	**1.69**	**178**	P	**Pn**	**16 05 11.5**	**-1.1**
EVR	**Evrytania**	**1.73**	**242**	P	**Pn**	**16 05 12.9**	**-0.3**
EVR				S	**Sn**	**16 05 35.8**	**+0.4**
EVR	**Evrytania**	**1.73**	**242**	*e*PN	**Pn**	**16 05 12.9**	**-0.3**
EVR	**Evrytania**	**1.73**	**242**	*e*Pn	**Pn**	**16 05 12.9**	**-0.3**
EVR				S	**Sn**	**16 05 35.8**	**+0.4**
MRMA	**Marmari**	**1.74**	**164**	P	**Pn**	**16 05 12.2**	**-1.1**
MRMA	**Marmari**	**1.74**	**164**	P	**Pn**	**16 05 12.2**	**-1.1**
BOZC	**Bozcaada**	**1.76**	**86**	*i* P	**Pn**	**16 05 12.1**	**-1.5**
BOZC				*i* S	**Sg**	**16 05 39.3**	**-0.4**
BOZC				*i* S	**Sb**	**16 05 40.0**	**+2.5**
ATH	**Athens Observa**	**1.76**	**181**	P	**Pn**	**16 05 12.4**	**-1.1**
ATH	**Athens Observa**	**1.76**	**181**	*e*PB	**Pn**	**16 05 12.5**	**-1.1**
ATH	**Athens Observa**	**1.76**	**181**	P	**Pn**	**16 05 12.4**	**-1.1**
LTK	**Loutraki**	**1.82**	**200**	P	**Pn**	**16 05 13.3**	**-1.1**
LTK	**Loutraki**	**1.82**	**200**	*e*PB	**Pn**	**16 05 13.6**	**-0.8**
LTK	**Loutraki**	**1.82**	**200**	P	**Pn**	**16 05 13.3**	**-1.1**
LTK	**Loutraki**	**1.82**	**200**	*e*Pb	**Pn**	**16 05 13.6**	**-0.8**
VAY	**Valandovo**	**1.83**	**330**	P	**Pn**	**16 05 13.9**	**-0.6**
VAY				S	**Sn**	**16 05 38.4**	**+0.8**
VAY	**Valandovo**	**1.83**	**330**	*e*P	**Pn**	**16 05 14.2**	**-0.3**
VAY				*i* S	**Sb**	**16 05 40.1**	**+0.6**
VAY	**Valandovo**	**1.83**	**330**	*e*Pn	**Pn**	**16 05 14.2**	**-0.3**
VAY	**Valandovo**	**1.83**	**330**	*e*P	**Pn**	**16 05 14.2**	**-0.3**
VAY				S	**Sn**	**16 05 38.4**	**+0.8**
MMB	**Musomiste**	**1.85**	**359**	*i* P	**Pn**	**16 05 13.6**	**-1.2**
MMB				*i* Sg	**Sb**	**16 05 40.2**	**0.0**
MMB	**Musomiste**	**1.85**	**359**	*i* P	**Pn**	**16 05 13.6**	**-1.2**
MMB				*i* Sg	**Sb**	**16 05 40.2**	**0.0**
KALE	**Kalithea**	**1.85**	**224**	P	**Pn**	**16 05 14.2**	**-0.6**
KALE	**Kalithea**	**1.85**	**224**	*e*PB	**Pn**	**16 05 14.3**	**-0.6**
KALE	**Kalithea**	**1.85**	**224**	P	**Pn**	**16 05 14.2**	**-0.6**
TRIZ	**Trizonia**	**1.91**	**225**	P	**Pn**	**16 05 15.0**	**-0.5**
TRIZ	**Trizonia**	**1.91**	**225**	*e*PN	**Pn**	**16 05 14.3**	**-1.2**
TRIZ	**Trizonia**	**1.91**	**225**	*e*Pn	**Pn**	**16 05 14.3**	**-1.2**
TRIZ	**Trizonia**	**1.91**	**225**	P	**Pn**	**16 05 15.0**	**-0.5**
EFP	**Efpalio**	**1.96**	**229**	P	**Pn**	**16 05 16.1**	**-0.2**
EFP	**Efpalio**	**1.96**	**229**	*e*PB	**Pn**	**16 05 16.0**	**-0.2**
EFP	**Efpalio**	**1.96**	**229**	P	**Pn**	**16 05 16.1**	**-0.2**
EZN	**Ezine**	**1.97**	**87**	*e*PN	**Pn**	**16 05 15.8**	**-0.5**
NAIG	**Nisos Aigina**	**1.99**	**187**	*e*PN	**Pn**	**16 05 15.8**	**-0.9**
NAIG	**Nisos Aigina**	**1.99**	**187**	*e*Pn	**Pn**	**16 05 15.8**	**-0.9**
PRK	**Paraskevi**	**1.99**	**103**	P	**Pn**	**16 05 16.3**	**-0.4**
PRK	**Paraskevi**	**1.99**	**103**	*e*PB	**Pn**	**16 05 16.6**	**-0.1**
PRK	**Paraskevi**	**1.99**	**103**	P	**Pn**	**16 05 16.3**	**-0.4**
PRK	**Paraskevi**	**1.99**	**103**	*e*Pb	**Pn**	**16 05 16.6**	**-0.1**
LAKA	**Lakka**	**2.05**	**224**	*e*PN	**Pn**	**16 05 17.0**	**-0.5**
LAKA	**Lakka**	**2.05**	**224**	*e*Pn	**Pn**	**16 05 17.0**	**-0.5**
ENEZ	**Enez**	**2.08**	**61**	*e*PN	**Pn**	**16 05 16.3**	**-1.5**
RZN	**Rozhen**	**2.08**	**20**	*i* P	**Pn**	**16 05 17.5**	**-0.6**
RZN				*i* Sg	**Sg**	**16 05 49.9**	**0.0**
RZN	**Rozhen**	**2.08**	**20**	*i* P	**Pn**	**16 05 17.5**	**-0.6**
RZN				*i* Sg	**Sg**	**16 05 49.9**	**0.0**
ALN	**Alexandroupoli**	**2.09**	**56**	P	**Pn**	**16 05 15.9**	**-2.1**
ALN	**Alexandroupoli**	**2.09**	**56**	*e*PN	**Pn**	**16 05 16.0**	**-2.1**
ALN	**Alexandroupoli**	**2.09**	**56**	*e*Pn	**Pn**	**16 05 16.0**	**-2.1**
FNA	**Florina**	**2.11**	**300**	P	**Pn**	**16 05 18.6**	**+0.2**
FNA	**Florina**	**2.11**	**300**	P	**Pn**	**16 05 18.6**	**+0.2**
GUR	**Goura**	**2.12**	**212**	P	**Pn**	**16 05 17.8**	**-0.8**
GUR	**Goura**	**2.12**	**212**	*e*PN	**Pn**	**16 05 18.0**	**-0.6**
GUR	**Goura**	**2.12**	**212**	*e*Pn	**Pn**	**16 05 18.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.17**	**71**	*e*PN	**Pn**	**16 05 17.5**	**-1.8**
KKB	**Krupnik**	**2.19**	**346**	*i* P	**Pn**	**16 05 19.0**	**-0.5**
KKB				*i* S	**Sn**	**16 05 48.1**	**+1.5**
KKB	**Krupnik**	**2.19**	**346**	*i* P	**Pn**	**16 05 19.0**	**-0.5**
KKB				*i* S	**Sn**	**16 05 48.1**	**+1.5**
NEST	**Nestorio**	**2.20**	**289**	P	**Pn**	**16 05 19.7**	**0.0**
NEST	**Nestorio**	**2.20**	**289**	P	**Pn**	**16 05 19.7**	**0.0**
CHOS	**Chios island**	**2.23**	**127**	*e*PB	**Pn**	**16 05 19.6**	**-0.5**
CHOS	**Chios island**	**2.23**	**127**	*e*Pb	**Pn**	**16 05 19.6**	**-0.5**
JAN	**Janina**	**2.26**	**269**	*e*PN	**Pn**	**16 05 20.1**	**-0.3**
JAN	**Janina**	**2.26**	**269**	*e*Pn	**Pn**	**16 05 20.1**	**-0.3**
DID	**Didima**	**2.27**	**191**	P	**Pn**	**16 05 19.4**	**-1.1**
DID	**Didima**	**2.27**	**191**	*e*PN	**Pn**	**16 05 19.5**	**-1.1**
DID	**Didima**	**2.27**	**191**	*e*Pn	**Pn**	**16 05 19.5**	**-1.1**
BIA	**Bitola**	**2.27**	**305**	*e*Pn	**Pn**	**16 05 21.1**	**+0.5**
BIA	**Bitola**	**2.27**	**305**	*e*Pn	**Pn**	**16 05 21.1**	**+0.5**
KDZ	**Kurdzhali**	**2.28**	**33**	*i* P	**Pn**	**16 05 19.5**	**-1.3**
KDZ				*i* Sg	**Sb**	**16 05 54.1**	**+1.5**
KDZ	**Kurdzhali**	**2.28**	**33**	*i* P	**Pn**	**16 05 19.5**	**-1.3**
KDZ				*i* Sg	**Sb**	**16 05 54.1**	**+1.5**
LPK	**Lapseki**	**2.38**	**74**	*e*PN	**Pn**	**16 05 20.4**	**-1.6**
PLD	**Plovdiv**	**2.47**	**16**	*i* P	**Pn**	**16 05 23.9**	**+0.6**
PLD				*i* Sg	**Sg**	**16 06 03.4**	**+1.0**
PLD	**Plovdiv**	**2.47**	**16**	*e*Pn	**Pn**	**16 05 23.5**	**+0.2**
PLD	**Plovdiv**	**2.47**	**16**	*i* P	**Pn**	**16 05 23.9**	**+0.6**
PLD				*i* Sg	**Sg**	**16 06 03.4**	**+1.0**
LKD2	**Lefkada island**	**2.60**	**250**	*e*PN	**P

RUS	**Russkaya**	**3.49**	**223**	*e*P	Pn	16 17 43.5	+1.6
RUS				*i* S	Sn	16 18 23.0	+0.5
MTVR	**Mutnovka**	**3.59**	**226**	*e*P	Pn	16 17 46.1	+2.7
MTVR				*i* S	Sn	16 18 27.0	+1.8
ASAK	**Asacha**	**3.78**	**227**	*e*P	Pn	16 17 49.1	+3.1
ASAK				*i* S	Sn	16 18 32.6	+2.8

*NIED **19** 16:29:00,31.10N×130.40E,h135km,Mw3.9 Best double couple: M0 8.21000×10^14 NP1:φ352.00000°, δ78.00000°,λ57.00000°. NP2:φ244.00000°,δ35.00000°, λ158.00000°.*
*ISCJB **19** 16:29:06.9±0.3,31.04N±0.04×130.41E±0.06, h149km±3km,mb3.6/13,Error ellipse: s-maj=9.5km s-min=5.6km az=25.2*
*IDC **19** 16:29:07.9±0.8,31.06N×130.31E,h141km±8km,mb3.4/13, mb1 3.6/17,mb1mx3.5/31,mbtmp3.5/17,Error ellipse: s-maj=15.7km s-min=8.2km az=96.0*
*JMA **19** 16:29:09.3±0.1,31.09N×130.44E,h139km±1km,M3.6*

ISC 19 16:29:08.2±0.7,31.05N±0.05×130.39E±0.07,h146km±5km, n27,σ1.98/39,mb3.6/13,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.46**	**7**	P	**Pn**	**16 29 29.1**	**+0.2**
JSU				S	**Sn**	**16 29 44.1**	**-0.6**
JTSR	**Tashiro 2**	**0.47**	**76**	P	**Pn**	**16 29 29.0**	**+0.1**
JTSR				S	**Sn**	**16 29 43.8**	**-0.9**
JKC	**Kuchinoerabu**	**0.61**	**196**	P	**Pn**	**16 29 30.4**	**+0.7**
JKC				S	**Sn**	**16 29 46.3**	**+0.3**
JTN	**Tanegashima 3**	**0.64**	**128**	P	**Pn**	**16 29 30.3**	**+0.4**
JTN				S	**Sn**	**16 29 46.2**	**-0.2**
JSJ	**Shimokoshiki**	**0.85**	**318**	P	**Pn**	**16 29 31.8**	**+0.5**
JSJ				S	**Sn**	**16 29 48.9**	**-0.1**
JNAR	**Kushima--Naru**	**0.89**	**58**	P	**Pn**	**16 29 31.9**	**+0.3**
JNAR				S	**Sn**	**16 29 48.9**	**-0.6**
JTZ	**Takazaki**	**1.04**	**35**	P	**Pn**	**16 29 32.9**	**0.0**
JTZ				S	**Sn**	**16 29 50.0**	**-1.8**
JIU2	**Izumi 2**	**1.53**	**14**	P	**Pn**	**16 29 38.1**	**+0.3**
JIU2				S	**Sn**	**16 29 59.8**	**-0.7**
JNU	**Nakatsue**	**2.11**	**11**	P	**Pn**	**16 29 44.3**	**0.0**
	20nm,0.3s,baz=188,slow=5.2,SNR=253						
JNU				S	**Sn**	**16 30 12.0**	**-0.2**
	13nm,0.3s,baz=59,slow=21,SNR=7.4						
JOW	**Kunigami**	**4.59**	**204**	P	**Pn**	**16 30 15.6**	**-0.5**
	4.3nm,0.3s,baz=102,slow=24,SNR=10						
JOW				S	**Sn**	**16 31 07.4**	**-1.6**
	8.9nm,0.3s,baz=71,slow=28,SNR=9.1						
KSRS	**Korea Array**	**6.71**	**343**	P	**Pn**	**16 30 46.4**	**+2.2**
	0.2nm,0.3s,baz=169,slow=14,SNR=2.9						
JHJ	**Hachijo jima 2**	**8.23**	**73**	P	**Pn**	**16 31 07.2**	**+2.5**
	25nm,0.3s,baz=116,slow=13,SNR=10						
MAT	**Matsushiro**	**8.50**	**48**	P	**Pn**	**16 31 10.4**	**+2.2**
MAT				*e*S	**Sn**	**16 32 40.4**	**-2.3**
MJAR	**Matsushiro Arr**	**8.50**	**48**	P	**Pn**	**16 31 09.7**	**+1.5**
	2.0nm,0.3s,baz=239,slow=14,SNR=30						
MJAR				S	**Sn**	**16 32 41.6**	**-1.1**
	0.8nm,0.3s,baz=237,slow=24,SNR=7.9						
SONM	**Songino Array**	**24.83**	**319**	P	**P**	**16 34 16.7**	**-0.2**
	0.3nm,0.3s,baz=131,slow=9.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**31.07**	**254**	P	**P**	**16 35 13.6**	**+0.9**
	0.5nm,0.6s,baz=50,slow=9.2,SNR=7.0						
MKAR	**Makanchi Array**	**39.94**	**307**	P	**P**	**16 36 27.1**	**-0.9**
	0.4nm,0.9s,baz=108,slow=8.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**42.84**	**313**	P	**P**	**16 36 52.1**	**+0.5**
	0.4nm,0.5s,baz=99,slow=8.8,SNR=3.1						
BVAR	**Borovoye Array**	**48.07**	**315**	P	**P**	**16 37 32.8**	**+0.1**
	0.6nm,0.5s,baz=111,slow=8.3,SNR=5.1						
FITZ	**Fitzroy Crossi**	**49.08**	**186**	P	**P**	**16 37 40.8**	**+0.1**
	3.1nm,1.0s,baz=328,slow=9.2,SNR=6.0						
WRA	**Warramunga Arr**	**50.84**	**175**	P	**P**	**16 37 53.9**	**-0.1**
	0.5nm,0.5s,baz=354,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**54.51**	**176**	P	**P**	**16 38 21.4**	**+0.4**
	0.6nm,0.6s,baz=356,slow=5.4,SNR=22						
STKA	**Stephens Creek**	**63.48**	**169**	P	**P**	**16 39 23.1**	**+0.5**
	1.4nm,1.1s,baz=355,slow=19,SNR=4.8						
KBZ	**Khabaz**	**67.62**	**308**	P	**P**	**16 39 49.8**	**+0.7**
	2.5nm,0.8s,baz=67,slow=7.7,SNR=4.1						
FINES	**FINESS Array B**	**69.62**	**330**	P	**P**	**16 40 00.7**	**-0.6**
	2.6nm,0.6s,baz=62,slow=4.5,SNR=11						
AKASG	**Malin Array Be**	**73.12**	**319**	P	**P**	**16 40 20.7**	**-1.7**
	1.1nm,0.4s,baz=59,slow=6.5,SNR=3.8						
BRTR	**Keskin Array B**	**75.59**	**308**	P	**P**	**16 40 37.1**	**+0.1**
	2.8nm,1.0s,baz=82,slow=3.7,SNR=6.8						

*IDC **19** 16:35:17.2±2.5,43.12N×105.28W,h0km,mb2.5/1, mb1 3.3/3,mb1mx3.2/29,mbtmp3.1/3,ML3.2/2,Error ellipse: s-maj=46.1km s-min=9.7km az=155.0*
*ISCJB **19** 16:35:21.0±0.2,43.48N±0.01×105.38W±0.02,h0km,Error ellipse: s-maj=2.1km s-min=1.7km az=153.1*
*NEIC **19** 16:35:21.1±0.5,43.48N×105.28W,h0km,ML2.9,Error ellipse: s-maj=7.3km s-min=6.2km az=187.0,Suspected Mining explosion.*
NEIC 80 km [50 miles] E of Midwest.

ISC 19 16:35:20.6±0.6,43.44N±0.02×105.36W±0.02,h0km,n116, σ1.18/143,45C-55D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.14**	**255**	⇓P	**Pg**	**16 35 24.7**	**+1.3**
	baz=0.2,SNR=1000						
J23A				⇑S	**Sg**	**16 35 26.3**	**+1.0**
	baz=0.2						
J24A	**Dixon Ranch, L**	**0.52**	**102**	⇑P	**Pb**	**16 35 32.2**	**-0.6**
	baz=0.5,SNR=54						
J24A				⇓S	**Sb**	**16 35 39.9**	**-1.0**
	baz=0.5						
I23A	**Meade Ranch, G**	**0.53**	**352**	⇑P	**Pg**	**16 35 31.3**	**+0.6**
	baz=0.5,SNR=27						
I24A	**Kuemmerle Ranc**	**0.68**	**52**	P	**Pg**	**16 35 34.1**	**+0.5**
	baz=0.6,SNR=94						
I24A				⇑S	**Sg**	**16 35 42.9**	**+0.5**
	baz=0.6						
K23A	**Bowen Ranch, D**	**0.71**	**196**	⇑P	**Pb**	**16 35 35.3**	**-0.7**
	baz=0.8						
K23A				⇓S	**Sg**	**16 35 44.4**	**+0.8**
	baz=0.8						
J22A	**Midwest**	**0.81**	**268**	⇓P	**Pg**	**16 35 36.4**	**+0.1**
	baz=0.9,SNR=230						
K24A	**Anderson Ranch**	**0.82**	**151**	⇑P	**Pb**	**16 35 37.7**	**-0.2**
	baz=0.8,SNR=11						
K24A				⇓S	**Sb**	**16 35 49.2**	**-0.4**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.93**	**299**	⇑P	**Pg**	**16 35 38.4**	**-0.1**
	baz=1.0,SNR=175						
H23A	**Clabaugh Cattl**	**1.12**	**359**	⇓P	**Pg**	**16 35 41.5**	**-0.6**
	baz=1.1,SNR=11						
K22A	**Casper**	**1.16**	**228**	⇑P	**Pg**	**16 35 42.8**	**-0.2**
	baz=1.2,SNR=99						
K22A				⇓Sb	**Sn**	**16 36 00.5**	**-0.5**
	baz=1.2						
RSSD	**Black Hills**	**1.18**	**54**	*e*Pg	**Pg**	**16 35 42.9**	**-0.3**
L23A	**Garrett**	**1.35**	**191**	P	**Pg**	**16 35 46.3**	**-0.2**
	baz=1.4,SNR=266						
L23A				⇓S	**Sn**	**16 36 05.8**	**+0.1**
	baz=1.4						
H22A	**Clearmont**	**1.36**	**329**	⇑P	**Pg**	**16 35 46.4**	**-0.3**
	baz=1.4,SNR=172						
K25A	**Mack Ranch, Ha**	**1.37**	**127**	⇓P	**Pb**	**16 35 48.1**	**+0.9**
	baz=1.3,SNR=220						
H24A	**Dirks Ranch, A**	**1.43**	**24**	⇓P	**Pn**	**16 35 46.9**	**-1.0**
	baz=1.4,SNR=124						
H24A				⇑S	**Sg**	**16 36 07.3**	**+0.7**
	baz=1.4						
L24A	**Wheatland**	**1.43**	**167**	⇑P	**Pb**	**16 35 48.2**	**-0.1**
	baz=1.5,SNR=13						
L24A				⇓S	**Sn**	**16 36 09.0**	**+1.4**
	baz=1.5						
I21A	**Big Trails, Te**	**1.45**	**285**	P	**Pn**	**16 35 47.2**	**-1.1**
	baz=1.5,SNR=151						
I21A				⇑S	**Sg**	**16 36 08.0**	**+0.7**
	baz=1.5						
J21A	**Lysite**	**1.52**	**267**	P	**Pn**	**16 35 48.7**	**-0.6**
	baz=1.6,SNR=167						
J21A				⇓S	**Sb**	**16 36 10.0**	**+0.2**
	baz=1.6						
K21A	**Alcova**	**1.60**	**240**	P	**Pn**	**16 35 50.6**	**+0.2**
	baz=1.7,SNR=272						
K21A				⇓S	**Sg**	**16 36 12.6**	**+0.5**
	baz=1.7						
L22A	**Ellis Ranch, M**	**1.62**	**210**	⇑P	**Pn**	**16 35 50.8**	**+0.2**
	baz=1.7,SNR=33						
L25A	**Engebretsen Ra**	**1.65**	**141**	⇑Pb	**Pg**	**16 35 52.9**	**+0.7**
	baz=1.6,SNR=45						
L25A				⇓Sb	**Sg**	**16 36 16.3**	**+2.9**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.70**	**315**	⇓P	**Pn**	**16 35 51.8**	**+0.2**
	baz=1.7,SNR=37						
H21A				⇓Sb	**Sb**	**16 36 15.8**	**+1.0**
	baz=1.7						
G23A	**Biddle**	**1.76**	**359**	⇑P	**Pn**	**16 35 52.9**	**+0.4**
	baz=1.7,SNR=126						
G23A				⇓Sb	**Sg**	**16 36 18.1**	**+0.9**
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.76**	**114**	⇓Pb	**Pg**	**16 35 54.6**	**+0.2**
	baz=1.7,SNR=12						
G22A	**Birney**	**1.90**	**340**	⇑P	**Pn**	**16 35 54.9**	**+0.4**
	baz=1.9						
G22A				⇓Sb	**Sb**	**16 36 22.0**	**+1.4**
	baz=1.9						
J20A	**Shoshoni**	**1.99**	**268**	⇑Pb	**Pb**	**16 35 57.8**	**+0.1**
	baz=2.0,SNR=136						
M23A	**Laramie**	**1.99**	**188**	⇑P	**Pb**	**16 35 57.2**	**-0.7**
	baz=2.0,SNR=86						
G24A	**Alzada**	**2.00**	**19**	⇑P	**Pn**	**16 35 57.0**	**+1.1**
	baz=1.9,SNR=14						
I20A	**Worland**	**2.07**	**285**	⇓P	**Pn**	**16 35 57.6**	**+0.8**
	baz=2.1,SNR=191						
L21A	**Rawlins**	**2.09**	**226**	⇑P	**Pn**	**16 35 58.3**	**+1.2**
	baz=2.2,SNR=27						
PHWY	**Pilot Hill**	**2.14**	**182**	*e*Pn	**Pb**	**16 35 59.2**	**-1.3**
H20A	**Greybull**	**2.17**	**300**	⇑P	**Pn**	**16 35 58.6**	**+0.5**
	baz=2.2,SNR=16						
H20A				⇓S	**Sn**	**16 36 26.7**	**+0.9**
	baz=2.2						
L26A	**Underwood Farm**	**2.19**	**129**	⇑Pb	**Pg**	**16 36 01.8**	**-0.8**
	baz=2.2,SNR=7.6						
L26A				⇓Sb	**Sg**	**16 36 32.0**	**+1.0**
	baz=2.2						
G21A	**Lodge Grass**	**2.22**	**324**	⇓P	**Pn**	**16 35 59.2**	**+0.4**
	baz=2.2,SNR=105						
M25A	**Palm-Egli Farm**	**2.23**	**154**	⇓Sb	**Sg**	**16 36 33.2**	**+1.1**
	baz=2.2						
M22A	**Cedar Creek Ra**	**2.23**	**205**	⇑Pb	**Pb**	**16 36 01.9**	**-0.1**
	baz=2.3,SNR=103						
M22A				⇓Sb	**Sg**	**16 36 32.1**	**-0.2**
	baz=2.3						
F23A	**Volborg**	**2.28**	**359**	⇓P	**Pn**	**16 35 59.7**	**0.0**
	baz=2.2,SNR=44						
F23A				⇑S	**Sn**	**16 36 29.2**	**+0.7**
	baz=2.2						
K20A	**Yellowstone Ra**	**2.32**	**251**	⇓P	**Pn**	**16 36 01.6**	**+1.3**
	baz=2.4						
K20A				⇑Sb	**Sb**	**16 36 33.4**	**+0.6**
	baz=2.4						
M21A	**Separation Pea**	**2.36**	**220**	⇑P	**Pb**	**16 36 02.4**	**-1.7**
	baz=2.4,SNR=66						
M21A				⇓Sb	**Sg**	**16 36 35.4**	**-0.9**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.40**	**107**	⇓P	**Pb**	**16 36 03.1**	**-1.8**
	baz=2.4						
K27A				⇓Sb	**Sg**	**16 36 37.8**	**0.0**
	baz=2.4						
F22A	**Rosebud**	**2.42**	**345**	⇓P	**Pn**	**16 36 01.3**	**-0.3**
	baz=2.4,SNR=32						
F22A				⇓S	**Sn**	**16 36 32.8**	**+0.8**
	baz=2.4						
M26A	**McRoberts Ranc**	**2.57**	**140**	⇓Pb	**Pg**	**16 36 08.6**	**-1.2**
	baz=2.6						
N23A	**Red Feather La**	**2.58**	**190**	⇓P	**Pb**	**16 36 06.0**	**-1.9**
	baz=2.6,SNR=55						
K19A	**Absolon Red Bu**	**2.63**	**258**	⇑P	**Pn**	**16 36 05.3**	**+0.8**
	baz=2.7,SNR=41						
I19A	**Meeteetse**	**2.70**	**284**	⇓P	**Pn**	**16 36 06.7**	**+1.2**
	baz=2.7,SNR=43						
G20A	**Bridger**	**2.71**	**312**	P	**Pn**	**16 36 05.5**	**-0.2**
	baz=2.7,SNR=57						
G20A				⇓S	**Sn**	**16 36 39.7**	**+0.5**
	baz=2.7						
N22A	**Wattenberg Ran**	**2.76**	**198**	⇑P	**Pb**	**16 36 09.1**	**-1.9**
	baz=2.8,SNR=30						
N25A	**Grover**	**2.79**	**160**	⇓P	**Pn**	**16 36 08.9**	**+2.2**
	baz=2.8						
M20A	**Sweetwater, Wa**	**2.86**	**228**	⇓Pb	**Pb**	**16 36 12.5**	**-0.1**
	baz=2.9						
H19A	**Powell**	**2.89**	**296**	⇑P	**Pn**	**16 36 08.9**	**+0.9**
	baz=2.9,SNR=31						
PDAR	**Pinedale Array**	**3.15**	**259**	Pn	**Pn**	**16 36 12.5**	**+0.8**
	2.5nm,0.3s,baz=75,slow=17,SNR=45						
PDAR				Pg	**Pb**	**16 36 16.6**	**-1.0**
	2.6nm,0.3s,baz=81,slow=18,SNR=43						
PDAR				Lg	Lg	16 36 57.0	
	4.9nm,0.3s,baz=84,slow=32,SNR=16						
PDAR	**Pinedale Array**	**3.15**	**259**	Pn	**Pn**	**16 36 12.5**	**+0.8**
PDAR				Pg	**Pb**	**16 36 16.6**	**-1.0**
PDAR				Lg	Lg	16 36 57.0	
E24A	**Baker**	**3.21**	**13**	⇑P	**Pn**	**16 36 13.6**	**+1.2**
	baz=3.2						
L19A	**Farson**	**3.23**	**247**	⇑P	**Pn**	**16 36 14.4**	**+1.6**
	baz=3.3						
I18A	**Diamond G Ranc**	**3.25**	**276**	⇑Pb	**Pb**	**16 36 18.4**	**-0.9**
	baz=3.3						
RLMT	**Red Lodge**	**3.27**	**302**	*e*Pn	**Pn**	**16 36 13.8**	**+0.4**
RLMT	**Red Lodge**	**3.27**	**302**	⇓P	**Pn**	**16 36 14.1**	**+0.7**
	baz=3.3,SNR=7.2						
H18A	**Shoshone NF, C**	**3.34**	**293**	⇓P	**Pn**	**16 36 15.0**	**+0.7**
	baz=3.4,SNR=8.4						
N27A	**Anderson Farm,**	**3.37**	**140**	⇓P	**Pn**	**16 36 16.8**	**+2.2**
	baz=3.4						
N20A	**Spence Gulch,**	**3.38**	**221**	⇑P	**Pn**	**16 36 16.7**	**+1.8**
	baz=3.5,SNR=6.8						
O22A	**Kremmling**	**3.39**	**196**	⇑P	**Pn**	**16 36 17.4**	**+2.2**
	baz=3.5						
J18A	**Kendall Valley**	**3.41**	**268**	⇑Pb	**Pb**	**16 36 21.6**	**-0.4**
	baz=3.5						
O25A	**Wiggins**	**3.45**	**164**	⇑P	**Pn**	**16 36 17.3**	**+1.5**
	baz=3.5						
OGNE	**Ogallala**	**3.51**	**134**	*e*Pn	**Pn**	**16 36 18.0**	**+1.5**
F19A	**Roth Farm, Mol**	**3.52**	**315**	⇓P	**Pn**	**16 36 17.0**	**+0.4**
	baz=3.5,SNR=20						
G18A	**Lazy EL Ranch,**	**3.55**	**303**	⇑P	**Pn**	**16 36 17.6**	**+0.4**
	baz=3.6,SNR=27						
E20A	**Meyer Farm, Mu**	**3.64**	**328**	⇑P	**Pn**	**16 36 18.3**	**0.0**
	baz=3.6,SNR=6.7						
ISCO	**Idaho Springs**	**3.64**	**183**	*e*Pn	**Pn**	**16 36 19.7**	**+1.1**
ISCO	**Idaho Springs**	**3.64**	**183**	⇓P	**Pn**	**16 36 19.9**	**+1.3**
	baz=3.7,SNR=7.2						
D24A	**Glendive**	**3.75**	**11**	⇓P	**Pn**	**16 36 20.9**	**+1.2**
	baz=3.7,SNR=6.2						
D22A	**Cohagen**	**3.75**	**351**	⇑P	**Pn**	**16 36 20.0**	**+0.1**
	baz=3.7,SNR=5.3						
LKWY	**Lake**	**3.81**	**289**	*e*Pn	**Pn**	**16 36 23.2**	**+2.5**
N19A	**John Jarvie Ra**	**3.81**	**229**	⇓P	**Pn**	**16 36 21.6**	**+0.9**
	baz=3.9,SNR=7.7						
LOHW	**Long Hollow**	**3.82**	**274**	Pn	Pn	16 36 25.2	+4.3
GCMT	**Greycliff**	**3.87**	**309**	*e*Pn	**Pn**	**16 36 21.7**	**+0.2**
E19A	**Rath Farm, Rou**	**3.88**	**322**	⇑P	**Pn**	**16 36 21.5**	**0.0**
	baz=3.9,SNR=7.9						
FLWY	**Flagg Ranch**	**3.92**	**281**	*e*Pn	**Pn**	**16 36 22.5**	**+0.2**
FLWY				*e*Sn	**Sb**	**16 37 20.0**	**+1.2**
MOOW	**Moose Ponds**	**3.92**	**276**	*e*Pn	**Pn**	**16 36 23.9**	**+1.5**
SNOW	**Snow King Moun**	**3.93**	**272**	*e*Pn	**Pn**	**16 36 22.6**	**+0.1**
F18A	**Big Timber**	**3.96**	**310**	⇓P	**Pn**	**16 36 23.0**	**+0.2**
	baz=4.0,SNR=12						
REDW	**Red Top Meadow**	**4.00**	**271**	*e*Pn	**Pn**	**16 36 26.5**	**+3.0**
YNR	**Norris Junctio**	**4.04**	**290**	Pn	**Pb**	**16 36 31.7**	**-1.1**
TPAW	**Teton Pass**	**4.07**	**273**	*e*Pn	**Pn**	**16 36 27.1**	**+2.7**
TPAW				*e*Sn	**Sb**	**16 37 25.4**	**+2.2**
IMW	**Indian Meadow**	**4.07**	**278**	*e*Pn	**Pn**	**16 36 25.9**	**+1.4**
YFT	**Old Faithful**	**4.08**	**286**	*e*Pn	**Pb**	**16 36 34.4**	**+0.9**
D20A	**Manuel Ranch,**	**4.14**	**333**	⇓P	**Pn**	**16 36 25.3**	**+0.1**
	baz=4.1						
P26A	**Davis Ranch, A**	**4.16**	**158**	⇓P	**Pn**	**16 36 27.0**	**+1.5**
	baz=4.2,SNR=9.2						
YMR	**Madison River**	**4.22**	**289**	Pn	**Pb**	**16 36 33.1**	**-2.8**
C22A	**Vida**	**4.32**	**355**	⇑P	**Pn**	**16 36 28.8**	**+1.2**
	baz=4.3						
RRI2	**Red Ridge**	**4.34**	**271**	*e*Pn	**Pn**	**16 36 30.4**	**+2.2**
C23A	**Lambert**	**4.36**	**2**	⇓P	**Pn**	**16 36 29.2**	**+0.9**
	baz=4.3,SNR=16						
P27A	**Ficken Ranch,**	**4.41**	**151**	⇑P	**Pn**	**16 36 30.4**	**+1.5**
	baz=4.4,SNR=6.6						
SMCO	**Snowmass**	**4.43**	**196**	Pn	**Pn**	**16 36 27.8**	**-1.6**
D19A	**Cripps Ranch,**	**4.47**	**328**	⇓P	**Pn**	**16 36 30.4**	**+0.6**
	baz=4.5						
E18A	**Harlowton**	**4.49**	**316**	⇓P	**Pn**	**16 36 30.6**	**+0.5**
	baz=4.5,SNR=15						
F17A	**Fitzpatrick Pl**	**4.51**	**305**	⇓P	**Pn**	**16 36 31.1**	**+0.7**
	baz=4.5						
Q25A	**Bedland, Calha**	**4.60**	**169**	⇑P	**Pn**	**16 36 32.7**	**+1.0**
	baz=4.6						
L16A	**Fish Haven**	**4.69**	**254**	⇓P	**Pn**	**16 36 33.7**	**+0.8**
	baz=4.8,SNR=18						
HWUT	**Hardware Ranch**	**4.94**	**250**	*e*Pn	**Pn**	**16 36 37.5**	**+1.3**
	4.0nm,0.6s						
BOZ	**Bozeman (W)**	**5.00**	**298**	*e*Pn	**Pn**	**16 36 38.0**	**+1.0**
	2.0nm,0.6s						
D17A	**Six Diamond Ra**	**5.28**	**316**	⇓P	**Pn**	**16 36 41.0**	**+0.1**
	baz=5.3,SNR=12						
R26A	**Arlington**	**5.33**	**164**	⇑P	**Pn**	**16 36 43.0**	**+1.4**
	baz=5.4,SNR=9.8						
DAU	**Daniels Canyon**	**5.34**	**237**	*e*Pn	Pb	16 36 51.4	-3.6
	9.7nm,0.7s						
R27A	**Eads**	**5.50**	**158**	⇑P	**Pn**	**16 36 45.8**	**+1.8**
	baz=5.5,SNR=7.5						
EGMT	**Eagleton**	**5.52**	**328**	*e*Pn	**Pn**	**16 36 44.1**	**0.0**
	8.1nm,0.6s						
MCMT	**McKenzie Canyo**	**5.57**	**287**	*e*Pn	**Pn**	**16 36 43.6**	**-1.3**
	1.2nm,0.6s						
HRY	**Holter Researc**	**5.63**	**308**	*e*Pn	**Pn**	**16 36 47.5**	**+1.9**
	5.0nm,0.5s						
HVU	**Hansel Valley**	**5.72**	**256**	Pn	**Pn**	**16 36 43.8**	**-3.1**
	5.1nm,0.8s						
SRU	**San Rafael**	**5.82**	**224**	*e*Pn	**Pn**	**16 36 49.4**	**+1.1**
	6.7nm,0.6s						
S26A	**Kim**	**5.99**	**165**	⇓P	**Pn**	**16 36 51.8**	**+1.2**
	baz=6.0,SNR=7.4						
ECSD	**EROS Data Cent**	**6.36**	**84**	*e*Pn	**Pn**	**16 36 55.8**	**+0.2**
	9.7nm,0.9s						
CHMT	**Chamberlain Mo**	**6.57**	**305**	*e*Pn	**Pn**	**16 36 58.7**	**0.0**
	1.3nm,0.6s						
ULM	**Lac du Bonnet**	**9.41**	**40**	Pn	**Pn**	**16 37 34.8**	**-2.6**
	0.4nm,0.3s,baz=234,slow=14,SNR=3.0						
ULM				Lg	Lg	16 40 13.2	
	0.3nm,0.3s,baz=310,slow=22,SNR=3.1						
ULM	**Lac du Bonnet**	**9.41**	**40**	Pn	**Pn**	**16 37 34.8**	**-2.6**
ULM				Lg	Lg	16 40 13.2	
YKA	**Yellowknife Ar**	**19.84**	**347**	P	**P**	**16 39 52.5**	**-0.3**
	0.1nm,0.6s,baz=166,slow=13,SNR=3.4						
YKA	**Yellowknife Ar**	**19.84**	**347**	P	**P**	**16 39 52.5**	**-0.3**

*ISK **19** 16:44:27.8,38.62N×26.99E,h4km,MD3.0*
*DDA **19** 16:44:28.7,38.60N×27.03E,h7km,ML2.4*
*CSEM **19** 16:44:29.3±0.1,38.60N×27.02E,h12km,MD3.0,Error ellipse: s-maj=3.8km s-min=2.6km az=96.0*
*ISCJB **19** 16:44:29.1±0.5,38.61N±0.02×27.03E±0.04,h8km±4km, Error ellipse: s-maj=5.0km s-min=3.9km az=20.1*

ISC 19 16:44:29.0±1.0,38.59N±0.03×27.02E±0.03,h13km±7km, n41,σ0.49/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.21**	**174**	*e*PG	**Pg**	**16 44 33.1**	**-0.5**
BLCB				*e*SG	**Sg**	**16 44 37.0**	**+0.3**
BLCB	**Balcova**	**0.21**	**174**	*e*Pg	**Pg**	**16 44 33.1**	**-0.5**
BLCB				*e*Sg	**Sg**	**16 44 37.0**	**+0.3**
IZM	**Izmir**	**0.28**	**135**	*e*PG	**Pg**	**16 44 34.9**	**+0.1**
IZM				*e*SG	**Sb**	**16 44 39.8**	**-0.6**
IZM	**Izmir**	**0.28**	**135**	*e*Pg	**Pg**	**16 44 34.9**	**+0.1**
IZM				*e*Sg	**Sb**	**16 44 39.8**	**-0.6**
URLA	**Izmir**	**0.40**	**235**	*i* P	**Pg**	**16 44 36.8**	**-0.3**
URLA				*i* S	**Sb**	**16 44 44.0**	**-0.1**
URLA	**Izmir**	**0.40**	**235**	*i* P	**Pg**	**16 44 36.8**	**-0.3**
URLA				*i* S	**Sb**	**16 44 44.0**	**-0.1**
AKHS	**Akhisar**	**0.69**	**65**	*i* P	**Pg**	**16 44 41.8**	**-0.6**
AKHS				*i* S	**Sg**	**16 44 51.7**	**+0.3**
AKHS	**Akhisar**	**0.69**	**65**	*i* P	**Pg**	**16 44 41.8**	**-0.6**
AKHS				*i* S	**Sg**	**16 44 51.7**	**+0.3**
AKS	**Akhisar**	**0.69**	**65**	*e*PG	**Pg**	**16 44 41.8**	**-0.5**
AKS				*e*SG	**Sb**	**16 44 52.0**	**-0.2**
AKS	**Akhisar**	**0.69**	**65**	*e*Pg	**Pg**	**16 44 41.8**	**-0.5**
AKS				*e*Sg	**Sb**	**16 44 52.0**	**-0.2**
AYVA	**Ayvalik**	**0.76**	**341**	*i* P	Pn	16 44 53.7	+8.4
AYVA				*i* S	**Sn**	**16 44 55.9**	**-0.7**
GCAM	**G?zelcaml?**	**0.91**	**169**	*e*P	**Pn**	**16 44 47.5**	**+0.1**
GCAM				*i* S	**Sg**	**16 44 58.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.91**	**169**	*e*P	**Pn**	**16 44 47.5**	**+0.1**
GCAM				*i* S	**Sg**	**16 44 58.5**	**+0.1**
AYDN	**Tasoluk**	**1.15**	**144**	*e*P

BDRM	**Kayabasi**	**0.74**	**87**	*i* P	**Pg**	**17 28 02.6**	**+0.1**
BDRM				*i* S	**Sb**	**17 28 13.0**	**-0.5**
APE	**Apeiranthos**	**0.80**	**273**	*e*PG	**Pb**	**17 28 04.2**	**-0.1**
APE				*e*SG	**Sn**	**17 28 16.7**	**-0.9**
APE	**Apeiranthos**	**0.80**	**273**	*e*PB	**Pg**	**17 28 03.7**	**+0.1**
APE				*e*SB	**Sb**	**17 28 16.1**	**+0.9**
APE	**Apeiranthos**	**0.80**	**273**	*e*Pb	**Pg**	**17 28 03.7**	**+0.1**
APE	**Apeiranthos**	**0.80**	**273**	*e*Pg	**Pb**	**17 28 04.2**	**-0.1**
APE				*e*Sb	**Sb**	**17 28 16.1**	**+0.9**
GCAM	**G?zelcaml?**	**0.88**	**40**	*i* P	**Pn**	**17 28 06.6**	**-0.2**
GCAM				*i* S	**Sb**	**17 28 18.0**	**+0.5**
GCAM	**G?zelcaml?**	**0.88**	**40**	*i* P	**Pn**	**17 28 06.6**	**-0.2**
GCAM				*i* S	**Sb**	**17 28 18.0**	**+0.5**
MLSB	**Milas**	**1.04**	**75**	*e*PG	**Pn**	**17 28 08.7**	**-0.3**
MLSB	**Milas**	**1.04**	**75**	*e*Pg	**Pn**	**17 28 08.7**	**-0.3**
AYDN	**Tasoluk**	**1.25**	**59**	*i* P	**Pn**	**17 28 11.5**	**-0.5**
AYDN				*i* S	**Sn**	**17 28 29.4**	**+0.3**
AYDN	**Tasoluk**	**1.25**	**59**	*i* P	**Pn**	**17 28 11.5**	**-0.5**
AYDN				*i* S	**Sn**	**17 28 29.3**	**+0.3**
URLA	**Izmir**	**1.33**	**2**	*e*P	**Pb**	**17 28 13.4**	**-0.1**
URLA				*i* S	**Sb**	**17 28 30.0**	**-0.6**
URLA	**Izmir**	**1.33**	**2**	*e*P	**Pb**	**17 28 13.4**	**-0.1**
URLA				*i* S	**Sb**	**17 28 30.0**	**-0.6**
YER	**Yerkesik**	**1.41**	**85**	*e*PN	**Pg**	**17 28 15.4**	**0.0**
YER	**Yerkesik**	**1.41**	**85**	*e*Pn	**Pg**	**17 28 15.4**	**0.0**
BLCB	**Balcova**	**1.42**	**17**	*e*PN	**Pg**	**17 28 15.1**	**-0.4**
BLCB	**Balcova**	**1.42**	**17**	*e*Pn	**Pg**	**17 28 15.1**	**-0.4**
IZM	**Izmir**	**1.49**	**23**	*e*PN	**Pg**	**17 28 16.4**	**-0.4**
IZM	**Izmir**	**1.49**	**23**	*e*Pn	**Pg**	**17 28 16.4**	**-0.4**
KARP	**Karpathos**	**1.56**	**161**	*e*PB	**Pn**	**17 28 15.8**	**-0.5**
KARP	**Karpathos**	**1.56**	**161**	*e*Pb	**Pn**	**17 28 15.8**	**-0.5**
TURN	**Turunc**	**1.67**	**95**	*i* P	Pn	17 28 13.6	-4.1
TURN				*i* S	Sn	17 28 31.9	-7.4
DNZL	**Cakiroluk**	**2.12**	**71**	*i* P	**Pg**	**17 28 29.3**	**+0.4**
DNZL				*i* S	Sg	17 29 02.7	+6.4
DNZL	**Cakiroluk**	**2.12**	**71**	*i* P	**Pg**	**17 28 29.3**	**+0.4**
KULA	**Kula-Manisa**	**2.25**	**48**	*e*PN	**Pn**	**17 28 27.1**	**+1.4**
KULA	**Kula-Manisa**	**2.25**	**48**	*e*Pn	**Pn**	**17 28 27.2**	**+1.4**

*PDG **19** 17:31:28.6±0.2,42.°66N×18.°78E,h14km,ML2.0/9,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

*BEO **19** 17:31:33.8±0.5,42.°52N×19.°43E,ML1.6/3*

CSEM 19 17:31:28.1±0.2,**42.°66N**×**18.°76E,h18**km±2km,**ML1.6, 8C-8D,Error ellipse: s-maj=3.6km s-min=3.2km az=82.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKY	**Niksic**	**0.23**	**47**	↑*i*Pg	Pg	17 31 33.5	-0.2
NKY				*e*Sg	Sg	17 31 37.3	-0.1
NKY	**Niksic**	**0.23**	**47**	↑*i*Pg	Pg	17 31 33.5	-0.2
NKY				*e*Sg	Sg	17 31 37.3	-0.1
HCY	**Herceg Novi**	**0.29**	**224**	↓*i*Pg	Pg	17 31 34.3	-0.1
HCY				*e*Sg	Sb	17 31 39.5	+0.2
HCY	**Herceg Novi**	**0.29**	**224**	↓*i*Pg	Pg	17 31 34.3	-0.1
HCY				*e*Sg	Sb	17 31 39.5	+0.2
BRY	**Bratogost**	**0.30**	**326**	↑*i*Pg	Pg	17 31 34.5	-0.3
BRY				*e*Sg	Sb	17 31 39.9	0.0
BRY	**Bratogost**	**0.30**	**326**	↑*i*Pg	Pg	17 31 34.5	-0.3
BRY				*e*Sg	Sb	17 31 39.9	0.0
BUM	**Brajici-Budva**	**0.37**	**165**	↑*i*Pg	Pg	17 31 36.0	+0.1
BUM				*e*Sg	Sb	17 31 42.4	+0.7
BUM	**Brajici-Budva**	**0.37**	**165**	↑*i*Pg	Pg	17 31 36.0	+0.1
BUM				*e*Sg	Sb	17 31 42.4	+0.7
PDG	**Podgorica**	**0.43**	**122**	*e*Pg	Pg	17 31 38.9	-0.5
PDG				*e*Sg	Sn	17 31 45.4	-1.4
PDG	**Podgorica**	**0.43**	**122**	↓*i*Pg	Pg	17 31 36.5	-0.3
PDG				*e*Sg	Sb	17 31 43.1	-0.2
TTG	**Podgorica**	**0.43**	**121**	↓*i*Pg	Pg	17 31 36.5	-0.4
TTG				*e*Sg	Sb	17 31 43.1	-0.3
UPM	**Unac-Piva**	**0.56**	**11**	↑*i*Pg	Pg	17 31 38.9	-0.6
UPM				*e*Sg	Sb	17 31 47.6	+0.1
UPM	**Unac-Piva**	**0.56**	**11**	↑*i*Pg	Pg	17 31 38.9	-0.6
UPM				*e*Sg	Sb	17 31 47.6	+0.1
ULC	**Ulcinj**	**0.78**	**153**	↓*i*Pg	Pb	17 31 42.9	-0.3
ULC				*e*Sg	Sn	17 31 55.3	-0.3
ULC	**Ulcinj**	**0.78**	**153**	↓*i*Pg	Pb	17 31 42.9	-0.3
ULC				*e*Sg	Sn	17 31 55.3	-0.3
STON	**Ston**	**0.81**	**286**	*e*Pg	Pb	17 31 43.5	-0.3
STON				Sg	Sn	17 31 55.9	-0.4
STON	**Ston**	**0.81**	**286**	*e*Pg	Pb	17 31 43.4	-0.3
STON				Sg	Sn	17 31 55.8	-0.5
PLE	**Pljevlja**	**0.82**	**34**	*e*Pg	Pg	17 31 44.2	0.0
PLE				*e*Sg	Sn	17 31 56.8	+0.1
PLE	**Pljevlja**	**0.82**	**34**	*e*Pg	Pg	17 31 44.2	0.0
PLE				*e*Sg	Sn	17 31 56.8	+0.1
BEY	**Berane**	**0.86**	**75**	*e*Sg	Sn	17 31 57.5	-0.2
BEY	**Berane**	**0.86**	**75**	↓*i*Pg	Pb	17 31 44.1	-0.6
IVA	**Berane**	**0.86**	**75**	↓*i*Pg	Pb	17 31 44.1	-0.6
IVA				*e*Sg	Sn	17 31 57.5	-0.3
PVY	**Plav**	**0.88**	**94**	*e*Pg	Pg	17 31 45.7	+0.2
PVY				*e*Sg	Sn	17 31 59.0	+0.6
DIVS	**Divibare**	**1.70**	**31**	*e*Pn	Pg	17 32 01.4	+0.5
DIVS				*e*Sg	Sg	17 32 24.9	+1.8
GRUS	**Gruza**	**1.88**	**48**	*e*Pn	Pn	17 32 00.6	+1.1
GRUS				*e*Sg	Sg	17 32 27.4	-1.5
GRUS	**Gruza**	**1.88**	**48**	*e*Pn	Pn	17 32 00.6	+1.1
GRUS				*e*Sg	Sg	17 32 27.4	-1.5
ZAPS	**Zavoj**	**2.91**	**76**	*e*Pn	Pn	17 32 12.9	-0.7
ZAPS				*e*Sg	Sb	17 32 52.0	-2.8
ZAPS	**Zavoj**	**2.91**	**76**	*e*Pn	Pn	17 32 12.9	-0.7

IDC 19 17:46:10.7±56.0,**19.°30S**×**178.°84W,h0**km,**mb3.5**/3, **mb1 3.7**/3,**mb1mx3.7**/18,**mbtmp3.5**/3,**Error ellipse: s-maj=1011.0km s-min=158.4km az=81.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.62**	**243**	P	P	17 53 27.2	-0.2
	0.7nm,0.7s,baz=75,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**43.99**	**261**	P	P	17 54 20.3	+0.1
	0.2nm,0.3s,baz=97,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**44.04**	**256**	P	P	17 54 20.2	-0.3
	0.5nm,0.6s,baz=90,slow=8.2,SNR=17						

*WEL **19** 18:17:23.6±2.3,23.°72S×171.°71W,h12km,Mw7.9,Error ellipse: s-maj=38.0km s-min=9.7km az=90.0,MM 4.*

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

*IDC **19** 18:17:35.8±0.3,23.°01S×174.°74W,h0km,mb6.2/30, mb1 6.4/30,mb1mx6.4/30,mbtmp6.2/30,MS7.4/33, Ms1 7.4/33,ms1mx7.4/42,Error ellipse: s-maj=12.8km s-min=10.3km az=174.0*

*ISCJB **19** 18:17:38.7±0.1,23.°09S±0.°03×174.°62W±0.°02,h31km, mb6.8/299,MS7.6/255,Error ellipse: s-maj=3.9km s-min=2.1km az=156.4*

*DJA **19** 18:17:39.0±0.3,23.°5S×17.°5W±.°,h10km,M7.9/90, mb7.1/90,mB7.8/89,Mw(mB)8.0/89,Mwp7.4/80*

*MOS **19** 18:17:39.4±1.1,23.°00S×174.°70W,h33km,mb7.0/59, MS7.5/86,Error ellipse: s-maj=8.0km s-min=5.9km az=59.6*

*BGS **19** 18:17:40.8±2.5,23.°05S×174.°67W,h33km,MS7.8*

*NEIC **19** 18:17:40.5±0.1,23.°04S×174.°66W,h31km,mb7.0/194, ME7.8,MS7.6/159,MW7.6,MW7.6(USGS),Error ellipse: s-maj=4.9km s-min=3.1km az=151.0 Broadband fault plane solution: P waves. NP1:ϕs215.00000°,δ65.00000°, λ120.00000°. NP2:ϕs341.00000°,δ38.00000°,λ43.00000°. Principal axes: T Plg59.0000°, Azm168.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm284.0000°; Complex earthquake, with at least one larger event occurring about 4 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on the first large event following the onset. Energy computed from BB mechanism.*

NEIC Felt [V/] at Nuku'alofa. Felt at Havelu, Neiafu, Pangai and Vaini. Also felt at Suva, Fiji; Auckland, Lower Hutt, Taradale and Wellington, New Zealand; Apia, Samoa. A small tsunami was generated with wave heights [peak-to-trough, in cm.] at the following selected tide stations: 10.4 at Iquique, Chile; 17.3 at Rarotonga, Cook Islands; 5.7 at Suva, Fiji; 27.0 at Santa Cruz, Galapagos Islands; 10.0 at Honolulu, 18.6 at Kahului and 9.4 at Nawiliwili, Hawaii; 20.3 at Nuku Hiva and 14.5 at Hiva Oa, Marquesas Islands; 10.0 at Napier, New Zealand; 8.7 at Niue; 22.8 at Callao, Peru; 10.7 at Port-Vila, Vanuatu.

*AUST **19** 18:17:41.2±2.9,22.°96S×174.°74W,h29km Error ellipse: s-maj=1.0km s-min=0.9km az=247.0*

*IGIL **19** 18:17:41.2,23.°05S×174.°67W,h34km,MS7.9*

*GCMT **19** 18:17:53.2±0.1,23.°08S×174.°23W,h49km,MW7.6, Moment Tensor Solution. s127,c327; s99,c334; Moment tensor: Scale 10²⁰Nm; Mrr3.28±.01; Mθθ-0.20±.01; Mϕϕ-3.09±.01; Mrθ-0.25±.03; Mϕθ-1.15±.01; Mrϕ0.19±.03; Best double couple: M₀3.40000×10²⁰ NP1:ϕs205.00000°,δ44.00000°,λ98.00000°. NP2: ϕs14.00000°,δ46.00000°,λ82.00000°. Principal axes: T 3.3100, Plg85.0000°, Azm208.0000°; N 0.1800, Plg5.0000°, Azm19.0000°; P -3.4900, Plg1.0000°, Azm109.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 127 sta. Surface waves: sta=122, comp=295, per= 50.*

*NEIC **19** 18:18:08.8±0.0,23.°26S×174.°40W,h47km,Moment Tensor Solution. s142 Moment tensor: Scale 10²⁰Nm; Mrr3.51; Mθθ-0.45; Mϕϕ-3.06; Mrθ0.14; Mϕθ-1.12; Mrϕ0.34; Best double couple: M₀3.50000×10²⁰ NP1:ϕs21.00000°, δ48.00000°,λ90.00000°. NP2:ϕs200.00000°,δ42.00000°, λ90.00000°. Principal axes: T 3.5300, Plg86.0000°, Azm293.0000°; N -0.0400, Plg0.0000°, Azm200.0000°; P -3.4900, Plg3.0000°, Azm110.0000°;*

ISC 19 18:17:40.7±0.3,**23.°16S**±0.°03×**174.°59W**±0.°03,**h31**km±1km, **h31**km:**pP-P,n2416,**σ1**59**/2501,**mb7.0**/295,**MS7.6**/259, **458C-257D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.77**	**206**	*e*Pn	**Pn**	**18 19 19.4**	**+1.5**
MSVF	**Nonsavu**	**8.76**	**307**	*e*P	**Pn**	**18 19 47.8**	**+2.4**
MSVF	**Nonsavu**	**8.76**	**307**	*e*Pn	**Pn**	**18 19 47.8**	**+2.4**
MSVF	**Nonsavu**	**8.76**	**307**	Pn	**Pn**	**18 19 48.4**	**+3.0**
	90μm,1.4s						
AFI	**Afiamalu**	**9.57**	**17**	Pn	Pn	18 19 50.0	-6.7
	382nm,0.3s,baz=137,slow=3.0,SNR=92						
AFI				Sn	Sn	18 21 29.8	-13
	1μm,0.3s,baz=27,slow=22,SNR=3.7						
AFI	**Afiamalu**	**9.57**	**17**	Pn	Pn	18 19 50.0	-6.7
AFI				Sn	Sn	18 21 29.8	-13
RAR	**Rarotonga**	**13.86**	**85**	Pn	Pn	18 20 50.0	-5.1
	115nm,0.3s,baz=246,slow=8.0,SNR=125						
RAR				Sn	Sn	18 23 12.0	-16
	409nm,0.3s,baz=97,slow=17,SNR=2.7						
RAR				LR	LR	18 25 08.3	
	comp=Z,2948μm,20.5s,baz=224,slow=32						
RAR	**Rarotonga**	**13.86**	**85**	Pn	Pn	18 20 50.0	-5.1
RAR				Sn	Sn	18 23 12.0	-16
MXZ	**Matakaoa Point**	**15.61**	**201**	PN	Pn	18 21 11.4	-7.0
MXZ				SN	**Sn**	**18 24 05.1**	**-5.2**
OUZ	**Omahuta**	**15.82**	**218**	PN	**P**	**18 21 23.5**	**-1.3**
OUZ	**Omahuta**	**15.82**	**218**	*e*P	**Pn**	**18 21 22.8**	**+1.5**
	6μm,1.5s						
WCZ	**Waipu Caves**	**15.95**	**215**	PN	**Pn**	**18 21 23.1**	**+0.1**
PUZ	**Puketiti**	**16.08**	**201**	PN	Pn	18 21 16.5	-8.2
PUZ				SN	**Sn**	**18 24 15.4**	**-6.7**
OTAZ	**Otara**	**16.46**	**211**	PN	**P**	**18 21 34.4**	**+2.6**
MWZ	**Matawai**	**16.57**	**202**	PN	Pn	18 21 23.7	-7.1
MWZ				SN	Sn	18 24 25.7	-8.1
URZ	**Urewera**	**16.65**	**203**	Pn	Pn	18 21 25.7	-6.1
	3.3nm,0.3s,baz=308,slow=2.2,SNR=16						
URZ				Sn	**Sn**	**18 24 28.7**	**-7.0**
	293nm,0.3s,baz=137,slow=20,SNR=8.8						
URZ	**Urewera**	**16.65**	**203**	*e*Pn	**Pn**	**18 21 28.1**	**-3.6**
	2μm,0.7s						
URZ				Sn	**Sn**	**18 24 28.7**	**-7.0**
NFK	**Norfolk Island**	**16.75**	**246**	P	**P**	**18 21 36.3**	**+1.2**
	baz=17,SNR=22						
PLUM	**Mont Dore**	**17.34**	**269**	*e*P	**P**	**18 21 42.8**	**+1.1**
NORM	**Noumea**	**17.49**	**269**	*e*P	**P**	**18 21 45.6**	**+2.2**
DZM	**Mont Dzumac**	**17.55**	**270**	*e*P	**P**	**18 21 44.6**	**+0.5**
	30μm,1.2s						
DZM				*e*LR	LR	18 25 48.5	
	6272μm,27.2s						
DZM	**Mont Dzumac**	**17.55**	**270**	P	**P**	**18 21 44.4**	**+0.3**
	7.7nm,0.3s,baz=90,slow=15,SNR=74						
DZM	**Mont Dzumac**	**17.55**	**270**	*e*P	**P**	**18 21 45.9**	**+1.8**
DZM	**Mont Dzumac**	**17.55**	**270**	P	**P**	**18 21 44.4**	**+0.3**
HIZ	**Hauiti**	**17.77**	**208**	P*	**Pn**	**18 21 46.0**	**+0.3**
FWVZ	**Far West T-bar**	**18.11**	**205**	P*	**Pn**	**18 21 46.8**	**-3.3**
MOVZ	**Moawhango**	**18.16**	**205**	P*	**Pn**	**18 21 47.9**	**-2.7**
PXZ	**Pawanui**	**18.32**	**201**	*e*P*	P	18 21 43.4	-8.9
TSZ	**Takapari Road**	**18.66**	**203**	P*	P	18 21 49.0	-7.1
DVHZ	**Dannevirke**	**18.79**	**202**	P*	**P**	**18 21 55.8**	**-1.8**
MRZ	**Mangatainoka R**	**19.32**	**203**	P*	P	18 21 56.3	-7.1
TMWZ	**Te Maipa**	**19.61**	**202**	P*	**P**	**18 22 02.5**	**-4.0**
TRWZ	**Traveller**	**19.94**	**202**	P*	**Pn**	**18 22 11.7**	**-0.2**
SNZO	**South Karori**	**20.21**	**204**	*e*Pn	**P**	**18 22 12.5**	**-0.5**
	2μm,0.7s						
SNZO				LR	LR		
	comp=Z,1406μm,21.0s						
TUWZ	**Tuamarina**	**20.61**	**205**	P*	**P**	**18 22 13.1**	**-4.2**
CMWZ	**Cape Campbell**	**20.77**	**204**	P*	**P**	**18 22 19.7**	**+0.6**
THZ	**Tophouse**	**21.30**	**206**	P*	**P**	**18 22 21.6**	**-3.3**
KHZ	**Kahutara**	**21.61**	**204**	*e*P	**P**	**18 22 26.5**	**-1.5**
	comp=Z,4μm,1.0s						
MQZ	**McQueen's Vall**	**23.05**	**204**	P*	**P**	**18 22 43.1**	**-0.2**
TBI	**Tubuai**	**23.08**	**95**	*e*P	**P**	**18 22 44.1**	**+0.1**
	comp=Z,27μm,1.3s						
TBI				*e*LR	LR	18 28 12.1	
	comp=Z,8μm,28.2s						
TBI	**Tubuai**	**23.08**	**95**	*e*P	**P**	**18 22 44.1**	**+0.1**
	comp=Z,27μm,1.3s						
WVZ	**Waitaha Valley**	**23.30**	**208**	P*	**P**	**18 22 44.4**	**-1.5**
RPZ	**Rata Peaks**	**23.68**	**207**	P	**P**	**18 22 48.4**	**-1.3**
	comp=Z,305nm,0.8s,baz=351,slow=2.1,SNR=37						
RPZ				S	**S**	**18 27 05.6**	**+3.0**
	comp=Z,461nm,0.6s,baz=305,slow=15,SNR=9.6						
RPZ	**Rata Peaks**	**23.68**	**207**	*e*P	**P**	**18 22 48.8**	**-0.9**
	comp=Z,2μm,0.8s						
RPZ				S	**S**	**18 27 05.6**	**+3.0**
PAE	**Paea**	**24.05**	**81**	*e*P	**P**	**18 22 53.0**	**-0.4**
	comp=Z,985nm,1.3s						
PAE	**Paea**	**24.05**	**81**	*e*P	**P**	**18 22 53.0**	**-0.4**
	comp=Z,985nm,1.3s						
PPT2	**Papeete2**	**24.08**	**81**	*e*P	**P**	**18 22 53.7**	**0.0**
	comp=Z,3μm,1.3s						
PPT2				*e*LQ	LQ	18 27 32.9	
	comp=Z,5480μm,31.8s						
PPT2				*e*LR	LR	18 28 40.9	
	comp=Z,6394μm,29.0s,baz=249						
PPT	**Papeete**	**24.08**	**81**	P	**P**	**18 22 53.2**	**-0.5**
	comp=Z,706nm,1.1s,baz=248,slow=2.8,SNR=33						
PPT				S	S	18 27 27.0	+18
	comp=Z,446nm,0.7s,baz=78,slow=22,SNR=6.1						
PPT				LR	LR	18 31 05.2	
	comp=Z,1521μm,18.3s,baz=67,slow=34						
PPT	**Papeete**	**24.08**	**81**	P	**P**	**18 22 53.2**	**-0.5**
PPT				S	S	18 27 27.0	+18
TVO	**Taravao**	**24.32**	**82**	*e*P	**P**	**18 22 56.2**	**+0.3**
	comp=Z,14μm,1.4s						
TVO	**Taravao**	**24.32**	**82**	*e*P	**P**	**18 22 56.2**	**+0.3**
	comp=Z,14μm,1.4s						
LBZ	**Lake Benmore**	**24.59**	**207**	P*	**P**	**18 22 57.2**	**-0.8**
LHI	**Lord Howe Isla**	**24.80**	**245**	P	**P**	**18 23 02.0**	**+1.9**
	baz=25,SNR=32						
ODZ	**Otahua Downs**	**24.95**	**205**	P*	**P**	**18 23 01.5**	**+0.3**
ODZ	**Otahua Downs**	**24.95**	**205**	*e*P	**P**	**18 23 02.7**	**+1.5**
	comp=Z,5μm,2.5s						
TUZ	**Tuapeka**	**26.10**	**206**	P*	**P**	**18 23 12.8**	**+1.1**
PMOR	**Pomariorio Ree**	**26.47**	**77**	*e*P	**P**	**18 23 15.0**	**-0.3**
	comp=Z,2μm,1.2s						
PMOR	**Pomariorio Ree**	**26.47**	**77**	*e*P	**P**	**18 23 15.0**	**-0.3**
	comp=Z,2μm,1.2s						
WHZ	**Wether Hill Ro**	**26.75**	**208**	P*	**P**	**18 23 17.6**	**0.0**
TARA	**Tarawa**	**27.23**	**332**	*e*P	**P**	**18 23 19.0**	**-3.1**
	comp=Z,18μm,1.3s						
TARA				LR	LR		
	comp=Z,1069μm,19.0s						
HNR	**Honiara**	**27.93**	**295**	P	**P**	**18 23 25.3**	**-3.1**
	comp=Z,2μm,0.9s,baz=340,slow=2.1,SNR=22						
HNR				S	**S**	**18 28 10.7**	**+0.3**
	comp=Z,646nm,1.1s,baz=65,slow=4.7,SNR=3.1						
HNR	**Honiara**	**27.93**	**295**	*e*P	**P**	**18 23 25.4**	**-3.0**
HNR				S	**S**	**18 28 10.7**	**+0.3**
HNR				LR	LR		
	comp=Z,921μm,21.0s						
XMAS	**Kiritimati**	**30.11**	**36**	*e*P	**P**	**18 23 45.9**	**-1.9**
	comp=Z,3μm,1.3s						
XMAS				LR	LR		
	comp=Z,310μm,21.0s						
ARMA	**Armidale**	**30.93**	**249**	*e*P	**P**	**18 23 54.6**	**-0.5**
	comp=Z,685nm,0.9s						
ARMA	**Armidale**	**30.93**	**249**	P	**P**	**18 23 54.7**	**-0.4**
	baz=31,SNR=74						
EIDS	**Eidsvold**	**31.33**	**259**	*e*P	**P**	**18 23 57.1**	**-1.4**
	comp=Z,1μm,1.0s						
EIDS	**Eidsvold**	**31.33**	**259**	P	**P**	**18 23 57.0**	**-1.5**
	baz=31,SNR=41						
EIDS				S	**S**	**18 29 06.8**	**+3.0**
	baz=31,SNR=15						
MGCD	**Mangrove Creek**	**31.73**	**244**	P	**P**	**18 24 02.0**	**+0.1**
	baz=32,SNR=63						
MGCD				S	S	18 29 16.6	+6.7
	baz=32,SNR=6.5						
RMQ	**Roma**	**33.36**	**257**	P	**P**	**18 24 15.8**	**-0.6**
	baz=33,SNR=63						
RMQ				S	**S**	**18 29 40.1**	**+4.6**
	baz=33,SNR=8.7						
CNB	**Canberra Magne**	**33.53**	**241**	P	**P**	**18 24 18.0**	**+0.2**
	baz=34,SNR=91						
CAN	**Canberra**	**33.82**	**241**	*e*P	**P**	**18 24 20.1**	**-0.3**
CAN				pmax	pmax		
	comp=Z,2μm,1.4s						
CAN				MLR	MLR		
	comp=Z,1352μm,22.0s						
CAN	**Canberra**	**33.82**	**241**	*e*P	**P**	**18 24 20.1**	**-0.3**
	comp=Z,2μm,1.4s						
CAN				LR	LR		
	comp=Z,1352μm,22.0s						
MILA	**Mila**	**34.07**	**238**	P	**P**	**18 24 22.6**	**+0.2**
	baz=34,SNR=106						
MILA				S	S	18 29 53.0	+6.7
	baz=34,SNR=5.4						
YNG	**Young**	**34.13**	**243**	P	**P**	**18 24 22.7**	**-0.3**
	baz=34,SNR=56						
YNG				S	S	18 29 54.8	+7.5
	baz=34,SNR=6.6						
TAOE	**Nuku Hiva Isla**	**35.91**	**72**	*e*S	**S**	**18 30 09.2**	**-5.9**
	comp=Z,801μm,29.8s						
TAOE				*e*LQ	LQ	18 32 47.4	
	comp=Z,1448μm,28.9s						
TAOE				*e*LR	LR	18 34 09.6	
	comp=Z,2973μm,26.1s						
CMSA	**Cobar Meteorol**	**36.10**	**248**	P	**P**	**18 24 38.6**	**-1.4**
	baz=36,SNR=235						
KWAJ	**Kwajalein Atol**	**36.22**	**329**	*e*P	**P**	**18 24 39.2**	**-1.9**
KWAJ				pmax	pmax		
	comp=Z,4μm,0.8s						
KWAJ	**Kwajalein Atol**	**36.22**	**329**	*e*P	**P**	**18 24 39.2**	**-1.9**
	comp=Z,4μm,0.8s						
RKT	**Rikitea**	**36.35**	**98**	*e*P	**P**	**18 24 44.8**	**+2.6**
	comp=Z,2μm,1.3s						
RKT				*e*S	**S**	**18 30 20.9**	**-0.6**
	comp=Z,1271μm,32.8s						
RKT				*e*LR	LR	18 34 19.9	
	comp=Z,5298μm,28.2s,baz=253						
RKT	**Rikitea**	**36.35**	**98**	*e*P	**P**	**18 24 44.8**	**+2.6**
	comp=Z,2μm,1.3s						
RKT				*e*S	**S**	**18 30 20.9**	**-0.6**
CTA	**Charters Tower**	**36.46**	**267**	P	**P**	**18 24 41.5**	**-1.7**
	comp=Z,870nm,0.7s,baz=97,slow=10,SNR=123						
CTA				S	**S**	**18 30 23.6**	**+0.3**
	comp=Z,527nm,1.3s,baz=332,slow=20,SNR=9.6						
CTA	**Charters Tower**	**36.46**	**267**	P	**P**	**18 24 41.5**	**-1.7**
CTA				S	**S**	**18 30 23.6**	**+0.3**
CTAO	**Charters Tower**	**36.46**	**267**	*e*P	**P**	**18 24 41.5**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,5μm,1.0s						
CTAO				MLR	MLR		
	comp=Z,1025μm,19.0s						
CTAO	**Charters Tower**	**36.46**	**267**	*e*P	**P**	**18 24 41.5**	**-1.7**
	comp=Z,5μm,1.0s						
CTAO				LR	LR		
	comp=Z,1025μm,19.0s						
TOO	**Toolangi**	**37.03**	**238**	P	**P**	**18 24 47.7**	**-0.2**
	baz=37,SNR=220						
MCQ	**Macquarie Isla**	**37.04**	**206**	*e*P	**P**	**18 24 48.8**	**+1.2**
MCQ	**Macquarie Isla**	**37.04**	**206**	*e*P	**P**	**18 24 48.8**	**+1.2**
MCQ	**Macquarie Isla**	**37.04**	**206**	P	P	18 24 52.6	+5.1
	baz=37,SNR=12						
MOO	**Moorlands**	**37.05**	**229**	P	**P**	**18 24 49.0**	**+1.1**
	baz=37,SNR=133						
TAU	**Tasmania Unive**	**37.11**	**229**	*e*P	**P**	**18 24 49.1**	**+0.7**
TAU				MLR	MLR		
	comp=Z,964μm,22.0s						
TAU	**Tasmania Unive**	**37.11**	**229**	*e*P	**P**	**18 24 49.1**	**+0.7**
TAU				LR	LR		
	comp=Z,964μm,22.0s						
QLP	**Quilpie**	**37.40**	**256**	P	**P**	**18 24 49.2**	**-1.9**
	baz=37,SNR=270						
PMG	**Port Moresby**	**39.04**	**284**	P	**P**	**18 25 03.3**	**-1.7**
	comp=Z,1μm,0.8s,baz=100,slow=5.3,SNR=43						
PMG				S	**S**	**18 31 04.3**	**+1.8**
	comp=Z,91nm,1.1s,baz=17,slow=22,SNR=8.4						
PMG	**Port Moresby**	**39.04**	**284**	*e*P	**P**	**18 25 02.8**	**-2.2**
	comp=Z,6μm,1.0s						
PMG				S

KIP MLR MLR
comp=Z,130µm,21.0s
KIP Kipapa 47.16 21 *eP* **P 18 26 09.9 -0.6**
KIP LR LR
comp=Z,130µm,21.0s
WRAB Tennant Creek 47.41 264 *eP* **P 18 26 10.1 -2.5**
WRAB pmax pmax
comp=Z,3µm,3.0s
WRAB MLR MLR
comp=Z,1370µm,20.0s
WRAB Tennant Creek 47.41 264 *eP* **P 18 26 10.1 -2.5**
comp=Z,3µm,3.0s
WRAB LR LR
comp=Z,1370µm,20.0s
WRA Warramunga Arr 47.42 264 P **P 18 26 09.6 -3.1**
comp=Z,1µm,1.0s,baz=102,slow=8.3,SNR=1230
WRA S **S 18 33 02.0 -3.3**
comp=Z,401nm,1.1s,baz=102,slow=14,SNR=12
WRA LR LR 18 45 43.0
comp=Z,1395µm,20.4s,baz=105,slow=36
WRA P3KP 18 56 55.2
comp=Z,7.0nm,1.2s,baz=242,slow=1.7,SNR=4.9
WRA P4KPbc 19 04 02.3
comp=Z,4.4nm,0.9s,baz=99,slow=4.3,SNR=6.6
WRA Warramunga Arr 47.42 264 P **P 18 26 09.6 -3.1**
WRA S **S 18 33 02.0 -3.3**
WRA PKKKP 18 56 55.2
WRA *e* 19 04 02.3
JAY Jayapura 47.89 289 S **S 18 33 11.0 -1.1**
baz=48,SNR=9.4
MIDW Midway 51.14 357 *eP* **P 18 26 40.5 -0.3**
comp=Z,3µm,1.3s
MIDW LR LR
comp=Z,364µm,22.0s
KDU Kakadu 51.20 272 P **P 18 26 38.9 -2.7**
baz=51,SNR=285
FORT Forrest 51.21 248 *eP* **P 18 26 39.5 -2.0**
comp=Z,3µm,0.7s
FORT Forrest 51.21 248 P **P 18 26 39.6 -2.0**
baz=51,SNR=119
DRV Dumont d'Urvil 51.97 201 PP PP 18 28 36.0 -8.6
DRV S S 18 33 57.0 -11
DRV SS **SS 18 37 46.0 +1.6**
DRV L L 18 41 00.0
DRV R 18 43 00.0
MTN Manton Dam 52.38 271 P **P 18 26 48.4 -2.0**
baz=52,SNR=18
MTN S **S 18 34 12.3 -2.2**
baz=52,SNR=6.8
BAKI Biak 52.55 287 P **P 18 26 53.3 +1.6**
comp=Z,4µm,1.2s,comp=Z,67µm
TLE Tual 53.59 280 P **P 18 26 57.4 -2.0**
baz=53,SNR=159
TLE Tual 53.59 280 P **P 18 26 58.1 -1.3**
comp=Z,5µm,1.1s,comp=Z,125µm
GUMO Guam 53.93 309 *eP* **P 18 27 00.7 -1.1**
comp=Z,4µm,0.9s
GUMO LR LR
comp=Z,165µm,20.0s
FAKI Fak Fak 55.19 283 P **P 18 27 09.1 -1.9**
SBA Scott Base 55.47 185 *eP* **P 18 27 14.8 +2.7**
SBA pmax pmax
comp=Z,15nm,0.6s
SBA MLR MLR
comp=Z,925µm,21.0s
SBA Scott Base 55.47 185 *eP* **P 18 27 14.8 +2.7**
comp=Z,15nm,0.6s
SBA LR LR
comp=Z,925µm,21.0s
VNDA Vanda 55.59 186 P **P 18 27 14.8 +1.9**
comp=Z,139nm,1.1s,baz=9.1,slow=7.1,SNR=88
VNDA LR LR 18 47 03.8
comp=Z,666µm,21.4s,baz=70,slow=32
VNDA PKP2bc 18 57 28.2
comp=Z,24nm,1.3s,baz=228,slow=2.9,SNR=4.1
VNDA PKP2ab 18 57 49.9
comp=Z,25nm,1.1s,baz=261,slow=1.1,SNR=5.3
VNDA Vanda 55.59 186 *eP* **P 18 27 14.5 +1.5**
comp=Z,0.9nm,0.5s
VNDA ⇑*e* 18 57 28.2
VNDA P'P'ab **P'P'ab 18 57 49.9 -3.8**
FITZ Fitzroy Crossi 55.84 263 P **P 18 27 14.7 -1.0**
comp=Z,248nm,0.5s,baz=125,slow=5.8,SNR=242
FITZ S **S 18 35 01.9 +0.6**
comp=Z,103nm,1.1s,baz=42,slow=22,SNR=9.8
FITZ Fitzroy Crossi 55.84 263 *eP* **P 18 27 14.6 -1.0**
comp=Z,24nm,1.6s
FITZ S **S 18 35 01.9 +0.6**
FITZ Fitzroy Crossi 55.84 263 P **P 18 27 14.4 -1.3**
baz=56,SNR=366
FITZ S **S 18 35 00.1 -1.1**
baz=56,SNR=7.0
KMBL Kambalda 56.39 247 P **P 18 27 19.0 -0.5**
baz=56,SNR=36
BNDI Bandanaira 56.62 280 P **P 18 27 19.5 -1.7**
comp=Z,13µm,1.5s,comp=Z,189µm
SWI Sorong 56.99 285 P **P 18 27 21.6 -2.2**
baz=57,SNR=374
SWI S S 18 34 55.0 -22
baz=57,SNR=4.1
SWI Sorong 56.99 285 P **P 18 27 21.4 -2.5**
comp=Z,10µm,0.8s,comp=Z,98µm
MSAI Masohi 57.99 281 P **P 18 27 29.0 -2.0**
comp=Z,1µm,0.7s,comp=Z,16µmcomp=Z,268µm
PALU Palau 58.29 295 P **P 18 27 31.6 -1.4**
baz=58,SNR=12
AAI Ambon 58.51 280 P **P 18 27 32.0 -2.5**
baz=58,SNR=179
AAI S **S 18 35 37.6 +1.1**
baz=58,SNR=10
AAI Ambon 58.51 280 P **P 18 27 32.1 -2.5**
RPN Rapa Nui 58.62 109 LR LR 18 47 04.5
comp=Z,461µm,19.9s,baz=77,slow=30
RPN Rapa Nui 58.62 109 *eP* **P 18 27 32.2 -3.0**
comp=Z,6µm,1.8s
KLBR Kellerberrin 59.84 246 P **P 18 27 43.0 -0.5**
baz=60,SNR=212
RKGY Rocky Gully 59.99 242 P **P 18 27 44.8 +0.2**
baz=60,SNR=17
NWAO Narrogin (SRO) 60.05 244 P **P 18 27 45.3 +0.3**
comp=Z,295nm,1.1s,baz=106,slow=6.4,SNR=24
NWAO LR LR 18 53 25.9
comp=Z,535µm,20.3s,baz=106,slow=36
NWAO PKP2ab 18 57 29.1
comp=Z,37nm,1.1s,baz=347,slow=1.8,SNR=3.4
NWAO Narrogin (SRO) 60.05 244 *eP* **P 18 27 46.6 +1.6**
comp=Z,5µm,1.6s
NWAO P'P'ab P'P'ab 18 57 29.1 -6.0
NWAO Narrogin (SRO) 60.05 244 P **P 18 27 45.7 +0.7**
SNR=105
MEEK Meekatharra 60.07 252 P **P 18 27 43.9 -1.3**
baz=60,SNR=347
MBWA Marble Bar 60.39 258 *eP* **P 18 27 46.1 -1.4**
comp=Z,1µm,1.4s
MBWA LR LR
comp=Z,1087µm,22.0s
MBWA Marble Bar 60.39 258 P **P 18 27 47.3 -0.2**
SNR=138
LBMI Labuha 60.45 283 P **P 18 27 46.5 -1.4**
comp=Z,4µm,0.9s,comp=Z,70µmcomp=Z,923µm
BLDU Ballidu 60.90 247 P **P 18 27 50.3 -0.6**
baz=61,SNR=148
TNTI Ternate 61.19 284 P **P 18 27 51.3 -1.7**
MORW Morawa 61.78 248 P **P 18 27 56.4 -0.4**
baz=62,SNR=183
MMRI Maumere 62.03 272 P **P 18 27 57.1 -1.6**
comp=Z,2µm,1.1s,comp=Z,99µm
BBSI Bau Bau 62.91 276 P **P 18 28 06.9 +2.3**
comp=Z,2µm,1.0s,comp=Z,69µmcomp=Z,843µm
CASY Casey 62.95 206 *eP* **P 18 28 06.0 +2.0**
comp=Z,2µm,1.0s
CASY LR LR
comp=Z,223µm,19.0s
WSI Waingapu 63.44 271 P **P 18 28 07.1 -1.0**
baz=63,SNR=59
KDI Kendari 63.47 277 P **P 18 28 06.3 -2.0**
comp=Z,515nm,1.0s,comp=Z,61µm
MNI Manado 63.75 284 P **P 18 28 09.5 -0.6**
comp=Z,1µm,1.1s,comp=Z,68µm
KMSI Cibinong 64.14 283 P **P 18 28 12.6 -0.1**
comp=Z,5µm,0.9s,comp=Z,73µm
LUWI Luwuk 64.53 280 P **P 18 28 14.6 -0.7**
comp=Z,3µm,1.1s,comp=Z,72µm
MATI Mati 65.07 290 *eP* **P 18 28 16.8 -1.9**
CBIJ Chichi jima 65.12 318 LR LR 18 53 28.8
comp=Z,244µm,21.3s,baz=124,slow=33
BKSI Bulukumba 65.22 275 P **P 18 28 18.1 -1.6**
comp=Z,2µm,0.9s,comp=Z,47µmcomp=Z,909µm
KAPI Kapang 65.68 275 P **P 18 28 20.9 -1.8**
comp=Z,114nm,0.9s,baz=127,slow=4.3,SNR=27
KAPI Kapang 65.68 275 *eP* **P 18 28 20.4 -2.3**
comp=Z,3µm,1.4s
KAPI LR LR
comp=Z,351µm,20.0s
KAPI Kapang 65.68 275 P **P 18 28 21.4 -1.3**
SNR=171
KAPI Kapang 65.68 275 P **P 18 28 20.9 -1.8**
comp=Z,1µm,1.5s,comp=Z,61µmcomp=Z,978µm
DAV Davao City (W) 65.72 290 LR LR 18 53 45.7
comp=Z,139µm,21.1s,baz=284,slow=33
DAV Davao City (W) 65.72 290 *eP* **P 18 28 22.9 0.0**
comp=Z,2µm,0.8s
DAV Davao City (W) 65.72 290 P **P 18 28 21.9 -1.0**
SNR=64
DAV Davao City (W) 65.72 290 P **P 18 28 25.1 +2.2**
comp=Z,6µm,0.9s,comp=Z,85µmcomp=Z,830µm
DMPH Davao City--Mi 65.78 290 *eP* P 18 28 27.9 +4.6
MRSI Marisa 65.93 282 P **P 18 28 23.0 -1.3**
comp=Z,1µm,0.8s
SPSI Sidrap Palu 66.07 276 P **P 18 28 22.9 -2.4**
comp=Z,1µm,1.0s,comp=Z,44µm
TTSI Tana Toraja 66.39 277 P **P 18 28 26.9 -0.4**
comp=Z,2µm,1.1s,comp=Z,44µm
BUTP Butuan 66.61 292 *eP* **P 18 28 27.2 -1.4**
QSPA South Pole Qui 66.93 180 P **P 18 28 30.6 +0.6**
comp=Z,416nm,1.1s,baz=40,slow=3.1,SNR=142
QSPA LR LR 18 53 26.5
comp=Z,1074µm,21.0s,baz=47,slow=32
QSPA South Pole Qui 66.93 180 P **P 18 28 30.6 +0.6**
MSLP Maasin 67.84 292 *eP* **P 18 28 35.2 -1.3**
PAGZ Pagadian 68.00 289 *eP* **P 18 28 38.8 +1.3**
KHKI Kahang-Kahang 68.23 270 P **P'P'df 18 56 58.5 -0.4**
TBP Tagbilaran 68.47 291 *eP* **P 18 28 42.3 +1.8**
IGBI Denpasar 68.49 269 P **P'P'df 18 56 59.1 +0.6**
comp=Z,1µm,0.7s,comp=Z,5.0nm
OCLP Ormoc 68.51 293 *eP* **P 18 28 39.0 -1.7**
IPIL Ipil 68.67 289⇑*eP* **P 18 28 40.5 -1.1**
IPIL Ipil 68.67 289 *eP* **P 18 28 40.6 -1.1**
IPIL Ipil 68.67 289⇑*eP* **SPn 18 38 06.1 +0.4**
LLP Lapu-Lapu 68.69 292 *eP* **P 18 28 41.1 -0.7**
NBBI Negara 69.13 270 P **P'P'df 18 56 57.1 -0.3**
CNP Catarman 69.20 294 *eP* **P 18 28 43.8 -1.1**
JAGI Jajag, Banyuwa 69.53 269 P **P'P'df 18 56 54.0 -2.7**
KBKI Kotabaru 69.63 275 P **P 18 28 48.1 +0.4**
comp=Z,1µm,1.2s,comp=Z,66µm
SMKI Samarinda 69.83 278 P **P'P'df 18 56 55.4 0.0**
SMKI Samarinda 69.83 278 P **P 18 28 52.0 +3.1**
comp=Z,2µm,1.0s,comp=Z,100µm
MIR Mirnyy 69.94 205 ⇓*iP* **P 18 28 50.6 +1.9**
MIR *i* 18 29 07.0
MIR *e* 18 31 31.0
MIR *eS* S 18 38 04.0 +7.6
MIR pmax pmax
comp=Z,3µm,2.0s
MIR smax smax
comp=E,65µm,18.0s
MIR MLR MLR
comp=N,92µm,18.0s
MIR MLR MLR
comp=E,102µm,18.0s
MIR MLR MLR
comp=Z,144µm,18.0s
MMPH Masbate 70.00 294⇑*eP* **P 18 28 48.5 -1.3**
GUIM Jordan 70.02 291 *eP* **P 18 28 48.0 -2.0**
RCP Roxas 70.35 292⇑*eP* **P 18 28 50.9 -1.1**
BBKI Banjar Baru 70.79 275 P **P 18 28 55.1 +0.3**
comp=Z,3µm,1.1s,comp=Z,105µm
MYLDM Lahad Datu 71.07 284 P **P 18 28 58.7 +2.3**
MYLDM Lahad Datu 71.07 284 P **P 18 28 58.6 +2.2**
comp=Z,2µm,1.1s,comp=Z,140µm
TSM Tawau 71.24 283 P **P 18 28 57.8 +0.3**
AUQP San Andres 71.28 294 *eP* **P 18 29 00.1 +2.5**
OTRP Odiongan 71.36 293 *eP* **P 18 28 58.0 -0.2**
CUYO Cuyo Island 71.48 291 *eP* **P 18 28 58.1 -0.8**
GQP Guinayangan 71.77 294⇑*iP* **P 18 28 59.3 -1.3**
PWJI Pagerwojo 71.85 269 P **P'P'df 18 56 49.3 -3.4**
BWJI Bawean 71.88 271 P **P 18 29 04.0 +2.7**
comp=Z,510nm,1.3s,comp=Z,16µmcomp=Z,232µm
SJMP San Jose 72.17 292 *eP* **P 18 29 04.0 +1.0**
SDKM Sandakan 72.44 284 P **P 18 29 05.0 +0.3**
LQP Lukban 72.63 294 *eP* **P 18 29 07.2 +1.3**
ENPP El Nido 73.02 290 *eP* **P 18 29 08.0 -0.1**
UGM Wanagama 73.07 269 P **P 18 29 08.0 -0.5**
baz=73,SNR=47
TGY Tagaytay City 73.13 294 LR LR 18 58 09.3
comp=Z,722nm,21.1s,baz=144,slow=33
TGY Tagaytay City 73.13 294⇑*eP* P 18 29 04.6 -4.2
BATP Bataraza 73.31 287 *eP* **P 18 29 10.7 +0.9**
KDM Kudat 73.32 285 P **P 18 29 10.9 +1.0**
PALP Palanan 73.39 297⇑*eP* **P 18 29 10.0 -0.2**
PALP Palanan 73.39 297 *eP* **P 18 29 10.6 +0.4**
BALP Baler 73.42 296 *eP* **P 18 29 09.5 -0.9**
KKM Kota Kinabalu 73.49 284 *eP* **P 18 29 11.0 -0.1**
comp=Z,964nm,0.7s
KKM LR LR
comp=Z,142µm,21.0s
KKM Kota Kinabalu 73.49 284 P **P 18 29 11.2 +0.1**
baz=73,SNR=19
KKM Kota Kinabalu 73.49 284 P **P 18 29 11.5 +0.4**
KKM Kota Kinabalu 73.49 284 P **P 18 29 11.8 +0.8**
comp=Z,2µm,0.8s,comp=Z,84µm
LUBP Lubang 73.53 293 *eP* **P 18 29 10.8 -0.3**
CAUP Cauayan 73.82 297 *eP* **P 18 29 15.7 +2.9**
PBKI Pangkalan Bun 73.99 274 P **P 18 29 14.4 +0.5**
comp=Z,4µm,1.1s,comp=Z,83µm
BJII Banjamegara 74.03 269 P P'P'df 18 57 05.3 +16
MJAR Matsushiro Arr 74.23 322 P **P 18 29 13.9 -0.8**
comp=Z,172nm,0.8s,baz=164,slow=6.3,SNR=143
MJAR S S 18 38 58.1 +12
comp=Z,5.3nm,1.1s,baz=78,slow=12,SNR=4.8
MJAR PKKPbc **PKKPbc 18 48 45.9 -0.4**
comp=Z,1.6nm,0.8s,baz=68,slow=1.3,SNR=5.2
MJAR PKPPKP **P'P'df 18 56 44.8 +1.8**
comp=Z,11nm,1.1s,baz=284,slow=4.2,SNR=6.3
MJAR Matsushiro Arr 74.23 322 P **P 18 29 13.9 -0.8**
MJAR S S 18 38 58.1 +12
MJAR PKKPbc **PKKPbc 18 48 45.9 -0.4**
MJAR P'P' 18 56 44.8
MAJO Matsushiro 74.23 322 *eP* **P 18 29 13.3 -1.5**
MAJO pmax pmax
comp=Z,696nm,0.8s
MAJO MLR MLR
comp=Z,201µm,21.0s
MAJO Matsushiro 74.23 322 *eP* **P 18 29 13.2 -1.5**
comp=Z,696nm,0.8s
MAJO LR LR
comp=Z,201µm,21.0s
MAT Matsushiro 74.23 322 P **P 18 29 14.1 -0.7**
MAT S **S 18 38 46.0 -0.4**
JOW Kunigami 74.29 309 LR LR 19 01 27.3
comp=Z,178µm,18.6s,baz=132,slow=36
JOW Kunigami 74.29 309 *eP* **P 18 29 14.7 -0.6**
comp=Z,826nm,1.4s
SGCP Mt. Cagua 74.31 298 *eP* **P 18 29 18.7 +3.2**
SCZP Santa Cruz 74.82 295 *eP* **P 18 29 19.3 +0.7**
BTM Bintulu 75.09 280 P **P 18 29 20.9 +0.7**
ABRA Dolores 75.09 297 *eP* **P 18 29 20.6 +0.5**
BOLP Bolinao 75.12 295 *eP* **P 18 29 20.6 +0.3**
STKI Sintang 75.27 276 P P'P'df 18 56 53.4 +7.3
STKI Sintang 75.27 276 P **P 18 29 21.2 -0.1**
comp=Z,2µm,2.1s,comp=Z,72µmcomp=Z,885µm
SIPP Brgy, Tapao 75.44 297⇓*iP* P 18 29 26.6 +4.5
PIP Pasuquin 75.51 297 *eP* **P 18 29 21.8 -0.7**
SBUM Sibu 75.56 279 P **P 18 29 23.9 +1.0**
SBUM Sibu 75.56 279 P **P 18 29 22.7 -0.3**
comp=Z,1µm,3.1s,comp=Z,85µm
ERM Erimo 75.70 329*d iP* **P 18 29 22.5 -0.6**
ERM pmax pmax
comp=Z,407nm,1.2s
ERM MLR MLR
comp=Z,197µm,18.0s
ERM Erimo 75.70 329 *eP* **P 18 29 24.4 +1.3**
comp=Z,895nm,1.1s
ERM LR LR
comp=Z,422µm,21.0s
YUK Yuzh-Kuril'sk 76.05 332 *i* P **P 18 29 25.8 +0.8**
YUK *i* PPP PPP 18 34 02.1
YUK *i* S **S 18 39 08.9 +2.7**
YUK *i* SS **SS 18 43 55.6 -4.7**
YUK pmax pmax
comp=Z,139µm,13.0s
YUK pmax pmax
comp=N,3µm,1.4s
YUK pmax pmax
comp=E,1µm,1.4s
YUK pmax pmax
comp=Z,5µm,1.4s
LEM Lembang 76.15 268 P **P 18 29 26.7 +0.2**
baz=76,SNR=108
JNU Nakatsue 76.38 315 S **S 18 39 16.3 +5.9**
comp=Z,7.8nm,0.9s,baz=255,slow=21,SNR=6.3
JNU PKPPKP P'P'df 18 56 50.0 +10
comp=Z,37nm,1.2s,baz=320,slow=3.0,SNR=3.6
JNU LR LR 18 59 00.8
comp=Z,139µm,21.1s,baz=126,slow=33
JNU Nakatsue 76.38 315 *eP* **P 18 29 26.6 -0.6**
comp=Z,1µm,1.4s
JNU S **S 18 39 16.3 +5.9**
JNU P'P' 18 56 50.0
FX1 Attu Island--F 76.46 352 LR LR 19 00 08.4
comp=Z,242µm,20.0s,baz=189,slow=34
FX1 Attu Island--F 76.46 352 *eP* **P 18 29 25.8 -1.4**
XMI Christmas Isla 76.58 264 P **P 18 29 29.3 +0.4**
baz=76,SNR=12
XMIS Christmas Isla 76.61 264 P **P 18 29 29.3 +0.4**
baz=76,SNR=8.0
KSM Kuching 76.91 277 *eP* **P 18 29 29.8 -0.8**
comp=Z,1µm,0.8s
KSM LR LR
comp=Z,184µm,22.0s
KSM Kuching 76.91 277 P **P 18 29 30.3 -0.3**
baz=77,SNR=270
KSM Kuching 76.91 277 P **P 18 29 30.7 +0.1**
KSM Kuching 76.91 277 P **P 18 29 29.8 -0.8**
comp=Z,2µm,1.0s,comp=Z,94µm
UNV Unalaska Valle 77.00 5 *eP* **P 18 29 29.0 -1.1**
comp=Z,1µm,1.1s
DBJI Dramaga 77.05 268 P **P 18 29 30.8 -0.7**
comp=Z,6µm,1.6s,comp=Z,144µm
BSC Santa Cruz Isl 77.20 44 ⇓P **P 18 29 31.0 -0.8**
baz=77
SCI San Clemente I 77.27 46 ⇑P **P 18 29 32.1 -0.1**
baz=77,SNR=42
SCI ⇑S **S 18 39 25.1 +4.9**
baz=77
SCI ⇑S **S 18 39 25.1 +4.9**
baz=77
SCI ⇑S **S 18 39 25.1 +4.9**
baz=77
TNG Tangerang 77.29 269 P P 18 29 27.1 -5.7
comp=Z,9µm,1.7s,comp=Z,272µm
TNG Tangerang 77.29 269 P P 18 29 27.1 -5.7
comp=Z,6µm,1.7s,comp=Z,169µm
AKUT Akutan 77.34 5 *eP* **P 18 29 31.4 -0.7**
comp=Z,5µm,1.6s
SBC Santa Barbara 77.44 44 ⇓P **P 18 29 32.4 -0.6**
baz=78
TWG Pinlang 77.47 302 *eP* **P 18 29 30.8 -2.8**
comp=Z,5µm,0.6s
ASAJ Asahikawa 77.58 330 PKPPKP 18 56 43.9
comp=Z,29nm,1.2s,baz=185,slow=2.6,SNR=4.4
ASAJ LR LR 18 59 53.3
comp=Z,434µm,20.5s,baz=172,slow=33
ASAJ Asahikawa 77.58 330 *eP* **P 18 29 33.9 +0.2**
comp=Z,1µm,1.0s
ASAJ P'P' 18 56 43.9
PMSA Palmer Station 77.59 156 P **P 18 29 33.8 +0.3**
comp=Z,150nm,1.0s,baz=214,slow=8.5,SNR=8.9
PMSA LR LR 18 56 14.5
comp=Z,280µm,20.9s,baz=88,slow=30
PMSA Palmer Station 77.59 156 *eP* **P 18 29 33.8 +0.3**
comp=Z,1µm,1.4s
YULB Yu-li 77.59 302 *eP* **P 18 29 31.7 -2.5**
comp=Z,716nm,0.6s
CIS Catalina Islan 77.63 45 ⇑P **P 18 29 33.4 -0.8**
baz=78,SNR=63
BLG Laguna Peak 77.64 44 ⇑P **P 18 29 33.6 -0.7**
baz=78,SNR=24
PKM Peak Mountain 77.66 43 ⇑P **P 18 29 34.2 -0.4**
baz=78
TPI Tanjungpandan 77.67 272 P P 18 29 38.8 +3.9
comp=Z,673nm,1.1s,comp=Z,43µmcomp=Z,879µm
NACB Ninganchiao 77.78 303 *eP* **P 18 29 33.1 -2.1**
comp=Z,3µm,1.1s
SBJI Serang 77.78 269 P **P 18 29 35.9 +0.4**
comp=Z,3µm,1.5s,comp=Z,87µm
SMMC Simmler 77.81 43 ⇑P **P 18 29 35.0 -0.3**
baz=78
SAC San Andreas 77.82 40 *eP* **P 18 29 35.7 +0.5**
SAC pmax pmax
comp=Z,3µm,1.4s
SAC San Andreas 77.82 40 *eP* **P 18 29 35.6 +0.5**
comp=Z,3µm,1.4s
SAO San Andreas Ge 77.86 41 *eP* **P 18 29 34.5 -0.9**
SAO pmax pmax
comp=Z,4µm,1.8s
SAO San Andreas Ge 77.86 41 *eP* **P 18 29 34.5 -0.9**
comp=Z,4µm,1.8s
FMP Fort Macarthur 77.89 45 ⇓P **P 18 29 35.0 -0.7**
baz=78
MCCM Marconi Confer 77.93 39 *eP* **P 18 29 35.3 -0.4**
comp=Z,4µm,1.9s
SKR Severo-Kuril's 77.94 341*c iP* **P 18 29 34.0 -1.5**
SKR *i* S **S 18 39 24.0 -2.5**
SKR *i* PS PnS 18 39 46.0 -24
SKR pmax pmax
comp=N,520nm,1.0s
SKR pmax pmax
comp=E,6µm,2.0s
SKR pmax pmax
comp=N,51µm,18.0s
SKR pmax pmax
comp=E,33µm,18.0s
SKR pmax pmax
comp=Z,142µm,18.0s
SKR MLR MLR
comp=Z,134µm,20.0s
SKR MLR MLR
comp=N,89µm,18.0s
SKR MLR MLR
comp=E,43µm,18.0s
TPUB Ta-pu 78.07 302 *eP* **P 18 29 34.1 -2.8**
comp=E,3µm,0.7s
SSLB Suanglung 78.07 302 *eP* **P 18 29 34.2 -2.7**
comp=E,1µm,0.6s
LPIG La Paz 78.10 57 LR LR 18 55 23.8
comp=E,30µm,21.6s,baz=248,slow=29
LPIG La Paz 78.10 57 P **P 18 29 36.9 -0.1**
109C Camp Elliot, M 78.17 46 ⇑P **P 18 29 36.3 -0.9**
baz=78,SNR=8.9
OSI Osito Adit 78.18 44 *eP* **P 18 29 37.6 +0.3**
comp=E,4µm,1.9s
OSI Osito Adit 78.18 44 ⇑P **P 18 29 36.8 -0.5**
baz=78
DECC Green Verdugo 78.20 45 ⇓P **P 18 29 36.8 -0.6**
baz=78,SNR=19
YHNB Yeheng 78.21 303 *eP* **P 18 29 36.7 -1.0**
comp=E,1µm,1.0s
YHNB LR LR
comp=Z,371µm,20.0s
PASC Pasadena Art C 78.25 45 *eP* **P 18 29 37.9 +0.2**
comp=Z,924nm,1.2s
TATO Taipei 78.29 304 *eP* **P 18 29 35.9 -2.1**
comp=Z,2µm,0.8s
TATO LR LR
comp=Z,377µm,20.0s
TATO Taipei 78.29 304 P **P 18 29 37.3 -0.7**
SNR=49
BAR Barrett 78.34 47 *eP* **P 18 29 37.7 -0.5**
comp=Z,3µm,2.0s
MWC Mount Wilson 78.36 45 *eP* **P 18 29 37.4 -1.1**
MWC pmax pmax
comp=Z,1µm,1.1s
MWC Mount Wilson 78.36 45 *eP* **P 18 29 37.4 -1.1**
comp=Z,1µm,1.1s
SRIG Santa Rosalia 78.37 54 P **P 18 29 39.0 +0.5**
HOPS Hopland 78.39 39 *eP* **P 18 29 37.8 -0.5**
comp=Z,4µm,1.5s
ARVC Arvin 78.43 44 ⇓P **P 18 29 38.0 -0.6**
baz=79,SNR=20
MURC Murrieta 78.54 46 ⇓P **P 18 29 38.8 -0.5**
baz=79,SNR=95
KCPM Cahto Peak 78.57 38 *eP* **P 18 29 39.8 +0.4**
comp=Z,2µm,1.6s
MONP Monument Peak 78.63 47 ⇑P **P 18 29 39.5 -0.6**
baz=79,SNR=209
BFSC Mount Baldy Ra 78.63 45 ⇓P **P 18 29 39.7 -0.3**
baz=79,SNR=86
DVTC Desert V Tower 78.71 47 ⇓P **P 18 29 40.0 -0.3**
baz=79

KIPM Iron Peak 78.71 38 eP P 18 29 40.9 +0.6
comp=Z,3μm,1.8s
VES Vestal, Richgr 78.72 43 ⇑P P 18 29 40.1 -0.1
baz=79,SNR=164
EDW2 Edwards Air Fo 78.82 44 ⇓P P 18 29 39.9 -0.9
baz=79,SNR=290
BLSI Bandar Lampung 78.88 269 P P 18 29 40.6 -1.0
comp=Z,2μm,1.6s,comp=Z,71μmcomp=Z,835μm
RCTC Rector, Farmer 78.92 43 ⇓P P 18 29 41.3 0.0
baz=79
ISA Isabella 79.00 44 eP P 18 29 41.1 -0.7
ISA pmax pmax
comp=Z,251nm,0.6s
ISA Isabella 79.00 44 eP P 18 29 41.1 -0.7
comp=Z,251nm,0.6s
ISA Isabella 79.00 44 ⇓P P 18 29 41.1 -0.7
baz=79,SNR=414
PFO Pinyon Flat Ob 79.04 46 eP P 18 29 41.0 -1.2
comp=Z,1μm,1.4s
PFO LR LR
comp=Z,231μm,20.0s
PFO Pinyon Flat Ob 79.04 46 P P 18 29 43.6 +1.4
comp=Z,3μm,1.3s,SNR=95
PFO Pinyon Flat Ob 79.04 46 ⇑P P 18 29 41.3 -0.9
baz=79,SNR=201
SWSC Sam W. Stewart 79.08 47 ⇑P P 18 29 41.4 -0.8
baz=79,SNR=51
SDPT Sand Point 79.11 8 eP P 18 29 40.6 -1.2
comp=Z,2μm,1.1s
BBRC Big Bear Solar 79.13 45 ⇓P P 18 29 41.6 -1.1
baz=79
PPBI Pangkal Pinang 79.29 272 P P'P'df 18 56 40.8 +1.6
PPBI Pangkal Pinang 79.29 272 P P 18 29 43.7 -0.2
comp=Z,2μm,1.5s,comp=Z,76μmcomp=Z,995μm
KHMM Horse Mountain 79.30 37 eP P 18 29 43.1 -0.3
comp=Z,295nm,0.6s
CMB Columbia Colle 79.33 41 eP P 18 29 42.7 -0.8
CMB pmax pmax
comp=Z,1μm,1.2s
CMB Columbia Colle 79.33 41 eP P 18 29 42.7 -0.8
comp=Z,1μm,1.2s
PET Petropavlovsk 79.35 344 ceP P 18 29 42.5 -0.7
PET e 18 32 47.3
PET eS S 18 39 40.6 -0.9
PET ePS PnS 18 40 19.4 -8.6
PET ePPS PPS 18 40 44.0
PET pmax pmax
comp=Z,924nm,1.7s
PET pmax pmax
comp=Z,183μm,16.1s
PET pmax pmax
comp=Z,152μm,15.9s
PET smax smax
comp=N,88μm,15.9s
PET smax smax
comp=N,308μm,26.2s
PET MLR MLR
comp=Z,194μm,19.0s
LRMC Laurel Mountai 79.38 44 ⇓P P 18 29 43.1 -0.9
baz=80,SNR=151
RRX Edison Barstow 79.46 45 ⇑P P 18 29 43.9 -0.3
baz=80,SNR=12
KASI Kota Agung 79.51 268 P P 18 29 44.0 -1.0
comp=Z,4μm,1.1s,comp=Z,91μmcomp=Z,985μm
BELC Belle Mtn. Jos 79.58 46 ⇓P P 18 29 44.5 -0.7
baz=80,SNR=299
KRMB Red Mountain 79.65 36 eP P 18 29 45.1 -0.2
comp=Z,4μm,1.6s
PEA0B Petropavlovsk- 79.67 343 eP P 18 29 43.6 -1.3
PETK Petropavlovsk- 79.67 343 P P 18 29 43.9 -1.1
comp=Z,232nm,0.8s,baz=130,slow=7.8,SNR=114
PETK PKKPbc PKKPbc 18 48 41.1 +5.8
comp=Z,15nm,1.0s,baz=124,slow=2.7,SNR=5.5
PETK PKPPKP P'P'df 18 56 31.5 -0.1
comp=Z,9.4nm,1.1s,baz=199,slow=4.1,SNR=3.9
PETK LR LR 19 04 15.3
comp=Z,87μm,19.3s,baz=152,slow=35
PETK Petropavlovsk- 79.67 343 P P 18 29 43.9 -1.1
PETK pmax pmax
comp=Z,232nm,0.8s
PETK Petropavlovsk- 79.67 343 P P 18 29 43.9 -1.1
PETK PKKPbc PKKPbc 18 48 41.1 +5.8
PETK P'P' 18 56 31.5
YSS Yuzh-Sakhalins 79.70 332 ciP P 18 29 45.4 +0.2
YSS iS S 18 39 46.0 +0.5
YSS eSS SS 18 44 56.0 +0.9
YSS eSSS SSS 18 48 16.0
YSS pmax pmax
comp=E,400nm,1.0s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS pmax pmax
comp=N,37μm,16.0s
YSS pmax pmax
comp=E,30μm,16.0s
YSS pmax pmax
comp=Z,136μm,16.0s
YSS smax smax
comp=N,296μm,22.0s
YSS smax smax
comp=E,145μm,20.0s
YSS MLR MLR
comp=N,121μm,18.0s
YSS MLR MLR
comp=E,82μm,18.0s
YSS MLR MLR
comp=Z,213μm,18.0s
CWC Cottonwood Cre 79.73 43 ⇓P P 18 29 45.2 -0.7
baz=80
BC3 Big Chuckawall 79.74 47 ⇓P P 18 29 45.4 -0.6
baz=80,SNR=440
WDC Whiskeytown Da 79.76 38 eP P 18 29 45.3 -0.5
WDC pmax pmax
comp=Z,3μm,1.5s
WDC Whiskeytown Da 79.76 38 eP P 18 29 45.3 -0.5
comp=Z,3μm,1.5s
GLA Glamis 79.80 47 eP P 18 29 45.6 -0.6
GLA pmax pmax
comp=Z,3μm,1.5s
GLA Glamis 79.80 47 eP P 18 29 45.6 -0.6
comp=Z,3μm,1.5s
GLA Glamis 79.80 47 ⇓P P 18 29 45.5 -0.8
baz=80
GSC Goldstone 79.84 45 eP P 18 29 45.6 -0.9
GSC pmax pmax
comp=Z,2μm,1.5s
GSC Goldstone 79.84 45 eP P 18 29 45.6 -0.9
comp=Z,2μm,1.5s
GSC Goldstone 79.84 45 ⇑P P 18 29 45.3 -1.2
baz=80,SNR=134
HEC Hector,Ludlow 79.86 45 ⇓P P 18 29 45.7 -0.8
baz=80,SNR=380
MPMC Manual Prospec 79.87 44 ⇑P P 18 29 45.7 -1.0
baz=80,SNR=565
DAC Darwin (Calif) 79.94 43 eP P 18 29 44.9 -2.2
DAC pmax pmax
comp=Z,2μm,1.8s
DAC MLR MLR
comp=Z,240μm,22.0s
DAC Darwin (Calif) 79.94 43 eP P 18 29 44.9 -2.2
comp=Z,2μm,1.8s
DAC LR LR
comp=Z,240μm,22.0s
KBO Bosley Butte 79.95 36 eP P 18 29 48.4 +1.5
comp=Z,4μm,1.6s
CJM Chamela 80.00 64 P P 18 29 45.7 -1.8
MLAC Mammoth Lakes 80.01 42 ⇓P P 18 29 47.2 -0.3
baz=80
TIN Tinemaha 80.02 43 ⇑P P 18 29 46.7 -0.7
baz=80
LWLI Liwa 80.11 269 P P 18 29 47.6 -0.8
comp=Z,5μm,0.9s,comp=Z,91μmcomp=Z,877μm
MAW Mawson 80.13 199 P P 18 29 48.6 +1.2
comp=Z,467nm,0.9s,baz=116,slow=5.2,SNR=28
MAW LR LR 19 03 17.7
comp=Z,754μm,20.9s,baz=128,slow=34
MAW Mawson 80.13 199 P P 18 29 48.6 +1.2
MAW Mawson 80.13 199 P P 18 29 48.4 +1.0
baz=80,SNR=15
USHA Ushuaia 80.17 146 P P 18 29 48.2 +0.3
comp=Z,132nm,0.8s,baz=246,slow=4.8,SNR=22
USHA Ushuaia 80.17 146 P P 18 29 48.2 +0.3
IRM Iron Mountain 80.24 46 ⇓P P 18 29 47.8 -0.8
baz=80,SNR=428
HSIG 80.26 53 P P 18 29 48.3 -0.4
GMRC Granite Mounta 80.27 46 ⇑P P 18 29 47.5 -1.4
baz=80,SNR=234
CHGN Chignik 80.32 9 eP P 18 29 47.8 -0.5
KEBM Edson Butte 80.36 35 eP P 18 29 50.1 +1.1
comp=Z,3μm,1.4s
113A Mohawk Valley, 80.36 48 ⇓P P 18 29 48.4 -0.8
baz=80,SNR=92
Y12C Blythe 80.42 47 ⇑P P 18 29 48.8 -0.7
baz=81,SNR=84
YBH Yreka Blue Hor 80.45 37 PKKP 18 48 20.9
comp=Z,4.0nm,0.9s,baz=167,slow=6.8,SNR=3.4
YBH PKPPKP P'P'df 18 56 30.2 -1.7
comp=Z,3.1nm,0.9s,baz=356,slow=3.2,SNR=4.8
YBH LR LR 18 59 18.2
comp=Z,183μm,21.4s,baz=243,slow=31
YBH Yreka Blue Hor 80.45 37 eP P 18 29 49.1 -0.5
comp=Z,261nm,0.4s
YBH PKKP PKKPdf 18 48 20.9 -2.1
YBH P'P' 18 56 30.2
TUQ Turquoise Moun 80.49 45 ⇑P P 18 29 49.0 -1.0
baz=81,SNR=185
QZH Quanzhou 80.51 302 ⇓iP P 18 29 51.4 +1.3
QZH S S 18 39 57.0 +2.1
QZH pmax pmax
comp=Z,4μm,1.2s
QZH pmax pmax
comp=Z,199μm,11.5s
QZH LR LR
comp=N,246μm,18.8s
QZH LR LR
comp=E,248μm,18.4s
QZH LR LR
comp=Z,902μm,32.6s
FURC Furnace Creek, 80.52 44 ⇓P P 18 29 49.3 -0.6
baz=81,SNR=98
WCN Washoe City 80.52 40 eP P 18 29 49.6 -0.6
WCN pmax pmax
comp=Z,2μm,1.3s
WCN Washoe City 80.52 40 eP P 18 29 49.6 -0.6
comp=Z,2μm,1.3s
GRAC Grapevine Rang 80.52 43 ⇓P P 18 29 49.5 -0.5
baz=81,SNR=77
SHOC Shoshone 80.54 44 ⇑P P 18 29 49.1 -1.0
baz=81,SNR=97
214A Organ Pipe Nat 80.56 49 ⇑P P 18 29 49.6 -0.7
baz=81,SNR=128
MAIG Mazatlaan 80.68 60 P P 18 29 50.4 -0.7
LDFC Landfair 80.81 46 eP P 18 29 51.4 -0.4
comp=Z,2μm,1.3s
MMIG Aquila 80.84 66 P P 18 29 50.3 -1.7
NVAR Mina Array Bea 80.84 41 P P 18 29 51.2 -0.7
comp=Z,413nm,1.0s,baz=224,slow=8.3,SNR=335
NVAR PKKP PKKPdf 18 48 18.9 -3.4
comp=Z,8.7nm,1.1s,baz=158,slow=3.6,SNR=5.7
NVAR PKPPKP P'P'df 18 56 35.2 +3.3
comp=Z,8.6nm,1.0s,baz=87,slow=2.3,SNR=6.2
NVAR LR LR 18 59 14.3
comp=Z,133μm,21.8s,baz=111,slow=31
NVAR Mina Array Bea 80.84 41 P P 18 29 51.2 -0.7
NVAR PKKP PKKPdf 18 48 18.9 -3.4
NVAR P'P' 18 56 35.2
HUMO Hull Mountain 80.91 36 eP P 18 29 51.6 -0.3
comp=Z,3μm,1.0s
NV11 Mina Array Sit 80.93 42 eP P 18 29 51.3 -1.0
NEE2 Needles Airpor 80.95 46 ⇑P P 18 29 51.7 -0.6
baz=81,SNR=19
KSRS Korea Array 80.97 317 P P 18 29 52.7 +0.4
comp=Z,88nm,0.9s,baz=134,slow=5.8,SNR=75
KSRS PKPPKP P'P'df 18 56 41.4 +10
comp=Z,22nm,1.3s,baz=319,slow=3.2,SNR=9.1
KSRS LR LR 19 03 28.7
comp=Z,133μm,19.9s,baz=156,slow=34
KSAR Wonju Array Be 80.99 317 P P 18 29 52.7 +0.3
KSAR P'P' 18 56 41.4
PDMCI Parker Dam,Lak 81.00 47 ⇑P P 18 29 51.9 -0.6
baz=81,SNR=131
ANIG Ahuacatlan 81.17 63 P P 18 29 52.6 -1.4
Z14A Wintersburg 81.27 48 ⇑P P 18 29 53.6 -0.5
baz=81,SNR=75
TPH Tonopah 81.28 42 PFAKE 18 30 00.0 +5.7
TPH LR LR
comp=Z,117μm,21.0s
HOG Hogback Mounta 81.34 37 P P 18 29 55.6 +1.1
MNAI Manna 81.37 269 P P 18 29 57.6 +2.5
comp=Z,3μm,1.1s,comp=Z,155μm
Y14A Wickenburg 81.56 48 ⇓P P 18 29 55.4 -0.3
baz=82,SNR=64
W13A Hualapai Mount 81.64 46 ⇓P P 18 29 55.6 -0.7
baz=82
INCN Inchon 81.80 317 eP P 18 29 57.9 +1.1
comp=Z,2μm,1.3s
INCN LR LR
comp=Z,148μm,22.0s
INCN Inchon 81.80 317 P P 18 29 58.4 +1.6
SNR=37
SSE Sheshan 81.81 309 P P 18 29 56.8 -0.1
SSE PP PP 18 33 02.8 -1.9
SSE S S 18 40 09.6 +1.3
SSE pmax pmax
comp=Z,260nm,1.1s
SSE pmax pmax
comp=Z,129μm,12.0s
SSE LR LR
comp=N,185μm,28.8s
SSE LR LR
comp=E,127μm,28.8s
SSE LR LR
comp=Z,288μm,31.1s
MPOR Mary's Peak 81.90 34 P P 18 29 58.7 +1.5
MOD Modoc 81.90 38 eP P 18 29 56.6 -0.8
comp=Z,8μm,1.8s
KSI Kapahiang 81.98 269 P P 18 29 57.3 -1.0
comp=Z,6μm,1.0s,comp=Z,115μm
COYC Coyhaique 82.05 136 eP P 18 29 59.2 +1.1
COR Corvallis 82.08 34 eP P 18 29 57.7 -0.3
COR pmax pmax
comp=Z,5μm,1.6s
COR Corvallis 82.08 34 eP P 18 29 57.7 -0.3
comp=Z,5μm,1.6s
ZIIG Zihuatanejo 82.11 67 P P 18 29 59.3 +0.5
SFJM Santa Fe 82.12 64 P P 18 29 59.0 0.0
TUC Tucson 82.18 50 eP P 18 29 58.3 -0.7
TUC pmax pmax
comp=Z,5μm,2.0s
TUC MLR MLR
comp=Z,323μm,20.0s
TUC Tucson 82.18 50 eP P 18 29 58.3 -0.7
comp=Z,999nm,2.0s
TUC LR LR
comp=Z,282μm,20.0s
VLA Vladivostok 82.28 324 ⇑iP P 18 29 58.6 -0.5
VLA pmax pmax
comp=Z,437nm,0.9s
VLA MLR MLR
comp=Z,84μm,23.0s
R11A Troy Canyon, C 82.47 43 ⇓P P 18 29 59.8 -0.7
baz=83
SSOR Sweet Springs 82.70 34 P P 18 30 02.2 +0.8
SSOR Sweet Springs 82.70 34 P P 18 30 02.2 +0.8
KDAK Kodiak Island 82.71 12 PKKPbc PKKPbc 18 48 27.1 -1.3
comp=Z,18nm,1.0s,baz=286,slow=5.5,SNR=3.7
KDAK LR LR 19 00 38.0
comp=Z,319μm,21.1s,baz=122,slow=31
KDAK Kodiak Island 82.71 12 eP P 18 29 59.7 -1.3
comp=Z,868nm,3.1s
KDAK PKKPbc PKKPbc 18 48 27.1 -1.3
HKC Hong Kong Obse 82.72 298 iP P 18 30 00.0 -1.9
319A Douglas 82.75 52 ⇑P P 18 30 01.3 -0.7
baz=83,SNR=155
BMN Battle Mountai 82.75 40 eP P 18 30 01.5 -0.4
BMN pmax pmax
comp=Z,3μm,1.5s
BMN MLR MLR
comp=Z,144μm,19.0s
BMN Battle Mountai 82.75 40 eP P 18 30 01.5 -0.4
comp=Z,3μm,1.5s
BMN LR LR
comp=Z,144μm,19.0s
BEND Bend 82.77 36 P P 18 30 03.1 +1.3
X16A Lo Mia Camp, P 82.89 48 ⇓P P 18 30 02.2 -0.6
baz=83
USRK Ussuriysk Arra 82.94 324 P P 18 30 02.8 +0.3
comp=Z,196nm,0.9s,baz=111,slow=3.1,SNR=159
USRK PKKPbc PKKPbc 18 48 34.1 +7.1
comp=Z,12nm,1.1s,baz=340,slow=2.1,SNR=6.1
USRK PKPPKP P'P'df 18 56 31.5 +4.4
comp=Z,3.4nm,0.9s,baz=347,slow=7.8,SNR=4.1
MYKOM Kota Tinggi 82.94 275 P P 18 30 03.9 +0.6
comp=Z,1μm,1.2s,comp=Z,92μm
NLO Nicolai Mounta 83.04 33 P P 18 30 04.8 +1.7
ACX Acapulco 83.15 68 P P 18 30 05.0 +0.8
HPIG 83.15 57 P P 18 30 02.8 -1.5
CGIG 83.16 53 P P 18 30 03.8 -0.4
GMO Grizzlie Mount 83.22 36 P P 18 30 05.2 +1.0
320A Kipp Ranch, An 83.27 52 ⇓P P 18 30 04.3 -0.5
baz=83,SNR=143
VBEM Beaver Butte 83.30 35 P P 18 30 05.4 +0.8
CCUT Cedar City 83.41 45 eP P 18 30 05.0 -0.4
comp=Z,3μm,1.1s
ON2 Olympics--Nort 83.43 32 P P 18 30 06.7 +1.7
U15A North Rim 83.46 46 ⇑P P 18 30 05.5 -0.3
baz=84
RGRI Rengat 83.49 272 P P 18 30 09.2 +3.1
comp=Z,9μm,1.2s,comp=Z,129μm
ARUT Antelope Range 83.50 44 eP P 18 30 05.3 -0.5
ARUT pmax pmax
comp=Z,3μm,1.5s
ARUT Antelope Range 83.50 44 eP P 18 30 05.2 -0.5
comp=Z,3μm,1.5s
KGM Kluang 83.52 275 P P 18 30 07.3 +1.1
VLL Laurance Lake 83.52 34 P P 18 30 06.7 +1.0
VFP Flag Point 83.53 35 P P 18 30 06.7 +0.9
WUAZ Wupatki 83.56 47 eP P 18 30 05.7 -0.4
comp=Z,547nm,1.6s
WUAZ LR LR
comp=Z,237μm,19.0s
WUAZ Wupatki 83.56 47 ⇑P P 18 30 05.6 -0.6
baz=84
220A Playas Peak, P 83.57 51 ⇓P P 18 30 05.9 -0.4
baz=84,SNR=254
ZAIG Zacatecas 83.58 62 P P 18 30 06.9 +0.1
KRJI Kerinci 83.62 270 P P 18 30 10.0 +3.1
comp=Z,3μm,1.1s,comp=Z,100μmcomp=Z,730μm
JLK June Lake 83.74 34 P P 18 30 08.0 +1.2
NLWA Neilton Lookou 83.74 32 eP P 18 30 06.7 +0.1
comp=Z,2μm,1.2s
NLWA LR LR
comp=Z,183μm,20.0s
GZH Guangzhou 83.77 298 P P 18 30 09.4 +2.1
GZH LR LR
comp=N,91μm,32.2s
GZH LR LR
comp=E,198μm,30.8s
GZH LR LR
comp=Z,470μm,33.2s
MEIG Mezcala 83.82 68 P P 18 30 07.8 +0.1
120A U Bar Ranch, L 83.84 51 ⇑P P 18 30 07.1 -0.5
baz=84,SNR=254
GULW Guler Mountain 83.88 34 P P 18 30 08.4 +0.9
VTHM Trough 83.92 35 P P 18 30 08.6 +1.0
X18A Snowflake 83.98 49 ⇓P P 18 30 07.8 -0.6
baz=84
NJ2 Nanjing 84.00 308 eP P 18 30 09.0 +0.7
NJ2 PP PP 18 33 24.4 +1.7
NJ2 S S 18 40 31.0 +0.5
NJ2 pmax pmax
comp=Z,2μm,1.0s
NJ2 pmax pmax
comp=Z,27μm,10.1s
NJ2 LR LR
comp=N,73μm,23.3s
NJ2 LR LR
comp=E,242μm,28.8s
NJ2 LR LR
comp=Z,163μm,21.2s
COCO West Island 84.01 259 eP P 18 30 08.7 0.0
COCO pmax pmax
comp=Z,4μm,1.3s
COCO MLR MLR
comp=Z,235μm,20.0s
COCO West Island 84.01 259 eP P 18 30 08.7 0.0
comp=Z,4μm,1.3s
COCO LR LR
comp=Z,235μm,20.0s
COCO West Island 84.01 259 P P 18 30 13.7 +4.9
SNR=31
COCO West Island 84.01 259 P P 18 30 12.9 +4.2
comp=Z,3μm,1.3s,comp=Z,118μmcomp=Z,909μm
ELK Elko 84.13 41 eP P 18 30 07.9 -1.2
comp=Z,194nm,0.6s
221A Mesquite Ranch 84.17 52 ⇑P P 18 30 08.9 -0.4
baz=84,SNR=39
Z20A Nine Sixteen R 84.17 50 ⇓P P 18 30 08.7 -0.6
baz=84,SNR=425
LON Longmire 84.32 33 eP P 18 30 08.4 -1.3
LON Longmire 84.32 33 eP P 18 30 08.4 -1.3
comp=Z,69nm,0.9s
HABR Khabarovsk 84.32 329 ciP P 18 30 11.4 +1.9
HABR e 18 33 25.6
HABR PPP PPP 18 35 18.6
HABR eS S 18 40 35.3 +2.3
HABR pmax pmax
comp=Z,6μm,2.5s
HABR pmax pmax
comp=Z,4μm,2.1s
HABR pmax pmax
comp=N,776nm,2.1s
HABR pmax pmax
comp=E,889nm,2.1s
HABR MLR MLR
comp=Z,103μm,18.0s
HABR MLR MLR
comp=N,52μm,18.0s
HABR MLR MLR
comp=E,122μm,18.0s
WPW White Pass 84.42 34 P P 18 30 11.0 +0.8
PNIG Pinotepa 84.43 70 P P 18 30 09.8 -1.0
121A Cookes Peak, D 84.44 51 ⇑P P 18 30 10.4 -0.3
baz=85,SNR=104
W18A Petrified Fore 84.45 48 ⇑P P 18 30 10.3 -0.4
baz=85
PAYG Puerto Ayora 84.50 88 eP P 18 30 11.4 +0.2
comp=E,1μm,1.6s
PAYG LR LR
comp=Z,319μm,20.0s
MDJ Mudanjiang 84.51 324 P P 18 30 10.4 -0.2
MDJ pP pP 18 30 19.8 -0.6
MDJ sP sP 18 30 23.4 -0.6
MDJ PP PP 18 33 25.3 -1.3
MDJ S SKKSac 18 40 37.1 -0.7
MDJ sS sS 18 40 51.4 0.0
MDJ pmax pmax
comp=Z,64μm,10.9s
MDJ LR LR
comp=N,142μm,20.2s
MDJ LR LR
comp=E,77μm,23.1s
MDJ LR LR
comp=Z,215μm,19.7s
MDJ Mudanjiang 84.51 324 PFAKE 18 30 20.0 +9.4
MDJ LR LR
comp=Z,214μm,22.0s
MVU Marysvale 84.70 44 eP P 18 30 12.1 +0.1
comp=Z,90nm,0.8s
MVU LR LR
comp=Z,226μm,22.0s
222A Williams Famil 84.71 52 ⇓P P 18 30 11.4 -0.7
baz=85
YAIG Yautepec 84.71 67 P P 18 30 10.8 -1.6
MSU Marysvale 84.73 44 eP P 18 30 12.0 -0.1
MSU pmax pmax
comp=Z,4μm,1.4s
MSU Marysvale 84.73 44 eP P 18 30 12.0 -0.1
comp=Z,4μm,1.4s
Y20A Horse Springs, 84.74 50 ⇓P P 18 30 12.1 -0.2
baz=85,SNR=736
SYO Syowa Base 84.81 192 ⇓iP P 18 30 09.6 -2.2
PGC Sidney 84.82 31 eP P 18 30 11.3 -0.7
comp=Z,98nm,1.2s
QIZ Qiongzhong 84.82 293 P P 18 30 13.3 +0.6
QIZ pP pP 18 30 22.1 -0.5
QIZ S S 18 40 38.4 -0.8
QIZ sS sS 18 40 53.0 -2.5
QIZ SS SS 18 46 10.9 -1.4
QIZ pmax pmax
comp=Z,300nm,2.0s
QIZ LR LR
comp=N,116μm,24.2s
QIZ LR LR
comp=E,74μm,25.7s
QIZ LR LR
comp=Z,398μm,28.1s
QIZ Qiongzhong 84.82 293 PFAKE 18 30 20.0 +7.3

QIZ LR LR
comp=Z,182µm,21.0s
UNM Universidad Na 84.82 67 P **P 18 30 12.3 -0.8**
UNM Universidad Na 84.82 67 P **P 18 30 12.3 -0.8**
Z21A St. Cloud Mine 84.92 51 ⇑P **P 18 30 12.8 -0.5**
baz=85,SNR=115
BKNI Bangkinang 84.95 273 P **P 18 30 13.7 +0.2**
comp=Z,2µm,1.1s,comp=Z,111µm
X20A Quemado 85.00 49 ⇓P **P 18 30 13.4 -0.2**
baz=85,SNR=236
PDSI Padang 85.00 271 P **P 18 30 14.6 +0.8**
comp=Z,2µm,0.8s,comp=Z,102µm
122A Conniff Cattle 85.09 51 ⇑P **P 18 30 13.9 0.0**
baz=85,SNR=49
223A Chaparral, Ant 85.14 52 ⇓P **P 18 30 13.7 -0.6**
baz=85,SNR=8.6
PLCA Paso Flores 85.15 132 P **P 18 30 14.3 +0.1**
comp=Z,101nm,1.0s,baz=242,slow=5.8,SNR=42
PLCA PKKPbc **PKKPbc 18 48 21.6 +1.1**
comp=Z,7.7nm,0.8s,baz=38,slow=2.4,SNR=8.9
PLCA PKPPKP **P'P'df 18 56 27.2 -3.0**
comp=Z,14nm,1.1s,baz=38,slow=1.8,SNR=5.3
PLCA LR LR 18 59 52.9
comp=Z,804µm,21.7s,baz=264,slow=30
PLCA Paso Flores 85.15 132 *eP* **P 18 30 14.0 -0.3**
comp=Z,30nm,0.6s
PLCA PKKPbc **PKKPbc 18 48 21.6 +1.1**
PLCA P'P' 18 56 27.2
PPM Popocatepetl 85.17 67 P **P 18 30 16.7 +1.6**
PPM Popocatepetl 85.17 67 P **P 18 30 16.7 +1.6**
RSO Redoubt South 85.20 11 *eP* **P 18 30 12.7 -1.2**
comp=Z,1µm,1.1s
PPI Padang Panjang 85.23 272 P P 18 30 21.8 +6.8
baz=85,SNR=7.0
PPI Padang Panjang 85.23 272 P P'P'df 18 56 36.9 +8.5
comp=Z,1µm,0.8s
SNAA Sanae 85.25 177 *eP* **P 18 30 12.9 -1.2**
comp=Z,2µm,1.3s
HAWA Hanford 85.26 35 *eP* **P 18 30 13.5 -0.8**
comp=Z,3µm,1.6s
HAWA LR LR
comp=Z,167µm,19.0s
P15A Leamington 85.27 43 ⇓P **P 18 30 14.2 -0.5**
baz=85
VNA3 Neumayer Olymp 85.27 175 *eP* **P 18 30 13.8 -0.3**
VNA3 Neumayer Olymp 85.27 175 *eWP* 18 35 30.1
MDW Midway 85.28 34 P **P 18 30 15.5 +1.1**
MDW Midway 85.28 34 P **P 18 30 15.5 +1.1**
Y21A Point of Rocks 85.29 50 ⇑P **P 18 30 14.1 -1.0**
baz=86,SNR=272
DUG Dugway 85.29 43 *eP* **P 18 30 13.4 -1.4**
DUG pmax pmax
comp=Z,1µm,0.7s
DUG MLR MLR
comp=Z,94µm,20.0s
DUG Dugway 85.29 43 *eP* **P 18 30 13.4 -1.4**
comp=Z,1µm,0.7s
DUG LR LR
comp=Z,94µm,20.0s
DUG Dugway 85.29 43 ⇑P **P 18 30 14.0 -0.8**
baz=86
W20A Ramah 85.31 49 ⇑P **P 18 30 14.7 -0.4**
baz=86,SNR=887
UTMO Huajuapan 85.33 69 P **P 18 30 15.4 -0.1**
Z22A Elephant Butte 85.40 51 ⇑P **P 18 30 15.0 -0.5**
baz=86,SNR=381
MFID Camas Ranch 85.41 39 *eP* **P 18 30 14.2 -1.0**
comp=Z,568nm,1.0s
MFID Camas Ranch 85.41 39 ⇓P **P 18 30 15.3 0.0**
baz=86,SNR=264
X21A Alamocita Cree 85.44 50 ⇑P **P 18 30 15.6 -0.2**
baz=86,SNR=466
BMO Blue Mountains 85.47 37 *eP* **P 18 30 13.7 -1.8**
BMO pmax pmax
comp=Z,2µm,0.8s
BMO MLR MLR
comp=Z,142µm,20.0s
BMO Blue Mountains 85.47 37 *eP* **P 18 30 13.7 -1.8**
comp=Z,2µm,0.8s
BMO LR LR
comp=Z,177µm,20.0s
SEW Seward 85.47 12 *eP* **P 18 30 15.1 +0.2**
comp=Z,2µm,1.2s
MID Middleton Isla 85.50 14 *eP* **P 18 30 14.9 -0.2**
MID pmax pmax
comp=Z,3µm,1.5s
MID Middleton Isla 85.50 14 *eP* **P 18 30 14.9 -0.2**
comp=Z,3µm,1.5s
324A Moseley Ranch, 85.55 53 ⇑P **P 18 30 15.1 -1.3**
baz=86
FRIM Kepong 85.55 275 P **P 18 30 17.1 +0.5**
O15A The Old Anders 85.56 43 ⇓P **P 18 30 15.3 -0.9**
baz=86
123A Bell Site, Whi 85.59 52 ⇑P **P 18 30 15.9 -0.5**
baz=86,SNR=9.5
425A Indio Mountain 85.59 54 ⇑P **P 18 30 15.5 -1.0**
baz=86,SNR=365
Q16A Castle Valley 85.60 44 ⇑P **P 18 30 16.0 -0.5**
baz=86
626A Big Bend Ranch 85.62 55 ⇓P **P 18 30 15.7 -0.9**
baz=86,SNR=893
P16A Fountain Green 85.68 44 ⇑P **P 18 30 16.6 -0.2**
baz=86
S18A Hurst Farm, BI 85.69 46 ⇑P **P 18 30 16.3 -0.7**
baz=86
V20A Brimhall 85.69 48 ⇓P **P 18 30 16.3 -0.7**
baz=86,SNR=103
VNA2 Neumayer--Watz 85.75 176 *eP* **P 18 30 16.6 +0.1**
VNA2 Neumayer--Watz 85.75 176 *epP* pP 18 30 25.3 -1.1
VNA2 Neumayer--Watz 85.75 176 *eWP* 18 35 34.2
Y22A Socorro 85.76 50 ⇑P **P 18 30 16.7 -0.7**
baz=86,SNR=252
TMUT Trail Mountain 85.79 44 *eP* **P 18 30 17.2 -0.3**
comp=Z,15µm,1.1s
DL2 Dalian 85.83 315 ⇑*iP* **P 18 30 18.0 +0.7**
DL2 SKS S 18 40 41.0 -7.4
DL2 S **SKKSac 18 40 52.0 +4.1**
DL2 pmax pmax
comp=Z,400nm,1.6s
DL2 pmax pmax
comp=Z,65µm,13.9s
DL2 LR LR
comp=N,52µm,27.9s
DL2 LR LR
comp=E,65µm,25.2s
DL2 LR LR
comp=Z,143µm,26.6s
Y22D IRIS PASSCAL I 85.86 50 ⇓P **P 18 30 17.3 -0.5**
baz=86,SNR=11
TXAR Lajitas Array 85.86 56 P **P 18 30 17.1 -0.8**
comp=Z,788nm,1.2s,baz=216,slow=6.2,SNR=312
TXAR PKKP **PKKPbc 18 48 16.3 -3.1**
comp=Z,4.3nm,0.8s,baz=132,slow=4.4,SNR=4.4
TXAR PKPPKP **P'P'df 18 56 23.8 -0.4**
comp=Z,3.5nm,1.0s,baz=101,slow=3.9,SNR=3.9
TXAR LR LR 19 02 25.3
comp=Z,151µm,19.8s,baz=325,slow=31
TXAR Lajitas Array 85.86 56 P **P 18 30 17.1 -0.8**
TXAR PKKP **PKKPbc 18 48 16.3 -3.1**
TXAR P'P' 18 56 23.8
LENM Lemitar 85.87 50 *eP* **P 18 30 18.9 +1.0**
comp=Z,69nm,0.9s
LAZ Ladron 85.88 50 *eP* **P 18 30 17.8 -0.1**
comp=Z,2µm,0.9s
N15A Stansbury Isla 85.88 42 ⇑P **P 18 30 17.0 -0.7**
baz=86
CCHI Chillan 85.89 128 ⇑*iP* **P 18 30 19.6 +1.8**
325A Bean Ranch, Si 85.89 54 ⇓P **P 18 30 16.9 -1.2**
baz=86
W21A San Fidel 85.89 49 ⇑P **P 18 30 17.1 -0.9**
baz=86,SNR=104
526A Mary Lane Ranc 85.90 55 ⇑P **P 18 30 17.1 -1.0**
baz=86,SNR=868
CRAG Craig 85.91 22 *eP* **P 18 30 17.6 +0.3**
comp=Z,5µm,2.0s
MPU Maple Canyon 85.93 43 *eP* **P 18 30 18.8 +0.7**
comp=Z,2µm,1.8s
Z23A Rita Site, Whi 85.93 51 ⇑P **P 18 30 17.6 -0.5**
baz=86,SNR=254
OXX Oaxaca 85.94 70 P **P 18 30 18.6 0.0**
VNA1 Neumayer--Stat 85.95 175 *eP* **P 18 30 17.6 +0.1**
VNA1 Neumayer--Stat 85.95 175 *epP* pP 18 30 26.2 -1.2
U20A Newcomb 85.96 48 ⇑P **P 18 30 17.5 -0.8**
baz=86,SNR=111
TPIG Tehuac#an 85.96 68 P **P 18 30 19.1 +0.4**
X22A Bernardo 86.02 50 ⇓P **P 18 30 18.0 -0.6**
baz=86,SNR=129

I12A Atlanta 86.04 39 ⇑P **P 18 30 18.0 -0.5**
baz=86
BNM Barren Site 86.11 50 *eP* **P 18 30 18.4 -0.8**
comp=Z,1µm,1.5s
L14A Malta 86.11 41 ⇑P **P 18 30 17.8 -1.0**
baz=86,SNR=50
O16A Springville 86.12 43 ⇓P **P 18 30 18.1 -0.9**
baz=86
SRU San Rafael 86.13 45 *eP* **P 18 30 18.1 -1.0**
SRU San Rafael 86.13 45 *eP* **P 18 30 18.1 -1.0**
comp=Z,22µm,0.7s
SRU San Rafael 86.13 45 ⇑P **P 18 30 18.1 -1.0**
baz=86
627A Terlingua Ranc 86.14 56 ⇑P **P 18 30 18.2 -1.0**
baz=86
LPM Los Pinos Moun 86.19 50 *eP* **P 18 30 18.7 -0.8**
comp=Z,841nm,0.5s
P17A Butcher Ranch, 86.19 44 ⇑P **P 18 30 18.6 -0.7**
baz=86
124A Stringfield Ra 86.21 52 ⇑P **P 18 30 19.0 -0.7**
baz=86,SNR=437
MAIT Maitri 86.22 182 *e* **P 18 30 18.0 -0.8**
NVL N'lazarevskaya 86.23 182 ⇓*iP* **P 18 30 19.1 +0.3**
NVL *eS* S 18 40 44.6 -6.8
NVL pmax pmax
comp=Z,1µm,1.5s
NVL MLR MLR
comp=Z,222µm,18.0s
HVU Hansel Valley 86.24 41 *eP* **P 18 30 17.8 -1.7**
HVU pmax pmax
comp=Z,110nm,0.8s
HVU Hansel Valley 86.24 41 *eP* **P 18 30 17.8 -1.7**
comp=Z,110nm,0.8s
CTU Camp Tracy 86.24 43 *eP* **P 18 30 19.9 +0.4**
comp=Z,723nm,1.2s
426A McDonald Obser 86.25 55 ⇑P **P 18 30 18.6 -1.3**
baz=86
M15A Larsen Ranch, 86.25 42 ⇑P **P 18 30 18.4 -1.1**
baz=86,SNR=113
V21A Milan 86.26 49 ⇓P **P 18 30 18.7 -1.1**
baz=86,SNR=100
SNY Shenyang 86.28 319 ⇓P **P 18 30 20.1 +0.7**
SNY pP **PcP 18 30 25.3 +3.4**
SNY SKS S 18 40 43.6 -9.0
SNY S **SKKSac 18 40 52.0 +0.9**
SNY pmax pmax
comp=Z,500nm,2.5s
SNY pmax pmax
comp=Z,141µm,12.0s
SNY LR LR
comp=N,106µm,25.2s
SNY LR LR
comp=E,79µm,28.8s
SNY LR LR
comp=Z,114µm,33.8s
HLID Hailey 86.32 39 *eP* **P 18 30 18.2 -1.6**
comp=Z,569nm,1.0s
HLID LR LR
comp=Z,96µm,22.0s
HLID Hailey 86.32 39 ⇑P **P 18 30 19.1 -0.7**
baz=86,SNR=206
CN2 Changchun 86.34 321 ⇑P **P 18 30 19.1 -0.6**
CN2 *epP* **pP 18 30 29.5 -0.1**
CN2 SKS S 18 40 40.1 -13
CN2 *eS* **SKKSac 18 40 51.0 -0.5**
CN2 SS **SS 18 46 34.5 +0.7**
CN2 LR LR
comp=N,71µm,20.0s
CN2 LR LR
comp=E,55µm,20.0s
CN2 LR LR
comp=Z,98µm,22.0s
J13A Cove Ranch, Pi 86.36 39 ⇓P **P 18 30 19.1 -0.9**
baz=86,SNR=224
225A Deer Hill, Car 86.37 53 ⇓P **P 18 30 19.5 -0.9**
baz=86,SNR=172
JLU Jordanelle 86.38 43 *eP* **P 18 30 19.1 -1.2**
comp=Z,1µm,1.5s
DAU Daniels Canyon 86.39 43 *eP* **P 18 30 21.0 +0.5**
DAU pmax pmax
comp=Z,2µm,1.5s
DAU Daniels Canyon 86.39 43 *eP* **P 18 30 21.0 +0.5**
comp=Z,2µm,1.5s
Y23A Lovelace Mesa, 86.40 51 ⇓P **P 18 30 19.6 -0.9**
baz=87,SNR=337
W22A Albuquerque 86.42 50 ⇓P **P 18 30 19.4 -1.1**
baz=87,SNR=41
MVCO Mesa Verde 86.42 47 *eP* **P 18 30 20.7 +0.1**
comp=Z,379nm,0.6s
MVCO LR LR
comp=Z,235µm,20.0s
MVCO Mesa Verde 86.42 47 ⇑P **P 18 30 19.8 -0.8**
baz=87,SNR=72
K14A Jones Ranch, D 86.44 41 ⇑P **P 18 30 19.6 -0.8**
baz=87,SNR=64
MNSI Mandaling Nat 86.47 272 P **P 18 30 19.6 -1.5**
comp=Z,1µm,0.9s,comp=Z,66µmcomp=Z,828µm
628A Black Gap, Mar 86.53 56 ⇑P **P 18 30 20.1 -1.0**
baz=87,SNR=691
N16A Rees Ranch, Co 86.55 43 ⇓P **P 18 30 20.4 -0.7**
baz=87,SNR=83
WHN Wuhan 86.56 305 P **P 18 30 21.1 0.0**
WHN S S 18 40 48.0 -7.8
U21A Nageezi 86.58 48 ⇑P **P 18 30 20.4 -1.0**
baz=87,SNR=250
Z24A Sheeppen Canyo 86.59 52 ⇓P **P 18 30 20.5 -1.0**
baz=87,SNR=368
IPM Ipoh 86.59 276 *eP* **P 18 30 21.1 -0.6**
comp=Z,2µm,0.9s
IPM Ipoh 86.59 276 P **P 18 30 21.9 +0.2**
IPM Ipoh 86.59 276 P **P 18 30 21.7 0.0**
comp=Z,2µm,1.0s,comp=Z,92µm
P18A Preston Nutter 86.60 44 ⇑P **P 18 30 20.9 -0.6**
baz=87,SNR=151
O17A Robinson Place 86.60 44 ⇓P **P 18 30 20.9 -0.5**
baz=87,SNR=508
326A Caldwell Ranch 86.60 54 ⇓P **P 18 30 20.4 -1.1**
baz=87,SNR=128
L15A Malad City 86.61 41 ⇑P **P 18 30 20.1 -1.2**
baz=87,SNR=183
ANMO Albuquerque 86.64 50 LR LR 19 03 13.6
comp=Z,337µm,19.5s,baz=70,slow=32
ANMO Albuquerque 86.64 50 *eP* **P 18 30 20.7 -1.0**
comp=Z,16nm,0.4s
X23A Hourglass Bar 86.64 50 ⇓P **P 18 30 21.1 -0.6**
baz=87,SNR=119
H12A Diamond D Ranc 86.66 38 ⇑P **P 18 30 20.1 -1.4**
baz=87,SNR=226
GAMB Gambell 86.67 1 *eP* **P 18 30 20.1 -0.7**
comp=Z,226nm,1.5s
M16A Huntsville 86.67 42 ⇓P **P 18 30 20.3 -1.4**
baz=87
J14A Carey 86.70 40 ⇓P **P 18 30 21.1 -0.6**
baz=87
I13A Wildhorse Cree 86.70 39 ⇑P **P 18 30 20.9 -0.9**
baz=87,SNR=92
G12A Big Creek, Yel 86.74 38 ⇑P **P 18 30 21.0 -0.9**
baz=87
GDL2 Guadalupe Moun 86.75 53 *eP* **P 18 30 21.5 -0.7**
comp=Z,2µm,1.3s
125A Gardner Draw, 86.77 53 ⇓P **P 18 30 21.1 -1.2**
baz=87,SNR=340
PV04 Paradox Valley 86.79 46 *eP* **P 18 30 21.4 -0.9**
427A Hayter Ranch, 86.81 55 ⇑P **P 18 30 21.5 -1.0**
baz=87,SNR=768
V22A San Miguel Ran 86.82 49 ⇑P **P 18 30 21.7 -0.9**
baz=87,SNR=124
Y24A Capitan 86.84 51 ⇑P **P 18 30 21.9 -0.8**
baz=87,SNR=330
S20A Disappointment 86.85 47 ⇓P **P 18 30 21.8 -0.9**
baz=87,SNR=235
Q19A Hogan Spring (86.86 45 ⇑P **P 18 30 21.8 -0.8**
baz=87,SNR=72
PV01 Paradox Valley 86.87 46 *eP* **P 18 30 21.5 -1.3**
comp=Z,2µm,1.6s
HWUT Hardware Ranch 86.88 42 *eP* **P 18 30 21.1 -1.5**
comp=Z,1µm,1.7s
HWUT LR LR
comp=Z,109µm,22.0s
PMR Palmer 86.90 12 *eP* **P 18 30 19.9 -2.1**
PMR pmax pmax
comp=Z,4µm,1.4s
PMR Palmer 86.90 12 *eP* **P 18 30 19.9 -2.1**
comp=Z,4µm,1.4s
K15A Arbon 86.91 41 ⇑P **P 18 30 22.0 -0.8**
baz=87,SNR=49
WRAK Wrangell Islan 86.93 22 *eP* **P 18 30 22.2 -0.1**
comp=Z,1µm,1.2s
WRAK LR LR
comp=Z,138µm,21.0s
528A Cox Ranch, San 86.93 55 ⇑P **P 18 30 21.7 -1.4**
baz=87,SNR=654
N17A Moffit Pass 86.96 43 ⇓P **P 18 30 22.0 -1.1**
baz=87,SNR=317
T21A Navajo Lake 86.96 48 ⇓P **P 18 30 22.3 -0.9**
baz=87,SNR=83
W23A Werner Place, 86.96 50 ⇓P **P 18 30 22.2 -1.0**
baz=87,SNR=155
327A Balmorhea Ranc 86.99 54 ⇓P **P 18 30 22.3 -1.0**
baz=87,SNR=7.7
H13A Challis 87.01 38 ⇓P **P 18 30 22.0 -1.1**
baz=87,SNR=182
R20A Redvale 87.03 46 ⇓P **P 18 30 22.4 -1.1**
baz=87,SNR=7.0
Z25A Roswell 87.03 52 ⇓P **P 18 30 22.6 -0.9**
baz=87,SNR=314
LNIG Linares 87.08 62 P **P 18 30 21.7 -2.2**
I14A Mackay 87.09 39 ⇑P **P 18 30 22.7 -1.0**
baz=87,SNR=112
O18A Roosevelt 87.10 44 ⇑P **P 18 30 22.3 -1.4**
baz=87,SNR=17
U22A Llaves 87.10 48 ⇑P **P 18 30 22.5 -1.5**
baz=87,SNR=60
EFI East Falkland 87.13 146 *eP* **P 18 30 21.4 -2.2**
EFI East Falkland 87.13 146 *eP* **P 18 30 23.1 -0.5**
comp=Z,3µm,1.3s
EFI LR LR
comp=Z,413µm,20.0s
S21A Coal Bank Pass 87.14 47 ⇑P **P 18 30 22.8 -1.4**
baz=87,SNR=206
CLNB Carlsbad 87.14 53 *eP* **P 18 30 23.6 -0.5**
comp=Z,7µm,0.5s
DIV Divide 87.16 14 *eP* **P 18 30 22.1 -1.3**
comp=Z,2µm,1.1s
F12A Elk City 87.17 37 ⇑P **P 18 30 22.7 -1.2**
baz=87
X24A Lazy VL Ranch, 87.17 51 ⇓P **P 18 30 23.1 -1.2**
baz=87,SNR=61
L16A Fish Haven 87.19 42 ⇑P **P 18 30 22.6 -1.6**
baz=87,SNR=265
126A Clayton Basin, 87.23 53 ⇑P **P 18 30 23.4 -1.0**
baz=87,SNR=170
V23A Mtiz Mt. (NFS 87.24 49 ⇓P **P 18 30 23.6 -1.0**
baz=87,SNR=110
KULM Kulim 87.25 277 *eP* **P 18 30 24.7 -0.2**
comp=Z,813nm,0.8s
KULM LR LR
comp=Z,212µm,22.0s
KULM Kulim 87.25 277 P **P 18 30 26.0 +1.1**
KULM Kulim 87.25 277 P **P 18 30 25.4 +0.5**
comp=Z,2µm,1.4s,comp=Z,97µm
SML Sawmill 87.25 12 *eP* **P 18 30 22.5 -1.3**
SML pmax pmax
comp=Z,33nm,1.5s
SML Sawmill 87.25 12 *eP* **P 18 30 22.5 -1.3**
comp=Z,33nm,1.5s
BMRM Bremner River 87.28 14 *eP* **P 18 30 22.6 -1.3**
comp=Z,910nm,1.5s
428A Kincaid Ranch, 87.28 55 ⇑P **P 18 30 22.9 -1.9**
baz=87
LVIG Laguna Verde 87.33 67 P **P 18 30 24.2 -0.9**
G13A Cobalt 87.34 38 ⇓P **P 18 30 23.9 -0.9**
baz=88,SNR=140
529A Stev Forest Ra 87.35 56 ⇑P **P 18 30 23.2 -1.9**
baz=88,SNR=441
M17A Scullys Gap (B 87.36 43 ⇑P **P 18 30 24.0 -1.1**
baz=88,SNR=51
Y25A Mesa, Roswell 87.37 51 ⇓P **P 18 30 23.8 -1.4**
baz=88,SNR=532
J15A Blackfoot 87.39 40 ⇑P **P 18 30 24.2 -0.8**
baz=88,SNR=147
E12A Beaver Dam Sad 87.39 36 ⇑P **P 18 30 23.8 -1.2**
baz=88
TIA Tai'an 87.40 311 ⇑P **P 18 30 25.8 +0.7**
TIA S **S 18 41 09.3 +5.5**
TIA pmax pmax
comp=Z,340nm,1.2s
TIA LR LR
comp=N,230µm,29.9s
TIA LR LR
comp=E,231µm,30.9s
TIA LR LR
comp=Z,384µm,28.4s
T22A Edith 87.40 48 ⇑P **P 18 30 24.3 -1.1**
baz=88,SNR=74
P19A Cripple Cowboy 87.42 45 ⇓P **P 18 30 24.1 -1.3**
baz=88,SNR=190
PNL Peninsula 87.43 17 *eP* **P 18 30 24.1 -0.6**
comp=Z,4µm,1.5s
227A Bennet, Jal 87.45 54 ⇓P **P 18 30 24.1 -1.4**
baz=88,SNR=27
328A Wristen Ranch, 87.51 54 ⇓P **P 18 30 24.3 -1.5**
baz=88
W24A Lazy 6 Ranch, 87.51 50 ⇓P **P 18 30 24.9 -1.0**
baz=88,SNR=274
CMIG Matias Romero 87.53 70 P **P 18 30 25.1 -1.0**
U23A El Rito 87.53 49 ⇑P **P 18 30 25.3 -0.7**
baz=88,SNR=79
H14A Leadore 87.55 39 ⇓P **P 18 30 24.6 -1.2**
baz=88,SNR=223
K16A Soda Springs 87.56 41 ⇑P **P 18 30 24.5 -1.4**
baz=88,SNR=140
Z26A Caprock 87.56 52 ⇓P **P 18 30 24.3 -1.8**
baz=88,SNR=231
L17A Cokeville 87.58 42 ⇑P **P 18 30 24.1 -2.0**
baz=88,SNR=45
R21A Cimarron 87.68 46 ⇑P **P 18 30 25.3 -1.4**
baz=88,SNR=229
O19A Miners Draw (B 87.69 44 ⇑P **P 18 30 24.9 -1.7**
baz=88,SNR=79
X25A Clemmons Ranch 87.70 51 ⇑P **P 18 30 25.3 -1.5**
baz=88,SNR=48
F13A Darby 87.70 37 ⇑P **P 18 30 24.6 -1.8**
baz=88,SNR=171
I15A Monteview 87.70 40 ⇑P **P 18 30 25.1 -1.4**
baz=88,SNR=22
N18A Larsen Ranch, 87.71 43 ⇓P **P 18 30 24.9 -1.8**
baz=88,SNR=92
M18A Lyman 87.71 43 ⇑P **P 18 30 25.4 -1.3**
baz=88,SNR=165
NEW Newport 87.72 34 LR LR 19 05 57.8
comp=Z,147µm,19.6s,baz=141,slow=33
NEW Newport 87.72 34 *eP* **P 18 30 25.1 -1.3**
comp=Z,9µm,1.2s
NEW Newport 87.72 34 ⇓P **P 18 30 24.9 -1.4**
baz=88,SNR=135
P20A De Beque 87.73 45 ⇓P **P 18 30 25.8 -1.0**
baz=88,SNR=220
127A Arkansas Junct 87.73 53 ⇑P **P 18 30 25.3 -1.5**
baz=88,SNR=78
PAF Port-aux-Franc 87.73 216 *eP* **P 18 30 28.6 +2.1**
PAF pmax pmax
comp=Z,1µm,1.0s
PAF MLR MLR
comp=Z,313µm,20.0s
PAF Port-aux-Franc 87.73 216 *eP* **P 18 30 28.6 +2.1**
comp=Z,1µm,1.0s
PAF LR LR
comp=Z,313µm,20.0s
J16A Bone 87.80 41 ⇑P **P 18 30 26.2 -1.0**
baz=88,SNR=234
AHID Auburn Hatcher 87.82 41 *eP* **P 18 30 25.6 -1.6**
comp=Z,842nm,0.9s
AHID LR LR
comp=Z,148µm,22.0s
429A Davenport Ranc 87.83 55 ⇑P **P 18 30 25.2 -2.2**
baz=88
S22A 4UR Ranch, Cre 87.83 47 ⇑P **P 18 30 26.4 -1.1**
baz=88,SNR=201
PSI Prapat 87.86 274 P **P 18 30 26.9 -1.0**
comp=Z,218nm,1.0s,baz=170,slow=3.8,SNR=65
PSI Prapat 87.86 274 P **P 18 30 26.9 -1.0**
PSI Prapat 87.86 274 P **P 18 30 26.8 -1.2**
baz=88,SNR=63
PSI Prapat 87.86 274 P **P 18 30 26.8 -1.2**
comp=Z,1µm,1.1s,comp=Z,79µmcomp=Z,965µm
G14A Jackson 87.87 38 ⇓P **P 18 30 26.0 -1.4**
baz=88,SNR=70
V24A Rampart Ranch, 87.87 50 ⇓P **P 18 30 26.2 -1.4**
baz=88,SNR=221
D12A Red Ives Fores 87.90 36 ⇑P **P 18 30 26.0 -1.3**
baz=88
Q21A Lamborn Mesa, 87.91 46 ⇓P **P 18 30 26.1 -1.6**
baz=88,SNR=74
K17A Gardner Place, 87.92 41 ⇑P **P 18 30 26.5 -1.2**

baz=88,SNR=12
H15A **Lima** 87.97 39 ⇓P P 18 30 26.6 -1.2
baz=88,SNR=30
MCMT **McKenzie Canyo** 87.97 39 eP P 18 30 28.1 +0.2
comp=Z,85nm,0.9s
N19A **John Jarvie Ra** 87.97 44 ⇓P P 18 30 26.2 -1.8
baz=88
Y26A **Elida** 88.00 52 ⇓P P 18 30 26.9 -1.3
baz=88,SNR=61
L18A **Fontenelle, Gr** 88.00 42 ⇑P P 18 30 26.9 -1.2
baz=88,SNR=32
T23A **Casias Ranch,** 88.01 48 ⇑P P 18 30 26.8 -1.5
baz=88,SNR=25
RRI2 **Red Ridge** 88.02 41 eP P 18 30 27.3 -0.9
comp=Z,64nm,0.6s
228A **UT Block 9, Go** 88.02 54 ⇓P P 18 30 27.0 -1.3
baz=88,SNR=70
SKLT **Songkhla** 88.03 279 P P 18 30 29.8 +1.2
comp=Z,2μm,1.2s,comp=Z,99μm
530A **J-C Ranch, Com** 88.03 56 ⇑P P 18 30 27.0 -1.4
baz=88,SNR=257
R22A **Saguache, Gunn** 88.14 47 ⇑P P 18 30 27.7 -1.3
baz=88,SNR=99
O20A **White River Ci** 88.16 45 ⇓P P 18 30 27.6 -1.3
baz=88,SNR=50
E13A **Victor** 88.17 37 ⇑P P 18 30 27.0 -1.6
baz=88,SNR=89
329A **Wagon Wheel Ra** 88.18 55 ⇓P P 18 30 27.7 -1.3
baz=88,SNR=115
W25A **X Bar L Ranch,** 88.19 50 ⇓P P 18 30 27.7 -1.3
baz=88,SNR=273
U24A **Moreno Valley** 88.21 49 ⇓P P 18 30 28.1 -1.2
baz=88,SNR=13
I16A **Newdale** 88.22 40 ⇓P P 18 30 28.3 -0.8
baz=88,SNR=96
C12B **Naegeli Ranch,** 88.24 35 ⇑P P 18 30 27.9 -1.0
baz=88,SNR=110
DCID1 **Drake Creek** 88.24 41 eP P 18 30 29.8 +0.6
comp=Z,533nm,1.1s
F14A **Wisdom** 88.25 38 ⇑P P 18 30 28.0 -1.2
baz=88,SNR=83
ROCH **El Roble** 88.27 125 ⇑iP P 18 30 29.3 -0.5
631A **Perdido Creek** 88.27 57 ⇓P P 18 30 27.3 -2.1
baz=88
REDW **Red Top Meadow** 88.31 41 eP P 18 30 28.8 -0.8
comp=Z,1μm,1.6s
X26A **CR and CF Fran** 88.32 51 ⇑P P 18 30 27.9 -1.8
baz=88,SNR=159
M19A **Rock Springs** 88.32 43 ⇓P P 18 30 27.9 -1.7
baz=88,SNR=101
TPAW **Teton Pass** 88.32 41 eP P 18 30 29.7 0.0
comp=Z,197nm,0.6s
128A **Castleberry Fa** 88.34 53 ⇑P P 18 30 27.9 -1.9
baz=88
P21A **Newcastle** 88.36 45 ⇓P P 18 30 28.4 -1.5
baz=88,SNR=104
Q22A **Crested Butte,** 88.36 46 ⇑P P 18 30 28.8 -1.2
baz=88,SNR=168
S23A **Nye Farm, Mont** 88.37 48 ⇑P P 18 30 28.9 -1.1
baz=88
G15A **Dillon** 88.38 39 ⇑P P 18 30 27.9 -1.8
baz=89,SNR=164
V25A **Rancho No Teng** 88.39 50 ⇑P P 18 30 28.8 -1.3
baz=88,SNR=306
J17A **Brown Place, J** 88.39 41 ⇓P P 18 30 28.0 -2.0
baz=89,SNR=36
K18A **Toltan Ranch,** 88.40 42 ⇓P P 18 30 28.2 -1.8
baz=89,SNR=205
SKAG **Skagway** 88.41 19 eP P 18 30 29.1 -0.2
comp=Z,5μm,1.6s
D13A **Huson** 88.41 36 ⇓P P 18 30 28.1 -1.7
baz=89,SNR=145
TRF **Thorofare Moun** 88.42 11 eP P 18 30 27.1 -2.4
comp=Z,6.6nm,0.5s
SNOW **Snow King Moun** 88.42 41 eP P 18 30 29.2 -0.9
comp=Z,8μm,2.4s
732A **Laxson Ranch,** 88.43 58 ⇓P P 18 30 28.9 -1.2
baz=89
DLMT **Dillon** 88.43 39 eP P 18 30 28.9 -1.1
comp=Z,196nm,0.6s
CLCH **Cerro Calan** 88.44 126 ⇑iP P 18 30 30.0 -0.4
PEL **Peldehue** 88.44 125 ⇑iP P 18 30 27.5 -2.9
TSI **Tuntungan** 88.46 274 P P 18 30 30.7 0.0
comp=Z,2μm,1.2s,comp=Z,94μm
LMEL **Las Melosas** 88.48 126 ⇑iP P 18 30 30.7 0.0
SMCO **Snowmass** 88.49 46 eP P 18 30 29.4 -1.3
comp=Z,374nm,0.9s
GSI **Gunungsitoli** 88.51 272 P P 18 30 30.9 0.0
baz=88,SNR=365
GSI **Gunungsitoli** 88.51 272 P P'P'df 18 56 32.5 +10
comp=Z,2μm,1.3s
GSI **Gunungsitoli** 88.51 272 P P 18 30 31.1 +0.2
comp=Z,3μm,1.3s,comp=Z,130μm
L19A **Farson** 88.52 43 ⇓P P 18 30 29.0 -1.6
baz=89,SNR=140
N20A **Spence Gulch,** 88.53 44 ⇑P P 18 30 29.1 -1.5
baz=89,SNR=424
229A **Bryant Ranch,** 88.53 54 ⇓P P 18 30 29.0 -1.7
baz=89
MSO **Missoula** 88.54 37 eP P 18 30 29.4 -1.0
comp=Z,524nm,0.7s
MSO LR LR
comp=Z,141μm,20.0s
MSO **Missoula** 88.54 37 ⇓P P 18 30 28.9 -1.5
baz=89
E14A **Clinton** 88.54 37 ⇑P P 18 30 28.8 -1.7
baz=89,SNR=21
IMW **Indian Meadow** 88.56 40 eP P 18 30 30.1 -0.7
comp=Z,3μm,1.4s
TNA **Tin City** 88.58 3 eP P 18 30 29.7 -0.3
comp=Z,2μm,0.3s
MOOW **Moose Ponds** 88.59 41 eP P 18 30 30.3 -0.6
comp=Z,222nm,0.6s
LOHW **Long Hollow** 88.60 41 eP P 18 30 29.6 -1.3
comp=Z,376nm,0.9s
W26A **Owens Ranch, T** 88.61 51 ⇓P P 18 30 29.5 -1.6
baz=89,SNR=55
531A **Rocksprings** 88.64 56 ⇑P P 18 30 29.4 -1.9
baz=89
B12A **Libby** 88.65 35 ⇑P P 18 30 29.9 -0.8
baz=89,SNR=89
BSMT **Bassoo Peak** 88.69 36 eP P 18 30 30.0 -1.2
comp=Z,58nm,1.0s
T24A **Torres, Weston** 88.70 49 ⇓P P 18 30 30.2 -1.4
baz=89,SNR=94
C13A **Hot Springs** 88.70 36 ⇑P P 18 30 29.7 -1.4
baz=89,SNR=75
O21A **Pagoda** 88.71 45 ⇑P P 18 30 29.9 -1.6
baz=89,SNR=15
CHBT **CHBT** 88.72 284 P P 18 30 32.2 +0.4
comp=Z,1μm,1.8s,comp=Z,73μm
J18A **Kendall Valley** 88.73 41 ⇑P P 18 30 30.1 -1.4
baz=89,SNR=455
Z28A **Tucker Farm, M** 88.74 53 ⇓P P 18 30 30.1 -1.5
baz=89,SNR=31
R23A **Moffat** 88.74 47 ⇓P P 18 30 30.5 -1.3
baz=89,SNR=173
330A **Mertzon** 88.75 55 ⇓P P 18 30 30.0 -1.7
baz=89,SNR=92
BW06 **Boulder Array** 88.76 42 eP P 18 30 29.8 -1.9
comp=Z,400nm,1.3s
BW06 LR LR
comp=Z,83μm,20.0s
BW06 **Boulder Array** 88.76 42 ⇑P P 18 30 29.9 -1.8
baz=89
PDAR **Pinedale Array** 88.76 42 P P 18 30 29.8 -1.9
comp=Z,121nm,1.0s,baz=196,slow=3.4,SNR=192
PDAR PKKP PKKPdf 18 48 10.4 +1.7
comp=Z,5.0nm,1.0s,baz=77,slow=3.2,SNR=4.6
PDAR PKPPKP P'P'df 18 56 20.1 +2.6
comp=Z,4.1nm,0.9s,baz=80,slow=3.5,SNR=7.1
PDAR LR LR 19 05 39.5
comp=Z,69μm,20.2s,baz=227,slow=32
PDAR **Pinedale Array** 88.76 42 P P 18 30 29.8 -1.9
PDAR PKKP PKKPdf 18 48 10.4 +1.7
PDAR P'P' 18 56 20.1
F15A **Butte** 88.77 38 ⇑P P 18 30 30.5 -1.1
baz=89,SNR=126
LRM **Limekiln Ridge** 88.78 38 eP P 18 30 31.6 -0.1
comp=Z,500nm,1.2s
MSTX **Muleshoe** 88.78 52 ⇑P P 18 30 30.6 -1.3
baz=89,SNR=35
I17A **Pilgrim Ck.** 88.79 41 ⇓P P 18 30 30.9 -0.8
baz=89,SNR=57
QLMT **Earthquake Lak** 88.80 39 eP P 18 30 31.9 0.0
comp=Z,45nm,0.9s
FLWY **Flagg Ranch** 88.81 40 eP P 18 30 31.3 -0.6
comp=Z,249nm,0.8s
129A **Stewart Farms,** 88.81 54 ⇓P P 18 30 30.7 -1.3
baz=89,SNR=25
G16A **Moss Hill, Enn** 88.81 39 ⇑P P 18 30 30.7 -1.1
baz=89,SNR=112
U25A **Circle Dot Ran** 88.81 49 ⇑P P 18 30 30.8 -1.2
baz=89,SNR=160
H16A **Russell Place,** 88.83 40 ⇑P P 18 30 31.7 -0.3
baz=89,SNR=207
431A **Sonora** 88.84 56 ⇓P P 18 30 30.4 -1.7
baz=89,SNR=64
P22A **Eagle** 88.85 46 ⇑P P 18 30 31.1 -1.1
baz=89,SNR=75
X27A **F and S Farms,** 88.88 51 ⇑P P 18 30 31.2 -1.1
baz=89,SNR=59
S24A **Houchin Ranch,** 88.88 48 ⇓P P 18 30 31.2 -1.3
baz=89,SNR=151
PAX **Paxson** 88.88 13 eP P 18 30 29.6 -2.0
PAX pmax pmax
comp=Z,3μm,1.2s
PAX **Paxson** 88.88 13 eP P 18 30 29.6 -2.0
comp=Z,3μm,1.2s
A12A **Yaak River Ran** 88.90 34 ⇓P P 18 30 31.3 -0.7
baz=89,SNR=231
JTMT **Jette** 88.90 36 eP P 18 30 31.2 -1.0
comp=Z,2μm,0.7s
SWMT **Swartz Lake** 88.91 36 eP P 18 30 31.4 -0.7
comp=Z,885nm,1.5s
THIG 88.92 73 P P 18 30 34.0 +1.3
M20A **Sweetwater, Wa** 88.93 44 ⇓P P 18 30 31.4 -1.1
baz=89,SNR=61
632A **Uvalde** 88.93 57 ⇑P P 18 30 30.9 -1.6
baz=89
D14A **Greenough** 88.93 37 ⇑P P 18 30 31.1 -1.2
baz=89,SNR=145
TGIG 88.93 71 P P 18 30 31.6 -1.2
YFT **Old Faithful** 88.93 40 eP P 18 30 33.8 +1.3
comp=Z,2μm,1.9s
V26A **Tequesquite Ra** 88.95 50 ⇓P P 18 30 31.1 -1.6
baz=89,SNR=87
N21A **Black Mountain** 88.96 44 ⇑P P 18 30 31.8 -0.9
baz=89,SNR=222
CHMT **Chamberlain Mo** 88.97 37 eP P 18 30 32.2 -0.3
comp=Z,885nm,1.5s
YMR **Madison River** 88.98 40 eP P 18 30 32.6 -0.1
comp=Z,3μm,1.9s
BLMT **Blacktail Moun** 89.02 36 eP P 18 30 31.9 -0.8
comp=Z,586nm,1.6s
230A **Sterling City** 89.02 55 ⇓P P 18 30 31.6 -1.3
baz=89
E15A **Deer Lodge** 89.02 38 ⇓P P 18 30 31.4 -1.4
baz=89,SNR=71
SLMT **Seeley Lake** 89.03 37 eP P 18 30 31.9 -0.9
comp=Z,67nm,1.1s
H17A **Grant Village** 89.06 40 ⇓P P 18 30 32.8 -0.3
baz=89,SNR=62
Q23A **Hartsel** 89.10 47 ⇑P P 18 30 32.3 -1.3
baz=89,SNR=34
W27A **Bowe Ranch, En** 89.11 51 ⇑P P 18 30 32.0 -1.3
baz=89,SNR=67
L20A **Wamsutter** 89.11 43 ⇓P P 18 30 32.5 -0.8
baz=89,SNR=184
YBMT **Yellow Bay** 89.12 36 eP P 18 30 32.2 -1.0
comp=Z,4μm,0.3s
532A **Rocksprings** 89.12 57 ⇓P P 18 30 31.2 -2.3
baz=89
I18A **Diamond G Ranc** 89.12 41 ⇑P P 18 30 32.5 -0.9
baz=89,SNR=95
Y28A **McKinney Farm,** 89.14 52 ⇑P P 18 30 32.1 -1.4
baz=89,SNR=9.0
BOZ **Bozeman (W)** 89.15 39 eP P 18 30 32.3 -1.0
BOZ pmax pmax
comp=Z,1μm,1.5s
BOZ MLR MLR
comp=Z,120μm,21.0s
BOZ **Bozeman (W)** 89.15 39 eP P 18 30 32.3 -1.0
comp=Z,1μm,1.5s
BOZ LR LR
comp=Z,120μm,21.0s
BOZ **Bozeman (W)** 89.15 39 ⇑P P 18 30 32.1 -1.3
baz=89
YNR **Norris Junctio** 89.17 40 eP P 18 30 33.3 -0.3
comp=Z,2μm,1.9s
T25A **Trinidad** 89.18 49 ⇑P P 18 30 32.7 -1.1
baz=89,SNR=115
B13A **Whitefish** 89.18 35 ⇑P P 18 30 31.9 -1.4
baz=89,SNR=134
C14A **Swan Lake** 89.20 36 ⇑P P 18 30 31.9 -1.6
baz=89
MENT **Mentasta** 89.22 14 eP P 18 30 32.4 -0.7
Z29A **Hungry Hill Ra** 89.22 53 ⇑P P 18 30 32.3 -1.6
baz=89,SNR=49
F16A **Kennard Place,** 89.23 39 ⇓P P 18 30 32.7 -1.0
baz=89,SNR=60
K19A **Absolon Red Bu** 89.23 42 ⇓P P 18 30 32.1 -1.8
baz=89,SNR=74
R24A **Sanders Place,** 89.25 48 ⇓P P 18 30 33.3 -0.8
baz=89,SNR=121
LKWY **Lake** 89.25 40 eP P 18 30 35.1 +1.1
LKWY pmax pmax
comp=Z,1μm,1.7s
LKWY MLR MLR
comp=Z,199μm,22.0s
LKWY **Lake** 89.25 40 eP P 18 30 35.1 +1.1
comp=Z,1μm,1.7s
LKWY LR LR
comp=Z,199μm,22.0s
331A **San Angelo** 89.27 55 ⇑P P 18 30 32.2 -1.9
baz=89
U26A **Atchley Ranch,** 89.27 50 ⇑P P 18 30 33.2 -1.0
baz=89,SNR=124
O22A **Kremmling** 89.28 45 ⇓P P 18 30 33.0 -1.3
baz=89,SNR=259
DLBC **Dease Lake** 89.29 22 PKKP 18 48 12.7
comp=Z,12nm,1.0s,baz=148,slow=3.1,SNR=6.2
DLBC PKPPKP P'P'df 18 56 19.8 +5.3
comp=Z,20nm,1.3s,baz=9.0,slow=25,SNR=3.5
DLBC **Dease Lake** 89.29 22 P'P' 18 56 19.8
P23A **Jefferson** 89.34 46 ⇓P P 18 30 34.0 -0.7
baz=90,SNR=58
J19A **Crowheart** 89.35 42 ⇓P P 18 30 33.2 -1.2
baz=90,SNR=222
S25A **Rets Cordova** 89.42 48 ⇓P P 18 30 34.0 -0.9
baz=90,SNR=180
D15A **Lincoln** 89.45 37 ⇑P P 18 30 34.0 -0.8
baz=90,SNR=197
K20A **Yellowstone Ra** 89.46 42 ⇓P P 18 30 33.5 -1.4
baz=90,SNR=114
X28A **Dimmitt** 89.47 52 ⇑P P 18 30 33.7 -1.4
baz=90,SNR=33
G17A **Pierce Place,** 89.48 39 ⇓P P 18 30 34.3 -0.6
baz=90,SNR=41
M21A **Separation Pea** 89.51 44 ⇓P P 18 30 34.4 -0.9
baz=90,SNR=129
KVTX **Kingsville** 89.53 60 eP P 18 30 35.9 +0.5
comp=Z,10μm,1.8s
KVTX LR LR
comp=Z,153μm,20.0s
Y29A **Porterfield Fa** 89.53 53 ⇑P P 18 30 34.2 -1.1
baz=90,SNR=7.6
A13A **Flathead Natio** 89.55 35 ⇓P P 18 30 34.1 -0.9
baz=90
432A **Menard** 89.55 56 ⇑P P 18 30 33.9 -1.6
baz=90
CCIG **Comitan** 89.59 72 P P 18 30 36.2 +0.1
Q24A **Divide** 89.59 47 ⇓P P 18 30 34.7 -1.1
baz=90,SNR=98
E16A **East Helena** 89.63 38 ⇑P P 18 30 34.8 -0.8
baz=90,SNR=160
TPTI 89.64 274 P P'P'df 18 56 21.9 +1.9
comp=Z,4μm,0.9s
TPTI 89.64 274 P P 18 30 36.7 +0.5
comp=Z,1μm,1.1s,comp=Z,84μm
231A **Bronte** 89.64 55 ⇓P P 18 30 34.4 -1.4
baz=90
Z30A **Sanderson Ranc** 89.66 53 ⇑P P 18 30 34.3 -1.6
baz=90
N22A **Wattenberg Ran** 89.67 45 ⇑P P 18 30 34.6 -1.5
baz=90,SNR=184
TLL **Tololo Astrono** 89.68 123 eP P 18 30 36.4 -0.1
SEY **Seymchan** 89.69 346 ceP P 18 30 34.3 -1.0
L21A **Rawlins** 89.70 43 ⇑P P 18 30 34.0 -2.1
baz=90,SNR=71
ISCO **Idaho Springs** 89.71 46 eP P 18 30 35.4 -0.9
ISCO pmax pmax
comp=Z,945nm,1.9s
ISCO MLR MLR
comp=Z,165μm,20.0s
ISCO **Idaho Springs** 89.71 46 eP P 18 30 35.4 -0.9
comp=Z,945nm,1.9s
ISCO LR LR
comp=Z,165μm,20.0s
ISCO **Idaho Springs** 89.71 46 ⇓P P 18 30 35.2 -1.1
baz=90
O23A **Lake Granby, G** 89.72 46 ⇓P P 18 30 34.7 -1.6
baz=90
H18A **Shoshone NF, C** 89.75 40 ⇓P P 18 30 34.6 -1.7
baz=90,SNR=62
T26A **Comanche Natio** 89.76 49 ⇑P P 18 30 34.7 -1.8
baz=90,SNR=59
R25A **Fountain Ranch** 89.77 48 ⇓P P 18 30 34.5 -2.0
baz=90,SNR=22
DOT **Dot Lake** 89.78 13 eP P 18 30 34.3 -1.4
comp=Z,198nm,0.8s
X29A **Tulia** 89.79 52 ⇑P P 18 30 35.0 -1.6
baz=90,SNR=53
I19A **Meeteetse** 89.80 41 ⇓P P 18 30 35.1 -1.5
baz=90,SNR=99
B14A **Marquette Ranc** 89.81 36 ⇓P P 18 30 34.7 -1.6
baz=90,SNR=266
W28A **Vega** 89.81 51 ⇓P P 18 30 34.6 -2.1
baz=90,SNR=16
332A **Millersview** 89.82 56 ⇑P P 18 30 34.8 -1.9
baz=90
C15A **Salmond Ranch,** 89.83 37 ⇓P P 18 30 34.9 -1.5
baz=90,SNR=133
F17A **Fitzpatrick Pl** 89.86 39 ⇓P P 18 30 35.2 -1.4
baz=90,SNR=156
WALA **Waterton Lakes** 89.89 35 eP P 18 30 35.3 -1.4
comp=Z,94nm,0.9s
M22A **Cedar Creek Ra** 89.89 44 ⇓P P 18 30 34.9 -2.2
baz=90,SNR=121
D16A **Dana Ranch, Ca** 89.99 38 ⇓P P 18 30 35.8 -1.5
baz=90,SNR=66
J20A **Shoshoni** 89.99 42 ⇓P P 18 30 35.8 -1.6
baz=90,SNR=139
BJT **Baijiatuau** 90.00 314 PFAKE 18 30 50.0 +13
BJT LR LR
comp=Z,119μm,20.0s
BJI **Beijing** 90.00 314 P P 18 30 37.8 +0.6
BJI SS SS 18 47 28.3 +1.0
BJI pmax pmax
comp=Z,470nm,2.0s
BJI pmax pmax
comp=Z,4μm,3.5s
BJI LR LR
comp=N,171μm,30.5s
BJI LR LR
comp=E,167μm,26.4s
BJI LR LR
comp=Z,200μm,29.4s
AMTX **Amarillo** 90.01 52 eP P 18 30 36.5 -1.1
comp=Z,4μm,2.1s
AMTX LR LR
comp=Z,399μm,19.0s
AMTX **Amarillo** 90.01 52 ⇓P P 18 30 35.5 -2.1
baz=90
P24A **Kohler Place,** 90.03 47 ⇑P P 18 30 36.0 -1.7
baz=90
V28A **Channing** 90.04 51 ⇓P P 18 30 35.9 -1.8
baz=90,SNR=26
N23A **Red Feather La** 90.05 45 ⇓P P 18 30 36.0 -1.9
baz=90,SNR=92
E17A **Martinsdale** 90.06 38 ⇓P P 18 30 35.8 -1.8
baz=90,SNR=117
S26A **Kim** 90.07 49 ⇓P P 18 30 35.8 -2.0
baz=90,SNR=161
A14A **Double T Ranch** 90.09 35 ⇑P P 18 30 36.6 -1.1
baz=90,SNR=276
Y30A **Stafford Cattl** 90.11 53 ⇓P P 18 30 35.7 -2.4
baz=90
K21A **Alcova** 90.12 43 ⇓P P 18 30 36.1 -1.9
baz=90
ENH **Enshi** 90.14 303 PFAKE 18 30 50.0 +12
ENH LR LR
comp=Z,145μm,20.0s
COLA **College** 90.15 11 eP P 18 30 35.5 -1.8
COLA pmax pmax
comp=Z,4μm,1.4s
COLA MLR MLR
comp=Z,263μm,22.0s
COLA **College** 90.15 11 eP P 18 30 35.5 -1.8
comp=Z,4μm,1.4s
COLA LR LR
comp=Z,263μm,22.0s
W29A **Amarillo** 90.15 52 ⇓P P 18 30 36.8 -1.5
baz=90,SNR=50
H19A **Powell** 90.16 41 ⇓P P 18 30 37.2 -0.9
baz=90,SNR=173
G18A **Lazy EL Ranch,** 90.17 40 ⇑P P 18 30 36.7 -1.5
baz=90,SNR=211
B15A **Bradley Ranch,** 90.17 36 ⇓P P 18 30 35.9 -2.1
baz=90,SNR=149
Q25A **Bedland, Calha** 90.18 47 ⇓P P 18 30 37.1 -1.3
baz=90,SNR=15
O24A **Longmont** 90.23 46 ⇓P P 18 30 37.3 -1.3
baz=90,SNR=8.8
ILAR **Eielson Array** 90.23 11 P P 18 30 36.0 -1.7
comp=Z,195nm,0.9s,baz=220,slow=5.4,SNR=421
ILAR PKKP PKKPdf 18 48 08.3 +1.6
comp=Z,16nm,1.2s,baz=331,slow=2.4,SNR=5.0
ILAR PKPPKP P'P'df 18 56 15.8 +3.6
comp=Z,7.2nm,0.9s,baz=11,slow=2.7,SNR=10
ILAR LR LR 19 04 59.2
comp=Z,45μm,21.6s,baz=21,slow=32
ILAR **Eielson Array** 90.23 11 P P 18 30 36.0 -1.7
ILAR PKKP PKKPdf 18 48 08.3 +1.6
ILAR P'P' 18 56 15.8
RLMT **Red Lodge** 90.23 40 eP P 18 30 37.6 -0.9
comp=Z,10μm,0.7s
RLMT LR LR
comp=Z,119μm,21.0s
RLMT **Red Lodge** 90.23 40 ⇑P P 18 30 36.7 -1.8
baz=90
LCO **Las Campanas** 90.28 122 eP P 18 30 38.3 -1.0
comp=Z,2μm,1.3s
LCO LR LR
comp=Z,560μm,22.0s
LCO **Las Campanas** 90.28 122 ⇑iP P 18 30 38.5 -0.9
LCO **Las Campanas** 90.28 122 P P 18 30 38.9 -0.4
baz=90,SNR=74
I20A **Worland** 90.28 41 ⇑P P 18 30 37.9 -0.8
baz=90,SNR=106
T27A **Campo** 90.32 49 ⇓P P 18 30 37.5 -1.5
baz=90,SNR=65
C16A **Fuhringer Ranc** 90.32 37 ⇓P P 18 30 37.3 -1.4
baz=90,SNR=91
L22A **Ellis Ranch, M** 90.33 44 ⇑P P 18 30 38.0 -1.0
baz=90,SNR=81
GCMT **Greycliff** 90.37 39 eP P 18 30 39.0 0.0
comp=Z,536nm,0.5s
J21A **Lysite** 90.38 42 ⇓P P 18 30 38.0 -1.3
baz=90,SNR=160
X30A **Coker Ranch, T** 90.39 52 ⇓P P 18 30 37.8 -1.6
baz=90,SNR=28
F18A **Big Timber** 90.40 39 ⇑P P 18 30 38.4 -0.8
baz=91,SNR=158
R26A **Arlington** 90.42 48 ⇓P P 18 30 37.7 -1.7
baz=91,SNR=144
ABTX **Abilene, Hawle** 90.46 55 ⇑P P 18 30 37.3 -2.4
baz=91
A15A **Johnson Ranch,** 90.47 36 ⇓P P 18 30 37.7 -1.7
baz=91,SNR=321
M23A **Laramie** 90.49 45 ⇑P P 18 30 38.2 -1.7
baz=91,SNR=26
S27A **Las Animas** 90.49 49 ⇑P P 18 30 37.6 -2.3
baz=91
P25A **Willow Gulch B** 90.53 47 ⇑P P 18 30 38.8 -1.2
baz=91,SNR=51
D17A **Six Diamond Ra** 90.54 38 ⇓P P 18 30 38.8 -1.0
baz=91,SNR=492
PHWY **Pilot Hill** 90.58 45 eP P 18 30 38.4 -1.9
comp=Z,3μm,2.5s
K22A **Casper** 90.59 43 ⇓P P 18 30 38.4 -1.8
baz=91,SNR=38
V29A **Stinnett** 90.60 51 ⇓P P 18 30 38.7 -1.5
baz=91,SNR=20
LHMI **Lhok Sumawe** 90.62 275 P P 18 30 41.5 +0.7
comp=Z,2μm,0.9s,comp=Z,98μm
H20A **Greybull** 90.65 41 ⇓P P 18 30 38.4 -2.0
baz=91,SNR=30
E18A **Harlowton** 90.65 39 ⇓P P 18 30 38.8 -1.5
baz=91,SNR=247
Q26A **Hugo** 90.67 48 ⇓P P 18 30 39.1 -1.6
baz=91,SNR=76
B16A **M & M Farms, S** 90.69 36 ⇓P P 18 30 38.7 -1.7
baz=91,SNR=152

GYA	**Guiyang**	**90.70**	**298**	⇑	*i*P		**P**		**18 30 40.1**	**-0.9**
GYA					pP		**pP**		**18 30 51.8**	**+0.9**
GYA					PP		**PP**		**18 34 18.4**	**+1.5**
GYA					S		**S**		**18 41 35.1**	**-0.4**
GYA					sS		**sS**		**18 41 50.0**	**-1.9**
GYA					SS		**SS**		**18 47 38.4**	**+0.1**
GYA					pmax		pmax			
	comp=Z,390nm,1.6s									
GYA					LR		LR			
	comp=N,198μm,26.9s									
GYA					LR		LR			
	comp=E,184μm,27.9s									
GYA					LR		LR			
	comp=Z,275μm,30.4s									
N24A	**Carr**	**90.71**	**45**	⇑	P		**P**		**18 30 38.9**	**-1.9**
	baz=91									
I21A	**Big Trails, Te**	**90.72**	**42**	⇑	P		**P**		**18 30 38.7**	**-2.1**
	baz=91,SNR=110									
C17A	**Wharram Farm,**	**90.77**	**37**	⇑	P		**P**		**18 30 39.1**	**-1.6**
	baz=91,SNR=194									
T28A	**Walsh**	**90.77**	**50**	⇓	P		**P**		**18 30 38.8**	**-2.3**
	baz=91,SNR=101									
F19A	**Roth Farm, Mol**	**90.83**	**40**	⇑	P		**P**		**18 30 39.7**	**-1.4**
	baz=91,SNR=214									
RTR	**El Retiro**	**90.83**	**75**		*e*P		**P**		**18 30 43.2**	**+1.3**
L23A	**Garrett**	**90.84**	**44**	⇓	P		**P**		**18 30 39.2**	**-2.3**
	baz=91									
R27A	**Eads**	**90.86**	**48**	⇑	P		**P**		**18 30 39.4**	**-2.1**
	baz=91,SNR=44									
O25A	**Wiggins**	**90.86**	**46**	⇑	P		**P**		**18 30 40.1**	**-1.4**
	baz=91,SNR=19									
SNJE	**San Jose**	**90.86**	**75**		*e*P		**P**		**18 30 43.3**	**+1.2**
RBDL	**Robledal**	**90.88**	**75**		*e*P		**P**		**18 30 43.5**	**+1.4**
G20A	**Bridger**	**90.91**	**40**	⇑	P		**P**		**18 30 40.2**	**-1.4**
	baz=91,SNR=90									
CFAA	**Coronel Fontan**	**90.98**	**125**		P		**P**		**18 30 43.1**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=246,slow=3.5,SNR=1.9									
CFAA					PKKPbc		**PKKPbc**		**18 48 09.0**	**+2.9**
	comp=Z,2.0nm,0.8s,baz=343,slow=1.9,SNR=5.5									
CFAA					PKPPKP		**P'P'df**		**18 56 15.3**	**-3.9**
	comp=Z,0.5nm,0.5s,baz=313,slow=4.6,SNR=3.6									
CFAA	**Coronel Fontan**	**90.98**	**125**		P		**P**		**18 30 43.1**	**+0.8**
CFAA					PKKPbc		**PKKPbc**		**18 48 09.0**	**+2.9**
CFAA					P'P'				18 56 15.3	
J22A	**Midwest**	**91.02**	**43**	⇓	P		**P**		**18 30 40.6**	**-1.5**
	baz=91,SNR=96									
D18A	**Linhart Farms,**	**91.07**	**38**	⇑	P		**P**		**18 30 41.4**	**-0.8**
	baz=91,SNR=99									
M24A	**Cheyenne**	**91.07**	**45**	⇑	P		**P**		**18 30 41.2**	**-1.3**
	baz=91									
BOQS	**Boqueron**	**91.09**	**76**		*e*P		**P**		**18 30 44.3**	**+1.1**
P26A	**Davis Ranch, A**	**91.10**	**47**	⇑	P		**P**		**18 30 41.2**	**-1.5**
	baz=91,SNR=41									
SNET	**Serv Nac Est T**	**91.12**	**76**		*e*P		**P**		**18 30 42.7**	**-0.5**
B17A	**L&G Farms, Che**	**91.12**	**37**	⇑	P		**P**		**18 30 41.4**	**-1.0**
	baz=91,SNR=175									
DAWY	**Dawson**	**91.17**	**15**		*e*P		**P**		**18 30 41.5**	**-0.8**
K23A	**Bowen Ranch, D**	**91.21**	**43**	⇓	P		**P**		**18 30 41.5**	**-1.5**
	baz=91,SNR=41									
N25A	**Grover**	**91.23**	**46**	⇑	P		**P**		**18 30 41.4**	**-1.8**
	baz=91									
E19A	**Rath Farm, Rou**	**91.25**	**39**	⇓	P		**P**		**18 30 42.0**	**-1.0**
	baz=91,SNR=232									
I22A	**9 Mile Ranch,**	**91.26**	**42**	⇓	P		**P**		**18 30 41.9**	**-1.3**
	baz=91,SNR=104									
F20A	**Billings**	**91.26**	**40**	⇓	P		**P**		**18 30 42.1**	**-1.0**
	baz=91									
L24A	**Wheatland**	**91.29**	**44**	⇑	P		**P**		**18 30 42.5**	**-0.9**
	baz=92,SNR=9.4									
H21A	**Big Horn, Sher**	**91.30**	**41**	⇑	P		**P**		**18 30 42.3**	**-1.1**
	baz=92,SNR=57									
KSCO	**Kaye Shedlock'**	**91.32**	**48**	⇓	P		**P**		**18 30 42.4**	**-1.2**
	baz=92,SNR=45									
TIY	**Taiyuan**	**91.40**	**311**		*e*P		**P**		**18 30 45.5**	**+1.5**
TIY					pP		**pP**		**18 30 57.0**	**+3.1**
TIY					sP		**sP**		**18 31 01.6**	**+4.2**
TIY					PP		**PP**		**18 34 26.9**	**+4.7**
TIY					SKS		**SKSac**		**18 41 15.3**	**+1.0**
TIY					S		**S**		**18 41 38.3**	**-3.0**
TIY					pmax		pmax			
	comp=Z,61μm,11.4s									
TIY					LR		LR			
	comp=N,108μm,23.9s									
TIY					LR		LR			
	comp=E,168μm,24.1s									
TIY					LR		LR			
	comp=Z,443μm,31.2s									
O26A	**Horse Wrangler**	**91.46**	**46**	⇓	P		**P**		**18 30 42.7**	**-1.5**
	baz=92									
G21A	**Lodge Grass**	**91.52**	**41**	⇓	P		**P**		**18 30 43.4**	**-1.0**
	baz=92,SNR=53									
A17A	**Triple J Farms**	**91.54**	**36**	⇑	P		**P**		**18 30 43.6**	**-0.7**
	baz=92									
EGMT	**Eagleton**	**91.55**	**37**		*e*P		**P**		**18 30 43.3**	**-1.1**
	comp=Z,833nm,1.0s									
EGMT					LR		LR			
	comp=Z,144μm,21.0s									
EGMT	**Eagleton**	**91.55**	**37**	⇓	P		**P**		**18 30 43.4**	**-1.0**
	baz=92									
M25A	**Palm-Egli Farm**	**91.56**	**45**	⇓	P		**P**		**18 30 43.9**	**-0.8**
	baz=92,SNR=17									
D19A	**Cripps Ranch,**	**91.58**	**38**	⇑	P		**P**		**18 30 43.3**	**-1.2**
	baz=92									
J23A	**Dilts Ranch, B**	**91.59**	**43**	⇓	P		**P**		**18 30 43.5**	**-1.2**
	baz=92,SNR=12									
P27A	**Ficken Ranch,**	**91.62**	**47**	⇓	P		**P**		**18 30 43.1**	**-1.9**
	baz=92									
E20A	**Meyer Farm, Mu**	**91.65**	**39**	⇓	P		**P**		**18 30 43.8**	**-1.1**
	baz=92,SNR=101									
H22A	**Clearmont**	**91.71**	**42**	⇑	P		**P**		**18 30 44.1**	**-1.1**
	baz=92,SNR=48									
K24A	**Anderson Ranch**	**91.71**	**44**	⇓	P		**P**		**18 30 43.8**	**-1.6**
	baz=92									
B18A	**Beardsley Farm**	**91.74**	**37**	⇓	P		**P**		**18 30 44.1**	**-1.1**
	baz=92									
C19A	**Slack Wire Ran**	**91.79**	**38**	⇓	P		**P**		**18 30 44.2**	**-1.3**
	baz=92									
N26A	**Koester Ranch,**	**91.81**	**46**	⇓	P		**P**		**18 30 44.0**	**-1.9**
	baz=92,SNR=7.0									
WHTX	**Lake Whitney**	**91.83**	**56**	⇓	P		**P**		**18 30 44.2**	**-1.8**
	baz=92									
VSM	**San Miguel**	**91.87**	**76**		*e*P		**P**		**18 30 46.1**	**-0.8**
F21A	**Absaloka Mine,**	**91.88**	**40**	⇓	P		**P**		**18 30 44.8**	**-1.2**
	baz=92									
I23A	**Meade Ranch, G**	**91.93**	**42**	⇓	P		**P**		**18 30 45.1**	**-1.2**
	baz=92									
COLD	**Coldfoot**	**91.94**	**9**		*e*P		**P**		**18 30 44.9**	**-0.7**
	comp=Z,576nm,1.4s									
D20A	**Manuel Ranch,**	**91.96**	**39**	⇓	P		**P**		**18 30 45.4**	**-1.0**
	baz=92									
L25A	**Engebretsen Ra**	**91.97**	**45**	⇑	P		**P**		**18 30 45.2**	**-1.3**
	baz=92									
O27A	**Beecher Island**	**91.99**	**47**	⇓	P		**P**		**18 30 45.3**	**-1.4**
	baz=92									
A18A	**Metzger Ranch,**	**92.00**	**37**	⇓	P		**P**		**18 30 45.6**	**-0.8**
	baz=92									
BILL	**Bilibino**	**92.02**	**353**		*c i*P		**P**		**18 30 46.6**	**+0.6**
BILL					*e*				18 34 30.2	
BILL					*e*				18 41 17.6	
BILL					*e*PS		PnS		18 43 04.8	**+4.0**
BILL					*e*SS		SS		18 47 50.1	-5.2
BILL					pmax		pmax			
	comp=Z,552nm,2.2s									
BILL	**Bilibino**	**92.02**	**353**		PFAKE				18 31 00.0	+14
BILL					LR		LR			
	comp=Z,214μm,20.0s									
WMOK	**Wichita Mounta**	**92.06**	**53**		*e*P		**P**		**18 30 46.0**	**-1.0**
WMOK					MLR		MLR			
	comp=Z,194μm,22.0s									
WMOK	**Wichita Mounta**	**92.06**	**53**		*e*P		**P**		**18 30 46.0**	**-1.0**
	comp=Z,3μm,1.0s									
WMOK					LR		LR			
	comp=Z,194μm,22.0s									
CAHU	**Cacacuatique**	**92.06**	**76**		*e*P		**P**		**18 30 45.5**	**-2.1**
G22A	**Birney**	**92.07**	**41**	⇓	P		**P**		**18 30 45.4**	**-1.5**
	baz=92,SNR=55									
J24A	**Dixon Ranch, L**	**92.11**	**43**	⇑	P		**P**		**18 30 45.4**	**-1.7**
	baz=92									
M26A	**McRoberts Ranc**	**92.17**	**45**	⇓	P		**P**		**18 30 45.5**	**-2.0**
	baz=92,SNR=15									
HKT	**Hockley**	**92.20**	**58**		*e*P		**P**		**18 30 46.7**	**-1.0**
HKT					pmax		pmax			
	comp=Z,2μm,1.6s									
HKT	**Hockley**	**92.20**	**58**		*e*P		**P**		**18 30 46.7**	**-1.0**
	comp=Z,2μm,1.6s									
CNCH	**Conchagua**	**92.21**	**77**		*e*P		**P**		**18 30 45.9**	**-2.3**
SRDT	**SRDT**	**92.21**	**285**		P		**P**		**18 30 49.2**	**+1.1**
	comp=Z,819nm,1.3s,comp=Z,60μm									
BSI	**Banda Aceh**	**92.24**	**275**		P		P'P'df		18 56 22.2	+7.1
	comp=Z,4μm,2.3s									
BSI	**Banda Aceh**	**92.24**	**275**		P		**P**		**18 30 47.5**	**-0.8**
	comp=Z,611nm,0.8s,comp=Z,81μm									
B19A	**Brinkman Farms**	**92.24**	**37**	⇑	P		**P**		**18 30 46.5**	**-1.0**
	baz=92,SNR=339									
N27A	**Anderson Farm,**	**92.25**	**46**	⇑	P		**P**		**18 30 46.2**	**-1.6**
	baz=92									
XAN	**Xi'an**	**92.25**	**306**		P		**P**		**18 30 47.4**	**-0.5**
XAN					pP		**pP**		**18 30 56.5**	**-1.4**
XAN					PP		**PP**		**18 34 31.1**	**+2.2**
XAN					S		**S**		**18 41 43.6**	**-5.4**
XAN					SS		**SS**		**18 48 02.6**	**+2.4**
XAN					pmax		pmax			
	comp=Z,36nm,0.9s									
XAN					LR		LR			
	comp=N,186μm,23.4s									
XAN					LR		LR			
	comp=E,65μm,24.7s									
XAN					LR		LR			
	comp=Z,97μm,24.7s									
TRQA	**Tornquist**	**92.25**	**133**		*e*P		**P**		**18 30 48.0**	**0.0**
	comp=Z,60nm,1.3s									
TRQA					LR		LR			
	comp=Z,711μm,21.0s									
K25A	**Mack Ranch, Ha**	**92.26**	**44**	⇑	P		**P**		**18 30 46.3**	**-1.6**
	baz=92									
H23A	**Clabaugh Cattl**	**92.27**	**42**	⇓	P		**P**		**18 30 46.3**	**-1.5**
	baz=92									
E21A	**Keefer Ranch,**	**92.29**	**40**	⇑	P		**P**		**18 30 46.8**	**-1.0**
	baz=92									
NNA	**Nana**	**92.33**	**104**		*e*P		**P**		**18 30 48.3**	**-0.5**
	comp=Z,332nm,1.3s									
NNA					LR		LR			
	comp=Z,1101μm,21.0s									
NNA	**Nana**	**92.33**	**104**		P		**P**		**18 30 48.1**	**-0.7**
	comp=Z,942nm,1.4s,SNR=28									
C20A	**Veseth Ranch,**	**92.37**	**38**	⇑	P		**P**		**18 30 47.0**	**-1.2**
	baz=92									
F22A	**Rosebud**	**92.38**	**41**	⇑	P		**P**		**18 30 46.7**	**-1.5**
	baz=92,SNR=86									
I24A	**Kuemmerle Ranc**	**92.40**	**43**	⇓	P		**P**		**18 30 46.8**	**-1.7**
	baz=93									
L26A	**Underwood Farm**	**92.49**	**45**	⇑	P		**P**		**18 30 47.5**	**-1.4**
	baz=93									
G23A	**Biddle**	**92.60**	**41**	⇓	P		**P**		**18 30 48.0**	**-1.4**
	baz=93									
A19A	**Klindworth Far**	**92.61**	**37**	⇓	P		**P**		**18 30 47.8**	**-1.5**
	baz=93									
D21A	**La Casta Ranch**	**92.61**	**39**	⇓	P		**P**		**18 30 47.8**	**-1.5**
	baz=93									
OGNE	**Ogallala**	**92.65**	**46**		*e*P		**P**		**18 30 49.8**	**+0.1**
	comp=Z,2μm,1.9s									
OGNE					LR		LR			
	comp=Z,284μm,22.0s									
OGNE	**Ogallala**	**92.65**	**46**	⇑	P		**P**		**18 30 47.5**	**-2.2**
	baz=93									
HIA	**Hailar**	**92.69**	**323**		PFAKE				18 31 00.0	+10
HIA					LR		LR			
	comp=Z,276μm,20.0s									
M27A	**Reverse DX Ran**	**92.69**	**46**	⇑	P		**P**		**18 30 47.9**	**-2.0**
	baz=93									
K26A	**Motz Farm, Whi**	**92.75**	**44**	⇓	P		**P**		**18 30 48.2**	**-1.9**
	baz=93									
B20A	**Solberg Farm,**	**92.75**	**38**	⇓	P		**P**		**18 30 48.4**	**-1.5**
	baz=93									
F23A	**Volborg**	**92.86**	**41**	⇓	P		**P**		**18 30 48.9**	**-1.6**
	baz=93									
H24A	**Dirks Ranch, A**	**92.89**	**42**	⇓	P		**P**		**18 30 48.9**	**-1.8**
	baz=93									
RSSD	**Black Hills**	**92.90**	**43**		*e*P		**P**		**18 30 49.1**	**-1.8**
RSSD					pmax		pmax			
	comp=Z,1μm,1.4s									
RSSD	**Black Hills**	**92.90**	**43**		*e*P		**P**		**18 30 49.1**	**-1.8**
	comp=Z,1μm,1.4s									
E22A	**Miles City**	**92.90**	**40**	⇓	P		**P**		**18 30 48.9**	**-1.8**
	baz=93									
C21A	**Desert Coulee**	**92.95**	**39**	⇑	P		**P**		**18 30 49.4**	**-1.4**
	baz=93									
L27A	**T5 Ranch, Ells**	**93.01**	**45**	⇓	P		**P**		**18 30 49.5**	**-1.8**
	baz=93									
A20A	**Cobblestone Ra**	**93.04**	**37**	⇑	P		**P**		**18 30 50.3**	**-0.9**
	baz=93									
D22A	**Cohagen**	**93.13**	**39**	⇓	P		**P**		**18 30 50.2**	**-1.5**
	baz=93									
MGAN	**Managua**	**93.19**	**78**		*e*P		P		18 30 48.4	-4.3
G24A	**Alzada**	**93.26**	**42**	⇓	P		**P**		**18 30 50.6**	**-1.8**
	baz=93									
B21A	**Ellsworth Farm**	**93.31**	**38**	⇓	P		**P**		**18 30 51.6**	**-0.9**
	baz=94									
E23A	**Ismay**	**93.31**	**40**	⇑	P		**P**		**18 30 51.5**	**-1.0**
	baz=94									
K27A	**Flueckinger Fa**	**93.36**	**45**	⇓	P		**P**		**18 30 51.4**	**-1.5**
	baz=94									
KMI	**Kunming**	**93.36**	**296**		P		**P**		**18 30 52.8**	**-0.7**
KMI					pP		**pP**		**18 31 04.8**	**+1.4**
KMI					sP		**sP**		**18 31 09.8**	**+2.8**
KMI					PP		**PP**		**18 34 35.6**	**-2.4**
KMI					S		**S**		**18 41 56.4**	**-3.2**
KMI					SS		**SS**		**18 48 13.1**	**-3.7**
KMI					pmax		pmax			
	comp=Z,800nm,1.2s									
KMI					LR		LR			
	comp=N,108μm,23.9s									
KMI					LR		LR			
	comp=E,151μm,26.5s									
KMI					LR		LR			
	comp=Z,322μm,26.5s									
HHC	**Hu-ho-hao-te**	**93.47**	**313**		*e*P		**P**		**18 30 53.6**	**+0.1**
HHC					pP		**pP**		**18 31 05.8**	**+2.4**
HHC					sP		**sP**		**18 31 09.6**	**+2.7**
HHC					PP		**PP**		**18 34 42.0**	**+3.6**
HHC					SKS		**SKSac**		**18 41 25.1**	**-0.7**
HHC					S		**S**		**18 41 58.4**	**-1.3**
HHC					sS		**sS**		**18 42 16.1**	**-0.1**
HHC					pmax		pmax			
	comp=Z,300nm,1.9s									
HHC					pmax		pmax			
	comp=Z,73μm,13.5s									
HHC					LR		LR			
	comp=N,109μm,20.2s									
HHC					LR		LR			
	comp=E,132μm,22.2s									
HHC					LR		LR			
	comp=Z,356μm,22.7s									
F24A	**Ekalaka**	**93.50**	**41**	⇓	P		**P**		**18 30 52.2**	**-1.2**
	baz=94									
C22A	**Vida**	**93.61**	**39**	⇑	P		**P**		**18 30 52.5**	**-1.3**
	baz=94									
JTS	**JuntasAbangare**	**93.65**	**80**		*e*P		**P**		**18 30 54.6**	**-0.2**
	comp=Z,1μm,1.3s									
JTS					LR		LR			
	comp=Z,121μm,20.0s									
JTS	**JuntasAbangare**	**93.65**	**80**		P		**P**		**18 30 54.3**	**-0.5**
	comp=Z,2μm,0.9s,SNR=75									
A21A	**Bergtoll Ranch**	**93.66**	**38**	⇓	P		**P**		**18 30 53.2**	**-0.9**
	baz=94									
B22A	**Reddig Ranch S**	**93.83**	**39**	⇓	P		**P**		**18 30 54.2**	**-0.7**
	baz=94									
NATX	**Nacogdoches**	**93.88**	**57**		*e*P		**P**		**18 30 55.0**	**-0.5**
	comp=Z,3μm,1.7s									
NATX					LR		LR			
	comp=Z,390μm,20.0s									
E24A	**Baker**	**93.94**	**41**	⇑	P		**P**		**18 30 54.5**	**-0.9**
	baz=94									
CM31	**Chiang Mai Arr**	**93.97**	**288**		*e*P		**P**		**18 30 56.3**	**+0.1**
	comp=Z,6.5nm,0.4s									
CMAR	**Chiang Mai Arr**	**93.97**	**288**		P		**P**		**18 30 56.4**	**+0.2**
	comp=Z,62nm,0.9s,baz=128,slow=2.7,SNR=216									
CMAR					PKKPbc		**PKKPbc**		**18 48 01.7**	**+3.2**
	comp=Z,13nm,1.2s,baz=272,slow=3.3,SNR=5.3									
CMAR					PKPPKP		**P'P'df**		**18 56 09.9**	**-0.7**
	comp=Z,3.1nm,1.1s,baz=287,slow=4.0,SNR=4.3									
CMAR					LR		LR		19 12 15.8	
	comp=Z,118μm,21.2s,baz=280,slow=35									
CMAR	**Chiang Mai Arr**	**93.97**	**288**		P		**P**		**18 30 56.4**	**+0.2**
CMAR					PKKPbc		**PKKPbc**		**18 48 01.7**	**+3.2**
CMAR					P'P'				18 56 09.9	
C23A	**Lambert**	**94.04**	**39**	⇑	P		**P**		**18 30 54.9**	**-1.0**
	baz=94									
CMMT	**Chiang Mai**	**94.10**	**289**		P		P'P'df		18 56 30.1	+20
CMMT	**Chiang Mai**	**94.10**	**289**		P		**P**		**18 30 57.3**	**+0.5**
	comp=Z,477nm,0.8s,comp=Z,44μm									
CHTO	**Chiang Mai**	**94.11**	**289**		*e*P		**P**		**18 30 56.7**	**-0.1**
CHTO					pmax		pmax			
	comp=Z,1μm,1.3s									
CHTO					MLR		MLR			
	comp=Z,149μm,21.0s									
CHTO	**Chiang Mai**	**94.11**	**289**		*e*P		**P**		**18 30 56.7**	**-0.1**
	comp=Z,1μm,1.3s									
CHTO					LR		LR			
	comp=Z,149μm,21.0s									
CHTO	**Chiang Mai**	**94.11**	**289**		P		**P**		**18 30 57.7**	**+1.0**
	SNR=268									
CHTO	**Chiang Mai**	**94.11**	**289**		P		P'P'df		18 56 29.5	+19
	comp=Z,2μm,1.4s									
CHTO	**Chiang Mai**	**94.11**	**289**		P		**P**		**18 30 56.9**	**+0.1**
	comp=Z,287nm,2.2s,comp=Z,49μmcomp=Z,636μm									
D24A	**Glendive**	**94.20**	**40**	⇑	P		**P**		**18 30 56.0**	**-0.7**
	baz=94									
A22A	**Carney Farms,**	**94.23**	**38**	⇓	P		**P**		**18 30 56.0**	**-0.7**
	baz=94									
C24A	**Savage**	**94.35**	**40**	⇓	P		**P**		**18 30 56.4**	**-0.9**
	baz=94									
BTO	**Baotou**	**94.40**	**312**		*e*P		**P**		**18 30 58.4**	**+0.6**
BTO					pmax		pmax			
	comp=Z,120nm,2.2s									
CLNS	**Chul'man**	**94.46**	**331**		*c i*P		**P**		**18 30 58.0**	**+0.5**
CLNS					*e*S		**SKSac**		**18 41 34.3**	**+4.1**
CLNS					pmax		pmax			
	comp=Z,46nm,1.3s									
CLNS					pmax		pmax			
	comp=N,41nm,1.4s									
CLNS					pmax		pmax			
	comp=E,12nm,0.9s									
CLNS					smax		smax			
	comp=N,268nm,1.7s									
CLNS					smax		smax			
	comp=E,204nm,1.6s									
B23A	**Brockton**	**94.49**	**39**	⇓	P		**P**		**18 30 57.1**	**-0.8**
	baz=95									
TEIG	**Tepich**	**94.52**	**70**		*e*P		**P**		**18 30 57.9**	**-0.7**
	comp=E,1μm,1.5s									
TEIG					LR		LR			
	comp=Z,244μm,20.0s									
LVC	**Limon Verde**	**94.61**	**117**		PFAKE				18 31 10.0	+11
LVC					LR		LR			
	comp=Z,31μm,21.0s									
TUL1	**Tulsa**	**94.77**	**53**	⇑	P		**P**		**18 30 58.2**	**-1.2**
	baz=95									
A23A	**Redstone**	**94.80**	**38**	⇑	P		**P**		**18 30 58.1**	**-1.2**
	baz=95									
CD2	**Chengdu**	**94.88**	**301**		P		**P**		**18 31 00.9**	**+0.8**
CD2					PP		**PP**		**18 34 51.1**	**+1.5**
CD2					SKS		**SKSac**		**18 41 35.8**	**+2.1**
CD2					S		**S**		**18 42 09.0**	**-3.3**
CD2					SS		**SS**		**18 48 38.8**	**+0.9**
CD2					pmax		pmax			
	comp=Z,370nm,1.3s									
CD2					pmax		pmax			
	comp=Z,106μm,14.3s									
CD2					LR		LR			
	comp=N,358μm,25.0s									
CD2					LR		LR			
	comp=Z,392μm,23.8s									
DGMT	**Dagmar**	**94.95**	**39**		*e*P		**P**		**18 30 59.1**	**-0.9**
	comp=Z,3μm,1.4s									
DGMT					LR		LR			
	comp=Z,111μm,22.0s									
DGMT	**Dagmar**	**94.95**	**39**	⇓	P		**P**		**18 30 59.3**	**-0.7**
	baz=95									
ARE	**Arequipa**	**95.17**	**110**		*e*P		**P**		**18 31 02.0**	**-0.1**
ARE	**Arequipa**	**95.17**	**110**		*e*P		**P**		**18 31 02.0**	**-0.1**
A24A	**Westby**	**95.29**	**39**	⇑	P		**P**		**18 31 00.7**	**-0.8**
	baz=95									
BGNE	**Belgrade**	**95.47**	**47**	⇓	P		**P**		**18 31 01.4**	**-1.1**
	baz=96									
KSU1	**Kansas State U**	**95.54**	**50**		*e*P		**P**		**18 31 01.6**	**-1.3**
	comp=Z,322nm,0.9s									
KSU1					LR		LR			
	comp=Z,342μm,20.0s									
OTAV	**Otavalo**	**95.74**	**92**		*e*P		**P**		**18 31 06.4**	**+1.4**
	comp=Z,59nm,1.5s									
OTAV					LR		LR			
	comp=Z,414μm,22.0s									
YAK	**Yakutsk**	**95.77**	**337**		*c i*P		**P**		**18 31 02.6**	**-0.7**
YAK					*e**PP		**pP**		**18 31 11.9**	**-1.3**
YAK					*e*				18 34 50.4	
YAK					*e*S		**SKSac**		**18 41 38.2**	**+1.4**
YAK					*e*				18 42 18.3	
YAK					pmax		pmax			
	comp=N,17nm,1.3s									
YAK					pmax		pmax			
	comp=E,16nm,1.0s									
YAK					pmax		pmax			
	comp=Z,76nm,1.0s									
YAK					pmax		pmax			
	comp=N,2μm,3.3s									
YAK					pmax		pmax			
	comp=Z,1μm,2.2s									
YAK					pmax		pmax			
	comp=E,1μm,2.3s									
YAK					smax		smax			
	comp=E,12μm,8.4s									
YAK					smax		smax			
	comp=N,6μm,5.8s									
MIAR

YKA PKPPKP **P'P'df** **18 56 01.0 +1.9**
comp=Z,2.8nm,1.1s,baz=56,slow=1.6,SNR=4.3
YKA Yellowknife Ar 97.62 24 P **P** **18 31 09.8 -1.8**
YKA PP **PP** **18 35 13.9 +4.1**
YKA PKKPbc **PKKPbc** **18 47 48.5 -1.8**
YKA PKKP **PKKPdf** **18 47 54.8 +1.7**
YKA P'P' 18 56 01.0
YKW3 Yellowknife Ar 97.65 24 *eP* **P** **18 31 11.4 -0.4**
comp=Z,53nm,3.0s
BCIP Isla Barro Col 97.88 83 PFAKE 18 31 20.0 +5.9
BCIP LR LR
comp=Z,137µm,20.0s
LPAZ La Paz 98.13 112 P Pdif 18 31 18.4 +2.4
comp=Z,38nm,1.0s,baz=264,slow=2.7,SNR=49
LPAZ PP **PP** **18 35 18.1 +3.0**
comp=Z,45nm,1.1s,baz=262,slow=3.6,SNR=3.5
LPAZ PKKPbc **PKKPdf** **18 47 54.9 +4.5**
comp=Z,23nm,0.8s,baz=346,slow=0.2,SNR=12
LPAZ LR LR 19 08 53.2
comp=Z,174µm,19.8s,baz=164,slow=31
LPAZ La Paz 98.13 112 *eP* Pdif 18 31 17.9 +1.9
comp=Z,46nm,1.0s
LPAZ PP **PP** **18 35 18.1 +3.0**
LPAZ PKKPbc **PKKPdf** **18 47 54.9 +4.5**
HBAR Harrisburg 98.45 55 *eP* **P** **18 31 15.3 -0.9**
OXF Oxford 99.01 56 *eP* **Pdif** **18 31 17.3 -1.4**
OXF pmax pmax
comp=Z,158nm,1.1s
OXF MLR MLR
comp=Z,326µm,19.0s
OXF Oxford 99.01 56 *eP* **Pdif** **18 31 17.3 -1.4**
comp=Z,158nm,1.1s
OXF LR LR
comp=Z,326µm,19.0s
SCIA State Center 99.04 48 *eP* **Pdif** **18 31 17.4 -1.2**
comp=Z,547nm,1.6s
SCIA LR LR
comp=Z,220µm,20.0s
GNAR Gosnell 99.09 55 *e*Pdif **Pdif** **18 31 18.8 -0.2**
comp=Z,2µm,1.4s
FFC Flin Flon 99.14 34 *eP* **Pdif** **18 31 18.0 -0.8**
FFC pmax pmax
comp=Z,293nm,3.2s
FFC MLR MLR
comp=Z,165µm,19.0s
FFC Flin Flon 99.14 34 *eP* **Pdif** **18 31 17.9 -0.8**
comp=Z,293nm,3.2s
FFC LR LR
comp=Z,165µm,19.0s
ULN Ulaanbaatar 99.44 318 *e*Pdif **Pdif** **18 31 19.1 -1.4**
comp=Z,1µm,1.3s
ULN LR LR
comp=Z,97µm,20.0s
ULN Ulaanbaatar 99.44 318 P **Pdif** **18 31 19.8 -0.7**
SNR=75
ULN Ulaanbaatar 99.44 318 P **Pdif** **18 31 20.1 -0.4**
FVM French Village 99.54 53 *eP* **Pdif** **18 31 19.0 -1.9**
FVM pmax pmax
comp=Z,308nm,1.6s
FVM French Village 99.54 53 *e*Pdif **Pdif** **18 31 19.0 -1.9**
comp=Z,308nm,1.6s
PARMO Parma 99.55 54 *e*Pdif **Pdif** **18 31 19.6 -1.4**
BRAL Brewton 99.58 60 PFAKE 18 31 30.0 +8.7
BRAL LR LR
comp=Z,148µm,21.0s
SONM Songino Array 99.83 318 P **Pdif** **18 31 22.1 -0.1**
comp=Z,7.5nm,0.8s,baz=121,slow=2.7,SNR=36
SONM PP **PP** **18 35 27.8 +0.4**
comp=Z,94nm,1.2s,baz=129,slow=5.3,SNR=4.2
SONM PKKP **PKKPdf** **18 47 47.8 -0.9**
comp=Z,7.9nm,0.9s,baz=256,slow=3.1,SNR=3.6
SONM PKPPKP **P'P'df** **18 55 54.8 -2.0**
comp=Z,3.3nm,1.1s,baz=255,slow=3.5,SNR=4.5
SONM LR LR 19 19 02.1
comp=Z,90µm,18.1s,baz=126,slow=37
SONM Songino Array 99.83 318 P **Pdif** **18 31 22.1 -0.1**
SONM PP **PP** **18 35 27.8 +0.4**
SONM PKKP **PKKPdf** **18 47 47.8 -0.9**
SONM P'P' 18 55 54.8
AGMN Agassiz Nation 99.84 42 *e*Pdif **Pdif** **18 31 20.8 -1.3**
comp=Z,727nm,1.7s
AGMN LR LR
comp=Z,101µm,19.0s
BOD Bodaibo 99.98 329 *eP* **Pdif** **18 31 21.7 -0.7**
BOD pmax pmax
comp=Z,125nm,1.7s
PLAL Pickwick Lake 100.21 56 PFAKE 18 31 30.0 +6.0
PLAL LR LR
comp=Z,243µm,20.0s
SIUC Southern Illin 100.33 53 *e*Pdif **Pdif** **18 31 23.9 -0.5**
comp=Z,103nm,1.1s
LRAL Lakeview Retre 100.35 59 *e*Pdif **Pdif** **18 31 24.1 -0.6**
comp=Z,155nm,1.8s
LRAL LR LR
comp=Z,187µm,22.0s
SPMN St. Paul 100.59 45 ⇓Pdiff **Pdif** **18 31 24.3 -1.1**
baz=101
ULM Lac du Bonnet 100.61 40 P **Pdif** **18 31 24.7 -0.7**
comp=Z,20nm,0.9s,baz=251,slow=5.0,SNR=28
ULM PP **PP** **18 35 36.4 +3.3**
comp=Z,59nm,1.2s,baz=238,slow=8.4,SNR=3.9
ULM PKKP **PKKPdf** **18 47 45.5 -1.7**
comp=Z,27nm,1.0s,baz=77,slow=2.9,SNR=6.5
ULM PKPPKP **P'P'df** **18 55 57.2 +2.4**
comp=Z,3.9nm,1.0s,baz=129,slow=2.7,SNR=4.1
ULM Lac du Bonnet 100.61 40 P **Pdif** **18 31 24.7 -0.7**
ULM PP **PP** **18 35 36.4 +3.3**
ULM PKKP **PKKPdf** **18 47 45.5 -1.7**
ULM P'P' 18 55 57.2
IMP Imphal 100.64 292 *eP* **Pdif** **18 31 26.0 -0.2**
IMP *ex* x 18 32 14.0
WVT Waverly 100.80 55 *eP* **Pdif** **18 31 25.7 -0.9**
WVT pmax pmax
comp=Z,242nm,1.8s
WVT Waverly 100.80 55 *e*Pdif **Pdif** **18 31 25.7 -0.9**
comp=Z,242nm,1.8s
GTA Gaotai 101.10 308 ⇑P **Pdif** **18 31 29.0 +1.0**
GTA pP pP 18 31 39.6 +1.5
GTA sP 18 31 43.5
GTA PP **PP** **18 35 41.3 +4.1**
GTA SKS **SKSac** **18 42 04.6 -0.6**
GTA S SKKSac 18 43 04.8 +24
GTA sS **sS** **18 43 21.3 -0.4**
GTA pmax pmax
comp=Z,51nm,2.8s
GTA pmax pmax
comp=Z,15µm,14.3s
GTA LR LR
comp=N,82µm,21.9s
GTA LR LR
comp=E,146µm,23.3s
GTA LR LR
comp=Z,175µm,23.8s
HDIL Hopedale 101.29 51 *e*Pdif **Pdif** **18 31 27.9 -0.8**
comp=Z,66nm,1.0s
HDIL LR LR
comp=Z,299µm,20.0s
ROSC El Rosal 101.32 90 P **Pdif** **18 31 30.5 +0.6**
comp=Z,2.7nm,0.3s,baz=110,slow=22,SNR=11
ROSC El Rosal 101.32 90 *e*Pdif **Pdif** **18 31 30.4 +0.4**
OLIL Olney 101.51 53 *e*Pdif **Pdif** **18 31 29.2 -0.5**
comp=Z,124nm,1.3s
USIN University of 101.57 54 *e*Pdif **Pdif** **18 31 29.9 0.0**
comp=Z,237nm,1.4s
CPUP Villa Florida 101.88 125 P **Pdif** **18 31 32.4 +0.7**
comp=Z,4.1nm,0.8s,baz=253,slow=5.1,SNR=8.2
CPUP PKKPbc **PKKPbc** **18 47 36.0 -0.5**
comp=Z,6.7nm,0.8s,baz=69,slow=4.2,SNR=3.7
CPUP PKKP **PKKPdf** **18 47 43.4 +0.8**
comp=Z,6.2nm,0.6s,baz=18,slow=3.9,SNR=4.1
CPUP PKPPKP **P'P'df** **18 55 57.3 -1.2**
comp=Z,4.0nm,0.9s,baz=36,slow=4.1,SNR=3.9
CPUP Villa Florida 101.88 125 P **Pdif** **18 31 32.4 +0.7**
CPUP PKKPbc **PKKPbc** **18 47 36.0 -0.5**
CPUP PKKP **PKKPdf** **18 47 43.4 +0.8**
CPUP P'P' 18 55 57.3
SWET Sewanee 101.94 57 *e*Pdif **Pdif** **18 31 30.0 -1.7**
comp=Z,91nm,1.3s
EYMN Ely 102.42 43 *e*Pdif **Pdif** **18 31 32.2 -1.3**
comp=Z,569nm,1.0s
EYMN LR LR
comp=Z,97µm,20.0s
AGT Agartala 102.62 291 *i* x **Pdif** **18 31 40.0 +5.0**
AGT *i* x x 18 32 11.0
SHL Shillong 102.65 292 *eP* **Pdif** **18 31 34.7 -0.6**
SHL *ex* x 18 34 13.0

WCI Wyandotte Cave 102.67 54 *eP* **Pdif** **18 31 33.8 -1.1**
WCI pmax pmax
comp=Z,235nm,1.9s
WCI Wyandotte Cave 102.67 54 *e*Pdif **Pdif** **18 31 33.8 -1.1**
comp=Z,235nm,1.9s
ZAK Zakamensk 102.69 319 *eP* **Pdif** **18 31 33.9 -0.9**
ZAK *e* 18 35 55.7
ZAK pmax pmax
comp=Z,48nm,1.3s
IRK Irkutsk 102.78 321 *eP* **Pdif** **18 31 36.0 +1.0**
IRK pmax pmax
comp=Z,160nm,1.8s
SFIN Scholer Farm 102.80 52 ⇑Pdiff **Pdif** **18 31 34.8 -0.5**
baz=103
TLY Talaya 102.94 321 *c iP* **Pdif** **18 31 34.7 -1.0**
TLY *e* 18 35 55.6
TLY *e*PPP PPP 18 38 04.8
TLY *e*S **Sdif** **18 43 22.4 +2.8**
TLY *e*PS **PS** **18 45 02.8 +3.8**
TLY *e*SS **SS** **18 50 34.8 +4.9**
TLY pmax pmax
comp=Z,43nm,0.9s
TLY MLR MLR
comp=Z,163µm,24.0s
TLY Talaya 102.94 321 PFAKE 18 31 40.0 +4.2
TLY LR LR
comp=Z,136µm,22.0s
CPCT Cooper Cave 103.10 57 *e*Pdif **Pdif** **18 31 34.9 -2.0**
MTDJ Mount Denham 103.24 76 PFAKE 18 31 50.0 +12
MTDJ LR LR
comp=Z,161µm,21.0s
COWI Conover 103.30 45 *e*Pdif **Pdif** **18 31 36.6 -0.9**
comp=Z,1µm,0.6s
COWI LR LR
comp=Z,141µm,20.0s
TKL Tuckaleechee C 103.75 57 PKKP **PKKPdf** **18 47 38.1 -2.7**
comp=Z,9.0nm,0.8s,baz=74,slow=7.3,SNR=4.5
TKL Tuckaleechee C 103.75 57 *e*Pdif **Pdif** **18 31 37.5 -2.2**
TKL PKKP **PKKPdf** **18 47 38.1 -2.7**
TZTN Tazewell 104.20 56 *e*Pdif **Pdif** **18 31 40.0 -1.7**
comp=Z,381nm,2.1s
SIV San Ignacio 104.25 115 PKKP **PKKPdf** **18 47 33.7 -4.8**
comp=Z,27nm,0.9s,baz=104,slow=6.4,SNR=9.0
MOY Mondy 104.49 320 *eP* **Pdif** **18 31 42.2 -0.6**
MOY pmax pmax
comp=Z,129nm,3.2s
LSA Lhasa 104.61 296 PFAKE 18 31 50.0 +5.7
LSA LR LR
comp=Z,183µm,20.0s
CAL Calcutta 104.71 288 *eP* **Pdif** **18 31 42.7 -1.6**
CAL *ex* x 18 35 42.6
KMSC Kings Mountain 105.48 58 ⇓Pdiff **PKiKP** **18 36 01.2 +0.2**
baz=106
ACSO Alum Creek Sta 105.74 53 *e*Pdif **Pdif** **18 31 46.2 -2.3**
comp=Z,166nm,1.9s
ACSO LR LR
comp=Z,226µm,20.0s
SAML Samuel 105.75 107 *e*Pdif **Pdif** **18 31 47.9 -1.2**
comp=Z,42nm,1.0s
SAML LR LR
comp=Z,404µm,22.0s
NHSC New Hope 105.78 60 PFAKE 18 36 10.0
NHSC LR LR
comp=Z,122µm,20.0s
AAM Ann Arbor 105.86 50 *eP* **Pdif** **18 31 46.4 -2.5**
AAM MLR MLR
comp=Z,281µm,20.0s
AAM Ann Arbor 105.86 50 *e*Pdif **Pdif** **18 31 46.4 -2.5**
AAM *e*PKPdf **PKiKP** **18 36 00.8 -0.6**
AAM LR LR
comp=Z,281µm,20.0s
GLMI Grayling 105.92 48 PFAKE 18 36 10.0
GLMI LR LR
comp=Z,222µm,20.0s
GTBY Guantanamo Bay 105.97 75 PFAKE 18 36 10.0
GTBY LR LR
comp=Z,108µm,21.0s
BWNR Bhubaneshwar 106.20 285 *ex* **Pdif** **18 31 44.0 -6.9**
TAPN Taplejung 106.76 293 *eP* **Pdif** **18 31 55.0 +1.3**
comp=Z,71nm,0.9s
BLA Blacksburg 106.79 56 PFAKE 18 36 10.0
BLA LR LR
comp=Z,117µm,20.0s
ODAN Odare 106.88 292 *eP* **Pdif** **18 31 56.5 +2.3**
comp=Z,117nm,0.6s
VIS Vishakhapatnam 107.57 282 *i* x **Pdif** **18 32 06.0 +9.0**
VIS *i* x x 18 36 04.1
VIS AMS AMS 18 47 50.0
comp=Z,51µm,23.2s
RAMN Ramite 107.58 292 *eP* **Pdif** **18 31 59.4 +2.1**
comp=Z,70nm,0.8s
DGAR Diego Garcia 107.81 254 PFAKE 18 36 20.0
DGAR LR LR
comp=Z,473µm,20.0s
CNNC Cliffs of the 108.21 59 PFAKE 18 36 20.0
CNNC LR LR
comp=Z,118µm,22.0s
ERPA Erie 108.43 51 PFAKE 18 36 20.0
ERPA LR LR
comp=Z,266µm,20.0s
GUN Gumba 108.48 293 *eP* **Pdif** **18 32 03.5 +2.1**
comp=Z,137nm,0.7s
PKI Pulchoki 108.78 293 *eP* **Pdif** **18 32 05.4 +2.7**
comp=Z,100nm,0.8s
PKIN Phulchoki 108.79 293 *eP* **Pdif** **18 32 05.6 +2.9**
comp=Z,40nm,0.7s
KKN Kakani 108.95 293 *eP* **Pdif** **18 32 05.4 +2.1**
comp=Z,48nm,0.6s
DMN Daman 109.05 293 *eP* **Pdif** **18 32 06.0 +2.2**
comp=Z,118nm,0.7s
SDDR Presa de Saban 109.08 77 *e*Pdif **Pdif** **18 32 04.1 +0.3**
SDDR LR LR
comp=Z,202nm,22.0s
CBN Corbin 109.39 56 PFAKE 18 36 20.0
CBN LR LR
comp=Z,136µm,20.0s
RES Resolute Bay 109.46 16 PKKPbc PKKPbc 18 47 14.8 -0.1
comp=Z,6.7nm,0.8s,baz=72,slow=6.9,SNR=4.5
RES PKKPab **PKKPab** **18 47 23.6 +1.0**
comp=Z,17nm,0.9s,baz=53,slow=4.3,SNR=6.3
RES Resolute Bay 109.46 16 *e*Pdif **Pdif** **18 32 04.0 -0.2**
RES PKKPbc **PKKPbc** **18 47 14.8 -0.1**
RES PKKPab **PKKPab** **18 47 23.6 +1.0**
GKN Gorkha 109.56 293 *eP* **Pdif** **18 32 07.4 +1.5**
comp=Z,145nm,0.8s
GRTK Grand Turk 110.00 75 PFAKE 18 36 20.0
GRTK LR LR
comp=Z,107µm,20.0s
SDMD Soldier's Deli 110.08 55 *e*PKiKP **PKiKP** **18 36 08.0 -1.4**
TRD Trivandrum 110.22 271 *eP* **PKiKP** **18 36 09.2 -1.2**
TRD *ex* x 18 43 09.4
TRD AMS AMS 18 47 32.0
comp=Z,49µm,20.2s
KOLN Koldanda 110.37 292 *eP* **Pdif** **18 32 12.5 +2.9**
comp=Z,34nm,0.6s
DANN Dangsing 110.40 293 *eP* **Pdif** **18 32 11.2 +1.4**
comp=Z,55nm,0.6s
SPB Sao Paulo 110.76 129 PFAKE 18 36 20.0
SPB LR LR
comp=Z,1582nm,21.0s
PYUN Piuthan 110.98 292 *eP* **Pdif** **18 32 14.5 +2.2**
comp=Z,117nm,0.9s
WMQ Urumqi 111.05 310 Pdif **Pdif** **18 32 12.9 +0.8**
WMQ PKP **PKiKP** **18 36 11.4 +0.2**
WMQ PP **PP** **18 36 54.0 +3.6**
WMQ PKS 18 38 48.4
WMQ SKS **SKSdf** **18 43 20.9 -0.2**
WMQ SKKS **SKKSac** **18 43 47.1 -3.6**
WMQ S **Sdif** **18 44 27.1 -0.6**
WMQ SS **SS** **18 52 21.3 +0.7**
WMQ AMB AMB
comp=Z,13µm,8.5s
WMQ AMB AMB
comp=Z,31µm,30.0s
WMQ LR LR
comp=N,230µm,26.0s
WMQ LR LR
comp=E,179µm,24.5s
WMQ LR LR
comp=Z,238µm,28.0s
BINY Binghamton 111.34 52 *e*Pdif **Pdif** **18 32 12.7 -0.7**
BINY LR LR
comp=Z,304µm,21.0s
HYB Hyderabad 111.79 280 *i* PKP **Pdif** **18 32 16.0 +0.1**
HYB *e*SKS SKSdf 18 42 50.0 -34
HYB LR LR 20 19 28.0
comp=Z,254nm,20.0s
NGP Nagpur 112.47 284 *eP* **PKiKP** **18 36 14.3 -0.2**
CPNY Central Park 112.54 54 *e*PKiKP **PKiKP** **18 36 13.7 -0.3**
PAL Palisades 112.62 54 *e*PKiKP **PKiKP** **18 36 12.4 -1.8**
PAL Palisades 112.62 54 *e*PKiKP **PKiKP** **18 36 12.4 -1.8**
LONY Lake Ozonia 112.83 50 *e*Pdif **Pdif** **18 32 22.2 +2.3**
LONY *e*PKiKP **PKiKP** **18 36 13.5 -0.9**
LONY LR LR
comp=Z,227µm,20.0s
LRS Lares 112.86 79 *e*PKiKP **PKiKP** **18 36 13.2 -2.1**
NCB Newcomb 112.96 50 PFAKE 18 36 20.0
NCB LR LR
comp=Z,274µm,20.0s
OBIP Obispado Ponce 113.00 79 *e*PKiKP **PKiKP** **18 36 13.9 -1.6**
CELP Cerrillos 113.03 79 *e*PKiKP **PKiKP** **18 36 16.2 +0.6**
TRY Troy 113.13 52 *e*PKiKP **PKiKP** **18 36 14.7 -0.4**
ACCN Adirondack Com 113.25 51 *e*PKiKP **PKiKP** **18 36 14.7 -0.6**
SJG San Juan 113.43 80 PKKPbc PKKPbc 18 47 09.4 +9.1
comp=Z,20nm,0.6s,baz=91,slow=4.3,SNR=5.4
SJG San Juan 113.43 80 *e*PKiKP PKiKP 18 36 10.9 -5.4
SJG PKKPbc **PKKPab** **18 47 09.4 +1.9**
SJG LR LR
comp=Z,142µm,22.0s
LGTI Lohaghat 113.66 293 *ex* x 18 37 40.2
LGTI *ex* x 18 41 26.3
PTH Pithoragarh 113.70 293 *eP* **PKiKP** **18 36 16.0 -0.8**
PTH *ex* x 18 43 19.1
MDV Middlebury 113.71 51 *e*PKiKP **PKiKP** **18 36 14.3 -1.8**
MNCY Minicoy 113.74 269 *i* P **PKiKP** **18 36 17.0 -0.1**
MNCY *i* x x 18 39 51.0
CBYP Canovanas 113.75 79 *e*PKiKP **PKiKP** **18 36 16.4 -0.7**
MTP Monte Pirata 113.97 80 *e*PKiKP **PKiKP** **18 36 15.3 -2.1**
QUA2 Belchertown 114.01 53 *e*PKiKP PKPdf 18 36 13.7 -3.0
RER Riviere de l'E 114.08 232 PFAKE 18 36 30.0 +12
RER LR LR
comp=Z,138µm,21.0s
AKL Akola 114.16 283 ⇑*iP* PKPdf 18 36 17.2 -0.5
AKL AMP 18 36 24.8
comp=Z,133nm,2.2s
AKL *i* x x 18 44 19.5
HNH Hanover 114.30 51 *e*PKiKP PKPdf 18 36 15.0 -2.3
BHPL Bhopal 114.51 286 *eP* PKPdf 18 36 17.1 -1.2
BHPL AMS AMS 18 41 27.2
comp=Z,4µm,17.2s
BRYW Bryant College 114.54 53 *e*PKiKP PKPdf 18 36 14.9 -2.9
ZAA0 Zalesovo Array 114.54 320 *e*Pdif **Pdif** **18 32 26.2 -1.0**
ZALV Zalesovo Beam 114.54 320 Pdiff **Pdif** **18 32 27.8 +0.5**
comp=Z,3.0nm,0.8s,baz=108,slow=4.8,SNR=16
ZALV PKP PKPdf 18 36 14.7 -2.7
comp=Z,36nm,0.8s,baz=195,slow=0.9,SNR=9.6
ZALV PKKPab **PKKPab** **18 47 00.8 0.0**
comp=Z,11nm,0.7s,baz=270,slow=4.4,SNR=5.6
ZALV Zalesovo Beam 114.54 320 PKIKP PKPdf 18 36 14.7 -2.7
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 114.54 320 Pdif **Pdif** **18 32 27.8 +0.5**
ZALV PKP PKPdf 18 36 14.7 -2.7
ZALV PKKPab **PKKPab** **18 47 00.8 0.0**
STVI Saint Thomas 114.59 80 *e*PKiKP **PKiKP** **18 36 21.6 +3.0**
LBNH Lisbon 114.64 50 *e*PKiKP PKPdf 18 36 17.3 -0.6
LBNH MLR MLR
comp=Z,279µm,20.0s
LBNH Lisbon 114.64 50 *e*PKiKP PKPdf 18 36 17.3 -0.7
LBNH LR LR
comp=Z,279µm,20.0s
WES Weston 114.78 53 *e*PKIKP PKPdf 18 36 15.6 -2.6
WES Weston 114.78 53 *e*PKiKP PKPdf 18 36 15.6 -2.7
BDFB Brasilia 115.06 121 PKP **PKPdf** **18 36 19.4 -0.4**
comp=Z,17nm,0.8s,baz=94,slow=4.4,SNR=4.0
BDFB PKKPab **PKKPab** **18 46 59.7 -2.7**
comp=Z,46nm,0.9s,baz=76,slow=1.6,SNR=9.0
BDFB Brasilia 115.06 121 PKP **PKPdf** **18 36 19.4 -0.4**
BDFB PKKPab **PKKPab** **18 46 59.7 -2.7**
MK31 Makanchi Array 115.32 312 *i* PKIKP **PKPdf** **18 36 17.4 -1.8**
MK31 pmax pmax
comp=Z,109nm,0.9s
MK31 Makanchi Array 115.32 312 *e*Pdif **Pdif** **18 32 31.1 +0.2**
MKAR Makanchi Array 115.32 312 Pdiff **Pdif** **18 32 32.9 +2.0**
comp=Z,3.5nm,0.6s,baz=89,slow=5.5,SNR=20
MKAR PKP **PKPdf** **18 36 18.4 -0.8**
comp=Z,33nm,0.7s,baz=53,slow=1.2,SNR=13
MKAR PKKPab **PKKPab** **18 46 57.7 -0.1**
comp=Z,39nm,1.0s,baz=272,slow=1.4,SNR=7.5
MKAR Makanchi Array 115.32 312 P **Pdif** **18 32 32.9 +2.0**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 115.32 312 Pdif **Pdif** **18 32 32.9 +2.0**
MKAR PKP **PKPdf** **18 36 18.4 -0.8**
MKAR PKKPab **PKKPab** **18 46 57.7 -0.1**
NVS Novosibirsk 115.55 321 ⇑*iP* **Pdif** **18 32 34.8 +3.1**
NVS *i* 18 36 17.5
NVS *i* 18 37 23.2
NVS *e*PPP PPP 18 39 43.6
NVS *e* 18 43 09.0
NVS pmax pmax
comp=Z,39nm,1.4s
NVS pmax pmax
comp=Z,143nm,1.1s
NVS pmax pmax
comp=N,26nm,1.0s
NVS pmax pmax
comp=E,51nm,1.3s
GRGR Grenville 115.62 87 PFAKE 18 36 30.0 +9.3
GRGR LR LR
comp=Z,214µm,22.0s
WVL Waterville 116.29 50 *e*PKPdf **PKPdf** **18 36 18.1 -3.0**
TOSP Speyside 116.36 89 *e* SP 18 47 18.1 +10
SVB Belmont 116.37 86 *eP* **PP** **18 37 32.8 +4.1**
SVB Belmont 116.37 86 *e* SP 18 47 20.4 +13
POO Poona 116.39 280 *eP* **PKPdf** **18 36 20.7 -1.4**
POO AMS AMS 18 48 19.5
comp=Z,130µm,21.7s
SMLA Simla 116.63 294 *eP* **PKPdf** **18 36 21.6 -0.5**
MCLT Moule a Chique 116.80 86 *eP* **PP** **18 37 35.3 +3.6**
MCLT Moule a Chique 116.80 86 *e* SP 18 47 25.1 +14
LZG Guadaloupe-1 116.81 83 *eP* **PKPdf** **18 36 23.0 +0.1**
SDNR Sundarnagar 116.87 295 *eP* **PKPdf** **18 36 24.0 +1.3**
FDF Fort de France 116.94 85 *e*PKIKP **PKPdf** **18 36 22.5 -0.7**
FDF MLR MLR
comp=Z,92µm,20.0s
FDF Fort de France 116.94 85 *e*PKPdf **PKPdf** **18 36 22.5 -0.7**
FDF LR LR
comp=Z,92µm,20.0s
FDF Fort de France 116.94 85 *eP* **PKPdf** **18 36 22.6 -0.6**
SEG Port Louis 117.14 83 *eP* **PKPdf** **18 36 21.8 -1.7**
ANWB Willy Bob 117.26 81 PFAKE 18 36 30.0 +6.3
ANWB LR LR
comp=Z,156µm,21.0s
BHK Bhakra 117.32 295 *eP* **PKPdf** **18 36 22.8 -0.7**
BHK *ex* x 18 37 10.8
BOM Bombay 117.43 280 *i* x **SKPdf** **18 39 52.2 -5.1**
BOM *ex* x 18 49 49.9
BOM ⇓ 18 50 05.2
comp=Z,23µm,22.6s
AJM Ajmer 117.77 289 *eP* **PKPdf** **18 36 23.8 -0.7**
AJM *i* x x 18 36 25.0
AJM AMS AMS 18 48 31.4
comp=Z,82µm,18.2s
TRIS Tristan da Cun 117.81 164 PFAKE 18 36 30.0 +5.6
TRIS LR LR
comp=Z,505µm,21.0s
BBGH Gun Hill 117.89 87 PFAKE 18 36 30.0 +5.0
BBGH LR LR
comp=Z,647µm,22.0s
KURK Kurchatov 118.09 316 *c iP* PKIKP **PKPdf** **18 36 22.7 -1.6**
KURK MLR MLR
comp=Z,84µm,18.0s
KURK Kurchatov 118.09 316 *eP* **Pdif** **18 32 41.8 -1.2**
KURK *e*PKPdf **PKPdf** **18 36 23.2 -1.1**
KURK PKKPab **PKKPab** **18 46 46.4 +1.0**
KURK LR LR
comp=Z,101µm,20.0s
KURK Kurchatov 118.09 316 P **PKPdf** **18 36 24.5 +0.2**
SNR=14
THN Thein Dam 118.10 296 *eP* **PKPdf** **18 36 19.8 -5.1**
THN *ex* x 18 44 12.0
KURBB Kurchatov Arra 118.14 316 PKKPab PKKPab 18 46 46.4 +1.3
comp=Z,13nm,0.9s,baz=265,slow=3.8,SNR=7.6
BBSR BB Station 118.25 65 PFAKE 18 36 30.0 +4.8
BBSR LR LR
comp=Z,144µm,21.0s
AAA Alma-Ata 118.68 308 *eP* Pdif 18 32 56.2 +10

AAA *e* 18 43 25.5
AAA *i* SS SS 18 54 19.0 +18
AAA pmax pmax
comp=Z,4µm,14.8s
AAA MLR MLR
comp=Z,21µm,22.0s
SCHQ Schefferville 118.77 39 PKP **PKPdf** **18 36 24.2 -1.4**
comp=Z,42nm,1.0s,baz=325,slow=2.3,SNR=13
SCHQ PP **PP** **18 37 46.9 +2.5**
comp=Z,80nm,1.1s,baz=284,slow=4.8,SNR=9.0
SCHQ PKKPab **PKKPbc** **18 46 44.3 +1.7**
comp=Z,28nm,0.7s,baz=111,slow=3.5,SNR=21
SCHQ Schefferville 118.77 39 PKP **PKPdf** **18 36 24.2 -1.4**
SCHQ *e*PKPdf **PKiKP** **18 36 24.5 -1.1**
SCHQ PP **PP** **18 37 46.9 +2.5**
SCHQ PKKPab **PKKPbc** **18 46 44.3 +1.7**
KSH Kashi 118.99 303 Pdif **Pdif** **18 32 57.1 +10**
KSH PKPbc **PKPdf** **18 36 29.3 +2.7**
KSH PP PP 18 37 58.5 +12
KSH SKS SKSdf 18 43 45.8 +9.1
KSH S **Sdif** **18 45 43.4 +9.1**
KSH SS **SKKSdf** **18 54 18.8 -3.9**
KSH AMB AMB
comp=Z,12µm,7.3s
KSH LR LR
comp=N,77µm,19.2s
KSH LR LR
comp=E,59µm,18.3s
KSH LR LR
comp=Z,246µm,22.1s
KSH Kashi 118.99 303 PKP **PKPdf** **18 36 29.3 +2.7**
KSH AMB AMB
comp=Z,12µm,7.3s
KSH LR LR
comp=N,77µm,19.2s
KSH LR LR
comp=E,59µm,18.3s
KSH LR LR
comp=Z,246µm,22.1s
TKM2 Tokmak 2 119.64 307 *i* PKIKP **PKPdf** **18 36 23.7 -4.1**
TKM2 Tokmak 2 119.64 307 PFAKE 18 36 40.0 +12
TKM2 LR LR
comp=Z,126µm,21.0s
TKM2 Tokmak 2 119.64 307 P **PKPdf** **18 36 23.8 -4.1**
SNR=11
KZA Kyzart 119.82 306 P **PKPdf** **18 36 28.8 +0.3**
SNR=10
KBK Karagaybulak 120.09 307 P **PKPdf** **18 36 28.6 -0.2**
SNR=10
CHMS Chumysh 120.26 307 P **PKPdf** **18 36 28.1 -0.8**
SNR=18
FRU Bishkek 120.35 307 *e*P **Pdif** **18 32 55.0 +1.6**
FRU *i* 18 36 28.0
FRU *e* 18 37 52.0
FRU *e* 18 43 16.5
FRU *e*PS PS 18 47 32.0 -15
FRU pmax pmax
comp=Z,9µm,20.0s
FRU pmax pmax
comp=Z,370µm,2.0s
AAK Ala-Archa 120.42 307 PKKPab PKKPab 18 46 39.4 +3.5
comp=Z,12nm,1.1s,baz=224,slow=9.2,SNR=5.7
AAK Ala-Archa 120.42 307 *e*PKIKP **PKPdf** **18 36 26.1 -3.2**
AAK MLR MLR
comp=Z,111µm,22.0s
AAK Ala-Archa 120.42 307 *e*PKPdf **PKPdf** **18 36 26.1 -3.2**
AAK PKKPab **PKKPbc** **18 46 39.4 +3.1**
AAK LR LR
comp=Z,102µm,22.0s
AAK Ala-Archa 120.42 307 P **PKPdf** **18 36 30.9 +1.6**
SNR=16
AAK Ala-Archa 120.42 307 P **PKPdf** **18 36 33.0 +3.7**
SNR=5.6
USP Ospenovka 120.46 308 P **PKPdf** **18 36 28.5 -0.8**
SNR=16
EKS2 Erkin-Say 120.95 307 *e*PKIKP **PKPdf** **18 36 29.4 -0.9**
EKS2 MLR MLR
comp=Z,127µm,20.0s
EKS2 Erkin-Say 120.95 307 *e*PKPdf **PKPdf** **18 36 29.4 -0.9**
EKS2 LR LR
comp=Z,127µm,20.0s
EKS2 Erkin-Say 120.95 307 P **PKPdf** **18 36 30.4 +0.1**
SNR=15
AML Almayashu 120.97 306 P **PKPdf** **18 36 30.8 0.0**
SNR=15
ABPO Ambohimpanom 121.49 228 *e*PKIKP **PKPdf** **18 36 32.8 +0.6**
ABPO MLR MLR
comp=Z,183µm,22.0s
ABPO Ambohimpanom 121.49 228 *e*PKPdf **PKPdf** **18 36 32.8 +0.6**
ABPO LR LR
comp=Z,183µm,22.0s
OPO Ambohidratompo121.82 228 PKP **PKPdf** **18 36 33.6 +0.8**
comp=Z,28nm,0.9s,baz=142,slow=1.3,SNR=18
OPO Ambohidratompo121.82 228 PKP **PKPdf** **18 36 33.6 +0.8**
SUR Sutherland 122.85 196 PKP **PKPdf** **18 36 35.4 +0.9**
comp=Z,135nm,0.8s,baz=142,slow=2.7,SNR=22
SUR PKKPab **PKKPbc** **18 46 27.8 +0.6**
comp=Z,15nm,1.1s,baz=235,slow=20,SNR=2.6
SUR Sutherland 122.85 196 *e*PKPdf **PKPdf** **18 36 34.3 -0.2**
SUR PKP **PKPdf** **18 36 35.4 +0.9**
SUR PKKPab **PKKPbc** **18 46 27.8 +0.6**
SUR LR LR
comp=Z,525µm,20.0s
SUR Sutherland 122.85 196 P **PKPdf** **18 36 36.1 +1.6**
SNR=20
BVA0 Borovoye Array 123.14 319 PKIKP **PKPdf** **18 36 32.8 -1.2**
BVA0 pmax pmax
comp=Z,53nm,1.2s
BVAR Borovoye Array 123.14 319 PKP **PKPdf** **18 36 33.5 -0.5**
comp=Z,84nm,0.8s,baz=117,slow=3.0,SNR=22
BVAR PKKPbc PKKPbc 18 46 34.1 +8.2
comp=Z,16nm,1.0s,baz=270,slow=6.7,SNR=4.3
BVAR Borovoye Array 123.14 319 PKIKP **PKPdf** **18 36 33.5 -0.5**
BVAR pmax pmax
comp=Z,84nm,0.9s
BVAR Borovoye Array 123.14 319 PKP **PKPdf** **18 36 33.5 -0.5**
BVAR PKKPbc PKKPbc 18 46 34.1 +8.2
BRVK Borovoye 123.20 319 *c* *i*PKIKP **PKPdf** **18 36 31.9 -2.2**
BRVK Borovoye 123.20 319 *e*PKPdf **PKPdf** **18 36 33.5 -0.6**
BRVK LR LR
comp=Z,145µm,21.0s
BRVK Borovoye 123.20 319 P **PKPdf** **18 36 33.8 -0.3**
SNR=31
KK31 Karatay Array 123.37 307 *i* PKIKP **PKPdf** **18 36 33.3 -1.5**
KK31 pmax pmax
comp=Z,647nm,1.6s
KKAR Karatay Array 123.37 307 *e*PKIKP **PKPdf** **18 36 34.1 -0.7**
KKAR Karatay Array 123.37 307 *e*PKPdf **PKPdf** **18 36 34.1 -0.7**
MSEY Mahe Island 123.86 247 *e*PKPdf **PKPdf** **18 36 36.7 +0.1**
MSEY LR LR
comp=Z,336µm,20.0s
MSEY Mahe Island 123.86 247 P **PKPdf** **18 36 37.8 +1.1**
SNR=36
KBL Kabul 123.93 297 *e*PKIKP **PKPdf** **18 36 35.8 -0.6**
KBL Kabul 123.93 297 *e*PKPdf **PKPdf** **18 36 35.8 -0.6**
KBS Kingsbay 124.08 358 *e*P **PKPdf** **18 36 32.8 -2.3**
KBS *e*PP **PP** **18 38 19.2 -0.5**
KBS *e*SS SS 18 55 04.8 -2.7
KBS Kingsbay 124.08 358 *e*PKIKP **PKPdf** **18 36 34.3 -0.8**
KBS MLR MLR
comp=Z,55µm,22.0s
KBS Kingsbay 124.08 358 *e*PKPdf **PKPdf** **18 36 34.3 -0.8**
KBS LR LR
comp=Z,55µm,22.0s
SFJD Kangerlussuaq 124.17 23 PP PP 18 38 19.5 -1.1
SFJD PKKPbc **PKKPbc** **18 46 23.3 +1.1**
comp=Z,17nm,0.7s,baz=61,slow=2.9,SNR=7.1
SFJD Kangerlussuaq 124.17 23 *e*PKPdf **PKPdf** **18 36 33.3 -2.3**
SFJD PP **PP** **18 38 19.5 -1.1**
SFJD PKKPbc **PKKPbc** **18 46 23.3 +1.1**
SFJD LR LR
comp=Z,95µm,20.0s
SFJD Kangerlussuaq 124.17 23 *i* P **PKPdf** **18 36 33.9 -1.6**
comp=Z,154nm,1.0s
SFJD *i* 18 38 17.6
SFJD
comp=Z,181µm,27.0s
SPA0 Spitsbergen Ar 124.67 357 *e*P **PKPdf** **18 36 35.9 -0.5**
SPA0 *e*PP **PP** **18 38 21.8 -2.0**
SPA0 *e*SS SS 18 55 12.1 -3.0
SPITS Spitsbergen Ar 124.67 357 PKKPbc PKKPbc 18 46 27.4 +7.1
comp=Z,26nm,0.9s,baz=134,slow=6.0,SNR=5.6
SUMG Summit 124.94 15 *e*PKIKP **PKPdf** **18 36 37.4 -0.1**
SUMG Summit 124.94 15 *e*PKPdf **PKPdf** **18 36 37.4 -0.1**
SUMG Summit 124.94 15 *i* P **PKPdf** **18 36 37.2 -0.2**
comp=Z,257nm,1.0s
SUMG
comp=Z,200µm,24.0s
SUMG Summit 124.94 15 *i* P SKKPbc 18 49 58.6 -12
comp=Z,50nm,1.0s
DAG Danmarks Havn 125.03 7 *i* P **PKPdf** **18 36 34.8 -2.2**
comp=Z,731nm,0.9s
DAG *i* 18 38 28.3
DAG
comp=Z,214µm,22.0s
BOSA Boshof 125.09 201 PKP **PKPdf** **18 36 39.5 +0.7**
comp=Z,174nm,1.1s,baz=142,slow=2.2,SNR=34
BOSA PKKPab **PKKPab** **18 46 22.1 +2.4**
comp=Z,17nm,1.0s,baz=326,slow=6.0,SNR=5.3
BOSA Boshof 125.09 201 *e*PKPdf **PKPdf** **18 36 39.2 +0.4**
BOSA PKP **PKPdf** **18 36 39.5 +0.7**
BOSA PKKPab **PKKPab** **18 46 22.1 +2.4**
HOPEN Hopen 125.71 354 *e*P **PKPdf** **18 36 38.6 +0.3**
HOPEN *e*PP **PP** **18 38 34.2 +3.6**
HOPEN *e*SS SS 18 55 31.0 +3.1
SVE Sverdlovsk 127.97 325 *de*P **Pdif** **18 33 30.4 +3.5**
SVE *i* 18 36 43.1
SVE *e* 18 38 44.7
SVE *e* 18 43 51.0
SVE *e*SP SP 18 48 49.4 +1.2
SVE *e*SS SS 18 55 49.5 -7.8
SVE pmax pmax
comp=Z,336nm,1.1s
SVE pmax pmax
comp=Z,24µm,19.5s
SVE MLR MLR
comp=E,252µm,24.0s
SVE MLR MLR
comp=Z,256µm,22.0s
LBTB Lobatse 128.27 204 PKP **PKPdf** **18 36 45.5 +0.6**
comp=Z,35nm,1.0s,baz=173,slow=2.0,SNR=26
LBTB Lobatse 128.27 204 *e*PKPdf **PKPdf** **18 36 43.9 -1.0**
LBTB PKP **PKPdf** **18 36 45.5 +0.6**
NRS Narsarsuaq 128.60 29 *i* P **PKPdf** **18 36 45.5 +1.3**
comp=Z,119nm,1.3s
NRS
comp=Z,87µm,23.0s
SOKR Solikamsk 128.97 329 *c*P Pdif 18 33 43.8 +13
SOKR *i* 18 36 44.0
SOKR 18 38 50.8
SOKR SP SP 18 48 56.3 -0.4
SOKR *e* 18 50 36.7
SOKR SS **SS** **18 56 08.7 -0.7**
SOKR pmax pmax
comp=Z,540nm,1.9s
SOKR MLR MLR
comp=Z,162µm,24.0s
ARU Arti 129.18 325 P **Pdif** **18 33 40.0 +7.7**
ARU *i* 18 36 45.0
ARU 18 38 52.9
ARU PPP PPP 18 41 39.2
ARU 18 43 52.2
ARU SP SP 18 48 50.8 -8.0
ARU PS **PS** **18 48 59.9 -3.8**
ARU Arti 129.18 325 PFAKE 18 36 50.0 +4.6
ARU LR LR
comp=Z,202µm,22.0s
AB31 Akbulak array 130.19 316 *i* PKIKP **PKPdf** **18 36 47.1 -0.5**
AB31 pmax pmax
comp=Z,218nm,1.2s
ABKAR Akbulak array 130.19 316 *e*PKPdf **PKPdf** **18 36 48.5 +0.9**
RCBR Riachuelo 130.42 120 PKP **PKPdf** **18 36 49.4 +0.2**
comp=Z,70nm,0.9s,baz=196,slow=2.0,SNR=2.2
RCBR Riachuelo 130.42 120 *e*PKPdf **PKPdf** **18 36 49.0 -0.2**
RCBR PKP **PKPdf** **18 36 49.4 +0.2**
RCBR LR LR
comp=Z,768µm,20.0s
WBK Wadi Bani Khal 130.89 280 P **PKPdf** **18 36 52.3 +2.5**
SNR=13
AKTO Aktyubinsk 131.15 318 PKP **PKPdf** **18 36 49.6 +0.2**
comp=Z,49nm,0.8s
AKTO SKP 18 40 23.5
comp=Z,43nm,1.1s,baz=56,slow=22,SNR=5.7
AKTO Aktyubinsk 131.15 318 PKIKP **PKPdf** **18 36 49.6 +0.2**
AKTO pmax pmax
comp=Z,49nm,0.8s
AKTO pmax pmax
comp=N,43nm,1.1s
AKTO Aktyubinsk 131.15 318 PKP **PKPdf** **18 36 49.6 +0.2**
AKTO SKP 18 40 23.5
JMIC Jan Mayen 131.47 6 PKP **PKPdf** **18 36 50.3 +0.9**
comp=N,147nm,0.8s,baz=130,slow=6.5,SNR=2.3
JMIC Jan Mayen 131.47 6 *e*P **PKPdf** **18 36 46.9 -2.4**
JMIC Jan Mayen 131.47 6 PKP **PKPdf** **18 36 50.3 +0.9**
KEV Kevo 131.64 350 *e*PKIKP **PKPdf** **18 36 48.4 -1.3**
KEV Kevo 131.64 350 *e*PKPdf **PKPdf** **18 36 48.7 -1.1**
KEV LR LR
comp=Z,109µm,20.0s
KEV Kevo 131.64 350 *e*pkp **PKPdf** **18 36 48.4 -1.3**
LVZ Lovozero 131.75 346 *i* PKIKP **PKPdf** **18 36 47.8 -2.3**
LVZ Lovozero 131.75 346 PFAKE 18 37 00.0 +10
LVZ LR LR
comp=Z,126µm,21.0s
SMDO Samad 131.81 281 P **PKPdf** **18 36 54.7 +3.1**
SNR=26
ARCES ARCESS Array B 132.07 351 PKP **PKPdf** **18 36 51.3 +0.7**
comp=Z,107nm,0.7s,baz=8.0,slow=1.2,SNR=22
ARCES ARCESS Array B 132.07 351 PKP **PKPdf** **18 36 51.3 +0.7**
ARE0 ARCESS Array S 132.07 351 *e*P **PKPdf** **18 36 50.9 +0.3**
ARE0 *e*PP **PP** **18 39 11.1 -1.2**
ARE0 ARCESS Array S 132.07 351 *e*PKPdf **PKPdf** **18 36 46.7 -3.9**
APA Apatity 132.29 346 ⇓ *i*PKIKP **PKPdf** **18 36 51.0 0.0**
APA *i* 18 39 17.0
APA *i* 18 43 54.0
APA *i* 18 49 22.0
APA pmax pmax
comp=Z,702nm,2.0s
BSY Bisya 132.52 280 P **PKPdf** **18 36 53.7 +0.9**
SNR=28
HOQ Hoqain 132.58 281 P **PKPdf** **18 36 55.8 +2.9**
SNR=18
TRO Tromso 132.81 354 *e*P **PKPdf** **18 36 51.4 -0.5**
TRO AMB AMB 18 37 17.2
comp=Z,648nm,1.0s
TRO *e*PP **PP** **18 39 14.8 -2.1**
TRO *e*SS SS 18 56 51.5 -4.0
TRO AMS AMS 19 26 27.3
comp=Z,155µm,26.8s
KTK1 Kautokeino 132.88 351 *e*P **PKPdf** **18 36 50.5 -1.6**
KTK1 *e*PP **PP** **18 39 16.0 -1.4**
KTK1 *e*SS SS 18 56 53.5 -2.8
KTK1 AMS AMS 19 25 24.1
comp=Z,390µm,28.5s
ARQ Araqi 133.25 281 P **PKPdf** **18 36 55.9 +1.7**
SNR=12
TMCR Tamitsa 133.72 341 *e*PKIKP **PKPdf** **18 36 50.7 -3.1**
TMCR *e* 18 39 20.9
HATD Hatta, Dubai 133.85 283 P **PKPdf** **18 36 56.7 +1.5**
SNR=33
BANOM Banah 133.86 284 P **PKPdf** **18 36 57.8 +2.5**
SNR=11
ASHO Ashiyiah 133.89 283 P **PKPdf** **18 36 55.4 0.0**
SNR=32
RBK Rabkut 134.07 272 P PKPdf 18 36 48.2 -7.7
SNR=23
NAZ Nazwa, Dubai 134.29 283 P **PKPdf** **18 36 56.0 -0.1**
SNR=25
ASUD Al Ashush, Dub 134.54 282 P **PKPdf** **18 36 59.0 +2.5**
SNR=21
STEI Steigen 134.81 355 *e*P **PKPdf** **18 36 56.2 +0.5**
ABTO Aybut 134.86 272 P **PKPdf** **18 36 58.5 +1.1**
SNR=24
BORG Borgarnes 134.89 16 PKP **PKPdf** **18 36 57.5 +1.6**
comp=Z,35nm,0.8s,baz=291,slow=4.9,SNR=4.4
BORG Borgarnes 134.89 16 *e*PKPdf **PKPdf** **18 36 55.6 -0.4**
BORG PKP **PKPdf** **18 36 57.5 +1.6**
BORG LR LR
comp=Z,80µm,22.0s
KLMR Klimovskoe 135.56 337 *d* *i*PKHKP PKPpre 18 36 43.0
KLMR *e* 18 36 54.5
KLMR *e* 18 39 31.5
LSZ Lusaka 135.78 212 *e*PKPdf **PKPdf** **18 36 58.0 -1.3**
LSZ LR LR
comp=Z,185µm,20.0s
LSZ Lusaka 135.78 212 P **PKPdf** **18 36 58.1 -1.2**
SNR=32
TSUM Tsumeb 136.25 197 PKhKP PKPpre 18 36 51.2
comp=Z,10nm,0.8s,baz=177,slow=3.6,SNR=3.5
TSUM PKP **PKiKP** **18 37 01.4 -0.5**
comp=Z,60nm,0.8s,baz=158,slow=3.5,SNR=17
TSUM PP **PP** **18 39 40.0 +1.1**
comp=Z,55nm,1.1s,baz=173,slow=5.1,SNR=4.7
TSUM Tsumeb 136.25 197 PKPpre PKPpre 18 36 51.2
TSUM PKP **PKiKP** **18 37 01.4 -0.5**
TSUM PP **PP** **18 39 40.0 +1.1**
FLOS Flostrand 136.52 355 *e*P **PKPdf** **18 36 58.5 -0.5**
STOK Stokkvaagen 136.55 356 *e*P PKPdf 18 36 53.2 -5.8
STOK *e*PP **PP** **18 39 41.4 +0.8**
JOF Joensuu 136.60 343 *e*PKHKP PKPpre 18 36 49.6
JOF Joensuu 136.60 343 *e*pkp PKPpre 18 36 49.6
MOR8 Moi Rana 136.60 355 *e*P PKPdf 18 36 53.5 -5.7
MOR8 *e*PP **PP** **18 39 37.4 -3.6**
MUKL Al Mukalla 137.94 266 ⇑ *e*P PKPpre 18 36 56.0
NSS Namsos 138.41 356 *e*P PKPpre 18 36 56.9
KAF Kangasniemi 138.54 345 *e*PKHKP PKPpre 18 36 53.8
KAF Kangasniemi 138.54 345 *e*pkp PKPpre 18 36 53.8
FIA1 FINESS Array S 139.17 345 *e*PKPpre PKPpre 18 36 55.8
FINES FINESS Array B 139.17 345 PKhKP PKPpre 18 36 55.4
comp=Z,29nm,0.9s,baz=33,slow=2.7,SNR=14
FINES PP **PP** **18 39 56.1 -0.9**
comp=Z,28nm,0.7s,baz=90,slow=2.3,SNR=2.2
FINES FINESS Array B 139.17 345 PKPpre PKPpre 18 36 55.4
FINES PP **PP** **18 39 56.1 -0.9**
PUL Pulkovo 139.44 341 *i* PKIKP **PKPdf** **18 37 01.5 -3.0**
SHEL Horse Pasture 139.62 163 *e*PKIKP **PKPdf** **18 37 06.2 -0.1**
SHEL MLR MLR
comp=Z,257µm,21.0s
SHEL Horse Pasture 139.62 163 *e*PKPdf **PKPdf** **18 37 06.2 -0.1**
SHEL LR LR
comp=Z,257µm,21.0s
MOS Moscow 139.72 332 *de*P **Pdif** **18 34 26.0 +6.8**
MOS *i* 18 37 02.1
MOS *e* 18 39 57.9
MOS *e*PPP PPP 18 43 05.0
MOS *e* 18 44 09.8
MOS *e*PPS PPS 18 52 23.4
MOS *e*SS SS 18 58 16.6 -2.0
MOS pmax pmax
comp=Z,669nm,1.7s
TBLU Trondheim 139.79 357 *e* **SS** **18 58 14.7 -4.0**
MAK Makhachkala 140.07 310 *e*P **Pdif** **18 34 18.7 -2.3**
MAK *e* 18 37 03.0
MAK *e* 18 40 02.8
MAK *e*PPP PPP 18 43 12.8
MAK pmax pmax
comp=Z,908nm,1.8s
MAK pmax pmax
comp=E,568nm,1.1s
MAK pmax pmax
comp=N,722nm,1.4s
VRHR Novokhopersk 140.51 324 *e*P **Pdif** **18 34 22.7 -0.1**
MOL Molde 140.58 358 *e*P PKPdf 18 37 00.7 -5.8
MOL AMB AMB 18 37 23.8
comp=Z,409nm,1.7s
MOL *e*PP **PP** **18 40 05.1 -0.4**
OBN Obninsk 140.58 332 ⇑ *i*PKIKP **PKPdf** **18 37 02.6 -4.1**
OBN *e* 18 40 05.0
OBN pmax pmax
comp=Z,47nm,0.9s
OBN Obninsk 140.58 332 PFAKE 18 37 20.0 +13
OBN LR LR
comp=Z,177µm,22.0s
KMBO Kilima Mbogo 140.72 236 PFAKE 18 37 20.0 +11
KMBO LR LR
comp=Z,249µm,21.0s
LBOS 141.22 263 *e*P PKPdf 18 37 02.3 -7.2
VOR Voronezh 141.44 326 PKIKP PKPdf 18 37 02.5 -5.9
VOR pmax pmax
comp=Z,825nm,2.0s
FOO Floro 141.58 0 *e*P PKPdf 18 37 01.6 -6.7
FOO AMB AMB 18 37 31.3
comp=Z,568nm,2.0s
FOO *e*PP **PP** **18 40 13.8 +2.2**
FOO *e*SS SS 18 58 39.3 -0.2
VSR Storozhevoye 141.75 326 *e*P **Pdif** **18 34 19.7 -8.6**
VSR *e* 18 40 19.3
VSR *e*SPP SPP 18 52 32.2
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR pmax pmax
comp=N,110nm,3.6s
VSR pmax pmax
comp=E,130nm,3.6s
VSR pmax pmax
comp=Z,130nm,3.6s
VSR pmax pmax
comp=N,6µm,5.5s
VSR pmax pmax
comp=E,5µm,5.5s
VSR pmax pmax
comp=Z,13µm,5.5s
VORD Divnogorie 141.82 325 *e*P **Pdif** **18 34 37.3 +8.7**
VORD *e* 18 36 57.1
VORD *e*SPP SPP 18 52 41.7
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,50nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=Z,60nm,2.0s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=E,2µm,4.7s
VORD pmax pmax
comp=Z,12µm,4.7s
VORD pmax pmax
comp=N,200nm,0.8s
RDF Al-Radifah 141.85 288 *e*P PKPdf 18 37 04.6 -5.3
NB2 NORSAR Subarra1 141.93 355 PKP PKPdf 18 37 03.2 -5.9
baz=6.8,slow=3.5
NB2 NORSAR Subarra1 141.93 355 PKP PKPdf 18 37 03.2 -5.9
comp=Z,128nm,0.8s,baz=6.8,slow=3.5
NOA NORSAR Array B 141.93 355 PKhKP PKPpre 18 36 59.9
comp=Z,19nm,0.7s,baz=225,slow=17,SNR=44
NOA NORSAR Array B 141.93 355 PKPpre PKPpre 18 36 59.9
HYA Hoyanger 142.01 359 *e*P PKPdf 18 37 02.7 -6.4
DGRG David-gareji 142.01 308 P PKPdf 18 37 01.9 -7.9
DGRG S SKPbc 18 40 25.4 -20
TRBA At Turbah 142.03 262 ⇑ *e*P PKPdf 18 37 03.6 -7.2
MIB Mutribah 142.05 289 *e*P **PKPdf** **18 37 05.1 -5.0**
MIB AMb AMB 18 37 18.0
comp=Z,848nm,0.8s
NAY Al-Naaiem 142.13 288 *e*P PKPdf 18 37 04.5 -5.8
NAY AMb AMB 18 37 18.7
comp=Z,309nm,1.1s
NAO01 NORSAR Array S 142.14 356 *e*PKPpre PKPpre 18 37 01.9
NC602 NORSAR Array S 142.20 355 *e*P **PKPdf** **18 37 05.4 -4.1**
DHBB Dhamar BB 142.23 264 ⇑ *e*P PKPdf 18 37 04.1 -7.2
DHBB AMb AMB 18 37 10.7
comp=Z,3µm,1.8s
TBLG Delisi 142.39 309 PKIKP **PKPdf** **18 37 06.5 -4.0**
TBLG Delisi 142.39 309 P **PKPdf** **18 37 06.5 -4.0**
TBLG S SKPbc 18 40 29.5 -17
HFS Hagfors 142.59 353 PKhKP PKPpre 18 37 03.7
comp=Z,52nm,0.8s,baz=56,slow=2.7,SNR=53
HFS Hagfors 142.59 353 PKPpre PKPpre 18 37 03.7
ZEI Tsey 142.66 311 *i* PKIKP **PKPdf** **18 37 08.3 -2.9**
ZEI pmax pmax
comp=Z,515nm,1.9s
ASK Askoy 142.70 0 *e*P PKPdf 18 37 04.8 -5.5
ASK AMB AMB 18 37 21.3
comp=Z,1µm,1.5s
KZR Kazreti 142.72 309 P **PKPdf** **18 37 08.2 -2.9**
KZR S **SKiKP** **18 40 49.5 +1.2**
LRW Lerwick 142.76 5 *e*P PKPdf 18 37 04.5 -6.0
LRW AMB AMB 18 37 22.9
comp=Z,815nm,6.4s
LRW AMS AMS 20 03 41.9
comp=Z,178µm,21.7s
LRW Lerwick 142.76 5 P PKPdf 18 37 04.5 -6.0
LRW AMB AMB 18 37 22.9
comp=Z,815nm,6.4s
LRW AMS AMS 20 03 41.9
GOR Gori 142.76 310 P **PKPdf** **18 37 08.5 -2.7**
RUND Rundenannen 142.77 0 *e*P PKPdf 18 37 04.0 -6.6

RUND AMB AMB 18 37 10.3
comp=Z,1µm,2.1s
BER Bergen 142.80 0 *e*P PKPdf 18 37 03.2 -7.3
BER AMB AMB 18 37 20.1
comp=Z,903nm,1.7s
BER *e*PP **PP** **18 40 18.1 -0.8**
BER *e*SS SS 18 58 50.9 -2.8
GNI Garni 142.83 306 *e*P PKPdf 18 37 05.7 -5.8
GNI Garni 142.83 306 *e*PKPpre PKPpre 18 37 07.6
GNI LR LR
comp=Z,99µm,20.0s
GNI Garni 142.83 306 P **PKPdf** **18 37 08.5 -3.0**
SNR=37
EGD Espegrend 142.91 0 *e*P PKPdf 18 37 04.4 -6.3
EGD AMB AMB 18 37 14.8
comp=Z,994nm,1.6s
KBZ Khabaz 143.01 313 PKhKP PKPpre 18 37 07.7
comp=Z,15nm,0.9s,baz=187,slow=1.8,SNR=12
KBZ Khabaz 143.01 313 PKPpre PKPpre 18 37 07.7
ONI Oni 143.03 311 P PKPbc 18 37 08.9 +0.4
ONI S SKPbc 18 40 38.6 -9.1
KIV Kislovodsk 143.07 313 *e*PKIKP PKPab 18 37 07.4 +0.3
KIV *e* 18 40 21.4
KIV *e* 18 44 16.8
KIV pmax pmax
comp=Z,320nm,1.0s
KIV Kislovodsk 143.07 313 PFAKE 18 37 20.0 +8.3
KIV LR LR
comp=Z,174µm,21.0s
ODD1 Odda 143.26 359 *e*P PKPab 18 37 04.7 -2.6
ODD1 AMB AMB 18 37 14.1
comp=Z,862nm,1.1s
AKH Akhalkalaki 143.38 309 P PKPbc 18 37 10.4 +0.8
AKH S SKPbc 18 40 33.6 -15
KONO Kongsberg 143.42 356 *e*P PKPab 18 37 07.1 -0.7
KONO *e* 18 40 31.7
KONO Kongsberg 143.42 356 *e*PKHKP PKPab 18 37 06.5 -1.3
KONO MLR MLR
comp=Z,137µm,21.0s
KONO Kongsberg 143.42 356 *e*PKPpre PKPab 18 37 06.5 -1.4
KONO LR LR
comp=Z,137µm,21.0s
CLDR Caldiran 143.70 305 *e*P PKPab 18 37 09.5 -0.5
BLS5 Blasjo 143.75 359 *e*P PKPab 18 37 08.2 -1.0
BLS5 AMB AMB 18 37 23.9
comp=Z,610nm,1.4s
DYDN Diyadin 143.77 306 *i* P PKPab 18 37 08.7 -1.4
KARS Kars 143.91 308 *e*P PKPab 18 37 09.4 -1.2
HKR Hakkari 144.20 303 *e*P PKPdf 18 37 21.0 +7.0
VANB Van 144.23 304 *e*P PKPbc 18 37 12.5 +0.3
STAV Stavanger 144.25 360 *e*P **PKPab** **18 37 07.4 -3.6**
STAV AMB AMB 18 37 17.2
comp=Z,1µm,1.5s
AGRB Hanur-Agry 144.28 306 *e*P PKPbc 18 37 13.0 +0.6
VANT Van 144.37 304 *e*P **PKPdf** **18 37 14.1 -0.2**
CUKT Cukurca 144.38 302 *e*P PKPbc 18 37 13.1 +0.4
BHD Baghdad 144.39 295 *i* PKP PKPbc 18 37 13.4 +0.7
BHD *i* PP **PP** **18 40 35.0 +4.7**
BHD *i* PPP PPP 18 43 52.0
BHD *i* SKS **SKSdf** **18 44 19.0 -2.5**
BHD *i* SPP SPP 18 53 12.0
BHD *i* SS SS 18 59 06.0 -9.1
BHD *i* PPS PPS 18 59 57.0
BHD *i* SSS SSS 19 04 24.0
MNK Minsk 144.47 337 *e*PKHKP PKPpre 18 37 08.0
MNK *e* 18 44 22.0
MNK pmax pmax
comp=Z,2µm,1.0s
MNK pmax pmax
comp=N,3µm,2.0s
MNK pmax pmax
comp=E,1µm,2.0s
MNK pmax pmax
comp=Z,134µm,14.0s
MNK MLR MLR
comp=E,239µm,22.0s
MNK MLR MLR
comp=Z,281µm,22.0s
NACGM Naroch 144.51 339 *e*PKP PKPab 18 37 06.0 -6.1
GEVA Gevas 144.56 304 *i* P **PKPab** **18 37 12.1 -1.0**
MVH1 Achvaich 144.58 9 *e*P **PKPab** **18 37 10.6 -1.7**
MVH1 Achvaich 144.58 9 P **PKPab** **18 37 10.6 -1.7**
DAGI Agillar 144.61 309 *i* P **PKPab** **18 37 10.8 -2.3**
BCA Borcka 144.70 310 *e*P **PKPab** **18 37 13.3 0.0**
DBOC Borcka 144.70 310 *i* P **PKPab** **18 37 09.8 -3.6**
DDEM Demirkent 144.79 309 *i* P **PKPab** **18 37 11.9 -1.9**
KAC Achnashellach 144.82 10 *e*P **PKPab** **18 37 11.3 -1.9**
KAC Achnashellach 144.82 10 P **PKPab** **18 37 11.3 -1.9**
SNART Snartemo 144.83 358 *e*P **PKPab** **18 37 11.6 -1.5**
SNART AMB AMB 18 37 22.3
comp=Z,2µm,1.7s
HOMB Homborsund 144.85 357 *e*P **PKPab** **18 37 11.7 -1.6**
KPL Plockton 144.92 10 *e*P **PKPab** **18 37 11.5 -2.0**
KPL AMB AMB 18 37 22.0
comp=Z,3µm,1.6s
KPL AMS AMS 20 12 26.0
comp=Z,111µm,21.1s
KPL Plockton 144.92 10 P **PKPab** **18 37 11.5 -2.0**
KPL AMB AMB 18 37 22.0
comp=Z,3µm,1.6s
KPL AMS AMS 20 12 26.0
HOMI Horasan 144.94 307 *i* P **PKPab** **18 37 12.9 -1.6**
MDO Dochfour 145.02 9 *e*P **PKPbc** **18 37 12.0 -1.9**
MDO Dochfour 145.02 9 P **PKPbc** **18 37 12.0 -1.9**
MCD Coleburn Disti 145.04 8 *e*P **PKPbc** **18 37 11.5 -2.5**
MCD Coleburn Disti 145.04 8 P **PKPbc** **18 37 11.5 -2.5**
KSB Sheil Bridge 145.08 10 *e*P **PKPbc** **18 37 12.2 -1.9**
KSB Sheil Bridge 145.08 10 P **PKPbc** **18 37 12.2 -1.9**
TATV Tatvan 145.11 305 *i* P **PKPbc** **18 37 11.9 -3.2**
FURI Furi 145.13 251 P **PKPdf** **18 37 19.0 +2.5**
FURI S SS 18 59 16.4 -8.1
SOC Sochi 145.19 314*c* *i*PKIKP **PKPbc** **18 37 13.1 -1.8**
SOC *e* 18 40 36.2
SOC pmax pmax
comp=Z,553nm,0.6s
SIRN S¯–rnak 145.25 303 *i* P **PKPbc** **18 37 12.9 -2.5**
DESE Dese 145.27 256 *e*P **PKPdf** **18 37 19.9 +3.3**
PZAR Pazar-Rize 145.30 310 *e*P **PKPdf** **18 37 16.5 +1.0**
MME1 Meikle Cairn 145.34 8 *e*P **PKPbc** **18 37 13.0 -2.0**
MME1 Meikle Cairn 145.34 8 P **PKPbc** **18 37 13.0 -2.0**
ERZM Erzurum 145.38 307 *i* P **PKPab** **18 37 17.6 +1.4**
EZM Erzurum 145.38 307 *e*P **PKPdf** **18 37 16.1 0.0**
VRTB Varto-Mus 145.54 306 *e*P **PKPdf** **18 37 15.8 -0.5**
BTMT Batman 145.78 304 *e*P **PKPab** **18 37 17.4 -0.1**
KOPT Kop Dagi 145.98 308 *i* P **PKPdf** **18 37 16.1 -1.0**
ELO Logie Almond 146.06 9 *e*P **PKPdf** **18 37 15.3 -1.1**
ELO Logie Almond 146.06 9 P **PKPdf** **18 37 15.3 -1.1**
BAYT Ayd¯–ntepe-Bay 146.11 309 *e*P **PKPdf** **18 37 17.7 +0.5**
ANN Anapa 146.11 317*c* *i*PKIKP **PKPdf** **18 37 15.9 -0.9**
ANN *e* 18 40 38.4
ANN *e*SSS SSS 19 05 10.9
ANN pmax pmax
comp=N,30µm,12.2s
ANN pmax pmax
comp=E,18µm,12.2s
ANN pmax pmax
comp=Z,110µm,12.2s
ANN pmax pmax
comp=N,1µm,1.3s
ANN pmax pmax
comp=E,1µm,1.5s
ANN pmax pmax
comp=Z,4µm,1.5s
BNGB Bing¶ll 146.16 306 *e*P **PKPdf** **18 37 17.1 -0.1**
MACK Trabzon 146.18 310 *i* P **PKPdf** **18 37 14.0 -3.1**
EAB Aberfoyle 146.23 10 *e*P **PKPdf** **18 37 15.8 -0.8**
EAB Aberfoyle 146.23 10 P **PKPdf** **18 37 15.8 -0.8**
SUW Suwalki 146.40 341 *e*PKP **PKPbc** **18 37 18.4 +0.1**
SUW *e*SS SS 18 59 39.4 +4.1
SUW LMZ LR 19 34 25.7
comp=Z,289µm,28.6s
SUW Suwalki 146.40 341 *e*PKIKP **PKPdf** **18 37 16.6 -0.4**
SUW Suwalki 146.40 341 *e*PKPdf **PKPdf** **18 37 16.6 -0.4**
SUW Suwalki 146.40 341 *e*PKP **PKPbc** **18 37 18.4 +0.1**
SUW *e*SS SS 18 59 39.4 +4.1
SUW LMZ LR 19 34 25.6
MARD Mardin 146.55 303 *i* P **PKPdf** **18 37 15.0 -2.9**
GUMT Gumushane 146.56 309 *e*P **PKPbc** **18 37 19.3 -0.2**
PGBU Glenifferbraes 146.57 10 *e*P **PKPdf** **18 37 16.1 -1.2**
PGBU AMB AMB 18 37 28.8
comp=Z,3µm,1.6s
PGBU AMS AMS 20 14 25.3
comp=Z,139µm,20.6s
PGBU Glenifferbraes 146.57 10 P **PKPdf** **18 37 16.1 -1.2**
PGBU AMB AMB 18 37 28.8
comp=Z,3µm,1.6s
PGBU AMS AMS 20 14 25.3
comp=Z,1µm,1.0s
MUD
comp=Z,165µm,26.0s
EDI Edinburgh 146.66 9 *e*P **PKPdf** **18 37 16.0 -1.3**
EDI AMB AMB 18 37 27.5
comp=Z,3µm,3.4s
EDI AMS AMS 19 58 15.2
comp=Z,123µm,23.5s
EDI Edinburgh 146.66 9 P **PKPdf** **18 37 16.0 -1.3**
EDI AMB AMB 18 37 27.5
comp=Z,3µm,3.4s
EDI AMS AMS 19 58 15.2
ERZN Erzincan 146.68 308 *e*P **PKPdf** **18 37 18.8 +0.7**
EAU Auchinoon 146.70 9 *e*P **PKPdf** **18 37 18.0 +0.5**
EAU Auchinoon 146.70 9 P **PKPdf** **18 37 18.0 +0.5**
ESY Stoneypath 146.74 8 *e*P **PKPdf** **18 37 16.9 -0.7**
ESY Stoneypath 146.74 8 P **PKPdf** **18 37 16.9 -0.7**
DIY Diyarbakir 146.82 304 *e*P **PKPbc** **18 37 20.6 +0.5**
EBL Broad Law 146.83 9 *e*P **PKPdf** **18 37 17.2 -0.5**
EBL Broad Law 146.83 9 P **PKPdf** **18 37 17.2 -0.5**
KELT Kelkit 146.83 309 *i* P **PKPdf** **18 37 18.9 +0.4**
AKASG Malin Array Be 146.85 332 PKPbc **PKPbc** **18 37 19.2 -0.4**
comp=Z,135nm,0.7s,baz=39,slow=3.6,SNR=133
AKASG Malin Array Be 146.85 332 PKIKP **PKPbc** **18 37 19.3 -0.4**
AKASG pmax pmax
comp=Z,135nm,0.7s
AKASG Malin Array Be 146.85 332 PKPbc **PKPbc** **18 37 19.2 -0.4**
AK01 Malin Array Si 146.86 332 *e*PKPdf **PKPdf** **18 37 17.1 -0.7**
KIEV Kiev 146.86 332 *e*PKIKP **PKPdf** **18 37 15.7 -2.2**
KIEV MLR MLR
comp=Z,175µm,22.0s
KIEV Kiev 146.86 332 *e*PKPdf **PKPdf** **18 37 15.7 -2.2**
KIEV LR LR
comp=Z,175µm,22.0s
AK02 Malin Array Si 146.89 332 *e*PKPdf **PKPdf** **18 37 17.1 -0.8**
DIYA Diyarbakir 146.89 304 *i* P **PKPdf** **18 37 18.1 -0.3**
ESPY Espiye-Giresun 146.93 310 *e*P **PKPbc** **18 37 19.6 -0.7**
COP Copenhagen 147.10 353 *i* P **PKPbc** **18 37 19.5 -0.7**
comp=Z,433nm,0.9s
COP
comp=Z,48µm,29.0s
PCED Cedros 147.13 54 *e*PKP **PKPab** **18 37 22.9 +0.3**
CALA Caldeira 147.15 54 *e*PKP **PKPab** **18 37 22.4 -0.4**
PTK Pertek 147.15 306 *e*P **PKPdf** **18 37 19.4 +0.3**
EKA Eskdalemuir Ar 147.24 9 PKPbc **PKPbc** **18 37 20.3 -0.3**
comp=Z,193nm,0.8s,baz=342,slow=2.5,SNR=130
EKA Eskdalemuir Ar 147.24 9 PKPbc **PKPbc** **18 37 20.3 -0.3**
GRSN GIRESUNGRSN 147.25 311 *i* P **PKPbc** **18 37 21.1 -0.1**
ESK Eskdalemuir 147.25 9 *e*P **PKPdf** **18 37 18.0 -0.3**
ESK AMB AMB 18 37 28.9
comp=Z,2µm,1.8s
ESK AMS AMS 19 58 56.1
comp=Z,169µm,21.4s
ESK Eskdalemuir 147.25 9 P **PKPdf** **18 37 18.0 -0.3**
ESK AMB AMB 18 37 28.9
comp=Z,2µm,1.8s
ESK AMS AMS 19 58 56.1
ESK Eskdalemuir 147.25 9 *e*PKIKP **PKPdf** **18 37 18.6 +0.2**
ESK MLR MLR
comp=Z,211µm,22.0s
ESK Eskdalemuir 147.25 9 *e*PKPdf **PKPdf** **18 37 18.6 +0.2**
ESK LR LR
comp=Z,211µm,22.0s
BSD Bornholm Skovb 147.31 350 *i* P **PKPbc** **18 37 20.0 -0.8**
comp=Z,1µm,0.9s
BSD
comp=Z,218µm,25.0s
PCAN Candelaria 147.35 54 *e*PKP **PKPab** **18 37 25.3 +1.8**
SVRC Sivrice-ELAZID 147.37 306 *e*P **PKPdf** **18 37 20.0 +0.6**
PICO Pico 147.38 54 *e*PKP **PKPab** **18 37 24.1 +0.4**
ECK Cauldkaine Hil 147.39 9 *e*P **PKPdf** **18 37 18.0 -0.6**
ECK Cauldkaine Hil 147.39 9 P **PKPdf** **18 37 18.0 -0.6**
GAL1 Galloway 147.44 11 *e*P **PKPdf** **18 37 18.1 -0.5**
GAL1 AMB AMB 18 37 22.5
comp=Z,3µm,1.6s
GAL1 AMS AMS 20 00 09.4
comp=Z,105µm,21.5s
GAL1 Galloway 147.44 11 P **PKPdf** **18 37 18.1 -0.5**
GAL1 AMB AMB 18 37 22.5
comp=Z,3µm,1.6s
GAL1 AMS AMS 20 00 09.4
ROSA Rosais 147.45 54 *e*PKP **PKPdf** **18 37 19.4 +0.1**
ROSA eLQ LQ 19 18 46.9
ROSA eLR LR 19 26 34.2
comp=Z,18µm,20.1s
LLD Lille Linde 147.47 353 *i* P **PKPbc** **18 37 21.4 +0.1**
comp=Z,896nm,1.1s
SUSE Susehri 147.56 309 *i* P **PKPdf** **18 37 19.7 +0.1**
ILIC ilic-Erzincan 147.57 308 *e*P **PKPbc** **18 37 22.8 +0.5**
GCD Castle Douglas 147.57 10 *e*P **PKPdf** **18 37 19.4 +0.5**
GCD Castle Douglas 147.57 10 P **PKPdf** **18 37 19.4 +0.5**
ELZG Elazig 147.58 306 *i* P **PKPdf** **18 37 20.9 +1.2**
PMAN Manadas 147.59 54 *e*PKP **PKPab** **18 37 25.3 +0.9**
KEMA Kemaliye 147.69 308 *i* P **PKPdf** **18 37 19.2 -0.6**
GMM Mts of Mourne 147.80 13 *e*P **PKPdf** **18 37 18.8 -0.5**
GMM Mts of Mourne 147.80 13 P **PKPdf** **18 37 18.8 -0.5**
XAL Allendale 147.83 8 *e*P **PKPdf** **18 37 20.5 +1.1**
XAL Allendale 147.83 8 P **PKPdf** **18 37 20.5 +1.1**
KESW Keswick, Cumbr 147.97 9 *e*P **PKPdf** **18 37 19.5 -0.1**
KESW AMB AMB 18 37 31.4
comp=Z,3µm,1.4s
KESW AMS AMS 20 02 54.0
comp=Z,174µm,21.4s
KESW Keswick, Cumbr 147.97 9 P **PKPdf** **18 37 19.5 -0.1**
KESW AMB AMB 18 37 31.4
comp=Z,3µm,1.4s
KESW AMS AMS 20 02 54.0
URFA Urfa 148.02 304 *e*P **PKPbc** **18 37 23.2 -0.3**
MYA Malataya 148.05 306 *e*P **PKPbc** **18 37 24.1 +0.5**
MALT Malatya 148.05 306 *e*P **PKPdf** **18 37 20.4 0.0**
MALT Malatya 148.05 306 ⇓PKP2 **PKPbc** **18 37 24.5 +0.9**
MALT Malatya 148.05 306 *e*PKPdf **PKPdf** **18 37 20.5 0.0**
MALT LR LR
comp=Z,297µm,21.0s
MALT Malatya 148.05 306 ⇓*i*P **PKPbc** **18 37 24.5 +0.9**
SIM Simferopol' 148.05 320 *e* **PKPdf** **18 37 19.4 -0.7**
SIM pmax pmax
comp=Z,1µm,15.0s
RSDY Resadiye-TOKAT 148.11 310 *e*P **PKPdf** **18 37 21.0 +0.7**
ADH Angra Heroismo 148.21 53 *e*PKP **PKPbc** **18 37 24.1 +0.3**
DARE Darende-Malaty 148.30 307 *e*P **PKPdf** **18 37 21.7 +0.9**
ERBA Erbaa 148.40 311 *i* P **PKPdf** **18 37 21.3 +0.5**
AKCD Akcadag 148.43 306 *i* P **PKPdf** **18 37 21.8 +0.7**
GKP Gorka Klasztor 148.62 346 *e*PKPdf **PKPdf** **18 37 20.2 -0.5**
GKP *e*PKPab **PKPab** **18 37 28.6 +0.6**
GKP *e*PP **PP** **18 40 58.0 +4.4**
GKP *e*SS SS 19 00 06.7 +6.6
GKP LMZ LR 19 38 35.4
comp=Z,281µm,25.6s
GKP Gorka Klasztor 148.62 346 *e*PKPdf **PKPdf** **18 37 20.2 -0.5**
GKP *e*PKPab **PKPab** **18 37 28.5 +0.6**
GKP *e*PP **PP** **18 40 58.0 +4.4**
GKP *e*SS SS 19 00 06.6 +6.5
GKP LMZ LR 19 38 35.4
KVT Kavak 148.72 312 *e*P **PKPdf** **18 37 22.4 +1.0**
TOKA Tokat 148.73 311 *i* P **PKPdf** **18 37 21.5 +0.1**
VAL Valentia 148.84 19 *e*P **PKPdf** **18 37 21.2 +0.1**
WME Myndd Eilian 148.92 11 *e*P **PKPdf** **18 37 20.7 -0.5**
WME Myndd Eilian 148.92 11 P **PKPdf** **18 37 20.7 -0.5**
DIKM Dikmen 149.00 314 *e*P **PKPbc** **18 37 25.8 0.0**
GZT Gaziantep 149.00 305 *i* P **PKPdf** **18 37 22.3 +0.3**
WLF1 Llynfaes 149.00 11 *e*P **PKPdf** **18 37 18.7 -2.6**
WLF1 AMB AMB 18 37 33.6
comp=Z,2µm,2.6s
WLF1 AMS AMS 20 01 47.5
comp=Z,199µm,21.0s
WLF1 Llynfaes 149.00 11 P **PKPdf** **18 37 18.7 -2.6**
WLF1 AMB AMB 18 37 33.6
comp=Z,2µm,2.6s
WLF1 AMS AMS 20 01 47.5
YRC Rhoscolyn 149.01 12 *e*P **PKPdf** **18 37 20.3 -1.0**
YRC Rhoscolyn 149.01 12 P **PKPdf** **18 37 20.3 -1.0**
BEL Belsk 149.01 341 *e*PKPdf **PKPdf** **18 37 22.0 +0.6**
BEL *e*PKPbc **PKPbc** **18 37 26.0 +0.5**
BEL *e*PKPab **PKPab** **18 37 30.1 +0.5**
BEL *e*SS SS 18 59 52.4 -12
BEL LMZ LR 19 35 52.8
comp=Z,302µm,28.3s
BEL Belsk 149.01 341 *e*PKPdf **PKPdf** **18 37 22.0 +0.6**
BEL *e*PKPbc **PKPbc** **18 37 25.9 +0.5**
BEL *e*PKPab **PKPab** **18 37 30.1 +0.5**
BEL *e*SS SS 18 59 52.4 -12
BEL LMZ LR 19 35 52.7
WPM1 Penmaenmawr 149.12 11 *e*P **PKPdf** **18 37 21.1 -0.4**
WPM1 Penmaenmawr 149.12 11 P **PKPdf** **18 37 21.1 -0.4**
LHO Holmfirth 149.16 8 *e*P **PKPdf** **18 37 21.2 -0.4**
LHO Holmfirth 149.16 8 P **PKPdf** **18 37 21.2 -0.4**
YLL Llanberis 149.19 11 *e*P **PKPdf** **18 37 21.0 -0.6**
YLL Llanberis 149.19 11 P **PKPdf** **18 37 21.0 -0.6**
SARI SarD1z-Kayseri 149.20 307 *e*P **PKPdf** **18 37 23.1 +0.7**
YRE Yr Eifl 149.29 12 *e*P **PKPdf** **18 37 20.7 -1.1**
YRE Yr Eifl 149.29 12 P **PKPdf** **18 37 20.7 -1.1**
GAZ Gaziantep 149.32 304 *e*P **PKPdf** **18 37 22.9 +0.4**
BOYT Boyabat 149.34 313 *i* P **PKPbc** **18 37 29.0 +2.2**
BYBT Boyabat 149.41 314 *e*P **PKPdf** **18 37 24.0 +1.6**
PINB Pinarbasi 149.42 308 *i* P **PKPdf** **18 37 22.0 -0.9**
KMRS Kahramanmaras 149.45 305 *e*P **PKPdf** **18 37 22.4 -0.3**
KBI1 Birley Grange 149.49 8 *e*P **PKPdf** **18 37 21.6 -0.5**
KBI1 Birley Grange 149.49 8 P **PKPdf** **18 37 21.6 -0.5**
KUZU Kuzuini 149.55 304 *i* P **PKPdf** **18 37 22.0 -0.8**
AYKD Aykdinkavak 149.55 305 *i* P **PKPdf** **18 37 22.0 -0.8**
FOEL Foel Wylfa 149.59 10 *e*P **PKPdf** **18 37 22.3 -0.1**
FOEL AMB AMB 18 37 34.9
comp=Z,2µm,1.3s
FOEL *e* 18 51 19.2
FOEL AMS AMS 20 01 19.7
comp=Z,172µm,22.5s
FOEL Foel Wylfa 149.59 10 P **PKPdf** **18 37 22.3 -0.1**
FOEL AMB AMB 18 37 34.9
comp=Z,2µm,1.3s
FOEL 18 51 19.2
FOEL AMS AMS 20 01 19.7
PSET Sete Cidades 149.62 54 *e*PKP **PKPdf** **18 37 25.1 +2.2**
PSET eLQ LQ 19 18 58.4
PSET eLR LR 19 27 31.9
comp=Z,17µm,19.6s
LVV L'vov 149.64 336 *i* PKHKP **PKPbc** **18 37 23.9 -3.2**
LVV *e* 18 37 34.9
LVV *e* 18 41 06.5
LVV *e* 18 44 30.7
LVV *e*SS SS 19 00 21.1 +9.1
KIS Kishinev 149.68 327 *i* **PKPdf** **18 37 21.0 -1.6**
KIS *i* SS SS 19 00 54.0 +41
KIS pmax pmax
comp=Z,2µm,15.0s
KIS pmax pmax
comp=Z,2µm,16.0s
KIS pmax pmax
comp=N,600nm,2.0s
KIS pmax pmax
comp=E,700nm,2.0s
KIS pmax pmax
comp=Z,3µm,2.0s
KIS pmax pmax
comp=E,37µm,16.0s
KIS pmax pmax
comp=Z,176µm,16.0s
KIS Kishinev 149.68 327 ⇑PKHKP **PKPbc** **18 37 26.1 -1.2**
KIS Kishinev 149.68 327 ⇑*i*PKIKP **PKPdf** **18 37 21.0 -1.6**
KIS M 18 37 29.0
comp=Z,3µm,2.0s
KIS Kishinev 149.68 327 *i* PP PP 18 41 10.0 +10
comp=Z,68µm,15.0s
KIS Kishinev 149.68 327 *i* PPS PPS 18 52 45.0
KIS *i* SS SS 19 00 54.0 +41
KIS LRM MLR 19 37 35.0
comp=Z,159µm,25.0s
KIS Kishinev 149.68 327⇑ *i*P **PKPbc** **18 37 26.1 -1.2**
BZK Bozkurt 149.68 315 *e*P **PKPdf** **18 37 23.1 +0.3**
PDA Ponta Delgada 149.69 54 *e*PKP **PKPbc** **18 37 29.5 +1.9**
BNN Bunyan 149.76 308 *e*P **PKPdf** **18 37 24.6 +1.4**
CTKT Corum 149.78 312 *i* P **PKPbc** **18 37 29.0 +1.0**
CMLA Cha da Macela 149.78 54 *e*PKP **PKPab** **18 37 32.4 -0.9**
CMLA eLQ LQ 19 19 38.8
CMLA eLR LR 19 27 55.0
comp=Z,11µm,19.9s
CMLA Cha da Macela 149.78 54 *e*PKIKP **PKPbc** **18 37 28.6 +0.7**
CMLA MLR MLR
comp=Z,146µm,22.0s
CMLA Cha da Macela 149.78 54 *e*PKPbc **PKPbc** **18 37 28.6 +0.7**
CMLA LR LR
comp=Z,146µm,22.0s
ANDN Andirin 149.84 306 *i* P **PKPdf** **18 37 25.7 +2.3**
KAST KASTAMONU 149.95 314 *i* P **PKPdf** **18 37 24.0 +0.7**
HLM1 Long Mynd 150.00 10 *e*P **PKPdf** **18 37 22.5 -0.5**
HLM1 AMB AMB 18 37 36.3
comp=Z,2µm,1.7s
HLM1 Long Mynd 150.00 10 P **PKPdf** **18 37 22.5 -0.5**
HLM1 AMB AMB 18 37 36.3
comp=Z,2µm,1.7s
BART Pico Bartolome 150.04 54 *e*PKP **PKPab** **18 37 32.4 -2.1**
CORM Corum 150.08 311 *e*P **PKPdf** **18 37 24.6 +0.9**
ABA1 Baconsthorpe 150.13 5 *e*P **PKPdf** **18 37 22.9 -0.2**
ABA1 Baconsthorpe 150.13 5 P **PKPdf** **18 37 22.9 -0.2**
IAS Iasi 150.15 329 ⇑PKIKP **PKPbc** **18 37 26.9 -1.5**
IAS Iasi 150.15 329⇑ *i*P **PKPbc** **18 37 26.9 -1.5**
AWI1 Witton 150.22 5 *e*P **PKPdf** **18 37 23.4 +0.2**
AWI1 Witton 150.22 5 P **PKPdf** **18 37 23.4 +0.2**
COBT Iskenderun 150.25 304 *i* P **PKPbc** **18 37 29.9 +0.6**
KOZT Kozan 150.27 306 *e*P **PKPdf** **18 37 25.2 +1.3**
KWP Kalwaria Pacla 150.28 337 *e*PKPdf **PKPdf** **18 37 23.7 +0.2**
KWP *e*PKPbc **PKiKP** **18 37 29.9 +0.3**
KWP *e*PKPab **PKPab** **18 37 35.8 +0.9**
KWP *e*PP **PP** **18 41 08.5 +5.1**
KWP *e*SS SS 19 00 25.8 +6.7
KWP LMZ LR 19 32 21.8
comp=Z,274µm,35.0s
KWP Kalwaria Pacla 150.28 337 ⇑PKIKP **PKPdf** **18 37 24.2 +0.7**
KWP Kalwaria Pacla 150.28 337 *e*PKPdf **PKPdf** **18 37 23.2 -0.4**
KWP LR LR
comp=Z,160µm,22.0s
KWP Kalwaria Pacla 150.28 337⇑ *i*P **PKPdf** **18 37 24.2 +0.7**
KWP Kalwaria Pacla 150.28 337 *e*PKPdf **PKPdf** **18 37 23.7 +0.2**
KWP *e*PKPbc **PKiKP** **18 37 29.8 +0.3**
KWP *e*PKPab **PKPab** **18 37 35.8 +0.9**
KWP *e*PP **PP** **18 41 08.5 +5.1**
KWP *e*SS SS 19 00 25.7 +6.6
KWP LMZ LR 19 32 21.7
BALT Daday 150.29 315 *i* P **PKPdf** **18 37 26.5 +2.5**
PSMA Santa Maria 150.34 55 *e*PKP **PKPbc** **18 37 29.9 +0.7**
PSMN Pico do Norte, 150.38 55 *e*PKP **PKPbc** **18 37 29.5 +0.2**
PSMN eLQ LQ 19 19 21.5
PSMN eLR LR 19 28 06.5
comp=Z,13µm,23.3s
AEU East Anglia Un 150.41 5 *e*P **PKPdf** **18 37 22.7 -0.8**
AEU East Anglia Un 150.41 5 P **PKPdf** **18 37 22.7 -0.8**
CEYT Ceyhan 150.48 305 *e*P **PKPdf** **18 37 25.4 +1.2**
MCH1 Michaelchurch 150.49 11 *e*P **PKPdf** **18 37 23.5 -0.2**
MCH1 AMB AMB 18 37 37.3
comp=Z,2µm,3.3s
MCH1 AMS AMS 20 01 22.5
comp=Z,208µm,21.9s
MCH1 Michaelchurch 150.49 11 P **PKPdf** **18 37 23.5 -0.2**
MCH1 AMB AMB 18 37 37.3
comp=Z,2µm,3.3s
MCH1 AMS AMS 20 01 22.5
CDAG Cicekdag 150.50 311 *i* P **PKPdf** **18 37 23.1 -1.2**
YAYL Yayladag 150.51 303 *i* P **PKPdf** **18 37 24.6 +0.2**
HSA Swansea 150.52 12 *e*P **PKPdf** **18 37 23.3 -0.5**
HSA Swansea 150.52 12 P **PKPdf** **18 37 23.3 -0.5**
CANT Cankiri 150.58 313 *e*P **PKPdf** **18 37 26.1 +1.8**
PRAR RASCA 150.65 330 ⇑*i*P **PKPdf** **18 37 24.3 +0.1**
SSW Stow on the Wo 150.70 9 *e*P **PKPdf** **18 37 23.8 -0.2**
SSW Stow on the Wo 150.70 9 P **PKPdf** **18 37 23.8 -0.2**
OJC Ojcow 150.73 341 *e*PKIKP **PKPdf** **18 37 25.1 +0.9**
OJC *i* 18 37 30.6
OJC *e* 18 41 05.7
OJC *e* 18 44 32.5
OJC *e*SS SS 19 00 22.9 -1.1
OJC MLR MLR
comp=Z,165µm,19.5s
OJC Ojcow 150.73 341 *e*PKPdf **PKPdf** **18 37 25.1 +0.9**
OJC *e*PKiKP **PKiKP** **18 37 30.6 +0.2**
OJC *e*PP **PP** **18 41 05.7 -0.3**
OJC *e*SKSdf **SKSdf** **18 44 32.5 +2.9**
OJC *e*SS **SS** **19 00 22.9 -1.1**
OJC L L 19 49 41.3
comp=Z,165µm,19.5s
ELDT Eldivan 150.76 313 *i* P **PKPdf** **18 37 24.1 -0.6**
BUR08 Bucovina Ar. S 150.89 332 *e*PKPdf **PKPdf** **18 37 25.2 +0.6**

SAFT Safranbolu 150.89 315 eP PKPdf 18 37 25.2 +0.5
TLCR 150.90 325 ⇓PKIKP PKPdf 18 37 24.4 -0.2
TLCR 150.90 325 ⇓iP PKPdf 18 37 24.4 -0.2
KRTS Karatas 150.91 304 eP PKPdf 18 37 26.4 +1.6
BR131 Keskin Array S 150.96 311 ePKPdf PKPdf 18 37 24.0 -1.1
BRTR Keskin Array B 150.96 311 PKPbc PKPbc 18 37 29.9 -0.9
comp=Z,81nm,0.8s,baz=114,slow=2.4,SNR=20
BRTR PP PP 18 41 09.1 +0.6
comp=Z,32nm,1.1s,baz=356,slow=1.6,SNR=1.6
BRTR Keskin Array B 150.96 311 PKPbc PKPbc 18 37 29.9 -0.9
BRTR PP PP 18 41 09.1 +0.6
KOLS Kolonicke sedl 151.02 337 ePKIKP PKPdf 18 37 23.6 -1.1
KOLS e 18 37 31.4
KOLS e 18 41 10.4
KOLS eSS SS 19 00 27.2 -0.2
KOLS Kolonicke sedl 151.02 337 ePKP PKPdf 18 37 23.6 -1.1
KOLS e 18 37 31.4
KOLS ePP PP 18 41 10.4 +2.7
KOLS e 18 48 03.0
KOLS eSS SS 19 00 27.2 -0.2
KOLS eL L 19 32 25.4
KAMT Kaman 151.07 311 eP PKPdf 18 37 25.0 -0.2
TESR 151.07 329 ⇑iP PKPdf 18 37 24.5 -0.3
SKP1 Kophill 151.08 8 eP PKPdf 18 37 24.2 -0.5
SKP1 Kophill 151.08 8 P PKPdf 18 37 24.2 -0.5
KSP Ksiaz 151.09 346 ePKPdf PKPdf 18 37 25.4 +0.6
KSP ePKPbc PKiKP 18 37 31.4 +0.3
KSP ePKPab PKPab 18 37 38.4 +0.2
KSP ePP PP 18 41 13.1 +5.2
KSP eSS SS 19 00 26.0 -1.8
KSP LMZ LR 19 35 59.7
comp=Z,227μm,30.5s
KSP Ksiaz 151.09 346 ePKIKP PKPdf 18 37 25.2 +0.5
KSP e 18 37 35.2
KSP e 18 41 10.0
KSP e 18 44 31.5
KSP ePPS PPS 18 54 07.5
KSP Ksiaz 151.09 346 ePKPdf PKPdf 18 37 25.3 +0.6
KSP ePKPbc PKiKP 18 37 31.4 +0.3
KSP ePKPab PKPab 18 37 38.4 +0.2
KSP ePP PP 18 41 13.1 +5.2
KSP eSS SS 19 00 26.0 -1.8
KSP LMZ LR 19 35 59.6
GULE Gulek 151.12 306 iP PKPdf 18 37 25.7 +0.3
HWQ Hawqa 151.12 299 eP PKPdf 18 37 26.6 +1.2
SWN1 Swindon 151.15 9 eP PKPdf 18 37 23.1 -1.7
SWN1 AMB AMB 18 37 35.3
comp=Z,3μm,2.3s
SWN1 AMS AMS 19 58 30.0
comp=Z,227μm,21.8s
SWN1 Swindon 151.15 9 P PKPdf 18 37 23.1 -1.7
SWN1 AMB AMB 18 37 35.3
comp=Z,3μm,2.3s
SWN1 AMS AMS 19 58 30.0
HTL Hartland 151.16 13 eP PKPdf 18 37 23.0 -1.7
HTL AMB AMB 18 37 33.4
comp=Z,1μm,2.6s
HTL AMS AMS 19 37 09.7
comp=Z,254μm,23.9s
HTL Hartland 151.16 13 P PKPdf 18 37 23.0 -1.7
HTL AMB AMB 18 37 33.4
comp=Z,1μm,2.6s
HTL AMS AMS 19 37 09.7
WTSB Winterswijk 151.22 358 ePKP PKPdf 18 37 24.9 +0.1
HEX Exmoor 151.23 12 eP PKPdf 18 37 24.2 -0.7
HEX Exmoor 151.23 12 P PKPdf 18 37 24.2 -0.7
CFR Carcaliu 151.26 325 ⇑PKIKP PKPdf 18 37 24.7 -0.4
CFR Carcaliu 151.26 325 ⇑iP PKPdf 18 37 24.7 -0.4
NIE Niedzica 151.28 340 ePKIKP PKPdf 18 37 26.0 +0.9
NIE i 18 37 31.8
NIE e 18 37 38.5
NIE Niedzica 151.28 340 ePKPdf PKPdf 18 37 26.0 +0.9
NIE ePKiKP PKiKP 18 37 31.8 +0.2
NIE ePKPab PKPab 18 37 38.5 -0.6
CLL Collm 151.29 350 ePKIKP PKPdf 18 37 25.0 0.0
CLL i 18 37 34.5
CLL i 18 37 38.3
CLL pmax pmax
comp=Z,99nm,2.3s
CLL pmax pmax
comp=Z,3μm,1.2s
CLL MLR MLR
comp=Z,113μm,21.7s
RAC Raciborz 151.32 343 ePKIKP PKPdf 18 37 24.4 -0.7
RAC eSS SS 19 00 30.0 -0.3
RAC MLR MLR
comp=N,209μm,24.0s
RAC MLR MLR
comp=E,179μm,22.0s
RAC MLR MLR
comp=Z,210μm,22.0s
CRVS Cervenica-Dubn 151.34 338 ePKIKP PKPdf 18 37 25.3 +0.1
CRVS e 18 37 32.9
CRVS e 18 41 13.3
CRVS Cervenica-Dubn 151.34 338 ePKP PKPdf 18 37 25.3 +0.1
CRVS e 18 37 32.9
CRVS ePP PP 18 41 13.3 +3.8
CRVS e 18 47 51.1
CRVS eSS SS 19 01 13.2 +42
PETR 151.35 327 ⇑iP PKPdf 18 37 26.3 +1.1
RCY Rachaya 151.40 298 eP PKPbc 18 37 32.1 +0.1
BBAL Bala 151.40 311 iP PKPdf 18 37 24.3 -1.5
WOL Wolverton 151.43 9 eP PKPdf 18 37 24.9 -0.3
WOL AMB AMB 18 37 35.8
comp=Z,3μm,2.1s
WOL AMS AMS 19 58 30.6
comp=Z,188μm,22.8s
WOL Wolverton 151.43 9 P PKPdf 18 37 24.9 -0.3
WOL AMB AMB 18 37 35.8
comp=Z,3μm,2.1s
WOL AMS AMS 19 58 30.6
SACV Santiago Islan 151.43 101 PFAKE 18 37 40.0 -0.7
SACV LR LR
comp=Z,350μm,21.0s
BHL Bhannes 151.45 299 eP PKPdf 18 37 24.0 -1.9
MERS Mersin 151.46 305 eP PKPdf 18 37 25.4 -0.4
UPC Upice 151.47 346 ePKIKP PKPdf 18 37 25.6 +0.3
UPC e 18 37 32.2
UPC Upice 151.47 346 ePKPDF PKPdf 18 37 25.6 +0.3
UPC ⇑ePKP PKiKP 18 37 32.2 +0.3
AFSR Af˙ar-Bala (A 151.48 311 eP PKPdf 18 37 25.8 -0.1
LOD Lodumlu 151.49 312 eP PKPdf 18 37 25.1 -0.7
VRI Vrincioaia 151.50 328 ⇑PKIKP PKPbc 18 37 29.1 -2.6
VRI Vrincioaia 151.50 328 ⇑iP PKPbc 18 37 29.1 -2.6
VRI Vrincioaia 151.50 328 iP PKPdf 18 37 25.0 -0.5
BRG Berggiesshubel 151.55 349 ePKP PKPdf 18 37 25.8 +0.4
comp=Z,227nm,1.4s
BRG i 18 37 35.8
comp=Z,1μm,1.0s
BRG PP PP 18 41 15.0 +4.5
BRG SS SS 19 00 32.0 -0.7
BRG
comp=N,240μm,27.4s
BRG
comp=E,68μm,31.2s
BRG
comp=Z,229μm,29.1s
BRG Berggiesshubel 151.55 349 ePKIKP PKPdf 18 37 25.8 +0.4
BRG i 18 37 35.8
BRG 18 41 15.0
BRG SS SS 19 00 32.0 -0.7
BRG pmax pmax
comp=Z,227nm,1.4s
DPC Dobruska-Polom 151.55 345 ePKIKP PKPdf 18 37 25.4 -0.1
DPC e 18 37 32.6
DPC e 18 41 17.5
DPC eSS SS 19 00 37.1 +4.2
DPC MLR MLR
comp=Z,198μm,23.3s
DPC Dobruska-Polom 151.55 345 ePKPDF PKPdf 18 37 25.4 -0.1
DPC ⇑ePKP PKiKP 18 37 32.6 +0.5
DPC ePP PP 18 41 17.5 +6.9
DPC ex x 18 48 33.3
DPC ex x 18 56 34.2
DPC eSS SS 19 00 37.1 +4.2
DPC AMS AMS 20 01 50.0
comp=Z,198μm,23.3s
PLOR Plostina 151.55 328 ⇑PKIKP PKPdf 18 37 25.4 -0.2
PLOR Plostina 151.55 328 ⇑iP PKPdf 18 37 25.4 -0.2
OKC Ostrava-Krasne 151.55 343 ePKIKP PKPdf 18 37 25.6 +0.2
OKC e 18 37 34.0
OKC e 18 41 23.0
OKC eSS SS 19 00 34.2 +1.3
OKC MLR MLR
comp=Z,117μm,21.6s
OKC Ostrava-Krasne 151.55 343 ePKPDF PKPdf 18 37 25.6 +0.2
OKC ⇑ePKP PKiKP 18 37 34.0 +1.9
OKC ex x 18 41 23.0
OKC ex x 18 56 41.7
OKC eSS SS 19 00 34.2 +1.3
OKC AMS AMS 20 07 30.0
comp=Z,117μm,21.6s
BMR Baia Mare 151.58 334 ⇑PKIKP PKPdf 18 37 27.8 +2.2
BMR Baia Mare 151.58 334 ⇑iP PKPdf 18 37 27.8 +2.2
TRPA Tarpa 151.59 336 ⇑iP PKPdf 18 37 26.7 +1.2
TRPA Tarpa 151.59 336 ⇓ePKPdf PKPdf 18 37 25.4 -0.1
TIRR Tirgusor 151.59 324 ⇑PKIKP PKPdf 18 37 26.1 +0.5
TIRR Tirgusor 151.59 324 ePKPdf PKPdf 18 37 25.0 -0.7
TIRR Tirgusor 151.59 324 ⇑iP PKPdf 18 37 26.1 +0.5
TIRR Tirgusor 151.59 324 iP PKPdf 18 37 25.3 -0.3
SGKT Sivrigoynuk 151.64 314 iP PKPdf 18 37 25.6 -0.6
KDZE Karadeniz Ereo 151.66 316 eP PKPbc 18 37 29.2 -2.9
SULT Sultanhani-AKS 151.69 308 eP PKPdf 18 37 25.8 -0.4
EFOR EFORIE 151.72 323 ⇑iP PKPbc 18 37 33.8 +1.6
GRER 151.72 327 ⇑iP PKPbc 18 37 34.2 +2.0
PVCC Panska Ves 151.76 348 ePKIKP PKPdf 18 37 26.2 +0.5
PVCC e 18 37 32.9
PVCC eSS SS 19 00 38.6 +3.6
PVCC MLR MLR
comp=Z,163μm,21.3s
PVCC Panska Ves 151.76 348 ePKPDF PKPdf 18 37 26.2 +0.5
PVCC ⇑ePKP PKiKP 18 37 32.9 +0.4
PVCC ex x 18 56 35.5
PVCC eSS SS 19 00 38.6 +3.6
PVCC AMS AMS 20 05 10.0
comp=Z,163μm,21.3s
MORC Moravsky Berou 151.77 343 ⇑PKIKP PKPdf 18 37 26.5 +0.7
MORC Moravsky Berou 151.77 343 ePKPdf PKPdf 18 37 25.9 +0.1
MORC Moravsky Berou 151.77 343 ⇑iP PKPdf 18 37 26.5 +0.7
DYA Yadsworthy 151.81 13 eP PKPdf 18 37 24.2 -1.6
DYA AMB AMB 18 37 28.4
comp=Z,358nm,2.7s
DYA AMS AMS 19 58 07.5
comp=Z,202μm,24.1s
DYA Yadsworthy 151.81 13 P PKPdf 18 37 24.2 -1.6
DYA AMB AMB 18 37 28.4
comp=Z,358nm,2.7s
DYA AMS AMS 19 58 07.5
ELSH Elham, Standar 151.86 6 eP PKPdf 18 37 24.2 -1.6
ELSH AMB AMB 18 37 36.4
comp=Z,3μm,1.9s
ELSH AMS AMS 19 58 04.7
comp=Z,168μm,21.4s
ELSH Elham, Standar 151.86 6 P PKPdf 18 37 24.2 -1.6
ELSH AMB AMB 18 37 36.4
comp=Z,3μm,1.9s
ELSH AMS AMS 19 58 04.7
CVD Cernavoda 151.90 324 ⇑PKIKP PKPbc 18 37 34.4 +1.8
CVD Cernavoda 151.90 324 ⇑iP PKPbc 18 37 34.4 +1.8
MANR Mangalia 151.91 323 ⇑iP PKPbc 18 37 33.8 +1.2
LIKS Likavka 151.98 341 ePKIKP PKPbc 18 37 34.8 +2.2
LIKS Likavka 151.98 341 ePKP PKPbc 18 37 34.8 +2.2
PGOR Pogoanele 152.04 326 ⇓iP PKPdf 18 37 27.7 +1.4
AMRR Amara 152.07 325 ⇓PKIKP PKPbc 18 37 33.9 +0.9
AMRR Amara 152.07 325 ⇓iP PKPbc 18 37 33.9 +0.9
DOPR Dopca 152.07 329 ⇑iP PKPdf 18 37 27.4 +1.0
ISR Istrita 152.12 327 ⇑PKIKP PKPbc 18 37 34.5 +1.3
ISR Istrita 152.12 327 ⇑iP PKPbc 18 37 34.5 +1.3
MLR Muntele Rosu 152.15 328 PKP PKPdf 18 37 26.1 -0.6
comp=Z,14nm,1.2s,baz=40,slow=1.9,SNR=28
MLR Muntele Rosu 152.15 328 PKP PKPdf 18 37 26.1 -0.6
MLR Muntele Rosu 152.15 328 ⇑iP PKPdf 18 37 26.0 -0.7
EREN Erenkoy 152.17 303 eP PKPdf 18 37 26.4 -0.4
PRA Prague 152.22 347 ⇑PKPDF PKPdf 18 37 27.0 +0.6
PRA ⇑PKP PKiKP 18 37 36.0 +2.6
PRA PKPAB PKPab 18 37 47.0 +4.1
PRA PP PP 18 41 21.0 +6.7
PRA AMS AMS 19 50 00.0
PSN Preselentsi 152.22 323 iP PKPdf 18 37 26.6 0.0
MDUB Mudurnu 152.25 315 eP PKPdf 18 37 26.4 -0.5
HENT Hendek 152.27 315 iP PKPdf 18 37 28.8 +2.0
PRU Pruhonice 152.28 347 ePKIKP PKPdf 18 37 26.4 -0.1
PRU e 18 37 33.7
PRU e 18 41 19.0
PRU e 18 54 17.1
PRU MLR MLR
comp=Z,202μm,21.5s
PRU Pruhonice 152.28 347 ePKPDF PKPdf 18 37 26.4 -0.1
PRU ⇑ePKP PKiKP 18 37 33.7 +0.1
PRU ePP PP 18 41 19.0 +4.4
PRU ex x 18 48 27.5
PRU ex x 18 54 17.1
PRU eSS SS 19 00 36.3 -4.4
PRU AMS AMS 20 05 30.0
comp=Z,202μm,21.5s
UCC Uccle 152.40 1 PKPbc PKPbc 18 37 34.1 +0.7
MDB Medias 152.40 331 ⇓PKIKP PKPbc 18 37 31.1 -2.6
MDB Medias 152.40 331 ⇓iP PKPbc 18 37 31.1 -2.6
BEBN Eben Emael 152.41 360 PKP PKPdf 18 37 27.0 +0.3
NKC Novy Kostel 152.42 350 ePKIKP PKPdf 18 37 26.9 +0.1
NKC MLR MLR
comp=Z,182μm,24.7s
NKC Novy Kostel 152.42 350 ePKPDF PKPdf 18 37 26.9 +0.1
NKC AMS AMS 20 00 20.0
comp=Z,182μm,24.7s
SECR 152.42 327 ⇑iP PKPdf 18 37 28.0 +1.1
HGN Heimansgroeve 152.44 359 ePKP PKPdf 18 37 26.1 -0.6
HGN ePP PP 18 41 24.5 +9.1
HGN ePPP PPP 18 44 52.0
HGN ePcPPKP 18 48 17.9
HGN eSKSP 18 51 00.3
PHNC Paralimni 152.44 302 P PKPdf 18 37 28.4 +1.2
VRAC Vranov 152.45 344 PKP PKPdf 18 37 27.0 +0.2
comp=Z,16nm,0.9s,baz=256,slow=0.9,SNR=39
VRAC Vranov 152.45 344 PKP PKPdf 18 37 27.0 +0.2
VRAC Vranov 152.45 344 ⇑iP PKPdf 18 37 27.0 +0.2
SVRH Sivrihisar-ESK 152.54 312 eP PKPdf 18 37 30.4 +3.0
VYHS Vyhne 152.56 340 ePKIKP PKPdf 18 37 25.8 -1.2
VYHS e 18 37 35.4
VYHS e 18 41 21.1
VYHS Vyhne 152.56 340 ePKP PKPdf 18 37 25.8 -1.2
VYHS e 18 37 35.4
VYHS ePP PP 18 41 21.1 +4.7
VYHS e 18 48 11.9
VYHS eSS SS 19 00 37.8 -6.3
KDHN Kadinhani 152.56 310 iP PKPbc 18 37 32.2 -2.2
KIZT Kizilcal 152.56 311 eP PKPdf 18 37 28.4 +0.4
SULT 152.58 327 ⇑iP PKPbc 18 37 33.6 -0.5
MEM Membach 152.59 359 PKP PKPdf 18 37 26.9 -0.1
DRGR 152.61 334 ⇓PKIKP PKPdf 18 37 27.4 +0.2
DRGR 152.61 334 ⇓iP PKPdf 18 37 27.4 +0.2
DRGR 152.61 334 iP PKPdf 18 37 26.3 -0.9
VOIR 152.62 329 ⇑PKIKP PKPdf 18 37 27.4 +0.1
VOIR 152.62 329 ⇑iP PKPdf 18 37 27.4 +0.1
KONT Konya--Tatoy 152.63 309 eP PKPdf 18 37 26.5 -1.0
SNF Seneffe 152.68 2 PKP PKPdf 18 37 27.5 +0.5
SNF PKPbc PKPbc 18 37 34.2 +0.1
PSZ Piszkesteto 152.72 338 ⇑PKIKP PKPdf 18 37 27.1 -0.3
PSZ Piszkesteto 152.72 338 ePKPdf PKPdf 18 37 27.1 -0.3
PSZ LR LR
comp=Z,196μm,21.0s
PSZ Piszkesteto 152.72 338 ⇑iP PKPdf 18 37 27.1 -0.3
PSZ Piszkesteto 152.72 338 ⇑ePKPdf PKPdf 18 37 27.5 +0.1
TREC Trest 152.73 346 ePKIKP PKPdf 18 37 27.2 -0.1
TREC e 18 37 35.0
TREC eSS SS 19 00 51.7 +5.9
TREC MLR MLR
comp=Z,156μm,22.2s
TREC Trest 152.73 346 ePKPDF PKPdf 18 37 27.2 -0.1
TREC ⇑ePKP PKiKP 18 37 35.0 +0.4
TREC eSS SS 19 00 51.7 +5.9
TREC AMS AMS 20 05 20.0
comp=Z,156μm,22.2s
ERMK Ermenek 152.74 306 iP PKPdf 18 37 27.2 -0.8
LFK Lefkose 152.74 303 eP PKPdf 18 37 25.8 -2.0
BCLA Clavier 152.79 0 PKP PKPdf 18 37 27.2 0.0
BCLA PKPbc PKPbc 18 37 33.9 -0.5
EIL Elat 152.81 290 eP PKPdf 18 37 27.9 0.0
ARR Arges 152.87 329 ⇑iP PKPdf 18 37 28.0 +0.3
SILT Sile 152.89 317 eP PKPdf 18 37 26.4 -1.3
CIOR Ciorogarla 152.93 327 ⇓iP PKPbc 18 37 39.2 +4.3
SMOL Smolenice 152.95 342 ePKP PKPbc 18 37 37.3 +2.5
SEYT Eskypehyr 152.96 313 iP PKPdf 18 37 28.8 +0.7
PRD Provadia 152.97 323 iP PKPdf 18 37 26.8 -0.9
CSS Prodhromos 153.00 302 P PKPdf 18 37 28.5 +0.4
CSS Prodhromos 153.00 302 eP PKPdf 18 37 28.0 -0.1
CSS Prodhromos 153.00 302 P PKPdf 18 37 27.1 -1.0
CSS Prodhromos 153.00 302 ePKPdf PKPdf 18 37 29.2 +1.1
CSS LR LR
comp=Z,220μm,21.0s
NEF NEVSHA 153.00 323 eP PKPdf 18 37 28.4 +0.6
MAMC Mammari 153.02 303 P PKPdf 18 37 27.3 -0.8
BORA Eskisehir 153.05 314 iP PKPdf 18 37 27.0 -1.1
HRT Hereke 153.06 317 eP PKPdf 18 37 25.8 -2.3
GIVF Givet 153.10 1 ⇑iPKIKP PKPdf 18 37 27.9 +0.2
comp=Z,1μm,1.0s
GIVF Givet 153.10 1 ⇑iPKIKP PKPdf 18 37 27.9 +0.2
GIVF Givet 153.10 1 ⇑iPKPdf PKPdf 18 37 27.9 +0.2
DOU Dourbes 153.10 1 PKP PKPdf 18 37 27.9 +0.2
DOU PKPbc PKPbc 18 37 34.5 -0.6
GRF Grafenberg Arr 153.12 352 ePKIKP PKPdf 18 37 27.4 -0.4
GRF MLR MLR
comp=Z,120μm,21.9s
GRF Grafenberg Arr 153.12 352 ePKP PKPdf 18 37 27.4 -0.4
GRF eL L 19 48 33.3
comp=Z,120μm,21.9s
BAIF Baives 153.13 2 ⇑iPKIKP PKPdf 18 37 28.0 +0.2
comp=Z,941nm,1.1s
BAIF Baives 153.13 2 ⇑iPKIKP PKPdf 18 37 28.0 +0.2
BAIF Baives 153.13 2 ⇑iPKPdf PKPdf 18 37 28.0 +0.2
DEV Deva 153.25 332 ⇑PKIKP PKPdf 18 37 31.3 +3.2
DEV Deva 153.25 332 ⇑iP PKPdf 18 37 31.3 +3.2
ABH Alteburg 153.27 357 PKP PKPdf 18 37 28.3 +0.3
CAVI Cavuskoy 153.28 315 eP PKPdf 18 37 28.5 +0.1
BOLV Bolvadin 153.28 311 iP PKPdf 18 37 27.7 -0.8
KHC Kasperske Hory 153.28 348 ePKIKP PKPdf 18 37 26.0 -2.1
KHC e 18 37 35.7
KHC e 18 41 25.5
KHC eSS SS 19 00 57.6 +5.7
KHC MLR MLR
comp=Z,261μm,22.6s
KHC Kasperske Hory 153.28 348 ePKPdf PKPdf 18 37 26.5 -1.6
KHC Kasperske Hory 153.28 348 ePKPDF PKPdf 18 37 26.0 -2.1
KHC ⇑ePKP PKiKP 18 37 35.7 0.0
KHC ex x 18 37 53.5
KHC ePP PP 18 41 25.5 +5.1
KHC ex x 18 48 22.2
KHC eSS SS 19 00 57.6 +5.7
KHC AMS AMS 20 04 30.0
comp=Z,261μm,22.6s
LEF Lefka 153.29 303 eP PKPdf 18 37 26.0 -2.5
ISK Istanbul-Kandi 153.30 318 eP PKPdf 18 37 29.2 +1.0
HUMR Humele 153.32 328 ⇓iP PKPdf 18 37 28.0 -0.2
JSA Saint Aubin 153.34 11 eP PKPdf 18 37 26.6 -1.5
JSA AMB AMB 18 37 40.2
comp=Z,828nm,2.2s
JSA AMS AMS 19 57 52.9
comp=Z,221μm,22.4s
JSA Saint Aubin 153.34 11 P PKPdf 18 37 26.6 -1.5
JSA AMB AMB 18 37 40.2
comp=Z,828nm,2.2s
JSA AMS AMS 19 57 52.9
GAZI Gazipasa 153.34 305 iP PKPdf 18 37 27.3 -1.3
YLV Yalova 153.38 316 eP PKPdf 18 37 30.2 +1.7
BUY Buyukada 153.38 317 iP PKPdf 18 37 27.6 -0.8
BUD Budapest 153.39 339 ⇓ePKPdf PKPdf 18 37 28.9 +0.7
BGKT Bogazkoy 153.41 318 eP PKPdf 18 37 27.1 -1.3
TOD Tromm 153.47 355 PKIKP PKPdf 18 37 28.3 0.0
TOD Tromm 153.47 355 PKP PKPdf 18 37 28.3 0.0
RUP Ruppelstein 153.47 358 PKIKP PKPdf 18 37 28.7 +0.3
RUP Ruppelstein 153.47 358 PKP PKPdf 18 37 28.7 +0.3
ALFC Alevga 153.50 303 P PKPdf 18 37 29.8 +0.9
comp=Z,36nm,0.7s
CTYL Yal??k??y-??at 153.53 319 eP PKPdf 18 37 27.5 -1.1
GERES GERESS Array B 153.53 348 PKP PKPdf 18 37 25.8 -2.7
comp=Z,11nm,0.9s,baz=43,slow=2.7,SNR=51
GERES GERESS Array B 153.53 348 PKP PKPdf 18 37 25.8 -2.7
WLF Walferdange 153.54 359 PKP PKPdf 18 37 29.0 +0.6
WLF Walferdange 153.54 359 ePKIKP PKPdf 18 37 28.7 +0.3
WLF MLR MLR
comp=Z,183μm,21.0s
WLF Walferdange 153.54 359 ePKPdf PKPdf 18 37 28.7 +0.3
WLF LR LR
comp=Z,183μm,21.0s
CTKS Kestanelik-??a 153.54 318 eP PKPdf 18 37 28.9 +0.2
GEMT Gemlik 153.57 316 eP PKPdf 18 37 27.8 -0.9
SHUT Suhut-Afyon 153.63 311 eP PKPdf 18 37 29.1 +0.1
ELBA Catalca 153.64 318 iP PKPdf 18 37 28.4 -0.4
PKSG 153.67 340 ⇑ePKPdf PKPdf 18 37 28.3 -0.3
ALT Altintas 153.69 313 eP PKPdf 18 37 30.4 +1.3
ALT Altintas 153.69 313 iP PKPdf 18 37 28.2 -0.9
ARMT Armutlu 153.71 317 eP PKPdf 18 37 30.0 +1.1
PKS7 Kunszentmiklos 153.72 338 ePKPdf PKPdf 18 37 29.8 +1.1
SZH Strazhica 153.72 325 iP PKPdf 18 37 28.4 -0.5
CSKK Cs˙‡kako 153.74 340 ⇓ePKPdf PKPbc 18 37 33.6 -3.0
AKMC Akamas 153.75 303 P PKPdf 18 37 29.8 +0.6
ULDT Uludag 153.77 316 iP PKPdf 18 37 25.0 -4.3
PPCY Paphos 153.79 303 P PKPdf 18 37 29.8 +0.6
BST Brest 153.80 14 PKP PKPdf 18 37 28.3 -0.5
BST Brest 153.80 14 PKP PKPdf 18 37 28.3 -0.5
KTD Kalmit 153.80 356 PKIKP PKPdf 18 37 30.1 +1.3
KTD Kalmit 153.80 356 PKP PKPdf 18 37 30.1 +1.3
MDNY Mudanya-Bursa 153.80 316 eP PKPdf 18 37 28.5 -0.6
PKST T˜˜s 153.90 340 ⇑ePKPdf PKPdf 18 37 28.4 -0.6
JMB Yambol 153.91 323 P PKPdf 18 37 27.4 -1.7
JMB Yambol 153.91 323 iP PKPdf 18 37 29.6 +0.5
CONA Conrad Observa 153.91 344 iP PKPdf 18 37 28.6 -0.5
CONA Conrad Observa 153.91 344 i PKPdf PKPdf 18 37 28.6 -0.5
comp=Z,45μm,8.2s,SNR=64
TVSB Tavsanli 153.92 314 eP PKPdf 18 37 27.1 -2.3
ROSF Rostrenen 153.94 13 ⇑iPKIKP PKPdf 18 37 29.1 +0.1
comp=Z,960nm,1.8s
ROSF Rostrenen 153.94 13 ⇑iPKIKP PKPdf 18 37 29.1 +0.1
ROSF Rostrenen 153.94 13 ⇑iPKPdf PKPdf 18 37 29.1 +0.1
SOP Sopron 153.95 343 ⇓ePKPdf PKPdf 18 37 29.5 +0.5
PKS6 Bocsa 153.97 337 ePKPdf PKPdf 18 37 29.4 +0.3
ISP Isparta 153.99 310 eP PKPdf 18 37 29.9 +0.4
ISP Isparta 153.99 310 ⇑PKIKP PKPbc 18 37 35.7 -1.9
ISP Isparta 153.99 310 P PKPdf 18 37 28.1 -1.5
ISP Isparta 153.99 310 ePKPdf PKPdf 18 37 29.8 +0.2
ISP LR LR
comp=Z,191μm,22.0s
ISP Isparta 153.99 310 ⇑iP PKPbc 18 37 35.7 -1.9
BZS Buzias 154.00 333 ⇑PKIKP PKPdf 18 37 28.9 -0.3
BZS Buzias 154.00 333 ⇑iP PKPdf 18 37 28.9 -0.3
FLN La Foliniere 154.02 9 ⇑iPKIKP PKPdf 18 37 29.2 +0.1
comp=Z,1μm,1.6s
FLN eR
comp=Z,322μm,22.5s
FLN La Foliniere 154.02 9 ⇑iPKIKP PKPdf 18 37 29.2 +0.1
FLN La Foliniere 154.02 9 ⇑iPKPdf PKPdf 18 37 29.2 +0.1
CRLT Corlu 154.07 319 eP PKPdf 18 37 30.4 +1.0
PVL Pavlikeni 154.08 325 iP PKPdf 18 37 29.4 +0.1
GDZ Gediz 154.10 313 iP PKPdf 18 37 28.8 -0.9
BCK Bucak 154.11 309 eP PKPdf 18 37 28.9 -0.8
LANF Langenberg 154.16 356 PKIKP PKPdf 18 37 29.5 +0.2
LANF Langenberg 154.16 356 PKP PKPdf 18 37 29.5 +0.2
LANF Langenberg 154.16 356 PKP PKPdf 18 37 29.5 +0.2
SGMF Saint Gilles 154.16 12 ⇑iPKIKP PKPdf 18 37 29.2 -0.1
SGMF Saint Gilles 154.16 12 ⇑iPKIKP PKPdf 18 37 29.2 -0.1
SGMF Saint Gilles 154.16 12 ⇑iPKPdf PKPdf 18 37 29.2 -0.1
PKS2 Kecel 154.18 338 ⇓ePKPdf PKPdf 18 37 31.0 +1.6
EDRB Edirne 154.22 321 eP PKPdf 18 37 28.9 -0.7
LDF La Druitiere 154.24 8 ⇑iPKIKP PKPdf 18 37 29.5 +0.1
LDF La Druitiere 154.24 8 ⇑iPKIKP PKPdf 18 37 29.5 +0.1
LDF La Druitiere 154.24 8 ⇑iPKPdf PKPdf 18 37 29.5 +0.1
STU Stuttgart 154.26 354 ePKIKP PKPdf 18 37 29.4 0.0
STU Stuttgart 154.26 354 ePKPdf PKPdf 18 37 29.4 0.0
TKR Tekirdag 154.28 319 eP PKPdf 18 37 28.5 -1.2
ANTB Antalya 154.30 308 eP PKPdf 18 37 26.4 -3.4
GRR Gorron 154.33 10 ⇑iPKIKP PKPdf 18 37 29.8 +0.3
GRR Gorron 154.33 10 ⇑iPKIKP PKPdf 18 37 29.8 +0.3
GRR Gorron 154.33 10 ⇑iPKPdf PKPdf 18 37 29.8 +0.3
QUIF Quistinic 154.36 13 ⇑iPKIKP PKPdf 18 37 29.6 0.0
comp=Z,2μm,1.9s
QUIF Quistinic 154.36 13 ⇑iPKIKP PKPdf 18 37 29.6 0.0
QUIF Quistinic 154.36 13 ⇑iPKPdf PKPdf 18 37 29.6 0.0
MOA Molln 154.36 346 iP PKPdf 18 37 28.9 -0.7
MOA Molln 154.36 346 i PKPdf PKPdf 18 37 28.9 -0.7
comp=Z,43μm,8.1s,SNR=42
BNT Bandirma 154.42 317 eP PKPdf 18 37 31.6 +1.6
PKS9 Tamasi 154.42 339 ePKPdf PKPdf 18 37 31.1 +1.4
KHAL Karahalli 154.45 312 iP PKPdf 18 37 29.7 -0.5
KORT Korkueli 154.48 308 iP PKPdf 18 37 29.6 -0.7

DURS Dursunbey 154.49 315 iP PKPdf 18 37 29.0 -1.1
ARSA Arzberg 154.62 344⇑iP PKPdf 18 37 28.4 -1.7
ARSA Arzberg 154.62 344⇑iPKPdf PKPdf 18 37 28.4 -1.7
comp=Z,99μm,12.3s,SNR=16
PKSM Moragy 154.62 338 ⇑PKIKP PKPdf 18 37 30.8 +0.8
PKSM Moragy 154.62 338⇑iP PKPdf 18 37 30.8 +0.8
PKSM Moragy 154.62 338⇓ePKPdf PKPdf 18 37 29.2 -0.8
DEMI Demirci 154.63 314 iP PKPdf 18 37 29.4 -0.9
PAGF Fort de Pagny 154.65 360⇑iPKIKP PKPdf 18 37 30.4 +0.4
comp=Z,392nm,1.4s
PAGF Fort de Pagny 154.65 360⇑iPKPdf PKPdf 18 37 30.4 +0.4
SART Tekirdag 154.68 319 iP PKPdf 18 37 29.1 -1.3
RKY Sarkoy-Tekirda 154.68 319 eP PKPdf 18 37 30.8 +0.5
MEZF Maizieres J'vi 154.70 1⇑iPKIKP PKPdf 18 37 30.4 +0.4
comp=Z,1μm,1.4s
MEZF Maizieres J'vi 154.70 1⇑iPKPdf PKPdf 18 37 30.4 +0.4
GONE Gonen-Balikesi 154.74 317 eP PKPdf 18 37 29.8 -0.6
CDF Champ du Feu 154.75 357⇑iPKIKP PKPdf 18 37 30.0 -0.3
CDF Champ du Feu 154.75 357⇑iPKIKP PKPdf 18 37 30.0 -0.3
CDF Champ du Feu 154.75 357⇑iPKPdf PKPdf 18 37 30.0 -0.3
DIM Dimitrovgrad 154.76 323 iP PKPdf 18 37 29.6 -0.7
BFO Black Forest 154.77 355 ePKIKP PKPdf 18 37 29.7 -0.5
BFO MLR MLR
comp=Z,120μm,20.0s
BFO Black Forest 154.77 355 ePKPdf PKPdf 18 37 29.7 -0.5
BFO LR LR
comp=Z,120μm,20.0s
KRBG Karabiga-Canak 154.78 318 eP PKPdf 18 37 29.8 -0.6
MPEP Malo Peshtene 154.79 327 iP PKPdf 18 37 29.9 -0.5
BALB Balikesir 154.85 316 eP PKPdf 18 37 30.0 -0.5
ELL Elmali 154.91 308 eP PKPdf 18 37 31.6 +0.7
GOLH Golhisar 154.94 310 iP PKPdf 18 37 30.9 0.0
KULA Kula-Manisa 154.94 313 eP PKPdf 18 37 30.5 -0.3
ECH Echery 154.95 357 ePKIKP PKPdf 18 37 29.7 -0.7
ECH MLR MLR
comp=Z,158μm,22.0s
ECH Echery 154.95 357 ePKPdf PKPdf 18 37 29.7 -0.7
ECH LR LR
comp=Z,158μm,22.0s
ECH Echery 154.95 357 PKP PKPdf 18 37 30.1 -0.4
BALY Balya 154.96 316 iP PKPdf 18 37 29.4 -1.4
SPAK Spaichingen-Ko 154.96 355 PKP PKPdf 18 37 30.4 -0.1
THEF They Montfort 154.98 359 PKIKP PKPdf 18 37 30.6 +0.1
THEF They Montfort 154.98 359 PKP PKPdf 18 37 30.6 +0.1
THEF They Montfort 154.98 359 PKP PKPdf 18 37 30.6 +0.1
BEHE Becsehely 154.99 341⇓ePKPdf PKPdf 18 37 30.7 +0.2
LIBD Limburg 155.00 357 PKIKP PKPdf 18 37 31.4 +0.9
LIBD Limburg 155.00 357 PKP PKPdf 18 37 31.4 +0.9
SFTF Sexfontaines 155.00 1⇑iPKIKP PKPdf 18 37 30.8 +0.3
comp=Z,1μm,1.2s
SFTF Sexfontaines 155.00 1⇑iPKPdf PKPdf 18 37 30.8 +0.3
RHK3 Tenkes 155.04 338⇑ePKPdf PKPdf 18 37 30.2 -0.4
DENT Denizli 155.07 311 eP PKPdf 18 37 31.2 +0.2
DNZL Cakiroluk 155.09 311 iP PKPdf 18 37 30.9 -0.3
KDZ Kurdzhali 155.10 322 iP PKPdf 18 37 30.2 -0.6
LPK Lapseki 155.12 319 eP PKPdf 18 37 29.1 -1.8
PGB Panagyurishte 155.15 326 iP PKPdf 18 37 30.2 -0.8
KOGS Kog 155.16 342 iPKPdf PKPdf 18 37 28.7 -2.1
KOGS ePP PP 18 41 35.2 +4.2
PLD Plovdiv 155.18 324 P PKPdf 18 37 29.2 -1.7
PLD Plovdiv 155.18 324 iP PKPdf 18 37 29.9 -1.0
HAU Haudompre 155.19 358⇑iPKIKP PKPdf 18 37 30.8 0.0
comp=Z,629nm,1.5s
HAU eR
comp=Z,267μm,21.8s
HAU Haudompre 155.19 358⇑iPKIKP PKPdf 18 37 30.8 0.0
HAU Haudompre 155.19 358⇑iPKPdf PKPdf 18 37 30.8 0.0
ALN Alexandroupoli 155.22 320 P PKPdf 18 37 29.4 -1.6
ALN Alexandroupoli 155.22 320 eP PKPdf 18 37 28.7 -2.3
FELD Feldberg im Sc 155.25 356 PKP PKPdf 18 37 30.3 -0.7
ENEZ Enez 155.26 320 eP PKPdf 18 37 31.2 +0.1
GELI Tayfur-Gelibol 155.28 319 eP PKPdf 18 37 31.2 +0.1
SOKA Soboth 155.28 344⇑iP PKPdf 18 37 29.7 -1.3
SOKA Soboth 155.28 344⇑iPKPdf PKPdf 18 37 29.7 -1.3
comp=Z,44μm,10.2s
KBA Koelnbreinsper 155.29 347⇑iPKIKP PKPdf 18 37 30.0 -1.2
KBA Koelnbreinsper 155.29 347⇑iP PKPdf 18 37 30.0 -1.2
KBA Koelnbreinsper 155.29 347⇑iPKPdf PKPdf 18 37 30.0 -1.2
comp=Z,41μm,9.6s,SNR=49
PERS Pernice 155.30 344 ePKPdf PKPdf 18 37 30.3 -0.7
PERS eSS SS 19 01 15.1 +1.1
AKHS Akhisar 155.31 315 iP PKPdf 18 37 30.0 -1.2
AKS Akhisar 155.31 315 eP PKPdf 18 37 30.5 -0.7
MOF Molkenrain 155.32 357 PKIKP PKPdf 18 37 30.8 -0.3
MOF Molkenrain 155.32 357 PKP PKPdf 18 37 30.8 -0.3
MOF Molkenrain 155.32 357 PKP PKPdf 18 37 30.8 -0.3
RETA Reutte 155.34 351⇑iP PKPdf 18 37 30.0 -1.1
RETA Reutte 155.34 351⇑iPKPdf PKPdf 18 37 30.0 -1.1
comp=Z,49μm,9.7s,SNR=29
AKAS Kas 155.35 307 iP PKPdf 18 37 31.1 -0.4
HINF Hinteralfeld 155.37 358⇑iPKIKP PKPdf 18 37 30.9 -0.2
comp=Z,464nm,1.4s
HINF Hinteralfeld 155.37 358⇑iPKIKP PKPdf 18 37 30.9 -0.2
HINF Hinteralfeld 155.37 358⇑iPKPdf PKPdf 18 37 30.9 -0.2
WATA Walderalm 155.37 350⇑iPKIKP PKPdf 18 37 30.0 -1.2
WATA Walderalm 155.37 350⇑iP PKPdf 18 37 30.0 -1.2
WATA Walderalm 155.37 350⇑iPKPdf PKPdf 18 37 30.0 -1.2
comp=Z,781nm,1.4s,SNR=19
WTTA Wattenberg 155.43 350 iPKIKP PKPdf 18 37 30.7 -0.7
WTTA Wattenberg 155.43 350 iP PKPdf 18 37 30.6 -0.7
WTTA Wattenberg 155.43 350 iPKPdf PKPdf 18 37 30.6 -0.7
comp=Z,33μm,7.3s,SNR=50
MOTA Moosalm 155.44 351⇓iPKIKP PKPdf 18 37 29.4 -1.9
MOTA Moosalm 155.44 351⇓iP PKPdf 18 37 29.4 -1.9
MOTA Moosalm 155.44 351⇓iPKPdf PKPdf 18 37 29.4 -1.9
comp=Z,719nm,1.4s,SNR=34
RZN Rozhen 155.46 323 iP PKPdf 18 37 30.8 -0.8
OBKA Obir 155.56 345 iP PKPdf 18 37 30.9 -0.6
OBKA Obir 155.56 345 iPKPdf PKPdf 18 37 30.9 -0.6
comp=Z,42μm,8.3s,SNR=11
VTS Vitosha 155.62 327 ⇑PKIKP PKPdf 18 37 31.5 -0.2
VTS Vitosha 155.62 327 P PKPdf 18 37 31.9 +0.2
VTS Vitosha 155.62 327⇑iP PKPdf 18 37 31.5 -0.2
VTS Vitosha 155.62 327 iP PKPdf 18 37 30.7 -1.0
MYKA Terra Mystica 155.65 346⇑iP PKPdf 18 37 29.1 -2.4
MYKA Terra Mystica 155.65 346⇑iPKPdf PKPdf 18 37 29.1 -2.4
comp=Z,36μm,8.5s
DAVA Damuels 155.66 353 iP PKPdf 18 37 31.3 -0.4
DAVA Damuels 155.66 353 iPKPdf PKPdf 18 37 31.3 -0.4
comp=Z,48μm,9.8s,SNR=21
BBS Basel-Blauen 155.69 357 PKIKP PKPdf 18 37 31.4 -0.1
BBS Basel-Blauen 155.69 357 PKP PKPdf 18 37 31.4 -0.1
EZN Ezine 155.72 318 eP PKPdf 18 37 31.6 -0.1
ABTA Abfaltersbach 155.77 348⇑iP PKPdf 18 37 30.0 -1.7
ABTA Abfaltersbach 155.77 348⇑iPKPdf PKPdf 18 37 30.0 -1.7
comp=Z,31μm,8.4s,SNR=60
TURN Turunc 155.79 310 iP PKPdf 18 37 31.8 -0.1
AYVA Ayvalik 155.79 317 iP PKPdf 18 37 34.1 +2.3
FETA Feichten 155.81 351 iP PKPdf 18 37 31.3 -0.6
FETA Feichten 155.81 351 iPKPdf PKPdf 18 37 31.3 -0.6
comp=Z,48μm,10.4s,SNR=69
LOMF Lomont 155.83 358 PKIKP PKPdf 18 37 31.6 -0.1
LOMF Lomont 155.83 358 PKP PKPdf 18 37 31.6 -0.1
LOMF Lomont 155.83 358 PKP PKPdf 18 37 31.6 -0.1
HYF Humbligny 155.84 5⇑iPKIKP PKPdf 18 37 32.2 +0.5
HYF Humbligny 155.84 5⇑iPKPdf PKPdf 18 37 32.2 +0.5
BOZC Bozcaada 155.87 318 iP PKPdf 18 37 30.7 -1.2
YER Yerkesik 155.89 311 eP PKPdf 18 37 31.2 -0.9
AYDN Tasoluk 155.91 312 iP PKPdf 18 37 31.2 -0.9
LOR Lormes 155.91 3⇑iPKIKP PKPdf 18 37 32.0 +0.2
comp=Z,329nm,1.2s
LOR eR
comp=Z,320μm,23.0s
LOR Lormes 155.91 3⇑iPKPdf PKPdf 18 37 32.0 +0.2
DIVS Divibare 155.91 334 P PKPdf 18 37 32.2 +0.2
LJU Ljubljana 156.00 344 iPKPdf PKPdf 18 37 31.8 -0.1
LJU ePP PP 18 41 38.8 +3.2
LJU ePPP PPP 18 45 19.1
LJU e 18 48 09.9
LJU e 18 48 20.6
LJU e 18 50 39.1
LJU e 18 54 53.9
LJU e 18 56 55.7
LJU eSS SS 19 01 22.8 +1.4
LJU e 19 02 31.2
CADS Cadrg 156.01 346 ePKPdf PKPdf 18 37 30.3 -1.7
SISC Sisak 156.01 341 iPKP PKPdf 18 37 31.9 0.0
KAVA Kavala 156.04 322 P PKPdf 18 37 30.3 -1.8
MMB Musomiste 156.06 324 iP PKPdf 18 37 31.4 -0.8
PRK Paraskevi 156.09 317 P PKPdf 18 37 29.9 -2.3
SSF Saint Saulge 156.10 3⇑iPKIKP PKPdf 18 37 32.2 +0.2
comp=Z,396nm,1.3s
SSF Saint Saulge 156.10 3⇑iPKIKP PKPdf 18 37 32.2 +0.2
SSF Saint Saulge 156.10 3⇑iPKPdf PKPdf 18 37 32.2 +0.2
DAVOX Davos/Dischmat 156.15 352 PKP PKPdf 18 37 32.2 -0.1
comp=Z,64nm,0.9s,baz=335,slow=1.2,SNR=40
DAVOX Davos/Dischmat 156.15 352 PKP PKPdf 18 37 32.2 -0.1
NVR Nevrokopi 156.16 324 P PKPdf 18 37 29.2 -3.1
MLSB Milas 156.16 311 eP PKPdf 18 37 31.6 -0.9
MFF Saint Martin d 156.18 10⇑iPKIKP PKPdf 18 37 32.2 +0.1
comp=Z,937nm,1.7s
MFF Saint Martin d 156.18 10⇑iPKIKP PKPdf 18 37 32.2 +0.1
MFF Saint Martin d 156.18 10⇑iPKPdf PKPdf 18 37 32.2 +0.1
KKB Krupnik 156.21 326 iP PKPdf 18 37 31.7 -0.6
BOJS Bojanci 156.31 343 ePKPdf PKPdf 18 37 30.3 -2.0
BOJS ePP PP 18 41 41.4 +4.0
BOJS e 18 48 44.3
BOJS e 18 52 04.3
GCAM G?zelcaml? 156.32 313 iP PKPdf 18 37 32.3 -0.2
AVF Avril sur Loir 156.36 4⇑iPKIKP PKPdf 18 37 32.3 0.0
comp=Z,250nm,1.4s
AVF Avril sur Loir 156.36 4⇑iPKIKP PKPdf 18 37 32.3 0.0
AVF Avril sur Loir 156.36 4⇑iPKPdf PKPdf 18 37 32.3 0.0
SIGR SIGRI 156.38 317 P PKPdf 18 37 31.7 -0.9
URLA Izmir 156.39 315 iP PKPdf 18 37 31.9 -0.8
ARG Arkhangelos 156.43 309 eP PKPdf 18 37 31.9 -0.9
SRS Serrai 156.47 324 P PKPdf 18 37 28.5 -4.2
TRI Trieste 156.50 345 ePKIKP PKPdf 18 37 32.3 -0.2
TRI Trieste 156.50 345 ePKPdf PKPdf 18 37 32.3 -0.2
BDRM Kayabasi 156.50 311 iP PKPdf 18 37 33.2 +0.3
TUE Stuetta 156.52 353 ePKPdf PKPdf 18 37 32.4 -0.4
TUE LR LR
comp=Z,244μm,21.0s
SMF Signal de Mont 156.53 3⇑iPKIKP PKPdf 18 37 32.6 0.0
comp=Z,381nm,1.2s
SMF Signal de Mont 156.53 3⇑iPKIKP PKPdf 18 37 32.6 0.0
SMF Signal de Mont 156.53 3⇑iPKPdf PKPdf 18 37 32.6 0.0
BGF Bois d'Agland 156.56 4⇑iPKIKP PKPdf 18 37 32.9 +0.3
comp=Z,1μm,1.9s
BGF Bois d'Agland 156.56 4⇑iPKIKP PKPdf 18 37 32.9 +0.3
BGF Bois d'Agland 156.56 4⇑iPKPdf PKPdf 18 37 32.9 +0.3
CABF La Chapelle 156.59 359⇑iPKIKP PKPdf 18 37 33.4 +0.6
comp=Z,1μm,1.4s
CABF La Chapelle 156.59 359⇑iPKIKP PKPdf 18 37 33.4 +0.6
CABF La Chapelle 156.59 359⇑iPKPdf PKPdf 18 37 33.4 +0.6
BODT Bodrum 156.60 311 eP PKPdf 18 37 31.2 -1.8
CHOS Chios island 156.73 315 eP PKPdf 18 37 31.1 -2.1
TCF Toulx Ste Croi 156.78 6⇑iPKIKP PKPdf 18 37 33.0 +0.1
TCF Toulx Ste Croi 156.78 6⇑iPKIKP PKPdf 18 37 33.0 +0.1
TCF Toulx Ste Croi 156.78 6⇑iPKPdf PKPdf 18 37 33.0 +0.1
OUR Ouranopolis 156.78 322 P PKPdf 18 37 31.0 -2.1
PLE Pljevlja 156.79 333⇑iPKP PKPdf 18 37 32.6 -0.6
SOH Sokhos 156.80 324 P PKPdf 18 37 32.1 -1.1
SOH Sokhos 156.80 324 eP PKPdf 18 37 27.9 -5.3
KNT Kendrikon 156.81 325 P PKPdf 18 37 33.7 +0.6
VAY Valandovo 156.87 326 P PKPdf 18 37 31.4 -1.7
VAY Valandovo 156.87 326 iP PKPdf 18 37 31.4 -1.7
VAY Valandovo 156.87 326 iPKP PKPdf 18 37 31.5 -1.7
NIS1 Nisyros Isl. 156.92 310 eP PKPdf 18 37 34.0 +0.6
SKO Skopje 156.95 328 P PKPdf 18 37 32.5 -0.8
SKO Skopje 156.95 328 iPKP PKPdf 18 37 33.3 0.0
IVA Berane 156.95 332⇑iPKP PKPdf 18 37 32.6 -0.8
PLG Polygyros 157.06 323 P PKPdf 18 37 31.0 -2.5
AGO Saint Agoulin 157.08 4 PKP PKPdf 18 37 33.1 -0.2
AGO Saint Agoulin 157.08 4 PKP PKPdf 18 37 33.1 -0.2
UPM Unac-Piva 157.09 334⇑iPKP PKPdf 18 37 32.6 -1.1
HORT Hortiatis 157.09 324 P PKPdf 18 37 31.0 -2.6
PVY Plav 157.15 331⇑iPKP PKPdf 18 37 32.5 -1.2
PLDF La Plantade 157.19 3 PKIKP PKPdf 18 37 33.4 -0.1
PLDF La Plantade 157.19 3 PKP PKPdf 18 37 33.4 -0.1
PLDF La Plantade 157.19 3 PKP PKPdf 18 37 33.4 -0.1
GRG Griva 157.22 325 P PKPdf 18 37 31.7 -2.0
PAIG Paliouri 157.23 321 P PKPdf 18 37 32.8 -0.9
NVLJ Novalja 157.28 342 iPKP PKPdf 18 37 32.4 -1.1
BCI Bajram Curri 157.28 331 iP PKPdf 18 37 38.2 +4.5
VERF Verneugheol 157.33 5 PKP PKPdf 18 37 33.3 -0.4
VERF Verneugheol 157.33 5 PKP PKPdf 18 37 33.3 -0.4
PYM Petit Puy Mans 157.37 4 PKIKP PKPdf 18 37 33.7 -0.1
PYM Petit Puy Mans 157.37 4 PKP PKPdf 18 37 33.7 -0.1
PYM Petit Puy Mans 157.37 4 PKP PKPdf 18 37 33.7 -0.1
NKY Niksic 157.38 333⇑iPKP PKPdf 18 37 33.0 -0.9
KARP Karpathos 157.43 308 eP PKPdf 18 37 32.8 -1.3
BRY Bratogost 157.49 334⇑iPKP PKPdf 18 37 33.1 -1.0
TTG Podgorica 157.59 332⇑iPKP PKPdf 18 37 33.3 -0.7
AOS Alonnisos 157.60 320 eP PKPdf 18 37 32.8 -1.4
BBTS Babate 157.61 108 PKP PKPdf 18 37 36.2 +1.4
comp=Z,181nm,1.0s,baz=214,slow=0.9,SNR=19
BBTS Babate 157.61 108 PKP PKPdf 18 37 36.2 +1.4
PUK Puka 157.62 331 iP PKPdf 18 37 34.3 +0.1
PHP Peshkopia 157.65 329 iP PKPdf 18 37 32.5 -1.7
PHP Peshkopia 157.65 329 P PKPdf 18 37 31.4 -2.8
LPL La Plagne 157.67 358⇑iPKIKP PKPdf 18 37 35.0 +0.6
comp=Z,401nm,1.3s
LPL La Plagne 157.67 358⇑iPKIKP PKPdf 18 37 35.0 +0.6
LPL La Plagne 157.67 358⇑iPKPdf PKPdf 18 37 35.0 +0.6
RJF Les Rejaudoux 157.68 7⇑iPKIKP PKPdf 18 37 34.2 +0.1
comp=Z,134nm,1.1s
RJF eR
comp=Z,367μm,21.8s
RJF Les Rejaudoux 157.68 7⇑iPKIKP PKPdf 18 37 34.2 +0.1
RJF Les Rejaudoux 157.68 7⇑iPKPdf PKPdf 18 37 34.2 +0.1
LPG La Plagne 157.69 358⇑iPKIKP PKPdf 18 37 35.0 +0.5
LPG La Plagne 157.69 358⇑iPKIKP PKPdf 18 37 35.0 +0.5
LPG La Plagne 157.69 358⇑iPKPdf PKPdf 18 37 35.0 +0.5
BIA Bitola 157.72 327 iPKP PKPdf 18 37 32.8 -1.5
LIT Litokhoron 157.78 323 P PKPdf 18 37 31.4 -3.0
LIT Litokhoron 157.78 323 eP PKPdf 18 37 31.9 -2.5
APE Apeiranthos 157.81 313 eP PKPdf 18 37 31.6 -2.9
APE Apeiranthos 157.81 313 eP PKPdf 18 37 32.2 -2.4
APE Apeiranthos 157.81 313⇑iP pPKPdf 18 37 45.7 +0.9
BUM Brajici-Budva 157.85 333⇑iPKP PKPdf 18 37 33.6 -0.9
STON Ston 157.85 335 iPKP PKPdf 18 37 32.8 -1.6
FNA Florina 157.87 326 P PKPdf 18 37 31.4 -3.1
PMOZ Porto Moniz, M 157.87 59 ePKPdf PKPdf 18 37 34.8 -0.1
PMOZ Porto Moniz, M 157.87 59 ePP PP 18 41 52.8 +5.2
PMOZ eLR LR 19 32 45.5
comp=Z,192μm,20.0s
XOR Xorichti 157.88 321 P PKPdf 18 37 31.4 -3.2
HCY Herceg Novi 157.89 334⇑iPKP PKPdf 18 37 33.7 -0.7
LBL Lubilhac 157.91 4 PKIKP PKPdf 18 37 34.5 0.0
LBL Lubilhac 157.91 4 PKP PKPdf 18 37 34.5 0.0
LBL Lubilhac 157.91 4 PKP PKPdf 18 37 34.5 0.0
SSB Saint Sauveur 157.92 2 ePKIKP PKPdf 18 37 34.7 +0.3
SSB MLR MLR
comp=Z,238μm,22.0s
SSB Saint Sauveur 157.92 2 ePKPdf PKPdf 18 37 34.7 +0.3
SSB LR LR
comp=Z,181μm,22.0s
SSB Saint Sauveur 157.92 2 PKP PKPdf 18 37 33.6 -0.8
LFF La Frestale 157.94 9⇑iPKIKP PKPdf 18 37 34.7 +0.3
LFF La Frestale 157.94 9⇑iPKIKP PKPdf 18 37 34.7 +0.3
LFF La Frestale 157.94 9⇑iPKPdf PKPdf 18 37 34.7 +0.3
GRN Grenoble 157.97 359 PKIKP PKPdf 18 37 34.0 -0.6
GRN Grenoble 157.97 359 PKP PKPdf 18 37 34.0 -0.6
GRN Grenoble 157.97 359 PKP PKPdf 18 37 34.0 -0.6
ULC Ulcinj 157.97 332⇑iPKP PKPdf 18 37 33.8 -0.8
GDM Grand'Maison 158.00 359 PKP PKPdf 18 37 35.3 +0.6
GDM Grand'Maison 158.00 359 PKP PKPdf 18 37 35.3 +0.6
PGAV Gavieira, Arco 158.04 28 ePKPdf PKPdf 18 37 34.4 -0.4
PGAV Gavieira, Arco 158.04 28 ePP PP 18 41 52.3 +5.0
PGAV eSS SS 19 01 54.1 +10
PGAV eLR LR 19 31 09.0
comp=Z,163μm,22.0s
MRKA Markates 158.08 319 P PKPdf 18 37 32.5 -2.3
CAF Calviac 158.11 6⇑iPKIKP PKPdf 18 37 35.1 +0.4
comp=Z,199nm,1.1s
CAF Calviac 158.11 6⇑iPKIKP PKPdf 18 37 35.1 +0.4
CAF Calviac 158.11 6⇑iPKPdf PKPdf 18 37 35.1 +0.4
ERET Eretria 158.11 318 P PKPdf 18 37 31.7 -3.2
BNI Bardonecchia 158.13 358 ePKIKP PKPdf 18 37 35.2 +0.4
BNI Bardonecchia 158.13 358 ePKPdf PKPdf 18 37 35.2 +0.4
BNI LR LR
comp=Z,452μm,22.0s
PMAR Madeira 158.13 59 ePKPdf PKPdf 18 37 36.4 +1.1
PMAR Madeira 158.13 59 ePP PP 18 41 49.5 +0.4
FUL Funchal 158.18 59 ePKPdf PKPdf 18 37 35.4 +0.3
FUL Funchal 158.18 59 ePP PP 18 41 51.1 +2.0
TIR Tirane 158.18 330 iP PKPdf 18 37 33.0 -1.8
TIR Tirane 158.18 330 ePKIKP PKPdf 18 37 36.1 +1.3
TIR MLR MLR
comp=Z,236μm,22.0s
TIR Tirane 158.18 330 ePKPdf PKPdf 18 37 36.1 +1.3
TIR LR LR
comp=Z,236μm,22.0s
ORIF Oris-en-Rattie 158.29 359⇑iPKIKP PKPdf 18 37 35.4 +0.4
comp=Z,362nm,1.3s
ORIF eR
comp=Z,262μm,20.2s
ORIF Oris-en-Rattie 158.29 359⇑iPKIKP PKPdf 18 37 35.4 +0.4
ORIF Oris-en-Rattie 158.29 359⇑iPKPdf PKPdf 18 37 35.4 +0.4
NEST Nestorio 158.31 326 P PKPdf 18 37 33.5 -1.6
ZKR Zakros 158.32 308 P PKPdf 18 37 34.6 -0.6
ZKR Zakros 158.32 308 eP PKPdf 18 37 31.5 -3.7
PTL Penteli 158.32 317 eP PKPdf 18 37 32.8 -2.3
VIVF Saint-Julien-l 158.34 1⇑iPKIKP PKPdf 18 37 35.5 +0.5
comp=Z,430nm,1.4s
VIVF Saint-Julien-l 158.34 1⇑iPKIKP PKPdf 18 37 35.5 +0.5
VIVF Saint-Julien-l 158.34 1⇑iPKPdf PKPdf 18 37 35.5 +0.5
PCAB Cabril 158.35 28 ePKPdf PKPdf 18 37 35.8 +0.7
PCAB Cabril 158.35 28 ePP PP 18 41 47.8 -1.2
THL Klokotos Trika 158.41 323 P PKPdf 18 37 32.1 -3.0
THL Klokotos Trika 158.41 323 eP PKPdf 18 37 30.9 -4.2
ATAL Atalanti 158.42 320 P PKPdf 18 37 32.8 -2.4
MBDF Montbardon 158.45 357⇑iPKIKP PKPdf 18 37 35.5 +0.3
comp=Z,330nm,1.3s
MBDF Montbardon 158.45 357⇑iPKIKP PKPdf 18 37 35.5 +0.3
MBDF Montbardon 158.45 357⇑iPKPdf PKPdf 18 37 35.5 +0.3
ATH Athens Observa 158.46 317 eP PKPdf 18 37 34.5 -0.7
PMPST Porto Santo, M 158.46 58 ePKPdf PKPdf 18 37 36.8 +1.4
PMPST Porto Santo, M 158.46 58 ePP PP 18 41 57.9 +7.3
LKR Lokris 158.46 320 P PKPdf 18 37 33.9 -1.3
PMPS Porto Santo 158.47 58 ePKPdf PKPdf 18 37 37.8 +2.4
PMPS Porto Santo 158.47 58 ePP PP 18 41 50.3 -0.3
AXAR Agios Charalam 158.59 321 P PKPdf 18 37 34.3 -1.1
AGG Agios Georgios 158.61 322 P PKPdf 18 37 31.7 -3.8
AGG Agios Georgios 158.61 322 eP PKPdf 18 37 29.9 -5.6
VLC Villacollemand 158.65 350 ePKPdf PKPdf 18 37 33.2 -2.1
VLC LR LR
comp=Z,188μm,20.0s
NPS Neapolis 158.68 309 P PKPdf 18 37 32.5 -3.1
SURF Saint Ours 158.70 357 PKP PKPdf 18 37 36.2 +0.6
SURF Saint Ours 158.70 357 PKP PKPdf 18 37 36.2 +0.6
POLO Lamas de Olo 158.72 28 ePKPdf PKPdf 18 37 36.2 +0.6
POLO Lamas de Olo 158.72 28 ePP PP 18 41 55.1 +4.0
MAKR Makrakomi, Fth 158.73 322 P PKPdf 18 37 33.9 -1.7
NAIG Nisos Aigina 158.73 317 eP PKPdf 18 37 34.4 -1.2
PBRG Braganca 158.81 26 ePKPdf PKPdf 18 37 36.0 +0.4
PBRG Braganca 158.81 26 ePP PP 18 41 54.8 +3.4
LAST Lasithi 158.83 309 P PKPdf 18 37 35.0 -0.9
LAST Lasithi 158.83 309 eP PKPdf 18 37 34.4 -1.5
PVRL Vila Real 158.84 28 ePKPdf PKPdf 18 37 36.7 +1.0
PVRL Vila Real 158.84 28 ePP PP 18 41 53.3 +1.7
LTK Loutraki 158.89 319 eP PKPdf 18 37 33.6 -2.2
DSF Desfina 158.90 320 P PKPdf 18 37 33.5 -2.4
JAN Janina 158.97 325 P PKPdf 18 37 33.5 -2.4
JAN Janina 158.97 325 eP PKPdf 18 37 36.0 +0.1
EVR Evrytania 158.98 322 P PKPdf 18 37 33.2 -2.8
EVR Evrytania 158.98 322 eP PKPdf 18 37 36.0 0.0
DID Didima 159.04 317 P PKPdf 18 37 34.3 -1.7
DID Didima 159.04 317 eP PKPdf 18 37 35.1 -0.9
DIDY Didyma 159.08 317 P PKPdf 18 37 34.6 -1.6
LASF Ste Croix 159.09 3⇑iPKIKP PKPdf 18 37 36.4 +0.5
comp=Z,516nm,1.4s
LASF Ste Croix 159.09 3⇑iPKPdf PKPdf 18 37 36.4 +0.5
TOUF Mont Tournerai 159.14 356 PKIKP PKPdf 18 37 36.1 0.0
TOUF Mont Tournerai 159.14 356 PKP PKPdf 18 37 36.1 0.0
TOUF Mont Tournerai 159.14 356 PKP PKPdf 18 37 36.1 0.0
KALE Kalithea 159.14 321 P PKPdf 18 37 34.6 -1.5
KALE Kalithea 159.14 321 eP PKPdf 18 37 36.0 -0.1
AUTN L'Aution 159.15 356 PKIKP PKPdf 18 37 36.2 0.0
AUTN L'Aution 159.15 356 PKP PKPdf 18 37 36.2 0.0
AUTN L'Aution 159.15 356 PKP PKPdf 18 37 36.2 0.0
IDI Anoyia 159.18 310 P PKPdf 18 37 35.7 -0.6
IDI Anoyia 159.18 310 ePKPdf PKPdf 18 37 35.5 -0.8
IDI Anoyia 159.18 310 eP PKPdf 18 37 34.4 -1.9
TRIZ Trizonia 159.20 321 P PKPdf 18 37 35.3 -0.8
TRIZ Trizonia 159.20 321 eP PKPdf 18 37 38.4 +2.3
PVIS Viseu 159.21 30 ePKPdf PKPdf 18 37 37.2 +1.1
PVIS Viseu 159.21 30 ePP PP 18 41 54.8 +1.1
MVO Moncorvo 159.22 27 ePKPdf PKPdf 18 37 35.8 -0.4
MVO Moncorvo 159.22 27 ePP PP 18 41 58.9 +5.1
MVO eLR LR 19 34 02.6
comp=Z,159μm,22.0s
SMRF Simiane la Rot 159.23 360⇑iPKIKP PKPdf 18 37 36.9 +0.9
comp=Z,750nm,1.6s
SMRF Simiane la Rot 159.23 360⇑iPKPdf PKPdf 18 37 36.9 +0.9
SRN Sarande 159.25 327 iP PKPdf 18 37 34.1 -2.0
SRN Sarande 159.25 327 P PKPdf 18 37 33.2 -2.9
EFP Efpalio 159.25 321 P PKPdf 18 37 35.0 -1.2
EFP Efpalio 159.25 321 eP PKPdf 18 37 37.2 +1.0
MVIF Mont Vial 159.26 356 PKIKP PKPdf 18 37 36.0 -0.2
MVIF Mont Vial 159.26 356 PKP PKPdf 18 37 36.0 -0.2
MVIF Mont Vial 159.26 356 PKP PKPdf 18 37 36.0 -0.2
SBF Sospel 159.28 356⇑iPKIKP PKPdf 18 37 35.8 -0.3
comp=Z,315nm,1.1s
SBF Sospel 159.28 356⇑iPKIKP PKPdf 18 37 35.8 -0.3
SBF Sospel 159.28 356⇑iPKPdf PKPdf 18 37 35.8 -0.3
ORDF Ordiarp 159.32 13 PKP PKPdf 18 37 36.6 +0.5
ORDF Ordiarp 159.32 13 PKP PKPdf 18 37 36.6 +0.5
GUR Goura 159.32 319 P PKPdf 18 37 35.3 -1.1
GUR Goura 159.32 319 eP PKPdf 18 37 36.7 +0.3
PSA1 Psathopyrgos 159.34 321 eP PKPdf 18 37 32.8 -3.4
IGT Igoumenitsa 159.34 326 P PKPdf 18 37 35.3 -1.0
LAKA Lakka 159.34 320 P PKPdf 18 37 34.6 -1.7
LAKA Lakka 159.34 320 eP PKPdf 18 37 35.1 -1.2
SJPF Ste Jean 159.35 14⇑iPKIKP PKPdf 18 37 36.9 +0.7
comp=Z,2μm,1.9s
SJPF Ste Jean 159.35 14⇑iPKIKP PKPdf 18 37 36.9 +0.7
SJPF Ste Jean 159.35 14⇑iPKPdf PKPdf 18 37 36.9 +0.7
SIVA Sivas 159.38 309 P PKPdf 18 37 35.7 -0.7
SIVA Sivas 159.38 309 eP PKPdf 18 37 35.6 -0.8
UPR University Cam 159.42 321 eP PKPdf 18 37 34.0 -2.4
CALN Calern 159.42 357 PKIKP PKPdf 18 37 36.4 0.0
CALN Calern 159.42 357 PKP PKPdf 18 37 36.4 0.0
CALN Calern 159.42 357 PKP PKPdf 18 37 36.4 0.0
LARF Larrau 159.47 13 PKP PKPdf 18 37 37.1 +0.7
LARF Larrau 159.47 13 PKP PKPdf 18 37 37.1 +0.7
KEK Kerkira 159.47 327 P PKPdf 18 37 33.9 -2.5
REYF Montagne du Re 159.56 12 PKP PKPdf 18 37 37.1 +0.6
REYF Montagne du Re 159.56 12 PKP PKPdf 18 37 37.1 +0.6
VAM Vamos 159.61 311 P PKPdf 18 37 36.1 -0.6
VAM Vamos 159.61 311 eP PKPdf 18 37 36.0 -0.6
FRF La Foret Royal 159.62 357⇑iPKIKP PKPdf 18 37 36.4 -0.1
comp=Z,713nm,1.7s
FRF La Foret Royal 159.62 357⇑iPKIKP PKPdf 18 37 36.4 -0.1
FRF La Foret Royal 159.62 357⇑iPKPdf PKPdf 18 37 36.4 -0.1
MTE Manteigas 159.62 29 ePKPdf PKPdf 18 37 37.3 +0.7
MTE Manteigas 159.62 29 ePP PP 18 42 00.7 +4.7
MTE eSS SS 19 02 11.6 +11
MTE eLR LR 19 31 59.8
comp=Z,176μm,22.0s
MTE Manteigas 159.62 29 ePKPdf PKPdf 18 37 37.0 +0.4
MTE LR LR
comp=Z,190μm,21.0s
VLX Vlachokerasia 159.66 318 P PKPdf 18 37 35.3 -1.5
VLX Vlachokerasia 159.66 318 eP PKPdf 18 37 37.1 +0.3
LABF Labassere 159.67 11 PKP PKPdf 18 37 37.3 +0.7
LABF Labassere 159.67 11 PKP PKPdf 18 37 37.3 +0.7
MTLF Montolieu 159.69 7⇑iPKIKP PKPdf 18 37 36.8 +0.2
comp=Z,392nm,1.3s
MTLF Montolieu 159.69 7⇑iPKIKP PKPdf 18 37 36.8 +0.2
MTLF Montolieu 159.69 7⇑iPKPdf PKPdf 18 37 36.8 +0.2
ETSF Etsaut 159.70 13⇑iPKIKP PKPdf 18 37 37.6 +0.9
comp=Z,267nm,1.2s
ETSF Etsaut 159.70 13⇑iPKIKP PKPdf 18 37 37.6 +0.9
ETSF Etsaut 159.70 13⇑iPKPdf PKPdf 18 37 37.6 +0.9
VLI Veliai 159.71 316 P PKPdf 18 37 35.0 -1.8
VLI Veliai 159.71 316 eP PKPdf 18 37 38.0 +1.2
AQU L'Aquila 159.73 343 ePKPdf PKPdf 18 37 34.1 -2.6
AQU LR LR
comp=Z,529μm,21.0s
AQU L'Aquila 159.73 343⇓iP PKPdf 18 37 39.0 +2.3
EPF Esparros 159.74 11⇑iPKIKP PKPdf 18 37 37.2 +0.5
comp=Z,757nm,1.5s
EPF Esparros 159.74 11⇑iPKIKP PKPdf 18 37 37.2 +0.5
EPF Esparros 159.74 11⇑iPKPdf PKPdf 18 37 37.2 +0.5
RLS Riolos of Patr 159.76 321 P PKPdf 18 37 36.4 -0.4
RLS Riolos of Patr 159.76 321 eP PKPdf 18 37 36.0 -0.8
KARN Karanos 159.80 311 P PKPdf 18 37 36.4 -0.6
KARN Karanos 159.80 311 eP PKPdf 18 37 36.8 -0.1
VIEF Viey 159.82 12 PKP PKPdf 18 37 37.9 +1.1
VIEF Viey 159.82 12 PKP PKPdf 18 37 37.9 +1.1
PTOM Tomar 159.83 32 ePKPdf PKPdf 18 37 37.9 +1.1
PTOM Tomar 159.83 32 ePP PP 18 42 04.2 +7.1

LMR	La Mourre	159.85	358	⇑ *i*PKIKP	PKPdf	18 37 36.7	0.0
	comp=Z,718nm,1.7s						
LMR	La Mourre	159.85	358	⇑ *i*PKIKP	PKPdf	18 37 36.7	0.0
LMR	La Mourre	159.85	358	⇑ *i*PKPdf	PKPdf	18 37 36.7	0.0
PMAFR	Mafra	159.88	35	*e*PKPdf	PKPdf	18 37 37.8	+0.9
PMAFR	Mafra	159.88	35	*e*PP	PP	18 42 04.5	+7.0
MLS	Moulis	159.93	9	PKP	PKPdf	18 37 37.6	+0.8
MLS	Moulis	159.93	9	PKP	PKPdf	18 37 37.6	+0.8
RESF	Ens	159.95	11	PKP	PKPdf	18 37 38.3	+1.3
RESF	Ens	159.95	11	PKP	PKPdf	18 37 38.3	+1.3
AMT	Artemida-Makis	159.97	319	P	PKPdf	18 37 35.5	-1.6
AMT	Artemida-Makis	159.97	319	*e*P	PKPdf	18 37 37.9	+0.8
GVD	Gavdhos	159.98	310	*e*PKPdf	PKPdf	18 37 36.4	-0.8
GVD	Gavdhos	159.98	310	*e*P	PKPdf	18 37 32.7	-4.4
ITM	Ithomi	160.06	318	P	PKPdf	18 37 36.4	-0.8
ITM	Ithomi	160.06	318	*e*P	PKPdf	18 37 34.8	-2.4
DYR	Agios Nikonas	160.07	317	P	PKPdf	18 37 35.3	-1.9
DYR	Agios Nikonas	160.07	317	*e*P	PKPdf	18 37 37.3	+0.1
ALMR	Almeirim	160.10	34	*e*P	PKPdf	18 37 36.6	-0.6
ALMR	Almeirim	160.10	34	*e*P	PKPdf	18 37 36.6	-0.6
ALMR	Almeirim	160.10	34	*e*PKIKP	PKPdf	18 37 36.5	-0.6
PCBR	Castelo Branco	160.10	30	*e*PKPdf	PKPdf	18 37 38.1	+1.0
PCBR	Castelo Branco	160.10	30	*e*PP	PP	18 42 02.2	+3.7
LRDF	Laroque-de-Fa	160.13	6	PKP	PKPdf	18 37 37.6	+0.5
LRDF	Laroque-de-Fa	160.13	6	PKP	PKPdf	18 37 37.6	+0.5
LIS	Lisbon	160.13	35	*e*P	PKPdf	18 37 36.4	-0.7
LIS				*e*PP	PP	18 41 58.6	-0.2
LIS				*e*SS	SS	19 02 07.2	+0.9
LIS				AMS	AMS	19 58 41.9	
	comp=N,204μm,23.5s						
LIS	Lisbon	160.13	35	*e*P	PKPdf	18 37 36.4	-0.7
LIS	Lisbon	160.13	35	*e*PKIKP	PKPdf	18 37 36.4	-0.7
LIS				*e*		18 41 58.5	
LIS				*e*SS	SS	19 02 07.2	+0.9
SALF	Salau	160.14	9	PKP	PKPdf	18 37 37.6	+0.4
SALF	Salau	160.14	9	PKP	PKPdf	18 37 37.6	+0.4
VLS	Valsamata	160.18	323	P	PKPdf	18 37 36.1	-1.2
VLS	Valsamata	160.18	323	*e*P	PKPdf	18 37 36.6	-0.7
CARF	Carcanieres	160.30	7	PKP	PKPdf	18 37 37.8	+0.4
CARF	Carcanieres	160.30	7	PKP	PKPdf	18 37 37.8	+0.4
PMTG	Montargil	160.34	33	*e*PKPdf	PKPdf	18 37 37.5	+0.1
PMTG	Montargil	160.34	33	*e*PP	PP	18 42 04.5	+4.6
PYL	PYLOS	160.36	318	P	PKPdf	18 37 36.4	-1.1
PYL	PYLOS	160.36	318	*e*P	PKPdf	18 37 37.1	-0.4
PLML	Palmela	160.38	35	*e*PKPdf	PKPdf	18 37 39.2	+1.7
LIC	Lamto	160.39	148	⇑ *i*PKIKP	PKPdf	18 37 36.4	-1.8
	comp=N,1μm,1.2s						
LIC				*e*R			
	comp=N,408μm,21.8s						
LIC	Lamto	160.39	148	⇑ *i*PKPdf	PKPdf	18 37 36.4	-1.8
PGF	Pioggiola	160.43	352	⇑ *i*PKIKP	PKPdf	18 37 37.3	-0.2
	comp=N,975nm,1.6s						
PGF	Pioggiola	160.43	352	⇑ *i*PKIKP	PKPdf	18 37 37.3	-0.2
PGF	Pioggiola	160.43	352	⇑ *i*PKPdf	PKPdf	18 37 37.3	-0.2
PMRV	Marv??o	160.47	31	*e*PKPdf	PKPdf	18 37 37.6	0.0
PMRV	Marv??o	160.47	31	*e*PP	PP	18 42 04.5	+4.0
PMRV				*e*SS	SS	19 02 17.2	+7.5
PMRV				*e*LR	LR	19 31 45.8	
	comp=N,222μm,22.0s						
FILF	Fillols	160.50	6	PKP	PKPdf	18 37 37.3	-0.3
FILF	Fillols	160.50	6	PKP	PKPdf	18 37 37.3	-0.3
EVOP	Sao Brissos	160.80	34	*e*PKIKP	PKPdf	18 37 38.4	+0.5
EVOP	Sao Brissos	160.80	34	*e*PKPdf	PKPdf	18 37 38.4	+0.5
PESTR	Estremoz	160.81	32	*e*PKPdf	PKPdf	18 37 37.6	-0.4
PESTR	Estremoz	160.81	32	*e*PP	PP	18 42 07.3	+4.9
EVO	Evora	160.86	34	*e*PKIKP	PKPdf	18 37 38.4	+0.4
	comp=N,2μm,1.6s						
EVO				*e*R			
	comp=N,305μm,22.0s						
EVO	Evora	160.86	34	*e*PKPdf	PKPdf	18 37 38.1	+0.1
EVO	Evora	160.86	34	*e*PP	PP	18 42 07.9	+5.2
DBIC	Dimbokro	160.86	147	PKP	PKPdf	18 37 37.0	-1.7
	comp=N,89nm,0.9s,baz=166,slow=0.9,SNR=66						
DBIC	Dimbokro	160.86	147	PKP	PKP	18 37 37.0	
DBIC				*e*PKPdf	PKPdf	18 37 38.8	+0.1
PNCL	Nicolau / Gran	160.90	36	*e*PKPdf	PKPdf	18 37 38.2	+0.2
PNCL	Nicolau / Gran	160.90	36	*e*PP	PP	18 42 10.1	+7.1
CUC	Castrocucco	161.04	335	*e*PKPdf	PKPdf	18 37 37.9	-0.3
CUC				LR	LR		
	comp=Z,169μm,21.0s						
PTEO	Sao Teotonio	161.21	37	*e*PKPdf	PKPdf	18 37 40.0	+1.6
PTEO	Sao Teotonio	161.21	37	*e*PP	PP	18 42 09.3	+4.6
MESJ	Messejana	161.27	36	*e*P	PKPdf	18 37 37.8	-0.6
MESJ				*e*PP	PP	18 42 04.6	-0.3
MESJ				*e*SS	SS	19 02 19.0	+0.6
MESJ				AMS	AMS	19 51 16.9	
	comp=Z,193μm,22.1s						
MESJ	Messejana	161.27	36	*e*P	PKPdf	18 37 37.8	-0.6
MESJ	Messejana	161.27	36	*e*PP	PP	18 42 04.6	-0.3
MESJ				*e*SS	SS	19 02 19.0	+0.7
MESJ				A	A	19 51 16.9	
	comp=Z,193μm,22.1s						
MESJ	Messejana	161.27	36	*e*PKIKP	PKPdf	18 37 37.8	-0.6
MESJ				*e*		18 42 04.6	
MESJ				*e*SS	SS	19 02 18.9	+0.6
OSPF	L'Ospedale	161.28	351	PKP	PKPdf	18 37 37.9	-0.5
OSPF	L'Ospedale	161.28	351	PKP	PKPdf	18 37 37.9	-0.5
TIP	Timpagrande	161.33	331	*e*PKPdf	PKPdf	18 37 37.2	-1.4
TIP				LR	LR		
	comp=Z,648μm,20.0s						
MORF	Marmelete	161.42	37	*e*PKPdf	PKPdf	18 37 39.9	+1.2
MORF	Marmelete	161.42	37	*e*PP	PP	18 42 17.7	+12
MORF	Marmelete	161.42	37	*e*PKIKP	PKPdf	18 37 38.1	-0.6
MORF				*e*		18 42 05.3	
MORF				*e*SS	SS	19 02 19.5	-0.7
PCVE	Castro Verde	161.52	36	*e*PKPdf	PKPdf	18 37 39.8	+1.1
PCVE	Castro Verde	161.52	36	*e*PP	PP	18 42 13.4	+7.1
PAB	San Pablo	161.68	25	*e*PKIKP	PKPdf	18 37 39.7	+0.8
PAB				MLR	MLR		
	comp=Z,189μm,20.0s						
PAB	San Pablo	161.68	25	*e*PKPdf	PKPdf	18 37 39.7	+0.8
PAB				LR	LR		
	comp=Z,189μm,20.0s						
ESDC	Sonseca Array	161.71	24	PKP	PKPdf	18 37 37.6	-1.3
	comp=Z,18nm,0.9s,baz=348,slow=2.7,SNR=66						
ESDC				PKPab	PKPab	18 38 25.1	+0.9
	comp=Z,60nm,0.9s,baz=327,slow=4.5,SNR=9.4						
ESDC				PP	PP	18 42 14.2	+7.2
	comp=Z,62nm,1.2s,baz=321,slow=5.2,SNR=4.4						
ESDC				SKKPbc		18 47 48.3	
	comp=Z,86nm,1.2s,baz=148,slow=2.2,SNR=8.0						
ESDC	Sonseca Array	161.71	24	PKP	PKPdf	18 37 37.6	-1.3
ESDC				PKPab	PKPab	18 38 25.1	+0.9
ESDC				PP	PP	18 42 14.2	+7.2
ESDC				SKKPbc		18 47 48.3	
ESLA	Sonseca Array	161.71	24	*e*PKPdf	PKPdf	18 37 39.2	+0.3
PVAQ	Vaqueiros	161.86	36	*e*PKPdf	PKPdf	18 37 40.0	+0.9
PVAQ	Vaqueiros	161.86	36	*e*PP	PP	18 42 14.0	+5.9
PVAQ				*e*SS	SS	19 02 29.5	+5.0
PVAQ				*e*LR	LR	19 33 28.5	
	comp=Z,227μm,20.0s						
PBDV	Barranco-do-Ve	161.86	36	*e*PKPdf	PKPdf	18 37 40.9	+1.8
PBDV	Barranco-do-Ve	161.86	36	*e*PP	PP	18 42 17.3	+9.1
VSL	Villasalto	163.36	349	*e*PKPdf	PKPdf	18 37 40.5	-0.1
VSL				LR	LR		
	comp=Z,340μm,21.0s						
RTC	Rabat Centre	164.76	42	PFAKE		18 37 50.0	+8.1
RTC				LR	LR		
	comp=Z,228μm,21.0s						
WDD	Wield Dalam	165.07	330	PKPdf	PKPdf	18 37 39.7	-2.4
WDD				LR	LR		
	comp=Z,284μm,21.0s						
ABA	Alger-Bouzarea	166.25	8	P	PKPdf	18 37 46.3	+3.2
CAEH	'Aïn El Ouahch	166.36	355	P	PKPdf	18 37 43.5	+0.3
USTO	Oran	166.44	21	P	PKPdf	18 37 46.0	+2.8
CMAH	Djebel Manchou	166.46	353	P	PKPdf	18 37 42.6	-0.7
EBNR	Beni Rached	166.49	14	P	PKPdf	18 37 45.5	+2.2
ECHA	Ech Chlef	166.58	14	P	PKPdf	18 37 44.4	+1.1
EANR	'Aïn N'Sour	166.71	15	P	PKPdf	18 37 44.8	+1.3
CKFL	Kef-Lekhel	166.75	355	P	PKPdf	18 37 43.8	+0.2
ABSA	Djebel Ababsia	166.81	353	P	PKPdf	18 37 43.0	-0.7
EMHD	Djebel Mahouad	166.83	9	P	PKPdf	18 37 45.1	+1.4
CASM	Aïn Smara	166.91	356	P	PKPdf	18 37 44.2	+0.5
ADJB	Djebel Djouab	166.93	7	P	PKPdf	18 37 43.6	-0.2
ODJA	Bouhanifia	166.94	21	P	PKPdf	18 37 47.0	+3.3
SET	Setif	167.00	0	P	PKPdf	18 37 45.0	+1.2
KEST	Kesra	167.01	346	PKP	PKPdf	18 37 43.7	-0.1
	comp=Z,111nm,0.9s,baz=297,slow=2.9,SNR=22						
KEST				PKPab	PKPab	18 38 51.1	+3.6
	comp=Z,54nm,1.0s,baz=17,slow=5.8,SNR=6.0						
KEST	Kesra	167.01	346	PKP	PKPdf	18 37 43.7	-0.1
KEST				*e*PKPdf	PKPdf	18 37 43.8	0.0
KEST				PKPab	PKPab	18 38 51.1	+3.6
AKET	Djebel Ketaf	167.08	6	P	PKPdf	18 37 43.8	-0.1
CTEI	Djebel Teioual	167.11	356	P	PKPdf	18 37 44.7	+0.8
CKHR	Kef el Ahmar	167.18	360	P	PKPdf	18 37 45.5	+1.5
ETRT	Tiaret	167.29	15	P	PKPdf	18 37 45.7	+1.6
TOA0	Torodi Ar. Sit	169.44	160	*e*PKPdf	PKPdf	18 37 43.3	-2.6
TORD	Torodi Ar. Bea	169.44	160	PKP	PKPdf	18 37 45.4	-0.5
	comp=Z,56nm,1.0s,baz=322,slow=0.5,SNR=127						
TORD				PKPab	PKPab	18 38 60.0	+1.4
	comp=Z,73nm,0.9s,baz=221,slow=1.4,SNR=1.0						
TORD				PP	PP	18 42 53.1	+6.2
	comp=Z,60nm,1.0s,baz=168,slow=7.5,SNR=4.9						
TORD	Torodi Ar. Bea	169.44	160	PKP	PKPdf	18 37 45.4	-0.5
TORD				PKPab	PKPab	18 38 60.0	+1.4
TORD				PP	PP	18 42 53.1	+6.2
TAM	Tamanrasset	179.62	196	*e*PKIKP	PKPdf	18 37 48.7	-0.4
TAM				MLR	MLR		
	comp=Z,294μm,21.0s						
TAM	Tamanrasset	179.62	196	*e*PKPdf	PKPdf	18 37 48.7	-0.4
TAM				LR	LR		
	comp=Z,294μm,21.0s						

ISK ***19*** *18:24:31.5,39°.39N×27°.98E,h10km, MD2.9*
ISCJB ***19*** *18:24:32.0±0.4,39°.39N±0°.02×27°.98E±0°.03,h8km±4km, Error ellipse: s-maj=4.1km s-min=3.7km az=10.7*
DDA ***19*** *18:24:32.0,39°.41N×27°.97E,h7km, ML2.6*
CSEM ***19*** *18:24:32.1±0.1,39°.38N×27°.99E,h12km, MD2.9, Error ellipse: s-maj=2.5km s-min=2.2km az=104.0*

ISC 19 18:24:31.1±1.4, 39°.40N±0°.02×27°.97E±0°.02, h8km±12km, n44, σ0s42/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALB	Balikesir	0.25	344	*e*PG			Pb	18 24 37.9	0.0
BALB				*e*SG			Sb	18 24 41.8	-0.7
BALB	Balikesir	0.25	344	*e*Pg			Pb	18 24 37.9	0.0
BALB				*e*Sg			Sb	18 24 41.8	-0.7
BALY	Balya	0.44	322	*i* P			Pb	18 24 40.7	-0.4
BALY				*i* S			Sb	18 24 47.1	-0.8
BALY	Balya	0.44	322	*i* P			Pb	18 24 40.7	-0.4
BALY				*i* S			Sb	18 24 47.1	-0.8
DURS	Dursunbey	0.44	62	*i* P			Pb	18 24 41.0	-0.2
DURS				*i* S			Sb	18 24 47.2	-0.8
DURS	Dursunbey	0.44	62	*i* P			Pb	18 24 41.0	-0.2
DURS				*i* S			Sb	18 24 47.2	-0.8
AKHS	Akhisar	0.53	193	*i* P			Pb	18 24 42.4	-0.3
AKHS				*i* S			Sb	18 24 50.5	0.0
AKHS	Akhisar	0.53	193	*i* P			Pb	18 24 42.4	-0.3
AKHS				*i* S			Sb	18 24 50.5	0.0
AKS	Akhisar	0.53	193	*e*PG			Pb	18 24 42.0	-0.6
AKS				*e*SG			Sb	18 24 50.5	0.0
AKS	Akhisar	0.53	193	*e*Pg			Pb	18 24 42.1	-0.6
AKS				*e*Sg			Sb	18 24 50.5	0.0
DST	Dursunbey	0.54	67	*e*PG			Pb	18 24 42.3	-0.6
DST				*e*SG			Sb	18 24 50.9	0.0
DST	Dursunbey	0.54	67	*e*Pg			Pb	18 24 42.3	-0.6
DST				*e*Sg			Sb	18 24 50.9	0.0
GONE	Gonen-Balikesi	0.69	341	*e*PG			Pb	18 24 45.3	0.0
GONE				*e*SG			Sb	18 24 54.8	-0.1
GONE	Gonen-Balikesi	0.69	341	*e*Pg			Pb	18 24 45.3	0.0
GONE				*e*Sg			Sb	18 24 54.8	-0.1
BNT	Bandirma	0.96	358	*e*PG			Pn	18 24 50.4	-0.5
BNT	Bandirma	0.96	358	*e*Pg			Pn	18 24 50.4	-0.5
ORLT	Orhaneli	0.96	47	*e*PG			Pb	18 24 50.2	+0.1
ORLT	Orhaneli	0.96	47	*e*Pg			Pb	18 24 50.2	+0.1
AYVA	Ayvalik	1.00	265	*i* P			Pn	18 24 52.0	+0.6
AYVA				*e*S			Sn	18 25 05.9	+0.3
AYVA	Ayvalik	1.00	265	*i* P			Pn	18 24 52.0	+0.6
AYVA				*e*S			Sn	18 25 05.9	+0.3
KULA	Kula-Manisa	1.03	148	*e*PG			Pg	18 24 50.9	-0.1
KULA	Kula-Manisa	1.03	148	*e*Pg			Pg	18 24 50.9	-0.1
KRBG	Karabiga-Canak	1.12	333	*e*PN			Pn	18 24 53.4	+0.3
KRBG	Karabiga-Canak	1.12	333	*e*Pn			Pn	18 24 53.4	+0.3
IZM	Izmir	1.14	209	*e*PN			Pg	18 24 53.0	0.0
IZM	Izmir	1.14	209	*e*Pn			Pg	18 24 53.0	0.0
TVSB	Tavsanli	1.16	87	*e*PN			Pn	18 24 53.7	0.0
TVSB	Tavsanli	1.16	87	*e*Pn			Pn	18 24 53.7	0.0
MDNY	Mudanya-Bursa	1.20	36	*e*PN			Pg	18 24 54.9	+0.8
MDNY	Mudanya-Bursa	1.20	36	*e*Pn			Pg	18 24 54.9	+0.8
GDZ	Gediz	1.21	104	*i* P			Pg	18 24 55.0	+0.6
GDZ				*i* S			Sn	18 25 11.5	+0.4
GDZ	Gediz	1.21	104	*i* P			Pg	18 24 55.0	+0.6
GDZ				*i* S			Sn	18 25 11.5	+0.4
BLCB	Balcova	1.24	216	*e*PN			Pg	18 24 54.8	-0.2
BLCB	Balcova	1.24	216	*e*Pn			Pg	18 24 54.8	-0.2
ARMT	Armutlu	1.35	30	*e*PN			Pg	18 24 57.4	+0.3
ARMT	Armutlu	1.35	30	*e*Pn			Pg	18 24 57.4	+0.3
GEMT	Gemlik	1.40	42	*e*PN			Pg	18 24 58.0	0.0
GEMT	Gemlik	1.40	42	*e*Pn			Pg	18 24 58.0	0.0
RKY	Sarkoy-Tekirda	1.43	335	*e*PN			Pg	18 24 58.5	0.0
RKY	Sarkoy-Tekirda	1.43	335	*e*Pn			Pg	18 24 58.5	0.0
GELI	Tayfur-Gelibol	1.52	311	*e*PN			Pb	18 24 59.9	+0.2
GELI	Tayfur-Gelibol	1.52	311	*e*Pn			Pb	18 24 59.9	+0.2
YLV	Yalova	1.59	42	*e*PN			Pb	18 25 00.3	-0.4
YLV	Yalova	1.59	42	*e*Pn			Pb	18 25 00.4	-0.4

IDC 19 18:31:58.5±1.2, 26°.18S×177°.04W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.3/19, mbtmp4.4/5, Error ellipse: s-maj=41.3km s-min=27.3km az=48.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.21	272	P			P	18 38 50.2	+4.1
	5.3nm,0.6s,baz=83,slow=8.1,SNR=3.9								
ASAR	Alice Springs	44.35	262	P			P	18 40 10.9	+0.1
	0.9nm,0.3s,baz=95,slow=7.2,SNR=5.6								
WRA	Warramunga Arr	44.96	267	P			P	18 40 15.2	-0.6
	1.9nm,0.4s,baz=105,slow=8.2,SNR=19								
VNDA	Vanda	52.36	186	P			P	18 41 13.5	+1.7
	2.1nm,0.5s,baz=15,slow=8.6,SNR=5.4								
FITZ	Fitzroy Crossi	53.35	266	P			P	18 41 19.9	-0.1
	20nm,1.2s,baz=131,slow=9.3								
QSPA	South Pole Qui	63.91	180	P			P	18 42 32.3	-0.8
	5.0nm,0.6s,baz=62,slow=1.9,SNR=8.5								
NOA	NORSAR Array B	144.70	353	PKP		PKPdf		18 51 36.8	0.0
	3.5nm,0.8s,baz=12,slow=2.4,SNR=5.2								
AKASG	Malin Array Be	148.33	328	PKPbc		PKPbc		18 51 46.6	+0.1
	2.5nm,0.5s,baz=47,slow=3.8,SNR=7.7								
MMAI	Mount Meron Ar	151.06	291	PKPbc		PKPbc		18 51 54.3	+0.3
	2.4nm,0.5s,baz=72,slow=8.2,SNR=7.0								
BRTR	Keskin Array B	151.09	306	PKPbc		PKPbc		18 51 52.6	-1.3
	1.0nm,0.7s,baz=116,slow=4.3,SNR=4.2								
TORD	Torodi Ar. Bea	166.98	175	PKPab		PKPab		18 53 08.6	-1.7
	2.4nm,1.1s,baz=173,slow=3.3,SNR=4.6								

IDC ***19*** *18:45:23.9±1.9,22°.93S×174°.77W,h0km, mb4.4/6, mb1 4.6/6, mb1mx4.4/21, mbtmp4.4/6, Error ellipse: s-maj=127.0km s-min=23.2km az=157.0*
ISCJB ***19*** *18:45:26.9±1.1,23°.4S±0°.2×174°.7W±0°.2, h33km, mb4.5/9, Error ellipse: s-maj=25.5km s-min=19.2km az=28.7*
NEIC ***19*** *18:45:28.4±0.7,23°.43S×174°.62W, h35km, mb4.9/2, Error ellipse: s-maj=21.0km s-min=15.7km az=180.0*

ISC 19 18:45:28.4±0.8, 23°.45±0°.2×174°.5W±0°.1, h35km, n33, σ1s17/32, mb4.6/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.96	308	*e*P			Pn	18 47 35.7	+0.3
DZM	Mont Dzumac	17.61	271	P			P	18 49 34.1	+2.1
	0.2nm,0.3s,baz=92,slow=21,SNR=1.8								
DZM	Mont Dzumac	17.61	271	P			P	18 49 34.1	+2.1
RPZ	Rata Peaks	23.49	207	P			P	18 50 45.2	+10
	13nm,0.7s,baz=2.9,slow=24,SNR=3.0								
RPZ	Rata Peaks	23.49	207	P			P	18 50 45.2	+10
CTA	Charters Tower	36.51	267	P			P	18 52 29.7	-1.0
	7.0nm,0.8s,baz=98,slow=13,SNR=8.4								
CTA	Charters Tower	36.51	267	P			P	18 52 29.7	-1.0
CTAO	Charters Tower	36.51	267	*e*P			P	18 52 28.9	-1.7
STKA	Stephens Creek	39.57	248	P			P	18 52 56.7	+0.4
	1.4nm,0.5s,baz=96,slow=12,SNR=7.8								
STKA	Stephens Creek	39.57	248	P			P	18 52 56.7	+0.4
AS31	Alice Springs	47.07	259	*e*P			P	18 53 56.3	-0.7
ASAR	Alice Springs	47.07	259	P			P	18 53 56.2	-0.8
	7.5nm,0.9s,baz=93,slow=7.9,SNR=22								
ASAR	Alice Springs	47.07	259	P			P	18 53 56.2	-0.8
WRAB	Tennant Creek	47.45	264	*e*P			P	18 53 58.3	-1.6
	6.7nm,0.8s								
WRA	Warramunga Arr	47.45	264	P			P	18 53 58.3	-1.7
	7.3nm,0.8s,baz=96,slow=8.3,SNR=27								
WRA	Warramunga Arr	47.45	264	P			P	18 53 58.3	-1.7
FITZ	Fitzroy Crossi	55.88	263	P			P	18 55 03.7	+0.7
	2.8nm,1.0s,baz=141,slow=6.5,SNR=4.5								
FITZ	Fitzroy Crossi	55.88	263	P			P	18 55 03.7	+0.7
QSPA	South Pole Qui	66.68	180	*e*P			P	18 56 16.0	+0.5
	23nm,1.2s								
TXAR	Lajitas Array	85.95	56	P			P	18 58 05.9	+0.6
	3.4nm,0.9s,baz=223,slow=3.7,SNR=3.3								
TXAR	Lajitas Array	85.95	56	P			P	18 58 05.9	+0.6
BVAR	Borovoye Array	123.37	319	PKP		PKPdf		19 04 20.0	-1.4
	0.7nm,0.7s,baz=53,slow=5.8,SNR=4.5								
BVAR	Borovoye Array	123.37	319	PKP		PKPdf		19 04 20.0	-1.4
AKASG	Malin Array Be	147.09	332	PKPbc		PKPbc		19 05 06.3	-1.0
	4.2nm,0.8s,baz=41,slow=4.2,SNR=10								
AKASG	Malin Array Be	147.09	332	PKPbc		PKPbc		19 05 06.3	-1.0
BRTR	Keskin Array B	151.17	311	PKPbc		PKPbc		19 05 17.9	-0.3
	1.7nm,0.9s,baz=108,slow=2.7,SNR=5.7								
BRTR	Keskin Array B	151.17	311	PKPbc		PKPbc		19 05 17.9	-0.3
CLL	Collm	151.54	350	*i* PKPbc		PKPbc		19 05 18.7	+0.2
	comp=Z,6.0nm,0.8s								
CLL				*e*PKPab		PKPab		19 05 27.0	0.0
BRG	Berggiesshuber	151.80	349	*e*P		PKPbc		19 05 19.6	+0.4
	comp=Z,8.0nm,0.9s								
MMAI	Mount Meron Ar	152.03	297	PKPbc		PKPbc		19 05 22.1	+1.8
	comp=Z,7.1nm,0.9s,baz=169,slow=8.8,SNR=4.9								
MMAI	Mount Meron Ar	152.03	297	PKPbc		PKPbc		19 05 22.1	+1.8
GERES	GERESS Array B	153.78	348	PKPbc		PKPbc		19 05 24.0	+0.2
	comp=Z,0.3nm,0.7s,baz=90,slow=1.3,SNR=3.7								
GERES	GERESS Array B	153.78	348	PKPbc		PKPbc		19 05 24.0	+0.2

IDC ***19*** *18:55:01.5±1.9,23°.42S×174°.69W,h0km, mb4.1/7, mb1 4.5/7, mb1mx4.2/20, mbtmp4.1/7, Error ellipse: s-maj=86.2km s-min=23.1km az=158.0*
ISCJB ***19*** *18:55:04.4±0.7,23°.7S±0°.2×174°.7W±0°.1, h33km, mb4.4/10, Error ellipse: s-maj=23.4km s-min=18.1km az=148.7*
NEIC ***19*** *18:55:06.4±0.5,23°.60S×174°.65W, h35km, mb4.5/2, Error ellipse: s-maj=17.5km s-min=13.2km az=155.0*

ISC 19 18:55:06.4±0.8, 23°.6S±0°.2×174°.7W±0°.2, h35km, n18, σ0s58/18, mb4.3/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.38	268	P			P	19 02 08.2	+0.5
	4.7nm,0.6s,baz=105,slow=12								
CTA	Charters Tower	36.38	268	P			P	19 02 08.2	+0.5
CTAO	Charters Tower	36.38	268	*e*P			P	19 02 08.1	+0.5
	6.4nm,0.8s								
ASAR	Alice Springs	46.91	259	P			P	19 03 34.1	+0.3
	1.1nm,0.9s,baz=104,slow=7.2,SNR=6.2								
ASAR	Alice Springs	46.91	259	P			P	19 03 34.1	+0.3
WRAB	Tennant Creek	47.31	264	*e*P			P	19 03 36.8	-0.2
	2.2nm,0.5s				

ASAR	**Alice Springs**	**46.91**	**259**	P		**P**		**19 09 32.1**	**+0.6**
	1.4nm,0.9s,baz=92,slow=7.8,SNR=4.4								
ASAR	**Alice Springs**	**46.91**	**259**	P		**P**		**19 09 32.1**	**+0.6**
WRAB	**Tennant Creek**	**47.28**	**264**	*eP*		**P**		**19 09 33.5**	**-0.9**
	3.7nm,0.5s								
WRA	**Warramunga Arr**	**47.28**	**264**	P		**P**		**19 09 33.8**	**-0.7**
	4.9nm,0.6s,baz=103,slow=8.7,SNR=8.1								
WRA	**Warramunga Arr**	**47.28**	**264**	P		**P**		**19 09 33.8**	**-0.7**
MJAR	**Matsushiro Arr**	**74.20**	**322**	P		**P**		**19 12 37.7**	**+0.3**
	2.2nm,0.7s,baz=159,slow=6.3,SNR=8.8								
MJAR	**Matsushiro Arr**	**74.20**	**322**	P		**P**		**19 12 37.7**	**+0.3**
NVAR	**Mina Array Bea**	**80.97**	**41**	P		**P**		**19 13 15.4**	**0.0**
	1.1nm,0.8s,baz=229,slow=8.9,SNR=5.0								
NVAR	**Mina Array Bea**	**80.97**	**41**	P		**P**		**19 13 15.4**	**0.0**
AKASG	**Malin Array Be**	**146.84**	**332**	PKPbc		**PKPdf**		**19 20 40.6**	**+0.1**
	0.9nm,0.6s,baz=48,slow=4.1,SNR=4.1								
AKASG	**Malin Array Be**	**146.84**	**332**	PKPbc		**PKPdf**		**19 20 40.6**	**+0.1**
BRTR	**Keskin Array B**	**150.91**	**311**	PKPbc		**PKPbc**		**19 20 53.0**	**-0.4**
	5.6nm,1.2s,baz=90,slow=1.2,SNR=5.5								
BRTR	**Keskin Array B**	**150.91**	**311**	PKPbc		**PKPbc**		**19 20 53.0**	**-0.4**

*IDC **19** 19:05:58.7±7.8,23˚22S×174˚63W,h0km,mb4.3/5,*
mb1 4.5/5,mb1mx4.1/20,mbtmp4.3/5,Error ellipse:
s-maj=190.5km s-min=46.4km az=123.0
*NEIC **19** 19:06:03.6±6.1,23˚30S×174˚59W,h35km,mb4.7/1,Error*
ellipse: s-maj=152.0km s-min=35.7km az=123.0

ISC 19 19:06:04.3±7.2,23˚2S±0.7×17˚5W±˚,h36km,n12,σ0§65/12,
mb4.4/6,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**36.37**	**267**	P		**P**	**19**	**13**	**05.7**	**+0.4**
	9.7nm,0.6s,baz=97,slow=11,SNR=17									
CTA	**Charters Tower**	**36.37**	**267**	P		**P**	**19**	**13**	**05.7**	**+0.4**
STKA	**Stephens Creek**	**39.49**	**248**	P		**P**	**19**	**13**	**31.1**	**-0.4**
	1.0nm,0.5s,baz=96,slow=10,SNR=3.0									
STKA	**Stephens Creek**	**39.49**	**248**	P		**P**	**19**	**13**	**31.1**	**-0.4**
AS31	**Alice Springs**	**46.95**	**259**	*eP*		**P**	**19**	**14**	**33.1**	**+1.1**
ASAR	**Alice Springs**	**46.96**	**259**	P		**P**	**19**	**14**	**32.4**	**+0.4**
	1.7nm,0.8s,baz=97,slow=7.3,SNR=17									
ASAR	**Alice Springs**	**46.96**	**259**	P		**P**	**19**	**14**	**32.4**	**+0.4**
WRAB	**Tennant Creek**	**47.32**	**264**	*eP*		**P**	**19**	**14**	**34.1**	**-0.7**
	5.4nm,0.6s									
WRA	**Warramunga Arr**	**47.33**	**264**	P		**P**	**19**	**14**	**34.1**	**-0.7**
	6.8nm,0.6s,baz=102,slow=8.2,SNR=32									
WRA	**Warramunga Arr**	**47.33**	**264**	P		**P**	**19**	**14**	**34.1**	**-0.7**
MJAR	**Matsushiro Arr**	**74.25**	**322**	P		**P**	**19**	**17**	**37.7**	**0.0**
	1.1nm,0.6s,baz=161,slow=5.7,SNR=6.2									
MJAR	**Matsushiro Arr**	**74.25**	**322**	P		**P**	**19**	**17**	**37.7**	**0.0**

*IDC **19** 19:08:46.3±0.7,47˚78N×67˚41E,h0km,mb3.9/8,*
mb1 4.1/15,mb1mx3.9/33,mbtmp3.9/15,ML3.5/7,Error
ellipse: s-maj=11.9km s-min=8.4km az=21.0
*ISCJB **19** 19:08:46.4±0.3,47˚90N±0˚04×67˚50E±0˚05,h10km,*
mb3.8/8,Error ellipse: s-maj=5.6km s-min=4.9km az=40.7
*NNC **19** 19:08:46.4±0.9,47˚89N×67˚55E,h0km,mb4.3,mpv3.9,*
Error ellipse: s-maj=10.0km s-min=8.6km az=176.0

ISC 19 19:08:48.3±0.7,47˚77N±0˚09×67˚51E±0˚06,h10km,n38,
σ1§10/25,mb3.9/8,8C-9D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KK31	**Karatay Array**	**5.12**	**155**	⇓Pn		Pn	19	10	03.8	-1.3
	25nm,0.6s,baz=343,slow=17,SNR=15									
KK31				⇑Lg		Lg	19	11	35.4	
	54nm,0.7s,baz=194,slow=115,SNR=4.1									
AB31	**Akbulak array**	**5.25**	**289**	⇓Pn		Pn	19	10	05.0	-1.7
	3.9nm,0.6s,baz=108,slow=11,SNR=23									
AB31				⇑Pg		Pb	19	10	24.5	+4.4
	35nm,0.7s,baz=100,slow=16,SNR=20									
AB31				⇑Lg		Lg	19	11	27.2	
	119nm,1.1s,baz=101,slow=27,SNR=3.7									
ZRNK	**Zerenda**	**5.27**	**10**	⇓Pn		Pn	19	10	05.5	-1.6
	69nm,1.2s									
ZRNK				⇑Lg		Lg	19	11	29.8	
	176nm,0.9s									
VOSK	**Vostochnaya**	**5.43**	**23**	⇓Pn		Pn	19	10	07.5	-1.8
	27nm,0.7s									
VOSK				⇓Lg		Lg	19	11	31.7	
	130nm,0.9s									
BVA0	**Borovoye Array**	**5.57**	**18**	⇑Pn		Pn	19	10	09.5	-1.7
	3.6nm,0.7s,baz=193,slow=12,SNR=64									
BVA0				⇓Lg		Lg	19	11	36.3	
	19nm,0.8s,baz=201,slow=30,SNR=4.0									
BVAR	**Borovoye Array**	**5.57**	**18**	Pn		Pn	19	10	09.6	-1.6
	5.4nm,0.3s,baz=190,slow=12,SNR=100									
BVAR				Sn		**Sn**	**19**	**11**	**14.8**	**-0.4**
	5.6nm,0.3s,baz=194,slow=18,SNR=2.4									
BVAR				Lg		Lg	19	11	37.4	
	6.4nm,0.3s,baz=185,slow=25,SNR=7.0									
AKTO	**Aktyubinsk**	**6.78**	**297**	Pn		**Pn**	**19**	**10**	**27.5**	**-0.3**
	0.4nm,0.3s,baz=105,slow=13,SNR=9.9									
AKTO				Sn		**Sn**	**19**	**11**	**45.5**	**+0.4**
	0.8nm,0.3s,baz=30,slow=23,SNR=4.4									
AKTO				Lg		Lg	19	12	16.3	
	1.9nm,0.3s,baz=178,slow=14,SNR=6.6									
AKTO	**Aktyubinsk**	**6.78**	**297**	⇑Pn		Pn	19	10	27.1	-0.7
	1.3nm,0.8s									
AKTO				⇓Lg		Lg	19	12	19.6	
	12nm,1.4s									
AAK	**Ala-Archa**	**7.12**	**134**	Pn		**Pn**	**19**	**10**	**33.0**	**+0.4**
	0.4nm,0.3s,baz=307,slow=4.6,SNR=15									
AAK				Lg		Lg	19	12	32.7	
	1.0nm,0.3s,baz=353,slow=14,SNR=4.3									
KURBB	**Kurchatov Arra**	**7.76**	**64**	Pn		Pn	19	10	40.3	-0.9
	0.2nm,0.3s,baz=255,slow=13,SNR=29									
KURBB				Lg		Lg	19	12	44.5	
	0.3nm,0.3s,baz=259,slow=30,SNR=7.4									
KURBB	**Kurchatov Arra**	**7.76**	**64**	⇑Pn		Pn	19	10	39.3	-1.9
	2.0nm,0.9s									
KURBB				⇓Lg		Lg	19	12	50.8	
	9.3nm,0.7s									
KURK	**Kurchatov**	**7.84**	**64**	⇓Pn		Pn	19	10	40.7	-1.6
	8.5nm,0.9s									
KURK				⇑Lg		Lg	19	12	51.3	
	51nm,1.0s									
MK31	**Makanchi Array**	**10.09**	**90**	Lg		Lg	19	14	13.2	
	40nm,0.9s,baz=284,slow=23,SNR=7.1									
MKAR	**Makanchi Array**	**10.09**	**90**	Pn		Pn	19	11	12.3	-0.9
	0.4nm,0.3s,baz=277,slow=11,SNR=33									
MKAR				Sn		**Sn**	**19**	**13**	**03.9**	**-2.6**
	0.2nm,0.3s,baz=304,slow=22,SNR=2.7									
MKAR				Lg		Lg	19	14	03.7	
	0.7nm,0.3s,baz=279,slow=23,SNR=11									
ZALV	**Zalesovo Beam**	**12.54**	**54**	Pn		**Pn**	**19**	**11**	**46.6**	**0.0**
	0.2nm,0.3s,baz=251,slow=9.2,SNR=5.1									
ZALV				Sn		**Sn**	**19**	**14**	**09.1**	**+2.8**
	0.2nm,0.3s,baz=245,slow=24,SNR=3.2									
KBZ	**Khabaz**	**17.62**	**266**	P		**Pn**	**19**	**12**	**52.8**	**-1.0**
	0.2nm,0.3s,baz=85,slow=9.0,SNR=6.4									
GNI	**Garni**	**18.04**	**253**	P		**Pn**	**19**	**13**	**00.4**	**+1.3**
	0.3nm,0.3s,baz=106,slow=6.5,SNR=3.3									
PYUN	**Piuthan**	**23.04**	**143**	*eP*		**P**	**19**	**13**	**53.8**	**0.0**
	35nm,1.1s									
DANN	**Dangsing**	**23.14**	**141**	*eP*		**P**	**19**	**13**	**54.7**	**-0.3**
	30nm,1.1s									
KOLN	**Koldanda**	**23.58**	**142**	*eP*		**P**	**19**	**13**	**59.4**	**+0.1**
GKN	**Gorkha**	**23.82**	**140**	*eP*		**P**	**19**	**14**	**01.7**	**+0.2**
	47nm,1.4s									
KKN	**Kakani**	**24.29**	**139**	*eP*		**P**	**19**	**14**	**06.6**	**+0.6**
DMN	**Daman**	**24.37**	**139**	*eP*		**P**	**19**	**14**	**06.7**	**-0.1**
GUN	**Gumba**	**24.45**	**138**	*eP*		**P**	**19**	**14**	**08.2**	**+0.6**
	17nm,0.9s									
PKIN	**Phulchoki**	**24.52**	**139**	*eP*		**P**	**19**	**14**	**09.0**	**+0.8**
	5.3nm,0.7s									
PKI	**Pulchoki**	**24.53**	**139**	*eP*		**P**	**19**	**14**	**08.9**	**+0.5**
JIRN	**Jiri**	**24.81**	**137**	*eP*		**P**	**19**	**14**	**12.3**	**+1.4**
	8.4nm,0.7s									
AKASG	**Malin Array Be**	**24.99**	**291**	P		**P**	**19**	**14**	**10.3**	**-1.6**
	2.8nm,0.8s,baz=71,slow=9.3,SNR=5.7									
BRTR	**Keskin Array B**	**25.60**	**264**	P		**P**	**19**	**14**	**17.9**	**+0.2**
	1.8nm,0.8s,baz=78,slow=9.3,SNR=5.6									
RAMN	**Ramite**	**25.60**	**138**	*eP*		**P**	**19**	**14**	**18.4**	**+0.5**
	32nm,0.9s									
TAPN	**Taplejung**	**25.78**	**135**	*eP*		**P**	**19**	**14**	**20.8**	**+1.2**
	21nm,1.1s									
SONM	**Songino Array**	**25.93**	**75**	P		**P**	**19**	**14**	**20.7**	**+0.1**
	1.6nm,0.9s,baz=287,slow=11,SNR=7.4									
ODAN	**Odare**	**26.04**	**136**	*eP*		**P**	**19**	**14**	**22.9**	**+1.0**
NOA	**NORSAR Array B**	**34.20**	**314**	P		P	19	15	31.5	-2.1
	0.9nm,0.7s,baz=89,slow=8.7,SNR=3.7									
CMAR	**Chiang Mai Arr**	**38.86**	**128**	P		P	19	16	13.2	-0.6
	0.5nm,0.3s,baz=312,slow=11,SNR=6.8									
INK	**Inuvik**	**63.18**	**9**	P		P	19	19	15.0	-0.8
	2.3nm,0.8s,baz=15,slow=9.2,SNR=6.1									
ILAR	**Eielson Array**	**64.63**	**16**	P		P	19	19	24.6	-0.9
	1.5nm,1.0s,baz=329,slow=3.9,SNR=5.6									
YKA	**Yellowknife Ar**	**70.07**	**1**	P		P	19	19	58.6	-1.4
	1.0nm,0.8s,baz=358,slow=6.6,SNR=15									

IDC 19 19:11:55.4±4.1,22˚56S×175˚15W,h0km,mb3.9/4,
mb1 4.2/4,mb1mx3.8/20,mbtmp3.9/4,Error ellipse:
s-maj=241.9km s-min=32.4km az=157.0,Tonga Islands
region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**35.97**	**267**	P		P	19	18	59.0	+0.8
	5.7nm,0.8s,baz=90,slow=9.1,SNR=4.3									
ASAR	**Alice Springs**	**46.66**	**258**	P		P	19	20	26.0	-0.1
	0.7nm,0.8s,baz=86,slow=8.5,SNR=5.0									
WRA	**Warramunga Arr**	**46.97**	**263**	P		P	19	20	27.5	-1.0
	1.2nm,0.6s,baz=103,slow=8.5,SNR=9.8									
NVAR	**Mina Array Bea**	**80.74**	**42**	P		P	19	24	11.0	0.0
	0.2nm,0.6s,baz=218,slow=5.7,SNR=3.6									

*IDC **19** 19:13:08.8±2.2,23˚19S×174˚92W,h0km,mb4.2/6,*
mb1 4.4/6,mb1mx4.1/20,mbtmp4.2/6,Error ellipse:
s-maj=84.7km s-min=27.0km az=149.0
*ISCJB **19** 19:13:12.8±1.3,22˚9S±0˚1×175˚2W±0˚2,h30km,mb4.2/7,*
Error ellipse: s-maj=29.9km s-min=18.7km az=24.5
*NEIC **19** 19:13:15.2±1.1,22˚91S×175˚12W,h35km,mb4.8/2,Error*
ellipse: s-maj=25.2km s-min=16.6km az=116.0

ISC 19 19:13:14.5±1.3,22˚9S±0˚2×175˚1W±0˚2,h30km,n15,
σ0§87/15,mb4.1/7,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
RAO	**Raoul Island**	**6.81**	**201**	*eP*		**Pn**	**19**	**14**	**53.0**	**+0.6**
CTA	**Charters Tower**	**35.99**	**267**	P		**P**	**19**	**20**	**13.8**	**+0.8**
	6.6nm,0.5s,baz=99,slow=10,SNR=10									
CTA	**Charters Tower**	**35.99**	**267**	P		**P**	**19**	**20**	**13.8**	**+0.8**
CTAO	**Charters Tower**	**35.99**	**267**	*eP*		**P**	**19**	**20**	**13.6**	**+0.5**
	5.7nm,0.5s									
STKA	**Stephens Creek**	**39.25**	**247**	P		**P**	**19**	**20**	**39.4**	**-1.1**
	0.9nm,0.4s,baz=106,slow=9.2,SNR=6.0									
STKA	**Stephens Creek**	**39.25**	**247**	*eP*		**P**	**19**	**20**	**39.5**	**-1.0**
	0.2nm,0.6s									
ASAR	**Alice Springs**	**46.63**	**259**	P		**P**	**19**	**21**	**40.0**	**-0.4**
	1.7nm,0.8s,baz=89,slow=8.2,SNR=9.6									
ASAR	**Alice Springs**	**46.63**	**259**	P		**P**	**19**	**21**	**40.0**	**-0.4**
WRAB	**Tennant Creek**	**46.96**	**264**	*eP*		**P**	**19**	**21**	**42.0**	**-1.0**
	4.2nm,0.4s									
WRA	**Warramunga Arr**	**46.97**	**264**	P		**P**	**19**	**21**	**42.4**	**-0.7**
	5.6nm,0.6s,baz=102,slow=8.6,SNR=52									
WRA	**Warramunga Arr**	**46.97**	**264**	P		**P**	**19**	**21**	**42.4**	**-0.7**
MJAR	**Matsushiro Arr**	**73.73**	**322**	P		**P**	**19**	**24**	**46.8**	**+1.1**
	0.6nm,0.5s,baz=158,slow=6.4,SNR=4.8									
MJAR	**Matsushiro Arr**	**73.73**	**322**	P		**P**	**19**	**24**	**46.8**	**+1.1**
NVAR	**Mina Array Bea**	**80.97**	**42**	P		**P**	**19**	**25**	**26.1**	**-0.5**
	0.7nm,0.7s,baz=232,slow=7.6,SNR=6.2									
NVAR	**Mina Array Bea**	**80.97**	**42**	P		**P**	**19**	**25**	**26.1**	**-0.5**

IDC 19 19:20:48.0±27.0,21˚95S×173˚39W,h0km,mb4.1/4,
mb1 4.3/4,mb1mx3.9/21,mbtmp4.1/4,Error ellipse:
s-maj=495.3km s-min=148.4km az=77.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**37.65**	**265**	P		P	19	28	05.7	+0.5
	3.8nm,0.4s,baz=96,slow=9.5,SNR=8.6									
STKA	**Stephens Creek**	**41.10**	**246**	P		P	19	28	32.5	-1.3
	0.9nm,0.5s,baz=93,slow=11,SNR=6.5									
ASAR	**Alice Springs**	**48.39**	**257**	P		P	19	29	32.4	+0.1
	0.8nm,0.5s,baz=98,slow=6.6,SNR=20									
WRA	**Warramunga Arr**	**48.67**	**262**	P		P	19	29	34.4	+0.1
	1.1nm,0.3s,baz=96,slow=8.4,SNR=62									

*AUST **19** 19:26:56.9,23˚13S×174˚21W,h20km*
*IDC **19** 19:26:58.2±0.5,23˚02S×174˚97W,h0km,mb4.6/21,*
mb1 4.8/21,mb1mx4.7/25,mbtmp4.6/21,Error ellipse:
s-maj=18.4km s-min=15.2km az=138.0
*ISCJB **19** 19:27:00.8±0.2,23˚07S±0˚07×174˚98W±0˚05,h30km,*
mb4.7/29,Error ellipse: s-maj=10.7km s-min=5.1km
az=150.7
*MOS **19** 19:27:01.7±1.2,23˚11S×175˚06W,h33km,mb5.1/5,Error*
ellipse: s-maj=16.5km s-min=13.3km az=150.2
*DJA **19** 19:27:03.5±0.9,23˚S±18˚×17˚5W±1˚4,h10km,M6.3/10,*
mb6.3/10
*NEIC **19** 19:27:03.3±2.1,23˚08S×174˚98W,h35km±18km,mb5.0/11,*
Error ellipse: s-maj=12.8km s-min=10.7km az=187.0

ISC 19 19:27:02.9±0.4,23˚06S±0˚08×174˚99W±0˚09,h30km,
n155,σ1§24/152,mb4.7/29,15C-13D,Tonga Islands
region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
NIUE	**Niue**	**6.17**	**51**	P		Pn	19	28	21.5	-10
	baz=5.7,SNR=18									
RAO	**Raoul Island**	**6.70**	**203**	P		**Pn**	**19**	**28**	**39.5**	**+0.2**
	527nm,0.4s									
AFI	**Afiamalu**	**9.60**	**19**	Pn		Pn	19	29	10.6	-8.6
	9.5nm,0.3s,baz=126,slow=5.8,SNR=6.7									
AFI				Sn		Sn	19	30	52.9	-13
	13nm,0.3s,baz=118,slow=18,SNR=5.0									
AFI	**Afiamalu**	**9.60**	**19**	*eP*		Pn	19	29	11.4	-7.7
AFI				Sn		Sn	19	30	52.9	-13
RAR	**Rarotonga**	**14.22**	**85**	Pn		Pn	19	30	12.6	-10
	14nm,0.3s,baz=266,slow=8.7,SNR=15									
RAR				Sn		Sn	19	32	34.5	-25
	7.8nm,0.3s,baz=101,slow=18,SNR=2.9									
RAR	**Rarotonga**	**14.22**	**85**	*eP*		Pn	19	30	11.9	-10
RAR				Sn		Sn	19	32	34.5	-25
URZ	**Urewera**	**16.59**	**202**	Pn		**P**	**19**	**30**	**55.6**	**+0.1**
	1.6nm,0.3s,baz=348,slow=2.5,SNR=2.8									
URZ				Sn		Sn	19	33	46.2	-10
	3.5nm,0.3s,baz=207,slow=22,SNR=12									
URZ	**Urewera**	**16.59**	**202**	*eP*		**Pn**	**19**	**30**	**52.0**	**-1.4**
URZ				Sn		Sn	19	33	46.2	-10
DZM	**Mont Dzumac**	**17.18**	**270**	P		**P**	**19**	**31**	**03.5**	**+1.1**
	0.2nm,0.3s,baz=217,slow=7.6,SNR=3.3									
DZM	**Mont Dzumac**	**17.18**	**270**	*eP*		**P**	**19**	**31**	**03.2**	**+0.9**
	53nm,0.9s									
RPZ	**Rata Peaks**	**23.61**	**206**	P		**P**	**19**	**32**	**11.0**	**-0.3**
	13nm,0.7s,baz=179,slow=16,SNR=1.6									
RPZ	**Rata Peaks**	**23.61**	**206**	P		**P**	**19**	**32**	**11.0**	**-0.3**
ARMA	**Armidale**	**30.62**	**249**	P		**P**	**19**	**33**	**15.6**	**+1.0**
	baz=31,SNR=5.2									
EIDS	**Eidsvold**	**30.98**	**259**	*eP*		**P**	**19**	**33**	**16.8**	**-1.0**
EIDS	**Eidsvold**	**30.98**	**259**	P		**P**	**19**	**33**	**18.5**	**+0.8**
	baz=32,SNR=4.1									
MGCD	**Mangrove Creek**	**31.44**	**244**	P		**P**	**19**	**33**	**23.0**	**+1.3**
	baz=32,SNR=6.0									
RMQ	**Roma**	**33.03**	**257**	P		**P**	**19**	**33**	**37.2**	**+1.5**
	baz=34,SNR=6.8									
CMSA	**Cobar Meteorol**	**35.80**	**248**	P		**P**	**19**	**33**	**59.1**	**-0.5**
	baz=36,SNR=28									
CTA	**Charters Tower**	**36.10**	**267**	P		**P**	**19**	**34**	**02.4**	**+0.1**
	54nm,0.7s,baz=97,slow=10,SNR=71									
CTA	**Charters Tower**	**36.10**	**267**	P		**P**	**19**	**34**	**02.4**	**+0.1**
CTAO	**Charters Tower**	**36.10**	**267**	*eP*		**P**	**19**	**34**	**02.2**	**-0.1**
CTAO				pmax		pmax				
	comp=Z,29nm,0.5s									
CTAO	**Charters Tower**	**36.10**	**267**	*eP*		**P**	**19**	**34**	**02.2**	**-0.1**
	comp=Z,29nm,0.5s									
TOO	**Toolangi**	**36.77**	**238**	P		**P**	**19**	**34**	**08.2**	**+0.2**
	baz=37,SNR=5.4									
QLP	**Quilpie**	**37.07**	**256**	P		**P**	**19**	**34**	**10.5**	**-0.1**
	baz=38,SNR=22									
PMG	**Port Moresby**	**38.66**	**284**	P		**P**	**19**	**34**	**23.8**	**-0.3**
	comp=Z,48nm,0.8s,baz=103,slow=6.1,SNR=8.2									
PMG	**Port Moresby**	**38.66**	**284**	*eP*		**P**	**19**	**34**	**22.4**	**-1.7**
	comp=Z,63nm,0.9s									
PMG	**Port Moresby**	**38.66**	**284**	P		**P**	**19**	**34**	**23.7**	**-0.4**
	comp=Z,115nm,1.3s									
STKA	**Stephens Creek**	**39.30**	**247**	P		**P**	**19**	**34**	**28.8**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=95,slow=8.7,SNR=26									
STKA	**Stephens Creek**	**39.30**	**247**	*eP*		**P**	**19**	**34**	**28.6**	**-0.7**
	comp=Z,0.9nm,0.6s									
STKA	**Stephens Creek**	**39.30**	**247**	P		**P**	**19**	**34**	**28.9**	**-0.4**
	baz=40,SNR=24									
STKA				S		S	19	40	47.8	+19
	baz=40,SNR=4.2									
ARPS	**Mount Arapiles**	**39.51**	**240**	P		**P**	**19**	**34**	**31.4**	**+0.3**
	baz=40,SNR=6.1									
COEN	**Coen**	**40.58**	**275**	P		**P**	**19**	**34**	**39.9**	**-0.1**
	baz=41,SNR=7.6									
QIS	**Mount Isa**	**42.11**	**264**	P		**P**	**19**	**34**	**51.7**	**-0.9**
	baz=43,SNR=6.1									
BBOO	**Buckleboo**	**44.00**	**246**	P		**P**	**19**	**35**	**06.6**	**-1.1**
	baz=45,SNR=14									
AS31	**Alice Springs**	**46.71**	**259**	*eP*		**P**	**19**	**35**	**28.1**	**-1.4**
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**19**	**35**	**28.2**	**-1.3**
	comp=Z,12nm,0.5s,baz=90,slow=5.9,SNR=89									
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**19**	**35**	**28.2**	**-1.3**
WRAB	**Tennant Creek**	**47.06**	**264**	*eP*		**P**	**19**	**35**	**30.3**	**-1.9**
WRAB				pmax		pmax				
	comp=Z,17nm,0.8s									
WRAB	**Tennant Creek**	**47.06**	**264**	*eP*		**P**	**19**	**35**	**30.2**	**-1.9**
	comp=Z,17nm,0.8s									
WRA	**Warramunga Arr**	**47.06**	**264**	P		**P**	**19**	**35**	**30.5**	**-1.7**
	comp=Z,16nm,0.7s,baz=96,slow=8.5,SNR=125									
WRA	**Warramunga Arr**	**47.06**	**264**	P		**P**	**19**	**35**	**30.5**	**-1.7**
KDU	**Kakadu**	**50.83**	**272**	P		**P**	**19**	**35**	**59.7**	**-1.4**
	baz=52,SNR=10									
FORT	**Forrest**	**50.91**	**248**	P		**P**	**19**	**36**	**00.5**	**-1.1**
	baz=52,SNR=6.9									
MTN	**Manton Dam**	**52.01**	**271**	P		**P**	**19**	**36**	**08.3**	**-1.6**
	baz=53,SNR=7.7									
TLE	**Tual**	**53.21**	**281**	P		**P**	**19**	**36**	**17.9**	**-0.9**
	baz=54,SNR=3.9									
FITZ	**Fitzroy Crossi**	**55.49**	**263**	P		**P**	**19**	**36**	**34.8**	**-0.6**
	baz=56,SNR=16									
VNDA	**Vanda**	**55.64**	**186**	P		**P**	**19**	**36**	**36.0**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=12,slow=4.5,SNR=7.1									
VNDA	**Vanda**	**55.64**	**186**	*eP*		**P**	**19**	**36**	**35.3**	**-0.3**
	comp=Z,3.4nm,1.0s									
SWI	**Sorong**	**56.61**	**285**	P		**P**	**19**	**36**	**42.3**	**-1.2**
	baz=57,SNR=16									
KLBR	**Kellerberrin**	**59.54**	**246**	P		**P**	**19**	**37**	**03.7**	**-0.1**
	baz=60,SNR=12									
MEEK	**Meekatharra**	**59.75**	**252**	P		**P**	**19**	**37**	**04.5**	**-0.9**
	baz=60,SNR=14									
BLDU	**Ballidu**	**60.60**	**247**	P		**P**	**19**	**37**	**10.9**	**-0.2**
	baz=61,SNR=20									
MORW	**Morawa**	**61.47**	**248**	P		**P**	**19**	**37**	**17.0**	**0.0**
	baz=62,SNR=33									
PCI	**Palu**	**66.88**	**279**	P		**P**	**19**	**37**	**53.5**	**+0.8**
	baz=68,SNR=6.6									
QSPA	**South Pole Qui**	**67.02**	**180**	P		**P**	**19**	**37**	**54.4**	**+1.5**
	comp=Z,4.6nm,1.0s,baz=62,slow=4.3,SNR=7.1									
QSPA	**South Pole Qui**	**67.02**	**180**	*eP*		**P**	**19**	**37**	**53.6**	**+0.7**

CHTO	**Chiang Mai**	**93.73**	**289**	P	**P**	**19 40 19.0**	**+1.7**
	comp=Z,498nm,0.8s						
YKA	**Yellowknife Ar**	**97.68**	**24**	P	**P**	**19 40 33.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=230,slow=4.2,SNR=6.1						
YKA	**Yellowknife Ar**	**97.68**	**24**	P	**P**	**19 40 33.5**	**-0.7**
MKAR	**Makanchi Array**	**114.98**	**312**	PKP	PKPdf	19 45 39.4	-1.5
	comp=Z,0.2nm,0.6s,baz=237,slow=0.5,SNR=5.0						
MKAR	**Makanchi Array**	**114.98**	**312**	PKIKP	PKPdf	19 45 39.4	-1.5
MKAR	**Makanchi Array**	**114.98**	**312**	PKP	PKPdf	19 45 39.4	-1.5
KURK	**Kurchatov**	**117.77**	**316**	PKIKP	**PKPdf**	**19 45 44.9**	**-1.1**
KURK	**Kurchatov**	**117.77**	**316**	PKP	**PKPdf**	**19 45 44.9**	**-1.1**
KURBB	**Kurchatov Arra**	**117.82**	**316**	PKP	**PKPdf**	**19 45 44.9**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=90,slow=15,SNR=4.9						
BVAR	**Borovoye Array**	**122.83**	**319**	PKP	**PKPdf**	**19 45 55.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=68,slow=4.0,SNR=2.9						
BVAR	**Borovoye Array**	**122.83**	**319**	PKIKP	**PKPdf**	**19 45 55.4**	**-0.3**
BVAR	**Borovoye Array**	**122.83**	**319**	PKP	**PKPdf**	**19 45 55.4**	**-0.3**
FINES	**FINESS Array B**	**138.99**	**345**	PKP	**PKPdf**	**19 46 27.6**	**+1.7**
	comp=Z,3.6nm,1.1s,baz=354,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**138.99**	**345**	PKP	**PKPdf**	**19 46 27.6**	**+1.7**
AKASG	**Malin Array Be**	**146.59**	**332**	PKPbc	**PKPdf**	**19 46 39.9**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=47,slow=4.6,SNR=7.8						
AKASG				SKPbc	**SKiKP**	**19 50 24.2**	**+6.0**
	comp=Z,1.0nm,0.5s,baz=74,slow=5.4,SNR=4.2						
AKASG	**Malin Array Be**	**146.59**	**332**	PKP2	**PKPdf**	**19 46 39.9**	**+0.2**
AKASG	**Malin Array Be**	**146.59**	**332**	PKPbc	**PKPdf**	**19 46 39.9**	**+0.2**
AKASG				SKPbc	**SKiKP**	**19 50 24.2**	**+6.0**
KIEV	**Kiev**	**146.60**	**332**	*e*PKP2	**PKPdf**	**19 46 39.8**	**+0.1**
KIEV	**Kiev**	**146.60**	**332**	*e*P	**PKPdf**	**19 46 39.8**	**+0.1**
ASF	**Jabal al Asfar**	**150.41**	**295**	PKPbc	**PKPbc**	**19 46 52.2**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=37,slow=11,SNR=4.1						
ASF	**Jabal al Asfar**	**150.41**	**295**	PKPbc	**PKPbc**	**19 46 52.2**	**+0.3**
BRTR	**Keskin Array B**	**150.62**	**311**	PKPbc	**PKPbc**	**19 46 51.6**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=146,slow=5.5,SNR=4.8						
BRTR	**Keskin Array B**	**150.62**	**311**	PKPbc	**PKPbc**	**19 46 51.6**	**-0.7**
CLL	**Collm**	**151.13**	**350**	*e*PKPbc	**PKPbc**	**19 46 54.0**	**+1.1**
CLL				*e*PKPab	**PKPab**	**19 46 59.0**	**-1.6**
CLL				*es*PKPbc	**sPKPbc**	**19 47 07.0**	**+0.8**
CLL				*ep*PKPab	**pPKPab**	**19 47 10.0**	**-0.3**
MMAI	**Mount Meron Ar**	**151.49**	**297**	PKPbc	**PKPbc**	**19 46 54.9**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=84,slow=7.6,SNR=5.4						
MMAI	**Mount Meron Ar**	**151.49**	**297**	PKPbc	**PKPbc**	**19 46 54.9**	**+0.4**
EIL	**Elat**	**152.43**	**290**	PKPbc	**PKPbc**	**19 46 56.6**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=166,slow=4.2,SNR=2.8						
EIL	**Elat**	**152.43**	**290**	PKPbc	**PKPbc**	**19 46 56.6**	**+0.1**
KHC	**Kasperske Hory**	**153.11**	**348**	*e*PKIKP	**PKPbc**	**19 47 00.0**	**+2.5**
KHC				*e*		19 47 10.5	
KHC	**Kasperske Hory**	**153.11**	**348**	*e*PKP	**PKPbc**	**19 47 00.0**	**+2.5**
KHC				*e*PKPAB	**PKPab**	**19 47 10.5**	**+1.4**
GERES	**GERESS Array B**	**153.36**	**347**	PKPbc	**PKPbc**	**19 46 58.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=302,slow=7.6,SNR=3.9						
GERES	**GERESS Array B**	**153.36**	**347**	PKPbc	**PKPbc**	**19 46 58.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**169.65**	**162**	PKPab	**PKPab**	**19 48 22.3**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=197,slow=3.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**169.65**	**162**	PKPab	**PKPab**	**19 48 22.3**	**+0.5**

*IDC **19** 19:33:15.2±7.5, 23°.03S×174°.82W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.1/21, mbtmp4.3/6, Error ellipse: s-maj=183.8km s-min=46.5km az=122.0*
*NEIC **19** 19:33:19.8±4.5, 23°.14S×174°.75W, h35km, mb4.7/2, Error ellipse: s-maj=110.0km s-min=31.2km az=123.0*
ISC 19 19:33:19.5±7.4, 23°.2S±0°.7×17°.5W±°, h36km, n15, σ0s55/15, mb4.3/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.38**	**267**	P	**P**	**19 40 20.9**	**+0.3**
	11nm,0.6s,baz=98,slow=11,SNR=20						
CTA	**Charters Tower**	**36.38**	**267**	P	**P**	**19 40 20.9**	**+0.3**
CTAO	**Charters Tower**	**36.38**	**267**	*e*P	**P**	**19 40 20.5**	**-0.1**
	9.5nm,0.5s						
STKA	**Stephens Creek**	**39.53**	**248**	P	**P**	**19 40 47.2**	**+0.2**
	1.3nm,0.6s,baz=103,slow=8.2,SNR=5.0						
STKA	**Stephens Creek**	**39.53**	**248**	P	**P**	**19 40 47.2**	**+0.2**
AS31	**Alice Springs**	**46.98**	**259**	*e*P	**P**	**19 41 46.9**	**-0.5**
ASAR	**Alice Springs**	**46.98**	**259**	P	**P**	**19 41 47.2**	**-0.1**
	1.8nm,0.6s,baz=98,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**46.98**	**259**	P	**P**	**19 41 47.2**	**-0.1**
WRAB	**Tennant Creek**	**47.34**	**264**	*e*P	**P**	**19 41 49.5**	**-0.7**
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**47.34**	**264**	P	**P**	**19 41 49.3**	**-0.9**
	7.9nm,0.6s,baz=102,slow=8.5,SNR=48						
WRA	**Warramunga Arr**	**47.34**	**264**	P	**P**	**19 41 49.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**55.77**	**263**	P	**P**	**19 42 53.9**	**+0.7**
	2.1nm,0.6s,baz=82,slow=9.2,SNR=9.3						
FITZ	**Fitzroy Crossi**	**55.77**	**263**	P	**P**	**19 42 53.9**	**+0.7**
MJAR	**Matsushiro Arr**	**74.20**	**322**	P	**P**	**19 44 52.6**	**0.0**
	0.9nm,0.6s,baz=163,slow=6.1,SNR=5.4						
MJAR	**Matsushiro Arr**	**74.20**	**322**	P	**P**	**19 44 52.6**	**0.0**

*AUST **19** 19:39:57.8, 6°.78S×145°.12E, h0km*
*IDC **19** 19:40:01.2±1.1, 7°.19S×145°.16E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=28.7km s-min=21.9km az=77.0*
*ISCJB **19** 19:40:04.6±0.7, 7°.27S±0°.07×144°.99E±0°.06, h33km, mb3.6/6, Error ellipse: s-maj=11.7km s-min=7.1km az=38.1*
ISC 19 19:40:06.4±0.8, 7°.25S±0°.10×144°.99E±0°.08, h35km, n20, σ1s70/18, mb3.7/6, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**135**	Pn	**Pn**	**19 40 50.7**	**-1.2**
	2.6nm,0.3s,baz=284,slow=5.0,SNR=9.4						
PMG				Sn	**Sn**	**19 41 27.1**	**+0.1**
	5.1nm,0.3s,baz=307,slow=8.4,SNR=4.4						
COEN	**Coen**	**6.90**	**195**	P	**Pn**	**19 41 46.0**	**+0.9**
	baz=7.4,SNR=52						
KDU	**Kakadu**	**13.46**	**245**	P	**Pn**	**19 43 12.9**	**-2.1**
	baz=14,SNR=5.7						
QIS	**Mount Isa**	**14.22**	**201**	P	**Pn**	**19 43 26.1**	**+0.7**
	baz=15,SNR=5.0						
MTN	**Manton Dam**	**14.73**	**247**	P	**Pn**	**19 43 29.9**	**-2.4**
	baz=15,SNR=6.0						
WRA	**Warramunga Arr**	**16.30**	**218**	Pn	**Pn**	**19 43 51.8**	**-1.0**
	0.3nm,0.3s,baz=32,slow=13,SNR=11						
AAI	**Ambon**	**17.09**	**281**	S	**Sn**	**19 47 11.4**	**-0.5**
	baz=17,SNR=3.1						
QLP	**Quilpie**	**19.24**	**182**	P	**Pn**	**19 44 30.5**	**+1.6**
	baz=20,SNR=5.3						
RMQ	**Roma**	**19.46**	**170**	P	Pn	19 44 36.1	+4.5
	baz=20,SNR=5.8						
ASAR	**Alice Springs**	**19.48**	**212**	P	**Pn**	**19 44 32.0**	**+0.1**
	0.5nm,0.3s,baz=39,slow=11,SNR=52						
FITZ	**Fitzroy Crossi**	**21.71**	**238**	P	**P**	**19 44 55.4**	**+0.7**
	2.8nm,0.7s,baz=79,slow=6.4,SNR=6.4						
FITZ	**Fitzroy Crossi**	**21.71**	**238**	P	**P**	**19 44 58.2**	**+3.5**
	baz=22,SNR=4.1						
WSI	**Waingapu**	**24.54**	**263**	P	**P**	**19 45 20.9**	**-2.2**
	baz=25,SNR=3.6						
PCI	**Palu**	**25.86**	**283**	S	S	19 50 16.0	+13
	baz=26,SNR=4.9						
NIUE	**Niue**	**45.31**	**110**	P	P	19 48 16.9	-4.4
	baz=45,SNR=5.8						
CMAR	**Chiang Mai Arr**	**52.11**	**300**	P	**P**	**19 49 15.5**	**+1.9**
	0.3nm,0.3s,baz=122,slow=6.6,SNR=1.8						
SONM	**Songino Array**	**64.55**	**332**	P	**P**	**19 50 40.0**	**-0.1**
	0.2nm,0.4s,baz=151,slow=3.3,SNR=2.5						
MKAR	**Makanchi Array**	**77.20**	**321**	P	**P**	**19 51 57.8**	**+0.9**
	0.3nm,0.7s,baz=131,slow=5.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**79.02**	**329**	P	**P**	**19 52 08.1**	**+1.4**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=2.2						
ILAR	**Eielson Array**	**87.42**	**23**	P	**P**	**19 52 48.3**	**-1.5**
	0.5nm,0.7s,baz=252,slow=4.9,SNR=6.2						

MAN 19 19:40:08, 7°.66N×124°.74E, h19km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.38**	**56**	*e*P	Pb	19 40 17.1	+0.7
BUKP				*e*S	Sn	19 40 24.1	-1.4
PAGZ	**Pagadian**	**1.36**	**278**	*e*P	Pn	19 40 32.4	+0.4
MATI	**Mati**	**1.66**	**115**	*e*P	Pb	19 40 37.2	-0.8

*IDC **19** 19:40:16.1±2.2, 23°.15S×174°.74W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/21, mbtmp4.2/7, Error ellipse: s-maj=81.5km s-min=27.3km az=147.0*
*ISCJB **19** 19:40:19.6±1.9, 23°.05S±0°.4×174°.9W±0°.3, h30km, mb4.3/9, Error ellipse: s-maj=74.4km s-min=22.6km az=148.4*
*NEIC **19** 19:40:21.8±1.5, 23°.05S×174°.86W, h35km, mb4.7/3, Error ellipse: s-maj=59.1km s-min=18.5km az=149.0*
ISC 19 19:40:21.2±1.9, 23°.0S±0°.5×174°.8W±0°.3, h30km, n17, σ0s73/17, mb4.5/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.25**	**267**	P	**P**	**19 47 21.7**	**-0.2**
	7.3nm,0.5s,baz=96,slow=9.9,SNR=14						
CTA	**Charters Tower**	**36.25**	**267**	P	**P**	**19 47 21.7**	**-0.2**
CTAO	**Charters Tower**	**36.25**	**267**	*e*P	**P**	**19 47 21.4**	**-0.5**
	5.6nm,0.6s						
STKA	**Stephens Creek**	**39.44**	**247**	P	**P**	**19 47 49.1**	**+0.3**
	0.8nm,0.3s,baz=84,slow=9.0,SNR=5.4						
STKA	**Stephens Creek**	**39.44**	**247**	P	**P**	**19 47 49.1**	**+0.3**
ASAR	**Alice Springs**	**46.86**	**259**	P	**P**	**19 48 48.8**	**-0.1**
	0.8nm,0.4s,baz=102,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**46.86**	**259**	P	**P**	**19 48 48.8**	**-0.1**
WRAB	**Tennant Creek**	**47.21**	**264**	*e*P	**P**	**19 48 50.0**	**-1.6**
	4.0nm,0.5s						
WRA	**Warramunga Arr**	**47.22**	**264**	P	**P**	**19 48 50.4**	**-1.3**
	5.8nm,0.6s,baz=103,slow=8.2,SNR=34						
WRA	**Warramunga Arr**	**47.22**	**264**	P	**P**	**19 48 50.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**55.64**	**263**	P	**P**	**19 49 54.9**	**+0.2**
	3.8nm,0.8s,baz=146,slow=6.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**55.64**	**263**	P	**P**	**19 49 54.9**	**+0.2**
MBWA	**Marble Bar**	**60.20**	**258**	*e*P	**P**	**19 50 27.2**	**+0.5**
	5.9nm,0.8s						
MJAR	**Matsushiro Arr**	**74.00**	**322**	P	**P**	**19 51 54.5**	**+0.5**
	0.9nm,0.5s,baz=157,slow=5.8,SNR=2.4						
MJAR	**Matsushiro Arr**	**74.00**	**322**	P	**P**	**19 51 54.5**	**+0.5**
NVAR	**Mina Array Bea**	**80.90**	**42**	P	**P**	**19 52 32.5**	**-0.3**
	0.6nm,0.7s,baz=227,slow=9.2,SNR=4.5						
NVAR	**Mina Array Bea**	**80.90**	**42**	P	**P**	**19 52 32.5**	**-0.3**

IDC 19 19:45:54.9±3.5, 22°.99S×174°.71W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.0/21, mbtmp4.1/6, Error ellipse: s-maj=179.8km s-min=26.1km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.35**	**267**	P	P	19 53 02.2	+1.2
	4.0nm,0.5s,baz=94,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**46.98**	**259**	P	P	19 54 27.8	-0.3
	1.1nm,0.7s,baz=97,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**47.33**	**264**	P	P	19 54 28.9	-1.9
	2.9nm,0.5s,baz=103,slow=8.2,SNR=33						
FITZ	**Fitzroy Crossi**	**55.75**	**263**	P	P	19 55 34.7	+0.8
	2.6nm,1.1s,baz=132,slow=13,SNR=6.0						
NVAR	**Mina Array Bea**	**80.79**	**42**	P	P	19 58 11.1	+0.3
	0.9nm,0.7s,baz=223,slow=7.1,SNR=4.6						
ILAR	**Eielson Array**	**90.09**	**12**	P	P	19 58 55.8	-0.5
	0.5nm,0.9s,baz=223,slow=5.2,SNR=4.0						

*IDC **19** 19:47:01.3±2.0, 22°.33S×175°.01W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/21, mbtmp4.2/8, Error ellipse: s-maj=122.1km s-min=20.7km az=155.0*
*ISCJB **19** 19:47:05.0±1.6, 22°.3S±0°.6×175°.2W±0°.3, h33km, mb4.2/9, Error ellipse: s-maj=92.3km s-min=16.9km az=154.5*
*NEIC **19** 19:47:06.4±1.4, 22°.38S×175°.04W, h35km, mb4.6/2, Error ellipse: s-maj=84.0km s-min=15.5km az=155.0*
ISC 19 19:47:06.1±1.6, 22°.4S±0°.6×175°.0W±0°.3, h33km, n18, σ0s98/18, mb4.2/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.09**	**266**	P	**P**	**19 54 05.9**	**+0.8**
	5.1nm,0.4s,baz=97,slow=9.5,SNR=12						
CTA	**Charters Tower**	**36.09**	**266**	P	**P**	**19 54 05.9**	**+0.8**
CTAO	**Charters Tower**	**36.09**	**266**	*e*P	**P**	**19 54 05.8**	**+0.8**
	6.2nm,0.7s						
STKA	**Stephens Creek**	**39.52**	**247**	P	**P**	**19 54 33.3**	**-0.6**
	0.6nm,0.5s,baz=95,slow=9.0,SNR=3.0						
STKA	**Stephens Creek**	**39.52**	**247**	*e*P	**P**	**19 54 33.4**	**-0.5**
ASAR	**Alice Springs**	**46.81**	**258**	P	**P**	**19 55 33.4**	**+0.4**
	3.2nm,1.1s,baz=85,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**46.81**	**258**	P	**P**	**19 55 33.4**	**+0.4**
WRAB	**Tennant Creek**	**47.09**	**263**	*e*P	**P**	**19 55 33.9**	**-1.3**
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**47.10**	**263**	P	**P**	**19 55 34.8**	**-0.5**
	3.1nm,0.6s,baz=104,slow=8.8,SNR=17						
WRA	**Warramunga Arr**	**47.10**	**263**	P	**P**	**19 55 34.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**19 56 39.7**	**+1.2**
	1.9nm,0.5s,baz=91,slow=8.5,SNR=5.9						
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**19 56 39.7**	**+1.2**
NVAR	**Mina Array Bea**	**80.55**	**42**	P	**P**	**19 59 16.6**	**+1.2**
	1.3nm,0.7s,baz=220,slow=8.8,SNR=7.2						
NVAR	**Mina Array Bea**	**80.55**	**42**	P	**P**	**19 59 16.6**	**+1.2**
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**19 59 42.4**	**-0.1**
	0.6nm,0.5s,baz=213,slow=9.7,SNR=4.3						
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**19 59 42.4**	**-0.1**
ILAR	**Eielson Array**	**89.58**	**12**	P	**P**	**19 59 58.4**	**-1.4**
	0.6nm,0.9s,baz=215,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**89.58**	**12**	P	**P**	**19 59 58.4**	**-1.4**

IDC 19 20:01:14.9±20.0, 6°.16S×106°.91E, h131km±184km, mb3.4/6, mb1 3.5/6, mb1mx3.3/22, mbtmp3.4/6, Error ellipse: s-maj=171.6km s-min=26.7km az=60.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.79**	**125**	P	P	20 05 56.7	0.0
	1.3nm,0.8s,baz=311,slow=9.3,SNR=5.7						
WRA	**Warramunga Arr**	**29.96**	**120**	pP	pP	20 07 47.6	+8.3
	0.5nm,1.1s,baz=296,slow=9.9,SNR=2.4						
ASAR	**Alice Springs**	**31.25**	**127**	P	P	20 07 22.1	-0.4
	0.6nm,0.4s,baz=302,slow=7.9,SNR=31						
ASAR				pP	pP	20 07 59.5	+8.7
	0.2nm,0.4s,baz=304,slow=8.4,SNR=2.1						
STKA	**Stephens Creek**	**41.27**	**133**	P	P	20 08 47.7	+0.2
	1.9nm,0.5s,baz=311,slow=9.0,SNR=7.7						
SONM	**Songino Array**	**53.75**	**360**	P	P	20 10 24.6	+0.7
	0.2nm,0.4s,baz=174,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**57.07**	**340**	P	P	20 10 48.2	+0.8
	0.9nm,0.4s,baz=146,slow=7.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**62.70**	**346**	P	P	20 11 24.0	-1.7
	0.3nm,0.3s,baz=154,slow=8.4,SNR=3.9						

*IDC **19** 20:03:56.5±1.6, 37°.47N×77°.56E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.4/29, mbtmp3.4/7, ML3.3/3, Error ellipse: s-maj=27.4km s-min=22.7km az=74.0*
*ISCJB **19** 20:03:59.5±0.7, 37°.62N±0°.04×77°.8E±0°.1, h10km, mb3.2/4, Error ellipse: s-maj=13.1km s-min=6.3km az=175.6*
*NNC **19** 20:04:05.3±6.3, 36°.90N×75°.56E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=47.4km s-min=38.3km az=150.0*
ISC 19 20:04:01.6±1.1, 37°.65N±0°.06×77°.8E±0°.1, h10km, n14, σ2s59/17, mb3.3/4, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.34**	**323**	Pn	**Pn**	**20 04 39.0**	**-1.3**
KSH				Sn	**Sn**	**20 05 06.9**	**-2.3**
KSH				smax	smax		
	comp=N,470nm,0.3s						
KSH				smax	smax		
	comp=E,660nm,0.4s						
DLH	**Dalhousie**	**5.31**	**197**	*e*P	**Pn**	**20 05 21.0**	**-0.2**
DLH				*e*S	**Sn**	**20 06 22.0**	**-0.5**
TKM2	**Tokmak 2**	**5.52**	**343**	⇓Pn	**Pb**	**20 05 36.4**	**-1.9**
	comp=E,7.0nm,0.5s						
TKM2				⇑Sn	**Sb**	**20 06 47.1**	**+2.4**
	comp=E,23nm,1.1s						
AAK	**Ala-Archa**	**5.58**	**334**	Pn	**Pn**	**20 05 25.8**	**+1.0**
	comp=E,0.6nm,0.3s,baz=140,slow=8.2,SNR=11						
AAK				Pg	**Pb**	**20 05 41.7**	**+2.5**
	comp=E,3.5nm,0.3s,baz=118,slow=6.2,SNR=23						
AAK				Sn	**Sn**	**20 06 31.5**	**+2.4**
	comp=E,2.0nm,0.3s,baz=162,slow=9.8,SNR=2.2						
AAK				Lg	Lg	20 06 53.9	
	comp=E,2.7nm,0.3s,baz=26,slow=20,SNR=4.1						
KNDC	**Almaty**	**5.60**	**354**	⇓Pn	**Pb**	**20 05 42.2**	**+2.8**
	comp=E,18nm,0.4s						
KNDC				⇑Sn	Sb	20 06 53.9	+7.3
	comp=E,78nm,1.0s						
KK31	**Karatay Array**	**7.77**	**317**	⇑Pn	Pn	20 05 51.9	-2.9
	comp=E,0.3nm,0.3s,baz=144,slow=15,SNR=7.3						
KK31				⇑Sn	**Sn**	**20 07 18.0**	**-4.9**
	comp=E,0.9nm,0.4s,baz=149,slow=24,SNR=4.2						
KK31				⇓Lg	Lg	20 08 03.5	
	comp=E,3.2nm,0.6s,baz=134,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**9.73**	**19**	Pn	**Pn**	**20 06 21.3**	**-0.3**
	comp=E,1.2nm,0.3s,baz=204,slow=13,SNR=10						
MKAR				Sn	**Sn**	**20 08 08.5**	**-2.4**
	comp=E,0.6nm,0.3s,baz=200,slow=23,SNR=5.2						
KURBB	**Kurchatov Arra**	**12.98**	**2**	Pn	Pn	20 07 03.9	-2.1
	comp=E,0.0nm,0.3s,baz=189,slow=13,SNR=3.7						
KURBB				Lg	Lg	20 10 49.1	
	comp=E,0.0nm,0.3s,baz=190,slow=33,SNR=2.6						
BVAR	**Borovoye Array**	**16.21**	**344**	Pn	**Pn**	**20 07 52.0**	**+2.7**
	comp=E,0.2nm,0.3s,baz=155,slow=10.0,SNR=7.1						
BVAR				Sn	**Sn**	**20 10 45.1**	**-4.1**
	comp=E,0.4nm,0.3s,baz=220,slow=42,SNR=4.0						
ZALV	**Zalesovo Beam**	**17.01**	**14**	P	**Pn**	**20 08 01.0**	**+1.6**
	comp=E,0.1nm,0.3s,baz=213,slow=9.7,SNR=3.8						
SONM	**Songino Array**	**23.23**	**55**	P	**P**	**20 09 08.4**	**-0.5**
	comp=E,0.5nm,1.1s,baz=253,slow=9.5,SNR=5.6						
FINES	**FINESS Array B**	**39.66**	**324**	P	P	20 11 31.2	-2.2
	comp=E,1.8nm,0.9s,baz=98,slow=8.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**71.13**	**272**	P	P	20 15 15.7	-4.9
	comp=E,0.2nm,0.5s,baz=53,slow=5.9,SNR=7.1						
YKA	**Yellowknife Ar**	**79.70**	**6**	P	P	20 16 06.0	-3.1
	comp=E,0.1nm,0.7s,baz=347,slow=5.8,SNR=4.1						

IDC 19 20:04:11.8±2.7, 23°.20S×174°.72W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=104.2km s-min=27.5km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.33**	**267**	P	P	20 11 17.9	+0.3
	4.1nm,0.6s,baz=100,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**46.92**	**259**	P	P	20 12 44.5	0.0
	0.7nm,0.9s,baz=95,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**47.29**	**264**	P	P	20 12 46.8	-0.6
	3.6nm,0.7s,baz=103,slow=8.6,SNR=43						
MJAR	**Matsushiro Arr**	**74.19**	**322**	P	P	20 15 50.6	+0.2
	0.9nm,0.7s,baz=154,slow=6.6,SNR=4.4						
NVAR	**Mina Array Bea**	**80.95**	**41**	P	P	20 16 28.7	+0.3
	0.4nm,0.6s,baz=231,slow=8.0,SNR=3.7						
ILAR	**Eielson Array**	**90.30**	**12**	P	P	20 17 13.3	-0.8
	0.4nm,0.9s,baz=224,slow=5.0,SNR=3.0						

*ISCJB **19** 20:14:24.8±0.4, 9°.86N±0°.05×125°.73E±0°.05, h150km, mb4.0/8, Error ellipse: s-maj=9.1km s-min=4.7km az=40.0*
*MAN **19** 20:14:26, 9°.87N×125°.65E, h140km, mb4.6, ML3.5, MS3.5*
*IDC **19** 20:14:26.8±0.9, 9°.72N×125°.40E, h155km±8km, mb3.8/8, mb1 3.9/9, mb1mx3.5/28, mbtmp3.8/9, MS4.3/1, Ms1 4.3/1, ms1mx3.5/48, Error ellipse: s-maj=41.7km s-min=11.8km az=65.0*
*AUST **19** 20:14:43.5±3.0, 7°.94N×125°.23E, h195km, Error ellipse: s-maj=4.0km s-min=1.5km az=5.0*
ISC 19 20:14:26.5±0.7, 9°.77N±0°.09×125°.6E±0°.1, h150km, n46, σ1s01/44, mb3.9/8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.79**	**179**	*e*P	**Pn**	**20 14 51.4**	**+1.8**
MSLP	**Maasin**	**0.82**	**297**	*e*P	**Pn**	**20 14 50.8**	**+1.0**
MSLP				*e*S	**Sn**	**20 15 06.7**	**-0.8**
OCLP	**Ormoc**	**1.61**	**323**	*e*P	**Pn**	**20 14 57.7**	**+0.5**
LLP	**Lapu-Lapu**	**1.70**	**289**	*e*P	**Pn**	**20 14 59.0**	**+0.7**
LLP				*e*S	**Sn**	**20 15 22.6**	**+0.1**
TBP	**Tagbilaran**	**1.72**	**268**	*e*P	Pn	20 14 59.2	+0.8
TBP				*e*S

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang** 1.5nm,0.3s,baz=215,slow=7.0,SNR=17	**4.36**	**6**	Pn	Pn	20 23 39.1	-1.2
KAPI	5.8nm,0.3s,baz=121,slow=23,SNR=12			Sn	Sn	20 24 32.3	+0.5
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=75,slow=9.0,SNR=6.7	**10.65**	**145**	Pn	Pn	20 25 06.3	-0.4
FITZ	0.4nm,0.3s,baz=187,slow=22,SNR=5.9			Sn	Sn	20 27 04.6	-2.2
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=304,slow=13,SNR=7.6	**17.95**	**127**	P	P	20 26 45.5	+0.8
WRA	0.1nm,0.3s,baz=291,slow=22,SNR=4.0			S	Sn	20 30 06.7	+1.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=313,slow=11,SNR=12	**19.94**	**137**	P	P	20 27 05.8	-0.8
ASAR	0.1nm,0.3s,baz=312,slow=23,SNR=4.2			S	S	20 30 52.4	+0.5
NWAO	**Narrogin (SRO)** 3.4nm,0.5s,baz=21,slow=8.0,SNR=6.3	**23.52**	**184**	P	P	20 27 44.4	-0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=146,slow=6.8,SNR=5.6	**64.91**	**333**	P	P	20 33 14.5	+0.5

IDC ***19*** *20:25:04.3±8.3, 23°.44S×174°.67W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/21, mbtmp4.1/6, Error ellipse: s-maj=203.4km s-min=50.0km az=123.0, Tonga Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 6.7nm,0.7s,baz=106,slow=11,SNR=5.3	**36.37**	**268**	P	P	20 32 10.8	+0.3
STKA	**Stephens Creek** 0.6nm,0.5s,baz=92,slow=14,SNR=3.4	**39.42**	**248**	P	P	20 32 36.2	+0.1
ASAR	**Alice Springs** 0.9nm,0.7s,baz=91,slow=6.3,SNR=12	**46.92**	**259**	P	P	20 33 37.2	+0.2
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=105,slow=8.7,SNR=75	**47.31**	**264**	P	P	20 33 39.1	-0.9
FITZ	**Fitzroy Crossi** 1.6nm,0.7s,baz=101,slow=9.5,SNR=6.0	**55.73**	**263**	P	P	20 34 43.1	0.0
MJAR	**Matsushiro Arr** 0.8nm,0.8s,baz=160,slow=6.7,SNR=4.0	**74.41**	**322**	P	P	20 36 44.0	-0.2

IDC ***19*** *20:29:21.4±0.6, 22°.41S×175°.03W, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.4/25, mbtmp4.3/18, Error ellipse: s-maj=26.0km s-min=16.9km az=141.0*
NEIC ***19*** *20:29:26.6±0.4, 22°.52S×174°.93W, h35km, mb4.8/4, Error ellipse: s-maj=15.3km s-min=12.2km az=140.0*
ISC 19 20:29:25.6±0.5, 22°.25S±0°.07×174°.7W±0°.1, h27km, n68, σ2s07/65, mb4.4/21, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 127nm,1.1s	**8.14**	**302**	P	**Pn**	**20 31 23.5**	**+1.4**
AFI	**Afiamalu** 6.9nm,0.3s,baz=71,slow=19,SNR=5.2	**8.75**	**19**	Pn	**Pn**	**20 31 29.0**	**-1.5**
AFI	3.9nm,0.3s,baz=236,slow=23,SNR=4.2			Sn	**Sn**	**20 33 03.7**	**-4.6**
AFI	**Afiamalu**	**8.75**	**19**	Pn	**Pn**	**20 31 29.0**	**-1.5**
AFI				Sn	**Sn**	**20 33 03.7**	**-4.6**
RAR	**Rarotonga** 3.8nm,0.3s,baz=266,slow=6.2,SNR=9.0	**13.93**	**89**	Pn	Pn	20 32 35.5	-5.9
RAR	2.8nm,0.3s,baz=121,slow=17,SNR=3.1			Sn	Sn	20 34 59.7	-15
RAR	**Rarotonga**	**13.93**	**89**	Pn	Pn	20 32 35.5	-5.9
RAR				Sn	Sn	20 34 59.7	-15
URZ	**Urewera** 0.7nm,0.3s,baz=41,slow=12,SNR=2.9	**17.44**	**202**	P	**Pn**	**20 33 23.2**	**-3.7**
URZ	0.6nm,0.3s,baz=22,slow=21,SNR=2.5			S	Sn	20 36 18.9	-21
URZ	**Urewera**	**17.44**	**202**	P	**Pn**	**20 33 23.2**	**-3.7**
URZ				S	Sn	20 36 18.9	-21
RPZ	**Rata Peaks** 24nm,1.1s,baz=121,slow=9.5,SNR=3.3	**24.44**	**206**	P	**P**	**20 34 43.7**	**+1.6**
RPZ	**Rata Peaks**	**24.44**	**206**	P	**P**	**20 34 43.7**	**+1.6**
STKA	**Stephens Creek** 2.2nm,0.7s,baz=44,slow=4.8,SNR=5.5	**39.84**	**247**	P	**P**	**20 36 55.0**	**-1.9**
STKA	**Stephens Creek**	**39.84**	**247**	P	**P**	**20 36 55.0**	**-1.9**
ASAR	**Alice Springs** 5.7nm,0.9s,baz=91,slow=8.2,SNR=26	**47.12**	**258**	P	P	20 37 51.6	-4.1
ASAR	**Alice Springs**	**47.12**	**258**	P	P	20 37 51.6	-4.1
WRAB	**Tennant Creek** 8.2nm,1.2s	**47.39**	**263**	P	**P**	**20 37 57.2**	**-0.6**
WRA	**Warramunga Arr** 2.8nm,0.9s,baz=100,slow=7.9,SNR=8.6	**47.40**	**263**	P	P	20 37 54.1	-3.9
WRA	**Warramunga Arr**	**47.40**	**263**	P	P	20 37 54.1	-3.9
QSPA	**South Pole Qui** 5.5nm,1.0s,baz=33,slow=4.6,SNR=8.8	**67.83**	**180**	P	**P**	**20 40 20.6**	**-0.6**
QSPA	**South Pole Qui** 9.4nm,1.1s	**67.83**	**180**	*eP*	**P**	**20 40 20.3**	**-0.9**
MJAR	**Matsushiro Arr** 1.2nm,0.7s,baz=165,slow=6.6,SNR=4.4	**73.44**	**322**	P	**P**	**20 40 54.4**	**-1.1**
MJAR	**Matsushiro Arr**	**73.44**	**322**	P	**P**	**20 40 54.4**	**-1.1**
PETK	**Petropavlovsk-** 8.0nm,1.0s,baz=125,slow=4.2,SNR=3.6	**78.77**	**343**	P	**P**	**20 41 25.2**	**-0.2**
PETK	**Petropavlovsk-**	**78.77**	**343**	P	**P**	**20 41 25.2**	**-0.2**
YBH	**Yreka Blue Hor** 1.2nm,0.6s,baz=202,slow=5.4,SNR=5.2	**79.79**	**37**	P	**P**	**20 41 33.1**	**+1.6**
YBH	**Yreka Blue Hor**	**79.79**	**37**	P	**P**	**20 41 33.1**	**+1.6**
NVAR	**Mina Array Bea** 1.6nm,0.8s,baz=228,slow=9.0,SNR=12	**80.24**	**42**	P	**P**	**20 41 36.0**	**+1.8**
NVAR	**Mina Array Bea**	**80.24**	**42**	P	**P**	**20 41 36.0**	**+1.8**
USRK	**Ussuriysk Arra** 7.4nm,1.0s,baz=131,slow=2.5,SNR=7.2	**82.13**	**324**	P	**P**	**20 41 45.1**	**+1.5**
TXAR	**Lajitas Array** 1.4nm,0.8s,baz=214,slow=6.0,SNR=5.8	**85.46**	**56**	P	**P**	**20 42 01.8**	**+0.5**
TXAR	**Lajitas Array**	**85.46**	**56**	P	**P**	**20 42 01.8**	**+0.5**
ANMO	**Albuquerque** 2.1nm,0.9s,baz=233,slow=3.7,SNR=5.0	**86.15**	**50**	P	**P**	**20 42 06.8**	**+2.1**
ANMO	**Albuquerque**	**86.15**	**50**	P	**P**	**20 42 06.8**	**+2.1**
VNA3	**Neumayer Olymp**	**86.18**	**175**	*eP*	**P**	**20 42 02.7**	**-1.4**
VNA2	**Neumayer--Watz**	**86.66**	**176**	*eP*	**P**	**20 42 05.9**	**-0.5**
PSI	**Prapat** 2.2nm,0.5s,baz=135,slow=5.4,SNR=5.4	**87.67**	**274**	P	**P**	**20 42 10.9**	**-1.6**
PSI	**Prapat**	**87.67**	**274**	P	**P**	**20 42 10.9**	**-1.6**
PDAR	**Pinedale Array** 1.4nm,1.0s,baz=168,slow=2.9,SNR=5.7	**88.17**	**42**	P	**P**	**20 42 14.7**	**+0.3**
PDAR	**Pinedale Array**	**88.17**	**42**	P	**P**	**20 42 14.7**	**+0.3**
ILAR	**Eielson Array** 1.5nm,1.1s,baz=217,slow=5.0,SNR=4.9	**89.37**	**12**	P	**P**	**20 42 21.1**	**+2.0**
ILAR	**Eielson Array**	**89.37**	**12**	P	**P**	**20 42 21.1**	**+2.0**
ENH	**Enshi** 11nm,1.1s	**89.54**	**303**	*eP*	**P**	**20 42 21.2**	**+0.3**
CM31	**Chiang Mai Arr** 1.6nm,0.4s	**93.57**	**288**	*eP*	**P**	**20 42 41.2**	**+1.4**
CMAR	**Chiang Mai Arr** 5.2nm,1.0s,baz=122,slow=3.2,SNR=27	**93.57**	**288**	P	**P**	**20 42 40.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.57**	**288**	P	**P**	**20 42 40.5**	**+0.8**
INK	**Inuvik** 0.3nm,0.4s,baz=204,slow=16,SNR=3.0	**95.18**	**14**	P	**P**	**20 42 48.3**	**+2.4**
INK	**Inuvik**	**95.18**	**14**	P	**P**	**20 42 48.3**	**+2.4**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=238,slow=4.3,SNR=5.2	**96.84**	**24**	P	**P**	**20 42 54.7**	**+1.1**
YKA	**Yellowknife Ar**	**96.84**	**24**	P	**P**	**20 42 54.6**	**+1.1**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=194,slow=1.6,SNR=3.6	**114.61**	**313**	PKP	PKPdf	20 48 02.1	-1.2
MKAR	**Makanchi Array**	**114.61**	**313**	PKP	PKPdf	20 48 02.1	-1.2
AKASG	**Malin Array Be** 3.2nm,0.7s,baz=39,slow=3.9,SNR=7.4	**145.99**	**333**	PKPbc	**PKPdf**	**20 49 01.3**	**-0.5**
KIEV	**Kiev**	**146.00**	**333**	*e*PKPdf	**PKPdf**	**20 49 01.9**	**0.0**
AK01	**Malin Array Si**	**146.00**	**333**	*e*PKPbc	**PKPab**	**20 49 03.2**	**0.0**
AK02	**Malin Array Si**	**146.03**	**332**	*e*PKPdf	**PKPdf**	**20 49 02.1**	**+0.1**
BRTR	**Keskin Array B** 2.7nm,0.9s,baz=113,slow=3.3,SNR=3.0	**150.27**	**312**	PKPbc	**PKPbc**	**20 49 14.6**	**0.0**
BRTR	**Keskin Array B**	**150.27**	**312**	PKPbc	**PKPbc**	**20 49 14.6**	**0.0**
CLL	**Collm** comp=Z,14nm,1.2s	**150.37**	**350**	*i* PKPbc	**PKPbc**	**20 49 16.8**	**+2.5**
CLL				*e*PKPab	**PKPab**	**20 49 23.0**	**+2.4**
UPC	**Upice**	**150.56**	**346**	*e*PKP	**PKPab**	**20 49 18.9**	**-2.6**
BRG	**Berggiesshubel** comp=Z,8.2nm,1.0s	**150.63**	**349**	*e*P	**PKPab**	**20 49 18.9**	**-2.8**
BRG	**Berggiesshubel** comp=Z,8.2nm,1.0s	**150.63**	**349**	*e*PKP	**PKPab**	**20 49 19.0**	**-2.7**
DPC	**Dobruska-Polom**	**150.64**	**346**	*e*PKP	**PKPbc**	**20 49 17.0**	**+2.0**
DPC				*e*pPKP	PKPab	20 49 32.7	+11
PVCC	**Panska Ves**	**150.84**	**348**	*e*PKP	**PKPab**	**20 49 19.3**	**-3.3**
PRU	**Pruhonice**	**151.36**	**347**	*e*PKP	**PKPbc**	**20 49 20.3**	**+3.6**
PRU				*e*pPKP	**PKPab**	**20 49 29.2**	**+4.4**
KHC	**Kasperske Hory**	**152.37**	**348**	*e*PKP	**PKPbc**	**20 49 20.1**	**+1.1**
KHC				*e*pPKP	**PKPab**	**20 49 33.5**	**+4.4**
GERES	**GERESS Array B** comp=Z,1.2nm,1.0s,baz=23,slow=11,SNR=7.2	**152.62**	**348**	PKPbc	**PKPbc**	**20 49 22.3**	**+2.6**
GERES	**GERESS Array B**	**152.62**	**348**	PKPbc	**PKPbc**	**20 49 22.3**	**+2.6**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=229,slow=3.6,SNR=2.7	**170.33**	**159**	PKPab	**PKPab**	**20 50 47.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**170.33**	**159**	PKPab	**PKPab**	**20 50 47.0**	**-0.9**

IDC ***19*** *20:30:09.7±1.3, 23°.38S×174°.57W, h0km, mb4.6/16, mb1 4.8/16, mb1mx4.6/22, mbtmp4.6/16, Error ellipse: s-maj=47.3km s-min=17.8km az=154.0*
ISCJB ***19*** *20:30:13.6±0.6, 23°.4S±0°.1×174°.61W±0°.10, h35km, mb4.6/20, Error ellipse: s-maj=16.4km s-min=11.6km az=155.6*
NEIC ***19*** *20:30:14.5±0.6, 23°.50S×174°.51W, h35km, mb4.9/7, Error ellipse: s-maj=17.9km s-min=11.7km az=164.0*
AUST ***19*** *20:30:16.8±0.1, 22°.93S×173°.50W, h116km±1km, Error ellipse: s-maj=3.2km s-min=1.7km az=314.0*
ISC 19 20:30:15.2±0.6, 23°.3S±0°.1×174°.6W±0°.1, h35km, n54, σ1s13/49, mb4.6/20, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=5.1,SNR=3.9	**6.07**	**46**	P	Pn	20 31 32.7	-10
MSVF	**Nonsavu**	**8.88**	**308**	P	**Pn**	**20 32 22.8**	**+1.6**
AFI	**Afiamalu** 5.5nm,0.3s,baz=264,slow=21,SNR=2.7	**9.75**	**16**	Pn	Pn	20 32 25.7	-7.5
AFI	5.0nm,0.3s,baz=32,slow=21,SNR=1.9			Sn	Sn	20 34 02.0	-20
AFI	**Afiamalu**	**9.75**	**16**	Pn	Pn	20 32 25.7	-7.5
AFI				Sn	Sn	20 34 02.0	-20
RAR	**Rarotonga** 10nm,0.3s,baz=265,slow=9.9,SNR=5.0	**13.87**	**84**	Pn	Pn	20 33 21.2	-8.2
RAR	1.3nm,0.3s,baz=289,slow=22,SNR=1.6			Sn	Sn	20 35 40.9	-21
RAR	**Rarotonga**	**13.87**	**84**	Pn	Pn	20 33 21.2	-8.2
RAR				Sn	Sn	20 35 40.9	-21
DZM	**Mont Dzumac** 30nm,1.0s	**17.56**	**270**	*eP*	**P**	**20 34 19.7**	**+1.5**
CMSA	**Cobar Meteorol** baz=37,SNR=6.9	**36.04**	**248**	S	**S**	**20 42 50.8**	**+0.7**
CTA	**Charters Tower** 27nm,0.6s,baz=99,slow=11,SNR=27	**36.46**	**267**	P	**P**	**20 37 16.6**	**-0.5**
CTAO	**Charters Tower** 23nm,0.6s	**36.46**	**267**	*eP*	**P**	**20 37 16.4**	**-0.7**
PMG	**Port Moresby** 43nm,1.1s,baz=210,slow=4.1,SNR=5.3	**39.10**	**284**	P	**P**	**20 37 38.3**	**-1.1**
PMG	**Port Moresby** 41nm,1.0s	**39.10**	**284**	*eP*	**P**	**20 37 37.6**	**-1.8**
STKA	**Stephens Creek** 3.8nm,0.8s,baz=103,slow=7.2,SNR=7.1	**39.54**	**248**	P	**P**	**20 37 43.0**	**+0.1**
STKA	**Stephens Creek** 0.7nm,0.7s	**39.54**	**248**	*eP*	**P**	**20 37 43.0**	**+0.1**
BBOO	**Buckleboo** baz=45,SNR=4.8	**44.23**	**246**	P	**P**	**20 38 20.7**	**-0.6**
ASAR	**Alice Springs** 8.7nm,0.9s,baz=94,slow=8.1,SNR=8.2	**47.02**	**259**	P	**P**	**20 38 43.0**	**-0.6**
ASAR	**Alice Springs**	**47.02**	**259**	P	**P**	**20 38 43.0**	**-0.6**
WRAB	**Tennant Creek** 22nm,0.8s	**47.40**	**264**	*eP*	**P**	**20 38 45.0**	**-1.5**
WRA	**Warramunga Arr** 24nm,0.7s,baz=102,slow=8.1,SNR=28	**47.41**	**264**	P	**P**	**20 38 45.0**	**-1.5**
WRA	**Warramunga Arr**	**47.41**	**264**	P	**P**	**20 38 45.0**	**-1.5**
FITZ	**Fitzroy Crossi** 7.1nm,0.6s,baz=150,slow=8.2,SNR=5.1	**55.83**	**263**	P	**P**	**20 39 49.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**55.83**	**263**	P	**P**	**20 39 49.5**	**+0.1**
SWI	**Sorong** baz=58,SNR=6.1	**57.04**	**285**	P	**P**	**20 39 56.9**	**-1.2**
MORW	**Morawa** baz=63,SNR=4.4	**61.72**	**248**	P	**P**	**20 40 31.5**	**+1.2**
WSI	**Waingapu** baz=64,SNR=5.1	**63.45**	**271**	P	P	20 40 51.1	+9.1
QSPA	**South Pole Qui** 2.7nm,1.0s	**66.74**	**180**	P	**P**	**20 41 01.0**	**-1.7**
MJAR	**Matsushiro Arr** 4.8nm,0.7s,baz=165,slow=6.1,SNR=10.0	**74.38**	**322**	P	**P**	**20 41 48.9**	**-0.6**
MJAR	**Matsushiro Arr**	**74.38**	**322**	P	**P**	**20 41 48.9**	**-0.6**
ASAJ	**Asahikawa** 7.1nm,0.7s,baz=219,slow=8.6,SNR=3.8	**77.75**	**330**	P	**P**	**20 42 10.4**	**+2.0**
ASAJ	**Asahikawa**	**77.75**	**330**	P	**P**	**20 42 10.4**	**+2.0**
PETK	**Petropavlovsk-** 5.6nm,0.8s,baz=133,slow=6.3,SNR=3.6	**79.85**	**343**	P	**P**	**20 42 19.1**	**-0.8**
PETK	**Petropavlovsk-**	**79.85**	**343**	P	**P**	**20 42 19.1**	**-0.8**
NVAR	**Mina Array Bea** 1.4nm,0.7s,baz=225,slow=8.7,SNR=4.6	**80.97**	**41**	P	**P**	**20 42 26.4**	**-0.1**
NVAR	**Mina Array Bea**	**80.97**	**41**	P	**P**	**20 42 26.4**	**-0.1**
KSRS	**Korea Array** 2.7nm,0.8s,baz=128,slow=5.6,SNR=5.1	**81.12**	**317**	P	**P**	**20 42 27.7**	**+0.8**
KSAR	**Wonju Array Be**	**81.13**	**317**	P	**P**	**20 42 27.7**	**+0.6**
USRK	**Ussuriysk Arra** 4.8nm,0.8s,baz=105,slow=4.6,SNR=6.6	**83.09**	**324**	P	**P**	**20 42 38.7**	**+1.5**
VNA3	**Neumayer Olymp**	**85.08**	**175**	*eP*	**P**	**20 42 48.9**	**+1.8**
VNA2	**Neumayer--Watz** baz=201,slow=4.5	**85.56**	**176**	*eP*	**P**	**20 42 51.8**	**+2.4**
VNA1	**Neumayer--Stat**	**85.77**	**175**	*eP*	**P**	**20 42 52.7**	**+2.3**
TXAR	**Lajitas Array** 2.1nm,0.9s,baz=224,slow=6.3,SNR=3.7	**85.96**	**56**	P	**P**	**20 42 53.1**	**+0.9**
TXAR	**Lajitas Array**	**85.96**	**56**	P	**P**	**20 42 53.1**	**+0.9**
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=188,slow=5.5,SNR=2.6	**88.90**	**42**	P	**P**	**20 43 05.6**	**-0.6**
PDAR	**Pinedale Array**	**88.90**	**42**	P	**P**	**20 43 05.6**	**-0.6**
ENH	**Enshi** 11nm,1.1s	**90.25**	**303**	*eP*	**P**	**20 43 12.2**	**-0.4**
ILAR	**Eielson Array** 1.2nm,0.8s,baz=214,slow=6.2,SNR=6.0	**90.41**	**11**	P	**P**	**20 43 11.4**	**-1.0**
ILAR	**Eielson Array**	**90.41**	**11**	P	**P**	**20 43 11.4**	**-1.0**
CM31	**Chiang Mai Arr** 0.7nm,0.5s	**94.04**	**288**	P	**P**	**20 43 29.9**	**-0.4**
CMAR	**Chiang Mai Arr** 1.0nm,0.9s,baz=127,slow=3.2,SNR=2.8	**94.04**	**288**	P	**P**	**20 43 31.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**94.04**	**288**	P	**P**	**20 43 31.1**	**+0.8**
BRTR	**Keskin Array B** 2.3nm,0.9s,baz=94,slow=5.1,SNR=3.9	**151.09**	**311**	PKPbc	**PKPbc**	**20 50 04.5**	**-0.4**
BRTR	**Keskin Array B**	**151.09**	**311**	PKPbc	**PKPbc**	**20 50 04.5**	**-0.4**
CLL	**Collm** comp=Z,6.0nm,0.8s	**151.47**	**350**	*i* PKPbc	**PKPbc**	**20 50 05.3**	**+0.1**
CLL				*e*PKPab	**PKPab**	**20 50 13.0**	**-0.6**

IDC 19 20:33:30.6±1.9, 6°.60S×129°.20E, h0km, mb4.0/1, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=78.6km s-min=26.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.6nm,0.3s,baz=38,slow=14,SNR=70	**11.95**	**197**	Pn	Pn	20 36 24.6	+2.1
FITZ	0.7nm,0.3s,baz=148,slow=21,SNR=6.8			Sn	Sn	20 38 25.6	-11
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=337,slow=13,SNR=23	**14.18**	**160**	Pn	Pn	20 36 51.3	-1.6
WRA	0.9nm,0.3s,baz=240,slow=32,SNR=4.3			Sn	Sn	20 39 18.5	-13
ASAR	**Alice Springs** 1.5nm,0.3s,baz=342,slow=10,SNR=92	**17.57**	**166**	P	Pn	20 37 36.3	-0.8
ASAR	0.2nm,0.3s,baz=186,slow=11,SNR=3.5			S	Sn	20 40 37.4	-16
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=117,slow=8.2,SNR=23	**67.45**	**327**	P	P	20 44 28.3	0.0

AUST ***19*** *20:33:52.1±3.5, 23°.02S×174°.27W, h0km, Error ellipse: s-maj=1.6km s-min=1.1km az=305.0*
IDC ***19*** *20:33:54.1±0.4, 23°.10S×174°.67W, h0km, mb5.0/34, mb1 5.1/34, mb1mx5.0/36, mbtmp5.0/34, Error ellipse: s-maj=14.9km s-min=11.5km az=154.0*
DJA ***19*** *20:33:57.7±0.6, 23°.5S±11°×17°.5W±1°.1, h10km, M5.9/26, mB6.9/1, mb5.9/26, Mw(mB)6.8/1*
MOS ***19*** *20:33:57.9±1.9, 23°.12S×174°.70W, h33km, mb5.1/29, Error ellipse: s-maj=11.0km s-min=9.8km az=23.1*
ISCJB ***19*** *20:33:57.9±0.1, 23°.15S±0°.05×174°.67W±0°.03, h33km, mb5.2/85, MS5.5/4, Error ellipse: s-maj=7.7km s-min=3.3km az=159.4*
NEIC ***19*** *20:33:59.4±0.2, 23°.09S×174°.68W, h35km, mb5.3/29, Error ellipse: s-maj=9.4km s-min=6.8km az=152.0*
ISC 19 20:33:59.2±0.4, 23°.11S±0°.06×174°.62W±0°.05, h34km±1km, h34km:pP-P, n510, σ1s22/548, mb5.2/84, MS5.7/4, 115C-97D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=5.7,SNR=21	**5.94**	**48**	P	Pn	20 35 16.0	-8.8
MSVF	**Nonsavu**	**8.71**	**307**	*eP*	**Pn**	**20 36 05.0**	**+2.1**
MSVF	**Nonsavu**	**8.71**	**307**	*eP*	**Pn**	**20 36 05.0**	**+2.1**
MSVF	**Nonsavu** 1μm,1.0s,SNR=27	**8.71**	**307**	Pn	**Pn**	**20 36 05.0**	**+2.1**
AFI	**Afiamalu** 11nm,0.3s,baz=50,slow=7.0,SNR=5.6	**9.54**	**17**	Pn	Pn	20 36 07.3	-7.0
AFI	9.5nm,0.3s,baz=46,slow=23,SNR=3.8			Sn	Sn	20 37 44.6	-16
AFI	**Afiamalu**	**9.54**	**17**	Pn	Pn	20 36 07.3	-7.0
AFI				Sn	Sn	20 37 44.6	-16
RAR	**Rarotonga** 20nm,0.3s,baz=244,slow=6.7,SNR=15	**13.88**	**85**	Pn	Pn	20 37 04.6	-9.0
RAR	4.2nm,0.3s,baz=68,slow=22,SNR=2.6			Sn	Sn	20 39 24.4	-22
RAR	**Rarotonga**	**13.88**	**85**	Pn	Pn	20 37 04.6	-9.0
RAR				Sn	Sn	20 39 24.4	-22
URZ	**Urewera** 1.9nm,0.3s,baz=5.3,slow=8.5,SNR=6.1	**16.68**	**203**	Pn	**P**	**20 37 53.3**	**+0.9**
URZ	0.8nm,0.3s,baz=66,slow=12,SNR=3.8			Sn	Sn	20 40 43.8	-11
URZ	**Urewera**	**16.68**	**203**	Pn	**P**	**20 37 53.3**	**+0.9**
URZ				Sn	Sn	20 40 43.8	-11
DZM	**Mont Dzumac** 270nm,1.1s	**17.52**	**270**	*eP*	**P**	**20 38 04.0**	**+2.1**
DZM	**Mont Dzumac** 2.1nm,0.3s,baz=92,slow=16,SNR=26	**17.52**	**270**	P	**P**	**20 38 03.7**	**+1.8**
DZM	**Mont Dzumac**	**17.52**	**270**	*eP*	**P**	**20 38 02.0**	**+0.1**
DZM	**Mont Dzumac**	**17.52**	**270**	P	**P**	**20 38 03.7**	**+1.8**
NOUC	**Port Laguerre**	**17.65**	**270**	*eP*	**P**	**20 38 04.0**	**+0.8**
TBI	**Tubuai** 593nm,1.5s	**23.11**	**96**	*eP*	**P**	**20 39 00.0**	**-2.4**
RPZ	**Rata Peaks** 28nm,0.8s,baz=352,slow=3.9,SNR=4.3	**23.71**	**207**	P	**P**	**20 39 07.3**	**-0.7**
RPZ	**Rata Peaks**	**23.71**	**207**	P	**P**	**20 39 07.3**	**-0.7**
PAE	**Paea** 8.1nm,1.0s	**24.07**	**82**	*eP*	**P**	**20 39 09.7**	**-1.9**
PPT2	**Papeete2** 55nm,1.3s	**24.10**	**81**	*eP*	**P**	**20 39 08.6**	**-3.4**
PPT	**Papeete** 19nm,0.3s,baz=274,slow=17,SNR=3.3	**24.10**	**81**	P	**P**	**20 39 10.9**	**-1.0**
PPT	**Papeete**	**24.10**	**81**	P	**P**	**20 39 10.9**	**-1.0**
TVO	**Taravao** 79nm,1.0s	**24.34**	**82**	*eP*	**P**	**20 39 12.7**	**-1.4**
LHI	**Lord Howe Isla** baz=25,SNR=3.8	**24.79**	**245**	P	**P**	**20 39 19.5**	**+1.4**
HNR	**Honiara** 21nm,0.3s,baz=178,slow=19,SNR=4.5	**27.88**	**295**	P	**P**	**20 39 46.7**	**+0.6**
HNR	**Honiara**	**27.88**	**295**	P	**P**	**20 39 46.7**	**+0.6**
ARMA	**Armidale** baz=31,SNR=12	**30.92**	**249**	P	**P**	**20 40 13.2**	**+0.1**
EIDS	**Eidsvold** baz=32,SNR=7.6	**31.31**	**259**	P	**P**	**20 40 15.5**	**-0.9**
RMQ	**Roma** baz=34,SNR=13	**33.35**	**257**	P	**P**	**20 40 34.4**	**0.0**
MILA	**Mila** baz=34,SNR=8.7	**34.07**	**238**	P	**P**	**20 40 42.3**	**+1.7**
YNG	**Young** baz=34,SNR=10	**34.13**	**243**	P	**P**	**20 40 41.6**	**+0.5**
CMSA	**Cobar Meteorol** baz=36,SNR=22	**36.09**	**248**	P	**P**	**20 40 57.0**	**-1.0**
CTA	**Charters Tower** 88nm,0.5s,baz=98,slow=11,SNR=134	**36.43**	**267**	P	**P**	**20 41 00.3**	**-0.7**
CTA	**Charters Tower**	**36.43**	**267**	P	**P**	**20 41 00.3**	**-0.7**
CTAO	**Charters Tower**	**36.43**	**267**	*eP*	**P**	**20 40 59.3**	**-1.7**
CTAO	comp=Z,70nm,0.4s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,70nm,0.4s	**36.43**	**267**	*eP*	**P**	**20 40 59.3**	**-1.7**
MOO	**Moorlands** baz=37,SNR=3.9	**37.06**	**229**	P	**P**	**20 41 06.3**	**+0.3**
QLP	**Quilpie** baz=38,SNR=23	**37.39**	**256**	P	**P**	**20 41 07.9**	**-1.1**
PMG	**Port Moresby** comp=Z,146nm,1.0s,baz=103,slow=5.5,SNR=19	**39.01**	**284**	P	**P**	**20 41 21.5**	**-1.3**
PMG	**Port Moresby** comp=Z,218nm,1.1s	**39.01**	**284**	*eP*	**P**	**20 41 21.2**	**-1.6**
PMG	**Port Moresby** comp=Z,172nm,1.1s	**39.01**	**284**	P	**P**	**20 41 21.4**	**-1.4**
STKA	**Stephens Creek** comp=Z,14nm,0.8s,baz=87,slow=9.3,SNR=26	**39.59**	**247**	P	**P**	**20 41 26.8**	**-0.8**
STKA	**Stephens Creek** comp=Z,9.7nm,1.4s	**39.59**	**247**	*eP*	**P**	**20 41 26.6**	**-1.0**
STKA	**Stephens Creek** baz=40,SNR=23	**39.59**	**247**	P	**P**	**20 41 26.8**	**-0.8**
ARPS	**Mount Arapiles** baz=40,SNR=12	**39.78**	**240**	P	**P**	**20 41 28.9**	**-0.1**
COEN	**Coen** baz=41,SNR=4.3	**40.92**	**275**	P	**P**	**20 41 38.0**	**-0.7**
QIS	**Mount Isa** baz=43,SNR=9.4	**42.44**	**264**	P	**P**	**20 41 49.6**	**-1.6**
BBOO	**Buckleboo** comp=Z,391nm,0.9s	**44.29**	**246**	*eP*	**P**	**20 42 04.0**	**-1.9**
BBOO	**Buckleboo** baz=45,SNR=13	**44.29**	**246**	P	**P**	**20 42 04.3**	**-1.6**
AS31	**Alice Springs**	**47.03**	**259**	*eP*	**P**	**20 42 26.4**	**-1.4**
ASAR	**Alice Spring

QSPA South Pole Qui 66.97 180 P P 20 44 49.0 +0.6
BBKI Banjar Baru 70.76 275 P P 20 45 17.3 +4.7
JHJ Hachijo jima 2 70.83 321 P P 20 45 12.9 +0.3
comp=Z,65nm,0.4s,baz=249,slow=21,SNR=3.6
MYLDM Lahad Datu 71.03 284 P P 20 45 14.5 +0.2
TSM Tawau 71.20 283 P P 20 45 15.9 +0.6
PWJI Pagerwojo 71.83 269 P P 20 45 24.0 +4.9
SJI Sawahan 71.97 269 P P 20 45 24.2 +4.1
PCJI Pacitan 72.34 268 P P 20 45 23.7 +1.5
KDM Kudat 73.29 285 P P 20 45 28.8 +1.1
MJAR Matsushiro Arr 74.18 322 P P 20 45 32.0 -0.5
comp=Z,22nm,0.8s,baz=165,slow=6.3,SNR=54
MJAR Matsushiro Arr 74.18 322 P P 20 45 32.0 -0.5
MAT Matsushiro 74.18 322 P P 20 45 32.1 -0.4
TGJI Tegal 74.72 269 P P 20 45 36.2 0.0
SBUM Sibu 75.53 279 P P 20 45 41.6 +0.8
SBUM Sibu 75.53 279 P P 20 45 42.6 +1.8
comp=Z,39nm,2.2s
LEM Lembang 76.12 268 P P 20 45 45.2 +0.8
baz=76,SNR=9.0
LEM Lembang 76.12 268 P P 20 45 45.0 +0.6
comp=Z,184nm,0.9s,comp=Z,0.8nm
JNU Nakatsue 76.33 315 P P 20 45 45.1 +0.1
comp=Z,50nm,0.9s,baz=80,slow=5.8,SNR=13
JNU Nakatsue 76.33 315 P P 20 45 45.1 +0.1
KSM Kuching 76.87 277 eP P 20 45 48.9 +0.5
comp=Z,58nm,0.8s
KSM Kuching 76.87 277 P P 20 45 49.2 +0.7
baz=77,SNR=40
KSM Kuching 76.87 277 P P 20 45 49.3 +0.8
KSM Kuching 76.87 277 P P 20 45 48.8 +0.3
comp=Z,207nm,1.0s
CBJI Citeko 76.98 269 P P 20 45 48.5 -0.6
comp=Z,455nm,0.9s,comp=Z,2.1nm
DBJI Dramaga 77.02 268 P P 20 45 49.8 +0.4
comp=Z,248nm,0.7s,comp=Z,1.1nm
ASAJ Asahikawa 77.53 330 P P 20 45 53.1 +1.7
comp=Z,25nm,0.8s,baz=206,slow=5.0,SNR=11
ASAJ Asahikawa 77.53 330 P P 20 45 53.1 +1.7
TPUB Ta-pu 78.02 302 eP P 20 45 53.3 -1.4
comp=Z,60nm,0.9s
YHNB Yeheng 78.16 303 eP P 20 45 55.0 -0.5
comp=Z,43nm,1.1s
TATO Taipei 78.24 304 eP P 20 45 55.5 -0.4
comp=Z,34nm,0.8s
BFSC Mount Baldy Ra 78.62 45 ⇓P P 20 45 58.7 +0.8
baz=79
MONP Monument Peak 78.62 47 ⇑P P 20 45 58.8 +0.7
baz=79
DVTC Desert V Tower 78.70 47 ⇓P P 20 45 59.0 +0.7
baz=79
EDW2 Edwards Air Fo 78.80 44 ⇓P P 20 45 59.2 +0.4
baz=79,SNR=6.4
ISA Isabella 78.98 44 ⇓P P 20 46 00.7 +0.9
baz=79
PFO Pinyon Flat Ob 79.03 46 ⇓P P 20 46 00.8 +0.6
baz=79
PPBI Pangkal Pinang 79.26 272 P P 20 46 02.5 +0.7
comp=Z,855nm,1.3s,comp=Z,3.9nm
LRMC Laurel Mountai 79.36 44 ⇑P P 20 46 02.5 +0.6
baz=80
BELC Belle Mtn. Jos 79.57 46 ⇑P P 20 46 03.7 +0.6
baz=80
PETK Petropavlovsk- 79.62 343 P P 20 46 02.9 +0.2
comp=Z,16nm,0.7s,baz=142,slow=8.1,SNR=14
PETK Petropavlovsk- 79.62 343 P P 20 46 02.9 +0.2
PETK pmax pmax
comp=Z,17nm,0.7s
PETK Petropavlovsk- 79.62 343 P P 20 46 02.9 +0.2
YSS Yuzh-Sakhalins 79.64 332 ⇑iP P 20 46 05.0 +2.0
YSS pmax pmax
comp=Z,60nm,1.0s
BC3 Big Chuckawall 79.73 47 ⇑P P 20 46 04.6 +0.7
baz=80
GSC Goldstone 79.83 45 ⇑P P 20 46 05.2 +0.8
baz=80
MPMC Manual Prospec 79.85 44 ⇑P P 20 46 04.7 0.0
baz=80,SNR=7.5
MAW Mawson 80.16 199 eP P 20 46 03.8 -1.9
IRM Iron Mountain 80.23 46 ⇓P P 20 46 07.3 +0.8
baz=80
GMRC Granite Mounta 80.26 46 ⇑P P 20 46 07.3 +0.5
baz=80
Y12C Blythe 80.41 47 ⇑P P 20 46 08.0 +0.6
baz=81
YBH Yreka Blue Hor 80.42 37 P P 20 46 08.2 +0.7
comp=Z,7.0nm,0.9s,baz=173,slow=2.9,SNR=16
YBH Yreka Blue Hor 80.42 37 P P 20 46 08.2 +0.7
QZH Quanzhou 80.46 302 ⇓iP P 20 46 09.8 +1.9
QZH pmax pmax
comp=Z,80nm,0.8s
NVAR Mina Array Bea 80.82 41 P P 20 46 10.2 +0.3
comp=Z,7.2nm,0.7s,baz=223,slow=7.2,SNR=34
NVAR Mina Array Bea 80.82 41 P P 20 46 10.2 +0.3
KSRS Korea Array 80.92 317 P P 20 46 11.4 +1.3
comp=Z,19nm,1.1s,baz=142,slow=6.1,SNR=23
KSAR Wonju Array Be 80.94 317 P P 20 46 11.4 +1.2
PDMCI Parker Dam,Lak 80.99 47 ⇓P P 20 46 11.4 +0.8
baz=81
TUC Tucson 82.17 50 eP P 20 46 15.8 -1.2
TUC Tucson 82.17 50 eP P 20 46 15.8 -1.2
R11A Troy Canyon, C 82.45 43 ⇓P P 20 46 18.8 +0.3
baz=83
KDAK Kodiak Island 82.67 12 P P 20 46 19.6 +0.8
comp=Z,10nm,1.0s,baz=126,slow=15,SNR=2.3
KDAK Kodiak Island 82.67 12 P P 20 46 19.6 +0.8
X16A Lo Mia Camp, P 82.88 48 ⇑P P 20 46 21.5 +0.7
baz=83,SNR=7.9
USRK Ussuriysk Arra 82.89 324 P P 20 46 21.8 +1.5
comp=Z,19nm,0.8s,baz=102,slow=3.5,SNR=34
MYKOM Kota Tinggi 82.91 275 P P 20 46 22.6 +1.4
MYKOM Kota Tinggi 82.91 275 P P 20 46 22.0 +0.8
comp=Z,407nm,0.9s
320A Kipp Ranch, An 83.26 52 ⇓P P 20 46 23.3 +0.5
baz=84
U15A North Rim 83.45 46 ⇑P P 20 46 24.5 +0.8
baz=84,SNR=14
ARUT Antelope Range 83.48 44 eP P 20 46 22.0 -1.8
ARUT pmax pmax
comp=Z,86nm,1.8s
ARUT Antelope Range 83.48 44 eP P 20 46 22.0 -1.8
comp=Z,86nm,1.8s
KGM Kluang 83.49 275 P P 20 46 25.7 +1.5
WUAZ Wupatki 83.55 47 eP P 20 46 24.1 0.0
comp=Z,7.2nm,1.0s
WUAZ Wupatki 83.55 47 ⇑P P 20 46 24.6 +0.5
baz=84
220A Playas Peak, P 83.56 51 ⇑P P 20 46 24.7 +0.4
baz=84,SNR=12
120A U Bar Ranch, L 83.83 51 ⇓P P 20 46 26.2 +0.5
baz=84
ELK Elko 84.11 41 eP P 20 46 26.8 -0.2
Z20A Nine Sixteen R 84.16 50 ⇑P P 20 46 28.1 +0.8
baz=84,SNR=7.0
HABR Khabarovsk 84.27 329 eP P 20 46 28.9 +1.6
HABR e*SP sP 20 46 40.7 -1.1
HABR eS SKSac 20 56 48.4 +0.3
HABR pmax pmax
comp=N,26nm,1.9s
HABR pmax pmax
comp=Z,50nm,1.3s
HABR pmax pmax
comp=E,24nm,1.3s
HABR MLR MLR
comp=Z,4μm,21.0s
MDJ Mudanjiang 84.46 324 P P 20 46 29.1 +0.7
MDJ pmax pmax
comp=Z,29nm,1.0s
MDJ Mudanjiang 84.46 324 eP P 20 46 28.6 +0.3
comp=Z,30nm,1.0s
MSU Marysvale 84.71 44 eP P 20 46 31.1 +1.0
MSU pmax pmax
comp=Z,15nm,1.2s
MSU Marysvale 84.71 44 eP P 20 46 31.1 +1.0
comp=Z,15nm,1.2s
QIZ Qiongzhong 84.78 293 P P 20 46 31.3 +0.7
QIZ S S 20 56 57.5 +0.9
QIZ pmax pmax
comp=Z,11nm,1.7s
SYO Syowa Base 84.85 192 ⇑epP pP 20 46 40.2 -0.5
SYO Syowa Base 84.85 192 ⇑esP sP 20 46 43.4 -1.2
X20A Quemado 84.99 49 ⇓P P 20 46 32.6 +1.0
baz=85,SNR=8.8
PLCA Paso Flores 85.20 132 P P 20 46 33.3 +0.8
comp=Z,0.6nm,0.7s,baz=208,slow=13,SNR=3.7
PLCA Paso Flores 85.20 132 P P 20 46 33.4 +0.8

DUG Dugway 85.28 43 eP P 20 46 31.8 -1.0
DUG Dugway 85.28 43 eP P 20 46 31.8 -1.0
Y21A Point of Rocks 85.28 50 ⇑P P 20 46 33.8 +0.7
baz=86
W20A Ramah 85.30 49 ⇓P P 20 46 33.9 +0.7
baz=86,SNR=12
SNAA Sanae 85.30 177 eP P 20 46 31.8 -0.6
comp=Z,7.4nm,1.1s
VNA3 Neumayer Olymp 85.32 175 eP P 20 46 32.8 +0.4
VNA3 Neumayer Olymp 85.32 175 epP pP 20 46 40.8 -2.3
MFID Camas Ranch 85.39 39 ⇑P P 20 46 33.8 +0.6
baz=86
Z22A Elephant Butte 85.39 51 ⇓P P 20 46 34.2 +0.6
baz=86,SNR=6.6
X21A Alamocita Cree 85.43 50 ⇑P P 20 46 34.4 +0.6
baz=86
FRIM Kepong 85.52 275 P P 20 46 36.0 +1.6
324A Moseley Ranch, 85.54 53 ⇑P P 20 46 34.3 0.0
baz=86,SNR=7.5
425A Indio Mountain 85.58 54 ⇓P P 20 46 34.5 0.0
baz=86,SNR=11
626A Big Bend Ranch 85.61 55 ⇓P P 20 46 35.1 +0.5
baz=86,SNR=11
V20A Brimhall 85.68 48 ⇑P P 20 46 36.1 +1.2
baz=86
TMUT Trail Mountain 85.78 44 eP P 20 46 35.6 +0.1
comp=Z,19nm,1.1s
VNA2 Neumayer--Watz 85.79 176 eP P 20 46 35.6 +0.8
VNA2 Neumayer--Watz 85.79 176 epP pP 20 46 43.8 -1.7
VNA2 Neumayer--Watz 85.79 176 esP sP 20 46 46.8 -2.5
TXAR Lajitas Array 85.86 56 P P 20 46 36.1 +0.2
comp=Z,8.1nm,1.0s,baz=216,slow=6.2,SNR=24
TXAR Lajitas Array 85.86 56 P P 20 46 36.1 +0.2
N15A Stansbury Isla 85.86 42 ⇓P P 20 46 36.2 +0.5
baz=86
LAZ Ladron 85.87 50 eP P 20 46 36.6 +0.7
comp=Z,5.9nm,1.3s
325A Bean Ranch, Si 85.89 54 ⇑P P 20 46 36.1 +0.1
baz=86
526A Mary Lane Ranc 85.90 55 ⇓P P 20 46 36.3 +0.2
baz=86,SNR=15
Z23A Rita Site, Whi 85.92 51 ⇓P P 20 46 36.5 +0.4
baz=86
U20A Newcomb 85.95 48 ⇓P P 20 46 37.0 +0.7
baz=86
VNA1 Neumayer--Stat 86.00 175 eP P 20 46 36.6 +0.8
VNA1 Neumayer--Stat 86.00 175 epP pP 20 46 46.4 0.0
X22A Bernardo 86.01 50 ⇓P P 20 46 37.0 +0.4
baz=86
L14A Malta 86.09 41 ⇑P P 20 46 38.0 +1.2
baz=86
BNM Barren Site 86.10 50 eP P 20 46 36.8 -0.3
comp=Z,5.3nm,1.1s
O16A Springville 86.11 43 ⇓P P 20 46 37.9 +0.9
baz=86
SRU San Rafael 86.11 45 ⇑P P 20 46 37.8 +0.7
baz=86
627A Terlingua Ranc 86.13 56 ⇑P P 20 46 37.1 -0.1
baz=86,SNR=12
124A Stringfield Ra 86.20 52 ⇑P P 20 46 38.0 +0.3
baz=86
M15A Larsen Ranch, 86.24 42 ⇑P P 20 46 37.8 +0.3
baz=86
426A McDonald Obser 86.24 55 ⇓P P 20 46 38.0 +0.1
baz=86,SNR=12
V21A Milan 86.25 49 ⇓P P 20 46 38.3 +0.5
baz=86
CN2 Changchun 86.28 321 eP P 20 46 37.8 +0.3
CN2 epP pP 20 46 48.3 +0.1
CN2 eS S 20 57 10.6 +0.2
CN2 pmax pmax
comp=Z,20nm,0.8s
HLID Hailey 86.30 39 eP P 20 46 37.7 -0.1
comp=Z,6.1nm,1.4s
HLID Hailey 86.30 39 ⇓P P 20 46 38.1 +0.3
baz=86
J13A Cove Ranch, Pi 86.34 39 ⇑P P 20 46 38.5 +0.5
baz=87
225A Deer Hill, Car 86.36 53 ⇓P P 20 46 38.6 +0.2
baz=87
WHN Wuhan 86.51 305 P P 20 46 39.5 +0.6
628A Black Gap, Mar 86.53 56 ⇓P P 20 46 39.1 0.0
baz=87,SNR=14
N16A Rees Ranch, Co 86.53 43 ⇓P P 20 46 39.3 +0.3
baz=87
IPM Ipoh 86.56 276 P P 20 46 40.8 +1.2
IPM Ipoh 86.56 276 P P 20 46 40.9 +1.2
comp=Z,68nm,0.9s
U21A Nageezi 86.57 48 ⇑P P 20 46 39.2 -0.1
baz=87,SNR=8.3
P18A Preston Nutter 86.58 44 ⇑P P 20 46 40.3 +0.8
baz=87
O17A Robinson Place 86.58 44 ⇑P P 20 46 39.6 +0.2
baz=87
L15A Malad City 86.59 41 ⇑P P 20 46 39.3 0.0
baz=87
ANMO Albuquerque 86.63 50 P P 20 46 39.9 +0.2
comp=Z,5.0nm,1.0s,baz=218,slow=5.9,SNR=12
ANMO Albuquerque 86.63 50 eP P 20 46 39.4 -0.2
comp=Z,14nm,1.3s
H12A Diamond D Ranc 86.64 38 ⇓P P 20 46 39.1 -0.4
baz=87
I13A Wildhorse Cree 86.68 39 ⇑P P 20 46 39.5 -0.2
baz=87
GDL2 Guadalupe Moun 86.75 53 eP P 20 46 40.7 +0.5
comp=Z,16nm,1.0s
125A Gardner Draw, 86.76 53 ⇑P P 20 46 40.0 -0.2
baz=87
427A Hayter Ranch, 86.80 55 ⇓P P 20 46 40.6 +0.1
baz=87,SNR=15
V22A San Miguel Ran 86.81 49 ⇓P P 20 46 41.0 +0.4
baz=87
Y24A Capitan 86.83 51 ⇓P P 20 46 40.9 +0.2
baz=87,SNR=8.1
S20A Disappointment 86.84 47 ⇓P P 20 46 41.2 +0.5
baz=87
528A Cox Ranch, San 86.93 55 ⇑P P 20 46 40.9 -0.2
baz=87,SNR=10
N17A Moffit Pass 86.94 43 ⇓P P 20 46 41.4 +0.3
baz=87
H13A Challis 86.99 38 ⇓P P 20 46 41.4 +0.2
baz=87
Z25A Roswell 87.03 52 ⇓P P 20 46 41.6 0.0
baz=87
S21A Coal Bank Pass 87.13 47 ⇑P P 20 46 42.1 -0.1
baz=87
F12A Elk City 87.14 37 ⇑P P 20 46 41.5 -0.3
baz=87
L16A Fish Haven 87.18 42 ⇓P P 20 46 42.0 -0.2
baz=87
KULM Kulim 87.22 277 P P 20 46 44.3 +1.5
KULM Kulim 87.22 277 P P 20 46 44.7 +1.9
comp=Z,84nm,0.8s
G13A Cobalt 87.32 38 ⇓P P 20 46 43.3 +0.6
baz=88
529A Sky Forest Ra 87.34 56 ⇑P P 20 46 42.9 -0.2
baz=88,SNR=8.8
Y25A Mesa, Roswell 87.36 51 ⇓P P 20 46 42.9 -0.3
baz=88,SNR=6.9
J15A Blackfoot 87.37 40 ⇑P P 20 46 43.4 +0.4
baz=88
E12A Beaver Dam Sad 87.37 36 ⇓P P 20 46 43.6 +0.7
baz=88
P19A Cripple Cowboy 87.40 45 ⇓P P 20 46 43.7 +0.3
baz=88
328A Wristen Ranch, 87.50 54 ⇑P P 20 46 43.8 0.0
baz=88
W24A Lazy 6 Ranch, 87.50 50 ⇑P P 20 46 43.9 0.0
baz=88
H14A Leadore 87.53 39 ⇓P P 20 46 44.2 +0.4
baz=88
K16A Soda Springs 87.55 41 ⇑P P 20 46 44.5 +0.5
baz=88
Z26A Caprock 87.56 52 ⇓P P 20 46 43.9 -0.2
baz=88,SNR=9.1
R21A Cimarron 87.67 46 ⇓P P 20 46 44.9 +0.2
baz=88
O19A Miners Draw (B 87.67 44 ⇑P P 20 46 45.0 +0.4
baz=88
F13A Darby 87.68 37 ⇑P P 20 46 45.3 +0.9
baz=88
X25A Clemmons Ranch 87.69 51 ⇓P P 20 46 44.9 +0.1
baz=88
N18A Larsen Ranch, 87.69 43 ⇓P P 20 46 45.2 +0.6
baz=88
127A Arkansas Junct 87.72 53 ⇑P P 20 46 45.1 +0.2
baz=88

J16A Bone 87.78 41 ⇑P P 20 46 45.2 +0.2
baz=88
S22A 4UR Ranch, Cre 87.82 47 ⇑P P 20 46 45.3 -0.3
baz=88
429A Davenport Ranc 87.83 55 ⇑P P 20 46 44.9 -0.5
baz=88,SNR=25
PSI Prapat 87.83 274 P P 20 46 45.8 -0.1
comp=Z,20nm,0.9s,baz=131,slow=4.8,SNR=12
PSI Prapat 87.83 274 P P 20 46 45.8 -0.1
PSI Prapat 87.83 274 P P 20 46 45.8 -0.1
baz=88,SNR=11
PSI Prapat 87.83 274 P P 20 46 45.7 -0.1
comp=Z,28nm,0.9s
N19A John Jarvie Ra 87.96 44 ⇓P P 20 46 45.9 -0.1
baz=88
Y26A Elida 87.99 52 ⇓P P 20 46 46.1 -0.1
baz=88
228A UT Block 9, Go 88.02 54 ⇓P P 20 46 45.6 -0.7
baz=88
530A J-C Ranch, Com 88.03 56 ⇓P P 20 46 46.1 -0.2
baz=88,SNR=5.4
R22A Saguache, Gunn 88.12 47 ⇓P P 20 46 47.2 +0.2
baz=88
329A Wagon Wheel Ra 88.17 55 ⇓P P 20 46 47.1 0.0
baz=88
W25A X Bar L Ranch, 88.18 50 ⇓P P 20 46 47.5 +0.4
baz=88
C12B Naegeli Ranch, 88.22 35 ⇓P P 20 46 46.9 +0.1
baz=88
631A Perdido Creek 88.27 57 ⇓P P 20 46 47.3 -0.1
baz=88,SNR=11
128A Castleberry Fa 88.34 53 ⇑P P 20 46 48.4 +0.6
baz=88
Q22A Crested Butte, 88.35 46 ⇓P P 20 46 47.8 -0.2
baz=89
G15A Dillon 88.36 39 ⇓P P 20 46 48.2 +0.5
baz=89
V25A Rancho No Teng 88.38 50 ⇓P P 20 46 48.3 +0.2
baz=89
K18A Toltan Ranch, 88.38 42 ⇓P P 20 46 47.8 -0.2
baz=89
D13A Huson 88.39 36 ⇓P P 20 46 48.3 +0.6
baz=89
GSI Gunungsitoli 88.49 272 P P 20 46 50.5 +1.6
baz=89,SNR=18
N20A Spence Gulch, 88.51 44 ⇑P P 20 46 48.9 +0.3
baz=89
E14A Clinton 88.52 37 ⇑P P 20 46 49.3 +0.8
baz=89
CHBT CHBT 88.68 284 P P 20 46 51.8 +2.2
comp=Z,52nm,1.5s,comp=Z,7μm
J18A Kendall Valley 88.71 41 ⇓P P 20 46 49.1 -0.5
baz=89
BW06 Boulder Array 88.75 42 ⇑P P 20 46 49.5 -0.2
baz=89
PDAR Pinedale Array 88.75 42 P P 20 46 49.0 -0.7
comp=Z,2.7nm,1.0s,baz=205,slow=3.3,SNR=14
PDAR Pinedale Array 88.75 42 P P 20 46 49.0 -0.7
H16A Russell Place, 88.81 40 ⇑P P 20 46 50.2 +0.3
baz=89
PAX Paxson 88.84 13 eP P 20 46 49.0 -0.4
PAX pmax pmax
comp=Z,4.0nm,1.2s
PAX Paxson 88.84 13 eP P 20 46 49.0 -0.4
comp=Z,4.4nm,1.2s
S24A Houchin Ranch, 88.87 48 ⇑P P 20 46 50.8 +0.3
baz=89
A12A Yaak River Ran 88.88 34 ⇑P P 20 46 50.6 +0.7
baz=89
D14A Greenough 88.91 37 ⇓P P 20 46 50.6 +0.4
baz=89
M20A Sweetwater, Wa 88.91 44 ⇑P P 20 46 50.8 +0.3
baz=89
632A Uvalde 88.92 57 ⇓P P 20 46 50.8 +0.2
baz=89
N21A Black Mountain 88.95 44 ⇑P P 20 46 51.0 +0.3
baz=89
L20A Wamsutter 89.09 43 ⇑P P 20 46 51.6 +0.3
baz=89
W27A Bowe Ranch, En 89.10 51 ⇑P P 20 46 51.6 +0.3
baz=89
I18A Diamond G Ranc 89.11 41 ⇑P P 20 46 51.8 +0.4
baz=89
532A Rocksprings 89.12 57 ⇑P P 20 46 51.4 0.0
baz=89,SNR=7.2
C14A Swan Lake 89.18 36 ⇓P P 20 46 51.4 -0.1
baz=89
DLBC Dease Lake 89.26 22 P P 20 46 52.2 +0.7
comp=Z,5.4nm,1.1s,baz=190,slow=10.0,SNR=3.1
DLBC Dease Lake 89.26 22 P P 20 46 52.1 +0.7
U26A Atchley Ranch, 89.26 50 ⇑P P 20 46 52.0 -0.3
baz=90
O22A Kremmling 89.27 45 ⇓P P 20 46 52.3 0.0
baz=90
P23A Jefferson 89.33 46 ⇓P P 20 46 53.1 +0.4
baz=90
J19A Crowheart 89.33 42 ⇓P P 20 46 52.8 +0.5
baz=90
S25A Robets Cordova 89.41 48 ⇓P P 20 46 52.5 -0.3
baz=90
M21A Separation Pea 89.50 44 ⇑P P 20 46 53.3 +0.1
baz=90
E16A East Helena 89.61 38 ⇓P P 20 46 53.8 +0.3
baz=90
SEY Seymchan 89.64 346 eP P 20 46 52.9 -0.2
N22A Wattenberg Ran 89.66 45 ⇓P P 20 46 54.3 +0.2
baz=90
L21A Rawlins 89.68 43 ⇓P P 20 46 54.7 +0.6
baz=90
R25A Fountain Ranch 89.76 48 ⇓P P 20 46 54.8 +0.4
baz=90
I19A Meeteetse 89.79 41 ⇓P P 20 46 54.8 +0.3
baz=90
B14A Marquette Ranc 89.79 36 ⇑P P 20 46 53.7 -0.6
baz=90
F17A Fitzpatrick Pl 89.84 39 ⇑P P 20 46 55.0 +0.4
baz=90
M22A Cedar Creek Ra 89.88 44 ⇑P P 20 46 55.2 +0.1
baz=90
BJT Baijiatuan 89.95 314 eP P 20 46 55.3 +0.2
J20A Shoshoni 89.97 42 ⇓P P 20 46 55.9 +0.6
baz=90
A14A Double T Ranch 90.07 35 ⇑P P 20 46 55.8 +0.2
baz=90
ENH Enshi 90.09 303 eP P 20 46 56.9 +0.8
comp=Z,125nm,1.6s
K21A Alcova 90.11 43 ⇑P P 20 46 56.4 +0.4
baz=90
COLA College 90.11 11 eP P 20 46 55.0 -0.2
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 90.11 11 eP P 20 46 55.0 -0.2
comp=Z,6.8nm,0.8s
G18A Lazy EL Ranch, 90.15 40 ⇓P P 20 46 57.2 +1.1
baz=90
ILAR Eielson Array 90.19 12 P P 20 46 55.3 -0.3
comp=Z,5.5nm,0.9s,baz=218,slow=5.7,SNR=32
ILAR Eielson Array 90.19 12 P P 20 46 55.3 -0.3
RLMT Red Lodge 90.22 40 ⇑P P 20 46 57.2 +0.7
baz=90
L22A Ellis Ranch, M 90.31 44 ⇓P P 20 46 57.6 +0.6
baz=90
F18A Big Timber 90.38 39 ⇑P P 20 46 57.4 +0.3
baz=91
R26A Arlington 90.41 48 ⇑P P 20 46 57.5 +0.1
baz=91
A15A Johnson Ranch, 90.44 36 ⇑P P 20 46 57.1 -0.2
baz=91
D17A Six Diamond Ra 90.52 38 ⇓P P 20 46 57.8 0.0
baz=91
E18A Harlowton 90.64 39 ⇑P P 20 46 58.4 +0.1
baz=91
GYA Guiyang 90.66 298 ⇑iP P 20 47 01.0 +2.1
GYA pP pP 20 47 11.6 +2.0
GYA PP PP 20 50 38.4 +3.8
GYA SKS SKSac 20 57 26.8 -1.6
GYA S S 20 57 52.3 -0.5
GYA sS sS 20 58 10.9 +0.3
GYA SS SS 21 03 58.5 +3.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,590nm,25.3s
GYA LR LR
comp=E,530nm,26.7s
GYA LR LR

comp=Z,640nm,15.3s
I21A Big Trails, Te 90.70 42 ⇓P P **P** 20 46 58.8 +0.1
baz=91
C17A Wharram Farm, 90.75 37 ⇑P P **P** 20 46 58.9 +0.1
baz=91
F19A Roth Farm, Mol 90.81 40 ⇓P P **P** 20 46 59.5 +0.4
baz=91
L23A Garrett 90.82 44 ⇑P P **P** 20 46 59.3 -0.1
baz=91
J22A Midwest 91.00 43 ⇓P P **P** 20 47 00.4 +0.3
baz=91
B17A L&G Farms, Che 91.10 37 ⇑P P **P** 20 47 00.4 +0.1
baz=91
E19A Rath Farm, Rou 91.23 39 ⇑P P **P** 20 47 01.5 +0.6
baz=92
A17A Triple J Farms 91.52 36 ⇑P P **P** 20 47 02.6 +0.3
baz=92
EGMT Eagleton 91.53 37 *e*P P **P** 20 47 02.3 -0.1
comp=Z,21nm,1.8s
EGMT Eagleton 91.53 37 ⇓P P **P** 20 47 02.7 +0.4
baz=92
B18A Beardsley Farm 91.72 37 ⇓P P **P** 20 47 03.6 +0.4
baz=92
C19A Slack Wire Ran 91.77 38 ⇑P P **P** 20 47 03.7 +0.2
baz=92
D20A Manuel Ranch, 91.94 39 ⇑P P **P** 20 47 04.6 +0.3
baz=92
BILL Bilibino 91.97 353 *e*P P **P** 20 47 02.7 -1.1
BILL *e*PS **PnS** 20 59 22.7 +4.3
BILL *e*SS SS 21 04 25.3 +13
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,4μm,20.0s
A18A Metzger Ranch, 91.98 37 ⇓P P **P** 20 47 04.4 +0.1
baz=92
SRDT SRDT 92.17 285 P P 20 47 11.7 +5.8
comp=Z,351nm,0.9s
XAN Xi'an 92.20 306 P **P** 20 47 06.9 +1.1
XAN pP **pP** 20 47 17.3 +0.8
XAN pmax pmax
comp=Z,4.0nm,0.9s
A19A Klindworth Far 92.59 37 ⇑P P **P** 20 47 07.0 -0.3
baz=93
D21A La Casta Ranch 92.59 39 ⇓P P **P** 20 47 07.4 +0.2
baz=93
HIA Hailar 92.64 323 *e*P P **P** 20 47 08.0 +0.6
F23A Volborg 92.84 41 ⇓P P **P** 20 47 08.7 +0.2
baz=93
H24A Dirks Ranch, A 92.87 42 ⇓P P **P** 20 47 08.7 0.0
baz=93
A20A Cobblestone Ra 93.02 37 ⇑P P **P** 20 47 08.9 -0.3
baz=93
KMI Kunming 93.32 296 P P **P** 20 47 12.3 +1.0
KMI pmax pmax
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 93.42 313 *e*P P **P** 20 47 11.5 +0.2
HHC pP **pP** 20 47 21.5 -0.5
HHC sP **sP** 20 47 26.1 +0.2
HHC PP **PP** 20 51 00.3 +4.2
HHC SKS **SKSac** 20 57 42.3 -0.9
HHC S **S** 20 58 15.5 -1.5
HHC sS **sS** 20 58 33.3 -1.6
HHC SS **SS** 21 04 39.3 +4.7
HHC LR LR
comp=N,2μm,18.6s
HHC LR LR
comp=E,770nm,20.2s
HHC LR LR
comp=Z,2μm,20.2s
F24A Ekalaka 93.49 41 ⇓P P **P** 20 47 11.6 +0.2
baz=94
A21A Bergtoll Ranch 93.64 38 ⇑P P **P** 20 47 12.0 0.0
baz=94
JTS JuntasAbangare 93.67 80 P P **P** 20 47 14.6 +1.6
comp=Z,2.8nm,0.6s,baz=320,slow=21,SNR=3.8
JTS JuntasAbangare 93.67 80 P P **P** 20 47 14.6 +1.6
CMAR Chiang Mai Arr 93.93 288 P P **P** 20 47 15.9 +1.9
comp=Z,4.8nm,0.8s,baz=133,slow=3.0,SNR=32
CMAR PP **PP** 20 50 56.2 -4.1
comp=Z,0.7nm,0.7s,baz=134,slow=6.4,SNR=4.5
CMAR Chiang Mai Arr 93.93 288 P P **P** 20 47 15.9 +1.9
CMAR PP **PP** 20 50 56.2 -4.1
C23A Lambert 94.03 39 ⇑P P **P** 20 47 14.2 +0.4
baz=94
CMMT Chiang Mai 94.06 289 P P **P** 20 47 17.0 +2.4
comp=Z,31nm,1.9s
CHTO Chiang Mai 94.07 289 *e*P P **P** 20 47 16.2 +1.6
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 94.07 289 *e*P P **P** 20 47 16.2 +1.6
comp=Z,3.6nm,0.8s
CHTO Chiang Mai 94.07 289 P P **P** 20 47 16.0 +1.4
comp=Z,47nm,1.1s
A22A Carney Farms, 94.21 38 ⇑P P **P** 20 47 15.2 +0.5
baz=94
B23A Brockton 94.47 39 ⇑P P **P** 20 47 16.9 +1.0
baz=95
CD2 Chengdu 94.83 301 P P **P** 20 47 18.5 +0.6
CD2 pP **pP** 20 47 29.6 +0.9
CD2 sP **sP** 20 47 33.8 +1.3
CD2 PP **PP** 20 51 10.3 +3.0
CD2 SKS **SKSac** 20 57 50.0 -1.2
CD2 S **S** 20 58 27.5 -2.1
CD2 sS **sS** 20 58 46.1 -1.5
CD2 SS **SS** 21 04 57.6 +2.5
CD2 pmax pmax
comp=Z,20nm,0.5s
DGMT Dagmar 94.93 39 ⇑P P **P** 20 47 18.5 +0.5
baz=95
A24A Westby 95.27 39 ⇓P P **P** 20 47 19.7 +0.3
baz=96
INK Inuvik 95.99 14 P P **P** 20 47 22.2 0.0
comp=Z,1.2nm,0.8s,baz=194,slow=6.9,SNR=5.6
INK Inuvik 95.99 14 P P **P** 20 47 22.2 0.0
LZH Lanzhou 96.84 306 *e*P P 20 47 31.1 +4.0
LZH pP pP 20 47 42.5 +4.6
LZH sP sP 20 47 47.0 +5.3
LZH pmax pmax
comp=Z,15nm,1.0s
YKA Yellowknife Ar 97.58 24 P P **P** 20 47 29.1 -0.4
comp=Z,1.0nm,0.9s,baz=233,slow=4.2,SNR=11
YKA PKKPbc **PKKPbc** 21 04 08.6 +0.1
comp=Z,0.2nm,0.7s,baz=45,slow=2.2,SNR=5.3
YKA Yellowknife Ar 97.58 24 P P 20 47 29.1 -0.4
YKA PKKPbc **PKKPbc** 21 04 08.6 +0.1
ULN Ulaanbaatar 99.39 318 P **Pdif** 20 47 42.5 +4.2
SONM Songino Array 99.78 318 P **Pdif** 20 47 39.7 -0.2
comp=Z,0.8nm,0.8s,baz=96,slow=3.0,SNR=3.5
SONM PP **PP** 20 51 40.6 -4.5
comp=Z,1.2nm,1.1s,baz=123,slow=5.5,SNR=3.8
SONM Songino Array 99.78 318 P **Pdif** 20 47 39.8 -0.2
SONM PP **PP** 20 51 40.6 -4.5
GTA Gaotai 101.05 308 *e*P **Pdif** 20 47 47.8 +2.0
GTA pP pP 20 47 58.4 +1.7
GTA sP 20 48 02.3
GTA pmax pmax
comp=Z,2.0nm,1.5s
RES Resolute Bay 109.42 16 PKiKP **PKiKP** 20 52 25.6 +0.4
comp=Z,0.4nm,0.3s,baz=348,slow=0.8,SNR=7.6
RES Resolute Bay 109.42 16 PKiKP **PKiKP** 20 52 25.6 +0.4
ZALV Zalesovo Beam 114.49 320 PKP PKPdf 20 52 33.5 -1.9
comp=Z,0.4nm,0.4s,baz=222,slow=2.0,SNR=4.9
ZALV Zalesovo Beam 114.49 320 PKIKP PKPdf 20 52 33.5 -1.8
ZALV Zalesovo Beam 114.49 320 PKP PKPdf 20 52 33.5 -1.9
MKAR Makanchi Array 115.27 312 PKP **PKPdf** 20 52 36.1 -1.1
comp=Z,0.6nm,0.7s,baz=108,slow=1.2,SNR=6.4
MKAR Makanchi Array 115.27 312 PKIKP **PKPdf** 20 52 36.1 -1.1
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 115.27 312 PKP **PKPdf** 20 52 36.1 -1.1
KURK Kurchatov 118.04 316 *i* PKIKP **PKPdf** 20 52 38.6 -3.7
KURK Kurchatov 118.04 316 *e*PKPdf **PKPdf** 20 52 39.3 -3.0
KSH Kashi 118.95 304 *e*PKP **PKPdf** 20 52 42.6 -2.0
KSH *e*pP PKiKP 20 52 58.3 +14
KSH *e*PP **PP** 20 54 08.3 +3.9
KSH PKS **PKSdf** 20 56 19.8 -1.5
KSH SKS **SKSdf** 20 59 51.5 -2.8
KSH SKKS **SKKSac** 21 00 56.8 -5.1
KSH SS **SS** 21 10 23.0 +0.5
BRVK Borovoye 123.15 319 *i* PKIKP **PKPdf** 20 52 49.1 -3.0
BRVK Borovoye 123.15 319 *e*PKPdf **PKPdf** 20 52 51.2 -0.8
BOSA Boshof 125.12 201 PKP **PKPdf** 20 52 58.1 +1.2
comp=Z,6.7nm,1.0s,baz=129,slow=8.4,SNR=4.4
BOSA Boshof 125.12 201 PKP **PKPdf** 20 52 58.1 +1.2

ARU Arti 129.13 325 *i* PKIKP **PKPdf** 20 53 00.8 -2.6
ARU 20 55 14.8
ARCES ARCESS Array B 132.02 351 PKP **PKPdf** 20 53 08.9 +0.4
comp=Z,1.1nm,0.4s,baz=62,slow=1.4,SNR=10
ARCES ARCESS Array B 132.02 351 PKP **PKPdf** 20 53 08.9 +0.4
FINES FINESS Array B 139.12 345 PKhKP PKPpre 20 53 14.7
comp=Z,1.0nm,0.7s,baz=0.0,slow=5.7,SNR=3.4
FINES PKP **PKiKP** 20 53 23.6 -0.5
comp=Z,2.9nm,0.9s,baz=25,slow=6.3,SNR=4.9
FINES FINESS Array B 139.12 345 PKPpre PKPpre 20 53 14.7
FINES PKP **PKiKP** 20 53 23.6 -0.5
OBN Obninsk 140.53 332 *e*PKHKP PKPpre 20 53 18.3
OBN *e* 20 56 25.6
OBN pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 141.88 355 PKP **PKPdf** 20 53 22.3 -4.7
comp=Z,0.7nm,0.7s,baz=3.2,slow=3.4
NOA NORSAR Array B 141.88 355 PKhKP PKPpre 20 53 22.2
comp=Z,0.8nm,0.7s,baz=8.1,slow=4.3,SNR=4.0
NOA NORSAR Array B 141.88 355 PKPpre PKPpre 20 53 22.2
BHD Baghdad 144.35 295 *e*PKP **pPKPdf** 20 53 46.0 +2.8
BHD *e*PP **PP** 20 56 46.0 -2.0
BHD *e*SKS **SKSdf** 21 00 38.0 -1.2
NACGM Naroch 144.46 339 *e* **PKPab** 20 53 27.0 -3.0
SUW Suwalki 146.35 341 *e*PKP **PKPbc** 20 53 36.3 +0.1
SUW Suwalki 146.35 341 *e*PKP2 **PKPbc** 20 53 36.0 -0.2
SUW Suwalki 146.35 341 *e*PKPdf **PKPbc** 20 53 36.0 -0.2
SUW Suwalki 146.35 341 *e*PKP **PKPbc** 20 53 36.3 +0.1
AKASG Malin Array Be 146.79 332 PKPbc **PKPbc** 20 53 36.9 -0.7
comp=Z,10nm,0.8s,baz=38,slow=3.5,SNR=17
AKASG Malin Array Be 146.79 332 PKP2 **PKPbc** 20 53 36.9 -0.7
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 146.79 332 PKPbc **PKPbc** 20 53 36.9 -0.7
AK01 Malin Array Si 146.81 332 *e*PKPdf **PKPbc** 20 53 36.9 -0.8
KIEV Kiev 146.81 332 *e*PKP2 **PKPdf** 20 53 36.4 +0.6
KIEV Kiev 146.81 332 *e*PKPdf **PKPdf** 20 53 36.4 +0.6
AK02 Malin Array Si 146.84 332 *e*PKPdf **PKPbc** 20 53 37.0 -0.7
EKA Eskdalemuir Ar 147.20 9 PKPbc **PKPbc** 20 53 37.8 -0.8
comp=Z,4.5nm,0.7s,baz=346,slow=2.6,SNR=6.3
EKA Eskdalemuir Ar 147.20 9 PKPbc **PKPbc** 20 53 37.8 -0.8
MALT Malatya 148.00 306 ⇑PKP2 **PKPbc** 20 53 41.4 -0.1
MALT Malatya 148.00 306 ⇑*i*P **PKPbc** 20 53 41.4 -0.1
BEL Belsk 148.96 341 *e*PKP **PKPbc** 20 53 43.6 +0.2
BEL Belsk 148.96 341 *e*PKP **PKPbc** 20 53 43.5 +0.2
KIS Kishinev 149.62 327 *e*P **PKPbc** 20 53 44.0 -1.2
KWP Kalwaria Pacla 150.23 337 ⇑PKIKP **PKPdf** 20 53 42.4 +0.9
KWP Kalwaria Pacla 150.23 337 ⇑*i*P **PKPdf** 20 53 42.4 +0.9
OJC Ojcow 150.68 341 *e*PKIKP **PKPbc** 20 53 47.6 0.0
OJC Ojcow 150.68 341 *e*PKP **PKPbc** 20 53 47.6 0.0
BUR08 Bucovina Ar. S 150.84 332 *e*PKPbc **PKPbc** 20 53 47.8 -0.4
BR131 Keskin Array S 150.91 311 *e*PKPbc **PKPbc** 20 53 48.3 -0.4
BRTR Keskin Array B 150.91 311 PKPbc **PKPbc** 20 53 48.5 -0.2
comp=Z,3.8nm,0.8s,baz=117,slow=2.2,SNR=14
BRTR PKPab **PKPab** 20 53 56.9 +0.7
comp=Z,7.2nm,0.9s,baz=128,slow=5.0,SNR=14
BRTR PP **PP** 20 57 26.4 +0.2
comp=Z,2.7nm,1.1s,baz=12,slow=6.3,SNR=3.8
BRTR Keskin Array B 150.91 311 PKPbc **PKPbc** 20 53 48.5 -0.2
BRTR PKPab **PKPab** 20 53 56.9 +0.7
BRTR PP **PP** 20 57 26.4 +0.2
KOLS Kolonicke sedl 150.97 337 *e*PKIKP **PKPbc** 20 53 49.1 +0.7
KOLS Kolonicke sedl 150.97 337 *e*PKP **PKPbc** 20 53 49.1 +0.7
TESR 151.02 329 ⇑*i*P **PKPbc** 20 53 55.4 -0.7
KSP Ksiaz 151.04 346 *e*PKIKP **PKPbc** 20 53 48.6 +0.1
UZH Uzhgorod 151.21 336 *e*PKIKP **PKPbc** 20 53 46.2 -2.7
UZH *i* 20 53 57.4
CFR Carcaliu 151.21 325 ⇑PKIKP **PKPbc** 20 53 48.8 -0.2
CFR Carcaliu 151.21 325 ⇑*i*P **PKPbc** 20 53 48.8 -0.2
NIE Niedzica 151.22 340 *e*PKIKP **PKPbc** 20 53 49.9 +0.9
NIE Niedzica 151.22 340 *e*PKP **PKPbc** 20 53 49.9 +0.9
CLL Collm 151.24 350 ⇓*i*PKIKP **PKPbc** 20 53 48.3 -0.6
CLL *i* 20 53 56.4
CLL *i* 20 53 59.2
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL pmax pmax
comp=Z,29nm,1.0s
CLL Collm 151.24 350 ⇓*i*PKPbc **PKPbc** 20 53 48.3 -0.6
comp=Z,29nm,1.1s
CLL *i* PKPab **PKPab** 20 53 56.4 -0.4
comp=Z,12nm,1.0s
CLL *i* pPKPbc **pPKPbc** 20 53 59.2 -0.7
CRVS Cervenica-Dubn 151.28 338 *e*PKIKP **PKPbc** 20 53 49.7 +0.6
CRVS Cervenica-Dubn 151.28 338 *e*PKP **PKPbc** 20 53 49.7 +0.6
UPC Upice 151.42 346 *e*PKIKP **PKPbc** 20 53 49.8 +0.4
UPC Upice 151.42 346 ⇑*e*PKP **PKPbc** 20 53 49.8 +0.4
VRI Vrincioaia 151.45 328 ⇑PKIKP **PKPbc** 20 53 49.5 -0.1
VRI Vrincioaia 151.45 328 ⇑*i*P **PKPbc** 20 53 49.5 -0.1
DPC Dobruska-Polom 151.50 345 *e*PKIKP **PKPbc** 20 53 49.9 +0.3
DPC *e* 20 53 58.2
DPC Dobruska-Polom 151.50 345 ⇑*e*PKP **PKPbc** 20 53 49.9 +0.3
DPC *e*PKPAB **PKPab** 20 53 58.2 +0.2
BRG Berggiesshubel 151.50 349 *e*PKP **PKPbc** 20 53 49.9 +0.4
comp=Z,22nm,1.1s
BRG Berggiesshubel 151.50 349 *e*PKIKP **PKPbc** 20 53 49.9 +0.4
BRG pmax pmax
comp=Z,8.0nm,1.2s
PLOR Plostina 151.50 328 ⇑PKIKP **PKPab** 20 53 58.6 +0.4
PLOR Plostina 151.50 328 ⇑*i*P **PKPab** 20 53 58.5 +0.4
OKC Ostrava-Krasne 151.50 343 *e*PKIKP **PKPbc** 20 53 49.6 +0.1
OKC *e* 20 53 58.0
OKC Ostrava-Krasne 151.50 343 ⇑*e*PKP **PKPbc** 20 53 49.6 +0.1
OKC *e*PKPAB **PKPab** 20 53 58.0 0.0
TRPA Tarpa 151.53 336 ⇓*i*P **PKPbc** 20 53 49.6 -0.1
PVCC Panska Ves 151.71 348 *e*PKIKP **PKPbc** 20 53 50.5 +0.5
PVCC Panska Ves 151.71 348 ⇑*e*PKP **PKPbc** 20 53 50.5 +0.5
MORC Moravsky Berou 151.72 343 ⇑PKIKP **PKPbc** 20 53 50.6 +0.5
MORC Moravsky Berou 151.72 343 ⇑*i*P **PKPbc** 20 53 50.6 +0.5
ISR Istrita 152.07 327 ⇑PKIKP **PKPab** 20 54 00.8 +0.2
ISR Istrita 152.07 327 ⇑*i*P **PKPab** 20 54 00.8 +0.2
MLR Muntele Rosu 152.10 328 ⇑*i*P **PKPbc** 20 53 50.8 -0.4
PRU Pruhonice 152.23 347 *e*PKIKP **PKPbc** 20 53 51.3 +0.1
PRU *e* 20 54 05.2
PRU Pruhonice 152.23 347 ⇑*e*PKP **PKPbc** 20 53 51.3 +0.1
PRU *e*pPKP **PKPab** 20 54 05.2 +4.2
VRAC Vranov 152.40 344 PKPab **PKPab** 20 54 01.9 +0.2
comp=Z,1.6nm,0.4s,baz=326,slow=11,SNR=4.8
VRAC Vranov 152.40 344 PKPab **PKPab** 20 54 01.9 +0.2
VYHS Vyhne 152.50 340 *e*PKIKP **PKPbc** 20 53 52.1 +0.2
VYHS *e* 20 52.7
VYHS Vyhne 152.50 340 *e*PKP **PKPbc** 20 53 52.1 +0.2
VYHS *e* 20 54 02.7
MEM Membach 152.55 359 PKPbc **PKPbc** 20 53 52.1 +0.2
DRGR 152.56 334 ⇓PKIKP **PKPbc** 20 53 52.4 +0.3
DRGR 152.56 334 ⇓*i*P **PKPbc** 20 53 52.4 +0.3
VOIR 152.57 329 ⇑PKIKP **PKPbc** 20 53 53.0 +0.8
VOIR 152.57 329 ⇑*i*P **PKPbc** 20 53 53.0 +0.8
SNF Seneffe 152.64 2 PKPbc **PKPbc** 20 53 51.7 -0.3
PSZ Piszkesteto 152.67 338 ⇓PKIKP PKPbc 20 53 57.6 +5.2
PSZ Piszkesteto 152.67 338 ⇓*i*P PKPbc 20 53 57.6 +5.2
BCLA Clavier 152.74 0 PKPab **PKPab** 20 54 02.9 -0.2
DOU Dourbes 153.06 1 PKPbc **PKPbc** 20 53 53.2 +0.2
DOU PKPab **PKPab** 20 54 03.9 -0.5
DOU APKPab 20 54 16.8
GRF Grafenberg Arr 153.07 352 *e*PKIKP **PKPbc** 20 53 53.5 +0.4
GRF Grafenberg Arr 153.07 352 *e*PKP **PKPbc** 20 53 53.5 +0.4
KHC Kasperske Hory 153.23 348 *e*PKIKP **PKPbc** 20 53 53.2 -0.3
KHC *e* 20 54 05.5
KHC Kasperske Hory 153.23 348 *e*PKPbc **PKPbc** 20 53 53.4 -0.1
KHC Kasperske Hory 153.23 348 ⇑*e*PKP **PKPbc** 20 53 53.2 -0.3
KHC *e*PKPAB **PKPab** 20 54 05.5 +0.2
KHC *e*pPKP **pPKPab** 20 54 14.3 -1.8
GERES GERESS Array B 153.48 348 PKPbc **PKPbc** 20 53 54.0 -0.2
comp=Z,1.5nm,0.9s,baz=354,slow=1.3,SNR=8.1
GERES PKPab **PKPab** 20 54 04.8 -1.6
comp=Z,2.6nm,1.0s,baz=60,slow=3.2,SNR=6.8
GERES GERESS Array B 153.48 348 PKPbc **PKPbc** 20 53 54.0 -0.2
GERES PKPab **PKPab** 20 54 04.8 -1.6
WLF Walferdange 153.49 359 PKPbc **PKPbc** 20 53 54.4 +0.4
WLF APKPbc 20 54 03.2
WLF PKPab **PKPab** 20 54 06.8 +0.5
WLF APKPab 20 54 15.8
CONA Conrad Observa 153.86 344 ⇑*i*PKPbc **PKPbc** 20 53 54.3 -0.7
comp=Z,10.0nm,1.1s
BZS Buzias 153.95 333 ⇑PKIKP **PKPbc** 20 53 54.6 -0.5
BZS Buzias 153.95 333 ⇑*i*P **PKPbc** 20 53 54.6 -0.5
VTS Vitosha 155.56 327 ⇓PKP2 PKPab 20 54 09.9 -5.7
VTS Vitosha 155.56 327 ⇓*i*P PKPab 20 54 09.9 -5.7
DBIC Dimbokro 160.91 147 PKP **PKPdf** 20 53 56.0 -0.8
comp=Z,2.5nm,0.9s,baz=172,slow=8.4,SNR=4.2
DBIC Dimbokro 160.91 147 PKP **PKPdf** 20 53 56.0 -0.8

ESDC Sonseca Array 161.68 23 PKP **PKPdf** 20 53 55.6 -1.3
comp=Z,1.0nm,0.9s,baz=357,slow=4.2,SNR=6.4
ESDC PKPab **PKPab** 20 54 42.0 0.0
comp=Z,0.6nm,0.8s,baz=318,slow=4.1,SNR=4.7
ESDC Sonseca Array 161.68 23 PKP **PKPdf** 20 53 55.6 -1.3
ESDC PKPab **PKPab** 20 54 42.0 0.0
TORD Torodi Ar. Bea 169.49 160 PKP **PKPdf** 20 54 03.2 -0.7
comp=Z,1.8nm,0.9s,baz=319,slow=0.9,SNR=8.0
TORD PKPab **PKPab** 20 55 17.1 +0.3
comp=Z,2.3nm,1.0s,baz=191,slow=3.0,SNR=5.6
TORD PP **PP** 20 59 10.1 +4.9
comp=Z,1.4nm,1.1s,baz=166,slow=3.2,SNR=4.2
TORD Torodi Ar. Bea 169.49 160 PKP **PKPdf** 20 54 03.2 -0.7
TORD PKPab **PKPab** 20 55 17.1 +0.3
TORD PP **PP** 20 59 10.2 +4.9

IDC 19 20:34:18.8±4.3, 13.40N×145.83E, h48km±31km, mb3.6/6, mb1 3.7/6, mb1mx3.4/28, mbtmp3.6/6, Error ellipse: s-maj=117.8km s-min=34.6km az=5.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.96**	**282**	P	Pn	20 34 36.8	+0.9
	292nm,0.3s,baz=126,slow=7.0,SNR=174						
GUMO				S	Sn	20 34 48.9	+0.5
	250nm,0.3s,baz=17,slow=19,SNR=35						
SONM	**Songino Array**	**47.43**	**324**	P	P	20 42 50.2	+1.4
	0.3nm,0.4s,baz=142,slow=6.2,SNR=4.5						
MKAR	**Makanchi Array**	**62.28**	**316**	P	P	20 44 36.5	+0.4
	0.3nm,0.5s,baz=95,slow=7.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**62.33**	**324**	P	P	20 44 36.0	-0.2
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**62.90**	**25**	P	P	20 45 14.5	-0.4
	0.5nm,0.5s,baz=252,slow=5.8,SNR=12						
FINES	**FINESS Array B**	**91.73**	**335**	P	P	20 47 19.5	-1.5
	1.3nm,0.6s,baz=63,slow=4.4,SNR=8.1						
AKASG	**Malin Array Be**	**95.71**	**325**	P	P	20 47 40.0	+0.4
	0.9nm,0.6s,baz=50,slow=5.4,SNR=4.5						

IDC 19 20:48:57.6±4.2, 23.51S×175.01W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/21, mbtmp4.0/6, Error ellipse: s-maj=154.2km s-min=48.2km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.05**	**268**	P	P	20 56 01.8	+0.7
	1.4nm,0.4s,baz=82,slow=15,SNR=4.0						
STKA	**Stephens Creek**	**39.10**	**248**	P	P	20 56 27.1	+0.2
	0.5nm,0.3s,baz=78,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**46.60**	**259**	P	P	20 57 27.6	-0.2
	1.4nm,0.8s,baz=92,slow=6.9,SNR=11						
WRA	**Warramunga Arr**	**46.99**	**264**	P	P	20 57 29.6	-1.3
	2.0nm,0.8s,baz=104,slow=8.3,SNR=17						
FITZ	**Fitzroy Crossi**	**55.41**	**264**	P	P	20 58 34.0	-0.2
	1.8nm,0.7s,baz=119,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	P	21 02 18.0	+1.2
	0.5nm,0.8s,baz=134,slow=2.6,SNR=5.2						
AKASG	**Malin Array Be**	**146.97**	**331**	PKPbc	PKPdf	21 08 40.5	+0.5
	0.2nm,0.3s,baz=43,slow=4.6,SNR=5.0						

*OMAN **19** 20:54:17.4±1.5, 27.45N×55.67E, h55km±999km, Error ellipse: s-maj=616.3km s-min=166.5km az=267.0*

CSEM 19 20:54:12.6±0.5, 27.56N×56.26E, h2km, ML3.1, Error ellipse: s-maj=25.8km s-min=10.5km az=95.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.18**	**207**	*e*Pg	Pg	20 54 15.7	-0.6
BANOM	**Banah**	**1.63**	**179**	P	Pb	20 54 43.6	+0.2
	SNR=18						
BANOM	**Banah**	**1.63**	**179**	P	Pg	20 54 43.7	-0.2
	SNR=18						
KRBR	**Kerman**	**2.46**	**10**	*e*Pn	Pn	20 54 54.2	+0.1
KRBR				*e*Sg	Sb	20 55 30.5	+1.6
HATD	**Hatta, Dubai**	**2.72**	**182**	P	Pn	20 54 57.4	0.0
	SNR=5.6						
HATD	**Hatta, Dubai**	**2.72**	**182**	P	Pn	20 54 57.4	0.0
	SNR=5.6						
ASHO	**Ashiyiah**	**2.87**	**184**	P	Pn	20 54 59.7	+0.3
	SNR=12						
ASHO	**Ashiyiah**	**2.87**	**184**	P	Pn	20 54 59.7	+0.3
	SNR=12						
GHIR	**Ghir-Karzin**	**2.99**	**285**	*e*Pn	Pn	20 55 01.9	+0.7
NAY	**Al-Naaiem**	**8.12**	**284**	*e*P	Pn	20 56 05.6	-6.0
NAY				*e*S	Sn	20 57 31.0	-13
NAY				AML	AML	20 57 33.9	
	comp=Z,3.2nm,0.5s						
ABTO	**Aybut**	**10.52**	**196**	P	Pn	20 56 42.8	-1.8
	SNR=7.3						
ABTO	**Aybut**	**10.52**	**196**	P	Pn	20 56 42.8	-1.8
	SNR=7.3						

IDC 19 20:56:59.4±7.7, 22.95S×175.69W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=230.4km s-min=102.6km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.45**	**267**	P	P	21 03 58.9	+1.2
	3.5nm,0.4s,baz=96,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**46.10**	**259**	P	P	21 05 25.4	-0.2
	1.6nm,1.0s,baz=88,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**46.43**	**264**	P	P	21 05 27.7	-0.6
	3.5nm,0.7s,baz=103,slow=8.6,SNR=33						
FITZ	**Fitzroy Crossi**	**54.86**	**263**	P	P	21 06 30.9	-1.0
	6.8nm,1.2s,baz=96,slow=6.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**92.94**	**289**	P	P	21 10 15.2	+0.2
	0.1nm,0.3s,baz=101,slow=1.8,SNR=2.7						

IDC 19 21:18:24.1±8.8, 3.63N×128.18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=153.0km s-min=139.7km az=89.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.20**	**166**	P	P	21 23 42.9	+0.3
	0.3nm,0.3s,baz=346,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.70**	**169**	P	P	21 24 14.3	0.0
	0.5nm,0.5s,baz=354,slow=7.8,SNR=6.4						
STKA	**Stephens Creek**	**37.55**	**161**	P	P	21 25 39.7	-0.6
	1.1nm,0.9s,baz=324,slow=14,SNR=2.8						

*IDC **19** 21:24:06.6±0.9, 23.43S×175.03W, h0km, mb4.4/12, mb1 4.5/14, mb1mx4.4/24, mbtmp4.3/14, ML3.6/2, Error ellipse: s-maj=30.3km s-min=17.0km az=149.0*

*ISCJB **19** 21:24:10.5±0.6, 23.49S±0.08×174.95W±0.09, h33km, mb4.4/12, Error ellipse: s-maj=12.7km s-min=9.8km az=40.0*

*AUST **19** 21:24:20.4, 22.09S×173.79W, h200km*

ISC 19 21:24:11.5±0.8, 23.49S±0.10×175.0W±0.1, h35km, n29, σ1°02/22, mb4.4/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.44**	**48**	S	Sn	21 26 25.9	-30
	baz=4.7,SNR=3.2						
AFI	**Afiamalu**	**10.00**	**18**	Pn	Pn	21 26 24.4	-8.5
	4.7nm,0.3s,baz=61,slow=20,SNR=4.1						
AFI				Sn	Sn	21 27 58.1	-26
	3.2nm,0.3s,baz=222,slow=24,SNR=3.3						
RAR	**Rarotonga**	**14.25**	**84**	Pn	Pn	21 27 18.0	-13
	5.5nm,0.3s,baz=255,slow=7.8,SNR=7.0						
URZ	**Urewera**	**16.21**	**203**	Pn	**Pn**	**21 27 56.9**	**+0.4**
	0.3nm,0.3s,baz=192,slow=23,SNR=2.4						
URZ				Sn	**Sn**	**21 30 54.5**	**-0.6**
	0.5nm,0.3s,baz=327,slow=21,SNR=2.3						
DZM	**Mont Dzumac**	**17.19**	**271**	P	**Pn**	**21 28 07.8**	**-1.4**
	0.1nm,0.3s,baz=281,slow=17,SNR=2.2						
DZM				S	**Sn**	**21 31 19.2**	**-0.2**
	1.

QLP	**Quilpie**	**36.98**	**257**	P		P	21 31 21.9	+4.2
	baz=38,SNR=4.3								
STKA	**Stephens Creek**	**39.14**	**248**	P		**P**	**21 31 36.7**	**+0.8**
	2.9nm,0.7s,baz=80,slow=9.9,SNR=10								
STKA	**Stephens Creek**	**39.14**	**248**	P		P	21 31 40.4	+4.4
	baz=41,SNR=6.1								
BBOO	**Buckleboo**	**43.84**	**247**	P		P	21 32 18.0	+3.6
	baz=45,SNR=4.8								
ASAR	**Alice Springs**	**46.64**	**259**	P		**P**	**21 32 36.1**	**-0.7**
	5.1nm,0.6s,baz=99,slow=7.3,SNR=28								
WRA	**Warramunga Arr**	**47.03**	**264**	P		**P**	**21 32 38.3**	**-1.6**
	16nm,0.7s,baz=102,slow=8.1,SNR=42								
KDU	**Kakadu**	**50.85**	**273**	P		**P**	**21 33 11.1**	**+1.8**
	baz=52,SNR=5.8								
KDU				S		S	21 40 10.3	-13	
	baz=52,SNR=3.3								
MTN	**Manton Dam**	**52.03**	**272**	P		**P**	**21 33 19.7**	**+1.7**
	baz=53,SNR=4.3								
FITZ	**Fitzroy Crossi**	**55.45**	**264**	P		**P**	**21 33 43.5**	**+0.4**
	3.5nm,0.6s,baz=114,slow=7.8,SNR=13								
FITZ	**Fitzroy Crossi**	**55.45**	**264**	P		**P**	**21 33 43.3**	**+0.3**
	baz=57,SNR=12								
MEEK	**Meekatharra**	**59.63**	**252**	P		P	21 34 16.1	+3.6
	baz=61,SNR=4.8								
BLDU	**Ballidu**	**60.44**	**247**	P		P	21 34 22.5	+4.6
	baz=62,SNR=5.0								
MORW	**Morawa**	**61.33**	**249**	P		P	21 34 28.5	+4.5
	baz=63,SNR=4.4								
MJAR	**Matsushiro Arr**	**74.27**	**322**	P		**P**	**21 35 45.8**	**+0.6**
	3.0nm,0.7s,baz=175,slow=6.6,SNR=8.6								
YBH	**Yreka Blue Hor**	**80.92**	**37**	P		**P**	**21 36 22.0**	**-0.3**
	0.6nm,0.4s,baz=112,slow=4.9,SNR=3.9								
USRK	**Ussuriysk Arra**	**83.00**	**325**	P		**P**	**21 36 35.0**	**+2.0**
	3.2nm,0.8s,baz=120,slow=4.9,SNR=8.8								
TXAR	**Lajitas Array**	**86.35**	**56**	P		**P**	**21 36 51.0**	**+0.6**
	0.8nm,0.9s,baz=213,slow=4.3,SNR=5.8								
ILAR	**Eielson Array**	**90.62**	**12**	P		**P**	**21 37 09.5**	**-0.3**
	0.5nm,0.8s,baz=220,slow=5.5,SNR=4.4								
CMAR	**Chiang Mai Arr**	**93.73**	**288**	P		**P**	**21 37 26.2**	**+0.9**
	0.5nm,0.7s,baz=111,slow=3.7,SNR=4.6								
AKASG	**Malin Array Be**	**146.97**	**331**	PKPbc		**PKPbc**	**21 43 49.9**	**-0.3**
	0.5nm,0.4s,baz=59,slow=5.7,SNR=4.3								
BRTR	**Keskin Array B**	**150.91**	**311**	PKPbc		**PKPbc**	**21 44 00.1**	**-0.7**
	0.3nm,0.7s,baz=146,slow=30,SNR=3.0								
BRTR				PKPab		**PKPab**	**21 44 07.5**	**-0.7**	
	0.3nm,0.4s,baz=129,slow=31,SNR=4.4								

NNC 19 21:29:48.2±5.4, 38.25N×71.07E, h0km, mb3.5, mpv3.2, 3C-2D, Error ellipse: s-maj=50.0km s-min=40.9km az=70.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.86**	**355**	Pn	Pn	21 31 03.7	+1.1
	1.1nm,0.3s,baz=182,slow=14,SNR=42						
KK31				⇑Sn	Sn	21 32 01.7	+2.0
	1.9nm,0.4s,baz=179,slow=23,SNR=5.9						
KK31				⇑Lg	Lg	21 32 20.5	
	2.4nm,0.4s,baz=177,slow=33,SNR=4.5						
TKM2	**Tokmak 2**	**5.80**	**35**	⇓Pn	Pn	21 31 15.8	+0.1
	2.1nm,0.6s						
TKM2				⇓Lg	Lg	21 32 47.7	
	5.4nm,1.1s						
AB31	**Akbulak array**	**13.61**	**327**	⇑P	Pn	21 32 58.3	-4.0
	0.3nm,0.5s,baz=150,slow=12,SNR=7.9						

IDC 19 21:29:52.9±4.0, 21.99S×175.29W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/20, mbtmp4.1/4, Error ellipse: s-maj=241.8km s-min=31.3km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.88**	**266**	P	P	21 36 56.1	+1.2
	2.4nm,0.4s,baz=113,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**46.66**	**258**	P	P	21 38 23.2	-0.3
	1.5nm,0.9s,baz=90,slow=8.9,SNR=9.4						
WRA	**Warramunga Arr**	**46.91**	**263**	P	P	21 38 24.8	-0.8
	1.6nm,0.3s,baz=102,slow=8.4,SNR=48						
NVAR	**Mina Array Bea**	**80.40**	**42**	P	P	21 42 06.7	0.0
	0.7nm,0.6s,baz=224,slow=8.2,SNR=4.3						

IDC 19 21:31:50.0±2.5, 23.37S×174.70W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.0/5, Error ellipse: s-maj=94.7km s-min=28.5km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.35**	**268**	P	P	21 38 56.4	+0.4
	2.9nm,0.3s,baz=98,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**46.91**	**259**	P	P	21 40 22.6	0.0
	0.7nm,0.8s,baz=96,slow=7.9,SNR=4.9						
WRA	**Warramunga Arr**	**47.30**	**264**	P	P	21 40 25.0	-0.7
	3.9nm,0.8s,baz=102,slow=8.2,SNR=18						
MJAR	**Matsushiro Arr**	**74.33**	**322**	P	P	21 43 29.6	+0.1
	0.8nm,0.5s,baz=139,slow=5.6,SNR=3.8						
NVAR	**Mina Array Bea**	**81.07**	**41**	P	P	21 44 07.2	-0.1
	0.3nm,0.6s,baz=228,slow=9.5,SNR=2.3						

WEL 19 21:34:55.6±0.5, 37.62S×179.51E, h33km, ML3.7/5, Error ellipse: s-maj=5.0km s-min=2.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**273**	Pn	Pn	21 35 12.4	-0.4
MXZ				SN	Sn	21 35 24.9	-0.3
PUZ	**Puketiti**	**1.09**	**245**	PN	Pn	21 35 13.9	-0.7
PUZ				SN	Sn	21 35 27.2	-1.5
CNGZ	**Carnagh Statio**	**1.34**	**230**	PN	Pn	21 35 18.0	-0.1
MWZ	**Matawai**	**1.72**	**245**	PN	Pn	21 35 22.5	-0.9
MWZ				SN	Sn	21 35 42.0	-2.3
PRGZ	**Paritu Road**	**1.83**	**224**	PN	Pn	21 35 24.3	-0.5
PRGZ				SN	Sn	21 35 47.4	+0.6
MHGZ	**Mahia Peninsul**	**1.98**	**219**	PN	Pn	21 35 26.2	-0.7
URZ	**Urewera**	**2.00**	**251**	PN	Pn	21 35 27.5	+0.4
URZ				SN	Sn	21 35 50.5	-0.6
KNZ	**Kokohu**	**2.01**	**225**	PN	Pn	21 35 26.1	-1.2
RAHZ	**Arahi**	**2.31**	**235**	PN	Pn	21 35 31.0	-0.4
RAHZ				SN	Sn	21 35 57.7	-0.9
TARZ	**Mount Tarawera**	**2.45**	**255**	PN	Pn	21 35 33.7	+0.2
NMHZ	**Naumai**	**2.59**	**234**	PN	Pn	21 35 35.2	-0.2
CKHZ	**Cape Kidnapper**	**2.79**	**222**	PN	Pn	21 35 36.9	-1.0
BKZ	**Black Stump Fm**	**2.83**	**236**	PN	Pn	21 35 38.0	-0.6
BKZ				SN	Sn	21 35 09.1	-2.6
MCHZ	**McNeill Hill**	**2.86**	**230**	PN	Pn	21 35 38.2	-0.8
KAHZ	**Kahuranaki**	**3.00**	**223**	PN	Pn	21 35 39.3	-1.6
KUZ	**Kuaotunu**	**3.15**	**285**	PN	Pn	21 35 43.4	+0.5
PXZ	**Pawanui**	**3.18**	**220**	PN	Pn	21 35 40.9	-2.4
BHHZ	**Black Hill Sta**	**3.29**	**234**	PN	Pn	21 35 44.0	-0.9
PNHZ	**Pukenui**	**3.46**	**227**	PN	Pn	21 35 45.4	-1.8
MKAZ	**Moumakai**	**3.50**	**277**	PN	Pn	21 35 48.3	+0.6
TSZ	**Takapari Road**	**3.69**	**228**	PN	Pn	21 35 48.2	-2.2
DVHZ	**Dannevirke**	**3.74**	**223**	PN	Pn	21 35 48.9	-2.1
BFZ	**Birch Farm**	**3.97**	**219**	PN	Pn	21 35 51.2	-3.0
MRZ	**Mangatainoka R**	**4.31**	**224**	PN	Pn	21 35 56.1	-2.8
HOWZ	**Holdsworth Sta**	**4.51**	**222**	PN	Pn	21 35 58.4	-3.2
MTW	**Mount Morrison**	**4.71**	**220**	PN	Pn	21 36 00.4	-3.9
KIW	**Kapiti Island**	**4.82**	**226**	PN	Pn	21 36 02.9	-3.1

CSEM 19 21:50:40.4±0.1, 31.41N×35.19E, h12km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.5km az=107.0, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YTIR	**Yattir**	**0.08**	**232**	Pg	Pg	21 50 43.9	+0.8
YTIR				Sg	Sg	21 50 45.7	+0.6
MZDA	**Masada**	**0.18**	**125**	Pg	Pg	21 50 44.3	-0.1
MZDA				Sg	Sg	21 50 46.8	-0.3
DSI	**Dead Sea**	**0.23**	**46**	Pg	Pg	21 50 45.6	+0.4
DSI				Sg	Sg	21 50 49.1	+0.6
RTMI	**Retamim**	**0.56**	**230**	Pg	Pg	21 50 51.6	+0.3
RTMI				Sg	Sg	21 50 59.3	+0.6
SLTI	**Sal'it**	**0.83**	**351**	Pg	Pg	21 50 56.2	-0.4
SLTI				Sg	Sb	21 51 08.1	0.0
KZIT	**Kziot**	**0.85**	**234**	Pg	Pg	21 50 56.7	-0.1
KZIT				Sg	Sb	21 51 08.8	+0.4
ZFRI	**Zfri**	**0.86**	**181**	Pg	Pg	21 50 56.6	-0.3
ZFRI				Sg	Sg	21 51 08.2	+0.1
HMDT	**Nahal Hemdat**	**0.89**	**19**	Pg	Pg	21 50 56.8	-0.7
HMDT				Sg	Sg	21 51 08.9	-0.2
RMNI	**Mount Ramon**	**0.89**	**204**	Pg	Pb	21 50 57.9	-0.1
MMLI	**Mount Malkishu**	**1.04**	**11**	Pg	Pb	21 50 59.5	-0.9
MMLI				Sg	Sb	21 51 13.4	-0.7
PRNI	**Paran**	**1.07**	**189**	Pg	Pb	21 51 00.5	-0.4
PRNI				Sg	Sb	21 51 14.9	0.0
OFRI	**'Ofer**	**1.22**	**352**	Pg	Pn	21 51 02.7	-0.6
BLGI	**Bet Lehem HaGe**	**1.32**	**0**	Pn	Pn	21 51 04.3	-0.3
BLGI				Sn	Sn	21 51 22.2	0.0
RSH		**1.34**	**251**	S	Sb	21 51 22.3	-0.2
KRMI	**Paran Flat**	**1.35**	**197**	Pn	Pn	21 51 05.1	-0.1
KRMI				Sn	Sb	21 51 23.0	0.0
HRFI	**Mount Harif**	**1.38**	**186**	Pn	Pn	21 51 05.2	-0.3
HRFI				Sn	Sn	21 51 23.6	-0.1
MMA0	**Mount Meron ar**	**1.61**	**6**	Pn	Pn	21 51 09.2	+0.4
MMA0				Sn	Sb	21 51 30.8	+0.3
MBRI	**Mt Berech**	**1.63**	**188**	Pn	Pn	21 51 08.7	-0.4
MBRI				Sn	Sn	21 51 30.6	+0.5
KSHT	**Keshet**	**1.65**	**18**	Pn	Pn	21 51 08.9	-0.4
NAQL	**Naqoura**	**1.70**	**359**	*eP*	Pb	21 51 11.1	-0.5
EIL	**Elat**	**1.75**	**187**	Pn	Pn	21 51 10.3	-0.3
HNKL	**Nakhl**	**1.81**	**216**	P	Pn	21 51 11.1	-0.3
HNKL				S	Sn	21 51 33.6	-0.8
AMAG	**Maghara**	**1.87**	**246**	P	Pn	21 51 12.5	+0.2
BHL	**Bhannes**	**2.52**	**9**	*eP*	Pn	21 51 22.5	+1.3
BHL	**Bhannes**	**2.52**	**9**	*eP*	Pn	21 51 22.5	+1.2
HWQ	**Hawqa**	**2.93**	**12**	*eP*	Pb	21 51 30.3	-2.4
HWQ	**Hawqa**	**2.93**	**12**	*eP*	Pb	21 51 30.3	-2.4
HKAT	**Jabal Katrina**	**3.06**	**200**	P	Pn	21 51 28.4	-0.5
TR2		**3.27**	**203**	P	Pn	21 51 31.2	-0.4

IDC 19 21:54:14.6±7.6, 0.88N×120.98E, h104km±79km, mb3.3/5, mb1 3.5/7, mb1mx3.3/24, mbtmp3.3/7, ML3.7/2, Error ellipse: s-maj=85.5km s-min=17.7km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.99**	**192**	P	Pn	21 55 41.9	+1.1
	0.9nm,0.3s,baz=353,slow=10.0,SNR=4.2						
KAPI				S	Sn	21 56 47.6	-0.4
	1.4nm,0.3s,baz=313,slow=22,SNR=7.1						
FITZ	**Fitzroy Crossi**	**19.41**	**167**	P	P	21 58 33.5	+0.7
	0.4nm,0.3s,baz=50,slow=5.2,SNR=8.8						
WRA	**Warramunga Arr**	**24.49**	**148**	P	P	21 59 24.1	-0.3
	5.4nm,0.5s,baz=323,slow=11,SNR=65						
ASAR	**Alice Springs**	**27.45**	**154**	P	P	21 59 51.5	+0.4
	0.9nm,0.5s,baz=331,slow=9.4,SNR=17						
STKA	**Stephens Creek**	**37.99**	**151**	P	P	22 01 21.9	-0.7
	1.0nm,0.5s,baz=353,slow=8.7,SNR=3.6						
SONM	**Songino Array**	**48.45**	**347**	P	P	22 02 46.0	-0.7
	0.3nm,0.8s,baz=152,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**56.81**	**329**	P	P	22 03 48.8	+0.5
	0.1nm,0.4s,baz=137,slow=8.0,SNR=4.9						

IDC 19 22:01:26.5±3.9, 23.16S×174.73W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/20, mbtmp4.0/4, Error ellipse: s-maj=232.2km s-min=28.6km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.33**	**267**	P	P	22 08 32.8	+0.4
	3.5nm,0.4s,baz=100,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**46.92**	**259**	P	P	22 09 59.4	+0.1
	0.9nm,0.7s,baz=97,slow=6.9,SNR=9.4						
WRA	**Warramunga Arr**	**47.29**	**264**	P	P	22 10 01.4	-0.8
	0.9nm,0.5s,baz=103,slow=8.4,SNR=33						
NVAR	**Mina Array Bea**	**80.83**	**42**	P	P	22 13 43.1	0.0
	0.3nm,0.7s,baz=223,slow=9.2,SNR=2.9						

IDC 19 22:18:16.6±4.5, 30.02S×179.12W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=198.1km s-min=69.2km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.80**	**200**	Sn	Sn	22 22 05.0	+0.2
	7.7nm,0.3s,baz=88,slow=23,SNR=18						
STKA	**Stephens Creek**	**33.62**	**257**	P	P	22 24 59.0	+0.1
	1.6nm,1.0s,baz=90,slow=7.1,SNR=2.3						
ASAR	**Alice Springs**	**42.16**	**267**	P	P	22 26 10.9	-0.2
	0.3nm,0.4s,baz=102,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**43.12**	**272**	P	P	22 26 18.6	-0.3
	0.3nm,0.3s,baz=111,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**144.45**	**339**	PKP	PKPdf	22 37 53.7	-0.4
	1.3nm,0.3s,baz=34,slow=0.5,SNR=24						

IDC 19 22:32:25.2±2.3, 22.74S×174.83W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.0/6, MS4.5/1, Ms1 4.5/1, ms1mx3.6/31, Error ellipse: s-maj=131.8km s-min=22.5km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.34**	**269**	LR	LR	22 41 32.4	
	comp=Z,2μm,18.7s,baz=43,slow=32						
CTA	**Charters Tower**	**36.26**	**267**	P	P	22 39 31.1	+0.6
	4.4nm,0.6s,baz=94,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**46.92**	**258**	P	P	22 40 58.5	+0.5
	0.5nm,0.6s,baz=98,slow=6.8,SNR=8.0						
WRA	**Warramunga Arr**	**47.25**	**263**	P	P	22 40 59.2	-1.3
	2.3nm,0.6s,baz=102,slow=8.2,SNR=23						
NVAR	**Mina Array Bea**	**80.67**	**42**	P	P	22 44 40.5	+0.2
	0.7nm,0.7s,baz=222,slow=8.0,SNR=5.6						
TXAR	**Lajitas Array**	**85.81**	**56**	P	P	22 45 06.9	-0.1
	0.9nm,0.8s,baz=202,slow=6.8,SNR=4.5						
ILAR	**Eielson Array**	**89.87**	**12**	P	P	22 45 25.4	-0.1
	0.4nm,0.8s,baz=218,slow=5.8,SNR=3.6						

*PDG **19** 22:42:22.6±0.3, 43.66N×16.60E, h3km±1km, ML3.0/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*CSEM **19** 22:42:23.8±0.2, 43.66N×16.72E, h2km, ML2.9, Error ellipse: s-maj=5.6km s-min=2.3km az=40.0*
*PRU **19** 22:42:24.4, 43.71N×16.77E, h0km*
*BEO **19** 22:42:24.2±0.4, 43.68N×16.74E, h0km, MLJ2.9/7*
*VIE **19** 22:42:24.3±0.4, 43.73N×16.89E, h10km, mb2.6/6, ML2.7/11, Error ellipse: s-maj=4.0km s-min=3.1km az=56.0 41 km NE of Split*
*ISCJB **19** 22:42:24.6±0.4, 43.72N±0.03×16.76E±0.04, h10km, Error ellipse: s-maj=5.6km s-min=2.3km az=43.4*

ISC 19 22:42:23.6±0.7, 43.69N±0.03×16.73E±0.02, h10km, n84, σ1960/140, 22C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**1.08**	**139**	*e*Pg	**Pg**	**22 42 42.4**	**-2.1**
STON				Sg	**Sn**	**22 42 59.2**	**-0.7**
STON	**Ston**	**1.08**	**139**	*e*Pg	**Pg**	**22 42 42.3**	**-2.1**
STON				Sg	**Sn**	**22 42 59.2**	**-0.7**
BLY	**Banja Luka**	**1.10**	**17**	*e*Pg	**Pb**	**22 42 43.6**	**-1.2**
BLY				*e*Sg	**Sn**	**22 43 01.3**	**+0.8**
BLY	**Banja Luka**	**1.10**	**17**	*e*Pg	**Pb**	**22 42 43.6**	**-1.2**
BLY				*e*Sg	**Sn**	**22 43 01.3**	**+0.8**
BRY	**Bratogost**	**1.54**	**120**	⇑*i*Pn	**Pb**	**22 42 51.3**	**-1.0**
BRY				*e*Sn	**Sg**	**22 43 16.6**	**+3.4**
BRY	**Bratogost**	**1.54**	**120**	⇑*i*Pn	**Pb**	**22 42 51.3**	**-1.0**
BRY				*e*Sn	**Sg**	**22 43 16.6**	**+3.4**
NVLJ	**Novalja**	**1.60**	**304**	*e*Pn	**Pb**	**22 42 52.2**	**-1.0**
NVLJ				Sn	**Sg**	**22 43 16.0**	**+1.0**
NVLJ	**Novalja**	**1.60**	**304**	*e*Pn	**Pb**	**22 42 52.2**	**-1.0**
NVLJ				Sn	**Sg**	**22 43 15.9**	**+1.0**
UPM	**Unac-Piva**	**1.66**	**106**	⇓*i*Pn	**Pb**	**22 42 53.9**	**-0.5**
UPM				*e*Sn	**Sg**	**22 43 20.8**	**+3.8**
UPM	**Unac-Piva**	**1.66**	**106**	⇓*i*Pn	**Pb**	**22 42 53.9**	**-0.5**
UPM				*e*Sn	**Sg**	**22 43 20.8**	**+3.8**
HCY	**Herceg Novi**	**1.79**	**133**	⇑*i*Pn	**Pb**	**22 42 55.5**	**-1.1**
HCY				*e*Sn	**Sg**	**22 43 22.3**	**+1.0**
HCY	**Herceg Novi**	**1.79**	**133**	⇑*i*Pn	**Pb**	**22 42 55.5**	**-1.1**
HCY				*e*Sn	**Sg**	**22 43 22.3**	**+1.0**
SISC	**Sisak**	**1.80**	**352**	Sn	**Sg**	**22 43 20.5**	**-0.9**
SISC	**Sisak**	**1.80**	**352**	Sn	**Sg**	**22 43 20.5**	**-0.9**
NKY	**Niksic**	**1.87**	**117**	⇑*i*Pn	**Pb**	**22 42 57.7**	**-0.3**
NKY				*e*Sn	**Sg**	**22 43 25.2**	**+1.4**
NKY	**Niksic**	**1.87**	**117**	⇑*i*Pn	**Pb**	**22 42 57.7**	**-0.3**
NKY				*e*Sn	**Sg**	**22 43 25.2**	**+1.4**
BBLS	**Lazi?i**	**1.95**	**84**	*e*Sg	**Sg**	**22 43 26.7**	**+0.5**
BBLS	**Lazi?i**	**1.95**	**84**	*e*Sg	**Sg**	**22 43 26.7**	**+0.5**
PLE	**Pljevlja**	**1.97**	**100**	⇑*i*Pn	**Pb**	**22 42 59.1**	**-0.5**
PLE				*e*Sn	**Sg**	**22 43 28.4**	**+1.5**
PLE	**Pljevlja**	**1.97**	**100**	⇑*i*Pn	**Pb**	**22 42 59.1**	**-0.5**
PLE				*e*Sn	**Sg**	**22 43 28.4**	**+1.5**
BOJS	**Bojanci**	**2.10**	**330**	*i* Pn	**Pb**	**22 43 01.2**	**-0.5**
BOJS				*i* Sn	**Sb**	**22 43 28.9**	**+1.1**
BOJS							
	comp=Z,37nm,0.4s						
BOJS	**Bojanci**	**2.10**	**330**	*e*Pn	**Pb**	**22 43 00.3**	**-1.4**
BOJS	**Bojanci**	**2.10**	**330**	*e*Pn	**Pb**	**22 43 00.3**	**-1.4**
BOJS				*i* Sn	**Sb**	**22 43 28.9**	**+1.1**
	comp=Z,37nm,0.4s						
BUM	**Brajici-Budva**	**2.11**	**130**	⇓*i*Pn	**Pb**	**22 42 59.9**	**-2.1**
BUM				*e*Sn	**Sg**	**22 43 30.5**	**-1.0**
BUM	**Brajici-Budva**	**2.11**	**130**	⇓*i*Pn	**Pb**	**22 42 59.9**	**-2.1**
BUM				*e*Sn	**Sg**	**22 43 30.5**	**-1.0**
TEKS	**Tekeris**	**2.19**	**66**	*e*Pn	**Pb**	**22 43 02.0**	**-1.4**
TEKS	**Tekeris**	**2.19**	**66**	*e*Pn	**Pb**	**22 43 02.0**	**-1.4**
PDG	**Podgorica**	**2.24**	**123**	*e*Pn	**Pb**	**22 43 03.2**	**-1.0**
PDG				*e*Sg	**Sg**	**22 43 34.7**	**-0.9**
PDG	**Podgorica**	**2.24**	**123**	⇓*i*Pn	**Pb**	**22 43 02.4**	**-1.8**
PDG				*e*Sn	**Sg**	**22 43 34.4**	**-1.2**
PDG				*e*Sg	**Sg**	**22 43 34.7**	**-0.9**
TTG	**Podgorica**	**2.24**	**123**	⇓*i*Pn	**Pb**	**22 43 02.4**	**-1.8**
TTG				*e*Sn	**Sg**	**22 43 34.4**	**-1.3**
GBRS	**Gornja Briga**	**2.29**	**324**	*i* Pn	**Pb**	**22 43 03.9**	**-1.2**
GBRS				*i* Sn	**Sb**	**22 43 33.7**	**+0.2**
	comp=Z,23nm,0.3s						
GCIS	**Gornji Cirnik**	**2.31**	**341**	*i* Pn	**Pb**	**22 43 03.9**	**-1.5**
GCIS				*i* Sn	**Sb**	**22 43 34.0**	**0.0**
GCIS							
	comp=Z,47nm,0.6s						
GCIS	**Gornji Cirnik**	**2.31**	**341**	*i* Pn	**Pb**	**22 43 03.9**	**-1.5**
GCIS				*i* Sn	**Sb**	**22 43 34.0**	**0.0**
	comp=Z,47nm,0.6s						
DIVS	**Divibare**	**2.39**	**79**	*e*Pn	**Pb**	**22 43 05.3**	**-1.5**
DIVS				*e*Sg	**Sg**	**22 43 39.3**	**-1.2**
DIVS				*e*Sg	**Sg**	**22 43 39.3**	**-1.2**
DIVS	**Divibare**	**2.39**	**79**	*e*Pn	**Pb**	**22 43 05.3**	**-1.5**
DIVS				*e*Sg	**Sg**	**22 43 39.3**	**-1.2**
BEY	**Berane**	**2.45**	**108**	⇓*i*Pn	**Pb**	**22 43 05.9**	**-1.9**
BEY				*e*Sn	**Sb**	**22 43 39.6**	**+1.5**
IVA	**Berane**	**2.46**	**108**	⇓*i*Pn	**Pb**	**22 43 05.9**	**-2.0**
IVA				*e*Sn	**Sb**	**22 43 39.6**	**+1.4**
IVAS	**Ivanjica**	**2.49**	**92**	*e*Pn	**Pn**	**22 43 05.3**	**+1.1**
IVAS	**Ivanjica**	**2.49**	**92**	*e*Pn	**Pn**	**22 43 05.3**	**+1.1**
ULC	**Ulcinj**	**2.53**	**132**	*e*Pn	**Pb**	**22 43 06.6**	**-2.6**
ULC				*e*Sn	**Sb**	**22 43 41.1**	**+0.7**
ULC	**Ulcinj**	**2.53**	**132**	*e*Pn	**Pb**	**22 43 06.6**	**-2.6**
ULC				*e*Sn	**Sb**	**22 43 41.1**	**+0.7**
PVY	**Plav**	**2.61**	**114**	⇑*i*Pn	**Pb**	**22 43 08.2**	**-2.3**
PVY				*e*Sn	**Sb**	**22 43 43.6**	**+1.0**
PVY	**Plav**	**2.61**	**114**	⇑*i*Pn	**Pb**	**22 43 08.2**	**-2.3**
PVY				*e*Sn	**Sb**	**22 43 43.6**	**+1.0**
FGSL	**Fruska Gora**	**2.65**	**55**	*e*Pn	**Pb**	**22 43 08.7**	**-2.5**
FRGS	**Fruska Gora**	**2.65**	**55**	*e*Pn	**Pb**	**22 43 08.7**	**-2.5**
SKDS	**Skadanscina**	**2.68**	**315**	*e*Pn	**Pn**	**22 43 08.5**	**+1.6**
SKDS	**Skadanscina**	**2.68**	**315**	*e*Pn	**Pn**	**22 43 08.5**	**+1.6**
TRUS	**Trudelj**	**2.71**	**77**	*e*Pn	**Pb**	**22 43 09.8**	**-2.4**
TRUS	**Trudelj**	**2.71**	**77**	*e*Pn	**Pb**	**22 43 09.8**	**-2.4**
PKSM	**Moragy**	**2.86**	**28**	*e*Pn	**Pn**	**22 43 11.3**	**+2.0**
PKSM	**Moragy**	**2.86**	**28**	*e*Pn	**Pn**	**22 43 11.3**	**+2.0**
GRUS	**Gruza**	**2.89**	**85**	*e*Pn	**Pn**	**22 43 10.9**	**+1.1**
GRUS				*e*Sg	**Sg**	**22 43 56.5**	**0.0**
GRUS	**Gruza**	**2.89**	**85**	*e*Pn	**Pn**	**22 43 10.9**	**+1.1**
GRUS				*e*Sg	**Sg**	**22 43 56

IDC 19 23:10:53.0±1.4,3°81'N×127°05'E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.4/22,mbtmp3.3/4,Error ellipse: s-maj=129.6km s-min=21.1km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.67**	**163**	P	P	23 16 14.5	-1.2
	1.2nm,0.7s,baz=344,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.12**	**167**	P	P	23 16 48.3	+1.4
	0.2nm,0.3s,baz=338,slow=8.3,SNR=3.2						
SONM	**Songino Array**	**47.32**	**341**	P	P	23 19 29.0	+0.3
	0.1nm,0.3s,baz=150,slow=6.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	23 20 44.8	-0.6
	0.1nm,0.5s,baz=116,slow=8.2,SNR=6.0						

*IDC **19** 23:15:46.9±0.8,23°.16S×174°.63W,h0km,mb4.6/13, mb1 4.8/13,mb1mx4.5/24,mbtmp4.6/13,Error ellipse: s-maj=40.8km s-min=15.2km az=158.0*

*ISCJB **19** 23:15:51.5±0.5,23°.1S±0°.1×174°.78W±0°.09,h36km, mb4.6/15,Error ellipse: s-maj=16.9km s-min=11.1km az=168.0*

*NEIC **19** 23:15:52.4±2.9,23°.27S×174°.65W,h38km±22km,mb4.9/3, Error ellipse: s-maj=28.6km s-min=8.9km az=147.0*

ISC 19 23:15:52.6±0.6,23°.2S±0°.1×174°.67W±0°.10,h36km,n48, σ0s74/48,mb4.5/15,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.71**	**307**	*e*Pn	**Pn**	**23 17 57.2**	**+1.1**
	25nm,0.8s						
AFI	**Afiamalu**	**9.61**	**17**	Pn	Pn	23 17 58.6	-10
	8.4nm,0.3s,baz=45,slow=20,SNR=3.9						
AFI				Sn	Sn	23 19 37.8	-18
	8.9nm,0.3s,baz=78,slow=20,SNR=4.3						
AFI	**Afiamalu**	**9.61**	**17**	*e*Pn	Pn	23 17 59.3	-9.2
AFI				*e*Sn	Sn	23 19 38.6	-17
RAR	**Rarotonga**	**13.93**	**85**	Pn	Pn	23 18 58.1	-9.4
	9.5nm,0.3s,baz=270,slow=11,SNR=17						
RAR				Sn	Sn	23 21 17.1	-24
	4.9nm,0.3s,baz=90,slow=20,SNR=6.2						
RAR	**Rarotonga**	**13.93**	**85**	*e*Pn	Pn	23 18 57.7	-10
	85nm,0.8s						
RAR				*e*Sn	Sn	23 21 19.4	-22
DZM	**Mont Dzumac**	**17.48**	**270**	Pn	**P**	**23 19 56.3**	**+1.7**
	0.7nm,0.3s,baz=93,slow=19,SNR=7.8						
DZM	**Mont Dzumac**	**17.48**	**270**	*e*Pn	**Pn**	**23 19 52.9**	**-0.8**
CTA	**Charters Tower**	**36.39**	**267**	P	**P**	**23 22 53.6**	**-0.1**
	23nm,0.7s,baz=101,slow=12,SNR=16						
CTA	**Charters Tower**	**36.39**	**267**	P	**P**	**23 22 53.6**	**-0.1**
CTAO	**Charters Tower**	**36.39**	**267**	*e*P	**P**	**23 22 53.7**	**-0.1**
	19nm,0.6s						
PMG	**Port Moresby**	**38.98**	**284**	P	**P**	**23 23 14.7**	**-1.0**
	30nm,1.0s,baz=158,slow=9.5,SNR=3.8						
PMG	**Port Moresby**	**38.98**	**284**	P	**P**	**23 23 14.7**	**-1.0**
STKA	**Stephens Creek**	**39.53**	**248**	P	**P**	**23 23 19.7**	**-0.5**
	1.7nm,0.6s,baz=91,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**39.53**	**248**	*e*P	**P**	**23 23 20.1**	**-0.1**
AS31	**Alice Springs**	**46.98**	**259**	*e*P	**P**	**23 24 19.7**	**-0.7**
ASAR	**Alice Springs**	**46.98**	**259**	P	**P**	**23 24 20.3**	**-0.2**
	4.7nm,0.7s,baz=103,slow=6.8,SNR=29						
ASAR	**Alice Springs**	**46.98**	**259**	P	**P**	**23 24 20.3**	**-0.2**
WRAB	**Tennant Creek**	**47.34**	**264**	*e*P	**P**	**23 24 22.2**	**-1.0**
	12nm,0.7s						
WRA	**Warramunga Arr**	**47.35**	**264**	P	**P**	**23 24 22.2**	**-1.1**
	14nm,0.7s,baz=102,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**47.35**	**264**	P	**P**	**23 24 22.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**55.77**	**263**	P	**P**	**23 25 26.9**	**+0.6**
	5.5nm,0.7s,baz=86,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**55.77**	**263**	*e*P	**P**	**23 25 27.1**	**+0.8**
MJAR	**Matsushiro Arr**	**74.20**	**322**	P	**P**	**23 27 25.9**	**+0.3**
	3.8nm,0.8s,baz=167,slow=6.1,SNR=7.5						
MJAR	**Matsushiro Arr**	**74.20**	**322**	P	**P**	**23 27 25.9**	**+0.3**
YBH	**Yreka Blue Hor**	**80.50**	**37**	P	**P**	**23 28 00.5**	**-0.4**
	3.6nm,0.9s,baz=270,slow=3.0,SNR=10						
YBH	**Yreka Blue Hor**	**80.50**	**37**	P	**P**	**23 28 00.5**	**-0.4**
NVAR	**Mina Array Bea**	**80.89**	**41**	P	**P**	**23 28 03.5**	**+0.2**
	4.8nm,0.8s,baz=222,slow=6.6,SNR=27						
NVAR	**Mina Array Bea**	**80.89**	**41**	P	**P**	**23 28 03.5**	**+0.2**
VNA3	**Neumayer Olymp**	**85.26**	**175**	*e*P	**P**	**23 28 26.2**	**+1.0**
VNA2	**Neumayer--Watz**	**85.74**	**176**	*e*P	**P**	**23 28 29.2**	**+1.6**
	baz=196,slow=4.1						
TXAR	**Lajitas Array**	**85.93**	**56**	P	**P**	**23 28 29.4**	**+0.1**
	3.8nm,0.9s,baz=210,slow=8.6,SNR=25						
TXAR	**Lajitas Array**	**85.93**	**56**	P	**P**	**23 28 29.4**	**+0.1**
VNA1	**Neumayer--Stat**	**85.95**	**175**	*e*P	**P**	**23 28 30.1**	**+1.5**
GAMB	**Gambell**	**86.69**	**1**	*e*P	**P**	**23 28 32.7**	**+0.7**
	3.0nm,0.9s						
ANMO	**Albuquerque**	**86.70**	**50**	P	**P**	**23 28 32.8**	**-0.3**
	2.5nm,0.8s,baz=181,slow=5.8,SNR=5.4						
ANMO	**Albuquerque**	**86.70**	**50**	P	**P**	**23 28 32.8**	**-0.3**
PDAR	**Pinedale Array**	**88.82**	**42**	P	**P**	**23 28 42.0**	**-1.1**
	1.1nm,0.8s,baz=205,slow=3.6,SNR=7.7						
PDAR	**Pinedale Array**	**88.82**	**42**	P	**P**	**23 28 42.0**	**-1.1**
ILAR	**Eielson Array**	**90.26**	**12**	P	**P**	**23 28 48.8**	**-0.2**
	2.0nm,0.9s,baz=216,slow=5.6,SNR=16						
ILAR	**Eielson Array**	**90.26**	**12**	P	**P**	**23 28 48.8**	**-0.2**
AKASG	**Malin Array Be**	**146.83**	**332**	PKPbc	**PKPbc**	**23 35 29.9**	**-0.8**
	2.5nm,0.7s,baz=37,slow=3.7,SNR=7.0						
AKASG	**Malin Array Be**	**146.83**	**332**	PKPbc	**PKPbc**	**23 35 29.9**	**-0.8**
BRTR	**Keskin Array B**	**150.92**	**311**	PKPbc	**PKPbc**	**23 35 42.1**	**+0.3**
	1.5nm,0.9s,baz=91,slow=2.9,SNR=4.8						
BRTR	**Keskin Array B**	**150.92**	**311**	PKPbc	**PKPbc**	**23 35 42.1**	**+0.3**
CLL	**Collm**	**151.29**	**350**	*i* PKPbc	**PKPbc**	**23 35 42.7**	**+0.6**
	comp=Z,8.0nm,1.0s						
CLL				*e*PKPab	**PKPab**	**23 35 50.0**	**-0.1**
CLL				*i* pPKPbc	**pPKPbc**	**23 35 53.5**	**-0.3**
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**151.54**	**349**	*e*P	**PKPbc**	**23 35 43.0**	**+0.3**
	comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**169.45**	**160**	PKP	**PKPdf**	**23 35 56.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=295,slow=2.4,SNR=5.1						
TORD				PKPab	**PKPab**	**23 37 09.4**	**-0.3**
	comp=Z,1.1nm,1.1s,baz=201,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**169.45**	**160**	PKP	**PKPdf**	**23 35 56.3**	**-0.7**
TORD				PKPab	**PKPab**	**23 37 09.4**	**-0.3**

*MOS **19** 23:19:22.9±1.0,18°.46N×121°.92E,h33km,mb5.0/25,Error ellipse: s-maj=13.4km s-min=5.7km az=117.7*

*ISCJB **19** 23:19:32.9±0.5,18°.58N±0°.02×122°.00E±0°.04, h119km±4km,mb4.6/91,Error ellipse: s-maj=6.0km s-min=4.0km az=177.1*

*BJI **19** 23:19:32.5,18°.48N×122°.08E,h120km,mB4.9/21, mb4.5/36*

*DJA **19** 23:19:33.1±2.2,19°N±6°×12°.2E±°,h88km±21km,M4.9/19, mB5.4/5,mb4.9/19,Mw(mB)4.8/5*

*IDC **19** 23:19:34.2±0.8,18°.53N×121°.93E,h119km±6km,mb4.3/40, mb1 4.3/43,mb1mx4.3/48,mbtmp4.3/43,Error ellipse: s-maj=10.5km s-min=7.9km az=79.0*

*NEIC **19** 23:19:35.3±0.2,18°.58N×121°.94E,mb4.7/25,Error ellipse: s-maj=5.8km s-min=4.5km az=92.0*

*MAN **19** 23:19:35,18°.58N×121°.80E,h114km,mb5.3,ML4.3, MS4.6*

ISC 19 23:19:34.4±0.4,18°.58N±0°.04×121°.91E±0°.04,h120km±3km, h119km:pP-P,n310,σ1s33/388,mb4.6/91,25C-8D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.25**	**259**	⇓*i*P	**Pn**	**23 19 59.0**	**0.0**
TWG	**Pinlang**	**4.29**	**350**	*e*Pn	**Pn**	**23 20 36.4**	**-1.5**
TWG				*e*Sn	**Sn**	**23 21 21.6**	**-5.5**
TGY	**Tagaytay City**	**4.55**	**192**	P	Pn	23 20 50.5	+9.1
	34nm,0.3s,baz=197,slow=6.5,SNR=7.2						
TGY	**Tagaytay City**	**4.55**	**192**	P	Pn	23 20 50.5	+9.1
YULB	**Yu-li**	**4.83**	**353**	*e*Pn	**Pn**	**23 20 45.3**	**+0.3**
YULB				*e*Sn	**Sn**	**23 21 35.5**	**-4.5**
TPUB	**Ta-pu**	**4.85**	**346**	*e*Pn	**Pn**	**23 20 45.0**	**-0.3**
TPUB				*e*Sn	**Sn**	**23 21 37.5**	**-3.0**
SSLB	**Suanglung**	**5.26**	**350**	*e*Pn	**Pn**	**23 20 50.7**	**-0.2**
SSLB				*e*Sn	**Sn**	**23 21 47.6**	**-2.9**
NACB	**Ninganchiao**	**5.58**	**357**	*e*Pn	**Pn**	**23 20 54.4**	**-0.7**
NACB				*e*Sn	**Sn**	**23 21 52.9**	**-5.2**
YHNB	**Yeheng**	**6.08**	**355**	*e*Pn	**Pn**	**23 21 02.9**	**+0.9**
YHNB				*e*Sn	**Sn**	**23 22 07.3**	**-3.1**
TATO	**Taipei**	**6.38**	**357**	*e*Pn	**Pn**	**23 21 05.6**	**-0.4**
TATO				*e*Sn	**Sn**	**23 22 17.5**	**+0.1**
QZH	**Quanzhou**	**7.04**	**335**	⇓*i*P	**Pn**	**23 21 16.6**	**+1.7**
QZH				S	**Sn**	**23 22 30.3**	**-3.3**
QZH				smax	smax		
	comp=N,770nm,1.0s						
QZH				smax	smax		
	comp=E,580nm,0.9s						
GZH	**Guangzhou**	**9.18**	**301**	P	**Pn**	**23 21 44.5**	**+0.7**
GZH				S	**Sn**	**23 21 21.3**	**-4.1**
JOW	**Kunigami**	**10.10**	**34**	P	**Pn**	**23 21 57.6**	**+1.4**
	comp=E,1.1nm,0.3s,baz=236,slow=14,SNR=4.0						
JOW	**Kunigami**	**10.10**	**34**	*e*Pn	**Pn**	**23 21 57.0**	**+0.8**
QIZ	**Qiongzhong**	**11.44**	**274**	*e*Pn	**Pn**	**23 22 13.2**	**-1.1**
QIZ				*e*Sn	**Sn**	**23 24 16.0**	**-4.3**
NJZ	**Nanjing**	**13.70**	**349**	*e*P	**Pn**	**23 22 44.3**	**+0.7**
NJ2				sP		23 23 22.4	
NJ2				S	**Sn**	**23 25 12.0**	**-2.7**
NJ2				PcP	**PcP**	**23 28 02.5**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,160nm,3.8s						
NJ2				LR	LR		
	comp=N,450nm,10.5s						
NJ2				LR	LR		
	comp=E,430nm,16.6s						
NJ2				LR	LR		
	comp=Z,350nm,14.2s						
WHN	**Wuhan**	**13.75**	**331**	P	**P**	**23 22 50.3**	**+1.5**
GYA	**Guiyang**	**16.11**	**302**	P	**P**	**23 23 15.0**	**-0.3**
GYA				PP	pP	23 23 30.8	-5.9
GYA				S	**Sn**	**23 26 10.3**	**-3.0**
GYA				PcP	**PcP**	**23 28 03.4**	**+0.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
ENH	**Enshi**	**16.22**	**318**	*e*P	**P**	**23 23 17.6**	**+1.3**
	comp=Z,10nm,0.6s						
JNU	**Nakatsue**	**16.57**	**27**	P	**P**	**23 23 21.8**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=193,slow=7.7,SNR=6.4						
JNU	**Nakatsue**	**16.57**	**27**	*e*P	**P**	**23 23 20.6**	**+0.5**
	comp=Z,20nm,1.0s						
MRSI	**Marisa**	**17.99**	**180**	P	**Pn**	**23 23 40.2**	**+3.3**
SBUM	**Sibu**	**18.63**	**212**	P	**P**	**23 23 43.3**	**+0.4**
	comp=Z,106nm,1.0s						
KMI	**Kunming**	**18.94**	**293**	P	**Pn**	**23 23 49.9**	**+1.5**
KMI				pP	**pP**	**23 24 09.8**	**+1.6**
KMI				pmax	pmax		
	comp=Z,23nm,1.1s						
XAN	**Xi'an**	**19.28**	**326**	P	**Pn**	**23 23 51.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSAR	**Wonju Array Be**	**19.51**	**14**	P	**P**	**23 23 53.1**	**+0.8**
LUWI	**Luwuk**	**19.52**	**177**	P	**P**	**23 23 52.6**	**+0.1**
KSRS	**Korea Array**	**19.53**	**14**	P	**P**	**23 23 53.1**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=196,slow=11,SNR=43						
KSM	**Kuching**	**20.46**	**215**	*e*P	**P**	**23 24 03.2**	**+0.6**
	comp=Z,18nm,0.8s						
KSM	**Kuching**	**20.46**	**215**	P	**P**	**23 24 03.3**	**+0.6**
	comp=Z,30nm,1.0s,comp=Z,720nm						
CBIJ	**Chichi jima**	**20.50**	**62**	P	**P**	**23 24 03.4**	**+0.3**
	comp=Z,58nm,0.4s,baz=266,slow=19,SNR=7.6						
CBIJ	**Chichi jima**	**20.50**	**62**	P	**P**	**23 24 03.4**	**+0.3**
CD2	**Chengdu**	**20.52**	**310**	⇓*i*P	**P**	**23 24 04.8**	**+1.5**
CD2				pP	**pP**	**23 24 26.8**	**+1.5**
CD2				PP	**PnPn**	**23 24 31.3**	**+3.3**
CD2				sP	**sP**	**23 24 41.3**	**+0.9**
CD2				S	**S**	**23 27 44.0**	**-2.5**
CD2				sS	sS	23 28 17.8	-5.3
CD2				SS	Sn	23 28 23.4	+25
CD2				pmax	pmax		
	comp=Z,100nm,1.0s						
CD2				pmax	pmax		
	comp=Z,450nm,4.3s						
CD2				LR	LR		
	comp=N,660nm,21.4s						
CD2				LR	LR		
	comp=Z,1μm,25.0s						
SWI	**Sorong**	**21.39**	**154**	P	**P**	**23 24 12.3**	**-0.4**
	comp=Z,27nm,0.7s						
TTSI	**Tana Toraja**	**21.59**	**186**	P	**P**	**23 24 15.6**	**+0.9**
JHJ	**Hachijo jima 2**	**21.59**	**44**	P	**P**	**23 24 16.6**	**+1.9**
	comp=Z,50nm,0.5s,baz=60,slow=23,SNR=4.3						
CMMT	**Chiang Mai**	**21.75**	**274**	P	**P**	**23 24 18.4**	**+1.8**
	comp=Z,40nm,1.0s						
CHTO	**Chiang Mai**	**21.76**	**274**	*e*P	**P**	**23 24 17.4**	**+0.8**
CHTO				*e*S	**S**	**23 28 09.6**	**-0.5**
CHTO				*e*		23 28 13.1	
CHTO				pmax	pmax		
	comp=Z,24nm,0.8s						
CHTO	**Chiang Mai**	**21.76**	**274**	*e*P	**P**	**23 24 17.4**	**+0.8**
	comp=Z,24nm,0.8s						
CHTO				*e*S	**S**	**23 28 09.6**	**-0.5**
CHTO				*e*PcP	**PcP**	**23 28 13.1**	**+0.5**
CHTO	**Chiang Mai**	**21.76**	**274**	P	**P**	**23 24 17.9**	**+1.3**
	comp=Z,45nm,1.0s,comp=Z,649nm						
CMAR	**Chiang Mai Arr**	**21.78**	**273**	P	**P**	**23 24 18.1**	**+1.3**
	comp=Z,14nm,0.8s,baz=88,slow=7.6,SNR=118						
CMAR				PcP	**PcP**	**23 28 13.6**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=101,slow=1.3,SNR=18						
CMAR				ScP	**ScP**	**23 31 38.8**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=100,slow=1.1,SNR=8.4						
CMAR	**Chiang Mai Arr**	**21.78**	**273**	P	**P**	**23 24 18.1**	**+1.3**
CMAR				PcP	**PcP**	**23 28 13.6**	**+0.9**
CMAR				ScP	**ScP**	**23 31 38.8**	**-0.2**
BJT	**Baijiatuan**	**21.93**	**348**	*e*P	**P**	**23 24 18.1**	**-0.2**
NLAI	**Namlea**	**22.27**	**166**	P	**P**	**23 24 21.9**	**0.0**
KDI	**Kendari**	**22.40**	**178**	P	**P**	**23 24 21.8**	**-1.4**
	comp=Z,29nm,1.0s						
SPSI	**Sidrap Palu**	**22.50**	**186**	P	**P**	**23 24 23.8**	**-0.4**
MAT	**Matsushiro**	**22.94**	**35**	P	**P**	**23 24 27.4**	**-0.9**
MJAR	**Matsushiro Arr**	**22.94**	**35**	P	**P**	**23 24 27.3**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=222,slow=8.9,SNR=8.3						
MJAR	**Matsushiro Arr**	**22.94**	**35**	P	**P**	**23 24 27.3**	**-1.0**
BBKI	**Banjar Baru**	**22.98**	**198**	P	**P**	**23 24 28.9**	**0.0**
KAPI	**Kappang**	**23.54**	**185**	P	**P**	**23 24 32.3**	**-1.7**
	comp=Z,25nm,0.6s,baz=19,slow=7.5,SNR=17						
KAPI	**Kappang**	**23.54**	**185**	*e*P	**P**	**23 24 32.2**	**-1.8**
	comp=Z,26nm,0.6s						
KAPI	**Kappang**	**23.54**	**185**	P	**P**	**23 24 33.1**	**-0.9**
	comp=Z,52nm,0.9s						
LZH	**Lanzhou**	**23.63**	**321**	*e*P	**P**	**23 24 36.5**	**+1.6**
LZH				pP	**pP**	**23 24 59.5**	**+0.4**
LZH				sP	**sP**	**23 25 14.0**	**0.0**
LZH				*e*S	**S**	**23 28 45.0**	**+4.2**
LZH				sS	Sn	23 29 18.3	+4.8
LZH				SS	SnSn	23 29 43.3	+11
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
LZH				pmax	pmax		
	comp=Z,92nm,4.5s						
LZH				LR	LR		
	comp=N,830nm,13.7s						
LZH				LR	LR		
	comp=E,430nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,15.0s						
BKSI	**Bulukumba**	**23.81**	**184**	P	**P**	**23 24 35.3**	**-1.2**
	comp=Z,30nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.91**	**340**	*e*P	**P**	**23 24 37.3**	**0.0**
HHC				pP	**pP**	**23 25 01.0**	**-0.9**
HHC				sP	**sP**	**23 25 14.1**	**-2.6**
HHC				PP	**PnPn**	**23 25 17.3**	**+3.7**
HHC				S	**S**	**23 28 44.3**	**-0.7**
HHC				sS	Sn	23 29 23.4	+3.4
HHC				SS	**SnSn**	**23 29 43.8**	**+4.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,240nm,4.9s						
BBSI	**Bau Bau**	**23.92**	**178**	P	**P**	**23 24 38.1**	**+0.6**
	comp=Z,129nm,0.9s,comp=Z,1μm						
IPM	**Ipoh**	**24.76**	**238**	*e*P	**P**	**23 24 43.4**	**-1.7**
	comp=Z,20nm,1.2s						
MDJ	**Mudanjiang**	**26.75**	**12**	P	**P**	**23 25 02.8**	**0.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.2s						
USRK	**Ussuriysk Arra**	**26.91**	**16**	P	**P**	**23 25 04.5**	**+0.3**
	comp=Z,180nm,0.9s,baz=202,slow=7.7,SNR=27						
MMRI	**Maumere**	**27.04**	**179**	P	**P**	**23 25 05.4**	**-0.3**
KHKI	**Kahang-Kahang**	**27.48**	**194**	P	**P**	**23 25 11.5**	**+1.9**
	comp=Z,51nm,1.2s						
SJI	**Sawahan**	**28.00**	**202**	P	**P**	**23 25 14.9**	**+0.6**
PWJI	**Pagerwojo**	**28.25**	**202**	P	**P**	**23 25 16.6**	**+0.2**
	comp=Z,84nm,0.9s						
TGJI	**Tegal**	**28.26**	**208**	P	**P**	**23 25 18.5**	**+2.0**
BJII	**Banjamegara**	**28.42**	**206**	P	**P**	**23 25 20.2**	**+2.2**
	comp=Z,43nm,1.2s						
LSA	**Lhasa**	**30.09**	**297**	*e*P	**P**	**23 25 34.6**	**+1.4**
LSA	**Lhasa**	**30.09**	**297**	*e*P	**P**	**23 25 34.6**	**+1.4**
ASAJ	**Asahikawa**	**30.81**	**30**	P	**P**	**23 25 39.4**	**+0.6**
	comp=Z,10.0nm,0.4s,baz=213,slow=8.8,SNR=16						
ASAJ	**Asahikawa**	**30.81**	**30**	P	**P**	**23 25 39.4**	**+0.6**
ULN	**Ulaanbaatar**	**31.63**	**341**	*e*P	**P**	**23 25 47.2**	**+1.1**
	comp=Z,1.8nm,0.5s						
ULN				*e*PcP	**PcP**	**23 28 36.0**	**+0.5**
ULN	**Ulaanbaatar**	**31.63**	**341**	P	**P**	**23 25 47.8**	**+1.6**
	comp=Z,18nm,0.8s,comp=Z,1μm						
HABR	**Khabarovsk**	**31.67**	**17**	*e*P	P	23 25 41.9	-4.4
HABR				*e**SP	sP	23 25 56.3	-30
HABR				*e*		23 26 48.3	
HABR				*e*S	**S**	**23 30 52.2**	**+5.4**
HABR				*e**SS	sS	23 31 09.2	-23
HABR				*e*SS	**SnSn**	**23 32 45.1**	**-1.9**
HABR				*e*SSS	SSS	23 33 01.0	
HABR				*e*		23 36 10.9	
HABR				pmax	pmax		
	comp=E,15nm,0.6s						
HABR				pmax	pmax		
	comp=Z,27nm,1.3s						
HABR				pmax	pmax		
	comp=N,18nm,1.3s						
HABR				MLR	MLR		
	comp=Z,679nm,23.0s						
SONM	**Songino Array**	**31.81**	**340**	P	**P**	**23 25 48.6**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=156,slow=9.8,SNR=46						
SONM				PcP	**PcP**	**23 28 36.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=164,slow=2.5,SNR=5.9						
SONM				ScP	**ScP**	**23 32 06.6**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=151,slow=4.6,SNR=8.0						
SONM	**Songino Array**	**31.81**	**340**	P	**P**	**23 25 48.6**	**+0.8**
SONM				PcP	**PcP**	**23 28 36.1**	**+0.1**
SONM				ScP	**ScP**	**23 32 06.6**	**-1.9**
TAPN	**Taplejung**	**32.59**	**292**	*e*P	**P**	**23 25 55.9**	**+0.8**
ODAN	**Odare**	**32.81**	**291**	*e*P	**P**	**23 25 57.5**	**+0.6**
	comp=Z,6.9nm,0.5s						
RAMN	**Ramite**	**33.52**	**291**	*e*P	**P**	**23 26 04.0**	**+0.9**
	comp=Z,17nm,0.7s						
JIRN	**Jiri**	**33.98**	**292**	*e*P	**P**	**23 26 08.2**	**+1.1**
GUN	**Gumba**	**34.28**	**292**	*e*P	**P**	**23 26 10.4**	**+0.6**
	comp=Z,43nm,0.9s						
PKI	**Pulchoki**	**34.65**	**292**	*e*P	**P**	**23 26 12.9**	**0.0**
KKN	**Kakani**	**34.79**	**292**	*e*P	**P**	**23 26 14.5**	**+0.5**
ZAK	**Zakamensk**	**35.05**	**339**	*e*P	**P**	**23 26 15.8**	**+0.1**
ZAK				*e*		23 28 45.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
GKN	**Gorkha**	**35.38**	**292**	*e*P	**P**	**23 26 19.2**	**+0.2**
	comp=Z,14nm,0.8s						
DANN	**Dangsing**	**36.19**	**293**	*e*P	**P**	**23 26 26.2**	**+0.1**
KOLN	**Koldanda**	**36.27**	**292**	*e*P	**P**	**23 26 26.8**	**+0.2**
	comp=Z,9.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**36.63**	**174**	P	**P**	**23 26 27.1**	**-2.3**
	comp=Z,2.8nm,0.7s,baz=343,slow=8.3,SNR=9.4						
FITZ				PcP	**PcP**	**23 28 50.5**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=8.6,slow=3.6,SNR=6.1						
FITZ	**Fitzroy Crossi**	**36.63**	**174**	*e*P	**P**	**23 26 27.2**	**-2.3**
FITZ				*e*PcP	**PcP**	**23 28 50.0**	**-0.1**
PYUN	**Piuthan**	**36.84**	**292**	*e*P	**P**	**23 26 31.8**	**+0.3**
MOY	**Mondy**	**36.91**	**338**	*e*P	**P**	**23 26 33.0**	**+1.4**
WMQ	**Urumqi**	**38.16**	**319**	*e*P	**P**	**23 26 44.3**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HVS	**Khovu-Aksy**	**39.42**	**332**	*e*P	**P**	**23 26 53.8**	**+1.2**
HVS				pmax	pmax		
	comp=Z,26nm,1.2s						
BOD	**Bodaibo**	**39.62**	**353**	*e*P	**P**	**23 26 53.5**	**-0.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.5s						
WRA	**Warramunga Arr**	**40.17**	**162**	P	**P**	**23 26 57.0**	**-2.1**
	comp=Z,10nm,0.7s,baz=242,slow=3.6,SNR=30						
WRA				PcP	**PcP**	**23 29 01.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=338,slow=3.4,SNR=7.2						
WRA				S	S	23 32 49.9	-7.3
	comp=Z,1.7nm,0.8s,baz=347,slow=15,SNR=7.6						
WRA	**Warramunga Arr**	**40.17**	**162**	P	**P**	**23 26 57.0**	**-2.1**
WRA				PcP	**PcP**	**23 29 01.2**	**0.0**
WRA				S	S	23 32 49.9	-7.3
MK31	**Makanchi Array**	**42.94**	**320**	*i* P	**P**	**23 27 22.3**	**+0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MKAR	**Makanchi Array**	**42.94**	**320**	P	**P**	**23 27 22.4**	**+0.9**
	comp=Z,2.4nm,0.4s,baz=112,slow=8.1,SNR=87						
MKAR				PcP	**PcP**	**

KKAR ePcP PcP 23 29 32.5 -0.7
FX1 Attu Island--F 52.29 37 P P 23 28 34.5 +1.0
comp=Z,11nm,0.6s,baz=270,slow=2.0,SNR=7.4
FX1 Attu Island--F 52.29 37 P P 23 28 34.5 +1.0
BVAR Borovoye Array 52.49 323 P P 23 28 35.3 +0.3
comp=Z,3.9nm,0.5s,baz=106,slow=7.2,SNR=45
BVAR PcP PcP 23 29 43.6 -0.3
comp=Z,6.8nm,0.7s,baz=110,slow=3.5,SNR=19
BVAR Borovoye Array 52.49 323 P P 23 28 35.3 +0.3
BVAR 23 29 43.6
BVAR Borovoye Array 52.49 323 P P 23 28 35.3 +0.3
BVAR PcP PcP 23 29 43.6 -0.3
BRVK Borovoye 52.56 323 *c iP* P 23 28 35.9 +0.4
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 52.56 323 *ep* P 23 28 36.0 +0.5
comp=Z,9.2nm,0.6s
BRVK ePcP PcP 23 29 44.6 +0.4
BBOO Buckleboo 52.86 165 *eP* P 23 28 37.3 -0.6
STKA Stephens Creek 53.60 159 P P 23 28 42.4 -0.9
comp=Z,6.8nm,0.8s,baz=341,slow=7.7,SNR=15
STKA Stephens Creek 53.60 159 *eP* P 23 28 42.4 -0.9
comp=Z,1.1nm,0.7s
BILL Bilibino 56.73 18 *eP* P 23 29 02.7 -2.7
BILL *e* 23 30 00.6
BILL *e* 23 31 12.7
BILL *eSS* SS 23 40 48.1 +10
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL MLR MLR
comp=Z,1μm,16.0s
ABKAR Akbulak array 57.91 317 *eP* P 23 29 14.2 +0.3
comp=Z,1.0nm,0.4s
ABKAR ePcP PcP 23 30 03.6 -1.4
SVE Sverdlovsk 58.99 326⇑ *eP* P 23 29 21.8 +0.5
SVE pmax pmax
comp=Z,13nm,0.9s
AKTO Aktyubinsk 59.31 318 P P 23 29 23.6 -0.1
comp=Z,1.5nm,0.8s,baz=105,slow=8.0,SNR=4.8
AKTO Aktyubinsk 59.31 318 P P 23 29 23.6 -0.1
AKTO Aktyubinsk 59.31 318 P P 23 29 23.6 -0.1
ARU Arti 60.02 325 *d iP* P 23 29 28.0 -0.4
ARU 23 31 41.7
ARU S S 23 37 43.2 +12
ARU SS SS 23 41 41.5 +12
ARU pmax pmax
comp=Z,23nm,2.5s
ARU Arti 60.02 325 *eP* P 23 29 28.1 -0.4
comp=Z,4.9nm,0.5s
KBD Kabd 67.72 295 *eP* P 23 30 18.9 -0.5
KBD AMb AMB 23 30 21.1
comp=Z,8.3nm,1.0s
MIB Mutribah 67.92 295 *eP* P 23 30 20.2 -0.4
MIB AMb AMB 23 30 22.5
comp=Z,11nm,1.3s
NAY Al-Naaiem 68.09 295 *eP* P 23 30 21.2 -0.4
NAY AMb AMB 23 30 21.8
comp=Z,6.5nm,0.6s
KIV Kislovodsk 69.69 311 *eP* P 23 30 31.2 -0.2
KIV pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 70.27 329 *eP* P 23 30 32.1 -2.4
KLMR pmax pmax
comp=Z,28nm,1.6s
KDAK Kodiak Island 72.11 34 P P 23 30 45.3 -0.3
comp=Z,8.3nm,0.6s,baz=275,slow=5.7,SNR=20
KDAK Kodiak Island 72.11 34 *eP* P 23 30 44.6 -1.0
comp=Z,52nm,1.2s
OBN Obninsk 72.34 323 *eP* P 23 30 46.0 -1.0
OBN *e* 23 31 00.9
OBN pmax pmax
comp=Z,9.0nm,1.3s
OBN MLR MLR
comp=Z,800nm,24.0s
OBN Obninsk 72.34 323 *eP* P 23 30 39.5 -7.5
comp=Z,29nm,0.4s
ANN Anapa 73.30 312 *eP* P 23 30 43.2 -10
ANN *e* 23 30 53.4
ANN pmax pmax
comp=Z,73nm,1.4s
ILAR Eielson Array 73.88 26 P P 23 30 54.4 -1.6
comp=Z,1.3nm,0.6s,baz=270,slow=4.5,SNR=15
ILAR pP pP 23 31 27.1 +1.3
comp=Z,0.8nm,0.7s,baz=268,slow=5.0,SNR=3.1
ILAR Eielson Array 73.88 26 P P 23 30 54.4 -1.6
ILAR pP pP 23 31 27.1 +1.3
JOF Joensuu 73.92 332 *eP* P 23 30 54.5 -1.7
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 73.92 332 *ep* P 23 30 54.5 -1.7
comp=Z,5.3nm,0.7s
KEV Kevo 74.42 339 *eP* P 23 30 57.6 -1.3
KEV pmax pmax
comp=Z,6.0nm,0.5s
KEV Kevo 74.42 339 *ep* P 23 30 57.6 -1.3
comp=Z,5.5nm,0.5s
ARCES ARCESS Array B 74.98 339 P P 23 31 02.2 0.0
comp=Z,4.0nm,0.5s,baz=76,slow=7.5,SNR=23
ARCES ARCESS Array B 74.98 339 P P 23 31 02.2 0.0
ARE0 ARCESS Array S 74.98 339 *eP* P 23 31 02.2 0.0
SPITS Spitsbergen Ar 75.08 348 P P 23 31 02.7 0.0
comp=Z,11nm,0.7s,baz=68,slow=9.1,SNR=25
SPITS Spitsbergen Ar 75.08 348 P P 23 31 02.7 0.0
DOT Dot Lake 75.31 27 *eP* P 23 31 04.2 0.0
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 76.25 300 P P 23 31 11.3 +1.0
comp=Z,1.9nm,1.0s,baz=259,slow=2.3,SNR=8.5
ASF Jabal al Asfar 76.25 300 P P 23 31 11.3 +1.0
KAF Kangasniemi 76.36 331 *eP* P 23 31 08.8 -1.4
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 76.36 331 *ep* P 23 31 08.8 -1.4
comp=Z,3.3nm,0.7s
RPZ Rata Peaks 76.59 146 P P 23 31 13.2 +1.4
comp=Z,12nm,0.7s,baz=47,slow=16,SNR=7.9
RPZ Rata Peaks 76.59 146 P P 23 31 13.2 +1.4
FINES FINESS Array B 76.62 331 P P 23 31 11.4 -0.2
comp=Z,4.0nm,0.5s,baz=61,slow=6.5,SNR=40
FINES FINESS Array B 76.62 331 P P 23 31 11.4 -0.2
BRTR Keskin Array B 77.08 308 P P 23 31 14.8 -0.1
comp=Z,2.5nm,1.0s,baz=118,slow=3.1,SNR=7.8
BRTR Keskin Array B 77.08 308 P P 23 31 14.8 -0.1
AKASG Malin Array Be 77.52 319 P P 23 31 15.9 -0.9
comp=Z,3.0nm,0.7s,baz=68,slow=4.9,SNR=9.4
AKASG Malin Array Be 77.52 319 P P 23 31 16.0 -0.9
AKASG Malin Array Be 77.52 319 P P 23 31 15.9 -0.9
AK01 Malin Array Si 77.53 319 *eP* P 23 31 16.2 -0.8
NACGM Naroch 77.91 324 *e* P 23 31 16.0 -3.0
INK Inuvik 78.15 22 P P 23 31 19.5 -0.6
comp=Z,2.7nm,0.7s,baz=312,slow=5.5,SNR=17
INK Inuvik 78.15 22 *eP* P 23 31 19.9 -0.2
EIL Elat 78.48 298 P P 23 31 23.1 +0.4
comp=Z,10nm,1.1s,baz=127,slow=5.1,SNR=4.9
EIL Elat 78.48 298 P P 23 31 23.1 +0.4
TLCR 79.18 314⇑ *iP* P 23 31 26.1 -0.1
TLCR 79.18 314⇑ *iP* P 23 31 26.1 -0.1
CFR Carcaliu 79.65 314⇑ P P 23 31 28.5 -0.2
CFR Carcaliu 79.65 314⇑ *iP* P 23 31 28.5 -0.2
TIRR Tirgusor 79.66 313⇑ P P 23 31 29.1 +0.3
TIRR Tirgusor 79.66 313⇑ *iP* P 23 31 29.1 +0.3
SUW Suwalki 80.17 324 *eP* P 23 31 31.0 -0.4
SUW Suwalki 80.17 324 *eP* P 23 31 30.9 -0.4
SUW pmax pmax
comp=Z,21nm,0.4s
SUW Suwalki 80.17 324 *eP* P 23 31 30.9 -0.4
comp=Z,21nm,0.4s
SUW Suwalki 80.17 324 *eP* P 23 31 31.0 -0.4
TESR 80.28 316⇓ *iP* P 23 31 32.3 +0.2
VRI Vrincioaia 80.41 315⇑ P P 23 31 34.1 +1.3
VRI Vrincioaia 80.41 315⇑ *iP* P 23 31 34.1 +1.3
PLOR Plostina 80.46 315⇑ P P 23 31 34.2 +1.0
PLOR Plostina 80.46 315⇑ *iP* P 23 31 34.2 +1.0
ISR Istrita 80.75 314⇑ P P 23 31 36.5 +1.8
ISR Istrita 80.75 314⇑ *iP* P 23 31 36.5 +1.8
BUR08 Bucovina Ar. S 80.89 317 *eP* P 23 31 35.5 0.0
MLR Muntele Rosu 81.04 315 P P 23 31 36.2 -0.1
comp=Z,1.3nm,0.9s,baz=277,slow=1.7,SNR=9.5
MLR Muntele Rosu 81.04 315⇑ P P 23 31 36.2 -0.1
MLR Muntele Rosu 81.04 315⇑ *iP* P 23 31 37.1 +0.7
VOIR 81.66 315⇑ P P 23 31 39.8 +0.2
VOIR 81.66 315⇑ *iP* P 23 31 39.8 +0.2
KWP Kalwaria Pacla 81.84 320 *eP* P 23 31 41.0 +0.7
KWP Kalwaria Pacla 81.84 320⇑ P P 23 31 41.2 +0.9
KWP Kalwaria Pacla 81.84 320⇑ *iP* P 23 31 41.2 +0.9
KWP Kalwaria Pacla 81.84 320 *eP* P 23 31 41.0 +0.7
ARR Arges 81.96 315⇑ *iP* P 23 31 41.8 +0.7
DAG Danmarks Havn 81.98 352⇑ *iP* P 23 31 39.8 -0.7
comp=Z,73nm,0.8s
OPO Ambohidratompo 82.14 247 P P 23 31 43.1 +0.6
comp=Z,6.0nm,0.8s,baz=67,slow=7.7,SNR=6.8
OPO Ambohidratompo 82.14 247 P P 23 31 43.1 +0.6
KOLS Kolonicke sedl 82.34 319 *eP* P 23 31 42.6 -0.4
KOLS pmax pmax
comp=Z,90nm,3.2s
KOLS Kolonicke sedl 82.34 319 *eP* P 23 31 42.6 -0.4
UZH Uzhgorod 82.43 319⇓ *iP* P 23 31 43.2 -0.2
UZH *e* 23 31 54.0
DRGR 82.77 317⇑ P P 23 31 46.1 +0.8
DRGR 82.77 317⇑ *iP* P 23 31 46.1 +0.8
HFS Hagfors 82.78 331 P P 23 31 44.1 -0.8
comp=Z,5.7nm,0.5s,baz=116,slow=6.6,SNR=35
HFS Hagfors 82.78 331 P P 23 31 44.1 -0.8
CRVS Cervenica-Dubn 82.85 319 *eP* P 23 31 45.1 -0.5
CRVS pmax pmax
comp=Z,8.0nm,1.5s
CRVS Cervenica-Dubn 82.85 319 *eP* P 23 31 45.1 -0.5
OJC Ojcow 83.41 321 *eP* P 23 31 48.8 +0.4
OJC Ojcow 83.41 321 *eP* P 23 31 48.7 +0.2
comp=Z,13nm,0.7s
OJC Ojcow 83.41 321 *eP* P 23 31 48.8 +0.4
NB2 NORSAR Subarra 83.48 333 P P 23 31 47.6 -1.1
baz=62,slow=4.8
NB2 NORSAR Subarra 83.48 333 P P 23 31 47.6 -1.1
comp=Z,9.9nm,0.9s,baz=62,slow=4.8
NOA NORSAR Array B 83.48 333 P P 23 31 47.7 -0.9
comp=Z,6.2nm,0.8s,baz=63,slow=5.0,SNR=21
NOA pP **pP** 23 32 20.1 +0.9
comp=Z,1.0nm,0.6s,baz=64,slow=4.9,SNR=2.4
NOA NORSAR Array B 83.48 333 P P 23 31 47.7 -0.9
NOA pP **pP** 23 32 20.1 +0.9
NAO01 NORSAR Array S 83.72 333 *eP* P 23 31 49.3 -0.5
comp=Z,4.3nm,0.6s
VTS Vitosha 83.83 313⇑ P P 23 31 51.4 +0.5
VTS Vitosha 83.83 313⇑ *iP* P 23 31 51.3 +0.4
RES Resolute Bay 84.06 9 P P 23 31 51.2 -0.1
comp=Z,8.7nm,1.0s,baz=320,slow=6.6,SNR=32
RES Resolute Bay 84.06 9 *eP* P 23 31 51.1 -0.1
comp=Z,5.1nm,0.6s
OKC Ostrava-Krasne 84.54 321 *eP* P 23 31 54.6 +0.4
OKC Ostrava-Krasne 84.54 321 *eP* P 23 31 54.6 +0.4
VYHS Vyhne 84.62 319 *eP* P 23 31 54.9 +0.2
VYHS pmax pmax
comp=Z,21nm,2.2s
VYHS Vyhne 84.62 319 *eP* P 23 31 54.9 +0.2
VYHS *ep*P **pP** 23 32 25.7 +0.4
VYHS *e* 23 55 12.2
VYHS *e* 23 55 35.8
MORC Moravsky Berou 84.92 321 *eP* P 23 31 56.7 +0.5
MORC Moravsky Berou 84.92 321 *eP* P 23 31 56.7 +0.5
MORC Moravsky Berou 84.92 321⇓ *iP* P 23 31 56.7 +0.5
KSP Ksiaz 85.24 322 *eP* P 23 31 58.4 +0.7
KSP Ksiaz 85.24 322 *eP* P 23 31 57.9 +0.2
KSP Ksiaz 85.24 322 *eP* P 23 31 58.3 +0.7
KMBO Kilima Mbogo 85.29 267 *eP* P 23 31 59.8 +0.8
DPC Dobruska-Polom 85.42 322 *eP* P 23 31 59.3 +0.7
DPC Dobruska-Polom 85.42 322 *eP* P 23 31 59.3 +0.7
DPC *ep*P **pP** 23 32 31.6 +2.3
VRAC Vranov 85.68 321 P P 23 31 60.0 +0.1
comp=Z,6.0nm,0.8s,baz=66,slow=8.7,SNR=5.6
VRAC Vranov 85.68 321 P P 23 31 60.0 +0.1
CLL Collm 86.93 324⇓ *iP* P 23 32 05.6 -0.3
comp=Z,4.0nm,0.5s
KHC Kasperske Hory 87.55 321 *eP* P 23 32 09.2 +0.2
KHC Kasperske Hory 87.55 321 *eP* P 23 32 09.2 +0.2
GERES GERESS Array B 87.60 321 P P 23 32 08.9 -0.4
comp=Z,1.7nm,0.7s,baz=57,slow=3.6,SNR=16
GERES PKKPbc **PKKPbc** 23 49 56.8 -1.4
comp=Z,0.2nm,0.5s,baz=132,slow=1.5,SNR=4.3
GERES GERESS Array B 87.60 321 P P 23 32 08.9 -0.4
GERES PKKPbc **PKKPbc** 23 49 56.8 -1.4
YKW3 Yellowknife Ar 87.81 23 *eP* P 23 32 10.0 +0.2
YKA Yellowknife Ar 87.85 23 P P 23 32 10.3 +0.2
comp=Z,4.5nm,0.6s,baz=308,slow=4.4,SNR=53
YKA pP **pP** 23 32 39.0 -2.0
comp=Z,1.6nm,0.9s,baz=308,slow=4.6,SNR=3.1
YKA PKKPbc **PKKPbc** 23 49 54.4 -3.4
comp=Z,0.5nm,0.7s,baz=128,slow=2.6,SNR=11
YKA Yellowknife Ar 87.85 23 P P 23 32 10.3 +0.2
YKA pP **pP** 23 32 39.0 -2.0
YKA PKKPbc **PKKPbc** 23 49 54.5 -3.4
SUMG Summit 88.12 354 *eP* P 23 32 11.4 -0.3
SUMG Summit 88.12 354 *eP* P 23 32 11.4 -0.3
SUMG Summit 88.12 354 *i* P P 23 32 11.3 -0.4
comp=Z,6.4nm,1.0s
LPG La Plagne 93.36 320 *eP* P 23 32 36.5 0.0
comp=Z,9.7nm,0.9s
LPG La Plagne 93.36 320 *eP* P 23 32 36.5 0.0
LPG pmax pmax
comp=Z,10.0nm,0.9s
LPG La Plagne 93.36 320 *eP* P 23 32 36.5 0.0
comp=Z,9.7nm,0.9s
LPL La Plagne 93.36 320 *eP* P 23 32 36.4 0.0
comp=Z,14nm,1.0s
LPL La Plagne 93.36 320 *eP* P 23 32 36.4 0.0
LPL pmax pmax
comp=Z,14nm,1.0s
LPL La Plagne 93.36 320 *eP* P 23 32 36.4 0.0
comp=Z,14nm,1.0s
PGF Pioggiola 93.41 317 *eP* P 23 32 36.3 -0.3
PGF Pioggiola 93.41 317 *eP* P 23 32 36.3 -0.3
PGF Pioggiola 93.41 317 *eP* P 23 32 36.3 -0.3
ORIF Oris-en-Rattie 94.18 320 *eP* P 23 32 40.5 +0.5
comp=Z,7.8nm,0.9s
ORIF Oris-en-Rattie 94.18 320 *eP* P 23 32 40.5 +0.5
ORIF pmax pmax
comp=Z,8.0nm,0.9s
ORIF Oris-en-Rattie 94.18 320 *eP* P 23 32 40.5 +0.5
comp=Z,7.8nm,0.9s
SSF Saint Saulge 94.44 323 *eP* P 23 32 40.5 -0.6
comp=Z,7.3nm,1.0s
SSF Saint Saulge 94.44 323 *eP* P 23 32 40.5 -0.6
SSF pmax pmax
comp=Z,7.0nm,1.0s
SSF Saint Saulge 94.44 323 *eP* P 23 32 40.5 -0.6
comp=Z,7.3nm,1.0s
AVF Avril sur Loir 94.67 323 *eP* P 23 32 41.4 -0.7
comp=Z,6.7nm,0.8s
AVF Avril sur Loir 94.67 323 *eP* P 23 32 41.4 -0.7
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 94.67 323 *eP* P 23 32 41.4 -0.7
comp=Z,6.7nm,0.8s
NEW Newport 95.19 35 P P 23 32 45.2 +0.6
comp=Z,1.7nm,0.5s,baz=2.5,slow=2.2,SNR=3.1
NEW Newport 95.19 35 *eP* P 23 32 45.7 +1.2
comp=Z,7.3nm,1.3s
RJF Les Rejaudoux 96.57 322 *eP* P 23 32 50.9 +0.1
RJF Les Rejaudoux 96.57 322 *eP* P 23 32 50.9 +0.1
RJF Les Rejaudoux 96.57 322 *eP* P 23 32 50.9 +0.1
PDAR Pinedale Array 102.76 36 PKiKP **PKiKP** 23 37 39.0 0.0
comp=Z,0.3nm,0.4s,baz=126,slow=0.6,SNR=4.2
PDAR PKKPbc **PKKPbc** 23 49 16.6 -1.4
comp=Z,1.0nm,1.0s,baz=180,slow=2.2,SNR=5.0
PDAR Pinedale Array 102.76 36 PKiKP **PKiKP** 23 37 39.0 0.0
PDAR PKKPbc **PKKPbc** 23 49 16.6 -1.4
TORD Torodi Ar. Bea 113.17 294 PKiKP **PKiKP** 23 37 58.4 -0.3
comp=Z,1.0nm,0.8s,baz=48,slow=2.9,SNR=7.3
TORD PKKPab **PKKPab** 23 48 52.2 -1.2
comp=Z,0.6nm,0.7s,baz=247,slow=4.1,SNR=10
TORD Torodi Ar. Bea 113.17 294 PKiKP **PKiKP** 23 37 58.4 -0.3
TORD PKKPab **PKKPab** 23 48 52.2 -1.2
TXAR Lajitas Array 115.17 44 PKP **PKPdf** 23 38 02.7 +0.3
comp=Z,2.8nm,0.7s,baz=276,slow=0.8,SNR=26
TXAR Lajitas Array 115.17 44 PKP **PKPdf** 23 38 02.7 +0.3
WVT Waverly 118.74 27 *e*PKIKP **PKPdf** 23 38 08.7 -0.2
WVT Waverly 118.74 27 *e*PKPdf **PKPdf** 23 38 08.7 -0.2
VNA2 Neumayer--Watz 119.78 197 *e*PKPdf **PKPdf** 23 38 10.4 +0.6
VNA2 Neumayer--Watz 119.78 197 *e*WP 23 38 16.1
VNA3 Neumayer Olymp 120.22 196 *e*PKPdf **PKPdf** 23 38 10.8 +0.2
VNA3 Neumayer Olymp 120.22 196 *e*WP 23 38 17.4
TKL Tuckaleechee C 120.82 24 PKP **PKPdf** 23 38 12.9 0.0
comp=Z,5.6nm,0.6s,baz=90,slow=1.0,SNR=13
TKL Tuckaleechee C 120.82 24 PKP **PKPdf** 23 38 12.9 0.0
DBIC Dimbokro 121.83 291 PKP **PKPdf** 23 38 14.6 -0.9
comp=Z,3.7nm,0.9s,baz=13,slow=1.4,SNR=3.4
DBIC Dimbokro 121.83 291 PKP **PKPdf** 23 38 14.6 -0.9
CMIG Matias Romero 129.34 48 PKP **PKPdf** 23 38 30.4 +0.7
comp=Z,4.0nm,0.6s,baz=32,slow=1.8,SNR=8.9
CMIG Matias Romero 129.34 48 PKP **PKPdf** 23 38 30.4 +0.7
BCIP Isla Barro Col 145.06 40 *e*PKPbc **PKPbc** 23 38 57.9 -0.3
SDV Santo Domingo 150.03 25 *e*PKPbc **PKPbc** 23 39 12.5 +0.3
ROSC El Rosal 151.74 36 PKPbc **PKPbc** 23 39 17.5 +1.1
comp=Z,22nm,0.6s,baz=63,slow=4.5,SNR=14
ROSC El Rosal 151.74 36 *e*PKPbc **PKPbc** 23 39 17.4 +1.0
OTAV Otavalo 152.62 49 *e*PKPbc **PKPbc** 23 39 17.5 -1.0
PLCA Paso Flores 155.46 157 PKPab **PKPab** 23 39 41.6 +1.4
comp=Z,6.9nm,0.9s,baz=234,slow=3.4,SNR=9.3
PLCA Paso Flores 155.46 157 PKPab **PKPab** 23 39 41.6 +1.4
SAML Samuel 169.23 28 *e*PKPdf **PKPdf** 23 39 28.4 0.0
SAML *e*PKPab **PKPab** 23 40 39.6 -1.3
BDFB Brasilia 169.94 285 PKP **PKPdf** 23 39 28.4 -0.6
comp=Z,1.5nm,0.7s,baz=127,slow=2.7,SNR=4.3
BDFB Brasilia 169.94 285 PKP **PKPdf** 23 39 28.4 -0.6
LPAZ La Paz 170.15 78 PKP **PKPdf** 23 39 30.3 +0.6
comp=Z,2.3nm,0.9s,baz=354,slow=2.5,SNR=6.7
LPAZ PKPab **PKPab** 23 40 45.8 -0.2
comp=Z,1.4nm,0.7s,baz=306,slow=4.0,SNR=5.4
LPAZ La Paz 170.15 78 PKP **PKPdf** 23 39 30.3 +0.6
LPAZ PKPab **PKPab** 23 40 45.8 -0.2

IDC 19 23:20:07.1±3.0, 22.90S×174.81W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/20, mbtmp4.1/5, Error ellipse: s-maj=211.1km s-min=25.2km az=160.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.27**	**267**	P	P	23 27 12.9	+0.5
	4.0nm,0.4s,baz=83,slow=8.0,SNR=6.1						
ASAR	**Alice Springs**	**46.90**	**258**	P	P	23 28 39.5	-0.2
	0.9nm,0.6s,baz=95,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**47.24**	**264**	P	P	23 28 41.8	-0.6
	3.8nm,0.6s,baz=102,slow=8.2,SNR=7.6						
NVAR	**Mina Array Bea**	**80.79**	**42**	P	P	23 32 23.1	+0.2
	0.7nm,0.7s,baz=217,slow=7.4,SNR=4.6						
TXAR	**Lajitas Array**	**85.89**	**56**	P	P	23 32 49.1	-0.2
	0.8nm,0.9s,baz=224,slow=7.6,SNR=4.4						

JMA 19 23:30:31.0, 34.79N×137.12E, h7km±1km, M3.2, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.16**	**173**	⇑P	Pg	23 30 34.5	+0.2
JAA				S	Sg	23 30 37.0	+0.5
JIE	**Ise**	**0.52**	**221**	⇓P	Pg	23 30 41.0	-0.1
JIE				S	Sg	23 30 48.0	0.0
TSUJ	**Tsu 2**	**0.58**	**262**	⇓P	Pg	23 30 42.0	-0.2
TSUJ				*i* S	Sg	23 30 49.8	0.0
JKN2	**Miekihoku**	**0.89**	**232**	P	Pg	23 30 47.4	-0.7
SHZ3	**Shizuoka 3**	**0.94**	**73**	⇓P	Pg	23 30 48.6	-0.5
JGM	**Miyama**	**0.96**	**340**	P	Pg	23 30 49.4	-0.2
TK02	**Tokai 2**	**0.99**	**148**	P	Pb	23 30 50.2	0.0
MAT	**Matsushiro**	**1.96**	**27**	P	Pb	23 31 05.9	-1.2
MAT				S	Sb	23 31 31.4	-0.4

IDC 19 23:39:08.8±30.0, 23.12S×175.44W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/20, mbtmp4.1/4, Error ellipse: s-maj=543.2km s-min=148.7km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.68**	**267**	P	P	23 46 09.6	+0.5
	4.6nm,0.8s,baz=96,slow=9.2,SNR=5.3						
STKA	**Stephens Creek**	**38.89**	**247**	P	P	23 46 36.4	+0.1
	0.9nm,0.5s,baz=103,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**46.29**	**259**	P	P	23 47 36.6	0.0
	0.8nm,0.8s,baz=96,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**46.64**	**264**	P	P	23 47 38.6	-0.8
	1.8nm,0.4s,baz=103,slow=8.5,SNR=59						

IDC 19 23:45:39.2±2.0, 8.00S×124.50E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=240.3km s-min=36.2km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.22**	**142**	Pn	Pn	23 49 09.8	-5.9
	0.1nm,0.3s,baz=329,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**18.00**	**151**	P	Pn	23 49 50.9	-0.2
	0.1nm,0.3s,baz=328,slow=10,SNR=5.2						
SONM	**Songino Array**	**57.85**	**346**	P	P	23 55 32.8	-0.1
	0.9nm,1.1s,baz=181,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**66.20**	**330**	P	P	23 56 29.0	+0.1
	0.2nm,0.7s,baz=124,slow=4.9,SNR=4.8						

IDC 19 23:46:01.8±1.2, 29.17N×142.33E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=35.2km s-min=24.2km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.06**	**184**	Sn	Sn	23 47 04.6	+0.4
	18nm,0.3s,baz=265,slow=22,SNR=5.1						
MJAR	**Matsushiro Arr**	**8.13**	**336**	Pn	Pn	23 48 01.5	+0.4
	0.9nm,0.3s,baz=161,slow=12,SNR=5.7						
SONM	**Songino Array**	**33.34**	**314**	P	P	23 52 41.8	+0.1
	0.5nm,0.7s,baz=101,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**48.03**	**318**	P	P	23 54 42.6	+0.1
	0.5nm,0.4s,baz=101,slow=7.1,SNR=5.8						
MKAR	**Makanchi Array**	**49.28**	**308**	P	P	23 54 51.8	-0.6
	0.5nm,0.7s,baz=94,slow=8.3,SNR=9.7						
WRA	**Warramunga Arr**	**49.43**	**190**	P	P	23 54 53.6	0.0
	0.8nm,0.6s,baz=9.4,slow=8.1,SNR=16						
ILAR	**Eielson Array**	**55.85**	**29**	P	P	23 55 40.6	-0.1
	0.2nm,0.6s,baz=262,slow=5.4,SNR=3.4						
BVAR	**Borovoye Array**	**56.62**	**317**	P	P	23 55 46.5	0.0
	0.9nm,0.5s,baz=86,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**70.27**	**29**	P	P	23 57 16.7	+0.1
	0.1nm,0.5s,baz=294,slow=6.4,SNR=3.3						
FINES	**FINESS Array B**	**76.15**	**334**	P	P	23 57 50.9	-0.4
	1.8nm,1.1s,baz=72,slow=4.5,SNR=2.6						

IDC 19 23:46:53.1±2.2, 22.64S×174.95W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.1/20, mbtmp4.1/6, Error ellipse: s-maj=128.9km s-min=22.2km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.15**	**267**	P	P	23 53 57.7	+0.3
	4.9nm,0.8s,baz=107,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**46.83**	**258**	P	P	23 55 25.3	+0.2
	1.7nm,0.6s,baz=94,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**47.15**	**263**	P	P	23 55 26.7	-0.8
	2.6nm,0.6s,baz=102,slow=7.9,SNR=18						
NVAR	**Mina Array Bea**	**80.67**	**42**	P	P	23 59 08.2	-0.1
	0.8nm,0.6s,baz=224,slow=5.0,SNR=7.3						
TXAR	**Lajitas Array**	**85.85**	**56**	P	P	23 59 34.9	-0.2
	0.9nm,0.9s,baz=218,slow=7.9,SNR=5.6						
ILAR	**Eielson Array**	**89.79**	**12**	P	P	23 59 53.4	+0.4
	0.5nm,0.8s,baz=210,slow=5.2,SNR=3.9						

IDC 19 23:50:13.3±0.8, 56.14S×27.60W, h92km±6km, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=51.1km s-min=20.7km az=96.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.11**	**180**	P	P	23 56 49.0	+0.1
	1.0nm,0.3s,baz=8.9,slow=4.9,SNR=36						
QSPA				PcP	PcP	23 59 23.2	-0.6
	1.3nm,0.9s,baz=204,slow=10.0,SNR=4.1						
VNDA	**Vanda**	**46.48**	**183**	P	P	23 58 30.6	+0.2
	0.7nm,0.6s,baz=174,slow=8.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	P	00 01 34.2	0.0
	0.3nm,0.6s,baz=195,slow=6.6,SNR=6.0						
TORD				pP	pP	00 01 58.8	+1.0
	0.7nm,0.5s,baz=200,slow=6.4,SNR=5.8						
FINES	**FINESS Array B**	**124.57**	**28**	PKP	PKPdf	00 08 59.7	-0.6
	2.0nm,0.8s,baz=191,slow=1.9,SNR=6.5						
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	PKPdf	00 09 21.9	-0.2
	0.2nm,0.5s,baz=128,slow=2.5,SNR=4.8						
INK	**Inuvik**	**145.72**	**321**	PKPbc	PKPbc	00 09 39.8	-0.1

	1.0nm,0.5s,baz=120,slow=1.1,SNR=9.0							
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	PKPbc	00 09 51.2	-0.2
	0.8nm,0.7s,baz=132,slow=3.2,SNR=12							
ILAR				pPKPbc	pPKPbc	00 10 15.2	-1.5
	0.7nm,0.9s,baz=155,slow=2.5,SNR=4.3							
SONM	**Songino Array**	**150.96**	**87**	PKPbc	PKPbc	00 09 53.2	-1.3
	0.1nm,0.4s,baz=218,slow=4.0,SNR=4.0							
SONM				pPKPbc	pPKPbc	00 10 19.6	-0.1
	0.2nm,0.6s,baz=233,slow=1.8,SNR=2.2							

IDC 19 23:53:22.5±2.2, 22°87S×175°00W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=126.2km s-min=28.0km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.36**	**247**	P	P	00 00 54.4	+0.5
	0.7nm,0.4s,baz=78,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**46.74**	**258**	P	P	00 01 53.5	-0.3
	0.7nm,0.8s,baz=93,slow=7.4,SNR=6.0						
WRA	**Warramunga Arr**	**47.07**	**264**	P	P	00 01 56.0	-0.5
	2.1nm,0.6s,baz=103,slow=8.5,SNR=32						
TXAR	**Lajitas Array**	**86.02**	**56**	P	P	00 06 05.0	-0.3
	0.9nm,1.0s,baz=198,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**90.03**	**12**	P	P	00 06 23.9	+0.3
	0.7nm,0.9s,baz=211,slow=6.3,SNR=4.9						

*ISK **19** 23:55:36.5, 37°.84N×30°.73E, h8km, MD3.0*
*DDA **19** 23:55:36.4, 37°.85N×30°.75E, h5km, MD3.0*
*CSEM **19** 23:55:36.8±0.1, 37°.83N×30°.74E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.9km az=112.0*
*ISCJB **19** 23:55:36.6±0.6, 37°.82N±0°.03×30°.75E±0°.04, h1km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=19.4*

ISC 19 23:55:37.0±1.1, 37°.84N±0°.02×30°.74E±0°.02, h4km±9km, n48, σ0°79/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.17**	**266**	*e*PG	**Pg**	**23 55 40.4**	**0.0**
ISP				*e*SG	**Sg**	**23 55 43.2**	**+0.5**
ISP	**Isparta**	**0.17**	**266**	*e*Pg	**Pg**	**23 55 40.4**	**0.0**
ISP				*e*Sg	**Sg**	**23 55 43.2**	**+0.5**
BCK	**Bucak**	**0.39**	**198**	*e*PG	**Pg**	**23 55 44.2**	**-0.3**
BCK				*e*SG	**Pg**	**23 55 50.9**	**+1.2**
BCK	**Bucak**	**0.39**	**198**	*e*Pg	**Pg**	**23 55 44.2**	**-0.3**
BCK				*e*Sg	**Sg**	**23 55 50.9**	**+1.2**
SHUT	**Suhut-Afyon**	**0.73**	**348**	*e*PG	**Pg**	**23 55 50.9**	**-0.2**
SHUT				*e*SG	**Sb**	**23 56 02.0**	**-0.8**
SHUT	**Suhut-Afyon**	**0.73**	**348**	*e*Pg	**Pg**	**23 55 50.9**	**-0.2**
SHUT				*e*Sg	**Sb**	**23 56 02.0**	**-0.8**
KORT	**Korkueli**	**0.89**	**201**	*i* P	**Pg**	**23 55 53.8**	**-0.2**
KORT				*i* S	**Sn**	**23 56 10.3**	**+0.5**
KORT	**Korkueli**	**0.89**	**201**	*i* P	**Pg**	**23 55 53.8**	**-0.2**
KORT				*i* S	**Sn**	**23 56 10.3**	**+0.5**
BOLV	**Bolvadin**	**0.90**	**10**	*i* P	**Pb**	**23 55 55.0**	**-0.2**
BOLV				*i* S	**Sn**	**23 56 10.3**	**+0.3**
BOLV	**Bolvadin**	**0.90**	**10**	*i* P	**Pb**	**23 55 55.0**	**-0.2**
BOLV				*i* S	**Sn**	**23 56 10.3**	**+0.3**
ANTB	**Antalya**	**0.94**	**184**	*e*PG	**Pb**	**23 55 54.9**	**-0.9**
ANTB	**Antalya**	**0.94**	**184**	*e*Pg	**Pb**	**23 55 54.9**	**-0.9**
KHL	**Karahalli**	**1.08**	**297**	*e*PG	**Pg**	**23 55 57.0**	**-0.7**
KHL	**Karahalli**	**1.08**	**297**	*e*Pg	**Pg**	**23 55 57.0**	**-0.7**
GOLH	**Golhisar**	**1.11**	**238**	*e*P	**Pg**	**23 55 58.0**	**-0.3**
GOLH				*i* S	**Sn**	**23 56 16.3**	**+1.0**
GOLH	**Golhisar**	**1.11**	**238**	*e*P	**Pg**	**23 55 58.0**	**-0.3**
GOLH				*i* S	**Sn**	**23 56 16.3**	**+1.0**
KHAL	**Karahalli**	**1.12**	**299**	*i* P	**Pb**	**23 55 58.5**	**-0.5**
KHAL				*i* S	**Sn**	**23 56 16.7**	**+1.2**
KHAL	**Karahalli**	**1.12**	**299**	*i* P	**Pb**	**23 55 58.5**	**-0.5**
KHAL				*i* S	**Sn**	**23 56 16.7**	**+1.2**
ELL	**Elmali**	**1.27**	**212**	*e*PN	**Pb**	**23 56 01.2**	**-0.4**
ELL	**Elmali**	**1.27**	**212**	*e*Pn	**Pb**	**23 56 01.2**	**-0.4**
KDHN	**Kadinhani**	**1.28**	**57**	*i* P	**Pn**	**23 56 01.2**	**-0.6**
KDHN				*i* S	**Sn**	**23 56 20.9**	**+1.4**
KDHN	**Kadinhani**	**1.28**	**57**	*i* P	**Pn**	**23 56 01.2**	**-0.6**
KDHN				*i* S	**Sn**	**23 56 20.9**	**+1.4**
KONT	**Konya--Tatoy**	**1.28**	**85**	*e*PN	**Pb**	**23 56 01.6**	**-0.1**
KONT	**Konya--Tatoy**	**1.28**	**85**	*e*Pn	**Pb**	**23 56 01.6**	**-0.1**
ALT	**Altintas**	**1.31**	**338**	*e*PN	**Pn**	**23 56 01.2**	**-1.0**
ALT	**Altintas**	**1.31**	**338**	*e*Pn	**Pn**	**23 56 01.3**	**-1.0**
LADK	**Ladik-KONYA**	**1.33**	**74**	*e*PN	**Pg**	**23 56 02.2**	**-0.3**
LADK	**Ladik-KONYA**	**1.33**	**74**	*e*Pn	**Pg**	**23 56 02.2**	**-0.3**
DNZL	**Cakiroluk**	**1.35**	**264**	*e*P	**Pn**	**23 56 01.7**	**-1.1**
DNZL	**Cakiroluk**	**1.35**	**264**	*e*P	**Pn**	**23 56 01.7**	**-1.1**
KIZT	**Kizilcal**	**1.37**	**40**	*e*PN	**Pb**	**23 56 02.8**	**-0.5**
KIZT	**Kizilcal**	**1.37**	**40**	*e*Pn	**Pb**	**23 56 02.8**	**-0.5**
GDZ	**Gediz**	**1.60**	**322**	*i* P	**Pb**	**23 56 06.4**	**-0.7**
GDZ				*i* S	**Sg**	**23 56 28.1**	**-0.1**
GDZ	**Gediz**	**1.60**	**322**	*i* P	**Pb**	**23 56 06.4**	**-0.7**
GDZ				*i* S	**Sg**	**23 56 28.1**	**-0.1**
SEYT	**Eskypehyr**	**1.68**	**3**	*e*P	**Pn**	**23 56 06.8**	**-0.5**
SEYT				*i* S	**Sg**	**23 56 31.9**	**+0.8**
SEYT	**Eskypehyr**	**1.68**	**3**	*e*P	**Pn**	**23 56 06.8**	**-0.5**
SEYT				*i* S	**Sg**	**23 56 31.9**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.72**	**21**	*e*PN	**Pn**	**23 56 07.5**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.72**	**21**	*e*Pn	**Pn**	**23 56 07.5**	**-0.3**
KULA	**Kula-Manisa**	**1.77**	**293**	*e*PN	**Pn**	**23 56 08.0**	**-0.5**
KULA	**Kula-Manisa**	**1.77**	**293**	*e*Pn	**Pn**	**23 56 08.0**	**-0.5**
FETY	**Fethiye**	**1.79**	**228**	*e*PN	**Pn**	**23 56 08.3**	**-0.3**
FETY	**Fethiye**	**1.79**	**228**	*e*Pn	**Pn**	**23 56 08.3**	**-0.3**
TVSB	**Tavsanli**	**1.90**	**329**	*e*PN	**Pn**	**23 56 09.8**	**-0.4**
TVSB	**Tavsanli**	**1.90**	**329**	*e*Pn	**Pn**	**23 56 09.8**	**-0.4**
DEMI	**Demirci**	**2.00**	**308**	*i* P	**Pn**	**23 56 11.8**	**+0.2**
DEMI				*i* S	**Sg**	**23 56 44.6**	**+3.5**
DEMI	**Demirci**	**2.00**	**308**	*i* P	**Pn**	**23 56 11.8**	**+0.2**
DURS	**Dursunbey**	**2.50**	**316**	*i* P	**Pn**	**23 56 18.8**	**+0.3**
DURS				*i* S	**Sn**	**23 56 50.5**	**+1.0**
DURS	**Dursunbey**	**2.50**	**316**	*i* P	**Pn**	**23 56 18.8**	**+0.3**
DURS				*i* S	**Sn**	**23 56 50.5**	**+1.0**

*FUNV **19** 23:57:32.9, 10°.59N×61°.56W, h13km, MW2.8*

TRN 19 23:57:37.5, 10°.62N×61°.62W, h37km, MD2.3, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.22**	**83**	*i* P	Pn	23 57 44.6	-1.8
TRN				*e*S	Sn	23 57 50.1	-4.9
TPP	**Pointe-a-Pierr**	**0.35**	**151**	*e*P	Pn	23 57 46.2	+0.3
TPP				*e*S	Sn	23 57 52.7	0.0
TBR	**Brigand Hill**	**0.56**	**104**	*e*P	Pn	23 57 49.8	+0.6
GUIV	**Guiria**	**0.59**	**272**	*e*P	Pn	23 57 45.8	-3.8
GUIV				*e*S	Sn	23 57 53.3	-4.5
TOSP	**Speyside**	**1.26**	**58**	*e*P	Pn	23 57 58.5	0.0
TOSP				*e*S	Sn	23 58 14.4	+0.1
GUNV	**Guanoco**	**1.38**	**251**	*e*P	Pn	23 57 58.3	-1.9
GUNV				*e*S	Sn	23 58 17.9	+0.8
CRUV	**Carupano**	**1.59**	**272**	*e*P	Pn	23 57 59.6	-3.5
CRUV				*e*S	Sn	23 58 21.4	-0.9
RIOV	**Rio Grande**	**2.54**	**184**	*e*P	Pn	23 58 13.2	-3.1
RIOV				*e*S	Sn	23 58 41.4	-4.6
SVB	**Belmont**	**2.66**	**8**	*e*P	Pn	23 58 17.6	-0.3
SVB				*e*S	Sn	23 58 49.3	+0.4
CUPV	**Cœpira**	**4.14**	**263**	*e*P	Pn	23 58 34.8	-3.4
LUEV	**Luepa**	**4.75**	**178**	*e*P	Pn	23 58 43.3	-3.6
BAUV	**El Baul**	**6.54**	**256**	*e*P	Pn	23 59 06.9	-4.4

*ISK **20** 00:06:14.4, 39°.65N×29°.09E, h11km, MD2.6*
*DDA **20** 00:06:14.8, 39°.64N×29°.09E, h7km, ML3.2*
*CSEM **20** 00:06:14.9±0.1, 39°.66N×29°.10E, h10km, MD2.6, Error ellipse: s-maj=2.2km s-min=2.2km az=80.0*
*ISCJB **20** 00:06:14.7±0.4, 39°.66N±0°.02×29°.10E±0°.03, h4km±5km, Error ellipse: s-maj=3.8km s-min=3.6km az=138.9*

ISC 20 00:06:15.0±0.9, 39°.66N±0°.02×29°.10E±0°.02, h12km±8km, n40, σ0°43/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.35**	**127**	*e*Pg	**Pg**	**00 06 22.0**	**-0.1**
TVSB				*e*Sg	**Sg**	**00 06 27.5**	**+0.6**
TVSB	**Tavsanli**	**0.35**	**127**	*e*PG	**Pg**	**00 06 22.0**	**-0.1**
TVSB				*e*SG	**Sg**	**00 06 27.5**	**+0.6**
DURS	**Dursunbey**	**0.48**	**263**	*i* P	**Pg**	**00 06 24.4**	**-0.1**
DURS				*i* S	**Sg**	**00 06 30.8**	**-0.1**
DURS	**Dursunbey**	**0.48**	**263**	*i* P	**Pg**	**00 06 24.4**	**-0.1**
DURS				*i* S	**Sg**	**00 06 30.8**	**-0.1**

GDZ	**Gediz**	**0.65**	**152**	*e*P	**Pg**	**00 06 27.6**	**0.0**
GDZ				*i* S	**Sg**	**00 06 36.2**	**+0.1**
GDZ	**Gediz**	**0.65**	**152**	*e*P	**Pg**	**00 06 27.6**	**0.0**
GDZ				*i* S	**Sg**	**00 06 36.2**	**+0.1**
DEMI	**Demirci**	**0.69**	**206**	*i* P	**Pg**	**00 06 28.2**	**-0.1**
DEMI				*i* S	**Sb**	**00 06 38.3**	**0.0**
DEMI	**Demirci**	**0.69**	**206**	*i* P	**Pg**	**00 06 28.2**	**-0.1**
DEMI				*i* S	**Sb**	**00 06 38.3**	**0.0**
MDNY	**Mudanya-Bursa**	**0.72**	**347**	*e*PG	**Pg**	**00 06 28.7**	**-0.3**
MDNY				*e*SG	**Sg**	**00 06 38.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.72**	**347**	*e*Pg	**Pg**	**00 06 28.7**	**-0.3**
MDNY				*e*Sg	**Sg**	**00 06 38.7**	**+0.2**
GEMT	**Gemlik**	**0.78**	**5**	*e*PG	**Pb**	**00 06 30.4**	**0.0**
GEMT				*e*SG	**Sb**	**00 06 42.3**	**+1.4**
GEMT	**Gemlik**	**0.78**	**5**	*e*Pg	**Pb**	**00 06 30.4**	**0.0**
CAVI	**Cavuskoy**	**0.79**	**47**	*e*PG	**Pg**	**00 06 29.7**	**-0.6**
CAVI	**Cavuskoy**	**0.79**	**47**	*e*Pg	**Pg**	**00 06 29.7**	**-0.6**
ARMT	**Armutlu**	**0.92**	**349**	*e*PG	**Pg**	**00 06 32.2**	**-0.6**
ARMT	**Armutlu**	**0.92**	**349**	*e*Pg	**Pg**	**00 06 32.2**	**-0.6**
YLV	**Yalova**	**0.93**	**13**	*e*PG	**Pb**	**00 06 33.4**	**+0.4**
YLV	**Yalova**	**0.93**	**13**	*e*Pg	**Pb**	**00 06 33.4**	**+0.4**
BALB	**Balikesir**	**0.94**	**269**	*e*PG	**Pg**	**00 06 32.9**	**-0.2**
BALB				*e*SG	**Sn**	**00 06 46.9**	**-0.4**
BALB	**Balikesir**	**0.94**	**269**	*e*Pg	**Pg**	**00 06 32.9**	**-0.2**
BALB				*e*Sg	**Sn**	**00 06 46.9**	**-0.4**
ALT	**Altintas**	**0.99**	**127**	*e*PG	**Pg**	**00 06 33.8**	**-0.3**
ALT	**Altintas**	**0.99**	**127**	*e*Pg	**Pg**	**00 06 33.8**	**-0.3**
BORA	**Eskisehir**	**1.07**	**78**	*e*P	**Pb**	**00 06 34.6**	**-0.9**
BORA				*i* S	**Sn**	**00 06 51.4**	**+0.7**
BORA	**Eskisehir**	**1.07**	**78**	*e*P	**Pb**	**00 06 34.6**	**-0.9**
BORA				*i* S	**Sn**	**00 06 51.4**	**+0.7**
BALY	**Balya**	**1.14**	**274**	*i* P	**Pg**	**00 06 37.0**	**0.0**
BALY				*i* S	**Sn**	**00 06 52.3**	**-0.1**
BALY	**Balya**	**1.14**	**274**	*i* P	**Pg**	**00 06 37.0**	**0.0**
BALY				*i* S	**Sn**	**00 06 52.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.15**	**290**	*e*PN	**Pb**	**00 06 36.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.15**	**290**	*e*Pn	**Pb**	**00 06 36.6**	**-0.2**
KULA	**Kula-Manisa**	**1.20**	**197**	*e*PN	**Pb**	**00 06 37.2**	**-0.4**
KULA	**Kula-Manisa**	**1.20**	**197**	*e*Pn	**Pb**	**00 06 37.2**	**-0.4**
AKHS	**Akhisar**	**1.27**	**232**	*i* P	**Pg**	**00 06 39.3**	**0.0**
AKHS				*i* S	**Sg**	**00 06 56.7**	**+1.0**
AKHS	**Akhisar**	**1.27**	**232**	*i* P	**Pg**	**00 06 39.3**	**0.0**
AKHS				*i* S	**Sg**	**00 06 56.7**	**+1.0**
AKS	**Akhisar**	**1.27**	**232**	*e*PN	**Pn**	**00 06 38.2**	**-0.3**
AKS	**Akhisar**	**1.27**	**232**	*e*Pn	**Pn**	**00 06 38.2**	**-0.3**
KHAL	**Karahalli**	**1.33**	**166**	*i* P	**Pb**	**00 06 39.8**	**0.0**
KHAL				*i* S	**Sb**	**00 06 57.1**	**+0.2**
KHAL	**Karahalli**	**1.33**	**166**	*i* P	**Pb**	**00 06 39.8**	**0.0**
KHAL				*i* S	**Sb**	**00 06 57.1**	**+0.2**
GULT	**Gulveren**	**1.33**	**54**	*e*PN	**Pb**	**00 06 40.0**	**+0.1**
GULT	**Gulveren**	**1.33**	**54**	*e*Pn	**Pb**	**00 06 40.1**	**+0.1**
KHL	**Karahalli**	**1.38**	**166**	*e*PN	**Pn**	**00 06 39.8**	**-0.3**
KHL	**Karahalli**	**1.38**	**166**	*e*Pn	**Pn**	**00 06 39.8**	**-0.3**

*IDC **20** 00:10:37.6±0.8, 3°.59N×126°.76E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/23, mbtmp3.9/9, Error ellipse: s-maj=50.8km s-min=14.3km az=69.0*
*NEIC **20** 00:10:42.9±0.4, 3°.54N×126°.74E, h35km, mb4.3/4, Error ellipse: s-maj=28.6km s-min=7.5km az=69.0*
*ISCJB **20** 00:10:42.5±0.5, 3°.44N±0°.09×126°.6E±0°.2, h48km, mb4.0/12, Error ellipse: s-maj=26.5km s-min=5.7km az=151.5*
*AUST **20** 00:10:46.7, 3°.50N×127°.00E, h100km*

ISC 20 00:10:44.6±0.6, 3°.5N±0°.1×126°.7E±0°.2, h48km, n36, σ1°03/35, mb3.9/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.48**	**353**	*e*P	Pn	00 11 47.5	+11
MATI				*e*S	Sn	00 12 25.0	+8.7
CTBH	**Cotabato--PC H**	**4.46**	**327**	*i* P	**Pn**	**00 11 50.7**	**+1.0**
PAGZ	**Pagadian**	**5.46**	**323**	*e*P	**Pn**	**00 12 03.4**	**-0.1**
PAGZ				*e*S	**Sn**	**00 13 07.0**	**+2.0**
SWI	**Sorong**	**6.27**	**133**	P	**Pn**	**00 12 16.3**	**+1.7**
	baz=6.1,SNR=4.9						
PCI	**Palu**	**8.12**	**238**	P	Pn	00 12 46.6	+6.7
	baz=8.4,SNR=4.8						
MTN	**Manton Dam**	**16.79**	**165**	P	**Pn**	**00 14 34.5**	**-2.0**
	baz=17,SNR=6.3						
KDU	**Kakadu**	**17.04**	**160**	P	**Pn**	**00 14 38.1**	**-1.5**
	baz=17,SNR=7.2						
KDU				S	S	00 18 08.6	+12
	baz=17,SNR=6.4						
FITZ	**Fitzroy Crossi**	**21.46**	**183**	P	**P**	**00 15 29.2**	**+0.2**
	4.6nm,0.7s,baz=28,slow=10,SNR=15						
FITZ	**Fitzroy Crossi**	**21.46**	**183**	*e*P	**P**	**00 15 29.2**	**+0.2**
	9.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.46**	**183**	P	**P**	**00 15 29.3**	**+0.3**
	baz=22,SNR=11						
WRAB	**Tennant Creek**	**24.44**	**162**	*e*P	**P**	**00 15 58.5**	**-0.5**
	41nm,1.0s						
WRA	**Warramunga Arr**	**24.45**	**162**	P	**P**	**00 15 58.6**	**-0.4**
	24nm,0.8s,baz=337,slow=11,SNR=113						
WRA	**Warramunga Arr**	**24.45**	**162**	P	**P**	**00 15 58.6**	**-0.4**
AS31	**Alice Springs**	**27.87**	**166**	*e*P	**P**	**00 16 30.3**	**+0.3**
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**00 16 30.3**	**+0.3**
	0.8nm,0.3s,baz=348,slow=12,SNR=13						
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**00 16 30.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.98**	**301**	P	**P**	**00 16 57.4**	**-0.2**
	0.5nm,0.6s,baz=119,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**30.98**	**301**	P	**P**	**00 16 57.4**	**-0.2**
BBOO	**Buckleboo**	**37.16**	**167**	P	**P**	**00 17 51.2**	**+0.3**
	baz=37,SNR=7.3						
STKA	**Stephens Creek**	**37.90**	**159**	P	**P**	**00 17 57.2**	**-0.1**
	2.4nm,0.4s,baz=343,slow=8.7,SNR=20						
STKA	**Stephens Creek**	**37.90**	**159**	*e*P	**P**	**00 17 57.1**	**-0.1**
	0.5nm,0.4s						
STKA	**Stephens Creek**	**37.90**	**159**	P	**P**	**00 17 57.5**	**+0.3**
	baz=38,SNR=19						
SONM	**Songino Array**	**47.53**	**342**	P	**P**	**00 19 13.7**	**-1.6**
	0.2nm,0.5s,baz=168,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**47.53**	**342**	P	**P**	**00 19 13.7**	**-1.6**
MK31	**Makanchi Array**	**57.75**	**325**	*e*P	**P**	**00 20 30.9**	**+0.2**
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**00 20 30.3**	**-0.5**
	0.5nm,0.4s,baz=118,slow=7.7,SNR=24						
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**00 20 30.3**	**-0.5**
ZALV	**Zalesovo Beam**	**60.81**	**333**	P	**P**	**00 20 49.8**	**-1.8**
	0.3nm,0.4s,baz=132,slow=4.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**60.81**	**333**	P	**P**	**00 20 49.8**	**-1.8**
KURK	**Kurchatov**	**61.94**	**328**	*e*P	**P**	**00 20 58.2**	**-1.1**
	3.0nm,0.8s						
BVAR	**Borovoye Array**	**67.52**	**327**	P	**P**	**00 21 35.0**	**-0.7**
	0.8nm,0.7s,baz=132,slow=8.2,SNR=7.8						
BVAR	**Borovoye Array**	**67.52**	**327**	P	**P**	**00 21 35.0**	**-0.7**
ILAR	**Eielson Array**	**85.35**	**25**	P	**P**	**00 23 16.8**	**+0.4**
	0.2nm,0.8s,baz=277,slow=4.7,SNR=4.3						
ILAR	**Eielson Array**	**85.35**	**25**	P	**P**	**00 23 16.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**00 29 37.9**	**+1.2**
	0.4nm,1.0s,baz=80,slow=1.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**00 29 37.9**	**+1.2**

*IDC **20** 00:13:07.0±0.9, 26°.84S×176°.33W, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.3/21, mbtmp4.3/9, ML4.0/1, Error ellipse: s-maj=26.7km s-min=25.1km az=55.0*
*ISCJB **20** 00:13:09.6±1.5, 27°.0S±0°.1×176°.3W±0°.2, h31km, mb4.4/9, Error ellipse: s-maj=28.0km s-min=14.0km az=170.0*
*NEIC **20** 00:13:12.9±2.9, 27°.04S×176°.34W, h43km±23km, mb4.6/6, Error ellipse: s-maj=26.9km s-min=14.0km az=46.0*

ISC 20 00:13:11.4±0.7, 26°.99S±0°.09×176°.3W±0°.1, h31km, n46, σ1°14/51, mb4.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**212**	*e*Pn	**Pn**	**00 13 53.3**	**+0.8**
RAO				*e*Sn	**Sb**	**00 14 29.6**	**-1.6**
URZ	**Urewera**	**12.54**	**205**	Pn	**Pn**	**00 16 07.0**	**-0.7**
	0.8nm,0.3s,baz=8.0,slow=7.6,SNR=3.8						
URZ	**Urewera**	**12.54**	**205**	Pn	**Pn**	**00 16 07.0**	**-0.7**
SNZO	**South Karori**	**16.11**	**205**	*e*Pn	**Pn**	**00 16 54.6**	**-0.9**
	18nm,0.6s						
DZM	**Mont Dzumac**	**16.47**	**284**	*e*Pn	**Pn**	**00 17 00.7**	**+0.4**
	9.7nm,0.6s						
CTA	**Charters Tower**	**34.94**	**273**	P	**P**	**00 20 01.7**	**+0.9**
	2.9nm,0.4s,baz=104,slow=15,SNR=3.5						
CTA	**Charters Tower**	**34.94**	**273**	P	**P**	**00 20 01.7**	**+0.9**
CTAO	**Charters Tower**	**34.94**	**273**	*e*P	**P**	**00 20 00.9**	**+0.2**
	15nm,1.1s						
STKA	**Stephens Creek**	**36.85**	**252**	P	**P**	**00 20 18.9**	**+1.9**
	0.7nm,0.5s,baz=86,slow=6.4,SNR=3.9						
ASAR	**Alice Springs**	**44.93**	**263**	P	**P**	**00 21 22.6**	**-1.1**
	1.3nm,0.5s,baz=105,slow=7.9,SNR=9.3						
ASAR	**Alice Springs**	**44.93**	**263**	P	**P**	**00 21 22.6**	**-1.1**
WRAB	**Tennant Creek**	**45.61**	**268**	*e*P	**P**	**00 21 27.7**	**-1.4**
	5.7nm,0.7s						
WRA	**Warramunga Arr**	**45.62**	**268**	P	**P**	**00 21 27.5**	**-1.6**
	5.9nm,0.6s,baz=107,slow=7.7,SNR=29						
WRA	**Warramunga Arr**	**45.62**	**268**	P	**P**	**00 21 27.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**53.98**	**267**	P	**P**	**00 22 31.6**	**-1.2**
	1.5nm,0.6s,baz=127,slow=5.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**53.98**	**267**	*e*P	**P**	**00 22 32.6**	**-0.2**
	6.3nm,1.1s						
QSPA	**South Pole Qui**	**63.11**	**180**	P	**P**	**00 23 37.8**	**+1.9**
	6.0nm,0.9s,baz=9.9,slow=1.9,SNR=19						
QSPA	**South Pole Qui**	**63.11**	**180**	*e*P	**P**	**00 23 36.8**	**+0.9**
	8.5nm,1.0s						
MJAR	**Matsushiro Arr**	**76.35**	**324**	P	**P**	**00 24 57.1**	**-0.5**
	2.1nm,0.7s,baz=153,slow=8.2,SNR=5.2						
MJAR	**Matsushiro Arr**	**76.35**	**324**	P	**P**	**00 24 57.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P	**P**	**00 26 27.4**	**+1.7**
	0.9nm,0.3s,baz=142,slow=3.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P	**P**	**00 26 27.4**	**+1.7**
MKAR	**Makanchi Array**	**116.72**	**311**	PKP	**PKPdf**	**00 31 51.6**	**-0.8**
	0.5nm,0.7s,baz=158,slow=0.5,SNR=8.0						
MKAR	**Makanchi Array**	**116.72**	**311**	PKP	**PKPdf**	**00 31 51.6**	**-0.8**
BVAR	**Borovoye Array**	**124.98**	**317**	PKP	**PKPdf**	**00 32 07.7**	**-0.3**
	0.6nm,0.6s,baz=147,slow=1.2,SNR=6.1						
BVAR	**Borovoye Array**	**124.98**	**317**	PKP	**PKPdf**	**00 32 07.7**	**-0.3**
ARCES	**ARCESS Array B**	**135.56**	**349**	PKP	**PKPdf**	**00 32 28.4**	**+0.8**
	5.4nm,1.0s,baz=84,slow=2.8,SNR=3.7						
ARCES	**ARCESS Array B**	**135.56**	**349**	PKP	**PKPdf**	**00 32 28.4**	**+0.8**
FINES	**FINESS Array B**	**142.41**	**343**	PKhKP	PKPpre	00 32 31.5	
	2.1nm,0.9s,baz=4.2,slow=7.8,SNR=2.3						
FINES				PKP	**PKiKP**	**00 32 41.9**	**-1.5**
	2.9nm,0.9s,baz=132,slow=2.8,SNR=5.2						
FINES	**FINESS Array B**	**142.41**	**343**	PKPpre	PKPpre	00 32 31.5	
FINES				PKP	**PKiKP**	**00 32 41.9**	**-1.5**
NB2	**NORSAR Subarra**	**145.58**	**354**	PKP	**PKPdf**	**00 32 45.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=16,slow=4.0						
NOA	**NORSAR Array B**	**145.58**	**354**	PKPbc	**PKPdf**	**00 32 45.7**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=10,slow=2.5,SNR=5.8						
NOA	**NORSAR Array B**	**145.58**	**354**	PKPbc	**PKPdf**	**00 32 45.7**	**-0.3**
AKASG	**Malin Array Be**	**149.38**	**327**	PKPbc	**PKPbc**	**00 32 56.1**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=44,slow=3.5,SNR=4.2						
AKASG	**Malin Array Be**	**149.38**	**327**	PKPbc	**PKPbc**	**00 32 56.1**

MS4.6/1, Error ellipse: s-maj=21.9km s-min=13.2km az=0.3
*NEIC **20** 00:16:50.1±0.7, 23.86S×174.56W, h35km, mb4.2/6, Error ellipse: s-maj=18.7km s-min=12.8km az=176.0*
ISC 20 00:16:50.8±0.8, 23.8S±0.1×174.55W±0.10, h35km, n26, σ1§62/27, mb4.5/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.16**	**310**	*e*Pn		**Pn**		**00 19 01.4**	**+0.9**
	18nm,0.6s								
RAR	**Rarotonga**	**13.89**	**82**	Pn		**Pn**		**00 20 04.2**	**-1.0**
	7.9nm,0.3s,baz=270,slow=6.6,SNR=12								
RAR	**Rarotonga**	**13.89**	**82**	Pn		**P**		**00 20 04.2**	**-1.0**
URZ	**Urewera**	**16.12**	**204**	Pn		**P**		**00 20 41.2**	**+3.6**
	0.8nm,0.3s,baz=349,slow=11,SNR=2.1								
URZ	**Urewera**	**16.12**	**204**	*e*Pn		**Pn**		**00 20 34.0**	**-0.7**
	13nm,1.1s								
DZM	**Mont Dzumac**	**17.59**	**272**	Pn		**P**		**00 20 54.7**	**+0.5**
	0.8nm,0.3s,baz=63,slow=18,SNR=6.2								
DZM	**Mont Dzumac**	**17.59**	**272**	*e*Pn		**P**		**00 20 53.6**	**-0.6**
	5.6nm,0.5s								
CTA	**Charters Tower**	**36.47**	**268**	P		**P**		**00 23 51.2**	**-1.6**
	4.4nm,0.4s,baz=111,slow=8.9,SNR=4.2								
CTA	**Charters Tower**	**36.47**	**268**	P		**P**		**00 23 51.2**	**-1.6**
CTAO	**Charters Tower**	**36.47**	**268**	*e*P		**P**		**00 23 51.4**	**-1.4**
	3.9nm,0.4s								
STKA	**Stephens Creek**	**39.41**	**248**	P		**P**		**00 24 16.8**	**-0.7**
	0.7nm,0.3s,baz=84,slow=11,SNR=6.8								
STKA	**Stephens Creek**	**39.41**	**248**	*e*P		**P**		**00 24 16.9**	**-0.5**
	1.1nm,1.2s								
ASAR	**Alice Springs**	**46.98**	**259**	P		**P**		**00 25 17.1**	**-1.7**
	2.1nm,0.6s,baz=90,slow=6.3,SNR=10								
ASAR	**Alice Springs**	**46.98**	**259**	P		**P**		**00 25 17.1**	**-1.7**
WRAB	**Tennant Creek**	**47.39**	**264**	*e*P		**P**		**00 25 19.4**	**-2.6**
	4.0nm,0.6s								
WRA	**Warramunga Arr**	**47.39**	**264**	P		**P**		**00 25 19.4**	**-2.6**
	2.9nm,0.4s,baz=94,slow=8.4,SNR=39								
WRA	**Warramunga Arr**	**47.39**	**264**	P		**P**		**00 25 19.4**	**-2.6**
VNDA	**Vanda**	**54.99**	**186**	LR		LR		00 42 48.8	
	comp=Z,510nm,21.8s,baz=300,slow=28								
FITZ	**Fitzroy Crossi**	**55.81**	**264**	P		**P**		**00 26 24.5**	**-0.4**
	3.5nm,0.8s,baz=189,slow=6.0,SNR=9.3								
FITZ	**Fitzroy Crossi**	**55.81**	**264**	*e*P		**P**		**00 26 24.5**	**-0.4**
	3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**94.19**	**288**	P		**P**		**00 30 08.8**	**+2.1**
	1.2nm,0.6s,baz=103,slow=4.1,SNR=7.4								
CMAR	**Chiang Mai Arr**	**94.19**	**288**	P		**P**		**00 30 08.8**	**+2.1**
AKASG	**Malin Array Be**	**147.39**	**332**	PKPbc		**PKPbc**		**00 36 31.6**	**+0.9**
	2.8nm,0.6s,baz=38,slow=4.0,SNR=5.6								
AKASG	**Malin Array Be**	**147.39**	**332**	PKPbc		**PKPbc**		**00 36 31.6**	**+0.9**
BRTR	**Keskin Array B**	**151.38**	**310**	PKPbc		**PKPbc**		**00 36 42.0**	**+0.7**
	1.3nm,1.0s,baz=91,slow=4.9,SNR=3.9								
BRTR				PKPab		**PKPab**		**00 36 50.0**	**+0.5**
	1.0nm,0.8s,baz=76,slow=4.6,SNR=4.2								
BRTR	**Keskin Array B**	**151.38**	**310**	PKPbc		**PKPbc**		**00 36 42.0**	**+0.7**
BRTR				PKPab		**PKPab**		**00 36 50.0**	**+0.5**

IDC 20 00:17:14.1±4.2, 23.40S×175.23W, h0km, mb4.5/6, mb1 4.6/6, mb1mx4.1/21, mbtmp4.4/6, Error ellipse: s-maj=160.1km s-min=47.3km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.47**	**84**	Pn		Pn		00 20 29.7	-11
	10nm,0.3s,baz=270,slow=12,SNR=5.3								
URZ	**Urewera**	**16.20**	**202**	Pn		P		00 21 06.3	-0.1
	1.0nm,0.3s,baz=336,slow=10.0,SNR=3.6								
CTA	**Charters Tower**	**35.86**	**268**	P		P		00 24 16.8	+0.8
	2.1nm,0.3s,baz=96,slow=9.6,SNR=3.7								
STKA	**Stephens Creek**	**38.97**	**248**	P		P		00 24 41.5	-0.7
	1.4nm,0.7s,baz=95,slow=12,SNR=2.9								
ASAR	**Alice Springs**	**46.43**	**259**	P		P		00 25 42.6	-0.4
	5.2nm,0.9s,baz=96,slow=8.1,SNR=8.7								
WRA	**Warramunga Arr**	**46.81**	**264**	P		P		00 25 45.2	-0.8
	6.6nm,0.9s,baz=101,slow=8.2,SNR=9.5								
FITZ	**Fitzroy Crossi**	**55.23**	**264**	P		P		00 26 49.4	0.0
	4.7nm,0.9s,baz=116,slow=6.4,SNR=4.8								
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P		P		00 30 33.6	+1.3
	1.5nm,0.4s,baz=133,slow=3.1,SNR=5.1								
AKASG	**Malin Array Be**	**146.78**	**331**	PKPbc		PKPdf		00 36 56.5	+0.3
	0.9nm,0.4s,baz=40,slow=3.8,SNR=3.7								

IDC 20 00:44:31.7±18.0, 23.08S×175.49W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=332.7km s-min=143.2km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.63**	**267**	P		P		00 51 32.2	+0.6
	2.4nm,0.4s,baz=90,slow=12,SNR=4.5								
STKA	**Stephens Creek**	**38.87**	**247**	P		P		00 51 58.9	-0.1
	0.8nm,0.5s,baz=95,slow=12,SNR=3.9								
ASAR	**Alice Springs**	**46.26**	**259**	P		P		00 52 59.3	0.0
	0.6nm,0.6s,baz=97,slow=7.2,SNR=6.1								
WRA	**Warramunga Arr**	**46.60**	**264**	P		P		00 53 01.2	-0.7
	2.9nm,0.6s,baz=103,slow=8.6,SNR=70								
FITZ	**Fitzroy Crossi**	**55.03**	**264**	P		P		00 54 05.3	-0.2
	1.4nm,0.8s,baz=104,slow=4.2								

IDC 20 00:54:48.3±1.8, 2.07S×139.73E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.9/19, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=72.4km s-min=22.0km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53**	**196**	P		Pn		00 59 07.3	+0.6
	0.3nm,0.3s,baz=16,slow=13,SNR=25								
FITZ	**Fitzroy Crossi**	**21.10**	**220**	P		P		00 59 33.9	-0.7
	1.8nm,1.0s,baz=31,slow=12,SNR=3.0								
ASAR	**Alice Springs**	**22.20**	**194**	P		P		00 59 48.4	+1.9
	1.6nm,0.7s,baz=25,slow=10,SNR=16								
MKAR	**Makanchi Array**	**69.91**	**322**	P		P		01 06 00.8	-0.6
	0.2nm,0.5s,baz=99,slow=6.6,SNR=6.0								
ZALV	**Zalesovo Beam**	**71.90**	**329**	P		P		01 06 14.0	+0.7
	0.2nm,0.3s,baz=126,slow=7.3,SNR=2.9								
QSPA	**South Pole Qui**	**87.88**	**180**	P		P		01 07 38.3	-1.4
	2.9nm,1.0s,baz=353,slow=5.2,SNR=6.6								

IDC 20 00:55:09.5±0.8, 55.69S×123.35W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, MS4.3/3, Ms1 4.3/3, ms1mx3.8/19, Error ellipse: s-maj=45.1km s-min=23.1km az=156.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.49**	**180**	*e*P		P		01 01 59.1	+0.2
	1.7nm,0.8s,baz=96,slow=6.7,SNR=5.3								
VNA2	**Neumayer--Watz**	**45.82**	**156**	*e*P		P		01 03 32.6	+0.1
	baz=217,slow=11								
LPAZ	**La Paz**	**57.32**	**70**	P		P		01 04 59.4	-0.6
	2.1nm,1.1s,baz=207,slow=2.3,SNR=2.8								
DZM	**Mont Dzumac**	**60.93**	**273**	LR		LR		01 26 19.3	
	comp=Z,274nm,20.8s,baz=205,slow=31								
SIV	**San Ignacio**	**61.38**	**76**	P		P		01 05 26.4	-0.9
	1.1nm,0.8s,baz=238,slow=9.5,SNR=5.4								
STKA	**Stephens Creek**	**67.00**	**247**	LR		LR		01 32 16.9	
	comp=Z,205nm,18.4s,baz=255,slow=33								
BDFB	**Brasilia**	**68.97**	**87**	LR		LR		01 32 54.0	
	comp=Z,228nm,21.9s,baz=71,slow=33								
ASAR	**Alice Springs**	**77.61**	**246**	P		P		01 07 07.2	-0.4
	1.1nm,0.9s,baz=141,slow=5.7,SNR=5.8								
WRA	**Warramunga Arr**	**80.45**	**249**	P		P		01 07 22.5	-0.6
	2.5nm,0.9s,baz=142,slow=4.9,SNR=11								
ILAR	**Eielson Array**	**121.48**	**348**	PKP		PKPdf		01 14 03.2	0.0
	0.2nm,0.6s,baz=197,slow=2.8,SNR=3.2								
SONM	**Songino Array**	**148.82**	**277**	PKPbc		PKPbc		01 14 58.7	+0.5
	0.5nm,0.9s,baz=100,slow=0.9,SNR=2.6								
GERES	**GERESS Array B**	**153.20**	**87**	PKPbc		PKPbc		01 15 10.0	+1.7
	0.2nm,0.3s,baz=23,slow=5.5,SNR=5.1								
MKAR	**Makanchi Array**	**161.73**	**252**	PKPab		PKPab		01 15 56.1	-0.9
	0.7nm,1.0s,baz=139,slow=3.3,SNR=4.4								

IDC 20 00:55:57.1±3.2, 12.86S×166.04E, h94km±27km, mb3.6/6, mb1 3.7/8, mb1mx3.6/21, mbtmp3.7/8, Error ellipse: s-maj=31.7km s-min=18.1km az=63.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.88**	**299**	P		Pn		00 57 34.2	-1.2
	15nm,0.3s,baz=168,slow=7.4,SNR=4.5								
HNR				S		Sn		00 58 54.4	+2.1
	8.0nm,0.3s,baz=239,slow=17,SNR=3.1								
DZM	**Mont Dzumac**	**9.17**	**178**	P		Pn		00 58 05.4	-1.4
	1.7nm,0.3s,baz=352,slow=18,SNR=12								
DZM				S		Sn		00 59 52.0	+3.7
	0.3nm,0.3s,baz=53,slow=24,SNR=2.0								
WRA	**Warramunga Arr**	**31.18**	**253**	P		P		01 02 07.1	-0.5
	0.4nm,0.7s,baz=86,slow=9.5,SNR=2.9								
ASAR	**Alice Springs**	**32.28**	**246**	P		P		01 02 16.7	-0.5
	0.7nm,0.6s,baz=70,slow=9.5,SNR=7.3								
SONM	**Songino Array**	**80.29**	**324**	P		P		01 07 58.4	+0.5
	0.6nm,0.7s,baz=138,slow=5.7,SNR=5.0								
ILAR	**Eielson Array**	**85.13**	**18**	P		P		01 08 22.4	-0.1
	0.3nm,0.7s,baz=236,slow=5.2,SNR=5.0								
MKAR	**Makanchi Array**	**95.03**	**317**	P		P		01 09 09.9	+0.4
	1.0nm,0.9s,baz=103,slow=4.8,SNR=8.5								
ZALV	**Zalesovo Beam**	**95.19**	**324**	P		P		01 09 09.4	-0.6
	0.5nm,0.5s,baz=101,slow=4.7,SNR=4.7								

*ROM **20** 01:15:16.1±0.4, 36.47N×12.72E, h30km, MI3.5/12, Error ellipse: s-maj=9.8km s-min=3.3km az=4.0*
*CSEM **20** 01:15:16.3±0.8, 36.39N×12.73E, h30km, ML3.3/3, Error ellipse: s-maj=21.7km s-min=4.9km az=11.0*
*ISCJB **20** 01:15:16.9±1.4, 36.6N±0.1×12.69E±0.06, h59km±18km, Error ellipse: s-maj=22.5km s-min=6.2km az=10.9*
*LDG **20** 01:15:18.5±0.7, 36.41N×12.76E, h30km, MI3.3/3, Error ellipse: s-maj=19.4km s-min=5.4km az=17.0*
ISC 20 01:15:17.5±1.7, 36.6N±0.1×12.69E±0.05, h42km±47km, n44, σ1§15/51, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**0.62**	**295**	Pn		**Pn**		**01 15 29.8**	**-0.1**
	254nm,0.2s								
PTS	**Pantelleria**	**0.62**	**295**	Pn		**Pn**		**01 15 29.8**	**-0.1**
	254nm,0.2s								
FAVR	**Favara**	**1.06**	**47**	Pn		**Pn**		**01 15 36.6**	**+0.7**
	171nm,0.3s								
FAVR	**Favara**	**1.06**	**47**	Pn		**Pn**		**01 15 36.6**	**+0.7**
	171nm,0.3s								
CORL	**Corleone**	**1.43**	**20**	Pn		**Pn**		**01 15 40.7**	**-0.3**
	347nm,0.7s								
CORL	**Corleone**	**1.43**	**20**	Pn		**Pn**		**01 15 40.7**	**-0.3**
	347nm,0.7s								
RAFF	**Raffo Rosso**	**1.50**	**63**	Pn		**Pn**		**01 15 42.1**	**+0.2**
	551nm,0.3s								
RAFF	**Raffo Rosso**	**1.50**	**63**	Pn		**Pn**		**01 15 42.1**	**+0.2**
	551nm,0.3s								
HMDC	**Modica**	**1.73**	**76**	Pn		**Pn**		**01 15 44.3**	**-0.8**
	305nm,0.3s								
HMDC	**Modica**	**1.73**	**76**	Pn		**Pn**		**01 15 44.3**	**-0.8**
	305nm,0.3s								
HVZN	**Vizzini**	**1.74**	**68**	Pn		**Pn**		**01 15 44.8**	**-0.5**
	797nm,0.5s								
HVZN	**Vizzini**	**1.74**	**68**	Pn		**Pn**		**01 15 44.8**	**-0.5**
	797nm,0.5s								
CSLB	**Castelbuono**	**1.76**	**38**	Pn		**Pn**		**01 15 46.0**	**+0.4**
	57nm,0.2s								
CSLB	**Castelbuono**	**1.76**	**38**	Pn		**Pn**		**01 15 46.0**	**+0.4**
	57nm,0.2s								
GALF	**Gagliano Caste**	**1.89**	**52**	Pn		**Pn**		**01 15 49.0**	**+1.6**
	286nm,0.5s								
GALF	**Gagliano Caste**	**1.89**	**52**	Pn		**Pn**		**01 15 49.0**	**+1.6**
	286nm,0.5s								
HAVL	**Avola**	**2.00**	**77**	Pn		**Pn**		**01 15 48.0**	**-0.8**
HAVL				Sn		**Sn**		**01 16 12.4**	**-0.1**
	370nm,0.3s								
HAVL	**Avola**	**2.00**	**77**	Pn		**Pn**		**01 15 48.0**	**-0.8**
HAVL				Sn		**Sn**		**01 16 12.4**	**-0.1**
	370nm,0.3s								
SSY	**Sortino**	**2.00**	**72**	Pn		**Pn**		**01 15 48.8**	**0.0**
SSY				Sn		**Sn**		**01 16 13.2**	**+0.5**
	916nm,0.3s								
SSY	**Sortino**	**2.00**	**72**	Pn		**Pn**		**01 15 48.8**	**0.0**
SSY				Sn		**Sn**		**01 16 13.2**	**+0.5**
	916nm,0.3s								
HCRL	**Carlentini**	**2.01**	**68**	Pn		**Pn**		**01 15 48.8**	**-0.2**
HCRL				Sn		**Sn**		**01 16 12.8**	**-0.1**
	328nm,0.2s								
HCRL	**Carlentini**	**2.01**	**68**	Pn		**Pn**		**01 15 48.8**	**-0.2**
HCRL				Sn		**Sn**		**01 16 12.8**	**-0.1**
	328nm,0.2s								
HAGA	**Augusta**	**2.10**	**69**	Pn		**Pn**		**01 15 49.8**	**-0.4**
	255nm,0.6s								
HAGA	**Augusta**	**2.10**	**69**	Pn		**Pn**		**01 15 49.8**	**-0.4**
	255nm,0.6s								
AGST	**Augusta-Monte**	**2.15**	**70**	Pn		**Pn**		**01 15 50.5**	**-0.3**
	106nm,0.4s								
AGST	**Augusta-Monte**	**2.15**	**70**	Pn		**Pn**		**01 15 50.5**	**-0.3**
	106nm,0.4s								
IFIL	**Filicudi I Eol**	**2.50**	**36**	Pn		**Pn**		**01 15 55.4**	**-0.3**
	300nm,0.7s								
IFIL	**Filicudi I Eol**	**2.50**	**36**	Pn		**Pn**		**01 15 55.4**	**-0.3**
	300nm,0.7s								
MSRU	**Castanea**	**2.82**	**52**	Pn		**Pn**		**01 16 01.1**	**+1.0**
	128nm,0.4s								
MSRU	**Castanea**	**2.82**	**52**	Pn		**Pn**		**01 16 01.1**	**+1.0**
	128nm,0.4s								
VSL	**Villasalto**	**3.94**	**319**	Pn		**Pn**		**01 16 16.4**	**+1.0**
VSL	**Villasalto**	**3.94**	**319**	Pn		**Pn**		**01 16 16.4**	**+1.0**
PGF	**Pioggiola**	**6.63**	**336**	*e*Pn		**Pn**		**01 16 55.2**	**+2.7**
PGF				*e*Sn		**Sn**		**01 18 06.0**	**-0.8**
	8.5nm,0.4s								
PGF	**Pioggiola**	**6.63**	**336**	*e*Pn		**Pn**		**01 16 55.2**	**+2.7**
LMR	**La Mourre**	**8.27**	**327**	*e*Pn		**Pn**		**01 17 15.5**	**+0.7**
LMR	**La Mourre**	**8.27**	**327**	*e*Pn		**Pn**		**01 17 15.5**	**+0.7**
SBF	**Sospel**	**8.34**	**333**	*e*Pn		**Pn**		**01 17 17.1**	**+1.3**
SBF				*e*Sn		**Sn**		**01 18 45.8**	**-2.8**
	1.5nm,0.3s								
SBF	**Sospel**	**8.34**	**333**	*e*Pn		**Pn**		**01 17 17.1**	**+1.3**
FRF	**La Foret Royal**	**8.39**	**328**	*e*Pn		**Pn**		**01 17 17.5**	**+1.0**
FRF	**La Foret Royal**	**8.39**	**328**	*e*Pn		**Pn**		**01 17 17.5**	**+1.0**
MBDF	**Montbardon**	**9.32**	**333**	*e*Pn		Pn		01 17 33.0	+3.6
MBDF				*e*Sn		**Sn**		**01 19 09.7**	**-3.2**
	1.0nm,0.3s								
MBDF	**Montbardon**	**9.32**	**333**	*e*Pn		Pn		01 17 33.0	+3.6
ORIF	**Oris-en-Rattie**	**9.82**	**330**	*e*Pn		**Pn**		**01 17 38.1**	**+1.9**
ORIF	**Oris-en-Rattie**	**9.82**	**330**	*e*Pn		**Pn**		**01 17 38.1**	**+1.9**

*IDC **20** 01:20:38.5±0.8, 12.94N×124.59E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, Error ellipse: s-maj=37.0km s-min=18.0km az=67.0*
*ISCJB **20** 01:20:39.9±0.6, 13.13N±0.05×124.39E±0.07, h10km, mb3.7/9, Error ellipse: s-maj=10.0km s-min=5.5km az=155.0*
*MAN **20** 01:20:41, 13.08N×124.38E, h18km, mb4.8, ML3.7, MS3.7*
ISC 20 01:20:40.7±0.7, 13.09N±0.06×124.43E±0.07, h10km, n15, σ1§13/19, mb3.7/9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.61**	**158**	*e*P		**Pn**		**01 20 54.0**	**+0.4**
CNP				*e*S		**Sn**		**01 21 03.2**	**+0.9**
BESP	**Borongan**	**1.77**	**146**	*e*P		**Pn**		**01 21 11.7**	**+0.2**
BESP				*e*S		**Sn**		**01 21 34.6**	**+0.5**
PLP	**Palo**	**1.98**	**164**	*e*P		**Pn**		**01 21 14.7**	**+0.3**
PLP				*i* S		**Sn**		**01 21 40.2**	**+0.9**
OTRP	**Odiongan**	**2.46**	**253**	*e*P		**Pn**		**01 21 20.7**	**-0.3**
OTRP				*e*S		Pg		01 21 32.5	+4.6
GUIM	**Jordan**	**3.04**	**217**	*e*P		**Pn**		**01 21 29.3**	**+0.4**
GUIM				*e*S		**Sn**		**01 22 05.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**25.09**	**286**	P		**P**		**01 26 06.4**	**+0.5**
	0.8nm,0.3s,baz=92,slow=9.4,SNR=4.1								
WRA	**Warramunga Arr**	**34.24**	**163**	P		**P**		**01 27 24.9**	**-2.1**
	0.5nm,0.5s,baz=343,slow=8.6,SNR=8.2								
ASAR	**Alice Springs**	**37.68**	**166**	P		**P**		**01 27 54.0**	**-2.5**
	1.4nm,0.4s,baz=336,slow=7.1,SNR=30								
SONM	**Songino Array**	**37.77**	**340**	P		**P**		**01 27 58.6**	**+1.4**
	0.8nm,0.9s,baz=160,slow=10,SNR=3.6								
MKAR	**Makanchi Array**	**48.71**	**322**	P		**P**		**01 29 26.6**	**+1.2**
	1.4nm,0.7s,baz=120,slow=8.5,SNR=19								
ZALV	**Zalesovo Beam**	**51.31**	**331**	P		**P**		**01 29 45.6**	**+0.6**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.5								
ILAR	**Eielson Array**	**77.71**	**26**	P		**P**		**01 32 37.7**	**+0.1**
	0.3nm,0.8s,baz=270,slow=5.4,SNR=3.6								
FINES	**FINESS Array B**	**82.57**	**331**	P		**P**		**01 33 03.9**	**+0.1**
	2.2nm,1.0s,baz=35,slow=5.1,SNR=3.6								
YKA	**Yellowknife Ar**	**91.92**	**23**	P		**P**		**01 33 47.4**	**-1.8**
	0.1nm,0.4s,baz=311,slow=4.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**117.54**	**292**	PKP		**PKPdf**		**01 39 28.1**	**+0.1**
	0.4nm,0.9s,baz=78,slow=1.5,SNR=2.6								

IDC 20 01:47:10.8±2.2, 5.09S×153.04E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/18, mbtmp3.4/5, Error ellipse: s-maj=74.1km s-min=35.4km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**229**	P		P		01 52 22.3	+0.3
	0.1nm,0.3s,baz=55,slow=10,SNR=5.0								
SONM	**Songino Array**	**66.70**	**328**	P		P		01 58 03.7	-0.1
	0.1nm,0.3s,baz=129,slow=5.4,SNR=3.1								
MKAR	**Makanchi Array**	**80.70**	**319**	P		P		01 59 26.1	+0.1
	0.2nm,0.4s,baz=105,slow=7.0,SNR=6.3								
ZALV	**Zalesovo Beam**	**81.53**	**326**	P		P		01 59 30.4	+0.3
	0.2nm,0.3s,baz=116,slow=3.4,SNR=2.7								
YKA	**Yellowknife Ar**	**95.57**	**28**	P		P		02 00 37.9	+0.2
	0.1nm,0.3s,baz=258,slow=3.1,SNR=3.7								
TORD	**Torodi Ar. Bea**	**150.62**	**288**	PKPbc		PKPbc		02 07 04.8	-1.1
	0.1nm,0.4s,baz=78,slow=1.4,SNR=4.2								

MEX 20 02:00:18.7±0.8, 17.81N×98.36W, h56km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMTT	**Tlapaneco**	**0.19**	**267**	*e*P		Pn		02 00 26.0	-1.8
HMTT				*e*S		Sn		02 00 32.5	-1.7
UTMO	**Huajuapan**	**0.53**	**88**	*i* P		Pn		02 00 28.8	-2.1
UTMO				*i* S		Sn		02 00 37.4	-2.4
TPIG	**Tehuac#an**	**1.12**	**57**	*e*P		Pn		02 00 36.5	-2.0
TPIG				*i* S		Sn		02 00 51.1	-2.1
MEIG	**Mezcala**	**1.21**	**276**	*e*P		Pn		02 00 38.1	-1.4
MEIG				*i* S		Sn		02 00 53.2	-1.8
YAIG	**Yautepec**	**1.25**	**327**	*e*P		Pn		02 00 37.8	-2.3
YAIG				*e*S		Sn		02 00 53.6	-2.4
PPM	**Popocatepetl**	**1.28**	**348**	*i* P		Pn		02 00 38.9	-2.1
PPM				*i* S		Sn		02 00 56.0	-1.6
PNIG	**Pinotepa**	**1.43**	**171**	*e*P		Pn		02 00 40.3	-2.0
PNIG				*i* S		Sn		02 00 58.8	-1.4
VHO	**Vista Hermosa**	**1.71**	**115**	*e*P		Pn		02 00 44.6	-1.9
VHO				*i* S		Sn		02 01 05.8	-1.7
ARIG	**Puente Sto Nin**	**1.95**	**284**	*i* P		Pn		02 00 48.5	-1.0
ARIG				*i* S		Sn		02 01 10.1	-2.8
HUIG	**Huatulco**	**2.96**	**133**	*e*P		Pn		02 01 02.7	-0.5
HUIG				*e*S		Sn		02 01 36.4	-1.2
CMIG	**Matias Romero**	**3.39**	**102**	*e*P		Pn		02 01 08.3	-0.9
CMIG				*e*S		Sn		02 01 46.3	-1.9

IDC 20 02:00:40.4±2.6, 23.07S×174.97W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.1/20, mbtmp4.0/7, Error ellipse: s-maj=150.0km s-min=22.5km az=156.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.11**	**267**	P		P		02 07 44.9	+0.5
	9.4nm,1.0s,baz=84,slow=10,SNR=3.8								
ASAR	**Alice Springs**	**46.72**	**259**	P		P		02 09 11.4	-0.2
	0.8nm,0.8s,baz=101,slow=8.2,SNR=8.7								
WRA	**Warramunga Arr**	**47.08**	**264**	P		P		02 09 13.8	-0.6
	1.7nm,0.7s,baz=100,slow=8.4,SNR=11								
NVAR	**Mina Array Bea**	**81.01**	**42**	P		P		02 12 57.6	+0.2
	1.2nm,0.8s,baz=223,slow=7.7,SNR=7.1								
VNA3	**Neumayer Olymp**	**85.38**	**175**	*e*P		P		02 13 19.7	+0.4
VNA2	**Neumayer--Watz**	**85.85**	**176**	*e*P		P		02 13 22.0	+0.4
	baz=178,slow=3.9								
TXAR	**Lajitas Array**	**86.11**	**56**	P		P		02 13 23.5	-0.1
	0.6nm,0.8s,baz=297,slow=0.8,SNR=4.6								

RUS				*i* S	Sn	02 05 44.3	+0.7
MTVR	**Mutnovka**	**3.75**	**230**	*e*P	Pn	02 05 05.1	+2.5
MTVR				*i* S	Sn	02 05 48.0	+1.4
ASAK	**Asacha**	**3.95**	**230**	*e*P	Pn	02 05 07.4	+2.2
ASAK				*i* S	Sn	02 05 52.9	+1.7

*ISK **20** 02:05:04.8, 39˚.42N×26˚.33E, h10km, MD3.5*
*ATH **20** 02:05:05.5, 39˚.38N×26˚.26E, h26km±2km, ML2.9*
*DDA **20** 02:05:05.0, 39˚.45N×26˚.32E, h26km, ML3.9*
*CSEM **20** 02:05:05.9±0.1, 39˚.42N×26˚.30E, h12km, ML2.9, Error ellipse: s-maj=1.5km s-min=1.4km az=174.0*
*ISCJB **20** 02:05:06.1±0.3, 39˚.43N±0˚.01×26˚.28E±0˚.02, h22km±2km, Error ellipse: s-maj=2.4km s-min=2.3km az=155.4*
*THE **20** 02:05:07.4, 39˚.40N×26˚.23E, h17km±1km, ML3.0/9, Error ellipse: s-maj=2.2km s-min=0.9km az=112.0*
*SOF **20** 02:05:08.6, 39˚.69N×26˚.23E, h13km, MD2.7*

ISC 20 02:05:06.2±0.8, 39˚.43N±0˚.01×26˚.30E±0˚.02, h18km±5km, n212, σ0s75/272, 11C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.18**	**188**	P	**Pg**	**02 05 10.7**	**-0.1**
PRK				S	**Sg**	**02 05 14.1**	**+0.2**
PRK	**Paraskevi**	**0.18**	**188**	*e*PB	**Pg**	**02 05 10.7**	**-0.1**
PRK				*e*SB	**Sb**	**02 05 14.2**	**0.0**
PRK	**Paraskevi**	**0.18**	**188**	P	**Pg**	**02 05 10.7**	**-0.1**
PRK				S	**Sg**	**02 05 14.1**	**+0.2**
AYVA	**Ayvalik**	**0.32**	**111**	*i* P	**Pg**	**02 05 12.5**	**-0.6**
AYVA				*i* S	**Sg**	**02 05 17.2**	**-0.5**
AYVA	**Ayvalik**	**0.32**	**111**	*i* P	**Pg**	**02 05 12.5**	**-0.6**
AYVA				*i* S	**Sg**	**02 05 17.2**	**-0.5**
EZN	**Ezine**	**0.40**	**2**	PG	**Pg**	**02 05 13.7**	**-0.8**
EZN				*e*SG	**Sg**	**02 05 19.5**	**-0.5**
EZN	**Ezine**	**0.40**	**2**	*i* Pg	**Pg**	**02 05 13.7**	**-0.8**
EZN				*e*Sg	**Sg**	**02 05 19.5**	**-0.5**
SIGR	**SIGRI**	**0.41**	**238**	P	**Pg**	**02 05 14.8**	**+0.2**
SIGR				S	**Sb**	**02 05 21.0**	**+0.2**
SIGR	**SIGRI**	**0.41**	**238**	P	**Pg**	**02 05 14.8**	**+0.2**
SIGR				S	**Sb**	**02 05 21.0**	**+0.2**
BOZC	**Bozcaada**	**0.46**	**335**	*i* P	**Pg**	**02 05 15.4**	**-0.1**
BOZC				*i* S	**Sg**	**02 05 21.0**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.98**	**8**	PG	**Pb**	**02 05 24.2**	**-0.5**
GELI				*e*SG	**Sb**	**02 05 37.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.98**	**8**	*i* Pg	**Pb**	**02 05 24.2**	**-0.5**
GELI				*e*Sg	**Sb**	**02 05 37.9**	**+0.6**
LPK	**Lapseki**	**1.01**	**20**	PG	**Pb**	**02 05 24.5**	**-0.7**
LPK				*e*SG	**Sg**	**02 05 39.2**	**+0.1**
LPK	**Lapseki**	**1.01**	**20**	*i* Pg	**Pb**	**02 05 24.5**	**-0.7**
LPK				*e*Sg	**Sg**	**02 05 39.2**	**+0.1**
CHOS	**Chios island**	**1.05**	**191**	P	**Pb**	**02 05 25.7**	**-0.3**
CHOS				S	**Sg**	**02 05 40.9**	**+0.4**
CHOS	**Chios island**	**1.05**	**191**	*e*PN	**Pb**	**02 05 25.6**	**-0.4**
CHOS				*e*SN	**Sb**	**02 05 40.0**	**+0.5**
CHOS	**Chios island**	**1.05**	**191**	P	**Pb**	**02 05 25.7**	**-0.3**
CHOS				*e*Sn	**Sb**	**02 05 40.0**	**+0.5**
CHOS				S	**Sg**	**02 05 40.9**	**+0.4**
BALY	**Balya**	**1.06**	**72**	*i* P	**Pb**	**02 05 25.7**	**-0.5**
BALY				*i* S	**Sb**	**02 05 39.6**	**-0.2**
BALY	**Balya**	**1.06**	**72**	*i* P	**Pb**	**02 05 25.7**	**-0.5**
BALY				*i* S	**Sb**	**02 05 39.6**	**-0.2**
URLA	**Izmir**	**1.09**	**168**	*i* P	**Pb**	**02 05 26.2**	**-0.4**
URLA				*i* S	**Sn**	**02 05 41.1**	**-0.2**
URLA	**Izmir**	**1.09**	**168**	*i* P	**Pb**	**02 05 26.2**	**-0.4**
URLA				*i* S	**Sn**	**02 05 41.1**	**-0.2**
BLCB	**Balcova**	**1.19**	**151**	*e*PN	**Pn**	**02 05 27.6**	**-0.4**
BLCB				*e*SN	**Sg**	**02 05 44.4**	**-0.3**
BLCB	**Balcova**	**1.19**	**151**	*e*Pn	**Pn**	**02 05 27.6**	**-0.4**
BLCB				*e*Sn	**Sg**	**02 05 44.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.23**	**38**	*e*PN	**Pn**	**02 05 28.2**	**-0.4**
KRBG	**Karabiga-Canak**	**1.23**	**38**	*e*Pn	**Pn**	**02 05 28.2**	**-0.4**
GONE	**Gonen-Balikesi**	**1.23**	**59**	*e*PN	**Pn**	**02 05 28.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.23**	**59**	*e*Pn	**Pn**	**02 05 28.6**	**0.0**
BALB	**Balikesir**	**1.24**	**80**	*e*PN	**Pn**	**02 05 28.6**	**-0.1**
BALB	**Balikesir**	**1.24**	**80**	*e*Pn	**Pn**	**02 05 28.6**	**-0.1**
IZM	**Izmir**	**1.27**	**144**	*e*PN	**Pn**	**02 05 29.0**	**-0.1**
IZM	**Izmir**	**1.27**	**144**	*e*Pn	**Pn**	**02 05 29.0**	**-0.1**
AKS	**Akhisar**	**1.29**	**114**	*e*PN	**Pn**	**02 05 29.4**	**0.0**
AKS	**Akhisar**	**1.29**	**114**	*e*Pn	**Pn**	**02 05 29.4**	**0.0**
AKHS	**Akhisar**	**1.30**	**114**	*i* P	**Pn**	**02 05 29.3**	**-0.2**
AKHS				*i* S	**Sg**	**02 05 47.9**	**-0.2**
AKHS	**Akhisar**	**1.30**	**114**	*i* P	**Pn**	**02 05 29.3**	**-0.2**
AKHS				*i* S	**Sg**	**02 05 47.9**	**-0.2**
ENEZ	**Enez**	**1.31**	**355**	*e*PN	**Pn**	**02 05 30.2**	**+0.5**
ENEZ	**Enez**	**1.31**	**355**	*e*Pn	**Pn**	**02 05 30.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.43**	**28**	*e*PN	**Pn**	**02 05 31.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.43**	**28**	*e*Pn	**Pn**	**02 05 31.2**	**-0.1**
SART	**Tekirdag**	**1.43**	**28**	*i* P	**Pn**	**02 05 31.4**	**0.0**
SART				*i* S	**Sb**	**02 05 50.5**	**+0.2**
SART	**Tekirdag**	**1.43**	**28**	*i* P	**Pn**	**02 05 31.4**	**0.0**
SART				*i* S	**Sb**	**02 05 50.5**	**+0.2**
ALN	**Alexandroupoli**	**1.48**	**352**	P	**Pn**	**02 05 32.3**	**+0.3**
ALN				S	**Sb**	**02 05 52.9**	**+1.1**
ALN	**Alexandroupoli**	**1.48**	**352**	*e*PN	**Pn**	**02 05 32.4**	**+0.6**
ALN				*e*SN	**Sb**	**02 05 53.2**	**+1.4**
ALN	**Alexandroupoli**	**1.48**	**352**	P	**Pn**	**02 05 32.3**	**+0.3**
ALN	**Alexandroupoli**	**1.48**	**352**	*e*Pn	**Pn**	**02 05 32.6**	**+0.6**
ALN				S	**Sb**	**02 05 52.9**	**+1.1**
ALN				*e*Sn	**Sb**	**02 05 53.2**	**+1.4**
BNT	**Bandirma**	**1.55**	**53**	*e*PN	**Pn**	**02 05 32.5**	**-0.5**
BNT	**Bandirma**	**1.55**	**53**	*e*Pn	**Pn**	**02 05 32.5**	**-0.5**
MFT	**Murefte**	**1.55**	**29**	*e*PN	**Pn**	**02 05 33.6**	**+0.5**
MFT	**Murefte**	**1.55**	**29**	*e*Pn	**Pn**	**02 05 33.6**	**+0.5**
DURS	**Dursunbey**	**1.69**	**83**	*i* P	**Pn**	**02 05 34.8**	**-0.1**
DURS	**Dursunbey**	**1.69**	**83**	*i* P	**Pn**	**02 05 34.8**	**-0.1**
DST	**Dursunbey**	**1.80**	**84**	*e*PN	**Pn**	**02 05 36.6**	**+0.2**
DST	**Dursunbey**	**1.80**	**84**	*e*Pn	**Pn**	**02 05 36.6**	**+0.2**
RDO	**Rodhopi**	**1.81**	**341**	P	**Pn**	**02 05 37.1**	**+0.5**
RDO				S	**Sn**	**02 05 59.5**	**+0.3**
RDO	**Rodhopi**	**1.81**	**341**	*e*PB	**Pn**	**02 05 37.1**	**+0.5**
RDO	**Rodhopi**	**1.81**	**341**	P	**Pn**	**02 05 37.1**	**+0.5**
RDO				S	**Sn**	**02 05 59.5**	**+0.3**
TKR	**Tekirdag**	**1.83**	**31**	*e*PN	**Pn**	**02 05 37.0**	**+0.3**
TKR	**Tekirdag**	**1.83**	**31**	*e*Pn	**Pn**	**02 05 37.0**	**+0.3**
GCAM	**G?zelcaml?**	**1.87**	**157**	*e*P	**Pn**	**02 05 37.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.87**	**157**	*e*P	**Pn**	**02 05 37.5**	**+0.2**
AOS	**Alonnisos**	**1.90**	**263**	P	**Pn**	**02 05 38.1**	**+0.3**
AOS				S	**Sn**	**02 06 00.8**	**-0.4**
AOS	**Alonnisos**	**1.90**	**263**	*e*PN	**Pn**	**02 05 38.0**	**+0.3**
AOS				*e*SN	**Sn**	**02 06 00.8**	**-0.4**
AOS	**Alonnisos**	**1.90**	**263**	*e*Pn	**Pn**	**02 05 38.0**	**+0.3**
AOS				S	**Sn**	**02 06 00.8**	**-0.4**
DEMI	**Demirci**	**1.91**	**101**	*i* P	**Pn**	**02 05 38.4**	**+0.4**
DEMI				*i* S	**Sn**	**02 06 01.9**	**+0.2**
DEMI	**Demirci**	**1.91**	**101**	*i* P	**Pn**	**02 05 38.4**	**+0.4**
DEMI				*i* S	**Sn**	**02 06 01.9**	**+0.2**
OUR	**Ouranopolis**	**2.00**	**298**	P	**Pn**	**02 05 39.7**	**+0.5**
OUR				S	**Sn**	**02 06 03.2**	**-0.6**
OUR	**Ouranopolis**	**2.00**	**298**	P	**Pn**	**02 05 39.7**	**+0.5**
OUR				S	**Sn**	**02 06 03.2**	**-0.6**
CRLT	**Corlu**	**2.02**	**32**	*e*PN	**Pn**	**02 05 39.8**	**+0.3**
CRLT	**Corlu**	**2.02**	**32**	*e*Pn	**Pn**	**02 05 39.8**	**+0.3**
MRMA	**Marmari**	**2.03**	**228**	P	**Pn**	**02 05 39.1**	**-0.5**
MRMA				S	**Sn**	**02 06 03.6**	**-0.9**
MRMA	**Marmari**	**2.03**	**228**	P	**Pn**	**02 05 39.1**	**-0.5**
MRMA				S	**Sn**	**02 06 03.6**	**-0.9**
KULA	**Kula-Manisa**	**2.05**	**116**	*e*PN	**Pn**	**02 05 40.0**	**+0.2**
KULA	**Kula-Manisa**	**2.05**	**116**	*e*Pn	**Pn**	**02 05 40.1**	**+0.2**
KAVA	**Kavala**	**2.08**	**319**	P	**Pn**	**02 05 41.0**	**+0.7**
KAVA				S	**Sn**	**02 06 05.0**	**-0.8**
KAVA	**Kavala**	**2.08**	**319**	P	**Pn**	**02 05 41.0**	**+0.7**
KAVA				S	**Sn**	**02 06 05.0**	**-0.8**
PAIG	**Paliouri**	**2.08**	**285**	P	**Pn**	**02 05 40.5**	**+0.2**
PAIG				S	**Sn**	**02 06 04.9**	**-0.9**
PAIG	**Paliouri**	**2.08**	**285**	P	**Pn**	**02 05 40.5**	**+0.2**
PAIG				S	**Sn**	**02 06 04.9**	**-0.9**
ORLT	**Orhaneli**	**2.09**	**72**	*e*PN	**Pn**	**02 05 41.1**	**+0.6**
ORLT	**Orhaneli**	**2.09**	**72**	*e*Pn	**Pn**	**02 05 41.1**	**+0.6**
AYDN	**Tasoluk**	**2.15**	**144**	*i* P	**Pn**	**02 05 41.2**	**-0.1**
AYDN	**Tasoluk**	**2.15**	**144**	*i* P	**Pn**	**02 05 41.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.20**	**64**	*e*PN	**Pn**	**02 05 42.4**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.20**	**64**	*e*Pn	**Pn**	**02 05 42.4**	**+0.5**
ARMT	**Armutlu**	**2.27**	**59**	*e*PN	**Pn**	**02 05 43.5**	**+0.6**
ARMT	**Armutlu**	**2.27**	**59**	*e*Pn	**Pn**	**02 05 43.5**	**+0.6**
SLVT	**Silivri**	**2.32**	**38**	*e*PN	**Pn**	**02 05 43.9**	**+0.4**
SLVT	**Silivri**	**2.32**	**38**	*e*Pn	**Pn**	**02 05 43.9**	**+0.4**
KDZ	**Kurdzhali**	**2.32**	**343**	*e*P	**Pn**	**02 05 44.6**	**+1.0**
KDZ				*i* S	**Sn**	**02 06 11.5**	**-0.2**
KDZ	**Kurdzhali**	**2.32**	**343**	*e*P	**Pn**	**02 05 44.6**	**+1.0**
KDZ				*i* S	**Sn**	**02 06 11.5**	**-0.2**
PTL	**Penteli**	**2.35**	**235**	P	**Pn**	**02 05 43.5**	**-0.5**
PTL	**Penteli**	**2.35**	**235**	*e*PN	**Pn**	**02 05 43.4**	**-0.5**
PTL	**Penteli**	**2.35**	**235**	P	**Pn**	**02 05 43.5**	**-0.5**
ELBA	**Catalca**	**2.37**	**43**	*e*P	**Pn**	**02 05 44.4**	**+0.2**
ELBA	**Catalca**	**2.37**	**43**	*e*P	**Pn**	**02 05 44.4**	**+0.2**
PLG	**Polygyros**	**2.39**	**294**	P	**Pn**	**02 05 45.0**	**+0.4**
PLG	**Polygyros**	**2.39**	**294**	*e*PB	**Pn**	**02 05 45.9**	**+1.3**
PLG	**Polygyros**	**2.39**	**294**	P	**Pn**	**02 05 45.0**	**+0.4**
XOR	**Xorichti**	**2.41**	**270**	P	**Pn**	**02 05 44.8**	**0.0**
XOR	**Xorichti**	**2.41**	**270**	P	**Pn**	**02 05 44.8**	**0.0**
MLSB	**Milas**	**2.42**	**151**	*e*PN	**Pn**	**02 05 45.5**	**+0.5**
MLSB	**Milas**	**2.42**	**151**	*e*Pn	**Pn**	**02 05 45.5**	**+0.5**
APE	**Apeiranthos**	**2.43**	**195**	*e*PN	**Pn**	**02 05 45.0**	**-0.1**
APE	**Apeiranthos**	**2.43**	**195**	*e*PN	**Pn**	**02 05 44.6**	**-0.5**
APE	**Apeiranthos**	**2.43**	**195**	*e*Pn	**Pn**	**02 05 45.0**	**-0.1**
GEMT	**Gemlik**	**2.44**	**65**	*e*PN	**Pn**	**02 05 45.8**	**+0.7**
GEMT	**Gemlik**	**2.44**	**65**	*e*Pn	**Pn**	**02 05 45.8**	**+0.7**
EDRB	**Edirne**	**2.44**	**8**	*e*PN	**Pn**	**02 05 45.8**	**+0.6**
EDRB	**Edirne**	**2.44**	**8**	*e*Pn	**Pn**	**02 05 45.8**	**+0.6**
TVSB	**Tavsanli**	**2.45**	**88**	*e*PN	**Pn**	**02 05 45.9**	**+0.5**
TVSB	**Tavsanli**	**2.45**	**88**	*e*Pn	**Pn**	**02 05 45.9**	**+0.5**
CTKS	**Kestanelik-??a**	**2.47**	**42**	*e*PN	**Pn**	**02 05 45.6**	**0.0**
CTKS	**Kestanelik-??a**	**2.47**	**42**	*e*Pn	**Pn**	**02 05 45.6**	**0.0**
ATH	**Athens Observa**	**2.49**	**235**	*e*PN	**Pn**	**02 05 46.0**	**+0.1**
ATH	**Athens Observa**	**2.49**	**235**	*e*Pn	**Pn**	**02 05 46.0**	**+0.1**
BODT	**Bodrum**	**2.49**	**161**	*e*PN	**Pn**	**02 05 46.2**	**+0.3**
BODT	**Bodrum**	**2.49**	**161**	*e*Pn	**Pn**	**02 05 46.2**	**+0.3**
GDZ	**Gediz**	**2.49**	**97**	*i* P	**Pn**	**02 05 46.6**	**+0.6**
GDZ	**Gediz**	**2.49**	**97**	*i* P	**Pn**	**02 05 46.6**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.55**	**36**	*e*PN	**Pn**	**02 05 47.4**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.55**	**36**	*e*Pn	**Pn**	**02 05 47.4**	**+0.8**
RZN	**Rozhen**	**2.56**	**332**	*i* P	**Pn**	**02 05 48.1**	**+1.1**
RZN				*i* S	**Sn**	**02 06 17.5**	**-0.4**
RZN	**Rozhen**	**2.56**	**332**	*i* P	**Pn**	**02 05 48.1**	**+1.1**
RZN				*i* S	**Sn**	**02 06 17.5**	**-0.4**
BGKT	**Bogazkoy**	**2.58**	**46**	*e*PN	**Pn**	**02 05 47.3**	**+0.3**
BGKT	**Bogazkoy**	**2.58**	**46**	*e*Pn	**Pn**	**02 05 47.3**	**+0.3**
YLV	**Yalova**	**2.62**	**63**	*e*PN	**Pn**	**02 05 47.4**	**-0.3**
YLV	**Yalova**	**2.62**	**63**	*e*Pn	**Pn**	**02 05 47.4**	**-0.3**
SOH	**Sokhos**	**2.66**	**303**	P	**Pn**	**02 05 49.0**	**+0.8**
SOH	**Sokhos**	**2.66**	**303**	P	**Pn**	**02 05 49.0**	**+0.8**
ISK	**Istanbul-Kandi**	**2.67**	**51**	*e*PN	**Pn**	**02 05 49.1**	**+0.8**
ISK	**Istanbul-Kandi**	**2.67**	**51**	*e*Pn	**Pn**	**02 05 49.1**	**+0.8**
SRS	**Serrai**	**2.67**	**310**	P	**Pn**	**02 05 49.1**	**+0.7**
SRS	**Serrai**	**2.67**	**310**	P	**Pn**	**02 05 49.1**	**+0.7**
NVR	**Nevrokopi**	**2.68**	**317**	*e*PN	**Pn**	**02 05 49.0**	**+0.5**
NVR	**Nevrokopi**	**2.68**	**317**	*e*Pn	**Pn**	**02 05 49.0**	**+0.5**
DIM	**Dimitrovgrad**	**2.69**	**348**	*e*P	**Pn**	**02 05 49.6**	**+1.0**
DIM				*i* S	**Sb**	**02 05 49.6**	**+1.9**
DIM	**Dimitrovgrad**	**2.69**	**348**	*e*P	**Pn**	**02 05 49.6**	**+1.0**
KHAL	**Karahalli**	**2.70**	**112**	*i* P	**Pn**	**02 05 49.6**	**+0.7**
KHAL	**Karahalli**	**2.70**	**112**	*i* P	**Pn**	**02 05 49.6**	**+0.7**
KHL	**Karahalli**	**2.74**	**113**	*e*PN	**Pn**	**02 05 50.2**	**+0.8**
KHL	**Karahalli**	**2.74**	**113**	*e*Pn	**Pn**	**02 05 50.2**	**+0.8**
NAIG	**Nisos Aigina**	**2.76**	**234**	*e*PN	**Pn**	**02 05 49.1**	**-0.5**
NAIG	**Nisos Aigina**	**2.76**	**234**	*e*Pn	**Pn**	**02 05 49.1**	**-0.5**
CAVI	**Cavuskoy**	**2.83**	**73**	*e*PN	**Pn**	**02 05 51.5**	**+0.9**
CAVI	**Cavuskoy**	**2.83**	**73**	*e*Pn	**Pn**	**02 05 51.5**	**+0.9**
MMB	**Musomiste**	**2.92**	**319**	*i* S	**Sn**	**02 06 25.6**	**-0.9**
MMB				*i* P	**Pn**	**02 05 52.8**	**+1.0**
MMB	**Musomiste**	**2.92**	**319**	*i* P	**Pn**	**02 05 52.8**	**+1.0**
MMB				*i* S	**Sn**	**02 06 25.6**	**-0.9**
HRT	**Hereke**	**2.93**	**61**	*e*PN	**Pn**	**02 05 52.9**	**+0.9**
HRT	**Hereke**	**2.93**	**61**	*e*Pn	**Pn**	**02 05 52.9**	**+0.9**
PLD	**Plovdiv**	**2.94**	**336**	P	**Pn**	**02 05 53.2**	**+1.2**
PLD	**Plovdiv**	**2.94**	**336**	*e*P	**Pn**	**02 05 53.2**	**+1.2**
PLD				*i* S	**Sg**	**02 06 37.8**	**-2.8**
PLD	**Plovdiv**	**2.94**	**336**	*e*P	**Pn**	**02 05 53.2**	**+1.2**
LTK	**Loutraki**	**2.96**	**243**	*e*PN	**Pn**	**02 05 52.7**	**+0.3**
LTK	**Loutraki**	**2.96**	**243**	*e*Pn	**Pn**	**02 05 52.7**	**+0.3**
ALT	**Altintas**	**2.98**	**96**	*e*PN	**Pn**	**02 05 53.5**	**+0.8**
ALT	**Altintas**	**2.98**	**96**	*e*Pn	**Pn**	**02 05 53.5**	**+0.8**
JMB	**Yambol**	**3.04**	**4**	*e*P	**Pg**	**02 06 04.7**	**+0.1**
JMB				*i* S	**Sg**	**02 06 41.6**	**-2.4**
DID	**Didima**	**3.08**	**232**	*e*PN	**Pn**	**02 05 53.5**	**-0.5**
DID	**Didima**	**3.08**	**232**	*e*Pn	**Pn**	**02 05 53.5**	**-0.5**
SILT	**Sile**	**3.08**	**55**	*e*PN	**Pn**	**02 05 54.9**	**+0.9**
SILT	**Sile**	**3.08**	**55**	*e*Pn	**Pn**	**02 05 54.9**	**+0.9**
AGG	**Agios Georgios**	**3.11**	**264**	*e*PN	**Pn**	**02 05 54.7**	**+0.2**
AGG	**Agios Georgios**	**3.11**	**264**	*e*Pn	**Pn**	**02 05 54.7**	**+0.2**
GPA	**Golpazari**	**3.20**	**73**	*e*PN	**Pn**	**02 05 56.3**	**+0.6**
GPA	**Golpazari**	**3.20**	**73**	*e*Pn	**Pn**	**02 05 56.3**	**+0.6**
THL	**Klokotos Trika**	**3.32**	**274**	*e*PN	**Pn**	**02 05 58.0**	**+0.7**
THL	**Klokotos Trika**	**3.32**	**274**	*e*Pn	**Pn**	**02 05 58.0**	**+0.7**
SPNC	**Sapanca-Adapaz**	**3.32**	**66**	*e*PN	**Pn**	**02 05 58.5**	**+1.2**
SPNC	**Sapanca-Adapaz**	**3.32**	**66**	*e*Pn	**Pn**	**02 05 58.5**	**+1.2**
GULT	**Gulveren**	**3.39**	**71**	*e*PN	**Pn**	**02 05 59.2**	**+0.9**
GULT	**Gulveren**	**3.39**	**71**	*e*Pn	**Pn**	**02 05 59.2**	**+0.9**
KALE	**Kalithea**	**3.41**	**254**	*e*PN	**Pn**	**02 05 59.1**	**+0.5**
KALE	**Kalithea**	**3.41**	**254**	*e*Pn	**Pn**	**02 05 59.1**	**+0.5**
SHUT	**Suhut-Afyon**	**3.42**	**103**	*e*PN	**Pn**	**02 05 59.6**	**+0.8**
SHUT	**Suhut-Afyon**	**3.42**	**103**	*e*Pn	**Pn**	**02 05 59.6**	**+0.8**
GUR	**Goura**	**3.44**	**246**	*e*PN	**Pn**	**02 05 58.9**	**-0.1**
GUR	**Goura**	**3.44**	**246**	*e*Pn	**Pn**	**02 05 58.9**	**-0.1**
KKB	**Krupnik**	**3.46**	**316**	*e*P	**Pg**	**02 06 12.4**	**0.0**
PGB	**Panagyurishte**	**3.52**	**333**	*e*P	**Pg**	**02 06 13.1**	**-0.4**
PGB				*i* S	**Sn**	**02 06 39.5**	**-1.7**
EVR	**Evrytania**	**3.53**	**263**	*e*PN	**Pn**	**02 06 01.6**	**+1.3**
EVR	**Evrytania**	**3.53**	**263**	*e*Pn	**Pn**	**02 06 01.6**	**+1.3**
LAKA	**Lakka**	**3.58**	**252**	*e*PN	**Pn**	**02 06 01.8**	**+0.9**
LAKA	**Lakka**	**3.58**	**252**	*e*Pn	**Pn**	**02 06 01.8**	**+0.9**
VLI	**Veliai**	**3.79**	**226**	*e*PN	**Pn**	**02 06 03.7**	**0.0**
VLI	**Veliai**	**3.79**	**226**	*e*Pn	**Pn**	**02 06 03.7**	**0.0**
SZH	**Strazhica**	**3.85**	**356**	*e*P	**Pn**	**02 06 05.6**	**+1.1**
SZH				*i* S	**Sn**	**02 06 49.2**	**-0.1**
SZH	**Strazhica**	**3.85**	**356**	*e*P	**Pn**	**02 06 05.6**	**+1.1**
SZH				*i* S	**Sn**	**02 06 49.2**	**-0.1**
PRD	**Provadia**	**3.86**	**12**	*i* S	**Sn**	**02 06 48.6**	**-1.0**
PRD	**Provadia**	**3.86**	**12**	*i* S	**Sn**	**02 06 48.6**	**-1.0**
ELL	**Elmali**	**3.90**	**132**	*e*PN	**Pn**	**02 06 06.3**	**+0.9**
ELL	**Elmali**	**3.90**	**132**	*e*Pn	**Pn**	**02 06 06.3**	**+0.9**
MDUB	**Mudurnu**	**3.90**	**73**	*e*PN	**Pn**	**02 06 06.7**	**+1.3**
MDUB	**Mudurnu**	**3.90**	**73**	*e*Pn	**Pn**	**02 06 06.7**	**+1.3**
VTS	**Vitosha**	**3.94**	**324**	*i* P	**Sn**	**02 06 52.0**	**+0.3**
VTS	**Vitosha**	**3.94**	**324**	*i* P	**Pn**	**02 06 07.6**	**+1.7**
VTS				*i* Sg	**Sg**	**02 07 11.0**	**-1.5**
VTS	**Vitosha**	**3.94**	**324**	*i* P	**Pn**	**02 06 07.6**	**+1.7**
VTS				*i* Sg	**Sg**	**02 07 11.0**	**-1.5**
SVRH	**Sivrihisar-ESK**	**4.04**	**88**	*e*PN	**Pn**	**02 06 08.6**	**+1.3**
SVRH	**Sivrihisar-ESK**	**4.04**	**88**	*e*Pn	**Pn**	**02 06 08.6**	**+1.3**
KIZT	**Kizilcal**	**4.37**	**95**	*e*PN	**Pn**	**02 06 13.3**	**+1.5**
KIZT	**Kizilcal**	**4.37**	**95**	*e*Pn	**Pn**	**02 06 13.3**	**+1.5**
MPEP	**Malo Peshtene**	**4.37**	**335**	*i* P	**Pn**	**02 06 13.3**	**+1.5**
MPEP				*i* S	**Sn**	**02 07 01.6**	**-0.7**
MPEP	**Malo Peshtene**	**4.37**	**335**	*i* P	**Pn**	**02 06 13.3**	**+1.5**
MPEP				*i* S	**Sn**	**02 07 01.6**	**-0.7**
TIRR	**Tirgusor**	**5.27**	**17**	∏ *i*P	**Pn**	**02 06 24.6**	**+0.6**
TIRR	**Tirgusor**	**5.27**	**17**	∏ *i*P	**Pn**	**02 06 24.6**	**+0.6**
ARR	**Arges**	**6.07**	**349**	∏ *i*P	**Pn**	**02 06 37.1**	**+2.1**
ARR	**Arges**	**6.07**	**349**	∏ *i*P	**Pn**	**02 06 37.1**	**+2.1**
MLR	**Muntele Rosu**	**6.07**	**358**	∐ *i*P	Pn	02 06 40.8	+5.7
VOIR		**6.08**	**352**	∏ *i*P	**Pn**	**02 06 36.9**	**+1.7**
VOIR		**6.08**	**352**	∏ *i*P	**Pn**	**02 06 36.9**	**+1.7**
PLOR	**Plostina**	**6.43**	**2**	∏ *i*P	Pn	02 06 43.6	+3.6
VRI	**Vrincioaia**	**6.45**	**3**	∏ *i*P	Pn	02 06 44.1	+3.9
BZS	**Buzias**	**7.09**	**332**	∏ *i*P	**Pn**	**02 06 49.9**	**+0.9**
BZS	**Buzias**	**7.09**	**332**	∏ *i*P	**Pn**	**02 06 49.9**	**+0.9**

*JMA **20** 02:07:15.8±0.3, 22˚.95N×122˚.66E, h55km, M2.6*

TAP 20 02:07:15.6, 22.94N×122.55E, h55km±1km, ML3.2, 2C, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=282	**1.10**	**278**	∏ *i*P	Pn	02 07 33.6	-1.1
CHKT				*e*S	Sn	02 07 46.1	-2.8
TWF1	**Yuli** baz=293	**1.22**	**290**	∏ *i*P	Pn	02 07 35.7	-0.7
EHY	**Hungye** baz=297	**1.26**	**297**	P	Pn	02 07 36.1	-0.7
EHY				*e*S	Sn	02 07 49.8	-3.0
LAY	**Lan-yu** baz=231	**1.29**	**226**	*e*P	Pn	02 07 37.6	+0.3
TWG	**Pinlang** baz=265	**1.36**	**265**	*e*P	Pn	02 07 38.3	0.0
TWG				*e*S	Sn	02 07 54.6	-0.8
ELDTW	**Lidau** baz=287	**1.43**	**280**	*i* P	Pn	02 07 38.7	-0.7
ELDTW				*e*S	Sn	02 07 56.1	-1.1
TWD	**Chiawan** baz=323	**1.43**	**323**	*e*P	Pn	02 07 38.7	-0.4
TWD				*e*S	Sn	02 07 55.5	-1.4
YOJ	**Yonaguni jima**	**1.57**	**16**	P	Pn	02 07 41.4	+0.3
HATJ	**Hateruma jima**	**1.60**	**46**	P	Pn	02 07 41.2	-0.3
HATJ				S	Sn	02 08 00.0	-1.1
EAST	**Anshuo** baz=259	**1.66**	**251**	*e*P	Pn	02 07 42.9	+0.5
EAST				*e*S	Sn	02 08 01.4	-1.3
WHF	**Hehuan Shan** baz=316	**1.68**	**316**	P	Pn	02 07 42.5	-0.6
WHF				*e*S	Sn	02 08 02.4	-1.6
ALS	**Alishan** baz=284	**1.70**	**290**

baz=61,SNR=4.4
MBWA Marble Bar 60.37 258 *e*P P 02 20 43.2 -1.1
comp=Z,17nm,1.2s
MORW Morawa 61.81 248 P P 02 20 53.8 -0.2
baz=62,SNR=4.2
KAPI Kappang 65.57 275 *e*P P 02 21 18.0 -1.0
comp=Z,4.2nm,0.8s
MJAR Matsushiro Arr 73.96 322 P P 02 22 09.3 -0.9
comp=Z,5.1nm,0.8s,baz=170,slow=5.7,SNR=9.1
MJAR Matsushiro Arr 73.96 322 P P 02 22 09.3 -0.9
MAJO Matsushiro 73.97 322 *e*P P 02 22 10.5 +0.3
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 73.97 322 *e*P P 02 22 10.4 +0.3
comp=Z,12nm,0.9s
MAT Matsushiro 73.97 322 P P 02 22 09.8 -0.4
MURC Murrieta 78.41 46 ⇓P P 02 22 35.7 +0.1
baz=79
BFSC Mount Baldy Ra 78.50 45 ⇓P P 02 22 36.4 +0.2
baz=79
MONP Monument Peak 78.50 47 ⇑P P 02 22 36.5 +0.1
baz=79
VES Vestal, Richgr 78.58 43 ⇓P P 02 22 36.7 +0.3
baz=79
EDW2 Edwards Air Fo 78.68 44 ⇑P P 02 22 37.4 +0.3
baz=79,SNR=6.6
ISA Isabella 78.85 44 *e*P P 02 22 39.1 +1.1
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella 78.85 44 *e*P P 02 22 39.1 +1.1
comp=Z,8.0nm,1.0s
ISA Isabella 78.85 44 ⇓P P 02 22 38.7 +0.6
baz=79
PFO Pinyon Flat Ob 78.91 46 ⇑P P 02 22 38.5 0.0
baz=79
SWSC Sam W. Stewart 78.95 47 ⇓P P 02 22 38.9 +0.3
baz=79
CMB Columbia Colle 79.17 41 *e*P P 02 22 40.2 +0.5
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 79.17 41 *e*P P 02 22 40.2 +0.5
comp=Z,9.9nm,1.1s
PETK Petropavlovsk- 79.39 343 P P 02 22 40.9 +0.5
comp=Z,13nm,0.9s,baz=116,slow=6.8,SNR=6.9
PETK LR LR 02 52 44.7
comp=Z,42nm,19.7s,baz=152,slow=32
PETK Petropavlovsk- 79.39 343 P P 02 22 40.9 +0.5
PETK Petropavlovsk- 79.39 343 P P 02 22 40.9 +0.5
BELC Belle Mtn. Jos 79.45 46 ⇓P P 02 22 41.6 +0.2
baz=80,SNR=5.3
BC3 Big Chuckawall 79.61 47 ⇓P P 02 22 42.8 +0.5
baz=80,SNR=5.3
GSC Goldstone 79.70 45 *e*P P 02 22 43.1 +0.4
GSC pmax pmax
comp=Z,7.0nm,1.1s
GSC Goldstone 79.70 45 *e*P P 02 22 43.1 +0.4
comp=Z,6.6nm,1.1s
GSC Goldstone 79.70 45 ⇑P P 02 22 42.9 +0.2
baz=80
MPMC Manual Prospec 79.72 44 ⇑P P 02 22 43.4 +0.5
baz=80,SNR=8.3
HEC Hector,Ludlow 79.73 45 ⇑P P 02 22 43.2 +0.4
baz=80
IRM Iron Mountain 80.11 47 ⇑P P 02 22 45.4 +0.5
baz=80,SNR=6.4
GMRC Granite Mounta 80.14 46 ⇑P P 02 22 45.4 +0.3
baz=80
Y12C Blythe 80.29 47 ⇑P P 02 22 46.3 +0.5
baz=81
TUQ Turquoise Moun 80.36 45 ⇓P P 02 22 46.6 +0.3
baz=81
WCN Washoe City 80.36 40 *e*P P 02 22 46.6 +0.3
WCN Washoe City 80.36 40 *e*P P 02 22 46.6 +0.3
GRAC Grapevine Rang 80.38 43 ⇑P P 02 22 47.0 +0.7
baz=81
SHOC Shoshone 80.40 45 ⇑P P 02 22 47.0 +0.6
baz=81
LDFC Landfair 80.68 46 *e*P P 02 22 48.9 +0.9
comp=Z,14nm,1.1s
NVAR Mina Array Bea 80.69 42 P P 02 22 48.6 +0.5
comp=Z,5.6nm,0.9s,baz=223,slow=8.6,SNR=29
NVAR Mina Array Bea 80.69 42 P P 02 22 48.6 +0.5
KSRS Korea Array 80.72 317 P P 02 22 49.2 +1.2
comp=Z,7.0nm,1.1s,baz=142,slow=5.6,SNR=9.2
HUMO Hull Mountain 80.73 36 *e*P P 02 22 49.0 +1.0
comp=Z,13nm,1.3s
KSAR Wonju Array Be 80.73 317 P P 02 22 49.2 +1.1
PDMCI Parker Dam,Lak 80.87 47 ⇑P P 02 22 49.5 +0.6
baz=81
Y14A Wickenburg 81.43 48 ⇑P P 02 22 52.4 +0.5
baz=82
W13A Hualapai Mount 81.50 46 ⇓P P 02 22 52.9 +0.4
baz=82
TUC Tucson 82.07 50 *e*P P 02 22 55.9 +0.5
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 82.07 50 *e*P P 02 22 55.9 +0.5
comp=Z,5.6nm,1.2s
R11A Troy Canyon, C 82.32 43 ⇓P P 02 22 57.0 +0.3
baz=83
BMN Battle Mountai 82.59 40 *e*P P 02 22 59.2 +1.2
BMN Battle Mountai 82.59 40 *e*P P 02 22 59.2 +1.2
319A Douglas 82.64 52 ⇓P P 02 22 58.9 +0.4
baz=83
USRK Ussuriysk Arra 82.67 324 P P 02 22 58.2 +0.2
comp=Z,8.1nm,1.1s,baz=116,slow=4.4,SNR=11
USRK pP pP 02 23 38.4 +30
comp=Z,8.0nm,1.1s,baz=116,slow=4.4,SNR=3.4
USRK LR LR 02 57 06.5
comp=Z,113nm,18.4s,baz=295,slow=34
X16A Lo Mia Camp, P 82.77 48 ⇓P P 02 22 59.8 +0.7
baz=83,SNR=9.0
320A Kipp Ranch, An 83.16 52 ⇓P P 02 23 01.8 +0.6
baz=83
CCUT Cedar City 83.27 45 *e*P P 02 23 01.0 -0.7
comp=Z,12nm,1.1s
WUAZ Wupatki 83.43 47 *e*P P 02 23 03.1 +0.6
comp=Z,2.4nm,0.5s
WUAZ Wupatki 83.43 47 ⇓P P 02 23 03.0 +0.6
baz=84
220A Playas Peak, P 83.46 52 ⇓P P 02 23 03.5 +0.8
baz=84,SNR=8.4
120A U Bar Ranch, L 83.73 51 ⇓P P 02 23 04.7 +0.6
baz=84
NJ2 Nanjing 83.77 308 *e*P P 02 23 05.6 +1.5
NJ2 pmax pmax
comp=Z,20nm,0.9s
X18A Snowflake 83.86 49 ⇓P P 02 23 05.3 +0.6
baz=84
ELK Elko 83.98 41 *e*P P 02 23 05.6 +0.3
comp=Z,8.6nm,1.1s
HABR Khabarovsk 84.05 329 *e*P P 02 23 03.5 -1.6
HABR *e**SP **sP** 02 23 17.9 -1.5
HABR *i* 02 28 18.9
HABR *e*S **SKSac** 02 33 23.0 -2.7
HABR *e*SS **SS** 02 38 54.3 -2.4
HABR *e*SSS SSS 02 42 24.4
HABR pmax pmax
comp=N,32nm,1.8s
HABR pmax pmax
comp=E,44nm,1.8s
HABR pmax pmax
comp=Z,45nm,1.8s
HABR MLR MLR
comp=Z,151nm,23.0s
Z20A Nine Sixteen R 84.06 50 ⇓P P 02 23 06.5 +0.8
baz=84,SNR=7.6
MDJ Mudanjiang 84.25 324 P P 02 23 08.3 +2.1
MDJ pmax pmax
comp=Z,9.0nm,1.4s
MDJ pmax pmax
comp=Z,140nm,4.7s
121A Cookes Peak, D 84.33 51 ⇓P P 02 23 08.0 +0.8
baz=85
MVU Marysvale 84.56 44 *e*P P 02 23 09.6 +1.2
comp=Z,9.7nm,1.1s
MSU Marysvale 84.59 44 *e*P P 02 23 09.7 +1.3
MSU Marysvale 84.59 44 *e*P P 02 23 09.7 +1.3
Y20A Horse Springs, 84.63 50 ⇑P P 02 23 09.8 +1.0
baz=85,SNR=11
Z21A St. Cloud Mine 84.81 51 ⇑P P 02 23 10.7 +1.0
baz=85,SNR=6.8
X20A Quemado 84.88 49 ⇓P P 02 23 10.9 +0.9
baz=85,SNR=7.2
HAWA Hanford 85.08 35 *e*P P 02 23 11.1 +0.7
P15A Leamington 85.12 43 ⇓P P 02 23 11.9 +0.9
baz=85
DUG Dugway 85.15 43 *e*P P 02 23 11.9 +0.8
DUG Dugway 85.15 43 *e*P P 02 23 11.9 +0.8
DUG Dugway 85.15 43 ⇓P P 02 23 11.8 +0.8
baz=85
Y21A Point of Rocks 85.18 50 ⇑P P 02 23 12.6 +1.1
baz=85,SNR=8.2
W20A Ramah 85.19 49 ⇓P P 02 23 12.6 +1.1
baz=85,SNR=16
MFID Camas Ranch 85.25 39 *e*P P 02 23 11.8 +0.3
comp=Z,9.0nm,1.1s
MFID Camas Ranch 85.25 39 ⇑P P 02 23 11.7 +0.2
baz=86
Z22A Elephant Butte 85.29 51 ⇓P P 02 23 12.7 +0.7
baz=86,SNR=7.7
BMO Blue Mountains 85.30 37 *e*P P 02 23 11.7 0.0
BMO Blue Mountains 85.30 37 *e*P P 02 23 11.7 0.0
X21A Alamocita Cree 85.33 50 ⇓P P 02 23 12.8 +0.6
baz=86,SNR=7.3
324A Moseley Ranch, 85.45 53 ⇑P P 02 23 12.9 +0.1
baz=86,SNR=7.5
Q16A Castle Valley 85.46 44 ⇑P P 02 23 13.5 +0.7
baz=86
425A Indio Mountain 85.49 54 ⇓P P 02 23 13.4 +0.4
baz=86,SNR=8.3
626A Big Bend Ranch 85.53 55 ⇓P P 02 23 13.4 +0.2
baz=86
SNAA Sanae 85.53 177 *e*P P 02 23 12.2 -0.3
comp=Z,4.3nm,1.0s
VNA3 Neumayer Olymp 85.55 175 *e*P P 02 23 12.2 -0.3
VNA3 Neumayer Olymp 85.55 175 *e*pP pP 02 23 21.8 -1.3
VNA3 Neumayer Olymp 85.55 175 *e*sP sP 02 23 33.6 +6.7
V20A Brimhall 85.57 48 ⇑P P 02 23 13.8 +0.5
baz=86
Y22A Socorro 85.64 50 ⇓P P 02 23 14.2 +0.5
baz=86
TMUT Trail Mountain 85.65 44 *e*P P 02 23 15.0 +1.1
N15A Stansbury Isla 85.73 42 ⇓P P 02 23 14.2 +0.2
baz=86
224A Cornudas Mount 85.74 53 ⇓P P 02 23 14.6 +0.3
baz=86
LAZ Ladron 85.76 50 *e*P P 02 23 14.9 +0.6
comp=Z,2.6nm,1.2s
TXAR Lajitas Array 85.78 56 P P 02 23 14.7 +0.2
comp=Z,5.5nm,1.0s,baz=210,slow=7.2,SNR=31
TXAR pP pP 02 23 55.0 +30
comp=Z,2.6nm,1.1s,baz=215,slow=8.5,SNR=2.8
TXAR Lajitas Array 85.78 56 P P 02 23 14.7 +0.2
TXAR pP pP 02 23 55.0 +30
325A Bean Ranch, Si 85.79 54 ⇑P P 02 23 14.6 +0.1
baz=86
526A Mary Lane Ranc 85.81 55 ⇓P P 02 23 14.8 +0.2
baz=86,SNR=20
Z23A Rita Site, Whi 85.82 51 ⇑P P 02 23 15.3 +0.7
baz=86
U20A Newcomb 85.84 48 ⇓P P 02 23 15.4 +0.7
baz=86
I12A Atlanta 85.88 39 ⇓P P 02 23 15.2 +0.5
baz=86
SRU San Rafael 85.99 45 *e*P P 02 23 15.9 +0.5
SRU San Rafael 85.99 45 *e*P P 02 23 15.8 +0.5
SRU San Rafael 85.99 45 ⇓P P 02 23 15.8 +0.4
baz=86
VNA2 Neumayer--Watz 86.02 176 *e*P P 02 23 15.0 +0.1
baz=168,slow=1.6
VNA2 Neumayer--Watz 86.02 176 *e*PcP PcP 02 23 18.3 +0.8
baz=168,slow=1.6
VNA2 Neumayer--Watz 86.02 176 *e*pP pP 02 23 26.5 +1.1
baz=168,slow=1.6
627A Terlingua Ranc 86.05 56 ⇑P P 02 23 15.9 +0.1
baz=86
P17A Butcher Ranch, 86.05 44 ⇓P P 02 23 16.2 +0.5
baz=86
LPM Los Pinos Moun 86.07 50 *e*P P 02 23 16.7 +0.8
CN2 Changchun 86.07 321 *e*P P 02 23 18.0 +2.6
CN2 *e*pP pP 02 23 29.0 +3.1
CN2 *e*S **S** 02 33 48.9 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,100nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
124A Stringfield Ra 86.10 52 ⇑P P 02 23 16.3 +0.2
baz=86,SNR=5.4
M15A Larsen Ranch, 86.10 42 ⇑P P 02 23 15.8 0.0
baz=86
426A McDonald Obser 86.15 55 ⇑P P 02 23 16.3 -0.1
baz=86,SNR=11
HLID Hailey 86.16 39 *e*P P 02 23 16.5 +0.4
comp=Z,14nm,2.2s
HLID Hailey 86.16 39 ⇓P P 02 23 16.3 +0.2
baz=86
J13A Cove Ranch, Pi 86.20 39 ⇓P P 02 23 16.5 +0.2
baz=86
527A Woodward Ranch 86.21 55 ⇑P P 02 23 16.3 -0.4
baz=86
DAU Daniels Canyon 86.25 43 *e*P P 02 23 16.6 -0.2
DAU pmax pmax
comp=Z,7.0nm,1.2s
DAU Daniels Canyon 86.25 43 *e*P P 02 23 16.6 -0.2
comp=Z,7.5nm,1.2s
225A Deer Hill, Car 86.27 53 ⇑P P 02 23 16.9 0.0
baz=86
Y23A Lovelace Mesa, 86.29 51 ⇑P P 02 23 17.1 +0.1
baz=86,SNR=5.4
GAMB Gambell 86.40 1 *e*P P 02 23 17.3 +0.8
comp=Z,15nm,1.2s
628A Black Gap, Mar 86.45 56 ⇓P P 02 23 17.7 +0.1
baz=87,SNR=11
L15A Malad City 86.45 41 ⇑P P 02 23 18.0 +0.5
baz=87
U21A Nageezi 86.45 48 ⇓P P 02 23 18.1 +0.3
baz=87
O17A Robinson Place 86.45 44 ⇓P P 02 23 18.1 +0.4
baz=87
P18A Preston Nutter 86.45 44 ⇓P P 02 23 17.9 +0.1
baz=87
IPM Ipoh 86.48 276 *e*P P 02 23 19.0 +0.9
comp=Z,8.2nm,0.5s
Z24A Sheeppen Canyo 86.48 52 ⇓P P 02 23 18.4 +0.4
baz=87
H12A Diamond D Ranc 86.49 38 ⇓P P 02 23 17.5 -0.2
baz=87
326A Caldwell Ranch 86.50 54 ⇓P P 02 23 18.0 0.0
baz=87
ANMO Albuquerque 86.52 50 *e*P P 02 23 18.6 +0.5
comp=Z,7.1nm,1.0s
M16A Huntsville 86.52 42 ⇑P P 02 23 18.2 +0.2
baz=87
J14A Carey 86.54 40 ⇓P P 02 23 18.3 +0.3
baz=87
G12A Big Creek, Yel 86.57 38 ⇓P P 02 23 18.3 +0.2
baz=87
GDL2 Guadalupe Moun 86.65 53 *e*P P 02 23 19.2 +0.5
125A Gardner Draw, 86.66 53 ⇓P P 02 23 18.9 +0.1
baz=87,SNR=5.6
427A Hayter Ranch, 86.71 55 ⇑P P 02 23 19.2 +0.2
baz=87,SNR=16
S20A Disappointment 86.72 47 ⇑P P 02 23 19.3 +0.2
baz=87
Q19A Hogan Spring (86.73 45 ⇑P P 02 23 19.0 +0.1
baz=87
Y24A Capitan 86.73 51 ⇑P P 02 23 19.5 +0.4
baz=87,SNR=16
N17A Moffit Pass 86.81 43 ⇑P P 02 23 19.5 0.0
baz=87
T21A Navajo Lake 86.83 48 ⇓P P 02 23 19.8 +0.2
baz=87
H13A Challis 86.84 39 ⇑P P 02 23 19.7 +0.3
baz=87
W23A Werner Place, 86.85 50 ⇓P P 02 23 19.9 +0.2
baz=87
Z25A Roswell 86.93 52 ⇓P P 02 23 20.5 +0.5
baz=87,SNR=6.9
I14A Mackay 86.93 39 ⇓P P 02 23 20.4 +0.5
baz=87
F12A Elk City 87.00 37 ⇑P P 02 23 19.9 -0.2
baz=87
S21A Coal Bank Pass 87.01 47 ⇓P P 02 23 20.5 0.0
baz=87
L16A Fish Haven 87.04 42 ⇑P P 02 23 20.2 -0.3
baz=87
X24A Lazy VL Ranch, 87.05 51 ⇑P P 02 23 20.6 -0.1
baz=87
V23A Ortiz Mt. (NFS 87.12 49 ⇓P P 02 23 21.3 +0.2
baz=87
126A Clayton Basin, 87.12 53 ⇑P P 02 23 20.8 -0.2
baz=87
G13A Cobalt 87.17 38 ⇓P P 02 23 20.7 -0.2
baz=87
428A Kincaid Ranch, 87.19 55 ⇑P P 02 23 21.3 0.0
baz=87
E12A Beaver Dam Sad 87.22 36 ⇓P P 02 23 21.5 +0.3
baz=88
J15A Blackfoot 87.23 40 ⇓P P 02 23 21.8 +0.5
baz=88
529A Stev Forest Ra 87.26 56 ⇓P P 02 23 21.3 -0.4
baz=88,SNR=7.8
Y25A Mesa, Roswell 87.26 51 ⇓P P 02 23 21.6 -0.1
baz=88,SNR=8.0
P19A Cripple Cowboy 87.28 45 ⇓P P 02 23 21.9 +0.2
baz=88
Q20A Ridgley Place, 87.36 46 ⇑P P 02 23 22.2 +0.2
baz=88
H14A Leadore 87.39 39 ⇑P P 02 23 22.5 +0.4
baz=88
W24A Lazy 6 Ranch, 87.40 50 ⇓P P 02 23 22.3 -0.1
baz=88
328A Wristen Ranch, 87.41 54 ⇑P P 02 23 22.2 -0.2
baz=88
U23A El Rito 87.42 49 ⇓P P 02 23 22.6 +0.2
baz=88
Z26A Caprock 87.46 52 ⇓P P 02 23 22.4 -0.2
baz=88,SNR=7.8
F13A Darby 87.53 37 ⇓P P 02 23 22.6 0.0
baz=88
O19A Miners Draw (B 87.54 44 ⇓P P 02 23 22.9 0.0
baz=88
R21A Cimarron 87.55 46 ⇑P P 02 23 23.3 +0.3
baz=88
M18A Lyman 87.56 43 ⇑P P 02 23 23.2 +0.2
baz=88
N18A Larsen Ranch, 87.56 43 ⇓P P 02 23 22.9 -0.1
baz=88
X25A Clemmons Ranch 87.58 51 ⇓P P 02 23 23.2 0.0
baz=88
127A Arkansas Junct 87.63 53 ⇓P P 02 23 23.2 -0.2
baz=88
J16A Bone 87.65 41 ⇑P P 02 23 23.3 0.0
baz=88
S22A 4UR Ranch, Cre 87.71 47 ⇑P P 02 23 24.1 +0.2
baz=88
C11A Tepee Creek (N 87.73 35 ⇑P P 02 23 23.7 +0.2
baz=88
D12A Red Ives Fores 87.73 36 ⇑P P 02 23 23.6 +0.1
baz=88
429A Davenport Ranc 87.74 55 ⇓P P 02 23 23.6 -0.3
baz=88,SNR=22
V24A Rampart Ranch, 87.75 50 ⇓P P 02 23 24.0 -0.1
baz=88
N19A John Jarvie Ra 87.83 44 ⇓P P 02 23 24.0 -0.3
baz=88
RRI2 Red Ridge 87.86 41 *e*P P 02 23 26.5 +2.0
530A J-C Ranch, Com 87.95 56 ⇓P P 02 23 24.6 -0.3
baz=88,SNR=6.3
O20A White River Ci 88.03 45 ⇓P P 02 23 25.1 -0.2
baz=88
C12B Naegeli Ranch, 88.06 35 ⇓P P 02 23 25.4 +0.3
baz=88
I16A Newdale 88.06 40 ⇓P P 02 23 25.4 +0.1
baz=88
W25A X Bar L Ranch, 88.07 50 ⇓P P 02 23 25.3 -0.2
baz=88
329A Wagon Wheel Ra 88.08 55 ⇓P P 02 23 25.1 -0.5
baz=88
REDW Red Top Meadow 88.15 41 *e*P P 02 23 26.2 +0.4
TPAW Teton Pass 88.17 41 *e*P P 02 23 27.1 +1.1
G15A Dillon 88.21 39 ⇑P P 02 23 26.0 0.0
baz=88
Q22A Crested Butte, 88.23 46 ⇑P P 02 23 26.2 -0.2
baz=88
J17A Brown Place, J 88.24 41 ⇑P P 02 23 26.0 -0.2
baz=88
D13A Huson 88.24 36 ⇑P P 02 23 26.0 +0.1
baz=88
K18A Tolteran Ranch, 88.25 42 ⇓P P 02 23 26.4 +0.1
baz=88
128A Castleberry Fa 88.25 53 ⇑P P 02 23 26.1 -0.2
baz=88
V25A Rancho No Teng 88.27 50 ⇑P P 02 23 26.4 -0.2
baz=88
TNA Tin City 88.31 3 *e*P P 02 23 26.9 +1.3
comp=Z,10nm,1.5s
732A Laxson Ranch, 88.35 58 ⇓P P 02 23 26.5 -0.3
baz=89
SMCO Snowmass 88.35 46 *e*P P 02 23 27.1 0.0
comp=Z,4.3nm,1.0s
Y27A Causey 88.35 52 ⇓P P 02 23 26.6 -0.3
baz=89
MSO Missoula 88.37 37 ⇓P P 02 23 26.1 -0.5
baz=89
L19A Farson 88.38 43 ⇑P P 02 23 26.8 -0.1
baz=89
N20A Spence Gulch, 88.38 44 ⇑P P 02 23 26.7 -0.3
baz=89
LOHW Long Hollow 88.44 41 *e*P P 02 23 27.9 +0.7
comp=Z,48nm,2.9s
531A Rocksprings 88.56 56 ⇑P P 02 23 27.6 -0.2
baz=89,SNR=10
J18A Kendall Valley 88.58 41 ⇓P P 02 23 27.5 -0.3
baz=89
T24A Torres, Weston 88.58 49 ⇑P P 02 23 27.7 -0.3
baz=89
BW06 Boulder Array 88.61 42 ⇑P P 02 23 27.2 -0.8
baz=89
PDAR Pinedale Array 88.61 42 P P 02 23 27.4 -0.6
comp=Z,1.7nm,0.9s,baz=218,slow=4.5,SNR=11
PDAR Pinedale Array 88.61 42 P P 02 23 27.4 -0.6
Z28A Tucker Farm, M 88.64 53 ⇓P P 02 23 27.2 -1.0
baz=89
U25A Circle Dot Ran 88.69 49 ⇓P P 02 23 28.2 -0.3
baz=89
A12A Yaak River Ran 88.72 34 ⇑P P 02 23 28.4 +0.3
baz=89
D14A Greenough 88.76 37 ⇑P P 02 23 28.1 -0.3
baz=89
M20A Sweetwater, Wa 88.78 44 ⇑P P 02 23 28.1 -0.8
baz=89
632A Uvalde 88.85 57 ⇓P P 02 23 29.0 -0.2
baz=89,SNR=8.3
L20A Wamsutter 88.96 43 ⇑P P 02 23 29.7 0.0
baz=89
BOZ Bozeman (W) 88.98 39 ⇑P P 02 23 29.7 +0.1
baz=89
532A Rocksprings 89.04 57 ⇓P P 02 23 29.8 -0.3
baz=89,SNR=8.1
R24A Sanders Place, 89.12 48 ⇓P P 02 23 30.3 -0.2
baz=89
Z29A Hungry Hill Ra 89.12 53 ⇑P P 02 23 30.2 -0.3
baz=89
O22A Kremmling 89.14 45 ⇓P P 02 23 30.2 -0.5
baz=89
U26A Atchley Ranch, 89.16 50 ⇓P P 02 23 30.2 -0.5
baz=89
331A San Angelo 89.18 55 ⇓P P 02 23 30.1 -0.6
baz=89
J19A Crowheart 89.19 42 ⇑P P 02 23 30.8 +0.2
baz=90
P23A Jefferson 89.21 46 ⇑P P 02 23 30.7 -0.3
baz=90
D15A Lincoln 89.28 37 ⇑P P 02 23 29.8 -1.1
baz=90
K20A Yellowstone Ra 89.31 43 ⇑P P 02 23 30.6 -0.6
baz=90
A13A Flathead Natio 89.37 35 ⇓P P 02 23 30.9 -0.3
baz=90
M21A Separation Pea 89.37 44 ⇓P P 02 23 30.8 -0.8
baz=90
SEY Seymchan 89.41 346 *e*P P 02 23 31.3 +0.4
432A Menard 89.46 56 ⇓P P 02 23 31.4 -0.7
baz=90
E16A East Helena 89.46 38 ⇑P P 02 23 31.3 -0.5
baz=90
N22A Wattenberg Ran 89.54 45 ⇑P P 02 23 31.8 -0.6
baz=90
231A Bronte 89.55 55 ⇓P P 02 23 31.8 -0.6
baz=90
B14A Marquette Ranc 89.64 36 ⇓P P 02 23 32.3 -0.3
baz=90
C15A Salmond Ranch, 89.66 37 ⇓P P 02 23 32.4 -0.2
baz=90

332A	**Millersview**	**89.73**	**56**	⇑P		**P**		**02 23 33.4**	**+0.2**
	baz=90								
M22A	**Cedar Creek Ra**	**89.75**	**44**	⇑P		**P**		**02 23 34.3**	**+0.9**
	baz=90								
D16A	**Dana Ranch, Ca**	**89.82**	**38**	⇑P		**P**		**02 23 34.6**	**+1.2**
	baz=90								
COLA	**College**	**89.90**	**11**	*e*P		**P**		**02 23 33.2**	**+0.1**
COLA				pmax		pmax			
	comp=Z,16nm,1.3s								
COLA	**College**	**89.90**	**11**	*e*P		**P**		**02 23 33.2**	**+0.1**
	comp=Z,16nm,1.3s								
A14A	**Double T Ranch**	**89.92**	**35**	⇓P		**P**		**02 23 33.6**	**-0.2**
	baz=90								
ILAR	**Eielson Array**	**89.98**	**12**	P		**P**		**02 23 33.6**	**0.0**
	comp=Z,3.9nm,1.0s,baz=216,slow=5.8,SNR=22								
ILAR	**Eielson Array**	**89.98**	**12**	P		**P**		**02 23 33.6**	**0.0**
K21A	**Alcova**	**89.98**	**43**	⇑P		**P**		**02 23 34.3**	**-0.1**
	baz=90								
B15A	**Bradely Ranch,**	**89.99**	**36**	⇑P		**P**		**02 23 33.8**	**-0.4**
	baz=90								
H19A	**Powell**	**90.00**	**41**	⇑P		**P**		**02 23 35.0**	**+0.7**
	baz=90								
G18A	**Lazy EL Ranch,**	**90.01**	**40**	⇓P		**P**		**02 23 35.1**	**+0.7**
	baz=90								
C16A	**Fuhringer Ranc**	**90.15**	**37**	⇓P		**P**		**02 23 34.5**	**-0.4**
	baz=90								
J21A	**Lysite**	**90.23**	**42**	⇓P		**P**		**02 23 35.9**	**+0.4**
	baz=90								
A15A	**Johnson Ranch,**	**90.29**	**36**	⇑P		**P**		**02 23 35.6**	**0.0**
	baz=91								
R26A	**Arlington**	**90.29**	**48**	⇓P		**P**		**02 23 35.9**	**+0.1**
	baz=90								
ABTX	**Abilene, Hawle**	**90.37**	**55**	⇑P		**P**		**02 23 36.4**	**+0.2**
	baz=91								
D17A	**Six Diamond Ra**	**90.37**	**38**	⇑P		**P**		**02 23 36.3**	**+0.3**
	baz=91								
K22A	**Casper**	**90.44**	**43**	⇓P		**P**		**02 23 36.5**	**0.0**
	baz=91								
E18A	**Harlowton**	**90.49**	**39**	⇓P		**P**		**02 23 37.5**	**+1.0**
	baz=91								
GYA	**Guiyang**	**90.50**	**298**	*e*P		**P**		**02 23 38.8**	**+1.7**
GYA				pP		**pP**		**02 23 48.0**	**+0.3**
GYA				sP		**sP**		**02 23 54.3**	**+2.8**
GYA				PP		**PP**		**02 27 15.3**	**+3.0**
GYA				SKS		**SKSac**		**02 34 05.9**	**-0.6**
GYA				S		**S**		**02 34 28.6**	**-1.8**
GYA				SS		**SS**		**02 40 33.0**	**+0.8**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,90nm,5.4s								
GYA				LR		LR			
	comp=N,390nm,20.3s								
GYA				LR		LR			
	comp=E,230nm,21.7s								
GYA				LR		LR			
	comp=Z,440nm,20.3s								
I21A	**Big Trails, Te**	**90.57**	**42**	⇑P		**P**		**02 23 37.3**	**+0.2**
	baz=91								
C17A	**Wharram Farm,**	**90.60**	**37**	⇓P		**P**		**02 23 37.1**	**+0.1**
	baz=91								
T28A	**Walsh**	**90.65**	**50**	⇓P		**P**		**02 23 37.4**	**-0.2**
	baz=91								
F19A	**Roth Farm, Mol**	**90.66**	**40**	⇑P		**P**		**02 23 37.7**	**+0.3**
	baz=91								
L23A	**Garrett**	**90.69**	**44**	⇑P		**P**		**02 23 37.8**	**+0.1**
	baz=91								
R27A	**Eads**	**90.73**	**48**	⇑P		**P**		**02 23 37.5**	**-0.3**
	baz=91								
A16A	**West Butte Ran**	**90.88**	**36**	⇑P		**P**		**02 23 38.3**	**0.0**
	baz=91								
E19A	**Rath Farm, Rou**	**91.08**	**39**	⇓P		**P**		**02 23 39.7**	**+0.4**
	baz=91								
A17A	**Triple J Farms**	**91.37**	**36**	⇓P		**P**		**02 23 40.5**	**-0.1**
	baz=92								
EGMT	**Eagleton**	**91.38**	**37**	*e*P		**P**		**02 23 41.3**	**+0.7**
EGMT	**Eagleton**	**91.38**	**37**	⇓P		**P**		**02 23 40.8**	**+0.2**
	baz=92								
C19A	**Slack Wire Ran**	**91.62**	**38**	⇑P		**P**		**02 23 42.3**	**+0.6**
	baz=92								
BILL	**Bilibino**	**91.74**	**353**	⇑*e*P		**P**		**02 23 41.6**	**-0.1**
BILL				*e*				02 27 17.7	
BILL				*e*S		S		02 34 14.8	-25
BILL				*e*SS		SS		02 40 39.9	-8.2
BILL				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BILL				MLR		MLR			
	comp=Z,600nm,18.0s								
D20A	**Manuel Ranch,**	**91.80**	**39**	⇓P		**P**		**02 23 43.4**	**+0.8**
	baz=92								
XAN	**Xi'an**	**92.03**	**306**	P		**P**		**02 23 45.5**	**+1.6**
XAN				pP		**pP**		**02 23 53.8**	**-0.7**
XAN				pmax		pmax			
	comp=Z,2.0nm,0.8s								
B19A	**Brinkman Farms**	**92.07**	**37**	⇓P		**P**		**02 23 44.0**	**+0.3**
	baz=92								
C20A	**Veseth Ranch,**	**92.21**	**38**	⇑P		**P**		**02 23 44.8**	**+0.4**
	baz=92								
A19A	**Klindworth Far**	**92.44**	**37**	⇓P		**P**		**02 23 45.8**	**+0.3**
	baz=93								
D21A	**La Casta Ranch**	**92.45**	**39**	⇓P		**P**		**02 23 46.6**	**+1.0**
	baz=93								
F23A	**Volborg**	**92.70**	**41**	⇓P		**P**		**02 23 47.1**	**+0.3**
	baz=93								
H24A	**Dirks Ranch, A**	**92.74**	**42**	⇓P		**P**		**02 23 47.2**	**+0.2**
	baz=93								
C21A	**Desert Coulee**	**92.79**	**39**	⇑P		**P**		**02 23 47.7**	**+0.6**
	baz=93								
A20A	**Cobblestone Ra**	**92.87**	**37**	⇓P		**P**		**02 23 47.7**	**+0.3**
	baz=93								
D22A	**Cohagen**	**92.97**	**39**	⇓P		**P**		**02 23 48.9**	**+1.0**
	baz=93								
F24A	**Ekalaka**	**93.35**	**41**	⇑P		**P**		**02 23 49.9**	**+0.2**
	baz=94								
C22A	**Vida**	**93.45**	**39**	⇑P		**P**		**02 23 50.5**	**+0.4**
	baz=94								
A21A	**Bergtoll Ranch**	**93.49**	**38**	⇓P		**P**		**02 23 50.6**	**+0.3**
	baz=94								
B22A	**Reddig Ranch S**	**93.66**	**39**	⇓P		**P**		**02 23 51.7**	**+0.6**
	baz=94								
E24A	**Baker**	**93.78**	**41**	⇓P		**P**		**02 23 52.7**	**+0.9**
	baz=94								
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P		**P**		**02 23 52.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=90,slow=4.5,SNR=4.6								
CMAR				pP		pP		02 24 33.0	+30
	comp=Z,0.8nm,0.3s,baz=129,slow=3.0,SNR=1.5								
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P		**P**		**02 23 52.4**	**-0.1**
CMAR				pP		pP		02 24 33.0	+30
C23A	**Lambert**	**93.88**	**39**	⇓P		**P**		**02 23 52.4**	**+0.3**
	baz=94								
D24A	**Glendive**	**94.05**	**40**	⇓P		**P**		**02 23 53.9**	**+0.9**
	baz=94								
A22A	**Carney Farms,**	**94.06**	**38**	⇑P		**P**		**02 23 52.9**	**0.0**
	baz=94								
C24A	**Savage**	**94.19**	**40**	⇑P		**P**		**02 23 54.3**	**+0.8**
	baz=94								
B23A	**Brockton**	**94.33**	**39**	⇑P		**P**		**02 23 54.5**	**+0.3**
	baz=95								
CD2	**Chengdu**	**94.67**	**301**	P		**P**		**02 23 56.8**	**+0.7**
CD2				pP		**pP**		**02 24 07.9**	**+1.2**
CD2				sP		**sP**		**02 24 12.0**	**+1.5**
CD2				PP		**PP**		**02 27 47.8**	**+2.9**
CD2				SKS		**SKSac**		**02 34 27.9**	**-1.4**
CD2				S		**S**		**02 35 04.3**	**-2.9**
CD2				sS		**sS**		**02 35 23.0**	**-1.9**
CD2				SS		**SS**		**02 41 32.4**	**+0.7**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,150nm,5.9s								
CD2				LR		LR			
	comp=N,160nm,6.5s								
CD2				LR		LR			
	comp=Z,360nm,8.9s								
TUL1	**Tulsa**	**94.67**	**53**	⇓P		**P**		**02 23 56.2**	**+0.2**
	baz=95								
DGMT	**Dagmar**	**94.79**	**39**	*e*P		**P**		**02 23 56.6**	**+0.4**
	comp=Z,16nm,1.0s								
DGMT	**Dagmar**	**94.79**	**39**	⇑P		**P**		**02 23 56.6**	**+0.4**
	baz=95								
A24A	**Westby**	**95.12**	**39**	⇓P		**P**		**02 23 58.3**	**+0.6**
	baz=95								
LZH	**Lanzhou**	**96.66**	**306**	*e*P		**P**		**02 24 04.5**	**-0.8**
LZH				pP		**pP**		**02 24 15.0**	**-0.9**
LZH				sP		**sP**		**02 24 18.5**	**-1.2**
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
ECSD	**EROS Data Cent**	**97.36**	**46**	*e*P		Pdif		02 24 08.1	0.0
YKA	**Yellowknife Ar**	**97.40**	**24**	P		**P**		**02 24 07.2**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=232,slow=4.0,SNR=12								
YKA	**Yellowknife Ar**	**97.40**	**24**	P		**P**		**02 24 07.2**	**-0.5**
SONM	**Songino Array**	**99.58**	**318**	P		**Pdif**		**02 24 17.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=90,slow=4.3,SNR=2.8								
SONM	**Songino Array**	**99.58**	**318**	P		**Pdif**		**02 24 17.4**	**-0.6**
GTA	**Gaotai**	**100.87**	**308**	*e*P		**Pdif**		**02 24 27.5**	**+3.5**
GTA				pP		pP		02 24 32.0	-2.7
GTA				pmax		pmax			
	comp=Z,2.0nm,1.4s								
MK31	**Makanchi Array**	**115.07**	**312**	*e*PKIKP		**PKPdf**		**02 29 15.3**	**-0.4**
MK31	**Makanchi Array**	**115.07**	**312**	*e*PKPdf		**PKPdf**		**02 29 15.3**	**-0.4**
MKAR	**Makanchi Array**	**115.07**	**312**	PKP		**PKPdf**		**02 29 13.5**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=297,slow=0.5,SNR=3.5								
MKAR	**Makanchi Array**	**115.07**	**312**	*c i*PKIKP		**PKPdf**		**02 29 16.2**	**+0.5**
MKAR	**Makanchi Array**	**115.07**	**312**	PKP		**PKPdf**		**02 29 13.5**	**-2.3**
KURK	**Kurchatov**	**117.83**	**316**	*e*PKIKP		**PKPdf**		**02 29 20.4**	**-0.4**
KURK	**Kurchatov**	**117.83**	**316**	*e*PKPdf		**PKPdf**		**02 29 20.4**	**-0.4**
KSH	**Kashi**	**118.78**	**304**	*e*PKP		**PKPdf**		**02 29 23.3**	**+0.1**
KSH				*es*PKP				02 29 38.6	
KSH				*e*PP		PP		02 30 47.5	+5.4
KSH				PKS		**PKSdf**		**02 32 59.1**	**-0.9**
KSH				SKS		**SKSdf**		**02 36 31.6**	**-1.4**
KSH				SKKS		**SKKSac**		**02 37 35.4**	**-4.4**
KSH				SS		**SS**		**02 47 02.5**	**+3.2**
KSH				AMB		AMB			
	comp=Z,81nm,5.4s								
KSH				LR		LR			
	comp=N,35nm,4.9s								
KSH				LR		LR			
	comp=E,54nm,5.3s								
KSH				LR		LR			
	comp=Z,160nm,6.1s								
BRVK	**Borovoye**	**122.95**	**319**	⇑*i*PKIKP		**PKPdf**		**02 29 29.4**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,7.0nm,2.5s								
BRVK	**Borovoye**	**122.95**	**319**	*e*PKPdf		**PKPdf**		**02 29 30.4**	**-0.3**
KBL	**Kabul**	**123.73**	**297**	*e*PKIKP		**PKPdf**		**02 29 33.5**	**+0.5**
KBL	**Kabul**	**123.73**	**297**	*e*PKPdf		**PKPdf**		**02 29 33.5**	**+0.5**
ARU	**Arti**	**128.91**	**325**	*i* PKIKP		**PKPdf**		**02 29 41.3**	**-0.6**
ARU	**Arti**	**128.91**	**325**	*e*PKPdf		**PKPdf**		**02 29 42.4**	**+0.5**
LSZ	**Lusaka**	**135.97**	**213**	*e*PKPdf		**PKPdf**		**02 29 57.3**	**+0.7**
KIV	**Kislovodsk**	**142.82**	**314**	*e*PKIKP		**PKPdf**		**02 30 07.9**	**-0.4**
KIV	**Kislovodsk**	**142.82**	**314**	*e*PKPdf		**PKPdf**		**02 30 07.8**	**-0.4**
SUW	**Suwalki**	**146.12**	**341**	*e*PKP		**PKPab**		**02 30 16.3**	**+1.2**
SUW	**Suwalki**	**146.12**	**341**	*e*PKP		**PKPab**		**02 30 16.3**	**+1.2**
MUD	**Monsted U'grnd**	**146.35**	**356**	*i* P		**PKPbc**		**02 30 15.1**	**+0.1**
	comp=Z,13nm,1.0s								
MUD				*i*				02 30 52.2	
AKASG	**Malin Array Be**	**146.57**	**332**	PKPbc		**PKPdf**		**02 30 14.9**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=42,slow=3.6,SNR=15								
AKASG				pPKPbc		pPKPbc		02 30 56.7	+30
	comp=Z,2.8nm,0.7s,baz=37,slow=4.2,SNR=2.8								
AKASG	**Malin Array Be**	**146.57**	**332**	PKP2		**PKPdf**		**02 30 15.0**	**+0.6**
AKASG	**Malin Array Be**	**146.57**	**332**	PKPbc		**PKPdf**		**02 30 14.9**	**+0.6**
AKASG				pPKPbc		pPKPbc		02 30 56.7	+30
KIEV	**Kiev**	**146.58**	**332**	*e*PKP2		**PKPdf**		**02 30 14.8**	**+0.4**
KIEV	**Kiev**	**146.58**	**332**	*e*PKPbc		**PKPdf**		**02 30 14.8**	**+0.4**
BSD	**Bornholm Skovb**	**147.02**	**350**	*i* P		PKPab		02 30 52.9	+34
	comp=Z,34nm,1.0s								
MALT	**Malatya**	**147.82**	**306**	⇑PKP2		**PKPab**		**02 30 21.4**	**-1.1**
MALT	**Malatya**	**147.82**	**306**	*e*PKPbc		**PKPbc**		**02 30 21.0**	**+1.0**
MALT	**Malatya**	**147.82**	**306**	⇑*i*P		**PKPab**		**02 30 21.4**	**-1.1**
LVV	**L'vov**	**149.35**	**336**	*e*PKP2		**PKPbc**		**02 30 23.2**	**-0.2**
KWP	**Kalwaria Pacla**	**150.00**	**337**	*e*PKP		**PKPbc**		**02 30 25.7**	**+0.7**
KWP	**Kalwaria Pacla**	**150.00**	**337**	⇓PKP2		**PKPbc**		**02 30 25.7**	**+0.7**
KWP	**Kalwaria Pacla**	**150.00**	**337**	*e*PKPbc		**PKPbc**		**02 30 25.2**	**+0.2**
KWP	**Kalwaria Pacla**	**150.00**	**337**	⇓*i*P		**PKPbc**		**02 30 25.7**	**+0.7**
KWP	**Kalwaria Pacla**	**150.00**	**337**	*e*PKP		**PKPbc**		**02 30 25.7**	**+0.7**
IBBN	**Ibbenburen**	**150.56**	**357**	*e*PKPbc		**PKPbc**		**02 30 26.8**	**+0.6**
ASF	**Jabal al Asfar**	**150.60**	**295**	PKPbc		**PKPbc**		**02 30 27.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=12,slow=5.7,SNR=3.8								
ASF	**Jabal al Asfar**	**150.60**	**295**	PKPbc		**PKPbc**		**02 30 27.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**150.61**	**332**	*e*PKPbc		**PKPbc**		**02 30 26.0**	**-0.6**
BR131	**Keskin Array S**	**150.72**	**312**	*e*PKPbc		**PKPbc**		**02 30 27.0**	**-0.2**
BRTR	**Keskin Array B**	**150.72**	**312**	PKPbc		**PKPbc**		**02 30 27.0**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=123,slow=2.1,SNR=10								
BRTR				pPKPbc		pPKPbc		02 31 08.8	+31
	comp=Z,1.8nm,0.9s,baz=132,slow=1.8,SNR=2.9								
BRTR	**Keskin Array B**	**150.72**	**312**	PKPbc		**PKPbc**		**02 30 27.0**	**-0.2**
BRTR				pPKPbc		pPKPbc		02 31 08.8	+31
KOLS	**Kolonicke sedl**	**150.74**	**337**	*e*PKIKP		**PKPbc**		**02 30 27.7**	**+0.9**
KOLS	**Kolonicke sedl**	**150.74**	**337**	*e*PKP		**PKPbc**		**02 30 27.7**	**+0.9**
KOLS				*e*				02 30 34.2	
KSP	**Ksiaz**	**150.81**	**346**	*e*PKP		**PKPbc**		**02 30 27.6**	**+0.7**
KSP	**Ksiaz**	**150.81**	**346**	*e*PKIKP		**PKPbc**		**02 30 27.5**	**+0.7**
KSP	**Ksiaz**	**150.81**	**346**	*e*PKP		**PKPbc**		**02 30 27.5**	**+0.7**
CLZ	**Clausthal**	**150.83**	**354**	*e*PKIKP		**PKPbc**		**02 30 27.7**	**+0.8**
CLZ	**Clausthal**	**150.83**	**354**	*e*PKPbc		**PKPbc**		**02 30 27.7**	**+0.8**
UZH	**Uzhgorod**	**150.98**	**336**	*e*PKIKP		**PKPbc**		**02 30 25.0**	**-1.8**
UZH				*e*				02 30 31.7	
UZH				*e*				02 30 42.1	
NIE	**Niedzica**	**150.99**	**340**	*e*PKIKP		**PKPbc**		**02 30 28.5**	**+1.1**
NIE	**Niedzica**	**150.99**	**340**	*e*PKP		**PKPbc**		**02 30 28.5**	**+1.1**
CFR	**Carcaliu**	**150.99**	**326**	⇑PKIKP		**PKPbc**		**02 30 27.6**	**+0.1**
CFR	**Carcaliu**	**150.99**	**326**	⇑*i*P		**PKPbc**		**02 30 27.6**	**+0.1**
CLL	**Collm**	**151.00**	**350**	⇑*i*PKIKP		**PKPbc**		**02 30 27.9**	**+0.6**
CLL				*e*				02 30 34.0	
CLL				pmax		pmax			
	comp=Z,1.0nm,1.0s								
CLL	**Collm**	**151.00**	**350**	*e*PKPbc		**PKPbc**		**02 30 27.9**	**+0.6**
CLL	**Collm**	**151.00**	**350**	⇑*i*PKPbc		**PKPbc**		**02 30 27.9**	**+0.6**
	comp=Z,20nm,1.0s								
CLL				*e*PKPab		**PKPab**		**02 30 34.0**	**-0.8**
CLL				*e*				02 31 07.0	
CRVS	**Cervenica-Dubn**	**151.05**	**338**	*e*PKIKP		**PKPbc**		**02 30 28.3**	**+0.8**
CRVS	**Cervenica-Dubn**	**151.05**	**338**	*e*PKP		**PKPbc**		**02 30 28.3**	**+0.8**
BRG	**Berggiesshubel**	**151.26**	**349**	*e*PKP		**PKPbc**		**02 30 28.4**	**+0.5**
	comp=Z,16nm,1.1s								
BRG				*e*				02 31 20.5	
	comp=Z,7.5nm,1.1s								
BRG	**Berggiesshubel**	**151.26**	**349**	*e*PKIKP		**PKPbc**		**02 30 28.4**	**+0.5**
BRG				pmax		pmax			
	comp=Z,16nm,1.1s								
BRG				pmax		pmax			
	comp=Z,8.0nm,1.1s								
BRG	**Berggiesshubel**	**151.26**	**349**	*e*PKPbc		**PKPbc**		**02 30 28.7**	**+0.8**
PLOR	**Plostina**	**151.28**	**328**	⇑*i*P		**PKPab**		**02 30 37.9**	**+1.7**
TRPA	**Tarpa**	**151.30**	**336**	⇑*i*P		PKPab		02 30 44.2	+8.1
BUG	**Bochum--Univer**	**151.45**	**357**	*e*PKPbc		**PKPbc**		**02 30 28.7**	**+0.4**
BUG				*e*PKPab		**PKPab**		**02 30 37.3**	**+0.7**
MORC	**Moravsky Berou**	**151.49**	**343**	⇑PKIKP		**PKPbc**		**02 30 29.2**	**+0.6**
MORC	**Moravsky Berou**	**151.49**	**343**	*e*PKPbc		**PKPbc**		**02 30 29.0**	**+0.4**
MORC	**Moravsky Berou**	**151.49**	**343**	⇑*i*P		**PKPbc**		**02 30 29.2**	**+0.6**
MMAI	**Mount Meron Ar**	**151.66**	**297**	PKPbc		**PKPbc**		**02 30 29.4**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=92,slow=5.8,SNR=3.8								
MMAI	**Mount Meron Ar**	**151.66**	**297**	PKPbc		**PKPbc**		**02 30 29.4**	**-0.1**
ISR	**Istrita**	**151.85**	**327**	⇓*i*P		**PKPab**		**02 30 40.0**	**+1.4**
MOX	**Moxa**	**151.85**	**351**	*e*PKIKP		**PKPbc**		**02 30 29.9**	**+0.6**
MOX	**Moxa**	**151.85**	**351**	*e*PKPbc		**PKPbc**		**02 30 29.9**	**+0.6**
MOX				*e*PKPab		**PKPab**		**02 30 38.7**	**+0.3**
MLR	**Muntele Rosu**	**151.88**	**328**	⇓*i*P		**PKPbc**		**02 30 29.5**	**-0.2**
VYHS	**Vyhne**	**152.27**	**340**	*e*PKIKP		**PKPbc**		**02 30 30.8**	**+0.5**
VYHS	**Vyhne**	**152.27**	**340**	*e*PKPbc		**PKPbc**		**02 30 30.8**	**+0.5**
DRGR		**152.33**	**334**	⇑PKIKP		**PKPbc**		**02 30 31.5**	**+0.9**
DRGR		**152.33**	**334**	⇑*i*P		**PKPbc**		**02 30 31.5**	**+0.9**
VOIR		**152.34**	**329**	⇓PKIKP		**PKPbc**		**02 30 29.0**	**-1.7**
VOIR		**152.34**	**329**	⇓*i*P		**PKPbc**		**02 30 29.0**	**-1.7**
VOIR		**152.34**	**329**	⇑*i*P		**PKPbc**		**02 30 32.2**	**+1.5**
PSZ	**Piszkesteto**	**152.43**	**339**	*e*PKPdf		**PKPdf**		**02 30 23.6**	**-0.3**
PSZ				*e*PKPbc		**PKiKP**		**02 30 31.4**	**+0.3**
PSZ				*e*PKPab		**PKPab**		**02 30 41.6**	**+0.6**
PSZ	**Piszkesteto**	**152.43**	**339**	⇓*i*P		**PKPab**		**02 30 42.5**	**+1.5**
ARR	**Arges**	**152.59**	**330**	⇓*i*P		**PKPbc**		**02 30 32.6**	**+1.4**
TNS	**Taunus Mts**	**152.60**	**356**	*e*PKPbc		**PKPbc**		**02 30 31.3**	**+0.2**
TNS				*e*PKPab		**PKPab**		**02 30 42.5**	**+0.9**
EIL	**Elat**	**152.64**	**291**	PKPbc		**PKPbc**		**02 30 31.9**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=8,0,slow=19,SNR=3.7								
EIL	**Elat**	**152.64**	**291**	PKPbc		**PKPbc**		**02 30 31.9**	**+0.1**
DOU	**Dourbes**	**152.83**	**1**	PKPbc		**PKPbc**		**02 30 32.0**	**+0.5**
KHC	**Kasperske Hory**	**153.00**	**348**	*e*PKIKP		**PKPbc**		**02 30 31.5**	**-0.5**
KHC	**Kasperske Hory**	**153.00**	**348**	⇑*e*PKP		**PKPbc**		**02 30 31.5**	**-0.5**
GERES	**GERESS Array B**	**153.25**	**348**	PKPbc		**PKPbc**		**02 30 32.7**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=29,slow=3.0,SNR=8.2								
GERES	**GERESS Array B**	**153.25**	**348**	PKPbc		**PKPbc**		**02 30 32.7**	**+0.1**
WLF	**Walferdange**	**153.26**	**359**	*e*PKPbc		**PKPbc**		**02 30 33.3**	**+0.8**
STU	**Stuttgart**	**153.98**	**354**	*e*PKPab		**PKPab**		**02 30 48.2**	**+0.8**
RJOB	**Jochberg**	**154.49**	**348**	*e*PKPbc		**PKPbc**		**02 30 36.1**	**+0.8**
DBIC	**Dimbokro**	**161.13**	**147**	PKP		**PKPdf**		**02 30 35.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=289,slow=5.6,SNR=3.2								
DBIC	**Dimbokro**	**161.13**	**147**	PKP		**PKPdf**		**02 30 35.0**	**-1.0**
ESDC	**Sonseca Array**	**161.49**	**23**	PKP		**PKPdf**		**02 30 35.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=337,slow=6.0,SNR=4.6								
ESDC				pPKP		**PKPab**		**02 31 18.9**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=331,slow=6.7,SNR=2.6								
ESDC	**Sonseca Array**	**161.49**	**23**	PKP		**PKPdf**		**02 30 35.8**	**+0.1**
ESDC				pPKP		**PKPab**		**02 31 18.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**169.72**	**160**	PKP		**PKPdf**		**02 30 41.4**	**-1.6**
	comp=Z,1.2nm,1.0s,baz=299,slow=1.2,SNR=5.8								
TORD				PKPab		**PKPab**		**02 31 56.2**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=240,slow=3.9,SNR=2.6								
TORD	**Torodi Ar. Bea**	**169.72**	**160**	PKP		**PKPdf**		**02 30 41.4**	**-1.6**
TORD				PKPab		**PKPab**		**02 31 56.2**	**-0.6**

GUC 20 02:11:34.6±0.6, 35°28S×71°39W, h109km±3km, MD3.4, ML3.8, 8C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.23**	**239**	⇑*i*P	Pn	02 11 50.0	+0.1
TALC				*i* S	Sn	02 12 01.5	0.0
TALC				AML	AML	02 12 02.0	
	comp=E,18μm,0.1s						
LNCH	**Linares**	**0.59**	**197**	⇑*i*P	Pn	02 11 51.5	-0.4
LNCH				*i* S	Sn	02 12 04.8	-0.2
LNV	**Longovilo**	**1.32**	**359**	⇑*i*P	Pn	02 12 00.4	+1.1
LNV				*i* S	Sn	02 12 19.4	+1.5
CACH	**El Canelo**	**1.33**	**30**	⇑*i*P	Pn	02 11 59.8	+0.2
CACH				*i* S	Sn	02 12 18.8	+0.4
COCH	**Cobquecura**	**1.42**	**233**	*e*P	Pn	02 12 00.6	+0.3
COCH				*i* S	Sn	02 12 19.8	0.0
CHCH	**Chadas Angostu**	**1.48**	**25**	⇑*i*P	Pn	02 12 01.4	+0.2
CHCH				*i* S	Sn	02 12 21.7	+0.4
TACH	**Talagante**	**1.67**	**13**	⇓*i*P	Pn	02 12 03.8	+0.3
TACH				*i* S	Sn	02 12 25.3	0.0
LMEL	**Las Melosas**	**1.73**	**35**	⇑*i*P	Pn	02 12 05.0	+0.5
LMEL				*e*S	Sn	02 12 27.9	+0.7
LMEL				AML	AML	02 12 30.4	
	comp=E,915nm,0.3s						
**ANT

KOPT	**Kop Dagi**	**1.48**	**159**	*i* P	**Pb**	**02 22 06.7**	**+0.4**
KOPT				*i* S	**Sn**	**02 22 23.5**	**-1.3**
KOPT	**Kop Dagi**	**1.48**	**159**	*i* P	**Pb**	**02 22 06.7**	**+0.4**
KOPT				*i* S	**Sn**	**02 22 23.5**	**-1.3**
KOPT	**Kop Dagi**	**1.48**	**159**	*i* P	**Pb**	**02 22 06.8**	**+0.5**
KOPT				*i* S	**Sg**	**02 22 26.5**	**+0.1**
DBAD	**Bademkaya**	**1.48**	**104**	*i* P	**Pn**	**02 22 04.7**	**-0.5**
DBAD				*i* S	Sn	02 22 12.7	-12
DBAD	**Bademkaya**	**1.48**	**104**	*i* P	**Pn**	**02 22 04.7**	**-0.5**
DBAD				*i* S	Sn	02 22 12.7	-12
DDEM	**Demirkent**	**1.56**	**108**	*i* P	**Pn**	**02 22 06.4**	**+0.1**
DDEM				*i* S	Sn	02 22 14.5	-12
DDEM	**Demirkent**	**1.56**	**108**	*i* P	**Pn**	**02 22 06.4**	**+0.1**
DDEM				*i* S	Sn	02 22 14.5	-12
ARTV	**Artvin**	**1.62**	**97**	*i* P	**Pn**	**02 22 07.0**	**-0.3**
ARTV				*i* S	Sn	02 22 14.8	-14
ARTV	**Artvin**	**1.62**	**97**	*i* P	**Pn**	**02 22 07.0**	**-0.3**
ARTV				*i* S	Sn	02 22 14.8	-14
DAGI	**Agillar**	**1.63**	**101**	*i* P	**Pn**	**02 22 06.8**	**-0.5**
DAGI				*i* S	Sn	02 22 15.1	-13
EZC	**Erzincan**	**1.68**	**192**	*e*Pn	**Pb**	**02 22 09.5**	**-0.1**
SUSE	**Susehri**	**1.70**	**226**	*i* P	**Pn**	**02 22 09.2**	**+1.0**
SUSE				*i* S	**Sn**	**02 22 30.3**	**+0.4**
SUSE	**Susehri**	**1.70**	**226**	*i* P	**Pn**	**02 22 09.2**	**+1.0**
SUSE				*i* S	**Sn**	**02 22 30.3**	**+0.4**
ERZN	**Erzincan**	**1.81**	**182**	*e*PN	**Pn**	**02 22 09.5**	**-0.3**
EZM	**Erzurum**	**1.91**	**141**	*e*PN	**Pn**	**02 22 11.3**	**0.0**
ERZM	**Erzurum**	**1.92**	**141**	*i* P	**Pb**	**02 22 14.6**	**+1.0**
ERZM	**Erzurum**	**1.92**	**141**	*i* P	**Pb**	**02 22 14.6**	**+1.0**
RSDY	**Resadiye-TOKAT**	**2.12**	**243**	*e*PN	**Pn**	**02 22 14.4**	**+0.5**
RSDY	**Resadiye-TOKAT**	**2.12**	**243**	*e*Pn	**Pn**	**02 22 14.4**	**+0.5**
ILIC	**ilic-Erzincan**	**2.16**	**206**	*e*PN	**Pn**	**02 22 13.7**	**-0.8**
ILIC	**ilic-Erzincan**	**2.16**	**206**	*e*Pn	**Pn**	**02 22 13.7**	**-0.8**
ERBA	**Erbaa**	**2.41**	**254**	*i* P	**Pn**	**02 22 18.7**	**+0.8**
ERBA				*i* S	**Sn**	**02 22 46.2**	**-1.0**
ERBA	**Erbaa**	**2.41**	**254**	*i* P	**Pn**	**02 22 18.7**	**+0.8**
ERBA				*i* S	**Sn**	**02 22 46.2**	**-1.0**
BNGB	**Bing¨ll**	**2.50**	**164**	*e*PN	**Pn**	**02 22 19.4**	**+0.2**
VRTB	**Varto-Mus**	**2.58**	**150**	*e*PN	**Pn**	**02 22 20.7**	**+0.5**
VRTB	**Varto-Mus**	**2.58**	**150**	*e*Pn	**Pn**	**02 22 20.7**	**+0.5**
BINT	**Bingol**	**2.58**	**168**	*e*Pn	**Pn**	**02 22 19.4**	**-0.9**
KVT	**Kavak**	**2.84**	**265**	*e*PN	**Pn**	**02 22 24.2**	**+0.4**
KVT	**Kavak**	**2.84**	**265**	*e*Pn	**Pn**	**02 22 24.3**	**+0.4**
DARE	**Darende-Malaty**	**2.88**	**213**	*e*PN	**Pb**	**02 22 30.0**	**0.0**
DARE	**Darende-Malaty**	**2.88**	**213**	*e*Pn	**Pb**	**02 22 30.0**	**0.0**
AGRB	**Hanur-Agry**	**3.05**	**126**	*e*PN	**Pn**	**02 22 27.1**	**+0.4**
AGRB	**Hanur-Agry**	**3.05**	**126**	*e*Pn	**Pn**	**02 22 27.1**	**+0.4**

IDC 20 02:29:21.2±1.8, 3°02N×128°35E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.7/5, Error ellipse: s-maj=89.2km s-min=24.5km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.16**	**187**	P	P	02 34 08.7	+0.5
	1.9nm,1.0s,baz=16,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**23.57**	**166**	P	P	02 34 33.4	-0.2
	3.2nm,0.6s,baz=345,slow=10,SNR=31						
ASAR	**Alice Springs**	**27.07**	**169**	P	P	02 35 05.0	-0.7
	0.4nm,0.7s,baz=356,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**36.92**	**161**	P	P	02 36 31.8	-0.2
	1.5nm,0.3s,baz=346,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**59.06**	**325**	P	P	02 39 23.6	+0.4
	0.1nm,0.4s,baz=119,slow=8.4,SNR=4.4						

IDC 20 02:33:41.9±5.0, 1°94S×138°88E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=205.3km s-min=30.5km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.43**	**194**	P	P	02 38 00.0	+0.9
	0.1nm,0.3s,baz=17,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**22.12**	**192**	P	P	02 38 39.2	0.0
	0.5nm,0.7s,baz=25,slow=10,SNR=4.7						
KSRS	**Korea Array**	**40.49**	**347**	LR	LR	02 55 51.5	
	comp=Z,62nm,19.1s,baz=145,slow=33						
MKAR	**Makanchi Array**	**69.29**	**322**	P	P	02 44 50.8	-0.3
	0.9nm,1.1s,baz=111,slow=6.6,SNR=3.8						

*IDC **20** 02:36:53.1±1.0, 1°34N×123°35E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=56.6km s-min=18.0km az=70.0*

*ISCJB **20** 02:36:57.5±0.8, 1°40N±0°07×123°14E±0°05, h39km, mb3.6/5, Error ellipse: s-maj=9.8km s-min=7.2km az=169.2*

*DJA **20** 02:36:58.1±0.6, 1°N±5°×123°3E±°, h24km, M4.6/9, mb4.8/7, mB5.0/4, MLv4.5/9, Mw(mB)4.3/4*

ISC 20 02:36:58.8±0.9, 1°45N±0°07×123°15E±0°05, h39km, n21, σ1°92/23, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.21**	**136**	P	Pn	**02 37 17.4**	**-1.7**
KMSI				S	**Sn**	**02 37 35.2**	**+1.0**
MRSI	**Marisa**	**1.54**	**231**	P	**Pn**	**02 37 22.1**	**-1.7**
MRSI				S	**Sn**	**02 37 41.7**	**-0.9**
MNI	**Manado**	**1.69**	**90**	P	**Pn**	**02 37 25.2**	**-0.7**
LUWI	**Luwuk**	**2.50**	**189**	P	**Pn**	**02 37 37.2**	**+0.2**
LUWI				S	**Sn**	**02 38 11.5**	**+5.2**
KDI	**Kendari**	**5.40**	**186**	P	**Pn**	**02 38 18.1**	**+1.3**
	136nm,1.3s,2μm0.5nm						
TTSI	**Tana Toraja**	**5.57**	**217**	P	**Pn**	**02 38 19.5**	**+0.4**
	321nm,1.0s,3μm1.0nm						
NLAI	**Namlea**	**6.11**	**140**	P	**Pn**	**02 38 27.6**	**+1.0**
	53nm,0.9s,0.3nm						
SPSI	**Sidrap Palu**	**6.35**	**212**	P	**Pn**	**02 38 31.1**	**+1.2**
	74nm,1.0s,757nm0.2nm						
KAPI	**Kappang**	**7.26**	**208**	Pn	**Pn**	**02 38 41.2**	**-1.2**
	1.7nm,0.3s,baz=42,slow=9.3,SNR=7.6						
KAPI				Sn	**Sn**	**02 40 01.3**	**-2.3**
	baz=240,slow=23,SNR=3.4						
KAPI	**Kappang**	**7.26**	**208**	P	**Pn**	**02 38 43.2**	**+0.8**
	35nm,1.0s,0.1nm						
BKSI	**Bulukumba**	**7.37**	**204**	P	**Pn**	**02 38 43.2**	**-0.7**
	37nm,1.2s,618nm0.1nm						
TBJI	**Tambak Boyo**	**13.95**	**234**	P	**P**	**02 40 22.6**	**+1.2**
JAY	**Jayapura**	**17.99**	**103**	P	P	02 41 17.0	+11
FITZ	**Fitzroy Crossi**	**19.58**	**173**	P	**P**	**02 41 21.2**	**-2.5**
	0.3nm,0.3s,baz=21,slow=9.3,SNR=22						
RGRI	**Rengat**	**20.89**	**265**	P	Pn	02 41 42.0	+1.4
WRA	**Warramunga Arr**	**23.93**	**153**	P	**P**	**02 42 06.7**	**-2.6**
	2.5nm,0.8s,baz=334,slow=9.5,SNR=20						
ASAR	**Alice Springs**	**27.07**	**158**	P	**P**	**02 42 36.8**	**-1.1**
	0.7nm,0.7s,baz=346,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**37.48**	**154**	P	**P**	**02 44 07.2**	**-1.6**
	1.2nm,0.6s,baz=324,slow=8.8,SNR=5.2						
SONM	**Songino Array**	**48.43**	**345**	P	**P**	**02 45 38.6**	**+1.2**
	0.3nm,0.6s,baz=157,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**57.47**	**328**	P	**P**	**02 46 46.1**	**+2.2**
	0.5nm,0.6s,baz=121,slow=9.0,SNR=9.4						
TORD	**Torodi Ar. Bea**	**120.16**	**286**	PKP	**PKPdf**	**02 55 45.6**	**-1.0**
	0.4nm,0.8s,baz=38,slow=2.6,SNR=2.6						

*IDC **20** 02:40:24.7±2.2, 61°.86N×152°.10W, h101km±25km, mb3.5/3, mb1 3.5/5, mb1mx3.2/27, mbtmp3.4/5, Error ellipse: s-maj=31.3km s-min=17.7km az=112.0*

*ISCJB **20** 02:40:25.1±0.3, 61°.79N±0°.02×151°.99W±0°.06, h127km±3km, mb3.7/4, Error ellipse: s-maj=4.8km s-min=3.7km az=30.3*

*NEIC **20** 02:40:27.5, 61°.78N×152°.00W, h111km, MG3.4(AEIC), After AEIC.*

ISC 20 02:40:26.2±0.8, 61°81N±0°03×152°00W±0°04, h121km±6km, n93, σ0°85/105, mb3.7/4, 1C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKT	**Skwentna**	**0.28**	**52**	P	**Pn**	**02 40 42.9**	**-0.2**
SKT				S	**Sn**	**02 40 55.0**	**-1.0**
STLK	**Strandline Lak**	**0.32**	**165**	P	**Pn**	**02 40 42.7**	**-0.7**
CGLM	**Capps Glacier**	**0.50**	**180**	P	**Pn**	**02 40 43.6**	**-0.8**
CRP	**Crater Peak**	**0.55**	**188**	P	**Pn**	**02 40 44.1**	**-0.7**
CRP				S	**Sn**	**02 40 57.7**	**-0.9**
BGL	**Barrier Glacie**	**0.58**	**199**	P	**Pn**	**02 40 44.3**	**-0.5**
SPBG	**Spurr Blockage**	**0.58**	**198**	P	**Pn**	**02 40 44.3**	**-0.6**
SPBG				S	**Sn**	**02 40 58.3**	**-0.6**
SPU	**Mount Spurr**	**0.63**	**182**	P	**Pn**	**02 40 44.2**	**-0.9**
SUA	**Susitna One**	**0.69**	**119**	P	**Pn**	**02 40 45.7**	**0.0**
SUA				S	**Sn**	**02 41 00.4**	**0.0**
BKG	**Blockade Glaci**	**0.75**	**190**	P	**Pn**	**02 40 45.4**	**-0.7**
TRAP	**Trapper Creek**	**0.98**	**57**	P	**Pn**	**02 40 48.6**	**+0.6**
CUT	**Chulitna**	**1.01**	**53**	P	**Pn**	**02 40 48.8**	**+0.5**
FIB	**Fire Island**	**1.09**	**126**	P	**Pn**	**02 40 49.8**	**+0.7**
FIB				S	**Sn**	**02 41 08.4**	**+2.0**
PPLA	**Purkeypile**	**1.09**	**356**	P	**Pn**	**02 40 49.6**	**+0.3**
PPLA				S	**Sn**	**02 41 07.2**	**+0.3**
NKA	**Nikishka**	**1.13**	**161**	P	**Pn**	**02 40 50.6**	**+1.0**
DFR	**Drift River**	**1.27**	**195**	P	**Pn**	**02 40 50.8**	**-0.3**
RC01	**Rabbit Creek A**	**1.31**	**123**	P	**Pn**	**02 40 50.7**	**-0.8**
RC01				S	**Sn**	**02 41 10.4**	**-0.2**
PMR	**Palmer**	**1.39**	**98**	P	**Pn**	**02 40 51.6**	**-0.6**
PMR				S	**Sn**	**02 41 11.8**	**-0.3**
RSO	**Redoubt South**	**1.40**	**195**	*e*Pn	**Pn**	**02 40 52.2**	**-0.5**
RSO				*e*Sn	**Sn**	**02 41 12.1**	**-0.7**
SLKM	**Skilak Lake**	**1.57**	**146**	P	**Pn**	**02 40 54.6**	**+0.2**
HUR	**Hurricane**	**1.61**	**42**	P	**Pn**	**02 40 55.4**	**+0.5**
SML	**Sawmill**	**1.74**	**88**	P	**Pn**	**02 40 56.1**	**-0.5**
TRF	**Thorofare Moun**	**1.83**	**25**	P	**Pn**	**02 40 57.6**	**-0.1**
INE	**Iliamna NE**	**1.83**	**197**	P	**Pn**	**02 40 56.6**	**-1.1**
ILW	**Iliamna West**	**1.84**	**198**	P	**Pn**	**02 40 57.7**	**-0.2**
ILS	**Iliamna Low So**	**1.93**	**196**	P	**Pn**	**02 40 58.9**	**0.0**
CHUM	**Lake Minchumin**	**2.08**	**356**	P	**Pn**	**02 41 01.1**	**+0.4**
SEW	**Seward**	**2.12**	**143**	P	**Pn**	**02 41 00.2**	**-0.9**
BRLK	**Bradley Lake**	**2.12**	**165**	P	**Pn**	**02 41 00.3**	**-0.9**
RND	**Reindeer**	**2.17**	**41**	P	**Pn**	**02 41 02.0**	**+0.3**
HOM	**Homer**	**2.17**	**175**	P	**Pn**	**02 41 01.4**	**-0.3**
TT01	**Tatalina**	**2.17**	**302**	P	**Pn**	**02 41 02.9**	**+0.1**
OPT	**Oil Point**	**2.25**	**196**	P	**Pn**	**02 41 02.9**	**+0.1**
DHY	**Denali Highway**	**2.50**	**57**	P	**Pn**	**02 41 06.3**	**+0.3**
AUP	**Augustine Pinn**	**2.55**	**197**	P	**Pn**	**02 41 06.8**	**0.0**
VLZ	**Valdez**	**2.81**	**102**	P	**Pn**	**02 41 09.2**	**-0.6**
KLU	**Klutina**	**2.92**	**94**	P	**Pn**	**02 41 10.8**	**-0.6**
DIV	**Divide**	**3.07**	**100**	P	**Pn**	**02 41 12.3**	**-1.1**
NEA	**Nenana**	**3.08**	**24**	P	**Pn**	**02 41 13.4**	**0.0**
WRH	**Wood River Hil**	**3.21**	**32**	P	**Pn**	**02 41 15.3**	**+0.2**
PAX	**Paxson**	**3.26**	**66**	P	**Pn**	**02 41 16.4**	**+0.6**
HARP	**HAARP**	**3.27**	**76**	P	**Pn**	**02 41 16.9**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.28**	**110**	P	**Pn**	**02 41 17.0**	**+0.8**
MLY	**Manley**	**3.28**	**9**	P	**Pn**	**02 41 16.4**	**+0.3**
CCB	**Clear Creek Bu**	**3.42**	**32**	P	**Pn**	**02 41 17.7**	**-0.2**
HDA	**Harding Lake**	**3.47**	**39**	P	**Pn**	**02 41 19.5**	**+0.9**
MDM	**Murphy Dome**	**3.59**	**27**	P	**Pn**	**02 41 20.3**	**+0.1**
COLA	**College**	**3.60**	**29**	P	**Pn**	**02 41 20.5**	**+0.2**
BMRM	**Bremner River**	**3.66**	**100**	P	**Pn**	**02 41 20.2**	**-1.0**
WASW	**Wrangell South**	**3.71**	**85**	P	**Pn**	**02 41 22.4**	**+0.6**
KAWH	**Katmai**	**3.71**	**203**	P	**Pn**	**02 41 21.6**	**-0.3**
GOAT	**Goat Mountain**	**3.73**	**106**	P	**Pn**	**02 41 21.0**	**-1.1**
IL1	**Eielson Array**	**3.76**	**36**	P	**Pn**	**02 41 22.4**	**-0.1**
ILAR	**Eielson Array**	**3.76**	**36**	P	**Pn**	**02 41 22.2**	**-0.3**
	7.7nm,0.3s,baz=221,slow=14,SNR=212						
ILAR				S	**Sn**	**02 42 03.3**	**-2.8**
	5.1nm,0.3s,baz=217,slow=19,SNR=6.7						
ILAR	**Eielson Array**	**3.76**	**36**	P	**Pn**	**02 41 22.2**	**-0.3**
ILAR				S	**Sn**	**02 42 03.3**	**-2.8**
KAKN	**Katmai Knife C**	**3.84**	**205**	P	**Pn**	**02 41 23.3**	**-0.4**
KELA	**Mount Kelaz**	**3.86**	**211**	P	**Pn**	**02 41 24.3**	**+0.4**
KCE	**Katmai Mt Cerb**	**3.92**	**205**	P	**Pn**	**02 41 24.9**	**+0.2**
KABR	**Katmai Barrier**	**3.98**	**205**	P	**Pn**	**02 41 25.8**	**+0.3**
MENT	**Mentasta**	**4.02**	**70**	*e*Pn	**Pn**	**02 41 26.3**	**+0.4**
KDAK	**Kodiak Island**	**4.05**	**184**	P	**Pn**	**02 41 24.5**	**-1.8**
	0.4nm,0.3s,baz=26,slow=11,SNR=3.8						
KDAK	**Kodiak Island**	**4.05**	**184**	*e*Pn	**Pn**	**02 41 25.2**	**-1.1**
DOT	**Dot Lake**	**4.09**	**60**	P	**Pn**	**02 41 27.5**	**+0.6**
VRDI	**Verde Repeater**	**4.14**	**94**	P	**Pn**	**02 41 26.9**	**-0.8**
IM3	**Indian Mountai**	**4.26**	**350**	P	**Pn**	**02 41 29.6**	**+0.5**
BERG	**Berg Lake**	**4.27**	**106**	P	**Pn**	**02 41 28.1**	**-1.2**
KHIT	**Khitrov Hills**	**4.46**	**104**	P	**Pn**	**02 41 32.0**	**+0.1**
BALM	**Baldy**	**4.70**	**95**	P	**Pn**	**02 41 35.6**	**+0.4**
PRP	**Porcupine Dome**	**4.71**	**35**	P	**Pn**	**02 41 36.2**	**+1.0**
KIAG	**Kiagna River**	**4.72**	**97**	P	**Pn**	**02 41 34.8**	**-0.7**
BARK	**Barkley Ridge**	**4.83**	**103**	P	**Pn**	**02 41 36.5**	**-0.3**
ISLE	**Juniper Island**	**4.83**	**100**	P	**Pn**	**02 41 37.3**	**+0.4**
BCA3	**Beaver Creek A**	**4.91**	**71**	P	**Pn**	**02 41 38.2**	**+0.4**
BAGL	**Bagley Icefiel**	**4.98**	**101**	P	**Pn**	**02 41 38.9**	**+0.1**
BARN	**Barnard Glacie**	**5.02**	**94**	P	**Pn**	**02 41 40.2**	**+0.7**
MESA	**MESA**	**5.16**	**104**	P	**Pn**	**02 41 41.0**	**-0.3**
TABL	**Table Mountain**	**5.44**	**100**	P	**Pn**	**02 41 44.8**	**-0.4**
COLD	**Coldfoot**	**5.50**	**7**	P	**Pn**	**02 41 46.1**	**+0.5**
EGAK	**Eagle**	**5.72**	**54**	*e*Pn	**Pn**	**02 41 48.4**	**-0.3**
	24nm,0.6s						
EGAK				*e*Sn	**Sn**	**02 42 49.4**	**-3.7**
ANNW	**Aniakchak Nort**	**5.80**	**216**	P	**Pn**	**02 41 50.5**	**+0.6**
DAWY	**Dawson**	**6.18**	**63**	P	**Pn**	**02 41 55.6**	**+0.6**
BM3	**Burnt Mountain**	**6.46**	**26**	P	**Pn**	**02 41 58.8**	**0.0**
HYT	**Haines Junctio**	**7.05**	**92**	P	**Pn**	**02 42 07.1**	**+0.3**
TNA	**Tin City**	**8.00**	**305**	*e*Pn	**Pn**	**02 42 21.1**	**+1.7**
	4.5nm,0.9s						
INK	**Inuvik**	**10.13**	**42**	*e*P	**Pn**	**02 42 48.4**	**+0.3**
	6.3nm,0.6s						
YKA	**Yellowknife Ar**	**17.33**	**71**	P	**Pn**	**02 44 21.2**	**+1.0**
	0.2nm,0.3s,baz=281,slow=12,SNR=12						
YKA	**Yellowknife Ar**	**17.33**	**71**	P	Pn	**02 44 21.2**	**+1.0**
ZALV	**Zalesovo Beam**	**56.20**	**323**	P	**P**	**02 49 53.1**	**+0.1**
	1.0nm,0.4s,baz=27,slow=7.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**56.20**	**323**	P	**P**	**02 49 53.1**	**+0.1**
MK31	**Makanchi Array**	**63.32**	**321**	⇓Pn	**P**	**02 50 41.0**	**-0.8**
	1.4nm,1.3s,baz=157,slow=15,SNR=6.7						
MK31				⇑Lg	Lg	02 51 40.6	
	0.8nm,0.7s,baz=166,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**63.32**	**321**	P	**P**	**02 50 42.0**	**+0.2**
	0.5nm,0.6s,baz=39,slow=6.0,SNR=6.7						
MKAR	**Makanchi Array**	**63.32**	**321**	P	**P**	**02 50 42.0**	**+0.2**
AKASG	**Malin Array Be**	**67.83**	**359**	P	**P**	**02 51 10.6**	**-0.1**
	0.2nm,0.3s,baz=358,slow=5.5,SNR=4.2						
AKASG	**Malin Array Be**	**67.83**	**359**	P	**P**	**02 51 10.6**	**-0.1**

*ISK **20** 02:43:50.5, 38°.93N×26°.42E, h8km, MD3.1*

*DDA **20** 02:43:50.6, 38°.97N×26°.45E, h7km, ML3.2*

*THE **20** 02:43:51.3, 38°.94N×26°.41E, h0km±1km, ML2.2/4, Error ellipse: s-maj=1.7km s-min=0.6km az=99.0*

*CSEM **20** 02:43:51.4±0.1, 38°.94N×26°.44E, h8km, ML2.2/4, Error ellipse: s-maj=2.8km s-min=2.0km az=69.0*

*ISCJB **20** 02:43:51.1±0.4, 38°.94N±0°.02×26°.44E±0°.04, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.0km az=152.0*

ISC 20 02:43:51.5±0.9, 38°.94N±0°.02×26°.44E±0°.03, h11km±9km, n57, σ0°43/86, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.33**	**338**	P	**Pg**	**02 43 58.0**	**-0.1**
PRK				S	**Sg**	**02 44 03.1**	**+0.5**
PRK	**Paraskevi**	**0.33**	**338**	P	**Pg**	**02 43 58.0**	**-0.1**
PRK				S	**Sg**	**02 44 03.1**	**+0.5**
AYVA	**Ayvalik**	**0.42**	**28**	*i* P	**Pg**	**02 43 59.3**	**-0.4**
AYVA				*i* S	**Sg**	**02 44 05.3**	**0.0**
AYVA	**Ayvalik**	**0.42**	**28**	*i* P	**Pg**	**02 43 59.3**	**-0.4**
AYVA				*i* S	**Sg**	**02 44 05.3**	**0.0**
SIGR	**SIGRI**	**0.53**	**301**	P	**Pg**	**02 44 01.8**	**+0.1**
SIGR				S	**Sg**	**02 44 09.3**	**+0.6**
SIGR	**SIGRI**	**0.53**	**301**	P	**Pg**	**02 44 01.8**	**+0.1**
SIGR				S	**Sg**	**02 44 09.3**	**+0.6**
URLA	**Izmir**	**0.59**	**168**	*i* P	**Pg**	**02 44 02.5**	**-0.5**
URLA				*i* S	**Sg**	**02 44 11.2**	**+0.4**
URLA	**Izmir**	**0.59**	**168**	*i* P	**Pg**	**02 44 02.5**	**-0.5**
URLA				*i* S	**Sg**	**02 44 11.2**	**+0.4**
CHOS	**Chios island**	**0.63**	**208**	P	**Pg**	**02 44 03.5**	**-0.1**
CHOS				S	**Sb**	**02 44 13.1**	**-0.2**
CHOS	**Chios island**	**0.63**	**208**	P	**Pg**	**02 44 03.5**	**-0.1**
CHOS				S	**Sb**	**02 44 13.1**	**-0.2**
BLCB	**Balcova**	**0.73**	**139**	*e*PG	**Pg**	**02 44 05.4**	**-0.2**
BLCB				*e*SG	**Sg**	**02 44 15.0**	**-0.1**
BLCB	**Balcova**	**0.73**	**139**	*e*Pg	**Pg**	**02 44 05.4**	**-0.2**
BLCB				*e*Sg	**Sg**	**02 44 15.0**	**-0.1**
IZM	**Izmir**	**0.84**	**130**	*e*PG	**Pg**	**02 44 07.5**	**-0.3**
IZM				*e*SG	**Sg**	**02 44 19.1**	**+0.3**
IZM	**Izmir**	**0.84**	**130**	*e*Pg	**Pg**	**02 44 07.5**	**-0.3**
IZM				*e*Sg	**Sg**	**02 44 19.1**	**+0.3**
EZN	**Ezine**	**0.89**	**355**	*e*PG	**Pg**	**02 44 08.4**	**-0.2**
EZN				*e*SG	**Sb**	**02 44 20.9**	**0.0**
EZN	**Ezine**	**0.89**	**355**	*e*Pg	**Pg**	**02 44 08.4**	**-0.2**
EZN				*e*Sg	**Sb**	**02 44 20.9**	**0.0**
BOZC	**Bozcaada**	**0.95**	**342**	*i* P	**Pg**	**02 44 09.6**	**-0.1**
BOZC				*i* S	**Sg**	**02 44 21.9**	**-0.2**
AKS	**Akhisar**	**1.08**	**93**	*e*PN	**Pb**	**02 44 11.9**	**-0.3**
AKS	**Akhisar**	**1.08**	**93**	*e*Pn	**Pb**	**02 44 11.9**	**-0.3**
AKHS	**Akhisar**	**1.08**	**93**	*i* P	**Pb**	**02 44 11.8**	**-0.4**
AKHS				*i* S	**Sb**	**02 44 26.7**	**+0.4**
AKHS	**Akhisar**	**1.08**	**93**	*i* P	**Pb**	**02 44 11.8**	**-0.4**
AKHS				*i* S	**Sb**	**02 44 26.7**	**+0.4**
BALY	**Balya**	**1.22**	**49**	*i* P	**Pn**	**02 44 14.5**	**-0.1**
BALY				*i* S	**Sn**	**02 44 31.8**	**+0.7**
BALY	**Balya**	**1.22**	**49**	*i* P	**Pn**	**02 44 14.5**	**-0.1**
BALY				*i* S	**Sn**	**02 44 31.8**	**+0.7**
BALB	**Balikesir**	**1.32**	**58**	*e*PN	**Pb**	**02 44 16.3**	**0.0**
BALB	**Balikesir**	**1.32**	**58**	*e*Pn	**Pb**	**02 44 16.3**	**0.0**
LPK	**Lapseki**	**1.45**	**10**	*e*PN	**Pn**	**02 44 17.9**	**+0.2**
LPK	**Lapseki**	**1.45**	**10**	*e*Pn	**Pn**	**02 44 17.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.46**	**1**	*e*PN	**Pn**	**02 44 17.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.46**	**1**	*e*Pn	**Pn**	**02 44 17.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.47**	**41**	*e*PN	**Pn**	**02 44 18.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.47**	**41**	*e*Pn	**Pn**	**02 44 18.1**	**+0.1**
KRBG	**Karabiga-Canak**	**1.60**	**24**	*e*PN	**Pn**	**02 44 19.0**	**-0.7**
KRBG	**Karabiga-Canak**	**1.60**	**24**	*e*Pn	**Pn**	**02 44 19.0**	**-0.7**
AYDN	**Tasoluk**	**1.71**	**138**	*e*P	**Pb**	**02 44 22.6**	**-0.4**
AYDN	**Tasoluk**	**1.71**	**138**	*e*P	**Pb**	**02 44 22.6**	**-0.4**
DURS	**Dursunbey**	**1.72**	**67**	*i* P	**Pn**	**02 44 20.9**	**-0.5**
DURS				*i* S	**Sn**	**02 44 43.1**	**-0.3**
DURS	**Dursunbey**	**1.72**	**67**	*i* P	**Pn**	**02 44 20.9**	**-0.5**
DURS				*i* S	**Sn**	**02 44 43.1**	**-0.3**
DEMI	**Demirci**	**1.78**	**86**	*i* P	**Pn**	**02 44 21.9**	**-0.4**
DEMI				*i* S	**Sb**	**02 44 47.0**	**+0.4**
DEMI	**Demirci**	**1.78**	**86**	*i* P	**Pn**	**02 44 21.9**	**-0.4**
DEMI				*i* S	**Sb**	**02 44 47.0**	**+0.4**
KULA	**Kula-Manisa**	**1.79**	**103**	*e*PN	**Pn**	**02 44 22.7**	**+0.2**
KULA	**Kula-Manisa**	**1.79**	**103**	*e*Pn	**Pn**	**02 44 22.7**	**+0.2**
ENEZ	**Enez**	**1.81**	**353**	*e*PN	**Pn**	**02 44 22.7**	**+0.1**
ENEZ	**Enez**	**1.81**	**353**	*e*Pn	**Pn**	**02 44 22.7**	**+0.1**
BNT	**Bandirma**	**1.82**	**39**	*e*PN	**Pn**	**02 44 23.2**	**+0.5**
BNT	**Bandirma**	**1.82**	**39**	*e*Pn	**Pn**	**02 44 23.3**	**+0.5**
DST	**Dursunbey**	**1.82**	**68**	*e*PN	**Pn**	**02 44 22.8**	**-0.1**
DST	**Dursunbey**	**1.82**	**68**	*e*Pn	**Pn**	**02

KURBB **Kurchatov Arra** 61.97 327 P P 03 48 43.6 -0.9
0.5nm,0.6s,baz=126,slow=5.5,SNR=4.4

IDC 20 03:41:16.0±4.5, 1°97S×139°14E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/12, Error ellipse: s-maj=197.4km s-min=24.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.47**	**194**	P		Pn	03 45 34.0	+0.5
	0.3nm,0.3s,baz=16,slow=12,SNR=7.6						
CTA	**Charters Tower**	**19.30**	**159**	LR		LR	03 53 55.0	
	comp=Z,88nm,18.4s,baz=216,slow=39						
ASAR	**Alice Springs**	**22.16**	**193**	P		P	03 46 13.3	-0.3
	0.8nm,0.5s,baz=23,slow=11,SNR=11						
SONM	**Songino Array**	**57.24**	**334**	P		P	03 51 05.4	+0.1
	0.2nm,0.6s,baz=134,slow=8.2,SNR=2.4						
MKAR	**Makanchi Array**	**69.47**	**322**	P		P	03 52 26.1	-0.2
	0.6nm,0.8s,baz=110,slow=7.0,SNR=4.9						

IDC 20 04:00:31.2±16.0, 5°66S×129°20E, h250km±182km, mb2.8/1, mb1 3.3/4, mb1mx3.0/19, mbtmp3.1/4, Error ellipse: s-maj=144.0km s-min=47.1km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.85**	**195**	P		Pn	04 03 24.9	-0.4
	0.4nm,0.3s,baz=22,slow=8.3,SNR=16						
WRA	**Warramunga Arr**	**15.05**	**161**	P		P	04 03 51.2	-0.5
	0.3nm,0.3s,baz=340,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**18.47**	**166**	P		P	04 04 29.1	+0.2
	1.2nm,0.3s,baz=348,slow=12,SNR=88						
MKAR	**Makanchi Array**	**66.68**	**327**	P		P	04 10 55.4	+0.1
	0.2nm,0.4s,baz=114,slow=7.9,SNR=5.0						

IDC 20 04:04:22.6±1.9, 23°67S×174°72W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.2/7, Error ellipse: s-maj=98.7km s-min=22.2km az=158.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.31**	**268**	P		P	04 11 28.5	+0.2
	7.3nm,0.8s,baz=85,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**46.83**	**259**	P		P	04 12 54.7	+0.1
	1.7nm,0.9s,baz=93,slow=7.7,SNR=8.9						
WRA	**Warramunga Arr**	**47.24**	**264**	P		P	04 12 57.2	-0.6
	1.9nm,0.4s,baz=91,slow=8.4,SNR=79						
NVAR	**Mina Array Bea**	**81.31**	**41**	P		P	04 16 41.2	+0.1
	0.9nm,0.7s,baz=221,slow=7.8,SNR=6.7						
USRK	**Ussuriysk Arra**	**83.28**	**325**	P		P	04 16 52.0	+1.0
	1.5nm,0.9s,baz=209,slow=3.5,SNR=4.8						
TXAR	**Lajitas Array**	**86.25**	**56**	P		P	04 17 07.0	+0.5
	2.2nm,1.1s,baz=213,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**90.76**	**12**	P		P	04 17 25.8	-1.2
	1.9nm,1.2s,baz=228,slow=3.4,SNR=6.1						
BRTR	**Keskin Array B**	**151.21**	**310**	PKPbc		PKPbc	04 24 17.5	-0.8
	0.8nm,1.0s,baz=90,slow=5.8,SNR=3.3						

*IDC **20** 04:23:08.8±0.7, 24°.16S×174°.24W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.5/20, mbtmp4.4/13, ML4.6/1, Error ellipse: s-maj=30.1km s-min=17.0km az=153.0*
*NEIC **20** 04:23:15.1±0.4, 23°.77S×174°.50W, h35km, mb4.5/9, Error ellipse: s-maj=14.4km s-min=7.5km az=165.0*
ISC 20 04:23:14.5±0.6, 24°.0S±0°.1×174°.5W±0°.1, h35km, n41, σ1s09/41, mb4.4/20, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**9.35**	**310**	*e*Pn	**Pn**	**04 25 25.2**	**-1.7**
	16nm,0.8s						
RAR	**Rarotonga**	**13.84**	**81**	Pn	Pn	04 26 22.1	-6.1
	3.0nm,0.3s,baz=270,slow=5.4,SNR=7.1						
RAR	**Rarotonga**	**13.84**	**81**	Pn	Pn	04 26 22.1	-6.1
CTA	**Charters Tower**	**36.55**	**268**	P	**P**	**04 30 17.7**	**+0.6**
	4.9nm,0.4s,baz=102,slow=11,SNR=7.9						
CTA	**Charters Tower**	**36.55**	**268**	P	**P**	**04 30 17.7**	**+0.6**
CTAO	**Charters Tower**	**36.55**	**268**	*e*P	**P**	**04 30 17.7**	**+0.6**
	6.4nm,0.5s						
PMG	**Port Moresby**	**39.36**	**285**	*e*P	**P**	**04 30 40.2**	**-0.6**
	53nm,1.2s						
STKA	**Stephens Creek**	**39.41**	**248**	P	**P**	**04 30 42.3**	**+1.1**
	0.4nm,0.3s,baz=112,slow=8.4,SNR=2.3						
STKA	**Stephens Creek**	**39.41**	**248**	P	**P**	**04 30 42.3**	**+1.1**
ASAR	**Alice Springs**	**47.02**	**259**	P	**P**	**04 31 44.1**	**+1.3**
	2.4nm,0.8s,baz=97,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**47.02**	**259**	P	**P**	**04 31 44.1**	**+1.3**
WRAB	**Tennant Creek**	**47.45**	**264**	*e*P	**P**	**04 31 46.6**	**+0.5**
	8.8nm,1.0s						
WRA	**Warramunga Arr**	**47.46**	**264**	P	**P**	**04 31 46.8**	**+0.6**
	3.2nm,0.5s,baz=102,slow=8.5,SNR=30						
WRA	**Warramunga Arr**	**47.46**	**264**	P	**P**	**04 31 46.8**	**+0.6**
VNDA	**Vanda**	**54.80**	**186**	P	**P**	**04 32 37.6**	**-2.8**
	3.1nm,0.3s,baz=108,slow=3.6,SNR=69						
VNDA	**Vanda**	**54.80**	**186**	P	**P**	**04 32 37.6**	**-2.8**
NVAR	**Mina Array Bea**	**81.36**	**41**	P	**P**	**04 35 28.1**	**+0.3**
	3.5nm,0.9s,baz=223,slow=9.5,SNR=20						
NVAR	**Mina Array Bea**	**81.36**	**41**	P	**P**	**04 35 28.1**	**+0.3**
KSRS	**Korea Array**	**81.64**	**317**	P	**P**	**04 35 29.1**	**+0.2**
	1.2nm,0.5s,baz=152,slow=5.7,SNR=5.1						
KSAR	**Wonju Array Be**	**81.66**	**317**	P	**P**	**04 35 29.1**	**0.0**
TUC	**Tucson**	**82.60**	**50**	*e*P	**P**	**04 35 35.1**	**+0.9**
	2.5nm,1.1s						
USRK	**Ussuriysk Arra**	**83.66**	**324**	P	**P**	**04 35 41.0**	**+1.7**
	3.4nm,0.8s,baz=76,slow=8.2,SNR=4.7						
CCUT	**Cedar City**	**83.89**	**44**	*e*P	**P**	**04 35 42.0**	**+1.0**
	2.9nm,1.0s						
SNAA	**Sanae**	**84.45**	**177**	*e*P	**P**	**04 35 43.5**	**+0.3**
	1.3nm,0.8s						
ELK	**Elko**	**84.65**	**41**	*e*P	**P**	**04 35 44.8**	**0.0**
TXAR	**Lajitas Array**	**86.21**	**56**	P	**P**	**04 35 54.1**	**+1.4**
	2.3nm,0.9s,baz=211,slow=6.8,SNR=18						
TXAR	**Lajitas Array**	**86.21**	**56**	P	**P**	**04 35 54.1**	**+1.4**
ANMO	**Albuquerque**	**87.06**	**50**	*e*P	**P**	**04 35 56.5**	**-0.4**
	3.0nm,1.1s						
PDAR	**Pinedale Array**	**89.28**	**42**	P	**P**	**04 36 07.1**	**-0.1**
	0.9nm,0.9s,baz=205,slow=3.1,SNR=5.8						
PDAR	**Pinedale Array**	**89.28**	**42**	P	**P**	**04 36 07.1**	**-0.1**
COLA	**College**	**90.91**	**11**	*e*P	**P**	**04 36 13.1**	**-0.9**
	3.3nm,0.9s						
ILAR	**Eielson Array**	**90.99**	**11**	P	**P**	**04 36 13.2**	**-1.2**
	1.3nm,0.9s,baz=214,slow=5.2,SNR=8.9						
ILAR	**Eielson Array**	**90.99**	**11**	P	**P**	**04 36 13.2**	**-1.2**
RSSD	**Black Hills**	**93.40**	**43**	*e*P	**P**	**04 36 26.9**	**+0.6**
	1.9nm,0.8s						
YKA	**Yellowknife Ar**	**98.30**	**24**	P	**P**	**04 36 47.0**	**-0.8**
	0.4nm,0.9s,baz=229,slow=3.9,SNR=7.2						
YKA	**Yellowknife Ar**	**98.30**	**24**	P	**P**	**04 36 47.0**	**-0.8**
AKASG	**Malin Array Be**	**147.61**	**332**	PKPbc	**PKPbc**	**04 42 55.0**	**0.0**
	0.2nm,0.3s,baz=38,slow=3.4,SNR=4.1						
AKASG	**Malin Array Be**	**147.61**	**332**	PKPbc	**PKPbc**	**04 42 55.0**	**0.0**
CLL	**Collm**	**152.10**	**350**	*e*PKPdf	**PKPdf**	**04 42 59.0**	**-0.3**
CLL				⇑*i*PKPbc	**PKiKP**	**04 43 07.2**	**+1.0**
	comp=Z,7.0nm,1.2s						
CLL				*e*PKPab	**PKPab**	**04 43 15.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**168.65**	**161**	PKP	**PKPdf**	**04 43 19.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=171,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**168.65**	**161**	PKP	**PKPdf**	**04 43 19.5**	**+1.0**

IDC 20 04:27:00.4±57.0, 22°.77S×175°.95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/19, mbtmp3.9/3, MS4.0/1, Ms1 4.0/1, ms1mx3.3/18, Error ellipse: s-maj=1055.0km s-min=177.7km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.60**	**247**	P	P	04 34 24.5	-0.8
	1.1nm,0.7s,baz=94,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**45.90**	**259**	P	P	04 35 25.2	+0.1
	1.1nm,0.8s,baz=92,slow=9.6,SNR=6.3						
WRA	**Warramunga Arr**	**46.22**	**264**	P	P	04 35 27.8	+0.1
	2.8nm,0.9s,baz=101,slow=8.1,SNR=9.8						
WRA				LR	LR	04 52 20.1	
	comp=Z,163nm,20.4s,baz=215,slow=33						

*IDC **20** 04:27:46.2±1.0, 33°.01S×15°.96W, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.9/21, mbtmp4.1/7, Error ellipse: s-maj=33.0km s-min=22.1km az=113.0*
*ISCJB **20** 04:27:46.1±0.9, 33°.0S±0°.2×15°.9W±0°.2, h10km, mb4.2/10, Error ellipse: s-maj=25.7km s-min=15.8km az=143.1*
*NEIC **20** 04:27:47.6±0.6, 33°.02S×15°.96W, h10km, mb4.4/4, Error ellipse: s-maj=20.6km s-min=13.8km az=143.0*
ISC 20 04:27:47.7±0.8, 33°.0S±0°.2×16°.0W±0°.2, h10km, n24, σ0s88/24, mb4.4/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**33.74**	**293**	P	**P**	**04 34 29.1**	**-0.5**
	3.7nm,0.9s,baz=121,slow=5.5,SNR=4.6						
BDFB	**Brasilia**	**33.74**	**293**	P	**P**	**04 34 29.1**	**-0.5**
DBIC	**Dimbokro**	**40.88**	**17**	P	**P**	**04 35 29.8**	**-0.1**
	5.8nm,0.7s,baz=168,slow=9.7,SNR=17						
DBIC	**Dimbokro**	**40.88**	**17**	*e*P	**P**	**04 35 29.6**	**-0.3**
	7.1nm,0.7s						
SIV	**San Ignacio**	**44.02**	**281**	P	**P**	**04 35 56.9**	**+1.1**
	1.6nm,0.8s,baz=116,slow=11,SNR=6.1						
SIV	**San Ignacio**	**44.02**	**281**	P	**P**	**04 35 56.9**	**+1.1**
TOA0	**Torodi Ar. Sit**	**48.93**	**23**	*e*P	**P**	**04 36 33.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**48.93**	**23**	P	**P**	**04 36 33.7**	**-0.4**
	4.2nm,0.8s,baz=201,slow=8.5,SNR=29						
TORD	**Torodi Ar. Bea**	**48.93**	**23**	P	**P**	**04 36 33.7**	**-0.4**
SAML	**Samuel**	**49.62**	**288**	*e*P	**P**	**04 36 40.9**	**+1.4**
	6.4nm,1.2s						
LPAZ	**La Paz**	**49.73**	**276**	*e*P	**P**	**04 36 40.5**	**-0.6**
	4.9nm,1.4s						
QSPA	**South Pole Qui**	**57.22**	**180**	P	**P**	**04 37 35.4**	**+0.5**
	4.0nm,0.6s,baz=212,slow=3.4,SNR=26						
QSPA	**South Pole Qui**	**57.22**	**180**	P	**P**	**04 37 35.4**	**+0.5**
TAM	**Tamanrasset**	**59.19**	**23**	*e*P	**P**	**04 37 50.1**	**+1.0**
	2.5nm,0.8s						
MDT	**Midelt**	**66.37**	**10**	P	**P**	**04 38 37.6**	**+0.9**
	2.3nm,1.2s,baz=214,slow=5.8,SNR=3.9						
MDT	**Midelt**	**66.37**	**10**	P	**P**	**04 38 37.6**	**+0.9**
ESDC	**Sonseca Array**	**73.19**	**10**	P	**P**	**04 39 18.7**	**+0.2**
	0.1nm,0.3s,baz=190,slow=5.6,SNR=3.8						
ESDC	**Sonseca Array**	**73.19**	**10**	P	**P**	**04 39 18.7**	**+0.2**
YKA	**Yellowknife Ar**	**122.60**	**327**	PKP	**PKPdf**	**04 46 41.6**	**-1.1**
	0.1nm,0.8s,baz=84,slow=1.8,SNR=3.7						
YKA	**Yellowknife Ar**	**122.60**	**327**	PKP	**PKPdf**	**04 46 41.6**	**-1.1**
ULN	**Ulaanbaatar**	**135.20**	**53**	*e*PKPdf	**PKPdf**	**04 47 07.6**	**+0.2**
ILAR	**Eielson Array**	**136.54**	**332**	PKP	**PKPdf**	**04 47 07.6**	**-1.5**
	0.6nm,0.8s,baz=12,slow=0.9,SNR=4.5						
ILAR	**Eielson Array**	**136.54**	**332**	PKP	**PKPdf**	**04 47 07.6**	**-1.5**
BILL	**Bilibino**	**144.92**	**359**	*e*PKPdf	**PKPdf**	**04 47 24.1**	**0.0**

*TAP **20** 04:31:50.4, 24°.40N×122°.50E, h75km, ML3.7, C*
*ISCJB **20** 04:31:50.8±0.5, 24°.37N±0°.03×122°.53E±0°.02, h63km±8km, Error ellipse: s-maj=5.0km s-min=2.8km az=175.0*
*JMA **20** 04:31:51.1±0.2, 24°.57N×122°.59E, h71km±1km, M3.0*
ISC 20 04:31:51.3±1.3, 24°.37N±0°.04×122°.53E±0°.02, h60km±12km, n48, σ0s87/85, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.45**	**78**	P	**Pn**	**04 32 03.1**	**+0.3**
YOJ				S	**Sn**	**04 32 11.9**	**+0.8**
TWC	**Suao**	**0.66**	**291**	*i* P	**Pn**	**04 32 04.8**	**-0.3**
	baz=294						
TWC				S	**Sn**	**04 32 15.1**	**-0.1**
	baz=294						
ENA	**Nanau**	**0.72**	**275**	P	**Pn**	**04 32 05.5**	**-0.3**
	baz=272						
ENA				*e*S	**Sn**	**04 32 16.4**	**0.0**
	baz=272						
TWB1	**Santiao Chiao**	**0.80**	**323**	*e*P	**Pn**	**04 32 06.5**	**-0.3**
	baz=324						
TWB1				*e*S	**Sn**	**04 32 17.7**	**-0.4**
	baz=324						
ILA	**Ilan**	**0.81**	**299**	S	**Sn**	**04 32 18.7**	**+0.3**
	baz=297						
TWE	**Neicheng**	**0.86**	**294**	P	**Pn**	**04 32 07.3**	**-0.2**
	baz=297						
TWE				*e*S	**Sn**	**04 32 19.7**	**+0.3**
	baz=297						
TWD	**Chiawan**	**0.90**	**251**	P	**Pn**	**04 32 07.7**	**-0.4**
	baz=241						
TWD				S	**Sn**	**04 32 20.1**	**-0.2**
	baz=241						
ENTT	**Nioudou**	**0.91**	**287**	P	**Pn**	**04 32 08.5**	**+0.2**
	baz=290						
ENTT				*i* S	**Sn**	**04 32 21.4**	**+0.6**
	baz=290						
HWA	**Hwalien**	**0.93**	**245**	*e*P	**Pn**	**04 32 08.2**	**-0.2**
	baz=242						
HWA				*e*S	**Sn**	**04 32 21.4**	**+0.3**
	baz=242						
NWF	**Wu-fen Shan**	**0.97**	**316**	P	**Pn**	**04 32 08.6**	**-0.5**
	baz=308						
NWF				S	**Sn**	**04 32 21.5**	**-0.7**
	baz=308						
NNS	**Nan Shan**	**1.05**	**274**	P	**Pn**	**04 32 09.8**	**-0.4**
	baz=271						
NNS				S	**Sn**	**04 32 24.1**	**0.0**
	baz=271						
IRIF	**Iriomote-Funau**	**1.10**	**92**	P	**Pn**	**04 32 10.4**	**-0.3**
IRIF				S	**Sn**	**04 32 25.1**	**+0.1**
NSK	**Sanguang**	**1.11**	**286**	⇑*i* P	**Pn**	**04 32 10.7**	**-0.1**
	baz=277						
NSK				S	**Sn**	**04 32 25.2**	**-0.1**
	baz=277						
WHF	**Hehuan Shan**	**1.17**	**259**	⇑*i* P	**Pn**	**04 32 11.6**	**-0.4**
	baz=257						
WHF				S	**Sn**	**04 32 26.7**	**-0.7**
	baz=257						
HATJ	**Hateruma jima**	**1.21**	**105**	P	**Pn**	**04 32 12.7**	**+0.6**
HATJ				*e*S	**Sn**	**04 32 29.1**	**+1.5**
TWY	**Chenhua**	**1.23**	**317**	*e*P	**Pn**	**04 32 12.1**	**-0.4**
	baz=316						
TWY				*e*S	**Sn**	**04 32 28.0**	**-0.1**
	baz=316						
TWT	**Tachien**	**1.24**	**265**	P	**Pn**	**04 32 13.0**	**+0.4**
	baz=257						
TWT				S	**Sn**	**04 32 28.8**	**+0.3**
	baz=257						
TWS1	**Kuangyinshan**	**1.24**	**306**	P	**Pn**	**04 32 11.9**	**-0.7**
	baz=305						
TWS1				*e*S	**Sn**	**04 32 27.8**	**-0.6**
	baz=305						
JKRS	**Kuro-shima**	**1.36**	**95**	P	**Pn**	**04 32 14.4**	**+0.3**
JKRS				S	**Sn**	**04 32 31.7**	**+0.5**
EHY	**Hungye**	**1.40**	**232**	*e*P	**Pn**	**04 32 13.8**	**-0.8**
	baz=240						
NSTT	**Nanjuang**	**1.41**	**281**	P	**Pn**	**04 32 14.8**	**0.0**
	baz=279						
NSTT				*e*S	**Sn**	**04 32 32.6**	**+0.1**
	baz=279						
JIJ	**Ishigaki jima**	**1.48**	**90**	P	**Pn**	**04 32 15.3**	**-0.4**
JIJ				S	**Sn**	**04 32 33.1**	**-0.9**
TWF1	**Yuli**	**1.51**	**228**	⇑*i* P	**Pn**	**04 32 15.6**	**-0.6**
	baz=236						
TWF1				*e*S	**Sn**	**04 32 33.8**	**-1.2**
	baz=236						
SMLT	**Sun Moon Lake**	**1.56**	**252**	P	**Pn**	**04 32 17.1**	**+0.2**
	baz=245						
SMLT				*e*S	**Sn**	**04 32 36.4**	**+0.1**
	baz=245						
TYC	**Yuchr**	**1.59**	**253**	P	**Pn**	**04 32 17.5**	**+0.2**
	baz=246						
TYC				*e*S	**Sn**	**04 32 38.0**	**+1.2**
	baz=246						
TWQ1	**Liyutan**	**1.60**	**270**	P	**Pn**	**04 32 17.8**	**+0.4**
	baz=278						
TWQ1				*e*S	**Sn**	**04 32 38.0**	**+1.0**
	baz=278						
NSY	**Sanyi**	**1.61**	**272**	*e*P	**Pn**	**04 32 18.0**	**+0.5**
	baz=270						
CHKT	**Chengkung**	**1.65**	**220**	*e*P	**Pn**	**04 32 17.8**	**-0.3**
	baz=213						
CHKT				*e*S	**Sn**	**04 32 36.0**	**-2.3**
	baz=213						
TCU	**Taichung**	**1.70**	**263**	*e*P	**Pn**	**04 32 19.5**	**+0.7**
	baz=272						
WNT	**Mingjian**	**1.75**	**254**	*e*P	**Pn**	**04 32 20.8**	**+1.4**
	baz=252						
WNT				*e*S	**Sn**	**04 32 41.2**	**+0.5**
	baz=252						
ALS	**Alishan**	**1.79**	**242**	P	**Pn**	**04 32 20.9**	**+0.7**
	baz=233						
ALS				*e*S	**Sn**	**04 32 42.7**	**+0.6**
	baz=233						
ELDTW	**Lidau**	**1.81**	**230**	P	**Pn**	**04 32 19.8**	**-0.6**
	baz=228						
ELDTW				*e*S	**Sn**	**04 32 41.6**	**-0.8**
	baz=228						
CHN5	**Tsauling**	**1.86**	**246**	P	**Pn**	**04 32 21.6**	**+0.7**
	baz=236						
CHN5				*e*S	**Sn**	**04 32 44.9**	**+1.5**
	baz=236						
JTJ	**Tarama**	**2.00**	**82**	P	**Pn**	**04 32 22.5**	**-0.3**
JTJ				*e*S	**Sn**	**04 32 46.9**	**+0.2**
TWG	**Pinlang**	**2.04**	**221**	P	**Pn**	**04 32 22.7**	**-0.6**
	baz=219						
TWG				*e*S	**Sn**	**04 32 47.1**	**-0.6**
	baz=219						
CHN4	**Tsaushan**	**2.04**	**241**	*e*P	**Pn**	**04 32 24.7**	**+1.3**
	baz=231						
CHN4				*e*S	**Sn**	**04 32 49.7**	**+2.0**
	baz=231						
TTN	**Taitung**	**2.05**	**218**	*e*S	**Sn**	**04 32 47.5**	**-0.4**
	baz=216						
WTP	**Ta-pu**	**2.08**	**238**	P	**Pn**	**04 32 24.6**	**+0.7**
	baz=228						
TWK	**Hsinying**	**2.17**	**240**	*e*P	**Pn**	**04 32 26.2**	**+1.1**
	baz=238						
TWK				*e*S	**Sn**	**04 32 52.5**	**+1.6**
	baz=238						
CHN1	**Nanshi**	**2.18**	**238**	P	**Pn**	**04 32 25.6**	**+0.4**
	baz=236						
CHN1				*e*S	**Sn**	**04 32 52.3**	**+1.2**
	baz=236						
SGST	**Jiashian**	**2.19**	**235**	*e*S	**Sn**	**04 32 54.2**	**+2.7**
	baz=233						
SSD	**Sandimen**	**2.37**	**227**	*e*P	**Pn**	**04 32 29.6**	**+1.7**
	baz=226						
LAY	**Lan-yu**	**2.49**	**201**	*e*P	**Pn**	**04 32 28.2**	**-1.3**
	baz=203						
LAY				*e*S	**Sn**	**04 32 56.2**	**-2.6**
	baz=203						
EAST	**Anshuo**	**2.51**	**218**	*e*P	**Pn**	**04 32 30.1**	**+0.3**
	baz=216						
EAST				*e*S	**Sn**	**04 32 58.5**	**-0.8**
	baz=216						
SCZT	**Fangliau**	**2.65**	**222**	*e*P	**Pn**	**04 32 32.9**	**+1.2**
	baz=218						
SCZT				*e*S	**Sn**	**04 33 02.8**	**+0.1**
	baz=218						
PNG	**Penghu**	**2.83**	**254**	*e*P	**Pn**	**04 32 33.0**	**-1.2**
	baz=253						
WDGT	**Dungji**	**2.85**	**248**	P	**Pn**	**04 32 34.1**	**-0.3**
	baz=246						
KNM	**Kinmen**	**3.73**	**272**	*e*P	**Pn**	**04 32 45.8**	**-0.6**
	baz=279						

*IDC **20** 04:35:20.5±1.0, 35°.14N×72°.29E, h0km, mb4.1/11, mb1 4.2/16, mb1mx4.0/33, mbtmp4.1/16, ML4.0/5, MS3.8/2, Ms1 3.8/2, ms1mx3.2/21, Error ellipse: s-maj=21.6km s-min=18.6km az=143.0*
*ISCJB **20** 04:35:23.9±0.3, 35°.15N±0°.02×72°.26E±0°.05, h33km, mb4.1/19, MS4.1/1, Error ellipse: s-maj=6.6km s-min=3.0km az=161.8*
*NNC **20** 04:35:28.4±10.0, 35°.25N×71°.98E, h78km±88km, mb3.8, mpv4.7, Error ellipse: s-maj=93.7km s-min=55.9km az=31.0*
*MOS **20** 04:35:28.7±0.8, 35°.36N×72°.27E, h74km, mb4.5/13, Error ellipse: s-maj=12.9km s-min=6.1km az=86.5*
*NEIC **20** 04:35:29.1±0.9, 35°.30N×72°.31E, h65km±8km, mb4.1/8, Error ellipse: s-maj=10.8km s-min=6.8km az=139.0*
*BJI **20** 04:35:58.3, 37°.22N×73°.67E, h192km, mB4.4/1, mb4.0/4*
ISC 20 04:35:26.0±0.5, 35°.13N±0°.04×72°.26E±0°.06, h35km, n115, σ1s84/114, mb4.2/19, 10C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.33**	**193**	P	**Pn**	**04 35 50.5**	**+2.2**
CEP				S	Sn	04 36 12.0	+7.2
CHCP	**Chirah Chowk**	**1.68**	**150**	P	Pn	04 35 56.9	+3.9
THW	**Thamme Wali**	**2.37**	**191**	P	Pn	04 36 07.1	+4.7
KBL	**Kabul**	**2.71**	**258**	*e*PN	Pn	04 36 11.7	+4.4
KBL				*e*		04 36 51.1	
KBL	**Kabul**	**2.71**	**258**	*e*Pn	Pn	04 36 11.7	+4.4
KBL				*e*Sn	Sn	04 36 51.1	+12
SARP	**Sargodha**	**3.21**	**174**	P	**Pn**	**04 36 17.1**	**+3.1**
JMU	**Jammu**	**3.25**	**137**	*e*P	Pn	04 36 25.0	+10
JMU				*e*S	Sn	04 37 00.0	+8.0
BHK	**Bhakra**	**5.08**	**136**	*ex*	x	04 36 53.8	
BHK				*ex*	x	04 38 03.6	
KSH	**Kashi**	**5.29**	**33**	P	**Pn**	**04 36 40.3**	**-2.3**
KSH				smax	smax		
	comp=N,100nm,0.7s						
KSH				smax	smax		
	comp=E,100nm,0.7s						
SDNR	**Sundarnagar**	**5.35**	**131**	*e*P	**Pn**	**04 36 45.0**	**+1.6**
SDNR				*ex*	x	04 38 07.0	
SMLA	**Simla**	**5.73**	**133**	*i* P	**Pn**	**04 36 51.6**	**+3.1**
SMLA				*e*S	**Sn**	**04 37 55.4**	**+2.3**
SMLA				||AML	AML	04 38 02.6	
	comp=E,1μm,0.2s						
SMLA				||AML	AML	04 38 02.7	
	comp=N,1μm,0.3s						
KKR	**Kurukshetra**	**6.43**	**142**	*ex*	x	04 38 40.2	
DDI	**Dehra Dun**	**6.84**	**133**	*e*P	**Pn**	**04 37 05.3**	**+1.4**
DDI				*ex*	x	04 39 02.0	
AML	**Almayashu**	**7.08**	**9**	P	**Pn**	**04 37 09.8**	**+2.3**
	SNR=72						
KZA	**Kyzart**	**7.33**	**18**	P	**Pn**	**04 37 12.8**	**+2.0**
	SNR=19						
BHGR	**Bahadurgarh**	**7.55**	**147**	*e*P	**Pn**	**04 37 14.0**	**+0.4**
BHGR				*e*S	**Sn**	**04 38 38.8**	**+0.8**
EKS2	**Erkin-Say**	**7.62**	**8**	*e*P	**Pn**	**04 37 16.3**	**+1.7**
EKS2	**Erkin-Say**	**7.62**	**8**	*e*Pn	**Pn**	**04 37 16.3**	**+1.7**
EKS2	**Erkin-Say**	**7.62**	**8**	P	**Pn**	**04 37 17.3**	**+2.7**
	SNR=17						
KHET	**Khetri**	**7.65**	**156**	*e*P	**Pn**	**04 37

CHMS	Chumysh	8.10	13	P		Pn	04 37 23.2	+2.1	
	SNR=13								
TKM2	Tokmak 2	8.20	17	⇑P		Pn	04 37 24.2	+1.4	
	comp=Z,10nm,0.3s								
TKM2	Tokmak 2	8.20	17	*e*P		Pn	04 37 24.1	+1.4	
TKM2	Tokmak 2	8.20	17	*e*Pn		Pn	04 37 24.1	+1.4	
TKM2	Tokmak 2	8.20	17	P		Pn	04 37 24.5	+1.8	
	SNR=23								
USP	Ospenovka	8.31	11	P		Pn	04 37 26.8	+2.7	
	SNR=7.5								
LGTI	Lohaghat	8.81	128	*ex*		P	04 39 08.6		
AJM	Ajmer	8.86	166	*e*S		Sn	04 39 07.0	-3.2	
AGRA	Agra	9.25	147	*e*P		Pn	04 37 37.8	+0.9	
AGRA				*e*S		Sn	04 39 16.9	-2.8	
AGRA				AML		AML	04 39 40.0		
	comp=N,101nm,0.4s								
AGRA				AML		AML	04 39 40.8		
	comp=E,94nm,0.6s								
MK31	Makanchi Array	13.89	30	⇓P		Pn	04 38 37.9	-2.4	
	comp=E,1.7nm,0.7s,baz=209,slow=12,SNR=15								
MK31	Makanchi Array	13.89	30	*i* P		Pn	04 38 41.0	+0.7	
MK31				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MK31	Makanchi Array	13.89	30	*e*Pn		Pn	04 38 38.5	-1.7	
MKAR	Makanchi Array	13.89	30	Pn		Pn	04 38 39.5	-0.8	
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=17								
MKAR	Makanchi Array	13.89	30	P		Pn	04 38 39.5	-0.8	
MKAR	Makanchi Array	13.89	30	Pn		Pn	04 38 39.5	-0.8	
KURBB	Kurchatov Arra	16.14	14	Pn		Pn	04 39 06.4	-3.7	
	comp=Z,0.3nm,0.3s,baz=204,slow=10,SNR=26								
KURBB				LR		LR	04 45 36.0		
	comp=Z,152nm,19.2s,baz=200,slow=38								
KURBB	Kurchatov Arra	16.14	14	P		Pn	04 39 06.3	-3.8	
	comp=Z,1.3nm,0.7s								
KURK	Kurchatov	16.25	15	⇓P		Pn	04 39 07.0	-4.5	
	comp=Z,8.6nm,0.8s								
KURK	Kurchatov	16.25	15	*c i* P		Pn	04 39 07.2	-4.2	
KURK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KURK	Kurchatov	16.25	15	*e*Pn		Pn	04 39 06.8	-4.6	
POO	Poona	16.59	175	*ex*		x	04 42 10.0		
WSAR	Wadi Sarin	16.77	229	Pn		P	04 39 21.0	+0.9	
	comp=Z,0.3nm,0.3s,baz=28,slow=20,SNR=5.1								
WSAR	Wadi Sarin	16.77	229	Pn		P	04 39 21.0	+0.9	
AB31	Akbulak array	16.78	331	⇑P		Pn	04 39 17.3	-0.8	
	comp=Z,1.5nm,0.5s,baz=137,slow=12,SNR=60								
AB31				⇑S		Sn	04 42 15.2	-8.2	
	comp=Z,1.8nm,0.6s,baz=157,slow=23,SNR=3.1								
AB31	Akbulak array	16.78	331	P		Pn	04 39 17.3	-0.8	
AB31				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ABKAR	Akbulak array	16.78	331	*e*Pn		Pn	04 39 16.9	-1.3	
	comp=Z,3.0nm,0.5s								
ABKAR				*e*Sn		Sn	04 42 15.5	-7.8	
VOSK	Vostochnaya	17.62	357	⇓P		Pn	04 39 25.4	-3.2	
	comp=Z,8.6nm,1.1s								
BVA0	Borovoye Array	17.94	356	⇑P		Pn	04 39 30.5	-2.1	
	comp=Z,1.3nm,0.8s								
BVA0	Borovoye Array	17.94	356	P		Pn	04 39 30.9	-1.7	
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.9s								
BVAR	Borovoye Array	17.94	356	P		Pn	04 39 30.3	-2.3	
	comp=Z,0.5nm,0.3s,baz=165,slow=12,SNR=17								
BVAR	Borovoye Array	17.94	356	P		Pn	04 39 30.3	-2.3	
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BVAR	Borovoye Array	17.94	356	P		Pn	04 39 30.3	-2.3	
ZRNK	Zerenda	17.97	354	⇑P		Pn	04 39 31.8	-1.1	
	comp=Z,13nm,1.2s								
BRVK	Borovoye	17.98	356	⇑P		Pn	04 39 31.0	-2.1	
	comp=Z,30nm,1.6s								
BRVK	Borovoye	17.98	356	*e*P		Pn	04 39 31.2	-1.8	
BRVK				pmax		pmax			
	comp=Z,9.0nm,1.3s								
BRVK	Borovoye	17.98	356	*e*P		Pn	04 39 31.6	-1.5	
	comp=Z,8.4nm,0.9s								
AKTO	Aktyubinsk	18.48	330	P		Pn	04 39 39.2	+0.1	
	comp=Z,1.4nm,0.3s,baz=136,slow=11,SNR=44								
AKTO	Aktyubinsk	18.48	330	⇓P		P	04 39 38.8	-0.1	
	comp=Z,2.1nm,0.7s								
AKTO	Aktyubinsk	18.48	330	P		P	04 39 38.7	-0.1	
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKTO	Aktyubinsk	18.48	330	P		Pn	04 39 39.2	+0.1	
ZAA0	Zalesovo Array	20.78	21	*e*P		P	04 40 02.1	-1.7	
ZALV	Zalesovo Beam	20.78	21	P		P	04 40 02.5	-1.3	
	comp=Z,9.8nm,0.6s,baz=219,slow=9.0,SNR=31								
ZALV	Zalesovo Beam	20.78	21	P		P	04 40 02.5	-1.3	
ZALV				pmax		pmax			
	comp=Z,10.0nm,0.6s								
ZALV	Zalesovo Beam	20.78	21	P		P	04 40 02.5	-1.3	
HVS	Khovu-Aksy	22.25	37	*e*P		P	04 40 16.6	-3.2	
HVS				pmax		pmax			
	comp=Z,40nm,1.2s								
GTA	Gaotai	22.30	71	*e*P		P	04 40 25.8	+5.3	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GNI	Garni	22.32	291	*e*P		P	04 40 18.9	-1.8	
	comp=Z,7.7nm,0.8s								
ARU	Arti	23.27	341	*c i* P		P	04 40 34.6	+4.4	
ARU							04 41 03.2		
ARU				S		S	04 44 18.8	-21	
ARU				pmax		pmax			
	comp=Z,14nm,2.5s								
ZAK	Zakamensk	27.16	46	*e*P		P	04 41 04.5	-1.5	
ZAK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
SONM	Songino Array	28.31	53	P		P	04 41 16.6	+0.2	
	comp=Z,0.9nm,0.9s,baz=316,slow=6.0,SNR=3.4								
SONM	Songino Array	28.31	53	P		P	04 41 16.6	+0.2	
BR131	Keskin Array S	30.85	290	*e*P		P	04 41 40.5	+1.5	
	comp=Z,0.5nm,0.4s								
BRTR	Keskin Array B	30.85	290	P		P	04 41 39.9	+1.0	
	comp=Z,1.1nm,0.6s,baz=92,slow=8.7,SNR=5.0								
BRTR	Keskin Array B	30.85	290	P		P	04 41 39.9	+1.0	
LVZ	Lovozero	39.11	339	*c e*P		P	04 42 55.6	+6.0	
LVZ				pmax		pmax			
	comp=Z,35nm,1.3s								
FINES	FINESS Array B	39.19	327	P		P	04 42 49.3	-1.0	
	comp=Z,2.1nm,0.7s,baz=121,slow=9.2,SNR=7.2								
FINES	FINESS Array B	39.19	327	P		P	04 42 49.3	-1.0	
IPM	Ipoh	40.46	132	*e*P		P	04 43 01.4	0.0	
	comp=Z,7.2nm,0.7s								
ARCES	ARCESS Array B	42.80	338	P		P	04 43 19.5	-0.4	
	comp=Z,2.1nm,0.5s,baz=112,slow=8.1,SNR=16								
ARCES				LR		LR	05 02 22.2		
	comp=Z,227nm,18.2s,baz=218,slow=38								
ARCES	ARCESS Array B	42.80	338	P		P	04 43 19.5	-0.4	
HFS	Hagfors	44.78	323	P		P	04 43 35.8	-0.1	
	comp=Z,5.1nm,0.6s,baz=99,slow=9.2,SNR=18								
HFS	Hagfors	44.78	323	P		P	04 43 35.8	-0.1	
NB2	NORSAR Subarra	46.09	324	P		P	04 43 45.2	-1.2	
	comp=Z,2.0nm,0.6s,baz=95,slow=7.9								
NOA	NORSAR Array B	46.09	324	P		P	04 43 45.5	-0.9	
	comp=Z,2.5nm,0.7s,baz=97,slow=7.7,SNR=13								
NOA	NORSAR Array B	46.09	324	P		P	04 43 45.5	-0.9	
KEST	Kesra	50.46	290	*e*P		P	04 44 19.9	-0.5	
SEY	Seymchan	54.99	33	⇑P		P	04 44 52.8	-0.6	
TAM	Tamanrasset	58.71	277	*e*P		P	04 45 21.1	+0.5	
TAM				pmax		pmax			
	comp=Z,6.0nm,1.4s								
TAM	Tamanrasset	58.71	277	*e*P		P	04 45 21.1	+0.5	
	comp=Z,5.6nm,1.4s								
TOA0	Torodi Ar. Sit	66.73	270	*e*P		P	04 46 13.5	-0.4	
TORD	Torodi Ar. Bea	66.73	270	P		P	04 46 13.8	-0.2	
	comp=Z,1.8nm,0.6s,baz=46,slow=6.1,SNR=24								
TORD	Torodi Ar. Bea	66.73	270	P		P	04 46 13.8	-0.2	
INK	Inuvik	75.09	10	P		P	04 47 03.2	-0.6	
	comp=Z,0.8nm,0.6s,baz=357,slow=8.7,SNR=7.6								
INK	Inuvik	75.09	10	*e*P		P	04 47 03.2	-0.6	
	comp=Z,1.3nm,0.7s								
DBIC	Dimbokro	75.66	268	*e*P		P	04 47 08.6	+0.6	
	comp=Z,6.9nm,1.2s								
WRA	Warramunga Arr	80.39	123	P		P	04 47 34.2	+0.2	
	comp=Z,0.4nm,0.7s,baz=326,slow=5.1,SNR=4.5								
WRA	Warramunga Arr	80.39	123	P		P	04 47 34.2	+0.2	
YKW3	Yellowknife Ar	82.49	3	*e*P		P	04 47 43.4	-1.2	
YKA	Yellowknife Ar	82.56	3	P		P	04 47 44.1	-0.8	
	comp=Z,1.6nm,0.5s,baz=350,slow=5.4,SNR=64								
YKA	Yellowknife Ar	82.56	3	P		P	04 47 44.1	-0.8	

IDC 20 04:36:47.4±2.4, 22°.09S×175°.36W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=136.8km s-min=22.6km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTA	Charters Tower	35.81	266	P	P		04 43 50.2	+1.3
	4.0nm,0.7s,baz=63,slow=6.8,SNR=3.1							
ASAR	Alice Springs	46.58	258	P	P		04 45 16.3	-1.1
	0.8nm,0.8s,baz=92,slow=7.9,SNR=6.6							
WRA	Warramunga Arr	46.84	263	P	P		04 45 18.7	-0.8
	1.1nm,0.3s,baz=92,slow=8.5,SNR=25							
NVAR	Mina Array Bea	80.52	42	P	P		04 49 02.0	+0.2
	0.8nm,1.0s,baz=219,slow=8.7,SNR=5.6							
TXAR	Lajitas Array	85.86	56	P	P		04 49 28.2	-1.2
	0.9nm,1.0s,baz=227,slow=5.0,SNR=5.8							
ILAR	Eielson Array	89.33	12	P	P		04 49 46.5	+1.3
	0.9nm,1.1s,baz=195,slow=6.3,SNR=4.0							

*DDA **20** 05:07:18.6, 37°.73N×43°.68E, h4km, MD3.1*
ISC 20 05:07:17.3±2.4, 37°.82N±0°.08×43°.80E±0°.10, h2km±15km, n6, σ1§39/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HAKT	HAKKARI	0.27	195	*i* P	Pg		05 07 22.4	0.0
HAKT				*i* S	Sg		05 07 25.4	-0.5
GEVA	Gevas	0.76	311	*e*P	Pb		05 07 33.7	+0.2
GEVA				*e*S	Sb		05 07 44.3	-0.1
SIRN	S¨¨rnak	1.14	254	*e*P	Pg		05 07 39.1	-0.1
SIRN				*e*S	Sg		05 07 53.3	-0.7
BEST	Besiri	2.00	273	*e*P	Pg		05 07 56.2	+0.6
BEST				*e*S	Sg		05 08 23.4	+1.9
MARD	Mardin	2.45	259	*e*P	Pg		05 08 04.5	+0.2
MARD				*e*S	Sg		05 08 34.4	-1.5
BHD	Baghdad	4.56	174	*i* Pn	Pn		05 08 26.4	-1.0
BHD				*i* Pb	Pb		05 08 37.2	-0.9
BHD				*i* Pg	Pg		05 08 44.0	-0.7
BHD				*i* Sn	Sn		05 09 20.6	-0.3
BHD				*i* Sb	Sb		05 09 36.5	+3.0
BHD				*i* Sg	Sg		05 09 46.0	+2.2

IDC 20 05:17:18.8±1.8, 22°.46S×175°.00W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/21, mbtmp4.2/7, Error ellipse: s-maj=131.0km s-min=20.9km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTA	Charters Tower	36.12	266	P	P		05 24 23.1	+0.1
	5.2nm,0.4s,baz=109,slow=8.4,SNR=9.6							
STKA	Stephens Creek	39.52	247	P	P		05 24 52.1	+0.6
	1.3nm,0.5s,baz=68,slow=11,SNR=3.8							
ASAR	Alice Springs	46.83	258	P	P		05 25 50.3	-0.5
	1.1nm,0.6s,baz=99,slow=7.4,SNR=12							
WRA	Warramunga Arr	47.12	263	P	P		05 25 52.7	-0.5
	3.7nm,0.6s,baz=102,slow=8.2,SNR=55							
FITZ	Fitzroy Crossi	55.55	263	P	P		05 26 56.3	-0.1
	2.5nm,0.9s,baz=90,slow=5.1,SNR=3.8							
NVAR	Mina Array Bea	80.57	42	P	P		05 29 34.0	+0.5
	1.0nm,0.7s,baz=232,slow=7.4,SNR=9.3							
TXAR	Lajitas Array	85.79	56	P	P		05 29 60.0	-0.6
	0.8nm,0.9s,baz=210,slow=9.5,SNR=9.7							

*IDC **20** 05:20:26.8±1.5, 23°.92S×175°.46W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.3/23, mbtmp4.4/12, Error ellipse: s-maj=63.1km s-min=21.2km az=153.0*
*ISCJB **20** 05:20:28.8±0.8, 24°.0S±0°.2×175°.08W±0°.10, h33km, mb4.4/16, Error ellipse: s-maj=24.1km s-min=12.3km az=170.2*
*NEIC **20** 05:20:32.3±0.8, 23°.95S×175°.41W, h35km, mb4.7/5, Error ellipse: s-maj=26.0km s-min=15.4km az=157.0*
ISC 20 05:20:30.9±0.8, 24°.0S±0°.2×175°.4W±0°.1, h24km, n49, σ1§26/41, mb4.6/16, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NIUE	Niue	7.00	47	P	Pn		05 22 02.4	-10
	baz=3.4,SNR=7.9							
NIUE				S	Sn		05 23 08.3	-23
	baz=3.4,SNR=4.9							
MSVF	Nonsavu	8.74	314	*e*Pn	Pn		05 22 36.1	+0.2
	44nm,0.9s							
AFI	Afiamalu	10.55	19	Pn	Pn		05 22 49.2	-12
	3.4nm,0.3s,baz=37,slow=7.4,SNR=3.8							
AFI	Afiamalu	10.55	19	*e*Pn	Pn		05 22 48.8	-12
RAR	Rarotonga	14.64	82	Pn	Pn		05 23 49.9	-6.7
	6.1nm,0.3s,baz=270,slow=9.6,SNR=7.0							
RAR	Rarotonga	14.64	82	Pn	Pn		05 23 50.0	-6.7
DZM	Mont Dzumac	16.87	273	*e*P	Pn		05 24 27.6	+2.0
	70nm,1.1s							
DZM				*e*LR	LR		05 28 15.0	
	2µm,23.5s							
TBI	Tubuai	23.71	94	*e*LR	LR		05 31 58.7	
	1µm,23.2s							
PPT2	Papeete2	24.89	80	*e*LR	LR		05 32 28.1	
	1µm,22.8s							
CTA	Charters Tower	35.73	269	P	P		05 27 26.6	-1.4
	3.9nm,0.4s,baz=118,slow=13,SNR=3.7							
CTA	Charters Tower	35.73	269	P	P		05 27 26.6	-1.4
CTAO	Charters Tower	35.73	269	*e*P	P		05 27 28.5	+0.5
	5.2nm,0.6s							
RKT	Rikitea	36.94	97	*e*LR	LR		05 38 05.0	
	855nm,25.5s							
STKA	Stephens Creek	38.66	248	*e*P	P		05 27 54.5	+1.8
	2.9nm,1.6s							
ASAR	Alice Springs	46.22	260	P	P		05 28 54.0	-0.3
	2.8nm,0.8s,baz=92,slow=8.6,SNR=20							
ASAR	Alice Springs	46.22	260	P	P		05 28 54.0	-0.3
WRAB	Tennant Creek	46.64	265	*e*P	P		05 28 55.9	-1.8
	3.4nm,0.8s							
WRA	Warramunga Arr	46.65	265	P	P		05 28 55.1	-2.7
	4.2nm,0.8s,baz=100,slow=8.3,SNR=23							
WRA	Warramunga Arr	46.65	265	P	P		05 28 55.1	-2.7
FITZ	Fitzroy Crossi	55.06	264	P	P		05 29 59.6	-1.6
	2.8nm,0.7s,baz=157,slow=18,SNR=3.6							
FITZ	Fitzroy Crossi	55.06	264	P	P		05 29 59.6	-1.6
ASAJ	Asahikawa	77.92	330	P	P		05 32 26.6	-0.1
	6.8nm,0.7s,baz=152,slow=8.5,SNR=4.9							
ASAJ	Asahikawa	77.92	330	P	P		05 32 26.6	-0.1
PETK	Petropavlovsk-	80.24	344	P	P		05 32 38.6	-0.5
	6.6nm,0.8s,baz=156,slow=8.1,SNR=5.0							
PETK	Petropavlovsk-	80.24	344	P	P		05 32 38.6	-0.5
NVAR	Mina Array Bea	81.90	42	P	P		05 32 48.8	+0.1
	0.4nm,0.8s,baz=226,slow=8.0,SNR=3.8							
NVAR	Mina Array Bea	81.90	42	P	P		05 32 48.8	+0.1
USRK	Ussuriysk Arra	83.18	325	P	P		05 32 54.6	-0.3
	7.3nm,0.8s,baz=133,slow=3.5,SNR=18							
MDJ	Mudanjiang	84.74	324	*e*P	P		05 33 03.4	+0.5
	4.9nm,0.4s							
TXAR	Lajitas Array	86.89	56	P	P		05 33 15.0	+0.9
	0.6nm,1.0s,baz=221,slow=4.8,SNR=4.0							
TXAR	Lajitas Array	86.89	56	P	P		05 33 15.0	+0.9
PSI	Prapat	87.22	274	P	P		05 33 15.3	-0.7
	3.3nm,0.6s,baz=330,slow=3.3,SNR=4.2							
PSI	Prapat	87.22	274	P	P		05 33 15.3	-0.7
ILAR	Eielson Array	91.15	12	P	P		05 33 31.7	-1.5
	0.6nm,1.0s,baz=212,slow=5.0,SNR=3.1							
ILAR	Eielson Array	91.15	12	P	P		05 33 31.7	-1.5
CMAR	Chiang Mai Arr	93.56	288	P	P		05 33 46.5	+1.0
	7.8nm,0.9s,baz=136,slow=3.4,SNR=36							
CMAR	Chiang Mai Arr	93.56	288	P	P		05 33 46.5	+1.0
CHTO	Chiang Mai	93.70	289	*e*P	P		05 33 47.6	+1.6
	9.3nm,0.6s							
MKAR	Makanchi Array	115.34	312	PKP	PKPdf		05 39 09.8	-0.6
	0.2nm,0.8s,baz=253,slow=1.5,SNR=2.7							
MKAR	Makanchi Array	115.34	312	PKP	PKPdf		05 39 09.8	-0.6
AKASG	Malin Array Be	147.21	331	PKPbc	PKPdf		05 40 10.0	+0.4
	2.6nm,0.7s,baz=41,slow=4.5,SNR=8.5							
AKASG	Malin Array Be	147.21	331	PKPbc	PKPdf		05 40 10.0	+0.4
BRTR	Keskin Array B	150.95	310	PKPbc	PKPbc		05 40 21.9	0.0
	1.1nm,0.8s,baz=155,slow=4.1,SNR=5.4							
BRTR	Keskin Array B	150.95	310	PKPbc	PKPbc		05 40 21.9	0.0
CLL	Collm	151.94	349	*e*PKPbc	PKPbc		05 40 24.0	+0.3
	comp=Z,5.0nm,0.8s							
CLL	Collm	151.94	349	*i* PKPbc	PKPab		05 40 35.9	+3.0
	comp=Z,8.0nm,0.7s							
BRG	Berggiesshubel	152.18	347	*e*PKP	PKPbc		05 40 24.5	+0.3
	comp=Z,4.1nm,0.8s							
BRG				*i*			05 40 36.8	
	comp=Z,7.2nm,0.7s							
GERES	GERESS Array B	154.15	346	PKPbc	PKPbc		05 40 27.6	-1.1
	comp=Z,0.6nm,0.7s,baz=195,slow=2.6,SNR=3.9							
GERES	GERESS Array B	154.15	346	PKPbc	PKPbc		05 40 27.6	-1.1

*AUST **20** 05:21:06.5±39.0, 22°.33S×168°.84W, h0km, Error ellipse: s-maj=6.1km s-min=1.7km az=319.0*
*IDC **20** 05:21:56.1±1.1, 23°.82S×175°.39W, h0km, mb4.5/16, mb1 4.7/16, mb1mx4.5/24, mbtmp4.5/16, MS4.5/14, Ms1 4.5/14, ms1mx4.2/42, Error ellipse: s-maj=48.2km s-min=15.0km az=155.0*
*ISCJB **20** 05:22:00.9±0.4, 23°.67S±0°.07×175°.56W±0°.08, h33km, mb4.7/27, MS4.5/13, Error ellipse: s-maj=11.5km s-min=9.7km az=135.6*
*NEIC **20** 05:22:01.9±0.4, 23°.77S×175°.46W, h35km, mb4.9/16, Error ellipse: s-maj=13.4km s-min=10.3km az=133.0*
*SZGRF **20** 05:22:02.9, 23°.23S×174°.70W, h33km, Tonga Islands region*
ISC 20 05:22:01.2±0.5, 23°.68S±0°.08×175°.30W±0°.09, h30km, n99, σ1§29/91, mb4.8/27, MS4.4/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	Nonsavu	8.59	312	*e*Pn	Pn		05 24 05.1	+1.5
AFI	Afiamalu	10.28	20	Pn	Pn		05 24 23.2	-3.5
	8.0nm,0.3s,baz=244,slow=21,SNR=3.7							
AFI				Sn	Sn		05 26 06.6	-15
	4.8nm,0.3s,baz=340,slow=21,SNR=4.6							
AFI	Afiamalu	10.28	20	*e*Pn	Pn		05 24 24.2	-2.6
AFI				Sn	Sn		05 26 06.6	-15
RAR	Rarotonga	14.57	83	Pn	Pn		05 25 18.5	-6.8
	6.3nm,0.3s,baz=270,slow=10,SNR=12							
RAR				Sn	Sn		05 27 47.0	-19
	2.4nm,0.3s,baz=90,slow=17,SNR=5.6							
RAR				LR	LR		05 30 10.1	
	comp=Z,2µm,19.2s,baz=270,slow=34							
RAR	Rarotonga	14.57	83	*e*Pn	Pn		05 25 18.3	-7.0
RAR				Sn	Sn		05 27 47.0	-19
URZ	Urewera	15.91	202	Pn	Pn		05 25 43.3	+0.4
	2.1nm,0.3s,baz=321,slow=2.9,SNR=8.2							
URZ	Urewera	15.91	202	*e*P	P		05 25 43.9	+1.0
	11nm,0.7s							
DZM	Mont Dzumac	16.90	272	Pn	P		05 25 59.1	+1.6
	0.5nm,0.3s,baz=78,slow=17,SNR=5.9							
DZM	Mont Dzumac	16.90	272	*e*P	P		05 25 59.0	+1.5
	125nm,1.6s							
KHZ	Kahutara	20.86	204	*e*P	P		05 26 37.0	-3.6
	14nm,0.8s							
PPT	Papeete	24.81	81	LR	LR		05 35 21.8	
	comp=Z,914nm,20.4s,baz=283,slow=32							
HNR	Honiara	27.57	297	LR	LR		05 37 29.1	
	comp=Z,677nm,18.4s,baz=348,slow=34							
RMQ	Roma	32.61	257	P	P		05 28 30.4	+0.1
	baz=39,SNR=5.0							
RMQ	Roma	32.61	257	P	P		05 28 30.4	+0.1
	baz=22,SNR=5.0							
CTA	Charters Tower	35.78	268	P	P		05 28 56.3	-1.6
	6.0nm,0.4s,baz=101,slow=14,SNR=7.4							
CTA				LR	LR		05 42 25.5	
	comp=Z,440nm,18.3s,baz=83,slow=34							
CTA	Charters Tower	35.78	268	P	P		05 28 56.3	-1.6
CTAO	Charters Tower	35.78	268	*e*P	P		05 28 55.6	-2.3
	15nm,0.8s							
QLP	Quilpie	36.64	257	P	P		05 29 04.1	-1.1
	baz=43,SNR=4.2							
STKA	Stephens Creek	38.80	248	P	P		05 29 21.5	-1.9
	1.4nm,0.4s,baz=116,slow=10,SNR=5.0							
STKA				LR	LR		05 44 26.4	
	comp=Z,1µm,19.0s,baz=52,slow=35							
STKA	Stephens Creek	38.80	248	*e*P	P		05 29 22.0	-1.4
	4.0nm,1.4s							
STKA	Stephens Creek	38.80	248	P	P		05 29 23.6	+0.3
	baz=45,SNR=4.0							
ASAR	Alice Springs	46.31	259	P	P		05 30 23.9	-0.7
	4.5nm,0.9s,baz=92,slow=8.7,SNR=11							
ASAR				S	S		05 37 11.8	+1.7
	0.7nm,0.9s,baz=98,slow=15,SNR=4.5							
ASAR				LR	LR		05 49 37.2	
	comp=Z,1µm,18.6s,baz=100,slow=36							
ASAR	Alice Springs	46.31	259	P	P		05 30 23.9	-0.7
ASAR				S	S		05 37 11.8	+1.7
WRAB	Tennant Creek	46.71	264	*e*P	P		05 30 25.1	-2.5
	16nm,1.0s							
WRA	Warramunga Arr	46.71	264	P	P		05 30 25.4	-2.4
	6.6nm,0.8s,baz=102,slow=8.6,SNR=15							
WRA				LR	LR		05 49 47.0	
	comp=Z,1µm,18.9s,baz=100,slow=36							
WRA	Warramunga Arr	46.71	264	P	P		05 30 25.4	-2.4
KDU	Kakadu	50.57	273	P	P		05 30 54.9	-2.5

CMAR	Chiang Mai Arr	93.51	288	P		P	05	35	15.4 +0.8
CHTO	Chiang Mai	93.66	289	*e*P		P	05	35	15.8 +0.5
	comp=Z,20nm,1.0s								
RSSD	Black Hills	93.73	43	*e*P		P	05	35	15.1 -0.2
	comp=Z,2.0nm,0.8s								
MKAR	Makanchi Array	115.19	312	PKP		PKPdf	05	40	38.2 -1.3
	comp=Z,0.3nm,0.6s,baz=72,slow=2.6,SNR=3.5								
MKAR	Makanchi Array	115.19	312	PKP		PKPdf	05	40	38.2 -1.3
AKASG	Malin Array Be	147.00	331	PKPbc		PKPdf	05	41	39.6 +1.0
	comp=Z,2.8nm,0.6s,baz=42,slow=4.0,SNR=8.2								
AKASG	Malin Array Be	147.00	331	PKPbc		PKPdf	05	41	39.6 +1.0
MALT	Malatya	147.82	305	*e*PKPbc		PKPbc	05	41	44.0 +0.5
BRTR	Keskin Array B	150.81	310	PKPbc		PKPbc	05	41	50.4 -0.6
	comp=Z,2.5nm,0.9s,baz=15,slow=1.4,SNR=5.0								
BRTR	Keskin Array B	150.81	310	PKPbc		PKPbc	05	41	50.4 -0.6
OJC	Ojcow	151.01	340	*e*PKP		PKPbc	05	41	51.0 +0.1
KOLS	Kolonicke sedl	151.23	336	*e*PKP		PKPbc	05	41	52.3 +0.8
KOLS				*e*			05	41	59.4
IBBN	Ibbenburen	151.32	356	*e*PKPbc		PKPbc	05	41	52.5 +0.9
NIE	Niedzica	151.53	338	*e*PKP		PKPbc	05	41	53.2 +1.0
CLZ	Clausthal	151.55	353	*e*PKPbc		PKPbc	05	41	53.1 +0.9
CRVS	Cervenica-Dubn	151.56	336	*e*PKP		PKPbc	05	41	52.8 +0.5
CLL	Collm	151.68	349	*e*PKPbc		PKPbc	05	41	53.1 +0.7
CLL	Collm	151.68	349	*i* PKPbc		PKPbc	05	41	52.6 +0.2
	comp=Z,24nm,1.2s								
CLL					*e*(pPKPdf)		05	41	58.0
CLL					*e*PKPab	PKPab	05	42	01.7 +0.5
BRG	Berggiesshubel	151.92	348	*i* PKP		PKPbc	05	41	52.8 -0.2
	comp=Z,7.6nm,0.6s								
BRG				*e*			05	42	02.1
	comp=Z,12nm,1.2s								
BRG	Berggiesshubel	151.92	348	*e*PKPbc		PKPbc	05	41	53.8 +0.8
FBE	Freiberg	151.99	348	*e*PKPbc		PKPbc	05	41	54.3 +1.1
MOX	Moxa	152.55	350	*e*PKPbc		PKPbc	05	41	55.1 +0.6
PLN	Plauen	152.62	350	*e*PKPbc		PKPbc	05	41	55.5 +0.9
WERD	Werda	152.63	349	*e*PKPbc		PKPbc	05	41	55.4 +0.7
TANN	Tannenbergstha	152.64	349	*e*PKPbc		PKPbc	05	41	55.4 +0.7
GUNZ	Gunzen	152.71	349	*e*PKPbc		PKPbc	05	41	55.7 +0.8
WERN	Wernitzgruen	152.77	349	*e*PKPbc		PKPbc	05	41	55.9 +0.9
VYHS	Vyhne	152.82	339	*e*PKP		PKPdf	05	41	50.3 +2.3
VYHS				*e*			05	42	06.5
TNS	Taunus Mts	153.35	355	*e*PKPbc		PKPbc	05	41	56.9 +0.6
GERES	GERESS Array B	153.90	346	PKPbc		PKPbc	05	41	57.8 +0.2
	comp=Z,1.2nm,0.9s,baz=270,slow=0.4,SNR=5.4								
GERES	GERESS Array B	153.90	346	PKPbc		PKPbc	05	41	57.8 +0.2
WLF	Walferdange	154.04	358	*e*PKPbc		PKPbc	05	41	58.9 +1.2
TORD	Torodi Ar. Bea	169.14	164	PKP		PKPdf	05	42	03.6 -2.6
	comp=Z,1.0nm,1.1s,baz=350,slow=3.3,SNR=4.0								
TORD	Torodi Ar. Bea	169.14	164	PKP		PKPdf	05	42	03.6 -2.6

IDC ***20*** *05:25:33.2±4.8,9°.09S×118°.71E,h82km±44km,* **mb3.6**/4, **mb1 3.7**/7,**mb1mx3.5**/22,**mbtmp3.6**/7,**ML3.7**/3,**Error ellipse: s-maj=65.1km s-min=14.2km az=73.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
WSI	Waingapu	1.67	110	P		Pn	05	26	04.5 +3.7
	baz=12,SNR=3.4								
KAPI	Kappang	4.18	14	P		Pn	05	26	36.5 +1.9
	4.1nm,0.3s,baz=211,slow=5.3,SNR=36								
KAPI				S		Sn	05	27	22.4 0.0
	26nm,0.3s,baz=202,slow=21,SNR=23								
FITZ	Fitzroy Crossi	11.20	144	P		Pn	05	28	09.2 -1.3
	0.8nm,0.3s,baz=333,slow=12,SNR=38								
WRA	Warramunga Arr	18.56	127	P		P	05	29	42.2 -1.5
	0.2nm,0.3s,baz=303,slow=12,SNR=4.6								
ASAR	Alice Springs	20.52	137	P		P	05	30	06.5 +1.4
	1.9nm,0.6s,baz=313,slow=10,SNR=21								
SONM	Songino Array	57.72	350	P		P	05	35	16.6 +1.1
	1.4nm,0.6s,baz=163,slow=8.4,SNR=6.7								
MKAR	Makanchi Array	64.41	333	P		P	05	36	00.3 -0.4
	0.6nm,0.6s,baz=142,slow=7.4,SNR=9.6								
ZALV	Zalesovo Beam	69.03	339	P		P	05	36	29.1 -0.7
	0.7nm,0.4s,baz=136,slow=5.2,SNR=3.5								

IDC 20 05:27:35.1±7.5,30°.20S×177°.17W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/19,**mbtmp3.7**/3,**MS4.2**/1,**Ms1 4.2**/1, **ms1mx3.3**/46,**Error ellipse: s-maj=317.2km s-min=56.4km az=154.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
URZ	Urewera	9.33	209	LR		LR	05	33	03.2
	comp=Z,1μm,18.2s,baz=52,slow=35								
ASAR	Alice Springs	43.84	266	P		P	05	35	41.8 -1.5
	0.3nm,0.5s,baz=119,slow=7.6,SNR=2.7								
WRA	Warramunga Arr	44.81	272	P		P	05	35	50.4 -0.7
	0.4nm,0.3s,baz=110,slow=8.1,SNR=6.3								
FITZ	Fitzroy Crossi	53.08	269	P		P	05	36	56.4 +1.8
	2.0nm,0.9s,baz=120,slow=8.1,SNR=3.3								
FINES	FINESS Array B	145.20	341	PKPbc		PKPbc	05	47	12.5 -1.1
	1.5nm,0.9s,baz=57,slow=5.1,SNR=5.7								

IDC 20 05:47:43.6±1.5,22°.97S×175°.44W,h0km,mb4.0/10, **mb1 4.2**/10,**mb1mx4.1**/20,**mbtmp4.0**/10,**Error ellipse: s-maj=81.0km s-min=19.2km az=154.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
TBI	Tubuai	23.89	96	*e*LR		LR	05	58	20.0
	235nm,23.5s								
PPT2	Papeete2	24.83	82	*e*LR		LR	05	58	45.0
	300nm,26.0s								
STKA	Stephens Creek	38.94	247	P		P	05	55	12.4 +0.9
	1.1nm,0.7s,baz=78,slow=9.3,SNR=2.5								
ASAR	Alice Springs	46.32	259	P		P	05	56	11.0 -0.6
	0.6nm,0.6s,baz=109,slow=7.4,SNR=7.5								
WRA	Warramunga Arr	46.66	264	P		P	05	56	13.5 -0.8
	2.7nm,0.6s,baz=102,slow=8.1,SNR=35								
FITZ	Fitzroy Crossi	55.08	263	P		P	05	57	17.2 -0.6
	6.9nm,0.9s,baz=141,slow=3.5,SNR=9.9								
NVAR	Mina Array Bea	81.23	42	P		P	06	00	01.1 -0.7
	0.1nm,0.4s,baz=234,slow=6.2,SNR=2.8								
USRK	Ussuriysk Arra	82.33	325	P		P	06	00	08.5 +1.3
	1.8nm,0.7s,baz=218,slow=4.2,SNR=4.5								
TXAR	Lajitas Array	86.42	56	P		P	06	00	29.2 +0.7
	0.3nm,0.9s,baz=204,slow=11,SNR=3.5								
PDAR	Pinedale Array	89.16	42	P		P	06	00	41.5 +0.1
	0.5nm,1.0s,baz=299,slow=5.8,SNR=2.2								
ILAR	Eielson Array	90.21	12	P		P	06	00	44.6 -0.9
	1.0nm,1.1s,baz=202,slow=6.8,SNR=4.1								
CMAR	Chiang Mai Arr	93.17	289	P		P	06	01	01.2 +0.9
	2.6nm,0.9s,baz=124,slow=2.9,SNR=16								
AKASG	Malin Array Be	146.31	331	PKPbc		PKPdf	06	07	25.1 +0.1
	1.0nm,0.7s,baz=46,slow=4.0,SNR=3.6								
BRTR	Keskin Array B	150.25	311	PKPbc		PKPbc	06	07	36.3 -0.8
	1.1nm,0.9s,baz=12,slow=8.0,SNR=3.3								

DJA 20 05:52:20.5±0.5,4°.5S×152°.3E,h29km±5km,M4.0/5, MLv4.0/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
KDI	Kendari	0.30	7	P		Pn	05	52	28.6 -0.4
KDI				S		Sn	05	52	35.5 +1.0
BBSI	Bau Bau	1.22	180	P		Pb	05	52	42.6 -0.4
BKSI	Bulukumba	2.67	247	P		Pn	05	53	00.6 -0.9
BKSI				S		Sn	05	53	34.1 +1.2
SPSI	Sidrap Palu	2.82	276	P		Pn	05	53	03.0 -0.6
SPSI				S		Sn	05	53	39.9 +3.2
KAPI	Kappang	2.92	255	P		Pn	05	53	04.9 -0.1
TTSI	Tana Toraja	3.01	294	P		Pn	05	53	07.5 +1.3
LUWI	Luwuk	3.20	3	P		Pn	05	53	08.8 -0.1
APSI	Ampana	3.45	344	P		Pn	05	53	12.7 +0.3

IDC 20 05:56:54.3±1.4,23°.07S×174°.58W,h0km,mb4.2/10, **mb1 4.5**/10,**mb1mx4.3**/20,**mbtmp4.2**/10,**Error ellipse: s-maj=74.3km s-min=19.0km az=155.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
TBI	Tubuai	23.09	96	*e*LR		LR	06	07	07.4
	506nm,30.5s								
PPT2	Papeete2	24.06	82	*e*LR		LR	06	07	44.9
	622nm,26.5s								
CTA	Charters Tower	36.47	267	P		P	06	04	01.4 0.0
	5.0nm,0.5s,baz=116,slow=8.9,SNR=5.2								
STKA	Stephens Creek	39.64	247	P		P	06	04	28.6 +0.6
	1.1nm,0.8s,baz=109,slow=6.4,SNR=3.0								
ASAR	Alice Springs	47.08	259	P		P	06	05	28.4 +0.1
	2.7nm,0.9s,baz=92,slow=8.0,SNR=9.1								
WRA	Warramunga Arr	47.43	264	P		P	06	05	30.4 -0.6
	4.5nm,0.9s,baz=100,slow=7.8,SNR=10								
MJAR	Matsushiro Arr	74.17	322	P		P	06	08	33.7 +0.9
	2.0nm,0.7s,baz=162,slow=7.1,SNR=4.1								
NVAR	Mina Array Bea	80.77	41	P		P	06	09	10.2 +0.1
	2.4nm,0.9s,baz=220,slow=8.9,SNR=12								
VNA3	Neumayer Olymp	85.35	175	*e*P		P	06	09	34.5 +1.4
TXAR	Lajitas Array	85.81	56	P		P	06	09	37.1 +1.0
	2.1nm,0.9s,baz=210,slow=7.2,SNR=18								
VNA2	Neumayer--Watz	85.83	176	*e*P		P	06	09	37.6 +2.2
	baz=191,slow=4.8								
PDAR	Pinedale Array	88.70	42	P		P	06	09	48.9 -1.1
	0.5nm,0.8s,baz=205,slow=3.1,SNR=4.6								
ILAR	Eielson Array	90.15	11	P		P	06	09	55.1 -0.8
	1.2nm,0.9s,baz=216,slow=6.1,SNR=8.7								
YKA	Yellowknife Ar	97.54	24	P		Pdif	06	10	29.9 0.0
	0.3nm,0.9s,baz=222,slow=4.3,SNR=6.5								
AKASG	Malin Array Be	146.78	332	PKPbc		PKPbc	06	16	38.1 0.0
	2.0nm,0.7s,baz=40,slow=3.9,SNR=5.3								
BRTR	Keskin Array B	150.91	311	PKPbc		PKPbc	06	16	47.2 -2.1
	1.3nm,0.9s,baz=5.7,slow=2.9,SNR=4.1								
CLL	Collm	151.21	350	*i* P		PKPbc	06	16	49.9 +0.4
	comp=Z,9.0nm,1.1s								
CLL					*e*		06	17	04.0
GERES	GERESS Array B	153.45	348	PKPbc		PKPbc	06	16	55.0 +0.3
	comp=Z,1.0nm,0.9s,baz=148,slow=10,SNR=3.6								

IDC ***20*** *05:57:41.7±2.2,5°.65S×130°.82E,h0km,mb4.0/2, mb1 3.9/5,mb1mx3.7/19,mbtmp3.8/5,ML3.7/3,Error ellipse: s-maj=115.8km s-min=25.7km az=78.0*
AUST ***20*** *05:58:13.2,7°.47S×130°.55E,h200km*
ISC 20 05:57:53.9±2.6,6°.3S±0°.2×130°.1E±0°.1,h146km,n10, σ2s11/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
TLE	Tual	2.75	76	P		Sn	05	58	59.5 -12
	baz=2.8,SNR=8.4								
MTN	Manton Dam	6.56	171	P		Pn	05	59	32.3 +4.2
	baz=5.4,SNR=24								
MTN				S		Sn	06	00	45.3 +3.4
	baz=5.4,SNR=5.8								
KDU	Kakadu	6.75	160	P		Pn	05	59	32.4 +1.8
	baz=5.5,SNR=30								
KDU				S		Sn	06	00	44.2 -2.2
	baz=5.5,SNR=13								
FITZ	Fitzroy Crossi	12.47	200	Pn		P	06	00	51.7 -0.6
	0.8nm,0.3s,baz=35,slow=12,SNR=50								
FITZ				Sn		Sn	06	03	03.8 -0.6
	0.3nm,0.3s,baz=101,slow=17,SNR=4.9								
FITZ	Fitzroy Crossi	12.47	200	P		P	06	00	52.2 -0.2
	baz=12,SNR=10.0								
WRA	Warramunga Arr	14.16	163	Pn		P	06	01	10.6 -0.6
	0.2nm,0.3s,baz=352,slow=13,SNR=15								
WRA				Sn		Sn	06	03	36.6 -8.4
	1.0nm,0.3s,baz=330,slow=23,SNR=12								
COEN	Coen	14.96	121	P		P	06	01	19.8 -0.3
	baz=14,SNR=6.9								
ASAR	Alice Springs	17.63	168	P		Pn	06	01	55.6 +5.0
	0.2nm,0.3s,baz=355,slow=10,SNR=14								
ASAR				S		S	06	05	03.0 -2.4
	0.2nm,0.3s,baz=352,slow=27,SNR=6.8								
MKAR	Makanchi Array	67.70	327	P		P	06	08	40.2 +4.7
	1.4nm,0.5s,baz=14,slow=2.5,SNR=2.5								
KURBB	Kurchatov Arra	71.97	328	P		P	06	09	06.0 +4.6
	0.1nm,0.3s,baz=132,slow=5.4,SNR=6.1								

IDC ***20*** *06:00:54.0±1.4,23°.04S×174°.67W,h0km,mb4.1/12, mb1 4.4/12,mb1mx4.2/21,mbtmp4.1/12,Error ellipse: s-maj=61.3km s-min=17.7km az=153.0*
NEIC ***20*** *06:00:56.5±0.8,23°.68S×174°.22W,h35km,mb4.7/4,Error ellipse: s-maj=39.2km s-min=12.1km az=163.0*
ISCJB ***20*** *06:00:58.1±1.2,23°.05S±0°.3×174°.8W±0°.2,h36km,mb4.1/13, Error ellipse: s-maj=52.1km s-min=14.1km az=152.6*
ISC 20 06:00:59.4±1.2,23°.1S±0°.3×174°.7W±0°.2,h36km,n31, σ0s54/29,mb4.0/13,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
RAR	Rarotonga	13.95	85	Pn		Pn	06	04	04.9 -10
	4.4nm,0.3s,baz=270,slow=5.1,SNR=5.1								
RAR	Rarotonga	13.95	85	Pn		Pn	06	04	04.9 -10
CTA	Charters Tower	36.36	267	P		P	06	08	00.8 +0.5
	7.3nm,0.5s,baz=89,slow=9.3,SNR=10								
CTA	Charters Tower	36.36	267	P		P	06	08	00.8 +0.5
CTAO	Charters Tower	36.36	267	*e*P		P	06	08	00.7 +0.3
	7.5nm,0.5s								
STKA	Stephens Creek	39.54	247	P		P	06	08	26.7 -0.3
	1.3nm,0.7s,baz=100,slow=3.8,SNR=5.4								
STKA	Stephens Creek	39.54	247	*e*P		P	06	08	26.9 -0.1
	3.2nm,1.6s								
ASAR	Alice Springs	46.97	259	P		P	06	09	27.3 +0.1
	2.7nm,0.7s,baz=96,slow=6.7,SNR=19								
ASAR	Alice Springs	46.97	259	P		P	06	09	27.3 +0.1
WRAB	Tennant Creek	47.32	264	*e*P		P	06	09	28.9 -1.0
	5.8nm,0.8s								
WRA	Warramunga Arr	47.33	264	P		P	06	09	29.5 -0.5
	5.5nm,0.8s,baz=103,slow=8.0,SNR=34								
WRA	Warramunga Arr	47.33	264	P		P	06	09	29.5 -0.5
FITZ	Fitzroy Crossi	55.75	263	P		P	06	10	33.6 +0.5
	1.8nm,0.8s,baz=146,slow=11,SNR=7.7								
FITZ	Fitzroy Crossi	55.75	263	*e*P		P	06	10	33.5 +0.5
	19nm,1.9s								
MJAR	Matsushiro Arr	74.11	322	P		P	06	12	32.1 +0.1
	0.8nm,0.6s,baz=159,slow=6.7,SNR=4.1								
MJAR	Matsushiro Arr	74.11	322	P		P	06	12	32.1 +0.1
PETK	Petropavlovsk-	79.58	343	P		P	06	13	02.3 -0.1
	4.3nm,0.8s,baz=129,slow=5.7,SNR=2.9								
PETK	Petropavlovsk-	79.58	343	P		P	06	13	02.3 -0.1
NVAR	Mina Array Bea	80.85	41	P		P	06	13	10.7 +0.7
	0.2nm,0.8s,baz=218,slow=9.7,SNR=5.8								
NVAR	Mina Array Bea	80.85	41	P		P	06	13	10.7 +0.7
TXAR	Lajitas Array	85.91	56	P		P	06	13	36.3 +0.3
	0.8nm,0.8s,baz=210,slow=8.7,SNR=9.9								
TXAR	Lajitas Array	85.91	56	P		P	06	13	36.3 +0.3
PDAR	Pinedale Array	88.78	42	P		P	06	13	49.0 -0.7
	0.5nm,0.8s,baz=110,slow=2.2,SNR=3.8								
PDAR	Pinedale Array	88.78	42	P		P	06	13	49.0 -0.7
ILAR	Eielson Array	90.18	12	P		P	06	13	55.4 -0.1
	0.6nm,0.9s,baz=213,slow=5.3,SNR=4.7								
ILAR	Eielson Array	90.18	12	P		P	06	13	55.4 -0.1
YKA	Yellowknife Ar	97.59	24	P		P	06	14	28.7 -0.8
	0.1nm,0.9s,baz=221,slow=5.6,SNR=3.0								
YKA	Yellowknife Ar	97.59	24	P		P	06	14	28.7 -0.8
AKASG	Malin Array Be	146.74	332	PKPbc		PKPdf	06	20	36.3 +0.7
	1.1nm,0.6s,baz=41,slow=4.5,SNR=4.8								
AKASG	Malin Array Be	146.74	332	PKPbc		PKPdf	06	20	36.3 +0.7
CLL	Collm	151.20	350	*e*PKPbc		PKPbc	06	20	49.0 +0.3

IDC 20 06:07:00.7±2.2,16°.39S×176°.56W,h343km±45km, mb3.6/5,mb1 3.8/6,mb1mx3.3/22,**mbtmp3.7**/6,**Error ellipse: s-maj=43.5km s-min=25.7km az=36.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
AFI	Afiamalu	5.23	63	P		Pn	06	08	24.4 +1.7
	8.1nm,0.3s,baz=113,slow=4.9,SNR=12								
AFI				S		S	06	09	28.2 -0.7
	3.2nm,0.3s,baz=32,slow=19,SNR=2.3								
URZ	Urewera	22.49	193	P		P	06	11	31.5 -0.4
	6.3nm,0.4s,baz=352,slow=5.2,SNR=15								
STKA	Stephens Creek	40.92	240	P		P	06	14	11.2 +0.2
	0.8nm,0.4s,baz=87,slow=12,SNR=4.9								
WRA	Warramunga Arr	46.67	258	P		P	06	14	55.8 -0.6
	1.5nm,0.5s,baz=93,slow=7.3,SNR=46								
ASAR	Alice Springs	46.92	253	P		P	06	14	58.4 0.0
	11nm,0.5s,baz=89,slow=7.9,SNR=149								
QSPA	South Pole Stat	73.66	180	P		P	06	17	57.6 +0.2
	1.6nm,0.8s,baz=343,slow=11,SNR=6.3								

MAN 20 06:16:49,5°.41N×127°.84E,h116km,mb5.6,ML4.6,MS5.0, Philippine Islands region

IDC 20 06:19:13.7±1.8,3°.90N×127°.33E,h0km,mb3.6/4, **mb1 3.7**/4,**mb1mx3.5**/23,**mbtmp3.6**/4,**Error ellipse: s-maj=154.7km s-min=21.2km az=67.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
WRA	Warramunga Arr	24.67	164	P		P	06	24	35.5 -1.0
	2.4nm,0.6s,baz=344,slow=10,SNR=21								
ASAR	Alice Springs	28.14	167	P		P	06	25	08.9 +1.2
	0.2nm,0.3s,baz=343,slow=13,SNR=6.4								
MKAR	Makanchi Array	57.76	325	P		P	06	29	06.2 -0.5
	0.3nm,0.5s,baz=131,slow=7.9,SNR=2.0								
KURBB	Kurchatov Arra	61.92	327	P		P	06	29	35.6 +0.4
	0.4nm,0.5s,baz=131,slow=6.4,SNR=8.5								

IDC ***20*** *06:20:35.0±1.1,18°.68S×168°.40E,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.9/19,mbtmp4.1/5,ML3.8/1,MS4.6/1, Ms1 4.6/1,ms1mx3.1/27,Error ellipse: s-maj=37.5km s-min=26.3km az=135.0*
NEIC ***20*** *06:20:40.2±0.7,18°.73S×168°.41E,h35km,mb4.0/3,Error ellipse: s-maj=20.4km s-min=14.1km az=130.0*
ISCJB ***20*** *06:20:40.9±1.7,18°.86S±0°.08×168°.2E±0°.2,h42km, mb4.0/6,MS4.7/1,Error ellipse: s-maj=31.0km s-min=10.6km az=9.8*
ISC 20 06:20:41.0±1.0,18°.8S±0°.1×168°.4E±0°.2,h42km,n27, σ0s78/29,mb4.1/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s ISC
DZM	Mont Dzumac	3.70	209	Pn		Pn	06	21	35.4 -0.3
	7.1nm,0.3s,baz=171,slow=20,SNR=13								
DZM				Sn		Sn	06	22	17.6 -0.5
	16nm,0.3s,baz=117,slow=23,SNR=15								
DZM				LR		LR	06	22	57.0
	comp=Z,251nm,20.4s,baz=201,slow=37								
DZM	Mont Dzumac	3.70	209	*e*P		Pn	06	21	35.3 -0.4
DZM				*e*S		Sn	06	22	18.1 0.0
DZM	Mont Dzumac	3.70	209	*e*Pn		Pn	06	21	35.9 +0.1
DZM				*e*Sn		Sn	06	22	16.8 -1.3
NOUC	Port Laguerre	3.79	210	*e*S		Sn	06	22	19.2 -1.0
STKA	Stephens Creek	27.38	236	P		P	06	26	23.9 +1.5
	1.1nm,0.4s,baz=84,slow=9.1,SNR=9.5								
STKA	Stephens Creek	27.38	236	*e*P		P	06	26	23.7 +1.3
	0.6nm,0.9s								
WRAB	Tennant Creek	32.08	262	*e*P		P	06	27	04.2 -0.1
	2.0nm,0.7s								
WRA	Warramunga Arr	32.09	262	P		P	06	27	04.1 -0.3
	1.6nm,0.6s,baz=102,slow=8.3,SNR=19								
WRA	Warramunga Arr	32.09	262	P		P	06	27	04.1 -0.3
AS31	Alice Springs	32.43	255	*e*P		P	06	27	08.0 +0.7
ASAR	Alice Springs	32.43	255	P		P	06	27	07.3 0.0
	3.1nm,0.6s,baz=85,slow=8.9,SNR=33								
ASAR	Alice Springs	32.43	255	P		P	06	27	07.3 0.0
FITZ	Fitzroy Crossi	40.46	264	*e*P		P	06	28	17.2 +1.4
	4.3nm,0.7s								
QSPA	South Pole Qui	71.22	180	P		P	06	31	56.7 +1.1
	1.0nm,0.8s,baz=322,slow=19,SNR=10.0								
QSPA	South Pole Qui	71.22	180	P		P	06	31	56.7 +1.1
USHA	Ushuaia	92.20	151	LR		LR	07	08	10.0
	comp=Z,237nm,18.3s,baz=218,slow=31								
YKA	Yellowknife Ar	100.68	27	P		Pdif	06	34	24.2 -0.1
	0.1nm,0.6s,baz=258,slow=5.0,SNR=4.4								
YKA	Yellowknife Ar	100.68	27	P		Pdif	06	34	24.2 -0.1
SPITS	Spitsbergen Ar	119.10	354	PKP		PKPdf	06	39	24.1 -0.3
	2.6nm,0.7s,baz=76,slow=7.0,SNR=4.6								
SPITS	Spitsbergen Ar	119.10	354	PKP		PKPdf	06	39	24.1 -0.3
ARCES	ARCESS Array B	124.46	345	PKP		PKPdf	06	39	34.5 -0.5
	3.1nm,1.0s

NVS				*e*Sg	**Sb**	**06 35 21.9**	**+5.0**
NVS	**Novosibirsk**	**4.22**	**311**	*e*PN	**Pn**	**06 34 14.9**	**-1.1**
NVS				*e*		06 34 26.5	
NVS				*e*		06 35 04.2	
NVS				*e*		06 35 21.9	
KURK	**Kurchatov**	**6.49**	**261**	⇑Pn	**Pn**	**06 34 47.1**	**0.0**
	comp=Z,7.6nm,0.5s						
KURK				⇓Sn	**Sn**	**06 36 00.6**	**-0.6**
	comp=Z,7.8nm,0.4s						
KURK				⇑Lg	Lg	06 36 29.8	
	comp=Z,62nm,0.7s						
KURK	**Kurchatov**	**6.49**	**261**	PN	**Pn**	**06 34 48.7**	**+1.6**
KURK						06 36 03.6	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK				smax	smax		
	comp=N,2.0nm,0.3s						
KURBB	**Kurchatov Arra**	**6.58**	**260**	Pn	**Pn**	**06 34 48.7**	**+0.4**
	comp=N,0.8nm,0.3s,baz=73,slow=16,SNR=44						
KURBB				Sn	**Sn**	**06 36 03.6**	**+0.4**
	comp=N,2.4nm,0.3s,baz=141,slow=28,SNR=7.7						
KURBB				Lg	Lg	06 36 35.6	
	comp=N,1.9nm,0.3s,baz=78,slow=33,SNR=12						
KURBB	**Kurchatov Arra**	**6.58**	**260**	⇑Pn	**Pn**	**06 34 48.2**	**0.0**
	comp=N,1.9nm,0.5s,baz=72,slow=16						
KURBB				⇓Sn	**Sn**	**06 36 00.5**	**-2.7**
	comp=N,7.7nm,0.5s						
KURBB				⇑Lg	Lg	06 36 35.1	
	comp=N,17nm,0.7s,baz=76,slow=31						
MK31	**Makanchi Array**	**6.84**	**220**	Pn	**Pn**	**06 34 53.0**	**+1.1**
	comp=N,24nm,0.5s,baz=38,slow=12,SNR=1043						
MK31				⇓Sn	**Sn**	**06 36 08.1**	**-1.6**
	comp=N,12nm,0.5s,baz=46,slow=26,SNR=6.6						
MK31				⇑Lg	Lg	06 36 36.7	
	comp=N,16nm,0.5s,baz=44,slow=32,SNR=6.3						
MKAR	**Makanchi Array**	**6.84**	**220**	Pn	**Pn**	**06 34 52.6**	**+0.7**
	comp=N,12nm,0.3s,baz=40,slow=12,SNR=670						
MKAR				Sn	**Sn**	**06 36 08.8**	**-1.0**
	comp=N,11nm,0.3s,baz=32,slow=27,SNR=12						
MKAR				Lg	Lg	06 36 43.4	
	comp=N,3.5nm,0.3s,baz=27,slow=27,SNR=4.2						
MKAR	**Makanchi Array**	**6.84**	**220**	PN	**Pn**	**06 34 52.6**	**+0.7**
MKAR						06 36 43.4	
MKAR				pmax	pmax		
	comp=Z,13nm,0.3s						
VOSK	**Vostochnaya**	**10.85**	**280**	⇑Pn	Pn	06 35 44.7	-2.2
	comp=Z,1.7nm,0.6s						
VOSK				⇓Sn	**Sn**	**06 37 47.1**	**-1.2**
	comp=Z,2.7nm,0.5s						
BVA0	**Borovoye Array**	**11.19**	**282**	Pn	**Pn**	**06 35 50.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=13						
BVA0				⇓Sn	**Sn**	**06 37 52.9**	**-3.7**
	comp=Z,0.9nm,0.9s,baz=82,slow=25,SNR=3.5						
BVAR	**Borovoye Array**	**11.19**	**282**	Pn	**Pn**	**06 35 49.9**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=96,slow=14,SNR=9.6						
BVAR				Sn	Sn	06 37 51.4	-5.1
	comp=Z,1.4nm,0.3s,baz=76,slow=24,SNR=5.5						
BVAR	**Borovoye Array**	**11.19**	**282**	P	**Pn**	**06 35 49.9**	**-1.6**
BVAR						06 37 51.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**11.25**	**282**	⇑Pn	Pn	06 35 50.1	-2.2
	comp=N,7.1nm,0.8s						
BRVK				⇓Sn	**Sn**	**06 37 54.2**	**-3.9**
	comp=N,5.9nm,0.5s						
ZRNK	**Zerenda**	**12.03**	**281**	⇑Pn	Pn	06 36 00.5	-2.4
	comp=N,4.1nm,1.2s						
ZRNK				⇓Sn	**Sn**	**06 38 13.7**	**-3.4**
	comp=N,4.1nm,0.8s						
SONM	**Songino Array**	**12.16**	**104**	Lg	Lg	06 39 33.0	
	comp=N,0.5nm,0.3s,baz=294,slow=26,SNR=9.1						
AAK	**Ala-Archa**	**13.55**	**231**	Lg	Lg	06 40 18.7	
	comp=N,0.1nm,0.3s,baz=208,slow=17,SNR=4.2						
KK31	**Karatay Array**	**15.24**	**241**	⇑Pn	**Pn**	**06 36 45.9**	**-0.9**
	comp=N,0.5nm,0.4s,baz=43,slow=13,SNR=7.3						
AKTO	**Aktyubinsk**	**19.21**	**277**	P	**P**	**06 37 35.6**	**+0.1**
	comp=N,0.2nm,0.3s,baz=80,slow=14,SNR=6.8						
AKTO	**Aktyubinsk**	**19.21**	**277**	P	**P**	**06 37 35.7**	**+0.1**
ILAR	**Eielson Array**	**55.74**	**25**	P	P	06 42 44.6	-3.2
	comp=N,0.5nm,0.9s,baz=318,slow=5.1,SNR=6.1						
YKA	**Yellowknife Ar**	**64.18**	**12**	P	P	06 43 42.6	-3.2
	comp=N,0.2nm,0.8s,baz=342,slow=7.1,SNR=5.9						
WRA	**Warramunga Arr**	**82.07**	**137**	P	P	06 45 28.0	-4.0
	comp=N,0.4nm,0.9s,baz=341,slow=6.0,SNR=3.7						

IDC ***20*** *06:38:27.2±1.5,23.07S×175.12W,h0km,mb4.1/10, mb1 4.4/11,mb1mx4.2/21,mbtmp4.1/11,ML2.5/1,Error ellipse: s-maj=60.7km s-min=19.4km az=149.0*

ISCJB ***20*** *06:38:31.0±1.1,22.7S±0.2×175.4W±0.2,h30km,mb4.1/12, Error ellipse: s-maj=41.6km s-min=12.4km az=143.5*

NEIC ***20*** *06:38:32.2±0.9,23.22S×175.10W,h35km,mb4.6/3,Error ellipse: s-maj=43.7km s-min=10.6km az=154.0*

ISC 20 06:38:32.3±1.2,22.9S±0.2×175.2W±0.2,h30km,n30, σ0s89/27,mb4.1/11,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.14**	**308**	*e*Pn	Pn	06 40 37.5	+8.9
AFI	**Afiamalu**	**9.49**	**21**	Pn	**Pn**	**06 40 45.5**	**-1.5**
	2.8nm,0.3s,baz=173,slow=15,SNR=5.7						
AFI				Sn	Sn	06 42 22.6	-10
	1.3nm,0.3s,baz=24,slow=20,SNR=2.5						
AFI	**Afiamalu**	**9.49**	**21**	*e*Pn	**Pn**	**06 40 46.4**	**-0.6**
AFI				*e*Sn	Sn	06 42 24.8	-7.9
CTA	**Charters Tower**	**35.92**	**267**	P	**P**	**06 45 30.4**	**+0.3**
	19nm,1.0s,baz=102,slow=13,SNR=11						
CTA	**Charters Tower**	**35.92**	**267**	P	**P**	**06 45 30.4**	**+0.3**
CTAO	**Charters Tower**	**35.92**	**267**	*e*P	**P**	**06 45 30.3**	**+0.1**
	12nm,0.7s						
STKA	**Stephens Creek**	**39.20**	**247**	P	**P**	**06 45 57.3**	**-0.5**
	0.6nm,0.4s,baz=53,slow=9.4,SNR=2.9						
STKA	**Stephens Creek**	**39.20**	**247**	P	**P**	**06 45 57.3**	**-0.5**
ASAR	**Alice Springs**	**46.56**	**259**	P	**P**	**06 46 56.4**	**-1.3**
	1.6nm,0.7s,baz=95,slow=8.0,SNR=15						
ASAR	**Alice Springs**	**46.56**	**259**	P	**P**	**06 46 56.4**	**-1.3**
WRAB	**Tennant Creek**	**46.89**	**264**	*e*P	**P**	**06 46 58.9**	**-1.3**
	6.1nm,1.1s						
WRA	**Warramunga Arr**	**46.90**	**264**	P	**P**	**06 46 58.9**	**-1.4**
	3.3nm,0.7s,baz=93,slow=8.4,SNR=71						
WRA	**Warramunga Arr**	**46.90**	**264**	P	**P**	**06 46 58.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**55.32**	**263**	*e*P	**P**	**06 48 03.0**	**-0.5**
	6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**73.67**	**322**	P	**P**	**06 50 04.1**	**+1.0**
	1.0nm,0.6s,baz=155,slow=6.9,SNR=3.2						
MJAR	**Matsushiro Arr**	**73.67**	**322**	P	**P**	**06 50 04.1**	**+1.0**
NVAR	**Mina Array Bea**	**81.00**	**42**	P	**P**	**06 50 44.4**	**0.0**
	0.8nm,0.8s,baz=229,slow=9.7,SNR=3.5						
NVAR	**Mina Array Bea**	**81.00**	**42**	P	**P**	**06 50 44.4**	**0.0**
TXAR	**Lajitas Array**	**86.17**	**56**	P	**P**	**06 51 10.8**	**-0.2**
	0.4nm,0.9s,baz=216,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**86.17**	**56**	P	**P**	**06 51 10.8**	**-0.2**
ILAR	**Eielson Array**	**90.07**	**12**	P	**P**	**06 51 29.2**	**+0.6**
	0.6nm,0.9s,baz=228,slow=4.0,SNR=5.5						
ILAR	**Eielson Array**	**90.07**	**12**	P	**P**	**06 51 29.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**93.35**	**288**	P	**P**	**06 51 46.3**	**+1.3**
	0.9nm,0.3s,baz=130,slow=2.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.35**	**288**	P	**P**	**06 51 46.3**	**+1.3**
YKA	**Yellowknife Ar**	**97.58**	**24**	P	Pdif	06 52 03.4	+0.1
	0.2nm,0.8s,baz=243,slow=4.2,SNR=3.6						
YKA	**Yellowknife Ar**	**97.58**	**24**	P	Pdif	06 52 03.4	+0.1
AKASG	**Malin Array Be**	**146.34**	**332**	PKPbc	**PKPbc**	**06 58 10.1**	**+0.2**
	0.4nm,0.4s,baz=53,slow=3.3,SNR=4.5						
AKASG	**Malin Array Be**	**146.34**	**332**	PKPbc	**PKPbc**	**06 58 10.1**	**+0.2**
BRTR	**Keskin Array B**	**150.36**	**311**	PKPbc	**PKPbc**	**06 58 21.2**	**+0.1**
	1.5nm,0.9s,baz=181,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**150.36**	**311**	PKPbc	**PKPbc**	**06 58 21.2**	**+0.1**

ISCJB ***20*** *06:48:54.1±0.4,43.22N±0.03×125.19E±0.05,h10km, mb3.8/11,MS3.8/3,Error ellipse: s-maj=5.7km s-min=3.9km az=30.6*

IDC ***20*** *06:48:55.6±0.8,43.42N×125.15E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.8/28,mbtmp3.8/11,ML3.2/2,MS3.7/2, Ms1 3.7/2,ms1mx3.0/27,Error ellipse: s-maj=17.5km s-min=16.2km az=34.0*

BJI ***20*** *06:48:56.5,43.38N×124.84E,h7km,mb4.2/5,ML4.5/14, Ms4.2/4,Ms7 4.0/3*

NEIC ***20*** *06:48:57.6±0.6,43.48N×125.24E,h10km,mb4.2/3,Error ellipse: s-maj=14.3km s-min=11.1km az=224.0*

NEIC Felt [II] at Changchun. Also felt at Siping.

ISC 20 06:48:58.7±0.5,43.32N±0.04×125.14E±0.05,h10km,n38, σ2s17/37,mb3.9/11,MS3.9/3,2C,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**0.53**	**25**	⇑Pg	**Pg**	**06 49 07.3**	**-1.7**
CN2				*e*Sg	**Sg**	**06 49 14.3**	**-1.7**
SNY	**Shenyang**	**1.89**	**218**	⇑Pn	Pn	06 49 28.1	-2.9
SNY				Sg	**Sn**	**06 49 56.8**	**+2.0**
SNY				smax	smax		
	comp=N,5μm,0.5s						
SNY				smax	smax		
	comp=E,5μm,0.6s						
MDJ	**Mudanjiang**	**3.46**	**67**	Pg	**Pb**	**06 50 02.1**	**+2.0**
MDJ				Sg	**Sg**	**06 50 48.8**	**-1.1**
MDJ				smax	smax		
	comp=N,2μm,0.6s						
MDJ				smax	smax		
	comp=E,2μm,0.9s						
MDJ	**Mudanjiang**	**3.46**	**67**	*e*Pn	**Pn**	**06 49 51.4**	**-1.3**
MDJ				*e*Pg	**Pb**	**06 50 00.8**	**+0.7**
MDJ				*e*Sg	**Sg**	**06 50 48.1**	**-1.8**
USRK	**Ussuriysk Arra**	**5.04**	**78**	Pn	Pn	06 50 12.4	-1.9
	comp=E,2.6nm,0.3s,baz=253,slow=12,SNR=28						
USRK				Pg	**Pb**	**06 50 28.9**	**+1.8**
	comp=E,17nm,0.3s,baz=269,slow=15,SNR=44						
USRK				Lg	Lg	06 51 37.9	
	comp=E,32nm,0.3s,baz=258,slow=28,SNR=14						
DL2	**Dalian**	**5.15**	**212**	Pg	**Pb**	**06 50 29.6**	**+0.8**
DL2				Sg	**Sb**	**06 51 36.1**	**+5.4**
DL2				smax	smax		
	comp=N,740nm,0.8s						
DL2				smax	smax		
	comp=E,770nm,0.8s						
INCN	**Inchon**	**5.94**	**168**	*e*Pg	Pb	06 50 47.7	+5.3
	comp=E,82nm,0.4s						
INCN				*e*Sg	Sb	06 52 06.0	+12
KSRS	**Korea Array**	**6.23**	**159**	Pn	**Pn**	**06 50 31.1**	**+0.4**
	comp=E,2.3nm,0.3s,baz=340,slow=13,SNR=16						
KSRS				Pg	Pb	06 50 53.8	+6.5
	comp=E,12nm,0.3s,baz=337,slow=17,SNR=38						
KSRS				Sn	**Sn**	**06 51 40.9**	**-1.0**
	comp=E,7.3nm,0.3s,baz=342,slow=23,SNR=5.4						
KSRS				Lg	Lg	06 52 15.8	
	comp=E,49nm,0.3s,baz=343,slow=29,SNR=20						
KSAR	**Wonju Array Be**	**6.23**	**159**	Pn	**Pn**	**06 50 31.1**	**+0.4**
KSAR				Pg	Pb	06 50 53.8	+6.4
KSAR				Sn	**Sn**	**06 51 40.9**	**-1.1**
KSAR				Lg	Lg	06 52 15.8	
HIA	**Hailar**	**7.03**	**330**	*e*Pn	Pn	06 50 36.5	-5.1
	comp=E,27nm,0.5s						
HIA				*e*Sg	Sb	06 52 32.0	+7.3
BJT	**Baijiatuau**	**7.49**	**247**	*e*Pg	**Pb**	**06 51 11.7**	**+3.0**
BJT				*e*Sg	Sb	06 52 48.4	+11
HHC	**Hu-ho-hao-te**	**10.39**	**261**	*e*P	Pn	06 51 21.5	-6.4
HHC				pP		06 51 29.0	
HHC				PP	**PnPn**	**06 51 30.3**	**-5.1**
HHC				sP		06 51 33.1	
HHC				S	**Sn**	**06 53 20.3**	**-4.1**
HHC				sS		06 53 27.9	
HHC				SS	**SnSn**	**06 53 34.4**	**-1.5**
HHC				PcP	PcP	06 57 26.9	-6.9
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,88nm,1.8s						
HHC				LR	LR		
	comp=N,520nm,8.3s						
HHC				LR	LR		
	comp=E,610nm,7.7s						
HHC				LR	LR		
	comp=Z,410nm,8.3s						
NJ2	**Nanjing**	**12.30**	**206**	*e*P	Pn	06 51 48.8	-5.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**17.88**	**253**	*e*P	**Pn**	**06 53 06.1**	**-1.6**
LZH				pP	**P**	**06 53 10.3**	**+1.9**
LZH				sP	**sP**	**06 53 12.8**	**+0.3**
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
GTA	**Gaotai**	**19.38**	**267**	*e*P	**P**	**06 53 24.5**	**-0.3**
GTA				pP	**pP**	**06 53 29.9**	**+2.3**
GTA				sP	**sP**	**06 53 33.3**	**+4.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
QIZ	**Qiongzhong**	**27.44**	**213**	P	P	06 54 38.1	-6.6
QIZ				S	S	06 59 18.9	-6.3
QIZ				LR	LR		
	comp=N,260nm,17.7s						
QIZ				LR	LR		
	comp=E,120nm,15.3s						
QIZ				LR	LR		
	comp=Z,260nm,18.3s						
MK31	**Makanchi Array**	**30.19**	**292**	*e*P	**P**	**06 55 09.0**	**-0.1**
MKAR	**Makanchi Array**	**30.19**	**292**	P	**P**	**06 55 08.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=82,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**30.19**	**292**	P	**P**	**06 55 08.4**	**-0.7**
KURK	**Kurchatov**	**32.12**	**300**	*e*P	**P**	**06 55 25.3**	**-0.7**
	comp=Z,4.1nm,0.9s						
KURBB	**Kurchatov Arra**	**32.18**	**300**	P	**P**	**06 55 24.4**	**-2.2**
	comp=Z,1.7nm,0.7s,baz=88,slow=9.4,SNR=8.2						
AAK	**Ala-Archa**	**36.60**	**287**	LR	LR	07 10 05.4	
	comp=Z,62nm,18.6s,baz=282,slow=35						
ABKAR	**Akbulak array**	**44.19**	**301**	*e*P	**P**	**06 57 07.6**	**0.0**
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**51.04**	**33**	P	P	06 57 57.9	-2.7
	comp=Z,1.2nm,0.7s,baz=286,slow=6.7,SNR=19						
ILAR	**Eielson Array**	**51.04**	**33**	P	P	06 57 57.9	-2.7
INK	**Inuvik**	**54.46**	**27**	P	**P**	**06 58 23.5**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=308,slow=6.4,SNR=18						
INK	**Inuvik**	**54.46**	**27**	*e*P	**P**	**06 58 23.5**	**-2.3**
	comp=Z,1.4nm,0.5s						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**06 58 43.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=66,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**06 58 43.4**	**-0.9**
WRA	**Warramunga Arr**	**63.51**	**170**	P	**P**	**06 59 28.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=358,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**63.51**	**170**	P	**P**	**06 59 28.4**	**-0.7**
YKA	**Yellowknife Ar**	**64.23**	**26**	P	P	06 59 30.6	-2.7
	comp=Z,0.5nm,0.6s,baz=311,slow=6.6,SNR=19						
YKA	**Yellowknife Ar**	**64.23**	**26**	P	P	06 59 30.6	-2.7
STKA	**Stephens Creek**	**76.34**	**166**	P	P	07 00 46.2	-1.5
	comp=Z,0.7nm,0.3s,baz=349,slow=5.2,SNR=2.9						
STKA	**Stephens Creek**	**76.34**	**166**	P	P	07 00 46.2	-1.5
ULM	**Lac du Bonnet**	**80.17**	**25**	LR	LR	07 36 21.2	
	comp=Z,71nm,18.9s,baz=323,slow=36						
NVAR	**Mina Array Bea**	**80.39**	**45**	P	P	07 01 07.5	-3.1
	comp=Z,0.4nm,0.6s,baz=283,slow=2.6,SNR=3.8						
NVAR	**Mina Array Bea**	**80.39**	**45**	P	P	07 01 07.5	-3.1

NIED ***20*** *06:52:00,42.60N×144.60E,h65km,Mw5.0 Best double couple: M0 3.48000×10^16 NP1:φs50.00000°,δ85.00000°, λ108.00000°. NP2:φs154.00000°,δ19.00000°,λ15.00000°.*

DJA ***20*** *06:52:07.4±1.6,43°N±15°×14°5E±2°5,h10km,M5.3/8, mB5.7/5,mb5.2/8,Mw(mB)5.3/5*

TEH ***20*** *06:52:13.0,42.71N×144.38E,h27km,ML5.2*

ISCJB ***20*** *06:52:14.3±0.2,42.58N±0.02×144.42E±0.02,h57km±2km, mb5.2/308,MS4.4/39,Error ellipse: s-maj=3.3km s-min=2.1km az=157.6*

BJI ***20*** *06:52:14.1,42.75N×144.63E,h67km,mB5.1/28,mb5.1/47, Ms4.4/38,Ms7 4.2/34*

JMA ***20*** *06:52:14.6±0.1,42.60N×144.54E,h64km±1km,M5.0*

JMA Felt III J1.

MOS ***20*** *06:52:14.5±0.9,42.59N×144.41E,h59km,mb5.5/107, MS4.6/11,Error ellipse: s-maj=6.1km s-min=3.9km az=104.7*

IDC ***20*** *06:52:15.5±0.5,42.62N×144.55E,h56km±4km,mb4.9/36, mb1 5.0/41,mb1mx5.0/42,mbtmp4.9/41,MS4.2/21, Ms1 4.2/21,ms1mx4.0/35,Error ellipse: s-maj=8.6km s-min=6.7km az=31.0*

NEIC ***20*** *06:52:16.8±0.4,42.64N×144.38E,h65km±3km,mb5.1/201, MW5.0(NIED),Error ellipse: s-maj=3.0km s-min=2.1km az=164.0*

NEIC Recorded [3 JMA] in eastern and [2 JMA] in southeastern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.

SKHL ***20*** *06:52:16.4±1.0,42.66N×144.56E,h88km±10km,mb6.2/2, mbh5.9/2,Ms4.5/2,msh6.5/3*

SZGRF ***20*** *06:52:20.9,43.80N×145.10E,h43km,mb5.2,Hokkaido, Japan, region*

BGS ***20*** *06:52:28.7±1.5,43.95N×140.81E,h67km,mb5.0*

ISC 20 06:52:15.9±0.3,42.63N±0.03×144.53E±0.03,h62km±2km, h61km:pP-P,n1267,σ1s11/1352,mb5.2/308,304C-226D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.38**	**18**	⇓P	**Pn**	**06 52 26.0**	**-0.9**
JAK				*e*S	**Sn**	**06 52 34.2**	**-0.6**
JOB	**Onbets**	**0.58**	**298**	⇓P	**Pn**	**06 52 28.1**	**-0.8**
JCH	**Churui**	**0.86**	**269**	⇓P	**Pn**	**06 52 31.3**	**-1.0**
JCH				*e*S	**Sn**	**06 52 42.7**	**-1.7**
JAR	**Ashorobuto**	**0.87**	**320**	⇓P	**Pn**	**06 52 31.7**	**-0.7**
JAR				*e*S	**Sn**	**06 52 44.0**	**-0.5**
JNK	**Nakash**	**0.96**	**8**	⇓P	**Pn**	**06 52 32.7**	**-0.9**
JNK				*e*S	**Sn**	**06 52 45.9**	**-0.7**
NEM2	**Nemuro 2**	**1.15**	**50**	⇓P	**Pn**	**06 52 34.7**	**-1.3**
NEM2				*e*S	**Sn**	**06 52 49.4**	**-1.5**
JEM	**Erimo**	**1.19**	**239**	P	**Pn**	**06 52 35.6**	**-0.9**
ERM	**Erimo**	**1.19**	**239**	*e*PN	**Pn**	**06 52 36.8**	**+0.3**
ERM				*e*		06 52 52.9	
ERM	**Erimo**	**1.19**	**239**	*e*Pn	**Pn**	**06 52 36.8**	**+0.3**
ERM				*e*Sn	**Sn**	**06 52 52.9**	**+1.0**
ERM	**Erimo**	**1.19**	**239**	Pn	**Pn**	**06 52 37.7**	**+1.2**
	38μm,0.4s						
JNBK	**Urakawa-nobuka**	**1.36**	**256**	⇓P	**Pn**	**06 52 37.4**	**-1.4**
JRA	**Rausu**	**1.37**	**18**	⇓P	**Pn**	**06 52 38.6**	**-0.3**
JRA				*e*S	**Sn**	**06 52 56.1**	**-0.1**
JTKR	**Abashiri--Toko**	**1.41**	**341**	⇓P	**Pn**	**06 52 39.9**	**+0.4**
JTKR				*e*S	**Sn**	**06 52 58.6**	**+1.5**
JFR	**Furan**	**1.52**	**291**	⇓P	**Pn**	**06 52 40.0**	**-0.9**
JBT2	**Biratori 2**	**1.61**	**276**	⇓P	**Pn**	**06 52 40.4**	**-1.7**
JMP	**Maruseppu**	**1.62**	**328**	⇓P	**Pn**	**06 52 42.3**	**0.0**
JMP				*e*S	**Sn**	**06 53 03.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.70**	**34**	*d i*PN	**Pn**	**06 52 43.4**	**0.0**
YUK				*i* S	**Sn**	**06 53 04.1**	**0.0**
YUK				pmax	pmax		
	comp=N,810nm,0.3s						
YUK				pmax	pmax		
	comp=E,845nm,0.3s						
YUK				pmax	pmax		
	comp=Z,6μm,0.3s						
YUK				smax	smax		
	comp=E,36μm,0.7s						
YUK				smax	smax		
	comp=N,26μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**34**	⇓*i*P	**Pn**	**06 52 43.4**	**0.0**
YUK				AMB	AMB	06 52 44.3	
	comp=N,810nm,0.3s						
YUK				AMB	AMB	06 52 44.3	
	comp=N,845nm,0.3s						
YUK				AMB	AMB	06 52 44.3	
	comp=N,6μm,0.3s						
YUK				*i* S	**Sn**	**06 53 04.2**	**+0.1**
YUK				A	A	06 53 05.6	
	comp=N,26μm,0.7s						
YUK				A	A	06 53 05.6	
	comp=N,36μm,0.7s						
ASAJ	**Asahikawa**	**2.05**	**317**	P	**Pn**	**06 52 48.6**	**+0.6**
	comp=N,326nm,0.3s,baz=178,slow=10,SNR=454						
ASAJ				S	**Sn**	**06 53 13.8**	**+1.3**
	comp=N,1μm,0.3s,baz=3.4,slow=31,SNR=16						
ASAJ	**Asahikawa**	**2.05**	**317**	*e*Pn	**Pn**	**06 52 49.0**	**+0.9**
ASAJ				*e*Sn	**Sn**	**06 53 18.3**	**+5.7**
JOT	**Ohata**	**2.88**	**245**	⇑P	**Pn**	**06 52 58.8**	**-0.6**
JANG	**Nango**	**3.20**	**226**	P	**Pn**	**06 53 01.2**	**-2.6**
KUR	**Kuril'sk**	**3.54**	**42**	⇓*i*PN	**Pn**	**06 53 09.8**	**+1.4**
KUR				*e*S	**Sn**	**06 53 49.0**	**0.0**
KUR				pmax	pmax		
	comp=N,4μm,1.0s						
KUR				pmax	pmax		
	comp=E,3μm,1.0s						
KUR				pmax	pmax		
	comp=Z,6μm,1.0s						
KUR				pmax	pmax		
	comp=N,680nm,0.6s						
KUR				pmax	pmax		
	comp=E,680nm,0.6s						
KUR				smax	smax		
	comp=N,12μm,2.0s						
KUR				smax	smax		
	comp=E,10μm,2.0s						
KUR				smax	smax		
	comp=N,2μm,0.8s						
KUR				smax	smax		
	comp=E,4μm,0.8s						
KUR	**Kuril'sk**	**3.54**	**42**	⇓*i*P	**Pn**	**06 53 09.8**	**+1.4**
KUR				⇓*i*P	**Pn**	**06 53 09.8**	**+1.4**
KUR				AMB	AMB	06 53 18.0	
	comp=E,4μm,1.0s						
KUR				AMB	AMB	06 53 18.0	
	comp=E,3μm,1.0s						
KUR				AMB	AMB	06 53 18.0	
	comp=E,6μm,1.0s						
KUR				AMB	AMB	06 53 23.8	
	comp=E,1μm,0.7s						
KUR				AMB	AMB	06 53 23.8	
	comp=E,680nm,0.6s						
KUR				*e*S	**Sn**	**06 53 49.0**	**0.0**
KUR				A	A	06 53 54.0	
	comp=E,12μm,2.0s						
KUR				A	A	06 53 54.0	
	comp=E,10μm,2.0s						
KUR				A	A	06 53 56.4	
	comp=E,2μm,0.8s						
KUR				A	A	06 53 56.4	
	comp=E,4μm,0.8s						
JKZ	**Kuzumaki**	**3.58**	**223**	⇑P	**Pn**	**06 53 06.9**	**-2.1**
MIYJ	**Miyakonagasawa**	**3.68**	**215**	⇑P	**Pn**	**06 53 07.4**	**-2.9**
JAH	**Hinai**	**3.81**	**232**	⇑P	**Pn**	**06 53 10.8**	**-1.4**
JOM	**Ohasama**	**4.00**

comp=E,11nm,0.3s,baz=30,slow=13,SNR=175
MJAR LR LR 06 57 36.3
comp=E,2µm,21.9s,baz=40,slow=41
MJAR Matsushiro Arr 7.80 221 P Pn 06 54 05.3 -1.5
JNG Nsakai 7.96 221 P Pn 06 54 07.6 -1.4
TYV Tymovskoe 8.33 352 *e*P **Pn 06 54 15.0 +1.1**
TYV AMB AMB 06 54 17.0
comp=E,88nm,1.0s
TYV AMB AMB 06 54 17.0
comp=E,176nm,1.0s
TYV AMB AMB 06 54 28.0
comp=E,1µm,4.0s
TYV AMB AMB 06 54 28.0
comp=E,1µm,4.0s
TYV AMS AMS 06 57 55.0
comp=E,2µm,18.0s
TYV AMS AMS 06 57 55.0
comp=E,2µm,18.0s
JGN Niukaw 8.49 223 P Pn 06 54 15.2 -1.1
HABR Khabarovsk 8.85 315 *e*PN **Pn 06 54 18.1 -2.9**
HABR pmax pmax
comp=Z,147nm,1.3s
HABR pmax pmax
comp=E,189nm,1.3s
HABR pmax pmax
comp=N,79nm,1.0s
HABR MLR MLR
comp=Z,2µm,19.0s
USRK Ussurivsk Arra 9.26 284 P Pn 06 54 27.6 +1.1
comp=Z,1.4nm,0.3s,baz=86,slow=15,SNR=4.0
USRK LR LR 06 58 00.1
comp=Z,1µm,19.3s,baz=85,slow=37
VLA Vladivostok 9.30 277 *e*PN **Pn 06 54 25.8 -1.3**
JHJ Hachijo jima 2 10.21 203 P Pn 06 54 36.6 -3.1
comp=Z,79nm,0.3s,baz=169,slow=8.5,SNR=14
JHJ LR LR 06 59 04.3
comp=Z,1µm,21.9s,baz=95,slow=40
MDJ Mudanjiang 11.01 285 P Pn 06 54 48.8 -1.8
MDJ S **Sn 06 56 48.4 -3.7**
MDJ PcP **PcP 07 00 44.8 +0.7**
MDJ ScS **ScS 07 07 44.6 -1.7**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,67nm,4.4s
MDJ LR LR
comp=N,360nm,17.1s
MDJ LR LR
comp=E,560nm,16.0s
MDJ LR LR
comp=Z,760nm,17.1s
SKR Severo-Kuril's 11.31 41 *e*PN **Pn 06 54 51.5 -3.1**
SKR pmax pmax
comp=E,90nm,0.7s
SKR pmax pmax
comp=Z,190nm,0.7s
SKR pmax pmax
comp=N,80nm,0.5s
SKR MLR MLR
comp=Z,2µm,16.0s
SKR Severo-Kuril's 11.31 41 *e*P **Pn 06 54 51.5 -3.1**
SKR AMB AMB 06 54 54.0
comp=Z,80nm,0.5s
SKR AMB AMB 06 54 54.0
comp=Z,90nm,0.7s
SKR AMB AMB 06 54 54.0
comp=Z,190nm,0.7s
SKR AMS AMS 06 59 16.0
comp=Z,2µm,16.0s
PEA0B Petropavlovsk- 13.68 35 *e*Pn **Pn 06 55 24.0 -2.9**
PETK Petropavlovsk- 13.68 35 P **Pn 06 55 23.9 -3.0**
comp=Z,4.2nm,0.3s,baz=194,slow=13,SNR=34
PETK LR LR 07 00 37.8
comp=Z,308nm,18.1s,baz=104,slow=37
PETK Petropavlovsk- 13.68 35 P **Pn 06 55 23.9 -3.0**
PETK Petropavlovsk- 13.68 35 P **Pn 06 55 23.9 -3.0**
KSRS Korea Array 13.73 253 P **Pn 06 55 27.5 -0.1**
baz=74,slow=13,SNR=3.6
KSRS LR LR 07 00 31.2
comp=Z,631nm,20.0s,baz=65,slow=36
KSAR Wonju Array Be 13.76 253 P Pn 06 55 27.5 -0.5
CN2 Changchun 13.97 281 *e*P **Pn 06 55 31.3 +0.6**
CN2 *e*S **Sn 06 58 03.5 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
PET Petropavlovsk 14.04 37 *e*P **Pn 06 55 30.3 -1.3**
PET *e*S **Sn 06 58 05.9 +0.2**
PET pmax pmax
comp=Z,77nm,1.3s
PET MLR MLR
comp=Z,1µm,13.0s
PET Petropavlovsk 14.04 37 *e*Pn **Pn 06 55 32.0 +0.4**
JNU Nakatsue 14.35 233 LR LR 07 01 49.6
comp=Z,495nm,20.4s,baz=42,slow=40
SNY Shenyang 15.54 274 ⇑P **P 06 55 54.6 +0.3**
SNY pmax pmax
comp=Z,36nm,0.7s
SNY pmax pmax
comp=Z,240nm,10.6s
SNY LR LR
comp=N,320nm,12.5s
SNY LR LR
comp=E,470nm,21.6s
SNY LR LR
comp=Z,520nm,28.4s
CBIJ Chichi jima 15.62 188 P **Pn 06 55 53.6 +1.4**
comp=Z,24nm,0.3s,baz=322,slow=17,SNR=9.2
CBIJ Chichi jima 15.62 188 P **Pn 06 55 53.6 +1.4**
HIA Hailar 18.42 300 *e*P **P 06 56 24.9 -1.2**
JOW Kunigami 20.61 225 P **P 06 56 51.3 +1.3**
comp=E,18nm,0.8s,baz=1.5,slow=21,SNR=4.1
JOW Kunigami 20.61 225 *e*P Pn 06 56 52.2 -0.6
comp=Z,27nm,1.0s
SEY Seymchan 20.85 10 *e*P **P 06 56 49.8 -2.5**
YAK Yakutsk 21.34 341 *e*P **P 06 56 54.3 -3.3**
YAK *e**PP **pP 06 57 14.0 +3.0**
YAK *e*S **S 07 00 43.9 -7.0**
YAK *e* 07 00 55.8
YAK *e* 07 08 13.1
YAK pmax pmax
comp=Z,96nm,0.8s
YAK pmax pmax
comp=N,26nm,1.1s
YAK smax smax
comp=N,124nm,1.0s
YAK smax smax
comp=E,79nm,0.9s
YAK Yakutsk 21.34 341 *e*P **P 06 56 54.1 -3.4**
comp=E,147nm,0.7s
BJI Beijing 21.41 273 P **P 06 56 57.8 -0.7**
BJI S **S 07 00 52.8 +0.1**
BJI pmax pmax
comp=Z,42nm,0.9s
BJI pmax pmax
comp=Z,110nm,3.8s
BJI LR LR
comp=N,630nm,17.5s
BJI LR LR
comp=E,380nm,19.4s
BJI LR LR
comp=Z,450nm,29.8s
BJT Baijiatuau 21.42 273 *e*P **P 06 56 57.9 -0.7**
comp=Z,49nm,0.6s
FX1 Attu Island--F 21.67 52 P **P 06 57 03.0 +1.8**
comp=Z,273nm,0.8s,baz=308,slow=3.0,SNR=33
FX1 Attu Island--F 21.67 52 *e*P **P 06 57 03.0 +1.8**
CIT Chita 22.85 305 *e*P **P 06 57 14.7 +0.8**
CIT *e* 07 01 16.1
CIT pmax pmax
comp=Z,233nm,1.1s
NJ2 Nanjing 22.90 251 *e*P **P 06 57 14.1 -0.4**
NJ2 pP **pP 06 57 28.0 0.0**
NJ2 sP **sP 06 57 35.0 -0.7**
NJ2 PcP **PcP 07 01 04.0 +1.0**
NJ2 S **S 07 01 20.0 +0.4**
NJ2 sS **sS 07 01 43.0 -1.0**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,260nm,4.0s
NJ2 LR LR
comp=N,670nm,12.2s
NJ2 LR LR
comp=E,1µm,10.8s
NJ2 LR LR
comp=Z,1µm,13.2s
HHC Hu-ho-hao-te 24.58 277 *e*P **P 06 57 30.4 +0.2**
HHC PP **PnPn 06 58 06.3 +2.0**
HHC PcP **PcP 07 01 07.0 +0.4**
HHC S **S 07 01 46.3 -0.6**
HHC SS **SnSn 07 02 42.3 +5.1**
HHC pmax pmax
comp=Z,29nm,1.4s
HHC pmax pmax
comp=Z,140nm,7.1s
HHC LR LR
comp=N,220nm,15.5s
HHC LR LR
comp=E,230nm,19.0s
HHC LR LR
comp=Z,280nm,22.6s
ULN Ulaanbaatar 26.71 294 *e*P **P 06 57 49.2 -0.3**
comp=Z,46nm,1.0s
ULN Ulaanbaatar 26.71 294 P **P 06 57 50.4 +0.9**
SNR=5.4
ULN Ulaanbaatar 26.71 294 mb 06 57 54.6
SNR=8.7
ULN Ulaanbaatar 26.71 294 P **P 06 57 51.7 +2.2**
comp=Z,46nm,1.0s,comp=Z,718nm
WHN Wuhan 26.93 253 P **P 06 57 52.4 +1.1**
WHN pP **pP 06 58 07.8 +1.5**
WHN S **S 07 02 21.6 -2.3**
WHN LR LR
comp=Z,960nm,19.5s
SONM Songino Array 27.16 294 P **P 06 57 54.1 +0.6**
comp=Z,74nm,0.8s,baz=82,slow=8.5,SNR=49
SONM ScP **ScP 07 04 48.5 +1.2**
comp=Z,0.6nm,0.3s,baz=107,slow=2.0,SNR=4.0
SONM Songino Array 27.16 294 P **P 06 57 54.1 +0.6**
SONM ScP **ScP 07 04 48.5 +1.2**
BILL Bilibino 27.98 17⇓*e*P **P 06 57 57.6 -2.8**
BILL *e* 06 58 47.5
BILL pmax pmax
comp=Z,20nm,1.0s
BILL MLR MLR
comp=Z,200nm,18.0s
BILL Bilibino 27.98 17 *e*P **P 06 57 57.3 -3.1**
comp=Z,18nm,0.6s
TLY Talaya 28.91 303 *e*P **P 06 58 09.6 +0.8**
TLY pmax pmax
comp=Z,29nm,0.8s
TLY Talaya 28.91 303 *e*P **P 06 58 09.6 +0.8**
comp=Z,29nm,0.8s
XAN Xi'an 29.05 265 P **P 06 58 10.9 +0.6**
XAN pP **pP 06 58 25.5 +0.1**
XAN S **S 07 03 00.8 +3.4**
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN pmax pmax
comp=Z,31nm,7.6s
XAN LR LR
comp=N,160nm,16.9s
XAN LR LR
comp=Z,61nm,19.5s
TIXI Tiksi 30.10 350 *e*P **P 06 58 16.3 -2.8**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 30.10 350 *e*P **P 06 58 16.3 -2.8**
comp=Z,8.6nm,0.7s
ENH Enshi 30.55 258 *e*P **P 06 58 24.5 +0.9**
comp=Z,18nm,0.6s
ENH *e* 06 58 39.5
MOY Mondy 30.55 302 *e*P **P 06 58 23.8 +0.3**
MOY pmax pmax
comp=Z,106nm,2.3s
LZH Lanzhou 31.90 272 P **P 06 58 36.9 +1.3**
LZH pP **pP 06 58 53.0 +2.3**
LZH sP **sP 06 59 01.5 +3.5**
LZH S **S 07 03 41.3 -0.9**
LZH sS **sS 07 04 07.4 -0.6**
LZH SS **SnSn 07 05 32.0 -3.5**
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.0s
LZH LR LR
comp=N,1µm,13.8s
LZH LR LR
comp=E,770nm,12.4s
LZH LR LR
comp=Z,1µm,14.5s
GAMB Gambell 32.72 35 *e*P **P 06 58 42.5 +0.3**
comp=Z,22nm,1.2s
GTA Gaotai 33.60 280 ⇓P **P 06 58 51.3 +1.0**
GTA pP **pP 06 59 06.3 +0.7**
GTA sP **sP 06 59 13.4 +0.6**
GTA PP **PnPn 07 00 04.5 +0.9**
GTA PcP **PcP 07 01 31.3 +1.9**
GTA S **S 07 04 08.8 +0.3**
GTA sS **sS 07 04 34.1 -0.3**
GTA SS **SnSn 07 06 16.0 -0.6**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=N,330nm,19.7s
GTA LR LR
comp=E,480nm,18.0s
GTA LR LR
comp=Z,290nm,19.2s
CD2 Chengdu 34.38 264 P **P 06 58 58.1 +1.0**
CD2 pP **pP 06 59 14.3 +1.9**
CD2 sP **sP 06 59 22.3 +2.7**
CD2 PP **PnPn 07 00 14.5 +1.0**
CD2 S **S 07 04 18.9 -1.7**
CD2 sS **sS 07 04 46.8 +0.2**
CD2 SS **SnSn 07 06 31.4 -4.3**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,70nm,3.7s
CD2 LR LR
comp=E,210nm,13.7s
CD2 LR LR
comp=Z,260nm,16.1s
GYA Guiyang 34.79 255 P **P 06 59 01.0 +0.3**
GYA pP **pP 06 59 18.0 +2.0**
GYA sP **sP 06 59 26.4 +3.2**
GYA PP **PP 07 00 19.8 -0.7**
GYA PcP **PcP 07 01 35.3 +2.3**
GYA S **S 07 04 25.0 -2.0**
GYA sS **sS 07 04 53.3 +0.3**
GYA ScP **ScP 07 05 13.5 +0.6**
GYA PcS **PcS 07 05 20.0 +0.1**
GYA ScS **ScS 07 09 14.5 -2.1**
GYA pmax pmax
comp=Z,20nm,0.5s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,590nm,17.3s
GYA LR LR
comp=E,430nm,18.7s
GYA LR LR
comp=Z,540nm,17.3s
TNA Tin City 34.82 33 *e*P **P 06 59 01.7 +1.2**
comp=Z,70nm,1.0s
TNA *e* 06 59 15.3
HVS Khovu-Aksy 35.14 302*c i*P **P 06 59 03.9 +0.4**
HVS pmax pmax
comp=Z,200nm,1.0s
KRAR Krasnoyarsk 35.37 310 *e*P **P 06 59 05.6 +0.4**
KRAR pmax pmax
comp=Z,48nm,1.3s
QIZ Qiongzhong 37.56 242 P **P 06 59 23.9 -0.4**
QIZ pP **pP 06 59 39.3 -0.4**
QIZ sP **sP 06 59 48.3 +1.4**
QIZ S **S 07 05 09.4 +0.2**
QIZ LR LR
comp=N,260nm,19.1s
QIZ LR LR
comp=E,150nm,16.5s
QIZ LR LR
comp=Z,260nm,17.2s
KMI Kunming 38.40 257 P **P 06 59 31.9 +0.3**
KMI pP **pP 06 59 48.4 +1.3**
KMI sP **sP 06 59 57.8 +3.6**
KMI pmax pmax
comp=Z,32nm,0.9s
SVW2 Sparrevohn 39.67 41 *e*P **P 06 59 43.1 +1.5**
comp=Z,25nm,0.6s
ZAA0 Zalesovo Array 40.16 308 *e*P **P 06 59 45.3 -0.3**
ZALV Zalesovo Beam 40.16 308 P **P 06 59 45.6 0.0**
comp=Z,30nm,0.4s,baz=87,slow=8.2,SNR=178
ZALV PcP **PcP 07 01 49.1 +0.4**
comp=Z,21nm,0.6s,baz=80,slow=3.0,SNR=11
ZALV LR LR 07 17 27.3
comp=Z,310nm,21.3s,baz=67,slow=38
ZALV Zalesovo Beam 40.16 308 P **P 06 59 45.6 0.0**
ZALV 07 01 49.2
ZALV Zalesovo Beam 40.16 308 P **P 06 59 45.6 0.0**
ZALV PcP **PcP 07 01 49.1 +0.4**
WMQ Urumqi 40.73 292 P **P 06 59 50.8 +0.2**
WMQ pmax pmax
comp=Z,24nm,1.0s
WMQ LR LR
comp=N,190nm,37.0s
WMQ LR LR
comp=E,160nm,36.0s
WMQ LR LR
comp=Z,220nm,17.0s
NVS Novosibirsk 40.93 309 *e*P **P 06 59 51.0 -1.0**
NVS *e* 07 00 15.3
NVS pmax pmax
comp=Z,78nm,1.6s
NVS pmax pmax
comp=E,86nm,1.9s
SPU Mount Spurr 41.38 41 *e*P **P 06 59 56.4 +0.7**
KDAK Kodiak Island 41.41 46 P **P 06 59 56.4 +0.5**
comp=E,40nm,0.7s,baz=304,slow=5.0,SNR=54
KDAK Kodiak Island 41.41 46 *e*P **P 06 59 56.1 +0.3**
comp=E,126nm,1.3s
KDAK Kodiak Island 41.41 46 P **P 06 59 56.0 +0.1**
comp=E,347nm,0.9s,SNR=17
TRF Thorofare Moun 42.09 37 *e*P **P 07 00 01.9 +0.3**
comp=E,23nm,0.6s
COLD Coldfoot 42.12 32 *e*P **P 07 00 02.2 +0.7**
comp=E,108nm,1.6s
PMR Palmer 42.75 40 *e*P **P 07 00 06.6 -0.1**
PMR pmax pmax
comp=Z,54nm,0.7s
PMR Palmer 42.75 40 *e*P **P 07 00 06.6 -0.1**
comp=Z,54nm,0.7s
SEW Seward 42.75 42 *e*P **P 07 00 06.6 -0.2**
comp=Z,44nm,0.9s
COLA College 43.09 35 *e*P **P 07 00 10.7 +1.2**
COLA pmax pmax
comp=Z,125nm,0.6s
COLA College 43.09 35 *e*P **P 07 00 10.7 +1.2**
comp=Z,125nm,0.6s
SML Sawmill 43.11 40 *e*P **P 07 00 10.8 +1.1**
SML pmax pmax
comp=Z,52nm,0.8s
SML Sawmill 43.11 40 *e*P **P 07 00 10.8 +1.1**
comp=Z,52nm,0.8s
MK31 Makanchi Array 43.41 298 *e*P **P 07 00 11.9 -0.5**
MK31 Makanchi Array 43.41 298 *e*P **P 07 00 11.9 -0.5**
MKAR Makanchi Array 43.41 298 P **P 07 00 11.9 -0.4**
comp=Z,22nm,0.5s,baz=82,slow=10,SNR=313
MKAR PcP **PcP 07 02 00.1 +0.4**
comp=Z,4.5nm,0.5s,baz=90,slow=1.5,SNR=4.6
MKAR LR LR 07 20 09.1
comp=Z,204nm,18.5s,baz=274,slow=38
MKAR Makanchi Array 43.41 298 P **P 07 00 11.9 -0.4**
MKAR 07 02 00.1
MKAR pmax pmax
comp=Z,22nm,0.5s
MKAR MLR MLR
comp=Z,204nm,18.5s
MKAR Makanchi Array 43.41 298 *e*P **P 07 00 12.0 -0.4**
MKAR PcP **PcP 07 02 00.1 +0.4**
ILAR Eielson Array 43.51 35 P **P 07 00 13.1 +0.1**
comp=Z,78nm,0.7s,baz=260,slow=5.3,SNR=285
ILAR Eielson Array 43.51 35 P **P 07 00 13.1 +0.1**
LSA Lhasa 44.30 271 P **P 07 00 20.9 +0.6**
LSA Lhasa 44.30 271 *e*P **P 07 00 21.7 +1.4**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 44.30 271 *e*P **P 07 00 21.7 +1.4**
comp=Z,9.7nm,0.6s
PAX Paxson 44.31 38 *e*P **P 07 00 21.9 +2.5**
PAX pmax pmax
comp=Z,21nm,0.7s
PAX Paxson 44.31 38 *e*P **P 07 00 21.9 +2.5**
comp=Z,21nm,0.7s
DIV Divide 44.41 41 *e*P **P 07 00 21.8 +1.5**
comp=Z,85nm,0.8s
KURK Kurchatov 44.57 304*c i*P **P 07 00 20.9 -0.6**
KURK pmax pmax
comp=Z,203nm,1.3s
KURK Kurchatov 44.57 304 *e*P **P 07 00 21.1 -0.4**
comp=Z,111nm,0.7s
KURK Kurchatov 44.57 304 P **P 07 00 21.8 +0.3**
SNR=41
KURK Kurchatov 44.57 304 P **P 07 00 21.2 -0.4**
comp=Z,1µm,0.5s
KURBB Kurchatov Arra 44.65 304 P **P 07 00 21.7 -0.5**
comp=Z,116nm,0.6s,baz=73,slow=9.0,SNR=548
KURBB PcP **PcP 07 02 04.2 +0.4**
comp=Z,9.3nm,0.6s,baz=83,slow=3.6,SNR=6.3
DOT Dot Lake 44.85 37 *e*P **P 07 00 23.8 +0.1**
comp=Z,52nm,0.6s
BMRM Bremner River 45.00 41 *e*P **P 07 00 26.1 +1.2**
comp=Z,68nm,0.8s
MENT Mentasta 45.10 38 *e*P **P 07 00 26.9 +1.2**
CMMT Chiang Mai 45.13 253 P **P 07 00 28.1 +1.7**
comp=Z,28nm,0.8s
CHTO Chiang Mai 45.13 253 *e*P **P 07 00 26.5 +0.1**
CHTO *e* 07 00 43.6
CHTO pmax pmax
comp=Z,16nm,0.7s
CHTO Chiang Mai 45.13 253 *e*P **P 07 00 26.5 +0.1**
comp=Z,16nm,0.7s
CHTO *e* 07 00 43.6
CHTO Chiang Mai 45.13 253 P **P 07 00 27.6 +1.2**
comp=Z,8.4nm,0.7s,comp=Z,477nm
CMAR Chiang Mai Arr 45.37 252 P **P 07 00 29.0 +0.7**
comp=Z,2.8nm,0.7s,baz=43,slow=6.8,SNR=11
CMAR pP **pP 07 00 43.5 -0.5**
comp=Z,5.2nm,0.6s,baz=42,slow=9.0,SNR=9.2
CMAR LR LR 07 20 28.3
comp=Z,148nm,21.6s,baz=145,slow=37
CMAR Chiang Mai Arr 45.37 252 P **P 07 00 29.0 +0.7**
CMAR pP **pP 07 00 43.5 -0.5**
DAWY Dawson 46.83 36 *e*P **P 07 00 39.7 +0.4**
INK Inuvik 48.33 30 P **P 07 00 50.8 +0.1**
comp=Z,49nm,0.4s,baz=298,slow=7.5,SNR=218
INK Inuvik 48.33 30 *e*P **P 07 00 50.7 0.0**
comp=Z,57nm,0.6s
BVAR Borovoye Array 48.73 309 P **P 07 00 53.8 -0.3**
comp=Z,72nm,0.4s,baz=76,slow=8.5,SNR=436
BVAR Borovoye Array 48.73 309 P **P 07 00 53.8 -0.3**
BVAR Borovoye Array 48.73 309 P **P 07 00 53.8 -0.3**
BRVK Borovoye 48.78 309*c i*P **P 07 00 54.1 -0.3**
BRVK pmax pmax
comp=Z,118nm,1.3s
BRVK Borovoye 48.78 309 *e*P **P 07 00 54.2 -0.2**
comp=Z,79nm,0.9s
BRVK Borovoye 48.78 309 P **P 07 00 54.8 +0.4**
comp=Z,595nm,0.5s,SNR=34
BRVK Borovoye 48.78 309 P **P 07 00 55.0 +0.6**
SNR=30
ULHL Ulahol 49.10 294 P **P 07 00 57.9 +0.6**
SNR=11
TKM2 Tokmak 2 49.25 295 *e*P **P 07 00 58.5 +0.1**
TKM2 pmax pmax
comp=Z,27nm,0.7s
TKM2 Tokmak 2 49.25 295 *e*P **P 07 00 58.5 +0.1**
comp=Z,27nm,0.7s
TKM2 Tokmak 2 49.25 295 P **P 07 00 58.6 +0.1**
SNR=48
KBK Karagaybulak 49.80 295 P **P 07 01 02.5 0.0**
SNR=15
USP Ospenovka 49.84 296 P **P 07 01 03.0 +0.4**
SNR=17
KZA Kyzart 49.84 294 P **P 07 01 04.5 +1.3**
SNR=24
SKAG Skagway 49.85 41 *e*P **P 07 01 04.8 +2.3**

comp=Z,16nm,0.7s
FRU Bishkek 49.94 295 *e*P **P 07 01 04.0 +0.5**
FRU *e* 07 01 26.0
FRU pmax pmax
comp=Z,60nm,2.0s
AAK Ala-Archa 50.11 295 P **P 07 01 05.1 +0.1**
comp=Z,8.3nm,0.4s,baz=106,slow=5.5,SNR=39
AAK Ala-Archa 50.11 295 P **P 07 01 05.1 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.4s
AAK Ala-Archa 50.11 295 *e*P **P 07 01 04.9 0.0**
comp=Z,44nm,0.5s
AAK Ala-Archa 50.11 295 P **P 07 01 05.0 +0.1**
comp=Z,108nm,0.4s,SNR=9.9
AAK Ala-Archa 50.11 295 P **P 07 01 05.6 +0.7**
SNR=5.5
AAK Ala-Archa 50.11 295 P **P 07 01 05.2 +0.3**
SNR=7.6
KSH Kashi 50.48 291 P P 07 01 11.8 +4.1
KSH *e*pP pP 07 01 26.9 +3.2
KSH *es*P sP 07 01 35.8 +5.1
KSH PcP **PcP 07 02 28.9 +3.9**
KSH *e*PP PP 07 03 09.8 +6.2
KSH *e*ScP **ScP 07 06 18.1 +2.6**
KSH PcS **PcS 07 06 24.8 +2.4**
KSH S **S 07 08 21.3 +4.3**
KSH ScS **ScS 07 10 54.9 +1.9**
KSH SS **SS 07 11 52.6 +1.4**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,180nm,6.1s
KSH LR LR
comp=N,170nm,5.8s
KSH LR LR
comp=E,150nm,4.2s
KSH LR LR
comp=Z,250nm,12.7s
EKS2 Erkin-Say 50.58 296 *e*P **P 07 01 08.3 -0.1**
EKS2 pmax pmax
comp=Z,14nm,0.6s
EKS2 Erkin-Say 50.58 296 *e*P **P 07 01 08.3 -0.1**
comp=Z,14nm,0.6s
EKS2 Erkin-Say 50.58 296 P **P 07 01 08.1 -0.3**
SNR=22
AML Almayashu 50.86 295 P **P 07 01 11.3 +0.5**
SNR=18
KAPI Kappang 52.49 212 *e*P **P 07 01 21.9 -0.8**
comp=Z,27nm,1.3s
KAPI Kappang 52.49 212 P **P 07 01 22.7 0.0**
comp=Z,16nm,1.5s
KK31 Karatay Array 52.54 297 *i*P **P 07 01 22.1 -0.8**
KK31 pmax pmax
comp=Z,19nm,0.6s
KKAR Karatay Array 52.54 297 *e*P **P 07 01 22.2 -0.7**
KKAR pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 52.54 297 *e*P **P 07 01 22.2 -0.7**
comp=Z,17nm,0.6s
SVE Sverdlovsk 52.64 317 *d i*P **P 07 01 23.7 +0.3**
SVE *e* 07 03 21.1
SVE pmax pmax
comp=Z,155nm,0.6s
SVE MLR MLR
comp=Z,659nm,22.0s
DLBC Dease Lake 52.78 41 P **P 07 01 25.9 +1.3**
comp=Z,8.0nm,0.5s,baz=319,slow=13,SNR=27
DLBC Dease Lake 52.78 41 *e*P **P 07 01 26.4 +1.9**
DLBC *e* 07 01 40.3
SOKR Solikamsk 53.44 321 *c i*P **P 07 01 28.9 -0.3**
SOKR pmax pmax
comp=Z,60nm,0.8s
SOKR MLR MLR
comp=Z,590nm,22.0s
DDI Dehra Dun 53.58 280 *ex* x 07 01 29.0
ARU Arti 53.85 317 *c i*P **P 07 01 31.4 -0.8**
ARU 07 02 35.6
ARU 07 03 29.7
ARU S **S 07 09 00.0 -2.3**
ARU SS **SKiKP 07 12 38.9 -0.5**
ARU pmax pmax
comp=Z,217nm,1.2s
ARU Arti 53.85 317 *e*P **P 07 01 31.8 -0.5**
comp=Z,131nm,0.6s
ARU Arti 53.85 317 P **P 07 01 32.4 +0.2**
comp=Z,1μm,0.5s,SNR=9.6
ALE Alert 54.37 4 P **P 07 01 35.3 -0.4**
comp=Z,291nm,0.7s,SNR=24
NDI New Delhi 55.09 279 *e*P **P 07 01 39.0 -2.7**
KBS Kingsbay 55.56 350 *c i*P **P 07 01 44.4 +0.1**
KBS Kingsbay 55.56 350 *e*P **P 07 01 44.1 -0.2**
comp=Z,64nm,0.9s
AB31 Akbulak array 56.26 308 *i*P **P 07 01 49.6 -0.2**
AB31 pmax pmax
comp=Z,18nm,0.3s
ABKAR Akbulak array 56.26 308 *e*P **P 07 01 49.6 -0.2**
comp=Z,35nm,0.5s
COEN Coen 56.32 182 *e*P **P 07 01 51.4 +0.9**
comp=Z,214nm,0.9s
RES Resolute Bay 56.58 16 P **P 07 01 51.3 -0.3**
comp=Z,49nm,0.5s,baz=323,slow=5.1,SNR=323
RES Resolute Bay 56.58 16 *e*P **P 07 01 51.0 -0.6**
comp=Z,248nm,1.5s
RES *e* 07 02 05.5
AKTO Aktyubinsk 56.81 310 P **P 07 01 53.7 +0.1**
comp=Z,20nm,0.6s,baz=71,slow=9.1,SNR=27
AKTO Aktyubinsk 56.81 310 P **P 07 01 53.7 +0.1**
AKTO Aktyubinsk 56.81 310 P **P 07 01 53.7 +0.1**
YKW3 Yellowknife Ar 57.74 33 *e*P **P 07 02 00.3 +0.3**
comp=Z,0.6nm,0.7s
YKW3 *e* 07 02 15.4
KBL Kabul 57.76 289 *e*P **P 07 02 00.3 -0.5**
KBL pmax pmax
comp=Z,43nm,1.0s
KBL Kabul 57.76 289 *e*P **P 07 02 00.3 -0.5**
comp=Z,43nm,1.0s
YKA Yellowknife Ar 57.78 33 P **P 07 02 00.2 -0.1**
comp=Z,22nm,0.6s,baz=295,slow=6.8,SNR=90
YKA pP **pP 07 02 14.7 -1.9**
comp=Z,13nm,0.8s,baz=304,slow=7.1,SNR=9.9
YKA Yellowknife Ar 57.78 33 P **P 07 02 00.2 -0.1**
YKA pP **pP 07 02 14.7 -1.9**
LVZ Lovozero 58.02 335 *e*P **P 07 02 01.2 -0.7**
LVZ pmax pmax
comp=Z,49nm,1.3s
LVZ Lovozero 58.02 335 *e*P **P 07 02 01.6 -0.4**
comp=Z,115nm,1.4s
APA Apatity 58.59 335 ⇑ *i*P **P 07 02 05.0 -0.9**
APA pmax pmax
comp=Z,32nm,6.0s
APA MLR MLR
comp=Z,1μm,20.0s
TMCR Tamitsa 59.02 331 *e*P **P 07 02 07.8 -1.0**
TMCR pmax pmax
comp=Z,52nm,0.5s
KEV Kevo 59.08 339 *e*P **P 07 02 09.0 -0.2**
KEV pmax pmax
comp=Z,67nm,1.0s
KEV Kevo 59.08 339 *e*P **P 07 02 08.9 -0.2**
comp=Z,67nm,1.0s
KEV Kevo 59.08 339 *ep* **P 07 02 08.1 -1.1**
comp=Z,28nm,0.7s
ARCES ARCESS Array B 59.62 339 P **P 07 02 12.5 -0.4**
comp=Z,5.8nm,0.4s,baz=39,slow=7.4,SNR=54
ARCES LR LR 07 34 33.2
comp=Z,254nm,18.2s,baz=225,slow=43
ARCES ARCESS Array B 59.62 339 P **P 07 02 12.5 -0.4**
KLMR Klimovskoe 60.34 327 *e*P P 07 02 14.6 -3.4
KLMR pmax pmax
comp=Z,68nm,1.1s
DAG Danmarks Havn 60.40 356 ⇑ *i*P **P 07 02 17.7 -0.4**
comp=Z,347nm,1.0s
HYB Hyderabad 60.82 267 *i*P **P 07 02 21.0 -0.9**
NLWA Neilton Lookou 61.24 51 *e*P **P 07 02 25.8 +1.4**
comp=Z,11nm,0.6s
JOF Joensuu 62.17 332 *e*P **P 07 02 29.3 -1.0**
JOF pmax pmax
comp=Z,14nm,0.3s
JOF Joensuu 62.17 332 *ep* **P 07 02 29.3 -1.0**
comp=Z,14nm,0.3s
CTA Charters Tower 62.43 178 P **P 07 02 32.7 +0.2**
comp=Z,6.0nm,0.7s,baz=352,slow=6.6,SNR=7.1
CTA Charters Tower 62.43 178 P **P 07 02 32.7 +0.2**
CTAO Charters Tower 62.43 178 *e*P **P 07 02 33.2 +0.7**
CTAO pmax pmax
comp=Z,57nm,1.5s
CTAO Charters Tower 62.43 178 *e*P **P 07 02 33.2 +0.7**
comp=Z,57nm,1.5s
TDL Tradedollar La 62.76 51 P **P 07 02 36.4 +1.7**
LON Longmire 62.77 51 *e*P **P 07 02 35.9 +1.2**
LON pmax pmax
comp=Z,6.0nm,0.7s
LON Longmire 62.77 51 *e*P **P 07 02 35.9 +1.2**
comp=Z,5.9nm,0.7s
LVP Lakeview Peak 62.81 51 P **P 07 02 36.6 +1.6**
NLW Nelson Butte 62.85 49 P **P 07 02 36.5 +1.2**
FITZ Fitzroy Crossi 62.89 200 *e*P **P 07 02 35.8 +0.2**
comp=Z,18nm,1.1s
WPW White Pass 62.95 50 P **P 07 02 37.3 +1.4**
WRAB Tennant Creek 62.96 191 *e*P **P 07 02 35.1 -0.9**
WRAB pmax pmax
comp=Z,28nm,1.0s
WRAB Tennant Creek 62.96 191 *e*P **P 07 02 35.1 -0.9**
comp=Z,28nm,1.0s
WRAB Tennant Creek 62.96 191 P **P 07 02 35.6 -0.4**
comp=Z,157nm,1.0s,SNR=18
WRA Warramunga Arr 62.97 191 P **P 07 02 35.2 -0.8**
comp=Z,20nm,0.9s,baz=9.9,slow=7.2,SNR=81
WRA LR LR 07 26 30.2
comp=Z,144nm,21.6s,baz=205,slow=33
WRA Warramunga Arr 62.97 191 P **P 07 02 35.2 -0.8**
TBM Table Mountain 63.22 50 P **P 07 02 38.9 +1.2**
ABKT Ailbek 63.28 298 P **P 07 02 38.5 +0.3**
comp=Z,260nm,0.5s,SNR=6.6
IMOG Moghan 63.51 296 *e*P **P 07 02 39.6 -0.5**
VLL Laurance Lake 63.57 52 P **P 07 02 41.9 +1.8**
IAKL Akhelmad 63.62 296 *e*P **P 07 02 39.7 -1.0**
ISHV Shirvan 63.78 298 *e*P P 07 02 34.3 -7.4
KAD Karad 64.11 270 *i*P **P 07 02 43.2 -0.7**
MOS Moscow 64.20 323 *e*P **P 07 02 41.3 -2.6**
MOS *e* 07 05 15.1
MOS pmax pmax
comp=Z,300nm,2.0s
MOS pmax pmax
comp=Z,107nm,1.2s
MOS MLR MLR
comp=Z,500nm,18.0s
WRD Warden 64.24 49 P **P 07 02 45.0 +0.7**
HAWA Hanford 64.26 50 *e*P **P 07 02 46.0 +1.5**
comp=Z,14nm,0.9s
KAF Kangasniemi 64.44 333 *e*P **P 07 02 43.5 -1.8**
KAF pmax pmax
comp=Z,36nm,0.5s
KAF Kangasniemi 64.44 333 *ep* **P 07 02 43.5 -1.8**
comp=Z,36nm,0.5s
HUMO Hull Mountain 64.45 55 *e*P **P 07 02 47.6 +1.9**
comp=Z,44nm,2.1s
KRMB Red Mountain 64.49 56 *e*P **P 07 02 48.0 +1.8**
comp=Z,8.1nm,0.7s
NEW Export 64.50 47 P **P 07 02 45.5 -0.5**
comp=Z,10nm,0.9s,baz=307,slow=6.1,SNR=25
NEW LR LR 07 28 34.7
comp=Z,74nm,20.5s,baz=295,slow=34
NEW Newport 64.50 47 *e*P **P 07 02 46.8 +0.8**
comp=Z,25nm,1.2s
NEW Newport 64.50 47 ⇑P **P 07 02 46.8 +0.8**
baz=64,SNR=14
PUL Pulkovo 64.61 329 *e*P **P 07 02 46.4 0.0**
PUL pmax pmax
comp=Z,77nm,0.7s
VIPM Ingram Point 64.73 52 P **P 07 02 49.1 +1.3**
VIPM Ingram Point 64.73 52 P **P 07 02 49.1 +1.3**
A12A Yaak River Ran 64.89 46 ⇓P **P 07 02 49.5 +0.9**
baz=65,SNR=7.7
IMON Monand 64.97 293 *e*P **P 07 02 49.7 +0.1**
KHMM Horse Mountain 64.98 57 *e*P **P 07 02 51.7 +2.3**
comp=Z,24nm,0.8s
FIA1 FINESS Array S 64.98 332 *e*P **P 07 02 48.1 -0.8**
FINES FINESS Array B 64.98 332 P **P 07 02 48.0 -0.9**
comp=Z,80nm,0.4s,baz=44,slow=8.0,SNR=484
FINES LR LR 07 33 25.1
comp=Z,345nm,20.6s,baz=340,slow=38
FINES FINESS Array B 64.98 332 P **P 07 02 48.0 -0.9**
OBN Obninsk 65.07 323 ⇑ *e*P **P 07 02 48.5 -1.0**
OBN *e*S **S 07 11 26.7 -0.1**
OBN pmax pmax
comp=Z,100nm,1.3s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 65.07 323 *e*P **P 07 02 49.6 +0.1**
comp=Z,48nm,0.5s
SUMG Summit 65.07 1 *e*P **P 07 02 49.8 0.0**
SUMG *e* 07 03 04.6
SUMG pmax pmax
comp=Z,58nm,0.7s
SUMG Summit 65.07 1 *e*P **P 07 02 49.8 0.0**
comp=Z,58nm,0.7s
SUMG *e* 07 03 04.6
SUMG Summit 65.07 1 *i*P **P 07 02 50.1 +0.3**
comp=Z,62nm,0.7s
SUMG *i* 07 03 05.4
YBH Yreka Blue Hor 65.11 56 P **P 07 02 51.7 +1.6**
comp=Z,14nm,0.9s,baz=349,slow=4.5,SNR=43
YBH Yreka Blue Hor 65.11 56 *e*P **P 07 02 51.4 +1.3**
comp=Z,13nm,0.8s
VRHR Novokhopersk 65.18 317 *e*P **P 07 02 48.7 -1.6**
VRHR pmax pmax
comp=Z,110nm,1.1s
VRHR pmax pmax
comp=N,80nm,1.3s
VRHR pmax pmax
comp=E,60nm,1.2s
A13A Flathead Natio 65.54 45 ⇑P **P 07 02 53.6 +0.8**
baz=65
C12B Naegeli Ranch, 65.72 47 ⇓P **P 07 02 55.1 +1.2**
baz=66,SNR=12
WALA Waterton Lakes 65.73 45 *e*P **P 07 02 54.5 +0.4**
comp=E,0.3nm,0.8s
KCPM Cahto Peak 65.76 58 *e*P **P 07 02 56.2 +1.8**
comp=E,7.2nm,0.8s
B13A Whitefish 65.85 46 ⇑P **P 07 02 56.1 +1.3**
baz=66,SNR=24
IKOO Kooshah 65.87 293 *e*P P 07 02 51.7 -3.7
WDC Whiskeytown Da 65.88 56 *e*P **P 07 02 55.9 +0.9**
WDC pmax pmax
comp=Z,13nm,0.9s
WDC Whiskeytown Da 65.88 56 *e*P **P 07 02 55.9 +0.9**
comp=Z,13nm,0.9s
BSMT Bassoo Peak 66.00 46 *e*P **P 07 02 57.4 +1.5**
A14A Double T Ranch 66.04 45 ⇓P **P 07 02 57.0 +0.9**
baz=66,SNR=8.0
BLMT Blacktail Moun 66.13 46 *e*P **P 07 02 58.6 +1.8**
BLMT *e* 07 03 13.3
D12A Red Ives Fores 66.18 47 ⇑P **P 07 02 57.6 +0.6**
baz=66
C13A Hot Springs 66.22 46 ⇓P **P 07 02 58.2 +0.9**
baz=66,SNR=25
VSR Storozhevoye 66.32 319 *e*P **P 07 02 57.3 -0.3**
VSR pmax pmax
comp=Z,80nm,0.5s
VSR pmax pmax
comp=N,40nm,1.1s
VSR pmax pmax
comp=E,50nm,1.0s
JTMT Jette 66.34 46 *e*P **P 07 02 59.2 +1.2**
A15A Johnson Ranch, 66.39 45 ⇑P **P 07 02 58.7 +0.4**
baz=66,SNR=13
YBMT Yellow Bay 66.41 46 *e*P **P 07 02 59.5 +1.1**
comp=E,5.1nm,0.6s
VORD Divnogorie 66.41 318 *e*P **P 07 02 58.3 +0.1**
VORD pmax pmax
comp=Z,80nm,1.1s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,70nm,0.7s
BMO Blue Mountains 66.43 50 *e*P **P 07 02 59.7 +1.0**
BMO pmax pmax
comp=Z,12nm,0.8s
BMO Blue Mountains 66.43 50 *e*P **P 07 02 59.7 +1.0**
comp=Z,12nm,0.8s
E12A Beaver Dam Sad 66.45 48 ⇑P **P 07 02 59.8 +1.0**
baz=66,SNR=56
MOD Modoc 66.46 54 *e*P **P 07 03 00.1 +1.2**
comp=Z,12nm,0.6s
B14A Marquette Ranc 66.49 45 ⇓P **P 07 03 00.1 +1.1**
baz=66,SNR=12
C14A Swan Lake 66.61 46 ⇑P **P 07 03 00.7 +1.0**
baz=66
SWMT Swartz Lake 66.63 46 *e*P **P 07 03 00.9 +1.0**
D13A Huson 66.64 47 ⇑P **P 07 03 00.7 +0.8**
baz=66,SNR=39
AS31 Alice Springs 66.69 191 *e*P **P 07 03 00.5 +0.3**
ASAR Alice Springs 66.69 191 P **P 07 03 00.8 +0.5**
comp=Z,15nm,0.8s,baz=12,slow=5.9,SNR=131
ASAR Alice Springs 66.69 191 P **P 07 03 00.8 +0.5**
VSU Vasula 66.85 330 *e*P **P 07 03 00.4 -0.5**
VSU pmax pmax
comp=Z,91nm,0.9s
B15A Bradely Ranch, 66.89 45 ⇓P **P 07 03 02.2 +0.7**
baz=67,SNR=28
A16A West Butte Ran 67.00 44 ⇑P **P 07 03 02.8 +0.6**
baz=67
F12A Elk City 67.03 48 ⇑P **P 07 03 03.4 +0.9**
baz=67,SNR=32
SLMT Seeley Lake 67.07 46 *e*P **P 07 03 03.5 +0.8**
MSO Missoula 67.08 47 *e*P **P 07 03 03.5 +0.7**
comp=Z,10nm,0.9s
MSO Missoula 67.08 47 ⇓P **P 07 03 03.5 +0.7**
baz=67,SNR=14
D14A Greenough 67.16 47 ⇑P **P 07 03 03.8 +0.6**
baz=67,SNR=31
IKIA Kiasar 67.17 299 *e*P **P 07 03 01.4 -2.2**
E13A Victor 67.19 47 ⇓P **P 07 03 04.0 +0.6**
baz=67,SNR=16
C15A Salmond Ranch, 67.21 46 ⇑P **P 07 03 04.8 +1.2**
baz=67,SNR=33
B16A M & M Farms, S 67.28 45 ⇑P **P 07 03 04.7 +0.8**
baz=67
OHCM Honcut 67.28 57 *e*P **P 07 03 05.0 +1.1**
G12A Big Creek, Yel 67.38 49 ⇑P **P 07 03 05.2 +0.4**
baz=67
CHMT Chamberlain Mo 67.40 47 *e*P **P 07 03 05.6 +0.7**
A17A Triple J Farms 67.46 44 ⇑P **P 07 03 05.5 +0.5**
baz=67,SNR=27
IANJ Anjilo 67.46 298 *e*P **P 07 03 03.8 -1.7**
MBWA Marble Bar 67.47 205 *e*P **P 07 03 05.1 -0.1**
comp=Z,8.4nm,0.8s
DZM Mont Dzumac 67.48 158 *e*LR LR 07 23 10.4
comp=Z,388nm,24.8s
F13A Darby 67.52 48 ⇓P **P 07 03 05.9 +0.3**
baz=67,SNR=8.9
E14A Clinton 67.58 47 ⇑P **P 07 03 06.7 +0.7**
baz=67,SNR=18
C16A Fuhringer Ranc 67.64 45 ⇑P **P 07 03 07.2 +1.0**
baz=68,SNR=33
ISHM Shahmirzad 67.66 299 *e*P **P 07 03 07.4 +0.6**
D15A Lincoln 67.71 46 ⇓P **P 07 03 07.6 +0.8**
baz=68,SNR=12
FFC Flin Flon 67.72 35 *e*P **P 07 03 06.9 +0.4**
FFC *e* 07 03 21.1
FFC pmax pmax
comp=Z,27nm,0.7s
FFC Flin Flon 67.72 35 *e*P **P 07 03 06.9 +0.4**
comp=Z,27nm,0.7s
FFC *e* 07 03 21.1
FFC Flin Flon 67.72 35 P **P 07 03 07.9 +1.4**
comp=Z,176nm,0.9s,SNR=16
B17A L&G Farms, Che 67.82 44 ⇑P **P 07 03 08.1 +0.8**
baz=68,SNR=8.0
A18A Metzger Ranch, 67.91 43 ⇓P **P 07 03 08.2 +0.4**
baz=68,SNR=16
H12A Diamond D Ranc 68.00 49 ⇑P **P 07 03 09.3 +0.7**
baz=68,SNR=33
G13A Cobalt 68.01 49 ⇓P **P 07 03 09.1 +0.4**
baz=68,SNR=20
F14A Wisdom 68.03 48 ⇓P **P 07 03 09.4 +0.6**
baz=68,SNR=14
E15A Deer Lodge 68.04 47 ⇓P **P 07 03 09.6 +0.8**
baz=68,SNR=37
MFID Camas Ranch 68.15 51 *e*P **P 07 03 10.6 +1.0**
comp=Z,10nm,0.8s
MFID Camas Ranch 68.15 51 ⇑P **P 07 03 10.5 +1.0**
baz=68,SNR=12
D16A Dana Ranch, Ca 68.23 46 ⇑P **P 07 03 10.8 +0.8**
baz=68
C17A Wharram Farm, 68.26 45 ⇑P **P 07 03 10.6 +0.5**
baz=68,SNR=20
B18A Beardsley Farm 68.28 44 ⇑P **P 07 03 11.0 +0.7**
baz=68,SNR=17
HRY Holter Researc 68.29 46 *e*P **P 07 03 11.4 +1.0**
I12A Atlanta 68.31 50 ⇓P **P 07 03 11.7 +1.0**
baz=68,SNR=47
H13A Challis 68.33 49 ⇓P **P 07 03 11.3 +0.7**
baz=68,SNR=43
G14A Jackson 68.34 48 ⇓P **P 07 03 11.0 +0.2**
baz=68,SNR=9.7
WCN Washoe City 68.36 56 *e*P **P 07 03 12.7 +1.7**
WCN pmax pmax
comp=Z,18nm,1.0s
WCN Washoe City 68.36 56 *e*P **P 07 03 12.7 +1.7**
comp=Z,18nm,1.0s
A19A Klindworth Far 68.46 43 ⇑P **P 07 03 11.9 +0.6**
baz=68,SNR=20
E16A East Helena 68.48 46 ⇓P **P 07 03 12.7 +1.1**
baz=68,SNR=18
F15A Butte 68.49 47 ⇑P **P 07 03 11.8 +0.1**
baz=68,SNR=50
LRM Limekiln Ridge 68.52 47 *e*P **P 07 03 13.0 +1.0**
EGMT Eagleton 68.53 44 *e*P **P 07 03 12.5 +0.7**
comp=Z,23nm,0.7s
EGMT Eagleton 68.53 44 ⇑P **P 07 03 12.6 +0.7**
baz=68,SNR=23
D17A Six Diamond Ra 68.61 45 ⇑P **P 07 03 13.0 +0.6**
baz=68,SNR=9.6
DLMT Dillon 68.73 48 *e*P **P 07 03 14.5 +1.3**
comp=Z,28nm,0.6s
CMB Columbia Colle 68.75 58 *e*P **P 07 03 14.7 +1.4**
CMB pmax pmax
comp=Z,12nm,0.9s
CMB Columbia Colle 68.75 58 *e*P **P 07 03 14.7 +1.4**
comp=Z,12nm,0.9s
H14A Leadore 68.78 49 ⇓P **P 07 03 14.0 +0.4**
baz=69,SNR=12
I13A Wildhorse Cree 68.81 49 ⇑P **P 07 03 14.8 +1.0**
baz=69,SNR=19
HLID Hailey 68.86 50 *e*P **P 07 03 15.3 +1.2**
comp=Z,7.7nm,0.8s
HLID Hailey 68.86 50 ⇓P **P 07 03 15.0 +0.9**
baz=69,SNR=17
A20A Cobblestone Ra 68.90 42 ⇓P **P 07 03 14.9 +0.9**
baz=69,SNR=15
G15A Dillon 68.92 48 ⇑P **P 07 03 15.7 +1.3**
baz=69,SNR=79
MCMT McKenzie Canyo 68.94 48 *e*P **P 07 03 15.0 +0.4**
comp=Z,5.7nm,1.0s
E17A Martinsdale 68.96 46 ⇑P **P 07 03 15.9 +1.2**
baz=69,SNR=29
IZAR Zarasai 68.97 328 *e*P **P 07 03 14.6 +0.3**
IZAR AMB AMB 07 03 15.0
comp=Z,22nm,0.7s
F16A Kennard Place, 68.99 47 ⇑P **P 07 03 15.7 +1.0**
baz=69,SNR=39
D18A Linhart Farms, 69.04 45 ⇑P **P 07 03 15.9 +0.9**
baz=69,SNR=9.9
KIV Kislovodsk 69.06 311 ⇑ *e*P **P 07 03 15.7 +0.5**
KIV pmax pmax
comp=Z,68nm,1.3s
KIV MLR MLR
comp=Z,400nm,17.0s
KIV Kislovodsk 69.06 311 *e*P **P 07 03 15.8 +0.7**
comp=Z,58nm,0.7s
KIV Kislovodsk 69.06 311 P **P 07 03 16.7 +1.5**
SNR=5.1
KIV Kislovodsk 69.06 311 P **P 07 03 16.4 +1.2**
comp=Z,558nm,0.7s,SNR=6.5
C19A Slack Wire Ran 69.08 44 ⇑P **P 07 03 16.3 +1.1**
baz=69,SNR=25
KBZ Khabaz 69.09 311 P **P 07 03 16.5 +1.3**
comp=Z,28nm,0.7s,baz=53,slow=4.2,SNR=32
KBZ LR LR 07 38 57.6
comp=Z,342nm,18.2s,baz=223,slow=40
KBZ Khabaz 69.09 311 P **P 07 03 16.5 +1.3**
KBZ Khabaz 69.09 311 P **P 07 03 16.5 +1.3**
DGRG David-gareji 69.10 307 P **P 07 03 15.9 +0.5**
J13A Cove Ranch, Pi 69.10 50 ⇑P **P 07 03 16.8 +1.2**
baz=69,SNR=21
ZEI Tsey 69.13 309 *e*P **P 07 03 15.3 -0.5**
ZEI pmax pmax
comp=Z,17nm,0.6s
B20A Solberg Farm, 69.14 43 ⇓P **P 07 03 16.1 +0.6**
baz=69,SNR=12
ISAL Salakas 69.14 328 *e*P **P 07 03 15.8 +0.5**
ISAL AMB AMB 07 03 16.3
comp=Z,30nm,0.7s
IVRN Varamin 69.17 299 *e*P **P 07 03 15.4 -0.6**
I14A Mackay 69.17 49 ⇑P **P 07 03 17.4 +1.4**
baz=69,SNR=26
H15A Lima 69.18 48 ⇓P **P 07 03 16.6 +0.6**

baz=69
BMN **Battle Mountai** 69.20 54 eP P 07 03 17.8 +1.6
BMN pmax pmax
comp=Z,17nm,0.6s
BMN **Battle Mountai** 69.20 54 eP P 07 03 17.8 +1.6
comp=Z,17nm,0.6s
MICGM **Minsk** 69.20 326 e P 07 03 14.0 -1.7
MNK **Minsk** 69.22 326 eP P 07 03 14.0 -1.8
ISFB **Sefidab** 69.23 298 eP P 07 03 15.5 -0.9
G16A **Moss Hill, Enn** 69.25 47 ⇓P P 07 03 17.1 +0.7
baz=69,SNR=36
IIGN **Ignalina** 69.27 327 eP P 07 03 16.6 +0.5
IIGN AMB AMB 07 03 17.9
comp=Z,34nm,0.8s
TBLG **Delisi** 69.30 308 P P 07 03 17.7 +1.1
TBLG **Delisi** 69.30 308 P P 07 03 17.7 +1.1
TBLG **Delisi** 69.30 308 P P 07 03 19.2 +2.6
A21A **Bergtoll Ranch** 69.32 42 ⇓P P 07 03 17.3 +0.7
baz=69,SNR=32
NACGM **Naroch** 69.37 327 e P 07 03 14.0 -2.7
E18A **Harlowton** 69.39 45 ⇓P P 07 03 18.3 +1.1
baz=69,SNR=8.4
F17A **Fitzpatrick Pl** 69.43 46 ⇓P P 07 03 18.6 +1.1
baz=69,SNR=16
GOR **Gori** 69.50 308 P P 07 03 19.3 +1.4
J14A **Carey** 69.52 50 ⇑P P 07 03 19.5 +1.3
baz=69
D19A **Cripps Ranch,** 69.54 44 ⇓P P 07 03 19.2 +1.1
baz=69,SNR=18
C20A **Veseth Ranch,** 69.62 43 ⇓P P 07 03 19.5 +0.9
baz=69,SNR=45
B21A **Ellsworth Farm** 69.65 42 ⇑P P 07 03 19.8 +1.1
baz=69,SNR=7.9
I15A **Monteview** 69.67 49 ⇓P P 07 03 20.0 +1.0
baz=70
QLMT **Earthquake Lak** 69.71 47 eP P 07 03 20.7 +1.4
G17A **Pierce Place,** 69.76 47 ⇓P P 07 03 20.9 +1.3
baz=70,SNR=35
IR5 **Iran Long-Peri** 69.77 299 eP P 07 03 19.1 -0.7
NVAR **Mina Array Bea** 69.79 56 P P 07 03 20.8 +0.8
comp=Z,18nm,0.7s,baz=291,slow=6.4,SNR=134
NVAR **Mina Array Bea** 69.79 56 P P 07 03 20.8 +0.8
A22A **Carney Farms,** 69.81 41 ⇓P P 07 03 20.3 +0.6
baz=70,SNR=27
NV11 **Mina Array Sit** 69.88 56 eP P 07 03 21.1 +0.7
H16A **Russell Place,** 69.89 47 ⇑P P 07 03 21.3 +0.9
baz=70,SNR=26
NB2 **NORSAR Subarra** 69.93 338 P P 07 03 19.7 -0.5
baz=34,slow=6.5
NB2 **NORSAR Subarra** 69.93 338 P P 07 03 19.7 -0.5
comp=Z,43nm,0.5s,baz=34,slow=6.5
NOA **NORSAR Array B** 69.93 338 P P 07 03 19.9 -0.3
comp=Z,43nm,0.5s,baz=35,slow=6.2,SNR=195
NOA LR LR 07 37 09.2
comp=Z,239nm,20.6s,baz=5.0,slow=38
NOA **NORSAR Array B** 69.93 338 P P 07 03 19.9 -0.3
D20A **Manuel Ranch,** 69.97 44 ⇓P P 07 03 21.8 +1.1
baz=70,SNR=21
C21A **Desert Coulee** 70.01 43 ⇓P P 07 03 21.8 +0.9
baz=70,SNR=9.3
GCMT **Greycliff** 70.03 46 eP P 07 03 22.4 +1.2
comp=Z,12nm,0.7s
E19A **Rath Farm, Rou** 70.05 45 ⇓P P 07 03 22.7 +1.5
baz=70,SNR=9.2
IHRS **Heris** 70.06 304 eP P 07 03 21.2 -0.4
YMR **Madison River** 70.07 47 eP P 07 03 22.6 +1.1
comp=Z,20nm,0.7s
IZEF **Zefreh** 70.07 297 eP P 07 03 21.3 -0.5
IRAZ **Razeghan** 70.07 300 eP P 07 03 21.3 -0.4
J15A **Blackfoot** 70.08 49 ⇓P P 07 03 23.0 +1.5
baz=70,SNR=20
SFJD **Kangerlussuaq** 70.09 6 P P 07 03 20.8 -0.1
comp=Z,9.8nm,0.4s,baz=3.4,slow=6.5,SNR=9.3
SFJD **Kangerlussuaq** 70.09 6 eP P 07 03 20.3 -0.6
comp=Z,34nm,1.1s
SFJD **Kangerlussuaq** 70.09 6 i P P 07 03 20.8 -0.1
comp=Z,14nm,1.0s
ELK **Elko** 70.17 53 eP P 07 03 23.8 +1.5
NAO01 **NORSAR Array S** 70.19 338 eP P 07 03 20.7 -1.0
comp=Z,33nm,0.8s
YNR **Norris Junctio** 70.19 47 eP P 07 03 24.6 +2.3
comp=Z,9.8nm,0.8s
K14A **Jones Ranch, D** 70.21 50 ⇑P P 07 03 23.9 +1.5
baz=70,SNR=22
AKH **Akhalkalaki** 70.22 308 P P 07 03 24.0 +1.5
YFT **Old Faithful** 70.28 47 eP P 07 03 25.2 +2.3
comp=Z,20nm,0.8s
I16A **Newdale** 70.30 48 ⇓P P 07 03 24.4 +1.5
baz=70,SNR=34
IKLH **Kolahrood** 70.30 297 eP P 07 03 23.0 -0.2
MTUM **Tungsten Hills** 70.30 57 eP P 07 03 24.9 +1.8
A23A **Redstone** 70.34 41 ⇑P P 07 03 23.7 +0.8
baz=70
E20A **Meyer Farm, Mu** 70.36 44 ⇓P P 07 03 24.4 +1.2
baz=70
F19A **Roth Farm, Mol** 70.37 45 ⇑P P 07 03 24.0 +0.8
baz=70,SNR=16
G18A **Lazy EL Ranch,** 70.39 46 ⇓P P 07 03 24.4 +0.9
baz=70
LKWY **Lake** 70.44 47 eP P 07 03 26.7 +2.8
LKWY pmax pmax
comp=Z,16nm,1.0s
LKWY **Lake** 70.44 47 eP P 07 03 26.7 +2.8
comp=Z,16nm,1.0s
H17A **Grant Village** 70.45 47 ⇓P P 07 03 26.3 +2.3
baz=70,SNR=27
K15A **Arbon** 70.49 50 ⇓P P 07 03 25.9 +1.8
baz=70,SNR=12
L14A **Malta** 70.50 51 ⇑P P 07 03 25.7 +1.5
baz=70
IBST **Bostanabad** 70.54 304 eP P 07 03 20.2 -4.4
D21A **La Casta Ranch** 70.57 43 ⇓P P 07 03 25.0 +0.7
baz=70,SNR=12
IMW **Indian Meadow** 70.58 48 eP P 07 03 26.5 +1.7
comp=Z,19nm,0.8s
FLWY **Flagg Ranch** 70.59 48 eP P 07 03 26.7 +2.0
comp=Z,17nm,1.0s
J16A **Bone** 70.62 49 ⇑P P 07 03 26.3 +1.4
baz=70,SNR=25
B23A **Brockton** 70.62 41 ⇓P P 07 03 25.4 +0.8
baz=70,SNR=22
IMRD **Marand** 70.63 305 eP P 07 03 24.9 -0.1
DCID1 **Drake Creek** 70.64 48 eP P 07 03 27.2 +2.1
comp=Z,29nm,0.8s
C22A **Vida** 70.67 42 ⇑P P 07 03 25.6 +0.7
baz=70
RLMT **Red Lodge** 70.68 46 eP P 07 03 26.4 +1.1
comp=Z,9.7nm,0.7s
RLMT **Red Lodge** 70.68 46 ⇓P P 07 03 26.4 +1.1
baz=70,SNR=16
RRI2 **Red Ridge** 70.73 49 eP P 07 03 27.3 +1.7
comp=Z,30nm,0.8s
H18A **Shoshone NF, C** 70.76 47 ⇓P P 07 03 26.9 +1.1
baz=71,SNR=16
I17A **Pilgrim Ck.** 70.77 48 ⇓P P 07 03 27.7 +1.9
baz=71,SNR=37
A24A **Westby** 70.78 41 ⇓P P 07 03 26.0 +0.4
baz=71,SNR=9.0
MOOW **Moose Ponds** 70.79 48 eP P 07 03 27.5 +1.6
comp=Z,17nm,0.9s
F20A **Billings** 70.82 45 ⇑P P 07 03 26.6 +0.7
baz=71
TPAW **Teton Pass** 70.84 48 eP P 07 03 27.7 +1.4
comp=Z,29nm,1.2s
E21A **Keefer Ranch,** 70.88 44 ⇓P P 07 03 27.5 +1.3
baz=71
K16A **Soda Springs** 70.92 49 ⇓P P 07 03 27.8 +1.1
baz=71,SNR=23
D22A **Cohagen** 70.92 43 ⇓P P 07 03 27.2 +0.7
baz=71,SNR=10
VES **Vestal, Richgr** 70.93 59 ⇓P P 07 03 27.1 +0.5
baz=71,SNR=5.5
HVU **Hansel Valley** 70.93 51 eP P 07 03 28.3 +1.5
HVU pmax pmax
comp=Z,12nm,0.9s
HVU **Hansel Valley** 70.93 51 eP P 07 03 28.3 +1.5
comp=Z,12nm,0.9s
LOHW **Long Hollow** 70.95 48 eP P 07 03 28.4 +1.5
comp=Z,39nm,1.8s
SNOW **Snow King Moun** 70.97 48 eP P 07 03 28.8 +1.8
comp=Z,12nm,0.8s
C23A **Lambert** 70.98 42 ⇓P P 07 03 27.5 +0.7
baz=71,SNR=9.0
REDW **Red Top Meadow** 70.98 48 eP P 07 03 28.5 +1.3
comp=Z,12nm,0.8s
DGMT **Dagmar** 71.00 41 eP P 07 03 27.8 +0.8
comp=Z,38nm,0.6s
DGMT e 07 03 42.5
DGMT **Dagmar** 71.00 41 ⇑P P 07 03 27.5 +0.6
baz=71,SNR=8.4
L15A **Malad City** 71.01 50 ⇓P P 07 03 28.4 +1.1
baz=71,SNR=8.3
J17A **Brown Place, J** 71.06 48 ⇓P P 07 03 29.1 +1.5
baz=71,SNR=16
PKM **Peak Mountain** 71.06 60 ⇓P P 07 03 29.2 +1.5
baz=71
H19A **Powell** 71.13 46 ⇓P P 07 03 28.9 +1.0
baz=71,SNR=8.2
G20A **Bridger** 71.17 45 ⇓P P 07 03 28.5 +0.4
baz=71,SNR=6.6
CWC **Cottonwood Cre** 71.18 58 ⇑P P 07 03 29.4 +1.0
baz=71
GRAC **Grapevine Rang** 71.27 57 ⇑P P 07 03 30.2 +1.5
baz=71,SNR=34
I18A **Diamond G Ranc** 71.32 47 ⇓P P 07 03 30.4 +1.2
baz=71,SNR=11
AKASG **Malin Array Be** 71.33 323 P P 07 03 28.3 -0.4
comp=Z,18nm,0.4s,baz=43,slow=6.6,SNR=88
AKASG LR LR 07 38 27.7
comp=Z,275nm,18.2s,baz=30,slow=39
AKASG **Malin Array Be** 71.33 323 P P 07 03 28.3 -0.4
AKASG **Malin Array Be** 71.33 323 P P 07 03 28.3 -0.4
M15A **Larsen Ranch,** 71.33 51 ⇑P P 07 03 30.3 +1.2
baz=71,SNR=25
KIEV **Kiev** 71.34 323 eP P 07 03 28.2 -0.6
KIEV pmax pmax
comp=Z,39nm,1.0s
KIEV **Kiev** 71.34 323 eP P 07 03 28.2 -0.6
comp=Z,38nm,1.0s
AK01 **Malin Array Si** 71.34 323 eP P 07 03 28.3 -0.5
K17A **Gardner Place,** 71.34 49 ⇓P P 07 03 30.4 +1.1
baz=71
AK02 **Malin Array Si** 71.36 323 eP P 07 03 28.4 -0.6
D23A **Lindsay** 71.39 42 ⇓P P 07 03 30.2 +0.9
baz=71,SNR=15
ISA **Isabella** 71.43 59 eP P 07 03 29.9 +0.1
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA **Isabella** 71.43 59 eP P 07 03 29.9 +0.1
comp=Z,6.9nm,1.1s
ISA **Isabella** 71.43 59 ⇑P P 07 03 29.9 +0.1
baz=71,SNR=6.4
IPAR **Pars** 71.49 294 eP P 07 03 30.2 -0.3
R11A **Troy Canyon, C** 71.50 55 ⇓P P 07 03 30.9 +0.7
baz=71,SNR=19
E22A **Miles City** 71.52 43 ⇑P P 07 03 31.0 +0.9
baz=71,SNR=9.5
J18A **Kendall Valley** 71.54 48 ⇑P P 07 03 31.3 +0.8
baz=71,SNR=9.9
L16A **Fish Haven** 71.54 50 ⇓P P 07 03 31.4 +0.9
baz=71,SNR=18
I19A **Meeteetse** 71.55 47 ⇓P P 07 03 31.5 +1.0
baz=71,SNR=7.5
N15A **Stansbury Isla** 71.66 51 ⇓P P 07 03 32.2 +1.1
baz=72,SNR=22
G21A **Lodge Grass** 71.70 45 ⇓P P 07 03 31.6 +0.3
baz=72,SNR=5.8
HWUT **Hardware Ranch** 71.73 50 eP P 07 03 32.9 +1.3
comp=Z,20nm,1.2s
HWUT e 07 03 48.2
ISRV **Sarvestan** 71.73 293 eP P 07 03 31.0 -1.0
H20A **Greybull** 71.78 46 ⇑P P 07 03 32.2 +0.5
baz=72,SNR=9.0
MPMC **Manual Prospec** 71.79 58 ⇓P P 07 03 33.1 +1.0
baz=72,SNR=19
L17A **Cokeville** 71.80 49 ⇓P P 07 03 33.1 +1.1
baz=72,SNR=10
E23A **Ismay** 71.81 43 ⇓P P 07 03 32.9 +1.0
baz=72
F22A **Rosebud** 71.81 44 ⇑P P 07 03 32.4 +0.5
baz=72
D24A **Glendive** 71.87 42 ⇑P P 07 03 33.0 +0.8
baz=72,SNR=16
M16A **Huntsville** 71.89 50 ⇓P P 07 03 33.3 +0.7
baz=72
K18A **Toltan Ranch,** 71.91 48 ⇓P P 07 03 33.6 +0.9
baz=72,SNR=16
FURC **Furnace Creek,** 71.92 57 ⇑P P 07 03 34.0 +1.5
baz=72,SNR=30
DUG **Dugway** 71.94 52 eP P 07 03 34.1 +1.2
DUG pmax pmax
comp=Z,30nm,1.3s
DUG **Dugway** 71.94 52 eP P 07 03 34.1 +1.2
comp=Z,30nm,1.3s
DUG **Dugway** 71.94 52 ⇓P P 07 03 34.0 +1.1
baz=72,SNR=18
J19A **Crowheart** 72.03 47 ⇓P P 07 03 34.8 +1.4
baz=72,SNR=26
I20A **Worland** 72.07 46 ⇑P P 07 03 35.0 +1.5
baz=72,SNR=12
O15A **The Old Anders** 72.08 52 ⇓P P 07 03 34.9 +1.2
baz=72
BW06 **Boulder Array** 72.08 48 eP P 07 03 34.0 +0.2
comp=Z,15nm,0.8s
BW06 e 07 03 49.1
BW06 **Boulder Array** 72.08 48 ⇑P P 07 03 34.2 +0.5
baz=72,SNR=23
PDAR **Pinedale Array** 72.08 48 P P 07 03 34.0 +0.2
comp=Z,12nm,0.5s,baz=7.8,slow=0.6,SNR=123
PDAR pP pP 07 03 49.5 -1.2
comp=Z,7.7nm,0.5s,baz=7.7,slow=0.3,SNR=10
PDAR **Pinedale Array** 72.08 48 P P 07 03 34.0 +0.2
PDAR pP pP 07 03 49.5 -1.2
H21A **Big Horn, Sher** 72.19 45 ⇓P P 07 03 34.7 +0.4
baz=72,SNR=16
EDW2 **Edwards Air Fo** 72.23 59 ⇑P P 07 03 35.5 +0.9
baz=72,SNR=12
E24A **Baker** 72.26 43 ⇓P P 07 03 35.5 +0.9
baz=72
N16A **Rees Ranch, Co** 72.28 51 ⇑P P 07 03 36.2 +1.2
baz=72
F23A **Volborg** 72.29 44 ⇑P P 07 03 35.2 +0.5
baz=72,SNR=22
M17A **Scullys Gap (B** 72.33 50 ⇑P P 07 03 35.9 +0.6
baz=72,SNR=6.6
L18A **Fontenelle, Gr** 72.38 49 ⇓P P 07 03 36.6 +1.1
baz=72,SNR=9.6
K19A **Absolon Red Bu** 72.44 48 ⇑P P 07 03 35.8 -0.1
baz=72,SNR=9.4
JLU **Jordanelle** 72.46 51 eP P 07 03 37.7 +1.6
comp=Z,9.5nm,1.1s
HOQ **Hogain** 72.47 286 P P 07 03 37.0 +0.9
SNR=6.1
J20A **Shoshoni** 72.49 47 ⇑P P 07 03 36.8 +0.7
baz=72,SNR=25
HATD **Hatta, Dubai** 72.51 288 P P 07 03 37.2 +0.9
SNR=5.5
H22A **Clearmont** 72.57 45 ⇑P P 07 03 36.8 +0.3
baz=72
N17A **Moffit Pass** 72.58 50 ⇓P P 07 03 37.6 +0.8
baz=72,SNR=23
MWC **Mount Wilson** 72.61 59 eP P 07 03 37.9 +0.9
MWC pmax pmax
comp=Z,4.0nm,0.7s
MWC **Mount Wilson** 72.61 59 eP P 07 03 37.9 +0.9
comp=Z,4.1nm,0.7s
I21A **Big Trails, Te** 72.61 46 ⇑P P 07 03 38.0 +1.2
baz=72,SNR=23
L19A **Farson** 72.64 49 ⇑P P 07 03 38.0 +0.9
baz=72,SNR=9.1
SHOC **Shoshone** 72.64 57 ⇓P P 07 03 38.2 +1.2
baz=72,SNR=8.0
G23A **Biddle** 72.65 44 ⇑P P 07 03 37.7 +0.8
baz=72,SNR=6.3
P15A **Leamington** 72.66 52 ⇑P P 07 03 38.4 +1.2
baz=72,SNR=5.7
F24A **Ekalaka** 72.69 43 ⇓P P 07 03 38.0 +0.9
baz=72,SNR=12
O16A **Springville** 72.69 51 ⇓P P 07 03 38.3 +0.9
baz=72,SNR=13
M18A **Lyman** 72.69 49 ⇑P P 07 03 38.3 +0.8
baz=72,SNR=5.4
GSC **Goldstone** 72.70 58 eP P 07 03 38.3 +0.9
GSC pmax pmax
comp=Z,10.0nm,1.0s
GSC **Goldstone** 72.70 58 eP P 07 03 38.3 +0.9
comp=Z,9.9nm,1.0s
GSC **Goldstone** 72.70 58 ⇓P P 07 03 38.2 +0.8
baz=73,SNR=6.8
MPU **Maple Canyon** 72.74 51 eP P 07 03 38.8 +1.1
comp=Z,26nm,1.3s
K20A **Yellowstone Ra** 72.82 48 ⇓P P 07 03 38.4 +0.3
baz=73,SNR=9.6
J21A **Lysite** 72.84 47 ⇑P P 07 03 38.9 +0.7
baz=73,SNR=13
BFSC **Mount Baldy Ra** 72.85 59 ⇑P P 07 03 39.4 +1.1
baz=73,SNR=6.5
CIS **Catalina Islan** 72.91 60 ⇑P P 07 03 39.4 +0.8
baz=73
I22A **9 Mile Ranch,** 72.98 46 ⇓P P 07 03 39.4 +0.4
baz=73,SNR=9.5
ARMA **Armidale** 72.98 174 eP P 07 03 40.2 +1.3
comp=Z,6.8nm,0.8s
P16A **Fountain Green** 72.99 52 ⇑P P 07 03 40.4 +1.2
baz=73
G24A **Alzada** 73.06 43 ⇓P P 07 03 39.1 -0.2
baz=73,SNR=8.7
BSY **Bisya** 73.08 285 P P 07 03 40.7 +1.0
SNR=7.2
O17A **Robinson Place** 73.14 51 ⇓P P 07 03 41.1 +1.0
baz=73,SNR=6.0
ARUT **Antelope Range** 73.15 54 eP P 07 03 41.6 +1.5
ARUT pmax pmax
comp=Z,6.0nm,0.7s
ARUT **Antelope Range** 73.15 54 eP P 07 03 41.6 +1.5
comp=Z,6.1nm,0.7s
TUQ **Turquoise Moun** 73.17 57 ⇓P P 07 03 41.2 +1.0
baz=73,SNR=17
N18A **Larsen Ranch,** 73.22 50 ⇑P P 07 03 41.3 +0.8
baz=73,SNR=6.5
L20A **Wamsutter** 73.26 48 ⇓P P 07 03 41.7 +0.9
baz=73,SNR=6.1
BBRC **Big Bear Solar** 73.30 59 ⇓P P 07 03 41.9 +0.7
baz=73,SNR=6.0
HEC **Hector,Ludlow** 73.31 58 ⇑P P 07 03 41.9 +0.9
baz=73,SNR=7.9
J22A **Midwest** 73.31 46 ⇑P P 07 03 41.5 +0.5
baz=73,SNR=12
CCUT **Cedar City** 73.35 54 eP P 07 03 43.0 +1.6
comp=Z,34nm,1.7s
H24A **Dirks Ranch, A** 73.40 44 ⇑P P 07 03 41.5 +0.1
baz=73,SNR=11
MVU **Marysvale** 73.40 53 eP P 07 03 43.2 +1.5
comp=Z,9.8nm,1.1s
MSU **Marysvale** 73.42 53 eP P 07 03 43.6 +1.8
MSU e 07 03 58.4
MSU **Marysvale** 73.42 53 eP P 07 03 43.6 +1.8
MSU e 07 03 58.4
K21A **Alcova** 73.43 47 ⇓P P 07 03 42.2 +0.5
baz=73,SNR=10
TMUT **Trail Mountain** 73.46 52 eP P 07 03 44.1 +2.0
comp=Z,9.4nm,0.9s
TMUT e 07 03 58.5
O18A **Roosevelt** 73.50 50 ⇓P P 07 03 43.5 +1.4
baz=73,SNR=15
ULM **Lac du Bonnet** 73.53 36 P P 07 03 41.9 0.0
comp=Z,8.7nm,0.7s,baz=315,slow=6.8,SNR=20
ULM pP PcP 07 03 56.8 -0.9
comp=Z,12nm,0.8s,baz=321,slow=8.3,SNR=6.6
ULM **Lac du Bonnet** 73.53 36 eP P 07 03 41.6 -0.3
comp=Z,9.1nm,0.8s
ULM pP PcP 07 03 56.8 -0.9
N19A **John Jarvie Ra** 73.55 49 ⇓P P 07 03 42.9 +0.5
baz=73,SNR=7.4
MURC **Murrieta** 73.55 59 ⇓P P 07 03 43.1 +0.7
baz=73
P17A **Butcher Ranch,** 73.62 51 ⇑P P 07 03 43.9 +1.1
baz=74,SNR=7.5
BSD **Bornholm Skovb** 73.62 333 i P P 07 03 42.2 -0.1
comp=Z,37nm,0.7s
MDND **Maddock** 73.62 39 ⇑P P 07 03 43.4 +0.9
baz=73,SNR=5.3
M20A **Sweetwater, Wa** 73.70 48 ⇓P P 07 03 44.2 +0.8
baz=74
GMRC **Granite Mounta** 73.76 58 ⇑P P 07 03 44.6 +0.9
baz=74,SNR=12
LRW **Lerwick** 73.79 343 eP P 07 03 42.7 -0.5
LRW AMB AMB 07 03 43.6
comp=Z,70nm,3.1s
LRW **Lerwick** 73.79 343 P P 07 03 42.7 -0.5
LRW AMB AMB 07 03 43.6
comp=Z,70nm,3.1s
P18A **Preston Nutter** 73.80 51 ⇑P P 07 03 45.1 +1.0
baz=74,SNR=9.8
J23A **Dilts Ranch, B** 73.81 46 ⇑P P 07 03 44.6 +0.8
baz=74
K22A **Casper** 73.81 47 ⇓P P 07 03 44.3 +0.4
baz=74,SNR=11
L21A **Rawlins** 73.82 48 ⇑P P 07 03 44.9 +0.8
baz=74,SNR=9.3
LDFC **Landfair** 73.90 57 eP P 07 03 45.6 +1.1
comp=Z,24nm,0.8s
I24A **Kuemmerle Ranc** 73.98 45 ⇓P P 07 03 45.1 +0.3
baz=74
COP **Copenhagen** 73.98 334 i P P 07 03 44.7 +0.3
comp=Z,26nm,0.8s
SRU **San Rafael** 73.98 51 eP P 07 03 46.2 +1.2
SRU pmax pmax
comp=Z,20nm,1.0s
SRU **San Rafael** 73.98 51 eP P 07 03 46.2 +1.2
comp=Z,20nm,1.0s
SRU **San Rafael** 73.98 51 ⇓P P 07 03 45.8 +0.8
baz=74,SNR=19
O19A **Miners Draw (B** 73.98 50 ⇑P P 07 03 45.1 +0.2
baz=74,SNR=7.6
PFO **Pinyon Flat Ob** 74.02 59 eP P 07 03 45.8 +0.6
comp=Z,9.7nm,0.8s
PFO **Pinyon Flat Ob** 74.02 59 ⇓P P 07 03 46.0 +0.7
baz=74,SNR=7.8
BEL **Belsk** 74.04 328 eP P 07 03 45.8 +0.9
BEL **Belsk** 74.04 328 eP P 07 03 45.7 +0.9
BELC **Belle Mtn. Jos** 74.05 58 ⇓P P 07 03 45.9 +0.5
baz=74,SNR=7.7
M21A **Separation Pea** 74.07 48 ⇑P P 07 03 46.1 +0.6
baz=74,SNR=6.7
109C **Camp Elliot, M** 74.07 60 ⇑P P 07 03 45.8 +0.4
baz=74
RSSD **Black Hills** 74.10 44 eP P 07 03 45.5 -0.1
RSSD pmax pmax
comp=Z,133nm,2.5s
RSSD **Black Hills** 74.10 44 eP P 07 03 45.5 -0.1
comp=Z,133nm,2.5s
N20A **Spence Gulch,** 74.10 49 ⇑P P 07 03 46.8 +1.1
baz=74,SNR=15
KIS **Kishinev** 74.17 320 eP P 07 03 54.0 +8.3
KIS e 07 06 28.0
KIS MLR MLR
comp=Z,400nm,17.0s
KIS MLR MLR
comp=Z,500nm,16.0s
KIS **Kishinev** 74.17 320 eP P 07 03 54.0 +8.3
KIS LRM MLR 07 38 16.0
comp=Z,500nm,16.0s
STKA **Stephens Creek** 74.19 183 P P 07 03 46.5 +0.7
comp=Z,8.0nm,0.8s,baz=347,slow=7.1,SNR=16
STKA **Stephens Creek** 74.19 183 eP P 07 03 46.3 +0.5
comp=Z,2.1nm,0.9s
K23A **Bowen Ranch, D** 74.22 46 ⇓P P 07 03 46.1 -0.1
baz=74
L22A **Ellis Ranch, M** 74.28 47 ⇓P P 07 03 47.6 +0.8
baz=74,SNR=9.3
J24A **Dixon Ranch, L** 74.33 45 ⇑P P 07 03 47.1 +0.2
baz=74
LLD **Lille Linde** 74.34 334 i P P 07 03 47.0 +0.5
comp=Z,35nm,0.8s
MUD **Monsted U'grnd** 74.35 336 i P P 07 03 46.4 -0.1
comp=Z,17nm,0.8s
IRM **Iron Mountain** 74.48 58 ⇑P P 07 03 49.2 +1.5
baz=74,SNR=11
BAR **Barrett** 74.48 60 eP P 07 03 48.3 +0.4
comp=Z,3.2nm,0.6s
MONP **Monument Peak** 74.51 60 ⇑P P 07 03 49.0 +0.8
baz=74,SNR=7.0
P19A **Cripple Cowboy** 74.51 50 ⇑P P 07 03 48.9 +0.8
baz=74,SNR=15
N21A **Black Mountain** 74.56 49 ⇓P P 07 03 49.1 +0.7
baz=74,SNR=8.6
O20A **White River Ci** 74.59 49 ⇓P P 07 03 49.2 +0.7
baz=74,SNR=7.9
BC3 **Big Chuckawall** 74.62 58 ⇓P P 07 03 49.7 +1.0
baz=74,SNR=6.8
L23A **Garrett** 74.62 47 ⇓P P 07 03 48.8 +0.1
baz=74,SNR=6.7
M22A **Cedar Creek Ra** 74.63 48 ⇑P P 07 03 49.5 +0.7
baz=74,SNR=7.8
W13A **Hualapai Mount** 74.64 56 ⇓P P 07 03 49.9 +0.9
baz=74,SNR=11
U15A **North Rim** 74.73 54 ⇑P P 07 03 51.0 +1.5
baz=75,SNR=26
Q19A **Hogan Spring (** 74.81 51 ⇑P P 07 03 50.3 +0.6
baz=75,SNR=20
SWSC **Sam W. Stewart** 74.87 59 ⇓P P 07 03 50.5 +0.5
baz=75

P20A **De Beque** 74.94 50 ⇑P P 07 03 50.7 +0.2
baz=75
KWP **Kalwaria Pacla** 74.95 325 eP P 07 03 51.0 +0.7
KWP **Kalwaria Pacla** 74.95 325 ⇑P P 07 03 51.2 +1.0
KWP **Kalwaria Pacla** 74.95 325 eP P 07 03 50.9 +0.7
comp=Z,63nm,1.0s
KWP **Kalwaria Pacla** 74.95 325 ⇓iP P 07 03 50.9 +0.7
KWP **Kalwaria Pacla** 74.95 325 eP P 07 03 50.9 +0.7
AGMN **Agassiz Nation** 75.00 37 eP P 07 03 50.4 -0.1
comp=Z,18nm,1.0s
AGMN e 07 04 04.8
PDMCI **Parker Dam,Lak** 75.02 57 ⇓P P 07 03 51.8 +1.0
baz=75,SNR=8.1
M23A **Laramie** 75.06 47 ⇓P P 07 03 51.2 -0.1
baz=75
N22A **Wattenberg Ran** 75.12 48 ⇑P P 07 03 52.7 +1.0
baz=75,SNR=5.8
Y12C **Blythe** 75.14 58 ⇑P P 07 03 52.7 +1.2
baz=75,SNR=8.3
MALT **Malatya** 75.19 309 ⇑P P 07 03 53.5 +1.6
MALT **Malatya** 75.19 309 eP P 07 03 53.1 +1.2
comp=Z,25nm,1.3s
MALT **Malatya** 75.19 309 ⇑iP P 07 03 53.3 +1.4
S18A **Hurst Farm, Bl** 75.25 52 ⇑P P 07 03 53.1 +0.7
baz=75,SNR=16
PHWY **Pilot Hill** 75.32 47 eP P 07 03 53.3 +0.4
comp=Z,7.2nm,1.1s
MIB **Mutribah** 75.32 297 eP P 07 03 51.2 -1.5
MIB AMb AMB 07 03 53.4
comp=Z,29nm,0.8s
PV10 **Paradox Valley** 75.33 51 eP P 07 03 54.0 +1.1
comp=Z,672nm,0.7s
N23A **Red Feather La** 75.34 48 ⇓P P 07 03 53.9 +1.0
baz=75,SNR=6.9
BUR08 **Bucovina Ar. S** 75.36 322 eP P 07 03 52.8 +0.1
Q20A **Ridgley Place,** 75.36 50 ⇑P P 07 03 53.9 +1.0
baz=75,SNR=8.6
BURAR **Bucovina Array** 75.38 322 ⇓iP P 07 03 53.0 +0.2
PV04 **Paradox Valley** 75.40 51 eP P 07 03 54.6 +1.4
GLA **Glamis** 75.41 59 eP P 07 03 54.6 +1.4
GLA pmax pmax
comp=Z,10.0nm,0.5s
GLA **Glamis** 75.41 59 eP P 07 03 54.6 +1.4
comp=Z,9.9nm,0.5s
GLA **Glamis** 75.41 59 ⇓P P 07 03 54.5 +1.4
baz=75,SNR=6.5
P21A **Newcastle** 75.45 49 ⇑P P 07 03 54.6 +1.1
baz=75,SNR=12
O22A **Kremmling** 75.51 48 ⇓P P 07 03 55.0 +1.0
baz=75,SNR=9.6
K26A **Motz Farm, Whi** 75.54 45 ⇓P P 07 03 54.2 +0.4
baz=75
M24A **Cheyenne** 75.54 47 ⇑P P 07 03 54.9 +1.0
baz=75,SNR=7.5
TESR 75.54 321 ⇑iP P 07 03 54.0 +0.4
QRN **Al-Qurain** 75.63 296 eP P 07 03 53.8 -0.6
QRN AMb AMB 07 03 56.3
comp=Z,29nm,0.4s
KOLS **Kolonicke sedl** 75.67 325 eP P 07 03 54.8 +0.5
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS **Kolonicke sedl** 75.67 325 eP P 07 03 54.8 +0.5
OJC **Ojcow** 75.70 327 eP P 07 03 55.3 +0.9
OJC **Ojcow** 75.70 327 eP P 07 03 54.4 0.0
comp=Z,77nm,1.2s
OJC **Ojcow** 75.70 327 eP P 07 03 55.3 +0.9
NAY **Al-Naaiem** 75.75 297 eP P 07 03 54.3 -0.8
NAY AMb AMB 07 03 56.2
comp=Z,13nm,1.2s
RDF **Al-Radifah** 75.75 296 eP P 07 03 54.2 -1.0
RDF AMb AMB 07 03 56.2
comp=Z,45nm,1.3s
PV01 **Paradox Valley** 75.77 51 eP P 07 03 56.2 +0.8
comp=Z,599nm,0.7s
P22A **Eagle** 75.79 49 ⇓P P 07 03 56.7 +1.2
baz=76,SNR=14
CFR **Carcaliu** 75.82 319 P P 07 03 55.6 +0.4
CFR **Carcaliu** 75.82 319 ⇑iP P 07 03 55.4 +0.2
O23A **Lake Granby, G** 75.83 48 ⇓P P 07 03 57.0 +1.2
baz=76,SNR=16
R20A **Redvale** 75.84 51 ⇓P P 07 03 56.7 +0.9
baz=76,SNR=9.1
Q21A **Lamborn Mesa,** 75.86 50 ⇑P P 07 03 57.0 +1.2
baz=76,SNR=5.9
UZH **Uzhgorod** 75.89 325 eP P 07 03 53.9 -1.7
UZH e 07 04 08.1
WUAZ **Wupatki** 75.89 55 eP P 07 03 57.5 +1.4
comp=Z,15nm,1.0s
WUAZ **Wupatki** 75.89 55 ⇑P P 07 03 57.4 +1.3
baz=76,SNR=10
SMCO **Snowmass** 75.96 49 eP P 07 03 57.1 +0.5
comp=Z,25nm,1.5s
SMCO e 07 04 12.9
Y14A **Wickenburg** 75.96 57 ⇓P P 07 03 57.6 +1.3
baz=76,SNR=22
N24A **Carr** 75.96 47 ⇑P P 07 03 57.5 +1.1
baz=76
M25A **Palm-Egli Farm** 75.98 46 ⇑P P 07 03 57.4 +1.0
baz=76
VRI **Vrincioaia** 75.98 320 ⇑P P 07 03 56.8 +0.6
VRI **Vrincioaia** 75.98 320 ⇑iP P 07 03 57.0 +0.8
PLOR **Plostina** 76.03 320 ⇑P P 07 03 58.3 +1.8
PLOR **Plostina** 76.03 320 ⇓iP P 07 03 57.5 +1.0
CRVS **Cervenica-Dubn** 76.03 325 eP P 07 03 57.0 +0.6
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS **Cervenica-Dubn** 76.03 325 eP P 07 03 57.0 +0.6
S20A **Disappointment** 76.10 51 ⇓P P 07 03 58.5 +1.2
baz=76,SNR=9.2
NIE **Niedzica** 76.11 326 eP P 07 03 57.9 +1.0
NIE **Niedzica** 76.11 326 eP P 07 03 57.9 +1.0
BSEG **Bad Segeberg** 76.12 334 eP P 07 03 57.7 +1.0
BSEG pmax pmax
comp=Z,58nm,1.0s
BSEG **Bad Segeberg** 76.12 334 eP P 07 03 57.7 +1.0
comp=Z,58nm,1.0s
TRPA **Tarpa** 76.17 324 ⇑iP P 07 03 58.1 +0.9
TRPA **Tarpa** 76.17 324 ⇑eP P 07 03 58.0 +0.9
R21A **Cimarron** 76.19 50 ⇑P P 07 03 59.2 +1.4
baz=76,SNR=17
TIRR **Tirgusor** 76.21 319 ⇑P P 07 03 58.3 +0.9
TIRR **Tirgusor** 76.21 319 ⇓iP P 07 03 57.9 +0.5
Q22A **Crested Butte,** 76.21 50 ⇑P P 07 03 59.2 +1.2
baz=76,SNR=21
113A **Mohawk Valley,** 76.27 58 ⇓P P 07 03 58.7 +0.7
baz=76
ISCO **Idaho Springs** 76.28 48 eP P 07 03 59.4 +1.0
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO **Idaho Springs** 76.28 48 eP P 07 03 59.4 +1.0
comp=Z,6.7nm,0.9s
ISCO **Idaho Springs** 76.28 48 ⇑P P 07 03 59.2 +0.9
baz=76,SNR=9.1
O24A **Longmont** 76.35 48 ⇓P P 07 04 00.2 +1.6
baz=76
Z14A **Wintersburg** 76.38 57 ⇓P P 07 03 59.7 +1.0
baz=76,SNR=5.5
BRSD **Miller** 76.41 41 ⇓P P 07 03 58.5 -0.1
baz=76
MVCO **Mesa Verde** 76.44 52 eP P 07 03 59.7 +0.5
comp=Z,11nm,0.7s
MVCO **Mesa Verde** 76.44 52 ⇓P P 07 04 00.1 +0.8
baz=76,SNR=12
P23A **Jefferson** 76.45 49 ⇑P P 07 04 00.6 +1.2
baz=76
MVH1 **Achvaich** 76.45 343 eP P 07 03 58.6 +0.1
MVH1 **Achvaich** 76.45 343 P P 07 03 58.6 +0.1
DOPR **Dopca** 76.53 321 ⇓iP P 07 04 00.5 +1.2
S21A **Coal Bank Pass** 76.54 51 ⇓P P 07 04 01.4 +1.5
baz=76,SNR=23
KSP **Ksiaz** 76.57 329 eP P 07 04 00.1 +0.7
KSP **Ksiaz** 76.57 329 eP P 07 04 00.0 +0.6
KSP **Ksiaz** 76.57 329 eP P 07 04 00.1 +0.7
X16A **Lo Mia Camp, P** 76.59 56 ⇓P P 07 04 01.7 +1.6
baz=76,SNR=37
ISR **Istrita** 76.62 320 ⇑P P 07 04 01.0 +1.1
ISR **Istrita** 76.62 320 ⇓iP P 07 04 01.0 +1.1
MLR **Muntele Rosu** 76.63 321 ⇓iP P 07 04 00.5 +0.5
OKC **Ostrava-Krasne** 76.66 328 iP P 07 04 00.9 +1.0
OKC **Ostrava-Krasne** 76.66 328 iP P 07 04 00.9 +1.0
R22A **Saguache, Gunn** 76.74 50 ⇓P P 07 04 02.4 +1.5
baz=77,SNR=10
MME1 **Meikle Cairn** 76.75 343 eP P 07 03 59.0 -1.3
MME1 **Meikle Cairn** 76.75 343 P P 07 03 59.0 -1.3
Q23A **Hartsel** 76.78 49 ⇑P P 07 04 02.6 +1.3
baz=77
P24A **Kohler Place,** 76.87 48 ⇓P P 07 04 02.9 +1.3
baz=77
O25A **Wiggins** 76.88 47 ⇑P P 07 04 03.0 +1.5
baz=77
PSN **Preselentsi** 76.89 318 P P 07 04 02.6 +1.3
BR131 **Keskin Array S** 76.90 312 eP P 07 04 01.7 0.0
comp=Z,3.4nm,0.6s
BRTR **Keskin Array B** 76.90 312 P P 07 04 01.9 +0.3
comp=Z,5.0nm,0.6s,baz=81,slow=3.4,SNR=19
BRTR PP PP 07 06 54.2 -0.5
comp=Z,2.6nm,0.8s,baz=70,slow=7.7,SNR=4.8
BRTR LR LR 07 42 34.6
comp=Z,117nm,21.0s,baz=39,slow=39
BRTR **Keskin Array B** 76.90 312 P P 07 04 01.9 +0.3
BRTR PP PP 07 06 54.2 -0.5
MDO **Dochfour** 76.94 343 eP P 07 04 01.4 0.0
MDO **Dochfour** 76.94 343 P P 07 04 01.4 0.0
MORC **Moravsky Berou** 76.94 328 ⇓P P 07 04 02.4 +0.8
MORC **Moravsky Berou** 76.94 328 eP P 07 04 01.8 +0.3
comp=Z,30nm,1.0s
MORC **Moravsky Berou** 76.94 328 ⇓iP P 07 04 02.2 +0.6
UPC **Upice** 76.94 329 iP P 07 04 02.4 +0.9
UPC **Upice** 76.94 329 iP P 07 04 02.4 +0.9
DPC **Dobruska-Polom** 76.95 329 iP P 07 04 02.5 +0.9
DPC e 07 04 17.0
DPC **Dobruska-Polom** 76.95 329 eP P 07 04 01.4 -0.2
comp=Z,37nm,1.0s
DPC **Dobruska-Polom** 76.95 329 iP P 07 04 02.5 +0.9
DPC epP pP 07 04 17.0 -1.6
KRLC **Kraliky** 77.00 328 iP P 07 04 02.7 +0.8
U20A **Newcomb** 77.00 52 ⇑P P 07 04 03.8 +1.5
baz=77
S22A **4UR Ranch, Cre** 77.03 50 ⇓P P 07 04 03.9 +1.3
baz=77,SNR=14
KAC **Achnashellach** 77.08 344 eP P 07 04 02.5 +0.3
KAC **Achnashellach** 77.08 344 P P 07 04 02.5 +0.3
VOIR 77.09 321 P P 07 04 03.8 +1.2
VOIR 77.09 321 ⇑iP P 07 04 03.7 +1.2
DRGR 77.12 323 ⇓P P 07 04 03.0 +0.4
DRGR 77.12 323 ⇑iP P 07 04 03.1 +0.4
Q24A **Divide** 77.12 49 ⇑P P 07 04 04.1 +1.0
baz=77
W18A **Petrified Fore** 77.15 54 ⇑P P 07 04 04.7 +1.5
baz=77
T21A **Navajo Lake** 77.15 51 ⇑P P 07 04 04.3 +1.1
baz=77,SNR=5.8
EYMN **Ely** 77.15 35 eP P 07 04 02.6 -0.2
comp=Z,18nm,0.8s
N27A **Anderson Farm,** 77.23 46 ⇑P P 07 04 04.6 +1.2
baz=77
P25A **Willow Gulch B** 77.27 48 ⇓P P 07 04 05.3 +1.5
baz=77
KPL **Plockton** 77.30 344 eP P 07 04 03.7 +0.4
KPL AMB AMB 07 04 04.8
comp=Z,64nm,2.5s
KPL **Plockton** 77.30 344 P P 07 04 03.7 +0.4
KPL AMB AMB 07 04 04.8
comp=Z,64nm,2.5s
ARR **Arges** 77.33 321 ⇓iP P 07 04 05.5 +1.6
KSB **Sheil Bridge** 77.37 344 eP P 07 04 04.1 +0.4
KSB **Sheil Bridge** 77.37 344 P P 07 04 04.1 +0.4
OGNE **Ogallala** 77.39 45 ⇓P P 07 04 05.5 +1.2
baz=77
CLL **Collm** 77.40 331 iP P 07 04 04.0 0.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL **Collm** 77.40 331 eP P 07 04 04.5 +0.5
comp=Z,39nm,1.0s
CLL **Collm** 77.40 331 iP P 07 04 04.0 0.0
comp=Z,47nm,1.1s
CLL epP pP 07 04 22.0 +1.0
CLL Lm MLR 07 41 00.0
comp=N,200nm,19.6s
CLL Lm MLR 07 41 00.0
comp=E,100nm,18.1s
CLL Lm MLR 07 41 00.0
comp=Z,300nm,19.4s
214A **Organ Pipe Nat** 77.41 58 ⇑P P 07 04 05.8 +1.4
baz=77,SNR=5.8
BRG **Berggiesshubel** 77.42 330 eP P 07 04 04.4 +0.3
comp=Z,20nm,1.2s
BRG
comp=N,403nm,17.9s
BRG
comp=E,152nm,16.9s
BRG
comp=Z,376nm,18.0s
BRG **Berggiesshubel** 77.42 330 eP P 07 04 04.4 +0.3
BRG pmax pmax
comp=Z,20nm,1.2s
BRG MLR MLR
comp=N,403nm,17.9s
BRG MLR MLR
comp=E,152nm,16.9s
BRG MLR MLR
comp=Z,376nm,18.0s
BRG **Berggiesshubel** 77.42 330 eP P 07 04 04.7 +0.6
comp=Z,20nm,1.2s
X18A **Snowflake** 77.42 55 ⇑P P 07 04 06.0 +1.3
baz=77,SNR=8.9
V20A **Brimhall** 77.43 53 ⇑P P 07 04 06.1 +1.3
baz=77
VYHS **Vyhne** 77.44 326 eP P 07 04 05.2 +0.8
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS **Vyhne** 77.44 326 eP P 07 04 05.2 +0.8
VYHS e 07 18 57.2
PSZ **Piszkesteto** 77.46 325 ⇓P P 07 04 05.8 +1.3
PSZ **Piszkesteto** 77.46 325 eP P 07 04 05.6 +1.1
comp=Z,35nm,1.3s
PSZ **Piszkesteto** 77.46 325 ⇑iP P 07 04 05.3 +0.8
PSZ **Piszkesteto** 77.46 325 ⇓eP P 07 04 05.8 +1.3
PVCC **Panska Ves** 77.47 330 iP P 07 04 05.1 +0.7
PVCC **Panska Ves** 77.47 330 iP P 07 04 05.1 +0.7
U21A **Nageezi** 77.47 52 ⇑P P 07 04 06.1 +1.1
baz=77,SNR=8.3
T22A **Edith** 77.50 51 ⇓P P 07 04 06.3 +1.1
baz=77,SNR=12
S23A **Nye Farm, Mont** 77.53 50 ⇑P P 07 04 06.9 +1.5
baz=77
Q25A **Bedland, Calha** 77.66 48 ⇑P P 07 04 07.2 +1.2
baz=78
R24A **Sanders Place,** 77.66 49 ⇓P P 07 04 07.2 +1.1
baz=78,SNR=11
P26A **Davis Ranch, A** 77.69 47 ⇑P P 07 04 07.0 +0.9
baz=78
CLZ **Clausthal** 77.86 333 eP P 07 04 07.7 +1.0
CLZ pmax pmax
comp=Z,69nm,1.6s
CLZ **Clausthal** 77.86 333 eP P 07 04 07.7 +1.0
comp=Z,69nm,1.6s
W20A **Ramah** 77.88 53 ⇓P P 07 04 08.4 +1.1
baz=78,SNR=7.4
V21A **Milan** 77.91 52 ⇑P P 07 04 08.9 +1.4
baz=78
PRU **Pruhonice** 77.92 330 iP P 07 04 07.7 +0.7
PRU MLR MLR
comp=Z,500nm,18.5s
PRU **Pruhonice** 77.92 330 iP P 07 04 07.7 +0.7
PRU AMS AMS 07 41 10.0
comp=Z,500nm,18.5s
ESY **Stoneypath** 77.95 342 eP P 07 04 07.2 +0.2
ESY **Stoneypath** 77.95 342 P P 07 04 07.2 +0.2
U22A **Llaves** 77.97 51 ⇑P P 07 04 08.9 +1.1
baz=78,SNR=5.7
T23A **Casias Ranch,** 77.98 50 ⇑P P 07 04 08.9 +1.0
baz=78,SNR=8.5
S24A **Houchin Ranch,** 78.02 50 ⇑P P 07 04 09.3 +1.1
baz=78
Q26A **Hugo** 78.05 48 ⇓P P 07 04 08.9 +0.8
baz=78,SNR=10
ECSD **EROS Data Cent** 78.07 40 eP P 07 04 07.8 -0.2
comp=Z,18nm,1.0s
EAB **Aberfoyle** 78.09 343 eP P 07 04 08.1 +0.3
EAB **Aberfoyle** 78.09 343 P P 07 04 08.1 +0.3
TREC **Trest** 78.13 329 iP P 07 04 09.1 +0.9
TREC **Trest** 78.13 329 iP P 07 04 09.1 +0.9
BUD **Budapest** 78.16 326 ⇓eP P 07 04 09.6 +1.3
R25A **Fountain Ranch** 78.18 49 ⇑P P 07 04 09.2 +0.4
baz=78,SNR=11
EBL **Broad Law** 78.18 342 eP P 07 04 08.6 +0.3
EBL **Broad Law** 78.18 342 P P 07 04 08.6 +0.3
V22A **San Miguel Ran** 78.26 52 ⇑P P 07 04 10.3 +0.8
baz=78
X20A **Quemado** 78.28 54 ⇓P P 07 04 11.0 +1.5
baz=78,SNR=15
SZH **Strazhica** 78.30 319 P P 07 04 09.5 +0.3
IBBN **Ibbenburen** 78.32 335 eP P 07 04 09.8 +0.7
comp=Z,40nm,1.2s
TANN **Tannenbergstha** 78.33 331 eP P 07 04 09.9 +0.6
comp=Z,16nm,1.4s
U23A **El Rito** 78.39 51 ⇑P P 07 04 11.3 +1.2
baz=78,SNR=21
W21A **San Fidel** 78.39 53 ⇑P P 07 04 11.8 +1.7
baz=78
TUC **Tucson** 78.43 57 eP P 07 04 11.4 +1.2
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC **Tucson** 78.43 57 eP P 07 04 11.3 +1.2
comp=Z,6.5nm,1.0s
MOX **Moxa** 78.44 332 eP P 07 04 10.5 +0.7
MOX pmax pmax
comp=Z,11nm,0.8s
MOX **Moxa** 78.44 332 eP P 07 04 10.5 +0.7
comp=Z,11nm,0.8s
S25A **Robets Cordova** 78.44 49 ⇓P P 07 04 11.2 +0.8
baz=78,SNR=8.0
KSCO **Kaye Shedlock'** 78.47 47 ⇓P P 07 04 11.1 +0.7
baz=78
PGBU **Glenifferbraes** 78.47 343 eP P 07 04 09.1 -0.7
PGBU AMB AMB 07 04 09.5
comp=Z,97nm,4.0s
PGBU **Glenifferbraes** 78.47 343 P P 07 04 09.1 -0.7
PGBU AMB AMB 07 04 09.5
comp=Z,97nm,4.0s
BZS **Buzias** 78.51 323 P P 07 04 10.5 +0.2
BZS **Buzias** 78.51 323 ⇓iP P 07 04 10.2 -0.1
T24A **Torres, Weston** 78.51 50 ⇑P P 07 04 12.5 +1.6
baz=78,SNR=12
R26A **Arlington** 78.53 48 ⇓P P 07 04 11.5 +0.8
baz=78,SNR=17
ESK **Eskdalemuir** 78.64 342 eP P 07 04 11.1 +0.2
ESK AMB AMB 07 04 11.6
comp=Z,48nm,1.6s
ESK **Eskdalemuir** 78.64 342 P P 07 04 11.1 +0.2
ESK AMB AMB 07 04 11.6
comp=Z,48nm,1.6s
ESK **Eskdalemuir** 78.64 342 eP P 07 04 11.0 +0.2
ESK pmax pmax
comp=Z,81nm,1.5s
ESK **Eskdalemuir** 78.64 342 eP P 07 04 11.0 +0.1
comp=Z,81nm,1.5s
ESK **Eskdalemuir** 78.64 342 P P 07 04 11.8 +1.0
comp=Z,165nm,0.5s,SNR=10
SPMN **St. Paul** 78.70 37 ⇓P P 07 04 11.7 +0.4
baz=78,SNR=14
ECK **Cauldkaine Hil** 78.75 342 eP P 07 04 11.5 +0.1
ECK **Cauldkaine Hil** 78.75 342 P P 07 04 11.5 +0.1
X21A **Alamocita Cree** 78.77 53 ⇓P P 07 04 13.9 +1.7
baz=79,SNR=19
Y20A **Horse Springs,** 78.79 54 ⇓P P 07 04 14.1 +1.7
baz=79,SNR=21
V23A **Ortiz Mt. (NFS** 78.80 52 ⇑P P 07 04 14.3 +2.0
baz=79,SNR=6.2
XAL **Allendale** 78.82 341 eP P 07 04 12.0 +0.1
XAL **Allendale** 78.82 341 P P 07 04 12.0 +0.1
T25A **Trinidad** 78.83 49 ⇑P P 07 04 13.4 +0.9
baz=79,SNR=7.1
U24A **Moreno Valley** 78.85 51 ⇑P P 07 04 14.1 +1.4
baz=79,SNR=8.6
R27A **Eads** 78.90 48 ⇑P P 07 04 13.1 +0.3
baz=79,SNR=14
ROTZ **Rotzenmuhle** 78.96 331 eP P 07 04 14.0 +1.3
comp=Z,14nm,1.0s
KHC **Kasperske Hory** 78.98 330 iP P 07 04 13.2 +0.3
KHC e 07 04 27.8
KHC MLR MLR
comp=Z,500nm,19.0s
KHC **Kasperske Hory** 78.98 330 eP P 07 04 13.3 +0.4
comp=Z,29nm,1.0s
KHC **Kasperske Hory** 78.98 330 iP P 07 04 13.2 +0.3
KHC epP pP 07 04 27.8 -2.1
KHC AMS AMS 07 41 50.0
comp=Z,500nm,19.0s
S26A **Kim** 79.00 49 ⇑P P 07 04 13.7 +0.3
baz=79,SNR=13
SOP **Sopron** 79.01 327 ⇑eP P 07 04 13.9 +0.9
BGNE **Belgrade** 79.05 43 ⇓P P 07 04 13.6 +0.2
baz=79
CONA **Conrad Observa** 79.09 328 ⇓iP P 07 04 14.7 +1.1
comp=Z,25nm,1.3s
CONA **Conrad Observa** 79.09 328 ⇓iP P 07 04 14.7 +1.1
comp=Z,25nm,1.3s,SNR=5.7
Y21A **Point of Rocks** 79.14 54 ⇓P P 07 04 16.2 +1.9
baz=79,SNR=8.9
GERES **GERESS Array B** 79.17 329 P P 07 04 13.9 -0.1
comp=Z,3.7nm,0.4s,baz=38,slow=5.7,SNR=43
GERES LR LR 07 42 26.2
comp=Z,378nm,21.0s,baz=202,slow=38
GERES **GERESS Array B** 79.17 329 P P 07 04 13.9 -0.1
LAZ **Ladron** 79.18 53 eP P 07 04 16.3 +1.8
comp=Z,6.8nm,1.3s
ANMO **Albuquerque** 79.20 52 eP P 07 04 15.5 +0.9
comp=Z,8.5nm,1.2s
Z20A **Nine Sixteen R** 79.21 55 ⇓P P 07 04 16.1 +1.5
baz=79,SNR=18
BUG **Bochum--Univer** 79.22 334 eP P 07 04 14.5 +0.5
comp=Z,24nm,1.1s
GCD **Castle Douglas** 79.22 342 eP P 07 04 13.9 -0.1
GCD **Castle Douglas** 79.22 342 P P 07 04 13.9 -0.1
W23A **Werner Place,** 79.23 52 ⇓P P 07 04 16.4 +1.6
baz=79,SNR=6.3
WET **Wettzell** 79.23 330 eP P 07 04 15.4 +1.2
WET pmax pmax
comp=Z,30nm,1.2s
WET **Wettzell** 79.23 330 eP P 07 04 15.4 +1.2
comp=Z,30nm,1.2s
T26A **Comanche Natio** 79.26 49 ⇑P P 07 04 15.4 +0.6
baz=79,SNR=5.3
MPEP **Malo Peshtene** 79.28 320 P P 07 04 15.4 +0.8
KESW **Keswick, Cumbr** 79.28 342 eP P 07 04 15.0 +0.6
KESW AMB AMB 07 04 16.8
comp=Z,55nm,1.4s
KESW **Keswick, Cumbr** 79.28 342 P P 07 04 15.0 +0.6
KESW AMB AMB 07 04 16.8
comp=Z,55nm,1.4s
SCHQ **Schefferville** 79.29 18 P P 07 04 14.4 0.0
comp=Z,15nm,0.7s,baz=358,slow=6.4,SNR=37
SCHQ **Schefferville** 79.29 18 eP P 07 04 14.4 0.0
comp=Z,21nm,0.9s
PKSM **Moragy** 79.33 325 ⇓eP P 07 04 14.9 +0.1
V24A **Rampart Ranch,** 79.34 51 ⇓P P 07 04 16.8 +1.5
baz=79,SNR=7.6
U25A **Circle Dot Ran** 79.35 50 ⇑P P 07 04 16.3 +1.0
baz=79,SNR=7.5
GRF **Grafenberg Arr** 79.37 331 eP P 07 04 16.1 +1.1
GRF pmax pmax
comp=Z,35nm,1.0s
GRF **Grafenberg Arr** 79.37 331 eP P 07 04 16.1 +1.1
comp=Z,35nm,1.0s
120A **U Bar Ranch, L** 79.58 55 ⇑P P 07 04 18.1 +1.5
baz=79,SNR=7.0
COWI **Conover** 79.60 35 eP P 07 04 16.2 -0.1
comp=Z,15nm,0.8s
COWI e 07 04 30.4
Y22A **Socorro** 79.61 53 ⇑P P 07 04 18.4 +1.6
baz=80
W24A **Lazy 6 Ranch,** 79.62 51 ⇑P P 07 04 18.5 +1.7
baz=80,SNR=12
Z21A **St. Cloud Mine** 79.63 54 ⇑P P 07 04 18.4 +1.5
baz=80,SNR=11
V25A **Rancho No Teng** 79.63 51 ⇓P P 07 04 18.1 +1.2
baz=80,SNR=5.4
BNM **Barren Site** 79.66 53 eP P 07 04 18.4 +1.3
comp=Z,4.4nm,0.8s
U26A **Atchley Ranch,** 79.73 50 ⇑P P 07 04 18.4 +0.9
baz=80,SNR=5.7
ARSA **Arzberg** 79.77 327 ⇑iP P 07 04 17.9 +0.7
comp=Z,7.9nm,0.6s
ARSA **Arzberg** 79.77 327 ⇑iP P 07 04 17.9 +0.7
comp=Z,7.9nm,0.6s
MOA **Molln** 79.78 329 ⇓iP P 07 04 17.7 +0.5
comp=Z,6.2nm,0.6s
MOA **Molln** 79.78 329 ⇓iP P 07 04 17.7 +0.5
comp=Z,6.2nm,0.6s
T27A **Campo** 79.82 49 ⇓P P 07 04 18.5 +0.7
baz=80
TNS **Taunus Mts** 79.88 333 eP P 07 04 18.4 +0.6
TNS pmax pmax
comp=Z,9.0nm,0.9s

TNS **Taunus Mts** 79.88 333 *e*P P 07 04 18.4 +0.6
comp=Z,9.0nm,0.9s
LHO **Holmfirth** 79.94 340 *e*P P 07 04 17.6 -0.4
LHO **Holmfirth** 79.94 340 P P 07 04 17.6 -0.4
319A **Douglas** 80.00 57 ⇓P P 07 04 20.5 +1.7
baz=80,SNR=11
ALN **Alexandroupoli** 80.02 317 P P 07 04 19.2 +0.6
RZN **Rozhen** 80.08 319 P P 07 04 20.2 +1.0
RDO **Rodhopi** 80.09 318 P P 07 04 19.7 +0.8
Z22A **Elephant Butte** 80.09 54 ⇑P P 07 04 20.6 +1.2
baz=80,SNR=9.4
220A **Playas Peak, P** 80.09 56 ⇑P P 07 04 20.9 +1.5
baz=80,SNR=11
121A **Cookes Peak, D** 80.11 55 ⇓P P 07 04 20.8 +1.3
baz=80,SNR=13
VTS **Vitosha** 80.11 320 ⇑P P 07 04 20.1 +0.8
VTS **Vitosha** 80.11 320 P P 07 04 19.9 +0.6
VTS **Vitosha** 80.11 320 ⇓*i*P P 07 04 19.9 +0.6
VTS **Vitosha** 80.11 320 P P 07 04 19.8 +0.5
KBI1 **Birley Grange** 80.12 340 *e*P P 07 04 18.6 -0.3
KBI1 **Birley Grange** 80.12 340 P P 07 04 18.6 -0.3
V26A **Tequesquite Ra** 80.14 50 ⇑P P 07 04 20.3 +0.8
baz=80,SNR=6.6
Y23A **Lovelace Mesa,** 80.15 53 ⇓P P 07 04 21.1 +1.4
baz=80,SNR=19
W25A **X Bar L Ranch,** 80.16 51 ⇓P P 07 04 21.0 +1.3
baz=80,SNR=20
TOD **Tromm** 80.29 333 *e*P P 07 04 20.6 +0.7
TOD **Tromm** 80.29 333 *e*P P 07 04 20.6 +0.7
MEM **Membach** 80.34 335 P P 07 04 20.5 +0.4
comp=Z,8.6nm,1.1s
RJOB **Jochberg** 80.43 329 *e*P P 07 04 22.1 +1.3
comp=Z,22nm,0.9s
SOKA **Soboth** 80.43 327⇑*i*P P 07 04 21.4 +0.6
comp=Z,24nm,0.7s
SOKA **Soboth** 80.43 327⇑*i*P P 07 04 21.4 +0.6
comp=Z,24nm,0.7s
PERS **Pernice** 80.44 327 *i*P P 07 04 21.2 +0.4
122A **Conniff Cattle** 80.46 54 ⇑P P 07 04 22.9 +1.6
baz=80
320A **Kipp Ranch, An** 80.49 56 ⇑P P 07 04 23.1 +1.6
baz=80
Y24A **Capitan** 80.52 52 ⇑P P 07 04 23.1 +1.4
baz=80
Z23A **Rita Site, Whi** 80.52 53 ⇑P P 07 04 22.8 +1.1
baz=80,SNR=5.3
X25A **Clemmons Ranch** 80.54 51 ⇓P P 07 04 23.1 +1.4
baz=80
MMB **Musomiste** 80.63 319 P P 07 04 22.8 +0.8
FUR **Furstenfeldbru** 80.63 330 *e*P P 07 04 22.9 +1.1
FUR pmax pmax
comp=Z,53nm,1.2s
FUR **Furstenfeldbru** 80.63 330 *e*P P 07 04 22.9 +1.1
comp=Z,53nm,1.2s
WME **Myndd Eilian** 80.66 342 *e*P P 07 04 22.0 +0.2
WME **Myndd Eilian** 80.66 342 P P 07 04 22.0 +0.2
BCLA **Clavier** 80.72 335 P P 07 04 22.3 +0.1
KKB **Krupnik** 80.73 320 P P 07 04 23.7 +1.3
KBA **Koelnbreinsper** 80.77 329⇑*i*P P 07 04 23.7 +1.0
KBA pmax pmax
comp=Z,31nm,0.9s
KBA **Koelnbreinsper** 80.77 329⇑*i*P P 07 04 23.7 +1.0
comp=Z,31nm,0.9s
KBA **Koelnbreinsper** 80.77 329⇑*i*P P 07 04 23.7 +1.0
comp=Z,31nm,0.9s
RUP **Ruppelstein** 80.79 334 *e*P P 07 04 23.2 +0.6
RUP **Ruppelstein** 80.79 334 *e*P P 07 04 23.2 +0.6
222A **Williams Famil** 80.82 55 ⇑P P 07 04 24.3 +1.1
baz=81,SNR=6.1
STU **Stuttgart** 80.86 332 *e*P P 07 04 23.8 +0.8
FOEL **Foel Wylfa** 80.87 341 *e*P P 07 04 23.2 +0.3
FOEL AMB AMB 07 04 24.5
comp=Z,42nm,2.0s
FOEL **Foel Wylfa** 80.87 341 P P 07 04 23.2 +0.3
FOEL AMB AMB 07 04 24.5
comp=Z,42nm,2.0s
123A **Bell Site, Whi** 80.95 54 ⇓P P 07 04 25.5 +1.6
baz=81
Y25A **Mesa, Roswell** 80.95 52 ⇑P P 07 04 24.9 +1.0
baz=81,SNR=6.0
SNF **Seneffe** 80.96 336 P P 07 04 23.6 +0.1
Z24A **Sheeppen Canyo** 80.98 53 ⇑P P 07 04 25.4 +1.3
baz=81,SNR=5.2
X26A **CR and CF Fran** 81.01 51 ⇓P P 07 04 25.5 +1.3
baz=81
MYKA **Terra Mystica** 81.02 328⇑*i*P P 07 04 23.8 -0.1
comp=Z,9.1nm,0.5s
MYKA **Terra Mystica** 81.02 328⇑*i*P P 07 04 23.8 -0.1
comp=Z,9.1nm,0.5s
V28A **Channing** 81.05 49 ⇓P P 07 04 25.1 +0.7
baz=81
W27A **Bowe Ranch, En** 81.07 50 ⇑P P 07 04 25.7 +1.2
baz=81,SNR=7.7
YRE **Yr Eifl** 81.07 342 *e*P P 07 04 24.4 +0.4
YRE **Yr Eifl** 81.07 342 P P 07 04 24.4 +0.4
SCIA **State Center** 81.08 40 *e*P P 07 04 25.1 +0.8
comp=Z,30nm,0.6s
SCIA *e* 07 04 40.5
GIVF **Givet** 81.15 335⇑*i*P P 07 04 24.2 -0.3
GIVF **Givet** 81.15 335⇑*i*P P 07 04 24.2 -0.3
GIVF **Givet** 81.15 335⇑*i*P P 07 04 24.2 -0.3
WATA **Walderalm** 81.22 330⇑*i*P P 07 04 25.6 +0.5
comp=Z,14nm,0.4s
VISS **Visnje** 81.23 327 *i*P P 07 04 24.8 -0.2
DOU **Dourbes** 81.23 335 P P 07 04 25.0 +0.1
WTTA **Wattenberg** 81.26 330⇓*i*P P 07 04 25.8 +0.5
WTTA pmax pmax
comp=Z,24nm,0.9s
WTTA **Wattenberg** 81.26 330⇓*i*P P 07 04 25.8 +0.5
comp=Z,24nm,0.9s
WTTA **Wattenberg** 81.26 330⇓*i*P P 07 04 25.8 +0.5
comp=Z,24nm,0.9s
BOJS **Bojanci** 81.30 327 *i*P P 07 04 25.3 -0.1
ABTA **Abfaltersbach** 81.36 329⇑*i*P P 07 04 26.1 +0.3
comp=Z,17nm,1.1s
ABTA **Abfaltersbach** 81.36 329⇑*i*P P 07 04 26.1 +0.3
comp=Z,17nm,1.1s
124A **Stringfield Ra** 81.38 53 ⇑P P 07 04 27.2 +0.9
baz=81,SNR=5.9
BAIF **Baives** 81.38 335 *e*P P 07 04 25.6 -0.1
comp=Z,8.1nm,0.5s
BAIF **Baives** 81.38 335 *e*P P 07 04 25.6 -0.1
BAIF pmax pmax
comp=Z,8.0nm,0.5s
BAIF **Baives** 81.38 335 *e*P P 07 04 25.6 -0.1
comp=Z,8.1nm,0.5s
MOTA **Moosalm** 81.39 330 *i*P P 07 04 26.3 +0.3
MOTA pmax pmax
comp=Z,45nm,1.1s
MOTA **Moosalm** 81.39 330 *i*P P 07 04 26.3 +0.3
comp=Z,45nm,1.1s
MOTA **Moosalm** 81.39 330 *i*P P 07 04 26.3 +0.3
comp=Z,45nm,1.1s,SNR=11
RETA **Reutte** 81.39 330⇑*i*P P 07 04 26.4 +0.5
comp=Z,33nm,1.4s
RETA **Reutte** 81.39 330⇑*i*P P 07 04 26.4 +0.5
comp=Z,33nm,1.4s,SNR=7.8
Z25A **Roswell** 81.40 52 ⇓P P 07 04 27.1 +0.8
baz=81,SNR=7.6
Y26A **Elida** 81.46 51 ⇓P P 07 04 27.6 +1.0
baz=81
JAVS **Javornik** 81.46 328 *i*P P 07 04 25.5 -0.8
BFO **Black Forest** 81.54 332 *e*P P 07 04 27.1 +0.4
BFO pmax pmax
comp=Z,75nm,1.9s
BFO **Black Forest** 81.54 332 *e*P P 07 04 27.1 +0.4
comp=Z,75nm,1.9s
KSU1 **Kansas State U** 81.56 44 *e*P P 07 04 26.8 -0.1
comp=Z,12nm,0.8s
KSU1 *e* 07 04 42.3
SPAK **Spaichingen-Ko** 81.58 332 *e*P P 07 04 27.6 +0.7
MCH1 **Michaelchurch** 81.64 340 *e*P P 07 04 27.2 +0.2
MCH1 AMB AMB 07 04 31.2
comp=Z,48nm,1.7s
MCH1 **Michaelchurch** 81.64 340 P P 07 04 27.2 +0.2
MCH1 AMB AMB 07 04 31.2
comp=Z,48nm,1.7s
HORT **Hortiatis** 81.70 319 P P 07 04 27.7 0.0
PLG **Polygyros** 81.70 319 P P 07 04 27.8 +0.1
224A **Cornudas Mount** 81.78 54 ⇑P P 07 04 29.6 +1.2
baz=82
FETA **Feichten** 81.80 330⇑*i*P P 07 04 28.7 +0.5
comp=Z,17nm,1.0s
FETA **Feichten** 81.80 330⇑*i*P P 07 04 28.7 +0.5
comp=Z,17nm,1.0s,SNR=14
WOL **Wolverton** 81.81 339 *e*P P 07 04 28.1 +0.1
WOL AMB AMB 07 04 30.2
comp=Z,55nm,1.4s
WOL **Wolverton** 81.81 339 P P 07 04 28.1 +0.1
WOL AMB AMB 07 04 30.2
comp=Z,55nm,1.4s
CDF **Champ du Feu** 81.83 333 *e*P P 07 04 28.3 +0.1
comp=Z,29nm,0.9s
CDF **Champ du Feu** 81.83 333 *e*P P 07 04 28.3 +0.1
CDF pmax pmax
comp=Z,29nm,0.9s
CDF **Champ du Feu** 81.83 333 *e*P P 07 04 28.3 +0.1
comp=Z,29nm,0.9s
Z26A **Caprock** 81.83 52 ⇑P P 07 04 29.5 +0.9
baz=82,SNR=16
Y27A **Causey** 81.86 51 ⇓P P 07 04 29.5 +0.8
baz=82
125A **Gardner Draw,** 81.88 53 ⇓P P 07 04 30.0 +1.1
baz=82,SNR=8.7
DAVA **Damuels** 81.88 331⇑*i*P P 07 04 28.8 +0.1
comp=Z,12nm,0.6s
DAVA **Damuels** 81.88 331⇑*i*P P 07 04 28.8 +0.1
comp=Z,12nm,0.6s,SNR=7.3
X28A **Dimmitt** 81.96 50 ⇓P P 07 04 30.1 +0.9
baz=82
AMTX **Amarillo** 81.98 49 *e*P P 07 04 30.2 +1.0
comp=Z,5.6nm,0.6s
AMTX **Amarillo** 81.98 49 ⇑P P 07 04 30.3 +1.0
baz=82
MSTX **Muleshoe** 82.03 51 ⇑P P 07 04 30.5 +0.9
baz=82
ECH **Echery** 82.04 333 *e*P P 07 04 29.1 -0.2
ECH pmax pmax
comp=Z,14nm,1.0s
ECH **Echery** 82.04 333 *e*P P 07 04 29.1 -0.2
comp=Z,14nm,1.0s
ECH **Echery** 82.04 333 *e*P P 07 04 29.5 +0.2
FELD **Feldberg im Sc** 82.04 332 *e*P P 07 04 29.5 +0.1
225A **Deer Hill, Car** 82.17 53 ⇓P P 07 04 32.0 +1.5
baz=82
PAGF **Fort de Pagny** 82.22 334⇑*i*P P 07 04 30.5 +0.3
comp=Z,13nm,0.8s
PAGF **Fort de Pagny** 82.22 334⇑*i*P P 07 04 30.5 +0.3
comp=Z,13nm,0.8s
324A **Moseley Ranch,** 82.26 54 ⇓P P 07 04 31.4 +0.6
baz=82,SNR=6.5
126A **Clayton Basin,** 82.26 52 ⇑P P 07 04 31.7 +0.9
baz=82
X29A **Tulia** 82.29 50 ⇑P P 07 04 32.0 +1.1
baz=82
FUORN **Ofenpass-Fuorn** 82.31 330 *e*P P 07 04 31.8 +0.8
comp=Z,34nm,0.6s
MOF **Molkenrain** 82.36 333 *e*P P 07 04 31.0 0.0
MOF **Molkenrain** 82.36 333 *e*P P 07 04 31.0 0.0
MOF **Molkenrain** 82.36 333 *e*P P 07 04 31.0 0.0
GDL2 **Guadalupe Moun** 82.38 53 *e*P P 07 04 32.5 +1.0
THEF **They Montfort** 82.42 333 *e*P P 07 04 31.5 +0.3
THEF **They Montfort** 82.42 333 *e*P P 07 04 31.5 +0.3
THEF **They Montfort** 82.42 333 *e*P P 07 04 31.5 +0.3
MEZF **Maizieres J'vi** 82.48 334 *e*P P 07 04 31.8 +0.3
MEZF **Maizieres J'vi** 82.48 334 *e*P P 07 04 31.8 +0.3
HINF **Hinteralfeld** 82.49 333 *e*P P 07 04 31.3 -0.3
comp=Z,8.8nm,0.6s
HINF **Hinteralfeld** 82.49 333 *e*P P 07 04 31.3 -0.3
HINF pmax pmax
comp=Z,9.0nm,0.6s
HINF **Hinteralfeld** 82.49 333 *e*P P 07 04 31.3 -0.3
comp=Z,8.8nm,0.6s
HAU **Haudompre** 82.49 333 *e*P P 07 04 31.4 -0.2
comp=Z,11nm,0.7s
HAU *e*R
comp=Z,195nm,22.8s
HAU **Haudompre** 82.49 333 *e*P P 07 04 31.4 -0.2
HAU pmax pmax
comp=Z,11nm,0.6s
HAU **Haudompre** 82.49 333 *e*P P 07 04 31.4 -0.2
comp=Z,11nm,0.6s
BBS **Basel-Blauen** 82.57 332 *e*P P 07 04 32.5 +0.4
BBS **Basel-Blauen** 82.57 332 *e*P P 07 04 32.5 +0.4
XOR **Xorichti** 82.60 318 P P 07 04 32.0 -0.4
325A **Bean Ranch, Si** 82.61 54 ⇑P P 07 04 33.6 +0.9
baz=82
HEX **Exmoor** 82.69 340 *e*P P 07 04 32.9 +0.4
HEX **Exmoor** 82.69 340 P P 07 04 32.9 +0.4
Z28A **Tucker Farm, M** 82.74 51 ⇑P P 07 04 34.3 +1.0
baz=83
SFTF **Sexfontaines** 82.75 334 *e*P P 07 04 33.0 +0.1
comp=Z,15nm,0.4s
SFTF **Sexfontaines** 82.75 334 *e*P P 07 04 33.0 +0.1
comp=Z,15nm,0.4s
X30A **Coker Ranch, T** 82.75 49 ⇑P P 07 04 34.2 +0.9
baz=83
TUE **Stuetta** 82.77 331 *e*P P 07 04 33.2 -0.1
comp=Z,13nm,0.7s
NEST **Nestorio** 82.82 320 P P 07 04 33.5 -0.1
425A **Indio Mountain** 83.02 54 ⇓P P 07 04 35.5 +0.6
baz=83,SNR=6.2
227A **Bennet, Jal** 83.14 52 ⇑P P 07 04 36.6 +1.2
baz=83
Z29A **Hungry Hill Ra** 83.15 51 ⇓P P 07 04 36.1 +0.7
baz=83,SNR=14
Y30A **Stafford Cattl** 83.16 50 ⇑P P 07 04 36.3 +0.9
baz=83
128A **Castleberry Fa** 83.17 51 ⇓P P 07 04 36.2 +0.7
baz=83,SNR=8.9
ATAL **Atalanti** 83.21 318 P P 07 04 35.0 -0.5
326A **Caldwell Ranch** 83.24 53 ⇓P P 07 04 36.8 +0.9
baz=83,SNR=10
AGG **Agios Georgios** 83.29 318 P P 07 04 34.6 -1.3
Z30A **Sanderson Ranc** 83.46 50 ⇑P P 07 04 37.9 +0.9
baz=83,SNR=5.3
228A **UT Block 9, Go** 83.47 52 ⇑P P 07 04 38.0 +1.0
baz=83
SENIN **Lac Senin/Sane** 83.59 332 *e*P P 07 04 38.0 +0.4
comp=Z,7.8nm,0.7s
426A **McDonald Obser** 83.68 54 ⇑P P 07 04 38.7 +0.4
baz=84
WMOK **Wichita Mounta** 83.69 48 *e*P P 07 04 38.3 +0.2
WMOK pmax pmax
comp=Z,7.0nm,1.0s
WMOK **Wichita Mounta** 83.69 48 *e*P P 07 04 38.3 +0.2
comp=Z,7.4nm,1.0s
CABF **La Chapelle** 83.79 333 *e*P P 07 04 38.5 +0.1
comp=Z,11nm,0.7s
CABF **La Chapelle** 83.79 333 *e*P P 07 04 38.5 +0.1
CABF pmax pmax
comp=Z,11nm,0.7s
CABF **La Chapelle** 83.79 333 *e*P P 07 04 38.5 +0.1
comp=Z,11nm,0.7s
KALE **Kalithea** 83.88 318 P P 07 04 38.4 -0.6
328A **Wristen Ranch,** 83.88 53 ⇑P P 07 04 39.9 +0.8
baz=84,SNR=8.3
427A **Hayter Ranch,** 83.92 53 ⇑P P 07 04 40.0 +0.6
baz=84,SNR=8.3
FLN **La Foliniere** 83.92 338⇑*i*P P 07 04 38.8 -0.1
comp=Z,23nm,0.6s
FLN *e*R
comp=Z,86nm,20.5s
FLN **La Foliniere** 83.92 338⇑*i*P P 07 04 38.8 -0.1
FLN pmax pmax
comp=Z,23nm,0.6s
FLN **La Foliniere** 83.92 338⇑*i*P P 07 04 38.8 -0.1
comp=Z,23nm,0.6s
LOR **Lormes** 83.95 334⇑*i*P P 07 04 39.0 -0.2
comp=Z,27nm,0.8s
LOR *e*R
comp=Z,249nm,22.2s
LOR **Lormes** 83.95 334⇑*i*P P 07 04 39.0 -0.2
comp=Z,27nm,0.8s
HDIL **Hopedale** 83.96 38 *e*P P 07 04 40.0 +0.7
comp=Z,30nm,0.7s
HDIL *e* 07 04 54.6
LDF **La Druitiere** 83.97 337⇑*i*P P 07 04 39.0 -0.2
comp=Z,16nm,0.6s
LDF **La Druitiere** 83.97 337⇑*i*P P 07 04 39.0 -0.2
LDF pmax pmax
comp=Z,16nm,0.6s
LDF **La Druitiere** 83.97 337⇑*i*P P 07 04 39.0 -0.2
comp=Z,16nm,0.6s
DID **Didima** 84.02 317 P P 07 04 37.5 -2.2
229A **Bryant Ranch,** 84.04 52 ⇑P P 07 04 41.0 +1.1
baz=84
LAKA **Lakka** 84.07 318 P P 07 04 39.7 -0.3
526A **Mary Lane Ranc** 84.08 54 ⇑P P 07 04 41.3 +1.0
baz=84,SNR=14
GUR **Goura** 84.13 318 P P 07 04 39.6 -0.7
SSF **Saint Saulge** 84.25 334⇑*i*P P 07 04 40.6 0.0
comp=Z,15nm,0.7s
SSF **Saint Saulge** 84.25 334⇑*i*P P 07 04 40.6 0.0
SSF pmax pmax
comp=Z,15nm,0.7s
SSF **Saint Saulge** 84.25 334⇑*i*P P 07 04 40.6 0.0
comp=Z,15nm,0.7s
329A **Wagon Wheel Ra** 84.29 52 ⇓P P 07 04 42.2 +1.0
baz=84,SNR=7.3
527A **Woodward Ranch** 84.31 54 ⇓P P 07 04 42.5 +1.0
baz=84,SNR=7.1
PMOR **Pomariorio Ree** 84.35 116 *e*T T 08 37 01.9
comp=Z,48nm,0.2s
GRR **Gorron** 84.36 338⇑*i*P P 07 04 41.3 +0.1
comp=Z,29nm,0.6s
GRR **Gorron** 84.36 338⇑*i*P P 07 04 41.3 +0.1
GRR pmax pmax
comp=Z,29nm,0.6s
GRR **Gorron** 84.36 338⇑*i*P P 07 04 41.3 +0.1
comp=Z,29nm,0.6s
TUL1 **Tulsa** 84.41 45 ⇑P P 07 04 42.5 +0.8
baz=84,SNR=6.4
626A **Big Bend Ranch** 84.42 55 ⇑P P 07 04 43.1 +1.1
baz=84,SNR=5.6
428A **Kincaid Ranch,** 84.43 53 ⇑P P 07 04 43.2 +1.2
baz=84,SNR=10
RLS **Riolos of Patr** 84.47 318 P P 07 04 42.1 +0.2
230A **Sterling City** 84.50 51 ⇓P P 07 04 43.3 +1.1
baz=84,SNR=12
SMF **Signal de Mont** 84.51 334⇑*i*P P 07 04 42.1 +0.1
comp=Z,24nm,0.6s
SMF **Signal de Mont** 84.51 334⇑*i*P P 07 04 42.1 +0.1
SMF pmax pmax
comp=Z,24nm,0.6s
SMF **Signal de Mont** 84.51 334⇑*i*P P 07 04 42.1 +0.1
comp=Z,24nm,0.6s
LPL **La Plagne** 84.52 332⇑*i*P P 07 04 42.7 +0.4
comp=Z,26nm,0.9s
LPL **La Plagne** 84.52 332⇑*i*P P 07 04 42.7 +0.4
LPL pmax pmax
comp=Z,26nm,0.9s
LPL **La Plagne** 84.52 332⇑*i*P P 07 04 42.7 +0.4
comp=Z,26nm,0.9s
LPG **La Plagne** 84.53 332⇑*i*P P 07 04 43.0 +0.5
comp=Z,26nm,0.6s
LPG **La Plagne** 84.53 332⇑*i*P P 07 04 43.0 +0.5
LPG pmax pmax
comp=Z,26nm,0.6s
LPG **La Plagne** 84.53 332⇑*i*P P 07 04 43.0 +0.5
comp=Z,26nm,0.6s
AVF **Avril sur Loir** 84.53 334⇑*i*P P 07 04 42.2 +0.1
comp=Z,64nm,0.9s
AVF **Avril sur Loir** 84.53 334⇑*i*P P 07 04 42.2 +0.1
AVF pmax pmax
comp=Z,64nm,0.9s
AVF **Avril sur Loir** 84.53 334⇑*i*P P 07 04 42.2 +0.1
comp=Z,64nm,0.9s
VLX **Vlachokerasia** 84.55 317 P P 07 04 41.7 -0.8
AQU **L'Aquila** 84.66 326⇓*i*P P 07 04 43.8 +0.9
528A **Cox Ranch, San** 84.78 53 ⇑P P 07 04 44.9 +1.1
baz=85,SNR=6.1
ABTX **Abilene, Hawle** 84.79 50 ⇑P P 07 04 44.3 +0.6
baz=85
VLS **Valsamata** 84.80 319 P P 07 04 43.6 0.0
330A **Mertzon** 84.82 51 ⇓P P 07 04 44.9 +1.0
baz=85,SNR=7.4
TXAR **Lajitas Array** 84.86 54 P P 07 04 45.1 +0.9
comp=Z,7.1nm,0.6s,baz=298,slow=3.5,SNR=120
TXAR **Lajitas Array** 84.86 54 P P 07 04 45.1 +0.9
IDI **Anoyia** 84.86 314 P P 07 04 43.2 -0.8
IDI **Anoyia** 84.86 314 *e*P P 07 04 43.3 -0.8
comp=Z,32nm,0.7s
BGF **Bois d'Agland** 84.90 335⇑*i*P P 07 04 44.1 +0.1
comp=Z,16nm,0.7s
BGF **Bois d'Agland** 84.90 335⇑*i*P P 07 04 44.1 +0.1
BGF pmax pmax
comp=Z,16nm,0.7s
BGF **Bois d'Agland** 84.90 335⇑*i*P P 07 04 44.1 +0.1
comp=Z,16nm,0.7s
231A **Bronte** 84.92 51 ⇓P P 07 04 45.2 +0.9
baz=85,SNR=8.4
ITM **Ithomi** 84.92 318 P P 07 04 43.7 -0.6
627A **Terlingua Ranc** 84.94 54 ⇓P P 07 04 45.4 +0.8
baz=85,SNR=7.6
BNI **Bardonecchia** 84.94 331 *e*P P 07 04 45.1 +0.7
BNI pmax pmax
comp=Z,13nm,1.0s
BNI **Bardonecchia** 84.94 331 *e*P P 07 04 45.1 +0.7
comp=Z,13nm,1.0s
SGMF **Saint Gilles** 84.95 339 *e*P P 07 04 44.6 +0.4
comp=Z,19nm,0.6s
SGMF **Saint Gilles** 84.95 339 *e*P P 07 04 44.6 +0.4
SGMF pmax pmax
comp=Z,19nm,0.6s
SGMF **Saint Gilles** 84.95 339 *e*P P 07 04 44.6 +0.4
comp=Z,19nm,0.6s
429A **Davenport Ranc** 84.97 52 ⇑P P 07 04 45.1 +0.4
baz=85,SNR=5.2
DYR **Agios Nikonas** 85.05 317 P P 07 04 44.6 -0.3
KYTH **Kithira** 85.06 316 P P 07 04 44.0 -1.0
ROSF **Rostrenen** 85.07 339 *e*P P 07 04 44.7 0.0
comp=Z,25nm,0.8s
ROSF **Rostrenen** 85.07 339 *e*P P 07 04 44.7 0.0
ROSF pmax pmax
comp=Z,25nm,0.8s
ROSF **Rostrenen** 85.07 339 *e*P P 07 04 44.7 0.0
comp=Z,25nm,0.8s
SFIN **Scholer Farm** 85.09 37 ⇓P P 07 04 45.3 +0.3
baz=85
SIVA **Sivas** 85.11 314 P P 07 04 45.5 +0.3
PPT **Papeete** 85.12 119 LR LR 07 34 52.3
comp=Z,300nm,20.9s,baz=109,slow=30
PPT2 **Papeete2** 85.13 119 *e*LR LR 07 31 25.7
comp=Z,812nm,34.0s,baz=312
PPT2 *e*T T 08 37 58.3
comp=Z,5.0nm,0.3s
529A **Stev Forest Ra** 85.14 53 ⇓P P 07 04 46.8 +1.2
baz=85,SNR=12
PLDF **La Plantade** 85.17 334 *e*P P 07 04 45.7 +0.3
PLDF **La Plantade** 85.17 334 *e*P P 07 04 45.7 +0.3
PLDF **La Plantade** 85.17 334 *e*P P 07 04 45.7 +0.3
PAE **Paea** 85.18 119 *e*T T 08 38 01.6
comp=Z,1.2nm,0.4s
MBDF **Montbardon** 85.19 331⇑*i*P P 07 04 45.5 -0.1
comp=Z,15nm,0.5s
MBDF **Montbardon** 85.19 331⇑*i*P P 07 04 45.5 -0.1
MBDF pmax pmax
comp=Z,15nm,0.5s
MBDF **Montbardon** 85.19 331⇑*i*P P 07 04 45.5 -0.1
comp=Z,15nm,0.5s
628A **Black Gap, Mar** 85.21 54 ⇑P P 07 04 46.6 +0.7
baz=85,SNR=5.8
PYL **PYLOS** 85.24 317 P P 07 04 44.7 -1.1
TIAR **Tiarei** 85.26 119 *e*T T 08 38 07.4
comp=Z,11nm,0.3s
AGO **Saint Agoulin** 85.26 334 *e*P P 07 04 46.2 +0.4
AGO **Saint Agoulin** 85.26 334 *e*P P 07 04 46.2 +0.4
331A **San Angelo** 85.32 51 ⇓P P 07 04 46.7 +0.3
baz=85,SNR=6.7
ORIF **Oris-en-Rattie** 85.34 332⇑*i*P P 07 04 46.7 +0.4
comp=Z,29nm,0.7s
ORIF *e*R
comp=Z,164nm,21.2s
ORIF **Oris-en-Rattie** 85.34 332⇑*i*P P 07 04 46.7 +0.4
ORIF pmax pmax
comp=Z,29nm,0.7s
ORIF **Oris-en-Rattie** 85.34 332⇑*i*P P 07 04 46.7 +0.4
comp=Z,29nm,0.7s
TCF **Toulx Ste Croi** 85.34 335 *e*P P 07 04 46.5 +0.3
TCF **Toulx Ste Croi** 85.34 335 *e*P P 07 04 46.5 +0.3
TCF **Toulx Ste Croi** 85.34 335 *e*P P 07 04 46.5 +0.3
QUIF **Quistinic** 85.43 339 *e*P P 07 04 46.8 +0.3
comp=Z,16nm,0.8s
QUIF **Quistinic** 85.43 339 *e*P P 07 04 46.8 +0.3
QUIF pmax pmax
comp=Z,16nm,0.8s
QUIF **Quistinic** 85.43 339 *e*P P 07 04 46.8 +0.3
comp=Z,16nm,0.8s
SSB **Saint Sauveur** 85.48 333 *e*P P 07 04 47.0 +0.1
SSB pmax pmax
comp=Z,15nm,0.9s
SSB **Saint Sauveur** 85.48 333 *e*P P 07 04 47.0 +0.1
comp=Z,16nm,0.9s
FVM **French Village** 85.48 40 *e*P P 07 04 47.1 +0.1
FVM *e* 07 05 02.4
FVM pmax pmax
comp=Z,10.0nm,0.8s
FVM **French Village** 85.48 40 *e*P P 07 04 47.1 +0.1

comp=Z,10nm,0.8s
FVM e 07 05 02.4
PYM Petit Puy Mans 85.57 334 *e*P **P 07 04 47.8 +0.4**
PYM Petit Puy Mans 85.57 334 *e*P **P 07 04 47.8 +0.4**
PYM Petit Puy Mans 85.57 334 *e*P **P 07 04 47.8 +0.4**
530A J-C Ranch, Com 85.64 52 ⇓P **P 07 04 49.0 +1.0**
baz=86,SNR=6.1
332A Millersview 85.66 51 ⇑P **P 07 04 49.0 +1.0**
baz=86,SNR=13
431A Sonora 85.68 52 ⇑P **P 07 04 48.8 +0.7**
baz=86,SNR=5.2
SBF Sospel 85.70 330 *e*P **P 07 04 47.6 -0.5**
comp=Z,61nm,0.7s
SBF Sospel 85.70 330 *e*P **P 07 04 47.6 -0.5**
SBF pmax pmax
comp=Z,61nm,0.7s
SBF Sospel 85.70 330 *e*P **P 07 04 47.6 -0.5**
comp=Z,61nm,0.7s
MFF Saint Martin d 85.78 336 ⇑*i*P **P 07 04 48.9 +0.6**
comp=Z,41nm,0.8s
MFF Saint Martin d 85.78 336 ⇑*i*P **P 07 04 48.9 +0.6**
MFF pmax pmax
comp=Z,41nm,0.8s
MFF Saint Martin d 85.78 336 ⇑*i*P **P 07 04 48.9 +0.6**
comp=Z,41nm,0.8s
VIVF Saint-Julien-l 85.81 333 *e*P **P 07 04 48.4 -0.1**
comp=Z,28nm,0.7s
VIVF Saint-Julien-l 85.81 333 *e*P **P 07 04 48.4 -0.1**
VIVF pmax pmax
comp=Z,29nm,0.7s
VIVF Saint-Julien-l 85.81 333 *e*P **P 07 04 48.4 -0.1**
comp=Z,28nm,0.7s
LBL Lubilhac 85.95 334 *e*P **P 07 04 49.9 +0.6**
LBL Lubilhac 85.95 334 *e*P **P 07 04 49.9 +0.6**
LBL Lubilhac 85.95 334 *e*P **P 07 04 49.9 +0.6**
432A Menard 86.00 51 ⇓P **P 07 04 50.4 +0.7**
baz=86,SNR=12
531A Rocksprings 86.09 52 ⇑P **P 07 04 51.3 +1.0**
baz=86
PGF Pioggiola 86.25 329 *e*P **P 07 04 50.4 -0.4**
comp=Z,21nm,0.7s
PGF Pioggiola 86.25 329 *e*P **P 07 04 50.4 -0.4**
PGF pmax pmax
comp=Z,21nm,0.7s
PGF Pioggiola 86.25 329 *e*P **P 07 04 50.4 -0.4**
comp=Z,21nm,0.7s
FRF La Foret Royal 86.25 331 *e*P **P 07 04 50.5 -0.2**
FRF La Foret Royal 86.25 331 *e*P **P 07 04 50.5 -0.2**
FRF La Foret Royal 86.25 331 *e*P **P 07 04 50.5 -0.2**
SMRF Simiane la Rot 86.27 332 *e*P **P 07 04 51.4 +0.6**
comp=Z,14nm,0.7s
SMRF Simiane la Rot 86.27 332 *e*P **P 07 04 51.4 +0.6**
comp=Z,14nm,0.7s
SIUC Southern Illin 86.27 40 *e*P **P 07 04 51.2 +0.3**
comp=Z,38nm,0.8s
SIUC *e* 07 05 06.2
MEH Mehetia 86.32 118 *e*T T 08 39 27.5
comp=Z,53nm,0.2s
RJF Les Rejaudoux 86.44 335 ⇑*i*P **P 07 04 52.3 +0.7**
comp=Z,31nm,0.8s
RJF *e*R
comp=Z,216nm,21.8s
RJF Les Rejaudoux 86.44 335 ⇑*i*P **P 07 04 52.3 +0.7**
RJF pmax pmax
comp=Z,31nm,0.8s
RJF Les Rejaudoux 86.44 335 ⇑*i*P **P 07 04 52.3 +0.7**
comp=Z,31nm,0.8s
WHTX Lake Whitney 86.49 49 ⇑P **P 07 04 52.8 +0.8**
baz=86
532A Rocksprings 86.49 52 ⇓P **P 07 04 52.7 +0.4**
baz=86,SNR=7.1
LMR La Mourre 86.50 331 ⇑*i*P **P 07 04 51.9 0.0**
comp=Z,150nm,1.1s
LMR La Mourre 86.50 331 ⇑*i*P **P 07 04 51.9 0.0**
LMR pmax pmax
comp=Z,150nm,1.1s
LMR La Mourre 86.50 331 ⇑*i*P **P 07 04 51.9 0.0**
comp=Z,150nm,1.1s
CAF Calvisc 86.61 334 ⇑*i*P **P 07 04 53.0 +0.5**
comp=Z,64nm,0.8s
CAF Calvisc 86.61 334 ⇑*i*P **P 07 04 53.0 +0.5**
CAF pmax pmax
comp=Z,64nm,0.8s
CAF Calvisc 86.61 334 ⇑*i*P **P 07 04 53.0 +0.5**
comp=Z,64nm,0.8s
MIAR Mount Ida 86.61 45 *e*P **P 07 04 53.5 +0.8**
MIAR pmax pmax
comp=Z,10.0nm,0.8s
MIAR Mount Ida 86.61 45 *e*P **P 07 04 53.5 +0.8**
comp=Z,9.9nm,0.8s
631A Perdido Creek 86.63 52 ⇑P **P 07 04 54.3 +1.4**
baz=86
LASF Ste Croix 86.77 333 ⇑*i*P **P 07 04 54.0 +0.7**
comp=Z,27nm,0.9s
LASF Ste Croix 86.77 333 ⇑*i*P **P 07 04 54.0 +0.7**
comp=Z,27nm,0.9s
PARMO Parma 86.86 41 *e*P **P 07 04 54.8 +1.0**
PARMO *e* 07 05 09.5
ALLY Alegheny Colle 86.93 32 *e*P **P 07 04 54.9 +0.8**
comp=Z,14nm,0.8s
LFF La Frestale 87.01 335 ⇑*i*P **P 07 04 55.3 +0.9**
comp=Z,50nm,0.7s
LFF La Frestale 87.01 335 ⇑*i*P **P 07 04 55.3 +0.9**
LFF pmax pmax
comp=Z,50nm,0.7s
LFF La Frestale 87.01 335 ⇑*i*P **P 07 04 55.3 +0.9**
comp=Z,50nm,0.7s
632A Uvalde 87.02 52 ⇑P **P 07 04 55.9 +1.2**
baz=87
WCI Wyandotte Cave 87.21 38 *e*P **P 07 04 56.1 +0.6**
WCI pmax pmax
comp=Z,11nm,1.0s
WCI Wyandotte Cave 87.21 38 *e*P **P 07 04 56.1 +0.6**
comp=Z,11nm,1.0s
732A Laxson Ranch, 87.50 53 ⇓P **P 07 04 58.0 +1.0**
baz=87
MTLF Montolieu 87.97 333 ⇑*i*P **P 07 04 59.9 +0.9**
comp=Z,19nm,0.7s
MTLF Montolieu 87.97 333 ⇑*i*P **P 07 04 59.9 +0.9**
MTLF pmax pmax
comp=Z,19nm,0.7s
MTLF Montolieu 87.97 333 ⇑*i*P **P 07 04 59.9 +0.9**
comp=Z,19nm,0.7s
WVT Waverly 88.20 40 *e*P **P 07 05 00.7 +0.5**
WVT pmax pmax
comp=Z,7.0nm,0.7s
WVT Waverly 88.20 40 *e*P **P 07 05 00.7 +0.5**
comp=Z,7.4nm,0.7s
SSPA Standing Stone 88.67 31 *e*P **P 07 05 02.3 0.0**
comp=Z,14nm,0.8s
SSPA *e* 07 05 18.3
EPF Esparros 88.86 335 *e*P **P 07 05 03.4 +0.1**
comp=Z,14nm,0.7s
EPF Esparros 88.86 335 *e*P **P 07 05 03.4 +0.1**
EPF pmax pmax
comp=Z,14nm,0.7s
EPF Esparros 88.86 335 *e*P **P 07 05 03.4 +0.1**
comp=Z,14nm,0.7s
ETSF Etsaut 89.26 335 ⇑*i*P **P 07 05 06.1 +0.9**
comp=Z,21nm,0.5s
ETSF Etsaut 89.26 335 ⇑*i*P **P 07 05 06.1 +0.9**
ETSF pmax pmax
comp=Z,21nm,0.5s
ETSF Etsaut 89.26 335 ⇑*i*P **P 07 05 06.1 +0.9**
comp=Z,21nm,0.5s
TBI Tubuai 89.44 123 *e*T T 08 43 17.5
comp=Z,16nm,0.3s
SWET Sewanee 89.84 39 *e*P **P 07 05 08.5 +0.5**
comp=Z,10.0nm,0.8s
SWET *e* 07 05 21.4
TKL Tuckaleechee C 90.46 37 *e*P **P 07 05 11.8 +0.9**
TKL *e* 07 05 26.4
KEST Kesra 91.92 325 P **P 07 05 17.8 0.0**
comp=Z,4.1nm,0.9s,baz=79,slow=22,SNR=7.9
KEST LR LR 07 54 34.2
comp=Z,62nm,19.3s,baz=81,slow=41
KEST Kesra 91.92 325 *e*P **P 07 05 17.5 -0.2**
PBRG Braganca 92.05 339 *e*P **P 07 05 17.4 -0.7**
comp=Z,14nm,2.1s
MVO Moncorvo 92.72 339 *e*P **P 07 05 20.6 -0.7**
comp=Z,9.9nm,1.2s
POLO Lamas de Olo 92.72 340 *e*P **P 07 05 20.8 -0.5**
comp=Z,7.8nm,1.3s
PVRL Vila Real 92.80 339 *e*P **P 07 05 21.1 -0.5**
comp=Z,13nm,2.0s
ESDC Sonseca Array 93.24 336 P **P 07 05 23.9 +0.2**
comp=Z,2.9nm,0.7s,baz=11,slow=4.3,SNR=18
ESDC PP **PP 07 09 05.3 -1.6**
comp=Z,0.4nm,0.4s,baz=14,slow=8.3,SNR=5.9
ESDC LR LR 07 53 15.0
comp=Z,87nm,19.3s,baz=80,slow=39
ESDC Sonseca Array 93.24 336 P **P 07 05 23.9 +0.2**
ESDC PP **PP 07 09 05.3 -1.6**
ESLA Sonseca Array 93.24 336 *e*P **P 07 05 23.0 -0.7**
comp=Z,0.9nm,0.8s
PVIS Viseu 93.37 339 *e*P **P 07 05 23.5 -0.8**
comp=Z,11nm,1.3s
PCVE Castro Verde 96.30 338 *e*P **P 07 05 37.9 +0.2**
comp=Z,16nm,1.9s
TORD Torodi Ar. Bea 114.86 320 PKP PKPdf 07 10 49.3 -0.7
comp=Z,0.8nm,0.4s,baz=8.8,slow=2.7,SNR=14
TORD pPKP PKiKP 07 11 05.3 +15
comp=Z,0.5nm,0.5s,baz=19,slow=1.8,SNR=3.0
TORD PP PP 07 11 42.9 -5.3
comp=Z,8.7nm,1.1s,baz=24,slow=5.0,SNR=12
TORD Torodi Ar. Bea 114.86 320 PKP PKPdf 07 10 49.3 -0.7
TORD pPKP PKiKP 07 11 05.3 +15
TORD PP PP 07 11 42.9 -5.3
DBIC Dimbokro 123.58 323 PKP **PKPdf 07 11 06.7 -0.1**
comp=Z,3.0nm,0.6s,baz=3.1,slow=3.9,SNR=8.8
DBIC PP **PP 07 12 44.6 -3.6**
comp=Z,1.9nm,0.5s,baz=336,slow=4.9,SNR=4.7
DBIC Dimbokro 123.58 323 PKP **PKPdf 07 11 06.7 -0.1**
DBIC PP **PP 07 12 44.6 -3.6**
LIC Lamto 124.05 323 *e*PKIKP **PKPdf 07 11 06.2 -1.5**
comp=Z,9.8nm,0.8s
LIC *e*R
comp=Z,162nm,21.2s
LIC Lamto 124.05 323 *e*PKPdf **PKPdf 07 11 06.2 -1.5**
ATAH Atahualpa 128.28 59 PKP **PKPdf 07 11 17.9 +1.7**
comp=Z,5.4nm,0.8s,baz=63,slow=2.3
ATAH Atahualpa 128.28 59 PKP **PKPdf 07 11 17.9 +1.7**
LPAZ La Paz 141.70 57 PKP **PKPdf 07 11 42.4 +1.0**
comp=Z,1.8nm,0.6s,baz=14,slow=4.5,SNR=8.6
LPAZ La Paz 141.70 57 PKP **PKPdf 07 11 42.4 +1.0**
LPAZ *e*PKPdf **PKiKP 07 11 42.9 -1.3**
SIV San Ignacio 145.57 47 PKPbc **PKPbc 07 11 47.8 +0.1**
baz=319,slow=2.9
SIV San Ignacio 145.57 47 PKPbc **PKPbc 07 11 47.8 +0.1**
SNAA Sanae 146.80 198 *e*PKPbc **PKPbc 07 11 50.0 +0.1**
VNA2 Neumayer--Watz 148.36 197 *e*P **PKPbc 07 11 54.7 +0.7**
VNA2 Neumayer--Watz 148.36 197 *e*WP 07 12 01.9
VNA3 Neumayer Olymp 148.59 196 *e*P **PKPbc 07 11 54.9 +0.3**
VNA3 Neumayer Olymp 148.59 196 *e*WP 07 11 59.0
BDFB Brasilia 151.02 26 PKPbc **PKPbc 07 12 02.9 +0.7**
comp=Z,11nm,0.6s,baz=227,slow=1.6,SNR=22
BDFB pPKPbc **pPKPbc 07 12 19.1 -1.1**
comp=Z,13nm,0.6s,baz=270,slow=2.5,SNR=11
BDFB Brasilia 151.02 26 PKPbc **PKPbc 07 12 02.9 +0.7**
BDFB pPKPbc **pPKPbc 07 12 19.1 -1.1**
CFAA Coronel Fontan 151.81 78 PKPbc **PKPbc 07 12 04.0 +0.4**
comp=Z,0.8nm,0.5s,baz=284,slow=1.6,SNR=18
CFAA Coronel Fontan 151.81 78 PKPbc **PKPbc 07 12 04.0 +0.4**
CPUP Villa Florida 155.83 55 PKPab **PKPab 07 12 30.0 +0.1**
comp=Z,2.1nm,0.6s,baz=276,slow=3.7,SNR=8.7
CPUP Villa Florida 155.83 55 PKPab **PKPab 07 12 30.0 +0.1**

*IDC **20** 07:02:00.2±1.9,63°.11N×151°.30W,h113km±15km, mb3.4/5, mb1 3.6/8, mb1mx3.4/28, mbtmp3.4/8, Error ellipse: s-maj=20.1km s-min=17.0km az=98.0*
*ISCJB **20** 07:02:00.3±0.3,63°.00N±0°.02×150°.98W±0°.06, h131km±3km, mb3.6/5, Error ellipse: s-maj=4.4km s-min=3.5km az=32.5*
*NEIC **20** 07:02:01.8,63°.00N×151°.01W,h120km, MG3.5(AEIC), After AEIC.*

ISC 20 07:02:01.4±0.7, 62°.99N±0°.03×151°.08W±0°.04, h126km±5km, n86, σ1°.22/105, mb3.7/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.51**	**260**	P	**Pn**	**07 02 20.4**	**+0.2**
PPLA				S	**Sn**	**07 02 34.1**	**-0.3**
TRF	**Thorofare Moun**	**0.59**	**37**	P	**Pn**	**07 02 19.9**	**-0.8**
TRF				S	**Sn**	**07 02 34.4**	**-0.9**
HUR	**Hurricane**	**0.66**	**90**	P	**Pn**	**07 02 20.7**	**-0.3**
CUT	**Chulitna**	**0.70**	**147**	P	**Pn**	**07 02 21.2**	**0.0**
TRAP	**Trapper Creek**	**0.76**	**149**	P	**Pn**	**07 02 21.8**	**0.0**
SKT	**Skwentna**	**1.03**	**192**	P	**Pn**	**07 02 24.1**	**-0.1**
SKT				S	**Sn**	**07 02 42.0**	**+0.5**
RND	**Reindeer**	**1.09**	**66**	P	**Pn**	**07 02 24.7**	**-0.2**
RND				S	**Sn**	**07 02 42.0**	**-0.7**
STLK	**Strandline Lak**	**1.54**	**194**	P	**Pn**	**07 02 29.4**	**-0.2**
SUA	**Susitna One**	**1.54**	**174**	P	**Pn**	**07 02 29.4**	**-0.3**
SUA				S	**Sn**	**07 02 51.2**	**-0.1**
PMR	**Palmer**	**1.67**	**146**	P	**Pn**	**07 02 30.5**	**-0.6**
PMR				S	**Sn**	**07 02 53.0**	**-0.7**
DHY	**Denali Highway**	**1.69**	**85**	P	**Pn**	**07 02 31.4**	**-0.2**
DHY				S	**Sn**	**07 02 53.4**	**-1.1**
CGLM	**Capps Glacier**	**1.74**	**195**	P	**Pn**	**07 02 32.0**	**0.0**
SML	**Sawmill**	**1.75**	**132**	P	**Pn**	**07 02 31.6**	**-0.5**
SML				S	**Sn**	**07 02 55.4**	**0.0**
CRP	**Crater Peak**	**1.80**	**197**	P	**Pn**	**07 02 33.0**	**+0.2**
CRP				S	**Sn**	**07 02 56.4**	**-0.4**
NEA	**Nenana**	**1.83**	**28**	P	**Pn**	**07 02 32.5**	**-0.4**
BGL	**Barrier Glacie**	**1.84**	**200**	P	**Pn**	**07 02 33.6**	**+0.4**
SPBG	**Spurr Blockage**	**1.84**	**200**	P	**Pn**	**07 02 33.7**	**+0.5**
SPBG				S	**Sn**	**07 02 58.0**	**+0.6**
SPU	**Mount Spurr**	**1.87**	**195**	P	**Pn**	**07 02 33.2**	**-0.3**
FIB	**Fire Island**	**1.88**	**166**	P	**Pn**	**07 02 34.3**	**+0.7**
WRH	**Wood River Hil**	**2.00**	**40**	P	**Pn**	**07 02 34.7**	**-0.3**
MLY	**Manley**	**2.06**	**4**	P	**Pn**	**07 02 35.5**	**-0.2**
CCB	**Clear Creek Bu**	**2.21**	**40**	P	**Pn**	**07 02 37.3**	**-0.3**
TT01	**Tatalina**	**2.26**	**270**	P	**Pn**	**07 02 37.9**	**-0.4**
HDA	**Harding Lake**	**2.33**	**50**	P	**Pn**	**07 02 39.3**	**+0.2**
MDM	**Murphy Dome**	**2.34**	**31**	P	**Pn**	**07 02 39.0**	**-0.4**
COLA	**College**	**2.37**	**36**	P	**Pn**	**07 02 39.3**	**-0.3**
DFR	**Drift River**	**2.52**	**198**	P	**Pn**	**07 02 42.3**	**+0.6**
SLKM	**Skilak Lake**	**2.52**	**170**	P	**Pn**	**07 02 42.0**	**+0.3**
PAX	**Paxson**	**2.56**	**88**	P	**Pn**	**07 02 42.1**	**-0.1**
PAX				S	**Sn**	**07 03 12.6**	**-1.0**
IL1	**Eielson Array**	**2.58**	**44**	P	**Pn**	**07 02 42.0**	**-0.4**
ILAR	**Eielson Array**	**2.58**	**44**	P	**Pn**	**07 02 41.8**	**-0.5**
	11nm,0.3s,baz=226,slow=13,SNR=71						
ILAR				S	**Sn**	**07 03 11.7**	**-2.2**
	7.2nm,0.3s,baz=223,slow=17,SNR=15						
ILAR	**Eielson Array**	**2.58**	**44**	P	**Pn**	**07 02 41.8**	**-0.5**
ILAR				S	**Sn**	**07 03 11.7**	**-2.2**
GLM	**Gilmore Dome**	**2.58**	**37**	P	**Pn**	**07 02 42.0**	**+0.2**
HARP	**HAARP**	**2.79**	**99**	P	**Pn**	**07 02 45.2**	**+0.1**
VLZ	**Valdez**	**2.91**	**128**	P	**Pn**	**07 02 45.1**	**-1.5**
SEW	**Seward**	**3.00**	**164**	P	**Pn**	**07 02 47.2**	**-0.5**
INE	**Iliamna NE**	**3.09**	**199**	P	**Pn**	**07 02 50.0**	**+0.9**
ILW	**Iliamna West**	**3.10**	**199**	P	**Pn**	**07 02 50.7**	**+1.5**
GCSA	**Galena City Sc**	**3.11**	**307**	P	**Pn**	**07 02 49.3**	**+0.1**
DIV	**Divide**	**3.12**	**124**	P	**Pn**	**07 02 47.8**	**-1.6**
IM3	**Indian Mountai**	**3.22**	**340**	P	**Pn**	**07 02 50.4**	**-0.3**
BRLK	**Bradley Lake**	**3.24**	**178**	P	**Pn**	**07 02 51.0**	**0.0**
DOT	**Dot Lake**	**3.24**	**75**	P	**Pn**	**07 02 50.2**	**-0.7**
MENT	**Mentasta**	**3.36**	**88**	*e*Pn	**Pn**	**07 02 52.2**	**-0.3**
MENT				*e*Sn	**Sn**	**07 03 37.1**	**+5.0**
WASW	**Wrangell South**	**3.38**	**105**	P	**Pn**	**07 02 52.6**	**-0.3**
OPT	**Oil Point**	**3.50**	**198**	P	**Pn**	**07 02 55.4**	**+1.0**
PRP	**Porcupine Dome**	**3.51**	**41**	P	**Pn**	**07 02 55.1**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.52**	**132**	P	**Pn**	**07 02 54.0**	**-0.6**
AUP	**Augustine Pinn**	**3.81**	**198**	P	**Pn**	**07 03 01.9**	**+3.3**
GOAT	**Goat Mountain**	**3.87**	**126**	P	**Pn**	**07 02 58.2**	**-1.0**
VRDI	**Verde Repeater**	**4.00**	**113**	P	**Pn**	**07 03 00.0**	**-1.0**
BCA3	**Beaver Creek A**	**4.24**	**85**	P	**Pn**	**07 03 03.2**	**-0.9**
COLD	**Coldfoot**	**4.27**	**5**	P	**Pn**	**07 03 04.5**	**0.0**
BERG	**Berg Lake**	**4.37**	**123**	P	**Pn**	**07 03 05.1**	**-0.9**
KHIT	**Khitrov Hills**	**4.52**	**121**	P	**Pn**	**07 03 07.9**	**0.0**
BALM	**Baldy**	**4.56**	**112**	P	**Pn**	**07 03 07.4**	**-1.1**
GRIN	**Grindle Hills**	**4.59**	**123**	P	**Pn**	**07 03 08.7**	**-0.1**
KIAG	**Kiagna River**	**4.61**	**113**	P	**Pn**	**07 03 07.5**	**-1.7**
EGAK	**Eagle**	**4.74**	**63**	*e*Pn	**Pn**	**07 03 09.8**	**-1.0**
ISLE	**Juniper Island**	**4.79**	**116**	P	**Pn**	**07 03 10.1**	**-1.5**
BARN	**Barnard Glacie**	**4.84**	**109**	P	**Pn**	**07 03 12.0**	**-0.4**
BARK	**Barkley Ridge**	**4.84**	**119**	P	**Pn**	**07 03 11.8**	**-0.5**
KULT	**Kultieth River**	**4.84**	**121**	P	**Pn**	**07 03 12.0**	**-0.3**
BAGL	**Bagley Icefiel**	**4.96**	**116**	P	**Pn**	**07 03 12.7**	**-1.0**
KAKN	**Katmai Knife C**	**5.10**	**204**	P	**Pn**	**07 03 16.4**	**+0.7**
MESA	**MESA**	**5.19**	**119**	P	**Pn**	**07 03 16.6**	**-0.4**
BM3	**Burnt Mountain**	**5.22**	**29**	P	**Pn**	**07 03 16.9**	**-0.3**
KDAK	**Kodiak Island**	**5.28**	**189**	P	**Pn**	**07 03 16.8**	**-1.3**
	4.4nm,0.3s,baz=25,slow=10,SNR=59						
KDAK				S	**Sn**	**07 04 12.2**	**-5.5**
	8.4nm,0.3s,baz=312,slow=21,SNR=10						
KDAK	**Kodiak Island**	**5.28**	**189**	P	**Pn**	**07 03 16.6**	**-1.3**
KDAK				S	**Sn**	**07 04 12.2**	**-5.5**
DAWY	**Dawson**	**5.34**	**73**	P	**Pn**	**07 03 18.4**	**-0.5**
SAMH	**Samovar Hills**	**5.70**	**116**	P	**Pn**	**07 03 24.9**	**+1.2**
HYT	**Haines Junctio**	**6.77**	**103**	P	**Pn**	**07 03 38.2**	**0.0**
TNA	**Tin City**	**7.76**	**297**	*e*Pn	**Pn**	**07 03 53.2**	**+1.8**
GAMB	**Gambell**	**9.28**	**284**	*e*Pn	**Pn**	**07 04 12.9**	**+1.1**
YKA	**Yellowknife Ar**	**16.58**	**75**	P	**Pn**	**07 05 45.3**	**-0.7**
	0.3nm,0.3s,baz=285,slow=9.8,SNR=6.4						
YKA				PcP	**PcP**	**07 10 28.2**	**+0.1**
	0.1nm,0.3s,baz=301,slow=1.6,SNR=6.8						
YKA				ScP	**ScP**	**07 13 50.3**	**-0.3**
	0.0nm,0.3s,baz=283,slow=2.0,SNR=7.1						
YKA	**Yellowknife Ar**	**16.58**	**75**	P	**Pn**	**07 05 45.4**	**-0.7**
YKA				PcP	**PcP**	**07 10 28.2**	**+0.1**
YKA				ScP	**ScP**	**07 13 50.4**	**-0.3**
PDAR	**Pinedale Array**	**31.39**	**110**	P	**P**	**07 08 11.8**	**+1.6**
	0.8nm,0.8s,baz=306,slow=5.5,SNR=3.9						
PDAR	**Pinedale Array**	**31.39**	**110**	P	**P**	**07 08 11.8**	**+1.6**
TXAR	**Lajitas Array**	**45.30**	**115**	P	**P**	**07 10 07.9**	**+1.6**
	0.7nm,0.7s,baz=326,slow=5.9,SNR=6.4						
TXAR	**Lajitas Array**	**45.30**	**115**	P	**P**	**07 10 07.9**	**+1.6**
KURK	**Kurchatov**	**60.06**	**326**	P	**P**	**07 11 54.5**	**+0.1**
KURBB	**Kurchatov Arra**	**60.17**	**326**	P	**P**	**07 11 54.5**	**-0.7**
	0.4nm,0.5s,baz=29,slow=7.2,SNR=4.8						
MKAR	**Makanchi Array**	**62.66**	**322**	P	**P**	**07 12 11.2**	**-0.8**
	0.5nm,0.5s,baz=50,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**62.66**	**322**	P	**P**	**07 12 11.2**	**-0.8**
AKASG	**Malin Array Be**	**66.66**	**360**	P	**P**	**07 12 37.1**	**-0.7**
	2.3nm,0.6s,baz=359,slow=6.2,SNR=7.1						
AKASG	**Malin Array Be**	**66.66**	**360**	P	**P**	**07 12 37.1**	**-0.7**

*IDC **20** 07:02:47.5±0.8,23°.54S×174°.92W,h0km, mb4.4/18, mb1 4.5/18, mb1mx4.5/24, mbtmp4.4/18, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=30.0km s-min=16.8km az=153.0*
*ISCJB **20** 07:02:50.1±0.6,23°.7S±0°.1×174°.92W±0°.10, h29km, mb4.4/22, Error ellipse: s-maj=18.4km s-min=11.1km az=155.0*
*NEIC **20** 07:02:52.9±0.5,23°.49S×174°.99W, h35km, mb4.8/7, Error ellipse: s-maj=21.7km s-min=10.5km az=155.0*
*AUST **20** 07:03:06.5,21°.65S×174°.39W, h200km*

ISC 20 07:02:52.2±0.7, 23°.5S±0°.2×174°.9W±0°.1, h29km, n62, σ1°.12/58, mb4.5/22, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.38**	**47**	P	**Pn**	**07 04 16.3**	**-8.0**
	baz=4.9,SNR=7.4						
NIUE				S	**Sn**	**07 05 19.2**	**-17**
	baz=4.9,SNR=5.1						
MSVF	**Nonsavu**	**8.75**	**310**	*e*Pn	**Pn**	**07 05 00.7**	**+3.8**
	41nm,0.8s						
AFI	**Afiamalu**	**9.97**	**18**	Pn	**Pn**	**07 05 05.6**	**-8.1**
	4.0nm,0.3s,baz=236,slow=10,SNR=6.6						
AFI	**Afiamalu**	**9.97**	**18**	*e*Pn	**Pn**	**07 05 07.2**	**-6.5**
RAR	**Rarotonga**	**14.17**	**84**	Pn	**Pn**	**07 06 02.3**	**-8.7**
	7.2nm,0.3s,baz=270,slow=8.3,SNR=9.2						
RAR	**Rarotonga**	**14.17**	**84**	Pn	**Pn**	**07 06 02.4**	**-8.7**
URZ	**Urewera**	**16.23**	**203**	LR	**LR**	**07 10 55.1**	
	comp=Z,82nm,20.6s,baz=305,slow=30						
DZM	**Mont Dzumac**	**17.27**	**271**	P	**P**	**07 06 54.6**	**+1.8**
	0.5nm,0.3s,baz=82,slow=18,SNR=5.9						
DZM	**Mont Dzumac**	**17.27**	**271**	P	**P**	**07 06 54.6**	**+1.8**
CTA	**Charters Tower**	**36.17**	**268**	P	**P**	**07 09 51.6**	**-0.8**
	4.3nm,0.4s,baz=96,slow=12,SNR=12						
CTA	**Charters Tower**	**36.17**	**268**	P	**P**	**07 09 51.6**	**-0.8**
CTAO	**Charters Tower**	**36.17**	**268**	*e*P	**P**	**07 09 51.5**	**-0.9**
	6.6nm,0.6s						
PMG	**Port Moresby**	**38.86**	**285**	P	**P**	**07 10 13.9**	**-1.4**
	30nm,0.8s,baz=80,slow=6.7,SNR=5.8						
PMG	**Port Moresby**	**38.86**	**285**	P	**P**	**07 10 13.9**	**-1.4**
STKA	**Stephens Creek**	**39.22**	**248**	P	**P**	**07 10 17.4**	**-0.6**
	1.5nm,0.5s,baz=100,slow=8.5,SNR=4.4						
STKA	**Stephens Creek**	**39.22**	**248**	*e*P	**P**	**07 10 18.2**	**+0.1**
	0.7nm,0.9s						
COEN	**Coen**	**40.71**	**276**	*e*P	**P**	**07 10 30.5**	**-0.1**
	20nm,0.6s						
AS31	**Alice Springs**	**46.72**	**259**	*e*P	**P**	**07 11 16.4**	**-2.5**
ASAR	**Alice Springs**	**46.72**	**259**	P	**P**	**07 11 17.6**	**-1.4**
	5.9nm,0.9s,baz=95,slow=8.3,SNR=27						
ASAR	**Alice Springs**	**46.72**	**259**	P	**P**	**07 11 17.6**	**-1.4**
WRAB	**Tennant Creek**	**47.10**	**264**	*e*P	**P**	**07 11 19.8**	**-2.2**
	6.6nm,0.8s						
WRA	**Warramunga Arr**	**47.11**	**264**	P	**P**	**07 11 20.0**	**-2.1**
	2.4nm,0.4s,baz=92,slow=8.4,SNR=40						
WRA				PcP	**PcP**	**07 12 54.4**	**+0.7**
	2.0nm,0.9s,baz=102,slow=3.5,SNR=5.8						
WRA	**Warramunga Arr**	**47.11**	**264**	P	**P**	**07 11 20.0**	**-2.1**
WRA				PcP	**PcP**	**07 12 54.4**	**+0.7**
FORT	**Forrest**	**50.83**	**249**	*e*P	**P**	**07 11 49.0**	**-1.5**
	17nm,0.7s						
KDU	**Kakadu**	**50.93**	**273**	P	**P**	**07 11 49.8**	**-1.6**
	baz=51,SNR=5.6						
KDU				S	**S**	**07 18 56.9**	**-10**
	baz=51,SNR=7.9						
FITZ	**Fitzroy Crossi**	**55.53**	**264**	P	**P**	**07 12 24.6**	**-0.6**
	3.6nm,0.7s,baz=128,slow=6.8,SNR=12						
FITZ	**Fitzroy Crossi**	**55.53**	**264**	*e*P	**P**	**07 12 24.7**	**-0.6**
	4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.53**	**264**	P	**P**	**07 12 25.1**	**-0.1**
	baz=56,SNR=7.3						
BLDU	**Ballidu**	**60.52**	**247**	P	**P**	**07 12 59.6**	**-0.3**
	baz=62,SNR=6.5						
MORW	**Morawa**	**61.40**	**249**	P	**P**	**07 13 06.0**	**0.0**
	baz=62,SNR=3.2						
QSPA	**South Pole Qui**	**66.59**	**180**	P	**P**	**07 13 40.1**	**+0.4**
	2.6nm,0.9s,baz=111,slow=4.4,SNR=3.7						
QSPA	**South Pole Qui**	**66.59**	**180**	*e*P	**P**	**07 13 41.2**	**+1.5**
	12nm,1.4s						
MJAR	**Matsushiro Arr**	**74.32**	**322**	P	**P**	**07 14 26.8**	**-0.2**
	1.7nm,0.7s,baz=167,slow=5.6,SNR=4.3						
MJAR	**Matsushiro Arr**	**74.32**	**322**	P	**P**	**07 14 26.8**	**-0.2**
KSM	**Kuching**	**76.67**	**278**	P	**P**	**07 14 43.0**	**+2.0**
	baz=77,SNR=3.6						
ASAJ	**Asahikawa**	**77.73**	**330**	P	**P**	**07 14 46.4**	**+0.1**
	7.4nm,0.8s,baz=140,slow=7.1,SNR=3.6						
ASAJ	**Asahikawa**	**77.73**	**330**	P	**P**	**07 14 46.4**	**+0.1**
PETK	**Petropavlovsk-**	**79.91**	**344**	P	**P**	**07 14 58.8**	**+0.7**
	4.8nm,0.8s,baz=177,slow=11,SNR=2.8						
PETK	**Petropavlovsk-**	**79.91**	**344

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.66**	**267**	P	P	07 14 31.6	+0.6
	4.4nm,0.9s,baz=103,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**38.89**	**247**	P	P	07 14 58.1	-0.2
	1.3nm,0.8s,baz=86,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**46.28**	**259**	P	P	07 15 58.5	-0.1
	1.0nm,0.9s,baz=88,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**46.63**	**264**	P	P	07 16 01.0	-0.3
	2.0nm,0.6s,baz=103,slow=8.7,SNR=29						
FITZ	**Fitzroy Crossi**	**55.05**	**263**	P	P	07 17 04.4	-0.4
	1.8nm,0.8s,baz=130,slow=7.9,SNR=4.9						

BGS 20 07:11:04.7±1.3, 49°50N×0°58W, h6km±19km, ML2.3,2D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JDG	**Jersey Dam (Ga**	**1.01**	**253**	*e*P	Pg	07 11 22.9	-1.1
JDG				*e*S	Sg	07 11 37.1	0.0
JDG	**Jersey Dam (Ga**	**1.01**	**253**	P	Pg	07 11 22.9	-1.1
JDG				S	Sg	07 11 37.1	0.0
JDG	**Jersey Dam (Ga**	**1.01**	**253**	*e*P	Pg	07 11 22.9	-1.1
JDG				*e*S	Sg	07 11 37.1	0.0
JDC	**Jersey Dam (Cr**	**1.01**	**252**	*e*P	Pg	07 11 23.1	-1.0
JDC				*e*S	Sg	07 11 37.2	0.0
JDC	**Jersey Dam (Cr**	**1.01**	**252**	P	Pg	07 11 23.1	-1.0
JDC				S	Sg	07 11 37.2	0.0
JDC	**Jersey Dam (Cr**	**1.01**	**252**	*e*P	Pg	07 11 23.1	-1.0
JDC				*e*S	Sg	07 11 37.2	0.0
JSA	**Saint Aubin**	**1.09**	**254**	⇓*i*P	Pg	07 11 24.5	-1.0
JSA				*e*S	Sg	07 11 38.1	-1.5
JSA				AML	AML	07 11 41.8	
	comp=E,42nm,0.2s						
JSA				AML	AML	07 11 41.9	
	comp=N,49nm,0.2s						
JSA	**Saint Aubin**	**1.09**	**254**	P	Pg	07 11 24.5	-1.0
JSA				S	Sg	07 11 38.1	-1.5
JSA				AML	AML	07 11 41.8	
	comp=N,42nm,0.2s						
JSA				AML	AML	07 11 41.9	
	comp=N,49nm,0.2s						
JSA	**Saint Aubin**	**1.09**	**254**	⇓*i*P	Pg	07 11 24.5	-1.0
JSA				*e*S	Sg	07 11 38.1	-1.5
JSA				AML	AML	07 11 41.8	
	comp=E,42nm,0.2s						
JSA				AML	AML	07 11 41.9	
	comp=N,49nm,0.2s						
RENF	**Rennes**	**1.55**	**207**	*e*P	Pn	07 11 32.6	-0.1
RENF	**Rennes**	**1.55**	**207**	P	Pn	07 11 32.6	-0.1
RENF	**Rennes**	**1.55**	**207**	*e*P	Pn	07 11 32.6	-0.1
ELSH	**Elham, Standar**	**1.98**	**33**	*e*P	Pn	07 11 38.7	0.0
ELSH				AML	AML	07 11 46.1	
	comp=E,24nm,0.6s						
ELSH				AML	AML	07 11 48.9	
	comp=N,21nm,0.3s						
ELSH	**Elham, Standar**	**1.98**	**33**	P	Pn	07 11 38.7	0.0
ELSH				AML	AML	07 11 46.1	
	comp=N,24nm,0.6s						
ELSH				AML	AML	07 11 48.9	
	comp=N,21nm,0.3s						
ELSH	**Elham, Standar**	**1.98**	**33**	*e*P	Pn	07 11 38.7	0.0
ELSH				AML	AML	07 11 46.1	
	comp=E,24nm,0.6s						
ELSH				AML	AML	07 11 48.9	
	comp=N,21nm,0.3s						
SWN1	**Swindon**	**2.16**	**339**	*e*P	Pn	07 11 40.9	-0.3
SWN1	**Swindon**	**2.16**	**339**	P	Pn	07 11 40.9	-0.3
SWN1	**Swindon**	**2.16**	**339**	*e*P	Pn	07 11 40.9	-0.3
SKP1	**Kophill**	**2.23**	**356**	*e*P	Pn	07 11 41.6	-0.5
SKP1	**Kophill**	**2.23**	**356**	P	Pn	07 11 41.6	-0.5
SKP1	**Kophill**	**2.23**	**356**	*e*P	Pn	07 11 41.6	-0.5
DYA	**Yadsworthy**	**2.36**	**295**	*e*P	Pn	07 11 42.7	-1.2
DYA	**Yadsworthy**	**2.36**	**295**	P	Pn	07 11 42.7	-1.2
DYA	**Yadsworthy**	**2.36**	**295**	*e*P	Pn	07 11 42.7	-1.2
HEX	**Exmoor**	**2.60**	**308**	*e*P	Pn	07 11 46.3	-0.9
HEX	**Exmoor**	**2.60**	**308**	P	Pn	07 11 46.3	-0.9
HEX	**Exmoor**	**2.60**	**308**	*e*P	Pn	07 11 46.3	-0.9
HTL	**Hartland**	**2.92**	**302**	*e*P	Pn	07 11 50.6	-1.0
HTL				AML	AML	07 12 46.1	
	comp=E,13nm,0.5s						
HTL				AMP		07 12 46.6	
HTL				AML	AML	07 12 50.1	
	comp=N,19nm,0.5s						
HTL	**Hartland**	**2.92**	**302**	P	Pn	07 11 50.6	-1.0
HTL				AML	AML	07 12 46.1	
	comp=N,13nm,0.5s						
HTL				AMP		07 12 46.6	
HTL				AML	AML	07 12 50.1	
	comp=N,19nm,0.5s						
HTL	**Hartland**	**2.92**	**302**	*e*P	Pn	07 11 50.6	-1.0
HTL				AML	AML	07 12 46.1	
	comp=E,13nm,0.5s						
HTL				AMP		07 12 46.6	
HTL				AML	AML	07 12 50.1	
	comp=N,19nm,0.5s						
MCH1	**Michaelchurch**	**2.94**	**329**	*e*P	Pn	07 11 51.0	-0.9
MCH1	**Michaelchurch**	**2.94**	**329**	P	Pn	07 11 51.0	-0.9
MCH1	**Michaelchurch**	**2.94**	**329**	*e*P	Pn	07 11 51.0	-0.9
HLM1	**Long Mynd**	**3.35**	**335**	*e*P	Pn	07 11 56.6	-1.0
HLM1				AML	AML	07 12 10.8	
	comp=N,5.3nm,0.3s						
HLM1				AML	AML	07 12 33.6	
	comp=E,4.1nm,0.6s						
HLM1	**Long Mynd**	**3.35**	**335**	P	Pn	07 11 56.6	-1.0
HLM1				AML	AML	07 12 10.8	
	comp=E,5.3nm,0.3s						
HLM1				AML	AML	07 12 33.6	
	comp=E,4.1nm,0.6s						
HLM1	**Long Mynd**	**3.35**	**335**	*e*P	Pn	07 11 56.6	-1.0
HLM1				AML	AML	07 12 10.8	
	comp=N,5.3nm,0.3s						
HLM1				AML	AML	07 12 33.6	
	comp=E,4.1nm,0.6s						
YRE	**Yr Eifl**	**4.24**	**327**	*e*P	Pn	07 12 08.6	-1.2
YRE	**Yr Eifl**	**4.24**	**327**	P	Pn	07 12 08.6	-1.2
YRE	**Yr Eifl**	**4.24**	**327**	*e*P	Pn	07 12 08.6	-1.2
WPM1	**Penmaenmawr**	**4.30**	**332**	*e*P	Pn	07 12 09.6	-1.0
WPM1	**Penmaenmawr**	**4.30**	**332**	P	Pn	07 12 09.6	-1.0
WPM1	**Penmaenmawr**	**4.30**	**332**	*e*P	Pn	07 12 09.6	-1.0
WLF1	**Llynfaes**	**4.49**	**329**	*e*P	Pn	07 12 11.8	-1.3
WLF1	**Llynfaes**	**4.49**	**329**	P	Pn	07 12 11.8	-1.3
WLF1	**Llynfaes**	**4.49**	**329**	*e*P	Pn	07 12 11.8	-1.3
YRC	**Rhoscolyn**	**4.51**	**328**	*e*P	Pn	07 12 12.3	-1.2
YRC	**Rhoscolyn**	**4.51**	**328**	P	Pn	07 12 12.3	-1.2
YRC	**Rhoscolyn**	**4.51**	**328**	*e*P	Pn	07 12 12.3	-1.2
WME	**Myndd Eilian**	**4.54**	**331**	*e*P	Pn	07 12 13.0	-0.9
WME	**Myndd Eilian**	**4.54**	**331**	P	Pn	07 12 13.0	-0.9
WME	**Myndd Eilian**	**4.54**	**331**	*e*P	Pn	07 12 13.0	-0.9

*IDC **20** 07:14:38.7±0.8, 16°30S×74°07W, h34km±6km, mb3.9/7, mb1 4.0/9, mb1mx3.7/21, mbtmp3.9/9, ML4.0/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/28, Error ellipse: s-maj=24.0km s-min=17.7km az=59.0*
*NEIC **20** 07:14:40.9±1.0, 16°10S×74°00W, h53km±9km, mb4.2/2, Error ellipse: s-maj=12.5km s-min=9.1km az=48.0*
NEIC Felt [II] at Atico and Chala.
*ISCJB **20** 07:14:40.5±1.4, 16°16S±0°10×74°16W±0°09, h66km±13km, mb3.9/7, Error ellipse: s-maj=18.2km s-min=11.4km az=35.3*

ISC 20 07:14:39.0±0.6, 16°2S±0°1×74°2W±0°1, h41km±4km, h41km:pP-P, n35, σ1s35/38, mb4.1/7, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.60**	**96**	⇓*i*P	**Pn**	**07 15 19.4**	**+0.6**
ARE				*i* S	**Sn**	**07 15 51.9**	**+2.7**
NNA	**Nana**	**4.94**	**328**	Pn	Pn	07 15 54.0	+3.3
	1.9nm,0.3s,baz=150,slow=14,SNR=3.7						
NNA				Sn	Sn	07 16 58.7	+12
	29nm,0.3s,baz=226,slow=21,SNR=6.9						
NNA	**Nana**	**4.94**	**328**	*e*Pn	**Pn**	**07 15 53.0**	**+2.2**
NNA				*e*Sn	Sn	07 16 56.7	+10
LPAZ	**La Paz**	**5.81**	**91**	Pn	**Pn**	**07 16 05.7**	**+2.4**
	5.2nm,0.3s,baz=274,slow=8.6,SNR=83						
LPAZ				Sn	Sn	07 17 19.4	+10
	baz=241,slow=19,SNR=1.1						
LPAZ	**La Paz**	**5.81**	**91**	*e*Pn	Pn	07 16 08.2	+4.9
	39nm,0.8s						
LPAZ				Sn	Sn	07 17 19.4	+10
LVC	**Limon Verde**	**8.07**	**143**	*e*Pn	Pn	07 16 45.0	+11
ATAH	**Atahualpa**	**9.93**	**335**	Pn	Pn	07 17 08.1	+8.5
	0.7nm,0.3s,baz=24,slow=4.6,SNR=4.7						
ATAH				LR	LR	07 21 27.8	
	comp=Z,69nm,21.8s,baz=67,slow=41						
ATAH	**Atahualpa**	**9.93**	**335**	Pn	Pn	07 17 08.1	+8.5
SIV	**San Ignacio**	**12.60**	**91**	Pn	**Pn**	**07 17 34.3**	**-1.5**
	1.2nm,0.3s,baz=276,slow=13,SNR=21						
SIV				LR	LR	07 22 54.1	
	comp=Z,194nm,18.2s,slow=40						
SIV	**San Ignacio**	**12.60**	**91**	Pn	**Pn**	**07 17 34.3**	**-1.5**
SAML	**Samuel**	**12.94**	**57**	*e*Pn	**Pn**	**07 17 38.3**	**-2.1**
	3.2nm,0.7s						
CFAA	**Coronel Fontan**	**16.24**	**162**	Pn	**P**	**07 18 27.5**	**+0.6**
	0.0nm,0.3s,baz=336,slow=11,SNR=16						
CFAA	**Coronel Fontan**	**16.24**	**162**	Pn	**P**	**07 18 27.5**	**+0.6**
CPUP	**Villa Florida**	**18.63**	**125**	LR	LR	07 27 30.6	
	comp=Z,114nm,18.7s,baz=290,slow=42						
PLCA	**Paso Flores**	**24.62**	**173**	P	**P**	**07 19 55.7**	**+0.1**
	4.0nm,1.1s,baz=344,slow=11,SNR=5.2						
PLCA				pP	**pP**	**07 20 05.5**	**-1.3**
	3.1nm,1.0s,baz=346,slow=15,SNR=4.1						
PLCA	**Paso Flores**	**24.62**	**173**	P	**P**	**07 19 55.7**	**+0.1**
PLCA				pP	**pP**	**07 20 05.5**	**-1.3**
BDFB	**Brasilia**	**25.17**	**92**	P	**P**	**07 20 00.6**	**-0.2**
	5.1nm,0.9s,baz=252,slow=11,SNR=6.7						
BDFB	**Brasilia**	**25.17**	**92**	P	**P**	**07 20 00.6**	**-0.2**
TXAR	**Lajitas Array**	**53.49**	**328**	P	**P**	**07 23 56.1**	**+0.6**
	0.5nm,0.9s,baz=147,slow=8.6,SNR=5.6						
TXAR				pP	**pP**	**07 24 08.1**	**+0.8**
	0.6nm,1.0s,baz=140,slow=9.9,SNR=3.6						
TXAR	**Lajitas Array**	**53.49**	**328**	P	**P**	**07 23 56.1**	**+0.6**
TXAR				pP	**pP**	**07 24 08.1**	**+0.8**
DBIC	**Dimbokro**	**72.25**	**77**	P	**P**	**07 26 00.7**	**0.0**
	2.8nm,0.8s,baz=275,slow=3.5,SNR=3.2						
DBIC	**Dimbokro**	**72.25**	**77**	*e*P	**P**	**07 26 00.1**	**-0.6**
	3.3nm,0.9s						
QSPA	**South Pole Qui**	**73.94**	**180**	P	**P**	**07 26 09.5**	**-0.3**
	3.0nm,1.1s,baz=120,slow=3.0,SNR=6.0						
QSPA	**South Pole Qui**	**73.94**	**180**	*e*P	**P**	**07 26 11.3**	**+1.5**
	2.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**80.47**	**73**	*e*P	**P**	**07 26 47.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.47**	**73**	P	**P**	**07 26 47.8**	**+0.6**
	3.5nm,0.7s,baz=254,slow=5.3,SNR=18						
TORD				pP	**PcP**	**07 26 57.0**	**+2.8**
	0.9nm,0.6s,baz=252,slow=5.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**80.47**	**73**	P	**P**	**07 26 47.8**	**+0.6**
TORD				pP	**PcP**	**07 26 57.0**	**+2.8**
YKA	**Yellowknife Ar**	**84.63**	**342**	P	**P**	**07 27 08.1**	**+0.4**
	0.5nm,0.8s,baz=137,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**84.63**	**342**	P	**P**	**07 27 08.2**	**+0.4**
ASAR	**Alice Springs**	**131.78**	**215**	PKP	**PKPdf**	**07 33 48.7**	**+0.1**
	0.3nm,0.6s,baz=108,slow=2.1,SNR=2.8						
ASAR	**Alice Springs**	**131.78**	**215**	PKP	**PKPdf**	**07 33 48.7**	**+0.1**
WRA	**Warramunga Arr**	**134.42**	**219**	PKP	**PKPdf**	**07 33 54.1**	**+0.6**
	0.7nm,0.8s,baz=134,slow=2.1,SNR=5.5						
WRA				pPKP	**pPKPdf**	**07 34 04.5**	**-2.0**
	0.7nm,0.7s,baz=143,slow=2.0,SNR=4.3						
WRA	**Warramunga Arr**	**134.42**	**219**	PKP	**PKPdf**	**07 33 54.1**	**+0.6**
WRA				pPKP	**pPKPdf**	**07 34 04.5**	**-2.0**
SONM	**Songino Array**	**148.47**	**359**	PKPbc	**PKPbc**	**07 34 21.9**	**+0.4**
	2.0nm,0.8s,baz=20,slow=4.7,SNR=4.1						
SONM	**Songino Array**	**148.47**	**359**	PKPbc	**PKPbc**	**07 34 21.9**	**+0.4**

IDC 20 07:18:19.9±8.5, 16°96S×74°53W, h53km±50km, mb3.6/3, mb1 3.9/5, mb1mx3.5/20, mbtmp3.8/5, ML4.1/2, MS2.7/1, Ms1 2.8/1, ms1mx2.5/17, Error ellipse: s-maj=120.5km s-min=19.2km az=38.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.43**	**335**	P	Pn	07 19 37.2	-1.3
	2.2nm,0.3s,baz=160,slow=15,SNR=3.8						
NNA				S	Sn	07 20 40.7	+1.0
	7.2nm,0.3s,baz=24,slow=19,SNR=4.7						
LPAZ	**La Paz**	**6.17**	**85**	P	Pn	07 19 50.0	+0.7
	4.9nm,0.3s,baz=281,slow=8.7,SNR=32						
LPAZ				LR	LR	07 21 52.7	
	comp=Z,62nm,20.0s,baz=297,slow=34						
SIV	**San Ignacio**	**12.94**	**88**	P	Pn	07 21 17.4	-3.9
	1.2nm,0.3s,baz=291,slow=8.7,SNR=14						
BDFB	**Brasilia**	**25.47**	**91**	P	P	07 23 42.9	-0.5
	1.9nm,0.9s,baz=255,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**80.99**	**73**	P	P	07 30 29.5	-0.1
	1.7nm,0.7s,baz=253,slow=5.6,SNR=8.6						
YKA	**Yellowknife Ar**	**85.23**	**343**	P	P	07 30 50.6	+0.4
	0.2nm,0.8s,baz=141,slow=6.0,SNR=4.0						
YKA				pP	pP	07 31 02.1	-3.5
	0.2nm,0.7s,baz=138,slow=5.7,SNR=4.5						

GUC 20 07:40:48.8±0.8, 31°96S×69°45W, h144km±14km, MD3.6, ML3.5, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.21**	**233**	*e*P	Pn	07 41 15.4	+0.4
PTCH	**Petorca**	**1.29**	**256**	*e*P	Pn	07 41 16.2	+0.5
PTCH				*e*S	Sn	07 41 36.7	+0.4
PTCH				AML	AML	07 41 39.0	
	comp=N,1μm,0.2s						
FCH	**Farellones**	**1.54**	**207**	*e*P	Pn	07 41 19.9	+1.2
FCH				*e*S	Sn	07 41 46.7	+5.0
PEL	**Peldehue**	**1.58**	**221**	*e*P	Pn	07 41 18.9	+0.1
PEL				*e*S	Sn	07 41 41.8	+0.1
PEL				AML	AML	07 41 45.4	
	comp=N,577nm,0.2s						
ROCH	**El Roble**	**1.66**	**232**	*e*P	Pn	07 41 20.1	+0.2
ROCH				*e*S	Sn	07 41 44.6	+0.8
ROCH				AML	AML	07 41 48.1	
	comp=N,543nm,0.4s						
CLCH	**Cerro Calan**	**1.70**	**212**	⇑*i*P	Pn	07 41 20.8	+0.6
CLCH				*e*S	Sn	07 41 45.5	+1.2
CLCH				AML	AML	07 41 55.9	
	comp=E,384nm,0.8s						
CHNG	**Los Chungos**	**1.74**	**272**	*e*P	Pn	07 41 21.1	+0.6
CHNG				*e*S	Sn	07 41 45.1	+0.3
PACH	**Papudo**	**1.78**	**250**	*i* P	Pn	07 41 21.2	+0.1
ANTU	**Antumapu**	**1.89**	**211**	*e*P	Pn	07 41 22.7	+0.4
ANTU				*e*S	Sn	07 41 48.9	+0.8
ANTU				AML	AML	07 41 51.6	
	comp=N,282nm,0.2s						
TACH	**Talagante**	**2.10**	**216**	*e*P	Pn	07 41 25.1	+0.3
TACH				*i* S	Sn	07 41 53.4	+0.9
TLL	**Tololo Astrono**	**2.13**	**327**	⇓*e*P	Pn	07 41 26.1	+0.7
TLL				*e*S	Sn	07 41 54.2	+0.7
CACH	**El Canelo**	**2.36**	**204**	⇑*e*P	Pn	07 41 29.0	+0.9
CACH				*i* S	Sn	07 42 00.5	+2.1
LNV	**Longovilo**	**2.59**	**219**	⇓*i*P	Pn	07 41 30.2	-0.5

*ISK **20** 07:42:55.8, 40°72N×30°64E, h14km, MD2.8*
*DDA **20** 07:42:55.9, 40°77N×30°60E, h7km, MD2.6*
*ISCJB **20** 07:42:56.1±0.6, 40°74N±0°04×30°64E±0°03, h11km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=13.1*
*CSEM **20** 07:42:56.0±0.2, 40°75N×30°67E, h12km, MD2.6, Error ellipse: s-maj=5.3km s-min=3.5km az=29.0*

ISC 20 07:42:56.1±0.9, 40.73N±0°03×30.66E±0°03, h15km±7km, n27, σ0s72/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.21**	**63**	*i* P	**Pg**	**07 43 00.7**	**-0.2**
HENT				*i* S	**Sg**	**07 43 04.7**	**+0.5**
HENT	**Hendek**	**0.21**	**63**	*i* P	**Pg**	**07 43 00.7**	**-0.2**
HENT				*i* S	**Sg**	**07 43 04.7**	**+0.5**
SPNC	**Sapanca-Adapaz**	**0.27**	**261**	*e*PG	**Pg**	**07 43 01.8**	**-0.2**
SPNC				*e*SG	**Sb**	**07 43 06.3**	**-0.7**
GULT	**Gulveren**	**0.32**	**200**	*e*PG	**Pg**	**07 43 02.6**	**-0.1**
GULT				*e*SG	**Sg**	**07 43 07.1**	**-0.1**
GULT	**Gulveren**	**0.32**	**200**	*e*Pg	**Pg**	**07 43 02.6**	**-0.1**
GULT				*e*Sg	**Sg**	**07 43 07.1**	**-0.1**
MDUB	**Mudurnu**	**0.49**	**122**	*e*PG	**Pg**	**07 43 05.9**	**+0.1**
MDUB				*e*SG	**Sg**	**07 43 13.8**	**+1.4**
MDUB	**Mudurnu**	**0.49**	**122**	*e*Pg	**Pg**	**07 43 05.9**	**+0.1**
MDUB				*e*Sg	**Sg**	**07 43 13.8**	**+1.4**
GPA	**Golpazari**	**0.51**	**211**	*e*PG	**Pg**	**07 43 06.0**	**-0.3**
HRT	**Hereke**	**0.76**	**277**	*e*PG	**Pb**	**07 43 10.6**	**-0.5**
HRT				*e*SG	**Sb**	**07 43 21.2**	**0.0**
HRT	**Hereke**	**0.76**	**277**	*e*Pg	**Pb**	**07 43 10.6**	**-0.5**
HRT				*e*Sg	**Sb**	**07 43 21.2**	**0.0**
CAVI	**Cavuskoy**	**0.81**	**230**	*e*PG	**Pb**	**07 43 11.8**	**-0.2**
CAVI	**Cavuskoy**	**0.81**	**230**	*e*Pg	**Pb**	**07 43 11.8**	**-0.2**
BORA	**Eskisehir**	**0.86**	**190**	*i* P	**Pg**	**07 43 13.3**	**+0.4**
BORA				*i* S	**Sn**	**07 43 26.3**	**+0.1**
BORA	**Eskisehir**	**0.86**	**190**	*i* P	**Pg**	**07 43 13.3**	**+0.4**
BORA				*i* S	**Sn**	**07 43 26.3**	**+0.1**
SILT	**Sile**	**0.88**	**299**	*e*PG	**Pg**	**07 43 12.7**	**-0.5**
SILT	**Sile**	**0.88**	**299**	*e*Pg	**Pg**	**07 43 12.7**	**-0.5**
YLV	**Yalova**	**0.99**	**261**	*e*PG	**Pn**	**07 43 15.6**	**0.0**
YLV	**Yalova**	**0.99**	**261**	*e*Pg	**Pn**	**07 43 15.6**	**0.0**
BUY	**Buyukada**	**1.18**	**277**	*i* P	**Pb**	**07 43 17.3**	**-0.8**
BUY				*i* S	**Sg**	**07 43 36.0**	**+1.9**
BUY	**Buyukada**	**1.18**	**277**	*i* P	**Pb**	**07 43 17.3**	**-0.8**
BUY				*i* S	**Sg**	**07 43 36.0**	**+1.9**
SEYT	**Eskypehyr**	**1.22**	**173**	*i* P	**Pg**	**07 43 19.8**	**+0.2**
SEYT				*i* S	**Sb**	**07 43 33.0**	**-1.5**
SEYT	**Eskypehyr**	**1.22**	**173**	*i* P	**Pg**	**07 43 19.8**	**+0.2**
SEYT				*i* S	**Sb**	**07 43 33.0**	**-1.5**
ISK	**Istanbul-Kandi**	**1.26**	**286**	*e*PN	**Pb**	**07 43 19.5**	**0.0**
ISK	**Istanbul-Kandi**	**1.26**	**286**	*e*Pn	**Pb**	**07 43 19.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.44**	**152**	*e*PN	**Pn**	**07 43 21.8**	**0.0**
TVSB	**Tavsanli**	**1.57**	**216**	*e*PN	**Pn**	**07 43 23.9**	**+0.3**
TVSB	**Tavsanli**	**1.57**	**216**	*e*Pn	**Pn**	**07 43 23.9**	**+0.3**

NNC 20 07:44:02.9±2.8, 53°19N×87°28E, h0km, mb3.8, mpv3.5, 10C-4D, Error ellipse: s-maj=22.6km s-min=14.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.90**	**249**	⇑Pn	Pn	07 45 33.2	+1.6
	4.1nm,0.5s						
KURK				⇓Sn	Sn	07 46 43.2	+3.4
	5.2nm,0.6s						
KURK				⇓Lg	Lg	07 47 12.9	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**5.99**	**248**	⇑Pn	Pn	07 45 33.9	+1.1
	1.7nm,0.3s						
KURBB				Sn	Sn	07 46 44.9	+2.8
	2.3nm,0.6s						
KURBB				Lg	Lg	07 47 16.6	
	5.2nm,0.8s						
MK31	**Makanchi Array**	**7.17**	**209**	⇑Pn	Pn	07 45 51.9	+2.9
	0.9nm,0.3s,baz=30,slow=13,SNR=95						
MK31				⇑Sn	Sn	07 47 16.0	+4.9
	1.7nm,0.5s,baz=32,slow=26,SNR=5.2						
MK31				⇑Lg	Lg	07 47 51.2	
	6.8nm,0.7s,baz=34,slow=31,SNR=7.9						
VOSK	**Vostochnaya**	**9.85**	**274**	⇑Pn	Pn	07 46 24.1	-1.6
	1.1nm,0.5s						
VOSK				⇑Sn	Sn	07 48 15.7	-1.2
	5.2nm,0.6s						
BVA0	**Borovoye Array**	**10.16**	**276**	Pn	Pn	07 46 30.7	+0.8
	0.2nm,0.8s,baz=86,slow=13,SNR=12						
BVA0				⇑Sn	Sn	07 48 22.2	-2.3
	0.5nm,0.7s,baz=72,slow=26,SNR=4.5						
BRVK	**Borovoye**	**10.22**	**276**	⇑Pn	Pn	07 46 31.8	+1.1
	3.4nm,0.8s						
BRVK				⇓Sn	Sn	07 48 24.6	-1.3
	7.8nm,0.9s						
ZRNK	**Zerenda**	**11.00**	**276**	⇑Pn	Pn	07 46 40.5	-0.9
	1.4nm,0.8s						
ZRNK				⇓Sn	Sn	07 48 42.5	-2.5
	2.3nm,0.7s						

IDC 20 08:02:46.6±1.8, 3°79S×130°37E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.8/21, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=90.4km s-min=24.0km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.96**	**198**	Pn	Pn	08 06 17.3	-2.2
	0.1nm,0.3s,baz=9.5,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**16.51**	**167**	Pn	Pn	08 06 38.9	-0.9
	0.1nm,0.3s,baz=348,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**20.05**	**171**	P	Pn	08 07 22.6	-0.7
	2.0nm,0.5s,baz=350,slow=11,SNR=35						
MKAR	**Makanchi Array**	**65.78**	**326**	P	P	08 13 33.7	+0.1
	0.6nm,0.5s,baz=117,slow=8.0,SNR=10						
KURBB	**Kurchatov Arra**	**70.00**	**328**	P	P	08 14 00.0	-0.1
	1.3nm,0.6s,baz=128,slow=5.9,SNR=11						

IDC 20 08:03:05.2±1.1, 15°02S×173°59W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=49.9km s-min=21.3km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**58**	Pn	Pn	08 03 41.9	+0.5
	102nm,0.3s,baz=125,slow=1.0,SNR=147						
AFI				Sn	Sn	08 04 03.0	-5.2
	71nm,0.3s,baz=56,slow=22,SNR=31						
DZM	**Mont Dzumac**	**20.17**	**247**	LR	LR	08

UTMO				*i* S	Sn	08 36 13.9	-4.4
CMIG	**Matias Romero**	**2.40**	**57**	*e*P	Pn	08 35 51.9	-2.6
CMIG				*i* S	Sn	08 36 19.1	-4.4

*IDC **20** 08:38:05.1±0.7,25.˝71S×69.˝54E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/25, mbtmp4.0/12, MS3.9/23, Ms1 3.9/23, ms1mx3.7/42, Error ellipse: s-maj=26.9km s-min=17.7km az=70.0*
*ISCJB **20** 08:38:06.5±0.6,25.˝70S±0.˝10×69.˝5E±0.˝2, h21km, mb4.1/18, MS3.9/23, Error ellipse: s-maj=21.6km s-min=12.3km az=159.6*
*NEIC **20** 08:38:06.6±0.5,25.˝72S×69.˝47E, h10km, mb4.5/7, Error ellipse: s-maj=19.6km s-min=11.4km az=68.0*

ISC 20 08:38:08.7±0.7, 25.˝7S±0.˝1×69.˝5E±0.˝2, h21km, n51, σ0s81/32, mb4.2/18, MS3.9/23, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**18.42**	**9**	*e*P		**Pn**		**08 42 23.6**	**+0.8**
	106nm,0.5s								
OPO	**Ambohidratompo**	**21.86**	**284**	LR		LR		08 49 02.6	
	comp=Z,263nm,21.3s,baz=275,slow=30								
BOSA	**Boshof**	**39.33**	**256**	LR		LR		08 59 05.2	
	comp=Z,216nm,18.5s,baz=106,slow=32								
TSUM	**Tsumeb**	**48.20**	**267**	LR		LR		09 06 59.5	
	comp=Z,115nm,18.1s,baz=226,slow=36								
WSAR	**Wadi Sarin**	**49.80**	**347**	P		**P**		**08 46 59.5**	**-0.5**
	5.7nm,1.0s,baz=193,slow=12,SNR=3.4								
WSAR	**Wadi Sarin**	**49.80**	**347**	P		**P**		**08 46 59.5**	**-0.5**
KAPI	**Kappang**	**52.23**	**76**	LR		LR		09 07 55.7	
	comp=Z,101nm,18.3s,baz=288,slow=34								
CMAR	**Chiang Mai Arr**	**52.41**	**36**	P		**P**		**08 47 19.9**	**+0.2**
	2.4nm,0.9s,baz=228,slow=7.2,SNR=10								
CMAR						LR		09 05 09.5	
	comp=Z,72nm,21.1s,baz=195,slow=31								
CMAR	**Chiang Mai Arr**	**52.41**	**36**	P		**P**		**08 47 19.9**	**+0.2**
ASAR	**Alice Springs**	**57.99**	**103**	P		**P**		**08 48 00.3**	**+0.1**
	0.7nm,0.8s,baz=251,slow=5.9,SNR=8.7								
ASAR	**Alice Springs**	**57.99**	**103**	P		**P**		**08 48 00.3**	**+0.1**
WRA	**Warramunga Arr**	**59.50**	**99**	P		**P**		**08 48 10.4**	**-0.3**
	0.7nm,1.0s,baz=256,slow=8.5,SNR=3.9								
WRA						LR		09 12 16.8	
	comp=Z,72nm,21.9s,baz=170,slow=34								
WRA	**Warramunga Arr**	**59.50**	**99**	P		**P**		**08 48 10.4**	**-0.3**
WRAB	**Tennant Creek**	**59.51**	**99**	*e*P		**P**		**08 48 12.3**	**+1.5**
	9.5nm,1.5s								
KBL	**Kabul**	**59.93**	**360**	*e*P		**P**		**08 48 13.4**	**0.0**
	6.9nm,1.0s								
STKA	**Stephens Creek**	**62.41**	**114**	P		**P**		**08 48 30.9**	**+0.6**
	1.1nm,0.8s,baz=231,slow=8.8,SNR=3.2								
STKA						LR		09 11 31.9	
	comp=Z,101nm,19.7s,baz=205,slow=32								
STKA	**Stephens Creek**	**62.41**	**114**	P		**P**		**08 48 30.9**	**+0.6**
DAV	**Davao City (W)**	**63.43**	**67**	LR		LR		09 16 40.9	
	comp=Z,68nm,18.6s,baz=255,slow=36								
QSPA	**South Pole Qui**	**64.42**	**180**	P		**P**		**08 48 42.6**	**-0.6**
	1.4nm,0.6s,baz=122,slow=1.0,SNR=14								
QSPA	**South Pole Qui**	**64.42**	**180**	P		**P**		**08 48 42.6**	**-0.6**
ASF	**Jabal al Asfar**	**65.45**	**330**	LR		LR		09 14 29.2	
	comp=Z,108nm,18.3s,baz=33								
VNDA	**Vanda**	**65.59**	**166**	P		**P**		**08 48 50.2**	**-0.2**
	1.7nm,0.8s,baz=268,slow=2.2,SNR=6.0								
VNDA						LR		09 15 26.2	
	comp=Z,180nm,20.4s,baz=264,slow=34								
VNDA	**Vanda**	**65.59**	**166**	P		**P**		**08 48 50.2**	**-0.2**
AAK	**Ala-Archa**	**68.16**	**4**	LR		LR		09 13 44.0	
	comp=Z,58nm,19.9s,baz=263,slow=31								
KKAR	**Karatay Array**	**68.48**	**1**	*e*P		**P**		**08 49 08.9**	**-0.2**
	1.2nm,0.7s								
TKM2	**Tokmak 2**	**68.53**	**5**	*e*P		**P**		**08 49 08.8**	**-0.9**
	2.1nm,0.8s								
CTA	**Charters Tower**	**70.00**	**103**	LR		LR		09 14 54.5	
	comp=Z,115nm,20.7s,baz=229,slow=32								
MK31	**Makanchi Array**	**73.09**	**9**	*e*P		**P**		**08 49 35.5**	**-1.6**
MKAR	**Makanchi Array**	**73.09**	**9**	P		**P**		**08 49 35.8**	**-1.3**
	1.2nm,0.8s,baz=190,slow=4.9,SNR=11								
MKAR	**Makanchi Array**	**73.09**	**9**	P		**P**		**08 49 35.8**	**-1.3**
BRTR	**Keskin Array B**	**73.21**	**332**	P		**P**		**08 49 38.8**	**+0.6**
	2.5nm,1.0s,baz=156,slow=6.2,SNR=5.5								
BRTR						LR		09 20 05.6	
	comp=Z,76nm,18.4s,baz=227,slow=34								
BRTR	**Keskin Array B**	**73.21**	**332**	P		**P**		**08 49 38.8**	**+0.6**
KBZ	**Khabaz**	**73.30**	**340**	LR		LR		09 19 41.5	
	comp=Z,64nm,18.2s,baz=155,slow=34								
ABKAR	**Akbulak array**	**75.12**	**354**	*e*P		**P**		**08 49 48.4**	**-0.5**
	3.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**76.47**	**292**	P		**P**		**08 49 58.5**	**+1.1**
	0.9nm,0.9s,baz=105,slow=6.0,SNR=4.6								
TORD						LR		09 23 23.7	
	comp=Z,113nm,18.9s,baz=120,slow=36								
TORD	**Torodi Ar. Bea**	**76.47**	**292**	P		**P**		**08 49 58.5**	**+1.1**
AKTO	**Aktyubinsk**	**76.50**	**352**	LR		LR		09 21 35.2	
	comp=Z,40nm,19.7s,baz=51,slow=34								
KURK	**Kurchatov**	**76.52**	**6**	*e*P		**P**		**08 49 55.7**	**-1.1**
	3.2nm,1.0s								
SONM	**Songino Array**	**80.37**	**24**	P		**P**		**08 50 18.5**	**+0.2**
	0.3nm,0.3s,baz=216,slow=7.1,SNR=3.0								
SONM	**Songino Array**	**80.37**	**24**	P		**P**		**08 50 18.5**	**+0.2**
ZALV	**Zalesovo Beam**	**80.43**	**9**	P		**P**		**08 50 17.4**	**-1.0**
	1.9nm,0.8s,baz=197,slow=6.6,SNR=5.2								
ZALV	**Zalesovo Beam**	**80.43**	**9**	P		**P**		**08 50 17.4**	**-1.0**
KSRS	**Korea Array**	**83.40**	**43**	LR		LR		09 24 53.1	
	comp=Z,42nm,18.1s,baz=118,slow=34								
KEST	**Kesra**	**83.45**	**315**	LR		LR		09 26 09.6	
	comp=Z,38nm,20.5s,baz=220,slow=35								
AKASG	**Malin Array Be**	**84.01**	**336**	LR		LR		09 24 39.0	
	comp=Z,44nm,21.2s,baz=95,slow=33								
URZ	**Urewera**	**87.04**	**131**	LR		LR		09 21 41.2	
	comp=Z,136nm,18.5s,baz=154,slow=30								
MJAR	**Matsushiro Arr**	**89.52**	**49**	LR		LR		09 31 14.3	
	comp=Z,36nm,20.0s,baz=70,slow=36								
FINES	**FINESS Array B**	**93.66**	**341**	LR		LR		09 32 21.7	
	comp=Z,55nm,18.4s,baz=146,slow=35								
NOA	**NORSAR Array B**	**98.42**	**335**	LR		LR		09 34 53.9	
	comp=Z,22nm,18.9s,baz=235,slow=35								
YKA	**Yellowknife Ar**	**143.13**	**3**	PKP		PKPbc		08 57 38.1	+0.8
	0.2nm,0.8s,baz=345,slow=3.0,SNR=4.8								
YKA	**Yellowknife Ar**	**143.13**	**3**	PKP		PKPbc		08 57 38.1	+0.8

IDC 20 08:51:25.8±1.7, 22.˝88S×174.˝76W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/20, mbtmp3.9/8, Error ellipse: s-maj=78.0km s-min=22.1km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.99**	**86**	Pn		Pn		08 54 36.3	-9.1
	5.9nm,0.3s,baz=272,slow=1.1,SNR=7.3								
STKA	**Stephens Creek**	**39.56**	**247**	P		P		08 58 58.7	-0.1
	1.5nm,0.8s,baz=97,slow=12,SNR=3.7								
ASAR	**Alice Springs**	**46.96**	**258**	P		P		08 59 58.9	+0.1
	1.7nm,0.8s,baz=94,slow=6.5,SNR=16								
WRA	**Warramunga Arr**	**47.30**	**263**	P		P		09 00 00.8	-0.6
	3.0nm,0.7s,baz=96,slow=8.4,SNR=28								
FITZ	**Fitzroy Crossi**	**55.72**	**263**	P		P		09 01 04.7	+0.1
	1.3nm,0.8s,baz=76,slow=12,SNR=4.8								
MJAR	**Matsushiro Arr**	**73.92**	**322**	P		P		09 03 02.9	+0.1
	1.4nm,0.7s,baz=153,slow=7.0,SNR=4.7								
NVAR	**Mina Array Bea**	**80.73**	**42**	P		P		09 03 41.5	+0.1
	0.2nm,0.4s,baz=215,slow=5.4,SNR=4.4								
TXAR	**Lajitas Array**	**85.84**	**56**	P		P		09 04 07.7	0.0
	0.5nm,0.9s,baz=203,slow=5.0,SNR=4.6								
ILAR	**Eielson Array**	**89.99**	**12**	P		P		09 04 26.3	-0.4
	0.4nm,1.0s,baz=231,slow=6.0,SNR=4.3								

*IDC **20** 09:02:03.4±1.3,6.˝69S×130.˝66E, h0km, mb3.8/3, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, ML4.4/3, Error ellipse: s-maj=82.9km s-min=20.9km az=75.0*
*ISCJB **20** 09:02:11.1±0.7,7.˝01S±0.˝04×130.˝33E±0.˝08, h78km, mb3.7/3, Error ellipse: s-maj=11.3km s-min=5.9km az=8.5*
*AUST **20** 09:02:13.7,6.˝97S×130.˝54E, h100km*

ISC 20 09:02:12.7±0.8, 6.˝99S±0.˝05×130.˝4E±0.˝1, h78km, n18, σ2s05/16, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.68**	**60**	P		Pn		09 02 56.1	+2.4
	baz=2.6,SNR=42								
TLE						S		**09 03 26.0**	**+0.7**
	baz=2.6,SNR=5.5								
MTN	**Manton Dam**	**5.86**	**173**	P		Pn		09 03 40.8	+3.8
	baz=5.9,SNR=79								
MTN						S		**09 04 44.8**	**+1.8**
	baz=5.9,SNR=7.1								
KDU	**Kakadu**	**6.02**	**160**	P		**Pn**		**09 03 41.9**	**+2.7**
	baz=6.0,SNR=268								
KDU						S		**09 04 45.8**	**-1.0**
	baz=6.0,SNR=5.5								
SWI	**Sorong**	**6.14**	**8**	P		**Pn**		**09 03 40.2**	**-0.7**
	baz=6.2,SNR=8.7								
SWI						S		09 04 42.4	-7.4
	baz=6.2,SNR=6.6								
WSI	**Waingapu**	**10.34**	**254**	P		Pn		09 04 26.7	-12
	baz=10,SNR=8.9								
WSI						S		09 06 47.5	+15
	baz=10,SNR=8.3								
FITZ	**Fitzroy Crossi**	**11.98**	**202**	Pn		**Pn**		**09 05 01.0**	**+0.5**
	2.1nm,0.3s,baz=33,slow=13,SNR=64								
FITZ						Sn		09 07 06.7	-5.8
	1.8nm,0.3s,baz=77,slow=18,SNR=10								
FITZ	**Fitzroy Crossi**	**11.98**	**202**	P		**Pn**		**09 05 01.2**	**+0.6**
	baz=12,SNR=41								
FITZ						S		09 07 07.8	-4.6
	baz=12,SNR=5.8								
WRA	**Warramunga Arr**	**13.44**	**164**	Pn		**Pn**		**09 05 18.7**	**-1.5**
	2.4nm,0.3s,baz=347,slow=14,SNR=73								
WRA						Sn		09 07 40.4	-7.4
	2.1nm,0.3s,baz=344,slow=23,SNR=11								
COEN	**Coen**	**14.34**	**120**	P		**Pn**		**09 05 32.7**	**+0.7**
	baz=14,SNR=7.8								
COEN						S		09 07 54.0	-16
	baz=14,SNR=7.1								
PALU	**Palau**	**14.80**	**16**	S		**S**		**09 08 33.2**	**-1.6**
	baz=15,SNR=3.2								
QIS	**Mount Isa**	**16.17**	**147**	S		Sn		09 08 42.0	-12
	baz=15,SNR=6.9								
ASAR	**Alice Springs**	**16.92**	**169**	P		**P**		**09 06 05.4**	**0.0**
	1.1nm,0.3s,baz=355,slow=9.9,SNR=51								
ASAR						S		**09 09 06.7**	**-5.7**
	0.6nm,0.3s,baz=355,slow=26,SNR=8.6								
STKA	**Stephens Creek**	**26.88**	**159**	P		**P**		**09 07 47.9**	**+1.6**
	0.7nm,0.4s,baz=346,slow=8.3,SNR=3.5								
PPI	**Padang Panjang**	**30.62**	**281**	S		S		09 13 01.9	-15
	baz=31,SNR=4.1								
GSI	**Gunungsitoli**	**33.77**	**283**	S		S		09 13 50.9	-15
	baz=34,SNR=8.7								
SONM	**Songino Array**	**58.56**	**341**	P		**P**		**09 12 00.7**	**-0.6**
	0.4nm,0.5s,baz=166,slow=7.8,SNR=3.8								
MKAR	**Makanchi Array**	**68.43**	**327**	P		**P**		**09 13 07.0**	**+0.7**
	0.7nm,0.4s,baz=121,slow=7.7,SNR=11								
TORD	**Torodi Ar. Bea**	**129.19**	**281**	PKP		**PKPdf**		**09 21 13.8**	**+0.8**
	1.1nm,1.1s,baz=90,slow=1.3,SNR=3.3								

*ATH **20** 09:03:15.7, 35.˝18N×27.˝36E, h38km±3km, MD3.2/6*
CSEM 20 09:03:09.8±0.9, 35.˝08N×27.˝75E, h10km, MD3.2, Error ellipse: s-maj=31.8km s-min=11.1km az=161.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.67**	**314**	*e*PB		Pn		09 03 24.8	-0.6
KARP				*e*SB		Sb		09 03 32.8	-0.3
KARP	**Karpathos**	**0.67**	**314**	*e*Pb		Pn		09 03 24.8	-0.6
KARP				*e*Sb		Sb		09 03 32.8	-0.3
ARG	**Arkhangelos**	**1.18**	**15**	*e*PN		Pg		09 03 37.8	+5.4
ARG	**Arkhangelos**	**1.18**	**15**	*e*Pn		Pg		09 03 37.8	+5.4
ZKR	**Zakros**	**1.26**	**272**	*e*PN		Pb		09 03 33.6	0.0
ZKR	**Zakros**	**1.26**	**272**	*e*Pn		Pb		09 03 33.6	0.0
NPS	**Neapolis**	**1.76**	**277**	*e*PB		Pn		09 03 41.0	+0.6
NPS				*e*SN		Sn		09 03 58.0	-4.9
NPS	**Neapolis**	**1.76**	**277**	*e*Pb		Pn		09 03 41.0	+0.6
NPS				*e*Sn		Sn		09 03 58.0	-4.9
LAST	**Lasithi**	**1.86**	**273**	*e*PB		Pn		09 03 42.5	+0.6
LAST	**Lasithi**	**1.86**	**273**	*e*Pb		Pn		09 03 42.5	+0.6
AKAS	**Kas**	**1.90**	**52**	*i* P		Pn		09 03 43.0	+0.5
AKAS				*i* S		Sn		09 04 04.4	-2.3
AKAS	**Kas**	**1.90**	**52**	*i* P		Pn		09 03 43.0	+0.5
AKAS				*i* S		Sn		09 04 04.4	-2.2
TURN	**Turunc**	**1.92**	**21**	*i* P		Pn		09 03 39.1	-3.4
TURN	**Turunc**	**1.92**	**21**	*i* P		Pn		09 03 39.1	-3.4
IDI	**Anoyia**	**2.35**	**276**	*e*PN		Pn		09 03 49.6	+1.0
IDI	**Anoyia**	**2.35**	**276**	*e*Pn		Pn		09 03 49.6	+1.0
GOLH	**Golhisar**	**2.61**	**34**	*i* P		Pn		09 03 53.5	+1.3
GOLH	**Golhisar**	**2.61**	**34**	*i* P		Pn		09 03 53.5	+1.4
KARN	**Karanos**	**3.15**	**277**	*e*PN		Pn		09 04 00.8	+1.3
KARN	**Karanos**	**3.15**	**277**	*e*Pn		Pn		09 04 00.8	+1.3
KHAL	**Karahalli**	**3.57**	**23**	*i* P		Pn		09 04 03.7	-1.7
KHAL	**Karahalli**	**3.57**	**23**	*i* P		Pn		09 04 03.7	-1.7

*IDC **20** 09:34:32.9±1.8, 18.˝10S×178.˝09W, h542km±21km, mb3.3/6, mb1 3.5/7, mb1mx3.2/21, mbtmp3.3/7, Error ellipse: s-maj=73.9km s-min=15.2km az=152.0*
*ISCJB **20** 09:34:33.6±0.9, 18.˝2S±0.˝3×177.˝8W±0.˝2, h590km, mb3.8/6, Error ellipse: s-maj=49.0km s-min=9.2km az=149.0*
*AUST **20** 09:34:34.4±5.5, 18.˝73S×177.˝62W, h572km, Error ellipse: s-maj=4.7km s-min=2.0km az=337.0*

ISC 20 09:34:34.2±1.2, 18.˝3S±0.˝4×177.˝7W±0.˝2, h590km, n14, σ1s16/15, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.15**	**53**	P		**P**		**09 36 24.3**	**-1.1**
	2.5nm,0.3s,baz=238,slow=18,SNR=7.0								
AFI						S		**09 37 55.5**	**-0.7**
	0.9nm,0.3s,baz=230,slow=16,SNR=2.4								
CTA	**Charters Tower**	**34.08**	**261**	P		**P**		**09 40 29.8**	**-1.4**
	6.2nm,0.7s,baz=85,slow=10,SNR=6.2								
CMSA	**Cobar Meteorol**	**35.57**	**241**	P		**P**		**09 40 43.6**	**+0.2**
	baz=35,SNR=5.4								
QLP	**Quilpie**	**36.05**	**250**	P		**P**		**09 40 47.0**	**-0.4**
	baz=36,SNR=5.4								
TOO	**Toolangi**	**37.47**	**232**	P		**P**		**09 41 00.0**	**+1.1**
	baz=37,SNR=6.1								
COEN	**Coen**	**37.81**	**271**	P		**P**		**09 41 01.7**	**-0.2**
	baz=38,SNR=5.7								
STKA	**Stephens Creek**	**39.06**	**242**	P		**P**		**09 41 11.1**	**-0.7**
	3.0nm,0.6s,baz=84,slow=9.2,SNR=6.1								
ARPS	**Mount Arapiles**	**39.99**	**234**	P		P		09 41 10.9	-8.2
	baz=40,SNR=6.9								
BBOO	**Buckleboo**	**43.83**	**241**	P		**P**		**09 41 49.2**	**-0.1**
	baz=44,SNR=6.7								
WRA	**Warramunga Arr**	**45.25**	**260**	P		**P**		**09 41 59.1**	**-1.3**
	2.3nm,0.5s,baz=96,slow=7.0,SNR=50								
WRA						PcP		**09 43 29.2**	**+1.6**
	0.4nm,0.6s,baz=94,slow=3.4,SNR=3.3								
ASAR	**Alice Springs**	**45.36**	**255**	P		**P**		**09 42 00.9**	**-0.4**
	8.9nm,0.6s,baz=88,slow=8.9,SNR=101								
ASAR						PcP		**09 43 29.4**	**+1.4**
	0.4nm,0.4s,baz=110,slow=3.7,SNR=4.8								
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P		**P**		**09 43 02.0**	**-0.1**
	baz=54,SNR=3.3								
TXAR	**Lajitas Array**	**85.61**	**57**	P		P		09 46 16.3	+4.6
	0.4nm,0.8s,baz=233,slow=7.7,SNR=5.0								
ILAR	**Eielson Array**	**86.11**	**13**	P		**P**		**09 46 15.1**	**+2.1**
	0.1nm,0.4s,baz=218,slow=4.8,SNR=8.2								

*IDC **20** 09:34:38.5±0.7,52.˝29N×170.˝35W, h0km, mb4.0/20, mb1 4.1/23, mb1mx4.0/37, mbtmp4.0/23, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/50, Error ellipse: s-maj=21.8km s-min=11.2km az=177.0*
*NEIC **20** 09:34:45.9±0.8, 52.˝37N×170.˝16W, h52km±6km, mb4.0/4, ML3.6(AEIC), Error ellipse: s-maj=16.4km s-min=6.0km az=165.0*

ISC 20 09:34:42.3±1.2, 52.˝4N±0.˝1×170.˝21W±0.˝05, h22km±7km, n70, σ1s18/84, mb4.0/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.03**	**53**	P		P	**Pn**	**09 35 01.1**	**-0.2**
NIKO						S	**Sb**	**09 35 14.4**	**0.0**
OKSP	**Okmok Steeple**	**1.47**	**52**	P		P	**Pb**	**09 35 08.7**	**-0.2**
OKSO	**Okmok South**	**1.59**	**50**	P		P	**Pb**	**09 35 10.5**	**-0.5**
OKSO						S	**Sb**	**09 35 31.7**	**+0.9**
OKCE	**Okmok Cone E**	**1.64**	**49**	P		P	**Pb**	**09 35 11.5**	**-0.2**
OKCE						S	**Sb**	**09 35 34.4**	**+2.5**
OKFG	**Magazine Ridge**	**1.75**	**52**	P		P	**Pb**	**09 35 12.6**	**-1.0**
OKFG						S	**Sb**	**09 35 35.0**	**0.0**
KOSE	**Korovin Southe**	**2.35**	**271**	P		P	**Pb**	**09 35 23.4**	**-0.5**
KOFP	**Korovin Flat P**	**2.39**	**269**	P		P	**Pb**	**09 35 25.1**	**+0.5**
ATKA	**Atka Island**	**2.45**	**268**	P		P	**Pb**	**09 35 24.3**	**-1.3**
ATKA						S	**Sb**	**09 35 58.1**	**+2.8**
MCIR	**Makushin Cirqu**	**2.56**	**50**	P		P	**Pn**	**09 35 24.7**	**+2.3**
MSW	**Makushin Switc**	**2.59**	**52**	P		P	**Pn**	**09 35 24.7**	**+1.9**
MSW						S	**Sb**	**09 35 58.3**	**-0.9**
MTBL	**Makushin Table**	**2.67**	**51**	P		P	**Pn**	**09 35 26.3**	**+2.4**
UNV	**Unalaska Valle**	**2.69**	**55**	P		P	**Pn**	**09 35 25.6**	**+1.5**
UNV						S	**Sb**	**09 36 00.7**	**-1.3**
ZRO	**Akutan Zero**	**3.08**	**54**	P		P	**Pn**	**09 35 31.8**	**+2.3**
AHB	**Akutan Harbor**	**3.17**	**55**	P		P	**Pn**	**09 35 33.5**	**+2.6**
AKUT	**Akutan**	**3.21**	**55**	*e*Pn		P	**Pb**	**09 35 35.6**	**-2.8**
AKUT				*e*Sn		S	**Sn**	**09 36 10.1**	**+1.4**
SPIA	**Saint Paul Isl**	**4.83**	**360**	P		P	Pn	09 35 58.2	+4.7
FX1	**Attu Island--F**	**10.12**	**280**	Pn		**Pn**		**09 37 04.8**	**-1.4**
	0.8nm,0.3s,baz=71,slow=18,SNR=1.8								
FX1	**Attu Island--F**	**10.12**	**280**	Pn		**Pn**		**09 37 04.8**	**-1.4**
KDAK	**Kodiak Island**	**11.46**	**55**	Pn		Pn		**09 37 23.5**	**-0.8**
	0.6nm,0.3s,baz=233,slow=15,SNR=16								
KDAK						Sn		09 39 24.9	-6.4
	0.2nm,0.3s,baz=120,slow=20,SNR=2.8								
KDAK	**Kodiak Island**	**11.46**	**55**	Pn		**Pn**		**09 37 23.5**	**-0.8**
KDAK						Sn		09 39 24.9	-6.4
ILAR	**Eielson Array**	**17.25**	**35**	P		**P**		**09 38 40.4**	**-1.0**
	0.1nm,0.3s,baz=235,slow=11,SNR=6.3								
ILAR						LR		09 45 55.4	
	comp=Z,44nm,18.2s,baz=311,slow=39								
ILAR	**Eielson Array**	**17.25**	**35**	P		**Pn**		**09 38 40.4**	**-1.0**
PETK	**Petropavlovsk-**	**19.36**	**285**	P		**P**		**09 39 04.3**	**-1.8**
	1.7nm,0.3s,baz=90,slow=13,SNR=8.5								
PETK	**Petropavlovsk-**	**19.36**	**285**	P		**P**		**09 39 04.3**	**-1.8**
EGAK	**Eagle**	**19.37**	**39**	*e*P		**Pn**		**09 39 07.1**	**-0.2**
	2.6nm,0.3s								
DLBC	**Dease Lake**	**23.33**	**59**	P		**P**		**09 39 51.6**	**+3.0**
	3.8nm,0.8s,baz=265,slow=9.0,SNR=5.1								
DLBC	**Dease Lake**	**23.33**	**59**	P		**P**		**09 39 51.6**	**+3.0**
INK	**Inuvik**	**23.64**	**34**	P		**P**		**09 39 51.9**	**+0.5**
	2.0nm,0.4s,baz=249,slow=6.8,SNR=43								
INK						PcP	**PcP**	**09 43 35.4**	**+0.1**
	1.0nm,1.0s,baz=229,slow=1.4,SNR=4.2								
INK	**Inuvik**	**23.64**	**34**	*e*P		**P**		**09 39 51.4**	**0.0**
	2.0nm,0.4s								
INK						PcP	**PcP**	**09 43 35.4**	**+0.1**
YKA	**Yellowknife Ar**	**30.64**	**49**	P		**P**		**09 40 55.2**	**+0.8**
	0.4nm,0.3s,baz=273,slow=8.1,SNR=22								
YKA						PcP	**PcP**	**09 43 52.0**	**0.0**
	1.4nm,1.2s,baz=279,slow=2.3,SNR=4.7								
YKA	**Yellowknife Ar**	**30.64**	**49**	P		**P**		**09 40 55.2**	**+0.8**
YKA						PcP	**PcP**	**09 43 52.0**	**0.0**
ASAJ	**Asahikawa**	**31.99**	**274**	P		**P**		**09 41 06.3**	**-0.2**
	12nm,1.0s,baz=72,slow=16,SNR=2.7								
ASAJ	**Asahikawa**	**31.99**	**274**	P		**P**		**09 41 06.3**	**-0.2**
MCMT	**McKenzie Canyo**	**37.78**	**78**	*e*P		**P**		**09 41 57.4**	**+0.6**
	0.8nm,0.6s								
NVAR	**Mina Array Bea**	**38.18**	**90**	P		**P**		**09 42 01.4**	**+1.2**
	0.4nm,0.6s,baz=297,slow=7.6,SNR=4.2								
NVAR	**Mina Array Bea**	**38.18**	**90**	P		**P**		**09 42 01.4**	**+1.2**
PDAR	**Pinedale Array**	**40.91**	**79**	P		**P**		**09 42 23.3**	**+0.4**
	1.3nm,0.5s,baz=306,slow=2.2,SNR=21								
PDAR	**Pinedale Array**	**40.91**	**79**	P		**P**		**09 42 23.3**	**+0.4**
SPITS	**Spitsbergen Ar**	**49.66**	**358**	P		**P**		**09 43 31.7**	**+0.1**
	3.0nm,0.7s,baz=3.3,slow=14,SNR=5.6								
SPITS	**Spitsbergen Ar**	**49.66**	**358**	P		**P**		**09 43 31.7**	**+0.1**
SONM	**Songino Array**	**50.86**	**300**	P		**P**		**09 43 40.9**

BDRM *i* S **Sg** **09 51 49.4 +0.5**
BODT Bodrum 0.71 259 *e*PG **Pg** **09 51 43.7 +0.7**
BODT *e*SG **Sb** **09 51 54.7 -0.3**
BODT Bodrum 0.71 259 *e*Pg **Pg** **09 51 43.7 +0.7**
BODT *e*Sg **Sb** **09 51 54.7 -0.3**
GCAM G?zelcaml? 0.91 304 *i* P **Pg** **09 51 46.4 -0.3**
GCAM *i* S **Sg** **09 51 58.8 +0.3**
GCAM G?zelcaml? 0.91 304 *i* P **Pg** **09 51 46.4 -0.3**
GCAM *i* S **Sg** **09 51 58.8 +0.3**
FETY Fethiye 0.91 128 *e*PG **Pn** **09 51 49.0 -0.4**
FETY Fethiye 0.91 128 *e*Pg **Pn** **09 51 49.1 -0.4**
GOLH Golhisar 1.10 88 *i* P **Pb** **09 51 50.8 -0.4**
GOLH Golhisar 1.10 88 *i* P **Pb** **09 51 50.8 -0.4**

MEX 20 09:59:48.5±0.5, 16°14N×99°09W, h14km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.96**	**75**	*e*P	Pb	10 00 04.0	-3.0
PNIG				*e*S	Sb	10 00 15.5	-4.2
ACX	**Acapulco**	**1.03**	**315**	*i* P	Pb	10 00 05.0	-3.1
ACX				*e*S	Sb	10 00 19.2	-2.5
CAIG	**El Cayaco**	**1.44**	**309**	*i* P	Pn	10 00 11.2	-3.0
CAIG				*i* S	Sn	10 00 28.2	-4.8
MEIG	**Mezcala**	**1.85**	**344**	*e*P	Pn	10 00 16.4	-3.5
MEIG				*e*S	Sn	10 00 38.3	-4.8
ARIG	**Puente Sto Nin**	**2.44**	**331**	*e*P	Pn	10 00 25.8	-2.3
ARIG				*i* S	Sn	10 00 54.3	-3.4
YAIG	**Yautepec**	**2.71**	**1**	*i* P	Pn	10 00 28.3	-3.6
YAIG				*i* S	Sn	10 01 00.7	-3.9

DDA 20 10:02:36.7, 41°00N×27°37E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SART	**Tekirdag**	**0.34**	**205**	*i* P	Pg	10 02 43.3	0.0
BALY	**Balya**	**1.27**	**171**	*i* P	Pn	10 03 00.9	0.0
BALY				*i* S	Sg	10 03 17.8	+0.2

DDA 20 10:07:42.6, 37°27N×28°00E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.18**	**279**	*e*PG	Pg	10 07 52.3	+5.9
YER	**Yerkesik**	**0.26**	**121**	*e*PG	Pb	10 07 50.2	+0.5
AYDN	**Tasoluk**	**0.40**	**346**	*i* P	Pg	10 07 51.3	+0.7
AYDN				*i* S	Sg	10 07 57.1	+1.2
BDRM	**Kayabasi**	**0.49**	**246**	*e*P	Pg	10 07 52.1	0.0
BDRM				*i* S	Sb	10 08 02.8	+1.8
BODT	**Bodrum**	**0.59**	**250**	*e*PG	Pn	10 07 59.6	+2.2
BODT				*e*SG	Sn	10 08 08.9	+1.6

IDC 20 10:25:52.2±2.2, 6°94N×91°84E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=83.2km s-min=23.0km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.38**	**30**	Pn	Pn	10 29 02.8	-0.8
	0.2nm,0.3s,baz=230,slow=15,SNR=7.9						
MKAR	**Makanchi Array**	**40.55**	**350**	P	P	10 33 33.3	-0.1
	0.3nm,0.6s,baz=173,slow=7.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**44.94**	**348**	P	P	10 34 09.2	+0.4
	0.6nm,0.7s,baz=174,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**49.62**	**123**	P	P	10 34 45.3	-0.6
	1.0nm,0.7s,baz=305,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**51.11**	**128**	P	P	10 34 57.1	0.0
	0.4nm,0.7s,baz=300,slow=6.6,SNR=6.6						

IDC 20 10:31:21.5±2.4, 3°37N×128°22E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=204.0km s-min=24.3km az=66.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.93**	**166**	P	P	10 36 38.1	+0.7
	0.5nm,0.3s,baz=346,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**27.44**	**169**	P	P	10 37 08.9	-0.4
	0.2nm,0.4s,baz=353,slow=7.7,SNR=4.6						
MAT	**Matsushiro**	**34.27**	**14**	P	P	10 38 19.8	+10
STKA	**Stephens Creek**	**37.29**	**161**	P	P	10 38 34.9	-0.5
	1.2nm,0.9s,baz=325,slow=16,SNR=3.7						
MKAR	**Makanchi Array**	**58.70**	**325**	P	P	10 41 21.0	0.0
	0.5nm,0.4s,baz=120,slow=7.9,SNR=8.3						

NIED ***20*** *10:34:00, 46°.90N×153°.00E, h32km, Mw4.3 Best double couple: M₀3.69000×10²⁵ NP1:φ=127.00000°, δ87.00000°, λ-39.00000°. NP2:φ=219.00000°, δ51.00000°, λ-177.00000°.*

IDC ***20*** *10:34:47.2±0.4, 46°.86N×152°.70E, h0km, mb4.5/33, mb1 4.6/34, mb1mx4.6/37, mbtmp4.5/34, ML3.9/1, MS3.7/13, Ms1 3.7/13, ms1mx3.4/44, Error ellipse: s-maj=14.3km s-min=11.2km az=158.0*

SKHL ***20*** *10:34:50.8±0.6, 46°.36N×153°.39E, h80km±19km, mb5.1/4, Ms3.9/1, msh6.3/2*

JMA ***20*** *10:34:51.2±0.7, 46°.87N×153°.02E, h30km, M5.2*

ISCJB ***20*** *10:34:53.4±0.5, 46°.74N±0°.03×152°.72E±0°.03, h57km±4km, mb4.6/138, MS3.7/15, Error ellipse: s-maj=5.9km s-min=2.6km az=166.1*

BJI ***20*** *10:34:53.0, 46°.97N×152°.89E, h62km, mB4.8/23, mb4.8/32, Ms4.2/22, Ms7 3.9/22*

NEIC ***20*** *10:34:55.0±0.2, 46°.82N×152°.66E, mb4.7/71, Error ellipse: s-maj=6.2km s-min=3.1km az=158.0*

MOS ***20*** *10:34:55.0±0.9, 46°.75N×152°.67E, h71km, mb4.8/43, Error ellipse: s-maj=7.2km s-min=4.9km az=94.8*

SZGRF ***20*** *10:34:57.3, 47°.61N×153°.19E, h33km, mb4.8, Kuril Islands, Russia*

ISC 20 10:34:54.6±0.4, 46°.76N±0°.06×152°.71E±0°.04, h52km±3km, h52km: pP-P, n682, σ1°08/735, mb4.6/138, MS3.8/15, 152C-141D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.71**	**247**	*e*PN	**Pn**	**10 35 51.0**	**+1.7**
KUR				*e*S	**Sn**	**10 36 36.6**	**+5.0**
KUR	comp=N,300nm,0.5s			pmax	pmax		
KUR	comp=E,80nm,0.5s			pmax	pmax		
KUR	comp=Z,590nm,0.5s			smax	smax		
KUR	comp=N,7μm,2.0s			smax	smax		
KUR	comp=N,2μm,0.7s			smax	smax		
KUR	comp=E,670nm,0.5s			smax	smax		
KUR	**Kuril'sk**	**3.71**	**247**	*e*P	**Pn**	**10 35 51.0**	**+1.7**
KUR				AMB	AMB	10 35 53.0	
KUR	comp=E,300nm,0.5s			AMB	AMB	10 35 53.0	
KUR	comp=E,80nm,0.5s			AMB	AMB	10 35 53.0	
KUR	comp=E,590nm,0.5s			AMB	AMB	10 35 53.0	
KUR				*e*S	**Sn**	**10 36 36.6**	**+5.0**
KUR				A	A	10 36 40.0	
KUR	comp=E,7μm,2.0s			A	A	10 36 46.2	
KUR	comp=E,2μm,0.6s			A	A	10 36 46.2	
KUR	comp=E,670nm,0.6s			A	A	10 36 46.2	
YUK	**Yuzh-Kuril'sk**	**5.54**	**243**	*d i*PN	**Pn**	**10 36 16.6**	**+2.2**
YUK				*i* S	**Sn**	**10 37 20.5**	**+3.8**
YUK	comp=Z,326nm,0.3s			pmax	pmax		
YUK	comp=E,100nm,0.1s			pmax	pmax		
YUK	comp=N,113nm,0.1s			pmax	pmax		
YUK	comp=E,586nm,0.6s			smax	smax		
YUK	comp=N,395nm,0.6s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**5.54**	**243**	⇓ *i*P	**Pn**	**10 36 16.6**	**+2.2**
YUK	comp=N,110nm,0.3s			AMB	AMB	10 36 25.0	
YUK	comp=N,100nm,0.3s			AMB	AMB	10 36 25.0	
YUK				*i* S	**Sn**	**10 37 20.5**	**+3.8**
YUK	comp=N,400nm,0.6s			A	A	10 37 38.5	
YUK	comp=N,590nm,0.6s			A	A	10 37 38.5	
NEM2	**Nemuro 2**	**5.99**	**238**	P	**Pn**	**10 36 20.1**	**-0.5**
NEM2				*e*S	**Sn**	**10 37 25.6**	**-2.2**
JRA	**Rausu**	**6.05**	**245**	P	**Pn**	**10 36 24.0**	**+2.6**
JNK	**Nakash**	**6.48**	**244**	P	**Pn**	**10 36 29.0**	**+1.7**
JNK				*e*S	**Sn**	**10 37 42.1**	**+2.2**
JTKR	**Abashiri--Toko**	**6.80**	**249**	P	**Pn**	**10 36 34.3**	**+2.6**
JAK	**Akkeshi**	**6.83**	**239**	P	**Pn**	**10 36 31.6**	**-0.4**
JAK				*e*S	**Sn**	**10 37 45.8**	**-2.5**
YSS	**Yuzh-Sakhalins**	**6.83**	**275**	*e*PN	Pn	10 36 36.8	+4.7
YSS				*e*S	**Sn**	**10 37 52.0**	**+3.6**
YSS	comp=Z,90nm,1.0s			pmax	pmax		
YSS	comp=Z,500nm,15.0s			MLR	MLR		
YSS	comp=N,300nm,14.0s			MLR	MLR		
YSS	comp=E,400nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**6.83**	**275**	*e*Pn	Pn	10 36 35.9	+3.8
YSS	comp=E,53nm,0.3s						
YSS				*e*Sn	**Sn**	**10 37 44.2**	**-4.2**
YSS	**Yuzh-Sakhalins**	**6.83**	**275**	*e*P	Pn	10 36 36.8	+4.7
YSS				AMB	AMB	10 36 38.8	
YSS	comp=E,90nm,1.0s						
YSS				*e*S	**Sn**	**10 37 52.0**	**+3.6**
YSS				*e*LQ	LQ	10 38 26.0	
YSS				AMS	AMS	10 39 07.0	
YSS	comp=E,300nm,14.0s			AMS	AMS	10 39 07.0	
YSS	comp=E,500nm,15.0s			AMS	AMS	10 39 07.0	
YSS	comp=E,400nm,15.0s			AMS	AMS	10 39 07.0	
PEA0B	**Petropavlovsk-**	**7.12**	**25**	*e*Pn	**Pn**	**10 36 37.2**	**+1.2**
PETK	**Petropavlovsk-**	**7.12**	**25**	Pn	**Pn**	**10 36 36.6**	**+0.6**
	comp=E,1.5nm,0.3s,baz=183,slow=13,SNR=16						
PETK	**Petropavlovsk-**	**7.12**	**25**	PN	**Pn**	**10 36 36.6**	**+0.6**
PETK	**Petropavlovsk-**	**7.12**	**25**	Pn	**Pn**	**10 36 36.6**	**+0.6**
JMP	**Maruseppu**	**7.14**	**251**	P	**Pn**	**10 36 39.1**	**+2.8**
JAR	**Ashorobuto**	**7.22**	**245**	P	**Pn**	**10 36 39.2**	**+1.8**
PET	**Petropavlovsk**	**7.35**	**29**	*e*PN	Pn	10 36 44.4	+5.3
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**7.35**	**29**	*e*P	**Pn**	**10 36 41.3**	**+2.2**
JOB	**Onbets**	**7.40**	**242**	P	**Pn**	**10 36 40.3**	**+0.5**
JOB				*e*S	**Sn**	**10 38 01.5**	**-0.8**
UGL	**Uglegorsk**	**7.52**	**292**	*e*P	Pn	10 36 45.5	+4.0
UGL				AMB	AMB	10 36 47.0	
	comp=Z,108nm,0.8s						
ASAJ	**Asahikawa**	**7.59**	**253**	Pn	Pn	10 36 46.3	+3.8
	comp=Z,7.1nm,0.3s,baz=81,slow=14,SNR=61						
ASAJ				LR	LR	10 39 34.7	
	comp=Z,295nm,20.9s,baz=124,slow=38						
ASAJ	**Asahikawa**	**7.59**	**253**	*e*Pn	**Pn**	**10 36 45.5**	**+3.0**
ASAJ				*e*Sn	**Sn**	**10 38 12.8**	**+5.7**
ASAJ	**Asahikawa**	**7.59**	**253**	P	Pn	10 36 46.6	+4.1
JKK2	**Kamakawa 2**	**7.59**	**251**	P	Pn	10 36 45.7	+3.1
JWK2	**Keihoku**	**7.67**	**263**	P	Pn	10 36 49.7	+6.2
TYV	**Tymovskoe**	**7.80**	**305**	*e*P	**Pn**	**10 36 48.0**	**+2.6**
TYV				AMB	AMB	10 36 49.5	
TYV	comp=Z,20nm,0.8s			AMB	AMB	10 36 49.5	
TYV	comp=Z,22nm,0.8s			AMB	AMB	10 36 49.5	
TYV	comp=Z,33nm,0.8s			AMB	AMB	10 36 49.5	
JCH	**Churui**	**7.85**	**241**	P	**Pn**	**10 36 46.3**	**+0.3**
JCH				*e*S	**Sn**	**10 38 11.7**	**-1.6**
JFR	**Furan**	**8.03**	**247**	P	**Pn**	**10 36 50.5**	**+2.0**
JAB	**Ashibetsu**	**8.10**	**250**	P	Pn	10 36 52.9	+3.4
ERM	**Erimo**	**8.32**	**239**	*e*PN	**Pn**	**10 36 53.8**	**+1.2**
ERM	**Erimo**	**8.32**	**239**	*e*Pn	**Pn**	**10 36 53.8**	**+1.2**
ERM				*e*Sn	**Sn**	**10 38 26.5**	**+1.5**
JBT2	**Biratori 2**	**8.37**	**245**	P	**Pn**	**10 36 54.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.41**	**241**	P	**Pn**	**10 36 53.0**	**-0.7**
JEW	**Eniwo**	**8.91**	**248**	P	**Pn**	**10 37 02.4**	**+1.8**
JNB	**Noboribetsu**	**9.37**	**247**	P	**Pn**	**10 37 07.4**	**+0.6**
JNB				*e*S	**Sn**	**10 38 48.9**	**-1.7**
JKB	**Kayabe**	**9.68**	**244**	P	**Pn**	**10 37 10.5**	**-0.6**
JKB				*e*S	**Sn**	**10 38 53.4**	**-4.9**
JSH	**Shimam**	**9.91**	**250**	P	**Pn**	**10 37 15.9**	**+1.6**
JYM2	**Yakumo 2**	**9.97**	**247**	P	**Pn**	**10 37 15.3**	**+0.2**
JSR	**Shiriuchi**	**10.26**	**244**	P	**Pn**	**10 37 17.9**	**-1.2**
JTM	**Tenmabayashi**	**10.32**	**239**	P	**Pn**	**10 37 17.8**	**-2.0**
JTM				*e*S	Sn	10 39 06.2	-7.7
JANG	**Nango**	**10.33**	**236**	P	**Pn**	**10 37 16.8**	**-3.2**
JANG				*e*S	Sn	10 39 05.8	-8.4
JOSM	**Okushiri--Mats**	**10.56**	**248**	P	**Pn**	**10 37 23.1**	**0.0**
OFUJ	**Ofunato**	**11.15**	**230**	P	**Pn**	**10 37 28.0**	**-3.2**
JRG	**Rokugo**	**11.49**	**234**	P	**Pn**	**10 37 34.0**	**-1.8**
JRG				*e*S	Sn	10 39 35.2	-7.4
JIO	**Ouri**	**11.78**	**229**	P	Pn	10 37 36.4	-3.4
JIO				*e*S	Sn	10 39 39.4	-10
HABR	**Khabarovsk**	**12.04**	**285**	*e*PN	**Pn**	**10 37 44.2**	**+0.9**
HABR	comp=N,57nm,2.8s			pmax	pmax		
HABR	comp=Z,39nm,1.9s			pmax	pmax		
HABR	comp=E,105nm,2.9s			pmax	pmax		
HABR	comp=Z,456nm,18.0s			MLR	MLR		
JYA	**Atsumi**	**12.56**	**234**	P	**Pn**	**10 37 48.3**	**-2.2**
FX1	**Attu Island--F**	**14.53**	**58**	Pn	**Pn**	**10 38 16.0**	**-0.9**
	comp=Z,7.4nm,0.3s,baz=274,slow=19,SNR=9.6						
FX1				LR	LR	10 42 39.8	
	comp=Z,116nm,21.3s,baz=48,slow=33						
FX1	**Attu Island--F**	**14.53**	**58**	*e*Pn	**Pn**	**10 38 14.7**	**-2.2**
FX1				*e*Sn	**Sn**	**10 40 59.6**	**+3.2**
USRK	**Ussuriysk Arra**	**14.75**	**268**	Pn	**Pn**	**10 38 21.2**	**+1.4**
	comp=Z,2.2nm,0.3s,baz=69,slow=13,SNR=36						
USRK				LR	LR	10 43 57.4	
	comp=Z,172nm,19.3s,baz=309,slow=37						
MJAR	**Matsushiro Arr**	**14.87**	**232**	Pn	**Pn**	**10 38 19.3**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=7.8						
MJAR	**Matsushiro Arr**	**14.87**	**232**	Pn	**Pn**	**10 38 19.3**	**-2.2**
MAJO	**Matsushiro**	**14.87**	**232**	*e*P	**Pn**	**10 38 20.3**	**-1.2**
MAJO	**Matsushiro**	**14.87**	**232**	*e*Pn	**Pn**	**10 38 20.3**	**-1.2**
VLA	**Vladivostok**	**15.18**	**264**	*e*P	**P**	**10 38 27.7**	**-1.8**
VLA	comp=Z,18nm,0.8s			pmax	pmax		
SEY	**Seymchan**	**16.21**	**359**	*ce*P	**P**	**10 38 40.6**	**-0.2**
MDJ	**Mudanjiang**	**16.29**	**271**	P	**Pn**	**10 38 39.0**	**-0.6**
MDJ				pP	**pP**	**10 38 51.5**	**-2.0**
MDJ				sP	**sP**	**10 38 56.8**	**-3.3**
MDJ				S	**Sn**	**10 41 37.6**	**-1.7**
MDJ				ScS	**ScS**	**10 50 38.8**	**-0.6**
MDJ	comp=Z,7.0nm,0.9s			pmax	pmax		
MDJ	comp=Z,31nm,3.3s			pmax	pmax		
MDJ	comp=N,100nm,14.6s			LR	LR		
MDJ	comp=E,110nm,15.1s			LR	LR		
MDJ	comp=Z,190nm,14.1s			LR	LR		
MDJ	**Mudanjiang**	**16.29**	**271**	*e*P	**Pn**	**10 38 40.2**	**+0.5**
	comp=Z,17nm,0.8s						
ZEA	**Zeya**	**17.65**	**303**	*e*P	**P**	**10 38 57.4**	**+0.5**
ZEA				AMB	AMB	10 38 58.3	
	comp=Z,15nm,0.8s						
CN2	**Changchun**	**19.38**	**271**	⇑P	**P**	**10 39 16.0**	**+0.2**
CN2				*e*S	S	10 42 44.8	-7.3
CN2	comp=Z,20nm,0.7s			pmax	pmax		
CN2	comp=Z,200nm,4.0s			pmax	pmax		
CN2	comp=N,200nm,15.0s			LR	LR		
CN2	comp=E,200nm,15.0s			LR	LR		
CN2	comp=Z,300nm,14.0s			LR	LR		
CLNS	**Chul'man**	**19.80**	**311**	*e*P	**Pn**	**10 39 23.5**	**+1.1**
CLNS				*e*S	**S**	**10 42 55.5**	**-5.0**
CLNS	comp=Z,6.0nm,1.0s			pmax	pmax		
CLNS	comp=N,13nm,0.8s			pmax	pmax		
CLNS	comp=E,9.0nm,1.0s			smax	smax		
CLNS	comp=N,288nm,13.8s			smax	smax		
CLNS	comp=E,104nm,13.1s			MLR	MLR		
CLNS	comp=Z,260nm,17.0s			MLR	MLR		
CLNS	comp=E,416nm,16.0s			MLR	MLR		
CLNS	comp=N,112nm,17.0s			MLR	MLR		
YAK	**Yakutsk**	**20.16**	**328**	*e*P	**P**	**10 39 25.2**	**+1.0**
YAK	comp=Z,40nm,0.5s			pmax	pmax		
YAK	**Yakutsk**	**20.16**	**328**	*e*P	**P**	**10 39 25.2**	**+1.0**
	comp=Z,40nm,0.5s						
KSRS	**Korea Array**	**20.54**	**252**	P	Pn	10 39 29.9	-1.3
	comp=Z,10.0nm,0.6s,baz=56,slow=10,SNR=24						
KSRS				PcP	**PcP**	**10 43 37.6**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=59,slow=1.8,SNR=7.1						
KSRS				LR	LR	10 46 20.2	
	comp=Z,79nm,20.2s,baz=349,slow=34						
KSAR	**Wonju Array Be**	**20.57**	**252**	P	**P**	**10 39 29.9**	**+1.0**
KSAR				PcP	**PcP**	**10 43 37.6**	**-0.4**
JNU	**Nakatsue**	**21.49**	**238**	P	**P**	**10 39 39.5**	**+0.6**
	comp=Z,21nm,0.8s,baz=13,slow=7.2,SNR=13						
JNU	**Nakatsue**	**21.49**	**238**	*e*P	**P**	**10 39 40.0**	**+1.2**
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**22.10**	**289**	*e*P	**P**	**10 39 44.1**	**-1.1**
	comp=Z,5.4nm,0.5s						
BILL	**Bilibino**	**22.44**	**13**	⇑ *e*P	**P**	**10 39 49.8**	**+1.1**
BILL				*e*S	**S**	**10 43 50.5**	**-0.8**
BILL	comp=Z,5.0nm,1.0s			pmax	pmax		
BOD	**Bodaibo**	**25.77**	**310**	*e*P	**P**	**10 40 18.4**	**-1.7**
BOD	comp=Z,4.0nm,0.8s			pmax	pmax		
GAMB	**Gambell**	**25.97**	**36**	*e*P	**P**	**10 40 21.5**	**-0.3**
	comp=Z,3.9nm,0.7s						
BJI	**Beijing**	**27.20**	**269**	P	**P**	**10 40 32.4**	**-0.8**
BJI				S	**S**	**10 45 08.0**	**-0.2**
BJI	comp=Z,6.0nm,0.6s			pmax	pmax		
BJI	comp=Z,56nm,3.7s			pmax	pmax		
BJI	comp=N,110nm,19.3s			LR	LR		
BJI	comp=E,140nm,17.0s			LR	LR		
BJI	comp=Z,100nm,22.7s			LR	LR		
TNA	**Tin City**	**28.18**	**34**	*e*P	**P**	**10 40 42.7**	**+1.1**
	comp=Z,3.0nm,0.7s						
NJ2	**Nanjing**	**29.74**	**253**	*e*P	**P**	**10 40 57.3**	**+1.5**
NJ2	comp=Z,20nm,0.9s			pmax	pmax		
ULN	**Ulaanbaatar**	**30.63**	**289**	*e*P	**P**	**10 41 03.6**	**-0.2**
	comp=Z,10nm,0.9s						
SONM	**Songino Array**	**31.07**	**289**	P	**P**	**10 41 07.1**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=74,slow=8.1,SNR=3.9						
SONM				PcP	**PcP**	**10 44 01.3**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=90,slow=4.3,SNR=3.3						
SONM	**Songino Array**	**31.07**	**289**	P	**P**	**10 41 07.1**	**-0.5**
SONM				PcP	**PcP**	**10 44 01.3**	**-0.7**
TLY	**Talaya**	**31.93**	**297**	*e*P	**P**	**10 41 13.5**	**-1.5**
TLY	comp=Z,3.0nm,0.6s			pmax	pmax		
TLY	comp=Z,139nm,16.0s			MLR	MLR		
ZAK	**Zakamensk**	**32.42**	**295**	*e*P	**P**	**10 41 17.3**	**-2.1**
ZAK				*e*		10 44 03.6	
ZAK	comp=Z,2.0nm,0.9s			pmax	pmax		
TRF	**Thorofare Moun**	**35.21**	**41**	*e*P	**P**	**10 41 43.3**	**-0.3**
	comp=Z,94nm,2.4s						
XAN	**Xi'an**	**35.24**	**265**	P	**P**	**10 41 44.3**	**+0.3**
XAN				pP	**pP**	**10 41 58.6**	**+1.1**
XAN	comp=Z,7.0nm,0.7s			pmax	pmax		
XAN	comp=N,77nm,18.2s			LR	LR		
XAN	comp=Z,34nm,16.9s			LR	LR		
COLD	**Coldfoot**	**35.48**	**34**	*e*P	**P**	**10 41 45.7**	**+0.1**
	comp=Z,4.5nm,0.5s						
SML	**Sawmill**	**36.15**	**44**	*e*P	**P**	**10 41 51.6**	**+0.1**
SML	comp=Z,5.0nm,0.8s			pmax	pmax		
SML	**Sawmill**	**36.15**	**44**	*e*P	**P**	**10 41 51.6**	**+0.1**
	comp=Z,5.2nm,0.8s						
COLA	**College**	**36.30**	**38**	*e*P	**P**	**10 41 53.2**	**+0.6**
COLA				*e**PP	**pP**	**10 42 07.9**	**+1.8**
COLA	comp=Z,6.0nm,0.6s			pmax	pmax		
COLA	**College**	**36.30**	**38**	*e*P	**P**	**10 41 53.2**	**+0.6**
	comp=Z,6.3nm,0.6s						
COLA				*ep*P	**pP**	**10 42 07.9**	**+1.8**
ILAR	**Eielson Array**	**36.71**	**39**	P	**P**	**10 41 55.5**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=261,slow=6.9,SNR=48						
ILAR				LR	LR	10 55 10.8	
	comp=Z,49nm,19.5s,baz=318,slow=33						
ILAR	**Eielson Array**	**36.71**	**39**	P	**P**	**10 41 55.5**	**-0.6**
LZH	**Lanzhou**	**37.61**	**272**	*e*P	**P**	**10 42 06.5**	**+2.2**
LZH				pP	**pP**	**10 42 18.0**	**+0.1**
LZH				sP	**sP**	**10 42 23.5**	**-0.5**
LZH	comp=Z,16nm,1.5s			pmax	pmax		
DOT	**Dot Lake**	**37.99**	**40**	*e*P	**P**	**10 42 06.4**	**-0.6**
	comp=Z,4.6nm,0.9s						
BMRM	**Bremner River**	**38.02**	**45**	*e*P	**P**	**10 42 07.8**	**+0.5**
	comp=Z,3.7nm,0.4s						
GTA	**Gaotai**	**38.70**	**279**	P	**P**	**10 42 15.8**	**+2.4**
GTA				pP	**pP**	**10 42 28.3**	**+1.3**
GTA				sP	**sP**	**10 42 33.4**	**+0.3**
GTA				PP	**PnPn**	**10 43 49.4**	**+4.3**
GTA				PcP	**PcP**	**10 44 25.6**	**+1.3**
GTA				S	**ScP**	**10 48 10.0**	**+2.2**
GTA				sS	**sS**	**10 48 30.6**	**+1.2**
GTA				SS	**SS**	**10 50 54.3**	**-3.9**
GTA	comp=Z,10.0nm,0.8s			pmax	pmax		
GTA	comp=Z,29nm,5.9s			pmax	pmax		
GTA	comp=N,130nm,19.5s			LR	LR		
GTA	comp=E,140nm,19.5s			LR	LR		
GTA	comp=Z,120nm,18.5s			LR	LR		
EGAK	**Eagle**	**39.16**	**38**	*e*P	**P**	**10 42 16.3**	**-0.4**
EGAK	comp=Z,96nm,0.6s						
EGAK				*ep*P	**pP**	**10 42 30.3**	**-0.1**
DAWY	**Dawson**	**40.01**	**39**	*e*P	**P**	**10 42 24.1**	**+0.2**
CD2	**Chengdu**	**40.61**	**265**	P	**P**	**10 42 29.8**	**+0.6**
CD2				pP	**pP**	**10 42 41.9**	**-1.0**
CD2				sP	**sP**	**10 42 47.1**	**-1.9**
CD2				PP	**PnPn**	**10 44 07.4**	**-0.3**
CD2				S	**S**	**10 48 35.1**	**0.0**
CD2				SS	**SS**	**10 51 30.3**	**-6.2**
CD2	comp=Z,80nm,0.6s			pmax	pmax		
CD2	comp=Z,70nm,6.0s			pmax	pmax		
CD2	comp=N,190nm,4.8s			LR	LR		
CD2	comp=Z,120nm,7.4s			LR	LR		
GYA	**Guiyang**	**41.45**	**257**	P	**P**	**10 42 36.8**	**+0.5**
GYA	comp=Z,10.0nm,0.5s			pmax	pmax		
INK	**Inuvik**	**41.79**	**32**	*e*P	**P**	**10 42 38.9**	**+0.6**
	comp=Z,8.5nm,0.9s						
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**10 42 41.7**	**-1.7**
	comp=Z,1.8nm,0.4s,baz=64,slow=6.6,SNR=6.6						
ZALV				PcP	**PcP**	**10 44 34.8**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=64,slow=3.4,SNR=7.2						
ZALV				LR	LR	11 01 40.0	
	comp=Z,204nm,18.2s,baz=246,slow=38						
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**10 42 41.7**	**-1.7**
ZALV						10 44 34.8	
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**10 42 41.7**	**-1.7**
ZALV				PcP	**PcP**	**10 44 34.8**	**-1.0**

WMQ Urumqi 44.66 291 P P 10 43 04.3 +2.3
WMQ LR LR
comp=N,44nm,22.0s
WMQ LR LR
comp=E,64nm,20.0s
WMQ LR LR
comp=Z,90nm,23.0s
MK31 Makanchi Array 46.69 297 *eP* **P 10 43 17.1 -0.8**
MK31 *e* 10 44 50.6
MK31 Makanchi Array 46.69 297 *eP* **P 10 43 17.1 -0.8**
MK31 *eP*cP **PcP 10 44 50.6 -0.1**
MKAR Makanchi Array 46.69 297 P **P 10 43 16.7 -1.2**
comp=Z,4.4nm,0.7s,baz=67,slow=7.3,SNR=35
MKAR PcP **PcP 10 44 50.5 -0.3**
comp=Z,2.1nm,0.6s,baz=67,slow=4.8,SNR=8.2
MKAR LR LR 11 04 04.7
comp=Z,181nm,18.7s,baz=246,slow=38
MKAR Makanchi Array 46.69 297 P **P 10 43 16.7 -1.2**
MKAR 10 44 50.5
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,181nm,18.7s
MKAR Makanchi Array 46.69 297 *eP* **P 10 43 16.8 -1.1**
MKAR PcP **PcP 10 44 50.5 -0.3**
KURK Kurchatov 47.13 303 *ceP* **P 10 43 19.9 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 47.13 303 P **P 10 43 20.7 -0.5**
KURK 10 44 52.4
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 47.13 303 *eP* **P 10 43 19.2 -2.0**
comp=Z,5.5nm,0.8s
KURK PcP **PcP 10 44 52.4 +0.3**
KURBB Kurchatov Arra 47.22 303 P **P 10 43 20.7 -1.2**
comp=Z,3.2nm,0.4s,baz=70,slow=8.8,SNR=19
KURBB PcP **PcP 10 44 52.4 -0.1**
comp=Z,1.5nm,0.6s,baz=65,slow=3.3,SNR=6.2
LSA Lhasa 50.00 273 P **P 10 43 45.9 +1.8**
LSA Lhasa 50.00 273 *eP* **P 10 43 45.7 +1.6**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 50.00 273 *eP* **P 10 43 45.7 +1.6**
comp=Z,19nm,0.6s
BVAR Borovoye Array 50.64 309 P **P 10 43 47.3 -0.8**
comp=Z,1.6nm,0.4s,baz=47,slow=7.6,SNR=15
BVAR PcP **PcP 10 45 04.6 -0.3**
comp=Z,4.8nm,0.7s,baz=72,slow=3.4,SNR=9.7
BVAR LR LR 11 07 16.3
comp=Z,84nm,18.5s,baz=242,slow=38
BVAR Borovoye Array 50.64 309 P **P 10 43 47.3 -0.8**
BVAR 10 45 04.6
BVAR Borovoye Array 50.64 309 P **P 10 43 47.3 -0.8**
BVAR PcP **PcP 10 45 04.6 -0.3**
BRVK Borovoye 50.68 309 *ceP* **P 10 43 47.9 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.68 309 *eP* **P 10 43 47.6 -0.7**
comp=Z,3.6nm,0.7s
RES Resolute Bay 50.91 18 *eP* **P 10 43 49.2 -0.6**
comp=Z,5.1nm,1.0s
YKW3 Yellowknife Ar 51.04 37 *eP* **P 10 43 50.7 -0.2**
comp=Z,0.1nm,0.8s
YKW3 *e*pP **pP 10 44 05.1 +0.1**
YKA Yellowknife Ar 51.08 37 P **P 10 43 50.9 -0.3**
comp=Z,1.3nm,0.6s,baz=296,slow=7.0,SNR=30
YKA PcP **PcP 10 45 06.0 -0.3**
comp=Z,1.2nm,0.4s,baz=302,slow=3.7,SNR=18
YKA Yellowknife Ar 51.08 37 P **P 10 43 50.9 -0.3**
YKA PcP **PcP 10 45 06.0 -0.3**
CHTO Chiang Mai 51.85 256 *eP* **P 10 43 58.8 +1.2**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 51.85 256 *eP* **P 10 43 58.8 +1.2**
comp=Z,12nm,0.8s
SHL Shillong 52.10 268 *eP* **P 10 44 02.0 +2.5**
CMAR Chiang Mai Arr 52.11 256 P **P 10 44 00.1 +0.7**
comp=Z,6.7nm,0.7s,baz=36,slow=7.3,SNR=39
CMAR PcP **PcP 10 45 11.7 +0.9**
comp=Z,2.1nm,1.0s,baz=6.9,slow=2.4,SNR=4.5
CMAR Chiang Mai Arr 52.11 256 P **P 10 44 00.1 +0.7**
CMAR PcP **PcP 10 45 11.7 +0.9**
AAK Ala-Archa 53.58 296 P **P 10 44 09.8 -0.4**
comp=Z,4.1nm,0.9s,baz=56,slow=7.3,SNR=13
AAK Ala-Archa 53.58 296 *ceP* **P 10 44 10.1 -0.2**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 53.58 296 *eP* **P 10 44 09.9 -0.4**
comp=Z,19nm,0.8s
TAPN Taplejung 53.82 273 *eP* **P 10 44 13.2 +0.8**
EKS2 Erkin-Say 54.01 297 *eP* **P 10 44 13.3 -0.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 54.01 297 *eP* **P 10 44 13.3 -0.1**
comp=Z,4.5nm,0.8s
KSH Kashi 54.39 292 *eP* P 10 44 19.9 +3.7
KSH *e*pP pP 10 44 34.0 +3.6
KSH *e*sP sP 10 44 39.0 +2.6
KSH *e*PcP **PcP 10 45 24.0 +4.6**
KSH *e*PP PP 10 46 23.6 +5.2
KSH *e*ScP **ScP 10 49 15.4 +2.3**
KSH PcS **PcS 10 49 21.3 +2.2**
KSH S **S 10 51 54.6 +3.9**
KSH ScS **ScS 10 54 02.5 +1.7**
KSH SS **SS 10 55 39.3 +6.3**
KSH pmax pmax
comp=Z,72nm,4.3s
KSH LR LR
comp=N,100nm,6.4s
KSH LR LR
comp=E,89nm,5.2s
KSH LR LR
comp=Z,170nm,5.2s
JIRN Jiri 54.67 274 *eP* **P 10 44 19.4 +0.8**
GUN Gumba 54.73 275 *eP* **P 10 44 19.4 +0.4**
comp=Z,24nm,0.4s
ARU Arti 54.82 317 *diP* **P 10 44 17.7 -1.1**
ARU 10 46 17.5
ARU S **S 10 51 51.5 -4.1**
ARU pmax pmax
comp=Z,4.0nm,0.6s
RAMN Ramite 54.84 273 *eP* **P 10 44 20.3 +0.6**
comp=Z,59nm,0.6s
KKN Kakani 55.21 275 *eP* **P 10 44 23.7 +1.3**
PKI Pulchoki 55.26 275 *eP* **P 10 44 23.4 +0.5**
PKIN Phulchoki 55.27 275 *eP* **P 10 44 24.0 +1.2**
DMN Daman 55.45 275 *eP* **P 10 44 24.8 +0.7**
GKN Gorkha 55.52 276 *eP* **P 10 44 25.2 +0.7**
KKAR Karatay Array 55.75 299 *eP* **P 10 44 25.2 -0.6**
KKAR Karatay Array 55.75 299 *eP* **P 10 44 25.2 -0.6**
DANN Dangsing 55.90 277 *eP* **P 10 44 28.4 +1.0**
comp=Z,29nm,0.4s
HNR Honiara 56.31 171 LR LR 11 05 46.3
comp=Z,67nm,18.2s,baz=162,slow=33
KOLN Koldanda 56.37 276 *eP* **P 10 44 31.5 +0.8**
PYUN Piuthan 56.58 277 *eP* **P 10 44 32.9 +0.7**
KEV Kevo 57.24 340 *eP* **P 10 44 33.5 -2.4**
KEV Kevo 57.24 340 *ep* **P 10 44 33.5 -2.4**
NEW Newport 57.39 52 ⇑P **P 10 44 37.4 0.0**
baz=57
ARCES ARCESS Array B 57.75 341 P **P 10 44 39.0 -0.5**
comp=Z,7.1nm,1.1s,baz=40,slow=7.9,SNR=9.5
ARCES ARCESS Array B 57.75 341 P **P 10 44 39.0 -0.5**
A12A Yaak River Ran 57.79 51 ⇑P **P 10 44 40.3 0.0**
baz=58
YBH Yreka Blue Hor 57.98 62 P **P 10 44 41.6 -0.1**
comp=Z,1.1nm,0.7s,baz=318,slow=5.3,SNR=4.3
YBH Yreka Blue Hor 57.98 62 P **P 10 44 41.6 -0.1**
ABKAR Akbulak array 58.21 310 *eP* **P 10 44 42.0 -1.0**
comp=Z,1.3nm,0.4s
A13A Flathead Natio 58.45 51 ⇑P **P 10 44 45.0 +0.1**
baz=58
AKTO Aktyubinsk 58.51 312 P **P 10 44 44.5 -0.7**
comp=Z,1.0nm,0.4s,baz=79,slow=5.0,SNR=5.0
AKTO PcP **PcP 10 45 34.6 -0.5**
comp=Z,1.3nm,0.3s,baz=51,slow=4.0,SNR=4.4
AKTO Aktyubinsk 58.51 312 P **P 10 44 44.5 -0.7**
AKTO 10 45 34.6
AKTO Aktyubinsk 58.51 312 P **P 10 44 44.5 -0.7**
AKTO PcP **PcP 10 45 34.6 -0.5**

B13A Whitefish 58.76 51 ⇑P **P 10 44 47.4 +0.4**
baz=58,SNR=10
BSMT Bassoo Peak 58.90 52 *eP* **P 10 44 48.9 +0.8**
A14A Double T Ranch 58.95 50 ⇑P **P 10 44 48.2 -0.2**
baz=59,SNR=5.9
BLMT Blacktail Moun 59.03 51 *eP* **P 10 44 49.9 +0.9**
C13A Hot Springs 59.12 52 ⇑P **P 10 44 49.6 +0.2**
baz=59
JTMT Jette 59.23 52 *eP* **P 10 44 51.1 +0.7**
BMO Blue Mountains 59.30 56 *eP* **P 10 44 51.3 +0.5**
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO Blue Mountains 59.30 56 *eP* **P 10 44 51.3 +0.5**
comp=Z,3.2nm,0.9s
A15A Johnson Ranch, 59.31 50 ⇓P **P 10 44 50.4 -0.5**
baz=59,SNR=7.1
MOD Modoc 59.32 60 *eP* **P 10 44 51.9 +0.8**
comp=Z,2.6nm,0.8s
E12A Beaver Dam Sad 59.33 54 ⇓P **P 10 44 51.3 +0.2**
baz=59,SNR=7.8
B14A Marquette Ranc 59.40 51 ⇓P **P 10 44 51.5 -0.1**
baz=59
SWMT Swartz Lake 59.53 52 *eP* **P 10 44 52.9 +0.6**
D13A Huson 59.53 52 ⇑P **P 10 44 52.1 -0.2**
baz=59
B15A Bradely Ranch, 59.81 50 ⇑P **P 10 44 54.0 -0.3**
baz=60
F12A Elk City 59.90 54 ⇑P **P 10 44 55.3 +0.3**
baz=60
SLMT Seeley Lake 59.96 52 *eP* **P 10 44 55.8 +0.3**
MSO Missoula 59.97 52 *eP* **P 10 44 56.0 +0.6**
comp=Z,3.0nm,0.8s
MSO Missoula 59.97 52 ⇓P **P 10 44 55.6 +0.2**
baz=60,SNR=5.3
D14A Greenough 60.05 52 ⇑P **P 10 44 56.0 0.0**
baz=60,SNR=14
E13A Victor 60.07 53 ⇑P **P 10 44 56.5 +0.4**
baz=60
C15A Salmond Ranch, 60.11 51 ⇑P **P 10 44 56.9 +0.5**
baz=60,SNR=21
B16A M & M Farms, S 60.20 50 ⇑P **P 10 44 57.1 +0.2**
baz=60
CHMT Chamberlain Mo 60.29 52 *eP* **P 10 44 57.8 0.0**
A17A Triple J Farms 60.39 49 ⇑P **P 10 44 58.0 -0.3**
baz=60,SNR=6.1
F13A Darby 60.39 53 ⇓P **P 10 44 58.3 -0.1**
baz=60
E14A Clinton 60.47 53 ⇑P **P 10 44 58.9 0.0**
baz=60,SNR=6.4
C16A Fuhringer Ranc 60.55 50 ⇓P **P 10 44 59.7 +0.3**
baz=60,SNR=14
D15A Lincoln 60.61 51 ⇑P **P 10 44 59.8 -0.1**
baz=60
SUMG Summit 60.71 4 *eP* **P 10 45 00.0 -0.4**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 60.71 4 *eP* **P 10 45 00.0 -0.4**
comp=Z,23nm,0.9s
SUMG Summit 60.71 4 *i*P **P 10 45 00.1 -0.4**
comp=Z,18nm,0.9s
B17A L&G Farms, Che 60.75 50 ⇓P **P 10 45 00.7 0.0**
baz=60,SNR=8.3
A18A Metzger Ranch, 60.85 48 ⇑P **P 10 45 01.0 -0.3**
baz=61,SNR=6.9
H12A Diamond D Ranc 60.87 55 ⇓P **P 10 45 01.5 -0.2**
baz=61
G13A Cobalt 60.88 54 ⇓P **P 10 45 01.6 -0.1**
baz=61,SNR=7.4
FFC Flin Flon 60.91 40 *ceP* **P 10 45 01.8 +0.3**
FFC Flin Flon 60.91 40 *eP* **P 10 45 01.4 -0.2**
comp=Z,5.2nm,0.9s
F14A Wisdom 60.91 53 ⇓P **P 10 45 01.8 -0.2**
baz=61
E15A Deer Lodge 60.93 52 ⇓P **P 10 45 02.0 0.0**
baz=61,SNR=7.7
MFID Camas Ranch 61.02 56 ⇓P **P 10 45 02.6 0.0**
baz=61
D16A Dana Ranch, Ca 61.14 51 ⇓P **P 10 45 03.7 +0.3**
baz=61,SNR=10.0
I12A Atlanta 61.18 56 ⇓P **P 10 45 03.9 +0.2**
baz=61
C17A Wharram Farm, 61.18 50 ⇓P **P 10 45 03.6 0.0**
baz=61,SNR=13
H13A Challis 61.19 55 ⇑P **P 10 45 03.9 0.0**
baz=61,SNR=6.5
JOF Joensuu 61.20 334 *eP* **P 10 45 02.0 -1.4**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 61.20 334 *ep* **P 10 45 02.0 -1.4**
comp=Z,4.1nm,0.6s
G14A Jackson 61.21 54 ⇑P **P 10 45 03.7 -0.4**
baz=61
B18A Beardsley Farm 61.22 49 ⇑P **P 10 45 04.0 +0.2**
baz=61,SNR=7.0
F15A Butte 61.37 53 ⇓P **P 10 45 05.3 +0.2**
baz=61,SNR=8.9
E16A East Helena 61.38 52 ⇑P **P 10 45 05.2 +0.1**
baz=61
LRM Limekiln Ridge 61.41 53 *eP* **P 10 45 06.0 +0.6**
A19A Klindworth Far 61.41 48 ⇑P **P 10 45 05.3 +0.1**
baz=61,SNR=6.3
EGMT Eagleton 61.46 49 *eP* **P 10 45 05.6 +0.1**
comp=Z,9.9nm,1.0s
EGMT Eagleton 61.46 49 ⇑P **P 10 45 05.6 +0.1**
baz=61,SNR=6.4
D17A Six Diamond Ra 61.52 50 ⇓P **P 10 45 06.2 +0.2**
baz=61,SNR=5.7
B19A Brinkman Farms 61.61 48 ⇑P **P 10 45 06.8 +0.3**
baz=61,SNR=13
H14A Leadore 61.66 54 ⇓P **P 10 45 07.0 0.0**
baz=61
I13A Wildhorse Cree 61.68 55 ⇓P **P 10 45 07.6 +0.4**
baz=61,SNR=6.0
HLID Hailey 61.73 56 ⇓P **P 10 45 07.6 +0.1**
baz=62
G15A Dillon 61.80 53 ⇓P **P 10 45 08.2 +0.3**
baz=62,SNR=6.6
KBL Kabul 61.81 291 *eP* **P 10 45 07.8 -0.4**
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 61.81 291 *eP* **P 10 45 07.8 -0.4**
comp=Z,4.4nm,0.8s
A20A Cobblestone Ra 61.86 48 ⇓P **P 10 45 08.5 +0.4**
baz=62,SNR=10
E17A Martinsdale 61.87 51 ⇑P **P 10 45 09.1 +0.7**
baz=62,SNR=12
F16A Kennard Place, 61.88 52 ⇓P **P 10 45 08.6 +0.2**
baz=62,SNR=6.5
D18A Linhart Farms, 61.96 50 ⇓P **P 10 45 09.2 +0.3**
baz=62
J13A Cove Ranch, Pi 61.97 56 ⇓P **P 10 45 09.4 +0.3**
baz=62
C19A Stack Wire Ran 62.01 49 ⇑P **P 10 45 09.7 +0.5**
baz=62,SNR=9.6
I14A Mackay 62.04 55 ⇓P **P 10 45 10.1 +0.5**
baz=62,SNR=7.0
B20A Solberg Farm, 62.09 48 ⇓P **P 10 45 09.7 0.0**
baz=62,SNR=7.4
G16A Moss Hill, Enn 62.13 53 ⇑P **P 10 45 10.6 +0.4**
baz=62,SNR=14
A21A Bergtoll Ranch 62.29 47 ⇓P **P 10 45 11.5 +0.4**
baz=62,SNR=22
E18A Harlowton 62.30 51 ⇓P **P 10 45 11.5 +0.3**
baz=62
F17A Fitzpatrick Pl 62.33 52 ⇑P **P 10 45 11.8 +0.4**
baz=62
J14A Carey 62.39 55 ⇓P **P 10 45 12.8 +0.9**
baz=62
D19A Cripps Ranch, 62.46 50 ⇑P **P 10 45 12.6 +0.3**
baz=62
C20A Veseth Ranch, 62.57 49 ⇑P **P 10 45 13.4 +0.5**
baz=62,SNR=17
QLMT Earthquake Lak 62.59 53 *eP* **P 10 45 14.2 +0.9**
G17A Pierce Place, 62.65 52 ⇓P **P 10 45 14.3 +0.6**
baz=62
NVAR Mina Array Bea 62.67 62 P **P 10 45 14.3 +0.4**
comp=Z,1.9nm,0.6s,baz=295,slow=7.2,SNR=18
NVAR Mina Array Bea 62.67 62 P **P 10 45 14.3 +0.4**
H16A Russell Place, 62.77 53 ⇓P **P 10 45 14.9 +0.4**
baz=62,SNR=5.2
A22A Carney Farms, 62.80 47 ⇓P **P 10 45 14.6 +0.2**
baz=62,SNR=28
F18A Big Timber 62.83 51 ⇑P **P 10 45 15.3 +0.5**
baz=63
D20A Manuel Ranch, 62.90 49 ⇓P **P 10 45 15.6 +0.5**
baz=63
J15A Blackfoot 62.95 55 ⇑P **P 10 45 16.2 +0.6**
baz=63

C21A Desert Coulee 62.96 48 ⇓P **P 10 45 16.0 +0.5**
baz=63,SNR=6.8
E19A Rath Farm, Rou 62.97 50 ⇓P **P 10 45 16.0 +0.4**
baz=63
K14A Jones Ranch, D 63.08 56 ⇓P **P 10 45 17.0 +0.5**
baz=63
I16A Newdale 63.17 54 ⇑P **P 10 45 17.7 +0.5**
baz=63
B22A Reddig Ranch S 63.21 47 ⇑P **P 10 45 17.5 +0.3**
baz=63
F19A Roth Farm, Mol 63.28 51 ⇓P **P 10 45 18.3 +0.6**
baz=63
E20A Meyer Farm, Mu 63.28 50 ⇓P **P 10 45 18.1 +0.4**
baz=63
G18A Lazy EL Ranch, 63.29 52 ⇓P **P 10 45 18.0 +0.1**
baz=63
KAF Kangasniemi 63.31 335 *eP* **P 10 45 15.5 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 63.31 335 *ep* **P 10 45 15.5 -2.0**
comp=Z,4.1nm,0.5s
LKWY Lake 63.33 53 *eP* **P 10 45 20.5 +2.2**
LKWY pmax pmax
comp=Z,41nm,2.6s
LKWY Lake 63.33 53 *eP* **P 10 45 20.5 +2.2**
comp=Z,41nm,2.6s
A23A Redstone 63.33 46 ⇑P **P 10 45 18.1 +0.2**
baz=63
H17A Grant Village 63.34 53 ⇑P **P 10 45 20.0 +1.7**
baz=63
IMW Indian Meadow 63.46 53 *eP* **P 10 45 20.1 +0.9**
comp=Z,4.9nm,1.2s
J16A Bone 63.49 54 ⇓P **P 10 45 19.9 +0.6**
baz=63,SNR=6.7
D21A La Casta Ranch 63.51 49 ⇑P **P 10 45 19.5 +0.4**
baz=63,SNR=5.9
DCID1 Drake Creek 63.52 54 *eP* **P 10 45 20.9 +1.5**
comp=Z,8.9nm,1.2s
RLMT Red Lodge 63.58 52 *eP* **P 10 45 20.7 +0.8**
comp=Z,64nm,2.6s
RLMT *e*pP **pP 10 45 35.2 +0.8**
RLMT Red Lodge 63.58 52 ⇑P **P 10 45 20.3 +0.5**
baz=63,SNR=7.1
RRI2 Red Ridge 63.60 54 *eP* **P 10 45 21.2 +1.1**
comp=Z,8.4nm,0.8s
B23A Brockton 63.61 47 ⇑P **P 10 45 20.2 +0.4**
baz=63,SNR=5.1
C22A Vida 63.63 48 ⇓P **P 10 45 19.9 0.0**
baz=63
I17A Pilgrim Ck. 63.65 53 ⇑P **P 10 45 21.0 +0.6**
baz=63
H18A Shoshone NF, C 63.65 52 ⇑P **P 10 45 20.8 +0.4**
baz=63
MOOW Moose Ponds 63.66 53 *eP* **P 10 45 21.3 +0.9**
comp=Z,2.6nm,0.9s
TPAW Teton Pass 63.72 54 *eP* **P 10 45 22.3 +1.4**
comp=Z,4.6nm,0.8s
F20A Billings 63.73 50 ⇑P **P 10 45 20.5 -0.2**
baz=64
K16A Soda Springs 63.79 55 ⇓P **P 10 45 22.0 +0.7**
baz=64
A24A Westby 63.79 46 ⇓P **P 10 45 21.1 +0.2**
baz=64
LOHW Long Hollow 63.83 53 *eP* **P 10 45 22.8 +1.3**
comp=Z,22nm,2.2s
SNOW Snow King Moun 63.84 54 *eP* **P 10 45 23.2 +1.5**
comp=Z,4.8nm,1.0s
REDW Red Top Meadow 63.85 54 *eP* **P 10 45 22.9 +1.2**
comp=Z,4.0nm,0.8s
L15A Malad City 63.87 56 ⇑P **P 10 45 22.1 +0.3**
baz=64
D22A Cohagen 63.87 48 ⇓P **P 10 45 21.7 +0.2**
baz=64
FINES FINESS Array B 63.91 335 P **P 10 45 20.5 -0.9**
comp=Z,13nm,0.4s,baz=33,slow=7.6,SNR=147
FINES FINESS Array B 63.91 335 P **P 10 45 20.5 -0.9**
J17A Brown Place, J 63.93 54 ⇓P **P 10 45 23.1 +0.9**
baz=64,SNR=6.1
DGMT Dagmar 64.00 46 *eP* **P 10 45 22.8 +0.4**
comp=Z,16nm,0.6s
DGMT Dagmar 64.00 46 ⇓P **P 10 45 22.2 -0.1**
baz=64,SNR=5.8
H19A Powell 64.02 52 ⇓P **P 10 45 23.2 +0.5**
baz=64
G20A Bridger 64.08 51 ⇓P **P 10 45 23.1 0.0**
baz=64
GRAC Grapevine Rang 64.15 63 ⇓P **P 10 45 24.3 +0.7**
baz=64
M15A Larsen Ranch, 64.19 56 ⇓P **P 10 45 24.2 +0.4**
baz=64,SNR=6.2
I18A Diamond G Ranc 64.20 53 ⇓P **P 10 45 24.3 +0.2**
baz=64
F21A Absaloka Mine, 64.26 50 ⇓P **P 10 45 24.2 +0.1**
baz=64
ISA Isabella 64.33 65 ⇑P **P 10 45 23.9 -0.9**
baz=64
D23A Lindsay 64.36 48 ⇓P **P 10 45 24.9 +0.2**
baz=64
R11A Troy Canyon, C 64.36 61 ⇓P **P 10 45 25.3 +0.3**
baz=64
L16A Fish Haven 64.41 55 ⇓P **P 10 45 25.7 +0.4**
baz=64
J18A Kendall Valley 64.41 54 ⇑P **P 10 45 25.7 +0.3**
baz=64
I19A Meeteetse 64.44 52 ⇑P **P 10 45 25.8 +0.3**
baz=64
E22A Miles City 64.46 49 ⇑P **P 10 45 25.7 +0.3**
baz=64,SNR=6.0
HWUT Hardware Ranch 64.60 56 *eP* **P 10 45 26.9 +0.4**
comp=Z,60nm,2.9s
L17A Cokeville 64.67 55 ⇑P **P 10 45 26.7 -0.4**
baz=64
MPMC Manual Prospec 64.69 64 ⇓P **P 10 45 27.6 +0.3**
baz=64
F22A Rosebud 64.74 49 ⇓P **P 10 45 27.5 +0.3**
baz=64,SNR=7.3
K18A Toltan Ranch, 64.78 54 ⇑P **P 10 45 28.3 +0.5**
baz=64,SNR=5.0
DUG Dugway 64.80 58 *eP* **P 10 45 28.7 +0.8**
DUG pmax pmax
comp=Z,11nm,1.6s
DUG Dugway 64.80 58 *eP* **P 10 45 28.6 +0.8**
comp=Z,11nm,1.6s
DUG Dugway 64.80 58 ⇓P **P 10 45 28.4 +0.5**
baz=65
FURC Furnace Creek, 64.81 63 ⇓P **P 10 45 28.3 +0.6**
baz=65,SNR=5.1
D24A Glendive 64.84 47 ⇓P **P 10 45 28.2 +0.3**
baz=65,SNR=11
J19A Crowheart 64.91 53 ⇓P **P 10 45 28.5 0.0**
baz=65
BW06 Boulder Array 64.96 54 *eP* **P 10 45 29.3 +0.3**
comp=Z,3.7nm,0.8s
BW06 Boulder Array 64.96 54 ⇑P **P 10 45 28.9 0.0**
baz=65,SNR=7.7
PDAR Pinedale Array 64.96 54 P **P 10 45 28.8 -0.2**
comp=Z,3.6nm,0.8s,baz=294,slow=1.7,SNR=30
PDAR Pinedale Array 64.96 54 P **P 10 45 28.8 -0.2**
H21A Big Horn, Sher 65.09 51 ⇑P **P 10 45 29.8 +0.2**
baz=65,SNR=9.9
EDW2 Edwards Air Fo 65.14 65 ⇓P **P 10 45 29.9 -0.2**
baz=65
E24A Baker 65.22 48 ⇓P **P 10 45 30.4 0.0**
baz=65
F23A Volborg 65.22 49 ⇑P **P 10 45 30.5 +0.1**
baz=65,SNR=9.0
L18A Fontenelle, Gr 65.25 55 ⇑P **P 10 45 30.8 0.0**
baz=65
K19A Absolon Red Bu 65.31 53 ⇓P **P 10 45 30.8 -0.4**
baz=65
J20A Shoshoni 65.38 52 ⇑P **P 10 45 31.7 +0.2**
baz=65,SNR=5.6
N17A Moffit Pass 65.45 56 ⇓P **P 10 45 32.4 +0.2**
baz=65,SNR=5.9
H22A Clearmont 65.48 50 ⇑P **P 10 45 32.1 -0.1**
baz=65
I21A Big Trails, Te 65.50 52 ⇓P **P 10 45 32.5 +0.2**
baz=65,SNR=6.2
L19A Farson 65.51 54 ⇑P **P 10 45 32.8 +0.3**
baz=65
G23A Biddle 65.58 49 ⇓P **P 10 45 32.9 +0.1**
baz=65
GSC Goldstone 65.60 64 ⇑P **P 10 45 33.0 -0.1**
baz=65
F24A Ekalaka 65.64 48 ⇑P **P 10 45 33.0 -0.1**
baz=65,SNR=7.2
K20A Yellowstone Ra 65.70 53 ⇓P **P 10 45 33.3 -0.4**
baz=66

J21A **Lysite** 65.73 52 ⇑P P 10 45 33.9 0.0
baz=66
I22A **9 Mile Ranch,** 65.89 51 ⇑P P 10 45 34.7 -0.1
baz=66
G24A **Alzada** 66.00 49 ⇑P P 10 45 34.9 -0.6
baz=66
TUQ **Turquoise Moun** 66.06 63 ⇑P P 10 45 36.2 +0.2
baz=66
N18A **Larsen Ranch,** 66.08 55 ⇓P P 10 45 36.0 -0.2
baz=66
L20A **Wamsutter** 66.14 54 ⇑P P 10 45 36.6 +0.1
baz=66
HEC **Hector,Ludlow** 66.21 64 ⇓P P 10 45 37.0 +0.1
baz=66
J22A **Midwest** 66.21 51 ⇑P P 10 45 36.8 -0.1
baz=66
CCUT **Cedar City** 66.21 60 *e*P P 10 45 37.5 +0.4
comp=Z,16nm,2.1s
K21A **Alcova** 66.32 53 ⇓P P 10 45 37.3 -0.4
baz=66,SNR=7.3
H24A **Dirks Ranch, A** 66.33 49 ⇓P P 10 45 37.2 -0.4
baz=66,SNR=7.9
O18A **Roosevelt** 66.37 56 ⇑P P 10 45 37.9 -0.1
baz=66
N19A **John Jarvie Ra** 66.42 55 ⇑P P 10 45 37.8 -0.5
baz=66
M20A **Sweetwater, Wa** 66.57 54 ⇓P P 10 45 39.1 -0.3
baz=66
Q16A **Castle Valley** 66.60 58 ⇑P P 10 45 39.6 +0.1
baz=66
GMRC **Granite Mounta** 66.65 64 ⇑P P 10 45 40.0 +0.2
baz=66
MDND **Maddock** 66.67 44 ⇓P P 10 45 39.5 -0.1
baz=66
ULM **Lac du Bonnet** 66.69 41 P P 10 45 38.8 -0.9
comp=Z,3.1nm,0.7s,baz=300,slow=5.6,SNR=6.9
ULM **Lac du Bonnet** 66.69 41 P P 10 45 38.8 -0.9
K22A **Casper** 66.70 52 ⇑P P 10 45 40.2 +0.1
baz=66
L21A **Rawlins** 66.70 53 ⇑P P 10 45 39.7 -0.4
baz=66
SRU **San Rafael** 66.84 57 *e*P P 10 45 41.1 0.0
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU **San Rafael** 66.84 57 *e*P P 10 45 41.0 0.0
comp=Z,5.1nm,0.8s
SRU **San Rafael** 66.84 57 ⇑P P 10 45 40.9 -0.1
baz=67
M21A **Separation Pea** 66.95 53 ⇑P P 10 45 41.5 -0.3
baz=67
N20A **Spence Gulch,** 66.97 55 ⇑P P 10 45 42.0 +0.1
baz=67
RSSD **Black Hills** 67.03 50 *e*P P 10 45 41.8 -0.4
RSSD pmax pmax
comp=Z,5.0nm,0.5s
RSSD **Black Hills** 67.03 50 *e*P P 10 45 41.8 -0.4
comp=Z,5.3nm,0.5s
L22A **Ellis Ranch, M** 67.17 53 ⇑P P 10 45 43.2 +0.1
baz=67
P19A **Cripple Cowboy** 67.38 56 ⇑P P 10 45 44.5 0.0
baz=67
O20A **White River Ci** 67.45 55 ⇑P P 10 45 45.1 +0.2
baz=67
M22A **Cedar Creek Ra** 67.51 53 ⇓P P 10 45 44.8 -0.5
baz=67
L23A **Garrett** 67.51 52 ⇓P P 10 45 44.8 -0.5
baz=67
U15A **North Rim** 67.60 60 ⇓P P 10 45 45.7 -0.3
baz=67
Q19A **Hogan Spring (** 67.67 57 ⇓P P 10 45 46.2 -0.1
baz=67,SNR=7.3
N22A **Wattenberg Ran** 68.00 54 ⇑P P 10 45 48.3 -0.1
baz=68
S18A **Hurst Farm, Bl** 68.11 58 ⇓P P 10 45 49.0 -0.1
baz=68
NB2 **NORSAR Subarra** 68.13 341 P P 10 45 47.7 -0.9
baz=27,slow=6.5
NB2 **NORSAR Subarra** 68.13 341 P P 10 45 47.7 -0.9
comp=Z,12nm,0.6s,baz=27,slow=6.5
NOA **NORSAR Array B** 68.13 341 P P 10 45 47.8 -0.9
comp=Z,8.7nm,0.5s,baz=28,slow=6.3,SNR=48
NOA **NORSAR Array B** 68.13 341 P P 10 45 47.8 -0.9
N23A **Red Feather La** 68.22 53 ⇓P P 10 45 49.8 0.0
baz=68
P21A **Newcastle** 68.32 55 ⇓P P 10 45 50.7 +0.3
baz=68
HFS **Hagfors** 68.35 339 LR LR 11 18 17.2
comp=Z,65nm,18.7s,baz=70,slow=38
WRAB **Tennant Creek** 68.42 199 *e*P P 10 45 50.7 -0.1
WRAB *e**PP pP 10 46 06.2 +0.8
WRAB pmax pmax
comp=Z,4.0nm,0.9s
WRAB **Tennant Creek** 68.42 199 *e*P P 10 45 50.7 -0.1
comp=Z,4.1nm,0.9s
WRAB *e*pP pP 10 46 06.2 +0.8
M24A **Cheyenne** 68.43 52 ⇓P P 10 45 51.0 -0.1
baz=68
WRA **Warramunga Arr** 68.44 199 P P 10 45 50.7 -0.1
comp=Z,1.7nm,0.5s,baz=17,slow=6.9,SNR=39
WRA **Warramunga Arr** 68.44 199 P P 10 45 50.8 -0.1
PV01 **Paradox Valley** 68.63 57 *e*P P 10 45 52.8 +0.4
P22A **Eagle** 68.66 55 ⇓P P 10 45 52.6 +0.1
baz=68
R20A **Redvale** 68.70 57 ⇑P P 10 45 53.2 +0.4
baz=68
O23A **Lake Granby, G** 68.70 54 ⇓P P 10 45 53.1 +0.3
baz=68,SNR=5.1
Q21A **Lamborn Mesa,** 68.72 56 ⇓P P 10 45 52.9 0.0
baz=68
SMCO **Snowmass** 68.82 55 *e*P P 10 45 53.8 0.0
comp=Z,2.8nm,0.8s
S20A **Disappointment** 68.96 57 ⇑P P 10 45 54.5 0.0
baz=69
FITZ **Fitzroy Crossi** 69.03 208 P P 10 45 54.8 +0.3
comp=Z,4.9nm,0.9s,baz=21,slow=8.5,SNR=9.3
FITZ **Fitzroy Crossi** 69.03 208 P P 10 45 54.8 +0.3
R21A **Cimarron** 69.05 56 ⇑P P 10 45 54.8 -0.2
baz=69
Q22A **Crested Butte,** 69.08 55 ⇓P P 10 45 55.3 +0.1
baz=69
ISCO **Idaho Springs** 69.16 54 *e*P P 10 45 55.9 +0.2
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO **Idaho Springs** 69.16 54 *e*P P 10 45 55.9 +0.2
comp=Z,3.0nm,0.8s
ISCO **Idaho Springs** 69.16 54 ⇑P P 10 45 55.6 -0.1
baz=69,SNR=5.5
MVCO **Mesa Verde** 69.30 58 ⇓P P 10 45 56.4 -0.1
baz=69
S21A **Coal Bank Pass** 69.40 57 ⇓P P 10 45 57.2 -0.1
baz=69
X16A **Lo Mia Camp, P** 69.47 61 ⇑P P 10 45 57.5 -0.1
baz=69
R22A **Saguache, Gunn** 69.60 56 ⇓P P 10 45 58.2 -0.3
baz=69
S22A **4UR Ranch, Cre** 69.89 56 ⇑P P 10 46 00.7 +0.4
baz=70,SNR=5.7
N27A **Anderson Farm,** 70.13 51 ⇑P P 10 46 01.6 +0.2
baz=70
EYMN **Ely** 70.34 40 *e*P P 10 46 01.8 -0.7
comp=Z,4.9nm,1.0s
Q25A **Bedland, Calha** 70.53 54 ⇓P P 10 46 04.4 +0.3
baz=70
KBZ **Khabaz** 70.65 314 P P 10 46 04.4 0.0
comp=Z,2.2nm,0.5s,baz=45,slow=2.0,SNR=7.3
KBZ LR LR 11 22 46.9
comp=Z,87nm,18.5s,baz=248,slow=41
KBZ **Khabaz** 70.65 314 P P 10 46 04.4 0.0
KBZ **Khabaz** 70.65 314 P P 10 46 04.4 0.0
W20A **Ramah** 70.74 59 ⇓P P 10 46 05.4 0.0
baz=70
S24A **Houchin Ranch,** 70.88 55 ⇑P P 10 46 06.1 -0.3
baz=71
Q26A **Hugo** 70.93 53 ⇓P P 10 46 06.1 -0.3
baz=71
R25A **Fountain Ranch** 71.05 54 ⇑P P 10 46 06.7 -0.4
baz=71
ECSD **EROS Data Cent** 71.07 46 *e*P P 10 46 06.1 -0.9
comp=Z,5.6nm,0.7s
V22A **San Miguel Ran** 71.12 58 ⇓P P 10 46 08.5 +0.8
baz=71
X20A **Quemado** 71.14 60 ⇓P P 10 46 08.2 +0.3
baz=71
U23A **El Rito** 71.25 57 ⇑P P 10 46 08.7 +0.2
baz=71,SNR=6.0
S25A **Robets Cordova** 71.31 55 ⇓P P 10 46 08.8 0.0
baz=71
T24A **Torres, Weston** 71.37 56 ⇓P P 10 46 09.4 +0.1
baz=71
AKASG **Malin Array Be** 71.38 326 P P 10 46 07.6 -1.1
comp=Z,10nm,0.3s,baz=34,slow=6.2,SNR=42
AKASG LR LR 11 19 30.2
comp=Z,64nm,19.0s,baz=230,slow=38
AKASG **Malin Array Be** 71.38 326 P P 10 46 07.6 -1.1
AKASG **Malin Array Be** 71.38 326 P P 10 46 07.6 -1.1
KIEV **Kiev** 71.39 326 *e*P P 10 46 07.8 -1.0
KIEV pmax pmax
comp=Z,17nm,0.6s
KIEV **Kiev** 71.39 326 *e*P P 10 46 07.8 -1.0
comp=Z,17nm,0.6s
AK01 **Malin Array Si** 71.39 326 *e*P P 10 46 07.7 -1.0
R26A **Arlington** 71.41 54 ⇑P P 10 46 09.4 +0.1
baz=71
AK02 **Malin Array Si** 71.42 326 *e*P P 10 46 07.8 -1.1
X21A **Alamocita Cree** 71.63 59 ⇓P P 10 46 11.0 +0.1
baz=71
V23A **Ortiz Mt. (NFS** 71.66 57 ⇑P P 10 46 11.0 +0.1
baz=71
T25A **Trinidad** 71.69 55 ⇑P P 10 46 11.0 -0.1
baz=72
R27A **Eads** 71.78 53 ⇑P P 10 46 11.2 -0.2
baz=72
SPMN **St. Paul** 71.79 43 ⇑P P 10 46 10.7 -0.6
baz=72
S26A **Kim** 71.88 54 ⇑P P 10 46 11.7 -0.4
baz=72
T26A **Comanche Natio** 72.12 55 ⇓P P 10 46 13.4 -0.3
baz=72
AS31 **Alice Springs** 72.13 198 *e*P P 10 46 14.5 +1.0
ASAR **Alice Springs** 72.13 198 P P 10 46 14.2 +0.8
comp=Z,3.6nm,0.6s,baz=13,slow=5.4,SNR=75
ASAR **Alice Springs** 72.13 198 P P 10 46 14.2 +0.8
U25A **Circle Dot Ran** 72.22 56 ⇑P P 10 46 14.5 +0.3
baz=72
W24A **Lazy 6 Ranch,** 72.48 57 ⇑P P 10 46 16.0 +0.1
baz=72
V25A **Rancho No Teng** 72.50 56 ⇑P P 10 46 16.0 +0.1
baz=72
Z21A **St. Cloud Mine** 72.50 60 ⇑P P 10 46 15.7 -0.3
baz=72
319A **Douglas** 72.88 62 ⇓P P 10 46 18.6 +0.4
baz=73
X24A **Lazy VL Ranch,** 72.93 58 ⇑P P 10 46 19.2 +0.7
baz=73
220A **Playas Peak, P** 72.97 62 ⇓P P 10 46 19.3 +0.5
baz=73
121A **Cookes Peak, D** 72.97 61 ⇓P P 10 46 19.1 +0.3
baz=73
V26A **Tequesquite Ra** 73.00 56 ⇑P P 10 46 18.3 -0.5
baz=73
Y23A **Lovelace Mesa,** 73.01 59 ⇑P P 10 46 19.2 +0.2
baz=73
W25A **X Bar L Ranch,** 73.03 57 ⇑P P 10 46 19.2 +0.2
baz=73
Y24A **Capitan** 73.38 58 ⇓P P 10 46 21.4 +0.2
baz=73
SCHQ **Schefferville** 73.40 23 P P 10 46 20.0 -0.7
comp=Z,1.6nm,0.5s,baz=339,slow=6.5,SNR=8.7
SCHQ **Schefferville** 73.40 23 P P 10 46 20.0 -0.7
Y25A **Mesa, Roswell** 73.81 58 ⇑P P 10 46 23.2 -0.4
baz=74
SCIA **State Center** 74.10 45 *e*P P 10 46 24.9 -0.1
comp=Z,22nm,0.6s
Z25A **Roswell** 74.26 58 ⇓P P 10 46 26.9 +0.6
baz=74
KWP **Kalwaria Pacla** 74.67 329 *e*P P 10 46 28.3 +0.1
KWP **Kalwaria Pacla** 74.67 329 *e*P P 10 46 28.3 +0.1
Z26A **Caprock** 74.69 58 ⇑P P 10 46 28.7 0.0
baz=74
BSEG **Bad Segeberg** 74.72 338 *e*P P 10 46 28.5 +0.2
BSEG pmax pmax
comp=Z,8.0nm,0.4s
BSEG **Bad Segeberg** 74.72 338 *e*P P 10 46 28.5 +0.2
comp=Z,8.0nm,0.4s
Y27A **Causey** 74.72 57 ⇑P P 10 46 28.8 -0.1
baz=74
125A **Gardner Draw,** 74.74 59 ⇑P P 10 46 29.0 0.0
baz=74
AMTX **Amarillo** 74.85 55 *e*P P 10 46 29.6 +0.1
comp=Z,7.1nm,0.8s
AMTX **Amarillo** 74.85 55 ⇓P P 10 46 29.8 +0.2
baz=75
MNTX **Cornudas Mount** 75.00 60 ⇓P P 10 46 30.4 0.0
baz=75
X29A **Tulia** 75.15 55 ⇑P P 10 46 31.3 -0.1
baz=75
OJC **Ojcow** 75.18 331 *e*P P 10 46 30.6 -0.5
OJC **Ojcow** 75.18 331 *e*P P 10 46 29.9 -1.2
comp=Z,14nm,1.1s
OJC **Ojcow** 75.18 331 *e*P P 10 46 30.6 -0.5
BUR08 **Bucovina Ar. S** 75.41 326 *e*P P 10 46 32.2 -0.4
KOLS **Kolonicke sedl** 75.41 329 *e*P P 10 46 32.1 -0.4
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS **Kolonicke sedl** 75.41 329 *e*P P 10 46 32.0 -0.4
BURAR **Bucovina Array** 75.43 326 ⇑*i*P P 10 46 32.6 -0.1
NIE **Niedzica** 75.69 330 *e*P P 10 46 34.3 +0.2
NIE **Niedzica** 75.69 330 *e*P P 10 46 34.3 +0.2
CRVS **Cervenica-Dubn** 75.73 329 *e*P P 10 46 34.1 -0.2
CRVS pmax pmax
comp=Z,4.0nm,0.6s
CRVS **Cervenica-Dubn** 75.73 329 *e*P P 10 46 34.1 -0.2
TESR 75.78 325 ⇓*i*P P 10 46 34.4 -0.2
TLCR 75.98 323 ⇓P P 10 46 35.6 -0.1
TLCR 75.98 323 ⇓*i*P P 10 46 35.6 -0.1
TRPA **Tarpa** 75.99 328 ⇓*i*P P 10 46 35.5 -0.2
Z29A **Hungry Hill Ra** 76.01 56 ⇓P P 10 46 36.1 -0.2
baz=76
Y30A **Stafford Cattl** 76.02 55 ⇓P P 10 46 35.9 -0.4
baz=76
128A **Castleberry Fa** 76.03 57 ⇑P P 10 46 36.0 -0.4
baz=76
326A **Caldwell Ranch** 76.10 59 ⇑P P 10 46 36.7 -0.1
baz=76
UPC **Upice** 76.15 333 *e*P P 10 46 36.4 -0.2
UPC **Upice** 76.15 333 *e*P P 10 46 36.4 -0.2
DPC **Dobruska-Polom** 76.19 333 *e*P P 10 46 37.0 +0.1
DPC **Dobruska-Polom** 76.19 333 *e*P P 10 46 37.1 +0.1
DPC **Dobruska-Polom** 76.19 333 *e*P P 10 46 37.1 +0.2
DPC **Dobruska-Polom** 76.19 333 *e*P P 10 46 37.0 +0.2
VRI **Vrincioaia** 76.28 324 ⇑P P 10 46 37.8 +0.3
VRI **Vrincioaia** 76.28 324 ⇑*i*P P 10 46 37.8 +0.3
KRLC **Kraliky** 76.28 333 *e*P P 10 46 36.8 -0.7
MORC **Moravsky Berou** 76.30 332 *e*P P 10 46 37.6 0.0
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC **Moravsky Berou** 76.30 332 *e*P P 10 46 37.5 0.0
comp=Z,7.8nm,0.8s
MORC **Moravsky Berou** 76.30 332 ⇓*i*P P 10 46 37.5 0.0
Z30A **Sanderson Ranc** 76.32 56 ⇑P P 10 46 37.6 -0.4
baz=76
CLL **Collm** 76.34 335 ⇓*i*P P 10 46 36.8 -0.9
CLL pmax pmax
comp=Z,47nm,1.0s
CLL **Collm** 76.34 335 *e*P P 10 46 37.2 -0.5
comp=Z,13nm,1.0s
CLL **Collm** 76.34 335 ⇓*i*P P 10 46 36.8 -0.9
comp=Z,13nm,1.0s
129A **Stewart Farms,** 76.38 57 ⇓P P 10 46 37.7 -0.7
baz=76
BRG **Berggiesshubel** 76.45 335 *e*P P 10 46 30.8 -7.6
comp=Z,4.6nm,0.9s
BRG **Berggiesshubel** 76.45 335 *e*P P 10 46 30.8 -7.6
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLZ **Clausthal** 76.59 337 *e*P P 10 46 39.4 +0.2
CLZ pmax pmax
comp=Z,8.0nm,0.8s
CLZ **Clausthal** 76.59 337 *e*P P 10 46 39.3 +0.1
comp=Z,8.0nm,0.8s
328A **Wristen Ranch,** 76.74 58 ⇑P P 10 46 40.3 -0.1
baz=76
427A **Hayter Ranch,** 76.78 59 ⇑P P 10 46 40.4 -0.3
baz=77
MLR **Muntele Rosu** 76.90 325 P P 10 46 41.3 +0.2
comp=Z,2.3nm,0.7s,baz=178,slow=4.4,SNR=19
MLR **Muntele Rosu** 76.90 325 P P 10 46 41.3 +0.2
MLR **Muntele Rosu** 76.90 325 ⇑*i*P P 10 46 41.3 +0.2
229A **Bryant Ranch,** 76.90 57 ⇑P P 10 46 41.1 -0.1
baz=77
MALT **Malatya** 76.94 313 *e*P P 10 46 42.9 +1.4
MALT pmax pmax
comp=Z,6.0nm,0.8s
MALT **Malatya** 76.94 313 *e*P P 10 46 42.9 +1.4
comp=Z,5.9nm,0.8s
MALT **Malatya** 76.94 313 ⇓*i*P P 10 46 42.9 +1.4
526A **Mary Lane Ranc** 76.95 60 ⇑P P 10 46 41.7 0.0
baz=77
ISR **Istrita** 76.96 324 ⇓P P 10 46 41.8 +0.4
ISR **Istrita** 76.96 324 ⇓*i*P P 10 46 41.8 +0.4
VYHS **Vyhne** 76.98 331 *e*P P 10 46 41.3 -0.1
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS **Vyhne** 76.98 331 *e*P P 10 46 41.3 -0.1
VRAC **Vranov** 77.01 332 LR LR 11 23 53.4
comp=Z,59nm,20.1s,baz=166,slow=38
VRAC **Vranov** 77.01 332 ⇑*i*P P 10 46 41.4 -0.1
DRGR 77.06 327 ⇓P P 10 46 41.8 -0.1
DRGR 77.06 327 ⇓*i*P P 10 46 41.8 -0.1
PRU **Pruhonice** 77.06 334 *e*P P 10 46 40.7 -1.0
PRU **Pruhonice** 77.06 334 *e*P P 10 46 40.7 -1.0
329A **Wagon Wheel Ra** 77.15 58 ⇓P P 10 46 42.7 0.0
baz=77
626A **Big Bend Ranch** 77.29 60 ⇑P P 10 46 43.6 +0.1
baz=77
TANN **Tannenbergstha** 77.29 335 *e*P P 10 46 43.0 -0.2
comp=Z,28nm,2.1s
428A **Kincaid Ranch,** 77.29 59 ⇓P P 10 46 43.3 -0.3
baz=77
VOIR 77.29 325 ⇓P P 10 46 43.6 +0.3
VOIR 77.29 325 ⇓*i*P P 10 46 43.6 +0.3
TUL1 **Tulsa** 77.32 51 ⇓P P 10 46 43.4 -0.1
baz=77
MOX **Moxa** 77.33 336 *e*P P 10 46 43.1 -0.2
MOX pmax pmax
comp=Z,5.0nm,1.0s
MOX **Moxa** 77.33 336 *e*P P 10 46 43.1 -0.2
comp=Z,5.0nm,1.0s
ARR **Arges** 77.52 325 ⇑*i*P P 10 46 45.8 +1.3
ABTX **Abilene, Hawle** 77.65 55 ⇑P P 10 46 45.3 -0.1
baz=77
330A **Mertzon** 77.67 57 ⇑P P 10 46 45.3 -0.3
baz=77
TXAR **Lajitas Array** 77.72 60 P P 10 46 45.9 -0.1
comp=Z,1.2nm,0.4s,baz=299,slow=4.8,SNR=52
TXAR **Lajitas Array** 77.72 60 P P 10 46 45.9 -0.1
231A **Bronte** 77.78 56 ⇓P P 10 46 46.0 -0.1
baz=78
627A **Terlingua Ranc** 77.81 60 ⇓P P 10 46 46.4 -0.1
baz=78
429A **Davenport Ranc** 77.83 58 ⇑P P 10 46 45.9 -0.6
baz=78
ROTZ **Rotzenmuhle** 77.94 335 *e*P P 10 46 47.0 +0.3
comp=Z,7.0nm,0.9s
529A **Stev Forest Ra** 78.01 59 ⇑P P 10 46 46.9 -0.6
baz=78
628A **Black Gap, Mar** 78.08 60 ⇑P P 10 46 48.0 +0.2
baz=78
KHC **Kasperske Hory** 78.11 334 *e*P P 10 46 47.6 -0.1
KHC **Kasperske Hory** 78.11 334 *e*P P 10 46 47.8 +0.1
comp=Z,8.0nm,0.9s
KHC **Kasperske Hory** 78.11 334 *e*P P 10 46 47.6 -0.1
331A **San Angelo** 78.18 57 ⇓P P 10 46 48.3 -0.1
baz=78
BR131 **Keskin Array S** 78.19 316 *e*P P 10 46 48.9 +0.4
comp=Z,7.7nm,0.7s
BRTR **Keskin Array B** 78.19 316 P P 10 46 48.2 -0.3
comp=Z,4.0nm,0.8s,baz=35,slow=5.5,SNR=14
BRTR **Keskin Array B** 78.19 316 P P 10 46 48.2 -0.3
SFIN **Scholer Farm** 78.20 42 ⇑P P 10 46 47.4 -0.8
baz=78
GRF **Grafenberg Arr** 78.30 336 *e*P P 10 46 48.9 +0.2
GRF pmax pmax
comp=Z,19nm,1.0s
GRF **Grafenberg Arr** 78.30 336 *e*P P 10 46 48.9 +0.2
comp=Z,19nm,1.0s
WET **Wettzell** 78.31 334 *e*P P 10 46 49.0 +0.2
WET pmax pmax
comp=Z,9.0nm,1.1s
WET **Wettzell** 78.31 334 *e*P P 10 46 49.0 +0.2
comp=Z,9.0nm,1.1s
GERES **GERESS Array B** 78.32 334 P P 10 46 48.3 -0.6
comp=Z,2.2nm,0.7s,baz=29,slow=6.1,SNR=11
GERES **GERESS Array B** 78.32 334 P P 10 46 48.3 -0.6
MIB **Mutribah** 78.42 301 *e*P P 10 46 49.6 -0.1
MIB AMb AMB 10 46 50.7
comp=Z,75nm,0.9s
BZS **Buzias** 78.45 327 ⇑P P 10 46 49.6 0.0
BZS **Buzias** 78.45 327 ⇑*i*P P 10 46 49.6 0.0
CONA **Conrad Observa** 78.46 332 ⇓*i*P P 10 46 49.3 -0.4
CONA **Conrad Observa** 78.46 332 ⇓*i*P P 10 46 49.3 -0.4
comp=Z,13nm,1.2s
530A **J-C Ranch, Com** 78.50 58 ⇑P P 10 46 50.2 -0.1
baz=78
332A **Millersview** 78.52 56 ⇓P P 10 46 50.3 +0.1
baz=78
431A **Sonora** 78.54 57 ⇑P P 10 46 50.1 -0.3
baz=78
TNS **Taunus Mts** 78.57 337 *e*P P 10 46 50.2 -0.1
TNS pmax pmax
comp=Z,6.0nm,0.8s
TNS **Taunus Mts** 78.57 337 *e*P P 10 46 50.2 -0.1
comp=Z,6.0nm,0.8s
QRN **Al-Qurain** 78.86 300 *e*P P 10 46 51.7 -0.4
QRN AMb AMB 10 46 53.2
comp=Z,39nm,0.7s
432A **Menard** 78.86 57 ⇑P P 10 46 52.2 +0.1
baz=79
NAY **Al-Naaiem** 78.89 301 *e*P P 10 46 51.7 -0.5
NAY AMb AMB 10 46 53.2
comp=Z,24nm,1.1s
RDF **Al-Radifah** 78.94 300 *e*P P 10 46 52.3 -0.3
RDF AMb AMB 10 46 54.5
comp=Z,64nm,1.2s
531A **Rocksprings** 78.95 58 ⇓P P 10 46 52.3 -0.4
baz=79
532A **Rocksprings** 79.35 57 ⇑P P 10 46 54.1 -0.8
baz=79
WHTX **Lake Whitney** 79.36 54 ⇑P P 10 46 54.7 0.0
baz=79
631A **Perdido Creek** 79.49 58 ⇑P P 10 46 55.8 +0.2
baz=79
RJOB **Jochberg** 79.59 334 *e*P P 10 46 56.1 +0.2
comp=Z,6.0nm,0.9s
SOKA **Soboth** 79.83 332 ⇑*i*P P 10 46 56.8 -0.4
SOKA **Soboth** 79.83 332 ⇑*i*P P 10 46 56.8 -0.4
comp=Z,13nm,1.1s
PARMO **Parma** 79.85 46 *e*P P 10 46 57.8 +0.4
632A **Uvalde** 79.88 58 ⇓P P 10 46 57.7 0.0
baz=80
KBA **Koelnbreinsper** 80.00 333 ⇑*i*P P 10 46 58.3 0.0
KBA **Koelnbreinsper** 80.00 333 ⇑*i*P P 10 46 58.3 0.0
KBA **Koelnbreinsper** 80.00 333 ⇑*i*P P 10 46 58.3 0.0
comp=Z,14nm,0.8s
BFO **Black Forest** 80.33 337 *e*P P 10 46 59.6 -0.3
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO **Black Forest** 80.33 337 *e*P P 10 46 59.6 -0.3
comp=Z,7.0nm,0.9s
BFO **Black Forest** 80.33 337 *e*P P 10 46 59.5 -0.3
comp=Z,8.3nm,1.0s
732A **Laxson Ranch,** 80.35 58 ⇑P P 10 47 00.3 0.0
baz=80
WTTA **Wattenberg** 80.36 334 ⇑*i*P P 10 47 00.2 0.0
WTTA **Wattenberg** 80.36 334 ⇑*i*P P 10 47 00.2 0.0
WTTA **Wattenberg** 80.36 334 ⇑*i*P P 10 47 00.2 0.0
comp=Z,15nm,0.8s
VTS **Vitosha** 80.40 325 ⇑P P 10 47 01.0 +0.5
VTS **Vitosha** 80.40 325 ⇑*i*P P 10 47 01.0 +0.5
MOTA **Moosalm** 80.44 335 ⇓*i*P P 10 47 00.6 0.0
MOTA **Moosalm** 80.44 335 ⇓*i*P P 10 47 00.6 0.0
MOTA **Moosalm** 80.44 335 ⇓*i*P P 10 47 00.6 0.0
comp=Z,11nm,0.9s
CDF **Champ du Feu** 80.54 337 *e*P P 10 47 00.6 -0.4
comp=Z,23nm,1.0s
CDF **Champ du Feu** 80.54 337 *e*P P 10 47 00.6 -0.4
CDF pmax pmax
comp=Z,23nm,1.0s
CDF **Champ du Feu** 80.54 337 *e*P P 10 47 00.6 -0.4
comp=Z,23nm,1.0s
ECH **Echery** 80.75 337 *e*P P 10 47 01.6 -0.5
ECH pmax pmax
comp=Z,30nm,1.6s
ECH **Echery** 80.75 337 *e*P P 10 47 01.6 -0.5
comp=Z,30nm,1.6s
PAGF **Fort de Pagny** 80.81 338 *e*P P 10 47 02.5 +0.2
comp=Z,6.4nm,0.7s
PAGF **Fort de Pagny** 80.81 338 *e*P P 10 47 02.5 +0.2
comp=Z,6.4nm,0.7s
HINF **Hinteralfeld** 81.20 337 *e*P P 10 47 03.9 -0.6

HINF	Hinteralfeld	81.20 337	*e*P		P		10 47 03.9	-0.6	
HINF	Hinteralfeld	81.20 337	*e*P		P		10 47 03.9	-0.6	
SFTF	Sexfontaines	81.30 339	*e*P		P		10 47 04.8	-0.2	
SFTF	Sexfontaines	81.30 339	*e*P		P		10 47 04.8	-0.2	
DAVOX	Davos/Dischmat	81.31 335	P		P		10 47 05.4	+0.1	
	comp=Z,4.2nm,0.7s,baz=10,slow=9.6,SNR=5.1								
DAVOX	Davos/Dischmat	81.31 335	P		P		10 47 05.4	+0.1	
FUORN	Ofenpass-Fuorn	81.35 335	*e*P		P		10 47 05.9	+0.3	
	comp=Z,12nm,1.0s								
TUE	Stuetta	81.75 335	*e*P		P		10 47 07.5	-0.1	
	comp=Z,9.2nm,1.0s								
FLN	La Foliniere	82.04 342	*e*P		P		10 47 08.6	-0.2	
FLN			*e*R						
	comp=Z,43nm,19.6s								
FLN	La Foliniere	82.04 342	*e*P		P		10 47 08.6	-0.2	
FLN	La Foliniere	82.04 342	*e*P		P		10 47 08.6	-0.2	
LDF	La Druitiere	82.12 342	*e*P		P		10 47 08.9	-0.4	
LDF	La Druitiere	82.12 342	*e*P		P		10 47 08.9	-0.4	
LDF	La Druitiere	82.12 342	*e*P		P		10 47 08.9	-0.4	
LOR	Lormes	82.47 339	*e*P		P		10 47 10.8	-0.3	
	comp=Z,7.5nm,0.7s								
LOR			*e*R						
	comp=Z,76nm,22.5s								
LOR	Lormes	82.47 339	*e*P		P		10 47 10.8	-0.3	
	comp=Z,7.5nm,0.7s								
GRR	Gorron	82.47 343	*e*P		P		10 47 11.8	+0.7	
GRR	Gorron	82.47 343	*e*P		P		10 47 11.8	+0.7	
GRR	Gorron	82.47 343	*e*P		P		10 47 11.8	+0.7	
ASF	Jabal al Asfar	82.48 310	P		P		10 47 11.3	-0.3	
	comp=Z,5.6nm,0.8s,baz=316,slow=4.4,SNR=7.5								
ASF	Jabal al Asfar	82.48 310	P		P		10 47 11.3	-0.3	
CABF	La Chapelle	82.51 338	*e*P		P		10 47 12.2	+0.7	
	comp=Z,24nm,1.1s								
CABF	La Chapelle	82.51 338	*e*P		P		10 47 12.2	+0.7	
CABF			pmax		pmax				
	comp=Z,25nm,1.1s								
CABF	La Chapelle	82.51 338	*e*P		P		10 47 12.2	+0.7	
	comp=Z,24nm,1.1s								
MMAI	Mount Meron Ar	82.60 311	P		P		10 47 11.7	-0.5	
	comp=Z,5.4nm,0.4s,baz=44,slow=6.1,SNR=11								
MMAI	Mount Meron Ar	82.60 311	P		P		10 47 11.7	-0.5	
SSF	Saint Saulge	82.75 339	*e*P		P		10 47 12.3	-0.3	
SSF	Saint Saulge	82.75 339	*e*P		P		10 47 12.3	-0.3	
SSF	Saint Saulge	82.75 339	*e*P		P		10 47 12.3	-0.3	
SWET	Sewanee	82.88 45	*e*P		P		10 47 12.8	-0.7	
	comp=Z,9.5nm,0.8s								
ROSF	Rostrenen	83.00 344	*e*P		P		10 47 13.6	-0.2	
ROSF	Rostrenen	83.00 344	*e*P		P		10 47 13.6	-0.2	
ROSF	Rostrenen	83.00 344	*e*P		P		10 47 13.6	-0.2	
AVF	Avril sur Loir	83.04 339	*e*P		P		10 47 13.9	-0.2	
AVF	Avril sur Loir	83.04 339	*e*P		P		10 47 13.9	-0.2	
AVF	Avril sur Loir	83.04 339	*e*P		P		10 47 13.9	-0.2	
SMF	Signal de Mont	83.05 339	*e*P		P		10 47 14.1	-0.1	
	comp=Z,56nm,1.3s								
SMF			pmax		pmax				
	comp=Z,56nm,1.3s								
SMF	Signal de Mont	83.05 339	*e*P		P		10 47 14.1	-0.1	
	comp=Z,56nm,1.3s								
LPL	La Plagne	83.35 337	*e*P		P		10 47 16.4	+0.4	
LPL	La Plagne	83.35 337	*e*P		P		10 47 16.4	+0.4	
LPL	La Plagne	83.35 337	*e*P		P		10 47 16.4	+0.4	
LPG	La Plagne	83.36 337	*e*P		P		10 47 16.7	+0.5	
LPG	La Plagne	83.36 337	*e*P		P		10 47 16.7	+0.5	
LPG	La Plagne	83.36 337	*e*P		P		10 47 16.7	+0.5	
TKL	Tuckaleechee C	83.55 43	P		P		10 47 16.2	-0.7	
	comp=Z,4.2nm,0.7s,baz=34,slow=4.3,SNR=4.8								
TKL	Tuckaleechee C	83.55 43	P		P		10 47 16.2	-0.7	
TCF	Toulx Ste Croi	83.78 340	*e*P		P		10 47 18.0	0.0	
	comp=Z,18nm,1.1s								
TCF	Toulx Ste Croi	83.78 340	*e*P		P		10 47 18.0	0.0	
TCF			pmax		pmax				
	comp=Z,18nm,1.1s								
TCF	Toulx Ste Croi	83.78 340	*e*P		P		10 47 18.0	0.0	
	comp=Z,18nm,1.1s								
MBDF	Montbardon	84.07 336	*e*P		P		10 47 19.9	+0.3	
MBDF	Montbardon	84.07 336	*e*P		P		10 47 19.9	+0.3	
MBDF	Montbardon	84.07 336	*e*P		P		10 47 19.9	+0.3	
ORIF	Oris-en-Rattie	84.14 337	*e*P		P		10 47 19.7	-0.2	
ORIF			*e*R						
	comp=Z,51nm,20.5s								
ORIF	Oris-en-Rattie	84.14 337	*e*P		P		10 47 19.7	-0.2	
ORIF	Oris-en-Rattie	84.14 337	*e*P		P		10 47 19.7	-0.2	
VIVF	Saint-Julien-l	84.51 338	*e*P		P		10 47 22.1	+0.4	
VIVF	Saint-Julien-l	84.51 338	*e*P		P		10 47 22.1	+0.4	
VIVF	Saint-Julien-l	84.51 338	*e*P		P		10 47 22.1	+0.4	
CAF	Calviac	85.10 340	*e*P		P		10 47 25.8	+1.2	
	comp=Z,33nm,1.2s								
CAF	Calviac	85.10 340	*e*P		P		10 47 25.8	+1.2	
CAF			pmax		pmax				
	comp=Z,33nm,1.2s								
CAF	Calviac	85.10 340	*e*P		P		10 47 25.8	+1.2	
	comp=Z,33nm,1.2s								
KMSC	Kings Mountain	85.11 42	⇓P		P		10 47 24.0	-0.8	
	baz=85								
ESDC	Sonseca Array	91.46 342	P		P		10 47 54.0	-1.1	
	comp=Z,0.3nm,0.3s,baz=22,slow=3.9,SNR=7.2								
ESDC	Sonseca Array	91.46 342	P		P		10 47 54.0	-1.1	
TORD	Torodi Ar. Bea	114.94 329	PKP		PKPdf		10 53 28.5	-1.3	
	comp=Z,0.2nm,0.3s,baz=18,slow=1.9,SNR=5.4								
TORD			PKKPbc		**PKKPbc**		**11 04 03.4**	**-1.0**	
	comp=Z,0.6nm,1.1s,baz=192,slow=2.7,SNR=5.4								
TORD	Torodi Ar. Bea	114.94 329	PKP		PKPdf		10 53 28.5	-1.3	
TORD			PKKPbc		**PKKPbc**		**11 04 03.4**	**-1.0**	
DBIC	Dimbokro	123.19 333	PKP		**PKPdf**		**10 53 44.4**	**-1.3**	
	comp=Z,1.1nm,0.5s,baz=315,slow=1.4,SNR=2.6								
DBIC	Dimbokro	123.19 333	PKP		**PKPdf**		**10 53 44.4**	**-1.3**	
BDFB	Brasilia	144.49 36	PKP		**PKPab**		**10 54 23.4**	**-0.4**	
	comp=Z,3.7nm,0.5s,baz=319,slow=0.5,SNR=6.2								
BDFB	Brasilia	144.49 36	PKP		**PKPab**		**10 54 23.4**	**-0.4**	
PLCA	Paso Flores	148.48 95	PKPbc		**PKPbc**		**10 54 34.9**	**-0.1**	
	comp=Z,4.7nm,0.8s,baz=276,slow=2.7,SNR=13								
PLCA	Paso Flores	148.48 95	PKPbc		**PKPbc**		**10 54 34.9**	**-0.1**	
CPUP	Villa Florida	148.70 60	PKPbc		**PKPbc**		**10 54 35.3**	**-0.5**	
	comp=Z,3.3nm,0.6s,baz=274,slow=3.0,SNR=12								
CPUP	Villa Florida	148.70 60	PKPbc		**PKPbc**		**10 54 35.3**	**-0.5**	
VNA2	Neumayer--Watz	153.94 195	*e*P		**PKPbc**		**10 54 46.8**	**+0.1**	
	baz=231,slow=0.5								
VNA2	Neumayer--Watz	153.94 195	*ep*PkPdf		PKiKP		10 54 53.4	+6.7	
	baz=231,slow=0.5								
VNA3	Neumayer Olymp	154.04 193	*e*P		**PKPbc**		**10 54 46.7**	**-0.2**	

CASC 20 10:40:37.1±3.3, **9.°32N**×**82.°73W, h6**km±16km, **MD4.3,2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
BRU2	**Volcan**	**0.52**	**176**	⇓*i*P		Pb	10 40 48.4		-0.4
BRU2				*e*S		Sb	10 40 56.5		-0.3
TBS2		**0.52**	**173**	⇓*i*P		Pg	10 40 47.9		+0.5
TBS2				*e*S		Sg	10 40 55.5		+1.0
ACR	**Cerro Adams**	**0.79**	**214**	*i* P		Pg	10 40 52.7		+0.3
BUS	**Buena Vista**	**1.05**	**283**	*e*P		Pg	10 40 56.1		-1.7
QCR	**Quepos**	**1.42**	**274**	*e*P		Pn	10 41 02.2		-1.3
SJS	**Escuela Geolog**	**1.45**	**295**	*e*P		Pn	10 41 02.9		-1.1
SJS				*e*S		Sn	10 41 21.9		-1.6
CGA2	**Cerro Gallo 2**	**1.85**	**292**	*e*P		Pn	10 41 09.3		-0.3
CGA2				*e*S		Sn	10 41 32.4		-1.1
PTEN	**Parque Tenorio**	**2.62**	**302**	*i* P		Pn	10 41 17.9		-2.3
CUI	**Cuipilapa**	**2.75**	**299**	*i* P		Pn	10 41 22.4		+0.5
COLC	**Colonia**	**2.79**	**299**	*i* P		Pn	10 41 23.0		+0.7
MESS	**Mesas**	**2.81**	**300**	*i* P		Pn	10 41 23.3		+0.5
MESS				*i* S		Sb	10 42 00.7		-2.0
BCIP	**Isla Barro Col**	**2.86**	**93**	*e*P		Pn	10 41 22.0		-1.2
BCIP				*e*S		Sn	10 41 55.4		-2.6
GBS3	**Finca Las lm˜¡**	**3.06**	**299**	*i* P		Pn	10 41 26.2		+0.1
NY14	**Universidad de**	**3.07**	**296**	*i* P		Pn	10 41 26.6		+0.5

*IDC **20** 10:48:53.6±0.8, 0.°57S×127.°63E, h0km, mb3.9/8, mb1 4.1/10,mb1mx4.0/22,mbtmp3.9/10,ML3.7/2, Error ellipse: s-maj=37.6km s-min=13.8km az=83.0*
*DJA **20** 10:48:57.3±0.5, 1.°5S×12.°7E±˚, h10km, M4.3/11, mb4.6/5, mB5.2/2, MLv4.1/11, Mw(mB)4.6/2*
*ISCJB **20** 10:48:58.2±0.8, 0.°57S±0.°04×127.°48E±0.°05, h41km±8km, mb3.9/7, Error ellipse: s-maj=9.3km s-min=6.3km az=153.8*

ISC 20 10:48:59.8±1.5, **0.°58S**±0.°06×**127.°51E**±0.°08, **h45**km±15km, **n31**,σ1°**19**/34, **mb4.7**/14, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
LBMI	**Labuha**	**0.06**	**186**	P		Pn	10 48 58.4		-8.6
TNTI	**Ternate**	**1.35**	**354**	P		Pn	**10 49 21.1**		**-1.2**
NLAI	**Namlea**	**2.67**	**189**	P		Pn	**10 49 41.2**		**+0.9**
NLAI				S		Sn	**10 50 11.6**		**+0.1**
MSAI	**Masohi**	**3.09**	**153**	P		Pn	**10 49 46.8**		**+0.7**
AAI	**Ambon**	**3.16**	**167**	P		Pn	**10 49 48.6**		**+1.5**
KMSI	**Cibinong**	**3.71**	**288**	P		Pn	**10 49 54.4**		**-0.2**
LUWI	**Luwuk**	**4.76**	**264**	P		Pn	**10 50 08.3**		**-0.7**
FAKI	**Fak Fak**	**5.28**	**116**	P		Pn	**10 50 14.7**		**-1.5**
	23nm,1.0s,0.1nm								
MRSI	**Marisa**	**5.67**	**281**	P		Pn	**10 50 21.1**		**-0.4**
	17nm,0.7s,0.1nm								
TLE	**Tual**	**7.24**	**134**	P		Pn	10 50 45.1		+1.9
	58nm,0.9s,0.2nm								
TTSI	**Tana Toraja**	**8.06**	**252**	P		Pn	**10 50 55.1**		**+0.7**
	18nm,0.5s,876nm								
SPSI	**Sidrap Palu**	**8.43**	**246**	P		Pn	**10 51 00.8**		**+1.4**
KAPI	**Kappang**	**8.91**	**240**	Pn		Pn	**10 51 05.5**		**-0.5**
	1.9nm,0.3s,baz=76,slow=8.3,SNR=10								
KAPI				Sn		**Sn**	**10 52 44.4**		**-0.7**
	0.4nm,0.3s,baz=78,slow=19,SNR=3.3								
FITZ	**Fitzroy Crossi**	**17.51**	**186**	P		Pn	**10 53 00.2**		**-0.5**
	0.1nm,0.3s,baz=15,slow=12,SNR=3.8								
FITZ				S		**Sn**	**10 56 15.3**		**+0.4**
	0.2nm,0.3s,baz=90,slow=20,SNR=5.5								
WRA	**Warramunga Arr**	**20.37**	**161**	P		P	**10 53 31.1**		**-1.7**
	3.2nm,0.6s,baz=342,slow=12,SNR=40								
WRA				S		**S**	**10 57 14.7**		**-4.0**
	0.4nm,0.6s,baz=335,slow=22,SNR=5.6								
ASAR	**Alice Springs**	**23.77**	**165**	P		P	**10 54 07.7**		**-0.7**
	2.2nm,0.5s,baz=342,slow=11,SNR=59								
ASAR					PcP	**PcP**	**10 57 51.8**		**+0.5**
	0.2nm,0.5s,baz=326,slow=1.4,SNR=4.4								
STKA	**Stephens Creek**	**33.86**	**158**	P		P	**10 55 38.7**		**+0.6**
	1.2nm,0.3s,baz=333,slow=6.8,SNR=4.4								
KSRS	**Korea Array**	**37.85**	**1**	P		P	**10 56 12.2**		**0.0**
	0.7nm,0.7s,baz=178,slow=8.5,SNR=3.8								
TAPN	**Taplejung**	**47.25**	**309**	*e*P		P	**10 57 30.2**		**+1.0**
RAMN	**Ramite**	**47.93**	**308**	*e*P		P	**10 57 35.2**		**+0.8**
	12nm,0.5s								
GUN	**Gumba**	**48.95**	**309**	*e*P		P	**10 57 43.3**		**+1.0**
	16nm,0.6s								
PKIN	**Phulchoki**	**49.17**	**308**	*e*P		P	**10 57 45.1**		**+1.2**
	6.6nm,0.6s								
DMN	**Daman**	**49.41**	**308**	*e*P		P	**10 57 46.8**		**+1.0**
	6.4nm,0.2s								
GKN	**Gorkha**	**49.96**	**308**	*e*P		P	**10 57 50.4**		**+0.6**
KOLN	**Koldanda**	**50.68**	**307**	*e*P		P	**10 57 56.5**		**+1.2**
	16nm,0.6s								
DANN	**Dangsing**	**50.81**	**308**	*e*P		P	**10 57 57.2**		**+0.8**
	22nm,0.6s								
PYUN	**Piuthan**	**51.31**	**307**	*e*P		P	**10 58 01.3**		**+1.3**
	19nm,0.7s								
SONM	**Songino Array**	**51.61**	**342**	P		P	**10 58 02.1**		**+0.3**
	0.9nm,0.6s,baz=151,slow=6.3,SNR=3.3								
MKAR	**Makanchi Array**	**61.53**	**326**	P		P	**10 59 12.8**		**+0.5**
	1.4nm,0.3s,baz=114,slow=8.2,SNR=23								
VNDA	**Vanda**	**79.08**	**173**	P		P	**11 00 59.7**		**+0.8**
	0.6nm,0.4s,baz=334,slow=5.7,SNR=10								
ILAR	**Eielson Array**	**88.64**	**25**	P		P	**11 01 46.9**		**-1.0**
	0.1nm,0.4s,baz=255,slow=4.6,SNR=3.7								

CASC 20 10:50:29.9±2.5, **13.°16N**×**90.°97W, h12**km±17km, **MD3.7, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
PCG	**Pacaya**	**1.27**	**16**	*e*P		Pg	10 50 54.7		0.0
PCG				*e*S		Sb	10 51 10.9		+0.1
FUG	**Fuego 3**	**1.28**	**6**	*e*P		Pn	10 50 52.9		-1.1
FUG				*e*S		Sb	10 51 10.4		-0.5
JAT	**Jato**	**1.32**	**331**	*e*P		Pn	10 50 54.2		+0.1
JAT				*e*S		Sb	10 51 10.2		-1.3
SBLS	**San Blas**	**1.47**	**63**	*e*P		Pn	10 50 55.2		-1.5
RTR	**El Retiro**	**1.48**	**60**	*e*P		Pn	10 50 55.0		-1.7
SNJE	**San Jose**	**1.50**	**62**	*e*P		Pn	10 50 55.6		-1.4
NBG	**Las Nubes**	**1.54**	**23**	*e*P		Pb	10 50 58.6		-0.2
NBG				*e*S		Sb	10 51 18.7		+0.2
RBDL	**Robledal**	**1.56**	**53**	*e*P		Pn	10 50 56.2		-1.6
TP2	**Tecpan 2**	**1.61**	**358**	*e*P		Pn	10 50 58.1		-0.6
BQGS	**Boqueron**	**1.74**	**71**	*e*P		Pn	10 50 59.4		-0.9
MTO2	**Montecristo 2**	**1.99**	**52**	*e*P		Pn	10 51 02.9		-0.8
SNVI	**San Vicente**	**2.12**	**78**	*e*P		Pn	10 51 05.8		+0.3
SNVI				*e*S		Sn	10 51 27.8		-4.1
MRL	**Marmol**	**2.26**	**33**	*e*P		Pn	10 51 08.1		+0.7
MRL				*e*S		Sn	10 51 36.9		+1.5
CAHU	**Cacacuatique**	**2.75**	**77**	*e*P		Pn	10 51 14.2		0.0
CNCH	**Conchagua**	**3.06**	**88**	*e*P		Pn	10 51 19.7		+1.4

*ATH **20** 10:59:04.4, 34.°88N×23.°40E, h8km±3km, MD3.6/8*
*CSEM **20** 10:59:05.6±0.6, 34.°92N×23.°46E, h2km, ML3.4/1, Error ellipse: s-maj=11.8km s-min=5.6km az=29.0*
*THE **20** 10:59:07.3, 34.°96N×23.°56E, h0km±2km, ML3.4/1, Error ellipse: s-maj=3.6km s-min=1.2km az=216.0*
*IDC **20** 10:59:07.8±3.9, 34.°87N×23.°57E, h40km±39km, mb3.4/5, mb1 3.5/8, mb1mx3.3/29, mbtmp3.4/8, ML3.8/2, Error ellipse: s-maj=31.1km s-min=25.2km az=138.0*

ISC 20 10:59:05.1±1.8, **34.°88N**±0.°05×**23.°50E**±0.°05, **h9**km±11km, **n51**,σ1°**24**/68, **mb3.7**/5, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
GVD	**Gavdhos**	**0.49**	**95**	P		**Pb**	**10 59 15.9**		**0.0**
GVD				S		**Sb**	**10 59 23.8**		**+0.6**
GVD	**Gavdhos**	**0.49**	**95**	*e*PB		**Pb**	**10 59 15.8**		**-0.1**
GVD				*e*SB		**Sb**	**10 59 24.1**		**+0.9**
GVD	**Gavdhos**	**0.49**	**95**	P		**Pb**	**10 59 15.9**		**0.0**
GVD				S		**Sb**	**10 59 23.8**		**+0.6**
GVD				*e*Sb		**Sb**	**10 59 24.1**		**+0.9**
KARN	**Karanos**	**0.62**	**34**	P		**Pg**	**10 59 16.6**		**-0.6**
KARN				S		**Sb**	**10 59 26.7**		**-0.4**
KARN	**Karanos**	**0.62**	**34**	*e*PB		**Pg**	**10 59 16.7**		**-0.5**
KARN				*e*SB		**Sb**	**10 59 27.4**		**+0.3**
KARN	**Karanos**	**0.62**	**34**	*e*Pb		**Pg**	**10 59 16.7**		**-0.5**
KARN				S		**Sb**	**10 59 26.7**		**-0.4**
KARN				*e*Sb		**Sb**	**10 59 27.4**		**+0.3**
VAM	**Vamos**	**0.78**	**48**	P		**Pg**	**10 59 19.7**		**-0.4**
VAM				S		**Sb**	**10 59 31.5**		**-0.1**
VAM	**Vamos**	**0.78**	**48**	*e*PB		**Pg**	**10 59 19.7**		**-0.4**
VAM				*e*SB		**Sb**	**10 59 32.1**		**+0.5**
VAM	**Vamos**	**0.78**	**48**	P		**Pg**	**10 59 19.7**		**-0.4**
VAM				S		**Sb**	**10 59 31.5**		**-0.1**
VAM				*e*Sb		**Sb**	**10 59 32.1**		**+0.5**
SIVA	**Sivas**	**1.09**	**82**	P		**Pg**	**10 59 26.4**		**+0.4**
SIVA				S		**Sb**	**10 59 41.4**		**+0.9**
SIVA	**Sivas**	**1.09**	**82**	*e*PB		**Pb**	**10 59 26.6**		**+0.5**
SIVA	**Sivas**	**1.09**	**82**	*e*Pb		**Pb**	**10 59 26.6**		**+0.5**
SIVA				S		**Sb**	**10 59 41.4**		**+0.9**
IDI	**Anoyia**	**1.21**	**70**	P		**Pg**	**10 59 27.6**		**-0.8**
IDI				S		**Sn**	**10 59 45.5**		**+0.5**
IDI	**Anoyia**	**1.21**	**70**	*e*PN		**Pg**	**10 59 27.9**		**-0.5**
IDI	**Anoyia**	**1.21**	**70**	P		**Pg**	**10 59 27.6**		**-0.8**
IDI	**Anoyia**	**1.21**	**70**	*e*Pn		**Pg**	**10 59 27.9**		**-0.5**
IDI				S		**Sn**	**10 59 45.5**		**+0.5**
KYTH	**Kithira**	**1.45**	**345**	P		**Pn**	**10 59 30.5**		**-1.0**
KYTH	**Kithira**	**1.45**	**345**	*e*PB		**Pn**	**10 59 31.3**		**-0.2**
KYTH	**Kithira**	**1.45**	**345**	*e*Pb		**Pn**	**10 59 31.3**		**-0.2**
LAST	**Lasithi**	**1.65**	**80**	P		**Pb**	**10 59 36.0**		**+0.2**
LAST	**Lasithi**	**1.65**	**80**	*e*PG		**Pb**	**10 59 36.2**		**+0.4**
LAST	**Lasithi**	**1.65**	**80**	P		**Pb**	**10 59 36.0**		**+0.2**
NPS	**Neapolis**	**1.78**	**77**	P		**Pb**	**10 59 38.0**		**+0.1**
NPS	**Neapolis**	**1.78**	**77**	*e*PN		**Pb**	**10 59 38.4**		**+0.5**
NPS	**Neapolis**	**1.78**	**77**	P		**Pb**	**10 59 38.0**		**+0.1**
NPS	**Neapolis**	**1.78**	**77**	*e*Pn		**Pb**	**10 59 38.4**		**+0.5**
VLI	**Veliai**	**1.89**	**346**	P		**Pn**	**10 59 39.6**		**+1.9**
VLI				S		**Sn**	**11 00 03.3**		**+1.8**
VLI	**Veliai**	**1.89**	**346**	*e*PG		**Pn**	**10 59 39.5**		**+1.9**
VLI	**Veliai**	**1.89**	**346**	*e*Pg		**Pn**	**10 59 39.5**		**+1.9**
VLI				S		**Sn**	**11 00 03.3**		**+1.8**
DYR	**Agios Nikonas**	**2.10**	**334**	P		**Pn**	**10 59 42.5**		**+2.0**
DYR	**Agios Nikonas**	**2.10**	**334**	P		**Pn**	**10 59 42.5**		**+2.0**
THR6	**Thira Island,**	**2.14**	**46**	P		**Pn**	**10 59 42.2**		**+1.2**
THR6	**Thira Island,**	**2.14**	**46**	P		**Pn**	**10 59 42.2**		**+1.2**
ZKR	**Zakros**	**2.25**	**83**	P		**Pn**	**10 59 44.8**		**+2.3**
ZKR	**Zakros**	**2.25**	**83**	P		**Pn**	**10 59 44.8**		**+2.3**
DID	**Didima**	**2.63**	**356**	P		**Pn**	**10 59 49.2**		**+1.4**
DID	**Didima**	**2.63**	**356**	*e*PB		**Pn**	**10 59 49.1**		**+1.3**
DID	**Didima**	**2.63**	**356**	P		**Pn**	**10 59 49.2**		**+1.4**
KARP	**Karpathos**	**3.08**	**76**	*e*PN		**Pn**	**10 59 55.8**		**+1.9**
KARP	**Karpathos**	**3.08**	**76**	*e*Pn		**Pn**	**10 59 55.8**		**+1.9**
GUR	**Goura**	**3.19**	**343**	P		**Pn**	**10 59 57.4**		**+1.8**
GUR	**Goura**	**3.19**	**343**	*e*PN		**Pn**	**10 59 57.3**		**+1.7**
GUR	**Goura**	**3.19**	**343**	*e*Pn		**Pn**	**10 59 57.3**		**+1.7**
BRTR	**Keskin Array B**	**9.41**	**56**	P		**Pn**	**11 01 20.2**		**-0.9**
	baz=229,slow=13,SNR=2.0								
EIL	**Elat**	**11.00**	**115**	P		**Pn**	**11 01 40.7**		**-2.0**
	0.8nm,0.3s,baz=344,slow=19,SNR=4.7								
GERES	**GERESS Array B**	**15.72**	**336**	P		**Pn**	**11 02 49.6**		**+2.8**
	0.1nm,0.3s,baz=150,slow=9.9,SNR=4.9								
HFS	**Hagfors**	**26.06**	**349**	P		**P**	**11 04 36.2**		**-2.5**
	1.4nm,0.8s,baz=144,slow=11,SNR=3.9								
TORD	**Torodi Ar. Bea**	**29.28**	**228**	P		**P**	**11 05 06.9**		**-1.0**
	0.4nm,0.7s,baz=36,slow=8.0,SNR=4.3								
MKAR	**Makanchi Array**	**45.07**	**56**	P		**P**	**11 07 19.6**		**-1.8**
	0.3nm,0.3s,baz=264,slow=8.0,SNR=9.7								
ZALV	**Zalesovo Beam**	**46.18**	**46**	P		**P**	**11 07 28.2**		**-1.9**
	0.5nm,0.3s,baz=270,slow=7.2,SNR=3.0								
YKA	**Yellowknife Ar**	**77.28**	**341**	P		P	11 10 57.8		-1.8
	0.1nm,0.3s,baz=33,slow=5.1,SNR=6.7								

*CSEM **20** 11:18:53.0±0.4, 63.°39N×18.°66E, h1km, ML1.0, Error ellipse: s-maj=11.1km s-min=9.0km az=122.0, Mining explosion.*

UPP 20 11:18:52.5, 63.°30N×18.°90E, h0km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
BREU	**Bredtraesk**	**0.61**	**346**	P		Pg	11 19 03.9		-0.3
HEMU	**Hemsoen**	**0.74**	**213**	P		Pg	11 19 06.4		-0.3
SOLU	**Solleftea**	**0.74**	**266**	P		Pg	11 19 06.6		-0.2
UMAU	**Umea**	**0.98**	**53**	P		Pg	11 19 11.0		-0.4
SVAU	**Svanoeiden**	**1.23**	**14**	P		Pg	11 19 15.4		-0.7
HASU	**Hassela**	**1.56**	**223**	P		Pn	11 19 21.2		-0.3
BURU	**Burvik**	**1.69**	**39**	P		Pn	11 19 23.3		+0.1

*CSEM **20** 11:19:52.5±0.5, 59.°27N×27.°63E, h2km, ML2.4, Error ellipse: s-maj=15.3km s-min=4.7km az=106.0, Mining explosion.*
*BER **20** 11:19:54.9±1.6, 59.°31N×27.°12E, h0km, ML2.4(NAO), Suspected explosion*
*NAO **20** 11:19:54.2±1.1, 59.°29N×26.°97E, ML2.4*

HEL 20 11:19:54.6±0.2, **59.°30N**×**27.°12E, h0**km, **ML1.8, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h m s		ISC
VSU	**Vasula**	**0.86**	**193**	Pg		Pg	11 20 10.5		-0.6
VSU				Lg		Lg	11 20 21.5		
VSU	**Vasula**	**0.86**	**193**	Pg		Pg	11 20 10.5		-0.6
VSU				Lg		Lg	11 20 21.5		
VSU	**Vasula**	**0.86**	**193**	*e*P		Pg	11

λ92.00000°. Principal axes: T 1.6700, Plg71.0000°, Azm297.0000°; N 0.0300, Plg2.0000°, Azm202.0000°; P -1.7100, Plg19.0000°, Azm112.0000°; Data Used: II IU IC G CN. Surface waves from 101 sta.

ISCJB ***20*** *11:23:36.1±0.1,22°.94S±0°.05×175°.28W±0°.03,h33km, mb5.3/150,MS5.0/45 Error ellipse: s-maj=7.2km s-min=3.1km az=157.1*

SZGRF ***20*** *11:23:37.9,22°.65S×174°.54W,h33km,mb5.3,Tonga Islands region*

MOS ***20*** *11:23:37.1±1.1,22°.84S×175°.39W,h37km,mb5.5/40, MS5.0/12,Error ellipse: s-maj=10.1km s-min=8.7km az=50.5*

NEIC ***20*** *11:23:39.3±1.3,23°.01S×175°.31W,h48km±11km, mb5.3/101,Error ellipse: s-maj=9.2km s-min=5.8km az=152.0*

ISC 20 11:23:37.4±0.2,23°.03S±0°.05×175°.15W±0°.05,h35km, h35km:pP-P,n853,σ1s09/954,mb5.3/148,MS5.0/45, 188C-176D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.26**	**52**	P		Pn	11 24 55.9	-11
	baz=5.9,SNR=108							
NIUE				S		Sn	11 25 56.2	-22
	baz=5.9,SNR=6.5							
RAO	**Raoul Island**	**6.68**	**201**	*e*P		**Pn**	**11 25 13.5**	**+0.4**
MSVF	**Nonsavu**	**8.27**	**308**	*e*P		**Pn**	**11 25 34.1**	**-0.9**
MSVF	**Nonsavu**	**8.27**	**308**	*e*Pn		**Pn**	**11 25 34.1**	**-0.9**
AFI	**Afiamalu**	**9.62**	**20**	Pn		Pn	11 25 44.2	-9.3
	14nm,0.3s,baz=252,slow=1.5,SNR=32							
AFI				Sn		Sn	11 27 23.4	-17
	16nm,0.3s,baz=215,slow=20,SNR=3.5							
AFI	**Afiamalu**	**9.62**	**20**	*e*Pn		Pn	11 25 44.2	-9.3
AFI				Sn		Sn	11 27 23.4	-17
AFI				*e*Sn		Sn	11 27 26.8	-14
RAR	**Rarotonga**	**14.36**	**86**	LR		LR	11 31 31.4	
	comp=Z,8μm,20.0s,baz=270,slow=33							
RAR	**Rarotonga**	**14.36**	**86**	*e*Pn		Pn	11 26 47.0	-11
RAR				*e*Sn		Sn	11 29 12.7	-24
URZ	**Urewera**	**16.57**	**202**	Pn		**Pn**	**11 27 23.3**	**-3.7**
	0.7nm,0.3s,baz=324,slow=8.7,SNR=5.4							
URZ				Sn		Sn	11 30 16.1	-14
	1.3nm,0.3s,baz=356,slow=19,SNR=13							
URZ	**Urewera**	**16.57**	**202**	Pn		**Pn**	**11 27 23.3**	**-3.7**
URZ				Sn		Sn	11 30 16.1	-14
PLUM	**Mont Dore**	**16.83**	**269**	*e*P		**P**	**11 27 35.9**	**+3.6**
DZM	**Mont Dzumac**	**17.03**	**270**	*e*P		**P**	**11 27 38.3**	**+3.7**
	246nm,1.0s							
DZM				*e*LR		LR	11 31 53.8	
	4μm,21.4s							
DZM	**Mont Dzumac**	**17.03**	**270**	Pn		**P**	**11 27 37.1**	**+2.5**
	2.1nm,0.3s,baz=88,slow=15,SNR=32							
DZM	**Mont Dzumac**	**17.03**	**270**	Pn		**P**	**11 27 37.1**	**+2.5**
NOUC	**Port Laguerre**	**17.16**	**269**	*e*P		**P**	**11 27 36.6**	**+0.7**
RPZ	**Rata Peaks**	**23.57**	**206**	P		**P**	**11 28 44.4**	**-0.4**
	29nm,1.1s,baz=84,slow=11,SNR=3.1							
RPZ	**Rata Peaks**	**23.57**	**206**	*e*P		**P**	**11 28 46.3**	**+1.5**
	10nm,0.4s							
TBI	**Tubuai**	**23.61**	**96**	*e*P		P	11 28 40.3	-5.0
	110nm,1.0s							
TBI				*e*S		S	11 32 46.8	-11
	3μm,27.2s							
TBI				*e*LR		LR	11 33 56.7	
	5μm,31.0s,baz=267							
PAE	**Paea**	**24.54**	**82**	*e*P		**P**	**11 28 49.8**	**-4.2**
	21nm,1.0s							
PPT2	**Papeete2**	**24.57**	**82**	*e*P		**P**	**11 28 49.6**	**-4.7**
	85nm,1.2s							
PPT2				*e*LQ		LQ	11 33 28.3	
	5μm,26.0s							
PPT2				*e*LR		LR	11 34 19.7	
	7μm,28.0s,baz=258							
PPT	**Papeete**	**24.57**	**82**	LR		LR	11 36 51.7	
	comp=Z,3μm,19.0s,baz=259,slow=32							
TIAR	**Tiarei**	**24.79**	**82**	*e*P		**P**	**11 28 52.4**	**-3.9**
	69nm,0.8s							
TVO	**Taravao**	**24.81**	**83**	*e*P		**P**	**11 28 52.4**	**-4.1**
	259nm,1.4s							
HNR	**Honiara**	**27.41**	**295**	LR		LR	11 38 21.7	
	comp=Z,875nm,21.9s,baz=67,slow=33							
ARMA	**Armidale**	**30.49**	**249**	*e*P		**P**	**11 29 49.0**	**+1.6**
	20nm,0.9s							
ARMA	**Armidale**	**30.49**	**249**	P		**P**	**11 29 48.7**	**+1.3**
	baz=31,SNR=8.2							
EIDS	**Eidsvold**	**30.85**	**259**	*e*P		**P**	**11 29 50.9**	**+0.5**
	36nm,1.0s							
EIDS	**Eidsvold**	**30.85**	**259**	P		**P**	**11 29 50.9**	**+0.5**
	baz=31,SNR=6.4							
MGCD	**Mangrove Creek**	**31.32**	**244**	P		**P**	**11 29 55.8**	**+1.3**
	baz=32,SNR=7.4							
RMQ	**Roma**	**32.89**	**256**	P		**P**	**11 30 09.9**	**+1.5**
	baz=33,SNR=15							
CNB	**Canberra Magne**	**33.15**	**240**	P		**P**	**11 30 11.3**	**+0.7**
	baz=34,SNR=7.3							
CAN	**Canberra**	**33.44**	**240**	*e*P		**P**	**11 30 13.7**	**+0.6**
CAN				pmax		pmax		
	comp=Z,39nm,1.5s							
CAN	**Canberra**	**33.44**	**240**	*e*P		**P**	**11 30 13.7**	**+0.6**
	comp=Z,39nm,1.5s							
MILA	**Mila**	**33.70**	**237**	P		**P**	**11 30 16.6**	**+1.2**
	baz=34,SNR=8.6							
YNG	**Young**	**33.74**	**242**	P		**P**	**11 30 16.4**	**+0.7**
	baz=34,SNR=12							
CMSA	**Cobar Meteorol**	**35.67**	**248**	P		**P**	**11 30 31.9**	**-0.6**
	baz=36,SNR=41							
CTA	**Charters Tower**	**35.95**	**267**	P		**P**	**11 30 34.2**	**-0.8**
	comp=Z,47nm,0.8s,baz=88,slow=11,SNR=32							
CTA	**Charters Tower**	**35.95**	**267**	P		**P**	**11 30 34.2**	**-0.8**
CTAO	**Charters Tower**	**35.95**	**267**	*e*P		**P**	**11 30 34.5**	**-0.5**
CTAO				pmax		pmax		
	comp=Z,77nm,1.0s							
CTAO	**Charters Tower**	**35.95**	**267**	*e*P		**P**	**11 30 34.5**	**-0.5**
	comp=Z,77nm,1.0s							
TOO	**Toolangi**	**36.67**	**238**	P		**P**	**11 30 41.2**	**+0.3**
	baz=37,SNR=17							
RKT	**Rikitea**	**36.88**	**98**	*e*LR		LR	11 40 05.1	
	comp=Z,4μm,31.0s,baz=261							
QLP	**Quilpie**	**36.93**	**256**	P		**P**	**11 30 42.6**	**-0.7**
	baz=37,SNR=43							
PMG	**Port Moresby**	**38.51**	**284**	P		**P**	**11 30 55.7**	**-1.0**
	comp=Z,124nm,0.9s,baz=110,slow=5.0,SNR=23							
PMG	**Port Moresby**	**38.51**	**284**	*e*P		**P**	**11 30 55.9**	**-0.8**
	comp=Z,143nm,0.9s							
PMG	**Port Moresby**	**38.51**	**284**	P		**P**	**11 30 56.2**	**-0.5**
	comp=Z,176nm,1.2s							
STKA	**Stephens Creek**	**39.17**	**247**	P		**P**	**11 31 01.1**	**-1.0**
	comp=Z,9.8nm,0.8s,baz=91,slow=9.1,SNR=29							
STKA				LR		LR	11 46 45.6	
	comp=Z,3μm,18.7s,baz=77,slow=36							
STKA	**Stephens Creek**	**39.17**	**247**	*e*P		**P**	**11 31 01.8**	**-0.3**
	comp=Z,32nm,2.5s							
STKA	**Stephens Creek**	**39.17**	**247**	P		**P**	**11 31 01.3**	**-0.8**
	baz=40,SNR=23							
ARPS	**Mount Arapiles**	**39.40**	**240**	P		**P**	**11 31 04.2**	**+0.2**
	baz=40,SNR=13							
COEN	**Coen**	**40.42**	**275**	*e*P		**P**	**11 31 13.1**	**+0.4**
	comp=Z,353nm,1.4s							
COEN	**Coen**	**40.42**	**275**	P		**P**	**11 31 12.9**	**+0.2**
	baz=41,SNR=5.1							
QIS	**Mount Isa**	**41.96**	**264**	P		**P**	**11 31 24.3**	**-1.0**
	baz=42,SNR=10							
BBOO	**Buckleboo**	**43.88**	**246**	*e*P		**P**	**11 31 39.3**	**-1.3**
	comp=Z,378nm,1.1s							
BBOO	**Buckleboo**	**43.88**	**246**	P		**P**	**11 31 39.6**	**-1.1**
	baz=44,SNR=6.1							
MMPI	**Merauke**	**44.99**	**281**	S		S	11 38 48.7	+23
	baz=45,SNR=3.6							
AS31	**Alice Springs**	**46.57**	**259**	*e*P		**P**	**11 32 01.3**	**-0.9**
ASAR	**Alice Springs**	**46.57**	**259**	P		**P**	**11 32 00.7**	**-1.5**
	comp=Z,47nm,0.9s,baz=92,slow=8.2,SNR=207							
ASAR				LR		LR	11 51 44.4	
	comp=Z,4μm,18.0s,baz=100,slow=36							
ASAR	**Alice Springs**	**46.57**	**259**	P		**P**	**11 32 00.7**	**-1.5**
WRAB	**Tennant Creek**	**46.91**	**264**	*e*P		**P**	**11 32 03.0**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,68nm,1.0s							
WRAB	**Tennant Creek**	**46.91**	**264**	*e*P		**P**	**11 32 03.0**	**-1.9**
	comp=Z,68nm,1.0s							
WRA	**Warramunga Arr**	**46.92**	**264**	P		**P**	**11 32 02.7**	**-2.2**
	comp=Z,35nm,0.8s,baz=100,slow=8.2,SNR=157							
WRA				LR		LR	11 50 23.8	
	comp=Z,1μm,22.0s,baz=90,slow=34							
WRA	**Warramunga Arr**	**46.92**	**264**	P		**P**	**11 32 02.7**	**-2.2**
JAY	**Jayapura**	**47.36**	**289**	P		**P**	**11 32 07.2**	**-1.2**
	baz=48,SNR=7.2							
KDU	**Kakadu**	**50.68**	**272**	P		**P**	**11 32 32.0**	**-1.8**
	baz=51,SNR=12							
FORT	**Forrest**	**50.78**	**248**	*e*P		**P**	**11 32 33.1**	**-1.3**
	comp=Z,74nm,1.0s							
MTN	**Manton Dam**	**51.86**	**272**	P		**P**	**11 32 41.3**	**-1.3**
	baz=52,SNR=8.3							
TLE	**Tual**	**53.06**	**281**	P		**P**	**11 32 51.1**	**-0.5**
GUMO	**Guam**	**53.45**	**309**	LR		LR	11 52 14.7	
	comp=Z,703nm,21.1s,baz=95,slow=32							
FAKI	**Fak Fak**	**54.66**	**283**	P		**P**	**11 33 02.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.35**	**263**	P		**P**	**11 33 06.8**	**-1.4**
	comp=Z,28nm,0.9s,baz=111,slow=6.9,SNR=42							
FITZ				LR		LR	11 57 13.4	
	comp=Z,2μm,18.0s,baz=98,slow=37							
FITZ	**Fitzroy Crossi**	**55.35**	**263**	*e*P		**P**	**11 33 07.8**	**-0.4**
	comp=Z,111nm,1.4s							
FITZ	**Fitzroy Crossi**	**55.35**	**263**	P		**P**	**11 33 07.8**	**-0.4**
	baz=56,SNR=31							
SBA	**Scott Base**	**55.55**	**185**	*e*P		P	11 33 12.6	+3.8
SBA				pmax		pmax		
	comp=Z,444nm,2.8s							
SBA	**Scott Base**	**55.55**	**185**	*e*P		P	11 33 12.6	+3.8
	comp=Z,444nm,2.8s							
VNDA	**Vanda**	**55.66**	**186**	P		**P**	**11 33 10.4**	**+0.8**
	comp=Z,10nm,1.0s,baz=5.6,slow=7.1,SNR=16							
VNDA				LR		LR	11 53 33.8	
	comp=Z,738nm,18.4s,baz=25,slow=32							
VNDA	**Vanda**	**55.66**	**186**	*e*P		P	11 33 12.5	+2.9
	comp=Z,24nm,1.2s							
SWI	**Sorong**	**56.46**	**285**	P		**P**	**11 33 15.1**	**-1.1**
	comp=Z,112nm,1.4s,comp=Z,0.5nm							
RPN	**Rapa Nui**	**59.15**	**109**	LR		LR	11 54 44.1	
	comp=Z,968nm,18.0s,baz=247,slow=32							
KLBR	**Kellerberrin**	**59.42**	**246**	P		**P**	**11 33 36.5**	**-0.4**
	baz=60,SNR=6.9							
MEEK	**Meekatharra**	**59.62**	**252**	P		**P**	**11 33 36.9**	**-1.5**
	baz=60,SNR=5.6							
MBWA	**Male Bar**	**59.91**	**258**	*e*P		**P**	**11 33 38.8**	**-1.5**
	comp=Z,52nm,1.0s							
BLDU	**Ballidu**	**60.48**	**247**	P		**P**	**11 33 44.2**	**+0.1**
	baz=61,SNR=8.1							
TNTI	**Ternate**	**60.66**	**285**	P		**P**	**11 33 44.6**	**-0.9**
MORW	**Morawa**	**61.35**	**248**	P		**P**	**11 33 50.1**	**+0.1**
	baz=62,SNR=17							
CBIJ	**Chichi jima**	**64.68**	**318**	LR		LR	11 56 09.7	
	comp=Z,796nm,21.7s,baz=123,slow=30							
BKSI	**Bulukumba**	**64.69**	**275**	P		**P**	**11 34 11.2**	**-1.2**
	comp=Z,29nm,1.1s,comp=Z,477nm							
KAPI	**Kappang**	**65.15**	**275**	P		**P**	**11 34 13.5**	**-2.0**
	comp=Z,3.0nm,0.3s,baz=191,slow=14,SNR=7.8							
KAPI	**Kappang**	**65.15**	**275**	*e*P		**P**	**11 34 13.5**	**-2.0**
	comp=Z,20nm,1.0s							
KAPI				*e*pP		**pP**	**11 34 30.8**	**+4.6**
KAPI	**Kappang**	**65.15**	**275**	P		**P**	**11 34 14.2**	**-1.2**
	comp=Z,23nm,1.4s							
KAPI	**Kappang**	**65.15**	**275**	P		**P**	**11 34 14.2**	**-1.2**
	comp=Z,23nm,1.4s							
DAV	**Davao City (W)**	**65.19**	**290**	LR		LR	12 01 50.8	
	comp=Z,364nm,18.1s,baz=191,slow=35							
MRSI	**Marisa**	**65.40**	**282**	P		**P**	**11 34 15.8**	**-1.2**
	comp=Z,19nm,1.1s							
SPSI	**Sidrap Palu**	**65.55**	**276**	P		**P**	**11 34 16.1**	**-1.9**
	comp=Z,24nm,1.2s							
TTSI	**Tana Toraja**	**65.87**	**277**	P		**P**	**11 34 19.1**	**-0.9**
QSPA	**South Pole Qui**	**67.06**	**180**	P		**P**	**11 34 27.8**	**+0.9**
	comp=Z,16nm,1.0s,baz=28,slow=3.3,SNR=25							
QSPA	**South Pole Qui**	**67.06**	**180**	*e*P		**P**	**11 34 28.6**	**+1.6**
	comp=Z,61nm,1.3s							
MYLDM	**Lahad Datu**	**70.54**	**285**	P		**P**	**11 34 49.6**	**+0.3**
MYLDM	**Lahad Datu**	**70.54**	**285**	P		**P**	**11 34 51.8**	**+2.5**
	comp=Z,52nm,1.4s,comp=Z,1μm							
TSM	**Tawau**	**70.71**	**283**	P		**P**	**11 34 50.2**	**-0.1**
SDKM	**Sandakan**	**71.91**	**284**	P		**P**	**11 34 58.0**	**+0.3**
MJAR	**Matsushiro Arr**	**73.81**	**322**	P		**P**	**11 35 06.2**	**-2.3**
	comp=Z,5.8nm,0.8s,baz=165,slow=5.5,SNR=15							
MJAR				LR		LR	12 07 11.2	
	comp=Z,276nm,18.1s,baz=155,slow=36							
MJAR	**Matsushiro Arr**	**73.81**	**322**	P		**P**	**11 35 06.2**	**-2.3**
MAT	**Matsushiro**	**73.81**	**322**	P		**P**	**11 35 06.5**	**-1.9**
MAT				S		**S**	**11 44 40.0**	**+2.5**
BTM	**Bintulu**	**74.56**	**280**	P		**P**	**11 35 14.0**	**+0.7**
SBUM	**Sibu**	**75.03**	**279**	P		**P**	**11 35 16.7**	**+0.7**
SBUM	**Sibu**	**75.03**	**279**	P		**P**	**11 35 16.4**	**+0.4**
	comp=Z,12nm,1.6s,comp=Z,520nm							
YUK	**Yuzh-Kuril'sk**	**75.70**	**332**	*d* iP		P	11 35 14.7	-4.4
YUK				*i*			11 38 03.9	
YUK				*e*PPP		PPP	11 39 51.3	
YUK				pmax		pmax		
	comp=E,81nm,0.7s							
YUK				pmax		pmax		
	comp=N,285nm,1.4s							
YUK				pmax		pmax		
	comp=Z,452nm,1.4s							
YUK				pmax		pmax		
	comp=Z,2μm,3.4s							
YUK				MLR		MLR		
	comp=Z,427nm,22.0s							
KUM	**Kumamoto**	**75.84**	**315**	P		**P**	**11 35 19.7**	**-0.4**
	baz=87,SNR=11							
JNU	**Nakatsue**	**75.93**	**316**	P		**P**	**11 35 19.5**	**-1.2**
	comp=Z,13nm,0.9s,baz=152,slow=9.8,SNR=3.7							
JNU	**Nakatsue**	**75.93**	**316**	P		**P**	**11 35 19.5**	**-1.2**
KSM	**Kuching**	**76.38**	**278**	*e*P		**P**	**11 35 22.6**	**-1.1**
	comp=Z,23nm,0.9s							
KSM	**Kuching**	**76.38**	**278**	P		**P**	**11 35 24.0**	**+0.2**
	baz=77,SNR=11							
KSM	**Kuching**	**76.38**	**278**	P		**P**	**11 35 23.7**	**0.0**
KSM	**Kuching**	**76.38**	**278**	P		**P**	**11 35 23.6**	**-0.1**
	comp=Z,32nm,1.2s,comp=Z,708nm							
ASAJ	**Asahikawa**	**77.21**	**330**	P		**P**	**11 35 28.2**	**+0.5**
	comp=Z,49nm,1.0s,baz=230,slow=13,SNR=13							
ASAJ	**Asahikawa**	**77.21**	**330**	*e*P		**P**	**11 35 28.7**	**+1.0**
	comp=Z,26nm,1.0s							
SCI	**San Clemente I**	**77.55**	**46**	⇓P		**P**	**11 35 30.5**	**+0.6**
	baz=78							
TPUB	**Ta-pu**	**77.56**	**302**	*e*P		**P**	**11 35 27.9**	**-2.3**
	comp=Z,65nm,1.0s							
CIS	**Catalina Islan**	**77.91**	**46**	⇓P		**P**	**11 35 32.3**	**+0.4**
	baz=78							
PTRM	**Twissleman Ran**	**78.15**	**43**	*e*P		**P**	**11 35 35.2**	**+2.0**
PTRM				*e*pP		**pP**	**11 35 45.6**	**+1.4**
MWC	**Mount Wilson**	**78.64**	**45**	*e*P		**P**	**11 35 37.7**	**+1.6**
MWC				pmax		pmax		
	comp=Z,23nm,1.2s							
MWC	**Mount Wilson**	**78.64**	**45**	*e*P		**P**	**11 35 37.7**	**+1.6**
	comp=Z,23nm,1.2s							
ARVC	**Arvin**	**78.70**	**44**	⇓P		**P**	**11 35 36.9**	**+0.8**
	baz=79							
MURC	**Murrieta**	**78.83**	**46**	⇓P		**P**	**11 35 37.8**	**+0.8**
	baz=79							
BFSC	**Mount Baldy Ra**	**78.91**	**45**	⇓P		**P**	**11 35 38.1**	**+0.5**
	baz=79,SNR=5.0							
MONP	**Monument Peak**	**78.92**	**47**	⇑P		**P**	**11 35 38.1**	**+0.4**
	baz=79							
VES	**Vestal, Richgr**	**78.98**	**43**	⇓P		**P**	**11 35 38.9**	**+1.2**
	baz=79,SNR=9.9							
PET	**Petropavlovsk**	**79.08**	**344**	*e*P		**P**	**11 35 35.7**	**-2.1**
PET				*e*S		**S**	**11 45 35.8**	**+1.4**
PET				*e*PS		PnS	11 46 32.2	+11
PET				pmax		pmax		
	comp=Z,300nm,9.4s							
PET				pmax		pmax		
	comp=Z,34nm,1.2s							
PET				MLR		MLR		
	comp=Z,900nm,15.0s							
PET				MLR		MLR		
	comp=Z,800nm,16.0s							
EDW2	**Edwards Air Fo**	**79.09**	**45**	⇑P		**P**	**11 35 39.0**	**+0.6**
	baz=79,SNR=9.9							
ISA	**Isabella**	**79.26**	**44**	*e*P		**P**	**11 35 39.9**	**+0.6**
ISA				pmax		pmax		
	comp=Z,38nm,1.3s							
ISA	**Isabella**	**79.26**	**44**	*e*P		**P**	**11 35 39.9**	**+0.6**
	comp=Z,38nm,1.3s							
ISA	**Isabella**	**79.26**	**44**	⇓P		**P**	**11 35 40.1**	**+0.8**
	baz=80,SNR=12							
PFO	**Pinyon Flat Ob**	**79.33**	**47**	*e*P		**P**	**11 35 40.0**	**+0.2**
	comp=Z,29nm,1.3s							
PFO	**Pinyon Flat Ob**	**79.33**	**47**	⇑P		**P**	**11 35 40.5**	**+0.6**
	baz=80,SNR=8.3							
YSS	**Yuzh-Sakhalins**	**79.34**	**332**	*i* iP		**P**	**11 35 40.0**	**+0.6**
YSS				*e*			11 35 50.0	
YSS				*e*S		**S**	**11 45 41.0**	**+3.6**
YSS				*e*PS		PnS	11 46 13.0	-11
YSS				pmax		pmax		
	comp=Z,80nm,1.0s							
YSS				pmax		pmax		
	comp=Z,1μm,4.0s							
YSS				MLR		MLR		
	comp=Z,500nm,19.0s							
YSS	**Yuzh-Sakhalins**	**79.34**	**332**	*e*P		**P**	**11 35 40.4**	**+1.0**
	comp=Z,70nm,1.0s							
SWSC	**Sam W. Stewart**	**79.37**	**47**	⇓P		**P**	**11 35 40.6**	**+0.7**
	baz=80							
PETK	**Petropavlovsk-**	**79.40**	**344**	P		**P**	**11 35 38.1**	**-1.5**
	comp=Z,12nm,0.9s,baz=134,slow=8.5,SNR=7.0							
PETK				LR		LR	12 05 28.5	
	comp=Z,472nm,19.7s,baz=68,slow=32							
PETK	**Petropavlovsk-**	**79.40**	**344**	P		**P**	**11 35 38.1**	**-1.5**
PETK	**Petropavlovsk-**	**79.40**	**344**	P		**P**	**11 35 38.1**	**-1.5**
KHMM	**Horse Mountain**	**79.51**	**37**	*e*P		P	11 35 43.7	+3.0
	comp=Z,37nm,1.4s							
KHMM				*e*pP		pP	11 35 52.8	+1.1
CMB	**Columbia Colle**	**79.57**	**41**	*e*P		**P**	**11 35 41.3**	**+0.4**
CMB				pmax		pmax		
	comp=Z,27nm,1.3s							
CMB	**Columbia Colle**	**79.57**	**41**	*e*P		**P**	**11 35 41.3**	**+0.4**
	comp=Z,27nm,1.3s							
LRMC	**Laurel Mountai**	**79.65**	**44**	⇓P		**P**	**11 35 42.1**	**+0.6**
	baz=80							
OHCM	**Honcut**	**79.76**	**39**	*e*P		**P**	**11 35 43.8**	**+1.9**
KRMB	**Red Mountain**	**79.85**	**37**	*e*P		**P**	**11 35 43.7**	**+1.2**
	comp=Z,104nm,1.7s							
KRMB				*e*pP		**pP**	**11 35 55.8**	**+2.3**
BELC	**Belle Mtn. Jos**	**79.86**	**46**	⇑P		**P**	**11 35 43.1**	**+0.4**
	baz=80,SNR=15							
WDC	**Whiskeytown Da**	**79.97**	**38**	*e*P		**P**	**11 35 43.6**	**+0.6**
WDC				*e**PP		**pP**	**11 35 55.0**	**+1.0**
WDC				pmax		pmax		
	comp=Z,34nm,1.2s							
WDC	**Whiskeytown Da**	**79.97**	**38**	*e*P		**P**	**11 35 43.6**	**+0.6**
	comp=Z,34nm,1.2s							
WDC				*e*pP		**pP**	**11 35 55.0**	**+1.0**
CWC	**Cottonwood Cre**	**79.99**	**43**	⇑P		**P**	**11 35 43.7**	**+0.3**
	baz=80							
QZH	**Quanzhou**	**80.00**	**302**	*i* iP		**P**	**11 35 44.5**	**+1.0**
QZH				*e*S		**S**	**11 45 44.5**	**-0.8**
QZH				pmax		pmax		
	comp=Z,1μm,5.0s							
QZH				LR		LR		
	comp=Z,1μm,17.5s							
BC3	**Big Chuckawall**	**80.03**	**47**	⇓P		**P**	**11 35 44.6**	**+1.0**
	baz=80,SNR=16							
MAW	**Mawson**	**80.08**	**199**	LR		LR	12 08 20.5	
	comp=Z,1μm,18.5s,baz=125,slow=34							
GLA	**Glamis**	**80.10**	**48**	*e*P		**P**	**11 35 46.0**	**+2.0**
GLA				pmax		pmax		
	comp=Z,45nm,1.3s							
GLA	**Glamis**	**80.10**	**48**	*e*P		**P**	**11 35 46.0**	**+2.0**
	comp=Z,44nm,1.3s							
GLA	**Glamis**	**80.10**	**48**	⇑P		**P**	**11 35 44.6**	**+0.7**
	baz=80							
GSC	**Goldstone**	**80.11**	**45**	*e*P		**P**	**11 35 44.3**	**+0.3**
GSC				pmax		pmax		
	comp=Z,25nm,1.3s							
GSC	**Goldstone**	**80.11**	**45**	*e*P		**P**	**11 35 44.3**	**+0.3**
	comp=Z,25nm,1.3s							
GSC	**Goldstone**	**80.11**	**45**	⇑P		**P**	**11 35 44.7**	**+0.7**
	baz=80,SNR=9.7							
MPMC	**Manual Prospec**	**80.13**	**44**	⇓P		**P**	**11 35 45.0**	**+0.7**
	baz=80,SNR=14							
HEC	**Hector,Ludlow**	**80.14**	**46**	⇑P		**P**	**11 35 44.6**	**+0.4**
	baz=80,SNR=9.1							
MTUM	**Tungsten Hills**	**80.25**	**42**	*e*P		**P**	**11 35 45.6**	**+0.8**
MLAC	**Mammoth Lakes**	**80.26**	**42**	⇑P		**P**	**11 35 45.7**	**+0.7**
	baz=81							
IRM	**Iron Mountain**	**80.53**	**47**	⇓P		**P**	**11 35 47.4**	**+1.2**
	baz=81,SNR=14							
KSRS	**Korea Array**	**80.53**	**317**	P		**P**	**11 35 46.2**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=138,slow=6.1,SNR=21							
KSAR	**Wonju Array Be**	**80.55**	**317**	P		**P**	**11 35 46.2**	**0.0**
GMRC	**Granite Mounta**	**80.55**	**46**	⇓P		**P**	**11 35 47.3**	**+0.9**
	baz=81,SNR=8.2							
USHA	**Ushuaia**	**80.56**	**146**	LR		LR	12 06 07.2	
	comp=Z,525nm,18.1s,baz=32,slow=32							
YBH	**Yreka Blue Hor**	**80.65**	**37**	P		**P**	**11 35 45.9**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=142,slow=14,SNR=18							
YBH	**Yreka Blue Hor**	**80.65**	**37**	*e*P		**P**	**11 35 47.5**	**+0.8**
	comp=Z,31nm,1.3s							
YBH				*e*pP		**pP**	**11 35 59.1**	**+1.3**
113A	**Mohawk Valley,**	**80.66**	**49**	⇑P		**P**	**11 35 47.8**	**+0.9**
	baz=81							
Y12C	**Blythe**	**80.71**	**47**	⇓P		**P**	**11 35 48.2**	**+1.0**
	baz=81							
WCN	**Washoe City**	**80.76**	**40**	*e*P		**P**	**11 35 47.8**	**+0.3**
WCN		

U15A	**North Rim**	**83.74**	**46**	⇓P		**P**		**11 36 03.4**	**+0.1**
	baz=84,SNR=36								
ARUT	**Antelope Range**	**83.77**	**45**	*e*P		**P**		**11 36 04.1**	**+0.8**
ARUT				*e*PP		**pP**		**11 36 15.7**	**+1.4**
ARUT				pmax		pmax			
	comp=Z,35nm,1.2s								
ARUT	**Antelope Range**	**83.77**	**45**	*e*P		**P**		**11 36 04.1**	**+0.8**
	comp=Z,36nm,1.2s								
ARUT				*e*pP		**pP**		**11 36 15.7**	**+1.4**
WUAZ	**Wupatki**	**83.85**	**47**	*e*P		**P**		**11 36 06.0**	**+2.3**
	comp=Z,37nm,1.2s								
WUAZ				*e*pP		**pP**		**11 36 16.2**	**+1.4**
WUAZ	**Wupatki**	**83.85**	**47**	⇑P		**P**		**11 36 04.8**	**+1.1**
	baz=84,SNR=9.9								
220A	**Playas Peak, P**	**83.89**	**52**	⇑P		**P**		**11 36 05.5**	**+1.5**
	baz=84,SNR=16								
HABR	**Khabarovsk**	**83.95**	**329**	*ce*P		**P**		**11 36 03.3**	**-0.4**
HABR				*e*PP		**pP**		**11 36 13.7**	**-1.0**
HABR				*e*SP		**sP**		**11 36 17.1**	**-1.7**
HABR				*e*		11 39 15.7			
HABR				PPP		PPP		11 41 08.3	
HABR				*e*S		**SKSac**		**11 46 22.5**	**-1.4**
HABR				*e*SS		**SS**		**11 51 52.5**	**-1.7**
HABR				*e*SSS		SSS		11 55 22.1	
HABR				pmax		pmax			
	comp=N,14nm,1.3s								
HABR				pmax		pmax			
	comp=Z,144nm,2.0s								
HABR				pmax		pmax			
	comp=E,47nm,2.0s								
HABR				MLR		MLR			
	comp=Z,520nm,18.0s								
TDL	**Tradedollar La**	**84.03**	**34**	P		**P**		**11 36 04.9**	**+0.5**
MDJ	**Mudanjiang**	**84.11**	**324**	P		**P**		**11 36 05.4**	**+0.8**
MDJ				pP		**pP**		**11 36 14.9**	**-0.8**
MDJ				sP		**sP**		**11 36 18.6**	**-1.1**
MDJ				PP		**PP**		**11 39 16.5**	**-2.9**
MDJ				S		**S**		**11 46 27.5**	**+0.8**
MDJ				sS		**sS**		**11 46 44.3**	**-0.7**
MDJ				pmax		pmax			
	comp=Z,46nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,430nm,5.2s								
MDJ				LR		LR			
	comp=N,310nm,21.5s								
MDJ				LR		LR			
	comp=E,320nm,18.4s								
MDJ				LR		LR			
	comp=Z,710nm,19.4s								
MDJ	**Mudanjiang**	**84.11**	**324**	*e*P		**P**		**11 36 05.3**	**+0.8**
	comp=Z,55nm,1.2s								
120A	**U Bar Ranch, L**	**84.16**	**51**	⇓P		**P**		**11 36 06.4**	**+1.0**
	baz=84,SNR=9.7								
X18A	**Snowflake**	**84.28**	**49**	⇑P		**P**		**11 36 06.5**	**+0.5**
	baz=85,SNR=7.8								
QIZ	**Qiongzhong**	**84.30**	**293**	P		**P**		**11 36 06.4**	**+0.2**
QIZ				S		**S**		**11 46 30.1**	**+0.4**
QIZ				pmax		pmax			
	comp=Z,8.0nm,1.7s								
QIZ				pmax		pmax			
	comp=Z,290nm,8.7s								
QIZ				LR		LR			
	comp=E,170nm,19.2s								
QIZ				LR		LR			
	comp=Z,510nm,19.7s								
ELK	**Elko**	**84.37**	**41**	*e*P		**P**		**11 36 06.6**	**+0.2**
Z20A	**Nine Sixteen R**	**84.48**	**51**	⇓P		**P**		**11 36 08.0**	**+1.0**
	baz=85,SNR=14								
221A	**Mesquite Ranch**	**84.49**	**52**	⇓P		**P**		**11 36 07.7**	**+0.6**
	baz=85								
LON	**Longmire**	**84.50**	**34**	*e*P		**P**		**11 36 06.8**	**+0.2**
LON				pmax		pmax			
	comp=Z,41nm,1.8s								
LON	**Longmire**	**84.50**	**34**	*e*P		**P**		**11 36 06.8**	**+0.2**
	comp=Z,42nm,1.8s								
W18A	**Petrified Fore**	**84.75**	**48**	⇓P		**P**		**11 36 09.3**	**+0.9**
	baz=85								
121A	**Cookes Peak, D**	**84.76**	**52**	⇑P		**P**		**11 36 09.5**	**+1.1**
	baz=85,SNR=5.8								
MVU	**Marysvale**	**84.97**	**45**	*e*P		**P**		**11 36 10.3**	**+0.9**
	comp=Z,36nm,1.2s								
MSU	**Marysvale**	**85.00**	**45**	*e*P		**P**		**11 36 10.8**	**+1.2**
MSU	**Marysvale**	**85.00**	**45**	*e*P		**P**		**11 36 10.8**	**+1.2**
FRIM	**Kepong**	**85.03**	**276**	P		**P**		**11 36 10.9**	**+0.9**
222A	**Williams Famil**	**85.03**	**52**	⇓P		**P**		**11 36 10.5**	**+0.7**
	baz=85								
Y20A	**Horse Springs,**	**85.06**	**50**	⇑P		**P**		**11 36 11.3**	**+1.3**
	baz=85,SNR=24								
Z21A	**St. Cloud Mine**	**85.24**	**51**	⇑P		**P**		**11 36 12.1**	**+1.2**
	baz=86,SNR=18								
X20A	**Quemado**	**85.30**	**50**	⇓P		**P**		**11 36 12.1**	**+0.9**
	baz=86,SNR=22								
SNAA	**Sanae**	**85.41**	**178**	*e*P		**P**		**11 36 11.0**	**+0.1**
	comp=Z,19nm,1.2s								
122A	**Conniff Cattle**	**85.41**	**52**	⇓P		**P**		**11 36 12.2**	**+0.5**
	baz=86								
VNA3	**Neumayer Olymp**	**85.44**	**175**	*e*P		**P**		**11 36 11.4**	**+0.3**
VNA3	**Neumayer Olymp**	**85.44**	**175**	*e*pP		pP		11 36 21.5	-0.7
HAWA	**Hanford**	**85.45**	**35**	*e*P		**P**		**11 36 12.0**	**+0.7**
	comp=Z,46nm,1.4s								
HAWA				*e*pP		**pP**		**11 36 23.5**	**+1.0**
P15A	**Leamington**	**85.53**	**44**	⇑P		**P**		**11 36 13.0**	**+0.9**
	baz=86,SNR=7.4								
DUG	**Dugway**	**85.55**	**43**	*e*P		**P**		**11 36 14.4**	**+2.2**
DUG				*e*PP		**pP**		**11 36 23.9**	**+0.6**
DUG				pmax		pmax			
	comp=Z,12nm,1.3s								
DUG	**Dugway**	**85.55**	**43**	*e*P		**P**		**11 36 14.4**	**+2.2**
	comp=Z,12nm,1.3s								
DUG				*e*pP		**pP**		**11 36 23.9**	**+0.6**
DUG	**Dugway**	**85.55**	**43**	⇓P		**P**		**11 36 12.8**	**+0.6**
	baz=86								
Y21A	**Point of Rocks**	**85.61**	**50**	⇓P		**P**		**11 36 14.0**	**+1.3**
	baz=86,SNR=27								
W20A	**Ramah**	**85.61**	**49**	⇑P		**P**		**11 36 13.4**	**+0.7**
	baz=86,SNR=18								
PLCA	**Paso Flores**	**85.62**	**132**	P		**P**		**11 36 13.9**	**+1.2**
	comp=Z,12nm,1.2s,baz=226,slow=5.1,SNR=9.4								
PLCA				LR		LR		12 06 38.9	
	comp=Z,720nm,20.1s,baz=237,slow=30								
PLCA	**Paso Flores**	**85.62**	**132**	*e*P		**P**		**11 36 14.8**	**+2.1**
	comp=Z,16nm,1.0s								
MFID	**Camas Ranch**	**85.63**	**39**	*e*P		**P**		**11 36 12.3**	**-0.2**
	comp=Z,55nm,1.2s								
MFID	**Camas Ranch**	**85.63**	**39**	⇓P		**P**		**11 36 12.7**	**+0.2**
	baz=86,SNR=6.4								
BMO	**Blue Mountains**	**85.68**	**37**	*e*P		**P**		**11 36 12.0**	**-0.7**
	comp=Z,26nm,1.3s								
Z22A	**Elephant Butte**	**85.72**	**51**	⇑P		**P**		**11 36 13.6**	**+0.3**
	baz=86,SNR=17								
X21A	**Alamocita Cree**	**85.75**	**50**	⇑P		**P**		**11 36 13.9**	**+0.4**
	baz=86,SNR=21								
O15A	**The Old Anders**	**85.81**	**43**	⇑P		**P**		**11 36 14.1**	**+0.5**
	baz=86								
ETW	**Entiat**	**85.82**	**34**	P		**P**		**11 36 13.0**	**-0.4**
Q16A	**Castle Valley**	**85.87**	**45**	⇓P		**P**		**11 36 14.4**	**+0.5**
	baz=86,SNR=8.4								
324A	**Moseley Ranch,**	**85.89**	**53**	⇑P		**P**		**11 36 14.0**	**-0.1**
	baz=86,SNR=7.8								
VNA2	**Neumayer--Watz**	**85.91**	**176**	*e*P		**P**		**11 36 14.2**	**+0.8**
	baz=185,slow=3.0								
VNA2	**Neumayer--Watz**	**85.91**	**176**	*e*PcP		**PcP**		**11 36 17.2**	**+1.1**
	baz=185,slow=3.0								
VNA2	**Neumayer--Watz**	**85.91**	**176**	*e*pP		pP		11 36 26.5	+2.0
	baz=185,slow=3.0								
VNA2	**Neumayer--Watz**	**85.91**	**176**	*e*sP		sP		11 36 29.4	+0.9
	baz=185,slow=3.0								
CN2	**Changchun**	**85.91**	**321**	⇑P		**P**		**11 36 14.3**	**+0.6**
CN2				*e*pP		**pP**		**11 36 24.8**	**0.0**
CN2				*e*S		**S**		**11 46 44.3**	**-0.4**
CN2				pmax		pmax			
	comp=Z,50nm,1.4s								
CN2				pmax		pmax			
	comp=Z,200nm,6.0s								
CN2				LR		LR			
	comp=N,400nm,21.0s								
CN2				LR		LR			
	comp=E,400nm,21.0s								
CN2				LR		LR			
	comp=Z,700nm,22.0s								
425A	**Indio Mountain**	**85.93**	**54**	⇓P		**P**		**11 36 14.5**	**+0.2**
	baz=86,SNR=18								
S18A	**Hurst Farm, Bl**	**85.97**	**46**	⇑P		**P**		**11 36 14.6**	**+0.1**
	baz=86								
626A	**Big Bend Ranch**	**85.97**	**56**	⇑P		**P**		**11 36 15.4**	**+0.9**
	baz=86,SNR=15								
V20A	**Brimhall**	**85.99**	**48**	⇑P		**P**		**11 36 14.7**	**+0.1**
	baz=86								
TMUT	**Trail Mountain**	**86.06**	**44**	*e*P		**P**		**11 36 16.0**	**+1.0**
	comp=Z,60nm,1.2s								
IPM	**Ipoh**	**86.07**	**277**	*e*P		**P**		**11 36 15.0**	**-0.3**
IPM	**Ipoh**	**86.07**	**277**	P		**P**		**11 36 16.3**	**+1.1**
IPM	**Ipoh**	**86.07**	**277**	P		**P**		**11 36 15.8**	**+0.6**
	comp=Z,82nm,1.2s,comp=Z,1μm								
WHN	**Wuhan**	**86.07**	**305**	P		**P**		**11 36 14.1**	**-0.7**
WHN				S		**S**		**11 46 43.8**	**-2.9**
WHN				SS		**SS**		**11 52 30.0**	**+4.0**
WHN				pmax		pmax			
	comp=Z,1μm,5.1s								
WHN				LR		LR			
	comp=Z,2μm,23.2s								
Y22A	**Socorro**	**86.07**	**51**	⇑P		**P**		**11 36 15.7**	**+0.7**
	baz=86,SNR=13								
MNTX	**Cornudas Mount**	**86.09**	**53**	*e*P		**P**		**11 36 14.7**	**-0.2**
	comp=Z,20nm,1.3s								
MNTX				*e*pP		**pP**		**11 36 26.8**	**+0.8**
MNTX	**Cornudas Mount**	**86.09**	**53**	⇓P		**P**		**11 36 15.4**	**+0.5**
	baz=86,SNR=16								
VNA1	**Neumayer--Stat**	**86.12**	**176**	*e*P		**P**		**11 36 15.6**	**+1.2**
N15A	**Stansbury Isla**	**86.13**	**42**	⇓P		**P**		**11 36 15.0**	**0.0**
	baz=86								
224A	**Cornudas Mount**	**86.17**	**53**	⇑P		**P**		**11 36 15.7**	**+0.2**
	baz=86,SNR=19								
LENM	**Lemitar**	**86.18**	**50**	*e*P		**P**		**11 36 17.7**	**+2.2**
LAZ	**Ladron**	**86.19**	**50**	*e*P		**P**		**11 36 16.6**	**+1.0**
	comp=Z,19nm,1.3s								
LAZ				*e*pP		**pP**		**11 36 28.1**	**+1.4**
MPU	**Maple Canyon**	**86.19**	**44**	*e*P		**P**		**11 36 17.9**	**+2.5**
	comp=Z,22nm,1.3s								
W21A	**San Fidel**	**86.20**	**49**	⇓P		**P**		**11 36 15.6**	**-0.1**
	baz=86								
TXAR	**Lajitas Array**	**86.22**	**56**	P		**P**		**11 36 15.2**	**-0.5**
	comp=Z,8.3nm,1.1s,baz=216,slow=7.5,SNR=39								
TXAR				LR		LR		12 10 37.1	
	comp=Z,662nm,18.4s,baz=65,slow=33								
TXAR	**Lajitas Array**	**86.22**	**56**	P		**P**		**11 36 15.2**	**-0.5**
325A	**Bean Ranch, Si**	**86.23**	**54**	⇑P		**P**		**11 36 15.8**	**0.0**
	baz=86,SNR=12								
526A	**Mary Lane Ranc**	**86.25**	**55**	⇓P		**P**		**11 36 15.9**	**0.0**
	baz=86,SNR=20								
Z23A	**Rita Site, Whi**	**86.25**	**52**	⇓P		**P**		**11 36 16.2**	**+0.4**
	baz=86,SNR=7.2								
U20A	**Newcomb**	**86.26**	**48**	⇓P		**P**		**11 36 16.1**	**+0.3**
	baz=87								
I12A	**Atlanta**	**86.26**	**39**	⇓P		**P**		**11 36 16.3**	**+0.6**
	baz=87,SNR=10								
X22A	**Bernardo**	**86.33**	**50**	⇑P		**P**		**11 36 16.6**	**+0.3**
	baz=87,SNR=7.3								
L14A	**Malta**	**86.35**	**41**	⇓P		**P**		**11 36 16.4**	**+0.3**
	baz=87								
O16A	**Springville**	**86.38**	**43**	⇓P		**P**		**11 36 16.7**	**+0.4**
	baz=87,SNR=6.5								
SRU	**San Rafael**	**86.40**	**45**	*e*P		**P**		**11 36 16.8**	**+0.3**
SRU				pmax		pmax			
	comp=Z,41nm,1.3s								
SRU	**San Rafael**	**86.40**	**45**	*e*P		**P**		**11 36 16.8**	**+0.3**
	comp=Z,41nm,1.3s								
SRU	**San Rafael**	**86.40**	**45**	⇓P		**P**		**11 36 16.7**	**+0.2**
	baz=87,SNR=14								
BNM	**Barren Site**	**86.42**	**51**	*e*P		**P**		**11 36 18.7**	**+2.0**
	comp=Z,36nm,1.5s								
BNM				*e*pP		**pP**		**11 36 29.2**	**+1.4**
HVU	**Hansel Valley**	**86.48**	**42**	*e*P		**P**		**11 36 17.9**	**+1.1**
HVU				*e*PP		**pP**		**11 36 28.5**	**+0.6**
HVU				pmax		pmax			
	comp=Z,23nm,1.4s								
HVU	**Hansel Valley**	**86.48**	**42**	*e*P		**P**		**11 36 17.9**	**+1.1**
	comp=Z,23nm,1.4s								
HVU				*e*pP		**pP**		**11 36 28.5**	**+0.6**
627A	**Terlingua Ranc**	**86.49**	**56**	⇓P		**P**		**11 36 17.2**	**+0.1**
	baz=87,SNR=20								
LPM	**Los Pinos Moun**	**86.50**	**51**	*e*P		**P**		**11 36 19.1**	**+2.0**
M15A	**Larsen Ranch,**	**86.50**	**42**	⇓P		**P**		**11 36 17.4**	**+0.6**
	baz=87,SNR=6.0								
124A	**Stringfield Ra**	**86.53**	**52**	⇓P		**P**		**11 36 17.8**	**+0.4**
	baz=87,SNR=16								
HLID	**Hailey**	**86.54**	**39**	*e*P		**P**		**11 36 17.4**	**+0.4**
	comp=Z,13nm,1.3s								
HLID	**Hailey**	**86.54**	**39**	⇑P		**P**		**11 36 17.7**	**+0.6**
	baz=87,SNR=5.5								
GAMB	**Gambell**	**86.56**	**2**	*e*P		**P**		**11 36 16.5**	**+0.2**
	comp=Z,44nm,1.2s								
GAMB				*e*pP		**pP**		**11 36 27.7**	**+0.2**
J13A	**Cove Ranch, Pi**	**86.59**	**40**	⇑P		**P**		**11 36 17.5**	**+0.2**
	baz=87,SNR=9.0								
426A	**Mcnutt Closer**	**86.59**	**55**	⇑P		**P**		**11 36 17.7**	**0.0**
	baz=87,SNR=18								
JLU	**Jordanelle**	**86.64**	**43**	*e*P		**P**		**11 36 17.9**	**+0.2**
	comp=Z,26nm,1.5s								
527A	**Woodward Ranch**	**86.65**	**55**	⇓P		**P**		**11 36 17.6**	**-0.3**
	baz=87,SNR=16								
DAU	**Daniels Canyon**	**86.65**	**43**	*e*P		**P**		**11 36 19.6**	**+1.7**
DAU	**Daniels Canyon**	**86.65**	**43**	*e*P		**P**		**11 36 19.6**	**+1.7**
K14A	**Jones Ranch, D**	**86.68**	**41**	⇓P		**P**		**11 36 17.7**	**0.0**
	baz=87								
225A	**Deer Hill, Car**	**86.70**	**53**	⇑P		**P**		**11 36 17.6**	**-0.5**
	baz=87,SNR=9.6								
MVCO	**Mesa Verde**	**86.72**	**47**	*e*P		**P**		**11 36 20.3**	**+2.2**
	comp=Z,14nm,1.3s								
MVCO				*e*pP		**pP**		**11 36 29.9**	**+0.7**
MVCO	**Mesa Verde**	**86.72**	**47**	⇑P		**P**		**11 36 18.1**	**-0.1**
	baz=87								
Y23A	**Lovelace Mesa,**	**86.72**	**51**	⇓P		**P**		**11 36 18.1**	**-0.1**
	baz=87,SNR=11								
KULM	**Kulim**	**86.73**	**277**	*e*P		**P**		**11 36 18.8**	**+0.3**
	comp=Z,169nm,1.8s								
KULM	**Kulim**	**86.73**	**277**	P		**P**		**11 36 20.0**	**+1.6**
KULM	**Kulim**	**86.73**	**277**	P		**P**		**11 36 19.4**	**+1.0**
	comp=Z,56nm,1.8s,comp=Z,1μm								
N16A	**Rees Ranch, Co**	**86.81**	**43**	⇓P		**P**		**11 36 18.5**	**+0.1**
	baz=87,SNR=6.3								
L15A	**Malad City**	**86.85**	**42**	⇑P		**P**		**11 36 18.5**	**-0.1**
	baz=87,SNR=6.0								
O17A	**Robinson Place**	**86.86**	**44**	⇓P		**P**		**11 36 18.4**	**-0.3**
	baz=87,SNR=14								
H12A	**Diamond D Ranc**	**86.88**	**38**	⇑P		**P**		**11 36 18.3**	**-0.4**
	baz=87,SNR=7.1								
U21A	**Nageezi**	**86.88**	**48**	⇓P		**P**		**11 36 19.0**	**0.0**
	baz=87,SNR=15								
PMR	**Palmer**	**86.89**	**12**	*e*P		**P**		**11 36 18.2**	**+0.2**
PMR				*e*PP		**pP**		**11 36 29.1**	**0.0**
PMR				pmax		pmax			
	comp=Z,67nm,1.7s								
PMR	**Palmer**	**86.89**	**12**	*e*P		**P**		**11 36 18.2**	**+0.2**
	comp=Z,67nm,1.7s								
PMR				*e*pP		**pP**		**11 36 29.1**	**0.0**
628A	**Black Gap, Mar**	**86.89**	**56**	⇓P		**P**		**11 36 18.4**	**-0.6**
	baz=87								
Z24A	**Sheeppen Canyo**	**86.91**	**52**	⇓P		**P**		**11 36 19.3**	**+0.1**
	baz=87,SNR=12								
I13A	**Wildhorse Cree**	**86.92**	**39**	⇑P		**P**		**11 36 18.9**	**-0.1**
	baz=87								
M16A	**Huntsville**	**86.92**	**42**	⇑P		**P**		**11 36 18.9**	**-0.1**
	baz=87,SNR=8.1								
J14A	**Carey**	**86.93**	**40**	⇓P		**P**		**11 36 19.0**	**+0.1**
	baz=87,SNR=11								
326A	**Caldwell Ranch**	**86.94**	**54**	⇑P		**P**		**11 36 19.2**	**-0.1**
	baz=87,SNR=6.2								
ANMO	**Albuquerque**	**86.95**	**50**	*e*P		**P**		**11 36 19.2**	**-0.1**
	comp=Z,27nm,1.2s								
X23A	**Hourglass Bar**	**86.95**	**50**	⇓P		**P**		**11 36 18.8**	**-0.5**
	baz=87,SNR=5.1								
G12A	**Big Creek, Yel**	**86.96**	**38**	⇓P		**P**		**11 36 19.0**	**0.0**
	baz=87,SNR=8.6								
PV04	**Paradox Valley**	**87.07**	**46**	*e*P		**P**		**11 36 21.9**	**+2.2**
PV04				*e*pP		**pP**		**11 36 31.1**	**+0.2**
GDL2	**Guadalupe Moun**	**87.09**	**53**	*e*P		**P**		**11 36 20.6**	**+0.6**
125A	**Gardner Draw,**	**87.10**	**53**	⇓P		**P**		**11 36 19.5**	**-0.4**
	baz=87,SNR=11								
V22A	**San Miguel Ran**	**87.13**	**49**	⇓P		**P**		**11 36 19.9**	**-0.2**
	baz=87								
HWUT	**Hardware Ranch**	**87.13**	**42**	*e*P		**P**		**11 36 20.0**	**0.0**
S20A	**Disappointment**	**87.14**	**47**	⇑P		**P**		**11 36 20.4**	**+0.2**
	baz=87,SNR=7.2								
Q19A	**Hogan Spring (**	**87.14**	**45**	⇑P		**P**		**11 36 20.1**	**+0.1**
	baz=87,SNR=7.1								
427A	**Hayter Ranch,**	**87.15**	**55**	⇓P		**P**		**11 36 20.5**	**+0.3**
	baz=87,SNR=26								
PV01	**Paradox Valley**	**87.16**	**46**	*e*P		**P**		**11 36 20.1**	**-0.2**
	comp=Z,1μm,1.3s								
PV01				*e*pP		**pP**		**11 36 31.8**	**+0.4**
Y24A	**Capitan**	**87.16**	**51**	⇓P		**P**		**11 36 20.6**	**+0.3**
	baz=87,SNR=24								
N17A	**Moffit Pass**	**87.22**	**43**	⇓P		**P**		**11 36 20.9**	**+0.4**
	baz=88,SNR=10								
H13A	**Challis**	**87.23**	**39**	⇓P		**P**		**11 36 20.8**	**+0.5**
	baz=88,SNR=6.9								
T21A	**Navajo Lake**	**87.25**	**48**	⇓P		**P**		**11 36 20.6**	**-0.2**
	baz=88								
W23A	**Werner Place,**	**87.27**	**50**	⇑P		**P**		**11 36 21.3**	**+0.4**
	baz=88,SNR=8.8								
BMRM	**Bremner River**	**87.28**	**14**	*e*P		**P**		**11 36 21.6**	**+1.6**
	comp=Z,33nm,1.2s								
528A	**Cox Ranch, San**	**87.29**	**56**	⇓P		**P**		**11 36 21.2**	**+0.2**
	baz=88,SNR=16								
R20A	**Redvale**	**87.31**	**46**	⇓P		**P**		**11 36 20.7**	**-0.3**
	baz=88								
I14A	**Mackay**	**87.32**	**40**	⇑P		**P**		**11 36 20.7**	**-0.2**
	baz=88								
PSI	**Prapat**	**87.34**	**274**	P		**P**		**11 36 21.6**	**0.0**
	baz=88,SNR=15								
PSI	**Prapat**	**87.34**	**274**	P		**P**		**11 36 21.5**	**-0.1**
	comp=Z,74nm,1.4s,comp=Z,1μm								
Z25A	**Roswell**	**87.36**	**52**	⇑P		**P**		**11 36 21.9**	**+0.7**
	baz=88,SNR=13								
F12A	**Elk City**	**87.38**	**37**	⇓P		**P**		**11 36 20.8**	**-0.2**
	baz=88								
U22A	**Llaves**	**87.40**	**49**	⇓P		**P**		**11 36 21.5**	**0.0**
	baz=88								
S21A	**Coal Bank Pass**	**87.43**	**47**	⇑P		**P**		**11 36 21.6**	**0.0**
	baz=88,SNR=6.2								
L16A	**Fish Haven**	**87.44**	**42**	⇓P		**P**		**11 36 21.5**	**0.0**
	baz=88,SNR=7.8								
CLNB	**Carlsbad**	**87.48**	**53**	*e*P		**P**		**11 36 23.6**	**+1.8**
	comp=Z,1.2nm,0.2s								
CLNB				*e*pP		**pP**		**11 36 33.4**	**+0.5**
V23A	**Ortiz Mt. (NFS**	**87.55**	**49**	⇑P		**P**		**11 36 22.7**	**+0.5**
	baz=88,SNR=7.6								
G13A	**Cobalt**	**87.56**	**38**	⇑P		**P**		**11 36 21.9**	**0.0**
	baz=88								
126A	**Clayton Basin,**	**87.56**	**53**	⇑P		**P**		**11 36 22.1**	**-0.1**
	baz=88								
J15A	**Blackfoot**	**87.62**	**40**	⇑P		**P**		**11 36 22.1**	**-0.2**
	baz=88,SNR=5.5								
428A	**Kincaid Ranch,**	**87.63**	**55**	⇓P		**P**		**11 36 22.8**	**+0.3**
	baz=88,SNR=8.2								
P19A	**Cripple Cowboy**	**87.69**	**45**	⇓P		**P**		**11 36 22.1**	**-0.6**
	baz=88								
Y25A	**Mesa, Roswell**	**87.69**	**52**	⇑P		**P**		**11 36 22.9**	**0.0**
	baz=88,SNR=16								
T22A	**Edith**	**87.70**	**48**	⇑P		**P**		**11 36 22.5**	**-0.4**
	baz=88								
529A	**Stev Forest Ra**	**87.70**	**56**	⇓P		**P**		**11 36 22.6**	**-0.2**
	baz=88								
H14A	**Leadore**	**87.77**	**39**	⇑P		**P**		**11 36 22.7**	**-0.3**
	baz=88								
Q20A	**Ridgley Place,**	**87.78**	**46**	⇓P		**P**		**11 36 22.5**	**-0.6**
	baz=88,SNR=7.4								
K16A	**Soda Springs**	**87.81**	**41**	⇓P		**P**		**11 36 22.9**	**-0.3**
	baz=88								
W24A	**Lazy 6 Ranch,**	**87.82**	**50**	⇓P		**P**		**11 36 23.6**	**+0.1**
	baz=88,SNR=10								
L17A	**Cokeville**	**87.83**	**42**	⇓P		**P**		**11 36 23.2**	**-0.2**
	baz=88								
U23A	**El Rito**	**87.84**	**49**	⇑P		**P**		**11 36 23.9**	**+0.4**
	baz=88,SNR=12								
328A	**Wristen Ranch,**	**87.85**	**55**	⇓P		**P**		**11 36 23.2**	**-0.3**
	baz=88								
Z26A	**Caprock**	**87.89**	**53**	⇓P		**P**		**11 36 23.7**	**-0.1**
	baz=88,SNR=11								
NEW	**Newport**	**87.90**	**35**	P		**P**		**11 36 22.3**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=282,slow=3.3,SNR=6.8								
NEW	**Newport**	**87.90**	**35**	*e*P		**P**		**11 36 23.1**	**-0.2**
	comp=Z,16nm,1.4s								
NEW				*e*pP		**pP**		**11 36 34.1**	**-0.4**
NEW	**Newport**	**87.90**	**35**	⇓P		**P**		**11 36 23.2**	**-0.2**
	baz=88								
F13A	**Darby**	**87.91**	**38**	⇑P		**P**		**11 36 22.7**	**-0.9**
	baz=88								
I15A	**Monteview**	**87.93**	**40**	⇑P		**P**		**11 36 23.2**	**-0.5**
	baz=88								
O19A	**Miners Draw (B**	**87.95**	**44**	⇑P		**P**		**11 36 23.5**	**-0.4**

MSO	**Missoula**	**88.75**	**37**	*eP*		**P**	**11 36 28.9**	**+1.5**
MSO				*epP*		**pP**	**11 36 36.7**	**-1.8**
MSO	**Missoula**	**88.75**	**37**	⇓P		**P**	**11 36 27.5**	**0.0**
	baz=89							
E14A	**Clinton**	**88.75**	**38**	⇑P		**P**	**11 36 27.5**	**0.0**
	baz=89,SNR=5.6							
SMCO	**Snowmass**	**88.77**	**46**	*eP*		**P**	**11 36 30.4**	**+2.2**
	comp=Z,22nm,1.3s							
L19A	**Farson**	**88.78**	**43**	⇓P		**P**	**11 36 27.4**	**-0.5**
	baz=89,SNR=7.8							
Y27A	**Causey**	**88.79**	**52**	⇓P		**P**	**11 36 27.5**	**-0.5**
	baz=89							
N20A	**Spence Gulch,**	**88.79**	**44**	⇓P		**P**	**11 36 27.8**	**-0.2**
	baz=89,SNR=7.6							
IMW	**Indian Meadow**	**88.80**	**41**	*eP*		**P**	**11 36 29.4**	**+1.4**
	comp=Z,19nm,1.5s							
732A	**Laxson Ranch,**	**88.80**	**58**	⇑P		**P**	**11 36 27.8**	**-0.2**
	baz=89,SNR=8.7							
MOOW	**Moose Ponds**	**88.83**	**41**	*eP*		**P**	**11 36 30.2**	**+2.1**
	comp=Z,24nm,2.0s							
B12A	**Libby**	**88.83**	**35**	⇓P		**P**	**11 36 27.8**	**0.0**
	baz=89,SNR=6.7							
LOHW	**Long Hollow**	**88.84**	**41**	*eP*		**P**	**11 36 27.4**	**-0.7**
	comp=Z,36nm,2.0s							
PAX	**Paxson**	**88.87**	**13**	*eP*		**P**	**11 36 27.6**	**0.0**
PAX					pmax	pmax		
	comp=Z,24nm,1.3s							
PAX	**Paxson**	**88.87**	**13**	*eP*		**P**	**11 36 27.6**	**0.0**
	comp=Z,24nm,1.3s							
BSMT	**Bassoo Peak**	**88.89**	**36**	*eP*		**P**	**11 36 27.5**	**-0.7**
C13A	**Hot Springs**	**88.90**	**36**	⇑P		**P**	**11 36 28.0**	**-0.1**
	baz=89							
J18A	**Kendall Valley**	**88.97**	**42**	⇓P		**P**	**11 36 28.7**	**-0.1**
	baz=89,SNR=14							
F15A	**Butte**	**88.99**	**38**	⇑P		**P**	**11 36 28.7**	**0.0**
	baz=89							
LRM	**Limekiln Ridge**	**89.00**	**38**	*eP*		P	11 36 31.9	+3.1
531A	**Rocksprings**	**89.00**	**57**	⇓P		**P**	**11 36 29.1**	**+0.1**
	baz=89,SNR=11							
T24A	**Torres, Weston**	**89.00**	**49**	⇓P		**P**	**11 36 28.6**	**-0.6**
	baz=89							
BW06	**Boulder Array**	**89.01**	**42**	*eP*		**P**	**11 36 27.8**	**-1.2**
BW06	**Boulder Array**	**89.01**	**42**	⇑P		**P**	**11 36 28.9**	**-0.1**
	baz=89							
PDAR	**Pinedale Array**	**89.01**	**42**	P		**P**	**11 36 27.6**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=201,slow=3.5,SNR=14							
PDAR	**Pinedale Array**	**89.01**	**42**	P		**P**	**11 36 27.6**	**-1.4**
I17A	**Pilgrim Ck.**	**89.03**	**41**	⇑P		**P**	**11 36 29.2**	**+0.2**
	baz=89							
QLMT	**Earthquake Lak**	**89.03**	**40**	*eP*		**P**	**11 36 31.5**	**+2.5**
QLMT				*epP*		**pP**	**11 36 40.8**	**+0.7**
G16A	**Moss Hill, Enn**	**89.03**	**39**	⇑P		**P**	**11 36 29.3**	**+0.4**
	baz=89							
FLWY	**Flagg Ranch**	**89.04**	**41**	*eP*		**P**	**11 36 31.4**	**+2.3**
	comp=Z,22nm,1.4s							
FLWY				*epP*		**pP**	**11 36 41.2**	**+1.0**
H16A	**Russell Place,**	**89.06**	**40**	⇓P		**P**	**11 36 29.6**	**+0.5**
	baz=89,SNR=5.6							
Z28A	**Tucker Farm, M**	**89.07**	**53**	⇓P		**P**	**11 36 29.6**	**+0.3**
	baz=89							
A12A	**Yaak River Ran**	**89.08**	**35**	⇑P		**P**	**11 36 28.5**	**-0.5**
	baz=89,SNR=6.6							
JTMT	**Jette**	**89.10**	**36**	*eP*		**P**	**11 36 29.6**	**+0.5**
MSTX	**Muleshoe**	**89.11**	**52**	⇓P		**P**	**11 36 29.0**	**-0.5**
	baz=89							
U25A	**Circle Dot Ran**	**89.12**	**50**	⇓P		**P**	**11 36 29.1**	**-0.5**
	baz=89,SNR=5.9							
P22A	**Eagle**	**89.13**	**46**	⇓P		**P**	**11 36 29.0**	**-0.6**
	baz=89							
D14A	**Greenough**	**89.14**	**37**	⇓P		**P**	**11 36 28.7**	**-0.6**
	baz=89,SNR=6.7							
S24A	**Houchin Ranch,**	**89.18**	**48**	⇓P		**P**	**11 36 29.7**	**-0.2**
	baz=90,SNR=5.2							
CHMT	**Chamberlain Mo**	**89.18**	**37**	*eP*		**P**	**11 36 28.9**	**-0.7**
M20A	**Sweetwater, Wa**	**89.19**	**44**	⇑P		**P**	**11 36 29.7**	**-0.1**
	baz=90							
431A	**Sonora**	**89.19**	**56**	⇑P		**P**	**11 36 29.8**	**-0.1**
	baz=90							
X27A	**F and S Farms,**	**89.20**	**52**	⇑P		**P**	**11 36 29.6**	**-0.3**
	baz=90							
YMR	**Madison River**	**89.21**	**40**	*eP*		P	11 36 33.3	+3.5
	comp=Z,26nm,1.8s							
YMR				*epP*		pP	11 36 42.0	+1.0
N21A	**Black Mountain**	**89.23**	**45**	⇑P		**P**	**11 36 29.8**	**-0.3**
	baz=90							
SLMT	**Seeley Lake**	**89.24**	**37**	*eP*		**P**	**11 36 30.6**	**+0.8**
SLMT				*epP*		**pP**	**11 36 40.6**	**-0.4**
E15A	**Deer Lodge**	**89.24**	**38**	⇑P		**P**	**11 36 29.7**	**-0.2**
	baz=90,SNR=5.2							
V26A	**Tequesquite Ra**	**89.26**	**50**	⇑P		**P**	**11 36 29.9**	**-0.3**
	baz=90							
632A	**Uvalde**	**89.29**	**58**	⇓P		**P**	**11 36 30.3**	**0.0**
	baz=90,SNR=7.9							
I18A	**Diamond G Ranc**	**89.36**	**41**	⇓P		**P**	**11 36 30.4**	**-0.2**
	baz=90							
L20A	**Wamsutter**	**89.37**	**43**	⇓P		**P**	**11 36 30.5**	**-0.1**
	baz=90,SNR=7.4							
B13A	**Whitefish**	**89.38**	**36**	⇑P		**P**	**11 36 29.9**	**-0.4**
	baz=90							
W27A	**Bowe Ranch, En**	**89.43**	**51**	⇑P		**P**	**11 36 30.5**	**-0.4**
	baz=90							
SEY	**Seymchan**	**89.44**	**346**	*ceP*		**P**	**11 36 29.0**	**-1.2**
F16A	**Kennard Place,**	**89.45**	**39**	⇑P		**P**	**11 36 30.5**	**-0.3**
	baz=90							
532A	**Rocksprings**	**89.48**	**57**	⇓P		**P**	**11 36 31.4**	**+0.1**
	baz=90,SNR=14							
T25A	**Trinidad**	**89.48**	**49**	⇓P		**P**	**11 36 30.8**	**-0.5**
	baz=90							
K19A	**Absolon Red Bu**	**89.48**	**42**	⇓P		**P**	**11 36 30.6**	**-0.6**
	baz=90							
LKWY	**Lake**	**89.49**	**40**	*eP*		P	11 36 34.4	+3.2
LKWY					pmax	pmax		
	comp=Z,18nm,1.4s							
LKWY	**Lake**	**89.49**	**40**	*eP*		P	11 36 34.4	+3.2
	comp=Z,18nm,1.4s							
R24A	**Sanders Place,**	**89.54**	**48**	⇑P		**P**	**11 36 31.2**	**-0.4**
	baz=90							
BJI	**Beijing**	**89.55**	**314**	P		**P**	**11 36 31.6**	**+0.4**
BJI				SS		SS	11 53 18.6	+2.1
BJI					pmax	pmax		
	comp=Z,27nm,1.7s							
BJI					pmax	pmax		
	comp=Z,520nm,3.8s							
BJI					LR	LR		
	comp=N,210nm,11.6s							
BJI					LR	LR		
	comp=E,240nm,10.1s							
BJI					LR	LR		
	comp=Z,260nm,13.3s							
O22A	**Kremmling**	**89.56**	**46**	⇓P		**P**	**11 36 31.0**	**-0.7**
	baz=90							
Z29A	**Hungry Hill Ra**	**89.56**	**53**	⇑P		**P**	**11 36 31.0**	**-0.6**
	baz=90							
U26A	**Atchley Ranch,**	**89.58**	**50**	⇓P		**P**	**11 36 31.3**	**-0.5**
	baz=90							
J19A	**Crowheart**	**89.59**	**42**	⇑P		**P**	**11 36 31.2**	**-0.4**
	baz=90							
331A	**San Angelo**	**89.62**	**56**	⇑P		**P**	**11 36 31.5**	**-0.3**
	baz=90							
P23A	**Jefferson**	**89.62**	**46**	⇓P		**P**	**11 36 31.5**	**-0.6**
	baz=90							
ENH	**Enshi**	**89.64**	**303**	*eP*		**P**	**11 36 33.0**	**+1.1**
	comp=Z,206nm,1.4s							
D15A	**Lincoln**	**89.66**	**37**	⇑P		**P**	**11 36 31.8**	**0.0**
	baz=90,SNR=7.4							
G17A	**Pierce Place,**	**89.71**	**40**	⇑P		**P**	**11 36 32.0**	**-0.1**
	baz=90							
K20A	**Yellowstone Ra**	**89.71**	**43**	⇑P		**P**	**11 36 31.4**	**-0.8**
	baz=90							
JCT	**Junction City**	**89.72**	**57**	*eP*		**P**	**11 36 33.8**	**+1.5**
JCT				*e*PP		**pP**	**11 36 43.6**	**+0.1**
JCT					pmax	pmax		
	comp=Z,33nm,1.8s							
JCT	**Junction City**	**89.72**	**57**	*eP*		**P**	**11 36 33.8**	**+1.5**
	comp=Z,33nm,1.8s							
JCT				*epP*		**pP**	**11 36 43.6**	**+0.1**
S25A	**Robets Cordova**	**89.72**	**49**	⇑P		**P**	**11 36 32.0**	**-0.3**
	baz=90							
A13A	**Flathead Natio**	**89.74**	**35**	⇑P		**P**	**11 36 32.1**	**+0.1**
	baz=90,SNR=9.6							
DOT	**Dot Lake**	**89.77**	**13**	*eP*		**P**	**11 36 31.6**	**-0.1**
	comp=Z,37nm,1.3s							
M21A	**Separation Pea**	**89.78**	**44**	⇑P		**P**	**11 36 32.2**	**-0.4**
	baz=90							
X28A	**Dimmitt**	**89.79**	**52**	⇓P		**P**	**11 36 32.5**	**-0.2**
	baz=90							
E16A	**East Helena**	**89.85**	**38**	⇑P		**P**	**11 36 32.1**	**-0.5**
	baz=90,SNR=5.0							
HRY	**Holter Researc**	**89.86**	**38**	*eP*		**P**	**11 36 32.4**	**-0.3**
Y29A	**Porterfield Fa**	**89.87**	**53**	⇓P		**P**	**11 36 32.2**	**-0.8**
	baz=90							
Q24A	**Divide**	**89.88**	**47**	⇓P		**P**	**11 36 33.0**	**-0.2**
	baz=90							
432A	**Menard**	**89.91**	**56**	⇓P		**P**	**11 36 32.6**	**-0.6**
	baz=90,SNR=7.6							
N22A	**Wattenberg Ran**	**89.95**	**45**	⇑P		**P**	**11 36 33.1**	**-0.4**
	baz=90							
L21A	**Rawlins**	**89.96**	**44**	⇓P		**P**	**11 36 33.1**	**-0.3**
	baz=90							
231A	**Bronte**	**89.99**	**55**	⇓P		**P**	**11 36 33.4**	**-0.2**
	baz=90							
H18A	**Shoshone NF, C**	**89.99**	**40**	⇑P		**P**	**11 36 33.3**	**-0.2**
	baz=90							
ISCO	**Idaho Springs**	**89.99**	**46**	⇓P		**P**	**11 36 33.7**	**-0.1**
	baz=90							
O23A	**Lake Granby, G**	**90.00**	**46**	⇑P		**P**	**11 36 33.3**	**-0.4**
	baz=90							
Z30A	**Sanderson Ranc**	**90.00**	**54**	⇑P		**P**	**11 36 33.2**	**-0.4**
	baz=90,SNR=5.6							
B14A	**Marquette Ranc**	**90.01**	**36**	⇓P		**P**	**11 36 32.8**	**-0.6**
	baz=90,SNR=13							
C15A	**Salmond Ranch,**	**90.03**	**37**	⇑P		**P**	**11 36 32.8**	**-0.8**
	baz=90,SNR=6.2							
I19A	**Meeetse**	**90.05**	**41**	⇓P		**P**	**11 36 33.6**	**-0.2**
	baz=90							
WALA	**Waterton Lakes**	**90.08**	**35**	*eP*		**P**	**11 36 33.5**	**-0.1**
	comp=Z,1.4nm,1.3s							
WALA				*epP*		**pP**	**11 36 44.7**	**-0.1**
F17A	**Fitzpatrick Pl**	**90.08**	**39**	⇓P		**P**	**11 36 33.6**	**-0.2**
	baz=90,SNR=6.2							
COLA	**College**	**90.12**	**11**	*eP*		**P**	**11 36 32.3**	**-1.0**
COLA				*e**PP		**pP**	**11 36 44.7**	**+0.3**
COLA					pmax	pmax		
	comp=Z,44nm,1.4s							
COLA	**College**	**90.12**	**11**	*eP*		**P**	**11 36 32.3**	**-1.0**
	comp=Z,44nm,1.4s							
COLA				*epP*		**pP**	**11 36 44.7**	**+0.3**
332A	**Millersview**	**90.17**	**56**	⇑P		**P**	**11 36 33.8**	**-0.6**
	baz=90,SNR=6.4							
GYA	**Guiyang**	**90.19**	**299**	P		**P**	**11 36 35.4**	**+0.7**
GYA				pP		**pP**	**11 36 46.0**	**+0.1**
GYA				PP		**PP**	**11 40 11.0**	**+2.0**
GYA				S		S	11 47 18.9	-7.5
GYA				sS		**sS**	**11 47 41.3**	**-3.6**
GYA				SS		**SS**	**11 53 26.0**	**-0.6**
GYA					pmax	pmax		
	comp=Z,20nm,1.4s							
GYA					pmax	pmax		
	comp=Z,100nm,5.3s							
GYA					LR	LR		
	comp=N,1µm,24.5s							
GYA					LR	LR		
	comp=E,830nm,29.8s							
GYA					LR	LR		
	comp=Z,1µm,19.8s							
D16A	**Dana Ranch, Ca**	**90.20**	**38**	⇑P		**P**	**11 36 34.0**	**-0.3**
	baz=90,SNR=5.9							
ILAR	**Eielson Array**	**90.21**	**12**	P		**P**	**11 36 32.5**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=219,slow=4.7,SNR=4.8							
ILAR	**Eielson Array**	**90.21**	**12**	P		**P**	**11 36 32.5**	**-1.2**
J20A	**Shoshoni**	**90.24**	**42**	⇑P		**P**	**11 36 34.2**	**-0.4**
	baz=90							
E17A	**Martinsdale**	**90.28**	**39**	⇑P		**P**	**11 36 34.2**	**-0.5**
	baz=91							
A14A	**Double T Ranch**	**90.29**	**35**	⇑P		**P**	**11 36 34.5**	**-0.1**
	baz=91,SNR=16							
N23A	**Red Feather La**	**90.33**	**45**	⇑P		**P**	**11 36 34.6**	**-0.6**
	baz=91							
AMTX	**Amarillo**	**90.34**	**52**	*eP*		**P**	**11 36 36.9**	**+1.7**
	comp=Z,66nm,2.1s							
AMTX				*epP*		**pP**	**11 36 46.3**	**-0.1**
AMTX	**Amarillo**	**90.34**	**52**	⇓P		**P**	**11 36 35.1**	**-0.1**
	baz=91							
B15A	**Bradely Ranch,**	**90.37**	**36**	⇓P		**P**	**11 36 34.8**	**-0.2**
	baz=91,SNR=7.0							
S26A	**Kim**	**90.37**	**49**	⇑P		**P**	**11 36 34.9**	**-0.4**
	baz=91							
K21A	**Alcova**	**90.38**	**43**	⇑P		**P**	**11 36 35.1**	**-0.2**
	baz=91,SNR=5.6							
H19A	**Powell**	**90.39**	**41**	⇑P		**P**	**11 36 35.5**	**+0.3**
	baz=91,SNR=5.4							
G18A	**Lazy EL Ranch,**	**90.40**	**40**	⇓P		**P**	**11 36 35.1**	**-0.2**
	baz=91,SNR=6.3							
Y30A	**Stafford Cattl**	**90.44**	**53**	⇑P		**P**	**11 36 35.5**	**-0.2**
	baz=91							
Q25A	**Bedland, Calha**	**90.47**	**47**	⇑P		**P**	**11 36 35.6**	**-0.2**
	baz=91							
RLMT	**Red Lodge**	**90.47**	**40**	*eP*		**P**	**11 36 36.2**	**+0.5**
	comp=Z,21nm,1.4s							
RLMT	**Red Lodge**	**90.47**	**40**	⇑P		**P**	**11 36 34.8**	**-0.9**
	baz=91							
W29A	**Amraillo**	**90.47**	**52**	⇓P		**P**	**11 36 35.8**	**-0.1**
	baz=91							
C16A	**Furinger Ranc**	**90.53**	**37**	⇓P		**P**	**11 36 35.2**	**-0.6**
	baz=91,SNR=8.4							
I20A	**Worland**	**90.53**	**42**	⇓P		**P**	**11 36 35.3**	**-0.6**
	baz=91							
L22A	**Ellis Ranch, M**	**90.59**	**44**	⇓P		**P**	**11 36 35.7**	**-0.6**
	baz=91							
GCMT	**Greycliff**	**90.59**	**40**	*eP*		**P**	**11 36 38.5**	**+2.3**
	comp=Z,24nm,1.6s							
GCMT				*epP*		**pP**	**11 36 48.3**	**+0.9**
F18A	**Big Timber**	**90.63**	**39**	⇓P		**P**	**11 36 36.1**	**-0.2**
	baz=91,SNR=9.2							
J21A	**Lysite**	**90.63**	**42**	⇓P		**P**	**11 36 36.0**	**-0.5**
	baz=91,SNR=8.4							
A15A	**Johnson Ranch,**	**90.66**	**36**	⇓P		**P**	**11 36 36.0**	**-0.3**
	baz=91,SNR=22							
R26A	**Arlington**	**90.72**	**48**	⇑P		**P**	**11 36 36.4**	**-0.5**
	baz=91							
X30A	**Coker Ranch, T**	**90.72**	**53**	⇓P		**P**	**11 36 36.7**	**-0.3**
	baz=91							
D17A	**Six Diamond Ra**	**90.76**	**38**	⇑P		**P**	**11 36 37.2**	**+0.3**
	baz=91,SNR=16							
M23A	**Laramie**	**90.76**	**45**	⇑P		**P**	**11 36 36.7**	**-0.4**
	baz=91							
LCO	**Las Campanas**	**90.78**	**122**	*eP*		**P**	**11 36 39.4**	**+1.7**
	comp=Z,40nm,1.3s							
LCO				*epP*		**pP**	**11 36 49.6**	**+0.7**
LCO	**Las Campanas**	**90.78**	**122**	P		**P**	**11 36 40.0**	**+2.3**
	baz=90,SNR=4.5							
ABTX	**Abilene, Hawle**	**90.81**	**55**	⇓P		**P**	**11 36 36.9**	**-0.4**
	baz=91							
P25A	**Willow Gulch B**	**90.81**	**47**	⇑P		**P**	**11 36 37.1**	**-0.3**
	baz=91							
K22A	**Casper**	**90.85**	**43**	⇓P		**P**	**11 36 37.6**	**+0.2**
	baz=91							
E18A	**Harlowton**	**90.88**	**39**	⇓P		**P**	**11 36 37.6**	**+0.2**
	baz=91,SNR=7.0							
H20A	**Greybull**	**90.89**	**41**	⇑P		**P**	**11 36 37.5**	**-0.1**
	baz=91							
I21A	**Big Trails, Te**	**90.97**	**42**	⇓P		**P**	**11 36 37.6**	**-0.4**
	baz=91							
C17A	**Wharram Farm,**	**90.98**	**38**	⇑P		**P**	**11 36 37.8**	**-0.1**
	baz=91,SNR=20							
F19A	**Roth Farm, Mol**	**91.05**	**40**	⇓P		**P**	**11 36 38.6**	**+0.3**
	baz=91,SNR=6.5							
T28A	**Walsh**	**91.08**	**50**	⇓P		**P**	**11 36 38.4**	**-0.2**
	baz=91							
L23A	**Garrett**	**91.10**	**44**	⇓P		**P**	**11 36 38.8**	**+0.1**
	baz=91							
R27A	**Eads**	**91.16**	**49**	⇓P		**P**	**11 36 39.3**	**+0.4**
	baz=91							
DAWY	**Dawson**	**91.18**	**15**	*eP*		**P**	**11 36 38.5**	**+0.2**
DAWY				*epP*		**pP**	**11 36 50.4**	**+0.9**
J22A	**Midwest**	**91.27**	**43**	⇑P		**P**	**11 36 39.3**	**-0.1**
	baz=92							
D18A	**Linhart Farms,**	**91.28**	**38**	⇓P		**P**	**11 36 39.9**	**+0.6**
	baz=92,SNR=6.6							
B17A	**L&G Farms, Che**	**91.33**	**37**	⇓P		**P**	**11 36 39.6**	**+0.2**
	baz=92							
EGAK	**Eagle**	**91.38**	**14**	*eP*		**P**	**11 36 39.0**	**-0.1**
	comp=Z,19nm,1.1s							
EGAK				*epP*		**pP**	**11 36 51.0**	**+0.7**
E19A	**Rath Farm, Rou**	**91.47**	**39**	⇑P		**P**	**11 36 40.5**	**+0.4**
	baz=92,SNR=11							
CFAA	**Coronel Fontan**	**91.48**	**125**	P		**P**	**11 36 41.5**	**+0.8**
	comp=Z,0.8nm,1.1s,baz=180,slow=6.1,SNR=5.4							
CFAA	**Coronel Fontan**	**91.48**	**125**	P		**P**	**11 36 41.5**	**+0.8**
F20A	**Billings**	**91.50**	**40**	⇑P		**P**	**11 36 40.1**	**-0.2**
	baz=92							
I22A	**9 Mile Ranch,**	**91.51**	**42**	⇓P		**P**	**11 36 40.3**	**-0.2**
	baz=92							
H21A	**Big Horn, Sher**	**91.55**	**42**	⇓P		**P**	**11 36 40.1**	**-0.5**
	baz=92							
SRDT	**SRDT**	**91.68**	**285**	P		**P**	**11 36 43.8**	**+2.1**
	comp=Z,28nm,1.9s,comp=Z,3µm							
A17A	**Triple J Farms**	**91.75**	**37**	⇑P		**P**	**11 36 40.9**	**-0.4**
	baz=92,SNR=12							
XAN	**Xi'an**	**91.76**	**306**	P		**P**	**11 36 42.8**	**+1.0**
XAN				pP		**pP**	**11 36 55.8**	**+2.9**
XAN				SKS		**SKSac**	**11 47 08.1**	**-4.0**
XAN					pmax	pmax		
	comp=Z,14nm,1.4s							
XAN					pmax	pmax		
	comp=Z,71nm,5.0s							
XAN					LR	LR		
	comp=N,230nm,22.1s							
XAN					LR	LR		
	comp=Z,160nm,20.8s							
EGMT	**Eagleton**	**91.76**	**38**	*eP*		**P**	**11 36 42.1**	**+0.6**
	comp=Z,33nm,1.4s							
EGMT	**Eagleton**	**91.76**	**38**	⇑P		**P**	**11 36 41.4**	**-0.1**
	baz=92,SNR=7.3							
D19A	**Cripps Ranch,**	**91.80**	**39**	⇓P		**P**	**11 36 41.6**	**0.0**
	baz=92,SNR=13							
BILL	**Bilibino**	**91.83**	**353**	⇑*eP*		**P**	**11 36 41.6**	**+0.4**
BILL				*e*SS		SS	11 53 52.8	+4.4
BILL					pmax	pmax		
	comp=Z,12nm,1.2s							
BILL	**Bilibino**	**91.83**	**353**	*eP*		**P**	**11 36 41.4**	**+0.2**
	comp=Z,20nm,1.4s							
BILL				*epP*		**pP**	**11 36 52.2**	**-0.1**
E20A	**Meyer Farm, Mu**	**91.88**	**40**	⇑P		**P**	**11 36 41.8**	**-0.3**
	baz=92							
COLD	**Coldfoot**	**91.90**	**9**	*eP*		**P**	**11 36 42.6**	**+1.1**
	comp=Z,11nm,1.2s							
B18A	**Beardsley Farm**	**91.95**	**37**	⇑P		**P**	**11 36 42.0**	**-0.3**
	baz=92,SNR=7.5							
C19A	**Slack Wire Ran**	**92.01**	**38**	⇓P		**P**	**11 36 42.4**	**-0.2**
	baz=92							
D20A	**Manuel Ranch,**	**92.19**	**39**	⇑P		**P**	**11 36 43.4**	**0.0**
	baz=92,SNR=7.1							
A18A	**Metzger Ranch,**	**92.20**	**37**	⇓P		**P**	**11 36 43.0**	**-0.4**
	baz=92							
O27A	**Beecher Island**	**92.28**	**47**	⇓P		**P**	**11 36 43.7**	**-0.4**
	baz=93							
B19A	**Brinkman Farms**	**92.45**	**38**	⇓P		**P**	**11 36 44.8**	**+0.2**
	baz=93,SNR=11							
E21A	**Keefer Ranch,**	**92.52**	**40**	⇓P		**P**	**11 36 45.0**	**0.0**
	baz=93							
HKT	**Hockley**	**92.58**	**59**	*eP*		**P**	**11 36 47.5**	**+2.0**
HKT				*e**PP		**pP**	**11 36 57.5**	**+0.9**
HKT					pmax	pmax		
	comp=Z,38nm,1.7s							
HKT	**Hockley**	**92.58**	**59**	*eP*		**P**	**11 36 47.5**	**+2.0**
	comp=Z,38nm,1.7s							
HKT				*epP*		**pP**	**11 36 57.5**	**+0.9**
C20A	**Veseth Ranch,**	**92.59**	**39**	⇑P		**P**	**11 36 45.3**	**0.0**
	baz=93,SNR=9.2							
F22A	**Rosebud**	**92.62**	**41**	⇓P		**P**	**11 36 45.0**	**-0.4**
	baz=93							
A19A	**Klindworth Far**	**92.82**	**37**	⇓P		**P**	**11 36 46.1**	**-0.2**
	baz=93							
D21A	**La Casta Ranch**	**92.84**	**39**	⇓P		**P**	**11 36 45.8**	**-0.6**
	baz=93							
KMI	**Kunming**	**92.84**	**296**	P		**P**	**11 36 49.1**	**+1.9**
KMI				pP		**pP**	**11 36 59.4**	**+1.1**
KMI				SKS		**SKSac**	**11 47 15.6**	**-3.3**
KMI				S		**S**	**11 47 49.0**	**-1.7**
KMI				SS		**SS**	**11 54 09.8**	**+4.7**
KMI					pmax	pmax		
	comp=Z,37nm,1.1s							
KMI					LR	LR		
	comp=N,190nm,19.0s							
KMI					LR	LR		
	comp=E,210nm,17.3s							
KMI					LR	LR		
	comp=Z,310nm,17.7s							
G23A	**Biddle**	**92.85**	**42**	⇓P		**P**	**11 36 46.6**	**0.0**
	baz=93,SNR=5.4							
HHC	**Hu-ho-hao-te**	**93.01**	**313**	⇑P		**P**	**11 36 47.6**	**+0.2**
HHC				pP		**pP**	**11 36 58.3**	**-0.3**
HHC				sP		**sP**	**11 37 03.1**	**+0.5**
HHC					pmax	pmax		
	comp=Z,20nm,1.8s							
HHC					pmax	pmax		
	comp=Z,110nm,8.3s							
HHC					LR	LR		
	comp=N,220nm,21.4s							
HHC					LR	LR		
	comp=E,290nm,17.8s							
HHC					LR	LR		
	comp=Z,360nm,20.2s							
F23A	**Volborg**	**93.10**	**41**	⇑P		**P**	**11 36 47.5**	**-0.2**
	baz=93,SNR=5.6							
E22A	**Miles City**	**93.14**	**40**	⇓P		**P**	**11 36 47.4**	**-0.4**
	baz=93							
H24A	**Dirks Ranch, A**	**93.14**	**42**	⇓P		**P**	**11 36 47.6**	**-0.4**
	baz=93							
RSSD	**Black Hills**	**93.16**	**43**	*eP*		**P**	**11 36 47.4**	**-0.8**
RSSD				*e**PP		**pP**	**11 36 58.7**	**-0.6**
RSSD					pmax	pmax		
	comp=Z,21nm,1.1s							
RSSD	**Black Hills**	**93.16**	**43**	*eP*		**P**	**11 36 47.4**	**-0.8**
	comp=Z,21nm,1.1s							
RSSD				*epP*		**pP**	**11 36

A23A	Redstone	95.02	39	⇑P		P	11 36 56.2	-0.1	
	baz=95								
DGMT	Dagmar	95.18	39	*e*P		P	11 36 57.6	+0.5	
	comp=Z,62nm,1.1s								
DGMT				*ep*P		pP	11 37 08.8	+0.5	
DGMT	Dagmar	95.18	39	⇓P		P	11 36 56.6	-0.5	
	baz=96								
YAK	Yakutsk	95.45	337	*e*P	P		11 36 53.2	-4.7	
YAK				*e*			11 47 32.4		
YAK					pmax	pmax			
	comp=Z,15nm,1.4s								
A24A	Westby	95.51	39	⇓P		P	11 36 58.3	-0.3	
	baz=96								
INK	Inuvik	96.03	14	P		P	11 36 58.9	-1.5	
	comp=Z,1.9nm,0.9s,baz=204,slow=7.5,SNR=6.7								
INK	Inuvik	96.03	14	*e*P		P	11 36 59.9	-0.5	
LZH	Lanzhou	96.40	306	*e*P		P	11 37 04.0	+0.8	
LZH				pP		pP	11 37 14.5	+0.2	
LZH				sP		sP	11 37 17.0	-1.3	
LZH				SKS		SKSac	11 47 36.3	-1.1	
LZH				S		S	11 48 15.6	-5.6	
LZH				pmax	pmax				
	comp=Z,22nm,1.0s								
LZH				pmax	pmax				
	comp=Z,200nm,7.3s								
LZH				LR	LR				
	comp=N,2μm,20.4s								
LZH				LR	LR				
	comp=E,3μm,20.0s								
LZH				LR	LR				
	comp=Z,3μm,20.2s								
YKA	Yellowknife Ar	97.71	24	P		P	11 37 07.0	-1.1	
	comp=Z,1.2nm,0.8s,baz=236,slow=4.5,SNR=33								
YKA	Yellowknife Ar	97.71	24	P		P	11 37 07.0	-1.1	
ECSD	EROS Data Cent	97.77	46	*e*P		Pdif	11 37 09.9	+0.8	
	comp=Z,25nm,1.4s								
ULN	Ulaanbaatar	99.00	318	*e*P		Pdif	11 37 15.4	+0.8	
	comp=Z,15nm,1.5s								
UTMT	University of	100.44	55	*e*Pdif		Pdif	11 37 25.3	+4.2	
GTA	Gaotai	100.61	308	⇑*e*P		Pdif	11 37 23.6	+1.6	
GTA				pP		pP	11 37 34.3	+1.1	
GTA				sP		sP	11 37 38.1	+0.9	
GTA				PP		PP	11 41 36.8	+7.1	
GTA				SKS		SKSac	11 47 58.8	+0.3	
GTA				S		SKKSac	11 48 58.9	+26	
GTA				sS		sS	11 49 16.8	+1.5	
GTA				pmax	pmax				
	comp=Z,4.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,110nm,6.6s								
GTA				LR	LR				
	comp=N,310nm,19.5s								
GTA				LR	LR				
	comp=E,490nm,19.7s								
GTA				LR	LR				
	comp=Z,470nm,19.5s								
ZAK	Zakamensk	102.26	320	*e*P		Pdif	11 37 28.7	-0.2	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.5s								
TLY	Talaya	102.52	321	*e*P		Pdif	11 37 29.0	-0.9	
TLY				*e*			11 48 10.2		
TLY				*e*PS		PS	11 50 50.7	0.0	
TLY				*e*SS		SS	11 56 15.0	-4.9	
TLY				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TLY				MLR	MLR				
	comp=Z,479nm,20.0s								
RES	Resolute Bay	109.48	16	*e*Pdif		Pdif	11 38 00.2	-0.1	
WMQ	Urumqi	110.58	310	*e*Pdif		Pdif	11 38 06.9	+0.8	
WMQ				PKP		PKiKP	11 42 06.4	0.0	
WMQ				PP		PP	11 42 46.6	+3.5	
WMQ				PKS		PKSdf	11 45 43.0	+0.1	
WMQ				SKS		SKSdf	11 49 13.3	-2.5	
WMQ				S		SKKSac	11 50 15.8	+33	
WMQ				SS		SS	11 58 09.6	-0.4	
WMQ				LR	LR				
	comp=N,140nm,20.0s								
WMQ				LR	LR				
	comp=E,270nm,20.0s								
WMQ				LR	LR				
	comp=Z,280nm,25.0s								
ZALV	Zalesovo Beam	114.12	320	PKiKP		PKPdf	11 42 12.1	-0.6	
	comp=Z,1.5nm,0.5s,baz=146,slow=0.5,SNR=6.5								
ZALV	Zalesovo Beam	114.12	320	PKiKP		PKPdf	11 42 12.1	-0.6	
ZALV	Zalesovo Beam	114.12	320	PKiKP		PKPdf	11 42 12.1	-0.6	
MK31	Makanchi Array	114.85	312	*e*PKiKP		PKPdf	11 42 13.8	-0.6	
MK31	Makanchi Array	114.85	312	*e*PKPdf		PKPdf	11 42 13.8	-0.6	
MKAR	Makanchi Array	114.85	312	PKP		PKPdf	11 42 13.0	-1.3	
	comp=Z,1.0nm,0.6s,baz=142,slow=0.5,SNR=15								
MKAR	Makanchi Array	114.85	312	PKiKP		PKPdf	11 42 13.0	-1.4	
MKAR	Makanchi Array	114.85	312	PKP		PKPdf	11 42 13.0	-1.3	
NVS	Novosibirsk	115.12	321	*e*PKiKP		PKPdf	11 42 12.9	-1.7	
KURK	Kurchatov	117.64	316	*e* / PKiKP		PKPdf	11 42 19.0	-0.6	
KURK				pmax	pmax				
	comp=Z,7.0nm,1.3s								
KURK	Kurchatov	117.64	316	PKP		PKPdf	11 42 17.8	-1.8	
KURK				*e*PKPdf		PKPdf	11 42 19.0	-0.6	
KURBB	Kurchatov Arra	117.69	316	PKP		PKPdf	11 42 17.8	-1.9	
	comp=Z,1.8nm,0.6s,baz=95,slow=1.8,SNR=27								
KSH	Kashi	118.50	304	*e*PKP		PKPdf	11 42 22.8	+1.0	
KSH				*es*PKP			11 42 37.6		
KSH				*e*PP	PP		11 43 45.9	+6.6	
KSH				PKS		PKSdf	11 45 58.0	-0.5	
KSH				SKS		SKSdf	11 49 30.3	-1.0	
KSH				SKKS		SKKSac	11 50 33.3	-3.5	
KSH				SS		SS	11 59 57.3	+2.7	
KSH				AMB	AMB				
	comp=Z,130nm,4.6s								
KSH				LR	LR				
	comp=N,130nm,5.4s								
KSH				LR	LR				
	comp=E,140nm,7.7s								
KSH				LR	LR				
	comp=Z,240nm,6.5s								
TKM2	Tokmak 2	119.15	307	*e*PKiKP		PKPdf	11 42 22.7	-0.3	
TKM2	Tokmak 2	119.15	307	*e*PKPdf		PKPdf	11 42 22.7	-0.3	
AAK	Ala-Archa	119.93	307	PKP		PKPdf	11 42 23.5	-1.0	
	comp=Z,1.2nm,0.7s,baz=157,slow=1.1,SNR=4.8								
AAK	Ala-Archa	119.93	307	PKiKP		PKPdf	11 42 23.5	-1.0	
AAK	Ala-Archa	119.93	307	PKP		PKPdf	11 42 23.5	-1.0	
BVAR	Borovoye Array	122.71	319	PKP		PKPdf	11 42 28.2	-1.1	
	comp=Z,2.3nm,0.6s,baz=136,slow=1.4,SNR=13								
BVAR	Borovoye Array	122.71	319	PKiKP		PKPdf	11 42 28.2	-1.1	
BVAR	Borovoye Array	122.71	319	PKP		PKPdf	11 42 28.2	-1.1	
BRVK	Borovoye	122.77	319	*e*PKiKP		PKPdf	11 42 28.9	-0.5	
BRVK				*e*			11 42 41.1		
BRVK	Borovoye	122.77	319	*e*PKPdf		PKPdf	11 42 28.9	-0.5	
BRVK				*ep*PKPdf		pPKPdf	11 42 41.0	+0.2	
KKAR	Karatay Array	122.88	307	*e*PKiKP		PKPdf	11 42 30.1	+0.2	
KKAR				*e*			11 42 41.8		
KKAR	Karatay Array	122.88	307	*e*PKPdf		PKPdf	11 42 30.1	+0.2	
KKAR				*ep*PKPdf		pPKPdf	11 42 41.8	+0.4	
KBL	Kabul	123.41	297	*e*PKiKP		PKPdf	11 42 31.6	+0.1	
KBL				*e*			11 42 44.2		
KBL	Kabul	123.41	297	*e*PKPdf		PKPdf	11 42 31.6	+0.1	
KBL				*ep*PKPdf		pPKPdf	11 42 44.2	+1.3	
ARU	Arti	128.78	325	*i* PKiKP		PKPdf	11 42 40.2	-0.5	
ARU							11 44 43.4		
ARU							11 49 43.0		
AKTO	Aktyubinsk	130.71	318	PKP		PKPdf	11 42 45.4	+0.8	
	comp=Z,1.8nm,0.7s,baz=32,slow=1.4,SNR=8.2								
AKTO	Aktyubinsk	130.71	318	PKiKP		PKPdf	11 42 45.4	+0.8	
AKTO	Aktyubinsk	130.71	318	PKP		PKPdf	11 42 45.4	+0.8	
ARCES	ARCESS Array B	131.86	350	PKP		PKPdf	11 42 47.3	+1.0	
	comp=Z,4.1nm,0.7s,baz=27,slow=5.7,SNR=9.2								
ARCES	ARCESS Array B	131.86	350	PKP		PKPdf	11 42 47.3	+1.0	
APA	Apatity	132.04	346	⇑*i* PKiKP		PKPdf	11 42 50.0	+3.4	
JOF	Joensuu	136.33	343	*e*PKiKP		PKPdf	11 42 55.2	+0.4	
JOF	Joensuu	136.33	343	*e*pkp		PKPdf	11 42 55.2	+0.4	
KAF	Kangasniemi	138.28	345	*e*PKiKP		PKPdf	11 42 56.0	-2.4	
KAF	Kangasniemi	138.28	345	*e*pkp		PKPdf	11 42 56.0	-2.4	
FINES	FINESS Array B	138.92	345	PKP		PKPdf	11 42 59.2	-0.4	
	comp=Z,2.0nm,0.6s,baz=50,slow=2.2,SNR=6.8								
FINES	FINESS Array B	138.92	345	PKP		PKPdf	11 42 59.2	-0.4	
OBN	Obninsk	140.23	332	⇑*i* PKiKP		PKPdf	11 43 07.4	+5.3	
OBN				*i* SS		SS	12 04 16.5	-3.8	
OBN				pmax	pmax				
	comp=Z,9.0nm,0.6s								
OBN				MLR	MLR				
	comp=Z,300nm,21.0s								
KMBO	Kilima Mbogo	140.36	237	*e*PKPdf		PKPdf	11 43 05.2	+1.2	
NB2	NORSAR Subarra	141.76	355	PKP		PKPdf	11 43 00.7	-4.1	
	comp=Z,11nm,1.7s,baz=10,slow=3.2								
NOA	NORSAR Array B	141.76	355	PKhKP	PKPpre		11 43 00.4		
	comp=Z,0.9nm,0.7s,baz=1.9,slow=2.3,SNR=4.0								
NOA	NORSAR Array B	141.76	355	PKPpre	PKPpre		11 43 00.4		
HFS	Hagfors	142.40	353	PKhKP	PKPpre		11 42 59.5		
	comp=Z,1.4nm,0.4s,baz=69,slow=4.8,SNR=12								
HFS	Hagfors	142.40	353	PKPpre	PKPpre		11 42 59.5		
CLDR	Caldiran	143.20	305	*e*P	PKPbc		11 43 05.8	+0.4	
KARS	Kars	143.43	308	*e*P	PKPdf		11 43 07.7	-0.9	
VANB	Van	143.74	304	*e*P	PKPdf		11 43 07.7	-1.4	
AGRB	Hanur-Agry	143.79	306	*e*P	PKPbc		11 43 07.5	+0.5	
BHD	Baghdad	143.87	295	*e*PKP	PKPdf		11 43 08.0	-1.4	
BHD				*e*PP	PP		11 46 20.0	-3.2	
BHD				*e*PPP	PPP		11 50 13.0		
BHD				*e*SKS	SKSdf		11 50 17.0	+0.6	
BHD				*e*SS	SS		12 05 14.0	+9.2	
BHD				*e*SSS	SSS		12 10 42.0		
CUKT	Cukurca	143.87	302	*e*P	PKPbc		11 43 07.3	+0.1	
EZM	Erzurum	144.90	307	*e*P	PKPdf		11 43 11.1	-0.2	
VRTB	Varto-Mus	145.04	306	*e*P	PKPdf		11 43 12.6	+1.2	
BAYT	Ayd¨–ntepe-Bay	145.63	309	*e*P	PKPdf		11 43 11.8	-0.6	
ANN	Anapa	145.67	317	*i* PKiKP	PKPdf		11 43 11.3	-0.8	
ANN				pmax	pmax				
	comp=Z,503nm,7.9s								
BNGB	Bing¶ll	145.67	306	*e*P	PKPdf		11 43 11.8	-0.7	
GUMT	Gumushane	146.08	309	*e*P	PKPab		11 43 15.1	+0.4	
SUW	Suwalki	146.11	341	*e*PKP	PKPbc		11 43 13.1	-0.5	
SUW				*e*			11 43 25.1		
SUW	Suwalki	146.11	341	*e*PKP2	PKPab		11 43 13.4	-0.7	
SUW	Suwalki	146.11	341	*e*PKPbc	PKPab		11 43 13.4	-0.7	
SUW	Suwalki	146.11	341	*e*PKP	PKPbc		11 43 13.0	-0.5	
SUW				*e*			11 43 25.0		
ERZN	Erzincan	146.20	307	*e*P	PKPab		11 43 15.2	+0.1	
AKASG	Malin Array Be	146.49	332	PKPbc	PKPdf		11 43 13.2	-0.1	
	comp=Z,12nm,0.7s,baz=41,slow=3.9,SNR=39								
AKASG	Malin Array Be	146.49	332	PKP2	PKPdf		11 43 13.2	-0.1	
AKASG	Malin Array Be	146.49	332	PKPbc	PKPdf		11 43 13.2	-0.1	
AK01	Malin Array Si	146.50	332	*e*PKPbc	PKPbc		11 43 13.9	-0.9	
KIEV	Kiev	146.50	332	*e*PKiKP	PKPdf		11 43 12.9	-0.4	
KIEV				*e*			11 43 14.1		
KIEV	Kiev	146.50	332	*e*PKPdf	PKPdf		11 43 12.8	-0.4	
KIEV				*e*PKPbc	PKPbc		11 43 14.1	-0.7	
KIEV				*e*PKPab	PKPab		11 43 15.8	0.0	
AK02	Malin Array Si	146.53	332	*e*PKPbc	PKPbc		11 43 13.9	-0.9	
PTK	Pertek	146.66	306	*e*P	PKPab		11 43 16.2	-0.8	
SVRC	Sivrice-ELAZID	146.88	306	*e*P	PKPab		11 43 17.8	-0.2	
ILIC	ilic-Erzincan	147.08	308	*e*P	PKPab		11 43 17.6	-1.0	
EKA	Eskdalemuir Ar	147.19	8	PKPbc	PKPdf		11 43 14.9	+0.6	
	comp=Z,9.2nm,0.9s,baz=346,slow=2.4,SNR=14								
EKA	Eskdalemuir Ar	147.19	8	PKPbc	PKPdf		11 43 14.9	+0.6	
ESK	Eskdalemuir	147.20	9	*i* PKP2	PKPab		11 43 18.5	+0.2	
URFA	Urfa	147.52	304	*e*P	PKPdf		11 43 16.2	+0.6	
MYA	Malataya	147.56	306	*e*P	PKPab		11 43 19.6	-0.9	
MALT	Malatya	147.56	306	*e*P	PKPbc		11 43 18.2	-0.1	
MALT	Malatya	147.56	306	⇑PKP2	PKPbc		11 43 18.5	+0.2	
MALT	Malatya	147.56	306	*e*PKPdf	PKPdf		11 43 16.1	+0.5	
MALT				*e*PKPbc	PKPbc		11 43 18.8	+0.5	
MALT				*e*PKPab	PKiKP		11 43 19.6	-0.8	
MALT	Malatya	147.56	306	⇑*i*P	PKPbc		11 43 18.5	+0.2	
SIM	Simferopol'	147.62	320	*i* PKP2	PKPab		11 43 19.0	-1.4	
SIM				pmax	pmax				
	comp=Z,30nm,0.8s								
SIM				pmax	pmax				
	comp=Z,39nm,1.1s								
RSDY	Resadiye-TOKAT	147.63	310	*e*P	PKPbc		11 43 18.7	+0.3	
DARE	Darende-Malaty	147.81	307	*e*P	PKPbc		11 43 17.4	-1.6	
DIKM	Dikmen	148.54	313	*e*P	PKPbc		11 43 19.6	-1.1	
BEL	Belsk	148.72	341	*e*PKP	PKPbc		11 43 21.4	+0.6	
BEL	Belsk	148.72	341	*e*PKP	PKPbc		11 43 21.3	+0.6	
GAZ	Gaziantep	148.83	304	*e*P	PKPbc		11 43 21.8	+0.1	
BSEG	Bad Segeberg	148.86	354	*e*PKP2	PKPbc		11 43 21.5	+0.5	
BSEG	Bad Segeberg	148.86	354	*e*PKPbc	PKPbc		11 43 21.5	+0.5	
BSEG				*e*PKPab	PKPab		11 43 24.3	-0.7	
KMRS	Kahramanmaras	148.96	305	*e*P	PKPbc		11 43 19.8	-2.1	
BNN	Bunyan	149.28	308	*e*P	PKPbc		11 43 21.5	-1.3	
KIS	Kishinev	149.29	327	*e*PKP2	PKPbc		11 43 22.0	-0.4	
KIS				MLR	MLR				
	comp=Z,300nm,20.0s								
KIS				MLR	MLR				
	comp=Z,300nm,22.0s								
KIS	Kishinev	149.29	327	*e*PKP	PKPbc		11 43 22.0	-0.4	
KIS				LRM	MLR		12 50 14.0		
CORM	Corum	149.61	311	*e*P	PKPbc		11 43 23.2	-0.4	
KOZT	Kozan	149.77	306	*e*P	PKPbc		11 43 24.0	+0.1	
KWP	Kalwaria Pacla	149.96	337	*e*PKP	PKPbc		11 43 24.3	+0.3	
KWP				*e*			11 43 29.9		
KWP	Kalwaria Pacla	149.96	337	⇓PKHKP	PKPpre		11 43 20.3		
KWP	Kalwaria Pacla	149.96	337	*e*PKPdf	PKPdf		11 43 20.4	+1.3	
KWP				*e*PKPbc	PKiKP		11 43 24.5	-0.4	
KWP				*e*PKPab	PKPab		11 43 29.4	-0.3	
KWP	Kalwaria Pacla	149.96	337	⇓*i*P	PKPdf		11 43 20.3	+1.2	
KWP	Kalwaria Pacla	149.96	337	*e*PKP	PKPbc		11 43 24.2	+0.3	
KWP				*e*			11 43 29.8		
ASF	Jabal al Asfar	150.27	295	PKP	PKPdf		11 43 19.8	-0.4	
	comp=Z,13nm,1.0s,baz=90,slow=1.0,SNR=3.2								
ASF				PKPbc	PKiKP		11 43 25.8	-0.4	
	comp=Z,11nm,0.9s,baz=100,slow=5.4,SNR=14								
ASF	Jabal al Asfar	150.27	295	PKP	PKPdf		11 43 19.8	-0.4	
ASF				PKPbc	PKiKP		11 43 25.8	-0.4	
OJC	Ojcow	150.44	340	*i* PKiKP	PKPbc		11 43 25.3	+0.2	
OJC	Ojcow	150.44	340	*e*PKiKP	PKPbc		11 43 25.3	+0.2	
BR131	Keskin Array S	150.49	311	*e*PKPdf	PKPdf		11 43 25.0	+0.1	
BR131				*e*PKPbc	PKPbc		11 43 25.6	-0.2	
BR131				*e*PKPab	PKPab		11 43 32.1	-0.3	
BRTR	Keskin Array B	150.49	311	PKPbc	PKPbc		11 43 25.2	-0.5	
	comp=Z,7.4nm,0.8s,baz=138,slow=3.5,SNR=27								
BRTR	Keskin Array B	150.49	311	PKPbc	PKPbc		11 43 25.2	-0.5	
BUR08	Bucovina Ar. S	150.53	331	*e*PKPbc	PKPbc		11 43 26.4	+0.9	
BURAR	Bucovina Array	150.55	331	⇓*i*P	PKPbc		11 43 24.6	-1.0	
IBBN	Ibbenburen	150.68	356	*e*PKPbc	PKPbc		11 43 25.9	+0.3	
KOLS	Kolonicke sedl	150.70	336	*e*PKiKP	PKPbc		11 43 26.4	+0.6	
KOLS	Kolonicke sedl	150.70	336	*e*PKP	PKPbc		11 43 26.4	+0.6	
TESR		150.70	328	⇑*i*P	PKPbc		11 43 25.1	-0.7	
KSP	Ksiaz	150.84	345	*e*PKP	PKPbc		11 43 26.0	0.0	
KSP	Ksiaz	150.84	345	*e*PKiKP	PKPbc		11 43 26.2	+0.2	
KSP	Ksiaz	150.84	345	*e*PKP	PKPbc		11 43 26.0	0.0	
CLZ	Clausthal	150.92	353	*e*PKiKP	PKPbc		11 43 26.7	+0.5	
CLZ	Clausthal	150.92	353	*e*PKPbc	PKPbc		11 43 26.7	+0.5	
UZH	Uzhgorod	150.94	336	*e*PKiKP	PKPbc		11 43 26.5	+0.2	
UZH				*e*			11 43 32.1		
UZH				*e*			11 43 34.7		
UZH				*i*			11 43 40.5		
MERS	Mersin	150.96	305	*e*P	PKPbc		11 43 26.2	-0.7	
NIE	Niedzica	150.97	339	*i* PKiKP	PKPbc		11 43 26.7	+0.3	
NIE	Niedzica	150.97	339	*e*PKiKP	PKPbc		11 43 26.7	+0.3	
CRVS	Cervenica-Dubn	151.02	337	*e*PKiKP	PKPbc		11 43 26.7	+0.2	
CRVS	Cervenica-Dubn	151.02	337	*e*PKP	PKPbc		11 43 26.7	+0.2	
CLL	Collm	151.07	349	*i* PKiKP	PKPbc		11 43 25.9	-0.6	
CLL				*i*			11 43 34.5		
CLL				*i*			11 43 38.1		
CLL				pmax	pmax				
	comp=Z,13nm,1.0s								
CLL	Collm	151.07	349	*e*PKPbc	PKPbc		11 43 26.8	+0.3	
CLL	Collm	151.07	349	*i* PKPbc	PKPbc		11 43 25.9	-0.6	
	comp=Z,21nm,1.0s								
CLL				*i* PKiKP	PKiKP		11 43 28.3	+1.2	
	comp=Z,59nm,1.4s								
CLL				*i* PKPab	PKPab		11 43 34.5	+0.4	
CLL				*i* sPKPdf	sPKPdf		11 43 38.1	+2.0	
	comp=Z,54nm,1.6s								
CLL				*e*			11 44 32.0		
CLL				*e*PP	PP		11 47 11.0	+7.2	
CLL				*e*PPS	PPS		12 00 12.0		
CLL				*e*			12 02 42.0		
CLL				*e*SS	SS		12 06 24.0	+0.9	
CLL				*e*SSS	SSS		12 12 24.0		
CLL				*e*SSSS			12 16 00.0		
VRI	Vrincioaia	151.12	327	⇑PKiKP	PKPbc		11 43 25.3	-1.6	
VRI	Vrincioaia	151.12	327	⇑*i*P	PKPbc		11 43 25.3	-1.6	
UPC	Upice	151.22	345	*e*PKiKP	PKPbc		11 43 26.7	-0.2	
UPC				*e*			11 43 35.1		
UPC	Upice	151.22	345	⇑*e*PKP	PKPbc		11 43 26.7	-0.2	
UPC				*e*PKPAB	PKPab		11 43 35.1	+0.3	
TRPA	Tarpa	151.25	335	⇓*i*P	PKPbc		11 43 27.4	+0.4	
OKC	Ostrava-Krasne	151.27	342	*e*PKiKP	PKPbc		11 43 27.5	+0.4	
OKC	Ostrava-Krasne	151.27	342	⇑*e*PKP	PKPbc		11 43 27.5	+0.4	
DPC	Dobruska-Polom	151.29	345	*e*PKiKP	PKPbc		11 43 27.3	+0.1	
DPC				*e*			11 43 35.4		
DPC				MLR	MLR				
	comp=Z,600nm,25.3s								
DPC	Dobruska-Polom	151.29	345	⇑*e*PKP	PKPbc		11 43 27.3	+0.1	
DPC				*e*PKPAB	PKPab		11 43 35.4	+0.2	
DPC				AMS	AMS		12 51 10.0		
	comp=Z,600nm,25.3s								
BRG	Berggiesshubel	151.32	348	*e*PKP	PKPdf		11 43 23.4	+2.3	
	comp=Z,7.6nm,1.0s								
BRG				*i*			11 43 28.6		
	comp=Z,18nm,0.9s								
BRG				*i*			11 43 39.5		
	comp=Z,22nm,0.9s								
BRG				*e*			11 47 03.0		
BRG				PP	PP		11 47 07.3	+2.1	
	comp=Z,19nm,1.7s								
BRG				SS	SS		12 06 31.0	+5.1	
BRG	Berggiesshubel	151.32	348	*e*PKIKP	PKPdf		11 43 23.4	+2.3	
BRG				*i*			11 43 39.5		
BRG							11 47 07.3		
BRG				SS	SS		12 06 31.0	+5.1	
BRG				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BRG				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BRG				pmax	pmax				
	comp=Z,18nm,0.9s								
BRG				pmax	pmax				
	comp=Z,22nm,1.7s								
BRG	Berggiesshubel	151.32	348	*e*PKPbc	PKPbc		11 43 27.5	+0.4	
MMAI	Mount Meron Ar	151.34	297	PKPbc	PKPbc		11 43 27.8	-0.1	
	comp=Z,21nm,0.9s,baz=72,slow=5.4,SNR=14								
MMAI	Mount Meron Ar	151.34	297	PKPbc	PKPbc		11 43 27.8	-0.1	
MORC	Moravsky Berou	151.50	343	⇓PKiKP	PKPbc		11 43 27.0	-0.6	
MORC	Moravsky Berou	151.50	343	*e*PKPdf	PKPdf		11 43 21.3	-0.2	
MORC				*e*PKPbc	PKPbc		11 43 27.0	-0.6	
MORC	Moravsky Berou	151.50	343	⇓*i*P	PKPbc		11 43 27.0	-0.6	
PVCC	Panska Ves	151.52	347	*e*PKIKP	PKPbc		11 43 27.8	+0.2	
PVCC				MLR	MLR				
	comp=Z,700nm,21.5s								
PVCC	Panska Ves	151.52	347	⇑*e*PKP	PKPbc		11 43 27.8	+0.2	
PVCC				AMS	AMS		12 51 30.0		
	comp=Z,700nm,21.5s								
BUG	Bochum--Univer	151.57	357	*e*PKPbc	PKPbc		11 43 27.8	+0.1	
BUG				*e*PKPab	PKPab		11 43 35.6	-0.6	
MLR	Muntele Rosu	151.77	328	⇑*i*P	PKPbc		11 43 27.6	-0.9	
MOX	Moxa	151.93	351	*e*PKIKP	PKPbc		11 43 28.9	+0.3	
MOX	Moxa	151.93	351	*e*PKPbc	PKPbc		11 43 28.9	+0.3	
TANN	Tannenbergstha	152.02	350	*e*PKPbc	PKPbc		11 43 29.2	+0.3	
PRU	Pruhonice	152.03	347	*e*PKIKP	PKPbc		11 43 29.0	+0.2	
PRU				*e*			11 43 37.8		
PRU				MLR	MLR				
	comp=Z,600nm,22.8s								
PRU	Pruhonice	152.03	347	⇑*e*PKP	PKPbc		11 43 29.0	+0.2	
PRU				*e*PKPAB	PKPab		11 43 37.8	-0.4	
PRU				AMS	AMS		12 51 20.0		
	comp=Z,600nm,22.8s								
VRAC	Vranov	152.18	343	PKPbc	PKPbc		11 43 28.9	-0.3	
	comp=Z,1.6nm,0.3s,baz=341,slow=11,SNR=5.4								
VRAC				PKPab	PKPab		11 43 38.1	-0.8	
	comp=Z,4.5nm,0.5s,baz=350,slow=5.7,SNR=5.7								
VRAC	Vranov	152.18	343	PKPbc	PKPbc		11 43 28.9	-0.3	
VRAC				PKPab	PK

CTA	**Charters Tower**	**35.98**	**267**	P	**P**	**11**	**33**	**22.6** **+0.6**
CTAO	**Charters Tower**	**35.98**	**267**	*e*P	**P**	**11**	**33**	**21.8** **-0.2**
	16nm,1.0s							
ASAR	**Alice Springs**	**46.65**	**258**	P	**P**	**11**	**34**	**50.0** **+0.4**
	2.3nm,0.8s,baz=94,slow=7.8,SNR=3.5							
ASAR	**Alice Springs**	**46.65**	**258**	P	**P**	**11**	**34**	**50.0** **+0.4**
WRAB	**Tennant Creek**	**46.97**	**263**	*e*P	**P**	**11**	**34**	**51.2** **-0.9**
	4.5nm,0.4s							
WRA	**Warramunga Arr**	**46.97**	**263**	P	**P**	**11**	**34**	**51.1** **-1.0**
	3.6nm,0.3s,baz=91,slow=8.5,SNR=21							
WRA	**Warramunga Arr**	**46.97**	**263**	P	**P**	**11**	**34**	**51.1** **-1.0**
FITZ	**Fitzroy Crossi**	**55.40**	**263**	*e*P	**P**	**11**	**35**	**56.4** **+1.0**
	17nm,1.4s							
ISA	**Isabella**	**79.01**	**44**	*e*P	**P**	**11**	**38**	**25.7** **+0.9**
	3.4nm,1.1s							
YBH	**Yreka Blue Hor**	**80.38**	**37**	P	**P**	**11**	**38**	**32.1** **0.0**
	2.1nm,0.8s,baz=270,slow=2.0,SNR=4.3							
YBH	**Yreka Blue Hor**	**80.38**	**37**	P	**P**	**11**	**38**	**32.1** **0.0**
NVAR	**Mina Array Bea**	**80.83**	**42**	P	**P**	**11**	**38**	**35.3** **+0.5**
	2.5nm,0.8s,baz=222,slow=9.4,SNR=12							
NVAR	**Mina Array Bea**	**80.83**	**42**	P	**P**	**11**	**38**	**35.3** **+0.5**
ARUT	**Antelope Range**	**83.52**	**45**	*e*P	**P**	**11**	**38**	**50.3** **+1.5**
MVU	**Marysvale**	**84.72**	**45**	*e*P	**P**	**11**	**38**	**56.0** **+1.0**
	8.1nm,1.4s							
MSU	**Marysvale**	**84.75**	**45**	*e*P	**P**	**11**	**38**	**56.5** **+1.4**
TXAR	**Lajitas Array**	**86.02**	**56**	P	**P**	**11**	**39**	**01.0** **-0.6**
	1.8nm,0.9s,baz=212,slow=8.9,SNR=5.2							
TXAR	**Lajitas Array**	**86.02**	**56**	P	**P**	**11**	**39**	**01.0** **-0.6**
PSI	**Prapat**	**87.33**	**274**	LR	LR	12	17	33.7
	comp=Z,767nm,21.4s,baz=289,slow=35							
PDAR	**Pinedale Array**	**88.76**	**42**	P	**P**	**11**	**39**	**13.2** **-1.4**
	0.2nm,0.3s,baz=186,slow=3.4,SNR=3.9							
PDAR	**Pinedale Array**	**88.76**	**42**	P	**P**	**11**	**39**	**13.2** **-1.4**
ILAR	**Eielson Array**	**89.88**	**12**	P	**P**	**11**	**39**	**18.6** **-0.4**
	1.7nm,0.9s,baz=217,slow=5.7,SNR=5.6							
ILAR	**Eielson Array**	**89.88**	**12**	P	**P**	**11**	**39**	**18.6** **-0.4**
AK01	**Malin Array Si**	**146.22**	**332**	*e*PKPbc	**PKPbc**	**11**	**46**	**01.1** **+0.3**
KIEV	**Kiev**	**146.22**	**332**	*e*PKPbc	**PKPbc**	**11**	**46**	**00.9** **+0.1**
AK02	**Malin Array Si**	**146.25**	**332**	*e*PKPbc	**PKPab**	**11**	**46**	**01.4** **-0.2**
BRTR	**Keskin Array B**	**150.28**	**312**	PKPbc	**PKPbc**	**11**	**46**	**12.4** **+0.3**
	1.5nm,0.8s,baz=67,slow=1.9,SNR=4.8							
BRTR	**Keskin Array B**			PKPbc	**PKPbc**	**11**	**46**	**12.4** **+0.3**
CLL	**Collm**	**150.75**	**350**	*e*PKPbc	**PKPbc**	**11**	**46**	**13.0** **+0.4**

IDC 20 11:46:13.4±2.2,3°.90N×126°.99E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/22,mbtmp3.4/3,Error ellipse: s-maj=168.2km s-min=26.9km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**163**	P	P	11 51 36.1	-1.0
	1.7nm,0.8s,baz=343,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	11 52 09.2	+1.0
	0.1nm,0.4s,baz=340,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	11 56 05.0	-0.1
	0.1nm,0.4s,baz=119,slow=6.7,SNR=5.5						

IDC 20 11:52:25.0±1.6,22°.51S×174°.96W,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/21,mbtmp3.9/7,ML2.0/1,Error ellipse: s-maj=78.2km s-min=20.9km az=151.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.07**	**20**	Pn	Pn	11 54 36.5	-0.9
	1.0nm,0.3s,baz=240,slow=8.1,SNR=3.3						
AFI					Sn	11 56 12.4	-7.9
	1.4nm,0.3s,baz=255,slow=19,SNR=3.0						
CTA	**Charters Tower**	**36.15**	**266**	P	P	11 59 29.3	0.0
	3.6nm,0.8s,baz=108,slow=6.4,SNR=4.1						
STKA	**Stephens Creek**	**39.54**	**247**	P	P	11 59 57.4	-0.4
	1.0nm,0.8s,baz=72,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**46.85**	**258**	P	P	12 00 57.0	-0.1
	0.9nm,0.8s,baz=97,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**47.16**	**263**	P	P	12 00 59.5	0.0
	0.4nm,0.3s,baz=102,slow=8.1,SNR=19						
NVAR	**Mina Array Bea**	**80.58**	**42**	P	P	12 04 40.5	+0.8
	0.8nm,0.7s,baz=226,slow=8.3,SNR=6.4						
TXAR	**Lajitas Array**	**85.78**		P	P	12 05 06.0	-0.7
	0.9nm,1.0s,baz=205,slow=5.5,SNR=6.6						

*IDC **20** 12:00:44.6±1.6,0°.49S×127°.80E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.6/21,mbtmp3.7/4,ML3.9/1,Error ellipse: s-maj=54.7km s-min=24.4km az=67.0*
*DJA **20** 12:00:48.3±0.4,1°.5±3°×12°.7E±°,h8km±4km,M3.9/7, mb4.3/3,MLv3.7/7*
*NEIC **20** 12:00:49.9±1.2,0°.57S×127°.70E,h35km,mb3.4/1,Error ellipse: s-maj=23.8km s-min=15.6km az=46.0*
NEIC Felt [III] at Labuha.
ISC 20 12:00:47.6±1.1,0°.65S±0°.08×127°.53E±0°.09,h12km±5km, n17,σ1°.40/20,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.04**	**297**	P	**Pg**	**12**	**00**	**49.6** **-0.3**
LBMI				S	**Sg**	**12**	**00**	**51.5** **0.0**
TNTI	**Ternate**	**1.43**	**353**	P	**Pn**	**12**	**01**	**13.8** **+0.5**
TNTI				S	**Sn**	**12**	**01**	**32.4** **+0.4**
MNI	**Manado**	**3.40**	**308**	P	**Pn**	**12**	**01**	**41.0** **+0.4**
LUWI	**Luwuk**	**4.78**	**265**	P	**Pn**	**12**	**02**	**01.1** **+1.7**
LUWI				S	**Sn**	**12**	**02**	**52.7** **-2.0**
FAKI	**Fak Fak**	**5.22**	**116**	P	**Pn**	**12**	**02**	**06.4** **+0.8**
	14nm,1.1s,0.1nm							
MRSI	**Marisa**	**5.70**	**281**	P	**Pn**	**12**	**02**	**14.5** **+2.3**
	9.4nm,1.0s,0.0nm							
APSI	**Ampana**	**5.89**	**267**	P	**Pn**	**12**	**02**	**14.7** **0.0**
SPSI	**Sidrap Palu**	**8.42**	**247**	P	**Pn**	**12**	**02**	**51.0** **+1.4**
KAPI	**Kappang**	**8.89**	**241**	Pn	**Pn**	**12**	**02**	**58.5** **+2.5**
	1.1nm,0.3s,baz=156,slow=14,SNR=4.2							
KAPI	**Kappang**	**8.89**	**241**	Pn	**Pn**	**12**	**02**	**58.5** **+2.5**
WRAB	**Tennant Creek**	**20.29**	**161**	P	**P**	**12**	**05**	**23.1** **-0.4**
	1.4nm,0.7s							
WRA	**Warramunga Arr**	**20.30**	**161**	P	**P**	**12**	**05**	**22.7** **-0.8**
	0.5nm,0.4s,baz=342,slow=12,SNR=15							
WRA	**Warramunga Arr**	**20.30**	**161**	P	**P**	**12**	**05**	**22.7** **-0.8**
ASAR	**Alice Springs**	**23.70**	**165**	P	**P**	**12**	**05**	**59.5** **+0.1**
	1.1nm,0.7s,baz=345,slow=12,SNR=26							
ASAR	**Alice Springs**	**23.70**	**165**	P	**P**	**12**	**05**	**59.5** **+0.1**
MKAR	**Makanchi Array**	**61.61**	**326**	P	**P**	**12**	**11**	**04.1** **-1.0**
	0.5nm,0.4s,baz=118,slow=8.1,SNR=10							
MKAR	**Makanchi Array**	**61.61**	**326**	P	**P**	**12**	**11**	**04.1** **-1.0**

HEL 20 12:00:52.5±0.2,59°.31N×27°.64E,h0km,ML1.6, Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.23**	**358**	*e*P	Pg	12 01 14.6	-1.5
VJF				*e*SB	Sg	12 01 31.2	-0.9
VJF				MSG		12 01 31.2	
	comp=Z,4.1nm,0.1s						
PVF	**Pernaja**	**1.53**	**325**	*e*P	Pn	12 01 19.7	-1.4
PVF				*e*SN	Sg	12 01 42.3	+0.6
MEF	**Metsahovi**	**1.88**	**300**	*e*PN	Pn	12 01 25.9	0.0
MEF				*e*SN	Sn	12 01 50.0	-0.2
MEF				MSG		12 01 50.0	
	comp=Z,2.9nm,0.2s						
MTSE	**Matsula**	**2.07**	**255**	*e*PB	Pn	12 01 28.8	+0.4
MTSE				*e*S	Sn	12 01 54.9	+0.1
FIA0	**FINESS Array S**	**2.28**	**341**	*e*P	Pn	12 01 31.2	-0.1
FIA0				MSG	Sg	12 02 02.6	-3.1
	comp=Z,1.4nm,0.2s						
FIA0				*e*SG	Sg	12 02 02.6	-3.1
FIA0				*e*RG	Rg	12 02 29.5	
KAF	**Kangasniemi**	**2.89**	**347**	*e*SG	Sb	12 02 20.9	+0.1
RAF	**Rauma**	**3.40**	**303**	*e*P	Pn	12 01 48.0	+1.3
SUF	**Sumiainen**	**3.50**	**349**	*e*SG	Sb	12 02 39.8	+1.6
SUF				MSG		12 02 39.8	
	comp=Z,1.6nm,0.4s						
JOF	**Joensuu**	**4.04**	**25**	*e*SG	Sb	12 02 57.3	+3.6
JOF				MSG		12 02 57.3	
	comp=Z,1.4nm,0.4s						

*CSEM **20** 12:01:36.9,62°.29N×25°.85E,h0km,ML0.8,Mining explosion. After HEL*
HEL 20 12:01:36.9±0.1,62°.29N×25°.85E,h0km,ML0.8, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.28**	**130**	*e*P	Pg	12 01 41.8	-0.5
KAF				*e*S	Sg	12 01 46.0	+0.1
KAF	**Kangasniemi**	**0.28**	**130**	P	Pg	12 01 41.8	-0.5
KAF				S	Sg	12 01 46.0	+0.1
SUF	**Sumiainen**	**0.45**	**18**	*e*P	Pg	12 01 44.8	-0.8
SUF				*e*S	Sg	12 01 51.2	-0.2
SUF	**Sumiainen**	**0.45**	**18**	P	Pg	12 01 44.7	-0.9
SUF				S	Sg	12 01 51.2	-0.2
KEF	**Keuruu**	**0.47**	**255**	*e*P	Pg	12 01 44.7	-1.3
KEF				*e*S	Sg	12 01 51.7	-0.4
KEF	**Keuruu**	**0.47**	**255**	P	Pg	12 01 44.6	-1.4
KEF				S	Sg	12 01 51.7	-0.4
VAF	**Ylistaro**	**1.65**	**299**	*e*P	Pn	12 02 06.1	-0.9
VAF				*e*S	Sn	12 02 27.8	-1.1
VAF				MSG		12 02 29.9	
	comp=Z,0.5nm,0.1s						
VAF	**Ylistaro**	**1.65**	**299**	P	Pn	12 02 06.1	-0.9
VAF				S	Sn	12 02 27.7	-1.2

*NIED **20** 12:16:00,24°.60N×122°.60E,h50km,Mw4.2 Best double couple: M0 2.14000×10^15 NP1:φs 43.00000°,δ 90.00000°, λ 163.00000°. NP2:φs 133.00000°,δ 73.00000°,λ 0.00000°.*
*BJI **20** 12:16:02.5,24°.40N×122°.30E,h7km,mb4.2/8,ML3.9/5*
*ISCJB **20** 12:16:06.2±0.2,24°.48N±0°.02×122°.57E±0°.01,h68km±3km, mb3.8/15,Error ellipse: s-maj=3.4km s-min=2.1km az=164.8*
*JMA **20** 12:16:06.9±0.2,24°.59N×122°.59E,h55km±1km,M4.1*
*TAP **20** 12:16:06.9,24°.46N×122°.56E,h53km,ML4.9,B*
*IDC **20** 12:16:08.1±3.2,24°.60N×122°.59E,h76km±29km,mb3.6/14, mb1 3.7/15,mb1mx3.6/28,mbtmp3.6/15,Error ellipse: s-maj=20.7km s-min=13.9km az=57.0*
ISC 20 12:16:06.4±0.7,24°.43N±0°.03×122°.57E±0°.02,h59km±6km, n104,σ1°.55/171,mb3.9/15,20C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**85**	⇑P	Pn	12	16	17.5 **+0.2**
	baz=88							
YOJ				*i* S	Sn	12	16	25.1 **-0.1**
	baz=88							
YOJ	**Yonaguni jima**	**0.41**	**85**	P	Pn	12	16	17.5 **+0.2**
YOJ				S	Sn	12	16	25.2 **0.0**
TWC	**Suao**	**0.68**	**285**	⇑*i*P	Pn	12	16	20.4 **+0.1**
	baz=283							
TWC				S	Sn	12	16	29.6 **-0.8**
	baz=283							
ENA	**Nanau**	**0.75**	**270**	*e*P	Pn	12	16	21.4 **+0.2**
	baz=271							
ENA				*e*S	Sn	12	16	32.4 **+0.4**
	baz=271							
EHP	**Heping Village**	**0.76**	**261**	*e*P	Pn	12	16	22.1 **+0.8**
	baz=262							
EHP				*e*S	Sn	12	16	33.6 **+1.3**
	baz=262							
TWB1	**Santiao Chiao**	**0.78**	**318**	*e*P	Pn	12	16	21.6 **0.0**
	baz=325							
TWB1				*e*S	Sn	12	16	31.9 **-0.7**
	baz=325							
ILA	**Ilan**	**0.82**	**294**	*e*P	Pn	12	16	22.6 **+0.6**
	baz=299							
ILA				S	Sn	12	16	33.8 **+0.3**
	baz=299							
TWE	**Neicheng**	**0.87**	**290**	⇑*i*P	Pn	12	16	23.0 **+0.3**
	baz=293							
TWE				S	Sn	12	16	34.2 **-0.5**
	baz=293							
ENTT	**Nioudou**	**0.93**	**283**	P	Pn	12	16	24.3 **+0.7**
	baz=288							
ENTT				*e*S	Sn	12	16	37.8 **+1.6**
	baz=288							
TWD	**Chiawan**	**0.95**	**249**	⇑*e*P	Pn	12	16	24.0 **+0.2**
	baz=247							
TWD				*e*S	Sn	12	16	36.5 **0.0**
	baz=247							
NWF	**Wu-fen Shan**	**0.96**	**312**	*i* P	Pn	12	16	24.3 **+0.4**
	baz=310							
NWF				S	Sn	12	16	36.6 **-0.2**
	baz=310							
HWA	**Hwalien**	**0.99**	**243**	*e*P	Pn	12	16	24.6 **+0.4**
	baz=241							
IRIF	**Iriomote-Funau**	**1.07**	**95**	P	Pn	12	16	25.5 **+0.3**
IRIF				*e*S	Sn	12	16	40.3 **+1.1**
NNS	**Nan Shan**	**1.09**	**271**	⇑*i*P	Pn	12	16	26.6 **+1.0**
	baz=258							
NNS				*e*S	Sn	12	16	40.4 **+0.4**
	baz=258							
ESF	**Shoufeng Towns**	**1.12**	**240**	*e*P	Pn	12	16	25.8 **-0.1**
	baz=239							
ESF				*e*S	Sn	12	16	40.6 **+0.2**
	baz=239							
TAP1	**Taipei**	**1.13**	**303**	P	Pn	12	16	26.6 **+0.6**
	baz=301							
TAP1				S	Sn	12	16	40.8 **+0.2**
	baz=301							
NSK	**Sanguang**	**1.13**	**283**	⇑*i*P	Pn	12	16	27.4 **+1.3**
	baz=290							
NSK				S	Sn	12	16	41.5 **+0.7**
	baz=290							
TAP	**Taipei**	**1.14**	**302**	*e*P	Pn	12	16	27.2 **+1.0**
	baz=301							
TAP				*e*S	Sn	12	16	41.3 **+0.4**
	baz=301							
TEGC	**Jichi Village**	**1.18**	**233**	*e*P	Pn	12	16	26.9 **+0.1**
	baz=223							
TEGC				*e*S	Sn	12	16	42.5 **+0.5**
	baz=223							
HATJ	**Hateruma jima**	**1.19**	**108**	P	Pn	12	16	28.4 **+1.5**
HATJ				S	Sn	12	16	44.0 **+1.8**
ESL	**Shilin**	**1.20**	**240**	⇑*e*P	Pn	12	16	26.9 **-0.2**
	baz=238							
TWY	**Chenhua**	**1.22**	**314**	*e*P	Pn	12	16	27.9 **+0.6**
	baz=312							
TWY				*e*S	Sn	12	16	42.6 **-0.2**
	baz=312							
WHF	**Hehuan Shan**	**1.22**	**257**	⇑*e*P	Pn	12	16	28.2 **+0.5**
	baz=255							
WHF				*e*S	Sn	12	16	43.1 **-0.4**
	baz=255							
TWS1	**Kuangyinshan**	**1.24**	**303**	*e*P	Pn	12	16	28.3 **+0.8**
	baz=301							
TWS1				*e*S	Sn	12	16	44.1 **+0.8**
	baz=301							
PCYT	**Pengchaiyu**	**1.28**	**340**	*e*P	Pn	12	16	29.0 **+0.9**
	baz=331							
TWT	**Tachien**	**1.28**	**262**	⇑P	Pn	12	16	29.7 **+1.4**
	baz=261							
TWT				*e*S	Sn	12	16	45.3 **+0.7**
	baz=261							
JKRS	**Kuro-shima**	**1.33**	**98**	P	Pn	12	16	30.0 **+1.2**
JKRS				S	Sn	12	16	47.0 **+1.5**
NCU	**National Centr**	**1.36**	**294**	*e*P	Pn	12	16	30.2 **+0.9**
	baz=302							
NCU				*e*S	Sn	12	16	47.1 **+0.7**
	baz=302							
NSTT	**Nanjuang**	**1.44**	**278**	⇑*e*P	Pn	12	16	31.7 **+1.5**
	baz=286							
NSTT				*e*S	Sn	12	16	48.6 **+0.5**
	baz=286							
JIJ	**Ishigaki jima**	**1.44**	**92**	P	Pn	12	16	30.9 **+0.7**
JIJ				S	Sn	12	16	48.2 **0.0**
EHY	**Hungye**	**1.46**	**231**	⇑P	Pn	12	16	30.5 **-0.1**
	baz=240							
EHY				*e*S	Sn	12	16	47.6 **-1.2**
	baz=240							
HSN	**Hsinchu**	**1.50**	**285**	*e*P	Pn	12	16	31.5 **+0.4**
	baz=284							
TWF1	**Yuli**	**1.58**	**228**	⇑*i*P	Pn	12	16	32.3 **+0.1**
	baz=239							
TWF1				*e*S	Sn	12	16	50.2 **-1.4**
	baz=239							
SMLT	**Sun Moon Lake**	**1.62**	**251**	⇑P	Pn	12	16	33.9 **+1.1**
	baz=242							
SMLT				S	Sn	12	16	53.5 **+0.9**
	baz=242							
TWQ1	**Liyutan**	**1.64**	**268**	*e*P	Pn	12	16	34.6 **+1.7**
	baz=266							
TWQ1				*e*S	Sn	12	16	53.9 **+1.0**
	baz=266							
NSY	**Sanyi**	**1.65**	**270**	*e*P	Pn	12	16	33.5 **+0.4**
	baz=268							
NSY				*e*S	Sn	12	16	55.7 **+2.5**
	baz=268							

TYC	**Yuchr**	**1.65**	**252**	⇑P	Pn	**12**	**16**	**34.3** **+1.3**
	baz=243							
TYC				*e*S	Sn	**12**	**16**	**53.9** **+0.7**
	baz=243							
CHKT	**Chengkung**	**1.72**	**220**	⇑P	Pn	**12**	**16**	**33.6** **-0.5**
	baz=212							
CHKT				*e*S	Sn	**12**	**16**	**52.7** **-2.3**
	baz=212							
TCU	**Taichung**	**1.75**	**261**	*e*P	Pn	**12**	**16**	**36.1** **+1.7**
	baz=273							
TCU				*e*S	Sn	**12**	**16**	**56.9** **+1.3**
	baz=273							
WNT	**Mingjian**	**1.80**	**253**	*e*P	Pn	**12**	**16**	**37.5** **+2.3**
	baz=252							
WNT				*e*S	Sn	**12**	**16**	**59.8** **+2.8**
	baz=252							
ALS	**Alishan**	**1.85**	**241**	⇑*e*P	Pn	**12**	**16**	**37.6** **+1.5**
	baz=232							
ELDTW	**Lidau**	**1.88**	**229**	*e*P	Pn	**12**	**16**	**36.4** **0.0**
	baz=228							
CHN5	**Tsauling**	**1.92**	**245**	⇑*i*P	Pn	**12**	**16**	**38.8** **+2.0**
	baz=234							
CHN5				S	Sn	**12**	**17**	**02.3** **+2.4**
	baz=234							
JTJ	**Tarama**	**1.96**	**83**	P	Pn	**12**	**16**	**38.1** **+0.9**
JTJ				*e*S	Sn	**12**	**17**	**01.8** **+1.1**
WGK	**Gukeng**	**1.98**	**248**	*e*P	Pn	**12**	**16**	**39.9** **+2.4**
	baz=248							
WGK				*e*S	Sn	**12**	**17**	**03.9** **+2.8**
	baz=248							
CHN4	**Tsaushan**	**2.10**	**240**	*e*P	Pn	**12**	**16**	**41.7** **+2.5**
	baz=232							
CHN4				S	Sn	**12**	**17**	**06.6** **+2.4**
	baz=232							
TWG	**Pinlang**	**2.11**	**221**	*e*P	Pn	**12**	**16**	**39.0** **-0.4**
	baz=228							
CHN2	**Minshiung**	**2.11**	**245**	*e*P	Pn	**12**	**16**	**41.7** **+2.4**
	baz=236							
CHN2				*e*S	Sn	**12**	**17**	**07.9** **+3.5**
	baz=236							
TTN	**Taitung**	**2.12**	**218**	*e*P	Pn	**12**	**16**	**38.4** **-1.1**
	baz=209							
WTP	**Ta-pu**	**2.14**	**237**	⇑P	Pn	**12**	**16**	**41.8** **+2.0**
	baz=236							
WTP				*e*S	Sn	**12**	**17**	**07.8** **+2.4**
	baz=236							
WTCT	**Ta-ch'eng**	**2.16**	**255**	*e*P	Pn	**12**	**16**	**41.5** **+1.5**
	baz=267							
WTCT				*e*S	Sn	**12**	**17**	**07.3** **+1.6**
	baz=267							
CHY	**Chiayi**	**2.17**	**245**	*e*P	Pn	**12**	**16**	**42.1** **+2.0**
	baz=236							
CHY				*e*S	Sn	**12**	**17**	**08.0** **+2.1**
	baz=236							
TWK	**Hsinying**	**2.23**	**239**	*e*P	Pn	**12**	**16**	**43.4** **+2.3**
	baz=238							
TWK				*e*S	Sn	**12**	**17**	**08.9** **+1.5**
	baz=238							
CHN1	**Nanshi**	**2.24**	**237**	⇑P	Pn	**12**	**16**	**43.1** **+2.0**
	baz=236							
CHN1				*e*S	Sn	**12**	**17**	**09.7** **+2.0**
	baz=236							
SGST	**Jiashian**	**2.26**	**234**	⇑P	Pn	**12**	**16**	**43.8** **+2.4**
	baz=233							
SGST				*e*S	Sn	**12**	**17**	**10.3** **+2.2**
	baz=233							
WSF	**Szhu**	**2.28**	**250**	*e*P	Pn	**12**	**16**	**43.0** **+1.4**
	baz=262							
WSF				*e*S	Sn	**12**	**17**	**10.8** **+2.1**
	baz=262							
ECL	**Taimali**	**2.35**	**219**	*e*P	Pn	**12**	**16**	**42.3** **-0.3**
	baz=226							
CHN8	**Yiju**	**2.41**	**244**	*e*P	Pn	**12**	**16**	**45.3** **+1.9**
	baz=233							
CHN8				*e*S	Sn	**12**	**17**	**14.5** **+2.7**
	baz=233							
CHN3	**Shinhua**	**2.42**	**237**	*e*P	Pn	**12**	**16**	**46.1** **+2.5**
	baz=247							
SSD	**Sandimen**	**2.44**	**227**	*e*P	Pn	**12**	**16**	**45.2** **+1.3**
	baz=227							
SSD				*e*S	Sn	**12**	**17**	**15.2** **+2.6**
	baz=227							
SCLT	**Jiali**	**2.51**	**241**	*e*P	Pn	**12**	**16**	**47.0** **+2.2**
	baz=240							
SCLT				*e*S	Sn	**12**	**17**	**16.5** **+2.3**
	baz=240							
JMJ	**Miyako jima 2**	**2.51**	**81**	*e*P	Pn	**12**	**16**	**46.2** **+1.4**
	baz=83							
JMJ	**Miyako jima 2**	**2.51**	**81**	P	Pn	**12**	**16**	**46.5** **+1.7**
JMJ				*e*S	Sn	**12**	**17**	**16.0** **+1.7**
TWM1	**Shoushan**	**2.53**	**231**	*e*P	Pn	12	16	48.5 +3.3
	baz=241							
SGLT	**Jiouru**	**2.55**	**229**	*e*P	Pn	12	16	48.7 +3.3
	baz=228							
SGLT				*e*S	Sn	**12**	**17**	**19.9** **+4.7**
	baz=228							
LAY	**Lan-yu**	**2.56**	**202**	*e*P	Pn	**12**	**16**	**44.6** **-0.9**
	baz=201							
LAY				*e*S	Sn	**12**	**17**	**12.6** **-2.8**
	baz=201							
TAW	**Tawu**	**2.57**	**217**	*e*P	Pn	**12**	**16**	**46.1** **+0.4**
	baz=224							
EAST	**Anshuo**	**2.58**	**218**	*e*P	Pn	**12**	**16**	**45.9** **+0.1**
	baz=218							
JOGS	**Gusukube**	**2.61**	**82**	P	Pn	**12**	**16**	**47.9** **+1.8**
JOGS				*e*S	Sn	**12**	**17**	**19.3** **+2.7**
SCZT	**Fangliau**	**2.72**	**221**	⇓*e*P	Pn	**12**	**16**	**49.8** **+2.1**
	baz=218							
SCZT				*e*S	Sn	**12**	**17**	**21.8** **+2.4**
	baz=218							
PNG	**Penghu**	**2.88**	**253**	*e*P	Pn	**12**	**16**	**49.8** **-0.1**
	baz=253							
PNG				*e*S	Sn	**12**	**17**	**21.6** **-1.9**
	baz=253							
TWP	**Hsiaoliuchiu**	**2.90**	**225**	*e*P	Pn	**12**	**16**	**52.7** **+2.5**
	baz=225							
TWP				*e*S	Sn	**12**	**17**	**28.8** **+5.0**
	baz=225							
WDGT	**Dungji**	**2.90**	**247**	*e*P	Pn	**12**	**16**	**51.5** **+1.3**
	baz=247							
WDGT				*e*S	Sn	**12**	**17**	**23.9** **0.0**
	baz=247	

SONM Songino Array 26.65 335 P P 12 21 38.6 -1.1
comp=Z,6.1nm,0.8s,baz=145,slow=9.1,SNR=14
MKAR Makanchi Array 39.05 315 P P 12 23 26.6 -1.0
comp=Z,2.0nm,0.7s,baz=103,slow=9.6,SNR=23
MKAR PcP PcP 12 25 35.8 -0.8
comp=Z,1.3nm,0.8s,baz=94,slow=4.9,SNR=8.7
ZALV Zalesovo Beam 40.73 326 P P 12 23 39.6 -1.7
comp=Z,2.5nm,0.6s,baz=118,slow=7.5,SNR=13
ZALV PcP PcP 12 25 40.2 -1.5
comp=Z,0.4nm,0.2s,baz=94,slow=4.8,SNR=3.6
KURBB Kurchatov Arra 42.74 319 P P 12 23 56.8 -1.0
comp=Z,0.9nm,0.6s,baz=101,slow=8.1,SNR=8.4
KURBB PcP PcP 12 25 46.9 -1.5
comp=Z,0.8nm,0.6s,baz=115,slow=3.5,SNR=6.7
AAK Ala-Archa 43.36 307 P P 12 24 02.3 -0.9
comp=Z,1.3nm,0.6s,baz=83,slow=3.9,SNR=7.5
WRA Warramunga Arr 45.57 164 P P 12 24 21.4 +0.7
comp=Z,1.1nm,0.7s,baz=346,slow=8.7,SNR=12
BVAR Borovoye Array 48.29 320 P P 12 24 40.7 -0.9
comp=Z,0.7nm,0.5s,baz=113,slow=7.6,SNR=7.2
BVAR PcP PcP 12 26 06.6 -1.1
comp=Z,1.2nm,0.7s,baz=108,slow=3.3,SNR=6.6
ASAR Alice Springs 49.06 166 P P 12 24 49.0 +1.2
comp=Z,0.4nm,0.6s,baz=350,slow=7.4,SNR=11
ASAR PcP PcP 12 26 10.7 -0.2
comp=Z,0.5nm,0.9s,baz=340,slow=5.1,SNR=2.3
ILAR Eielson Array 68.42 27 P P 12 27 00.6 -1.2
comp=Z,0.2nm,0.6s,baz=296,slow=7.8,SNR=7.1
FINES FINESS Array B 71.87 330 P P 12 27 20.9 -1.9
comp=Z,1.2nm,0.8s,baz=46,slow=6.6,SNR=3.4
BRTR Keskin Array B 74.04 307 P P 12 27 35.6 -0.8
comp=Z,0.9nm,0.8s,baz=52,slow=5.9,SNR=3.2
YKA Yellowknife Ar 82.25 23 P P 12 28 19.9 -1.2
comp=Z,0.5nm,0.6s,baz=312,slow=4.8,SNR=13
NVAR Mina Array Bea 95.39 44 P P 12 29 24.1 -0.8
comp=Z,0.5nm,0.7s,baz=318,slow=4.0,SNR=4.7

---

*DJA **20** 12:25:57.4±0.4,21˚.S±10˚×18˚.0W±˚, h500km,M5.5/9, mB5.5/2, mb5.5/9,Mw(mB)5.0/2*
*MOS **20** 12:26:00.2±0.8,21˚.30S×179˚.38W, h593km, mb5.2/37, Error ellipse: s-maj=8.9km s-min=7.3km az=49.6*
*AUST **20** 12:26:01.9,21˚.60S×179˚.25W, h600km*
*BJI **20** 12:26:01.4,21˚.20S×179˚.00W, h620km,mB5.1/27, mb5.4/48*
*ISCJB **20** 12:26:01.3±0.5,21˚.43S±0˚.04×179˚.39W±0˚.02, h611km±5km, mb5.2/217, Error ellipse: s-maj=6.1km s-min=2.6km az=164.7*
*IDC **20** 12:26:01.1±0.9,21˚.39S×179˚.31W, h596km±10km, mb4.7/34, mb1 4.7/38, mb1mx4.7/38, mbtmp4.7/38, Error ellipse: s-maj=8.4km s-min=7.4km az=173.0*
*NEIC **20** 12:26:03.1±0.4,21˚.48S×179˚.38W, h622km±4km, mb5.0/133, Error ellipse: s-maj=5.2km s-min=3.3km az=154.0*
*SZGRF **20** 12:26:04.0,21˚.68S×179˚.12W, h635km, Fiji Islands region*
*GCMT **20** 12:26:05.8±0.5,21˚.43S×179˚.29W, h620km±3km, MW5.5, Moment Tensor Solution. s49,c60; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.07; $M_{\theta\theta}$0.04±.10; $M_{\phi\phi}$0.29±.10; $M_{r\theta}$0.59±.12; $M_{r\phi}$-0.69±.10; $M_{\theta r}$-1.65±.09; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s99.00000˚,δ17.00000˚, λ-152.00000˚. NP2:ϕ_s343.00000˚,δ82.00000˚, λ-75.00000˚. Principal axes: T 2.0700, Plg36.0000˚, Azm60.0000˚; N -0.3700, Plg15.0000˚, Azm161.0000˚; P -1.7000, Plg51.0000˚, Azm269.0000˚; Data Used: IU II IC G CN.*
*BGS **20** 12:26:05.2±5.3,21˚.48S×179˚.38W, h622km, mb5.0(NEIC)*
ISC 20 12:26:02.8±0.3,21˚.49S±0˚.04×179˚.30W±0˚.04, h620km±2km, h620km:pP-P,n1311,σ1s20/1476, mb5.2/215, 250C-253D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**326**	↑*iP*		**P**	**P**	**12 27 32.7**	**-0.7**
MSVF				*eS*		**S**	**S**	**12 28 47.1**	**-0.1**
MSVF	**Nonsavu**	**4.50**	**326**	↑*iP*		**P**	**P**	**12 27 32.7**	**-0.7**
MSVF				*eS*		**S**	**S**	**12 28 47.1**	**-0.1**
RAO	**Raoul Island**	**7.83**	**171**	↓*iP*		**P**	**P**	**12 28 00.3**	**-0.8**
NIUE	**Niue**	**9.12**	**76**	P		**P**	**P**	**12 28 11.7**	**-1.8**
	baz=9.1,SNR=13								
NIUE				S		S	S	12 30 08.3	+7.7
	baz=9.1,SNR=4.0								
AFI	**Afiamalu**	**10.40**	**45**	P		P	P	12 28 22.0	-4.2
	20nm,0.3s,baz=197,slow=14,SNR=35								
AFI				S		S	S	12 30 12.1	-12
	14nm,0.3s,baz=212,slow=23,SNR=13								
AFI	**Afiamalu**	**10.40**	**45**	*eP*		P	P	12 28 21.8	-4.3
AFI				S		S	S	12 30 12.1	-12
AFI				*eS*		S	S	12 30 16.5	-7.2
DZM	**Mont Dzumac**	**13.26**	**265**	*eP*		**P**	**P**	**12 28 53.5**	**-0.5**
	117nm,0.8s								
DZM	**Mont Dzumac**	**13.26**	**265**	P		**P**	**P**	**12 28 53.1**	**-0.9**
	3.6nm,0.3s,baz=90,slow=17,SNR=14								
DZM				S		**S**	**S**	**12 31 12.2**	**-2.1**
	4.5nm,0.3s,baz=93,slow=12,SNR=6.3								
DZM	**Mont Dzumac**	**13.26**	**265**	*eP*		**P**	**P**	**12 28 52.8**	**-1.2**
DZM				*eS*		**S**	**S**	**12 31 15.2**	**+1.0**
DZM	**Mont Dzumac**	**13.26**	**265**	P		**P**	**P**	**12 28 53.1**	**-0.9**
DZM				S		**S**	**S**	**12 31 12.2**	**-2.1**
NOUC	**Port Laguerre**	**13.39**	**265**	*eP*		**P**	**P**	**12 28 53.8**	**-1.3**
NOUC				*eS*		**S**	**S**	**12 31 18.5**	**+2.2**
NFK	**Norfolk Island**	**13.78**	**234**	P		**P**	**P**	**12 29 00.8**	**+2.0**
	baz=14,SNR=4.5								
OUZ	**Omahuta**	**15.04**	**203**	*eP*		**P**	**P**	**12 29 12.8**	**+2.5**
	314nm,1.4s								
OUZ				*eS*		**S**	**S**	**12 31 37.4**	**-5.8**
URZ	**Urewera**	**17.00**	**190**	P		**P**	**P**	**12 29 26.4**	**-1.8**
	8.1nm,0.3s,baz=279,slow=2.6,SNR=17								
URZ				S		**S**	**S**	**12 32 09.6**	**-5.6**
	4.2nm,0.3s,baz=45,slow=22,SNR=10								
URZ	**Urewera**	**17.00**	**190**	*eP*		**P**	**P**	**12 29 26.6**	**-1.6**
	72nm,1.3s								
URZ				S		**S**	**S**	**12 32 09.6**	**-5.6**
RAR	**Rarotonga**	**18.19**	**93**	P		**P**	**P**	**12 29 39.3**	**0.0**
	3.0nm,0.3s,baz=270,slow=5.8,SNR=20								
RAR	**Rarotonga**	**18.19**	**93**	*eP*		**P**	**P**	**12 29 39.5**	**+0.1**
	235nm,1.0s								
KHZ	**Kahutara**	**21.72**	**194**	*eP*		**P**	**P**	**12 30 09.1**	**-1.7**
	14nm,0.5s								
LHI	**Lord Howe Isla**	**21.75**	**238**	P		**P**	**P**	**12 30 13.4**	**+2.1**
	baz=22,SNR=6.7								
HNR	**Honiara**	**23.29**	**298**	P		**P**	**P**	**12 30 22.8**	**-2.3**
	208nm,0.7s,baz=153,slow=3.6,SNR=21								
HNR	**Honiara**	**23.29**	**298**	*eP*		**P**	**P**	**12 30 23.5**	**-1.6**
	318nm,1.0s								
RPZ	**Rata Peaks**	**23.57**	**198**	*eP*		**P**	**P**	**12 30 26.1**	**-1.2**
	13nm,0.5s								
TARA	**Tarawa**	**23.94**	**341**	*eP*		**P**	**P**	**12 30 30.3**	**-0.6**
	178nm,0.7s								
EIDS	**Eidsvold**	**27.43**	**256**	*eP*		**P**	**P**	**12 31 01.7**	**+0.4**
	120nm,0.7s								
EIDS	**Eidsvold**	**27.43**	**256**	P		**P**	**P**	**12 31 01.7**	**+0.4**
	baz=27,SNR=45								
EIDS				S		**S**	**S**	**12 35 00.8**	**+0.7**
	baz=27,SNR=6.5								
ARMA	**Armidale**	**27.55**	**245**	*eP*		**P**	**P**	**12 31 02.7**	**+0.2**
	107nm,0.7s								
ARMA	**Armidale**	**27.55**	**245**	P		**P**	**P**	**12 31 04.0**	**+1.5**
	baz=28,SNR=106								
TBI	**Tubuai**	**27.62**	**100**	*eP*		**P**	**P**	**12 31 03.7**	**+0.6**
	293nm,1.0s								
PAE	**Paea**	**28.23**	**87**	*eP*		**P**	**P**	**12 31 08.1**	**-0.3**
	34nm,1.1s								
PPT2	**Papeete2**	**28.25**	**87**	*eP*		**P**	**P**	**12 31 08.7**	**0.0**
	218nm,1.3s								
PPT	**Papeete**	**28.26**	**87**	P		**P**	**P**	**12 31 08.2**	**-0.5**
	158nm,0.8s,baz=248,slow=4.0,SNR=22								
PPT	**Papeete**	**28.26**	**87**	P		**P**	**P**	**12 31 08.2**	**-0.5**
TIAR	**Tiarei**	**28.48**	**87**	*eP*		**P**	**P**	**12 31 10.5**	**-0.1**
	245nm,0.8s								
TVO	**Taravao**	**28.52**	**88**	*eP*		**P**	**P**	**12 31 10.7**	**-0.2**
	175nm,0.7s								
MGCD	**Mangrove Creek**	**28.66**	**240**	P		**P**	**P**	**12 31 13.4**	**+1.4**
	baz=29,SNR=51								
RMQ	**Roma**	**29.56**	**254**	P		**P**	**P**	**12 31 21.1**	**+1.3**
	baz=30,SNR=66								
RMQ				S		**S**	**S**	**12 35 36.0**	**+2.9**
	baz=30,SNR=5.2								
MEH	**Mehetia**	**29.60**	**89**	*eP*		**P**	**P**	**12 31 19.8**	**-0.4**
	348nm,1.0s								
PMOR	**Pomariorio Ree**	**30.48**	**83**	↑*iP*		**P**	**P**	**12 31 27.5**	**-0.2**
	598nm,1.2s								
CNB	**Canberra Magne**	**30.67**	**236**	P		**P**	**P**	**12 31 30.5**	**+1.3**
	baz=31,SNR=62								
CNB				S		**S**	**S**	**12 35 53.2**	**+3.2**
	baz=31,SNR=9.5								
CAN	**Canberra**	**30.96**	**237**	*eP*		**P**	**P**	**12 31 32.5**	**+0.8**
CAN				pmax		pmax			
	comp=Z,104nm,0.9s								
CAN	**Canberra**	**30.96**	**237**	*eP*		**P**	**P**	**12 31 32.5**	**+0.8**
	comp=Z,104nm,0.9s								
YNG	**Young**	**31.14**	**239**	P		**P**	**P**	**12 31 34.1**	**+0.9**
	baz=31,SNR=22								
MILA	**Mila**	**31.41**	**233**	P		**P**	**P**	**12 31 36.8**	**+1.3**
	baz=31,SNR=8.5								
XMAS	**Kiritimati**	**31.68**	**45**	*eP*		**P**	**P**	**12 31 37.7**	**-0.3**
	comp=Z,463nm,0.9s								
CTA	**Charters Tower**	**32.20**	**266**	P		**P**	**P**	**12 31 42.5**	**+0.2**
	comp=Z,200nm,0.6s,baz=96,slow=11,SNR=265								
CTA				ScP		**ScP**	**ScP**	**12 36 60.0**	**+2.5**
	comp=Z,22nm,0.8s,baz=94,slow=3.3,SNR=6.5								
CTA	**Charters Tower**	**32.20**	**266**	P		**P**	**P**	**12 31 42.5**	**+0.2**
CTA				ScP		**ScP**	**ScP**	**12 36 60.0**	**+2.5**
CTAO	**Charters Tower**	**32.20**	**266**	*eP*		**P**	**P**	**12 31 42.6**	**+0.2**
CTAO				*e*				12 34 06.8	
CTAO				pmax		pmax			
	comp=Z,233nm,0.7s								
CTAO	**Charters Tower**	**32.20**	**266**	*eP*		**P**	**P**	**12 31 42.6**	**+0.3**
	comp=Z,233nm,0.7s								
CTAO				*e*PcP		PcP	PcP	**12 34 06.8**	**-4.8**
CMSA	**Cobar Meteorol**	**32.77**	**245**	P		**P**	**P**	**12 31 47.6**	**+0.7**
	baz=33,SNR=308								
CMSA				S		**S**	**S**	**12 36 21.7**	**-0.1**
	baz=33,SNR=5.0								
QLP	**Quilpie**	**33.62**	**254**	P		**P**	**P**	**12 31 54.5**	**+0.3**
	baz=34,SNR=115								
TOO	**Toolangi**	**34.34**	**234**	P		**P**	**P**	**12 32 00.9**	**+0.9**
	baz=34,SNR=100								
TOO				S		S	S	12 37 07.0	+22
	baz=34,SNR=3.8								
PMG	**Port Moresby**	**34.41**	**285**	P		**P**	**P**	**12 32 00.7**	**-0.1**
	comp=Z,377nm,0.8s,baz=90,slow=5.6,SNR=99								
PMG				ScP		**ScP**	**ScP**	**12 37 07.7**	**+2.4**
	comp=Z,18nm,0.8s,baz=74,slow=7.4,SNR=3.8								
PMG	**Port Moresby**	**34.41**	**285**	*eP*		**P**	**P**	**12 32 00.8**	**-0.1**
	comp=Z,331nm,0.8s								
PMG				*e*PcP		PcP	PcP	12 34 24.9	+6.9
PMG				ScP		**ScP**	**ScP**	**12 37 07.7**	**+2.4**
MOO	**Moorlands**	**34.95**	**226**	P		**P**	**P**	**12 32 05.9**	**+0.9**
	baz=35,SNR=6.9								
MOO				S		S	S	12 37 10.3	+16
	baz=35,SNR=3.5								
TAU	**Tasmania Unive**	**35.07**	**225**	*eP*		**P**	**P**	**12 32 06.5**	**+0.5**
TAU				pmax		pmax			
	comp=Z,12nm,0.6s								
TAU	**Tasmania Unive**	**35.07**	**225**	*eP*		**P**	**P**	**12 32 06.5**	**+0.5**
	comp=Z,12nm,0.6s								
PATS	**Pohnpei**	**35.71**	**320**	P		**P**	**P**	**12 32 12.1**	**+0.5**
	baz=36,SNR=3.9								
STKA	**Stephens Creek**	**36.27**	**245**	P		**P**	**P**	**12 32 16.8**	**+0.7**
	comp=Z,124nm,0.7s,baz=90,slow=9.4,SNR=284								
STKA				ScP		**S**		**12 37 14.6**	**+0.3**
	comp=Z,28nm,1.0s,baz=117,slow=6.6,SNR=7.6								
STKA	**Stephens Creek**	**36.27**	**245**	*eP*		**P**	**P**	**12 32 16.9**	**+0.9**
	comp=Z,33nm,0.8s								
STKA				ScP		**S**	**S**	**12 37 14.6**	**+0.3**
STKA				*e*ScP		**ScP**	**ScP**	**12 37 15.7**	**+3.7**
STKA	**Stephens Creek**	**36.27**	**245**	P		**P**	**P**	**12 32 16.9**	**+0.9**
	baz=36,SNR=163								
STKA				S		**S**	**S**	**12 37 14.5**	**+0.3**
	baz=36,SNR=5.6								
COEN	**Coen**	**36.45**	**276**	*eP*		**P**	**P**	**12 32 18.1**	**+0.4**
	comp=Z,1μm,0.8s								
COEN	**Coen**	**36.45**	**276**	P		**P**	**P**	**12 32 18.2**	**+0.4**
	baz=36,SNR=183								
MCQ	**Macquarie Isla**	**36.83**	**201**	P		**P**	**P**	**12 32 21.9**	**+1.8**
	baz=37,SNR=4.6								
ARPS	**Mount Arapiles**	**36.93**	**237**	P		**P**	**P**	**12 32 21.8**	**+0.4**
	baz=37,SNR=34								
QIS	**Mount Isa**	**38.30**	**264**	P		**P**	**P**	**12 32 32.2**	**-0.5**
	baz=38,SNR=41								
QIS				S		S	S	12 37 23.6	-21
	baz=38,SNR=5.2								
RKT	**Rikitea**	**40.92**	**101**	*eP*		**P**	**P**	**12 32 54.9**	**+1.4**
	comp=Z,193nm,1.3s								
BBOO	**Buckleboo**	**41.03**	**244**	*eP*		**P**	**P**	**12 32 54.3**	**+0.2**
	comp=Z,4μm,0.8s								
BBOO	**Buckleboo**	**41.03**	**244**	P		**P**	**P**	**12 32 54.4**	**+0.2**
	baz=41,SNR=338								
BBOO				S		**S**	**S**	**12 38 22.6**	**-1.1**
	baz=41,SNR=13								
AS31	**Alice Springs**	**43.12**	**258**	*eP*		**P**	**P**	**12 33 10.7**	**-0.1**
AS31				*e*PcP		**PcP**	**PcP**	**12 34 46.4**	**+0.5**
AS31				*e*ScP		**ScP**	**ScP**	**12 37 42.5**	**+3.4**
ASAR	**Alice Springs**	**43.12**	**258**	P		**P**	**P**	**12 33 10.7**	**0.0**
	comp=Z,358nm,0.8s,baz=100,slow=7.7,SNR=3164								
ASAR				PcP		**PcP**	**PcP**	**12 34 46.4**	**+0.5**
	comp=Z,42nm,0.6s,baz=106,slow=3.9,SNR=11								
ASAR				ScP		**ScP**	**ScP**	**12 37 42.1**	**+3.0**
	comp=Z,34nm,0.8s,baz=107,slow=4.2,SNR=19								
ASAR				S		**S**	**S**	**12 38 51.0**	**-2.8**
	comp=Z,39nm,1.0s,baz=95,slow=15,SNR=22								
ASAR				PKiKP		**PKiKP**	**PKiKP**	**12 41 42.5**	**-4.4**
	comp=Z,1.0nm,0.7s,baz=101,slow=1.1,SNR=3.7								
ASAR	**Alice Springs**	**43.12**	**258**	P		**P**	**P**	**12 33 10.7**	**0.0**
ASAR				PcP		**PcP**	**PcP**	**12 34 46.4**	**+0.5**
ASAR				ScP		**ScP**	**ScP**	**12 37 42.1**	**+3.0**
ASAR				S		**S**	**S**	**12 38 51.0**	**-2.8**
ASAR				PKiKP		**PKiKP**	**PKiKP**	**12 41 42.5**	**-4.4**
JAY	**Jayapura**	**43.23**	**290**	P		**P**	**P**	**12 33 11.5**	**-0.2**
	baz=43,SNR=66								
JAY				S		**S**	**S**	**12 38 55.9**	**+0.3**
	baz=43,SNR=3.5								
WRAB	**Tennant Creek**	**43.27**	**263**	*eP*		**P**	**P**	**12 33 11.2**	**-0.6**
WRAB				*e*S		**S**	**S**	**12 38 54.4**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,296nm,0.8s								
WRAB	**Tennant Creek**	**43.27**	**263**	*eP*		**P**	**P**	**12 33 11.2**	**-0.6**
	comp=Z,296nm,0.8s								
WRAB				*e*ScP		**ScP**	**ScP**	**12 37 43.0**	**+3.3**
WRAB				*e*S		**S**	**S**	**12 38 54.4**	**-1.5**
WRA	**Warramunga Arr**	**43.27**	**263**	P		**P**	**P**	**12 33 11.0**	**-0.9**
	comp=Z,259nm,0.8s,baz=94,slow=5.8,SNR=913								
WRA				PcP		**PcP**	**PcP**	**12 34 47.0**	**+0.5**
	comp=Z,17nm,0.6s,baz=98,slow=3.9,SNR=8.3								
WRA				ScP		**ScP**	**ScP**	**12 37 42.8**	**+3.1**
	comp=Z,23nm,0.9s,baz=94,slow=4.1,SNR=15								
WRA				S		**S**	**S**	**12 38 52.5**	**-3.5**
	comp=Z,19nm,0.9s,baz=102,slow=18,SNR=14								
WRA				PKiKP		**PKiKP**	**PKiKP**	**12 41 45.4**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=80,slow=0.8,SNR=6.7								
WRA	**Warramunga Arr**	**43.27**	**263**	P		**P**	**P**	**12 33 11.0**	**-0.9**
WRA				PcP		**PcP**	**PcP**	**12 34 47.0**	**+0.5**
WRA				ScP		**ScP**	**ScP**	**12 37 42.8**	**+3.1**
WRA				S		**S**	**S**	**12 38 52.5**	**-3.5**
WRA				PKiKP		**PKiKP**	**PKiKP**	**12 41 45.4**	**-1.6**
KDU	**Kakadu**	**46.77**	**273**	P		**P**	**P**	**12 33 38.0**	**-0.5**
	baz=47,SNR=106								
KDU				S		**S**	**S**	**12 39 44.0**	**-1.0**
	baz=47,SNR=4.9								
HON	**Honolulu**	**47.36**	**27**	*eP*		**P**	**P**	**12 33 42.8**	**0.0**
HON	**Honolulu**	**47.36**	**27**	*eP*		**P**	**P**	**12 33 42.8**	**0.0**
KIP	**Kipapa**	**47.44**	**27**	*ceP*		**P**	**P**	**12 33 42.9**	**-0.4**
KIP				pmax		pmax			
	comp=Z,287nm,1.7s								
KIP	**Kipapa**	**47.44**	**27**	*eP*		**P**		**12 33 43.0**	**-0.4**
	comp=Z,131nm,0.8s								
FORT	**Forrest**	**47.80**	**247**	*eP*		**P**		**12 33 45.8**	**-0.2**
	comp=Z,343nm,0.7s								
FORT				*e*PcP		**PcP**	**PcP**	**12 35 02.8**	**+0.4**
FORT	**Forrest**	**47.80**	**247**	P		**P**	**P**	**12 33 45.8**	**-0.2**
	baz=48,SNR=151								
MTN	**Manton Dam**	**47.97**	**272**	P		**P**	**P**	**12 33 46.6**	**-0.9**
	baz=48,SNR=154								
MTN				S		**S**	**S**	**12 39 59.2**	**-2.2**
	baz=48,SNR=11								
TLE	**Tual**	**48.99**	**282**	P		**P**	**P**	**12 33 55.2**	**+0.1**
	baz=49,SNR=28								
TLE				S		**S**	**S**	**12 40 16.9**	**+1.6**
	baz=49,SNR=7.0								
TLE	**Tual**	**48.99**	**282**	P		**P**	**P**	**12 33 54.8**	**-0.3**
	comp=Z,743nm,0.9s,comp=Z,6μm								
GUMO	**Guam**	**49.52**	**312**	P		**P**	**P**	**12 33 58.5**	**-0.4**
	comp=Z,215nm,0.6s,baz=157,slow=8.4,SNR=16								
GUMO	**Guam**	**49.52**	**312**	*eP*		**P**	**P**	**12 33 58.9**	**0.0**
	comp=Z,152nm,0.8s								
FITZ	**Fitzroy Crossi**	**51.70**	**263**	P		**P**	**P**	**12 34 14.7**	**+0.1**
	comp=Z,68nm,0.5s,baz=116,slow=3.9,SNR=375								
FITZ	**Fitzroy Crossi**	**51.70**	**263**	*eP*		**P**	**P**	**12 34 14.8**	**+0.1**
	comp=Z,169nm,1.0s								
FITZ				*e*ScP		**ScP**	**ScP**	**12 38 19.0**	**+3.5**
FITZ				*e*S		**S**	**S**	**12 40 52.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**51.70**	**263**	P		**P**	**P**	**12 34 14.7**	**+0.1**
	baz=52,SNR=355								
FITZ				S		**S**	**S**	**12 40 51.8**	**+0.1**
	baz=52,SNR=7.7								
BNDI	**Bandanaira**	**52.02**	**281**	P		**P**	**P**	**12 34 16.5**	**-0.5**
	comp=Z,1μm,0.8s,comp=Z,8μm								
SWI	**Sorong**	**52.34**	**286**	P		**P**	**P**	**12 34 19.1**	**-0.1**
	baz=52,SNR=107								
KMBL	**Kambalda**	**53.05**	**246**	P		**P**	**P**	**12 34 23.7**	**-0.4**
	baz=53,SNR=15								
MSAI	**Masohi**	**53.39**	**282**	P		**P**	**P**	**12 34 26.0**	**-0.7**
PALU	**Palau**	**53.64**	**297**	P		**P**	**P**	**12 34 28.5**	**0.0**
	baz=54,SNR=28								
AAI	**Ambon**	**53.92**	**282**	P		**P**	**P**	**12 34 29.7**	**-0.7**
	baz=54,SNR=14								
AAI	**Ambon**	**53.92**	**282**	P		**P**	**P**	**12 34 29.4**	**-1.0**
	comp=Z,465nm,1.0s,comp=Z,5μm								
MEEK	**Meekatharra**	**56.45**	**252**	P		**P**	**P**	**12 34 47.2**	**-0.7**
	baz=56,SNR=105								
MBWA	**Marble Bar**	**56.46**	**258**	*eP*		**P**	**P**	**12 34 47.5**	**-0.4**
	comp=Z,325nm,0.7s								
MBWA				*e*PcP		**PcP**	**PcP**	**12 35 36.2**	**+0.6**
MBWA	**Marble Bar**	**56.46**	**258**	P		**P**	**P**	**12 34 47.4**	**-0.4**
	SNR=12								
KLBR	**Kellerberrin**	**56.54**	**246**	P		**P**	**P**	**12 34 48.2**	**-0.1**
	baz=56,SNR=100								
TNTI	**Ternate**	**56.55**	**286**	P		**P**	**P**	**12 34 48.0**	**-0.6**
	comp=Z,774nm,1.0s,comp=Z,6μmcomp=Z,2.5nm								
SBA	**Scott Base**	**56.81**	**183**	*eP*		P	P	12 34 52.7	+3.4
SBA				pmax		pmax			
	comp=Z,45nm,1.0s								
SBA	**Scott Base**	**56.81**	**183**	*eP*		P		12 34 52.7	+3.4
	comp=Z,44nm,1.0s								
VNDA	**Vanda**	**56.83**	**185**	P		**P**	**P**	**12 34 49.9**	**+0.5**
	comp=Z,8.0nm,0.5s,baz=2.9,slow=7.4,SNR=56								
VNDA	**Vanda**	**56.83**	**185**	*eP*		**P**	**P**	**12 34 50.6**	**+1.2**
	comp=Z,13nm,0.8s								
VNDA				*e*PcP		**PcP**	**PcP**	**12 35 37.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**56.85**	**244**	P		**P**	**P**	**12 34 50.4**	**+0.1**
	comp=Z,86nm,0.9s,baz=106,slow=5.3,SNR=26								
NWAO	**Narrogin (SRO)**	**56.85**	**244**	P		**P**	**P**	**12 34 50.4**	**+0.1**
RKGY	**Rocky Gully**	**56.91**	**242**	P		**P**	**P**	**12 34 51.4**	**+0.6**
	baz=57,SNR=10								
BLDU	**Ballidu**	**57.55**	**247**	P		**P**	**P**	**12 34 54.9**	**-0.2**
	baz=58,SNR=84								
MORW	**Morawa**	**58.34**	**248**	P		**P**	**P**	**12 35 00.4**	**-0.1**
	baz=58,SNR=30								
BBSI	**Bau Bau**	**58.40**	**277**	P		P	P	12 35 07.7	+6.6
	comp=Z,147nm,1.0s								
WSI	**Waingapu**	**59.05**	**271**	P		**P**	**P**	**12 35 05.7**	**+0.2**
	baz=59,SNR=11								
MATI	**Mati**	**60.41**	**292**	*eP*		**P**	**P**	**12 35 12.3**	**-2.0**
CBIJ	**Chichi jima**	**61.01**	**321**	P		**P**	**P**	**12 35 17.8**	**-0.3**
	comp=Z,208nm,0.5s,baz=204,slow=20,SNR=10								
CBIJ	**Chichi jima**	**61.01**	**321**	P		**P**	**P**	**12 35 17.8**	**-0.3**
DMPH	**Davao City--Mi**	**61.12**	**291**	*eP*		**PcP**	**PcP**	**12 35 58.7**	**+4.3**
GIRL	**Giralia**	**61.12**	**255**	P		**P**	**P**	**12 35 19.9**	**+0.9**
	baz=61,SNR=28								
KAPI	**Kappang**	**61.18**	**276**	P		**P**	**P**	**12 35 18.1**	**-1.4**
	comp=Z,31nm,0.6s,baz=155,slow=3.3,SNR=55								
KAPI	**Kappang**	**61.18**	**276**	P		**P**	**P**	**12 35 18.1**	**-1.4**
KAPI	**Kappang**	**61.18**	**276**	P		**P**	**P**	**12 35 18.4**	**-1.0**
	SNR=13								
BUKP	**Musuan**	**61.89**	**292**	*eP*		**P**	**P**	**12 35 24.1**	**0.0**
BUTP	**Butuan**	**61.95**	**293**	*eP*		**P**	**P**	**12 35 24.2**	**-0.2**
CTBH	**Cotabato--PC H**	**62.28**	**291**	↓*eP*		**P**	**P**	**12 35 26.4**	**-0.2**
MSLP	**Maasin**	**63.

comp=E,220nm,1.4s
YUK pmax pmax
comp=Z,543nm,1.4s
YUK pmax pmax
comp=Z,976nm,1.8s
CBJI Citeko 72.67 270 P **P** 12 36 28.4 -1.4
comp=Z,437nm,0.9s
DBJI Dramaga 72.72 270 P **P** 12 36 29.6 -0.5
comp=Z,334nm,1.2s,comp=Z,3µm
TWG Pinlang 72.90 304 *e*P **P** 12 36 28.7 -2.2
comp=Z,604nm,0.6s
YULB Yu-li 73.04 304 *e*P **P** 12 36 30.1 -1.5
comp=Z,61nm,0.6s
NACB Ninganchiao 73.24 305 *e*P **P** 12 36 32.0 -0.8
comp=Z,328nm,1.0s
TPUB Ta-pu 73.50 304 *e*P **P** 12 36 32.2 -2.1
comp=Z,376nm,0.8s
SSLB Suanglung 73.52 304 *e*P **P** 12 36 32.9 -1.5
comp=Z,209nm,0.6s
YHNB Yeheng 73.68 305 *e*P **P** 12 36 35.0 -0.4
comp=Z,166nm,0.9s
CGJI Cibinong 73.68 269 P **P** 12 36 34.2 -1.3
ASAJ Asahikawa 74.03 332 P **P** 12 36 37.8 +1.1
comp=Z,67nm,0.8s,baz=215,slow=6.8,SNR=44
ASAJ Asahikawa 74.03 332 *e*P **P** 12 36 38.1 +1.3
comp=Z,21nm,0.8s
FX1 Attu Island--F 74.34 355 *e*P **P** 12 36 37.5 -0.9
KASI Kota Agung 75.18 270 P **P** 12 36 42.9 -1.0
comp=Z,193nm,1.1s
LWLI Liwa 75.76 270 P **P** 12 36 46.5 -0.8
comp=Z,212nm,0.8s,comp=Z,4µm
QZH Quanzhou 75.95 304 ⇓*i*P **P** 12 36 49.4 +1.5
QZH *e*S **S** 12 45 41.0 -1.0
QZH pmax pmax
comp=Z,350nm,0.8s
YSS Yuzh-Sakhalins 76.25 334 *e*P **P** 12 36 48.0 -1.0
YSS *e* 12 36 52.4
YSS pmax pmax
comp=Z,700nm,3.0s
YSS Yuzh-Sakhalins 76.25 334 *e*P **P** 12 36 49.6 +0.7
comp=Z,55nm,0.6s
KSRS Korea Array 76.83 319 P **P** 12 36 52.9 +0.5
comp=Z,19nm,0.9s,baz=143,slow=6.2,SNR=39
KSAR Wonju Array Be 76.85 319 P **P** 12 36 52.9 +0.4
PETK Petropavlovsk- 76.92 346 P **P** 12 36 52.2 -0.4
comp=Z,42nm,0.7s,baz=143,slow=7.6,SNR=25
PETK Petropavlovsk- 76.92 346 P **P** 12 36 52.2 -0.4
PETK Petropavlovsk- 76.92 346 P **P** 12 36 52.2 -0.4
KSI Kapahiang 77.61 271 P **P** 12 36 56.2 -1.1
comp=Z,404nm,0.8s,comp=Z,19µm
INCN Inchon 77.64 319 *e*P **P** 12 36 57.5 +0.7
comp=Z,73nm,1.3s
MYKOM **Kota Tinggi 78.44 277** P **P** 12 37 02.7 +1.1
KGM Kluang 79.01 277 P **P** 12 37 05.6 +0.9
USRK Ussuriysk Arra 79.10 327 P **P** 12 37 04.9 +0.6
comp=Z,72nm,1.0s,baz=125,slow=3.2,SNR=82
BSC Santa Cruz Isl 79.16 47 ⇓P **P** 12 37 05.8 +0.9
baz=79
SCI San Clemente I 79.33 48 ⇓P **P** 12 37 06.4 +0.6
baz=80
PKM Peak Mountain 79.55 46 ⇓P **P** 12 37 08.2 +1.0
baz=80
NJ2 Nanjing 79.58 310 *e*P **P** 12 37 07.8 +0.6
NJ2 pmax pmax
comp=Z,120nm,1.0s
BLG Laguna Peak 79.61 47 ⇑P **P** 12 37 07.7 +0.3
baz=80
CIS Catalina Islan 79.67 48 ⇓P **P** 12 37 07.8 +0.2
baz=80,SNR=12
SMMC Simmler 79.67 46 ⇑P **P** 12 37 08.7 +1.1
baz=80
HOPS Hopland 79.91 41 *e*P **P** 12 37 09.7 +1.0
comp=Z,125nm,1.1s
FMP Fort Macarthur 79.91 48 ⇓P **P** 12 37 09.5 +0.7
baz=80
KCPM Cahto Peak 80.03 40 *e*P **P** 12 37 11.0 +1.5
comp=Z,47nm,1.1s
OSI Osito Adit 80.13 47 ⇑P **P** 12 37 10.7 +0.6
baz=80
QIZ Qiongzhong 80.16 295 P **P** 12 37 07.6 -2.9
QIZ pP **pP** 12 39 19.0 -0.8
QIZ S **S** 12 46 27.8 +1.7
QIZ pmax pmax
comp=Z,23nm,1.0s
QIZ pmax pmax
comp=Z,94nm,5.9s
KIPM Iron Peak 80.16 40 *e*P **P** 12 37 11.7 +1.4
comp=Z,111nm,1.0s
DECC Green Verdugo 80.19 47 ⇑P **P** 12 37 10.6 +0.2
baz=80
MAW Mawson 80.23 200 P **P** 12 37 11.4 +1.5
comp=Z,36nm,0.9s,baz=158,slow=8.2,SNR=5.6
MAW Mawson 80.23 200 P **P** 12 37 11.4 +1.5
PASC Pasadena Art C 80.25 47 *e*P **P** 12 37 11.3 +0.6
comp=Z,34nm,0.8s
109C Camp Elliot, M 80.29 49 ⇑P **P** 12 37 11.2 +0.4
baz=80
ARVC Arvin 80.35 46 ⇓P **P** 12 37 11.7 +0.6
baz=81,SNR=9.0
MWC Mount Wilson 80.36 47 *e*P **P** 12 37 11.9 +0.4
MWC pmax pmax
comp=Z,46nm,0.9s
MWC Mount Wilson 80.36 47 *e*P **P** 12 37 11.9 +0.4
comp=Z,46nm,0.9s
BAR Barrett 80.48 49 *e*P **P** 12 37 12.4 +0.5
comp=Z,15nm,0.9s
BKNI Bangkinang 80.50 274 P **P** 12 37 12.5 +0.1
VES Vestal, Richgr 80.58 46 ⇓P **P** 12 37 12.6 +0.3
baz=81,SNR=16
MURC Murrieta 80.61 48 ⇑P **P** 12 37 13.1 +0.5
baz=81,SNR=10
MDJ Mudanjiang 80.64 326 P **P** 12 37 12.8 +0.4
MDJ pmax pmax
comp=Z,49nm,1.1s
MDJ pmax pmax
comp=Z,150nm,5.2s
MDJ Mudanjiang 80.64 326 *e*P **P** 12 37 12.9 +0.6
comp=Z,56nm,1.2s
BFSC Mount Baldy Ra 80.64 48 ⇓P **P** 12 37 13.1 +0.3
baz=81,SNR=25
KHMM Horse Mountain 80.68 39 *e*P **P** 12 37 14.4 +1.5
comp=Z,73nm,0.8s
HABR Khabarovsk 80.71 331 *ce*P **P** 12 37 12.9 +0.3
HABR *e**SP **sP** 12 40 23.3 -1.3
HABR *e*PPP PPP 12 42 21.7
HABR *e*S **S** 12 46 30.7 +0.3
HABR *e*SS **SS** 12 52 01.5 -1.7
HABR *e*SSS SSS 12 55 35.9
HABR pmax pmax
comp=N,23nm,1.2s
HABR pmax pmax
comp=E,28nm,1.2s
HABR pmax pmax
comp=Z,139nm,1.2s
HABR MLR MLR
comp=Z,114nm,17.0s
RCTC Rector, Farmer 80.75 45 ⇓P **P** 12 37 13.4 +0.3
baz=81
MONP Monument Peak 80.77 49 ⇑P **P** 12 37 14.6 +0.9
baz=81,SNR=84
EDW2 Edwards Air Fo 80.78 47 ⇓P **P** 12 37 14.0 +0.6
baz=81,SNR=44
PPI Padang Panjang 80.81 273 P **P** 12 37 13.5 -0.5
comp=Z,38nm,0.8s
DVTC Desert V Tower 80.87 50 ⇑P **P** 12 37 15.1 +1.1
baz=81,SNR=9.4
ISA Isabella 80.89 46 *e*P **P** 12 37 14.3 +0.3
ISA pmax pmax
comp=Z,58nm,0.8s
ISA Isabella 80.89 46 *e*P **P** 12 37 14.3 +0.3
comp=Z,58nm,0.8s
ISA Isabella 80.89 46 ⇓P **P** 12 37 14.8 +0.8
baz=81,SNR=50
KRMB Red Mountain 80.98 39 *e*P **P** 12 37 16.0 +1.6
comp=Z,74nm,0.9s
CMB Columbia Colle 81.01 43 *e*P **P** 12 37 14.9 +0.4
CMB pmax pmax
comp=Z,48nm,0.9s
CMB Columbia Colle 81.01 43 *e*P **P** 12 37 14.9 +0.4
comp=Z,48nm,0.9s
FRIM Kepong 81.04 277 P **P** 12 37 15.6 +0.4
PFO Pinyon Flat Ob 81.13 49 *e*P **P** 12 37 16.0 +0.6
comp=Z,46nm,1.4s
PFO Pinyon Flat Ob 81.13 49 ⇑P **P** 12 37 15.8 +0.4
baz=81,SNR=15
BBRC Big Bear Solar 81.17 48 ⇓P **P** 12 37 16.1 +0.5
baz=81,SNR=7.9
WDC Whiskeytown Da 81.21 40 *e*P **P** 12 37 16.3 +0.9
WDC pmax pmax
comp=Z,66nm,1.0s
WDC Whiskeytown Da 81.21 40 *e*P **P** 12 37 16.3 +0.9
comp=Z,66nm,1.0s
SWSC Sam W. Stewart 81.24 50 ⇑P **P** 12 37 16.5 +0.8
baz=82,SNR=25
LRMC Laurel Mountai 81.31 47 ⇓P **P** 12 37 16.9 +0.7
baz=82,SNR=1.1
RRX Edison Barstow 81.45 47 ⇑P **P** 12 37 17.5 +0.7
baz=82
CWC Cottonwood Cre 81.59 46 ⇑P **P** 12 37 18.2 +0.6
baz=82,SNR=27
BELC Belle Mtn. Jos 81.67 49 ⇑P **P** 12 37 18.9 +0.8
baz=82,SNR=64
MLAC Mammoth Lakes 81.77 44 ⇑P **P** 12 37 19.6 +0.9
baz=82,SNR=11
MPMC Manual Prospec 81.77 46 ⇓P **P** 12 37 19.3 +0.7
baz=82,SNR=53
YBH Yreka Blue Hor 81.82 39 P **P** 12 37 19.8 +1.2
comp=Z,56nm,0.8s,baz=202,slow=1.5,SNR=191
YBH Yreka Blue Hor 81.82 39 P **P** 12 37 19.8 +1.2
GSC Goldstone 81.82 47 *e*P **P** 12 37 19.3 +0.6
GSC pmax pmax
comp=Z,53nm,1.0s
GSC Goldstone 81.82 47 *e*P **P** 12 37 19.3 +0.6
comp=Z,53nm,1.0s
GSC Goldstone 81.82 47 ⇓P **P** 12 37 19.4 +0.6
baz=82,SNR=36
DAC Darwin (Calif) 81.83 46 *e*P **P** 12 37 19.3 +0.4
DAC pmax pmax
comp=Z,24nm,0.8s
DAC Darwin (Calif) 81.83 46 *e*P **P** 12 37 19.3 +0.4
comp=Z,24nm,0.8s
TIN Tinemaha 81.84 45 ⇓P **P** 12 37 19.7 +0.8
baz=82,SNR=18
BC3 Big Chuckawall 81.86 49 ⇑P **P** 12 37 20.0 +1.0
baz=82,SNR=41
HEC Hector,Ludlow 81.89 48 ⇑P **P** 12 37 19.7 +0.6
baz=82,SNR=22
GLA Glamis 81.99 50 *e*P **P** 12 37 20.1 +0.5
GLA pmax pmax
comp=Z,80nm,0.8s
GLA Glamis 81.99 50 *e*P **P** 12 37 20.1 +0.5
comp=Z,80nm,0.8s
GLA Glamis 81.99 50 ⇑P **P** 12 37 20.8 +1.2
baz=82,SNR=46
MNSI Mandailing Nat 82.03 274 P **P** 12 37 18.9 -1.3
comp=Z,133nm,0.8s
IPM Ipoh 82.06 278 *e*P **P** 12 37 20.6 +0.3
comp=Z,216nm,0.6s
IPM Ipoh 82.06 278 P **P** 12 37 21.2 +0.8
WHN Wuhan 82.06 307 P **P** 12 37 20.5 +0.6
WHN pmax pmax
comp=Z,250nm,1.4s
WCN Washoe City 82.15 42 *e*P **P** 12 37 21.3 +0.8
WCN pmax pmax
comp=Z,52nm,0.9s
WCN Washoe City 82.15 42 *e*P **P** 12 37 21.3 +0.8
comp=Z,52nm,0.9s
HUMO Hull Mountain 82.22 38 *e*P **P** 12 37 21.6 +1.1
comp=Z,94nm,1.1s
GMRC Granite Mounta 82.32 48 ⇑P **P** 12 37 22.0 +0.6
baz=83,SNR=29
IRM Iron Mountain 82.34 49 ⇑P **P** 12 37 22.4 +1.0
baz=83,SNR=40
CN2 Changchun 82.35 323 ⇓P **P** 12 37 21.5 +0.4
CN2 eS **S** 12 46 49.8 +2.8
CN2 pmax pmax
comp=Z,90nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
GRAC Grapevine Rang 82.38 45 ⇑P **P** 12 37 22.4 +0.9
baz=83,SNR=40
FURC Furnace Creek, 82.42 46 ⇓P **P** 12 37 22.4 +0.8
baz=83,SNR=33
TUQ Turquoise Moun 82.49 47 ⇑P **P** 12 37 22.9 +0.7
baz=83,SNR=51
SHOC Shoshone 82.50 47 ⇑P **P** 12 37 22.5 +0.4
baz=83,SNR=31
Y12C Blythe 82.57 49 ⇓P **P** 12 37 23.5 +1.0
baz=83,SNR=22
NVAR Mina Array Bea 82.57 44 P **P** 12 37 23.2 +0.5
comp=Z,47nm,0.8s,baz=225,slow=8.3,SNR=272
NVAR PKKPbc **PKKPbc** 12 55 44.9 +0.9
comp=Z,1.6nm,0.7s,baz=86,slow=3.0,SNR=11
NVAR PKPPKP **P'P'df** 13 03 48.0 +1.0
comp=Z,1.0nm,0.8s,baz=106,slow=4.5,SNR=5.1
NVAR Mina Array Bea 82.57 44 P **P** 12 37 23.2 +0.5
NVAR PKKPbc **PKKPbc** 12 55 44.9 +0.9
NVAR P'P' 13 03 48.0
113A Mohawk Valley, 82.60 51 ⇑P **P** 12 37 23.6 +1.0
baz=83,SNR=16
NV11 Mina Array Sit 82.67 44 *e*P **P** 12 37 23.5 +0.5
KULM Kulim 82.71 279 *e*P **P** 12 37 24.2 +0.6
comp=Z,124nm,0.8s
KULM Kulim 82.71 279 P **P** 12 37 24.5 +0.9
HOG Hogback Mounta 82.72 39 P **P** 12 37 24.2 +0.9
LDFC Landfair 82.86 48 *e*P **P** 12 37 25.0 +1.0
comp=Z,116nm,0.8s
NEE2 Needles Airpor 83.04 49 ⇓P **P** 12 37 25.7 +0.9
baz=83,SNR=6.7
PDMCI Parker Dam,Lak 83.13 49 ⇑P **P** 12 37 26.0 +0.8
baz=83,SNR=34
MOD Modoc 83.35 40 P **P** 12 37 27.0 +0.7
PSI Prapat 83.38 276 P **P** 12 37 26.2 -0.9
baz=153,slow=1.7
PSI Prapat 83.38 276 P **P** 12 37 26.2 -0.9
PSI Prapat 83.38 276 P **P** 12 37 26.1 -0.9
baz=83,SNR=42
PSI Prapat 83.38 276 P **P** 12 37 26.2 -0.9
comp=Z,151nm,1.1s,comp=Z,1µm
IRO Indian Ridge 83.48 38 P **P** 12 37 27.6 +0.6
K05A Summer Lake 83.49 39 P **P** 12 37 28.2 +1.1
Z14A Wintersburg 83.49 50 ⇓P **P** 12 37 28.5 +1.4
baz=84
W13A Hualapai Mount 83.72 49 ⇓P **P** 12 37 29.2 +0.7
baz=84,SNR=56
Y14A Wickenburg 83.75 50 ⇑P **P** 12 37 29.1 +0.7
baz=84,SNR=40
H04A Detroit Lake 83.94 37 P **P** 12 37 29.4 +0.4
TSI Tuntungan 83.97 276 P **P** 12 37 30.0 +0.1
comp=Z,183nm,0.9s
R11A Troy Canyon, C 84.30 45 ⇑P **P** 12 37 31.2 +0.1
baz=84,SNR=15
BMN Battle Mountai 84.40 43 *e*P **P** 12 37 32.0 +0.4
BMN pmax pmax
comp=Z,16nm,0.6s
BMN Battle Mountai 84.40 43 *e*P **P** 12 37 32.0 +0.4
comp=Z,16nm,0.6s
TUC Tucson 84.54 52 *e*P **P** 12 37 33.6 +1.3
TUC pmax pmax
comp=Z,39nm,0.9s
TUC Tucson 84.54 52 *e*P **P** 12 37 33.6 +1.3
comp=Z,39nm,0.9s
LVP Lakeview Peak 84.68 36 P **P** 12 37 33.4 +0.7
VIPM Ingram Point 84.72 38 P **P** 12 37 33.7 +0.7
VIPM Ingram Point 84.72 38 P **P** 12 37 33.7 +0.7
NLWA Neilton Lookou 84.73 34 *e*P **P** 12 37 33.8 +0.9
comp=Z,39nm,1.1s
X16A Lo Mia Camp, P 85.11 50 ⇓P **P** 12 37 36.2 +1.0
baz=85,SNR=40
TPTI 85.16 275 P **P** 12 37 35.9 +0.2
GAMB Gambell 85.19 3 *e*P **P** 12 37 35.0 +0.5
comp=Z,9.6nm,1.1s
319A Douglas 85.21 54 ⇓P **P** 12 37 37.1 +1.5
baz=85,SNR=70
CCUT Cedar City 85.36 47 *e*P **P** 12 37 37.1 +0.8
comp=Z,23nm,0.9s
LON Longmire 85.42 36 *e*P **P** 12 37 36.1 -0.1
LON pmax pmax
comp=Z,14nm,0.9s
LON Longmire 85.42 36 *e*P **P** 12 37 36.1 -0.1
comp=Z,14nm,0.9s
ARUT Antelope Range 85.44 46 *e*P **P** 12 37 37.4 +0.8
ARUT pmax pmax
comp=Z,14nm,0.9s
ARUT Antelope Range 85.44 46 *e*P **P** 12 37 37.4 +0.8
comp=Z,14nm,0.9s
SYO Showa Base 85.50 193 ⇑*e*P **P** 12 37 34.5 -1.6
U15A North Rim 85.52 48 ⇑P **P** 12 37 38.3 +1.1
baz=86,SNR=118
WPW White Pass 85.53 36 P **P** 12 37 37.3 +0.5
ENH Enshi 85.60 305 *e*P **P** 12 37 37.4 0.0
comp=Z,145nm,0.8s
WUAZ Wupatki 85.70 49 *e*P **P** 12 37 38.7 +0.7
comp=Z,28nm,1.0s
WUAZ Wupatki 85.70 49 ⇓P **P** 12 37 38.7 +0.7
baz=86,SNR=26
BJT Baijiatuau 85.74 316 *e*P **P** 12 37 38.5 +0.7
comp=Z,45nm,0.6s
PGC Sidney 85.75 33 *e*P **P** 12 37 38.1 +0.6
comp=Z,1.3nm,0.7s
BJI Beijing 85.75 316 P **P** 12 37 37.6 -0.2
BJI S **S** 12 47 21.5 +1.5
BJI SS **SS** 12 53 20.3 +3.4
BJI pmax pmax
comp=Z,83nm,0.7s
BJI pmax pmax
comp=Z,190nm,3.5s
320A Kipp Ranch, An 85.75 54 ⇑P **P** 12 37 40.0 +1.8
baz=86,SNR=39
ELK Elko 85.83 43 *e*P **P** 12 37 38.8 +0.3
RMW Rattlesnake Mo 85.86 35 P **P** 12 37 39.0 +0.7
RMW Rattlesnake Mo 85.86 35 P **P** 12 37 39.0 +0.7
220A Playas Peak, P 86.02 54 ⇑P **P** 12 37 40.8 +1.3
baz=86,SNR=42
GYA Guiyang 86.09 300 ⇓*i*P **P** 12 37 40.6 +0.7
GYA pP **pP** 12 39 52.0 +0.2
GYA sP **sP** 12 40 53.8 +0.1
GYA PP **PP** 12 41 15.4 +2.8
GYA SKS **SKSac** 12 47 06.3 -1.7
GYA S **S** 12 47 24.3 +0.2
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.0s
X18A Snowflake 86.23 51 ⇑P **P** 12 37 41.4 +0.9
baz=86,SNR=19
120A U Bar Ranch, L 86.25 53 ⇑P **P** 12 37 41.8 +1.2
baz=86,SNR=17
E07A Sunnyside 86.38 37 P **P** 12 37 41.6 +0.9
HAWA Hanford 86.46 37 *e*P **P** 12 37 41.8 +0.8
comp=Z,60nm,0.8s
Z20A Nine Sixteen R 86.55 53 ⇓P **P** 12 37 43.3 +1.3
baz=87,SNR=23
MVU Marysvale 86.63 46 *e*P **P** 12 37 43.4 +1.0
comp=Z,9.8nm,1.0s
221A Mesquite Ranch 86.64 54 ⇓P **P** 12 37 43.8 +1.4
baz=87,SNR=18
DIV Divide 86.65 16 *e*P **P** 12 37 41.6 -0.1
comp=Z,13nm,0.7s
MSU Marysvale 86.66 46 *e*P **P** 12 37 43.4 +0.9
MSU pmax pmax
comp=Z,16nm,1.0s
MSU Marysvale 86.66 46 *e*P **P** 12 37 43.4 +0.9
comp=Z,16nm,1.0s
W18A Petrified Fore 86.67 50 ⇑P **P** 12 37 43.3 +0.7
baz=87
ETW Entiat 86.75 36 P **P** 12 37 43.1 +0.6
BMRM Bremner River 86.81 16 *e*P **P** 12 37 42.5 +0.1
comp=Z,27nm,0.9s
BMO Blue Mountains 86.84 39 *e*P **P** 12 37 43.1 +0.1
BMO pmax pmax
comp=Z,19nm,0.8s
BMO Blue Mountains 86.84 39 *e*P **P** 12 37 43.1 +0.1
comp=Z,19nm,0.8s
121A Cookes Peak, D 86.87 53 ⇓P **P** 12 37 44.8 +1.2
baz=87,SNR=28
MFID Camas Ranch 86.92 41 *e*P **P** 12 37 43.9 +0.4
comp=Z,40nm,0.9s
MFID Camas Ranch 86.92 41 ⇓P **P** 12 37 44.1 +0.7
baz=87
WTV Waterville 87.00 36 P **P** 12 37 43.9 +0.3
NLW Nelson Butte 87.03 35 P **P** 12 37 44.1 +0.3
SNAA Sanae 87.05 179 *e*P **P** 12 37 43.2 -0.4
comp=Z,4.2nm,0.6s
SEY Seymchan 87.06 347 *di*P **P** 12 37 43.4 0.0
SEY *j**PP **pP** 12 39 55.6 -0.2
Y20A Horse Springs, 87.08 52 ⇑P **P** 12 37 45.7 +1.1
baz=87,SNR=34
DUG Dugway 87.10 45 *e*P **P** 12 37 44.7 +0.3
DUG pmax pmax
comp=Z,32nm,1.6s
DUG Dugway 87.10 45 *e*P **P** 12 37 44.7 +0.3
comp=Z,32nm,1.6s
DUG Dugway 87.10 45 ⇓P **P** 12 37 44.5 +0.1
baz=87
P15A Leamington 87.14 45 ⇑P **P** 12 37 45.1 +0.5
baz=87
222A Williams Famil 87.19 54 ⇓P **P** 12 37 46.0 +1.1
baz=87
PNL Peninsula 87.20 19 *e*P **P** 12 37 44.7 +0.5
comp=Z,36nm,0.9s
TNA Tin City 87.21 5 *e*P **P** 12 37 44.1 +0.1
comp=Z,3.9nm,0.9s
VNA3 Neumayer Olymp 87.23 177 *e*P **P** 12 37 44.5 +0.1
X20A Quemado 87.29 51 ⇑P **P** 12 37 46.5 +0.9
baz=88,SNR=20
Z21A St. Cloud Mine 87.32 53 ⇓P **P** 12 37 46.9 +1.3
baz=88,SNR=26
O15A The Old Anders 87.37 45 ⇓P **P** 12 37 46.4 +0.7
baz=88
OD2 Odessa Site #2 87.50 36 P **P** 12 37 46.5 +0.6
122A Conniff Cattle 87.54 54 ⇑P **P** 12 37 48.0 +1.4
baz=88,SNR=9.9
Q16A Castle Valley 87.55 46 ⇓P **P** 12 37 47.6 +1.0
baz=88
I12A Atlanta 87.55 41 ⇓P **P** 12 37 47.3 +0.9
baz=88
W20A Ramah 87.56 51 ⇓P **P** 12 37 47.7 +0.9
baz=88,SNR=8.8
P16A Fountain Green 87.57 46 ⇓P **P** 12 37 47.7 +1.0
baz=88
SRDT SRDT 87.57 286 P **P** 12 37 48.7 +1.8
Y21A Point of Rocks 87.64 52 ⇓P **P** 12 37 48.5 +1.3
baz=88,SNR=48
223A Chaparral, Ant 87.65 54 ⇑P **P** 12 37 48.2 +1.1
baz=88
N15A Stansbury Isla 87.65 44 ⇓P **P** 12 37 47.3 +0.4
baz=88,SNR=12
VNA2 Neumayer--Watz 87.66 177 *e*P **P** 12 37 46.7 +0.3
baz=190,slow=3.3
NVL N'lazarevskaya 87.66 184 *e*P **P** 12 37 47.2 +0.9
NVL pmax pmax
comp=Z,53nm,0.9s
TRF Thorofare Moun 87.67 13 *e*P **P** 12 37 45.2 -1.4
comp=Z,29nm,0.7s
TMUT Trail Mountain 87.71 46 *e*P **P** 12 37 47.9 +0.4
comp=Z,48nm,0.8s
S18A Hurst Farm, Bl 87.74 48 ⇑P **P** 12 37 47.8 +0.2
baz=88,SNR=11
X21A Alamocita Cree 87.76 52 ⇓P **P** 12 37 48.6 +0.9
baz=88,SNR=21
XAN Xi'an 87.77 308 P **P** 12 37 48.3 +0.7
XAN S **S** 12 47 37.6 -1.7
XAN pmax pmax
comp=Z,27nm,1.0s
XAN pmax pmax
comp=Z,32nm,6.1s
L14A Malta 87.79 43 ⇑P **P** 12 37 48.1 +0.6
baz=88,SNR=13
MPU Maple Canyon 87.79 45 *e*P **P** 12 37 48.3 +0.6
comp=Z,47nm,1.5s
Z22A Elephant Butte 87.82 53 ⇓P **P** 12 37 48.8 +0.9
baz=88,SNR=51
HLID Hailey 87.86 41 *e*P **P** 12 37 48.7 +0.8
comp=Z,32nm,0.8s
HLID Hailey 87.86 41 ⇓P **P** 12 37 48.8 +0.8
baz=88,SNR=61
VNA1 Neumayer--Stat 87.89 177 *e*P **P** 12 37 48.0 +0.6
V20A Brimhall 87.91 50 ⇓P **P** 12 37 48.5 +0.2
baz=88
J13A Cove Ranch, Pi 87.92 41 ⇑P **P** 12 37 49.2 +1.0
baz=88,SNR=94
HVU Hansel Valley 87.95 43 *e*P **P** 12 37 48.8 +0.5
HVU pmax pmax
comp=Z,32nm,0.8s
HVU Hansel Valley 87.95 43 *e*P **P** 12 37 48.8 +0.5
comp=Z,32nm,0.8s
O16A Springville 87.97 45 ⇑P **P** 12 37 49.1 +0.6
baz=88,SNR=27
M15A Larsen Ranch, 88.00 44 ⇓P **P** 12 37 49.0 +0.4
baz=88,SNR=40
123A Bell Site, Whi 88.06 54 ⇑P **P** 12 37 50.1 +1.1
baz=88
SRU San Rafael 88.08 47 *e*P **P** 12 37 49.7 +0.6
SRU pmax pmax
comp=Z,47nm,0.8s
SRU San Rafael 88.08 47 *e*P **P** 12 37 49.7 +0.6
comp=Z,46nm,0.8s
SRU San Rafael 88.08 47 ⇑P **P** 12 37 49.5 +0.5
baz=88,SNR=56
K14A Jones Ranch, D 88.09 43 ⇓P **P** 12 37 49.7 +0.7

baz=88,SNR=27
P17A **Butcher Ranch,** 88.11 46 ⇑P P 12 37 49.9 +0.7
baz=88,SNR=9.6
324A **Moseley Ranch,** 88.12 55 ⇑P P 12 37 50.1 +0.7
baz=88,SNR=53
H12A **Diamond D Ranc** 88.13 40 ⇑P P 12 37 49.5 +0.4
baz=88,SNR=74
Y22A **Socorro** 88.13 52 ⇑P P 12 37 50.2 +0.8
baz=88,SNR=33
U20A **Newcomb** 88.14 50 ⇓P P 12 37 49.7 +0.3
baz=88
G12A **Big Creek, Yel** 88.16 40 ⇓P P 12 37 49.7 +0.4
baz=88,SNR=41
W21A **San Fidel** 88.18 51 ⇑P P 12 37 50.3 +0.7
baz=88,SNR=9.0
JLU **Jordanelle** 88.21 45 *eP* P 12 37 50.1 +0.4
comp=Z,34nm,1.3s
425A **Indio Mountain** 88.21 56 ⇓P P 12 37 50.8 +1.0
baz=88,SNR=57
Y22D **IRIS PASSCAL I** 88.23 52 ⇓P P 12 37 50.8 +1.0
baz=88
LENM **Lemitar** 88.23 52 *eP* P 12 37 50.6 +0.7
comp=Z,20nm,1.1s
I13A **Wildhorse Cree** 88.23 41 ⇓P P 12 37 50.4 +0.7
baz=88,SNR=25
DAU **Daniels Canyon** 88.24 45 *eP* P 12 37 50.9 +1.0
DAU pmax pmax
comp=Z,31nm,1.0s
DAU **Daniels Canyon** 88.24 45 *eP* P 12 37 50.9 +1.0
comp=Z,31nm,1.0s
J14A **Carey** 88.29 42 ⇑P P 12 37 51.1 +1.2
baz=88,SNR=89
MNTX **Cornudas Mount** 88.31 55 ⇑P P 12 37 50.8 +0.8
baz=88,SNR=64
L15A **Malad City** 88.31 43 ⇑P P 12 37 50.4 +0.3
baz=89,SNR=40
626A **Big Bend Ranch** 88.33 57 ⇓P P 12 37 51.4 +1.1
baz=88,SNR=75
N16A **Rees Ranch, Co** 88.36 45 ⇓P P 12 37 51.1 +0.8
baz=89,SNR=21
X22A **Bernardo** 88.36 52 ⇓P P 12 37 51.7 +1.3
baz=89,SNR=7.4
Z23A **Rita Site, Whi** 88.37 53 ⇑P P 12 37 51.3 +0.9
baz=89,SNR=27
224A **Cornudas Mount** 88.37 55 ⇓P P 12 37 51.5 +1.0
baz=89,SNR=52
M16A **Huntsville** 88.45 44 ⇓P P 12 37 51.0 +0.2
baz=89,SNR=20
O17A **Robinson Place** 88.47 45 ⇓P P 12 37 51.9 +1.0
baz=89,SNR=171
BNM **Barren Site** 88.48 52 *eP* P 12 37 50.2 -0.8
comp=Z,14nm,0.8s
325A **Bean Ranch, Si** 88.48 55 ⇑P P 12 37 51.6 +0.6
baz=89,SNR=57
H13A **Challis** 88.50 40 ⇑P P 12 37 51.5 +0.7
baz=89,SNR=64
V21A **Milan** 88.50 51 ⇓P P 12 37 51.5 +0.3
baz=89
P18A **Preston Nutter** 88.52 46 ⇓P P 12 37 51.8 +0.6
baz=89
F12A **Elk City** 88.55 39 ⇑P P 12 37 51.3 +0.3
baz=89
MVCO **Mesa Verde** 88.55 49 *eP* P 12 37 51.6 +0.2
comp=Z,25nm,1.5s
MVCO **Mesa Verde** 88.55 49 ⇑P P 12 37 51.4 0.0
baz=89
K15A **Arbon** 88.57 43 ⇑P P 12 37 52.0 +0.7
baz=89,SNR=54
526A **Mary Lane Ranc** 88.59 57 ⇑P P 12 37 52.4 +0.9
baz=89,SNR=52
TXAR **Lajitas Array** 88.61 58 P P 12 37 52.7 +1.1
comp=Z,31nm,1.0s,baz=218,slow=5.8,SNR=264
TXAR PKKPbc **PKKPbc** 12 55 28.7 -0.4
comp=Z,2.6nm,0.7s,baz=97,slow=2.8,SNR=18
TXAR **Lajitas Array** 88.61 58 P P 12 37 52.7 +1.1
TXAR PKKPbc **PKKPbc** 12 55 28.7 -0.4
HWUT **Hardware Ranch** 88.64 44 *eP* P 12 37 51.4 -0.2
comp=Z,29nm,0.7s
I14A **Mackay** 88.65 41 ⇓P P 12 37 52.5 +0.9
baz=89,SNR=62
124A **Stringfield Ra** 88.70 54 ⇑P P 12 37 53.0 +0.9
baz=89,SNR=30
KMI **Kunming** 88.72 298 P P 12 37 53.5 +1.1
KMI pmax pmax
comp=Z,47nm,0.8s
W22A **Albuquerque** 88.72 51 ⇑P P 12 37 53.1 +1.0
baz=89
U21A **Nageezi** 88.78 50 ⇓P P 12 37 52.9 +0.5
baz=89,SNR=46
N17A **Moffit Pass** 88.78 45 ⇑P P 12 37 52.8 +0.4
baz=89,SNR=27
G13A **Cobalt** 88.79 40 ⇓P P 12 37 52.5 +0.3
baz=89,SNR=31
HIA **Hailar** 88.80 325 *eP* P 12 37 51.7 -0.2
comp=Z,20nm,1.1s
Y23A **Lovelace Mesa,** 88.80 53 ⇓P P 12 37 52.9 +0.3
baz=89,SNR=26
PV04 **Paradox Valley** 88.83 48 *eP* P 12 37 52.9 +0.3
Q19A **Hogan Spring (** 88.86 47 ⇑P P 12 37 52.9 +0.3
baz=89,SNR=40
627A **Terlingua Ranc** 88.88 58 ⇑P P 12 37 53.8 +0.9
baz=89,SNR=64
NEW **Newport** 88.88 36 P P 12 37 52.5 +0.1
comp=Z,6.3nm,0.7s,baz=240,slow=4.6,SNR=20
NEW **Newport** 88.88 36 *eP* P 12 37 52.1 -0.2
comp=Z,5.7nm,0.8s
NEW **Newport** 88.88 36 ⇑P P 12 37 52.2 -0.2
baz=89,SNR=11
426A **McDonald Obser** 88.90 56 ⇑P P 12 37 53.9 +0.8
baz=89,SNR=56
225A **Deer Hill, Car** 88.92 55 ⇓P P 12 37 53.9 +0.8
baz=89,SNR=45
L16A **Fish Haven** 88.93 44 ⇑P P 12 37 53.1 +0.1
baz=89,SNR=113
PV01 **Paradox Valley** 88.94 48 *eP* P 12 37 53.2 +0.1
comp=Z,1µm,0.9s
S20A **Disappointment** 88.94 48 ⇓P P 12 37 53.5 +0.3
baz=89,SNR=15
ANMO **Albuquerque** 88.97 52 *eP* P 12 37 53.6 +0.3
comp=Z,27nm,0.9s
O18A **Roosevelt** 88.99 46 ⇓P P 12 37 53.9 +0.7
baz=89,SNR=10.0
X23A **Hourglass Bar** 89.00 52 ⇓P P 12 37 53.5 +0.1
baz=89
527A **Woodward Ranch** 89.00 57 ⇓P P 12 37 54.1 +0.6
baz=89,SNR=58
J15A **Blackfoot** 89.00 42 ⇓P P 12 37 54.5 +1.4
baz=89,SNR=91
Z24A **Sheeppen Canyo** 89.05 54 ⇑P P 12 37 54.1 +0.4
baz=89,SNR=20
H14A **Leadore** 89.06 41 ⇑P P 12 37 54.1 +0.7
baz=89,SNR=26
V22A **San Miguel Ran** 89.08 51 ⇑P P 12 37 53.9 +0.1
baz=89,SNR=8.2
R20A **Redvale** 89.10 48 ⇓P P 12 37 53.9 +0.1
baz=89
F13A **Darby** 89.11 39 ⇓P P 12 37 53.5 -0.1
baz=89,SNR=30
C11A **Tepee Creek (N** 89.12 37 ⇓P P 12 37 54.0 +0.5
baz=89
T21A **Navajo Lake** 89.13 50 ⇑P P 12 37 54.3 +0.2
baz=89,SNR=6.4
M17A **Scullys Gap (B** 89.16 44 ⇓P P 12 37 54.2 +0.1
baz=89,SNR=16
HHC **Hu-ho-hao-te** 89.18 315 ⇓P P 12 37 54.8 +0.8
HHC sP sP 12 41 03.3 -5.3
HHC pmax pmax
comp=Z,60nm,0.8s
HHC pmax pmax
comp=Z,82nm,9.5s
D12A **Red Ives Fores** 89.20 38 ⇑P P 12 37 53.7 -0.2
baz=89,SNR=18
326A **Caldwell Ranch** 89.22 56 ⇓P P 12 37 54.6 +0.2
baz=89
DOT **Dot Lake** 89.22 15 *eP* P 12 37 53.3 -0.2
comp=Z,2.7nm,0.7s
K16A **Soda Springs** 89.25 43 ⇓P P 12 37 55.2 +0.8
baz=90,SNR=48
Y24A **Capitan** 89.26 53 ⇑P P 12 37 55.2 +0.5
baz=90,SNR=123
S21A **Coal Bank Pass** 89.26 49 ⇓P P 12 37 55.1 +0.4
baz=90,SNR=23
I15A **Monteview** 89.28 42 ⇓P P 12 37 55.4 +0.9
baz=90,SNR=15
125A **Gardner Draw,** 89.28 54 ⇑P P 12 37 55.2 +0.5
baz=90,SNR=21
628A **Black Gap, Mar** 89.28 58 ⇓P P 12 37 55.5 +0.8
baz=90,SNR=34

W23A **Werner Place,** 89.29 52 ⇑P P 12 37 54.8 +0.1
baz=90,SNR=10
CM31 **Chiang Mai Arr** 89.31 290 *eP* P 12 37 56.6 +1.7
comp=Z,87nm,0.9s
CMAR **Chiang Mai Arr** 89.31 290 P P 12 37 56.4 +1.4
comp=Z,84nm,0.8s,baz=132,slow=3.2,SNR=363
CMAR PP PP 12 41 32.5 -5.3
comp=Z,2.8nm,1.0s,baz=115,slow=5.9,SNR=5.3
CMAR **Chiang Mai Arr** 89.31 290 P P 12 37 56.4 +1.4
CMAR PP PP 12 41 32.5 -5.3
U22A **Llaves** 89.33 50 ⇓P P 12 37 55.3 +0.3
baz=90,SNR=7.8
L17A **Cokeville** 89.33 44 ⇓P P 12 37 54.6 -0.2
baz=90,SNR=27
G14A **Jackson** 89.34 40 ⇑P P 12 37 55.2 +0.4
baz=90,SNR=27
P19A **Cripple Cowboy** 89.38 47 ⇑P P 12 37 55.3 +0.2
baz=90,SNR=24
COLA **College** 89.43 13 *eP* P 12 37 53.6 -0.8
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA **College** 89.43 13 *eP* P 12 37 53.6 -0.8
comp=Z,8.8nm,0.8s
CHTO **Chiang Mai** 89.44 290 *eP* P 12 37 57.0 +1.4
CHTO pmax pmax
comp=Z,88nm,0.7s
CHTO **Chiang Mai** 89.44 290 *eP* P 12 37 57.0 +1.4
comp=Z,88nm,0.7s
CHTO **Chiang Mai** 89.44 290 P P 12 37 57.2 +1.7
SNR=58
J16A **Bone** 89.45 43 ⇑P P 12 37 56.3 +0.9
baz=90,SNR=96
427A **Hayter Ranch,** 89.46 57 ⇓P P 12 37 56.5 +1.0
baz=90,SNR=119
PLCA **Paso Flores** 89.47 134 P P 12 37 57.1 +1.6
comp=Z,4.7nm,0.6s,baz=230,slow=4.0,SNR=19
PLCA PKKPbc **PKKPbc** 12 55 24.2 -3.2
comp=Z,1.8nm,0.8s,baz=141,slow=2.7,SNR=2.9
PLCA **Paso Flores** 89.47 134 P P 12 37 57.1 +1.6
PLCA PKKPbc **PKKPbc** 12 55 24.2 -3.2
MCMT **McKenzie Canyo** 89.49 41 *eP* P 12 37 56.2 +0.7
comp=Z,10nm,0.8s
C12B **Naegeli Ranch,** 89.49 37 ⇑P P 12 37 55.3 +0.1
baz=90,SNR=11
H15A **Lima** 89.50 41 ⇓P P 12 37 56.1 +0.6
baz=90,SNR=34
Z25A **Roswell** 89.51 54 ⇑P P 12 37 56.5 +0.7
baz=90,SNR=14
Q20A **Ridgley Place,** 89.52 47 ⇓P P 12 37 56.0 +0.2
baz=90,SNR=20
AHID **Auburn Hatcher** 89.52 43 *eP* P 12 37 56.5 +0.8
comp=Z,42nm,0.7s
M18A **Lyman** 89.52 45 ⇓P P 12 37 56.1 +0.4
baz=90,SNR=48
V23A **Ortiz Mt. (NFS** 89.53 51 ⇓P P 12 37 56.8 +0.9
baz=90,SNR=22
E13A **Victor** 89.54 39 ⇓P P 12 37 55.0 -0.5
baz=90,SNR=7.5
X24A **Lazy VL Ranch,** 89.54 52 ⇓P P 12 37 55.8 -0.1
baz=90
ILAR **Eielson Array** 89.55 13 P P 12 37 54.0 -1.0
comp=Z,2.6nm,0.7s,baz=221,slow=5.4,SNR=77
ILAR PP PP 12 41 33.3 -5.5
comp=Z,2.0nm,0.9s,baz=214,slow=6.5,SNR=3.6
ILAR PKKPbc **PKKPdf** 12 55 24.1 +0.4
comp=Z,0.3nm,0.5s,baz=353,slow=2.5,SNR=7.1
ILAR **Eielson Array** 89.55 13 P P 12 37 54.0 -1.0
ILAR PP PP 12 41 33.3 -5.5
ILAR PKKPbc **PKKPdf** 12 55 24.1 +0.4
N18A **Larsen Ranch,** 89.56 45 ⇑P P 12 37 56.1 +0.2
baz=90,SNR=62
T22A **Edith** 89.59 50 ⇓P P 12 37 56.2 0.0
baz=90,SNR=7.0
O19A **Miners Draw (B** 89.60 46 ⇓P P 12 37 56.2 +0.2
baz=90,SNR=35
327A **Balmorhea Ranc** 89.62 56 ⇑P P 12 37 56.6 +0.4
baz=90
K17A **Gardner Place,** 89.63 43 ⇑P P 12 37 56.7 +0.6
baz=90,SNR=26
528A **Cox Ranch, San** 89.65 57 ⇓P P 12 37 57.2 +0.7
baz=90,SNR=25
RRI2 **Red Ridge** 89.67 43 *eP* P 12 37 57.0 +0.6
comp=Z,50nm,0.8s
F14A **Wisdom** 89.69 40 ⇑P P 12 37 56.4 0.0
baz=90,SNR=19
CLNB **Carlsbad** 89.70 55 *eP* P 12 37 57.1 +0.4
comp=Z,5.0nm,0.7s
P20A **De Beque** 89.71 47 ⇑P P 12 37 56.8 +0.2
baz=90,SNR=22
D13A **Huson** 89.73 38 ⇓P P 12 37 56.4 +0.1
baz=90,SNR=6.7
126A **Clayton Basin,** 89.76 55 ⇓P P 12 37 56.9 +0.1
baz=90,SNR=11
R21A **Cimarron** 89.76 48 ⇑P P 12 37 57.5 +0.6
baz=90,SNR=32
U23A **El Rito** 89.78 51 ⇓P P 12 37 57.5 +0.4
baz=90,SNR=16
L18A **Fontenelle, Gr** 89.79 44 ⇑P P 12 37 57.0 0.0
baz=90,SNR=14
Y25A **Mesa, Roswell** 89.81 53 ⇓P P 12 37 57.2 +0.1
baz=90,SNR=42
I16A **Newdale** 89.84 42 ⇑P P 12 37 58.1 +1.0
baz=90,SNR=46
B12A **Libby** 89.84 37 ⇑P P 12 37 57.2 +0.3
baz=90,SNR=12
N19A **John Jarvie Ra** 89.85 45 ⇓P P 12 37 57.2 0.0
baz=90,SNR=37
W24A **Lazy 6 Ranch,** 89.85 52 ⇓P P 12 37 57.4 0.0
baz=90,SNR=24
G15A **Dillon** 89.88 41 ⇑P P 12 37 57.7 +0.4
baz=90,SNR=25
DCID1 **Drake Creek** 89.89 42 *eP* P 12 37 58.3 +1.0
comp=Z,22nm,0.8s
MSO **Missoula** 89.89 39 *eP* P 12 37 56.8 -0.3
comp=Z,6.4nm,1.1s
MSO **Missoula** 89.89 39 ⇑P P 12 37 56.6 -0.5
baz=90
BILL **Bilibino** 89.90 355 ⇓*eP* P 12 37 56.1 -0.4
BILL *e* 12 41 36.8
BILL *i* S SKSac 12 47 26.9 -1.3
BILL pmax pmax
comp=Z,14nm,0.7s
DLMT **Dillon** 89.92 40 *eP* P 12 37 57.5 +0.1
comp=Z,10nm,0.9s
E14A **Clinton** 89.94 39 ⇑P P 12 37 57.3 -0.1
baz=90,SNR=19
BSMT **Bassoo Peak** 89.96 37 *eP* P 12 37 57.5 -0.1
comp=Z,7.7nm,0.8s
Q21A **Lamborn Mesa,** 89.96 48 ⇓P P 12 37 58.1 +0.3
baz=90,SNR=9.0
428A **Kincaid Ranch,** 89.97 57 ⇑P P 12 37 58.7 +0.8
baz=90,SNR=16
S22A **4UR Ranch, Cre** 89.98 49 ⇑P P 12 37 58.6 +0.5
baz=90,SNR=32
REDW **Red Top Meadow** 89.98 43 *eP* P 12 37 58.0 +0.2
comp=Z,36nm,0.9s
TPAW **Teton Pass** 89.98 43 *eP* P 12 37 58.4 +0.5
comp=Z,19nm,0.9s
C13A **Hot Springs** 89.98 38 ⇑P P 12 37 57.0 -0.5
baz=90,SNR=9.0
227A **Bennet, Jal** 90.04 56 ⇑P P 12 37 58.4 +0.2
baz=90
Z26A **Caprock** 90.06 54 ⇓P P 12 37 58.4 +0.1
baz=90,SNR=30
A12A **Yaak River Ran** 90.06 36 ⇑P P 12 37 58.3 +0.4
baz=90,SNR=23
J17A **Brown Place, J** 90.07 43 ⇑P P 12 37 58.7 +0.5
baz=90,SNR=56
529A **Stev Forest Ra** 90.08 58 ⇓P P 12 37 58.6 +0.2
baz=90,SNR=37
SNOW **Snow King Moun** 90.09 43 *eP* P 12 37 59.3 +1.0
comp=Z,41nm,0.9s
X25A **Clemmons Ranch** 90.10 53 ⇓P P 12 37 58.3 -0.2
baz=90,SNR=11
O20A **White River Ci** 90.12 46 ⇓P P 12 37 58.8 +0.3
baz=90,SNR=21
K18A **Toltan Ranch,** 90.14 44 ⇓P P 12 37 59.2 +0.7
baz=90,SNR=68
328A **Wristen Ranch,** 90.15 56 ⇓P P 12 37 58.7 +0.1
baz=90,SNR=14
M19A **Rock Springs** 90.16 45 ⇓P P 12 37 58.8 +0.1
baz=90,SNR=28
V24A **Rampart Ranch,** 90.18 51 ⇓P P 12 37 59.3 +0.3
baz=90,SNR=45
JTMT **Jette** 90.19 38 *eP* P 12 37 58.1 -0.5
comp=Z,3.0nm,0.7s
IMW **Indian Meadow** 90.19 42 *eP* P 12 37 59.4 +0.5
comp=Z,25nm,0.9s

T23A **Casias Ranch,** 90.22 50 ⇑P P 12 37 59.3 +0.2
baz=90
SWMT **Swartz Lake** 90.22 38 *eP* P 12 38 00.0 +1.3
comp=Z,1.8nm,0.5s
F15A **Butte** 90.23 40 ⇑P P 12 37 59.0 +0.1
baz=90,SNR=11
MOOW **Moose Ponds** 90.24 42 *eP* P 12 37 59.2 +0.2
comp=Z,4.3nm,0.8s
LRM **Limekiln Ridge** 90.24 40 *eP* P 12 37 59.5 +0.5
comp=Z,61nm,1.0s
R22A **Saguache, Gunn** 90.25 49 ⇓P P 12 38 00.0 +0.7
baz=90,SNR=16
LOHW **Long Hollow** 90.26 43 *eP* P 12 37 59.3 +0.2
comp=Z,14nm,0.7s
127A **Arkansas Junct** 90.28 55 ⇑P P 12 37 59.4 +0.1
baz=90,SNR=6.6
D14A **Greenough** 90.28 39 ⇑P P 12 37 58.5 -0.4
baz=90,SNR=11
CD2 **Chengdu** 90.31 303 P P 12 37 59.8 +0.4
CD2 pP **pP** 12 40 13.4 +0.8
CD2 sP **sP** 12 41 13.8 -0.2
CD2 PP **PP** 12 41 49.3 +3.8
CD2 SKS **SKSac** 12 47 32.6 +0.3
CD2 S **S** 12 48 02.3 -0.1
CD2 sS **sS** 12 51 59.3 -1.1
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,210nm,5.3s
L19A **Farson** 90.32 44 ⇓P P 12 37 59.8 +0.4
baz=91,SNR=69
G16A **Moss Hill, Enn** 90.33 41 ⇑P P 12 37 59.7 +0.4
baz=91,SNR=16
CHMT **Chamberlain Mo** 90.34 39 *eP* P 12 37 59.0 -0.3
comp=Z,5.6nm,1.0s
QLMT **Earthquake Lak** 90.36 41 *eP* P 12 38 00.6 +1.1
comp=Z,1.8nm,0.6s
P21A **Newcastle** 90.37 47 ⇑P P 12 37 59.5 -0.2
baz=91
SLMT **Seeley Lake** 90.37 38 *eP* P 12 37 58.9 -0.6
comp=Z,3.1nm,0.7s
YBMT **Yellow Bay** 90.40 38 *eP* P 12 37 59.6 +0.1
comp=Z,3.8nm,0.7s
H16A **Russell Place,** 90.40 41 ⇑P P 12 38 00.7 +1.0
baz=91,SNR=39
B13A **Whitefish** 90.42 37 ⇓P P 12 37 59.2 -0.3
baz=91,SNR=7.6
I17A **Pilgrim Ck.** 90.43 42 ⇓P P 12 38 00.9 +1.1
baz=91,SNR=20
J18A **Kendall Valley** 90.43 43 ⇓P P 12 38 00.2 +0.3
baz=91,SNR=114
N20A **Spence Gulch,** 90.43 46 ⇓P P 12 38 00.3 +0.4
baz=91,SNR=49
FLWY **Flagg Ranch** 90.43 42 *eP* P 12 38 00.7 +0.8
comp=Z,39nm,1.3s
Q22A **Crested Butte,** 90.43 48 ⇓P P 12 38 00.5 +0.3
baz=91,SNR=40
E15A **Deer Lodge** 90.44 39 ⇓P P 12 37 59.6 -0.1
baz=91,SNR=7.1
Y26A **Elida** 90.46 54 ⇓P P 12 38 00.1 -0.1
baz=91,SNR=5.4
BW06 **Boulder Array** 90.51 44 ⇓P P 12 38 00.2 -0.1
baz=91,SNR=43
PDAR **Pinedale Array** 90.51 44 P P 12 37 60.0 -0.3
comp=Z,16nm,0.8s,baz=199,slow=2.9,SNR=131
PDAR PP PP 12 41 40.3 -6.8
comp=Z,4.3nm,1.1s,baz=235,slow=5.2,SNR=5.5
PDAR PKKPbc **PKKPbc** 12 55 23.4 -1.7
comp=Z,1.5nm,0.8s,baz=88,slow=4.2,SNR=10
PDAR PKPPKP **P'P'df** 13 03 29.7 -2.6
comp=Z,0.8nm,0.9s,baz=106,slow=3.7,SNR=4.4
PDAR **Pinedale Array** 90.51 44 P P 12 37 60.0 -0.3
PDAR PP PP 12 41 40.3 -6.8
PDAR PKKPbc **PKKPbc** 12 55 23.4 -1.7
PDAR P'P' 13 03 29.7
SMCO **Snowmass** 90.53 48 *eP* P 12 38 01.0 +0.3
comp=Z,12nm,0.8s
S23A **Nye Farm, Mont** 90.54 49 ⇓P P 12 38 00.9 +0.3
baz=91
429A **Davenport Ranc** 90.55 57 ⇓P P 12 38 00.8 +0.3
baz=91,SNR=80
W25A **X Bar L Ranch,** 90.55 52 ⇑P P 12 38 00.4 -0.2
baz=91,SNR=31
228A **UT Block 9, Go** 90.63 56 ⇑P P 12 38 01.0 +0.1
baz=91,SNR=7.7
H17A **Grant Village** 90.67 42 ⇓P P 12 38 02.4 +1.5
baz=91,SNR=12
O21A **Pagoda** 90.67 47 ⇑P P 12 38 00.8 -0.3
baz=91
V25A **Rancho No Teng** 90.71 52 ⇑P P 12 38 01.4 +0.1
baz=91,SNR=31
F16A **Kennard Place,** 90.72 40 ⇑P P 12 38 01.4 +0.4
baz=91,SNR=10
DAWY **Dawson** 90.74 16 *eP* P 12 38 00.7 +0.1
X26A **CR and CF Fran** 90.74 53 ⇓P P 12 38 01.0 -0.4
baz=91,SNR=7.4
A13A **Flathead Natio** 90.75 37 ⇑P P 12 38 01.1 0.0
baz=91
530A **J-C Ranch, Com** 90.78 58 ⇑P P 12 38 01.8 +0.2
baz=91,SNR=12
M20A **Sweetwater, Wa** 90.79 45 ⇑P P 12 38 02.0 +0.4
baz=91,SNR=29
I18A **Diamond G Ranc** 90.80 43 ⇓P P 12 38 01.9 +0.3
baz=91,SNR=16
D15A **Lincoln** 90.83 39 ⇑P P 12 38 01.5 0.0
baz=91,SNR=14
329A **Wagon Wheel Ra** 90.84 56 ⇓P P 12 38 02.0 +0.2
baz=91,SNR=10
LKWY **Lake** 90.86 42 *eP* P 12 38 02.4 +0.5
LKWY pmax pmax
comp=Z,9.0nm,0.6s
LKWY **Lake** 90.86 42 *eP* P 12 38 02.4 +0.5
comp=Z,9.4nm,0.6s
P22A **Eagle** 90.87 47 ⇑P P 12 38 02.1 +0.1
baz=91,SNR=8.7
R23A **Moffat** 90.89 49 ⇑P P 12 38 02.4 +0.2
baz=91
N21A **Black Mountain** 90.90 46 ⇑P P 12 38 02.5 +0.4
baz=91,SNR=38
128A **Castleberry Fa** 90.92 55 ⇓P P 12 38 02.3 +0.1
baz=91,SNR=10
L20A **Wamsutter** 90.94 45 ⇓P P 12 38 03.0 +0.8
baz=91,SNR=63
T24A **Torres, Weston** 90.94 50 ⇓P P 12 38 02.7 +0.2
baz=91,SNR=9.8
Y27A **Causey** 90.94 54 ⇑P P 12 38 02.0 -0.3
baz=91,SNR=9.7
CLNS **Chul'man** 90.95 333 *eP* P 12 38 02.0 +0.3
CLNS pmax pmax
comp=Z,19nm,1.3s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,1.2s
K19A **Absolon Red Bu** 91.00 44 ⇓P P 12 38 01.9 -0.6
baz=91,SNR=20
W26A **Owens Ranch, T** 91.01 53 ⇑P P 12 38 02.2 -0.5
baz=91
G17A **Pierce Place,** 91.03 41 ⇑P P 12 38 03.3 +0.8
baz=91,SNR=10
HRY **Holter Researc** 91.07 39 *eP* P 12 38 02.8 +0.2
comp=E,7.7nm,0.6s
E16A **East Helena** 91.07 40 ⇑P P 12 38 02.3 -0.3
baz=91,SNR=9.1
S24A **Houchin Ranch,** 91.07 50 ⇓P P 12 38 03.6 +0.5
baz=91,SNR=11
J19A **Crowheart** 91.08 43 ⇓P P 12 38 02.7 -0.1
baz=91,SNR=16
B14A **Marquette Ranc** 91.09 38 ⇓P P 12 38 02.3 -0.4
baz=91,SNR=42
631A **Perdido Creek** 91.09 59 ⇑P P 12 38 03.3 +0.3
baz=91,SNR=47
WALA **Waterton Lakes** 91.10 37 *eP* P 12 38 02.6 0.0
comp=E,0.3nm,0.7s
U25A **Circle Dot Ran** 91.11 51 ⇑P P 12 38 02.9 -0.2
baz=91,SNR=20
CMIG **Matias Romero** 91.13 72 P P 12 38 03.0 -0.4
comp=E,12nm,0.7s,baz=260,slow=4.6,SNR=16
CMIG **Matias Romero** 91.13 72 P P 12 38 03.0 -0.4
430A **Baggett Ranch,** 91.13 57 ⇓P P 12 38 03.2 0.0
baz=91
C15A **Salmond Ranch,** 91.16 38 ⇑P P 12 38 02.4 -0.6
baz=91,SNR=6.0
229A **Bryant Ranch,** 91.17 56 ⇓P P 12 38 03.1 -0.3
baz=91,SNR=6.2
Q23A **Hartsel** 91.20 48 ⇓P P 12 38 03.5 -0.1
baz=91
K20A **Yellowstone Ra** 91.24 44 ⇓P P 12 38 03.0 -0.6

baz=92,SNR=9.5
MSTX **Muleshoe** 91.27 54 ⇓P P 12 38 03.7 -0.1
baz=92
Z28A **Tucker Farm, M** 91.28 55 ⇑P P 12 38 03.5 -0.3
baz=92,SNR=6.1
O22A **Kremmling** 91.28 47 ⇑P P 12 38 04.0 0.0
baz=92,SNR=18
732A **Laxson Ranch,** 91.30 60 ⇓P P 12 38 04.0 0.0
baz=92,SNR=19
V26A **Tequesquite Ra** 91.30 52 ⇓P P 12 38 03.5 -0.4
baz=92,SNR=16
X27A **F and S Farms,** 91.31 53 ⇑P P 12 38 03.9 -0.1
baz=92
A14A **Double T Ranch** 91.33 37 ⇓P P 12 38 03.6 -0.2
baz=92,SNR=17
F17A **Fitzpatrick Pl** 91.36 41 ⇑P P 12 38 04.7 +0.7
baz=92,SNR=14
H18A **Shoshone NF, C** 91.37 42 ⇑P P 12 38 04.5 +0.3
baz=92,SNR=9.3
M21A **Separation Pea** 91.39 45 ⇓P P 12 38 04.3 -0.1
baz=92,SNR=22
D16A **Dana Ranch, Ca** 91.40 39 ⇓P P 12 38 04.1 0.0
baz=92,SNR=12
129A **Stewart Farms,** 91.40 55 ⇑P P 12 38 04.4 -0.1
baz=92,SNR=6.1
P23A **Jefferson** 91.41 48 ⇑P P 12 38 05.3 +0.6
baz=92,SNR=12
R24A **Sanders Place,** 91.41 49 ⇓P P 12 38 04.9 +0.3
baz=92,SNR=11
531A **Rocksprings** 91.42 58 ⇑P P 12 38 04.9 +0.4
baz=92,SNR=34
T25A **Trinidad** 91.43 51 ⇑P P 12 38 04.5 -0.1
baz=92,SNR=16
330A **Mertzon** 91.43 57 ⇑P P 12 38 04.1 -0.5
baz=92,SNR=9.5
B15A **Bradely Ranch,** 91.47 38 ⇓P P 12 38 03.5 -0.9
baz=92,SNR=9.5
I19A **Meeteetse** 91.48 43 ⇓P P 12 38 05.2 +0.5
baz=92,SNR=14
W27A **Bowe Ranch, En** 91.52 53 ⇓P P 12 38 04.3 -0.7
baz=92,SNR=6.4
E17A **Martinsdale** 91.52 40 ⇑P P 12 38 04.8 0.0
baz=92
L21A **Rawlins** 91.56 45 ⇓P P 12 38 04.7 -0.4
baz=92,SNR=8.5
431A **Sonora** 91.58 58 ⇑P P 12 38 04.8 -0.4
baz=92
U26A **Atchley Ranch,** 91.59 51 ⇓P P 12 38 04.9 -0.4
baz=92,SNR=7.5
N22A **Wattenberg Ran** 91.63 47 ⇑P P 12 38 05.9 +0.3
baz=92,SNR=23
S25A **Robets Cordova** 91.64 50 ⇓P P 12 38 05.4 -0.1
baz=92,SNR=18
Y28A **McKinney Farm,** 91.64 54 ⇓P P 12 38 05.3 -0.2
baz=92
C16A **Fuhringer Ranc** 91.67 39 ⇓P P 12 38 04.8 -0.5
baz=92,SNR=9.9
230A **Sterling City** 91.67 56 ⇓P P 12 38 05.5 -0.2
baz=92,SNR=7.8
Q24A **Divide** 91.70 49 ⇑P P 12 38 06.0 0.0
baz=92,SNR=12
A15A **Johnson Ranch,** 91.72 37 ⇓P P 12 38 05.0 -0.6
baz=92,SNR=10
O23A **Lake Granby, G** 91.73 47 ⇓P P 12 38 06.2 +0.1
baz=92,SNR=11
J20A **Shoshoni** 91.74 44 ⇑P P 12 38 06.2 +0.4
baz=92,SNR=30
G18A **Lazy EL Ranch,** 91.75 41 ⇓P P 12 38 06.2 +0.4
baz=92,SNR=9.3
ISCO **Idaho Springs** 91.75 48 *e*P P 12 38 06.4 +0.2
ISCO pmax pmax
comp=Z,6.0nm,0.7s
ISCO **Idaho Springs** 91.75 48 *e*P P 12 38 06.4 +0.2
comp=Z,5.8nm,0.7s
ISCO **Idaho Springs** 91.75 48 ⇑P P 12 38 06.4 +0.2
baz=92,SNR=14
632A **Uvalde** 91.76 59 ⇓P P 12 38 06.6 +0.5
baz=92,SNR=22
Z29A **Hungry Hill Ra** 91.78 55 ⇑P P 12 38 05.7 -0.4
baz=92,SNR=8.8
H19A **Powell** 91.79 42 ⇓P P 12 38 06.6 +0.6
baz=92,SNR=16
M22A **Cedar Creek Ra** 91.81 46 ⇓P P 12 38 06.2 -0.1
baz=92,SNR=20
RLMT **Red Lodge** 91.83 42 *e*P P 12 38 06.8 +0.5
comp=Z,7.5nm,0.8s
RLMT **Red Lodge** 91.83 42 ⇑P P 12 38 06.7 +0.5
baz=92,SNR=14
532A **Rocksprings** 91.91 58 ⇓P P 12 38 06.8 0.0
baz=92,SNR=21
GCMT **Greycliff** 91.91 41 *e*P P 12 38 07.3 +0.8
comp=Z,6.7nm,1.2s
X28A **Dimmitt** 91.93 54 ⇑P P 12 38 06.4 -0.5
baz=92
F18A **Big Timber** 91.94 41 ⇑P P 12 38 07.0 +0.4
baz=92,SNR=9.1
K21A **Alcova** 91.94 45 ⇑P P 12 38 06.7 -0.2
baz=92,SNR=20
R25A **Fountain Ranch** 91.96 50 ⇓P P 12 38 06.6 -0.4
baz=92,SNR=22
D17A **Six Diamond Ra** 91.97 39 ⇓P P 12 38 06.8 0.0
baz=92,SNR=18
331A **San Angelo** 91.97 57 ⇑P P 12 38 06.5 -0.6
baz=92,SNR=5.6
I20A **Worland** 91.99 43 ⇑P P 12 38 06.8 -0.1
baz=92,SNR=13
B16A **M & M Farms, S** 92.01 38 ⇑P P 12 38 06.3 -0.6
baz=92,SNR=6.1
N23A **Red Feather La** 92.02 47 ⇑P P 12 38 07.6 +0.3
baz=92,SNR=15
T26A **Comanche Natio** 92.03 51 ⇓P P 12 38 06.8 -0.6
baz=92,SNR=7.7
Y29A **Porterfield Fa** 92.06 54 ⇑P P 12 38 07.3 -0.1
baz=92,SNR=12
JCT **Junction City** 92.13 58 *e*P P 12 38 07.7 -0.1
JCT pmax pmax
comp=Z,16nm,0.8s
JCT **Junction City** 92.13 58 *e*P P 12 38 07.7 -0.1
comp=Z,16nm,0.8s
E18A **Harlowton** 92.14 40 ⇓P P 12 38 08.3 +0.8
baz=92,SNR=8.8
J21A **Lysite** 92.15 44 ⇓P P 12 38 08.1 +0.3
baz=92,SNR=20
C17A **Wharram Farm,** 92.16 39 ⇑P P 12 38 07.5 -0.1
baz=92,SNR=33
L22A **Ellis Ranch, M** 92.21 45 ⇑P P 12 38 08.7 +0.6
baz=92,SNR=21
Z30A **Sanderson Ranc** 92.23 55 ⇑P P 12 38 07.7 -0.5
baz=92,SNR=12
O24A **Longmont** 92.27 48 ⇓P P 12 38 08.3 0.0
baz=92
X29A **Tulia** 92.28 54 ⇓P P 12 38 08.0 -0.4
baz=92
432A **Menard** 92.30 58 ⇑P P 12 38 08.4 -0.2
baz=92,SNR=21
S26A **Kim** 92.31 50 ⇓P P 12 38 08.0 -0.6
baz=92,SNR=25
231A **Bronte** 92.31 57 ⇓P P 12 38 07.9 -0.7
baz=92,SNR=31
Q25A **Bedland, Calha** 92.31 49 ⇓P P 12 38 08.1 -0.5
baz=92,SNR=8.7
H20A **Greybull** 92.33 43 ⇓P P 12 38 07.9 -0.6
baz=93,SNR=6.3
A16A **West Butte Ran** 92.34 38 ⇓P P 12 38 08.4 0.0
baz=93
F19A **Roth Farm, Mol** 92.39 41 ⇓P P 12 38 08.6 -0.1
baz=93,SNR=13
LZH **Lanzhou** 92.41 308 ⇓P P 12 38 10.3 +1.2
LZH pP **pP** 12 40 21.4 -1.2
LZH sP **sP** 12 41 22.1 -1.8
LZH SKS **SKSac** 12 47 46.5 +2.5
LZH S **ScS** 12 48 23.0 +1.1
LZH sS **sS** 12 52 15.6 -4.8
LZH pmax pmax
comp=Z,73nm,1.0s
LZH pmax pmax
comp=Z,370nm,6.8s
M23A **Laramie** 92.43 46 ⇓P P 12 38 09.0 -0.1
baz=93,SNR=18
K22A **Casper** 92.43 45 ⇓P P 12 38 08.9 -0.1
baz=93,SNR=8.8
V28A **Channing** 92.43 53 ⇓P P 12 38 08.6 -0.6
baz=93
I21A **Big Trails, Te** 92.46 44 ⇓P P 12 38 08.8 -0.4
baz=93,SNR=21
B17A **L&G Farms, Che** 92.47 38 ⇓P P 12 38 08.7 -0.2
baz=93,SNR=12
AMTX **Amarillo** 92.47 53 *e*P P 12 38 09.3 0.0
comp=Z,6.7nm,0.8s
AMTX **Amarillo** 92.47 53 ⇓P P 12 38 08.9 -0.4
baz=93
D18A **Linhart Farms,** 92.52 40 ⇓P P 12 38 09.5 +0.3
baz=93,SNR=6.1
PHWY **Pilot Hill** 92.53 46 *e*P P 12 38 09.5 -0.2
comp=Z,6.1nm,0.8s
G20A **Bridger** 92.54 42 ⇑P P 12 38 09.1 -0.3
baz=93,SNR=5.3
332A **Millersview** 92.54 57 ⇑P P 12 38 09.2 -0.4
baz=93,SNR=38
YAK **Yakutsk** 92.58 338 *e*P P 12 38 07.5 -1.5
YAK *e* 12 42 04.0
YAK *e*S SKSac 12 47 43.1 -0.2
YAK *e* 12 48 26.2
YAK *e*SS SS 12 54 53.0 -0.4
YAK *e*SSS SSS 12 58 34.1
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,79nm,4.8s
YAK pmax pmax
comp=N,105nm,4.0s
YAK pmax pmax
comp=E,56nm,3.5s
YAK smax smax
comp=N,91nm,3.5s
YAK smax smax
comp=E,44nm,3.5s
YAK **Yakutsk** 92.58 338 *e*P P 12 38 08.3 -0.7
comp=E,51nm,0.8s
W29A **Amraillo** 92.59 53 ⇓P P 12 38 09.7 -0.2
baz=93
T27A **Campo** 92.61 51 ⇑P P 12 38 09.4 -0.5
baz=93
R26A **Arlington** 92.62 50 ⇓P P 12 38 09.7 -0.3
baz=93,SNR=46
P25A **Willow Gulch B** 92.63 48 ⇓P P 12 38 10.3 +0.3
baz=93,SNR=16
Y30A **Stafford Cattl** 92.65 55 ⇑P P 12 38 09.8 -0.3
baz=93
N24A **Carr** 92.71 47 ⇓P P 12 38 10.8 +0.5
baz=93,SNR=5.4
L23A **Garrett** 92.73 46 ⇓P P 12 38 10.5 0.0
baz=93,SNR=19
S27A **Las Animas** 92.75 51 ⇓P P 12 38 10.3 -0.3
baz=93
E19A **Rath Farm, Rou** 92.77 41 ⇓P P 12 38 10.8 +0.4
baz=93,SNR=7.0
J22A **Midwest** 92.80 44 ⇑P P 12 38 10.6 -0.1
baz=93,SNR=22
Q26A **Hugo** 92.83 49 ⇓P P 12 38 10.9 -0.1
baz=93,SNR=9.8
A17A **Triple J Farms** 92.85 38 ⇑P P 12 38 10.7 0.0
baz=93,SNR=18
EGMT **Eagleton** 92.95 39 *e*P P 12 38 11.1 -0.1
comp=E,5.5nm,0.8s
EGMT **Eagleton** 92.95 39 ⇓P P 12 38 10.7 -0.5
baz=93
H21A **Big Horn, Sher** 93.00 43 ⇓P P 12 38 11.3 -0.2
baz=93,SNR=9.2
I22A **9 Mile Ranch,** 93.02 44 ⇑P P 12 38 11.8 +0.1
baz=93,SNR=20
M24A **Cheyenne** 93.03 46 ⇓P P 12 38 12.2 +0.4
baz=93
D19A **Cripps Ranch,** 93.05 40 ⇓P P 12 38 12.0 +0.3
baz=93,SNR=9.6
K23A **Bowen Ranch, D** 93.07 45 ⇓P P 12 38 11.5 -0.5
baz=93
R27A **Eads** 93.07 50 ⇑P P 12 38 11.7 -0.3
baz=93,SNR=22
T28A **Walsh** 93.08 51 ⇓P P 12 38 11.4 -0.7
baz=93
ABTX **Abilene, Hawle** 93.11 56 ⇓P P 12 38 12.1 -0.1
baz=93
B18A **Beardsley Farm** 93.11 39 ⇓P P 12 38 11.8 -0.1
baz=93,SNR=7.7
G21A **Lodge Grass** 93.17 42 ⇓P P 12 38 12.3 0.0
baz=93
E20A **Meer Farm, Mu** 93.19 41 ⇓P P 12 38 12.5 +0.2
baz=93,SNR=6.1
L24A **Wheatland** 93.21 46 ⇓P P 12 38 12.6 0.0
baz=93
C19A **Slack Wire Ran** 93.22 40 ⇑P P 12 38 12.9 +0.5
baz=94,SNR=16
P26A **Davis Ranch, A** 93.22 49 ⇑P P 12 38 12.6 -0.2
baz=93,SNR=7.4
A18A **Metzger Ranch,** 93.33 38 ⇑P P 12 38 12.6 -0.2
baz=94,SNR=11
H22A **Clearmont** 93.42 43 ⇓P P 12 38 13.1 -0.3
baz=94
D20A **Manuel Ranch,** 93.46 40 ⇓P P 12 38 14.0 +0.5
baz=94,SNR=9.0
F21A **Absaloka Mine,** 93.50 42 ⇓P P 12 38 14.1 +0.4
baz=94
KSCO **Kaye Shedlock'** 93.50 49 ⇑P P 12 38 13.8 -0.2
baz=94,SNR=9.6
O26A **Horse Wrangler** 93.54 48 ⇓P P 12 38 14.2 +0.1
baz=94
M25A **Palm-Egli Farm** 93.54 47 ⇓P P 12 38 14.2 +0.1
baz=94
X31A **McDonald Ranch** 93.65 54 ⇑P P 12 38 14.5 -0.2
baz=94
G22A **Birney** 93.74 43 ⇓P P 12 38 14.9 0.0
baz=94
C20A **Veseth Ranch,** 93.83 40 ⇑P P 12 38 15.6 +0.5
baz=94,SNR=11
N26A **Koester Ranch,** 93.85 48 ⇓P P 12 38 15.3 -0.2
baz=94
E21A **Keefer Ranch,** 93.85 41 ⇓P P 12 38 15.9 +0.6
baz=94
L25A **Engebretsen Ra** 93.91 46 ⇑P P 12 38 16.0 +0.2
baz=94
J24A **Dixon Ranch, L** 93.95 45 ⇓P P 12 38 16.0 +0.1
baz=94
A19A **Klindworth Far** 93.97 39 ⇑P P 12 38 15.8 0.0
baz=94,SNR=7.2
F22A **Rosebud** 94.02 42 ⇑P P 12 38 16.2 +0.1
baz=94,SNR=5.2
O27A **Beecher Island** 94.09 48 ⇓P P 12 38 16.3 -0.3
baz=94
D21A **La Casta Ranch** 94.14 41 ⇑P P 12 38 16.8 +0.2
baz=94,SNR=14
B20A **Solberg Farm,** 94.16 39 ⇑P P 12 38 16.7 +0.1
baz=94
K25A **Mack Ranch, Ha** 94.17 46 ⇑P P 12 38 17.3 +0.3
baz=94
M26A **McRoberts Ranc** 94.17 47 ⇑P P 12 38 17.0 0.0
baz=94
G23A **Biddle** 94.30 43 ⇑P P 12 38 17.1 -0.3
baz=94,SNR=7.8
N27A **Anderson Farm,** 94.31 48 ⇑P P 12 38 17.5 -0.1
baz=94
A20A **Cobblestone Ra** 94.43 39 ⇑P P 12 38 17.9 +0.1
baz=95
C21A **Desert Coulee** 94.43 40 ⇓P P 12 38 17.8 0.0
baz=95,SNR=7.8
E22A **Miles City** 94.50 42 ⇑P P 12 38 18.5 +0.3
baz=95,SNR=6.4
F23A **Volborg** 94.52 42 ⇑P P 12 38 18.3 -0.1
baz=95,SNR=14
WHTX **Lake Whitney** 94.57 58 ⇓P P 12 38 18.0 -0.8
baz=95
H24A **Dirks Ranch, A** 94.64 44 ⇑P P 12 38 18.5 -0.5
baz=95,SNR=19
K26A **Motz Farm, Whi** 94.67 46 ⇓P P 12 38 19.3 +0.2
baz=95,SNR=14
D22A **Cohagen** 94.68 41 ⇓P P 12 38 19.2 +0.2
baz=95,SNR=7.1
RSSD **Black Hills** 94.70 44 *e*P P 12 38 19.4 0.0
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD **Black Hills** 94.70 44 *e*P P 12 38 19.4 0.0
comp=Z,13nm,0.9s
OGNE **Ogallala** 94.72 48 ⇓P P 12 38 19.2 -0.2
baz=95
B21A **Ellsworth Farm** 94.75 40 ⇓P P 12 38 19.4 +0.1
baz=95
E23A **Ismay** 94.93 42 ⇓P P 12 38 19.8 -0.3
baz=95
G24A **Alzada** 94.98 43 ⇑P P 12 38 20.0 -0.5
baz=95
A21A **Bergtoll Ranch** 95.06 39 ⇑P P 12 38 20.8 +0.1
baz=95
C22A **Vida** 95.12 40 ⇑P P 12 38 21.1 +0.1
baz=95
F24A **Ekalaka** 95.18 43 ⇑P P 12 38 21.4 0.0
baz=95
D23A **Lindsay** 95.28 41 ⇓P P 12 38 22.2 +0.5
baz=96
B22A **Reddig Ranch S** 95.30 40 ⇓P P 12 38 22.0 +0.2
baz=96
ULN **Ulaanbaatar** 95.32 320 *e*P P 12 38 21.2 -0.9
comp=Z,5.8nm,0.8s
INK **Inuvik** 95.54 16 P P 12 38 21.4 -0.9
comp=Z,1.3nm,0.7s,baz=232,slow=4.1,SNR=4.3
INK PP PP 12 42 18.9 -5.9
comp=Z,1.8nm,0.8s,baz=204,slow=7.4,SNR=4.1
INK **Inuvik** 95.54 16 P P 12 38 21.4 -0.9
INK PP PP 12 42 18.9 -5.9
C23A **Lambert** 95.57 41 ⇓P P 12 38 23.6 +0.6
baz=96
E24A **Baker** 95.58 42 ⇑P P 12 38 23.2 +0.1
baz=96
A22A **Carney Farms,** 95.66 39 ⇑P P 12 38 23.6 +0.2
baz=96
SONM **Songino Array** 95.71 319 P P 12 38 23.1 -0.6
comp=Z,5.3nm,0.9s,baz=111,slow=4.1,SNR=6.6
SONM **Songino Array** 95.71 319 P P 12 38 23.1 -0.6
D24A **Glendive** 95.80 42 ⇑P P 12 38 24.4 +0.3
baz=96
C24A **Savage** 95.92 41 ⇑Pdiff P 12 38 25.0 +0.5
baz=96
B23A **Brockton** 95.98 40 ⇑Pdiff P 12 38 25.3 +0.5
baz=96
A23A **Redstone** 96.26 40 ⇑Pdiff P 12 38 26.4 +0.4
baz=96
DGMT **Dagmar** 96.46 40 *e*P P 12 38 27.7 +0.8
comp=Z,8.3nm,0.8s
DGMT **Dagmar** 96.46 40 ⇑Pdiff P 12 38 26.9 0.0
baz=97
GTA **Gaotai** 96.66 310 ⇓P P 12 38 28.6 +0.4
GTA pP **pP** 12 40 43.5 +1.3
GTA sP **sP** 12 41 45.1 +1.7
GTA PP **PP** 12 42 38.6 +4.5
GTA SKS **SKSac** 12 48 06.0 -0.2
GTA S **S** 12 48 56.8 -0.3
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,110nm,6.7s
A24A **Westby** 96.77 40 ⇓Pdiff P 12 38 28.6 +0.3
baz=97
TUL1 **Tulsa** 97.30 54 ⇓Pdiff Pdif 12 38 30.6 -0.4
baz=98
YKA **Yellowknife Ar** 97.92 25 P Pdif 12 38 32.1 -0.9
comp=Z,1.2nm,0.7s,baz=245,slow=4.5,SNR=31
YKA PP PP 12 42 33.7 -9.0
comp=Z,2.1nm,1.1s,baz=234,slow=6.9,SNR=5.5
YKA PKKPbc **PKKPbc** 12 55 03.0 -3.1
comp=Z,0.4nm,0.4s,baz=34,slow=2.5,SNR=14
YKA PKKPab PKKPdf 12 55 33.6 +25
comp=Z,1.3nm,1.0s,baz=55,slow=4.9,SNR=8.7
YKA **Yellowknife Ar** 97.92 25 P Pdif 12 38 32.1 -0.9
YKA PP PP 12 42 33.8 -9.0
YKA PKKPbc **PKKPbc** 12 55 03.0 -3.1
YKA PKKPab PKKPdf 12 55 33.6 +25
ZAK **Zakamensk** 98.62 321 *e*P Pdif 12 38 30.3 -6.3
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY **Talaya** 98.92 322 *e*P Pdif 12 38 37.0 -0.8
TLY pmax pmax
comp=Z,4.0nm,1.1s
ECSD **EROS Data Cent** 99.49 47 *e*Pdif **Pdif** 12 38 40.3 -0.2
comp=Z,5.7nm,0.9s
TAPN **Taplejung** 102.10 295 *e*P **PKiKP** 12 43 11.0 -0.3
comp=Z,28nm,1.0s
TAPN **Taplejung** 102.10 295 *e*P **Pdif** 12 38 48.8 -4.1
comp=Z,6.3nm,0.7s
ULM **Lac du Bonnet** 102.17 41 PKiKP **PKiKP** 12 43 11.1 +0.8
comp=Z,4.4nm,0.9s,baz=256,slow=7.8,SNR=6.6
ULM **Lac du Bonnet** 102.17 41 PKiKP **PKiKP** 12 43 11.1 +0.8
RAMN **Ramite** 102.92 294 *e*P **PKiKP** 12 43 12.2 -0.5
comp=Z,20nm,0.7s
RAMN **Ramite** 102.92 294 *e*P **Pdif** 12 38 57.5 +1.0
JIRN **Jiri** 103.48 295 *e*P **PKiKP** 12 43 13.1 -0.8
comp=Z,4.0nm,0.6s
GUN **Gumba** 103.82 295 *e*P **PKiKP** 12 43 13.5 -1.0
GUN **Gumba** 103.82 295 *e*P **Pdif** 12 38 58.2 -2.4
PKI **Pulchoki** 104.12 294 *e*P **PKiKP** 12 43 13.9 -1.1
comp=Z,14nm,0.7s
PKIN **Phulchoki** 104.13 294 *e*P **PKiKP** 12 43 14.0 -1.0
comp=Z,6.8nm,0.5s
KKN **Kakani** 104.29 294 *e*P **PKiKP** 12 43 14.2 -1.0
DMN **Daman** 104.39 294 *e*P **PKiKP** 12 43 14.6 -0.8
DMN **Daman** 104.39 294 *e*P **Pdif** 12 39 03.6 +0.6
comp=Z,11nm,0.6s
GKN **Gorkha** 104.90 295 *e*P **PKiKP** 12 43 14.3 -1.9
comp=Z,14nm,0.9s
GKN **Gorkha** 104.90 295 *e*P **Pdif** 12 39 05.1 -0.1
comp=Z,8.6nm,0.5s
KOLN **Koldanda** 105.72 294 *e*P **PKiKP** 12 43 16.5 -1.3
KOLN **Koldanda** 105.72 294 *e*P **Pdif** 12 39 12.8 +3.9
comp=Z,12nm,0.6s
DANN **Dangsing** 105.74 295 *e*P **PKiKP** 12 43 17.0 -0.9
comp=Z,9.5nm,0.2s
DANN **Dangsing** 105.74 295 *e*P **Pdif** 12 39 09.0 -0.1
comp=Z,9.6nm,0.8s
PYUN **Piuthan** 106.32 294 *e*P **PKiKP** 12 43 17.9 -1.0
PYUN **Piuthan** 106.32 294 *e*P **Pdif** 12 39 14.0 +2.4
comp=Z,18nm,0.9s
SIV **San Ignacio** 108.90 116 PKKPbc PKKPbc 12 54 29.0 -4.0
comp=Z,2.5nm,0.5s,baz=87,slow=5.0,SNR=4.2
SIV **San Ignacio** 108.90 116 PKKPbc PKKPbc 12 54 29.0 -4.0
ZAA0 **Zalesovo Array** 110.50 321 *e*PKPdf **PKiKP** 12 43 24.3 -1.3
ZALV **Zalesovo Beam** 110.50 321 PKiKP **PKiKP** 12 43 24.4 -1.3
comp=Z,6.2nm,0.5s,baz=184,slow=0.6,SNR=28
ZALV **Zalesovo Beam** 110.50 321 PKiKP **PKiKP** 12 43 24.4 -1.3
ZALV **Zalesovo Beam** 110.50 321 PKiKP **PKiKP** 12 43 24.4 -1.3
MK31 **Makanchi Array** 110.99 313 *e*P **Pdif** 12 39 32.0 +0.3
MK31 *e* 12 43 25.8
MK31 **Makanchi Array** 110.99 313 *e*Pdif **Pdif** 12 39 32.0 +0.3
MK31 *e*PKPdf **PKiKP** 12 43 25.8 -1.1
MKAR **Makanchi Array** 110.99 313 Pdiff **Pdif** 12 39 32.7 +1.1
comp=Z,1.4nm,0.6s,baz=96,slow=6.1,SNR=16
MKAR PKiKP **PKiKP** 12 43 25.9 -1.0
comp=Z,4.0nm,0.5s,baz=69,slow=2.3,SNR=46
MKAR PKKPbc **PKKPbc** 12 54 23.6 -3.1
comp=Z,0.6nm,0.5s,baz=282,slow=3.8,SNR=6.3
MKAR **Makanchi Array** 110.99 313 P **Pdif** 12 39 32.7 +1.1
MKAR *i* 12 43 25.9
MKAR **Makanchi Array** 110.99 313 Pdif **Pdif** 12 39 32.7 +1.1
MKAR PKiKP **PKiKP** 12 43 25.9 -1.0
MKAR PKKPbc **PKKPbc** 12 54 23.6 -3.1
NVS **Novosibirsk** 111.54 322 *e*PKiKP **PKiKP** 12 43 25.4 -2.2
NVS *e* 12 44 17.1
NVS *e* 12 45 39.4
NVS *i* 12 49 11.2
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=E,4.0nm,0.5s
KURK **Kurchatov** 113.89 317 *e*PKiKP **PKiKP** 12 43 30.9 -1.3
KURK **Kurchatov** 113.89 317 *e*PKPdf **PKiKP** 12 43 30.9 -1.3
KSH **Kashi** 114.46 305 *e*PKP PKPdf 12 43 34.0 +0.1
KSH *e*PP PP 12 44 50.8 +7.9
KSH *es*PKP 12 46 50.6
KSH PKS **PKSdf** 12 47 09.9 -0.8
KSH SKS **SKSdf** 12 49 50.8 +2.5
KSH SKKS **SKSac** 12 50 40.8 +0.8
KSH AMB AMB
comp=Z,73nm,5.5s
ULHL **Ulahol** 114.62 308 P PKPdf 12 43 34.2 0.0
SNR=5.2
TKM2 **Tokmak 2** 115.18 308 *e*PKiKP **PKPdf** 12 43 34.4 -0.9
TKM2 **Tokmak 2** 115.18 308 *e*PKPdf **PKPdf** 12 43 34.4 -0.9
TKM2 **Tokmak 2** 115.18 308 P **PKPdf** 12 43 34.2 -1.1
SNR=14
KZA **Kyzart** 115.33 307 P **PKPdf** 12 43 35.7 -0.2
SNR=10
KBK **Karagaybulak** 115.62 308 P **PKPdf** 12 43 35.4 -0.8
SNR=7.3
CHMS **Chumysh** 115.80 308 P **PKPdf** 12 43 35.4 -0.8
SNR=5.4
AAK **Ala-Archa** 115.95 308 *c i*PKiKP **PKPdf** 12 43 36.2 -0.5
AAK **Ala-Archa** 115.95 308 *e*PKPdf **PKPdf** 12 43 36.0 -0.7
AAK **Ala-Archa** 115.95 308 P **PKPdf** 12 43 36.2 -0.5
SNR=6.3
USP **Ospenovka** 116.01 309 P **PKPdf** 12 43 36.1 -0.6

SNR=8.3
EKS2 Erkin-Say 116.48 308 *e*PKIKP **PKPdf 12 43 37.3 -0.4**
EKS2 Erkin-Say 116.48 308 *e*PKPdf **PKPdf 12 43 37.3 -0.4**
EKS2 Erkin-Say 116.48 308 P **PKPdf 12 43 37.5 -0.2**
SNR=13
AML Almayashu 116.49 307 P **PKPdf 12 43 37.5 -0.6**
SNR=27
KK31 Karatay Array 118.91 308 *i* PKIKP **PKPdf 12 43 41.0 -1.2**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 118.91 308 *e*PKIKP **PKPdf 12 43 41.2 -1.0**
KKAR Karatay Array 118.91 308 *e*PKPdf **PKPdf 12 43 41.2 -1.0**
BVA0 Borovoye Array 119.05 320 *i* PKIKP **PKPdf 12 43 41.0 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.3s
BVAR Borovoye Array 119.05 320 PKP **PKPdf 12 43 41.1 -1.0**
comp=Z,17nm,0.3s,baz=98,slow=2.5,SNR=168
BVAR PP **PP 12 45 08.9 -4.8**
comp=Z,2.0nm,0.7s,baz=93,slow=10,SNR=4.1
BVAR Borovoye Array 119.05 320 PKIKP **PKPdf 12 43 41.1 -1.0**
BVAR 12 45 08.9
BVAR Borovoye Array 119.05 320 PKP **PKPdf 12 43 41.1 -1.0**
BVAR PP **PP 12 45 08.9 -4.8**
BRVK Borovoye 119.11 320*d* i PKIKP **PKPdf 12 43 41.1 -1.1**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 119.11 320 *e*PKPdf **PKPdf 12 43 41.3 -0.9**
KBL Kabul 119.30 298 *e*PKIKP **PKPdf 12 43 43.3 -0.2**
KBL Kabul 119.30 298 *e*PKPdf **PKPdf 12 43 43.3 -0.2**
SCHQ Schefferville 120.19 38 PKKPbc PKKPbc 12 53 53.2 -2.2
comp=Z,3.6nm,0.8s,baz=82,slow=0.8,SNR=5.3
SCHQ Schefferville 120.19 38 PKKPbc PKKPbc 12 53 53.2 -2.2
SVE Sverdlovsk 124.11 325 *e*PKIKP **PKPdf 12 43 51.4 -0.3**
SVE pmax pmax
comp=Z,39nm,0.9s
SUMG Summit 124.39 13 *i* P **PKPdf 12 43 52.2 -0.2**
comp=Z,9.0nm,1.0s
BOSA Boshof 124.84 206 PKP **PKPdf 12 43 54.7 +0.4**
comp=Z,13nm,0.9s,baz=159,slow=1.1,SNR=14
BOSA Boshof 124.84 206 PKP **PKPdf 12 43 54.7 +0.4**
SOKR Solikamsk 125.31 329*c* i PKIKP **PKPdf 12 43 53.6 -0.3**
SOKR pmax pmax
comp=Z,50nm,1.0s
ARU Arti 125.31 325 *i* PKIKP **PKPdf 12 43 53.6 -0.4**
ARU 12 45 53.5
ARU 12 49 59.1
ARU Arti 125.31 325 *e*PKPdf **PKPdf 12 43 53.7 -0.3**
AB31 Akbulak array 125.96 316 *i* PKIKP **PKPdf 12 43 55.0 -0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 125.96 316 *e*PKPdf **PKPdf 12 43 55.1 -0.4**
AKTO Aktyubinsk 126.99 318 PKIKP **PKPdf 12 43 56.9 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
JMDO Jabal Madar 127.03 282 P **PKPdf 12 43 58.1 -0.3**
SNR=5.2
BSY Bisya 127.92 283 P **PKPdf 12 43 59.6 -0.5**
SNR=8.9
NRS Narsarsuaq 129.16 27 *i* P **PKPdf 12 44 01.2 0.0**
comp=Z,4.5nm,1.0s
KEV Kevo 129.20 349 *e*PKIKP **PKPdf 12 43 59.4 -1.6**
KEV Kevo 129.20 349 *e*pkp **PKPdf 12 43 59.4 -1.6**
ARCES ARCESS Array B 129.66 349 PKhKP PKPpre 12 43 49.4
comp=Z,5.0nm,0.9s,baz=93,slow=0.9,SNR=8.5
ARCES PKP **PKPdf 12 44 01.4 -0.6**
comp=Z,14nm,0.5s,baz=25,slow=1.4,SNR=60
ARCES SKPbc SKPbc 12 46 25.1 -2.2
comp=Z,44nm,0.8s,baz=12,slow=0.6,SNR=12
ARCES ARCESS Array B 129.66 349 PKPpre PKPpre 12 43 49.4
ARCES PKP **PKPdf 12 44 01.4 -0.6**
ARCES SKPbc SKPbc 12 46 25.1 -2.2
ABTO Aybut 130.41 275 P **PKPdf 12 44 05.1 +0.2**
SNR=7.4
KLMR Klimovskoe 132.28 335 *e*PKIKP **PKPdf 12 44 06.7 -0.4**
KLMR *e* 12 46 34.7
KLMR pmax pmax
comp=Z,45nm,1.5s
JOF Joensuu 133.68 341 *e*PKIKP **PKPdf 12 44 08.8 -0.9**
JOF pmax pmax
comp=Z,22nm,0.5s
JOF Joensuu 133.68 341 *e*pkp **PKPdf 12 44 08.8 -0.9**
comp=Z,22nm,0.5s
RCBR Riachuelo 135.00 123 SKPbc **SKPbc 12 46 46.6 -0.7**
comp=Z,8.2nm,0.9s,baz=200,slow=4.2,SNR=4.1
RCBR Riachuelo 135.00 123 SKPbc **SKPbc 12 46 46.6 -0.7**
KAF Kangasniemi 135.75 343 *e*PKIKP **PKPdf 12 44 13.3 -0.3**
KAF Kangasniemi 135.75 343 *e*pkp **PKPdf 12 44 13.3 -0.3**
TSUM Tsumeb 136.31 203 SKPbc **SKPbc 12 46 53.1 +1.8**
baz=143,slow=6.7
TSUM Tsumeb 136.31 203 *e*PKPdf **PKPdf 12 44 16.2 0.0**
TSUM SKPbc **SKPbc 12 46 53.1 +1.8**
FIA1 FINESS Array S 136.36 343 *e*PKPdf **PKPdf 12 44 14.9 +0.2**
FINES FINESS Array B 136.36 343 PKhKP PKPpre 12 44 01.8
comp=Z,1.9nm,0.4s,baz=50,slow=3.2,SNR=14
FINES SKPbc **SKPbc 12 46 50.6 +0.9**
comp=Z,15nm,0.7s,baz=46,slow=5.5,SNR=13
FINES FINESS Array B 136.36 343 PKPpre PKPpre 12 44 01.8
FINES SKPbc **SKPbc 12 46 50.6 +0.9**
QRN Al-Qurain 136.87 290 *e*P **SKPdf 12 46 54.0 +0.1**
QRN AMb AMB 12 46 55.2
comp=Z,135nm,1.1s
OBN Obninsk 137.03 330⇑ *i* PKIKP **PKPdf 12 44 15.6 -0.5**
OBN pmax pmax
comp=Z,54nm,1.7s
KBD Kabd 137.07 290 *e*P **SKPdf 12 46 54.4 +0.3**
KBD AMb AMB 12 46 55.8
comp=Z,73nm,1.2s
RDF Al-Radifah 137.19 290 *e*P PKPdf 12 44 05.9 -11
RDF AMb AMB 12 44 20.0
comp=Z,79nm,0.9s
MIB Mutribah 137.38 291 *e*P PKPdf 12 44 05.6 -12
MIB AMb AMB 12 44 19.4
comp=Z,40nm,0.8s
MIB Mutribah 137.38 291 *e*P **SKPdf 12 46 55.2 +0.5**
MIB AMb AMB 12 46 56.1
comp=Z,107nm,0.8s
NAY Al-Naaiem 137.47 290 *e*P PKPdf 12 44 05.8 -12
NAY AML AML 12 44 17.6
comp=Z,5.6nm,0.5s
NAY Al-Naaiem 137.47 290 *e*P **SKPdf 12 46 55.0 +0.1**
NAY AMb AMB 12 46 57.5
comp=Z,33nm,1.3s
DGRG David-gareji 137.57 308 P **SKPdf 12 46 56.2 +1.5**
TBLG Delisi 137.96 309 P **SKPdf 12 46 56.6 +1.2**
ZEI Tsey 138.28 311 *i* PKIKP **PKPdf 12 44 20.9 +1.7**
ZEI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 138.34 307 *e*P **PKPdf 12 44 19.1 -0.1**
GNI Garni 138.34 307 *e*PKPdf **PKPdf 12 44 20.2 +0.9**
ONI Oni 138.64 311 P **SKPdf 12 46 59.2 +2.6**
KBZ Khabaz 138.68 312 PKhKP PKPpre 12 44 10.8
comp=Z,3.4nm,0.7s,baz=19,slow=7.0,SNR=4.3
KBZ SKPbc **SKPbc 12 46 57.8 +0.8**
comp=Z,6.0nm,0.8s,baz=41,slow=1.9,SNR=5.8
KBZ Khabaz 138.68 312 PKHKP PKPpre 12 44 10.8
KBZ Khabaz 138.68 312 PKPpre PKPpre 12 44 10.8
KBZ SKPbc **SKPbc 12 46 57.8 +0.8**
NB2 NORSAR Subarra139.80 352 PKP PKPdf 12 44 13.2 -7.9
comp=Z,18nm,1.0s,baz=20,slow=3.1
NB2 NORSAR Subarra139.80 352 PKP SKPdf 12 46 37.4 -21
comp=Z,1.1nm,0.5s,baz=17,slow=2.6
NB2 NORSAR Subarra139.80 352 PKP **SKPbc 12 47 00.2 +0.7**
comp=Z,2.4nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B139.80 352 PKhKP PKPpre 12 44 13.6
comp=Z,7.6nm,0.7s,baz=16,slow=4.6,SNR=23
NOA SKPbc **SKPbc 12 47 00.6 +1.1**
comp=Z,5.8nm,0.7s,baz=15,slow=4.3,SNR=9.7
NOA SKPab **SKPab 12 47 12.1 0.0**
comp=Z,3.1nm,0.7s,baz=15,slow=3.2,SNR=6.5
NOA NORSAR Array B139.80 352 PKPpre PKPpre 12 44 13.6
NOA SKPbc **SKPbc 12 47 00.6 +1.1**
NOA SKPab **SKPab 12 47 12.1 0.0**
CUKT Cukurca 139.81 303 *e*P PKPdf 12 44 14.7 -7.3
ERZM Erzurum 140.91 307 *i* P **PKPdf 12 44 19.5 -4.6**
EZM Erzurum 140.91 307 *e*P **PKPdf 12 44 19.6 -4.5**
VRTB Varto-Mus 141.04 306 *e*P **PKPdf 12 44 20.1 -4.1**
NACGM Naroch 141.30 336 *e* PKPdf 12 44 16.0 -7.9
BNGB Bing℡ 141.66 306 *e*P **PKPdf 12 44 21.6 -3.6**
BAYT Ayd¨¬ntepe-Bay 141.67 309 *e*P **PKPdf 12 44 21.8 -3.5**
MARD Mardin 142.00 304 *i* P **PKPdf 12 44 22.1 -3.8**
GUMT Gumushane 142.13 309 *e*P **PKPdf 12 44 23.4 -2.6**
DIYA Diyarbakir 142.36 305 *i* P **PKPdf 12 44 23.2 -3.2**
KELT Kelkit 142.39 308 *i* P **PKPdf 12 44 24.1 -2.5**
PTK Pertek 142.66 306 *e*P **PKPdf 12 44 25.4 -1.7**

SVRC Sivrice-ELAZID 142.86 306 *e*P **PKPdf 12 44 25.8 -1.6**
ELZG Elazig 143.07 306 *i* P PKPbc 12 44 27.0 +0.7
ILIC ilic-Erzincan 143.11 308 *e*P PKPbc 12 44 26.6 +0.4
SUSE Susehri 143.13 309 *i* P PKPab 12 44 26.2 +0.1
KEMA Kemaliye 143.22 307 *i* P PKPbc 12 44 26.9 +0.4
AKASG Malin Array Be 143.27 329 PKP PKPab 12 44 25.0 -1.0
comp=Z,94nm,0.5s,baz=43,slow=4.2,SNR=467
AKASG SKPbc **SKiKP 12 47 09.2 -0.2**
comp=Z,6.3nm,0.6s,baz=46,slow=4.1,SNR=4.6
AKASG Malin Array Be 143.27 329 PKIKP PKPab 12 44 25.0 -0.9
AKASG Malin Array Be 143.27 329 PKP PKPab 12 44 25.0 -1.0
AKASG SKPbc **SKiKP 12 47 09.2 -0.2**
AK01 Malin Array Si 143.28 329 *e*PKPbc PKPab 12 44 25.0 -1.0
KIEV Kiev 143.28 329 *e*PKPdf PKPab 12 44 25.0 -1.0
AK02 Malin Array Si 143.31 329 *e*PKPdf PKPab 12 44 25.1 -0.9
SUW Suwalki 143.31 338 *e*PKP PKPab 12 44 25.5 -0.5
SUW Suwalki 143.31 338 *e*PKIKP PKPab 12 44 25.6 -0.4
SUW Suwalki 143.31 338 *e*PKPbc PKPab 12 44 25.6 -0.4
SUW Suwalki 143.31 338 *e*PKP PKPab 12 44 25.4 -0.6
MVH1 Achvaich 143.43 4 *e*P PKPab 12 44 25.4 -1.0
MVH1 Achvaich 143.43 4 P PKPab 12 44 25.4 -1.0
URFA Urfa 143.48 304 *e*P PKPbc 12 44 27.7 +0.3
MYA Malataya 143.54 306 *e*P **PKPdf 12 44 28.4 -0.2**
MALT Malataya 143.55 306 *e*P PKPab 12 44 28.0 +0.4
MALT Malataya 143.55 306 *e*PKIKP PKPab 12 44 28.0 +0.4
MALT Malataya 143.55 306 *e*PKPbc PKPab 12 44 28.0 +0.4
MALT Malataya 143.55 306⇓ *i*P PKPab 12 44 28.0 +0.4
RSDY Resadiye-TOKAT 143.70 310 *e*P **PKPdf 12 44 28.5 -0.1**
KAC Achnashellach 143.76 5 *e*P PKPbc 12 44 26.6 -1.0
KAC Achnashellach 143.76 5 P PKPbc 12 44 26.6 -1.0
DARE Darende-Malaty 143.82 307 *e*P **PKPdf 12 44 30.2 +1.2**
MCD Coleburn Disti 143.83 4 *e*P PKPbc 12 44 26.5 -1.2
MCD Coleburn Disti 143.83 4 P PKPbc 12 44 26.5 -1.2
AKCD Akcadag 143.93 306 *i* P PKPab 12 44 29.1 0.0
ERBA Erbaa 144.01 310 *i* P **PKPab 12 44 29.3 +0.1**
KSB Sheil Bridge 144.04 6 *e*P PKPbc 12 44 27.4 -0.9
KSB Sheil Bridge 144.04 6 P PKPbc 12 44 27.4 -0.9
MME1 Meikle Cairn 144.12 3 *e*P PKPbc 12 44 26.8 -1.8
MME1 Meikle Cairn 144.12 3 P PKPbc 12 44 26.8 -1.8
TOKT Tokat 144.29 310 *e*P **PKPab 12 44 31.4 +1.1**
KVT Kavak 144.36 311 *e*P **PKPab 12 44 30.3 -0.2**
GZT Gaziantep 144.47 305 *i* P PKPbc 12 44 30.8 +0.3
MUD Monsted U'grnd 144.52 352 *i* P **PKPdf 12 44 29.4 -0.1**
comp=Z,24nm,0.7s
COP Copenhagen 144.74 348 *i* P **PKPdf 12 44 29.9 0.0**
comp=Z,26nm,0.9s
BSD Bornholm Skovb 144.76 346⇓ *i*P **PKPdf 12 44 29.8 -0.1**
comp=Z,78nm,0.8s
GAZ Gaziantep 144.79 304 *e*P PKPbc 12 44 31.7 +0.2
KMRS Kahramanmaras 144.94 305 *e*P PKPbc 12 44 32.0 +0.3
PINB Pinarbasi 144.95 307 *i* P PKPbc 12 44 32.0 -0.1
KUZU Kuzuini 145.00 304 *i* P **PKPbc 12 44 32.0 0.0**
BYBT Boyabat 145.09 313 *e*P **PKPab 12 44 32.7 -0.6**
LLD Lille Linde 145.12 348 *i* P **PKPbc 12 44 31.2 -0.4**
comp=Z,41nm,0.8s
EAB Aberfoyle 145.15 5 *e*P **PKPdf 12 44 30.3 -0.3**
EAB Aberfoyle 145.15 5 P **PKPdf 12 44 30.3 -0.3**
BNN Bunyan 145.30 308 *e*P **PKPbc 12 44 32.9 0.0**
ANDN Andirin 145.33 306 *i* P **PKPab 12 44 36.2 +1.7**
YOZ Yozgat 145.41 309 *e*P **PKPbc 12 44 33.1 -0.1**
CTKT Corum 145.42 311 *i* P **PKPbc 12 44 33.5 +0.2**
PGBU Glenifferbraes 145.51 5 *e*P **PKPdf 12 44 31.7 +0.5**
PGBU Glenifferbraes 145.51 5 P **PKPdf 12 44 31.7 +0.5**
ESY Stoneypath 145.53 3 *e*P **PKPdf 12 44 31.7 +0.5**
ESY Stoneypath 145.53 3 P **PKPdf 12 44 31.7 +0.5**
EAU Auchinoon 145.55 4 *e*P **PKPbc 12 44 32.5 -0.5**
EAU Auchinoon 145.55 4 P **PKPbc 12 44 32.5 -0.5**
EBL Broad Law 145.65 4 *e*P **PKPbc 12 44 32.4 -0.8**
EBL Broad Law 145.65 4 P **PKPbc 12 44 32.4 -0.8**
CORM Corum 145.70 311 *e*P **PKPbc 12 44 34.3 +0.3**
COBT Iskenderun 145.71 304 *i* P **PKPbc 12 44 34.0 -0.3**
KOZT Kozan 145.76 306 *e*P **PKPbc 12 44 35.0 +0.9**
GKP Gorka Klasztor 145.84 342 *e*PKP **PKPbc 12 44 33.8 0.0**
GKP Gorka Klasztor 145.84 342 *e*PKP **PKPbc 12 44 33.7 0.0**
KIS Kishinev 145.87 325⇑ *i*PKIKP **PKPdf 12 44 32.0 -0.1**
KIS pmax pmax
comp=Z,300nm,1.0s
KIS pmax pmax
comp=Z,200nm,1.0s
KIS Kishinev 145.87 325⇑ *i*P **PKPdf 12 44 32.0 -0.1**
comp=Z,300nm,1.0s
HTY Hatay 145.91 303 *e*P **PKPbc 12 44 34.7 +0.2**
BEL Belsk 145.93 338 *e*PKP **PKPbc 12 44 34.5 +0.4**
BEL Belsk 145.93 338 *e*PKP **PKPbc 12 44 34.4 +0.4**
YAYL Yayladag 145.95 303 *i* P **PKPbc 12 44 34.9 0.0**
CEYT Ceyhan 145.96 305 *e*P **PKPbc 12 44 34.9 +0.3**
ESK Eskdalemuir 146.09 4 *e*P **PKPbc 12 44 33.2 +1.0**
ESK Eskdalemuir 146.09 4 P **PKPdf 12 44 33.2 +1.0**
ESK Eskdalemuir 146.09 4 *i* PKP2 **PKPbc 12 44 34.5 +0.1**
CDAG Cicekdag 146.10 310 *i* P **PKPbc 12 44 34.6 -0.6**
ECK Cauldkaine Hil 146.23 4 *e*P **PKPbc 12 44 33.8 -1.1**
ECK Cauldkaine Hil 146.23 4 P **PKPbc 12 44 33.8 -1.1**
CANT Cankiri 146.24 312 *e*P **PKPbc 12 44 35.7 +0.2**
LVV L'vov 146.24 333 *e*PKIKP **PKPbc 12 44 34.3 -0.7**
KRTS Karatas 146.37 304 *e*P **PKPbc 12 44 36.2 +0.4**
NIG Nigde 146.47 307 *e*P **PKPbc 12 44 36.2 -0.1**
HWQ Hawqa 146.51 300 *e*P **PKPbc 12 44 36.1 -0.3**
BR131 Keskin Array S 146.58 310 *e*PKPbc **PKPbc 12 44 36.0 -0.5**
BRTR Keskin Array B 146.58 310 PKPbc **PKPbc 12 44 35.7 -0.8**
comp=Z,51nm,0.7s,baz=104,slow=1.8,SNR=96
BRTR Keskin Array B 146.58 310 PKPbc **PKPbc 12 44 35.7 -0.8**
SAFT Safranbolu 146.61 313 *e*P **PKPbc 12 44 36.5 +0.2**
GULE Gulek 146.61 306 *i* P **PKPbc 12 44 37.0 +0.3**
KAMT Kaman 146.66 310 *e*P **PKPbc 12 44 36.1 -0.6**
RCY Rachaya 146.77 299 *e*P **PKPbc 12 44 37.4 +0.2**
BSEG Bad Segeberg 146.79 350 *e*PKP2 **PKPbc 12 44 36.5 +0.2**
BSEG Bad Segeberg 146.79 350 *e*PKPbc **PKPbc 12 44 36.5 +0.2**
BSEG *ep*PKPbc pPKPbc 12 47 00.6 +4.1
BHL Bhannes 146.83 299 *e*P **PKPbc 12 44 37.4 +0.1**
MERS Mersin 146.94 305 *e*P **PKPbc 12 44 37.2 -0.2**
KWP Kalwaria Pacla 146.94 333 *e*PKP **PKPbc 12 44 37.0 0.0**
KWP Kalwaria Pacla 146.94 333⇓ PKP2 **PKPbc 12 44 36.9 0.0**
KWP Kalwaria Pacla 146.94 333 *e*PKPdf **PKPdf 12 44 34.4 +0.6**
KWP *e*PKPbc **PKPbc 12 44 36.9 0.0**
KWP *e*PKPab **PKPab 12 44 40.3 -0.1**
KWP Kalwaria Pacla 146.94 333⇓ *i*P **PKPbc 12 44 36.9 0.0**
KWP Kalwaria Pacla 146.94 333 *e*PKP **PKPbc 12 44 36.9 0.0**
TLCR 146.97 322⇓ PKP2 **PKPbc 12 44 36.8 -0.3**
TLCR 146.97 322⇓ *i*P **PKPbc 12 44 36.8 -0.3**
BBAL Bala 147.02 311 *i* P **PKPbc 12 44 37.3 -0.3**
AFSR Af˙ar-Bala (A 147.09 310 *e*P **PKPbc 12 44 37.7 -0.1**
LOD Lodumlu 147.13 311 *e*P **PKPbc 12 44 38.1 +0.3**
SULT Sultanhani-AKS 147.24 308 *e*P **PKPbc 12 44 37.2 -1.0**
BUR08 Bucovina Ar. S 147.29 329 *e*PKPdf **PKPdf 12 44 34.2 -0.4**
BUR08 *e*PKPbc **PKPbc 12 44 38.4 +0.4**
BUR08 *e*PKPab **PKPab 12 44 42.4 +0.3**
BURAR Bucovina Array 147.30 329⇑ *i*P **PKPbc 12 44 36.4 -1.6**
TESR 147.33 326⇓ *i*P **PKPbc 12 44 37.7 -0.3**
CFR Carcaliu 147.36 323 PKP2 **PKPbc 12 44 38.0 -0.1**
RUE Ruedersdorf 147.46 345 *e*PKPbc **PKPbc 12 44 38.4 +0.3**
EREN Erenkoy 147.61 303 *e*P **PKPbc 12 44 39.0 -0.1**
OJC Ojcow 147.61 337 *i* PKP2 **PKPbc 12 44 38.5 -0.1**
OJC Ojcow 147.61 337 *e*PKIKP **PKPbc 12 44 38.5 -0.1**
TIRR Tirgusor 147.63 322⇓ PKP2 **PKPbc 12 44 38.8 0.0**
TIRR Tirgusor 147.63 322 *e*PKPdf **PKPdf 12 44 34.6 -0.5**
TIRR *e*PKPbc **PKPbc 12 44 38.6 -0.2**
TIRR *e*PKPab **PKPab 12 44 43.5 +0.1**
TIRR Tirgusor 147.63 322⇓ *i*P **PKPbc 12 44 38.8 0.0**
TIRR Tirgusor 147.63 322 P **PKPbc 12 44 38.5 -0.3**
KOLS Kolonicke sedl 147.66 333 *e*PKP2 **PKPbc 12 44 39.2 +0.4**
KOLS Kolonicke sedl 147.66 333 *e*PKP **PKPbc 12 44 39.2 +0.4**
KOLS *e* 12 47 02.9
VRI Vrincioaia 147.71 325⇑ PKIKP **PKPbc 12 44 38.6 -0.4**
VRI Vrincioaia 147.71 325⇑ *i*P **PKPbc 12 44 38.6 -0.4**
EFOR EFORIE 147.73 321⇑ *i*P **PKPbc 12 44 39.2 +0.1**
PLOR Plostina 147.76 325⇑ PKP2 **PKPbc 12 44 39.1 -0.1**
PLOR Plostina 147.76 325⇑ *i*P **PKPbc 12 44 39.1 -0.1**
PHNC Paralimni 147.86 302 P **PKPbc 12 44 40.3 +0.6**
comp=Z,3.2nm,1.1s
UZH Uzhgorod 147.89 333 *e*PKP2 **PKPbc 12 44 39.3 0.0**
MANR Mangalia 147.90 320⇓ *i*P **PKPbc 12 44 40.1 +0.6**
WME Myndd Eilian 147.91 6 *e*P **PKPbc 12 44 37.6 -1.7**
WME Myndd Eilian 147.91 6 P **PKPbc 12 44 37.6 -1.7**
LHO Holmfirth 147.94 3 *e*P **PKPbc 12 44 38.3 -1.1**
LHO Holmfirth 147.94 3 P **PKPbc 12 44 38.3 -1.1**
MDUB Mudurnu 147.96 313 *e*P **PKPbc 12 44 39.6 -0.4**
WLF1 Llynfaes 148.01 6 *e*P **PKPbc 12 44 38.2 -1.3**
WLF1 Llynfaes 148.01 6 P **PKPbc 12 44 38.2 -1.3**
CRVS Cervenica-Dubn 148.03 334 *e*PKP2 **PKPbc 12 44 39.7 0.0**
CRVS Cervenica-Dubn 148.03 334 *e*PKP **PKPbc 12 44 39.7 0.0**

CRVS *e* 12 47 03.7
NIE Niedzica 148.07 336 *i* PKP2 **PKPbc 12 44 40.4 +0.5**
NIE Niedzica 148.07 336 *e*PKIKP **PKPbc 12 44 40.4 +0.5**
AYKD Aykdinkavak 148.07 304 *i* P **PKPdf 12 44 32.0 -4.0**
LADK Ladik-KONYA 148.09 309 *e*P **PKPbc 12 44 39.5 -0.9**
TRPA Tarpa 148.16 332⇑ *i*P **PKPbc 12 44 39.3 -0.7**
KIZT Kizilcal 148.17 310 *e*P **PKPbc 12 44 40.3 -0.2**
LFK Lefkose 148.18 303 *e*P **PKPbc 12 44 40.3 -0.3**
KONT Konya-¨Tatoy 148.19 308 *e*P **PKPbc 12 44 39.7 -0.8**
SVRH Sivrihisar-ESK 148.19 311 *e*P **PKPbc 12 44 39.7 -0.9**
PSN Preselentsi 148.22 321 P **PKPbc 12 44 40.6 +0.3**
ERMK Ermenek 148.23 305 *i* P **PKPbc 12 44 40.6 -0.3**
KBI1 Birley Grange 148.24 3 *e*P **PKPbc 12 44 39.3 -0.8**
KBI1 Birley Grange 148.24 3 P **PKPbc 12 44 39.3 -0.8**
KSP Ksiaz 148.25 341 *e*PKP **PKPbc 12 44 40.5 +0.3**
KSP *e* 12 44 46.3
KSP Ksiaz 148.25 341⇓ *i*PKP2 **PKPbc 12 44 40.5 +0.3**
KSP Ksiaz 148.25 341 *e*PKP **PKPbc 12 44 40.5 +0.3**
KSP *e* 12 44 46.3
ISR Istrita 148.28 324⇑⇑ PKP2 **PKPbc 12 44 40.9 +0.4**
ISR Istrita 148.28 324⇑⇑ *i*P **PKPbc 12 44 40.9 +0.4**
DOPR Dopca 148.34 326⇑⇑ *i*P **PKPbc 12 44 41.3 +0.7**
MLR Muntele Rosu 148.37 325⇑⇑ *i*P **PKPbc 12 44 39.5 -1.3**
CSS Prodhromos 148.43 302 P **PKPbc 12 44 40.9 -0.3**
CSS Prodhromos 148.43 302 *e*P **PKPbc 12 44 40.8 -0.3**
CSS Prodhromos 148.43 302 *e*PKPdf **PKPdf 12 44 36.3 -0.4**
CSS *e*PKPbc **PKPbc 12 44 40.7 -0.4**
CSS *e*PKPab **PKPab 12 44 46.6 -0.4**
GULT Gulveren 148.44 314 *e*P **PKPbc 12 44 40.7 -0.4**
SPNC Sapanca-Adapaz 148.46 314 *e*P **PKPbc 12 44 43.2 +2.2**
OKC Ostrava-Krasne 148.52 338⇑⇑ PKP **PKPbc 12 44 40.9 0.0**
OKC *e*PKPAB **PKPab 12 44 47.3 +0.3**
OKC *ep*PKP **pPKPdf 12 47 05.0 +5.6**
SECR 148.59 324⇑⇑ *i*P **PKPbc 12 44 41.2 -0.1**
UPC Upice 148.63 341⇑⇑ *e*PKP **PKPbc 12 44 41.4 +0.2**
UPC *e*PKPAB **PKPab 12 44 47.4 +0.1**
UPC *ep*PKP **pPKPdf 12 47 05.0 +5.4**
SILT Sile 148.67 315 *e*P **PKPbc 12 44 40.8 -0.8**
DPC Dobruska-Polom 148.68 341 *e*PKPDF **PKPdf 12 44 37.5 +0.8**
DPC ⇑⇑ *i*PKP **PKiKP 12 44 41.8 -0.5**
DPC *e*PKPAB **PKPab 12 44 48.3 +0.7**
DPC *ep*PKP **pPKPdf 12 47 05.4 +5.7**
CLL Collm 148.72 345 *e*PKHKP PKPpre 12 44 37.0
CLL *i* 12 44 47.4
CLL pmax pmax
comp=Z,21nm,1.2s
CLL pmax pmax
comp=Z,137nm,0.8s
CLL Collm 148.72 345 *e*PKPbc **PKPbc 12 44 41.5 +0.2**
CLL *e*PKPab **PKPab 12 44 47.5 -0.2**
CLL *ep*PKPbc **pPKPbc 12 47 05.5 +3.1**
CLL Collm 148.72 345 *e*PKPdf **PKPdf 12 44 37.0 +0.3**
CLL ⇓⇓ *i*PKPbc **PKPbc 12 44 41.3 0.0**
comp=Z,137nm,1.2s
CLL ⇑⇑ *i*PKPab **PKPab 12 44 47.4 -0.2**
comp=Z,39nm,0.8s
CLL *e*SKPbc **SKiKP 12 47 22.0 +1.4**
LEF Lefka 148.73 303 *e*P **PKPbc 12 44 41.6 -0.3**
BORA Eskisehir 148.74 313 *i* P **PKPbc 12 44 41.5 -0.4**
IBBN Ibbenburen 148.76 352 *e*PKPbc **PKPbc 12 44 41.5 +0.1**
IBBN *ep*PKPbc **pPKPbc 12 47 05.6 +3.1**
MORC Moravsky Berou 148.78 339⇑⇑ PKHKP **PKPdf 12 44 41.5 +4.6**
MORC Moravsky Berou 148.78 339 *e*PKPdf **PKPdf 12 44 36.7 -0.2**
MORC *e*PKPbc **PKPbc 12 44 41.7 +0.1**
MORC *e*PKPab **PKPab 12 44 48.1 +0.1**
MORC Moravsky Berou 148.78 339⇑⇑ *i*P **PKPdf 12 44 41.5 +4.6**
CLZ Clausthal 148.78 348 *e*PKPbc **PKPbc 12 44 41.9 +0.4**
CLZ *ep*PKPbc **pPKPbc 12 47 06.0 +3.4**
HRT Hereke 148.82 315 *e*P **PKPbc 12 44 41.2 -0.8**
LIKS Likavka 148.83 336 *e*PKP2 **PKPbc 12 44 42.6 +0.9**
LIKS Likavka 148.83 336 *e*PKP **PKPbc 12 44 42.6 +0.9**
SZAC Souni-Zanaja 148.84 302 P **PKPbc 12 44 42.2 0.0**
VOIR 148.87 326⇓⇓ *i*P **PKPbc 12 44 41.8 -0.2**
BRG Berggiesshubel 148.89 344 *e*PKP **PKPdf 12 44 37.1 +0.2**
comp=Z,8.4nm,1.1s
BRG *i* 12 44 41.7
comp=Z,114nm,1.4s
BRG *i* 12 44 48.3
comp=Z,22nm,0.8s
BRG *i* PKP **pPKPdf 12 47 05.7 +5.7**
comp=Z,58nm,1.7s
BRG *e* 12 55 09.4
comp=Z,1.7nm,0.7s
BRG Berggiesshubel 148.89 344 *e*PKHKP PKPpre 12 44 37.1
BRG *i* 12 44 48.3
BRG pmax pmax
comp=Z,19nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG pmax pmax
comp=Z,114nm,0.8s
BRG pmax pmax
comp=Z,22nm,1.7s
BRG pmax pmax
comp=Z,58nm,0.7s
BRG Berggiesshubel 148.89 344 *e*PKPbc **PKPbc 12 44 42.0 +0.2**
BRG *e*PKPab **PKPab 12 44 48.4 +0.1**
BRG *ep*PKPbc **pPKPbc 12 47 06.2 +3.3**
BOLV Bolvadin 148.90 310 *i* P **PKPbc 12 44 41.9 -0.5**
HLM1 Long Mynd 148.90 4 *e*P **PKPbc 12 44 40.2 -1.6**
HLM1 Long Mynd 148.90 4 P **PKPbc 12 44 40.2 -1.6**
ALFC Alevga 148.94 303 P **PKPbc 12 44 41.7 -0.8**
comp=Z,3.3nm,0.3s
PRD Provadia 148.97 320 P **PKPbc 12 44 42.4 +0.2**
NEF NEVSHA 149.00 321 P **PKPbc 12 44 42.4 +0.1**
CAVI Cavuskoy 149.00 314 *e*P **PKPbc 12 44 42.1 -0.3**
PVCC Panska Ves 149.03 343⇑ *i*PKP **PKPbc 12 44 42.6 +0.5**
PVCC *e*PKPAB **PKPab 12 44 49.6 +0.6**
PVCC *ep*PKP **pPKPdf 12 47 06.5 +6.3**
DRGR 149.08 330⇑⇑ *i*P **PKPbc 12 44 42.6 +0.1**
DRGR 149.08 330 P **PKPbc 12 44 42.1 -0.4**
ISK Istanbul-Kandi 149.10 316 *e*P **PKPbc 12 44 41.6 -1.0**
ARR Arges 149.14 326⇓⇓ *i*P **PKPdf 12 44 38.1 +0.5**
YLV Yalova 149.14 315 *e*P **PKPbc 12 44 43.2 +0.4**
BUY Buyukada 149.17 315 *i* P **PKPbc 12 44 41.9 -0.8**
AKMC Akamas 149.19 303 P **PKPbc 12 44 42.1 -0.9**
WTSB Winterswijk 149.21 353 *e*PKP **PKPbc 12 44 42.4 -0.1**
WTSB *ep*PKP **pPKPdf 12 47 06.2 +5.7**
SHUT Suhut-Afyon 149.25 310 *e*P **PKPbc 12 44 43.2 0.0**
ALT Altintas 149.34 311 *e*P **PKPbc 12 44 42.8 -0.6**
CTKS Kestanelik-??a 149.37 316 *e*P **PKPbc 12 44 42.7 -0.5**
VYHS Vyhne 149.39 336 *e*PKP **PKPbc 12 44 43.0 -0.1**
VYHS *e* 12 44 51.0
VYHS *e* 12 47 06.9
MCH1 Michaelchurch 149.41 4 *e*P **PKPbc 12 44 40.3 -2.6**
MCH1 Michaelchurch 149.41 4 P **PKPbc 12 44 40.3 -2.6**
PSZ Piszkesteto 149.44 334⇓⇓ PKHKP **PKPbc 12 44 43

NKC ePKP **pPKPdf** 12 47 07.9 +6.3
TREC Trest 149.86 341 ⇑iPKP **PKPbc** 12 44 44.2 0.0
TREC ePKPAB **PKPab** 12 44 52.4 -0.1
TREC epPKP **pPKPdf** 12 47 07.8 +6.1
JMB Yambol 149.88 320 P **PKPbc** 12 44 44.9 +0.5
SMOL Smolenice 149.89 338 ePKP **PKPbc** 12 44 45.1 +0.9
SMOL e 12 44 53.5
SMOL e 12 47 08.5
KORT Korkueli 150.02 308 iP **PKPbc** 12 44 44.3 -0.8
KHL Karahalli 150.08 311 eP **PKPbc** 12 44 44.9 -0.2
KHAL Karahalli 150.08 311 iP **PKPbc** 12 44 44.7 -0.4
DST Dursunbey 150.12 313 eP **PKPbc** 12 44 43.3 -1.8
EDRB Edirne 150.14 319 eP **PKPbc** 12 44 44.6 -0.4
ROTZ Rotzenmuhle 150.34 345 ePKPbc **PKPbc** 12 44 45.5 +0.3
ROTZ epPKPbc **pPKPbc** 12 47 09.6 +2.8
ELSH Elham, Standar 150.40 359 eP **PKPbc** 12 44 45.2 -0.1
ELSH Elham, Standar 150.40 359 P **PKPbc** 12 44 45.2 -0.1
ELL Elmali 150.45 307 eP **PKPbc** 12 44 45.7 -0.4
BZS Buzias 150.46 329 ⇓PKIKP **PKPbc** 12 44 45.5 -0.1
BZS Buzias 150.46 329 ⇓iP **PKPbc** 12 44 45.5 -0.1
BEBN Eben Emael 150.49 354 PKPbc **PKPbc** 12 44 45.6 +0.1
BEBN PKPab **PKPab** 12 44 54.7 -0.3
BEBN APKP **pPKPdf** 12 47 09.6 +7.0
HGN Heimansgroeve 150.50 353 ePKP **PKPbc** 12 44 45.2 -0.4
HGN epPKP **pPKPdf** 12 47 08.8 +6.3
KHC Kasperske Hory 150.57 343 ePKIKP **PKPdf** 12 44 39.3 -0.4
KHC e 12 44 55.8
KHC Kasperske Hory 150.57 343 ePKPbc **PKPbc** 12 44 46.0 +0.1
KHC ePKPab **PKPab** 12 44 55.6 +0.1
KHC Kasperske Hory 150.57 343 ePKPDF **PKPdf** 12 44 39.3 -0.4
KHC ⇑iPKP **PKPbc** 12 44 45.8 0.0
KHC ePKPAB **PKPab** 12 44 55.8 +0.3
KHC epPKP **pPKPdf** 12 47 09.7 +6.9
BALB Balikesir 150.59 314 eP **PKPbc** 12 44 44.6 -1.5
KULA Kula-Manisa 150.60 311 eP **PKPbc** 12 44 44.9 -1.4
MEM Membach 150.64 353 PKPbc **PKPbc** 12 44 45.8 0.0
MEM PKPab **PKPab** 12 44 54.7 -1.0
MEM APKPbc 12 47 09.9
MEM APKPab 12 47 11.4
GRF Grafenberg Arr 150.65 346 ePKIKP **PKPbc** 12 44 46.1 +0.1
GRF Grafenberg Arr 150.65 346 ePKPbc **PKPbc** 12 44 46.1 +0.1
GRF ePKPab **PKPab** 12 44 56.2 +0.4
GRF epPKPbc **pPKPbc** 12 47 09.9 +2.4
DENT Denizli 150.67 310 eP **PKPbc** 12 44 46.7 +0.3
TNS Taunus Mts 150.68 350 ePKIKP **PKPbc** 12 44 46.2 +0.1
TNS Taunus Mts 150.68 350 ePKPbc **PKPbc** 12 44 46.2 +0.1
TNS ePKPab **PKPab** 12 44 55.5 -0.4
TNS epPKPbc **pPKPbc** 12 47 10.3 +2.6
DNZL Cakiroluk 150.69 310 iP **PKPbc** 12 44 46.8 +0.1
BALY Balya 150.72 314 iP **PKPbc** 12 44 45.8 -0.7
WET Wettzell 150.75 344 ePKIKP **PKPbc** 12 44 46.2 0.0
WET Wettzell 150.75 344 ePKPbc **PKPbc** 12 44 46.2 0.0
WET ePKPab **PKPab** 12 44 56.7 +0.5
DIM Dimitrovgrad 150.76 320 P **PKPbc** 12 44 46.3 -0.1
GERES GERESS Array B 150.79 342 PKP **PKPdf** 12 44 39.6 -0.5
comp=Z,1.8nm,0.8s,baz=48,slow=1.5,SNR=11
GERES PKPbc **PKPbc** 12 44 46.0 -0.5
comp=Z,31nm,0.8s,baz=48,slow=2.0,SNR=112
GERES GERESS Array B 150.79 342 PKP **PKPdf** 12 44 39.6 -0.5
GERES PKPbc **PKPbc** 12 44 46.0 -0.5
BCLA Clavier 150.90 354 PKPbc **PKPbc** 12 44 46.0 -0.5
BCLA PKPab **PKPab** 12 44 55.0 -1.7
SNF Seneffe 150.90 355 PKPbc **PKPbc** 12 44 46.5 0.0
SNF PKPab **PKPab** 12 44 55.0 -1.8
CONA Conrad Observa 150.94 339 ⇑iPKPdf **PKPdf** 12 44 40.1 -0.2
comp=Z,4.9nm,0.8s
CONA iPKiKP **PKPbc** 12 44 46.8 0.0
comp=Z,55nm,0.7s,SNR=30
CONA ⇑iPKPab **PKPab** 12 44 57.1 0.0
comp=Z,36nm,0.8s
LPK Lapseki 150.95 316 eP **PKPdf** 12 44 42.7 +2.3
MPEP Malo Peshtene 150.96 324 P **PKPbc** 12 44 46.7 -0.2
AKHS Akhisar 151.01 313 iP **PKPbc** 12 44 46.5 -0.6
AKS Akhisar 151.01 313 eP **PKPdf** 12 44 43.0 +2.3
KDZ Kurdzhali 151.06 320 P **PKPbc** 12 44 47.2 0.0
FETY Fethiye 151.10 308 eP **PKPbc** 12 44 46.9 -0.5
GELI Tayfur-Gelibol 151.12 317 eP **PKPbc** 12 44 46.4 -0.9
ENEZ Enez 151.14 317 eP **PKPbc** 12 44 46.4 -0.9
PGB Panagyurishte 151.24 322 P **PKPbc** 12 44 47.2 -0.4
DOU Dourbes 151.29 355 PKPbc **PKPbc** 12 44 47.3 0.0
DOU PKPab **PKPab** 12 44 57.9 -0.5
DOU APKP pPKPdf 12 47 11.1 +7.2
PKSM Moragy 151.32 334 ⇓PKIKP **PKPbc** 12 44 47.0 -0.6
PKSM Moragy 151.32 334 ⇓iP **PKPbc** 12 44 47.0 -0.6
RZN Rozhen 151.46 320 P **PKPbc** 12 44 47.5 -0.8
MOA Molln 151.52 341 ⇑iPKPdf **PKPdf** 12 44 40.5 -0.7
comp=Z,3.4nm,1.1s
MOA iPKPbc **PKPbc** 12 44 47.6 -0.4
comp=Z,16nm,0.6s,SNR=14
MOA ⇑iPKPab **PKPab** 12 45 00.0 +0.5
comp=Z,26nm,1.1s
WLF Walferdange 151.55 353 PKPbc **PKPbc** 12 44 48.7 +0.7
WLF PKPab **PKPab** 12 44 59.6 +0.2
WLF Walferdange 151.55 353 ePKIKP **PKPdf** 12 44 42.1 +1.0
WLF e 12 44 59.7
WLF Walferdange 151.55 353 ePKPbc **PKPbc** 12 44 48.5 +0.5
WLF epPKPbc **pPKPbc** 12 47 12.8 +3.1
WLF Walferdange 151.55 353 ePKPdf **PKPdf** 12 44 42.0 +1.0
WLF ePKPbc **PKPbc** 12 44 48.6 +0.7
WLF ePKPab **PKPab** 12 44 59.7 +0.2
IZM Izmir 151.62 312 eP **PKPbc** 12 44 47.8 -0.7
VTS Vitosha 151.76 323 ⇓PKIKP **PKPbc** 12 44 48.0 -0.9
VTS Vitosha 151.76 323 ⇓iP **PKPbc** 12 44 48.0 -0.9
VTS Vitosha 151.76 323 P **PKPbc** 12 44 48.4 -0.5
MLSB Milas 151.77 310 eP **PKPbc** 12 44 48.8 -0.1
STU Stuttgart 151.94 348 ePKIKP **PKPdf** 12 44 41.4 -0.3
STU e 12 45 01.1
STU Stuttgart 151.94 348 ePKPbc **PKPbc** 12 44 48.9 0.0
STU ePKPab **PKPab** 12 45 01.1 -0.1
STU epPKPbc **pPKPbc** 12 47 13.1 +2.4
STU Stuttgart 151.94 348 ePKPdf **PKPdf** 12 44 41.4 -0.3
STU ePKPbc **PKPbc** 12 44 48.9 0.0
STU ePKPab **PKPab** 12 45 01.1 -0.1
LANF Langenberg 151.99 350 PKP **PKPdf** 12 44 42.8 +1.0
RJOB Jochberg 152.06 342 ePKPbc **PKPbc** 12 44 48.8 -0.4
RJOB ePKPab **PKPab** 12 45 02.4 +0.6
RJOB epPKPbc **pPKPbc** 12 47 12.9 +1.8
FUR Furstenfeldbru 152.06 345 ePKP2 **PKPab** 12 45 02.1 +0.3
FUR Furstenfeldbru 152.06 345 ePKPbc **PKPbc** 12 44 49.2 0.0
FUR ePKPab **PKPab** 12 45 02.1 +0.3
FUR epPKPbc **pPKPbc** 12 47 13.2 +2.2
MMB Musomiste 152.10 321 P **PKPbc** 12 44 48.8 -0.7
BODT Bodrum 152.21 310 eP **PKPbc** 12 44 49.0 -0.9
JSA Saint Aubin 152.27 4 eP **PKPbc** 12 44 48.4 -1.1
JSA Saint Aubin 152.27 4 P **PKPbc** 12 44 48.4 -1.1
SOKA Soboth 152.30 338 ⇑iPKPdf **PKPdf** 12 44 41.3 -1.1
comp=Z,1.7nm,0.6s
SOKA ⇑iPKPbc **PKPbc** 12 44 49.0 -0.9
comp=Z,30nm,1.0s
SOKA ⇑iPKPab **PKPab** 12 45 02.9 -0.1
comp=Z,28nm,1.2s
KBA Koelnbreinsper 152.49 341 iPKPbc **PKPbc** 12 44 49.5 -0.8
comp=Z,33nm,1.1s,SNR=7.7
KBA ⇑iPKPab **PKPab** 12 45 04.5 +0.6
comp=Z,13nm,0.5s
BFO Black Forest 152.53 349 ePKP2 **PKPab** 12 45 03.4 -0.4
BFO Black Forest 152.53 349 ePKPbc **PKPbc** 12 44 49.9 -0.3
BFO ePKPab **PKPab** 12 45 03.4 -0.4
BFO epPKPbc **pPKPbc** 12 47 14.2 +2.1
BFO Black Forest 152.53 349 ePKPbc **PKPbc** 12 44 50.1 -0.1
BFO ePKPab **PKPab** 12 45 03.1 -0.7
WATA Walderalm 152.75 344 ⇑iP **PKPdf** 12 44 46.6 +3.5
WATA Walderalm 152.75 344 ⇑iPKPbc **PKPbc** 12 44 50.5 -0.4
comp=Z,9.6nm,0.4s
MYKA Terra Mystica 152.80 340 ⇑iPKPdf **PKPdf** 12 44 42.2 -0.9
comp=Z,6.6nm,1.2s
MYKA ⇓iPKPbc **PKPbc** 12 44 49.9 -1.0
comp=Z,12nm,0.5s
MYKA ⇑iPKPab **PKPab** 12 45 04.4 -0.6
comp=Z,17nm,0.6s
WTTA Wattenberg 152.81 344 ⇑iPKIKP **PKPdf** 12 44 42.8 -0.4
WTTA Wattenberg 152.81 344 ⇑iP **PKPdf** 12 44 42.8 -0.4
WTTA Wattenberg 152.81 344 ⇑iPKPdf **PKPdf** 12 44 42.8 -0.4
comp=Z,9.5nm,1.0s
WTTA ⇓iPKPbc **PKPbc** 12 44 50.2 -0.8
comp=Z,18nm,0.4s
WTTA ⇑iPKPab **PKPab** 12 45 05.4 +0.3
comp=Z,55nm,1.2s
MOTA Moosalm 152.87 344 ⇑iPKIKP **PKPdf** 12 44 42.6 -0.7
MOTA Moosalm 152.87 344 ⇑iP **PKPdf** 12 44 42.6 -0.7
MOTA Moosalm 152.87 344 ⇑iPKPdf **PKPdf** 12 44 42.6 -0.7
comp=Z,16nm,1.1s
MOTA ⇓iPKPbc **PKPbc** 12 44 50.2 -0.9
comp=Z,40nm,1.1s
MOTA ⇓iPKPab **PKPab** 12 45 05.1 -0.3
comp=Z,9.0nm,0.5s
ABTA Abfaltersbach 153.04 342 ⇑iP **PKPdf** 12 44 42.5 -0.9
ABTA Abfaltersbach 153.04 342 ⇑iPKPdf **PKPdf** 12 44 42.5 -0.9
comp=Z,10nm,0.8s
ABTA ⇑iPKPbc **PKPbc** 12 44 50.3 -1.1
comp=Z,51nm,1.1s
DAVOX Davos/Dischmat 153.69 346 PKPbc **PKPbc** 12 44 52.5 -0.5
baz=63,slow=7.7
DAVOX PKPab **PKPab** 12 45 09.1 +0.1
baz=336,slow=4.5
DAVOX Davos/Dischmat 153.69 346 PKPbc **PKPbc** 12 44 52.5 -0.5
DAVOX PKPab **PKPab** 12 45 09.2 +0.1
TUE Stuetta 154.10 346 ePKPdf **PKPdf** 12 44 45.1 -0.1
TUE ePKPbc **PKPbc** 12 44 53.6 -0.3
TUE ePKPab **PKPab** 12 45 11.0 +0.2
IDI Anoyia 154.75 308 ePKPdf **PKPdf** 12 44 45.7 -0.5
MVO Moncorvo 159.32 17 ePKPdf **PKPdf** 12 44 52.3 +0.6
MVO Moncorvo 159.32 17 ePKPab **PKPab** 12 45 33.4 0.0
PCBR Castelo Branco 160.42 19 ePKPdf **PKPdf** 12 44 53.2 +0.4
PCBR Castelo Branco 160.42 19 ePKPab **PKPab** 12 45 37.5 -0.6
PMRV Marv??o 160.82 19 ePKPdf **PKPdf** 12 44 53.3 0.0
PMRV Marv??o 160.82 19 ePKPab **PKPab** 12 45 39.6 -0.4
PMTG Montargil 160.88 22 ePKPab **PKPab** 12 45 39.2 -1.0
ESDC Sonseca Array 161.44 11 PKP **PKPdf** 12 44 53.5 -0.5
comp=Z,0.1nm,0.3s,baz=346,slow=2.6,SNR=6.7
ESDC PKPab **PKPab** 12 45 40.7 -2.0
comp=Z,1.6nm,0.8s,baz=344,slow=3.9,SNR=6.4
ESDC Sonseca Array 161.44 11 PKP **PKPdf** 12 44 53.5 -0.5
ESDC PKPab **PKPab** 12 45 40.7 -2.0
PNCL Nicolau / Gran 161.62 24 ePKPdf **PKPdf** 12 44 54.5 +0.4
PNCL Nicolau / Gran 161.62 24 ePKPab **PKPab** 12 45 43.0 -0.4
PCVE Castro Verde 162.22 23 ePKPdf **PKPdf** 12 44 55.8 +1.0
PCVE Castro Verde 162.22 23 ePKPab **PKPab** 12 45 46.1 0.0
BBTS Babate 162.27 110 PKPab **PKPab** 12 45 48.0 +0.9
comp=Z,24nm,0.7s,baz=220,slow=1.1,SNR=4.1
BBTS Babate 162.27 110 PKPab **PKPab** 12 45 48.0 +0.9
MORF Marmelete 162.27 25 ePKPdf **PKPdf** 12 44 55.9 +1.0
MORF Marmelete 162.27 25 ePKPab **PKPab** 12 45 45.8 -0.6
PVAQ Vaqueiros 162.54 23 ePKPdf **PKPdf** 12 44 55.4 +0.3
PVAQ Vaqueiros 162.54 23 ePKPab **PKPab** 12 45 47.7 +0.2
PBDV Barranco-do-Ve 162.60 24 ePKPdf **PKPdf** 12 44 56.3 +1.1
PBDV Barranco-do-Ve 162.60 24 ePKPab **PKPab** 12 45 46.3 -1.6
KEST Kesra 163.92 334 PKPab **PKPab** 12 45 53.4 -0.4
comp=Z,9.9nm,0.9s,baz=308,slow=1.9,SNR=13
KEST Kesra 163.92 334 PKPab **PKPab** 12 45 53.4 -0.4
DBIC Dimbokro 164.32 159 PKP **PKPdf** 12 44 56.6 -0.8
comp=Z,9.5nm,0.7s,baz=171,slow=2.1,SNR=18
DBIC PKPab **PKPab** 12 45 57.0 +1.2
comp=Z,4.8nm,0.6s,baz=194,slow=5.3,SNR=7.2
DBIC Dimbokro 164.32 159 PKP **PKPdf** 12 44 56.6 -0.8
DBIC PKPab **PKPab** 12 45 57.0 +1.2
MDT Midelt 167.77 22 PKP **PKPdf** 12 44 59.8 0.0
comp=Z,4.8nm,0.9s,baz=12,slow=3.4,SNR=10.0
MDT PKPab **PKPab** 12 46 10.4 -0.5
comp=Z,2.2nm,0.7s,baz=310,slow=6.0,SNR=5.9
MDT Midelt 167.77 22 PKP **PKPdf** 12 44 59.8 0.0
MDT PKPab **PKPab** 12 46 10.4 -0.5
TOA0 Torodi Ar. Sit 171.65 187 ePKPdf **PKPdf** 12 45 01.5 -0.8
TOA0 ePKPab **PKPab** 12 46 28.3 +0.1
TORD Torodi Ar. Bea 171.65 187 PKP **PKPdf** 12 45 00.7 -1.6
comp=Z,7.9nm,0.8s,baz=267,slow=2.5,SNR=49
TORD PKPab **PKPab** 12 46 28.4 +0.2
comp=Z,7.9nm,0.8s,baz=171,slow=3.8,SNR=19
TORD PP **PP** 12 50 18.4 -0.3
comp=Z,2.3nm,0.7s,baz=166,slow=4.5,SNR=6.2
TORD Torodi Ar. Bea 171.65 187 PKP **PKPdf** 12 45 00.7 -1.6
TORD PKPab **PKPab** 12 46 28.4 +0.2
TORD PP **PP** 12 50 18.4 -0.3
TAM Tamanrasset 175.35 287 ePKIKP **PKPdf** 12 45 04.5 +0.9
TAM Tamanrasset 175.35 287 ePKPdf **PKPdf** 12 45 04.5 +0.9

*ISCJB **20** 12:28:25.1±0.3,21°.34S±0°.10×179°.39W±0°.07,h604km, mb4.5/44, Error ellipse: s-maj=13.8km s-min=6.6km az=157.3*
*IDC **20** 12:28:28.8±2.6,21°.37S×179°.42W,h642km±31km, mb4.1/22,mb1 4.2/23,mb1mx4.1/28,mbtmp4.1/23,Error ellipse: s-maj=17.4km s-min=13.8km az=107.0*
*NEIC **20** 12:28:30.2±0.9,21°.47S×179°.51W,h662km±11km, mb4.5/22, Error ellipse: s-maj=10.5km s-min=7.0km az=158.0*

ISC 20 12:28:25.0±0.4,**21°.53S**±0°.08×**179°.32W**±0°.07,**h604**km, **n146,σ1°30/160,mb4.6**/43,**4C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.44**	**45**	S		S	12 32 38.7	-7.3
	8.3nm,0.3s,baz=139,slow=15,SNR=5.4							
DZM	**Mont Dzumac**	**13.24**	**265**	P	P	P	**12 31 17.4**	**+1.0**
	9.4nm,0.3s,baz=78,slow=18,SNR=9.7							
DZM	**Mont Dzumac**	**13.24**	**265**	P	P	P	**12 31 17.4**	**+1.0**
URZ	**Urewera**	**16.96**	**190**	S	S	S	**12 34 34.0**	**-4.2**
	0.7nm,0.3s,baz=40,slow=19,SNR=3.6							
URZ	**Urewera**	**16.96**	**190**	eP	P	P	**12 31 52.3**	**+1.5**
URZ				S	S	S	12 34 34.0	-4.2
HNR	**Honiara**	**23.28**	**298**	P	P	P	**12 32 47.8**	**-0.2**
	50nm,0.5s,baz=140,slow=2.1,SNR=4.2							
HNR	**Honiara**	**23.28**	**298**	P	P	P	**12 32 47.8**	**-0.2**
EIDS	**Eidsvold**	**27.40**	**256**	eP	P	P	**12 33 25.9**	**+1.7**
CTA	**Charters Tower**	**32.18**	**266**	P	P	P	**12 34 06.7**	**+1.4**
	84nm,0.5s,baz=96,slow=10,SNR=24							
CTA	**Charters Tower**	**32.18**	**266**	P	P	P	**12 34 06.7**	**+1.4**
PMG	**Port Moresby**	**34.40**	**285**	P	P	P	**12 34 24.4**	**+0.5**
	87nm,0.8s,baz=86,slow=5.7,SNR=8.7							
PMG	**Port Moresby**	**34.40**	**285**	P	P	P	**12 34 24.4**	**+0.5**
STKA	**Stephens Creek**	**36.24**	**245**	P	P	P	**12 34 40.9**	**+2.0**
	30nm,0.4s,baz=91,slow=8.9,SNR=8.4							
STKA	**Stephens Creek**	**36.24**	**245**	P	P	P	**12 34 40.9**	**+2.0**
COEN	**Coen**	**36.44**	**276**	eP	P	P	**12 34 42.1**	**+1.4**
ASAR	**Alice Springs**	**43.09**	**258**	P	P	P	**12 35 34.8**	**+1.0**
	73nm,0.8s,baz=90,slow=7.8,SNR=13							
ASAR					ScP	**ScP**	**12 40 05.0**	**+1.0**
	6.4nm,0.8s,baz=91,slow=4.8,SNR=4.0							
ASAR					S	**S**	**12 41 15.6**	**-1.9**
	5.0nm,0.8s,baz=94,slow=15,SNR=4.6							
ASAR	**Alice Springs**	**43.09**	**258**	P	P	P	**12 35 34.8**	**+1.0**
ASAR					ScP	**ScP**	**12 40 05.0**	**+1.0**
ASAR					S	**S**	**12 41 15.6**	**-1.9**
WRA	**Warramunga Arr**	**43.25**	**263**	P	P	P	**12 35 35.2**	**+0.3**
	39nm,0.6s,baz=95,slow=7.5,SNR=9.7							
WRA					S	**S**	**12 41 16.5**	**-3.2**
	3.8nm,0.8s,baz=104,slow=15,SNR=4.6							
WRA	**Warramunga Arr**	**43.25**	**263**	P	P	P	**12 35 35.2**	**+0.3**
WRA					S	**S**	**12 41 16.5**	**-3.2**
FITZ	**Fitzroy Crossi**	**51.68**	**264**	P	P	P	**12 36 38.6**	**+0.8**
	8.8nm,0.3s,baz=58,slow=5.2,SNR=4.4							
FITZ	**Fitzroy Crossi**	**51.68**	**264**	P	P	P	**12 36 38.6**	**+0.8**
QSPA	**South Pole Qui**	**68.55**	**180**	P	P	P	**12 38 30.1**	**+1.8**
	24nm,0.8s,baz=37,slow=1.7,SNR=7.4							
QSPA	**South Pole Qui**	**68.55**	**180**	P	P	P	**12 38 30.1**	**+1.8**
MJAR	**Matsushiro Arr**	**70.32**	**325**	P	P	P	**12 38 38.9**	**-0.2**
	2.8nm,0.6s,baz=150,slow=5.3,SNR=6.3							
MJAR	**Matsushiro Arr**	**70.32**	**325**	P	P	P	**12 38 39.0**	**-0.2**
ASAJ	**Asahikawa**	**74.05**	**332**	P	P	P	**12 39 00.2**	**-0.2**
	13nm,0.9s,baz=180,slow=4.0,SNR=3.9							
ASAJ	**Asahikawa**	**74.05**	**332**	P	P	P	**12 39 00.2**	**-0.2**
PETK	**Petropavlovsk-**	**76.95**	**346**	P	P	P	**12 39 15.9**	**-0.3**
	9.5nm,0.7s,baz=150,slow=6.8,SNR=4.7							
PETK	**Petropavlovsk-**	**76.95**	**346**	P	P	P	**12 39 15.9**	**-0.3**
USRK	**Ussuriysk Arra**	**79.12**	**327**	P	P	P	**12 39 29.7**	**+1.6**
	3.7nm,0.7s,baz=132,slow=2.9,SNR=5.6							
MWC	**Mount Wilson**	**80.40**	**47**	eP	P	P	**12 39 35.6**	**+0.4**
	5.7nm,0.8s							
KHMM	**Horse Mountain**	**80.72**	**39**	eP	P	P	**12 39 38.1**	**+1.4**
	24nm,1.0s							
CMB	**Columbia Colle**	**81.05**	**43**	eP	P	P	**12 39 38.9**	**+0.6**
	27nm,1.3s							
PFO	**Pinyon Flat Ob**	**81.17**	**49**	eP	P	P	**12 39 39.5**	**+0.4**
	2.8nm,0.8s							
WDC	**Whiskeytown Da**	**81.25**	**40**	eP	P	P	**12 39 39.9**	**+0.7**
	30nm,1.3s							
GSC	**Goldstone**	**81.86**	**47**	eP	P	P	**12 39 43.2**	**+0.7**
YBH	**Yreka Blue Hor**	**81.86**	**39**	P	P	P	**12 39 43.6**	**+1.2**
	15nm,0.8s,baz=202,slow=2.1,SNR=12							
YBH	**Yreka Blue Hor**	**81.86**	**39**	P	P	P	**12 39 43.6**	**+1.2**
GLA	**Glamis**	**82.03**	**50**	eP	P	P	**12 39 44.4**	**+1.0**
	21nm,1.0s							
WCN	**Washoe City**	**82.19**	**42**	eP	P	P	**12 39 45.0**	**+0.7**
	13nm,0.9s							
HUMO	**Hull Mountain**	**82.26**	**38**	eP	P	P	**12 39 45.7**	**+1.4**
	23nm,1.1s							
NVAR	**Mina Array Bea**	**82.61**	**44**	P	P	P	**12 39 47.1**	**+0.6**
	14nm,0.9s,baz=226,slow=8.3,SNR=12							
NVAR				PKPPKP	P'P'df		13 06 19.7	+9.0
	2.7nm,1.0s,baz=68,slow=4.1,SNR=13							
NVAR	**Mina Array Bea**	**82.61**	**44**	P	P	P	**12 39 47.1**	**+0.6**
NVAR				P'P'			13 06 19.7	
NV11	**Mina Array Sit**	**82.71**	**44**	eP	P	P	**12 39 47.5**	**+0.6**
LDFC	**Landfair**	**82.90**	**48**	eP	P	P	**12 39 49.0**	**+1.2**
	62nm,1.2s							
MOD	**Modoc**	**83.39**	**40**	eP	P	P	**12 39 50.6**	**+0.5**
TUC	**Tucson**	**84.58**	**52**	eP	P	P	**12 39 57.4**	**+1.3**
	36nm,2.0s							
CCUT	**Cedar City**	**85.41**	**47**	eP	P	P	**12 40 00.8**	**+0.6**
	7.0nm,1.0s							
ARUT	**Antelope Range**	**85.48**	**46**	eP	P	P	**12 40 00.6**	**+0.2**
WUAZ	**Wupatki**	**85.74**	**49**	eP	P	P	**12 40 01.9**	**+0.2**
	3.6nm,0.8s							
ELK	**Elko**	**85.87**	**43**	eP	P	P	**12 40 02.5**	**+0.2**
HAWA	**Hanford**	**86.50**	**37**	eP	P	P	**12 40 05.7**	**+0.8**
MSU	**Marysvale**	**86.70**	**46**	eP	P	P	**12 40 07.7**	**+1.4**
BMO	**Blue Mountains**	**86.88**	**39**	eP	P	P	**12 40 07.4**	**+0.6**
VNA3	**Neumayer Olymp**	**87.20**	**177**	eWP			12 40 08.3	
VNA2	**Neumayer--Watz**	**87.62**	**177**	eWP			12 40 10.5	
	baz=190,slow=3.3							
TRF	**Thorofare Moun**	**87.71**	**13**	eP	P	P	**12 40 09.0**	**-1.3**
TMUT	**Trail Mountain**	**87.75**	**46**	eP	P	P	**12 40 12.6**	**+1.3**
VNA1	**Neumayer--Stat**	**87.86**	**177**	eWP			12 40 11.8	
HLID	**Hailey**	**87.91**	**41**	eP	P	P	**12 40 12.6**	**+0.9**
HVU	**Hansel Valley**	**87.99**	**43**	eP	P	P	**12 40 12.9**	**+0.7**
	10nm,0.9s							
SRU	**San Rafael**	**88.12**	**47**	eP	P	P	**12 40 13.8**	**+0.9**
JLU	**Jordanelle**	**88.25**	**45**	eP	P	P	12 40 06.0	-7.5
	9.3nm,1.6s							
JLU				eP	**PcP**	**PcP**	**12 40 14.3**	**-0.3**
LENM	**Lemitar**	**88.27**	**52**	eP	P	P	**12 40 14.7**	**+1.0**
	5.1nm,1.2s							
LPM	**Los Pinos Moun**	**88.59**	**52**	eP	P	P	**12 40 16.1**	**+1.0**
	26nm,1.9s							
TXAR	**Lajitas Array**	**88.64**	**58**	P	P	P	**12 40 16.4**	**+0.9**
	8.7nm,0.8s,baz=216,slow=5.8,SNR=17							
TXAR				PKKPbc	**PKKPbc**	**PKKPbc**	**12 57 52.9**	**+0.1**
	0.5nm,0.6s,baz=136,slow=3.6,SNR=3.8							
TXAR	**Lajitas Array**	**88.64**	**58**	P	P	P	**12 40 16.4**	**+0.9**
TXAR				PKKPbc	**PKKPbc**	**PKKPbc**	**12 57 52.9**	**+0.1**
HWUT	**Hardware Ranch**	**88.68**	**44**	eP	P	P	**12 40 15.8**	**+0.4**
NEW	**Newport**	**88.92**	**36**	P	P	P	**12 40 16.1**	**-0.1**
	2.0nm,0.8s,baz=249,slow=5.8,SNR=3.8							
NEW	**Newport**	**88.92**	**36**	P	P	P	**12 40 16.1**	**-0.1**
PV01	**Paradox Valley**	**88.98**	**48**	eP	P	P	12 40 09.4	-7.5
ANMO	**Albuquerque**	**89.00**	**52**	eP	P	P	**12 40 17.4**	**+0.4**
	8.3nm,1.0s							
CMAR	**Chiang Mai Arr**	**89.30**	**290**	P	P	P	**12 40 20.0**	**+1.5**
	2.3nm,0.8s,baz=137,slow=2.8,SNR=4.9							
CMAR				PKKPbc	**PKKPbc**	**PKKPbc**	**12 57 50.6**	**0.0**
	0.3nm,0.3s,baz=278,slow=5.4,SNR=4.1							
CMAR				PKKPab	PKKPdf		12 58 07.5	+22
	1.3nm,0.7s,baz=286,slow=4.3,SNR=8.1							
CMAR	**Chiang Mai Arr**	**89.30**	**290**	P	P	P	**12 40 20.0**	**+1.5**
CMAR				PKKPbc	**PKKPbc**	**PKKPbc**	**12 57 50.6**	**0.0**
CMAR				PKKPab	PKKPdf		12 58 07.5	+22
PLCA	**Paso Flores**	**89.46**	**134**	P	P	P	**12 40 20.5**	**+1.4**
	3.9nm,0.7s,baz=247,slow=4.8,SNR=9.7							
PLCA	**Paso Flores**	**89.46**	**134**	P	P	P	**12 40 20.5**	**+1.4**
COLA	**College**	**89.47**	**13**	eP	P	P	**12 40 17.5**	**-0.7**
	12nm,1.0s							
MCMT	**McKenzie Canyo**	**89.53**	**41**	eP	P	P	**12 40 20.1**	**+0.8**
AHID	**Auburn Hatcher**	**89.56**	**43**	eP	P	P	**12 40 21.2**	**+1.7**
	11nm,0.9s							
ILAR	**Eielson Array**	**89.59**	**13**	P	P	P	**12 40 17.4**	**-1.5**
	3.8nm,0.6s,baz=216,slow=4.9,SNR=11							
ILAR	**Eielson Array**	**89.59**	**13**	P	P	P	**12 40 17.4**	**-1.5**
RRI2	**Red Ridge**	**89.72**	**43**	eP	P	P	**12 40 21.1**	**+0.8**
DLMT	**Dillon**	**89.96**	**40**	eP	P	P	**12 40 22.3**	**+1.1**
REDW	**Red Top Meadow**	**90.02**	**43**	eP	P	P	**12 40 22.5**	**+0.9**
TPAW	**Teton Pass**	**90.02**	**43**	eP	P	P	**12 40 22.6**	**+0.9**
SNOW	**Snow King Moun**	**90.13**	**43**	eP	P	P	**12 40 23.1**	**+1.0**
	16nm,1.1s							
MOOW	**Moose Ponds**	**90.28**	**42**	eP	P	P	**12 40 23.1**	**+0.3**
QLMT	**Earthquake Lak**	**90.40**	**41**	eP	P	P	**12 40 24.8**	**+1.4**
	0.8nm,0.8s							
PDAR	**Pinedale Array**	**90.55**	**44**	P	P	P	**12 40 23.9**	**-0.2**
	5.3nm,0.8s,baz=205,slow=3.3,SNR=12							
PDAR	**Pinedale Array**	**90.55**	**44**	P	P	P	**12 40 23.9**	**-0.2**
SMCO	**Snowmass**	**90.58**	**48**	eP	P	P	**12 40 25.1**	**+0.6**
LKWY	**Lake**	**90.90**	**42**	eP	P	P	**12 40 27.8**	**+2.1**
	7.7nm,1.2s							
INK	**Inuvik**	**95.58**	**16**	P	P	P	**12 40 45.0**	**-1.1**
	2.0nm,0.8s,baz=275,slow=5.0,SNR=4.4							
**INK

SOP	**Sopron**	**150.93 338**⇑	*e*		**PKPbc**	**12 47 10.4**	**0.0**
PKSM	**Moragy**	**151.35 333**⇑	*e*		**PKPbc**	**12 47 11.0**	**-0.4**
PERS	**Pernice**	**152.34 338**	*i*	PKPdf	**PKPbc**	**12 47 12.8**	**-0.8**
PERS			*i*			12 47 26.7	
VISS	**Visnje**	**153.15 338**	*i*	PKPdf	**PKPbc**	**12 47 15.2**	**-0.2**
VISS			*i*			12 47 30.1	
BOJS	**Bojanci**	**153.26 337**	*i*	PKPdf	**PKPbc**	**12 47 15.5**	**-0.1**
BOJS			*i*			12 47 30.8	
JAVS	**Javornik**	**153.34 339**	*i*	PKPdf	**PKPbc**	**12 47 15.2**	**-0.7**
JAVS			*i*			12 47 30.1	
ESDC	**Sonseca Array**	**161.48 11**		PKPab	**PKPab**	**12 48 05.8**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=348,slow=4.0,SNR=8.8						
ESDC	**Sonseca Array**	**161.48 11**		PKPab	**PKPab**	**12 48 05.8**	**-0.7**
DBIC	**Dimbokro**	**164.29 159**		PKP	**PKPdf**	**12 47 20.6**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=149,slow=1.7,SNR=5.5						
DBIC				PKPab	**PKPab**	**12 48 20.3**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=184,slow=6.5,SNR=4.5						
DBIC	**Dimbokro**	**164.29 159**		PKP	**PKPdf**	**12 47 20.6**	**-0.6**
DBIC				PKPab	**PKPab**	**12 48 20.3**	**+1.0**
MDT	**Midelt**	**167.81 22**		PKP	**PKPdf**	**12 47 22.3**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=59,slow=7.4,SNR=4.6						
MDT				PKPab	**PKPab**	**12 48 34.1**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=327,slow=6.4,SNR=4.7						
MDT	**Midelt**	**167.81 22**		PKP	**PKPdf**	**12 47 22.3**	**-1.2**
MDT				PKPab	**PKPab**	**12 48 34.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**171.61 187**		PKP	**PKPdf**	**12 47 25.1**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=254,slow=0.8,SNR=5.0						
TORD				PKPab	**PKPab**	**12 48 52.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=164,slow=3.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**171.61 187**		PKP	**PKPdf**	**12 47 25.1**	**-1.0**
TORD				PKPab	**PKPab**	**12 48 52.1**	**+0.4**

*CSEM **20** 12:41:51.6, 40°.14N×27°.34E, h13km, ML1.7, After ISK*
ISK 20 12:41:51.6, 40°.14N×27°.34E, h13km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.25**	**352**	*e*PG	Pb	12 41 57.7	-0.3
KRBG				*e*SG	Sb	12 42 01.5	-0.9
KRBG	**Karabiga-Canak**	**0.25**	**352**	*e*Pg	Pb	12 41 57.7	-0.3
KRBG				*e*Sg	Sb	12 42 01.5	-0.8
GONE	**Gonen-Balikesi**	**0.28**	**110**	*e*PG	Pg	12 41 57.9	+0.5
GONE				*e*SG	Sg	12 42 02.2	+0.9
GONE	**Gonen-Balikesi**	**0.28**	**110**	*e*Pg	Pg	12 41 57.9	+0.5
GONE				*e*Sg	Sg	12 42 02.2	+0.8
RKY	**Sarkoy-Tekirda**	**0.56**	**347**	*e*PG	Pg	12 42 02.9	+0.3
RKY				*e*SG	Sb	12 42 11.0	-0.3
RKY	**Sarkoy-Tekirda**	**0.56**	**347**	*e*Pg	Pg	12 42 02.9	+0.2
RKY				*e*Sg	Sb	12 42 11.0	-0.3
GELI	**Tayfur-Gelibol**	**0.71**	**291**	*e*PG	Pb	12 42 05.8	-0.1
GELI	**Tayfur-Gelibol**	**0.71**	**291**	*e*Pg	Pb	12 42 05.8	-0.1

IDC 20 12:43:30.5±1.5, 14°.04N×147°.04E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/28, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=39.6km s-min=26.8km az=118.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.15**	**258**	Pn	Pn	12 44 06.5	-1.2
	19nm,0.3s,baz=106,slow=7.4,SNR=11						
GUMO				Sn	Sn	12 44 28.9	-6.2
	46nm,0.3s,baz=4.0,slow=20,SNR=12						
WRA	**Warramunga Arr**	**36.01**	**201**	P	P	12 50 33.6	+0.1
	0.3nm,0.7s,baz=20,slow=9.4,SNR=5.7						
MKAR	**Makanchi Array**	**62.63**	**316**	P	P	12 53 57.7	+0.8
	0.2nm,0.3s,baz=91,slow=7.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**65.65**	**319**	P	P	12 54 16.5	0.0
	0.7nm,0.6s,baz=100,slow=7.0,SNR=7.9						
ILAR	**Eielson Array**	**67.26**	**25**	P	P	12 54 25.6	-1.0
	0.2nm,0.5s,baz=251,slow=5.7,SNR=6.3						
BVAR	**Borovoye Array**	**70.88**	**322**	P	P	12 54 50.1	+0.7
	0.3nm,0.4s,baz=100,slow=6.3,SNR=3.9						

*IDC **20** 12:44:24.4±0.7, 56°.86S×25°.18W, h0km, mb4.5/8, mb1 4.7/8, mb1mx4.4/18, mbtmp4.5/8, MS4.1/7, Ms1 4.1/7, ms1mx3.8/22, Error ellipse: s-maj=27.8km s-min=18.1km az=55.0*
*ISCJB **20** 12:44:28.6±0.6, 56°.89S±0°.09×25°.14W±0°.3, h35km, mb4.6/12, MS4.0/7, Error ellipse: s-maj=23.5km s-min=7.0km az=150.7*
*NEIC **20** 12:44:30.8±2.6, 56°.89S×25°.33W, h44km±23km, mb4.9/8, Error ellipse: s-maj=18.0km s-min=9.1km az=45.0*
ISC 20 12:44:29.5±0.5, 57°.0S±0°.1×25°.3W±0°.1, h35km, n56, σ1°.43/57, mb4.7/12, MS3.9/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.50**	**159**	*e*Pn	**P**	**12 48 09.4**	**+0.4**
VNA1	**Neumayer--Stat**	**15.50**	**159**	*e*Sn	**Sn**	**12 50 48.6**	**-6.5**
VNA3	**Neumayer Olymp**	**15.72**	**161**	*e*Pn	**P**	**12 48 10.9**	**-0.6**
VNA3	**Neumayer Olymp**	**15.72**	**161**	*e*Sn	Sn	12 50 50.4	-10
VNA2	**Neumayer--Watz**	**15.89**	**158**	*e*Pn	**P**	**12 48 13.4**	**0.0**
	baz=324,slow=15						
VNA2	**Neumayer--Watz**	**15.89**	**158**	*e*Sn	Sn	12 50 55.6	-9.2
	baz=324,slow=15						
SNAA	**Sanae**	**17.42**	**156**	*e*Pn	**P**	**12 48 32.2**	**+1.8**
	29nm,0.8s						
SNAA				*e*Sn	**Sn**	**12 51 42.1**	**+0.1**
PMSA	**Palmer Station**	**20.05**	**231**	LR	LR	12 55 55.1	
	comp=Z,507nm,18.3s,baz=134,slow=34						
MAIT	**Maitri**	**20.84**	**146**	*e*P	P	12 48 57.8	-10
MAIT				*e*		12 49 08.9	
USHA	**Ushuaia**	**23.94**	**257**	LR	LR	12 55 56.8	
	comp=Z,242nm,19.0s,baz=215,slow=29						
PLCA	**Paso Flores**	**33.18**	**280**	P	**P**	**12 50 59.8**	**-2.7**
	6.3nm,1.0s,baz=134,slow=8.2,SNR=10						
PLCA				LR	LR	13 02 48.4	
	comp=Z,265nm,21.0s,baz=175,slow=33						
PLCA	**Paso Flores**	**33.18**	**280**	*e*P	**P**	**12 51 01.4**	**-1.1**
	8.4nm,1.0s						
QSPA	**South Pole Qui**	**33.21**	**180**	P	**P**	**12 51 04.2**	**+1.6**
	12nm,0.5s,baz=211,slow=2.5,SNR=138						
QSPA	**South Pole Qui**	**33.21**	**180**	*e*P	**P**	**12 51 04.4**	**+1.7**
	13nm,0.6s						
CPUP	**Villa Florida**	**38.23**	**310**	P	**P**	**12 51 46.0**	**+0.1**
	5.8nm,0.5s,baz=136,slow=6.8,SNR=28						
CPUP	**Villa Florida**	**38.23**	**310**	P	**P**	**12 51 46.0**	**+0.1**
CFAA	**Coronel Fontan**	**38.89**	**292**	P	**P**	**12 51 49.6**	**-1.8**
	0.4nm,0.3s,baz=162,slow=9.0,SNR=9.2						
CFAA	**Coronel Fontan**	**38.89**	**292**	P	**P**	**12 51 49.6**	**-1.8**
BOSA	**Boshof**	**45.25**	**73**	LR	LR	13 07 32.4	
	comp=Z,265nm,18.3s,baz=168,slow=31						
VNDA	**Vanda**	**45.63**	**182**	P	**P**	**12 52 47.6**	**+2.0**
	1.5nm,0.6s,baz=202,slow=5.9,SNR=15						
VNDA				LR	LR	13 10 05.4	
	comp=Z,185nm,20.7s,baz=46,slow=34						
VNDA	**Vanda**	**45.63**	**182**	*e*P	**P**	**12 52 48.0**	**+2.4**
	7.1nm,0.7s						
SIV	**San Ignacio**	**49.00**	**312**	P	**P**	**12 53 11.8**	**-0.7**
	3.9nm,0.6s,baz=161,slow=7.3,SNR=22						
SIV				LR	LR	13 10 33.5	
	comp=Z,87nm,20.7s,slow=32						
SIV	**San Ignacio**	**49.00**	**312**	P	**P**	**12 53 11.8**	**-0.7**
LPAZ	**La Paz**	**51.78**	**304**	P	**P**	**12 53 35.0**	**+0.8**
	22nm,0.4s,baz=150,slow=5.6,SNR=110						
LPAZ	**La Paz**	**51.78**	**304**	*e*P	**P**	**12 53 34.5**	**+0.2**
	40nm,0.8s						
SAML	**Samuel**	**56.23**	**313**	*e*P	**P**	**12 54 05.8**	**-0.2**
	15nm,0.8s						
ATAH	**Atahualpa**	**64.57**	**299**	P	**P**	**12 55 05.5**	**+2.0**
	6.7nm,0.9s,baz=63,slow=8.5,SNR=5.5						
ATAH	**Atahualpa**	**64.57**	**299**	P	**P**	**12 55 05.5**	**+2.0**
DBIC	**Dimbokro**	**65.67**	**22**	LR	LR	13 18 12.8	
	comp=Z,321nm,18.4s,baz=32,slow=31						
OTAV	**Otavalo**	**71.05**	**302**	*e*P	**P**	**12 55 45.6**	**+1.3**
	17nm,1.4s						
TOA0	**Torodi Ar. Sit**	**73.44**	**28**	*e*P	**P**	**12 55 57.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.44**	**28**	P	**P**	**12 55 57.7**	**-0.2**
	1.1nm,0.6s,baz=202,slow=6.5,SNR=12						
TORD	**Torodi Ar. Bea**	**73.44**	**28**	P	**P**	**12 55 57.7**	**-0.2**
JTS	**JuntasAbangare**	**82.90**	**301**	*e*P	**P**	**12 56 52.1**	**+1.7**
	13nm,1.0s						
CMAR	**Chiang Mai Arr**	**123.77**	**109**	PKP	**PKPdf**	**13 03 23.2**	**-0.1**
	0.7nm,0.4s,baz=230,slow=3.8,SNR=8.9						
CMAR	**Chiang Mai Arr**	**123.77**	**109**	PKP	**PKPdf**	**13 03 23.2**	**-0.1**
FINES	**FINESS Array B**	**124.79**	**27**	PKP	**PKPdf**	**13 03 23.6**	**-0.2**
	1.1nm,0.5s,baz=126,slow=2.6,SNR=8.1						
FINES	**FINESS Array B**	**124.79**	**27**	PKP	**PKPdf**	**13 03 23.6**	**-0.2**
ARCES	**ARCESS Array B**	**131.49**	**21**	PKP	**PKPdf**	**13 03 35.5**	**-1.0**
	12nm,1.2s,baz=249,slow=2.3,SNR=4.8						
ARCES	**ARCESS Array B**	**131.49**	**21**	PKP	**PKPdf**	**13 03 35.5**	**-1.0**
BVAR	**Borovoye Array**	**134.45**	**57**	PKP	**PKPdf**	**13 03 42.3**	**-0.2**
	0.5nm,0.6s,baz=236,slow=2.6,SNR=4.0						
BVAR	**Borovoye Array**	**134.45**	**57**	PKP	**PKPdf**	**13 03 42.3**	**-0.2**
KURBB	**Kurchatov Arra**	**136.80**	**65**	PKP	**PKPdf**	**13 03 46.9**	**0.0**
	0.4nm,0.6s,baz=244,slow=2.6,SNR=5.8						
KURK	**Kurchatov**	**136.91**	**65**	PKP	**PKPdf**	**13 03 46.9**	**-0.2**
YKA	**Yellowknife Ar**	**137.59**	**316**	PKP	**PKPdf**	**13 03 47.7**	**-0.3**
	4.2nm,1.0s,baz=127,slow=2.3,SNR=31						
YKA				PP	PP	13 06 29.5	-6.1
	0.3nm,0.8s,baz=112,slow=5.8,SNR=3.9						
YKA				SKPbc	**SKPbc**	**13 07 15.8**	**-2.7**
	0.3nm,0.8s,baz=121,slow=1.5,SNR=5.2						
YKA	**Yellowknife Ar**	**137.59**	**316**	PKP	**PKPdf**	**13 03 47.8**	**-0.3**
YKA				PP	PP	13 06 29.6	-6.1
YKA				SKPbc	**SKPbc**	**13 07 15.8**	**-2.7**
YKW3	**Yellowknife Ar**	**137.64**	**317**	*e*PKPdf	**PKPdf**	**13 03 47.7**	**-0.4**
RES	**Resolute Bay**	**139.16**	**338**	*e*PKPdf	**PKPdf**	**13 03 51.0**	**+0.5**
DAWY	**Dawson**	**148.21**	**310**	*e*PKPdf	**PKPdf**	**13 04 06.5**	**-0.2**
DAWY				*e*PKPbc	**PKPbc**	**13 04 10.1**	**-0.1**
DAWY				*e*PKPab	**PKPab**	**13 04 13.4**	**+0.1**
SONM	**Songino Array**	**149.77**	**87**	PKPbc	**PKPbc**	**13 04 14.8**	**+0.1**
	2.2nm,0.5s,baz=217,slow=3.7,SNR=5.8						
SONM	**Songino Array**	**149.77**	**87**	PKPbc	**PKPbc**	**13 04 14.8**	**+0.1**
DOT	**Dot Lake**	**150.06**	**308**	*e*PKPbc	**PKPbc**	**13 04 15.1**	**+0.3**
ILAR	**Eielson Array**	**151.54**	**310**	PKPbc	**PKPbc**	**13 04 17.9**	**-0.2**
	9.3nm,0.9s,baz=130,slow=1.2,SNR=62						
ILAR	**Eielson Array**	**151.54**	**310**	PKPbc	**PKPbc**	**13 04 17.9**	**-0.2**
COLA	**College**	**151.96**	**310**	*e*PKPdf	**PKPdf**	**13 04 12.4**	**-0.1**
COLA				*e*PKPbc	**PKiKP**	**13 04 18.9**	**-0.5**
COLA				*e*PKPab	**PKPab**	**13 04 28.5**	**-0.1**
COLD	**Coldfoot**	**153.24**	**315**	*e*PKPdf	**PKPdf**	**13 04 15.1**	**+0.7**
COLD				*e*PKPbc	**PKiKP**	**13 04 22.8**	**+0.8**

*ISCJB **20** 12:44:52.7±0.6, 40°.15N±0°.04×27°.38E±0°.06, h10km±7km, Error ellipse: s-maj=8.4km s-min=4.7km az=140.6*
*DDA **20** 12:44:52.1, 40°.14N×27°.37E, h7km, MD3.0*
*CSEM **20** 12:44:52.1, 40°.14N×27°.37E, h7km, MD3.0, After DDA*
ISC 20 12:44:52.6±0.9, 40°.15N±0°.03×27°.39E±0°.05, h17km±10km, n12, σ0°.20/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GONE	**Gonen-Balikesi**	**0.25**	**114**	*e*PG	**Pg**	**12 44 58.2**	**+0.1**
GONE				*e*SG	**Sg**	**12 45 02.1**	**+0.1**
KRBG	**Karabiga-Canak**	**0.25**	**344**	*e*PG	**Pg**	**12 44 58.0**	**-0.3**
BALY	**Balya**	**0.44**	**157**	*i* P	**Pg**	**12 45 01.6**	**0.0**
BALY				*i* S	**Sg**	**12 45 07.8**	**+0.1**
BALY	**Balya**	**0.44**	**157**	*i* P	**Pg**	**12 45 01.6**	**0.0**
BALY				*i* S	**Sg**	**12 45 07.8**	**+0.1**
SART	**Tekirdag**	**0.56**	**343**	*i* P	**Pg**	**12 45 03.7**	**-0.1**
SART				*i* S	**Sg**	**12 45 11.3**	**-0.1**
SART	**Tekirdag**	**0.56**	**343**	*i* P	**Pg**	**12 45 03.7**	**-0.1**
SART				*i* S	**Sg**	**12 45 11.3**	**-0.1**
MFT	**Murefte**	**0.64**	**353**	*e*PG	**Pb**	**12 45 06.0**	**+0.6**
DURS	**Dursunbey**	**1.00**	**123**	*i* P	**Pb**	**12 45 11.3**	**-0.1**
DURS				*i* S	**Sg**	**12 45 24.9**	**-0.1**
DURS	**Dursunbey**	**1.00**	**123**	*i* P	**Pb**	**12 45 11.3**	**-0.1**
DURS				*i* S	**Sg**	**12 45 24.9**	**-0.1**
AYVA	**Ayvalik**	**1.00**	**213**	*e*P	**Pg**	**12 45 11.9**	**-0.1**
AYVA				*e*S	**Sb**	**12 45 24.2**	**0.0**
AYVA	**Ayvalik**	**1.00**	**213**	*e*P	**Pg**	**12 45 11.9**	**-0.1**
AYVA				*e*S	**Sb**	**12 45 24.2**	**0.0**
BOZC	**Bozcaada**	**1.07**	**254**	*i* P	**Pn**	**12 45 12.8**	**0.0**
BOZC				*i* S	**Sn**	**12 45 26.9**	**-0.3**

IDC 20 12:50:25.9±2.3, 16°.35S×178°.51W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.0/19, mbtmp4.2/5, Error ellipse: s-maj=127.3km s-min=24.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.31**	**239**	P	P	12 57 56.4	-0.5
	5.4nm,0.8s,baz=95,slow=9.2,SNR=8.6						
WRA	**Warramunga Arr**	**44.84**	**258**	P	P	12 58 42.6	+0.4
	1.6nm,0.5s,baz=94,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**45.14**	**253**	P	P	12 58 44.4	-0.2
	12nm,0.6s,baz=88,slow=8.5,SNR=68						
NVAR	**Mina Array Bea**	**78.38**	**44**	P	P	13 02 29.6	+0.9
	0.4nm,0.7s,baz=217,slow=7.1,SNR=3.7						
ILAR	**Eielson Array**	**84.40**	**13**	P	P	13 02 58.9	-0.8
	0.1nm,0.5s,baz=234,slow=4.6,SNR=3.5						

SKHL 20 13:04:07.9±0.4, 54°.39N×125°.63E, h9km±2km, mb3.8/8, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KROS	**Kirovskiy**	**0.79**	**86**⇓	*i*Pg	Pg	13 04 22.0	-1.1
KROS				AMB	AMB	13 04 22.4	
	19nm,0.4s						
KROS				AMB	AMB	13 04 22.4	
	110nm,0.4s						
KROS				pPg	Pn	13 04 25.0	-0.2
KROS				sPg	Sg	13 04 29.6	-3.7
KROS				*i* Sg	Sb	13 04 32.2	-2.3
KROS				A	A	13 04 33.5	
	290nm,0.3s						
KROS				A	A	13 04 33.5	
	210nm,0.3s						
ZEA	**Zeya**	**1.16**	**124**⇓	*i*Pg	Pb	13 04 29.7	-0.4
ZEA				AMB	AMB	13 04 29.8	
	42nm,0.2s						
ZEA				pPg	Pn	13 04 31.8	+1.5
ZEA				sPg	Sg	13 04 34.5	-11
ZEA				*e*Sg	Sb	13 04 44.9	-0.3
ZEA				A	A	13 04 45.3	
	190nm,0.3s						
ZEA				A	A	13 04 45.3	
	240nm,0.3s						
ZEA				A	A	13 04 45.5	
	200nm,0.2s						
YASR	**Yasnyy**	**1.78**	**127**	*e*Pn	Pn	13 04 38.7	-0.1
YASR				*e*Pg	Pb	13 04 39.7	-0.9
YASR				AMB	AMB	13 04 42.5	
	6.0nm,0.5s						
YASR				AMB	AMB	13 04 42.5	
	10.0nm,0.5s						
YASR				AMB	AMB	13 04 42.5	
	14nm,0.5s						
YASR				*e*Sn	Sn	13 05 01.8	+0.3
YASR				*e*Sg	Sb	13 05 03.3	+0.3
YASR				A	A	13 05 04.9	
	11nm,0.5s						
YASR				A	A	13 05 04.9	
	120nm,0.5s						
YASR				A	A	13 05 04.9	
	16nm,0.5s						
IENR	**Iengra**	**1.89**	**347**	*e*Pg	Pg	13 04 44.8	+0.5
IENR				AMB	AMB	13 04 44.9	
	13nm,0.5s						
IENR				*e*Sg	Sg	13 05 07.7	-1.1
IENR				A	A	13 05 07.8	
	67nm,0.4s						
BMKR	**Bomnak**	**1.90**	**79**	*e*Pn	Pn	13 04 40.6	+0.1
BMKR				*e*Pg	Pb	13 04 42.1	-0.6
BMKR				AMB	AMB	13 04 42.5	
	14nm,0.4s						
BMKR				AMB	AMB	13 04 42.5	
	40nm,0.4s						
BMKR				pPg	Pg	13 04 45.9	+1.6
BMKR				*e*Sn	Sn	13 05 04.1	-0.4
BMKR				*e*Sg	Sb	13 05 07.6	+1.1
BMKR				A	A	13 05 10.9	
	188nm,0.4s						
BMKR				A	A	13 05 10.9	
	192nm,0.4s						
BMKR				A	A	13 05 10.9	
	154nm,0.4s						
CLNS	**Chul'man**	**2.49**	**351**	*e*Pg	Pg	13 04 55.8	+0.1
CLNS				AMB	AMB	13 04 56.6	
	6.0nm,0.2s						
CLNS				AMB	AMB	13 04 56.6	
	9.0nm,0.2s						
CLNS				AMB	AMB	13 04 56.6	
	16nm,0.2s						
CLNS				*e*Sg	Sg	13 05 27.9	-0.1
CLNS				A	A	13 05 28.8	
	77nm,0.3s						
CLNS				A	A	13 05 28.8	
	39nm,0.3s						
CLNS				A	A	13 05 28.8	
	29nm,0.3s						
TUP	**Tupik**	**3.32**	**273**	*e*Pn	Pn	13 05 03.4	+3.4
TUP				*e*Pg	Pg	13 05 10.0	-1.5
TUP				AMB	AMB	13 05 16.4	
	11nm,0.3s						
TUP				*e*Sn	Sn	13 05 41.9	+2.3
TUP				*e*Sg	Sg	13 05 52.7	-1.8
TUP				A	A	13 05 56.7	
	82nm,0.4s						
EKMR	**Ekimchan**	**4.54**	**104**	*e*Pn	Pn	13 05 16.9	+0.1
EKMR				pPn	pPn	13 05 21.3	+2.4
EKMR				*e*Pg	Pb	13 05 30.0	+2.2
EKMR				AMB	AMB	13 05 34.7	
	8.0nm,0.5s						
EKMR				*e*Sg	Sg	13 06 30.0	-3.8
EKMR				A	A	13 06 39.1	
	19nm,0.5s						
EKMR				A	A	13 06 39.1	
	8.0nm,0.5s						
EKMR				A	A	13 06 39.1	
	15nm,0.5s						
CRS	**Chara**	**4.87**	**304**	*e*Sg	Sg	13 06 40.7	-3.6
GRNR	**Gornyy**	**7.51**	**114**	*e*Sg	Sg	13 08 05.0	-3.8

*SOF **20** 13:10:34.7, 40°.98N×24°.05E, h16km, MD2.5*
*ATH **20** 13:10:36.2, 41°.07N×24°.03E, h22km±11km, MD3.0/5*
*CSEM **20** 13:10:36.5±0.1, 41°.06N×24°.05E, h5km, MD3.0*
*THE **20** 13:10:37.0, 41°.04N×24°.04E, h5km±1km, ML2.3/10, Error ellipse: s-maj=1.8km s-min=0.6km az=276.0*
ISC 20 13:10:36.5±0.9, 41°.07N±0°.02×24°.05E±0°.02, h17km±7km, n45, σ0°.41/83, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.32**	**334**	P	**Pg**	**13 10 43.2**	**0.0**
NVR				S	**Sb**	**13 10 49.2**	**+0.6**
NVR	**Nevrokopi**	**0.32**	**334**	*e*PB	**Pg**	**13 10 43.3**	**0.0**
NVR	**Nevrokopi**	**0.32**	**334**	*e*Pb	**Pg**	**13 10 43.3**	**0.0**
NVR				S	**Sb**	**13 10 49.2**	**+0.6**
SRS	**Serrai**	**0.35**	**279**	P	**Pg**	**13 10 43.8**	**0.0**
SRS				S	**Sg**	**13 10 48.6**	**-0.2**
SRS	**Serrai**	**0.35**	**279**	P	**Pg**	**13 10 43.8**	**0.0**
SRS				S	**Sg**	**13 10 48.6**	**-0.2**
KAVA	**Kavala**	**0.36**	**101**	P	**Pg**	**13 10 44.0**	**+0.1**
KAVA				S	**Sg**	**13 10 49.1**	**+0.1**
KAVA	**Kavala**	**0.36**	**101**	P	**Pg**	**13 10 44.0**	**+0.1**
KAVA				S	**Sg**	**13 10 49.1**	**+0.1**
MMB	**Musomiste**	**0.58**	**335**	*i* Pg	**Pg**	**13 10 47.4**	**-0.5**
MMB				S	**Sg**	**13 10 54.9**	**-0.8**
MMB	**Musomiste**	**0.58**	**335**	*i* Pg	**Pg**	**13 10 47.4**	**-0.5**
MMB				S	**Sg**	**13 10 54.9**	**-0.8**
SOH	**Sokhos**	**0.58**	**245**	P	**Pg**	**13 10 47.8**	**-0.2**
SOH				S	**Sg**	**13 10 55.9**	**+0.1**
SOH	**Sokhos**	**0.58**	**245**	*e*PN	**Pg**	**13 10 47.8**	**-0.2**
SOH				*e*SN	**Sg**	**13 10 55.7**	**-0.1**
SOH	**Sokhos**	**0.58**	**245**	P	**Pg**	**13 10 47.8**	**-0.2**
SOH				*e*Sn	**Sg**	**13 10 55.7**	**-0.1**
OUR	**Ouranopolis**	**0.73**	**184**	P	**Pg**	**13 10 51.0**	**+0.2**
OUR				S	**Sg**	**13 11 00.9**	**+0.4**
OUR	**Ouranopolis**	**0.73**	**184**	P	**Pg**	**13 10 51.0**	**+0.2**
OUR				S	**Sg**	**13 11 00.9**	**+0.4**
RZN	**Rozhen**	**0.80**	**39**	Pg	**Pn**	**13 10 53.2**	**0.0**
RZN				Sg	**Sg**	**13 11 03.7**	**+1.0**
RZN	**Rozhen**	**0.80**	**39**	Pg	**Pn**	**13 10 53.2**	**0.0**
RZN				Sg	**Sg**	**13 11 03.7**	**+1.0**
PLG	**Polygyros**	**0.83**	**214**	P	**Pg**	**13 10 52.8**	**+0.1**
PLG				S	**Sb**	**13 11 03.3**	**-0.1**
PLG	**Polygyros**	**0.83**	**214**	*e*PN	**Pg**	**13 10 52.7**	**+0.1**
PLG				*e*SN	**Sb**	**13 11 02.8**	**-0.6**
PLG	**Polygyros**	**0.83**	**214**	P	**Pg**	**13 10 52.8**	**+0.1**
PLG				*e*Sn	**Sb**	**13 11 02.8**	**-0.6**
PLG				S	**Sb**	**13 11 03.3**	**-0.1**
HORT	**Hortiatis**	**0.86**	**237**	P	**Pb**	**13 10 53.2**	**+0.2**
HORT				S	**Sg**	**13 11 05.0**	**+0.4**
HORT	**Hortiatis**	**0.86**	**237**	P	**Pb**	**13 10 53.2**	**+0.2**
HORT				S	**Sg**	**13 11 05.0**	**+0.4**
KNT	**Kendrikon**	**0.88**	**277**	P	**Pb**	**13 10 53.5**	**+0.3**
KNT				S	**Sg**	**13 11 05.6**	**+0.5**
KNT	**Kendrikon**	**0.88**	**277**	P	**Pb**	**13 10 53.5**	**+0.3**
KNT				S	**Sg**	**13 11 05.6**	**+0.5**
KKB	**Krupnik**	**1.08**	**318**	Pg	**Pb**	**13 10 56.6**	**-0.1**
KKB				Sg	**Sn**	**13 11 11.3**	**-0.2**
KKB	**Krupnik**	**1.08**	**318**	Pg	**Pb**	**13 10 56.6**	**-0.1**
KKB				Sg	**Sn**	**13 11 11.3**	**-0.2**
VAY	**Valandovo**	**1.15**	**283**	P	**Pb**	**13 10 58.3**	**+0.3**
VAY	**Valandovo**	**1.15**	**283**⇑	*i*Pg	**Pg**	**13

IDC ***20*** *13:29:12.0±0.5,22°.80S×175°.05W,h0km,mb4.6/23, mb1 4.8/24,mb1mx4.8/28,mbtmp4.6/24,ML4.2/1,MS4.0/17, Ms1 4.0/17,ms1mx3.8/44,Error ellipse: s-maj=16.9km s-min=13.4km az=137.0*

ISCJB ***20*** *13:29:14.7±2.2,22°.93S±0°.06×175°.21W±0°.05, h29km±15km,mb4.8/57,MS4.2/23,Error ellipse: s-maj=11.6km s-min=7.2km az=150.9*

MOS ***20*** *13:29:15.6±1.1,22°.91S×175°.27W,h33km,mb5.1/12, Error ellipse: s-maj=14.0km s-min=10.9km az=8.2*

NEIC ***20*** *13:29:16.6±0.2,22°.98S×175°.24W,h35km,mb4.9/30, Error ellipse: s-maj=8.3km s-min=5.4km az=160.0*

AUST ***20*** *13:29:16.2±1.3,22°.81S×174°.30W,h80km,Error ellipse: s-maj=1.6km s-min=1.5km az=318.0*

ISC 20 13:29:18.4±0.6,22°.93S±0°.07×175°.21W±0°.06,h46km±4km, n205,σ1$26/203,mb4.9/57,MS4.2/24,7C-3D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**6.25**	**53**	P		Pn	13 30 36.1	-12
	baz=5.5,SNR=55							
MSVF	**Nonsavu**	**8.16**	**308**	*e*P		**Pn**	**13 31 14.3**	**-0.1**
MSVF				pmax		pmax		
	comp=Z,184nm,1.0s							
MSVF	**Nonsavu**	**8.16**	**308**	*e*Pn		**Pn**	**13 31 14.3**	**-0.1**
	comp=Z,184nm,1.0s							
AFI	**Afiamalu**	**9.54**	**21**	Pn		Pn	13 31 24.4	-8.9
	comp=Z,111nm,0.3s,baz=315,slow=9.9,SNR=15							
AFI				Sn		Sn	13 33 05.1	-14
	comp=Z,6.4nm,0.3s,baz=319,slow=20,SNR=3.7							
AFI	**Afiamalu**	**9.54**	**21**	Pn		Pn	13 31 24.4	-8.9
RAR	**Rarotonga**	**14.41**	**86**	Pn		Pn	13 32 27.0	-13
	comp=Z,3.8nm,0.3s,baz=270,slow=7.1,SNR=12							
RAR				LR		LR	13 36 15.0	
	comp=Z,628nm,19.5s,baz=271,slow=30							
RAR	**Rarotonga**	**14.41**	**86**	*e*Pn		**Pn**	**13 32 40.2**	**+0.5**
	comp=Z,75nm,1.0s							
URZ	**Urewera**	**16.64**	**202**	Pn		**Pn**	**13 33 08.7**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=353,slow=7.8,SNR=8.3							
URZ				Sn		Sn	13 36 01.0	-11
	comp=Z,1.7nm,0.3s,baz=187,slow=20,SNR=10							
URZ	**Urewera**	**16.64**	**202**	*e*Pn		**Pn**	**13 33 05.6**	**-2.7**
URZ				Sn		Sn	13 36 01.0	-11
DZM	**Mont Dzumac**	**16.98**	**269**	*e*P		P	13 33 19.6	+5.5
	comp=Z,122nm,1.1s							
DZM				*e*LR		LR	13 37 46.0	
	comp=Z,468nm,25.4s							
DZM	**Mont Dzumac**	**16.98**	**269**	P		P	13 33 18.2	+4.1
	comp=Z,0.9nm,0.3s,baz=106,slow=21,SNR=16							
DZM	**Mont Dzumac**	**16.98**	**269**	*e*P		P	13 33 18.0	+3.9
DZM	**Mont Dzumac**	**16.98**	**269**	*e*Pn		**Pn**	**13 33 11.8**	**-0.9**
	comp=Z,44nm,0.8s							
RPZ	**Rata Peaks**	**23.64**	**205**	P		P	13 34 28.4	+3.1
	comp=Z,10nm,0.8s,baz=0.0,slow=9.1,SNR=4.9							
RPZ	**Rata Peaks**	**23.64**	**205**	P		P	13 34 28.4	+3.1
TBI	**Tubuai**	**23.68**	**96**	*e*LR		LR	13 39 35.3	
	comp=Z,522nm,30.2s							
PPT2	**Papeete2**	**24.61**	**82**	*e*LR		LR	13 40 00.8	
	comp=Z,628nm,28.0s							
PPT	**Papeete**	**24.62**	**82**	LR		LR	13 41 52.1	
	comp=Z,449nm,18.5s,baz=261,slow=31							
HNR	**Honiara**	**27.31**	**295**	LR		LR	13 43 22.5	
	comp=Z,205nm,19.6s,baz=124,slow=31							
ARMA	**Armidale**	**30.48**	**249**	P		**P**	**13 35 28.5**	**+1.4**
	baz=31,SNR=3.9							
EIDS	**Eidsvold**	**30.81**	**259**	P		P	13 35 31.7	+1.7
	baz=32,SNR=3.8							
MGCD	**Mangrove Creek**	**31.32**	**243**	P		P	13 35 36.7	+2.4
	baz=32,SNR=6.1							
RMQ	**Roma**	**32.86**	**256**	P		P	13 35 49.7	+1.7
	baz=34,SNR=12							
CMSA	**Cobar Meteorol**	**35.66**	**247**	P		**P**	**13 36 12.0**	**-0.1**
	baz=36,SNR=16							
CTA	**Charters Tower**	**35.90**	**267**	P		**P**	**13 36 14.9**	**+0.5**
	comp=Z,16nm,0.7s,baz=97,slow=11,SNR=18							
CTA				LR		LR	13 48 26.3	
	comp=Z,126nm,20.9s,baz=184,slow=32							
CTA	**Charters Tower**	**35.90**	**267**	P		**P**	**13 36 14.9**	**+0.5**
CTAO	**Charters Tower**	**35.90**	**267**	*e*P		**P**	**13 36 13.2**	**-1.2**
CTAO				pmax		pmax		
	comp=Z,8.0nm,0.6s							
CTAO	**Charters Tower**	**35.90**	**267**	*e*P		**P**	**13 36 13.2**	**-1.2**
	comp=Z,8.1nm,0.6s							
TOO	**Toolangi**	**36.67**	**237**	P		P	**13 36 21.4**	**+0.6**
	baz=37,SNR=9.0							
QLP	**Quilpie**	**36.90**	**256**	P		P	**13 36 23.1**	**+0.3**
	baz=38,SNR=12							
PMG	**Port Moresby**	**38.43**	**284**	P		P	**13 36 36.5**	**+0.6**
	comp=Z,47nm,0.9s,baz=89,slow=5.6,SNR=9.6							
PMG	**Port Moresby**	**38.43**	**284**	P		**P**	**13 36 36.5**	**+0.6**
STKA	**Stephens Creek**	**39.16**	**247**	P		**P**	**13 36 42.0**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=90,slow=9.5,SNR=10							
STKA				LR		LR	13 51 27.8	
	comp=Z,317nm,19.7s,baz=33,slow=34							
STKA	**Stephens Creek**	**39.16**	**247**	*e*P		**P**	**13 36 40.0**	**-1.8**
	comp=Z,1.2nm,0.9s							
STKA	**Stephens Creek**	**39.16**	**247**	P		**P**	**13 36 42.2**	**+0.3**
	baz=40,SNR=9.2							
ARPS	**Mount Arapiles**	**39.40**	**240**	P		**P**	**13 36 44.1**	**+0.3**
	baz=40,SNR=5.1							
COEN	**Coen**	**40.36**	**275**	P		**P**	**13 36 53.5**	**+1.6**
	baz=41,SNR=4.2							
BBOO	**Buckleboo**	**43.87**	**246**	*e*P		**P**	**13 37 17.7**	**-2.6**
AS31	**Alice Springs**	**46.54**	**259**	*e*P		**P**	**13 37 40.9**	**-0.9**
AS31				*ep*P		**pP**	**13 37 54.5**	**0.0**
ASAR	**Alice Springs**	**46.54**	**259**	P		**P**	**13 37 41.4**	**-0.3**
ASAR				S		**S**	**13 44 27.7**	**+0.4**
	comp=Z,16nm,0.9s,baz=95,slow=6.3,SNR=122							
ASAR				S		**S**	**13 44 27.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=101,slow=14,SNR=4.4							
ASAR				LR		LR	13 57 16.7	
	comp=Z,283nm,18.1s,baz=96,slow=36							
ASAR	**Alice Springs**	**46.54**	**259**	P		**P**	**13 37 41.4**	**-0.3**
ASAR				S		**S**	**13 44 27.7**	**+0.4**
WRAB	**Tennant Creek**	**46.87**	**264**	*e*P		**P**	**13 37 42.6**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,15nm,0.8s							
WRAB	**Tennant Creek**	**46.87**	**264**	*e*P		**P**	**13 37 42.6**	**-1.7**
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**46.88**	**264**	P		**P**	**13 37 43.5**	**-0.9**
	comp=Z,14nm,0.8s,baz=102,slow=8.0,SNR=92							
WRA				S		**S**	**13 44 33.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=89,slow=8.7,SNR=4.6							
WRA				LR		LR	13 57 23.4	
	comp=Z,218nm,19.2s,baz=70,slow=36							
WRA	**Warramunga Arr**	**46.88**	**264**	P		**P**	**13 37 43.5**	**-0.9**
WRA				S		**S**	**13 44 33.0**	**+0.9**
FORT	**Forrest**	**50.77**	**248**	P		**P**	**13 38 13.5**	**-0.6**
	baz=52,SNR=12							
MTN	**Manton Dam**	**51.80**	**271**	P		P	**13 38 21.5**	**-0.5**
	baz=53,SNR=4.4							
GUMO	**Guam**	**53.34**	**309**	LR		LR	13 57 55.0	
	comp=Z,108nm,21.9s,baz=271,slow=32							
FITZ	**Fitzroy Crossi**	**55.30**	**263**	P		**P**	**13 38 48.1**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=130,slow=2.2,SNR=22							
FITZ				LR		LR	14 02 03.8	
	comp=Z,137nm,20.8s,baz=70,slow=36							
FITZ	**Fitzroy Crossi**	**55.30**	**263**	*e*P		**P**	**13 38 46.7**	**-0.9**
	comp=Z,6.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**55.30**	**263**	P		**P**	**13 38 47.7**	**0.0**
	baz=56,SNR=8.8							
SBA	**Scott Base**	**55.65**	**185**	*e*P		**P**	**13 38 50.5**	**+1.3**
SBA				*e**PP		pP	13 39 04.8	+2.6
SBA				pmax		pmax		
	comp=Z,17nm,0.9s							
SBA	**Scott Base**	**55.65**	**185**	*e*P		**P**	**13 38 50.5**	**+1.3**
	comp=Z,17nm,0.9s							
SBA				*ep*P		pP	13 39 04.8	+2.6
VNDA	**Vanda**	**55.76**	**186**	P		P	13 38 52.6	+2.6
	comp=Z,4.9nm,0.9s,baz=357,slow=7.7,SNR=12							
VNDA	**Vanda**	**55.76**	**186**	P		P	13 38 52.6	+2.6
KLBR	**Kellerberrin**	**59.41**	**246**	P		**P**	**13 39 16.8**	**+0.3**
	baz=60,SNR=9.0							
MEEK	**Meekatharra**	**59.60**	**252**	P		**P**	**13 39 17.5**	**-0.4**
	baz=60,SNR=5.5							
BLDU	**Balliduu**	**60.46**	**247**	P		**P**	**13 39 23.8**	**+0.1**
	baz=61,SNR=9.9							
MORW	**Morawa**	**61.33**	**248**	P		**P**	**13 39 29.9**	**+0.3**
	baz=62,SNR=5.1							
PCI	**Palu**	**66.65**	**279**	P		P	13 39 59.5	-5.2
	baz=68,SNR=3.4							
QSPA	**South Pole Qui**	**67.16**	**180**	P		**P**	**13 40 08.1**	**+0.8**
	comp=Z,5.0nm,0.8s,baz=86,slow=3.3,SNR=23							
QSPA	**South Pole Qui**	**67.16**	**180**	*e*P		**P**	**13 40 06.6**	**-0.7**
	comp=Z,20nm,1.0s							
MJAR	**Matsushiro Arr**	**73.70**	**322**	P		**P**	**13 40 47.1**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=160,slow=6.0,SNR=13							
MJAR	**Matsushiro Arr**	**73.70**	**322**	P		**P**	**13 40 47.1**	**-0.3**
MAT	**Matsushiro**	**73.70**	**322**	P		**P**	**13 40 46.5**	**-0.9**
JNU	**Nakatsue**	**75.81**	**316**	LR		LR	14 12 50.5	
	comp=Z,104nm,19.1s,baz=229,slow=34							
KSM	**Kuching**	**76.31**	**278**	*e*P		**P**	**13 41 01.4**	**-1.6**
	comp=Z,6.3nm,0.8s							
KSM	**Kuching**	**76.31**	**278**	P		**P**	**13 41 03.9**	**+0.9**
	baz=77,SNR=5.1							
TPUB	**Ta-pu**	**77.46**	**302**	*e*P		**P**	**13 41 06.1**	**-3.1**
	comp=Z,27nm,0.8s							
LPIG	**La Paz**	**78.46**	**58**	LR		LR	14 09 14.9	
	comp=Z,14nm,19.4s,baz=198,slow=31							
YSS	**Yuzh-Sakhalins**	**79.23**	**332**	*e*P		P	13 41 21.0	+2.6
YSS				*e*			13 41 31.8	
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**79.23**	**332**	*e*P		**P**	**13 41 18.7**	**+0.3**
	comp=Z,33nm,1.0s							
PETK	**Petropavlovsk-**	**79.29**	**344**	P		**P**	**13 41 19.1**	**+0.5**
	comp=Z,8.7nm,0.8s,baz=134,slow=8.5,SNR=5.5							
PETK				LR		LR	14 11 16.7	
	comp=Z,73nm,21.0s,baz=220,slow=32							
PETK	**Petropavlovsk-**	**79.29**	**344**	P		**P**	**13 41 19.2**	**+0.5**
PETK	**Petropavlovsk-**	**79.29**	**344**	P		**P**	**13 41 19.1**	**+0.5**
KSRS	**Korea Array**	**80.42**	**317**	P		**P**	**13 41 25.6**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=132,slow=6.3,SNR=12							
KSRS				LR		LR	14 15 47.1	
	comp=Z,112nm,18.4s,baz=305,slow=35							
KSAR	**Wonju Array Be**	**80.43**	**317**	P		**P**	**13 41 25.6**	**+0.4**
YBH	**Yreka Blue Hor**	**80.61**	**37**	P		**P**	**13 41 26.5**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=100,slow=0.8,SNR=9.0							
YBH	**Yreka Blue Hor**	**80.61**	**37**	*e*P		**P**	**13 41 26.2**	**0.0**
	comp=Z,9.0nm,1.0s							
NVAR	**Mina Array Bea**	**81.05**	**42**	P		**P**	**13 41 28.6**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=223,slow=8.0,SNR=22							
NVAR	**Mina Array Bea**	**81.05**	**42**	P		**P**	**13 41 28.6**	**-0.1**
HUMO	**Hull Mountain**	**81.06**	**36**	*e*P		**P**	**13 41 27.3**	**-1.1**
	comp=Z,8.2nm,1.2s							
USRK	**Ussuriysk Arra**	**82.42**	**325**	P		**P**	**13 41 37.6**	**+2.1**
	comp=Z,15nm,0.8s,baz=125,slow=3.3,SNR=28							
TUC	**Tucson**	**82.47**	**50**	*e*P		**P**	**13 41 35.8**	**-0.4**
TUC				pmax		pmax		
	comp=Z,3.0nm,0.9s							
TUC	**Tucson**	**82.47**	**50**	*e*P		**P**	**13 41 35.8**	**-0.4**
	comp=Z,3.1nm,0.9s							
NJ2	**Nanjing**	**83.42**	**309**	*e*P		**P**	**13 41 41.3**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CCUT	**Cedar City**	**83.65**	**45**	*e*P		**P**	**13 41 41.6**	**-0.8**
	comp=Z,11nm,1.1s							
HABR	**Khabarovsk**	**83.83**	**329**	P		P	13 41 46.1	+3.4
HABR				*e**SP		sP	13 41 56.4	-5.2
HABR				*i*			13 46 57.7	
HABR				*e*S		**SKSac**	**13 52 01.2**	**-0.4**
HABR				*e*SS		**SS**	**13 57 32.1**	**+0.8**
HABR				*e*SSS		SSS	14 01 02.2	
HABR				MLR		MLR		
	comp=Z,105nm,15.0s							
MDJ	**Mudanjiang**	**83.99**	**324**	P		**P**	**13 41 45.1**	**+1.5**
MDJ				pmax		pmax		
	comp=Z,17nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,52nm,3.8s							
MDJ	**Mudanjiang**	**83.99**	**324**	*e*P		**P**	**13 41 42.9**	**-0.8**
	comp=Z,16nm,0.8s							
MDJ				*ep*P		**pP**	**13 41 57.8**	**+0.4**
QIZ	**Qiongzhong**	**84.20**	**293**	P		**P**	**13 41 44.4**	**-0.9**
QIZ				sP		sP	13 42 09.4	+5.2
QIZ				S		**SKSac**	**13 52 04.5**	**-0.9**
QIZ				LR		LR		
	comp=N,170nm,16.2s							
QIZ				LR		LR		
	comp=E,73nm,13.4s							
QIZ				LR		LR		
	comp=Z,110nm,16.4s							
MVU	**Marysvale**	**84.94**	**45**	*e*P		**P**	**13 41 49.5**	**+0.6**
	comp=Z,14nm,1.3s							
MSU	**Marysvale**	**84.96**	**45**	*e*P		**P**	**13 41 48.6**	**-0.4**
MSU				pmax		pmax		
	comp=Z,16nm,1.2s							
MSU	**Marysvale**	**84.96**	**45**	*e*P		**P**	**13 41 48.6**	**-0.4**
	comp=Z,16nm,1.2s							
SNAA	**Sanae**	**85.51**	**178**	*e*P		**P**	**13 41 50.3**	**-0.8**
	comp=Z,11nm,1.0s							
VNA3	**Neumayer Olymp**	**85.55**	**175**	*e*PcP		**P**	**13 41 51.6**	**+0.4**
VNA3	**Neumayer Olymp**	**85.55**	**175**	*ep*P		pP	13 42 03.8	-1.2
MFID	**Camas Ranch**	**85.59**	**39**	*e*P		**P**	**13 41 52.0**	**+0.1**
	comp=Z,7.2nm,1.4s							
PLCA	**Paso Flores**	**85.73**	**133**	P		**P**	**13 41 52.6**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=214,slow=7.1,SNR=4.3							
PLCA				LR		LR	14 09 32.5	
	comp=Z,201nm,19.9s,baz=73,slow=28							
PLCA	**Paso Flores**	**85.73**	**133**	P		**P**	**13 41 52.6**	**-0.2**
CN2	**Changchun**	**85.80**	**321**	*e*P		**P**	**13 41 54.3**	**+1.6**
CN2				*ep*P		pP	13 42 12.8	+6.3
CN2				*e*S		**S**	**13 52 21.8**	**-0.4**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CN2				pmax		pmax		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,400nm,16.0s							
CN2				LR		LR		
	comp=E,200nm,16.0s							
CN2				LR		LR		
	comp=Z,500nm,18.0s							
IPM	**Ipoh**	**86.00**	**277**	*e*P		**P**	**13 41 54.0**	**-0.5**
	comp=Z,18nm,0.8s							
VNA2	**Neumayer--Watz**	**86.02**	**176**	*e*PcP		**P**	**13 41 54.3**	**+0.8**
	baz=214,slow=3.4							
VNA2	**Neumayer--Watz**	**86.02**	**176**	*ep*P		pP	13 42 06.6	-0.7
	baz=214,slow=3.4							
TMUT	**Trail Mountain**	**86.03**	**44**	*e*P		**P**	**13 41 54.7**	**+0.3**
	comp=Z,17nm,1.1s							
LAZ	**Ladron**	**86.17**	**50**	*e*P		**P**	**13 41 54.2**	**-0.8**
	comp=Z,5.8nm,1.2s							
TXAR	**Lajitas Array**	**86.21**	**56**	P		**P**	**13 41 54.1**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=216,slow=6.2,SNR=14							
TXAR	**Lajitas Array**	**86.21**	**56**	P		**P**	**13 41 54.1**	**-1.2**
VNA1	**Neumayer--Stat**	**86.23**	**176**	*e*PcP		**P**	**13 41 55.4**	**+0.9**
VNA1	**Neumayer--Stat**	**86.23**	**176**	*ep*P		pP	13 42 07.6	-0.7
GAMB	**Gambell**	**86.45**	**2**	*e*P		**P**	**13 41 55.9**	**+0.5**
	comp=Z,14nm,1.1s							
ANMO	**Albuquerque**	**86.93**	**50**	P		**P**	**13 41 58.9**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=236,slow=6.6,SNR=4.3							
ANMO	**Albuquerque**	**86.93**	**50**	*e*P		**P**	**13 41 58.4**	**-0.4**
	comp=Z,5.4nm,1.2s							
PSI	**Prapat**	**87.27**	**274**	P		**P**	**13 42 00.4**	**-0.4**
	comp=Z,8.4nm,0.8s,baz=190,slow=12,SNR=4.4							
PSI	**Prapat**	**87.27**	**274**	P		**P**	**13 42 00.4**	**-0.4**
MCMT	**McKenzie Canyo**	**88.15**	**39**	*e*P		**P**	**13 42 04.3**	**-0.2**
TRF	**Thorofare Moun**	**88.30**	**11**	*e*P		**P**	**13 42 02.7**	**-1.9**
	comp=Z,8.4nm,0.7s							
TNA	**Tin City**	**88.38**	**3**	*e*P		**P**	**13 42 05.1**	**+0.4**
	comp=Z,3.4nm,0.9s							
SMCO	**Snowmass**	**88.74**	**46**	*e*P		**P**	**13 42 07.2**	**-0.4**
	comp=Z,2.9nm,1.0s							
PDAR	**Pinedale Array**	**88.98**	**42**	P		**P**	**13 42 07.0**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=186,slow=3.8,SNR=8.1							
PDAR	**Pinedale Array**	**88.98**	**42**	P		**P**	**13 42 07.0**	**-1.4**
SEY	**Seymchan**	**89.33**	**346**	*d* /P		**P**	**13 42 08.9**	**-0.3**
BJI	**Beijing**	**89.43**	**314**	P		**P**	**13 42 11.1**	**+0.8**
BJI				S		**S**	**13 52 58.0**	**+0.9**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BJI				pmax		pmax		
	comp=Z,120nm,4.7s							
BJI				LR		LR		
	comp=N,150nm,18.7s							
BJI				LR		LR		
	comp=E,110nm,10.7s							
BJI				LR		LR		
	comp=Z,58nm,21.1s							
ENH	**Enshi**	**89.54**	**303**	*e*P		**P**	**13 42 10.4**	**-0.6**
	comp=Z,20nm,0.9s							
ENH				*ep*P		**pP**	**13 42 25.1**	**+0.2**
ENH				*e*sP		sP	13 42 30.9	+0.8
DOT	**Dot Lake**	**89.68**	**13**	*e*P		**P**	**13 42 10.9**	**0.0**
	comp=Z,3.4nm,1.0s							
COLA	**College**	**90.04**	**11**	*e*P		**P**	**13 42 12.3**	**-0.2**
COLA				pmax		pmax		
	comp=Z,8.0nm,1.2s							
COLA	**College**	**90.04**	**11**	*e*P		**P**	**13 42 12.3**	**-0.2**
	comp=Z,8.1nm,1.2s							
GYA	**Guiyang**	**90.09**	**299**	*e*P		**P**	**13 42 15.9**	**+2.0**
GYA				pP		pP	13 42 32.0	+4.3
GYA				PP		**PP**	**13 45 51.3**	**+3.3**
GYA				SKS		**SKSac**	**13 52 38.6**	**-2.9**
GYA				S		**S**	**13 53 01.3**	**-2.8**
GYA				SS		**SS**	**13 59 03.5**	**-0.6**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.4s							
GYA				LR		LR		
	comp=N,490nm,20.5s							
GYA				LR		LR		
	comp=E,330nm,25.8s							
GYA				LR		LR		
	comp=Z,420nm,21.8s							
ILAR	**Eielson Array**	**90.12**	**12**	P		**P**	**13 42 12.7**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=219,slow=5.4,SNR=17							
ILAR	**Eielson Array**	**90.12**	**12**	P		**P**	**13 42 12.7**	**-0.2**
XAN	**Xi'an**	**91.66**	**306**	P		**P**	**13 42 22.8**	**+1.9**
XAN				pP		**pP**	**13 42 34.6**	**-0.1**
XAN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
XAN				LR		LR		
	comp=N,120nm,14.3s							
XAN				LR		LR		
	comp=E,63nm,15.6s							
XAN				LR		LR		
	comp=Z,69nm,15.6s							
BILL	**Bilibino**	**91.72**	**353**	*e*P		**P**	**13 42 20.2**	**-0.1**
BILL				*e*S		**SKSac**	**13 52 46.6**	**-2.1**
BILL				*e*PS		PS	13 54 22.7	-10
BILL				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KMI	**Kunming**	**92.75**	**296**	P		**P**	**13 42 25.3**	**-1.1**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**92.89**	**313**	*e*P		**P**	**13 42 28.1**	**+1.6**
HHC				pP		pP	13 42 46.8	+6.4
HHC				PP		**PP**	**13 46 13.8**	**+4.0**
HHC				SKS		**SKSac**	**13 52 55.6**	**-1.1**
HHC				S		**S**	**13 53 26.6**	**-2.2**
HHC				sS		sS	13 53 56.3	+4.2
HHC				SS		**SS**	**13 59 44.8**	**+0.9**
HHC				pmax		pmax		
	comp=Z,11nm,1.2s							
HHC				pmax		pmax		
	comp=Z,110nm,7.1s							
HHC				LR		LR		
	comp=N,210nm,15.5s							
HHC				LR		LR		
	comp=E,170nm,16.7s							
HHC				LR		LR		
	comp=Z,210nm,16.6s							
CMAR	**Chiang Mai Arr**	**93.35**	**288**	P		P	13 42 31.8	+2.8
	comp=Z,4.8nm,0.9s,baz=126,slow=3.1,SNR=30							
CMAR				LR		LR	14 25 13.7	
	comp=Z,24nm,19.6s,baz=120,slow=36							
CMAR	**Chiang Mai Arr**	**93.35**	**288**	P		P	13 42 31.8	+2.8
CHTO	**Chiang Mai**	**93.49**	**289**	*e*P		**P**	**13 42 29.1**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CHTO	**Chiang Mai**	**93.49**	**289**	*e*P		**P**	**13 42 29.1**	**-0.6**
	comp=Z,7.9nm,1.1s							
CD2	**Chengdu**	**94.27**	**302**	P		**P**	**13 42 33.9**	**+0.9**
CD2				pP		pP	13 42 51.8	+4.9
CD2				sP		sP	13 42 58.6	+6.6
CD2				PP		**PP**	**13 46 24.3**	**+3.6**
CD2				SKS		**SKSac**	**13 53 01.9**	**-2.6**
CD2				S		**S**	**13 53 37.5**	**-3.7**
CD2				sS		sS	13 54 08.3	+3.7
CD2				SS		**SS**	**14 00 04.5**	**+0.6**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,100nm,5.9s							
CD2				LR		LR		
	comp=N,140nm,11.3s							
CD2				LR		LR		
	comp=Z,100nm,7.1s							
TEIG	**Tepich**	**94.98**	**70**	LR		LR	14 18 08.2	
	comp=Z,81nm,18.5s,baz=276,slow=31							
LZH	**Lanzhou**	**96.29**	**306**	*e*P		P	13 42 47.5	+5.2
LZH				pmax		pmax		
	comp=Z,16nm,1.0s							
YKA	**Yellowknife Ar**	**97.64**	**24**	P		**P**	**13 42 47.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=236,slow=4.2,SNR=15							
YKA	**Yellowknife Ar**	**97.64**	**24**	P		**P**	**13 42 47.0**	**-0.4**
LPAZ	**La Paz**	**98.75**	**112**	LR		LR	14 22 36.4	
	comp=Z,43nm,18.2s,baz=85,slow=32							
GTA	**Gaotai**	**100.51**	**308**	*e*P		**Pdif**	**13 43 06.8**	**+5.7**
GTA				pP		pP	13 43 17.1	+2.1
GTA				sP		sP	13 43 21.3	+1.1
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
ZALV	**Zalesovo Beam**	**114.00**	**320**	PKP		PKPdf	13 47 51.1	-0.8
	comp=Z,0.

	comp=Z,15nm,1.2s								
CLL				⇑*i*PKPab	**PKPab**	**13 49 13.6**	**+0.3**		
	comp=Z,11nm,0.8s								
CLL				*i* pPKPbc	**pPKPbc**	**13 49 17.6**	**-2.4**		
	comp=Z,24nm,1.1s								
CLL				*ep*PKPab	**pPKPab**	**13 49 25.0**	**-2.2**		
UPC	**Upice**	**151.10 345**		*e*PKIKP	**PKPbc**	**13 49 07.1**	**+0.9**		
UPC				*e*		13 49 18.6			
UPC	**Upice**	**151.10 345**⇑		*e*PKP	**PKPbc**	**13 49 07.1**	**+0.9**		
UPC				*ep*PKP	PKPab	13 49 18.6	+4.7		
DPC	**Dobruska-Polom**	**151.18 345**		*e*PKIKP	**PKPbc**	**13 49 07.2**	**+0.8**		
DPC				*e*		13 49 18.8			
DPC	**Dobruska-Polom**	**151.18 345**⇑		*e*PKP	**PKPbc**	**13 49 07.2**	**+0.8**		
DPC				*ep*PKP	PKPab	13 49 18.8	+4.5		
BRG	**Berggiesshubel**	**151.21 348**		*e*PKP	**PKPbc**	**13 49 06.9**	**+0.5**		
	comp=Z,11nm,1.2s								
BRG				*e*		13 49 19.4			
	comp=Z,8.2nm,1.0s								
BRG	**Berggiesshubel**	**151.21 348**		*e*PKIKP	**PKPbc**	**13 49 06.9**	**+0.5**		
BRG				*e*		13 49 19.4			
BRG				pmax	pmax				
	comp=Z,2.0nm,1.2s								
BRG				pmax	pmax				
	comp=Z,11nm,1.0s								
MORC	**Moravsky Berou**	**151.38 343**		*e*PKIKP	**PKPbc**	**13 49 07.2**	**+0.3**		
MORC	**Moravsky Berou**	**151.38 343**		*e*PKPbc	**PKPbc**	**13 49 07.2**	**+0.3**		
PVCC	**Panska Ves**	**151.41 347**		*e*PKIKP	**PKPbc**	**13 49 07.6**	**+0.7**		
PVCC				*e*		13 49 19.2			
PVCC	**Panska Ves**	**151.41 347**⇑		*e*PKP	**PKPbc**	**13 49 07.6**	**+0.7**		
PVCC				*ep*PKP	**PKPab**	**13 49 19.2**	**+4.0**		
PRU	**Pruhonice**	**151.92 347**⇑		*e*PKP	**PKPab**	**13 49 18.0**	**+0.7**		
NKC	**Novy Kostel**	**152.09 349**		*e*PKIKP	**PKPbc**	**13 49 09.8**	**+1.3**		
NKC	**Novy Kostel**	**152.09 349**⇑		*e*PKP	**PKPbc**	**13 49 09.8**	**+1.3**		
VYHS	**Vyhne**	**152.14 340**		*e*PKP	**PKPab**	**13 49 19.3**	**+0.9**		
KHC	**Kasperske Hory**	**152.94 347**		*ep*PKP	**pPKPdf**	**13 49 15.5**	**-2.0**		
KHC				*e*PKPAB	**PKPab**	**13 49 22.5**	**+0.8**		
KHC				*ex*	x	13 49 34.5			
GERES	**GERESS Array B**	**153.18 347**		PKPbc	**PKPbc**	**13 49 10.8**	**-0.3**		
	comp=Z,0.6nm,0.7s,baz=64,slow=3.1,SNR=4.4								
GERES				PKPab	**PKPab**	**13 49 23.6**	**+0.8**		
	comp=Z,2.1nm,0.8s,baz=34,slow=0.5,SNR=7.7								
GERES	**GERESS Array B**	**153.18 347**		PKPbc	**PKPbc**	**13 49 10.8**	**-0.3**		
GERES				PKPab	**PKPab**	**13 49 23.6**	**+0.8**		
TORD	**Torodi Ar. Bea**	**169.84 163**		PKP	**PKPdf**	**13 49 20.8**	**-0.9**		
	comp=Z,0.5nm,0.9s,baz=316,slow=4.0,SNR=2.7								
TORD				PKPab	**PKPab**	**13 50 36.1**	**+0.1**		
	comp=Z,1.4nm,0.8s,baz=184,slow=3.9,SNR=6.6								
TORD	**Torodi Ar. Bea**	**169.84 163**		PKP	**PKPdf**	**13 49 20.8**	**-0.9**		
TORD				PKPab	**PKPab**	**13 50 36.1**	**+0.1**		

MAN 20 13:40:57.6 46N×124.60E, h12km, mb4.5, ML3.3, MS3.2, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.51**	**137**⇑	*i* P	Pn	13 41 11.0	+0.7
KCP	**Kidapawan**	**0.73**	**42**⇓	*e* P	Pb	13 41 11.8	0.0
KCP				*i* S	Sn	13 41 27.3	+2.9
CTBH	**Cotabato--PC H**	**0.83**	**335**⇑	*i* P	Pg	13 41 12.6	-0.5
BUKP	**Musuan**	**1.48**	**18**	*e* P	Pg	13 41 25.1	-0.5
BUKP				*e* S	Sg	13 41 46.3	+1.4
IPIL	**Ipil**	**2.41**	**303**⇑	*e* P	Pn	13 41 37.6	+1.3

*IDC **20** 13:42:42.2±0.8, 1.16N×96.88E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.2/29, mbtmp4.3/18, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/39, Error ellipse: s-maj=25.9km s-min=13.9km az=52.0*
*ISCJB **20** 13:42:44.9±0.5, 1.22N±0.06×96.97E±0.05, h28km, mb4.4/32, Error ellipse: s-maj=10.1km s-min=5.9km az=31.5*
*MOS **20** 13:42:45.6±0.8, 1.31N×96.91E, h33km, mb4.7/11, Error ellipse: s-maj=18.4km s-min=9.1km az=83.4*
*NEIC **20** 13:42:47.5±0.5, 1.30N×97.00E, h35km, mb4.4/11, Error ellipse: s-maj=10.8km s-min=7.9km az=47.0*
*DJA **20** 13:42:52.2±0.5, 1°N±4″×97°E±″, h10km, M4.1/8, mb4.2/7, mB5.1/1, MLv4.0/8, Mw(mB)4.4/1*

ISC 20 13:42:46.8±0.7, 1.29N±0.08×96.97E±0.08, h28km, n100, σ1§16/98, mb4.4/39, 1C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.60**	**89**	P	**Pb**	**13 42 58.2**	**-0.7**
TPTI		**1.97**	**6**	P	Pb	13 43 27.1	+5.1
PSI	**Prapat**	**2.46**	**52**	Pn	**Pn**	**13 43 25.2**	**0.0**
	12nm,0.3s,baz=270,slow=4.8,SNR=27						
PSI				Sn	Sn	13 43 38.1	-16
	18nm,0.3s,baz=309,slow=14,SNR=48						
PSI				LR	LR	13 44 15.1	
	comp=Z,370nm,21.2s,baz=325,slow=36						
PSI	**Prapat**	**2.46**	**52**	Pn	**Pn**	**13 43 25.2**	**0.0**
PSI				Sn	Sn	13 43 38.1	-16
PSI	**Prapat**	**2.46**	**52**	P	**Pn**	**13 43 24.9**	**-0.3**
TSI	**Tuntungan**	**2.71**	**36**	P	**Pn**	**13 43 29.8**	**+1.3**
PPI	**Padang Panjang**	**3.84**	**117**	P	**Pn**	**13 43 44.7**	**+0.7**
BSI	**Banda Aceh**	**4.50**	**338**	P	Pb	13 44 02.5	-2.6
IPM	**Ipoh**	**5.14**	**52**	*e*P	**Pn**	**13 44 00.6**	**-1.4**
	30nm,0.6s						
IPM	**Ipoh**	**5.14**	**52**	P	**Pn**	**13 44 03.0**	**+1.0**
IPM	**Ipoh**	**5.14**	**52**	P	**Pn**	**13 44 02.7**	**+0.7**
KULM	**Kulim**	**5.41**	**43**	*e*P	**Pn**	**13 44 05.4**	**-0.3**
	46nm,0.9s						
KULM	**Kulim**	**5.41**	**43**	P	**Pn**	**13 44 05.7**	**0.0**
KULM	**Kulim**	**5.41**	**43**	P	**Pn**	**13 44 05.7**	**0.0**
KGM	**Kluang**	**6.39**	**83**	P	**Pn**	**13 44 19.8**	**+0.7**
SBUM	**Sibu**	**15.28**	**85**	P	**Pn**	**13 46 22.0**	**+1.2**
SBUM	**Sibu**	**15.28**	**85**	P	**Pn**	**13 46 21.9**	**+1.2**
	10nm,1.4s						
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**13 46 44.0**	**-0.9**
	0.6nm,0.3s,baz=197,slow=12,SNR=15						
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**13 46 44.0**	**-0.9**
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P	**Pn**	**13 46 48.0**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P	**Pn**	**13 46 48.0**	**-1.2**
	comp=Z,8.3nm,1.0s						
CHTO	**Chiang Mai**	**17.52**	**6**	P	**Pn**	**13 46 49.9**	**+0.7**
	comp=Z,7.4nm,1.0s						
CMMT	**Chiang Mai**	**17.52**	**6**	P	**Pn**	**13 46 50.4**	**+1.2**
	comp=Z,7.7nm,1.1s						
MYLDM	**Lahad Datu**	**21.84**	**79**	P	**P**	**13 47 39.0**	**+1.8**
	comp=Z,19nm,1.6s						
SHL	**Shillong**	**24.63**	**349**	*i* P	**P**	**13 48 08.0**	**+2.8**
ODAN	**Odare**	**27.04**	**341**	*e*P	**P**	**13 48 29.4**	**+2.3**
	comp=Z,30nm,0.9s						
RAMN	**Ramite**	**27.39**	**340**	*e*P	**P**	**13 48 32.6**	**+2.3**
TAPN	**Taplejung**	**27.39**	**342**	*e*P	**P**	**13 48 32.6**	**+2.2**
	comp=Z,54nm,0.9s						
JIRN	**Jiri**	**28.18**	**339**	*e*P	**P**	**13 48 39.6**	**+2.1**
	comp=Z,5.4nm,0.7s						
PKI	**Pulchoki**	**28.39**	**338**	*e*P	**P**	**13 48 41.1**	**+1.8**
GUN	**Gumba**	**28.52**	**339**	*e*P	**P**	**13 48 42.5**	**+2.0**
	comp=Z,30nm,0.7s						
DMN	**Daman**	**28.53**	**338**	*e*P	**P**	**13 48 43.1**	**+2.6**
	comp=Z,12nm,0.8s						
KKN	**Kakani**	**28.63**	**338**	*e*P	**P**	**13 48 43.1**	**+1.8**
LSA	**Lhasa**	**28.79**	**349**	*e*P	**P**	**13 48 42.9**	**-0.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**28.79**	**349**	*e*P	**P**	**13 48 42.9**	**-0.1**
	comp=Z,5.0nm,0.6s						
GKN	**Gorkha**	**29.07**	**337**	*e*P	**P**	**13 48 47.2**	**+2.1**
DANN	**Dangsing**	**29.73**	**336**	*e*P	**P**	**13 48 53.0**	**+1.9**
	comp=Z,9.2nm,0.5s						
PYUN	**Piuthan**	**29.83**	**335**	*e*P	**P**	**13 48 54.3**	**+2.4**
	comp=Z,18nm,0.8s						
ENH	**Enshi**	**31.18**	**21**	*e*P	**P**	**13 49 02.3**	**-1.3**
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**34.17**	**126**	P	**P**	**13 49 27.9**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=118,slow=7.6,SNR=7.6						
FITZ				S	S	13 54 45.7	-9.1
	comp=Z,2.0nm,0.9s,baz=187,slow=17,SNR=3.7						
FITZ	**Fitzroy Crossi**	**34.17**	**126**	P	**P**	**13 49 27.9**	**-2.0**
FITZ				*e*P	pP	13 49 28.5	-10
FITZ				S	S	13 54 45.7	-9.1
WRA	**Warramunga Arr**	**42.28**	**122**	P	**P**	**13 50 37.5**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=301,slow=9.0,SNR=37						
WRA	**Warramunga Arr**	**42.28**	**122**	P	**P**	**13 50 37.5**	**-0.7**
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**13 50 37.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**13 50 37.3**	**-1.0**
	comp=Z,2.9nm,0.4s						
WSAR	**Wadi Sarin**	**43.11**	**303**	P	**P**	**13 50 45.3**	**+0.3**
	comp=Z,5.4nm,1.1s,baz=84,slow=5.7,SNR=3.8						
WSAR	**Wadi Sarin**	**43.11**	**303**	P	**P**	**13 50 45.3**	**+0.3**
ASAR	**Alice Springs**	**43.63**	**127**	P	**P**	**13 50 49.1**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=298,slow=8.0,SNR=35						
ASAR	**Alice Springs**	**43.63**	**127**	P	**P**	**13 50 49.1**	**-0.1**
TKM2	**Tokmak 2**	**45.65**	**338**	*e*P	**P**	**13 51 04.3**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	**Tokmak 2**	**45.65**	**338**	*e*P	**P**	**13 51 04.3**	**-0.9**
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**13 51 05.3**	**-1.3**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s						
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**13 51 05.3**	**-1.3**
	comp=Z,17nm,1.2s						
KSAR	**Wonju Array Be**	**45.87**	**35**	P	**P**	**13 51 07.2**	**+0.5**
KSRS	**Korea Array**	**45.90**	**35**	P	**P**	**13 51 07.2**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=223,slow=9.0,SNR=18						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**13 51 17.3**	**+1.0**
	comp=Z,4.6nm,0.7s,baz=193,slow=8.7,SNR=11						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**13 51 17.3**	**+1.0**
MK31	**Makanchi Array**	**47.10**	**346**	*e*P	**P**	**13 51 15.7**	**-0.6**
MK31	**Makanchi Array**	**47.10**	**346**	*e*P	**P**	**13 51 15.7**	**-0.6**
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**13 51 17.6**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=159,slow=9.1,SNR=43						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**13 51 17.6**	**+1.3**
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**13 51 17.6**	**+1.3**
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**13 51 16.6**	**-0.7**
	comp=Z,1.7nm,0.6s						
ULN	**Ulaanbaatar**	**47.21**	**9**	P	**P**	**13 51 18.5**	**+1.2**
ZAK	**Zakamensk**	**49.20**	**5**	*e*P	**P**	**13 51 31.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURK	**Kurchatov**	**51.65**	**345**	*de*P	**P**	**13 51 51.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**51.65**	**345**	*e*P	**P**	**13 51 49.8**	**-1.1**
	comp=Z,5.7nm,1.0s						
MJAR	**Matsushiro Arr**	**51.78**	**43**	P	**P**	**13 51 52.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=256,slow=14,SNR=3.8						
MJAR	**Matsushiro Arr**	**51.78**	**43**	P	**P**	**13 51 52.8**	**+0.6**
USRK	**Ussuriysk Arra**	**52.82**	**31**	P	**P**	**13 52 00.7**	**+0.9**
	comp=Z,11nm,0.8s,baz=230,slow=5.2,SNR=18						
ZAA0	**Zalesovo Array**	**53.43**	**351**	*e*P	**P**	**13 52 04.3**	**+0.2**
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**13 52 05.2**	**+1.1**
	comp=Z,15nm,0.6s,baz=182,slow=6.1,SNR=61						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**13 52 05.2**	**+1.1**
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**13 52 05.2**	**+1.1**
STKA	**Stephens Creek**	**53.59**	**132**	P	**P**	**13 52 06.5**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=310,slow=9.3,SNR=9.8						
STKA	**Stephens Creek**	**53.59**	**132**	P	**P**	**13 52 06.5**	**+0.8**
NVS	**Novosibirsk**	**54.55**	**350**	*e*P	**P**	**13 52 12.2**	**0.0**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
BVAR	**Borovoye Array**	**56.09**	**341**	P	**P**	**13 52 23.9**	**+0.5**
	comp=N,4.1nm,0.7s,baz=141,slow=8.8,SNR=27						
BVAR	**Borovoye Array**	**56.09**	**341**	P	**P**	**13 52 23.9**	**+0.5**
BVAR	**Borovoye Array**	**56.09**	**341**	P	**P**	**13 52 23.9**	**+0.5**
BRVK	**Borovoye**	**56.15**	**341**	*ce*P	**P**	**13 52 24.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**56.15**	**341**	*e*P	**P**	**13 52 22.6**	**-1.2**
	comp=Z,7.3nm,1.3s						
KLR	**Kul'dur**	**56.28**	**27**	*e*P	**P**	**13 52 23.2**	**-1.6**
ABKAR	**Akbulak array**	**57.33**	**332**	*e*P	**P**	**13 52 31.6**	**-0.6**
	comp=Z,5.8nm,0.8s						
BOD	**Bodaibo**	**57.96**	**11**	*e*P	**P**	**13 52 37.3**	**+0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**60.40**	**34**	*e*P	**P**	**13 52 53.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**60.40**	**34**	*e*P	**P**	**13 52 53.8**	**+0.2**
SVE	**Sverdlovsk**	**62.52**	**338**	*e*P	**P**	**13 53 08.8**	**+1.0**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**65.40**	**16**	*e*P	**P**	**13 53 26.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
TIXI	**Tiksi**	**73.14**	**10**	*e*P	**P**	**13 54 14.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	**73.14**	**10**	*e*P	**P**	**13 54 14.1**	**-0.2**
	comp=Z,1.6nm,0.5s						
SEY	**Seymchan**	**73.77**	**23**	*de*P	**P**	**13 54 17.8**	**-0.4**
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**13 54 52.5**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=102,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**13 54 52.5**	**+0.2**
ARCES	**ARCESS Array B**	**82.37**	**340**	P	**P**	**13 55 05.2**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=86,slow=7.8,SNR=6.0						
ARCES	**ARCESS Array B**	**82.37**	**340**	P	**P**	**13 55 05.2**	**-0.7**
GERES	**GERESS Array B**	**84.59**	**319**	P	**P**	**13 55 16.1**	**-1.8**
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**13 55 28.6**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=93,slow=4.8,SNR=3.2						
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**13 55 28.6**	**+0.1**

IDC 20 13:46:14.8±0.7, 3.57N×126.64E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, 1D, Error ellipse: s-maj=36.7km s-min=14.2km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.34**	**327**	*i* P	Pb	13 47 28.2	-3.8
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	P	13 51 07.4	+1.5
	1.6nm,0.5s,baz=25,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**24.56**	**162**	P	P	13 51 35.2	-1.3
	10nm,0.8s,baz=342,slow=10,SNR=24						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	13 52 07.4	0.0
	0.8nm,0.6s,baz=345,slow=7.0,SNR=12						
ASAR				PcP	PcP	13 55 23.2	+0.4
	0.9nm,0.7s,baz=353,slow=2.6,SNR=7.2						
CMAR	**Chiang Mai Arr**	**30.87**	**301**	P	P	13 52 34.0	+0.8
	0.4nm,0.3s,baz=119,slow=7.3,SNR=3.5						
KSRS	**Korea Array**	**33.74**	**2**	P	P	13 52 58.0	-0.1
	0.9nm,0.6s,baz=181,slow=10.0,SNR=6.9						
STKA	**Stephens Creek**	**38.01**	**159**	P	P	13 53 34.6	-0.1
	5.8nm,0.8s,baz=340,slow=7.8,SNR=8.7						
PETK	**Petropavlovsk-**	**55.61**	**22**	P	P	13 55 53.3	+1.0
	9.0nm,1.2s,baz=188,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	13 56 06.2	-0.7
	0.9nm,0.6s,baz=117,slow=8.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	P	13 56 27.0	-0.8
	0.3nm,0.4s,baz=111,slow=6.3,SNR=2.4						
BVAR	**Borovoye Array**	**67.40**	**327**	P	P	13 57 11.9	-0.1
	1.1nm,0.7s,baz=157,slow=9.2,SNR=5.9						
ILAR	**Eielson Array**	**85.29**	**25**	P	P	13 58 53.4	+0.1
	0.8nm,1.0s,baz=226,slow=7.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	PKPdf	14 05 13.7	-0.4
	0.8nm,0.8s,baz=19,slow=1.3,SNR=4.7						

IDC 20 13:50:10.8±10.0, 21.39S×174.25E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=295.6km s-min=62.2km az=137.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**37.26**	**259**	P	P	13 57 23.2	-1.4
	0.3nm,0.4s,baz=88,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**37.31**	**265**	P	P	13 57 25.9	+0.8
	0.5nm,0.3s,baz=96,slow=8.5,SNR=31						
SONM	**Songino Array**	**91.79**	**321**	P	P	14 03 20.7	+0.1
	1.1nm,0.7s,baz=131,slow=4.0,SNR=3.5						

IDC 20 13:54:38.8±1.5, 22.76S×174.83W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.1/22, mbtmp4.1/10, ML2.5/1, Error ellipse: s-maj=61.0km s-min=19.3km az=149.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.27**	**19**	Pn	Pn	13 56 52.3	-1.6
	2.7nm,0.3s,baz=101,slow=22,SNR=5.9						
CTA	**Charters Tower**	**36.26**	**267**	P	P	14 01 43.7	-0.4
	5.1nm,0.6s,baz=97,slow=10,SNR=9.0						
STKA	**Stephens Creek**	**39.55**	**247**	P	P	14 02 12.8	+1.0
	1.2nm,0.8s,baz=70,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**46.92**	**258**	P	P	14 03 10.9	-0.6
	1.1nm,0.9s,baz=94,slow=6.5,SNR=13						
WRA	**Warramunga Arr**	**47.25**	**263**	P	P	14 03 13.0	-1.1
	3.9nm,0.7s,baz=103,slow=8.5,SNR=46						
FITZ	**Fitzroy Crossi**	**55.67**	**263**	P	P	14 04 17.6	+0.3
	1.9nm,0.9s,baz=107,slow=9.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**73.78**	**322**	P	P	14 06 15.8	+0.6
	1.1nm,0.6s,baz=154,slow=6.2,SNR=5.3						
NVAR	**Mina Array Bea**	**80.69**	**42**	P	P	14 06 54.4	+0.2
	0.8nm,0.6s,baz=223,slow=7.9,SNR=5.4						
TXAR	**Lajitas Array**	**85.83**	**56**	P	P	14 07 19.9	-0.8
	0.7nm,0.8s,baz=198,slow=7.9,SNR=5.5						
ILAR	**Eielson Array**	**89.89**	**12**	P	P	14 07 40.1	+0.9
	0.5nm,0.9s,baz=206,slow=6.1,SNR=4.0						

*ISCJB **20** 13:55:15.7±0.5, 39.09N±0.03×29.03E±0.03, h2km±6km, Error ellipse: s-maj=5.3km s-min=3.3km az=165.9*
*ISK **20** 13:55:15.4, 39.08N×29.04E, h5km, MD2.8*
*DDA **20** 13:55:15.6, 39.10N×29.02E, h7km, MD2.9*
*CSEM **20** 13:55:16.0±0.1, 39.09N×29.04E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.7km az=162.0*

ISC 20 13:55:16.1±0.9, 39.09N±0.02×29.04E±0.02, h13km±8km, n40, σ0§45/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**259**	*i* P	**Pg**	**13 55 21.5**	**0.0**
DEMI				*i* S	**Sg**	**13 55 25.0**	**-0.2**
DEMI	**Demirci**	**0.25**	**259**	*i* P	**Pg**	**13 55 21.5**	**0.0**
DEMI				*i* S	**Sg**	**13 55 25.0**	**-0.2**
GDZ	**Gediz**	**0.35**	**90**	*i* P	**Pg**	**13 55 23.2**	**0.0**
GDZ				*i* S	**Sg**	**13 55 28.3**	**+0.3**
GDZ	**Gediz**	**0.35**	**90**	*i* P	**Pg**	**13 55 23.2**	**0.0**
GDZ				*i* S	**Sg**	**13 55 28.3**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**43**	*e*PG	**Pg**	**13 55 25.3**	**-0.4**
TVSB				*e*SG	**Sg**	**13 55 31.8**	**-0.5**
TVSB	**Tavsanli**	**0.49**	**43**	*e*Pg	**Pg**	**13 55 25.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**13 55 31.8**	**-0.5**
DST	**Dursunbey**	**0.60**	**328**	*e*PG	**Pg**	**13 55 27.7**	**-0.2**
DST	**Dursunbey**	**0.60**	**328**	*e*Pg	**Pg**	**13 55 27.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**13 55 28.9**	**+0.2**
KULA				*e*SG	**Sg**	**13 55 37.1**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**13 55 28.9**	**+0.2**
KULA				*e*Sg	**Sg**	**13 55 37.1**	**-0.1**
DURS	**Dursunbey**	**0.67**	**320**	*i* P	**Pg**	**13 55 29.1**	**-0.1**
DURS				*e*S	**Sg**	**13 55 38.3**	**+0.3**
DURS	**Dursunbey**	**0.67**	**320**	*i* P	**Pg**	**13 55 29.1**	**-0.1**
DURS				*e*S	**Sg**	**13 55 38.3**	**+0.3**
ALT	**Altintas**	**0.84**	**92**	*e*PG	**Pg**	**13 55 32.2**	**-0.1**
ALT				*e*SG	**Sb**	**13 55 43.7**	**0.0**
ALT	**Altintas**	**0.84**	**92**	*e*Pg	**Pg**	**13 55 32.2**	**-0.1**
ALT				*e*Sg	**Sb**	**13 55 43.7**	**0.0**
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pg**	**13 55 31.7**	**-1.0**
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pg**	**13 55 31.7**	**-1.0**
ORLT	**Orhaneli**	**0.96**	**354**	*e*PG	**Pg**	**13 55 33.7**	**-0.9**
ORLT	**Orhaneli**	**0.96**	**354**	*e*Pg	**Pg**	**13 55 33.7**	**-0.9**
AKHS	**Akhisar**	**0.98**	**258**	*i* P	**Pg**	**13 55 35.1**	**+0.2**
AKHS				*i* S	**Sg**	**13 55 48.0**	**+0.3**
AKHS	**Akhisar**	**0.98**	**258**	*i* P	**Pg**	**13 55 35.1**	**+0.2**
AKHS				*i* S	**Sg**	**13 55 48.0**	**+0.3**
AKS	**Akhisar**	**0.98**	**258**	*e*PG	**Pg**	**13 55 34.6**	**-0.3**
AKS	**Akhisar**	**0.98**	**258**	*e*Pg	**Pg**	**13 55 34.6**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pg**	**13 55 40.5**	**-0.1**
**

STKA	**Stephens Creek**	**39.26**	**247**	P		**P**	**14 07 29.7**	**-0.9**
	2.7nm,0.5s,baz=97,slow=10,SNR=17							
STKA	**Stephens Creek**	**39.26**	**247**	P		**P**	**14 07 29.7**	**-0.9**
STKA	**Stephens Creek**	**39.26**	**247**	P		**P**	**14 07 29.7**	**-0.9**
	baz=40,SNR=7.8							
BBOO	**Buckleboo**	**43.97**	**246**	P		**P**	**14 08 07.4**	**-1.8**
	baz=45,SNR=5.3							
AS31	**Alice Springs**	**46.65**	**259**	*e*P		**P**	**14 08 27.4**	**-3.2**
ASAR	**Alice Springs**	**46.66**	**259**	P		**P**	**14 08 29.4**	**-1.3**
	18nm,1.0s,baz=94,slow=7.1,SNR=114							
ASAR	**Alice Springs**	**46.66**	**259**	P		**P**	**14 08 29.4**	**-1.3**
WRAB	**Tennant Creek**	**46.99**	**264**	*e*P		**P**	**14 08 30.1**	**-3.1**
	9.7nm,0.7s							
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**14 08 31.2**	**-2.1**
	10.0nm,0.7s,baz=103,slow=7.9,SNR=114							
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**14 08 31.2**	**-2.1**
KDU	**Kakadu**	**50.74**	**272**	P		**P**	**14 09 00.3**	**-1.7**
	baz=51,SNR=6.6							
MTN	**Manton Dam**	**51.93**	**271**	P		**P**	**14 09 09.1**	**-1.8**
	baz=52,SNR=3.4							
FITZ	**Fitzroy Crossi**	**55.42**	**263**	P		**P**	**14 09 35.7**	**-0.9**
	6.0nm,0.7s,baz=111,slow=7.9,SNR=19							
FITZ	**Fitzroy Crossi**	**55.42**	**263**	P		**P**	**14 09 35.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**55.42**	**263**	P		**P**	**14 09 35.7**	**-0.9**
	baz=56,SNR=8.2							
SBA	**Scott Base**	**55.62**	**185**	*e*P		**P**	**14 09 39.4**	**+2.3**
	222nm,2.9s							
VNDA	**Vanda**	**55.73**	**186**	P		**P**	**14 09 40.0**	**+2.2**
	1.9nm,0.2s,baz=353,slow=6.6,SNR=21							
VNDA	**Vanda**	**55.73**	**186**	*e*P		**P**	**14 09 38.7**	**+0.8**
	6.0nm,1.0s							
MEEK	**Meekatharra**	**59.71**	**252**	P		**P**	**14 10 05.5**	**-1.2**
	baz=60,SNR=6.2							
BLDU	**Ballidu**	**60.57**	**247**	P		**P**	**14 10 11.8**	**-0.7**
	baz=61,SNR=9.2							
MORW	**Morawa**	**61.44**	**248**	P		**P**	**14 10 17.8**	**-0.6**
	baz=62,SNR=9.8							
QSPA	**South Pole Qui**	**67.12**	**180**	P		**P**	**14 10 55.3**	**+0.2**
	8.4nm,1.0s,baz=94,slow=1.1,SNR=18							
QSPA	**South Pole Qui**	**67.12**	**180**	*e*P		**P**	**14 10 56.2**	**+1.0**
QSPA				*ep*P		**pP**	**14 11 05.1**	**+0.6**
MJAR	**Matsushiro Arr**	**73.81**	**322**	P		**P**	**14 11 35.1**	**-1.1**
	2.0nm,0.7s,baz=160,slow=5.9,SNR=9.1							
MJAR	**Matsushiro Arr**	**73.81**	**322**	P		**P**	**14 11 35.1**	**-1.1**
TPUB	**Ta-pu**	**77.59**	**302**	*e*P		**P**	**14 11 55.8**	**-2.3**
	25nm,1.1s							
ISA	**Isabella**	**79.16**	**44**	*e*P		**P**	**14 12 07.1**	**+0.5**
	7.0nm,1.3s							
PETK	**Petropavlovsk-**	**79.36**	**344**	P		**P**	**14 12 07.5**	**+0.3**
	5.8nm,0.8s,baz=146,slow=10,SNR=3.7							
PETK	**Petropavlovsk-**	**79.36**	**344**	P		**P**	**14 12 07.5**	**+0.3**
KSRS	**Korea Array**	**80.53**	**317**	P		**P**	**14 12 14.7**	**+0.8**
	1.9nm,0.7s,baz=126,slow=6.1,SNR=8.4							
KSAR	**Wonju Array Be**	**80.55**	**317**	P		**P**	**14 12 14.7**	**+0.7**
YBH	**Yreka Blue Hor**	**80.56**	**37**	P		**P**	**14 12 14.1**	**+0.1**
	4.3nm,1.0s,baz=86,slow=1.6,SNR=8.8							
YBH	**Yreka Blue Hor**	**80.56**	**37**	*e*P		**P**	**14 12 13.3**	**-0.7**
	10nm,1.5s							
NVAR	**Mina Array Bea**	**80.99**	**42**	P		**P**	**14 12 15.4**	**-1.2**
	3.1nm,0.8s,baz=225,slow=8.7,SNR=19							
NVAR	**Mina Array Bea**	**80.99**	**42**	P		**P**	**14 12 15.4**	**-1.2**
USRK	**Ussuriysk Arra**	**82.52**	**325**	P		**P**	**14 12 25.9**	**+1.6**
	9.0nm,0.8s,baz=121,slow=3.8,SNR=20							
NJ2	**Nanjing**	**83.54**	**309**	*e*P		**P**	**14 12 31.5**	**+1.7**
NJ2				pmax	pmax			
	comp=Z,20nm,0.9s							
CCUT	**Cedar City**	**83.58**	**45**	*e*P		**P**	**14 12 29.8**	**-0.5**
	comp=Z,5.2nm,1.0s							
CCUT				*ep*P		**pP**	**14 12 43.4**	**+3.6**
ARUT	**Antelope Range**	**83.67**	**45**	*e*P		**P**	**14 12 30.7**	**+0.1**
	comp=Z,2.3nm,0.8s							
MDJ	**Mudanjiang**	**84.10**	**324**	P		**P**	**14 12 33.6**	**+1.2**
MDJ				pmax	pmax			
	comp=Z,11nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,70nm,4.2s							
MDJ	**Mudanjiang**	**84.10**	**324**	*e*P		**P**	**14 12 30.4**	**-1.9**
	comp=Z,11nm,1.0s							
MVU	**Marysvale**	**84.87**	**45**	*e*P		**P**	**14 12 36.1**	**-0.6**
	comp=Z,10nm,1.4s							
MSU	**Marysvale**	**84.90**	**45**	*e*P		**P**	**14 12 36.9**	**0.0**
SYO	**Syowa Base**	**84.91**	**192**	*e*P		**P**	**14 12 34.6**	**-1.6**
SNAA	**Sanae**	**85.47**	**178**	*e*P		**P**	**14 12 38.8**	**-0.2**
	comp=Z,5.1nm,1.0s							
VNA3	**Neumayer Olymp**	**85.50**	**175**	*e*P		**P**	**14 12 39.4**	**+0.2**
BMO	**Blue Mountains**	**85.58**	**37**	*e*P		**P**	**14 12 40.0**	**0.0**
	comp=Z,13nm,1.8s							
CN2	**Changchun**	**85.91**	**321**	*e*P		**P**	**14 12 42.5**	**+1.0**
CN2				*ep*P		**pP**	**14 12 53.0**	**+1.9**
CN2				*e*S		**S**	**14 23 12.5**	**-0.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,400nm,16.0s							
CN2				LR	LR			
	comp=E,200nm,16.0s							
CN2				LR	LR			
	comp=Z,500nm,18.0s							
TMUT	**Trail Mountain**	**85.97**	**44**	*e*P		**P**	**14 12 42.0**	**-0.3**
	comp=Z,6.4nm,1.1s							
VNA2	**Neumayer--Watz**	**85.97**	**176**	*e*P		**P**	**14 12 42.1**	**+0.6**
	baz=208,slow=2.5							
TXAR	**Lajitas Array**	**86.13**	**56**	P		**P**	**14 12 41.8**	**-1.2**
	comp=Z,3.9nm,0.4s,baz=267,slow=16,SNR=38							
TXAR	**Lajitas Array**	**86.13**	**56**	P		**P**	**14 12 41.8**	**-1.2**
IPM	**Ipoh**	**86.13**	**276**	*e*P		**P**	**14 12 44.0**	**+0.6**
	comp=Z,12nm,0.7s							
VNA1	**Neumayer--Stat**	**86.18**	**176**	*e*P		**P**	**14 12 43.5**	**+1.0**
SRU	**San Rafael**	**86.31**	**45**	*e*P		**P**	**14 12 44.4**	**+0.6**
	comp=Z,6.0nm,1.2s							
GAMB	**Gambell**	**86.49**	**2**	*e*P		**P**	**14 12 43.0**	**-0.9**
	comp=Z,6.3nm,1.0s							
ANMO	**Albuquerque**	**86.85**	**50**	P		**P**	**14 12 46.4**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=259,slow=5.1,SNR=4.3							
ANMO	**Albuquerque**	**86.85**	**50**	P		**P**	**14 12 46.4**	**-0.2**
GDL2	**Guadalupe Moun**	**86.99**	**53**	*e*P		**P**	**14 12 46.6**	**-0.7**
PSI	**Prapat**	**87.40**	**274**	P		**P**	**14 12 48.8**	**-0.9**
	comp=Z,6.2nm,0.7s,baz=192,slow=16,SNR=4.3							
PSI	**Prapat**	**87.40**	**274**	P		**P**	**14 12 48.8**	**-0.9**
NEW	**Newport**	**87.81**	**35**	P		**P**	**14 12 50.0**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=7.9,slow=6.2,SNR=4.1							
NEW	**Newport**	**87.81**	**35**	P		**P**	**14 12 50.0**	**-0.7**
TRF	**Thorofare Moun**	**88.31**	**11**	*e*P		**P**	**14 12 52.1**	**-0.8**
	comp=Z,80nm,2.2s							
PDAR	**Pinedale Array**	**88.92**	**42**	P		**P**	**14 12 55.8**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=204,slow=3.3,SNR=7.9							
PDAR	**Pinedale Array**	**88.92**	**42**	P		**P**	**14 12 55.8**	**-0.6**
ENH	**Enshi**	**89.66**	**303**	*e*P		**P**	**14 12 59.4**	**-0.5**
	comp=Z,3.1nm,0.5s							
DOT	**Dot Lake**	**89.69**	**13**	*e*P		**P**	**14 12 59.7**	**+0.5**
	comp=Z,8.6nm,1.0s							
ILAR	**Eielson Array**	**90.13**	**12**	P		**P**	**14 13 00.9**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=223,slow=5.1,SNR=9.7							
ILAR	**Eielson Array**	**90.13**	**12**	P		**P**	**14 13 00.9**	**-0.2**
GYA	**Guiyang**	**90.22**	**299**	*e*P		**P**	**14 13 03.0**	**+0.3**
GYA				pP		**pP**	**14 13 14.3**	**+2.0**
GYA				sP		**sP**	**14 13 19.8**	**+4.0**
GYA				PP		**PP**	**14 16 40.0**	**+3.0**
GYA				SKS		**SKSac**	**14 23 29.8**	**-2.3**
GYA				S		**S**	**14 23 52.8**	**-2.2**
GYA				SS		**SS**	**14 29 55.4**	**+0.1**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,90nm,5.6s							
GYA				LR	LR			
	comp=N,460nm,20.8s							
GYA				LR	LR			
	comp=E,410nm,25.0s							
GYA				LR	LR			
	comp=Z,450nm,21.6s							
XAN	**Xi'an**	**91.78**	**306**	P		**P**	**14 13 10.5**	**+0.8**
XAN				pP		**pP**	**14 13 19.3**	**0.0**
XAN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,23nm,6.7s							
KMI	**Kunming**	**92.88**	**296**	P		**P**	**14 13 14.0**	**-1.2**
KMI				pmax	pmax			
	comp=Z,11nm,0.5s							
HHC	**Hu-ho-hao-te**	**93.02**	**313**	*e*P		**P**	**14 13 16.8**	**+1.5**
HHC				pP		**pP**	**14 13 26.3**	**+1.4**
HHC				sP		**sP**	**14 13 31.1**	**+2.7**
HHC				PP		**PP**	**14 17 02.8**	**+4.1**
HHC				SKS		**SKSac**	**14 23 47.1**	**-0.2**
HHC				S		**S**	**14 24 16.9**	**-2.7**
HHC				sS		**sS**	**14 24 34.8**	**-0.9**
HHC				SS		**SS**	**14 30 35.1**	**+0.1**
HHC				pmax	pmax			
	comp=Z,8.0nm,1.5s							
HHC				pmax	pmax			
	comp=Z,77nm,3.6s							
HHC				LR	LR			
	comp=N,170nm,17.8s							
HHC				LR	LR			
	comp=E,140nm,17.8s							
HHC				LR	LR			
	comp=Z,110nm,16.6s							
RSSD	**Black Hills**	**93.06**	**43**	*e*P		**P**	**14 13 15.9**	**+0.4**
	comp=Z,53nm,2.7s							
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P		**P**	**14 13 16.3**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=130,slow=2.9,SNR=24							
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P		**P**	**14 13 16.3**	**-1.5**
CHTO	**Chiang Mai**	**93.62**	**289**	*e*P		**P**	**14 13 15.5**	**-3.0**
	comp=Z,1.3nm,0.6s							
CD2	**Chengdu**	**94.40**	**302**	P		**P**	**14 13 22.8**	**+1.0**
CD2				pP		**pP**	**14 13 33.4**	**+1.9**
CD2				sP		**sP**	**14 13 37.3**	**+2.4**
CD2				PP		**PP**	**14 17 13.1**	**+3.4**
CD2				SKS		**SKSac**	**14 23 53.9**	**-1.2**
CD2				S		**S**	**14 24 29.6**	**-2.5**
CD2				sS		**sS**	**14 24 47.3**	**-0.9**
CD2				SS		**SS**	**14 30 56.3**	**+1.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,100nm,3.5s							
CD2				LR	LR			
	comp=E,170nm,5.4s							
CD2				LR	LR			
	comp=Z,200nm,5.9s							
LZH	**Lanzhou**	**96.42**	**306**	*e*P		**P**	**14 13 34.0**	**+2.9**
LZH				pP		**pP**	**14 13 44.1**	**+3.4**
LZH				sP		**sP**	**14 13 47.8**	**+3.6**
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
YKA	**Yellowknife Ar**	**97.62**	**24**	P		Pdif	14 13 35.3	-0.3
	comp=Z,0.6nm,0.8s,baz=237,slow=4.5,SNR=14							
YKA	**Yellowknife Ar**	**97.62**	**24**	P		Pdif	14 13 35.4	-0.3
GTA	**Gaotai**	**100.63**	**308**	*e*P		**Pdif**	**14 13 50.6**	**+0.8**
GTA				pP		pP	14 14 01.3	+1.7
GTA				sP		sP	14 14 05.3	+2.3
GTA				pmax	pmax			
	comp=Z,2.0nm,2.2s							
TZTN	**Tazewell**	**104.46**	**56**	*e*P		**Pdif**	**14 14 06.7**	**-0.1**
	comp=Z,85nm,1.3s							
ZALV	**Zalesovo Beam**	**114.11**	**320**	PKiKP		PKPdf	14 18 38.5	-2.0
	comp=Z,0.5nm,0.4s,baz=174,slow=1.4,SNR=3.2							
ZALV	**Zalesovo Beam**	**114.11**	**320**	PKiKP		PKPdf	14 18 38.5	-2.0
MKAR	**Makanchi Array**	**114.86**	**312**	PKP		PKPdf	14 18 40.2	-2.0
	comp=Z,0.5nm,0.6s,baz=265,slow=0.8,SNR=6.6							
MKAR	**Makanchi Array**	**114.86**	**312**	PKP		PKPdf	14 18 40.2	-2.0
KSH	**Kashi**	**118.52**	**304**	*e*PKP		**PKPdf**	**14 18 50.0**	**+0.4**
KSH				*es*PKP			14 19 04.8	
KSH				*e*PP		PP	14 20 13.8	+6.6
KSH				PKS		**PKSdf**	**14 22 24.8**	**-1.6**
KSH				SKS		**SKSdf**	**14 25 57.9**	**-1.9**
KSH				SKKS		**SKKSac**	**14 27 01.0**	**-4.3**
KSH				SS		**SS**	**14 36 25.8**	**+2.7**
KSH				AMB	AMB			
	comp=Z,88nm,4.7s							
KSH				LR	LR			
	comp=N,48nm,5.8s							
KSH				LR	LR			
	comp=E,75nm,4.7s							
KSH				LR	LR			
	comp=Z,150nm,5.9s							
AKASG	**Malin Array Be**	**146.47**	**332**	PKPbc		**PKPbc**	**14 19 42.0**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=38,slow=4.0,SNR=17							
AKASG	**Malin Array Be**	**146.47**	**332**	PKPbc		**PKPbc**	**14 19 42.0**	**-0.5**
KIEV	**Kiev**	**146.48**	**332**	*e*PKPbc		**PKPbc**	**14 19 42.0**	**-0.5**
AK01	**Malin Array Si**	**146.48**	**332**	*e*PKPdf		**PKPdf**	**14 19 39.7**	**-1.4**
AK02	**Malin Array Si**	**146.51**	**332**	*e*PKPab		**PKPbc**	**14 19 41.7**	**-0.9**
MALT	**Malatya**	**147.58**	**306**	*e*PKPab		**PKPab**	**14 19 47.0**	**-1.4**
BR131	**Keskin Array S**	**150.50**	**311**	*e*PKPbc		**PKPbc**	**14 19 53.1**	**-0.5**
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc		**PKPbc**	**14 19 53.2**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=114,slow=2.7,SNR=16							
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc		**PKPbc**	**14 19 53.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**150.51**	**332**	*e*PKPbc		**PKPbc**	**14 19 53.6**	**+0.3**
CLL	**Collm**	**151.02**	**350**	*i* PKPbc		**PKPbc**	**14 19 54.3**	**+0.1**
CLL				*i* pPKPbc		**pPKPbc**	**14 20 06.1**	**+2.0**
	comp=Z,7.0nm,0.8s							
BRG	**Berggiesshuebel**	**151.27**	**348**	*e*PKP		**PKPbc**	**14 19 55.5**	**+0.7**
	comp=Z,8.6nm,0.9s							
GERES	**GERESS Array B**	**153.25**	**347**	PKP		**PKPdf**	**14 19 52.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=185,slow=4.5,SNR=2.9							
GERES				PKPab		**PKPab**	**14 20 09.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=19,slow=6.2,SNR=2.8							
GERES	**GERESS Array B**	**153.25**	**347**	PKP		**PKPdf**	**14 19 52.9**	**+0.9**
GERES				PKPab		**PKPab**	**14 20 09.8**	**-1.5**
ESDC	**Sonseca Array**	**161.71**	**22**	PKPab		**PKPab**	**14 20 46.7**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=328,slow=4.6,SNR=3.2							
ESDC	**Sonseca Array**	**161.71**	**22**	PKPab		**PKPab**	**14 20 46.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**169.76**	**162**	PKPab		**PKPab**	**14 21 25.9**	**+2.0**
	comp=Z,1.3nm,0.9s,baz=185,slow=3.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**169.76**	**162**	PKPab		**PKPab**	**14 21 25.9**	**+2.0**

IDC 20 14:17:41.0±2.0, 17.79S×174.13W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/23, mbtmp4.0/6, ML1.8/1, Error ellipse: s-maj=45.9km s-min=18.0km az=99.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.47**	**31**	Pn	Pn	14 18 51.1	+0.9
	3.0nm,0.3s,baz=54,slow=3.0,SNR=13						
AFI				Sn	Sn	14 19 35.7	-7.4
	17nm,0.3s,baz=212,slow=23,SNR=12						
URZ	**Urewera**	**21.79**	**199**	P	P	14 22 32.7	-1.9
	5.5nm,0.5s,baz=299,slow=3.5,SNR=15						
STKA	**Stephens Creek**	**42.27**	**242**	P	P	14 25 35.4	-1.1
	1.2nm,0.8s,baz=75,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**48.66**	**259**	P	P	14 26 27.1	-0.2
	0.7nm,0.5s,baz=98,slow=6.8,SNR=52						
ASAR	**Alice Springs**	**48.74**	**254**	P	P	14 26 28.1	+0.2
	1.9nm,0.6s,baz=88,slow=8.7,SNR=60						
FITZ	**Fitzroy Crossi**	**57.06**	**260**	P	P	14 27 29.7	+0.3
	1.0nm,0.8s,baz=112,slow=5.4,SNR=2.7						

*IDC **20** 14:21:41.4±1.0, 19.00S×167.85E, h0km, mb4.5/16, mb1 4.7/16, mb1mx4.6/21, mbtmp4.5/16, MS4.1/11, Ms1 4.1/11, ms1mx3.9/27, Error ellipse: s-maj=34.4km s-min=16.5km az=159.0*

*NOU **20** 14:21:44.0±0.6, 18.18S×167.57E, h30km, MD3.4, ML2.8*

*ISCJB **20** 14:21:45.4±3.3, 18.47S±0.04×167.69E±0.06, h30km±23km, mb4.8/53, MS4.3/17, Error ellipse: s-maj=9.1km s-min=7.1km az=14.8*

*MOS **20** 14:21:46.6±1.3, 18.17S×167.40E, h33km, mb5.3/15, Error ellipse: s-maj=12.4km s-min=10.5km az=168.5*

*NEIC **20** 14:21:49.3±0.3, 18.06S×167.46E, mb5.0/26, Error ellipse: s-maj=10.3km s-min=8.0km az=150.0*

*BJI **20** 14:21:51.9, 18.00S×166.97E, h46km, mB5.1/19, mb4.8/30, Ms5.0/21, Ms7 4.7/17*

*DJA **20** 14:21:52.1±0.6, 18.S±6.×16.7E±., h10km, M5.0/20, mB5.2/2, mb5.0/20, Mw(mB)4.5/2*

*AUST **20** 14:21:58.1, 17.49S×167.91E, h200km*

ISC 20 14:21:49.8±0.4, 18.42S±0.04×167.46E±0.05, h48km±2km, h48km:pP-P, n189, σ1§87/195, mb4.9/53, MS4.3/19, 9C-16D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.76**	**188**	*e*S		**Sn**	**14 23 25.2**	**-3.1**
BAYA				AMP			14 23 37.9	
	comp=Z,21nm,0.7s							
DZM	**Mont Dzumac**	**3.76**	**195**	*e*Pn		Pn	14 22 42.1	-3.4
	comp=Z,66nm,0.3s							
DZM				*e*Sn		Sn	14 23 21.6	-6.9
	comp=Z,209nm,0.3s							
DZM				eLR		LR	14 23 46.5	
	comp=Z,2μm,23.1s							
DZM	**Mont Dzumac**	**3.76**	**195**	Pn		Pn	14 22 42.1	-3.4
	comp=Z,26nm,0.3s,baz=54,slow=17,SNR=114							
DZM				Sn		**Sn**	**14 23 26.5**	**-2.0**
	comp=Z,92nm,0.3s,baz=125,slow=21,SNR=14							
DZM	**Mont Dzumac**	**3.76**	**195**	*e*P		Pn	14 22 41.9	-3.6
DZM				*e*S		**Sn**	**14 23 25.5**	**-3.0**
DZM				AMP			14 23 32.5	
	comp=Z,3μm,6.0s							
NOUC	**Port Laguerre**	**3.82**	**196**	*e*P		**Pn**	**14 22 43.2**	**-3.1**
NOUC				*e*S		**Sn**	**14 23 26.8**	**-3.1**
NOUC				AMP			14 23 42.5	
	comp=Z,100nm,0.0s							
MVNO	**Noumea**	**3.95**	**194**	*e*P		**Pn**	**14 22 45.3**	**-2.7**
MVNO				*e*S		**Sn**	**14 23 30.0**	**-3.1**
MSVF	**Nonsavu**	**10.09**	**88**	*e*P		**Pn**	**14 24 12.5**	**+0.2**
MSVF	**Nonsavu**	**10.09**	**88**	*e*Pn		**Pn**	**14 24 12.5**	**+0.2**
MSVF	**Nonsavu**	**10.09**	**88**	Pn		**Pn**	**14 24 13.0**	**+0.7**
	comp=Z,534nm,1.2s,SNR=11							
HNR	**Honiara**	**11.53**	**320**	*e*Pn		Pn	14 24 28.5	-3.3
EIDS	**Eidsvold**	**16.69**	**243**	*e*P		**P**	**14 25 45.0**	**+2.8**
	comp=Z,220nm,2.0s							
EIDS	**Eidsvold**	**16.69**	**243**	P		P	14 25 54.4	+12
	baz=18,SNR=4.0							
OUZ	**Omahuta**	**17.60**	**163**	*e*Pn		P	14 25 57.6	+5.4
	comp=Z,75nm,1.3s							
ARMA	**Armidale**	**18.70**	**227**	*e*Pn		**Pn**	**14 26 08.4**	**+3.2**
	comp=Z,42nm,1.3s							
ARMA	**Armidale**	**18.70**	**227**	P		Pn	14 26 10.6	+5.4
	baz=20,SNR=6.9							
RMQ	**Roma**	**19.05**	**242**	P		**Pn**	**14 26 11.4**	**+2.1**
	baz=20,SNR=26							
CTA	**Charters Tower**	**20.09**	**262**	P		Pn	14 26 21.1	-0.7
	comp=Z,54nm,1.0s,baz=87,slow=12,SNR=22							
CTA	**Charters Tower**	**20.09**	**262**	P		Pn	14 26 21.1	-0.7
CTAO	**Charters Tower**	**20.09**	**262**	*e*P		**P**	**14 26 18.7**	**-0.9**
CTAO	**Charters Tower**	**20.09**	**262**	*e*P		**P**	**14 26 18.7**	**-0.9**
CTAO				*e*P		Pn	14 26 19.9	-1.8
AFI	**Afiamalu**	**20.43**	**80**	P		P	14 26 15.3	-8.1
	comp=Z,7.6nm,0.6s,baz=241,slow=19,SNR=1.7							
AFI				LR		LR	14 33 01.8	
	comp=Z,198nm,18.1s,baz=269,slow=34							
AFI	**Afiamalu**	**20.43**	**80**	P		P	14 26 15.3	-8.1
MGCD	**Mangrove Creek**	**20.78**	**222**	P		Pn	14 26 32.2	+2.4
	baz=22,SNR=5.0							
NIUE	**Niue**	**21.42**	**95**	S		**S**	**14 30 28.7**	**-0.5**
	baz=21,SNR=4.5							
URZ	**Urewera**	**21.49**	**159**	*e*P		**P**	**14 26 38.3**	**+3.8**
	comp=Z,108nm,1.1s							
PMG	**Port Moresby**	**21.63**	**292**	P		**P**	**14 26 40.3**	**+4.1**
	comp=Z,14nm,0.8s,baz=171,slow=13,SNR=3.1							
PMG	**Port Moresby**	**21.63**	**292**	P		**P**	**14 26 40.3**	**+4.1**
QLP	**Quilpie**	**22.92**	**245**	P		**P**	**14 26 50.0**	**+0.1**
	baz=24,SNR=23							
YNG	**Young**	**23.22**	**223**	P		**P**	**14 26 54.6**	**+1.8**
	baz=24,SNR=7.3							
CNB	**Canberra Magne**	**23.26**	**220**	P		**P**	**14 26 55.3**	**+2.0**
	baz=24,SNR=20							
CAN	**Canberra**	**23.48**	**221**	*e*P		**P**	**14 26 56.7**	**+1.3**
CAN				pmax	pmax			
	comp=Z,70nm,1.4s							
CAN	**Canberra**	**23.48**	**221**	*e*P		**P**	**14 26 56.7**	**+1.3**
	comp=Z,70nm,1.4s							
CMSA	**Cobar Meteorol**	**23.61**	**232**	P		**P**	**14 26 57.7**	**+1.1**
	baz=24,SNR=37							
COEN	**Coen**	**23.73**	**277**	*e*P		**P**	**14 26 55.3**	**-2.6**
	comp=Z,276nm,1.3s							
COEN	**Coen**	**23.73**	**277**	P		**P**	**14 26 58.9**	**+1.0**
	baz=24,SNR=5.9							
MILA	**Mila**	**24.56**	**217**	P		**P**	**14 27 07.3**	**+2.0**
	baz=26,SNR=7.5							
QIS	**Mount Isa**	**26.34**	**261**	P		**P**	**14 27 22.7**	**+1.1**
	baz=27,SNR=6.6							
STKA	**Stephens Creek**	**26.90**	**235**	P		**P**	**14 27 27.6**	**+1.1**
	comp=Z,25nm,1.0s,baz=60,slow=8.1,SNR=38							
STKA				LR		LR	14 37 21.0	
	comp=Z,601nm,20.2s,baz=35,slow=35							
STKA	**Stephens Creek**	**26.90**	**235**	*e*P		**P**	**14 27 27.4**	**+0.9**
	comp=Z,7.9nm,1.0s							
STKA	**Stephens Creek**	**26.90**	**235**	P		**P**	**14 27 27.3**	**+0.8**
	baz=28,SNR=23							
TOO	**Toolangi**	**27.10**	**221**	P		**P**	**14 27 29.7**	**+1.5**
	baz=28,SNR=4.8							
ARPS	**Mount Arapiles**	**29.01**	**226**	P		**P**	**14 27 46.5**	**+1.3**
	baz=30,SNR=4.6							
MOO	**Moorlands**	**29.50**	**211**	P		**P**	**14 27 51.5**	**+2.0**
	baz=31,SNR=9.2							
TAU	**Tasmania Unive**	**29.79**	**211**	*e*P		**P**	**14 27 54.6**	**+2.6**
TAU				pmax	pmax			
	comp=Z,45nm,1.3s							
TAU	**Tasmania Unive**	**29.79**	**211**	*e*P		**P**	**14 27 54.5**	**+2.6**
	comp=Z,45nm,1.3s							
RAR	**Rarotonga**	**30.92**	**101

USRK	Ussuriysk Arra	70.24	334	P	P	14 32 59.4	+1.5	
	comp=Z,1.2nm,0.7s,baz=169,slow=3.2,SNR=3.2							
PSI	Prapat	70.63	280	LR	LR	15 06 16.2		
	comp=Z,232nm,18.8s,baz=67,slow=38							
MDJ	Mudanjiang	71.61	332	P	P	14 33 06.9	+0.7	
MDJ				pP	pP	14 33 18.8	-1.1	
MDJ				sP	sP	14 33 23.8	-1.5	
MDJ				PP	PP	14 35 45.8	-0.1	
MDJ				S	S	14 42 24.3	+2.4	
MDJ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,23nm,3.2s							
MDJ				LR	LR			
	comp=N,49nm,19.0s							
MDJ				LR	LR			
	comp=E,72nm,19.0s							
QSPA	South Pole Qui	71.63	180	eP	P	14 33 08.1	+1.9	
	comp=E,34nm,1.1s							
PETK	Petropavlovsk-	71.72	354	P	P	14 33 06.8	+0.2	
	comp=E,1.9nm,0.7s,baz=159,slow=5.8,SNR=4.1							
PETK	Petropavlovsk-	71.72	354	P	P	14 33 06.9	+0.2	
PETK	Petropavlovsk-	71.72	354	P	P	14 33 06.8	+0.2	
CN2	Changchun	72.89	330	eP	P	14 33 15.0	+1.2	
CN2				esP	sP	14 33 34.9	+1.9	
CN2				eS	S	14 42 36.3	-0.4	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,700nm,17.0s							
CN2				LR	LR			
	comp=E,600nm,17.0s							
CN2				LR	LR			
	comp=Z,900nm,18.0s							
ENH	Enshi	73.86	310	eP	P	14 33 18.2	-1.7	
	comp=Z,44nm,1.6s							
GYA	Guiyang	73.97	305	eP	P	14 33 22.1	+1.3	
GYA				pP	pP	14 33 35.0	+0.4	
GYA				sP	sP	14 33 41.3	+1.3	
GYA				PP	PP	14 36 08.9	+2.3	
GYA				S	S	14 42 48.4	-1.5	
GYA				sS	sS	14 43 11.0	-2.0	
GYA				SKS	SKSac	14 43 19.6	-4.9	
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=N,560nm,18.8s							
GYA				LR	LR			
	comp=E,490nm,19.0s							
GYA				LR	LR			
	comp=Z,550nm,18.6s							
KLR	Kul'dur	74.44	337	eP	P	14 33 19.0	-3.8	
KLR				e		14 33 26.8		
KLR				pmax	pmax			
	comp=Z,50nm,1.6s							
BJI	Beijing	75.25	322	P	P	14 33 28.3	+0.7	
BJI				S	S	14 43 04.3	+1.1	
BJI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BJI				LR	LR			
	comp=N,150nm,20.2s							
BJI				LR	LR			
	comp=E,150nm,25.6s							
KMI	Kunming	76.41	303	P	P	14 33 36.0	+1.0	
KMI				S	S	14 43 15.8	-1.4	
KMI				SS	SS	14 48 08.8	-4.1	
KMI				pmax	pmax			
	comp=Z,28nm,1.1s							
CMAR	Chiang Mai Arr	76.63	295	P	P	14 33 37.4	+1.3	
	comp=Z,1.9nm,0.8s,baz=131,slow=4.3,SNR=14							
CMAR	Chiang Mai Arr	76.63	295	P	P	14 33 37.4	+1.3	
CMMT	Chiang Mai	76.78	295	P	P	14 33 40.2	+3.3	
	comp=Z,6.5nm,1.4s							
CHTO	Chiang Mai	76.78	295	eP	P	14 33 37.6	+0.7	
CHTO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CHTO	Chiang Mai	76.78	295	eP	P	14 33 37.6	+0.7	
	comp=Z,6.9nm,1.1s							
CHTO	Chiang Mai	76.78	295	P	P	14 33 39.8	+2.9	
	comp=Z,7.3nm,1.4s							
CD2	Chengdu	78.41	308	P	P	14 33 46.6	+0.8	
CD2				pP	pP	14 34 00.5	+0.8	
CD2				sP	sP	14 34 06.0	+0.9	
CD2				PP	PP	14 36 46.0	+2.2	
CD2				S	S	14 43 36.8	-1.4	
CD2				SKS	SKSac	14 43 51.9	-5.0	
CD2				sS	sS	14 44 00.4	-1.2	
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,210nm,5.5s							
CD2				LR	LR			
	comp=N,290nm,7.1s							
CD2				LR	LR			
	comp=Z,160nm,9.5s							
HHC	Hu-ho-hao-te	78.51	320	eP	P	14 33 47.3	+1.1	
HHC				PcP	PcP	14 33 55.9	+0.8	
HHC				pP	pP	14 34 01.9	+1.8	
HHC				sP	sP	14 34 07.8	+2.3	
HHC				PP	PP	14 36 46.0	+1.5	
HHC				S	S	14 43 38.8	-0.3	
HHC				SKS	SKSac	14 43 52.9	-4.4	
HHC				sS	sS	14 44 01.3	-1.1	
HHC				pmax	pmax			
	comp=Z,15nm,1.2s							
HHC				pmax	pmax			
	comp=Z,85nm,4.8s							
HHC				LR	LR			
	comp=N,220nm,14.3s							
HHC				LR	LR			
	comp=E,160nm,14.3s							
HHC				LR	LR			
	comp=Z,140nm,17.8s							
LZH	Lanzhou	80.93	313	eP	P	14 33 57.5	-2.0	
LZH				S	S	14 44 03.1	-1.9	
LZH				SS	SS	14 49 17.4	-3.0	
LZH				pmax	pmax			
	comp=Z,15nm,1.1s							
LZH				pmax	pmax			
	comp=Z,97nm,6.3s							
LZH				LR	LR			
	comp=N,130nm,15.0s							
LZH				LR	LR			
	comp=E,100nm,16.7s							
LZH				LR	LR			
	comp=Z,190nm,17.8s							
SEY	Seymchan	81.94	353	eP	P	14 34 02.3	-1.7	
GAMB	Gambell	83.52	9	eP	P	14 34 10.6	-1.5	
	comp=Z,8.1nm,1.0s							
GAMB				epP	pP	14 34 24.4	-1.8	
ULN	Ulaanbaatar	85.21	324	eP	P	14 34 19.6	-1.8	
	comp=Z,15nm,1.4s							
ULN	Ulaanbaatar	85.21	324	P	P	14 34 25.3	+4.0	
SYO	Syowa Base	85.24	197⇓	ePcP	PcP	14 34 25.0	+0.9	
GTA	Gaotai	85.34	314	eP	P	14 34 23.3	+1.1	
GTA				pP	pP	14 34 36.6	+0.3	
GTA				sP	sP	14 34 41.9	+0.3	
GTA				SKS	SKSac	14 44 41.8	-1.7	
GTA				S	SKSac	14 44 50.8	+0.7	
GTA				sS	sS	14 45 13.3	+0.1	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,97nm,5.9s							
GTA				LR	LR			
	comp=N,150nm,16.6s							
GTA				LR	LR			
	comp=E,130nm,18.5s							
GTA				LR	LR			
	comp=Z,170nm,19.5s							
SHL	Shillong	85.48	299	eP	P	14 34 27.0	+3.8	
SONM	Songino Array	85.56	324	P	P	14 34 26.0	+3.0	
	comp=Z,0.7nm,0.5s,baz=127,slow=9.3,SNR=3.8							
SONM				LR	LR	15 13 19.3		
	comp=Z,98nm,19.1s,baz=43,slow=36							
SONM	Songino Array	85.56	324	P	P	14 34 26.0	+3.0	
YAK	Yakutsk	85.59	343	eP	P	14 34 20.0	-2.6	
YAK				pmax	pmax			
	comp=Z,17nm,1.2s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.3s							
YAK	Yakutsk	85.59	343	eP	P	14 34 20.8	-1.9	
	comp=N,24nm,1.1s							
YAK				epP	pP	14 34 35.4	-1.3	
TNA	Tin City	85.78	10	eP	P	14 34 22.0	-1.5	
	comp=N,30nm,1.3s							
BILL	Bilibino	86.21	360⇓	eP	P	14 34 25.0	-0.6	
BILL				eS	S	14 44 59.6	+3.1	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BILL	Bilibino	86.21	360	eP	P	14 34 23.8	-1.8	
	comp=Z,20nm,1.4s							
KHMM	Horse Mountain	86.81	45	eP	P	14 34 26.7	-2.7	
	comp=Z,9.0nm,0.8s							
CMB	Columbia Colle	87.87	49	eP	P	14 34 30.2	-4.3	
CMB				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CMB	Columbia Colle	87.87	49	eP	P	14 34 30.2	-4.3	
	comp=Z,8.8nm,0.8s							
YBH	Yreka Blue Hor	87.89	45	P	P	14 34 33.8	-0.7	
	comp=Z,3.5nm,0.8s,baz=58,slow=3.2,SNR=14							
YBH	Yreka Blue Hor	87.89	45	P	P	14 34 33.8	-0.7	
TRF	Thorofare Moun	87.98	18	eP	P	14 34 31.3	-3.2	
	comp=Z,7.9nm,1.0s							
HUMO	Hull Mountain	88.12	44	eP	P	14 34 32.6	-2.9	
	comp=Z,5.6nm,0.9s							
ISA	Isabella	88.28	52	⇓P	P	14 34 35.1	-1.4	
	baz=88							
BFSC	Mount Baldy Ra	88.32	53	⇓P	P	14 34 34.0	-2.8	
	baz=88							
ZAK	Zakamensk	88.65	325	eP	P	14 34 37.8	-0.1	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.5s							
MONP	Monument Peak	88.74	55	⇓P	P	14 34 37.5	-1.4	
	baz=89							
CWC	Cottonwood Cre	88.89	51	⇑P	P	14 34 38.1	-1.3	
	baz=89							
MPMC	Manual Prospec	89.17	52	⇓P	P	14 34 39.5	-1.3	
	baz=89							
NVL	N'lazarevskaya	89.45	188	eP	P	14 34 50.8	+10	
NVL				pmax	pmax			
	comp=Z,15nm,0.6s							
MAIT	Maitri	89.45	188	eP	P	14 34 29.8	-11	
MAIT				e		14 34 38.3		
BELC	Belle Mtn. Jos	89.50	54	⇓P	P	14 34 41.2	-1.1	
	baz=89							
NVAR	Mina Array Bea	89.53	49	P	P	14 34 41.3	-1.1	
	comp=Z,2.5nm,0.6s,baz=228,slow=7.8,SNR=17							
NVAR	Mina Array Bea	89.53	49	P	P	14 34 41.3	-1.1	
HEC	Hector,Ludlow	89.56	53	⇑P	P	14 34 40.8	-1.7	
	baz=90							
BC3	Big Chuckawall	89.78	54	⇑P	P	14 34 42.4	-1.3	
	baz=90							
SNAA	Sanae	89.90	183	eP	P	14 34 42.9	-0.6	
	comp=Z,10nm,1.0s							
ILAR	Eielson Array	89.96	18	P	P	14 34 41.1	-2.4	
	comp=Z,2.6nm,0.8s,baz=236,slow=5.1,SNR=21							
ILAR	Eielson Array	89.96	18	P	P	14 34 41.1	-2.4	
GMRC	Granite Mounta	90.05	53	⇑P	P	14 34 43.1	-1.7	
	baz=90							
TUQ	Turquoise Moun	90.10	53	⇓P	P	14 34 43.5	-1.6	
	baz=90							
VNA3	Neumayer Olymp	90.55	181	eP	P	14 34 53.3	+6.8	
VNA2	Neumayer--Watz	90.82	182	eP	P	14 34 49.6	+1.9	
R11A	Troy Canyon, C	91.46	50	⇑P	P	14 34 49.6	-1.8	
	baz=91							
W13A	Hualapai Mount	91.52	54	⇑P	P	14 34 50.6	-1.2	
	baz=91							
HAWA	Hanford	91.98	41	eP	P	14 34 51.3	-2.1	
	comp=Z,6.6nm,0.9s							
X16A	Lo Nia Camp, P	93.16	55	⇓P	P	14 34 58.3	-1.1	
	baz=93							
U15A	North Rim	93.21	53	⇑P	P	14 34 58.4	-1.2	
	baz=93							
319A	Douglas	93.86	58	⇓P	P	14 35 01.1	-1.5	
	baz=94							
H12A	Diamond D Ranc	94.28	44	⇑P	P	14 35 02.8	-1.5	
	baz=94							
J13A	Cove Ranch, Pi	94.32	46	⇓P	P	14 35 03.6	-0.9	
	baz=94							
F12A	Elk City	94.47	43	⇓P	P	14 35 02.8	-2.3	
	baz=94							
I13A	Wildhorse Cree	94.55	45	⇓P	P	14 35 03.1	-2.5	
	baz=94							
C11A	Tepee Creek (N	94.61	41	⇓P	P	14 35 04.2	-1.4	
	baz=94							
H14A	Leadore	95.30	45	⇑P	P	14 35 07.3	-1.7	
	baz=95							
WMQ	Urumqi	95.43	314	eP	P	14 35 09.8	+0.4	
WMQ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
WMQ				LR	LR			
	comp=N,100nm,18.0s							
WMQ				LR	LR			
	comp=E,47nm,28.0s							
425A	Indio Mountain	97.18	60	⇓P	P	14 35 16.0	-1.8	
	baz=97							
PDAR	Pinedale Array	97.30	47	P	P	14 35 15.6	-2.6	
	comp=E,0.2nm,0.6s,baz=170,slow=2.7,SNR=2.8							
PDAR				LR	LR	15 18 43.9		
	comp=E,86nm,18.1s,baz=269,slow=35							
PDAR	Pinedale Array	97.30	47	P	P	14 35 15.6	-2.6	
TXAR	Lajitas Array	97.86	62	P	P	14 35 19.6	-1.2	
	comp=E,1.0nm,0.3s,baz=108,slow=8.6,SNR=9.1							
TXAR				LR	LR	15 16 41.8		
	comp=E,142nm,18.3s,baz=75,slow=34							
TXAR	Lajitas Array	97.86	62	P	P	14 35 19.6	-1.2	
MKAR	Makanchi Array	99.98	316	P	Pdif	14 35 30.8	+1.0	
	comp=E,0.3nm,0.8s,baz=129,slow=2.0,SNR=3.5							
MKAR	Makanchi Array	99.98	316	P	Pdif	14 35 30.8	+1.0	
MKAR	Makanchi Array	99.98	316	P	Pdif	14 35 30.8	+1.0	
YKA	Yellowknife Ar	100.72	28	P	Pdif	14 35 31.5	-1.1	
	comp=E,0.4nm,0.5s,baz=254,slow=4.7,SNR=13							
YKA	Yellowknife Ar	100.72	28	P	Pdif	14 35 31.6	-1.1	
KSH	Kashi	102.60	308	eP	Pdif	14 35 43.0	+1.3	
KSH				ePP	PP	14 39 58.8	+3.1	
KSH				SKS		14 46 18.1		
KSH				S	SKKSac	14 47 21.8	+25	
KSH				sS	sS	14 47 43.8	-3.8	
KSH				LR	LR			
	comp=N,60nm,6.8s							
KSH				LR	LR			
	comp=E,78nm,5.6s							
KSH				LR	LR			
	comp=Z,130nm,6.0s							
APA	Apatity	122.91	341⇓	iPKIKP	PKPdf	14 40 36.8	-3.3	
ZEI	Tsey	126.80	310	i PKIKP	PKPdf	14 40 59.4	+11	
ZEI				pmax	pmax			
	comp=Z,17nm,1.5s							
FINES	FINESS Array B	129.19	337	PKP	PKPdf	14 40 53.4	+1.1	
	comp=Z,4.0nm,1.1s,baz=359,slow=5.6,SNR=2.8							
FINES	FINESS Array B	129.19	337	PKP	PKPdf	14 40 53.4	+1.1	
AKASG	Malin Array Be	133.84	324	PKP	PKPdf	14 41 01.2	-0.2	
	comp=Z,0.4nm,0.4s,baz=50,slow=3.2,SNR=3.2							
AKASG	Malin Array Be	133.84	324	PKIKP	PKPdf	14 41 01.2	-0.2	
AKASG	Malin Array Be	133.84	324	PKP	PKPdf	14 41 01.2	-0.2	
CRVS	Cervenica-Dubn	139.05	326	ePKIKP	PKPdf	14 41 16.0	+4.8	
CRVS	Cervenica-Dubn	139.05	326	ePKP	PKPdf	14 41 16.0	+4.8	
VYHS	Vyhne	140.69	327	ePKIKP	PKPdf	14 41 22.4	+8.2	
VYHS	Vyhne	140.69	327	ePKP	PKPdf	14 41 22.4	+8.2	
GERES	GERESS Array B	142.97	331	PKhKP	PKPpre	14 41 14.3		
	comp=Z,0.4nm,0.6s,baz=83,slow=4.3,SNR=4.4							
PERS	Pernice	143.81	327	i PKPdf	PKPdf	14 41 26.2	+6.4	
BOJS	Bojanci	144.48	326	i PKPdf	PKPdf	14 41 29.9	+8.9	
VISS	Visnje	144.50	326	i PKPdf	PKPdf	14 41 28.4	+7.3	
JAVS	Javornik	144.85	327	i PKPdf	PKPdf	14 41 29.2	+7.4	
BFO	Black Forest	145.68	335	ePKIKP	PKPdf	14 41 22.5	-0.5	
BFO	Black Forest	145.68	335	ePKPdf	PKPdf	14 41 22.5	-0.5	
TUE	Stuetta	146.70	332	ePKPab	PKPbc	14 41 26.8	+0.1	
BNI	Bardonecchia	148.98	333	ePKIKP	PKPdf	14 41 28.0	-0.7	
BNI	Bardonecchia	148.98	333	ePKPdf	PKPdf	14 41 28.0	-0.7	
TORD	Torodi Ar. Bea	165.34	251	PKP	PKPdf	14 41 50.5	+0.6	
	comp=Z,0.9nm,1.0s,baz=340,slow=2.7,SNR=4.4							
TORD				PKPab	PKPab	14 42 47.4	-0.5	
	comp=Z,1.5nm,0.9s,baz=103,slow=3.6,SNR=4.7							
TORD	Torodi Ar. Bea	165.34	251	PKP	PKPdf	14 41 50.5	+0.6	
TORD				PKPab	PKPab	14 42 47.4	-0.5	

IDC 20 14:23:55.2±0.9, 8°06S×157°05E, h0km, mb4.2/9, mb1 4.5/9, mb1mx4.2/18, mbtmp4.2/9, Error ellipse: s-maj=42.6km s-min=20.3km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.18	116	Pn	Pn	14 24 41.7	-4.7
	41nm,0.3s,baz=126,slow=9.4,SNR=14						
HNR				Sn	Sb	14 25 30.4	-1.4
	258nm,0.3s,baz=68,slow=18,SNR=11						
CTA	Charters Tower	15.88	220	Pn	P	14 27 43.2	-0.8
	0.3nm,0.3s,baz=25,slow=9.9,SNR=2.3						
WRA	Warramunga Arr	24.96	239	P	P	14 29 19.1	-1.5
	8.2nm,0.9s,baz=65,slow=9.6,SNR=13						
ASAR	Alice Springs	27.07	232	P	P	14 29 39.9	+0.2
	5.6nm,1.0s,baz=68,slow=8.5,SNR=2.4						
STKA	Stephens Creek	27.72	209	P	P	14 29 46.5	+1.2
	7.0nm,0.8s,baz=44,slow=14,SNR=6.0						
ILAR	Eielson Array	83.62	21	P	P	14 36 24.5	-0.7
	0.4nm,0.7s,baz=239,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	85.54	318	P	P	14 36 36.0	+0.6
	1.8nm,0.6s,baz=98,slow=6.1,SNR=17						
ZALV	Zalesovo Beam	86.20	326	P	P	14 36 38.5	+0.2
	0.4nm,0.5s,baz=148,slow=3.2,SNR=2.2						
NVAR	Mina Array Bea	90.79	51	P	P	14 37 00.2	-0.7
	0.7nm,0.7s,baz=235,slow=6.8,SNR=3.6						
YKA	Yellowknife Ar	96.32	28	P	P	14 37 26.3	+0.9
	0.5nm,0.7s,baz=260,slow=4.6,SNR=6.7						
PDAR	Pinedale Array	97.90	48	P	P	14 37 33.1	-0.3
	0.6nm,1.1s,baz=258,slow=3.6,SNR=2.8						
BDFB	Brasilia	145.78	133	PKPbc	PKPdf	14 43 36.3	-0.7
	3.4nm,0.6s,baz=275,slow=4.4,SNR=5.4						

*ISCJB **20** 14:48:38.4±0.9, 51°44N±0°04×16°08E±0°04, h0km, Error ellipse: s-maj=6.6km s-min=3.2km az=15.5*
*WAR **20** 14:48:39.5, 51°54N×16°07E*
*CSEM **20** 14:48:39.2±0.6, 51°48N×16°06E, h1km, ML3.2/6*
*PRU **20** 14:48:40.8, 51°44N×16°07E, h0km*

ISC 20 14:48:39.4±1.2, 51°50N±0°06×16°06E±0°03, h0km, n28, σ1.9s07/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	167	ePg	Pg	14 48 52.8	+0.5
KSP				eSg	Sg	14 49 02.1	+1.2
KSP	Ksiaz	0.67	167	ePg	Pg	14 48 52.7	+0.5
KSP				eSg	Sg	14 49 02.0	+1.1
KSP	Ksiaz	0.67	167	ePg	Pg	14 48 52.8	+0.5
KSP				eSg	Sg	14 49 02.1	+1.2
UPC	Upice	0.99	182	ePG	Pg	14 48 58.6	+0.2
UPC	Upice	0.99	182	Pg	Pg	14 48 58.6	+0.2
DPC	Dobruska-Polom	1.16	171	ePG	Pg	14 49 01.6	0.0
DPC				eSG	Sg	14 49 15.5	-1.1
	comp=Z,17nm,0.4s						
DPC	Dobruska-Polom	1.16	171	Pg	Pg	14 49 01.6	0.0
DPC				Sg	Sg	14 49 15.5	-1.1
	17nm,0.4s						
PVCC	Panska Ves	1.35	225	ePG	Pb	14 49 06.0	+0.4
PVCC				eSG	Sb	14 49 24.1	+0.8
	comp=Z,75nm,0.2s						
PVCC	Panska Ves	1.35	225	Pg	Pb	14 49 06.0	+0.4
PVCC				Sg	Sb	14 49 24.1	+0.8
	75nm,0.2s						
BRG	Berggiesshubel	1.47	246	PG	Pg	14 49 07.7	+0.2
BRG				SG	Sn	14 49 28.5	+1.5
	39nm,0.4s						
KRLC	Kraliky	1.49	162	ePG	Pn	14 49 07.1	-0.5
KRLC				eSG	Sn	14 49 26.1	-1.7
KRLC	Kraliky	1.49	162	Pg	Pn	14 49 07.1	-0.5
KRLC				Sg	Sn	14 49 26.1	-1.7
PRU	Pruhonice	1.79	213	ePG	Pb	14 49 13.3	+0.2
PRU				eSG	Sb	14 49 36.5	+0.5
	comp=Z,13nm,0.3s						
PRU	Pruhonice	1.79	213	Pg	Pb	14 49 13.3	+0.2
PRU				Sg	Sb	14 49 36.5	+0.5
	13nm,0.3s						
CLL	Collm	1.92	266	e(Pg)	Pg	14 49 17.0	+0.8
CLL				i		14 49 19.2	
CLL				i Sg	Sg	14 49 41.7	+0.6
	comp=Z,15nm,0.4s						
MORC	Moravsky Berou	1.96	151	ePn	Pn	14 49 12.7	-1.3
MORC				eSg	Sb	14 49 41.5	+0.4
OKC	Ostrava-Krasne	2.13	140	eSG	Sb	14 49 45.3	-0.5
	comp=Z,13nm,0.4s						
OKC	Ostrava-Krasne	2.13	140	Sg	Sb	14 49 45.3	-0.5
	comp=Z,13nm,0.4s						
VRAC	Vranov	2.22	171	eSg	Sb	14 49 49.4	+1.1
NKC	Novy Kostel	2.61	242	eSG	Sg	14 50 02.1	-1.2
	comp=Z,25nm,0.3s						
NKC	Novy Kostel	2.61	242	Sg	Sg	14 50 02.1	-1.2
	comp=Z,25nm,0.3s						
OJC	Ojcow	2.69	117	ePg	Pg	14 49 31.1	+0.1
OJC				eSg	Sg	14 50 05.8	-0.1
OJC	Ojcow	2.69	117	ePg	Pg	14 49 31.1	+0.1
OJC				eSg	Sg	14 50 05.8	-0.1
KHC	Kasperske Hory	2.85	215	ePN	Pn	14 49 25.8	-0.4
KHC				ePG	Pb	14 49 32.3	+1.1
KHC				eSN	Sn	14 49 59.0	-2.2
KHC				eSG	Sg	14 50 10.6	-0.3
	comp=Z,5.7nm,0.3s						
KHC	Kasperske Hory	2.85	215	Pn	Pn	14 49 25.8	-0.4
KHC	Kasperske Hory	2.85	215	Pg	Pb	14 49 32.3	+1.1
KHC				Sn	Sn	14 49 59.0	-2.2
KHC				Sg	Sg	14 50 10.6	-0.3
	comp=Z,5.7nm,0.3s						
VYHS	Vyhne	3.50	148	eSG	Sg	14 50 34.5	+2.8
VYHS	Vyhne	3.50	148	eSg	Sg	14 50 34.6	+2.8

*ISCJB **20** 14:50:07.3±0.7, 5°85S±0°07×103°00E±0°08, h33km, mb3.9/9, Error ellipse: s-maj=13.8km s-min=7.5km az=138.4*
*IDC **20** 14:50:07.3±2.2, 5°22S×103°75E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, Error ellipse: s-maj=88.7km s-min=15.8km az=57.0*
*DJA **20** 14:50:13.8±0.6, 6°S±3°×10°4E±°, h10km, M4.5/8, mb4.7/2, MLv4.4/8*
*AUST **20** 14:50:17.9, 6°34S×103°41E, h60km*

ISC 20 14:50:10.2±0.8, 5°88S±0°06×103°16E±0°08, h33km, n31, σ2.9s05/27, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.24	46	P	Pn	14 50 27.3	-4.0
LWLI				S	Sn	14 50 39.2	-7.7
KASI	Kota Agung	1.37	75	P	Pn	14 50 30.6	-2.4
KASI				S	Sn	14 50 44.9	-5.2
MNAI	Manna	1.52	352	P	Pb	14 50 40.4	+2.5
BLSI	Bandar Lampung	2.13	76	P	Pn	14 50 43.9	+0.4
CGJI	Cibinong	2.62	106	P	Pn	14 50 51.1	+0.9
DBJI	Dramaga	3.63	101	P	Pn	14 51 05.6	+1.5
CBJI	Citeko	3.71	99	P	Pn	14 51 09.6	+4.5
PPBI	Pangkal Pinang	4.74	39	P	Pb	14 51 32.3	-0.2
XMI	Christmas Isla	5.18	151	P	Pn	14 51 24.8	-0.7
	baz=4.7,SNR=5.7						
XMI				S	Sn	14 52 22.6	-1.6
	baz=4.7,SNR=4.1						
XMIS	Christmas Isla	5.19	152	P	Pn	14 51 24.6	-1.0
	baz=4.7,SNR=14						
XMIS				S	Sn	14 52 22.1	-2.3
	baz=4.7,SNR=5.1						
RGRI	Rengat	5.56	351	P	Pb

baz=44,SNR=22
CMSA Cobar Meteorol 47.24 128 P **P** 14 58 42.6 **+2.3**
baz=47,SNR=9.5
SONM Songino Array 53.56 3 P P 14 59 24.6 -3.3
0.4nm,0.6s,baz=104,slow=3.0,SNR=2.3
MKAR Makanchi Array 55.62 343 P **P** **14 59 41.9 -0.9**
0.4nm,0.5s,baz=151,slow=7.6,SNR=7.3
USRK Ussuriysk Arra 56.22 25 P P 14 59 42.8 -4.2
1.8nm,0.8s,baz=225,slow=5.6,SNR=4.1
ZALV Zalesovo Beam 61.57 348 P **P** **15 00 22.2 -1.8**
0.7nm,0.4s,baz=165,slow=4.7,SNR=6.0
TXAR Lajitas Array 145.56 44 PKP **PKPdf** **15 09 44.7 -1.2**
0.3nm,0.6s,baz=270,slow=3.6,SNR=2.9

*IDC **20** 15:00:47.2±0.6, 3°.62N×126°.75E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/27, mbtmp3.9/14, Error ellipse: s-maj=40.0km s-min=12.5km az=69.0*
*AUST **20** 15:00:47.1, 3°.50N×126°.50E, h0km*
*ISCJB **20** 15:00:51.3±0.4, 3°.56N±0°.05×126°.79E±0°.08, h48km, mb4.0/16, Error ellipse: s-maj=11.1km s-min=6.9km az=169.5*
*NEIC **20** 15:00:52.6±4.8, 3°.54N×126°.75E, h42km±46km, mb4.6/3, Error ellipse: s-maj=26.7km s-min=9.4km az=67.0*
ISC 20 15:00:53.6±0.6, **3°.56N**±0°.07×**126°.9E**±0°.1, **h48**km, **n43**, σ1**1**§**13**/48, **mb4.0**/16, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.46**	**325**	⇓*i* P	**Pn**	**15 02 00.2**	**+1.4**
PCI	**Palu**	**8.29**	**238**	S	**Sn**	**15 04 24.4**	**+0.5**
	baz=8.0,SNR=6.2						
MTN	**Manton Dam**	**16.85**	**165**	P	**Pn**	**15 04 44.3**	**-1.9**
	baz=17,SNR=5.8						
KDU	**Kakadu**	**17.08**	**161**	P	**P**	**15 04 50.7**	**+0.3**
	baz=17,SNR=3.7						
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	**P**	**15 05 39.3**	**+0.1**
	1.6nm,0.6s,baz=75,slow=11,SNR=8.9						
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	**P**	**15 05 39.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.56**	**183**	P	**P**	**15 05 42.5**	**+3.3**
	baz=22,SNR=6.5						
LEM	**Lembang**	**21.80**	**242**	P	P	15 05 33.2	-8.7
	baz=22,SNR=3.6						
WRAB	**Tennant Creek**	**24.48**	**163**	*e*P	**P**	**15 06 07.2**	**-1.4**
	7.8nm,0.8s						
WRA	**Warramunga Arr**	**24.49**	**163**	P	**P**	**15 06 08.2**	**-0.3**
	7.1nm,0.8s,baz=343,slow=10,SNR=35						
WRA				PcP	**PcP**	**15 09 47.8**	**+1.4**
	0.4nm,0.6s,baz=326,slow=2.4,SNR=5.6						
WRA	**Warramunga Arr**	**24.49**	**163**	P	**P**	**15 06 08.2**	**-0.3**
WRA				PcP	**PcP**	**15 09 47.8**	**+1.4**
AS31	**Alice Springs**	**27.92**	**166**	*e*P	**P**	**15 06 37.1**	**-2.5**
ASAR	**Alice Springs**	**27.92**	**166**	P	**P**	**15 06 39.6**	**0.0**
	0.4nm,0.6s,baz=348,slow=7.2,SNR=15						
ASAR				PcP	**PcP**	**15 09 55.5**	**+1.2**
	0.6nm,0.5s,baz=346,slow=2.4,SNR=7.7						
ASAR	**Alice Springs**	**27.92**	**166**	P	**P**	**15 06 39.6**	**0.0**
ASAR				PcP	**PcP**	**15 09 55.5**	**+1.2**
GSI	**Gunungsitoli**	**29.33**	**266**	S	S	15 12 10.0	+27
	baz=29,SNR=8.1						
CMAR	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**15 07 06.2**	**-1.2**
	0.4nm,0.3s,baz=118,slow=8.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**15 07 06.2**	**-1.2**
KSAR	**Wonju Array Be**	**33.73**	**1**	P	**P**	**15 07 31.1**	**+0.6**
KSRS	**Korea Array**	**33.74**	**2**	P	**P**	**15 07 31.1**	**+0.5**
	0.9nm,0.6s,baz=182,slow=10,SNR=5.6						
KLBR	**Kellerberrin**	**36.02**	**193**	P	**P**	**15 07 48.6**	**-1.7**
	baz=36,SNR=6.5						
STKA	**Stephens Creek**	**37.93**	**159**	P	**P**	**15 08 07.1**	**+0.5**
	1.9nm,0.7s,baz=342,slow=7.9,SNR=9.5						
STKA				PcP	**PcP**	**15 10 23.5**	**+1.6**
	2.6nm,0.9s,baz=323,slow=6.2,SNR=4.1						
STKA	**Stephens Creek**	**37.93**	**159**	P	**P**	**15 08 07.1**	**+0.5**
STKA				PcP	**PcP**	**15 10 23.5**	**+1.6**
STKA	**Stephens Creek**	**37.93**	**159**	P	**P**	**15 08 07.4**	**+0.8**
	baz=38,SNR=4.4						
MILA	**Mila**	**45.44**	**155**	P	P	15 09 12.8	+4.8
	baz=46,SNR=29						
SONM	**Songino Array**	**47.49**	**341**	P	**P**	**15 09 22.8**	**-1.2**
	0.7nm,0.6s,baz=158,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**47.49**	**341**	P	**P**	**15 09 22.8**	**-1.2**
MK31	**Makanchi Array**	**57.76**	**325**	*e*P	**P**	**15 10 39.0**	**-0.9**
MKAR	**Makanchi Array**	**57.76**	**325**	P	**P**	**15 10 38.6**	**-1.2**
	0.7nm,0.5s,baz=119,slow=7.4,SNR=14						
MKAR				PcP	**PcP**	**15 11 33.0**	**+0.8**
	0.4nm,0.6s,baz=117,slow=3.4,SNR=2.1						
MKAR	**Makanchi Array**	**57.76**	**325**	P	**P**	**15 10 38.6**	**-1.2**
MKAR				PcP	**PcP**	**15 11 33.0**	**+0.8**
AAK	**Ala-Archa**	**60.56**	**318**	P	**P**	**15 10 60.0**	**+0.5**
	2.3nm,0.4s,baz=172,slow=5.1,SNR=18						
AAK	**Ala-Archa**	**60.56**	**318**	*e*P	**P**	**15 10 59.1**	**-0.4**
	13nm,0.4s						
ZALV	**Zalesovo Beam**	**60.79**	**333**	P	**P**	**15 10 59.9**	**-0.7**
	0.5nm,0.3s,baz=162,slow=6.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.79**	**333**	P	**P**	**15 10 59.9**	**-0.7**
KURBB	**Kurchatov Arra**	**61.94**	**327**	P	**P**	**15 11 07.3**	**-1.2**
	1.7nm,0.8s,baz=131,slow=6.3,SNR=22						
KURK	**Kurchatov**	**61.94**	**328**	*e*P	**P**	**15 11 07.1**	**-1.4**
	2.8nm,0.8s						
BVAR	**Borovoye Array**	**67.52**	**327**	P	**P**	**15 11 44.6**	**-0.2**
	0.9nm,0.6s,baz=139,slow=12,SNR=6.1						
BVAR	**Borovoye Array**	**67.52**	**327**	P	**P**	**15 11 44.6**	**-0.2**
AKTO	**Aktyubinsk**	**73.86**	**322**	P	**P**	**15 12 23.5**	**0.0**
	0.5nm,0.5s,baz=86,slow=8.0,SNR=3.6						
AKTO	**Aktyubinsk**	**73.86**	**322**	P	**P**	**15 12 23.5**	**0.0**
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**	**15 13 24.7**	**0.0**
	0.1nm,0.6s,baz=256,slow=3.6,SNR=4.1						
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**	**15 13 24.7**	**0.0**
TORD	**Torodi Ar. Bea**	**123.08**	**288**	PKP	**PKPdf**	**15 19 46.0**	**0.0**
	0.9nm,0.8s,baz=33,slow=1.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**123.08**	**288**	PKP	**PKPdf**	**15 19 46.0**	**0.0**

IDC 20 15:01:55.7±17.0, **22°.60S**×**174°.86W**, **h0**km, **mb3.9**/5, **mb1 4.0**/5, **mb1mx3.8**/21, **mbtmp3.9**/5, **Error ellipse: s-maj=329.6km s-min=136.7km az=83.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.24**	**267**	P	P	15 09 01.6	+0.8
	5.7nm,1.0s,baz=91,slow=1.2,SNR=6.3						
STKA	**Stephens Creek**	**39.59**	**247**	P	P	15 09 28.5	-0.4
	0.8nm,0.5s,baz=96,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**46.92**	**258**	P	P	15 10 28.2	-0.2
	0.5nm,0.9s,baz=93,slow=7.0,SNR=7.7						
WRA	**Warramunga Arr**	**47.23**	**263**	P	P	15 10 29.8	-1.1
	1.1nm,0.7s,baz=101,slow=8.2,SNR=21						
FITZ	**Fitzroy Crossi**	**55.66**	**263**	P	P	15 11 34.7	+0.6
	0.9nm,0.7s,baz=89,slow=8.0,SNR=4.5						

IDC 20 15:15:23.7±1.7, **1°.41N**×**126°.35E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/21, **mbtmp3.6**/4, **Error ellipse: s-maj=174.6km s-min=19.7km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.62**	**160**	P	P	15 20 25.8	-0.6
	0.8nm,0.4s,baz=339,slow=11,SNR=30						
ASAR	**Alice Springs**	**25.99**	**164**	P	P	15 20 58.8	+0.4
	0.4nm,0.4s,baz=344,slow=10,SNR=18						
MKAR	**Makanchi Array**	**59.25**	**326**	P	P	15 25 27.0	0.0
	0.3nm,0.3s,baz=123,slow=7.5,SNR=14						
KURBB	**Kurchatov Arra**	**63.49**	**328**	P	P	15 25 55.5	-0.1
	0.6nm,0.5s,baz=128,slow=6.4,SNR=19						

MEX 20 15:30:51.7±0.6, **17°.99N**×**100°.38W**, **h59**km±5km, **MD4.0, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.29**	**6**	*e*P	Pn	15 31 00.3	-1.4
ARIG				*i* S	Sn	15 31 07.2	-1.7
MEIG	**Mezcala**	**0.73**	**95**	*i* P	Pn	15 31 04.7	-1.7
MEIG				*i* S	Sn	15 31 14.5	-2.6
CAIG	**El Cayaco**	**0.95**	**173**	*i* P	Pn	15 31 07.5	-1.5
CAIG				*i* S	Sn	15 31 20.5	-1.3
ZIIG	**Zihuatanejo**	**1.10**	**250**	*e*P	Pn	15 31 09.0	-2.1
ZIIG				*i* S	Sn	15 31 23.2	-2.2
ACX	**Acapulco**	**1.22**	**156**	*i* P	Pn	15 31 10.3	-2.4
ACX				*i* S	Sn	15 31 25.3	-3.1
YAIG	**Yautepec**	**1.52**	**55**	*i* P	Pn	15 31 15.1	-1.8
YAIG				*i* S	Sn	15 31 33.7	-2.0
PPM	**Popocatepetl**	**1.98**	**57**	*e*P	Pn	15 31 22.2	-1.3
PPM				*i* S	Sn	15 31 46.0	-1.7
UTMO	**Huajuapan**	**2.46**	**93**	*i* P	Pn	15 31 28.9	-0.8
UTMO				*i* S	Sn	15 31 56.9	-1.9
PNIG	**Pinotepa**	**2.68**	**126**	*i* P	Pn	15 31 32.0	-0.4
PNIG				*i* S	Sn	15 32 01.9	-1.9
MMIG	**Aquila**	**2.83**	**276**	*i* P	Pn	15 31 33.3	-1.3
MMIG				*i* S	Sn	15 32 06.3	-1.2

*ISCJB **20** 15:38:48.4±0.4, 38°.62S±0°.03×175°.96E±0°.05, h164km±3km, mb3.7/4, Error ellipse: s-maj=6.6km s-min=4.9km az=24.0*
*IDC **20** 15:38:49.0±0.6, 38°.10S×176°.27E, h160km±9km, mb3.5/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=40.3km s-min=21.7km az=42.0*
*WEL **20** 15:38:49.9±0.2, 38°.52S×176°.01E, h153km±2km, ML4.3/22, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
*NEIC **20** 15:38:49.8, 38°.52S×176°.00E, h154km, MG4.3(WEL), After WEL.*
ISC 20 15:38:48.6±0.8, **38°.61S**±0°.04×**175°.95E**±0°.04, **h165**km±5km, **n207**, σ1**9**§**07**/214, **mb3.8**/4, **47C-9D, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHTZ	**Whakaora**	**0.06**	**175**	PN	**Pn**	**15 39 10.8**	**+0.1**
WHTZ	**Whakaora**	**0.06**	**175**	Pn	**Pn**	**15 39 10.8**	**+0.1**
WATZ	**Wairara**	**0.20**	**240**	⇑PN	**Pn**	**15 39 10.9**	**+0.1**
WATZ				SN	**Sn**	**15 39 26.9**	**-0.8**
WATZ	**Wairara**	**0.20**	**240**	Pn	**Pn**	**15 39 10.9**	**+0.1**
WATZ				Sn	**Sn**	**15 39 26.9**	**-0.8**
RATZ	**Rangitukua**	**0.29**	**209**	⇓PN	**Pn**	**15 39 10.8**	**-0.2**
RATZ	**Rangitukua**	**0.29**	**209**	Pn	**Pn**	**15 39 10.8**	**-0.2**
HATZ	**Hinemaiaia**	**0.30**	**159**	PN	**Pn**	**15 39 10.9**	**-0.1**
HATZ	**Hinemaiaia**	**0.30**	**159**	Pn	**Pn**	**15 39 10.9**	**-0.1**
ALRZ	**Allen Road**	**0.31**	**82**	PN	**Pn**	**15 39 10.5**	**-0.5**
ALRZ				SN	**Sn**	**15 39 26.2**	**-1.9**
ALRZ	**Allen Road**	**0.31**	**82**	Pn	**Pn**	**15 39 10.6**	**-0.5**
ALRZ				Sn	**Sn**	**15 39 26.2**	**-1.9**
HRRZ	**Handcock Road**	**0.34**	**50**	⇑PN	**Pn**	**15 39 10.9**	**-0.2**
HRRZ	**Handcock Road**	**0.34**	**50**	Pn	**Pn**	**15 39 10.9**	**-0.2**
PRRZ	**Plateau Road**	**0.36**	**72**	PN	**Pn**	**15 39 10.7**	**-0.5**
PRRZ				SN	**Sn**	**15 39 26.5**	**-1.8**
PRRZ	**Plateau Road**	**0.36**	**72**	Pn	**Pn**	**15 39 10.7**	**-0.5**
PRRZ				Sn	**Sn**	**15 39 26.5**	**-1.8**
RITZ	**Rihia Road**	**0.38**	**191**	PN	**Pn**	**15 39 11.7**	**+0.4**
RITZ	**Rihia Road**	**0.38**	**191**	Pn	**Pn**	**15 39 11.7**	**+0.4**
KATZ	**Kakaramea**	**0.42**	**209**	Pn	**Pn**	**15 39 11.8**	**+0.3**
KATZ	**Kakaramea**	**0.42**	**209**	Pn	**Pn**	**15 39 11.8**	**+0.3**
UTU	**Utuhina**	**0.47**	**24**	⇓PN	**Pn**	**15 39 11.3**	**-0.3**
UTU	**Utuhina**	**0.47**	**24**	Pn	**Pn**	**15 39 11.3**	**-0.3**
RRRZ	**Republican Roa**	**0.52**	**59**	⇑PN	**Pn**	**15 39 11.3**	**-0.5**
RRRZ	**Republican Roa**	**0.52**	**59**	Pn	**Pn**	**15 39 11.3**	**-0.5**
TARZ	**Mount Tarawera**	**0.57**	**50**	PN	**Pn**	**15 39 11.6**	**-0.6**
TARZ	**Mount Tarawera**	**0.57**	**50**	Pn	**Pn**	**15 39 11.6**	**-0.6**
OTVZ	**Oturere**	**0.60**	**202**	⇑PN	**Pn**	**15 39 12.8**	**+0.4**
OTVZ	**Oturere**	**0.60**	**202**	Pn	**Pn**	**15 39 12.8**	**+0.4**
OMRZ	**Omania**	**0.60**	**34**	PN	**Pn**	**15 39 11.6**	**-0.7**
OMRZ	**Omania**	**0.60**	**34**	Pn	**Pn**	**15 39 11.6**	**-0.7**
TWVZ	**Taurewa**	**0.61**	**221**	⇑PN	**Pn**	**15 39 12.8**	**+0.4**
TWVZ	**Taurewa**	**0.61**	**221**	Pn	**Pn**	**15 39 12.8**	**+0.4**
NGZ	**Ngauruhoe**	**0.63**	**206**	PN	**Pn**	**15 39 12.9**	**+0.4**
NGZ	**Ngauruhoe**	**0.63**	**206**	Pn	**Pn**	**15 39 12.9**	**+0.4**
KARZ	**Kaharoa**	**0.63**	**22**	⇓PN	**Pn**	**15 39 11.8**	**-0.6**
KARZ	**Kaharoa**	**0.63**	**22**	Pn	**Pn**	**15 39 11.8**	**-0.6**
WPVZ	**Whakapapa**	**0.67**	**208**	⇑PN	**Pn**	**15 39 13.0**	**+0.3**
WPVZ	**Whakapapa**	**0.67**	**208**	Pn	**Pn**	**15 39 13.0**	**+0.3**
BKZ	**Black Stump Fm**	**0.70**	**143**	⇑PN	**Pn**	**15 39 13.0**	**+0.2**
BKZ	**Black Stump Fm**	**0.70**	**143**	Pn	**Pn**	**15 39 12.6**	**-0.2**
TUVZ	**Tukino**	**0.70**	**199**	PN	**Pn**	**15 39 13.5**	**+0.6**
TUVZ	**Tukino**	**0.70**	**199**	Pn	**Pn**	**15 39 13.5**	**+0.6**
FWVZ	**Far West T-bar**	**0.72**	**206**	⇑PN	**Pn**	**15 39 13.4**	**+0.3**
FWVZ	**Far West T-bar**	**0.72**	**206**	Pn	**Pn**	**15 39 13.4**	**+0.3**
DRZ	**Dome Shelter**	**0.73**	**204**	PN	**Pn**	**15 39 13.8**	**+0.5**
DRZ	**Dome Shelter**	**0.73**	**204**	Pn	**Pn**	**15 39 13.8**	**+0.5**
TRVZ	**Turoa**	**0.76**	**204**	PN	**Pn**	**15 39 13.9**	**+0.5**
TRVZ	**Turoa**	**0.76**	**204**	Pn	**Pn**	**15 39 13.9**	**+0.5**
WNVZ	**Wahianoa**	**0.77**	**201**	⇑PN	**Pn**	**15 39 14.0**	**+0.7**
WNVZ	**Wahianoa**	**0.77**	**201**	Pn	**Pn**	**15 39 14.0**	**+0.7**
EDRZ	**Edgecumbe**	**0.80**	**51**	PN	**Pn**	**15 39 12.2**	**-1.3**
EDRZ	**Edgecumbe**	**0.80**	**51**	Pn	**Pn**	**15 39 12.2**	**-1.3**
MOVZ	**Moawhango**	**0.81**	**191**	⇑PN	**Pn**	**15 39 13.9**	**+0.3**
MOVZ	**Moawhango**	**0.81**	**191**	Pn	**Pn**	**15 39 13.9**	**+0.3**
NMHZ	**Naumai**	**0.83**	**126**	⇑PN	**Pn**	**15 39 14.7**	**+1.0**
NMHZ	**Naumai**	**0.83**	**126**	Pn	**Pn**	**15 39 14.7**	**+1.0**
PKVZ	**Pokaka**	**0.83**	**215**	⇑PN	**Pn**	**15 39 14.3**	**+0.7**
PKVZ	**Pokaka**	**0.83**	**215**	Pn	**Pn**	**15 39 14.3**	**+0.7**
MTVZ	**Mangateitei**	**0.86**	**206**	⇑PN	**Pn**	**15 39 14.6**	**+0.8**
MTVZ	**Mangateitei**	**0.86**	**206**	Pn	**Pn**	**15 39 14.6**	**+0.8**
HIZ	**Hauiti**	**0.86**	**276**	⇑PN	**Pn**	**15 39 14.2**	**+0.4**
HIZ	**Hauiti**	**0.86**	**276**	Pn	**Pn**	**15 39 14.2**	**+0.4**
BHHZ	**Black Hill Sta**	**0.88**	**174**	⇑PN	**Pn**	**15 39 14.5**	**+0.5**
BHHZ	**Black Hill Sta**	**0.88**	**174**	Pn	**Pn**	**15 39 14.5**	**+0.5**
OPRZ	**Ohinepanea**	**0.90**	**32**	PN	**Pn**	**15 39 13.0**	**-1.1**
OPRZ	**Ohinepanea**	**0.90**	**32**	Pn	**Pn**	**15 39 13.0**	**-1.1**
TGRZ	**Tauranga**	**0.91**	**16**	⇓PN	**Pn**	**15 39 13.5**	**-0.6**
TGRZ	**Tauranga**	**0.91**	**16**	Pn	**Pn**	**15 39 13.6**	**-0.6**
RAHZ	**Arahi**	**0.94**	**110**	⇑PN	**Pn**	**15 39 14.9**	**+0.5**
RAHZ	**Arahi**	**0.94**	**110**	Pn	**Pn**	**15 39 14.9**	**+0.5**
TOZ	**Tahuroa Road**	**0.95**	**338**	PN	**Pn**	**15 39 13.9**	**-0.5**
TOZ	**Tahuroa Road**	**0.95**	**338**	Pn	**Pn**	**15 39 13.9**	**-0.5**
URZ	**Urewera**	**0.97**	**69**	P	**Pn**	**15 39 13.8**	**-0.9**
URZ	22nm,0.3s,baz=254,slow=7.4,SNR=421			S	**Sn**	**15 39 30.9**	**-3.6**
	215nm,0.3s,baz=254,slow=6.7,SNR=121						
URZ	**Urewera**	**0.97**	**69**	⇑Pn	**Pn**	**15 39 13.7**	**-0.9**
URZ	**Urewera**	**0.97**	**69**	Pn	**Pn**	**15 39 13.7**	**-0.9**
URZ				*e*Pn	Pn	15 39 13.8	-0.9
URZ				*e*Sn	**Sn**	**15 39 31.1**	**-3.4**
MCHZ	**McNeill Hill**	**1.02**	**145**	⇑PN	**Pn**	**15 39 16.3**	**+1.3**
MCHZ	**McNeill Hill**	**1.02**	**145**	Pn	**Pn**	**15 39 16.3**	**+1.3**
VRZ	**Vera Road**	**1.06**	**241**	⇑PN	**Pn**	**15 39 16.3**	**+1.0**
VRZ	**Vera Road**	**1.06**	**241**	Pn	**Pn**	**15 39 15.6**	**+0.3**
MWZ	**Matawai**	**1.27**	**78**	⇑PN	**Pn**	**15 39 16.6**	**-0.5**
MWZ	**Matawai**	**1.27**	**78**	Pn	**Pn**	**15 39 16.6**	**-0.5**
PNHZ	**Pukenui**	**1.32**	**172**	⇑PN	**Pn**	**15 39 18.3**	**+0.7**
PNHZ	**Pukenui**	**1.32**	**172**	Pn	**Pn**	**15 39 18.3**	**+0.7**
MHEZ	**Mangahewa**	**1.35**	**249**	⇑PN	**Pn**	**15 39 19.3**	**+1.4**
MHEZ	**Mangahewa**	**1.35**	**249**	Pn	**Pn**	**15 39 19.3**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.37**	**140**	⇑PN	**Pn**	**15 39 19.1**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.37**	**140**	Pn	**Pn**	**15 39 19.1**	**+1.1**
WAZ	**Wanganui**	**1.37**	**213**	⇑PN	**Pn**	**15 39 19.1**	**+1.0**
WAZ	**Wanganui**	**1.37**	**213**	Pn	**Pn**	**15 39 19.1**	**+1.0**
KAHZ	**Kahuranaki**	**1.39**	**149**	⇑PN	**Pn**	**15 39 19.4**	**+1.1**
KAHZ	**Kahuranaki**	**1.39**	**149**	Pn	**Pn**	**15 39 19.4**	**+1.1**
RAEZ	**Rainy Point**	**1.39**	**240**	PN	**Pn**	**15 39 19.9**	**+1.7**
RAEZ	**Rainy Point**	**1.39**	**240**	Pn	**Pn**	**15 39 19.4**	**+1.1**
KNZ	**Kokohu**	**1.41**	**108**	PN	**Pn**	**15 39 18.6**	**+0.3**
KNZ	**Kokohu**	**1.41**	**108**	Pn	**Pn**	**15 39 18.6**	**+0.3**
TSZ	**Takapari Road**	**1.45**	**180**	⇓PN	**Pn**	**15 39 19.3**	**+0.4**
TSZ	**Takapari Road**	**1.45**	**180**	Pn	**Pn**	**15 39 19.3**	**+0.4**
DREZ	**Durham Road**	**1.48**	**246**	PN	**Pn**	**15 39 20.5**	**+1.3**
DREZ	**Durham Road**	**1.48**	**246**	Pn	**Pn**	**15 39 20.5**	**+1.3**
WPHZ	**Waipukurau**	**1.50**	**166**	⇑PN	**Pn**	**15 39 20.2**	**+0.8**
WPHZ	**Waipukurau**	**1.50**	**166**	Pn	**Pn**	**15 39 20.2**	**+0.8**
PRGZ	**Paritu Road**	**1.54**	**102**	PN	**Pn**	**15 39 19.8**	**+0.1**
PRGZ	**Paritu Road**	**1.54**	**102**	Pn	**Pn**	**15 39 20.0**	**+0.3**
PXZ	**Pawanui**	**1.59**	**154**	PN	**Pn**	**15 39 20.8**	**+0.6**
PXZ	**Pawanui**	**1.59**	**154**	Pn	**Pn**	**15 39 20.8**	**+0.6**
NEZ	**North Egmont**	**1.59**	**245**	PN	**Pn**	**15 39 21.9**	**+1.6**
NEZ	**North Egmont**	**1.59**	**245**	Pn	**Pn**	**15 39 21.9**	**+1.6**
DFE	**Dawson Falls**	**1.61**	**243**	⇓PN	**Pn**	**15 39 22.0**	**+1.4**
DFE	**Dawson Falls**	**1.61**	**243**	Pn	**Pn**	**15 39 22.0**	**+1.4**
MKAZ	**Moumakai**	**1.62**	**337**	⇑PN	**Pn**	**15 39 20.5**	**-0.1**
MKAZ	**Moumakai**	**1.62**	**337**	Pn	**Pn**	**15 39 20.1**	**-0.4**
MHGZ	**Mahia Peninsul**	**1.62**	**110**	⇑PN	**Pn**	**15 39 21.1**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.62**	**110**	Pn	**Pn**	**15 39 21.1**	**+0.6**
PKE	**Pukeiti**	**1.64**	**248**	PN	**Pn**	**15 39 22.0**	**+1.2**
PKE	**Pukeiti**	**1.64**	**248**	Pn	**Pn**	**15 39 22.0**	**+1.2**
DVHZ	**Dannevirke**	**1.70**	**174**	⇑PN	**Pn**	**15 39 21.9**	**+0.6**
DVHZ	**Dannevirke**	**1.70**	**174**	Pn	**Pn**	**15 39 21.9**	**+0.6**
NRZ	**Ngariki Road**	**1.73**	**245**	PN	**Pn**	**15 39 23.0**	**+1.3**
NRZ	**Ngariki Road**	**1.73**	**245**	Pn	**Pn**	**15 39 23.0**	**+1.3**
PRHZ	**Porangahau**	**1.74**	**162**	⇑PN	**Pn**	**15 39 22.6**	**+0.8**
PRHZ	**Porangahau**	**1.74**	**162**	Pn	**Pn**	**15 39 22.6**	**+0.8**
NWEZ	**Newall Road**	**1.76**	**247**	PN	**Pn**	**15 39 23.3**	**+1.3**
NWEZ	**Newall Road**	**1.76**	**247**	Pn	**Pn**	**15 39 23.3**	**+1.3**
CNGZ	**Carnagh Statio**	**1.77**	**87**	PN	**Pn**	**15 39 22.5**	**+0.3**
CNGZ	**Carnagh Statio**	**1.77**	**87**	Pn	**Pn**	**15 39 22.5**	**+0.3**
POWZ	**Post Office Ro**	**1.79**	**184**	⇑PN	**Pn**	**15 39 22.9**	**+0.6**
POWZ	**Post Office Ro**	**1.79**	**184**	Pn	**Pn**	**15 39 22.9**	**+0.6**
OTAZ	**Otara**	**1.84**	**334**	⇓PN	**Pn**	**15 39 23.0**	**0.0**
OTAZ	**Otara**	**1.84**	**334**	Pn	**Pn**	**15 39 23.0**	**0.0**
KUZ	**Kuaotunu**	**1.87**	**354**	PN	**Pn**	**15 39 22.3**	**-0.9**
KUZ	**Kuaotunu**	**1.87**	**354**	Pn	**Pn**	**15 39 22.3**	**-0.9**
PUZ	**Puketiti**	**1.89**	**74**	⇑PN	**Pn**	**15 39 22.8**	**-0.7**
PUZ	**Puketiti**	**1.89**	**74**	Pn	**Pn**	**15 39 22.8**	**-0.7**
MRZ	**Mangatainoka R**	**2.07**	**188**	⇑PN	**Pn**	**15 39 25.8**	**+0.3**
MRZ	**Mangatainoka R**	**2.07**	**188**	Pn	**Pn**	**15 39 25.4**	**0.0**
BFZ	**Birch Farm**	**2.08**	**174**	PN	**Pn**	**15 39 25.7**	**+0.1**
BFZ	**Birch Farm**	**2.08**	**174**	Pn	**Pn**	**15 39 25.7**	**+0.1**
MXZ	**Matakaoa Point**	**2.13**	**61**	PN	**Pn**	**15 39 25.9**	**-0.3**
MXZ	**Matakaoa Point**	**2.13**	**61**	Pn	**Pn**	**15 39 25.9**	**-0.3**
RVAZ	**Riverhead Bore**	**2.13**	**329**	⇓PN	**Pn**	**15 39 26.0**	**-0.2**
TIWZ	**Tintock**	**2.17**	**181**	⇑PN	**Pn**	**15 39 26.9**	**+0.3**
TIWZ	**Tintock**	**2.17**	**181**	Pn	**Pn**	**15 39 26.9**	**+0.3**
OGWZ	**Otaki Gorge**	**2.29**	**195**	⇑PN	**Pn**	**15 39 28.3**	**+0.4**
OGWZ	**Otaki Gorge**	**2.29**	**195**	Pn	**Pn**	**15 39 28.4**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.31**	**188**	⇑PN	**Pn**	**15 39 28.3**	**0.0**
HOWZ	**Holdsworth Sta**	**2.31**	**188**	Pn	**Pn**	**15 39 28.3**	**0.0**
KIW	**Kapiti Island**	**2.39**	**199**	⇑PN	**Pn**	**15 39 29.2**	**0.0**
KIW	**Kapiti Island**	**2.39**	**199**	Pn	**Pn**	**15 39 29.2**	**0.0**
TMWZ	**Te Maipa**	**2.50**	**181**	⇑PN	**Pn**	**15 39 30.4**	**0.0**
TMWZ	**Te Maipa**	**2.50**	**181**	Pn	**Pn**	**15 39 30.4**	**0.0**
MTW	**Mount Morrison**	**2.57**	**188**	⇑PN	**Pn**	**15 39 31.0**	**

ILA	**Ilan**	**0.30**	**276**	*e*P		**Pn**	**15 54 41.3**	**+0.1**
	baz=281								
TWE	**Neicheng**	**0.37**	**268**	⇓*i*P		**Pn**	**15 54 41.7**	**-0.2**
	baz=271								
TWE				*e*S		**Sn**	**15 54 49.7**	**+0.5**
	baz=271								
ENA	**Nanau**	**0.43**	**225**	*i* P		**Pn**	**15 54 42.0**	**-0.5**
	baz=223								
ENA				*e*S		**Sn**	**15 54 50.4**	**+0.2**
	baz=223								
NWF	**Wu-fen Shan**	**0.43**	**322**	*i* P		**Pn**	**15 54 42.6**	**0.0**
	baz=326								
NWF				S		**Sn**	**15 54 50.8**	**+0.5**
	baz=326								
ENTT	**Nioudou**	**0.47**	**259**	*i* P		**Pn**	**15 54 42.7**	**-0.2**
	baz=260								
ENTT				*e*S		**Sn**	**15 54 51.7**	**+0.7**
	baz=260								
TAP1	**Taipei**	**0.59**	**301**	*e*P		**Pn**	**15 54 43.8**	**-0.5**
	baz=304								
TAP	**Taipei**	**0.60**	**301**	*e*P		**Pn**	**15 54 43.9**	**-0.6**
	baz=304								
NSK	**Sanguang**	**0.66**	**265**	⇓*i*P		**Pn**	**15 54 44.7**	**-0.5**
	baz=266								
NSK				*e*S		**Sn**	**15 54 54.5**	**-0.4**
	baz=266								
TWY	**Chenhua**	**0.69**	**321**	*e*P		**Pn**	**15 54 45.1**	**-0.5**
	baz=324								
TWS1	**Kuangyinshan**	**0.70**	**302**	P		**Pn**	**15 54 45.4**	**-0.3**
	baz=304								
TWS1				*e*S		**Sn**	**15 54 56.4**	**+0.6**
	baz=304								
NNS	**Nan Shan**	**0.70**	**246**	*i* P		**Pn**	**15 54 45.2**	**-0.6**
	baz=245								
NNS				*e*S		**Sn**	**15 54 55.4**	**-0.6**
	baz=245								
TWD	**Chiawan**	**0.78**	**214**	*e*P		**Pn**	**15 54 46.7**	**0.0**
	baz=212								
NCU	**National Centr**	**0.84**	**287**	*e*P		**Pn**	**15 54 47.4**	**-0.1**
	baz=288								
NCU				*e*S		**Sn**	**15 54 59.7**	**+0.6**
	baz=288								
YOJ	**Yonaguni jima**	**0.89**	**107**	P		**Pn**	**15 54 47.6**	**-0.5**
YOJ				S		**Sn**	**15 55 00.0**	**-0.2**
WHF	**Hehuan Shan**	**0.94**	**232**	P		**Pn**	**15 54 48.2**	**-1.0**
	baz=231								
WHF				*e*S		**Sn**	**15 55 00.6**	**-1.4**
	baz=231								
TWT	**Tachien**	**0.95**	**240**	*e*P		**Pn**	**15 54 48.7**	**-0.4**
	baz=240								
TWT				*e*S		**Sn**	**15 55 01.2**	**-0.6**
	baz=240								
NSTT	**Nanjuang**	**0.98**	**264**	P		**Pn**	**15 54 48.6**	**-0.8**
	baz=265								
NSTT				*e*S		**Sn**	**15 55 01.8**	**-0.6**
	baz=265								
NSY	**Sanyi**	**1.24**	**256**	*e*P		**Pn**	**15 54 52.3**	**-0.5**
	baz=255								
NSY				*e*S		**Sn**	**15 55 08.5**	**0.0**
	baz=255								
TWQ1	**Liyutan**	**1.25**	**252**	*e*P		**Pn**	**15 54 52.1**	**-0.8**
	baz=252								
TWQ1				*e*S		**Sn**	**15 55 08.1**	**-0.6**
	baz=252								
SMLT	**Sun Moon Lake**	**1.37**	**232**	*e*P		**Pn**	**15 54 54.8**	**+0.2**
	baz=231								
TYC	**Yuchr**	**1.39**	**234**	*e*P		**Pn**	**15 54 54.2**	**-0.5**
	baz=233								
TYC				*e*S		**Sn**	**15 55 12.4**	**+0.4**
	baz=233								
TWF1	**Yuli**	**1.55**	**208**	*e*P		**Pn**	**15 54 57.3**	**+0.3**
	baz=206								
IRIF	**Iriomote-Funau**	**1.56**	**104**	P		**Pn**	**15 54 56.3**	**-0.8**
IRIF				S		**Sn**	**15 55 15.6**	**-0.6**
ALS	**Alishan**	**1.68**	**224**	P		**Pn**	**15 54 58.8**	**-0.3**
	baz=223								
ALS				*e*S		**Sn**	**15 55 20.4**	**+0.7**
	baz=223								
CHN5	**Tsauling**	**1.71**	**229**	P		**Pn**	**15 54 58.7**	**-0.5**
	baz=228								
CHN5				*e*S		**Sn**	**15 55 20.7**	**+0.7**
	baz=228								
HATJ	**Hateruma jima**	**1.71**	**113**	P		**Pn**	**15 54 59.3**	**+0.1**
HATJ				*e*S		**Sn**	**15 55 20.5**	**+0.5**
WGK	**Gukeng**	**1.73**	**233**	*e*P		**Pn**	**15 54 59.1**	**-0.4**
	baz=232								
ELDTW	**Lidau**	**1.82**	**212**	*e*P		**Pn**	**15 54 59.1**	**-1.7**
	baz=211								
JKRS	**Kuro-shima**	**1.83**	**105**	P		**Pn**	**15 55 00.5**	**-0.3**
JKRS				S		**Sn**	**15 55 22.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.92**	**101**	P		**Pn**	**15 55 01.2**	**-0.8**
JIJ				S		**Sn**	**15 55 24.1**	**-0.9**
CHN4	**Tsaushan**	**1.93**	**225**	*e*P		**Pn**	**15 55 02.6**	**+0.4**
	baz=224								
CHN4				*e*S		**Sn**	**15 55 26.6**	**+1.2**
	baz=224								
WTP	**Ta-pu**	**2.00**	**222**	*e*P		**Pn**	**15 55 03.0**	**-0.1**
	baz=221								
WTP				*e*S		**Sn**	**15 55 28.4**	**+1.5**
	baz=221								
CHN1	**Nanshi**	**2.09**	**223**	*e*P		**Pn**	**15 55 05.5**	**+1.1**
	baz=222								
CHN1				*e*S		**Sn**	**15 55 31.2**	**+1.8**
	baz=222								
JTJ	**Tarama**	**2.39**	**92**	P		**Pn**	**15 55 09.1**	**+0.7**
JTJ				*e*S		**Sn**	**15 55 37.6**	**+1.0**

IDC ***20*** *15:54:36.4±0.5,23°.26S×174°.50W,h0km,mb4.7/26, mb1 4.8/26,mb1mx4.8/31,mbtmp4.7/26,MS3.7/4, Ms1 3.7/4,ms1mx3.3/32,Error ellipse: s-maj=17.8km s-min=12.6km az=138.0*

AUST ***20*** *15:54:39.7±1.2,23°.24S×173°.75W,h55km,Error ellipse: s-maj=1.7km s-min=1.3km az=335.0*

MOS ***20*** *15:54:40.7±1.4,23°.18S×174°.61W,h33km,mb5.2/9,Error ellipse: s-maj=12.0km s-min=10.7km az=146.2*

NEIC ***20*** *15:54:42.4±0.2,23°.14S×174°.64W,h35km,mb5.0/19, Error ellipse: s-maj=10.4km s-min=6.2km az=134.0*

ISCJB ***20*** *15:54:43.0±1.3,23°.29S±0°.06×174°.58W±0°.04, h55km±11km,mb4.9/52,MS4.3/11,Error ellipse: s-maj=10.6km s-min=5.1km az=155.7*

BJI ***20*** *15:54:46.7,22°.66S×174°.56W,h64km,mB5.2/15, mb4.8/22,Ms5.2/12,Ms7 4.9/10*

ISC 20 15:54:43.0±0.7,23°.11S±0°.07×174°.62W±0°.07,h42km±5km, n348,σ1$28/360,mb4.9/53,MS4.5/11,72C-73D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.94**	**48**	P	Pn	15 56 00.3	-8.2
	baz=5.5,SNR=20						
NIUE				S	Sn	15 56 59.4	-16
	baz=5.5,SNR=5.9						
RAO	**Raoul Island**	**6.79**	**205**	*e*Pn	**Pn**	**15 56 21.2**	**+1.0**
MSVF	**Nonsavu**	**8.71**	**307**	*e*P	Pn	15 56 50.5	+3.8
MSVF	**Nonsavu**	**8.71**	**307**	*e*Pn	Pn	15 56 50.5	+3.8
MSVF	**Nonsavu**	**8.71**	**307**	Pn	Pn	15 56 51.0	+4.3
	729nm,0.5s,SNR=31						
AFI	**Afiamalu**	**9.54**	**17**	Pn	Pn	15 56 52.3	-5.8
	11nm,0.3s,baz=109,slow=2.7,SNR=6.5						
AFI				Sn	Sn	15 58 30.1	-14
	baz=107,slow=20						
AFI	**Afiamalu**	**9.54**	**17**	Pn	Pn	15 56 52.3	-5.8
AFI				*e*Pn	Pn	15 57 00.9	+2.8
AFI				Sn	Sn	15 58 30.1	-14
RAR	**Rarotonga**	**13.88**	**85**	Pn	Pn	15 57 46.7	-11
	20nm,0.3s,baz=270,slow=6.8,SNR=30						
RAR				Sn	Sn	16 00 08.1	-22
	baz=184,slow=19						
RAR				LR	LR	16 02 26.9	
	comp=Z,302nm,19.3s,baz=270,slow=34						
URZ	**Urewera**	**16.68**	**203**	Pn	Pn	15 58 22.4	-11
	0.4nm,0.3s,baz=29,slow=19,SNR=5.8						
URZ				Sn	Sn	16 01 17.6	-20
	1.5nm,0.3s,baz=0.0,slow=20,SNR=6.3						
URZ	**Urewera**	**16.68**	**203**	*e*Pn	**Pn**	**15 58 33.4**	**-0.3**
URZ				Sn	Sn	16 01 17.6	-20
DZM	**Mont Dzumac**	**17.52**	**270**	*e*P	**P**	**15 58 48.2**	**+3.0**
	66nm,1.0s						
DZM				*e*LR	LR	16 02 10.5	
	213nm,24.7s						
DZM	**Mont Dzumac**	**17.52**	**270**	P	**P**	**15 58 48.5**	**+3.3**
	1.2nm,0.3s,baz=96,slow=18,SNR=11						
DZM	**Mont Dzumac**	**17.52**	**270**	P	**P**	**15 58 48.5**	**+3.3**
TBI	**Tubuai**	**23.11**	**96**	*e*LQ	LQ	16 03 47.9	
	646nm,27.5s						
TBI				*e*LR	LR	16 05 12.9	
	276nm,26.2s,baz=262						
RPZ	**Rata Peaks**	**23.71**	**207**	P	**P**	**15 59 48.6**	**-2.5**
	6.4nm,0.6s						
RPZ	**Rata Peaks**	**23.71**	**207**	P	**P**	**15 59 48.6**	**-2.5**
PPT2	**Papeete2**	**24.09**	**81**	*e*LQ	LQ	16 04 22.2	
	699nm,28.8s						
PPT2				*e*LR	LR	16 05 37.0	
	359nm,26.0s,baz=252						
PPT	**Papeete**	**24.10**	**81**	LR	LR	16 06 59.0	
	comp=Z,224nm,18.1s,baz=258,slow=31						
WHZ	**Wether Hill Ro**	**26.77**	**208**	*e*P	**P**	**16 00 21.2**	**+2.3**
HNR	**Honiara**	**27.89**	**295**	LR	LR	16 10 35.0	
	comp=Z,68nm,18.3s,baz=227,slow=34						
RMQ	**Roma**	**33.35**	**257**	P	**P**	**16 01 17.7**	**+0.3**
	baz=34,SNR=7.3						
YNG	**Young**	**34.13**	**243**	P	**P**	**16 01 25.5**	**+1.4**
	baz=35,SNR=5.9						
CMSA	**Cobar Meteorol**	**36.09**	**248**	P	**P**	**16 01 40.0**	**-0.9**
	baz=37,SNR=7.1						
CTA	**Charters Tower**	**36.44**	**267**	P	**P**	**16 01 43.8**	**-0.2**
	27nm,0.5s,baz=95,slow=11,SNR=50						
CTA	**Charters Tower**	**36.44**	**267**	P	**P**	**16 01 43.8**	**-0.2**
CTAO	**Charters Tower**	**36.44**	**267**	*e*P	**P**	**16 01 43.1**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,29nm,0.6s						
CTAO	**Charters Tower**	**36.44**	**267**	*e*P	**P**	**16 01 43.1**	**-1.0**
	comp=Z,29nm,0.6s						
TOO	**Toolangi**	**37.04**	**238**	P	**P**	**16 01 49.3**	**+0.3**
	baz=38,SNR=12						
MOO	**Moorlands**	**37.06**	**229**	P	**P**	**16 01 49.6**	**+0.5**
	baz=38,SNR=4.4						
QLP	**Quilpie**	**37.39**	**256**	P	**P**	**16 01 51.1**	**-1.0**
	baz=38,SNR=6.4						
PMG	**Port Moresby**	**39.01**	**284**	P	**P**	**16 02 06.7**	**+0.9**
	comp=Z,53nm,0.9s,baz=155,slow=19,SNR=1.9						
PMG	**Port Moresby**	**39.01**	**284**	P	**P**	**16 02 06.7**	**+0.9**
STKA	**Stephens Creek**	**39.59**	**247**	P	**P**	**16 02 09.5**	**-1.1**
	comp=Z,4.8nm,0.5s,baz=87,slow=9.6,SNR=27						
STKA				LR	LR	16 17 36.3	
	comp=Z,197nm,18.9s,baz=200,slow=35						
STKA	**Stephens Creek**	**39.59**	**247**	P	**P**	**16 02 09.5**	**-1.1**
STKA	**Stephens Creek**	**39.59**	**247**	P	**P**	**16 02 10.8**	**+0.2**
	baz=40,SNR=23						
ARPS	**Mount Arapiles**	**39.78**	**240**	P	**P**	**16 02 11.6**	**-0.5**
	baz=40,SNR=8.4						
COEN	**Coen**	**40.92**	**275**	P	P	16 02 24.8	+3.1
	baz=42,SNR=4.9						
BBOO	**Buckleboo**	**44.29**	**246**	P	**P**	**16 02 47.4**	**-1.5**
	baz=45,SNR=9.7						
AS31	**Alice Springs**	**47.04**	**259**	*e*P	**P**	**16 03 10.0**	**-0.8**
ASAR	**Alice Springs**	**47.04**	**259**	P	**P**	**16 03 09.6**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=85,slow=5.7,SNR=27						
ASAR				S	**S**	**16 09 57.6**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=93,slow=17,SNR=4.7						
ASAR	**Alice Springs**	**47.04**	**259**	P	**P**	**16 03 09.6**	**-1.2**
ASAR				S	**S**	**16 09 57.6**	**-2.4**
WRAB	**Tennant Creek**	**47.39**	**264**	*e*P	**P**	**16 03 12.0**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**47.39**	**264**	*e*P	**P**	**16 03 12.0**	**-1.6**
	comp=Z,16nm,1.0s						
WRAB				*e*ScP	**ScP**	**16 08 32.4**	**-2.3**
WRAB	**Tennant Creek**	**47.39**	**264**	P	**P**	**16 03 12.0**	**-1.6**
	comp=Z,100nm,0.6s,SNR=11						
WRA	**Warramunga Arr**	**47.40**	**264**	P	**P**	**16 03 12.0**	**-1.6**
	comp=Z,10nm,0.5s,baz=94,slow=8.5,SNR=66						
WRA				S	**S**	**16 10 02.5**	**-2.6**
	comp=Z,1.6nm,1.0s,baz=102,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**47.40**	**264**	P	**P**	**16 03 12.0**	**-1.6**
WRA				S	**S**	**16 10 02.5**	**-2.6**
KDU	**Kakadu**	**51.17**	**272**	P	**P**	**16 03 42.5**	**+0.1**
	baz=52,SNR=3.9						
FORT	**Forrest**	**51.20**	**248**	*e*P	**P**	**16 03 41.3**	**-1.2**
	comp=Z,46nm,0.7s						
FORT	**Forrest**	**51.20**	**248**	P	**P**	**16 03 41.8**	**-0.8**
	baz=52,SNR=9.5						
MTN	**Manton Dam**	**52.35**	**271**	P	**P**	**16 03 52.2**	**+1.0**
	baz=53,SNR=5.4						
SBA	**Scott Base**	**55.51**	**185**	*e*P	**P**	**16 04 14.8**	**+1.4**
SBA				pmax	pmax		
	comp=Z,201nm,2.6s						
SBA	**Scott Base**	**55.51**	**185**	*e*P	**P**	**16 04 14.8**	**+1.4**
	comp=Z,201nm,2.6s						
VNDA	**Vanda**	**55.62**	**186**	P	**P**	**16 04 14.4**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=11,slow=6.8,SNR=12						
VNDA	**Vanda**	**55.62**	**186**	*e*P	**P**	**16 04 14.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**55.82**	**263**	P	**P**	**16 04 16.7**	**+0.2**
	comp=Z,12nm,0.9s,baz=113,slow=7.9,SNR=25						
FITZ	**Fitzroy Crossi**	**55.82**	**263**	P	**P**	**16 04 16.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**55.82**	**263**	P	**P**	**16 04 17.0**	**+0.5**
	baz=57,SNR=17						
KLBR	**Kellerberrin**	**59.84**	**246**	P	**P**	**16 04 44.8**	**+0.2**
	baz=60,SNR=13						
NWAO	**Narrogin (SRO)**	**60.04**	**244**	P	**P**	**16 04 45.9**	**-0.1**
	comp=Z,19nm,1.1s,baz=102,slow=9.3,SNR=4.7						
NWAO	**Narrogin (SRO)**	**60.04**	**244**	P	**P**	**16 04 45.9**	**-0.1**
MEEK	**Meekatharra**	**60.06**	**252**	P	**P**	**16 04 45.7**	**-0.5**
	baz=61,SNR=6.4						
MBWA	**Marble Bar**	**60.37**	**258**	*e*P	**P**	**16 04 48.5**	**+0.2**
	comp=Z,17nm,1.0s						
BLDU	**Ballidu**	**60.89**	**247**	P	**P**	**16 04 51.9**	**+0.1**
	baz=62,SNR=19						
MORW	**Morawa**	**61.77**	**248**	P	**P**	**16 04 58.1**	**+0.3**
	baz=62,SNR=13						
KAPI	**Kappang**	**65.65**	**275**	P	**P**	**16 05 23.1**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=142,slow=19,SNR=2.7						
KAPI	**Kappang**	**65.65**	**275**	P	**P**	**16 05 23.1**	**-0.5**
QSPA	**South Pole Qui**	**66.97**	**180**	P	**P**	**16 05 30.1**	**-1.2**
	comp=Z,11nm,1.0s,baz=39,slow=3.4,SNR=22						
QSPA	**South Pole Qui**	**66.97**	**180**	*e*P	**P**	**16 05 30.5**	**-0.8**
MJAR	**Matsushiro Arr**	**74.18**	**322**	P	**P**	**16 06 16.2**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=157,slow=5.9,SNR=17						
MJAR	**Matsushiro Arr**	**74.18**	**322**	P	**P**	**16 06 16.2**	**+0.8**
MAT	**Matsushiro**	**74.18**	**322**	P	**P**	**16 06 16.0**	**+0.6**
KSM	**Kuching**	**76.88**	**277**	*e*P	**P**	**16 06 31.9**	**+0.5**
	comp=Z,31nm,0.8s						
KSM	**Kuching**	**76.88**	**277**	P	**P**	**16 06 32.6**	**+1.2**
	baz=78,SNR=5.9						
ASAJ	**Asahikawa**	**77.53**	**330**	P	**P**	**16 06 36.4**	**+2.0**
	comp=Z,16nm,0.9s,baz=242,slow=12,SNR=5.1						
ASAJ	**Asahikawa**	**77.53**	**330**	P	**P**	**16 06 36.4**	**+2.0**
TPUB	**Ta-pu**	**78.03**	**302**	*e*P	**P**	**16 06 37.4**	**-0.2**
	comp=Z,38nm,0.8s						
MURC	**Murrieta**	**78.53**	**46**	⇑P	**P**	**16 06 39.8**	**-0.4**
	baz=79						
MONP	**Monument Peak**	**78.62**	**47**	⇑P	**P**	**16 06 40.8**	**-0.2**
	baz=79						
BFSC	**Mount Baldy Ra**	**78.62**	**45**	⇑P	**P**	**16 06 40.4**	**-0.4**
	baz=79						
VES	**Vestal, Richgr**	**78.71**	**43**	⇑P	**P**	**16 06 41.2**	**+0.2**
	baz=79						
EDW2	**Edwards Air Fo**	**78.80**	**44**	⇓P	**P**	**16 06 41.8**	**+0.1**
	baz=79						
ISA	**Isabella**	**78.98**	**44**	*e*P	**P**	**16 06 43.3**	**+0.6**
ISA	**Isabella**	**78.98**	**44**	*e*P	**P**	**16 06 43.3**	**+0.6**
ISA	**Isabella**	**78.98**	**44**	⇑P	**P**	**16 06 42.7**	**0.0**
	baz=79						
PFO	**Pinyon Flat Ob**	**79.03**	**46**	⇓P	**P**	**16 06 42.5**	**-0.6**
	baz=79						
CMB	**Columbia Colle**	**79.31**	**41**	*e*P	**P**	**16 06 44.9**	**+0.5**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMB	**Columbia Colle**	**79.31**	**41**	*e*P	**P**	**16 06 44.9**	**+0.5**
	comp=Z,6.0nm,0.9s						
LRMC	**Laurel Mountai**	**79.37**	**44**	⇓P	**P**	**16 06 44.5**	**-0.3**
	baz=80						
BELC	**Bell Mtn. Jos**	**79.57**	**46**	⇓P	**P**	**16 06 46.1**	**+0.1**
	baz=80						
PETK	**Petropavlovsk-**	**79.62**	**343**	P	**P**	**16 06 46.2**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=128,slow=12,SNR=3.8						
PETK	**Petropavlovsk-**	**79.62**	**343**	P	**P**	**16 06 46.2**	**+0.6**
PETK	**Petropavlovsk-**	**79.62**	**343**	P	**P**	**16 06 46.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**79.65**	**332**	*e*P	**P**	**16 06 47.7**	**+1.8**
YSS				pmax	pmax		
	comp=Z,21nm,0.9s						
YSS	**Yuzh-Sakhalins**	**79.65**	**332**	*e*P	**P**	**16 06 47.7**	**+1.8**
	comp=Z,21nm,0.9s						
BC3	**Big Chuckawall**	**79.73**	**47**	⇑P	**P**	**16 06 47.0**	**+0.1**
	baz=80						
GSC	**Goldstone**	**79.83**	**45**	⇑P	**P**	**16 06 47.5**	**+0.2**
	baz=80						
HEC	**Hector,Ludlow**	**79.85**	**45**	⇓P	**P**	**16 06 47.5**	**+0.1**
	baz=80						
MPMC	**Manual Prospec**	**79.85**	**44**	⇑P	**P**	**16 06 47.5**	**-0.1**
	baz=80						
IRM	**Iron Mountain**	**80.23**	**46**	⇓P	**P**	**16 06 49.4**	**0.0**
	baz=80						
GMRC	**Granite Mounta**	**80.26**	**46**	⇑P	**P**	**16 06 49.9**	**+0.2**
	baz=80						
YBH	**Yreka Blue Hor**	**80.43**	**37**	P	**P**	**16 06 50.0**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=172,slow=2.7,SNR=7.1						
YBH	**Yreka Blue Hor**	**80.43**	**37**	P	**P**	**16 06 50.0**	**-0.4**
NVAR	**Mina Array Bea**	**80.82**	**41**	P	**P**	**16 06 53.0**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=224,slow=8.6,SNR=37						
NVAR	**Mina Array Bea**	**80.82**	**41**	P	**P**	**16 06 53.0**	**+0.2**
KSRS	**Korea Array**	**80.93**	**317**	P	**P**	**16 06 55.0**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=132,slow=5.5,SNR=8.1						
KSAR	**Wonju Array Be**	**80.94**	**317**	P	**P**	**16 06 55.0**	**+1.9**
PDMCI	**Parker Dam,Lak**	**80.99**	**47**	⇑P	**P**	**16 06 53.7**	**+0.3**
	baz=81						
W13A	**Hualapai Mount**	**81.62**	**46**	⇑P	**P**	**16 06 56.8**	**-0.3**
	baz=82						
R11A	**Troy Canyon, C**	**82.45**	**43**	⇑P	**P**	**16 07 01.6**	**+0.3**
	baz=83						
319A	**Douglas**	**82.74**	**52**	⇑P	**P**	**16 07 03.1**	**+0.2**
	baz=83						
X16A	**Lo Mia Camp, P**	**82.89**	**48**	⇑P	**P**	**16 07 04.3**	**+0.6**
	baz=83						
USRK	**Ussuriysk Arra**	**82.89**	**324**	P	**P**	**16 07 05.5**	**+2.3**
	comp=Z,9.9nm,0.9s,baz=124,slow=4.1,SNR=14						
320A	**Kipp Ranch, An**	**83.26**	**52**	⇓P	**P**	**16 07 06.2**	**+0.6**
	baz=84						
U15A	**North Rim**	**83.45**	**46**	⇓P	**P**	**16 07 07.4**	**+0.7**
	baz=84,SNR=9.5						
ARUT	**Antelope Range**	**83.48**	**44**	*e*P	**P**	**16 07 07.5**	**+0.8**
ARUT	**Antelope Range**	**83.48**	**44**	*e*P	**P**	**16 07 07.5**	**+0.8**
WUAZ	**Wupatki**	**83.55**	**47**	⇓P	**P**	**16 07 07.8**	**+0.8**
	baz=84						
220A	**Playas Peak, P**	**83.56**	**51**	⇓P	**P**	**16 07 07.6**	**+0.4**
	baz=84						
120A	**U Bar Ranch, L**	**83.83**	**51**	⇓P	**P**	**16 07 09.1**	**+0.6**
	baz=84						
NJ2	**Nanjing**	**83.96**	**308**	*e*P	**P**	**16 07 11.1**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
X18A	**Snowflake**	**83.97**	**49**	⇓P	**P**	**16 07 09.8**	**+0.6**
	baz=84						
Z20A	**Nine Sixteen R**	**84.16**	**50**	⇓P	**P**	**16 07 10.7**	**+0.4**
	baz=84,SNR=6.8						
HABR	**Khabarovsk**	**84.28**	**329**	*e*P	**P**	**16 07 09.1**	**-1.1**
HABR				*e**PP	**pP**	**16 07 19.7**	**-3.1**
HABR				*e**SP	**sP**	**16 07 23.7**	**-3.8**
HABR				*e*		16 10 23.6	
HABR				*e*PPP	PPP	16 12 16.1	
HABR				*e*S	**SKSac**	**16 17 29.0**	**-1.2**
HABR				*e*SS	**SS**	**16 23 03.1**	**-0.3**
HABR				*e*SSS	SSS	16 26 33.4	
HABR				pmax	pmax		
	comp=N,39nm,1.9s						
HABR				pmax	pmax		
	comp=Z,93nm,3.0s						
HABR				pmax	pmax		
	comp=E,54nm,2.3s						
HABR				MLR	MLR		
	comp=Z,49nm,18.0s						
121A	**Cookes Peak, D**	**84.43**	**51**	⇓P	**P**	**16 07 12.0**	**+0.4**
	baz=85						
MDJ	**Mudanjiang**	**84.47**	**324**	P	**P**	**16 07 13.4**	**+2.1**
MDJ				pP	pP	16 07 30.1	+6.2
MDJ				sP	sP	16 07 37.1	+8.5
MDJ				PP	**PP**	**16 10 29.3**	**+2.0**
MDJ				S	**S**	**16 17 34.0**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,65nm,4.4s						
MDJ				LR	LR		
	comp=N,120nm,25.8s						
MDJ				LR	LR		
	comp=E,130nm,26.5s						
MVU	**Marysvale**	**84.69**	**44**	*e*P	**P**	**16 07 14.0**	**+1.1**
	comp=E,10nm,1.4s						
MSU	**Marysvale**	**84.71**	**44**	*e*P	**P**	**16 07 14.2**	**+1.2**
MSU	**Marysvale**	**84.71**	**44**	*e*P	**P**	**16 07 14.2**	**+1.2**
Y20A	**Horse Springs,**	**84.73**	**50**	⇓P	**P**	**16 07 13.9**	**+0.7**
	baz=85,SNR=9.7						
SYO	**Syowa Base**	**84.85**	**192**	⇓*e*X		16 07 09.0	
SYO	**Syowa Base**	**84.85**	**192**	⇓*e*P	pP	16 07 29.6	+4.1
X20A	**Quemado**	**84.99**	**49**	⇓P	**P**	**16 07 15.1**	**+0.7**
	baz=85,SNR=7.4						
P15A	**Leamington**	**85.25**	**43**	⇓P	**P**	**16 07 16.1**	**+0.6**
	baz=86						
BBB	**Bella Bella**	**85.26**	**27**	P	**P**	**16 07 16.1**	**+1.0**
	comp=E,10nm,0.8s,baz=221,slow=9.0,SNR=5.6						
BBB	**Bella Bella**	**85.26**	**27**	P	**P**	**16 07 16.1**	**+1.0**
Y21A	**Point of Rocks**	**85.28**	**50**	⇑P	**P**	**16 07 16.4**	**+0.5**
	baz=86						
MFID	**Camas Ranch**	**85.39**	**39**	⇑P	**P**	**16 07 16.3**	**+0.2**
	baz=86						
Z22A	**Elephant Butte**	**85.39**	**51**	⇓P	**P**	**16 07 16.7**	**+0.3**
	baz=86,SNR=11						
X21A	**Alamocita Cree**	**85.43**	**50**	⇓P	**P**	**16 07 16.9**	**+0.2**
	baz=86						
BMO	**

H12A	**Diamond D Ranc**	**86.64**	**38**	⇑P		**P**		**16 07 22.1**	**-0.2**
	baz=87									
I13A	**Wildhorse Cree**	**86.68**	**39**	⇑P		**P**		**16 07 22.4**	**-0.3**
	baz=87									
GDL2	**Guadalupe Moun**	**86.75**	**53**	*e*P		**P**		**16 07 23.5**	**+0.4**
125A	**Gardner Draw,**	**86.76**	**53**	⇑P		**P**		**16 07 22.7**	**-0.4**
	baz=87,SNR=6.9									
427A	**Hayter Ranch,**	**86.80**	**55**	⇑P		**P**		**16 07 23.2**	**-0.2**
	baz=87,SNR=21									
Y24A	**Capitan**	**86.83**	**51**	⇑P		**P**		**16 07 23.5**	**-0.1**
	baz=87,SNR=11									
528A	**Cox Ranch, San**	**86.93**	**55**	⇓P		**P**		**16 07 23.6**	**-0.4**
	baz=87,SNR=7.5									
N17A	**Moffit Pass**	**86.94**	**43**	⇑P		**P**		**16 07 24.5**	**+0.4**
	baz=87									
W23A	**Werner Place,**	**86.95**	**50**	⇓P		**P**		**16 07 24.7**	**+0.6**
	baz=87									
Z25A	**Roswell**	**87.03**	**52**	⇑P		**P**		**16 07 25.1**	**+0.7**
	baz=87									
F12A	**Elk City**	**87.15**	**37**	⇑P		**P**		**16 07 25.0**	**+0.2**
	baz=87									
L16A	**Fish Haven**	**87.18**	**42**	⇑P		**P**		**16 07 24.9**	**-0.1**
	baz=87									
126A	**Clayton Basin,**	**87.22**	**53**	⇓P		**P**		**16 07 25.3**	**-0.1**
	baz=87									
V23A	**Ortiz Mt. (NFS**	**87.23**	**49**	⇓P		**P**		**16 07 25.2**	**-0.2**
	baz=88									
428A	**Kincaid Ranch,**	**87.28**	**55**	⇓P		**P**		**16 07 26.0**	**+0.4**
	baz=88									
529A	**Stev Forest Ra**	**87.34**	**56**	⇓P		**P**		**16 07 25.0**	**-0.9**
	baz=88,SNR=7.8									
Y25A	**Mesa, Roswell**	**87.36**	**51**	⇑P		**P**		**16 07 25.9**	**-0.1**
	baz=88,SNR=8.1									
J15A	**Blackfoot**	**87.37**	**40**	⇑P		**P**		**16 07 26.1**	**+0.2**
	baz=88									
328A	**Wristen Ranch,**	**87.50**	**54**	⇓P		**P**		**16 07 26.3**	**-0.3**
	baz=88									
W24A	**Lazy 6 Ranch,**	**87.50**	**50**	⇓P		**P**		**16 07 26.8**	**0.0**
	baz=88									
U23A	**El Rito**	**87.53**	**49**	⇓P		**P**		**16 07 27.5**	**+0.6**
	baz=88									
K16A	**Soda Springs**	**87.55**	**41**	⇑P		**P**		**16 07 27.0**	**+0.2**
	baz=88									
Z26A	**Caprock**	**87.56**	**52**	⇑P		**P**		**16 07 26.5**	**-0.5**
	baz=88,SNR=7.8									
R21A	**Cimarron**	**87.67**	**46**	⇓P		**P**		**16 07 27.6**	**+0.1**
	baz=88									
N18A	**Larsen Ranch,**	**87.69**	**43**	⇑P		**P**		**16 07 27.4**	**-0.2**
	baz=88									
NEW	**Newport**	**87.70**	**34**	⇓P		**P**		**16 07 28.0**	**+0.8**
	baz=88									
127A	**Arkansas Junct**	**87.72**	**53**	⇑P		**P**		**16 07 27.8**	**0.0**
	baz=88									
S22A	**4UR Ranch, Cre**	**87.82**	**47**	⇑P		**P**		**16 07 28.2**	**-0.2**
	baz=88									
429A	**Davenport Ranc**	**87.83**	**55**	⇑P		**P**		**16 07 27.4**	**-0.9**
	baz=88,SNR=13									
PSI	**Prapat**	**87.83**	**274**	P		**P**		**16 07 28.4**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=61,slow=4.9,SNR=4.6									
PSI	**Prapat**	**87.83**	**274**	P		**P**		**16 07 28.4**	**-0.4**
V24A	**Rampart Ranch,**	**87.86**	**50**	⇑P		**P**		**16 07 29.1**	**+0.6**
	baz=88									
C11A	**Tepee Creek (N**	**87.89**	**35**	⇓P		**P**		**16 07 28.7**	**+0.6**
	baz=88									
N19A	**John Jarvie Ra**	**87.96**	**44**	⇓P		**P**		**16 07 28.5**	**-0.3**
	baz=88									
228A	**UT Block 9, Go**	**88.02**	**54**	⇑P		**P**		**16 07 28.8**	**-0.4**
	baz=88									
530A	**J-C Ranch, Com**	**88.03**	**56**	⇓P		**P**		**16 07 28.4**	**-0.8**
	baz=88									
329A	**Wagon Wheel Ra**	**88.17**	**55**	⇑P		**P**		**16 07 29.8**	**-0.1**
	baz=88									
W25A	**X Bar L Ranch,**	**88.18**	**50**	⇓P		**P**		**16 07 29.5**	**-0.5**
	baz=88,SNR=5.7									
C12B	**Naegeli Ranch,**	**88.22**	**35**	⇓P		**P**		**16 07 29.9**	**+0.2**
	baz=88									
631A	**Perdido Creek**	**88.27**	**57**	⇓P		**P**		**16 07 29.6**	**-0.7**
	baz=88,SNR=6.9									
X26A	**CR and CF Fran**	**88.31**	**51**	⇓P		**P**		**16 07 30.7**	**+0.1**
	baz=88									
128A	**Castleberry Fa**	**88.34**	**53**	⇓P		**P**		**16 07 30.3**	**-0.4**
	baz=88									
Q22A	**Crested Butte,**	**88.35**	**46**	⇓P		**P**		**16 07 30.0**	**-0.9**
	baz=89									
V25A	**Rancho No Teng**	**88.38**	**50**	⇓P		**P**		**16 07 31.0**	**+0.1**
	baz=89									
J17A	**Brown Place, J**	**88.38**	**41**	⇑P		**P**		**16 07 30.7**	**-0.1**
	baz=89									
K18A	**Toltan Ranch,**	**88.38**	**42**	⇑P		**P**		**16 07 31.2**	**+0.3**
	baz=89									
430A	**Baggett Ranch,**	**88.41**	**56**	⇓P		**P**		**16 07 30.5**	**-0.5**
	baz=89									
732A	**Laxson Ranch,**	**88.43**	**58**	⇑P		**P**		**16 07 31.0**	**-0.1**
	baz=89									
GSI	**Gunungsitoli**	**88.49**	**272**	P		**P**		**16 07 33.5**	**+1.8**
	baz=89,SNR=6.8									
L19A	**Farson**	**88.51**	**43**	⇓P		**P**		**16 07 31.4**	**-0.1**
	baz=89									
N20A	**Spence Gulch,**	**88.51**	**44**	⇓P		**P**		**16 07 31.2**	**-0.3**
	baz=89									
E14A	**Clinton**	**88.52**	**37**	⇑P		**P**		**16 07 31.4**	**+0.1**
	baz=89									
TNA	**Tin City**	**88.54**	**3**	*e*P		**P**		**16 07 32.6**	**+2.0**
	comp=Z,5.5nm,0.9s									
531A	**Rocksprings**	**88.64**	**56**	⇑P		**P**		**16 07 31.5**	**-0.6**
	baz=89									
J18A	**Kendall Valley**	**88.71**	**41**	⇓P		**P**		**16 07 32.3**	**-0.1**
	baz=89									
BW06	**Boulder Array**	**88.75**	**42**	⇑P		**P**		**16 07 32.0**	**-0.5**
	baz=89									
PDAR	**Pinedale Array**	**88.75**	**42**	P		**P**		**16 07 31.6**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=199,slow=3.1,SNR=8.6									
PDAR	**Pinedale Array**	**88.75**	**42**	P		**P**		**16 07 31.6**	**-1.0**
H16A	**Russell Place,**	**88.82**	**40**	⇓P		**P**		**16 07 34.5**	**+1.7**
	baz=89									
S24A	**Houchin Ranch,**	**88.87**	**48**	⇑P		**P**		**16 07 33.1**	**-0.2**
	baz=89									
A12A	**Yaak River Ran**	**88.88**	**34**	⇓P		**P**		**16 07 33.4**	**+0.6**
	baz=89									
632A	**Uvalde**	**88.92**	**57**	⇑P		**P**		**16 07 33.2**	**-0.2**
	baz=89									
N21A	**Black Mountain**	**88.95**	**44**	⇑P		**P**		**16 07 33.5**	**-0.1**
	baz=89									
532A	**Rocksprings**	**89.12**	**57**	⇑P		**P**		**16 07 34.3**	**-0.1**
	baz=89									
DLBC	**Dease Lake**	**89.26**	**22**	P		**P**		**16 07 33.8**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=257,slow=14,SNR=3.0									
DLBC	**Dease Lake**	**89.26**	**22**	P		**P**		**16 07 33.8**	**-0.6**
432A	**Menard**	**89.55**	**56**	⇑P		**P**		**16 07 35.5**	**-0.9**
	baz=90									
231A	**Bronte**	**89.64**	**55**	⇓P		**P**		**16 07 35.9**	**-0.8**
	baz=90									
SEY	**Seymchan**	**89.65**	**346**	*e*P		**P**		**16 07 33.7**	**-2.2**
Z30A	**Sanderson Ranc**	**89.66**	**53**	⇑P		**P**		**16 07 36.5**	**-0.3**
	baz=90									
O23A	**Lake Granby, G**	**89.71**	**46**	⇓P		**P**		**16 07 37.1**	**-0.1**
	baz=90									
DOT	**Dot Lake**	**89.74**	**13**	*e*P		**P**		**16 07 37.3**	**+0.9**
B14A	**Marquette Ranc**	**89.79**	**36**	⇑P		**P**		**16 07 37.3**	**+0.1**
	baz=90									
332A	**Millersview**	**89.82**	**56**	⇓P		**P**		**16 07 37.3**	**-0.2**
	baz=90									
D16A	**Dana Ranch, Ca**	**89.97**	**38**	⇓P		**P**		**16 07 38.7**	**+0.6**
	baz=90									
J20A	**Shoshoni**	**89.97**	**42**	⇓P		**P**		**16 07 38.6**	**+0.4**
	baz=90									
S26A	**Kim**	**90.06**	**49**	⇓P		**P**		**16 07 38.8**	**+0.1**
	baz=90									
A14A	**Double T Ranch**	**90.07**	**35**	⇓P		**P**		**16 07 39.0**	**+0.6**
	baz=90									
ENH	**Enshi**	**90.10**	**303**	*e*P		**P**		**16 07 37.5**	**-1.4**
	comp=Z,21nm,1.1s									
COLA	**College**	**90.11**	**11**	*e*P		**P**		**16 07 38.4**	**+0.4**
COLA					pmax	pmax				
	comp=Z,7.0nm,0.8s									
COLA	**College**	**90.11**	**11**	*e*P		**P**		**16 07 38.4**	**+0.4**
	comp=Z,6.6nm,0.8s									
ILAR	**Eielson Array**	**90.19**	**12**	P		**P**		**16 07 38.3**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=216,slow=5.4,SNR=19									
ILAR	**Eielson Array**	**90.19**	**12**	P		**P**		**16 07 38.3**	**-0.2**
LCO	**Las Campanas**	**90.32**	**122**	*e*pP		pP		16 07 58.1	+5.0
R26A	**Arlington**	**90.41**	**48**	⇑P		**P**		**16 07 39.7**	**-0.6**
	baz=91									
A15A	**Johnson Ranch,**	**90.44**	**36**	⇓P		**P**		**16 07 40.5**	**+0.3**
	baz=91									
D17A	**Six Diamond Ra**	**90.52**	**38**	⇓P		**P**		**16 07 41.5**	**+0.8**
	baz=91									
GYA	**Guiyang**	**90.66**	**298**	*e*P		**P**		**16 07 42.9**	**+1.2**
GYA						pP	pP	16 08 01.4	+7.0
GYA						sP	sP	16 08 09.8	+11
GYA						PP	**PP**	**16 11 22.0**	**+4.4**
GYA						SKS	**SKSac**	**16 18 06.5**	**-3.9**
GYA						S	**S**	**16 18 32.0**	**-3.0**
GYA						SS	**SS**	**16 24 39.3**	**+1.4**
GYA						pmax	pmax			
	comp=Z,20nm,1.0s									
GYA						pmax	pmax			
	comp=Z,120nm,5.5s									
GYA						LR	LR			
	comp=N,540nm,20.6s									
GYA						LR	LR			
	comp=E,480nm,25.0s									
GYA						LR	LR			
	comp=Z,530nm,21.4s									
C17A	**Wharram Farm,**	**90.75**	**37**	⇑P		**P**		**16 07 42.1**	**+0.4**
	baz=91									
L23A	**Garrett**	**90.82**	**44**	⇓P		**P**		**16 07 42.2**	**-0.1**
	baz=91									
R27A	**Eads**	**90.85**	**48**	⇓P		**P**		**16 07 42.1**	**-0.3**
	baz=91									
A16A	**West Butte Ran**	**91.04**	**36**	⇓P		**P**		**16 07 43.3**	**+0.3**
	baz=91									
A17A	**Triple J Farms**	**91.52**	**36**	⇑P		**P**		**16 07 45.6**	**+0.4**
	baz=92									
C19A	**Slack Wire Ran**	**91.77**	**38**	⇑P		**P**		**16 07 46.9**	**+0.5**
	baz=92									
A18A	**Metzger Ranch,**	**91.98**	**37**	⇑P		**P**		**16 07 47.6**	**+0.4**
	baz=92									
XAN	**Xi'an**	**92.21**	**306**			P	**P**	**16 07 50.3**	**+1.6**
XAN						S	S	16 18 41.0	-7.5
XAN						pmax	pmax			
	comp=Z,2.0nm,0.8s									
XAN						pmax	pmax			
	comp=Z,18nm,4.5s									
B19A	**Brinkman Farms**	**92.22**	**37**	⇑P		**P**		**16 07 49.0**	**+0.6**
	baz=92									
C20A	**Veseth Ranch,**	**92.35**	**38**	⇓P		**P**		**16 07 49.3**	**+0.3**
	baz=93									
A19A	**Klindworth Far**	**92.59**	**37**	⇑P		**P**		**16 07 50.5**	**+0.5**
	baz=93									
A20A	**Cobblestone Ra**	**93.02**	**37**	⇓P		**P**		**16 07 52.2**	**+0.2**
	baz=93									
D22A	**Cohagen**	**93.11**	**39**	⇑P		**P**		**16 07 52.8**	**+0.3**
	baz=93									
KMI	**Kunming**	**93.32**	**296**			P	**P**	**16 07 56.6**	**+2.4**
KMI						pmax	pmax			
	comp=Z,8.0nm,0.7s									
HHC	**Hu-ho-hao-te**	**93.42**	**313**	*e*P		**P**		**16 07 55.3**	**+1.1**
HHC						pP	pP	16 08 13.3	+6.4
HHC						sP	sP	16 08 20.5	+8.9
HHC						PP	PP	16 11 45.0	+5.9
HHC						SKS	**SKSac**	**16 18 22.3**	**-3.0**
HHC						S	**S**	**16 18 55.6**	**-3.5**
HHC						sS	sS	16 19 25.3	+4.8
HHC						SS	**SS**	**16 25 18.5**	**+1.5**
HHC						pmax	pmax			
	comp=Z,20nm,0.5s									
HHC						pmax	pmax			
	comp=Z,69nm,6.0s									
HHC						LR	LR			
	comp=N,150nm,17.8s									
HHC						LR	LR			
	comp=E,110nm,21.4s									
A21A	**Bergtoll Ranch**	**93.64**	**38**	⇓P		**P**		**16 07 55.3**	**+0.4**
	baz=94									
CM31	**Chiang Mai Arr**	**93.93**	**288**	*e*P		**P**		**16 07 57.6**	**+0.7**
	comp=E,3.4nm,0.9s									
CMAR	**Chiang Mai Arr**	**93.93**	**288**	P		**P**		**16 07 59.0**	**+2.2**
	comp=E,3.5nm,0.8s,baz=134,slow=3.5,SNR=26									
CMAR	**Chiang Mai Arr**	**93.93**	**288**	P		**P**		**16 07 59.0**	**+2.2**
C23A	**Lambert**	**94.03**	**39**	⇑P		**P**		**16 07 57.0**	**+0.3**
	baz=94									
CHTO	**Chiang Mai**	**94.07**	**289**	*e*P		**P**		**16 07 59.1**	**+1.6**
CHTO						pmax	pmax			
	comp=Z,5.0nm,1.0s									
CHTO	**Chiang Mai**	**94.07**	**289**	*e*P		**P**		**16 07 59.1**	**+1.6**
	comp=Z,5.2nm,1.0s									
CD2	**Chengdu**	**94.83**	**301**			P	**P**	**16 08 01.8**	**+1.0**
CD2						pP	pP	16 08 19.4	+5.9
CD2						sP	sP	16 08 26.3	+8.1
CD2						PP	**PP**	**16 11 53.5**	**+3.2**
CD2						SKS	**SKSac**	**16 18 30.4**	**-2.9**
CD2						S	**S**	**16 19 07.8**	**-4.0**
CD2						sS	sS	16 19 38.1	+4.9
CD2						SS	**SS**	**16 25 37.8**	**+0.3**
CD2						pmax	pmax			
	comp=Z,60nm,4.9s									
CD2						LR	LR			
	comp=N,140nm,5.4s									
CD2						LR	LR			
	comp=Z,120nm,7.1s									
LZH	**Lanzhou**	**96.85**	**306**	*e*P		P		16 08 13.5	+3.5
LZH						pP	pP	16 08 31.5	+8.8
LZH						sP	sP	16 08 39.0	+12
LZH						pmax	pmax			
	comp=Z,25nm,1.6s									
YKA	**Yellowknife Ar**	**97.59**	**24**	P		**P**		**16 08 11.9**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=237,slow=4.5,SNR=15									
YKA	**Yellowknife Ar**	**97.59**	**24**	P		**P**		**16 08 11.9**	**-0.5**
GTA	**Gaotai**	**101.05**	**308**	*e*P		**Pdif**		**16 08 33.3**	**+4.6**
GTA						pP	pP	16 08 50.6	+9.0
GTA						sP		16 08 57.3	
GTA						pmax	pmax			
	comp=Z,2.0nm,1.8s									
ROSC	**El Rosal**	**101.34**	**90**	P		**Pdif**		**16 08 38.3**	**+7.4**
	baz=101,SNR=8.9									
GOGA	**Godfrey**	**103.26**	**59**	*e*P		**Pdif**		**16 08 37.6**	**-0.9**
GOGA	**Godfrey**	**103.26**	**59**	*e*Pdif		**Pdif**		**16 08 37.6**	**-0.9**
WMQ	**Urumqi**	**111.01**	**310**	*e*PKP				16 13 11.6	
WMQ						LR	LR			
	comp=N,150nm,32.0s									
WMQ						LR	LR			
	comp=E,110nm,34.0s									
KURK	**Kurchatov**	**118.04**	**316**	*i* PKIKP		**PKPdf**		**16 13 23.2**	**-1.9**
KURK						pmax	pmax			
	comp=Z,2.0nm,0.7s									
KURK	**Kurchatov**	**118.04**	**316**	*e*PKPdf		**PKPdf**		**16 13 24.1**	**-1.0**
KSH	**Kashi**	**118.95**	**304**	*e*PKP		**PKPdf**		**16 13 31.3**	**+3.9**
KSH				*e*PP		PP		16 14 57.6	+10
KSH				PKS		**PKSdf**		**16 17 06.8**	**+2.6**
KSH				AMB		AMB				
	comp=Z,84nm,5.1s									
KSH						LR	LR			
	comp=N,51nm,7.3s									
KSH						LR	LR			
	comp=E,83nm,4.8s									
KSH						LR	LR			
	comp=Z,170nm,6.1s									
BVAR	**Borovoye Array**	**123.10**	**319**	PKP		**PKPdf**		**16 13 33.9**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=143,slow=3.7,SNR=6.8									
BVAR	**Borovoye Array**	**123.10**	**319**	PKIKP		**PKPdf**		**16 13 33.9**	**-0.9**
BVAR	**Borovoye Array**	**123.10**	**319**	PKP		**PKPdf**		**16 13 33.9**	**-0.9**
SPITS	**Spitsbergen Ar**	**124.63**	**357**	PKP		**PKPdf**		**16 13 36.4**	**-0.7**
	comp=Z,6.0nm,0.9s,baz=76,slow=3.5,SNR=4.1									
SPITS	**Spitsbergen Ar**	**124.63**	**357**	PKP		**PKPdf**		**16 13 36.4**	**-0.7**
AKTO	**Aktyubinsk**	**131.10**	**318**	PKP		**PKPdf**		**16 13 49.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=114,slow=4.8,SNR=3.7									
AKTO	**Aktyubinsk**	**131.10**	**318**	PKIKP		**PKPdf**		**16 13 49.4**	**-0.8**
AKTO	**Aktyubinsk**	**131.10**	**318**	PKP		**PKPdf**		**16 13 49.4**	**-0.8**
ARCES	**ARCESS Array B**	**132.02**	**351**	PKP		**PKPdf**		**16 13 51.7**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=42,slow=2.0,SNR=7.6									
ARCES	**ARCESS Array B**	**132.02**	**351**	PKP		**PKPdf**		**16 13 51.7**	**+0.3**
FINES	**FINESS Array B**	**139.13**	**345**	PKP		**PKPdf**		**16 14 05.2**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=23,slow=6.2,SNR=3.5									
FINES	**FINESS Array B**	**139.13**	**345**	PKP		**PKPdf**		**16 14 05.2**	**+0.5**
OBN	**Obninsk**	**140.53**	**332**	*i* PKIKP		**PKPdf**		**16 14 07.4**	**-0.1**
OBN				*e*				16 17 05.8	
OBN				*e*				16 21 12.7	
OBN				pmax		pmax				
	comp=Z,34nm,2.0s									
OBN				MLR		MLR				
	comp=Z,200nm,21.0s									
HFS	**Hagfors**	**142.55**	**353**	PKhKP		PKPpre		16 14 07.1		
	comp=Z,1.8nm,0.6s,baz=28,slow=6.7,SNR=5.6									
HFS	**Hagfors**	**142.55**	**353**	PKPpre		PKPpre		16 14 07.1		
BHD	**Baghdad**	**144.35**	**295**	*e*PKP		PKPdf		16 14 37.4	+22	
BHD				*e*PP		PP		16 17 52.7	+22	
BHD				*e*PPP		PPP		16 21 01.0		
BHD				*e*SKS		**SKSdf**		**16 21 26.0**	**+4.8**	
BHD				*e*SS		**SS**		**16 36 12.0**	**-2.7**	
BHD				*e*SSS		SSS		16 41 42.0		
MBAR	**Mbarara**	**145.88**	**230**	PKPbc		**PKPdf**		**16 14 18.6**	**+0.2**	
	comp=Z,8.0nm,0.5s,baz=264,slow=22,SNR=11									
MBAR	**Mbarara**	**145.88**	**230**	PKPbc		**PKPdf**		**16 14 18.6**	**+0.2**	
AKASG	**Malin Array Be**	**146.80**	**332**	PKPbc		**PKPbc**		**16 14 19.7**	**-0.7**	
	comp=Z,4.3nm,0.6s,baz=40,slow=3.9,SNR=14									
AKASG	**Malin Array Be**	**146.80**	**332**	PKP2		**PKPbc**		**16 14 19.7**	**-0.7**	
AKASG	**Malin Array Be**	**146.80**	**332**	PKPbc		**PKPbc**		**16 14 19.7**	**-0.7**	
AK01	**Malin Array Si**	**146.81**	**332**	*e*PKPbc		**PKPdf**		**16 14 19.4**	**+0.8**	
KIEV	**Kiev**	**146.81**	**332**	*e*PKP2		**PKPbc**		**16 14 19.8**	**-0.6**	
KIEV	**Kiev**	**146.81**	**332**	*e*PKPdf		**PKPbc**		**16 14 19.8**	**-0.6**	
AK02	**Malin Array Si**	**146.84**	**332**	*e*PKPbc		**PKPbc**		**16 14 19.8**	**-0.8**	
LVV	**L'vov**	**149.59**	**336**	*e*PKP2		**PKPbc**		**16 14 28.0**	**+0.2**	
OJC	**Ojcow**	**150.69**	**341**	*e*PKIKP		**PKPbc**		**16 14 30.6**	**+0.1**	
OJC	**Ojcow**	**150.69**	**341**	*e*PKP		**PKPbc**		**16 14 30.6**	**+0.1**	
ASF	**Jabal al Asfar**	**150.75**	**295**	PKPbc		**PKPbc**		**16 14 31.6**	**+0.2**	
	comp=Z,1.0nm,0.3s,baz=24,slow=2.8,SNR=3.6									
ASF	**Jabal al Asfar**	**150.75**	**295**	PKPbc		**PKPbc**		**16 14 31.6**	**+0.2**	
BRTR	**Keskin Array B**	**150.92**	**311**	PKPbc		**PKPbc**		**16 14 30.9**	**-0.7**	
	comp=Z,1.9nm,0.9s,baz=149,slow=2.6,SNR=6.7									
BRTR				PKPab		**PKPab**		**16 14 37.6**	**-1.3**	
	comp=Z,1.4nm,0.8s,baz=0.0,slow=1.2,SNR=3.9									
BRTR	**Keskin Array B**	**150.92**	**311**	PKPbc		**PKPbc**		**16 14 30.9**	**-0.7**	
BRTR				PKPab		**PKPab**		**16 14 37.6**	**-1.3**	
KOLS	**Kolonicke sedl**	**150.97**	**337**	*e*PKIKP		**PKPbc**		**16 14 32.1**	**+0.9**	
KOLS	**Kolonicke sedl**	**150.97**	**337**	*e*PKP		**PKPbc**		**16 14 32.1**	**+0.9**	
KSP	**Ksiaz**	**151.05**	**346**	*e*PKP		**PKPbc**		**16 14 31.6**	**+0.3**	
KSP	**Ksiaz**	**151.05**	**346**	*e*PKIKP		**PKPbc**		**16 14 31.6**	**+0.3**	
KSP	**Ksiaz**	**151.05**	**346**	*e*PKP		**PKPbc**		**16 14 31.6**	**+0.3**	
UZH	**Uzhgorod**	**151.22**	**336**	*e*PKIKP		PKPdf		16 14 13.0	-13	
UZH				*e*				16 14 24.5		
CLL	**Collm**	**151.24**	**350**	*i* PKIKP		**PKPbc**		**16 14 31.8**	**+0.1**	
CLL				*i*				16 14 36.6		
CLL				*i*				16 14 39.7		
CLL				pmax		pmax				
	comp=Z,9.0nm,1.1s									
CLL				pmax		pmax				
	comp=Z,15nm,0.9s									
CLL				MLR		MLR				
	comp=Z,200nm,20.8s									
CRVS	**Cervenica-Dubn**	**151.29**	**338**	*e*PKIKP		**PKPbc**		**16 14 32.1**	**+0.2**	
CRVS	**Cervenica-Dubn**	**151.29**	**338**	*e*PKP		**PKPbc**		**16 14 32.1**	**+0.2**	
BRG	**Berggiesshubel**	**151.50**	**349**	*i* PKP		**PKPbc**		**16 14 32.6**	**+0.3**	
	comp=Z,11nm,0.7s									
BRG	**Berggiesshubel**	**151.50**	**349**	*i* PKIKP		**PKPbc**		**16 14 32.6**	**+0.3**	
BRG				pmax		pmax				
	comp=Z,39nm,0.7s									
MMAI	**Mount Meron Ar**	**151.82**	**297**	PKPbc		**PKPbc**		**16 14 33.4**	**-0.4**	
	comp=Z,0.7nm,0.4s,baz=97,slow=6.1,SNR=3.7									
MMAI				PKPab		**PKPab**		**16 14 43.9**	**+1.0**	
	comp=Z,4.7nm,0.7s,baz=70,slow=7.2,SNR=5.8									
MMAI	**Mount Meron Ar**	**151.82**	**297**	PKPbc		**PKPbc**		**16 14 33.4**	**-0.4**	
MMAI				PKPab		**PKPab**		**16 14 43.9**	**+1.0**	
MLR	**Muntele Rosu**	**152.10**	**328**	PKPbc		**PKPbc**		**16 14 33.0**	**-1.1**	
	comp=Z,1.3nm,1.2s,baz=301,slow=4.0,SNR=3.5									
MLR	**Muntele Rosu**	**152.10**	**328**	PKPbc		**PKPbc**		**16 14 33.0**	**-1.1**	
VYHS	**Vyhne**	**152.51**	**340**	*e*PKIKP		**PKPbc**		**16 14 34.3**	**-0.4**	
VYHS				*e*				16 14 46.3		
VYHS	**Vyhne**	**152.51**	**340**	*e*PKP		**PKPbc**		**16 14 34.3**	**-0.4**	
VYHS				*e*				16 14 46.2		
KHC	**Kasperske Hory**	**153.24**	**348**	*e*PKIKP		**PKPdf**		**16 14 24.5**	**-4.4**	
KHC				*e*				16 14 36.0		
KHC	**Kasperske Hory**	**153.24**	**348**	*e*PKPDF		**PKPdf**		**16 14 24.5**	**

NVL pmax pmax
comp=Z,11nm,0.4s
NVL MLR MLR
comp=Z,921nm,14.0s
EFI East Falkland 20.00 276 *e*P **P 16 05 44.9 +0.3**
EFI pmax pmax
comp=Z,97nm,0.9s
EFI East Falkland 20.00 276 *e*P **P 16 05 44.9 +0.3**
comp=Z,97nm,0.9s
EFI *e*pP **pP 16 05 51.4 -0.3**
USHA Ushuaia 23.82 260 P **P 16 06 25.3 +0.5**
comp=Z,33nm,0.7s,baz=104,slow=9.7,SNR=13
USHA LR LR 16 13 30.0
comp=Z,5µm,21.0s,baz=58,slow=31
USHA Ushuaia 23.82 260 P **P 16 06 25.3 +0.5**
TRQA Tornquist 31.49 294 *e*P **P 16 07 33.8 +0.1**
comp=Z,55nm,1.8s
TRQA *e*pP **pP 16 07 40.8 -0.7**
TRQA *es*P **sP 16 07 44.4 -0.2**
QSPA South Pole Qui 31.59 180 P **P 16 07 35.3 +0.8**
comp=Z,23nm,0.8s,baz=206,slow=5.1,SNR=36
QSPA South Pole Qui 31.59 180 *e*P **P 16 07 34.3 -0.2**
comp=Z,24nm,0.8s
PLCA Paso Flores 33.69 282 P **P 16 07 52.0 -1.0**
comp=Z,12nm,0.7s,baz=144,slow=7.7,SNR=30
PLCA PcP **PcP 16 10 33.1 +0.9**
comp=Z,3.3nm,0.9s,baz=138,slow=5.7,SNR=3.0
PLCA ScP **ScP 16 14 15.9 +1.2**
comp=Z,1.1nm,0.5s,baz=161,slow=3.5,SNR=4.8
PLCA LR LR 16 21 21.4
comp=Z,2µm,18.1s,baz=138,slow=36
PLCA Paso Flores 33.69 282 *e*P **P 16 07 51.4 -1.6**
comp=Z,38nm,1.3s
PLCA *e*pP **pP 16 08 00.3 -0.5**
PLCA PcP **PcP 16 10 33.1 +0.9**
PLCA ScP **ScP 16 14 15.9 +1.2**
MAW Mawson 37.34 141 LR LR 16 22 02.8
comp=Z,2µm,19.5s,baz=252,slow=33
CAM4 Nova Friburgo 38.41 333 I/P **P 16 08 34.9 +1.2**
CAM4 *i* 16 08 36.9
CAM4 *i* 16 08 39.8
CAM4 *i* 16 08 43.4
CAM4 *i* 16 08 47.8
CAM4 *i* 16 08 53.8
CAM4 *i* 16 09 03.4
CPUP Villa Florida 39.44 311 P **P 16 08 40.0 -2.0**
comp=Z,2.0nm,0.4s,baz=140,slow=7.2,SNR=13
CPUP ScP **ScP 16 14 37.0 +0.9**
comp=Z,1.4nm,0.5s,baz=146,slow=3.6,SNR=7.0
CPUP Villa Florida 39.44 311 P **P 16 08 40.0 -2.0**
CPUP ScP **ScP 16 14 37.0 +0.9**
LCO Las Campanas 43.05 293 *e*P **P 16 09 10.4 -1.6**
comp=Z,22nm,0.9s
SBA Scott Base 43.55 184 *e*P **P 16 09 14.5 -0.7**
SBA pmax pmax
comp=Z,29nm,1.0s
SBA Scott Base 43.55 184 *e*P **P 16 09 14.5 -0.7**
comp=Z,29nm,1.0s
VNDA Vanda 44.01 182 P **P 16 09 20.2 +1.4**
comp=Z,26nm,0.8s,baz=187,slow=7.5,SNR=98
VNDA LR LR 16 26 17.7
comp=Z,731nm,21.6s,baz=178,slow=34
VNDA Vanda 44.01 182 *e*P **P 16 09 18.6 -0.3**
comp=Z,27nm,0.8s
BOSA Boshof 45.55 71 P **P 16 09 32.6 +0.8**
comp=Z,9.8nm,0.6s,baz=199,slow=7.9,SNR=25
BOSA LR LR 16 24 31.2
comp=Z,1µm,20.8s,baz=220,slow=31
BOSA Boshof 45.55 71 *e*P **P 16 09 31.2 -0.7**
comp=Z,101nm,2.0s
BDFB Brasilia 46.23 328 P **P 16 09 37.0 -0.3**
comp=Z,6.2nm,0.5s,baz=153,slow=12,SNR=8.0
BDFB PcP **PcP 16 11 14.0 +1.5**
comp=Z,4.0nm,0.4s,baz=244,slow=0.6,SNR=3.0
BDFB LR LR 16 26 20.7
comp=Z,850nm,20.7s,baz=150,slow=33
BDFB Brasilia 46.23 328 P **P 16 09 37.0 -0.3**
BDFB PcP **PcP 16 11 14.0 +1.5**
LBTB Lobatse 48.71 69 *e*P **P 16 09 54.2 -2.3**
comp=Z,32nm,1.3s
LBTB *e*pP **pP 16 10 03.4 -1.1**
TSUM Tsumeb 50.01 57 *e*P **P 16 10 06.4 -0.1**
comp=Z,36nm,1.4s
TSUM *e*pP **pP 16 10 13.8 -0.6**
LPAZ La Paz 52.87 304 P **P 16 10 27.2 -1.2**
comp=Z,6.5nm,0.5s,baz=90,slow=5.7,SNR=32
LPAZ PcP **PcP 16 11 37.9 +0.5**
comp=Z,3.8nm,0.5s,baz=121,slow=2.6,SNR=3.2
LPAZ La Paz 52.87 304 *e*P **P 16 10 27.4 -1.0**
LPAZ *e*pP **pP 16 10 35.9 -0.6**
LPAZ PcP **PcP 16 11 37.9 +0.5**
RCBR Riachuelo 53.38 346 P **P 16 10 31.7 +0.2**
comp=Z,4.6nm,1.0s,baz=163,slow=11,SNR=3.5
RCBR Riachuelo 53.38 346 P **P 16 10 31.7 +0.2**
SAML Samuel 57.49 314 *e*P **P 16 10 58.4 -2.6**
LSZ Lusaka 58.28 65 *e*P **P 16 11 06.6 -0.2**
comp=Z,119nm,2.5s
LSZ *e*pP **pP 16 11 13.4 -1.5**
LSZ *es*P **sP 16 11 16.9 -1.1**
DBIC Dimbokro 67.09 22 P **P 16 12 06.5 +1.2**
comp=Z,4.1nm,0.4s,baz=176,slow=7.3,SNR=20
DBIC pP **pP 16 12 13.7 +0.2**
comp=Z,12nm,0.8s,baz=171,slow=8.6,SNR=9.4
DBIC LR LR 16 35 33.4
comp=Z,357nm,19.3s,baz=169,slow=31
DBIC Dimbokro 67.09 22 *e*P **P 16 12 06.6 +1.3**
DBIC pP **pP 16 12 13.7 +0.2**
OTAV Otavalo 72.10 302 *e*P **P 16 12 36.9 +0.2**
comp=Z,30nm,1.5s
ROSC El Rosal 74.49 308 LR LR 16 46 31.6
comp=Z,553nm,19.7s,baz=20,slow=36
TOA0 Torodi Ar. Sit 74.79 27 *e*P **P 16 12 52.5 +0.6**
TORD Torodi Ar. Bea 74.79 27 P **P 16 12 53.4 +1.4**
comp=Z,13nm,0.4s,baz=200,slow=6.2,SNR=211
TORD LR LR 16 40 21.4
comp=Z,597nm,18.8s,baz=175,slow=31
TORD Torodi Ar. Bea 74.79 27 P **P 16 12 53.4 +1.4**
RPZ Rata Peaks 77.13 192 P **P 16 13 05.5 +0.4**
comp=Z,23nm,0.8s,baz=110,slow=4.8,SNR=6.2
RPZ LR LR 16 44 37.2
comp=Z,429nm,18.5s,baz=79,slow=34
RPZ Rata Peaks 77.13 192 P **P 16 13 05.5 +0.4**
TAU Tasmania Unive 78.59 174 *e*P **P 16 13 12.6 -0.6**
TAU pmax pmax
comp=Z,29nm,1.0s
TAU Tasmania Unive 78.59 174 *e*P **P 16 13 12.6 -0.6**
comp=Z,29nm,1.0s
RKT Rikitea 80.32 241 *e*LR LR 16 38 26.1
comp=Z,2µm,25.8s,baz=151
URZ Urewera 81.70 197 P **P 16 13 29.9 -0.1**
comp=Z,10nm,0.6s,baz=103,slow=7.2,SNR=9.2
URZ LR LR 16 49 24.0
comp=Z,505nm,18.5s,baz=176,slow=35
URZ Urewera 81.70 197 P **P 16 13 29.9 -0.1**
TAM Tamanrasset 84.99 28 *e*P **P 16 13 46.8 -0.3**
TAM pmax pmax
comp=Z,40nm,2.0s
TAM Tamanrasset 84.99 28 *e*P **P 16 13 46.8 -0.3**
comp=Z,40nm,2.0s
OUZ Omahuta 85.20 195 *e*P **P 16 13 49.0 +0.9**
comp=Z,37nm,0.9s
TBI Tubuai 86.34 229 *e*S **S 16 24 30.8 +3.1**
comp=Z,301nm,28.2s
TBI *e*LR LR 16 41 14.1
comp=Z,648nm,23.5s,baz=158
STKA Stephens Creek 89.11 169 P **P 16 14 07.0 -0.2**
comp=Z,8.1nm,0.7s,baz=177,slow=5.8,SNR=19
STKA LR LR 16 53 32.9
comp=Z,858nm,18.1s,baz=200,slow=35
STKA Stephens Creek 89.11 169 *e*P **P 16 14 04.9 -2.2**
comp=Z,2.6nm,1.0s
PPT2 Papeete2 91.56 232 *e*LR LR 16 43 46.4
comp=Z,646nm,21.8s,baz=156
PPT Papeete 91.58 232 LR LR 16 48 27.5
comp=Z,610nm,20.2s,baz=169,slow=31
TEIG Tepich 94.16 303 P **P 16 14 29.5 -0.9**
comp=Z,4.7nm,0.5s,baz=125,slow=2.0,SNR=6.3
TEIG Tepich 94.16 303 P **P 16 14 29.5 -0.9**
ASAR Alice Springs 96.13 161 P **P 16 14 39.0 -0.6**
comp=Z,3.8nm,0.8s,baz=183,slow=4.3,SNR=38
ASAR pP **pP 16 14 47.6 -0.6**
comp=Z,2.4nm,0.7s,baz=182,slow=4.1,SNR=7.4
ASAR PKKPbc **PKKPbc 16 31 25.5 +1.9**
comp=Z,0.5nm,0.4s,baz=18,slow=2.5,SNR=25
ASAR LR LR 16 56 09.7
comp=Z,864nm,18.1s,baz=191,slow=34
ASAR Alice Springs 96.13 161 P **P 16 14 39.0 -0.6**
ASAR pP **pP 16 14 47.6 -0.6**
ASAR PKKPbc **PKKPbc 16 31 25.5 +1.9**
AS31 Alice Springs 96.13 161 *e*P **P 16 14 38.0 -1.7**
KEST Kesra 98.30 28 LR LR 16 54 59.6
comp=Z,150nm,18.4s,baz=184,slow=33
DZM Mont Dzumac 99.02 191 *e*PP PP 16 19 00.2 +6.2
comp=Z,64nm,25.2s
DZM Mont Dzumac 99.02 191 *e*PS PS 16 27 56.2 +6.3
comp=Z,86nm,24.5s
DZM *e*LR LR 16 47 12.5
comp=Z,615nm,22.5s
DZM Mont Dzumac 99.02 191 LR LR 16 54 55.2
comp=Z,405nm,20.6s,baz=206,slow=32
ESDC Sonseca Array 99.52 16 LR LR 16 57 26.1
comp=Z,168nm,19.4s,baz=130,slow=34
FITZ Fitzroy Crossi 99.78 152 P **Pdif 16 14 55.9 -0.2**
comp=Z,1.6nm,0.9s,baz=248,slow=5.4,SNR=3.2
FITZ Fitzroy Crossi 99.78 152 P **Pdif 16 14 55.9 -0.2**
WRA Warramunga Arr 99.84 160 P **Pdif 16 14 55.2 -1.2**
comp=Z,0.8nm,0.8s,baz=194,slow=4.1,SNR=6.5
WRA PKKP **PKKPdf 16 31 15.8 -0.6**
comp=Z,0.4nm,0.4s,baz=359,slow=2.8,SNR=24
WRA LR LR 16 58 26.8
comp=Z,890nm,19.8s,baz=190,slow=34
WRA Warramunga Arr 99.84 160 P **Pdif 16 14 55.2 -1.2**
WRA PKKP **PKKPdf 16 31 15.8 -0.6**
632A Uvalde 107.37 298 ⇑P **PKiKP 16 19 39.0 +1.1**
baz=108
528A Cox Ranch, San 109.32 296 ⇑P **PKiKP 16 19 42.4 +0.7**
baz=110
BRTR Keskin Array B 109.43 44 PKKP **PKKPab 16 30 58.7 +3.0**
comp=Z,1.1nm,0.8s,baz=60,slow=5.9,SNR=4.4
626A Big Bend Ranch 109.44 295 ⇑P **PKiKP 16 19 42.3 +0.5**
baz=110
330A Mertzon 109.61 298 ⇑P **PKiKP 16 19 42.9 +0.9**
baz=110
527A Woodward Ranch 109.69 296 ⇑P **PKiKP 16 19 42.9 +0.6**
baz=110
428A Kincaid Ranch, 109.74 297 ⇑P **PKiKP 16 19 43.2 +0.8**
baz=110
326A Caldwell Ranch 110.84 296 ⇑P **PKiKP 16 19 44.4 -0.1**
baz=111
425A Indio Mountain 110.87 295 ⇑P **PKiKP 16 19 44.8 +0.2**
baz=111
GERES GERESS Array B 111.74 26 Pdiff **Pdif 16 15 50.1 +1.6**
comp=Z,0.4nm,0.6s,baz=246,slow=4.2,SNR=2.6
GERES GERESS Array B 111.74 26 Pdif **Pdif 16 15 50.1 +1.6**
125A Gardner Draw, 112.27 296 ⇓P **PKiKP 16 19 47.0 -0.2**
baz=113
124A Stringfield Ra 112.68 296 ⇑P **PKiKP 16 19 48.5 +0.4**
baz=113
Y25A Mesa, Roswell 113.34 297 ⇑P **PKiKP 16 19 50.0 +0.8**
baz=114
319A Douglas 113.42 292 ⇑P **PKiKP 16 19 50.0 +0.6**
baz=114
220A Playas Peak, P 113.49 293 ⇓P **PKiKP 16 19 50.5 +1.0**
baz=114
W27A Bowe Ranch, En 113.53 299 ⇑P **PKiKP 16 19 50.3 +0.8**
baz=114
121A Cookes Peak, D 113.65 294 ⇑P **PKiKP 16 19 50.7 +0.8**
baz=114
Y24A Capitan 113.69 296 ⇑P **PKiKP 16 19 50.9 +1.0**
baz=114
Z22A Elephant Butte 113.86 295 ⇓P **PKiKP 16 19 50.6 +0.4**
baz=114
CLL Collm 113.89 25 *e*PS PS 16 30 23.0 +2.9
CLL *e*SS SS 16 36 36.0 +4.5
CLL Lm MLR 17 03 00.0
comp=N,200nm,21.2s
CLL Lm MLR 17 03 00.0
comp=E,100nm,19.9s
CLL Lm MLR 17 03 00.0
comp=Z,200nm,20.8s
Y23A Lovelace Mesa, 113.98 296 ⇑P **PKiKP 16 19 51.4 +0.9**
baz=114
Z21A St. Cloud Mine 114.23 294 ⇑P PKPdf 16 19 51.8 +0.8
baz=114
W25A X Bar L Ranch, 114.30 298 ⇓P PKPdf 16 19 52.0 +1.0
baz=115
Y22A Socorro 114.42 295 ⇑P PKPdf 16 19 51.7 +0.4
baz=115
V26A Tequesquite Ra 114.47 299 ⇑P PKPdf 16 19 52.4 +1.2
baz=115
Z20A Nine Sixteen R 114.51 294 ⇓P PKPdf 16 19 52.4 +0.9
baz=115
Y20A Horse Springs, 115.06 294 ⇓P **PKPdf 16 19 53.2 +0.6**
baz=115
V24A Rampart Ranch, 115.09 298 ⇑P **PKPdf 16 19 53.5 +0.9**
baz=115
X21A Alamocita Cree 115.22 295 ⇓P **PKPdf 16 19 53.7 +0.8**
baz=116
U25A Circle Dot Ran 115.25 299 ⇑P **PKPdf 16 19 53.2 +0.3**
baz=116
T26A Comanche Natio 115.51 300 ⇓P **PKPdf 16 19 53.8 +0.5**
baz=116
X20A Quemado 115.64 295 ⇑P **PKPdf 16 19 54.5 +0.8**
baz=116
W21A San Fidel 115.70 296 ⇑P **PKPdf 16 19 54.9 +1.1**
baz=116
S26A Kim 115.82 300 ⇑P **PKPdf 16 19 54.9 +1.1**
baz=116
T25A Trinidad 115.85 299 ⇓P **PKPdf 16 19 54.9 +0.9**
baz=116
V22A San Miguel Ran 116.01 297 ⇑P **PKPdf 16 19 55.2 +0.9**
baz=116
R27A Eads 116.07 301 ⇓P **PKPdf 16 19 55.3 +1.0**
baz=116
T24A Torres, Weston 116.09 299 ⇑P **PKPdf 16 19 55.2 +0.6**
baz=116
W20A Ramah 116.11 295 ⇑P **PKPdf 16 19 55.6 +1.0**
baz=116
S25A Robets Cordova 116.29 300 ⇓P **PKPdf 16 19 55.2 +0.4**
baz=117
X18A Snowflake 116.32 293 ⇓P **PKPdf 16 19 55.8 +0.9**
baz=117
U22A Llaves 116.36 297 ⇓P **PKPdf 16 19 55.8 +0.8**
baz=117
R26A Arlington 116.37 301 ⇑P **PKPdf 16 19 55.6 +0.8**
baz=117
R25A Fountain Ranch 116.62 300 ⇓P **PKPdf 16 19 56.6 +1.2**
baz=117
S24A Houchin Ranch, 116.63 299 ⇓P **PKPdf 16 19 56.1 +0.5**
baz=117
T22A Edith 116.90 297 ⇓P **PKPdf 16 19 57.0 +0.9**
baz=117
Q26A Hugo 116.91 301 ⇑P **PKPdf 16 19 57.1 +1.3**
baz=117
X16A Lo Mia Camp, P 116.95 292 ⇑P **PKPdf 16 19 56.9 +0.7**
baz=117
Y14A Wickenburg 117.32 291 ⇑P **PKPdf 16 19 57.3 +0.6**
baz=118
R23A Moffat 117.36 299 ⇓P **PKPdf 16 19 57.7 +0.7**
baz=118
S22A 4UR Ranch, Cre 117.46 298 ⇑P **PKPdf 16 19 57.5 +0.3**
baz=118
MVCO Mesa Verde 117.80 296 ⇓P **PKPdf 16 19 58.3 +0.5**
baz=118
WUAZ Wupatki 117.80 293 ⇑P **PKPdf 16 19 58.3 +0.5**
baz=118
DVTC Desert V Tower 117.82 288 ⇓P **PKPdf 16 19 58.5 +0.8**
baz=118
S21A Coal Bank Pass 117.84 297 ⇓P **PKPdf 16 19 58.5 +0.6**
baz=118
SWSC Sam W. Stewart 117.89 288 ⇓P **PKPdf 16 19 58.9 +1.2**
baz=118
ECSD EROS Data Cent 117.91 309 *e*PKPdf **PKPdf 16 19 57.2 -0.2**
Y12C Blythe 117.92 289 ⇑P **PKPdf 16 19 58.8 +1.1**
baz=118
SCHQ Schefferville 118.05 334 PKP **PKPdf 16 19 56.7 -0.6**
comp=Z,1.6nm,0.4s,baz=201,slow=2.2,SNR=8.2
SCHQ Schefferville 118.05 334 PKP **PKPdf 16 19 56.7 -0.6**
MONP Monument Peak 118.16 287 ⇑P **PKPdf 16 19 59.3 +0.7**
baz=118
PDMCI Parker Dam,Lak 118.17 290 ⇑P **PKPdf 16 19 58.8 +0.6**
baz=118
S20A Disappointment 118.24 297 ⇓P **PKPdf 16 19 59.7 +1.0**
baz=118
R21A Cimarron 118.30 298 ⇑P **PKPdf 16 19 59.4 +0.7**
baz=119
BC3 Big Chuckawall 118.30 289 ⇓P **PKPdf 16 19 59.2 +0.5**
baz=119
P23A Jefferson 118.32 300 ⇑P **PKPdf 16 19 58.8 -0.1**
baz=119
Q22A Crested Butte, 118.40 299 ⇑P **PKPdf 16 19 59.6 +0.6**
baz=119
IRM Iron Mountain 118.55 289 ⇓P **PKPdf 16 20 00.4 +1.3**
baz=119
ISCO Idaho Springs 118.57 300 *e*PKIKP **PKPdf 16 19 59.8 +0.5**
ISCO Idaho Springs 118.57 300 *e*PKPdf **PKPdf 16 19 59.8 +0.5**
ISCO Idaho Springs 118.57 300 ⇑P **PKPdf 16 19 59.7 +0.4**
baz=119
Q21A Lamborn Mesa, 118.68 298 ⇓P **PKPdf 16 20 00.5 +1.2**
baz=119
SMCO Snowmass 118.68 299 *e*PKPdf **PKPdf 16 20 00.6 +1.0**
W13A Hualapai Mount 118.69 291 ⇓P **PKPdf 16 20 00.1 +0.6**
baz=119
PFO Pinyon Flat Ob 118.76 288 ⇑P **PKPdf 16 20 00.5 +0.9**
baz=119
BELC Belle Mtn. Jos 118.84 289 ⇑P **PKPdf 16 20 00.5 +0.7**
baz=119,SNR=5.9
S18A Hurst Farm, Bl 118.89 295 ⇓P **PKPdf 16 20 00.5 +0.6**
baz=119
P22A Eagle 118.92 299 ⇓P **PKPdf 16 20 00.2 +0.4**
baz=119
PV04 Paradox Valley 118.95 297 *e*PKPdf **PKPdf 16 20 01.0 +1.2**
U15A North Rim 118.98 293 ⇑P **PKPdf 16 20 00.5 +0.3**
baz=119
O23A Lake Granby, G 119.04 300 ⇑P **PKPdf 16 20 01.2 +1.1**
baz=119
Q20A Ridgley Place, 119.11 298 ⇑P **PKPdf 16 20 00.2 0.0**
baz=119
LDFC Landfair 119.27 290 *e*PKPdf **PKPdf 16 20 01.4 +0.9**
O22A Kremmling 119.28 300 ⇓P **PKPdf 16 20 00.8 +0.1**
baz=120
GMRC Granite Mounta 119.30 289 ⇑P **PKPdf 16 20 01.4 +0.8**
baz=120
SCI San Clemente I 119.30 286 ⇓P **PKPdf 16 20 01.2 +0.7**
baz=120
M24A Cheyenne 119.56 302 ⇓P **PKPdf 16 20 01.8 +0.9**
baz=120
Q19A Hogan Spring (119.56 297 ⇓P **PKPdf 16 20 01.8 +0.8**
baz=120
CIS Catalina Islan 119.57 286 ⇑P **PKPdf 16 20 02.0 +1.0**
baz=120
P20A De Beque 119.59 298 ⇑P **PKPdf 16 20 01.7 +0.6**
baz=120
N23A Red Feather La 119.60 301 ⇓P **PKPdf 16 20 02.0 +0.9**
baz=120
HEC Hector,Ludlow 119.67 289 ⇑P **PKPdf 16 20 02.3 +1.1**
baz=120
N22A Wattenberg Ran 119.75 300 ⇑P **PKPdf 16 20 01.8 +0.3**
baz=120
BFSC Mount Baldy Ra 119.86 287 ⇑P **PKPdf 16 20 02.3 +0.6**
baz=120
TUQ Turquoise Moun 119.95 290 ⇑P **PKPdf 16 20 02.4 +0.5**
baz=120
P19A Cripple Cowboy 119.97 298 ⇑P **PKPdf 16 20 02.1 +0.3**
baz=120
O20A White River Ci 120.03 298 ⇑P **PKPdf 16 20 02.1 +0.2**
baz=120
N21A Black Mountain 120.20 299 ⇑P **PKPdf 16 20 02.8 +0.5**
baz=120
SRU San Rafael 120.28 296 *e*PKIKP **PKPdf 16 20 02.9 +0.5**
SRU San Rafael 120.28 296 *e*PKPdf **PKPdf 16 20 02.9 +0.5**
SRU San Rafael 120.28 296 ⇑P **PKPdf 16 20 02.6 +0.2**
baz=121
GSC Goldstone 120.28 289 *e*PKIKP **PKPdf 16 20 03.5 +1.1**
GSC Goldstone 120.28 289 *e*PKPdf **PKPdf 16 20 03.5 +1.1**
GSC Goldstone 120.28 289 ⇑P **PKPdf 16 20 03.1 +0.7**
baz=120
M22A Cedar Creek Ra 120.30 300 ⇑P **PKPdf 16 20 03.2 +0.8**
baz=121
CCUT Cedar City 120.39 293 *e*PKPdf **PKPdf 16 20 04.0 +1.3**
Q16A Castle Valley 120.43 295 ⇓P **PKPdf 16 20 03.3 +0.5**
baz=121
EDW2 Edwards Air Fo 120.54 288 ⇑P **PKPdf 16 20 03.6 +0.7**
baz=121
P18A Preston Nutter 120.56 297 ⇑P **PKPdf 16 20 03.2 +0.1**
baz=121
O19A Miners Draw (B 120.57 298 ⇓P **PKPdf 16 20 03.4 +0.5**
baz=121
MSU Marysvale 120.58 294 *e*PKIKP **PKPdf 16 20 04.3 +1.2**
MSU Marysvale 120.58 294 *e*PKPdf **PKPdf 16 20 04.3 +1.2**
MVU Marysvale 120.59 294 *e*PKPdf **PKPdf 16 20 04.1 +1.0**
N20A Spence Gulch, 120.60 299 ⇑P **PKPdf 16 20 03.6 +0.5**
baz=121
P17A Butcher Ranch, 120.67 296 ⇓P **PKPdf 16 20 03.4 +0.3**
baz=121
L22A Ellis Ranch, M 120.73 301 ⇑P **PKPdf 16 20 03.9 +0.7**
baz=121
TMUT Trail Mountain 120.75 296 *e*PKPdf **PKPdf 16 20 04.7 +1.2**
M21A Separation Pea 120.81 300 ⇑P **PKPdf 16 20 03.8 +0.4**
baz=121
LRMC Laurel Mountai 120.86 288 ⇑P **PKPdf 16 20 04.5 +0.9**
baz=121
O18A Roosevelt 120.95 297 ⇑P **PKPdf 16 20 04.7 +1.1**
baz=121
N19A John Jarvie Ra 121.07 298 ⇑P **PKPdf 16 20 04.0 +0.1**
baz=121
M20A Sweetwater, Wa 121.09 299 ⇓P **PKPdf 16 20 04.6 +0.7**
baz=121
L21A Rawlins 121.10 300 ⇑P **PKPdf 16 20 04.6 +0.7**
baz=121
P16A Fountain Green 121.21 296 ⇑P **PKPdf 16 20 05.4 +1.3**
baz=122
MPMC Manual Prospec 121.22 289 ⇓P **PKPdf 16 20 04.8 +0.4**
baz=122
FURC Furnace Creek, 121.23 290 ⇓P **PKPdf 16 20 05.2 +1.2**
baz=122
O17A Robinson Place 121.24 297 ⇓P **PKPdf 16 20 05.3 +1.0**
baz=122
AGMN Agassiz Nation 121.36 312 *e*PKPdf **PKPdf 16 20 03.5 -0.5**
N18A Larsen Ranch, 121.36 298 ⇓P **PKPdf 16 20 04.1 -0.4**
baz=122
ISA Isabella 121.40 288 *e*PKIKP **PKPdf 16 20 05.8 +1.3**
ISA Isabella 121.40 288 *e*PKPdf **PKPdf 16 20 05.8 +1.3**
ISA Isabella 121.40 288 ⇓P **PKPdf 16 20 05.5 +1.0**
baz=122
P15A Leamington 121.47 295 ⇓P **PKPdf 16 20 05.3 +0.7**
baz=122
L20A Wamsutter 121.57 300 ⇓P **PKPdf 16 20 05.5 +0.7**
baz=122
K21A Alcova 121.57 301 ⇓P **PKPdf 16 20 04.3 -0.5**
baz=122
DAU Daniels Canyon 121.65 296 *e*PKIKP **PKPdf 16 20 06.2 +1.0**
DAU Daniels Canyon 121.65 296 *e*PKPdf **PKPdf 16 20 06.2 +1.0**
CWC Cottonwood Cre 121.81 289 ⇑P **PKPdf 16 20 06.0 +0.6**
baz=122
J22A Midwest 121.85 302 ⇑P **PKPdf 16 20 04.6 -0.6**
baz=122
N17A Moffit Pass 121.87 297 ⇓P **PKPdf 16 20 05.7 +0.2**
baz=122
JLU Jordanelle 121.89 296 *e*PKPdf **PKPdf 16 20 06.5 +0.9**
GRAC Grapevine Rang 121.90 290 ⇑P **PKPdf 16 20 06.3 +0.9**
baz=122
H24A Dirks Ranch, A 122.06 304 ⇓P **PKPdf 16 20 05.4 -0.1**
baz=122
K20A Yellowstone Ra 122.08 300 ⇓P **PKPdf 16 20 05.4 -0.3**
baz=122
R11A Troy Canyon, C 122.09 292 ⇑P **PKPdf 16 20 06.2 +0.3**
baz=122,SNR=7.8
L19A Farson 122.11 299 ⇑P **PKPdf 16 20 05.9 0.0**
baz=122
DUG Dugway 122.21 295 *e*PKIKP **PKPdf 16 20 06.5 +0.5**
DUG Dugway 122.21 295 *e*PKPdf **PKPdf 16 20 06.5 +0.5**
DUG Dugway 122.21 295 ⇑P **PKPdf 16 20 06.2 +0.2**
baz=122
M17A Scullys Gap (B 122.22 298 ⇑P **PKPdf 16 20 05.7 -0.4**
baz=122
J21A Lysite 122.23 301 ⇑P **PKPdf 16 20 06.0 0.0**
baz=122
I22A 9 Mile Ranch, 122.23 302 ⇓P **PKPdf 16 20 05.6 -0.3**
baz=122
K19A Absolon Red Bu 122.44 300 ⇓P **PKPdf 16 20 06.1 -0.4**
baz=123
G24A Alzada 122.47 305 ⇓P **PKPdf 16 20 06.3 +0.1**
baz=123
J20A Shoshoni 122.52 301 ⇓P **PKPdf 16 20 06.2 -0.3**
baz=123
I21A Big Trails, Te 122.53 302 ⇓P **PKPdf 16 20 05.9 -0.7**
baz=123
M16A Huntsville 122.54 297 ⇑P **PKPdf 16 20 06.5 -0.2**
baz=123
N15A Stansbury Isla 122.62 296 ⇓P **PKPdf 16 20 07.3 +0.5**
baz=123
NOA NORSAR Array B 122.64 20 PKP **PKPdf 16 20 05.5 -0.5**
comp=Z,1.3nm,1.0s,baz=207,slow=1.8,SNR=4.0
NOA PKKPbc **PKKPbc 16 29 59.8 +0.5**
comp=Z,1.1nm,0.7s,baz=26,slow=3.9,SNR=4.8
NOA NORSAR Array B 122.64 20 PKP **PKPdf 16 20 05.5 -0.5**
NOA PKKPbc **PKKPbc 16 29 59.8 +0.5**
BW06 Boulder Array 122.72 299 ⇑P **PKPdf 16 20 06.7 -0.3**
baz=123
PDAR Pinedale Array 122.72 299 PKP **PKPdf 16 20 06.0 -1.1**

comp=Z,2.4nm,1.0s,baz=144,slow=2.8,SNR=13
PDAR Pinedale Array 122.72 299 PKP **PKPdf 16 20 06.0 -1.1**
H22A Clearmont 122.73 303 ⇓P **PKPdf 16 20 06.7 -0.1**
baz=123
HWUT Hardware Ranch 122.74 297 *e*PKPdf **PKPdf 16 20 07.1 +0.1**
MTUM Tungsten Hills 122.77 289 *e*PKPdf **PKPdf 16 20 08.3 +1.0**
G23A Biddle 122.79 304 ⇓P **PKPdf 16 20 06.5 -0.4**
baz=123
K18A Toltan Ranch, 122.84 299 ⇓P **PKPdf 16 20 06.8 -0.4**
baz=123
ULM Lac du Bonnet 122.95 314 PKP **PKPdf 16 20 05.8 -1.1**
comp=Z,4.4nm,0.5s,baz=126,slow=1.3,SNR=9.4
ULM Lac du Bonnet 122.95 314 PKP **PKPdf 16 20 05.8 -1.1**
L16A Fish Haven 123.00 298 ⇑P **PKPdf 16 20 07.4 -0.2**
baz=123
I20A Worland 123.01 301 ⇑P **PKPdf 16 20 07.5 +0.1**
baz=123
CM31 Chiang Mai Arr 123.02 110 *e*PKPdf **PKPdf 16 20 08.4 +0.4**
CMAR Chiang Mai Arr 123.02 110 PKP **PKPdf 16 20 08.1 0.0**
comp=Z,4.1nm,0.9s,baz=235,slow=3.6,SNR=31
CMAR Chiang Mai Arr 123.02 110 PKP **PKPdf 16 20 08.1 0.0**
M15A Larsen Ranch, 123.04 296 ⇑P **PKPdf 16 20 07.4 -0.1**
baz=123
G22A Birney 123.19 303 ⇑P **PKPdf 16 20 07.6 -0.1**
baz=124
F23A Volborg 123.20 304 ⇑P **PKPdf 16 20 07.3 -0.3**
baz=124
J18A Kendall Valley 123.28 299 ⇓P **PKPdf 16 20 07.7 -0.4**
baz=124
H20A Greybull 123.37 302 ⇓P **PKPdf 16 20 07.5 -0.6**
baz=124
E24A Baker 123.39 306 ⇓P **PKPdf 16 20 08.4 +0.4**
baz=124
NV11 Mina Array Sit 123.41 290 *e*PKPdf **PKPdf 16 20 09.1 +0.7**
L15A Malad City 123.43 297 ⇑P **PKPdf 16 20 08.3 0.0**
baz=124,SNR=9.1
HVU Hansel Valley 123.44 296 *e*PKIKP **PKPdf 16 20 09.0 +0.7**
HVU Hansel Valley 123.44 296 *e*PKPdf **PKPdf 16 20 09.0 +0.7**
I19A Meeteetse 123.46 301 ⇑P **PKPdf 16 20 08.3 -0.1**
baz=124
NVAR Mina Array Bea 123.48 290 PKP **PKPdf 16 20 09.6 +0.9**
comp=Z,2.5nm,0.7s,baz=135,slow=2.8,SNR=23
NVAR Mina Array Bea 123.48 290 PKP **PKPdf 16 20 09.6 +0.9**
I18A Diamond G Ranc 123.57 300 ⇓P **PKPdf 16 20 08.9 +0.2**
baz=124
F22A Rosebud 123.62 304 ⇑P **PKPdf 16 20 08.5 +0.1**
baz=124
K16A Soda Springs 123.70 298 ⇑P **PKPdf 16 20 09.5 +0.6**
baz=124
ELK Elko 123.80 294 *e*PKPdf **PKPdf 16 20 10.3 +1.2**
D24A Glendive 123.84 306 ⇓P **PKPdf 16 20 09.4 +0.6**
baz=124
L14A Malta 123.85 296 ⇓P **PKPdf 16 20 09.6 +0.5**
baz=124,SNR=6.2
LOHW Long Hollow 123.86 299 *e*PKPdf **PKPdf 16 20 09.2 0.0**
TPAW Teton Pass 123.92 299 *e*PKPdf **PKPdf 16 20 09.8 +0.4**
H19A Powell 123.95 301 ⇓P **PKPdf 16 20 09.5 +0.3**
baz=124
RRI2 Red Ridge 123.98 299 *e*PKPdf **PKPdf 16 20 10.2 +0.7**
K15A Arbon 124.03 297 ⇑P **PKPdf 16 20 10.0 +0.5**
baz=124
MOOW Moose Ponds 124.03 299 *e*PKPdf **PKPdf 16 20 09.8 +0.3**
G20A Bridger 124.04 302 ⇓P **PKPdf 16 20 09.0 -0.3**
baz=124
J16A Bone 124.06 298 ⇑P **PKPdf 16 20 09.8 +0.2**
baz=124,SNR=6.1
I17A Pilgrim Ck. 124.09 300 ⇑P **PKPdf 16 20 10.6 +1.0**
baz=124
CMB Columbia Colle 124.20 288 *e*PKIKP **PKPdf 16 20 10.3 +0.5**
CMB Columbia Colle 124.20 288 *e*PKPdf **PKPdf 16 20 10.3 +0.5**
K14A Jones Ranch, D 124.22 297 ⇑P **PKPdf 16 20 10.4 +0.7**
baz=124,SNR=6.6
IMW Indian Meadow 124.23 299 *e*PKPdf **PKPdf 16 20 10.6 +0.6**
D23A Lindsay 124.26 306 ⇑P **PKPdf 16 20 10.3 +0.7**
baz=125
H18A Shoshone NF, C 124.26 301 ⇓P **PKPdf 16 20 10.0 +0.1**
baz=125
FLWY Flagg Ranch 124.27 300 *e*PKPdf **PKPdf 16 20 10.8 +0.9**
RLMT Red Lodge 124.43 301 ⇓P **PKPdf 16 20 10.5 +0.3**
baz=125
H17A Grant Village 124.46 300 ⇓P **PKPdf 16 20 11.9 +1.6**
baz=125
F20A Billings 124.46 303 ⇑P **PKPdf 16 20 10.6 +0.5**
baz=125
I16A Newdale 124.47 299 ⇑P **PKPdf 16 20 11.7 +1.4**
baz=125
J15A Blackfoot 124.53 298 ⇓P **PKPdf 16 20 11.3 +0.9**
baz=125,SNR=18
YFT Old Faithful 124.62 300 *e*PKPdf **PKPdf 16 20 12.7 +2.1**
D22A Cohagen 124.66 305 ⇓P **PKPdf 16 20 10.8 +0.5**
baz=125
G18A Lazy EL Ranch, 124.71 301 ⇑P **PKPdf 16 20 10.7 0.0**
baz=125
C23A Lambert 124.74 306 ⇑P **PKPdf 16 20 11.1 +0.6**
baz=125
DGMT Dagmar 124.85 307 ⇑P **PKPdf 16 20 11.0 +0.3**
baz=125
F19A Roth Farm, Mol 124.85 302 ⇑P **PKPdf 16 20 10.9 +0.1**
baz=125,SNR=5.3
D21A La Casta Ranch 124.94 304 ⇑P **PKPdf 16 20 11.6 +0.7**
baz=125
J14A Carey 124.98 297 ⇑P **PKPdf 16 20 11.9 +0.6**
baz=125
C22A Vida 124.99 306 ⇑P **PKPdf 16 20 11.6 +0.6**
baz=125
E20A Meyer Farm, Mu 125.00 303 ⇑P **PKPdf 16 20 11.3 +0.3**
baz=125
H16A Russell Place, 125.00 300 ⇓P **PKPdf 16 20 12.3 +0.9**
baz=125
I15A Monteview 125.02 298 ⇓P **PKPdf 16 20 12.3 +1.1**
baz=125
A24A Westby 125.12 308 ⇓P **PKPdf 16 20 11.8 +0.6**
baz=125
GCMT Greycliff 125.13 302 *e*PKPdf **PKPdf 16 20 12.1 +0.7**
B23A Brockton 125.17 307 ⇑P **PKPdf 16 20 11.6 +0.3**
baz=126
QLMT Earthquake Lak 125.18 300 *e*PKPdf **PKPdf 16 20 13.4 +1.7**
F18A Big Timber 125.24 302 ⇓P **PKPdf 16 20 12.0 +0.4**
baz=126,SNR=10.0
E19A Rath Farm, Rou 125.25 303 ⇓P **PKPdf 16 20 12.0 +0.4**
baz=126
J13A Cove Ranch, Pi 125.34 297 ⇑P **PKPdf 16 20 12.6 +0.6**
baz=126,SNR=5.3
I14A Mackay 125.41 298 ⇑P **PKPdf 16 20 13.1 +1.0**
baz=126,SNR=8.9
D20A Manuel Ranch, 125.45 304 ⇓P **PKPdf 16 20 12.2 +0.3**
baz=126,SNR=12
B22A Reddig Ranch S 125.47 306 ⇑P **PKPdf 16 20 12.7 +0.8**
baz=126
H15A Lima 125.57 299 ⇑P **PKPdf 16 20 13.3 +0.9**
baz=126,SNR=7.2
C21A Desert Coulee 125.57 305 ⇓P **PKPdf 16 20 12.4 +0.3**
baz=126
HLID Hailey 125.58 297 ⇑P **PKPdf 16 20 13.3 +0.8**
baz=126
G16A Moss Hill, Enn 125.66 300 ⇑P **PKPdf 16 20 13.3 +0.8**
baz=126,SNR=11
F17A Fitzpatrick Pl 125.66 301 ⇓P **PKPdf 16 20 13.3 +0.9**
baz=126,SNR=10
I13A Wildhorse Cree 125.71 297 ⇓P **PKPdf 16 20 13.4 +0.7**
baz=126,SNR=10
OHCM Honcut 125.75 288 *e*PKPdf **PKPdf 16 20 14.0 +1.4**
MCMT McKenzie Canyo 125.83 299 *e*PKPdf **PKPdf 16 20 13.8 +0.9**
E18A Harlowton 125.83 302 ⇑P **PKPdf 16 20 13.2 +0.4**
baz=126,SNR=6.0
D19A Cripps Ranch, 125.84 303 ⇓P **PKPdf 16 20 12.8 +0.1**
baz=126,SNR=6.2
C20A Veseth Ranch, 125.88 304 ⇓P **PKPdf 16 20 13.0 +0.3**
baz=126
H14A Leadore 125.90 298 ⇑P **PKPdf 16 20 13.5 +0.5**
baz=126,SNR=18
G15A Dillon 125.92 299 ⇑P **PKPdf 16 20 13.6 +0.5**
baz=126,SNR=11
A22A Carney Farms, 125.97 307 ⇑P **PKPdf 16 20 13.5 +0.6**
baz=126,SNR=8.9
F16A Kennard Place, 126.00 300 ⇓P **PKPdf 16 20 13.8 +0.8**
baz=126,SNR=5.6
B21A Ellsworth Farm 126.00 305 ⇑P **PKPdf 16 20 13.8 +0.9**
baz=126
DLMT Dillon 126.12 299 *e*PKPdf **PKPdf 16 20 14.0 +0.6**
MFID Camas Ranch 126.13 296 ⇓P **PKPdf 16 20 14.1 +0.7**
baz=126
FINES FINESS Array B 126.14 28 PKP **PKPdf 16 20 12.1 -0.5**
comp=Z,1.2nm,0.5s,baz=147,slow=0.9,SNR=15
FINES FINESS Array B 126.14 28 PKP **PKPdf 16 20 12.1 -0.5**
E17A Martinsdale 126.17 301 ⇓P **PKPdf 16 20 13.9 +0.5**
baz=126,SNR=9.8
H13A Challis 126.27 298 ⇓P **PKPdf 16 20 14.3 +0.7**
baz=127,SNR=10.0
C19A Slack Wire Ran 126.35 304 ⇑P **PKPdf 16 20 13.9 +0.3**
baz=127
A21A Bergtoll Ranch 126.40 306 ⇓P **PKPdf 16 20 14.1 +0.5**
baz=127
LRM Limekiln Ridge 126.40 300 *e*PKPdf **PKPdf 16 20 15.2 +1.2**
G14A Jackson 126.42 299 ⇑P **PKPdf 16 20 15.0 +1.0**
baz=127
F15A Butte 126.44 300 ⇑P **PKPdf 16 20 14.7 +0.6**
baz=127,SNR=11
B20A Solberg Farm, 126.44 305 ⇓P **PKPdf 16 20 14.1 +0.4**
baz=127
H12A Diamond D Ranc 126.54 297 ⇓P **PKPdf 16 20 15.1 +0.9**
baz=127
E16A East Helena 126.59 301 ⇓P **PKPdf 16 20 15.1 +0.9**
baz=127
D17A Six Diamond Ra 126.62 302 ⇓P **PKPdf 16 20 14.8 +0.5**
baz=127,SNR=12
G13A Cobalt 126.66 298 ⇓P **PKPdf 16 20 14.8 +0.4**
baz=127,SNR=6.3
A20A Cobblestone Ra 126.74 305 ⇑P **PKPdf 16 20 14.8 +0.5**
baz=127,SNR=9.1
KAF Kangasniemi 126.77 27 *e*PKIKP **PKPdf 16 20 16.9 +3.1**
KAF Kangasniemi 126.77 27 *e*pkp **PKPdf 16 20 16.9 +3.1**
HRY Holter Researc 126.80 301 *e*PKPdf **PKPdf 16 20 15.4 +0.9**
F14A Wisdom 126.81 299 ⇑P **PKPdf 16 20 15.4 +0.7**
baz=127
B19A Brinkman Farms 126.85 304 ⇓P **PKPdf 16 20 15.4 +0.8**
baz=127,SNR=5.8
EGMT Eagleton 126.88 303 *e*PKPdf **PKPdf 16 20 15.3 +0.7**
EGMT Eagleton 126.88 303 ⇓P **PKPdf 16 20 15.2 +0.5**
baz=127
D16A Dana Ranch, Ca 126.91 301 ⇑P **PKPdf 16 20 15.6 +0.8**
baz=127
E15A Deer Lodge 126.94 300 ⇓P **PKPdf 16 20 15.6 +0.7**
baz=127
C17A Wharram Farm, 127.02 302 ⇑P **PKPdf 16 20 15.3 +0.4**
baz=127,SNR=13
A19A Klindworth Far 127.12 305 ⇑P **PKPdf 16 20 15.4 +0.3**
baz=127
MOD Modoc 127.13 291 *e*PKPdf **PKPdf 16 20 16.1 +0.6**
B18A Beardsley Farm 127.17 304 ⇑P **PKPdf 16 20 15.9 +0.8**
baz=128
WDC Whiskeytown Da 127.23 289 *e*PKIKP **PKPdf 16 20 15.7 +0.3**
WDC Whiskeytown Da 127.23 289 *e*PKPdf **PKPdf 16 20 15.7 +0.3**
F13A Darby 127.24 299 ⇓P **PKPdf 16 20 16.1 +0.6**
baz=128
E14A Clinton 127.33 300 ⇓P **PKPdf 16 20 16.6 +1.0**
baz=128
D15A Lincoln 127.36 301 ⇓P **PKPdf 16 20 16.3 +0.6**
baz=128
B17A L&G Farms, Che 127.53 303 ⇑P **PKPdf 16 20 16.6 +0.8**
baz=128,SNR=11
C16A Fuhringer Ranc 127.58 302 ⇑P **PKPdf 16 20 16.5 +0.5**
baz=128
CHMT Chamberlain Mo 127.59 300 *e*PKPdf **PKPdf 16 20 17.0 +0.8**
A18A Metzger Ranch, 127.59 304 ⇓P **PKPdf 16 20 16.3 +0.3**
baz=128
F12A Elk City 127.64 298 ⇓P **PKPdf 16 20 15.7 -0.5**
baz=128
E13A Victor 127.66 299 ⇓P **PKPdf 16 20 17.2 +1.0**
baz=128
D14A Greenough 127.83 300 ⇓P **PKPdf 16 20 16.8 +0.3**
baz=128
MSO Missoula 127.84 300 *e*PKPdf **PKPdf 16 20 16.6 +0.1**
MSO Missoula 127.84 300 ⇓P **PKPdf 16 20 17.2 +0.7**
baz=128
ABKAR Akbulak array 127.85 56 *e*PKPdf **PKPdf 16 20 16.0 -0.3**
AKTO Aktyubinsk 127.92 54 PKP **PKPdf 16 20 16.2 -0.2**
comp=Z,3.7nm,0.9s,baz=145,slow=2.6,SNR=11
AKTO Aktyubinsk 127.92 54 PKIKP **PKPdf 16 20 16.2 -0.2**
AKTO Aktyubinsk 127.92 54 PKP **PKPdf 16 20 16.2 -0.2**
BMO Blue Mountains 127.92 296 *e*PKIKP **PKPdf 16 20 16.8 0.0**
BMO Blue Mountains 127.92 296 *e*PKPdf **PKPdf 16 20 16.8 0.0**
SLMT Seeley Lake 127.95 300 *e*PKPdf **PKPdf 16 20 17.1 +0.3**
C15A Salmond Ranch, 127.95 301 ⇑P **PKPdf 16 20 16.9 +0.2**
baz=128
A17A Triple J Farms 127.98 303 ⇑P **PKPdf 16 20 17.4 +0.7**
baz=128
B16A M & M Farms, S 128.03 302 ⇓P **PKPdf 16 20 17.7 +0.9**
baz=128
KKAR Karatay Array 128.09 68 *e*PKIKP **PKPdf 16 20 16.7 -0.3**
KKAR Karatay Array 128.09 68 *e*PKPdf **PKPdf 16 20 16.7 -0.3**
KSH Kashi 128.09 75 *e*PKP **PKPdf 16 20 17.6 +0.3**
KSH *e*PP **PP 16 22 23.4 +1.9**
KSH PKS **PKSdf 16 23 52.9 -1.0**
KSH SKS **SKSdf 16 27 23.6 -3.3**
KSH SKKS **SKKSac 16 29 11.9 -4.3**
KSH SS **SS 16 39 32.6 -1.4**
KSH AMB AMB
comp=Z,70nm,4.1s
KSH LR LR
comp=N,72nm,5.1s
KSH LR LR
comp=E,87nm,5.5s
KSH LR LR
comp=Z,140nm,6.6s
YBH Yreka Blue Hor 128.18 289 PKP **PKPdf 16 20 16.9 -0.5**
comp=Z,1.7nm,0.7s,baz=134,slow=4.7,SNR=5.4
YBH Yreka Blue Hor 128.18 289 PKP **PKPdf 16 20 16.9 -0.5**
D13A Huson 128.27 300 ⇑P **PKPdf 16 20 17.8 +0.5**
baz=129
B15A Bradely Ranch, 128.33 302 ⇑P **PKPdf 16 20 16.5 -0.9**
baz=129
SWMT Swartz Lake 128.37 300 *e*PKPdf **PKPdf 16 20 18.0 +0.4**
A16A West Butte Ran 128.38 303 ⇑P **PKPdf 16 20 17.7 +0.2**
baz=129
YBMT Yellow Bay 128.64 300 *e*PKPdf **PKPdf 16 20 18.3 +0.2**
D12A Red Ives Fores 128.65 299 ⇓P **PKPdf 16 20 18.0 -0.1**
baz=129
QIZ Qiongzhong 128.66 121 PKP **PKPdf 16 20 21.9 +3.1**
QIZ sPKP 16 20 41.3
QIZ SS SS 16 39 41.3 +1.1
QIZ AMB AMB
comp=Z,49nm,5.3s
QIZ LR LR
comp=N,290nm,18.8s
QIZ LR LR
comp=Z,480nm,19.7s
JTMT Jette 128.68 300 *e*PKPdf **PKPdf 16 20 18.4 +0.3**
B14A Marquette Ranc 128.68 301 ⇓P **PKPdf 16 20 18.2 0.0**
baz=129
JOF Joensuu 128.69 29 *e*PKIKP **PKPdf 16 20 17.1 -0.4**
JOF Joensuu 128.69 29 *e*pkp **PKPdf 16 20 17.1 -0.4**
C13A Hot Springs 128.76 300 ⇓P **PKPdf 16 20 18.3 +0.1**
baz=129
FFC Flin Flon 128.78 314 *e*PKIKP **PKPdf 16 20 18.2 +0.3**
FFC Flin Flon 128.78 314 *e*PKPdf **PKPdf 16 20 18.1 +0.3**
A15A Johnson Ranch, 128.90 302 ⇓P **PKPdf 16 20 18.3 -0.1**
baz=129
BLMT Blacktail Moun 128.91 300 *e*PKPdf **PKPdf 16 20 19.6 +0.9**
HUMO Hull Mountain 128.96 290 *e*PKPdf **PKPdf 16 20 19.3 +0.6**
BSMT Bassoo Peak 128.99 300 *e*PKPdf **PKPdf 16 20 18.9 +0.1**
C12B Naegeli Ranch, 129.19 299 ⇓P **PKPdf 16 20 18.6 -0.4**
baz=130
A14A Double T Ranch 129.20 302 ⇓P **PKPdf 16 20 19.3 +0.2**
baz=130
B13A Whitefish 129.23 301 ⇓P **PKPdf 16 20 19.3 +0.2**
baz=130
EKS2 Erkin-Say 129.36 71 *e*PKIKP **PKPdf 16 20 19.9 +0.3**
EKS2 Erkin-Say 129.36 71 *e*PKPdf **PKPdf 16 20 19.9 +0.3**
C11A Tepee Creek (N 129.65 299 ⇑P **PKPdf 16 20 20.5 +0.6**
baz=130
AAK Ala-Archa 129.69 71 PKP **PKPdf 16 20 20.4 +0.1**
comp=Z,1.8nm,0.5s,baz=135,slow=2.7,SNR=14
AAK Ala-Archa 129.69 71 *e*PKIKP **PKPdf 16 20 20.2 -0.1**
AAK Ala-Archa 129.69 71 *e*PKPdf **PKPdf 16 20 20.2 -0.1**
AAK PKP **PKPdf 16 20 20.4 +0.1**
B12A Libby 129.80 300 ⇑P **PKPdf 16 20 20.7 +0.6**
baz=130
HAWA Hanford 130.10 296 *e*PKPdf **PKPdf 16 20 22.0 +1.3**
A12A Yaak River Ran 130.17 300 ⇑P **PKPdf 16 20 21.2 +0.3**
baz=130
NEW Newport 130.35 299 *e*PKPdf **PKPdf 16 20 21.1 -0.1**
NEW Newport 130.35 299 ⇓P **PKPdf 16 20 21.6 +0.4**
baz=131
LON Longmire 131.44 294 *e*PKIKP **PKPdf 16 20 24.5 +1.2**
LON Longmire 131.44 294 *e*PKPdf **PKPdf 16 20 24.5 +1.2**
ARU Arti 132.54 49 *e*PKIKP **PKPdf 16 20 25.5 +0.5**
ARU Arti 132.54 49 *e*PKPdf **PKPdf 16 20 25.5 +0.5**
ARCES ARCESS Array B 132.92 22 PKP **PKPdf 16 20 23.6 -1.7**
comp=Z,4.4nm,0.8s,baz=132,slow=1.8,SNR=8.9
ARCES SKPbc **SKPbc 16 23 49.6 -1.2**
comp=Z,7.4nm,1.1s,baz=145,slow=3.3,SNR=3.3
ARCES ARCESS Array B 132.92 22 PKP **PKPdf 16 20 23.6 -1.7**
ARCES SKPbc **SKPbc 16 23 49.6 -1.2**
KEV Kevo 133.40 22 *e*PKIKP PKPdf 16 20 18.6 -7.6
KEV Kevo 133.40 22 *e*pkp PKPdf 16 20 18.6 -7.6
GYA Guiyang 133.55 112 *e*Pdif **Pdif 16 17 27.8 +1.7**
GYA PKP **PKiKP 16 20 29.4 +0.1**
GYA sPKP 16 20 51.0
GYA PP PP 16 23 02.8 +6.1
GYA PKS **PKSdf 16 24 04.9 +0.3**
GYA SKKS 16 29 48.0
GYA SS **SS 16 40 42.4 +1.9**
GYA AMB AMB
comp=Z,120nm,7.9s
GYA LR LR
comp=N,140nm,21.6s
GYA LR LR
comp=E,110nm,24.0s
GYA LR LR
comp=Z,130nm,22.4s
BVAR Borovoye Array 135.14 58 PKP **PKPdf 16 20 29.9 -0.1**
comp=Z,3.0nm,0.5s,baz=227,slow=1.8,SNR=21
BVAR SKPbc **SKPbc 16 23 57.0 -1.6**
comp=Z,3.5nm,0.9s,baz=208,slow=2.9,SNR=12
BVAR Borovoye Array 135.14 58 PKIKP **PKPdf 16 20 29.9 -0.1**
BVAR Borovoye Array 135.14 58 PKP **PKPdf 16 20 29.9 -0.1**
BVAR SKPbc **SKPbc 16 23 57.0 -1.6**
CD2 Chengdu 135.79 106 PKP **PKPdf 16 20 33.3 +1.3**
CD2 sPKP 16 20 54.9
CD2 PP PP 16 23 16.6 +5.8
CD2 PKS **PKSdf 16 24 08.1 -0.2**
CD2 SKS **SKSdf 16 27 36.8 -4.2**
CD2 SS **SS 16 41 09.3 +2.0**
CD2 AMB AMB
comp=Z,100nm,7.7s
CD2 LR LR
comp=N,320nm,17.8s
CD2 LR LR
comp=Z,350nm,21.4s
MKAR Makanchi Array 136.54 73 PKhKP PKPpre 16 20 19.9
comp=Z,0.4nm,0.7s,baz=240,slow=3.6,SNR=4.4
MKAR PKP **PKPdf 16 20 31.5 -1.4**
comp=Z,1.0nm,0.8s,baz=325,slow=1.5,SNR=7.5
MKAR SKPbc **SKPbc 16 24 02.5 -0.7**
comp=Z,4.1nm,1.1s,baz=247,slow=2.5,SNR=15
MKAR Makanchi Array 136.54 73 PKIKP **PKPdf 16 20 31.5 -1.4**
MKAR Makanchi Array 136.54 73 PKP **PKPdf 16 20 31.5 -1.4**
MKAR SKPbc **SKPbc 16 24 02.5 -0.7**
WMQ Urumqi 137.22 80 *e*PKP **PKPdf 16 20 36.6 +2.3**
WMQ PP PP 16 23 26.8 +6.9
WMQ PKS **PKSdf 16 24 10.0 -0.4**
WMQ SKS **SKSdf 16 27 42.0 -0.8**
WMQ SKKS **SKKSac 16 30 12.6 +1.0**
WMQ SS **SS 16 41 26.1 +1.5**
WMQ LR LR
comp=N,200nm,22.5s
WMQ LR LR
comp=E,130nm,25.0s
WMQ LR LR
comp=Z,260nm,24.0s
KURBB Kurchatov Arra 137.29 66 PKhKP PKPpre 16 20 22.4
comp=Z,0.2nm,0.4s,baz=237,slow=3.9,SNR=3.8
KURBB PKP **PKPdf 16 20 34.3 +0.3**
comp=Z,1.0nm,0.6s,baz=232,slow=2.9,SNR=8.8
KURBB SKPbc **SKPbc 16 24 04.6 -0.6**
comp=Z,2.3nm,1.0s,baz=235,slow=3.7,SNR=10.0
KURK Kurchatov 137.40 66 PKIKP **PKPdf 16 20 34.3 +0.1**
KURK Kurchatov 137.40 66 PKP **PKPdf 16 20 34.3 +0.1**
KURK *e*PKPdf **PKiKP 16 20 35.2 -0.9**
KURK SKPbc **SKPbc 16 24 04.6 -0.9**
YKA Yellowknife Ar 138.90 315 PKhKP PKPpre 16 20 25.8
comp=Z,0.8nm,0.4s,baz=123,slow=2.9,SNR=28
YKA PKP **PKPdf 16 20 36.6 0.0**
comp=Z,4.2nm,0.4s,baz=132,slow=2.2,SNR=54
YKA PP PP 16 23 38.2 +8.2
comp=Z,0.5nm,0.8s,baz=118,slow=5.9,SNR=4.2
YKA SKPbc **SKPbc 16 24 07.9 -1.5**
comp=Z,4.2nm,1.0s,baz=126,slow=2.1,SNR=14
YKA Yellowknife Ar 138.90 315 PKP **PKPdf 16 20 36.6 0.0**
YKA PP PP 16 23 38.2 +8.2
YKA SKPbc **SKPbc 16 24 07.9 -1.5**
YKW3 Yellowknife Ar 138.95 315 *e*PKPdf **PKPdf 16 20 36.8 +0.1**
LZH Lanzhou 139.93 101 *e*PKP **PKPdf 16 20 43.0 +3.4**
GTA Gaotai 140.35 94 *e*PKP **PKPdf 16 20 38.8 -1.4**
GTA PP **PP 16 23 42.1 +2.8**
GTA SKS **SKSdf 16 27 43.3 -5.1**
GTA SKKS **SKKSac 16 30 27.9 -2.5**
GTA SS **SS 16 42 02.3 +0.7**
GTA AMB AMB
comp=Z,100nm,5.5s
GTA LR LR
comp=N,270nm,21.9s
GTA LR LR
comp=E,250nm,20.4s
GTA LR LR
comp=Z,370nm,20.4s
XAN Xi'an 140.88 108 PKP **PKPdf 16 20 41.1 -0.2**
XAN LR LR
comp=N,120nm,23.3s
XAN LR LR
comp=Z,100nm,23.3s
NVS Novosibirsk 142.17 64 *e*PKIKP **PKPdf 16 20 39.9 -2.9**
NVS pmax pmax
comp=Z,6.0nm,0.5s
NVS pmax pmax
comp=N,1.0nm,0.5s
ZALV Zalesovo Beam 142.39 66 PKhKP PKPpre 16 20 39.0
comp=N,2.6nm,0.4s,baz=253,slow=3.5,SNR=9.7
ZALV SKP 16 24 13.9
comp=N,0.3nm,0.3s,baz=270,slow=3.6,SNR=3.5
ZALV Zalesovo Beam 142.39 66 PKHKP PKPpre 16 20 39.0
ZALV Zalesovo Beam 142.39 66 PKPpre PKPpre 16 20 39.0
HHC Hu-ho-hao-te 147.48 104 *e*PKPbc **PKPbc 16 20 56.0 +0.8**
HHC pPKP **pPKPdf 16 21 08.1 +6.7**
HHC PP PP 16 24 29.0 +7.0
HHC PKS **PKSdf 16 24 30.3 +2.5**
HHC SKS **SKSdf 16 27 59.5 +0.4**
HHC SKKS **SKKSac 16 31 13.4 +2.3**
HHC AMB AMB
comp=Z,120nm,7.1s
HHC LR LR
comp=N,230nm,20.2s
HHC LR LR
comp=E,230nm,21.4s
HHC LR LR
comp=Z,290nm,20.2s
PNL Peninsula 147.60 300 *e*PKPdf **PKPdf 16 20 51.5 -0.6**
INK Inuvik 148.57 317 PKPbc **PKPbc 16 20 57.0 0.0**
comp=Z,38nm,0.7s,baz=89,slow=2.9,SNR=90
INK Inuvik 148.57 317 *e*PKPbc **PKPbc 16 20 57.1 0.0**
MOY Mondy 149.10 79 *e*PKIKP **PKPdf 16 20 54.1 -0.8**
MOY pmax pmax
comp=Z,58nm,2.5s
BJI Beijing 149.17 110 PKPbc **PKPdf 16 20 57.1 +1.9**
BJI SS SS 16 43 45.4 +3.4
BJI LR LR
comp=N,150nm,13.0s
BJI LR LR
comp=E,160nm,17.3s
BJI LR LR
comp=Z,110nm,40.2s
DAWY Dawson 149.40 308 *e*PKPbc **PKPbc 16 20 59.4 0.0**
ZAK Zakamensk 149.54 83 *e*PKIKP **PKPdf 16 20 54.7 -0.9**
ZAK *e* 16 21 00.0
ZAK pmax pmax
comp=Z,18nm,1.7s
SONM Songino Array 149.61 89 PKPbc **PKPbc 16 21 00.9 +0.4**
comp=Z,11nm,0.8s,baz=219,slow=2.4,SNR=33
SONM Songino Array 149.61 89 PKPbc **PKPbc 16 21 00.9 +0.4**
JNU Nakatsue 149.75 137 PKPbc **PKPbc 16 21 01.4 +0.2**
comp=Z,6.7nm,0.8s,baz=320,slow=9.6,SNR=3.3
JNU PKPab **PKPab 16 21 07.4 +0.8**
comp=Z,11nm,0.8s,baz=153,slow=12,SNR=5.1
JNU Nakatsue 149.75 137 PKPbc **PKPbc 16 21 01.4 +0.2**
JNU PKPab **PKPab 16 21 07.4 +0.8**
ULN Ulaanbaatar 149.98 90 *e*PKPbc **PKPbc 16 21 01.3 -0.1**
EGAK Eagle 150.36 309 *e*PKPbc **PKPbc 16 21 01.3 -0.3**
TLY Talaya 150.48 81 *e*PKIKP **PKPdf 16 20 57.6 +0.7**
TLY *e* 16 21 03.1
TLY Talaya 150.48 81 *e*PKPdf **PKPdf 16 20 57.6 +0.7**
TLY *e*PKPbc **PKiKP 16 21 03.0 0.0**
BMRM Bremner River 150.50 301 *e*PKPbc **PKPbc 16 21 02.6 +0.5**
DIV Divide 151.09 300 *e*PKPbc **PKPbc 16 21 03.9 +0.4**
IRK Irkutsk 151.11 80 *e*PKIKP **PKPbc 16 21 03.6 -0.2**
IRK pmax pmax
comp=Z,51nm,1.8s

DOT	**Dot Lake**	**151.21**	**306**	*e*PKPbc	**PKPbc**	**16 21 04.3**	**+0.7**
PAX	**Paxson**	**151.59**	**304**	*e*PKIKP	**PKPdf**	**16 20 59.0**	**+0.6**
PAX				*e*		16 21 04.2	
PAX	**Paxson**	**151.59**	**304**	*e*PKPdf	**PKPdf**	**16 20 59.0**	**+0.6**
PAX				*e*PKPbc	**PKPbc**	**16 21 04.2**	**-0.4**
SEW	**Seward**	**152.39**	**297**	*e*PKPdf	**PKPdf**	**16 20 59.5**	**+0.1**
SEW				*e*PKPbc	**PKPbc**	**16 21 06.4**	**+0.1**
KSAR	**Wonju Array Be**	**152.41**	**128**	PKPab	**PKPab**	**16 21 16.5**	**-0.9**
KSRS	**Korea Array**	**152.43**	**128**	PKPab	**PKPab**	**16 21 16.5**	**-1.0**
	comp=Z,4.4nm,0.9s,baz=207,slow=3.8,SNR=6.1						
SML	**Sawmill**	**152.48**	**301**	*e*PKIKP	**PKPbc**	**16 21 06.9**	**+0.3**
SML	**Sawmill**	**152.48**	**301**	*e*PKPbc	**PKPbc**	**16 21 06.9**	**+0.3**
ILAR	**Eielson Array**	**152.72**	**307**	PKP	**PKPdf**	**16 20 56.4**	**-3.5**
	comp=Z,0.7nm,0.9s,baz=320,slow=1.0,SNR=5.5						
ILAR				PKPbc	**PKPbc**	**16 21 06.7**	**-0.3**
	comp=Z,42nm,1.0s,baz=142,slow=0.9,SNR=116						
ILAR				PKPab	**PKPab**	**16 21 15.9**	**-2.1**
	comp=Z,11nm,0.8s,baz=128,slow=1.8,SNR=13						
ILAR	**Eielson Array**	**152.72**	**307**	PKP	**PKPdf**	**16 20 56.4**	**-3.5**
ILAR				PKPbc	**PKPbc**	**16 21 06.7**	**-0.3**
ILAR				PKPab	**PKPab**	**16 21 15.9**	**-2.1**
PMR	**Palmer**	**152.76**	**300**	*e*PKIKP	**PKPbc**	**16 21 07.0**	**-0.2**
PMR	**Palmer**	**152.76**	**300**	*e*PKPbc	**PKPbc**	**16 21 07.0**	**-0.2**
RC01	**Rabbit Creek A**	**152.87**	**299**	*e*PKPdf	**PKPdf**	**16 20 60.0**	**-0.3**
RC01				*e*PKPbc	**PKiKP**	**16 21 07.6**	**0.0**
COLA	**College**	**153.14**	**307**	*e*PKIKP	**PKPdf**	**16 21 00.8**	**+0.3**
COLA				*e*		16 21 07.8	
COLA	**College**	**153.14**	**307**	*e*PKPdf	**PKPdf**	**16 21 00.8**	**+0.3**
COLA				*e*PKPbc	**PKPbc**	**16 21 07.8**	**-0.1**
TRF	**Thorofare Moun**	**153.82**	**304**	*e*PKPdf	**PKPdf**	**16 21 02.2**	**+0.4**
TRF				*e*PKPbc	**PKPbc**	**16 21 09.2**	**-0.5**
COLD	**Coldfoot**	**154.51**	**312**	*e*PKPdf	**PKPdf**	**16 21 03.2**	**+0.8**
COLD				*e*PKPbc	**PKiKP**	**16 21 11.4**	**+0.6**
MJAR	**Matsushiro Arr**	**155.27**	**146**	PKPab	**PKPab**	**16 21 29.6**	**0.0**
	comp=Z,3.1nm,0.7s,baz=191,slow=5.2,SNR=8.1						
MJAR	**Matsushiro Arr**	**155.27**	**146**	PKPab	**PKPab**	**16 21 29.6**	**0.0**
CN2	**Changchun**	**156.50**	**116**	*e*PKP	**PKPdf**	**16 21 10.4**	**+4.6**
BOD	**Bodaibo**	**158.61**	**74**	*e*PKIKP	**PKPdf**	**16 21 04.9**	**-3.1**
BOD				*e*		16 21 44.3	
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s						
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ	**Mudanjiang**	**159.03**	**121**	PKP	**PKPdf**	**16 21 10.9**	**+2.0**
MDJ				pPKP	pPKPdf	16 21 26.1	+8.4
MDJ				sPKP		16 21 31.8	
MDJ				PP	**PP**	**16 25 29.9**	**+2.9**
MDJ				SS	SS	16 45 32.3	+3.1
MDJ				AMB	AMB		
	comp=Z,67nm,9.5s						
MDJ				LR	LR		
	comp=N,180nm,22.6s						
MDJ				LR	LR		
	comp=E,180nm,21.3s						
MDJ				LR	LR		
	comp=Z,300nm,21.3s						
USRK	**Ussuriysk Arra**	**159.76**	**126**	PKPab	**PKPab**	**16 21 49.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=184,slow=2.0,SNR=3.9						
PETK	**Petropavlovsk-**	**174.24**	**196**	PKPab	**PKPab**	**16 22 52.2**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=161,slow=9.2,SNR=3.4						
PETK	**Petropavlovsk-**	**174.24**	**196**	PKP2	**PKPab**	**16 22 52.2**	**-0.2**
PETK	**Petropavlovsk-**	**174.24**	**196**	PKPab	**PKPab**	**16 22 52.2**	**-0.2**

IDC 20 16:03:06.4±0.8, 4°.07N×126°.83E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/27, mbtmp3.9/13, MS3.1/1, Ms1 3.1/1, ms1mx2.2/44, 1D, Error ellipse: s-maj=45.8km s-min=13.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.23**	**337**	LR	LR	16 05 36.9	
	comp=Z,276nm,18.0s,baz=145,slow=47						
CTBH	**Cotabato--PC H**	**4.05**	**321**	∥/P	Pb	16 04 16.9	-1.8
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	P	16 08 03.1	+0.1
	2.2nm,0.7s,baz=40,slow=7.3,SNR=3.9						
WRA	**Warramunga Arr**	**24.98**	**163**	P	P	16 08 31.3	-0.7
	4.5nm,0.5s,baz=342,slow=11,SNR=31						
ASAR	**Alice Springs**	**28.41**	**166**	P	P	16 09 02.8	-0.2
	0.3nm,0.5s,baz=346,slow=6.8,SNR=7.9						
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	P	16 09 25.3	+1.2
	0.7nm,0.6s,baz=120,slow=7.3,SNR=3.8						
STKA	**Stephens Creek**	**38.41**	**160**	P	P	16 10 30.3	+0.5
	3.4nm,0.7s,baz=319,slow=9.8,SNR=8.4						
SONM	**Songino Array**	**47.01**	**341**	P	P	16 11 40.0	+0.4
	0.8nm,0.6s,baz=183,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	16 12 56.0	-0.4
	1.3nm,0.6s,baz=117,slow=8.0,SNR=26						
AAK	**Ala-Archa**	**60.17**	**318**	P	P	16 13 16.7	+0.3
	0.4nm,0.5s,baz=53,slow=4.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	P	16 13 16.0	-1.0
	0.5nm,0.3s,baz=127,slow=6.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	16 13 24.5	-0.6
	1.4nm,0.6s,baz=129,slow=6.4,SNR=21						
BVAR	**Borovoye Array**	**67.09**	**327**	P	P	16 14 01.8	+0.1
	0.5nm,0.6s,baz=150,slow=10.0,SNR=4.9						
AKTO	**Aktyubinsk**	**73.46**	**322**	P	P	16 14 40.5	-0.2
	0.6nm,0.5s,baz=81,slow=16,SNR=3.3						
ILAR	**Eielson Array**	**84.76**	**25**	P	P	16 15 43.2	+0.8
	0.3nm,0.8s,baz=264,slow=7.2,SNR=3.5						

WEL 20 16:26:21.3±0.5, 37°.89S×175°.93E, h184km±4km, ML3.5/16, 6C-1D, Error ellipse: s-maj=5.8km s-min=5.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.00**	**112**	⇑PN	Pn	16 26 49.3	-0.1
URZ				SN	Sn	16 27 11.5	+0.3
MWZ	**Matawai**	**1.34**	**110**	PN	Pn	16 26 52.1	-0.1
MWZ				SN	Sn	16 27 16.3	+0.1
BKZ	**Black Stump Fm**	**1.35**	**161**	⇑PN	Pn	16 26 52.3	-0.1
BKZ				SN	Sn	16 27 15.6	-0.9
RAHZ	**Arahi**	**1.37**	**139**	PN	Pn	16 26 52.7	+0.3
NMHZ	**Naumai**	**1.39**	**151**	PN	Pn	16 26 53.5	+0.8
WNVZ	**Wahianoa**	**1.46**	**190**	PN	Pn	16 26 53.8	+0.4
MOVZ	**Moawhango**	**1.52**	**185**	PN	Pn	16 26 53.7	-0.2
BHHZ	**Black Hill Sta**	**1.60**	**176**	PN	Pn	16 26 54.4	-0.3
MCHZ	**McNeill Hill**	**1.66**	**159**	PN	Pn	16 26 55.7	+0.5
KNZ	**Kokohu**	**1.77**	**130**	PN	Pn	16 26 56.0	-0.3
PUZ	**Puketiti**	**1.85**	**96**	PN	Pn	16 26 56.8	-0.3
CNGZ	**Carnagh Statio**	**1.89**	**109**	PN	Pn	16 26 57.6	+0.1
MHGZ	**Mahia Peninsul**	**2.00**	**130**	PN	Pn	16 26 58.3	-0.3
WAZ	**Wanganui**	**2.00**	**201**	*e*PN	Pn	16 26 58.4	-0.2
PNHZ	**Pukenui**	**2.03**	**174**	PN	Pn	16 26 58.4	-0.7
KAHZ	**Kahuranaki**	**2.04**	**159**	PN	Pn	16 26 58.9	-0.3
TSZ	**Takapari Road**	**2.17**	**179**	⇑PN	Pn	16 26 59.5	-1.0
WPHZ	**Waipukurau**	**2.21**	**170**	PN	Pn	16 27 00.1	-0.8
PXZ	**Pawanui**	**2.26**	**162**	⇑PN	Pn	16 27 00.5	-0.9
DVHZ	**Dannevirke**	**2.41**	**176**	⇑PN	Pn	16 27 01.7	-1.5
PRHZ	**Porangahau**	**2.44**	**167**	PN	Pn	16 27 02.3	-1.2
POWZ	**Post Office Ro**	**2.50**	**183**	PN	Pn	16 27 02.7	-1.5
MRZ	**Mangatainoka R**	**2.78**	**186**	⇑PN	Pn	16 27 05.4	-2.1
BFZ	**Birch Farm**	**2.80**	**175**	PN	Pn	16 27 05.6	-2.1
TIWZ	**Tintock**	**2.88**	**181**	PN	Pn	16 27 06.6	-2.1
OGWZ	**Otaki Gorge**	**2.98**	**191**	PN	Pn	16 27 07.8	-2.0
HOWZ	**Holdsworth Sta**	**3.02**	**186**	PN	Pn	16 27 07.9	-2.5
KIW	**Kapiti Island**	**3.07**	**195**	PN	Pn	16 27 08.5	-2.5
TMWZ	**Te Maipa**	**3.21**	**181**	PN	Pn	16 27 10.1	-2.6
MTW	**Mount Morrison**	**3.28**	**186**	PN	Pn	16 27 10.5	-3.0
CAW	**Cannon Point**	**3.28**	**191**	⇓PN	Pn	16 27 10.9	-2.6
DUWZ	**D'Urville Isla**	**3.30**	**208**	PN	Pn	16 27 11.1	-2.7
PAWZ	**Paruwai Farm**	**3.51**	**186**	SN	Sn	16 27 54.0	-5.5
SNZO	**South Karori**	**3.54**	**195**	PN	Pn	16 27 13.7	-3.1
SNZO				SN	Sn	16 27 55.0	-5.2
TCW	**Tory Channel**	**3.56**	**201**	PN	Pn	16 27 14.2	-2.7
MSWZ	**Moikau Station**	**3.56**	**188**	PN	Pn	16 27 13.6	-3.3
PLWZ	**Palliser**	**3.71**	**188**	PN	Pn	16 27 15.4	-3.5
TUWZ	**Tuamarina**	**3.85**	**203**	PN	Pn	16 27 17.6	-3.0
NNZ	**Nelson**	**3.86**	**210**	SN	Sn	16 28 04.0	-3.4
QRZ	**Quartz Range**	**3.94**	**221**	*e*PN	Pn	16 27 18.4	-3.3
THZ	**Tophouse**	**4.51**	**210**	PN	Pn	16 27 25.8	-3.4
THZ				SN	Sn	16 28 18.9	-3.6
KHZ	**Kahutara**	**4.88**	**201**	PN	Pn	16 27 30.2	-3.5
LTZ	**Lake Taylor**	**5.63**	**209**	PN	Pn	16 27 38.9	-4.6
CRLZ	**Canterbury Las**	**6.21**	**203**	SN	Sn	16 28 52.4	-9.4
MQZ	**McQueen's Vall**	**6.32**	**202**	SN	Sn	16 28 54.5	-10
ODZ	**Otahua Downs**	**8.17**	**207**	SN	Sn	16 29 38.5	-10

IDC 20 16:30:33.6±7.5, 10°.43N×91°.31E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, MS3.7/2, Ms1 3.7/2, ms1mx2.9/24, Error ellipse: s-maj=363.4km s-min=23.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**10.70**	**135**	LR	LR	16 36 54.1	
	comp=Z,141nm,19.7s,baz=59,slow=35						
MKAR	**Makanchi Array**	**37.05**	**350**	P	P	16 37 45.5	+0.3
	0.3nm,0.8s,baz=166,slow=7.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**43.72**	**354**	P	P	16 38 39.9	-0.5
	0.4nm,0.4s,baz=183,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**52.01**	**125**	P	P	16 39 45.1	-0.1
	0.2nm,0.6s,baz=305,slow=8.4,SNR=6.9						
WRA				pP		16 39 54.0	
	0.5nm,0.5s,baz=306,slow=8.5,SNR=4.4						
KBZ	**Khabaz**	**53.33**	**317**	LR	LR	17 06 20.8	
	comp=Z,190nm,20.8s,baz=204,slow=40						
ASAR	**Alice Springs**	**53.68**	**130**	P	P	16 39 57.5	-0.1
	0.3nm,0.6s,baz=302,slow=7.6,SNR=7.1						
ASAR				pP	PcP	16 40 06.5	-57
	0.2nm,0.4s,baz=306,slow=7.2,SNR=2.3						

IDC 20 16:33:20.5±7.4, 24°.54S×176°.18W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, Error ellipse: s-maj=225.8km s-min=98.6km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.96**	**270**	P	P	16 40 15.5	+0.9
	3.1nm,0.6s,baz=76,slow=4.2,SNR=3.3						
ASAR	**Alice Springs**	**45.37**	**260**	P	P	16 41 41.0	+0.1
	0.2nm,0.4s,baz=95,slow=7.0,SNR=8.3						
WRA	**Warramunga Arr**	**45.84**	**265**	P	P	16 41 43.6	-1.1
	0.6nm,0.5s,baz=104,slow=8.5,SNR=17						
CMAR	**Chiang Mai Arr**	**93.03**	**289**	P	P	16 46 36.6	+0.1
	0.1nm,0.4s,baz=147,slow=4.8,SNR=4.6						

IDC 20 16:37:53.7±2.3, 23°.28S×170°.27E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=83.2km s-min=40.9km az=1.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.73**	**288**	Pn	Pn	16 38 53.1	+0.4
	0.7nm,0.3s,baz=47,slow=23,SNR=28						
DZM				Sn	Sn	16 39 36.8	-0.7
	0.8nm,0.3s,baz=87,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**33.30**	**262**	P	P	16 44 33.6	+0.2
	1.2nm,1.0s,baz=90,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**33.52**	**269**	P	P	16 44 34.2	-1.0
	0.4nm,0.9s,baz=102,slow=8.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**81.03**	**294**	P	P	16 50 12.5	+1.5
	0.5nm,0.9s,baz=120,slow=4.1,SNR=5.2						
GERES	**GERESS Array B**	**148.47**	**330**	PKPbc	PKPbc	16 57 40.6	-1.7
	0.6nm,0.8s,baz=101,slow=2.0,SNR=4.6						

IDC 20 16:47:24.4±2.1, 7°.83S×127°.54E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=278.2km s-min=31.5km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.73**	**152**	Pn	Pn	16 50 38.6	-1.9
	0.4nm,0.3s,baz=329,slow=14,SNR=31						
WRA				Sn	Sn	16 52 59.3	-15
	0.6nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.89**	**160**	Pn	P	16 51 24.1	-0.5
	0.2nm,0.3s,baz=332,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**67.61**	**328**	P	P	16 58 23.1	0.0
	0.2nm,0.5s,baz=114,slow=8.1,SNR=4.2						

*IDC **20** 17:08:52.8±1.2, 43°.10N×105°.26W, h0km, mb2.7/1, mb1 3.8/6, mb1mx3.5/32, mbtmp3.7/6, ML3.8/4, Error ellipse: s-maj=25.1km s-min=8.8km az=161.0*
*ISCJB **20** 17:08:55.4±0.2, 43°.51N±0°.01×105°.35W±0°.02, h0km, Error ellipse: s-maj=1.9km s-min=1.6km az=159.5*
*NEIC **20** 17:08:56.1±0.4, 43°.58N×105°.29W, h0km, ML3.3, Error ellipse: s-maj=5.2km s-min=4.9km az=157.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.

ISC 20 17:08:54.8±0.5, 43°.47N±0°.02×105°.32W±0°.02, h0km, n125, σ152/140, 40C-53D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.18**	**250**	P	**Pg**	**17 09 00.3**	**+2.1**
	baz=0.3,SNR=862						
J24A	**Dixon Ranch, L**	**0.50**	**106**	⇑P	**Pb**	**17 09 06.9**	**+0.5**
	baz=0.5,SNR=81						
J24A				⇑S	**Sb**	**17 09 14.4**	**+0.1**
	baz=0.5						
I23A	**Meade Ranch, G**	**0.50**	**348**	⇓P	**Pg**	**17 09 05.3**	**+0.9**
	baz=0.4						
I23A				⇑S	**Sg**	**17 09 10.8**	**-0.2**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.64**	**52**	P	**Pg**	**17 09 08.3**	**+1.4**
	baz=0.6,SNR=367						
I24A				⇓S	**Sb**	**17 09 17.8**	**-0.5**
	baz=0.6						
K23A	**Bowen Ranch, D**	**0.75**	**198**	⇑P	**Pb**	**17 09 11.0**	**+0.2**
	baz=0.9						
K23A				⇑S	**Sb**	**17 09 20.7**	**-0.9**
	baz=0.9						
K24A	**Anderson Ranch**	**0.83**	**154**	⇓P	**Pn**	**17 09 12.5**	**-1.3**
	baz=0.9,SNR=8.9						
J22A	**Midwest**	**0.85**	**267**	⇓P	**Pg**	**17 09 11.6**	**+0.6**
	baz=0.9,SNR=112						
J22A				⇑S	**Sg**	**17 09 22.4**	**+0.4**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.95**	**297**	P	**Pg**	**17 09 13.3**	**+0.4**
	baz=0.9,SNR=176						
I22A				⇓S	**Sg**	**17 09 25.7**	**+0.5**
	baz=0.9						
H23A	**Clabaugh Cattl**	**1.10**	**357**	⇓P	**Pg**	**17 09 15.7**	**-0.1**
	baz=1.0						
RSSD	**Black Hills**	**1.14**	**54**	*e*Pg	**Pg**	**17 09 16.3**	**-0.2**
K22A	**Casper**	**1.20**	**228**	⇑P	**Pb**	**17 09 18.4**	**-0.2**
	baz=1.3						
K22A				⇑S	**Sb**	**17 09 34.7**	**0.0**
	baz=1.3						
H22A	**Clearmont**	**1.35**	**327**	⇑Pb	**Pn**	**17 09 20.4**	**-0.6**
	baz=1.3,SNR=92						
H22A				⇑S	**Sg**	**17 09 37.4**	**-0.8**
	baz=1.3						
K25A	**Mack Ranch, Ha**	**1.36**	**128**	⇓Pg	**Pn**	**17 09 23.3**	**+2.2**
	baz=1.4,SNR=442						
L23A	**Garrett**	**1.38**	**192**	⇓Pb	**Pb**	**17 09 22.1**	**+0.5**
	baz=1.5						
L23A				⇓Sg	**Sn**	**17 09 43.1**	**+2.5**
	baz=1.5						
H24A	**Dirks Ranch, A**	**1.39**	**23**	⇓P	**Pn**	**17 09 20.8**	**-0.8**
	baz=1.3,SNR=266						
H24A				⇓S	**Sg**	**17 09 39.9**	**+0.4**
	baz=1.3						
L24A	**Wheatland**	**1.45**	**169**	⇑Pb	**Pb**	**17 09 23.6**	**+0.9**
	baz=1.6,SNR=17						
I21A	**Big Trails, Te**	**1.48**	**284**	⇓Pb	**Pn**	**17 09 22.2**	**-0.6**
	baz=1.5						
I21A				⇓S	**Sg**	**17 09 41.1**	**-1.1**
	baz=1.5						
J21A	**Lysite**	**1.56**	**266**	⇓Pb	**Pn**	**17 09 23.8**	**-0.1**
	baz=1.6						
J21A				⇓Sb	**Sn**	**17 09 44.7**	**-0.2**
	baz=1.6						
K21A	**Alcova**	**1.65**	**240**	Pb	**Pb**	**17 09 26.1**	**0.0**
	baz=1.7,SNR=154						
K21A				⇑Sb	**Sg**	**17 09 48.2**	**+0.6**
	baz=1.7						
L25A	**Engebretsen Ra**	**1.65**	**142**	⇑Pb	**Pg**	**17 09 28.0**	**+1.7**
	baz=1.7,SNR=62						
L25A				⇑Sg	Sg	17 09 52.4	+4.8
	baz=1.7						
L22A	**Ellis Ranch, M**	**1.65**	**210**	Pb	**Pg**	**17 09 26.8**	**+0.3**
	baz=1.8,SNR=113						
L22A				⇑Sb	**Sg**	**17 09 49.4**	**+1.5**
	baz=1.8						
H21A	**Big Horn, Sher**	**1.70**	**314**	⇓Pb	**Pn**	**17 09 26.5**	**+0.7**
	baz=1.6						
H21A				⇓Sg	**Sn**	**17 09 50.6**	**+2.2**
	baz=1.6						
G23A	**Biddle**	**1.73**	**358**	⇑Pb	**Pn**	**17 09 27.2**	**+0.9**
	baz=1.6,SNR=123						
G23A				⇑Sg	**Sb**	**17 09 52.0**	**+2.0**
	baz=1.6						
K26A	**Motz Farm, Whi**	**1.74**	**115**	⇑Pb	**Pg**	**17 09 29.0**	**+0.8**
	baz=1.8,SNR=70						
K26A				⇓Sg	**Sg**	**17 09 55.2**	**+4.4**
	baz=1.8						
G22A	**Birney**	**1.89**	**339**	⇑Pb	**Pn**	**17 09 29.3**	**+1.0**
	baz=1.8,SNR=72						
G22A				⇓Sb	**Sn**	**17 09 54.7**	**+1.8**
	baz=1.8						
G24A	**Alzada**	**1.97**	**19**	⇓Pb	**Pn**	**17 09 31.0**	**+1.6**
	baz=1.9,SNR=17						
G24A				⇓Sb	**Sb**	**17 09 57.6**	**+0.9**
	baz=1.9						
J20A	**Shoshoni**	**2.02**	**268**	⇑Pb	**Pb**	**17 09 32.5**	**0.0**
	baz=2.0						
M23A	**Laramie**	**2.02**	**189**	⇑Pb	**Pg**	**17 09 32.8**	**-0.7**
	baz=2.1,SNR=66						
M23A				⇓Sb	**Sg**	**17 10 01.0**	**+1.4**
	baz=2.1						
M24A	**Cheyenne**	**2.03**	**170**	⇓Pb	**Pg**	**17 09 33.8**	**+0.2**
	baz=2.1,SNR=54						
M24A				⇓Sg	**Sg**	**17 10 04.2**	**+4.2**
	baz=2.1						
I20A	**Worland**	**2.10**	**284**	Pb	**Pn**	**17 09 32.8**	**+1.6**
	baz=2.1,SNR=422						
I20A				⇓Sb	**Sn**	**17 10 00.4**	**+2.4**
	baz=2.1						
L21A	**Rawlins**	**2.13**	**226**	Pb	**Pb**	**17 09 34.6**	**+0.2**
	baz=2.2,SNR=103						
L21A				⇑Sb	**Sg**	**17 10 02.9**	**-0.3**
	baz=2.2						
PHWY	**Pilot Hill**	**2.17**	**183**	*e*Pn	**Pg**	**17 09 35.2**	**-1.1**
L26A	**Underwood Farm**	**2.18**	**130**	⇓Pb	**Pg**	**17 09 36.2**	**-0.3**
	baz=2.2						
H20A	**Greybull**	**2.19**	**299**	⇓Pb	**Pn**	**17 09 34.5**	**+2.0**
	baz=2.1,SNR=50						
H20A				⇑Sb	**Sn**	**17 10 02.8**	**+2.4**
	baz=2.1						
G21A	**Lodge Grass**	**2.22**	**323**	⇑P	**Pn**	**17 09 33.6**	**+0.6**
	baz=2.1,SNR=74						
G21A				⇑Sb	**Sn**	**17 10 03.8**	**+2.7**
	baz=2.1						
M25A	**Palm-Egli Farm**	**2.23**	**155**	⇑Pb	**Pg**	**17 09 37.0**	**-0.6**
	baz=2.3						
F23A	**Volborg**	**2.25**	**358**	⇓P	**Pn**	**17 09 34.0**	**+0.6**
	baz=2.1,SNR=48						
F23A				⇑Sb	**Sn**	**17 10 04.7**	**+2.8**
	baz=2.1						
M22A	**Cedar Creek Ra**	**2.27**	**205**	⇓Pb	**Pg**	**17 09 37.2**	**-1.1**
	baz=2.4,SNR=206						
K20A	**Yellowstone Ra**	**2.36**	**251**	⇑Pb	**Pb**	**17 09 38.0**	**-0.3**
	baz=2.4,SNR=175						
K20A				⇓Sb	**Sb**	**17 10 08.7**	**+0.8**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.38**	**108**	⇓Pb	**Pn**	**17 09 39.2**	**-1.2**
	baz=2.4						
M21A	**Separation Pea**	**2.40**	**220**	⇓Pb	**Pb**	**17 09 38.7**	**-0.2**
	baz=2.5,SNR=126						
M21A				⇓Sb	**Sg**	**17 10 11.1**	**-0.7**
	baz=2.5						
F22A	**Rosebud**	**2.41**	**344**	⇓P	**Pn**	**17 09 35.3**	**-0.2**
	baz=2.3,SNR=17						
F22A				⇓Sb	**Sn**	**17 10 08.9**	**+3.2**
	baz=2.3						
F24A	**Ekalaka**	**2.46**	**14**	⇓Pb	**Pb**	**17 09 39.2**	**-0.6**
	baz=2.3						
L27A	**T5 Ranch, Ells**	**2.61**	**121**	⇑Pb	**Pg**	**17 09 43.7**	**-1.0**
	baz=2.6						
N23A	**Red Feather La**	**2.61**	**190**	⇓P	**Pb**	**17 09 41.6**	**-1.0**
	baz=2.7,SNR=44						
N24A	**Carr**	**2.66**	**173**	⇑Pb	**Pg**	**17 09 44.7**	**-1.0**
	baz=2.8						
K19A	**Absolon Red Bu**	**2.66**	**257**	⇓Pb	**Pb**	**17 09 43.0**	**-0.4**
	baz=2.7						
K19A				⇓Sb	**Sb**	**17 10 17.4**	**+0.7**
	baz=2.7						
F21A	**Absaloka Mine,**	**2.69**	**332**	⇑P	**Pn**	**17 09 38.5**	**-0.8**
	baz=2.6						
G20A	**Bridger**	**2.72**	**311**	⇓P	**Pn**	**17 09 40.1**	**+0.2**
	baz=2.7						
I19A	**Meeteetse**	**2.73**	**283**	⇓P	**Pn**	**17 09 41.8**	**+1.8**
	baz=2.7,SNR=33						
I19A				⇑Sb	**Sb**	**17 10 18.2**	**-0.3**
	baz=2.7						
J19A	**Crowheart**	**2.73**	**267**	⇑Pb	**Pb**	**17 09 44.3**	**-0.3**
	baz=2.8						
J19A				⇑Sb	**Sb**	**

R27A	**Eads**	**5.52**	**159**	⇓P		Pn	17 10 20.9	+2.7
	baz=5.6,SNR=10								
DLMT	**Dillon**	**5.55**	**292**	*e*Pn		**Pn**	**17 10 18.6**	**-0.1**
	5.9nm,0.8s								
MCMT	**McKenzie Canyo**	**5.59**	**287**	*e*Pn		Pn	17 10 24.0	+4.6
	2.5nm,0.6s								
LRM	**Limekiln Ridge**	**5.61**	**297**	*e*Pn		**Pn**	**17 10 18.7**	**-0.9**
	43nm,0.6s								
HRY	**Holter Researc**	**5.64**	**307**	*e*Pn		**Pn**	**17 10 20.5**	**+0.6**
	9.9nm,0.4s								
PV04	**Paradox Valley**	**5.75**	**209**	*e*Pn		Pn	17 10 25.0	+3.5
SRU	**San Rafael**	**5.86**	**224**	*e*Pn		**Pn**	**17 10 24.6**	**+1.6**
	12nm,0.5s								
PV01	**Paradox Valley**	**5.87**	**206**	*e*Pn		**Pn**	**17 10 25.7**	**+2.5**
	583nm,0.7s								
S26A	**Kim**	**6.01**	**166**	P		**Pn**	**17 10 27.3**	**+2.3**
	baz=6.1,SNR=21								
TMUT	**Trail Mountain**	**6.08**	**229**	*e*Pn		**Pn**	**17 10 27.4**	**+1.2**
	18nm,0.6s								
ECSD	**EROS Data Cent**	**6.33**	**85**	*e*Pn		**Pn**	**17 10 29.9**	**+0.7**
	3.5nm,0.5s								
Q16A	**Castle Valley**	**6.34**	**226**	⇓P		**Pn**	**17 10 31.5**	**+1.9**
	baz=6.4,SNR=7.1								
CHMT	**Chamberlain Mo**	**6.58**	**304**	*e*Pn		**Pn**	**17 10 33.7**	**+0.7**
	2.1nm,0.5s								
MVCO	**Mesa Verde**	**6.71**	**202**	*e*Pn		Pn	17 10 38.3	+3.6
	6.2nm,0.5s								
SLMT	**Seeley Lake**	**6.89**	**306**	*e*Pn		**Pn**	**17 10 37.9**	**+0.8**
	3.4nm,0.6s								
ANMO	**Albuquerque**	**8.55**	**186**	Pn		Pn	17 10 53.1	-6.8
	0.2nm,0.3s,baz=0.0,slow=11,SNR=4.2								
ANMO	**Albuquerque**	**8.55**	**186**	Pn		Pn	17 10 53.1	-6.8
WUAZ	**Wupatki**	**9.21**	**213**	*e*Pn		**Pn**	**17 11 12.0**	**+3.0**
	3.9nm,0.7s								
ULM	**Lac du Bonnet**	**9.37**	**40**	Pn		**Pn**	**17 11 10.6**	**-0.4**
	0.5nm,0.3s,baz=222,slow=14,SNR=4.9								
ULM				Lg		Lg	17 13 49.1		
	0.5nm,0.3s,baz=137,slow=12,SNR=5.7								
ULM	**Lac du Bonnet**	**9.37**	**40**	Pn		**Pn**	**17 11 10.6**	**-0.4**
ULM				Lg		Lg	17 13 49.1		
NVAR	**Mina Array Bea**	**11.03**	**247**	Pn		**Pn**	**17 11 36.1**	**+2.1**
	0.0nm,0.3s,baz=42,slow=19,SNR=1.8								
NVAR	**Mina Array Bea**	**11.03**	**247**	Pn		**Pn**	**17 11 36.1**	**+2.1**
TKL	**Tuckaleechee C**	**18.32**	**108**	P		**Pn**	**17 13 05.9**	**-4.3**
	0.1nm,0.3s,baz=254,slow=7.4,SNR=3.6								
TKL	**Tuckaleechee C**	**18.32**	**108**	P		**Pn**	**17 13 05.9**	**-4.3**
SADO	**Sadowa**	**18.82**	**77**	P		**P**	**17 13 14.2**	**-1.6**
	0.3nm,0.3s,baz=280,slow=9.4,SNR=4.3								
SADO	**Sadowa**	**18.82**	**77**	P		**P**	**17 13 14.2**	**-1.6**
YKA	**Yellowknife Ar**	**19.82**	**347**	P		**P**	**17 13 27.0**	**+0.3**
	0.4nm,0.6s,baz=155,slow=13,SNR=6.2								
YKA	**Yellowknife Ar**	**19.82**	**347**	P		**P**	**17 13 27.0**	**+0.3**

IDC 20 17:48:55.0±8.0, **49.09N**×**176.69E, h0**km, **mb3.4**/3, **mb1 3.8**/4, **mb1mx3.4**/29, **mbtmp3.6**/4, **ML3.4**/1, **Error ellipse: s-maj=205.1km s-min=29.7km az=172.0, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**12.59**	**296**	Pn	Pn	17 51 55.5	+0.2
	0.2nm,0.3s,baz=100,slow=15,SNR=3.8						
PETK				Sn	Sn	17 53 60.0	-16
	0.3nm,0.3s,baz=84,slow=36,SNR=4.0						
ILAR	**Eielson Array**	**24.83**	**37**	P	P	17 54 17.0	-1.6
	0.3nm,0.5s,baz=254,slow=6.7,SNR=6.4						
YKA	**Yellowknife Ar**	**38.90**	**4**	P	P	17 56 22.9	+1.1
	0.7nm,0.5s,baz=278,slow=9.4,SNR=18						
MKAR	**Makanchi Array**	**59.15**	**307**	P	P	17 58 57.0	-0.2
	0.4nm,0.7s,baz=51,slow=5.9,SNR=6.2						

JMA 20 17:53:03.9±0.5, **32.36N**×**142.41E, h0**km, **M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**4.34**	**324**	P	Pn	17 54 12.7	+1.5
JHO	**Hitachi**	**4.50**	**341**	P	Pn	17 54 15.0	+1.6
JHO				*e*S	Sn	17 55 09.0	+2.5
JAG	**Ashikaga**	**4.73**	**330**	P	Pn	17 54 18.1	+1.5
JAG				*e*S	Sn	17 55 15.7	+3.5

*IDC **20** 17:53:16.3*±*7.2, 7.08N*×*75.23W, h139km*±*170km, mb1 2.8/1, mb1mx2.6/23, mbtmp3.1/1, ML1.9/1, Error ellipse: s-maj=998.5km s-min=82.6km az=73.0*

FUNV 20 17:53:15.2, 6.86N×**73.13W, h168**km, **MW3.0, 2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.28**	**39**	⇑*i*P	Pn	17 53 43.5	-0.9
CAPV				*e*S	Sn	17 54 04.8	-2.2
ROSC	**El Rosal**	**2.32**	**211**	P	Pn	17 53 56.2	+0.6
	6.1nm,0.3s,baz=101,slow=23,SNR=11						
ROSC				S	Sn	17 54 27.0	+0.2
	38nm,0.3s,baz=267,slow=23,SNR=18						
VIGV	**El Vigia**	**2.63**	**42**	⇑*i*P	Pn	17 53 58.0	-0.8
VIGV				*e*S	Sn	17 54 28.9	-3.9
SOCV	**Socops**	**2.66**	**58**	*e*P	Pn	17 53 58.3	-0.9
SOCV				*e*S	Sn	17 54 30.0	-3.3
ELOV	**Elorza**	**3.62**	**88**	*e*P	Pn	17 54 09.7	-1.5
VIRV	**Villa del Rosa**	**3.69**	**11**	*e*P	Pn	17 54 10.2	-1.8
VIRV				*e*S	Sn	17 54 51.7	-4.6
QARV	**Quebrada Arrib**	**4.21**	**38**	*e*P	Pn	17 54 16.9	-1.9
SANV	**Sanarito**	**4.42**	**53**	*e*P	Pn	17 54 19.9	-1.7
CURV	**Curarigua**	**4.43**	**45**	*e*P	Pn	17 54 20.3	-1.3
DABV	**Dabajuro**	**4.73**	**31**	*e*P	Pn	17 54 24.1	-1.3
TEPV	**Terepaima**	**4.97**	**51**	*e*P	Pn	17 54 27.2	-1.3
SIQV	**Siquisique**	**4.99**	**41**	*e*P	Pn	17 54 26.8	-2.2
BAUV	**El Baul**	**5.45**	**67**	*e*P	Pn	17 54 32.5	-2.4
MAPV	**Macapo**	**5.48**	**57**	*e*P	Pn	17 54 33.7	-1.6
MONV	**Montecano**	**5.94**	**31**	*e*P	Pn	17 54 39.7	-1.6
TURV	**Turiamo**	**6.33**	**55**	*e*P	Pn	17 54 44.7	-1.8
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	PKPbc	18 12 44.8	+0.2
	0.3nm,1.0s,baz=109,slow=3.5,SNR=2.8						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	PKPbc	18 12 47.0	-0.7
	0.1nm,0.5s,baz=106,slow=2.7,SNR=5.6						

IDC 20 17:58:45.9±5.3, **30.27S**×**178.08W, h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.8**/17, **mbtmp3.9**/3, **MS3.5**/3, **Ms1 3.5**/3, **ms1mx3.1**/24, **Error ellipse: s-maj=205.0km s-min=49.1km az=151.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.10**	**297**	LR	LR	18 07 23.6	
	comp=Z,100nm,20.0s,baz=18,slow=32						
HNR	**Honiara**	**29.16**	**311**	LR	LR	18 13 59.1	
	comp=Z,90nm,18.9s,baz=3.8,slow=31						
STKA	**Stephens Creek**	**34.44**	**257**	P	P	18 05 35.8	+0.5
	2.2nm,0.7s,baz=99,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**43.05**	**267**	P	P	18 06 47.5	-0.2
	0.5nm,0.5s,baz=105,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**44.02**	**272**	P	P	18 06 54.9	-0.7
	0.9nm,0.3s,baz=110,slow=8.1,SNR=28						
FITZ	**Fitzroy Crossi**	**52.29**	**270**	LR	LR	18 30 54.5	
	comp=Z,95nm,20.9s,baz=40,slow=37						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	18 18 23.5	-0.3
	0.7nm,0.4s,baz=57,slow=5.1,SNR=11						

*SOF **20** 17:59:43.0, 40.33N*×*25.72E, h2km, MD3.7*
*ISCJB **20** 17:59:44.5*±*0.4, 40.40N*±*0.01*×*25.69E*±*0.02, h2km*±*3km, mb3.2/5, Error ellipse: s-maj=2.5km s-min=2.0km az=35.1*
*DDA **20** 17:59:45.8, 40.37N*×*25.78E, h22km, MD3.6*
*ATH **20** 17:59:45.2, 40.39N*×*25.76E, h25km*±*1km, MD3.7/11*
*ISK **20** 17:59:45.3, 40.38N*×*25.75E, h6km, ML3.7*
*CSEM **20** 17:59:45.2*±*0.1, 40.39N*×*25.68E, h2km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.5km az=31.0*
*THE **20** 17:59:46.2, 40.39N*×*25.74E, h10km*±*1km, ML3.9/9, Error ellipse: s-maj=1.3km s-min=0.6km az=74.0*
*IDC **20** 17:59:50.8*±*3.0, 40.45N*×*25.77E, h35km*±*25km, mb3.1/5, mb1 3.4/9, mb1mx3.2/28, mbtmp3.2/9, ML3.2/4, Error ellipse: s-maj=21.7km s-min=15.7km az=49.0*

ISC 20 17:59:46.0±1.1, **40.39N**±0.01×**25.71E**±0.02, **h4**km±8km, **n242**, σ**0.90**/300, **mb3.4**/5, **25C-10D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.48**	**44**	*e*PG	**Pg**	**17 59 54.9**	**-0.4**
ENEZ				*e*SG	**Sg**	**18 00 02.0**	**+0.4**
ENEZ	**Enez**	**0.48**	**44**	*e*Pg	**Pg**	**17 59 54.9**	**-0.4**
ENEZ				*e*Sg	**Sg**	**18 00 02.0**	**+0.4**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**17 59 56.6**	**-0.3**
ALN				S	**Sg**	**18 00 04.7**	**+0.4**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*PN	**Pg**	**17 59 56.6**	**-0.3**
ALN				*e*SN	**Sg**	**18 00 04.0**	**-0.3**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**17 59 56.6**	**-0.3**
ALN				S	**Sg**	**18 00 04.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.58**	**89**	*e*PG	**Pg**	**17 59 56.8**	**-0.3**
GELI				*e*SG	**Sg**	**18 00 04.7**	**0.0**
GELI	**Tayfur-Gelibol**	**0.58**	**89**	*e*Pg	**Pg**	**17 59 56.8**	**-0.3**
GELI				*e*Sg	**Sg**	**18 00 04.7**	**0.0**
BOZC	**Bozcaada**	**0.60**	**154**	*i* P	**Pg**	**17 59 57.7**	**+0.1**
LIA	**Limnos Island**	**0.64**	**220**	P	**Pg**	**17 59 58.8**	**+0.6**
LIA				S	**Sb**	**18 00 08.5**	**-0.4**
LIA	**Limnos Island**	**0.64**	**220**	*e*PN	**Pg**	**17 59 58.6**	**+0.4**
LIA				*e*SN	**Sb**	**18 00 08.2**	**-0.7**
LIA	**Limnos Island**	**0.64**	**220**	*e*Pn	**Pg**	**17 59 58.6**	**+0.4**
LIA				S	**Sb**	**18 00 08.5**	**-0.4**
EZN	**Ezine**	**0.73**	**140**	*e*PG	**Pg**	**17 59 59.4**	**-0.6**
EZN	**Ezine**	**0.73**	**140**	*e*Pg	**Pg**	**17 59 59.4**	**-0.6**
KAVA	**Kavala**	**1.10**	**304**	P	**Pg**	**18 00 06.9**	**-0.2**
KAVA				S	**Sb**	**18 00 22.7**	**+0.4**
KAVA	**Kavala**	**1.10**	**304**	P	**Pg**	**18 00 06.9**	**-0.2**
KAVA				S	**Sb**	**18 00 22.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.16**	**74**	*e*PN	**Pg**	**18 00 07.2**	**-0.9**
RKY				*e*SN	**Sg**	**18 00 23.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.16**	**74**	*e*Pn	**Pg**	**18 00 07.2**	**-0.9**
RKY				*e*Sn	**Sg**	**18 00 23.2**	**+0.1**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pg**	**18 00 06.9**	**-1.3**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pg**	**18 00 06.9**	**-1.3**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pg**	**18 00 07.9**	**-0.7**
SIGR				S	**Sb**	**18 00 24.6**	**+0.1**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pg**	**18 00 07.9**	**-0.7**
SIGR				S	**Sb**	**18 00 24.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*PN	**Pg**	**18 00 07.7**	**-1.5**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*Pn	**Pg**	**18 00 07.7**	**-1.5**
PRK	**Paraskevi**	**1.22**	**159**	P	**Pg**	**18 00 08.8**	**-0.5**
PRK				S	**Sb**	**18 00 25.5**	**-0.1**
PRK	**Paraskevi**	**1.22**	**159**	*e*PN	**Pg**	**18 00 08.8**	**-0.5**
PRK				*e*SN	**Sg**	**18 00 25.1**	**0.0**
PRK	**Paraskevi**	**1.22**	**159**	P	**Pg**	**18 00 08.8**	**-0.5**
PRK				*e*Sn	**Sg**	**18 00 25.1**	**0.0**
PRK				S	**Sb**	**18 00 25.5**	**-0.1**
MFT	**Murefte**	**1.26**	**71**	*e*PN	**Pn**	**18 00 09.4**	**-1.1**
MFT	**Murefte**	**1.26**	**71**	*e*Pn	**Pn**	**18 00 09.4**	**-1.1**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pn**	**18 00 09.4**	**-1.4**
KDZ				S	**Sb**	**18 00 26.6**	**-1.6**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pn**	**18 00 09.4**	**-1.4**
KDZ				S	**Sb**	**18 00 26.0**	**-1.6**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pb**	**18 00 11.1**	**-0.1**
AYVA				*i* S	**Sb**	**18 00 27.6**	**-0.8**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pb**	**18 00 11.1**	**-0.1**
AYVA				*i* S	**Sb**	**18 00 27.6**	**-0.8**
OUR	**Ouranopolis**	**1.32**	**268**	P	**Pn**	**18 00 09.8**	**-1.5**
OUR				S	**Sn**	**18 00 29.4**	**0.0**
OUR	**Ouranopolis**	**1.32**	**268**	P	**Pn**	**18 00 09.8**	**-1.5**
OUR				S	**Sn**	**18 00 29.4**	**0.0**
RZN	**Rozhen**	**1.50**	**330**	*i* P	**Pn**	**18 00 13.2**	**-0.8**
RZN				S	**Sb**	**18 00 34.6**	**+0.4**
RZN	**Rozhen**	**1.50**	**330**	*i* P	**Pn**	**18 00 13.2**	**-0.8**
RZN				S	**Sb**	**18 00 34.6**	**+0.4**
TKR	**Tekirdag**	**1.51**	**66**	*e*PN	**Pn**	**18 00 13.4**	**-0.5**
TKR	**Tekirdag**	**1.51**	**66**	*e*Pn	**Pn**	**18 00 13.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.55**	**102**	*e*PN	**Pn**	**18 00 14.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.55**	**102**	*e*Pn	**Pn**	**18 00 14.0**	**-0.4**
BALY	**Balya**	**1.60**	**113**	*i* P	**Pn**	**18 00 14.7**	**-0.4**
BALY	**Balya**	**1.60**	**113**	*i* P	**Pn**	**18 00 14.7**	**-0.4**
PAIG	**Paliouri**	**1.62**	**254**	P	**Pn**	**18 00 13.7**	**-1.7**
PAIG				S	**Sn**	**18 00 36.0**	**-0.8**
PAIG	**Paliouri**	**1.62**	**254**	P	**Pn**	**18 00 13.7**	**-1.7**
PAIG				S	**Sn**	**18 00 36.0**	**-0.8**
EDRB	**Edirne**	**1.65**	**28**	*e*PN	**Pn**	**18 00 15.5**	**-0.4**
EDRB	**Edirne**	**1.65**	**28**	*e*Pn	**Pn**	**18 00 15.5**	**-0.4**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pn**	**18 00 15.1**	**-0.9**
DIM				Pg	**Pb**	**18 00 17.5**	**+0.2**
DIM				S	**Sg**	**18 00 39.2**	**-0.4**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pn**	**18 00 15.1**	**-0.9**
BNT	**Bandirma**	**1.69**	**90**	*e*PN	**Pn**	**18 00 15.5**	**-0.8**
BNT	**Bandirma**	**1.69**	**90**	*e*Pn	**Pn**	**18 00 15.5**	**-0.8**
NVR	**Nevrokopi**	**1.70**	**305**	P	**Pn**	**18 00 15.5**	**-1.1**
NVR				S	**Sn**	**18 00 38.7**	**-0.2**
NVR	**Nevrokopi**	**1.70**	**305**	*e*PN	**Pn**	**18 00 15.5**	**-1.1**
NVR				*e*SN	**Sn**	**18 00 39.0**	**-0.6**
NVR	**Nevrokopi**	**1.70**	**305**	P	**Pn**	**18 00 15.5**	**-1.1**
NVR				S	**Sn**	**18 00 38.7**	**-0.2**
NVR				*e*Sn	**Sn**	**18 00 39.0**	**+0.1**
CRLT	**Corlu**	**1.71**	**64**	*e*PN	**Pn**	**18 00 16.2**	**-0.4**
CRLT	**Corlu**	**1.71**	**64**	*e*Pn	**Pn**	**18 00 16.2**	**-0.4**
PLG	**Polygyros**	**1.73**	**270**	P	**Pn**	**18 00 15.7**	**-1.3**
PLG				S	**Sn**	**18 00 39.7**	**+0.1**
PLG	**Polygyros**	**1.73**	**270**	*e*PB	**Pn**	**18 00 15.5**	**-1.5**
PLG				*e*SN	**Sn**	**18 00 39.0**	**-0.6**
PLG	**Polygyros**	**1.73**	**270**	P	**Pn**	**18 00 15.7**	**-1.3**
PLG				*e*Sn	**Sn**	**18 00 39.0**	**-0.6**
PLG				S	**Sn**	**18 00 39.7**	**+0.1**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**18 00 16.1**	**-1.4**
SRS				S	**Sn**	**18 00 39.2**	**-1.3**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**18 00 16.1**	**-1.4**
SRS				S	**Sn**	**18 00 39.2**	**-1.3**
BALB	**Balikesir**	**1.82**	**113**	*e*PN	**Pn**	**18 00 17.0**	**-0.6**
BALB	**Balikesir**	**1.82**	**113**	*e*Pn	**Pn**	**18 00 17.0**	**-0.6**
SOH	**Sokhos**	**1.85**	**284**	P	**Pn**	**18 00 17.6**	**-1.0**
SOH				S	**Sn**	**18 00 41.5**	**-1.0**
SOH	**Sokhos**	**1.85**	**284**	*e*PB	**Pn**	**18 00 17.5**	**-1.0**
SOH				*e*SN	**Sn**	**18 00 41.8**	**-0.7**
SOH	**Sokhos**	**1.85**	**284**	P	**Pn**	**18 00 17.6**	**-1.0**
SOH				S	**Sn**	**18 00 41.5**	**-1.0**
SOH				*e*Sn	**Sn**	**18 00 41.8**	**-0.7**
AOS	**Alonnisos**	**1.86**	**230**	P	**Pn**	**18 00 17.6**	**-1.1**
AOS	**Alonnisos**	**1.86**	**230**	*e*PB	**Pn**	**18 00 17.9**	**-0.8**
AOS				*e*SN	**Sn**	**18 00 43.2**	**+0.5**
AOS	**Alonnisos**	**1.86**	**230**	P	**Pn**	**18 00 17.6**	**-1.1**
AOS	**Alonnisos**	**1.86**	**230**	*e*Pb	**Pn**	**18 00 17.9**	**-0.8**
AOS				*e*Sn	**Sn**	**18 00 43.3**	**+0.5**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pn**	**18 00 18.2**	**-0.7**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pn**	**18 00 18.7**	**-0.2**
PLD				Pg	**Pg**	**18 00 21.7**	**-0.3**
PLD				S	**Sg**	**18 00 43.6**	**+1.2**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pn**	**18 00 18.2**	**-0.7**
MMB	**Musomiste**	**1.93**	**309**	*i* P	**Pn**	**18 00 18.6**	**-1.0**
MMB				S	**Sb**	**18 00 46.9**	**+0.8**
MMB	**Musomiste**	**1.93**	**309**	*i* P	**Pn**	**18 00 18.6**	**-1.0**
MMB				S	**Sb**	**18 00 46.9**	**+0.8**
HORT	**Hortiatis**	**2.00**	**277**	P	**Pn**	**18 00 19.5**	**-1.3**
HORT	**Hortiatis**	**2.00**	**277**	P	**Pn**	**18 00 19.5**	**-1.3**
CHOS	**Chios island**	**2.01**	**172**	P	**Pn**	**18 00 19.8**	**-1.1**
CHOS	**Chios island**	**2.01**	**172**	*e*PB	**Pn**	**18 00 19.8**	**-1.1**
CHOS	**Chios island**	**2.01**	**172**	*e*Pb	**Pn**	**18 00 19.8**	**-1.1**
SLVT	**Silivri**	**2.07**	**65**	*e*PN	**Pn**	**18 00 21.2**	**-0.4**
SLVT	**Silivri**	**2.07**	**65**	*e*Pn	**Pn**	**18 00 21.2**	**-0.4**
THE	**Thessaloniki**	**2.11**	**278**	P	**Pn**	**18 00 21.5**	**-0.6**
THE	**Thessaloniki**	**2.11**	**278**	P	**Pn**	**18 00 21.5**	**-0.6**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**18 00 21.2**	**-1.9**
JMB	**Yambol**	**2.18**	**17**	*e*P	**Pn**	**18 00 22.9**	**-0.2**
JMB				S	**Sg**	**18 00 55.7**	**-0.3**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**18 00 21.2**	**-1.9**
ELBA	**Catalca**	**2.20**	**69**	*i* P	**Pn**	**18 00 22.4**	**-0.9**
ELBA	**Catalca**	**2.20**	**69**	*i* P	**Pn**	**18 00 22.4**	**-0.9**
AKS	**Akhisar**	**2.21**	**132**	*e*PN	**Pn**	**18 00 23.1**	**-0.4**
AKS	**Akhisar**	**2.21**	**132**	*e*Pn	**Pn**	**18 00 23.1**	**-0.4**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**18 00 23.2**	**-0.4**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**18 00 23.2**	**-0.4**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*PN	**Pn**	**18 00 22.9**	**-0.9**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*Pn	**Pn**	**18 00 22.9**	**-0.9**
BLCB	**Balcova**	**2.25**	**152**	*e*PN	**Pn**	**18 00 23.4**	**-0.5**
BLCB	**Balcova**	**2.25**	**152**	*e*Pn	**Pn**	**18 00 23.5**	**-0.5**
DURS	**Dursunbey**	**2.26**	**109**	*i* P	**Pn**	**18 00 23.5**	**-0.8**
DURS	**Dursunbey**	**2.26**	**109**	*i* P	**Pn**	**18 00 23.5**	**-0.8**
KNT	**Kendrikon**	**2.27**	**291**	P	**Pn**	**18 00 23.9**	**-0.5**
KNT				S	**Sn**	**18 00 51.7**	**-1.2**
KNT	**Kendrikon**	**2.27**	**291**	P	**Pn**	**18 00 23.9**	**-0.5**
KNT				S	**Sn**	**18 00 51.7**	**-1.2**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*PN	**Pn**	**18 00 23.5**	**-1.0**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*Pn	**Pn**	**18 00 23.5**	**-1.0**
IZM	**Izmir**	**2.32**	**148**	*e*PN	**Pn**	**18 00 24.8**	**-0.2**
IZM	**Izmir**	**2.32**	**148**	*e*Pn	**Pn**	**18 00 24.8**	**-0.2**
DST	**Dursunbey**	**2.36**	**108**	*e*PN	**Pn**	**18 00 25.3**	**-0.3**
DST	**Dursunbey**	**2.36**	**108**	*e*Pn	**Pn**	**18 00 25.3**	**-0.3**
ARMT	**Armutlu**	**2.41**	**85**	*e*PN	**Pn**	**18 00 26.2**	**0.0**
ARMT	**Armutlu**	**2.41**	**85**	*e*Pn	**Pn**	**18 00 26.2**	**0.0**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*PN	**Pn**	**18 00 26.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*Pn	**Pn**	**18 00 26.2**	**-0.2**
BGKT	**Bogazkoy**	**2.45**	**70**	*e*PN	**Pn**	**18 00 26.1**	**-0.7**
BGKT	**Bogazkoy**	**2.45**	**70**	*e*Pn	**Pn**	**18 00 26.1**	**-0.7**
PGB	**Panagyurishte**	**2.46**	**332**	P	**Pn**	**18 00 26.2**	**-0.7**
PGB				Pg	**Pb**	**18 00 31.5**	**+0.7**
PGB				S	**Sb**	**18 01 02.3**	**+0.9**
PGB	**Panagyurishte**	**2.46**	**332**	P	**Pn**	**18 00 26.2**	**-0.7**
KKB	**Krupnik**	**2.48**	**308**	P	**Pn**	**18 00 26.5**	**-0.7**
KKB				Pg	**Pb**	**18 00 31.8**	**+0.7**
KKB				S	**Sg**	**18 01 04.8**	**-0.8**
KKB	**Krupnik**	**2.48**	**308**	P	**Pn**	**18 00 26.5**	**-0.7**
LIT	**Litokhoron**	**2.48**	**264**	P	**Pn**	**18 00 26.3**	**-1.0**
LIT	**Litokhoron**	**2.48**	**264**	*e*PN	**Pn**	**18 00 26.0**	**-1.3**
LIT	**Litokhoron**	**2.48**	**264**	*e*Pn	**Pn**	**18 00 26.0**	**-1.3**
LIT	**Litokhoron**	**2.48**	**264**	P	**Pn**	**18 00 26.3**	**-1.0**
VAY	**Valandovo**	**2.56**	**292**	P	**Pn**	**18 00 27.6**	**-0.7**
VAY	**Valandovo**	**2.56**	**292**	P	**Pn**	**18 00 27.5**	**-0.7**
VAY	**Valandovo**	**2.56**	**292**	⇑*i*Pn	**Pn**	**18 00 27.6**	**-0.7**
VAY	**Valandovo**	**2.56**	**292**	P	**Pn**	**18 00 27.6**	**-0.7**
VAY	**Valandovo**	**2.56**	**292**	⇑*i*Pn	**Pn**	**18 00 28.0**	**-0.3**
GRG	**Griva**	**2.58**	**284**	P	**Pn**	**18 00 28.0**	**-0.7**
GRG	**Griva**	**2.58**	**284**	P	**Pn**	**18 00 28.0**	**-0.7**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*PN	**Pn**	**18 00 29.7**	**+0.4**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*Pn	**Pn**	**18 00 29.7**	**+0.4**
GEMT	**Gemlik**	**2.65**	**88**	*e*PN	**Pn**	**18 00 30.0**	**+0.4**
GEMT	**Gemlik**	**2.65**	**88**	*e*Pn	**Pn**	**18 00 30.0**	**+0.4**
DEMI	**Demirci**	**2.68**	**119**	*i* P	**Pn**	**18 00 30.5**	**+0.5**
DEMI	**Demirci**	**2.68**	**119**	*i* P	**Pn**	**18 00 30.5**	**+0.5**
LKR	**Lokris**	**2.72**	**231**	*e*PN	**Pn**	**18 00 29.3**	**-1.2**
LKR	**Lokris**	**2.72**	**231**	*e*Pn	**Pn**	**18 00 29.3**	**-1.2**
YLV	**Yalova**	**2.80**	**85**	*e*PN	**Pn**	**18 00 32.3**	**+0.7**
YLV	**Yalova**	**2

0.3nm,0.7s,baz=48,slow=6.4,SNR=5.0

*NNC **20** 18:00:10.3±18.0, 37.°04N×70.°84E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=147.4km s-min=119.0km az=19.0*
ISC 20 18:00:10.7±5.1, 37.°0N±0.°3×70.°3E±0.°2, h10km, n8, σ0°61/7, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=65	**5.76**	**26**	P	**Pn**	**18 01 36.9**	**+0.3**
KK31	**Karatay Array** 0.9nm,0.3s,baz=173,slow=12,SNR=79	**6.09**	**2**	P	**Pn**	**18 01 41.1**	**+0.2**
KK31	1.5nm,0.5s,baz=170,slow=24,SNR=4.7			S	**Sn**	**18 02 50.0**	**-0.7**
EKS2	**Erkin-Say** SNR=16	**6.26**	**24**	P	**Pn**	**18 01 43.5**	**+0.3**
KZA	**Kyzart** SNR=7.0	**6.35**	**36**	P	**Pn**	**18 01 44.1**	**-0.7**
AAK	**Ala-Archa** SNR=8.4	**6.49**	**29**	P	**Pn**	**18 01 46.5**	**+0.1**
TKM2	**Tokmak 2** 3.5nm,0.7s	**7.18**	**33**	⇑P	Pn	18 01 54.4	-1.5
TKM2	1.5nm,0.6s			⇓S	**Sn**	**18 03 18.1**	**+0.5**
TKM2	**Tokmak 2** SNR=7.0	**7.18**	**33**	P	Pn	18 01 54.9	-1.0
MK31	**Makanchi Array** 0.8nm,1.0s,baz=224,slow=13,SNR=5.1	**13.24**	**39**	⇑P	Pn	18 03 10.5	-8.2

MAN 20 18:02:38, 11.°09N×125.°77E, h34km, mb4.1, ML3.0, MS2.7, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.60**	**327**	*e*P	Pb	18 02 51.5	+1.2
BESP				*e*S	Sb	18 03 00.8	+2.0
PLP	**Palo**	**0.78**	**276**	⇓*i*P	Pn	18 02 52.2	-0.4
PLP				*i* S	Sb	18 03 03.7	0.0
MSLP	**Maasin**	**1.31**	**223**	*e*P	Pn	18 03 00.5	+0.6
MSLP				*e*S	Sb	18 03 18.1	-0.5
CNP	**Catarman**	**1.78**	**323**	*e*P	Pn	18 03 06.1	-0.3
CNP				*e*S	Sn	18 03 29.3	+1.4

*ISCJB **20** 18:02:56.8±0.2, 43.°76N±0.°01×105.°29W±0.°02, h0km, mb3.9/2, MS2.9/1, Error ellipse: s-maj=2.2km s-min=1.7km az=166.4*
*IDC **20** 18:02:56.6±1.8, 43.°56N×105.°35W, h0km, mb3.9/2, mb1 3.9/7, mb1mx3.6/31, mbtmp3.7/7, ML3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/43, Error ellipse: s-maj=47.3km s-min=8.4km az=150.0*
*NEIC **20** 18:02:57.7±0.3, 43.°80N×105.°25W, h0km, ML3.4, Error ellipse: s-maj=3.7km s-min=3.3km az=135.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 20 18:02:57.3±0.6, 43.°74N±0.°02×105.°30W±0.°02, h0km, n160, σ0°89/176, 56C-51D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.2,SNR=274	**0.25**	**332**	⇓P	**Pg**	**18 03 03.3**	**+1.2**
I23A	baz=0.2			⇑S	**Sg**	**18 03 05.9**	**+0.5**
J23A	**Dills Ranch, B** baz=0.4,SNR=174	**0.38**	**209**	P	**Pg**	**18 03 05.6**	**+1.0**
J23A	baz=0.4			⇓S	**Sg**	**18 03 10.3**	**+0.8**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=286	**0.50**	**76**	P	**Pg**	**18 03 07.7**	**+0.8**
I24A	baz=0.5			⇑S	**Sg**	**18 03 14.2**	**+0.8**
J24A	**Dixon Ranch, L** baz=0.6,SNR=91	**0.62**	**131**	⇑P	**Pg**	**18 03 09.7**	**+0.6**
J24A	baz=0.6			⇓S	**Sg**	**18 03 16.9**	**-0.1**
H23A	**Clabaugh Cattl** baz=0.8,SNR=44	**0.83**	**355**	⇑P	**Pg**	**18 03 13.3**	**+0.1**
H23A	baz=0.8			⇑S	**Sg**	**18 03 24.0**	**+0.2**
I22A	**9 Mile Ranch,** baz=0.9,SNR=1000	**0.87**	**281**	P	**Pg**	**18 03 14.3**	**+0.3**
I22A	baz=0.9			⇑S	**Sg**	**18 03 25.4**	**+0.1**
J22A	**Midwest** baz=1.0,SNR=202	**0.92**	**250**	P	**Pg**	**18 03 14.7**	**-0.2**
RSSD	**Black Hills**	**0.99**	**67**	*e*Pg	**Pg**	**18 03 16.2**	**0.0**
K23A	**Bowen Ranch, D** baz=1.1,SNR=11	**1.01**	**194**	⇓P	**Pg**	**18 03 16.6**	**-0.1**
K23A	baz=1.1			⇑S	**Sg**	**18 03 30.5**	**+0.7**
K24A	**Anderson Ranch** baz=1.1,SNR=148	**1.07**	**161**	P	**Pg**	**18 03 17.8**	**-0.1**
H24A	**Dirks Ranch, A** baz=1.1	**1.14**	**28**	⇓P	**Pg**	**18 03 18.7**	**-0.5**
H22A	**Clearmont** baz=1.1,SNR=287	**1.14**	**319**	P	**Pg**	**18 03 19.3**	**+0.1**
K22A	**Casper** baz=1.5,SNR=509	**1.41**	**220**	P	**Pn**	**18 03 23.6**	**-0.8**
I21A	**Big Trails, Te** baz=1.5	**1.45**	**274**	⇑P	**Pn**	**18 03 23.5**	**-1.3**
I21A	baz=1.5			⇓S	**Sg**	**18 03 43.8**	**0.0**
G23A	**Biddle** baz=1.4	**1.46**	**357**	⇑P	**Pn**	**18 03 24.4**	**-0.6**
K25A	**Mack Ranch, Ha** baz=1.6,SNR=66	**1.54**	**137**	⇓Pb	**Pg**	**18 03 26.7**	**0.0**
H21A	**Big Horn, Sher** baz=1.5,SNR=192	**1.54**	**306**	Pb	**Pn**	**18 03 26.2**	**+0.1**
H21A	baz=1.5			⇓S	**Sb**	**18 03 47.4**	**+0.6**
J21A	**Lysite** baz=1.7,SNR=156	**1.61**	**257**	P	**Pn**	**18 03 26.4**	**-0.7**
G22A	**Birney** baz=1.6,SNR=193	**1.64**	**335**	⇑Pb	**Pn**	**18 03 28.1**	**+0.6**
L23A	**Garrett** baz=1.7,SNR=498	**1.65**	**190**	⇑P	**Pn**	**18 03 27.5**	**-0.2**
L23A	baz=1.7			⇑S	**Sg**	**18 03 50.1**	**-0.2**
G24A	**Alzada** baz=1.6,SNR=114	**1.71**	**21**	⇓P	**Pn**	**18 03 29.0**	**+0.6**
L24A	**Wheatland** baz=1.8,SNR=11	**1.72**	**171**	⇑P	**Pn**	**18 03 28.9**	**+0.4**
K21A	**Alcova** baz=1.9,SNR=107	**1.81**	**233**	⇓P	**Pn**	**18 03 30.4**	**+0.6**
L25A	**Engebretsen Ra** baz=1.9,SNR=63	**1.86**	**148**	⇓Pb	**Pb**	**18 03 32.1**	**-0.1**
L25A	baz=1.9			⇓S	**Sb**	**18 03 55.6**	**-0.5**
K26A	**Motz Farm, Whi** baz=1.9	**1.86**	**123**	⇑P	**Pn**	**18 03 30.6**	**+0.1**
L22A	**Ellis Ranch, M** baz=2.0,SNR=226	**1.90**	**206**	⇓P	**Pn**	**18 03 31.7**	**+0.5**
L22A	baz=2.0			⇑Sb	**Sg**	**18 03 58.4**	**+0.1**
F23A	**Volborg** baz=1.9,SNR=148	**1.98**	**358**	⇑P	**Pn**	**18 03 32.6**	**+0.4**
F23A	baz=1.9			⇑Sb	**Sb**	**18 04 00.6**	**+1.0**
G21A	**Lodge Grass** baz=2.0,SNR=210	**2.02**	**318**	P	**Pn**	**18 03 33.2**	**+0.6**
G21A	baz=2.0			⇓Sb	**Sg**	**18 04 02.2**	**+0.1**
I20A	**Worland** baz=2.1,SNR=450	**2.06**	**277**	⇓P	**Pn**	**18 03 33.8**	**+0.5**
J20A	**Shoshoni** baz=2.1	**2.06**	**260**	⇓Pb	**Pb**	**18 03 35.3**	**-0.3**
J20A	baz=2.1			⇑Sb	**Sg**	**18 04 03.2**	**-0.3**
H20A	**Greybull** baz=2.1	**2.08**	**292**	⇓P	**Pn**	**18 03 33.8**	**+0.2**
H20A	baz=2.1			⇑S	**Sn**	**18 04 01.2**	**+0.9**
F22A	**Rosebud** baz=2.1,SNR=96	**2.15**	**342**	⇑P	**Pn**	**18 03 34.3**	**-0.2**
F22A	baz=2.1			⇓Sb	**Sb**	**18 04 05.5**	**+1.1**
F24A	**Ekalaka** baz=2.1,SNR=30	**2.19**	**16**	⇓P	**Pn**	**18 03 35.4**	**+0.3**
F24A	baz=2.1			⇑Sb	**Sb**	**18 04 06.7**	**+1.0**
M23A	**Laramie** baz=2.4	**2.29**	**188**	⇑P	**Pn**	**18 03 36.3**	**-0.2**
M23A	baz=2.4			⇑Sb	**Sb**	**18 04 09.4**	**+0.8**
M24A	**Cheyenne** baz=2.3	**2.30**	**171**	⇓Pb	**Pb**	**18 03 39.8**	**+0.1**
M24A	baz=2.3			⇓Sb	**Sg**	**18 04 10.8**	**-0.2**
L21A	**Rawlins** baz=2.4	**2.34**	**221**	⇑P	**Pn**	**18 03 38.2**	**+1.0**
L26A	**Underwood Farm** baz=2.4	**2.36**	**135**	⇑Pb	**Pb**	**18 03 40.3**	**-0.4**
PHWY	**Pilot Hill**	**2.44**	**183**	*e*Pn	**Pn**	**18 03 39.2**	**+0.5**
F21A	**Absaloka Mine,** baz=2.4	**2.46**	**329**	⇑P	**Pn**	**18 03 38.3**	**-0.4**
K20A	**Yellowstone Ra** baz=2.5	**2.47**	**245**	⇑Pb	**Pb**	**18 03 41.8**	**-0.9**
M25A	**Palm-Egli Farm** baz=2.5	**2.48**	**158**	⇑P	**Pn**	**18 03 40.8**	**+1.7**
M22A	**Cedar Creek Ra** baz=2.6	**2.52**	**203**	⇓P	**Pn**	**18 03 41.5**	**+1.7**
G20A	**Bridger** baz=2.5	**2.56**	**306**	⇑P	**Pn**	**18 03 39.9**	**-0.2**
M21A	**Separation Pea** baz=2.7	**2.62**	**216**	⇓P	**Pn**	**18 03 43.0**	**+2.0**
I19A	**Meeteetse** baz=2.7,SNR=57	**2.69**	**278**	⇑P	**Pn**	**18 03 43.1**	**+1.2**
E22A	**Miles City** baz=2.7,SNR=26	**2.74**	**351**	P	**Pn**	**18 03 42.5**	**0.0**
K19A	**Absolon Red Bu** baz=2.8	**2.75**	**252**	⇑P	**Pn**	**18 03 43.9**	**+1.1**
K19A	baz=2.8			⇓Sb	**Sb**	**18 04 23.2**	**+1.5**
E23A	**Ismay** baz=2.7	**2.76**	**360**	⇓P	**Pn**	**18 03 43.1**	**+0.3**
J19A	**Crowheart** baz=2.8	**2.77**	**261**	⇓P	**Pn**	**18 03 45.1**	**+1.9**
H19A	**Powell** baz=2.8,SNR=24	**2.81**	**291**	⇓P	**Pn**	**18 03 44.5**	**+0.9**
N23A	**Red Feather La** baz=2.9	**2.88**	**190**	⇓P	**Pn**	**18 03 46.0**	**+1.3**
F20A	**Billings** baz=2.9,SNR=70	**2.89**	**316**	P	**Pn**	**18 03 44.7**	**0.0**
E24A	**Baker** baz=2.8	**2.91**	**14**	⇓P	**Pn**	**18 03 45.8**	**+0.9**
RLMT	**Red Lodge**	**3.16**	**297**	*e*Pn	**Pn**	**18 03 48.8**	**+0.3**
RLMT	**Red Lodge** baz=3.2,SNR=102	**3.16**	**297**	⇑P	**Pn**	**18 03 49.2**	**+0.7**
BW06	**Boulder Array**	**3.26**	**254**	*e*Pn	**Pn**	**18 03 50.5**	**+0.7**
BW06	**Boulder Array** baz=3.3,SNR=148	**3.26**	**254**	⇑P	**Pn**	**18 03 50.8**	**+1.0**
PDAR	**Pinedale Array** 21nm,0.3s,baz=77,slow=18,SNR=44	**3.26**	**254**	Pn	**Pn**	**18 03 50.8**	**+0.9**
PDAR	19nm,0.3s,baz=233,slow=12,SNR=8.4			Lg	Lg	18 04 36.3	
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 03 50.8**	**+0.9**
PDAR				Lg	Lg	18 04 36.3	
H18A	**Shoshone NF, C** baz=3.3,SNR=54	**3.28**	**288**	⇑P	**Pn**	**18 03 50.2**	**+0.1**
F19A	**Roth Farm, Mol** baz=3.3,SNR=154	**3.35**	**310**	⇑P	**Pn**	**18 03 51.3**	**+0.4**
F19A	baz=3.3			⇓S	**Sn**	**18 04 31.9**	**+0.4**
L19A	**Farson** baz=3.4	**3.40**	**243**	⇓P	**Pn**	**18 03 53.0**	**+1.3**
E20A	**Meyer Farm, Mu** baz=3.4	**3.42**	**325**	⇑P	**Pn**	**18 03 51.1**	**-0.7**
G18A	**Lazy EL Ranch,** baz=3.4,SNR=112	**3.43**	**299**	⇓P	**Pn**	**18 03 52.7**	**+0.5**
D24A	**Glendive** baz=3.4,SNR=25	**3.44**	**11**	⇓P	**Pn**	**18 03 53.4**	**+1.2**
D22A	**Cohagen** baz=3.4,SNR=36	**3.47**	**350**	⇑P	**Pn**	**18 03 52.6**	**0.0**
J18A	**Kendall Valley** baz=3.5	**3.48**	**263**	⇑P	**Pn**	**18 03 54.6**	**+1.7**
D21A	**La Casta Ranch** baz=3.5,SNR=5.1	**3.54**	**341**	⇓P	**Pn**	**18 03 53.5**	**0.0**
N27A	**Anderson Farm,** baz=3.6	**3.58**	**144**	⇓P	**Pn**	**18 03 54.2**	**+0.1**
E19A	**Rath Farm, Rou** baz=3.6,SNR=24	**3.67**	**319**	⇑P	**Pn**	**18 03 55.1**	**-0.3**
OGNE	**Ogallala**	**3.69**	**138**	*e*Pn	**Pn**	**18 03 57.1**	**+1.4**
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	**Pn**	**18 03 56.8**	**+0.6**
LKWY	**Lake**	**3.76**	**284**	*e*Pn	**Pn**	**18 03 57.7**	**+0.9**
F18A	**Big Timber** baz=3.8,SNR=80	**3.82**	**306**	⇓P	**Pn**	**18 03 58.2**	**+0.8**
C24A	**Savage** baz=3.8,SNR=11	**3.84**	**9**	⇓P	**Pn**	**18 03 58.6**	**+0.9**
LOHW	**Long Hollow**	**3.85**	**270**	*e*Pn	**Pn**	**18 03 59.3**	**+1.3**
D20A	**Manuel Ranch,** baz=3.9,SNR=17	**3.90**	**330**	⇓P	**Pn**	**18 03 58.2**	**-0.3**
FLWY	**Flagg Ranch**	**3.92**	**277**	*e*Pn	**Pn**	**18 03 59.6**	**+0.7**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**18 04 00.5**	**+1.2**
MOOW	**Moose Ponds**	**3.95**	**272**	*e*Pn	**Pn**	**18 04 00.8**	**+1.5**
YNR	**Norris Junctio**	**3.99**	**286**	Pn	**Pn**	**18 04 03.0**	**+3.1**
C22A	**Vida** baz=4.0,SNR=26	**4.03**	**354**	⇑P	**Pn**	**18 04 01.4**	**+1.2**
N19A	**John Jarvie Ra** baz=4.1,SNR=12	**4.04**	**227**	⇑P	**Pn**	**18 04 00.9**	**+0.3**
YFT	**Old Faithful**	**4.05**	**282**	*e*Pn	**Pn**	**18 04 02.5**	**+1.7**
REDW	**Red Top Meadow**	**4.05**	**267**	*e*Pn	**Pn**	**18 04 03.8**	**+3.0**
C23A	**Lambert** baz=4.0,SNR=48	**4.07**	**1**	⇑P	**Pn**	**18 04 01.8**	**+1.0**
IMW	**Indian Meadow**	**4.09**	**274**	*e*Pn	**Pn**	**18 04 01.8**	**+0.5**
TPAW	**Teton Pass**	**4.11**	**268**	*e*Pn	**Pn**	**18 04 03.1**	**+1.5**
N18A	**Larsen Ranch,** baz=4.3,SNR=14	**4.26**	**231**	⇓P	**Pn**	**18 04 04.2**	**+0.6**
DCID1	**Drake Creek**	**4.27**	**270**	*e*Pn	**Pn**	**18 04 05.6**	**+1.9**
RRI2	**Red Ridge**	**4.40**	**267**	*e*Pn	**Pn**	**18 04 06.5**	**+1.0**
P26A	**Davis Ranch, A** baz=4.5,SNR=12	**4.42**	**160**	⇓P	**Pn**	**18 04 06.6**	**+0.8**
QLMT	**Earthquake Lak**	**4.54**	**286**	*e*Pn	**Pn**	**18 04 07.7**	**+0.3**
SMCO	**Snowmass**	**4.73**	**196**	*e*Pn	Pb	18 04 16.2	-5.0
C19A	**Slack Wire Ran** baz=4.7,SNR=34	**4.78**	**328**	⇑P	**Pn**	**18 04 10.7**	**+0.1**
E17A	**Martinsdale** baz=4.8,SNR=28	**4.79**	**307**	⇑P	**Pn**	**18 04 11.1**	**+0.3**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pn	**Pn**	**18 04 12.0**	**+1.3**
DGMT	**Dagmar** baz=4.7,SNR=12	**4.79**	**9**	⇓P	**Pn**	**18 04 11.3**	**+0.5**
Q25A	**Bedland, Calha** baz=4.9,SNR=8.4	**4.88**	**170**	⇓P	**Pn**	**18 04 12.5**	**+0.3**
B20A	**Solberg Farm,** baz=5.0,SNR=7.5	**5.07**	**339**	⇑P	**Pn**	**18 04 14.8**	**+0.3**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*Pn	**Pn**	**18 04 15.6**	**+0.7**
D17A	**Six Diamond Ra** baz=5.1,SNR=56	**5.10**	**314**	⇓P	**Pn**	**18 04 15.1**	**0.0**
A24A	**Westby** baz=5.2,SNR=22	**5.26**	**9**	⇓P	**Pn**	**18 04 17.8**	**+0.6**
A22A	**Carney Farms,** baz=5.2,SNR=8.1	**5.27**	**356**	⇑P	**Pn**	**18 04 17.4**	**+0.1**
EGMT	**Eagleton** 38nm,0.6s	**5.29**	**326**	*e*Pn	**Pn**	**18 04 17.2**	**-0.5**
E16A	**East Helena** baz=5.3,SNR=13	**5.31**	**304**	⇓P	**Pn**	**18 04 18.0**	**+0.1**
C17A	**Wharram Farm,** baz=5.4,SNR=19	**5.46**	**317**	⇑P	**Pn**	**18 04 20.0**	**+0.1**
DLMT	**Dillon** 5.4nm,0.6s	**5.46**	**290**	*e*Pn	**Pn**	**18 04 21.1**	**+1.0**
HRY	**Holter Researc** 10nm,0.4s	**5.49**	**305**	*e*Pn	**Pn**	**18 04 20.7**	**+0.3**
D16A	**Dana Ranch, Ca** baz=5.5,SNR=6.5	**5.50**	**309**	⇓P	**Pn**	**18 04 20.8**	**+0.3**
LRM	**Limekiln Ridge** 49nm,0.5s	**5.50**	**295**	*e*Pn	**Pn**	**18 04 21.1**	**+0.4**
MCMT	**McKenzie Canyo** 2.9nm,0.4s	**5.53**	**284**	*e*Pn	Pn	18 04 25.3	+4.3
DAU	**Daniels Canyon** 8.9nm,0.4s	**5.54**	**235**	*e*Pn	**Pn**	**18 04 21.8**	**+0.5**
JLU	**Jordanelle**	**5.54**	**238**	*e*Pn	Pn	18 04 17.8	-3.4
R26A	**Arlington** baz=5.7,SNR=19	**5.61**	**165**	⇑P	**Pn**	**18 04 22.6**	**+0.6**
R25A	**Fountain Ranch** baz=5.7,SNR=11	**5.64**	**172**	⇑P	**Pn**	**18 04 22.9**	**+0.5**
R27A	**Eads** baz=5.8,SNR=7.0	**5.77**	**160**	⇓P	**Pn**	**18 04 24.5**	**+0.3**
B17A	**L&G Farms, Che** baz=5.9,SNR=8.4	**5.95**	**322**	⇓P	**Pn**	**18 04 26.9**	**+0.3**
PV04	**Paradox Valley**	**6.00**	**208**	*e*Pn	**Pn**	**18 04 28.3**	**+0.9**
D15A	**Lincoln** baz=6.0,SNR=7.3	**6.06**	**306**	⇓P	**Pn**	**18 04 28.6**	**+0.3**
SRU	**San Rafael** 153nm,0.5s	**6.07**	**222**	*e*Pn	**Pn**	**18 04 28.5**	**+0.1**
SRU	**San Rafael** baz=6.1,SNR=16	**6.07**	**222**	⇓P	**Pn**	**18 04 28.5**	**+0.1**
S25A	**Robets Cordova** baz=6.2,SNR=6.9	**6.11**	**174**	⇑P	**Pn**	**18 04 29.2**	**+0.2**
PV01	**Paradox Valley** 851nm,0.5s	**6.12**	**205**	*e*Pn	**Pn**	**18 04 30.8**	**+1.6**
TMUT	**Trail Mountain** 17nm,0.5s	**6.27**	**227**	*e*Pn	**Pn**	**18 04 31.7**	**+0.4**
ECSD	**EROS Data Cent** 10nm,0.5s	**6.29**	**87**	*e*Pn	**Pn**	**18 04 31.5**	**+0.2**
CHMT	**Chamberlain Mo** 4.4nm,0.6s	**6.44**	**302**	*e*Pn	**Pn**	**18 04 33.5**	**0.0**
B16A	**M & M Farms, S** baz=6.4,SNR=11	**6.46**	**319**	⇑P	**Pn**	**18 04 33.5**	**-0.1**
Q16A	**Castle Valley** baz=6.6,SNR=18	**6.54**	**225**	⇑P	**Pn**	**18 04 35.3**	**+0.5**
HLID	**Hailey** 2.6nm,0.4s	**6.62**	**272**	*e*Pn	**Pn**	**18 04 36.6**	**+0.6**
DUG	**Dugway** 5.1nm,0.5s	**6.62**	**240**	*e*Pn	**Pn**	**18 04 35.9**	**-0.2**
DUG	**Dugway** baz=6.7,SNR=14	**6.62**	**240**	⇓P	**Pn**	**18 04 36.3**	**+0.3**
D14A	**Greenough** baz=6.7,SNR=16	**6.67**	**303**	⇑P	**Pn**	**18 04 36.6**	**-0.1**
SLMT	**Seeley Lake** 4.8nm,0.5s	**6.74**	**304**	*e*Pn	**Pn**	**18 04 37.1**	**-0.5**
B15A	**Bradely Ranch,** baz=6.8,SNR=8.6	**6.82**	**315**	⇑P	**Pn**	**18 04 38.1**	**-0.5**
MVCO	**Mesa Verde** 3.6nm,0.5s	**6.96**	**202**	*e*Pn	**Pn**	**18 04 43.6**	**+2.8**
S18A	**Hurst Farm, Bl** baz=7.1,SNR=30	**7.01**	**212**	⇑P	**Pn**	**18 04 41.9**	**+0.5**
SWMT	**Swartz Lake** 6.3nm,0.6s	**7.17**	**305**	*e*Pn	**Pn**	**18 04 43.4**	**-0.1**
B14A	**Marquette Ranc** baz=7.2,SNR=17	**7.22**	**313**	⇑P	**Pn**	**18 04 43.7**	**-0.5**
YBMT	**Yellow Bay** 6.0nm,0.4s	**7.35**	**307**	*e*Pn	**Pn**	**18 04 47.1**	**+1.1**
MSU	**Marysvale** 1.7nm,0.6s	**7.36**	**227**	*e*Pn	**Pn**	**18 04 47.1**	**+0.9**
MVU	**Marysvale**	**7.39**	**227**	*e*Pn	**Pn**	**18 04 47.6**	**+1.1**
JTMT	**Jette** 4.6nm,0.5s	**7.45**	**306**	*e*Pn	**Pn**	**18 04 47.3**	**-0.1**
AGMN	**Agassiz Nation** 16nm,0.5s	**7.99**	**52**	*e*Pn	**Pn**	**18 04 52.5**	**-2.1**
CCUT	**Cedar City** 3.8nm,0.5s	**8.70**	**227**	*e*Pn	**Pn**	**18 05 06.1**	**+1.5**
ULM	**Lac du Bonnet** 0.9nm,0.3s,baz=232,slow=11,SNR=9.1	**9.15**	**41**	Pn	**Pn**	**18 05 10.2**	**-0.3**
ULM	0.3nm,0.3s,baz=138,slow=21,SNR=2.9			Lg	Lg	18 07 43.2	
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**18 05 10.2**	**-0.3**
ULM				Lg	Lg	18 07 43.2	
WUAZ	**Wupatki** 9.8nm,0.5s	**9.45**	**212**	*e*Pn	**Pn**	**18 05 16.1**	**+1.3**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=53,slow=12,SNR=7.0	**11.15**	**246**	Pn	**Pn**	**18 05 38.4**	**+0.2**
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**18 05 38.4**	**+0.2**
FFC	**Flin Flon** 5.3nm,0.6s	**11.21**	**10**	*e*Pn	**Pn**	**18 05 35.9**	**-2.7**
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=48,slow=9.7,SNR=5.2	**12.96**	**267**	Pn	Pn	18 06 06.7	+4.0
YBH	**Yreka Blue Hor**	**12.96**	**267**	Pn	Pn	18 06 06.7	+4.0
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=158,slow=13,SNR=11	**19.56**	**347**	P	**P**	**18 07 25.5**	**-0.8**
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**	**18 07 25.5**	**-0.8**
CMIG	**Matias Romero** comp=Z,34nm,19.9s,baz=102,slow=44	**27.99**	**158**	LR	LR	18 23 15.2	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=2.4,slow=5.7,SNR=4.9	**82.30**	**354**	P	**P**	**18 15 21.1**	**+0.7**
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**	**18 15 21.1**	**+0.7**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=14,slow=4.7,SNR=9.9	**89.60**	**355**	P	**P**	**18 15 56.3**	**-0.4**
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**18 15 56.3**	**-0.4**

IDC 20 18:32:22.0±2.2, 23.°33S×170.°16E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=73.7km s-min=40.1km az=0.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 2.4nm,0.3s,baz=112,slow=18,SNR=73	**3.65**	**289**	Pn	Pn	18 33 20.2	+0.3
DZM	1.1nm,0.3s,baz=84,slow=23,SNR=2.8			Sn	Sn	18 34 03.0	-0.8
DZM	**Mont Dzumac**	**3.65**	**289**	*e*P	Pn	18 33 19.5	-0.4
DZM				*e*S	Sn	18 34 02.6	-1.2
ASAR	**Alice Springs** 0.9nm,0.8s,baz=92,slow=9.7,SNR=24	**33.19**	**262**	P	P	18 39 01.0	+0.3
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=103,slow=8.2,SNR=5.3	**33.41**	**269**	P	P	18 39 01.9	-0.8
CMAR	**Chiang Mai Arr** 0.6nm,0.6s,baz=135,slow=3.2,SNR=6.9	**80.57**	**295**	P	P	18 44 39.6	+0.8
GERES	**GERESS Array B** 0.8nm,0.8s,baz=28,slow=2.3,SNR=6.0	**148.47**	**330**	PKPbc	PKPbc	18 52 09.3	-1.3

IDC 20 18:37:41.9±9.9, 3.°40N×126.°99E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, Error ellipse: s-maj=162.8km s-min=150.0km az=142.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.7nm,0.6s,baz=343,slow=10,SNR=25	**24.29**	**163**	P	P	18 43 00.4	-0.9
ASAR	**Alice Springs** 0.3nm,0.3s,baz=344,slow=11,SNR=14	**27.73**	**166**	P	P	18 43 32.5	+0.1
STKA	**Stephens Creek** 0.4nm,0.3s,baz=352,slow=7.1,SNR=3.7	**37.73**	**159**	P	P	18 45 00.1	+0.5

*IDC **20** 18:46:28.5±2.0, 22.°88S×174.°82W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.0/20, mbtmp4.1/7, Error ellipse: s-maj=116.0km s-min=21.5km az=154.0*
*ISCJB **20** 18:46:31.7±0.8, 23.°3S±0.°1×174.°8W±0.°1, h36km, mb4.0/8, Error ellipse: s-maj=18.2km s-min=14.9km az=38.3*
*NEIC **20** 18:46:33.1±0.7, 23.°25S×174.°67W, h35km, mb4.5/2, Error ellipse: s-maj=15.4km s-min=12.5km az=134.0*
ISC 20 18:46:33.3±0.9, 23.°2S±0.°1×174.°7W±0.°1, h36km, n20, σ0°80/20, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.67**	**205**	*e*Pn	**Pn**	**18 48 09.3**	**+0.6**
MSVF	**Nonsavu** 10nm,0.9s	**8.76**	**307**	*e*Pn	**Pn**	**18 48 38.9**	**+1.3**
HNR	**Honiara**	**27.91**	**295**	*e*P	**P**	**18 52 19.6**	**-0.6**
CTA	**Charters Tower** 2.2nm,0.4s,baz=84,slow=11,SNR=6.2	**36.40**	**267**	P	**P**	**18 53 34.2**	**-0.3**
CTA	**Charters Tower**	**36.40**	**267**	P	**P**	**18 53 34.2**	**-0.3**
CTAO	**Charters Tower** 6.1nm,0.7s	**36.40**	**267**	*e*P	**P**	**18 53 34.0**	**-0.6**
STKA	**Stephens Creek** 1.9nm,0.9s,baz=89,slow=12,SNR=6.8	**39.52**	**248**	P	**P**	**18 54 01.3**	**+0.6**
STKA	**Stephens Creek** 0.1nm,0.4s	**39.52**	**248**	*e*P	**P**	**18 54 00.6**	**-0.1**
AS31	**Alice Springs**	**46.98**	**259**	*e*P	**P**	**18 55 00.2**	**-0.9**
ASAR	**Alice Springs** 1.6nm,0.8s,baz=95,slow=7.3,SNR=26	**46.98**	**259**	P	**P**	**18 55 00.9**	**-0.3**
ASAR	**Alice Springs**	**46.98**	**259**	P	**P**	**18 55 00.9**	**-0.3**

n104,σ0⅛61/148, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.48**	**43**	*e*PG	**Pg**	**19 08 43.0**	**-0.4**
ENEZ				*e*SG	**Sg**	**19 08 50.4**	**+0.6**
ENEZ	**Enez**	**0.48**	**43**	*e*Pg	**Pg**	**19 08 43.0**	**-0.4**
ENEZ				*e*Sg	**Sg**	**19 08 50.4**	**+0.6**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**19 08 44.7**	**-0.4**
ALN				S	**Sb**	**19 08 53.5**	**-0.9**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*PN	**Pg**	**19 08 44.8**	**-0.4**
ALN				*e*SN	**Sg**	**19 08 53.1**	**+0.5**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**19 08 44.7**	**-0.4**
ALN				*e*Sn	**Sg**	**19 08 53.1**	**+0.5**
ALN				S	**Sb**	**19 08 53.5**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.58**	**88**	*e*PG	**Pg**	**19 08 45.1**	**-0.1**
GELI				*e*SG	**Sg**	**19 08 52.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.58**	**88**	*e*Pg	**Pg**	**19 08 45.1**	**-0.1**
GELI				*e*Sg	**Sg**	**19 08 52.7**	**-0.1**
BOZC	**Bozcaada**	**0.60**	**154**	*i* P	**Pg**	**19 08 45.6**	**+0.1**
BOZC				*i* S	**Sg**	**19 08 53.5**	**+0.1**
LIA	**Limnos Island**	**0.63**	**220**	P	**Pg**	**19 08 46.6**	**+0.3**
LIA				S	**Sb**	**19 08 56.2**	**+0.1**
LIA	**Limnos Island**	**0.63**	**220**	*e*PN	**Pg**	**19 08 46.7**	**+0.4**
LIA				*e*SN	**Sb**	**19 08 56.2**	**+0.1**
LIA	**Limnos Island**	**0.63**	**220**	P	**Pg**	**19 08 46.6**	**+0.3**
LIA				S	**Sb**	**19 08 56.2**	**+0.1**
EZN	**Ezine**	**0.73**	**140**	*e*PG	**Pg**	**19 08 47.7**	**-0.3**
EZN	**Ezine**	**0.73**	**140**	*e*Pg	**Pg**	**19 08 47.7**	**-0.3**
LPK	**Lapseki**	**0.80**	**90**	*e*PG	**Pg**	**19 08 48.9**	**-0.5**
LPK	**Lapseki**	**0.80**	**90**	*e*Pg	**Pg**	**19 08 48.9**	**-0.5**
KAVA	**Kavala**	**1.10**	**304**	P	**Pg**	**19 08 54.7**	**-0.5**
KAVA				S	**Sn**	**19 09 11.2**	**+0.4**
KAVA	**Kavala**	**1.10**	**304**	P	**Pg**	**19 08 54.7**	**-0.5**
KAVA				S	**Sn**	**19 09 11.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.15**	**74**	*e*PN	**Pb**	**19 08 55.0**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.15**	**74**	*e*Pn	**Pb**	**19 08 55.0**	**-1.1**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pb**	**19 08 55.1**	**-1.0**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pb**	**19 08 55.1**	**-1.0**
SIGR	**SIGRI**	**1.17**	**175**	P	**Pb**	**19 08 55.8**	**-0.6**
SIGR				S	**Sn**	**19 09 13.4**	**+0.8**
SIGR	**SIGRI**	**1.17**	**175**	P	**Pb**	**19 08 55.8**	**-0.6**
SIGR				S	**Sn**	**19 09 13.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*PN	**Pb**	**19 08 55.8**	**-1.1**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*Pn	**Pb**	**19 08 55.8**	**-1.1**
PRK	**Paraskevi**	**1.21**	**159**	P	**Pb**	**19 08 56.7**	**-0.3**
PRK				S	**Sn**	**19 09 13.7**	**+0.2**
PRK	**Paraskevi**	**1.21**	**159**	*e*PN	**Pb**	**19 08 56.7**	**-0.3**
PRK				*e*SN	**Sg**	**19 09 13.3**	**+0.3**
PRK	**Paraskevi**	**1.21**	**159**	P	**Pb**	**19 08 56.7**	**-0.3**
PRK				*e*Sn	**Sg**	**19 09 13.3**	**+0.3**
PRK				S	**Sn**	**19 09 13.7**	**+0.2**
MFT	**Murefte**	**1.26**	**71**	*e*PN	**Pb**	**19 08 58.0**	**+0.1**
MFT	**Murefte**	**1.26**	**71**	*e*Pn	**Pb**	**19 08 58.0**	**+0.1**
KDZ	**Kurdzhali**	**1.29**	**350**	P	**Pn**	**19 08 57.8**	**-0.3**
KDZ				S	**Sb**	**19 09 14.2**	**-0.8**
KDZ	**Kurdzhali**	**1.29**	**350**	P	**Pn**	**19 08 57.8**	**-0.3**
KDZ				S	**Sb**	**19 09 14.2**	**-0.8**
AYVA	**Ayvalik**	**1.31**	**145**	*e*P	**Pn**	**19 08 57.9**	**-0.5**
AYVA				*i* S	**Sn**	**19 09 16.1**	**+0.2**
AYVA	**Ayvalik**	**1.31**	**145**	*e*P	**Pn**	**19 08 57.9**	**-0.5**
AYVA				*i* S	**Sn**	**19 09 16.1**	**+0.2**
OUR	**Ouranopolis**	**1.33**	**268**	P	**Pn**	**19 08 57.6**	**-1.0**
OUR				S	**Sg**	**19 09 17.4**	**+0.7**
OUR	**Ouranopolis**	**1.33**	**268**	P	**Pn**	**19 08 57.6**	**-1.0**
OUR				S	**Sg**	**19 09 17.4**	**+0.7**
RZN	**Rozhen**	**1.51**	**330**	P	**Pn**	**19 09 01.1**	**-0.2**
RZN				S	**Sn**	**19 09 20.9**	**-0.2**
RZN	**Rozhen**	**1.51**	**330**	P	**Pn**	**19 09 01.1**	**-0.2**
RZN				S	**Sn**	**19 09 20.9**	**-0.2**
TKR	**Tekirdag**	**1.51**	**66**	*e*PN	**Pn**	**19 09 01.5**	**+0.3**
TKR	**Tekirdag**	**1.51**	**66**	*e*Pn	**Pn**	**19 09 01.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.54**	**102**	*e*PN	**Pn**	**19 09 02.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.54**	**102**	*e*Pn	**Pn**	**19 09 02.0**	**+0.4**
BALY	**Balya**	**1.59**	**113**	*i* P	**Pn**	**19 09 02.6**	**+0.2**
BALY				*i* S	**Sb**	**19 09 23.9**	**+0.1**
BALY	**Balya**	**1.59**	**113**	*i* P	**Pn**	**19 09 02.6**	**+0.2**
BALY				*i* S	**Sb**	**19 09 23.9**	**+0.1**
PAIG	**Paliouri**	**1.63**	**254**	P	**Pn**	**19 09 01.8**	**-0.9**
PAIG				S	**Sb**	**19 09 25.2**	**+0.5**
PAIG	**Paliouri**	**1.63**	**254**	P	**Pn**	**19 09 01.8**	**-0.9**
PAIG				S	**Sb**	**19 09 25.2**	**+0.5**
EDRB	**Edirne**	**1.66**	**28**	*e*PN	**Pn**	**19 09 03.6**	**+0.5**
EDRB	**Edirne**	**1.66**	**28**	*e*Pn	**Pn**	**19 09 03.6**	**+0.5**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pb**	**19 09 05.1**	**+0.2**
DIM				S	**Sb**	**19 09 26.9**	**+0.9**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pb**	**19 09 05.1**	**+0.2**
DIM				S	**Sb**	**19 09 26.9**	**+0.9**
BNT	**Bandirma**	**1.68**	**90**	*e*PN	**Pn**	**19 09 04.0**	**+0.4**
BNT	**Bandirma**	**1.68**	**90**	*e*Pn	**Pn**	**19 09 04.0**	**+0.4**
CRLT	**Corlu**	**1.71**	**63**	*e*PN	**Pn**	**19 09 04.0**	**+0.2**
CRLT	**Corlu**	**1.71**	**63**	*e*Pn	**Pn**	**19 09 04.0**	**+0.2**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**19 09 03.5**	**-0.4**
NVR	**Nevrokopi**	**1.71**	**305**	*e*PN	**Pn**	**19 09 03.5**	**-0.4**
NVR	**Nevrokopi**	**1.71**	**305**	P	**Pn**	**19 09 03.5**	**-0.4**
PLG	**Polygyros**	**1.74**	**270**	P	**Pn**	**19 09 03.1**	**-1.2**
PLG				S	**Sb**	**19 09 28.3**	**+0.4**
PLG	**Polygyros**	**1.74**	**270**	*e*PN	**Pn**	**19 09 03.1**	**-1.2**
PLG	**Polygyros**	**1.74**	**270**	P	**Pn**	**19 09 03.1**	**-1.2**
PLG				S	**Sb**	**19 09 28.3**	**+0.4**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**19 09 04.2**	**-0.6**
SRS				S	**Sn**	**19 09 27.2**	**-0.2**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**19 09 04.2**	**-0.6**
SRS				S	**Sn**	**19 09 27.2**	**-0.2**
BALB	**Balikesir**	**1.82**	**113**	*e*PN	**Pn**	**19 09 05.6**	**+0.2**
BALB	**Balikesir**	**1.82**	**113**	*e*Pn	**Pn**	**19 09 05.6**	**+0.2**
SOH	**Sokhos**	**1.85**	**284**	P	**Pn**	**19 09 05.3**	**-0.6**
SOH				S	**Sb**	**19 09 30.7**	**-0.6**
SOH	**Sokhos**	**1.85**	**284**	*e*PB	**Pn**	**19 09 05.4**	**-0.5**
SOH	**Sokhos**	**1.85**	**284**	P	**Pn**	**19 09 05.3**	**-0.6**
SOH				S	**Sb**	**19 09 30.7**	**-0.6**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pn**	**19 09 04.8**	**-1.5**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pg**	**19 09 09.8**	**-0.3**
PLD				S	**Sg**	**19 09 35.7**	**+1.2**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pn**	**19 09 04.8**	**-1.5**
PLD	**Plovdiv**	**1.88**	**336**	*e*Pn	**Pb**	**19 09 09.3**	**+0.8**
MMB	**Musomiste**	**1.93**	**309**	P	**Pn**	**19 09 06.4**	**-0.6**
MMB				*e*Sg	**Sg**	**19 09 36.7**	**+0.7**
MMB	**Musomiste**	**1.93**	**309**	P	**Pn**	**19 09 06.4**	**-0.6**
MMB				*e*Sg	**Sg**	**19 09 36.7**	**+0.7**
CHOS	**Chios island**	**2.01**	**172**	P	**Pn**	**19 09 07.8**	**-0.3**
CHOS	**Chios island**	**2.01**	**172**	*e*PN	**Pn**	**19 09 07.9**	**-0.2**
CHOS	**Chios island**	**2.01**	**172**	P	**Pn**	**19 09 07.8**	**-0.3**
SLVT	**Silivri**	**2.07**	**65**	*e*PN	**Pn**	**19 09 09.4**	**+0.5**
SLVT	**Silivri**	**2.07**	**65**	*e*Pn	**Pn**	**19 09 09.4**	**+0.5**
URLA	**Izmir**	**2.13**	**161**	*i* P	**Pn**	**19 09 09.2**	**-0.5**
URLA	**Izmir**	**2.13**	**161**	*i* P	**Pn**	**19 09 09.2**	**-0.5**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**19 09 09.6**	**-0.8**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**19 09 09.6**	**-0.8**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*PN	**Pn**	**19 09 11.6**	**+0.5**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*Pn	**Pn**	**19 09 11.6**	**+0.5**
KNT	**Kendrikon**	**2.28**	**291**	P	**Pn**	**19 09 11.6**	**-0.1**
KNT	**Kendrikon**	**2.28**	**291**	P	**Pn**	**19 09 11.6**	**-0.1**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*PN	**Pn**	**19 09 12.8**	**+1.0**
CTKS	**Kestanelik-??a**	**2.28**	**67**	*e*Pn	**Pn**	**19 09 12.8**	**+1.0**
ARMT	**Armutlu**	**2.41**	**85**	*e*PN	**Pn**	**19 09 14.0**	**+0.5**
ARMT	**Armutlu**	**2.41**	**85**	*e*Pn	**Pn**	**19 09 14.0**	**+0.5**
BGKT	**Bogazkoy**	**2.45**	**70**	*e*PN	**Pn**	**19 09 14.7**	**+0.6**
BGKT	**Bogazkoy**	**2.45**	**70**	*e*Pn	**Pn**	**19 09 14.7**	**+0.6**
KKB	**Krupnik**	**2.48**	**308**	*e*Sg	**Sg**	**19 09 53.3**	**-0.4**
KKB	**Krupnik**	**2.48**	**308**	*e*Sg	**Sg**	**19 09 53.3**	**-0.4**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*PN	**Pn**	**19 09 17.1**	**+0.6**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*Pn	**Pn**	**19 09 17.1**	**+0.6**
SZH	**Strazhica**	**2.89**	**3**	S	**Sg**	**19 10 07.0**	**+0.3**
VTS	**Vitosha**	**2.90**	**320**	P	**Pn**	**19 09 20.6**	**+0.2**
VTS	**Vitosha**	**2.90**	**320**	P	**Pn**	**19 09 20.6**	**+0.2**
VTS	**Vitosha**	**2.90**	**320**	*e*Pn	**Pn**	**19 09 21.0**	**+0.6**
TVSB	**Tavsanli**	**3.03**	**107**	*e*PN	**Pn**	**19 09 22.7**	**+0.6**
TVSB	**Tavsanli**	**3.03**	**107**	*e*Pn	**Pn**	**19 09 22.7**	**+0.6**
MPEP	**Malo Peshtene**	**3.32**	**334**	P	**Pn**	**19 09 26.9**	**+0.9**
MPEP				*e*S	**Sg**	**19 10 21.9**	**+1.4**
BARS	**Barje**	**3.80**	**311**	*e*Pn	**Pn**	**19 09 33.3**	**+0.6**

*IDC **20** 19:14:29.3±5.4, 10°.59N×93°.74E, h119km±50km, mb3.7/11, mb1 3.8/12, mb1mx3.6/29, mbtmp3.7/12, MS3.3/1, Ms1 3.3/1, ms1mx2.6/54, Error ellipse: s-maj=56.2km s-min=31.3km az=110.0*

ISC 20 19:14:26.8±1.7, 10°.4N±0°.2×93°.7E±0°.2, h100km, n29,

σ1⅛13/25, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.20**	**145**	LR	LR	19 20 13.2	
	comp=Z,156nm,18.2s,baz=359,slow=37						
CMAR	**Chiang Mai Arr**	**9.47**	**32**	P	**Pn**	**19 16 40.3**	**-0.1**
	0.1nm,0.3s,baz=216,slow=14,SNR=32						
ODAN	**Odare**	**17.39**	**341**	*e*P	**Pn**	**19 18 24.6**	**+1.2**
RAMN	**Ramite**	**17.74**	**339**	*e*P	**Pn**	**19 18 28.5**	**+0.8**
	9.0nm,0.4s						
TAPN	**Taplejung**	**17.75**	**342**	*e*P	**Pn**	**19 18 28.8**	**+1.0**
JIRN	**Jiri**	**18.53**	**339**	*e*P	**Pn**	**19 18 37.5**	**+0.2**
PKI	**Pulchoki**	**18.74**	**337**	*e*P	**P**	**19 18 39.3**	**+1.0**
PKIN	**Phulchoki**	**18.75**	**337**	*e*P	**P**	**19 18 39.4**	**+1.1**
	8.5nm,0.6s						
GUN	**Gumba**	**18.87**	**338**	*e*P	**P**	**19 18 40.9**	**+1.2**
	22nm,0.7s						
DMN	**Daman**	**18.90**	**336**	*e*P	**P**	**19 18 41.5**	**+1.6**
	15nm,0.8s						
KKN	**Kakani**	**18.99**	**337**	*e*P	**P**	**19 18 42.0**	**+1.2**
GKN	**Gorkha**	**19.44**	**335**	*e*P	**P**	**19 18 46.8**	**+1.2**
KOLN	**Koldanda**	**19.68**	**333**	*e*P	**P**	**19 18 49.7**	**+1.4**
	11nm,0.6s						
DANN	**Dangsing**	**20.11**	**334**	*e*P	**P**	**19 18 54.2**	**+1.1**
	17nm,0.4s						
PYUN	**Piuthan**	**20.24**	**332**	*e*P	**P**	**19 18 55.4**	**+1.0**
	24nm,0.7s						
AAK	**Ala-Archa**	**36.20**	**336**	P	**P**	**19 21 20.6**	**+0.5**
	2.1nm,0.8s,baz=139,slow=5.5,SNR=13						
MKAR	**Makanchi Array**	**37.51**	**347**	P	**P**	**19 21 31.2**	**+0.2**
	1.3nm,0.8s,baz=165,slow=8.6,SNR=15						
SONM	**Songino Array**	**38.80**	**14**	P	P	19 21 39.3	-2.6
	0.6nm,0.6s,baz=210,slow=8.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**43.98**	**352**	P	**P**	**19 22 24.1**	**+0.1**
	0.8nm,0.4s,baz=168,slow=7.4,SNR=7.1						
RDF	**Al-Radifah**	**46.83**	**300**	*e*P	**P**	**19 22 45.7**	**-1.2**
RDF				AMb	AMB	19 22 53.9	
	comp=Z,16nm,1.2s						
NAY	**Al-Naaiem**	**47.16**	**300**	*e*P	P	19 22 47.7	-1.8
NAY				AMb	AMB	19 22 56.2	
	comp=Z,12nm,1.1s						
MIB	**Mutribah**	**47.21**	**301**	*e*P	P	19 22 47.3	-2.5
MIB				AMb	AMB	19 22 56.9	
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**49.50**	**331**	P	**P**	**19 23 06.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=117,slow=9.0,SNR=3.5						
BRTR	**Keskin Array B**	**60.44**	**310**	P	**P**	**19 24 24.9**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=107,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**70.25**	**332**	P	**P**	**19 25 28.0**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=113,slow=3.6,SNR=4.2						
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**	**19 25 43.5**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=94,slow=6.4,SNR=7.1						
GERES	**GERESS Array B**	**75.63**	**318**	P	**P**	**19 25 59.8**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=93,slow=5.9,SNR=6.5						
BOSA	**Boshof**	**76.56**	**237**	P	**P**	**19 26 09.0**	**+2.2**
	comp=Z,2.3nm,0.8s,baz=81,slow=5.2,SNR=4.4						
SPITS	**Spitsbergen Ar**	**77.26**	**348**	P	**P**	**19 26 09.7**	**0.0**
	comp=Z,3.7nm,0.9s,baz=144,slow=7.0,SNR=3.5						

*MOS **20** 19:16:54.1±0.9, 5°.74N×127°.34E, h33km, mb5.4/44, MS4.6/9, Error ellipse: s-maj=11.4km s-min=5.3km az=111.7*

*DJA **20** 19:16:56.4±0.3, 6°.N±3°×12°.7E±°, h10km, M5.0/63, mb5.0/63, mB5.5/36, MLv5.5/9, Mw(mB)5.0/36, Mwp5.5/1*

*IDC **20** 19:16:57.8±1.3, 5°.68N×127°.27E, h48km±11km, mb4.5/39, mb1 4.6/41, mb1mx4.6/43, mbtmp4.5/41, ML4.6/2, MS4.6/23, Ms1 4.6/23, ms1mx4.4/40, Error ellipse: s-maj=14.6km s-min=8.2km az=87.0*

*ISCJB **20** 19:16:57.0±0.5, 5°.77N±0°.02×127°.44E±0°.03, h59km±3km, mb5.0/131, MS4.6/47, Error ellipse: s-maj=5.3km s-min=3.2km az=174.0*

*BJI **20** 19:16:57.4, 5°.76N×127°.38E, h65km, mB5.2/37, mb5.0/55, Ms4.8/55, Ms7 4.7/53*

*NEIC **20** 19:16:58.2±1.1, 5°.73N×127°.33E, h57km±9km, mb5.0/48, Error ellipse: s-maj=7.8km s-min=4.8km az=77.0*

*GCMT **20** 19:16:58.9±0.2, 5°.66N×127°.59E, h27km, MW5.3, Moment Tensor Solution. s73,c110; s76,c119; Moment tensor: Scale 10^16^Nm; Mrr6.24±.23; Mθθ1.91±.16; Mϕϕ-8.15±.19; Mrθ1.04±.34; Mθϕ0.42±.13; Mϕr6.07±.40; Best double couple: Mo9.50000×10^16^ NP1:ϕ≈164.00000°, δ26.00000°, λ69.00000°. NP2:ϕ≈7.00000°, δ66.00000°, λ100.00000°. Principal axes: T 8.7000, Plg68.0000°, Azm296.0000°; N 1.7000, Plg9.0000°, Azm183.0000°; P -10.4000, Plg20.0000°, Azm90.0000°; Data Used: II IU IC G CN.*

*TEH **20** 19:17:51.0, 5°.72N×127°.25E, h72km, ML5.0*

ISC 20 19:16:60.0±0.3, 5°.74N±0°.03×127°.33E±0°.04, h65km±2km, h65km:pP-P, n428, σ1⅛66/508, mb5.0/131, 28C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.60**	**319**	*e*P	**Pn**	**19 17 23.5**	**-2.7**
MATI				*e*S	**Sn**	**19 17 44.6**	**-1.4**
DAV	**Davao City (W)**	**2.18**	**307**	P	**Pn**	**19 17 33.4**	**-0.6**
	420nm,0.3s,baz=166,slow=4.2,SNR=66						
DAV				S	**Sn**	**19 18 01.5**	**+1.5**
	402nm,0.3s,baz=268,slow=21,SNR=7.4						
DAV				LR	LR	19 18 18.3	
	comp=Z,17μm,18.9s,baz=268,slow=37						
DAV	**Davao City (W)**	**2.18**	**307**	P	**Pn**	**19 17 33.4**	**-0.6**
DAV				S	**Sn**	**19 18 01.6**	**+1.5**
DAV	**Davao City (W)**	**2.18**	**307**	P	**Pn**	**19 17 34.0**	**0.0**
	SNR=88						
DAV	**Davao City (W)**	**2.18**	**307**	P	**Pn**	**19 17 33.8**	**-0.2**
DMPH	**Davao City--Mi**	**2.25**	**307**	*e*P	**Pn**	**19 17 34.4**	**-0.5**
DMPH				*e*S	Sn	19 18 09.5	+8.0
GSPH	**General Santos**	**2.39**	**278**	*i* P	Pn	19 17 33.2	-3.7
KCP	**Kidapawan**	**2.56**	**300**	*e*P	**Pn**	**19 17 38.0**	**-1.1**
KCP				*i* S	**Sn**	**19 18 10.9**	**+1.7**
BUKP	**Musuan**	**3.10**	**314**	*e*P	**Pn**	**19 17 45.4**	**-1.0**
CTBH	**Cotabato--PC H**	**3.40**	**296**	*e*P	**Pn**	**19 17 50.2**	**-0.3**
BUTP	**Butuan**	**3.63**	**332**	*e*P	**Pn**	**19 17 53.8**	**+0.1**
BUTP				*e*S	Sn	19 18 50.5	+15
CGP	**Cagayan de Oro**	**3.76**	**316**	*e*P	**Pn**	**19 17 55.9**	**+0.5**
CGP				*e*S	Sn	19 18 44.7	+6.2
PAGZ	**Pagadian**	**4.44**	**298**	*e*P	**Pn**	**19 18 04.6**	**-0.3**
TNTI	**Ternate**	**4.93**	**180**	P	**Pn**	**19 18 11.7**	**+0.1**
	361nm,0.8s,10μm3.0nm						
MNI	**Manado**	**4.93**	**210**	P	**Pn**	**19 18 10.8**	**-0.8**
	672nm,0.6s,8μm3.0nm						
MSLP	**Maasin**	**5.00**	**331**	*e*P	**Pn**	**19 18 10.7**	**-1.9**
MSLP				*e*S	Sn	19 19 24.3	+15
IPIL	**Ipil**	**5.14**	**294**	*e*P	**Pn**	**19 18 16.0**	**+1.6**
ZMPH	**Zamboanga City**	**5.37**	**283**	*i* P	**Pn**	**19 18 16.4**	**-1.1**
LLP	**Lapu-Lapu**	**5.64**	**324**	*i* P	**Pn**	**19 18 20.5**	**-0.7**
LLP				*e*S	**Sn**	**19 19 21.9**	**-2.8**
PLP	**Palo**	**5.87**	**337**	*i* P	**Pn**	**19 18 21.7**	**-2.7**
OCLP	**Ormoc**	**5.92**	**333**	*e*P	**Pn**	**19 18 24.0**	**-1.2**
BESP	**Borongan**	**6.12**	**342**	*e*P	**Pn**	**19 18 29.3**	**+1.5**
BESP				*e*S	Sn	19 19 58.0	+22
KMSI	**Cibinong**	**6.12**	**213**	P	**Pn**	**19 18 27.4**	**-0.4**
	753nm,0.9s,9μm3.3nm						
LBMI	**Labuha**	**6.33**	**178**	P	**Pn**	**19 18 30.8**	**0.0**
	319nm,0.6s,6μm2.3nm						
GUIM	**Jordan**	**6.75**	**316**	*e*P	**Pn**	**19 18 36.7**	**+0.2**
MRSI	**Marisa**	**7.50**	**226**	P	**Pn**	**19 18 46.0**	**-0.7**
	371nm,0.5s,4μm1.4nm						
SWI	**Sorong**	**7.64**	**149**	P	**Pn**	**19 18 50.2**	**+1.5**
	62nm,0.5s,1μm0.3nm						
CUYO	**Cuyo Island**	**8.05**	**310**	*e*P	**Pn**	**19 18 54.0**	**-0.2**
LUWI	**Luwuk**	**8.13**	**214**	P	**Pn**	**19 18 58.1**	**+2.8**
	407nm,0.7s,6μm1.7nm						
OTRP	**Odiongan**	**8.41**	**322**	*e*P	**Pn**	**19 18 58.9**	**-0.3**
MYLDM	**Lahad Datu**	**8.80**	**267**	P	**Pn**	**19 19 06.8**	**+2.2**
MYLDM	**Lahad Datu**	**8.80**	**267**	P	**Pn**	**19 19 06.2**	**+1.6**
	92nm,2.1s,4μm0.9nm						
SJMP	**San Jose**	**9.06**	**318**	*e*P	**Pn**	**19 19 09.0**	**+0.9**
MSAI	**Masohi**	**9.16**	**170**	P	Pn	19 19 15.2	+5.7
	28nm,1.5s						
AAI	**Ambon**	**9.40**	**175**	P	Pn	19 19 19.3	+6.5
ENPP	**El Nido**	**9.52**	**305**	*e*P	**Pn**	**19 19 14.8**	**+0.5**
TSM	**Tawau**	**9.53**	**262**	P	**Pn**	**19 19 16.5**	**+2.0**
SDKM	**Sandakan**	**10.08**	**270**	P	**Pn**	**19 19 23.9**	**+1.8**
TGY	**Tagaytay City**	**10.42**	**323**	LR	LR	19 24 53.5	
	comp=Z,22nm,19.7s,baz=135,slow=46						
KDM	**Kudat**	**10.49**	**277**	P	**Pn**	**19 19 29.2**	**+1.6**
LUBP	**Lubang**	**10.57**	**319**	*e*P	**Pn**	**19 19 30.4**	**+1.7**
KDI	**Kendari**	**10.72**	**206**	P	**Pn**	**19 19 28.6**	**-2.1**
	34nm,1.0s,960nm						
KKM	**Kota Kinabalu**	**11.06**	**272**	*e*Pn	**Pn**	**19 19 36.6**	**+1.2**
KKM	**Kota Kinabalu**	**11.06**	**272**	P	**Pn**	**19 19 37.5**	**+2.0**
KKM	**Kota Kinabalu**	**11.06**	**272**	P	Pn	19 19 38.8	+3.3
	55nm,1.4s,2μm						
TTSI	**Tana Toraja**	**11.50**	**221**	P	**Pn**	**19 19 41.9**	**+0.4**
	86nm,1.3s,2μm						
SPSI	**Sidrap Palu**	**12.24**	**218**	P	**Pn**	**19 19 50.3**	**-1.2**
	42nm,0.8s,860nm						
SCZP	**Santa Cruz**	**12.35**	**324**	*e*P	Pn	19 19 56.5	+3.5
CAUP	**Cauayan**	**12.37**	**335**	*e*P	**Pn**	**19 19 51.0**	**-2.3**
KAPI	**Kappang**	**13.09**	**215**	P	**Pn**	**19 20 00.3**	**-2.7**
	1.7nm,0.3s,baz=39,slow=11,SNR=26						
KAPI				LR	LR	19 26 08.9	
	comp=Z,4μm,18.1s,baz=210,slow=42						
KAPI	**Kappang**	**13.09**	**215**	P	**Pn**	**19 20 00.3**	**-2.7**
KAPI	**Kappang**	**13.09**	**215**	Pn	**Pn**	**19 20 00.4**	**-2.7**
	SNR=16						
KAPI	**Kappang**	**13.09**	**215**	Pn	**Pn**	**19 20 00.6**	**-2.5**
	252nm,0.9s,SNR=6.0						
KAPI	**Kappang**	**13.09**	**215**	P	**Pn**	**19 20 00.6**	**-2.5**
	51nm,1.3s,604nm						
BKSI	**Bulukumba**	**13.13**	**213**	P	**Pn**	**19 20 02.4**	**-1.3**
	26nm,0.8s,459nm8μm						
SMPI	**Sarmi**	**13.72**	**124**	P	**Pn**	**19 20 13.2**	**+1.6**
	136nm,1.0s						
KBKI	**Kotabaru**	**14.31**	**231**	P	**Pn**	**19 20 20.0**	**+0.6**
	94nm,1.1s,1μm						
BTM	**Bintulu**	**14.42**	**261**	P	**P**	**19 20 24.0**	**-2.0**
MMRI	**Maumere**	**15.15**	**200**	P	P	19 20 39.8	+5.8
SBUM	**Sibu**	**15.41**	**258**	P	**P**	**19 20 37.4**	**+0.4**
SBUM	**Sibu**	**15.41**	**258**	P	**Pn**	**19 20 34.8**	**+1.1**
	219nm,1.4s,3μm						
BBKI	**Banjar Baru**	**15.46**	**234**	P	**Pn**	**19 20 35.7**	**+1.5**
	186nm,1.7s,5μm						
STKI	**Sintang**	**16.80**	**251**	P	**P**	**19 20 51.8**	**-0.5**
	72nm,2.1s,2μm						
WSI	**Waingapu**	**16.83**	**205**	P	**P**	**19 20 56.4**	**+3.8**
	216nm,1.0s,4μm						
KSM	**Kuching**	**17.50**	**257**	*e*Pn	**P**	**19 21 00.2**	**+0.2**
	51nm,0.7s						
KSM	**Kuching**	**17.50**	**257**	P	**P**	**19 21 02.1**	**+2.0**
KSM	**Kuching**	**17.50**	**257**	P	**P**	**19 21 00.5**	**+0.4**
	101nm,0.7s,2μm						
PBKI	**Pangkalan Bun**	**17.74**	**242**	P	**P**	**19 21 05.6**	**+2.8**
	159n

comp=Z,5.0nm,1.0s,baz=344,slow=3.3,SNR=7.9
WRA Warramunga Arr 26.43 165 P P 19 22 29.2 -1.7
WRA ScP **ScP 19 29 32.1 +2.6**
KULM Kulim 26.55 270 *e*P **P 19 22 30.7 -1.4**
comp=Z,43nm,1.3s
KULM Kulim 26.55 270 P P 19 22 34.5 +2.4
NJ2 Nanjing 27.35 344 *e*P **P 19 22 40.1 +1.1**
NJ2 pP **pP 19 22 54.0 -0.7**
NJ2 sP **sP 19 23 02.0 -0.4**
NJ2 PcP **PcP 19 25 56.0 -0.9**
NJ2 S **S 19 27 17.0 +2.7**
NJ2 sS **sS 19 27 43.0 +1.8**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,160nm,4.5s
NJ2 LR LR
comp=N,770nm,12.0s
NJ2 LR LR
comp=E,380nm,10.6s
NJ2 LR LR
comp=Z,990nm,14.2s
JNU Nakatsue 27.45 6 P P 19 22 39.2 -0.6
comp=Z,10nm,0.5s,baz=289,slow=7.8,SNR=16
JNU Nakatsue 27.45 6 P P 19 22 39.2 -0.6
WHN Wuhan 27.53 335 P P 19 22 39.4 -1.2
WHN S S 19 27 07.1 -10
WHN LR LR
comp=N,5μm,20.2s
WHN LR LR
comp=E,1μm,10.0s
WHN LR LR
comp=Z,4μm,16.2s
PPI Padang Panjang 27.58 258 P P 19 22 40.2 -1.1
comp=Z,79nm,1.3s,comp=Z,1μm
MBWA Marble Bar 27.75 195 *e*P **P 19 22 41.9 -0.7**
comp=Z,24nm,0.9s
PSI Prapat 28.47 265 P P 19 22 48.5 -0.8
comp=Z,8.5nm,0.5s,baz=99,slow=4.6,SNR=6.6
PSI LR LR 19 34 26.3
comp=Z,831nm,21.1s,baz=244,slow=37
PSI Prapat 28.47 265 P P 19 22 48.5 -0.8
PSI Prapat 28.47 265 P P 19 23 02.4 +13
GYA Guiyang 28.52 319⇑ *i*P **P 19 22 50.8 +1.1**
GYA pP **pP 19 23 06.8 +1.4**
GYA sP **sP 19 23 15.0 +1.9**
GYA PP **PnPn 19 23 44.8 +2.3**
GYA PcP **PcP 19 26 01.4 +1.3**
GYA S **S 19 27 32.8 -0.3**
GYA sS **sS 19 28 03.0 +2.9**
GYA SS **SnSn 19 29 02.5 +4.4**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,670nm,16.2s
GYA LR LR
comp=E,830nm,17.3s
GYA LR LR
comp=Z,1μm,16.7s
ENH Enshi 29.63 328 *e*P **P 19 22 58.1 -1.2**
comp=Z,107nm,1.3s
AS31 Alice Springs 29.92 168 *e*P **P 19 23 01.4 -0.6**
ASAR Alice Springs 29.92 168 P P 19 23 01.0 -1.0
comp=Z,5.2nm,0.6s,baz=1.0,slow=8.9,SNR=42
ASAR ScP **ScP 19 29 42.5 +2.3**
comp=Z,1.5nm,0.5s,baz=340,slow=3.1,SNR=9.2
ASAR Alice Springs 29.92 168 P P 19 23 01.0 -1.0
ASAR ScP **ScP 19 29 42.5 +2.3**
GSI Gunungsitoli 30.01 263 P P 19 23 01.0 -1.9
comp=Z,52nm,0.7s,comp=Z,1μm
CM31 Chiang Mai Arr 30.43 297 *e*P **P 19 23 03.7 -2.9**
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 30.43 297 P P 19 23 06.1 -0.5
comp=Z,2.9nm,0.6s,baz=98,slow=7.2,SNR=36
CMAR ScP **ScP 19 29 43.5 +1.5**
comp=Z,3.0nm,1.2s,baz=120,slow=0.8,SNR=10
CMAR LR LR 19 36 38.7
comp=Z,977nm,18.4s,baz=46,slow=39
CMAR Chiang Mai Arr 30.43 297 P P 19 23 06.1 -0.5
CMAR ScP **ScP 19 29 43.5 +1.5**
KMI Kunming 30.44 312 P P 19 23 06.8 0.0
KMI sP **sP 19 23 29.4 -0.9**
KMI S **S 19 28 03.9 +0.4**
KMI sS **sS 19 28 29.8 -0.7**
KMI pmax pmax
comp=Z,27nm,1.3s
KMI pmax pmax
comp=Z,160nm,4.4s
KMI LR LR
comp=N,1μm,17.5s
KMI LR LR
comp=E,1μm,16.3s
KMI LR LR
comp=Z,2μm,18.1s
CMMT Chiang Mai 30.56 298 P P 19 23 08.0 +0.3
comp=Z,13nm,0.8s,comp=Z,493nm
CHTO Chiang Mai 30.56 298 *e*P **P 19 23 06.4 -1.3**
CHTO pmax pmax
comp=Z,34nm,1.8s
CHTO Chiang Mai 30.56 298 *e*P **P 19 23 06.4 -1.3**
comp=Z,34nm,1.8s
CHTO Chiang Mai 30.56 298 P P 19 23 08.5 +0.8
SNR=5.3
CHTO Chiang Mai 30.56 298 P P 19 23 07.5 -0.2
comp=Z,11nm,0.8s
KSAR Wonju Array Be 31.56 1 P P 19 23 15.7 -0.6
KSRS Korea Array 31.57 1 P P 19 23 15.7 -0.7
comp=Z,2.8nm,0.6s,baz=178,slow=10.0,SNR=9.2
CTAO Charters Tower 31.70 145 P P 19 23 17.8 +0.1
CTAO pmax pmax
comp=Z,31nm,1.3s
CTAO Charters Tower 31.70 145 P P 19 23 17.8 +0.1
comp=Z,30nm,1.3s
MJAR Matsushiro Arr 32.24 17 P P 19 23 21.3 -1.0
comp=Z,16nm,0.6s,baz=186,slow=9.0,SNR=72
MJAR ScP **ScP 19 29 50.6 +2.9**
comp=Z,3.1nm,1.0s,baz=184,slow=3.1,SNR=5.9
MJAR LR LR 19 36 38.4
comp=Z,1μm,19.5s,baz=190,slow=36
MJAR Matsushiro Arr 32.24 17 P P 19 23 21.3 -1.0
MJAR ScP **ScP 19 29 50.6 +2.9**
MAJO Matsushiro 32.24 17 *e*P **P 19 23 21.5 -0.7**
MAJO pmax pmax
comp=Z,22nm,0.9s
MAJO Matsushiro 32.24 17 *e*P **P 19 23 21.5 -0.7**
comp=Z,22nm,0.9s
MAT Matsushiro 32.24 17 P P 19 23 21.1 -1.2
MAT *e*S **S 19 28 32.2 +1.2**
XAN Xi'an 32.93 331 P P 19 23 27.3 -1.0
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN LR LR
comp=N,340nm,9.1s
XAN LR LR
comp=Z,390nm,18.2s
CD2 Chengdu 33.42 321 P P 19 23 32.1 -0.6
CD2 pP **pP 19 23 50.5 +1.9**
CD2 sP **sP 19 23 58.8 +2.6**
CD2 PP **PP 19 24 48.0 -1.4**
CD2 PcP **PcP 19 26 13.5 +0.6**
CD2 S **S 19 28 49.8 +0.3**
CD2 sS **sS 19 29 18.3 +1.7**
CD2 SS **SnSn 19 30 57.4 +0.5**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,180nm,7.9s
CD2 LR LR
comp=N,1μm,14.9s
CD2 LR LR
comp=Z,2μm,17.2s
BJT Baijiatuau 35.58 345 *e*P P 19 23 47.8 -3.3
comp=Z,21nm,0.6s
BJI Beijing 35.60 345 P P 19 23 50.3 -0.9
BJI S **S 19 29 24.9 +2.3**
BJI pmax pmax
comp=Z,16nm,0.7s
BJI pmax pmax
comp=Z,150nm,3.6s
BJI LR LR
comp=N,450nm,14.2s
BJI LR LR
comp=E,560nm,20.2s
BJI LR LR
comp=Z,240nm,23.9s
HNR Honiara 35.83 115 LR LR 19 37 25.8
comp=Z,489nm,21.3s,baz=274,slow=34
LZH Lanzhou 37.11 328⇑ P **P 19 24 04.9 +0.4**
LZH pP **pP 19 24 22.0 +1.5**
LZH sP **sP 19 24 30.0 +1.9**
LZH S **S 19 29 51.0 +4.7**
LZH SS **SnSn 19 32 19.9 -6.3**
LZH pmax pmax
comp=Z,160nm,1.5s
LZH pmax pmax
comp=Z,280nm,4.0s
LZH LR LR
comp=N,980nm,13.2s
LZH LR LR
comp=E,1μm,15.8s
LZH LR LR
comp=Z,3μm,18.3s
VLA Vladivostok 37.45 6*c i*P **P 19 24 06.5 -0.5**
VLA pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 37.70 340⇑ P **P 19 24 09.3 -0.1**
HHC pP **pP 19 24 26.3 +0.8**
HHC sP **sP 19 24 35.8 +2.8**
HHC PP **PnPn 19 25 41.3 +3.1**
HHC PcP **PcP 19 26 24.0 -1.4**
HHC S **S 19 29 54.5 -0.5**
HHC ScP **ScP 19 30 04.1 -3.3**
HHC sS **sS 19 30 24.3 +1.8**
HHC SS **SnSn 19 32 32.8 -7.6**
HHC ScS **ScS 19 34 11.4 -4.8**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,220nm,7.1s
HHC LR LR
comp=N,990nm,20.2s
HHC LR LR
comp=E,590nm,20.2s
HHC LR LR
comp=Z,1μm,20.2s
CN2 Changchun 37.95 358 *e*P **P 19 24 13.3 +2.1**
CN2 *e*sP **sP 19 24 37.8 +2.9**
CN2 *e*S **S 19 30 01.5 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,500nm,15.0s
CN2 LR LR
comp=Z,600nm,17.0s
USRK Ussuriysk Arra 38.53 5 P P 19 24 16.4 +0.3
comp=Z,5.4nm,0.5s,baz=194,slow=6.9,SNR=17
MDJ Mudanjiang 38.78 3 P P 19 24 18.8 +0.7
MDJ pP **pP 19 24 33.6 -0.7**
MDJ sP **sP 19 24 40.9 -1.0**
MDJ PP **PP 19 25 49.3 +1.2**
MDJ PcP **PcP 19 26 28.1 -0.4**
MDJ S **ScP 19 30 13.3 +2.1**
MDJ sS **sS 19 30 39.6 +1.2**
MDJ ScS **ScS 19 34 20.3 -1.7**
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,110nm,4.2s
MDJ LR LR
comp=N,340nm,16.8s
MDJ LR LR
comp=E,420nm,20.9s
MDJ LR LR
comp=Z,380nm,19.8s
MDJ Mudanjiang 38.78 3 *e*P **P 19 24 18.1 0.0**
comp=Z,12nm,0.8s
SHL Shillong 39.21 304 *i* P **P 19 24 23.0 +0.7**
SHL *e*S S 19 30 30.0 +12
BBOO Buckleboo 39.22 168 *e*P **P 19 24 21.3 -0.7**
comp=Z,2μm,1.9s
NWAO Narrogin (SRO) 39.63 193 P **P 19 24 24.8 -0.6**
comp=Z,21nm,0.7s,baz=19,slow=9.9,SNR=13
NWAO Narrogin (SRO) 39.63 193 *e*P **P 19 24 24.1 -1.3**
comp=Z,14nm,0.6s
STKA Stephens Creek 39.80 161 P **P 19 24 26.6 -0.3**
comp=Z,9.9nm,0.5s,baz=338,slow=9.7,SNR=38
STKA ScP **ScP 19 30 18.5 +3.1**
comp=Z,4.1nm,0.9s,baz=340,slow=7.3,SNR=4.9
STKA Stephens Creek 39.80 161 *e*P **P 19 24 26.3 -0.6**
comp=Z,5.6nm,0.8s
STKA ScP **ScP 19 30 18.5 +3.1**
ASAJ Asahikawa 40.51 17 P **P 19 24 34.2 +1.7**
comp=Z,29nm,0.7s,baz=203,slow=7.6,SNR=22
ASAJ Asahikawa 40.51 17 *e*P **P 19 24 33.9 +1.4**
comp=Z,14nm,0.8s
LSA Lhasa 41.60 309 P **P 19 24 42.0 -0.4**
LSA Lhasa 41.60 309 *e*P **P 19 24 41.9 -0.4**
LSA pmax pmax
comp=Z,51nm,1.4s
LSA Lhasa 41.60 309 *e*P **P 19 24 41.9 -0.4**
comp=Z,51nm,1.4s
GTA Gaotai 41.71 327⇑ P **P 19 24 42.8 +0.1**
GTA pP **pP 19 24 58.3 -0.7**
GTA sP **sP 19 25 05.5 -1.0**
GTA PcP **PcP 19 26 38.8 +0.5**
GTA ScP **ScP 19 30 22.8 -0.3**
GTA S **S 19 30 55.6 +0.4**
GTA sS **sS 19 31 22.3 -0.6**
GTA SS **SS 19 33 58.8 -4.2**
GTA pmax pmax
comp=Z,41nm,0.8s
GTA pmax pmax
comp=Z,310nm,6.2s
GTA LR LR
comp=N,930nm,23.8s
GTA LR LR
comp=E,1μm,19.5s
GTA LR LR
comp=Z,2μm,20.9s
ARMA Armidale 42.83 148 *e*P **P 19 24 51.4 -0.4**
comp=Z,18nm,0.8s
HABR Khabarovsk 43.09 8 *e*P **P 19 24 52.3 -1.2**
HABR *e**PP **pP 19 25 09.0 -0.9**
HABR *e* 19 26 33.0
HABR 19 26 40.9
HABR PPP PPP 19 27 08.6
HABR *e*S **S 19 31 14.1 -0.7**
HABR *e*SSS SSS 19 35 08.9
HABR pmax pmax
comp=N,38nm,2.0s
HABR pmax pmax
comp=Z,33nm,1.1s
HABR pmax pmax
comp=E,30nm,1.6s
HABR MLR MLR
comp=Z,487nm,20.0s
YSS Yuzh-Sakhalins 43.16 15 *e*P **P 19 24 55.6 +1.5**
YSS *e* 19 34 43.0
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS Yuzh-Sakhalins 43.16 15 *e*P **P 19 24 54.6 +0.5**
comp=N,34nm,0.8s
TAPN Taplejung 43.35 304 *e*P **P 19 24 55.6 -0.8**
ODAN Odare 43.43 303 *e*P **P 19 24 56.1 -0.9**
comp=N,34nm,0.6s
KLR Kul'dur 43.50 4 *e*P **P 19 24 53.7 -3.2**
KLR *e*S **S 19 31 24.0 +3.1**
KLR *e*SS **SS 19 34 43.5 +6.0**
KLR pmax pmax
comp=Z,57nm,1.4s
HIA Hailar 43.85 353 P **P 19 24 59.0 -0.8**
RAMN Ramite 44.12 303 *e*P **P 19 25 01.8 -0.7**
comp=Z,55nm,0.7s
JIRN Jiri 44.72 304 *e*P **P 19 25 06.6 -0.8**
comp=Z,9.6nm,0.7s
GUN Gumba 45.06 304 *e*P **P 19 25 09.3 -0.9**
comp=Z,47nm,0.7s
PKI Pulchoki 45.33 304 *e*P **P 19 25 10.8 -1.4**
PKIN Phulchoki 45.34 304 *e*P **P 19 25 10.7 -1.6**
ULN Ulaanbaatar 45.42 341 *e*P **P 19 25 11.8 -0.6**
comp=Z,11nm,0.7s
ULN Ulaanbaatar 45.42 341 P **P 19 25 12.6 +0.2**
SNR=8.9
ULN Ulaanbaatar 45.42 341 P **P 19 25 12.0 -0.4**
comp=Z,17nm,1.2s,comp=Z,256nm
KKN Kakani 45.52 304 *e*P **P 19 25 12.3 -1.3**
comp=Z,17nm,0.7s
DMN Daman 45.60 303 *e*P **P 19 25 13.2 -1.1**
comp=Z,18nm,0.7s
SONM Songino Array 45.61 340 P **P 19 25 13.5 -0.4**
comp=Z,7.2nm,0.9s,baz=153,slow=7.5,SNR=11
SONM LR LR 19 46 07.8
comp=Z,938nm,20.9s,baz=154,slow=38
SONM Songino Array 45.61 340 P P 19 25 13.5 -0.4
CAN Canberra 45.65 155 *e*P **P 19 25 14.2 -0.1**
CAN pmax pmax
comp=Z,27nm,1.3s
CAN Canberra 45.65 155 *e*P **P 19 25 14.2 -0.1**
comp=Z,27nm,1.3s
GKN Gorkha 46.12 304 *e*P **P 19 25 17.1 -1.2**
comp=Z,22nm,0.7s
KOLN Koldanda 46.91 303 *e*P **P 19 25 23.6 -0.9**
DANN Dangsing 46.97 304 *e*P **P 19 25 24.0 -1.1**
comp=Z,69nm,0.6s
DZM Mont Dzumac 47.23 127 *e*S S 19 32 22.7 +7.1
comp=Z,298nm,31.4s
DZM *e*LR LR 19 39 00.0
comp=Z,1μm,30.4s
DZM Mont Dzumac 47.23 127 LR LR 19 43 08.5
comp=Z,467nm,20.1s,baz=207,slow=33
PYUN Piuthan 47.52 303 *e*P **P 19 25 28.4 -0.9**
comp=Z,45nm,0.6s
ZAK Zakamensk 48.85 340 *e*P **P 19 25 37.8 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
HYB Hyderabad 49.03 288 *i* P **P 19 25 39.0 -1.8**
TLY Talaya 49.83 341⇑ *i*P **P 19 25 45.8 -0.6**
TLY *e* 19 27 00.2
TLY *e* 19 27 45.0
TLY *e*S S 19 33 05.3 +14
TLY pmax pmax
comp=Z,10.0nm,1.0s
TLY MLR MLR
comp=Z,666nm,21.0s
TLY Talaya 49.83 341 *e*P **P 19 25 45.9 -0.4**
comp=Z,10nm,1.0s
TLY Talaya 49.83 341 P **P 19 25 46.7 +0.4**
SNR=6.4
TLY Talaya 49.83 341 P **P 19 25 46.8 +0.4**
comp=Z,43nm,0.6s,SNR=5.3
IRK Irkutsk 50.11 342 *e*P **P 19 25 49.1 +0.6**
IRK pmax pmax
comp=Z,45nm,2.1s
MOY Mondy 50.72 339 *e*P **P 19 25 53.6 +0.4**
MOY pmax pmax
comp=Z,28nm,1.9s
WMQ Urumqi 51.45 324 P **P 19 25 59.5 +0.8**
WMQ PcP **PcP 19 27 14.3 +1.9**
WMQ PP **PP 19 27 58.8 +2.3**
WMQ ScP **ScP 19 31 03.9 +0.4**
WMQ S **S 19 33 14.1 +0.1**
WMQ sS **sS 19 33 40.1 -2.4**
WMQ ScS **ScS 19 35 40.8 -2.5**
WMQ SS **SS 19 36 50.0 -0.7**
WMQ pmax pmax
comp=Z,27nm,1.7s
WMQ pmax pmax
comp=Z,51nm,4.0s
WMQ LR LR
comp=N,2μm,23.0s
WMQ LR LR
comp=E,700nm,22.0s
WMQ LR LR
comp=Z,1μm,22.0s
DDI Dehra Dun 52.32 304 *e*P **P 19 26 03.5 -1.9**
BOD Bodaibo 52.98 351 *e*P **P 19 26 09.4 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.9s
PEA0B Petropavlovsk- 53.36 22 *e*P **P 19 26 14.2 +1.5**
PETK Petropavlovsk- 53.36 22 P **P 19 26 14.3 +1.7**
comp=Z,15nm,0.8s,baz=206,slow=4.4,SNR=15
PETK Petropavlovsk- 53.36 22 P **P 19 26 14.3 +1.7**
PETK Petropavlovsk- 53.36 22 P **P 19 26 14.3 +1.7**
PET Petropavlovsk 53.66 23 *e*P **P 19 26 16.3 +1.5**
PET *e*S **S 19 33 44.3 +0.6**
PET pmax pmax
comp=Z,300nm,12.4s
PET pmax pmax
comp=Z,39nm,1.3s
PET MLR MLR
comp=Z,300nm,15.0s
PET Petropavlovsk 53.66 23 P **P 19 26 15.2 +0.4**
comp=Z,22nm,0.7s
MSVF Nonsavu 55.23 116 *e*P **P 19 26 25.7 -1.2**
MSVF pmax pmax
comp=Z,27nm,1.1s
MSVF Nonsavu 55.23 116 *e*P **P 19 26 25.6 -1.2**
comp=Z,27nm,1.1s
YAK Yakutsk 56.20 1*c i*P **P 19 26 32.6 -0.4**
YAK *e* 19 27 26.1
YAK *e* 19 28 39.6
YAK *e*S **S 19 34 15.3 -2.1**
YAK *e* 19 36 15.8
YAK *e*SS **SS 19 38 07.0 +2.2**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,94nm,3.8s
YAK pmax pmax
comp=N,111nm,4.6s
YAK pmax pmax
comp=E,39nm,3.5s
YAK smax smax
comp=E,111nm,3.2s
YAK smax smax
comp=N,108nm,5.9s
YAK Yakutsk 56.20 1 *e*P **P 19 26 32.8 -0.2**
comp=N,41nm,0.8s
MK31 Makanchi Array 56.27 324 *e*P **P 19 26 33.4 -0.4**
MK31 Makanchi Array 56.27 324 *e*P **P 19 26 33.4 -0.4**
MKAR Makanchi Array 56.27 324 P **P 19 26 34.0 +0.1**
comp=N,35nm,0.7s,baz=118,slow=7.3,SNR=358
MKAR LR LR 19 53 10.5
comp=N,585nm,18.8s,baz=114,slow=39
MKAR Makanchi Array 56.27 324*c* *e*P **P 19 26 33.7 -0.1**
MKAR pmax pmax
comp=Z,35nm,0.6s
MKAR Makanchi Array 56.27 324 *e*P **P 19 26 33.9 +0.1**
KSH Kashi 57.07 314 *e*P **P 19 26 40.8 +1.0**
KSH *e*pP **pP 19 26 57.8 +1.0**
KSH *e*sP **sP 19 27 03.8 -0.4**
KSH *e*PcP **PcP 19 27 34.9 +0.8**
KSH *e*PP **PP 19 28 51.8 +4.6**
KSH *e*ScP **ScP 19 31 28.3 0.0**
KSH PcS **PcS 19 31 36.4 +1.2**
KSH S **S 19 34 31.8 +1.8**
KSH sS **sS 19 34 58.4 -0.4**
KSH ScS **ScS 19 36 21.3 -2.3**
KSH SS **SS 19 38 22.9 +3.2**
KSH pmax pmax
comp=Z,36nm,1.4s
KSH pmax pmax
comp=Z,230nm,5.6s
KSH LR LR
comp=N,120nm,6.0s
KSH LR LR
comp=E,210nm,6.6s
KSH LR LR
comp=Z,970nm,19.3s
ULHL Ulahol 57.95 317 P **P 19 26 46.2 +0.2**
SNR=16
KZA Kyzart 58.56 317 P **P 19 26 50.5 -0.1**
SNR=11
TKM2 Tokmak 2 58.66 318 *i* P **P 19 26 50.9 0.0**
TKM2 Tokmak 2 58.66 318 *e*P **P 19 26 50.5 -0.5**
comp=Z,13nm,0.8s
TKM2 Tokmak 2 58.66 318 P **P 19 26 51.0 0.0**
SNR=24
KBK Karagaybulak 58.99 317 P **P 19 26 53.8 +0.5**
SNR=12
ZAA0 Zalesovo Array 59.09 332 *e*P **P 19 26 51.8 -1.6**
ZALV Zalesovo Beam 59.09 332 P **P 19 26 52.6 -0.8**
comp=Z,7.3nm,0.5s,baz=122,slow=6.6,SNR=41
ZALV LR LR 19 55 54.4
comp=Z,502nm,18.9s,baz=284,slow=40

ZALV	**Zalesovo Beam**	**59.09**	**332**	P		**P**	**19 26 52.6**	**-0.8**
ZALV	**Zalesovo Beam**	**59.09**	**332**	P		**P**	**19 26 52.6**	**-0.8**
CHMS	**Chumysh**	**59.26**	**317**	P		**P**	**19 26 55.1**	**+0.2**
	SNR=9.0							
FRU	**Bishkek**	**59.29**	**317**	*e*P		**P**	**19 26 54.0**	**-1.1**
FRU				MLR		MLR		
	comp=E,1μm,18.0s							
AAK	**Ala-Archa**	**59.29**	**317**	P		**P**	**19 26 55.5**	**+0.3**
	comp=E,5.0nm,0.5s,baz=115,slow=8.6,SNR=41							
AAK	**Ala-Archa**	**59.29**	**317**	*e*P		**P**	**19 26 55.1**	**-0.2**
AAK				pmax		pmax		
	comp=Z,137nm,1.4s							
AAK	**Ala-Archa**	**59.29**	**317**	*e*P		**P**	**19 26 55.0**	**-0.2**
	comp=Z,137nm,1.4s							
AAK	**Ala-Archa**	**59.29**	**317**	P		**P**	**19 26 55.0**	**-0.2**
	comp=Z,65nm,0.6s,SNR=12							
AAK	**Ala-Archa**	**59.29**	**317**	P		**P**	**19 26 56.2**	**+0.9**
	SNR=8.7							
AAK	**Ala-Archa**	**59.29**	**317**	P		**P**	**19 26 55.6**	**+0.3**
	SNR=13							
USP	**Ospenovka**	**59.53**	**318**	P		**P**	**19 26 56.7**	**-0.1**
	SNR=32							
AML	**Almayashu**	**59.65**	**316**	P		**P**	**19 26 58.4**	**+0.4**
	SNR=28							
EKS2	**Erkin-Say**	**59.79**	**317**	*e*P		**P**	**19 26 58.4**	**-0.3**
EKS2				pmax		pmax		
	comp=Z,17nm,0.8s							
EKS2	**Erkin-Say**	**59.79**	**317**	*e*P		**P**	**19 26 58.4**	**-0.3**
	comp=Z,17nm,0.8s							
EKS2	**Erkin-Say**	**59.79**	**317**	P		**P**	**19 26 58.8**	**+0.2**
	SNR=35							
SEY	**Seymchan**	**59.96**	**13**	*c*eP		**P**	**19 26 56.9**	**-2.3**
FX1	**Attu Island--F**	**60.06**	**30**	*e*P		**P**	**19 26 57.0**	**-3.1**
NVS	**Novosibirsk**	**60.37**	**332**	⇑*i*P		**P**	**19 27 01.1**	**-1.1**
NVS				*e**PP		**pP**	**19 27 16.6**	**-2.8**
NVS				*e*S		**S**	**19 35 12.8**	**+0.8**
NVS				pmax		pmax		
	comp=Z,45nm,1.3s							
NVS				pmax		pmax		
	comp=N,29nm,1.7s							
NVS				pmax		pmax		
	comp=E,27nm,1.4s							
NVS				smax		smax		
	comp=E,35nm,2.8s							
NVS				smax		smax		
	comp=N,30nm,2.9s							
KURK	**Kurchatov**	**60.39**	**327**	*c*eP		**P**	**19 27 02.2**	**-0.2**
KURK				pmax		pmax		
	comp=Z,89nm,1.3s							
KURK	**Kurchatov**	**60.39**	**327**	*e*P		**P**	**19 27 02.1**	**-0.3**
	comp=Z,302nm,1.9s							
KURK	**Kurchatov**	**60.39**	**327**	P		**P**	**19 27 02.2**	**-0.2**
	SNR=30							
KURK	**Kurchatov**	**60.39**	**327**	P		**P**	**19 27 02.7**	**+0.3**
	comp=Z,393nm,1.0s,SNR=15							
KURBB	**Kurchatov Arra**	**60.39**	**327**	P		**P**	**19 27 02.2**	**-0.2**
	comp=Z,33nm,0.7s,baz=124,slow=6.6,SNR=152							
KBL	**Kabul**	**60.80**	**306**	*e*P		**P**	**19 27 04.4**	**-1.4**
KBL				pmax		pmax		
	comp=Z,72nm,1.8s							
KBL	**Kabul**	**60.80**	**306**	*e*P		**P**	**19 27 04.4**	**-1.4**
	comp=Z,72nm,1.8s							
KKAR	**Karatay Array**	**62.19**	**316**	*e*P		**P**	**19 27 14.2**	**-0.6**
KKAR	**Karatay Array**	**62.19**	**316**	*e*P		**P**	**19 27 14.2**	**-0.6**
RPZ	**Rata Peaks**	**63.06**	**146**	P		P	19 27 16.7	-3.8
AFI	**Afiamalu**	**63.50**	**109**	LR		LR	19 49 53.4	
	comp=Z,371nm,20.1s,baz=278,slow=31							
URZ	**Urewera**	**63.61**	**138**	LR		LR	19 53 04.7	
	comp=Z,340nm,19.7s,baz=312,slow=34							
TIXI	**Tiksi**	**65.84**	**1**	*e*P		**P**	**19 27 36.8**	**-1.4**
TIXI				pmax		pmax		
	comp=Z,16nm,1.2s							
TIXI	**Tiksi**	**65.84**	**1**	*e*P		**P**	**19 27 36.8**	**-1.4**
	comp=Z,16nm,1.2s							
BVAR	**Borovoye Array**	**65.98**	**326**	P		**P**	**19 27 39.1**	**-0.3**
	comp=Z,19nm,0.6s,baz=128,slow=7.4,SNR=123							
BVAR	**Borovoye Array**	**65.98**	**326**	P		**P**	**19 27 39.1**	**-0.3**
BVAR	**Borovoye Array**	**65.98**	**326**	P		**P**	**19 27 39.1**	**-0.3**
BRVK	**Borovoye**	**66.05**	**326**	*e*P		**P**	**19 27 39.7**	**-0.2**
BRVK	**Borovoye**	**66.05**	**326**	*e*P		**P**	**19 27 39.7**	**-0.2**
BRVK	**Borovoye**	**66.05**	**326**	P		**P**	**19 27 39.0**	**-0.9**
	comp=Z,308nm,1.0s,SNR=39							
BRVK	**Borovoye**	**66.05**	**326**	P		**P**	**19 27 40.2**	**+0.3**
	SNR=18							
BILL	**Bilibino**	**67.47**	**15**	⇓*e*P		**P**	**19 27 48.9**	**+0.3**
BILL				*e*			19 30 15.4	
BILL				*e*S		**S**	**19 36 43.4**	**+3.8**
BILL				*e*SS		**SS**	**19 40 56.6**	**-4.3**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.8s							
BILL				MLR		MLR		
	comp=Z,200nm,18.0s							
BILL	**Bilibino**	**67.47**	**15**	*e*P		**P**	**19 27 46.7**	**-1.9**
	comp=Z,3.1nm,0.6s							
IDAH	**Dahanechah**	**67.98**	**303**	*e*P		**P**	**19 27 52.2**	**-0.7**
WSAR	**Wadi Sarin**	**68.19**	**293**	P		**P**	**19 27 53.0**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=122,slow=7.3,SNR=12							
WSAR	**Wadi Sarin**	**68.19**	**293**	P		**P**	**19 27 53.0**	**-1.1**
IMON	**Monand**	**68.21**	**303**	*e*P		**P**	**19 27 53.7**	**-0.6**
IMYA	**Miami**	**68.31**	**307**	*e*P		**P**	**19 27 54.3**	**-0.5**
IKOO	**Kooshah**	**68.66**	**302**	*e*P		**P**	**19 27 56.0**	**-1.1**
ITEG	**Tejag**	**68.93**	**303**	*e*P		**P**	**19 27 58.7**	**0.0**
IPAY	**Payeh**	**69.21**	**307**	*e*P		**P**	**19 28 00.5**	**+0.1**
IKRD	**Kardeh**	**69.64**	**307**	*e*P		P	19 27 58.7	-4.4
ABKT	**Ailbek**	**70.12**	**308**	P		P	19 27 58.1	-7.6
	comp=Z,126nm,0.9s,SNR=5.7							
ABKAR	**Akbulak array**	**70.99**	**320**	*e*P		**P**	**19 28 10.2**	**-0.5**
AKTO	**Aktyubinsk**	**72.47**	**321**	P		**P**	**19 28 19.5**	**-0.1**
	comp=Z,13nm,0.6s,baz=100,slow=8.0,SNR=41							
AKTO	**Aktyubinsk**	**72.47**	**321**	P		**P**	**19 28 19.5**	**-0.1**
AKTO	**Aktyubinsk**	**72.47**	**321**	P		**P**	**19 28 19.5**	**-0.1**
SVE	**Sverdlovsk**	**72.58**	**328**	⇓*e*P		**P**	**19 28 19.7**	**-0.4**
SVE				*e*S		**S**	**19 37 43.9**	**+4.2**
SVE				*e*SS		**SS**	**19 42 22.8**	**+3.0**
SVE				pmax		pmax		
	comp=Z,49nm,1.2s							
SVE				MLR		MLR		
	comp=Z,375nm,17.0s							
ARU	**Arti**	**73.57**	**327**	*e*P		**P**	**19 28 25.0**	**-1.0**
ARU				pmax		pmax		
	comp=Z,22nm,0.6s							
ARU	**Arti**	**73.57**	**327**	*e*P		**P**	**19 28 25.0**	**-1.0**
	comp=Z,22nm,0.6s							
ARU	**Arti**	**73.57**	**327**	P		**P**	**19 28 24.9**	**-1.0**
	comp=Z,226nm,0.6s,SNR=12							
ILAS	**Lasjerd**	**73.96**	**305**	*e*P		**P**	**19 28 28.2**	**-0.8**
IZEF	**Zefreh**	**74.31**	**302**	*e*P		**P**	**19 28 29.0**	**-2.2**
ISFB	**Sefidab**	**74.47**	**304**	*e*P		**P**	**19 28 30.1**	**-1.8**
IDMV	**Damavand**	**74.73**	**305**	*e*P		**P**	**19 28 31.7**	**-1.8**
IVRN	**Varamin**	**74.94**	**305**	*e*P		**P**	**19 28 32.6**	**-1.9**
SOKR	**Solikamsk**	**75.27**	**330**	*e*P		**P**	**19 28 34.3**	**-1.4**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SOKR				MLR		MLR		
	comp=Z,770nm,22.0s							
IPIR	**Pirpir**	**75.51**	**302**	*e*P		**P**	**19 28 37.8**	**-0.3**
IRAZ	**Razeghan**	**76.43**	**305**	*e*P		**P**	**19 28 42.2**	**-1.0**
KBD	**Kabd**	**78.18**	**298**	*e*P		**P**	**19 28 52.0**	**-0.8**
KBD				AMb		AMB	19 28 53.5	
	comp=Z,24nm,1.2s							
RDF	**Al-Radifah**	**78.31**	**298**	*e*P		**P**	**19 28 52.9**	**-0.7**
RDF				AMb		AMB	19 28 55.0	
	comp=Z,43nm,1.0s							
ISRB	**Sarab**	**78.34**	**307**	*e*P		**P**	**19 28 53.7**	**-0.1**
MIB	**Mutribah**	**78.49**	**299**	*e*P		**P**	**19 28 53.4**	**-1.1**
MIB				AMb		AMB	19 28 55.8	
	comp=Z,79nm,0.7s							
NAY	**Al-Naaiem**	**78.58**	**299**	*e*P		**P**	**19 28 53.6**	**-1.4**
NAY				AMb		AMB	19 28 56.0	
	comp=Z,28nm,0.8s							
IHRS	**Heris**	**78.85**	**308**	*e*P		**P**	**19 28 56.0**	**-0.6**
IGHG	**Ghaleghazi**	**79.16**	**304**	*e*P		**P**	**19 28 56.6**	**-1.9**
IDHR	**Dehrash**	**79.32**	**304**	*e*P		**P**	**19 28 57.1**	**-2.1**
IAZR	**Azarshahr**	**79.67**	**307**	*e*P		**P**	**19 29 01.3**	**+0.1**
IMRD	**Marand**	**79.91**	**308**	*e*P		**P**	**19 29 02.0**	**-0.3**
GNI	**Garni**	**80.66**	**310**	P		**P**	**19 29 06.7**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=176,slow=18,SNR=7.9							
GNI	**Garni**	**80.66**	**310**	*e*P		**P**	**19 29 06.1**	**-0.3**
	comp=Z,53nm,1.4s							
TBLG	**Delisi**	**80.68**	**311**	*i* P		**P**	**19 29 06.5**	**+0.3**
TBLG	**Delisi**	**80.68**	**311**	P		**P**	**19 29 06.5**	**+0.3**
GOR	**Gori**	**81.15**	**311**	P		**P**	**19 29 11.0**	**+2.3**
ZEI	**Tsey**	**81.31**	**312**	*e*P		**P**	**19 29 09.3**	**-0.5**
ZEI				pmax		pmax		
	comp=Z,35nm,1.3s							

AKH	**Akhalkalaki**	**81.61**	**311**	P		**P**	**19 29 12.4**	**+1.0**
ONI	**Oni**	**81.64**	**312**	P		**P**	**19 29 12.0**	**+0.7**
COLD	**Coldfoot**	**81.82**	**23**	*e*P		**P**	**19 29 09.6**	**-2.1**
	comp=Z,6.6nm,0.7s							
KBZ	**Khabaz**	**82.04**	**313**	P		**P**	**19 29 13.2**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=41,slow=3.8,SNR=12							
KBZ				LR		LR	20 08 22.6	
	comp=Z,161nm,20.2s,baz=260,slow=38							
KBZ	**Khabaz**	**82.04**	**313**	P		**P**	**19 29 13.2**	**-0.1**
KBZ	**Khabaz**	**82.04**	**313**	P		**P**	**19 29 13.2**	**-0.1**
KIV	**Kislovodsk**	**82.19**	**313**	⇑*e*P		**P**	**19 29 15.5**	**+1.2**
KIV				pmax		pmax		
	comp=Z,11nm,0.7s							
KIV	**Kislovodsk**	**82.19**	**313**	*e*P		**P**	**19 29 14.8**	**+0.6**
OPO	**Ambohidratompo**	**82.52**	**250**	P		**P**	**19 29 16.2**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=82,slow=7.1,SNR=3.5							
OPO	**Ambohidratompo**	**82.52**	**250**	P		**P**	**19 29 16.2**	**-0.3**
COLA	**College**	**82.64**	**25**	P		**P**	**19 29 14.3**	**-1.7**
COLA	**College**	**82.64**	**25**	P		**P**	**19 29 14.3**	**-1.7**
VRHR	**Novokhopersk**	**82.87**	**321**	*e*P		**P**	**19 29 16.5**	**-1.0**
VRHR				pmax		pmax		
	comp=Z,20nm,0.8s							
VRHR				pmax		pmax		
	comp=N,3.0nm,0.3s							
VRHR				pmax		pmax		
	comp=E,10.0nm,1.1s							
ILAR	**Eielson Array**	**83.05**	**26**	P		**P**	**19 29 17.6**	**-0.6**
	comp=E,2.2nm,0.6s,baz=250,slow=5.3,SNR=49							
ILAR				LR		LR	20 09 01.6	
	comp=E,213nm,18.7s,baz=292,slow=38							
ILAR	**Eielson Array**	**83.05**	**26**	P		**P**	**19 29 17.6**	**-0.6**
KLMR	**Klimovskoe**	**83.96**	**331**	*c i* P		**P**	**19 29 22.0**	**-0.9**
KLMR				pmax		pmax		
	comp=Z,40nm,1.2s							
VORD	**Divnogorie**	**84.34**	**321**	*e*P		**P**	**19 29 24.3**	**-0.7**
VORD				pmax		pmax		
	comp=Z,20nm,0.9s							
VORD				pmax		pmax		
	comp=N,10.0nm,0.7s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.6s							
VSR	**Storozhevoye**	**84.42**	**321**	*e*P		**P**	**19 29 24.6**	**-0.8**
VSR				pmax		pmax		
	comp=Z,40nm,1.5s							
VSR				pmax		pmax		
	comp=N,6.0nm,1.2s							
VSR				pmax		pmax		
	comp=E,20nm,1.3s							
MOS	**Moscow**	**85.13**	**325**	*e*P		P	19 29 24.8	-4.1
MOS				*e*			19 29 42.6	
MOS				pmax		pmax		
	comp=Z,50nm,1.6s							
PPT	**Papeete**	**85.17**	**108**	LR		LR	20 04 50.6	
	comp=Z,150nm,19.2s,baz=188,slow=34							
PPT2	**Papeete2**	**85.17**	**108**	*e*S		**S**	**19 39 58.0**	**+2.7**
	comp=Z,206nm,23.5s							
PPT2				*e*LR		LR	19 56 31.9	
	comp=Z,376nm,26.2s							
VNDA	**Vanda**	**85.33**	**173**	P		**P**	**19 29 29.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=337,slow=7.6,SNR=4.6							
VNDA	**Vanda**	**85.33**	**173**	P		**P**	**19 29 29.2**	**-0.2**
MALT	**Malatya**	**85.62**	**308**	*e*P		**P**	**19 29 32.6**	**+0.7**
MALT				pmax		pmax		
	comp=Z,22nm,0.9s							
MALT	**Malatya**	**85.62**	**308**	*e*P		**P**	**19 29 32.6**	**+0.7**
	comp=Z,22nm,0.9s							
MALT	**Malatya**	**85.62**	**308**	⇑*i*P		**P**	**19 29 32.8**	**+0.9**
OBN	**Obninsk**	**85.77**	**325**	⇓*e*P		**P**	**19 29 31.8**	**-0.2**
OBN				*i* S		**S**	**19 39 56.8**	**-2.9**
OBN				*e*SS		SS	19 45 48.1	+11
OBN				pmax		pmax		
	comp=Z,73nm,1.7s							
OBN				MLR		MLR		
	comp=Z,500nm,22.0s							
OBN	**Obninsk**	**85.77**	**325**	*e*P		**P**	**19 29 31.4**	**-0.6**
	comp=Z,32nm,0.9s							
ANN	**Anapa**	**85.92**	**314**	*e*P		**P**	**19 29 33.3**	**+0.2**
ANN				pmax		pmax		
	comp=Z,138nm,0.8s							
TBI	**Tubuai**	**86.05**	**114**	*e*S		S	19 40 10.0	+6.4
	comp=Z,163nm,25.8s							
TBI				*e*LR		LR	19 56 45.7	
	comp=Z,429nm,25.5s,baz=293							
APA	**Apatity**	**86.24**	**337**	⇑*e*P		P	19 29 42.0	+7.9
APA				MLR		MLR		
	comp=Z,2μm,20.0s							
ASF	**Jabal al Asfar**	**87.35**	**302**	P		**P**	**19 29 41.1**	**+0.7**
	comp=Z,15nm,0.8s,baz=318,slow=3.0,SNR=22							
ASF	**Jabal al Asfar**	**87.35**	**302**	P		**P**	**19 29 41.1**	**+0.7**
JOF	**Joensuu**	**87.67**	**333**	*e*P		**P**	**19 29 39.8**	**-1.4**
JOF				pmax		pmax		
	comp=Z,4.0nm,0.5s							
JOF	**Joensuu**	**87.67**	**333**	*e*p		**P**	**19 29 39.8**	**-1.4**
	comp=Z,4.4nm,0.5s							
INK	**Inuvik**	**88.09**	**22**	*e*P		**P**	**19 29 40.1**	**-3.0**
	comp=Z,3.1nm,0.9s							
KEV	**Kevo**	**88.22**	**340**	*e*P		**P**	**19 29 42.9**	**-0.7**
KEV	**Kevo**	**88.22**	**340**	*e*p		**P**	**19 29 42.9**	**-0.7**
SIM	**Simferopol'**	**88.26**	**315**	*e*P		P	19 29 40.0	-4.4
SIM				*e*S		**S**	**19 40 25.0**	**+0.8**
SIM				pmax		pmax		
	comp=Z,15nm,0.8s							
MMAI	**Mount Meron Ar**	**88.52**	**303**	P		**P**	**19 29 46.8**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=81,slow=8.2,SNR=15							
MMAI	**Mount Meron Ar**	**88.52**	**303**	P		**P**	**19 29 46.8**	**+0.8**
SPITS	**Spitsbergen Ar**	**88.64**	**349**	P		**P**	**19 29 44.8**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=122,slow=7.1,SNR=12							
SPITS	**Spitsbergen Ar**	**88.64**	**349**	P		**P**	**19 29 44.8**	**-0.7**
ARCES	**ARCESS Array B**	**88.78**	**340**	P		**P**	**19 29 45.2**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=90,slow=6.3,SNR=13							
ARCES				LR		LR	20 13 24.8	
	comp=Z,345nm,18.2s,baz=308,slow=38							
ARCES	**ARCESS Array B**	**88.78**	**340**	P		**P**	**19 29 45.2**	**-1.1**
ARE0	**ARCESS Array S**	**88.78**	**340**	*e*P		**P**	**19 29 44.2**	**-2.1**
BR131	**Keskin Array S**	**89.20**	**310**	*e*P		**P**	**19 29 46.7**	**-2.5**
	comp=Z,3.0nm,0.7s							
BRTR	**Keskin Array B**	**89.20**	**310**	P		**P**	**19 29 48.0**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=124,slow=4.3,SNR=11							
BRTR				LR		LR	20 17 00.8	
	comp=Z,179nm,20.8s,baz=216,slow=40							
BRTR	**Keskin Array B**	**89.20**	**310**	P		**P**	**19 29 48.0**	**-1.1**
EIL	**Elat**	**89.25**	**300**	P		**P**	**19 29 49.1**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=74,slow=3.5,SNR=5.4							
EIL	**Elat**	**89.25**	**300**	P		**P**	**19 29 49.1**	**-0.2**
KAF	**Kangasniemi**	**90.10**	**333**	*e*P		**P**	**19 29 53.1**	**+0.5**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.5s							
KAF	**Kangasniemi**	**90.10**	**333**	*e*p		**P**	**19 29 53.1**	**+0.5**
	comp=Z,4.0nm,0.5s							
KMBO	**Kilima Mbogo**	**90.18**	**269**	*e*P		**P**	**19 29 54.5**	**+0.1**
	comp=Z,40nm,1.9s							
KMBO	**Kilima Mbogo**	**90.18**	**269**	P		**P**	**19 29 55.6**	**+1.2**
	SNR=5.2							
FINES	**FINESS Array B**	**90.35**	**332**	P		**P**	**19 29 53.1**	**-0.7**
	comp=Z,4.0nm,0.5s,baz=59,slow=6.7,SNR=21							
FINES				LR		LR	20 14 59.1	
	comp=Z,517nm,19.3s,baz=212,slow=38							
FINES	**FINESS Array B**	**90.35**	**332**	P		**P**	**19 29 53.1**	**-0.7**
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**19 29 53.9**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=69,slow=4.6,SNR=10							
AKASG				LR		LR	20 14 55.4	
	comp=Z,264nm,18.4s,baz=85,slow=38							
AKASG	**Malin Array Be**	**90.72**	**321**	*i* P		**P**	**19 29 54.4**	**-1.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**19 29 53.9**	**-1.8**
AK01	**Malin Array Si**	**90.73**	**321**	*e*P		**P**	**19 29 53.9**	**-1.9**
KIEV	**Kiev**	**90.73**	**321**	*e*P		**P**	**19 29 53.5**	**-2.3**
KIEV				pmax		pmax		
	comp=Z,9.0nm,1.3s							
KIEV	**Kiev**	**90.73**	**321**	*e*P		**P**	**19 29 53.5**	**-2.3**
	comp=Z,8.9nm,1.3s							
AK02	**Malin Array Si**	**90.74**	**321**	*e*P		**P**	**19 29 53.8**	**-2.0**
TLCR		**91.94**	**316**	⇓*i*P		**P**	**19 30 01.2**	**-0.3**
TIRR	**Tirgusor**	**92.36**	**315**	⇑*i*P		**P**	**19 30 02.6**	**-0.9**
CFR	**Carcaliu**	**92.42**	**316**	⇑*i*P		**P**	**19 30 03.2**	**-0.5**
TESR		**93.18**	**317**	⇑*i*P		**P**	**19 30 07.2**	**-0.1**
VRI	**Vrincioaia**	**93.26**	**317**	⇑*i*P		**P**	**19 30 06.5**	**-1.2**
SUW	**Suwalki**	**93.63**	**325**	*e*P		**P**	**19 30 10.1**	**+1.0**
SUW	**Suwalki**	**93.63**	**325**	*e*P		**P**	**19 30 10.1**	**+1.0**
MLR	**Muntele Rosu**	**93.87**	**316**	P		**P**	**19 30 10.2**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=214,slow=5.5,SNR=9.3							
MLR	**Muntele Rosu**	**93.87**	**316**	P		**P**	**19 30 10.2**	**-0.5**
MLR	**Muntele Rosu**	**93.87**	**316**	⇑*i*P		**P**	**19 30 10.7**	**+0.1**
BURAR	**Bucovina Array**	**93.91**	**318**	⇑*i*P		**P**	**19 30 10.6**	**-0.1**

BUR08	**Bucovina Ar. S**	**93.91**	**318**	*e*P		**P**	**19 30 09.7**	**-1.0**
ARR	**Arges**	**94.80**	**316**	⇓*i*P		**P**	**19 30 14.4**	**-0.4**
KOLS	**Kolonicke sedl**	**95.50**	**320**	*e*P		**P**	**19 30 17.0**	**-0.8**
KOLS				pmax		pmax		
	comp=Z,60nm,2.5s							
KOLS	**Kolonicke sedl**	**95.50**	**320**	*e*P		**P**	**19 30 17.0**	**-0.8**
UZH	**Uzhgorod**	**95.56**	**320**	*e*P		**P**	**19 30 18.0**	**-0.1**
UZH				*e*			19 30 25.0	
QSPA	**South Pole Qui**	**95.63**	**180**	LR		LR	20 08 37.8	
	comp=Z,244nm,21.7s,baz=353,slow=32							
RES	**Resolute Bay**	**95.74**	**10**	*e*P		**P**	**19 30 17.7**	**-0.7**
	comp=Z,1.6nm,0.7s							
DRGR		**95.76**	**318**	⇑*i*P		**P**	**19 30 18.5**	**-0.7**
CRVS	**Cervenica-Dubn**	**96.02**	**320**	*e*P		**P**	**19 30 20.1**	**-0.1**
CRVS				pmax		pmax		
	comp=Z,16nm,1.7s							
CRVS	**Cervenica-Dubn**	**96.02**	**320**	*e*P		**P**	**19 30 20.1**	**-0.1**
VTS	**Vitosha**	**96.45**	**314**	⇓*i*P		**P**	**19 30 22.1**	**-0.4**
HFS	**Hagfors**	**96.53**	**333**	P		**P**	**19 30 20.7**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=108,slow=3.2,SNR=14							
HFS	**Hagfors**	**96.53**	**333**	P		**P**	**19 30 20.7**	**-1.5**
NB2	**NORSAR Subarra**	**97.26**	**334**	P		Pdif	19 30 26.3	+0.6
	comp=Z,2.0nm,0.8s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**97.26**	**334**	P		Pdif	19 30 26.1	+0.5
	comp=Z,1.3nm,0.7s,baz=67,slow=4.6,SNR=5.8							
NOA				LR		LR	20 20 14.1	
	comp=Z,394nm,18.6s,baz=80,slow=39							
NOA	**NORSAR Array B**	**97.26**	**334**	P		Pdif	19 30 26.1	+0.5
YKA	**Yellowknife Ar**	**97.44**	**24**	P		**P**	**19 30 25.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=299,slow=4.4,SNR=9.4							
YKA				PKKP		**PKKPbc**	**19 47 04.5**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=126,slow=3.2,SNR=4.6							
YKA	**Yellowknife Ar**	**97.44**	**24**	P		**P**	**19 30 25.9**	**-0.4**
YKA				PKKP		**PKKPbc**	**19 47 04.5**	**-1.6**
VYHS	**Vyhne**	**97.80**	**320**	*e*P		Pdif	19 30 33.4	+5.0
VYHS	**Vyhne**	**97.80**	**320**	*e*P		Pdif	19 30 33.4	+5.0
BRG	**Berggiesshubel**	**99.98**	**324**	*e*PDIF		Pdif	19 30 50.2	+12
	comp=Z,6.2nm,1.4s							
BRG				*e*			19 30 57.4	
	comp=Z,8.7nm,1.3s							
BRG				PP		PKiKP	19 34 56.0	-10
BRG				SDIF		S	19 42 27.0	+20
BRG				*e*			19 43 59.0	
BRG				SS		SS	19 49 45.0	+44
BRG								
	comp=N,202nm,24.9s							
BRG								
	comp=E,338nm,23.8s							
BRG								
	comp=Z,421nm,22.0s							
BRG	**Berggiesshubel**	**99.98**	**324**	*e*P		Pdif	19 30 50.2	+12
BRG				*e*			19 30 57.4	
BRG				pmax		pmax		
	comp=Z,77nm,1.4s							
BRG				pmax		pmax		
	comp=Z,6.0nm,1.3s							
BRG				MLR		MLR		
	comp=N,9μm,24.9s							
BRG				MLR		MLR		
	comp=E,202nm,23.8s							
BRG				MLR		MLR		
	comp=Z,338nm,22.0s							
CLL	**Collm**	**100.37**	**324**	*e*P		**Pdif**	**19 30 39.0**	**-0.7**
CLL				*e*PP		**PP**	**19 34 50.0**	**+3.8**
CLL				*e*SKSac		**SKSac**	**19 41 16.0**	**+3.0**
CLL				*e*Sdif		**Sdif**	**19 42 19.0**	**+8.5**
CLL				*e*PS		**PS**	**19 43 52.0**	**+4.2**
CLL				*e*PPS		PPS	19 44 33.0	
CLL				*e*SS		**SS**	**19 49 01.0**	**-5.1**
CLL				*e*PSPS			19 50 02.0	
CLL				*e*			19 57 41.0	
CLL				*e*			19 59 48.0	
GERES	**GERESS Array B**	**100.89**	**322**	P

VYHS	Vyhne	3.54 149	*e*		Pg	19 20 03.2	-1.6
VYHS	Vyhne	3.54 149	*e*SG		Sg	19 20 51.4	+0.7
VYHS	Vyhne	3.54 149	*e*Sg		Sg	19 20 51.4	+0.7
BSD	Bornholm Skovb	3.62 349	*i* P		Pn	19 19 54.4	+0.2
BSD			*e*S		Sn	19 20 34.0	-3.6
BSD	Bornholm Skovb	3.62 349	*i* P		Pn	19 19 54.4	+0.2
CONA	Conrad Observa	3.66 183	⇑*i*Pn		Pn	19 19 54.8	0.0
CONA			⇓*i*Sg		Sg	19 20 52.3	-2.0
	comp=Z,7.7nm,0.4s						
CONA	Conrad Observa	3.66 183	Pn		Pn	19 19 54.8	0.0
CONA			Sg		Sg	19 20 52.3	-2.0
	comp=Z,7.7nm,0.4s						
MOA	Molln	3.92 199	⇓*i*Pn		Pn	19 19 59.0	+0.6
MOA			⇑*i*Sg		Sg	19 21 01.8	-1.0
	comp=Z,6.4nm,0.4s						
MOA	Molln	3.92 199	Pn		Pn	19 19 59.0	+0.6
MOA			Sg		Sg	19 21 01.8	-1.0
	comp=Z,6.4nm,0.4s						
CRVS	Cervenica-Dubn	4.34 126	*e*		Pg	19 20 25.1	+5.0
CRVS	Cervenica-Dubn	4.34 126	*e*SG		Sg	19 21 16.1	-0.3
CRVS	Cervenica-Dubn	4.34 126	*e*Sg		Sg	19 21 16.1	-0.3
KOLS	Kolonicke sedl	4.75 121	*e*		Pg	19 20 29.0	+1.2
KOLS	Kolonicke sedl	4.75 121	*e*SG		Sg	19 21 28.6	-0.7
KOLS	Kolonicke sedl	4.75 121	*e*Sg		Sg	19 21 28.7	-0.6

BJI **20** *19:27:33.5,5°.45N×127°.34E,h34km,mB4.8/4,mb4.6/12, Ms4.4/6,Ms7 4.3/6*
MAN **20** *19:27:36,5°.82N×127°.27E,h1km,mb5.2,ML4.2,MS4.3*
NEIC **20** *19:27:38.7±1.9,5°.92N×127°.34E,h44km±17km,mb4.3/13, Error ellipse: s-maj=18.9km s-min=8.0km az=69.0*
IDC **20** *19:27:41.4±3.3,5°.93N×127°.35E,h66km±30km,mb3.8/11, mb1 3.9/12,mb1mx3.7/27,mbtmpb3.9/12,ML4.1/1,Error ellipse: s-maj=40.2km s-min=12.4km az=67.0*
ISC 20 19:27:37.7±0.6,5°.78N±0°.07×127°.36E±0°.10,h40km±2km, n53,σ1ᵍ66/82,mb4.3/28,MS4.3/5,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.18**	**306**	P	**Pn**	**19 28 14.2**	**+2.7**
	68nm,0.3s,baz=241,slow=2.5,SNR=7.7						
DAV				S	Sn	19 28 44.8	+7.4
	56nm,0.3s,baz=270,slow=19,SNR=4.0						
DAV	**Davao City (W)**	**2.18**	**306**	*e*Pn	**Pn**	**19 28 10.7**	**-0.9**
DAV				S	Sn	19 28 44.8	+7.4
DMPH	**Davao City--Mi**	**2.25**	**305**	*e*P	**Pn**	**19 28 14.4**	**+2.0**
GSPH	**General Santos**	**2.42**	**277**	*i*P	**Pn**	**19 28 13.9**	**-1.0**
GSPH				*i* S	**Sn**	**19 28 45.1**	**+1.8**
BUKP	**Musuan**	**3.09**	**313**	*e*P	**Pn**	**19 28 26.6**	**+2.5**
BUKP				*e*S	**Sn**	**19 29 03.0**	**+3.2**
BUTP	**Butuan**	**3.61**	**332**	*e*P	Pn	19 28 35.2	+4.0
BUTP				*e*S	Sn	19 29 19.2	+6.7
MSLP	**Maasin**	**4.98**	**330**	*e*P	Pn	19 29 00.5	+10
MSLP				*e*S	Sn	19 30 05.6	+19
IPIL	**Ipil**	**5.16**	**293**	*e*P	Pn	19 28 56.8	+4.4
IPIL				*e*S	Sn	19 30 02.3	+12
KKM	**Kota Kinabalu**	**11.09**	**272**	Pn	**Pn**	**19 30 15.2**	**+1.2**
KAPI	**Kappang**	**13.14**	**215**	*e*Pn	Pn	19 30 39.4	-2.5
	13nm,1.3s						
KSM	**Kuching**	**17.54**	**257**	*e*Pn	**Pn**	**19 31 40.2**	**+0.8**
	8.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.79**	**184**	P	**P**	**19 32 47.6**	**+0.7**
	3.0nm,0.8s,baz=3.2,slow=9.5,SNR=5.6						
FITZ	**Fitzroy Crossi**	**23.79**	**184**	P	**P**	**19 32 47.6**	**+0.7**
WRAB	**Tennant Creek**	**26.46**	**165**	*e*Pn	**P**	**19 33 11.8**	**+0.6**
	10nm,1.1s						
WRA	**Warramunga Arr**	**26.47**	**165**	P	**P**	**19 33 15.1**	**+3.9**
	3.0nm,0.7s,baz=343,slow=10,SNR=10						
WRA	**Warramunga Arr**	**26.47**	**165**	P	**P**	**19 33 15.1**	**+3.9**
GYA	**Guiyang**	**28.51**	**318**	*e*P	**P**	**19 33 31.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**29.61**	**328**	*e*P	**P**	**19 33 38.6**	**-0.6**
	comp=Z,7.6nm,1.0s						
ASAR	**Alice Springs**	**29.96**	**168**	P	P	19 33 46.7	+4.4
	comp=Z,0.4nm,0.6s,baz=358,slow=8.4,SNR=7.0						
ASAR	**Alice Springs**	**29.96**	**168**	P	P	19 33 46.7	+4.4
CMAR	**Chiang Mai Arr**	**30.44**	**297**	P	**P**	**19 33 47.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=129,slow=7.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.44**	**297**	P	**P**	**19 33 47.1**	**+0.3**
MJAR	**Matsushiro Arr**	**32.19**	**17**	P	**P**	**19 34 01.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=186,slow=9.5,SNR=4.5						
MJAR	**Matsushiro Arr**	**32.19**	**17**	P	**P**	**19 34 01.4**	**-0.6**
XAN	**Xi'an**	**32.91**	**331**	P	**P**	**19 34 07.9**	**-0.4**
XAN				pP	**pP**	**19 34 15.3**	**-4.1**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CD2	**Chengdu**	**33.41**	**321**	P	**P**	**19 34 14.8**	**+2.1**
CD2				pP	**pP**	**19 34 24.3**	**+0.4**
CD2				sP	**sP**	**19 34 28.0**	**-0.7**
CD2				PP	**PP**	**19 35 27.4**	**-1.4**
CD2				S	**S**	**19 39 33.5**	**+2.2**
CD2				sS	**sS**	**19 39 49.3**	**-0.6**
CD2				SS	**SnSn**	**19 41 38.3**	**+3.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,6.5s						
CD2				LR	LR		
	comp=N,780nm,14.9s						
CD2				LR	LR		
	comp=Z,780nm,16.0s						
LZH	**Lanzhou**	**37.09**	**328**	*e*P	**P**	**19 34 45.5**	**+1.0**
LZH				pP	**pP**	**19 34 55.0**	**-0.7**
LZH				sP	**sP**	**19 34 58.5**	**-2.1**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**37.68**	**340**	*e*P	**P**	**19 34 50.3**	**+1.0**
HHC				pP	**pP**	**19 34 59.6**	**-1.0**
HHC				sP	**sP**	**19 35 03.3**	**-2.1**
HHC				PP	**PnPn**	**19 36 19.3**	**+2.2**
HHC				PcP	**PcP**	**19 37 08.0**	**+1.9**
HHC				S	**S**	**19 40 38.5**	**+1.8**
HHC				ScP	**ScP**	**19 40 51.6**	**+1.1**
HHC				sS	**sS**	**19 40 55.3**	**-0.2**
HHC				SS	**SnSn**	**19 43 15.5**	**-3.0**
HHC				ScS	**ScS**	**19 44 56.6**	**-2.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,8.3s						
HHC				LR	LR		
	comp=N,160nm,15.5s						
HHC				LR	LR		
	comp=E,280nm,15.5s						
HHC				LR	LR		
	comp=Z,340nm,16.7s						
CN2	**Changchun**	**37.91**	**358**	*e*P	**P**	**19 34 53.0**	**+2.0**
STKA	**Stephens Creek**	**39.83**	**161**	P	**P**	**19 35 08.1**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=330,slow=7.8,SNR=9.8						
STKA	**Stephens Creek**	**39.83**	**161**	*e*P	**P**	**19 35 06.9**	**-0.4**
	comp=Z,1.5nm,0.9s						
GTA	**Gaotai**	**41.69**	**327**	⇓P	**P**	**19 35 23.9**	**+1.1**
GTA				pP	**pP**	**19 35 33.6**	**-0.6**
GTA				sP	**sP**	**19 35 37.8**	**-1.2**
GTA				S	**S**	**19 41 39.3**	**+2.3**
GTA				sS	**sS**	**19 41 55.1**	**-0.9**
GTA				SS	**SS**	**19 44 40.3**	**-3.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				LR	LR		
	comp=N,260nm,16.6s						
GTA				LR	LR		
	comp=E,250nm,15.7s						
GTA				LR	LR		
	comp=Z,320nm,17.6s						
ULN	**Ulaanbaatar**	**45.39**	**341**	*e*P	**P**	**19 35 52.1**	**-0.3**
	comp=Z,3.3nm,1.1s						
WMQ	**Urumqi**	**51.43**	**324**	*e*P	**P**	**19 36 39.9**	**+0.9**
WMQ				LR	LR		
	comp=N,160nm,16.0s						
WMQ				LR	LR		
	comp=E,88nm,17.0s						
WMQ				LR	LR		
	comp=Z,98nm,18.0s						
YAK	**Yakutsk**	**56.16**	**1**	P	**P**	**19 37 13.1**	**0.0**
	comp=Z,8.5nm,0.9s						
MK31	**Makanchi Array**	**56.25**	**324**	*e*P	**P**	**19 37 14.4**	**+0.3**
MKAR	**Makanchi Array**	**56.25**	**324**	P	**P**	**19 37 14.3**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=129,slow=7.9,SNR=38						
MKAR	**Makanchi Array**	**56.25**	**324**	P	**P**	**19 37 14.3**	**+0.2**
KSH	**Kashi**	**57.06**	**314**	*e*P	**P**	**19 37 22.0**	**+1.9**
KSH				*e*pP	**pP**	**19 37 32.0**	**+0.1**
KSH				*e*sP	**sP**	**19 37 36.8**	**+0.2**
KSH				*e*PcP	**PcP**	**19 38 16.1**	**+1.3**
KSH				*e*PP	**PP**	**19 39 31.6**	**+4.4**
KSH				*e*ScP	**ScP**	**19 42 11.8**	**+0.3**
KSH				PcS	**PcS**	**19 42 15.8**	**0.0**
KSH				S	**S**	**19 45 13.9**	**+1.6**
KSH				sS	**sS**	**19 45 30.9**	**-1.0**
KSH				ScS	**ScS**	**19 47 05.5**	**-1.1**
KSH				SS	**SS**	**19 49 04.6**	**+3.1**
KSH				LR	LR		
	comp=N,100nm,6.8s						
KSH				LR	LR		
	comp=E,98nm,4.5s						
KSH				LR	LR		
	comp=Z,250nm,14.3s						
ZALV	**Zalesovo Beam**	**59.07**	**332**	P	**P**	**19 37 33.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=99,slow=7.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**59.07**	**332**	P	**P**	**19 37 33.4**	**-0.3**
EKS2	**Erkin-Say**	**59.78**	**317**	P	**P**	**19 37 38.8**	**-0.2**
	comp=Z,1.5nm,0.8s						
KURK	**Kurchatov**	**60.37**	**327**	*e*P	**P**	**19 37 42.8**	**+0.1**
	comp=Z,150nm,1.1s						
KURBB	**Kurchatov Arra**	**60.37**	**327**	P	**P**	**19 37 42.8**	**0.0**
	comp=Z,7.1nm,0.9s,baz=123,slow=6.8,SNR=45						
KBL	**Kabul**	**60.80**	**306**	*e*P	**P**	**19 37 46.0**	**-0.3**
	comp=Z,1.6nm,0.7s						
KKAR	**Karatay Array**	**62.18**	**316**	*e*P	**P**	**19 37 54.9**	**-0.3**
	comp=Z,4.9nm,1.4s						
BVAR	**Borovoye Array**	**65.96**	**326**	P	**P**	**19 38 19.9**	**+0.1**
	comp=Z,5.3nm,0.9s,baz=128,slow=7.0,SNR=16						
BVAR	**Borovoye Array**	**65.96**	**326**	P	**P**	**19 38 19.9**	**+0.1**
BRVK	**Borovoye**	**66.03**	**326**	*e*P	**P**	**19 38 19.9**	**-0.3**
	comp=Z,6.7nm,1.0s						
ABKAR	**Akbulak array**	**70.98**	**320**	*e*P	**P**	**19 38 50.8**	**-0.4**
	comp=Z,1.5nm,0.8s						
AKTO	**Aktyubinsk**	**72.46**	**321**	P	**P**	**19 39 00.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=77,slow=7.2,SNR=6.4						
AKTO	**Aktyubinsk**	**72.46**	**321**	P	**P**	**19 39 00.1**	**0.0**
ARU	**Arti**	**73.55**	**327**	P	**P**	**19 39 05.2**	**-1.3**
	comp=Z,3.8nm,1.0s						

NNC **20** *19:29:31.3±4.6,38°.18N×71°.70E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=35.3km s-min=28.3km az=177.0*
ISC 20 19:29:24.2±3.5,37°.6N±0°.2×71°.4E±0°.1,h10km,n14, σ1ᵍ96/13,5C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.88**	**20**	P	**Pn**	**19 30 40.0**	**+2.0**
	SNR=107						
UCH	**Uchtor**	**5.22**	**26**	P	**Sn**	**19 31 41.8**	**-1.5**
	SNR=7.1						
EKS2	**Erkin-Say**	**5.40**	**19**	P	**Pn**	**19 30 47.6**	**+2.7**
	SNR=25						
KK31	**Karatay Array**	**5.58**	**353**	Pn	Pn	19 30 50.9	+3.6
	1.4nm,0.3s,baz=162,slow=14,SNR=107						
KK31				⇓Sn	**Sn**	**19 31 52.8**	**+1.4**
	20nm,0.4s,baz=164,slow=22,SNR=33						
AAK	**Ala-Archa**	**5.58**	**24**	P	**Pn**	**19 30 49.0**	**+1.6**
	SNR=20						
KBK	**Karagaybulak**	**5.75**	**27**	P	**Pn**	**19 30 50.4**	**+0.6**
	SNR=6.2						
ULHL	**Ulahol**	**5.96**	**37**	P	**Pn**	**19 30 52.1**	**-0.5**
	SNR=7.7						
CHMS	**Chumysh**	**5.99**	**24**	P	**Pn**	**19 30 54.3**	**+1.4**
	SNR=5.8						
USP	**Ospenovka**	**6.16**	**21**	P	**Pn**	**19 30 57.2**	**+2.0**
	SNR=6.9						
THN	**Thein Dam**	**6.21**	**144**	*e*P	Pn	19 30 50.9	-5.0
THN				*e*S	Sn	19 31 54.5	-12
TKM2	**Tokmak 2**	**6.22**	**29**	⇑Pn	**Pn**	**19 30 56.3**	**0.0**
	2.3nm,0.7s						
TKM2				⇑Sn	Sn	19 32 02.9	-4.7
	3.5nm,1.1s						
TKM2				⇑Lg	Lg	19 32 29.5	
	3.9nm,0.9s						
DLH	**Dalhousie**	**6.24**	**142**	*e*P	Sn	19 31 54.0	-14
AB31	**Akbulak array**	**14.34**	**328**	Pn	**Pn**	**19 32 47.1**	**-0.1**
	0.5nm,0.5s,baz=158,slow=10,SNR=16						
AB31				⇓Sn	Sn	19 35 19.4	-6.8
	0.8nm,0.4s,baz=146,slow=23,SNR=9.4						
AKTO	**Aktyubinsk**	**16.05**	**328**	⇑Pn	**Pn**	**19 33 09.1**	**-0.8**
	0.1nm,0.6s						
AKTO				⇑Sn	**Sn**	**19 36 04.2**	**-3.6**
	0.8nm,1.3s						

IDC 20 19:34:16.6±1.6,23°.34S×174°.84W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.1/21,mbtmp4.0/8,Error ellipse: s-maj=74.3km s-min=22.3km az=155.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.22**	**268**	P	P	19 41 21.0	-0.6
	3.6nm,0.5s,baz=100,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**39.32**	**248**	P	P	19 41 48.8	+1.1
	1.0nm,0.6s,baz=96,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**46.80**	**259**	P	P	19 42 47.8	-0.6
	0.8nm,0.6s,baz=77,slow=6.2,SNR=7.3						
WRA	**Warramunga Arr**	**47.17**	**264**	P	P	19 42 50.1	-1.2
	2.2nm,0.7s,baz=101,slow=8.3,SNR=18						
FITZ	**Fitzroy Crossi**	**55.60**	**263**	P	P	19 43 55.2	+0.7
	1.2nm,0.5s,baz=114,slow=7.7,SNR=7.3						
MJAR	**Matsushiro Arr**	**74.23**	**322**	P	P	19 45 56.0	+0.4
	0.9nm,0.5s,baz=157,slow=5.8,SNR=7.1						
NVAR	**Mina Array Bea**	**81.12**	**42**	P	P	19 46 34.0	-0.3
	0.3nm,0.6s,baz=232,slow=4.4,SNR=4.7						
VNA2	**Neumayer--Watz**	**85.58**	**176**	*e*P	P	19 46 55.8	-0.7
	baz=209,slow=2.4						
TXAR	**Lajitas Array**	**86.15**	**56**	P	P	19 47 00.1	-0.1
	1.6nm,0.9s,baz=240,slow=7.2,SNR=6.0						

IDC 20 19:44:22.2±4.5,24°.44S×179°.50W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/18,mbtmp4.2/3,Error ellipse: s-maj=214.7km s-min=59.7km az=159.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.94**	**271**	P	P	19 50 51.9	+2.0
	5.9nm,0.8s,baz=85,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**42.40**	**261**	P	P	19 52 18.3	-0.5
	1.3nm,0.7s,baz=95,slow=6.8,SNR=18						
WRA	**Warramunga Arr**	**42.83**	**267**	P	P	19 52 20.9	-1.4
	3.3nm,0.7s,baz=102,slow=8.4,SNR=30						
BRTR	**Keskin Array B**	**148.27**	**307**	PKPbc	PKPbc	20 04 10.3	-0.4
	0.2nm,0.4s,baz=58,slow=2.0,SNR=3.7						

IDC 20 19:50:07.5±2.6,33°.35S×178°.58W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.9/16,mbtmp4.1/3,ML4.1/1,Error ellipse: s-maj=64.7km s-min=35.7km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.03**	**214**	Pn	Pn	19 51 38.2	+0.4
	4.3nm,0.3s,baz=269,slow=4.3,SNR=11						
URZ				Sn	Sn	19 52 46.3	-1.3
	2.7nm,0.3s,baz=143,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**42.55**	**270**	P	P	19 58 04.9	-0.2
	1.7nm,0.7s,baz=110,slow=7.2,SNR=29						
ASAR				PcP	PcP	19 59 57.4	-0.4
	0.5nm,1.1s,baz=115,slow=4.3,SNR=4.2						
WRA	**Warramunga Arr**	**43.80**	**276**	P	P	19 58 15.3	0.0
	2.2nm,0.7s,baz=116,slow=7.5,SNR=28						
FINES	**FINESS Array B**	**147.71**	**338**	PKPbc	PKPbc	20 09 52.5	-0.7
	3.0nm,1.0s,baz=36,slow=2.6,SNR=5.8						

ATH **20** *20:03:22.7,40°.41N×25°.74E,h28km,MD3.4/7*
THE **20** *20:03:23.3,40°.37N×25°.75E,h6km±1km,ML3.1/10,Error ellipse: s-maj=1.5km s-min=0.6km az=89.0*
CSEM **20** *20:03:23.0±0.1,40°.38N×25°.68E,h5km,MD3.4,Error ellipse: s-maj=2.6km s-min=1.9km az=34.0*
ISK **20** *20:03:23.4,40°.37N×25°.80E,h5km,MD3.4*
SOF **20** *20:03:25.1,40°.45N×25°.50E,h16km,MD3.1*
DDA **20** *20:03:25.9,40°.32N×26°.04E,h7km,MD3.0*
ISC 20 20:03:22.7±1.1,40°.37N±0°.02×25°.74E±0°.02,h7km±9km, n126,σ0ᵍ96/170,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.48**	**41**	*e*PG	**Pg**	**20 03 32.3**	**+0.3**
ENEZ				*e*SG	**Sb**	**20 03 39.6**	**-1.1**
ENEZ	**Enez**	**0.48**	**41**	*e*Pg	**Pg**	**20 03 32.3**	**+0.3**
ENEZ				*e*Sg	**Sb**	**20 03 39.6**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.56**	**87**	*e*PG	**Pb**	**20 03 34.3**	**-0.5**
GELI				*e*SG	**Sb**	**20 03 41.7**	**-1.3**
GELI	**Tayfur-Gelibol**	**0.56**	**87**	*e*Pg	**Pb**	**20 03 34.3**	**-0.5**
GELI				*e*Sg	**Sb**	**20 03 41.7**	**-1.3**
ALN	**Alexandroupoli**	**0.57**	**24**	P	**Pg**	**20 03 34.0**	**+0.3**
ALN				S	**Sg**	**20 03 41.9**	**+0.6**
ALN	**Alexandroupoli**	**0.57**	**24**	*e*PN	**Pg**	**20 03 34.0**	**+0.3**
ALN				*e*SN	**Sg**	**20 03 41.9**	**+0.6**
ALN	**Alexandroupoli**	**0.57**	**24**	P	**Pg**	**20 03 34.0**	**+0.3**
ALN				S	**Sg**	**20 03 41.9**	**+0.6**
BOZC	**Bozcaada**	**0.58**	**156**	*i* P	**Pb**	**20 03 34.9**	**-0.3**
BOZC				*i* S	**Sb**	**20 03 43.1**	**-0.5**
LIA	**Limnos Island**	**0.64**	**222**	P	**Pb**	**20 03 36.0**	**-0.1**
LIA				S	**Sb**	**20 03 45.4**	**+0.2**
LIA	**Limnos Island**	**0.64**	**222**	*e*PN	**Pb**	**20 03 36.1**	**-0.1**
LIA				*e*SN	**Sb**	**20 03 45.7**	**+0.5**
LIA	**Limnos Island**	**0.64**	**222**	P	**Pb**	**20 03 36.0**	**-0.1**
LIA				S	**Sb**	**20 03 45.4**	**+0.2**
LIA				*e*Sn	**Sb**	**20 03 45.7**	**+0.5**
EZN	**Ezine**	**0.71**	**140**	*e*PG	**Pb**	**20 03 37.1**	**-0.2**
EZN				*e*SG	**Sb**	**20 03 46.2**	**-1.0**
EZN	**Ezine**	**0.71**	**140**	*e*Pg	**Pb**	**20 03 37.1**	**-0.2**
EZN				*e*Sg	**Sb**	**20 03 46.2**	**-1.0**
LPK	**Lapseki**	**0.78**	**90**	*e*PG	**Pb**	**20 03 38.5**	**0.0**
LPK	**Lapseki**	**0.78**	**90**	*e*Pg	**Pb**	**20 03 38.5**	**0.0**
KAVA	**Kavala**	**1.12**	**304**	P	**Pg**	**20 03 44.1**	**-0.1**
KAVA				S	**Sn**	**20 04 00.6**	**+0.1**
KAVA	**Kavala**	**1.12**	**304**	P	**Pg**	**20 03 44.1**	**-0.1**
KAVA				S	**Sn**	**20 04 00.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.14**	**73**	*e*PN	**Pg**	**20 03 44.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.14**	**73**	*e*Pn	**Pg**	**20 03 44.3**	**-0.2**
SIGR	**SIGRI**	**1.16**	**176**	P	**Pb**	**20 03 45.1**	**+0.1**
SIGR				S	**Sn**	**20 04 01.4**	**0.0**
SIGR	**SIGRI**	**1.16**	**176**	P	**Pb**	**20 03 45.1**	**+0.1**
SIGR				S	**Sn**	**20 04 01.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.19**	**88**	*e*PN	**Pg**	**20 03 45.1**	**-0.4**
KRBG	**Karabiga-Canak**	**1.19**	**88**	*e*Pn	**Pg**	**20 03 45.1**	**-0.4**
PRK	**Paraskevi**	**1.20**	**160**	P	**Pn**	**20 03 46.0**	**+0.2**
PRK				S	**Sn**	**20 04 02.5**	**+0.2**
PRK	**Paraskevi**	**1.20**	**160**	*e*PN	**Pn**	**20 03 45.9**	**+0.2**
PRK				*e*SN	**Sn**	**20 04 02.5**	**+0.2**
PRK	**Paraskevi**	**1.20**	**160**	P	**Pn**	**20 03 46.0**	**+0.2**
PRK				S	**Sn**	**20 04 02.5**	**+0.2**
MFT	**Murefte**	**1.25**	**70**	*e*PN	**Pn**	**20 03 46.8**	**+0.3**
MFT	**Murefte**	**1.25**	**70**	*e*Pn	**Pn**	**20 03 46.8**	**+0.3**
AYVA	**Ayvalik**	**1.29**	**145**	*i* P	**Pb**	**20 03 47.2**	**0.0**
AYVA	**Ayvalik**	**1.29**	**145**	*i* P	**Pb**	**20 03 47.2**	**0.0**
KDZ	**Kurdzhali**	**1.30**	**349**	*i* P	**Pn**	**20 03 47.0**	**-0.3**
KDZ				S	**Sb**	**20 04 03.4**	**-1.0**
KDZ	**Kurdzhali**	**1.30**	**349**	*i* P	**Pn**	**20 03 47.0**	**-0.3**
KDZ				S	**Sb**	**20 04 03.4**	**-1.0**
OUR	**Ouranopolis**	**1.34**	**269**	P	**Pn**	**20 03 47.0**	**-0.8**
OUR				S	**Sn**	**20 04 07.0**	**+1.1**
OUR	**Ouranopolis**	**1.34**	**269**	P	**Pn**	**20 03 47.0**	**-0.8**
OUR				S	**Sn**	**20 04 07.0**	**+1.1**
TKR	**Tekirdag**	**1.50**	**65**	*e*PN	**Pg**	**20 03 51.0**	**-0.4**
TKR	**Tekirdag**	**1.50**	**65**	*e*Pn	**Pg**	**20 03 51.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.52**	**102**	*e*PN	**Pg**	**20 03 51.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.52**	**102**	*e*Pn	**Pg**	**20 03 51.6**	**-0.3**
RZN	**Rozhen**	**1.53**	**330**	P	Pn	20 03 50.4	-0.1
RZN				Pg	**Pg**	**20 03 52.8**	**+0.8**
RZN				Sg	**Sn**	**20 04 11.1**	**+0.3**
RZN	**Rozhen**	**1.53**	**330**	P	**Pn**	**20 03 50.4**	**-0.1**
BALY	**Balya**	**1.57**	**113**	*e*P	**Pb**	**20 03 51.8**	**-0.4**
BALY	**Balya**	**1.57**	**113**	*e*P	**Pb**	**20 03 51.7**	**-0.4**
PAIG	**Paliouri**	**1.64**	**255**	P	**Pn**	**20 03 51.4**	**-0.5**
PAIG				S	**Sb**	**20 04 14.7**	**+0.6**
PAIG	**Paliouri**	**1.64**	**255**	P	**Pn**	**20 03 51.4**	**-0.5**
PAIG				S	**Sb**	**20 04 14.7**	**+0.6**
EDRB	**Edirne**	**1.66**	**27**	*e*PN	**Pb**	**20 03 53.0**	**-0.5**
EDRB	**Edirne**	**1.66**	**27**	*e*Pn	**Pb**	**20 03 53.0**	**-0.5**
BNT	**Bandirma**	**1.67**	**90**	*e*PN	**Pb**	**20 03 53.3**	**-0.4**
BNT	**Bandirma**	**1.67**	**90**	*e*Pn	**Pb**	**20 03 53.3**	**-0.4**
DIM	**Dimitrovgrad**	**1.68**	**355**	P	**Pb**	**20 03 54.4**	**+0.4**
DIM				S	**Sb**	**20 04 15.6**	**+0.2**
DIM	**Dimitrovgrad**	**1.68**	**355**	P	**Pb**	**20 03 54.4**	**+0.4**
DIM				S	**Sb**	**20 04 15.6**	**+0.2**
CRLT	**Corlu**	**1.69**	**63**	*e*PN	**Pb**	**20 03 54.2**	**+0.1**
CRLT	**Corlu**	**1.69**	**63**	*e*Pn	**Pb**	**20 03 54.2**	**+0.1**
NVR	**Nevrokopi**	**1.73**	**305**	P	**Pn**	**20 03 52.8**	**-0.4**
NVR	**Nevrokopi**	**1.73**

VTS			Sg	**Sg**	**20 04 58.5**	**+2.0**
VTS	**Vitosha**	**2.92**	**320**	P	**Pn**	**20 04 10.0**	**+0.3**
VTS			Sg	**Sg**	**20 04 58.5**	**+2.0**
KULA	**Kula-Manisa**	**2.92**	**128**	*e*PN	**Pn**	**20 04 11.3**	**+1.7**
KULA	**Kula-Manisa**	**2.92**	**128**	*e*Pn	**Pn**	**20 04 11.3**	**+1.7**
TVSB	**Tavsanli**	**3.01**	**107**	*e*PN	**Pn**	**20 04 13.2**	**+2.4**
TVSB	**Tavsanli**	**3.01**	**107**	*e*Pn	**Pn**	**20 04 13.2**	**+2.4**
MPEP	**Malo Peshtene**	**3.34**	**334**	P	**Pn**	**20 04 16.1**	**+0.9**
MPEP				Pg	**Pg**	**20 04 24.9**	**-1.7**
MPEP				Sg	**Sg**	**20 05 10.3**	**+0.5**
GULT	**Gulveren**	**3.65**	**88**	*e*PN	**Pn**	**20 04 22.1**	**+2.5**
GULT	**Gulveren**	**3.65**	**88**	*e*Pn	**Pn**	**20 04 22.1**	**+2.5**
GRUS	**Gruza**	**5.13**	**315**	*e*Pn	**Pn**	**20 04 39.9**	**0.0**
DIVS	**Divibare**	**5.66**	**313**	*e*Pn	**Pn**	**20 04 47.0**	**-0.3**

NIED ***20*** *20:11:00, 43.˚10N×147.˚10E, h23km, Mw3.7 Best double couple: M₀3.39000×10¹⁴ NP1:φ₀133.00000°, δ80.00000°, λ113.00000°. NP2:φ₀244.00000°, δ25.00000°, λ23.00000°.*
IDC ***20*** *20:11:32.3±3.3, 43.˚29N×147.˚08E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, MS2.8/1, Ms1 2.8/1, ms1mx2.4/54, Error ellipse: s-maj=89.6km s-min=20.5km az=174.0*
JMA ***20*** *20:11:35.8±0.3, 43.˚13N×147.˚12E, h53km±4km, M3.5*
ISCJB ***20*** *20:11:36.4±1.6, 43.˚1N±0.˚1×147.˚1E±0.˚1, h51km±12km, mb3.7/10, Error ellipse: s-maj=20.9km s-min=12.8km az=166.5*

ISC 20 20:11:37.0±1.2, 43.˚1N±0.˚1×147.˚1E±0.˚2, h38km±4km, n19, σ0s53/24, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.03**	**285**	P	**Pn**	**20 11 54.3**	**-0.5**
NEM2				*e*S	**Sn**	**20 12 08.0**	**+0.1**
JRA	**Rausu**	**1.66**	**300**	P	**Pn**	**20 12 03.4**	**-0.1**
JRA				*e*S	**Sn**	**20 12 23.8**	**+0.2**
JAK	**Akkeshi**	**1.77**	**267**	P	**Pn**	**20 12 04.9**	**-0.1**
JAK				*e*S	**Sn**	**20 12 25.8**	**-0.4**
JNK	**Nakash**	**1.80**	**286**	P	**Pn**	**20 12 04.8**	**-0.7**
JNK				*e*S	**Sn**	**20 12 26.4**	**-0.7**
JAR	**Ashorobuto**	**2.45**	**275**	P	**Pn**	**20 12 14.5**	**+0.2**
JAR				*e*S	**Sn**	**20 12 43.5**	**+0.6**
JTKR	**Abashiri--Toko**	**2.48**	**291**	P	**Pn**	**20 12 15.4**	**+0.7**
JCH	**Churui**	**2.80**	**261**	P	**Pn**	**20 12 19.5**	**+0.4**
JCH				*e*S	**Sn**	**20 12 51.5**	**-0.1**
ASAJ	**Asahikawa**	**3.42**	**289**	Pn	**Pn**	**20 12 28.8**	**+1.1**
	1.2nm,0.3s,baz=122,slow=12,SNR=13						
KSRS	**Korea Array**	**15.68**	**255**	LR	LR	20 20 30.4	
	comp=Z,31nm,19.9s,baz=45,slow=34						
SONM	**Songino Array**	**28.69**	**294**	P	**P**	**20 17 30.9**	**+0.5**
	0.7nm,0.6s,baz=89,slow=7.5,SNR=5.1						
ILAR	**Eielson Array**	**42.02**	**36**	P	**P**	**20 19 23.8**	**-0.4**
	0.2nm,0.6s,baz=283,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**44.85**	**298**	P	**P**	**20 19 47.5**	**+0.2**
	1.1nm,0.6s,baz=82,slow=9.2,SNR=19						
KURBB	**Kurchatov Arra**	**45.94**	**304**	P	**P**	**20 19 55.6**	**-0.3**
	0.6nm,0.4s,baz=77,slow=8.3,SNR=11						
BVAR	**Borovoye Array**	**49.88**	**310**	P	**P**	**20 20 26.1**	**-0.2**
	0.2nm,0.5s,baz=69,slow=7.9,SNR=4.3						
RES	**Resolute Bay**	**55.59**	**17**	P	**P**	**20 21 08.2**	**+0.1**
	1.1nm,0.5s,baz=328,slow=9.4,SNR=8.4						
YKA	**Yellowknife Ar**	**56.35**	**34**	P	**P**	**20 21 14.4**	**+0.7**
	0.1nm,0.4s,baz=303,slow=7.1,SNR=3.1						
FINES	**FINESS Array B**	**65.43**	**333**	P	**P**	**20 22 14.5**	**-0.9**
	1.0nm,0.4s,baz=44,slow=8.3,SNR=14						
NVAR	**Mina Array Bea**	**67.94**	**58**	P	**P**	**20 22 32.3**	**+0.1**
	0.3nm,0.6s,baz=294,slow=7.4,SNR=3.1						
NOA	**NORSAR Array B**	**70.18**	**339**	P	**P**	**20 22 44.9**	**-0.5**
	0.7nm,0.4s,baz=35,slow=6.5,SNR=14						

IDC 20 20:19:26.4±7.3, 19.˚08S×178.˚80W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/18, mbtmp4.0/2, Error ellipse: s-maj=307.4km s-min=61.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.06**	**261**	P	P	20 27 37.2	+0.7
	1.2nm,0.6s,baz=92,slow=8.3,SNR=39						
ASAR	**Alice Springs**	**44.12**	**255**	P	P	20 27 36.0	-1.0
	2.1nm,0.8s,baz=103,slow=7.0,SNR=24						
BRTR	**Keskin Array B**	**145.33**	**313**	PKPbc	PKPbc	20 39 05.7	-0.8
	0.7nm,0.8s,baz=49,slow=4.4,SNR=3.4						

IDC 20 20:20:21:47.8±8.3, 23.˚03S×175.˚48W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=201.8km s-min=48.1km az=123.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.64**	**267**	P	P	20 28 48.9	+1.1
	2.6nm,0.7s,baz=106,slow=13,SNR=5.0						
STKA	**Stephens Creek**	**38.89**	**247**	P	P	20 29 15.4	+0.1
	2.9nm,1.1s,baz=105,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**46.27**	**259**	P	P	20 30 15.1	-0.4
	0.4nm,0.6s,baz=110,slow=8.3,SNR=5.2						
WRA	**Warramunga Arr**	**46.62**	**264**	P	P	20 30 17.1	-1.1
	0.7nm,0.6s,baz=102,slow=8.0,SNR=7.1						
MJAR	**Matsushiro Arr**	**73.62**	**323**	P	P	20 33 23.1	-0.1
	0.5nm,0.5s,baz=160,slow=6.0,SNR=4.8						

IDC 20 20:49:51.7±2.4, 22.˚89S×174.˚89W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.1/6, MS3.6/3, Ms1 3.6/3, ms1mx3.2/34, Error ellipse: s-maj=90.1km s-min=29.2km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.27**	**269**	LR	LR	20 58 16.0	
	comp=Z,109nm,19.2s,baz=219,slow=29						
CTA	**Charters Tower**	**36.20**	**267**	P	P	20 56 57.0	+0.6
	5.5nm,0.9s,baz=97,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**39.45**	**247**	P	P	20 57 23.6	-0.2
	1.7nm,0.9s,baz=80,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**46.83**	**258**	P	P	20 58 23.5	-0.3
	2.7nm,0.8s,baz=94,slow=8.0,SNR=21						
WRA	**Warramunga Arr**	**47.17**	**264**	P	P	20 58 25.8	-0.6
	5.3nm,0.8s,baz=100,slow=8.1,SNR=29						
MJAR	**Matsushiro Arr**	**73.85**	**322**	P	P	21 01 28.6	+0.2
	0.5nm,0.5s,baz=166,slow=8.1,SNR=4.1						
KSRS	**Korea Array**	**80.59**	**317**	LR	LR	21 34 29.0	
	comp=Z,19nm,19.4s,baz=106,slow=33						
NVAR	**Mina Array Bea**	**80.83**	**42**	P	P	21 02 07.7	-0.1
	0.4nm,0.6s,baz=218,slow=5.7,SNR=3.7						
NVAR				LR	LR	21 30 32.4	
	comp=Z,72nm,19.0s,baz=322,slow=30						

MEX 20 21:13:53.4±0.8, 17.˚54N×100.˚82W, h40km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.62**	**276**	*e*P	Pn	21 14 03.8	-1.9
ZIIG				*i* S	Sn	21 14 13.1	-1.4
CAIG	**El Cayaco**	**0.72**	**132**	*i* P	Pn	21 14 05.1	-2.0
CAIG				*i* S	Sn	21 14 15.7	-1.4
ARIG	**Puente Sto Nin**	**0.87**	**31**	*e*P	Pn	21 14 07.0	-2.2
ARIG				*i* S	Sn	21 14 19.1	-1.6
YAIG	**Yautepec**	**2.13**	**51**	*i* P	Pn	21 14 24.8	-1.9
YAIG				*i* S	Sn	21 14 50.3	-1.7
MMIG	**Aquila**	**2.52**	**288**	*i* P	Pn	21 14 30.3	-1.5
PPM	**Popocatepetl**	**2.58**	**54**	*i* P	Pn	21 14 31.7	-1.7
PPM				*i* S	Sn	21 15 02.1	-1.9
PNIG	**Pinotepa**	**2.82**	**113**	*i* P	Pn	21 14 34.4	-1.7
PNIG				*i* S	Sn	21 15 06.5	-2.4
UTMO	**Huajuapan**	**2.89**	**84**	*i* P	Pn	21 14 36.1	-1.2
UTMO				*i* S	Sn	21 15 08.3	-2.8

TAP ***20*** *21:28:17.6, 24.˚81N×122.˚37E, h17km, ML3.0, C*
JMA ***20*** *21:28:17.9±0.3, 24.˚76N×122.˚48E, h0km, M2.4*

ISC 20 21:28:17.2±1.1, 24.˚77N±0.˚04×122.˚42E±0.˚02, h6km±10km, n24, σ0s42/39, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.46**	**301**	*i* P	**Pg**	**21 28 26.2**	**0.0**
	baz=300						
TWB1				*i* S	**Sg**	**21 28 31.9**	**-0.3**
	baz=300						
TWC	**Suao**	**0.55**	**254**	P	**Pg**	**21 28 27.6**	**-0.1**
	baz=254						
TWC				*e*S	**Sg**	**21 28 34.9**	**0.0**
	baz=254						
YOJ	**Yonaguni jima**	**0.61**	**119**	P	**Pg**	**21 28 29.3**	**+0.3**
YOJ				S	**Sg**	**21 28 37.3**	**+0.3**
NWF	**Wu-fen Shan**	**0.66**	**298**	*e*P	**Pg**	**21 28 30.3**	**+0.4**
	baz=295						
NWF				*e*S	**Sg**	**21 28 39.0**	**+0.5**
	baz=295						
TWE	**Neicheng**	**0.69**	**266**	*i* P	**Pg**	**21 28 30.3**	**-0.2**
	baz=261						
TWE				*e*S	**Sg**	**21 28 39.3**	**-0.2**
	baz=261						
ENA	**Nanau**	**0.71**	**242**	P	**Pg**	**21 28 30.8**	**0.0**
	baz=236						
ENTT	**Nioudou**	**0.79**	**261**	*e*P	**Pg**	**21 28 32.3**	**-0.1**
	baz=256						
ENTT				*e*S	**Sg**	**21 28 43.1**	**+0.4**
	baz=256						
TWY	**Chenhua**	**0.90**	**304**	P	**Pg**	**21 28 34.7**	**+0.1**
	baz=303						
TWY				S	**Sg**	**21 28 45.9**	**-0.4**
	baz=303						
TWS1	**Kuangyinshan**	**0.97**	**290**	*e*P	**Pn**	**21 28 37.4**	**+0.1**
	baz=286						
NSK	**Sanguang**	**0.97**	**265**	P	**Pg**	**21 28 35.5**	**-0.4**
	baz=271						
NSK				*e*S	**Sg**	**21 28 47.4**	**-1.1**
	baz=271						
NNS	**Nan Shan**	**1.01**	**251**	*e*P	**Pg**	**21 28 36.4**	**-0.2**
	baz=236						
NNS				*e*S	**Sg**	**21 28 50.0**	**+0.2**
	baz=236						
TWD	**Chiawan**	**1.02**	**228**	*e*P	**Pg**	**21 28 36.7**	**0.0**
	baz=230						
WHF	**Hehuan Shan**	**1.22**	**240**	*i* P	**Pg**	**21 28 40.5**	**-0.2**
	baz=236						
WHF				S	**Sg**	**21 28 56.1**	**-0.6**
	baz=236						
IRIF	**Iriomote-Funau**	**1.26**	**110**	P	**Pn**	**21 28 41.3**	**0.0**
IRIF				S	**Sb**	**21 28 57.1**	**-0.8**
NSTT	**Nanjuang**	**1.30**	**264**	*e*P	**Pg**	**21 28 42.5**	**+0.3**
	baz=261						
NSTT				*e*S	**Sn**	**21 28 60.0**	**+0.4**
	baz=261						
HATJ	**Hateruma jima**	**1.44**	**119**	P	**Pb**	**21 28 44.5**	**+0.1**
JKRS	**Kuro-shima**	**1.54**	**110**	P	**Pg**	**21 28 46.6**	**-0.1**
TWQ1	**Liyutan**	**1.56**	**255**	*e*P	**Pb**	**21 28 46.5**	**0.0**
	baz=271						
JIJ	**Ishigaki jima**	**1.61**	**104**	P	**Pn**	**21 28 46.6**	**+0.4**
JIJ				S	**Sn**	**21 29 06.8**	**-0.5**
SMLT	**Sun Moon Lake**	**1.65**	**238**	*e*P	**Pb**	**21 28 47.7**	**-0.3**
	baz=241						
SMLT				*e*S	**Sn**	**21 29 08.3**	**+0.1**
	baz=241						
TYC	**Yuchr**	**1.67**	**239**	P	**Pn**	**21 28 47.1**	**+0.2**
	baz=248						
TYC				*e*S	**Sg**	**21 29 10.9**	**+0.1**
	baz=248						
ALS	**Alishan**	**1.94**	**230**	*e*P	**Pn**	**21 28 51.3**	**+0.4**
	baz=211						
CHN5	**Tsauling**	**1.97**	**234**	*e*P	**Pn**	**21 28 52.0**	**+0.8**
	baz=214						
WTP	**Ta-pu**	**2.24**	**228**	*e*P	**Pn**	**21 28 55.8**	**+0.9**
	baz=210						

IDC ***20*** *21:41:24.3±0.6, 23.˚10S×174.˚60W, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.5/23, mbtmp4.4/17, MS3.8/10, Ms1 3.8/10, ms1mx3.5/32, Error ellipse: s-maj=25.1km s-min=16.1km az=151.0*
ISCJB ***20*** *21:41:28.6±0.4, 23.˚07S±0.˚10×174.˚69W±0.˚08, h36km, mb4.5/21, MS3.8/9, Error ellipse: s-maj=14.2km s-min=10.0km az=162.3*
NEIC ***20*** *21:41:29.6±2.3, 23.˚17S×174.˚64W, h37km±19km, mb4.7/8, Error ellipse: s-maj=17.8km s-min=9.9km az=143.0*
AUST ***20*** *21:41:44.6±17.0, 23.˚89S×177.˚03W, h0km, Error ellipse: s-maj=2.4km s-min=1.7km az=7.0*

ISC 20 21:41:29.8±0.5, 23.˚1S±0.˚1×174.˚9W±0.˚10, h36km, n72, σ0s96/61, mb4.4/21, MS3.8/9, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.92**	**48**	P	Sn	21 43 43.5	-18
	baz=8.2,SNR=6.8						
MSVF	**Nonsavu**	**8.73**	**306**	*e*Pn	**Pn**	**21 43 34.1**	**+0.5**
	19nm,0.7s						
AFI	**Afiamalu**	**9.53**	**17**	Pn	Pn	21 43 36.0	-8.6
	5.2nm,0.3s,baz=104,slow=17,SNR=2.7						
AFI				Sn	Sn	21 45 12.0	-19
	10.0nm,0.3s,baz=53,slow=20,SNR=2.1						
AFI	**Afiamalu**	**9.53**	**17**	Pn	Pn	21 43 36.0	-8.6
AFI				Sn	Sn	21 45 12.0	-19
RAR	**Rarotonga**	**13.86**	**85**	Pn	Pn	21 44 34.9	-8.8
	10nm,0.3s,baz=247,slow=6.6,SNR=6.6						
RAR				Sn	Sn	21 46 53.3	-23
	3.2nm,0.3s,baz=105,slow=17,SNR=3.5						
RAR				LR	LR	21 48 44.0	
	comp=Z,519nm,18.2s,baz=166,slow=32						
RAR	**Rarotonga**	**13.86**	**85**	Pn	Pn	21 44 34.9	-8.8
RAR				Sn	Sn	21 46 53.4	-23
DZM	**Mont Dzumac**	**17.55**	**270**	*e*LR	LR	21 49 55.4	
	426nm,28.9s						
DZM	**Mont Dzumac**	**17.55**	**270**	P	**P**	**21 45 34.4**	**+1.8**
	0.3nm,0.3s,baz=94,slow=19,SNR=3.9						
DZM	**Mont Dzumac**	**17.55**	**270**	*e*Pn	**Pn**	**21 45 30.2**	**-1.5**
	18nm,0.9s						
TBI	**Tubuai**	**23.09**	**96**	*e*LQ	LQ	21 50 53.7	
	208nm,25.5s						
TBI				*e*LR	LR	21 51 52.9	
	618nm,26.8s						
PPT2	**Papeete2**	**24.07**	**81**	*e*LQ	LQ	21 51 11.7	
	520nm,28.0s						
PPT2				*e*LR	LR	21 52 15.3	
	696nm,25.8s						
PPT	**Papeete**	**24.08**	**81**	LR	LR	21 54 05.8	
	comp=Z,312nm,18.9s,baz=344,slow=32						
HNR	**Honiara**	**27.91**	**295**	LR	LR	21 56 03.2	
	comp=Z,203nm,20.4s,baz=53,slow=32						
CMSA	**Cobar Meteorol**	**36.12**	**248**	P	**P**	**21 48 29.5**	**+1.0**
	baz=34,SNR=5.0						
CTA	**Charters Tower**	**36.46**	**267**	P	**P**	**21 48 30.9**	**-0.7**
	8.5nm,0.4s,baz=95,slow=11,SNR=16						
CTA	**Charters Tower**	**36.46**	**267**	P	**P**	**21 48 30.9**	**-0.7**
CTAO	**Charters Tower**	**36.46**	**267**	*e*P	**P**	**21 48 30.6**	**-1.0**
	9.5nm,0.5s						
QLP	**Quilpie**	**37.41**	**256**	P	**P**	**21 48 40.2**	**+0.6**
	baz=35,SNR=6.3						
STKA	**Stephens Creek**	**39.62**	**247**	P	**P**	**21 48 57.1**	**-1.0**
	1.4nm,0.5s,baz=35,slow=7.8,SNR=6.7						
STKA				LR	LR	22 03 05.9	
	comp=Z,205nm,18.8s,baz=203,slow=33						
STKA	**Stephens Creek**	**39.62**	**247**	*e*P	**P**	**21 48 57.5**	**-0.6**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**39.62**	**247**	P	**P**	**21 48 57.8**	**-0.2**
	baz=37,SNR=4.4						
AS31	**Alice Springs**	**47.06**	**259**	*e*P	**P**	**21 49 57.5**	**-0.8**
ASAR	**Alice Springs**	**47.06**	**259**	P	**P**	**21 49 57.4**	**-0.9**
	6.8nm,0.9s,baz=91,slow=8.5,SNR=31						
ASAR	**Alice Springs**	**47.06**	**259**	P	**P**	**21 49 57.4**	**-0.9**
WRAB	**Tennant Creek**	**47.41**	**264**	*e*P	**P**	**21 49 59.5**	**-1.6**
	19nm,1.0s						
WRA	**Warramunga Arr**	**47.42**	**264**	P	**P**	**21 49 59.4**	**-1.7**
	11nm,0.8s,baz=103,slow=8.8,SNR=9.8						
WRA				LR	LR	22 09 12.3	
	comp=Z,111nm,19.2s,baz=180,slow=35						
WRA	**Warramunga Arr**	**47.42**	**264**	P	**P**	**21 49 59.4**	**-1.7**
KDU	**Kakadu**	**51.19**	**272**	P	**P**	**21 50 30.4**	**+0.5**
	baz=49,SNR=3.1						
FITZ	**Fitzroy Crossi**	**55.85**	**263**	*e*P	**P**	**21 51 03.4**	**-0.6**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**55.85**	**263**	P	**P**	**21 51 04.4**	**+0.4**
	baz=54,SNR=9.0						
QSPA	**South Pole Qui**	**66.97**	**180**	P	**P**	**21 52 20.0**	**+1.3**
	5.7nm,1.0s,baz=29,slow=2.9,SNR=10						
QSPA	**South Pole Qui**	**66.97**	**180**	*e*P	**P**	**21 52 19.1**	**+0.4**
	8.6nm,1.1s						
PCI	**Palu**	**67.24**	**279**	P	pP	21 52 34.8	+2.7
	baz=65,SNR=3.1						
MJAR	**Matsushiro Arr**	**74.19**	**322**	P	**P**	**21 53 02.7**	**-0.2**
	1.4nm,0.6s,baz=166,slow=7.3,SNR=5.8						
MJAR				LR	LR	22 20 44.4	
	comp=Z,25nm,20.3s,baz=85,slow=32						
MJAR	**Matsushiro Arr**	**74.19**	**322**	P	**P**	**21 53 02.7**	**-0.2**
	baz=300						
LPIG	**La Paz**	**78.07**	**57**	LR	LR	22 22 18.2	
	comp=Z,9.9nm,18.9s,baz=214,slow=31						
PETK	**Petropavlovsk-**	**79.63**	**343**	P	**P**	**21 53 32.8**	**-0.2**
	11nm,1.0s,baz=140,slow=12,SNR=4.3						
PETK	**Petropavlovsk-**	**79.63**	**343**	P	**P**	**21 53 32.8**	**-0.2**
YBH	**Yreka Blue Hor**	**80.41**	**37**	P	**P**	**21 53 38.1**	**+0.4**
	2.7nm,0.7s,baz=259,slow=9.0,SNR=7.8						
YBH	**Yreka Blue Hor**	**80.41**	**37**	P	**P**	**21 53 38.1**	**+0.4**
NVAR	**Mina Array Bea**	**80.80**	**41**	P	**P**	**21 53 40.5**	**+0.5**
	0.3nm,0.7s,baz=224,slow=7.8,SNR=25						
NVAR	**Mina Array Bea**	**80.80**	**41**	P	**P**	**21 53 40.5**	**+0.5**
KSRS	**Korea Array**	**80.94**	**317**	P	**P**	**21 53 42.3**	**+1.9**
	2.1nm,0.7s,baz=138,slow=7.5,SNR=8.2						
KSRS				LR	LR	22 23 00.8	
	comp=Z,42nm,21.0s,baz=143,slow=31						
KSAR	**Wonju Array Be**	**80.95**	**317**	P	**P**	**21 53 42.3**	**+1.8**
USRK	**Ussuriysk Arra**	**82.90**	**324**	P	**P**	**21 53 52.0**	**+1.4**
	2.3nm,0.9s,baz=86,slow=4.4,SNR=6.9						
PLCA	**Paso Flores**	**85.18**	**132**	LR	LR	22 23 44.5	
	comp=Z,177nm,19.1s,baz=186,slow=30						
SNAA	**Sanae**	**85.30**	**177**	*e*P	**P**	**21 54 02.4**	**-0.2**
	2.4nm,1.0s						
VNA3	**Neumayer Olymp**	**85.31**	**175**	*e*P	**P**	**21 54 03.3**	**+0.6**
VNA2	**Neumayer--Watz**	**85.79**	**176**	*e*P	**P**	**21 54 06.1**	**+1.1**
TXAR	**Lajitas Array**	**85.84**	**56**	P	**P**	**21 54 06.2**	**+0.1**
	3.5nm,0.9s,baz=215,slow=7.7,SNR=16						
TXAR	**Lajitas Array**	**85.84**	**56**	P	**P**	**21 54 06.2**	**+0.1**
ANMO	**Albuquerque**	**86.61**	**50**	P	**P**	**21 54 09.5**	**-0.3**
	2.9nm,1.0s,baz=206,slow=9.1,SNR=5.8						
ANMO	**Albuquerque**	**86.61**	**50**	*e*P	**P**	**21 54 09.4**	**-0.5**
	3.4nm,1.0s						
GDL2	**Guadalupe Moun**	**86.72**	**53**	*e*P	**P**	**21 54 10.2**	**-0.2**
	4.4nm,0.8s						
PDAR	**Pinedale Array**	**88.73**	**42**	P	**P**	**21 54 18.8**	**-1.1**
	0.9nm,0.7s,baz=226,slow=4.9,SNR=8.4						
PDAR	**Pinedale Array**	**88.73**	**42**	P	**P**	**21 54 18.8**	**-1.1**
ILAR	**Eielson Array**	**90.19**	**11**	P	**P**	**21 54 25.4**	**-0.4**
	1.8nm,0.9s,baz=215,slow=4.8,SNR=10						
ILAR	**Eielson Array**	**90.19**	**11**	P	**P**	**21 54 25.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**21 54 46.2**	**+1.9**
	0.9nm,0.9s,baz=116,slow=4.1,SNR=5.4						
CMAR				LR	LR	22 35 50.7	
	comp=Z,26nm,20.2s,baz=170,slow=35						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**21 54 46.2**	**+1.9**
YKA	**Yellowknife Ar**	**97.57**	**24**	P	**P**	**21 54 59.4**	**-0.3**
	0.7nm,1.0s,baz=238,slow=4.6,SNR=7.2						
YKA	**Yellowknife Ar**	**97.57**	**24**	P	**P**	**21 54 59.5**	**-0.3**
ARCES	**ARCESS Array B**	**132.02**	**351**	PKP	**PKPdf**	**22 00 39.5**	**+0.7**
	5.7nm,0.9s,baz=46,slow=2.6,SNR=3.3						
ARCES	**ARCESS Array B**	**132.02**	**351**	PKP	**PKPdf**	**22 00 39.5**	**+0.7**
AKASG	**Malin Array Be**	**146.81**	**332**	PKPbc	**PKPbc**	**22 01 07.2**	**-0.7**
	1.8nm,0.6s,baz=41,slow=4.3,SNR=5.2						
AKASG	**Malin Array Be**	**146.81**	**332**	PKPbc	**PKPbc**	**22 01 07.2**	**-0.7**
BRTR	**Keskin Array B**	**150.93**	**311**	PKPbc	**PKPbc**	**22 01 18.2**	**-0.8**
	1.2nm,0.9s,baz=132,slow=4.0,SNR=4.7						
BRTR	**Keskin Array B**	**150.93**	**311**	PKPbc	**PKPbc**	**22 01 18.2**	**-0.8**
CLL	**Collm**	**151.24**	**350**	*i* PKPbc	**PKPbc**	**22 01 19.3**	**+0.2**
	comp=Z,10.0nm,1.2s						
CLL				*e*(sPKPbc)		22 01 33.0	
BRG	**Berggiesshubel**	**151.50**	**349**	*e*P	**PKPbc**	**22 01 20.3**	**+0.5**
	comp=Z,6.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**169.48**	**160**	PKP	**PKPdf**	**22 01 33.0**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=324,slow=2.0,SNR=4.4						
TORD				PKPab	**PKPab**	**22 02 46.4**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=204,slow=3.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**169.48**	**160**	PKP	**PKPdf**	**22 01 33.0**	**-1.3**
TORD				PKPab	**PKPab**	**22 02 46.4**	**-0.7**

IDC 20 22:20:57.8±2.0, 3.˚42S×151.˚97E, h404km±22km, mb3.1/9, mb1 3.3/11, mb1mx3.1/22, mbtmp3.2/11, Error ellipse: s-maj=20.3km s-min=12.8km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.63**	**219**	P	P	22 22 48.1	-1.0
	2.7nm,0.3s,baz=25,slow=13,SNR=8.1						
CTA	**Charters Tower**	**17.48**	**198**	P	P	22 24 36.8	0.0
	1.0nm,0.3s,baz=18,slow=6.7,SNR=7.3						
DZM	**Mont Dzumac**	**23.27**	**144**	P	P	22 25 32.1	+0.3
	5.1nm,0.6s,baz=342,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	**23.78**	**225**	P	P	22 25 36.5	0.0
	2.1nm,0.5s,baz=47,slow=9.3,SNR=91						
WRA				PcP	PcP	22 29 08.2	+1.0
	0.4nm,0.5s,baz=55,slow=2.2,SNR=5.8						
WRA				S	S	22 29 22.1	-0.1
	0.4nm,0.8s,baz=48,slow=14,SNR=2.9						
ASAR

1.4nm,0.6s,baz=187,slow=23,SNR=25
MKAR Makanchi Array 13.31 36 P **P 23 06 53.4 -1.4**
0.2nm,0.3s,baz=225,slow=7.5,SNR=27
MKAR S **S 23 09 25.3 +3.2**
0.0nm,0.3s,baz=217,slow=19,SNR=1.9
DANN Dangsing 13.43 123 *eP* **P 23 06 56.1 -0.5**
GKN Gorkha 14.24 122 *eP* P 23 07 06.9 +1.4
KKN Kakani 14.82 122 *eP* P 23 07 13.9 +2.0
PKIN Phulchoki 15.03 122 *eP* P 23 07 17.6 +3.2
10.0nm,0.4s
PKI Pulchoki 15.04 122 *eP* P 23 07 17.6 +3.0
AB31 Akbulak array 15.15 331 P **P 23 07 13.6 -1.5**
1.6nm,0.7s,baz=144,slow=11,SNR=24
AB31 ⇑S S 23 09 51.3 -12
0.5nm,0.4s,baz=150,slow=22,SNR=3.6
KURBB Kurchatov Arra 15.16 18 P **P 23 07 16.1 +0.9**
0.2nm,0.3s,baz=209,slow=10,SNR=20
KURBB S **Sn 23 10 06.3 +2.6**
0.0nm,0.3s,baz=205,slow=19,SNR=3.3
KURBB Kurchatov Arra 15.16 18 ⇑P **Pn 23 07 13.4 -1.0**
0.1nm,0.3s
GUN Gumba 15.16 120 *eP* P 23 07 18.9 +3.1
4.9nm,0.3s
KURK Kurchatov 15.27 19 ⇓P **Pn 23 07 15.1 -0.7**
4.3nm,1.2s
JIRN Jiri 15.53 120 *eP* **P 23 07 22.6 +2.7**
RAMN Ramite 16.26 121 *eP* Pn 23 07 32.7 +4.4
4.4nm,0.3s
VOSK Vostochnaya 16.27 360 ⇓P **Pn 23 07 27.3 -0.7**
2.9nm,0.8s
VOSK ⇑S S 23 10 19.7 -7.9
2.4nm,1.3s
ZRNK Zerenda 16.56 356 ⇑P **Pn 23 07 32.1 +0.6**
1.5nm,0.6s
ZRNK ⇑S **S 23 10 32.3 -1.4**
2.8nm,1.2s
BVA0 Borovoye Array 16.58 359 ⇓P **Pn 23 07 33.3 +1.6**
0.3nm,0.7s,baz=168,slow=12,SNR=8.5
BVAR Borovoye Array 16.58 359 P **Pn 23 07 33.5 +1.9**
0.3nm,0.3s,baz=161,slow=11,SNR=7.2
BRVK Borovoye 16.61 358 ⇓P **Pn 23 07 32.1 0.0**
5.5nm,1.0s
TAPN Taplejung 16.79 118 *eP* Pn 23 07 38.3 +3.6
AKTO Aktyubinsk 16.84 330 P **Pn 23 07 35.4 +0.5**
1.0nm,0.3s,baz=137,slow=9.6,SNR=8.2
AKTO S **Sn 23 10 42.6 -1.4**
0.1nm,0.3s,baz=258,slow=18,SNR=4.4
AKTO Aktyubinsk 16.84 330 ⇑P **Pn 23 07 35.0 +0.2**
0.3nm,0.5s
AKTO ⇑S **S 23 10 37.1 -2.6**
0.6nm,0.9s
ODAN Odare 16.86 120 *eP* Pn 23 07 39.4 +3.9
6.7nm,0.6s
ZALV Zalesovo Beam 19.94 24 P Pn 23 08 09.1 -2.3
5.9nm,0.6s,baz=223,slow=11,SNR=28
AKASG Malin Array Be 33.01 309 P **P 23 10 07.7 +0.6**
1.7nm,0.5s,baz=85,slow=6.5,SNR=6.5
FINES FINESS Array B 37.55 326 P **P 23 10 47.1 +1.4**
1.4nm,0.5s,baz=121,slow=10,SNR=17
ARCES ARCESS Array B 41.20 338 P P 23 11 17.7 +1.8
2.6nm,0.6s,baz=114,slow=6.7,SNR=14
NB2 NORSAR Subarra 44.44 323 P **P 23 11 42.5 +0.5**
comp=Z,1.7nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.44 323 P **P 23 11 42.9 +0.9**
comp=Z,2.0nm,0.6s,baz=96,slow=7.7,SNR=12
TORD Torodi Ar. Bea 65.75 269 P **P 23 14 14.2 -0.8**
comp=Z,0.4nm,0.7s,baz=50,slow=6.5,SNR=4.8
BOSA Boshof 77.73 220 P P 23 15 27.6 +1.4
comp=Z,3.3nm,1.0s,baz=4.8,slow=12,SNR=3.4
YKA Yellowknife Ar 81.29 3 P P 23 15 46.7 +1.9
comp=Z,0.8nm,0.3s,baz=351,slow=5.4,SNR=32
WRA Warramunga Arr 81.93 122 P **P 23 15 50.0 +1.2**
comp=Z,1.1nm,0.5s,baz=324,slow=5.0,SNR=16
ASAR Alice Springs 84.19 125 P P 23 16 01.6 +1.3
comp=Z,1.3nm,0.6s,baz=309,slow=5.1,SNR=15

IDC 20 23:03:56.4±13.0,**3.00N**×**126.82E, h170**km±132km,
mb3.3/5,**mb1 3.5**/6,**mb1mx3.2**/23,**mbtmp3.3**/6,**ML3.8**/1,
Error ellipse: s-maj=103.6km s-min=16.2km az=57.0,
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.64**	**222**	P		P	Pn	23 06 26.2	+1.6
	0.7nm,0.3s,baz=12,slow=9.3,SNR=6.5						
KAPI				S		Sn	Sn	23 08 20.5	-2.3
	1.5nm,0.3s,baz=22,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**23.96**	**162**	P		P	P	23 08 54.2	-1.1
	4.0nm,0.5s,baz=343,slow=10,SNR=54						
ASAR	**Alice Springs**	**27.39**	**166**	P		P	P	23 09 25.9	-0.2
	0.6nm,0.5s,baz=352,slow=7.6,SNR=8.5						
STKA	**Stephens Creek**	**37.42**	**159**	P		P	P	23 10 54.0	+0.8
	2.4nm,0.4s,baz=346,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**58.20**	**325**	P		P	P	23 13 32.7	0.0
	0.1nm,0.4s,baz=118,slow=8.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**62.40**	**328**	P		P	P	23 14 00.9	-0.2
	0.2nm,0.4s,baz=125,slow=8.0,SNR=4.3						

*ISCJB **20** 23:15:47.4±0.4,39.14N±0.02×28.24E±0.03,h10km±4km,*
Error ellipse: s-maj=4.1km s-min=3.1km az=155.9
*ISK **20** 23:15:47.0,39.13N×28.26E,h13km, MD3.2*
*ATH **20** 23:15:47.5,38.93N×28.08E,h5km±3km, MD3.3/3*
*DDA **20** 23:15:47.5,39.14N×28.24E,h7km, MD2.9*
*CSEM **20** 23:15:47.7±0.1,39.14N×28.22E,h12km, MD2.9, Error*
ellipse: s-maj=2.9km s-min=2.4km az=144.0
ISC 20 23:15:47.7±0.9,**39.14N**±0.02×**28.23E**±0.02,**h13**km±9km,
n60,σ0°39/83, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.39**	**104**	*i* P		**Pg**	**23 15 55.6**	**+0.1**
DEMI				*i* S		**Sg**	**23 16 00.8**	**0.0**
DEMI	**Demirci**	**0.39**	**104**	*i* P		**Pg**	**23 15 55.6**	**+0.1**
DEMI				*i* S		**Sg**	**23 16 00.8**	**0.0**
AKHS	**Akhisar**	**0.42**	**232**	*i* P		**Pg**	**23 15 56.3**	**+0.3**
AKHS				*i* S		**Sb**	**23 16 02.6**	**-0.5**
AKHS	**Akhisar**	**0.42**	**232**	*i* P		**Pg**	**23 15 56.3**	**+0.3**
AKHS				*i* S		**Sb**	**23 16 02.6**	**-0.5**
AKS	**Akhisar**	**0.42**	**232**	*e*PG		**Pg**	**23 15 56.3**	**+0.3**
AKS				*e*SG		**Sb**	**23 16 02.9**	**-0.2**
AKS	**Akhisar**	**0.42**	**232**	*e*Pg		**Pg**	**23 15 56.3**	**+0.3**
AKS				*e*Sg		**Sb**	**23 16 02.9**	**-0.2**
DST	**Dursunbey**	**0.55**	**33**	*e*PG		**Pg**	**23 15 58.3**	**-0.3**
DST				*e*SG		**Sg**	**23 16 05.8**	**-0.1**
DST	**Dursunbey**	**0.55**	**33**	*e*Pg		**Pg**	**23 15 58.3**	**-0.3**
DST				*e*Sg		**Sg**	**23 16 05.8**	**-0.1**
BALB	**Balikesir**	**0.57**	**331**	*e*PG		**Pg**	**23 15 59.1**	**+0.2**
BALB				*e*SG		**Sb**	**23 16 07.3**	**-0.2**
BALB	**Balikesir**	**0.57**	**331**	*e*Pg		**Pg**	**23 15 59.1**	**+0.2**
BALB				*e*Sg		**Sb**	**23 16 07.3**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**152**	*e*PG		**Pb**	**23 16 01.6**	**-0.3**
KULA				*e*SG		**Sg**	**23 16 10.2**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**152**	*e*Pg		**Pb**	**23 16 01.6**	**-0.3**
KULA				*e*Sg		**Sg**	**23 16 10.2**	**-0.6**
BALY	**Balya**	**0.77**	**322**	*e*P		**Pg**	**23 16 02.2**	**-0.4**
BALY	**Balya**	**0.77**	**322**	*e*P		**Pg**	**23 16 02.2**	**-0.4**
GDZ	**Gediz**	**0.97**	**93**	*i* P		**Pg**	**23 16 06.3**	**-0.2**
GDZ				*i* S		**Sg**	**23 16 19.2**	**0.0**
GDZ	**Gediz**	**0.97**	**93**	*i* P		**Pg**	**23 16 06.3**	**-0.2**
GDZ				*i* S		**Sg**	**23 16 19.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.00**	**335**	*e*PG		**Pb**	**23 16 06.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.00**	**335**	*e*Pg		**Pb**	**23 16 06.7**	**-0.2**
TVSB	**Tavsanli**	**1.00**	**72**	*e*PG		**Pg**	**23 16 07.1**	**0.0**
TVSB				*e*SG		**Sg**	**23 16 20.3**	**+0.1**
TVSB	**Tavsanli**	**1.00**	**72**	*e*Pg		**Pg**	**23 16 07.1**	**0.0**
TVSB				*e*Sg		**Sg**	**23 16 20.3**	**+0.1**
ORLT	**Orhaneli**	**1.04**	**29**	*e*PG		**Pb**	**23 16 07.5**	**-0.1**
ORLT	**Orhaneli**	**1.04**	**29**	*e*Pg		**Pb**	**23 16 07.5**	**-0.1**
IZM	**Izmir**	**1.06**	**226**	*e*PG		**Pb**	**23 16 07.4**	**-0.5**
IZM	**Izmir**	**1.06**	**226**	*e*Pg		**Pb**	**23 16 07.4**	**-0.5**
BLCB	**Balcova**	**1.20**	**231**	*e*PN		**Pn**	**23 16 09.9**	**-0.2**
BLCB	**Balcova**	**1.20**	**231**	*e*Pn		**Pn**	**23 16 09.9**	**-0.2**
AYVA	**Ayvalik**	**1.21**	**279**	*i* P		**Pb**	**23 16 10.6**	**+0.2**
AYVA				*i* S		**Sb**	**23 16 26.1**	**+0.2**
AYVA	**Ayvalik**	**1.21**	**279**	*i* P		**Pb**	**23 16 10.6**	**+0.2**
AYVA				*i* S		**Sb**	**23 16 26.1**	**+0.2**
BNT	**Bandirma**	**1.24**	**349**	*e*PN		**Pn**	**23 16 10.8**	**+0.1**
BNT	**Bandirma**	**1.24**	**349**	*e*Pn		**Pn**	**23 16 10.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.33**	**22**	*e*PN		**Pb**	**23 16 12.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.33**	**22**	*e*Pn		**Pb**	**23 16 12.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.45**	**330**	*e*PN		**Pn**	**23 16 13.8**	**+0.3**
KRBG	**Karabiga-Canak**	**1.45**	**330**	*e*Pn		**Pn**	**23 16 13.8**	**+0.3**
GEMT	**Gemlik**	**1.49**	**29**	*e*PN		**Pn**	**23 16 13.9**	**-0.2**
GEMT	**Gemlik**	**1.49**	**29**	*e*Pn		**Pn**	**23 16 13.9**	**-0.2**
AYDN	**Tasoluk**	**1.50**	**191**	*i* P		**Pb**	**23 16 15.9**	**+0.5**
AYDN	**Tasoluk**	**1.50**	**191**	*i* P		**Pb**	**23 16 15.9**	**+0.5**
ARMT	**Armutlu**	**1.50**	**19**	*e*PN		**Pn**	**23 16 14.0**	**-0.4**
ARMT	**Armutlu**	**1.50**	**19**	*e*Pn		**Pn**	**23 16 14.0**	**-0.4**
PRK	**Paraskevi**	**1.53**	**275**	*e*PB		**Pn**	**23 16 15.1**	**+0.5**
PRK				*e*SB		**Sn**	**23 16 34.8**	**+0.5**
PRK	**Paraskevi**	**1.53**	**275**	*e*Pb		**Pn**	**23 16 15.1**	**+0.5**
PRK				*e*Sb		**Sn**	**23 16 34.8**	**+0.5**
EZN	**Ezine**	**1.63**	**296**	*e*PN		**Pn**	**23 16 16.3**	**+0.3**
EZN	**Ezine**	**1.63**	**296**	*e*Pn		**Pn**	**23 16 16.3**	**+0.3**
CAVI	**Cavuskoy**	**1.63**	**49**	*e*PN		**Pb**	**23 16 17.8**	**+0.1**
CAVI	**Cavuskoy**	**1.63**	**49**	*e*Pn		**Pb**	**23 16 17.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.85**	**313**	*e*PN		**Pn**	**23 16 19.7**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.85**	**313**	*e*Pn		**Pn**	**23 16 19.7**	**+0.7**
CHOS	**Chios island**	**1.86**	**247**	*e*PB		**Pn**	**23 16 19.5**	**+0.2**
CHOS				*e*SB		**Sn**	**23 16 42.4**	**-0.3**
CHOS	**Chios island**	**1.86**	**247**	*e*Pb		**Pn**	**23 16 19.5**	**+0.2**
CHOS				*e*Sb		**Sn**	**23 16 42.4**	**-0.3**
YER	**Yerkesik**	**2.00**	**179**	*e*PN		**Pn**	**23 16 21.3**	**+0.1**
YER	**Yerkesik**	**2.00**	**179**	*e*Pn		**Pn**	**23 16 21.3**	**+0.1**
HRT	**Hereke**	**2.01**	**33**	*e*PN		**Pn**	**23 16 22.4**	**+1.2**
HRT	**Hereke**	**2.01**	**33**	*e*Pn		**Pn**	**23 16 22.5**	**+1.2**
BGKT	**Bogazkoy**	**2.08**	**11**	*e*PN		**Pn**	**23 16 22.5**	**+0.3**
BGKT	**Bogazkoy**	**2.08**	**11**	*e*Pn		**Pn**	**23 16 22.5**	**+0.3**
CTKS	**Kestanelik-??a**	**2.11**	**6**	*e*PN		**Pn**	**23 16 22.9**	**+0.3**
CTKS	**Kestanelik-??a**	**2.11**	**6**	*e*Pn		**Pn**	**23 16 22.9**	**+0.3**
ALN	**Alexandroupoli**	**2.43**	**317**	*e*PN		**Pb**	**23 16 31.6**	**+0.4**
ALN				*e*SN		**Sg**	**23 17 04.4**	**-1.4**
ALN	**Alexandroupoli**	**2.43**	**317**	*e*Pn		**Pb**	**23 16 31.6**	**+0.4**

*ISCJB **20** 23:17:53.1±0.4,60.88S±0.06×24.74W±0.1,h10km,*
mb4.5/19,MS4.2/10,Error ellipse: s-maj=11.7km
s-min=7.2km az=143.7
*IDC **20** 23:17:54.2±0.5,60.63S×24.75W,h0km,mb4.5/13,*
mb1 4.6/14,mb1mx4.6/17,mbtmp4.5/14,ML5.8/1,MS4.2/10,
Ms1 4.2/10,ms1mx4.0/21,Error ellipse: s-maj=17.0km
s-min=16.5km az=40.0
*NEIC **20** 23:17:59.2±0.3,60.67S×24.84W,h35km,mb4.7/11,Error*
ellipse: s-maj=9.2km s-min=7.4km az=176.0
ISC 20 23:17:55.2±0.4,**60.80S**±0.08×**24.67W**±0.09,**h10**km,**n76,**
σ1°14/67,mb4.6/18,MS4.1/10,South Sandwich Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.91**	**153**	*e*Pn		**Pn**	**23 20 44.9**	**+0.2**
VNA1	**Neumayer--Stat**	**11.91**	**153**	*e*Sn		**Sn**	**23 22 54.4**	**-3.0**
VNA3	**Neumayer Olymp**	**12.07**	**156**	*e*Pn		**Pn**	**23 20 45.8**	**-1.2**
VNA3	**Neumayer Olymp**	**12.07**	**156**	*e*Sn		Sn	23 22 52.0	-9.5
VNA2	**Neumayer--Watz**	**12.31**	**153**	*e*Pn		**Pn**	**23 20 49.7**	**-0.5**
	baz=320,slow=12						
VNA2	**Neumayer--Watz**	**12.31**	**153**	*e*Sn		Sn	23 22 58.4	-8.8
	baz=320,slow=12						
SNAA	**Sanae**	**13.89**	**151**	*e*Pn		**Pn**	**23 21 10.3**	**-1.5**
	21nm,0.6s						
SNAA				*e*S		Sn	23 23 33.7	-12
MAIT	**Maitri**	**17.63**	**140**	*e*P		Pn	23 21 51.3	-9.1
MAIT				*e*			23 24 48.3	
PMSA	**Palmer Station**	**18.22**	**240**	P		**P**	**23 22 09.4**	**+1.4**
	2.9nm,0.3s,baz=22,slow=16,SNR=8.5						
PMSA	**Palmer Station**	**18.22**	**240**	*e*P		**P**	**23 22 09.4**	**+1.4**
EFI	**East Falkland**	**20.47**	**281**	*e*P		**P**	**23 22 33.1**	**+0.4**
	42nm,1.1s						
USHA	**Ushuaia**	**23.69**	**265**	P		**P**	**23 23 07.7**	**+1.1**
	12.0nm,0.9s,baz=93,slow=7.9,SNR=5.1						
USHA	**Ushuaia**	**23.69**	**265**	P		**P**	**23 23 07.7**	**+1.1**
QSPA	**South Pole Qui**	**29.44**	**180**	P		P	23 24 01.2	+2.5
	9.3nm,1.0s,baz=203,slow=8.1,SNR=22						
QSPA					LR	LR	23 34 54.6	
	comp=Z,322nm,19.7s,baz=90,slow=34						
QSPA	**South Pole Qui**	**29.44**	**180**	*e*P		**P**	**23 24 00.5**	**+1.9**
	18nm,0.8s						
TRQA	**Tornquist**	**32.56**	**297**	*e*P		**P**	**23 24 24.9**	**-1.3**
	8.1nm,1.0s						
PLCA	**Paso Flores**	**34.32**	**285**	P		**P**	**23 24 40.6**	**-1.1**
	1.3nm,0.6s,baz=158,slow=10,SNR=4.6						
PLCA					LR	LR	23 36 36.1	
	comp=Z,157nm,18.9s,baz=153,slow=33						
PLCA	**Paso Flores**	**34.32**	**285**	*e*P		**P**	**23 24 41.0**	**-0.6**
	5.9nm,1.2s						
MAW	**Mawson**	**35.60**	**139**	LR		LR	23 40 11.1	
	comp=Z,556nm,18.9s,baz=20,slow=37						
CFAA	**Coronel Fontan**	**40.74**	**296**	P		**P**	**23 25 34.5**	**-1.5**
	0.5nm,0.6s,baz=166,slow=5.5,SNR=8.5						
CFAA	**Coronel Fontan**	**40.74**	**296**	P		**P**	**23 25 34.5**	**-1.5**
VNDA	**Vanda**	**41.87**	**182**	P		P	23 25 47.7	+3.0
	8.3nm,1.0s,baz=193,slow=6.4,SNR=18						
VNDA					LR	LR	23 42 52.6	
	comp=Z,361nm,20.5s,baz=299,slow=36						
VNDA	**Vanda**	**41.87**	**182**	*e*P		**P**	**23 25 46.5**	**+1.8**
	9.5nm,1.1s						
BOSA	**Boshof**	**46.15**	**69**	P		**P**	**23 26 20.7**	**+1.0**
	5.8nm,1.0s,baz=216,slow=7.4,SNR=4.7						
BOSA	**Boshof**	**46.15**	**69**	*e*P		**P**	**23 26 19.8**	**+0.1**
	67nm,2.1s						
BDFB	**Brasilia**	**48.14**	**329**	P		**P**	**23 26 35.0**	**-0.3**
	1.7nm,0.5s,baz=147,slow=9.6,SNR=4.5						
BDFB					LR	LR	23 43 28.7	
	comp=Z,141nm,20.6s,baz=345,slow=32						
LBTB	**Lobatse**	**49.39**	**67**	P		**P**	**23 26 44.8**	**-0.1**
	14nm,1.2s,baz=210,slow=8.7,SNR=7.5						
LBTB	**Lobatse**	**49.39**	**67**	*e*P		**P**	**23 26 47.3**	**+2.5**
	7.2nm,0.9s						
LBTB					*e*PcP	**PcP**	**23 28 06.0**	**-1.2**
LPAZ	**La Paz**	**54.22**	**305**	P		**P**	**23 27 20.8**	**-0.7**
	3.6nm,0.9s,baz=120,slow=7.4,SNR=10						
LPAZ					LR	LR	23 48 10.2	
	comp=Z,142nm,18.9s,baz=351,slow=34						
LPAZ	**La Paz**	**54.22**	**305**	*e*P		**P**	**23 27 20.3**	**-1.3**
	6.8nm,0.9s						
LPAZ					*e*PcP	**PcP**	**23 28 24.0**	**-1.9**
LSZ	**Lusaka**	**59.07**	**64**	*e*P		**P**	**23 27 55.6**	**+0.1**
	10.0nm,1.0s						
SAML	**Samuel**	**59.09**	**314**	*e*P		**P**	**23 27 53.9**	**-1.5**
	5.8nm,0.8s						
SAML					*e*PcP	**PcP**	**23 28 42.0**	**-2.2**
DBIC	**Dimbokro**	**69.04**	**21**	P		**P**	**23 29 01.1**	**+0.3**
	3.9nm,0.9s,baz=146,slow=8.2,SNR=4.5						
DBIC					LR	LR	23 52 52.4	
	comp=Z,60nm,18.2s,baz=100,slow=30						
DBIC	**Dimbokro**	**69.04**	**21**	P		**P**	**23 29 01.1**	**+0.3**
ROSC	**Ei Rosal**	**75.94**	**308**	LR		LR	00 00 55.8	
	comp=Z,105nm,18.2s,baz=8.6,slow=34						
TOA0	**Torodi Ar. Sit**	**76.64**	**26**	*e*P		**P**	**23 29 46.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.64**	**26**	P		**P**	**23 29 46.5**	**+0.6**
	19nm,1.2s,baz=193,slow=5.6,SNR=42						
TORD	**Torodi Ar. Bea**	**76.64**	**26**	P		**P**	**23 29 46.5**	**+0.6**
TAM	**Tamanrasset**	**86.82**	**28**	*e*P		**P**	**23 30 39.2**	**-0.3**
	2.5nm,1.1s						
STKA	**Stephens Creek**	**86.97**	**168**	P		**P**	**23 30 41.4**	**+1.1**
	3.6nm,0.9s,baz=186,slow=6.9,SNR=5.7						
STKA	**Stephens Creek**	**86.97**	**168**	P		**P**	**23 30 41.2**	**+1.0**
ASAR	**Alice Springs**	**94.05**	**160**	P		**P**	**23 31 13.8**	**+0.2**
	1.7nm,0.8s,baz=193,slow=4.4,SNR=9.8						
ASAR					LR	LR	00 09 50.0	
	comp=Z,317nm,19.9s,baz=159,slow=33						
ASAR	**Alice Springs**	**94.05**	**160**	P		**P**	**23 31 13.8**	**+0.2**
DZM	**Mont Dzumac**	**96.94**	**190**	P		**P**	**23 31 24.2**	**-2.6**
	10nm,0.9s,baz=100,slow=6.1,SNR=3.1						
DZM	**Mont Dzumac**	**96.94**	**190**	P		**P**	**23 31 24.2**	**-2.6**
WRA	**Warramunga Arr**	**97.77**	**160**	P		Pdif	23 31 30.1	-0.4
	1.4nm,1.0s,baz=199,slow=4.5,SNR=6.6						
WRA					LR	LR	00 12 16.8	
	comp=Z,294nm,18.7s,baz=170,slow=33						
WRA	**Warramunga Arr**	**97.77**	**160**	P		Pdif	23 31 30.1	-0.4
WRAB	**Tennant Creek**	**97.78**	**160**	P		Pdif	23 31 31.1	+0.5
CMAR	**Chiang Mai Arr**	**122.13**	**111**	PKP		**PKPdf**	**23 36 50.1**	**+0.4**
	0.4nm,0.3s,baz=248,slow=3.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**122.13**	**111**	PKP		**PKPdf**	**23 36 50.1**	**+0.4**
PDAR	**Pinedale Array**	**123.88**	**298**	PKP		**PKPdf**	**23 36 53.4**	**+0.7**
	0.4nm,0.8s,baz=143,slow=2.3,SNR=2.8						
PDAR	**Pinedale Array**	**123.88**	**298**	PKP		**PKPdf**	**23 36 53.4**	**+0.7**
NVAR	**Mina Array Bea**	**124.33**	**288**	PKP		**PKPdf**	**23 36 55.4**	**+1.8**
	0.6nm,0.8s,baz=114,slow=3.4,SNR=3.6						
NVAR	**Mina Array Bea**	**124.33**	**288**	PKP		**PKPdf**	**23 36 55.4**	**+1.8**
NOA	**NORSAR Array B**	**124.61**	**20**	PKP		**PKPdf**	**23 36 53.3**	**+0.1**
	0.8nm,0.8s,baz=190,slow=1.2,SNR=3.4						
NOA	**NORSAR Array B**	**124.61**	**20**	PKP		**PKPdf**	**23 36 53.3**	**+0.1**
FINES	**FINESS Array B**	**127.97**	**28**	PKP		**PKPdf**	**23 36 59.2**	**-0.3**
	3.6nm,0.8s,baz=131,slow=5.5,SNR=7.7						
FINES	**FINESS Array B**	**127.97**	**28**	PKP		**PKPdf**	**23 36 59.2**	**-0.3**
AKTO	**Aktyubinsk**	**129.06**	**55**	PKP		**PKPdf**	**23 37 01.9**	**0.0**
	1.5nm,0.8s,baz=206,slow=4.3,SNR=4.3						
AKTO	**Aktyubinsk**	**129.06**	**55**	PKP		**PKPdf**	**23 37 01.9**	**0.0**
BVAR	**Borovoye Array**	**136.11**	**60**	PKP		**PKPdf**	**23 37 15.2**	**0.0**
	1.1nm,1.0s,baz=252,slow=2.9,SNR=4.3						
BVAR	**Borovoye Array**	**136.11**	**60**	PKP		**PKPdf**	**23 37 15.2**	**0.0**
MKAR	**Makanchi Array**	**137.01**	**75**	PKhKP		PKPpre	23 37 15.0	
	0.9nm,1.0s,baz=250,slow=4.2,SNR=4.8						
MKAR	**Makanchi Array**	**137.01**	**75**	PKhKP		PKPpre	23 37 15.0	
YKA	**Yellowknife Ar**	**140.50**	**313**	PKhKP		PKPpre	23 37 16.5	
	1.3nm,0.9s,baz=132,slow=2.4,SNR=5.2						
YKA				PKP		**PKPdf**	**23 37 23.6**	**+0.7**
	1.1nm,0.8s,baz=134,slow=2.6,SNR=17						
YKA				SKPab		**SKPab**	**23 41 11.6**	**+0.2**
	0.4nm,0.9s,baz=129,slow=2.7,SNR=4.0						
YKA	**Yellowknife Ar**	**140.50**	**313**	PKPpre		PKPpre	23 37 16.5	
YKA				PKP		**PKPdf**	**23 37 23.6**	**+0.7**
YKA				SKPab		**SKPab**	**23 41 11.6**	**+0.2**
ZALV	**Zalesovo Beam**	**143.10**	**68**	PKhKP		PKPpre	23 37 23.7	
	1.0nm,0.7s,baz=267,slow=3.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**143.10**	**68**	PKPpre		PKPpre	23 37 23.7	
SONM	**Songino Array**	**149.43**	**93**	PKPbc		**PKPbc**	**23 37 43.6**	**+0.2**
	5.6nm,0.9s,baz=217,slow=2.4,SNR=27						
SONM	**Songino Array**	**149.43**	**93**	PKPbc		**PKPbc**	**23 37 43.6**	**+0.2**
KSAR	**Wonju Array Be**	**150.92**	**131**	PKPbc		**PKPbc**	**23 37 47.9**	**+0.7**
KSRS	**Korea Array**	**150.95**	**131**	PKPbc		**PKPbc**	**23 37 47.9**	**+0.7**
	4.5nm,1.0s,baz=193,slow=1.7,SNR=10						
MJAR	**Matsushiro Arr**	**153.39**	**148**	PKPbc		**PKPbc**	**23 37 53.2**	**+0.4**
	0.7nm,0.3s,baz=204,slow=2.0,SNR=3.6						
MJAR	**Matsushiro Arr**	**153.39**	**148**	PKPbc		**PKPbc**	**23 37 53.2**	**+0.4**
ILAR	**Eielson Array**	**154.09**	**304**	PKPbc		**PKPbc**	**23 37 54.0**	**+0.6**
	2.4nm,0.9s,baz=137,slow=1.9,SNR=10						
ILAR	**Eielson Array**	**154.09**	**304**	PKPbc		**PKPbc**	**23 37 54.0**	**+0.6**

*JMA **20** 23:20:43.4±0.1,32.96N×138.34E,h313km, M2.9*
*IDC **20** 23:20:43.7±1.9,32.74N×138.01E,h284km±32km, mb3.1/4,*
mb1 3.1/7,mb1mx2.9/29,mbtmp3.0/7,Error ellipse:
s-maj=55.7km s-min=17.4km az=56.0
*ISCJB **20** 23:20:44.1±0.8,33.1N±0.1×138.8E±0.2,h335km±13km,*
mb3.1/4,Error ellipse: s-maj=31.8km s-min=13.7km
az=151.6
ISC 20 23:20:44.9±1.0,**33.1N**±0.1×**138.7E**±0.2,**h323**km±14km,
n14,σ1°22/18,mb3.1/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.93**	**88**	P		**Pn**	**23 21 26.7**	**-0.7**
BSO3	**Boso 3**	**2.28**	**41**	*e*S		**S**	**23 22 16.8**	**+0.8**
BSO4	**Boso 4**	**2.34**	**35**	*e*S		**S**	**23 22 19.0**	**+1.8**
JRY	**Ryogami san**	**2.93**	**3**	P		**Pn**	**23 21 42.6**	**+1.0**
JRY				*e*S		**S**	**23 22 26.9**	**-0.1**
JAG	**Ashikaga**	**3.39**	**10**	P		**Pn**	**23 21 46.2**	**+0.2**
JAG				*e*S		**S**	**23 22 32.3**	**-2.7**
MJAR	**Matsushiro Arr**	**3.48**	**353**	P		**Pn**	**23 21 46.0**	**-0.9**
	1.5nm,0.3s,baz=188,slow=7.2,SNR=12						
MJAR				S		**S**	**23 22

MKAR	**Makanchi Array**	**57.37 325**	P	P	00 16 30.4	-0.7
	0.8nm,0.4s,baz=116,slow=7.6,SNR=10					
ZALV	**Zalesovo Beam**	**60.33 333**	P	P	00 16 48.2	-3.3
	0.2nm,0.3s,baz=131,slow=7.9,SNR=2.5					
OPO	**Ambohidratompo**	**81.77 251**	LR	LR	00 51 38.0	
	comp=Z,98nm,18.9s,baz=74,slow=33					

WEL 21 00:36:55.8±0.8, 36°02'S×178°13'E, h224km±6km, ML3.5/6, Error ellipse: s-maj=15.5km s-min=11.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.54**	**175**	PN	Pn	00 37 32.2	+0.1
MXZ				SN	S	00 37 59.6	-0.8
PUZ	**Puketiti**	**2.05**	**177**	PN	Pn	00 37 37.2	+0.6
PUZ				SN	S	00 38 07.7	-0.9
URZ	**Urewera**	**2.38**	**200**	PN	Pn	00 37 40.3	+0.4
URZ				SN	S	00 38 15.1	+0.7
CNGZ	**Carnagh Statio**	**2.46**	**179**	PN	Pn	00 37 41.5	+0.7
KAHZ	**Kahuranaki**	**3.90**	**194**	PN	Pn	00 37 57.0	-0.2
MRZ	**Mangatainoka R**	**5.05**	**203**	PN	Pn	00 38 10.0	-1.4
TIWZ	**Tintock**	**5.06**	**200**	PN	Pn	00 38 10.0	-1.6
TCW	**Tory Channel**	**6.00**	**209**	PN	Pn	00 38 21.0	-2.3
TUWZ	**Tuamarina**	**6.31**	**210**	PN	Pn	00 38 24.6	-2.7

*IDC **21** 00:51:14.6±2.9, 31°.33N×142°.34E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/26, mbtmp3.8/10, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/46, Error ellipse: s-maj=94.7km s-min=30.8km az=14.0*
*JMA **21** 00:51:19.7±0.4, 32°.20N×142°.67E, h0km, M3.7*
*NEIC **21** 00:51:20.3±0.7, 31°.43N×142°.20E, h35km, mb4.1/3, Error ellipse: s-maj=20.5km s-min=12.5km az=55.0*
ISC 21 00:51:22.4±1.1, 31°.9N±0.1×142°.7E±0.1, h44km, n34, σ1§42/37, mb3.8/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.72**	**297**	P	**Pn**	**00 52 03.9**	**+0.3**
JHJ2				eS	**Sn**	**00 52 35.9**	**+0.6**
BSO3	**Boso 3**	**3.41**	**328**	P	**Pn**	**00 52 12.3**	**-0.6**
JOD2	**Odawara 2**	**4.50**	**319**	P	**Pn**	**00 52 27.6**	**-0.5**
JHO	**Hitachi**	**5.00**	**340**	P	**Pn**	**00 52 34.3**	**-0.7**
JHO				eS	**Sn**	**00 53 29.5**	**-2.0**
JRY	**Ryogami san**	**5.17**	**323**	P	**Pn**	**00 52 37.1**	**-0.2**
JRY				eS	**Sn**	**00 53 36.7**	**+1.1**
JAG	**Ashikaga**	**5.24**	**330**	P	**Pn**	**00 52 37.5**	**-0.7**
JAG				eS	**Sn**	**00 53 38.2**	**+0.8**
MJAR	**Matsushiro Arr**	**5.93**	**322**	Pn	**Pn**	**00 52 46.7**	**-1.0**
	0.6nm,0.3s,baz=146,slow=10,SNR=10						
MJAR	**Matsushiro Arr**	**5.93**	**322**	Pn	**Pn**	**00 52 46.7**	**-1.0**
MAJO	**Matsushiro**	**5.93**	**322**	ePn	**Pn**	**00 52 46.3**	**-1.4**
	4.7nm,0.6s						
MAJO				eSn	**Sn**	**00 53 59.7**	**+5.3**
KSRS	**Korea Array**	**13.36**	**298**	LR	LR	00 58 34.5	
	comp=Z,34nm,19.7s,baz=346,slow=33						
INCN	**Inchon**	**14.34**	**297**	ePn	Pn	00 54 38.5	-4.3
ULN	**Ulaanbaatar**	**31.32**	**311**	eP	**P**	**00 57 37.7**	**-0.9**
	1.5nm,0.9s						
SONM	**Songino Array**	**31.74**	**311**	P	**P**	**00 57 41.9**	**-0.3**
	0.4nm,0.6s,baz=117,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**31.74**	**311**	P	**P**	**00 57 41.9**	**-0.3**
ZALV	**Zalesovo Beam**	**46.24**	**316**	P	**P**	**00 59 43.4**	**+0.3**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.24**	**316**	P	**P**	**00 59 43.4**	**+0.3**
MK31	**Makanchi Array**	**47.88**	**306**	eP	**P**	**00 59 54.3**	**-1.8**
MKAR	**Makanchi Array**	**47.88**	**306**	P	**P**	**00 59 54.4**	**-1.7**
	0.7nm,0.8s,baz=89,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**47.88**	**306**	P	**P**	**00 59 54.4**	**-1.7**
KURK	**Kurchatov**	**50.03**	**312**	eP	**P**	**01 00 11.6**	**-0.8**
	3.5nm,0.8s						
KURK				ePcP	**PcP**	**01 01 31.7**	**0.0**
KURBB	**Kurchatov Arra**	**50.09**	**312**	P	**P**	**01 00 12.8**	**-0.1**
	2.5nm,0.7s,baz=85,slow=7.5,SNR=29						
FITZ	**Fitzroy Crossi**	**52.37**	**201**	eP	P	01 00 23.2	-7.0
BRVK	**Borovoye**	**54.94**	**315**	eP	**P**	**01 00 47.0**	**-1.8**
ABKAR	**Akbulak array**	**62.12**	**313**	eP	**P**	**01 01 38.0**	**-0.7**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**62.95**	**314**	P	**P**	**01 01 43.8**	**-0.6**
	0.6nm,0.7s,baz=72,slow=12,SNR=4.1						
AKTO	**Aktyubinsk**	**62.95**	**314**	P	**P**	**01 01 43.8**	**-0.6**
FINES	**FINESS Array B**	**73.84**	**333**	P	**P**	**01 02 53.0**	**+0.9**
	1.7nm,0.8s,baz=101,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	**73.84**	**333**	P	**P**	**01 02 53.0**	**+0.9**
NVAR	**Mina Array Bea**	**77.20**	**53**	P	**P**	**01 03 14.3**	**+2.2**
	0.3nm,0.7s,baz=273,slow=6.0,SNR=2.7						
NVAR	**Mina Array Bea**	**77.20**	**53**	P	**P**	**01 03 14.3**	**+2.2**
NOA	**NORSAR Array B**	**79.31**	**338**	P	**P**	**01 03 24.1**	**+0.9**
	0.9nm,0.7s,baz=41,slow=5.7,SNR=4.2						
NOA	**NORSAR Array B**	**79.31**	**338**	P	**P**	**01 03 24.1**	**+0.9**
BRTR	**Keskin Array B**	**83.07**	**313**	P	**P**	**01 03 42.9**	**-0.8**
	0.3nm,0.8s,baz=57,slow=5.0,SNR=4.0						
BRTR	**Keskin Array B**	**83.07**	**313**	P	**P**	**01 03 42.9**	**-0.8**

DJA 21 00:56:04.0±0.5, 7°S±8°×112°6E±°, h10km, M5.0/7, mb5.2/5, mB5.5/3, MLv4.8/7, Mw(mB)5.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**3.47**	**290**	P	Pn	00 56 58.7	+0.6
NLAI	**Namlea**	**3.63**	**20**	P	Pn	00 57 01.9	+1.6
KDI	**Kendari**	**4.20**	**310**	P	Pg	00 57 22.8	-1.7
BKSI	**Bulukumba**	**5.85**	**283**	P	Pn	00 57 26.9	-4.0
	37nm,0.6s,604nm0.1nm						
WSI	**Waingapu**	**6.25**	**241**	P	Pn	00 57 32.1	-4.3
	baz=5.0,SNR=7.1						
WSI	**Waingapu**	**6.25**	**241**	P	Pn	00 57 37.6	+1.2
	1µm,0.5s,24µm6.6nm						
SPSI	**Sidrap Palu**	**6.62**	**294**	P	Pn	00 57 42.3	+0.8
	31nm,1.0s,0.1nm						
TLE	**Tual**	**6.92**	**82**	P	Pn	00 57 45.6	0.0
	baz=8.0,SNR=5.5						
TLE	**Tual**	**6.92**	**82**	P	Pn	00 57 45.6	0.0
	265nm,0.6s,0.9nm						
FAKI	**Fak Fak**	**7.38**	**60**	P	Pn	00 57 50.0	-2.0
SWI	**Sorong**	**7.90**	**43**	P	Pb	00 58 11.4	-10
	baz=9.4,SNR=9.1						
PCI	**Palu**	**8.29**	**313**	P	Pn	00 58 02.5	-1.9
	baz=8.8,SNR=18						
PCI				S	Sb	01 00 07.5	+0.8
	baz=8.8,SNR=18						

*ISCJB **21** 00:56:08.7±0.6, 5°.46S±0°.09×129°.3E±0°.2, h300km, mb3.6/3, Error ellipse: s-maj=24.1km s-min=6.1km az=153.6*
*IDC **21** 00:56:08.5±4.4, 5°.28S×129°.38E, h277km±43km, mb3.3/3, mb1 3.1/6, mb1mx3.0/21, mbtmp3.0/6, Error ellipse: s-maj=63.4km s-min=12.5km az=72.0*
ISC 21 00:56:10.0±0.9, 5°.43S±0°.09×129°.5E±0°.1, h300km, n18, σ2§02/23, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**7.55**	**167**	P	**Pn**	**00 57 57.2**	**-0.8**
	baz=7.7,SNR=26						
MTN				S	**S**	**00 59 20.9**	**-4.7**
	baz=7.7,SNR=8.0						
KDU	**Kakadu**	**7.80**	**158**	P	**Pn**	**00 57 59.9**	**-1.2**
	baz=8.7,SNR=72						
KDU				S	**S**	**00 59 27.9**	**-3.3**
	baz=8.7,SNR=9.9						
FITZ	**Fitzroy Crossi**	**13.14**	**196**	P	**Pn**	**00 59 05.9**	**-0.4**
	0.4nm,0.3s,baz=34,slow=11,SNR=16						
FITZ				S	**S**	**01 01 31.1**	**-0.6**
	0.3nm,0.3s,baz=121,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**15.19**	**162**	P	**Pn**	**00 59 31.3**	**+0.6**
	0.2nm,0.3s,baz=344,slow=12,SNR=20						
WRA				S	**S**	**01 02 16.6**	**+2.0**
	0.3nm,0.3s,baz=342,slow=21,SNR=6.0						
COEN	**Coen**	**15.95**	**123**	P	**Pn**	**00 59 40.7**	**+1.1**
	baz=19,SNR=3.9						
ASAR	**Alice Springs**	**18.63**	**167**	P	**P**	**01 00 08.9**	**+2.5**
	0.3nm,0.3s,baz=344,slow=11,SNR=9.2						
ASAR				S	**S**	**01 03 28.0**	**+5.2**
	0.0nm,0.3s,baz=351,slow=23,SNR=5.4						
TAPN	**Taplejung**	**51.85**	**311**	eP	**P**	**01 04 48.1**	**-0.6**
	9.3nm,0.4s						
RAMN	**Ramite**	**52.48**	**310**	eP	**P**	**01 04 53.0**	**-0.3**
	17nm,0.4s						
JIRN	**Jiri**	**53.16**	**311**	eP	**P**	**01 04 57.9**	**-0.5**
GUN	**Gumba**	**53.52**	**311**	eP	**P**	**01 05 00.5**	**-0.5**
	10nm,0.4s						
PKI	**Pulchoki**	**53.70**	**310**	eP	**P**	**01 05 01.2**	**-1.1**
	3.4nm,0.2s						
GKN	**Gorkha**	**54.51**	**310**	eP	**P**	**01 05 07.3**	**-0.5**
	12nm,0.3s						
KOLN	**Koldanda**	**55.19**	**309**	eP	**P**	**01 05 12.3**	**-0.4**
	2.2nm,0.4s						
DANN	**Dangsing**	**55.35**	**310**	eP	**P**	**01 05 13.4**	**-0.6**
PYUN	**Piuthan**	**55.82**	**309**	eP	**P**	**01 05 17.0**	**-0.2**
MKAR	**Makanchi Array**	**66.62**	**327**	P	**P**	**01 06 28.9**	**+0.2**
	0.6nm,0.3s,baz=126,slow=7.8,SNR=23						
AAK	**Ala-Archa**	**69.00**	**320**	P	**P**	**01 06 44.7**	**+1.0**
	0.4nm,0.4s,baz=90,slow=4.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**69.94**	**334**	P	**P**	**01 06 47.3**	**-1.6**
	0.3nm,0.3s,baz=147,slow=5.7,SNR=3.3						

*ISK **21** 00:57:27.8, 38°.09N×42°.46E, h5km, MD3.1*
*ISCJB **21** 00:57:30.9±0.6, 38°.17N±0°.04×42°.55E±0°.03, h11km±6km, Error ellipse: s-maj=7.3km s-min=4.1km az=6.4*
*CSEM **21** 00:57:30.6±0.2, 38°.20N×42°.58E, h20km, MD2.8, Error ellipse: s-maj=6.9km s-min=4.9km az=10.0*
*DDA **21** 00:57:30.1, 38°.19N×42°.54E, h7km, MD2.8*
ISC 21 00:57:30.6±1.2, 38°.16N±0°.03×42°.56E±0°.02, h14km±10km, n28, σ0§88/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATV	**Tatvan**	**0.42**	**327**	*i* P	**Pg**	**00 57 38.8**	**-0.3**
TATV				*i* S	**Sb**	**00 57 45.6**	**-0.7**
TATV	**Tatvan**	**0.42**	**327**	*i* P	**Pg**	**00 57 38.8**	**-0.3**
TATV				*i* S	**Sb**	**00 57 45.6**	**-0.7**
GEVA	**Gevas**	**0.42**	**68**	*i* P	**Pg**	**00 57 38.4**	**-0.8**
GEVA				*i* S	**Sb**	**00 57 46.1**	**-0.4**
GEVA	**Gevas**	**0.42**	**68**	*i* P	**Pg**	**00 57 38.4**	**-0.8**
GEVA				*i* S	**Sb**	**00 57 46.1**	**-0.4**
VANT	**Van**	**0.62**	**64**	*e*PG	**Pg**	**00 57 42.3**	**-0.5**
VANT				*e*SG	**Sb**	**00 57 53.7**	**+1.7**
VANT	**Van**	**0.62**	**64**	*e*Pg	**Pg**	**00 57 42.3**	**-0.5**
VANT				*e*Sg	**Sb**	**00 57 53.7**	**+1.7**
SIRN	**S¯¯rnak**	**0.67**	**190**	*i* P	**Pb**	**00 57 44.4**	**+0.3**
SIRN				*i* S	**Sb**	**00 57 53.5**	**+0.2**
SIRN	**S¯¯rnak**	**0.67**	**190**	*i* P	**Pb**	**00 57 44.4**	**+0.3**
SIRN				*i* S	**Sb**	**00 57 53.5**	**+0.2**
VANB	**Van**	**0.79**	**56**	*e*PG	**Pg**	**00 57 46.0**	**+0.1**
VANB	**Van**	**0.79**	**56**	*e*Pg	**Pg**	**00 57 46.0**	**+0.1**
BTMT	**Batman**	**0.84**	**273**	*e*PG	**Pb**	**00 57 46.9**	**-0.2**
BTMT				*e*SG	**Sn**	**00 58 00.3**	**-0.2**
BTMT	**Batman**	**0.84**	**273**	*e*Pg	**Pb**	**00 57 46.9**	**-0.2**
BTMT				*e*Sg	**Sn**	**00 58 00.3**	**-0.2**
BEST	**Besiri**	**1.05**	**256**	*i* P	**Pn**	**00 57 51.1**	**+0.1**
BEST				*i* S	**Sn**	**00 58 06.8**	**+1.2**
HAKT	**HAKKARI**	**1.09**	**123**	*i* P	**Pb**	**00 57 50.6**	**-0.8**
HAKT				*i* S	**Sn**	**00 58 07.0**	**+0.3**
HAKT	**HAKKARI**	**1.09**	**123**	*i* P	**Pb**	**00 57 50.6**	**-0.8**
HAKT				*i* S	**Sn**	**00 58 07.0**	**+0.3**
CUKT	**Cukurca**	**1.23**	**137**	*e*PN	**Pn**	**00 57 52.9**	**-0.7**
CUKT	**Cukurca**	**1.23**	**137**	*e*Pn	**Pn**	**00 57 52.9**	**-0.7**
VRTB	**Varto-Mus**	**1.32**	**320**	*e*PN	**Pn**	**00 57 54.7**	**-0.2**
VRTB	**Varto-Mus**	**1.32**	**320**	*e*Pn	**Pn**	**00 57 54.7**	**-0.2**
AGRB	**Hanur-Agry**	**1.46**	**13**	*e*PN	**Pg**	**00 57 59.1**	**+0.4**
AGRB				*e*SN	**Sg**	**00 58 19.7**	**+2.0**
AGRB	**Hanur-Agry**	**1.46**	**13**	*e*Pn	**Pg**	**00 57 59.1**	**+0.4**
MARD	**Mardin**	**1.64**	**240**	*i* P	**Pb**	**00 58 00.8**	**0.0**
BNGB	**Bing¯¶i**	**1.69**	**300**	*e*PN	**Pn**	**00 57 58.4**	**-1.6**
BINT	**Bingol**	**1.77**	**295**	*e*Pn	**Pn**	**00 57 58.4**	**-2.7**
DIYA	**Diyarbakir**	**1.94**	**264**	*i* P	**Pn**	**00 58 03.7**	**+0.4**
DIYA	**Diyarbakir**	**1.94**	**264**	*i* P	**Pn**	**00 58 03.7**	**+0.4**
PTK	**Pertek**	**2.59**	**287**	*e*PN	**Pn**	**00 58 11.5**	**-0.8**
PTK	**Pertek**	**2.59**	**287**	*e*Pn	**Pn**	**00 58 11.5**	**-0.8**

*AUST **21** 01:14:52.4, 24°.66S×179°.91E, h450km*
*ISCJB **21** 01:14:54.7±0.4, 24°.86S±0°.07×179°.85E±0°.07, h501km, mb4.1/14, Error ellipse: s-maj=9.7km s-min=8.1km az=152.0*
*IDC **21** 01:14:55.7±1.5, 24°.83S×179°.77E, h498km±14km, mb3.7/15, mb1 3.9/15, mb1mx3.8/22, mbtmp3.7/15, Error ellipse: s-maj=15.9km s-min=12.6km az=10.0*
ISC 21 01:14:55.6±0.5, 24°.87S±0°.09×179°.90E±0°.08, h501km, n41, σ1§25/43, mb4.1/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**11.06**	**61**	S	**S**	**01 19 22.9**	**-3.8**
	baz=11,SNR=4.2						
DZM	**Mont Dzumac**	**12.66**	**280**	P	**P**	**01 17 42.8**	**+1.5**
	0.7nm,0.3s,baz=78,slow=18,SNR=7.5						
URZ	**Urewera**	**13.55**	**189**	P	P	01 17 48.0	-2.3
	7.4nm,0.3s,baz=8.6,slow=3.0,SNR=36						
URZ				S	**S**	**01 20 12.1**	**-2.4**
	0.6nm,0.3s,baz=314,slow=20,SNR=4.1						
RPZ	**Rata Peaks**	**20.14**	**199**	P	**P**	**01 18 55.0**	**-0.2**
	6.7nm,0.4s,baz=16,slow=9.2,SNR=8.3						
RMQ	**Roma**	**28.08**	**260**	P	**P**	**01 20 07.7**	**+1.4**
	baz=28,SNR=6.5						
CMSA	**Cobar Meteorol**	**30.78**	**250**	P	**P**	**01 20 29.6**	**0.0**
	baz=31,SNR=7.0						
CTA	**Charters Tower**	**31.40**	**272**	P	**P**	**01 20 35.5**	**+0.4**
	45nm,0.8s,baz=97,slow=11,SNR=34						
QLP	**Quilpie**	**32.11**	**259**	P	**P**	**01 20 41.3**	**+0.2**
	baz=32,SNR=12						
STKA	**Stephens Creek**	**34.28**	**249**	P	**P**	**01 20 59.0**	**-0.4**
	2.5nm,0.4s,baz=117,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**34.28**	**249**	P	**P**	**01 21 00.1**	**+0.7**
	baz=34,SNR=7.0						
PMG	**Port Moresby**	**34.74**	**291**	P	**P**	**01 21 03.0**	**-0.4**
	22nm,0.7s,baz=101,slow=10,SNR=3.4						
COEN	**Coen**	**36.19**	**281**	P	**P**	**01 21 15.9**	**+0.4**
	baz=36,SNR=5.9						
BBOO	**Buckleboo**	**38.99**	**248**	P	**P**	**01 21 37.6**	**-0.7**
	baz=39,SNR=7.7						
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**01 22 00.5**	**-0.4**
	6.7nm,0.8s,baz=98,slow=8.1,SNR=40						
ASAR				ScP	**ScP**	**01 26 49.1**	**+1.2**
	0.9nm,0.8s,baz=109,slow=3.9,SNR=5.4						
WRA	**Warramunga Arr**	**42.26**	**267**	P	**P**	**01 22 03.4**	**-1.2**
	9.4nm,0.3s,baz=102,slow=8.1,SNR=258						
WRA				ScP	**ScP**	**01 26 51.9**	**+2.0**
	4.7nm,1.0s,baz=104,slow=4.1,SNR=14						
WRA				S	**S**	**01 27 46.1**	**-2.5**
	1.5nm,0.7s,baz=102,slow=13,SNR=4.7						
KDU	**Kakadu**	**46.29**	**276**	P	**P**	**01 22 34.9**	**-1.0**
	baz=46,SNR=5.1						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	P	**P**	**01 23 07.9**	**-0.6**
	15nm,0.6s,baz=104,slow=6.8,SNR=28						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	P	**P**	**01 23 08.3**	**-0.2**
	baz=51,SNR=24						
VNDA	**Vanda**	**53.41**	**185**	P	**P**	**01 23 27.7**	**+0.5**
	0.9nm,0.4s,baz=353,slow=6.5,SNR=3.7						
MEEK	**Meekatharra**	**54.75**	**254**	P	**P**	**01 23 36.4**	**-1.3**
	baz=55,SNR=3.2						
MORW	**Morawa**	**56.46**	**251**	P	**P**	**01 23 48.7**	**-0.8**
	baz=56,SNR=3.2						
WSI	**Waingapu**	**58.47**	**274**	S	S	01 31 44.6	+16
	baz=58,SNR=4.1						
PCI	**Palu**	**62.62**	**283**	P	P	01 24 36.0	+5.0
	baz=63,SNR=27						
QSPA	**South Pole Qui**	**65.21**	**180**	P	**P**	**01 24 47.6**	**+0.8**
	9.8nm,1.0s,baz=351,slow=8.3,SNR=9.1						
MJAR	**Matsushiro Arr**	**72.65**	**326**	P	**P**	**01 25 31.0**	**-0.9**
	2.2nm,0.8s,baz=169,slow=5.0,SNR=5.2						
VNA3	**Neumayer Olymp**	**83.91**	**177**	eP	**P**	**01 26 31.9**	**0.0**
VNA2	**Neumayer--Watz**	**84.33**	**178**	eP	**P**	**01 26 34.1**	**+0.2**
NVAR	**Mina Array Bea**	**85.51**	**44**	P	**P**	**01 26 41.2**	**+0.7**
	1.3nm,0.7s,baz=221,slow=8.0,SNR=10						
PLCA	**Paso Flores**	**87.66**	**134**	P	**P**	**01 26 52.2**	**+1.6**
	2.1nm,0.8s,baz=249,slow=8.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P	**P**	**01 27 01.6**	**+0.9**
	1.7nm,0.7s,baz=107,slow=3.0,SNR=10						
TXAR	**Lajitas Array**	**91.02**	**58**	P	**P**	**01 27 07.7**	**+1.4**
	1.8nm,0.8s,baz=203,slow=8.3,SNR=21						
PDAR	**Pinedale Array**	**93.45**	**44**	P	**P**	**01 27 17.4**	**+0.1**
	0.5nm,0.7s,baz=156,slow=4.0,SNR=4.0						
MKAR	**Makanchi Array**	**112.74**	**312**	PKiKP	**PKiKP**	**01 32 33.8**	**-1.0**
	0.2nm,0.6s,baz=115,slow=0.6,SNR=3.4						
BVAR	**Borovoye Array**	**121.10**	**318**	PKP	**PKPdf**	**01 32 49.6**	**-1.0**
	0.4nm,0.3s,baz=184,slow=3.6,SNR=4.8						
ARCES	**ARCESS Array B**	**132.82**	**348**	PKP	**PKPdf**	**01 33 11.9**	**-0.6**
	4.5nm,1.0s,baz=72,slow=2.9,SNR=3.7						
ARCES				SKPbc	**SKPbc**	**01 35 52.3**	**-0.6**
	4.0nm,0.9s,baz=5.7,slow=2.4,SNR=3.8						
FINES	**FINESS Array B**	**139.33**	**341**	PKhKP	PKPpre	01 33 15.7	
	1.4nm,0.8s,baz=101,slow=1.4,SNR=4.5						
FINES				PKP	**PKPdf**	**01 33 25.6**	**+0.8**
	1.6nm,0.9s,baz=117,slow=1.6,SNR=3.8						
FINES				SKPbc	**SKPbc**	**01 36 12.3**	**-0.3**
	2.3nm,0.7s,baz=48,slow=2.8,SNR=6.4						
NB2	**NORSAR Subarra**	**143.02**	**351**	PKP	PKPab	01 33 28.0	-0.8
	comp=Z,9.6nm,1.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.02**	**351**	PKhKP	PKPpre	01 33 28.5	
	comp=Z,0.5nm,0.6s,baz=10.0,slow=2.3,SNR=3.1						
AKASG	**Malin Array Be**	**145.73**	**326**	PKPbc	**PKPdf**	**01 33 36.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=46,slow=4.6,SNR=4.3						
BRTR	**Keskin Array B**	**148.08**	**306**	PKPbc	**PKPdf**	**01 33 43.5**	**+2.7**
	comp=Z,0.4nm,0.4s,baz=116,slow=1.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**168.21**	**189**	PKP	**PKPdf**	**01 34 04.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=86,slow=0.5,SNR=3.1						
TORD				PKPab	**PKPab**	**01 35 16.7**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=193,slow=3.3,SNR=6.9						

*IDC **21** 01:18:30.3±0.6, 23°.12S×175°.42W, h0km, mb4.4/15, mb1 4.6/16, mb1mx4.5/22, mbtmp4.4/16, ML4.2/1, MS3.9/2, Ms1 3.9/2, ms1mx3.3/34, Error ellipse: s-maj=22.9km s-min=15.0km az=157.0*
*ISCJB **21** 01:18:33.6±0.4, 23°.29S±0°.09×175°.35W±0°.09, h30km, mb4.7/30, MS3.9/1, Error ellipse: s-maj=15.0km s-min=9.8km az=143.3*
*NEIC **21** 01:18:35.9±0.3, 23°.26S×175°.32W, h35km, mb5.0/15, Error ellipse: s-maj=15.2km s-min=9.7km az=137.0*
ISC 21 01:18:35.3±0.5, 23°.3S±0°.1×175°.24W±0°.09, h30km, n99, σ1§13/94, mb4.8/30, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.37**	**310**	*e*Pn	Pn	01 20 38.8	+4.0
AFI	**Afiamalu**	**9.89**	**20**	Pn	Pn	01 20 47.8	-7.7
	20nm,0.3s,baz=84,slow=2.9,SNR=2.8						
AFI				Sn	Sn	01 22 33.9	-12
	5.2nm,0.3s,baz=133,slow=13,SNR=3.7						
AFI	**Afiamalu**	**9.89**	**20**	Pn	Pn	01 20 47.8	-7.7
AFI				Sn	Sn	01 22 33.9	-12
RAR	**Rarotonga**	**14.47**	**85**	LR	LR	01 26 37.4	
	comp=Z,620nm,20.5s,baz=54,slow=33						
URZ	**Urewera**	**16.30**	**202**	Pn	**Pn**	**01 22 21.2**	**-0.8**
	0.9nm,0.3s,baz=134,slow=2.2,SNR=5.7						
URZ				Sn	Sn	01 25 06.5	-15
	2.2nm,0.3s,baz=345,slow=23,SNR=11						
URZ	**Urewera**	**16.30**	**202**	Pn	**Pn**	**01 22 21.2**	**-0.8**
URZ				Sn	Sn	01 25 06.5	-15
DZM	**Mont Dzumac**	**16.95**	**271**	eLR	LR	01 26 47.2	
	358nm,21.6s						
DZM	**Mont Dzumac**	**16.95**	**271**	Pn	**Pn**	**01 22 30.8**	**+0.3**
	0.1nm,0.3s,baz=70,slow=18,SNR=2.2						
DZM	**Mont Dzumac**	**16.95**	**271**	ePn	**P**	**01 22 34.5**	**+2.3**
TBI	**Tubuai**	**23.66**	**95**	eLR	LR	01 29 02.3	
	303nm,22.8s						
PPT2	**Papeete2**	**24.69**	**81**	eLR	LR	01 29 26.1	
	258nm,22.0s						
STKA	**Stephens Creek**	**39.00**	**248**	P	**P**	**01 25 58.0**	**-1.2**
	3.2nm,1.0s,baz=121,slow=9.5,SNR=4.9						
STKA	**Stephens Creek**	**39.00**	**248**	P	**P**	**01 25 58.0**	**-1.2**
AS31	**Alice Springs**	**46.44**	**259**	eP	**P**	**01 26 59.2**	**-0.6**
ASAR	**Alice Springs**	**46.44**	**259**	P	**P**	**01 26 57.8**	**-2.0**
	2.8nm,0.8s,baz=93,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**46.44**	**259**	P	**P**	**01 26 57.8**	**-2.0**
WRAB	**Tennant Creek**	**46.80**	**264**	eP	**P**	**01 27 00.1**	**-2.5**
	6.7nm,0.6s						
WRA	**Warramunga Arr**	**46.81**	**264**	P	P	01 26 59.4	-3.3
	5.7nm,0.5s,baz=102,slow=8.2,SNR=54						
WRA				S	**S**	**01 33 52.0**	**+0.6**
	0.6nm,0.9s,baz=115,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**46.81**	**264**	P	P	01 26 59.4	-3.3
WRA				S	**S**

BR131 *e*PKPab **PKPab** **01 38 32.5 +1.0**
BRTR Keskin Array B 150.60 311 PKPbc **PKPbc** **01 38 24.0 -0.7**
2.3nm,0.9s,baz=150,slow=4.7,SNR=11
BRTR Keskin Array B 150.60 311 PKPbc **PKPbc** **01 38 24.0 -0.7**
OJC Ojcow 150.66 340 *e*PX **PKPbc** **01 38 22.9 -1.4**
BUR08 Bucovina Ar. S 150.72 331 *e*PKPbc **PKPbc** **01 38 24.9 +0.2**
NIE Niedzica 151.19 339 *e*PX **PKPbc** **01 38 25.4 -0.2**
CLL Collm 151.31 349 *e*PKPbc **PKPbc** **01 38 26.0 +0.3**
comp=Z,8.0nm,1.2s
CLL *i* pPKPbc **pPKPbc** **01 38 37.2 +1.6**
comp=Z,18nm,1.2s
CLL *i* (pPKPab) 01 38 41.2
comp=Z,15nm,1.3s
MMAI Mount Meron Ar 151.38 297 PKPbc **PKPbc** **01 38 26.7 0.0**
comp=Z,3.2nm,0.7s,baz=81,slow=10,SNR=5.8
MMAI Mount Meron Ar 151.38 297 PKPbc **PKPbc** **01 38 26.7 0.0**
UPC Upice 151.44 345[1] *e*PKP **PKPbc** **01 38 26.6 +0.5**
UPC *ep*PKP **PKPab** **01 38 37.6 +3.2**
DPC Dobruska-Polom 151.51 344[1] *e*PKP **PKPbc** **01 38 26.4 +0.1**
DPC *ep*PKP **PKPab** **01 38 38.1 +3.3**
BRG Berggiesshubel 151.55 348 *e*PKP **PKPbc** **01 38 26.1 -0.2**
comp=Z,4.0nm,1.1s
BRG *e* 01 38 29.2
comp=Z,5.3nm,1.0s
BRG *e* 01 38 38.0
comp=Z,14nm,1.0s
MORC Moravsky Berou 151.72 342 *e*PKPbc **PKPbc** **01 38 26.2 -0.6**
MORC *e*PKPab **PKPab** **01 38 36.0 +0.3**
PVCC Panska Ves 151.75 347[1] *e*PKP **PKPbc** **01 38 27.5 +0.7**
PRU Pruhonice 152.27 346[1] *e*PKP **PKPbc** **01 38 27.8 -0.2**
CSS Prodhromos 152.56 302 *e*PKPab **PKPab** **01 38 40.2 +0.5**
KHC Kasperske Hory 153.28 347 *e*PKPab **PKPab** **01 38 41.6 -0.6**
KHC Kasperske Hory 153.28 347[1] *e*PKP **PKPbc** **01 38 30.2 -0.1**
KHC *e*PKPAB **PKPab** **01 38 41.6 -0.6**
GERES GERESS Array B 153.53 347 PKPbc **PKPbc** **01 38 31.4 +0.5**
comp=Z,0.8nm,0.9s,baz=54,slow=5.0,SNR=5.3
GERES GERESS Array B 153.53 347 PKPbc **PKPbc** **01 38 31.4 +0.5**
TORD Torodi Ar. Bea 169.50 163 PKP **PKPdf** **01 38 40.8 +0.1**
comp=Z,0.3nm,0.8s,baz=211,slow=1.0,SNR=2.3
TORD PKPab **PKPab** **01 39 55.2 +1.6**
comp=Z,0.7nm,0.9s,baz=184,slow=4.1,SNR=6.0
TORD Torodi Ar. Bea 169.50 163 PKP **PKPdf** **01 38 40.8 +0.1**
TORD PKPab **PKPab** **01 39 55.2 +1.6**

---

*ISCJB **21** 01:27:54.1±2.8,23.°33S±0.°07×175.°42W±0.°06, h15km±19km,mb4.8/52,MS4.4/17,Error ellipse: s-maj=13.3km s-min=7.8km az=154.7*
*AUST **21** 01:27:56.8±3.3,23.°11S×174.°65W,h63km,Error ellipse: s-maj=2.9km s-min=1.7km az=359.0*
*IDC **21** 01:27:57.9±3.0,23.°23S×175.°43W,h33km±21km,mb4.4/20, mb1 4.5/21,mb1mx4.5/25,mbtmp4.3/21,ML4.4/1,MS4.1/14, Ms1 4.1/14,ms1mx3.9/34,Error ellipse: s-maj=17.0km s-min=13.3km az=156.0*
*BJI **21** 01:27:57.6,23.°02S×175.°20W,h35km,mB5.3/21, mb4.9/23,Ms5.3/12,Ms7 4.8/12*
*NEIC **21** 01:27:58.0±0.2,23.°32S×175.°43W,h35km,mb4.9/24, Error ellipse: s-maj=10.6km s-min=6.2km az=150.0*
ISC 21 01:27:58.9±0.5,**23.°37S**±0.°08×**175.°27W**±0.°07,**h41**km±3km, **h41**km:**pP-P,n175,**σ1=**35**/196,**mb4.9**/51,**MS4.4**/17,**5C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.56**	**50**	P	Pn	01 29 22.6	-10
	baz=6.0,SNR=32						
MSVF	**Nonsavu**	**8.40**	**311**	*e*Pn	**Pn**	**01 30 00.5**	**+2.3**
	105nm,0.8s						
AFI	**Afiamalu**	**9.97**	**20**	Pn	Pn	01 30 10.8	-9.0
	8.9nm,0.3s,baz=78,slow=4.3,SNR=5.8						
AFI				Sn	Sn	01 31 52.5	-18
	20nm,0.3s,baz=100,slow=6.4,SNR=2.4						
AFI	**Afiamalu**	**9.97**	**20**	Pn	Pn	01 30 10.8	-9.0
AFI				Sn	Sn	01 31 52.5	-18
URZ	**Urewera**	**16.21**	**202**	Pn	**Pn**	**01 31 44.1**	**+0.5**
	1.4nm,0.3s,baz=302,slow=3.8,SNR=7.5						
URZ				Sn	Sn	01 34 30.5	-12
	0.9nm,0.3s,baz=149,slow=22,SNR=5.5						
URZ	**Urewera**	**16.21**	**202**	Pn	**Pn**	**01 31 44.1**	**+0.5**
URZ				Sn	Sn	01 34 30.5	-12
DZM	**Mont Dzumac**	**16.92**	**271**	*e*LR	LR	01 35 42.2	
	645nm,25.1s						
DZM	**Mont Dzumac**	**16.92**	**271**	Pn	**P**	**01 31 55.7**	**+1.4**
	0.6nm,0.3s,baz=88,slow=14,SNR=11						
DZM				LR	LR	01 35 55.4	
	comp=Z,217nm,18.5s,baz=154,slow=28						
DZM	**Mont Dzumac**	**16.92**	**271**	Pn	**P**	**01 31 55.7**	**+1.4**
TBI	**Tubuai**	**23.69**	**95**	*e*LQ	LQ	01 37 30.5	
	907nm,27.5s						
TBI				*e*LR	LR	01 39 04.9	
	660nm,22.5s,baz=267						
PPT2	**Papeete2**	**24.73**	**81**	*e*LQ	LQ	01 38 07.0	
	450nm,23.5s						
PPT2				*e*LR	LR	01 39 17.7	
	708nm,21.8s,baz=250						
PPT	**Papeete**	**24.74**	**81**	LR	LR	01 40 50.5	
	comp=Z,726nm,19.6s,baz=173,slow=31						
RMQ	**Roma**	**32.70**	**257**	P	**P**	**01 34 28.1**	**+0.4**
	baz=33,SNR=4.9						
CMSA	**Cobar Meteorol**	**35.44**	**248**	P	**P**	**01 34 51.8**	**+0.6**
	baz=36,SNR=6.2						
CTA	**Charters Tower**	**35.82**	**268**	P	**P**	**01 34 53.8**	**-0.9**
	14nm,0.6s,baz=88,slow=11,SNR=20						
CTA	**Charters Tower**	**35.82**	**268**	P	**P**	**01 34 53.8**	**-0.9**
CTAO	**Charters Tower**	**35.82**	**268**	*e*P	**P**	**01 34 53.5**	**-1.2**
	13nm,0.6s						
QLP	**Quilpie**	**36.74**	**256**	P	**P**	**01 35 01.6**	**-0.8**
	baz=37,SNR=4.9						
PMG	**Port Moresby**	**38.49**	**285**	P	**P**	**01 35 15.7**	**-1.7**
	18nm,0.8s,baz=321,slow=6.5,SNR=3.6						
PMG	**Port Moresby**	**38.49**	**285**	P	**P**	**01 35 15.7**	**-1.7**
STKA	**Stephens Creek**	**38.94**	**248**	P	**P**	**01 35 19.1**	**-1.9**
	3.0nm,0.7s,baz=82,slow=9.7,SNR=8.7						
STKA				LR	LR	01 50 10.4	
	comp=Z,197nm,20.7s,baz=293,slow=34						
STKA	**Stephens Creek**	**38.94**	**248**	P	**P**	**01 35 19.1**	**-1.9**
STKA	**Stephens Creek**	**38.94**	**248**	P	**P**	**01 35 20.1**	**-0.8**
	baz=40,SNR=4.9						
COEN	**Coen**	**40.34**	**276**	*e*P	**P**	**01 35 31.6**	**-1.2**
	44nm,1.0s						
AS31	**Alice Springs**	**46.39**	**259**	*e*P	**P**	**01 36 20.8**	**-0.9**
ASAR	**Alice Springs**	**46.39**	**259**	P	**P**	**01 36 19.7**	**-1.9**
	4.9nm,0.8s,baz=99,slow=8.3,SNR=32						
ASAR				S	**S**	**01 43 06.5**	**-0.2**
	0.6nm,0.9s,baz=94,slow=12,SNR=4.1						
ASAR				LR	LR	01 55 31.3	
	comp=Z,376nm,18.5s,baz=119,slow=36						
ASAR	**Alice Springs**	**46.39**	**259**	P	**P**	**01 36 19.7**	**-1.9**
ASAR				S	**S**	**01 43 06.5**	**-0.2**
WRAB	**Tennant Creek**	**46.76**	**264**	*e*P	**P**	**01 36 22.3**	**-2.2**
	11nm,0.7s						
WRA	**Warramunga Arr**	**46.77**	**264**	P	**P**	**01 36 22.2**	**-2.4**
	10nm,0.6s,baz=102,slow=8.1,SNR=66						
WRA				S	**S**	**01 43 10.8**	**-1.3**
	0.5nm,0.9s,baz=93,slow=17,SNR=3.8						
WRA				LR	LR	01 55 59.2	
	comp=Z,297nm,19.3s,baz=100,slow=36						
WRA	**Warramunga Arr**	**46.77**	**264**	P	**P**	**01 36 22.2**	**-2.4**
WRA				S	**S**	**01 43 10.8**	**-1.3**
FORT	**Forrest**	**50.55**	**249**	*e*P	**P**	**01 36 51.3**	**-2.2**
	16nm,0.6s						
KDU	**Kakadu**	**50.58**	**273**	P	**P**	**01 36 51.9**	**-1.9**
	baz=51,SNR=5.7						
FITZ	**Fitzroy Crossi**	**55.19**	**264**	*e*P	**P**	**01 37 26.4**	**-1.5**
	8.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.19**	**264**	P	**P**	**01 37 26.6**	**-1.3**
	baz=56,SNR=10						
VNDA	**Vanda**	**55.31**	**186**	P	**P**	**01 37 29.6**	**+1.8**
	1.3nm,0.4s,baz=5.5,slow=5.7,SNR=7.0						
VNDA	**Vanda**	**55.31**	**186**	P	**P**	**01 37 29.6**	**+1.8**
KLBR	**Kellerberrin**	**59.18**	**246**	P	**P**	**01 37 56.2**	**+0.3**
	baz=60,SNR=4.4						
MBWA	**Marble Bar**	**59.73**	**258**	*e*P	**P**	**01 37 58.0**	**-1.8**
	15nm,1.1s						
QSPA	**South Pole Qui**	**66.72**	**180**	P	**P**	**01 38 46.8**	**+1.2**
	4.6nm,0.9s,baz=39,slow=2.5,SNR=8.4						
QSPA	**South Pole Qui**	**66.72**	**180**	P	**P**	**01 38 46.8**	**+1.2**
MJAR	**Matsushiro Arr**	**74.01**	**323**	P	**P**	**01 39 28.6**	**-1.8**
	2.4nm,0.7s,baz=164,slow=6.7,SNR=6.1						
MJAR	**Matsushiro Arr**	**74.01**	**323**	P	**P**	**01 39 28.6**	**-1.8**
JNU	**Nakatsue**	**76.09**	**316**	P	**P**	**01 39 41.7**	**-0.7**
	8.4nm,0.8s,baz=117,slow=6.8,SNR=3.7						
JNU	**Nakatsue**	**76.09**	**316**	P	**P**	**01 39 41.7**	**-0.7**
KSM	**Kuching**	**76.31**	**278**	P	**P**	**01 39 43.8**	**-0.3**
	baz=77,SNR=3.5						
ASAJ	**Asahikawa**	**77.45**	**330**	P	**P**	**01 39 49.6**	**-0.2**
	9.0nm,0.7s,baz=256,slow=18,SNR=4.8						
ASAJ	**Asahikawa**	**77.45**	**330**	P	**P**	**01 39 49.6**	**-0.2**
LPIG	**La Paz**	**78.74**	**58**	LR	LR	02 08 31.2	
	comp=Z,25nm,18.9s,baz=185,slow=31						
YSS	**Yuzh-Sakhalins**	**79.59**	**332**	*e*P	**P**	**01 40 02.0**	**+0.5**
	42nm,1.0s						
PETK	**Petropavlovsk-**	**79.70**	**344**	P	**P**	**01 39 59.3**	**-2.6**
	4.1nm,0.6s,baz=125,slow=7.6,SNR=3.7						
PETK	**Petropavlovsk-**	**79.70**	**344**	P	**P**	**01 39 59.3**	**-2.6**
CMB	**Columbia Colle**	**79.90**	**41**	*e*P	**P**	**01 40 04.0**	**+0.5**
	6.4nm,1.0s						
KSRS	**Korea Array**	**80.70**	**318**	P	**P**	**01 40 08.2**	**+0.5**
	2.7nm,0.6s,baz=128,slow=6.1,SNR=9.2						
KSRS				LR	LR	02 11 38.6	
	comp=Z,76nm,19.6s,baz=130,slow=32						
KSAR	**Wonju Array Be**	**80.72**	**318**	P	**P**	**01 40 08.2**	**+0.4**
NVAR	**Mina Array Bea**	**81.42**	**42**	P	**P**	**01 40 11.8**	**0.0**
	3.5nm,0.9s,baz=221,slow=6.6,SNR=14						
NVAR				LR	LR	02 13 44.4	
	comp=Z,90nm,18.2s,baz=305,slow=34						
NVAR	**Mina Array Bea**	**81.42**	**42**	P	**P**	**01 40 11.8**	**0.0**
NV11	**Mina Array Sit**	**81.51**	**42**	*e*P	**P**	**01 40 12.1**	**-0.1**
MOD	**Modoc**	**82.45**	**38**	*e*P	**P**	**01 40 16.9**	**-0.1**
	37nm,2.0s						
USRK	**Ussuriysk Arra**	**82.75**	**325**	P	**P**	**01 40 19.3**	**+1.0**
	9.6nm,0.8s,baz=136,slow=3.3,SNR=20						
TUC	**Tucson**	**82.80**	**50**	*e*P	**P**	**01 40 19.3**	**+0.2**
	2.1nm,0.9s						
NJ2	**Nanjing**	**83.64**	**309**	*e*P	**P**	**01 40 23.4**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
CCUT	**Cedar City**	**84.00**	**45**	*e*P	**P**	**01 40 26.2**	**+0.9**
MDJ	**Mudanjiang**	**84.31**	**324**	P	**P**	**01 40 27.1**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,12nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,43nm,6.3s						
QIZ	**Qiongzhong**	**84.32**	**293**	P	**P**	**01 40 27.3**	**+0.3**
QIZ				S	**S**	**01 50 52.3**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,65nm,7.1s						
ELK	**Elko**	**84.70**	**41**	*e*P	**P**	**01 40 28.6**	**-0.1**
SNAA	**Sanae**	**85.07**	**178**	*e*P	**P**	**01 40 29.2**	**-0.8**
	comp=Z,2.2nm,0.9s						
VNA3	**Neumayer Olymp**	**85.11**	**175**	*e*P	**P**	**01 40 30.3**	**+0.1**
VNA3	**Neumayer Olymp**	**85.11**	**175**	*e*PcP	**PcP**	**01 40 32.7**	**-0.6**
MVU	**Marsvale**	**85.29**	**45**	*e*P	**P**	**01 40 32.6**	**+0.8**
MSU	**Marsvale**	**85.32**	**45**	*e*P	**P**	**01 40 33.4**	**+1.5**
PLCA	**Paso Flores**	**85.48**	**133**	P	**P**	**01 40 33.4**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=270,slow=6.1,SNR=2.5						
PLCA	**Paso Flores**	**85.48**	**133**	*e*P	**P**	**01 40 32.2**	**-0.5**
	comp=Z,30nm,2.0s						
VNA2	**Neumayer--Watz**	**85.58**	**176**	*e*P	**P**	**01 40 32.8**	**+0.3**
VNA2	**Neumayer--Watz**	**85.58**	**176**	*e*PcP	**PcP**	**01 40 34.9**	**-0.5**
VNA2	**Neumayer--Watz**	**85.58**	**176**	*ep*P	pP	01 40 42.0	-3.1
MFID	**Camas Ranch**	**85.97**	**39**	*e*P	**P**	**01 40 35.4**	**+0.5**
IPM	**Ipoh**	**85.99**	**277**	*e*P	**P**	**01 40 35.7**	**+0.1**
	comp=Z,13nm,0.7s						
CN2	**Changchun**	**86.11**	**321**	*e*P	**P**	**01 40 35.9**	**+0.5**
CN2				*ep*P	**pP**	**01 40 50.0**	**+2.0**
CN2				*e*S	**S**	**01 51 08.3**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s						
CN2				LR	LR		
	comp=E,600nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
TMUT	**Trail Mountain**	**86.38**	**44**	*e*P	**P**	**01 40 38.3**	**+1.1**
	comp=Z,7.8nm,0.9s						
TXAR	**Lajitas Array**	**86.50**	**56**	P	**P**	**01 40 37.4**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=219,slow=6.9,SNR=14						
TXAR				LR	LR	02 13 16.7	
	comp=Z,135nm,18.4s,baz=345,slow=31						
TXAR	**Lajitas Array**	**86.50**	**56**	P	**P**	**01 40 37.4**	**-0.4**
KULM	**Kulim**	**86.66**	**277**	*e*P	**P**	**01 40 38.8**	**0.0**
	comp=Z,7.5nm,0.6s						
SRU	**San Rafael**	**86.72**	**45**	*e*P	**P**	**01 40 39.4**	**+0.6**
HLID	**Hailey**	**86.88**	**39**	*e*P	**P**	**01 40 40.3**	**+0.9**
	comp=Z,2.1nm,1.0s						
GAMB	**Gambell**	**86.90**	**2**	*e*P	**P**	**01 40 38.8**	**+0.1**
	comp=Z,8.9nm,1.2s						
PSI	**Prapat**	**87.25**	**274**	LR	LR	02 20 59.5	
	comp=Z,174nm,19.2s,baz=242,slow=36						
ANMO	**Albuquerque**	**87.25**	**50**	LR	LR	02 13 18.2	
	comp=Z,235nm,18.3s,baz=73,slow=31						
ANMO	**Albuquerque**	**87.25**	**50**	*e*P	**P**	**01 40 41.5**	**0.0**
	comp=Z,7.8nm,1.5s						
GDL2	**Guadalupe Moun**	**87.38**	**53**	*e*P	**P**	**01 40 42.7**	**+0.7**
TPAW	**Teton Pass**	**88.89**	**41**	*e*P	**P**	**01 40 49.6**	**+0.4**
	comp=Z,2.1nm,1.0s						
SMCO	**Snowmass**	**89.09**	**46**	*e*P	**P**	**01 40 51.1**	**+0.8**
MOOW	**Moose Ponds**	**89.16**	**41**	*e*P	**P**	**01 40 51.4**	**+1.0**
	comp=Z,7.6nm,1.8s						
PDAR	**Pinedale Array**	**89.34**	**42**	P	**P**	**01 40 50.3**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=204,slow=2.0,SNR=9.1						
PDAR				LR	LR	02 12 46.8	
	comp=Z,102nm,18.8s,baz=266,slow=30						
PDAR	**Pinedale Array**	**89.34**	**42**	P	**P**	**01 40 50.3**	**-1.0**
GYA	**Guiyang**	**90.25**	**299**	*e*P	**P**	**01 40 56.6**	**+0.9**
GYA				pP	**pP**	**01 41 06.8**	**-1.6**
GYA				PP	**PP**	**01 44 33.0**	**+2.7**
GYA				SKS	**SKSac**	**01 51 22.5**	**-1.5**
GYA				S	**S**	**01 51 45.9**	**-1.2**
GYA				SS	**SS**	**01 57 51.3**	**+3.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
GYA				LR	LR		
	comp=N,480nm,24.3s						
GYA				LR	LR		
	comp=E,410nm,25.0s						
GYA				LR	LR		
	comp=Z,460nm,25.7s						
ILAR	**Eielson Array**	**90.56**	**12**	P	**P**	**01 40 55.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=228,slow=3.5,SNR=6.5						
ILAR	**Eielson Array**	**90.56**	**12**	P	**P**	**01 40 55.3**	**-0.8**
XAN	**Xi'an**	**91.87**	**306**	P	**P**	**01 41 03.9**	**+0.9**
XAN				pP	**pP**	**01 41 15.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,12nm,4.8s						
KMI	**Kunming**	**92.89**	**296**	P	**P**	**01 41 09.1**	**+1.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC	**Hu-ho-hao-te**	**93.16**	**313**	*e*P	**P**	**01 41 09.1**	**+0.3**
HHC				SKS	**SKSac**	**01 51 36.4**	**-3.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,4.7s						
HHC				LR	LR		
	comp=N,1μm,19.2s						
HHC				LR	LR		
	comp=E,1μm,20.0s						
HHC				LR	LR		
	comp=Z,210nm,22.0s						
CM31	**Chiang Mai Arr**	**93.44**	**288**	*e*P	**P**	**01 41 11.3**	**+0.8**
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.44**	**288**	P	**P**	**01 41 11.6**	**+1.0**
	comp=Z,8.1nm,0.8s,baz=124,slow=3.1,SNR=43						
CMAR				LR	LR	02 20 56.1	
	comp=Z,49nm,20.9s,baz=195,slow=34						
CMAR	**Chiang Mai Arr**	**93.44**	**288**	P	**P**	**01 41 11.6**	**+1.0**
ATAH	**Atahualpa**	**93.47**	**99**	LR	LR	02 13 15.0	
	comp=Z,134nm,20.0s,baz=352,slow=29						
RSSD	**Black Hills**	**93.48**	**43**	*e*P	**P**	**01 41 10.1**	**-0.3**
	comp=Z,3.9nm,1.0s						
CHTO	**Chiang Mai**	**93.58**	**289**	*e*P	**P**	**01 41 12.6**	**+1.5**
	comp=Z,9.6nm,0.8s						
CD2	**Chengdu**	**94.45**	**302**	P	**P**	**01 41 15.6**	**+0.6**
CD2				PP	**PP**	**01 45 06.6**	**+3.4**
CD2				SKS	**SKSac**	**01 51 44.3**	**-2.8**
CD2				S	**S**	**01 52 20.8**	**-3.6**
CD2				SS	**SS**	**01 58 48.9**	**+1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,5.3s						
CD2				LR	LR		
	comp=E,180nm,5.4s						
CD2				LR	LR		
	comp=Z,190nm,6.0s						
LZH	**Lanzhou**	**96.51**	**306**	*e*P	**P**	**01 41 25.8**	**+1.4**
LZH				pP	**pP**	**01 41 36.8**	**-0.2**
LZH				sP	**sP**	**01 41 41.9**	**+0.2**
LZH				SKS	**SKSac**	**01 52 01.0**	**+2.9**
LZH				S	**ScS**	**01 52 45.5**	**+2.8**
LZH				sS	**sS**	**01 53 01.0**	**-2.5**
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,78nm,4.2s						
LZH				LR	LR		
	comp=N,160nm,14.0s						
LZH				LR	LR		
	comp=E,180nm,15.2s						
LZH				LR	LR		
	comp=Z,220nm,17.2s						
YKA	**Yellowknife Ar**	**98.06**	**24**	P	**P**	**01 41 29.0**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=232,slow=4.1,SNR=4.5						
YKA	**Yellowknife Ar**	**98.06**	**24**	P	**P**	**01 41 29.0**	**-1.5**
YKW3	**Yellowknife Ar**	**98.10**	**24**	*e*P	**P**	**01 41 29.1**	**-1.6**
ULN	**Ulaanbaatar**	**99.18**	**318**	*e*P	**Pdif**	**01 41 36.6**	**+0.6**
	comp=Z,0.9nm,0.6s						
GTA	**Gaotai**	**100.73**	**308**	*e*P	**Pdif**	**01 41 44.3**	**+1.1**
GTA				pP	pP	01 41 54.8	-1.2
GTA				sP	sP	01 41 58.8	-1.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	**Urumqi**	**110.70**	**310**	*e*PKP		01 46 26.3	
ZALV	**Zalesovo Beam**	**114.30**	**320**	PKP	PKPdf	01 46 32.6	-1.0
	comp=Z,0.5nm,0.6s,baz=164,slow=1.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**114.30**	**320**	PKP	PKPdf	01 46 32.6	-1.1
MK31	**Makanchi Array**	**114.99**	**312**	*e*PKPdf	PKPdf	01 46 34.0	-1.3
MKAR	**Makanchi Array**	**114.99**	**312**	PKP	PKPdf	01 46 34.0	-1.3
	comp=Z,0.3nm,0.7s,baz=232,slow=1.5,SNR=4.6						
MKAR	**Makanchi Array**	**114.99**	**312**	PKP	PKPdf	01 46 34.0	-1.3
KURK	**Kurchatov**	**117.81**	**316**	*e*PKPdf	**PKPdf**	**01 46 39.4**	**-1.2**
KSH	**Kashi**	**118.58**	**303**	*e*PKP	**PKPdf**	**01 46 44.9**	**+2.3**
KSH				*es*PKP		01 47 00.8	
KSH				*e*PP	PP	01 48 09.8	+9.1
KSH				PKS	**PKSdf**	**01 50 22.0**	**+2.6**
KSH				SKS	**SKSdf**	**01 53 53.4**	**+1.9**
KSH				AMB	AMB		
	comp=Z,110nm,7.8s						
KSH				LR	LR		
	comp=N,74nm,6.7s						
KSH				LR	LR		
	comp=E,79nm,5.0s						
KSH				LR	LR		
	comp=Z,160nm,5.3s						
BRVK	**Borovoye**	**122.95**	**319**	*e*PKPdf	**PKPdf**	**01 46 49.3**	**-1.1**
KBL	**Kabul**	**123.46**	**297**	*e*PKPdf	**PKPdf**	**01 46 52.0**	**-0.2**
BOSA	**Boshof**	**124.66**	**202**	PKP	**PKPdf**	**01 46 55.3**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=135,slow=8.6,SNR=3.3						
BOSA	**Boshof**	**124.66**	**202**	*e*PKPdf	**PKPdf**	**01 46 52.3**	**-2.5**
BOSA				PKP	**PKPdf**	**01 46 55.3**	**+0.6**
ARU	**Arti**	**128.99**	**325**	*e*PKPdf	**PKPdf**	**01 47 01.5**	**-0.3**
FINES	**FINESS Array B**	**139.21**	**344**	PKP	**PKPdf**	**01 47 22.1**	**+1.3**
	comp=Z,2.3nm,1.0s,baz=41,slow=3.4,SNR=4.5						
FINES	**FINESS Array B**	**139.21**	**344**	PKP	**PKPdf**	**01 47 22.1**	**+1.3**
NOA	**NORSAR Array B**	**142.08**	**355**	PKP	**PKPdf**	**01 47 27.8**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=34,slow=2.0,SNR=3.2						
NOA	**NORSAR Array B**	**142.08**	**355**	PKP	**PKPdf**	**01 47 27.8**	**+1.7**
NAO01	**NORSAR Array S**	**142.30**	**355**	*e*PKPdf	**PKPdf**	**01 47 25.9**	**-0.5**
GNI	**Garni**	**142.44**	**306**	*e*PKPdf	**PKPdf**	**01 47 26.4**	**-1.1**
KIV	**Kislovodsk**	**142.75**	**313**	*e*PKPdf	**PKPdf**	**01 47 28.1**	**+0.3**
SUW	**Suwalki**	**146.39**	**340**	*e*PKP	**PKPab**	**01 47 35.9**	**-0.1**
SUW	**Suwalki**	**146.39**	**340**	*e*PKP	**PKPab**	**01 47 35.8**	**-0.1**
AKASG	**Malin Array Be**	**146.73**	**331**	PKPbc	**PKPdf**	**01 47 35.0**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=40,slow=4.1,SNR=15						
AKASG	**Malin Array Be**	**146.73**	**331**	PKPbc	**PKPdf**	**01 47 35.0**	**+0.6**
AK01	**Malin Array Si**	**146.75**	**331**	*e*PKPbc	**PKPdf**	**01 47 34.8**	**+0.3**
KIEV	**Kiev**	**146.75**	**331**	*e*PKPbc	**PKPdf**	**01 47 34.7**	**+0.3**
AK02	**Malin Array Si**	**146.77**	**331**	*e*PKPbc	**PKPdf**	**01 47 35.3**	**+0.8**
MALT	**Malatya**	**147.66**	**305**	*e*PKPbc	**PKPbc**	**01 47 39.2**	**0.0**
KWP	**Kalwaria Pacla**	**150.22**	**336**	*e*PKP	**PKPbc**	**01 47 45.6**	**+0.3**
KWP	**Kalwaria Pacla**	**150.22**	**336**	*e*PKPbc	**PKPbc**	**01 47 45.3**	**0.0**
KWP	**Kalwaria Pacla**	**150.22**	**336**	*e*PKP	**PKPbc**	**01 47 45.6**	**+0.3**
ASF	**Jabal al Asfar**	**150.30**	**294**	PKPbc	**PKPbc**	**01 47 44.6**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=108,slow=3.2,SNR=5.7						
ASF	**Jabal al Asfar**	**150.30**	**294**	PKPbc	**PKPbc**	**01 47 44.6**	**-1.6**
BR131	**Keskin Array S**	**150.62**	**311**	*e*PKPbc	**PKPbc**	**01 47 46.2**	**-0.5**
**BR

SONM	**Songino Array**	**67.72**	**327**	P	P	01 40 41.7	+0.1
	0.8nm,0.6s,baz=138,slow=6.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**82.58**	**326**	P	P	01 42 02.8	-1.0
	0.2nm,0.3s,baz=104,slow=6.1,SNR=3.9						

MEX 21 01:44:15.4±0.9, 17°.49N×101°.02W, h20km±21km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.44**	**285**	*e*P	Pb	01 44 22.4	-2.0
ZIIG				*i* S	Sb	01 44 29.6	-0.9
CAIG	**El Cayaco**	**0.85**	**121**	*i* P	Pb	01 44 29.2	-2.2
CAIG				*i* S	Sb	01 44 39.7	-2.7
ARIG	**Puente Sto Nin**	**1.01**	**39**	*e*P	Pb	01 44 30.7	-3.7
ARIG				*i* S	Sb	01 44 43.9	-3.4
YAIG	**Yautepec**	**2.31**	**53**	*e*P	Pn	01 44 50.2	-2.3
YAIG				*i* S	Sn	01 45 16.5	-3.9
MMIG	**Aquila**	**2.35**	**290**	*i* P	Sn	01 44 50.5	-2.4
MMIG				*i* S	Sn	01 45 17.1	-4.1
PPM	**Popocatepetl**	**2.76**	**55**	*i* P	Pn	01 44 58.1	-1.1
PPM				*i* S	Sn	01 45 30.0	-2.5
PNIG	**Pinotepa**	**2.98**	**111**	*i* P	Pn	01 44 56.0	-5.6
PNIG				*i* S	Sn	01 45 32.4	-4.4
UTMO	**Huajuapan**	**3.09**	**83**	*i* P	Pn	01 45 02.1	-1.2
UTMO				*i* S	Sn	01 45 35.4	-4.5

*IDC **21** 02:00:14.3±1.0, 31°.62N×142°.69E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/28, mbtmp3.9/13, ML3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/45, Error ellipse: s-maj=36.9km s-min=17.8km az=77.0*
*JMA **21** 02:00:18.4±0.8, 31°.76N×142°.49E, h98km, M3.5*
*NEIC **21** 02:00:19.6±0.6, 31°.58N×142°.56E, h35km, mb4.3/2, Error ellipse: s-maj=22.8km s-min=8.4km az=74.0*
*ISCJB **21** 02:00:20.4±0.6, 31°.80N±0°.07×142°.4E±0°.1, h49km, mb3.9/14, MS3.6/1, Error ellipse: s-maj=15.8km s-min=6.3km az=147.1*

ISC 21 02:00:22.0±0.8, 31°.72N±0°.09×142°.4E±0°.1, h49km, n46, σ1§25/49, mb3.9/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.57**	**303**	P	**Pn**	**02 00 59.4**	**-1.8**
JHJ	**Hachijo jima 2**	**2.60**	**303**	P*n*	**Pn**	**02 00 59.7**	**-1.9**
	22nm,0.3s,baz=96,slow=18,SNR=3.5						
JHJ				S*n*	**Sn**	**02 01 30.8**	**-1.2**
	23nm,0.3s,baz=92,slow=23,SNR=2.2						
BSO1	**Boso 1**	**3.15**	**339**	P	**Pn**	**02 01 07.0**	**-1.6**
BSO3	**Boso 3**	**3.45**	**334**	P	**Pn**	**02 01 11.6**	**-1.3**
BSO4	**Boso 4**	**3.68**	**333**	P	**Pn**	**02 01 15.5**	**-0.8**
JOD2	**Odawara 2**	**4.47**	**323**	P	**Pn**	**02 01 24.7**	**-2.6**
JOD2				*e*S	**Sn**	**02 02 18.2**	**+0.1**
CBIJ	**Chichi jima**	**4.61**	**182**	P*n*	Pn	02 01 23.6	-5.6
	5.0nm,0.3s,baz=261,slow=19,SNR=4.2						
CBIJ				S*n*	Sn	02 02 12.1	-9.4
	4.6nm,0.3s,baz=234,slow=19,SNR=2.5						
CBIJ	**Chichi jima**	**4.61**	**182**	P*n*	Pn	02 01 23.6	-5.6
CBIJ				S*n*	Sn	02 02 12.1	-9.4
JYN	**Shimodo**	**4.94**	**321**	P	**Pn**	**02 01 33.4**	**-0.3**
JYN				*e*S	**Sn**	**02 02 30.7**	**+1.1**
JRY	**Ryogami san**	**5.17**	**327**	P	**Pn**	**02 01 35.4**	**-1.4**
JRY				S	**Sn**	**02 02 34.9**	**-0.3**
JAG	**Ashikaga**	**5.28**	**333**	P	**Pn**	**02 01 36.4**	**-2.0**
JAG				*e*S	**Sn**	**02 02 36.9**	**-1.0**
MJAR	**Matsushiro Arr**	**5.92**	**325**	P*n*	**Pn**	**02 01 46.2**	**-1.0**
	1.8nm,0.3s,baz=149,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**5.92**	**325**	P*n*	**Pn**	**02 01 46.2**	**-1.0**
MAJO	**Matsushiro**	**5.92**	**325**	*e*P*n*	**Pn**	**02 01 46.5**	**-0.6**
MAT	**Matsushiro**	**5.92**	**325**	P	**Pn**	**02 01 46.5**	**-0.7**
MAT				*e*S	**Sn**	**02 02 51.1**	**-2.6**
ULN	**Ulaanbaatar**	**31.24**	**311**	*e*P	**P**	**02 06 37.1**	**+0.1**
	1.7nm,0.8s						
SONM	**Songino Array**	**31.65**	**311**	P	**P**	**02 06 42.6**	**+2.0**
	0.7nm,0.6s,baz=114,slow=8.3,SNR=5.9						
SONM	**Songino Array**	**31.65**	**311**	P	**P**	**02 06 42.6**	**+2.0**
HNR	**Honiara**	**44.24**	**155**	LR	LR	02 24 22.2	
	comp=Z,72nm,19.1s,baz=290,slow=33						
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**02 08 42.6**	**+0.8**
	0.7nm,0.6s,baz=90,slow=6.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**02 08 42.6**	**+0.8**
MK31	**Makanchi Array**	**47.77**	**306**	*e*P	**P**	**02 08 55.6**	**+1.3**
MKAR	**Makanchi Array**	**47.77**	**306**	P	**P**	**02 08 55.5**	**+1.3**
	0.5nm,0.4s,baz=89,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**47.77**	**306**	P	**P**	**02 08 55.5**	**+1.3**
KURK	**Kurchatov**	**49.95**	**312**	*e*P	**P**	**02 09 11.1**	**+0.2**
	4.2nm,0.9s						
WRA	**Warramunga Arr**	**51.95**	**190**	P	**P**	**02 09 24.5**	**-1.6**
	0.6nm,0.6s,baz=7.7,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**51.95**	**190**	P	**P**	**02 09 24.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.08**	**200**	P	**P**	**02 09 26.3**	**-0.8**
	1.6nm,0.6s,baz=5.2,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**52.08**	**200**	P	**P**	**02 09 26.3**	**-0.8**
TKM2	**Tokmak 2**	**53.00**	**302**	*e*P	**P**	**02 09 35.0**	**+0.9**
	0.8nm,0.6s						
BRVK	**Borovoye**	**54.88**	**315**	*e*P	**P**	**02 09 48.2**	**+0.8**
	2.1nm,0.8s						
ABKAR	**Akbulak array**	**62.04**	**313**	*e*P	**P**	**02 10 38.0**	**+0.7**
YKA	**Yellowknife Ar**	**68.02**	**29**	P	**P**	**02 11 15.0**	**-0.8**
	0.3nm,1.0s,baz=300,slow=6.3,SNR=3.5						
YKA	**Yellowknife Ar**	**68.02**	**29**	P	**P**	**02 11 15.0**	**-0.8**
FINES	**FINESS Array B**	**73.89**	**333**	P	**P**	**02 11 52.2**	**+0.7**
	5.1nm,1.1s,baz=46,slow=8.2,SNR=12						
FINES	**FINESS Array B**	**73.89**	**333**	P	**P**	**02 11 52.2**	**+0.7**
AKASG	**Malin Array Be**	**79.00**	**323**	P	**P**	**02 12 19.8**	**-0.8**
	1.1nm,0.6s,baz=52,slow=6.1,SNR=4.6						
AKASG	**Malin Array Be**	**79.00**	**323**	P	**P**	**02 12 19.8**	**-0.8**
NB2	**NORSAR Subarra**	**79.39**	**338**	P	**P**	**02 12 23.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.39**	**338**	P	**P**	**02 12 23.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=40,slow=5.6,SNR=4.8						
NOA	**NORSAR Array B**	**79.39**	**338**	P	**P**	**02 12 23.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**82.98**	**323**	*e*P	**P**	**02 12 41.9**	**-0.1**
BRTR	**Keskin Array B**	**83.00**	**313**	P	**P**	**02 12 44.0**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=130,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**83.00**	**313**	P	**P**	**02 12 44.0**	**+1.7**
TORD	**Torodi Ar. Bea**	**121.60**	**314**	PKP	**PKPdf**	**02 19 10.2**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=83,slow=1.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**121.60**	**314**	PKP	**PKPdf**	**02 19 10.2**	**-0.7**

IDC 21 02:06:08.2±1.2, 3°.44N×127°.55E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=109.2km s-min=16.3km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.48**	**185**	P	P	02 10 58.9	+0.3
	0.8nm,0.5s,baz=24,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**24.17**	**164**	P	P	02 11 24.6	-1.8
	0.9nm,0.6s,baz=102,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**27.64**	**167**	P	P	02 11 58.5	+0.6
	0.8nm,0.5s,baz=348,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**37.57**	**160**	P	P	02 13 25.2	+0.7
	0.9nm,0.3s,baz=342,slow=8.5,SNR=5.3						
SONM	**Songino Array**	**47.84**	**341**	P	P	02 14 47.8	-0.1
	0.4nm,0.7s,baz=150,slow=8.0,SNR=3.7						
MKAR	**Makanchi Array**	**58.26**	**325**	P	P	02 16 04.2	-0.4
	0.5nm,0.5s,baz=120,slow=7.4,SNR=11						
ZALV	**Zalesovo Beam**	**61.22**	**333**	P	P	02 16 25.0	+0.2
	0.2nm,0.3s,baz=134,slow=12,SNR=3.9						

IGQ 21 02:12:01.3, 2.72S×78.69W, h101km±13km, Mb4.1, Ms3.9, 8C-10D, Error ellipse: s-maj=4.3km s-min=1.0km az=3.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.68**	**47**	⇓S	Sn	02 12 31.6	-0.4
MACE	**Macas**	**0.68**	**47**	⇓P	Pn	02 12 18.7	-0.2
RIOE	**Riobamba**	**0.97**	**4**	⇓S	Sn	02 12 37.0	-0.3
RIOE	**Riobamba**	**0.97**	**4**	⇓P	Pn	02 12 21.4	-0.5
YANT	**Yantaza**	**1.13**	**184**	⇑S	Sn	02 12 40.0	-0.1
YANT	**Yantaza**	**1.13**	**184**	⇑P	Pn	02 12 23.4	0.0
IGUA	**Igualata**	**1.23**	**3**	P	Pn	02 12 24.9	-0.1
BMAS	**Trigal station**	**1.23**	**10**	⇓S	Sn	02 12 43.0	+0.3
BMAS	**Trigal station**	**1.23**	**10**	⇓P	Pn	02 12 25.0	+0.1
ARRY	**Arrayan**	**1.23**	**11**	⇑S	Sn	02 12 42.3	-0.4
ARRY	**Arrayan**	**1.23**	**11**	⇑P	Pn	02 12 24.3	-0.5
PAT1	**Patacocha**	**1.23**	**12**	P	Pn	02 12 24.7	-0.3
BBIL	**Ulba Tungurahu**	**1.28**	**9**	⇑P	Pn	02 12 26.2	+0.8
RETU	**Refugio**	**1.29**	**11**	⇓P	Pn	02 12 27.1	+1.4
ULBA	**Ulba**	**1.30**	**13**	P	Sn	02 12 44.0	0.0
ULBA	**Ulba**	**1.30**	**13**	P	Pn	02 12 25.6	0.0
BULB	**Ulba Tungurahu**	**1.31**	**12**	S	Sn	02 12 44.1	-0.2
BULB	**Ulba Tungurahu**	**1.31**	**12**	P	Pn	02 12 25.7	-0.1
JUI6	**Juive**	**1.31**	**10**	P	Pn	02 12 26.1	+0.4
BRUN	**Tungurahua Vol**	**1.32**	**12**	P	Pn	02 12 26.7	+0.8
RUN5	**Runtun**	**1.33**	**12**	P	Pn	02 12 26.9	+0.9
CATE	**Catamayo**	**1.41**	**209**	⇑P	Pn	02 12 26.4	-0.3
CATE	**Catamayo**	**1.41**	**209**	⇑S	Sn	02 12 45.8	-0.1
PISA	**Pisayambo**	**1.68**	**11**	P	Pn	02 12 31.4	+0.8
BMOR	**Cotopaxi Volca**	**1.99**	**7**	P	Pn	02 12 35.3	+0.7
MOV1	**Cotopaxi Vol s**	**2.01**	**7**	P	Pn	02 12 35.6	+0.7
CAMI	**Rancho Maria**	**2.04**	**5**	P	Pn	02 12 36.0	+0.9
TAMB	**Tambo**	**2.04**	**9**	⇓P	Pn	02 12 36.2	+1.1
BREF	**Cotopaxi Volca**	**2.06**	**7**	P	Pn	02 12 36.7	+1.3
BTAM	**Cotopaxi Volca**	**2.06**	**8**	P	Pn	02 12 35.6	+0.2
BVC2	**Cotopaxi Volca**	**2.07**	**8**	⇓P	Pn	02 12 36.9	+1.3
COV1	**Cotopaxi Volc**	**2.08**	**10**	P	Pn	02 12 36.5	+0.7
NAS2	**Nasa**	**2.08**	**6**	P	Pn	02 12 35.9	+0.3
VC1	**Cotopaxi 1**	**2.09**	**8**	P	Pn	02 12 36.8	+1.0
PITA	**Cotopaxi Volc**	**2.17**	**7**	P	Pn	02 12 37.6	+1.0
ANTI	**Antisana**	**2.32**	**13**	⇑P	Pn	02 12 39.4	+0.6
GGP	**Refugio Guagua**	**2.53**	**2**	⇓P	Pn	02 12 43.0	+1.3
PINO	**Pino**	**2.55**	**2**	P	Pn	02 12 43.1	+1.2
CAYR	**Refugio Cayamb**	**2.81**	**14**	P	Pn	02 12 45.9	+0.6
CHAR	**Charly**	**2.81**	**21**	P	Pn	02 12 45.9	+0.8
CAYA	**Cayambe**	**2.86**	**14**	P	Pn	02 12 47.3	+1.3
COTA	**Cotacachi**	**3.06**	**7**	P	Pn	02 12 50.5	+1.9

IDC 21 02:14:24.2±1.8, 3°.53N×127°.18E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=106.1km s-min=24.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.55**	**184**	P	P	02 19 16.9	+1.6
	1.0nm,0.7s,baz=11,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**24.36**	**163**	P	P	02 19 43.4	-0.8
	1.1nm,0.6s,baz=340,slow=11,SNR=15						
STKA	**Stephens Creek**	**37.79**	**160**	P	P	02 21 42.1	-0.2
	2.2nm,0.9s,baz=355,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**57.98**	**325**	P	P	02 24 18.4	-0.3
	0.2nm,0.4s,baz=123,slow=8.3,SNR=6.8						

IDC 21 02:18:42.5±8.5, 2.54N×127.23E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, MS3.9/1, Ms1 3.9/1, ms1mx2.6/36, Error ellipse: s-maj=137.1km s-min=107.3km az=137.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P	Pn	02 23 24.8	-0.4
	0.8nm,0.7s,baz=348,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**23.41**	**163**	P	P	02 23 52.9	-0.4
	1.0nm,0.5s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.85**	**166**	P	P	02 24 25.9	+0.9
	0.4nm,0.5s,baz=339,slow=8.0,SNR=5.0						
NWAO	**Narrogin (SRO)**	**36.52**	**194**	LR	LR	02 41 04.7	
	comp=Z,197nm,20.1s,baz=246,slow=37						
STKA	**Stephens Creek**	**36.85**	**159**	P	P	02 25 51.1	-1.6
	2.2nm,0.9s,baz=329,slow=12,SNR=3.5						

*ISCJB **21** 02:34:37.7±0.6, 33°.9N±0°.1×136°.6E±0°.1, h398km±8km, mb3.1/3, Error ellipse: s-maj=24.1km s-min=10.3km az=144.5*
*JMA **21** 02:34:38.8±0.2, 33°.84N×136°.57E, h388km±2km, M2.9*
*IDC **21** 02:34:38.3±2.3, 33°.35N×136°.93E, h344km±123km, mb3.0/3, mb1 3.1/5, mb1mx2.7/28, mbtmp2.9/5, Error ellipse: s-maj=204.1km s-min=29.7km az=153.0*

ISC 21 02:34:38.5±1.0, 33°.9N±0°.1×136°.61E±0°.09, h391km±9km, n22, σ1§12/28, mb3.2/3, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.31**	**153**	P	**Pn**	**02 35 27.3**	**+0.6**
TTO2	**TONANKAI O.B.S**	**0.38**	**116**	P	**Pn**	**02 35 27.6**	**+0.9**
JKN2	**Miekihoku**	**0.44**	**320**	P	**Pn**	**02 35 27.4**	**+0.3**
JIE	**Ise**	**0.49**	**9**	P	**Pn**	**02 35 27.8**	**+0.6**
JIE				S	**S**	**02 36 05.8**	**-0.7**
JWY	**Kouya**	**0.90**	**291**	P	**Pn**	**02 35 28.7**	**+0.4**
TK02	**Tokai 2**	**0.95**	**87**	P	**Pn**	**02 35 29.0**	**+0.9**
JWT	**Wachi**	**1.70**	**324**	P	**Pn**	**02 35 32.3**	**+0.6**
JWT				S	**S**	**02 36 13.3**	**-1.5**
JNY	**Yasuok**	**1.78**	**35**	P	**Pn**	**02 35 33.1**	**+0.8**
JGM	**Miyama**	**1.80**	**3**	P	**Pn**	**02 35 33.4**	**+1.1**
JAI	**Aioi**	**1.80**	**267**	P	**Pn**	**02 35 32.3**	**-0.1**
JMN	**Monobe**	**2.28**	**266**	P	**Pn**	**02 35 35.7**	**+0.2**
JKG	**Kaga**	**2.38**	**355**	P	**Pn**	**02 35 37.0**	**+1.0**
JRY	**Ryogami san**	**2.83**	**41**	P	**Pn**	**02 35 40.6**	**+1.1**
JRY				*e*S	**S**	**02 36 30.6**	**+1.7**
MAT	**Matsushiro**	**2.94**	**26**	P	**Pn**	**02 35 41.4**	**+1.0**
MAT				*e*S	**S**	**02 36 29.6**	**-1.0**
MJAR	**Matsushiro Arr**	**2.94**	**26**	P	**Pn**	**02 35 41.4**	**+0.9**
	1.1nm,0.3s,baz=203,slow=10.0,SNR=16						
MJAR				S	**S**	**02 36 30.5**	**-0.1**
	0.1nm,0.3s,baz=67,slow=19,SNR=3.6						
JTO	**Tosashimizu**	**3.35**	**253**	P	**Pn**	**02 35 43.8**	**-0.2**
JYT	**Yasato**	**3.74**	**51**	P	**Pn**	**02 35 47.1**	**-0.3**
JHO	**Hitachi**	**4.22**	**49**	P	**Pn**	**02 35 51.7**	**-0.3**
JHO				S	**S**	**02 36 47.9**	**-3.8**
JNU	**Nakatsue**	**4.85**	**262**	P	**Pn**	**02 35 58.8**	**+0.2**
	0.9nm,0.3s,baz=72,slow=6.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**52.76**	**193**	P	**P**	**02 43 15.3**	**+0.2**
	1.2nm,0.8s,baz=14,slow=8.3,SNR=3.4						
WRA	**Warramunga Arr**	**53.59**	**183**	P	**P**	**02 43 21.0**	**-0.1**
	0.5nm,0.3s,baz=0.1,slow=7.7,SNR=24						
ASAR	**Alice Springs**	**57.31**	**183**	P	**P**	**02 43 47.5**	**+0.3**
	0.2nm,0.3s,baz=7.4,slow=7.2,SNR=4.0						

*IDC **21** 02:41:38.7±4.1, 23°.29S×174°.69W, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.1/21, mbtmp4.3/7, MS4.1/1, Ms1 4.0/1, ms1mx2.5/36, Error ellipse: s-maj=116.0km s-min=34.5km az=131.0*
*NEIC **21** 02:41:43.5±1.4, 23°.26S×174°.66W, h35km, mb4.7/5, Error ellipse: s-maj=26.2km s-min=19.6km az=87.0*

ISC 21 02:41:44.4±1.9, 23°.3S±0°.2×174°.8W±0°.3, h35km, n20, σ0§76/20, mb4.4/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.71**	**308**	*e*P*n*	**Pn**	**02 43 48.0**	**0.0**
CTA	**Charters Tower**	**36.28**	**267**	P	**P**	**02 48 45.1**	**+0.4**
	4.7nm,0.5s,baz=88,slow=12,SNR=9.1						
CTA	**Charters Tower**	**36.28**	**267**	P	**P**	**02 48 45.1**	**+0.4**
CTAO	**Charters Tower**	**36.28**	**267**	*e*P	**P**	**02 48 44.7**	**0.0**
	4.7nm,0.4s						
PMG	**Port Moresby**	**38.92**	**284**	*e*P	**P**	**02 49 07.0**	**-0.1**
	13nm,0.8s						
STKA	**Stephens Creek**	**39.39**	**248**	P	**P**	**02 49 11.1**	**+0.2**
	1.2nm,0.5s,baz=93,slow=10,SNR=5.9						
STKA				LR	LR	03 04 10.6	
	comp=Z,261nm,20.8s,baz=25,slow=34						
STKA	**Stephens Creek**	**39.39**	**248**	*e*P	**P**	**02 49 11.5**	**+0.6**
	2.3nm,1.4s						
AS31	**Alice Springs**	**46.86**	**259**	*e*P	**P**	**02 50 11.1**	**-0.4**
ASAR	**Alice Springs**	**46.86**	**259**	P	**P**	**02 50 11.3**	**-0.1**
	4.3nm,1.0s,baz=97,slow=7.3,SNR=21						
ASAR	**Alice Springs**	**46.86**	**259**	P	**P**	**02 50 11.3**	**-0.1**
WRAB	**Tennant Creek**	**47.23**	**264**	*e*P	**P**	**02 50 13.1**	**-1.2**
	14nm,1.1s						
WRA	**Warramunga Arr**	**47.24**	**264**	P	**P**	**02 50 13.4**	**-1.0**
	7.2nm,0.8s,baz=101,slow=8.5,SNR=64						
WRA	**Warramunga Arr**	**47.24**	**264**	P	**P**	**02 50 13.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**55.66**	**263**	P	**P**	**02 51 18.1**	**+0.7**
	2.3nm,0.7s,baz=80,slow=6.4,SNR=6.5						
FITZ	**Fitzroy Crossi**	**55.66**	**263**	*e*P	**P**	**02 51 17.9**	**+0.5**
	5.1nm,1.0s						
MJAR	**Matsushiro Arr**	**74.24**	**322**	P	**P**	**02 53 17.0**	**-0.9**
	0.8nm,0.5s,baz=154,slow=5.4,SNR=3.0						
MJAR	**Matsushiro Arr**	**74.24**	**322**	P	**P**	**02 53 17.0**	**-0.9**
USRK	**Ussuriysk Arra**	**82.96**	**325**	P	**P**	**02 54 07.2**	**+1.7**
	3.4nm,0.9s,baz=121,slow=7.5,SNR=4.3						
BRTR	**Keskin Array B**	**150.93**	**311**	PKPbc	**PKPbc**	**03 01 33.1**	**-0.6**
	0.3nm,0.6s,baz=66,slow=4.9,SNR=2.7						
BRTR	**Keskin Array B**	**150.93**	**311**	PKPbc	**PKPbc**	**03 01 33.1**	**-0.6**

IDC 21 03:15:21.1±1.3, 3°.99N×126°.73E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=87.4km s-min=19.4km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	03 20 17.3	+0.5
	0.8nm,0.4s,baz=351,slow=10,SNR=10						
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	03 20 45.7	-0.5
	5.7nm,0.8s,baz=343,slow=11,SNR=35						
STKA	**Stephens Creek**	**38.37**	**159**	P	P	03 22 44.1	0.0
	3.2nm,0.8s,baz=313,slow=10,SNR=5.8						
SONM	**Songino Array**	**47.05**	**341**	P	P	03 23 55.1	+0.5
	0.2nm,0.5s,baz=152,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	03 25 10.4	-0.6
	0.5nm,0.6s,baz=119,slow=8.6,SNR=7.9						

IDC 21 03:16:44.2±2.2, 22°.36S×175°.10W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/21, mbtmp4.0/7, Error ellipse: s-maj=133.6km s-min=21.0km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.03**	**266**	P	P	03 23 48.5	+1.0
	3.0nm,0.4s,baz=85,slow=9.8,SNR=6.2						
ASAR	**Alice Springs**	**46.75**	**258**	P	P	03 25 15.6	0.0
	1.5nm,0.8s,baz=90,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**47.04**	**263**	P	P	03 25 16.8	-1.1
	1.4nm,0.5s,baz=98,slow=8.4,SNR=31						
FITZ	**Fitzroy Crossi**	**55.47**	**263**	P	P	03 26 20.8	-0.4
	1.6nm,1.0s,baz=120,slow=8.1,SNR=4.7						
NVAR	**Mina Array Bea**	**80.56**	**42**	P	P	03 28 59.4	+0.6
	1.1nm,0.8s,baz=223,slow=8.5,SNR=7.9						
TXAR	**Lajitas Array**	**85.81**	**56**	P	P	03 29 24.6	-1.4
	1.1nm,0.9s,baz=206,slow=6.0,SNR=9.2						
VNA3	**Neumayer Olymp**	**86.10**	**175**	*e*P	P	03 29 22.4	-4.2
VNA2	**Neumayer--Watz**	**86.57**	**176**	*e*P	P	03 29 24.7	-4.2
	baz=182,slow=3.8						
ILAR	**Eielson Array**	**89.55**	**12**	P	P	03 29 44.2	+1.3
	0.5nm,0.8s,baz=218,slow=5.0,SNR=4.6						

*IDC **21** 03:25:23.8±0.9, 23°.12S×175°.48W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/22, mbtmp4.1/13, MS3.1/3, Ms1 3.1/3, ms1mx3.0/31, Error ellipse: s-maj=31.3km s-min=20.4km az=147.0*
*ISCJB **21** 03:25:26.4±0.8, 23°.3S±0°.2×175°.4W±0°.1, h30km, mb4.2/16, MS2.5/1, Error ellipse: s-maj=25.5km s-min=14.7km az=154.9*
*NEIC **21** 03:25:27.7±0.7, 23°.59S×175°.24W, h35km, mb4.8/3, Error ellipse: s-maj=24.8km s-min=13.9km az=161.0*

ISC 21 03:25:28.3±0.8, 23°.1S±0°.2×175°.4W±0°.1, h30km, n51, σ1§33/43, mb4.2/16, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.20**	**310**	*e*P*n*	Pn	03 27 31.0	+5.6
	27nm,0.8s						
RAR	**Rarotonga**	**14.56**	**85**	LR	LR	03 33 00.6	
	comp=Z,189nm,19.7s,baz=278,slow=31						
DZM	**Mont Dzumac**	**16.85**	**270**	*e*LR	LR	03 33 00.4	
	152nm,22.6s						
DZM	**Mont Dzumac**	**16.85**	**270**	P*n*	**P**	**03 29 27.3**	**+3.3**
	0.6nm,0.3s,baz=57,slow=18,SNR=6.7						
DZM				LR	LR	03 33 58.1	
	comp=Z,109nm,18.4s,baz=211,slow=31						
DZM	**Mont Dzumac**	**16.85**	**270**	*e*P*n*	**P**	**03 29 26.6**	**+2.5**
TBI	**Tubuai**	**23.78**	**96**	*e*LR	LR	03 36 32.7	
	112nm,22.2s						
PPT2	**Papeete2**	**24.77**	**82**	*e*LR	LR	03 36 56.9	
	77nm,22.8s						
CTA	**Charters Tower**	**35.76**	**267**	P	**P**	**03 32 23.4**

1.5nm,0.6s,baz=93,slow=8.5,SNR=14
ASAR Alice Springs 46.62 258 P **P** **03 41 46.2 0.0**
WRAB Tennant Creek 46.93 263 *e*P **P** **03 41 48.4 -0.2**
6.4nm,0.9s
WRA Warramunga Arr 46.94 263 P **P** **03 41 48.6 0.0**
4.3nm,0.8s,baz=103,slow=8.5,SNR=28
WRA Warramunga Arr 46.94 263 P **P** **03 41 48.6 0.0**
FORT Forrest 50.90 248 *e*P **P** **03 42 19.2 +0.3**
7.4nm,0.8s
FITZ Fitzroy Crossi 55.37 263 P **P** **03 42 52.4 +0.5**
2.4nm,1.0s,baz=106,slow=8.9,SNR=3.6
FITZ Fitzroy Crossi 55.37 263 *e*P **P** **03 42 52.2 +0.2**
6.4nm,1.2s
KKM Kota Kinabalu 72.84 284 *e*P **P** **03 44 46.3 -0.5**
5.3nm,0.6s
MJAR Matsushiro Arr 73.49 322 P **P** **03 44 49.2 -0.9**
0.5nm,0.3s,baz=133,slow=14,SNR=5.3
MJAR Matsushiro Arr 73.49 322 P **P** **03 44 49.2 -0.9**
SNAA Sanae 85.79 178 *e*P **P** **03 45 58.6 +2.1**
1.1nm,1.0s
VNA3 Neumayer Olymp 85.83 175 *e*P **P** **03 45 54.1 -2.5**
TXAR Lajitas Array 86.03 56 P **P** **03 45 59.0 +0.7**
1.3nm,1.1s,baz=226,slow=3.3,SNR=6.6
TXAR Lajitas Array 86.03 56 P **P** **03 45 59.0 +0.7**
VNA2 Neumayer--Watz 86.30 176 *e*P **P** **03 45 57.8 -1.1**
baz=354,slow=0.2
KULM Kulim 86.66 277 *e*P **P** **03 46 01.9 +0.3**
5.5nm,1.0s
TRF Thorofare Moun 88.01 11 *e*P **P** **03 46 07.5 +0.3**
0.9nm,0.6s
PDAR Pinedale Array 88.75 42 P **P** **03 46 10.9 -0.4**
0.2nm,0.7s,baz=259,slow=8.2,SNR=2.5
PDAR Pinedale Array 88.75 42 P **P** **03 46 10.9 -0.4**
ILAR Eielson Array 89.84 12 P **P** **03 46 16.7 +1.1**
0.3nm,0.8s,baz=184,slow=7.0,SNR=2.6
ILAR Eielson Array 89.84 12 P **P** **03 46 16.7 +1.1**
YKA Yellowknife Ar 97.37 24 P Pdif 03 46 50.6 +0.3
0.1nm,0.8s,baz=253,slow=8.3,SNR=2.9
YKA Yellowknife Ar 97.37 24 P Pdif 03 46 50.6 +0.3
AKASG Malin Array Be 146.14 332 PKPbc **PKPbc** **03 52 57.3 0.0**
0.5nm,0.4s,baz=44,slow=5.5,SNR=3.2
AKASG Malin Array Be 146.14 332 PKPbc **PKPbc** **03 52 57.3 0.0**
BRTR Keskin Array B 150.22 312 PKPbc **PKPbc** **03 53 08.4 -0.3**
0.4nm,0.8s,baz=205,slow=5.3,SNR=3.0
BRTR Keskin Array B 150.22 312 PKPbc **PKPbc** **03 53 08.4 -0.3**

*IDC **21** 03:40:39.4±0.7,0.˚40S×132.˚89E,h0km,mb4.4/9,*
mb1 4.6/11,mb1mx4.3/22,mbtmp4.4/11,ML4.4/2,MS3.8/11,
Ms1 3.8/11,ms1mx3.4/39,Error ellipse: s-maj=30.1km
s-min=13.9km az=70.0
*ISCJB **21** 03:40:42.7±0.3,0.˚42S±0.˚03×133.˚08E±0.˚04,h32km,*
mb4.5/40,MS3.9/12,Error ellipse: s-maj=5.2km
s-min=3.8km az=167.5
*DJA **21** 03:40:43.5±1.3,1.˚S±4.˚×13.˚3E±.˚,h10km,M5.0/20,*
mB5.6/10,mb4.9/20,MLv5.0/9,Mw(mB)5.0/10
*MOS **21** 03:40:45.7±1.4,0.˚60S×132.˚63E,h54km,mb4.7/20,Error*
ellipse: s-maj=18.8km s-min=8.1km az=117.9
*NEIC **21** 03:40:46.9±2.0,0.˚46S×132.˚95E,h55km±19km,mb4.5/17,*
Error ellipse: s-maj=13.2km s-min=7.3km az=48.0
*BJI **21** 03:40:48.2,0.˚06S×132.˚82E,h35km,mB5.0/15,mb4.7/22,*
Ms4.7/11,Ms7 4.4/10
*AUST **21** 03:40:53.8,0.˚98S×133.˚00E,h100km*

ISC 21 03:40:44.9±0.4,0.˚48S±0.˚04×133.˚09E±0.˚05,h32km,n130,
σ1§77/134,mb4.6/40,MS3.9/12,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.57**	**199**	P		**Pn**		**03 41 25.4**	**+1.1**
FAKI				S		**Sn**		**03 41 56.2**	**+1.8**
BAKI	**Biak**	**3.10**	**103**	P		**Pn**		**03 41 31.7**	**0.0**
BAKI				S		**Sn**		**03 42 07.9**	**+0.2**
MSAI	**Masohi**	**5.04**	**236**	P		**Pn**		**03 42 01.0**	**+2.7**
	180nm,0.9s,10µm0.6nm								
BNDI	**Bandanaira**	**5.12**	**218**	P		**Pn**		**03 42 00.4**	**+0.9**
	885nm,1.1s,13µm4.5nm								
TLE	**Tual**	**5.14**	**184**	P		**Pn**		**03 42 02.0**	**+2.4**
	baz=4.7,SNR=12								
TLE				S		**Sn**		**03 42 58.0**	**+0.1**
	baz=4.7,SNR=5.9								
TLE	**Tual**	**5.14**	**184**	P		**Pn**		**03 42 01.8**	**+2.1**
	513nm,0.8s,5µm1.9nm								
TLE				S		**Sn**		**03 43 03.4**	**+5.5**
	513nm,0.8s,5µm1.9nm								
LBMI	**Labuha**	**5.59**	**268**	P		**Pn**		**03 42 06.0**	**+0.1**
	231nm,0.7s,2µm0.9nm								
AAI	**Ambon**	**5.84**	**237**	P		**Pn**		**03 42 10.8**	**+1.5**
	baz=5.5,SNR=14								
AAI	**Ambon**	**5.84**	**237**	P		**Pn**		**03 42 10.5**	**+1.2**
	671nm,0.6s,8µm3.0nm								
AAI				S		**Sn**		**03 43 15.1**	**-0.1**
	671nm,0.6s,8µm3.0nm								
TNTI	**Ternate**	**5.85**	**282**	P		Pn		03 42 14.1	+4.6
	117nm,1.0s,0.5nm								
NLAI	**Namlea**	**6.58**	**245**	P		**Pn**		**03 42 21.0**	**+1.5**
	173nm,0.9s,4µm0.6nm								
MRSI	**Marisa**	**11.19**	**275**	P		Pn		03 43 28.6	+5.9
	29nm,0.6s								
KDU	**Kakadu**	**12.15**	**183**	P		**Pn**		**03 43 35.0**	**-0.8**
	baz=12,SNR=44								
MTN	**Manton Dam**	**12.44**	**189**	P		**Pn**		**03 43 38.8**	**-1.0**
	baz=12,SNR=164								
MTN				S		**Sn**		**03 45 55.0**	**-2.4**
	baz=12,SNR=7.7								
TTSI	**Tana Toraja**	**13.50**	**259**	P		Pn		03 43 58.6	+4.2
	21nm,1.0s								
BKSI	**Bulukumba**	**13.81**	**249**	P		**Pn**		**03 43 59.3**	**+0.7**
	21nm,0.6s,461nm								
KAPI	**Kappang**	**14.06**	**251**	Pn		**Pn**		**03 44 02.9**	**+0.9**
	1.4nm,0.3s,baz=107,slow=8.8,SNR=11								
KAPI	**Kappang**	**14.06**	**251**	Pn		**Pn**		**03 44 02.9**	**+0.9**
KAPI	**Kappang**	**14.06**	**251**	P		Pn		03 44 05.8	+3.8
	40nm,1.0s,438nm								
PMG	**Port Moresby**	**16.58**	**123**	*e*Pn		**P**		**03 44 39.1**	**+1.7**
COEN	**Coen**	**16.71**	**144**	*e*Pn		**Pn**		**03 44 36.6**	**-0.1**
GUMO	**Guam**	**18.21**	**39**	LR		LR		03 50 56.3	
	comp=Z,180nm,19.2s,baz=143,slow=34								
BBKI	**Banjar Baru**	**18.47**	**261**	P		Pn		03 45 12.3	+14
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		**P**		**03 45 02.3**	**-1.5**
	0.8nm,0.3s,baz=30,slow=12,SNR=22								
FITZ				S		Sn		03 48 26.7	-10
	0.5nm,0.3s,baz=180,slow=16,SNR=4.7								
FITZ				LR		LR		03 53 29.3	
	comp=Z,224nm,19.2s,baz=38,slow=41								
FITZ	**Fitzroy Crossi**	**18.98**	**202**	*e*P		**P**		**03 45 02.3**	**-1.5**
	15nm,0.9s								
FITZ				*e*Sn		Sn		03 48 23.2	-13
FITZ				S		S		03 48 26.7	-11
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P		**P**		**03 45 02.3**	**-1.5**
	baz=19,SNR=8.9								
KHKI	**Kahang-Kahang**	**19.09**	**245**	P		**P**		**03 45 05.5**	**+0.4**
	38nm,1.1s								
SRBI	**Singaraja**	**19.35**	**247**	P		**Pn**		**03 45 10.6**	**+1.4**
	47nm,1.2s								
WRAB	**Tennant Creek**	**19.38**	**176**	*e*P		**P**		**03 45 08.4**	**+0.2**
WRAB				pmax		pmax			
	comp=Z,15nm,0.7s								
WRAB	**Tennant Creek**	**19.38**	**176**	*e*P		**P**		**03 45 08.4**	**+0.2**
	comp=Z,15nm,0.7s								
WRA	**Warramunga Arr**	**19.38**	**176**	P		**P**		**03 45 08.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=355,slow=12,SNR=93								
WRA				S		**S**		**03 48 41.7**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=359,slow=22,SNR=7.8								
WRA	**Warramunga Arr**	**19.38**	**176**	P		**P**		**03 45 08.5**	**+0.2**
WRA				S		**S**		**03 48 41.7**	**-4.2**
KMMI	**Kalianget**	**20.16**	**251**	P		Pn		03 45 21.6	+2.8
	comp=Z,31nm,1.4s								
JAGI	**Jajag, Banyuwa**	**20.46**	**247**	P		**P**		**03 45 21.1**	**+1.0**
	comp=Z,38nm,0.9s								
QIS	**Mount Isa**	**20.95**	**163**	P		**P**		**03 45 25.8**	**+0.5**
	baz=21,SNR=8.0								
SJI	**Sawahan**	**22.44**	**251**	P		P		03 45 47.1	+5.6
	comp=Z,36nm,1.2s,comp=Z,5µm								
KSM	**Kuching**	**22.86**	**275**	*e*P		**P**		**03 45 44.4**	**-1.4**
	comp=Z,14nm,0.6s								
AS31	**Alice Springs**	**23.06**	**178**	*e*P		**P**		**03 45 47.5**	**-0.4**
ASAR	**Alice Springs**	**23.07**	**178**	P		**P**		**03 45 47.6**	**-0.3**
	comp=Z,17nm,0.8s,baz=6.8,slow=12,SNR=71								
ASAR				S		Sn		03 50 06.0	-8.7
	comp=Z,5.0nm,1.1s,baz=0.0,slow=25,SNR=4.3								
ASAR				LR		LR		03 54 20.7	
	comp=Z,174nm,21.7s,baz=352,slow=36								
ASAR	**Alice Springs**	**23.07**	**178**	P		**P**		**03 45 47.6**	**-0.3**
ASAR				S		Sn		03 50 06.0	-8.7
CTA	**Charters Tower**	**23.37**	**147**	P		**P**		**03 45 52.0**	**+1.1**
	comp=Z,14nm,0.9s,baz=328,slow=9.2,SNR=9.6								
CTA				LR		LR		03 55 31.7	
	comp=Z,217nm,20.9s,baz=25,slow=38								
CTA	**Charters Tower**	**23.37**	**147**	P		**P**		**03 45 52.0**	**+1.1**
CTAO	**Charters Tower**	**23.37**	**147**	*e*P		**P**		**03 45 51.8**	**+0.9**
CTAO				pmax		pmax			
	comp=Z,20nm,1.0s								
CTAO	**Charters Tower**	**23.37**	**147**	*e*P		**P**		**03 45 51.8**	**+0.9**
	comp=Z,20nm,1.0s								
MBWA	**Marble Bar**	**24.34**	**212**	*e*P		**P**		**03 46 00.7**	**+0.6**
	comp=Z,41nm,1.1s								
JOW	**Kunigami**	**27.54**	**351**	LR		LR		03 55 42.4	
	comp=Z,333nm,18.5s,baz=239,slow=33								
MEEK	**Meekatharra**	**29.50**	**207**	S		S		03 51 29.5	-10
	baz=29,SNR=4.2								
QIZ	**Qiongzhong**	**29.94**	**312**	P		**P**		**03 46 49.8**	**-0.6**
QIZ				S		**S**		**03 51 45.6**	**-0.5**
QIZ				pmax		pmax			
	comp=Z,6.0nm,1.2s								
FORT	**Forrest**	**30.51**	**189**	*e*P		**P**		**03 46 56.9**	**+1.6**
	comp=Z,16nm,0.7s								
STKA	**Stephens Creek**	**32.25**	**166**	P		**P**		**03 47 10.4**	**-0.1**
	comp=Z,19nm,0.9s,baz=342,slow=7.9,SNR=22								
STKA				LR		LR		04 01 52.7	
	comp=Z,336nm,18.8s,baz=12,slow=39								
STKA	**Stephens Creek**	**32.25**	**166**	*e*P		**P**		**03 47 10.4**	**-0.1**
	comp=Z,2.6nm,0.7s								
STKA	**Stephens Creek**	**32.25**	**166**	P		**P**		**03 47 10.4**	**-0.1**
	baz=32,SNR=17								
PPI	**Padang Panjang**	**32.69**	**270**	S		**S**		**03 52 31.0**	**+1.7**
	baz=33,SNR=4.5								
PSI	**Prapat**	**34.31**	**276**	P		**P**		**03 47 26.7**	**-2.3**
	comp=Z,8.2nm,0.8s,baz=174,slow=5.8,SNR=4.7								
PSI	**Prapat**	**34.31**	**276**	P		**P**		**03 47 26.7**	**-2.3**
NJ2	**Nanjing**	**35.05**	**339**	*e*P		**P**		**03 47 35.3**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
GSI	**Gunungsitoli**	**35.55**	**273**	S		**S**		**03 53 15.3**	**+1.8**
	baz=36,SNR=4.3								
GYA	**Guiyang**	**36.95**	**318**	*e*P		**P**		**03 47 51.0**	**-0.5**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ARPS	**Mount Arapiles**	**37.01**	**168**	P		**P**		**03 47 52.1**	**+0.5**
	baz=37,SNR=13								
MJAR	**Matsushiro Arr**	**37.14**	**7**	LR		LR		03 59 57.7	
	comp=Z,152nm,21.6s,baz=190,slow=31								
KSRS	**Korea Array**	**38.04**	**353**	LR		LR		04 02 03.0	
	comp=Z,100nm,18.2s,baz=322,slow=34								
CMAR	**Chiang Mai Arr**	**38.47**	**301**	P		P		03 48 00.9	-3.4
	comp=Z,5.5nm,0.9s,baz=126,slow=4.6,SNR=13								
CMAR	**Chiang Mai Arr**	**38.47**	**301**	P		P		03 48 00.8	-3.4
CHTO	**Chiang Mai**	**38.62**	**302**	*e*P		**P**		**03 48 03.7**	**-1.8**
CHTO				pmax		pmax			
	comp=Z,7.0nm,1.0s								
CHTO	**Chiang Mai**	**38.62**	**302**	*e*P		**P**		**03 48 03.7**	**-1.8**
	comp=Z,7.2nm,1.0s								
KMI	**Kunming**	**38.85**	**313**	P		**P**		**03 48 10.3**	**+2.6**
KMI				pmax		pmax			
	comp=Z,11nm,1.4s								
CD2	**Chengdu**	**41.84**	**321**	P		**P**		**03 48 33.3**	**+1.2**
CD2				pP		**pP**		**03 48 43.4**	**+1.8**
CD2				sP		**sP**		**03 48 47.8**	**+2.4**
CD2				PP		**PnPn**		**03 50 13.8**	**-0.6**
CD2				S		**S**		**03 54 48.4**	**+0.4**
CD2				sS		**sS**		**03 55 05.4**	**+1.8**
CD2				SS		**SS**		**03 57 49.9**	**-5.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,190nm,4.0s								
CD2				LR		LR			
	comp=N,190nm,4.8s								
CD2				LR		LR			
	comp=Z,130nm,5.9s								
BJI	**Beijing**	**43.18**	**341**	P		**P**		**03 48 43.8**	**+1.0**
BJI				S		**S**		**03 55 09.5**	**+2.1**
BJI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BJI				pmax		pmax			
	comp=Z,83nm,3.5s								
BJI				LR		LR			
	comp=N,120nm,25.8s								
BJI				LR		LR			
	comp=E,170nm,25.5s								
USRK	**Ussuriysk Arra**	**44.49**	**359**	LR		LR		04 06 26.5	
	comp=E,76nm,20.3s,baz=287,slow=35								
CN2	**Changchun**	**44.61**	**352**	*e*P		**P**		**03 48 55.8**	**+1.6**
MDJ	**Mudanjiang**	**45.01**	**356**	P		**P**		**03 48 58.8**	**+1.4**
MDJ				pmax		pmax			
	comp=Z,7.0nm,2.0s								
MDJ				pmax		pmax			
	comp=Z,28nm,3.8s								
LZH	**Lanzhou**	**45.42**	**326**	*e*P		**P**		**03 48 59.6**	**-1.4**
LZH				PP		**PP**		**03 50 48.0**	**+0.3**
LZH				*e*S		**S**		**03 55 42.4**	**+1.9**
LZH				sS		**sS**		**03 55 54.8**	**-1.4**
LZH				pmax		pmax			
	comp=Z,12nm,1.0s								
LZH				pmax		pmax			
	comp=Z,84nm,4.1s								
LZH				LR		LR			
	comp=N,270nm,14.3s								
LZH				LR		LR			
	comp=E,150nm,12.5s								
LZH				LR		LR			
	comp=Z,380nm,15.6s								
HHC	**Hu-ho-hao-te**	**45.55**	**337**	*e*P		P		03 49 07.1	+5.2
HHC				pP		pP		03 49 17.0	+5.5
HHC				sP		sP		03 49 21.3	+6.0
HHC				sS		sS		03 56 02.0	+4.2
HHC				ScS		**ScS**		**03 58 59.3**	**+3.1**
HHC				pmax		pmax			
	comp=Z,17nm,0.7s								
HHC				pmax		pmax			
	comp=Z,150nm,5.1s								
HHC				LR		LR			
	comp=N,340nm,21.6s								
HHC				LR		LR			
	comp=E,870nm,25.1s								
HHC				LR		LR			
	comp=Z,120nm,15.5s								
GTA	**Gaotai**	**50.02**	**326**	*e*P		P		03 49 41.4	+4.7
GTA				pP		pP		03 49 45.5	-0.8
GTA				sP		sP		03 49 47.8	-2.3
GTA				pmax		pmax			
	comp=Z,4.0nm,1.5s								
TAPN	**Taplejung**	**51.61**	**306**	*e*P		**P**		**03 49 47.5**	**-1.5**
ODAN	**Odare**	**51.67**	**305**	*e*P		**P**		**03 49 47.7**	**-1.7**
RAMN	**Ramite**	**52.35**	**305**	*e*P		**P**		**03 49 53.1**	**-1.4**
JIRN	**Jiri**	**52.97**	**306**	*e*P		**P**		**03 49 57.8**	**-1.4**
	comp=Z,3.9nm,0.7s								
ULN	**Ulaanbaatar**	**53.21**	**338**	*e*P		**P**		**03 50 00.2**	**-0.1**
	comp=Z,2.7nm,0.7s								
GUN	**Gumba**	**53.32**	**306**	*e*P		**P**		**03 50 00.1**	**-1.7**
	comp=Z,27nm,0.7s								
SONM	**Songino Array**	**53.43**	**338**	P		**P**		**03 50 01.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=148,slow=8.5,SNR=3.5								
SONM	**Songino Array**	**53.43**	**338**	P		**P**		**03 50 01.7**	**-0.2**
DMN	**Daman**	**53.83**	**305**	*e*P		**P**		**03 50 03.8**	**-1.6**
GKN	**Gorkha**	**54.37**	**305**	*e*P		**P**		**03 50 07.5**	**-1.7**
KOLN	**Koldanda**	**55.12**	**305**	*e*P		**P**		**03 50 13.5**	**-1.2**
	comp=Z,42nm,0.8s								
DANN	**Dangsing**	**55.21**	**306**	*e*P		**P**		**03 50 14.0**	**-1.5**
	comp=Z,48nm,0.8s								
PYUN	**Piuthan**	**55.75**	**305**	*e*P		**P**		**03 50 18.0**	**-1.2**
	comp=Z,92nm,0.9s								
MOY	**Mondy**	**58.59**	**337**	*e*P		P		03 50 45.1	+6.3
WMQ	**Urumqi**	**59.83**	**323**	*e*P		**P**		**03 50 49.1**	**+1.7**
WMQ				pmax		pmax			
	comp=Z,11nm,1.4s								
BOD	**Bodaibo**	**60.08**	**348**	*e*P		**P**		**03 50 47.1**	**-1.7**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.5s								
YAK	**Yakutsk**	**62.40**	**358**	*e*P		P		03 51 08.9	+4.5
YAK				pmax		pmax			
	comp=Z,7.0nm,0.4s								
MK31	**Makanchi Array**	**64.64**	**324**	*e*P		**P**		**03 51 18.7**	**-0.9**
MK31	**Makanchi Array**	**64.64**	**324**	*e*P		**P**		**03 51 18.7**	**-0.9**
MKAR	**Makanchi Array**	**64.64**	**324**	P		**P**		**03 51 18.9**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=113,slow=8.5,SNR=17								
MKAR	**Makanchi Array**	**64.64**	**324**	*i* P		**P**		**03 51 18.8**	**-0.8**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**64.64**	**324**	P		**P**		**03 51 18.9**	**-0.8**
SEY	**Seymchan**	**64.89**	**10**	*e*P		P		03 51 25.7	+4.9
KSH	**Kashi**	**65.50**	**314**	P		**P**		**03 51 25.9**	**+0.5**
KSH				*e*pP		**pP**		**03 51 38.5**	**+3.2**
KSH				*e*sP		**sP**		**03 51 42.8**	**+3.7**
KSH				*e*PcP		**PcP**		**03 51 59.6**	**+2.5**
KSH				*e*PP		**PP**		**03 53 54.3**	**+4.5**
KSH				*e*ScP				03 55 57.9	
KSH				PcS				03 56 00.8	
KSH				S		**S**		**04 00 08.9**	**+0.5**
KSH				sS		**sS**		**04 00 24.8**	**0.0**
KSH				ScS		**SKSac**		**04 01 17.3**	**-1.5**
KSH				SS		**SS**		**04 04 24.4**	**+1.9**
KSH				pmax		pmax			
	comp=Z,8.0nm,1.3s								
KSH				pmax		pmax			
	comp=Z,71nm,4.2s								
KSH				LR		LR			
	comp=N,80nm,6.3s								
KSH				LR		LR			
	comp=E,56nm,5.3s								
KSH				LR		LR			
	comp=Z,160nm,5.0s								
ZALV	**Zalesovo Beam**	**67.25**	**331**	P		P		03 51 32.9	-3.2
	comp=Z,0.5nm,0.4s,baz=117,slow=5.0,SNR=3.3								
ZALV	**Zalesovo Beam**	**67.25**	**331**	P		P		03 51 32.9	-3.2
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**67.25**	**331**	P		P		03 51 32.9	-3.2
AAK	**Ala-Archa**	**67.73**	**317**	*e*P		**P**		**03 51 39.1**	**-0.6**
AAK				pmax		pmax			
	comp=Z,9.0nm,2.5s								
AAK	**Ala-Archa**	**67.73**	**317**	*e*P		**P**		**03 51 38.3**	**-1.3**
	comp=Z,9.7nm,1.0s								
EKS2	**Erkin-Say**	**68.23**	**317**	*e*P		**P**		**03 51 42.6**	**-0.2**
EKS2				pmax		pmax			
	comp=Z,3.0nm,1.0s								
EKS2	**Erkin-Say**	**68.23**	**317**	*e*P		**P**		**03 51 42.6**	**-0.2**
	comp=Z,2.7nm,1.0s								
NVS	**Novosibirsk**	**68.52**	**332**	*e*P		P		03 51 41.0	-3.1
NVS				pmax		pmax			
	comp=Z,18nm,2.0s								
KURK	**Kurchatov**	**68.71**	**326**	*e*P		**P**		**03 51 44.4**	**-1.0**
KURK				pmax		pmax			
	comp=Z,13nm,1.2s								
KURK	**Kurchatov**	**68.71**	**326**	*e*P		**P**		**03 51 44.4**	**-1.0**
	comp=Z,13nm,1.2s								
KBL	**Kabul**	**69.11**	**307**	*e*P		**P**		**03 51 47.3**	**-1.2**
KBL				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KBL	**Kabul**	**69.11**	**307**	*e*P		**P**		**03 51 47.3**	**-1.2**
	comp=Z,4.4nm,0.9s								
KKAR	**Karatay Array**	**70.63**	**316**	*e*P		**P**		**03 51 56.8**	**-0.6**
KKAR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KKAR	**Karatay Array**	**70.63**	**316**	*e*P		**P**		**03 51 56.8**	**-0.6**
	comp=Z,4.9nm,1.0s								
TIXI	**Tiksi**	**72.06**	**359**	*e*P		P		03 52 10.2	+4.8
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRVK	**Borovoye**	**74.38**	**326**	*e*P		**P**		**03 52 18.9**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BRVK	**Borovoye**	**74.38**	**326**	*e*P		**P**		**03 52 18.9**	**-0.6**
	comp=Z,3.1nm,0.6s								
VNDA	**Vanda**	**78.54**	**174**	P		**P**		**03 52 42.5**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=323,slow=6.4,SNR=7.4								
VNDA	**Vanda**	**78.54**	**174**	*e*P		**P**		**03 52 42.4**	**-0.2**
	comp=Z,5.5nm,1.1s								
ABKAR	**Akbulak array**	**79.41**	**320**	*e*P		**P**		**03 52 46.2**	**-1.8**
	comp=Z,4.7nm,0.8s								
ARU	**Arti**	**81.87**	**327**	*c i*P		**P**		**03 53 00.4**	**-0.6**
ARU								03 56 02.5	
ARU				S		**S**		**04 03 11.2**	**-1.1**
ARU				SS		**SS**		**04 08 30.4**	**-0.6**
ARU				pmax		pmax			
	comp=Z,13nm,2.5s								
ILAR	**Eielson Array**	**86.17**	**25**	P		**P**		**03 53 21.2**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=256,slow=4.2,SNR=7.3								
ILAR				LR		LR		04 32 04.0	
	comp=Z,52nm,19.7s,baz=357,slow=36								
ILAR	**Eielson Array**	**86.17**	**25**	P		**P**		**03 53 21.2**	**-1.6**
ARCES	**ARCESS Array B**	**96.54**	**340**	LR		LR		04 42 41.2	
	comp=Z,65nm,18.4s,baz=24,slow=39								
YKA	**Yellowknife Ar**	**100.58**	**26**	P		**Pdif**		**03 54 30.6**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=292,slow=5.0,SNR=5.1								
YKA	**Yellowknife Ar**	**100.58**	**26**	P		**Pdif**		**03 54 30.6**	**+1.4**
KOLS	**Kolonicke sedl**	**103.92**	**321**	*e*P		**Pdif**		**03 54 50.5**	**+6.0**
KOLS	**Kolonicke sedl**	**103.92**	**321**	PDIF		**Pdif**		**03 54 50.5**	**+6.0**
TXAR	**Lajitas Array**	**118.86**	**56**	PKP		**PKPdf**		**03 59 30.7**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=209,slow=5.2,SNR=3.2								
TXAR	**Lajitas Array**	**118.86**	**56**	PKP		**PKPdf**		**03 59 30.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**130.24**	**287**	PKP		**PKPdf**		**03 59 52.0**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=106,slow=1.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**130.24**	**287**	PKP		**PKPdf**		**03 59 52.0**	**-1.0**

MAN 21 03:50:37,8.˚18N×124.˚95E,h34km,mb3.9,ML2.6,MS2.3,
Mindanao

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

	5.6nm,0.7s,baz=95,slow=7.8,SNR=48								
ASAR	**Alice Springs**	**46.67**	**259**	P		**P**	**04 17 59.9**	**-1.4**
WRAB	**Tennant Creek**	**47.00**	**264**	*e*P		**P**	**04 18 01.5**	**-2.5**
	5.3nm,0.9s								
WRA	**Warramunga Arr**	**47.01**	**264**	P		**P**	**04 18 01.9**	**-2.0**
	4.0nm,0.7s,baz=92,slow=8.5,SNR=59								
WRA	**Warramunga Arr**	**47.01**	**264**	P		**P**	**04 18 01.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**55.44**	**263**	*e*P		**P**	**04 19 06.3**	**-0.9**
	4.6nm,0.9s								
MJAR	**Matsushiro Arr**	**73.80**	**322**	P		**P**	**04 21 06.5**	**-0.1**
	0.8nm,0.5s,baz=169,slow=7.2,SNR=5.2								
MJAR	**Matsushiro Arr**	**73.80**	**322**	P		**P**	**04 21 06.5**	**-0.1**
NVAR	**Mina Array Bea**	**80.97**	**42**	P		**P**	**04 21 48.1**	**+1.1**
	0.5nm,0.8s,baz=224,slow=9.7,SNR=3.9								
NVAR	**Mina Array Bea**	**80.97**	**42**	P		**P**	**04 21 48.1**	**+1.1**
USRK	**Ussuriysk Arra**	**82.51**	**325**	P		**P**	**04 21 56.1**	**+1.4**
	5.2nm,0.9s,baz=98,slow=4.3,SNR=5.5								
IPM	**Ipoh**	**86.14**	**276**	*e*P		**P**	**04 22 14.2**	**+0.3**
	5.6nm,0.8s								
TPAW	**Teton Pass**	**88.44**	**41**	*e*P		**P**	**04 22 22.8**	**-1.9**
	2.2nm,1.0s								
ILAR	**Eielson Array**	**90.11**	**12**	P		**P**	**04 22 31.6**	**-0.1**
	1.6nm,1.1s,baz=219,slow=7.4,SNR=5.3								
ILAR	**Eielson Array**	**90.11**	**12**	P		**P**	**04 22 31.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P		**P**	**04 22 49.7**	**+1.3**
	0.9nm,0.3s,baz=120,slow=3.6,SNR=7.5								
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P		**P**	**04 22 49.7**	**+1.3**
CHTO	**Chiang Mai**	**93.63**	**289**	*e*P		**P**	**04 22 49.8**	**+0.7**
	2.2nm,0.8s								
YKA	**Yellowknife Ar**	**97.60**	**24**	P		Pdif	04 23 07.1	+1.0
	0.2nm,0.8s,baz=230,slow=4.7,SNR=3.4								
YKA	**Yellowknife Ar**	**97.60**	**24**	P		Pdif	04 23 07.1	+1.0
KURK	**Kurchatov**	**117.64**	**316**	*e*PKPdf		**PKPdf**	**04 28 16.7**	**-1.2**
TKM2	**Tokmak 2**	**119.16**	**307**	*e*PKPdf		**PKPdf**	**04 28 19.7**	**-1.7**
AKASG	**Malin Array Be**	**146.46**	**332**	PKPbc		**PKPbc**	**04 29 12.5**	**-0.5**
	2.2nm,0.6s,baz=41,slow=4.2,SNR=7.6								
AKASG	**Malin Array Be**	**146.46**	**332**	PKPbc		**PKPbc**	**04 29 12.5**	**-0.5**
KIEV	**Kiev**	**146.47**	**332**	*e*PKPbc		**PKPdf**	**04 29 11.2**	**-0.4**
AK01	**Malin Array Si**	**146.47**	**332**	*e*PKPbc		**PKPbc**	**04 29 12.5**	**-0.6**
AK02	**Malin Array Si**	**146.50**	**332**	*e*PKPbc		**PKPbc**	**04 29 12.2**	**-0.9**
MALT	**Malatya**	**147.57**	**306**	*e*PKPbc		**PKPbc**	**04 29 16.1**	**-0.6**
BUR08	**Bucovina Ar. S**	**150.50**	**332**	*e*PKPdf		**PKPdf**	**04 29 16.7**	**-1.8**
BUR08				*e*PKPbc		**PKPbc**	**04 29 23.0**	**-0.8**
BR131	**Keskin Array S**	**150.50**	**311**	*e*PKPbc		**PKPbc**	**04 29 23.1**	**-1.1**
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc		**PKPbc**	**04 29 23.1**	**-1.1**
	1.3nm,0.9s,baz=143,slow=3.4,SNR=7.6								
BRTR	**Keskin Array B**	**150.50**	**311**	PKPbc		**PKPbc**	**04 29 23.1**	**-1.1**
CLL	**Collm**	**151.00**	**350**	*i* PKPbc		**PKPbc**	**04 29 25.2**	**+0.5**
	comp=Z,5.0nm,1.0s								
CLL				*es*PKPbc		**sPKPbc**	**04 29 39.0**	**-0.3**
CLL				*i* aPKPab			04 29 41.3	
MMAI	**Mount Meron Ar**	**151.38**	**297**	PKPbc		**PKPbc**	**04 29 26.6**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=96,slow=3.4,SNR=5.3								
MMAI	**Mount Meron Ar**	**151.38**	**297**	PKPbc		**PKPbc**	**04 29 26.6**	**+0.2**
GERES	**GERESS Array B**	**153.23**	**347**	PKPbc		**PKPbc**	**04 29 32.3**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=172,slow=3.0,SNR=2.2								
GERES	**GERESS Array B**	**153.23**	**347**	PKPbc		**PKPbc**	**04 29 32.3**	**+2.3**
TORD	**Torodi Ar. Bea**	**169.78**	**162**	PKPab		**PKPab**	**04 30 56.1**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=200,slow=3.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**169.78**	**162**	PKPab		**PKPab**	**04 30 56.1**	**+1.6**

*ISCJB **21** 04:09:38.7±0.4,39°.38N±0°.02×27°.99E±0°.03, h9km±6km, Error ellipse: s-maj=4.5km s-min=4.1km az=179.0*
*ISK **21** 04:09:38.4,39°.38N×27°.99E, h11km, MD2.7*
*DDA **21** 04:09:38.4,39°.41N×27°.99E, h7km, MD2.9*
*CSEM **21** 04:09:38.7±0.1,39°.38N×27°.99E, h10km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.4km az=91.0*

ISC 21 04:09:38.5±1.0,**39°.39N**±0°.02×**27°.99E**±0°.03,**h13**km±10km, **n26**,σ0**°35/42**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BALB	**Balikesir**	**0.26**	**342**	*e*PG		**Pg**	**04 09 44.2**	**+0.2**
BALB				*e*SG		**Sb**	**04 09 49.1**	**-0.5**
BALB	**Balikesir**	**0.26**	**342**	*e*Pg		**Pg**	**04 09 44.3**	**+0.2**
BALB				*e*Sg		**Sb**	**04 09 49.1**	**-0.5**
DURS	**Dursunbey**	**0.43**	**61**	*i* P		**Pg**	**04 09 46.5**	**-0.6**
DURS				*i* S		**Sb**	**04 09 53.9**	**-0.6**
DURS	**Dursunbey**	**0.43**	**61**	*i* P		**Pg**	**04 09 46.5**	**-0.6**
DURS				*i* S		**Sb**	**04 09 53.9**	**-0.6**
BALY	**Balya**	**0.45**	**321**	*i* P		**Pg**	**04 09 47.3**	**-0.2**
BALY				*i* S		**Sg**	**04 09 53.8**	**+0.3**
BALY	**Balya**	**0.45**	**321**	*i* P		**Pg**	**04 09 47.3**	**-0.2**
BALY				*i* S		**Sg**	**04 09 53.8**	**+0.3**
AKHS	**Akhisar**	**0.53**	**195**	*i* P		**Pg**	**04 09 48.9**	**+0.1**
AKHS				*i* S		**Sg**	**04 09 57.2**	**+0.1**
AKHS	**Akhisar**	**0.53**	**195**	*i* P		**Pg**	**04 09 48.9**	**+0.1**
AKHS				*i* S		**Sb**	**04 09 57.2**	**+0.1**
AKS	**Akhisar**	**0.53**	**195**	*e*PG		**Pg**	**04 09 48.6**	**-0.2**
AKS				*e*SG		**Sb**	**04 09 57.0**	**-0.1**
AKS	**Akhisar**	**0.53**	**195**	*e*Pg		**Pg**	**04 09 48.6**	**-0.2**
AKS				*e*Sg		**Sb**	**04 09 57.0**	**-0.1**
DST	**Dursunbey**	**0.54**	**66**	*e*PG		**Pg**	**04 09 48.8**	**-0.2**
DST				*e*SG		**Sb**	**04 09 57.4**	**0.0**
DST	**Dursunbey**	**0.54**	**66**	*e*Pg		**Pg**	**04 09 48.8**	**-0.2**
DST				*e*Sg		**Sb**	**04 09 57.4**	**0.0**
DEMI	**Demirci**	**0.66**	**121**	*i* P		**Pg**	**04 09 51.5**	**0.0**
DEMI				*i* S		**Sb**	**04 10 01.0**	**-0.2**
DEMI	**Demirci**	**0.66**	**121**	*i* P		**Pg**	**04 09 51.5**	**0.0**
DEMI				*i* S		**Sb**	**04 10 01.0**	**-0.2**
GONE	**Gonen-Balikesi**	**0.70**	**341**	*e*PG		**Pb**	**04 09 52.3**	**-0.2**
GONE	**Gonen-Balikesi**	**0.70**	**341**	*e*Pg		**Pb**	**04 09 52.3**	**-0.2**
AYVA	**Ayvalik**	**1.01**	**266**	*i* P		**Pn**	**04 09 58.5**	**+0.2**
AYVA				*i* S		**Sg**	**04 10 11.1**	**0.0**
AYVA	**Ayvalik**	**1.01**	**266**	*i* P		**Pn**	**04 09 58.5**	**+0.2**
AYVA				*i* S		**Sg**	**04 10 11.1**	**0.0**
KULA	**Kula-Manisa**	**1.02**	**149**	*e*PG		**Pg**	**04 09 58.3**	**+0.1**
KULA	**Kula-Manisa**	**1.02**	**149**	*e*Pg		**Pg**	**04 09 58.3**	**+0.1**
IZM	**Izmir**	**1.14**	**210**	*e*PN		**Pg**	**04 10 00.4**	**0.0**
IZM	**Izmir**	**1.14**	**210**	*e*Pn		**Pg**	**04 10 00.4**	**0.0**
TVSB	**Tavsanli**	**1.14**	**86**	*e*PN		**Pg**	**04 10 00.9**	**+0.4**
TVSB	**Tavsanli**	**1.14**	**86**	*e*Pn		**Pg**	**04 10 01.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.20**	**35**	*e*PN		**Pg**	**04 10 02.4**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.20**	**35**	*e*Pn		**Pg**	**04 10 02.4**	**+0.8**

IDC 21 04:14:47.0±2.8,**22°.67S**×**174°.87W**,**h0**km, **mb4.1**/5, **mb1 4.4**/5,**mb1mx4.0**/20,**mbtmp4.1**/5,**Error ellipse: s-maj=194.7km s-min=24.1km az=159.0**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**9.20**	**19**	Pn		Pn	04 16 56.7	-4.4
	1.8nm,0.3s,baz=84,slow=20,SNR=2.4							
AFI				Sn		Sn	04 18 35.2	-10
	2.8nm,0.3s,baz=324,slow=20,SNR=3.1							
CTA	**Charters Tower**	**36.23**	**267**	P		P	04 21 52.6	+0.6
	4.3nm,0.6s,baz=104,slow=9.3,SNR=5.5							
ASAR	**Alice Springs**	**46.90**	**258**	P		P	04 23 19.4	-0.2
	1.9nm,0.8s,baz=100,slow=7.0,SNR=14							
WRA	**Warramunga Arr**	**47.22**	**263**	P		P	04 23 21.4	-0.6
	1.5nm,0.5s,baz=101,slow=8.3,SNR=41							
NVAR	**Mina Array Bea**	**80.65**	**42**	P		P	04 27 02.2	+0.2
	0.7nm,0.6s,baz=223,slow=8.6,SNR=6.2							
TXAR	**Lajitas Array**	**85.81**	**56**	P		P	04 27 28.6	-0.1
	0.6nm,0.9s,baz=260,slow=5.3,SNR=4.5							

*ATH **21** 04:15:21.9,39°.46N×21°.31E, h18km±2km, MD3.3/15*
*ISCJB **21** 04:15:22.2±0.6,39°.43N±0°.02×21°.27E±0°.03, h8km±4km, mb3.3/6, Error ellipse: s-maj=3.8km s-min=3.0km az=135.6*
*THE **21** 04:15:22.4,39°.44N×21°.28E, h0km±1km, ML3.1/9, Error ellipse: s-maj=1.8km s-min=0.6km az=234.0*
*CSEM **21** 04:15:22.1±0.2,39°.42N×21°.30E, h5km, ML3.1/9, Error ellipse: s-maj=4.2km s-min=3.3km az=48.0*
*IDC **21** 04:15:28.5±3.9,39°.31N×21°.55E, h47km±38km, mb3.1/6, mb1 3.2/8, mb1mx3.2/26, mbtmp3.1/8, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.0/25, Error ellipse: s-maj=35.7km s-min=20.0km az=141.0*

ISC 21 04:15:22.0±1.1,**39°.43N**±0°.02×**21°.32E**±0°.02,**h1**km±9km, **n66**,σ0**°96/92**,**mb3.4**/6,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEV	**Metsovon**	**0.36**	**349**	P		**Pg**	**04 15 29.2**	**+0.3**
MEV	**Metsovon**	**0.36**	**349**	P		**Pg**	**04 15 29.2**	**+0.3**
JAN	**Janina**	**0.43**	**302**	P		**Pg**	**04 15 29.7**	**-0.5**
JAN				S		**Sg**	**04 15 36.4**	**+0.7**
JAN	**Janina**	**0.43**	**302**	*e*PB		**Pg**	**04 15 29.6**	**-0.6**
JAN				*e*SB		**Sg**	**04 15 36.1**	**+0.4**
JAN	**Janina**	**0.43**	**302**	P		**Pg**	**04 15 29.7**	**-0.5**
JAN				*e*Sb		**Sg**	**04 15 36.1**	**+0.4**
JAN				S		**Sg**	**04 15 36.4**	**+0.7**
THL	**Klokotos Trika**	**0.56**	**76**	P		**Pg**	**04 15 32.9**	**+0.2**
THL				S		**Sb**	**04 15 43.2**	**+0.2**
THL	**Klokotos Trika**	**0.56**	**76**	*e*PN		**Pg**	**04 15 32.7**	**0.0**
THL				*e*SN		**Sb**	**04 15 41.3**	**-1.7**
THL	**Klokotos Trika**	**0.56**	**76**	*e*Pn		**Pg**	**04 15 32.7**	**0.0**
THL				*e*Sn		**Sb**	**04 15 41.3**	**-1.7**
EVR	**Evrytania**	**0.64**	**143**	P		**Pg**	**04 15 33.9**	**-0.4**
EVR				S		**Sb**	**04 15 44.6**	**-0.9**
EVR	**Evrytania**	**0.64**	**143**	*e*PB		**Pg**	**04 15 33.8**	**-0.5**
EVR				*e*SN		**Sb**	**04 15 44.7**	**-0.8**
EVR	**Evrytania**	**0.64**	**143**	P		**Pg**	**04 15 33.9**	**-0.4**
EVR				S		**Sb**	**04 15 44.6**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.76**	**123**	P		**Pg**	**04 15 36.4**	**-0.1**
MAKR				S		**Sn**	**04 15 50.0**	**-2.0**
MAKR	**Makrakomi, Fth**	**0.76**	**123**	P		**Pg**	**04 15 36.4**	**-0.1**
IGT	**Igoumenitsa**	**0.77**	**278**	P		**Pg**	**04 15 36.4**	**-0.4**
IGT				S		**Sb**	**04 15 47.9**	**-1.3**
IGT	**Igoumenitsa**	**0.77**	**278**	P		**Pg**	**04 15 36.4**	**-0.4**
IGT				S		**Sb**	**04 15 47.9**	**-1.3**
LKD2	**Lefkada island**	**0.82**	**219**	P		**Pg**	**04 15 37.8**	**+0.1**
LKD2				S		**Sb**	**04 15 49.7**	**-1.0**
LKD2	**Lefkada island**	**0.82**	**219**	*e*PN		**Pg**	**04 15 38.2**	**+0.5**
LKD2				*e*SN		**Sb**	**04 15 49.7**	**-1.0**
LKD2	**Lefkada island**	**0.82**	**219**	P		**Pg**	**04 15 37.8**	**+0.1**
LKD2	**Lefkada island**	**0.82**	**219**	*e*Pn		**Pg**	**04 15 38.2**	**+0.5**
LKD2				S		**Sb**	**04 15 49.7**	**-1.0**
AGG	**Agios Georgios**	**0.89**	**117**	P		**Pg**	**04 15 38.4**	**-0.2**
AGG				S		**Sn**	**04 15 54.0**	**-1.2**
AGG	**Agios Georgios**	**0.89**	**117**	*e*PB		**Pg**	**04 15 38.6**	**-0.4**
AGG				*e*SN		**Sb**	**04 15 52.0**	**-0.6**
AGG	**Agios Georgios**	**0.89**	**117**	P		**Pg**	**04 15 38.8**	**-0.2**
AGG				*e*Sn		**Sb**	**04 15 52.0**	**-0.6**
KZN	**Kozani**	**0.94**	**22**	P		**Pg**	**04 15 39.3**	**-0.8**
KZN				S		**Sb**	**04 15 53.7**	**-0.6**
KZN	**Kozani**	**0.94**	**22**	*e*PN		**Pg**	**04 15 39.3**	**-0.8**
KZN	**Kozani**	**0.94**	**22**	*e*Pn		**Pg**	**04 15 39.3**	**-0.8**
KZN				S		**Sb**	**04 15 53.7**	**-0.6**
NEST	**Nestorio**	**1.00**	**348**	P		**Pb**	**04 15 40.9**	**-1.4**
NEST				S		**Sg**	**04 15 55.6**	**+1.3**
NEST	**Nestorio**	**1.00**	**348**	P		**Pb**	**04 15 40.9**	**-1.4**
NEST				S		**Sg**	**04 15 55.6**	**+1.3**
EFP	**Efpalio**	**1.10**	**155**	P		**Pb**	**04 15 43.0**	**-0.9**
EFP				S		**Sn**	**04 15 59.8**	**-0.7**
EFP	**Efpalio**	**1.10**	**155**	*e*PN		**Pb**	**04 15 43.2**	**-0.7**
EFP	**Efpalio**	**1.10**	**155**	P		**Pb**	**04 15 43.0**	**-0.9**
LIT	**Litokhoron**	**1.12**	**53**	P		**Pb**	**04 15 43.1**	**-1.2**
LIT				S		**Sn**	**04 16 00.8**	**-0.3**
LIT	**Litokhoron**	**1.12**	**53**	P		**Pb**	**04 15 43.1**	**-1.2**
PSA1	**Psathopyrgos**	**1.19**	**158**	*e*PN		**Pg**	**04 15 45.4**	**+0.6**
KEK	**Kerkira**	**1.21**	**284**	*e*PN		**Pn**	**04 15 44.9**	**-1.2**
KEK	**Kerkira**	**1.21**	**284**	*e*Pn		**Pn**	**04 15 44.9**	**-1.2**
TRIZ	**Trizonia**	**1.22**	**151**	*e*PN		**Pg**	**04 15 45.9**	**+0.6**
TRIZ	**Trizonia**	**1.22**	**151**	*e*Pn		**Pg**	**04 15 45.9**	**+0.6**
VLS	**Valsamata**	**1.38**	**205**	*e*PN		**Pn**	**04 15 47.6**	**-0.8**
VLS	**Valsamata**	**1.38**	**205**	*e*Pn		**Pn**	**04 15 47.6**	**-0.8**
RLS	**Riolos of Patr**	**1.38**	**175**	*e*PN		**Pg**	**04 15 49.2**	**+0.8**
RLS	**Riolos of Patr**	**1.38**	**175**	*e*Pn		**Pg**	**04 15 49.2**	**+0.8**
NEO	**Neokhori**	**1.48**	**94**	*e*PN		**Pb**	**04 15 49.9**	**-0.5**
NEO	**Neokhori**	**1.48**	**94**	*e*Pn		**Pb**	**04 15 49.9**	**-0.5**
LKR	**Lokris**	**1.52**	**120**	*e*PN		**Pg**	**04 15 51.2**	**0.0**
LKR	**Lokris**	**1.52**	**120**	*e*Pn		**Pg**	**04 15 51.2**	**0.0**
BIA	**Biskla**	**1.59**	**29**	*e*Pn		**Pg**	**04 15 54.3**	**-1.2**
PLG	**Polygyros**	**1.89**	**59**	*e*PB		**Pn**	**04 15 54.3**	**-1.2**
PLG	**Polygyros**	**1.89**	**59**	*e*Pb		**Pn**	**04 15 54.3**	**-1.2**
SOH	**Sokhos**	**2.09**	**48**	*e*PN		**Pn**	**04 15 58.4**	**+0.1**
SOH	**Sokhos**	**2.09**	**48**	*e*Pn		**Pn**	**04 15 58.4**	**+0.1**
VAY	**Valandovo**	**2.12**	**26**	*e*Pn		**Pb**	**04 15 59.0**	**-2.2**
STON	**Ston**	**4.39**	**323**	*e*Pn		**Pn**	**04 16 30.3**	**+0.5**
STON						Sn	**Sn**	**04 17 20.9**	**-0.7**
STON	**Ston**	**4.39**	**323**	*e*Pn		**Pn**	**04 16 30.2**	**+0.5**
STON						Sn	**Sn**	**04 17 20.8**	**-0.7**
GRUS	**Gruza**	**4.48**	**354**	*e*Pn		**Pn**	**04 16 32.2**	**+1.2**
DIVS	**Divibare**	**4.77**	**348**	*e*Pn		**Pn**	**04 16 36.7**	**+1.6**
MLR	**Muntele Rosu**	**6.95**	**28**	P		Pn	04 17 09.3	+4.2
	0.1nm,0.3s,baz=199,slow=10.0,SNR=4.7							
MLR				S		**Sn**	**04 18 26.6**	**+1.7**
	baz=259,slow=16							
GNI	**Garni**	**18.01**	**80**	LR		LR	04 28 21.1	
	comp=Z,42nm,18.1s,baz=250,slow=43							
ESDC	**Sonseca Array**	**19.48**	**279**	P		**Pn**	**04 19 54.0**	**+2.4**
	0.1nm,0.3s,baz=78,slow=11,SNR=5.3							
FINES	**FINESS Array B**	**22.23**	**6**	P		**P**	**04 20 20.5**	**+0.6**
	2.2nm,1.0s,baz=202,slow=9.8,SNR=3.1							
NB2	**NORSAR Subarra**	**22.52**	**347**	P		**P**	**04 20 21.9**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=155,slow=11							
NB2	**NORSAR Subarra**	**22.52**	**347**	P		**P**	**04 20 21.9**	**-1.2**
	comp=Z,1.6nm,0.9s,SNR=3.8							
NOA	**NORSAR Array B**	**22.52**	**347**	P		**P**	**04 20 25.8**	**+2.7**
	comp=Z,0.9nm,0.8s,baz=156,slow=8.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**31.39**	**219**	P		**P**	**04 21 44.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=28,slow=8.9,SNR=4.7							
MKAR	**Makanchi Array**	**44.12**	**60**	P		**P**	**04 23 31.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=276,slow=7.3,SNR=6.4							
ZALV	**Zalesovo Beam**	**44.40**	**49**	P		**P**	**04 23 33.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=280,slow=8.9,SNR=4.4							
YKA	**Yellowknife Ar**	**72.43**	**340**	P		**P**	**04 26 51.1**	**+1.6**
	comp=Z,0.1nm,0.7s,baz=36,slow=5.2,SNR=3.5							

*ISCJB **21** 04:31:38.9±0.5,23°.16S±0°.09×175°.5W±0°.1, h34km, mb4.4/23, MS3.9/7, Error ellipse: s-maj=15.0km s-min=10.6km az=40.7*
*NEIC **21** 04:31:40.1±0.3,23°.15S×175°.41W, h35km, mb4.8/8, Error ellipse: s-maj=13.3km s-min=8.7km az=126.0*
*IDC **21** 04:31:40.7±0.8,23°.14S×175°.43W, h36km±4km, mb4.0/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML4.0/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/43, Error ellipse: s-maj=29.3km s-min=14.4km az=150.0*

ISC 21 04:31:40.3±0.5,**23°.2S**±0°.1×**175°.3W**±0°.1,**h34**km,**n94**, σ1**°48/80**,**mb4.5**/23,**MS4.0/7**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**8.26**	**310**	*e*Pn		Pn	04 33 42.7	+4.9
	81nm,1.3s							
AFI	**Afiamalu**	**9.84**	**21**	Pn		Pn	04 33 53.1	-6.4
	5.7nm,0.3s,baz=241,slow=9.5,SNR=6.2							
AFI				Sn		Sn	04 35 33.5	-15
	11nm,0.3s,baz=152,slow=18,SNR=6.0							
AFI	**Afiamalu**	**9.84**	**21**	Pn		Pn	04 33 53.1	-6.4
AFI				Sn		Sn	04 35 33.5	-15
RAR	**Rarotonga**	**14.54**	**85**	Pn		Pn	04 34 54.3	-9.4
	4.2nm,0.3s,baz=174,slow=5.9,SNR=2.6							
RAR				Sn		Sn	04 37 21.2	-23
	5.4nm,0.3s,baz=110,slow=3.1,SNR=3.2							
RAR	**Rarotonga**	**14.54**	**85**	Pn		Pn	04 34 54.3	-9.4
RAR				Sn		Sn	04 37 21.2	-23
URZ	**Urewera**	**16.34**	**202**	Pn		**Pn**	**04 35 26.3**	**-0.8**
	0.6nm,0.3s,baz=182,slow=18,SNR=3.0							
URZ				Sn		Sn	04 38 14.0	-13
	1.5nm,0.3s,baz=162,slow=18,SNR=8.3							
URZ	**Urewera**	**16.34**	**202**	*e*Pn		**Pn**	**04 35 26.6**	**-0.6**
URZ				Sn		Sn	04 38 14.0	-13
DZM	**Mont Dzumac**	**16.87**	**270**	eLR		LR	04 39 48.5	
	274nm,22.0s							
DZM	**Mont Dzumac**	**16.87**	**270**	Pn		**P**	**04 35 39.1**	**+3.3**
	0.4nm,0.3s,baz=109,slow=22,SNR=5.1							
DZM	**Mont Dzumac**	**16.87**	**270**	Pn		**P**	**04 35 39.1**	**+3.3**
RPZ	**Rata Peaks**	**23.34**	**206**	P		**P**	**04 36 46.5**	**+1.0**
	10.0nm,0.9s,baz=58,slow=9.0,SNR=3.2							
RPZ	**Rata Peaks**	**23.34**	**206**	P		**P**	**04 36 46.5**	**+1.0**
TBI	**Tubuai**	**23.75**	**95**	eLR		LR	04 42 20.0	
	353nm,22.8s							
PPT2	**Papeete2**	**24.76**	**82**	eLR		LR	04 42 43.4	
	290nm,21.8s							
PPT	**Papeete**	**24.76**	**82**	LR		LR	04 44 22.7	
	comp=Z,370nm,18.3s,baz=250,slow=31							
HNR	**Honiara**	**27.34**	**296**	LR		LR	04 46 11.2	
	comp=Z,171nm,20.2s,baz=109,slow=32							
CTA	**Charters Tower**	**35.78**	**267**	P		**P**	**04 38 36.0**	**-0.6**
	6.5nm,0.5s,baz=81,slow=11,SNR=10							
CTA	**Charters Tower**	**35.78**	**267**	P		**P**	**04 38 36.0**	**-0.6**
STKA	**Stephens Creek**	**38.95**	**248**	P		**P**	**04 39 03.4**	**+0.1**
	1.4nm,0.7s,baz=89,slow=11,SNR=5.0							
STKA				LR		LR	04 52 55.0	
	comp=Z,238nm,21.4s,baz=207,slow=33							
STKA	**Stephens Creek**	**38.95**	**248**	P		**P**	**04 39 03.4**	**+0.1**

AS31	**Alice Springs**	**46.38**	**259**	*e*P		**P**	**04 40 02.8**	**-0.9**
ASAR	**Alice Springs**	**46.38**	**259**	P		**P**	**04 40 02.5**	**-1.2**
	1.1nm,0.7s,baz=103,slow=7.0,SNR=11							
ASAR				S		**S**	**04 46 50.0**	**+0.8**
	0.2nm,0.4s,baz=79,slow=8.9,SNR=4.1							
ASAR				LR		LR	04 59 32.8	
	comp=Z,276nm,21.5s,baz=289,slow=36							
ASAR	**Alice Springs**	**46.38**	**259**	P		**P**	**04 40 02.5**	**-1.2**
ASAR				S		**S**	**04 46 50.0**	**+0.8**
WRAB	**Tennant Creek**	**46.73**	**264**	*e*P		**P**	**04 40 04.5**	**-2.0**
	6.4nm,0.7s							
WRA	**Warramunga Arr**	**46.74**	**264**	P		**P**	**04 40 04.9**	**-1.7**
	3.2nm,0.4s,baz=91,slow=8.4,SNR=110							
WRA	**Warramunga Arr**	**46.74**	**264**	P		**P**	**04 40 04.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**55.16**	**264**	*e*P		**P**	**04 41 08.6**	**-1.4**
	4.7nm,0.9s							
MBWA	**Marble Bar**	**59.71**	**258**	*e*P		**P**	**04 41 40.6**	**-1.4**
	7.8nm,0.9s							
QSPA	**South Pole Qui**	**66.88**	**180**	*e*P		**P**	**04 42 29.3**	**+0.4**
	11nm,1.3s							
JHJ	**Hachijo jima 2**	**70.49**	**321**	LR		LR	05 09 30.4	
	comp=Z,90nm,18.6s,baz=23,slow=32							
MJAR	**Matsushiro Arr**	**73.85**	**323**	P		**P**	**04 43 10.2**	**-1.5**
	1.7nm,0.6s,baz=163,slow=6.4,SNR=4.9							
MJAR	**Matsushiro Arr**	**73.85**	**323**	P		**P**	**04 43 10.2**	**-1.5**
LPIG	**La Paz**	**78.70**	**58**	LR		LR	05 11 09.2	
	comp=Z,13nm,18.4s,baz=192,slow=30							
YSS	**Yuzh-Sakhalins**	**79.42**	**332**	*e*P		**P**	**04 43 43.0**	**+0.2**
	8.7nm,0.3s							
YBH	**Yreka Blue Hor**	**80.89**	**37**	P		**P**	**04 43 50.7**	**-0.4**
	0.9nm,0.7s,baz=159,slow=3.7,SNR=4.3							
YBH				LR		LR	05 12 01.7	
	comp=Z,100nm,20.9s,baz=295,slow=30							
YBH	**Yreka Blue Hor**	**80.89**	**37**	P		**P**	**04

comp=Z,593nm,19.3s,baz=293,slow=34
RAR Rarotonga 14.51 84 Pn Pn 04 53 32.4 -11
RAR Sn Sn 04 55 59.4 -23
URZ Urewera 16.19 202 Pn **Pn 04 54 05.7 +0.9**
1.0nm,0.3s,baz=196,slow=4.6,SNR=4.0
URZ Sn Sn 04 56 53.1 -10
2.1nm,0.3s,baz=138,slow=12,SNR=9.5
URZ Urewera 16.19 202 Pn **Pn 04 54 05.7 +0.9**
URZ Sn Sn 04 56 53.1 -10
DZM Mont Dzumac 16.92 271 eLR LR 04 58 31.7
317nm,21.3s
DZM Mont Dzumac 16.92 271 Pn **P 04 54 18.5 +2.5**
0.3nm,0.3s,baz=105,slow=21,SNR=4.1
DZM Mont Dzumac 16.92 271 Pn **P 04 54 18.5 +2.5**
TBI Tubuai 23.69 95 eLR LR 05 01 38.7
378nm,22.5s
PPT2 Papeete2 24.74 81 eLR LR 05 02 04.0
314nm,21.5s
PPT Papeete 24.74 81 LR LR 05 03 29.3
comp=Z,377nm,18.4s,baz=213,slow=32
HNR Honiara 27.46 296 LR LR 05 04 50.9
comp=Z,203nm,18.6s,baz=197,slow=32
CTA Charters Tower 35.82 268 P **P 04 57 14.6 -1.8**
8.1nm,0.5s,baz=94,slow=11,SNR=14
CTA LR LR 05 10 12.6
comp=Z,146nm,20.7s,baz=51,slow=33
CTA Charters Tower 35.82 268 P **P 04 57 14.6 -1.8**
CTAO Charters Tower 35.82 268 eP **P 04 57 15.3 -1.2**
42nm,1.4s
STKA Stephens Creek 38.93 248 P **P 04 57 42.0 -0.7**
1.3nm,0.5s,baz=95,slow=11,SNR=6.8
STKA LR LR 05 10 53.3
comp=Z,190nm,18.6s,baz=92,slow=32
STKA Stephens Creek 38.93 248 P **P 04 57 42.0 -0.7**
AS31 Alice Springs 46.39 259 eP **P 04 58 42.1 -1.3**
ASAR Alice Springs 46.39 259 P **P 04 58 42.8 -0.6**
9.3nm,1.2s,baz=102,slow=7.3,SNR=17
ASAR LR LR 05 18 28.5
comp=Z,337nm,18.0s,baz=114,slow=36
ASAR Alice Springs 46.39 259 P **P 04 58 42.8 -0.6**
WRAB Tennant Creek 46.76 264 eP **P 04 58 44.1 -2.2**
4.8nm,0.5s
WRA Warramunga Arr 46.77 264 P **P 04 58 44.2 -2.2**
3.5nm,0.4s,baz=91,slow=8.4,SNR=148
WRA LR LR 05 18 11.4
comp=Z,184nm,18.7s,baz=140,slow=36
WRA Warramunga Arr 46.77 264 P **P 04 58 44.2 -2.2**
FITZ Fitzroy Crossi 55.19 264 LR LR 05 21 24.2
comp=Z,155nm,21.9s,baz=299,slow=34
MBWA Marble Bar 59.72 258 eP **P 05 00 20.0 -1.7**
17nm,1.1s
DAV Davao City (W) 65.20 290 LR LR 05 27 42.0
comp=Z,84nm,18.6s,baz=165,slow=34
QSPA South Pole Qui 66.70 180 P **P 05 01 08.5 +1.1**
1.9nm,1.0s,baz=80,slow=2.7,SNR=9.5
QSPA South Pole Qui 66.70 180 P **P 05 01 08.5 +1.1**
MJAR Matsushiro Arr 74.03 323 P **P 05 01 51.0 -1.3**
1.0nm,0.2s,baz=163,slow=6.0,SNR=4.3
MJAR Matsushiro Arr 74.03 323 P **P 05 01 51.0 -1.3**
ASAJ Asahikawa 77.47 330 P **P 05 02 12.0 +0.2**
11nm,0.8s,baz=224,slow=9.1,SNR=4.0
ASAJ LR LR 05 31 30.4
comp=Z,66nm,21.7s,baz=131,slow=32
ASAJ Asahikawa 77.47 330 P **P 05 02 12.0 +0.2**
YSS Yuzh-Sakhalins 79.61 332 eP **P 05 02 22.9 -0.6**
36nm,1.0s
PETK Petropavlovsk- 79.72 344 P **P 05 02 23.5 -0.4**
9.9nm,0.9s,baz=125,slow=13,SNR=5.0
PETK Petropavlovsk- 79.72 344 P **P 05 02 23.5 -0.4**
KSRS Korea Arrayy 80.71 318 P **P 05 02 29.3 -0.4**
1.3nm,0.7s,baz=117,slow=5.9,SNR=3.8
KSRS LR LR 05 34 21.0
comp=Z,60nm,19.2s,baz=346,slow=33
KSAR Wonju Array Be 80.73 318 P **P 05 02 29.3 -0.5**
YBH Yreka Blue Hor 81.01 37 P **P 05 02 30.9 -0.4**
1.4nm,0.8s,baz=255,slow=4.3,SNR=3.8
YBH pP **pP 05 02 42.2 +0.4**
2.7nm,0.8s,baz=113,slow=14,SNR=6.0
YBH Yreka Blue Hor 81.01 37 P **P 05 02 30.9 -0.4**
YBH pP **pP 05 02 42.2 +0.4**
NVAR Mina Array Bea 81.43 42 P **P 05 02 33.0 -0.8**
1.4nm,0.9s,baz=222,slow=8.8,SNR=7.1
NVAR pP **pP 05 02 45.1 +0.8**
3.4nm,0.8s,baz=222,slow=9.2,SNR=13
NVAR Mina Array Bea 81.43 42 P **P 05 02 33.0 -0.8**
NVAR pP **pP 05 02 45.1 +0.8**
USRK Ussuriysk Arra 82.76 325 P **P 05 02 40.6 +0.3**
12nm,1.0s,baz=142,slow=4.0,SNR=12
TUC Tucson 82.81 50 eP **P 05 02 42.0 +0.9**
2.3nm,1.0s
CCUT Cedar City 84.02 45 eP **P 05 02 47.5 +0.2**
5.8nm,1.0s
ELK Elko 84.72 41 eP pP 05 03 02.5 +1.2
SNAA Sanae 85.05 178 eP **P 05 02 51.2 -0.6**
2.5nm,1.0s
VNA3 Neumayer Olymp 85.09 175 eP **P 05 02 53.0 +1.0**
MVU Marysvale 85.31 45 eP pP 05 03 06.4 +2.1
MSU Marysvale 85.33 45 eP pP 05 03 06.6 +2.2
RSO Redoubt South 85.54 11 eP P 05 03 02.8 +8.4
VNA2 Neumayer--Watz 85.56 176 eP **P 05 02 55.5 +1.2**
baz=174,slow=2.8
MFID Camas Ranch 85.98 39 eP **P 05 02 58.3 +1.4**
3.5nm,1.0s
IPM Ipoh 85.99 277 eP **P 05 02 56.0 -1.5**
8.9nm,0.7s
TXAR Lajitas Array 86.52 56 P **P 05 02 59.3 -0.5**
0.8nm,0.9s,baz=216,slow=6.2,SNR=6.2
TXAR pP **pP 05 03 10.7 +0.3**
1.0nm,0.9s,baz=208,slow=7.0,SNR=6.4
TXAR Lajitas Array 86.52 56 P **P 05 02 59.3 -0.5**
TXAR pP **pP 05 03 10.7 +0.3**
KULM Kulim 86.66 277 eP **P 05 03 00.1 -0.7**
6.0nm,0.8s
SRU San Rafael 86.74 45 eP pP 05 03 12.1 +0.8
HLID Hailey 86.89 39 eP **P 05 03 01.8 +0.4**
1.8nm,0.9s
PSI Prapat 87.25 274 P P **P 05 03 03.5 -0.2**
6.0nm,0.6s,baz=202,slow=11,SNR=7.0
PSI Prapat 87.25 274 P P **P 05 03 03.5 -0.2**
ANMO Albuquerque 87.27 50 eP **P 05 03 02.5 -1.0**
14nm,1.9s
HWUT Hardware Ranch 87.47 42 eP **P 05 03 02.8 -1.5**
1.1nm,0.7s
SMCO Snowmass 89.10 46 eP pP 05 03 23.9 +0.9
LOHW Long Hollow 89.19 41 eP **P 05 03 12.5 +0.1**
BW06 Boulder Array 89.36 42 eP **P 05 03 12.3 -0.9**
2.2nm,1.0s
PDAR Pinedale Array 89.36 42 P P **P 05 03 12.9 -0.4**
0.6nm,0.9s,baz=235,slow=5.2,SNR=4.3
PDAR pP **pP 05 03 23.5 -0.3**
1.4nm,0.9s,baz=220,slow=4.2,SNR=7.4
PDAR Pinedale Array 89.36 42 P **P 05 03 12.9 -0.4**
PDAR pP **pP 05 03 23.5 -0.3**
BOZ Bozeman (W) 89.72 39 eP **P 05 03 14.1 -0.6**
1.9nm,0.9s
ENH Enshi 89.74 303 eP **P 05 03 15.0 0.0**
40nm,1.2s
COLA College 90.50 11 eP **P 05 03 16.2 -1.5**
4.8nm,0.8s
ILAR Eielson Array 90.58 12 P **P 05 03 16.5 -1.6**
2.1nm,1.2s,baz=211,slow=6.4,SNR=5.7
ILAR pP **pP 05 03 28.6 -0.1**
1.6nm,0.9s,baz=220,slow=5.6,SNR=8.2
ILAR Eielson Array 90.58 12 P **P 05 03 16.5 -1.6**
ILAR pP **pP 05 03 28.6 -0.1**
WMOK Wichita Mounta 92.70 53 eP **P 05 03 29.4 +0.7**
1.6nm,0.8s
CMAR Chiang Mai Arr 93.44 288 P **P 05 03 33.4 +0.9**
9.5nm,1.0s,baz=125,slow=3.0,SNR=35
CMAR LR LR 05 43 59.7
comp=Z,64nm,18.8s,baz=297,slow=34
CMAR Chiang Mai Arr 93.44 288 P **P 05 03 33.4 +0.9**
RSSD Black Hills 93.50 43 eP P 05 03 25.4 -7.0
2.3nm,0.8s
CHTO Chiang Mai 93.58 289 eP **P 05 03 34.4 +1.3**
7.9nm,0.9s
YAK Yakutsk 95.73 337 eP **P 05 03 42.2 +0.4**
15nm,0.7s
YKA Yellowknife Ar 98.08 24 P **P 05 03 52.0 -0.5**
0.1nm,0.7s,baz=255,slow=3.8,SNR=2.7
YKA pP **pP 05 04 02.9 -0.2**
0.5nm,0.7s,baz=230,slow=4.5,SNR=8.9
YKA Yellowknife Ar 98.08 24 P **P 05 03 52.0 -0.5**
YKA pP **pP 05 04 03.0 -0.2**
LPAZ La Paz 98.63 112 LR LR 05 42 04.9
comp=Z,73nm,18.9s,baz=13,slow=31

ZALV Zalesovo Beam 114.32 320 pPKP pPKPdf 05 09 06.1
1.2nm,0.6s,baz=245,slow=0.6,SNR=5.5
ZALV Zalesovo Beam 114.32 320 pPKP pPKPdf 05 09 06.1
MK31 Makanchi Array 115.00 312 *e*PKP **PKPdf 05 08 58.2 +0.9**
MKAR Makanchi Array 115.00 312 PKP **PKPdf 05 08 56.3 -1.0**
0.3nm,0.7s,baz=65,slow=1.7,SNR=4.4
MKAR pPKP PKiKP 05 09 07.5 +10
0.7nm,0.6s,baz=78,slow=0.8,SNR=9.8
MKAR Makanchi Array 115.00 312 PKP **PKPdf 05 08 56.3 -1.0**
MKAR pPKP PKiKP 05 09 07.5 +10
KURK Kurchatov 117.82 316 PKP **PKPdf 05 09 00.8 -1.7**
KURK pPKP **pPKPdf 05 09 12.7 -0.7**
KURBB Kurchatov Arra 117.87 316 PKP **PKPdf 05 09 00.8 -1.8**
0.6nm,0.8s,baz=91,slow=1.9,SNR=5.0
KURBB pPKP **pPKPdf 05 09 12.7 -0.8**
1.5nm,0.6s,baz=90,slow=1.8,SNR=9.5
ARCES ARCESS Array B 132.19 350 pPKP pPKPdf 05 09 41.0 +0.5
3.5nm,0.8s,baz=86,slow=7.4,SNR=2.1
ARCES ARCESS Array B 132.19 350 pPKP pPKPdf 05 09 41.0 +0.5
FINES FINESS Array B 139.23 344 PKP **PKPdf 05 09 44.3 +1.5**
1.6nm,0.8s,baz=204,slow=27,SNR=2.6
FINES pPKP **pPKPdf 05 09 54.7 +1.0**
1.8nm,1.0s,baz=163,slow=7.2,SNR=2.7
FINES FINESS Array B 139.23 344 PKP **PKPdf 05 09 44.3 +1.5**
FINES pPKP **pPKPdf 05 09 54.7 +1.0**
NB2 NORSAR Subarra142.10 355 PKP PKPdf 05 09 39.0 -9.1
comp=Z,16nm,2.0s,baz=10,slow=3.2
SUW Suwalki 146.41 340 *e*PKP **PKPab 05 10 00.2 +2.2**
SUW Suwalki 146.41 340 *e*PKP **PKPab 05 10 00.1 +2.2**
AKASG Malin Array Be 146.75 331 PKPbc **PKPdf 05 09 56.1 -0.3**
comp=Z,1.3nm,0.4s,baz=37,slow=3.9,SNR=9.0
AKASG pPKPbc pPKPbc 05 10 08.6 -0.3
comp=Z,6.6nm,0.7s,baz=40,slow=4.0,SNR=9.0
AKASG Malin Array Be 146.75 331 PKPbc **PKPdf 05 09 56.1 -0.3**
AKASG pPKPbc pPKPbc 05 10 08.6 -0.3
AK01 Malin Array Si 146.76 331 *e*PKPdf **PKPbc 05 09 57.8 -0.4**
KIEV Kiev 146.76 331 *e*PKPdf **PKPdf 05 09 55.8 -0.7**
AK02 Malin Array Si 146.79 331 *e*PKPdf **PKPbc 05 09 57.8 -0.5**
MALT Malatya 147.67 305 *e*PKPbc **PKPbc 05 10 01.5 +0.2**
MALT Malatya 147.67 305 ⇑*iP* **PKPbc 05 10 00.7 -0.6**
RUE Ruedersdorf 150.14 349 *e*PKPbc PKPab 05 10 18.6 +5.7
KWP Kalwaria Pacla 150.24 336 *e*PKP **PKPbc 05 10 07.8 +0.5**
KWP Kalwaria Pacla 150.24 336 *e*PKPbc **PKPbc 05 10 07.0 -0.4**
KWP Kalwaria Pacla 150.24 336 ⇑*iP* **PKPdf 05 10 03.1 +0.9**
KWP Kalwaria Pacla 150.24 336 *e*PKP **PKPbc 05 10 07.8 +0.5**
BR131 Keskin Array S 150.64 310 *e*PKPbc **PKPbc 05 10 07.9 -0.9**
BRTR Keskin Array B 150.64 310 PKPbc **PKPbc 05 10 07.8 -1.0**
comp=Z,1.9nm,0.8s,baz=130,slow=4.2,SNR=9.7
BRTR pPKPbc **pPKPbc 05 10 19.6 -0.1**
comp=Z,3.7nm,0.7s,baz=140,slow=4.8,SNR=10
BRTR Keskin Array B 150.64 310 PKPbc **PKPbc 05 10 07.8 -1.0**
BRTR pPKPbc **pPKPbc 05 10 19.6 -0.1**
OJC Ojcow 150.74 340 *e*PKP **PKPab 05 10 19.9 +4.4**
BUR08 Bucovina Ar. S 150.79 331 *e*PKPbc **PKPbc 05 10 10.6 +1.8**
BURAR Bucovina Array 150.80 331 ⇓*iP* **PKPab 05 10 12.7 -3.3**
TESR 150.94 328 ⇑*iP* **PKPab 05 10 14.8 -1.7**
IBBN Ibbenburen 151.03 356 *e*PKPbc **PKPab 05 10 20.7 +4.1**
KSP Ksiaz 151.15 345 *e*PKP **PKPab 05 10 21.4 +4.2**
KSP Ksiaz 151.15 345 *e*PKP **PKPab 05 10 21.4 +4.2**
CLZ Clausthal 151.26 353 *e*PKPbc **PKPab 05 10 21.4 +3.7**
NIE Niedzica 151.27 339 *e*PKP **PKPab 05 10 21.8 +4.0**
VRI Vrancioaia 151.35 327 ⇑*iP* **PKPab 05 10 19.2 +1.0**
CLL Collm 151.40 349 *e*PKPbc **PKPab 05 10 21.5 +3.3**
CLL Collm 151.40 349 *i* PKPbc **PKPbc 05 10 09.0 -1.0**
comp=Z,14nm,1.5s
CLL ⇓*ip*PKPbc **PKPab 05 10 21.4 +3.3**
comp=Z,15nm,0.9s
CLL *ep*PKPab **pPKPab 05 10 28.0 -0.8**
CLL *e* 05 10 36.0
PLOR Plostina 151.40 327 ⇑*iP* **PKPab 05 10 17.6 -0.9**
UPC Upice 151.53 345 ⇑*e*PKP **PKPbc 05 10 10.1 -0.2**
UPC *ep*PKP **PKPab 05 10 22.0 +3.2**
OKC Ostrava-Krasne 151.58 342 ⇑*e*PKP **PKPbc 05 10 09.8 -0.6**
OKC *ep*PKP **PKPab 05 10 21.5 +2.5**
DPC Dobruska-Polom 151.60 344 ⇑*e*PKP **PKPbc 05 10 10.7 +0.2**
DPC *ep*PKP **PKPab 05 10 22.0 +2.9**
BRG Berggiesshubel 151.64 348 *e*PKP **PKPbc 05 10 10.7 +0.1**
comp=Z,12nm,1.2s
BRG *e* 05 10 16.6
comp=Z,5.2nm,0.8s
BRG *i* 05 10 22.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 151.64 348 *e*PKPbc **PKPab 05 10 22.3 +3.1**
NEUB Neuenburg 151.69 351 *e*PKPbc **PKPab 05 10 22.3 +2.9**
FBE Freiberg 151.71 348 *e*PKPbc **PKPab 05 10 22.8 +3.3**
KRLC Kraliky 151.74 343 ⇑*e*PKP **PKPbc 05 10 09.7 -1.2**
MORC Moravsky Berou 151.80 342 *e*PKPbc **PKPbc 05 10 09.4 -0.6**
MORC Moravsky Berou 151.80 342 ⇑*iP* **PKPbc 05 10 09.4 -0.6**
PVCC Panska Ves 151.84 347 ⇑*e*PKP **PKPbc 05 10 14.3 +3.3**
PVCC *ep*PKP **PKPab 05 10 22.8 +2.7**
BUG Bochum--Univer 151.93 357 *e*PKPbc **PKPab 05 10 22.4 +2.1**
MLR Muntele Rosu 152.01 327 ⇓*iP* **PKPbc 05 10 16.0 +4.3**
MOX Moxa 152.27 351 *e*PKPbc **PKPab 05 10 23.4 +1.6**
PLN Plauen 152.34 350 *e*PKPbc **PKPab 05 10 23.9 +1.8**
WERD Werda 152.35 350 *e*PKPbc **PKPab 05 10 23.7 +1.5**
TANN Tannenbergstha 152.35 349 *e*PKPbc **PKPab 05 10 23.8 +1.5**
PRU Pruhonice 152.36 346 ⇑*e*PKP **PKPbc 05 10 15.4 +3.2**
PRU *ep*PKP **PKPab 05 10 23.1 +0.9**
DRGR 152.53 333 ⇓*iP* **PKPbc 05 10 13.0 +0.2**
ARR Arges 152.74 328 ⇑*iP* **PKPbc 05 10 13.7 +0.4**
TNS Taunus Mts 153.06 355 *e*PKPbc **PKPab 05 10 25.4 +0.2**
KHC Kasperske Hory 153.37 347 ⇑*e*PKP **PKPbc 05 10 17.3 +2.8**
KHC *e*PKPAB **PKPab 05 10 25.8 -0.8**
KHC *ep*PKP **pPKPab 05 10 37.0 -0.2**
GERES GERESS Array B 153.62 347 PKPbc **PKPbc 05 10 16.8 +1.7**
comp=Z,0.8nm,0.8s,baz=107,slow=1.4,SNR=6.4
GERES pPKPbc **pPKPbc 05 10 26.3 +0.3**
comp=Z,1.6nm,0.9s,baz=357,slow=2.7,SNR=6.0
GERES GERESS Array B 153.62 347 PKPbc **PKPbc 05 10 16.8 +1.7**
GERES pPKPbc **pPKPbc 05 10 26.3 +0.3**
WLF Walferdange 153.75 358 *e*PKPbc **PKPab 05 10 27.2 -0.9**
TORD Torodi Ar. Bea 169.42 164 PKP **PKPdf 05 10 22.5 -2.1**
comp=Z,0.3nm,0.8s,baz=182,slow=4.3,SNR=2.7
TORD pPKP **pPKPdf 05 10 35.7 +0.1**
comp=Z,0.4nm,0.7s,baz=346,slow=1.8,SNR=2.6
TORD pPKPab **PKPab 05 11 38.6 +1.4**
comp=Z,0.5nm,0.8s,baz=171,slow=4.0,SNR=2.9
TORD Torodi Ar. Bea 169.42 164 PKP **PKPdf 05 10 22.5 -2.1**
TORD pPKP **pPKPdf 05 10 35.7 +0.1**
TORD PKPab **PKPab 05 11 38.6 +1.4**

*ISK **21** 05:01:48.9, 40.38N×25.73E, h4km, MD2.8*
*ISCJB **21** 05:01:49.4±0.5, 40.39N±0.02×25.74E±0.03, h5km±4km, Error ellipse: s-maj=3.8km s-min=2.7km az=145.4*
*THE **21** 05:01:49.8, 40.38N×25.74E, h1km±2km, ML2.4/4, Error ellipse: s-maj=2.0km s-min=0.6km az=92.0*
*ATH **21** 05:01:49.7, 40.37N×25.79E, h20km±1km, MD3.2/7*
*CSEM **21** 05:01:49.7±0.1, 40.38N×25.74E, h5km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.1km az=59.0*
*DDA **21** 05:01:50.8, 40.33N×25.87E, h7km, MD2.9*
*SOF **21** 05:01:53.5, 40.63N×25.89E, h20km, MD2.6*

ISC 21 05:01:49.9±1.0, 40.39N±0.02×25.77E±0.02, h10km±9km, n53, σ0.958/96, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
ENEZ	**Enez**	**0.45**	**40**	*e*PG	**Pg**		**05 01 58.9**	**+0.1**
ENEZ				*e*SG	**Sb**		**05 02 06.1**	**-0.7**
ENEZ	**Enez**	**0.45**	**40**	*e*Pg	**Pg**		**05 01 58.9**	**+0.1**
ENEZ				*e*Sg	**Sb**		**05 02 06.1**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.54**	**89**	*e*PG	**Pg**		**05 02 00.6**	**+0.3**
GELI				*e*SG	**Sb**		**05 02 08.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.54**	**89**	*e*Pg	**Pg**		**05 02 00.6**	**+0.3**
GELI				*e*Sg	**Sb**		**05 02 08.8**	**-0.3**
ALN	**Alexandroupoli**	**0.55**	**22**	P	**Pg**		**05 02 00.5**	**-0.1**
ALN				S	**Sb**		**05 02 08.6**	**-1.0**
ALN	**Alexandroupoli**	**0.55**	**22**	*e*PN	**Pg**		**05 02 00.6**	**-0.1**
ALN				*e*SN	**Sb**		**05 02 08.6**	**-1.0**
ALN	**Alexandroupoli**	**0.55**	**22**	P	**Pg**		**05 02 00.5**	**-0.1**
ALN				S	**Sb**		**05 02 08.6**	**-1.0**
LIA	**Limnos Island**	**0.67**	**223**	P	**Pg**		**05 02 02.7**	**-0.1**
LIA				S	**Sg**		**05 02 11.9**	**+0.4**
LIA	**Limnos Island**	**0.67**	**223**	*e*PN	**Pg**		**05 02 02.9**	**+0.1**
LIA				*e*SN	**Sg**		**05 02 12.0**	**+0.4**
LIA	**Limnos Island**	**0.67**	**223**	*e*Pn	**Pg**		**05 02 02.9**	**+0.1**
LIA				S	**Sg**		**05 02 11.9**	**+0.4**
EZN	**Ezine**	**0.70**	**143**	*e*PG	**Pg**		**05 02 03.6**	**+0.1**
EZN				*e*SG	**Sb**		**05 02 13.4**	**-0.5**
EZN	**Ezine**	**0.70**	**143**	*e*Pg	**Pg**		**05 02 03.6**	**+0.1**
EZN				*e*Sg	**Sb**		**05 02 13.4**	**-0.5**
RDO	**Rodhopi**	**0.78**	**347**	P	**Pg**		**05 02 04.5**	**-0.5**
RDO				S	**Sb**		**05 02 16.1**	**-0.1**
RDO	**Rodhopi**	**0.78**	**347**	*e*PB	**Pg**		**05 02 04.5**	**-0.5**
RDO				*e*SN	**Sb**		**05 02 16.6**	**+0.4**
RDO	**Rodhopi**	**0.78**	**347**	P	**Pg**		**05 02 04.5**	**-0.5**
RDO				S	**Sb**		**05 02 16.1**	**-0.1**
RDO				*e*Sn	**Sb**		**05 02 16.6**	**+0.4**
KAVA	**Kavala**	**1.14**	**303**	P	**Pg**		**05 02 10.7**	**-1.0**
KAVA				S	**Sg**		**05 02 26.4**	**-0.1**
KAVA	**Kavala**	**1.14**	**303**	P	**Pg**		**05 02 10.7**	**-1.0**
KAVA				S	**Sg**		**05 02 26.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*PN	**Pg**		**05 02 11.9**	**-0.4**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*Pn	**Pg**		**05 02 11.9**	**-0.4**
SIGR	**SIGRI**	**1.18**	**177**	P	**Pg**		**05 02 11.9**	**-0.6**
SIGR				S	**Sn**		**05 02 28.4**	**0.0**
SIGR	**SIGRI**	**1.18**	**177**	P	**Pg**		**05 02 11.9**	**-0.6**
SIGR				S	**Sn**		**05 02 28.4**	**0.0**
PRK	**Paraskevi**	**1.20**	**161**	P	**Pb**		**05 02 12.7**	**-0.1**
PRK				S	**Sn**		**05 02 29.1**	**0.0**
PRK	**Paraskevi**	**1.20**	**161**	*e*PN	**Pb**		**05 02 12.1**	**-0.7**
PRK				*e*SN	**Sn**		**05 02 29.2**	**+0.1**
PRK	**Paraskevi**	**1.20**	**161**	*e*Pn	**Pb**		**05 02 12.1**	**-0.7**
PRK	**Paraskevi**	**1.20**	**161**	P	**Pb**		**05 02 12.7**	**-0.1**
PRK				S	**Sn**		**05 02 29.1**	**0.0**
MFT	**Murefte**	**1.22**	**70**	*e*PN	**Pn**		**05 02 14.1**	**+1.1**
MFT	**Murefte**	**1.22**	**70**	*e*Pn	**Pn**		**05 02 14.1**	**+1.1**
AYVA	**Ayvalik**	**1.29**	**146**	*i* P	**Pb**		**05 02 14.2**	**0.0**
AYVA				*e*S	**Sb**		**05 02 29.7**	**-1.1**
AYVA	**Ayvalik**	**1.29**	**146**	*i* P	**Pb**		**05 02 14.2**	**0.0**
AYVA				*e*S	**Sb**		**05 02 29.7**	**-1.1**
KDZ	**Kurdzhali**	**1.29**	**348**	*i* P	**Pn**		**05 02 13.5**	**-0.5**
KDZ				Sg	**Sb**		**05 02 30.0**	**-0.9**
KDZ	**Kurdzhali**	**1.29**	**348**	*i* P	**Pn**		**05 02 13.5**	**-0.5**
KDZ				Sg	**Sb**		**05 02 30.0**	**-0.9**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*PN	**Pb**		**05 02 18.0**	**+0.1**
GONE				*e*SN	**Sg**		**05 02 39.1**	**+0.9**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*Pn	**Pb**		**05 02 18.0**	**+0.1**
GONE				*e*Sn	**Sg**		**05 02 39.1**	**+0.9**
RZN	**Rozhen**	**1.53**	**329**	P	**Pg**		**05 02 19.0**	**-0.2**
RZN				Sg	**Sg**		**05 02 39.3**	**+0.3**
RZN	**Rozhen**	**1.53**	**329**	P	**Pg**		**05 02 19.0**	**-0.2**
RZN				Sg	**Sg**		**05 02 39.3**	**+0.3**
BALY	**Balya**	**1.56**	**114**	*i* P	**Pb**		**05 02 19.1**	**+0.3**
BALY				*i* S	**Sg**		**05 02 39.1**	**-0.9**
BALY	**Balya**	**1.56**	**114**	*i* P	**Pb**		**05 02 19.1**	**+0.3**
BALY				*i* S	**Sg**		**05 02 39.1**	**-0.9**
EDRB	**Edirne**	**1.63**	**26**	*e*PN	**Pn**		**05 02 18.8**	**+0.1**
EDRB	**Edirne**	**1.63**	**26**	*e*Pn	**Pn**		**05 02 18.8**	**+0.1**
DIM	**Dimitrovgrad**	**1.67**	**354**	*i* P	**Pb**		**05 02 20.3**	**-0.5**
DIM				Sg	**Sn**		**05 02 41.0**	**+0.3**
DIM	**Dimitrovgrad**	**1.67**	**354**	*i* P	**Pb**		**05 02 20.3**	**-0.5**
DIM				Sg	**Sn**		**05 02 41.0**	**+0.3**
NVR	**Nevrokopi**	**1.74**	**304**	P	**Pn**		**05 02 19.5**	**-0.7**
NVR				S	**Sb**		**05 02 43.8**	**-0.1**
NVR	**Nevrokopi**	**1.74**	**304**	*e*PN	**Pn**		**05 02 20.6**	**+0.4**
NVR				*e*SN	**Sb**		**05 02 44.7**	**+0.8**
NVR	**Nevrokopi**	**1.74**	**304**	P	**Pn**		**05 02 19.5**	**-0.7**
NVR	**Nevrokopi**	**1.74**	**304**	*e*Pn	**Pn**		**05 02 20.6**	**+0.4**
NVR				S	**Sb**		**05 02 43.8**	**-0.1**
NVR				*e*Sn	**Sb**		**05 02 44.7**	**+0.8**
PLG	**Polygyros**	**1.78**	**270**	*e*PN	**Pn**		**05 02 21.2**	**+0.5**
PLG				*e*SN	**Sn**		**05 02 44.6**	**+1.2**
PLG	**Polygyros**	**1.78**	**270**	*e*Pn	**Pn**		**05 02 21.2**	**+0.5**
PLG				*e*Sn	**Sn**		**05 02 44.6**	**+1.2**
MMB	**Musomiste**	**1.96**	**308**	Sg	**Sb**		**05 02 51.2**	**+1.0**
MMB	**Musomiste**	**1.96**	**308**	Sg	**Sb**		**05 02 51.2**	**+1.0**
CHOS	**Chios island**	**2.01**	**174**	*e*PB	**Pn**		**05 02 23.7**	**-0.2**
CHOS	**Chios island**	**2.01**	**174**	*e*Pb	**Pn**		**05 02 23.7**	**-0.2**
DURS	**Dursunbey**	**2.22**	**110**	*e*P	**Pb**		**05 02 30.7**	**+0.6**
DURS				*e*S	**Sn**		**05 02 54.9**	**+0.6**
DURS	**Dursunbey**	**2.22**	**110**	*e*P	**Pb**		**05 02 30.7**	**+0.6**
DURS				*e*S	**Sn**		**05 02 54.9**	**+0.6**

IGQ 21 05:20:35.9, 0.95N×77.74W, h12km±119km, Mb4.1, Ms3.9, 5C-10D, Error ellipse: s-maj=4.0km s-min=2.2km az=4.6, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LITE	**Lita**	**0.64**	**257**	⇓*S*	**Sg**		05 20 57.3	+0.1
LITE	**Lita**	**0.64**	**257**	⇓*P*	**Pg**		05 20 47.5	-1.1
COTA	**Cotacachi**	**0.86**	**225**	⇓*P*	**Pg**		05 20 53.0	-0.2
CAYA	**Cayambe**	**0.91**	**196**	⇓*P*	**Pg**		05 20 53.0	-1.1
CAYR	**Refugio Cayamb**	**0.97**	**196**	P	**Pg**		05 20 53.7	-1.7
CAYR	**Refugio Cayamb**	**0.97**	**196**	S	**Sg**		05 21 08.3	-0.2
OTAV	**Otavalo**	**1.00**	**225**	⇑*P*	**Pb**		05 20 55.0	-0.8
CONE	**Cono NE Rev Vo**	**1.02**	**175**	⇑*P*	**Pb**		05 20 55.2	-0.7
CHAR	**Charly**	**1.03**	**176**	⇑*S*	**Sn**		05 21 11.2	-0.3
CHAR	**Charly**	**1.03**	**176**	⇑*P*	**Pb**		05 20 55.7	-0.6
LAV4	**Lava4-Reventad**	**1.04**	**174**	⇓*S*	**Sb**		05 21 09.7	-0.4
LAV4	**Lava4-Reventad**	**1.04**	**174**	⇓*P*	**Pb**		05 20 55.5	-0.7
PINO	**Pino**	**1.40**	**218**	⇓*P*	**Pb**		05 21 02.7	-0.1
GGP	**Refugio Guagua**	**1.41**	**218**	⇓*P*	**Pb**		05 21 02.6	-0.2
TERV	**Terraza Guagua**	**1.41**	**218**	P	**Pb**		05 21 03.0	+0.1
JUA2	**San Juan 2**	**1.44**	**217**	P	**Pb**		05 21 03.2	-0.1
ANTI	**Antisana**	**1.45**	**197**	S	**Sg**		05 21 24.5	+0.5
ANTI	**Antisana**	**1.45**	**197**	P	**Pb**		05 21 03.3	-0.4
PITA	**Cotopaxi Volc**	**1.65**	**205**	P	**Pb**		05 21 07.5	+0.7
COV1	**Cotopaxi Volc**	**1.71**	**201**	⇓*P*	**Pg**		05 21 10.1	+0.5
VC1	**Cotopaxi 1**	**1.71**	**203**	P	**Pb**		05 21 08.6	+0.6
BVC2	**Cotopaxi Volca**	**1.73**	**203**	⇓*P*	**Pg**		05 21 09.2	-0.7
BTAM	**Cotopaxi Volca**	**1.74**	**202**	P	**Pb**		05 21 08.9	+0.4
NAS2	**Nasa**	**1.74**	**205**	P	**Pb**		05 21 09.2	+

PMG	Port Moresby	39.02	285	P	P	05 44 52.7	-1.0	
STKA	Stephens Creek	39.30	248	P	P	05 44 57.7	+1.8	
	1.8nm,0.4s,baz=85,slow=9.1,SNR=4.3							
STKA	Stephens Creek	39.30	248	*eP*	P	05 44 57.4	+1.4	
	0.6nm,0.6s							
AS31	Alice Springs	46.83	259	*eP*	P	05 45 57.9	+0.9	
ASAR	Alice Springs	46.83	259	P	P	05 45 57.4	+0.4	
	5.1nm,0.9s,baz=91,slow=8.5,SNR=24							
ASAR	Alice Springs	46.83	259	P	P	05 45 57.4	+0.4	
WRAB	Tennant Creek	47.22	264	*eP*	P	05 45 59.3	-0.8	
	12nm,0.8s							
WRA	Warramunga Arr	47.23	264	P	P	05 45 59.7	-0.4	
	10nm,0.6s,baz=91,slow=8.4,SNR=65							
WRA	Warramunga Arr	47.23	264	P	P	05 45 59.7	-0.4	
FITZ	Fitzroy Crossi	55.65	264	*eP*	P	05 47 04.2	+1.0	
	8.1nm,1.1s							
MJAR	Matsushiro Arr	74.50	322	P	P	05 49 03.2	-1.9	
	1.6nm,0.4s,baz=157,slow=6.5,SNR=4.4							
MJAR	Matsushiro Arr	74.50	322	P	P	05 49 03.2	-1.9	
NVAR	Mina Array Bea	81.27	41	P	P	05 49 43.7	+0.6	
	1.5nm,0.8s,baz=226,slow=9.9,SNR=9.7							
NVAR	Mina Array Bea	81.27	41	P	P	05 49 43.7	+0.6	
USRK	Ussuriysk Arra	83.22	325	P	P	05 49 54.7	+1.9	
	3.5nm,0.8s,baz=126,slow=3.3,SNR=5.4							
TXAR	Lajitas Array	86.23	56	P	P	05 50 09.7	+1.2	
	1.2nm,1.0s,baz=208,slow=6.9,SNR=7.1							
TXAR	Lajitas Array	86.23	56	P	P	05 50 09.7	+1.2	
PDAR	Pinedale Array	89.19	42	P	P	05 50 22.9	+0.3	
	0.8nm,1.1s,baz=254,slow=6.5,SNR=3.3							
PDAR	Pinedale Array	89.19	42	P	P	05 50 22.9	+0.3	
ILAR	Eielson Array	90.70	12	P	P	05 50 28.2	-0.5	
	1.3nm,0.9s,baz=223,slow=5.7,SNR=9.1							
ILAR	Eielson Array	90.70	12	P	P	05 50 28.2	-0.5	
YKA	Yellowknife Ar	98.08	24	P	P	05 51 01.4	-1.2	
	0.2nm,0.8s,baz=243,slow=4.2,SNR=4.1							
YKA	Yellowknife Ar	98.08	24	P	P	05 51 01.4	-1.2	
AKASG	Malin Array Be	147.18	332	PKPbc	PKPbc	05 57 09.1	-0.3	
	1.4nm,0.6s,baz=38,slow=4.6,SNR=5.8							
AKASG	Malin Array Be	147.18	332	PKPbc	PKPbc	05 57 09.1	-0.3	
BRTR	Keskin Array B	151.15	311	PKPbc	PKPbc	05 57 20.6	+0.6	
	1.4nm,0.8s,baz=125,slow=3.7,SNR=7.2							
BRTR				PKPab	PKPab	05 57 25.2	-2.7	
	0.6nm,0.6s,baz=116,slow=2.5,SNR=2.8							
BRTR	Keskin Array B	151.15	311	PKPbc	PKPbc	05 57 20.6	+0.6	
BRTR				PKPab	PKPab	05 57 25.2	-2.7	
CLL	Collm	151.71	350	*e*PKPbc	PKPbc	05 57 22.0	+1.3	

IDC 21 05:40:47.3±3.2,22°.19S×175°.45W,h0km,mb3.8/4,
mb1 4.2/4,mb1mx3.8/19,mbtmp3.8/4,MS3.6/2,Ms1 3.6/2,
ms1mx3.0/34,Error ellipse: s-maj=245.5km
s-min=27.9km az=157.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.47	258			P	P	05 49 16.4	-0.1
	1.9nm,0.9s,baz=96,slow=8.1,SNR=9.9								
WRA	Warramunga Arr	46.74	263			P	P	05 49 18.4	-0.2
	0.6nm,0.8s,baz=100,slow=8.2,SNR=4.8								
GUMO	Guam	52.70	309			LR	LR	06 08 01.8	
	comp=Z,34nm,20.4s,baz=62,slow=31								
RPN	Rapa Nui	59.69	109			LR	LR	06 11 38.3	
	comp=Z,99nm,20.4s,baz=45,slow=31								
NVAR	Mina Array Bea	80.65	42			P	P	05 53 03.0	+0.6
	0.7nm,0.7s,baz=221,slow=8.0,SNR=4.7								
TXAR	Lajitas Array	85.99	56			P	P	05 53 29.2	-0.7
	0.6nm,0.9s,baz=218,slow=5.3,SNR=3.8								

*DJA **21** 05:53:19.8±0.5,8°.5S×107°.12E±°,h10km,M4.8/5,mb4.8/5,*
mB5.7/2,MLv4.7/5,Mw(mB)5.2/2
*NEIC **21** 05:53:24.1±1.0,8°.19S×123°.88E,h175km±10km,mb4.4/11,*
Error ellipse: s-maj=16.9km s-min=7.2km az=56.0
*IDC **21** 05:53:25.6±2.4,8°.23S×123°.80E,h190km±24km,mb3.8/10,*
mb1 3.8/12,mb1mx3.7/22,mbtmp3.8/12,MS3.9/2,
Ms1 3.9/2,ms1mx2.8/31,Error ellipse: s-maj=24.8km
s-min=9.0km az=62.0

ISC 21 05:53:16.9±0.5,8°.14S±0°.06×124°.12E±0°.08,h96km,n59,
σ2s59/52,mb4.2/15,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.93	255			P	Pn	05 53 56.7	+8.3
WSI	Waingapu	4.07	248			P	Pn	05 54 27.1	+10
BKSI	Bulukumba	4.86	305			P	Pn	05 54 33.8	+6.1
KAPI	Kappang	5.34	305			P	Pn	05 54 39.7	+5.5
	2.1nm,0.3s,baz=140,slow=7.2,SNR=8.4								
KAPI	Kappang	5.34	305	*e*	Pn		Pn	05 54 39.8	+5.6
	12nm,0.6s								
KAPI	Kappang	5.34	305			P	Pn	05 54 40.3	+6.1
	16nm,0.6s,0.1nm								
MTNI	Mataram	7.88	266			P	Pn	05 55 22.0	+13
	159nm,0.4s,3μm1.8nm								
FITZ	Fitzroy Crossi	10.01	172			P	Pn	05 55 40.7	+2.8
	5.8nm,0.3s,baz=5.2,slow=8.6,SNR=206								
FITZ						S	Sn	05 57 27.0	-1.4
	9.8nm,0.3s,baz=242,slow=12,SNR=15								
FITZ	Fitzroy Crossi	10.01	172	*e*	Pn		Pn	05 55 40.1	+2.3
	21nm,0.5s								
FITZ				*e*	Sn		Sn	05 57 27.3	-1.1
SJI	Sawahan	12.24	271			P	P	05 56 17.9	+1.4
	35nm,0.5s,3μm								
MBWA	Marble Bar	13.62	198	*e*	Pn		Pn	05 56 28.8	+2.7
MBWA				*e*	Sn		Sn	05 58 54.6	-1.4
WRA	Warramunga Arr	15.35	141			P	P	05 56 50.9	0.0
	4.0nm,0.3s,baz=321,slow=12,SNR=90								
WRA						S	Sn	05 59 31.8	-6.2
	1.9nm,0.3s,baz=314,slow=24,SNR=8.5								
WRA						LR	LR	06 03 21.7	
	comp=Z,63nm,21.6s,baz=190,slow=38								
WRA	Warramunga Arr	15.35	141			P	P	05 56 50.9	0.0
WRA						S	Sn	05 59 31.8	-6.2
WRAB	Tennant Creek	15.35	141	*e*	P		P	05 56 50.8	-0.1
	15nm,0.6s								
WRAB				*e*	S		Sn	05 59 33.0	-4.9
SBUM	Sibu	15.86	311			P	P	05 57 00.5	+3.9
KKM	Kota Kinabalu	16.15	331	*e*	P		P	05 57 02.7	+2.8
	12nm,0.8s								
AS31	Alice Springs	18.06	150	*e*	P		Pn	05 57 23.6	+1.9
AS31				*e*	S		S	06 00 38.9	-4.0
ASAR	Alice Springs	18.06	150			P	Pn	05 57 24.3	+2.6
	1.2nm,0.3s,baz=330,slow=12,SNR=78								
ASAR						S	S	06 00 39.3	-3.6
	0.8nm,0.3s,baz=325,slow=23,SNR=9.1								
ASAR	Alice Springs	18.06	150			P	Pn	05 57 24.3	+2.6
ASAR						S	S	06 00 39.3	-3.6
COEN	Coen	19.57	109	*e*	P		Pn	05 57 41.3	+1.7
	40nm,0.4s								
COEN				*e*	S		S	06 01 14.9	+1.6
PMG	Port Moresby	22.80	95			P	P	05 58 15.3	+3.4
	14nm,0.9s,baz=64,slow=8.3,SNR=2.9								
PMG	Port Moresby	22.80	95			P	P	05 58 15.3	+3.4
FORT	Forrest	22.82	171	*e*	P		P	05 58 12.4	+0.5
	15nm,0.7s								
CTA	Charters Tower	24.49	121			P	P	05 58 31.4	+4.1
	4.0nm,0.5s,baz=284,slow=10,SNR=4.5								
CTA	Charters Tower	24.49	121			P	P	05 58 31.4	+4.1
NWAO	Narrogin (SRO)	25.48	194			P	P	05 58 35.5	-0.7
	3.0nm,0.4s,baz=18,slow=9.6,SNR=7.3								
NWAO	Narrogin (SRO)	25.48	194			P	P	05 58 35.5	-0.7
STKA	Stephens Creek	28.67	148			P	P	05 59 05.7	+0.9
	2.1nm,0.6s,baz=334,slow=11,SNR=5.2								
STKA	Stephens Creek	28.67	148	*e*	P		P	05 59 06.2	+1.3
	0.7nm,0.7s								
CMAR	Chiang Mai Arr	36.27	317			P	P	06 00 10.0	-1.3
	1.0nm,0.3s,baz=144,slow=7.0,SNR=5.0								
CMAR	Chiang Mai Arr	36.27	317			P	P	06 00 10.0	-1.3
CBIJ	Chichi jima	39.16	26			LR	LR	06 14 33.0	
	comp=Z,1μm,19.2s,baz=126,slow=32								
ODAN	Odare	49.79	316	*e*	P		P	06 01 59.6	-0.8
TAPN	Taplejung	49.88	316	*e*	P		P	06 01 59.8	-1.4
	6.8nm,0.4s								
RAMN	Ramite	50.39	315	*e*	P		P	06 02 03.3	-1.7
	8.4nm,0.5s								
GUN	Gumba	51.49	316	*e*	P		P	06 02 11.2	-2.1
	6.3nm,0.4s								
PKI	Pulchoki	51.61	315	*e*	P		P	06 02 12.5	-1.7
	5.9nm,0.3s								
GKN	Gorkha	52.41	315	*e*	P		P	06 02 18.4	-1.6
	9.3nm,0.3s								
USRK	Ussuriysk Arra	52.58	7	P			P	06 02 20.6	0.0
	2.8nm,0.7s,baz=170,slow=7.3,SNR=5.1								
KOLN	Koldanda	53.01	314	*e*	P		P	06 02 22.3	-2.1
	8.2nm,0.6s								
DANN	Dangsing	53.24	315	*e*	P		P	06 02 23.9	-2.3
	16nm,0.5s								
PYUN	Piuthan	53.64	314	*e*	P		P	06 02 26.8	-2.2
	11nm,0.4s								
ULN	Ulaanbaatar	57.77	346	*e*	P		P	06 02 56.2	-2.0
	2.9nm,0.8s								
SONM	Songino Array	57.90	346	P		P	P	06 02 57.7	-1.3
	2.1nm,0.8s,baz=160,slow=8.2,SNR=18								
SONM	Songino Array	57.90	346	P		P	P	06 02 57.7	-1.3
MK31	Makanchi Array	66.13	330	*e*	P		P	06 03 51.9	-2.2
MKAR	Makanchi Array	66.13	330	P		P	P	06 03 52.0	-2.1
	1.9nm,0.4s,baz=132,slow=7.2,SNR=64								
MKAR	Makanchi Array	66.13	330	P		P	P	06 03 52.0	-2.1
AAK	Ala-Archa	67.77	323	*e*	P		P	06 04 03.6	-1.1
	7.7nm,0.7s								
ZALV	Zalesovo Beam	70.16	337	P		P	P	06 04 15.9	-3.1
	0.9nm,0.4s,baz=132,slow=4.2,SNR=6.3								
ZALV	Zalesovo Beam	70.16	337	P		P	P	06 04 15.9	-3.1
KURK	Kurchatov	70.58	331	*e*	P		P	06 04 19.0	-2.6
	1.2nm,0.5s								
VNDA	Vanda	72.08	172	P		P	P	06 04 29.7	-0.6
	1.2nm,0.6s,baz=292,slow=4.2,SNR=7.7								
VNDA	Vanda	72.08	172	P		P	P	06 04 29.7	-0.6
TIXI	Tiksi	79.68	2	*e*	P		P	06 05 11.8	-1.7
	2.0nm,0.5s								
YKA	Yellowknife Ar	111.30	25	PKiKP		PKiKP	PKiKP	06 11 36.7	-2.5
	0.1nm,0.4s,baz=299,slow=2.2,SNR=7.2								
YKA	Yellowknife Ar	111.30	25	PKiKP		PKiKP	PKiKP	06 11 36.8	-2.5
TXAR	Lajitas Array	130.49	58	SKPbc		SKPab		06 15 21.9	-10
	0.3nm,0.6s,baz=234,slow=4.2,SNR=3.9								
TXAR	Lajitas Array	130.49	58	SKPbc		SKPab		06 15 21.9	-10

*SZGRF **21** 06:07:49.7,23°.00S×175°.83W,h33km,Tonga Islands*
region
*AUST **21** 06:07:54.5±3.5,22°.82S×175°.94W,h64km,Error ellipse:*
s-maj=2.7km s-min=1.5km az=4.0
*ISCJB **21** 06:08:00.2±0.2,22°.62S±0°.05×176°.49W±0°.04,h113km,*
mb4.6/45,Error ellipse: s-maj=8.6km s-min=4.2km
az=150.2
*IDC **21** 06:08:00.9±0.7,22°.43S×176°.55W,h108km±6km,mb4.2/18,*
mb1 4.4/18,mb1mx4.3/24,mbtmp4.2/18,MS3.5/4,
Ms1 3.5/4,ms1mx3.1/32,Error ellipse: s-maj=16.2km
s-min=11.9km az=142.0
*NEIC **21** 06:08:02.5±1.1,22°.61S×176°.47W,h127km±9km,mb4.6/29,*
Error ellipse: s-maj=8.2km s-min=6.2km az=146.0
*BJI **21** 06:08:03.9,22°.11S×176°.91W,h121km,mB5.2/9,*
mb4.9/14

ISC 21 06:08:02.1±0.5,22°.61S±0°.07×176°.40W±0°.06,
h123km±3km,h122km:pP-P,n394,σ1s01/430,mb4.6/45,
115C-111D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.00	61			P	Pn	06 09 33.3	-8.7
	baz=6.7,SNR=20								
NIUE						S	Sn	06 10 42.7	-17
	baz=6.7,SNR=9.4								
MSVF	Nonsavu	7.12	312	*e*	Pn		Pn	06 09 44.4	+0.6
AFI	Afiamalu	9.70	28			P	Pn	06 10 09.7	-8.9
	6.6nm,0.3s,baz=30,slow=9.2,SNR=9.2								
AFI						S	Sn	06 11 44.5	-21
	6.7nm,0.3s,baz=54,slow=19,SNR=4.2								
AFI	Afiamalu	9.70	28	*e*	Pn		Pn	06 10 10.0	-8.6
AFI						S	Sn	06 11 44.5	-21
RAR	Rarotonga	15.49	88			P	Pn	06 11 31.5	-2.4
	7.7nm,0.3s,baz=246,slow=7.0,SNR=7.9								
RAR						S	Sn	06 14 07.0	-19
	1.3nm,0.3s,baz=31,slow=18,SNR=3.1								
RAR	Rarotonga	15.49	88	*e*	Pn		Pn	06 11 32.9	-1.1
	845nm,2.6s								
RAR						S	Sn	06 14 07.0	-19
DZM	Mont Dzumac	15.89	269			P	Pn	06 11 39.5	+0.5
	0.1nm,0.3s,baz=29,slow=21,SNR=1.0								
DZM						LR	LR	06 15 56.8	
	comp=Z,114nm,20.6s,baz=51,slow=30								
DZM	Mont Dzumac	15.89	269			P	Pn	06 11 39.5	+0.5
URZ	Urewera	16.57	198			P	Pn	06 11 44.9	-2.2
	2.1nm,0.3s,baz=6.8,slow=4.0,SNR=11								
URZ						S	Sn	06 14 39.4	-12
	1.2nm,0.3s,baz=168,slow=22,SNR=6.5								
URZ						LR	LR	06 16 16.4	
	comp=Z,154nm,19.8s,baz=292,slow=30								
URZ	Urewera	16.57	198	*e*	P		Pn	06 11 45.4	-1.7
	16nm,0.9s								
KHZ	Kahutara	21.47	201	*e*	P		P	06 12 39.9	-0.8
	74nm,1.4s								
RPZ	Rata Peaks	23.47	203			P	P	06 13 00.6	0.0
	9.7nm,0.4s,baz=33,slow=22,SNR=8.8								
RPZ	Rata Peaks	23.47	203	*e*	P		P	06 12 59.5	-1.0
	26nm,0.9s								
TBI	Tubuai	24.80	97	*e*	LR		LR	06 18 58.0	
	164nm,37.0s								
TBI				*e*	T		T	06 38 02.4	
	16nm,0.3s								
PAE	Paea	25.64	84	*e*	T		T	06 38 53.4	
	26nm,0.3s								
PPT2	Papeete2	25.66	84	*e*	LR		LR	06 19 49.1	
	174nm,25.2s								
PPT	Papeete	25.66	84		LR		LR	06 20 51.6	
	comp=Z,162nm,18.2s,baz=228,slow=30								
WHZ	Wether Hill Ro	26.49	205	*e*	P		P	06 13 28.6	+0.8
EIDS	Eidsvold	29.80	258		P		P	06 13 59.0	+1.5
	baz=30,SNR=4.9								
RMQ	Roma	31.87	256		P		P	06 14 17.3	+1.6
	baz=32,SNR=4.8								
CMSA	Cobar Meteorol	34.77	247		P		P	06 14 40.7	-0.1
	baz=35,SNR=13								
CTA	Charters Tower	34.82	267		P		P	06 14 41.9	+0.5
	26nm,0.5s,baz=97,slow=10,SNR=50								
CTA	Charters Tower	34.82	267		P		P	06 14 41.9	+0.5
CTAO	Charters Tower	34.82	267	*e*	P		P	06 14 41.7	+0.3
	27nm,0.6s								
QLP	Quilpie	35.92	256		P		P	06 14 51.1	+0.4
	baz=36,SNR=19								
PMG	Port Moresby	37.29	285		P		P	06 15 01.6	-0.9
	9.9nm,0.5s,baz=163,slow=1.4,SNR=3.6								
PMG	Port Moresby	37.29	285		P		P	06 15 01.6	-0.9
STKA	Stephens Creek	38.28	247		P		P	06 15 10.1	-0.6
	1.9nm,0.4s,baz=94,slow=8.7,SNR=11								
STKA	Stephens Creek	38.28	247	*e*	P		P	06 15 09.7	-0.9
	1.0nm,0.8s								
STKA	Stephens Creek	38.28	247		P		P	06 15 10.2	-0.4
	baz=38,SNR=7.1								
COEN	Coen	39.24	276	*e*	P		P	06 15 18.7	-0.2
	26nm,0.6s								
COEN	Coen	39.24	276		P		P	06 15 20.0	+1.2
	baz=40,SNR=5.3								
BBOO	Buckleboo	42.99	246		P		P	06 15 49.1	-0.3
	baz=43,SNR=7.3								
AS31	Alice Springs	45.53	259	*e*	P		P	06 16 08.7	-1.1
ASAR	Alice Springs	45.53	259		P		P	06 16 08.8	-0.9
	11nm,0.8s,baz=95,slow=7.7,SNR=95								
ASAR						PcP	PcP	06 17 46.8	+0.2
	3.4nm,0.9s,baz=104,slow=3.9,SNR=8.8								
ASAR						S	S	06 22 39.6	-3.2
	0.4nm,0.7s,baz=98,slow=14,SNR=3.4								
ASAR	Alice Springs	45.53	259		P		P	06 16 08.8	-0.9
ASAR					PcP		PcP	06 17 46.8	+0.2
ASAR					S		S	06 22 39.6	-3.2
WRAB	Tennant Creek	45.81	264	*e*	P		P	06 16 10.7	-1.3
	7.0nm,1.0s								
WRA	Warramunga Arr	45.82	264		P		P	06 16 10.8	-1.3
	3.2nm,0.4s,baz=90,slow=5.9,SNR=140								
WRA					PcP		PcP	06 17 48.0	+0.4
	5.4nm,0.9s,baz=94,slow=3.7,SNR=13								
WRA	Warramunga Arr	45.82	264		P		P	06 16 10.8	-1.3
WRA					PcP		PcP	06 17 48.0	+0.4
KDU	Kakadu	49.51	272		P		P	06 16 40.0	-0.6
	baz=50,SNR=4.6								
FORT	Forrest	49.87	248	*e*	P		P	06 16 40.5	-2.5
	19nm,0.6s								
FORT	Forrest	49.87	248		P		P	06 16 41.6	-1.4
	baz=50,SNR=10								
GUMO	Guam	52.29	310		LR		LR	06 36 04.5	
	comp=Z,59nm,18.1s,baz=143,slow=32								
FITZ	Fitzroy Crossi	54.25	263	*e*	P		P	06 17 15.5	-0.1
	4.5nm,0.6s								
FITZ	Fitzroy Crossi	54.25	263		P		P	06 17 15.5	-0.1
	baz=55,SNR=14								
SBA	Scott Base	55.88	184	*e*	P		P	06 17 29.8	+3.3
	17nm,1.3s								
VNDA	Vanda	55.96	186		P		P	06 17 29.8	+2.8
	2.8nm,0.8s,baz=12,slow=4.4,SNR=7.5								
VNDA	Vanda	55.96	186		P		P	06 17 29.8	+2.8
KLBR	Kellerberrin	58.54	246		P		P	06 17 46.9	+0.9
	baz=59,SNR=4.9								
MBWA	Marble Bar	58.87	258	*e*	P		P	06 17 47.7	-0.7
	4.8nm,0.6s								
BLDU	Ballidu	59.58	247		P		P	06 17 54.2	+1.0
	baz=60,SNR=6.3								
MORW	Morawa	60.43	248		P		P	06 18 00.0	+1.1
	baz=61,SNR=3.4								
QSPA	South Pole Qui	67.47	180		P		P	06 18 46.2	+1.7
	15nm,0.8s,baz=36,slow=2.1,SNR=54								
QSPA	South Pole Qui	67.47	180		P		P	06 18 46.2	+1.7
MJAR	Matsushiro Arr	72.78	323		P		P	06 19 15.4	-1.8
	0.6nm,0.3s,baz=150,slow=7.1,SNR=4.8								
MJAR	Matsushiro Arr	72.78	323		P		P	06 19 15.4	-1.8
BFSC	Mount Baldy Ra	79.44	46	⇓	P		P	06 19 55.5	+0.4
	baz=80								
VES	Vestal, Richgr	79.47	44	⇓	P		P	06 19 55.9	+0.8
	baz=80								
MONP	Monument Peak	79.49	48	⇑	P		P	06 19 56.1	+0.6
	baz=80								
EDW2	Edwards Air Fo	79.61	45	⇑	P		P	06 19 56.7	+0.8
	baz=80								
ISA	Isabella	79.76	45	*e*	P		P	06 19 57.5	+0.8
	3.2nm,0.8s								
ISA	Isabella	79.76	45	⇑	P		P	06 19 57.5	+0.8
	baz=80								
SWSC	Sam W. Stewart	79.95	48	⇑	P		P	06 19 58.2	+0.5
	baz=80								
LRMC	Laurel Mountai	80.16	45	⇓	P		P	06 19 58.8	-0.1
	baz=80								
BELC	Belle Mtn. Jos	80.42	47	⇑	P		P	06 20 00.5	+0.1
	baz=81								
CLC	China Lake	80.42	45	*e*	P		P	06 20 02.7	+2.5
BC3	Big Chuckawall	80.59	48	⇑	P		P	06 20 02.6	+1.4
	baz=81								
GSC	Goldstone	80.64	46	⇓	P		P	06 20 02.3	+0.9
	baz=81								
MPMC	Manual Prospec	80.64	45	⇑	P		P	06 20 02.1	+0.5
	baz=81								
HEC	Hector,Ludlow	80.68	46	⇑	P		P	06 20 02.4	+0.7
	baz=81								
YBH	Yreka Blue Hor	81.02	38	P		P	P	06 20 04.5	+1.2
	3.6nm,0.8s,baz=132,slow=1.1,SNR=14								
YBH	Yreka Blue Hor	81.02	38	*e*	P		P	06 20 04.1	+0.8
	3.9nm,0.9s								
GMRC	Granite Mounta	81.10	47	⇓	P		P	06 20 04.5	+0.5
	baz=81								
113A	Mohawk Valley,	81.26	49	⇑	P		P	06 20 05.9	+1.2
	baz=82								
GRAC	Grapevine Rang	81.28	44	⇓	P		P	06 20 05.8	+1.1
	baz=82								
Y12C	Blythe	81.28	48	⇑	P		P	06 20 05.8	+1.0
	baz=82								
TUQ	Turquoise Moun	81.30	46	⇓	P		P	06 20 05.9	+0.9
	baz=82								
HUMO	Hull Mountain	81.46	37	*e*	P		P	06 20 06.4	+0.9
	31nm,1.8s								
NVAR	Mina Array Bea	81.55	42	P		P	P	06 20 06.8	+0.4
	2.1nm,1.0s,baz=222,slow=8.4,SNR=9.9								
NVAR	Mina Array Bea	81.55	42	P		P	P	06 20 06.8	+0.4
Y14A	Wickenburg	82.43	49	⇓	P		P	06 20 11.6	+0.8
	baz=83								
W13A	Hualapai Mount	82.48	47	⇓	P		P	06 20 12.5	+1.2
	baz=83								
MOD	Modoc	82.50	39	*e*	P		P	06 20 11.3	+0.2
	3.9nm,1.0s								
TUC	Tucson	83.12	51	*e*	P		P	06 20 15.8	+1.3
	4.4nm,1.4s								
R11A	Troy Canyon, C	83.21	44	⇑	P		P	06 20 15.7	+0.7
	baz=84								
319A	Douglas	83.72	52	⇑	P		P	06 20 18.3	+0.6
	baz=84								
X16A	Lo Mia Camp, P	83.78	49	⇑	P		P	06 20 18.6	+0.7
	baz=84,SNR=6.1								
320A	Kipp Ranch, An	84.26	53	⇓	P		P	06 20 21.7	+1.3
	baz=84								
U15A	North Rim	84.29	47	⇑	P		P	06 20 21.7	+1.1
	baz=84,SNR=7.1								
WUAZ	Wupatki	84.42	48	⇑	P		P	06 20 22.5	+1.3
	baz=85								
220A	Playas Peak, P	84.55	52	⇓	P		P	06 20 22.9	+1.1
	baz=85								
120A	U Bar Ranch, L	84.80	52	⇑	P		P	06 20 24.2	+1.1
	baz=85								
ELK	Elko	84.83	42	*e*	P		P	06 20 22.9	-0.3
CN2	Changchun	84.87	322	*e*	P		P	06 20 23.9	+0.9
X18A	Snowflake	84.88	49	⇓	P		P	06 20 24.2	+0.6

baz=88
O17A Robinson Place 87.36 44 ⇓P P 06 20 36.4 +0.8
baz=88
527A Woodward Ranch 87.37 56 ⇓P P 06 20 36.6 +0.8
baz=88
P18A Preston Nutter 87.38 45 ⇓P P 06 20 36.2 +0.4
baz=88
225A Deer Hill, Car 87.38 54 ⇑P P 06 20 36.7 +0.9
baz=88
M16A Huntsville 87.40 43 ⇑P P 06 20 36.4 +0.6
baz=88
U21A Nageezi 87.46 49 ⇑P P 06 20 36.3 +0.1
baz=88
ANMO Albuquerque 87.57 51 P P 06 20 37.2 +0.5
1.7nm,0.9s,baz=197,slow=4.6,SNR=5.7
ANMO pP 06 21 05.4 -2.8
2.0nm,1.1s,baz=225,slow=6.1,SNR=3.1
ANMO Albuquerque 87.57 51 eP P 06 20 37.0 +0.3
1.6nm,1.1s
ANMO pP 06 21 05.4 -2.8
Z24A Sheeppen Canyo 87.57 52 ⇑P P 06 20 37.3 +0.5
baz=88
628A Black Gap, Mar 87.62 57 ⇑P P 06 20 37.2 +0.3
baz=88
H13A Challis 87.63 39 ⇓P P 06 20 37.6 +0.9
baz=88
Q19A Hogan Spring (87.67 46 ⇓P P 06 20 37.8 +0.9
baz=88
S20A Disappointment 87.69 47 ⇓P P 06 20 38.7 +1.4
baz=88
I14A Mackay 87.74 40 ⇓P P 06 20 38.4 +1.1
baz=88
F12A Elk City 87.75 38 ⇑P P 06 20 37.6 +0.4
baz=88
125A Gardner Draw, 87.77 53 ⇓P P 06 20 38.2 +0.6
baz=88
GDL2 Guadalupe Moun 87.77 54 eP P 06 20 38.7 +1.1
1.4nm,0.6s
Y24A Capitan 87.81 52 ⇓P P 06 20 38.3 +0.4
baz=88
427A Hayter Ranch, 87.86 55 ⇓P P 06 20 38.7 +0.7
baz=88
L16A Fish Haven 87.91 43 ⇑P P 06 20 38.5 +0.3
baz=88
S21A Coal Bank Pass 88.00 48 ⇓P P 06 20 39.5 +0.7
baz=88
528A Cox Ranch, San 88.01 56 ⇓P P 06 20 39.2 +0.4
baz=88
M17A Scullys Gap (B 88.09 43 ⇑P P 06 20 39.4 +0.3
baz=88
TNA Tin City 88.13 4 eP P 06 20 38.9 +0.6
1.8nm,0.7s
H14A Leadore 88.18 40 ⇑P P 06 20 40.1 +0.7
baz=88
TRF Thorofare Moun 88.20 11 eP P 06 20 37.8 -1.1
13nm,0.8s
P19A Cripple Cowboy 88.21 46 ⇑P P 06 20 39.6 0.0
baz=88
NEW Newport 88.22 35 ⇑P P 06 20 39.4 +0.2
baz=88
F13A Darby 88.29 38 ⇓P P 06 20 39.7 0.0
baz=89
Q20A Ridgley Place, 88.32 46 ⇑P P 06 20 40.9 +0.8
baz=89
Y25A Mesa, Roswell 88.34 52 ⇑P P 06 20 41.2 +0.9
baz=89
C11A Tepee Creek (N 88.43 36 ⇓P P 06 20 41.0 +0.7
baz=89
U23A El Rito 88.44 49 ⇓P P 06 20 40.9 +0.1
baz=89
W24A Lazy 6 Ranch, 88.45 51 ⇑P P 06 20 40.9 +0.1
baz=89
N18A Larsen Ranch, 88.47 44 ⇓P P 06 20 40.9 +0.1
baz=89
O19A Miners Draw (B 88.47 45 ⇑P P 06 20 41.5 +0.7
baz=89
R21A Cimarron 88.52 47 ⇑P P 06 20 41.6 +0.4
baz=89
Z26A Caprock 88.56 53 ⇓P P 06 20 41.4 +0.1
baz=89
S22A 4UR Ranch, Cre 88.70 48 ⇑P P 06 20 42.3 +0.2
baz=89
E13A Victor 88.75 38 ⇑P P 06 20 42.5 +0.6
baz=89
C12B Naegeli Ranch, 88.77 36 ⇓P P 06 20 42.5 +0.6
baz=89
F14A Wisdom 88.86 39 ⇓P P 06 20 42.7 +0.2
baz=89
429A Davenport Ranc 88.91 56 ⇓P P 06 20 43.2 +0.3
baz=89
O20A White River Ci 88.96 45 ⇑P P 06 20 43.9 +0.8
baz=89
D13A Huson 88.97 37 ⇑P P 06 20 43.8 +0.9
baz=89
GYA Guiyang 88.98 299 eP P 06 20 44.5 +1.0
GYA pP pP 06 21 15.8 +0.7
GYA sP sP 06 21 30.4 +2.4
GYA PP PP 06 24 17.3 +2.2
GYA S S 06 31 20.3 -1.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
G15A Dillon 89.01 39 ⇑P P 06 20 43.8 +0.6
baz=89
K18A Toltan Ranch, 89.11 43 ⇓P P 06 20 44.8 +0.9
baz=89
E14A Clinton 89.13 38 ⇑P P 06 20 44.6 +0.9
baz=89
Z27A Tatum 89.14 53 ⇓P P 06 20 44.4 +0.3
baz=89
Q22A Crested Butte, 89.20 47 ⇑P P 06 20 44.9 +0.4
baz=89
L19A Fason 89.26 43 ⇑P P 06 20 44.9 +0.4
baz=90
N20A Spence Gulch, 89.30 45 ⇑P P 06 20 45.4 +0.6
baz=90
V25A Rancho No Teng 89.31 51 ⇓P P 06 20 45.4 +0.4
baz=90
F15A Butte 89.38 39 ⇓P P 06 20 45.5 +0.6
baz=90
A12A Yaak River Ran 89.40 35 ⇑P P 06 20 45.7 +0.9
baz=90
J18A Kendall Valley 89.43 42 ⇓P P 06 20 46.0 +0.7
baz=90
G16A Moss Hill, Enn 89.44 40 ⇓P P 06 20 45.8 +0.6
baz=90
Y27A Causey 89.45 53 ⇑P P 06 20 45.8 +0.3
baz=90
BW06 Boulder Array 89.48 43 ⇓P P 06 20 45.9 +0.3
baz=90
PDAR Pinedale Array 89.48 43 P P 06 20 45.9 +0.3
comp=Z,1.0nm,0.9s,baz=234,slow=5.0,SNR=7.4
PDAR Pinedale Array 89.48 43 P P 06 20 45.9 +0.3
430A Baggett Ranch, 89.48 56 ⇑P P 06 20 46.6 +0.9
baz=90
H16A Russell Place, 89.49 40 ⇑P P 06 20 46.5 +1.0
baz=90
D14A Greenough 89.50 37 ⇓P P 06 20 45.1 -0.3
baz=90
R23A Moffat 89.61 48 ⇑P P 06 20 46.5 +0.2
baz=90
E15A Deer Lodge 89.62 38 ⇓P P 06 20 46.2 +0.2
baz=90
B13A Whitefish 89.71 36 ⇓P P 06 20 47.1 +0.8
baz=90
U25A Circle Dot Ran 89.73 50 ⇓P P 06 20 47.9 +1.1
baz=90
531A Rocksprings 89.74 57 ⇓P P 06 20 47.6 +0.8
baz=90
Z28A Tucker Farm, M 89.75 54 ⇓P P 06 20 47.2 +0.3
baz=90
N21A Black Mountain 89.75 45 ⇑P P 06 20 47.3 +0.4
baz=90
S24A Houchin Ranch, 89.76 49 ⇑P P 06 20 47.6 +0.5
baz=90
MSTX Muleshoe 89.78 53 ⇓P P 06 20 47.5 +0.5
baz=90
BOZ Bozeman (W) 89.78 39 ⇓P P 06 20 47.5 +0.7
baz=90
129A Stewart Farms, 89.84 54 ⇓P P 06 20 47.5 +0.2
baz=90
F16A Kennard Place, 89.85 39 ⇓P P 06 20 48.0 +0.9
baz=90
L20A Wamsutter 89.86 44 ⇓P P 06 20 47.8 +0.5
baz=90
COLA College 89.95 12 eP P 06 20 46.0 -0.9
comp=Z,9.1nm,1.0s
D15A Lincoln 90.03 38 ⇓P P 06 20 48.5 +0.5
baz=90
ILAR Eielson Array 90.04 12 P P 06 20 46.5 -0.8
comp=Z,2.7nm,1.0s,baz=220,slow=5.6,SNR=16
ILAR Eielson Array 90.04 12 P P 06 20 46.5 -0.8
J19A Crowheart 90.06 42 ⇑P P 06 20 48.4 +0.2
baz=90
A13A Flathead Natio 90.06 36 ⇓P P 06 20 48.6 +0.7
baz=90
O22A Kremmling 90.09 46 ⇑P P 06 20 48.7 +0.1
baz=90
K20A Yellowstone Ra 90.19 43 ⇑P P 06 20 49.3 +0.5
baz=90
U26A Atchley Ranch, 90.20 50 ⇓P P 06 20 49.4 +0.3
baz=90
532A Rocksprings 90.22 57 ⇑P P 06 20 49.2 +0.1
baz=90
E16A East Helena 90.24 39 ⇑P P 06 20 49.9 +1.0
baz=90
Z29A Hungry Hill Ra 90.24 54 ⇓P P 06 20 49.6 +0.5
baz=90
B14A Marquette Ranc 90.36 37 ⇑P P 06 20 49.7 +0.3
baz=91
C15A Salmond Ranch, 90.39 37 ⇓P P 06 20 50.0 +0.4
baz=91
F17A Fitzpatrick Pl 90.49 40 ⇑P P 06 20 51.3 +1.2
baz=91
I19A Meeteetse 90.50 42 ⇓P P 06 20 51.5 +1.2
baz=91
O23A Lake Granby, G 90.53 46 ⇓P P 06 20 51.0 +0.3
baz=91
ISCO Idaho Springs 90.54 47 ⇑P P 06 20 50.8 +0.2
baz=91
Y29A Porterfield Fa 90.54 53 ⇑P P 06 20 50.9 +0.3
baz=91
D16A Dana Ranch, Ca 90.58 38 ⇑P P 06 20 51.0 +0.5
baz=91
432A Menard 90.64 57 ⇑P P 06 20 51.2 +0.2
baz=91
R25A Fountain Ranch 90.65 49 ⇑P P 06 20 51.0 -0.1
baz=91
E17A Martinsdale 90.67 39 ⇑P P 06 20 52.3 +1.3
baz=91
231A Bronte 90.70 56 ⇑P P 06 20 51.7 +0.5
baz=91
H19A Powell 90.83 41 ⇓P P 06 20 52.3 +0.6
baz=91
N23A Red Feather La 90.85 46 ⇑P P 06 20 52.7 +0.6
baz=91
K21A Alcova 90.87 44 ⇓P P 06 20 52.4 +0.4
baz=91
P24A Kohler Place, 90.88 47 ⇑P P 06 20 52.4 +0.3
baz=91
C16A Fuhringer Ranc 90.89 38 ⇑P P 06 20 52.3 +0.5
baz=91
332A Millersview 90.90 56 ⇓P P 06 20 52.4 +0.2
baz=91
RLMT Red Lodge 90.90 41 ⇓P P 06 20 52.8 +0.7
baz=91
S26A Kim 90.97 49 ⇓P P 06 20 53.2 +0.7
baz=91
I20A Worland 90.99 42 ⇑P P 06 20 52.8 +0.4
baz=91
AMTX Amarillo 91.00 52 ⇑P P 06 20 53.0 +0.4
baz=91
A15A JoJoon Ranch, 91.00 36 ⇓P P 06 20 52.3 0.0
baz=91
F18A Big Timber 91.04 40 ⇓P P 06 20 53.9 +1.3
baz=91
DAWY Dawson 91.08 15 eP P 06 20 52.5 +0.3
L22A Ellis Ranch, M 91.09 44 ⇓P P 06 20 54.2 +1.1
baz=91
J21A Lysite 91.11 43 ⇑P P 06 20 54.1 +1.1
baz=91
W29A Amraillo 91.13 52 ⇓P P 06 20 53.9 +0.6
baz=91
D17A Six Diamond Ra 91.14 38 ⇑P P 06 20 54.3 +1.3
baz=91
232A Coleman 91.19 56 ⇓P P 06 20 54.1 +0.6
baz=91
E18A Harlowton 91.28 39 ⇓P P 06 20 54.7 +1.0
baz=92
BILL Bilibino 91.28 354 eP P 06 20 52.9 -0.1
comp=Z,3.7nm,0.7s
R26A Arlington 91.30 49 ⇓P P 06 20 54.7 +0.7
baz=92
H20A Greybull 91.34 42 ⇓P P 06 20 55.2 +1.2
baz=92
K22A Casper 91.34 44 ⇓P P 06 20 55.1 +0.9
baz=92
C17A Wharram Farm, 91.36 38 ⇑P P 06 20 54.3 +0.3
baz=92
X30A Coker Ranch, T 91.39 53 ⇑P P 06 20 55.3 +0.9
baz=92
I21A Big Trails, Te 91.44 43 ⇓P P 06 20 54.7 +0.1
baz=92
Z31A Sharp Cattle R 91.44 54 ⇓P P 06 20 55.0 +0.4
baz=92
F19A Roth Farm, Mol 91.47 40 ⇓P P 06 20 55.2 +0.6
baz=92
A16A West Butte Ran 91.61 37 ⇑P P 06 20 55.7 +0.6
baz=92
L23A Garrett 91.61 45 ⇑P P 06 20 55.9 +0.4
baz=92
KMI Kunming 91.63 296 P P 06 20 58.3 +2.4
KMI pmax pmax
comp=Z,9.0nm,1.1s
Y31A Rekieta Farm, 91.63 54 ⇑P P 06 20 55.9 +0.4
baz=92
COLD Coldfoot 91.68 10 eP P 06 20 54.8 -0.1
comp=Z,3.6nm,1.0s
R27A Eads 91.75 49 ⇑P P 06 20 56.4 +0.3
baz=92
J22A Midwest 91.75 43 ⇓P P 06 20 56.6 +0.6
baz=92
HHC Hu-ho-hao-te 91.89 314 eP P 06 20 56.3 -0.3
HHC PP PP 06 24 40.8 +3.0
HHC SKS SKSac 06 31 19.3 +1.1
HHC S S 06 31 46.4 -1.3
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.3s
HHC LR LR
comp=N,590nm,25.9s
HHC LR LR
comp=E,1μm,26.3s
HHC LR LR
comp=Z,130nm,19.4s
Z32A Haskell 91.94 55 ⇓P P 06 20 57.3 +0.4
baz=92
I22A 9 Mile Ranch, 91.98 43 ⇑P P 06 20 57.7 +0.6
baz=92
H21A Big Horn, Sher 92.00 42 ⇑P P 06 20 57.9 +0.8
baz=92
A17A Triple J Farms 92.10 37 ⇑P P 06 20 58.0 +0.6
baz=92
D19A Cripps Ranch, 92.19 39 ⇑P P 06 20 58.7 +0.8
baz=92
CMAR Chiang Mai Arr 92.22 289 P P 06 20 58.0 -0.5
comp=Z,2.4nm,0.8s,baz=133,slow=3.5,SNR=12
CMAR Chiang Mai Arr 92.22 289 P P 06 20 58.0 -0.5
Y32A R-V Farms, Ver 92.26 54 ⇑P P 06 20 58.8 +0.4
baz=92
C19A Slack Wire Ran 92.39 39 ⇓P P 06 20 59.6 +0.8
baz=93
H22A Clearmont 92.41 42 ⇑P P 06 20 59.6 +0.7
baz=93
F21A Absaloka Mine, 92.55 41 ⇓P P 06 21 00.3 +0.7
baz=93
A18A Metzger Ranch, 92.56 37 ⇓P P 06 20 59.9 +0.4
baz=93
D20A Manuel Ranch, 92.59 39 ⇑P P 06 21 00.6 +0.9
baz=93
CD2 Chengdu 93.17 302 P P 06 21 03.1 +0.4
CD2 pP pP 06 21 35.3 +0.9
CD2 sP sP 06 21 48.3 +1.0
CD2 PP PP 06 24 51.1 +3.0
CD2 SKS SKSac 06 31 24.3 -1.4
CD2 S S 06 31 56.9 -2.6
CD2 sS sS 06 32 52.9 -1.5
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.9s
CD2 LR LR
comp=N,190nm,4.8s
CD2 LR LR
comp=Z,120nm,6.5s
D21A La Casta Ranch 93.25 40 ⇓P P 06 21 03.9 +1.1
baz=94
F23A Volborg 93.55 42 ⇓P P 06 21 04.6 +0.5
baz=94
E22A Miles City 93.57 41 ⇑P P 06 21 04.4 +0.3
baz=94
H24A Dirks Ranch, A 93.61 43 ⇓P P 06 21 04.6 +0.1
baz=94
RSSD Black Hills 93.64 43 eP P 06 21 04.6 -0.2
comp=Z,7.1nm,1.1s
LZH Lanzhou 95.23 307 eP P 06 21 10.8 -1.4
LZH pP pP 06 21 35.5 -8.4
LZH sP sP 06 21 44.6 -12
LZH pmax pmax
comp=Z,17nm,1.0s
LZH Lanzhou 95.23 307 eP P 06 21 14.1 +1.9
LZH pP pP 06 21 46.3 +2.4
LZH sP sP 06 22 00.1 +3.3
LZH pmax pmax
comp=Z,19nm,1.2s
YKA Yellowknife Ar 97.80 24 P P 06 21 22.5 -0.4
comp=Z,0.6nm,0.8s,baz=240,slow=4.4,SNR=14
YKA pP pP 06 21 51.3 -3.4
comp=Z,0.4nm,0.8s,baz=240,slow=4.3,SNR=3.6
YKA PKKPbc PKKPbc 06 37 57.3 -2.7
comp=Z,0.2nm,0.5s,baz=41,slow=2.7,SNR=11
YKA Yellowknife Ar 97.80 24 P P 06 21 22.6 -0.4
YKA pP pP 06 21 51.3 -3.4
YKA PKKPbc PKKPbc 06 37 57.4 -2.7
ZALV Zalesovo Beam 113.06 321 PKiKP PKiKP 06 26 23.6 -0.9
comp=Z,1.1nm,0.6s,baz=194,slow=1.7,SNR=8.1
ZALV Zalesovo Beam 113.06 321 PKiKP PKiKP 06 26 23.6 -0.9
MK31 Makanchi Array 113.72 313 ePKPdf PKPpre 06 26 24.9
MKAR Makanchi Array 113.72 313 PKhKP PKPpre 06 26 24.9
comp=Z,0.6nm,0.6s,baz=170,slow=0.8,SNR=11
MKAR Makanchi Array 113.72 313 PKPpre PKPpre 06 26 24.9
KURK Kurchatov 116.55 317 ePKPdf PKPdf 06 26 30.1 -1.2
KSH Kashi 117.31 304 ePKP PKPdf 06 26 35.8 +2.5
KSH ePP PP 06 27 53.6 +7.3
KSH PKS PKSdf 06 30 11.3 +1.2
KSH SKS SKSdf 06 33 37.4 +3.2
KSH LR LR
comp=N,61nm,5.3s
KSH LR LR
comp=E,35nm,5.6s
KSH LR LR
comp=Z,180nm,5.2s
KKAR Karatay Array 121.72 308 ePKPdf PKPdf 06 26 41.0 -0.6
KBL Kabul 122.19 297 ePKPdf PKPdf 06 26 43.2 +0.2
AKTO Aktyubinsk 129.62 318 PKP PKPdf 06 26 56.8 +0.4
comp=Z,0.8nm,0.4s,baz=90,slow=7.1,SNR=5.1
AKTO Aktyubinsk 129.62 318 PKP PKPdf 06 26 56.8 +0.4
KEV Kevo 130.81 349 ep PKPdf 06 26 57.5 -0.5
ARCES ARCESS Array B 131.25 350 PKP PKPdf 06 26 58.5 -0.4
comp=Z,3.9nm,0.6s,baz=44,slow=1.6,SNR=14
ARCES ARCESS Array B 131.25 350 PKP PKPdf 06 26 58.5 -0.4
JOF Joensuu 135.59 342 ep PKPdf 06 27 05.7 -1.5
KAF Kangasniemi 137.58 344 ep PKPdf 06 27 10.9 0.0
FINES FINESS Array B 138.20 344 PKhKP PKPpre 06 27 09.2
comp=Z,2.4nm,0.5s,baz=43,slow=4.0,SNR=5.6
FINES PKP PKiKP 06 27 13.3 -0.9
comp=Z,2.4nm,0.5s,baz=65,slow=3.1,SNR=8.9
FINES FINESS Array B 138.20 344 PKPpre PKPpre 06 27 09.2
FINES PKP PKiKP 06 27 13.3 -0.9
NB2 NORSAR Subarra 141.23 354 PKP PKPpre 06 27 10.3
comp=Z,0.9nm,0.5s,baz=7.1,slow=3.1
NOA NORSAR Array B 141.23 354 PKhKP PKPpre 06 27 11.4
comp=Z,0.9nm,0.5s,baz=15,slow=4.6,SNR=8.2
NOA NORSAR Array B 141.23 354 PKPpre PKPpre 06 27 11.4
SUW Suwalki 145.33 340 ePKPdf PKPbc 06 27 25.1 0.0
AKASG Malin Array Be 145.57 331 PKPbc PKPdf 06 27 25.0 -0.6
comp=Z,7.2nm,0.4s,baz=40,slow=4.3,SNR=43
AKASG pPKPbc pPKPbc 06 27 54.1 -4.5
comp=Z,2.8nm,0.5s,baz=41,slow=4.4,SNR=2.5
AKASG Malin Array Be 145.57 331 PKPbc PKPdf 06 27 25.0 -0.6
AKASG pPKPbc pPKPbc 06 27 54.1 -4.5
KIEV Kiev 145.58 331 ePKPdf PKPdf 06 27 25.0 -0.6
AK01 Malin Array Si 145.59 331 ePKPdf PKPdf 06 27 24.9 -0.6
AK02 Malin Array Si 145.61 331 ePKPdf PKPdf 06 27 25.0 -0.7
MALT Malatya 146.38 306 ePKPbc PKPbc 06 27 29.5 +0.5
MALT Malatya 146.38 306 ⇓iP PKPbc 06 27 28.6 -0.4
KWP Kalwaria Pacla 149.11 336 ePKPbc PKPbc 06 27 36.0 +0.2
KWP ePKPab PKPab 06 27 40.5 +0.1
KWP Kalwaria Pacla 149.11 336 ⇑iP PKPbc 06 27 33.7 -2.1
BR131 Keskin Array S 149.35 311 ePKPbc PKPbc 06 27 36.5 -0.3
BRTR Keskin Array B 149.35 311 PKPbc PKPbc 06 27 36.6 -0.3
comp=Z,3.1nm,0.6s,baz=142,slow=4.3,SNR=18
BRTR Keskin Array B 149.35 311 PKPbc PKPbc 06 27 36.6 -0.3
TLCR 149.48 324 ⇑iP PKPbc 06 27 37.2 +0.4
BUR08 Bucovina Ar. S 149.61 331 ePKPbc PKPbc 06 27 37.4 +0.2
BURAR Bucovina Array 149.62 330 ⇓iP PKPbc 06 27 38.6 +1.3
OJC Ojcow 149.65 339 ePKPbc PKPbc 06 27 35.1 -2.0
TESR 149.73 328 ⇓iP PKPbc 06 27 36.2 -1.2
KOLS Kolonicke sedl 149.84 335 ePKP PKPbc 06 27 38.3 +0.7
KOLS e 06 27 43.4
CFR Carcaliu 149.86 324 ⇑iP PKPbc 06 27 37.7 0.0
VRI Vrincioaia 150.14 327 ⇓iP PKPbc 06 27 38.3 -0.2
NIE Niedzica 150.16 338 ePKP PKPbc 06 27 39.0 +0.6
CRVS Cervenica-Dubn 150.18 336 ePKP PKPbc 06 27 38.8 +0.4
CRVS e 06 27 45.0
IBBN Ibbenburen 150.18 355 ePKPbc PKPbc 06 27 38.5 +0.2
IBBN ePKPab PKPab 06 27 45.2 +0.5
PLOR Plostina 150.19 327 ⇑iP PKPbc 06 27 36.6 -2.0
CLZ Clausthal 150.35 351 ePKPbc PKPbc 06 27 39.2 +0.4
TRPA Tarpa 150.38 334 ⇓iP PKPbc 06 27 39.0 +0.1
CLL Collm 150.44 348 ePKPbc PKPbc 06 27 39.1 +0.1
CLL Collm 150.44 348 ePKPdf PKPdf 06 27 34.0 +0.5
CLL ⇓iPKPbc PKPbc 06 27 39.0 +0.1
comp=Z,16nm,0.9s
CLL ⇓iPKPab PKPab 06 27 44.5 -1.3
comp=Z,11nm,1.0s
UPC Upice 150.51 344 ⇑ePKP PKPbc 06 27 39.2 0.0
UPC ePKPAB PKPab 06 27 45.8 -0.3
OKC Ostrava-Krasne 150.51 341 ⇑ePKP PKPbc 06 27 39.1 -0.1
DPC Dobruska-Polom 150.57 343 ⇑ePKP PKPbc 06 27 39.8 +0.4
DPC ePKPAB PKPab 06 27 47.0 +0.6
BRG Berggiesshubel 150.66 347 iPKP PKPbc 06 27 39.6 +0.1
comp=Z,13nm,0.9s
BRG i 06 27 46.5
comp=Z,12nm,0.8s
BRG Berggiesshubel 150.66 347 ePKPbc PKPbc 06 27 39.8 +0.3
BRG ePKPab PKPab 06 27 47.0 +0.3
KRLC Kraliky 150.69 343 ⇑ePKP PKPbc 06 27 40.1 +0.4
KRLC ePKPAB PKPab 06 27 46.2 -0.8
DOPR Dopca 150.74 328 ⇑iP PKPbc 06 27 40.8 +0.9
MORC Moravsky Berou 150.75 341 ePKPbc PKPbc 06 27 39.7 -0.1
MORC Moravsky Berou 150.75 341 ⇓iP PKPbc 06 27 40.1 +0.3
MLR Muntele Rosu 150.80 327 ⇓iP PKPbc 06 27 40.5 +0.3
PVCC Panska Ves 150.84 346 ⇑ePKP PKPbc 06 27 40.5 +0.6
BUG Bochum--Univer 151.08 355 ePKPbc PKPbc 06 27 40.2 -0.2
VOIR 151.28 328 ⇑iP PKPbc 06 27 38.4 -2.8
CSS Prodhromos 151.30 302 ePKPbc PKPbc 06 27 41.5 0.0
MOX Moxa 151.32 349 ePKPbc PKPbc 06 27 41.2 +0.1
PRU Pruhonice 151.35 345 ⇑ePKP PKPbc 06 27 41.2 +0.1
PRU ePKPAB PKPab 06 27 48.7 -0.9
DRGR 151.36 332 ⇓iP PKPbc 06 27 41.1 -0.3
TANN Tannenbergstha 151.39 348 ePKPbc PKPbc 06 27 41.5 +0.2
TANN ePKPab PKPab 06 27 50.4 +0.5
VRAC Vranov 151.44 342 ⇑iP PKPbc 06 27 41.9 +0.5
VYHS Vyhne 151.46 339 ePKP PKPbc 06 27 41.7 +0.2
VYHS e 06 27 50.5
ARR Arges 151.54 328 ⇑iP PKPdf 06 27 36.7 +1.2
NKC Novy Kostel 151.57 348 ⇑ePKP PKPbc 06 27 41.4 -0.3
PSZ Piszkesteto 151.58 337 ⇓iP PKPbc 06 27 41.8 0.0
TREC Trest 151.76 343 ⇑ePKP PKPbc 06 27 42.3 +0.2
TREC ePKPAB PKPab 06 27 51.5 +0.1
MEM Membach 151.99 357 PKPbc PKPbc 06 27 42.6 0.0
ROTZ Rotzenmuhle 152.06 348 ePKPbc PKPbc 06 27 43.0 +0.2
TNS Taunus Mts 152.18 353 ePKPbc PKPbc 06 27 43.2 +0.1
TNS ePKPab PKPab 06 27 53.3 +0.2
GRF Grafenberg Arr 152.31 349 ePKPbc PKPbc 06 27 43.5 +0.2
KHC Kasperske Hory 152.38 346 ePKPbc PKPbc 06 27 43.7 +0.1
KHC ePKPab PKPab 06 27 54.2 +0.2
KHC Kasperske Hory 152.38 346 ⇑ePKP PKPbc 06 27 43.6 +0.1
KHC ePKPAB PKPab 06 27 54.0 0.0
WET Wettzell 152.52 347 ePKPab PKPab 06 27 55.1 +0.5
DOU Dourbes 152.56 359 PKPbc PKPbc 06 27 43.7 -0.2
GERES GERESS Array B 152.62 345 PKPbc PKPbc 06 27 44.0 -0.1
comp=Z,2.9nm,0.7s,baz=21,slow=2.0,SNR=21
GERES PKPab PKPab 06 27 55.1 0.0
comp=Z,0.9nm,0.5s,baz=24,slow=3.2,SNR=6.3
GERES GERESS Array B 152.62 345 PKPbc PKPbc 06 27 44.0 -0.1
GERES PKPab PKPab 06 27 55.1 0.0

BZS	**Buzias**	**152.75 332**⇑	*i*P	**PKPdf**	**06 27 36.9**	**-0.3**
WLF	**Walferdange**	**152.92 356**	*e*PKPab	**PKPab**	**06 27 57.0**	**+0.8**
STU	**Stuttgart**	**153.51 352**	*e*PKPab	**PKPab**	**06 27 58.9**	**+0.1**
FUR	**Furstenfeldbru**	**153.77 348**	*e*PKPbc	**PKPbc**	**06 27 46.4**	**-0.2**
FUR			*e*PKPab	**PKPab**	**06 28 00.3**	**+0.4**
RJOB	**Jochberg**	**153.87 346**	*e*PKPab	**PKPab**	**06 28 01.2**	**+0.8**
BFO	**Black Forest**	**154.06 353**	*e*PKPbc	**PKPbc**	**06 27 47.0**	**-0.2**
BFO			*e*PKPab	**PKPab**	**06 28 01.3**	**+0.2**
ESDC	**Sonseca Array**	**161.81 19**	PKPab	**PKPab**	**06 28 34.5**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=339,slow=2.7,SNR=6.5					
ESDC	**Sonseca Array**	**161.81 19**	PKPab	**PKPab**	**06 28 34.5**	**-0.4**
DBIC	**Dimbokro**	**162.18 151**	PKPab	**PKPab**	**06 28 37.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=215,slow=5.5,SNR=3.9					
DBIC	**Dimbokro**	**162.18 151**	PKPab	**PKPab**	**06 28 37.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**170.42 169**	PKP	**PKPdf**	**06 27 54.9**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=221,slow=1.8,SNR=3.9					
TORD			PKPab	**PKPab**	**06 29 14.5**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=180,slow=4.4,SNR=18					
TORD	**Torodi Ar. Bea**	**170.42 169**	PKP	**PKPdf**	**06 27 54.9**	**-1.4**
TORD			PKPab	**PKPab**	**06 29 14.5**	**+1.3**

ISCJB ***21*** *06:17:34.1±0.6,24.˚77N±0.˚04×122.˚44E±0.˚02,h7km±5km, Error ellipse: s-maj=7.5km s-min=3.1km az=12.2*
TAP ***21*** *06:17:35.1,24.˚83N×122.˚36E,h11km,ML3.0,C*
JMA ***21*** *06:17:35.5±0.3,24.˚40N×122.˚39E,h9km,M2.3*

ISC 21 06:17:34.1±1.5,24.˚7N±0.˚1×122.˚41E±0.˚03,h11km±15km, n18,σ0≠90/30,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.49**	**309**	P		**Pg**	**06 17 43.3**	**-0.4**
	baz=299							
TWB1				*i* S		**Sg**	**06 17 49.2**	**-1.0**
	baz=299							
TWC	**Suao**	**0.52**	**260**	P		**Pb**	**06 17 45.0**	**-0.2**
	baz=252							
TWC				*e*S		**Sb**	**06 17 53.2**	**+0.4**
	baz=252							
YOJ	**Yonaguni jima**	**0.60**	**113**	P		**Pb**	**06 17 46.6**	**+0.1**
YOJ				S		**Sb**	**06 17 54.5**	**-0.5**
ENA	**Nanau**	**0.67**	**246**	*e*P		**Pn**	**06 17 48.5**	**-1.0**
	baz=233							
ENA				*e*S		**Sn**	**06 17 58.2**	**-1.8**
	baz=233							
TWE	**Neicheng**	**0.68**	**272**	P		**Pb**	**06 17 47.7**	**-0.2**
	baz=259							
TWE				*e*S		**Sb**	**06 17 56.8**	**-0.5**
	baz=259							
NWF	**Wu-fen Shan**	**0.68**	**303**	*i* P		**Pg**	**06 17 47.9**	**+0.5**
	baz=295							
NWF				S		**Sg**	**06 17 56.5**	**+0.3**
	baz=295							
ENTT	**Nioudou**	**0.77**	**266**	P		**Pn**	**06 17 50.2**	**-0.7**
	baz=255							
ENTT				S		**Sb**	**06 18 00.8**	**+0.8**
	baz=255							
TWY	**Chenhua**	**0.93**	**308**	P		**Pg**	**06 17 52.5**	**+0.4**
	baz=303							
TWY				S		**Sg**	**06 18 03.5**	**-0.8**
	baz=303							
NSK	**Sanguang**	**0.96**	**269**	P		**Pb**	**06 17 52.8**	**+0.1**
	baz=255							
NSK				*e*S		**Sb**	**06 18 05.7**	**+0.2**
	baz=255							
NNS	**Nan Shan**	**0.98**	**255**	P		**Pn**	**06 17 54.4**	**+0.4**
	baz=233							
NNS				*e*S		**Sn**	**06 18 07.2**	**-0.7**
	baz=233							
TWS1	**Kuangyinshan**	**0.99**	**294**	*e*P		**Pn**	**06 17 54.4**	**+0.5**
	baz=288							
WHF	**Hehuan Shan**	**1.18**	**242**	P		**Pn**	**06 17 58.1**	**+1.2**
	baz=234							
WHF				*e*S		**Sn**	**06 18 13.5**	**+0.2**
	baz=234							
TWT	**Tachien**	**1.21**	**249**	*e*P		**Pn**	**06 17 58.9**	**+1.8**
	baz=242							
IRIF	**Iriomote-Funau**	**1.25**	**107**	P		**Pn**	**06 17 58.6**	**+1.0**
IRIF				S		**Sb**	**06 18 14.4**	**+0.4**
NSTT	**Nanjuang**	**1.28**	**267**	*e*P		**Pb**	**06 17 59.4**	**+1.1**
	baz=281							
HATJ	**Hateruma jima**	**1.42**	**116**	*e*S		**Sb**	**06 18 17.4**	**-1.4**
JKRS	**Kuro-shima**	**1.53**	**107**	*e*S		**Sn**	**06 18 19.8**	**-1.4**
JIJ	**Ishigaki jima**	**1.61**	**102**	*e*S		**Sn**	**06 18 24.1**	**+0.8**

IDC ***21*** *06:49:06.4±1.4, 13.˚51S×166.˚31E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.0/21,mbtmp4.0/9,ML3.7/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/32,Error ellipse: s-maj=34.0km s-min=26.4km az=112.0*
ISCJB ***21*** *06:49:10.8±0.9, 13.˚74S±0.˚08×166.˚3E±0.˚1,h39km, mb4.0/11,MS3.3/2,Error ellipse: s-maj=20.3km s-min=10.1km az=164.9*
NEIC ***21*** *06:49:11.6±0.9, 13.˚56S×166.˚33E,h35km,mb4.3/5,Error ellipse: s-maj=20.0km s-min=16.1km az=67.0*

ISC 21 06:49:12.2±1.0,13.˚65S±0.˚09×166.˚4E±0.˚2,h39km,n24, σ1≠01/23,mb4.0/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.38**	**179**	Pn		**Pn**	**06 51 11.2**	**0.0**
	1.0nm,0.3s,baz=297,slow=17,SNR=8.5							
DZM				Sn		**Sn**	**06 52 43.7**	**-0.9**
	0.4nm,0.3s,baz=210,slow=20,SNR=2.8							
DZM	**Mont Dzumac**	**8.38**	**179**	Pn		**Pn**	**06 51 11.2**	**0.0**
DZM				Sn		**Sn**	**06 52 43.7**	**-0.9**
CTA	**Charters Tower**	**20.26**	**249**	P		Pn	06 53 46.5	-0.1
	7.8nm,0.8s,baz=78,slow=11,SNR=5.3							
CTA	**Charters Tower**	**20.26**	**249**	P		Pn	06 53 46.5	-0.1
AFI	**Afiamalu**	**21.25**	**93**	LR		LR	07 00 17.6	
	comp=Z,84nm,21.5s,baz=276,slow=32							
STKA	**Stephens Creek**	**29.04**	**227**	P		**P**	**06 55 09.6**	**+0.9**
	1.2nm,0.6s,baz=37,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**29.04**	**227**	*e*P		**P**	**06 55 09.8**	**+1.1**
	0.7nm,0.7s							
WRAB	**Tennant Creek**	**31.23**	**254**	*e*P		**P**	**06 55 26.9**	**-1.4**
	3.5nm,0.9s							
WRA	**Warramunga Arr**	**31.24**	**254**	P		**P**	**06 55 27.3**	**-1.1**
	3.2nm,0.9s,baz=86,slow=9.2,SNR=30							
WRA				LR		LR	07 06 38.1	
	comp=Z,110nm,21.5s,baz=165,slow=34							
WRA	**Warramunga Arr**	**31.24**	**254**	P		**P**	**06 55 27.3**	**-1.1**
ASAR	**Alice Springs**	**32.24**	**247**	P		**P**	**06 55 36.0**	**-1.2**
	1.0nm,0.7s,baz=74,slow=9.8,SNR=19							
ASAR	**Alice Springs**	**32.24**	**247**	P		**P**	**06 55 36.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**39.35**	**258**	P		**P**	**06 56 37.6**	**-0.5**
	0.8nm,0.6s,baz=105,slow=9.6,SNR=7.7							
FITZ	**Fitzroy Crossi**	**39.35**	**258**	*e*P		**P**	**06 56 37.2**	**-0.9**
	5.1nm,1.0s							
VNDA	**Vanda**	**63.92**	**181**	P		**P**	**06 59 41.8**	**+1.1**
	1.0nm,0.8s,baz=23,slow=6.5,SNR=3.5							
VNDA	**Vanda**	**63.92**	**181**	P		**P**	**06 59 41.8**	**+1.1**
SBA	**Scott Base**	**64.21**	**180**	*e*P		**P**	**06 59 43.8**	**+1.3**
	6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P		**P**	**07 00 43.4**	**+0.9**
	1.2nm,0.3s,baz=127,slow=5.6,SNR=4.9							
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P		**P**	**07 00 43.4**	**+0.9**
QSPA	**South Pole Qui**	**76.37**	**180**	*e*P		**P**	**07 00 57.6**	**+0.3**
	6.9nm,1.0s							
ILAR	**Eielson Array**	**85.78**	**18**	P		**P**	**07 01 45.8**	**-1.3**
	0.4nm,0.7s,baz=237,slow=5.1,SNR=6.2							
ILAR	**Eielson Array**	**85.78**	**18**	P		**P**	**07 01 45.8**	**-1.3**
MKAR	**Makanchi Array**	**95.81**	**317**	P		**P**	**07 02 34.6**	**+0.1**
	0.1nm,0.7s,baz=89,slow=5.3,SNR=3.6							
MKAR	**Makanchi Array**	**95.81**	**317**	P		**P**	**07 02 34.6**	**+0.1**

IDC 21 06:54:38.1±2.1,5.˚43S×152.˚80E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.7/20,mbtmp3.6/8,ML2.5/1,MS4.0/2, Ms1 4.0/2,ms1mx2.9/30,Error ellipse: s-maj=76.5km s-min=22.5km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**234**	Pn		Pn	06 56 20.2	+0.3
	0.5nm,0.3s,baz=339,slow=23,SNR=2.5							
PMG				Sn		Sn	06 57 32.4	-6.2
	2.4nm,0.3s,baz=1.5,slow=14,SNR=6.6							
CTA	**Charters Tower**	**15.90**	**203**	LR		LR	07 04 05.2	
	comp=Z,162nm,18.3s,baz=237,slow=36							
WRA	**Warramunga Arr**	**23.04**	**230**	P		P	06 59 44.1	-1.0
	0.7nm,0.7s,baz=53,slow=9.7,SNR=4.9							
ASAR	**Alice Springs**	**25.69**	**223**	P		P	07 00 10.4	+0.2
	0.9nm,0.8s,baz=55,slow=9.0,SNR=9.2							
FITZ	**Fitzroy Crossi**	**29.37**	**242**	P		P	07 00 43.6	+0.5
	1.0nm,0.6s,baz=63,slow=6.1,SNR=2.3							
JOW	**Kunigami**	**39.90**	**325**	LR		LR	07 15 30.6	
	comp=Z,622nm,19.9s,baz=149,slow=31							
SONM	**Songino Array**	**66.85**	**328**	P		P	07 05 31.5	-0.5
	0.1nm,0.4s,baz=126,slow=2.0,SNR=2.7							
MKAR	**Makanchi Array**	**80.80**	**319**	P		P	07 06 55.4	+1.7
	0.2nm,0.6s,baz=88,slow=7.4,SNR=2.3							
ZALV	**Zalesovo Beam**	**81.67**	**326**	P		P	07 06 57.1	-1.1
	0.5nm,0.5s,baz=126,slow=7.5,SNR=2.6							
ILAR	**Eielson Array**	**82.74**	**22**	P		P	07 07 03.6	+0.1
	0.4nm,0.8s,baz=260,slow=5.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**150.50**	**287**	PKPbc		PKPbc	07 14 32.5	-0.4
	0.1nm,0.4s,baz=50,slow=2.3,SNR=2.6							

NIED ***21*** *07:17:00,24.˚80N×122.˚50E,h74km,Mw3.8 Best double couple: M0=6.06000×10^14 NP1:φs=34.00000°,δ84.00000°, λ157.00000°. NP2:φs=127.00000°,δ67.00000°,λ.7.00000°.*
ISCJB ***21*** *07:17:18.4±0.3,24.˚67N±0.˚02×122.˚46E±0.˚02, h104km±2km,mb3.7/8,Error ellipse: s-maj=3.9km s-min=2.5km az=160.2*
TAP ***21*** *07:17:19.4,24.˚67N×122.˚46E,h98km,ML4.6,C*
JMA ***21*** *07:17:19.5±0.1,24.˚78N×122.˚50E,h94km±2km,M3.5*
IDC ***21*** *07:17:23.3±4.7,24.˚73N×122.˚39E,h144km±43km,mb3.4/9, mb1 3.5/10,mb1mx3.3/26,mbtmp3.4/10,MS3.1/1, Ms1 3.1/1,ms1mx2.1/31,Error ellipse: s-maj=30.4km s-min=14.6km az=65.0*

ISC 21 07:17:18.5±0.7,24.˚66N±0.˚03×122.˚45E±0.˚02,h101km±5km, n82,σ1≠21/145,mb3.7/8,5C-15D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**111**	*i* P		**Pn**	**07 17 35.4**	**+0.7**
	baz=116							
YOJ				*i* S		**Sn**	**07 17 47.1**	**+0.3**
	baz=116							
YOJ	**Yonaguni jima**	**0.54**	**111**	P		**Pn**	**07 17 35.2**	**+0.5**
YOJ				S		**Sn**	**07 17 47.1**	**+0.3**
TWB1	**Santiao Chiao**	**0.55**	**310**	*e*P		**Pn**	**07 17 35.6**	**+0.9**
	baz=302							
TWB1				*e*S		**Sn**	**07 17 46.5**	**-0.4**
	baz=302							
TWC	**Suao**	**0.55**	**265**	⇓*i*P		**Pn**	**07 17 35.2**	**+0.5**
	baz=262							
TWC				S		**Sn**	**07 17 46.5**	**-0.4**
	baz=262							
ILA	**Ilan**	**0.65**	**280**	*i* P		**Pn**	**07 17 36.5**	**+1.0**
	baz=279							
ILA				S		**Sn**	**07 17 48.7**	**+0.4**
	baz=279							
ENA	**Nanau**	**0.69**	**251**	⇓*i*P		**Pn**	**07 17 36.8**	**+0.9**
	baz=250							
ENA				*e*S		**Sn**	**07 17 49.6**	**+0.6**
	baz=250							
TWE	**Neicheng**	**0.72**	**275**	⇓*i*P		**Pn**	**07 17 37.2**	**+1.0**
	baz=274							
TWE				*e*S		**Sn**	**07 17 49.5**	**+0.1**
	baz=274							
NWF	**Wu-fen Shan**	**0.74**	**304**	⇓*i*P		**Pn**	**07 17 37.4**	**+1.0**
	baz=298							
NWF				S		**Sn**	**07 17 50.2**	**+0.3**
	baz=298							
EHP	**Heping Village**	**0.74**	**242**	*e*P		**Pn**	**07 17 36.9**	**+0.5**
	baz=236							
EHP				*e*S		**Sn**	**07 17 50.8**	**+1.0**
	baz=236							
ENTT	**Nioudou**	**0.81**	**269**	⇓*i*P		**Pn**	**07 17 38.3**	**+1.3**
	baz=272							
ENTT				*e*S		**Sn**	**07 17 50.2**	**-0.7**
	baz=272							
TAP1	**Taipei**	**0.93**	**294**	P		**Pn**	**07 17 38.3**	**+0.2**
	baz=293							
TAP1				S		**Sn**	**07 17 52.2**	**-0.8**
	baz=293							
TAP	**Taipei**	**0.94**	**294**	*e*P		**Pn**	**07 17 38.8**	**+0.4**
	baz=293							
TAP				*e*S		**Sn**	**07 17 52.1**	**-1.2**
	baz=293							
TWD	**Chiawan**	**0.97**	**234**	P		**Pn**	**07 17 39.1**	**+0.4**
	baz=229							
TWD				S		**Sn**	**07 17 54.1**	**+0.2**
	baz=229							
TWY	**Chenhua**	**0.99**	**309**	⇓*i*P		**Pn**	**07 17 40.0**	**+1.1**
	baz=300							
TWY				*e*S		**Sn**	**07 17 54.7**	**+0.5**
	baz=300							
NSK	**Sanguang**	**1.00**	**271**	⇓*i*P		**Pn**	**07 17 40.0**	**+1.0**
	baz=264							
NSK				*e*S		**Sn**	**07 17 55.0**	**+0.5**
	baz=264							
NNS	**Nan Shan**	**1.01**	**258**	⇓P		**Pn**	**07 17 40.3**	**+1.0**
	baz=252							
NNS				*e*S		**Sn**	**07 17 55.1**	**+0.3**
	baz=252							
PCYT	**Pengchaiyu**	**1.03**	**340**	⇑*i*P		**Pn**	**07 17 40.9**	**+1.6**
	baz=332							
HWA	**Hwalien**	**1.03**	**229**	P		**Pn**	**07 17 40.1**	**+0.7**
	baz=223							
HWA				*e*S		**Sn**	**07 17 55.3**	**+0.3**
	baz=223							
TWS1	**Kuangyinshan**	**1.04**	**295**	⇓*i*P		**Pn**	**07 17 40.4**	**+1.0**
	baz=295							
TWS1				S		**Sn**	**07 17 55.4**	**+0.3**
	baz=295							
NCU	**National Centr**	**1.19**	**285**	*e*P		**Pn**	**07 17 42.3**	**+1.1**
	baz=276							
NCU				*e*S		**Sn**	**07 17 58.7**	**+0.5**
	baz=276							
WHF	**Hehuan Shan**	**1.20**	**245**	⇓*i*P		**Pn**	**07 17 42.7**	**+1.0**
	baz=240							
WHF				*e*S		**Sn**	**07 17 59.0**	**-0.2**
	baz=240							
IRIF	**Iriomote-Funau**	**1.21**	**105**	P		**Pn**	**07 17 42.0**	**+0.7**
IRIF				S		**Sn**	**07 17 59.2**	**+0.7**
TWT	**Tachien**	**1.23**	**251**	⇓*i*P		**Pn**	**07 17 43.5**	**+1.7**
	baz=244							
TWT				S		**Sn**	**07 18 00.3**	**+1.0**
	baz=244							
TEGC	**Jichi Village**	**1.26**	**222**	*e*P		**Pn**	**07 17 42.1**	**+0.1**
	baz=221							
TEGC				*e*S		**Sn**	**07 17 59.7**	**0.0**
	baz=221							
NSTT	**Nanjuang**	**1.32**	**269**	⇓*i*P		**Pn**	**07 17 43.8**	**+1.1**
	baz=269							
NSTT				S		**Sn**	**07 18 01.6**	**+0.6**
	baz=269							
HSN	**Hsinchu**	**1.36**	**276**	*e*P		**Pn**	**07 17 43.9**	**+0.8**
	baz=277							
HSN				*e*S		**Sn**	**07 18 02.0**	**+0.3**
	baz=277							
HATJ	**Hateruma jima**	**1.37**	**116**	P		**Pn**	**07 17 44.4**	**+1.2**
HATJ				*e*S		**Sn**	**07 18 03.0**	**+1.0**
JKRS	**Kuro-shima**	**1.48**	**106**	P		**Pn**	**07 17 45.7**	**+1.2**
JKRS				S		**Sn**	**07 18 04.6**	**+0.3**
EHY	**Hungye**	**1.54**	**222**	P		**Pn**	**07 17 45.4**	**0.0**
	baz=216							
EHY				*e*S		**Sn**	**07 18 04.2**	**-1.6**
	baz=216							
NSY	**Sanyi**	**1.56**	**261**	*e*P		**Pn**	**07 17 47.0**	**+1.4**
	baz=261							
NSY				*e*S		**Sn**	**07 18 07.8**	**+1.7**
	baz=261							
TWQ1	**Liyutan**	**1.56**	**259**	⇓*i*P		**Pn**	**07 17 47.1**	**+1.5**
	baz=258							
TWQ1				*e*S		**Sn**	**07 18 06.6**	**+0.4**
	baz=258							
JIJ	**Ishigaki jima**	**1.57**	**100**	P		**Pn**	**07 17 46.3**	**+0.7**
JIJ				S		**Sn**	**07 18 05.9**	**-0.3**
SMLT	**Sun Moon Lake**	**1.61**	**242**	⇓*e*P		**Pn**	**07 17 48.0**	**+1.6**
	baz=235							
SMLT				*e*S		**Sn**	**07 18 09.0**	**+1.5**
	baz=235							
TYC	**Yuchr**	**1.64**	**243**	*e*P		**Pn**	**07 17 48.2**	**+1.7**
	baz=246							
TYC				S		**Sn**	**07 18 09.9**	**+2.1**
	baz=246							
TWF1	**Yuli**	**1.68**	**219**	*e*P		**Pn**	**07 17 47.3**	**+0.2**
	baz=227							
TCU	**Taichung**	**1.70**	**253**	⇓*e*P		**Pn**	**07 17 48.8**	**+1.5**
	baz=252							
TCU				*e*S		**Sn**	**07 18 09.1**	**-0.1**
	baz=252							
WNT	**Mingjian**	**1.79**	**245**	*e*P		**Pn**	**07 17 50.5**	**+2.0**
	baz=244							
WNT				*e*S		**Sn**	**07 18 13.1**	**+1.8**
	baz=244							
CHKT	**Chengkung**	**1.84**	**213**	*e*P		**Pn**	**07 17 49.3**	**+0.1**
	baz=207							
CHKT				*e*S		**Sn**	**07 18 10.8**	**-1.7**
	baz=207							
ALS	**Alishan**	**1.89**	**233**⇑	*e*P		**Pn**	**07 17 51.9**	**+1.8**
	baz=227							
ALS				*e*S		**Sn**	**07 18 14.7**	**+0.7**
	baz=227							
CHN5	**Tsauling**	**1.94**	**237**	*e*P		**Pn**	**07 17 52.3**	**+1.9**
	baz=247							
CHN5				*e*S		**Sn**	**07 18 17.0**	**+2.3**
	baz=247							
ELDTW	**Lidau**	**1.97**	**222**	*e*P		**Pn**	**07 17 51.2**	**+0.4**
	baz=220							
WGK	**Gukeng**	**1.98**	**241**	*e*P		**Pn**	**07 17 53.0**	**+2.1**
	baz=251							
WGK				*e*S		**Sn**	**07 18 18.1**	**+2.5**
	baz=251							
JTJ	**Tarama**	**2.05**	**90**	P		**Pn**	**07 17 52.4**	**+0.7**
JTJ				*e*S		**Sn**	**07 18 17.6**	**+0.5**
CHN2	**Minshiung**	**2.13**	**239**	*e*P		**Pn**	**07 17 53.4**	**+0.6**
	baz=248							
CHN2				*e*S		**Sn**	**07 18 21.1**	**+2.1**
	baz=248							
WTCT	**Ta-ch'eng**	**2.13**	**249**	*e*P		**Pn**	**07 17 54.1**	**+1.2**
	baz=256							
WTCT				*e*S		**Sn**	**07 18 19.7**	**+0.6**
	baz=256							
CHN4	**Tsaushan**	**2.14**	**233**⇑	*e*P		**Pn**	**07 17 55.0**	**+2.0**
	baz=233							
CHN4				*e*S		**Sn**	**07 18 21.3**	**+1.9**
	baz=233							
CHY	**Chiayi**	**2.19**	**238**	*e*P		**Pn**	**07 17 54.5**	**+1.0**
	baz=248							
CHY				*e*S		**Sn**	**07 18 21.3**	**+1.0**
	baz=248							
WTP	**Ta-pu**	**2.19**	**230**	*e*P		**Pn**	**07 17 55.2**	**+1.5**
	baz=230							
WTP				*e*S		**Sn**	**07 18 22.4**	**+1.8**
	baz=230							
TWG	**Pinlang**	**2.23**	**215**	*e*P		**Pn**	**07 17 54.0**	**-0.1**
	baz=220							
TWG				*e*S		**Sn**	**07 18 20.2**	**-1.1**
	baz=220							
TTN	**Taitung**	**2.24**	**213**	*e*P		**Pn**	**07 17 55.0**	**+0.8**
	baz=220							
TTN				*e*S		**Sn**	**07 18 22.4**	**+0.8**
	baz=220							
TWK	**Hsinying**	**2.27**	**233**	⇑P		**Pn**	**07 17 56.4**	**+1.7**
	baz=233							
TWK				*e*S		**Sn**	**07 18 24.4**	**+2.0**
	baz=233							
WSF	**Szhu**	**2.28**	**244**	*e*S		**Sn**	**07 18 23.3**	**+0.8**
	baz=244							
CHN1	**Nanshi**	**2.29**	**231**	*e*P		**Pn**	**07 17 56.5**	**+1.6**
	baz=231							
CHN1				*e*S		**Sn**	**07 18 24.1**	**+1.2**
	baz=231							
SGST	**Jiashian**	**2.32**	**228**	*e*P		**Pn**	**07 17 57.3**	**+1.9**
	baz=228							
SGST				*e*S		**Sn**	**07 18 25.5**	**+2.0**
	baz=228							
ECL	**Taimali**	**2.47**	**214**	*e*P		**Pn**	**07 17 57.0**	**-0.3**
	baz=214							
CHN3	**Shinhua**	**2.48**	**231**	*e*P		**Pn**	**07 17 59.5**	**+2.1**
	baz=231							
SSD	**Sandimen**	**2.53**	**222**	⇑P		**Pn**	**07 17 60.0**	**+1.9**
	baz=222							
SSD				*e*S		**Sn**	**07 18 30.4**	**+1.9**
	baz=222							
SCLT	**Jiali**	**2.54**	**235**	*e*P		**Pn**	**07 17 60.0**	**+1.8**
	baz=244							
SCLT				*e*S		**Sn**	**07 18 30.2**	**+1.6**
	baz=244							
JMJ	**Miyako jima 2**	**2.59**	**86**	S		**Sn**	**07 18 30.1**	**+0.4**
TAI1	**Yung-k'ang**	**2.60**	**232**	*e*P		**Pn**	**07 18 00.7**	**+1.8**
	baz=232							
TWM1	**Shoushan**	**2.61**	**226**	*e*P		**Pn**	**07 18 02.0**	**+2.9**
	baz=226							
JOGS	**Gusukube**	**2.69**	**87**	*e*S		**Sn**	**07 18 33.4**	**+1.3**
TAW	**Tawu**	**2.70**	**212**	*e*P		**Pn**	**07 18 00.4**	**+0.1**
	baz=213							
TAW				*e*S		**Sn**	**07 18 30.9**	**-1.5**
	baz=213							
EAST	**Anshuo**	**2.70**	**213**	*e*P		**Pn**	**07 18 00.4**	**0.0**
	baz=209							
EAST				*e*S		**Sn**	**07 18 31.3**	**-1.3**
	baz=209							
LAY	**Lan-yu**	**2.74**	**198**	*e*P		**Pn**	**07 18 00.6**	**-0.2**
	baz=198							
SCZT	**Fangliau**	**2.83**	**217**	*e*P		**Pn**	**07 18 03.3**	**+1.2**
	baz=227							
SCZT				*e*S		**Sn**	**07 18 36.5**	**+1.0**
	baz=227							
PNG	**Penghu**	**2.86**	**248**	*e*P		**Pn**	**07 18 01.7**	**-0.7**
	baz=248							
PNG				*e*S		**Sn**	**07 18 34.5**	**-1.8**
	baz=248							
WDGT	**Dungji**	**2.91**	**242**	*e*P		**Pn**	**07 18 03.3**	**+0.2**
	baz=242							
WDGT				*e*S		**Sn**	**07 18 35.5**	**-1.9**
	baz=242							
HEN	**Hengchun**	**3.08**	**211**	*e*P		**Pn**	**07 18 07.6**	**+2.3**
	baz=222							
TWK1	**Hengchun**	**3.10**	**210**	*e*P		**Pn**	**07 18 06.2**	**+0.5**
	baz=204							
TWK1				*e*S		**Sn**	**07 18 42.0**	**+0.1**
	baz=204							
KNM	**Kinmen**	**3.67**	**267**	*e*P		**Pn**	**07 18 13.7**	**+0.5**
	baz=266							
JKE	**Kume jima 2**	**4.25**	**66**	P		**Pn**	**07 18 22.6**	**+1.5**
JKE				*e*S		**Sn**	**07 19 11.9**	**+2.2**
KSRS	**Korea Array**	**13.58**	**19**	P		**P**	**07 20 30.0**	**-2.3**
	0.7nm,0.3s,baz=192,slow=11,SNR=13							
USRK	**Ussuriysk Arra**	**21.00**	**19**	P		**P**	**07 21 54.6**	**+1.0**
	1.2nm,0.5s,baz=215,slow=7.1,SNR=3.1							
SONM	**Songino Array**	**26.40**	**335**	P		**P**	**07 22 45.

AFI	**Afiamalu**	**10.16**	**19**	P	Pn	07 31 28.6	-10		
	2.8nm,0.3s,baz=142,slow=11,SNR=7.1								
AFI				S	Sn	07 33 10.2	-22		
	2.3nm,0.3s,baz=336,slow=20,SNR=3.1								
RAR	**Rarotonga**	**14.38**	**83**	LR	LR	07 36 15.6			
	comp=Z,258nm,21.2s,baz=38,slow=29								
TBI	**Tubuai**	**23.51**	**95**	*e*LR	LR	07 39 53.9			
	128nm,22.8s								
PPT2	**Papeete2**	**24.61**	**81**	*e*LR	LR	07 40 31.1			
	118nm,21.8s								
CTA	**Charters Tower**	**35.97**	**268**	P	P	07 36 11.8	-0.7		
	3.5nm,0.5s,baz=72,slow=9.9,SNR=6.5								
ASAR	**Alice Springs**	**46.50**	**259**	P	P	07 37 39.5	+0.4		
	0.8nm,0.8s,baz=104,slow=7.2,SNR=9.2								
WRA	**Warramunga Arr**	**46.90**	**264**	P	P	07 37 41.0	-1.2		
	2.4nm,0.6s,baz=102,slow=8.2,SNR=43								
FITZ	**Fitzroy Crossi**	**55.32**	**264**	P	P	07 38 44.8	-0.6		
	baz=174,slow=5.5								
NVAR	**Mina Array Bea**	**81.50**	**42**	P	P	07 41 28.9	+0.1		
	0.4nm,0.9s,baz=229,slow=6.8,SNR=3.2								
NVAR				pP	pP	07 41 41.9	+0.5		
	0.6nm,0.7s,baz=220,slow=8.4,SNR=4.8								
USRK	**Ussuriysk Arra**	**83.04**	**325**	P	P	07 41 37.2	+0.8		
	1.4nm,0.7s,baz=101,slow=3.9,SNR=4.0								
ILAR	**Eielson Array**	**90.78**	**12**	P	P	07 42 12.8	-0.8		
	0.5nm,1.0s,baz=224,slow=7.6,SNR=2.8								
ILAR				pP	pP	07 42 25.3	-1.1		
	0.6nm,0.9s,baz=226,slow=5.3,SNR=3.1								
CMAR	**Chiang Mai Arr**	**93.67**	**288**	P	P	07 42 29.7	+1.6		
	1.6nm,0.3s,baz=119,slow=3.0,SNR=14								
CMAR				pP	pP	07 42 41.7	+0.8		
	1.3nm,0.3s,baz=126,slow=2.8,SNR=1.9								
YKA	**Yellowknife Ar**	**98.23**	**24**	P	P	07 42 46.6	-1.2		
	0.1nm,0.8s,baz=258,slow=3.1,SNR=3.5								
AKASG	**Malin Array Be**	**147.03**	**331**	pPKPbc	pPKPbc	07 49 04.9	-1.6		
	3.9nm,0.8s,baz=39,slow=4.0,SNR=5.2								
BRTR	**Keskin Array B**	**150.91**	**310**	PKPbc	PKPbc	07 49 04.2	+0.2		
	0.7nm,0.7s,baz=132,slow=6.8,SNR=4.7								
BRTR				pPKPbc	pPKPbc	07 49 16.8	-0.3		
	1.2nm,0.7s,baz=52,slow=8.0,SNR=5.1								
CLL	**Collm**	**151.66**	**349**	*i* PKP	PKPab	07 49 14.9	+1.0		
	comp=Z,6.0nm,1.2s								
CLL				⇓*i*		07 49 18.3			
	comp=Z,4.0nm,0.8s								
BRG	**Berggiesshubel**	**151.90**	**348**	*i* PKP	PKPab	07 49 18.8	+3.9		
	comp=Z,7.0nm,0.8s								

NNC ***21*** *07:33:53.4±0.5,50°.38N×73°.51E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=7.2km s-min=3.0km az=33.0*

IDC ***21*** *07:33:56.5±0.7,50°.95N×73°.69E,h0km,mb3.3/4, mb1 3.4/10,mb1mx3.3/32,mbtmp3.3/10,ML3.0/6,Error ellipse: s-maj=13.9km s-min=8.0km az=26.0*

ISC 21 07:33:55.1±3.2,50°.65N±0°.07×73°.54E±0.05,h1km±22km, n19,σ1§33/27,mb3.6/4,16C-7D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.62**	**324**	⇓Pn		**Pn**	**Pn**	**07 34 38.2**	**-0.3**
	12nm,0.6s								
VOSK				⇑Sn			**Sb**	**07 35 14.8**	**-0.6**
	61nm,0.8s								
BVA0	**Borovoye Array**	**3.08**	**322**	Pn		**Pn**	**Pn**	**07 34 46.0**	**+1.1**
	1.0nm,0.7s,baz=137,slow=15,SNR=38								
BVA0				⇑Sn			**Sb**	**07 35 27.6**	**-1.2**
	6.2nm,0.9s,baz=128,slow=27,SNR=10.0								
BVA0				⇑Rg		Rg	07 35 55.8		
	11nm,1.6s								
BVAR	**Borovoye Array**	**3.08**	**322**	Pn		**Pn**	**07 34 45.2**	**+0.3**	
	1.5nm,0.3s,baz=135,slow=16,SNR=25								
BVAR				Lg		Lg	07 35 28.9		
	4.5nm,0.3s,baz=115,slow=28,SNR=7.1								
BRVK	**Borovoye**	**3.15**	**321**	⇓Pn		**Pn**	**07 34 47.0**	**+1.2**	
	10.0nm,0.6s								
BRVK				⇓Sn		**Sb**	**07 35 29.0**	**-1.6**	
	86nm,0.7s								
BRVK				⇑Rg		Rg	07 35 58.4		
	123nm,1.4s								
KURBB	**Kurchatov Arra**	**3.18**	**88**	Pn		**Pn**	**07 34 46.6**	**+0.4**	
	0.4nm,0.3s,baz=278,slow=14,SNR=141								
KURBB				Lg		Lg	07 35 34.0		
	1.7nm,0.3s,baz=317,slow=35,SNR=4.5								
KURK	**Kurchatov**	**3.23**	**87**	⇑Pn		**Pn**	**07 34 46.9**	**0.0**	
	11nm,0.7s								
KURK				⇓Sn		**Sn**	**07 35 27.0**	**+1.0**	
	77nm,0.8s								
ZRNK	**Zerenda**	**3.64**	**311**	⇓Pn		**Pn**	**07 34 52.6**	**+0.1**	
	1.2nm,0.3s								
ZRNK				⇑Sn		**Sn**	**07 35 40.2**	**+4.1**	
	57nm,0.9s								
MK31	**Makanchi Array**	**6.96**	**120**	⇑Pn		**Pn**	**07 35 37.1**	**-1.0**	
	0.4nm,0.5s,baz=308,slow=12,SNR=10								
MK31				⇑Pg		**Pb**	**07 35 58.0**	**+1.3**	
	1.4nm,0.6s,baz=289,slow=14,SNR=4.2								
MK31				⇑Lg		Lg	07 37 27.4		
	11nm,0.6s,baz=313,slow=26,SNR=8.1								
MKAR	**Makanchi Array**	**6.96**	**120**	Pn		**Pn**	**07 35 39.5**	**+1.3**	
	0.1nm,0.3s,baz=295,slow=12,SNR=9.2								
MKAR				Lg		Lg	07 37 35.1		
	1.4nm,0.3s,baz=317,slow=26,SNR=11								
ZALV	**Zalesovo Beam**	**7.67**	**60**	Pn		**Pn**	**07 35 46.7**	**-1.1**	
	0.3nm,0.3s,baz=253,slow=14,SNR=8.7								
ZALV				Sn		**Sn**	**07 37 14.7**	**-0.5**	
	0.2nm,0.3s,baz=254,slow=21,SNR=5.3								
TKM2	**Tokmak 2**	**7.86**	**169**	⇑Pn		Pn	07 35 45.0	-5.6	
	1.7nm,0.7s								
TKM2				⇓Pg		**Pb**	**07 36 11.5**	**-0.6**	
	4.1nm,1.4s								
TKM2				⇑Lg		Lg	07 37 54.8		
	21nm,0.8s								
AAK	**Ala-Archa**	**8.04**	**175**	Pn		Pn	07 35 59.2	+6.1	
	0.1nm,0.3s,baz=1.7,slow=6.1,SNR=4.1								
AAK				Lg		Lg	07 38 24.0		
	1.4nm,0.3s,baz=102,slow=11,SNR=8.4								
AB31	**Akbulak array**	**8.88**	**266**	⇑Pn		**Pn**	**07 36 04.5**	**+0.1**	
	0.8nm,0.7s,baz=79,slow=9.6,SNR=16								
AB31				⇑Sn		**Sn**	**07 37 45.0**	**+0.1**	
	0.5nm,0.6s								
AB31				⇑Lg		Lg	07 38 34.3		
	2.6nm,0.8s,baz=82,slow=29,SNR=4.2								
AKTO	**Aktyubinsk**	**9.89**	**275**	Pn		**Pn**	**07 36 18.9**	**+0.6**	
	0.6nm,0.3s,baz=91,slow=12,SNR=7.7								
AKTO				Lg		Lg	07 39 14.2		
	0.2nm,0.3s,baz=100,slow=8.0,SNR=4.1								
AKTO	**Aktyubinsk**	**9.89**	**275**	⇑Pn		**Pn**	**07 36 18.0**	**-0.2**	
	0.2nm,0.5s								
AKTO				⇑Sn		**Sn**	**07 38 11.0**	**+1.2**	
	0.5nm,1.1s								
AKTO				⇓Lg		Lg	07 39 09.0		
	0.7nm,0.9s								
SONM	**Songino Array**	**21.54**	**85**	P		**P**	**07 38 47.1**	**+1.5**	
	0.1nm,0.3s,baz=199,slow=35,SNR=3.2								
ILAR	**Eielson Array**	**90.72**	**19**	P		**P**	**07 44 06.2**	**-1.4**	
	0.4nm,0.5s,baz=325,slow=4.9,SNR=8.2								
YKA	**Yellowknife Ar**	**67.02**	**4**	P		**P**	**07 44 47.5**	**-1.6**	
	0.3nm,0.8s,baz=354,slow=6.3,SNR=9.4								
TORD	**Torodi Ar. Bea**	**68.43**	**264**	P		**P**	**07 44 59.2**	**+0.5**	
	0.4nm,0.9s,baz=36,slow=5.5,SNR=2.0								

ISCJB ***21*** *07:38:14.4±0.2,36°.15N±0°.02×70°.93E±0°.04,h102km, mb4.0/21,Error ellipse: s-maj=5.0km s-min=2.7km az=153.3*

IDC ***21*** *07:38:15.7±3.6,36°.09N×70°.96E,h111km±33km,mb3.8/15, mb1 3.9/19,mb1mx3.7/31,mbtmp3.8/19,Error ellipse: s-maj=18.7km s-min=16.0km az=19.0*

MOS ***21*** *07:38:16.4±1.1,36°.18N×71°.02E,h126km,mb4.1/18,Error ellipse: s-maj=14.3km s-min=6.4km az=84.4*

NEIC ***21*** *07:38:17.3±0.8,36°.18N×71°.03E,h122km±7km,mb4.3/7, Error ellipse: s-maj=10.6km s-min=7.3km az=120.0*

NNC ***21*** *07:38:21.1±1.3,37°.08N×70°.63E,h0km,mb4.5,mpv4.5, Error ellipse: s-maj=11.7km s-min=9.5km az=58.0*

ISC 21 07:38:15.5±0.4,36°.16N±0°.04×71°.04E±0.05,h102km,n129, σ1§63/134,mb4.1/22,7C-13D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.30**	**226**	*e*Pn		Pn	Pn	07 38 56.1	+3.9
KBL				*e*				07 39 24.7	
KBL	**Kabul**	**2.30**	**226**	*e*Pn		Pn	Pn	07 38 56.1	+3.9
KBL				*e*Sn		**Sn**	**Sn**	**07 39 24.7**	**+4.4**
CEP	**Cherat**	**2.44**	**163**	⇓P		Pn	Pn	07 38 59.4	+5.4
CEP				S		Sn	Sn	07 39 31.0	+7.5
CHCP	**Chirah Chowk**	**3.10**	**143**	⇓P		Pn	Pn	07 39 08.0	+5.4
THW	**Thamme Wali**	**3.41**	**170**	⇓P		Pn	Pn	07 39 11.3	+4.5
SARP	**Sargodha**	**4.44**	**162**	P		Pn	Pn	07 39 24.2	+3.5
JMU	**Jammu**	**4.69**	**136**	*e*P		Pn	Pn	07 39 27.5	+3.5
JMU				*e*S		**Sn**	**Sn**	**07 40 19.5**	**+2.3**
THN	**Thein Dam**	**5.37**	**132**	*ex*		x	x	07 39 38.8	
THN				*e*S		**Sn**	**Sn**	**07 40 36.5**	**+2.8**
DLH	**Dalhousie**	**5.45**	**130**	*e*P		Pn	Pn	07 39 38.0	+3.5
DLH				*e*S		**Sn**	**Sn**	**07 40 39.0**	**+3.0**
AML	**Almayashu**	**6.31**	**18**	P		**Pn**	**Pn**	**07 39 47.8**	**+1.5**
	SNR=544								
UCH	**Uchtor**	**6.63**	**23**	P		**Pn**	**Pn**	**07 39 53.4**	**+2.6**
	SNR=7.5								
KZA	**Kyzart**	**6.75**	**28**	P		**Pn**	**Pn**	**07 39 53.8**	**+1.5**
	SNR=20								
SDNR	**Sundarnagar**	**6.78**	**132**	*e*P		**Pn**	**Pn**	**07 39 55.0**	**+2.6**
SDNR				*e*S		**Sn**	**Sn**	**07 41 06.6**	**-1.5**
EKS2	**Erkin-Say**	**6.83**	**17**	*e*PN		**Pn**	**Pn**	**07 39 54.6**	**+1.5**
EKS2				*e*				07 41 12.0	
EKS2	**Erkin-Say**	**6.83**	**17**	*e*Pn		**Pn**	**Pn**	**07 39 54.6**	**+1.5**
EKS2				*e*Sn		**Sn**	**Sn**	**07 41 12.0**	**+2.7**
EKS2	**Erkin-Say**	**6.83**	**17**	P		**Pn**	**Pn**	**07 39 54.9**	**+1.8**
	SNR=92								
KK31	**Karatay Array**	**6.95**	**357**	⇑Pn		**Pn**	**Pn**	**07 39 54.7**	**+0.1**
	26nm,0.3s,baz=173,slow=12,SNR=76								
KK31				⇓Sn		**Sn**	**Sn**	**07 41 07.3**	**-4.7**
	20nm,0.5s,baz=193,slow=24,SNR=5.8								
KKAR	**Karatay Array**	**6.95**	**357**	*e*PN		**Pn**	**Pn**	**07 39 55.2**	**+0.6**
KKAR						pmax	pmax		
	comp=Z,74nm,0.4s								
KKAR	**Karatay Array**	**6.95**	**357**	*e*Pn		**Pn**	**Pn**	**07 39 55.2**	**+0.6**
	comp=Z,74nm,0.4s								
KKAR				*e*Sn		**Sn**	**Sn**	**07 41 12.1**	**+0.1**
AAK	**Ala-Archa**	**7.00**	**21**	P		**Pn**	**Pn**	**07 39 56.8**	**+1.4**
	comp=Z,19nm,0.3s,baz=150,slow=5.3,SNR=90								
AAK				S		**Sn**	**Sn**	**07 41 12.4**	**-1.1**
	comp=Z,8.4nm,0.3s,baz=342,slow=21,SNR=12								
AAK	**Ala-Archa**	**7.00**	**21**	*e*PN		**Pn**	**Pn**	**07 39 57.1**	**+1.7**
AAK	**Ala-Archa**	**7.00**	**21**	*e*Pn		**Pn**	**Pn**	**07 39 57.1**	**+1.7**
AAK				S		**Sn**	**Sn**	**07 41 12.4**	**-1.1**
AAK	**Ala-Archa**	**7.00**	**21**	P		**Pn**	**Pn**	**07 39 57.4**	**+2.0**
	SNR=19								
SMLA	**Simla**	**7.16**	**133**	*i* P		**Pn**	**Pn**	**07 39 59.5**	**+2.0**
SMLA				*i* S		**Sn**	**Sn**	**07 41 17.5**	**+0.1**
FRU	**Bishkek**	**7.21**	**21**	*e*PN		**Pn**	**Pn**	**07 40 00.0**	**+1.8**
FRU						pmax	pmax		
	comp=Z,60nm,1.0s								
ULHL	**Ulahol**	**7.29**	**32**	P		**Pn**	**Pn**	**07 40 01.4**	**+1.9**
	SNR=12								
CHMS	**Chumysh**	**7.41**	**22**	P		**Pn**	**Pn**	**07 40 02.7**	**+1.8**
	SNR=43								
USP	**Ospenovka**	**7.58**	**20**	P		**Pn**	**Pn**	**07 40 04.9**	**+1.7**
	SNR=39								
TKM2	**Tokmak 2**	**7.61**	**26**	⇓Pn		**Pn**	**Pn**	**07 40 05.0**	**+1.1**
TKM2	comp=Z,18nm,0.6s								
				⇓Sn		**Sn**	**Sn**	**07 41 26.3**	**-2.3**
	comp=Z,35nm,0.8s								
TKM2	**Tokmak 2**	**7.61**	**26**	*e*PN		**Pn**	**Pn**	**07 40 05.3**	**+1.4**
TKM2						pmax	pmax		
	comp=Z,30nm,0.8s								
TKM2	**Tokmak 2**	**7.61**	**26**	*e*Pn		**Pn**	**Pn**	**07 40 05.2**	**+1.4**
	comp=Z,30nm,0.8s								
TKM2	**Tokmak 2**	**7.61**	**26**	P		**Pn**	**Pn**	**07 40 05.6**	**+1.8**
	SNR=13								
KKR	**Kurukshetra**	**7.86**	**140**	AML		AML	AML	07 41 58.5	
	comp=Z,165nm,0.3s								
DDI	**Dehra Dun**	**8.27**	**133**	*ex*		P		07 40 13.0	
DDI				*e*S		**Sn**	**Sn**	**07 41 44.8**	**+0.3**
BHGR	**Bahadurgarh**	**8.96**	**145**	AML		AML	AML	07 42 03.1	
	comp=Z,185nm,0.1s								
KHET	**Khetri**	**9.02**	**152**	*e*P		**Pn**	**Pn**	**07 40 23.1**	**+0.3**
KHET				*e*S		**Sn**	**Sn**	**07 41 58.2**	**-4.4**
KHET						AML	AML	07 42 03.2	
	comp=E,63nm,0.4s								
KHET						AML	AML	07 42 03.3	
	comp=N,76nm,0.3s								
NDI	**New Delhi**	**9.10**	**143**	*e*P		**Pn**	**Pn**	**07 40 26.0**	**+2.1**
NDI				*e*S		**Sn**	**Sn**	**07 42 02.0**	**-2.6**
AYAN	**Aya Nagar**	**9.23**	**144**	*e*P		**Pn**	**Pn**	**07 40 26.4**	**+0.8**
AYAN				*e*S		**Sn**	**Sn**	**07 42 04.0**	**-3.6**
KUDL	**Kundal**	**9.23**	**148**	*e*P		**Pn**	**Pn**	**07 40 27.4**	**+1.7**
KUDL				*e*S		**Sn**	**Sn**	**07 42 04.5**	**-3.2**
AJM	**Ajmer**	**10.13**	**161**	*i* P		**Pn**	**Pn**	**07 40 39.0**	**+1.0**
AJM				*i* x		x	x	07 42 27.0	
AGRA	**Agra**	**10.67**	**145**	*e*P		**Pn**	**Pn**	**07 40 48.1**	**+2.9**
AGRA				*e*S		**Sn**	**Sn**	**07 42 37.3**	**-5.3**
AGRA						AML	AML	07 42 43.6	
	comp=N,62nm,0.3s								
AGRA						AML	AML	07 42 45.1	
	comp=E,77nm,0.3s								
PYUN	**Piuthan**	**12.92**	**125**	*e*P		**Pn**	**Pn**	**07 41 14.6**	**-0.9**
	comp=E,49nm,0.4s								
PYUN				*e*S		Sn	Sn	07 43 27.8	-10
	comp=E,112nm,0.6s								
DANN	**Dangsing**	**13.28**	**122**	*e*P		**Pn**	**Pn**	**07 41 20.3**	**+0.1**
KOLN	**Koldanda**	**13.54**	**125**	*e*P		**Pn**	**Pn**	**07 41 24.0**	**+0.4**
	comp=E,33nm,0.5s								
MK31	**Makanchi Array**	**13.55**	**35**	⇓Pn		**P**		**07 41 29.0**	**+0.2**
	comp=E,5.9nm,0.9s,baz=218,slow=13,SNR=12								
MKAR	**Makanchi Array**	**13.55**	**35**	P			**Pn**	**07 41 23.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=240,slow=22,SNR=4.7								
MKAR	**Makanchi Array**	**13.55**	**35**	P		**Pn**		**07 41 23.3**	**-0.1**
MKAR	**Makanchi Array**	**13.55**	**35**	P		**Pn**		**07 41 23.2**	**-0.1**
GKN	**Gorkha**	**14.10**	**121**	*e*P		**Pn**		**07 41 30.5**	**-0.3**
	comp=E,46nm,0.5s								
GKN				*e*S		Sn		07 43 56.9	-9.2
DMN	**Daman**	**14.67**	**122**	*e*P		**Pn**		**07 41 38.2**	**0.0**
	comp=E,66nm,0.8s								
KKN	**Kakani**	**14.68**	**121**	*e*P		**Pn**		**07 41 38.0**	**-0.2**
PKIN	**Phulchoki**	**14.89**	**121**	*e*P		**Pn**		**07 41 41.5**	**+0.5**
PKI	**Pulchoki**	**14.90**	**121**	*e*P		**Pn**		**07 41 41.3**	**+0.1**
GUN	**Gumba**	**15.02**	**119**	*e*P		**Pn**		**07 41 42.6**	**-0.2**
	comp=E,27nm,0.4s								
JIRN	**Jiri**	**15.39**	**119**	*e*P		**Pn**		**07 41 48.2**	**+0.8**
	comp=E,8.4nm,0.3s								
AB31	**Akbulak array**	**15.39**	**332**	Pn		**Pn**		**07 41 45.9**	**-1.0**
	comp=E,16nm,0.7s,baz=144,slow=11,SNR=203								
AB31				⇑Sn		Sn		07 44 28.3	-8.6
	comp=E,4.7nm,0.5s,baz=155,slow=23,SNR=7.5								
ABKAR	**Akbulak array**	**15.39**	**332**	*e*P		**Pn**		**07 41 45.5**	**-1.4**
	comp=E,0.1nm,0.3s								
KURBB	**Kurchatov Arra**	**15.43**	**18**	P		**Pn**		**07 41 45.0**	**-2.3**
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=5.2								
KURBB	**Kurchatov Arra**	**15.43**	**18**	⇑Pn		**P**		**07 41 49.1**	**-0.5**
	comp=E,1.4nm,0.8s								
KURBB				⇓Lg		Lg		07 46 07.8	
	comp=E,1.2nm,0.7s								
KURK	**Kurchatov**	**15.54**	**18**	⇑Pn		**P**		**07 41 50.2**	**-0.7**
	comp=E,6.1nm,0.8s								
KURK				⇑Lg		Lg		07 46 09.5	
	comp=E,10nm,1.2s								
KURK	**Kurchatov**	**15.54**	**18**	*e*P		**P**		**07 41 51.2**	**+0.3**
KURK	**Kurchatov**	**15.54**	**18**	*e*P		**P**		**07 41 51.2**	**+0.3**
RAMN	**Ramite**	**16.12**	**120**	*e*P		**Pn**		**07 41 56.7**	**+0.4**
VOSK	**Vostochnaya**	**16.56**	**360**	⇑Pn		**Pn**		**07 42 01.2**	**-0.1**
	comp=E,12nm,0.9s								
TAPN	**Taplejung**	**16.66**	**117**	*e*P		**P**		**07 42 03.9**	**+0.1**
ODAN	**Odare**	**16.73**	**119**	*e*P		**Pn**		**07 42 04.3**	**+0.4**
ZRNK	**Zerenda**	**16.85**	**356**	⇓Pn		**P**		**07 42 05.9**	**+0.6**
	comp=E,8.6nm,0.9s								
BVA0	**Borovoye Array**	**16.87**	**359**	Pn		**P**		**07 42 06.1**	**+0.5**
	comp=E,1.2nm,0.8s,baz=169,slow=12,SNR=34								
BVA0				⇓Lg		Lg		07 46 48.3	
	comp=E,1.6nm,1.1s								
BVAR	**Borovoye Array**	**16.87**	**359**	P		**Pn**		**07 42 05.1**	**0.0**
	comp=E,0.7nm,0.3s,baz=172,slow=12,SNR=17								
BVAR	**Borovoye Array**	**16.87**	**359**	P		**Pn**		**07 42 05.1**	**0.0**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**16.87**	**359**	P		**Pn**		**07 42 05.1**	**0.0**
BRVK	**Borovoye**	**16.90**	**358**	⇓Pn		**P**		**07 42 07.1**	**+1.2**
	comp=Z,32nm,1.4s								
BRVK				⇑Lg		Lg		07 46 48.5	
	comp=Z,9.0nm,0.9s								
BRVK	**Borovoye**	**16.90**	**358**	*e*P		**P**		**07 42 05.8**	**-0.1**
BRVK						pmax	pmax		
	comp=Z,9.0nm,0.6s								
BRVK	**Borovoye**	**16.90**	**358**	*e*P		**P**		**07 42 05.8**	**-0.1**
	comp=Z,8.5nm,0.6s								
AKTO	**Aktyubinsk**	**17.09**	**331**	P		**P**		**07 42 08.3**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=140,slow=14,SNR=18								
AKTO				S		Sn		07 45 08.1	-10
	comp=Z,0.4nm,0.3s,baz=161,slow=21,SNR=4.1								
AKTO	**Aktyubinsk**	**17.09**	**331**	⇓Pn		**P**		**07 42 08.7**	**+0.7**
	comp=Z,2.5nm,0.8s								
AKTO				⇓Sn		Sn		07 45 09.3	-8.5
	comp=Z,3.0nm,0.9s								
AKTO	**Aktyubinsk**	**17.09**	**331**	P		**P**		**07 42 08.3**	**+0.3**
AKTO				S		Sn		07 45 08.1	-10
	comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**17.09**	**331**	P		**P**		**07 42 08.3**	**+0.3**
AKTO				S		Sn		07 45 08.1	-10
HYB	**Hyderabad**	**19.82**	**158**	*i* P		**Pn**		**07 42 42.0**	**+1.3**
ZAA0	**Zalesovo Array**	**20.21**	**24**	*e*P		**P**		**07 42 42.7**	**+0.7**
ZALV	**Zalesovo Beam**	**20.21**	**24**	P		**P**		**07 42 42.8**	**+0.8**
	comp=Z,9.4nm,0.5s,baz=225,slow=10,SNR=18								
ZALV	**Zalesovo Beam**	**20.21**	**24**	P		**P**		**07 42 42.8**	**+0.8**
ZALV						pmax	pmax		
	comp=Z,9.0nm,0.5s								
ZALV	**Zalesovo Beam**	**20.21**	**24**	P		**P**		**07 42 42.8**	**+0.8**
NVS	**Novosibirsk**	**20.49**	**20**	*e*P		Pn		07 42 46.8	-1.2
NVS						pmax	pmax		
	comp=N,10.0nm,1.4s								
NVS						pmax	pmax		
	comp=Z,12nm,1.4s								
KBD	**Kabd**	**20.82**	**257**	*e*P		**P**		**07 42 48.8**	**-0.1**
KBD						AMb	AMB	07 42 49.8	
	comp=Z,12nm,0.3s								
MIB	**Mutribah**	**20.84**	**259**	*e*P		**P**		**07 42 49.2**	**+0.2**
MIB						AMb	AMB	07 42 50.4	
	comp=Z,67nm,0.8s								
RDF	**Al-Radifah**	**21.04**	**257**	*e*P		**P**		**07 42 51.5**	**+0.3**
RDF						AMb	AMB	07 42 52.6	
	comp=Z,49nm,0.8s								
NAY	**Al-Naaiem**	**21.15**	**258**	*e*P		**P**		**07 42 52.2**	**-0.1**
NAY						AMb	AMB	07 42 53.0	
	comp=Z,23nm,0.9s								
SVE	**Sverdlovsk**	**21.83**	**345**	*e*P		**P**		**07 43 01.2**	**+1.9**
SVE						pmax	pmax		
	comp=Z,22nm,0.9s								
ARU	**Arti**	**21.96**	**341**	*e*P		**P**		**07 43 02.3**	**+1.6**
ARU						pmax	pmax		
	comp=Z,10.0nm,0.9s								
ARU	**Arti**	**21.96**	**341**	*e*P		**P**		**07 43 02.3**	**+1.6**
	comp=Z,9.8nm,0.9s								
KBZ	**Khabaz**	**22.78**	**298**	P		**P**		**07 43 13.1**	**+3.8**
	comp=Z,2.3nm,0.7s,baz=95,slow=11,SNR=4.2								
KBZ	**Khabaz**	**22.78**	**298**	P		**P**		**07 43 13.1**	**+3.8**
KBZ						pmax	pmax		
	comp=Z,2.0nm,0.7s								
KBZ	**Khabaz**	**22.78**	**298**	P		**P**		**07 43 13.1**	**+3.8**
BRTR	**Keskin Array B**	**29.57**	**288**	P		**P**		**07 44 11.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=50,slow=9.6,SNR=3.0								
BRTR	**Keskin Array B**	**29.57**	**288**	P		**P**		**07 44 11.3**	**+0.5**
AKASG	**Malin Array Be**	**33.18**	**309**	P		**P**		**07 44 41.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=82,slow=7.8,SNR=1.9								
AKASG	**Malin Array Be**	**33.18**	**309**	P		**P**		**07 44 41.4**	**-0.7**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**33.18**	**309**	P		**P**		**07 44 41.4**	**-0.7**
MLR	**Muntele Rosu**	**34.97**	**300**

*KRSC **21** 08:19:23.3±0.9,51°.79N×156°.81E,h252km±32km,ML3.9*
*ISCJB **21** 08:19:25.6±0.6,51°.9N±0°.1×156°.6E±0°.2,h235km±4km, mb2.9/7,Error ellipse: s-maj=24.8km s-min=11.9km az=35.7*
*IDC **21** 08:19:26.4±0.9,52°.05N×156°.16E,h229km±8km,mb2.7/8, mb1 3.0/8,mb1mx2.9/26,mbtmp2.7/8,Error ellipse: s-maj=26.3km s-min=12.8km az=141.0*

ISC 21 08:19:26.4±0.9,51°.9N±0°.1×156°.5E±0°.1,h231km±6km,n30, σ1§09/36,mb3.0/7,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.96**	**62**	*e*P	**Pn**	**08 19 58.6**	**-0.6**
ASAK				*i* S	**S**	**08 20 24.8**	**-0.1**
GRL	**Gorelyy**	**1.14**	**57**	*e*P	**Pn**	**08 20 00.6**	**+0.3**
MTVR	**Mutnovka**	**1.16**	**61**	P	**Pn**	**08 20 00.0**	**-0.5**
SKR	**Severo-Kuril's**	**1.28**	**191**	*e*PN	Pn	08 19 54.5	-6.7
SKR				*e*		08 20 20.0	
RUS	**Russkaya**	**1.33**	**67**	*e*P	**Pn**	**08 20 00.4**	**-1.0**
RUS				*i* S	**S**	**08 20 27.0**	**-1.9**
PETK	**Petropavlovsk-** 3.2nm,0.3s,baz=153,slow=8.0,SNR=20	**1.38**	**31**	P	**Pn**	**08 20 01.4**	**-0.4**
PETK	0.5nm,0.3s,baz=148,slow=12,SNR=2.4			S	**S**	**08 20 30.3**	**+0.7**
PETK	**Petropavlovsk-**	**1.38**	**31**	PN	**Pn**	**08 20 01.4**	**-0.4**
PETK				S	**S**	**08 20 30.3**	**+0.7**
PETK	comp=Z,3.0nm,0.3s			pmax	pmax		
PETK	comp=N,1.0nm,0.3s			smax	smax		
PET	**Petropavlovsk**	**1.70**	**50**	*e*PN	**Pn**	**08 20 04.4**	**0.0**
PET	comp=Z,76nm,0.7s			pmax	pmax		
PET	**Petropavlovsk**	**1.70**	**50**	*e*P	**Pn**	**08 20 04.1**	**-0.3**
KOK	**Koryaka**	**1.87**	**43**	*e*P	**Pn**	**08 20 06.5**	**+0.4**
AVH	**Avacha**	**1.90**	**45**	*e*P	**Pn**	**08 20 06.9**	**+0.6**
UGLR	**Uglovaya**	**1.90**	**47**	*e*P	**Pn**	**08 20 06.9**	**+0.6**
SMAR	**Somma**	**1.93**	**46**	*e*P	**Pn**	**08 20 07.3**	**+0.6**
KRER	**Koryakskii**	**1.93**	**44**	*e*P	**Pn**	**08 20 07.0**	**+0.3**
KRER				*i* S	**S**	**08 20 39.1**	**+0.8**
GNL	**Ganaly**	**1.96**	**26**	*e*P	**Pn**	**08 20 06.7**	**-0.2**
GNL				*i* S	**S**	**08 20 38.5**	**-0.2**
SDLR	**Sedlovina**	**1.97**	**46**	*e*P	**Pn**	**08 20 07.2**	**+0.2**
KII	**Karymskiy**	**2.75**	**39**	P	**Pn**	**08 20 15.4**	**+0.5**
TUMR	**Tumrok**	**3.99**	**31**	*e*P	**Pn**	**08 20 29.7**	**+0.6**
KMNR	**Kamenistaya**	**4.41**	**29**	P	**Pn**	**08 20 34.9**	**+0.6**
KBTR	**Krutoberegovo**	**5.66**	**38**	*e*P	**Pn**	**08 20 48.6**	**-1.1**
KBTR				*i* S	**S**	**08 21 52.5**	**-3.4**
BKI	**Bering**	**6.51**	**56**	*e*P	**Pn**	**08 20 58.7**	**-1.7**
BKI				*i* S	S	08 22 09.4	-6.1
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.6s,baz=27,slow=12,SNR=5.3	**20.13**	**227**	P	**P**	**08 23 43.0**	**0.0**
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=266,slow=6.0,SNR=4.5	**31.17**	**44**	P	**P**	**08 25 23.7**	**+0.2**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.6s,baz=298,slow=6.9,SNR=3.8	**45.48**	**41**	P	**P**	**08 27 23.2**	**+1.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.4s,baz=60,slow=7.6,SNR=13	**46.66**	**295**	P	**P**	**08 27 29.6**	**-2.0**
MKAR	**Makanchi Array**	**46.66**	**295**	P	**P**	**08 27 29.6**	**-2.0**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=299,slow=7.7,SNR=2.7	**58.20**	**67**	P	**P**	**08 28 58.0**	**+1.5**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,baz=312,slow=7.2,SNR=3.2	**73.11**	**64**	P	**P**	**08 30 32.4**	**+0.9**
WRA	**Warramunga Ar** comp=Z,0.2nm,1.0s,baz=16,slow=6.0,SNR=2.8	**74.16**	**202**	P	**P**	**08 30 37.0**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,baz=11,slow=5.3,SNR=6.4	**77.85**	**201**	P	**P**	**08 30 58.8**	**+0.6**

IDC 21 08:21:58.2±1.8,3°.80N×126°.74E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/23,mbtmp3.6/5,Error ellipse: s-maj=105.3km s-min=24.7km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.2nm,0.8s,baz=17,slow=12,SNR=3.1	**21.79**	**183**	P	P	08 26 51.6	-0.3
WRA	**Warramunga Arr** 3.2nm,0.8s,baz=343,slow=9.7,SNR=20	**24.75**	**163**	P	P	08 27 20.6	-1.1
ASAR	**Alice Springs** 0.2nm,0.6s,baz=345,slow=12,SNR=6.7	**28.18**	**166**	P	P	08 27 53.4	+0.7
STKA	**Stephens Creek** 2.2nm,0.9s,baz=342,slow=13,SNR=3.2	**38.19**	**159**	P	P	08 29 20.6	+0.8
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=116,slow=6.8,SNR=5.0	**57.50**	**325**	P	P	08 31 49.3	-0.1

*ISCJB **21** 08:34:22.7±0.6,40°.61N±0°.03×24°.06E±0°.04,h3km±6km, Error ellipse: s-maj=5.3km s-min=3.7km az=41.3*
*THE **21** 08:34:22.9,40°.59N×24°.08E,h3km±34km,ML2.0/3,Error ellipse: s-maj=34.6km s-min=0.7km az=69.0*
*ATH **21** 08:34:23.1,40.63N×24.10E,h10km,MD2.7/4*
*CSEM **21** 08:34:23.0±0.3,40°.63N×24°.09E,h2km,ML2.0/3,Error ellipse: s-maj=6.5km s-min=4.2km az=134.0*

ISC 21 08:34:22.9±1.1,40°.59N±0°.03×24°.09E±0°.03,h8km±13km, n23,σ0§47/42,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.52**	**38**	P	**Pg**	**08 34 33.0**	**+0.1**
KAVA				S	**Sg**	**08 34 40.1**	**+0.4**
KAVA	**Kavala**	**0.52**	**38**	P	**Pg**	**08 34 33.0**	**+0.1**
KAVA				S	**Sg**	**08 34 40.1**	**+0.4**
PLG	**Polygyros**	**0.54**	**246**	P	**Pg**	**08 34 33.5**	**+0.2**
PLG				S	**Sg**	**08 34 40.6**	**+0.2**
PLG	**Polygyros**	**0.54**	**246**	*e*PB	**Pg**	**08 34 33.5**	**+0.2**
PLG				*e*SB	**Sg**	**08 34 41.0**	**+0.6**
PLG	**Polygyros**	**0.54**	**246**	P	**Pg**	**08 34 33.5**	**+0.2**
PLG				S	**Sg**	**08 34 40.6**	**+0.2**
PLG				*e*Sb	**Sg**	**08 34 41.0**	**+0.6**
SOH	**Sokhos**	**0.61**	**293**	*e*PB	**Pg**	**08 34 34.5**	**-0.1**
SOH				*e*SB	**Sg**	**08 34 42.9**	**+0.3**
SOH	**Sokhos**	**0.61**	**293**	*e*Pb	**Pg**	**08 34 34.5**	**-0.1**
SRS	**Serrai**	**0.65**	**324**	P	**Pg**	**08 34 35.3**	**-0.1**
SRS				S	**Sg**	**08 34 44.1**	**+0.2**
SRS	**Serrai**	**0.65**	**324**	P	**Pg**	**08 34 35.3**	**-0.1**
SRS				S	**Sg**	**08 34 44.1**	**+0.2**
PAIG	**Paliouri**	**0.73**	**206**	P	**Pg**	**08 34 36.9**	**-0.1**
PAIG				S	**Sg**	**08 34 46.5**	**-0.1**
PAIG	**Paliouri**	**0.73**	**206**	P	**Pg**	**08 34 36.9**	**-0.1**
PAIG				S	**Sg**	**08 34 46.5**	**-0.1**
HORT	**Hortiatis**	**0.76**	**271**	P	**Pg**	**08 34 37.3**	**-0.2**
HORT				S	**Sg**	**08 34 47.2**	**-0.1**
HORT	**Hortiatis**	**0.76**	**271**	P	**Pg**	**08 34 37.3**	**-0.2**
HORT				S	**Sg**	**08 34 47.2**	**-0.1**
NVR	**Nevrokopi**	**0.78**	**347**	P	**Pg**	**08 34 37.2**	**-0.6**
NVR				S	**Sg**	**08 34 48.3**	**+0.2**
NVR	**Nevrokopi**	**0.78**	**347**	*e*PB	**Pg**	**08 34 37.3**	**-0.6**
NVR				*e*SB	**Sg**	**08 34 48.2**	**+0.2**
NVR	**Nevrokopi**	**0.78**	**347**	*e*Pb	**Pg**	**08 34 37.3**	**-0.6**
NVR				*e*Sb	**Sg**	**08 34 48.2**	**+0.2**
RDO	**Rodhopi**	**1.23**	**63**	*e*PB	**Pg**	**08 34 45.9**	**-0.6**
RDO				*e*SB	**Sb**	**08 35 03.1**	**+0.7**
RDO	**Rodhopi**	**1.23**	**63**	*e*Pb	**Pg**	**08 34 45.9**	**-0.6**
RDO				*e*Sb	**Sb**	**08 35 03.1**	**+0.7**
VAY	**Valandovo**	**1.36**	**303**	*e*Pg	**Pn**	**08 34 48.8**	**+0.6**
VAY				*i* Sg	**Sg**	**08 35 06.6**	**-0.2**
AGG	**Agios Georgios**	**2.07**	**221**	*e*PN	**Pb**	**08 35 00.6**	**-0.2**
AGG	**Agios Georgios**	**2.07**	**221**	*e*Pn	**Pb**	**08 35 00.6**	**-0.2**
EVR	**Evrytania**	**2.43**	**227**	*e*PN	**Pb**	**08 35 05.6**	**-1.3**
EVR	**Evrytania**	**2.43**	**227**	*e*Pn	**Pb**	**08 35 05.6**	**-1.3**

IDC 21 08:43:26.9±2.0,7°.80S×129°.01E,h0km,mb3.2/1, mb1 3.7/4,mb1mx3.5/19,mbtmp3.5/4,ML3.6/3,Error ellipse: s-maj=82.3km s-min=27.6km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=21,slow=9.1,SNR=13	**10.75**	**197**	Pn	Pn	08 46 01.9	-0.3
FITZ	0.3nm,0.3s,baz=52,slow=12,SNR=3.5			Sn	Sn	08 47 55.7	-7.7
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=337,slow=12,SNR=12	**13.12**	**157**	Pn	Pn	08 46 35.1	+0.4
WRA	0.3nm,0.3s,baz=336,slow=23,SNR=7.0			Sn	Sn	08 48 58.7	-2.9
ASAR	**Alice Springs** 0.4nm,0.3s,baz=342,slow=11,SNR=31	**16.46**	**164**	Pn	Pn	08 47 19.2	-0.1
ASAR	0.1nm,0.3s,baz=342,slow=26,SNR=5.1			Sn	Sn	08 50 20.1	-2.7
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=148,slow=6.4,SNR=2.9	**68.36**	**327**	P	P	08 54 30.3	0.0

*NEIC **21** 08:47:50.7±0.4,43°.32N×110°.72W,h5km,ML3.1, MW3.4(USGS),Error ellipse: s-maj=6.8km s-min=4.1km az=87.0*
NEIC Felt [II] at Jackson and Wilson.
*IDC **21** 08:47:50.4±1.1,43°.40N×110°.61W,h0km,mb1 3.4/3, mb1mx3.3/28,mbtmp3.1/3,ML3.1/2,Error ellipse: s-maj=20.9km s-min=9.8km az=40.0*

ISC 21 08:47:50.5±1.0,43°.31N±0°.01×110°.80W±0°.01,h2km±8km, n172,σ1§48/270,72C-78D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	**0.06**	**322**	*e*Pg	**Pg**	**08 47 51.5**	**-0.5**
J17A	**Brown Place, J** baz=0.0	**0.08**	**52**	⇑P	**Pg**	**08 47 51.8**	**-0.4**
J17A	baz=0.0			⇓S	**Sg**	**08 47 53.5**	**+0.1**
J17A	baz=0.0			⇓S	**Sg**	**08 47 53.5**	**+0.1**
SNOW	**Snow King Moun**	**0.15**	**12**	*e*Pg	**Pg**	**08 47 53.0**	**-0.6**
SNOW				*e*Sg	**Sg**	**08 47 57.7**	**+2.0**
TPAW	**Teton Pass**	**0.21**	**328**	*e*Pg	**Pg**	**08 47 54.4**	**-0.3**
TPAW				*e*Sg	**Sg**	**08 47 57.8**	**+0.4**
LOHW	**Long Hollow**	**0.33**	**25**	*e*Pg	**Pg**	**08 47 56.2**	**-0.7**
LOHW				*e*Sg	**Sg**	**08 48 02.6**	**+1.3**
RRI2	**Red Ridge**	**0.38**	**275**	*e*Pg	**Pg**	**08 47 57.2**	**-0.7**
RRI2				*e*Sg	**Sg**	**08 48 03.7**	**+0.8**
DCID1	**Drake Creek**	**0.40**	**315**	*e*Pg	**Pg**	**08 47 57.8**	**-0.5**
DCID1				*e*Sg	**Sg**	**08 48 04.1**	**+0.7**
MOOW	**Moose Ponds**	**0.44**	**5**	*e*Pg	**Pg**	**08 47 58.1**	**-0.8**
MOOW				*e*Sg	**Sg**	**08 48 04.5**	**-0.2**
K17A	**Gardner Place,** baz=0.6,SNR=57	**0.57**	**189**	⇑P	**Pg**	**08 48 00.3**	**-1.1**
K17A	baz=0.6			⇑S	**Sg**	**08 48 08.7**	**-0.1**
K17A	baz=0.6			⇑S	**Sg**	**08 48 08.7**	**-0.1**
J18A	**Kendall Valley** baz=0.5,SNR=1000	**0.58**	**100**	P	**Pg**	**08 48 01.0**	**-0.6**
J18A	baz=0.5			⇑S	**Sg**	**08 48 09.8**	**+0.7**
J18A	baz=0.5			⇑S	**Sg**	**08 48 09.8**	**+0.7**
AHID	**Auburn Hatcher**	**0.59**	**202**	*e*Pg	**Pg**	**08 48 00.8**	**-1.0**
IMW	**Indian Meadow**	**0.59**	**350**	*e*Pg	**Pg**	**08 48 01.0**	**-0.9**
IMW				*e*Sg	**Sg**	**08 48 09.2**	**-0.4**
J16A	**Bone** baz=0.7,SNR=1000	**0.59**	**267**	P	**Pg**	**08 48 01.4**	**-0.5**
J16A	baz=0.7			⇓S	**Sg**	**08 48 10.1**	**+0.4**
J16A	baz=0.7			⇓S	**Sg**	**08 48 10.1**	**+0.4**
I17A	**Pilgrim Ck.** baz=0.6,SNR=1000	**0.63**	**15**	P	**Pg**	**08 48 02.4**	**-0.3**
I17A	baz=0.6			⇑S	**Sg**	**08 48 11.8**	**+1.0**
I17A	baz=0.6			⇑S	**Sg**	**08 48 11.8**	**+1.0**
I16A	**Newdale** baz=0.8	**0.75**	**319**	⇓P	**Pg**	**08 48 04.6**	**-0.4**
I16A	baz=0.8			⇑S	**Sg**	**08 48 15.3**	**+0.6**
I16A	baz=0.8			⇑S	**Sg**	**08 48 15.3**	**+0.6**
K16A	**Soda Springs** baz=0.8,SNR=216	**0.75**	**231**	⇑P	**Pg**	**08 48 04.2**	**-0.8**
K16A	baz=0.8			⇓S	**Sg**	**08 48 15.0**	**+0.3**
K16A	baz=0.8			⇓S	**Sg**	**08 48 15.0**	**+0.3**
FLWY	**Flagg Ranch**	**0.77**	**5**	*e*Pg	**Pg**	**08 48 04.4**	**-0.9**
I18A	**Diamond G Ranc** baz=0.8	**0.81**	**61**	⇑P	**Pg**	**08 48 05.2**	**-0.9**
I18A	baz=0.8			⇓S	**Sg**	**08 48 16.2**	**-0.5**
I18A	baz=0.8			⇓S	**Sg**	**08 48 16.2**	**-0.5**
K18A	**Toltan Ranch,** baz=0.8,SNR=142	**0.88**	**140**	⇓P	**Pg**	**08 48 06.1**	**-1.2**
K18A	baz=0.8			⇑S	**Sg**	**08 48 19.0**	**+0.4**
K18A	baz=0.8			⇑S	**Sg**	**08 48 19.0**	**+0.4**
BW06	**Boulder Array**	**1.06**	**121**	*e*Pn	**Pg**	**08 48 10.1**	**-0.8**
BW06	**Boulder Array** baz=1.0,SNR=394	**1.06**	**121**	⇓P	**Pg**	**08 48 10.0**	**-0.9**
PDAR	**Pinedale Array** 31nm,0.3s,baz=308,slow=14,SNR=901	**1.06**	**121**	Pg	**Pg**	**08 48 10.1**	**-0.8**
PDAR	21nm,0.3s,baz=305,slow=14,SNR=8.0			Lg	Lg	08 48 26.5	
PDAR	49nm,0.5s,baz=120,slow=12,SNR=7.9			Rg	Rg	08 48 34.6	
PDAR	**Pinedale Array**	**1.06**	**121**	Pg	**Pg**	**08 48 10.1**	**-0.8**
PDAR				Lg	Lg	08 48 26.5	
PDAR				Rg	Rg	08 48 34.6	
H17A	**Grant Village** baz=1.1,SNR=422	**1.09**	**8**	⇓P	**Pb**	**08 48 10.6**	**-1.7**
H17A	baz=1.1			⇓S	**Sg**	**08 48 25.6**	**-0.1**
H17A	baz=1.1			⇓S	**Sg**	**08 48 25.6**	**-0.1**
YFT	**Old Faithful**	**1.14**	**359**	*e*Pn	**Pb**	**08 48 11.6**	**-1.5**
J15A	**Blackfoot** baz=1.2,SNR=1000	**1.20**	**275**	P	**Pb**	**08 48 12.1**	**-1.9**
J15A	baz=1.2			⇓S	**Sb**	**08 48 28.5**	**-1.4**
J15A	baz=1.2			⇓S	**Sb**	**08 48 28.5**	**-1.4**
L17A	**Cokeville** baz=1.2,SNR=86	**1.21**	**183**	⇓P	**Pn**	**08 48 11.9**	**-2.8**
L17A	baz=1.2			⇑S	**Sb**	**08 48 28.6**	**-1.9**
L17A	baz=1.2			⇑S	**Sb**	**08 48 28.6**	**-1.9**
J19A	**Crowheart** baz=1.2,SNR=573	**1.28**	**92**	⇑P	**Pn**	**08 48 13.4**	**-2.1**
J19A	baz=1.2			⇓S	**Sb**	**08 48 30.3**	**-2.0**
J19A	baz=1.2			⇓S	**Sb**	**08 48 30.3**	**-2.0**
LKWY	**Lake**	**1.28**	**13**	*e*Pn	**Pn**	**08 48 14.3**	**-1.4**
YMR	**Madison River**	**1.36**	**355**	*e*Pn	**Pn**	**08 48 15.2**	**-1.6**
YMR				*e*Sg	**Sn**	**08 48 34.9**	**-0.6**
L16A	**Fish Haven** baz=1.4,SNR=173	**1.38**	**200**	P	**Pn**	**08 48 15.4**	**-1.6**
L16A	baz=1.4			⇑S	**Sb**	**08 48 34.3**	**-0.9**
L16A	baz=1.4			⇑S	**Sb**	**08 48 34.3**	**-0.9**
I15A	**Monteview** baz=1.4,SNR=188	**1.40**	**300**	P	**Pn**	**08 48 15.5**	**-1.7**
I15A	baz=1.4			⇓S	**Sn**	**08 48 35.5**	**-0.9**
I15A	baz=1.4			⇓S	**Sn**	**08 48 35.5**	**-0.9**
YNR	**Norris Junctio**	**1.41**	**4**	*e*Pn	**Pn**	**08 48 16.1**	**-1.3**
K15A	**Arbon** baz=1.5,SNR=130	**1.42**	**244**	P	**Pn**	**08 48 16.0**	**-1.4**
K15A	baz=1.5			⇑S	**Sn**	**08 48 35.6**	**-1.1**
K15A	baz=1.5			⇑S	**Sn**	**08 48 35.6**	**-1.1**
H16A	**Russell Place,** baz=1.4,SNR=532	**1.43**	**347**	P	**Pn**	**08 48 16.0**	**-1.6**
H16A	baz=1.4			⇑S	**Sn**	**08 48 35.6**	**-1.5**
H16A	baz=1.4			⇑S	**Sn**	**08 48 35.6**	**-1.5**
I19A	**Meeteetse** baz=1.4,SNR=78	**1.50**	**60**	⇓P	**Pn**	**08 48 17.3**	**-1.2**
I19A	baz=1.4			⇑S	**Sn**	**08 48 36.7**	**-2.1**
I19A	baz=1.4			⇑S	**Sn**	**08 48 36.7**	**-2.1**
L18A	**Fontenelle, Gr** baz=1.5,SNR=40	**1.50**	**158**	⇑P	**Pn**	**08 48 17.6**	**-1.0**
K19A	**Absolon Red Bu** baz=1.5,SNR=837	**1.51**	**108**	P	**Pn**	**08 48 17.6**	**-1.2**
K19A	baz=1.5			⇓S	**Sn**	**08 48 37.9**	**-1.2**
K19A	baz=1.5			⇓S	**Sn**	**08 48 37.9**	**-1.2**
QLMT	**Earthquake Lak**	**1.58**	**344**	*e*Pn	**Pn**	**08 48 18.7**	**-1.1**
QLMT				*e*Sg	**Sn**	**08 48 40.2**	**-0.8**
H18A	**Shoshone NF, C** baz=1.6,SNR=147	**1.59**	**31**	P	**Pn**	**08 48 19.2**	**-0.7**
L19A	**Farson** baz=1.6,SNR=506	**1.61**	**138**	⇓P	**Pn**	**08 48 20.3**	**+0.2**
L19A	baz=1.6			⇑S	**Sb**	**08 48 42.1**	**+0.2**
L19A	baz=1.6			⇑S	**Sb**	**08 48 42.1**	**+0.2**
L15A	**Malad City** baz=1.8,SNR=65	**1.75**	**222**	⇓P	**Pn**	**08 48 21.1**	**-1.0**
L15A	baz=1.8			⇓S	**Sn**	**08 48 44.9**	**-0.2**
L15A	baz=1.8			⇓S	**Sn**	**08 48 44.9**	**-0.2**
HWUT	**Hardware Ranch**	**1.80**	**199**	*e*Pn	**Pn**	**08 48 22.4**	**-0.3**
HWUT				*e*Sg	**Sb**	**08 48 46.5**	**-0.8**
M17A	**Scullys Gap (B** baz=1.8,SNR=159	**1.84**	**177**	⇑P	**Pn**	**08 48 22.6**	**-0.8**
M17A	baz=1.8			⇓S	**Sb**	**08 48 47.8**	**-0.8**
M17A	baz=1.8			⇓S	**Sb**	**08 48 47.8**	**-0.8**
H15A	**Lima** baz=1.9,SNR=117	**1.86**	**315**	⇓P	**Pn**	**08 48 23.4**	**-0.2**
H15A	baz=1.9			⇑S	**Sb**	**08 48 48.5**	**-0.7**
H15A	baz=1.9			⇑S	**Sb**	**08 48 48.5**	**-0.7**
H19A	**Powell** baz=1.8,SNR=159	**1.89**	**43**	⇑P	**Pn**	**08 48 23.6**	**-0.2**
H19A	baz=1.8			⇓S	**Sb**	**08 48 49.4**	**-0.4**
H19A	baz=1.8			⇓S	**Sb**	**08 48 49.4**	**-0.4**
K14A	**Jones Ranch, D** baz=2.0,SNR=131	**1.91**	**247**	⇑P	**Pn**	**08 48 23.2**	**-1.0**
K14A	baz=2.0			⇑S	**Sb**	**08 48 49.6**	**-0.7**
K14A	baz=2.0			⇑S	**Sb**	**08 48 49.6**	**-0.7**
K20A	**Yellowstone Ra** baz=1.9,SNR=354	**1.92**	**109**	⇑P	**Pn**	**08 48 24.6**	**+0.2**
K20A	baz=1.9			⇑S	**Sb**	**08 48 49.9**	**-0.9**
K20A	baz=1.9			⇑S	**Sb**	**08 48 49.9**	**-0.9**
M18A	**Lyman** baz=2.0,SNR=32	**1.96**	**164**	⇓P	**Pn**	**08 48 25.6**	**+0.6**
J20A	**Shoshoni** baz=1.9,SNR=198	**1.98**	**88**	⇑P	**Pb**	**08 48 26.4**	**-0.9**
J14A	**Carey** baz=2.0,SNR=540	**1.98**	**271**	⇓P	**Pn**	**08 48 25.1**	**-0.1**
G17A	**Pierce Place,** baz=2.0,SNR=62	**2.01**	**1**	⇑P	**Pn**	**08 48 26.1**	**+0.5**
I14A	**Mackay** baz=2.1,SNR=146	**2.02**	**289**	⇓P	**Pn**	**08 48 25.9**	**+0.1**
I14A	baz=2.1			⇑S	**Sn**	**08 48 52.2**	**+0.5**
I14A	baz=2.1			⇑S	**Sn**	**08 48 52.2**	**+0.5**
I20A	**Worland** baz=2.0,SNR=187	**2.04**	**71**	⇓P	**Pb**	**08 48 26.9**	**-1.5**
I20A	baz=2.0			⇓S	**Sb**	**08 48 53.2**	**-1.1**
I20A	baz=2.0			⇓S	**Sb**	**08 48 53.2**	**-1.1**
G16A	**Moss Hill, Enn** baz=2.1,SNR=86	**2.05**	**340**	⇑P	**Pn**	**08 48 26.3**	**+0.2**
M16A	**Huntsville** baz=2.1	**2.09**	**197**	⇑P	**Pn**	**08 48 26.9**	**+0.2**
MCMT	**McKenzie Canyo**	**2.12**	**316**	*e*Pn	**Pn**	**08 48 27.9**	**+0.8**
MCMT				*e*Sn	**Sb**	**08 48 55.6**	**-0.9**
HVU	**Hansel Valley**	**2.12**	**224**	*e*Pn	**Pn**	**08 48 26.7**	**-0.4**
HVU				*e*Sg	**Sb**	**08 48 55.3**	**-1.1**
RLMT	**Red Lodge**	**2.12**	**31**	*e*Pn	**Pn**	**08 48 27.1**	**0.0**
RLMT				*e*Sg	**Sb**	**08 48 56.0**	**-0.5**
RLMT	**Red Lodge** baz=2.1,SNR=68	**2.12**	**31**	⇑P	**Pn**	**08 48 26.8**	**-0.3**
M19A	**Rock Springs** baz=2.2	**2.18**	**145**	⇓P	**Pn**	**08 48 28.4**	**+0.5**
G18A	**Lazy EL Ranch,** baz=2.2,SNR=350	**2.19**	**23**	⇑P	**Pn**	**08 48 28.7**	**+0.6**
G18A	baz=2.2			⇑S	**Sb**	**08 48 57.6**	**-1.1**
G18A	baz=2.2			⇑S	**Sb**	**08 48 57.6**	**-1.1**
L14A	**Malta** baz=2.3	**2.21**	**235**	⇓P	**Pn**	**08 48 28.7**	**+0.4**
G15A	**Dillon** baz=2.2,SNR=156	**2.21**	**327**	⇑P	**Pn**	**08 48 29.1**	**+0.7**
M15A	**Larsen Ranch,** baz=2.3,SNR=28	**2.21**	**214**	⇑P	**Pn**	**08 48 28.5**	**+0.2**
L20A	**Wamsutter** baz=2.2,SNR=36	**2.23**	**125**	⇓P	**Pn**	**08 48 29.3**	**+0.5**
H14A	**Leadore** baz=2.3,SNR=200	**2.27**	**306**	P	**Pn**	**08 48 29.9**	**+0.7**
H20A	**Greybull** baz=2.3	**2.34**	**59**	⇓P	**Pb**	**08 48 31.7**	**-1.7**
N17A	**Moffit Pass** baz=2.4,SNR=49	**2.37**	**181**	⇓P	**Pn**	**08 48 31.2**	**+0.5**
BOZ	**Bozeman (W)**	**2.41**	**346**	*e*Pn	**Pn**	**08 48 31.7**	**+0.7**
BOZ				*e*Sg	**Sb**	**08 49 03.3**	**-1.6**
BOZ	**Bozeman (W)** baz=2.4,SNR=22	**2.41**	**346**	⇓P	**Pn**	**08 48 31.8**	**+0.7**
DLMT	**Dillon**	**2.42**	**328**	*e*Pn	**Pb**	**08 48 33.1**	**-1.7**
DLMT				*e*Sg	**Sb**	**08 49 04.5**	**-0.7**
J21A	**Lysite** baz=2.4	**2.45**	**88**	⇑P	**Pn**	**08 48 32.8**	**+1.1**
J13A	**Cove Ranch, Pi** baz=2.5,SNR=346	**2.46**	**273**	P	**Pn**	**08 48 31.9**	**+0.1**
N16A	**Rees Ranch, Co** baz=2.5	**2.47**	**191**	⇓P	**Pn**	**08 48 32.1**	**+0.1**
N18A	**Larsen Ranch,** baz=2.5,SNR=42	**2.48**	**160**	P	**Pn**	**08 48 32.1**	**+0.1**
I13A	**Wildhorse Cree** baz=2.5,SNR=216	**2.48**	**285**	⇓P	**Pn**	**08 48 33.1**	**+1.0**
F16A	**Kennard Place,** baz=2.5	**2.54**	**347**	⇓P	**Pn**	**08 48 34.6**	**+1.7**
F17A	**Fitzpatrick Pl** baz=2.6,SNR=183	**2.59**	**2**	⇓P	**Pn**	**08 48 35.0**	**+1.4**
I21A	**Big Trails, Te** baz=2.5,SNR=136	**2.60**	**78**	⇑P	**Pn**	**08 48 34.9**	**+1.2**
GCMT	**Greycliff**	**2.61**	**18**	*e*Pn	**Pn**	**08 48 35.0**	**+1.2**
HLID	**Hailey**	**2.64**	**277**	*e*Pn	**Pn**	**08 48 36.1**	**+1.8**
HLID				*e*Sg	**Sb**	**08 49 11.4**	**-0.2**
HLID	**Hailey** baz=2.7,SNR=399	**2.64**	**277**	⇑P	**Pn**	**08 48 35.0**	**+0.7**
M20A	**Sweetwater, Wa** baz=2.6	**2.66**	**132**	⇑P	**Pn**	**08 48 34.5**	**0.0**
G20A	**Bridger** baz=2.6	**2.66**	**43**	⇑P	**Pn**	**08 48 35.2**	**+0.7**
K21A	**Alcova** baz=2.6,SNR=151	**2.69**	**103**	⇓P	**Pn**	**08 48 35.6**	**+0.6**
N19A	**John Jarvie Ra** baz=2.7,SNR=28	**2.70**	**153**	⇓P	**Pn**	**08 48 35.0**	**-0.1**
F18A	**Big Timber** baz=2.7,SNR=106	**2.70**	**16**	⇓P	**Pn**	**08 48 35.2**	**+0.1**
CTU	**Camp Tracy**	**2.71**	**195**	*e*Pn	**Pn**	**08 48 37.0**	**+1.7**
CTU				*e*Sg	**Sb**	**08 49 14.2**	**+0.6**
N15A	**Stansb

F20A	**Billings**	**3.13**	**36**	⇓P		**Pn**	**08 48 41.8**	**+0.9**
	baz=3.1							
I12A	**Atlanta**	**3.19**	**280**	⇑P		**Pn**	**08 48 42.3**	**+0.5**
	baz=3.2,SNR=79							
O19A	**Miners Draw (B**	**3.26**	**157**	⇑P		**Pn**	**08 48 43.5**	**+0.7**
	baz=3.2							
O15A	**The Old Anders**	**3.28**	**203**	⇓P		**Pn**	**08 48 43.8**	**+0.8**
	baz=3.3							
E16A	**East Helena**	**3.28**	**349**	⇓P		**Pn**	**08 48 43.9**	**+0.9**
	baz=3.3,SNR=9.1							
E18A	**Harlowton**	**3.31**	**11**	⇓P		**Pn**	**08 48 44.4**	**+0.9**
	baz=3.3,SNR=63							
MPU	**Maple Canyon**	**3.35**	**191**	*e*Pn		**Pn**	**08 48 44.0**	**-0.1**
MPU				*e*Pg		**Pb**	**08 48 51.4**	**+0.6**
E15A	**Deer Lodge**	**3.38**	**338**	⇓P		**Pn**	**08 48 45.9**	**+1.5**
	baz=3.4,SNR=13							
E19A	**Rath Farm, Rou**	**3.46**	**24**	⇓P		**Pn**	**08 48 46.6**	**+1.2**
	baz=3.4							
H22A	**Clearmont**	**3.46**	**67**	⇑P		**Pn**	**08 48 46.5**	**+1.0**
	baz=3.4							
DUG	**Dugway**	**3.46**	**206**	*e*Pn		**Pn**	**08 48 46.2**	**+0.6**
DUG	**Dugway**	**3.46**	**206**	⇓P		**Pn**	**08 48 46.1**	**+0.6**
	baz=3.5							
HRY	**Holter Researc**	**3.48**	**348**	*e*Pn		**Pn**	**08 48 46.9**	**+1.2**
HRY				*e*Sg		**Sb**	**08 49 38.5**	**+3.0**
F13A	**Darby**	**3.54**	**316**	⇑P		**Pn**	**08 48 47.6**	**+1.0**
	baz=3.6							
M22A	**Cedar Creek Ra**	**3.65**	**120**	⇑P		**Pn**	**08 48 48.8**	**+0.5**
	baz=3.6							
MFID	**Camas Ranch**	**3.67**	**273**	*e*Pn		**Pn**	**08 48 50.2**	**+1.8**
MFID				*e*S		**Sb**	**08 49 42.7**	**+1.7**
D16A	**Dana Ranch, Ca**	**3.75**	**352**	⇑P		**Pn**	**08 48 49.8**	**+0.2**
	baz=3.8							
P16A	**Fountain Green**	**3.76**	**190**	⇑P		**Pn**	**08 48 49.6**	**0.0**
	baz=3.8							
D17A	**Six Diamond Ra**	**3.84**	**1**	⇓P		**Pn**	**08 48 51.3**	**+0.6**
	baz=3.8,SNR=10.0							
P15A	**Leamington**	**3.90**	**197**	⇓P		**Pn**	**08 48 51.3**	**-0.3**
	baz=3.9							
D15A	**Lincoln**	**3.92**	**343**	⇑P		**Pn**	**08 48 52.7**	**+0.8**
	baz=3.9							
L23A	**Garrett**	**3.94**	**106**	⇓P		**Pn**	**08 48 53.1**	**+0.9**
	baz=3.9,SNR=8.0							
CHMT	**Chamberlain Mo**	**4.00**	**335**	*e*Pn		**Pn**	**08 48 54.7**	**+1.7**
CHMT				*e*Sg		**Sb**	**08 49 52.6**	**+2.0**
F12A	**Elk City**	**4.01**	**309**	⇑P		**Pn**	**08 48 54.0**	**+0.9**
	baz=4.0,SNR=6.9							
TMUT	**Trail Mountain**	**4.03**	**185**	*e*Pn		**Pn**	**08 48 51.4**	**-2.0**
D19A	**Cripps Ranch,**	**4.08**	**19**	⇓P		**Pn**	**08 48 55.1**	**+1.1**
	baz=4.1							
N22A	**Wattenberg Ran**	**4.09**	**126**	⇓P		**Pn**	**08 48 54.6**	**+0.3**
	baz=4.0							
MSO	**Missoula**	**4.16**	**329**	*e*Pn		**Pn**	**08 48 57.6**	**+2.5**
MSO				*e*Sg		**Sb**	**08 49 58.5**	**+3.3**
ELK	**Elko**	**4.18**	**234**	*e*Pn		**Pn**	**08 48 57.6**	**+2.1**
ELK				*e*Sg		**Sg**	**08 50 01.5**	**-3.5**
M23A	**Laramie**	**4.19**	**114**	⇓P		**Pn**	**08 48 56.1**	**+0.5**
	baz=4.1							
SRU	**San Rafael**	**4.20**	**177**	*e*Pn		**Pn**	**08 48 57.6**	**+1.8**
SRU				*e*Sg		**Sb**	**08 49 58.7**	**+2.1**
SRU	**San Rafael**	**4.20**	**177**	⇓P		**Pn**	**08 48 56.5**	**+0.7**
	baz=4.2							
D14A	**Greenough**	**4.23**	**334**	⇓P		**Pn**	**08 48 56.7**	**+0.7**
	baz=4.2							
C17A	**Wharram Farm,**	**4.32**	**0**	⇓P		**Pn**	**08 48 58.3**	**+1.0**
	baz=4.3							
N23A	**Red Feather La**	**4.35**	**122**	⇓P		**Pn**	**08 48 58.0**	**+0.2**
	baz=4.3,SNR=12							
SLMT	**Seeley Lake**	**4.36**	**335**	*e*Pn		**Pn**	**08 48 59.7**	**+1.7**
SLMT				*e*Sg		**Sb**	**08 50 06.1**	**+4.9**
Q16A	**Castle Valley**	**4.40**	**184**	⇓P		**Pn**	**08 48 59.1**	**+0.6**
	baz=4.4							
PHWY	**Pilot Hill**	**4.44**	**115**	Pn		**Pn**	**08 49 00.0**	**+0.9**
PHWY				*e*Pg		**Pb**	**08 49 11.6**	**+2.2**
PHWY				*e*Sg		**Sb**	**08 50 02.4**	**-1.1**
O22A	**Kremmling**	**4.48**	**133**	⇓P		**Pn**	**08 49 00.0**	**+0.4**
	baz=4.4							
C16A	**Fuhringer Ranc**	**4.54**	**352**	⇓P		**Pn**	**08 49 01.5**	**+1.3**
	baz=4.5,SNR=5.8							
C19A	**Slack Wire Ran**	**4.59**	**15**	⇓P		**Pn**	**08 49 01.9**	**+0.9**
	baz=4.6,SNR=6.1							
C15A	**Salmond Ranch,**	**4.64**	**345**	⇑P		**Pn**	**08 49 02.7**	**+1.0**
	baz=4.6							
H24A	**Dirks Ranch, A**	**4.73**	**70**	⇑P		**Pn**	**08 49 03.2**	**+0.3**
	baz=4.7							
SWMT	**Swartz Lake**	**4.76**	**333**	*e*Pn		Pn	08 49 06.4	+3.0
SWMT				*e*Pg		**Pb**	**08 49 16.6**	**+1.9**
SWMT				*e*Sg		**Sb**	**08 50 17.5**	**+5.0**
EGMT	**Eagleton**	**4.77**	**8**	Pn		**Pn**	**08 49 01.1**	**-2.4**
EGMT				*e*Pg		**Pb**	**08 49 13.7**	**-1.1**
M24A	**Cheyenne**	**4.79**	**111**	⇑P		**Pn**	**08 49 04.5**	**+0.6**
	baz=4.7							
MSU	**Marysvale**	**4.91**	**193**	*e*Pn		**Pn**	**08 49 06.5**	**+1.1**
MVU	**Marysvale**	**4.92**	**193**	*e*Pn		**Pn**	**08 49 07.2**	**+1.4**
BMO	**Blue Mountains**	**4.93**	**290**	*e*Pn		**Pn**	**08 49 08.5**	**+2.8**
BMO				*e*Sg		**Sg**	**08 50 23.7**	**-5.2**
RSSD	**Black Hills**	**4.97**	**78**	*e*Pg		**Pb**	**08 49 18.9**	**+0.6**
RSSD				*e*Sg		**Sb**	**08 50 20.3**	**+1.7**
SMCO	**Snowmass**	**5.04**	**144**	Pn		**Pn**	**08 49 09.2**	**+1.8**
SMCO				*e*Pg		**Pb**	**08 49 20.5**	**+0.9**
SMCO				*e*Sg		**Sb**	**08 50 23.5**	**+2.8**
JTMT	**Jette**	**5.06**	**332**	*e*Pn		**Pn**	**08 49 09.9**	**+2.4**
JTMT				*e*Sg		**Sg**	**08 50 28.2**	**-5.0**
YBMT	**Yellow Bay**	**5.08**	**335**	*e*Pn		**Pn**	**08 49 10.4**	**+2.7**
	5.1nm,0.6s							
YBMT				*e*Sg		**Sg**	**08 50 29.6**	**-4.0**
PV04	**Paradox Valley**	**5.12**	**163**	*e*Pn		**Pn**	**08 49 09.6**	**+1.3**
PV04				*e*Pg		**Pg**	**08 49 30.3**	**+1.7**
PV04				*e*Sg		**Sb**	**08 50 28.0**	**+5.1**
ISCO	**Idaho Springs**	**5.24**	**130**	*e*Pn		**Pn**	**08 49 08.2**	**-1.0**
ISCO				*e*Pg		**Pb**	**08 49 23.8**	**+0.8**
ISCO				*e*Sg		**Sb**	**08 50 31.1**	**+4.6**
BLMT	**Blacktail Moun**	**5.32**	**333**	Pn		**Pn**	**08 49 13.0**	**+1.8**
BLMT				*e*Sg		**Sb**	**08 50 33.4**	**+4.8**
BSMT	**Bassoo Peak**	**5.33**	**330**	*e*Pn		**Pn**	**08 49 13.4**	**+2.2**
BSMT				*e*Sg		Sg	08 50 36.0	-5.7
PV01	**Paradox Valley**	**5.44**	**161**	*e*Pn		**Pn**	**08 49 13.1**	**+0.2**
PV01				*e*Pg		**Pg**	**08 49 33.6**	**-1.2**
PV01				*e*Sg		**Sb**	**08 50 37.0**	**+4.7**
MVCO	**Mesa Verde**	**6.34**	**163**	*e*Pn		Pn	08 49 28.0	+2.8
MVCO				*e*Pg		Pb	08 49 47.3	+5.5
MVCO				*e*Sg		**Sg**	**08 51 13.4**	**-0.9**
NEW	**Newport**	**6.64**	**320**	Pn		**Pn**	**08 49 31.3**	**+2.3**
	0.3nm,0.3s,baz=128,slow=15,SNR=3.3							
NEW				Lg		Lg	08 51 15.2	
	0.6nm,0.3s,baz=48,slow=19,SNR=3.6							
NEW	**Newport**	**6.64**	**320**	*e*Pn		**Pn**	**08 49 30.3**	**+1.3**
	2.6nm,0.7s							
NEW				Lg		Lg	08 51 15.2	
NEW				*e*S		Sg	08 51 15.5	-8.1
MOD	**Modoc**	**7.15**	**262**	*e*Pg		**Pb**	**08 49 55.9**	**+0.5**
MOD				*e*Sg		**Sg**	**08 51 35.0**	**-5.2**
NVAR	**Mina Array Bea**	**7.49**	**232**	Pn		Pn	08 49 45.1	+4.2
	0.1nm,0.3s,baz=57,slow=12,SNR=3.1							
NVAR				Lg		Lg	08 51 44.5	
	0.1nm,0.3s,baz=55,slow=27,SNR=3.1							
NVAR	**Mina Array Bea**	**7.49**	**232**	Pn		Pn	08 49 45.1	+4.2
NVAR				Lg		Lg	08 51 44.5	
YBH	**Yreka Blue Hor**	**8.94**	**264**	Pg		Pg	08 50 31.2	-11
	0.1nm,0.3s,baz=78,slow=15,SNR=3.4							
YBH	**Yreka Blue Hor**	**8.94**	**264**	Pg		Pg	08 50 31.1	-11
ANMO	**Albuquerque**	**9.01**	**157**	Pg		Pn	08 50 38.3	+36
	0.1nm,0.3s,baz=358,slow=16,SNR=3.9							
ANMO				Lg		Lg	08 52 29.9	
	0.1nm,0.3s,baz=257,slow=19,SNR=1.7							
ANMO	**Albuquerque**	**9.01**	**157**	Pg		Pn	08 50 38.3	+36
ANMO				Lg		Lg	08 52 29.9	
YKA	**Yellowknife Ar**	**19.34**	**355**	P		**Pn**	**08 52 17.9**	**0.0**
	0.0nm,0.3s,baz=165,slow=11,SNR=11							
YKA	**Yellowknife Ar**	**19.34**	**355**	P		**Pn**	**08 52 17.9**	**0.0**

IDC 21 08:49:25.4±1.6, 3°.86N×127°.22E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/24, mbtmp3.6/5, Error ellipse: s-maj=107.3km s-min=19.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.88**	**184**	P	P	08 54 19.6	-0.4
	1.3nm,0.8s,baz=13,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**24.66**	**164**	P	P	08 54 48.0	-0.1
	1.5nm,0.6s,baz=344,slow=10,SNR=19						
ASAR	**Alice Springs**	**28.12**	**167**	P	P	08 55 19.7	+0.4
	0.3nm,0.4s,baz=354,slow=14,SNR=7.6						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	08 59 17.6	-0.6
	0.3nm,0.5s,baz=123,slow=7.1,SNR=6.7						
KURBB	**Kurchatov Arra**	**61.90**	**327**	P	P	08 59 47.1	+0.4
	0.5nm,0.5s,baz=130,slow=6.6,SNR=4.5						

IDC 21 08:52:34.8±4.5, 2°.39S×141°.12E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=163.0km s-min=30.9km az=89.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.66**	**200**	P	P	08 56 53.5	-1.0
	0.1nm,0.3s,baz=22,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**22.27**	**198**	P	P	08 57 33.5	-0.3
	0.3nm,0.4s,baz=17,slow=9.7,SNR=4.4						
MKAR	**Makanchi Array**	**71.03**	**322**	P	P	09 03 55.1	+0.4
	0.4nm,0.6s,baz=113,slow=7.8,SNR=5.9						

*MOS **21** 08:54:21.8±1.3, 54°.31N×110°.47E, h10km, mb4.4/1, Error ellipse: s-maj=27.4km s-min=13.9km az=78.4*
*BYKL **21** 08:54:21.7±0.2, 54°.33N×110°.46E*
ISC 21 08:54:20.9±1.2, 54°.36N±0°.02×110°.36E±0°.03, h0km±10km, n32, σ1s87/61, 4C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.70**	**42**	*e*Pg	**Pg**	**08 54 34.3**	**0.0**
YLYR				*e*Sg	**Sg**	**08 54 43.7**	**+0.4**
YLYR				Pmax			
	59nm,0.1s						
YLYR				Smax			
	354nm,0.1s						
SYVR	**Suvo**	**0.73**	**197**	*e*Pg	**Pg**	**08 54 35.4**	**+0.5**
SYVR				*e*Sg	**Sb**	**08 54 45.5**	**-1.6**
SYVR				Pmax			
	62nm,0.1s						
SYVR				Smax			
	426nm,0.2s						
MXMB	**Maximikha**	**1.46**	**222**	*e*Pg	**Pb**	**08 54 48.7**	**-0.1**
MXMB				*e*Sg	**Sn**	**08 55 09.1**	**+0.9**
MXMB				Pmax			
	95nm,0.2s						
MXMB				Smax			
	779nm,0.6s						
NIZ	**Nizh Angarsk**	**1.50**	**342**	*e*PN	**Pg**	**08 54 49.7**	**+0.1**
NIZ				*e*		08 55 10.6	
NIZ				pmax	pmax		
	comp=Z,124nm,0.4s						
NIZ				smax	smax		
	comp=N,892nm,0.3s						
NIZ	**Nizh Angarsk**	**1.50**	**342**	⇑*i*Pg	**Pg**	**08 54 49.7**	**+0.1**
NIZ				*e*Sg	**Sn**	**08 55 10.6**	**+1.3**
NIZ				Pmax			
	comp=N,124nm,0.2s						
NIZ				Smax			
	comp=N,895nm,0.3s						
KMO	**Kumora**	**1.61**	**17**	*e*PN	**Pb**	**08 54 50.7**	**-0.8**
KMO				*e*		08 55 11.9	
KMO				pmax	pmax		
	comp=Z,33nm,0.2s						
KMO				smax	smax		
	comp=N,993nm,1.2s						
KMO	**Kumora**	**1.61**	**17**	*e*Pg	**Pb**	**08 54 50.7**	**-0.8**
KMO				*e*Sg	**Sg**	**08 55 12.6**	**+0.1**
KMO				Pmax			
	comp=N,84nm,1.0s						
KMO				Smax			
	comp=N,993nm,1.0s						
OGRR	**Ongureny**	**1.78**	**247**	*e*PN	**Pb**	**08 54 53.6**	**-0.8**
OGRR				*e*		08 54 54.8	
OGRR				*e*		08 55 19.0	
OGRR				pmax	pmax		
	comp=Z,45nm,0.3s						
OGRR				smax	smax		
	comp=N,282nm,0.3s						
OGRR	**Ongureny**	**1.78**	**247**	⇓*i*Pn	**Pb**	**08 54 53.7**	**-0.7**
OGRR				*e*Pg	**Pg**	**08 54 54.5**	**-0.5**
OGRR				*e*Sg	**Sg**	**08 55 18.5**	**+0.5**
OGRR				Pmax			
	comp=N,45nm,0.2s						
OGRR				Smax			
	comp=N,284nm,0.2s						
YOA	**Uoyan**	**1.94**	**23**	⇑*i*PN	**Pb**	**08 54 56.9**	**-0.3**
YOA				*i*		08 55 23.3	
YOA				pmax	pmax		
	comp=Z,197nm,0.2s						
YOA				smax	smax		
	comp=N,1μm,0.5s						
YOA	**Uoyan**	**1.94**	**23**	*e*Pg	**Pb**	**08 54 56.9**	**-0.3**
YOA				*e*Sg	**Sg**	**08 55 23.3**	**0.0**
YOA				Pmax			
	comp=N,276nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.6s						
UKT	**Uakit**	**2.20**	**58**	*e*PN	**Pb**	**08 54 59.8**	**-1.8**
UKT				*e*		08 55 29.2	
UKT				pmax	pmax		
	comp=Z,35nm,0.3s						
UKT				smax	smax		
	comp=N,221nm,0.2s						
UKT	**Uakit**	**2.20**	**58**	*e*Pn	**Pn**	**08 54 58.1**	**-0.7**
UKT				*e*Pg	**Pb**	**08 55 00.0**	**-1.6**
UKT				*e*Sg	**Sb**	**08 55 29.1**	**-0.4**
UKT				Pmax			
	comp=N,39nm,0.4s						
UKT				Smax			
	comp=N,266nm,0.3s						
ZRHB	**Zarechye**	**2.63**	**228**	*e*Pn	**Pn**	**08 55 05.9**	**+1.3**
ZRHB				*e*Sg	**Sg**	**08 55 45.1**	**-0.3**
ZRHB				Smax			
	comp=N,320nm,1.0s						
TRG	**Tyrgan**	**2.88**	**238**	⇑*i*Pn	**Pn**	**08 55 08.5**	**+0.5**
TRG				*e*Sg	**Sb**	**08 55 51.0**	**+2.2**
TRG				Smax			
	comp=N,135nm,0.3s						
CIT	**Chita**	**3.03**	**139**	*e*Pg	**Pb**	**08 55 15.0**	**-0.7**
CIT				*e*Sg	**Sb**	**08 55 53.2**	**0.0**
CIT				Pmax			
	comp=N,94nm,0.2s						
CIT				Smax			
	comp=N,310nm,0.2s						
FFNB	**Fofonovo**	**3.17**	**224**	*e*Pn	**Pn**	**08 55 12.3**	**+0.3**
FFNB				*e*Pg	**Pb**	**08 55 19.3**	**+1.3**
FFNB				*e*Sn	**Sn**	**08 55 50.0**	**-0.4**
FFNB				*e*Sg	**Sg**	**08 56 00.8**	**-1.7**
FFNB				Pmax			
	comp=N,11nm,0.2s						
FFNB				Smax			
	comp=N,81nm,0.3s						
KAB	**Kabansk**	**3.21**	**225**	*e*Sg	**Sg**	**08 56 02.9**	**-1.0**
KAB				Smax			
	comp=N,227nm,0.4s						
HRMR	**Khuramsha**	**3.42**	**218**	*e*Pn	**Pn**	**08 55 15.8**	**+0.3**
HRMR				*e*Pg	**Pb**	**08 55 23.4**	**+1.1**
HRMR				*e*Sg	**Sg**	**08 56 09.1**	**-1.6**
HRMR				Pmax			
	comp=N,35nm,0.4s						
HRMR				Smax			
	comp=N,635nm,0.5s						
NLYR	**Nelyaty**	**3.72**	**53**	*e*Pg	**Pb**	**08 55 27.7**	**+0.2**
NLYR				*e*Sg	**Sb**	**08 56 16.0**	**+2.9**
NLYR				Pmax			
	comp=N,21nm,0.5s						
NLYR				Smax			
	comp=N,131nm,0.8s						
BOD	**Bodaibo**	**4.03**	**29**	*e*Pn	**Pn**	**08 55 22.8**	**-0.9**
BOD				*e*Sn	**Sn**	**08 56 08.4**	**-3.2**
BOD				*e*Sg	**Sb**	**08 56 25.0**	**+3.2**
BOD				Smax			
	comp=N,35nm,0.5s						
LSTR	**Listvyanka**	**4.16**	**235**	*e*Sg	**Sb**	**08 56 29.8**	**+4.1**
LSTR				Smax			
	comp=N,94nm,1.1s						
KPC	**Khapcheranga**	**4.83**	**164**	*e*PN	**Pb**	**08 55 48.2**	**+1.9**
KPC				*e*		08 56 49.6	
KPC				pmax	pmax		
	comp=Z,28nm,0.5s						
KPC				smax	smax		
	comp=E,124nm,1.4s						
KPC	**Khapcheranga**	**4.83**	**164**	*e*Pn	**Pn**	**08 55 34.5**	**-0.3**
KPC				*e*Pg	**Pb**	**08 55 46.5**	**+0.2**
KPC				*e*Sg	**Sb**	**08 56 48.2**	**+3.3**
KPC				Pmax			
	comp=E,8.0nm,0.3s						
KPC				Smax			
	comp=E,119nm,1.2s						
CRS	**Chara**	**5.16**	**57**	*e*Pn	**Pn**	**08 55 38.7**	**-0.6**
CRS				*e*Pg	**Pb**	**08 55 53.1**	**+1.2**
CRS				*e*Sg	**Sb**	**08 56 59.6**	**+5.3**
CRS				Pmax			
	comp=E,1.0nm,0.1s						
CRS				Smax			
	comp=E,67nm,1.3s						
TUP	**Tupik**	**5.61**	**85**	*e*PN	**Pn**	**08 55 43.8**	**-1.8**
TUP				*e*		08 56 01.4	
TUP				*e*S	**Sn**	**08 56 47.0**	**-3.6**
TUP				*e*		08 57 13.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TUP				smax	smax		
	comp=N,127nm,0.9s						
TUP	**Tupik**	**5.61**	**85**	*e*Pn	**Pn**	**08 55 43.7**	**-1.8**
TUP				*e*Pg	**Pb**	**08 56 00.2**	**+0.6**
TUP				*e*Sg	**Sb**	**08 57 12.0**	**+4.7**
TUP				Pmax			
	comp=N,3.0nm,0.3s						
TUP				Smax			
	comp=N,128nm,0.9s						
KHNR	**Khani**	**6.02**	**61**	*e*Pn	**Pn**	**08 55 51.2**	**0.0**
KHNR				*e*Sg	Sg	08 57 27.1	-7.1
MOY	**Mondy**	**6.26**	**248**	*e*Pn	**Pn**	**08 55 54.4**	**-0.2**
MOY				*e*		08 56 42.3	
MOY				*e*Sg	Sg	08 57 35.3	-6.6
MOY				Smax			
	comp=N,34nm,1.1s						
ORL	**Orlik**	**6.56**	**258**	*e*PN	**Pn**	**08 55 59.5**	**+0.8**
ORL				*e*		08 56 20.3	
ORL				*e*		08 57 45.2	
ORL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ORL				smax	smax		
	comp=N,41nm,1.3s						
ORL	**Orlik**	**6.56**	**258**	⇑*i*Pn	**Pn**	**08 55 59.9**	**+1.2**
ORL				*e*Sn	**Sn**	**08 57 13.1**	**-1.1**
ORL				*e*Sg	**Sg**	**08 57 45.8**	**-5.6**
ORL				Smax			
	comp=N,40nm,1.5s						
HIA	**Hailar**	**7.73**	**127**	*e*Sg	Sg	08 58 19.7	-9.3

IDC 21 09:08:16.1±2.9, 2°.11S×99°.86E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=122.5km s-min=19.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.46**	**358**	P	P	09 12 55.3	-0.2
	0.8nm,0.3s,baz=188,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**38.06**	**120**	P	P	09 15 36.6	-0.2
	0.6nm,0.4s,baz=303,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**39.30**	**126**	P	P	09 15 47.1	0.0
	0.4nm,0.5s,baz=297,slow=6.9,SNR=9.8						
SONM	**Songino Array**	**50.07**	**6**	P	P	09 17 12.8	0.0
	0.5nm,0.5s,baz=191,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**51.10**	**345**	P	P	09 17 20.6	+0.1
	2.1nm,0.6s,baz=150,slow=8.2,SNR=25						
ZALV	**Zalesovo Beam**	**57.25**	**349**	P	P	09 18 05.0	-0.2
	1.0nm,0.6s,baz=193,slow=4.6,SNR=6.8						
TXAR	**Lajitas Array**	**144.88**	**37**	PKP	PKPbc	09 27 55.2	+0.1
	0.6nm,0.6s,baz=200,slow=1.2,SNR=13						

*ISCJB **21** 09:15:26.5±0.4, 60°.63S±0°.07×24°.6W±0°.2, h10km, mb4.5/18, MS4.0/10, Error ellipse: s-maj=14.3km s-min=8.6km az=145.9*
*IDC **21** 09:15:27.3±0.5, 60°.46S×24°.63W, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.5/17, mbtmp4.5/13, MS4.0/11, Ms1 3.9/11, ms1mx3.9/20, Error ellipse: s-maj=19.7km s-min=16.8km az=60.0*
*NEIC **21** 09:15:28.7±0.3, 60°.52S×24°.55W, h10km, mb4.8/6, Error ellipse: s-maj=12.5km s-min=9.2km az=55.0*
ISC 21 09:15:28.6±0.4, 60°.46S±0°.08×24°.6W±0°.1, h10km, n67, σ1s04/62, mb4.6/18, MS4.0/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.21**	**154**	*e*Pn	**Pn**	**09 18 19.3**	**-2.9**
VNA1	**Neumayer--Stat**	**12.21**	**154**	*e*Sn	Sn	09 20 26.1	-12
VNA3	**Neumayer Olymp**	**12.38**	**157**	*e*Pn	Pn	09 18 21.0	-3.6
VNA3	**Neumayer Olymp**	**12.38**	**157**	*e*Sn	Sn	09 20 23.5	-19
VNA2	**Neumayer--Watz**	**12.60**	**154**	*e*Pn	Pn	09 18 23.9	-3.7
VNA2	**Neumayer--Watz**	**12.60**	**154**	*e*Sn	Sn	09 20 31.4	-16
SNAA	**Sanae**	**14.18**	**151**	Pn	P	09 19 03.6	+6.9
	3.0nm,0.3s,baz=323,slow=14,SNR=276						
SNAA				Sn	**Sn**	**09 21 27.6**	**+1.4**
	0.6nm,0.3s,baz=305,slow=20,SNR=4.1						
SNAA	**Sanae**	**14.18**	**151**	*e*Pn	Pn	09 18 45.3	-3.8
	37nm,0.6s						
SNAA				Sn	**Sn**	**09 21 27.6**	**+1.4**
PMSA	**Palmer Station**	**18.42**	**239**	LR	LR	09 25 18.4	
	comp=Z,410nm,21.1s,baz=155,slow=32						
USHA	**Ushuaia**	**23.76**	**264**	LR	LR	09 27 54.3	
	comp=Z,428nm,21.8s,baz=92,slow=32						
QSPA	**South Pole Qui**	**29.78**	**180**	P	**P**	**09 21 36.2**	**+1.1**
	18nm,1.1s,baz=201,slow=4.4,SNR=20						
QSPA				LR	LR	09 32 40.5	
	comp=Z,58nm,19.1s,baz=88,slow=35						
QSPA	**South Pole Qui**	**29.78**	**180**	P	**P**	**09 21 36.2**	**+1.1**
TRQA	**Tornquist**	**32.43**	**297**	*e*P	**P**	**09 21 58.4**	**-0.1**
	14nm,0.8s						
PLCA	**Paso Flores**	**34.27**	**284**	P	**P**	**09 22 14.2**	**-0.3**
	4.1nm,0.7s,baz=156,slow=6.7,SNR=15						
PLCA				LR	LR	09 35 19.0	
	comp=Z,275nm,18.5s,baz=155,slow=35						
PLCA	**Paso Flores**	**34.27**	**284**	P	**P**	**09 22 14.2**	**-0.3**
MAW	**Mawson**	**35.84**	**139**	LR	LR	09 35 58.9	
	comp=Z,474nm,20.8s,baz=280,slow=34						
CFAA	**Coronel

STKA	Stephens Creek	87.31	168	P		P	09 28 15.2	-0.1
ASAR	Alice Springs	94.37	160	P		P	09 28 47.6	-0.8
	1.0nm,0.9s,baz=186,slow=4.2,SNR=8.5							
ASAR	Alice Springs	94.37	160	P		P	09 28 47.6	-0.8
WRA	Warramunga Arr	98.08	160	P		P	09 29 04.0	-1.3
	0.8nm,1.1s,baz=198,slow=4.5,SNR=3.1							
WRA				LR		LR	10 11 38.4	
	comp=Z,108nm,18.1s,baz=180,slow=34							
WRA	Warramunga Arr	98.08	160	P		P	09 29 04.0	-1.3
PDAR	Pinedale Array	123.75	298	PKP		PKPdf	09 34 25.9	0.0
	0.4nm,0.7s,baz=157,slow=2.5,SNR=3.4							
PDAR	Pinedale Array	123.75	298	PKP		PKPdf	09 34 25.9	0.0
NVAR	Mina Array Bea	124.25	289	PKP		PKPdf	09 34 27.2	+0.3
	0.3nm,0.6s,baz=111,slow=2.0,SNR=3.4							
NVAR	Mina Array Bea	124.25	289	PKP		PKPdf	09 34 27.2	+0.3
ULM	Lac du Bonnet	124.32	313	PKP		PKPdf	09 34 26.0	-0.3
	0.7nm,0.4s,baz=170,slow=3.0,SNR=3.6							
ULM	Lac du Bonnet	124.32	313	PKP		PKPdf	09 34 26.0	-0.3
MOOW	Moose Ponds	125.05	298	*e*PKPdf		PKPdf	09 34 28.8	+0.5
FINES	FINESS Array B	127.65	28	PKP		PKPdf	09 34 30.6	-1.8
	3.0nm,0.8s,baz=177,slow=3.6,SNR=6.1							
FINES	FINESS Array B	127.65	28	PKP		PKPdf	09 34 30.6	-1.8
MKAR	Makanchi Array	136.89	74	PKP		PKPdf	09 34 50.1	-0.2
	0.4nm,0.9s,baz=191,slow=1.2,SNR=3.8							
MKAR	Makanchi Array	136.89	74	PKP		PKPdf	09 34 50.1	-0.2
YKA	Yellowknife Ar	140.29	313	PKhKP		PKPpre	09 34 49.2	
	0.4nm,1.0s,baz=119,slow=3.6,SNR=4.3							
YKA				PKP		PKPdf	09 34 56.0	0.0
	1.3nm,1.0s,baz=131,slow=2.3,SNR=12							
YKA				PP		PP	09 37 53.4	-1.8
	0.4nm,0.9s,baz=130,slow=6.0,SNR=6.3							
YKA	Yellowknife Ar	140.29	313	PKPpre		PKPpre	09 34 49.2	
YKA				PKP		PKPdf	09 34 56.0	0.0
YKA				PP		PP	09 37 53.4	-1.8
SONM	Songino Array	149.41	92	PKPbc		PKPbc	09 35 16.7	-0.1
	5.1nm,1.0s,baz=222,slow=2.9,SNR=22							
SONM	Songino Array	149.41	92	PKPbc		PKPbc	09 35 16.7	-0.1
ULN	Ulaanbaatar	149.76	93	*e*PKPbc		PKPbc	09 35 18.4	+0.7
TLY	Talaya	150.54	84	*e*PKPbc		PKPbc	09 35 19.7	+0.5
DAWY	Dawson	150.63	306	*e*PKPbc		PKPbc	09 35 19.7	+0.5
KSAR	Wonju Array Be	151.12	130	PKPbc		PKPbc	09 35 20.0	-1.0
KSRS	Korea Array	151.15	130	PKPbc		PKPbc	09 35 20.0	-1.1
	3.3nm,0.9s,baz=199,slow=2.3,SNR=6.3							
DOT	Dot Lake	152.38	303	*e*PKPbc		PKPbc	09 35 24.5	+1.3
ILAR	Eielson Array	153.92	304	PKPbc		PKPbc	09 35 27.0	+0.6
	8.4nm,1.2s,baz=120,slow=1.5,SNR=14							
ILAR	Eielson Array	153.92	304	PKPbc		PKPbc	09 35 27.0	+0.6

MOS ***21*** *09:22:36.1±1.8,48.12N×152.94E,h115km,mb3.9/2,Error ellipse: s-maj=30.0km s-min=16.4km az=63.7*
IDC ***21*** *09:22:38.5±2.7,47.87N×153.03E,h132km±24km,mb3.0/8, mb1 3.3/1,mb1mx3.2/28,mbtmp3.1/11,Error ellipse: s-maj=37.7km s-min=14.5km az=167.0*

ISC 21 09:22:38.5±1.0, 47.7N±0.2×153.0E±0.1, h150km, n30, σ1°61/29, mb3.3/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**3.60**	**33**	*e*PN		Pn	Pn	09 23 23.9	-10
SKR				*e*S		Sn	Sn	09 24 03.1	-13
SKR				pmax		pmax			
	comp=Z,90nm,0.5s								
SKR				pmax		pmax			
	comp=N,80nm,0.4s								
SKR				pmax		pmax			
	comp=E,80nm,0.4s								
SKR				smax		smax			
	comp=N,100nm,0.3s								
SKR				smax		smax			
	comp=E,110nm,0.3s								
PETK	**Petropavlovsk-**	**6.18**	**27**	P		**Pn**	**Pn**	**09 24 04.6**	**-2.8**
	comp=E,0.8nm,0.3s,baz=185,slow=14,SNR=5.8								
PETK	**Petropavlovsk-**	**6.18**	**27**	PN		**Pn**	**Pn**	**09 24 04.6**	**-2.8**
PETK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
JRA	Rausu	6.68	239	P		Pn	Pn	09 24 13.3	-0.9
NEM2	Nemuro 2	6.70	232	P		Pn	Pn	09 24 11.1	-3.4
NEM2				*e*S		Sn	Sn	09 25 23.3	-6.4
JTKR	Abashiri--Toko	7.38	243	P		Pn	Pn	09 24 23.3	-0.2
JAK	Akkeshi	7.52	234	P		Pn	Pn	09 24 22.1	-3.3
JAK				*e*S		Sn	Sn	09 25 42.6	-6.7
JAR	Ashorobuto	7.85	239	P		Pn	Pn	09 24 29.2	-0.6
JOB	Onbets	8.06	237	P		Pn	Pn	09 24 30.7	-1.9
ASAJ	Asahikawa	8.10	248	P		Pn	Pn	09 24 34.7	+1.5
	comp=Z,2.9nm,0.3s,baz=74,slow=14,SNR=25								
ASAJ	Asahikawa	8.10	248	P		Pn		09 24 34.7	+1.5
JKK2	Kamakawa 2	8.13	246	P		Pn		09 24 34.3	+0.7
JCH	Churui	8.51	237	P		Pn		09 24 36.0	-2.6
JCH				*e*S		Sn		09 26 06.4	-6.8
JBT2	Biratori 2	8.98	241	P		Pn		09 24 44.3	-0.6
JNB	Noboribetsu	9.96	243	P		Pn		09 24 56.3	-1.5
JKB	Kayabe	10.31	240	P		Pn		09 24 59.1	-3.4
JYM2	Yakumo 2	10.56	243	P		Pn		09 25 03.9	-2.0
JSR	Shiriuchi	10.89	240	P		Pn		09 25 08.1	-2.1
JOSM	Okushiri--Mats	11.12	245	P		Pn		09 25 10.9	-2.3
USRK	Ussuriysk Arra	15.03	264	P		P		09 26 04.6	-0.2
	comp=Z,0.2nm,0.3s,baz=62,slow=16,SNR=3.6								
SONM	Songino Array	30.96	288	P		P		09 28 42.7	+1.3
	comp=Z,0.1nm,0.4s,baz=80,slow=10,SNR=2.2								
ILAR	Eielson Array	35.84	39	P		P		09 29 24.1	+0.8
	comp=Z,0.3nm,0.5s,baz=261,slow=6.0,SNR=7.3								
ZALV	Zalesovo Beam	42.00	305	P		P		09 30 15.1	+0.5
	comp=Z,0.4nm,0.5s,baz=40,slow=4.1,SNR=2.6								
ZALV	Zalesovo Beam	42.00	305	P		P		09 30 15.1	+0.5
MKAR	Makanchi Array	46.45	297	P		P		09 30 50.9	+0.9
	comp=Z,0.3nm,0.7s,baz=54,slow=7.3,SNR=3.3								
MKAR				pP		pP		09 31 21.7	-1.9
	comp=Z,0.4nm,0.8s,baz=69,slow=9.6,SNR=3.4								
MKAR	Makanchi Array	46.45	297	P		P		09 30 50.9	+0.9
MKAR				*PP		pP		09 31 21.7	-1.9
YKA	Yellowknife Ar	50.20	37	P		P		09 31 20.0	+1.6
	comp=Z,0.4nm,0.5s,baz=298,slow=7.0,SNR=15								
YKA				pP		pP		09 31 50.3	-2.3
	comp=Z,0.1nm,0.5s,baz=299,slow=7.1,SNR=2.2								
YKA				PcP		PcP		09 32 37.0	+1.7
	comp=Z,0.3nm,1.2s,baz=321,slow=3.7,SNR=4.8								
NVAR	Mina Array Bea	62.05	63	P		P		09 32 43.4	+0.2
	comp=Z,0.2nm,0.5s,baz=297,slow=8.0,SNR=2.7								
FINES	FINESS Array B	63.14	335	P		P		09 32 50.4	+0.7
	comp=Z,1.6nm,0.9s,baz=347,slow=3.0,SNR=3.2								
TXAR	Lajitas Array	77.08	61	P		P		09 34 16.8	+1.5
	comp=Z,0.5nm,0.7s,baz=299,slow=3.9,SNR=6.8								

IDC 21 09:38:23.3±1.5, 65.16S×177.76E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/11, mbtmp3.9/4, ML3.6/1, MS4.2/5, Ms1 4.2/5, ms1mx3.8/15, Error ellipse: s-maj=64.0km s-min=25.2km az=67.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VNDA	**Vanda**	**13.33**	**195**			Pn	Pn	09 41 31.7	-1.7
	0.3nm,0.3s,baz=48,slow=18,SNR=18								
RPZ	**Rata Peaks**	**21.81**	**347**	LR		LR		09 50 26.1	
	comp=Z,275nm,18.1s,baz=20,slow=33								
QSPA	**South Pole Qui**	**24.93**	**180**	P		P		09 43 47.8	-0.1
	6.2nm,1.1s,baz=29,slow=9.7,SNR=7.8								
URZ	**Urewera**	**26.94**	**359**	LR		LR		09 53 06.3	
	comp=Z,318nm,18.9s,baz=137,slow=33								
MAW	**Mawson**	**39.73**	**213**	LR		LR		10 03 54.5	
	comp=Z,398nm,18.2s,baz=8.4,slow=38								
TBI	**Tubuai**	**46.87**	**43**	*e*LR		LR		09 59 35.5	
	112nm,27.0s								
TBI				*e*T		T		10 36 17.1	
	14nm,0.3s								
ASAR	**Alice Springs**	**50.12**	**304**	P		P		09 47 20.3	+0.3
	0.8nm,0.7s,baz=155,slow=7.3,SNR=13								
RKT	**Rikitea**	**51.85**	**59**	*e*T		T		10 42 12.0	
	2.8nm,0.2s								
TVO	**Taravao**	**52.21**	**41**	*e*T		T		10 42 57.4	
	6.4nm,0.3s								
PPT2	**Papeete2**	**52.31**	**41**	*e*LR		LR		10 02 16.3	
	66nm,23.2s								
PPT2				*e*T		T		10 43 04.3	
	2.2nm,0.3s								
WRA	**Warramunga Arr**	**53.42**	**306**	P		P		09 47 43.8	-0.8
	0.9nm,0.6s,baz=157,slow=6.4,SNR=15								
PMOR	**Pomariorio Ree**	**55.23**	**42**	*e*T		T		10 46 43.0	
	3.4nm,0.3s								
GUMO	**Guam**	**82.34**	**328**	LR		LR		10 18 12.8	
	comp=Z,538nm,21.1s,baz=80,slow=29								
BOSA	**Boshof**	**84.12**	**204**	LR		LR		10 24 39.4	
	comp=Z,111nm,18.8s,baz=161,slow=33								
TORD	**Torodi Ar. Bea**	**127.98**	**185**	PKhKP		PKPpre		09 57 15.7	
	0.6nm,0.8s,baz=184,slow=5.3,SNR=3.9								
TORD				PKP		PKPdf		09 57 30.9	+0.1
	0.4nm,0.7s,baz=229,slow=1.5,SNR=2.5								
ILAR	**Eielson Array**	**132.16**	**20**	PKP		PKPdf		09 57 35.6	-1.5
	0.9nm,0.9s,baz=241,slow=3.0,SNR=4.0								
YKA	**Yellowknife Ar**	**136.73**	**39**	PKP		PKPdf		09 57 45.2	-0.5
	0.5nm,1.0s,baz=227,slow=1.9,SNR=4.3								
KBZ	**Khabaz**	**147.18**	**251**	PKPbc		PKPbc		09 58 07.7	+0.6
	6.7nm,1.2s,baz=67,slow=7.7,SNR=4.8								
BRTR	**Keskin Array B**	**147.24**	**237**	PKPbc		PKPbc		09 58 07.2	-0.5
	3.7nm,1.1s,baz=160,slow=3.9,SNR=11								

IDC 21 09:39:43.7±4.5, 11.68N×73.28W, h102km±40km, mb3.0/2, mb1 3.2/3, mb1mx3.0/22, mbtmp3.1/3, Error ellipse: s-maj=36.8km s-min=30.3km az=101.0, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ROSC	**El Rosal**	**6.86**	**189**	P		Pn	Pn	09 41 20.3	-2.0
	1.2nm,0.3s,baz=282,slow=20,SNR=3.5								
ROSC				S		Sn	Sn	09 42 41.8	+2.5
	1.3nm,0.3s,baz=281,slow=21,SNR=1.9								
YKA	**Yellowknife Ar**	**58.69**	**339**	P		P		09 49 30.7	+0.4
	0.2nm,0.8s,baz=126,slow=6.7,SNR=7.3								
TORD	**Torodi Ar. Bea**	**72.97**	**80**	P		P		09 51 03.0	+0.1
	0.5nm,1.0s,baz=265,slow=6.8,SNR=2.6								
TORD				pP		pP		09 51 27.1	-1.6
	0.5nm,0.6s,baz=261,slow=5.1,SNR=5.5								
ASAR	**Alice Springs**	**151.55**	**242**	PKPbc		PKPbc		09 59 26.5	-0.4
	0.7nm,0.7s,baz=116,slow=3.0,SNR=9.0								
WRA	**Warramunga Arr**	**152.22**	**249**	PKPbc		PKPbc		09 59 28.1	-0.4
	0.9nm,0.6s,baz=97,slow=3.1,SNR=16								

IDC 21 09:43:44.6±1.0, 22.76S×174.82W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/20, mbtmp3.9/6, Error ellipse: s-maj=46.7km s-min=25.3km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**9.26**	**19**	Pn		Pn	Pn	09 45 56.2	-3.4
	1.1nm,0.3s,baz=151,slow=19,SNR=2.7								
AFI				Sn		Sn	Sn	09 47 32.6	-12
	2.0nm,0.3s,baz=198,slow=16,SNR=2.4								
ASAR	**Alice Springs**	**46.92**	**258**	P		P		09 52 17.6	+0.3
	1.7nm,1.0s,baz=100,slow=6.5,SNR=12								
WRA	**Warramunga Arr**	**47.25**	**263**	P		P		09 52 19.5	-0.4
	0.5nm,0.4s,baz=94,slow=8.5,SNR=13								
QSPA	**South Pole Qui**	**67.33**	**180**	P		P		09 54 40.9	-0.4
	2.4nm,1.0s,baz=80,slow=4.7,SNR=4.1								
NVAR	**Mina Array Bea**	**80.68**	**42**	P		P		09 56 00.1	+0.3
	0.6nm,0.7s,baz=230,slow=7.7,SNR=4.9								
TXAR	**Lajitas Array**	**85.82**	**56**	P		P		09 56 26.5	0.0
	0.7nm,1.0s,baz=214,slow=5.8,SNR=4.9								
YKA	**Yellowknife Ar**	**97.34**	**24**	P		P		09 57 19.0	-0.3
	0.3nm,0.9s,baz=238,slow=3.8,SNR=3.9								

IDC ***21*** *10:21:56.5±0.6,22.89S×174.73W,h0km,mb4.3/12, mb1 4.5/12,mb1mx4.3/21,mbtmp4.3/12,MS3.3/2, Ms1 3.3/2,ms1mx3.0/31,Error ellipse: s-maj=27.3km s-min=18.1km az=152.0*
NEIC ***21*** *10:22:00.5±0.5,23.39S×174.53W,h35km,mb4.7/2,Error ellipse: s-maj=20.3km s-min=10.6km az=164.0*

ISC 21 10:22:01.2±0.7, 23.3S±0.2×174.6W±0.1, h35km, n49, σ0°84/35, mb4.4/13, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MSVF	**Nonsavu**	**8.84**	**307**	*e*Pn		**Pn**	**Pn**	**10 24 08.4**	**+1.9**
	16nm,0.8s								
AFI	**Afiamalu**	**9.67**	**16**	Pn		Pn	Pn	10 24 07.7	-10
	4.9nm,0.3s,baz=288,slow=13,SNR=9.4								
AFI				Sn		Sn	Sn	10 25 44.4	-21
	4.8nm,0.3s,baz=218,slow=23,SNR=2.3								
AFI	**Afiamalu**	**9.67**	**16**	Pn		Pn		10 24 07.7	-10
AFI				Sn		Sn		10 25 44.4	-21
AFI				*e*Sn		Sn		10 25 46.2	-19
RAR	**Rarotonga**	**13.85**	**84**	Pn		Pn		10 25 06.5	-8.6
	7.6nm,0.3s,baz=252,slow=13,SNR=3.0								
RAR				Sn		Sn		10 27 25.9	-22
	5.8nm,0.3s,baz=74,slow=4.3,SNR=2.2								
RAR	**Rarotonga**	**13.85**	**84**	Pn		Pn		10 25 06.5	-8.6
URZ	**Urewera**	**16.56**	**204**	Sn		Sn		10 28 44.6	-8.8
	0.2nm,0.3s,baz=116,slow=9.8,SNR=1.7								
DZM	**Mont Dzumac**	**17.57**	**270**	*e*LR		LR		10 29 55.7	
	124nm,31.2s								
TBI	**Tubuai**	**23.05**	**95**	*e*LR		LR		10 32 25.5	
	184nm,28.8s								
PPT2	**Papeete2**	**24.07**	**81**	*e*LR		LR		10 32 47.7	
	196nm,25.5s								
PPT	**Papeete**	**24.08**	**81**	LR		LR		10 33 07.7	
	comp=Z,31nm,21.1s,baz=350,slow=28								
CTA	**Charters Tower**	**36.47**	**267**	P		**P**		**10 29 03.0**	**-0.1**
	6.5nm,0.6s,baz=97,slow=12,SNR=8.2								
CTA	**Charters Tower**	**36.47**	**267**	P		**P**		**10 29 03.0**	**-0.1**
CTAO	**Charters Tower**	**36.47**	**267**	*e*P		**P**		**10 29 02.5**	**-0.6**
	8.1nm,0.8s								
STKA	**Stephens Creek**	**39.58**	**248**	P		**P**		**10 29 29.5**	**+0.3**
	1.2nm,0.5s,baz=101,slow=11,SNR=3.9								
STKA	**Stephens Creek**	**39.58**	**248**	P		**P**		**10 29 29.5**	**+0.3**
ASAR	**Alice Springs**	**47.05**	**259**	P		**P**		**10 30 29.5**	**-0.2**
	3.9nm,0.9s,baz=96,slow=6.0,SNR=29								
ASAR	**Alice Springs**	**47.05**	**259**	P		**P**		**10 30 29.5**	**-0.2**
WRAB	**Tennant Creek**	**47.42**	**264**	*e*P		**P**		**10 30 31.3**	**-1.2**
	7.2nm,1.0s								
WRA	**Warramunga Arr**	**47.43**	**264**	P		**P**		**10 30 31.5**	**-1.2**
	5.1nm,0.8s,baz=103,slow=8.2,SNR=32								
WRA	**Warramunga Arr**	**47.43**	**264**	P		**P**		**10 30 31.5**	**-1.2**
QSPA	**South Pole Qui**	**66.82**	**180**	P		P		10 32 53.1	+3.9
	3.6nm,0.9s,baz=63,slow=4.3,SNR=13								
QSPA	**South Pole Qui**	**66.82**	**180**	P		P		10 32 53.1	+3.9
MJAR	**Matsushiro Arr**	**74.32**	**322**	P		**P**		**10 33 34.5**	**-0.6**
	1.8nm,0.8s,baz=162,slow=6.3,SNR=6.0								
MJAR	**Matsushiro Arr**	**74.32**	**322**	P		**P**		**10 33 34.5**	**-0.6**
NVAR	**Mina Array Bea**	**80.91**	**41**	P		**P**		**10 34 12.2**	**+0.1**
	1.8nm,0.7s,baz=224,slow=7.5,SNR=14								
NVAR	**Mina Array Bea**	**80.91**	**41**	P		**P**		**10 34 12.2**	**+0.1**
KSRS	**Korea Array**	**81.06**	**317**	LR		LR		11 10 25.2	
	comp=Z,35nm,18.2s,baz=102,slow=36								
VNA3	**Neumayer Olymp**	**85.16**	**175**	*e*P		P		10 34 35.9	+2.5
VNA3	**Neumayer Olymp**	**85.16**	**175**	*e*WP				10 34 54.6	
VNA2	**Neumayer--Watz**	**85.64**	**176**	*e*P		P		10 34 38.8	+3.0
	baz=192,slow=3.4								
VNA2	**Neumayer--Watz**	**85.64**	**176**	*e*WP				10 34 57.3	
	baz=192,slow=3.4								
TXAR	**Lajitas Array**	**85.91**	**56**	P		**P**		**10 34 38.3**	**+0.4**
	2.3nm,0.9s,baz=209,slow=6.7,SNR=17								
TXAR	**Lajitas Array**	**85.91**	**56**	P		**P**		**10 34 38.3**	**+0.4**
PDAR	**Pinedale Array**	**88.83**	**42**	P		**P**		**10 34 51.0**	**-0.8**
	0.6nm,0.7s,baz=219,slow=1.9,SNR=5.2								
PDAR	**Pinedale Array**	**88.83**	**42**	P		**P**		**10 34 51.0**	**-0.8**
ILAR	**Eielson Array**	**90.33**	**11**	P		**P**		**10 34 57.5**	**-0.6**
	0.5nm,0.7s,baz=226,slow=6.4,SNR=4.9								
ILAR	**Eielson Array**	**90.33**	**11**	P		**P**		**10 34 57.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**94.02**	**288**	P		**P**		**10 35 14.9**	**-1.3**
	0.8nm,0.3s,baz=179,slow=5.2,SNR=5.7								
CMAR	**Chiang Mai Arr**	**94.02**	**288**	P		**P**		**10 35 14.9**	**-1.3**
YKA	**Yellowknife Ar**	**97.70**	**24**	P		**P**		**10 35 31.6**	**-0.3**
	0.4nm,0.9s,baz=231,slow=4.3,SNR=7.0								
YKA	**Yellowknife Ar**	**97.70**	**24**	P		**P**		**10 35 31.6**	**-0.3**
AKASG	**Malin Array Ba**	**146.95**	**352**	PKPbc		**PKPdf**		**10 41 38.6**	**+0.7**
	1.7nm,0.6s,baz=36,slow=4.0,SNR=8.0								
AKASG	**Malin Array Be**	**146.95**	**332**	PKPbc		**PKPdf**		**10 41 38.5**	**+0.7**
BRTR	**Keskin Array B**	**151.05**	**311**	PKPbc		**PKPbc**		**10 41 51.0**	**+0.2**
	1.2nm,0.8s,baz=125,slow=3.3,SNR=6.5								
BRTR	**Keskin Array B**	**151.05**	**311**	PKPbc		**PKPbc**		**10 41 51.0**	**+0.2**
CLL	**Collm**	**151.40**	**350**	*i* PKPbc		**PKPbc**		**10 41 51.0**	**0.0**
	comp=Z,5.0nm,0.9s								
BRG	**Berggiesshubel**	**151.65**	**349**	*e*PKP		**PKPbc**		**10 41 52.3**	**+0.7**
	comp=Z,9.2nm,1.1s								
TORD	**Torodi Ar. Bea**	**169.33**	**160**	PKP		**PKPdf**		**10 42 05.8**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=144,slow=2.0,SNR=2.8								
TORD				PKPab		**PKPab**		**10 43 19.6**	**+1.7**
	comp=Z,0.9nm,1.0s,baz=194,slow=5.5,SNR=3.4								
TORD	**Torodi Ar. Bea**	**169.33**	**160**	PKP		**PKPdf**		**10 42 05.8**	**+0.1**
TORD				PKPab		**PKPab**		**10 43 19.6**	**+1.7**

IDC 21 10:26:47.1±4.2, 22.67S×175.65W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/19, mbtmp3.7/4, Error ellipse: s-maj=245.9km s-min=29.5km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**9.46**	**23**	Pn		Pn	Pn	10 29 01.5	-3.3
	1.2nm,0.3s,baz=214,slow=3.6,SNR=4.5								
AFI				Sn		Sn	Sn	10 30 40.6	-11
	0.7nm,0.3s,baz=232,slow=15,SNR=1.8								
ASAR	**Alice Springs**	**46.19**	**258**	P		P		10 35 14.3	+0.1
	0.4nm,0.6s,baz=102,slow=6.8,SNR=6.9								
WRA	**Warramunga Arr**	**46.50**	**264**	P		P		10 35 16.3	-0.3
	0.8nm,0.3s,baz=102,slow=8.2,SNR=31								
NVAR	**Mina Array Bea**	**81.13**	**42**	P		P		10 39 05.5	+0.8
	0.4nm,0.8s,baz=221,slow=8.0,SNR=3.7								
YKA	**Yellowknife Ar**	**97.58**	**24**	P		P		10 40 21.7	-1.2
	0.2nm,0.7s,baz=238,slow=3.5,SNR=3.9								

IDC 21 10:33:04.3±5.0, 64.95S×179.10E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.8/11, mbtmp3.7/4, ML3.4/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/21, Error ellipse: s-maj=166.0km s-min=27.6km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VNDA	**Vanda**	**13.69**	**196**			Pn	Pn	10 36 17.6	-1.7
	0.2nm,0.3s,baz=40,slow=18,SNR=12								
QSPA	**South Pole Qui**	**25.14**	**180**	P		P		10 38 31.2	+0.4
	4.8nm,1.0s,baz=50,slow=7.7,SNR=8.2								
QSPA				LR		LR		10 47 19.5	
	comp=Z,328nm,19.6s,baz=24,slow=34								
URZ	**Urewera**	**26.75**	**357**	LR		LR		10 46 56.9	
	comp=Z,369nm,19.9s,baz=197,slow=31								
MAW	**Mawson**	**40.22**	**212**	LR		LR		10 57 16.2	
	comp=Z,525nm,19.1s,baz=119,slow=36								
PMSA	**Palmer Station**	**42.68**	**146**	LR		LR		10 56 30.4	
	comp=Z,33nm,21.8s,baz=190,slow=33								
DZM	**Mont Dzumac**	**43.66**	**343**	*e*LR		LR		10 53 59.0	
	305nm,23.4s								
TBI	**Tubuai**	**46.33**	**42**	*e*LR		LR		10 54 19.2	
	179nm,28.8s								
TBI				*e*T		T		11 30 50.4	
	14nm,0.3s								
ASAR	**Alice Springs**	**50.48**	**303**	P		P		10 42 04.2	+0.4
	0.3nm,0.8s,baz=137,slow=7.0,SNR=4.1								
RKT	**Rikitea**	**51.25**	**58**	*e*T		T		11 36 45.3	
	5.8nm,0.2s								
TVO	**Taravao**	**51.68**	**40**	*e*T		T		11 37 33.0	
	13nm,0.4s								
PAE	**Paea**	**51.71**	**39**	*e*T		T		11 37 35.2	
	1.1nm,0.3s								
PPT2	**Papeete2**	**51.78**	**39**	*e*LR		LR		10 56 49.5	
	134nm,25.2s								
PPT2				*e*T		T		11 37 40.5	
	2.3nm,0.3s								
PPT	**Papeete**	**51.80**	**39**	LR		LR		10 59 09.4	
	comp=Z,141nm,19.0s,baz=194,slow=30								
WRA	**Warramunga Arr**	**53.76**	**305**	P		P		10 42 27.6	-0.6
	0.5nm,0.6s,baz=156,slow=6.5,SNR=5.3								
PMOR	**Pomariorio Ree**	**54.70**	**40**	*e*T		T		11 41 18.6	
	5.7nm,0.3s								
KAPI	**Kappang**	**72.85**	**296**	LR		LR		11 16 11.0	
	comp=Z,49nm,18.0s,baz=102,slow=36								
BOSA	**Boshof**	**84.55**	**203**	LR		LR		11 23 14.1	
	comp=Z,106nm,18.3s,baz=172,slow=36								

DDA ***21*** *10:50:45

VLX	Vlachokerasia	3.80	311	*e*PN	Pn	10 51 51.1	+2.2
VLX	Vlachokerasia	3.80	311	*e*Pn	Pn	10 51 51.1	+2.2
ITM	Ithomi	3.98	306	*e*PN	Pn	10 51 54.1	+2.8
ITM	Ithomi	3.98	306	*e*Pn	Pn	10 51 54.1	+2.8
BRTR	Keskin Array B	7.76	50	Pn	Pn	10 52 46.7	+3.3
	0.1nm,0.3s,baz=224,slow=10,SNR=6.4						
MMAI	Mount Meron Ar	8.06	101	Pn	Pn	10 52 48.2	+0.8
	1.5nm,0.3s,baz=262,slow=11,SNR=4.4						
MMAI				Sn	Sn	10 54 17.9	0.0
	1.7nm,0.3s,baz=310,slow=25,SNR=1.8						
EIL	Elat	9.23	122	Pn	Pn	10 53 02.3	-1.0
	0.6nm,0.3s,baz=302,slow=6.8,SNR=8.2						
EIL				Sn	Sn	10 54 39.1	-7.3
	0.3nm,0.3s,baz=58,slow=18,SNR=1.6						
KBZ	Khabaz	15.76	51	Pn	Pn	10 54 33.4	+1.4
	0.2nm,0.3s,baz=239,slow=5.9,SNR=2.4						
AKASG	Malin Array Be	15.95	8	Pn	Pn	10 54 32.5	-2.0
	1.3nm,0.3s,baz=215,slow=11,SNR=5.5						
GERES	GERESS Array B	16.61	331	Pn	Pn	10 54 42.5	-0.5
	0.1nm,0.3s,baz=156,slow=13,SNR=4.6						
FINES	FINESS Array B	26.54	0	P	P	10 56 25.1	-2.3
	1.3nm,0.7s,baz=198,slow=13,SNR=3.5						
AKTO	Aktyubinsk	27.93	46	P	P	10 56 43.4	+3.4
	0.9nm,0.5s,baz=253,slow=11,SNR=3.7						
TORD	Torodi Ar. Bea	30.85	231	P	P	10 57 05.7	-0.5
	1.3nm,1.0s,baz=33,slow=8.5,SNR=9.3						
ARCES	ARCESS Array B	34.67	360	P	P	10 57 36.3	-2.7
	0.6nm,0.4s,baz=176,slow=8.2,SNR=11						
MKAR	Makanchi Array	43.35	56	P	P	10 58 52.4	+0.4
	0.5nm,0.4s,baz=274,slow=7.8,SNR=10						
ZALV	Zalesovo Beam	44.69	46	P	P	10 59 02.2	-0.4
	0.3nm,0.3s,baz=271,slow=11,SNR=3.6						
SONM	Songino Array	59.12	51	P	P	11 00 51.4	+1.0
	0.1nm,0.4s,baz=262,slow=4.4,SNR=3.1						
SCHQ	Schefferville	63.80	320	P	P	11 01 20.7	-1.0
	0.9nm,0.4s,baz=65,slow=17,SNR=12						
YKA	Yellowknife Ar	77.88	342	P	P	11 02 45.6	-1.4
	0.1nm,0.5s,baz=33,slow=5.0,SNR=6.0						
ILAR	Eielson Array	80.48	357	P	P	11 03 00.8	-0.4
	0.2nm,0.4s,baz=339,slow=4.7,SNR=4.3						

IDC 21 10:58:56.9±3.2, 21°.83S×69°.02W, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=78.7km s-min=54.9km az=92.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	5.57	9	Pn	Pn	11 00 20.8	-1.1
	0.5nm,0.3s,baz=182,slow=7.8,SNR=12						
SIV	San Ignacio	9.50	54	Pn	Pn	11 01 16.5	+1.4
	0.8nm,0.3s,baz=256,slow=11,SNR=9.6						
TORD	Torodi Ar. Bea	77.56	70	P	P	11 10 54.6	-0.6
	0.2nm,0.4s,baz=258,slow=5.0,SNR=8.3						
MKAR	Makanchi Array	145.96	36	PKPbc	PKPab	11 18 38.7	-0.2
	0.1nm,0.4s,baz=290,slow=3.3,SNR=2.8						

*ISCJB **21** 11:09:59.1±0.2, 47°.94N×0°.02×6°.45E±0°.02, h15km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=177.2*
*BGR **21** 11:10:00.8±1.0, 47°.96N×6°.48E, h10km, ML2.1/5, Error ellipse: s-maj=10.0km s-min=4.4km az=42.0*
*CSEM **21** 11:10:00.2±0.1, 47°.94N×6°.49E, h19km, ML2.5/16, Error ellipse: s-maj=1.8km s-min=1.4km az=167.0*
*STR **21** 11:10:01.0±0.2, 47°.97N×6°.55E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **21** 11:10:01.1±0.1, 47°.95N×6°.50E, h15km, Md2.8/6, Ml2.7/14, Error ellipse: s-maj=1.5km s-min=1.2km az=162.0*
*LEDBW **21** 11:10:01.4±0.1, 47°.95N±0°.02×6°.530E±0°.009, h15km, ML2.2, Error ellipse: s-maj=6.0km s-min=4.0km az=33.0*

ISC 21 11:10:00.9±0.8, 47°.93N±0°.02×6°.50E±0°.01, h20km±4km, n124, σ1$36/177, 5C-6D, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAU	Haudompre	0.13	308	*e*Pg	Pg	11 10 04.8	-0.4
HAU				*e*Sg	Sg	11 10 07.1	-1.0
	355nm,0.2s,SNR=1.0						
HAU	Haudompre	0.13	308	*e*Pg	Pg	11 10 04.8	-0.4
HAU				*e*Sg	Sg	11 10 07.1	-1.0
	177nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	0.26	115	*e*Pg	Pb	11 10 07.0	+0.1
	SNR=1.0						
HINF				*e*Sg	Sg	11 10 10.7	-0.5
	182nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	0.26	115	*e*Pg	Pb	11 10 07.0	+0.1
	SNR=1.0						
HINF				*e*Sg	Sg	11 10 10.7	-0.5
	91nm,0.2s,SNR=1.0						
MOF	Molkenrain	0.43	100	↑*i*P*	Pb	11 10 10.0	0.0
MOF	Molkenrain	0.43	100	Pg	Pb	11 10 09.9	0.0
MOF				Sg	Sg	11 10 15.1	-0.9
MOF	Molkenrain	0.43	100	↑*i*Pg	Pb	11 10 10.0	0.0
MOF	Molkenrain	0.43	100	Pg	Pb	11 10 09.9	0.0
MOF				Sg	Sg	11 10 15.1	-0.9
THEF	They Montfort	0.46	311	↓*i*P*	Pg	11 10 10.2	-0.1
THEF				S*	Sg	11 10 16.3	-0.3
THEF	They Montfort	0.46	311	Pg	Pg	11 10 10.1	-0.2
THEF				Sg	Sg	11 10 15.9	-0.7
THEF	They Montfort	0.46	311	↓*i*Pg	Pg	11 10 10.2	-0.1
THEF				Sg	Sg	11 10 16.3	-0.3
THEF	They Montfort	0.46	311	Pg	Pg	11 10 10.1	-0.2
THEF				Sg	Sg	11 10 15.9	-0.7
THEF				Sb	Sg	11 10 16.3	-0.3
ECH	Echery	0.53	57	P*	Sg	11 10 11.1	-0.5
ECH				S*	Sg	11 10 17.8	-1.0
ECH				SmS		11 10 20.0	
ECH	Echery	0.53	57	Pg	Pg	11 10 11.1	-0.5
ECH				Sg	Sg	11 10 17.4	-1.4
ECH	Echery	0.53	57	↑Pg	Pg	11 10 11.2	-0.4
ECH				Sg	Sg	11 10 17.8	-1.0
ECH				SmS		11 10 20.0	
ECH	Echery	0.53	57	Pb	Pg	11 10 11.1	-0.5
ECH				Sg	Sg	11 10 17.4	-1.4
ECH				Sb	Sg	11 10 17.8	-1.0
LOMF	Lomont	0.62	159	↓*e*Pn	Pb	11 10 13.9	+0.9
LOMF				↑*i*Pg	Pn	11 10 14.3	-0.3
LOMF	Lomont	0.62	159	Pg	Pb	11 10 13.9	+0.9
LOMF				Sg	Sb	11 10 22.3	+1.0
LOMF	Lomont	0.62	159	↓*e*P	Pb	11 10 13.9	+0.9
LOMF	Lomont	0.62	159	↑*i*PmP		11 10 14.3	
LOMF				Sx	Sx	11 10 23.0	
LOMF	Lomont	0.62	159	Pg	Pb	11 10 13.9	+0.9
LOMF				Sg	Sb	11 10 22.3	+1.0
CDF	Champ du Feu	0.71	47	*e*Pg	Pg	11 10 14.2	-0.8
	SNR=1.0						
CDF				*e*Sg	Sg	11 10 23.2	-1.3
	43nm,0.3s,SNR=1.0						
CDF	Champ du Feu	0.71	47	*e*Pg	Pg	11 10 14.2	-0.8
	SNR=1.0						
CDF				*e*Sg	Sg	11 10 23.2	-1.3
	22nm,0.3s,SNR=1.0						
LIBD	Limburg	0.77	73	Pg	Pb	11 10 16.3	+0.7
LIBD	Limburg	0.77	73	P	Pb	11 10 16.3	+0.7
LIBD				Sx	Sx	11 10 27.1	
LIBD	Limburg	0.77	73	Pg	Pb	11 10 16.3	+0.7
PAGF	Fort de Pagny	0.81	321	*e*Pg	Pg	11 10 16.6	-0.2
PAGF				*e*Sg	Sg	11 10 26.8	-0.9
	6.2nm,0.2s						
PAGF	Fort de Pagny	0.81	321	*e*Pg	Pg	11 10 16.6	-0.2
PAGF				*e*Sg	Sg	11 10 26.8	-0.9
	3.1nm,0.2s						
BBS	Basel-Blauen	0.82	124	P	Pb	11 10 17.4	+0.8
BBS	Basel-Blauen	0.82	124	P	Pb	11 10 17.4	+0.8
BBS				Sx	Sx	11 10 27.6	
BBS				Sx	Sx	11 10 29.1	
BBS	Basel-Blauen	0.82	124	Pg	Pb	11 10 17.2	+0.6
BBS				Sg	Sb	11 10 28.1	+0.9
ENDD	Endenburg	0.86	104	P	Pb	11 10 17.4	+0.2
ENDD	Endenburg	0.86	104	PmP		11 10 17.5	
ENDD				S	Sb	11 10 28.9	+0.6
ENDD				SmS		11 10 29.3	
KIZ	Kirchzarten	0.95	88	↑*e*Pg	Pg	11 10 18.7	-0.8
KIZ	Kirchzarten	0.95	88	↑*e*P	Pg	11 10 18.7	-0.8
KIZ				S	Sg	11 10 31.0	-1.1
KIZ	Kirchzarten	0.95	88	Pg	Pg	11 10 18.7	-0.8
FELD	Feldberg im Sc	1.01	92	Pg	Pg	11 10 19.4	-1.2
FELD	Feldberg im Sc	1.01	92	P	Pg	11 10 19.4	-1.2
FELD	Feldberg im Sc	1.01	92	Pg	Pg	11 10 19.4	-1.2
FELD				Sg	Sg	11 10 32.4	-1.6
SFTF	Sexfontaines	1.02	286	*e*Pn	Pg	11 10 19.1	-1.6
SFTF	Sexfontaines	1.02	286	*e*Pg	Pb	11 10 20.7	+0.9
SFTF				*e*Sn	Sg	11 10 32.1	-2.0
SFTF				*e*Sg	Sb	11 10 33.6	+0.8
	25nm,0.2s						
SFTF	Sexfontaines	1.02	286	*e*Pn	Pg	11 10 19.1	-1.6
SFTF	Sexfontaines	1.02	286	*e*Pg	Pb	11 10 20.7	+0.9
SFTF				*e*Sn	Sg	11 10 32.1	-2.0
SFTF				*e*Sg	Sb	11 10 33.6	+0.8
	13nm,0.2s						
MEZF	Maizieres J'vi	1.13	301	*e*Pn	Pb	11 10 20.1	-1.6
	baz=117						
MEZF	Maizieres J'vi	1.13	301	*e*Pg	Pb	11 10 21.7	0.0
	baz=119						
MEZF				*e*Sg	Sb	11 10 36.6	+0.7
	28nm,0.3s,baz=124						
MEZF	Maizieres J'vi	1.13	301	*e*Pn	Pb	11 10 20.1	-1.6
	baz=117						
MEZF	Maizieres J'vi	1.13	301	*e*Pg	Pb	11 10 21.7	0.0
	baz=119						
MEZF				*e*Sg	Sb	11 10 36.6	+0.7
	14nm,0.3s,baz=124						
BFO	Black Forest	1.29	71	Pn	Pn	11 10 22.7	-1.1
BFO				↑*i*Pg	Pg	11 10 25.5	-0.3
BFO				*e*Sg	Sn	11 10 41.6	+1.1
BFO	Black Forest	1.29	71	Pn	Pn	11 10 22.7	-1.1
BFO	Black Forest	1.29	71	↑*i*P	Pg	11 10 25.5	-0.3
BFO	Black Forest	1.29	71	Pn	Pn	11 10 22.7	-1.1
CABF	La Chapelle	1.35	192	*e*Pn	Pn	11 10 24.7	+0.1
	SNR=1.0						
CABF	La Chapelle	1.35	192	*e*Pg	Pb	11 10 26.4	+0.9
	SNR=1.0						
CABF				*e*Sn	Sb	11 10 40.3	-2.0
	SNR=1.0						
CABF				*e*Sg	Sn	11 10 43.9	+1.9
	8.8nm,0.2s,SNR=1.0						
CABF	La Chapelle	1.35	192	*e*Pn	Pn	11 10 24.7	+0.1
	SNR=1.0						
CABF	La Chapelle	1.35	192	*e*Pg	Pb	11 10 26.4	+0.9
	SNR=1.0						
CABF				*e*Sn	Sb	11 10 40.3	-2.0
	SNR=1.0						
CABF				*e*Sg	Sn	11 10 43.9	+1.9
	4.4nm,0.2s,SNR=1.0						
LANF	Langenberg	1.37	39	Pg	Pg	11 10 26.5	-0.8
LANF	Langenberg	1.37	39	Pg	Pb	11 10 26.2	+0.4
LANF				Sg	Sn	11 10 43.7	+1.3
LANF	Langenberg	1.37	39	P	Pg	11 10 26.5	-0.8
LANF	Langenberg	1.37	39	Pg	Pg	11 10 26.5	-0.8
LANF				Sg	Sn	11 10 43.7	+1.3
SPAK	Spaichingen-Ko	1.54	83	Px	Px	11 10 30.5	
LBG	Lerchenberg	1.70	63	↓*i*Pg	Pg	11 10 32.9	-0.8
LBG	Lerchenberg	1.70	63	↓*i*P	Pg	11 10 32.9	-0.8
LBG	Lerchenberg	1.70	63	Pg	Pg	11 10 32.9	-0.8
BHBD	Braunhartsberg	1.71	78	Px	Px	11 10 33.5	
WLF	Walferdange	1.75	353	*e*Pn	Pn	11 10 30.2	+0.1
	SNR=0.9						
WLF				*e*Sg	Sg	11 10 55.9	-1.5
WLF	Walferdange	1.75	353	Sx	Sx	11 10 55.9	
WLF	Walferdange	1.75	353	Pn	Pn	11 10 30.2	+0.1
	SNR=0.9						
WLF				Sg	Sg	11 10 55.9	-1.5
GUT	Gutenstein	1.76	84	Pg	Pg	11 10 34.4	-0.4
GUT	Gutenstein	1.76	84	P	Pg	11 10 34.4	-0.4
GUT				Sx	Sx	11 10 56.9	
GUT	Gutenstein	1.76	84	Pg	Pg	11 10 34.4	-0.4
RUP	Ruppelstein	1.81	12	Pg	Pb	11 10 33.9	+0.5
LOR	Lormes	1.91	251	*e*Pn	Pn	11 10 31.5	-0.8
	baz=76,SNR=1.0						
LOR	Lormes	1.91	251	*e*Pg	Pg	11 10 37.4	-0.1
	baz=70						
LOR				*e*Sg	Sb	11 11 00.6	+2.3
	3.2nm,0.2s,baz=73,SNR=1.0						
BUCH	Bad Urach	1.98	74	Pg	Pg	11 10 38.4	-0.5
BUCH	Bad Urach	1.98	74	P	Pg	11 10 38.4	-0.5
BUCH	Bad Urach	1.98	74	Pg	Pg	11 10 38.4	-0.5
SSF	Saint Saulge	2.21	248	*e*Pn	Pn	11 10 35.6	-0.8
	SNR=1.0						
SSF	Saint Saulge	2.21	248	*e*Pg	Pg	11 10 42.9	-0.3
SSF				*e*Sg	Sb	11 11 09.8	+2.8
	6.7nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.21	248	*e*Pn	Pn	11 10 35.6	-0.8
	SNR=1.0						
SSF	Saint Saulge	2.21	248	*e*Pg	Pg	11 10 42.9	-0.3
SSF				*e*Sg	Sb	11 11 09.8	+2.8
	3.3nm,0.3s,SNR=1.0						
SMF	Signal de Mont	2.22	236	*e*Pn	Pn	11 10 35.4	-1.1
	SNR=1.0						
SMF	Signal de Mont	2.22	236	*e*Pg	Pg	11 10 43.1	-0.4
SMF				*e*Sg	Sb	11 11 10.5	+3.2
	9.8nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.22	236	*e*Pn	Pn	11 10 35.4	-1.1
	SNR=1.0						
SMF	Signal de Mont	2.22	236	*e*Pg	Pg	11 10 43.1	-0.4
SMF				*e*Sg	Sb	11 11 10.5	+3.2
	4.9nm,0.2s,SNR=1.0						
LPL	La Plagne	2.42	176	*e*Pn	Pn	11 10 36.4	-3.1
	SNR=1.0						
AVF	Avril sur Loir	2.42	243	*e*Pn	Pn	11 10 38.3	-1.0
	SNR=1.0						
AVF	Avril sur Loir	2.42	243	*e*Pg	Pg	11 10 47.0	-0.4
	SNR=1.0						
AVF				*e*Sn	Sn	11 11 06.0	-2.4
	SNR=1.0						
AVF				*e*Sg	Sg	11 11 17.5	-1.3
	2.3nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	2.42	243	*e*Pn	Pn	11 10 38.3	-1.0
	SNR=1.0						
AVF	Avril sur Loir	2.42	243	*e*Pg	Pg	11 10 47.0	-0.4
	SNR=1.0						
AVF				*e*Sn	Sn	11 11 06.0	-2.4
	SNR=1.0						
AVF				*e*Sg	Sg	11 11 17.5	-1.3
	1.1nm,0.2s,SNR=1.0						
GIVF	Givet	2.44	334	*e*P	Pn	11 10 40.6	+1.0
	SNR=1.0						
GIVF	Givet	2.44	334	*e*Pg	Pb	11 10 45.8	+1.7
GIVF				*e*Sg	Sb	11 11 16.7	+3.0
	3.7nm,0.2s						
GIVF	Givet	2.44	334	*e*P	Pn	11 10 40.6	+1.0
	SNR=1.0						
GIVF	Givet	2.44	334	*e*Pg	Pb	11 10 45.8	+1.7
GIVF				*e*Sg	Sb	11 11 16.7	+3.0
	1.9nm,0.2s						
SIND	Sindeldorf	2.50	54	Pg	Pg	11 10 48.6	-0.3
SIND	Sindeldorf	2.50	54	P	Pg	11 10 48.6	-0.3
SIND	Sindeldorf	2.50	54	Pg	Pg	11 10 48.6	-0.3
HDH	Heidenheim-Cha	2.56	74	Pg	Pg	11 10 49.3	-0.8
HDH	Heidenheim-Cha	2.56	74	Px	Px	11 10 49.3	
HDH	Heidenheim-Cha	2.56	74	Pg	Pg	11 10 49.3	-0.8
BAIF	Baives	2.61	326	*e*Pn	Pn	11 10 40.9	-1.1
BAIF	Baives	2.61	326	*e*Pg	Pb	11 10 48.5	+1.5
BAIF				*e*Sg	Sg	11 11 22.6	-2.3
	2.0nm,0.3s,SNR=1.0						
BAIF	Baives	2.61	326	*e*Pn	Pn	11 10 40.9	-1.1
BAIF	Baives	2.61	326	*e*Pg	Pb	11 10 48.5	+1.5
BAIF				*e*Sg	Sg	11 11 22.6	-2.3
	1.0nm,0.3s,SNR=1.0						
OBER	Oberstdorf	2.62	100	*e*Sg	Sg	11 11 24.7	-0.3
OBER	Oberstdorf	2.62	100	Sg	Sg	11 11 24.7	-0.3
TNS	Taunus Mts	2.63	28	*e*Sg	Sg	11 11 23.3	-2.2
TNS	Taunus Mts	2.63	28	Sg	Sg	11 11 23.3	-2.2
HYF	Humbligny	2.69	257	*e*Pn	Pn	11 10 41.5	-1.6
HYF	Humbligny	2.69	257	*e*Pg	Pg	11 10 51.5	-1.0
HYF	Humbligny	2.69	257	*e*Pn	Pn	11 10 41.5	-1.6
HYF	Humbligny	2.69	257	*e*Pg	Pg	11 10 51.5	-1.0
DREG	Dreilaegerbach	2.74	356	*e*Sg	Sg	11 11 26.1	-3.0
DREG	Dreilaegerbach	2.74	356	Sg	Sg	11 11 26.1	-3.0
BGF	Bois d'Agland	2.84	243	*e*Pn	Pn	11 10 44.1	-1.0
BGF	Bois d'Agland	2.84	243	*e*Pg	Pg	11 10 54.5	-0.8
BGF				*e*Sg	Sg	11 11 30.1	-2.1
	7.5nm,0.3s						
BGF	Bois d'Agland	2.84	243	*e*Pn	Pn	11 10 44.1	-1.0
BGF	Bois d'Agland	2.84	243	*e*Pg	Pg	11 10 54.5	-0.8
BGF				*e*Sg	Sg	11 11 30.1	-2.1
	3.8nm,0.3s						
ORIF	Oris-en-Rattie	3.04	188	*e*Pn	Pn	11 10 47.9	0.0
	SNR=1.0						
ORIF				*e*Sg	Sg	11 11 36.1	-2.5
	4.5nm,0.4s,SNR=1.0						
ORIF	Oris-en-Rattie	3.04	188	*e*Pn	Pn	11 10 47.9	0.0
	SNR=1.0						
ORIF				*e*Sg	Sg	11 11 36.1	-2.5
	2.2nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	3.32	203	*e*Sg	Sb	11 11 44.1	+5.0
	2.9nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	3.32	203	*e*Sg	Sb	11 11 44.1	+5.0
	1.5nm,0.2s,SNR=1.0						
GRR	Gorron	4.95	278	*e*Sn	Sn	11 12 05.7	-4.9
	12nm,0.2s,SNR=1.0						

IDC 21 11:17:59.3±0.7, 33°.66N×82°.32E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/29, mbtmp3.9/13, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/48, Error ellipse: s-maj=24.1km s-min=16.4km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	10.86	328	LR	LR	11 25 05.4	
	comp=Z,81nm,19.2s,baz=128,slow=39						
MKAR	Makanchi Array	13.12	360	Pn	Pn	11 21 07.1	+0.2
	0.1nm,0.3s,baz=177,slow=14,SNR=9.1						
KURBB	Kurchatov Arra	17.18	352	P	Pn	11 22 00.4	-0.2
	0.1nm,0.3s,baz=170,slow=11,SNR=9.8						
ZALV	Zalesovo Beam	20.36	4	P	P	11 22 38.0	+0.8
	1.6nm,0.5s,baz=205,slow=8.7,SNR=11						
CMAR	Chiang Mai Arr	21.22	131	P	P	11 22 47.6	+0.8
	6.4nm,0.9s,baz=310,slow=11,SNR=31						
SONM	Songino Array	22.97	45	P	P	11 23 05.6	+0.2
	1.0nm,0.9s,baz=240,slow=11,SNR=6.7						
AKTO	Aktyubinsk	24.46	321	P	P	11 23 20.2	+0.5
	1.9nm,0.7s,baz=139,slow=8.1,SNR=5.7						
FINES	FINESS Array B	45.04	326	P	P	11 26 16.7	+0.2
	3.4nm,1.0s,baz=111,slow=10,SNR=7.0						
WRA	Warramunga Arr	72.80	129	P	P	11 29 30.0	+0.1
	1.1nm,0.6s,baz=326,slow=6.0,SNR=20						
ILAR	Eielson Array	74.64	20	P	P	11 29 39.8	-0.3
	0.5nm,0.9s,baz=305,slow=4.7,SNR=4.9						
TORD	Torodi Ar. Bea	75.10	276	P	P	11 29 43.6	0.0
	1.2nm,0.5s,baz=42,slow=4.4,SNR=18						
ASAR	Alice Springs	75.23	132	P	P	11 29 44.0	-0.1
	0.6nm,0.7s,baz=317,slow=5.6,SNR=11						
BOSA	Boshof	82.19	228	P	P	11 30 22.4	0.0
	2.8nm,0.9s,baz=72,slow=5.7,SNR=4.2						
YKA	Yellowknife Ar	83.21	8	P	P	11 30 26.2	-1.0
	0.4nm,0.5s,baz=336,slow=5.3,SNR=11						

*ISCJB **21** 11:19:11.3±0.5, 1°.60N±0°.06×91°.10W±0°.1, h10km, mb4.3/28, MS4.0/17, Error ellipse: s-maj=17.0km s-min=7.4km az=158.1*
*IDC **21** 11:19:12.1±0.8, 1°.85N×90°.69W, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/23, mbtmp3.9/12, ML3.4/2, MS4.0/22, Ms1 4.1/22, ms1mx3.9/35, Error ellipse: s-maj=51.5km s-min=14.1km az=61.0*
*NEIC **21** 11:19:13.2±0.5, 1°.56N×91°.17W, h10km, mb4.5/18, Error ellipse: s-maj=19.1km s-min=8.1km az=65.0*
*GCMT **21** 11:19:17.0±0.3, 1°.77N×90°.87W, h21km±1km, MW4.9, Moment Tensor Solution. s21,c26; s63,c87; Moment tensor: Scale 10¹⁶Nm; Mrr=-0.28±.12; Mθθ 0.15±.09; Mϕϕ 0.13±.13; Mrθ=0.64±.17; Mrϕ=-2.34±.09; Mθϕ 0.31±.19; Best double couple: M₀2.40000×10¹⁶ NP1:ϕs 1.00000°, δ 76.00000°, λ 4.00000°. NP2:ϕs 270.00000°, δ 86.00000°, λ 166.00000°. Principal axes: T 2.6400, Plg13.0000°, Azm224.0000°; N -0.4100, Plg75.0000°, Azm74.0000°; P -2.2300, Plg7.0000°, Azm316.0000°; Data Used: II IU CN IC G.*

ISC 21 11:19:13.2±0.6, 1°.59N±0°.08×91°.1W±0°.1, h10km, n77, σ1$49/58, mb4.3/28, MS4.1/17, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAYG	Puerto Ayora	2.40	160	*e*Pn	Pn	11 19 50.9	-1.8
JTS	JuntasAbangare	10.60	35	LR	LR	11 24 42.0	
	comp=Z,2μm,19.1s,baz=172,slow=32						
JTS	JuntasAbangare	10.60	35	*e*Pn	Pn	11 21 46.1	+0.8
TGUH	Tegucigalpa,Un	12.96	17	*e*Pn	Pn	11 22 17.3	-0.2
	56nm,1.2s						
ATAH	Atahualpa	15.38	124	Pn	Pn	11 22 52.8	+1.8
	0.3nm,0.3s,baz=304,slow=13,SNR=14						
ATAH				LR	LR	11 27 41.4	
	comp=Z,1μm,18.2s,baz=301,slow=34						
ATAH	Atahualpa	15.38	124	Pn	Pn	11 22 52.8	+1.8
CMIG	Matias Romero	15.84	347	Pn	Pn	11 22 56.8	+0.3
	0.1nm,0.3s,baz=147,slow=12,SNR=1.9						
CMIG				LR	LR	11 27 38.9	
	comp=Z,391nm,19.2s,baz=159,slow=32						
CMIG	Matias Romero	15.84	347	Pn	Pn	11 22 56.8	+0.3
ROSC	El Rosal	17.08	79	LR	LR	11 28 05.1	
	comp=Z,250nm,22.0s,baz=8.7,slow=32						
TEIG	Tepich	18.73	8	P	P	11 23 30.8	-1.4
	0.2nm,0.3s,baz=255,slow=22,SNR=11						
TEIG				LR	LR	11 29 29.8	
	comp=Z,297nm,19.1s,baz=274,slow=34						
TEIG	Tepich	18.73	8	eP	Pn	11 23 32.7	+0.1
NNA	Nana	19.58	134	LR	LR	11 29 37.6	
	comp=Z,499nm,21.1s,baz=320,slow=32			

	9.6nm,0.9s						
BDFB	**Brasilia**	**45.92**	**114**	LR	LR	11 47 20.4	
	comp=Z,260nm,18.2s,baz=98,slow=37						
PLCA	**Paso Flores**	**46.12**	**158**	P	**P**	**11 27 39.8**	**+1.9**
	2.3nm,0.9s,baz=329,slow=7.9,SNR=4.1						
PLCA				LR	LR	11 44 00.2	
	comp=Z,210nm,19.0s,baz=344,slow=32						
PLCA	**Paso Flores**	**46.12**	**158**	P	**P**	**11 27 39.8**	**+1.9**
HLID	**Hailey**	**46.65**	**337**	*e*P	**P**	**11 27 42.3**	**+0.1**
	4.1nm,0.9s						
AGMN	**Agassiz Nation**	**46.70**	**356**	*e*P	**P**	**11 27 42.8**	**+0.5**
	5.9nm,0.9s						
MOD	**Modoc**	**47.94**	**331**	*e*P	**P**	**11 27 52.5**	**+0.2**
	3.5nm,0.9s						
ULM	**Lac du Bonnet**	**48.65**	**356**	P	**P**	**11 27 55.5**	**-1.8**
	2.2nm,0.8s,baz=169,slow=9.2,SNR=4.2						
ULM	**Lac du Bonnet**	**48.65**	**356**	P	**P**	**11 27 55.5**	**-1.8**
RKT	**Rikitea**	**49.24**	**237**	*e*LR	LR	11 42 22.3	
	184nm,24.8s						
RKT				*e*T	T	12 21 08.7	
	2.3nm,0.3s						
SCHQ	**Schefferville**	**56.66**	**17**	LR	LR	11 51 12.6	
	comp=Z,171nm,20.6s,baz=275,slow=34						
USHA	**Ushuaia**	**59.27**	**165**	LR	LR	11 48 32.7	
	comp=Z,271nm,19.8s,baz=204,slow=30						
PPT2	**Papeete2**	**60.62**	**249**	*e*LR	LR	11 47 45.1	
	215nm,23.2s						
TBI	**Tubuai**	**61.88**	**242**	*e*S	S	11 38 17.9	+21
	200nm,31.2s						
TBI				*e*LR	LR	11 48 19.7	
	352nm,27.5s						
YKA	**Yellowknife Ar**	**63.25**	**348**	P	**P**	**11 29 39.6**	**-2.1**
	1.2nm,1.0s,baz=146,slow=6.5,SNR=15						
YKA	**Yellowknife Ar**	**63.25**	**348**	P	**P**	**11 29 39.6**	**-2.1**
PMSA	**Palmer Station**	**69.12**	**168**	LR	LR	11 53 46.3	
	comp=Z,284nm,21.1s,baz=234,slow=30						
SML	**Sawmill**	**73.66**	**335**	*e*P	P	11 30 40.6	-6.3
ILAR	**Eielson Array**	**74.57**	**338**	P	**P**	**11 30 50.7**	**-1.5**
	1.1nm,0.8s,baz=139,slow=4.2,SNR=12						
ILAR				LR	LR	12 04 23.5	
	comp=Z,100nm,20.8s,baz=46,slow=36						
ILAR	**Eielson Array**	**74.57**	**338**	P	**P**	**11 30 50.7**	**-1.5**
DBIC	**Dimbokro**	**86.11**	**83**	LR	LR	12 08 54.8	
	comp=Z,66nm,18.6s,baz=243,slow=35						
TORD	**Torodi Ar. Bea**	**92.39**	**77**	LR	LR	12 09 56.0	
	comp=Z,66nm,20.6s,baz=150,slow=33						
NOA	**NORSAR Array B**	**94.58**	**28**	LR	LR	12 13 01.1	
	comp=Z,32nm,20.3s,baz=295,slow=34						
GERES	**GERESS Array B**	**98.53**	**40**	LR	LR	12 11 13.4	
	comp=Z,102nm,19.1s,baz=86,slow=32						
ZALV	**Zalesovo Beam**	**124.55**	**3**	PKP	**PKPdf**	**11 38 14.5**	**+1.6**
	0.2nm,0.3s,baz=112,slow=0.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**124.55**	**3**	PKP	**PKPdf**	**11 38 14.5**	**+1.6**
KURK	**Kurchatov**	**127.16**	**8**	PKP	**PKPdf**	**11 38 18.9**	**+0.9**
KURBB	**Kurchatov Arra**	**127.23**	**8**	PKP	**PKPdf**	**11 38 18.9**	**+0.8**
	0.2nm,0.2s,baz=338,slow=2.9,SNR=3.3						
SONM	**Songino Array**	**128.45**	**345**	PKP	**PKPdf**	**11 38 23.1**	**+2.3**
	0.5nm,1.0s,baz=62,slow=3.7,SNR=3.0						
SONM	**Songino Array**	**128.45**	**345**	PKP	**PKPdf**	**11 38 23.1**	**+2.3**
MKAR	**Makanchi Array**	**131.47**	**6**	PKP	**PKPdf**	**11 38 29.1**	**+2.7**
	0.1nm,0.4s,baz=251,slow=3.7,SNR=2.8						
MKAR	**Makanchi Array**	**131.47**	**6**	PKP	**PKPdf**	**11 38 29.1**	**+2.7**
WRA	**Warramunga Arr**	**131.98**	**244**	PKP	**PKPdf**	**11 38 28.3**	**+0.2**
	0.2nm,0.6s,baz=100,slow=2.1,SNR=4.3						
WRA	**Warramunga Arr**	**131.98**	**244**	PKP	**PKPdf**	**11 38 28.3**	**+0.2**

*ISCJB **21** 11:24:44.9±0.3,33°.25N±0°.01×116°.43W±0°.02,h3km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=165.2*
*NEIC **21** 11:24:45.0,33°.25N×116°.45W,h3km,ML3.3(PAS),After PAS.*
NEIC Felt [III] at Borrego Springs and [II] at Desert Hot Springs and Escondido. Also felt at Carlsbad, Fallbrook, Indio, Riverside, San Diego, San Marcos, Trabuco Canyon and Vista.
*ECX **21** 11:24:46.7±0.7,33°.25N×116°.45W,h4km,MD3.3,ML3.4*

ISC 21 11:24:45.6±1.0,33°.25N±0°.01×116°.44W±0°.02,h9km±8km, n56,σ0°90°/92°,28C-25D,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MONP	**Monument Peak**	**0.35**	**178**	⇑P		**Pg**	**11 24 52.9**	**+0.2**
	baz=0.4							
MONP				⇑S		**Sg**	**11 24 57.9**	**+0.5**
	baz=0.4							
PFO	**Pinyon Flat Ob**	**0.36**	**357**	*e*Pg		**Pg**	**11 24 52.0**	**-0.9**
PFO				*e*Sg		**Sg**	**11 24 57.7**	**-0.1**
PFO	**Pinyon Flat Ob**	**0.36**	**357**	P		**Pg**	**11 24 52.9**	**0.0**
	baz=0.4,SNR=1000							
PFO				⇑S		**Sg**	**11 24 57.6**	**-0.1**
	baz=0.4							
PLM	**Palomar**	**0.37**	**287**	⇓*e*P		**Pg**	**11 24 53.6**	**-0.9**
EML	**El Monte Cty P**	**0.49**	**224**	⇑*e*P		**Pg**	**11 24 55.5**	**+0.4**
CRR	**Carrizo Plain**	**0.53**	**132**	⇓*e*P		**Pg**	**11 24 56.5**	**+0.6**
BAR	**Barrett**	**0.60**	**200**	*e*Pg		**Pg**	**11 24 57.1**	**-0.1**
BAR				*e*Sg		**Sg**	**11 25 05.0**	**0.0**
SWSC	**Sam W. Stewart**	**0.62**	**119**	P		**Pg**	**11 24 57.6**	**0.0**
	baz=0.6,SNR=567							
SWSC				⇓S		**Sg**	**11 25 05.9**	**+0.3**
	baz=0.6							
DVTC	**Desert V Tower**	**0.65**	**154**	⇓P		**Pg**	**11 24 58.2**	**+0.1**
	baz=0.7,SNR=118							
DVTC				⇓S		**Sg**	**11 25 06.9**	**+0.2**
	baz=0.7							
109C	**Camp Elliot, M**	**0.67**	**238**	⇑P		**Pg**	**11 24 58.4**	**-0.1**
	baz=0.7							
109C				⇓S		**Sg**	**11 25 07.2**	**0.0**
	baz=0.7							
RMX	**La Rumorosa**	**0.71**	**155**	⇓*e*P		**Pg**	**11 24 59.2**	**-0.1**
RMX				*e*S		**Sg**	**11 25 08.7**	**+0.2**
MURC	**Murrieta**	**0.73**	**299**	P		**Pg**	**11 24 59.6**	**-0.1**
	baz=0.7,SNR=684							
MURC				⇑S		**Sg**	**11 25 09.4**	**+0.1**
	baz=0.7							
YUH	**Yuha Desert**	**0.73**	**144**	⇓*e*P		**Pg**	**11 24 59.7**	**-0.1**
BELC	**Belle Mtn. Jos**	**0.84**	**26**	P		**Pg**	**11 25 01.5**	**-0.2**
	baz=0.8,SNR=203							
BELC				⇓S		**Sg**	**11 25 12.6**	**-0.1**
	baz=0.8							
BC3	**Big Chuckawall**	**0.92**	**63**	P		**Pg**	**11 25 02.9**	**-0.4**
	baz=0.9,SNR=194							
BC3				⇓S		**Sg**	**11 25 15.1**	**-0.2**
	baz=0.9							
CBX	**Cerro Bola**	**0.95**	**192**	*e*P		**Pg**	**11 25 03.3**	**-0.6**
CBX				*e*S		**Sg**	**11 25 16.2**	**0.0**
CBX				⇑*e*			11 25 20.8	
	comp=N,2μm,0.3s							
BBRC	**Big Bear Solar**	**1.09**	**338**	⇓P		**Pg**	**11 25 06.3**	**-0.4**
	baz=1.1,SNR=156							
BBRC				⇓S		**Sg**	**11 25 20.7**	**-0.2**
	baz=1.1							
GLA	**Glamis**	**1.36**	**98**	*e*Pn		**Pn**	**11 25 08.8**	**-2.0**
GLA	**Glamis**	**1.36**	**98**	⇓P		**Pn**	**11 25 09.1**	**-1.8**
	baz=1.4							
RDX	**Rancho Dawling**	**1.38**	**162**	*e*P		**Pn**	**11 25 10.6**	**-0.6**
RDX				*e*S		**Sb**	**11 25 29.1**	**-0.3**
RDX				⇑*e*			11 25 30.0	
	comp=N,350nm,0.3s							
IRM	**Iron Mountain**	**1.41**	**49**	⇑P		**Pn**	**11 25 10.4**	**-1.0**
	baz=1.4,SNR=81							
IRM				⇑S		**Sb**	**11 25 29.5**	**-0.7**
	baz=1.4							
BFSC	**Mount Baldy Ra**	**1.42**	**315**	⇑P		**Pn**	**11 25 11.3**	**-0.4**
	baz=1.4,SNR=96							
BFSC				⇑S		**Sb**	**11 25 30.0**	**-0.7**
	baz=1.4							
PBX	**Punta Banda**	**1.52**	**189**	*e*P		**Pn**	**11 25 13.0**	**0.0**
PBX				*e*S		**Sn**	**11 25 33.0**	**+0.1**
PBX				⇑*e*			11 25 37.4	
	comp=N,745nm,0.8s							
HEC	**Hector,Ludlow**	**1.58**	**3**	⇓Pb		**Pn**	**11 25 14.8**	**+0.8**
	baz=1.6,SNR=93							
ECNX	**Esteban Cantu**	**1.59**	**185**	⇑*e*P		**Pb**	**11 25 14.6**	**-0.6**
ECNX				*e*P		Pn	11 25 10.7	-3.3
ECNX				*e*S		Sn	11 25 29.1	-5.6
ECNX				*e*S		**Sb**	**11 25 35.3**	**-0.1**
ECNX				⇓*e*			11 25 37.2	
	comp=E,493nm,0.6s							
FMP	**Fort Macarthur**	**1.62**	**287**	⇑P		**Pn**	**11 25 13.9**	**-0.5**
	baz=1.6,SNR=24							
FMP				⇑Sb		**Sb**	**11 25 36.8**	**+0.6**
	baz=1.6							
CIS	**Catalina Islan**	**1.66**	**276**	P		**Pn**	**11 25 14.3**	**-0.5**
	baz=1.7,SNR=418							
CIS				⇓Sb		**Sg**	**11 25 38.1**	**-0.7**
	baz=1.7							
GMRC	**Granite Mounta**	**1.66**	**23**	⇑P		**Pn**	**11 25 14.4**	**-0.7**
	baz=1.7							
GMRC				⇓Sb		**Sb**	**11 25 38.0**	**+0.4**
	baz=1.7							
MWC	**Mount Wilson**	**1.67**	**306**	*e*Pn		**Pn**	**11 25 15.6**	**+0.5**
MWC				*e*Sn		**Sb**	**11 25 37.6**	**-0.2**
Y12C	**Blythe**	**1.68**	**72**	⇑P		**Pn**	**11 25 14.0**	**-1.1**
	baz=1.7							
RRX	**Edison Barstow**	**1.70**	**344**	⇑Pb		**Pb**	**11 25 16.9**	**-0.1**
	baz=1.7,SNR=19							
RRX				⇓Sb		**Sb**	**11 25 39.2**	**+0.7**
	baz=1.7							
PASC	**Pasadena Art C**	**1.73**	**303**	*e*Pn		**Pn**	**11 25 16.4**	**+0.6**
PASC				*e*Sn		**Sn**	**11 25 38.5**	**+0.5**
SCI	**San Clemente I**	**1.79**	**262**	⇑P		**Pn**	**11 25 16.2**	**-0.5**
	baz=1.8,SNR=169							
SCI				⇑S		**Sn**	**11 25 39.4**	**-0.2**
	baz=1.8							
DECC	**Green Verdugo**	**1.87**	**303**	⇓Sb		**Sb**	**11 25 44.4**	**+1.0**
	baz=1.9							
GSC	**Goldstone**	**2.08**	**352**	*e*Pn		**Pn**	**11 25 21.4**	**+0.8**
GSC				*e*S		**Sg**	**11 25 51.0**	**-1.3**
EDW2	**Edwards Air Fo**	**2.08**	**322**	⇓Sb		**Sb**	**11 25 50.7**	**+1.1**
	baz=2.1							
LDFC	**Landfair**	**2.13**	**31**	Pn		**Pn**	**11 25 20.3**	**-1.2**
LDFC				*e*Sg		**Sg**	**11 25 54.4**	**+0.2**
NEE2	**Needles Airpor**	**2.14**	**44**	⇑Sb		**Sb**	**11 25 52.4**	**+1.2**
	baz=2.1							
TUQ	**Turquoise Moun**	**2.23**	**11**	⇓Sb		**Sb**	**11 25 55.4**	**+1.6**
	baz=2.2							
OSI	**Osito Adit**	**2.34**	**306**	*e*Pn		**Pn**	**11 25 24.9**	**+0.6**
OSI				*e*Sg		**Sg**	**11 26 00.3**	**-0.5**
SPX	**San Pedro Mart**	**2.34**	**159**	*e*P		**Pb**	**11 25 27.3**	**-0.9**
SPX				*e*S		**Sb**	**11 25 56.9**	**-0.4**
BLG	**Laguna Peak**	**2.35**	**292**	⇑P		**Pn**	**11 25 24.4**	**-0.1**
	baz=2.3,SNR=6.5							
BLG				⇑S		**Sn**	**11 25 53.6**	**0.0**
	baz=2.3							
ARVC	**Arvin**	**2.73**	**314**	⇑Sb		**Sb**	**11 26 09.8**	**+1.6**
	baz=2.7							
W13A	**Hualapai Mount**	**2.81**	**48**	⇓P		**Pn**	**11 25 31.3**	**+0.4**
	baz=2.8,SNR=14							
W13A				⇓S		**Sn**	**11 26 03.8**	**-1.2**
	baz=2.8							
Z14A	**Wintersburg**	**2.92**	**87**	⇑Sb		**Sb**	**11 26 15.3**	**+1.5**
	baz=2.9							
MPMC	**Manual Prospec**	**2.94**	**343**	⇑Sb		**Sg**	**11 26 17.6**	**-2.4**
	baz=2.9							
ISA	**Isabella**	**2.94**	**326**	*e*Pg		**Pb**	**11 25 39.9**	**+1.6**
ISA				*e*Sg		**Sb**	**11 26 16.0**	**+1.7**
Y14A	**Wickenburg**	**2.95**	**75**	⇓Sb		**Sb**	**11 26 16.5**	**+2.1**
	baz=2.9							
DAC	**Darwin (Calif)**	**3.17**	**343**	*e*Pg		**Pg**	**11 25 45.3**	**-1.1**
DAC				*e*Sg		**Sg**	**11 26 25.7**	**-1.8**
X16A	**Lo Mia Camp, P**	**4.32**	**73**	⇑P		**Pn**	**11 25 51.4**	**-0.2**
	baz=4.3,SNR=12							
U15A	**North Rim**	**4.66**	**46**	⇓P		**Pn**	**11 25 57.1**	**+0.7**
	baz=4.7,SNR=9.2							
WUAZ	**Wupatki**	**4.76**	**60**	Pn		**Pn**	**11 25 60.0**	**+2.3**
TUC	**Tucson**	**4.85**	**100**	*e*Pn		**Pn**	**11 25 58.9**	**0.0**
TUC				*e*Sg		**Sg**	**11 27 21.4**	**0.0**
ARUT	**Antelope Range**	**5.15**	**27**	*e*Pg		**Pg**	**11 26 23.3**	**-1.0**
	comp=E,4.6nm,0.6s							
ARUT				*e*Sg		**Sg**	**11 27 30.6**	**-0.4**
MVCO	**Mesa Verde**	**7.60**	**56**	*e*Pn		**Pn**	**11 26 36.7**	**-0.1**
MVCO				*e*Sg		**Sg**	**11 28 51.1**	**+1.4**
PV01	**Paradox Valley**	**8.04**	**50**	*e*Pn		**Pn**	**11 26 45.3**	**+2.5**

IDC 21 11:25:19.9±1.6,22°.74S×175°.15W,h0km,mb4.2/6, mb1 4.5/7,mb1mx4.1/21,mbtmp4.2/7,ML2.1/1,Error ellipse: s-maj=78.4km s-min=20.3km az=153.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**9.35**	**21**	Pn		Pn	11 27 35.7	-0.4
	1.1nm,0.3s,baz=304,slow=12,SNR=5.2							
AFI				Sn		Sn	11 29 13.4	-8.7
	2.1nm,0.3s,baz=234,slow=18,SNR=2.6							
CTA	**Charters Tower**	**35.97**	**267**	P		P	11 32 23.5	+0.8
	4.8nm,0.7s,baz=97,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**46.63**	**259**	P		P	11 33 49.9	-0.4
	1.4nm,0.8s,baz=91,slow=7.5,SNR=11							
WRA	**Warramunga Arr**	**46.95**	**263**	P		P	11 33 52.1	-0.8
	1.9nm,0.3s,baz=90,slow=5.9,SNR=56							
NVAR	**Mina Array Bea**	**80.87**	**42**	P		P	11 37 36.4	+0.2
	2.1nm,0.9s,baz=228,slow=8.7,SNR=10							
TXAR	**Lajitas Array**	**86.06**	**56**	P		P	11 38 02.7	-0.2
	1.9nm,0.9s,baz=209,slow=7.2,SNR=17							
ILAR	**Eielson Array**	**89.93**	**12**	P		P	11 38 20.2	-0.3
	1.6nm,1.1s,baz=226,slow=5.3,SNR=7.2							
BRTR	**Keskin Array B**	**150.31**	**311**	PKPbc		PKPbc	11 45 13.7	+0.2
	1.0nm,0.8s,baz=315,slow=0.2,SNR=4.5							

*ISCJB **21** 11:33:34.3±0.7,38°.37N±0°.05×39°.03E±0°.05,h13km±6km, Error ellipse: s-maj=8.4km s-min=5.7km az=158.9*
*ISK **21** 11:33:34.1,38°.39N×39°.01E,h8km,MD2.8*
*DDA **21** 11:33:34.6,38°.37N×38°.99E,h7km,MD2.1*
*CSEM **21** 11:33:34.0±0.2,38°.40N×39°.03E,h15km,MD2.8,Error ellipse: s-maj=4.8km s-min=3.0km az=155.0*

ISC 21 11:33:34.3±1.0,38°.40N±0°.04×39°.03E±0°.03,h14km±7km, n16,σ0°42°/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELZG	**Elazig**	**0.11**	**342**	*i* P		**Pg**	**11 33 37.9**	**+0.1**
ELZG				*i* S		**Sg**	**11 33 40.1**	**+0.1**
ELZG	**Elazig**	**0.11**	**342**	*i* P		**Pg**	**11 33 37.9**	**+0.1**
ELZG				*i* S		**Sg**	**11 33 40.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.22**	**95**	*e*PG		**Pg**	**11 33 39.2**	**-0.2**
SVRC				*e*SG		**Sg**	**11 33 42.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.22**	**95**	*e*Pg		**Pg**	**11 33 39.2**	**-0.2**
SVRC				*e*Sg		**Sg**	**11 33 42.9**	**+0.1**
MYA	**Malataya**	**0.48**	**262**	*e*PG		**Pg**	**11 33 43.4**	**-0.4**
MYA	**Malataya**	**0.48**	**262**	*e*Pg		**Pg**	**11 33 43.4**	**-0.4**
MALT	**Malatya**	**0.48**	**260**	*e*PG		**Pb**	**11 33 44.2**	**-0.3**
MALT				*e*SG		**Sg**	**11 33 50.6**	**+0.3**
MALT	**Malatya**	**0.48**	**260**	*e*Pg		**Pb**	**11 33 44.2**	**-0.3**
MALT				*e*Sg		**Sg**	**11 33 50.6**	**+0.3**
PTK	**Pertek**	**0.57**	**30**	*e*PG		**Pg**	**11 33 45.5**	**-0.1**
PTK				*e*SG		**Sb**	**11 33 54.9**	**+0.6**
PTK	**Pertek**	**0.57**	**30**	*e*Pg		**Pg**	**11 33 45.5**	**-0.1**
PTK				*e*Sg		**Sb**	**11 33 54.9**	**+0.6**
AKCD	**Akcadag**	**0.87**	**264**	*i* P		**Pb**	**11 33 50.8**	**-0.5**
AKCD				*i* S		**Sg**	**11 34 03.6**	**+0.8**
AKCD	**Akcadag**	**0.87**	**264**	*i* P		**Pb**	**11 33 50.8**	**-0.5**
AKCD				*i* S		**Sg**	**11 34 03.6**	**+0.8**
URFA	**Urfa**	**0.97**	**190**	*e*PG		**Pg**	**11 33 53.1**	**0.0**
URFA	**Urfa**	**0.97**	**190**	*e*Pg		**Pg**	**11 33 53.1**	**0.0**
ILIC	**ilic-Erzincan**	**1.11**	**341**	*e*PN		**Pb**	**11 33 54.9**	**-0.5**
ILIC	**ilic-Erzincan**	**1.11**	**341**	*e*Pn		**Pb**	**11 33 54.9**	**-0.5**

*IDC **21** 11:33:35.3±0.6,23°.44S×175°.77W,h0km,mb4.2/15, mb1 4.4/16,mb1mx4.3/24,mbtmp4.2/16,ML4.3/1,MS3.5/1, Ms1 3.5/1,ms1mx3.1/28,Error ellipse: s-maj=20.6km s-min=18.1km az=133.0*
*ISCJB **21** 11:33:38.9±0.6,23°.49S±0°.08×175°.8W±0°.1,h33km, mb4.3/19,Error ellipse: s-maj=13.6km s-min=11.2km az=9.8*
*NEIC **21** 11:33:40.5±0.4,23°.46S×175°.75W,h35km,mb4.7/7,Error ellipse: s-maj=11.2km s-min=9.7km az=114.0*

ISC 21 11:33:40.3±0.5,23°.54S±0°.09×175°.8W±0°.1,h33km,n65, σ1°13°/55,mb4.3/18,1C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**8.17**	**314**	Pn		**Pn**	**11 35 37.1**	**+0.4**
	57nm,0.8s							
AFI	**Afiamalu**	**10.30**	**22**	Pn		Pn	11 35 58.5	-7.4
	3.7nm,0.3s,baz=48,slow=20,SNR=8.8							
AFI				Sn		Sn	11 37 46.5	-14
	2.5nm,0.3s,baz=48,slow=23,SNR=2.5							
AFI				LR		LR	11 39 23.3	
	comp=Z,267nm,20.7s,baz=358,slow=34							
AFI	**Afiamalu**	**10.30**	**22**	Pn		Pn	11 35 58.5	-7.4
	2.7nm,0.6s							
AFI				Sn		Sn	11 37 46.5	-14
AFI				*e*Sn		Sn	11 37 49.9	-11
RAR	**Rarotonga**	**14.98**	**84**	Pn		Pn	11 36 59.5	-10
	4.5nm,0.3s,baz=264,slow=5.0,SNR=5.3							
RAR	**Rarotonga**	**14.98**	**84**	Pn		Pn	11 36 59.5	-10
URZ	**Urewera**	**15.88**	**201**	Pn		**P**	**11 37 23.2**	**-1.5**
	1.2nm,0.3s,baz=143,slow=13,SNR=9.0							
URZ				Sn		Sn	11 40 07.8	-8.5
	0.5nm,0.3s,baz=153,slow=22,SNR=2.0							
URZ	**Urewera**	**15.88**	**201**	Pn		**P**	**11 37 23.2**	**-1.5**
URZ				Sn		Sn	11 40 07.8	-8.5
DZM	**Mont Dzumac**	**16.46**	**272**	*e*LR		LR	11 41 41.2	
	227nm,22.3s							
SNZO	**South Karori**	**19.43**	**202**	P		**Pn**	**11 38 04.5**	**-0.6**
	363nm,1.8s							
TBI	**Tubuai**	**24.14**	**95**	*e*LR		LR	11 44 22.0	
	167nm,27.5s							
PPT2	**Papeete2**	**25.21**	**81**	*e*LR		LR	11 45 02.6	
	122nm,25.8s							
EIDS	**Eidsvold**	**30.18**	**260**	*e*P		**P**	**11 39 48.0**	**+0.3**
	19nm,1.3s							
CTA	**Charters Tower**	**35.35**	**268**	P		**P**	**11 40 34.0**	**+1.0**
	5.2nm,0.5s,baz=79,slow=11,SNR=7.7							
CTA	**Charters Tower**	**35.35**	**268**	P		**P**	**11 40 34.0**	**+1.0**
CTAO	**Charters Tower**	**35.35**	**268**	*e*P		**P**	**11 40 33.7**	**+0.8**
	4.7nm,0.6s							
PMG	**Port Moresby**	**38.09**	**285**	P		**P**	**11 40 55.4**	**-0.9**
	14nm,1.1s,baz=151,slow=13,SNR=2.7							
PMG	**Port Moresby**	**38.09**	**285**	P		**P**	**11 40 55.4**	**-0.9**
STKA	**Stephens Creek**	**38.48**	**248**	P		**P**	**11 40 58.7**	**-0.4**
	1.8nm,0.9s,baz=63,slow=9.0,SNR=2.8							
STKA	**Stephens Creek**	**38.48**	**248**	P		**P**	**11 40 58.7**	**-0.4**
COEN	**Coen**	**39.90**	**276**	*e*P		**P**	**11 41 12.0**	**+0.5**
	32nm,0.9s							
AS31	**Alice Springs**	**45.91**	**259**	*e*P		**P**	**11 42 00.5**	**+0.3**
ASAR	**Alice Springs**	**45.91**	**259**	P		**P**	**11 41 59.7**	**-0.4**
	2.0nm,0.8s,baz=93,slow=6.7,SNR=19							
ASAR	**Alice Springs**	**45.91**	**259**	P		**P**	**11 41 59.7**	**-0.4**
WRAB	**Tennant Creek**	**46.28**	**264**	*e*P		**P**	**11 42 01.8**	**-1.3**
	2.4nm,0.7s							
WRA	**Warramunga Arr**	**46.29**	**264**	P		**P**	**11 42 01.3**	**-1.8**
	2.4nm,0.8s,baz=103,slow=8.4,SNR=36							
WRA	**Warramunga Arr**	**46.29**	**264**	P		**P**	**11 42 01.3**	**-1.8**
VNDA	**Vanda**	**55.09**	**186**	P		**P**	**11 43 10.5**	**+1.9**
	2.0nm,0.8s,baz=23,slow=6.6,SNR=7.7							
VNDA	**Vanda**	**55.09**	**186**	P		**P**	**11 43 10.5**	**+1.9**
KAPI	**Kappang**	**64.63**	**276**	*e*P		**P**	**11 44 15.1**	**-0.1**
	1.8nm,0.7s							
QSPA	**South Pole Qui**	**66.54**	**180**	P		**P**	**11 44 27.7**	**+0.9**
	8.3nm,1.0s,baz=7.5,slow=2.0,SNR=22							
QSPA	**South Pole Qui**	**66.54**	**180**	*e*P		**P**	**11 44 27.4**	**+0.6**
	11nm,1.1s							
MJAR	**Matsushiro Art**	**73.87**	**323**	P		**P**	**11 45 11.5**	**-0.4**
	0.4nm,0.5s,baz=169,slow=6.5,SNR=4.2							
MJAR	**Matsushiro Art**	**73.87**	**323**	P		**P**	**11 45 11.5**	**-0.4**
ASAJ	**Asahikawa**	**77.38**	**331**	P		**P**	**11 45 33.1**	**+1.4**
	8.3nm,0.9s,baz=132,slow=13,SNR=4.2							
ASAJ	**Asahikawa**	**77.38**	**331**	P		**P**	**11 45 33.1**	**+1.4**
NVAR	**Mina Array Bea**	**81.85**	**42**	P		**P**	**11 45 56.1**	**-0.5**
	0.6nm,0.7s,baz=227,slow=7.9,SNR=5.0							
NVAR	**Mina Array Bea**	**81.85**	**42**	P		**P**	**11 45 56.1**	**-0.5**
USRK	**Ussuriysk Arra**	**82.62**	**325**	P		**P**	**11 46 01.7**	**+1.6**
	1.8nm,0.8s,baz=177,slow=4.0,SNR=5.2							
VNA3	**Neumayer Olymp**	**84.97**	**176**	*e*WP			11 46 11.7	
VNA2	**Neumayer--Watz**	**85.44**	**176**	*e*WP			11 46 13.5	
	baz=225,slow=8.2							
VNA1	**Neumayer--Stat**	**85.65**	**176**	*e*WP			11 46 15.1	
TXAR	**Lajitas Array**	**86.98**	**56**	P		**P**	**11 46 22.0**	**-0.6**
	0.8nm,0.9s,baz=215,slow=7.3,SNR=8.0							
TXAR	**Lajitas Array**	**86.98**	**56**	P		**P**	**11 46 22.0**	**-0.6**
ILAR	**Eielson Array**	**90.83**	**12**	P		**P**	**11 46 38.9**	**-0.8**
	0.7nm,1.0s,baz=217,slow=5.3,SNR=4.9							
ILAR	**Eielson Array**	**90.83**	**12**	P		**P**	**11 46 38.9**	**-0.8**
CMAR

BRTR	**Keskin Array B**	**150.30**	**310**	PKPbc	PKPbc	12 01 52.2	-0.3
	0.6nm,0.9s,baz=310,slow=4.2,SNR=3.5						

*IDC **21** 11:44:52.3±0.7,23°.47S×175°.78W, h0km, mb4.0/10, mb1 4.2/11,mb1mx4.1/22, mbtmp4.0/11, ML4.4/1, MS3.8/3, Ms1 3.8/3,ms1mx3.4/30, Error ellipse: s-maj=27.9km s-min=17.0km az=157.0*

ISC 21 11:44:56.4±0.6,23°.2S±0°.1×175°.6W±0°.1, h34km, n31, σ2°13/22, mb4.0/10, MS3.9/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.88**	**22**	Pn	**Pn**	**11 47 16.1**	**0.0**
	5.2nm,0.3s,baz=120,slow=8.9,SNR=5.7						
AFI				Sn	**Sn**	11 49 01.2	-4.7
	3.7nm,0.3s,baz=44,slow=19,SNR=2.4						
URZ	**Urewera**	**16.30**	**201**	Pn	**Pn**	**11 48 39.7**	**-3.0**
	1.3nm,0.3s,baz=143,slow=6.4,SNR=10						
URZ				Sn	Sn	11 51 23.4	-19
	0.4nm,0.3s,baz=19,slow=8.3,SNR=2.9						
DZM	**Mont Dzumac**	**16.65**	**270**	eLR	LR	11 52 54.2	
	326nm,23.1s						
TBI	**Tubuai**	**23.97**	**96**	eLR	LR	11 55 43.3	
	251nm,26.5s						
PPT2	**Papeete2**	**24.96**	**82**	eLR	LR	11 56 18.5	
	299nm,26.8s						
HNR	**Honiara**	**27.12**	**296**	LR	LR	11 59 52.7	
	comp=Z,122nm,21.0s,baz=58,slow=33						
CTA	**Charters Tower**	**35.56**	**268**	P	**P**	**11 51 50.8**	**+0.1**
	4.1nm,0.5s,baz=94,slow=10,SNR=7.0						
RKT	**Rikitea**	**37.24**	**98**	eLR	LR	12 01 43.2	
	224nm,29.2s						
STKA	**Stephens Creek**	**38.77**	**247**	P	**P**	**11 52 17.9**	**+0.1**
	1.2nm,0.6s,baz=83,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**46.17**	**259**	P	**P**	**11 53 17.2**	**-1.0**
	1.5nm,0.9s,baz=95,slow=7.6,SNR=11						
ASAR				S	**S**	**12 00 01.3**	**-1.0**
	0.2nm,0.4s,baz=276,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**46.53**	**264**	P	**P**	**11 53 18.6**	**-2.3**
	0.7nm,0.3s,baz=95,slow=8.3,SNR=15						
GUMO	**Guam**	**53.24**	**309**	LR	LR	12 12 35.1	
	comp=Z,120nm,21.0s,baz=270,slow=31						
FITZ	**Fitzroy Crossi**	**54.95**	**264**	P	**P**	**11 54 26.8**	**+2.4**
	1.0nm,0.6s,baz=117,slow=8.9,SNR=5.2						
QSPA	**South Pole Qui**	**66.92**	**180**	P	**P**	**11 55 44.4**	**-0.8**
	2.1nm,0.7s,baz=46,slow=1.4,SNR=3.5						
KSRS	**Korea Array**	**80.37**	**318**	LR	LR	12 26 58.1	
	comp=Z,60nm,20.3s,baz=290,slow=31						
NVAR	**Mina Array Bea**	**81.44**	**42**	P	**P**	**11 57 12.0**	**+1.7**
	0.6nm,0.8s,baz=224,slow=9.1,SNR=3.6						
VNA3	**Neumayer Olymp**	**85.33**	**175**	eP	**P**	**11 57 28.3**	**-1.3**
VNA3	**Neumayer Olymp**	**85.33**	**175**	eWP		11 57 35.7	
VNA3	**Neumayer Olymp**	**85.33**	**175**	e	sP	11 57 49.6	+5.3
VNA2	**Neumayer--Watz**	**85.80**	**176**	eP	P	11 57 23.5	-8.4
	baz=164,slow=1.9						
VNA2	**Neumayer--Watz**	**85.80**	**176**	eWP		11 57 30.8	
	baz=164,slow=1.9						
TXAR	**Lajitas Array**	**86.61**	**56**	P	**P**	**11 57 38.7**	**+2.0**
	0.4nm,0.8s,baz=216,slow=7.1,SNR=6.0						
ILAR	**Eielson Array**	**90.42**	**12**	P	P	11 57 57.3	+3.6
	0.3nm,0.7s,baz=212,slow=5.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**93.12**	**289**	P	**P**	**11 58 09.7**	**+2.3**
	0.7nm,0.6s,baz=119,slow=2.8,SNR=5.3						
YKA	**Yellowknife Ar**	**97.99**	**24**	P	Pdif	11 58 30.4	+1.8
	0.1nm,0.6s,baz=245,slow=4.0,SNR=3.6						
MKAR	**Makanchi Array**	**114.66**	**312**	PKP	PKPdf	12 03 36.2	+3.2
	0.1nm,0.5s,baz=88,slow=2.0,SNR=3.0						
AKASG	**Malin Array Be**	**146.43**	**331**	PKPbc	**PKPab**	**12 04 35.3**	**+0.8**
	1.9nm,0.6s,baz=42,slow=4.2,SNR=5.8						
BRTR	**Keskin Array B**	**150.29**	**311**	PKPbc	**PKPbc**	**12 04 45.8**	**+1.4**
	0.3nm,0.3s,baz=163,slow=4.8,SNR=3.5						
BRTR				PKPab	**PKPab**	**12 04 52.6**	**+1.9**
	1.8nm,0.8s,baz=140,slow=3.9,SNR=6.4						
CLL	**Collm**	**151.13**	**349**	ePKPbc	**PKPab**	**12 04 50.0**	**-3.5**
CLL				*i* PKPab	PKiKP	12 04 59.1	+13
	comp=Z,7.0nm,0.9s						
CLL				*i* sPKPbc	**sPKPbc**	**12 05 03.6**	**+2.9**
BRG	**Berggiesshubel**	**151.37**	**347**	ePKP	**PKPbc**	**12 04 47.4**	**+1.1**
	comp=Z,3.1nm,0.8s						
BRG				*e*		12 04 54.6	
	comp=Z,2.8nm,0.7s						
BRG				*e*		12 05 00.1	
	comp=Z,5.2nm,0.8s						
BRG				*e*		12 05 08.1	
	comp=Z,6.8nm,1.3s						
TORD	**Torodi Ar. Bea**	**169.70**	**165**	PKP	**PKPdf**	**12 05 01.0**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=169,slow=1.5,SNR=2.4						
TORD				PKPab	**PKPab**	**12 06 14.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=205,slow=6.1,SNR=3.0						

*SZGRF **21** 12:06:38.7,22°.43S×176°.88W, h33km, South of Fiji Islands*

*AUST **21** 12:07:46.4±1.6,20°.89S×179°.27W, h490km, Error ellipse: s-maj=2.0km s-min=1.5km az=317.0*

*MOS **21** 12:07:47.4±1.6, 19°.91S×179°.75W, h490km, mb4.6/17, Error ellipse: s-maj=16.7km s-min=13.5km az=165.4*

*IDC **21** 12:07:47.0±1.7,21°.20S×178°.78W, h552km±19km, mb3.7/19, mb1 3.8/20, mb1mx3.8/23, mbtmp3.7/20, Error ellipse: s-maj=15.3km s-min=11.2km az=136.0*

*NEIC **21** 12:07:48.8±0.8,21°.32S×178°.89W, h574km±9km, mb4.5/19, Error ellipse: s-maj=12.7km s-min=9.0km az=136.0*

*ISCJB **21** 12:07:50.1±0.3,21°.33S±0°.06×178°.97W±0°.06, h602km, mb4.3/42, Error ellipse: s-maj=9.2km s-min=6.4km az=135.0*

*BJI **21** 12:07:52.2,20°.42S×179°.46W, h574km, mB4.7/14, mb4.5/18*

ISC 21 12:07:51.1±0.4,21°.37S±0°.07×178°.92W±0°.08, h602km, n188, σ1°17/203, mb4.5/42, 27C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.61**	**321**	eP	P	12 09 17.0	-4.4
AFI	**Afiamalu**	**10.07**	**44**	P	P	12 10 01.8	-9.1
	2.6nm,0.3s,baz=358,slow=13,SNR=5.3						
AFI				S	S	12 11 47.8	-18
	1.7nm,0.3s,baz=266,slow=15,SNR=2.9						
URZ	**Urewera**	**17.18**	**191**	P	**P**	**12 11 16.2**	**-2.8**
	3.9nm,0.3s,baz=47,slow=3.7,SNR=27						
URZ				S	**S**	**12 14 07.0**	**-1.0**
	0.3nm,0.3s,baz=37,slow=20,SNR=4.9						
URZ	**Urewera**	**17.18**	**191**	eP	**P**	**12 11 17.7**	**-1.2**
	18nm,0.7s						
URZ				eS	**S**	**12 14 04.3**	**-3.7**
SNZO	**South Karori**	**20.60**	**194**	eP	**P**	**12 11 48.4**	**-1.5**
RPZ	**Rata Peaks**	**23.80**	**198**	P	**P**	**12 12 18.1**	**-0.3**
	10nm,0.6s,baz=309,slow=5.9,SNR=3.4						
EIDS	**Eidsvold**	**27.79**	**256**	eP	**P**	**12 12 53.7**	**-0.1**
	5.8nm,0.5s						
EIDS	**Eidsvold**	**27.79**	**256**	P	**P**	**12 12 54.1**	**+0.3**
	baz=28,SNR=8.8						
ARMA	**Armidale**	**27.92**	**245**	P	**P**	**12 12 54.8**	**-0.1**
	10.0nm,0.7s						
ARMA	**Armidale**	**27.92**	**245**	P	**P**	**12 12 56.4**	**+1.5**
	baz=28,SNR=9.0						
RMQ	**Roma**	**29.93**	**254**	P	**P**	**12 13 13.6**	**+1.3**
	baz=30,SNR=8.2						
CNB	**Canberra Magne**	**31.03**	**237**	P	**P**	**12 13 23.3**	**+1.7**
	baz=31,SNR=7.9						
CTA	**Charters Tower**	**32.56**	**266**	P	**P**	**12 13 34.9**	**+0.2**
	12nm,0.5s,baz=94,slow=10,SNR=24						
CTA				PcP	**PcP**	**12 16 03.5**	**+0.8**
	6.7nm,0.9s,baz=63,slow=9.0,SNR=3.4						
CTAO	**Charters Tower**	**32.56**	**266**	eP	**P**	**12 13 34.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CTAO	**Charters Tower**	**32.56**	**266**	eP	**P**	**12 13 34.8**	**+0.1**
	comp=Z,8.8nm,0.4s						
CMSA	**Cobar Meteorol**	**33.13**	**245**	P	**P**	**12 13 40.3**	**+0.9**
	baz=33,SNR=9.0						
QLP	**Quilpie**	**33.98**	**254**	P	**P**	**12 13 47.0**	**+0.4**
	baz=34,SNR=29						
PMG	**Port Moresby**	**34.71**	**285**	P	**P**	**12 13 52.5**	**-0.2**
	comp=Z,42nm,0.8s,baz=95,slow=5.7,SNR=14						
PMG	**Port Moresby**	**34.71**	**285**	eP	**P**	**12 13 51.9**	**-0.8**
	comp=Z,37nm,0.7s						
STKA	**Stephens Creek**	**36.64**	**245**	P	**P**	**12 14 09.1**	**+0.7**
	comp=Z,8.0nm,0.8s,baz=95,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**36.64**	**245**	eP	**P**	**12 14 08.8**	**+0.4**
	comp=Z,1.6nm,0.9s						
STKA	**Stephens Creek**	**36.64**	**245**	P	**P**	**12 14 09.5**	**+1.1**
	baz=36,SNR=9.7						
COEN	**Coen**	**36.79**	**275**	eP	**P**	**12 14 10.0**	**+0.2**
	comp=Z,75nm,0.8s						
COEN	**Coen**	**36.79**	**275**	P	**P**	**12 14 10.2**	**+0.4**
	baz=36,SNR=6.7						
QIS	**Mount Isa**	**38.66**	**263**	P	**P**	**12 14 24.6**	**-0.3**
	baz=38,SNR=5.6						
BBOO	**Buckleboo**	**41.39**	**244**	P	**P**	**12 14 46.9**	**+0.4**
	baz=41,SNR=7.3						
AS31	**Alice Springs**	**43.48**	**258**	eP	**P**	**12 15 03.0**	**0.0**
ASAR	**Alice Springs**	**43.49**	**258**	P	**P**	**12 15 03.0**	**0.0**
	comp=Z,28nm,0.8s,baz=90,slow=8.3,SNR=203						
ASAR				PcP	**PcP**	**12 16 38.0**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=101,slow=3.7,SNR=8.1						
ASAR				ScP	**ScP**	**12 19 38.0**	**+5.8**
	comp=Z,0.8nm,0.7s,baz=108,slow=3.9,SNR=4.2						
ASAR				S	**S**	**12 20 49.8**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=93,slow=16,SNR=8.2						
WRAB	**Tennant Creek**	**43.62**	**263**	eP	**P**	**12 15 03.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**43.62**	**263**	eP	**P**	**12 15 03.2**	**-0.9**
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**43.63**	**263**	P	**P**	**12 15 03.4**	**-0.8**
	comp=Z,6.3nm,0.3s,baz=96,slow=7.5,SNR=580						
WRA				PcP	**PcP**	**12 16 38.6**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=98,slow=3.7,SNR=4.6						
WRA				S	**S**	**12 20 50.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=13,SNR=2.9						
KDU	**Kakadu**	**47.12**	**272**	P	**P**	**12 15 30.4**	**-0.3**
	baz=47,SNR=31						
MTN	**Manton Dam**	**48.32**	**272**	P	**P**	**12 15 38.8**	**-0.8**
	baz=48,SNR=3.2						
MTN				S	**S**	**12 21 50.8**	**-5.8**
	baz=48,SNR=9.5						
FITZ	**Fitzroy Crossi**	**52.06**	**263**	eP	**P**	**12 16 06.8**	**0.0**
	comp=Z,4.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.06**	**263**	P	**P**	**12 16 07.2**	**+0.4**
	baz=52,SNR=38						
MEEK	**Meekatharra**	**56.82**	**251**	P	**P**	**12 16 39.8**	**-0.2**
	baz=57,SNR=4.4						
MBWA	**Marble Bar**	**56.83**	**258**	eP	**P**	**12 16 39.8**	**-0.3**
	comp=Z,13nm,0.8s						
KLBR	**Kellerberrin**	**56.91**	**246**	P	**P**	**12 16 40.8**	**+0.3**
	baz=57,SNR=7.8						
MJAR	**Matsushiro Arr**	**70.40**	**324**	P	**P**	**12 18 05.0**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=158,slow=6.2,SNR=22						
KSM	**Kuching**	**72.68**	**279**	eP	**P**	**12 18 19.5**	**-0.2**
TPUB	**Ta-pu**	**73.73**	**304**	eP	**P**	**12 18 24.3**	**-1.1**
	comp=Z,26nm,0.8s						
PETK	**Petropavlovsk-**	**76.89**	**346**	P	**P**	**12 18 41.5**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=94,slow=8.9,SNR=5.4						
PETK	**Petropavlovsk-**	**76.89**	**346**	P	**P**	**12 18 41.6**	**-0.6**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSRS	**Korea Array**	**76.97**	**319**	P	**P**	**12 18 43.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=124,slow=6.5,SNR=3.4						
USRK	**Ussuriysk Arra**	**79.20**	**326**	P	**P**	**12 18 55.5**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=134,slow=5.5,SNR=6.6						
NJ2	**Nanjing**	**79.77**	**310**	eP	**P**	**12 18 58.4**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HABR	**Khabarovsk**	**80.78**	**331**	eP	P	12 19 06.2	+3.4
HABR				eS	**S**	**12 28 23.7**	**+1.6**
HABR				*e*		12 28 36.8	
HABR				pmax	pmax		
	comp=N,19nm,1.6s						
HABR				pmax	pmax		
	comp=Z,25nm,2.4s						
HABR				pmax	pmax		
	comp=E,22nm,1.6s						
HABR				MLR	MLR		
	comp=Z,66nm,21.0s						
KDAK	**Kodiak Island**	**81.86**	**14**	P	**P**	**12 19 08.7**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=162,slow=19,SNR=3.3						
HUMO	**Hull Mountain**	**81.91**	**38**	eP	**P**	**12 19 09.9**	**+1.1**
	comp=Z,8.9nm,1.2s						
NVAR	**Mina Array Bea**	**82.25**	**44**	P	**P**	**12 19 10.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=223,slow=8.3,SNR=17						
IPM	**Ipoh**	**82.39**	**278**	eP	**P**	**12 19 12.1**	**+0.2**
MOD	**Modoc**	**83.03**	**40**	eP	**P**	**12 19 15.0**	**+0.3**
	comp=Z,62nm,3.0s						
GYA	**Guiyang**	**86.33**	**300**	eP	**P**	**12 19 32.0**	**+1.0**
GYA				pP	**pP**	**12 21 36.8**	**-3.0**
GYA				sP	sP	12 22 33.0	-7.0
GYA				PP	**PP**	**12 23 05.4**	**+1.4**
GYA				S	**S**	**12 29 18.9**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY	**Seymchan**	**87.03**	**347**	*i* P	**P**	**12 19 32.5**	**-0.7**
VNA3	**Neumayer Olymp**	**87.33**	**177**	eP	**P**	**12 19 35.2**	**+0.5**
VNA3	**Neumayer Olymp**	**87.33**	**177**	epP	pP	12 21 38.6	-5.3
TRF	**Thorofare Moun**	**87.48**	**12**	eP	**P**	**12 19 33.4**	**-2.1**
	comp=Z,14nm,0.7s						
HLID	**Hailey**	**87.55**	**41**	eP	**P**	**12 19 36.9**	**+0.5**
	comp=Z,23nm,2.5s						
VNA2	**Neumayer--Watz**	**87.76**	**177**	eP	**P**	**12 19 37.5**	**+0.8**
	baz=219,slow=5.4						
VNA2	**Neumayer--Watz**	**87.76**	**177**	epP	pP	12 21 42.1	-3.9
VNA1	**Neumayer--Stat**	**88.00**	**177**	eP	**P**	**12 19 39.8**	**+2.0**
TXAR	**Lajitas Array**	**88.25**	**58**	P	**P**	**12 19 40.3**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=222,slow=5.5,SNR=6.8						
KMI	**Kunming**	**88.98**	**297**	P	**P**	**12 19 44.9**	**+1.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MCMT	**McKenzie Canyo**	**89.17**	**41**	eP	**P**	**12 19 44.2**	**+0.2**
	comp=Z,1.4nm,1.1s						
COLA	**College**	**89.24**	**13**	eP	**P**	**12 19 42.1**	**-1.3**
COLA				pmax	pmax		
	comp=Z,12nm,1.3s						
COLA	**College**	**89.24**	**13**	eP	**P**	**12 19 42.1**	**-1.3**
	comp=Z,12nm,1.3s						
HHC	**Hu-ho-hao-te**	**89.34**	**315**	eP	**P**	**12 19 42.1**	**-2.6**
HHC				SKS	**SKSac**	**12 29 22.1**	**+4.1**
HHC				S	**SKKSac**	**12 29 35.4**	**+2.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,80nm,6.3s						
ILAR	**Eielson Array**	**89.35**	**13**	P	**P**	**12 19 42.4**	**-1.6**
	comp=Z,2.3nm,0.6s,baz=223,slow=5.4,SNR=42						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**12 19 48.0**	**+1.8**
	comp=Z,4.1nm,0.9s,baz=127,slow=3.0,SNR=23						
CHTO	**Chiang Mai**	**89.73**	**290**	eP	**P**	**12 19 48.5**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**89.73**	**290**	eP	**P**	**12 19 48.5**	**+1.7**
	comp=Z,3.1nm,0.7s						
BILL	**Bilibino**	**89.81**	**354**	*i* P	**P**	**12 19 44.7**	**-1.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.6s						
IMW	**Indian Meadow**	**89.87**	**42**	eP	**P**	**12 19 47.8**	**+0.5**
PDAR	**Pinedale Array**	**90.18**	**44**	P	**P**	**12 19 48.0**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=221,slow=2.9,SNR=15						
CD2	**Chengdu**	**90.53**	**303**	P	**P**	**12 19 50.9**	**+0.5**
CD2				pP	**pP**	**12 21 56.6**	**-3.8**
CD2				sP	sP	12 22 52.8	-7.4
CD2				PP	**PP**	**12 23 39.3**	**+2.5**
CD2				SKS	**SKSac**	**12 29 27.6**	**+2.5**
CD2				S	**ScS**	**12 29 56.8**	**-0.7**
CD2				sS	sS	12 33 39.4	-8.7
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.1s						
YAK	**Yakutsk**	**92.60**	**338**	eP	**P**	**12 19 57.5**	**-1.5**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LZH	**Lanzhou**	**92.61**	**308**	eP	**P**	**12 20 02.3**	**+2.3**
LZH				pP	pP	12 22 02.1	-8.2
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
SONM	**Songino Array**	**95.84**	**319**	P	**P**	**12 20 14.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=2.9						
YKA	**Yellowknife Ar**	**97.66**	**25**	P	Pdif	12 20 20.6	-1.2
	comp=Z,0.3nm,0.7s,baz=247,slow=4.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**110.63**	**321**	PKiKP	**PKiKP**	**12 25 14.4**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=171,slow=1.2,SNR=4.7						
MKAR	**Makanchi Array**	**111.17**	**313**	PKiKP	**PKiKP**	**12 25 16.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=113,slow=0.4,SNR=7.8						
KSH	**Kashi**	**114.67**	**305**	ePKP	PKPdf	12 25 27.9	+3.5
KSH				*e*PP	PP	12 26 41.1	+7.1
KSH				PKS	**PKSdf**	**12 29 03.4**	**+2.2**
KSH				SKS	SKSdf	12 31 48.5	+8.2
KSH				AMB	AMB		
	comp=Z,42nm,3.9s						
BRVK	**Borovoye**	**119.25**	**320**	*i* PKIKP	**PKPdf**	**12 25 32.0**	**-0.6**
ARU	**Arti**	**125.42**	**325**	*i* PKIKP	**PKPdf**	**12 25 43.6**	**-0.7**
ARU						12 27 43.4	
ARU				SS	SS	12 43 46.9	-11
ARCES	**ARCESS Array B**	**129.61**	**349**	PKP	**PKPdf**	**12 25 51.3**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=40,slow=1.1,SNR=13						
FINES	**FINESS Array B**	**136.35**	**343**	PKhKP	PKPpre	12 25 52.0	
	comp=Z,1.0nm,0.6s,baz=44,slow=4.2,SNR=4.4						
FINES				PKP	**PKPdf**	**12 26 03.1**	**-1.7**
	comp=Z,3.3nm,0.9s,baz=79,slow=4.1,SNR=8.1						
NOA	**NORSAR Array B**	**139.73**	**352**	PKhKP	PKPpre	12 26 02.9	
	comp=Z,0.5nm,0.5s,baz=15,slow=1.8,SNR=8.6						
NOA				SKPbc	**SKiKP**	**12 28 54.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=17,slow=4.3,SNR=3.8						
SUW	**Suwalki**	**143.33**	**338**	ePKP	PKPbc	12 26 16.0	-0.3
SUW	**Suwalki**	**143.33**	**338**	ePKP	PKPbc	12 26 15.9	-0.4
AKASG	**Malin Array Be**	**143.34**	**330**	PKP	PKPbc	12 26 15.5	-1.0
	comp=Z,17nm,0.4s,baz=44,slow=4.2,SNR=62						
AK01	**Malin Array Si**	**143.35**	**330**	ePKPdf	PKPbc	12 26 15.5	-1.0
KIEV	**Kiev**	**143.35**	**330**	ePKPdf	PKPab	12 26 15.2	-1.1
AK02	**Malin Array Si**	**143.38**	**330**	ePKPdf	PKPab	12 26 15.5	-0.9
MALT	**Malatya**	**143.76**	**306**	↓PKIKP	PKPdf	12 26 26.9	+7.9
MALT	**Malatya**	**143.76**	**306**	ePKPbc	**PKPdf**	**12 26 19.2**	**+0.2**
MALT	**Malatya**	**143.76**	**306**	↓*i* P	PKPdf	12 26 26.9	+7.9
BR131	**Keskin Array S**	**146.77**	**311**	ePKPbc	**PKPbc**	**12 26 26.9**	**-0.1**
BRTR	**Keskin Array B**	**146.77**	**311**	PKPbc	**PKPbc**	**12 26 26.6**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=134,slow=4.8,SNR=22						
KWP	**Kalwaria Pacla**	**146.99**	**334**	ePKP	**PKPbc**	**12 26 27.4**	**+0.2**
KWP	**Kalwaria Pacla**	**146.99**	**334**	ePKP	**PKPbc**	**12 26 27.3**	**+0.2**
KWP	**Kalwaria Pacla**	**146.99**	**334**	ePKPbc	**PKPbc**	**12 26 27.3**	**+0.2**
KWP				ePKPab	**PKPab**	**12 26 30.9**	**+0.3**
KWP	**Kalwaria Pacla**	**146.99**	**334**	↑*i* P	**PKPbc**	**12 26 27.3**	**+0.2**
KWP	**Kalwaria Pacla**	**146.99**	**334**	ePKP	**PKPbc**	**12 26 27.3**	**+0.2**
KWP	**Kalwaria Pacla**	**146.99**	**334**	ePKP	**PKPbc**	**12 26 27.2**	**+0.1**
TLCR		**147.09**	**323**	↑*i* P	**PKPbc**	**12 26 27.3**	**-0.2**
BUR08	**Bucovina Ar. S**	**147.37**	**329**	PKPbc	**PKPbc**	**12 26 28.6**	**+0.3**
BURAR	**Bucovina Array**	**147.38**	**329**	↓*i* P	**PKPbc**	**12 26 28.9**	**+0.6**
TESR		**147.42**	**326**	↓*i* P	**PKPbc**	**12 26 27.6**	**-0.7**
CFR	**Carcaliu**	**147.48**	**323**	↑PKIKP	**PKPbc**	**12 26 28.7**	**+0.2**
CFR	**Carcaliu**	**147.48**	**323**	↑*i* P	**PKPbc**	**12 26 28.7**	**+0.2**
OJC	**Ojcow**	**147.64**	**337**	ePKPbc	**PKPbc**	**12 26 28.5**	**-0.3**
OJC				ePKPab	**PKPab**	**12 26 33.0**	**-0.2**
VRI	**Vrincioaia**	**147.81**	**325**	↑*i* P	**PKPbc**	**12 26 28.4**	**-1.0**
UZH	**Uzhgorod**	**147.94**	**333**	↓*i* PKIKP	**PKPbc**	**12 26 30.0**	**+0.5**
MANR	**Mangalia**	**148.03**	**321**	↑*i* P	**PKPbc**	**12 26 29.5**	**-0.4**
NIE	**Niedzica**	**148.11**	**336**	ePKIKP	**PKPbc**	**12 26 30.8**	**+0.8**
NIE				*e*		12 26 35.6	
NIE	**Niedzica**	**148.11**	**336**	ePKPbc	**PKPbc**	**12 26 30.8**	**+0.8**
NIE				ePKPab	**PKPab**	**12 26 35.6**	**+0.4**
NRDL	**Niedersach Rie**	**148.16**	**350**	ePKPbc	**PKPbc**	**12 26 29.7**	**-0.2**
TRPA	**Tarpa**	**148.22**	**332**	↑*i* P	**PKPbc**	**12 26 29.9**	**-0.4**
KSP	**Ksiaz**	**148.25**	**342**	ePKP	**PKPbc**	**12 26 30.9**	**+0.7**
KSP	**Ksiaz**	**148.25**	**342**	ePKP	**PKPbc**	**12 26 31.0**	**+0.7**
KSP	**Ksiaz**	**148.25**	**342**	ePKIKP	**PKPbc**	**12 26 30.8**	**+0.5**
KSP				*e*		12 26 35.9	
KSP	**Ksiaz**	**148.25**	**342**	ePKP	**PKPbc**	**12 26 30.9**	**+0.7**
KSP	**Ksiaz**	**148.25**	**342**	ePKP	**PKPbc**	**12 26 31.0**	**+0.7**
DOPR	**Dopca**	**148.44**	**327**	↓*i* P	**PKPbc**	**12 26 31.6**	**+0.7**
MLR	**Muntele Rosu**	**148.47**	**326**	↓*i* P	**PKPbc**	**12 26 31.4**	**+0.2**
OKC	**Ostrava-Krasne**	**148.54**	**339**	*i* PKIKP	**PKPbc**	**12 26 31.0**	**0.0**
OKC				*e*		12 26 37.1	
OKC	**Ostrava-Krasne**	**148.54**	**339**	↑*i* PKP	**PKPbc**	**12 26 31.0**	**0.0**
OKC				ePKPAB	**PKPab**	**12 26 37.1**	**+0.2**
UPC	**Upice**	**148.63**	**342**	*i* PKIKP	**PKPbc**	**12 26 31.7**	**+0.5**
UPC				*e*		12 26 37.8	
UPC	**Upice**	**148.63**	**342**	↑*i* PKP	**PKPbc**	**12 26 31.7**	**+0.5**
UPC

1.6nm,0.3s,baz=90,slow=20,SNR=2.9
DZM Mont Dzumac 17.25 271 *e*LR LR 12 17 47.0
95nm,20.8s
TBI Tubuai 23.35 95 *e*LR LR 12 19 37.6
119nm,27.5s
PPT2 Papeete2 24.42 81 *e*LR LR 12 20 11.9
136nm,29.2s
HNR Honiara 27.80 296 LR LR 12 23 23.5
comp=Z,194nm,20.4s,baz=112,slow=30
CTA Charters Tower 36.15 268 P P 12 16 22.6 -0.7
4.5nm,0.6s,baz=103,slow=12,SNR=3.8
ASAR Alice Springs 46.70 259 P P 12 17 50.1 +0.2
4.1nm,1.0s,baz=89,slow=8.5,SNR=9.9
ASAR pP pP 12 18 01.4 +0.5
1.4nm,0.9s,baz=95,slow=8.1,SNR=3.3
WRA Warramunga Arr 47.09 264 P P 12 17 51.8 -1.2
2.2nm,0.3s,baz=91,slow=8.5,SNR=20
WRA pP pP 12 18 04.0 -0.1
1.3nm,0.4s,baz=91,slow=8.5,SNR=6.0
FITZ Fitzroy Crossi 55.51 264 P P 12 18 57.0 +0.9
3.9nm,0.9s,baz=108,slow=13,SNR=4.6
NVAR Mina Array Bea 81.29 42 P P 12 21 37.1 +0.1
1.4nm,0.9s,baz=231,slow=8.5,SNR=6.6
NVAR pP pP 12 21 48.7 -0.1
2.9nm,1.1s,baz=225,slow=11,SNR=5.0
USRK Ussuriysk Arra 83.04 325 P P 12 21 47.0 +1.2
2.1nm,0.9s,baz=154,slow=11,SNR=4.3
TXAR Lajitas Array 86.30 56 P P 12 22 03.1 +0.3
0.7nm,1.0s,baz=224,slow=7.0,SNR=5.0
TXAR pP pP 12 22 14.5 -0.1
1.6nm,1.0s,baz=191,slow=6.0,SNR=7.5
ILAR Eielson Array 90.62 12 P P 12 22 21.4 -0.9
0.9nm,0.9s,baz=216,slow=5.4,SNR=5.2
FINES FINESS Array B 139.42 345 PKP PKPdf 12 28 44.8 -2.3
3.5nm,0.9s,baz=57,slow=7.0,SNR=3.9
AKASG Malin Array Be 147.00 331 PKPbc PKPdf 12 29 01.5 +0.7
0.2nm,0.3s,baz=40,slow=3.5,SNR=4.2
BRTR Keskin Array B 150.96 311 PKPbc PKPbc 12 29 14.1 +0.6
0.3nm,0.5s,baz=336,slow=3.2,SNR=4.4

*IDC **21** 12:14:47.5±0.7,23°.11S×174°.68W,h0km,mb4.2/11, mb1 4.5/12,mb1mx4.2/22,mbtmp4.2/12,ML4.2/1, Error ellipse: s-maj=26.5km s-min=17.9km az=150.0*
*ISCJB **21** 12:14:51.6±0.5,23°.22S±0°.10×174°.7W±0°.1,h36km, mb4.2/13,Error ellipse: s-maj=14.9km s-min=12.9km az=142.5*
*NEIC **21** 12:14:52.7±0.5,23°.27S×174°.60W,h35km,mb4.6/2,Error ellipse: s-maj=14.4km s-min=12.3km az=144.0*

ISC 21 12:14:53.0±0.6,23.1S±0.1×174.7W±0.1,h36km,n43, σ0§86/34,mb4.1/13,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MSVF	**Nonsavu**	**8.66**	**307**	*e*Pn		Pn	12 16 59.9		+4.0
	9.2nm,0.7s								
AFI	**Afiamalu**	**9.60**	**17**	Pn		Pn	12 17 00.5		-8.2
	2.5nm,0.3s,baz=279,slow=5.9,SNR=4.5								
AFI				Sn		Sn	12 18 37.4		-18
	3.1nm,0.3s,baz=29,slow=19,SNR=3.7								
AFI	**Afiamalu**	**9.60**	**17**	Pn		Pn	12 17 00.5		-8.2
AFI				Sn		Sn	12 18 37.4		-18
RAR	**Rarotonga**	**13.97**	**85**	Pn		Pn	12 17 58.0		-11
	4.9nm,0.3s,baz=328,slow=1.5,SNR=7.0								
RAR				Sn		Sn	12 20 16.1		-26
	2.3nm,0.3s,baz=124,slow=17,SNR=3.1								
RAR	**Rarotonga**	**13.97**	**85**	Pn		Pn	12 17 58.0		-11
RAR				Sn		Sn	12 20 16.1		-26
URZ	**Urewera**	**16.62**	**203**	Pn		**Pn**	**12 18 41.9**		**-1.2**
	0.8nm,0.3s,baz=28,slow=15,SNR=5.5								
URZ				Sn		Sn	12 21 28.3		-18
	0.4nm,0.3s,baz=110,slow=16,SNR=2.9								
URZ	**Urewera**	**16.62**	**203**	Pn		**Pn**	**12 18 41.9**		**-1.2**
URZ				Sn		Sn	12 21 28.3		-18
DZM	**Mont Dzumac**	**17.43**	**270**	*e*LR		LR	12 22 48.4		
	102nm,26.2s								
TBI	**Tubuai**	**23.20**	**96**	*e*LR		LR	12 24 59.0		
	162nm,29.2s								
PPT2	**Papeete2**	**24.19**	**81**	*e*LR		LR	12 25 38.6		
	182nm,25.0s								
CTA	**Charters Tower**	**36.34**	**267**	P		**P**	**12 21 53.7**		**-0.1**
	10nm,0.6s,baz=91,slow=11,SNR=20								
CTA	**Charters Tower**	**36.34**	**267**	P		**P**	**12 21 53.7**		**-0.1**
STKA	**Stephens Creek**	**39.50**	**248**	P		**P**	**12 22 20.0**		**-0.3**
	1.7nm,0.8s,baz=72,slow=10,SNR=3.5								
STKA	**Stephens Creek**	**39.50**	**248**	P		**P**	**12 22 20.0**		**-0.3**
AS31	**Alice Springs**	**46.94**	**259**	*e*P		**P**	**12 23 21.1**		**+0.5**
ASAR	**Alice Springs**	**46.95**	**259**	P		**P**	**12 23 20.3**		**-0.3**
	1.4nm,0.6s,baz=103,slow=6.7,SNR=22								
ASAR	**Alice Springs**	**46.95**	**259**	P		**P**	**12 23 20.3**		**-0.3**
WRAB	**Tennant Creek**	**47.30**	**264**	*e*P		P	12 23 18.9		-4.5
	5.0nm,0.5s								
WRA	**Warramunga Arr**	**47.31**	**264**	P		**P**	**12 23 22.2**		**-1.2**
	6.7nm,0.6s,baz=103,slow=8.4,SNR=55								
WRA	**Warramunga Arr**	**47.31**	**264**	P		**P**	**12 23 22.2**		**-1.2**
QSPA	**South Pole Qui**	**66.94**	**180**	P		**P**	**12 25 43.0**		**+1.4**
	1.8nm,1.0s,baz=55,slow=7.1,SNR=4.4								
QSPA	**South Pole Qui**	**66.94**	**180**	P		**P**	**12 25 43.0**		**+1.4**
MJAR	**Matsushiro Arr**	**74.15**	**322**	P		**P**	**12 26 26.4**		**+0.6**
	1.5nm,0.8s,baz=161,slow=6.0,SNR=6.6								
MJAR	**Matsushiro Arr**	**74.15**	**322**	P		**P**	**12 26 26.4**		**+0.6**
NVAR	**Mina Array Bea**	**80.90**	**41**	P		**P**	**12 27 03.6**		**-0.2**
	1.4nm,0.7s,baz=224,slow=8.6,SNR=14								
NVAR	**Mina Array Bea**	**80.90**	**41**	P		**P**	**12 27 03.6**		**-0.2**
VNA3	**Neumayer Olymp**	**85.29**	**175**	*e*P		**P**	**12 27 26.2**		**+0.4**
VNA2	**Neumayer--Watz**	**85.77**	**176**	*e*P		**P**	**12 27 29.0**		**+0.9**
	baz=198,slow=4.5								
TXAR	**Lajitas Array**	**85.95**	**56**	P		**P**	**12 27 29.5**		**-0.3**
	1.2nm,0.8s,baz=204,slow=7.8,SNR=15								
TXAR	**Lajitas Array**	**85.95**	**56**	P		**P**	**12 27 29.5**		**-0.3**
GDL2	**Guadalupe Moun**	**86.83**	**53**	*e*P		**P**	**12 27 34.2**		**+0.1**
	2.1nm,0.6s								
PDAR	**Pinedale Array**	**88.83**	**42**	P		**P**	**12 27 42.6**		**-0.9**
	0.3nm,0.5s,baz=157,slow=4.2,SNR=4.0								
PDAR	**Pinedale Array**	**88.83**	**42**	P		**P**	**12 27 42.6**		**-0.9**
ILAR	**Eielson Array**	**90.24**	**12**	P		**P**	**12 27 48.7**		**-0.6**
	1.0nm,0.9s,baz=214,slow=6.1,SNR=7.4								
ILAR	**Eielson Array**	**90.24**	**12**	P		**P**	**12 27 48.7**		**-0.6**
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P		**P**	**12 28 08.8**		**+1.6**
	0.5nm,0.5s,baz=147,slow=5.4,SNR=4.0								
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P		**P**	**12 28 08.8**		**+1.6**
AKASG	**Malin Array Be**	**146.78**	**332**	PKPbc		**PKPab**	**12 34 31.3**		**-1.0**
	0.9nm,0.7s,baz=45,slow=3.8,SNR=3.9								
AKASG	**Malin Array Be**	**146.78**	**332**	PKPbc		**PKPab**	**12 34 31.3**		**-1.0**
BRTR	**Keskin Array B**	**150.87**	**311**	PKPab		**PKPab**	**12 34 49.8**		**+0.5**
	0.4nm,0.4s,baz=145,slow=1.8,SNR=3.3								
BRTR	**Keskin Array B**	**150.87**	**311**	PKPab		**PKPab**	**12 34 49.8**		**+0.5**
TORD	**Torodi Ar. Bea**	**169.49**	**160**	PKPab		**PKPab**	**12 36 09.6**		**-0.7**
	0.6nm,0.9s,baz=194,slow=5.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**169.49**	**160**	PKPab		**PKPab**	**12 36 09.6**		**-0.7**

OTT 21 12:19:49.5±0.7,39.72N×52.82W,h18km,ML4.0/8, Atlantic Ocean. 850km south from Marystown, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SJNN	**Saint John's**	**7.88**	**1**	SN		Sn	12 23 07.1		-4.7
GBN	**Guysborough**	**8.57**	**314**	PN		Pn	12 21 52.4		-0.3
GBN				SN		Sn	12 23 22.6		-6.1
GBN				Trac			12 23 31.5		
	comp=Z,3.6nm,0.2s								
CHEG	**Cheticamp, Nov**	**9.11**	**324**	PN		Pn	12 21 58.4		-1.7
CHEG				SN		Sn	12 23 34.6		-7.5
CHEG				Trac			12 23 45.2		
	comp=Z,12nm,0.2s								
DRLN	**Deer Lake**	**10.11**	**342**	PN		Pn	12 22 11.8		-1.9
DRLN				SN		Sn	12 23 60.0		-6.6
DRLN				Trac			12 24 05.0		
	comp=Z,4.2nm,0.2s								
LMN	**Caledonia Moun**	**10.73**	**309**	PN		Pn	12 22 20.4		-1.8
LMN				SN		Sn	12 24 12.5		-9.3
LMN				Trac			12 24 21.7		
	comp=Z,14nm,0.4s								
GGN	**Saint George**	**11.68**	**302**	SN		Sn	12 24 30.1		-15
GGN				Trac			12 24 40.0		
	comp=Z,10nm,0.4s								
BATG	**Bathurst New B**	**12.22**	**313**	PN		Pn	12 22 36.0		-6.5
BATG				SN		Sn	12 24 46.9		-11
BATG				Trac			12 24 55.5		
	comp=Z,1.6nm,0.1s								
NATG	**Natashquan Que**	**12.70**	**330**	PN		Pn	12 22 47.3		-1.8
NATG				SN		Sn	12 24 59.4		-11
NATG				Trac			12 25 07.5		
	comp=Z,2.4nm,0.2s								
GSQ	**Grosses Roches**	**13.73**	**317**	PN		Pn	12 22 59.9		-3.4
GSQ				SN		Sn	12 25 25.2		-10
GSQ				Trac			12 25 32.5		
	comp=Z,0.6nm,0.1s								
ICQ	**Pointe Anglais**	**14.19**	**318**	PN		Pn	12 23 04.9		-4.5
ICQ				SN		Sn	12 25 36.4		-10
SMQ	**Clarke City**	**14.36**	**322**	PN		Pn	12 23 07.2		-4.6
SMQ				SN		Sn	12 25 38.6		-12
SMQ				Trac			12 25 47.1		
	comp=Z,0.5nm,0.1s								
CNQ	**Baie Comeau**	**14.48**	**316**	SN		Sn	12 25 42.7		-11
A21	**Saint Andre**	**14.56**	**309**	SN		Sn	12 25 43.7		-12
SCHQ	**Schefferville**	**17.81**	**333**	PN		Pn	12 23 50.4		-5.9
SCHQ				SN		Sn	12 27 00.6		-14

*ATH **21** 12:25:28.3,40°.46N×21°.64E,h16km±2km,MD3.1/4*
*ISCJB **21** 12:25:30.6±0.8,40°.38N±0°.04×21°.87E±0°.06,h4km±7km, Error ellipse: s-maj=7.8km s-min=5.7km az=146.8*
*CSEM **21** 12:25:30.5±0.3,40°.40N×21°.88E,h2km,ML2.0/3,Error ellipse: s-maj=7.9km s-min=5.2km az=39.0*
*THE **21** 12:25:30.8,40°.38N×21°.88E,h0km±6km,ML2.0/3,Error ellipse: s-maj=6.4km s-min=1.4km az=62.0*

ISC 21 12:25:31.0±1.0,40°.39N±0°.04×21°.82E±0°.04,h10km±6km, n20,σ0§71/32,Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KZN	**Kozani**	**0.09**	**207**	P		**Pg**	**12 25 33.0**		**-0.5**
KZN				S		**Sg**	**12 25 35.4**		**+0.1**
KZN	**Kozani**	**0.09**	**207**	*e*PB		**Pg**	**12 25 32.8**		**-0.7**
KZN				*e*SB		**Sg**	**12 25 36.5**		**+1.2**
KZN	**Kozani**	**0.09**	**207**	*e*Pb		**Pg**	**12 25 32.8**		**-0.7**
KZN				S		**Sg**	**12 25 35.4**		**+0.1**
KZN				*e*Sb		**Sg**	**12 25 36.5**		**+1.2**
FNA	**Florina**	**0.52**	**319**	P		**Pg**	**12 25 40.5**		**-0.6**
FNA				S		**Sb**	**12 25 50.2**		**+0.3**
FNA	**Florina**	**0.52**	**319**	P		**Pg**	**12 25 40.5**		**-0.6**
FNA				S		**Sb**	**12 25 50.2**		**+0.3**
LIT	**Litokhoron**	**0.58**	**119**	*e*PB		**Pg**	**12 25 42.0**		**-0.3**
LIT	**Litokhoron**	**0.58**	**119**	*e*Pb		**Pg**	**12 25 42.0**		**-0.3**
NEST	**Nestorio**	**0.59**	**273**	P		**Pg**	**12 25 42.4**		**-0.1**
NEST				S		**Sb**	**12 25 52.5**		**+0.5**
NEST	**Nestorio**	**0.59**	**273**	P		**Pg**	**12 25 42.4**		**-0.1**
NEST				S		**Sb**	**12 25 52.5**		**+0.5**
THL	**Klokotos Trika**	**0.83**	**170**	P		**Pg**	**12 25 46.4**		**-0.6**
THL				S		**Sg**	**12 25 57.6**		**-0.3**
THL	**Klokotos Trika**	**0.83**	**170**	*e*PN		**Pg**	**12 25 46.4**		**-0.6**
THL	**Klokotos Trika**	**0.83**	**170**	P		**Pg**	**12 25 46.4**		**-0.6**
THL				S		**Sg**	**12 25 57.6**		**-0.3**
PLG	**Polygyros**	**1.24**	**90**	*e*PN		**Pn**	**12 25 54.2**		**-0.2**
PLG	**Polygyros**	**1.24**	**90**	*e*Pn		**Pn**	**12 25 54.2**		**-0.2**
AGG	**Agios Georgios**	**1.42**	**164**	P		**Pg**	**12 25 58.0**		**-0.2**
AGG	**Agios Georgios**	**1.42**	**164**	*e*PN		**Pb**	**12 25 57.6**		**+0.1**
AGG				*e*SN		**Sg**	**12 26 18.2**		**+1.6**
AGG	**Agios Georgios**	**1.42**	**164**	*e*Pn		**Pb**	**12 25 57.6**		**+0.1**
AGG	**Agios Georgios**	**1.42**	**164**	P		**Pg**	**12 25 58.0**		**-0.2**
AGG				*e*Sn		**Sg**	**12 26 18.2**		**+1.6**
EVR	**Evrytania**	**1.47**	**180**	*e*PN		**Pn**	**12 25 56.8**		**-0.8**
EVR	**Evrytania**	**1.47**	**180**	*e*Pn		**Pn**	**12 25 56.8**		**-0.8**

IDC 21 12:39:41.0±3.4,2.02S×139.32E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/18,mbtmp3.3/4,ML3.7/1,Error ellipse: s-maj=113.1km s-min=26.1km az=90.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**18.47**	**195**	P		P	12 43 57.9		-0.8
	0.2nm,0.3s,baz=17,slow=13,SNR=23								
FITZ	**Fitzroy Crossi**	**20.88**	**219**	P		P	12 44 26.0		+1.1
	1.3nm,1.0s,baz=52,slow=12,SNR=2.1								
ASAR	**Alice Springs**	**22.16**	**193**	P		P	12 44 39.0		+0.3
	0.6nm,0.7s,baz=21,slow=11,SNR=14								
MKAR	**Makanchi Array**	**69.62**	**322**	P		P	12 50 51.8		-0.4
	0.2nm,0.7s,baz=109,slow=7.8,SNR=2.8								

*ISCJB **21** 12:43:00.6±0.3,7.24S±0°.04×129°.06E±0°.05,h156km, mb3.8/8, Error ellipse: s-maj=7.3km s-min=4.5km az=154.4*
*AUST **21** 12:43:01.3±0.0,7°.29S×129°.13E,h131km,Error ellipse: s-maj=0.9km s-min=0.9km az=37.0*
*IDC **21** 12:43:03.4±3.6,7°.21S×129°.04E,h170km±35km,mb3.6/8, mb1 3.8/11,mb1mx3.7/22,mbtmp3.8/11,Error ellipse: s-maj=29.4km s-min=12.6km az=49.0*
*DJA **21** 12:43:04.8±0.4,7°.5S×13°.0E,°,h151km±12km,M4.5/10, mB4.8/3,mb4.5/10,MLv4.5/6,Mw(mB)4.1/3*

ISC 21 12:43:02.6±0.5,7.23S±0°.05×129.25E±0°.06,h156km,n53, σ1§85/52,mb4.5/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
BNDI	**Bandanaira**	**2.77**	**14**	P		**Pn**	**12 43 49.3**		**+1.9**
AAI	**Ambon**	**3.67**	**343**	P		**Pn**	**12 44 00.6**		**+1.7**
	baz=3.7,SNR=12								
AAI	**Ambon**	**3.67**	**343**	P		**Pn**	**12 44 00.2**		**+1.3**
TLE	**Tual**	**3.81**	**66**	P		**Pn**	**12 44 02.2**		**+1.6**
	baz=3.9,SNR=160								
TLE				S		**Sn**	**12 44 47.0**		**+1.3**
	baz=3.9,SNR=6.3								
TLE	**Tual**	**3.81**	**66**	P		**Pn**	**12 44 02.3**		**+1.6**
MSAI	**Masohi**	**3.87**	**355**	P		Pn	12 44 04.5		+3.1
FAKI	**Fak Fak**	**5.22**	**35**	P		**Pn**	**12 44 16.7**		**-2.5**
	77nm,0.6s,4μm1.2nm								
MTN	**Manton Dam**	**5.88**	**162**	P		**Pn**	**12 44 29.2**		**+1.4**
	baz=5.9,SNR=197								
MTN				S		**Sn**	**12 45 32.5**		**-2.0**
	baz=5.9,SNR=18								
KDU	**Kakadu**	**6.28**	**150**	P		**Pn**	**12 44 34.2**		**+1.0**
	baz=6.3,SNR=147								
KDU				S		**Sn**	**12 45 41.6**		**-2.6**
	baz=6.3,SNR=8.6								
SWI	**Sorong**	**6.64**	**18**	S		Sn	12 45 44.9		-7.8
	baz=6.8,SNR=5.5								
LBMI	**Labuha**	**6.78**	**345**	P		**Pn**	**12 44 41.2**		**+1.4**
	69nm,0.8s,633nm0.2nm								
BKSI	**Bulukumba**	**9.27**	**281**	P		**Pn**	**12 45 15.2**		**+2.3**
	15nm,0.9s								
TTSI	**Tana Toraja**	**10.27**	**293**	P		P	12 45 39.0		+3.3
PCI	**Palu**	**11.29**	**303**	P		**Pn**	**12 45 40.1**		**+0.5**
	baz=11,SNR=4.0								
PCI				S		Sn	12 47 24.9		-20
	baz=11,SNR=5.0								
FITZ	**Fitzroy Crossi**	**11.36**	**198**	P		**Pn**	**12 45 39.3**		**-1.2**
	0.3nm,0.3s,baz=36,slow=12,SNR=58								
FITZ				S		Sn	12 47 39.6		-6.7
	3.3nm,0.3s,baz=78,slow=18,SNR=13								
FITZ	**Fitzroy Crossi**	**11.36**	**198**	P		**Pn**	**12 45 39.1**		**-1.5**
	baz=11,SNR=18								
FITZ				S		Sn	12 47 38.1		-8.2
	baz=11,SNR=6.2								
WRA	**Warramunga Arr**	**13.57**	**159**	P		**Pn**	**12 46 06.4**		**-2.5**
	1.6nm,0.3s,baz=338,slow=13,SNR=67								
WRA				S		Sn	12 48 32.5		-6.9
	3.9nm,0.3s,baz=326,slow=22,SNR=10								
IGBI	**Denpasar**	**14.05**	**263**	P		P	12 46 25.7		+7.7
BBKI	**Banjar Baru**	**14.82**	**284**	P		**P**	**12 46 29.0**		**+2.4**
	94nm,0.9s								
KMMI	**Kalianget**	**15.16**	**270**	P		P	12 46 35.4		+5.0
	24nm,1.7s								
COEN	**Coen**	**15.23**	**117**	P		**P**	**12 46 31.8**		**+0.7**
	baz=15,SNR=18								
COEN				S		Sn	12 49 09.0		-10
	baz=15,SNR=5.3								
QIS	**Mount Isa**	**16.62**	**144**	P		**Pn**	**12 46 47.7**		**+1.0**
	baz=17,SNR=36								
ASAR	**Alice Springs**	**16.94**	**165**	P		**Pn**	**12 46 51.5**		**+0.9**
	5.2nm,0.3s,baz=341,slow=9.4,SNR=424								
ASAR				S		**S**	**12 49 55.0**		**-3.6**
	0.9nm,0.3s,baz=54,slow=48,SNR=12								
SJI	**Sawahan**	**17.34**	**267**	P		Pn	12 46 59.8		+4.3
	24nm,0.7s								
PMG	**Port Moresby**	**17.86**	**98**	P		**Pn**	**12 47 03.8**		**+2.2**
	0.7nm,0.3s,baz=238,slow=9.5,SNR=7.4								
SBUM	**Sibu**	**19.52**	**299**	P		**Pn**	**12 47 23.9**		**+2.8**
	13nm,1.2s,297nm								
CTA	**Charters Tower**	**20.86**	**129**	P		**P**	**12 47 33.4**		**+0.9**
	4.7nm,0.7s,baz=299,slow=12,SNR=5.5								
MEEK	**Meekatharra**	**21.79**	**206**	P		**P**	**12 47 45.5**		**+3.1**
	baz=22,SNR=3.5								
MEEK				S		Sn	12 51 52.0		-3.6
	baz=22,SNR=3.4								
FORT	**Forrest**	**23.45**	**183**	P		**P**	**12 47 58.5**		**+0.5**
	baz=24,SNR=8.1								
QLP	**Quilpie**	**23.95**	**145**	P		**P**	**12 48 04.1**		**+1.5**
	baz=24,SNR=12								
BBOO	**Buckleboo**	**26.23**	**167**	P		**P**	**12 48 23.2**		**+0.1**
	baz=26,SNR=11								
STKA	**Stephens Creek**	**27.09**	**156**	P		**P**	**12 48 30.5**		**-0.4**
	3.0nm,0.4s,baz=350,slow=4.3,SNR=6.2								
STKA	**Stephens Creek**	**27.09**	**156**	P		**P**	**12 48 31.2**		**+0.4**
	baz=27,SNR=4.7								
CMSA	**Cobar Meteorol**	**28.65**	**150**	P		**P**	**12 48 45.3**		**+0.6**
	baz=29,SNR=6.3								
ARPS	**Mount Arapiles**	**31.57**	**160**	P		**P**	**12 49 11.3**		**+0.9**
	baz=32,SNR=14								
PSI	**Prapat**	**31.86**	**287**	P		**P**	**12 49 12.1**		**-1.3**
	4.2nm,0.8s,baz=91,slow=8.6,SNR=5.0								
TOO	**Toolangi**	**33.62**	**156**	P		**P**	**12 49 30.2**		**+1.9**
	baz=34,SNR=6.9								
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P		**P**	**12 50 15.1**		**-1.7**
	0.7nm,0.4s,baz=142,slow=7.7,SNR=7.0								
CMAR				pP		pP	12 50 58.1		+7.4
	0.6nm,0.7s,baz=142,slow=7.4,SNR=2.1								
RPZ	**Rata Peaks**	**51.51**	**142**	P		**P**	**12 51 53.0**		**+0.6**
	14nm,0.7s,baz=352,slow=7.1,SNR=7.3								
ODAN	**Odare**	**52.85**	**312**	*e*P		**P**	**12 52 00.8**		**-2.0**
	8.3nm,0.6s								
TAPN	**Taplejung**	**52.88**	**312**	*e*P		**P**	**12 52 00.9**		**-2.2**
RAMN	**Ramite**	**53.48**	**311**	*e*P		**P**	**12 52 05.5**		**-1.9**
	13nm,0.5s								
DANN	**Dangsing**	**56.36**	**311**	*e*P		**P**	**12 52 25.9**		**-2.2**
PYUN	**Piuthan**	**56.81**	**310**	*e*P		**P**	**12 52 29.4**		**-1.8**
	11nm,0.8s								
SONM	**Songino Array**	**58.43**	**342**	P		**P**	**12 52 41.4**		**-0.7**
	0.2nm,0.6s,baz=148,slow=8.4,SNR=2.4								
MKAR	**Makanchi Array**	**68.01**	**327**	P		**P**	**12 53 43.2**		**-1.8**
	0.3nm,0.3s,baz=116,slow=8.5,SNR=17								
ZALV	**Zalesovo Beam**	**71.46**	**334**	P		**P**	**12 54 02.9**		**-3.1**
	0.4nm,0.5s,baz=144,slow=5.9,SNR=3.4								
TORD	**Torodi Ar. Bea**	**128.12**	**281**	PKP		**PKPdf**	**13 01 49.5**		**-1.8**
	0.2nm,0.7s,baz=70,slow=3.0,SNR=3.4								
LPAZ	**La Paz**	**150.99**	**144**	PKPbc		**PKPbc**	**13 02 38.0**		**-0.8**
	0.7nm,0.4s,baz=263,slow=8.6,SNR=7.0								
LPAZ				PKPab		**PKPab**	**13 02 46.9**		**+0.3**
	1.5nm,0.7s,baz=64,slow=2.2,SNR=4.9								

*IDC **21** 13:18:18.9±1.5,19°.33S×177°.34W,h549km±19km,mb3.5/4, mb1 3.7/6,mb1mx3.2/21,mbtmp3.6/6,Error ellipse: s-maj=37.4km s-min=16.0km az=138.0*
*ISCJB **21** 13:18:19.7±0.5,19°.1S±0°.1×177°.54W±0°.08,h570km, mb4.0/4,Error ellipse: s-maj=18.5km s-min=7.7km az=157.5*
*AUST **21** 13:18:21.5,18°.95S×177°.34W,h600km*

ISC 21 13:18:20.5±0.6,19.2S±0°.1×177.4W±0°.1,h570km,n25, σ1§09/26,mb4.2/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
NIUE	**Niue**	**7.07**	**91**	S		**S**	**13 21 41.2**		**+1.7**
	baz=7.0,SNR=5.4								
AFI	**Afiamalu**	**7.50**	**47**	P		**P**	**13 20 14.0**		**-0.2**
	6.7nm,0.3s,baz=79,slow=4.0,SNR=16								
AFI				S		**S**	**13 21 44.7**		**-2.5**
	2.7nm,0.3s,baz=22,slow=19,SNR=4.1								
URZ	**Urewera**	**19.63**	**193**	P		**P**	**13 22 09.7**		**-2.4**
	0.6nm,0.3s,baz=116,slow=14,SNR=3.2								
CMSA	**Cobar Meteorol**	**35.40**	**242**	P		**P**	**13 24 29.2**		**-0.3**
	baz=36,SNR=14								
QLP	**Quilpie**	**36.01**	**251**	P		**P**	**13 24 34.4**		**-0.3**
	baz=36,SNR=12								
TOO	**Toolangi**	**37.15**	**233**	P		**P**	**13 24 43.8**		**-0.1**
	baz=37,SNR=5.3								
COEN	**Coen**	**38.09**	**272**	P		**P**	**13 24 52.7**		**+1.0**
	baz=38,SNR=6.7								
STKA	**Stephens Creek**	**38.89**	**243**	P		**P**	**13 24 57.9**		**-0.1**
	3.5nm,0.6s,baz=78,slow=7.8,SNR=13								
STKA	**Stephens Creek**	**38.89**	**243**	P		**P**	**13 24 58.2**		**+0.1**
	baz=39,SNR=10								
BBOO	**Buckleboo**	**43.66**	**242**	P		**P**	**13 25 35.3**		**-0.4**
	baz=44,SNR=20								
WRA	**Warramunga Arr**	**45.36**	**261**	P		**P**	**13 25 48.0**		**-1.0**
	2.8nm,0

BBOO	**Buckleboo**	**43.57**	**242**	P	**P**	**13 33 18.1**	**0.0**
	baz=44,SNR=32						
WRA	**Warramunga Arr**	**45.30**	**261**	P	**P**	**13 33 30.8**	**-0.8**
	10nm,0.5s,baz=98,slow=7.9,SNR=345						
WRA				PcP	**PcP**	**13 34 59.1**	**-0.5**
	1.0nm,0.5s,baz=92,slow=3.4,SNR=4.8						
ASAR	**Alice Springs**	**45.32**	**255**	P	**P**	**13 33 31.5**	**-0.2**
	17nm,0.7s,baz=86,slow=8.1,SNR=253						
ASAR				PcP	**PcP**	**13 34 59.3**	**-0.4**
	2.1nm,0.7s,baz=108,slow=3.5,SNR=6.9						
KDU	**Kakadu**	**48.45**	**270**	P	**P**	**13 33 55.0**	**-0.3**
	baz=48,SNR=14						
KDU				S	S	13 40 04.2	-12
	baz=48,SNR=7.3						
MTN	**Manton Dam**	**49.68**	**269**	P	**P**	**13 34 03.8**	**-0.6**
	baz=50,SNR=19						
MTN				S	S	13 39 59.7	-33
	baz=50,SNR=5.9						
FORT	**Forrest**	**50.27**	**246**	P	**P**	**13 34 07.8**	**-0.8**
	baz=50,SNR=22						
SWI	**Sorong**	**53.44**	**284**	P	**P**	**13 34 32.1**	**+0.5**
	baz=54,SNR=4.5						
FITZ	**Fitzroy Crossi**	**53.71**	**261**	P	**P**	**13 34 33.4**	**-0.1**
	9.6nm,0.5s,baz=118,slow=4.6						
FITZ	**Fitzroy Crossi**	**53.71**	**261**	P	**P**	**13 34 33.4**	**-0.1**
	baz=54,SNR=24						
MEEK	**Meekatharra**	**58.82**	**250**	P	**P**	**13 35 07.6**	**-1.0**
	baz=59,SNR=7.3						
KLBR	**Kellerberrin**	**59.05**	**244**	P	**P**	**13 35 09.6**	**-0.4**
	baz=59,SNR=13						
BLDU	**Ballidu**	**60.03**	**245**	P	**P**	**13 35 16.1**	**-0.5**
	baz=60,SNR=12						
MORW	**Morawa**	**60.78**	**247**	P	**P**	**13 35 21.1**	**-0.5**
	baz=61,SNR=3.4						
PCI	**Palu**	**64.01**	**279**	P	P	13 35 32.6	-10
	baz=64,SNR=3.9						
MJAR	**Matsushiro Arr**	**69.53**	**323**	P	**P**	**13 36 16.4**	**+0.2**
	0.7nm,0.4s,baz=158,slow=5.9,SNR=6.1						
UGM	**Wanagama**	**70.51**	**268**	P	**P**	**13 36 22.3**	**-0.3**
	baz=71,SNR=6.3						
PETK	**Petropavlovsk-**	**75.21**	**345**	P	**P**	**13 36 48.9**	**+0.3**
	3.7nm,0.7s,baz=167,slow=7.1,SNR=3.5						
NVAR	**Mina Array Bea**	**79.77**	**43**	P	**P**	**13 37 14.9**	**+1.0**
	0.6nm,0.6s,baz=227,slow=9.0,SNR=6.9						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**13 37 46.5**	**+1.6**
	0.3nm,0.6s,baz=217,slow=6.0,SNR=4.6						
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**13 37 48.2**	**-0.7**
	0.3nm,0.3s,baz=234,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**87.71**	**43**	P	**P**	**13 37 53.5**	**+0.4**
	0.4nm,0.6s,baz=208,slow=3.1,SNR=5.9						
VNA3	**Neumayer Olymp**	**89.34**	**176**	*eP*	**P**	**13 37 59.5**	**-0.4**
VNA2	**Neumayer--Watz**	**89.79**	**177**	*eP*	**P**	**13 38 01.9**	**-0.1**
	baz=198,slow=4.4						
CMAR	**Chiang Mai Arr**	**90.19**	**289**	P	**P**	**13 38 05.7**	**+0.9**
	1.5nm,0.6s,baz=121,slow=2.8,SNR=14						
MKAR	**Makanchi Array**	**110.72**	**314**	PKiKP	**PKiKP**	**13 43 30.9**	**-1.9**
	0.2nm,0.5s,baz=149,slow=0.9,SNR=7.2						
ARCES	**ARCESS Array B**	**127.80**	**350**	PKP	**PKPdf**	**13 44 04.3**	**-0.6**
	6.2nm,1.0s,baz=336,slow=2.7,SNR=6.4						
BRTR	**Keskin Array B**	**146.37**	**314**	PKPbc	**PKPdf**	**13 44 41.5**	**+1.7**
	1.1nm,0.4s,baz=137,slow=4.7,SNR=6.8						
GERES	**GERESS Array B**	**149.14**	**346**	PKPbc	**PKPbc**	**13 44 48.7**	**-0.2**
	0.3nm,0.5s,baz=67,slow=3.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**173.87**	**172**	PKPab	**PKPab**	**13 46 43.6**	**-0.2**
	0.2nm,0.6s,baz=158,slow=4.2,SNR=2.8						

JMA 21 13:34:51.5±0.1, 31°93N×140°75E, h4km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.42**	**326**	P	Pn	13 35 18.1	0.0
JHJ2				*eS*	Sb	13 35 36.7	-0.3
BSO1	**Boso 1**	**2.72**	**4**	*eS*	Sn	13 36 10.3	+2.1
BSO2	**Boso 2**	**2.81**	**0**	*eS*	Sn	13 36 13.4	+2.4
BSO3	**Boso 3**	**2.87**	**356**	*eS*	Sn	13 36 14.2	+1.7
BSO4	**Boso 4**	**3.07**	**354**	*eS*	Sn	13 36 19.5	+1.7
JHU	**Hanno**	**4.10**	**343**	P	Pn	13 35 56.8	+1.9
JHU				*eS*	Sn	13 36 44.3	+0.9

*IDC **21** 13:35:17.4±7.1, 6°76N×75°75W, h131km±85km, mb2.7/1, mb1 3.1/2, mb1mx2.8/21, mbtmp2.9/2, Error ellipse: s-maj=186.7km s-min=34.9km az=81.0*

FUNV 21 13:35:14.4, 6°66N×73°17W, h164km, MW3.4, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.47**	**35**	⇑*iP*	Pn	13 35 44.5	-0.6
CAPV				*eS*	Sn	13 36 06.0	-2.7
ROSC	**El Rosal**	**2.13**	**213**	P	Pn	13 35 56.3	+4.0
	10nm,0.3s,baz=260,slow=20,SNR=20						
ROSC				S	Sn	13 36 27.0	+5.2
	12nm,0.3s,baz=73,slow=18,SNR=5.3						
SOCV	**Socops**	**2.80**	**55**	*eP*	Pn	13 35 59.2	-0.8
SOCV				*eS*	Sn	13 36 31.6	-3.8
VIGV	**El Vigia**	**2.81**	**39**	*eP*	Pn	13 35 59.6	-0.4
VIGV				*eS*	Sn	13 36 32.3	-3.2
VIRV	**Villa del Rosa**	**3.89**	**11**	*eP*	Pn	13 36 11.4	-2.3
VIRV				*eS*	Sn	13 36 55.3	-4.7
CURV	**Curarigua**	**4.60**	**43**	*eP*	Pn	13 36 21.8	-1.2
DABV	**Dabajuro**	**4.92**	**30**	*eP*	Pn	13 36 25.1	-1.9
BAUV	**El Baul**	**5.56**	**66**	*eP*	Pn	13 36 33.4	-2.1
BAUV				*eS*	Sn	13 37 32.2	-6.9
MAPV	**Macapo**	**5.63**	**56**	*eP*	Pn	13 36 34.1	-2.3
MONV	**Montecano**	**6.13**	**31**	*eP*	Pn	13 36 41.5	-1.6
YKA	**Yellowknife Ar**	**63.40**	**340**	P	P	13 45 26.3	+0.2
	0.1nm,0.5s,baz=131,slow=6.6,SNR=4.0						
ASAR	**Alice Springs**	**148.98**	**234**	PKPbc	PKPbc	13 54 44.6	+0.8
	0.8nm,1.1s,baz=117,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**150.22**	**241**	PKPbc	PKPbc	13 54 47.7	+0.7
	0.1nm,0.5s,baz=108,slow=2.6,SNR=7.9						

IDC 21 13:36:08.1±1.4, 28°06S×63°14E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=45.7km s-min=28.3km az=79.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**57.78**	**41**	P	P	13 46 02.2	+0.8
	0.4nm,0.6s,baz=232,slow=7.2,SNR=4.9						
QSPA	**South Pole Qui**	**62.09**	**180**	P	P	13 46 30.9	+0.2
	2.2nm,1.0s,baz=324,slow=8.7,SNR=4.1						
ASAR	**Alice Springs**	**63.02**	**104**	P	P	13 46 37.2	-0.1
	0.8nm,0.7s,baz=247,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**64.75**	**100**	P	P	13 46 48.6	-0.2
	1.0nm,0.8s,baz=248,slow=6.0,SNR=7.7						
MKAR	**Makanchi Array**	**76.49**	**13**	P	P	13 47 59.4	-0.3
	0.2nm,0.6s,baz=194,slow=3.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**83.80**	**13**	P	P	13 48 38.8	-0.1
	0.3nm,0.3s,baz=212,slow=5.1,SNR=4.3						
SONM	**Songino Array**	**84.95**	**28**	P	P	13 48 44.8	-0.3
	0.1nm,0.3s,baz=196,slow=2.6,SNR=2.4						
YKA	**Yellowknife Ar**	**145.53**	**358**	PKPbc	PKPdf	13 55 46.8	-0.8
	0.1nm,0.4s,baz=349,slow=3.4,SNR=5.9						

IDC 21 13:41:46.1±19.0, 17°30S×178°78W, h612km±188km, mb2.9/4, mb1 3.1/4, mb1mx2.8/20, mbtmp2.9/4, Error ellipse: s-maj=260.9km s-min=65.5km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.21**	**260**	P	P	13 47 35.0	+0.4
	4.8nm,1.0s,baz=86,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**44.40**	**259**	P	P	13 49 04.0	-0.4
	0.5nm,0.5s,baz=94,slow=7.1,SNR=29						
ASAR	**Alice Springs**	**44.62**	**254**	P	P	13 49 06.0	-0.1
	2.2nm,0.5s,baz=88,slow=8.7,SNR=55						
ILAR	**Eielson Array**	**85.38**	**13**	P	P	13 53 19.2	-0.3
	0.2nm,0.4s,baz=222,slow=5.1,SNR=4.0						
GERES	**GERESS Array B**	**146.94**	**345**	PKPbc	PKPbc	14 00 21.0	-0.2
	0.2nm,0.4s,baz=45,slow=2.9,SNR=3.6						

*NEIC **21** 13:59:13.2±5.4, 23°12S×174°53W, h20km±47km, mb4.8/2, Error ellipse: s-maj=20.8km s-min=12.2km az=109.0*
*IDC **21** 13:59:19.8±1.0, 23°27S×174°94W, h41km±7km, mb3.9/8, mb1 4.2/9, mb1mx3.9/21, mbtmp4.0/9, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/33, Error ellipse: s-maj=47.8km s-min=16.4km az=154.0*

ISC 21 13:59:15.9±0.7, 23°5S×0°2×174°4W±0°1, h35km, n30, σ0°96/25, mb4.2/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.87**	**15**	P	Pn	14 01 29.2	-6.1
	3.9nm,0.3s,baz=76,slow=19,SNR=10						
AFI				S	Sn	14 03 08.7	-16
	2.7nm,0.3s,baz=171,slow=19,SNR=3.5						
AFI	**Afiamalu**	**9.87**	**15**	P	Pn	14 01 29.2	-6.1
AFI				S	Sn	14 03 08.7	-16
RAR	**Rarotonga**	**13.74**	**83**	P	**Pn**	**14 02 27.9**	**-0.5**
	3.7nm,0.3s,baz=282,slow=9.2,SNR=6.4						
RAR	**Rarotonga**	**13.74**	**83**	P	**Pn**	**14 02 27.9**	**-0.5**
URZ	**Urewera**	**16.39**	**204**	P	**P**	**14 03 06.3**	**+0.6**
	0.4nm,0.3s,baz=307,slow=5.1,SNR=3.0						
URZ	**Urewera**	**16.39**	**204**	*ePn*	**P**	**14 03 06.0**	**+0.2**
DZM	**Mont Dzumac**	**17.70**	**271**	*eLR*	LR	14 07 16.2	
	117nm,27.5s						
TBI	**Tubuai**	**22.90**	**95**	*eLR*	LR	14 09 47.2	
	138nm,26.8s						
PPT2	**Papeete2**	**23.98**	**80**	*eLR*	LR	14 10 10.9	
	165nm,26.2s						
CTA	**Charters Tower**	**36.59**	**268**	P	**P**	**14 06 18.4**	**-0.5**
	4.3nm,0.4s,baz=87,slow=12,SNR=20						
CTA	**Charters Tower**	**36.59**	**268**	P	**P**	**14 06 18.4**	**-0.5**
CTAO	**Charters Tower**	**36.59**	**268**	*eP*	**P**	**14 06 17.5**	**-1.4**
	5.7nm,0.5s						
STKA	**Stephens Creek**	**39.61**	**248**	P	**P**	**14 06 45.0**	**+0.8**
	2.1nm,0.8s,baz=94,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**39.61**	**248**	*eP*	**P**	**14 06 44.1**	**-0.1**
	0.6nm,0.9s						
AS31	**Alice Springs**	**47.13**	**259**	*eP*	**P**	**14 07 44.6**	**-0.5**
ASAR	**Alice Springs**	**47.14**	**259**	P	**P**	**14 07 44.7**	**-0.4**
	1.0nm,0.5s,baz=96,slow=7.1,SNR=29						
ASAR	**Alice Springs**	**47.14**	**259**	P	**P**	**14 07 44.7**	**-0.4**
WRAB	**Tennant Creek**	**47.53**	**264**	*eP*	**P**	**14 07 45.9**	**-2.2**
	4.3nm,0.4s						
WRA	**Warramunga Arr**	**47.53**	**264**	P	**P**	**14 07 47.0**	**-1.2**
	4.8nm,0.4s,baz=92,slow=8.5,SNR=136						
WRA				pP	**pP**	**14 07 59.6**	**+1.0**
	2.1nm,0.3s,baz=92,slow=8.5,SNR=9.4						
WRA	**Warramunga Arr**	**47.53**	**264**	P	**P**	**14 07 47.0**	**-1.2**
WRA				pP	**pP**	**14 07 59.6**	**+1.0**
GUMO	**Guam**	**54.26**	**309**	LR	LR	14 26 58.5	
	comp=Z,44nm,19.9s,baz=99,slow=31						
FITZ	**Fitzroy Crossi**	**55.95**	**263**	P	**P**	**14 08 51.7**	**+0.7**
	1.8nm,0.6s,baz=108,slow=6.2,SNR=10						
FITZ	**Fitzroy Crossi**	**55.95**	**263**	*eP*	**P**	**14 08 49.9**	**-1.1**
MJAR	**Matsushiro Arr**	**74.60**	**322**	P	**P**	**14 10 51.8**	**+0.4**
	0.7nm,0.5s,baz=159,slow=6.5,SNR=6.2						
MJAR	**Matsushiro Arr**	**74.60**	**322**	P	**P**	**14 10 51.8**	**+0.4**
NVAR	**Mina Array Bea**	**81.00**	**41**	P	P	14 11 31.3	+4.0
	1.0nm,0.7s,baz=223,slow=8.6,SNR=8.5						
NVAR				pP	pP	14 11 43.5	+5.2
	1.3nm,0.7s,baz=224,slow=8.5,SNR=7.6						
TXAR	**Lajitas Array**	**85.93**	**56**	P	P	14 11 57.4	+4.7
	2.1nm,1.1s,baz=184,slow=5.0,SNR=7.1						
TXAR				pP	pP	14 12 10.1	+6.3
	0.3nm,0.4s,baz=217,slow=7.9,SNR=4.1						
ILAR	**Eielson Array**	**90.54**	**11**	P	**P**	**14 12 13.4**	**-0.3**
	1.2nm,1.1s,baz=218,slow=5.7,SNR=4.9						
ILAR				pP	**pP**	**14 12 26.0**	**+1.1**
	0.1nm,0.5s,baz=232,slow=5.5,SNR=3.6						
ILAR	**Eielson Array**	**90.54**	**11**	P	**P**	**14 12 13.4**	**-0.3**
BRTR	**Keskin Array B**	**151.31**	**311**	PKPbc	**PKPbc**	**14 19 07.5**	**+1.4**
	0.6nm,0.7s,baz=144,slow=3.4,SNR=3.0						

*ISK **21** 14:00:35.8, 39°38N×27°95E, h5km, ML2.2*
*DDA **21** 14:00:36.6, 39°39N×28°00E, h7km, MD2.8*
*ISCJB **21** 14:00:37.1±0.5, 39°38N±0°02×27°98E±0°04, h3km±7km, Error ellipse: s-maj=5.7km s-min=3.8km az=179.5*
*CSEM **21** 14:00:37.2±0.2, 39°37N×27°99E, h5km, ML2.2, Error ellipse: s-maj=3.9km s-min=2.9km az=80.0*

ISC 21 14:00:37.1±1.0, 39°37N±0°03×27°98E±0°03, h11km±9km, n28, σ0°36/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**344**	*ePG*	**Pg**	**14 00 42.8**	**0.0**
BALB				*eSG*	**Sg**	**14 00 47.2**	**+0.5**
BALB	**Balikesir**	**0.28**	**344**	*ePg*	**Pg**	**14 00 42.8**	**0.0**
BALB				*eSg*	**Sg**	**14 00 47.2**	**+0.5**
DURS	**Dursunbey**	**0.45**	**59**	*iP*	**Pg**	**14 00 45.4**	**-0.6**
DURS				*iS*	**Sg**	**14 00 52.2**	**+0.3**
DURS	**Dursunbey**	**0.45**	**59**	*iP*	**Pg**	**14 00 45.4**	**-0.6**
DURS				*iS*	**Sg**	**14 00 52.2**	**+0.3**
BALY	**Balya**	**0.46**	**323**	*iP*	**Pg**	**14 00 46.0**	**-0.2**
BALY				*iS*	**Sg**	**14 00 52.0**	**-0.3**
BALY	**Balya**	**0.46**	**323**	*iP*	**Pg**	**14 00 46.0**	**-0.2**
BALY				*iS*	**Sg**	**14 00 52.0**	**-0.3**
AKHS	**Akhisar**	**0.51**	**195**	*iP*	**Pg**	**14 00 47.2**	**+0.2**
AKHS				*iS*	**Sb**	**14 00 55.1**	**-0.3**
AKHS	**Akhisar**	**0.51**	**195**	*iP*	**Pg**	**14 00 47.2**	**+0.2**
AKHS				*iS*	**Sb**	**14 00 55.1**	**-0.3**
AKS	**Akhisar**	**0.51**	**195**	*ePG*	**Pg**	**14 00 46.5**	**-0.4**
AKS				*eSG*	**Sb**	**14 00 55.4**	**0.0**
AKS	**Akhisar**	**0.51**	**195**	*ePg*	**Pg**	**14 00 46.5**	**-0.4**
AKS				*eSg*	**Sb**	**14 00 55.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.71**	**342**	*ePG*	**Pg**	**14 00 50.3**	**-0.6**
GONE				*eSG*	**Sg**	**14 01 00.2**	**-0.1**
GONE	**Gonen-Balikesi**	**0.71**	**342**	*ePg*	**Pg**	**14 00 50.3**	**-0.6**
GONE				*eSg*	**Sg**	**14 01 00.2**	**-0.1**
ORLT	**Orhaneli**	**0.98**	**46**	*ePG*	**Pg**	**14 00 55.7**	**-0.3**
ORLT				*eSG*	**Sn**	**14 01 10.7**	**-0.1**
ORLT	**Orhaneli**	**0.98**	**46**	*ePg*	**Pg**	**14 00 55.7**	**-0.3**
ORLT				*eSg*	**Sn**	**14 01 10.7**	**-0.1**
KULA	**Kula-Manisa**	**1.00**	**148**	*ePG*	**Pg**	**14 00 56.6**	**+0.1**
KULA	**Kula-Manisa**	**1.00**	**148**	*ePg*	**Pg**	**14 00 56.6**	**+0.1**
TVSB	**Tavsanli**	**1.15**	**85**	*ePN*	**Pb**	**14 00 58.6**	**-0.4**
TVSB	**Tavsanli**	**1.15**	**85**	*ePn*	**Pb**	**14 00 58.7**	**-0.4**
GDZ	**Gediz**	**1.20**	**103**	*iP*	**Pn**	**14 01 00.1**	**+0.2**
GDZ				*iS*	**Sb**	**14 01 16.0**	**+0.5**
GDZ	**Gediz**	**1.20**	**103**	*iP*	**Pn**	**14 01 00.1**	**+0.2**
GDZ				*iS*	**Sb**	**14 01 16.0**	**+0.5**
ARMT	**Armutlu**	**1.38**	**29**	*ePN*	**Pg**	**14 01 03.9**	**+0.4**
ARMT	**Armutlu**	**1.38**	**29**	*ePn*	**Pg**	**14 01 03.9**	**+0.4**
MFT	**Murefte**	**1.51**	**340**	*ePN*	**Pb**	**14 01 05.7**	**+0.4**
MFT	**Murefte**	**1.51**	**340**	*ePn*	**Pb**	**14 01 05.7**	**+0.4**
YLV	**Yalova**	**1.61**	**41**	*ePn*	**Pb**	**14 01 06.5**	**-0.3**
YLV	**Yalova**	**1.61**	**41**	*ePn*	**Pb**	**14 01 06.5**	**-0.3**
ALT	**Altintas**	**1.69**	**100**	*ePN*	**Pb**	**14 01 07.9**	**-0.3**
ALT	**Altintas**	**1.69**	**100**	*ePn*	**Pb**	**14 01 07.9**	**-0.3**

IDC 21 14:06:50.0±11.0, 21°46N×143°97E, h269km±116km, mb3.0/9, mb1 3.2/9, mb1mx3.0/29, mbtmp3.0/9, Error ellipse: s-maj=41.0km s-min=14.7km az=75.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.98**	**320**	P	P	14 13 59.4	+0.5
	0.1nm,0.3s,baz=127,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**42.22**	**194**	P	P	14 14 17.0	-0.2
	1.9nm,0.3s,baz=16,slow=8.8,SNR=81						
FITZ	**Fitzroy Crossi**	**43.23**	**206**	P	P	14 14 25.3	0.0
	1.4nm,0.7s,baz=24,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**45.91**	**193**	P	P	14 14 46.1	-0.3
	0.5nm,0.6s,baz=12,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**55.39**	**313**	P	P	14 15 56.5	-0.2
	0.1nm,0.5s,baz=103,slow=9.5,SNR=3.1						
MKAR				PcP	pP	14 16 54.6	-0.7
	0.2nm,0.5s,baz=106,slow=3.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**58.19**	**317**	P	P	14 16 15.7	-0.5
	0.4nm,0.5s,baz=92,slow=7.8,SNR=8.2						
BVAR	**Borovoye Array**	**63.32**	**320**	P	P	14 16 50.2	-0.4
	0.5nm,0.4s,baz=100,slow=9.0,SNR=4.4						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	14 18 09.4	+0.1
	0.1nm,0.6s,baz=293,slow=5.4,SNR=2.9						
FINES	**FINESS Array B**	**83.70**	**335**	P	P	14 18 48.0	-0.6
	1.0nm,0.5s,baz=66,slow=3.4,SNR=9.7						

*ISCJB **21** 14:10:02.9±0.6, 10°84N±0°07×91°77E±0°06, h27km, mb3.7/13, Error ellipse: s-maj=10.0km s-min=7.9km az=32.2*
*IDC **21** 14:10:05.7±0.9, 11°07N×92°05E, h27km±4km, mb3.6/13, mb1 3.7/13, mb1mx3.6/27, mbtmp3.6/13, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=36.9km s-min=11.2km az=59.0*

ISC 21 14:10:05.1±0.6, 10°91N±0°09×91°79E±0°08, h27km, n28, σ0°80/34, mb3.7/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.21**	**42**	P	**Pn**	**14 12 31.4**	**+1.5**
	0.2nm,0.3s,baz=235,slow=15,SNR=4.9						
VIS	**Vishakhapatnam**	**10.63**	**311**	*eP*	**Pn**	**14 12 35.2**	**-0.5**
VIS				*eS*	Sn	14 14 22.5	-11
VIS				AML	AML	14 14 27.8	
	comp=N,56nm,0.4s						
VIS				AML	AML	14 14 29.3	
	comp=E,47nm,0.2s						
PSI	**Prapat**	**10.72**	**138**	LR	LR	14 16 45.0	
	comp=E,114nm,18.7s,baz=97,slow=37						
TRD	**Trivandrum**	**14.81**	**262**	*eS*	**Sn**	**14 16 15.9**	**-0.3**
NGP	**Nagpur**	**15.91**	**311**	*eP*	**Pn**	**14 13 46.1**	**-1.2**
NGP				*ex*	x	14 16 29.2	
ODAN	**Odare**	**16.40**	**346**	*eP*	**Pn**	**14 13 53.6**	**-0.1**
	comp=E,4.2nm,0.4s						
RAMN	**Ramite**	**16.69**	**344**	*eP*	**Pn**	**14 13 57.4**	**0.0**
TAPN	**Taplejung**	**16.80**	**347**	*eP*	**Pn**	**14 13 58.8**	**0.0**
AKL	**Akola**	**17.22**	**306**	*eP*	**Pn**	**14 14 03.6**	**-0.2**
AKL				*ex*	x	14 17 03.0	
PKIN	**Phulchoki**	**17.64**	**341**	*eP*	**P**	**14 14 10.8**	**+0.7**
DMN	**Daman**	**17.76**	**340**	*eP*	**P**	**14 14 12.6**	**+1.2**
GKN	**Gorkha**	**18.29**	**339**	*eP*	**Pn**	**14 14 17.5**	**+0.4**
DANN	**Dangsing**	**18.91**	**338**	*eP*	**Pn**	**14 14 25.7**	**+0.8**
	comp=E,12nm,0.6s						
PYUN	**Piuthan**	**18.99**	**335**	*eP*	**Pn**	**14 14 27.3**	**+1.6**
	comp=E,11nm,0.6s						
MKAR	**Makanchi Array**	**36.66**	**349**	P	**P**	**14 17 09.0**	**-0.5**
	comp=E,0.5nm,0.5s,baz=166,slow=7.7,SNR=8.4						
MKAR				pP	**pP**	**14 17 17.4**	**-0.1**
	comp=E,1.1nm,0.7s,baz=168,slow=7.3,SNR=8.5						
SONM	**Songino Array**	**38.81**	**16**	P	**P**	**14 17 26.3**	**-1.4**
	comp=E,0.1nm,0.4s,baz=215,slow=6.9,SNR=3.5						
SONM				pP	**pP**	**14 17 35.0**	**-0.8**
	comp=E,1.1nm,0.9s,baz=200,slow=9.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**41.07**	**347**	P	**P**	**14 17 45.9**	**-0.4**
	comp=E,2.7nm,1.3s,baz=165,slow=7.2,SNR=8.7						
KURBB				pP	**pP**	**14 17 54.2**	**-0.2**
	comp=E,1.2nm,0.9s,baz=161,slow=7.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**43.29**	**354**	P	**P**	**14 18 03.6**	**-0.7**
	comp=E,0.6nm,0.5s,baz=192,slow=6.9,SNR=4.2						
ZALV				pP	**pP**	**14 18 12.1**	**-0.4**
	comp=E,1.1nm,0.6s,baz=168,slow=7.6,SNR=4.7						
FITZ	**Fitzroy Crossi**	**44.13**	**130**	P	**P**	**14 18 11.2**	**-0.3**
	comp=E,1.2nm,0.4s,baz=317,slow=7.2,SNR=13						
BVAR	**Borovoye Array**	**45.40**	**342**	P	**P**	**14 18 21.1**	**-0.2**
	comp=E,0.3nm,0.5s,baz=135,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**14 19 11.3**	**-0.5**
	comp=E,1.2nm,0.6s,baz=305,slow=8.6,SNR=34						
WRA				pP	**pP**	**14 19 19.4**	**-0.6**
	comp=E,3.0nm,0.7s,baz=306,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**53.63**	**130**	P	**P**	**14 19 24.4**	**-0.1**
	comp=E,0.7nm,0.8s,baz=308,slow=6.8,SNR=16						
ASAR				pP	**pP**	**14 19 32.5**	**-0.3**
	comp=E,1.1nm,0.5s,baz=308,slow=7.3,SNR=11						
ASAR				PcP	**PcP**	**14 20 31.5**	**+0.7**
	comp=E,0.4nm,0.7s,baz=301,slow=4.2,SNR=4.0						
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**14 20 35.9**	**+0.3**
	comp=E,1.5nm,0.6s,baz=313,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**68.96**	**332**	P	**P**	**14 21 07.6**	**0.0**
	comp=E,3.0nm,1.0s,baz=102,slow=8.0,SNR=5.4						
ARCES	**ARCESS Array B**	**71.64**	**340**	pP	pP	14 21 34.1	+1.6
	comp=E,2.4nm,0.7s,baz=60,slow=7.2,SNR=1.7						
GERES	**GERESS Array B**	**74.03**	**318**	P	**P**	**14 21 39.1**	**+0.5**
	comp=E,0.2nm,0.5s,baz=58,slow=7.3,SNR=2.9						
GERES				pP	**pP**	**14 21 47.5**	**+0.3**
	comp=E,0.6nm,0.8s,baz=111,slow=7.3,SN

TSZ	Takapari Road	1.45	81	PN	Pn	14 23 31.5	-0.4
PAWZ	Paruwai Farm	1.48	137	⇑PN	Pn	14 23 32.2	0.0
TRVZ	Turoa	1.51	49	PN	Pn	14 23 32.6	-0.3
WNVZ	Wahianoa	1.52	50	PN	Pn	14 23 32.6	-0.3
DRZ	Dome Shelter	1.53	48	PN	Pn	14 23 33.3	+0.1
PLWZ	Palliser	1.54	145	PN	Pn	14 23 32.8	-0.2
FWVZ	Far West T-bar	1.54	47	PN	Pn	14 23 32.9	-0.4
MOVZ	Moawhango	1.56	55	PN	Pn	14 23 32.6	-0.7
WPVZ	Whakapapa	1.57	46	⇓PN	Pn	14 23 33.2	-0.3
TMWZ	Te Maipa	1.58	121	PN	Pn	14 23 33.3	-0.1
DVHZ	Dannevirke	1.59	90	PN	Pn	14 23 33.0	-0.5
TUVZ	Tukino	1.59	50	PN	Pn	14 23 33.3	-0.5
TWVZ	Taurewa	1.61	40	PN	Pn	14 23 33.2	-0.8
NGZ	Ngauruhoe	1.62	46	PN	Pn	14 23 33.7	-0.4
TRWZ	Traveller	1.63	133	PN	Pn	14 23 34.1	+0.1
WTVZ	West Tongariro	1.66	45	PN	Pn	14 23 34.0	-0.6
PNHZ	Pukenui	1.66	77	PN	Pn	14 23 33.8	-0.7
OTVZ	Oturere	1.67	47	PN	Pn	14 23 34.3	-0.4
BFZ	Birch Farm	1.68	103	PN	Pn	14 23 34.3	-0.4
KRVZ	Karewarewa	1.70	45	PN	Pn	14 23 34.3	-0.8
THZ	Tophouse	1.71	211	⇑PN	Pn	14 23 34.7	-0.4
BHHZ	Black Hill Sta	1.72	62	PN	Pn	14 23 34.4	-0.8
WPHZ	Waipukurau	1.81	83	PN	Pn	14 23 35.9	-0.3
KATZ	Kakaramea	1.82	43	PN	Pn	14 23 35.9	-0.6
HIZ	Hauiti	1.89	19	⇓PN	Pn	14 23 36.4	-0.7
RATZ	Rangitukua	1.94	43	PN	Pn	14 23 37.7	-0.2
PRHZ	Porangahau	1.95	90	PN	Pn	14 23 37.5	-0.4
PXZ	Pawanui	2.14	83	PN	Pn	14 23 39.5	-0.8
KHZ	Kahutara	2.15	191	PN	Pn	14 23 40.3	-0.1
BKZ	Black Stump Fm	2.17	59	PN	Pn	14 23 39.4	-1.5
MCHZ	McNeill Hill	2.18	68	PN	Pn	14 23 40.2	-0.6
KAHZ	Kahuranaki	2.20	77	PN	Pn	14 23 40.4	-0.7
DSZ	Denniston Nort	2.25	230	⇓PN	Pn	14 23 40.9	-0.9
LTZ	Lake Taylor	2.83	208	PN	Pn	14 23 48.0	-1.2
MWZ	Matawai	3.31	55	PN	Pn	14 23 53.2	-2.4
MQZ	McQueen's Vall	3.56	197	PN	Pn	14 23 56.3	-2.5
CNGZ	Carnagh Statio	3.67	62	PN	Pn	14 23 58.4	-1.8
WVZ	Waitaha Valley	3.74	221	PN	Pn	14 23 59.5	-1.6
PUZ	Puketiti	3.93	57	PN	Pn	14 24 01.0	-2.8
FOZ	Fox Glacier	4.62	224	PN	Pn	14 24 09.6	-3.3
ODZ	Otahua Downs	5.37	207	PN	Pn	14 24 21.3	-1.8

IDC 21 14:30:44.3±3.8, 22°30S×176°45W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, ML2.5/1, Error ellipse: s-maj=137.5km s-min=30.9km az=140.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.45**	**29**	Pn	Pn	14 33 01.6	-0.3
	2.4nm,0.3s,baz=30,slow=16,SNR=4.6						
AFI				Sn	Sn	14 34 46.6	-2.4
	1.0nm,0.3s,baz=66,slow=20,SNR=2.9						
CTA	**Charters Tower**	**34.79**	**267**	P	P	14 37 38.0	+1.1
	2.0nm,0.3s,baz=76,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**38.35**	**246**	P	P	14 38 07.7	+0.5
	0.8nm,0.6s,baz=100,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**45.54**	**258**	P	P	14 39 05.3	-0.8
	0.8nm,0.9s,baz=94,slow=8.5,SNR=7.0						
WRA	**Warramunga Arr**	**45.81**	**263**	P	P	14 39 06.5	-1.7
	0.6nm,0.5s,baz=100,slow=8.1,SNR=14						
CMAR	**Chiang Mai Arr**	**92.07**	**289**	P	P	14 43 57.8	+1.9
	0.6nm,0.8s,baz=153,slow=2.8,SNR=7.2						
BRTR	**Keskin Array B**	**149.11**	**311**	PKPbc	PKPbc	14 50 33.6	-1.3
	0.3nm,0.6s,baz=90,slow=3.0,SNR=2.6						

IDC 21 14:32:09.9±1.2, 55°49N×35°14W, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/30, mbtmp3.5/6, ML2.6/1, Error ellipse: s-maj=44.1km s-min=21.3km az=16.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.04**	**281**	P	P	14 36 22.8	+0.5
	0.2nm,0.3s,baz=78,slow=14,SNR=9.0						
YKA	**Yellowknife Ar**	**39.05**	**314**	P	P	14 39 37.2	-0.7
	0.2nm,0.7s,baz=58,slow=9.3,SNR=5.6						
BRTR	**Keskin Array B**	**46.98**	**80**	P	P	14 40 43.5	+0.9
	1.0nm,0.7s,baz=333,slow=6.7,SNR=4.3						
PDAR	**Pinedale Array**	**48.02**	**287**	P	P	14 40 50.8	+0.1
	0.3nm,0.7s,baz=54,slow=6.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.98**	**131**	P	P	14 41 12.7	-0.6
	0.2nm,0.7s,baz=331,slow=8.4,SNR=2.7						
MKAR	**Makanchi Array**	**65.34**	**42**	P	P	14 42 53.2	-0.3
	0.3nm,0.7s,baz=333,slow=5.6,SNR=3.6						

IDC 21 14:50:55.6±7.6, 22°16S×176°10W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/22, mbtmp4.0/6, ML2.3/1, Error ellipse: s-maj=239.3km s-min=34.9km az=138.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.18**	**27**	Pn	Pn	14 53 08.8	-0.7
	1.7nm,0.3s,baz=185,slow=21,SNR=5.3						
AFI				Sn	Sn	14 54 48.7	-4.9
	1.0nm,0.3s,baz=300,slow=20,SNR=2.8						
CTA	**Charters Tower**	**35.12**	**266**	P	P	14 57 52.0	+0.9
	14nm,1.2s,baz=80,slow=6.1,SNR=3.2						
ASAR	**Alice Springs**	**45.88**	**258**	P	P	14 59 19.0	-1.2
	0.2nm,0.4s,baz=89,slow=6.0,SNR=4.5						
WRA	**Warramunga Arr**	**46.14**	**263**	P	P	14 59 21.0	-1.2
	0.7nm,0.3s,baz=101,slow=8.3,SNR=31						
FITZ	**Fitzroy Crossi**	**54.57**	**263**	P	P	15 00 26.6	+0.6
	0.6nm,0.5s,baz=129,slow=6.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**92.33**	**289**	P	P	15 04 09.1	+0.7
	0.3nm,0.3s,baz=144,slow=4.4,SNR=5.6						

IDC 21 14:54:12.1±1.5, 13°29N×125°20E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=63.9km s-min=20.3km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.76**	**285**	P	P	14 59 45.1	+0.4
	0.6nm,0.4s,baz=98,slow=7.6,SNR=7.1						
WRA	**Warramunga Arr**	**34.23**	**165**	P	P	15 00 58.7	-1.0
	0.3nm,0.6s,baz=344,slow=9.6,SNR=3.6						
ASAR	**Alice Springs**	**37.70**	**167**	P	P	15 01 30.2	+0.7
	0.4nm,0.6s,baz=341,slow=6.7,SNR=12						
SONM	**Songino Array**	**37.84**	**339**	P	P	15 01 30.7	+0.1
	0.8nm,1.0s,baz=155,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**49.01**	**322**	P	P	15 02 59.9	-0.8
	0.1nm,0.4s,baz=113,slow=7.9,SNR=4.6						

*IDC **21** 15:11:21.8±1.1, 30°.70N×83°.42E, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.5/30, mbtmp3.4/10, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/35, Error ellipse: s-maj=32.4km s-min=21.9km az=64.0*

*ISCJB **21** 15:11:23.3±0.8, 30°.87N±0°.10×83°.8E±0°.1, h11km, mb3.3/6, MS3.3/1, Error ellipse: s-maj=16.5km s-min=12.3km az=140.4*

ISC 21 15:11:24.9±0.8, 30°.9N±0°.1×83°.7E±0°.08, h11km, n14, σ1°73/14, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.39**	**245**	*e*P	**Pg**	**15 12 29.8**	**-0.1**
LGTI				*e*S	**Sg**	**15 13 16.3**	**+2.5**
DDI	**Dehra Dun**	**4.96**	**264**	*e*S	**Pg**	**15 12 57.0**	**-3.0**
DDI	**Dehra Dun**	**4.96**	**264**	*e*P	**Pn**	**15 12 40.8**	**+1.4**
AAK	**Ala-Archa**	**13.83**	**330**	Pn	**Pn**	**15 14 41.7**	**+0.7**
	0.1nm,0.3s,baz=180,slow=7.1,SNR=2.5						
MKAR	**Makanchi Array**	**15.88**	**356**	Pn	**Pn**	**15 15 09.2**	**+0.8**
	0.1nm,0.3s,baz=185,slow=12,SNR=9.0						
CMAR	**Chiang Mai Arr**	**18.53**	**129**	P	**P**	**15 15 41.4**	**-0.2**
	0.1nm,0.3s,baz=308,slow=9.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**20.05**	**350**	P	**P**	**15 15 58.8**	**+0.8**
	1.4nm,0.7s,baz=171,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**23.01**	**2**	P	**P**	**15 16 30.7**	**+1.0**
	0.2nm,0.3s,baz=157,slow=8.0,SNR=3.6						
SONM	**Songino Array**	**24.17**	**39**	P	**P**	**15 16 43.4**	**+2.1**
	0.6nm,0.7s,baz=227,slow=10,SNR=7.9						
ARCES	**ARCESS Array B**	**50.37**	**337**	LR	LR	15 43 04.0	
	comp=Z,33nm,20.6s,baz=47,slow=38						
WRA	**Warramunga Arr**	**70.12**	**129**	P	**P**	**15 22 37.2**	**-0.4**
	0.4nm,0.7s,baz=322,slow=6.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**76.64**	**277**	P	**P**	**15 23 13.5**	**-2.8**
	0.4nm,0.8s,baz=38,slow=4.8,SNR=2.5						
ILAR	**Eielson Array**	**76.78**	**20**	P	**P**	**15 23 16.2**	**0.0**
	0.4nm,0.9s,baz=300,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**85.73**	**8**	P	**P**	**15 24 03.0**	**-0.7**
	0.3nm,0.7s,baz=336,slow=5.1,SNR=6.0						

*IDC **21** 15:17:23.7±2.7, 3°.66S×134°.86E, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=124.8km s-min=24.1km az=85.0*

*AUST **21** 15:18:07.0±10.0, 6°.06S×132°.95E, h64km, Error ellipse: s-maj=1.7km s-min=1.2km az=291.0*

ISC 21 15:17:28.2±1.4, 4°.0S±0°.1×134°.4E±0°.2, h21km, n12, σ2°53/10, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**6.16**	**273**	S	Sb	15 20 41.2	+13
	baz=5.3,SNR=23						
JAY	**Jayapura**	**6.51**	**77**	P	Sn	15 20 07.6	-8.9
	baz=8.5,SNR=8.1						
KDU	**Kakadu**	**8.82**	**192**	P	Pn	15 19 41.1	+6.6
	baz=6.6,SNR=11						
MTN	**Manton Dam**	**9.34**	**200**	P	Pn	15 19 48.0	+6.4
	baz=7.0,SNR=8.0						
WRA	**Warramunga Arr**	**15.84**	**180**	Pn	**Pn**	**15 21 10.7**	**+0.6**
	0.1nm,0.3s,baz=359,slow=13,SNR=22						
WRA				Sn	**Sn**	**15 24 00.6**	**-4.5**
	0.0nm,0.3s,baz=2.1,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**16.40**	**211**	Pn	**P**	**15 21 22.0**	**+2.1**
	0.3nm,0.3s,baz=40,slow=11,SNR=10						
FITZ				Sn	**Sn**	**15 24 17.1**	**-1.7**
	0.1nm,0.3s,baz=22,slow=19,SNR=3.8						
FITZ	**Fitzroy Crossi**	**16.40**	**211**	P	**P**	**15 21 22.1**	**+2.2**
	baz=14,SNR=8.2						
ASAR	**Alice Springs**	**19.55**	**181**	P	**Pn**	**15 21 58.3**	**+2.3**
	0.2nm,0.3s,baz=7.2,slow=11,SNR=29						
CTA	**Charters Tower**	**19.75**	**145**	P	**Pn**	**15 21 59.0**	**+0.6**
	0.2nm,0.3s,baz=336,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**68.23**	**324**	P	**P**	**15 28 27.0**	**-0.3**
	1.1nm,0.7s,baz=110,slow=7.2,SNR=14						
ZALV	**Zalesovo Beam**	**70.93**	**332**	P	**P**	**15 28 41.6**	**-2.2**
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**72.34**	**326**	P	**P**	**15 28 51.4**	**-1.0**
	0.2nm,0.5s,baz=117,slow=4.6,SNR=8.0						

*CSEM **21** 15:42:40.3±0.3, 39°.15N×40°.91E, h2km, MD3.0, Error ellipse: s-maj=7.5km s-min=5.3km az=147.0*

*ISCJB **21** 15:42:41.9±0.6, 39°.27N±0°.03×40°.93E±0°.04, h6km±7km, Error ellipse: s-maj=5.4km s-min=4.3km az=4.3*

*ISK **21** 15:42:41.2, 39°.24N×40°.95E, h14km, MD3.0*

*DDA **21** 15:42:41.7, 39°.25N×40°.99E, h7km, MD2.9*

ISC 21 15:42:40.8±1.2, 39°.23N±0°.03×40°.93E±0°.03, h5km±11km, n21, σ1°29/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing˜¶l**	**0.31**	**219**	*e*PG	**Pb**	**15 42 48.2**	**-0.7**
BNGB				*e*SG	**Sb**	**15 42 53.6**	**-0.7**
VRTB	**Varto-Mus**	**0.41**	**100**	*e*PG	**Pg**	**15 42 49.4**	**+0.5**
VRTB				*e*SG	**Sb**	**15 42 56.1**	**-1.3**
VRTB	**Varto-Mus**	**0.41**	**100**	*e*Pg	**Pg**	**15 42 49.4**	**+0.5**
VRTB				*e*Sg	**Sb**	**15 42 56.1**	**-1.3**
BINT	**Bingol**	**0.49**	**224**	*e*Pg	**Pg**	**15 42 48.2**	**-2.1**
BINT				*e*Sg	**Sg**	**15 42 53.6**	**-3.1**
EZM	**Erzurum**	**0.75**	**26**	*e*PG	**Pg**	**15 42 55.7**	**+0.4**
EZM				*e*SG	**Sb**	**15 43 07.0**	**-0.2**
ERZM	**Erzurum**	**0.75**	**26**	*i* P	**Pg**	**15 42 55.7**	**+0.4**
ERZM				*i* S	**Sb**	**15 43 07.0**	**-0.3**
ERZM	**Erzurum**	**0.75**	**26**	*i* P	**Pg**	**15 42 55.7**	**+0.4**
ERZM				*i* S	**Sb**	**15 43 07.0**	**-0.3**
KOPT	**Kop Dagi**	**0.85**	**337**	*e*P	**Pb**	**15 42 58.5**	**+0.2**
KOPT				*e*S	**Sb**	**15 43 11.2**	**+1.0**
KOPT	**Kop Dagi**	**0.85**	**337**	*e*P	**Pb**	**15 42 58.5**	**+0.2**
KOPT				*e*S	**Sb**	**15 43 11.2**	**+1.0**
ERZN	**Erzincan**	**1.00**	**291**	*e*PG	**Pb**	**15 43 00.9**	**+0.2**
PTK	**Pertek**	**1.24**	**255**	*e*PN	**Pg**	**15 43 04.8**	**+0.1**
PTK	**Pertek**	**1.24**	**255**	*e*Pn	**Pg**	**15 43 04.8**	**+0.1**
BEST	**Besiri**	**1.36**	**169**	*i* P	**Pg**	**15 43 07.4**	**+0.5**
BEST				*i* S	**Sn**	**15 43 27.1**	**+2.0**
DIYA	**Diyarbakir**	**1.45**	**206**	*e*P	**Pg**	**15 43 10.4**	**+1.8**
DIYA				*i* S	**Sg**	**15 43 30.8**	**+3.3**
DIYA	**Diyarbakir**	**1.45**	**206**	*e*P	**Pg**	**15 43 10.4**	**+1.8**
KELT	**Kelkit**	**1.58**	**306**	*i* P	**Pg**	**15 43 11.5**	**+0.3**
KELT				*e*S	**Sn**	**15 43 29.4**	**-1.3**
KELT	**Kelkit**	**1.58**	**306**	*i* P	**Pg**	**15 43 11.5**	**+0.3**
KELT				*e*S	**Sn**	**15 43 29.4**	**-1.3**
AGRB	**Hanur-Agry**	**1.63**	**77**	*e*PN	**Pn**	**15 43 09.6**	**-0.9**
AGRB	**Hanur-Agry**	**1.63**	**77**	*e*Pn	**Pn**	**15 43 09.6**	**-0.9**
ILIC	**ilic-Erzincan**	**1.84**	**278**	*e*PN	**Pn**	**15 43 14.0**	**+0.7**
ILIC	**ilic-Erzincan**	**1.84**	**278**	*e*Pn	**Pn**	**15 43 14.0**	**+0.7**

*ISCJB **21** 15:47:00.7±0.5, 39°.45N±0°.03×28°.17E±0°.04, h6km±7km, Error ellipse: s-maj=5.7km s-min=4.4km az=40.0*

*ISK **21** 15:47:00.1, 39°.42N×28°.16E, h12km, MD2.7*

*DDA **21** 15:47:00.4, 39°.47N×28°.15E, h7km, MD2.7*

*CSEM **21** 15:47:00.6±0.1, 39°.46N×28°.16E, h8km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.6km az=40.0*

ISC 21 15:47:00.8±1.0, 39°.45N±0°.03×28°.17E±0°.03, h11km±9km, n26, σ0°45/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.28**	**57**	*i* P	**Pg**	**15 47 06.1**	**-0.5**
DURS				*i* S	**Sg**	**15 47 11.0**	**+0.4**
DURS	**Dursunbey**	**0.28**	**57**	*i* P	**Pg**	**15 47 06.1**	**-0.5**
DURS				*i* S	**Sg**	**15 47 11.0**	**+0.4**
BALB	**Balikesir**	**0.29**	**311**	*e*PG	**Pg**	**15 47 06.4**	**-0.4**
BALB				*e*SG	**Sb**	**15 47 12.7**	**-0.3**
BALB	**Balikesir**	**0.29**	**311**	*e*Pg	**Pg**	**15 47 06.4**	**-0.4**
BALB				*e*Sg	**Sb**	**15 47 12.7**	**-0.3**
DST	**Dursunbey**	**0.39**	**66**	*e*PG	**Pg**	**15 47 08.0**	**-0.5**
DST	**Dursunbey**	**0.39**	**66**	*e*Pg	**Pg**	**15 47 08.0**	**-0.5**
BALY	**Balya**	**0.51**	**305**	*i* P	**Pg**	**15 47 10.2**	**-0.7**
BALY				*i* S	**Sg**	**15 47 18.5**	**+0.8**
BALY	**Balya**	**0.51**	**305**	*i* P	**Pg**	**15 47 10.2**	**-0.7**
BALY				*i* S	**Sg**	**15 47 18.5**	**+0.8**
DEMI	**Demirci**	**0.59**	**133**	*i* P	**Pg**	**15 47 12.2**	**-0.1**
DEMI				*i* S	**Sg**	**15 47 20.5**	**+0.4**
DEMI	**Demirci**	**0.59**	**133**	*i* P	**Pg**	**15 47 12.2**	**-0.1**
DEMI				*i* S	**Sg**	**15 47 20.5**	**+0.4**
AKHS	**Akhisar**	**0.63**	**206**	*i* P	**Pg**	**15 47 12.7**	**-0.4**
AKHS				*i* S	**Sb**	**15 47 22.8**	**+0.1**
AKHS	**Akhisar**	**0.63**	**206**	*i* P	**Pg**	**15 47 12.7**	**-0.4**
AKHS				*i* S	**Sb**	**15 47 22.8**	**+0.1**
GONE	**Gonen-Balikesi**	**0.70**	**328**	*e*Pg	**Pg**	**15 47 14.1**	**-0.3**
GONE	**Gonen-Balikesi**	**0.70**	**328**	*e*Pg	**Pg**	**15 47 14.1**	**-0.3**
TVSB	**Tavsanli**	**1.00**	**89**	*e*PG	**Pb**	**15 47 20.6**	**+0.3**
TVSB	**Tavsanli**	**1.00**	**89**	*e*Pg	**Pb**	**15 47 20.6**	**+0.3**
KULA	**Kula-Manisa**	**1.01**	**157**	*e*PG	**Pg**	**15 47 19.4**	**-0.8**
KULA	**Kula-Manisa**	**1.01**	**157**	*e*Pg	**Pg**	**15 47 19.4**	**-0.8**
GDZ	**Gediz**	**1.08**	**109**	*i* P	**Pb**	**15 47 21.6**	**-0.1**
GDZ				*i* S	**Sn**	**15 47 37.6**	**+0.4**
GDZ	**Gediz**	**1.08**	**109**	*i* P	**Pb**	**15 47 21.6**	**-0.1**
GDZ				*i* S	**Sn**	**15 47 37.6**	**+0.4**
ARMT	**Armutlu**	**1.24**	**25**	*e*PN	**Pn**	**15 47 24.1**	**-0.1**
ARMT	**Armutlu**	**1.24**	**25**	*e*Pn	**Pn**	**15 47 24.1**	**-0.1**
GEMT	**Gemlik**	**1.26**	**38**	*e*PN	**Pn**	**15 47 24.4**	**-0.1**
GEMT	**Gemlik**	**1.26**	**38**	*e*Pn	**Pn**	**15 47 24.4**	**-0.1**
YLV	**Yalova**	**1.45**	**39**	*e*PN	**Pn**	**15 47 27.0**	**-0.1**
YLV	**Yalova**	**1.45**	**39**	*e*Pn	**Pn**	**15 47 27.0**	**-0.1**

*GCMT **21** 15:55:40.1±0.3, 48°.82S×126°.80E, h12km, MW5.0, Moment Tensor Solution. s23,c29; s65,c101; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.24±.09; $M_{\theta\theta}$3.10±.08; $M_{\phi\phi}$0.14±.10; $M_{r\theta}$-1.37±.30; $M_{\theta\phi}$-0.29±.08; $M_{\phi r}$-1.96±.36; Best double couple: $M_0$3.90000×10^{16} NP1:ϕ_s294.00000°, δ38.00000°, λ-52.00000°. NP2:ϕ_s69.00000°, δ61.00000°, λ-116.00000°. Principal axes: T 3.3900, Plg12.0000°, Azm177.0000°; N 1.0000, Plg23.0000°, Azm82.0000°; P -4.3900, Plg64.0000°, Azm294.0000°; Data Used: II G IU CN IC.*

*ISCJB **21** 15:55:40.7±0.5, 48°.75S±0°.06×126°.5E±0°.2, h13km, mb4.5/14, MS4.2/26 Error ellipse: s-maj=22.1km s-min=8.6km az=4.3*

*IDC **21** 15:55:41.3±0.7, 48°.68S×126°.41E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, MS4.2/27, Ms1 4.2/27, ms1mx4.1/34, Error ellipse: s-maj=37.7km s-min=16.5km az=87.0*

*NEIC **21** 15:55:42.1±0.5, 48°.73S×126°.56E, h10km, mb4.8/7, Error ellipse: s-maj=20.0km s-min=9.7km az=92.0*

*DJA **21** 15:55:47.3±0.3, 49°.S±5°×12°.6E±°, h10km, M4.8/15, mB5.6/2, mb4.8/15, Mw(mB)5.1/2*

ISC 21 15:55:42.8±0.6, 48°.70S±0°.08×126°.5E±0°.2, h13km, n64, σ1°08/42, mb4.6/13, MS4.2/26, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.22**	**333**	P	**Pn**	**15 59 42.8**	**-0.2**
NWAO				LR	LR	16 04 48.2	
	comp=Z,1μm,21.1s,baz=154,slow=32						
NWAO	**Narrogin (SRO)**	**17.22**	**333**	P	**Pn**	**15 59 42.8**	**-0.2**
FORT	**Forrest**	**17.94**	**4**	*e*P	**P**	**15 59 53.7**	**+1.2**
	174nm,1.4s						
STKA	**Stephens Creek**	**20.31**	**40**	P	Pn	16 00 20.3	-0.2
	2.3nm,0.6s,baz=189,slow=14,SNR=3.9						
STKA				LR	LR	16 06 38.6	
	comp=Z,1μm,21.8s,baz=205,slow=32						
STKA	**Stephens Creek**	**20.31**	**40**	*e*P	**P**	**16 00 16.9**	**-1.6**
	2.1nm,0.8s						
STKA				P	Pn	16 00 20.3	-0.2
ASAR	**Alice Springs**	**25.66**	**16**	P	**P**	**16 01 12.2**	**-0.2**
	8.6nm,0.8s,baz=190,slow=9.0,SNR=61						
ASAR				LR	LR	16 10 18.8	
	comp=Z,728nm,19.4s,baz=206,slow=34						
ASAR	**Alice Springs**	**25.66**	**16**	P	**P**	**16 01 12.2**	**-0.2**
AS31	**Alice Springs**	**25.67**	**16**	*e*P	**P**	**16 01 12.0**	**-0.4**
WRA	**Warramunga Arr**	**29.38**	**15**	P	**P**	**16 01 44.6**	**-1.0**
	5.2nm,1.2s,baz=191,slow=7.6,SNR=7.8						
WRA				LR	LR	16 12 35.8	
	comp=Z,936nm,21.0s,baz=185,slow=34						
WRA	**Warramunga Arr**	**29.38**	**15**	P	**P**	**16 01 44.6**	**-1.0**
WRAB	**Tennant Creek**	**29.39**	**15**	*e*P	**P**	**16 01 44.6**	**-1.1**
	16nm,1.6s						
FITZ	**Fitzroy Crossi**	**30.53**	**358**	LR	LR	16 13 37.5	
	comp=Z,1μm,18.1s,baz=186,slow=35						
VNDA	**Vanda**	**31.94**	**166**	P	**P**	**16 02 07.7**	**0.0**
	5.7nm,0.8s,baz=308,slow=8.2,SNR=8.5						
VNDA				LR	LR	16 14 31.8	
	comp=Z,1μm,18.3s,baz=328,slow=35						
VNDA	**Vanda**	**31.94**	**166**	P	**P**	**16 02 07.7**	**0.0**
CTA	**Charters Tower**	**32.68**	**36**	LR	LR	16 15 10.5	
	comp=Z,885nm,18.7s,baz=205,slow=36						
MAW	**Mawson**	**36.42**	**215**	LR	LR	16 14 26.5	
	comp=Z,516nm,20.7s,baz=98,slow=31						
URZ	**Urewera**	**37.55**	**93**	LR	LR	16 14 34.7	
	comp=Z,138nm,19.4s,baz=341,slow=30						
DZM	**Mont Dzumac**	**41.33**	**64**	*e*LR	LR	16 15 10.1	
	482nm,28.9s						
QSPA	**South Pole Qui**	**41.42**	**180**	P	**P**	**16 03 29.9**	**+1.1**
	3.0nm,0.9s,baz=44,slow=2.6,SNR=5.5						
QSPA				PcP	**PcP**	**16 05 26.4**	**0.0**
	3.7nm,1.1s,baz=69,slow=2.3,SNR=4.1						
QSPA				LR	LR	16 19 55.2	
	comp=Z,568nm,19.0s,baz=155,slow=35						
QSPA	**South Pole Qui**	**41.42**	**180**	*e*P	**P**	**16 03 26.9**	**-1.9**
	15nm,1.3s						
QSPA				P	**P**	**16 03 29.9**	**+1.1**
QSPA				PcP	**PcP**	**16 05 26.4**	**0.0**
KAPI	**Kappang**	**43.91**	**350**	P	**P**	**16 03 49.6**	**+0.4**
	4.0nm,0.3s,baz=162,slow=3.2,SNR=9.4						
KAPI				LR	LR	16 22 40.4	
	comp=Z,308nm,18.3s,baz=162,slow=37						
KAPI	**Kappang**	**43.91**	**350**	*e*P	**P**	**16 03 49.5**	**+0.4**
	24nm,1.1s						
KAPI	**Kappang**	**43.91**	**350**	P	**P**	**16 03 51.4**	**+2.2**
	37nm,1.4s						
HNR	**Honiara**	**48.14**	**47**	LR	LR	16 22 55.1	
	comp=Z,396nm,19.2s,baz=298,slow=34						
SBUM	**Sibu**	**52.43**	**342**	P	P	16 04 58.9	+3.9
	11nm,1.1s						
SNAA	**Sanae**	**54.71**	**197**	*e*P	**P**	**16 05 10.2**	**-1.0**
	11nm,1.1s						
DAV	**Davao City (W)**	**55.54

SONM	**Songino Array**	**56.69**	**349**	P	P	16 06 03.9	+0.2	
	0.2nm,0.4s,baz=160,slow=9.2,SNR=3.4							
MKAR	**Makanchi Array**	**64.03**	**332**	P	P	16 06 52.4	-0.4	
	0.2nm,0.5s,baz=139,slow=8.0,SNR=6.0							

*AUST **21** 16:11:04.8±6.5, 0.°93S × 139.°14E, h14km, Error ellipse: s-maj=1.6km s-min=1.1km az=236.0*
*IDC **21** 16:11:11.1±1.0, 1.°82S × 139.°31E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/22, mbtmp4.0/11, ML4.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/43, Error ellipse: s-maj=39.5km s-min=18.2km az=86.0*
*ISCJB **21** 16:11:14.2±0.6, 1.°91S±0.°06 × 139.°10E±0.°09, h29km, mb4.0/9, MS3.2/2, Error ellipse: s-maj=13.0km s-min=8.2km az=7.2*

ISC 21 16:11:15.6±0.7, **2.°00S**±0.°08 × **139.°06E**±0.°08, **h29**km, **n20, σ1s77/16, mb4.1/9, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.72**	**107**	P	**Pn**	**16 11 41.9**	**-1.8**
	baz=2.2,SNR=11						
JAY				S	**Sb**	**16 12 08.7**	**+0.9**
	baz=2.2,SNR=4.5						
SWI	**Sorong**	**7.88**	**278**	S	Sb	16 14 55.4	-10
	baz=7.9,SNR=6.6						
KDU	**Kakadu**	**12.47**	**211**	P	Pn	16 14 13.2	+2.0
	baz=14,SNR=9.9						
MTN	**Manton Dam**	**13.34**	**216**	P	P	16 14 26.9	-5.5
	baz=14,SNR=4.9						
GUMO	**Guam**	**16.52**	**20**	LR	LR	16 20 55.4	
	comp=Z,60nm,18.6s,baz=290,slow=36						
WRA	**Warramunga Arr**	**18.43**	**194**	P	**Pn**	**16 15 30.9**	**+1.9**
	0.7nm,0.3s,baz=12,slow=11,SNR=54						
WRA				S	**Sn**	**16 18 50.7**	**-3.5**
	0.0nm,0.3s,baz=10,slow=24,SNR=4.0						
PCI	**Palu**	**19.25**	**273**	P	P	16 15 32.2	-5.7
	baz=19,SNR=4.2						
CTA	**Charters Tower**	**19.31**	**159**	P	**Pn**	**16 15 41.6**	**+1.9**
	0.3nm,0.3s,baz=329,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.73**	**219**	P	Pn	16 15 56.1	-0.3
	1.8nm,0.7s,baz=53,slow=15,SNR=5.2						
FITZ				S	**S**	**16 19 41.6**	**-2.5**
	1.9nm,1.0s,baz=119,slow=18,SNR=2.3						
FITZ				LR	LR	16 25 06.2	
	comp=Z,155nm,18.7s,baz=122,slow=40						
ASAR	**Alice Springs**	**22.11**	**193**	P	**P**	**16 16 11.3**	**+2.4**
	7.9nm,0.8s,baz=26,slow=8.8,SNR=71						
CMAR	**Chiang Mai Arr**	**44.40**	**299**	P	**P**	**16 19 24.4**	**+0.4**
	1.7nm,1.0s,baz=114,slow=6.7,SNR=11						
AFI	**Afiamalu**	**49.99**	**106**	LR	LR	16 39 20.5	
	comp=Z,14nm,18.5s,baz=310,slow=34						
SONM	**Songino Array**	**57.23**	**334**	P	**P**	**16 21 00.9**	**+0.5**
	0.4nm,0.8s,baz=129,slow=4.0,SNR=3.7						
MKAR	**Makanchi Array**	**69.44**	**322**	P	**P**	**16 22 21.9**	**+0.6**
	2.1nm,0.7s,baz=108,slow=7.5,SNR=30						
ZALV	**Zalesovo Beam**	**71.50**	**330**	P	**P**	**16 22 32.8**	**-0.8**
	0.7nm,0.5s,baz=107,slow=5.3,SNR=5.4						
KURBB	**Kurchatov Arra**	**73.35**	**325**	P	**P**	**16 22 44.6**	**0.0**
	1.6nm,0.8s,baz=112,slow=5.8,SNR=10.0						
BVAR	**Borovoye Array**	**78.93**	**325**	P	**P**	**16 23 16.6**	**+0.2**
	2.1nm,0.6s,baz=118,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**85.04**	**24**	P	**P**	**16 23 46.9**	**-1.4**
	0.6nm,1.0s,baz=270,slow=3.6,SNR=3.9						
QSPA	**South Pole Qui**	**97.95**	**180**	P	**P**	**16 24 03.4**	**+0.7**
	1.9nm,0.9s,baz=344,slow=9.9,SNR=3.5						
LPAZ	**La Paz**	**147.57**	**125**	PKPbc	**PKPbc**	**16 30 58.0**	**-1.0**
	1.7nm,0.9s,baz=268,slow=2.7,SNR=2.7						

IDC 21 16:21:11.0±1.4, **1.°73N** × **127.°49E, h0**km, **mb3.7**/5, **mb1 3.8**/6, **mb1mx3.5**/22, **mbtmp3.6**/6, **ML3.6**/1, **Error ellipse: s-maj=102.5km s-min=18.1km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P	P	16 25 43.3	+0.3
	0.1nm,0.3s,baz=11,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**22.56**	**163**	P	P	16 26 13.5	+0.5
	1.8nm,0.4s,baz=342,slow=11,SNR=38						
ASAR	**Alice Springs**	**26.00**	**166**	P	P	16 26 45.4	-0.5
	0.4nm,0.5s,baz=345,slow=7.9,SNR=20						
STKA	**Stephens Creek**	**36.00**	**159**	P	P	16 28 13.7	-0.2
	0.5nm,0.5s,baz=302,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	16 31 17.4	+0.4
	0.4nm,0.4s,baz=118,slow=7.9,SNR=25						
KURBB	**Kurchatov Arra**	**63.82**	**328**	P	P	16 31 44.5	-0.6
	0.2nm,0.4s,baz=130,slow=6.7,SNR=4.9						

IDC 21 16:24:24.7±7.7, **3.°22S** × **103.°71E, h0**km, **mb3.4**/4, **mb1 3.5**/4, **mb1mx3.2**/22, **mbtmp3.4**/4, **Error ellipse: s-maj=411.3km s-min=24.8km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.19**	**121**	P	P	16 31 12.0	-0.2
	0.1nm,0.5s,baz=300,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**35.56**	**128**	P	P	16 31 24.1	+0.1
	0.2nm,0.7s,baz=300,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**53.27**	**342**	P	P	16 33 46.1	+0.9
	0.2nm,0.5s,baz=146,slow=8.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**59.11**	**347**	P	P	16 34 26.0	-0.8
	0.4nm,0.3s,baz=168,slow=6.7,SNR=2.9						

*ISCJB **21** 16:34:24.9±1.5, 74.°44N±0.°06 × 11.°4E±0.°6, h10km, mb3.4/1, MS3.8/1, Error ellipse: s-maj=22.4km s-min=6.8km az=168.2*
*IDC **21** 16:34:25.7±1.9, 74.°42N × 10.°37E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.2/28, mbtmp3.6/4, ML2.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.4/49, Error ellipse: s-maj=32.9km s-min=10.3km az=71.0*

ISC 21 16:34:26.4±1.7, **74.°47N**±0.°08 × **11.°0E**±0.°2, **h10**km, **n6, σ0s93/8, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**2.79**	**22**	*e*P	**Pn**	**16 35 11.1**	**+0.1**
HSP				*e*S	**Sn**	**16 35 44.2**	**-0.5**
SPITS	**Spitsbergen Ar**	**3.94**	**16**	Pn	**Pn**	**16 35 27.2**	**+0.4**
	baz=202,slow=15,SNR=328						
SPITS				Sn	**Sn**	**16 36 13.4**	**+0.4**
	baz=213,slow=24,SNR=1.5						
ARCES	**ARCESS Array B**	**6.68**	**131**	Pn	**Pn**	**16 36 05.5**	**+1.1**
	0.3nm,0.3s,baz=325,slow=11,SNR=20						
ARCES				Sn	**Sn**	**16 37 19.1**	**-1.4**
	0.4nm,0.3s,baz=323,slow=25,SNR=7.5						
FINES	**FINESS Array B**	**14.18**	**149**	Pn	**Pn**	**16 37 46.5**	**-0.4**
	0.1nm,0.3s,baz=355,slow=13,SNR=3.1						
ILAR	**Eielson Array**	**40.25**	**346**	P	**P**	**16 42 02.2**	**-0.5**
	0.6nm,0.8s,baz=6.0,slow=6.6,SNR=7.3						
NEW	**Newport**	**52.73**	**319**	LR	LR	17 05 29.4	
	comp=Z,85nm,18.6s,baz=302,slow=35						

IDC 21 17:07:24.2±12.0, **7.°50S** × **128.°89E, h299**km±149km, **mb2.7**/1, **mb1 2.6**/4, **mb1mx2.5**/19, **mbtmp2.4**/4, **Error ellipse: s-maj=109.7km s-min=53.5km az=34.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.01**	**196**	P	Pn	17 09 54.4	-0.3
	0.1nm,0.3s,baz=11,slow=10,SNR=6.3						
FITZ				S	S	17 11 55.9	-2.1
	0.1nm,0.3s,baz=74,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**13.45**	**157**	P	P	17 10 23.4	-1.0
	0.1nm,0.3s,baz=336,slow=12,SNR=9.8						
WRA				S	S	17 12 45.2	-7.9
	0.1nm,0.3s,baz=340,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**16.78**	**164**	P	P	17 11 01.9	+0.9
	0.1nm,0.3s,baz=347,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**68.04**	**327**	P	P	17 17 51.9	0.0
	0.1nm,0.4s,baz=125,slow=7.4,SNR=5.2						

*IDC **21** 17:12:07.5±0.9, 31.°72N × 142.°69E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.6/28, mbtmp3.6/12, ML3.4/3, Error ellipse: s-maj=27.3km s-min=19.7km az=72.0*
*JMA **21** 17:12:09.5±0.4, 31.°87N × 142.°83E, h23km, M3.9*
*ISCJB **21** 17:12:12.5±0.8, 32.°00N±0.°08 × 142.°69E±0.°09, h35km, mb3.5/9, Error ellipse: s-maj=13.1km s-min=7.7km az=43.8.*

ISC 21 17:12:11.2±1.2, **31.°91N**±0.°09 × **142.°9E**±0.°1, **h35**km, **n25, σ1s23/19, mb3.5/9, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.83**	**296**	P	**Pn**	**17 12 54.5**	**+0.6**
JHJ	**Hachijo jima 2**	**2.86**	**296**	Pn	**Pn**	**17 12 54.0**	**-0.3**
	5.8nm,0.3s,baz=60,slow=20,SNR=4.0						
JHJ				Sn	**Sn**	**17 13 26.3**	**-1.2**
	13nm,0.3s,baz=73,slow=20,SNR=4.3						
BSO1	**Boso 1**	**3.16**	**331**	P	Pn	17 12 59.8	+1.9
BSO1				*e*S	Sn	17 13 38.8	+4.7
BSO3	**Boso 3**	**3.49**	**327**	P	Pn	17 13 05.1	+2.3
JMY	**Miyakejima3**	**3.54**	**309**	P	Pn	17 13 06.1	+2.4
JOD2	**Odawara 2**	**4.59**	**318**	P	**Pn**	**17 13 19.2**	**+1.1**
JYT	**Yasato**	**4.84**	**334**	P	Pn	17 13 24.4	+2.8
JHU	**Hanno**	**4.93**	**324**	P	Pn	17 13 24.3	+1.5
JHU				*e*S	**Sn**	**17 14 17.9**	**-0.7**
JHO	**Hitachi**	**5.06**	**339**	P	**Pn**	**17 13 25.7**	**+1.1**
JRY	**Ryogami san**	**5.25**	**322**	P	**Pn**	**17 13 28.4**	**+1.2**
JAG	**Ashikaga**	**5.31**	**329**	P	Pn	17 13 30.9	+2.8
JAG				*e*S	**Sn**	**17 14 29.6**	**+1.5**
JFK	**Kawauchi**	**5.69**	**344**	*e*S	**Sn**	**17 14 35.9**	**-1.4**
MJAR	**Matsushiro Arr**	**6.01**	**322**	Pn	**Pn**	**17 13 38.4**	**+0.7**
	0.7nm,0.3s,baz=154,slow=11,SNR=12						
MJAR				Sn	**Sn**	**17 14 43.5**	**-1.8**
	0.2nm,0.3s,baz=130,slow=22,SNR=3.3						
MAT	**Matsushiro**	**6.01**	**322**	P	**Pn**	**17 13 38.9**	**+1.2**
MAT				*e*S	**Sn**	**17 14 44.6**	**-0.7**
ASAJ	**Asahikawa**	**12.19**	**359**	Pn	**Pn**	**17 15 03.4**	**+1.0**
	0.5nm,0.3s,baz=216,slow=8.7,SNR=6.0						
ASAJ				Sn	**Sn**	**17 17 14.8**	**-2.1**
	0.1nm,0.3s,baz=222,slow=18,SNR=2.4						
SONM	**Songino Array**	**31.83**	**311**	P	P	17 18 34.0	+1.2
	0.2nm,0.8s,baz=103,slow=6.4,SNR=2.2						
MKAR	**Makanchi Array**	**47.98**	**306**	P	**P**	**17 20 47.5**	**+0.9**
	0.2nm,0.6s,baz=79,slow=7.5,SNR=4.1						
WRA	**Warramunga Arr**	**52.19**	**190**	P	**P**	**17 21 18.1**	**-0.5**
	0.5nm,0.6s,baz=6.3,slow=7.9,SNR=9.4						
ILAR	**Eielson Array**	**53.25**	**30**	P	P	17 21 29.0	+3.0
	0.4nm,0.7s,baz=247,slow=5.4,SNR=5.7						
ASAR	**Alice Springs**	**55.92**	**190**	P	**P**	**17 21 46.0**	**+0.2**
	0.2nm,0.7s,baz=3.5,slow=6.7,SNR=3.6						
AKTO	**Aktyubinsk**	**63.04**	**314**	P	P	17 22 37.8	+3.1
	0.5nm,0.7s,baz=24,slow=7.8,SNR=3.0						
FINES	**FINESS Array B**	**73.91**	**333**	P	P	17 23 44.6	+2.3
	1.1nm,0.8s,baz=64,slow=9.4,SNR=3.6						
NVAR	**Mina Array Bea**	**77.13**	**53**	P	P	17 24 05.5	+4.0
	0.3nm,0.6s,baz=276,slow=5.4,SNR=3.9						
NOA	**NORSAR Array B**	**79.37**	**338**	P	P	17 24 14.9	+1.6
	0.5nm,0.7s,baz=40,slow=5.5,SNR=2.7						
LPAZ	**La Paz**	**147.88**	**68**	PKPbc	**PKPab**	**17 31 55.4**	**-1.2**
	0.6nm,0.6s,baz=9.5,slow=6.1,SNR=3.1						

*ISCJB **21** 17:22:44.7±0.7, 45.°71N±0.°03 × 15.°69E±0.°04, h13km±9km, Error ellipse: s-maj=5.2km s-min=4.4km az=155.1*
*VIE **21** 17:22:45.6±0.5, 45.°73N × 15.°69E, h9km±4km, mb1.9/2, ML2.2/2, Error ellipse: s-maj=3.1km s-min=1.7km az=121.0 25 km WSW of Zagreb*
*LJU **21** 17:22:45.0, 45.°70N × 15.°69E, h8km, ML1.9*
*CSEM **21** 17:22:45.3±0.1, 45.°71N × 15.°70E, h10km, ML2.6/5, Error ellipse: s-maj=1.9km s-min=1.6km az=80.0*

ISC 21 17:22:45.4±1.0, **45.72N**±0.°02 × **15.70E**±0.°03, **h9**km±7km, **n30, σ0s33/48, 3C-5D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCIS	**Gornji Cirnik**	**0.16**	**341**	⇑*i*Pg	**Pg**	**17 22 49.0**	**+0.2**
GCIS				*i* Sg	**Sg**	**17 22 51.5**	**+0.3**
GCIS							
	comp=Z,363nm,0.1s						
GCIS	**Gornji Cirnik**	**0.16**	**341**	⇑*i*Pg	**Pg**	**17 22 49.0**	**+0.2**
GCIS				*i* Sg	**Sg**	**17 22 51.5**	**+0.3**
	comp=Z,363nm,0.1s						
CRES	**Cresnjev**	**0.20**	**303**	*i* Pg	**Pg**	**17 22 49.5**	**-0.1**
CRES				*i* Sg	**Sg**	**17 22 52.4**	**0.0**
CRES							
	comp=Z,67nm,0.1s						
CRES	**Cresnjev**	**0.20**	**303**	*i* Pg	**Pg**	**17 22 49.5**	**-0.1**
CRES				*i* Sg	**Sg**	**17 22 52.4**	**0.0**
	comp=Z,67nm,0.1s						
GOLS	**Golise**	**0.30**	**350**	*i* Pg	**Pg**	**17 22 51.5**	**+0.1**
GOLS							
	comp=Z,58nm,0.2s						
GOLS	**Golise**	**0.30**	**350**	*i* Pg	**Pg**	**17 22 51.5**	**+0.1**
	comp=Z,58nm,0.2s						
CESS	**Cesta pri Krsk**	**0.31**	**327**	*i* Pg	**Pg**	**17 22 51.3**	**-0.2**
CESS							
	comp=Z,37nm,0.1s						
CESS	**Cesta pri Krsk**	**0.31**	**327**	*i* Pg	**Pg**	**17 22 51.3**	**-0.2**
	comp=Z,37nm,0.1s						
LEGS	**Legarje**	**0.35**	**311**	*i* Pg	**Pg**	**17 22 52.4**	**0.0**
LEGS				*i* Sg	**Sg**	**17 22 57.5**	**+0.4**
LEGS	**Legarje**	**0.35**	**311**	*i* Pg	**Pg**	**17 22 52.4**	**0.0**
LEGS				*i* Sg	**Sg**	**17 22 57.5**	**+0.4**
BOJS	**Bojanci**	**0.38**	**236**	*i* Pg	**Pg**	**17 22 52.6**	**-0.2**
BOJS				*i* Sg	**Sg**	**17 22 57.4**	**-0.4**
BOJS							
	comp=Z,48nm,0.1s						
BOJS	**Bojanci**	**0.38**	**236**	*i* Pg	**Pg**	**17 22 52.6**	**-0.2**
BOJS				*i* Sg	**Sg**	**17 22 57.4**	**-0.4**
	comp=Z,48nm,0.1s						
DOBS	**Dobrina**	**0.46**	**340**	*i* Pg	**Pg**	**17 22 54.6**	**+0.2**
DOBS							
	comp=Z,25nm,0.1s						
DOBS	**Dobrina**	**0.46**	**340**	*i* Pg	**Pg**	**17 22 54.6**	**+0.2**
	comp=Z,25nm,0.1s						
SISC	**Sisak**	**0.53**	**117**	*e*Pg	**Pg**	**17 22 55.2**	**-0.4**
SISC				Sg	**Sg**	**17 23 02.7**	**0.0**
SISC	**Sisak**	**0.53**	**117**	*e*Pg	**Pg**	**17 22 55.2**	**-0.4**
SISC				Sg	**Sg**	**17 23 02.6**	**0.0**
PDKS	**Podkum**	**0.60**	**305**	⇓*i*Pg	**Pg**	**17 22 57.1**	**+0.1**
PDKS	**Podkum**	**0.60**	**305**	⇓*i*Pg	**Pg**	**17 22 57.1**	**+0.1**
VISS	**Visnje**	**0.61**	**279**	*i* Pg	**Pg**	**17 22 57.0**	**-0.2**
VISS				*i* Sg	**Sg**	**17 23 04.8**	**-0.3**
VISS	**Visnje**	**0.61**	**279**	*i* Pg	**Pg**	**17 22 57.0**	**-0.2**
VISS				*i* Sg	**Sg**	**17 23 04.8**	**-0.3**
GBRS	**Gornja Briga**	**0.65**	**254**	*i* Pg	**Pg**	**17 22 57.8**	**-0.2**
KOGS	**Kog**	**0.83**	**27**	*i* Pg	**Pb**	**17 23 01.8**	**-0.1**
KOGS							
	comp=Z,22nm,0.2s						
KOGS	**Kog**	**0.83**	**27**	*i* Pg	**Pb**	**17 23 01.8**	**-0.1**
	comp=Z,22nm,0.2s						
SOKA	**Soboth**	**1.07**	**334**	⇓*i*Pg	**Pg**	**17 23 05.7**	**-0.2**
SOKA				⇓*i*Sg	**Sb**	**17 23 20.3**	**+0.1**
	comp=Z,2.3nm,0.1s						
SOKA	**Soboth**	**1.07**	**334**	Pg	**Pg**	**17 23 05.7**	**-0.2**
SOKA				Sg	**Sb**	**17 23 20.3**	**+0.1**
	comp=Z,2.3nm,0.1s						
CRNS	**Crni Vrh**	**1.07**	**290**	*i* Pg	**Pg**	**17 23 05.6**	**-0.3**
OBKA	**Obir**	**1.13**	**315**	⇑*i*Pg	**Pn**	**17 23 07.3**	**-0.2**
OBKA				⇓*i*Sg	**Sn**	**17 23 23.0**	**-0.2**
	comp=Z,41nm,0.3s						
OBKA	**Obir**	**1.13**	**315**	Pg	**Pn**	**17 23 07.3**	**-0.2**
OBKA				Sg	**Sn**	**17 23 23.0**	**-0.2**
	comp=Z,41nm,0.3s						
NVLJ	**Novalja**	**1.29**	**207**	*e*Pg	**Pg**	**17 23 10.7**	**+0.5**
NVLJ				Sg	**Sn**	**17 23 28.0**	**+1.0**
NVLJ	**Novalja**	**1.29**	**207**	*e*Pg	**Pg**	**17 23 10.7**	**+0.5**
NVLJ				Sg	**Sn**	**17 23 28.0**	**+1.0**

*IDC **21** 17:33:52.9±5.9, 24.°61N × 121.°92E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.1/24, mbtmp3.2/3, Error ellipse: s-maj=402.5km s-min=35.4km az=90.0*
*TAP **21** 17:33:57.4, 24.°49N × 121.°96E, h19km, ML3.6, B*

ISC 21 17:33:55.7±1.2, **24.°50N**±0.°02 × **122.°05E**±0.°03, **h17**km±8km, **n57, σ0s93/97, mb3.1/3, 6C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.21**	**302**	⇓*i*P	**Pb**	**17 34 01.9**	**+0.7**
	baz=323						
TWC				*i* S	**Sb**	**17 34 04.6**	**-0.3**
	baz=323						
ENA	**Nanau**	**0.29**	**257**	⇑*i*P	**Pb**	**17 34 02.5**	**+0.1**
	baz=252						
ENA				*e*S	**Sb**	**17 34 06.3**	**-0.7**
	baz=252						
EHP	**Heping Village**	**0.34**	**237**	*e*P	**Pb**	**17 34 03.0**	**-0.3**
	baz=232						
EHP				*e*S	**Sb**	**17 34 07.4**	**-0.9**
	baz=232						
ILA	**Ilan**	**0.38**	**314**	⇓*i*P	**Pn**	**17 34 05.0**	**-1.5**
	baz=322						
ILA				*i* S	**Sb**	**17 34 10.1**	**+0.3**
	baz=322						
TWE	**Neicheng**	**0.41**	**303**	⇓*i*P	**Pn**	**17 34 05.1**	**-1.8**
	baz=312						
TWE				S	**Sb**	**17 34 09.9**	**-0.7**
	baz=312						
ENTT	**Nioudou**	**0.46**	**288**	⇑*i*P	**Pb**	**17 34 05.8**	**+0.4**
	baz=293						
ENTT				S	**Sb**	**17 34 11.1**	**-0.9**
	baz=293						
TWB1	**Santiao Chiao**	**0.51**	**354**	*e*P	**Pn**	**17 34 07.8**	**-0.5**
	baz=356						
TWB1				*e*S	**Sn**	**17 34 14.3**	**-2.3**
	baz=356						
TWD	**Chiawan**	**0.58**	**225**	*e*P	**Pb**	**17 34 07.3**	**-0.2**
	baz=223						
TWD				*e*S	**Sb**	**17 34 15.2**	**-0.3**
	baz=223						
NNS	**Nan Shan**	**0.62**	**265**	⇑*i*P	**Pb**	**17 34 08.3**	**+0.1**
	baz=266						
NNS				S	**Sb**	**17 34 15.8**	**-0.8**
	baz=266						
NWF	**Wu-fen Shan**	**0.62**	**337**	⇓*i*P	**Pn**	**17 34 09.7**	**-0.2**
	baz=335						
NWF				*i* S	**Sn**	**17 34 18.1**	**-1.4**
	baz=335						
NSK	**Sanguang**	**0.66**	**286**	⇑*i*P	**Pn**	**17 34 09.2**	**-1.1**
	baz=289						
NSK				S	**Sb**	**17 34 16.7**	**-0.9**
	baz=289						
HWA	**Hwalien**	**0.66**	**218**	*e*P	**Pb**	**17 34 09.2**	**+0.5**
	baz=217						
TAP1	**Taipei**	**0.72**	**319**	*e*P	**Pn**	**17 34 11.6**	**+0.4**
	baz=315						
TAP1				*e*S	**Sn**	**17 34 20.7**	**-1.1**
	baz=315						
TAP	**Taipei**	**0.73**	**318**	*e*P	**Pn**	**17 34 11.7**	**+0.4**
	baz=315						
TAP				S	**Sn**	**17 34 21.3**	**-0.8**
	baz=315						
WHF	**Hehuan Shan**	**0.80**	**244**	⇑*i*P	**Pb**	**17 34 11.1**	**-0.2**
	baz=249						
WHF				*e*S	**Sg**	**17 34 21.4**	**-0.7**
	baz=249						
TWT	**Tachien**	**0.83**	**253**	*e*P	**Pn**	**17 34 12.2**	**-0.7**
	baz=249						
TWT				*e*S	**Sb**	**17 34 22.5**	**-0.3**
	baz=249						
TWS1	**Kuangyinshan**	**0.83**	**317**	P	**Pn**	**17 34 13.6**	**+1.0**
	baz=322						
TWS1				*e*S	**Sn**	**17 34 24.3**	**-0.2**
	baz=322						
YOJ	**Yonaguni jima**	**0.88**	**92**	⇓*i*P	**Pn**	**17 34 13.9**	**+0.7**
	baz=90						
YOJ				*e*S	**Sn**	**17 34 26.9**	**+1.3**
	baz=90						
TWY	**Chenhua**	**0.88**	**332**	*e*P	**Pn**	**17 34 14.2**	**+0.9**
	baz=338						
TWY				*e*S	**Sn**	**17 34 25.9**	**+0.2**
	baz=338						
ESL	**Shilin**	**0.88**	**220**	*e*P	**Pg**	**17 34 12.7**	**-0.3**
	baz=222						
ESL				*e*S	**Sn**	**17 34 26.6**	**+0.9**
	baz=222						
NCU	**National Centr**	**0.92**	**301**	*e*P	**Pn**	**17 34 14.9**	**+1.1**
	baz=312						
NCU				*e*S	**Sn**	**17 34 27.1**	**+0.4**
	baz=312						
NSTT	**Nanjuang**	**0.96**	**278**	⇑P	**Pn**	**17 34 14.9**	**+0.4**
	baz=280						
NSTT				*e*S	**Sn**	**17 34 26.8**	**-1.0**
	baz=280						
HSN	**Hsinchu**	**1.03**	**287**	*e*P	**Pn**	**17 34 16.5**	**+1.2**
	baz=287						
HSN				*e*S	**Sn**	**17 34 30.0**	**+0.7**
	baz=287						
PCYT	**Pengchaiyu**	**1.13**	**1**	*e*P	**Pg**	**17 34 17.3**	**-0.3**
	baz=5.0						
TWQ1	**Liyutan**	**1.17**	**263**	⇓*e*P	**Pg**	**17 34 19.1**	**+0.6**
	baz=264						
TWQ1				*e*S	**Sg**	**17 34 34.5**	**+0.7**
	baz=264						
NSY	**Sanyi**	**1.18**	**266**	*e*P	**Pg**	**17 34 19.1**	**+0.6**
	baz=267						
NSY				*e*S	**Sg**	**17 34 34.5**	**+0.6**
	baz=267						
EHY	**Hungye**	**1.19**	**214**	*e*P	**Pb**	**17 34 17.6**	**-0.2**
	baz=210						
SMLT	**Sun Moon Lake**	**1.21**	**240**	*e*P	**Pg**	**17 34 19.0**	**-0.2**
	baz=244						
SMLT				*e*S	**Sg**	**17 34 34.9**	**-0.2**
	baz=244						
TYC	**Yuchr**	**1.24**	**242**	*e*P	**Pg**	**17 34 19.2**	**-0.4**
	baz=240						
TCU	**Taichung**	**1.30**	**255**	*e*P	**Pg**	**17 34 21.1**	**+0.3**
	baz=262						
TCU				*e*S	**Sg**	**17 34 39.7**	**+1.9**
	baz=262						
TWF1	**Yuli**	**1.33**	**211**	*e*P	**Pn**	**17 34 19.3**	**-0.2**
	baz=221						
WNT	**Mingjian**	**1.39**	**244**	*e*P	**Pg**	**17 34 22.9**	**+0.3**
	baz=242						
WNT				*e*S	**Sg**	**17 34 43.0**	**+2.3**
	baz=242						
ALS	**Alishan**	**1.50**	**230**	*e*P	**Pg**	**17 34 24.4**	**-0.4**
	baz=215						
CHKT	**Chengkung**	**1.52**	**204**	*e*P	**Pn**	**17 34 22.2**	**0.0**
	baz=185						
CHN5	**Tsauling**	**1

PNG	**Penghu**	**2.46**	**248**	*e*P		**Pn**	**17 34 36.3**	**+1.2**
	baz=248							
SCZT	**Fangliau**	**2.49**	**212**	*e*P		**Pb**	**17 34 38.6**	**-1.4**
	baz=212							
SCZT				*e*S		**Sb**	**17 35 11.7**	**+1.4**
	baz=212							
WDGT	**Dungji**	**2.51**	**241**	*e*P		**Pn**	**17 34 37.5**	**+1.8**
	baz=242							
WDGT				*e*S		**Sn**	**17 35 07.1**	**+1.1**
	baz=242							
WRA	**Warramunga Arr**	**45.76**	**164**	P		**P**	**17 42 17.2**	**+0.7**
	0.2nm,0.6s,baz=345,slow=8.3,SNR=3.1							
ASAR	**Alice Springs**	**49.24**	**166**	P		**P**	**17 42 44.3**	**+0.8**
	0.2nm,1.0s,baz=354,slow=6.5,SNR=3.7							
YKA	**Yellowknife Ar**	**82.38**	**23**	P		**P**	**17 46 16.2**	**-0.3**
	0.1nm,0.6s,baz=314,slow=5.2,SNR=5.3							

*IDC **21** 17:38:35.0±0.7,23.˚15S×175.˚29W,h0km,mb4.3/16, mb1 4.5/17,mb1mx4.4/23,mbtmp4.3/17,ML3.6/1,MS3.9/7, Ms1 3.9/7,ms1mx3.4/40,Error ellipse: s-maj=24.6km s-min=17.2km az=144.0*

*MOS **21** 17:38:38.6±1.7,23.˚50S×175.˚33W,h33km,mb5.0/6,Error ellipse: s-maj=17.8km s-min=12.8km az=22.0*

*ISCJB **21** 17:38:38.1±0.5,23.˚48S±0.˚07×175.˚25W±0.˚09,h34km, mb4.7/36,MS4.2/11,Error ellipse: s-maj=13.0km s-min=9.5km az=32.7*

*NEIC **21** 17:38:39.9±0.4,23.˚43S×175.˚26W,h35km,mb5.0/12, Error ellipse: s-maj=13.9km s-min=11.6km az=136.0*

*BJI **21** 17:38:39.0,23.˚27S×175.˚09W,h25km,mB5.5/13, mb5.1/20,Ms5.3/12,Ms7 4.9/11*

*AUST **21** 17:38:41.1,22.˚69S×174.˚81W,h60km*

ISC 21 17:38:40.0±0.5,23.˚54S±0.˚06×175.˚15W±0.˚08,h33km±1km, h33km:pP-P,n127,σ1§69/137,mb4.8/36,MS4.2/11,2C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**6.59**	**49**	P		Pn	17 40 03.9	-11
	baz=5.8,SNR=18							
NIUE				S		Sn	17 41 06.6	-22
	baz=5.8,SNR=4.4							
MSVF	**Nonsavu**	**8.59**	**311**	*e*P		**Pn**	**17 40 43.3**	**+1.2**
MSVF				pmax	pmax			
	comp=Z,45nm,0.9s							
MSVF	**Nonsavu**	**8.59**	**311**	*e*Pn		**Pn**	**17 40 43.3**	**+1.2**
	comp=Z,45nm,0.9s							
AFI	**Afiamalu**	**10.10**	**19**	Pn		Pn	17 40 52.7	-10
	comp=Z,4.7nm,0.3s,baz=140,slow=8.0,SNR=9.8							
AFI				Sn		Sn	17 42 36.5	-19
	comp=Z,12nm,0.3s,baz=163,slow=22,SNR=5.4							
AFI	**Afiamalu**	**10.10**	**19**	*e*Pn		Pn	17 40 51.2	-12
AFI				Sn		Sn	17 42 36.5	-19
RAR	**Rarotonga**	**14.42**	**84**	Pn		Pn	17 41 52.9	-8.8
	comp=Z,56nm,1.0s							
URZ	**Urewera**	**16.09**	**202**	Pn		**Pn**	**17 42 24.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=20,SNR=2.4							
URZ				Sn		**Sn**	**17 45 17.6**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=336,slow=20,SNR=5.9							
URZ	**Urewera**	**16.09**	**202**	Pn		**Pn**	**17 42 24.8**	**+1.1**
URZ				Sn		**Sn**	**17 45 17.6**	**-3.5**
DZM	**Mont Dzumac**	**17.03**	**271**	*e*LR		LR	17 46 45.3	
	comp=Z,201nm,25.4s							
TBI	**Tubuai**	**23.57**	**95**	*e*LR		LR	17 49 17.0	
	comp=Z,280nm,21.8s,baz=268							
PPT2	**Papeete2**	**24.65**	**81**	*e*LR		LR	17 49 40.9	
	comp=Z,256nm,21.5s,baz=252							
PPT	**Papeete**	**24.66**	**81**	LR		LR	17 51 29.3	
	comp=Z,376nm,18.2s,baz=255,slow=31							
EIDS	**Eidsvold**	**30.75**	**260**	P		P	17 44 48.9	-3.4
	comp=Z,14nm,1.1s							
CTA	**Charters Tower**	**35.92**	**268**	P		**P**	**17 45 37.1**	**-0.3**
	comp=Z,15nm,0.8s,baz=92,slow=10,SNR=15							
CTA				LR		LR	17 57 08.4	
	comp=Z,96nm,20.7s,baz=332,slow=31							
CTA	**Charters Tower**	**35.92**	**268**	P		**P**	**17 45 37.1**	**-0.3**
CTAO	**Charters Tower**	**35.92**	**268**	*e*P		**P**	**17 45 36.6**	**-0.9**
CTAO				pmax	pmax			
	comp=Z,30nm,1.1s							
CTAO	**Charters Tower**	**35.92**	**268**	*e*P		**P**	**17 45 36.5**	**-0.9**
	comp=Z,30nm,1.1s							
QLP	**Quilpie**	**36.81**	**257**	P		**P**	**17 45 44.9**	**0.0**
	baz=37,SNR=4.6							
PMG	**Port Moresby**	**38.64**	**285**	*e*P		**P**	**17 45 59.0**	**-1.5**
	comp=Z,15nm,0.8s							
STKA	**Stephens Creek**	**38.98**	**248**	P		**P**	**17 46 03.1**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=98,slow=12,SNR=5.2							
STKA	**Stephens Creek**	**38.98**	**248**	*e*P		**P**	**17 46 01.4**	**-1.8**
	comp=Z,0.6nm,0.9s							
AS31	**Alice Springs**	**46.47**	**259**	*e*P		**P**	**17 47 03.0**	**-1.2**
ASAR	**Alice Springs**	**46.47**	**259**	P		**P**	**17 47 03.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=102,slow=6.7,SNR=31							
ASAR				LR		LR	18 06 26.1	
	comp=Z,132nm,19.4s,baz=125,slow=36							
ASAR	**Alice Springs**	**46.47**	**259**	P		**P**	**17 47 03.4**	**-0.7**
WRAB	**Tennant Creek**	**46.85**	**264**	*e*P		**P**	**17 47 05.1**	**-2.1**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WRAB	**Tennant Creek**	**46.85**	**264**	*e*P		**P**	**17 47 05.1**	**-2.1**
	comp=Z,5.8nm,0.6s							
WRAB	**Tennant Creek**	**46.85**	**264**	P		**P**	**17 47 06.0**	**-1.2**
	comp=Z,60nm,0.5s,SNR=11							
WRA	**Warramunga Arr**	**46.86**	**264**	P		**P**	**17 47 05.7**	**-1.6**
	comp=Z,6.0nm,0.6s,baz=102,slow=8.1,SNR=103							
WRA	**Warramunga Arr**	**46.86**	**264**	P		**P**	**17 47 05.7**	**-1.6**
KDU	**Kakadu**	**50.69**	**273**	P		**P**	**17 47 35.2**	**-1.5**
	baz=51,SNR=6.2							
MTN	**Manton Dam**	**51.87**	**272**	P		**P**	**17 47 44.0**	**-1.5**
	baz=52,SNR=3.7							
VNDA	**Vanda**	**55.15**	**186**	P		**P**	**17 48 07.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**55.28**	**264**	P		**P**	**17 48 10.1**	**-0.4**
	comp=Z,8.9nm,0.9s,baz=109,slow=6.7,SNR=18							
FITZ	**Fitzroy Crossi**	**55.28**	**264**	*e*P		**P**	**17 48 09.7**	**-0.8**
	comp=Z,9.8nm,1.0s							
FITZ	**Fitzroy Crossi**	**55.28**	**264**	P		**P**	**17 48 10.1**	**-0.4**
	baz=56,SNR=12							
SWI	**Sorong**	**56.59**	**285**	P		**P**	**17 48 18.8**	**-1.0**
	baz=57,SNR=5.0							
KLBR	**Kellerberrin**	**59.21**	**246**	P		**P**	**17 48 38.4**	**+0.3**
	baz=60,SNR=6.3							
MBWA	**Marble Bar**	**59.80**	**258**	P		**P**	**17 48 40.7**	**-1.6**
BLDU	**Ballidu**	**60.27**	**247**	P		**P**	**17 48 45.4**	**0.0**
	baz=61,SNR=5.2							
MORW	**Morawa**	**61.16**	**249**	P		**P**	**17 48 51.6**	**+0.1**
	baz=62,SNR=4.3							
QSPA	**South Pole Qui**	**66.55**	**180**	P		**P**	**17 49 29.1**	**+2.6**
	comp=Z,2.9nm,1.0s,baz=13,slow=2.7,SNR=5.4							
QSPA	**South Pole Qui**	**66.55**	**180**	P		**P**	**17 49 29.1**	**+2.6**
KKM	**Kota Kinabalu**	**73.08**	**285**	P		**P**	**17 50 09.2**	**+1.8**
	baz=73,SNR=4.4							
MJAR	**Matsushiro Arr**	**74.21**	**323**	P		**P**	**17 50 11.0**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=163,slow=6.2,SNR=4.9							
MJAR	**Matsushiro Arr**	**74.21**	**323**	P		**P**	**17 50 11.0**	**-2.5**
ASAJ	**Asahikawa**	**77.65**	**330**	P		**P**	**17 50 31.3**	**-1.6**
	comp=Z,20nm,1.0s,baz=231,slow=13,SNR=4.8							
ASAJ	**Asahikawa**	**77.65**	**330**	P		**P**	**17 50 31.3**	**-1.6**
TPUB	**Ta-pu**	**77.83**	**302**	*e*P		**P**	**17 50 31.4**	**-3.0**
	comp=Z,17nm,0.8s							
YSS	**Yuzh-Sakhalins**	**79.79**	**332**	*e*P		**P**	**17 50 43.0**	**-1.6**
YSS				*e*			17 50 58.2	
YSS	**Yuzh-Sakhalins**	**79.79**	**332**	*e*P		**P**	**17 50 44.0**	**-0.5**
	comp=Z,25nm,1.1s							
YSS				*e*			17 50 56.9	
PETK	**Petropavlovsk-**	**79.89**	**344**	P		**P**	**17 50 43.5**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=168,slow=8.7,SNR=3.3							
PETK	**Petropavlovsk-**	**79.89**	**344**	P		**P**	**17 50 43.5**	**-1.5**
PETK	**Petropavlovsk-**	**79.89**	**344**	P		**P**	**17 50 43.5**	**-1.5**
KSRS	**Korea Array**	**80.90**	**318**	P		**P**	**17 50 48.9**	**-1.8**
	comp=Z,2.1nm,0.9s,baz=131,slow=5.0,SNR=4.3							
KSRS				LR		LR	18 20 48.6	
	comp=Z,41nm,20.7s,baz=45,slow=32							
KSAR	**Wonju Array Be**	**80.92**	**317**	P		**P**	**17 50 48.9**	**-1.9**
NVAR	**Mina Array Bea**	**81.47**	**42**	P		**P**	**17 50 53.7**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=225,slow=8.6,SNR=5.6							
NVAR	**Mina Array Bea**	**81.47**	**42**	P		**P**	**17 50 53.7**	**-0.4**
USRK	**Ussuriysk Arra**	**82.95**	**325**	P		**P**	**17 51 00.5**	**-0.9**
	comp=Z,7.1nm,0.9s,baz=114,slow=3.3,SNR=13							
NJ2	**Nanjing**	**83.84**	**309**	*e*P		**P**	**17 51 06.3**	**0.0**
NJ2				pmax	pmax			
	comp=Z,90nm,1.0s							
SYO	**Syowa Base**	**84.33**	**192**	*e*PcP		**P**	**17 51 09.6**	**+1.4**
MDJ	**Mudanjiang**	**84.51**	**324**	P		**P**	**17 51 12.0**	**+2.6**
MDJ				pP		**pP**	**17 51 21.5**	**+1.5**
MDJ				sP		**sP**	**17 51 25.3**	**+1.4**
MDJ				PP		**PP**	**17 54 22.3**	**-3.1**
MDJ				S		**S**	**18 01 34.0**	**+0.3**
MDJ				SS		**SS**	**18 07 10.8**	**+5.2**
MDJ				pmax	pmax			
	comp=Z,13nm,2.0s							
SNAA	**Sanae**	**84.90**	**178**	*e*P		**P**	**17 51 13.0**	**+1.8**
	comp=Z,2.9nm,1.0s							
VNA3	**Neumayer Olymp**	**84.93**	**175**	*e*PcP		**P**	**17 51 12.7**	**+1.4**
VNA3	**Neumayer Olymp**	**84.93**	**175**	*e*sP		sP	17 51 25.4	-0.3
VNA2	**Neumayer--Watz**	**85.40**	**176**	*e*PcP		**PcP**	**17 51 15.6**	**-1.0**
	baz=177,slow=2.2							
VNA2	**Neumayer--Watz**	**85.40**	**176**	*e*sP		sP	17 51 27.5	-0.6
	baz=177,slow=2.2							
IPM	**Ipoh**	**86.12**	**277**	*e*P		**P**	**17 51 18.3**	**+0.1**
	comp=Z,10nm,0.9s							
IPM				*e*			17 51 31.2	
CN2	**Changchun**	**86.31**	**321**	*e*P		P	17 51 21.8	+3.4
CN2				*e*pP		pP	17 51 32.3	+3.3
CN2				*e*S		**S**	**18 01 53.4**	**+2.0**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,1μm,16.0s							
CN2				LR	LR			
	comp=E,800nm,16.0s							
CN2				LR	LR			
	comp=Z,700nm,15.0s							
TXAR	**Lajitas Array**	**86.51**	**56**	P		**P**	**17 51 19.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=200,slow=7.5,SNR=4.4							
TXAR	**Lajitas Array**	**86.51**	**56**	P		**P**	**17 51 19.9**	**0.0**
KULM	**Kulim**	**86.79**	**277**	*e*P		**P**	**17 51 22.3**	**+0.8**
	comp=Z,5.9nm,0.8s							
KULM				*e*			17 51 31.9	
GSI	**Gunungsitoli**	**88.01**	**272**	P		**P**	**17 51 29.7**	**+2.3**
	baz=88,SNR=3.8							
NEW	**Newport**	**88.33**	**35**	LR		LR	18 27 00.3	
	comp=Z,92nm,18.2s,baz=236,slow=33							
PDAR	**Pinedale Array**	**89.39**	**42**	P		**P**	**17 51 31.8**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=188,slow=5.5,SNR=3.9							
PDAR				LR		LR	18 24 23.8	
	comp=Z,49nm,20.2s,baz=64,slow=31							
PDAR	**Pinedale Array**	**89.39**	**42**	P		**P**	**17 51 31.8**	**-1.7**
BJI	**Beijing**	**89.90**	**314**	P		**P**	**17 51 37.8**	**+2.2**
BJI				S		**S**	**18 02 28.8**	**+3.1**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BJI				LR	LR			
	comp=N,130nm,26.6s							
BJI				LR	LR			
	comp=E,130nm,24.8s							
GYA	**Guiyang**	**90.43**	**299**	*e*P		**P**	**17 51 40.3**	**+1.7**
GYA				pP		**pP**	**17 51 50.4**	**+1.1**
GYA				sP		**sP**	**17 51 54.3**	**+1.2**
GYA				PP		**PP**	**17 55 17.0**	**+3.4**
GYA				SKS		**SKSac**	**18 02 06.3**	**-1.5**
GYA				SS		**SS**	**18 08 34.3**	**+1.4**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.4s							
GYA				LR	LR			
	comp=N,580nm,23.3s							
GYA				LR	LR			
	comp=E,510nm,24.0s							
GYA				LR	LR			
	comp=Z,560nm,23.7s							
ILAR	**Eielson Array**	**90.71**	**12**	P		**P**	**17 51 36.8**	**-2.0**
	comp=Z,2.6nm,1.1s,baz=223,slow=6.3,SNR=6.9							
ILAR	**Eielson Array**	**90.71**	**12**	P		**P**	**17 51 36.8**	**-2.0**
BILL	**Bilibino**	**92.33**	**353**	*e*P		**P**	**17 51 46.8**	**+0.5**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KMI	**Kunming**	**93.06**	**296**	P		**P**	**17 51 52.9**	**+2.0**
KMI				pmax	pmax			
	comp=Z,12nm,0.9s							
HHC	**Hu-ho-hao-te**	**93.35**	**313**	*e*P		**P**	**17 51 51.3**	**-0.5**
HHC				pP		**pP**	**17 52 02.1**	**-0.3**
HHC				sP		**sP**	**17 52 05.5**	**-0.8**
HHC				SKS		**SKSac**	**18 02 21.8**	**-1.9**
HHC				S		**S**	**18 02 55.0**	**-2.2**
HHC				sS		**sS**	**18 03 10.8**	**-4.2**
HHC				SS		**SS**	**18 09 13.6**	**-0.9**
HHC				pmax	pmax			
	comp=Z,17nm,0.6s							
HHC				pmax	pmax			
	comp=Z,84nm,3.9s							
HHC				LR	LR			
	comp=N,110nm,14.2s							
HHC				LR	LR			
	comp=E,110nm,13.6s							
HHC				LR	LR			
	comp=Z,87nm,17.7s							
CM31	**Chiang Mai Arr**	**93.60**	**288**	*e*P		**P**	**17 51 54.9**	**+1.6**
	comp=Z,5.9nm,0.8s							
CM31				*e*			17 52 05.1	
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P		**P**	**17 51 55.3**	**+2.0**
	comp=Z,5.8nm,0.9s,baz=128,slow=3.1,SNR=51							
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P		**P**	**17 51 55.3**	**+2.0**
CHTO	**Chiang Mai**	**93.74**	**289**	*e*P		**P**	**17 51 55.5**	**+1.6**
CHTO				*e*			17 52 07.3	
CHTO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CHTO	**Chiang Mai**	**93.74**	**289**	*e*P		**P**	**17 51 55.5**	**+1.6**
	comp=Z,9.1nm,0.9s							
CHTO				*e*			17 52 07.3	
JTS	**JuntasAbangare**	**94.22**	**81**	LR		LR	18 27 19.7	
	comp=Z,89nm,18.9s,baz=42,slow=31							
LZH	**Lanzhou**	**96.70**	**306**	*e*P		**P**	**17 52 09.0**	**+1.7**
LZH				pP		**pP**	**17 52 18.1**	**+0.1**
LZH				sP		**sP**	**17 52 22.8**	**+1.0**
LZH				pmax	pmax			
	comp=Z,18nm,1.2s							
YKA	**Yellowknife Ar**	**98.18**	**24**	P		**P**	**17 52 11.3**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=237,slow=4.4,SNR=7.6							
YKA	**Yellowknife Ar**	**98.18**	**24**	P		**P**	**17 52 11.3**	**-1.7**
GTA	**Gaotai**	**100.93**	**308**	*e*P		**Pdif**	**17 52 29.4**	**+3.3**
GTA				pP		pP	17 52 40.1	+3.2
GTA				sP		sP	17 52 44.0	+3.3
GTA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WMQ	**Urumqi**	**110.90**	**310**	*e*PKP		**PKiKP**	**17 57 09.8**	**+0.1**
ZALV	**Zalesovo Beam**	**114.50**	**320**	PKP		PKPdf	17 57 14.9	-1.3
	comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=2.4							
ZALV	**Zalesovo Beam**	**114.50**	**320**	PKIKP		PKPdf	17 57 14.9	-1.2
ZALV	**Zalesovo Beam**	**114.50**	**320**	PKP		PKPdf	17 57 14.9	-1.3
MKAR	**Makanchi Array**	**115.19**	**312**	PKP		**PKPdf**	**17 57 16.6**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=100,slow=3.2,SNR=5.8							
MKAR	**Makanchi Array**	**115.19**	**312**	PKIKP		**PKPdf**	**17 57 16.6**	**-1.2**
MKAR	**Makanchi Array**	**115.19**	**312**	PKP		**PKPdf**	**17 57 16.6**	**-1.2**
KSH	**Kashi**	**118.77**	**303**	*e*PKP		**PKPdf**	**17 57 25.3**	**+0.3**
KSH				*es*PKP			17 57 39.8	
KSH				*e*PP		PP	17 58 50.8	+6.9
KSH				PKS		**PKSdf**	**18 01 01.8**	**0.0**
KSH				SKS		**SKSdf**	**18 04 33.8**	**-1.0**
KSH				SKKS		**SKKSac**	**18 05 37.8**	**-3.8**
KSH				SS		**SS**	**18 15 04.6**	**+3.6**
KSH				LR	LR			
	comp=N,48nm,4.7s							
KSH				LR	LR			
	comp=E,69nm,6.2s							
KSH				LR	LR			
	comp=Z,150nm,5.5s							
HFS	**Hagfors**	**142.91**	**353**	PKP		**PKPdf**	**17 58 11.2**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=29,slow=3.3,SNR=4.4							
HFS	**Hagfors**	**142.91**	**353**	PKP		**PKPdf**	**17 58 11.2**	**+1.6**
AKASG	**Malin Array Be**	**146.94**	**331**	PKPbc		**PKPdf**	**17 58 17.0**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=39,slow=4.0,SNR=12							
AKASG	**Malin Array Be**	**146.94**	**331**	PKP2		**PKPdf**	**17 58 17.0**	**+0.2**
AKASG	**Malin Array Be**	**146.94**	**331**	PKPbc		**PKPdf**	**17 58 17.0**	**+0.2**
KIEV	**Kiev**	**146.95**	**331**	*e*PKP2		**PKPdf**	**17 58 17.0**	**+0.2**
KIEV	**Kiev**	**146.95**	**331**	*e*PKPdf		**PKPdf**	**17 58 17.0**	**+0.2**
AK01	**Malin Array Si**	**146.95**	**331**	*e*PKPbc		**PKPdf**	**17 58 17.2**	**+0.4**
AK02	**Malin Array Si**	**146.98**	**331**	*e*PKPdf		**PKPdf**	**17 58 17.6**	**+0.8**
MALT	**Malatya**	**147.85**	**305**	*e*PKIKP		**PKPdf**	**17 58 19.5**	**+0.6**
MALT				*e*			17 58 22.4	
MALT	**Malatya**	**147.85**	**305**	*e*PKPdf		**PKPdf**	**17 58 19.5**	**+0.6**
MALT				*e*PKPbc		**PKPbc**	**17 58 22.4**	**+0.6**
BR131	**Keskin Array S**	**150.82**	**310**	*e*PKPbc		**PKPbc**	**17 58 28.4**	**-0.8**
BRTR	**Keskin Array B**	**150.82**	**310**	PKPbc		**PKPbc**	**17 58 29.1**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=124,slow=0.8,SNR=11							
BRTR	**Keskin Array B**	**150.82**	**310**	PKPbc		**PKPbc**	**17 58 29.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**150.98**	**331**	*e*PKPbc		**PKPbc**	**17 58 30.0**	**+0.6**
KSP	**Ksiaz**	**151.33**	**345**	*e*PKIKP		**PKPbc**	**17 58 29.8**	**-0.1**
KSP				*e*			17 58 43.7	
UZH	**Uzhgorod**	**151.40**	**335**	*e*PKIKP		**PKPbc**	**17 58 27.3**	**-2.8**
CLL	**Collm**	**151.57**	**349**	*i* PKIKP		**PKPbc**	**17 58 29.7**	**-0.7**
CLL				*i*			17 58 36.1	
CLL				*i*			17 58 39.5	
CLL				*i*			17 58 43.7	
CLL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CLL	**Collm**	**151.57**	**349**	*i* PKPbc		**PKPbc**	**17 58 29.7**	**-0.7**
	comp=Z,4.0nm,1.0s							
CLL				*i* PKPab		**PKPab**	**17 58 39.5**	**+0.5**
	comp=Z,5.0nm,1.1s							
CLL				⇑*i*sPKPbc		**sPKPbc**	**17 58 43.7**	**-1.5**
	comp=Z,7.0nm,0.9s							
BRG	**Berggiesshubel**	**151.81**	**348**	*e*PKP		**PKPbc**	**17 58 31.2**	**+0.2**
	comp=Z,4.9nm,1.0s							
BRG				*e*			17 58 38.5	
	comp=Z,5.3nm,1.1s							
BRG				*e*			17 58 44.1	
	comp=Z,6.8nm,1.0s							
BRG	**Berggiesshubel**	**151.81**	**348**	*e*PKIKP		**PKPbc**	**17 58 31.2**	**+0.2**
BRG				*e*			17 58 38.5	
BRG				*e*			17 58 44.1	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KHC	**Kasperske Hory**	**153.54**	**347**	*e*PKIKP		PKPbc	17 58 41.5	-5.9
KHC	**Kasperske Hory**	**153.54**	**347**	*e*PKP		PKPab	17 58 41.5	-5.9
GERES	**GERESS Array B**	**153.79**	**347**	PKPbc		**PKPbc**	**17 58 35.7**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=48,slow=2.9,SNR=2.6							
GERES	**GERESS Array B**	**153.79**	**347**	PKPbc		**PKPbc**	**17 58 35.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**169.24**	**163**	PKPab		**PKPab**	**17 59 59.4**	**+2.9**
	comp=Z,0.7nm,1.0s,baz=185,slow=3.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**169.24**	**163**	PKPab		**PKPab**	**17 59 59.4**	**+2.9**

IDC 21 17:38:48.4±8.2,19.˚70N×145.˚48E,h160km±76km, mb3.2/10,mb1 3.3/11,mb1mx3.2/27,mbtmp3.2/11,Error ellipse: s-maj=32.7km s-min=13.2km az=85.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.95**	**341**	P		P	17 42 46.2	-0.3
	0.3nm,0.3s,baz=165,slow=10,SNR=5.7							
KSRS	**Korea Array**	**23.40**	**323**	P		P	17 43 42.5	-0.4
	1.1nm,0.5s,baz=150,slow=9.0,SNR=8.2							
WRA	**Warramunga Arr**	**40.88**	**196**	P		P	17 46 14.6	-0.4
	0.5nm,0.6s,baz=19,slow=9.0,SNR=8.9							
SONM	**Songino Array**	**42.24**	**321**	P		P	17 46 25.8	-0.1
	0.5nm,0.6s,baz=135,slow=8.3,SNR=8.6							
FITZ	**Fitzroy Crossi**	**42.31**	**209**	P		P	17 46 26.6	0.0
	0.9nm,0.7s,baz=35,slow=9.7,SNR=12							
CMAR	**Chiang Mai Arr**	**43.89**	**276**	P		P	17 46 39.9	+0.5
	0.4nm,0.4s,baz=81,slow=4.9,SNR=12							
ASAR	**Alice Springs**	**44.55**	**195**	P		P	17 46 44.1	-0.4
	0.2nm,0.7s,baz=18,slow=6.4,SNR=8.9							
ZALV	**Zalesovo Beam**	**57.10**	**322**	P		P	17 48 17.8	-0.2
	0.9nm,0.6s,baz=113,slow=7.8,SNR=5.8							
MKAR	**Makanchi Array**	**57.63**	**313**	P		P	17 48 22.0	+0.2
	0.9nm,0.5s,baz=90,slow=9.1,SNR=19							
YKA	**Yellowknife Ar**	**77.21**	**28**	P		P	17 50 25.3	+0.9
	0.2nm,0.5s,baz=291,slow=5.5,SNR=7.3							
FINES	**FINESS Array B**	**85.90**	**335**	P		P	17 51 08.4	-1.6
	0.5nm,0.3s,baz=62,slow=5.1,SNR=10							

*IDC **21** 18:10:21.8±1.8,31.˚58N×142.˚59E,h0km,mb3.4/6, mb1 3.5/9,mb1mx3.4/27,mbtmp3.5/9,ML3.3/3,MS2.8/1, Ms1 2.8/1,ms1mx2.3/17,Error ellipse: s-maj=65.9km s-min=18.8km az=72.0*

*JMA **21** 18:10:21.7±0.2,31.˚69N×143.˚07E,h43km,M3.6*

*ISCJB **21** 18:10:26.0±0.8,31.˚84N±0.˚06×142.˚61E±0.˚09,h44km, mb3.4/6,Error ellipse: s-maj=12.2km s-min=6.9km az=152.5*

ISC 21 18:10:27.8±1.2,31.˚79N±0.˚08×142.˚6E±0.˚1,h44km,n19, σ1§38/26,mb3.4/6,Southeast of Honshu

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

baz=44
SGLT eS Sn 18 30 47.6 +3.6
baz=44
TWM1 Shoushan 1.38 27 P Pn 18 30 30.3 +2.0
baz=27
TWM1 eS Sn 18 30 45.8 +0.3
baz=27
SSD Sandimen 1.42 35 P Pn 18 30 29.7 +0.9
baz=36
SSD eS Sn 18 30 47.7 +1.4
baz=36
ECL Taimali 1.50 48 *i* P Pn 18 30 30.9 +1.0
baz=48
ECL S Sn 18 30 48.6 +0.2
baz=48
TAI1 Yung-k'ang 1.51 17 *e*P Pn 18 30 31.4 +1.3
baz=18
TAI1 eS Sn 18 30 50.1 +1.6
baz=18
CHN3 Shinhua 1.59 21 *e*P Pn 18 30 32.7 +1.6
baz=21
CHN3 eS Sn 18 30 53.1 +2.6
baz=21
SCLT Jiali 1.63 15 *e*P Pn 18 30 32.6 +0.8
baz=15
SCLT eS Sn 18 30 53.1 +1.5
baz=15
SGST Jiashian 1.68 27 P Pn 18 30 33.0 +0.6
baz=28
SGST eS Sn 18 30 53.9 +1.2
baz=28
TWG Pinlang 1.74 45 P Pn 18 30 34.9 +1.7
baz=34
TWG eS Sn 18 30 55.9 +1.7
baz=34
TTN Taitung 1.74 48 *e*P Pn 18 30 34.8 +1.6
baz=38
CHN1 Nanshi 1.75 24 ⫝ *i*P Pn 18 30 34.4 +1.0
baz=24
CHN1 S Sn 18 30 55.6 +1.1
baz=24
TWK Hsinying 1.81 22 P Pn 18 30 35.2 +1.0
baz=34
TWK eS Sn 18 30 57.2 +1.2
baz=34
WTP Ta-pu 1.84 26 *i* P Pn 18 30 35.5 +0.8
baz=26
WTP S Sn 18 30 57.6 +0.9
baz=26
CHN4 Tsaushan 1.92 24 P Pn 18 30 36.6 +0.9
baz=35
CHN4 S Sn 18 31 00.0 +1.3
baz=35
PNG Penghu 1.98 355 *e*P Pn 18 30 36.0 -0.5
baz=355
ELDTW Lidau 1.98 36 P Pn 18 30 37.8 +1.1
baz=36
ELDTW eS Sn 18 31 01.6 +1.2
baz=36
CHY Chiayi 2.00 18 P Pn 18 30 37.6 +0.8
baz=8.0
CHY eS Sn 18 31 01.7 +1.0
baz=8.0
CHN2 Minshiung 2.05 19 *e*P Pn 18 30 38.5 +1.0
baz=30
CHN2 eS Sn 18 31 02.3 +0.5
baz=30
WSF Szhu 2.09 12 *e*P Pn 18 30 38.9 +0.9
baz=3.0
WSF eS Sn 18 31 03.2 +0.4
baz=3.0
CHKT Chengkung 2.12 45 *e*P Pn 18 30 40.0 +1.5
baz=55
CHKT eS Sn 18 31 05.5 +1.9
baz=55
ALS Alishan 2.15 27 P Pn 18 30 40.1 +0.9
baz=36
ALS S Sn 18 31 05.7 +0.8
baz=36
CHN5 Tsauling 2.18 23 *i* P Pn 18 30 40.1 +0.8
baz=23
CHN5 S Sn 18 31 05.9 +0.7
baz=23
WGK Gukeng 2.22 20 P Pn 18 30 40.9 +1.1
baz=29
WGK S Sn 18 31 07.1 +1.1
baz=29
TWF1 Yuli 2.27 39 P Pn 18 30 42.0 +1.5
baz=39
TWF1 S Sn 18 31 08.8 +1.5
baz=39
EHY Hungye 2.40 37 P Pn 18 30 44.4 +2.1
baz=37
EHY eS Sn 18 31 12.5 +2.0
baz=37
SMLT Sun Moon Lake 2.52 25 P Pn 18 30 45.4 +1.3
baz=34
SMLT eS Sn 18 31 14.7 +1.0
baz=34
TYC Yuchr 2.52 24 P Pn 18 30 45.0 +1.1
baz=33
TYC S Sn 18 31 15.0 +1.5
baz=33
ESL Shilin 2.71 35 *e*P Pn 18 30 48.6 +2.1
baz=27
ESL eS Sn 18 31 19.2 +1.1
baz=27
WHF Hehuan Shan 2.91 29 eS Sn 18 31 25.5 +1.6
baz=37
NNS Nan Shan 3.21 28 *e*P Pn 18 30 56.0 +2.4
baz=28
NNS eS Sn 18 31 32.5 +1.8
baz=28
ENA Nanau 3.37 33 *e*P Pn 18 30 58.0 +2.4
baz=33
ENTT Nioudou 3.47 29 *e*P Pn 18 30 59.7 +2.7
baz=29

IDC 21 18:31:17.7±1.4, 14°18N×145°55E, h104km±12km, mb3.3/7, mb1 3.5/7, mb1mx3.5/24, mbtmp3.3/7, Error ellipse: s-maj=39.1km s-min=19.5km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.89**	**229**	P	Pn	18 31 38.1	+0.8
	916nm,0.3s,baz=68,slow=1.5,SNR=643						
GUMO				S	Sn	18 31 52.5	+0.5
	baz=14,slow=19						
WRA	**Warramunga Arr**	**35.66**	**198**	P	P	18 38 06.6	+0.5
	0.4nm,0.8s,baz=22,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**39.30**	**197**	P	P	18 38 36.3	-0.5
	0.2nm,0.9s,baz=13,slow=12,SNR=3.2						
SONM	**Songino Array**	**46.64**	**324**	P	P	18 39 36.9	+1.1
	0.3nm,0.6s,baz=136,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**61.53**	**316**	P	P	18 41 23.6	-0.3
	0.4nm,1.0s,baz=54,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**67.75**	**25**	P	P	18 42 03.5	-0.5
	0.5nm,0.5s,baz=252,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**82.03**	**28**	P	P	18 43 26.7	+0.6
	0.5nm,0.7s,baz=285,slow=5.3,SNR=9.8						
FINES	**FINESS Array B**	**90.91**	**335**	P	P	18 44 08.4	-1.2
	3.2nm,1.1s,baz=72,slow=6.2,SNR=5.2						

IDC 21 18:53:47.4±2.4, 3°00N×126°33E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=211.1km s-min=27.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.12**	**161**	P	P	18 59 05.2	0.0
	0.5nm,0.6s,baz=340,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**27.52**	**165**	P	P	18 59 36.2	+0.3
	0.2nm,0.7s,baz=354,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**57.92**	**326**	P	P	19 03 41.2	-0.3
	0.1nm,0.4s,baz=118,slow=5.3,SNR=4.2						

JMA 21 19:11:37.9±0.6, 31°91N×142°40E, h0km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.49**	**299**	P	Pn	19 12 20.5	+0.8
JHJ2				eS	Sb	19 12 53.0	-1.7
JOD2	**Odawara 2**	**4.34**	**321**	P	Pn	19 12 48.0	+2.8
JYT	**Yasato**	**4.68**	**338**	P	Pn	19 12 52.0	+2.2
JHU	**Hanno**	**4.71**	**327**	P	Pn	19 12 53.4	+3.2
JHU				eS	Sn	19 13 46.5	+0.9
JYN	**Shimob**	**4.81**	**319**	P	Pn	19 12 55.2	+3.5
JYN				eS	Sn	19 13 50.5	+2.3
JHO	**Hitachi**	**4.93**	**343**	P	Pn	19 12 53.2	0.0
JHO				eS	Sn	19 13 50.2	-0.8
JAG	**Ashikaga**	**5.12**	**332**	P	Pn	19 12 58.1	+2.2
JFT	**Otama**	**5.85**	**344**	P	Pn	19 13 06.6	+0.7
JFT				eS	Sn	19 14 12.0	-1.6
JMK	**Ichinoseki**	**7.09**	**353**	P	Pn	19 13 22.4	-0.5
JMK				eS	Sn	19 14 40.1	-4.1

MEX 21 19:13:29.3±0.5, 16°24N×97°92W, h32km±12km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**306**	*e*P	Pb	19 13 35.2	-1.2
PNIG				*i* S	Sb	19 13 39.4	-1.8
VHO	**Vista Hermosa**	**1.40**	**54**	*i* P	Pn	19 13 52.1	-0.9
VHO				*i* S	Sn	19 14 07.7	-2.8
UTMO	**Huajuapan**	**1.58**	**4**	*i* P	Pn	19 13 52.9	-2.5
UTMO				*i* S	Sn	19 14 13.4	-1.7
HUIG	**Huatulco**	**1.80**	**105**	*i* P	Pn	19 13 56.8	-1.4
HUIG				*i* S	Sn	19 14 17.1	-2.9

*BJI **21** 19:17:51.1, 62°02N×79°26W, h7km, mB5.0/6, mb5.0/6, Ms4.7/2, Ms7 4.5/2*
*ISCJB **21** 19:17:52.8±0.2, 61°86N±0°02×79°37W±0°05, h10km, mb4.2/59, MS3.5/6, Error ellipse: s-maj=4.0km s-min=2.6km az=145.0*
*NEIC **21** 19:17:53.7, 62°06N×79°65W, h5km, mb4.3/39, MN4.4(OTT), MW3.8(USGS), After OTT.*
*IDC **21** 19:17:53.3±0.5, 61°99N×79°63W, h0km, mb3.9/20, mb1 4.2/23, mb1mx4.1/36, mbtmp4.0/23, ML3.4/3, MS3.2/8, Ms1 3.2/8, ms1mx2.9/52, Error ellipse: s-maj=10.0km s-min=9.2km az=11.0*
*OTT **21** 19:17:53.6±0.2, 62°06N×79°66W, h4km, MN4.4/26, 99km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.*
ISC 21 19:17:54.3±0.3, 62°00N±0°04×79°63W±0°04, h10km, n378, σ1§46/362, mb4.2/59, MS3.5/6, 101C-79D, Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVKQ	**Ivujivik**	**0.91**	**62**	Pg	**Pg**	**19 18 10.2**	**-1.6**
IVKQ				Sg	**Sg**	**19 18 21.5**	**-2.0**
IVKQ	**Ivujivik**	**0.91**	**62**	PG	**Pg**	**19 18 10.2**	**-1.6**
IVKQ				SG	**Sg**	**19 18 21.5**	**-2.0**
IVKQ				Trac		19 18 22.8	
	comp=Z,716nm,0.1s						
INUQ	**Inukjuak**	**3.64**	**167**	Pn	**Pn**	**19 18 51.5**	**+0.9**
INUQ				Pg	**Pb**	**19 19 00.0**	**+1.4**
INUQ				Sn	**Sn**	**19 19 34.9**	**+1.4**
INUQ				Lg	Lg	19 19 44.8	
INUQ	**Inukjuak**	**3.64**	**167**	PN	**Pn**	**19 18 51.5**	**+0.9**
INUQ				PG	**Pb**	**19 19 00.0**	**+1.4**
INUQ				SN	**Sn**	**19 19 34.9**	**+1.4**
INUQ				LG	Lg	19 19 44.8	
INUQ				Trac		19 19 49.4	
	comp=Z,928nm,0.6s						
FRB	**Frobisher Bay**	**5.37**	**66**	LR	LR	19 20 48.2	
	comp=Z,6μm,20.3s,baz=58,slow=33						
QILN	**Qililugaq Expl**	**5.51**	**331**	Pn	**Pn**	**19 19 14.8**	**-1.4**
QILN				Sn	Sn	19 20 13.3	-6.3
QILN				Lg	Lg	19 20 41.0	
QILN	**Qililugaq Expl**	**5.51**	**331**	PN	**Pn**	**19 19 14.8**	**-1.4**
QILN				SN	Sn	19 20 13.3	-6.3
QILN				LG	Lg	19 20 41.0	
QILN				Trac		19 20 55.7	
	comp=Z,302nm,0.5s						
WAGN	**Wager Bay**	**5.82**	**316**	Pn	**Pn**	**19 19 19.1**	**-1.4**
WAGN				Sn	**Sn**	**19 20 23.0**	**-4.1**
WAGN				Lg	Lg	19 20 53.6	
WAGN	**Wager Bay**	**5.82**	**316**	PN	**Pn**	**19 19 19.1**	**-1.4**
WAGN				SN	**Sn**	**19 20 23.0**	**-4.1**
WAGN				LG	Lg	19 20 53.6	
WAGN				Trac		19 20 57.3	
	comp=Z,445nm,0.6s						
NUNN	**Nunuq Camp, NU**	**6.04**	**307**	Pn	**Pn**	**19 19 22.7**	**-0.8**
NUNN	**Nunuq Camp, NU**	**6.04**	**307**	PN	**Pn**	**19 19 22.7**	**-0.8**
NUNN				SN	**Sn**	**19 20 30.4**	**-2.1**
NUNN				LG	Lg	19 20 58.0	
NUNN				Trac		19 21 03.4	
	comp=Z,531nm,0.8s						
KUQ	**Kuujjuuaa**	**6.83**	**120**	Pn	**Pn**	**19 19 33.6**	**-0.8**
KUQ				Sn	**Sn**	**19 20 48.2**	**-3.9**
KUQ				Lg	Lg	19 21 22.2	
KUQ	**Kuujjuuaa**	**6.83**	**120**	PN	**Pn**	**19 19 33.6**	**-0.8**
KUQ				SN	**Sn**	**19 20 48.2**	**-3.9**
KUQ				LG	Lg	19 21 22.2	
KUQ				Trac		19 21 35.0	
	comp=Z,134nm,0.5s						
ARVN	**Arviat, NU**	**6.96**	**269**	Pn	**Pn**	**19 19 34.2**	**-1.9**
ARVN				Sn	**Sn**	**19 20 50.4**	**-4.8**
ARVN				Lg	Lg	19 21 28.2	
ARVN	**Arviat, NU**	**6.96**	**269**	PN	**Pn**	**19 19 34.2**	**-1.9**
ARVN				SN	**Sn**	**19 20 50.4**	**-4.8**
ARVN				Trac		19 21 27.0	
ARVN				LG	Lg	19 21 28.2	
BULN	**Bullion Camp,**	**7.35**	**313**	Pn	**Pn**	**19 19 40.3**	**-1.2**
BULN				Sn	Sn	19 20 57.8	-7.0
BULN				Lg	Lg	19 21 36.9	
BULN	**Bullion Camp,**	**7.35**	**313**	PN	**Pn**	**19 19 40.3**	**-1.2**
BULN				SN	Sn	19 20 57.8	-7.0
BULN				LG	Lg	19 21 36.9	
BULN				Trac		19 21 53.1	
	comp=Z,369nm,0.8s						
ILON	**Igloolik, Nuna**	**7.46**	**354**	Pn	**Pn**	**19 19 40.9**	**-2.0**
ILON				Sn	Sn	19 20 59.7	-7.7
ILON				Lg	Lg	19 21 39.0	
ILON	**Igloolik, Nuna**	**7.46**	**354**	PN	**Pn**	**19 19 40.9**	**-2.0**
ILON				SN	Sn	19 20 59.7	-7.7
ILON				LG	Lg	19 21 39.0	
ILON				Trac		19 21 47.7	
	comp=Z,348nm,0.7s						
KUGN	**Kugaaruk Camp,**	**7.53**	**329**	Pn	**Pn**	**19 19 42.4**	**-1.5**
KUGN				Sn	Sn	19 21 00.7	-8.5
KUGN				Lg	Lg	19 21 44.4	
KUGN	**Kugaaruk Camp,**	**7.53**	**329**	PN	**Pn**	**19 19 42.4**	**-1.5**
KUGN				SN	Sn	19 21 00.7	-8.5
KUGN				LG	Lg	19 21 44.4	
KUGN				Trac		19 21 52.0	
	comp=Z,344nm,0.7s						
YBKN	**Baker Lake, Hu**	**7.76**	**295**	PN	**Pn**	**19 19 45.8**	**-1.3**
STLN	**Stellar Camp,**	**7.81**	**319**	Pn	**Pn**	**19 19 46.5**	**-1.4**
STLN				Sn	Sn	19 21 07.3	-8.9
STLN				Lg	Lg	19 21 52.3	
STLN	**Stellar Camp,**	**7.81**	**319**	PN	**Pn**	**19 19 46.5**	**-1.4**
STLN				SN	Sn	19 21 07.3	-8.9
STLN				LG	Lg	19 21 52.3	
STLN				Trac		19 21 55.8	
	comp=Z,324nm,0.7s						
FCC	**Fort Churchill**	**7.86**	**252**	Pn	**Pn**	**19 19 48.3**	**-0.2**
FCC				Sn	Sn	19 21 12.8	-4.6
FCC				Lg	Lg	19 21 53.0	
FCC	**Fort Churchill**	**7.86**	**252**	PN	**Pn**	**19 19 48.3**	**-0.2**
FCC				SN	Sn	19 21 12.8	-4.6
FCC				LG	Lg	19 21 53.0	
FCC				Trac		19 22 12.7	
	comp=Z,175nm,0.6s						
SILO	**Sutton Inlier**	**8.04**	**203**	Pn	**Pn**	**19 19 49.4**	**-1.5**
SILO				Sn	**Sn**	**19 21 19.5**	**-2.3**
SILO				Lg	Lg	19 21 55.8	
SILO	**Sutton Inlier**	**8.04**	**203**	PN	**Pn**	**19 19 49.4**	**-1.5**
SILO				SN	**Sn**	**19 21 19.5**	**-2.3**
SILO				LG	Lg	19 21 55.8	
SILO				Trac		19 22 12.8	
	comp=Z,230nm,0.8s						
LG4Q	**La Grande 4**	**8.90**	**158**	Pn	**Pn**	**19 20 01.2**	**-1.5**
LG4Q				Sn	Sn	19 21 37.0	-5.8
LG4Q				Lg	Lg	19 22 25.0	
LG4Q	**La Grande 4**	**8.90**	**158**	PN	**Pn**	**19 20 01.2**	**-1.5**
LG4Q				SN	Sn	19 21 37.0	-5.8
LG4Q				LG	Lg	19 22 25.0	
LG4Q				Trac		19 22 36.7	
	comp=Z,159nm,0.5s						
VIMO	**Victor Mine**	**9.47**	**195**	Pn	**Pn**	**19 20 10.1**	**-0.4**
VIMO				Sn	Sn	19 21 51.3	-5.6
VIMO				Lg	Lg	19 22 39.7	
VIMO	**Victor Mine**	**9.47**	**195**	PN	**Pn**	**19 20 10.1**	**-0.4**
VIMO				SN	Sn	19 21 51.3	-5.6
VIMO				LG	Lg	19 22 39.7	
VIMO				Trac		19 22 50.7	
	comp=Z,95nm,0.5s						
SCHQ	**Schefferville**	**9.82**	**131**	Pn	Pn	19 20 11.9	-3.4
	1.6nm,0.3s,baz=338,slow=12,SNR=30						
SCHQ				Sn	Sn	19 21 58.6	-6.8
	3.2nm,0.3s,baz=53,slow=17,SNR=3.9						
SCHQ				Lg	Lg	19 22 51.1	
	4.5nm,0.3s,baz=49,slow=20,SNR=3.6						
SCHQ				LR	LR	19 24 16.7	
	comp=Z,51nm,20.2s,baz=128,slow=39						
SCHQ	**Schefferville**	**9.82**	**131**	*e*Pn	Pn	19 20 11.9	-3.4
	0.2nm,0.2s						
SCHQ				*e*Sn	Sn	19 21 55.3	-10
SCHQ				Sn	Sn	19 21 58.6	-6.9
SCHQ				Lg	Lg	19 22 51.1	
SCHQ				*e*Lg	Lg	19 22 51.9	
SCHQ	**Schefferville**	**9.82**	**131**	PN	Pn	19 20 12.5	-2.9
SCHQ				SN	Sn	19 21 59.5	-6.0
SCHQ				LG	Lg	19 22 51.2	
SCHQ				Trac		19 23 02.4	
	comp=Z,182nm,0.7s						
YOSQ	**Ashton Mining**	**9.99**	**153**	Pn	**Pn**	**19 20 16.3**	**-1.4**
YOSQ				Sn	Sn	19 21 59.5	-10
YOSQ				Lg	Lg	19 23 00.7	
YOSQ	**Ashton Mining**	**9.99**	**153**	PN	**Pn**	**19 20 16.3**	**-1.4**
YOSQ				SN	Sn	19 21 59.5	-10
YOSQ				LG	Lg	19 23 00.7	
YOSQ				Trac		19 23 10.1	
	comp=Z,178nm,0.6s						
MALO	**McAlpine Lake**	**12.01**	**180**	Pn	Pn	19 20 42.8	-2.5
MALO				Sn	Sn	19 22 48.9	-10
MALO				Lg	Lg	19 24 01.4	
MALO	**McAlpine Lake**	**12.01**	**180**	PN	Pn	19 20 42.8	-2.5
MALO				SN	Sn	19 22 48.9	-10
MALO				LG	Lg	19 24 01.4	
MALO				Trac		19 24 08.4	
	comp=Z,128nm,0.8s						
PKLO	**Pickle Lake**	**12.04**	**214**	Pn	Pn	19 20 43.6	-2.1
PKLO				Sn	Sn	19 22 50.9	-9.0
PKLO				Lg	Lg	19 24 01.2	
PKLO	**Pickle Lake**	**12.04**	**214**	PN	Pn	19 20 43.6	-2.1
PKLO				SN	Sn	19 22 50.9	-9.0
PKLO				LG	Lg	19 24 01.2	
PKLO				Trac		19 24 12.3	
	comp=Z,395nm,1.0s						
GDLN	**Gardenia Lake,**	**12.35**	**282**	Sn	Sn	19 22 56.3	-11
GDLN				Lg	Lg	19 24 14.5	
GDLN	**Gardenia Lake,**	**12.35**	**282**	SN	Sn	19 22 56.3	-11
GDLN				LG	Lg	19 24 14.5	
NANO	**Nakina Ontario**	**12.36**	**202**	Pn	Pn	19 20 46.7	-3.3
NANO				Sn	Sn	19 22 56.2	-11
NANO				Lg	Lg	19 24 08.6	
NANO	**Nakina Ontario**	**12.36**	**202**	PN	Pn	19 20 46.7	-3.3
NANO				SN	Sn	19 22 56.2	-11
NANO				LG	Lg	19 24 08.6	
NANO				Trac		19 24 25.9	
	comp=Z,174nm,1.0s						
CHGQ	**Chibougamau**	**12.46**	**164**	Pn	**Pn**	**19 20 49.7**	**-1.8**
CHGQ				Sn	Sn	19 22 58.0	-12
CHGQ				Lg	Lg	19 24 11.7	
CHGQ	**Chibougamau**	**12.46**	**164**	PN	**Pn**	**19 20 49.7**	**-1.8**
CHGQ				SN	Sn	19 22 58.0	-12
CHGQ				LG	Lg	19 24 11.7	
CHGQ				Trac		19 24 28.4	
	comp=Z,207nm,0.8s						
CB31	**Cambridge Bay**	**12.64**	**315**	Pn	**Pn**	**19 20 50.7**	**-3.1**
CB31				Sn	Sn	19 23 02.6	-12
CB31				Lg	Lg	19 24 20.4	
CB31	**Cambridge Bay**	**12.64**	**315**	PN	**Pn**	**19 20 50.7**	**-3.1**
CB31				SN	Sn	19 23 02.6	-12
CB31				LG	Lg	19 24 20.4	
CB31				Trac		19 24 27.0	
	comp=Z,180nm,0.6s						
KAPO	**Kapuskasing**	**12.68**	**189**	Pn	Pn	19 20 51.5	-3.0
KAPO				Sn	Sn	19 23 05.5	-10
KAPO				Lg	Lg	19 24 20.2	
KAPO	**Kapuskasing**	**12.68**	**189**	PN	Pn	19 20 51.5	-3.0
KAPO				SN	Sn	19 23 05.5	-10
KAPO				LG	Lg	19 24 20.2	
KAPO				Trac		19 24 31.5	
	comp=Z,123nm,0.8s						
WHFN	**White Fish Lak**	**12.76**	**285**	Pn	Pn	19 20 51.3	-4.2
WHFN				Sn	Sn	19 23 06.3	-11
WHFN				Lg	Lg	19 24 26.2	
WHFN	**White Fish Lak**	**12.76**	**285**	PN	Pn	19 20 51.3	-4.2
WHFN				SN	Sn	19 23 06.3	-11
WHFN				LG	Lg	19 24 26.2	
GTO	**Geraldton**	**12.94**	**202**	Pn	Pn	19 20 54.4	-3.7
GTO				Sn	Sn	19 23 10.2	-12
GTO				Lg	Lg	19 24 24.4	
GTO	**Geraldton**	**12.94**	**202**	PN	Pn	19 20 54.4	-3.7
GTO				SN	Sn	19 23 10.2	-12
GTO				LG	Lg	19 24 24.4	
SFJD	**Kangerlussuaq**	**13.37**	**56**	Sn	Sn	19 23 18.1	-14
SFJD	**Kangerlussuaq**	**13.37**	**56**	SN	Sn	19 23 18.1	-14
COKN	**Cook Lake**	**13.41**	**288**	Sn	Sn	19 23 20.3	-13
COKN				Lg	Lg	19 24 46.4	
COKN	**Cook Lake**	**13.41**	**288**	SN	Sn	19 23 20.3	-13
COKN				LG	Lg	19 24 46.4	
KILO	**Kirkland Lake**	**13.53**	**180**	Pn	Pn	19 21 03.6	-2.5
KILO				Sn	Sn	19 23 26.2	-10
KILO				Lg	Lg	19 24 45.5	
KILO	**Kirkland Lake**	**13.53**	**180**	PN	Pn	19 21 03.6	-2.5
KILO				SN	Sn	19 23 26.2	-10
KILO				LG	Lg	19 24 45.5	
TIMO	**Timmins Ontari**	**13.60**	**185**	Pn	Pn	19 21 03.7	-3.3
TIMO				Sn	Sn	19 23 23.7	-14
TIMO				Lg	Lg	19 24 48.4	
TIMO	**Timmins Ontari**	**13.60**	**185**	PN	Pn	19 21 03.7	-3.3
TIMO				SN	Sn	19 23 23.7	-14
TIMO				LG	Lg	19 24 48.4	
FFC	**Flin Flon**	**13.75**	**248**	*e*Pn	Pn	19 21 05.3	-3.7
	8.5nm,0.5s						
FFC				*e*Sn	Sn	19 23 17.6	-24
FFC				*e*Lg	Lg	19 24 52.1	
RES	**Resolute Bay**	**13.85**	**343**	Pn	Pn	19 21 05.3	-4.9
	0.5nm,0.3s,baz=155,slow=11,SNR=31						
RES				Sn	Sn	19 23 28.6	-15
	1.0nm,0.3s,baz=125,slow=16,SNR=5.6						
RES				Lg	Lg	19 24 55.5	
	2.3nm,0.3s,baz=198,slow=6.4,SNR=7.2						
RES				LR	LR	19 26 52.6	
	comp=Z,51nm,20.9s,baz=143,slow=39						
RES	**Resolute Bay**	**13.85**	**343**	*e*Pn	Pn	19 21 05.3	-4.9
	9.7nm,1.1s						
RES				*e*Sn	Sn	19 23 23.1	-21
RES				Sn	Sn	19 23 28.6	-15
RES				*e*Lg	Lg	19 24 54.3	
RES				Lg	Lg	19 24 55.5	
RES	**Resolute Bay**	**13.85**	**343**	PN	Pn	19 21 06.2	-4.1
RES				SN	Sn	19 23 29.7	-14
RES				LG	Lg	19 24 57.7	
RES				Trac		19 25 03.9	
	comp=Z,219nm,0.8s						
VLDQ	**Val d'Or**	**13.97**	**174**	Pn	Pn	19 21 07.0	-5.1
VLDQ				Sn	Sn	19 23 32.4	-15
VLDQ				Lg	Lg	19 24 54.5	
VLDQ	**Val d'Or**	**13.97**	**174**	PN	Pn	19 21 07.0	-5.1
VLDQ				SN	Sn	19 23 32.4	-15
VLDQ				LG	Lg	19 24 54.5	
VLDQ				Trac		19 25 07.7	
	comp=Z,179nm,1.0s						
CNQ	**Baie Comeau**	**14.27**	**148**	Pn	Pn	19 21 11.8	-4.3
CNQ				Sn	Sn	19 23 39.7	-14
CNQ				Lg	Lg	19 25 08.6	
CNQ	**Baie Comeau**	**14.27**	**148**	PN	Pn	19 21 11.8	-4.3
CNQ				SN	Sn	19 23 39.7	-14
CNQ				LG	Lg	19 25 08.6	
CNQ				Trac		19 25 18.7	
	comp=Z,58nm,0.7s						
ICQ	**Pointe Anglais**	**14.27**	**146**	Pn	Pn	19 21 11.3	-4.8
ICQ				Sn	Sn	19 23 40.8	-14
ICQ				Lg	Lg	19 25 11.9	
ICQ	**Pointe Anglais**	**14.27**	**146**	PN	Pn	19 21 11.3	-4.8
ICQ				SN	Sn	19 23 40.8	-14
ICQ				LG	Lg	19 25 11.9	
ULM	**Lac du Bonnet**	**14.80**	**225**	Pn	Pn	19 21 17.9	-5.4

2.3nm,0.3s,baz=32,slow=13,SNR=23
ULM Sn Sn 19 23 54.0 -13
3.6nm,0.3s,baz=66,slow=20,SNR=6.0
ULM Lg Lg 19 25 27.5
baz=0.0,slow=20,SNR=2.3
ULM Lac du Bonnet 14.80 225 Pn Pn 19 21 17.9 -5.4
ULM Sn Sn 19 23 54.0 -13
ULM Lg Lg 19 25 27.5
EYMN Ely 15.60 211 *e*Pn Pn 19 21 27.8 -6.3
25nm,0.4s
EYMN *e*Sn Sn 19 24 06.4 -20
EYMN *e*Lg Lg 19 25 48.6
YKW3 Yellowknife Ar 16.17 287 *e*Pn Pn 19 21 35.1 -6.1
YKW3 *e*Sn Sn 19 24 24.3 -16
YKW3 *e*Lg Lg 19 26 09.6
YKW3 Yellowknife Ar 16.17 287 PN Pn 19 21 35.5 -5.8
YKW3 SN Sn 19 24 22.9 -17
YKW3 LG Lg 19 26 11.0
YKW3 Trac 19 26 28.0
comp=Z,65nm,0.6s
YKA Yellowknife Ar 16.18 287 Pn Pn 19 21 35.4 -6.0
0.7nm,0.3s,baz=74,slow=12,SNR=73
YKA Sn Sn 19 24 25.0 -16
1.0nm,0.3s,baz=69,slow=22,SNR=13
YKA Lg Lg 19 26 12.8
1.2nm,0.3s,baz=74,slow=30,SNR=13
YKA Yellowknife Ar 16.18 287 Pn Pn 19 21 35.4 -6.0
YKA Sn Sn 19 24 25.1 -16
YKA Lg Lg 19 26 12.8
AGMN Agassiz Nation 16.50 221 *e*Pn Pn 19 21 39.4 -6.1
25nm,0.4s
AGMN *e*Sn Sn 19 24 28.5 -20
AGMN *e*Lg Lg 19 26 20.6
SADO Sadowa 17.27 179 Sn Sn 19 24 52.0 -15
0.4nm,0.3s,baz=288,slow=19,SNR=3.6
SADO Lg Lg 19 26 37.4
1.1nm,0.3s,baz=289,slow=21,SNR=4.1
SADO LR LR 19 28 32.2
comp=Z,85nm,21.7s,baz=127,slow=37
SADO Sadowa 17.27 179 Sn Sn 19 24 52.0 -15
SADO Lg Lg 19 26 37.4
FRNY Flat Rock 17.55 166 *e*Pn Pn 19 21 53.4 -5.4
FRNY *e*Sn Sn 19 24 57.0 -17
FRNY *e*Lg Lg 19 26 47.6
LONY Lake Ozonia 17.66 168 *e*Pn Pn 19 21 54.9 -5.3
8.6nm,0.8s
LONY *e*Sn Sn 19 24 47.2 -30
LONY *e*Lg Lg 19 26 51.1
MDND Maddock 18.12 228 ⇑P **Pn 19 22 03.0 -2.9**
baz=18
NCB Newcomb 18.34 168 *e*Pn P 19 22 03.4 -5.1
7.3nm,0.7s
NCB *e*Sn Sn 19 25 09.8 -23
NCB *e*Lg Lg 19 27 04.6
LBNH Lisbon 18.36 162 Pn **P 19 22 06.3 -2.5**
WVL Waterville 18.41 157 P **P 19 22 08.6 -0.7**
SPMN St. Paul 18.47 211 ⇓P **P 19 22 07.6 -2.4**
baz=18
SUMG Summit 18.61 38 P **Pn 19 22 11.6 -0.4**
SUMG Summit 18.61 38 *i* P **P 19 22 08.1 -3.7**
3.6nm,0.9s
A24A Westby 18.88 237 ⇓P **P 19 22 12.1 -2.4**
baz=19
ACCN Adirondack Com 18.98 167 P P 19 22 11.0 -4.5
A23A Redstone 19.20 239 ⇓P **P 19 22 15.8 -2.3**
baz=19
DGMT Dagmar 19.32 237 P **P 19 22 17.4 -1.9**
9.7nm,0.4s
DGMT *e*Sn Sn 19 25 30.2 -27
DGMT Dagmar 19.32 237 ⇓P **P 19 22 17.6 -1.8**
baz=19
A22A Carney Farms, 19.60 240 ⇑P **P 19 22 21.0 -1.4**
baz=20,SNR=7.2
B23A Brockton 19.64 238 ⇓P **P 19 22 21.8 -1.0**
baz=20,SNR=11
BINY Binghamton 19.95 172 *e*P **P 19 22 25.5 -0.8**
16nm,1.0s
A21A Bergtoll Ranch 20.02 242 ⇑P **P 19 22 25.9 -1.0**
baz=20,SNR=5.4
C24A Savage 20.17 236 ⇓P **P 19 22 27.8 -0.9**
baz=20
C23A Lambert 20.25 237 ⇑P **P 19 22 29.1 -0.4**
baz=20,SNR=8.9
A20A Cobblestone Ra 20.52 243 ⇓P **P 19 22 32.0 -0.4**
baz=20
C22A Vida 20.57 238 ⇑P **P 19 22 32.8 -0.2**
baz=20
D23A Lindsay 20.77 236 ⇓P **P 19 22 35.1 0.0**
baz=21,SNR=7.3
A19A Klindworth Far 20.83 244 ⇑P **P 19 22 35.6 -0.2**
baz=21,SNR=9.3
ECSD EROS Data Cent 20.85 217 *e*P **P 19 22 34.8 -1.2**
1.9nm,0.4s
ECSD *e*Sn S 19 26 13.4 -15
ECSD *e*Lg Lg 19 28 34.1
BRSD Miller 20.90 222 ⇑P **P 19 22 36.8 +0.3**
baz=21
B20A Solberg Farm, 20.90 243 ⇑P **P 19 22 35.9 -0.7**
baz=21,SNR=8.8
E24A Baker 20.93 234 ⇓P **P 19 22 37.3 +0.4**
baz=21
D22A Cohagen 21.18 238 ⇑P **P 19 22 39.2 -0.3**
baz=21,SNR=6.6
B19A Brinkman Farms 21.28 244 ⇑P **P 19 22 39.9 -0.7**
baz=21,SNR=7.7
A18A Metzger Ranch, 21.31 246 ⇓P **P 19 22 40.6 -0.3**
baz=21,SNR=12
SSPA Standing Stone 21.42 176 *e*P **P 19 22 42.4 +0.3**
7.9nm,0.8s
C20A Veseth Ranch, 21.46 241 ⇓P **P 19 22 42.0 -0.6**
baz=21,SNR=10
D21A La Casta Ranch 21.57 239 ⇑P **P 19 22 43.2 -0.6**
baz=22,SNR=9.8
F24A Ekalaka 21.58 233 ⇓P **P 19 22 43.1 -0.9**
baz=22
A17A Triple J Farms 21.66 247 ⇑P **P 19 22 43.5 -1.3**
baz=22,SNR=5.7
E22A Miles City 21.67 236 ⇓P **P 19 22 44.5 -0.3**
baz=22
B18A Beardsley Farm 21.68 245 ⇑P **P 19 22 44.5 -0.5**
baz=22,SNR=12
C19A Slack Wire Ran 21.88 243 ⇑P **P 19 22 46.8 -0.3**
baz=22,SNR=9.3
ACSO Alum Creek Sta 21.89 187 *e*P **P 19 22 44.0 -3.2**
EGMT Eagleton 21.96 244 *e*P **P 19 22 48.2 +0.3**
28nm,1.0s
EGMT *e*Sn S 19 26 41.3 -8.9
EGMT *e*Lg Lg 19 29 15.6
EGMT Eagleton 21.96 244 ⇑P **P 19 22 47.6 -0.4**
baz=22,SNR=12
G24A Alzada 22.01 232 ⇑P **P 19 22 48.1 -0.4**
baz=22
D20A Manuel Ranch, 22.02 240 ⇓P **P 19 22 48.4 -0.1**
baz=22,SNR=8.9
A16A West Butte Ran 22.05 248 ⇑P **P 19 22 48.0 -1.0**
baz=22
F23A Volborg 22.05 234 ⇑P **P 19 22 48.8 -0.1**
baz=22,SNR=12
SFIN Scholer Farm 22.12 195 ⇑P **P 19 22 49.7 +0.1**
baz=22,SNR=7.8
B17A L&G Farms, Che 22.20 246 ⇓P **P 19 22 50.2 -0.3**
baz=22,SNR=13
D19A Cripps Ranch, 22.26 242 ⇓P **P 19 22 51.4 +0.2**
baz=22,SNR=12
F22A Rosebud 22.33 236 ⇑P **P 19 22 52.1 +0.2**
baz=22,SNR=8.8
G23A Biddle 22.48 233 ⇑P **P 19 22 53.7 +0.1**
baz=22,SNR=5.8
E20A Meyer Farm, Mu 22.48 240 ⇓P **P 19 22 53.0 -0.5**
baz=22,SNR=5.1
B16A M & M Farms, S 22.50 248 ⇓P **P 19 22 53.2 -0.6**
baz=22
A15A Johnson Ranch, 22.53 250 ⇑P **P 19 22 53.8 -0.3**
baz=22
D18A Linhart Farms, 22.62 243 ⇑P **P 19 22 54.8 -0.3**
baz=23
C17A Wharram Farm, 22.69 245 ⇓P **P 19 22 55.6 -0.2**
baz=23,SNR=9.1
E19A Rath Farm, Rou 22.79 240 ⇑P **P 19 22 56.4 -0.4**
baz=23
INK Inuvik 22.80 309 P **P 19 22 55.9 -0.8**
3.8nm,0.6s,baz=0.0,slow=20
INK Inuvik 22.80 309 P **P 19 22 55.9 -0.8**
RSSD Black Hills 22.91 230 *e*P **P 19 22 59.0 +0.8**
3.6nm,0.6s
RSSD *e*S **S 19 27 03.4 -4.6**
RSSD *e*Lg Lg 19 29 48.1
B15A Bradely Ranch, 22.95 249 ⇓P **P 19 22 58.1 -0.4**
baz=23
C16A Fuhringer Ranc 22.98 247 ⇑P **P 19 22 59.0 +0.2**
baz=23,SNR=11
WALA Waterton Lakes 23.00 252 *e*P **P 19 22 58.9 -0.1**
0.4nm,1.1s
D17A Six Diamond Ra 23.03 244 ⇓P **P 19 22 59.6 +0.2**
baz=23,SNR=14
E18A Harlowton 23.17 242 ⇑P **P 19 23 00.7 -0.1**
baz=23
B14A Marquette Ranc 23.23 250 ⇓P **P 19 23 00.4 -1.0**
baz=23
A13A Flathead Natio 23.31 252 ⇓P **P 19 23 02.8 +0.6**
baz=23,SNR=7.2
F19A Roth Farm, Mol 23.34 240 ⇑P **P 19 23 02.1 -0.4**
baz=23
C15A Salmond Ranch, 23.38 248 ⇓P **P 19 23 03.5 +0.6**
baz=23,SNR=6.5
D16A Dana Ranch, Ca 23.50 245 ⇓P **P 19 23 04.2 +0.1**
baz=23,SNR=16
G20A Bridger 23.57 238 ⇑P **P 19 23 05.0 +0.2**
baz=24,SNR=6.4
F18A Big Timber 23.62 241 ⇑P **P 19 23 05.3 +0.1**
baz=24,SNR=6.5
E17A Martinsdale 23.65 243 ⇑P **P 19 23 05.3 -0.3**
baz=24
GCMT Greycliff 23.69 241 *e*P **P 19 23 08.7 +2.7**
4.1nm,0.9s
B13A Whitefish 23.75 251 ⇑P **P 19 23 05.7 -0.7**
baz=24
J24A Dixon Ranch, L 23.82 230 ⇓P **P 19 23 06.9 -0.3**
baz=24
HRY Holter Researc 23.86 245 *e*P **P 19 23 08.5 +0.9**
9.6nm,0.8s
A12A Yaak River Ran 23.87 253 ⇓P **P 19 23 07.0 -0.6**
baz=24
C14A Swan Lake 23.88 249 ⇑P **P 19 23 07.4 -0.4**
baz=24
D15A Lincoln 23.90 246 ⇑P **P 19 23 08.0 -0.1**
baz=24,SNR=7.0
E16A East Helena 23.94 245 ⇑P **P 19 23 08.3 0.0**
baz=24
I22A 9 Mile Ranch, 24.01 233 ⇓P **P 19 23 09.6 +0.5**
baz=25
F17A Fitzpatrick Pl 24.01 242 ⇑P **P 19 23 08.9 -0.2**
baz=24,SNR=7.4
G18A Lazy EL Ranch, 24.03 240 ⇓P **P 19 23 09.9 +0.6**
baz=24
RLMT Red Lodge 24.07 239 ⇓P **P 19 23 09.7 -0.1**
baz=24
SLMT Seeley Lake 24.17 248 *e*P **P 19 23 12.6 +2.0**
5.0nm,0.9s
SLMT *e*S **S 19 27 35.5 +7.0**
D14A Greenough 24.30 248 ⇑P **P 19 23 11.5 -0.3**
baz=24,SNR=5.4
C13A Hot Springs 24.32 250 ⇓P **P 19 23 11.7 -0.1**
baz=24
H19A Powell 24.33 238 ⇑P **P 19 23 12.3 +0.2**
baz=24
I21A Big Trails, Te 24.38 235 ⇑P **P 19 23 12.2 -0.3**
baz=24,SNR=6.7
DAG Danmarks Havn 24.40 29 *i* P **P 19 23 12.8 +0.6**
11nm,0.8s
J22A Midwest 24.41 233 ⇑P **P 19 23 12.9 +0.1**
baz=24
E15A Deer Lodge 24.44 246 ⇓P **P 19 23 13.0 0.0**
baz=24
I20A Worland 24.59 236 ⇑P **P 19 23 13.8 -0.6**
baz=24,SNR=6.8
H18A Shoshone NF, C 24.60 239 ⇓P **P 19 23 14.0 -0.6**
baz=24,SNR=5.1
BOZ Bozeman (W) 24.62 243 ⇓P **P 19 23 14.7 0.0**
baz=25
D13A Huson 24.71 249 ⇓P **P 19 23 15.4 0.0**
baz=25
DLBC Dease Lake 24.76 285 Lg Lg 19 30 52.5
4.4nm,0.8s,baz=147,slow=19,SNR=3.4
DLBC Dease Lake 24.76 285 P **P 19 23 18.4 +2.6**
DLBC Lg Lg 19 30 52.5
LRM Limekiln Ridge 24.83 245 *e*P **P 19 23 18.6 +1.9**
34nm,0.8s
F15A Butte 24.83 245 ⇓P **P 19 23 15.5 -1.2**
baz=25,SNR=8.0
J21A Lysite 24.84 234 ⇑P **P 19 23 16.8 0.0**
baz=25
I19A Meeteetse 24.86 237 ⇓P **P 19 23 17.1 +0.2**
baz=25
NEW Newport 25.02 254 P **P 19 23 18.1 -0.1**
1.5nm,0.8s,baz=74,slow=12,SNR=4.5
NEW Lg Lg 19 30 54.4
4.4nm,0.8s,baz=72,slow=19,SNR=3.1
NEW Newport 25.02 254 P **P 19 23 18.1 -0.1**
NEW *e* 19 23 28.8
NEW Lg Lg 19 30 54.4
NEW Newport 25.02 254 ⇑P **P 19 23 18.7 +0.5**
baz=25,SNR=5.2
SIUC Southern Illin 25.03 198 *e*P **P 19 23 19.1 +0.9**
25nm,0.9s
G16A Moss Hill, Enn 25.03 243 ⇑P **P 19 23 17.3 -1.1**
baz=25
J20A Shoshoni 25.08 235 ⇑P **P 19 23 19.9 +1.1**
baz=25,SNR=9.8
K22A Casper 25.09 232 ⇑P **P 19 23 18.9 0.0**
baz=25
D12A Red Ives Fores 25.14 250 ⇑P **P 19 23 18.8 -0.5**
baz=25
H16A Russell Place, 25.22 241 ⇑P **P 19 23 20.9 +0.7**
baz=25,SNR=9.2
F14A Wisdom 25.23 246 ⇓P **P 19 23 20.7 +0.5**
baz=25
L23A Garrett 25.25 230 ⇑P **P 19 23 21.0 +0.5**
baz=25,SNR=5.9
DLMT Dillon 25.26 244 *e*P **P 19 23 21.8 +1.4**
7.5nm,1.0s
M25A Palm-Egli Farm 25.27 227 ⇑P **P 19 23 20.8 +0.2**
baz=25
G15A Dillon 25.37 244 ⇑P **P 19 23 21.5 0.0**
baz=25,SNR=8.4
K21A Alcova 25.37 233 ⇑P **P 19 23 21.0 -0.5**
baz=25
I18A Diamond G Ranc 25.47 238 ⇑P **P 19 23 22.1 -0.3**
baz=25
M24A Cheyenne 25.51 228 ⇑P **P 19 23 23.1 +0.3**
baz=26
J19A Crowheart 25.53 236 ⇓P **P 19 23 23.0 0.0**
baz=26
I17A Pilgrim Ck. 25.59 239 ⇑P **P 19 23 23.4 -0.2**
baz=26
F13A Darby 25.67 247 ⇓P **P 19 23 23.7 -0.4**
baz=26
E12A Beaver Dam Sad 25.72 249 ⇓P **P 19 23 24.5 -0.2**
baz=26
G14A Jackson 25.72 245 ⇓P **P 19 23 24.7 -0.1**
baz=26
K20A Yellowstone Ra 25.77 235 ⇓P **P 19 23 25.3 +0.2**
baz=26
MCMT McKenzie Canyo 25.79 244 *e*P **P 19 23 27.0 +1.6**
1.5nm,1.1s
K19A Absolon Red Bu 25.82 236 ⇓P **P 19 23 26.1 +0.5**
baz=26
LOHW Long Hollow 25.86 239 *e*P **P 19 23 27.1 +1.1**
3.5nm,1.1s
O27A Beecher Island 25.86 223 ⇑P **P 19 23 26.3 +0.4**
baz=26
H15A Lima 25.88 243 ⇓P **P 19 23 26.0 -0.1**
baz=26
J18A Kendall Valley 25.96 238 ⇑P **P 19 23 26.8 -0.1**
baz=26
L21A Rawlins 26.00 232 ⇓P **P 19 23 27.4 +0.2**
baz=26
I16A Newdale 26.00 241 ⇑P **P 19 23 27.2 0.0**
baz=26
F12A Elk City 26.09 248 ⇑P **P 19 23 27.7 -0.3**
baz=26
J17A Brown Place, J 26.11 239 ⇑P **P 19 23 28.1 -0.2**
baz=26
BW06 Boulder Array 26.15 236 ⇑P **P 19 23 28.7 +0.1**
baz=26,SNR=10
PDAR Pinedale Array 26.15 236 P **P 19 23 30.1 +1.5**
5.9nm,0.9s,baz=53,slow=8.8,SNR=32
PDAR Lg Lg 19 31 39.2
5.2nm,1.0s,baz=39,slow=30,SNR=4.5
PDAR Pinedale Array 26.15 236 P **P 19 23 30.1 +1.5**
PDAR Lg Lg 19 31 39.2
G13A Cobalt 26.17 246 ⇑P **P 19 23 28.4 -0.4**
baz=26
M22A Cedar Creek Ra 26.20 231 ⇓P **P 19 23 29.9 +0.8**
baz=26
M21A Separation Pea 26.30 232 ⇑P **P 19 23 30.8 +0.8**
baz=26
DAWY Dawson 26.32 301 P **P 19 23 31.1 +1.3**
L20A Wamsutter 26.32 234 ⇓P **P 19 23 31.1 +0.9**
baz=26
TKL Tuckaleechee C 26.49 188 P **P 19 23 31.2 -0.3**
4.2nm,0.9s,baz=63,slow=4.5,SNR=3.7
TKL Tuckaleechee C 26.49 188 P **P 19 23 31.2 -0.3**
J16A Bone 26.55 240 ⇓P **P 19 23 32.9 +0.7**
baz=26
H13A Challis 26.60 245 ⇑P **P 19 23 33.8 +1.1**
baz=26
G12A Big Creek, Yel 26.62 247 ⇑P **P 19 23 33.5 +0.7**
baz=26
L19A Farson 26.64 235 ⇑P **P 19 23 33.8 +0.8**
baz=27
N22A Wattenberg Ran 26.67 230 ⇓P **P 19 23 34.2 +0.8**
baz=27
M20A Sweetwater, Wa 26.71 233 ⇑P **P 19 23 34.5 +0.8**
baz=27
P26A Davis Ranch, A 26.71 224 ⇓P **P 19 23 34.7 +1.0**
baz=27
H12A Diamond D Ranc 26.87 246 ⇑P **P 19 23 35.3 +0.2**
baz=27
K16A Soda Springs 26.91 239 ⇓P **P 19 23 36.1 +0.7**
baz=27
P25A Willow Gulch B 27.03 225 ⇓P **P 19 23 36.8 +0.3**
baz=27
I13A Wildhorse Cree 27.07 244 ⇑P **P 19 23 37.2 +0.3**
baz=27
N20A Spence Gulch, 27.31 232 ⇓P **P 19 23 39.4 +0.3**
baz=27
HLID Hailey 27.48 244 *e*P **P 19 23 41.7 +1.1**
1.4nm,0.9s
J13A Cove Ranch, Pi 27.51 243 ⇓P **P 19 23 41.3 +0.5**
baz=27
L16A Fish Haven 27.53 238 ⇑P **P 19 23 41.5 +0.5**
baz=28
Q25A Bedland, Calha 27.59 225 ⇑P **P 19 23 42.7 +1.1**
baz=28
M17A Scullys Gap (B 27.68 237 ⇑P **P 19 23 43.3 +0.8**
baz=28
BMO Blue Mountains 27.70 249 *e*P **P 19 23 43.4 +0.9**
3.2nm,1.3s
P23A Jefferson 27.72 227 ⇓P **P 19 23 43.7 +0.8**
baz=28
R26A Arlington 27.89 223 ⇑P **P 19 23 44.8 +0.6**
baz=28
O19A Miners Draw (B 28.10 233 ⇓P **P 19 23 47.1 +1.0**
baz=28
R25A Fountain Ranch 28.30 224 ⇑P **P 19 23 48.9 +1.1**
baz=28
S26A Kim 28.52 222 ⇑P **P 19 23 50.4 +0.6**
baz=28
T26A Comanche Natio 28.97 222 ⇑P **P 19 23 55.0 +1.2**
baz=29
ILAR Eielson Array 28.98 305 P **P 19 23 53.5 0.0**
1.0nm,0.8s,baz=66,slow=8.2,SNR=16
ILAR Eielson Array 28.98 305 P **P 19 23 53.5 0.0**
S24A Houchin Ranch, 29.07 225 ⇑P **P 19 23 56.1 +1.2**
baz=29
R21A Cimarron 29.22 229 ⇓P **P 19 23 57.3 +1.1**
baz=29
PAX Paxson 29.25 301 *e*P **P 19 23 58.5 +2.5**
4.6nm,0.9s
T25A Trinidad 29.26 223 ⇑P **P 19 23 57.7 +1.3**
baz=29
S22A 4UR Ranch, Cre 29.52 227 ⇓P **P 19 24 00.2 +1.3**
baz=30
DUG Dugway 29.62 238 *e*P **P 19 23 60.0 +0.4**
4.4nm,1.1s
DUG Dugway 29.62 238 ⇓P **P 19 24 00.1 +0.5**
baz=30
SRU San Rafael 29.66 234 ⇓P **P 19 24 00.6 +0.6**
baz=30
S21A Coal Bank Pass 29.93 229 ⇑P **P 19 24 03.1 +0.5**
baz=30,SNR=6.2
U25A Circle Dot Ran 29.93 223 ⇑P **P 19 24 03.4 +0.9**
baz=30
S20A Disappointment 29.99 230 ⇑P **P 19 24 03.7 +0.7**
baz=30
Q16A Castle Valley 30.08 235 ⇓P **P 19 24 04.4 +0.7**
baz=30
T22A Edith 30.21 227 ⇓P **P 19 24 05.4 +0.5**
baz=30
X31A McDonald Ranch 30.28 215 ⇑P **P 19 24 06.5 +1.3**
baz=30
AMTX Amarillo 30.51 217 ⇓P **P 19 24 08.8 +1.4**
baz=30
V25A Rancho No Teng 30.52 223 ⇓P **P 19 24 08.6 +1.1**
baz=30
S18A Hurst Farm, Bl 30.71 232 ⇓P **P 19 24 10.1 +0.8**
baz=31
W27A Bowe Ranch, En 30.75 220 ⇑P **P 19 24 11.4 +1.8**
baz=31
V24A Rampart Ranch, 30.83 223 ⇑P **P 19 24 11.8 +1.4**
baz=31
X27A F and S Farms, 31.15 219 ⇓P **P 19 24 14.7 +1.6**
baz=31
Z32A Haskell 31.40 213 ⇑P **P 19 24 16.4 +1.2**
baz=31
X26A CR and CF Fran 31.45 220 ⇑P **P 19 24 16.7 +0.9**
baz=31
MSTX Muleshoe 31.68 218 ⇑P **P 19 24 18.8 +1.0**
baz=32
Z30A Sanderson Ranc 31.86 216 ⇑P **P 19 24 20.3 +1.1**
baz=32
ARUT Antelope Range 31.94 236 P **P 19 24 21.1 +1.0**
3.2nm,1.1s
R11A Troy Canyon, C 32.32 240 ⇓P **P 19 24 24.7 +1.3**
baz=32
Y24A Capitan 32.54 222 ⇓P **P 19 24 26.9 +1.6**
baz=32
LAZ Ladron 32.66 225 *e*P **P 19 24 26.1 -0.3**
64nm,2.3s
Z26A Caprock 32.69 220 ⇑P **P 19 24 28.1 +1.5**
baz=33
128A Castleberry Fa 32.86 217 ⇓P **P 19 24 28.9 +0.8**
baz=33
Y22A Socorro 33.02 224 ⇑P **P 19 24 31.5 +1.9**
baz=33
Z24A Sheeppen Canyo 33.06 222 ⇓P **P 19 24 31.7 +1.7**
baz=33
NVAR Mina Array Bea 33.38 243 P **P 19 24 35.0 +2.3**
0.4nm,0.5s,baz=56,slow=6.4,SNR=5.3
NVAR PcP **PcP 19 27 15.8 +1.7**
0.8nm,0.9s,baz=37,slow=3.6,SNR=3.9
NVAR Mina Array Bea 33.38 243 P **P 19 24 35.0 +2.3**
NVAR PcP **PcP 19 27 15.8 +1.7**
330A Mertzon 33.64 215 ⇓P **P 19 24 35.5 +0.6**
baz=34
124A Stringfield Ra 33.67 221 ⇑P **P 19 24 37.1 +1.8**
baz=34
225A Deer Hill, Car 34.03 220 ⇑P **P 19 24 40.1 +1.7**
baz=34
328A Wristen Ranch, 34.12 217 ⇓P **P 19 24 40.3 +1.3**
baz=34
431A Sonora 34.18 213 ⇑P **P 19 24 40.5 +0.9**
baz=34
326A Caldwell Ranch 34.52 219 ⇑P **P 19 24 44.4 +1.9**
baz=34
532A Rocksprings 34.53 212 ⇓P **P 19 24 43.9 +1.3**
baz=34
531A Rocksprings 34.66 213 ⇑P **P 19 24 45.2 +1.5**
baz=35
428A Kincaid Ranch, 34.70 216 ⇑P **P 19 24 45.6 +1.6**
baz=35
427A Hayter Ranch, 34.79 217 ⇓P **P 19 24 45.9 +1.0**
baz=35
324A Moseley Ranch, 34.85 221 ⇑P **P 19 24 46.7 +1.3**
baz=35
MPMC Manual Prospec 35.06 240 ⇓P **P 19 24 48.9 +1.6**
baz=35
632A Uvalde 35.09 212 ⇓P **P 19 24 48.4 +1.0**
baz=35
426A McDonald Obser 35.14 218 ⇑P **P 19 24 48.5 +0.5**
baz=35,SNR=6.0
425A Indio Mountain 35.31 220 ⇑P **P 19 24 50.7 +1.3**
baz=35
GSC Goldstone 35.44 238 P **P 19 24 52.1 +1.7**
3.3nm,1.0s
527A Woodward Ranch 35.51 217 ⇑P **P 19 24 52.5 +1.4**
baz=36
526A Mary Lane Ranc 35.73 218 ⇑P **P 19 24 54.8 +1.8**
baz=36
628A Black Gap, Mar 35.93 216 ⇓P **P 19 24 55.7 +1.1**
baz=36

627A	**Terlingua Ranc**	**36.10**	**217**	⇓P		**P**	**19 24 56.9**	**+0.8**
	baz=36							
TNA	**Tin City**	**36.14**	**315**	P		**P**	**19 24 56.9**	**+0.9**
	2.3nm,0.9s							
626A	**Big Bend Ranch**	**36.22**	**218**	⇑P		**P**	**19 24 58.3**	**+1.2**
	baz=36							
TXAR	**Lajitas Array**	**36.29**	**217**	P		**P**	**19 24 58.3**	**+0.6**
	2.5nm,0.7s,baz=39,slow=8.2,SNR=16							
TXAR				PcP		**PcP**	**19 27 23.9**	**+1.4**
	0.5nm,0.5s,baz=60,slow=4.3,SNR=3.6							
TXAR				LR		LR	19 40 40.1	
	comp=Z,38nm,20.1s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**36.29**	**217**	P		**P**	**19 24 58.3**	**+0.6**
TXAR				PcP		**PcP**	**19 27 23.9**	**+1.4**
ARCES	**ARCESS Array B**	**38.56**	**33**	P		**P**	**19 25 17.5**	**+1.0**
	3.5nm,0.8s,baz=308,slow=6.0,SNR=3.9							
ARCES	**ARCESS Array B**	**38.56**	**33**	P		**P**	**19 25 17.5**	**+1.0**
FLN	**La Foliniere**	**43.96**	**69**	*e*P		**P**	**19 26 01.3**	**+0.3**
	4.5nm,0.6s							
FLN	**La Foliniere**	**43.96**	**69**	*e*P		**P**	**19 26 01.3**	**+0.3**
	4.5nm,0.6s							
LDF	**La Druitiere**	**44.24**	**69**	*e*P		**P**	**19 26 03.5**	**+0.2**
	7.1nm,0.8s							
LDF	**La Druitiere**	**44.24**	**69**	*e*P		**P**	**19 26 03.5**	**+0.2**
	7.1nm,0.8s							
FINES	**FINESS Array B**	**44.62**	**41**	P		**P**	**19 26 06.8**	**+0.7**
	3.0nm,0.9s,baz=346,slow=3.9,SNR=7.3							
FINES	**FINESS Array B**	**44.62**	**41**	P		**P**	**19 26 06.8**	**+0.7**
LOR	**Lormes**	**47.00**	**68**	*e*P		**P**	**19 26 24.8**	**-0.3**
	5.7nm,0.9s							
LOR	**Lormes**	**47.00**	**68**	*e*P		**P**	**19 26 24.8**	**-0.3**
	5.7nm,0.9s							
SSF	**Saint Saulge**	**47.00**	**68**	*e*P		**P**	**19 26 25.4**	**+0.2**
	8.1nm,0.8s							
SSF	**Saint Saulge**	**47.00**	**68**	*e*P		**P**	**19 26 25.4**	**+0.2**
	8.1nm,0.8s							
TCF	**Toulx Ste Croi**	**47.02**	**70**	*e*P		**P**	**19 26 24.8**	**-0.6**
TCF	**Toulx Ste Croi**	**47.02**	**70**	*e*P		**P**	**19 26 24.8**	**-0.6**
AVF	**Avril sur Loir**	**47.14**	**68**	*e*P		**P**	**19 26 26.2**	**0.0**
AVF	**Avril sur Loir**	**47.14**	**68**	*e*P		**P**	**19 26 26.2**	**0.0**
SMF	**Signal de Mont**	**47.47**	**68**	*e*P		**P**	**19 26 28.8**	**0.0**
	10nm,1.0s							
SMF	**Signal de Mont**	**47.47**	**68**	*e*P		**P**	**19 26 28.8**	**0.0**
	10nm,1.0s							
HAU	**Haudompre**	**47.51**	**65**	*e*P		**P**	**19 26 29.6**	**+0.5**
HAU	**Haudompre**	**47.51**	**65**	*e*P		**P**	**19 26 29.6**	**+0.5**
CDF	**Champ du Feu**	**47.59**	**64**	*e*P		**P**	**19 26 30.6**	**+0.8**
	14nm,1.1s							
CDF	**Champ du Feu**	**47.59**	**64**	*e*P		**P**	**19 26 30.6**	**+0.8**
	14nm,1.1s							
EVOP	**Sao Brissos**	**48.37**	**84**	*e*P		**P**	**19 26 35.5**	**-0.3**
	11nm,0.8s							
EVO	**Evora**	**48.42**	**84**	*e*P		**P**	**19 26 35.5**	**-0.7**
	11nm,0.8s							
CABF	**La Chapelle**	**48.47**	**67**	*e*P		**P**	**19 26 36.6**	**-0.1**
CABF	**La Chapelle**	**48.47**	**67**	*e*P		**P**	**19 26 36.6**	**-0.1**
ESDC	**Sonseca Array**	**49.40**	**80**	P		**P**	**19 26 44.6**	**+0.7**
	0.5nm,0.6s,baz=320,slow=8.0,SNR=6.4							
ESDC	**Sonseca Array**	**49.40**	**80**	P		**P**	**19 26 44.6**	**+0.7**
GERES	**GERESS Array B**	**49.93**	**60**	LR		LR	19 49 52.3	
	comp=Z,28nm,19.4s,baz=293,slow=38							
BNI	**Bardonecchia**	**49.95**	**68**	P		**P**	**19 26 45.3**	**-2.8**
	12nm,1.3s							
BVAR	**Borovoye Array**	**62.89**	**20**	P		**P**	**19 28 21.3**	**+1.3**
	0.7nm,0.6s,baz=9.6,slow=6.2,SNR=6.2							
BVAR	**Borovoye Array**	**62.89**	**20**	P		**P**	**19 28 21.3**	**+1.3**
AKTO	**Aktyubinsk**	**62.95**	**29**	P		**P**	**19 28 21.7**	**+1.3**
	1.9nm,0.7s,baz=334,slow=7.1,SNR=12							
AKTO	**Aktyubinsk**	**62.95**	**29**	P		**P**	**19 28 21.7**	**+1.3**
ZALV	**Zalesovo Beam**	**63.74**	**10**	P		**P**	**19 28 26.4**	**+0.8**
	0.8nm,0.7s,baz=330,slow=5.6,SNR=5.5							
ZALV				LR		LR	19 59 02.9	
	comp=Z,25nm,18.9s,baz=260,slow=39							
ZALV	**Zalesovo Beam**	**63.74**	**10**	P		**P**	**19 28 26.4**	**+0.8**
ABKAR	**Akbulak array**	**64.49**	**28**	*e*P		**P**	**19 28 31.9**	**+1.4**
	1.5nm,0.9s							
KBZ	**Khabaz**	**64.95**	**42**	LR		LR	19 56 33.1	
	comp=Z,32nm,19.5s,baz=316,slow=36							
BRTR	**Keskin Array B**	**65.33**	**51**	P		**P**	**19 28 36.7**	**+0.4**
	1.0nm,0.9s,baz=329,slow=3.9,SNR=3.9							
BRTR	**Keskin Array B**	**65.33**	**51**	P		**P**	**19 28 36.7**	**+0.4**
KURK	**Kurchatov**	**66.30**	**15**	P		**P**	**19 28 43.0**	**+0.7**
KURBB	**Kurchatov Arra**	**66.38**	**15**	P		**P**	**19 28 43.0**	**+0.2**
	0.5nm,0.8s,baz=346,slow=6.2,SNR=7.1							
MALT	**Malatya**	**68.30**	**48**	*e*P		**P**	**19 28 57.4**	**+2.1**
	2.0nm,0.7s							
GNI	**Garni**	**68.78**	**43**	LR		LR	19 57 18.6	
	comp=Z,30nm,19.1s,baz=75,slow=34							
ULN	**Ulaanbaatar**	**70.36**	**355**	P		**P**	**19 29 09.2**	**+1.3**
	0.7nm,0.7s							
SONM	**Songino Array**	**70.41**	**356**	P		**P**	**19 29 09.4**	**+1.2**
	0.2nm,0.6s,baz=357,slow=4.0,SNR=3.3							
SONM	**Songino Array**	**70.41**	**356**	P		**P**	**19 29 09.4**	**+1.2**
MKAR	**Makanchi Array**	**70.59**	**13**	P		**P**	**19 29 09.8**	**+0.6**
	0.4nm,0.6s,baz=29,slow=5.9,SNR=8.6							
MKAR	**Makanchi Array**	**70.59**	**13**	P		**P**	**19 29 09.8**	**+0.6**
USRK	**Ussuriysk Arra**	**71.12**	**337**	P		**P**	**19 29 13.0**	**+0.6**
	1.9nm,0.7s,baz=18,slow=7.4,SNR=6.2							
CN2	**Changchun**	**72.63**	**341**	*e*P		**P**	**19 29 21.1**	**-0.3**
EKS2	**Erkin-Say**	**73.50**	**20**	*e*P		**P**	**19 29 28.6**	**+1.8**
	1.7nm,0.7s							
AAK	**Ala-Archa**	**73.64**	**20**	P		**P**	**19 29 28.8**	**+1.1**
	5.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**74.42**	**91**	P		**P**	**19 29 31.5**	**-0.8**
	0.6nm,1.0s,baz=332,slow=5.7,SNR=5.2							
TORD	**Torodi Ar. Bea**	**74.42**	**91**	P		**P**	**19 29 31.5**	**-0.8**
KSH	**Kashi**	**76.92**	**19**	*e*P		**P**	**19 29 48.3**	**+1.7**
KSH				*e*pP		**PcP**	**19 29 53.8**	**-3.8**
KSH				*e*sP		**sP**	**19 29 55.1**	**+4.1**
KSH				*e*PcP		pP	19 29 59.5	+10
KSH				*e*PP		**PP**	**19 32 42.8**	**+4.0**
KSH				S		**S**	**19 39 34.8**	**+0.5**
KSH				sS		**sS**	**19 39 42.8**	**+3.1**
KSH				SKS		**SKSac**	**19 39 54.6**	**-4.1**
KSH				ScS		**SKKSac**	**19 40 01.0**	**+1.7**
KSH				SS		**SS**	**19 44 34.6**	**+5.2**
KSH				pmax		pmax		
	comp=Z,95nm,5.9s							
KSH				LR		LR		
	comp=N,39nm,6.4s							
KSH				LR		LR		
	comp=E,54nm,5.6s							
KSH				LR		LR		
	comp=Z,140nm,5.8s							
HHC	**Hu-ho-hao-te**	**77.10**	**351**	*e*P		**P**	**19 29 47.8**	**+0.3**
HHC				pP		**pP**	**19 29 52.5**	**+1.7**
HHC				sP		**sP**	**19 29 54.8**	**+2.8**
HHC				S		**S**	**19 39 32.3**	**-3.9**
HHC				sS		**sS**	**19 39 42.4**	**+0.8**
HHC				SKS		**SKSac**	**19 39 54.1**	**-5.8**
HHC				ScS		**SKKSac**	**19 40 01.4**	**+0.9**
HHC				SS		**SS**	**19 44 32.8**	**+0.8**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,78nm,4.2s							
HHC				LR		LR		
	comp=N,79nm,10.7s							
HHC				LR		LR		
	comp=E,82nm,8.8s							
HHC				LR		LR		
	comp=Z,97nm,13.7s							
LPAZ	**La Paz**	**78.56**	**169**	P		**P**	**19 29 56.8**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=17,slow=8.7,SNR=4.9							
LPAZ	**La Paz**	**78.56**	**169**	P		**P**	**19 29 56.8**	**+0.5**
LZH	**Lanzhou**	**82.22**	**357**	*e*P		**P**	**19 30 13.3**	**-2.2**
LZH				pP		**pP**	**19 30 18.1**	**-0.7**
LZH				sP		**sP**	**19 30 21.5**	**+1.5**
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
NJ2	**Nanjing**	**85.09**	**344**	*e*P		**P**	**19 30 29.5**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2	**Chengdu**	**87.38**	**357**	P		**P**	**19 30 42.1**	**+0.7**
GYA	**Guiyang**	**91.71**	**354**	*e*P		**P**	**19 31 02.3**	**+0.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ASAR	**Alice Springs**	**135.45**	**314**	PKP		**PKPdf**	**19 37 14.6**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=27,slow=2.3,SNR=4.1							
ASAR	**Alice Springs**	**135.45**	**314**	PKP		**PKPdf**	**19 37 14.6**	**+0.6**

*ISK **21** 19:19:17.8,39.17N×29.46E,h5km,ML1.9*
*ISCJB **21** 19:19:18.2±0.5,39.18N±0.02×29.45E±0.04,h0km, Error ellipse: s-maj=4.0km s-min=3.6km az=178.6*

*DDA **21** 19:19:18.2,39.20N×29.45E,h8km,MD2.7*
*CSEM **21** 19:19:18.5±0.1,39.18N×29.46E,h1km,MD2.7, Error ellipse: s-maj=2.5km s-min=2.1km az=110.0*

ISC 21 19:19:18.6±1.0,**39.19N**±0.02×**29.46E**±0.02,**h0**km,**n22,**
σ0.65/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.10**	**169**	*i* P	**Pg**	**19 19 21.5**	**+1.0**
GDZ				*i* S	**Sg**	**19 19 23.5**	**+1.7**
GDZ	**Gediz**	**0.10**	**169**	*i* P	**Pg**	**19 19 21.5**	**+1.0**
GDZ				*i* S	**Sg**	**19 19 23.5**	**+1.7**
TVSB	**Tavsanli**	**0.26**	**1**	*e*PG	**Pg**	**19 19 24.2**	**+0.6**
TVSB				*e*SG	**Sg**	**19 19 27.6**	**+0.6**
TVSB	**Tavsanli**	**0.26**	**1**	*e*Pg	**Pg**	**19 19 24.2**	**+0.6**
TVSB				*e*Sg	**Sg**	**19 19 27.6**	**+0.6**
ALT	**Altintas**	**0.53**	**104**	*e*PG	**Pg**	**19 19 28.6**	**-0.1**
ALT				*e*SG	**Sg**	**19 19 35.8**	**+0.3**
ALT	**Altintas**	**0.53**	**104**	*e*Pg	**Pg**	**19 19 28.6**	**-0.1**
ALT				*e*Sg	**Sg**	**19 19 35.8**	**+0.3**
DEMI	**Demirci**	**0.59**	**256**	*i* P	**Pg**	**19 19 30.0**	**+0.1**
DEMI				*i* S	**Sg**	**19 19 37.8**	**+0.2**
DEMI	**Demirci**	**0.59**	**256**	*i* P	**Pg**	**19 19 30.0**	**+0.1**
DEMI				*i* S	**Sg**	**19 19 37.8**	**+0.2**
KHAL	**Karahalli**	**0.82**	**178**	*i* P	**Pg**	**19 19 34.1**	**-0.1**
KHAL				*i* S	**Sg**	**19 19 44.3**	**-0.5**
KHAL	**Karahalli**	**0.82**	**178**	*i* P	**Pg**	**19 19 34.1**	**-0.1**
KHAL				*i* S	**Sg**	**19 19 44.3**	**-0.5**
KHL	**Karahalli**	**0.86**	**176**	*e*PG	**Pg**	**19 19 34.5**	**-0.6**
KHL	**Karahalli**	**0.86**	**176**	*e*Pg	**Pg**	**19 19 34.5**	**-0.6**
DURS	**Dursunbey**	**0.87**	**299**	*i* P	**Pg**	**19 19 35.3**	**+0.1**
DURS				*i* S	**Sg**	**19 19 47.1**	**+0.7**
DURS	**Dursunbey**	**0.87**	**299**	*i* P	**Pg**	**19 19 35.3**	**+0.1**
DURS				*i* S	**Sg**	**19 19 47.1**	**+0.7**
KULA	**Kula-Manisa**	**0.92**	**223**	*e*PG	**Pg**	**19 19 35.6**	**-0.4**
KULA	**Kula-Manisa**	**0.92**	**223**	*e*Pg	**Pg**	**19 19 35.7**	**-0.4**
BORA	**Eskisehir**	**1.04**	**48**	*i* P	**Pg**	**19 19 38.2**	**-0.2**
BORA				*i* S	**Sg**	**19 19 52.2**	**+0.3**
BORA	**Eskisehir**	**1.04**	**48**	*i* P	**Pg**	**19 19 38.2**	**-0.2**
BORA				*i* S	**Sg**	**19 19 52.2**	**+0.3**
CAVI	**Cavuskoy**	**1.06**	**16**	*e*PG	**Pb**	**19 19 39.2**	**-0.6**
CAVI	**Cavuskoy**	**1.06**	**16**	*e*Pg	**Pb**	**19 19 39.2**	**-0.6**
GULT	**Gulveren**	**1.49**	**33**	*e*PN	**Pb**	**19 19 46.7**	**-0.4**
GULT	**Gulveren**	**1.49**	**33**	*e*Pn	**Pb**	**19 19 46.7**	**-0.4**

*ISK **21** 19:21:04.7,39.30N×27.88E,h13km,ML2.1*
*ISCJB **21** 19:21:06.9±0.6,39.39N±0.03×27.98E±0.06,h22km±9km, Error ellipse: s-maj=7.7km s-min=5.0km az=150.7*
*DDA **21** 19:21:06.6,39.41N×27.97E,h7km,MD2.8*
*CSEM **21** 19:21:06.5±0.2,39.38N×27.97E,h23km±3km,ML2.1, Error ellipse: s-maj=6.8km s-min=4.3km az=61.0*

ISC 21 19:21:06.5±1.0,**39.38N**±0.04×**28.00E**±0.04,**h17**km±10km,
n18,σ0.73/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**341**	*e*PG	**Pg**	**19 21 12.5**	**-0.1**
BALB				*e*SG	**Sg**	**19 21 17.2**	**+0.4**
BALB	**Balikesir**	**0.28**	**341**	*e*Pg	**Pg**	**19 21 12.5**	**-0.1**
BALB				*e*Sg	**Sg**	**19 21 17.2**	**+0.4**
DURS	**Dursunbey**	**0.43**	**58**	*i* P	**Pb**	**19 21 15.8**	**+0.1**
DURS				*i* S	**Sb**	**19 21 21.9**	**0.0**
DURS	**Dursunbey**	**0.43**	**58**	*i* P	**Pb**	**19 21 15.8**	**+0.1**
DURS				*i* S	**Sb**	**19 21 21.9**	**0.0**
BALY	**Balya**	**0.47**	**321**	*i* P	**Pg**	**19 21 15.8**	**-0.1**
BALY				*i* S	**Sg**	**19 21 21.9**	**-0.4**
BALY	**Balya**	**0.47**	**321**	*i* P	**Pg**	**19 21 15.8**	**-0.1**
BALY				*i* S	**Sg**	**19 21 21.9**	**-0.4**
AKHS	**Akhisar**	**0.52**	**196**	*i* P	**Pb**	**19 21 17.2**	**+0.1**
AKHS				*i* S	**Sb**	**19 21 25.5**	**+1.2**
AKHS	**Akhisar**	**0.52**	**196**	*i* P	**Pb**	**19 21 17.2**	**+0.1**
AKHS				*i* S	**Sb**	**19 21 25.5**	**+1.2**
DEMI	**Demirci**	**0.65**	**121**	*i* P	**Pb**	**19 21 19.9**	**+0.6**
DEMI				*i* S	**Sb**	**19 21 29.3**	**+1.2**
DEMI	**Demirci**	**0.65**	**121**	*i* P	**Pb**	**19 21 19.9**	**+0.6**
DEMI				*i* S	**Sb**	**19 21 29.3**	**+1.2**
GONE	**Gonen-Balikesi**	**0.71**	**340**	*e*PG	**Pg**	**19 21 20.6**	**+0.2**
GONE				*e*SG	**Sg**	**19 21 30.1**	**+0.2**
GONE	**Gonen-Balikesi**	**0.71**	**340**	*e*Pg	**Pg**	**19 21 20.6**	**+0.2**
GONE				*e*Sg	**Sg**	**19 21 30.1**	**+0.2**
KULA	**Kula-Manisa**	**1.00**	**149**	*e*PG	**Pb**	**19 21 23.6**	**-1.7**
KULA	**Kula-Manisa**	**1.00**	**149**	*e*Pg	**Pb**	**19 21 23.7**	**-1.7**
TVSB	**Tavsanli**	**1.13**	**86**	*e*PN	**Pg**	**19 21 28.2**	**-0.2**
TVSB	**Tavsanli**	**1.13**	**86**	*e*Pn	**Pg**	**19 21 28.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.46**	**335**	*e*PN	**Pn**	**19 21 31.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.46**	**335**	*e*Pn	**Pn**	**19 21 31.5**	**-0.5**

*OTT **21** 19:34:48.9±0.2,62.09N×79.66W,h5km,MN3.8/26,95km west from Ivujivik, Qc Boothia Ungava Seismic Zone.*
*IDC **21** 19:34:48.3±0.7,61.96N×79.49W,h0km,mb3.6/7, mb1 3.9/10,mb1mx3.7/30,mbtmp3.7/10,ML3.0/3,Error ellipse: s-maj=14.8km s-min=10.4km az=26.0*

ISC 21 19:34:47.6±0.6,**62.04N**±0.04×**79.71W**±0.05,**h10**km,**n44,**
σ2.40/47,mb3.3/7,Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVKQ	**Ivujivik**	**0.92**	**65**	PG	**Pb**	**19 35 05.2**	**-0.4**
IVKQ				SG	**Sg**	**19 35 16.1**	**-1.3**
IVKQ				Trac		19 35 17.6	
	comp=Z,381nm,0.1s						
INUQ	**Inukjuak**	**3.69**	**167**	PN	**Pn**	**19 35 46.3**	**+1.7**
INUQ				SN	**Sn**	**19 36 29.3**	**+1.3**
INUQ				SG	**Sb**	**19 36 35.5**	**-1.9**
INUQ				Trac		19 36 45.3	
	comp=Z,227nm,0.3s						
QILN	**Qililugaq Expl**	**5.46**	**331**	PN	**Pn**	**19 36 09.9**	**+1.1**
QILN				SN	**Sn**	**19 37 09.1**	**-2.5**
QILN				LG	Lg	19 37 35.9	
QILN				Trac		19 37 50.5	
	comp=Z,46nm,0.4s						
WAGN	**Wager Bay**	**5.76**	**316**	PN	**Pn**	**19 36 14.9**	**+2.0**
WAGN				SN	**Sn**	**19 37 19.4**	**+0.4**
WAGN				LG	Lg	19 37 45.8	
WAGN				Trac		19 37 53.9	
	comp=Z,66nm,0.5s						
NUNN	**Nunuq Camp, NU**	**5.98**	**307**	PN	**Pn**	**19 36 18.4**	**+2.4**
NUNN				SN	**Sn**	**19 37 22.0**	**-2.5**
NUNN				LG	Lg	19 37 52.8	
NUNN				Trac		19 38 06.3	
	comp=Z,47nm,0.4s						
KUQ	**Kuujjuaa**	**6.89**	**120**	SN	**Sn**	**19 37 42.6**	**-4.2**
KUQ				LG	Lg	19 38 19.1	
KUQ				Trac		19 38 20.9	
	comp=Z,68nm,0.4s						
ARVN	**Arviat, NU**	**6.92**	**268**	SN	**Sn**	**19 37 45.3**	**-2.3**
ARVN				LG	Lg	19 38 24.6	
BULN	**Bullion Camp,**	**7.29**	**313**	PN	**Pn**	**19 36 32.4**	**-1.6**
BULN				SN	**Sn**	**19 37 53.5**	**-3.2**
BULN				LG	Lg	19 38 35.0	
BULN				Trac		19 38 58.6	
	comp=Z,56nm,0.6s						
ILON	**Igloolik, Nuna**	**7.41**	**354**	PN	Pn	19 36 31.2	-4.4
ILON				SN	**Sn**	**19 37 55.4**	**-4.2**
ILON				LG	Lg	19 38 33.7	
ILON				Trac		19 38 42.4	
	comp=Z,69nm,0.6s						
KUGN	**Kugaaruk Camp,**	**7.47**	**329**	PN	**Pn**	**19 36 33.9**	**-2.6**
KUGN				SN	**Sn**	**19 37 56.2**	**-5.0**
KUGN				LG	Lg	19 38 40.3	
KUGN				Trac		19 38 46.0	
	comp=Z,49nm,0.5s						
YBKN	**Baker Lake, Hu**	**7.71**	**294**	PN	**Pn**	**19 36 40.2**	**+0.5**
YBKN				SN	**Sn**	**19 38 01.9**	**-5.1**
YBKN				LG	Lg	19 38 50.4	
YBKN				Trac		19 39 08.5	
	comp=Z,75nm,0.6s						
STLN	**Stellar Camp,**	**7.76**	**319**	PN	**Pn**	**19 36 42.4**	**+2.0**
STLN				SN	**Sn**	**19 38 04.5**	**-3.7**
STLN				LG	Lg	19 38 46.2	
STLN				Trac		19 38 55.8	
	comp=Z,55nm,0.6s						
FCC	**Fort Churchill**	**7.84**	**252**	PN	**Pn**	**19 36 43.8**	**+2.3**
FCC				SN	**Sn**	**19 38 08.1**	**-2.0**
FCC				LG	Lg	19 38 50.1	
FCC				Trac		19 39 07.4	
	comp=Z,39nm,0.6s						
SILO	**Sutton Inlier**	**8.06**	**202**	PN	**Pn**	**19 36 45.7**	**+1.1**
SILO				SN	**Sn**	**19 38 12.8**	**-2.8**
SILO				LG	Lg	19 38 50.3	
SILO				Trac		19 39 02.2	
	comp=Z,52nm,0.6s						
LG4Q	**La Grande 4**	**8.95**	**158**	PN	**Pn**	**19 36 56.5**	**-0.3**
LG4Q				SN	Sn	19 38 31.4	-6.0
LG4Q				LG	Lg	19 39 16.9	
LG4Q				Trac		19 39 27.8	
	comp=Z,70nm,0.4s						
VIMO	**Victor Mine**	**9.50**	**195**	PN	**Pn**	**19 37 05.4**	**+1.1**
VIMO				SN	Sn	19 38 46.4	-4.5
VIMO				LG	Lg	19 39 35.0	
VIMO				Trac		19 39 45.5	
	comp=Z,37nm,0.5s						
SCHQ	**Schefferville**	**9.87**	**131**	Pn	Pn	19 37 06.5	-2.9
	1.0nm,0.3s,baz=327,slow=15,SNR=4.7						
SCHQ				Sn	Sn	19 38 51.4	-8.8
	3.4nm,0.3s,baz=150,slow=14,SNR=5.4						
SCHQ				Lg	Lg	19 39 47.3	
	6.2nm,0.3s,baz=20,slow=2.2,SNR=9.1						
SCHQ	**Schefferville**	**9.87**	**131**	PN	**Pn**	**19 37 07.3**	**-2.1**
SCHQ				SN	Sn	19 38 52.0	-8.2
SCHQ				LG	Lg	19 39 49.0	
SCHQ				Trac		19 40 08.6	
	comp=Z,91nm,0.8s						
YOSQ	**Ashton Mining**	**10.04**	**153**	PN	**Pn**	**19 37 11.0**	**-0.8**
YOSQ				SN	Sn	19 38 56.9	-7.4
YOSQ				LG	Lg	19 39 55.4	
YOSQ				Trac		19 39 59.5	
	comp=Z,115nm,1.0s						
MALO	**McAlpine Lake**	**12.05**	**180**	PN	**Pn**	**19 37 37.2**	**-2.0**
MALO				SN	Sn	19 39 44.0	-9.4
MALO				LG	Lg	19 40 51.7	
MALO				Trac		19 41 08.2	
	comp=Z,31nm,0.5s						
PKLO	**Pickle Lake**	**12.05**	**214**	PN	**Pn**	**19 37 37.8**	**-1.5**
PKLO				SN	Sn	19 39 43.3	-10
PKLO				LG	Lg	19 40 54.1	
PKLO				Trac		19 41 07.3	
	comp=Z,98nm,0.9s						
NANO	**Nakina Ontario**	**12.38**	**202**	PN	Pn	19 37 41.3	-2.4
NANO				SN	Sn	19 39 53.5	-8.1
CHGQ	**Chibougamau**	**12.51**	**164**	PN	**Pn**	**19 37 45.2**	**-0.4**
CHGQ				SN	Sn	19 39 52.2	-13
CHGQ				LG	Lg	19 41 06.9	
CHGQ				Trac		19 41 20.0	
	comp=Z,43nm,0.5s						
CB31	**Cambridge Bay**	**12.59**	**315**	PN	**Pn**	**19 37 45.9**	**-0.6**
CB31				SN	Sn	19 39 58.5	-8.0
CB31				LG	Lg	19 41 17.3	
CB31				Trac		19 41 21.6	
	comp=Z,36nm,0.7s						
WHFN	**White Fish Lak**	**12.71**	**284**	PN	**Pn**	**19 37 47.5**	**-0.6**
WHFN				SN	Sn	19 40 00.6	-8.9
KAPO	**Kapuskasing**	**12.72**	**188**	PN	**Pn**	**19 37 47.0**	**-1.3**
KAPO				SN	Sn	19 40 00.7	-9.1
KAPO				LG	Lg	19 41 15.6	
KAPO				Trac		19 41 34.9	
	comp=Z,59nm,1.2s						
GTO	**Geraldton**	**12.97**	**201**	PN	Pn	19 37 48.8	-2.9
GTO				SN	Sn	19 40 04.1	-12
RES	**Resolute Bay**	**13.80**	**343**	PN	**Pn**	**19 38 01.4**	**-1.5**
	0.2nm,0.3s,baz=209,slow=13,SNR=7.0						
RES				Sn	Sn	19 40 27.0	-8.9
	0.3nm,0.3s,baz=108,slow=19,SNR=3.9						
RES				Lg	Lg	19 41 55.1	
	0.6nm,0.3s,baz=239,slow=23,SNR=5.9						
RES	**Resolute Bay**	**13.80**	**343**	PN	**Pn**	**19 38 01.4**	**-1.5**
RES				SN	Sn	19 40 25.2	-11
RES				LG	Lg	19 41 54.8	
RES				Trac		19 41 59.3	
	comp=Z,148nm,2.2s						
SMQ	**Clarke City**	**13.85**	**143**	PN	Pn	19 37 59.6	-4.1
SMQ				SN	Sn	19 40 25.9	-12
SMQ				LG	Lg	19 41 51.2	
SMQ				Trac		19 42 02.1	
	comp=Z,20nm,0.5s						
VLDQ	**Val d'Or**	**14.02**	**174**	PN	Pn	19 38 01.0	-5.0
VLDQ				SN	Sn	19 40 25.6	-16
VLDQ				LG	Lg	19 41 49.2	
VLDQ				Trac		19 42 01.4	
	comp=Z,48nm,0.8s						
CNQ	**Baie Comeau**	**14.32**	**148**	PN	Pn	19 38 06.2	-4.0
CNQ				SN	Sn	19 40 36.9	-12
CNQ				LG	Lg	19 42 02.4	
CNQ				Trac		19 42 13.5	
	comp=Z,24nm,0.6s						
ULM	**Lac du Bonnet**	**14.80**	**224**	Pn	Pn	19 38 14.2	-2.5
	0.7nm,0.3s,baz=32,slow=14,SNR=5.5						
ULM				Sn	Sn	19 40 48.1	-12
	1.3

comp=Z,46nm,21.1s,baz=322,slow=37

IDC ***21*** *19:54:21.1±1.9,0.˚89S×132.˚77E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.5/22,mbtmp3.5/6,ML3.5/2,Error ellipse: s-maj=100.4km s-min=20.6km az=75.0*
AUST ***21*** *19:55:00.1±99.0,3.˚36S×131.˚62E,h60km±7km,Error ellipse: s-maj=36.5km s-min=1.5km az=31.0*
ISC 21 19:54:29.2±2.9,**1˚2S**±0.˚2×**132˚6E**±0.˚3,**h35**km,**n10, σ1§96/9,mb3.5/4,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.39**	**178**	P			Pn	19 55 38.9	+5.4
	baz=2.5,SNR=11								
AAI	**Ambon**	**5.04**	**241**	P			Pn	19 55 50.9	+8.6
	baz=3.4,SNR=4.8								
KDU	**Kakadu**	**11.39**	**181**	P			**Pn**	**19 57 11.1**	**+1.5**
	baz=9.4,SNR=11								
KDU				S			**Sn**	**19 59 16.7**	**+1.0**
	baz=9.4,SNR=6.0								
MTN	**Manton Dam**	**11.64**	**187**	P			**Pn**	**19 57 15.2**	**+2.2**
	baz=9.5,SNR=22								
FITZ	**Fitzroy Crossi**	**18.12**	**202**	P			**Pn**	**19 58 39.0**	**+0.8**
	0.1nm,0.3s,baz=16,slow=18,SNR=3.2								
FITZ				S			**Sn**	**20 01 57.2**	**-2.2**
	0.2nm,0.3s,baz=72,slow=20,SNR=4.5								
WRA	**Warramunga Arr**	**18.68**	**175**	P			**P**	**19 58 44.1**	**-0.5**
	0.2nm,0.3s,baz=356,slow=12,SNR=14								
WRA				S			**Sn**	**20 02 10.8**	**-2.4**
	0.1nm,0.3s,baz=356,slow=23,SNR=5.4								
ASAR	**Alice Springs**	**22.35**	**177**	P			**P**	**19 59 25.1**	**+0.8**
	0.8nm,0.4s,baz=356,slow=9.3,SNR=24								
STKA	**Stephens Creek**	**31.65**	**165**	P			**P**	**20 00 47.7**	**-1.6**
	0.9nm,0.5s,baz=351,slow=9.5,SNR=3.7								
MKAR	**Makanchi Array**	**64.96**	**324**	P			P	20 05 01.9	-3.6
	0.2nm,0.6s,baz=116,slow=8.3,SNR=4.9								
KURBB	**Kurchatov Arra**	**69.06**	**326**	P			P	20 05 27.5	-3.9
	0.4nm,0.8s,baz=120,slow=6.0,SNR=4.4								

NIED ***21*** *19:58:00,26.˚10N×128.˚60E,h20km,Mw4.5 Best double couple: M0:6.11000×10¹⁵ NP1:φs=42.00000°,δ60.00000°, λ99.00000°. NP2:φs205.00000°,δ31.00000°,λ76.00000°.*
BJI ***21*** *19:58:14.5,25.˚98N×128.˚52E,h6km,mB4.7/31,mb4.4/43, Ms4.4/34,Ms7 4.2/33*
IDC ***21*** *19:58:15.9±0.5,26.˚10N×128.˚49E,h0km,mb4.3/27, mb1 4.3/31,mb1mx4.3/38,mbtmp4.3/31,ML3.5/4,MS3.7/10, Ms1 3.7/10,ms1mx3.3/58,Error ellipse: s-maj=17.7km s-min=10.7km az=82.0*
ISCJB ***21*** *19:58:17.1±0.7,26.˚01N±0.˚03×128.˚56E±0.˚03,h24km±4km, mb4.5/73,MS4.0/16,Error ellipse: s-maj=4.9km s-min=3.4km az=44.0*
MOS ***21*** *19:58:17.1±1.1,26.˚06N×128.˚49E,h21km,mb4.7/45,Error ellipse: s-maj=12.0km s-min=6.1km az=117.6*
NEIC ***21*** *19:58:17.2±1.5,26.˚02N×128.˚41E,h11km±8km,mb4.6/25, MW4.5(NIED),Error ellipse: s-maj=8.0km s-min=5.2km az=124.0*
NEIC Felt on Okinawa. Recorded [1 JMA] on Okinawa.
JMA ***21*** *19:58:18.6±0.2,26.˚05N×128.˚63E,h48km,M4.3*
JMA Felt I J1.
DJA ***21*** *19:58:24.7±0.9,27˚N±9˚×12˚8E±1˚5,h10km,M4.7/8, mB5.6/1,mb4.7/8,Mw(mB)5.1/1*
ISC 21 19:58:18.1±0.4,**26˚05N**±0.˚03×**128˚58E**±0.˚03,**h16**km±1km, **n205,σ1§77/278,mb4.5/73,MS3.9/17,2C-5D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.75**	**277**	P			**Pn**	**19 58 33.7**	**-0.4**
JJT2				S			**Sn**	**19 58 44.7**	**-0.5**
JOW	**Kunigami**	**0.82**	**341**	Pn			**Pn**	**19 58 34.4**	**-0.8**
	2μm,0.3s,baz=146,slow=17,SNR=872								
JOW				LR			LR	19 58 44.6	
	comp=Z,8μm,21.0s,baz=0.0,slow=38								
JOW				Sn			**Sb**	**19 58 45.3**	**+0.3**
	3μm,0.3s,baz=120,slow=20,SNR=34								
JOW	**Kunigami**	**0.82**	**341**	*e*Pg			**Pb**	**19 58 34.1**	**+0.1**
JOW				Pn			**Pn**	**19 58 34.4**	**-0.8**
JOW				Sn			**Sb**	**19 58 45.3**	**+0.3**
JOW				*e*Sg			**Sn**	**19 58 46.8**	**-0.2**
JOW	**Kunigami**	**0.82**	**341**	P			**Pn**	**19 58 34.3**	**-0.8**
JOW				*e*S			**Sn**	**19 58 45.9**	**-1.1**
JIH	**Iheya**	**1.12**	**331**	P			**Pn**	**19 58 38.9**	**-0.3**
JIH				S			**Sb**	**19 58 51.7**	**-1.8**
JAGN	**Aguni-jima**	**1.31**	**294**	P			**Pb**	**19 58 41.9**	**-0.5**
JKE	**Kume jima 2**	**1.64**	**280**	P			**Pn**	**19 58 45.7**	**-0.5**
JKE				S			**Sn**	**19 59 05.7**	**-1.3**
JTK	**Tokunoshima**	**1.76**	**11**	P			**Pn**	**19 58 47.4**	**-0.5**
JTK				S			**Sn**	**19 59 07.8**	**-2.2**
JMZ	**Minamidaito 2**	**2.39**	**95**	P			**Pn**	**19 58 54.6**	**-2.0**
JMZ				S			**Sn**	**19 59 20.9**	**-4.7**
JAM	**Amami Oshima**	**2.52**	**21**	P			**Pn**	**19 58 57.6**	**-0.8**
JAM				S			**Sn**	**19 59 27.0**	**-1.8**
JZK	**Kikaishima**	**2.57**	**29**	P			**Pn**	**19 58 59.7**	**+0.6**
JZK				S			**Sn**	**19 59 30.2**	**+0.1**
JOGS	**Gusukube**	**3.15**	**247**	P			**Pn**	**19 59 06.9**	**-0.1**
JOGS				S			**Sn**	**19 59 41.9**	**-2.4**
JMJ	**Miyako jima 2**	**3.22**	**248**	P			**Pn**	**19 59 07.8**	**-0.2**
JMJ				S			**Sn**	**19 59 44.0**	**-2.0**
JTJ	**Tarama**	**3.78**	**249**	P			**Pn**	**19 59 14.6**	**-1.1**
JTJ				S			**Sn**	**19 59 56.7**	**-3.2**
JIJ	**Ishigaki jima**	**4.36**	**248**	P			**Pn**	**19 59 22.4**	**-1.3**
IRIF	**Iriomote-Funau**	**4.71**	**250**	P			**Pn**	**19 59 27.2**	**-1.4**
YOJ	**Yonaguni jima**	**5.29**	**254**	P			**Pn**	**19 59 34.8**	**-1.6**
TATO	**Taipei**	**6.50**	**262**	*e*Pn			**Pn**	**19 59 54.0**	**+0.9**
NACB	**Ninganchiao**	**6.60**	**255**	*e*Pn			**Pn**	**19 59 51.8**	**-2.8**
YHNB	**Yeheng**	**6.66**	**260**	*e*Pn			**Pn**	**19 59 55.5**	**+0.1**
	44nm,0.7s								
YULB	**Yu-li**	**7.13**	**250**	*e*Pn			Pn	19 59 57.9	-3.9
	16nm,0.3s								
YULB				*e*Sn			Sn	20 01 07.3	-15
SSLB	**Suanglung**	**7.28**	**254**	*e*Pn			**Pn**	**20 00 01.2**	**-2.7**
	34nm,0.5s								
SSLB				*e*Sn			Sn	20 01 17.2	-9.2
JNU	**Nakatsue**	**7.32**	**15**	Pn			**Pn**	**20 00 05.5**	**+1.1**
	2.6nm,0.3s,baz=176,slow=8.1,SNR=35								
JNU				Sn			**Sn**	**20 01 24.8**	**-2.5**
	0.9nm,0.3s,baz=187,slow=17,SNR=2.2								
JNU	**Nakatsue**	**7.32**	**15**	*e*Pn			**Pn**	**20 00 05.5**	**+1.1**
	40nm,1.4s								
JNU				Sn			**Sn**	**20 01 24.8**	**-2.5**
TWG	**Pinlang**	**7.56**	**246**	*e*Pn			Pn	20 00 03.0	-4.8
	76nm,0.6s								
TPUB	**Ta-pu**	**7.73**	**251**	*e*Pn			**Pn**	**20 00 08.3**	**-1.8**
	25nm,0.4s								
TPUB				*e*Sn			Sn	20 01 29.4	-8.0
NJ2	**Nanjing**	**10.40**	**307**	*e*P			**Pn**	**20 00 43.6**	**-3.0**
NJ2				S			**Sn**	**20 02 40.0**	**-2.8**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
NJ2				LR			LR		
	comp=N,1μm,11.9s								
NJ2				LR			LR		
	comp=E,1μm,8.8s								
NJ2				LR			LR		
	comp=Z,2μm,12.3s								
KSAR	**Wonju Array Be**	**11.37**	**357**	Pn			**Pn**	**20 00 58.0**	**-1.8**
KSRS	**Korea Array**	**11.38**	**357**	Pn			**Pn**	**20 00 58.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=175,slow=13,SNR=8.3								
KSRS				LR			LR	20 05 43.4	
	comp=Z,334nm,18.3s,baz=0.4,slow=40								
MJAR	**Matsushiro Arr**	**13.30**	**36**	Pn			**Pn**	**20 01 27.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=3.1								
MJAR	**Matsushiro Arr**	**13.30**	**36**	Pn			**Pn**	**20 01 27.4**	**+1.1**
WHN	**Wuhan**	**13.31**	**293**	P			**P**	**20 01 37.4**	**+1.3**
WHN				S			**Sn**	**20 03 55.3**	**+1.2**
WHN				LR			LR		
	comp=N,1μm,14.6s								
WHN				LR			LR		
	comp=E,2μm,14.4s								
WHN				LR			LR		
	comp=Z,2μm,13.6s								
BJT	**Baijiatuan**	**17.36**	**326**	*e*Pn			**P**	**20 02 20.9**	**-0.1**
	comp=Z,18nm,0.4s								
BJI	**Beijing**	**17.37**	**326**	P			**Pn**	**20 02 19.3**	**-0.5**
BJI				S			**Sn**	**20 05 32.8**	**-0.1**
BJI				pmax			pmax		
	comp=Z,18nm,0.6s								
BJI				pmax			pmax		
	comp=Z,76nm,4.5s								
BJI				LR			LR		
	comp=N,1μm,13.4s								
BJI				LR			LR		
	comp=E,510nm,12.2s								
BJI				LR			LR		
	comp=Z,280nm,15.0s								
CN2	**Changchun**	**17.89**	**353**	*e*P			**P**	**20 02 27.1**	**+0.3**
CN2				*e*S			**Sn**	**20 05 44.4**	**-1.0**
CN2				pmax			pmax		
	comp=Z,20nm,1.3s								
CN2				pmax			pmax		
	comp=Z,200nm,3.0s								
CN2				LR			LR		
	comp=N,1μm,12.0s								
CN2				LR			LR		
	comp=E,500nm,12.0s								
CN2				LR			LR		
	comp=Z,700nm,11.0s								
USRK	**Ussuriysk Arra**	**18.32**	**8**	P			**P**	**20 02 32.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=181,slow=9.7,SNR=14								
MDJ	**Mudanjiang**	**18.54**	**2**	P			**Pn**	**20 02 34.3**	**+0.1**
MDJ				pP			**pP**	**20 02 37.8**	**-0.6**
MDJ				sP			**sP**	**20 02 39.0**	**-1.4**
MDJ				S			**S**	**20 06 04.3**	**-0.7**
MDJ				PcP			**PcP**	**20 07 02.9**	**-0.3**
MDJ				ScP			**ScP**	**20 10 38.6**	**+0.3**
MDJ				PcS			**PcS**	**20 10 39.9**	**+0.1**
MDJ				ScS			**ScS**	**20 14 20.0**	**+0.8**
MDJ				pmax			pmax		
	comp=Z,8.0nm,2.3s								
MDJ				pmax			pmax		
	comp=Z,70nm,4.9s								
QIZ	**Qiongzhong**	**18.66**	**252**	P			**P**	**20 02 33.8**	**-1.6**
QIZ				S			**Sn**	**20 05 59.3**	**-4.9**
QIZ				pmax			pmax		
	comp=Z,9.0nm,1.9s								
QIZ				pmax			pmax		
	comp=Z,91nm,3.9s								
QIZ				LR			LR		
	comp=N,520nm,20.7s								
QIZ				LR			LR		
	comp=E,92nm,23.8s								
QIZ				LR			LR		
	comp=Z,310nm,20.7s								
XAN	**Xi'an**	**18.77**	**300**	P			**Pn**	**20 02 37.3**	**+0.2**
XAN				pP			**pP**	**20 02 45.6**	**+4.6**
XAN				pmax			pmax		
	comp=Z,6.0nm,0.6s								
GYA	**Guiyang**	**19.66**	**276**	P			**Pn**	**20 02 47.8**	**-0.2**
GYA				PP			**PnPn**	**20 03 05.3**	**+3.7**
GYA				S			S	20 06 19.8	-8.3
GYA				SS			**SnSn**	**20 06 47.8**	**+4.9**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
GYA				pmax			pmax		
	comp=Z,60nm,4.4s								
GYA				LR			LR		
	comp=N,260nm,9.9s								
GYA				LR			LR		
	comp=E,360nm,10.8s								
GYA				LR			LR		
	comp=Z,520nm,14.2s								
GUMO	**Guam**	**19.68**	**126**	LR			LR	20 08 57.4	
	comp=Z,53nm,18.5s,baz=292,slow=32								
ERM	**Erimo**	**19.94**	**33**	*d*	*i*	P	**Pn**	**20 02 54.8**	**+3.8**
ERM				pmax			pmax		
	comp=Z,36nm,1.3s								
HHC	**Hu-ho-hao-te**	**20.42**	**320**	*e*P			**P**	**20 02 54.6**	**-0.1**
HHC				pP			**pP**	**20 02 58.6**	**-0.6**
HHC				sP			**sP**	**20 03 01.8**	**+0.6**
HHC				S			**S**	**20 06 39.5**	**-3.5**
HHC				sS			Sn	20 06 43.8	-3.0
HHC				SS			**SnSn**	**20 07 07.0**	**+5.5**
HHC				pmax			pmax		
	comp=Z,9.0nm,0.7s								
HHC				pmax			pmax		
	comp=Z,120nm,4.7s								
HHC				LR			LR		
	comp=N,820nm,11.2s								
HHC				LR			LR		
	comp=E,510nm,12.6s								
HHC				LR			LR		
	comp=Z,750nm,11.6s								
ASAJ	**Asahikawa**	**21.31**	**29**	P			**P**	**20 03 04.4**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=197,slow=8.4,SNR=3.5								
ASAJ	**Asahikawa**	**21.31**	**29**	P			**P**	**20 03 04.4**	**+0.3**
CD2	**Chengdu**	**22.33**	**288**	P			**P**	**20 03 14.9**	**-0.4**
CD2				pP			**pP**	**20 03 19.1**	**-0.6**
CD2				sP			**sP**	**20 03 21.9**	**+0.1**
CD2				PP			**PnPn**	**20 03 41.9**	**+3.8**
CD2				S			**S**	**20 07 14.3**	**-6.1**
CD2				sS			sS	20 07 21.0	-6.8
CD2				SS			**SnSn**	**20 07 54.1**	**+5.8**
CD2				pmax			pmax		
	comp=Z,20nm,0.5s								
CD2				pmax			pmax		
	comp=Z,80nm,4.7s								
CD2				LR			LR		
	comp=N,1μm,13.7s								
CD2				LR			LR		
	comp=Z,980nm,13.1s								
KMI	**Kunming**	**23.32**	**273**	P			**P**	**20 03 24.3**	**-1.5**
KMI				pP			**pP**	**20 03 27.5**	**-2.9**
KMI				sP			**sP**	**20 03 29.1**	**-3.3**
KMI				PP			**PnPn**	**20 03 54.3**	**+2.5**
KMI				S			S	20 07 31.0	-7.2
KMI				sS			sS	20 07 37.1	-8.9
KMI				SS			**SnSn**	**20 08 15.6**	**+2.9**
KMI				pmax			pmax		
	comp=Z,13nm,0.9s								
KMI				pmax			pmax		
	comp=Z,95nm,4.2s								
KMI				LR			LR		
	comp=N,440nm,14.4s								
KMI				LR			LR		
	comp=E,380nm,9.4s								
KMI				LR			LR		
	comp=Z,370nm,8.6s								
LZH	**Lanzhou**	**23.37**	**301**	*e*P			**P**	**20 03 25.3**	**-1.0**
LZH				pP			**pP**	**20 03 34.9**	**+4.1**
LZH				sP			sP	20 03 39.5	+6.7
LZH				pmax			pmax		
	comp=Z,16nm,1.0s								
LZH	**Lanzhou**	**23.37**	**301**	*e*P			**P**	**20 03 25.8**	**-0.5**
LZH				pP			**pP**	**20 03 31.1**	**+0.3**
LZH				sP			**sP**	**20 03 33.5**	**+0.7**
LZH				PP			**PnPn**	**20 03 54.8**	**+2.4**
LZH				*e*S			**S**	**20 07 35.3**	**-3.5**
LZH				sS			**sS**	**20 07 43.3**	**-3.3**
LZH				pmax			pmax		
	comp=Z,16nm,1.0s								
LZH				pmax			pmax		
	comp=Z,61nm,4.9s								
LZH				LR			LR		
	comp=N,400nm,11.7s								
LZH				LR			LR		
	comp=E,300nm,9.8s								
LZH				LR			LR		
	comp=Z,420nm,12.4s								
YSS	**Yuzh-Sakhalins**	**23.70**	**25**	⇑	*i*	P	**P**	**20 03 32.0**	**+2.9**
YSS					*e*			20 03 42.7	
YSS				pmax			pmax		
	comp=Z,50nm,1.0s								
YSS	**Yuzh-Sakhalins**	**23.70**	**25**	*e*P			**P**	**20 03 30.6**	**+1.5**
	comp=Z,44nm,0.9s								
GTA	**Gaotai**	**27.49**	**306**	⇑P			**P**	**20 04 02.6**	**-1.3**
GTA				pP			**pP**	**20 04 08.3**	**-0.3**
GTA				sP			**sP**	**20 04 11.0**	**+0.4**
GTA				S			**S**	**20 08 43.0**	**-1.2**
GTA				sS			**sS**	**20 08 52.3**	**+0.2**
GTA				SS			**SnSn**	**20 10 02.8**	**+8.4**
GTA				pmax			pmax		
	comp=Z,34nm,1.0s								
GTA				pmax			pmax		
	comp=Z,74nm,3.8s								
GTA				LR			LR		
	comp=N,300nm,14.0s								
GTA				LR			LR		
	comp=E,380nm,15.0s								
GTA				LR			LR		
	comp=Z,480nm,14.3s								
ULN	**Ulaanbaatar**	**27.57**	**328**	*e*P			**P**	**20 04 02.9**	**-1.7**
	comp=Z,10nm,0.8s								
ULN	**Ulaanbaatar**	**27.57**	**328**	P			**P**	**20 04 06.1**	**+1.5**
	comp=Z,15nm,1.1s								
SONM	**Songino Array**	**27.87**	**327**	P			**P**	**20 04 06.0**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=138,slow=10,SNR=54								
SONM				LR			LR	20 16 27.3	
	comp=Z,155nm,19.9s,baz=310,slow=39								
SONM	**Songino Array**	**27.87**	**327**	P			**P**	**20 04 06.0**	**-1.2**
CMMT	**Chiang Mai**	**28.28**	**261**	P			**P**	**20 04 13.6**	**+2.6**
	comp=Z,7.8nm,0.7s								
CHTO	**Chiang Mai**	**28.28**	**261**	*e*P			**P**	**20 04 11.2**	**+0.2**
CHTO				pmax			pmax		
	comp=Z,4.0nm,0.6s								
CHTO	**Chiang Mai**	**28.28**	**261**	*e*P			**P**	**20 04 11.2**	**+0.2**
	comp=Z,4.1nm,0.6s								
CHTO	**Chiang Mai**	**28.28**	**261**	P			**P**	**20 04 13.1**	**+2.1**
	comp=Z,9.8nm,1.0s								
CM31	**Chiang Mai Arr**	**28.41**	**261**	P			**P**	**20 04 10.9**	**-1.2**
	comp=Z,1.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**28.41**	**261**	P			**P**	**20 04 12.7**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=62,slow=7.1,SNR=19								
CMAR				PcP			**PcP**	**20 07 25.5**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=10,slow=0.9,SNR=5.2								
CMAR	**Chiang Mai Arr**	**28.41**	**261**	P			**P**	**20 04 12.7**	**+0.6**
CMAR				PcP			**PcP**	**20 07 25.5**	**+1.1**
KSM	**Kuching**	**30.11**	**219**	P			**P**	**20 04 28.2**	**+1.0**
	comp=Z,5.9nm,0.9s								
TLY	**Talaya**	**31.82**	**330**	*e*P			**P**	**20 04 44.7**	**+2.7**
TLY				*e*				20 05 44.7	
TLY				*e*S			**S**	**20 09 55.2**	**+3.4**
TLY				*e*SS			**SnSn**	**20 11 38.1**	**-1.5**
TLY				pmax			pmax		
	comp=Z,1.0nm,0.7s								
TLY				MLR			MLR		
	comp=Z,153nm,14.0s								
TLY	**Talaya**	**31.82**	**330**	P			**P**	**20 04 39.7**	**-2.3**
LSA	**Lhasa**	**33.19**	**285**	P			**P**	**20 04 54.8**	**0.0**
LSA	**Lhasa**	**33.19**	**285**	P			**P**	**20 04 52.6**	**-2.2**
LSA				pmax			pmax		
	comp=Z,3.0nm,0.6s								
LSA	**Lhasa**	**33.19**	**285**	P			**P**	**20 04 52.6**	**-2.2**
	comp=Z,2.6nm,0.6s								
KULM	**Kulim**	**33.75**	**237**	P			P	20 04 55.7	-3.6
	comp=Z,6.1nm,1.0s								
YAK	**Yakutsk**	**35.98**	**1**	*e*P			**P**	**20 05 16.7**	**-1.2**
YAK				pmax			pmax		
	comp=Z,8.0nm,1.1s								
YAK	**Yakutsk**	**35.98**	**1**	*e*P			**P**	**20 05 17.0**	**-0.9**
	comp=Z,9.4nm,0.7s								
TAPN	**Taplejung**	**36.42**	**281**	*e*P			**P**	**20 05 22.9**	**+0.3**
	comp=Z,25nm,0.9s								
PSI	**Prapat**	**36.68**	**236**	LR			LR	20 21 50.7	
	comp=Z,112nm,18.1s,baz=12,slow=38								
ODAN	**Odare**	**36.77**	**281**	*e*P			**P**	**20 05 25.8**	**+0.3**
	comp=Z,68nm,0.7s								
RAMN	**Ramite**	**37.46**	**281**	*e*P			**P**	**20 05 31.3**	**0.0**
WMQ	**Urumqi**	**37.47**	**309**	P			**P**	**20 05 30.6**	**-0.4**
WMQ				sP			**sP**	**20 05 38.1**	**+0.3**
WMQ				PP			**PnPn**	**20 06 57.8**	**+0.5**
WMQ				S			**S**	**20 11 17.8**	**-1.4**
WMQ				sS			**sS**	**20 11 25.3**	**-1.8**
WMQ				SS			**SnSn**	**20 13 49.8**	**-6.9**
WMQ				pmax			pmax		
	comp=Z,4.0nm,1.5s								
WMQ				pmax			pmax		
	comp=Z,50nm,3.5s								
WMQ				LR			LR		
	comp=N,50nm,16.0s								
WMQ				LR			LR		
	comp=E,78nm,14.0s								
WMQ				LR			LR		
	comp=Z,110nm,15.0s								
JIRN	**Jiri**	**37.72**	**282**	*e*P			**P**	**20 05 34.0**	**+0.3**
GUN	**Gumba**	**37.96**	**283**	*e*P			**P**	**20 05 35.6**	**-0.1**
	comp=Z,19nm,0.4s								
PKI	**Pulchoki**	**38.42**	**282**	*e*P			**P**	**20 05 39.5**	**0.0**
PKIN	**Phulchoki**	**38.43**	**282**	*e*P			**P**	**20 05 39.6**	**+0.1**
	comp=Z,9.9nm,0.4s								
KKN	**Kakani**	**38.50**	**283**	*e*P			**P**	**20 05 40.3**	**+0.2**
	comp=Z,28nm,0.5s								
DMN	**Daman**	**38.68**	**282**	*e*P			**P**	**20 05 41.4**	**-0.2**
GKN	**Gorkha**	**39.04**	**283**	*e*P			**P**	**20 05 44.2**	**-0.3**
DANN	**Dangsing**	**39.76**	**284**	*e*P			**P**	**20 05 50.8**	**+0.1**
	comp=Z,42nm,0.5s								
KOLN	**Koldanda**	**39.98**	**283**	*e*P			**P**	**20 05 52.5**	**+0.1**
PYUN	**Piuthan**	**40.47**	**283**	*e*P			**P**	**20 05 56.5**	**0.0**
	comp=Z,54nm,0.8s								
MK31	**Makanchi Array**	**41.89**	**312**	*e*P			**P**	**20 06 06.0**	**-1.7**
MK31				pmax			pmax		
	comp=Z,1.0nm,0.5s								
MK31	**Makanchi Array**	**41.89**	**312**	*e*P			**P**	**20 06 06.6**	**-1.1**
MKAR	**Makanchi Array**	**41.89**	**312**	P			**P**	**20 06 06.6**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=99,slow=9.9,SNR=47								
MKAR				PcP			**PcP**	**20 08 03.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=83,slow=4.4,SNR=4.0								
MKAR	**Makanchi Array**	**41.89**	**312**	P			**P**	**20 06 06.6**	**-1.1**
MKAR								20 08 03.0	
MKAR				pmax			pmax		
	comp=Z,3.0nm,0.6s								
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**41.89**	**312**	P			**P**	**20 06 06.6**	**-1.1**
MKAR				PcP			**PcP**	**20 08 03.0**	**-0.2**
ZAA0	**Zalesovo Array**	**42.58**	**323**	*e*P			**P**	**20 06 11.2**	**-2.0**
ZALV	**Zalesovo Beam**	**42.58**	**323**	P			**P**	**20 06 11.6**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=109,slow=7.6,SNR=12								
ZALV				LR			LR	20 25 17.9	
	comp=Z,91nm,18.5s,baz=250,slow=38								
ZALV	**Zalesovo Beam**	**42.58**	**323**	P			**P**	**20 06 11.6**	**-1.6**
ZALV				pmax			pmax		
	comp=Z,2.0nm,0.4s								
ZALV				MLR			MLR		
	comp=Z,91nm,18.5s								
ZALV	**Zalesovo Beam**	**42.58**	**323**	P			**P**	**20 06 11.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**43.98**	**184**	P			**P**	**20 06 25.1**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=346,slow=6.3,SNR=5.3								
FITZ	**Fitzroy Crossi**	**43.98**	**184**	P			**P**	**20 06 25.1**	**+0.3**
KURK	**Kurchatov**	**45.16**	**317**	P			**P**	**20 06 32.0**	**-2.0**
KURK				pmax			pmax		
	comp=Z,10.0nm,1.2s								
KURK	**Kurchatov**	**45.16**	**317**	*e*P			**P**	**20 06 32.7**	**-1.3**
	comp=Z,7.6nm,0.9s								
KURK				P			pP	20 06 33.1

AAK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**46.83**	**305**	*e*P	**P**	**20 06 47.3**	**-0.2**	
	comp=Z,6.8nm,0.7s							
AAK				P	P	20 06 47.6	+0.1	
EKS2	**Erkin-Say**	**47.36**	**305**	*e*P	**P**	**20 06 51.4**	**-0.2**	
EKS2				pmax	pmax			
	comp=Z,5.0nm,1.2s							
EKS2	**Erkin-Say**	**47.36**	**305**	*e*P	**P**	**20 06 51.4**	**-0.2**	
	comp=Z,4.8nm,1.2s							
BILL	**Bilibino**	**47.74**	**18**	*e*P	**P**	**20 06 56.5**	**+2.5**	
BILL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,100nm,17.0s							
BILL	**Bilibino**	**47.74**	**18**	*e*P	**P**	**20 06 53.5**	**-0.5**	
	comp=Z,4.4nm,0.8s							
AS31	**Alice Springs**	**49.69**	**174**	*e*P	**P**	**20 07 08.9**	**-0.6**	
ASAR	**Alice Springs**	**49.70**	**174**	P	**P**	**20 07 10.3**	**+0.8**	
	comp=Z,1.4nm,0.5s,baz=11,slow=10.0,SNR=40							
ASAR	**Alice Springs**	**49.70**	**174**	P	**P**	**20 07 10.3**	**+0.8**	
VOSK	**Vostochnaya**	**50.22**	**318**	P	**P**	**20 07 12.0**	**-1.2**	
VOSK				pmax	pmax			
	comp=Z,8.0nm,1.8s							
BVA0	**Borovoye Array**	**50.62**	**318**	*i* P	**P**	**20 07 15.3**	**-0.9**	
BVA0				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BVAR	**Borovoye Array**	**50.62**	**318**	P	**P**	**20 07 16.1**	**-0.1**	
	comp=Z,2.8nm,0.6s,baz=106,slow=11,SNR=27							
BVAR				PcP	**PcP**	**20 08 33.7**	**+0.1**	
	comp=Z,1.2nm,0.8s,baz=150,slow=3.2,SNR=2.7							
BVAR				LR	LR	20 30 05.5		
	comp=Z,120nm,19.2s,baz=238,slow=38							
BVAR	**Borovoye Array**	**50.62**	**318**	P	**P**	**20 07 16.1**	**-0.1**	
BVAR						20 08 33.7		
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR				MLR	MLR			
	comp=Z,120nm,19.2s							
BVAR	**Borovoye Array**	**50.62**	**318**	P	**P**	**20 07 16.1**	**-0.1**	
BVAR				PcP	**PcP**	**20 08 33.7**	**+0.1**	
BRVK	**Borovoye**	**50.68**	**318**	P	**P**	**20 07 15.7**	**-1.0**	
BRVK				pmax	pmax			
	comp=Z,12nm,0.8s							
BRVK	**Borovoye**	**50.68**	**318**	*e*P	**P**	**20 07 15.8**	**-1.0**	
	comp=Z,6.7nm,0.8s							
ZRNK	**Zerenda**	**51.43**	**318**	P	**P**	**20 07 21.7**	**-0.7**	
ZRNK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KBL	**Kabul**	**51.46**	**295**	*e*P	**P**	**20 07 23.3**	**+0.2**	
KBL				*e*		20 07 32.2		
KBL				pmax	pmax			
	comp=Z,11nm,0.8s							
KBL	**Kabul**	**51.46**	**295**	*e*P	**P**	**20 07 23.3**	**+0.2**	
	comp=Z,11nm,0.8s							
KBL				*e*		20 07 32.2		
TNA	**Tin City**	**55.65**	**27**	*e*P	**P**	**20 07 55.3**	**+2.3**	
	comp=Z,4.5nm,0.9s							
SVE	**Sverdlovsk**	**56.59**	**322**	*e*P	**P**	**20 08 00.0**	**0.0**	
SVE				pmax	pmax			
	comp=Z,17nm,1.6s							
SVE				MLR	MLR			
	comp=Z,360nm,14.0s							
AB31	**Akbulak array**	**57.00**	**313**	*e*P	**P**	**20 08 03.0**	**0.0**	
AB31				pmax	pmax			
	comp=Z,804μm,0.1s							
ABKAR	**Akbulak array**	**57.00**	**313**	*e*P	**P**	**20 08 02.4**	**-0.5**	
	comp=Z,5.3nm,0.6s							
ARU	**Arti**	**57.73**	**322**	*d i*P	**P**	**20 08 07.3**	**-0.7**	
ARU						20 10 12.2		
ARU				S	**S**	**20 16 03.2**	**-2.9**	
ARU				SS	**SS**	**20 19 51.4**	**-4.7**	
ARU				pmax	pmax			
	comp=Z,18nm,2.5s							
ARU	**Arti**	**57.73**	**322**	*e*P	**P**	**20 08 07.1**	**-0.9**	
AKTO	**Aktyubinsk**	**58.18**	**315**	P	**P**	**20 08 10.9**	**-0.4**	
	comp=Z,2.1nm,0.6s,baz=87,slow=13,SNR=8.9							
AKTO				LR	LR	20 33 51.2		
	comp=Z,53nm,18.1s,baz=260,slow=37							
AKTO	**Aktyubinsk**	**58.18**	**315**	P	**P**	**20 08 10.5**	**-0.8**	
AKTO	**Aktyubinsk**	**58.18**	**315**	P	**P**	**20 08 10.9**	**-0.4**	
STKA	**Stephens Creek**	**58.93**	**167**	P	**P**	**20 08 16.2**	**-0.4**	
	comp=Z,2.1nm,0.9s,baz=341,slow=7.7,SNR=3.4							
STKA	**Stephens Creek**	**58.93**	**167**	P	**P**	**20 08 16.3**	**-0.4**	
ILAR	**Eielson Array**	**64.44**	**28**	P	**P**	**20 08 53.1**	**-0.3**	
	comp=Z,0.5nm,0.6s,baz=258,slow=5.1,SNR=8.4							
ILAR	**Eielson Array**	**64.44**	**28**	P	**P**	**20 08 53.1**	**-0.3**	
INK	**Inuvik**	**68.93**	**23**	P	**P**	**20 09 22.8**	**+0.8**	
	comp=Z,1.3nm,0.6s,baz=229,slow=20							
INK	**Inuvik**	**68.93**	**23**	P	**P**	**20 09 22.8**	**+0.8**	
SPITS	**Spitsbergen Ar**	**69.06**	**348**	P	**P**	**20 09 22.7**	**0.0**	
	comp=Z,5.3nm,0.9s,baz=58,slow=11,SNR=13							
SPITS	**Spitsbergen Ar**	**69.06**	**348**	P	**P**	**20 09 22.7**	**0.0**	
ZEI	**Tsey**	**69.09**	**308**	*e*P	**P**	**20 09 23.4**	**-0.3**	
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KBZ	**Khabaz**	**69.51**	**309**	P	**P**	**20 09 26.6**	**+0.6**	
	comp=Z,3.1nm,0.7s,baz=98,slow=3.0,SNR=12							
KBZ	**Khabaz**	**69.51**	**309**	P	**P**	**20 09 26.6**	**+0.6**	
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**69.51**	**309**	P	**P**	**20 09 26.6**	**+0.6**	
KIV	**Kislovodsk**	**69.59**	**310**	*e*P	**P**	**20 09 26.9**	**+0.2**	
KIV				*e*		20 09 50.3		
KIV				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KEV	**Kevo**	**69.72**	**339**	*e*P	**P**	**20 09 26.2**	**-0.6**	
KEV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KEV	**Kevo**	**69.72**	**339**	*ep*	**P**	**20 09 26.2**	**-0.6**	
	comp=Z,0.5nm,0.4s							
ARCES	**ARCESS Array B**	**70.28**	**339**	P	**P**	**20 09 30.4**	**+0.1**	
	comp=Z,2.8nm,0.9s,baz=54,slow=6.2,SNR=5.6							
ARCES	**ARCESS Array B**	**70.28**	**339**	P	**P**	**20 09 30.4**	**+0.1**	
JOF	**Joensuu**	**70.35**	**331**	*e*P	**P**	**20 09 30.4**	**-0.4**	
JOF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**70.35**	**331**	*ep*	**P**	**20 09 30.4**	**-0.4**	
	comp=Z,2.6nm,0.6s							
KAF	**Kangasniemi**	**72.81**	**331**	*e*P	**P**	**20 09 43.8**	**-1.8**	
KAF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KAF	**Kangasniemi**	**72.81**	**331**	*ep*	**P**	**20 09 43.8**	**-1.8**	
	comp=Z,3.7nm,0.7s							
FIA1	**FINESS Array S**	**73.17**	**331**	*e*P	P	20 09 44.0	-3.8	
FINES	**FINESS Array B**	**73.17**	**331**	P	**P**	**20 09 47.6**	**-0.2**	
	comp=Z,2.6nm,0.6s,baz=62,slow=6.4,SNR=26							
FINES	**FINESS Array B**	**73.17**	**331**	P	**P**	**20 09 47.6**	**-0.2**	
MALT	**Malatya**	**74.47**	**305**	*e*P	**P**	**20 09 57.0**	**+1.0**	
MALT				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MALT	**Malatya**	**74.47**	**305**	*e*P	**P**	**20 09 57.0**	**+1.0**	
	comp=Z,6.6nm,1.0s							
DAG	**Danmarks Havn**	**75.47**	**353**	*i* P	**P**	**20 10 00.4**	**-0.6**	
	comp=Z,23nm,1.0s							
RES	**Resolute Bay**	**75.66**	**11**	P	**P**	**20 10 02.6**	**+0.5**	
	comp=Z,7.0nm,0.7s,baz=311,slow=6.4,SNR=20							
RES	**Resolute Bay**	**75.66**	**11**	P	**P**	**20 10 02.6**	**+0.5**	
AKASG	**Malin Array Be**	**75.87**	**320**	P	**P**	**20 10 03.4**	**-0.3**	
	comp=Z,6.4nm,0.6s,baz=60,slow=6.4,SNR=15							
AKASG	**Malin Array Be**	**75.87**	**320**	P	**P**	**20 10 03.4**	**-0.3**	
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.6s							
AKASG	**Malin Array Be**	**75.87**	**320**	P	**P**	**20 10 03.4**	**-0.3**	
AK01	**Malin Array Si**	**75.88**	**320**	*e*P	**P**	**20 10 03.0**	**-0.8**	
KIEV	**Kiev**	**75.88**	**320**	*e*P	**P**	**20 10 03.0**	**-0.7**	
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KIEV	**Kiev**	**75.88**	**320**	*e*P	**P**	**20 10 03.0**	**-0.7**	
	comp=Z,3.7nm,0.4s							
AK02	**Malin Array Si**	**75.90**	**320**	*e*P	**P**	**20 10 03.4**	**-0.5**	
BR131	**Keskin Array S**	**77.39**	**308**	*e*P	**P**	**20 10 13.0**	**+0.3**	
	comp=Z,4.6nm,0.6s							
BRTR	**Keskin Array B**	**77.39**	**308**	P	**P**	**20 10 13.3**	**+0.6**	
	comp=Z,4.0nm,0.7s,baz=98,slow=4.9,SNR=29							
BRTR	**Keskin Array B**	**77.39**	**308**	P	**P**	**20 10 13.3**	**+0.6**	
SUW	**Suwalki**	**77.78**	**324**	P	**P**	**20 10 13.8**	**-0.6**	
SUW				pmax	pmax			
	comp=Z,34nm,1.0s							
SUW	**Suwalki**	**77.78**	**324**	P	**P**	**20 10 13.8**	**-0.6**	
	comp=Z,34nm,1.0s							
YKW3	**Yellowknife Ar**	**78.51**	**25**	P	**P**	**20 10 18.3**	**0.0**	
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**20 10 19.2**	**+0.7**	
	comp=Z,0.9nm,0.6s,baz=302,slow=5.4,SNR=22							
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**20 10 19.2**	**+0.7**	
HFS	**Hagfors**	**79.12**	**332**	P	**P**	**20 10 21.4**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=65,slow=5.2,SNR=11							
HFS				LR	LR	20 49 26.7		
	comp=Z,66nm,18.1s,baz=246,slow=39							
HFS	**Hagfors**	**79.12**	**332**	P	**P**	**20 10 21.4**	**-0.3**	
BUR08	**Bucovina Ar. S**	**79.57**	**318**	*e*P	**P**	**20 10 24.9**	**+0.4**	
NB2	**NORSAR Subarra**	**79.61**	**334**	P	**P**	**20 10 23.9**	**-0.5**	
	comp=Z,2.0nm,0.6s,baz=51,slow=5.6							
NOA	**NORSAR Arra**	**79.61**	**334**	P	**P**	**20 10 24.0**	**-0.5**	
	comp=Z,3.1nm,0.7s,baz=51,slow=5.5,SNR=13							
NOA	**NORSAR Array B**	**79.61**	**334**	P	**P**	**20 10 24.0**	**-0.5**	
SUMG	**Summit**	**81.23**	**356**	*i* P	P	20 10 36.7	+3.3	
	comp=Z,9.4nm,0.8s							
OJC	**Ojcow**	**81.45**	**322**	*e*P	**P**	**20 10 35.3**	**+0.8**	
OJC	**Ojcow**	**81.45**	**322**	*e*P	**P**	**20 10 35.3**	**+0.8**	
MORC	**Moravsky Berou**	**82.92**	**322**	P	**P**	**20 10 39.4**	**-2.8**	
MORC	**Moravsky Berou**	**82.92**	**322**	P	**P**	**20 10 39.4**	**-2.8**	
VRAC	**Vranov**	**83.69**	**322**	LR	LR	20 51 10.8		
	comp=Z,172nm,18.1s,baz=66,slow=38							
CLL	**Collm**	**84.47**	**325**	*i* P	**P**	**20 10 50.9**	**+0.8**	
CLL				*e*		20 10 59.0		
CLL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**84.47**	**325**	*i* P	**P**	**20 10 50.9**	**+0.8**	
	comp=Z,10.0nm,1.0s							
CLL				LmH		20 45 00.0		
	comp=N,200nm,21.6s							
CLL				LmH		20 45 00.0		
	comp=E,200nm,21.1s							
GERES	**GERESS Array B**	**85.53**	**323**	P	**P**	**20 10 56.2**	**+0.6**	
	comp=E,0.8nm,0.6s,baz=47,slow=5.1,SNR=10							
GERES	**GERESS Array B**	**85.53**	**323**	P	**P**	**20 10 56.2**	**+0.6**	
GRF	**Grafenberg Arr**	**86.35**	**325**	*e*P	**P**	**20 11 01.1**	**+1.6**	
GRF				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GRF	**Grafenberg Arr**	**86.35**	**325**	*e*P	**P**	**20 11 01.1**	**+1.6**	
	comp=Z,4.0nm,0.8s							
FFC	**Flin Flon**	**88.61**	**27**	*e*P	**P**	**20 11 10.5**	**+0.2**	
FFC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
FFC	**Flin Flon**	**88.61**	**27**	*e*P	**P**	**20 11 10.5**	**+0.2**	
	comp=Z,3.6nm,1.0s							
EKA	**Eskdalemuir Ar**	**89.07**	**335**	P	**P**	**20 11 12.0**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=50,slow=4.6,SNR=3.3							
EKA	**Eskdalemuir Ar**	**89.07**	**335**	P	**P**	**20 11 12.0**	**-0.4**	

*IDC **21** 20:09:17.8±4.0,23.˝14S×175.˝31W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/21, mbtmp4.2/6, Error ellipse: s-maj=143.4km s-min=48.1km az=144.0*
*ISCJB **21** 20:09:18.1±1.2,22.˝8S±0.˝2×175.˝1W±0.˝2, h30km, mb4.3/9, Error ellipse: s-maj=30.3km s-min=15.4km az=36.5*
*NEIC **21** 20:09:21.5±1.0,22.˝82S×175.˝17W, h35km, mb4.7/4, Error ellipse: s-maj=25.7km s-min=13.2km az=130.0*

ISC 21 20:09:21.0±1.3,**22.˝8S**±0.˝2×**175.˝1W**±0.˝2,**h30**km,**n22**, σ1s**21**/22,**mb4.5**/9,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.44**	**20**	Pn		**Pn**	**20 11 34.3**	**-0.8**
	2.2nm,0.3s,baz=120,slow=20,SNR=3.5							
AFI	**Afiamalu**	**9.44**	**20**	Pn		**Pn**	**20 11 34.3**	**-0.8**
CTA	**Charters Tower**	**35.98**	**267**	P		**P**	**20 16 19.8**	**+0.4**
	7.9nm,0.5s,baz=97,slow=12,SNR=12							
CTA	**Charters Tower**	**35.98**	**267**	P		**P**	**20 16 19.8**	**+0.4**
CTAO	**Charters Tower**	**35.98**	**267**	*e*P		**P**	**20 16 19.4**	**0.0**
	8.5nm,0.6s							
PMG	**Port Moresby**	**38.48**	**284**	*e*P		**P**	**20 16 41.7**	**+1.0**
	46nm,1.2s							
STKA	**Stephens Creek**	**39.26**	**247**	P		**P**	**20 16 45.8**	**-1.3**
	2.6nm,1.0s,baz=92,slow=13,SNR=2.6							
STKA	**Stephens Creek**	**39.26**	**247**	*e*P		**P**	**20 16 45.5**	**-1.5**
	0.5nm,0.9s							
AS31	**Alice Springs**	**46.62**	**258**	*e*P		**P**	**20 17 45.7**	**-1.2**
ASAR	**Alice Springs**	**46.63**	**258**	P		**P**	**20 17 46.0**	**-0.9**
	1.0nm,0.6s,baz=88,slow=7.1,SNR=15							
ASAR	**Alice Springs**	**46.63**	**258**	P		**P**	**20 17 46.0**	**-0.9**
WRAB	**Tennant Creek**	**46.95**	**264**	*e*P		**P**	**20 17 48.1**	**-1.3**
	2.5nm,0.5s							
WRA	**Warramunga Arr**	**46.96**	**264**	P		**P**	**20 17 48.3**	**-1.2**
	1.9nm,0.4s,baz=102,slow=8.4,SNR=108							
WRA	**Warramunga Arr**	**46.96**	**264**	P		**P**	**20 17 48.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.38**	**263**	P		**P**	**20 18 52.9**	**+0.2**
	3.1nm,0.9s,baz=108,slow=7.7,SNR=7.5							
FITZ	**Fitzroy Crossi**	**55.38**	**263**	P		**P**	**20 18 52.9**	**+0.2**
VNDA	**Vanda**	**55.84**	**186**	P		**P**	**20 18 55.5**	**+0.4**
MBWA	**Marble Bar**	**59.97**	**258**	*e*P		**P**	**20 19 24.0**	**-0.9**
	3.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.40**	**288**	P		**P**	**20 22 36.5**	**+2.6**
	0.5nm,0.8s,baz=115,slow=3.3,SNR=5.1							
CMAR	**Chiang Mai Arr**	**93.40**	**288**	P		**P**	**20 22 36.5**	**+2.6**
AKASG	**Malin Array Be**	**146.34**	**332**	PKPbc		**PKPab**	**20 28 59.4**	**0.0**
	0.5nm,0.4s,baz=43,slow=4.3,SNR=4.6							
AKASG	**Malin Array Be**	**146.34**	**332**	PKPbc		**PKPab**	**20 28 59.4**	**0.0**

*ISCJB **21** 20:12:17.8±0.3,33.˝32N±0.˝01×115.˝76W±0.˝02, h4km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=23.7*
*NEIC **21** 20:12:19.0,33.˝31N×115.˝73W, h5km, ML3.1(PAS), After PAS.*
NEIC Felt at Bombay Beach and in the Salton Sea area.
*ECX **21** 20:12:19.4±0.7,33.˝31N×115.˝76W, h9km, MD3.1, ML3.3*

ISC 21 20:12:18.4±0.9,**33.˝29N**±0.˝02×**115.˝77W**±0.˝02,**h10**km±8km, **n36**, σ1s**05**/62,**21C-17D**,**Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.15**	**44**	⇓*i*P		**Pg**	**20 12 21.7**	**0.0**
SWSC	**Sam W. Stewart**	**0.35**	**184**	P		**Pg**	**20 12 26.0**	**+0.6**
	baz=0.4,SNR=297							
SWSC				⇑S		**Sg**	**20 12 30.8**	**+0.7**
	baz=0.4							
HAY	**Hayfield**	**0.42**	**9**	⇓*i*P		**Pg**	**20 12 26.7**	**+0.1**
CRR	**Carrizo Plain**	**0.44**	**203**	⇓*i*P		**Pb**	**20 12 27.8**	**-0.4**
BC3	**Big Chuckawall**	**0.45**	**36**	P		**Pg**	**20 12 26.7**	**-0.4**
	baz=0.4,SNR=303							
BC3				⇓S		**Sg**	**20 12 32.5**	**-0.6**
	baz=0.4							
COK	**Cook Ranch**	**0.45**	**176**	*e*P		**Pb**	**20 12 28.8**	**+0.5**
PFO	**Pinyon Flat Ob**	**0.66**	**299**	*e*Pg		**Pg**	**20 12 30.8**	**-0.4**
PFO				*e*Sg		**Sg**	**20 12 40.3**	**+0.5**
PFO	**Pinyon Flat Ob**	**0.66**	**299**	⇓P		**Pg**	**20 12 31.2**	**+0.1**
	baz=0.7							
PFO				⇓S		**Sg**	**20 12 40.3**	**+0.5**
	baz=0.7							
MONP	**Monument Peak**	**0.68**	**234**	⇓P		**Pg**	**20 12 32.0**	**+0.4**
	baz=0.7,SNR=89							
MONP				⇓S		**Sb**	**20 12 41.5**	**-0.5**
	baz=0.7							
DVTC	**Desert V Tower**	**0.69**	**204**	⇓P		**Pg**	**20 12 31.9**	**+0.1**
	baz=0.7,SNR=62							
DVTC				⇑S		**Sb**	**20 12 42.0**	**-0.2**
	baz=0.7							
BELC	**Belle Mtn. Jos**	**0.73**	**345**	⇓P		**Pg**	**20 12 32.4**	**-0.2**
	baz=0.7							
BELC				⇑S		**Sg**	**20 12 41.8**	**-0.3**
	baz=0.7							
GLA	**Glamis**	**0.82**	**107**	Pg		**Pg**	**20 12 32.7**	**-1.6**
GLA				*e*Sg		**Sg**	**20 12 44.1**	**-0.9**
GLA	**Glamis**	**0.82**	**107**	⇑*i*P		**Pg**	**20 12 33.8**	**-0.4**
GLA	**Glamis**	**0.82**	**107**	⇑P		**Pg**	**20 12 33.1**	**-1.1**
	baz=0.8,SNR=132							
GLA				⇑S		**Sg**	**20 12 44.8**	**-0.2**
	baz=0.8							
BAR	**Barrett**	**0.98**	**231**	*e*Pg		**Pg**	**20 12 37.1**	**-0.1**
BAR				*e*Sg		**Sg**	**20 12 49.2**	**-0.7**
IRM	**Iron Mountain**	**1.00**	**31**	⇑P		**Pg**	**20 12 36.6**	**-1.1**
	baz=1.0,SNR=174							
IRM				⇑S		**Sg**	**20 12 49.4**	**-1.4**
	baz=1.0							
Y12C	**Blythe**	**1.13**	**66**	⇑P		**Pg**	**20 12 38.9**	**-1.3**
	baz=1.1,SNR=38							
Y12C				⇓S		**Sg**	**20 12 53.5**	**-1.3**
	baz=1.1							
109C	**Camp Elliot, M**	**1.20**	**251**	⇑P		**Pg**	**20 12 39.6**	**-1.7**
	baz=1.2,SNR=34							
109C				⇓S		**Sg**	**20 12 55.8**	**-1.1**
	baz=1.2							
CBX	**Cerro Bola**	**1.24**	**218**	*e*P		**Pg**	**20 12 40.8**	**-1.3**
CBX				*e*S		**Sg**	**20 12 57.6**	**-0.6**
CBX				⇑*e*			20 13 07.8	
	comp=N,956nm,1.1s							
MURC	**Murrieta**	**1.24**	**285**	⇓P		**Pg**	**20 12 40.1**	**-2.1**
	baz=1.3							
MURC				⇑Sg		**Sn**	**20 12 59.0**	**+0.5**
	baz=1.3							
BBRC	**Big Bear Solar**	**1.36**	**315**	⇑P		**Pn**	**20 12 42.0**	**-1.6**
	baz=1.4							
BBRC				⇑Sg		**Sn**	**20 13 02.6**	**+0.7**
	baz=1.4							
RDX	**Rancho Dawling**	**1.37**	**186**	*e*S		**Sb**	**20 13 01.6**	**-0.2**
RDX				⇑*e*			20 13 09.3	
	comp=N,129nm,0.4s							
RDX				⇑*e*			20 13 09.7	
	comp=E,570nm,0.4s							
GMRC	**Granite Mounta**	**1.48**	**3**	⇓Pg		**Pb**	**20 12 46.2**	**+0.1**
	baz=1.5							
GMRC				⇑Sg		**Sg**	**20 13 06.1**	**-0.1**
	baz=1.5							
HEC	**Hector,Ludlow**	**1.60**	**343**	⇑Pg		**Pb**	**20 12 48.5**	**+0.4**
	baz=1.6							
HEC				⇑Sg		**Sg**	**20 13 10.2**	**+0.2**
	baz=1.6							
PDMCI	**Parker Dam,Lak**	**1.69**	**53**	⇓Sb		**Sn**	**20 13 09.9**	**+0.5**
	baz=1.6							
PBX	**Punta Banda**	**1.75**	**208**	*e*S		**Sn**	**20 13 12.3**	**+1.3**
NEE2	**Needles Airpor**	**1.75**	**33**	⇓Sb		**Sn**	**20 13 12.2**	**+1.1**
	baz=1.7							
113A	**Mohawk Valley,**	**1.76**	**107**	⇑Pb		**Pn**	**20 12 50.1**	**+1.3**
	baz=1.7							
113A				⇓Sb		**Sn**	**20 13 12.7**	**+1.4**
	baz=1.7							
ECNX	**Esteban Cantu**	**1.78**	**204**	*e*P		**Pn**	**20 12 49.9**	**+0.7**
ECNX				*e*S		**Sn**	**20 13 08.5**	**-3.4**
ECNX				*e*S		**Sb**	**20 13 13.6**	**+0.1**
RRX	**Edison Barstow**	**1.89**	**327**	⇑Sg		**Sg**	**20 13 19.6**	**+0.6**
	baz=1.9							
MWC	**Mount Wilson**	**2.12**	**297**	*e*Pn		**Pn**	**20 12 55.0**	**+0.9**
MWC				*e*Sn		**Sb**	**20 13 23.9**	**+0.4**
GSC	**Goldstone**	**2.18**	**337**	*e*Pn		**Pb**	**20 12 58.9**	**+0.9**
GSC				*e*Sn		**Sg**	**20 13 27.1**	**-1.4**
PASC	**Pasadena Art C**	**2.20**	**294**	*e*Pn		**Pn**	**20 12 55.7**	**+0.8**
PASC				*e*Sn		**Sb**	**20 13 25.8**	**+0.4**
SPX	**San Pedro Mart**	**2.26**	**173**	*e*P		**Pn**	**20 12 57.5**	**+1.4**
SPX				*e*S		**Sb**	**20 13 26.8**	**-0.7**
OSI	**Osito Adit**	**2.79**	**299**	*e*Pn		**Pb**	**20 13 08.7**	**+0.4**
ISA	**Isabella**	**3.25**	**317**	*e*Pn		**Pn**	**20 13 10.9**	**+1.4**
ISA				*e*Sg		**Sg**	**20 14 00.4**	**-2.5**

NEIC 21 20:16:19.0,33.˝31N×115.˝73W,h5km,ML2.8(PAS), **9C-12D,After PAS.,Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.38**	**188**	⇓P		**Pg**	**20 16 26.0**	**-0.3**
	baz=0.4							
BC3	**Big Chuckawall**	**0.41**	**34**	⇑P		**Pg**	**20 16 26.7**	**-0.5**
	baz=0.4							
BC3				⇓S		**Sg**	**20 16 32.5**	**-0.3**
	baz=0.4							
PFO	**Pinyon Flat Ob**	**0.67**	**296**	*e*Pg		**Pg**	**20 16 30.9**	**-1.3**
PFO				*e*Sg		**Sg**	**20 16 39.1**	**-1.9**
PFO	**Pinyon Flat Ob**	**0.67**	**296**	⇓P		**Pg**	**20 16 31.1**	**-1.0**
	baz=0.7							
PFO				⇑S		**Sg**	**20 16 40.3**	**-0.7**
	baz=0.7							
MONP	**Monument Peak**	**0.71**	**234**	⇑P		**Pg**	**20 16 32.3**	**-0.7**
	baz=0.7							
MONP				⇑S		**Sg**	**20 16 41.5**	**-1.1**
	baz=0.7							
BELC	**Belle Mtn. Jos**	**0.72**	**342**	⇑P		**Pg**	**20 16 32.4**	**-0.7**
	baz=0.7							
BELC				⇓S		**Sg**	**20 16 41.9**	**-0.7**
	baz=0.7							
DVTC	**Desert V Tower**	**0.72**	**205**	⇓P		**Pg**	**20 16 32.0**	**-1.0**
	baz=0.7							
DVTC				⇓S		**Sg**	**20 16 41.8**	**-0.7**
	baz=0.7							
GLA	**Glamis**	**0.80**	**109**	*e*Pg		**Pg**	**20 16 32.9**	**-1.6**
GLA				*e*Sg		**Sg**	**20 16 44.5**	**-0.6**
GLA	**Glamis**	**0.80**	**109**	⇑P		**Pg**	**20 16 33.2**	**-1.4**
	baz=0.8							
IRM	**Iron Mountain**	**

Y12C			⇑S		**Sb**	**20 17 37.7**	**+0.1**
	baz=1.1						
109C	**Camp Elliot, M**	**1.22 251**	⇑P		**Pn**	**20 17 25.4**	**+0.5**
	baz=1.2						
CBX	**Cerro Bola**	**1.25 219**	*e*P		**Pn**	**20 17 25.0**	**-0.4**
CBX			*e*S		**Sb**	**20 17 41.9**	**+0.2**
CBX			⇑*e*			20 17 52.1	
	comp=N,2μm,1.1s						
MURC	**Murrieta**	**1.26 284**	⇑P		**Pn**	**20 17 26.0**	**+0.5**
	baz=1.3						
MURC			⇓S		**Sb**	**20 17 42.9**	**+0.9**
	baz=1.3						
RDX	**Rancho Dawling**	**1.37 187**	*e*S		**Sb**	**20 17 45.7**	**+0.4**
RDX			⇑*e*			20 17 53.6	
	comp=N,247nm,0.4s						
BBRC	**Big Bear Solar**	**1.38 315**	⇓S		**Sb**	**20 17 46.7**	**+1.0**
	baz=1.4						
GMRC	**Granite Mounta**	**1.48 2**	⇓Sb		**Sb**	**20 17 49.9**	**+1.5**
	baz=1.5						
PDMCI	**Parker Dam,Lak**	**1.67 52**	⇓S		**Sb**	**20 17 53.9**	**+0.3**
	baz=1.6						
PBX	**Punta Banda**	**1.76 209**	*e*P		**Pn**	**20 17 33.5**	**+1.1**
PBX			*e*S		**Sb**	**20 17 56.9**	**+0.7**
ECNX	**Esteban Cantu**	**1.79 204**	*e*P		**Pb**	**20 17 34.3**	**-0.6**
ECNX			*e*P		**Pn**	**20 17 31.2**	**-1.6**
ECNX			*e*S		**Sn**	**20 17 52.7**	**-2.5**
ECNX			*e*S		**Sb**	**20 17 57.8**	**+0.7**
ECNX			*e*			20 18 00.5	
	comp=E,275nm,0.3s						
ECNX			⇑*e*			20 18 06.7	
	comp=N,468nm,0.7s						
LDFC	**Landfair**	**1.85 16**	*e*Pn		**Pg**	**20 17 38.6**	**+0.6**
MWC	**Mount Wilson**	**2.15 296**	*e*Pn		**Pb**	**20 17 41.1**	**0.0**
GSC	**Goldstone**	**2.19 336**	*e*Pn		**Pb**	**20 17 42.5**	**+0.7**
PASC	**Pasadena Art C**	**2.22 294**	*e*Pn		**Pb**	**20 17 42.3**	**+0.1**
CIS	**Catalina Islan**	**2.23 274**	⇓Pb		**Pb**	**20 17 42.9**	**+0.4**
	baz=2.2						
CIS			⇑Sb		**Sb**	**20 18 12.3**	**+2.3**
	baz=2.2						
OSI	**Osito Adit**	**2.81 299**	Pn		**Pn**	**20 17 47.1**	**+0.3**
DAC	**Darwin (Calif)**	**3.35 333**	*e*Pn		**Pb**	**20 18 00.1**	**-1.4**
TUC	**Tucson**	**4.28 102**	Pn		**Pn**	**20 18 09.4**	**+2.2**

*ISCJB **21** 20:17:24.1±0.5,0˚.15S±0˚.06×124˚.57E±0˚.06,h73km, mb3.5/8, Error ellipse: s-maj=8.9km s-min=7.4km az=145.7*

*DJA **21** 20:17:24.2±0.4,0˚S±5˚×12˚5E±˚, h10km,M4.2/7,mb4.4/4, mB4.9/1,MLv4.1/7,Mw(mB)4.2/1*

*IDC **21** 20:17:25.7±3.0,0˚.20S×124˚.60E,h74km±26km,mb3.3/8, mb1 3.4/9,mb1mx3.3/25,mbtmp3.4/9, Error ellipse: s-maj=28.1km s-min=16.7km az=70.0*

ISC 21 20:17:25.8±0.7,0˚.07S±0˚.06×124˚.62E±0˚.06,h73km,n17, σ1§49/21,mb3.8/8,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**1.52**	**8**	P	**Pn**	**20 17 51.4**	**+0.1**
LUWI	**Luwuk**	**2.08**	**242**	P	**Pn**	**20 18 00.4**	**+1.8**
MRSI	**Marisa**	**2.73**	**282**	P	**Pn**	**20 18 05.2**	**-2.2**
LBMI	**Labuha**	**2.94**	**101**	P	**Pn**	**20 18 11.8**	**+1.5**
AAI	**Ambon**	**5.07**	**135**	P	**Pn**	**20 18 39.2**	**-0.1**
	31nm,0.7s,0.2nm						
TTSI	**Tana Toraja**	**5.63**	**238**	P	**Pn**	**20 18 48.0**	**+1.0**
	57nm,0.7s,1μm0.2nm						
SPSI	**Sidrap Palu**	**6.20**	**231**	P	**Pn**	**20 18 56.7**	**+2.0**
	16nm,0.8s						
SWI	**Sorong**	**6.69**	**97**	P	**Pn**	**20 19 01.5**	**0.0**
KAPI	**Kappang**	**6.90**	**225**	P	**Pn**	**20 19 03.0**	**-1.5**
	2.4nm,0.3s,baz=58,slow=2.3,SNR=10.0						
KAPI				S	**Sn**	**20 20 19.8**	**-1.8**
	1.6nm,0.3s,baz=218,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**21.92**	**155**	P	**P**	**20 22 10.3**	**-3.1**
	0.5nm,0.5s,baz=335,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.13**	**160**	P	**P**	**20 22 43.5**	**-0.7**
	0.3nm,0.4s,baz=336,slow=7.8,SNR=9.7						
ASAR				PcP	**PcP**	**20 26 17.9**	**+0.9**
	0.3nm,0.4s,baz=346,slow=2.0,SNR=7.6						
USRK	**Ussuriysk Arra**	**44.57**	**8**	P	**P**	**20 25 32.1**	**+1.5**
	0.4nm,0.3s,baz=182,slow=6.3,SNR=4.2						
SONM	**Songino Array**	**50.28**	**344**	P	**P**	**20 26 15.2**	**+0.2**
	0.2nm,0.4s,baz=162,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**59.53**	**328**	P	**P**	**20 27 21.5**	**-0.2**
	0.4nm,0.3s,baz=123,slow=8.3,SNR=17						
MKAR				PcP	**PcP**	**20 28 08.6**	**+0.1**
	0.2nm,0.6s,baz=114,slow=4.9,SNR=2.3						
MKAR				ScP	**ScP**	**20 32 01.4**	**-1.7**
	0.1nm,0.5s,baz=101,slow=5.1,SNR=3.6						
AAK	**Ala-Archa**	**61.82**	**320**	P	**P**	**20 27 39.2**	**+1.7**
	0.3nm,0.3s,baz=128,slow=5.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**63.84**	**329**	P	**P**	**20 27 50.6**	**0.0**
	0.5nm,0.3s,baz=119,slow=7.6,SNR=4.2						
AKTO	**Aktyubinsk**	**75.34**	**323**	P	**P**	**20 29 00.9**	**-0.5**
	0.6nm,0.4s,baz=98,slow=6.7,SNR=4.2						

*DJA **21** 20:27:57.4±0.8,37˚S±11˚×17˚8E±1˚3,h10km,M5.1/18, mB5.5/4,mb5.2/18,Mw(mB)5.0/4,Mwp6.4/1*

*AUST **21** 20:28:11.9±0.4,37˚.72S×176˚.93E,h99km, Error ellipse: s-maj=1.2km s-min=0.8km az=249.0*

*BJI **21** 20:28:13.9,38˚.08S×177˚.23E,h164km,mB5.4/13, mb5.1/17*

*NEIC **21** 20:28:16.8±0.2,37˚.86S×176˚.79E,mb4.8/25,Error ellipse: s-maj=6.5km s-min=4.2km az=99.0*

NEIC Felt widely on the North Island.

*ISCJB **21** 20:28:16.9±0.2,37˚.88S±0˚.02×176˚.72E±0˚.04,h170km±1km, mb4.9/59,Error ellipse: s-maj=5.5km s-min=3.9km az=171.9*

*IDC **21** 20:28:18.7±0.7,37˚.51S×176˚.89E,h176km±5km,mb4.5/21, mb1 4.6/21,mb1mx4.5/25,mbtmp4.5/21,MS3.8/5, Ms1 3.8/5,ms1mx3.3/30,Error ellipse: s-maj=13.0km s-min=9.4km az=52.0*

*WEL **21** 20:28:18.3±0.2,37˚.78S×176˚.76E,h158km±1km,ML6.1/22, Error ellipse: s-maj=1.5km s-min=1.2km az=90.0,MM 6.*

WEL Felt between Coromandel, Canterbury and Gisborne, maximum reported intensity.

*MOS **21** 20:28:18.5±1.1,37˚.60S×176˚.72E,h179km,mb5.0/21, Error ellipse: s-maj=13.8km s-min=10.7km az=124.2*

*GCMT **21** 20:28:20.1±0.2,37˚.77S×176˚.93E,h163km±1km,MW5.1, Moment Tensor Solution. s53,c80; s84,c124; Moment tensor: Scale 10^16^Nm; Mrr2.64±.15; Mθθ1.24±.18; Mφφ-3.88±.16; Mrθ4.08±.13; Mθφ-0.53±.15; Mφr3.36±.12; Best double couple: M0:6.30000×10^16^ NP1:φ1157.00000°, δ27.00000°, λ29.00000°. NP2:φ241.00000°, δ77.00000°, λ114.00000°. Principal axes: T 6.5900, Plg52.0000°, Azm339.0000°; N -0.5700, Plg24.0000°, Azm215.0000°; P -6.0200, Plg28.0000°, Azm112.0000°; Data Used: II IU IC G CN.*

ISC 21 20:28:17.5±0.3,37˚.85S±0˚.03×176˚.84E±0˚.04,h168km±2km, h168km:pP-P,n585,σ1§43/650,mb4.9/58,55C-21D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.18**	**224**	⇑PN	**Pn**	**20 28 39.7**	**-0.3**
OPRZ	**Ohinepanea**	**0.22**	**272**	⇓PN	**Pn**	**20 28 39.1**	**-0.9**
OPRZ				SN	**Sn**	**20 28 55.3**	**-2.0**
OPRZ	**Ohinepanea**	**0.22**	**272**	Pn	**Pn**	**20 28 39.1**	**-0.9**
EDRZ	**Edgecumbe**	**0.27**	**197**	⇑PN	**Pn**	**20 28 39.7**	**-0.5**
EDRZ	**Edgecumbe**	**0.27**	**197**	Pn	**Pn**	**20 28 39.8**	**-0.5**
LIRZ	**Lichensteins R**	**0.39**	**247**	PN	**Pn**	**20 28 40.0**	**-0.6**
LIRZ				SN	**Sn**	**20 28 57.2**	**-1.0**
LIRZ	**Lichensteins R**	**0.39**	**247**	Pn	**Pn**	**20 28 40.0**	**-0.6**
MKRZ	**Makatiti**	**0.41**	**226**	PN	**Pn**	**20 28 40.8**	**+0.2**
MKRZ	**Makatiti**	**0.41**	**226**	Pn	**Pn**	**20 28 40.8**	**+0.2**
WIZ	**White Island**	**0.43**	**41**	PN	**Pn**	**20 28 39.4**	**-1.3**
WIZ	**White Island**	**0.43**	**41**	Pn	**Pn**	**20 28 39.4**	**-1.3**
OMRZ	**Omania**	**0.45**	**235**	⇑PN	**Pn**	**20 28 40.3**	**-0.4**
OMRZ				SN	**Sn**	**20 28 57.6**	**-1.1**
OMRZ	**Omania**	**0.45**	**235**	Pn	**Pn**	**20 28 40.4**	**-0.4**
URZ	**Urewera**	**0.46**	**152**	P	**Pn**	**20 28 40.2**	**-0.5**
	9μm,0.3s,baz=280,slow=2.5						
URZ				S	**Sn**	**20 28 56.6**	**-2.1**
	4μm,0.3s,baz=126,slow=19,SNR=23						
URZ	**Urewera**	**0.46**	**152**	⇓PN	**Pn**	**20 28 40.5**	**-0.2**
URZ				SN	**Sn**	**20 28 57.3**	**-1.4**
URZ	**Urewera**	**0.46**	**152**	⇑*i*Pn	**Pn**	**20 28 40.2**	**-0.5**
URZ				*e*Sn	**Sn**	**20 28 54.9**	**-3.8**
URZ				S	S	20 28 56.6	
URZ					Sn	20 28 57.3	-1.4
TARZ	**Mount Tarawera**	**0.46**	**214**	⇑PN	**Pn**	**20 28 40.8**	**-0.1**
TARZ	**Mount Tarawera**	**0.46**	**214**	Pn	**Pn**	**20 28 40.8**	**-0.1**
TGRZ	**Tauranga**	**0.47**	**285**	PN	**Pn**	**20 28 40.1**	**-0.8**
TGRZ				SN	**Sn**	**20 28 56.6**	**-2.0**
TGRZ	**Tauranga**	**0.47**	**285**	Pn	**Pn**	**20 28 40.1**	**-0.8**
KARZ	**Kaharoa**	**0.50**	**250**	⇑PN	**Pn**	**20 28 40.6**	**-0.4**
KARZ				SN	**Sn**	**20 28 57.5**	**-1.5**
KARZ	**Kaharoa**	**0.50**	**250**	Pn	**Pn**	**20 28 40.6**	**-0.4**
RRRZ	**Republican Roa**	**0.55**	**208**	PN	**Pn**	**20 28 41.0**	**-0.2**
RRRZ				SN	**Sn**	**20 28 58.1**	**-1.4**
RRRZ	**Republican Roa**	**0.55**	**208**	Pn	**Pn**	**20 28 41.0**	**-0.2**
UTU	**Utuhina**	**0.60**	**237**	⇑PN	**Pn**	**20 28 41.6**	**+0.1**
UTU	**Utuhina**	**0.60**	**237**	Pn	**Pn**	**20 28 41.6**	**+0.1**
HRRZ	**Handcock Road**	**0.69**	**119**	⇑PN	**Pn**	**20 28 42.0**	**0.0**
HRRZ	**Handcock Road**	**0.69**	**119**	Pn	**Pn**	**20 28 42.0**	**0.0**
MWZ	**Matawai**	**0.73**	**132**	⇓PN	**Pn**	**20 28 42.0**	**-0.2**
MWZ	**Matawai**	**0.73**	**132**	Pn	**Pn**	**20 28 42.0**	**-0.2**
PRRZ	**Plateau Road**	**0.73**	**208**	PN	**Pn**	**20 28 42.1**	**-0.1**
PRRZ	**Plateau Road**	**0.73**	**208**	Pn	**Pn**	**20 28 42.1**	**-0.1**
MYRZ	**Mayor Island**	**0.74**	**320**	⇓PN	**Pn**	**20 28 41.4**	**-0.9**
ALRZ	**Allen Road**	**0.81**	**209**	⇑PN	**Pn**	**20 28 42.5**	**-0.1**
ALRZ				SN	**Sn**	**20 29 01.2**	**-0.9**
ALRZ	**Allen Road**	**0.81**	**209**	Pn	**Pn**	**20 28 42.5**	**-0.1**
TOZ	**Tahuroa Road**	**1.06**	**276**	⇑PN	**Pn**	**20 28 44.0**	**-0.6**
TOZ				SN	**Sn**	**20 29 03.5**	**-1.8**
TOZ				SN		20 29 04.0	
TOZ	**Tahuroa Road**	**1.06**	**276**	Pn	**Pn**	**20 28 44.0**	**-0.6**
TOZ				Sn	**Sn**	**20 29 04.0**	**-1.3**
WHTZ	**Whakaora**	**1.07**	**220**	⇑PN	**Pn**	**20 28 45.2**	**+0.5**
WHTZ	**Whakaora**	**1.07**	**220**	Pn	**Pn**	**20 28 45.2**	**+0.5**
RAHZ	**Arahi**	**1.08**	**170**	⇑PN	**Pn**	**20 28 45.5**	**+0.8**
RAHZ	**Arahi**	**1.08**	**170**	Pn	**Pn**	**20 28 45.5**	**+0.8**
PUZ	**Puketiti**	**1.14**	**101**	PN	**Pn**	**20 28 45.4**	**+0.2**
PUZ	**Puketiti**	**1.14**	**101**	Pn	**Pn**	**20 28 45.4**	**+0.2**
HATZ	**Hinemaiaia**	**1.19**	**209**	PN	**Pn**	**20 28 45.7**	**+0.1**
HATZ	**Hinemaiaia**	**1.19**	**209**	Pn	**Pn**	**20 28 45.7**	**+0.1**
MXZ	**Matakaoa Point**	**1.20**	**76**	⇓PN	**Pn**	**20 28 46.0**	**+0.3**
MXZ	**Matakaoa Point**	**1.20**	**76**	Pn	**Pn**	**20 28 46.0**	**+0.3**
WATZ	**Wairara**	**1.22**	**225**	PN	**Pn**	**20 28 46.0**	**+0.2**
WATZ	**Wairara**	**1.22**	**225**	Pn	**Pn**	**20 28 46.0**	**+0.2**
NMHZ	**Naumai**	**1.24**	**181**	⇑PN	**Pn**	**20 28 47.2**	**+1.1**
CNGZ	**Carnagh Statio**	**1.25**	**121**	⇑PN	**Pn**	**20 28 47.5**	**+1.4**
CNGZ	**Carnagh Statio**	**1.25**	**121**	Pn	**Pn**	**20 28 47.5**	**+1.4**
RATZ	**Rangitukua**	**1.31**	**219**	PN	**Pn**	**20 28 46.6**	**-0.2**
RATZ	**Rangitukua**	**1.31**	**219**	Pn	**Pn**	**20 28 46.6**	**-0.2**
KNZ	**Kokohu**	**1.34**	**151**	PN	**Pn**	**20 28 47.8**	**+0.9**
KNZ	**Kokohu**	**1.34**	**151**	Pn	**Pn**	**20 28 47.8**	**+0.9**
BKZ	**Black Stump Fm**	**1.34**	**192**	⇓PN	**Pn**	**20 28 47.0**	**0.0**
BKZ	**Black Stump Fm**	**1.34**	**192**	Pn	**Pn**	**20 28 47.0**	**0.0**
PRGZ	**Paritu Road**	**1.35**	**143**	PN	**Pn**	**20 28 48.0**	**+0.9**
PRGZ	**Paritu Road**	**1.35**	**143**	Pn	**Pn**	**20 28 48.0**	**+0.9**
RITZ	**Rihia Road**	**1.36**	**214**	PN	**Pn**	**20 28 47.7**	**+0.6**
RITZ	**Rihia Road**	**1.36**	**214**	Pn	**Pn**	**20 28 47.8**	**+0.6**
KUZ	**Kuaotunu**	**1.42**	**321**	PN	**Pn**	**20 28 46.3**	**-1.5**
KUZ	**Kuaotunu**	**1.42**	**321**	Pn	**Pn**	**20 28 46.3**	**-1.5**
KATZ	**Kakaramea**	**1.44**	**218**	⇑PN	**Pn**	**20 28 48.1**	**+0.1**
KATZ	**Kakaramea**	**1.44**	**218**	Pn	**Pn**	**20 28 48.1**	**+0.1**
MKAZ	**Moumakai**	**1.52**	**299**	⇑PN	**Pn**	**20 28 47.9**	**-0.8**
MKAZ	**Moumakai**	**1.52**	**299**	Pn	**Pn**	**20 28 47.9**	**-0.8**
MHGZ	**Mahia Peninsul**	**1.55**	**147**	⇑PN	**Pn**	**20 28 50.3**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.55**	**147**	Pn	**Pn**	**20 28 50.3**	**+1.3**
KRVZ	**Karewarewa**	**1.56**	**217**	PN	**Pn**	**20 28 49.3**	**+0.2**
KRVZ	**Karewarewa**	**1.56**	**217**	Pn	**Pn**	**20 28 49.3**	**+0.2**
MCHZ	**McNeill Hill**	**1.59**	**184**	PN	**Pn**	**20 28 50.5**	**+1.1**
MCHZ	**McNeill Hill**	**1.59**	**184**	Pn	**Pn**	**20 28 50.5**	**+1.1**
WTVZ	**West Tongariro**	**1.60**	**217**	PN	**Pn**	**20 28 49.7**	**+0.1**
WTVZ	**West Tongariro**	**1.60**	**217**	Pn	**Pn**	**20 28 49.7**	**+0.1**
OTVZ	**Oturere**	**1.60**	**215**	⇑PN	**Pn**	**20 28 49.9**	**+0.3**
OTVZ	**Oturere**	**1.60**	**215**	Pn	**Pn**	**20 28 50.0**	**+0.3**
NGZ	**Ngauruhoe**	**1.64**	**216**	PN	**Pn**	**20 28 50.2**	**+0.2**
NGZ	**Ngauruhoe**	**1.64**	**216**	Pn	**Pn**	**20 28 50.2**	**+0.2**
TWVZ	**Taurewa**	**1.64**	**222**	⇑PN	**Pn**	**20 28 50.1**	**+0.1**
TWVZ	**Taurewa**	**1.64**	**222**	Pn	**Pn**	**20 28 50.1**	**+0.1**
TUVZ	**Tukino**	**1.69**	**213**	PN	**Pn**	**20 28 50.8**	**+0.2**
TUVZ	**Tukino**	**1.69**	**213**	Pn	**Pn**	**20 28 50.8**	**+0.2**
HIZ	**Hauiti**	**1.69**	**246**	PN	**Pn**	**20 28 50.6**	**+0.1**
HIZ	**Hauiti**	**1.69**	**246**	Pn	**Pn**	**20 28 50.6**	**+0.1**
FWVZ	**Far West T-bar**	**1.73**	**215**	PN	**Pn**	**20 28 50.8**	**-0.2**
FWVZ	**Far West T-bar**	**1.73**	**215**	Pn	**Pn**	**20 28 50.9**	**-0.2**
DRZ	**Dome Shelter**	**1.73**	**215**	⇓PN	**Pn**	**20 28 51.3**	**+0.1**
DRZ	**Dome Shelter**	**1.73**	**215**	Pn	**Pn**	**20 28 51.3**	**+0.1**
BHHZ	**Black Hill Sta**	**1.74**	**200**	⇑PN	**Pn**	**20 28 50.9**	**-0.1**
BHHZ	**Black Hill Sta**	**1.74**	**200**	Pn	**Pn**	**20 28 50.9**	**-0.1**
TRVZ	**Turoa**	**1.76**	**215**	PN	**Pn**	**20 28 51.5**	**0.0**
TRVZ	**Turoa**	**1.76**	**215**	Pn	**Pn**	**20 28 51.5**	**0.0**
WNVZ	**Wahianoa**	**1.76**	**213**	⇑PN	**Pn**	**20 28 51.4**	**0.0**
WNVZ	**Wahianoa**	**1.76**	**213**	Pn	**Pn**	**20 28 51.4**	**0.0**
MOVZ	**Moawhango**	**1.77**	**208**	PN	**Pn**	**20 28 50.9**	**-0.4**
MOVZ	**Moawhango**	**1.77**	**208**	Pn	**Pn**	**20 28 50.9**	**-0.4**
OTAZ	**Otara**	**1.77**	**300**	PN	**Pn**	**20 28 50.9**	**-0.4**
OTAZ	**Otara**	**1.77**	**300**	Pn	**Pn**	**20 28 50.9**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.81**	**174**	⇑PN	**Pn**	**20 28 52.7**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.81**	**174**	Pn	**Pn**	**20 28 52.7**	**+1.0**
PKVZ	**Pokaka**	**1.85**	**219**	PN	**Pn**	**20 28 52.3**	**+0.1**
MTVZ	**Mangateitei**	**1.87**	**215**	PN	**Pn**	**20 28 52.6**	**+0.2**
MTVZ	**Mangateitei**	**1.87**	**215**	Pn	**Pn**	**20 28 52.6**	**+0.2**
MTAZ	**Motutapu**	**1.87**	**304**	PN	**Pn**	**20 28 51.7**	**-0.6**
MTAZ	**Motutapu**	**1.87**	**304**	Pn	**Pn**	**20 28 51.7**	**-0.6**
KAHZ	**Kahuranaki**	**1.94**	**179**	PN	**Pn**	**20 28 54.0**	**+0.9**
KAHZ	**Kahuranaki**	**1.94**	**179**	Pn	**Pn**	**20 28 54.0**	**+0.9**
KAAZ	**Kauri Point**	**1.99**	**301**	PN	**Pn**	**20 28 53.1**	**-0.5**
KAAZ	**Kauri Point**	**1.99**	**301**	Pn	**Pn**	**20 28 53.1**	**-0.5**
WTAZ	**Waiatarua**	**2.02**	**296**	PN	**Pn**	**20 28 53.3**	**-0.8**
WTAZ	**Waiatarua**	**2.02**	**296**	Pn	**Pn**	**20 28 53.3**	**-0.8**
ABAZ	**Army Bay**	**2.03**	**307**	⇓PN	**Pn**	**20 28 53.5**	**-0.7**
VRZ	**Vera Road**	**2.07**	**231**	PN	**Pn**	**20 28 54.5**	**0.0**
VRZ	**Vera Road**	**2.07**	**231**	Pn	**Pn**	**20 28 54.5**	**0.0**
RVAZ	**Riverhead Bore**	**2.10**	**300**	⇓PN	**Pn**	**20 28 54.0**	**-0.9**
PNHZ	**Pukenui**	**2.12**	**193**	⇑PN	**Pn**	**20 28 54.9**	**-0.2**
PNHZ	**Pukenui**	**2.12**	**193**	Pn	**Pn**	**20 28 54.9**	**-0.2**
PXZ	**Pawanui**	**2.17**	**179**	PN	**Pn**	**20 28 56.1**	**+0.4**
PXZ	**Pawanui**	**2.17**	**179**	Pn	**Pn**	**20 28 56.1**	**+0.4**
WPHZ	**Waipukurau**	**2.23**	**188**	⇑PN	**Pn**	**20 28 56.5**	**+0.1**
WPHZ	**Waipukurau**	**2.23**	**188**	Pn	**Pn**	**20 28 56.5**	**+0.1**
TSZ	**Takapari Road**	**2.31**	**197**	PN	**Pn**	**20 28 56.9**	**-0.4**
TSZ	**Takapari Road**	**2.31**	**197**	Pn	**Pn**	**20 28 56.9**	**-0.4**
MHEZ	**Mangahewa**	**2.32**	**237**	⇑PN	**Pn**	**20 28 58.8**	**+1.4**
WAZ	**Wanganui**	**2.39**	**217**	PN	**Pn**	**20 28 58.3**	**+0.1**
WAZ	**Wanganui**	**2.39**	**217**	Pn	**Pn**	**20 28 58.3**	**+0.1**
RAEZ	**Rainy Point**	**2.39**	**232**	PN	**Pn**	**20 28 59.2**	**+1.0**
RAEZ	**Rainy Point**	**2.39**	**232**	Pn	**Pn**	**20 28 59.2**	**+1.0**
PRHZ	**Porangahau**	**2.42**	**184**	PN	**Pn**	**20 28 58.7**	**+0.2**
DVHZ	**Dannevirke**	**2.50**	**192**	PN	**Pn**	**20 28 58.9**	**-0.6**
DVHZ	**Dannevirke**	**2.50**	**192**	Pn	**Pn**	**20 28 58.9**	**-0.6**
NEZ	**North Egmont**	**2.57**	**236**	PN	**Pn**	**20 29 01.7**	**+1.2**
NEZ	**North Egmont**	**2.57**	**236**	Pn	**Pn**	**20 29 01.7**	**+1.2**
PKE	**Pukeiti**	**2.60**	**238**	⇓PN	**Pn**	**20 29 01.7**	**+0.9**
POWZ	**Post Office Ro**	**2.67**	**198**	⇑PN	**Pn**	**20 29 01.0**	**-0.5**
POWZ	**Post Office Ro**	**2.67**	**198**	Pn	**Pn**	**20 29 01.0**	**-0.5**
NRZ	**Ngariki Road**	**2.71**	**236**	PN	**Pn**	**20 29 02.8**	**+0.7**
NRZ	**Ngariki Road**	**2.71**	**236**	Pn	**Pn**	**20 29 02.8**	**+0.7**
NWEZ	**Newall Road**	**2.73**	**238**	PN	**Pn**	**20 29 03.2**	**+1.0**
NWEZ	**Newall Road**	**2.73**	**238**	Pn	**Pn**	**20 29 03.2**	**+1.0**
WCZ	**Waipu Caves**	**2.76**	**313**	PN	**Pn**	**20 29 01.9**	**-0.8**
WCZ	**Waipu Caves**	**2.76**	**313**	Pn	**Pn**	**20 29 01.9**	**-0.8**
BFZ	**Birch Farm**	**2.86**	**189**	⇓PN	**Pn**	**20 29 03.5**	**-0.4**
TIWZ	**Tintock**	**3.01**	**194**	PN	**Pn**	**20 29 05.2**	**-0.6**
TIWZ	**Tintock**	**3.01**	**194**	Pn	**Pn**	**20 29 05.2**	**-0.6**
HOWZ	**Holdsworth Sta**	**3.21**	**198**	⇑PN	**Pn**	**20 29 06.8**	**-1.3**
OGWZ	**Otaki Gorge**	**3.23**	**203**	PN	**Pn**	**20 29 07.2**	**-1.2**
OGWZ	**Otaki Gorge**	**3.23**	**203**	Pn	**Pn**	**20 29 07.2**	**-1.2**
TMWZ	**Te Maipa**	**3.33**	**192**	⇑PN	**Pn**	**20 29 08.7**	**-1.0**
KIW	**Kapiti Island**	**3.35**	**206**	⇑PN	**Pn**	**20 29 08.4**	**-1.6**
KIW	**Kapiti Island**	**3.35**	**206**	Pn	**Pn**	**20 29 08.4**	**-1.6**
MTW	**Mount Morrison**	**3.46**	**197**	PN	**Pn**	**20 29 09.7**	**-1.6**
CAW	**Cannon Point**	**3.53**	**202**	⇑PN	**Pn**	**20 29 10.6**	**-1.6**
CAW	**Cannon Point**	**3.53**	**202**	Pn	**Pn**	**20 29 10.6**	**-1.6**
TRWZ	**Traveller**	**3.65**	**194**	⇑PN	**Pn**	**20 29 12.4**	**-1.4**
TRWZ	**Traveller**	**3.65**	**194**	Pn	**Pn**	**20 29 12.4**	**-1.4**
PAWZ	**Paruwai Farm**	**3.69**	**197**	PN	**Pn**	**20 29 12.5**	**-1.8**
PAWZ	**Paruwai Farm**	**3.69**	**197**	Pn	**Pn**	**20 29 12.5**	**-1.8**
OUZ	**Omahuta**	**3.70**	**314**	PN	**Pn**	**20 29 13.1**	**-1.3**
OUZ	**Omahuta**	**3.70**	**314**	Pn	**Pn**	**20 29 13.1**	**-1.3**
OUZ				*e*Sn	**Sn**	**20 29 57.6**	**-1.2**
DUWZ	**D'Urville Isla**	**3.71**	**217**	PN	**Pn**	**20 29 12.7**	**-1.9**
DUWZ	**D'Urville Isla**	**3.71**	**217**	Pn	**Pn**	**20 29 12.7**	**-1.9**
MSWZ	**Moikau Station**	**3.76**	**199**	PN	**Pn**	**20 29 13.2**	**-1.9**
MSWZ	**Moikau Station**	**3.76**	**199**	Pn	**Pn**	**20 29 13.2**	**-1.9**
SNZO	**South Karori**	**3.82**	**205**	PN	**Pn**	**20 29 13.7**	**-2.2**
SNZO	**South Karori**	**3.82**	**205**	Pn	**Pn**	**20 29 13.7**	**-2.2**
SNZO				*e*Sn	**Sn**	**20 29 57.6**	**-4.0**
BHW	**Baring Head**	**3.86**	**203**	⇑PN	**Pn**	**20 29 14.4**	**-2.0**
BHW	**Baring Head**	**3.86**	**203**	Pn	**Pn**	**20 29 14.4**	**-2.0**
TCW	**Tory Channel**	**3.90**	**210**	⇑PN	**Pn**	**20 29 14.6**	**-2.2**
TCW	**Tory Channel**	**3.90**	**210**	Pn	**Pn**	**20 29 14.6**	**-2.2**
PLWZ	**Palliser**	**3.91**	**198**	PN	**Pn**	**20 29 15.0**	**-2.0**
TUWZ	**Tuamarina**	**4.21**	**211**	⇑PN	**Pn**	**20 29 18.5**	**-2.4**
TUWZ	**Tuamarina**	**4.21**	**211**	Pn	**Pn**	**20 29 18.5**	**-2.4**
NNZ	**Nelson**	**4.29**	**217**	PN	**Pn**	**20 29 19.6**	**-2.3**
NNZ	**Nelson**	**4.29**	**217**	Pn	**Pn**	**20 29 19.6**	**-2.3**
QRZ	**Quartz Range**	**4.47**	**227**	PN	**Pn**	**20 29 21.4**	**-2.9**
QRZ	**Quartz Range**	**4.47**	**227**	Pn	**Pn**	**20 29 21.4**	**-2.9**
BSWZ	**Blackbirch Sta**	**4.48**	**210**	PN	**Pn**	**20 29 22.2**	**-2.2**
BSWZ	**Blackbirch Sta**	**4.48**	**210**	Pn	**Pn**	**20 29 22.2**	**-2.2**
THZ	**Tophouse**	**4.94**	**217**	⇑PN	**Pn**	**20 29 27.9**	**-2.6**
THZ	**Tophouse**	**4.94**	**217**	Pn	**Pn**	**20 29 27.9**	**-2.6**
KHZ	**Kahutara**	**5.21**	**208**	⇓PN	**Pn**	**20 29 31.3**	**-2.6**
KHZ	**Kahutara**	**5.21**	**208**	Pn	**Pn**	**20 29 31.3**	**-2.6**
KHZ

SBA Scott Base 40.33 183 *e*P P 20 35 43.0 +5.1
comp=Z,11nm,0.9s
FORT Forrest 40.53 265 *e*P **P** **20 35 39.7 -0.5**
comp=Z,28nm,0.6s
FORT Forrest 40.53 265 P **P** **20 35 40.7 +0.5**
baz=40,SNR=29
WRAB Tennant Creek 40.86 284 *e*P **P** **20 35 42.8 -0.3**
WRAB pmax pmax
comp=Z,40nm,1.1s
WRAB Tennant Creek 40.86 284 *e*P **P** **20 35 42.8 -0.3**
comp=Z,40nm,1.1s
WRA Warramunga Arr 40.87 284 P **P** **20 35 42.7 -0.4**
comp=Z,10nm,0.6s,baz=124,slow=7.3,SNR=295
WRA Warramunga Arr 40.87 284 P **P** **20 35 42.7 -0.4**
CASY Casey 46.56 211 *e*P **P** **20 36 25.8 -2.1**
comp=Z,35nm,0.9s
KDU Kakadu 46.72 290 P **P** **20 36 30.4 +0.7**
baz=47,SNR=3.1
MTN Manton Dam 47.61 289 P **P** **20 36 36.5 -0.2**
baz=48,SNR=12
NWAO Narrogin (SRO) 48.13 257 P **P** **20 36 39.8 -0.7**
comp=Z,7.0nm,0.7s,baz=106,slow=6.4,SNR=8.0
NWAO Narrogin (SRO) 48.13 257 *e*P **P** **20 36 39.4 -1.0**
comp=Z,7.0nm,0.6s
KLBR Kellerberrin 48.27 259 P **P** **20 36 41.5 -0.1**
baz=48,SNR=16
FITZ Fitzroy Crossi 48.66 279 P **P** **20 36 44.5 -0.2**
comp=Z,7.7nm,0.7s,baz=132,slow=7.2,SNR=27
FITZ LR LR 20 59 02.3
comp=Z,140nm,18.4s,baz=131,slow=38
FITZ Fitzroy Crossi 48.66 279 *e*P **P** **20 36 44.3 -0.4**
comp=Z,18nm,1.1s
FITZ Fitzroy Crossi 48.66 279 P **P** **20 36 44.8 +0.1**
baz=49,SNR=13
BLDU Ballidu 49.49 259 P **P** **20 36 50.6 -0.3**
baz=50,SNR=13
MEEK Meekatharra 49.79 265 P **P** **20 36 52.7 -0.5**
baz=50,SNR=41
MORW Morawa 50.69 261 P **P** **20 36 59.8 -0.2**
baz=51,SNR=14
TLE Tual 51.29 297 P **P** **20 37 05.5 +1.0**
baz=51,SNR=6.0
MBWA Marble Bar 51.64 272 *e*P **P** **20 37 06.0 -1.1**
comp=Z,31nm,1.1s
QSPA South Pole Qui 52.27 180 P P 20 37 15.4 +4.1
comp=Z,39nm,0.9s,baz=26,slow=1.8,SNR=185
QSPA pP pP 20 37 52.1 +2.7
comp=Z,14nm,0.7s,baz=6.1,slow=3.0,SNR=2.8
QSPA PcP **PcP** **20 38 21.7 +1.6**
comp=Z,30nm,0.9s,baz=306,slow=1.9,SNR=4.8
QSPA ScP **ScP** **20 42 00.9 -0.2**
comp=Z,3.3nm,0.8s,baz=336,slow=4.9,SNR=6.1
QSPA LR LR 20 54 31.1
comp=Z,156nm,21.4s,baz=61,slow=30
QSPA South Pole Qui 52.27 180 P P 20 37 15.4 +4.1
QSPA pP pP 20 37 52.1 +2.7
QSPA PcP **PcP** **20 38 21.8 +1.6**
QSPA ScP **ScP** **20 42 00.9 -0.2**
FAKI Fak Fak 53.56 299 P **P** **20 37 20.5 -0.7**
comp=Z,43nm,0.8s,comp=Z,0.1nm
BNDI Bandanaira 54.07 296 P **P** **20 37 25.2 +0.3**
PALU Palau 59.83 309 P P 20 37 56.2 -9.1
baz=60,SNR=4.4
KAPI Kappang 61.21 287 P **P** **20 38 14.4 -0.4**
comp=Z,27nm,0.3s,baz=158,slow=6.1,SNR=14
KAPI Kappang 61.21 287 P **P** **20 38 14.4 -0.4**
KAPI Kappang 61.21 287 P **P** **20 38 14.9 +0.1**
comp=Z,22nm,1.6s
KHKI Kahang-Kahang 62.27 282 P P 20 38 27.5 +5.6
comp=Z,19nm,0.9s
SRBI Singaraja 62.75 281 P **P** **20 38 24.9 -0.1**
comp=Z,63nm,1.0s
BBKI Banjar Baru 65.94 285 P **P** **20 38 46.3 +0.5**
comp=Z,130nm,0.9s,comp=Z,1μm
UGM Wanagama 66.51 278 P **P** **20 38 49.8 +0.3**
baz=67,SNR=4.7
SYO Syowa Base 68.86 195⇑ *e*P **P** **20 39 02.6 -0.7**
SYO Syowa Base 68.86 195⇓ *e*PcP PcP 20 39 21.5 -5.0
SNAA Sanae 70.78 180 *e*P **P** **20 39 16.9 +1.9**
comp=Z,16nm,0.9s
SNAA *e*pP **pP** **20 39 55.5 +0.1**
VNA3 Neumayer Olymp 71.11 178 *e*P **P** **20 39 19.6 +2.6**
VNA3 Neumayer Olymp 71.11 178 *e*WP pP 20 39 57.8 +0.4
VNA3 Neumayer Olymp 71.11 178 *e*S **SKiKP** **20 48 37.3 -2.9**
MAIT Maitri 71.14 185 *e*P P 20 39 07.2 -10
MAIT *e* 20 39 09.5
NVL N'lazarevskaya 71.14 185 *e*P P 20 39 20.9 +3.8
NVL pmax pmax
comp=Z,31nm,0.6s
KKM Kota Kinabalu 71.20 294 *e*P **P** **20 39 18.4 -0.1**
VNA2 Neumayer--Watz 71.48 179 *e*P **P** **20 39 22.1 +2.9**
baz=172,slow=4.6
VNA2 Neumayer--Watz 71.48 179 *e*WP pP 20 40 00.4 +0.8
baz=172,slow=4.6
VNA2 Neumayer--Watz 71.48 179 *e*S **SKiKP** **20 48 40.7 -0.1**
baz=172,slow=4.6
VNA1 Neumayer--Stat 71.74 178 *e*P **P** **20 39 23.5 +2.8**
VNA1 Neumayer--Stat 71.74 178 *e*WP pP 20 40 01.9 +0.8
SBUM Sibu 71.76 288 P **P** **20 39 21.8 +0.1**
SBUM Sibu 71.76 288 P **P** **20 39 21.8 +0.1**
comp=Z,25nm,1.0s
KSM Kuching 72.57 286 *e*P **P** **20 39 26.1 -0.4**
comp=Z,30nm,0.8s
KSM *e*PP **PP** **20 42 07.9 -2.4**
KSM Kuching 72.57 286 P **P** **20 39 26.6 +0.1**
baz=73,SNR=5.7
KSM Kuching 72.57 286 P **P** **20 39 26.1 -0.4**
comp=Z,48nm,0.8s,comp=Z,466nmcomp=Z,33μm
TGY Tagaytay City 73.58 303 P **P** **20 39 32.7 +0.2**
comp=Z,39nm,0.3s,baz=214,slow=11,SNR=3.7
TGY Tagaytay City 73.58 303 P **P** **20 39 32.7 +0.2**
YULB Yu-li 80.20 310 *e*P P 20 40 05.0 -4.2
comp=Z,26nm,1.2s
PLCA Paso Flores 80.45 135 P **P** **20 40 13.4 +2.8**
comp=Z,6.8nm,0.6s,baz=232,slow=8.1,SNR=24
PLCA pP **pP** **20 40 53.2 +1.3**
comp=Z,4.8nm,0.8s,baz=185,slow=8.1,SNR=3.4
PLCA Paso Flores 80.45 135 P **P** **20 40 13.4 +2.8**
PLCA *e*pP **pP** **20 40 52.6 +0.7**
PLCA pP **pP** **20 40 53.2 +1.3**
SSLB Suanglung 80.70 310 *e*P **P** **20 40 10.8 -1.1**
comp=Z,13nm,0.8s
IPM Ipoh 81.60 282 *e*P **P** **20 40 15.9 -1.1**
comp=Z,5.5nm,0.6s
PSI Prapat 82.19 280 P **P** **20 40 18.4 -1.7**
comp=Z,18nm,1.2s,baz=158,slow=7.8,SNR=6.4
PSI Prapat 82.19 280 P **P** **20 40 18.4 -1.7**
PSI Prapat 82.19 280 P **P** **20 40 18.7 -1.4**
baz=82,SNR=5.1
MJAR Matsushiro Arr 82.20 330 P **P** **20 40 18.5 -1.0**
comp=Z,4.0nm,0.7s,baz=177,slow=6.0,SNR=15
MJAR pP **pP** **20 41 01.3 +0.3**
comp=Z,2.6nm,1.1s,baz=334,slow=20,SNR=3.4
MJAR LR LR 21 13 04.4
comp=Z,36nm,18.6s,baz=225,slow=33
MJAR Matsushiro Arr 82.20 330 P **P** **20 40 18.5 -1.0**
MJAR pP **pP** **20 41 01.3 +0.3**
MAJO Matsushiro 82.20 330 *e*P **P** **20 40 19.0 -0.5**
MAJO pmax pmax
comp=Z,11nm,1.0s
MAJO Matsushiro 82.20 330 *e*P **P** **20 40 19.0 -0.5**
comp=Z,11nm,1.0s
MAT Matsushiro 82.20 330 P **P** **20 40 18.8 -0.7**
GSI Gunungsitoli 82.32 278 P **P** **20 40 21.3 +0.6**
baz=82,SNR=12
KULM Kulim 82.40 283 *e*P **P** **20 40 20.1 -0.9**
KULM Kulim 82.40 283 P **P** **20 40 20.8 -0.3**
comp=Z,13nm,1.2s,comp=Z,415nm
JNU Nakatsue 82.56 323 P **P** **20 40 20.9 -0.5**
comp=Z,8.6nm,0.8s,baz=197,slow=20,SNR=3.5
JNU Nakatsue 82.56 323 P **P** **20 40 20.9 -0.5**
QIZ Qiongzhong 84.57 299 P **P** **20 40 31.8 -0.2**
QIZ S **S** **20 50 47.5 +2.6**
QIZ pmax pmax
comp=Z,11nm,1.4s
TRQA Tornquist 87.04 137 P **P** **20 40 41.8 -2.3**
comp=Z,5.6nm,1.0s
ASAJ Asahikawa 87.28 336 P **P** **20 40 45.4 +0.7**
comp=Z,23nm,1.0s,baz=260,slow=14,SNR=6.9
ASAJ Asahikawa 87.28 336 P **P** **20 40 45.4 +0.7**
KSRS Korea Array 87.48 323 P **P** **20 40 46.9 +1.1**
comp=Z,8.5nm,0.8s,baz=147,slow=5.5,SNR=30
KSAR Wonju Array Be 87.49 323 P **P** **20 40 46.9 +1.1**
NJ2 Nanjing 88.07 314 *e*P **P** **20 40 48.4 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

WHN Wuhan 89.63 310 *e*P **P** **20 40 56.9 +0.9**
YSS Yuzh-Sakhalins 89.78 337⇑ *i*P **P** **20 40 58.0 +1.7**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 89.78 337 *e*P **P** **20 40 57.0 +0.7**
comp=Z,48nm,0.8s
USRK Ussuriysk Arra 91.19 330 P **P** **20 41 03.5 +0.6**
comp=Z,5.4nm,0.9s,baz=130,slow=3.0,SNR=8.4
GYA Guiyang 91.73 302 *e*P **P** **20 41 06.4 +0.3**
GYA pP **pP** **20 41 48.0 -0.3**
GYA sP **sP** **20 42 05.3 -0.5**
GYA PP **PP** **20 44 51.3 +3.8**
GYA SKS **SKSac** **20 51 22.8 -0.1**
GYA S **S** **20 51 52.8 +0.4**
GYA sS **sS** **20 53 05.4 -0.6**
GYA SS **SS** **20 58 08.8 +4.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=N,480nm,25.3s
GYA LR LR
comp=E,410nm,24.0s
GYA LR LR
comp=Z,460nm,25.7s
CM31 Chiang Mai Arr 91.99 292 *e*P **P** **20 41 07.4 +0.1**
comp=Z,8.7nm,0.8s
CM31 *e*pP **pP** **20 41 49.8 +0.3**
CM31 *e*pP pwP 20 42 07.2 +18
CMAR Chiang Mai Arr 91.99 292 P **P** **20 41 07.8 +0.5**
comp=Z,8.6nm,0.7s,baz=142,slow=3.4,SNR=90
CMAR pP **pP** **20 41 50.6 +1.1**
comp=Z,4.8nm,1.1s,baz=149,slow=3.3,SNR=2.5
CMAR PP **PP** **20 44 48.5 -1.1**
comp=Z,0.4nm,0.4s,baz=145,slow=5.7,SNR=4.4
CMAR Chiang Mai Arr 91.99 292 P **P** **20 41 07.8 +0.5**
CMAR pP **pP** **20 41 50.6 +1.1**
CMAR PP **PP** **20 44 48.5 -1.1**
PETK Petropavlovsk- 92.10 349 P **P** **20 41 06.7 -0.3**
comp=Z,11nm,0.8s,baz=139,slow=6.8,SNR=6.7
PETK Petropavlovsk- 92.10 349 P **P** **20 41 06.7 -0.3**
PETK pmax pmax
comp=Z,11nm,0.8s
PETK Petropavlovsk- 92.10 349 P **P** **20 41 06.7 -0.3**
CMMT Chiang Mai 92.21 292 P **P** **20 41 09.1 +0.7**
comp=Z,8.4nm,0.9s
CHTO Chiang Mai 92.21 292 *e*P **P** **20 41 08.2 -0.2**
CHTO *e**PP **pP** **20 41 50.6 0.0**
CHTO *e* 20 44 49.5
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 92.21 292 *e*P **P** **20 41 08.2 -0.2**
comp=Z,7.4nm,1.0s
CHTO *e*pP **pP** **20 41 50.6 0.0**
CHTO *e*PP **PP** **20 44 49.5 -1.8**
CHTO Chiang Mai 92.21 292 P **P** **20 41 08.6 +0.2**
comp=Z,9.3nm,1.0s
CHTO Chiang Mai 92.21 292 P **P** **20 41 08.6 +0.2**
KMI Kunming 93.52 299 P **P** **20 41 16.8 +2.3**
KMI pmax pmax
comp=Z,3.0nm,0.5s
CN2 Changchun 93.66 325 *e*P **P** **20 41 16.0 +1.6**
CN2 *e*pP **pP** **20 41 56.5 -0.1**
CN2 *e*sP **sP** **20 42 12.8 -1.4**
CN2 *e*S **ScS** **20 52 09.8 +0.2**
CN2 SS **SS** **20 58 38.6 +7.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
BJI Beijing 95.38 318 P **P** **20 41 23.1 +0.7**
BJI S **S** **20 52 26.9 +3.4**
BJI SS **SS** **20 59 02.3 +6.3**
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI pmax pmax
comp=Z,60nm,4.0s
BJI LR LR
comp=N,140nm,26.2s
BJI LR LR
comp=E,150nm,25.0s
BJI LR LR
comp=Z,48nm,23.8s
CD2 Chengdu 96.56 304 P **P** **20 41 29.0 +0.9**
CD2 pP **pP** **20 42 10.5 +0.1**
CD2 sP **sP** **20 42 27.8 -0.1**
CD2 PP **PP** **20 45 29.5 +4.4**
CD2 SKS **SKSac** **20 51 49.0 +0.3**
CD2 S **S** **20 52 33.6 -0.7**
CD2 sS **sS** **20 53 46.6 -1.8**
CD2 SS **SS** **20 59 17.4 +4.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,190nm,3.5s
HHC Hu-ho-hao-te 98.45 316 *e*P Pdif 20 41 38.6 +2.2
HHC pP pP 20 42 19.0 +0.3
HHC sP sP 20 42 35.8 -0.5
HHC SKS **SKSac** **20 51 59.6 +1.6**
HHC S **S** **20 52 49.5 -0.5**
HHC sS sS 20 54 01.4 -2.9
HHC SS **SS** **20 59 44.8 +5.3**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.3s
LPAZ La Paz 98.70 118 P Pdif 20 41 43.0 +4.2
comp=Z,0.6nm,0.5s,baz=230,slow=3.2,SNR=4.0
LPAZ La Paz 98.70 118 P Pdif 20 41 43.0 +4.2
LZH Lanzhou 99.83 308 *e*P **Pdif** **20 41 44.5 +1.8**
LZH pP **pP** **20 42 25.3 +0.2**
LZH sP **sP** **20 42 42.6 -0.1**
LZH pmax pmax
comp=Z,17nm,1.1s
PDAR Pinedale Array 104.41 47 PKiKP **PKiKP** **20 46 20.8 +2.4**
comp=Z,0.3nm,0.6s,baz=240,slow=2.9,SNR=4.2
PDAR Pinedale Array 104.41 47 PKiKP **PKiKP** **20 46 20.8 +2.4**
SONM Songino Array 105.84 319 Pdiff **Pdif** **20 42 11.1 +2.0**
comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=5.4
SONM PKKPbc **PKKPbc** **20 57 46.7 +1.9**
comp=Z,0.8nm,0.6s,baz=295,slow=2.8,SNR=8.6
SONM Songino Array 105.84 319 Pdif **Pdif** **20 42 11.1 +2.0**
SONM PKKPbc **PKKPbc** **20 57 46.7 +1.9**
ILAR Eielson Array 106.18 15 PKiKP **PKiKP** **20 46 19.4 -1.3**
comp=Z,0.6nm,0.6s,baz=219,slow=4.0,SNR=7.4
ILAR PKKP **PKKPdf** **20 57 58.0 +2.0**
comp=Z,1.2nm,0.8s,baz=3.1,slow=3.4,SNR=8.1
ILAR Eielson Array 106.18 15 PKiKP **PKiKP** **20 46 19.4 -1.3**
ILAR PKKP **PKKPdf** **20 57 58.0 +2.0**
YKA Yellowknife Ar 114.01 28 PKiKP **PKiKP** **20 46 34.3 -1.2**
comp=Z,0.8nm,0.5s,baz=251,slow=1.6,SNR=16
YKA PP PP 20 47 22.5 -10
comp=Z,0.1nm,0.4s,baz=237,slow=2.7,SNR=4.1
YKA PKKPbc **PKKPbc** **20 57 14.1 -4.4**
comp=Z,0.2nm,0.7s,baz=50,slow=3.6,SNR=4.8
YKA Yellowknife Ar 114.01 28 PKiKP **PKiKP** **20 46 34.3 -1.2**
YKA PP PP 20 47 22.5 -10
YKA PKKPbc **PKKPbc** **20 57 14.1 -4.4**
TIXI Tiksi 114.31 345⇓ *i*PKIKP PKPdf 20 46 34.3 -1.5
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 114.31 345 *e*PKPdf PKPdf 20 46 33.8 -2.0
WMQ Urumqi 114.40 307 *e*PKP PKPdf 20 46 36.3 -0.6
ULM Lac du Bonnet 116.39 46 PKP **PKPdf** **20 46 39.0 -1.5**
comp=Z,2.6nm,0.6s,baz=219,slow=2.0,SNR=7.0
ULM Lac du Bonnet 116.39 46 PKP **PKPdf** **20 46 39.0 -1.5**
MK31 Makanchi Array 119.15 308 *e*PKIKP **PKPdf** **20 46 44.4 -1.5**
MK31 Makanchi Array 119.15 308 *e*PKPdf **PKPdf** **20 46 44.4 -1.5**
MKAR Makanchi Array 119.15 308 PKP **PKPdf** **20 46 44.5 -1.4**
comp=Z,13nm,0.9s,baz=111,slow=2.0,SNR=32
MKAR PKKPab **PKKPab** **20 57 02.9 +2.6**
comp=Z,0.9nm,0.8s,baz=305,slow=2.7,SNR=11
MKAR Makanchi Array 119.15 308 PKIKP **PKPdf** **20 46 44.5 -1.4**
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 119.15 308 PKP **PKPdf** **20 46 44.5 -1.4**
MKAR PKKPab **PKKPab** **20 57 02.9 +2.6**
KSH Kashi 120.18 299 *e*PKP **PKPdf** **20 46 47.9 -0.4**
KSH *es*PKP 20 47 46.8
KSH *e*PP **PP** **20 48 21.6 +5.0**
KSH PKS **PKSdf** **20 50 22.9 -2.1**
KSH SKS **SKSdf** **20 53 42.3 -2.1**
KSH SKKS **SKKSac** **20 54 56.5 -2.3**
KSH SS **SS** **21 04 35.9 +5.0**
KSH AMB AMB
comp=Z,53nm,6.1s
KSH LR LR
comp=N,54nm,5.4s
KSH LR LR
comp=E,54nm,4.9s
KSH LR LR
comp=Z,170nm,6.0s
ZAA0 Zalesovo Array 120.62 317 *e*PKPdf **PKPdf** **20 46 46.3 -2.2**
ZALV Zalesovo Beam 120.62 317 PKP **PKPdf** **20 46 46.2 -2.2**
comp=Z,6.0nm,0.7s,baz=130,slow=1.3,SNR=27
ZALV Zalesovo Beam 120.62 317 PKIKP **PKPdf** **20 46 46.3 -2.2**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 120.62 317 PKP **PKPdf** **20 46 46.2 -2.2**
ULHL Ulahol 121.16 301 P **PKPdf** **20 46 49.9 -0.3**
SNR=11
NVS Novosibirsk 121.82 317⇑ *i*PKIKP **PKPdf** **20 46 48.7 -2.0**
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS pmax pmax
comp=Z,11nm,0.6s
TKM2 Tokmak 2 121.87 302 P **PKPdf** **20 46 50.3 -1.2**
SNR=9.5
KBK Karagaybulak 122.20 301 P **PKPdf** **20 46 51.5 -0.6**
SNR=9.5
CHMS Chumysh 122.47 302 P **PKPdf** **20 46 51.9 -0.6**
SNR=6.7
AAK Ala-Archa 122.50 301 PKP **PKPdf** **20 46 51.7 -1.0**
comp=Z,4.6nm,0.8s,baz=140,slow=4.2,SNR=24
AAK Ala-Archa 122.50 301 PKIKP **PKPdf** **20 46 51.7 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 122.50 301 *e*PKPdf **PKPdf** **20 46 51.7 -1.0**
AAK Ala-Archa 122.50 301 P **PKPdf** **20 46 51.9 -0.8**
SNR=6.6
USP Ospenovka 122.74 302 P **PKPdf** **20 46 52.2 -0.8**
SNR=6.4
AML Almayashu 122.84 300 P **PKPdf** **20 46 53.4 -0.3**
SNR=21
KURK Kurchatov 122.93 311 PKIKP **PKPdf** **20 46 51.8 -1.2**
KURK pmax pmax
comp=Z,20nm,0.6s
KURK Kurchatov 122.93 311 *e*PKPdf **PKPdf** **20 46 51.6 -1.4**
KURK PKP **PKPdf** **20 46 51.8 -1.2**
KURBB Kurchatov Arra 122.95 311 PKP **PKPdf** **20 46 51.8 -1.2**
comp=Z,20nm,0.6s,baz=118,slow=1.8,SNR=67
EKS2 Erkin-Say 122.99 301 *e*PKIKP **PKPdf** **20 46 52.7 -0.9**
EKS2 Erkin-Say 122.99 301 *e*PKPdf **PKPdf** **20 46 52.7 -0.9**
EKS2 Erkin-Say 122.99 301 P **PKPdf** **20 46 53.0 -0.6**
SNR=16
KBL Kabul 123.00 290 *e*PKIKP **PKPdf** **20 46 53.5 -0.5**
KBL Kabul 123.00 290 *e*PKPdf **PKPdf** **20 46 53.5 -0.5**
RES Resolute Bay 125.64 19 PKP **PKPdf** **20 46 56.4 -1.2**
comp=Z,1.9nm,0.6s,baz=263,slow=2.5,SNR=14
RES Resolute Bay 125.64 19 *e*PKPdf **PKPdf** **20 46 56.3 -1.2**
KMBO Kilima Mbogo 126.20 233 *e*PKPdf **PKPdf** **20 47 01.2 +0.4**
BVAR Borovoye Array 128.49 312 PKP **PKPdf** **20 47 02.6 -1.0**
comp=Z,12nm,0.6s,baz=97,slow=1.5,SNR=44
BVAR SKPbc SKiKP 20 50 05.5 -19
comp=Z,1.7nm,0.6s,baz=101,slow=4.7,SNR=5.8
BVAR Borovoye Array 128.49 312 PKIKP **PKPdf** **20 47 02.6 -1.0**
BVAR pmax pmax
comp=Z,12nm,0.6s
BVAR pmax pmax
comp=N,2.0nm,0.6s
BVAR Borovoye Array 128.49 312 PKP **PKPdf** **20 47 02.6 -1.0**
BVAR SKPbc SKiKP 20 50 05.5 -19
BRVK Borovoye 128.56 312 *d* *i*PKIKP **PKPdf** **20 47 02.7 -1.0**
BRVK pmax pmax
comp=Z,29nm,1.7s
BRVK Borovoye 128.56 312 *e*PKPdf **PKPdf** **20 47 02.4 -1.3**
ABKAR Akbulak array 134.13 306 *e*PKPdf **PKPdf** **20 47 13.5 -0.9**
ABKAR *e*SKP 20 50 23.3
SVE Sverdlovsk 134.63 316 *e*PKIKP **PKPdf** **20 47 14.4 -0.7**
SVE pmax pmax
comp=Z,20nm,1.0s
AKTO Aktyubinsk 135.55 307 PKP **PKPdf** **20 47 16.3 -0.7**
comp=Z,10.0nm,0.8s,baz=79,slow=2.2,SNR=20
AKTO SKPbc **SKPbc** **20 50 27.9 -4.5**
comp=Z,3.0nm,0.6s,baz=100,slow=5.6,SNR=10.0
AKTO Aktyubinsk 135.55 307 PKIKP **PKPdf** **20 47 16.3 -0.7**
AKTO pmax pmax
comp=Z,10.0nm,0.8s
AKTO pmax pmax
comp=N,3.0nm,0.6s
AKTO Aktyubinsk 135.55 307 PKP **PKPdf** **20 47 16.3 -0.7**
AKTO SKPbc **SKPbc** **20 50 27.9 -4.5**
ARU Arti 135.76 315 *i* PKIKP **PKPdf** **20 47 16.8 -0.4**
ARU Arti 135.76 315 *e*PKPdf **PKPdf** **20 47 15.6 -1.5**
ARU *e*SKP 20 50 28.2
KBS Kingsbay 138.36 356 *e* PKPdf 20 47 15.9 -5.5
KBS Kingsbay 138.36 356⇑ *i*PKIKP **PKPdf** **20 47 22.9 +1.5**
KBS pmax pmax
comp=Z,29nm,2.5s
SPA0 Spitsbergen Ar 138.75 354 *e*P **PKPdf** **20 47 23.5 +1.3**
SPITS Spitsbergen Ar 138.75 354 PKhKP PKPpre 20 47 12.8
comp=Z,1.0nm,0.5s,baz=22,slow=2.1,SNR=7.8
SPITS PKP **PKPdf** **20 47 23.3 +1.1**
comp=Z,17nm,0.8s,baz=48,slow=2.9,SNR=9.5
SPITS Spitsbergen Ar 138.75 354 PKPpre PKPpre 20 47 12.8
SPITS PKP **PKPdf** **20 47 23.3 +1.1**
DAG Danmarks Havn 140.38 6 *i* P PKPdf 20 47 18.8 -6.3
comp=Z,18nm,0.9s
BJO Bjornoya 141.76 350 *e* PKPdf 20 47 21.1 -6.5
DGRG David-gareji 142.84 291 P **PKPdf** **20 47 26.5 -4.1**
TBLG Delisi 143.36 291 *e*PKIKP PKPab 20 47 28.1 +0.1
TBLG Delisi 143.36 291 P PKPab 20 47 28.1 +0.1
APA Apatity 143.93 337⇑ *i*PKIKP PKPbc 20 47 30.0 0.0
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,800nm,12.0s
TMCR Tamitsa 144.12 330 *e*PKHKP PKPpre 20 47 27.9
TMCR pmax pmax
comp=Z,69nm,1.4s
ZEI Tsey 144.15 293 *i* PKIKP **PKPab** **20 47 30.2 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 144.20 343 *ep* **PKPab** **20 47 28.4 -1.9**
comp=Z,18nm,0.7s
AKH Akhalkalaki 144.23 291 P **PKPab** **20 47 31.7 +0.1**
ONI Oni 144.44 293 P **PKPab** **20 47 31.8 -0.4**
ARCES ARCESS Array B 144.72 343 PKP **PKPab** **20 47 31.6 -0.7**
comp=Z,50nm,0.7s,baz=57,slow=3.3,SNR=280
ARCES ARCESS Array B 144.72 343 PKP **PKPab** **20 47 31.6 -0.7**
ARE0 ARCESS Array S 144.72 343 *e*P **PKPab** **20 47 31.5 -0.8**
ARE0 ARCESS Array S 144.72 343 *e*PKPdf **PKPab** **20 47 31.3 -1.0**
KLMR Klimovskoe 144.86 325 *d* *i*PKIKP PKPbc 20 47 30.7 -2.3
KLMR pmax pmax
comp=Z,154nm,1.2s
NRS Narsarsuaq 144.94 35 *i* P **PKPdf** **20 47 34.8 +1.3**
comp=Z,5.1nm,0.7s
KBZ Khabaz 145.00 294 PKP PKPbc 20 47 33.0 -1.0
comp=Z,7.5nm,0.8s,baz=136,slow=3.3,SNR=19
KBZ Khabaz 145.00 294 PKIKP PKPbc 20 47 33.0 -1.0
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 145.00 294 PKP PKPbc 20 47 33.0 -1.0
KIV Kislovodsk 145.17 295⇓ *i*PKIKP **PKPbc** **20 47 33.9 -0.8**
KIV *i* 20 48 17.1
KIV *i* 20 50 54.8
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 145.17 295 *e*PKPdf **PKPbc** **20 47 33.4 -1.3**
KTK1 Kautokeino 145.64 344 *e*P **PKPdf** **20 47 34.1 -0.5**
KTK1 AMB AMB 20 47 35.9
comp=Z,185nm,1.3s
VRHR Novokhopersk 145.95 308 *e*PKIKP **PKPdf** **20 47 35.3 -0.3**
VRHR pmax pmax
comp=Z,100nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.3s
VRHR pmax pmax
comp=E,40nm,0.9s
TRO Tromso 146.02 346 *e*P **PKPdf** **20 47 35.0 -0.2**
ASF Jabal al Asfar 146.89 272 PKPbc **PKPbc** **20 47 39.8 -0.4**
comp=E,3.1nm,0.7s,baz=167,slow=2.2,SNR=8.2
ASF Jabal al Asfar 146.89 272 PKPbc **PKPbc** **20 47 39.8 -0.4**
JOF Joensuu 147.35 331 *e*PKIKP **PKPdf** **20 47 38.4 +0.8**

JOF pmax pmax
comp=Z,71nm,0.5s
JOF Joensuu 147.35 331 *ep* **PKPdf 20 47 38.4 +0.8**
comp=Z,71nm,0.5s
VORD Divnogorie 147.43 308 *e*PKP2 **PKPbc 20 47 39.9 -1.0**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,50nm,0.9s
MOS Moscow 147.45 317 *e*PKIKP **PKPdf 20 47 36.6 -1.4**
MOS pmax pmax
comp=Z,116nm,0.9s
EIL Elat 147.46 267 PKPbc **PKPbc 20 47 41.2 -0.5**
comp=Z,8.3nm,0.8s,baz=148,slow=2.9,SNR=7.3
EIL Elat 147.46 267 PKPbc **PKPbc 20 47 41.2 -0.5**
MALT Malatya 147.46 284 *e*PKIKP **PKPdf 20 47 37.6 -1.1**
MALT Malatya 147.46 284 *e*PKPdf **PKPdf 20 47 37.6 -1.1**
MALT Malatya 147.46 284 ⇑*i*P **PKPbc 20 47 40.8 -0.7**
VSR Storozhevoye 147.47 308 *e*PKP2 **PKPbc 20 47 40.0 -1.0**
STEI Steigen 148.17 347 *e*P **PKPbc 20 47 41.4 -0.9**
STEI AMB AMB 20 47 42.9
comp=Z,81nm,1.2s
OBN Obninsk 148.20 316 ⇑*i*PKIKP **PKPdf 20 47 39.0 -0.2**
OBN *i* 20 48 23.1
OBN pmax pmax
comp=Z,12nm,1.1s
OBN Obninsk 148.20 316 *e*PKPdf **PKPdf 20 47 37.2 -2.0**
OBN *e*PKPbc **PKPbc 20 47 42.1 -0.6**
MMAI Mount Meron Ar 148.36 273 PKPbc **PKPbc 20 47 44.3 +0.3**
comp=Z,9.8nm,0.5s,baz=83,slow=4.8,SNR=33
MMAI Mount Meron Ar 148.36 273 PKPbc **PKPbc 20 47 44.3 +0.3**
DBIC Dimbokro 148.92 177 PKPbc **PKPbc 20 47 46.8 +0.9**
comp=Z,24nm,0.6s,baz=174,slow=2.7,SNR=33
DBIC PKPab **PKPab 20 47 52.2 +2.0**
comp=Z,71nm,0.6s,baz=160,slow=4.5,SNR=43
DBIC Dimbokro 148.92 177 *e*PKPdf **PKPdf 20 47 42.0 +0.3**
DBIC *e*PKPbc **PKPbc 20 47 46.5 +0.6**
DBIC PKPbc **PKPbc 20 47 46.8 +0.9**
DBIC *e*PKPab **PKPab 20 47 51.9 +1.7**
DBIC PKPab PKPab 20 47 52.2 +2.0
ANN Anapa 148.99 296 *i* PKP2 **PKPbc 20 47 44.7 -0.4**
ANN pmax pmax
comp=Z,38nm,1.3s
PUL Pulkovo 149.45 327 ⇑*i*PKP2 **PKPbc 20 47 44.9 -0.8**
PUL pmax pmax
comp=Z,111nm,0.8s
KAF Kangasniemi 149.69 333 *ep* **PKPdf 20 47 43.9 +2.5**
comp=Z,48nm,0.5s
MOR8 Moi Rana 149.87 346 *e*P **PKPbc 20 47 44.7 -2.0**
STOK Stokkvaagen 149.99 347 *e*P **PKPbc 20 47 45.9 -1.0**
STOK *e*P **PKiKP 20 47 46.5 -1.2**
FIA1 FINESS Array S 150.20 332 *e*PKPbc **PKPbc 20 47 46.2 -1.3**
FIA1 *e*PKPab **PKPab 20 47 52.6 -1.6**
FINES FINESS Array B 150.20 332 PKPbc **PKPbc 20 47 46.3 -1.2**
comp=Z,53nm,0.7s,baz=66,slow=3.3,SNR=249
FINES PKPab **PKPab 20 47 52.9 -1.4**
comp=Z,31nm,0.8s,baz=56,slow=5.5,SNR=14
FINES FINESS Array B 150.20 332 PKPbc **PKPbc 20 47 46.3 -1.2**
FINES PKPab **PKPab 20 47 52.9 -1.4**
SIM Simferopol' 151.34 296 *i* PKIKP **PKPbc 20 47 49.6 -1.2**
SIM pmax pmax
comp=Z,21nm,1.1s
BR131 Keskin Array S 151.38 285 *e*PKPbc **PKPbc 20 47 48.9 -2.3**
BR131 *e*PKPab **PKPab 20 47 57.7 -2.4**
BRTR Keskin Array B 151.38 285 PKPbc **PKPbc 20 47 50.4 -0.9**
comp=Z,7.0nm,0.9s,baz=154,slow=3.9,SNR=5.3
BRTR PKPab **PKPab 20 47 59.0 -1.1**
comp=Z,5.8nm,0.8s,baz=132,slow=3.9,SNR=12
BRTR Keskin Array B 151.38 285 PKPbc **PKPbc 20 47 50.4 -0.9**
BRTR PKPab **PKPab 20 47 59.0 -1.1**
NSS Namsos 151.81 346 *e*P **PKPbc 20 47 49.8 -1.3**
NSS AMB AMB 20 47 51.7
comp=Z,50nm,1.3s
IZAR Zarasai 153.37 322 *e*P **PKPbc 20 47 54.2 -0.7**
IZAR AMB AMB 20 47 55.9
comp=Z,15nm,1.2s
ISAL Salakas 153.52 321 *e*P **PKPbc 20 47 54.7 -0.6**
ISAL AMB AMB 20 47 56.0
comp=Z,15nm,0.8s
IIGN Ignalina 153.58 321 *e*P **PKPbc 20 47 55.0 -0.4**
IIGN AMB AMB 20 47 56.2
comp=Z,21nm,0.8s
AKASG Malin Array Be 153.72 310 PKP **PKPdf 20 47 45.5 -2.4**
comp=Z,2.3nm,0.8s,baz=65,slow=1.1,SNR=4.0
AKASG PKPbc **PKPbc 20 47 55.0 -0.8**
comp=Z,15nm,0.6s,baz=61,slow=2.6,SNR=48
AKASG PKPab **PKPab 20 48 08.3 -1.1**
comp=Z,4.4nm,0.4s,baz=61,slow=5.1,SNR=12
AKASG Malin Array Be 153.72 310 PKIKP **PKPdf 20 47 45.5 -2.4**
AKASG 20 48 08.3
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,15nm,0.6s
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 153.72 310 PKP **PKPdf 20 47 45.5 -2.4**
AKASG PKPbc **PKPbc 20 47 55.0 -0.8**
AKASG PKPab **PKPab 20 48 08.3 -1.1**
AK01 Malin Array Si 153.73 310 *e*PKPdf **PKPdf 20 47 46.2 -1.7**
AK01 *e*PKPbc **PKPbc 20 47 55.0 -0.8**
AK01 *e*PKPab **PKPab 20 48 07.9 -1.6**
KIEV Kiev 153.74 310 *e*PKIKP **PKPdf 20 47 45.6 -2.3**
KIEV *e* 20 48 08.8
KIEV Kiev 153.74 310 *e*PKPdf **PKPdf 20 47 45.5 -2.3**
KIEV *e*PKPbc **PKPbc 20 47 54.6 -1.2**
KIEV *e*PKPab **PKPab 20 48 08.8 -0.7**
AK02 Malin Array Si 153.75 310 *e*PKPdf **PKPdf 20 47 46.0 -1.9**
AK02 *e*PKPbc **PKPbc 20 47 54.7 -1.2**
AK02 *e*PKPab **PKPab 20 48 08.8 -0.8**
TOA0 Torodi Ar. Sit 155.02 191 *e*PKPdf **PKPdf 20 47 50.2 -0.6**
TOA0 *e*PKPbc PKPab 20 47 59.5 -16
TOA0 *e*PKPab PKPab 20 48 16.1 +0.4
TORD Torodi Ar. Bea 155.02 191 PKP **PKPdf 20 47 51.0 +0.2**
comp=Z,8.2nm,0.8s,baz=175,slow=1.5,SNR=45
TORD PKPbc PKPab 20 47 59.9 -16
comp=Z,6.1nm,0.6s,baz=151,slow=2.5,SNR=40
TORD PKPab PKPab 20 48 16.4 +0.7
comp=Z,16nm,0.8s,baz=169,slow=3.3,SNR=18
TORD Torodi Ar. Bea 155.02 191 PKP **PKPdf 20 47 51.0 +0.2**
TORD PKPbc PKPab 20 47 59.9 -16
TORD PKPab PKPab 20 48 16.4 +0.6
NB2 NORSAR Subarra 155.09 343 PKPdf PKPdf 20 47 56.9 +7.4
baz=31,slow=1.9
NB2 NORSAR Subarra 155.09 343 PKPdf PKPdf 20 47 56.9 +7.4
comp=Z,3.3nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 155.09 343 PKPbc PKPdf 20 47 57.4 +7.9
comp=Z,6.5nm,0.8s,baz=32,slow=2.0,SNR=12
NOA PKPab **PKPab 20 48 13.3 -1.7**
comp=Z,5.2nm,0.7s,baz=28,slow=3.4,SNR=14
NOA NORSAR Array B 155.09 343 PKPbc PKPdf 20 47 57.4 +7.9
NOA PKPab **PKPab 20 48 13.3 -1.7**
HFS Hagfors 155.26 340 PKPbc PKPdf 20 47 57.4 +7.7
comp=Z,5.7nm,0.7s,baz=99,slow=3.8,SNR=25
HFS PKPab **PKPab 20 48 13.9 -1.8**
comp=Z,6.0nm,0.6s,baz=96,slow=2.9,SNR=4.6
HFS Hagfors 155.26 340 PKPbc PKPdf 20 47 57.4 +7.7
HFS PKPab **PKPab 20 48 13.9 -1.8**
NAO01 NORSAR Array S 155.34 343 PKPdf **PKPdf 20 47 47.2 -2.6**
NAO01 *e*PKPab **PKPab 20 48 14.7 -1.4**
SUW Suwalki 155.78 320 *e*PKP **PKPab 20 48 18.3 +0.2**
SUW Suwalki 155.78 320 *e*PKIKP **PKPdf 20 47 51.6 +1.0**
SUW *e* 20 48 16.2
SUW Suwalki 155.78 320 *e*PKPdf **PKPdf 20 47 51.5 +1.0**
SUW *e*PKPab **PKPab 20 48 16.2 -1.9**
SUW Suwalki 155.78 320 *e*PKP **PKPab 20 48 18.3 +0.2**
TESR 156.39 301 ⇑*i*P **PKPab 20 48 20.5 -0.5**
VRI Vrincioaia 156.44 299 ⇓⇓PKP2 **PKPab 20 48 19.1 -2.2**
VRI Vrincioaia 156.44 299 ⇓*i*P **PKPab 20 48 19.1 -2.2**
MLR Muntele Rosu 157.05 299 PKP **PKPdf 20 47 51.1 -1.6**
comp=Z,0.5nm,1.0s,baz=84,slow=12,SNR=3.6
MLR PKPbc PKPab 20 48 02.3 -22
comp=Z,1.4nm,1.1s,baz=266,slow=3.8,SNR=3.7
MLR PKPab PKPab 20 48 23.0 -1.1
comp=Z,1.1nm,0.7s,baz=104,slow=4.2,SNR=8.3
MLR Muntele Rosu 157.05 299 PKP **PKPdf 20 47 51.1 -1.6**
MLR PKPbc PKPab 20 48 02.3 -22
MLR PKPab PKPab 20 48 23.0 -1.1
MLR Muntele Rosu 157.05 299 ⇓*i*P **PKPab 20 48 23.4 -0.7**
BURAR Bucovina Array 157.10 304 ⇓*i*P **PKPab 20 48 24.5 +0.3**
BUR08 Bucovina Ar. S 157.10 304 *e*PKPdf **PKPdf 20 47 49.3 -3.4**
BUR08 *e*PKPab **PKPab 20 48 24.0 -0.2**

KWP Kalwaria Pacla 158.03 311 *e*PKP **PKPab 20 48 28.5 +0.5**
KWP Kalwaria Pacla 158.03 311 ⇑PKP2 **PKPab 20 48 29.0 +1.0**
KWP Kalwaria Pacla 158.03 311 ⇑*i*P **PKPab 20 48 29.0 +1.0**
KWP Kalwaria Pacla 158.03 311 *e*PKP **PKPab 20 48 28.5 +0.5**
BEL Belsk 158.13 317 *e*PKP **PKPab 20 48 29.1 +0.8**
BEL Belsk 158.13 317 *e*PKP **PKPab 20 48 29.1 +0.8**
LOT Lotru 158.56 299 ⇑*i*P **PKPab 20 48 30.6 0.0**
UZH Uzhgorod 158.65 308 ⇑*i*PKP2 **PKPab 20 48 31.0 +0.3**
BZS Buzias 160.00 301 ⇑⇑PKP2 **PKPab 20 48 35.5 -1.2**
BZS Buzias 160.00 301 ⇑*i*P **PKPab 20 48 35.5 -1.2**
MORC Moravsky Berou 160.96 315 ⇑*i*P **PKPdf 20 47 56.4 -0.6**
KSP Ksiaz 161.04 319 *e*PKP **PKPab 20 48 41.7 +0.6**
KSP Ksiaz 161.04 319 *e*PKP2 **PKPab 20 48 41.3 +0.2**
KSP Ksiaz 161.04 319 *e*PKP **PKPab 20 48 41.7 +0.6**
DPC Dobruska-Polom 161.31 318 *e*PKIKP **PKPdf 20 47 55.9 -1.5**
DPC *e* 20 48 41.8
DPC Dobruska-Polom 161.31 318 *e*PKPDF **PKPdf 20 47 55.9 -1.5**
DPC *e*PKPAB **PKPab 20 48 41.8 -0.5**
UPC Upice 161.38 319 *e*PKIKP **PKPdf 20 47 56.4 -1.0**
UPC *e* 20 48 42.6
UPC Upice 161.38 319 *e*PKPDF **PKPdf 20 47 56.4 -1.0**
UPC *e*PKPAB **PKPab 20 48 42.6 0.0**
BSEG Bad Segeberg 161.44 334 *e*PKP2 **PKPab 20 48 42.5 -0.1**
BSEG Bad Segeberg 161.44 334 *e*PKP **PKPab 20 48 42.5 -0.1**
VRAC Vranov 161.73 315 PKP **PKPdf 20 47 56.6 -1.2**
comp=Z,4.1nm,1.0s,baz=94,slow=1.8,SNR=4.7
VRAC PKPab **PKPab 20 48 44.5 +0.3**
comp=Z,3.5nm,0.5s,baz=53,slow=2.9,SNR=6.4
VRAC Vranov 161.73 315 PKP **PKPdf 20 47 56.6 -1.2**
VRAC PKPab **PKPab 20 48 44.5 +0.3**
PVCC Panska Ves 162.11 321 *e*PKP2 **PKPab 20 48 46.6 +0.9**
PVCC Panska Ves 162.11 321 *e*PKPAB **PKPab 20 48 46.6 +0.9**
BRG Berggiesshubel 162.20 322 *e*PKP **PKPdf 20 47 56.9 -1.3**
comp=Z,31nm,2.0s
BRG *e* 20 48 46.0
BRG Berggiesshubel 162.20 322 *e*PKIKP **PKPdf 20 47 56.9 -1.3**
BRG *e* 20 48 46.0
BRG pmax pmax
comp=Z,1.0nm,2.0s
BRG Berggiesshubel 162.20 322 *e*PKP **PKPab 20 48 46.1 0.0**
CLL Collm 162.35 325 *e*PKIKP **PKPdf 20 48 00.0 +1.7**
CLL *i* 20 48 46.1
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 162.35 325 *e*PKP **PKPab 20 48 46.5 -0.2**
CLL Collm 162.35 325 *e*PKPdf **PKPdf 20 48 00.0 +1.7**
CLL *i* PKPab **PKPab 20 48 46.1 -0.6**
comp=Z,21nm,1.2s
TREC Trest 162.35 316 *e*PKIKP **PKPdf 20 47 57.1 -1.3**
TREC *e* 20 48 46.7
TREC Trest 162.35 316 *e*PKPDF **PKPdf 20 47 57.1 -1.3**
TREC *e*PKPAB **PKPab 20 48 46.7 -0.2**
PRU Pruhonice 162.45 319 *e*PKIKP **PKPdf 20 47 58.0 -0.5**
PRU *e* 20 48 47.8
PRU Pruhonice 162.45 319 *e*PKPDF **PKPdf 20 47 58.0 -0.5**
PRU *e*PKPAB **PKPab 20 48 47.8 +0.5**
EKA Eskdalemuir Ar 162.51 360 PKPab **PKPab 20 48 44.9 -2.4**
comp=Z,1.3nm,0.5s,baz=354,slow=3.1,SNR=12
EKA Eskdalemuir Ar 162.51 360 PKPab **PKPab 20 48 44.9 -2.4**
CLZ Clausthal 163.08 330 *e*PKP2 **PKPab 20 48 50.1 +0.1**
CLZ Clausthal 163.08 330 *e*PKP **PKPab 20 48 50.1 +0.1**
NKC Novy Kostel 163.34 323 *e*PKP2 **PKPab 20 48 51.4 +0.2**
NKC Novy Kostel 163.34 323 *e*PKPAB **PKPab 20 48 51.4 +0.2**
MOX Moxa 163.44 325 *e*PKP2 **PKPab 20 48 51.6 0.0**
MOX Moxa 163.44 325 *e*PKP **PKPab 20 48 51.6 0.0**
KHC Kasperske Hory 163.47 318 *e*PKIKP **PKPdf 20 47 58.4 -1.2**
KHC *e* 20 48 51.6
KHC Kasperske Hory 163.47 318 *e*PKPDF **PKPdf 20 47 58.4 -1.2**
KHC *ex* x 20 48 36.5
KHC *e*PKPAB **PKPab 20 48 51.6 -0.2**
GERES GERESS Array B 163.57 317 PKP **PKPdf 20 47 58.1 -1.6**
comp=Z,1.3nm,0.8s,baz=146,slow=1.9,SNR=8.7
GERES PKPab **PKPab 20 48 51.6 -0.7**
comp=Z,0.8nm,0.7s,baz=55,slow=3.7,SNR=4.8
GERES GERESS Array B 163.57 317 PKP **PKPdf 20 47 58.1 -1.6**
GERES PKPab **PKPab 20 48 51.6 -0.7**
IBBN Ibbenburen 163.65 336 *e*PKP **PKPab 20 48 52.1 -0.3**
ROTZ Rotzenmuhle 163.76 322 *e*PKP **PKPab 20 48 53.5 +0.5**
GRF Grafenberg Arr 164.29 323 *e*PKP2 **PKPab 20 48 55.7 +0.4**
GRF Grafenberg Arr 164.29 323 *e*PKP **PKPab 20 48 55.7 +0.4**
TNS Taunus Mts 165.10 330 *e*PKP2 **PKPab 20 48 58.9 -0.1**
TNS Taunus Mts 165.10 330 *e*PKP **PKPab 20 48 58.9 -0.1**
STU Stuttgart 165.88 325 *e*PKP **PKPab 20 49 02.5 +0.1**
WLF Walferdange 166.42 333 *e*PKP **PKPab 20 49 04.8 +0.1**
BFO Black Forest 166.59 325 *e*PKP2 **PKPab 20 49 05.5 -0.1**
BFO Black Forest 166.59 325 *e*PKP **PKPab 20 49 05.5 -0.1**
BAIF Baives 166.70 339 *e*PKIKP **PKPdf 20 48 00.6 -1.6**
DAVOX Davos/Dischmat 166.87 317 PKP **PKPdf 20 48 02.2 -0.5**
comp=Z,1.7nm,0.7s,baz=17,slow=13,SNR=3.8
DAVOX Davos/Dischmat 166.87 317 PKP **PKPdf 20 48 02.2 -0.5**
MEZF Maizieres J'vi 167.79 333 *e*PKIKP **PKPdf 20 48 02.1 -0.9**
FLN La Foliniere 168.92 351 *e*PKIKP **PKPdf 20 48 02.4 -1.4**
comp=Z,18nm,1.1s
LOR Lormes 169.27 333 *e*PKIKP **PKPdf 20 48 02.9 -1.2**
comp=Z,12nm,1.1s
LPG La Plagne 169.36 319 *e*PKIKP **PKPdf 20 48 03.8 -0.8**
SSF Saint Saulge 169.57 334 *e*PKIKP **PKPdf 20 48 03.0 -1.2**
comp=Z,22nm,1.2s
KEST Kesra 169.75 262 PKPab **PKPab 20 49 21.9 +1.8**
comp=Z,2.4nm,0.9s,baz=338,slow=5.4,SNR=2.6
KEST Kesra 169.75 262 PKPab **PKPab 20 49 21.9 +1.8**
MBDF Montbardon 169.85 316 *e*PKIKP **PKPdf 20 48 03.8 -0.9**
ORIF Oris-en-Rattie 170.21 319 *e*PKIKP **PKPdf 20 48 03.7 -1.1**
comp=Z,7.7nm,0.8s
FRF La Foret Royal 170.62 311 *e*PKIKP **PKPdf 20 48 03.7 -1.3**
comp=Z,23nm,1.1s
TCF Toulx Ste Croi 170.68 336 *e*PKIKP **PKPdf 20 48 03.6 -1.3**
VIVF Saint-Julien-l 170.86 322 *e*PKIKP **PKPdf 20 48 04.2 -0.9**
comp=Z,37nm,1.3s
SMRF Simiane la Rot 171.00 316 *e*PKIKP **PKPdf 20 48 04.5 -0.7**
comp=Z,125nm,1.8s
RJF Les Rejaudoux 171.77 336 *e*PKIKP **PKPdf 20 48 04.7 -0.8**
comp=Z,11nm,1.0s
LASF Ste Croix 171.83 322 *e*PKIKP **PKPdf 20 48 04.8 -0.8**
comp=Z,22nm,1.2s
EPF Esparros 174.18 334 *e*PKIKP **PKPdf 20 48 06.8 +0.2**
comp=Z,35nm,1.4s
MDT Midelt 174.84 166 PKP **PKPdf 20 48 08.3 +1.1**
comp=Z,1.0nm,0.3s,baz=215,slow=0.9,SNR=4.3
MDT PKPab **PKPab 20 49 45.4 +2.9**
comp=Z,3.4nm,1.0s,baz=237,slow=6.4,SNR=3.9
MDT Midelt 174.84 166 PKP **PKPdf 20 48 08.3 +1.1**
MDT PKPab **PKPab 20 49 45.4 +2.9**
ESDC Sonseca Array 178.08 19 PKP **PKPdf 20 48 06.7 -0.9**
comp=Z,0.3nm,0.4s,baz=349,slow=2.4,SNR=8.3
ESDC PKPab 20 49 55.7
comp=Z,0.7nm,0.7s,baz=351,slow=4.3,SNR=4.7
ESDC Sonseca Array 178.08 19 PKP **PKPdf 20 48 06.7 -0.9**
ESDC PKPab 20 49 55.7

IDC ***21*** *20:34:55.9±1.3,34.81N±25.48E,h0km,mb3.8/6, mb1 3.8/10,mb1mx3.6/28,mbtmp3.7/10,ML3.5/4,Error ellipse: s-maj=25.9km s-min=23.6km az=1.0*
THE ***21*** *20:35:00.5,34.64N±25.47E,h0km±1km,Error ellipse: s-maj=2.9km s-min=1.0km az=161.0*
NEIC ***21*** *20:35:00.7±2.8,34.71N±25.56E,h34km±23km,mb4.4/2, Error ellipse: s-maj=13.3km s-min=8.6km az=199.0*
CSEM ***21*** *20:35:00.7±0.2,34.63N±25.59E,h40km,MD3.5,Error ellipse: s-maj=5.8km s-min=3.5km az=36.0*
ATH ***21*** *20:35:01.1,34.74N±25.41E,h38km,MD3.5/16*
ISC 21 20:34:59.2±0.6, 34.60N±0.03 25.56E±0.02, h21km±3km, n125,σ1s27/162, mb3.6/9, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.57**	**353**	P	**Pb**		**20 35 10.9**	**+0.4**
LAST				S	**Sn**		**20 35 20.1**	**-0.8**
LAST	**Lasithi**	**0.57**	**353**	*e*PB	**Pb**		**20 35 10.7**	**+0.2**
LAST				*e*SB	**Sb**		**20 35 18.7**	**+0.4**
LAST	**Lasithi**	**0.57**	**353**	P	**Pb**		**20 35 10.9**	**+0.4**
LAST				*e*Sb	**Sb**		**20 35 18.7**	**+0.4**
LAST				S	**Sn**		**20 35 20.1**	**-0.8**
NPS	**Neapolis**	**0.66**	**3**	P	**Pb**		**20 35 12.6**	**+0.4**
NPS				S	**Sn**		**20 35 23.0**	**-0.2**
NPS	**Neapolis**	**0.66**	**3**	*e*PN	**Pb**		**20 35 12.5**	**+0.4**
NPS				*e*SN	**Sb**		**20 35 20.9**	**-0.1**
NPS	**Neapolis**	**0.66**	**3**	P	**Pb**		**20 35 12.6**	**+0.4**
NPS				*e*Sn	**Sb**		**20 35 20.9**	**-0.1**
NPS				S	**Sn**		**20 35 23.0**	**-0.2**
ZKR	**Zakros**	**0.74**	**46**	P	**Pn**		**20 35 15.8**	**+1.3**
ZKR				S	**Sn**		**20 35 28.3**	**+3.1**
ZKR	**Zakros**	**0.74**	**46**	*e*PN	**Pn**		**20 35 15.7**	**+1.3**
ZKR				*e*SN	**Sn**		**20 35 27.5**	**+2.3**
ZKR	**Zakros**	**0.74**	**46**	*e*Pn	**Pn**		**20 35 15.7**	**+1.3**
ZKR				S	**Sn**		**20 35 28.3**	**+3.1**
SIVA	**Sivas**	**0.75**	**304**	P	**Pb**		**20 35 13.3**	**-0.2**
SIVA				S	**Sb**		**20 35 23.3**	**+0.1**
SIVA	**Sivas**	**0.75**	**304**	*e*PN	**Pb**		**20 35 13.4**	**-0.1**
SIVA				*e*SN	**Sb**		**20 35 22.1**	**-1.1**
SIVA	**Sivas**	**0.75**	**304**	*e*Pn	**Pb**		**20 35 13.4**	**-0.1**
SIVA				S	**Sb**		**20 35 23.3**	**+0.1**
IDI	**Anoyia**	**0.88**	**321**	P	**Pb**		**20 35 15.5**	**-0.3**
IDI				S	**Sn**		**20 35 27.9**	**-0.8**
IDI	**Anoyia**	**0.88**	**321**	*e*Pg	**Pb**		**20 35 15.3**	**-0.5**
IDI				*e*Sg	**Sb**		**20 35 24.3**	**-2.9**
IDI	**Anoyia**	**0.88**	**321**	*e*PN	**Pb**		**20 35 15.5**	**-0.3**
IDI				*e*SN	**Sb**		**20 35 26.2**	**-1.0**
IDI	**Anoyia**	**0.88**	**321**	P	**Pb**		**20 35 15.5**	**-0.3**
IDI				*e*Sg	**Sb**		**20 35 24.3**	**-2.9**
IDI				*e*Sn	**Sb**		**20 35 26.2**	**-1.0**
IDI				S	S		20 35 27.9	
GVD	**Gavdhos**	**1.24**	**282**	P	**Pb**		**20 35 21.9**	**+0.1**
GVD				S	**Sb**		**20 35 39.5**	**+2.1**
GVD	**Gavdhos**	**1.24**	**282**	*e*Pg	**Pb**		**20 35 21.9**	**+0.1**
GVD				*e*Sg	**Sb**		**20 35 38.9**	**+1.5**
GVD	**Gavdhos**	**1.24**	**282**	*e*PN	**Pb**		**20 35 21.7**	**-0.1**
GVD				*e*SN	**Sn**		**20 35 36.3**	**-1.1**
GVD	**Gavdhos**	**1.24**	**282**	*e*Pn	**Pb**		**20 35 21.7**	**-0.1**
GVD				*e*Sn	**Sn**		**20 35 36.3**	**-1.1**
GVD				*e*Sg	**Sb**		**20 35 38.9**	**+1.5**
GVD				S	S		20 35 39.5	
VAM	**Vamos**	**1.38**	**306**	P	**Pb**		**20 35 24.4**	**+0.2**
VAM				S	**Sb**		**20 35 44.0**	**+2.6**
VAM	**Vamos**	**1.38**	**306**	*e*PN	**Pn**		**20 35 23.1**	**-0.1**
VAM				*e*SN	**Sn**		**20 35 39.3**	**-1.5**
VAM	**Vamos**	**1.38**	**306**	*e*Pn	**Pn**		**20 35 23.1**	**-0.1**
VAM	**Vamos**	**1.38**	**306**	P	**Pb**		**20 35 24.4**	**+0.2**
VAM				*e*Sn	**Sn**		**20 35 39.3**	**-1.5**
VAM				S	**Sb**		**20 35 44.0**	**+2.6**
KARN	**Karanos**	**1.57**	**301**	P	**Pb**		**20 35 27.0**	**-0.5**
KARN				S	**Sb**		**20 35 48.9**	**+1.9**
KARN	**Karanos**	**1.57**	**301**	*e*PN	**Pn**		**20 35 25.8**	**-0.1**
KARN				*e*SN	**Sn**		**20 35 43.9**	**-1.7**
KARN	**Karanos**	**1.57**	**301**	*e*Pn	**Pn**		**20 35 25.8**	**-0.1**
KARN	**Karanos**	**1.57**	**301**	P	**Pb**		**20 35 27.0**	**-0.5**
KARN				*e*Sn	**Sn**		**20 35 43.9**	**-1.7**
KARN				S	**Sb**		**20 35 48.9**	**+1.9**
KARP	**Karpathos**	**1.62**	**54**	*e*PB	**Pb**		**20 35 29.4**	**+1.1**
KARP				*e*SN	**Sb**		**20 35 49.9**	**+1.6**
THR2	**Thira island,**	**1.85**	**357**	P	**Pb**		**20 35 32.1**	**-0.1**
THR2	**Thira island,**	**1.85**	**357**	P	**Pb**		**20 35 32.1**	**-0.1**
APE	**Apeiranthos**	**2.46**	**359**	*e*PN	**Pn**		**20 35 38.7**	**+0.5**
APE				*e*SN	**Sn**		**20 36 06.2**	**-1.5**
APE	**Apeiranthos**	**2.46**	**359**	*e*Pn	**Pn**		**20 35 38.7**	**+0.5**
APE				*e*Sn	**Sn**		**20 36 06.2**	**-1.5**
ARG	**Arkhangelos**	**2.64**	**52**	P	**Pb**		**20 35 43.8**	**-2.0**
ARG	**Arkhangelos**	**2.64**	**52**	*e*PN	**Pb**		**20 35 44.0**	**-1.8**
ARG	**Arkhangelos**	**2.64**	**52**	P	**Pb**		**20 35 43.8**	**-2.0**
KYTH	**Kithira**	**2.66**	**310**	*e*PN	**Pn**		**20 35 40.9**	**+0.1**
KYTH	**Kithira**	**2.66**	**310**	*e*Pn	**Pn**		**20 35 40.9**	**+0.1**
VLI	**Veliai**	**3.01**	**315**	*e*PN	**Pn**		**20 35 45.5**	**-0.1**
VLI	**Veliai**	**3.01**	**315**	*e*Pn	**Pn**		**20 35 45.5**	**-0.1**
DID	**Didima**	**3.46**	**328**	*e*PN	**Pn**		**20 35 51.8**	**0.0**
DID	**Didima**	**3.46**	**328**	*e*Pn	**Pn**		**20 35 51.8**	**0.0**
NAIG	**Nisos Aigina**	**3.57**	**333**	*e*PN	**Pn**		**20 35 54.2**	**+0.8**
NAIG	**Nisos Aigina**	**3.57**	**333**	*e*Pn	**Pn**		**20 35 54.2**	**+0.8**
PTL	**Penteli**	**3.71**	**339**	*e*PN	**Pn**		**20 35 54.8**	**-0.4**
PTL	**Penteli**	**3.71**	**339**	*e*Pn	**Pn**		**20 35 54.8**	**-0.4**
HMAT	**Matruh**	**3.73**	**159**	P	**Pn**		**20 35 55.7**	**+0.2**
HMAT				S	**Sn**		**20 36 37.9**	**-0.8**
ITM	**Ithomi**	**3.92**	**312**	*e*PN	**Pn**		**20 35 58.3**	**+0.2**
ITM	**Ithomi**	**3.92**	**312**	*e*Pn	**Pn**		**20 35 58.3**	**+0.2**
LTK	**Loutraki**	**4.01**	**329**	*e*PN	**Pn**		**20 35 59.5**	**+0.1**
LTK	**Loutraki**	**4.01**	**329**	*e*Pn	**Pn**		**20 35 59.5**	**+0.1**
GUR	**Goura**	**4.23**	**323**	*e*PN	**Pn**		**20 36 02.8**	**+0.3**
GUR	**Goura**	**4.23**	**323**	*e*Pn	**Pn**		**20 36 02.8**	**+0.3**
LKR	**Lokris**	**4.54**	**334**	*e*PN	**Pn**		**20 36 07.4**	**+0.8**
LKR	**Lokris**	**4.54**	**334**	*e*Pn	**Pn**		**20 36 07.4**	**+0.8**
LAKA	**Lakka**	**4.64**	**323**	*e*PN	**Pn**		**20 36 08.4**	**+0.3**
LAKA	**Lakka**	**4.64**	**323**	*e*Pn	**Pn**		**20 36 08.4**	**+0.3**
KALE	**Kalithea**	**4.68**	**325**	*e*PN	**Pn**		**20 36 09.0**	**+0.3**
KALE	**Kalithea**	**4.68**	**325**	*e*Pn	**Pn**		**20 36 09.0**	**+0.3**
TRIZ	**Trizonia**	**4.70**	**324**	*e*PN	**Pn**		**20 36 09.7**	**+0.9**
TRIZ	**Trizonia**	**4.70**	**324**	*e*Pn	**Pn**		**20 36 09.7**	**+0.9**
RLS	**Riolos of Patr**	**4.78**	**317**	*e*PN	**Pn**		**20 36 11.1**	**+1.2**
RLS	**Riolos of Patr**	**4.78**	**317**	*e*Pn	**Pn**		**20 36 11.1**	**+1.2**
EFP	**Efpalio**	**4.82**	**323**	*e*PN	**Pn**		**20 36 11.1**	**+0.6**
EFP	**Efpalio**	**4.82**	**323**	*e*Pn	**Pn**		**20 36 11.1**	**+0.6**
AGG	**Agios Georgios**	**5.12**	**331**	*e*PN	**Pn**		**20 36 15.1**	**+0.4**
AGG	**Agios Georgios**	**5.12**	**331**	*e*Pn	**Pn**		**20 36 15.1**	**+0.4**
EVR	**Evrytania**	**5.26**	**326**	*e*PN	**Pn**		**20 36 16.7**	**+0.1**
EVR	**Evrytania**	**5.26**	**326**	*e*Pn	**Pn**		**20 36 16.7**	**+0.1**
SWA2		**5.34**	**181**	P	**Pn**		**20 36 18.1**	**+0.4**
SWA2				S	**Sn**		**20 37 16.5**	**-2.0**
VLS	**Valsamata**	**5.37**	**313**	*e*PN	**Pn**		**20 36 19.4**	**+1.3**
VLS	**Valsamata**	**5.37**	**313**	*e*Pn	**Pn**		**20 36 19.4**	**+1.3**
CSS	**Prodhromos**	**6.40**	**85**	*e*Pn	**Pn**		**20 36 32.0**	**-0.3**
CSS				*e*Sn	**Sn**		**20 37 42.4

ARCES	**ARCESS Array B**	**34.99**	**360**	P	P	20 41 46.8	-2.8
KURBB	**Kurchatov Arra**	**41.22**	**51**	P	**P**	**20 42 42.4**	**+0.1**
	0.5nm,0.5s,baz=276,slow=8.6,SNR=4.7						
KURK	**Kurchatov**	**41.28**	**50**	P	**P**	**20 42 42.4**	**-0.4**
KURK	**Kurchatov**	**41.28**	**50**	P	**P**	**20 42 42.4**	**-0.4**
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**20 43 03.3**	**-0.2**
	0.2nm,0.3s,baz=268,slow=7.7,SNR=9.5						
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**20 43 03.3**	**-0.2**
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**20 43 03.3**	**-0.2**
ZALV	**Zalesovo Beam**	**45.15**	**46**	P	**P**	**20 43 12.6**	**-1.5**
	0.8nm,0.4s,baz=271,slow=8.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.15**	**46**	P	**P**	**20 43 12.6**	**-1.5**
ZALV	**Zalesovo Beam**	**45.15**	**46**	P	**P**	**20 43 12.6**	**-1.5**
YAK	**Yakutsk**	**66.19**	**30**	*e*P	**P**	**20 45 45.5**	**+0.6**
	9.8nm,0.8s						
YAK	**Yakutsk**	**66.19**	**30**	*e*P	**P**	**20 45 45.5**	**+0.6**
	9.8nm,0.8s						

*DJA **21** 20:35:24.2±2.7,4°N±25′×12°8E±1′0,h10km,M4.9/7, mb5.0/4,mB5.3/2,MLv4.9/7,Mw(mB)4.7/2*
*IDC **21** 20:35:40.7±0.6,2.28N×126.88E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.2/23,mbtmp4.1/14,MS2.8/1, Ms1 3.0/1,ms1mx2.2/45,Error ellipse: s-maj=37.5km s-min=12.0km az=73.0*
*ISCJB **21** 20:35:45.7±0.3,2.41N±0.04×126.93E±0.05,h53km, mb4.2/20,MS2.8/1,Error ellipse: s-maj=7.0km s-min=5.5km az=153.3*
*AUST **21** 20:35:46.9,2.50N×127.00E,h60km*
*NEIC **21** 20:35:47.6±2.1,2.27N×126.90E,h55km±19km,mb4.3/7, Error ellipse: s-maj=19.0km s-min=6.7km az=69.0*

ISC 21 20:35:47.7±0.5,2.34N±0.06×126.95E±0.07,h53km,n62, σ1§07/68,mb4.2/20,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	h m s	ISC
TNTI	**Ternate**	**1.62**	**165**	P	**Pn**	**20 36 13.4**	**-0.5**
MNI	**Manado**	**2.29**	**247**	P	**Pn**	**20 36 22.4**	**-0.6**
LBMI	**Labuha**	**3.01**	**169**	P	**Pn**	**20 36 35.0**	**+2.0**
KMSI	**Cibinong**	**3.44**	**239**	P	Pn	20 36 43.3	+4.4
	343nm,0.7s,6μm1.8nm						
MRSI	**Marisa**	**5.33**	**250**	P	**Pn**	**20 37 07.2**	**+2.4**
	74nm,0.6s,813nm0.3nm						
LUWI	**Luwuk**	**5.36**	**231**	P	Pn	20 37 13.2	+8.0
SWI	**Sorong**	**5.36**	**126**	P	**Pn**	**20 37 05.3**	**+0.1**
	baz=5.4,SNR=4.1						
SWI				S	**Sn**	**20 38 02.1**	**-3.5**
	baz=5.4,SNR=9.1						
PCI	**Palu**	**7.80**	**246**	P	**Pn**	**20 37 38.9**	**+0.1**
	baz=7.9,SNR=3.0						
PALU	**Palau**	**9.00**	**56**	S	**Sn**	**20 39 35.0**	**0.0**
	baz=8.9,SNR=4.2						
TLE	**Tual**	**9.81**	**144**	S	Sn	20 39 34.6	-20
	baz=10.0,SNR=4.3						
KKM	**Kota Kinabalu**	**11.31**	**289**	Pn	**Pn**	**20 38 27.0**	**+0.2**
MTN	**Manton Dam**	**15.65**	**165**	P	**P**	**20 39 28.2**	**0.0**
	baz=16,SNR=5.0						
KDU	**Kakadu**	**15.91**	**160**	P	**P**	**20 39 31.9**	**+0.9**
	baz=16,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.36**	**184**	P	**P**	**20 40 18.4**	**-1.5**
	1.1nm,0.4s,baz=12,slow=9.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**20.36**	**184**	P	**P**	**20 40 18.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.36**	**184**	P	**P**	**20 40 20.2**	**+0.3**
	baz=21,SNR=4.6						
WRAB	**Tennant Creek**	**23.30**	**162**	*e*P	**P**	**20 40 49.6**	**-1.5**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**20 40 49.5**	**-1.7**
	7.0nm,0.6s,baz=339,slow=11,SNR=22						
WRA				PcP	**PcP**	**20 44 37.5**	**+0.2**
	0.4nm,0.6s,baz=320,slow=3.2,SNR=4.6						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**20 40 49.5**	**-1.7**
WRA				PcP	**PcP**	**20 44 37.5**	**+0.2**
MBWA	**Marble Bar**	**24.40**	**196**	P	**P**	**20 41 00.0**	**-1.3**
	6.7nm,0.8s						
QIS	**Mount Isa**	**25.92**	**152**	P	**P**	**20 41 15.8**	**+0.7**
	baz=26,SNR=6.4						
ASAR	**Alice Springs**	**26.73**	**166**	P	**P**	**20 41 23.2**	**+0.9**
	1.2nm,0.5s,baz=346,slow=11,SNR=14						
ASAR				PcP	**PcP**	**20 44 45.2**	**+0.4**
	1.4nm,0.6s,baz=354,slow=2.3,SNR=13						
ASAR	**Alice Springs**	**26.73**	**166**	P	**P**	**20 41 23.2**	**+0.9**
ASAR				PcP	**PcP**	**20 44 45.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**20 42 07.2**	**0.0**
	2.3nm,0.8s,baz=115,slow=6.0,SNR=7.0						
CMAR				LR	LR	20 55 32.0	
	comp=Z,19nm,20.5s,baz=195,slow=38						
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**20 42 07.2**	**0.0**
CHTO	**Chiang Mai**	**31.93**	**303**	*e*P	**P**	**20 42 07.5**	**-1.2**
	5.0nm,0.6s						
KSAR	**Wonju Array Be**	**34.94**	**1**	P	**P**	**20 42 35.7**	**+1.1**
KSRS	**Korea Array**	**34.95**	**1**	P	**P**	**20 42 35.7**	**+1.0**
	1.4nm,0.5s,baz=180,slow=9.5,SNR=8.5						
MJAR	**Matsushiro Arr**	**35.59**	**16**	P	**P**	**20 42 39.9**	**-0.2**
	1.0nm,0.6s,baz=190,slow=7.9,SNR=4.1						
MJAR	**Matsushiro Arr**	**35.59**	**16**	P	**P**	**20 42 39.9**	**-0.2**
STKA	**Stephens Creek**	**36.77**	**159**	P	**P**	**20 42 49.4**	**-0.9**
	3.2nm,0.4s,baz=338,slow=9.7,SNR=20						
STKA				PcP	**PcP**	**20 45 12.1**	**+0.3**
	2.7nm,0.7s,baz=340,slow=5.5,SNR=4.4						
STKA	**Stephens Creek**	**36.77**	**159**	P	**P**	**20 42 49.4**	**-0.9**
STKA				PcP	**PcP**	**20 45 12.1**	**+0.3**
STKA	**Stephens Creek**	**36.77**	**159**	P	**P**	**20 42 50.1**	**-0.2**
	baz=37,SNR=18						
ARMA	**Armidale**	**40.20**	**146**	P	**P**	**20 43 20.4**	**+1.2**
	baz=40,SNR=8.0						
USRK	**Ussuriysk Arra**	**41.92**	**5**	P	**P**	**20 43 34.0**	**+0.9**
	2.6nm,0.8s,baz=196,slow=8.7,SNR=4.5						
LSA	**Lhasa**	**43.52**	**312**	*e*P	**P**	**20 43 45.2**	**-1.6**
	2.0nm,0.6s						
TAPN	**Taplejung**	**45.02**	**307**	*e*P	**P**	**20 43 57.0**	**-1.7**
	3.6nm,0.4s						
ODAN	**Odare**	**45.05**	**307**	*e*P	**P**	**20 43 57.8**	**-1.1**
	11nm,0.8s						
RAMN	**Ramite**	**45.73**	**306**	*e*P	**P**	**20 44 03.0**	**-1.3**
JIRN	**Jiri**	**46.36**	**307**	*e*P	**P**	**20 44 08.5**	**-0.9**
GUN	**Gumba**	**46.72**	**307**	*e*P	**P**	**20 44 10.1**	**-2.1**
	12nm,0.5s						
DMN	**Daman**	**47.21**	**306**	*e*P	**P**	**20 44 14.5**	**-1.4**
GKN	**Gorkha**	**47.75**	**306**	*e*P	**P**	**20 44 18.1**	**-1.9**
	4.3nm,0.5s						
KOLN	**Koldanda**	**48.49**	**306**	*e*P	**P**	**20 44 24.6**	**-1.2**
ULN	**Ulaanbaatar**	**48.50**	**342**	*e*P	**P**	**20 44 25.1**	**-0.2**
	1.5nm,0.6s						
DANN	**Dangsing**	**48.60**	**306**	*e*P	**P**	**20 44 25.4**	**-1.3**
	13nm,0.6s						
SONM	**Songino Array**	**48.67**	**342**	P	**P**	**20 44 27.1**	**+0.4**
	1.0nm,0.7s,baz=159,slow=8.7,SNR=10						
SONM				PcP	**PcP**	**20 45 51.9**	**+0.5**
	0.5nm,0.8s,baz=140,slow=4.8,SNR=2.5						
SONM	**Songino Array**	**48.67**	**342**	P	**P**	**20 44 27.1**	**+0.4**
SONM				PcP	**PcP**	**20 45 51.9**	**+0.5**
PYUN	**Piuthan**	**49.12**	**306**	*e*P	**P**	**20 44 29.5**	**-1.1**
	12nm,0.6s						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**20 45 40.7**	**-0.1**
	1.0nm,0.4s,baz=119,slow=7.5,SNR=22						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**20 45 40.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.91**	**333**	P	**P**	**20 46 01.5**	**-0.3**
	0.5nm,0.4s,baz=125,slow=6.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.91**	**333**	P	**P**	**20 46 01.5**	**-0.3**
KBL	**Kabul**	**62.54**	**308**	*e*P	**P**	**20 46 06.8**	**+0.2**
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.02**	**328**	P	**P**	**20 46 09.7**	**+0.5**
	3.6nm,0.5s,baz=128,slow=6.1,SNR=21						
KURK	**Kurchatov**	**63.02**	**328**	*e*P	**P**	**20 46 08.7**	**-0.5**
	5.8nm,0.6s						
BVAR	**Borovoye Array**	**68.59**	**327**	P	**P**	**20 46 45.4**	**+0.3**
	0.9nm,0.5s,baz=120,slow=8.5,SNR=7.9						
BVAR	**Borovoye Array**	**68.59**	**327**	P	**P**	**20 46 45.4**	**+0.3**
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**20 48 01.4**	**-0.4**
	2.5nm,0.8s,baz=313,slow=6.8,SNR=9.7						
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**20 48 01.4**	**-0.4**
PLCA	**Paso Flores**	**138.64**	**160**	PKP	**PKPdf**	**20 55 09.2**	**+0.9**
	1.2nm,0.7s,baz=217,slow=2.3,SNR=4.2						
PLCA	**Paso Flores**	**138.64**	**160**	PKP	**PKPdf**	**20 55 09.2**	**+0.9**

*ISCJB **21** 20:40:05.0±0.4,33.28N±0.02×115.74W±0.02,h2km±3km, Error ellipse: s-maj=3.5km s-min=2.6km az=23.4*
*ECX **21** 20:40:05.8±0.7,33.34N×115.76W,h16km±3km,MD3.1, ML3.3*
*NEIC **21** 20:40:06.2,33.32N×115.73W,h5km,ML3.1(PAS),After PAS.*
NEIC Felt at Bombay Beach and in the Salton Sea area.

ISC 21 20:40:05.4±0.9,33.30N±0.02×115.75W±0.02,h10km±8km, n40,σ0§85/56,14C-17D,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
FRK	**Frink**	**0.14**	**43**	⇓*i*P		**Pg**	**20 40 08.4**	**-0.2**
SWSC	**Sam W. Stewart**	**0.36**	**186**	⇓P		**Pg**	**20 40 13.2**	**+0.6**
	baz=0.4							
HAY	**Hayfield**	**0.41**	**8**	⇓*i*P		**Pg**	**20 40 13.4**	**-0.1**
BC3	**Big Chuckawall**	**0.43**	**35**	⇓P		**Pg**	**20 40 13.9**	**0.0**
	baz=0.4							
BC3				⇑S		**Sg**	**20 40 19.7**	**0.0**
	baz=0.4							
COK	**Cook Ranch**	**0.45**	**177**	*e*P		**Pg**	**20 40 15.4**	**+1.2**
CRR	**Carrizo Plain**	**0.45**	**204**	⇓*i*P		**Pg**	**20 40 14.4**	**+0.2**
SGL	**Mount Signal**	**0.65**	**178**	⇓*i*P		**Pg**	**20 40 18.4**	**+0.5**
PFO	**Pinyon Flat Ob**	**0.66**	**298**	*e*Pg		**Pg**	**20 40 18.2**	**-0.1**
PFO				*e*Sg		**Sg**	**20 40 27.2**	**+0.1**
PFO	**Pinyon Flat Ob**	**0.66**	**298**	⇓P		**Pg**	**20 40 18.4**	**+0.1**
	baz=0.7							
PFO				⇑S		**Sg**	**20 40 27.7**	**+0.7**
	baz=0.7							
YUH	**Yuha Desert**	**0.67**	**193**	⇓*i*P		**Pg**	**20 40 18.4**	**+0.1**
COA	**Coachella**	**0.68**	**129**	⇑*i*P		**Pg**	**20 40 18.4**	**-0.2**
MONP	**Monument Peak**	**0.69**	**234**	⇓P		**Pg**	**20 40 19.3**	**+0.4**
	baz=0.7							
MONP				⇓S		**Sg**	**20 40 28.6**	**+0.6**
	baz=0.7							
DVTC	**Desert V Tower**	**0.70**	**205**	⇑S		**Sg**	**20 40 29.1**	**+0.8**
	baz=0.7							
BELC	**Belle Mtn. Jos**	**0.73**	**344**	⇓P		**Pg**	**20 40 19.6**	**+0.1**
	baz=0.7							
BELC				⇑S		**Sg**	**20 40 29.1**	**+0.1**
	baz=0.7							
RMX	**La Rumorosa**	**0.75**	**202**	*e*P		**Pg**	**20 40 19.9**	**0.0**
RMX				*e*S		**Sg**	**20 40 30.3**	**+0.6**
RMX				⇓*e*			20 40 31.3	
	comp=N,312nm,0.2s							
GLA	**Glamis**	**0.81**	**107**	*e*Pg		**Pg**	**20 40 20.1**	**-1.0**
GLA				*e*Sg		**Sg**	**20 40 32.0**	**+0.3**
GLA	**Glamis**	**0.81**	**107**	⇑*i*P		**Pg**	**20 40 20.5**	**-0.6**
GLA	**Glamis**	**0.81**	**107**	⇓P		**Pg**	**20 40 20.4**	**-0.7**
	baz=0.8							
BAR	**Barrett**	**0.99**	**232**	*e*Pg		**Pg**	**20 40 23.7**	**-0.7**
BAR				*e*Sg		**Sg**	**20 40 35.8**	**-1.5**
IRM	**Iron Mountain**	**0.99**	**30**	⇑P		**Pg**	**20 40 23.9**	**-0.6**
	baz=1.0							
Y12C	**Blythe**	**1.12**	**66**	⇑S		**Sg**	**20 40 40.7**	**-0.8**
	baz=1.1							
109C	**Camp Elliot, M**	**1.21**	**251**	⇑P		**Pb**	**20 40 27.0**	**-1.4**
	baz=1.2							
CBX	**Cerro Bola**	**1.25**	**218**	*e*P		**Pn**	**20 40 27.5**	**-1.5**
CBX				*e*S		**Sb**	**20 40 44.8**	**-0.5**
CBX				*e*			20 40 55.0	
	comp=N,1μm,1.1s							
CBX				⇑*e*			20 40 57.8	
	comp=E,1μm,0.8s							
BBRC	**Big Bear Solar**	**1.37**	**315**	⇑S		**Sg**	**20 40 49.4**	**0.0**
	baz=1.4							
RDX	**Rancho Dawling**	**1.38**	**187**	*e*P		**Pn**	**20 40 29.5**	**-1.3**
RDX				*e*S		**Sb**	**20 40 48.5**	**-0.6**
RDX				⇓*e*			20 40 49.3	
	comp=N,188nm,0.3s							
RDX				⇑*e*			20 40 56.9	
	comp=E,771nm,0.5s							
HEC	**Hector,Ludlow**	**1.60**	**343**	⇑Pg		**Pb**	**20 40 35.5**	**+0.4**
	baz=1.6							
HEC				⇓Sb		**Sg**	**20 40 56.3**	**-0.6**
	baz=1.6							
PDMCI	**Parker Dam,Lak**	**1.67**	**53**	⇑Sb		**Sb**	**20 40 57.1**	**-0.3**
	baz=1.7							
NEE2	**Needles Airpor**	**1.74**	**32**	⇓Sb		**Sb**	**20 40 59.8**	**+0.5**
	baz=1.7							
PBX	**Punta Banda**	**1.76**	**208**	*e*P		**Pn**	**20 40 35.9**	**0.0**
PBX				*e*S		**Sn**	**20 40 59.2**	**+0.8**
ECNX	**Esteban Cantu**	**1.79**	**204**	*e*P		**Pn**	**20 40 36.3**	**-0.1**
ECNX				*e*S		**Sn**	**20 40 59.9**	**+0.6**
LDFC	**Landfair**	**1.85**	**17**	*e*Pn		**Pb**	**20 40 39.8**	**+0.4**
MWC	**Mount Wilson**	**2.13**	**296**	*e*Pn		**Pn**	**20 40 42.6**	**+1.3**
MWC				*e*Sn		**Sb**	**20 41 10.6**	**-0.2**
GSC	**Goldstone**	**2.18**	**337**	*e*Pn		**Pn**	**20 40 43.3**	**+1.5**
GSC				*e*Sn		**Sg**	**20 41 13.4**	**-2.0**
PASC	**Pasadena Art C**	**2.21**	**294**	*e*Pn		**Pb**	**20 40 44.4**	**-1.0**
PASC				*e*Sn		**Sb**	**20 41 13.2**	**+0.4**
SPX	**San Pedro Mart**	**2.26**	**174**	*e*P		**Pn**	**20 40 43.5**	**+0.3**
Z14A	**Wintersburg**	**2.35**	**88**	⇓Pb		**Pb**	**20 40 47.8**	**0.0**
	baz=2.3							
OSI	**Osito Adit**	**2.80**	**299**	Pn		**Pn**	**20 40 51.7**	**+1.4**
ISA	**Isabella**	**3.26**	**317**	*e*Pg		**Pb**	**20 41 03.9**	**+0.5**
DAC	**Darwin (Calif)**	**3.33**	**333**	Pn		**Pn**	**20 40 55.6**	**-2.2**
TUC	**Tucson**	**4.30**	**102**	Pn		**Pn**	**20 41 12.4**	**+1.5**

*ISCJB **21** 20:49:20.4±1.1,23.05±0.2×175.3W±0.2,h34km,mb4.2/10, MS3.4/1,Error ellipse: s-maj=30.0km s-min=22.5km az=138.9*
*NEIC **21** 20:49:22.7±0.7,23.02S×175.38W,h35km,mb4.6/2,Error ellipse: s-maj=23.0km s-min=13.7km az=151.0*
*IDC **21** 20:49:23.1±2.4,23.07S×175.24W,h43km±7km,mb4.0/9, mb1 4.1/9,mb1mx3.8/21,mbtmp3.9/9,MS3.5/1,Ms1 3.5/1, ms1mx2.8/42,Error ellipse: s-maj=81.9km s-min=27.6km az=140.0*

ISC 21 20:49:23.3±1.0,23.2S±0.2×175.4W±0.2,h34km,n37, σ1§34/28,mb4.4/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.85**	**21**	P		Pn	20 51 29.2	-13
	1.7nm,0.3s,baz=115,slow=17,SNR=3.5							
AFI				S		Sn	20 53 06.7	-26
	2.3nm,0.3s,baz=107,slow=19,SNR=3.1							
AFI	**Afiamalu**	**9.85**	**21**	*e*Pn		Pn	20 51 28.2	-15
AFI				*e*Sn		Sn	20 53 06.6	-26
URZ	**Urewera**	**16.33**	**201**	S		Sn	20 56 00.2	-10
	0.1nm,0.3s,baz=328,slow=19,SNR=4.4							
DZM	**Mont Dzumac**	**16.79**	**270**	*e*LR		LR	20 57 08.0	
	91nm,22.6s							
TBI	**Tubuai**	**23.84**	**96**	*e*LR		LR	21 00 13.7	
	69nm,24.0s							
PPT2	**Papeete2**	**24.83**	**82**	*e*LR		LR	21 00 32.0	
	73nm,21.5s							
PPT	**Papeete**	**24.84**	**82**	LR		LR	21 01 38.8	
	comp=Z,121nm,19.8s,baz=202,slow=30							
CTA	**Charters Tower**	**35.70**	**267**	P		**P**	**20 56 18.3**	**-0.5**
	5.4nm,0.8s,baz=45,slow=12,SNR=5.4							
CTA	**Charters Tower**	**35.70**	**267**	P		**P**	**20 56 18.3**	**-0.5**
CTAO	**Charters Tower**	**35.70**	**267**	*e*P		**P**	**20 56 18.3**	**-0.5**
	7.2nm,0.9s							
STKA	**Stephens Creek**	**38.89**	**248**	P		**P**	**20 56 47.1**	**+1.3**
	2.5nm,1.1s,baz=100,slow=5.1,SNR=3.0							
STKA	**Stephens Creek**	**38.89**	**248**	P		**P**	**20 56 47.1**	**+1.3**
ASAR	**Alice Springs**	**46.30**	**259**	P		**P**	**20 57 46.0**	**-0.1**
	2.8nm,0.9s,baz=96,slow=7.4,SNR=22							
ASAR	**Alice Springs**	**46.30**	**259**	P		**P**	**20 57 46.0**	**-0.1**
WRA	**Warramunga Arr**	**46.66**	**264**	P		**P**	**20 57 47.9**	**-1.0**
	3.6nm,0.7s,baz=102,slow=8.2,SNR=18							
WRA	**Warramunga Arr**	**46.66**	**264**	P		**P**	**20 57 47.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**55.08**	**264**	P		**P**	**20 58 52.3**	**0.0**
	4.4nm,0.9s,baz=135,slow=4.3,SNR=4.8							
FITZ	**Fitzroy Crossi**	**55.08**	**264**	P		**P**	**20 58 52.3**	**0.0**
MBWA	**Marble Bar**	**59.64**	**258**	P		**P**	**20 59 23.4**	**-1.1**
QSPA	**South Pole Qui**	**66.90**	**180**	P		**P**	**21 00 11.9**	**-0.1**
	6.6nm,1.3s							
MJAR	**Matsushiro Arr**	**73.79**	**323**	P		**P**	**21 00 52.5**	**-1.8**
	0.9nm,0.6s,baz=153,slow=5.7,SNR=3.7							
MJAR	**Matsushiro Arr**	**73.79**	**323**	P		**P**	**21 00 52.5**	**-1.8**
NVAR	**Mina Array Bea**	**81.37**	**42**	pP		pP	21 01 46.9	-0.7
	4.2nm,1.2s,baz=230,slow=9.3,SNR=2.4							
NVAR	**Mina Array Bea**	**81.37**	**42**	pP		pP	21 01 46.9	-0.7
USRK	**Ussuriysk Arra**	**82.52**	**325**	P		**P**	**21 01 42.4**	**-0.1**
	3.6nm,0.8s,baz=140,slow=3.4,SNR=6.6							
USRK				pP		**pP**	**21 01 53.6**	**+0.4**
	3.0nm,0.9s,baz=149,slow=4.4,SNR=3.5							
VNA3	**Neumayer Olymp**	**85.30**	**175**	*e*SKKPdf		**P**	**21 01 55.0**	**-1.4**
VNA2	**Neumayer--Watz**	**85.77**	**176**	*e*SKKPdf		**P**	**21 01 59.3**	**+0.6**
	baz=172,slow=4.6							
ILAR	**Eielson Array**	**90.41**	**12**	pP		pP	21 02 30.5	-1.1
	1.3nm,1.1s,baz=208,slow=5.3,SNR=5.5							
ILAR	**Eielson Array**	**90.41**	**12**	pP		pP	21 02 30.5	-1.1
CMAR	**Chiang Mai Arr**	**93.26**	**289**	P		**P**	**21 02 34.8**	**-0.2**
	1.4nm,1.0s,baz=119,slow=3.1,SNR=10.0							
CMAR				pP		**pP**	**21 02 48.5**	**+2.7**
	1.7nm,1.0s,baz=118,slow=3.1,SNR=6.9							
CMAR	**Chiang Mai Arr**	**93.26**	**289**	P		**P**	**21 02 34.8**	**-0.2**
CMAR				pP		**pP**	**21 02 48.5**	**+2.7**

YKA	**Yellowknife Ar**	**97.95**	**24**	P		P	21 02 51.7	-3.7
	0.1nm,0.7s,baz=236,slow=5.2,SNR=3.3							
YKA	**Yellowknife Ar**	**97.95**	**24**	P		P	21 02 51.6	-3.7
BRTR	**Keskin Array B**	**150.41**	**311**	PKPbc		**PKPbc**	**21 09 10.1**	**-1.5**
	0.6nm,0.8s,baz=114,slow=3.6,SNR=4.4							
BRTR				pPKPbc		**pPKPbc**	**21 09 22.9**	**+0.2**
	1.4nm,0.9s,baz=107,slow=1.3,SNR=4.7							
BRTR	**Keskin Array B**	**150.41**	**311**	PKPbc		**PKPbc**	**21 09 10.1**	**-1.5**
BRTR				pPKPbc		**pPKPbc**	**21 09 22.9**	**+0.2**
CLL	**Collm**	**151.18**	**349**	*i* pPKPbc		pPKPbc	**21 09 23.7**	**-0.2**
BRG	**Berggiesshubel**	**151.42**	**348**	*e*(P)		**PKPab**	**21 09 24.7**	**+3.1**
	3.7nm,0.9s							

IDC 21 20:51:57.9±14.0,6.47S×129.61E,h92km±151km,mb2.9/1, mb1 3.3/4,mb1mx3.1/19,mbtmp3.1/4,ML3.7/3,Error ellipse: s-maj=109.6km s-min=58.5km az=34.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.19**	**198**	P		Pn	20 54 49.0	+0.6
	0.3nm,0.3s,baz=34,slow=15,SNR=17							
FITZ				S		Sn	20 56 56.2	-6.4
	0.6nm,0.3s,baz=184,slow=15,SNR=6.5							
WRA	**Warramunga Arr**	**14.16**	**162**	P		Pn	20 55 12.4	-1.9
	0.5nm,0.3s,baz=340,slow=13,SNR=28							
WRA				S		Sn	20 57 38.3	-12
	0.5nm,0.3s,baz=343,slow=22,SNR=9.2							
ASAR	**Alice Springs**	**17.59**	**167**	P		Pn	20 55 57.6	+0.4
	0.2nm,0.3s,baz=346,slow=9.6,SNR=14							
ASAR				S		Sn	20 59 03.8	-9.4
	0.1nm,0.3s,baz=340,slow=24,SNR=3.5							
MKAR	**Makanchi Array**	**67.57**	**327**	P		P	21 02 44.6	0.0
	0.1nm,0.4s,baz=121,slow=9.0,SNR=4.1							

*NEIC **21** 20:55:54.3,19.56N×66.35W,h54km,MD3.6(RSPR), After RSPR.*

RSPR 21 20:55:54.3,19.56N×66.35W,h54km±11km,MD3.6/12, 25C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.26**	**198**	⇑*e*P		Pn	20 56 14.3	-1.5
AOPR	**Arecibo Observ**	**1.26**	**198**	*e*S		Sn	20 56 30.6	-1.1
AOPR	**Arecibo Observ**	**1.26**	**198**	⇑*e*P		Pn	20 56 14.3	-1.5
AOPR				*e*S		Sn	20 56 30.6	-1.1
LRS	**Lares**	**1.34**	**200**	⇑*e*P		Pn	20 56 15.9	-0.9
LRS	**Lares**	**1.34**	**200**	⇑*e*P		Pn	20 56 15.9	-0.9
SJG	**San Juan**	**1.45**	**172**	⇑*e*P		Pn	20 56 17.2	-1.1
SJG	**San Juan**	**1.45**	**172**	*e*S		Sn	20 56 35.8	-0.5
SJG	**San Juan**	**1.45**	**172**	⇑*e*P		Pn	20 56 17.3	-0.9
SJG	**San Juan**	**1.45**	**172**	⇑*e*P		Pn	20 56 17.2	-1.1
SJG				*e*S		Sn	20 56 35.8	-0.5
HUMP	**Col San Antoni**	**1.49**	**161**	⇑*e*P		Pn	20 56 17.4	-1.3
HUMP	**Col San Antoni**	**1.49**	**161**	*e*S		Sn	20 56 36.2	-0.9
HUMP	**Col San Antoni**	**1.49**	**161**	⇑*e*P		Pn	20 56 17.4	-1.3
HUMP				*e*S		Sn	20 56 36.2	-0.9
CELP	**Cerrillos**	**1.49**	**188**	⇑*e*P		Pn	20 56 17.5	-1.3
CELP	**Cerrillos**	**1.49**	**188**	⇑*e*P		Pn	20 56 17.5	-1.3
OBIP	**Obispado Ponce**	**1.53**	**189**	⇑*e*P		Pn	20 56 18.5	-0.8
OBIP	**Obispado Ponce**	**1.53**	**189**	*e*S		Sn	20 56 37.2	-0.8
OBIP	**Obispado Ponce**	**1.53**	**189**	⇑*e*P		Pn	20 56 18.5	-0.8
OBIP				*e*S		Sn	20 56 37.2	-0.8
LSP	**Las Mesas**	**1.54**	**207**	⇑*e*P		Pn	20 56 18.7	-0.8
LSP	**Las Mesas**	**1.54**	**207**	⇑*e*P		Pn	20 56 18.7	-0.8
GBPR	**Guanica, Bosqu**	**1.65**	**198**	⇑*e*P		Pn	20 56 20.2	-0.7
GBPR	**Guanica, Bosqu**	**1.65**	**198**	⇑*e*P		Pn	20 56 20.2	-0.7
CRPR	**Cabo Rojo, PR**	**1.70**	**205**	⇑*e*P		Pn	20 56 20.7

FITZ	**Fitzroy Crossi**	**29.86**	**240**	P	P	21	16	01.9 +1.0
	0.7nm,0.6s,baz=17,slow=11,SNR=2.4							
TORD	**Torodi Ar. Bea**	**149.68**	**290**	PKPbc	PKPbc	21	29	44.0 -0.2
	0.7nm,0.5s,baz=86,slow=2.5,SNR=6.8							

*TRN **21** 21:13:38.3, 18.85N×64.63W, h25km*
*NEIC **21** 21:13:39.8, 18.90N×64.60W, h3km, MD3.0(RSPR), After RSPR.*

RSPR 21 21:13:39.8, 18.90N×64.60W, h3km±2km, MD3.0/7, 14C-14D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TBVI	**Tortola**	**0.48**	**182**	*e*P	Pg	21	13	49.2 +0.2
TBVI				*e*S	Sb	21	13	57.3 -1.1
TBVI	**Tortola**	**0.48**	**182**	*e*P	Pg	21	13	49.2 +0.2
TBVI				*e*S	Sb	21	13	57.3 -1.1
TBVI	**Tortola**	**0.48**	**182**	*e*P	Pg	21	13	49.2 +0.2
TBVI				*e*S	Sb	21	13	57.3 -1.1
STVI	**Saint Thomas**	**0.64**	**212**	*e*P	Pg	21	13	52.1 0.0
STVI	**Saint Thomas**	**0.64**	**212**	*e*P	Pg	21	13	52.3 +0.2
STVI				*e*S	Sb	21	14	01.8 -1.2
STVI	**Saint Thomas**	**0.64**	**212**	*e*P	Pg	21	13	52.1 0.0
STVI				*e*S	Sb	21	14	01.8 -1.2
STVI	**Saint Thomas**	**0.64**	**212**	*e*P	Pg	21	13	52.3 +0.2
STVI	**Saint Thomas**	**0.64**	**212**	*e*P	Pg	21	13	52.6 +0.5
STVI				*e*S	Sb	21	14	01.8 -1.2
CDVI	**St. Croix**	**1.15**	**188**	*e*P	Pg	21	14	00.2 -1.7
CDVI	**St. Croix**	**1.15**	**188**	*e*S	Sg	21	14	15.4 -1.4
CDVI	**St. Croix**	**1.15**	**188**	*e*P	Pg	21	14	00.2 -1.7
CDVI				*e*S	Sg	21	14	15.4 -1.4
CDVI	**St. Croix**	**1.15**	**188**	*e*P	Pg	21	14	00.2 -1.7
CDVI				*e*S	Sg	21	14	15.4 -1.4
HUMP	**Col San Antoni**	**1.40**	**238**	*e*P	Pn	21	14	02.8 -3.5
HUMP	**Col San Antoni**	**1.40**	**238**	*e*S	Sg	21	14	20.8 -4.1
HUMP	**Col San Antoni**	**1.40**	**238**	*e*P	Pn	21	14	02.8 -3.5
HUMP				*e*S	Sg	21	14	20.8 -4.1
HUMP	**Col San Antoni**	**1.40**	**238**	*e*P	Pn	21	14	02.8 -3.5
HUMP				*e*S	Sg	21	14	20.8 -4.1
SJG	**San Juan**	**1.67**	**242**	*e*P	Pn	21	14	07.5 -2.5
SJG	**San Juan**	**1.67**	**242**	*i*P	Pn	21	14	07.2 -2.7
SJG	**San Juan**	**1.67**	**242**	*e*P	Pn	21	14	07.5 -2.5
SJG	**San Juan**	**1.67**	**242**	*i*P	Pn	21	14	07.2 -2.7
SJG	**San Juan**	**1.67**	**242**	*e*P	Pn	21	14	07.5 -2.5
CELP	**Cerrillos**	**2.05**	**247**	*e*P	Pn	21	14	11.8 -3.5
CELP				*e*S	Sn	21	14	38.1 -3.3
CELP	**Cerrillos**	**2.05**	**247**	*e*P	Pn	21	14	11.8 -3.5
CELP				*e*S	Sn	21	14	38.1 -3.3
CELP	**Cerrillos**	**2.05**	**247**	*e*P	Pn	21	14	11.8 -3.5
CELP				*e*S	Sn	21	14	38.1 -3.3
AOPR	**Arecibo Observ**	**2.12**	**255**	*e*P	Pn	21	14	12.8 -3.4
AOPR	**Arecibo Observ**	**2.12**	**255**	*e*S	Sn	21	14	39.1 -4.0
AOPR	**Arecibo Observ**	**2.12**	**255**	*e*P	Pn	21	14	12.8 -3.4
AOPR				*e*S	Sn	21	14	39.1 -4.0
AOPR	**Arecibo Observ**	**2.12**	**255**	*e*P	Pn	21	14	12.8 -3.4
AOPR				*e*S	Sn	21	14	39.8 -3.3
CRPR	**Cabo Rojo, PR**	**2.54**	**250**	*e*P	Pn	21	14	19.9 -2.1
CRPR	**Cabo Rojo, PR**	**2.54**	**250**	*e*P	Pn	21	14	19.9 -2.1
CRPR	**Cabo Rojo, PR**	**2.54**	**250**	*e*P	Pn	21	14	19.9 -2.1

MEX 21 21:14:52.4±0.6, 17.94N×103.28W, h55km±6km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MMIG	**Aquila**	**0.35**	**349**	*e*P	Pn	21	15	01.1 -1.5
MMIG				*i* S	Sn	21	15	07.9 -1.9
R15V		**1.40**	**331**	*e*P	Pn	21	15	14.5 -1.2
R15V				*i* S	Sn	21	15	31.8 -1.4
EZ5V		**1.56**	**349**	*e*P	Pn	21	15	16.1 -2.2
EZ5V				*i* S	Sn	21	15	35.6 -2.0
ZIIG	**Zihuatanejo**	**1.76**	**101**	*e*P	Pn	21	15	18.8 -1.7
ZIIG				*i* S	Sn	21	15	40.0 -1.8
ARIG	**Puente Sto Nin**	**2.81**	**83**	*e*P	Pn	21	15	32.6 -2.3
ARIG				*i* S	Sn	21	16	05.8 -1.8

*IDC **21** 21:15:34.6±0.8, 31.69N×142.53E, h0km, mb3.7/14, mb1 3.9/18, mb1mx3.8/31, mbtmpg3.7/18, ML3.7/4, Error ellipse: s-maj=23.4km s-min=15.8km az=77.0*
*JMA **21** 21:15:35.5±0.5, 31.85N×142.50E, h0km, M4.0*
*ISCJB **21** 21:15:39.2±0.6, 31.85N±0.05×142.52E±0.08, h49km, mb3.7/14, Error ellipse: s-maj=11.5km s-min=5.4km az=148.7*

ISC 21 21:15:40.9±0.7, 31.68N±0.06×142.41E±0.10, h49km, n32, σ1s56/39, mb3.8/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JHJ2	**Mitsune**	**2.62**	**304**	P	**Pn**	**21**	**16**	**20.3 -0.3**
JHJ2				*e*S	**Sn**	**21**	**16**	**53.3 +2.1**
JHJ	**Hachijo jima 2**	**2.64**	**304**	Pn	**Pn**	**21**	**16**	**19.1 -1.9**
	13nm,0.3s,baz=20,slow=14,SNR=8.2							
JHJ				Sn	**Sn**	**21**	**16**	**50.4 -1.5**
	18nm,0.3s,baz=233,slow=20,SNR=4.0							
BSO1	**Boso 1**	**3.20**	**338**	P	**Pn**	**21**	**16**	**26.2 -2.0**
BSO3	**Boso 3**	**3.50**	**334**	P	**Pn**	**21**	**16**	**31.8 -0.7**
BSO3				*e*S	**Sn**	**21**	**17**	**13.3 +0.8**
BSO4	**Boso 4**	**3.73**	**333**	P	**Pn**	**21**	**16**	**34.7 -1.1**
JOD2	**Odawara 2**	**4.53**	**323**	P	**Pn**	**21**	**16**	**46.3 -0.6**
JOD2				*e*S	**Sn**	**21**	**17**	**39.2 +1.0**
CBIJ	**Chichi jima**	**4.57**	**182**	Pn	Pn	21	16	44.9 -2.5
	4.5nm,0.3s,baz=270,slow=20,SNR=8.6							
CBIJ				Sn	**Sn**	**21**	**17**	**35.6 -3.7**
	22nm,0.3s,baz=270,slow=20,SNR=6.4							
JYT	**Yasato**	**4.90**	**339**	P	**Pn**	**21**	**16**	**51.4 -0.5**
JHU	**Hanno**	**4.91**	**329**	P	**Pn**	**21**	**16**	**50.3 -1.8**
JHU				*e*S	**Sn**	**21**	**17**	**44.7 -2.9**
JHO	**Hitachi**	**5.15**	**343**	P	**Pn**	**21**	**16**	**52.7 -2.7**
JRY	**Ryogami san**	**5.22**	**327**	P	**Pn**	**21**	**16**	**55.3 -1.1**
JRY				*e*S	**Sn**	**21**	**17**	**54.1 -1.2**
JAG	**Ashikaga**	**5.33**	**333**	P	**Pn**	**21**	**16**	**56.9 -1.0**
JAG				*e*S	**Sn**	**21**	**17**	**56.2 -1.8**
MJAR	**Matsushiro Arr**	**5.97**	**325**	Pn	**Pn**	**21**	**17**	**05.5 -1.2**
	1.9nm,0.3s,baz=152,slow=12,SNR=25							
MJAR				Sn	**Sn**	**21**	**18**	**12.7 -1.1**
	0.9nm,0.3s,baz=249,slow=23,SNR=4.4							
MAT	**Matsushiro**	**5.97**	**325**	P	**Pn**	**21**	**17**	**06.2 -0.5**
MAT				S	**Sn**	**21**	**18**	**11.3 -2.5**
JMK	**Ichinoseki**	**7.32**	**353**	P	Pn	21	17	21.4 -3.8
JMK				*e*S	Sn	21	18	38.1 -8.8
ASAJ	**Asahikawa**	**12.42**	**1**	Pn	Pn	21	18	30.8 -4.1
	0.8nm,0.3s,baz=289,slow=15,SNR=8.8							
ASAJ				Sn	Sn	21	20	42.5 -9.2
	0.1nm,0.3s,baz=118,slow=18,SNR=3.2							
SONM	**Songino Array**	**31.70**	**311**	P	**P**	**21**	**22**	**02.3 +2.4**
	0.6nm,0.7s,baz=115,slow=8.0,SNR=5.1							
CMAR	**Chiang Mai Arr**	**41.25**	**262**	P	**P**	**21**	**23**	**21.8 +0.4**
	0.6nm,0.7s,baz=58,slow=7.3,SNR=8.2							
ZALV	**Zalesovo Beam**	**46.24**	**316**	P	**P**	**21**	**24**	**01.3 +0.2**
	0.2nm,0.3s,baz=107,slow=9.2,SNR=3.4							
MKAR	**Makanchi Array**	**47.81**	**306**	P	**P**	**21**	**24**	**15.2 +1.8**
	1.1nm,0.7s,baz=88,slow=9.3,SNR=14							
KURBB	**Kurchatov Arra**	**50.06**	**312**	P	**P**	**21**	**24**	**32.0 +1.4**
	1.2nm,0.5s,baz=88,slow=7.0,SNR=12							
WRA	**Warramunga Arr**	**51.90**	**190**	P	**P**	**21**	**24**	**45.5 +0.9**
	0.7nm,0.6s,baz=6.7,slow=7.8,SNR=3.9							
FITZ	**Fitzroy Crossi**	**52.04**	**200**	P	**P**	**21**	**24**	**46.1 +0.5**
	1.6nm,0.8s,baz=4.7,slow=8.6,SNR=3.6							
ILAR	**Eielson Array**	**53.64**	**30**	P	**P**	**21**	**24**	**56.5 -0.5**
	1.0nm,0.9s,baz=261,slow=6.3,SNR=9.2							
BVAR	**Borovoye Array**	**54.87**	**315**	P	**P**	**21**	**25**	**05.9 -0.2**
	0.2nm,0.4s,baz=89,slow=9.1,SNR=4.8							
ASAR	**Alice Springs**	**55.63**	**189**	P	**P**	**21**	**25**	**12.4 +0.6**
	0.2nm,0.5s,baz=359,slow=6.5,SNR=4.2							
FINES	**FINESS Array B**	**73.94**	**333**	P	**P**	**21**	**27**	**11.0 +0.4**
	1.7nm,0.9s,baz=61,slow=6.5,SNR=5.0							
NB2	**NORSAR Subarra**	**79.44**	**338**	P	**P**	**21**	**27**	**42.8 +1.1**
	comp=Z,1.5nm,0.8s,baz=38,slow=5.6							
NOA	**NORSAR Array B**	**79.44**	**338**	P	**P**	**21**	**27**	**42.6 +0.9**
	comp=Z,0.5nm,0.7s,baz=38,slow=5.6,SNR=3.2							
BRTR	**Keskin Array B**	**83.04**	**313**	P	**P**	**21**	**28**	**01.6 +0.2**
	comp=Z,0.4nm,0.8s,baz=25,slow=3.8,SNR=2.6							
TXAR	**Lajitas Array**	**92.71**	**53**	P	**P**	**21**	**28**	**49.2 +1.1**
	comp=Z,0.4nm,0.6s,baz=302,slow=4.1,SNR=4.4							
LPAZ	**La Paz**	**148.31**	**68**	PKPbc	**PKPab**	**21**	**35**	**24.1 -2.1**
	comp=Z,0.8nm,0.6s,baz=27,slow=6.3,SNR=4.7							

IDC 21 21:15:43.9±7.0, 5.86N×127.76E, h57km±59km, mb3.3/6, mb1 3.4/7, mb1mx3.2/26, mbtmpg3.4/7, ML3.8/1, Error ellipse: s-maj=84.2km s-min=14.6km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DAV	**Davao City (W)**	**2.48**	**299**	P	Pn	21	16	21.8 -0.1
	22nm,0.3s,baz=142,slow=2.5,SNR=3.7							
DAV				S	Sn	21	16	51.7 +0.7
	27nm,0.3s,baz=266,slow=19,SNR=8.1							
FITZ	**Fitzroy Crossi**	**23.90**	**185**	P	P	21	20	52.0 -0.6
	0.5nm,0.5s,baz=7.1,slow=8.1,SNR=3.3							
WRA	**Warramunga Arr**	**26.44**	**166**	P	P	21	21	16.1 +0.4
	0.3nm,0.7s,baz=346,slow=10,SNR=3.1							
ASAR	**Alice Springs**	**29.95**	**169**	P	P	21	21	47.0 0.0
	0.1nm,0.5s,baz=6.1,slow=10,SNR=2.9							
MKAR	**Makanchi Array**	**56.42**	**324**	P	P	21	25	19.6 -0.2
	0.7nm,0.4s,baz=117,slow=8.1,SNR=8.1							
KURBB	**Kurchatov Arra**	**60.53**	**326**	P	P	21	25	48.0 -0.2
	1.0nm,0.5s,baz=126,slow=6.1,SNR=8.7							
BVAR	**Borovoye Array**	**66.12**	**326**	P	P	21	26	25.4 +0.2
	0.5nm,0.5s,baz=116,slow=6.0,SNR=4.7							

IDC 21 21:17:27.4±10.0, 2.52N×95.12E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/26, mbtmpg3.4/4, ML3.5/1, Error ellipse: s-maj=216.2km s-min=114.4km az=149.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CMAR	**Chiang Mai Arr**	**16.28**	**13**	Pn	Pn	21	21	17.6 0.0
	0.1nm,0.3s,baz=201,slow=11,SNR=4.4							
MKAR	**Makanchi Array**	**45.49**	**348**	P	P	21	25	48.3 -0.2
	0.6nm,0.6s,baz=157,slow=7.7,SNR=4.3							
SONM	**Songino Array**	**46.18**	**11**	P	P	21	25	54.1 -0.1
	0.2nm,0.7s,baz=195,slow=9.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**51.96**	**352**	P	P	21	26	38.0 -0.1
	0.7nm,0.6s,baz=165,slow=6.2,SNR=4.1							

IDC 21 21:18:11.1±1.1, 3.61N×126.55E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/24, mbtmpg3.7/8, Error ellipse: s-maj=85.3km s-min=12.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**24.62**	**162**	P	P	21	23	33.7 +0.3
	1.3nm,0.6s,baz=344,slow=10,SNR=11							
WRA				S	S	21	27	55.3 -0.5
	0.2nm,0.8s,baz=336,slow=16,SNR=2.4							
ASAR	**Alice Springs**	**28.04**	**166**	P	P	21	24	05.8 +1.5
	0.3nm,0.5s,baz=352,slow=14,SNR=4.8							
CMAR	**Chiang Mai Arr**	**30.78**	**301**	P	P	21	24	29.1 +0.5
	0.5nm,0.8s,baz=125,slow=7.8,SNR=5.3							
STKA	**Stephens Creek**	**38.08**	**159**	P	P	21	25	33.0 +1.4
	1.2nm,0.5s,baz=350,slow=11,SNR=3.1							
SONM	**Songino Array**	**47.36**	**342**	P	P	21	26	46.9 -0.1
	0.3nm,0.6s,baz=158,slow=9.1,SNR=3.9							
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	21	28	02.1 -0.5
	0.6nm,0.5s,baz=121,slow=7.3,SNR=12							
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	P	21	28	30.5 -0.9
	1.1nm,0.6s,baz=130,slow=6.4,SNR=12							
BVAR	**Borovoye Array**	**67.33**	**327**	P	P	21	29	08.3 +0.5
	0.6nm,0.6s,baz=147,slow=8.4,SNR=5.0							

*IDC **21** 21:27:13.3±2.5, 36.25N×142.31E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/28, mbtmpg3.3/6, ML3.3/1, Error ellipse: s-maj=58.3km s-min=25.4km az=71.0*
*JMA **21** 21:27:16.7±0.2, 36.36N×142.17E, h72km, M2.7*

ISC 21 21:27:14.2±3.8, 36.29N±0.05×142.2E±0.1, h8km±26km, n18, σ1s31/23, mb3.3/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JHO	**Hitachi**	**1.38**	**284**	P	**Pn**	**21**	**27**	**39.3 -0.4**
BSO1	**Boso 1**	**1.92**	**212**	P	**Pb**	**21**	**27**	**48.2 -1.0**
BSO1				*e*S	**Sb**	**21**	**28**	**12.6 -0.5**
JMM	**Marumori**	**1.95**	**324**	P	**Pn**	**21**	**27**	**46.7 -0.9**
JMM				S	**Sn**	**21**	**28**	**09.5 -2.8**
JFT	**Otama**	**1.95**	**310**	P	**Pn**	**21**	**27**	**48.2 +0.5**
JFT				*e*S	**Sn**	**21**	**28**	**11.1 -1.3**
JAG	**Ashikaga**	**2.24**	**274**	P	**Pn**	**21**	**27**	**51.8 +0.1**
JRY	**Ryogami san**	**2.70**	**265**	P	**Pn**	**21**	**27**	**58.5 +0.5**
JOD2	**Odawara 2**	**2.75**	**249**	P	**Pn**	**21**	**27**	**59.7 +1.1**
JMK	**Ichinoseki**	**2.78**	**344**	P	**Pn**	**21**	**27**	**58.5 -0.5**
JYK	**Kaneyama**	**3.02**	**331**	P	**Pn**	**21**	**28**	**04.1 +1.8**
JYN	**Shimob**	**3.09**	**256**	P	**Pn**	**21**	**28**	**04.9 +1.5**
MJAR	**Matsushiro Arr**	**3.25**	**276**	Pn	**Pn**	**21**	**28**	**05.7 +0.2**
	1.9nm,0.3s,baz=91,slow=16,SNR=17							
MAT	**Matsushiro**	**3.25**	**276**	P	**Pn**	**21**	**28**	**06.3 +0.7**
MAT				*e*S	**Sn**	**21**	**28**	**43.7 -0.8**
MAT	**Matsushiro**	**3.25**	**276**	P	**Pn**	**21**	**28**	**06.7 +1.1**
JHJ	**Hachijo jima 2**	**3.75**	**213**	Pn	**Pn**	**21**	**28**	**12.2 -0.2**
	6.3nm,0.3s,baz=74,slow=23,SNR=7.2							
JHJ				Sn	**Sn**	**21**	**28**	**54.9 -1.8**
	11nm,0.3s,baz=53,slow=20,SNR=3.5							
SONM	**Songino Array**	**28.75**	**305**	P	**P**	**21**	**33**	**13.2 +0.9**
	0.4nm,0.7s,baz=105,slow=7.7,SNR=4.3							
MKAR	**Makanchi Array**	**45.07**	**303**	P	**P**	**21**	**35**	**33.3 +2.6**
	0.2nm,0.6s,baz=90,slow=7.2,SNR=4.8							
KURBB	**Kurchatov Arra**	**46.98**	**309**	P	**P**	**21**	**35**	**45.2 -0.4**
	0.2nm,0.5s,baz=85,slow=8.4,SNR=2.9							
WRA	**Warramunga Arr**	**56.42**	**189**	P	**P**	**21**	**36**	**56.4 +0.1**
	0.2nm,0.7s,baz=7.0,slow=6.8,SNR=2.5							

IDC 21 21:36:59.3±1.3, 59.96S×26.48W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/14, mbtmpg3.9/3, Error ellipse: s-maj=52.2km s-min=40.2km az=45.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
VNA1	**Neumayer--Stat**	**13.07**	**153**	*e*Pn	Pn	21	40	08.9 +3.0
VNA3	**Neumayer Olymp**	**13.21**	**156**	*e*Pn	Pn	21	40	09.8 +2.0
VNA2	**Neumayer--Watz**	**13.47**	**153**	*e*Pn	Pn	21	40	12.9 +1.5
	baz=321,slow=14							
LPAZ	**La Paz**	**52.99**	**307**	P	P	21	46	18.1 -0.2
	0.6nm,0.4s,baz=120,slow=4.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**76.31**	**28**	P	P	21	48	49.8 +0.1
	0.6nm,0.4s,baz=198,slow=6.2,SNR=19							
ASAR	**Alice Springs**	**95.14**	**162**	P	P	21	50	24.2 -0.1
	0.2nm,0.5s,baz=178,slow=4.1,SNR=4.9							
SONM	**Songino Array**	**150.38**	**93**	PKPbc	PKPbc	21	56	51.2 -0.4
	0.5nm,0.7s,baz=211,slow=3.6,SNR=5.3							

CASC 21 21:39:22.7±1.9, 14.88N×92.23W, h80km±23km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JAT	**Jato**	**0.80**	**134**	*e*P	Pn	21	39	38.4 -1.0
FG6		**1.34**	**103**	*e*P	Pn	21	39	47.7 +1.4
FG6				*e*S	Sn	21	40	05.0 +1.0
FUG	**Fuego 3**	**1.41**	**107**	*e*P	Pn	21	39	47.6 +0.6
PCG	**Pacaya**	**1.64**	**107**	*e*P	Pn	21	39	50.3 +0.2
PCG				*e*S	Sn	21	40	12.0 +1.1
NBG	**Las Nubes**	**1.84**	**99**	*e*P	Pn	21	39	52.8 0.0
NBG				*e*S	Sn	21	40	16.8 +1.0
IXG	**Ixpaco**	**1.85**	**112**	*e*P	Pn	21	39	53.4 +0.6
IXG				*e*S	Sn	21	40	16.8 +1.0
MRL	**Marmol**	**2.46**	**85**	*e*P	Pn	21	39	53.2 -7.7
MRL				*e*S	Sn	21	40	30.5 +0.3
RBDL	**Robledal**	**2.57**	**107**	*e*P	Pn	21	40	03.8 +1.3
RBDL				*e*S	Sn	21	40	36.4 +3.3
SBLS	**San Blas**	**2.72**	**112**	*e*P	Pn	21	40	04.5 -0.2
SNJE	**San Jose**	**2.73**	**111**	*e*P	Pn	21	40	04.5 -0.2
SNJE				*e*S	Sn	21	40	37.9 +1.0

IDC 21 21:39:36.4±5.9, 25.99S×177.43W, h54km±49km, mb3.6/3, mb1 4.1/4, mb1mx3.7/18, mbtmpg3.9/4, ML3.0/1, Error ellipse: s-maj=51.6km s-min=31.0km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
URZ	**Urewera**	**13.08**	**199**	S	Sn	21	45	00.1 -3.1
	1.6nm,0.3s,baz=142,slow=20,SNR=11							
AFI	**Afiamalu**	**13.13**	**25**	P	Pn	21	42	42.0 +1.6
	4.4nm,0.3s,baz=234,slow=22,SNR=7.2							
AFI				S	Sn	21	44	55.2 -10
	1.9nm,0.3s,baz=114,slow=20,SNR=3.3							

ASAR	**Alice Springs**	**44.03**	**262**	P	P	21	47	39.3 +0.2
	0.7nm,0.9s,baz=90,slow=6.7,SNR=11							
WRA	**Warramunga Arr**	**44.62**	**267**	P	P	21	47	43.4 -0.4
	0.6nm,0.4s,baz=102,slow=7.8,SNR=22							
CMAR	**Chiang Mai Arr**	**92.42**	**289**	P	P	21	52	42.9 +1.1
	0.3nm,0.3s,baz=149,slow=4.4,SNR=4.0							
NOA	**NORSAR Array B**	**144.46**	**353**	PKP	PKPab	21	59	03.8 -0.8
	0.7nm,0.8s,baz=11,slow=2.4,SNR=3.3							
HFS	**Hagfors**	**145.01**	**350**	PKPbc	PKPbc	21	59	05.3 -1.2
	1.6nm,0.5s,baz=64,slow=3.4,SNR=7.6							
BRTR	**Keskin Array B**	**150.69**	**306**	PKPbc	PKPbc	21	59	22.5 -0.3
	0.5nm,0.8s,baz=104,slow=1.8,SNR=3.1							
BRTR				PKPab	PKPab	21	59	28.9 -1.1
	1.2nm,0.6s,baz=85,slow=3.1,SNR=10							
TORD	**Torodi Ar. Bea**	**167.20**	**176**	PKPab	PKPab	22	00	41.5 +0.1
	1.0nm,1.3s,baz=196,slow=4.6,SNR=2.5							

IDC 21 21:42:05.0±3.6, 13.62N×144.04E, h103km±76km, mb2.9/3, mb1 3.2/3, mb1mx2.9/25, mbtmpg2.9/3, Error ellipse: s-maj=159.1km s-min=24.7km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
GUMO	**Guam**	**0.81**	**92**	P	Pn	21	42	24.7 +1.0
	122nm,0.3s,baz=212,slow=0.4,SNR=92							
GUMO				S	Sn	21	42	38.6 +0.9
	317nm,0.3s,baz=335,slow=23,SNR=68							
WRA	**Warramunga Arr**	**34.69**	**196**	P	P	21	48	44.5 -0.5
	0.5nm,0.5s,baz=17,slow=9.3,SNR=7.7							
ASAR	**Alice Springs**	**38.36**	**195**	P	P	21	49	16.3 +0.1
	0.3nm,0.4s,baz=18,slow=12,SNR=11							
MKAR	**Makanchi Array**	**60.91**	**316**	P	P	21	52	06.9 -0.1
	0.1nm,0.3s,baz=102,slow=8.5,SNR=2.8							

*NIED **21** 21:47:00, 37.10N×136.40E, h5km, Mw3.6 Best double couple: M₀2.51000×10¹⁴ NP1:φs12.00000°, δ67.00000°, λ92.00000°. NP2:φs186.00000°, δ23.00000°, λ85.00000°.*
*ISCJB **21** 21:47:54.7±1.1, 37.14N±0.04×136.37E±0.05, h4km±8km, mb2.9/3, Error ellipse: s-maj=7.0km s-min=6.2km az=171.7*
*JMA **21** 21:47:55.6±0.1, 37.11N×136.40E, h7km±2km, M3.7*
JMA Felt I J1.
*IDC **21** 21:47:59.7±2.6, 37.04N×136.42E, h37km±32km, mb2.9/2, mb1 3.2/5, mb1mx3.0/27, mbtmpg3.1/5, ML2.6/3, Error ellipse: s-maj=26.9km s-min=18.6km az=6.0*

ISC 21 21:47:55.5±1.6, 37.11N±0.05×136.49E±0.05, h2km±12km, n14, σ0s95/18, mb3.1/3, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JJH	**Hakui**	**0.29**	**129**	iP	**Pb**	**21**	**48**	**02.7 -0.8**
JJH				S	**Sb**	**21**	**48**	**07.8 -1.1**
JSZ	**Suzu**	**0.77**	**64**	P	**Pb**	**21**	**48**	**11.4 -0.3**
JSZ				*e*S	**Sb**	**21**	**48**	**23.1 +0.5**
JHG	**Hegura jima**	**0.81**	**25**	iP	**Pb**	**21**	**48**	**11.9 -0.4**
JTT	**Ttatey**	**0.84**	**127**	P	**Pb**	**21**	**48**	**13.0 +0.2**
JKG	**Kaga**	**0.84**	**189**	P	**Pg**	**21**	**48**	**11.6 0.0**
JKG				S	**Sg**	**21**	**48**	**22.8 +0.3**
MAT	**Matsushiro**	**1.49**	**112**	P	**Pn**	**21**	**48**	**23.0 -0.3**
MAT				S	**Sn**	**21**	**48**	**44.3 +1.0**
MJAR	**Matsushiro Arr**	**1.49**	**112**	Pn	**Pg**	**21**	**48**	**24.7 +0.6**
	52

AOS	**Alonnisos**	**1.86**	**262**	*e*Pn	**Pg**	**21 49 16.8**	**+0.3**
ORLT	**Orhaneli**	**2.13**	**73**	*e*PN	**Pb**	**21 49 19.3**	**-0.6**
ORLT	**Orhaneli**	**2.13**	**73**	*e*Pn	**Pb**	**21 49 19.3**	**-0.6**
MDNY	**Mudanya-Bursa**	**2.23**	**65**	*e*PN	**Pb**	**21 49 20.6**	**-0.9**
MDNY	**Mudanya-Bursa**	**2.23**	**65**	*e*Pn	**Pb**	**21 49 20.6**	**-0.9**
SLVT	**Silivri**	**2.33**	**39**	*e*PN	**Pb**	**21 49 21.6**	**-1.7**
SLVT	**Silivri**	**2.33**	**39**	*e*Pn	**Pb**	**21 49 21.6**	**-1.7**
PLG	**Polygyros**	**2.34**	**294**	*e*PN	**Pb**	**21 49 23.0**	**-0.5**
PLG	**Polygyros**	**2.34**	**294**	*e*Pn	**Pb**	**21 49 23.0**	**-0.5**
EDRB	**Edirne**	**2.43**	**9**	*e*PN	**Pn**	**21 49 22.0**	**+0.9**
EDRB	**Edirne**	**2.43**	**9**	*e*Pn	**Pn**	**21 49 22.0**	**+0.9**
GEMT	**Gemlik**	**2.47**	**65**	*e*PN	**Pb**	**21 49 24.2**	**-1.4**
GEMT	**Gemlik**	**2.47**	**65**	*e*Pn	**Pb**	**21 49 24.3**	**-1.4**
CTKS	**Kestanelik-??a**	**2.49**	**43**	*e*PN	**Pb**	**21 49 24.0**	**-1.9**
CTKS	**Kestanelik-??a**	**2.49**	**43**	*e*Pn	**Pb**	**21 49 24.0**	**-1.9**
BGKT	**Bogazkoy**	**2.60**	**47**	*e*PN	**Pb**	**21 49 25.6**	**-2.2**
BGKT	**Bogazkoy**	**2.60**	**47**	*e*Pn	**Pb**	**21 49 25.6**	**-2.2**
SOH	**Sokhos**	**2.61**	**303**	*e*Pn	**Pb**	**21 49 25.7**	**-2.3**
SOH				*e*SN	**Sb**	**21 50 00.5**	**+0.2**
SOH	**Sokhos**	**2.61**	**303**	*e*Pn	**Pb**	**21 49 25.7**	**-2.3**
SOH				*e*Sn	**Sb**	**21 50 00.5**	**+0.2**
NVR	**Nevrokopi**	**2.63**	**317**	*e*PN	**Pb**	**21 49 26.1**	**-2.4**
NVR				*e*SN	**Sb**	**21 50 00.6**	**-0.4**
NVR	**Nevrokopi**	**2.63**	**317**	*e*Pn	**Pb**	**21 49 26.1**	**-2.4**
NVR				*e*Sn	**Sb**	**21 50 00.6**	**-0.4**
YLV	**Yalova**	**2.65**	**64**	*e*PN	**Pb**	**21 49 26.4**	**-2.4**
YLV	**Yalova**	**2.65**	**64**	*e*Pn	**Pb**	**21 49 26.4**	**-2.4**
ISK	**Istanbul-Kandi**	**2.69**	**52**	*e*PN	**Pb**	**21 49 27.4**	**-2.1**
ISK	**Istanbul-Kandi**	**2.69**	**52**	*e*Pn	**Pb**	**21 49 27.4**	**-2.1**
VTS	**Vitosha**	**3.89**	**325**	⇓*i*P	**Sg**	**21 50 44.8**	**-1.2**
TIRR	**Tirgusor**	**5.26**	**17**	⇑*i*P	**Pg**	**21 50 23.4**	**+1.7**
PLOR	**Plostina**	**6.41**	**3**	⇑*i*P	**Pn**	**21 50 18.3**	**+2.5**
PLOR	**Plostina**	**6.41**	**3**	⇑*i*P	**Pn**	**21 50 18.3**	**+2.5**
VRI	**Vrincioaia**	**6.43**	**3**	⇓*i*P	**Pn**	**21 50 18.6**	**+2.6**
VRI	**Vrincioaia**	**6.43**	**3**	⇓*i*P	**Pn**	**21 50 18.6**	**+2.6**
BZS	**Buzias**	**7.05**	**333**	⇓*i*P	**Pn**	**21 50 26.9**	**+2.4**
BZS	**Buzias**	**7.05**	**333**	⇓*i*P	**Pn**	**21 50 26.9**	**+2.4**

*TRN **21** 21:49:05.3, 18°.82N×64°.66W, h28km*
*NEIC **21** 21:49:06.7, 18°.90N×64°.62W, h8km, MD3.3(RSPR), After RSPR.*

RSPR 21 21:49:06.7, 18°.90N×64°.62W, h8km±2km**, MD3.3/6, 21C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.48**	**179**	⇑*e*P	Pg	21 49 15.6	-0.5
TBVI				*e*S	Sg	21 49 23.5	+1.1
TBVI	**Tortola**	**0.48**	**179**	⇑*e*P	Pg	21 49 15.6	-0.5
TBVI				*e*S	Sg	21 49 23.5	+1.1
TBVI	**Tortola**	**0.48**	**179**	⇑*e*P	Pg	21 49 15.6	-0.5
TBVI				*e*S	Sg	21 49 23.5	+1.1
STVI	**Saint Thomas**	**0.63**	**210**	⇑*e*P	Pg	21 49 18.0	-0.9
STVI	**Saint Thomas**	**0.63**	**210**	*e*S	Sg	21 49 27.5	+0.3
STVI	**Saint Thomas**	**0.63**	**210**	⇑*e*P	Pg	21 49 18.0	-0.9
STVI				*e*S	Sg	21 49 27.5	+0.3
STVI	**Saint Thomas**	**0.63**	**210**	⇑*e*P	Pg	21 49 18.0	-0.9
STVI				*e*S	Sg	21 49 27.5	+0.3
CDVI	**St. Croix**	**1.15**	**187**	⇑*e*P	Pg	21 49 26.0	-2.9
CDVI	**St. Croix**	**1.15**	**187**	*e*S	Sg	21 49 40.9	-2.9
CDVI	**St. Croix**	**1.15**	**187**	⇑*e*P	Pg	21 49 26.0	-2.9
CDVI				*e*S	Sg	21 49 40.9	-2.9
CDVI	**St. Croix**	**1.15**	**187**	⇑*e*P	Pg	21 49 26.1	-2.8
CDVI				*e*S	Sg	21 49 40.9	-2.9
HUMP	**Col San Antoni**	**1.39**	**237**	⇑*e*P	Pn	21 49 29.1	-3.3
HUMP	**Col San Antoni**	**1.39**	**237**	*e*S	Sb	21 49 46.8	-4.1
HUMP	**Col San Antoni**	**1.39**	**237**	⇑*e*P	Pn	21 49 29.1	-3.3
HUMP				*e*S	Sb	21 49 46.8	-4.1
HUMP	**Col San Antoni**	**1.39**	**237**	⇑*e*P	Pn	21 49 29.1	-3.3
HUMP				*e*S	Sb	21 49 46.8	-4.1
SJG	**San Juan**	**1.65**	**242**	*e*S	Sn	21 49 53.5	-3.9
SJG	**San Juan**	**1.65**	**242**	*e*S	Sn	21 49 53.5	-3.9
CELP	**Cerrillos**	**2.03**	**246**	⇑*e*P	Pn	21 49 38.0	-3.2
CELP				*e*S	Sn	21 50 02.5	-4.3
CELP	**Cerrillos**	**2.03**	**246**	⇑*e*P	Pn	21 49 38.0	-3.2
CELP				*e*S	Sn	21 50 02.5	-4.3
CELP	**Cerrillos**	**2.03**	**246**	⇑*e*P	Pn	21 49 38.5	-2.8
CELP				*e*S	Sn	21 50 02.5	-4.3
AOPR	**Arecibo Observ**	**2.10**	**255**	⇑*e*P	Pn	21 49 39.6	-2.5
AOPR	**Arecibo Observ**	**2.10**	**255**	⇑*e*P	Pn	21 49 39.6	-2.5
AOPR	**Arecibo Observ**	**2.10**	**255**	⇑*e*P	Pn	21 49 39.6	-2.5
CRPR	**Cabo Rojo, PR**	**2.52**	**250**	⇑*e*P	Pn	21 49 45.5	-2.5
CRPR	**Cabo Rojo, PR**	**2.52**	**250**	*e*S	Sn	21 50 15.6	-3.4
CRPR	**Cabo Rojo, PR**	**2.52**	**250**	⇑*e*P	Pn	21 49 45.5	-2.5
CRPR				*e*S	Sn	21 50 15.6	-3.4

IDC 21 21:49:51.4±6.0, 6°.18S×146°.86E, h154km±51km**, mb3.1/2, mb1 3.2/4, mb1mx2.9/19, mbtmp3.0/4, MS2.3/1, Ms1 2.3/1, ms1mx2.2/15, Error ellipse: s-maj=64.2km s-min=42.9km az=152.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**175**	P	Pn	21 50 40.7	-1.0
	4.9nm,0.3s,baz=138,slow=23,SNR=12						
PMG				S	Sn	21 51 22.0	+1.2
	5.1nm,0.3s,baz=173,slow=22,SNR=11						
WRA	**Warramunga Arr**	**18.31**	**220**	P	P	21 53 53.2	-0.8
	0.2nm,0.3s,baz=45,slow=11,SNR=9.4						
WRA				PcP	PcP	21 58 20.7	+1.6
	baz=29,slow=1.6,SNR=4.7						
ASAR	**Alice Springs**	**21.40**	**214**	P	P	21 54 26.9	-0.3
	0.9nm,0.4s,baz=54,slow=8.6,SNR=28						
FITZ	**Fitzroy Crossi**	**23.86**	**238**	P	P	21 54 49.8	-1.0
	0.9nm,0.4s,baz=60,slow=10,SNR=5.3						
TGY	**Tagaytay City**	**32.67**	**308**	LR	LR	22 07 35.0	
	comp=Z,6.0nm,22.0s,baz=19,slow=33						
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc	PKPbc	22 09 09.6	-1.5
	1.3nm,1.3s,baz=70,slow=3.7,SNR=3.6						

MEX 21 22:00:56.0±0.7, 18°.30N×100°.41W, h70km±6km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.07**	**107**	*e*P	Pn	22 01 05.2	-1.0
ARIG				*i* S	Sn	22 01 11.6	-2.3
MEIG	**Mezcala**	**0.84**	**116**	*e*P	Pn	22 01 10.5	-2.2
MEIG				*i* S	Sn	22 01 23.9	-1.1
ZIIG	**Zihuatanejo**	**1.22**	**236**	*i* P	Pn	22 01 15.7	-1.5
ZIIG				*i* S	Sn	22 01 31.4	-1.7
CAIG	**El Cayaco**	**1.25**	**174**	*e*P	Pn	22 01 16.3	-1.4
CAIG				*i* S	Sn	22 01 31.8	-2.2
YAIG	**Yautepec**	**1.39**	**66**	*i* P	Pn	22 01 18.7	-1.1
YAIG				*i* S	Sn	22 01 35.4	-2.3

*HEL **21** 22:02:03.3±0.9, 67°.59N×33°.78E, h0km, ML1.8, Explosion*
*IDC **21** 22:02:04.3±2.2, 67°.75N×33°.65E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=21.5km s-min=9.8km az=80.0*
*NAO **21** 22:02:05.1±3.1, 67°.46N×32°.92E, ML2.3*
*CSEM **21** 22:02:06.3±0.5, 67°.70N×32°.95E, h2km, ML1.8, Error ellipse: s-maj=9.4km s-min=5.5km az=86.0, Mining explosion.*

ISC 21 22:02:03.6±2.0, 67°.62N±0°.04×33°.6E±0°.1, h0km**, n26, σ1°.64/32, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.53**	**277**	PG	Pn	22 02 30.9	-1.3
	baz=92						
VRF				SG	**Sg**	**22 02 51.7**	**-0.9**
VRF				MSG		22 02 51.7	
	comp=Z,1.9nm,0.1s						
VRF	**Varrio**	**1.53**	**277**	Pg	Pn	22 02 30.8	-1.3
KU6	**Riekki**	**2.17**	**224**	PN	**Pn**	**22 02 41.9**	**+1.0**
	baz=34						
KU6				SG	**Sb**	**22 03 11.8**	**+0.7**
KU6				MSG		22 03 11.8	
	comp=Z,4.8nm,0.4s						
KU6	**Riekki**	**2.17**	**224**	Pn	**Pn**	**22 02 41.9**	**+1.0**
KU6				Sg	**Sb**	**22 03 11.8**	**+0.7**
MSF	**Maaselka**	**2.49**	**229**	PN	**Pn**	**22 02 47.1**	**+1.8**
MSF				SG	**Sb**	**22 03 21.3**	**+1.0**
MSF				MSG		22 03 21.3	
	comp=Z,2.7nm,0.4s						
MSF	**Maaselka**	**2.49**	**229**	Pn	**Pn**	**22 02 47.1**	**+1.8**
MSF				Sg	**Sb**	**22 03 21.3**	**+1.0**
SGF	**Sodankyl**	**2.72**	**270**	PN	Pn	22 02 51.7	+3.2
SGF				SG	**Sb**	**22 03 26.4**	**-0.6**
SGF				MSG		22 03 26.4	
	comp=Z,3.9nm,0.4s						
RNF	**Rovaniemi**	**3.13**	**255**	PN	**Pn**	**22 02 54.3**	**+0.2**
RNF				SG	**Sb**	**22 03 39.0**	**+0.3**
RNF				MSG		22 03 39.0	
	comp=Z,6.0nm,0.4s						
RNF	**Rovaniemi**	**3.13**	**255**	Pn	**Pn**	**22 02 54.3**	**+0.2**
RNF				Sg	**Sb**	**22 03 39.0**	**+0.3**
KEV	**Kevo**	**3.23**	**315**	PN	**Pn**	**22 02 55.3**	**-0.2**
KEV				SG	**Sb**	**22 03 43.1**	**+1.7**
KEV				MSG		22 03 43.1	
	comp=Z,4.6nm,0.4s						
KEV	**Kevo**	**3.23**	**315**	Pn	**Pn**	**22 02 55.2**	**-0.2**
KEV				Sg	**Sb**	**22 03 43.1**	**+1.7**
ARA0	**ARCESS Array S**	**3.54**	**307**	Pn	Pn	22 02 58.5	-1.2
	baz=123,slow=16						
ARA0				Pg	**Pb**	**22 03 07.5**	**+0.4**
	baz=119,slow=16						
ARA0				Sn	**Sn**	**22 03 40.0**	**-2.2**
	baz=117,slow=28						
ARA0				Lg	Lg	22 03 50.9	
	baz=127,slow=28						
ARA0	**ARCESS Array S**	**3.54**	**307**	Pn	Pn	22 02 58.5	-1.2
	baz=123,slow=16						
ARA0				Pg	**Pb**	**22 03 07.5**	**+0.4**
	baz=119,slow=16						
ARA0				Sn	**Sn**	**22 03 40.0**	**-2.2**
	baz=117,slow=28						
ARA0				Lg	Lg	22 03 50.9	
	baz=127,slow=28						
ARA0	**ARCESS Array S**	**3.54**	**307**	Pn	Pn	22 02 58.5	-1.2
	baz=123,slow=14,SNR=50						
ARA0	**ARCESS Array S**	**3.54**	**307**	Pg	**Pb**	**22 03 07.4**	**+0.4**
	baz=119,slow=16,SNR=90						
ARA0				Sn	**Sn**	**22 03 40.0**	**-2.2**
	baz=117,slow=24,SNR=50						
ARA0				Lg	Lg	22 03 50.9	
	baz=127,slow=26,SNR=7.0						
ARCES	**ARCESS Array B**	**3.54**	**307**	Pn	**Pn**	**22 02 59.0**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=120,slow=15,SNR=83						
ARCES				Pg	**Pb**	**22 03 06.8**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=118,slow=15,SNR=15						
ARCES				Sn	**Sn**	**22 03 40.4**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=116,slow=24,SNR=7.5						
ARCES				Lg	Lg	22 03 51.9	
	comp=Z,2.9nm,0.3s,baz=114,slow=35,SNR=9.6						
HEF	**Hetta**	**3.82**	**287**	SG	**Sb**	**22 04 02.8**	**+4.2**
HEF				MSG		22 04 02.8	
	comp=Z,2.6nm,0.4s						
HEF	**Hetta**	**3.82**	**287**	Sg	**Sb**	**22 04 02.8**	**+4.2**
OUL	**Oulu**	**4.01**	**234**	SG	**Sb**	**22 04 02.1**	**-1.9**
OUL				MSG		22 04 02.1	
	comp=Z,1.3nm,0.4s						
FIA0	**FINESS Array S**	**6.99**	**211**	Sn	Sn	22 04 57.3	-10
FIA0				Lg	Lg	22 05 36.7	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**6.99**	**211**	Sn	Sn	22 04 57.3	-10
FIA0				Lg	Lg	22 05 36.7	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**6.99**	**211**	Lg	Lg	22 05 36.7	
	baz=27,slow=27,SNR=4.9						
FINES	**FINESS Array B**	**6.99**	**211**	Pn	**Pn**	**22 03 46.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=16,SNR=3.2						
FINES				Sn	**Sn**	**22 05 06.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=20,SNR=2.6						
FINES				Lg	Lg	22 05 38.1	
	comp=Z,0.4nm,0.3s,baz=34,slow=28,SNR=9.9						
HFS	**Hagfors**	**11.49**	**239**	Pn	Pn	22 04 45.8	-2.9
	comp=Z,0.1nm,0.3s,baz=64,slow=43,SNR=2.4						
HFS				Sn	Sn	22 06 51.6	-5.9
	comp=Z,0.1nm,0.3s,baz=70,slow=43,SNR=2.9						
HFS				Lg	Lg	22 08 06.2	
	comp=Z,0.1nm,0.3s,baz=76,slow=24,SNR=2.7						
SPITS	**Spitsbergen Ar**	**11.67**	**342**	Pn	Pn	22 04 42.4	-8.7
	baz=166,slow=18,SNR=2.7						
NOA	**NORSAR Array B**	**11.67**	**246**	Pn	Pn	22 04 48.9	-2.3
	comp=Z,0.1nm,0.3s,baz=49,slow=12,SNR=2.9						
NOA				Lg	Lg	22 08 12.9	
	comp=Z,0.1nm,0.3s,baz=45,slow=24,SNR=4.1						

*BJI **21** 22:06:19.8, 55°.50N×35°.10W, h10km, mB5.1/8, mb4.8/11, Ms4.9/4, Ms7 4.7/3*
*MOS **21** 22:06:20.8±0.8, 55°.48N×35°.07W, h11km, mb4.6/36, Error ellipse: s-maj=10.9km s-min=8.9km az=139.9*
*IDC **21** 22:06:21.0±0.6, 55°.50N×35°.12W, h0km, mb4.1/26, mb1 4.3/28, mb1mx4.2/39, mbtmp4.2/28, ML3.7/2, MS3.6/22, Ms1 3.6/22, ms1mx3.5/49, Error ellipse: s-maj=19.2km s-min=10.1km az=5.0*
*CSEM **21** 22:06:21.1±0.1, 55°.55N×35°.05W, h2km, mb4.4/34, Ms3.5, Error ellipse: s-maj=8.9km s-min=3.6km az=7.0*
*ISCJB **21** 22:06:21.5±0.2, 55°.48N±0°.06×35°.03W±0°.03, h14km, mb4.4/70, MS3.7/21, Error ellipse: s-maj=8.0km s-min=2.6km az=0.1*
*NEIC **21** 22:06:22.6±0.2, 55°.49N×35°.05W, h10km, mb4.5/30, Error ellipse: s-maj=7.7km s-min=3.1km az=8.0*

ISC 21 22:06:23.2±0.4, 55°.60N±0°.08×35°.06W±0°.05, h14km**, n460, σ0°.88/468, mb4.4/70, MS3.6/21, 98C-117D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**13.60**	**333**	LR	LR	22 13 58.1	
	comp=Z,320nm,18.6s,baz=109,slow=33						
SUMG	**Summit**	**17.11**	**357**	P	**Pn**	**22 10 22.3**	**+0.4**
SUMG	**Summit**	**17.11**	**357**	Pn	**Pn**	**22 10 22.3**	**+0.4**
SUMG	**Summit**	**17.11**	**357**	P	**Pn**	**22 10 22.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**18.01**	**78**	P	**P**	**22 10 33.2**	**0.0**
	baz=277,slow=9.9,SNR=7.7						
EKA	**Eskdalemuir Ar**	**18.01**	**78**	P	**P**	**22 10 33.2**	**0.0**
EKA	**Eskdalemuir Ar**	**18.01**	**78**	P	**P**	**22 10 33.2**	**0.0**
SCHQ	**Schefferville**	**18.07**	**281**	P	**Pn**	**22 10 32.8**	**-0.8**
	1.5nm,0.3s,baz=80,slow=9.0,SNR=35						
SCHQ				LR	LR	22 15 59.0	
	comp=Z,200nm,21.8s,baz=158,slow=32						
SCHQ	**Schefferville**	**18.07**	**281**	*e*Pn	**Pn**	**22 10 32.7**	**-0.9**
	19nm,0.8s						
SCHQ	**Schefferville**	**18.07**	**281**	*e*Pn	**Pn**	**22 10 32.7**	**-0.9**
	19nm,0.8s						
JMIC	**Jan Mayen**	**19.22**	**26**	LR	LR	22 16 05.2	
	comp=Z,96nm,19.8s,baz=258,slow=30						
QUIF	**Quistinic**	**21.03**	**98**	*e*P	**P**	**22 11 06.6**	**+0.3**
	60nm,1.2s						
QUIF	**Quistinic**	**21.03**	**98**	*e*P	**P**	**22 11 06.6**	**+0.3**
QUIF				pmax	pmax		
	comp=Z,60nm,1.2s						
QUIF	**Quistinic**	**21.03**	**98**	*e*P	**P**	**22 11 06.6**	**+0.3**
	comp=Z,60nm,1.2s						
QUIF	**Quistinic**	**21.03**	**98**	*e*P	**P**	**22 11 06.6**	**+0.3**
	comp=Z,30nm,1.2s						
SGMF	**Saint Gilles**	**21.19**	**97**	*e*P	**P**	**22 11 08.1**	**+0.1**
	comp=Z,103nm,1.6s						
SGMF	**Saint Gilles**	**21.19**	**97**	*e*P	**P**	**22 11 08.1**	**+0.1**
SGMF				pmax	pmax		
	comp=Z,103nm,1.6s						
SGMF	**Saint Gilles**	**21.19**	**97**	*e*P	**P**	**22 11 08.1**	**+0.1**
	comp=Z,103nm,1.6s						
SGMF	**Saint Gilles**	**21.19**	**97**	*e*P	**P**	**22 11 08.1**	**+0.1**
	comp=Z,52nm,1.6s						
GRR	**Gorron**	**22.08**	**95**	*e*P	**P**	**22 11 17.2**	**-0.4**
GRR	**Gorron**	**22.08**	**95**	*e*P	**P**	**22 11 17.2**	**-0.4**
GRR	**Gorron**	**22.08**	**95**	*e*P	**P**	**22 11 17.2**	**-0.4**
GRR	**Gorron**	**22.08**	**95**	*e*P	**P**	**22 11 17.2**	**-0.4**
FLN	**La Foliniere**	**22.10**	**94**	*e*P	**P**	**22 11 17.5**	**-0.2**
FLN				*e*R			
	comp=Z,319nm,22.5s						
FLN	**La Foliniere**	**22.10**	**94**	*e*P	**P**	**22 11 17.5**	**-0.2**
FLN	**La Foliniere**	**22.10**	**94**	*e*P	**P**	**22 11 17.5**	**-0.2**
FLN	**La Foliniere**	**22.10**	**94**	*e*P	**P**	**22 11 17.5**	**-0.2**
LDF	**La Druitiere**	**22.39**	**94**	*e*P	**P**	**22 11 18.9**	**-2.0**
LDF	**La Druitiere**	**22.39**	**94**	*e*P	**P**	**22 11 18.9**	**-2.0**
LDF	**La Druitiere**	**22.39**	**94**	*e*P	**P**	**22 11 18.9**	**-2.0**
LDF	**La Druitiere**	**22.39**	**94**	*e*P	**P**	**22 11 18.9**	**-2.0**
MFF	**Saint Martin d**	**23.47**	**98**	*e*P	**P**	**22 11 31.2**	**-0.9**
	comp=Z,15nm,1.0s						
MFF	**Saint Martin d**	**23.47**	**98**	*e*P	**P**	**22 11 31.2**	**-0.9**
MFF				pmax	pmax		
	comp=Z,15nm,1.0s						
MFF	**Saint Martin d**	**23.47**	**98**	*e*P	**P**	**22 11 31.2**	**-0.9**
	comp=Z,15nm,1.0s						
MFF	**Saint Martin d**	**23.47**	**98**	*e*P	**P**	**22 11 31.2**	**-0.9**
	comp=Z,7.7nm,1.0s						
NB2	**NORSAR Subarra**	**24.47**	**58**	P	**P**	**22 11 41.0**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=280,slow=10						
NB2	**NORSAR Subarra**	**24.47**	**58**	P	**P**	**22 11 41.0**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=280,slow=9.8,SNR=7.6						
NOA	**NORSAR Array B**	**24.47**	**58**	P	**P**	**22 11 41.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=280,slow=9.7,SNR=7.6						
NOA				LR	LR	22 19 56.4	
	comp=Z,57nm,19.1s,baz=275,slow=33						
NOA	**NORSAR Array B**	**24.47**	**58**	P	**P**	**22 11 41.4**	**-0.1**
NOA	**NORSAR Array B**	**24.47**	**58**	P	**P**	**22 11 41.4**	**-0.1**
	comp=Z,57nm,19.1s						
TCF	**Toulx Ste Croi**	**24.98**	**96**	*e*P	**P**	**22 11 45.9**	**-0.3**
	comp=Z,18nm,1.0s						
TCF	**Toulx Ste Croi**	**24.98**	**96**	*e*P	**P**	**22 11 45.9**	**-0.3**
TCF				pmax	pmax		
	comp=Z,18nm,1.0s						
TCF	**Toulx Ste Croi**	**24.98**	**96**	*e*P	**P**	**22 11 45.9**	**-0.3**
	comp=Z,18nm,1.0s						
TCF	**Toulx Ste Croi**	**24.98**	**96**	*e*P	**P**	**22 11 45.9**	**-0.3**
	comp=Z,9.1nm,1.0s						
RJF	**Les Rejaudoux**	**25.18**	**99**	*e*P	**P**	**22 11 47.0**	**-0.9**
RJF				*e*R			
	comp=Z,310nm,23.0s						
RJF	**Les Rejaudoux**	**25.18**	**99**	*e*P	**P**	**22 11 47.0**	**-0.9**
RJF	**Les Rejaudoux**	**25.18**	**99**	*e*P	**P**	**22 11 47.0**	**-0.9**
RJF	**Les Rejaudoux**	**25.18**	**99**	*e*P	**P**	**22 11 47.0**	**-0.9**
BGF	**Bois d'Agland**	**25.19**	**95**	*e*P	**P**	**22 11 46.9**	**-1.1**
	comp=Z,11nm,0.8s						
BGF	**Bois d'Agland**	**25.19**	**95**	*e*P	**P**	**22 11 46.9**	**-1.1**
BGF				pmax	pmax		
	comp=Z,11nm,0.8s						
BGF	**Bois d'Agland**	**25.19**	**95**	*e*P	**P**	**22 11 46.9**	**-1.1**
	comp=Z,11nm,0.8s						
BGF	**Bois d'Agland**	**25.19**	**95**	*e*P	**P**	**22 11 46.9**	**-1.1**
	comp=Z,5.4nm,0.8s						
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**22 11 48.2**	**-0.6**
	comp=Z,16nm,1.1s						
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**22 11 48.2**	**-0.6**
SSF				pmax	pmax		
	comp=Z,16nm,1.1s						
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**22 11 48.2**	**-0.6**
	comp=Z,16nm,1.1s						
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**22 11 48.2**	**-0.6**
	comp=Z,7.8nm,1.1s						
AVF	**Avril sur Loir**	**25.34**	**94**	*e*P	**P**	**22 11 48.3**	**-1.1**
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**25.34**	**94**	*e*P	**P**	**22 11 48.3**	**-1.1**
AVF				pmax	pmax		
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**25.34**	**94**	*e*P	**P**	**22 11 48.3**	**-1.1**
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**25.34**	**94**	*e*P	**P**	**22 11 48.3**	**-1.1**
	comp=Z,5.8nm,1.0s						
LOR	**Lormes**	**25.36**	**93**	*e*P	**P**	**22 11 48.1**	**-1.5**
LOR				*e*R			
	comp=Z,228nm,21.5s						
LOR	**Lormes**	**25.36**	**93**	*e*P	**P**	**22 11 48.1**	**-1.5**
LOR	**Lormes**	**25.36**	**93**	*e*P	**P**	**22 11 48.1**	**-1.5**
MEZF	**Maizieres J'vi**	**25.37**	**89**	*e*P	**P**	**22 11 49.9**	**+0.3**
	comp=Z,10nm,0.9s						
MEZF	**Maizieres J'vi**	**25.37**	**89**	*e*P	**P**	**22 11 49.9**	**+0.3**
	comp=Z,10nm,0.9s						
MEZF	**Maizieres J'vi**	**25.37**	**89**	*e*P	**P**	**22 11 49.9**	**+0.3**
	comp=Z,5.1nm,0.9s						
HFS	**Hagfors**	**25.83**	**60**	P	**P**	**22 11 55.0**	**+1.3**
	comp=Z,5.4nm,1.0s,baz=256,slow=12,SNR=4.2						
HFS				LR	LR	22 20 47.2	
	comp=Z,91nm,18.1s,baz=135,slow=33						
HFS	**Hagfors**	**25.83**	**60**	P	**P**	**22 11 55.0**	**+1.3**
HFS	**Hagfors**	**25.83**	**60**	P	**P**	**22 11 55.0**	**+1.3**
	comp=Z,91nm,18.1s						
ESDC	**Sonseca Array**	**26.02**	**115**	P	**P**	**22 11 55.3**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=316,slow=9.0,SNR=16						
ESDC				LR	LR	22 20 39.9	
	comp=Z,127nm,18.1s,baz=320,slow=33						
ESDC	**Sonse

baz=37
AK01 Malin Array Si 37.62 70 *e*P **P 22 13 36.6 -0.5**
AK01 Malin Array Si 37.62 70 *e*P **P 22 13 36.6 -0.5**
AKASG Malin Array Be 37.62 70 P **P 22 13 36.8 -0.4**
comp=Z,4.5nm,0.7s,baz=304,slow=8.4,SNR=12
AKASG Malin Array Be 37.62 70 P **P 22 13 36.8 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 37.62 70 P **P 22 13 36.8 -0.4**
AKASG Malin Array Be 37.62 70 P **P 22 13 36.8 -0.4**
AK02 Malin Array Si 37.64 70 *e*P **P 22 13 36.8 -0.5**
AK02 Malin Array Si 37.64 70 *e*P **P 22 13 36.8 -0.5**
KLMR Klimovskoe 37.64 51 *e*P P 22 13 33.6 -3.6
KLMR pmax pmax
comp=Z,18nm,1.6s
YKA Yellowknife Ar 39.01 314 P **P 22 13 48.2 -0.5**
comp=Z,2.6nm,0.7s,baz=61,slow=9.1,SNR=54
YKA PcP **PcP 22 15 57.8 -0.8**
comp=Z,0.7nm,0.9s,baz=59,slow=3.5,SNR=5.5
YKA Yellowknife Ar 39.01 314 P **P 22 13 48.2 -0.5**
YKA PcP **PcP 22 15 57.8 -0.8**
YKA Yellowknife Ar 39.01 314 P **P 22 13 48.2 -0.5**
YKA Yellowknife Ar 39.01 314 PcP **PcP 22 15 57.8 -0.8**
OBN Obninsk 39.04 60 *e*P **P 22 13 48.8 -0.2**
OBN pmax pmax
comp=Z,7.0nm,1.0s
GOGA Godfrey 39.97 257 *e*P **P 22 13 58.1 +1.0**
GOGA Godfrey 39.97 257 *e*P **P 22 13 58.1 +1.0**
GOGA Godfrey 39.97 257 *e*P **P 22 13 58.1 +1.0**
ECSD EROS Data Cent 40.26 280 *e*P **P 22 14 00.1 +0.7**
comp=Z,5.2nm,0.8s
ECSD EROS Data Cent 40.26 280 *e*P **P 22 14 00.1 +0.7**
comp=Z,5.2nm,0.8s
A24A Westby 41.12 291 ⇑P **P 22 14 07.6 +1.1**
baz=41
DGMT Dagmar 41.49 290 ⇑P **P 22 14 11.0 +1.5**
baz=41
B23A Brockton 41.92 291 ⇑P **P 22 14 14.0 +1.0**
baz=42,SNR=6.0
A22A Carney Farms, 42.09 292 ⇓P **P 22 14 15.3 +0.8**
baz=42
C24A Savage 42.19 289 ⇓P **P 22 14 16.2 +1.0**
baz=42
C23A Lambert 42.42 290 ⇑P **P 22 14 18.6 +1.5**
baz=42
A21A Bergtoll Ranch 42.62 292 ⇓P **P 22 14 19.0 +0.2**
baz=42,SNR=6.9
E24A Baker 42.72 288 ⇑P **P 22 14 20.2 +0.6**
baz=43
D23A Lindsay 42.83 289 ⇑P **P 22 14 21.5 +1.1**
baz=43
C22A Vida 42.83 290 ⇑P **P 22 14 21.8 +1.3**
baz=43
A20A Cobblestone Ra 43.22 293 ⇑P **P 22 14 24.1 +0.6**
baz=43
D22A Cohagen 43.36 290 ⇓P **P 22 14 25.6 +0.8**
baz=43
A19A Klindworth Far 43.61 293 ⇑P **P 22 14 26.7 -0.1**
baz=44
E22A Miles City 43.68 289 ⇓P **P 22 14 27.9 +0.6**
baz=44
F23A Volborg 43.84 288 ⇓P **P 22 14 29.2 +0.5**
baz=44
D21A La Casta Ranch 43.85 290 ⇑P **P 22 14 29.2 +0.5**
baz=44
C20A Veseth Ranch, 43.98 292 ⇓P **P 22 14 30.3 +0.6**
baz=44
H24A Dirks Ranch, A 44.00 286 ⇓P **P 22 14 30.0 0.0**
baz=44,SNR=6.1
B19A Brinkman Farms 44.01 293 ⇓P **P 22 14 31.1 +1.2**
baz=44
G23A Biddle 44.17 287 ⇓P **P 22 14 31.8 +0.5**
baz=44
A18A Metzger Ranch, 44.19 294 ⇓P **P 22 14 31.7 +0.3**
baz=44
D20A Manuel Ranch, 44.44 291 ⇓P **P 22 14 34.2 +0.8**
baz=44,SNR=6.2
B18A Beardsley Farm 44.48 293 ⇑P **P 22 14 33.3 -0.4**
baz=44
C19A Slack Wire Ran 44.51 292 ⇑P **P 22 14 34.4 +0.4**
baz=44
K26A Motz Farm, Whi 44.58 283 ⇓P **P 22 14 35.3 +0.6**
baz=44
EGMT Eagleton 44.70 293 *e*P **P 22 14 36.8 +1.3**
comp=Z,20nm,1.1s
EGMT Eagleton 44.70 293 ⇓P **P 22 14 35.4 -0.1**
baz=45,SNR=9.1
EGMT Eagleton 44.70 293 *e*P **P 22 14 36.8 +1.3**
comp=Z,20nm,1.1s
D19A Cripps Ranch, 44.78 292 ⇑P **P 22 14 36.6 +0.4**
baz=45
B17A L&G Farms, Che 45.08 294 ⇓P **P 22 14 38.8 +0.3**
baz=45,SNR=8.8
D18A Linhart Farms, 45.25 292 ⇓P **P 22 14 40.0 +0.1**
baz=45
C17A Wharram Farm, 45.48 293 ⇑P **P 22 14 41.8 +0.1**
baz=45,SNR=15
ANN Anapa 45.59 72 *e*P P 22 14 34.7 -7.8
ANN pmax pmax
comp=Z,27nm,1.2s
I22A 9 Mile Ranch, 45.61 286 ⇑P **P 22 14 43.4 +0.6**
baz=46
A15A Johnson Ranch, 45.64 296 ⇓P **P 22 14 42.4 -0.6**
baz=46
F19A Roth Farm, Mol 45.66 290 ⇑P **P 22 14 42.9 -0.3**
baz=46
G20A Bridger 45.68 289 ⇑P **P 22 14 43.6 +0.2**
baz=46
E18A Harlowton 45.71 292 ⇓P **P 22 14 44.1 +0.5**
baz=46
D17A Six Diamond Ra 45.74 293 ⇓P **P 22 14 44.6 +0.7**
baz=46
C16A Fuhringer Ranc 45.88 294 ⇓P **P 22 14 45.0 +0.1**
baz=46,SNR=8.6
J22A Midwest 45.93 286 ⇑P **P 22 14 45.3 -0.1**
baz=46
B15A Bradely Ranch, 45.97 295 ⇓P **P 22 14 45.4 -0.2**
baz=46
A14A Double T Ranch 45.99 296 ⇓P **P 22 14 45.9 +0.1**
baz=46
I21A Big Trails, Te 46.10 287 ⇑P **P 22 14 46.3 -0.5**
baz=46,SNR=7.6
WALA Waterton Lakes 46.19 297 *e*P **P 22 14 46.8 -0.5**
comp=Z,0.4nm,1.2s
WALA Waterton Lakes 46.19 297 *e*P **P 22 14 46.8 -0.5**
comp=Z,0.4nm,1.2s
D16A Dana Ranch, Ca 46.27 293 ⇓P **P 22 14 48.4 +0.3**
baz=46
E17A Martinsdale 46.28 292 ⇑P **P 22 14 48.4 +0.3**
baz=46
RLMT Red Lodge 46.31 290 ⇓P **P 22 14 48.5 +0.1**
baz=46
G18A Lazy EL Ranch, 46.34 290 ⇓P **P 22 14 48.9 +0.3**
baz=46
C15A Salmond Ranch, 46.34 294 ⇓P **P 22 14 48.9 +0.3**
baz=46
L23A Garrett 46.37 284 ⇑P **P 22 14 48.9 -0.1**
baz=46
H19A Powell 46.45 289 ⇑P **P 22 14 49.8 +0.3**
baz=46
K22A Casper 46.46 285 ⇑P **P 22 14 49.9 +0.3**
baz=46
I20A Worland 46.47 288 ⇓P **P 22 14 49.9 +0.3**
baz=46
J21A Lysite 46.50 287 ⇑P **P 22 14 50.2 +0.2**
baz=46
A13A Flathead Natio 46.52 297 ⇑P **P 22 14 50.3 +0.4**
baz=46
F17A Fitzpatrick Pl 46.53 291 ⇑P **P 22 14 50.4 +0.3**
baz=46
E16A East Helena 46.66 293 ⇓P **P 22 14 51.7 +0.6**
baz=46
D15A Lincoln 46.77 294 ⇑P **P 22 14 52.3 +0.3**
baz=47
P26A Davis Ranch, A 46.80 280 ⇓P **P 22 14 52.7 +0.4**
baz=47
H18A Shoshone NF, C 46.81 289 ⇑P **P 22 14 52.4 -0.1**
baz=47,SNR=9.2
J20A Shoshoni 46.84 287 ⇑P **P 22 14 52.7 +0.2**
baz=47,SNR=7.8
I19A Meeteetse 46.88 288 ⇑P **P 22 14 52.9 0.0**
baz=47
B13A Whitefish 46.91 296 ⇑P **P 22 14 53.2 +0.3**
baz=47
BR131 Keskin Array S 46.91 80 *e*P **P 22 14 54.5 +1.4**
comp=Z,5.4nm,0.6s
BR131 Keskin Array S 46.91 80 *e*P **P 22 14 54.5 +1.4**
comp=Z,5.4nm,0.6s
BRTR Keskin Array B 46.91 80 P **P 22 14 54.5 +1.4**
comp=Z,7.3nm,0.7s,baz=311,slow=5.9,SNR=45
BRTR LR LR 22 35 32.6
comp=Z,45nm,18.4s,baz=308,slow=37
BRTR Keskin Array B 46.91 80 P **P 22 14 54.5 +1.4**
BRTR Keskin Array B 46.91 80 P **P 22 14 54.5 +1.4**
C14A Swan Lake 46.93 295 ⇑P **P 22 14 53.0 -0.1**
baz=47
BOZ Bozeman (W) 47.22 292 *e*P **P 22 14 55.6 +0.1**
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 47.22 292 *e*P **P 22 14 55.5 +0.1**
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 47.22 292 ⇓P **P 22 14 56.0 +0.5**
baz=47,SNR=9.6
BOZ Bozeman (W) 47.22 292 *e*P **P 22 14 55.5 +0.1**
comp=Z,6.9nm,1.1s
E15A Deer Lodge 47.24 293 ⇑P **P 22 14 55.8 +0.2**
baz=47
P25A Willow Gulch B 47.29 280 ⇓P **P 22 14 56.0 -0.1**
baz=47
N23A Red Feather La 47.33 283 ⇑P **P 22 14 56.4 -0.1**
baz=47
R27A Eads 47.38 278 ⇑P **P 22 14 56.8 +0.1**
baz=47
C13A Hot Springs 47.41 296 ⇓P **P 22 14 57.2 +0.3**
baz=47
K20A Yellowstone Ra 47.45 286 ⇓P **P 22 14 57.2 -0.1**
baz=47
F15A Butte 47.54 292 ⇓P **P 22 14 58.1 0.0**
baz=47
I18A Diamond G Ranc 47.54 288 ⇑P **P 22 14 57.8 -0.3**
baz=47
DLBC Dease Lake 47.59 315 LR LR 22 34 06.9
comp=Z,75nm,19.8s,baz=302,slow=35
K19A Absolon Red Bu 47.61 287 ⇑P **P 22 14 58.0 -0.6**
baz=48,SNR=7.9
M21A Separation Pea 47.62 285 ⇓P **P 22 14 58.7 -0.1**
baz=48,SNR=9.7
H16A Russell Place, 47.64 290 ⇓P **P 22 14 58.9 +0.1**
baz=48
N22A Wattenberg Ran 47.67 283 ⇑P **P 22 14 59.9 +0.6**
baz=48
E14A Clinton 47.69 294 ⇑P **P 22 14 59.5 +0.4**
baz=48
R26A Arlington 47.73 279 ⇓P **P 22 14 59.2 -0.3**
baz=48
D13A Huson 47.74 295 ⇓P **P 22 14 59.3 -0.1**
baz=48
O23A Lake Granby, G 47.78 282 ⇓P **P 22 15 00.8 +0.7**
baz=48
I17A Pilgrim Ck. 47.80 289 ⇑P **P 22 15 01.0 +0.8**
baz=48
C12B Naegeli Ranch, 47.86 296 ⇓P **P 22 15 01.3 +1.0**
baz=48
L20A Wamsutter 47.89 286 ⇓P **P 22 15 01.4 +0.6**
baz=48
ISCO Idaho Springs 47.90 282 *e*P **P 22 15 01.5 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,0.7s
ISCO Idaho Springs 47.90 282 *e*P **P 22 15 01.5 +0.5**
comp=Z,2.6nm,0.7s
ISCO Idaho Springs 47.90 282 ⇓P **P 22 15 01.2 +0.2**
baz=48,SNR=6.5
ISCO Idaho Springs 47.90 282 *e*P **P 22 15 01.5 +0.5**
comp=Z,2.6nm,0.7s
DLMT Dillon 47.91 292 *e*P **P 22 15 02.3 +1.4**
comp=Z,4.2nm,0.9s
DLMT Dillon 47.91 292 *e*P **P 22 15 02.3 +1.4**
comp=Z,4.2nm,0.9s
J18A Kendall Valley 47.98 288 ⇓P **P 22 15 01.5 -0.1**
baz=48,SNR=13
G15A Dillon 47.99 292 ⇓P **P 22 15 02.0 +0.5**
baz=48
F14A Wisdom 48.02 293 ⇑P **P 22 15 01.9 +0.1**
baz=48
BW06 Boulder Array 48.03 287 ⇓P **P 22 15 01.9 -0.1**
baz=48
PDAR Pinedale Array 48.03 287 P **P 22 15 01.7 -0.2**
comp=Z,1.8nm,0.6s,baz=67,slow=8.1,SNR=19
PDAR LR LR 22 33 43.6
comp=Z,146nm,19.5s,baz=84,slow=34
PDAR Pinedale Array 48.03 287 P **P 22 15 01.7 -0.2**
PDAR Pinedale Array 48.03 287 P **P 22 15 01.7 -0.2**
M20A Sweetwater, Wa 48.15 285 ⇑P **P 22 15 03.1 +0.2**
baz=48
O22A Kremmling 48.16 283 ⇑P **P 22 15 03.2 +0.1**
baz=48
C11A Tepee Creek (N 48.17 297 ⇑P **P 22 15 03.1 +0.4**
baz=48
T27A Campo 48.20 277 ⇓P **P 22 15 03.3 +0.2**
baz=48
S26A Kim 48.22 278 ⇑P **P 22 15 03.2 -0.2**
baz=48
D12A Red Ives Fores 48.23 295 ⇓P **P 22 15 03.2 0.0**
baz=48
J17A Brown Place, J 48.25 289 ⇓P **P 22 15 03.7 +0.1**
baz=48
R25A Fountain Ranch 48.31 279 ⇑P **P 22 15 04.2 +0.2**
baz=48
P23A Jefferson 48.32 281 ⇓P **P 22 15 03.8 -0.6**
baz=48
NEW Newport 48.33 298 ⇑P **P 22 15 04.1 +0.2**
baz=48
ARU Arti 48.34 48*c i*P **P 22 15 04.3 +0.5**
ARU 22 16 53.9
ARU S **S 22 22 05.8 +2.7**
ARU SS **SS 22 25 29.9 -2.1**
ARU pmax pmax
comp=Z,7.0nm,1.2s
K18A Toltan Ranch, 48.38 288 ⇑P **P 22 15 04.8 +0.2**
baz=48
X31A McDonald Ranch 48.39 273 ⇓P **P 22 15 05.1 +0.6**
baz=48
G14A Jackson 48.45 292 ⇑P **P 22 15 05.8 +0.7**
baz=48,SNR=6.4
Y32A R-V Farms, Ver 48.54 272 ⇑P **P 22 15 05.8 +0.1**
baz=48
F13A Darby 48.54 293 ⇑P **P 22 15 05.6 -0.1**
baz=48
T26A Comanche Natio 48.60 278 ⇓P **P 22 15 06.9 +0.5**
baz=48
N20A Spence Gulch, 48.65 285 ⇑P **P 22 15 07.8 +1.1**
baz=48
P22A Eagle 48.67 282 ⇑P **P 22 15 07.5 +0.6**
baz=48
S25A Robets Cordova 48.73 279 ⇑P **P 22 15 07.5 +0.1**
baz=49
E12A Beaver Dam Sad 48.76 295 ⇑P **P 22 15 07.6 +0.2**
baz=49
H14A Leadore 48.82 292 ⇑P **P 22 15 08.3 +0.4**
baz=49
V28A Channing 48.85 275 ⇓P **P 22 15 08.7 +0.5**
baz=49
G13A Cobalt 48.95 293 ⇑P **P 22 15 09.3 +0.4**
baz=49
KIV Kislovodsk 48.97 69 *e*P **P 22 15 09.4 +0.5**
KIV *e* 22 16 37.9
KIV *i* 22 16 58.2
KIV pmax pmax
comp=Z,6.0nm,1.2s
X30A Coker Ranch, T 49.03 273 ⇓P **P 22 15 09.7 +0.2**
baz=49
Y31A Rekieta Farm, 49.03 272 ⇑P **P 22 15 09.7 +0.2**
baz=49
F12A Elk City 49.04 294 ⇓P **P 22 15 09.6 +0.1**
baz=49
Z32A Haskell 49.07 271 ⇑P **P 22 15 09.6 -0.1**
baz=49
K16A Soda Springs 49.08 289 ⇑P **P 22 15 10.6 +0.6**
baz=49
T25A Trinidad 49.09 278 ⇓P **P 22 15 10.1 0.0**
baz=49
N19A John Jarvie Ra 49.11 285 ⇑P **P 22 15 10.3 +0.1**
baz=49
P21A Newcastle 49.11 283 ⇓P **P 22 15 11.7 +1.4**
baz=49,SNR=8.8
O20A White River Ci 49.12 284 ⇑P **P 22 15 10.4 +0.1**
baz=49
R23A Moffat 49.14 280 ⇑P **P 22 15 11.3 +0.8**
baz=49
AMTX Amarillo 49.17 274 *e*P **P 22 15 11.2 +0.5**
comp=Z,27nm,1.1s
AMTX Amarillo 49.17 274 ⇓P **P 22 15 11.0 +0.4**
baz=49
AMTX Amarillo 49.17 274 *e*P **P 22 15 11.1 +0.5**
comp=Z,27nm,1.1s
ILAR Eielson Array 49.20 328 P **P 22 15 11.1 +0.8**
comp=Z,1.7nm,0.8s,baz=43,slow=6.0,SNR=23
ILAR PcP **PcP 22 16 33.0 -0.2**
comp=Z,0.6nm,0.9s,baz=0.7,slow=2.9,SNR=4.4
ILAR LR LR 22 35 37.3
comp=Z,103nm,18.2s,baz=71,slow=36
ILAR Eielson Array 49.20 328 P **P 22 15 11.1 +0.8**
ILAR PcP **PcP 22 16 33.0 -0.2**
ILAR Eielson Array 49.20 328 P **P 22 15 11.1 +0.8**
KBZ Khabaz 49.23 69 P **P 22 15 12.2 +1.4**
comp=Z,2.1nm,0.9s,baz=335,slow=6.7,SNR=4.1
KBZ LR LR 22 35 03.0
comp=Z,44nm,21.4s,baz=46,slow=35
KBZ Khabaz 49.23 69 P **P 22 15 12.2 +1.4**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ MLR MLR
comp=Z,44nm,21.4s
KBZ Khabaz 49.23 69 P **P 22 15 12.2 +1.4**
KBZ Khabaz 49.23 69 P **P 22 15 12.2 +1.4**
U26A Atchley Ranch, 49.24 277 ⇓P **P 22 15 11.6 +0.3**
baz=49
Q22A Crested Butte, 49.27 282 ⇓P **P 22 15 11.9 +0.4**
baz=49
H13A Challis 49.32 292 ⇑P **P 22 15 12.3 +0.5**
baz=49
I14A Mackay 49.33 291 ⇑P **P 22 15 12.3 +0.5**
baz=49
Z31A Sharp Cattle R 49.44 272 ⇓P **P 22 15 12.8 +0.2**
baz=49
O19A Miners Draw (B 49.49 285 ⇓P **P 22 15 13.5 +0.4**
baz=49
G12A Big Creek, Yel 49.50 293 ⇑P **P 22 15 13.4 +0.3**
baz=49
M17A Scullys Gap (B 49.52 287 ⇑P **P 22 15 13.2 -0.2**
baz=49
U25A Circle Dot Ran 49.62 278 ⇑P **P 22 15 15.2 +1.1**
baz=50
R22A Saguache, Gunn 49.63 281 ⇓P **P 22 15 15.1 +0.7**
baz=50
H12A Diamond D Ranc 49.65 293 ⇓P **P 22 15 14.8 +0.5**
baz=50
Q21A Lamborn Mesa, 49.66 282 ⇑P **P 22 15 15.0 +0.6**
baz=50
I13A Wildhorse Cree 49.69 291 ⇑P **P 22 15 15.1 +0.5**
baz=50
X28A Dimmitt 49.72 274 ⇓P **P 22 15 15.6 +0.8**
baz=50
J14A Carey 49.78 291 ⇓P **P 22 15 16.3 +1.0**
baz=50
W27A Bowe Ranch, En 49.82 275 ⇑P **P 22 15 16.1 +0.5**
baz=50
HWUT Hardware Ranch 49.91 288 *e*P **P 22 15 16.3 0.0**
comp=Z,6.5nm,1.0s
HWUT Hardware Ranch 49.91 288 *e*P **P 22 15 16.3 0.0**
comp=Z,6.5nm,1.0s
Q20A Ridgley Place, 49.97 283 ⇓P **P 22 15 17.6 +0.8**
baz=50
N17A Moffit Pass 49.98 286 ⇑P **P 22 15 17.2 +0.3**
baz=50
O18A Roosevelt 50.00 285 ⇓P **P 22 15 17.5 +0.5**
baz=50
J13A Cove Ranch, Pi 50.08 291 ⇓P **P 22 15 17.9 +0.4**
baz=50
HLID Hailey 50.09 291 *e*P **P 22 15 18.4 +0.8**
comp=Z,5.7nm,1.2s
HLID Hailey 50.09 291 ⇓P **P 22 15 18.4 +0.8**
baz=50
HLID Hailey 50.09 291 *e*P **P 22 15 18.4 +0.8**
comp=Z,5.7nm,1.2s
K14A Jones Ranch, D 50.13 290 ⇓P **P 22 15 18.5 +0.6**
baz=50
V25A Rancho No Teng 50.14 277 ⇓P **P 22 15 18.6 +0.5**
baz=50
M16A Huntsville 50.15 287 ⇓P **P 22 15 18.5 +0.4**
baz=50
W26A Owens Ranch, T 50.20 276 ⇓P **P 22 15 19.2 +0.7**
baz=50
I12A Atlanta 50.31 292 ⇓P **P 22 15 20.0 +0.7**
baz=50
N16A Rees Ranch, Co 50.34 287 ⇓P **P 22 15 20.3 +0.7**
baz=50
130A Snyder 50.43 272 ⇓P **P 22 15 19.9 -0.3**
baz=50
O17A Robinson Place 50.45 286 ⇑P **P 22 15 19.9 -0.5**
baz=50
MSTX Muleshoe 50.45 274 ⇑P **P 22 15 20.0 -0.4**
baz=50
M15A Larsen Ranch, 50.49 288 ⇓P **P 22 15 20.4 -0.2**
baz=50
W25A X Bar L Ranch, 50.50 277 ⇑P **P 22 15 20.7 0.0**
baz=50
MALT Malatya 50.56 78 *e*P **P 22 15 21.9 +0.8**
MALT pmax pmax
comp=Z,3.0nm,1.0s
MALT Malatya 50.56 78 *e*P **P 22 15 21.9 +0.8**
comp=Z,3.4nm,1.0s
MALT Malatya 50.56 78 *e*P **P 22 15 21.9 +0.8**
comp=Z,3.4nm,1.0s
T22A Edith 50.58 280 ⇑P **P 22 15 20.7 -0.8**
baz=50
S21A Coal Bank Pass 50.61 281 ⇓P **P 22 15 22.6 +0.9**
baz=50,SNR=7.1
332A Millersview 50.64 269 ⇑P **P 22 15 21.0 -0.7**
baz=50
129A Stewart Farms, 50.92 272 ⇑P **P 22 15 23.3 -0.5**
baz=51
BBB Bella Bella 50.94 308 LR LR 22 36 35.6
comp=Z,77nm,19.3s,baz=70,slow=36
P17A Butcher Ranch, 50.95 285 ⇑P **P 22 15 24.5 +0.3**
baz=51
TOA0 Torodi Ar. Sit 51.02 131 *e*P **P 22 15 23.3 -1.4**
TOA0 Torodi Ar. Sit 51.02 131 *e*P **P 22 15 23.3 -1.4**
TORD Torodi Ar. Bea 51.02 131 P **P 22 15 23.5 -1.1**
comp=Z,2.4nm,0.7s,baz=330,slow=8.6,SNR=24
TORD LR LR 22 35 38.6
comp=Z,61nm,18.9s,baz=280,slow=34
TORD Torodi Ar. Bea 51.02 131 P **P 22 15 23.5 -1.1**
TORD Torodi Ar. Bea 51.02 131 P **P 22 15 23.5 -1.1**
W24A Lazy 6 Ranch, 51.03 277 ⇓P **P 22 15 25.3 +0.4**
baz=51
230A Sterling City 51.04 271 ⇓P **P 22 15 24.8 0.0**
baz=51
Z27A Tatum 51.18 274 ⇓P **P 22 15 25.7 -0.2**
baz=51
128A Castleberry Fa 51.28 273 ⇑P **P 22 15 26.2 -0.4**
baz=51
MVCO Mesa Verde 51.33 281 ⇓P **P 22 15 26.4 -0.7**
baz=51
229A Bryant Ranch, 51.38 272 ⇑P **P 22 15 27.2 -0.1**
baz=51
U21A Nageezi 51.42 280 ⇓P **P 22 15 27.8 0.0**
baz=51
330A Mertzon 51.44 271 ⇓P **P 22 15 27.6 -0.1**
baz=51
Y25A Mesa, Roswell 51.57 276 ⇓P **P 22 15 29.3 +0.5**
baz=51
DUG Dugway 51.58 287 ⇑P **P 22 15 29.1 +0.3**
baz=51
Z26A Caprock 51.64 275 ⇓P **P 22 15 29.4 0.0**
baz=52
431A Sonora 51.66 270 ⇑P **P 22 15 29.0 -0.4**
baz=52
532A Rocksprings 51.67 269 ⇓P **P 22 15 29.1 -0.5**
baz=52
S18A Hurst Farm, Bl 51.81 283 ⇓P **P 22 15 31.4 +0.7**
baz=52
329A Wagon Wheel Ra 51.83 271 ⇓P **P 22 15 30.7 0.0**
baz=52
430A Baggett Ranch, 51.93 270 ⇑P **P 22 15 31.5 0.0**
baz=52
Y24A Capitan 51.99 276 ⇓P **P 22 15 32.9 +0.9**
baz=52
531A Rocksprings 52.01 269 ⇑P **P 22 15 32.6 +0.5**
baz=52
Z25A Roswell 52.05 275 ⇓P **P 22 15 32.7 +0.3**
baz=52
632A Uvalde 52.07 268 ⇑P **P 22 15 32.9 +0.5**
baz=52
126A Clayton Basin, 52.13 274 ⇓P **P 22 15 33.3 +0.3**
baz=52
AKTO Aktyubinsk 52.16 54 P **P 22 15 33.3 +0.5**
comp=Z,2.9nm,0.7s,baz=313,slow=6.1,SNR=12
AKTO Aktyubinsk 52.16 54 P **P 22 15 33.3 +0.5**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 52.16 54 P **P 22 15 33.3 +0.5**
AKTO Aktyubinsk 52.16 54 P **P 22 15 33.3 +0.5**
Y23A Lovelace Mesa, 52.33 277 ⇓P **P 22 15 35.2 +0.7**

baz=52
328A Wristen Ranch, 52.38 272 ⇓P P 22 15 34.7 -0.1
baz=52
Z24A Sheeppen Canyo 52.38 276 ⇑P P 22 15 35.4 +0.4
baz=52
429A Davenport Ranc 52.43 271 ⇑P P 22 15 35.0 -0.1
baz=52
530A J-C Ranch, Com 52.47 270 ⇓P P 22 15 35.5 0.0
baz=52
125A Gardner Draw, 52.48 275 ⇓P P 22 15 35.5 -0.1
baz=52
TIXI Tiksi 52.54 6⇑iP P 22 15 36.7 +1.4
TIXI pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 52.71 71 P P 22 15 39.2 +2.0
comp=Z,4.1nm,0.7s,baz=347,slow=10,SNR=7.2
GNI Garni 52.71 71 eP P 22 15 38.6 +1.4
comp=Z,9.5nm,1.0s
GNI Garni 52.71 71 eP P 22 15 38.6 +1.4
comp=Z,9.5nm,1.0s
428A Kincaid Ranch, 52.80 271 ⇓P P 22 15 38.3 +0.3
baz=53
W20A Ramah 52.83 280 ⇓P P 22 15 37.1 -1.3
baz=53
124A Stringfield Ra 52.90 275 ⇓P P 22 15 39.0 +0.1
baz=53
Z23A Rita Site, Whi 52.92 276 ⇑P P 22 15 39.4 +0.5
baz=53
X21A Alamocita Cree 52.93 278 ⇓P P 22 15 39.4 +0.4
baz=53
225A Deer Hill, Car 52.98 274 ⇓P P 22 15 39.2 -0.2
baz=53
529A Stev Forest Ra 52.99 270 ⇓P P 22 15 39.5 +0.1
baz=53
326A Caldwell Ranch 53.09 273 ⇑P P 22 15 40.6 +0.5
baz=53
427A Hayter Ranch, 53.12 272 ⇓P P 22 15 40.1 -0.2
baz=53
528A Cox Ranch, San 53.28 271 ⇓P P 22 15 41.4 -0.2
baz=53
224A Cornudas Mount 53.40 275 ⇑P P 22 15 42.3 -0.1
baz=53,SNR=8.5
426A McDonald Obser 53.61 272 ⇓P P 22 15 44.4 +0.3
baz=54
Z21A St. Cloud Mine 53.70 277 ⇓P P 22 15 45.0 +0.3
baz=54
527A Woodward Ranch 53.76 272 ⇓P P 22 15 44.9 -0.2
baz=54
628A Black Gap, Mar 53.85 271 ⇑P P 22 15 45.9 +0.3
baz=54
324A Moseley Ranch, 53.85 274 ⇓P P 22 15 45.4 -0.4
baz=54
ABKAR Akbulak array 53.87 54 P P 22 15 45.8 +0.3
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 53.87 54 P P 22 15 45.8 +0.3
comp=Z,1.5nm,0.6s
526A Mary Lane Ranc 54.10 272 ⇓P P 22 15 47.7 +0.2
baz=54
627A Terlingua Ranc 54.16 271 ⇓P P 22 15 47.6 -0.4
baz=54,SNR=7.9
DBIC Dimbokro 54.39 142 P P 22 15 48.6 -1.0
comp=Z,2.5nm,0.7s,baz=326,slow=6.4,SNR=6.6
DBIC LR LR 22 37 20.9
comp=Z,101nm,18.2s,baz=339,slow=34
DBIC Dimbokro 54.39 142 P P 22 15 48.6 -1.0
DBIC Dimbokro 54.39 142 P P 22 15 48.6 -1.0
TXAR Lajitas Array 54.41 271 P P 22 15 49.7 -0.1
comp=Z,1.2nm,1.1s,baz=64,slow=8.5,SNR=3.5
TXAR LR LR 22 38 47.3
comp=Z,93nm,19.7s,baz=15,slow=36
TXAR Lajitas Array 54.41 271 P P 22 15 49.7 -0.1
TXAR Lajitas Array 54.41 271 P P 22 15 49.7 -0.1
X16A Lo Mia Camp, P 54.99 281 ⇑P P 22 15 54.5 +0.4
baz=55
220A Playas Peak, P 55.23 277 ⇓P P 22 15 56.2 +0.5
baz=55
BRVK Borovoye 55.54 45⇑iP P 22 15 58.3 +0.8
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 55.61 45 P P 22 15 58.8 +0.8
comp=Z,1.9nm,0.6s,baz=306,slow=7.4,SNR=15
BVAR Borovoye Array 55.61 45 P P 22 15 58.8 +0.8
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 55.61 45 P P 22 15 58.8 +0.8
BVAR Borovoye Array 55.61 45 P P 22 15 58.8 +0.8
NVAR Mina Array Bea 55.80 289 P P 22 16 00.1 +0.2
comp=Z,0.7nm,0.4s,baz=49,slow=5.0,SNR=3.2
NVAR Mina Array Bea 55.80 289 P P 22 16 00.1 +0.2
NVAR Mina Array Bea 55.80 289 P P 22 16 00.1 +0.2
MPMC Manual Prospec 57.11 287 ⇑P P 22 16 09.5 +0.3
baz=57
GSC Goldstone 57.30 286 ⇓P P 22 16 11.1 +0.7
baz=57
113A Mohawk Valley, 57.51 282 ⇓P P 22 16 12.2 +0.3
baz=57
214A Organ Pipe Nat 57.59 280 ⇓P P 22 16 12.7 +0.3
baz=58
ISA Isabella 57.94 287 ⇓P P 22 16 15.6 +0.7
baz=58
EDW2 Edwards Air Fo 58.26 286 ⇑P P 22 16 18.2 +1.1
baz=58
NVS Novosibirsk 58.93 36 eP P 22 16 20.6 -0.8
ZALV Zalesovo Beam 60.20 36 P P 22 16 30.2 +0.1
comp=Z,0.7nm,0.6s,baz=317,slow=8.8,SNR=5.0
ZALV Zalesovo Beam 60.20 36 P P 22 16 30.2 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 60.20 36 P P 22 16 30.2 +0.1
ZALV Zalesovo Beam 60.20 36 P P 22 16 30.2 +0.1
KURK Kurchatov 60.62 42 P P 22 16 33.6 +0.5
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 60.62 42 P P 22 16 33.6 +0.5
KURK Kurchatov 60.62 42 P P 22 16 33.6 +0.5
KURBB Kurchatov Arra 60.66 42 P P 22 16 33.6 +0.3
comp=Z,2.8nm,0.7s,baz=327,slow=6.7,SNR=50
YAK Yakutsk 62.10 8 eP P 22 16 41.4 -1.5
YAK pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 65.12 50 eP P 22 17 05.2 +1.9
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 65.12 50 eP P 22 17 05.2 +1.9
comp=Z,3.3nm,0.9s
EKS2 Erkin-Say 65.12 50 eP P 22 17 05.2 +1.9
comp=Z,3.3nm,0.9s
MK31 Makanchi Array 65.22 42 eP P 22 17 04.3 +0.5
MK31 Makanchi Array 65.22 42 eP P 22 17 04.3 +0.5
MK31 Makanchi Array 65.22 42 eP P 22 17 04.3 +0.5
MKAR Makanchi Array 65.22 42 P P 22 17 04.2 +0.4
comp=Z,2.1nm,0.6s,baz=335,slow=6.2,SNR=37
MKAR Makanchi Array 65.22 42 P P 22 17 04.2 +0.4
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 65.22 42 P P 22 17 04.2 +0.4
MKAR Makanchi Array 65.22 42 P P 22 17 04.2 +0.4
HVS Khovu-Aksy 65.45 33⇓iP P 22 17 06.4 +1.1
HVS pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 65.45 50 P P 22 17 07.3 +1.7
comp=Z,1.2nm,0.8s,baz=329,slow=6.4,SNR=6.7
AAK Ala-Archa 65.45 50 P P 22 17 07.3 +1.7
AAK pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 65.45 50 eP P 22 17 07.1 +1.6
comp=Z,16nm,1.3s
AAK Ala-Archa 65.45 50 eP P 22 17 07.1 +1.6
comp=Z,16nm,1.3s
TKM2 Tokmak 2 65.69 49 eP P 22 17 08.6 +1.4
TKM2 pmax pmax
comp=Z,3.0nm,1.0s
TKM2 Tokmak 2 65.69 49 eP P 22 17 08.6 +1.4
comp=Z,2.7nm,1.0s
TKM2 Tokmak 2 65.69 49 eP P 22 17 08.6 +1.4
comp=Z,2.7nm,1.0s
KSH Kashi 68.64 51 P P 22 17 28.4 +2.6
KSH epP pP 22 17 33.9 +3.6
KSH sP sP 22 17 35.5 +3.5
KSH ePcP PcP 22 17 53.8 +3.1
KSH ePP PP 22 20 00.8 +4.0
KSH eScP 22 21 56.1
KSH PcS 22 21 57.3
KSH S S 22 26 28.0 0.0
KSH sS sS 22 26 36.6 +1.1
KSH ScS ScS 22 27 24.9 -0.4
KSH SS SS 22 30 53.8 +2.4
KSH pmax pmax
comp=Z,17nm,1.7s
KSH pmax pmax
comp=Z,91nm,4.2s
KSH LR LR
comp=N,49nm,5.2s
KSH LR LR
comp=E,45nm,6.4s
KSH LR LR
comp=Z,140nm,5.3s
WMQ Urumqi 69.77 40 eP P 22 17 34.5 +1.9
SONM Songino Array 71.98 26 P P 22 17 47.1 +1.0
comp=Z,0.6nm,0.8s,baz=347,slow=6.2,SNR=7.0
SONM Songino Array 71.98 26 P P 22 17 47.1 +1.0
SONM Songino Array 71.98 26 P P 22 17 47.1 +1.0
GTA Gaotai 77.85 34 eP P 22 18 23.4 +3.2
GTA pP PcP 22 18 28.0 -2.1
GTA sP sP 22 18 30.4 +3.9
GTA pmax pmax
comp=Z,2.0nm,1.8s
CN2 Changchun 79.60 14 eP P 22 18 28.0 -1.5
HHC Hu-ho-hao-te 79.81 25 eP P 22 18 29.1 -1.8
HHC sP sP 22 18 36.4 -0.8
HHC PP PP 22 21 30.9 -0.4
HHC S S 22 28 27.9 -5.4
HHC SKS SKSac 22 28 40.3 -7.0
HHC ScS SKKSac 22 28 48.6 -0.5
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,91nm,4.7s
HHC LR LR
comp=N,190nm,11.7s
HHC LR LR
comp=E,190nm,10.1s
HHC LR LR
comp=Z,98nm,12.6s
BJI Beijing 81.62 22 P P 22 18 39.0 -1.4
BJI S S 22 28 49.8 -2.2
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI pmax pmax
comp=Z,82nm,3.5s
BJI LR LR
comp=N,160nm,13.7s
BJI LR LR
comp=E,140nm,13.8s
LZH Lanzhou 82.16 33 eP P 22 18 42.8 -0.8
LZH pP pP 22 18 46.8 -1.4
LZH sP sP 22 18 49.3 -0.6
LZH pmax pmax
comp=Z,19nm,1.0s
NJ2 Nanjing 89.89 22 eP P 22 19 20.6 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KMI Kunming 91.92 38 P P 22 19 30.5 -0.9
KMI pmax pmax
comp=Z,4.0nm,0.7s
GYA Guiyang 91.98 34 eP P 22 19 32.0 +0.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Springs 147.08 19 PKPbc PKPbc 22 26 05.2 -0.2
comp=Z,0.8nm,0.7s,baz=351,slow=2.7,SNR=8.8
ASAR Alice Springs 147.08 19 PKPbc PKPbc 22 26 05.2 -0.2
ASAR Alice Springs 147.08 19 PKPbc PKPbc 22 26 05.2 -0.2

*ISCJB **21** 22:08:56.6±0.4, 45°.34N×0°.03×26°.26E±0°.03, h136km±3km, mb3.4/3, Error ellipse: s-maj=4.2km s-min=3.8km az=17.2*
*BUC **21** 22:08:56.6±0.7, 45°.35N×26°.24E, h143km±6km, MD4.3/2, Error ellipse: s-maj=4.8km s-min=4.1km az=347.0*
*IDC **21** 22:08:56.9±0.8, 45°.61N×26°.00E, h136km±4km, mb3.2/3, mb1 3.0/4, mb1mx2.8/23, mbtmp3.0/4, Error ellipse: s-maj=42.7km s-min=12.7km az=122.0*
*CSEM **21** 22:08:57.1±0.2, 45°.33N×26°.24E, h134km±2km, MD4.3/2, Error ellipse: s-maj=3.5km s-min=2.9km az=27.0*
*SOF **21** 22:09:01.7, 45°.10N×26°.20E, h39km, MD3.2*

ISC 21 22:08:56.9±0.9, 45°.36N±0°.03×26°.24E±0°.02, h143km±5km, n142, σ1§10/203, mb3.4/3, 59C-36D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.25	302	P		P	Pn	22 09 16.7	+0.1
	baz=90,slow=1.0								
MLR				S			Sn	22 09 30.4	-1.2
	24nm,0.3s,baz=256,slow=19,SNR=74								
MLR	Muntele Rosu	0.25	302	⇑iP			Pn	22 09 16.5	-0.1
MLR				*i* S			Sn	22 09 30.7	-0.9
MLR	Muntele Rosu	0.25	302	⇑iP			Pn	22 09 16.5	-0.1
MLR	Muntele Rosu	0.25	302	S			Sn	22 09 30.7	-0.9
MLR	Muntele Rosu	0.25	302	⇑iP			Pn	22 09 16.5	-0.1
MLR				*i* S			Sn	22 09 30.7	-0.9
ISR	Istrita	0.32	139	⇑iP			Pn	22 09 16.7	0.0
ISR	Istrita	0.32	139	⇑iP			Pn	22 09 16.7	0.0
ISR	Istrita	0.32	139	⇑iP			Pn	22 09 16.7	0.0
SECR		0.35	201	⇑iP			Pn	22 09 17.1	+0.3
SECR				*i* S			Sn	22 09 30.6	-1.3
SECR		0.35	201	⇑iP			Pn	22 09 17.1	+0.3
SECR		0.35	201	S			Sn	22 09 30.6	-1.3
SECR		0.35	201	⇑iP			Pn	22 09 17.1	+0.3
SECR				*i* S			Sn	22 09 30.6	-1.3
PLAR	PLOIESTI	0.47	199	⇓iP			Pn	22 09 17.8	+0.5
PLAR				*i* S			Sn	22 09 30.7	-2.0
PLAR	PLOIESTI	0.47	199	⇓iP			Pn	22 09 17.8	+0.5
PLAR	PLOIESTI	0.47	199	S			Sn	22 09 30.7	-2.0
PLAR	PLOIESTI	0.47	199	⇓iP			Pn	22 09 17.8	+0.5
PLAR				*i* S			Sn	22 09 30.7	-2.0
GRER		0.52	88	⇑iP			Pn	22 09 18.3	+0.8
GRER		0.52	88	⇑iP			Pn	22 09 18.3	+0.8
GRER		0.52	88	⇑iP			Pn	22 09 18.3	+0.8
PLOR	Plostina	0.57	30	⇑iP			Pn	22 09 17.6	-0.2
PLOR				*i* S			Sn	22 09 32.6	-1.3
PLOR	Plostina	0.57	30	⇑iP			Pn	22 09 17.6	-0.2
PLOR	Plostina	0.57	30	S			Sn	22 09 32.6	-1.3
PLOR	Plostina	0.57	30	⇑iP			Pn	22 09 17.6	-0.2
PLOR				*i* S			Sn	22 09 32.6	-1.3
VRI	Vrincioaia	0.61	34	⇑iP			Pn	22 09 18.0	-0.1
VRI				*i* S			Sn	22 09 33.2	-1.0
VRI	Vrincioaia	0.61	34	⇑iP			Pn	22 09 18.0	-0.1
VRI	Vrincioaia	0.61	34	S			Sn	22 09 33.2	-1.0
VRI	Vrincioaia	0.61	34	*i* P			Pn	22 09 18.5	+0.4
VRI	Vrincioaia	0.61	34	*i* P			Pn	22 09 18.5	+0.4
VRI				*i* S			Sn	22 09 33.2	-1.0
SULR		0.68	179	*i* S			Sn	22 09 33.1	-1.8
SULR		0.68	179	S			Sn	22 09 33.1	-1.8
SULR		0.68	179	*i* S			Sn	22 09 33.1	-1.8
PGOR	Pogoanele	0.69	131	⇑iP			Pn	22 09 18.7	+0.1
PGOR				*i* S			Sn	22 09 34.2	-0.8
PGOR	Pogoanele	0.69	131	⇑iP			Pn	22 09 18.7	+0.1
PGOR	Pogoanele	0.69	131	S			Sn	22 09 34.2	-0.8
PGOR	Pogoanele	0.69	131	⇑iP			Pn	22 09 18.7	+0.1
PGOR				*i* S			Sn	22 09 34.2	-0.8
ODBI	Odobesti	0.70	55	⇑iP			Pn	22 09 19.0	+0.4
ODBI				*i* S			Sn	22 09 34.3	-0.8
ODBI	Odobesti	0.70	55	⇑iP			Pn	22 09 19.0	+0.4
ODBI	Odobesti	0.70	55	S			Sn	22 09 34.3	-0.8
ODBI	Odobesti	0.70	55	⇑iP			Pn	22 09 19.0	+0.4
ODBI				*i* S			Sn	22 09 34.3	-0.8
PETR		0.78	62	⇑iP			Pn	22 09 19.5	+0.3
PETR				*i* S			Sn	22 09 36.0	-0.2
PETR		0.78	62	⇑iP			Pn	22 09 19.5	+0.3
PETR		0.78	62	S			Sn	22 09 36.0	-0.2
PETR		0.78	62	⇑iP			Pn	22 09 19.5	+0.3
PETR				*i* S			Sn	22 09 36.0	-0.2
VOIR		0.84	276	⇓iP			Pn	22 09 19.5	-0.3
VOIR				*i* S			Sn	22 09 35.5	-1.7
VOIR		0.84	276	⇓iP			Pn	22 09 19.5	-0.3
VOIR		0.84	276	S			Sn	22 09 35.5	-1.7
VOIR		0.84	276	⇓iP			Pn	22 09 19.5	-0.3
VOIR				*i* S			Sn	22 09 35.5	-1.7
DOPR	Dopca	0.85	316	⇓iP			Pn	22 09 19.2	-0.6
DOPR				*i* S			Sn	22 09 36.1	-1.1
DOPR	Dopca	0.85	316	⇓iP			Pn	22 09 19.2	-0.6
DOPR	Dopca	0.85	316	S			Sn	22 09 36.1	-1.1
DOPR	Dopca	0.85	316	⇓iP			Pn	22 09 19.2	-0.6
DOPR				*i* S			Sn	22 09 36.1	-1.1
CIOR	Ciorogarla	0.95	196	⇑iP			Pn	22 09 20.5	0.0
CIOR				*i* S			Sn	22 09 37.3	-1.2
CIOR	Ciorogarla	0.95	196	⇑iP			Pn	22 09 20.5	0.0
CIOR	Ciorogarla	0.95	196	S			Sn	22 09 37.3	-1.2
CIOR	Ciorogarla	0.95	196	⇑iP			Pn	22 09 20.5	0.0
CIOR				*i* S			Sn	22 09 37.3	-1.2
BUC1	Bucharest	1.02	189	⇑iP			Pn	22 09 21.3	+0.1
BUC1				*i* S			Sn	22 09 38.0	-1.7
BUC1	Bucharest	1.02	189	⇑iP			Pn	22 09 21.3	+0.1
BUC1	Bucharest	1.02	189	S			Sn	22 09 38.0	-1.7
BUC1	Bucharest	1.02	189	⇑iP			Pn	22 09 21.3	+0.1
BUC1				*i* S			Sn	22 09 38.0	-1.7
GHRR		1.07	49	⇑iP			Pn	22 09 21.8	+0.2
GHRR				*i* S			Sn	22 09 39.8	-0.7
GHRR		1.07	49	⇑iP			Pn	22 09 21.8	+0.2
GHRR		1.07	49	S			Sn	22 09 39.8	-0.7
GHRR		1.07	49	⇑iP			Pn	22 09 21.8	+0.2
GHRR				*i* S			Sn	22 09 39.8	-0.7
AMRR	Amara	1.08	134	⇑iP			Pn	22 09 21.6	-0.1
AMRR				*i* S			Sn	22 09 39.6	-0.9
AMRR	Amara	1.08	134	⇑iP			Pn	22 09 21.6	-0.1
AMRR	Amara	1.08	134	S			Sn	22 09 39.6	-0.9
AMRR	Amara	1.08	134	⇑iP			Pn	22 09 21.6	-0.1
AMRR				*i* S			Sn	22 09 39.6	-0.9
ARR	Arges	1.13	271	⇓iP			Pn	22 09 22.3	0.0
ARR				*i* S			Sn	22 09 40.3	-1.3
ARR	Arges	1.13	271	⇓iP			Pn	22 09 22.3	0.0
ARR	Arges	1.13	271	S			Sn	22 09 40.3	-1.3
ARR	Arges	1.13	271	⇓iP			Pn	22 09 22.3	0.0
ARR				*i* S			Sn	22 09 40.3	-1.3
TESR		1.19	14	⇑iP			Pn	22 09 22.3	-0.4
TESR				*i* S			Sn	22 09 41.0	-1.4
TESR		1.19	14	⇑iP			Pn	22 09 22.3	-0.4
TESR		1.19	14	S			Sn	22 09 41.0	-1.4
TESR		1.19	14	⇑iP			Pn	22 09 22.3	-0.4
TESR				*i* S			Sn	22 09 41.0	-1.4
HUMR	Humele	1.22	228	⇓iP			Pn	22 09 23.0	0.0
HUMR				*i* S			Sn	22 09 42.3	-0.7
HUMR	Humele	1.22	228	⇓iP			Pn	22 09 23.0	0.0
HUMR	Humele	1.22	228	S			Sn	22 09 42.3	-0.7
HUMR	Humele	1.22	228	⇓iP			Pn	22 09 23.0	0.0
HUMR				*i* S			Sn	22 09 42.3	-0.7
CFR	Carcaliu	1.35	97	⇑iP			Pn	22 09 23.5	-0.8
CFR				*i* S			Sn	22 09 44.5	-0.7
CFR	Carcaliu	1.35	97	⇑iP			Pn	22 09 23.5	-0.8
CFR	Carcaliu	1.35	97	S			Sn	22 09 44.5	-0.7
CFR	Carcaliu	1.35	97	⇑iP			Pn	22 09 23.5	-0.8
CFR				*i* S			Sn	22 09 44.5	-0.7
MDB	Medias	1.52	302	⇑iP			Pn	22 09 26.6	+0.5
MDB	Medias	1.52	302	⇑iP			Pn	22 09 26.6	+0.5
MDB	Medias	1.52	302	⇑iP			Pn	22 09 26.6	+0.5
CVD	Cernavoda	1.65	129	⇑iP			Pn	22 09 27.2	-0.3
CVD				*i* S			Sn	22 09 49.4	-1.5
CVD	Cernavoda	1.65	129	⇑iP			Pn	22 09 27.2	-0.3
CVD	Cernavoda	1.65	129	S			Sn	22 09 49.4	-1.5
CVD	Cernavoda	1.65	129	⇑iP			Pn	22 09 27.2	-0.3
CVD				*i* S			Sn	22 09 49.4	-1.5
LOT	Lotru	1.74	274	⇓iP			Pn	22 09 28.5	-0.2
LOT				*i* S			Sn	22 09 52.1	-1.0
LOT	Lotru	1.74	274	⇓iP			Pn	22 09 28.5	-0.2
LOT	Lotru	1.74	274	S			Sn	22 09 52.1	-1.0
LOT	Lotru	1.74	274	⇓iP			Pn	22 09 28.5	-0.2
LOT				*i* S			Sn	22 09 52.1	-1.0
TIRR	Tirgusor	1.79	120	⇑iP			Pn	22 09 28.7	-0.3
TIRR				*i* S			Sn	22 09 52.0	-1.7
TIRR	Tirgusor	1.79	120	⇑iP			Pn	22 09 28.7	-0.3
TIRR	Tirgusor	1.79	120	S			Sn	22 09 52.0	-1.7
TIRR	Tirgusor	1.79	120	⇑iP			Pn	22 09 28.7	-0.3
TIRR				*i* S			Sn	22 09 52.0	-1.7
TLCR		1.82	95	⇑iP			Pn	22 09 29.0	-0.5
TLCR				*i* S			Sn	22 09 53.4	-1.1
TLCR		1.82	95	⇑iP			Pn	22 09 29.0	-0.5
TLCR		1.82	95	S			Sn	22 09 53.4	-1.1
TLCR		1.82	95	⇑iP			Pn	22 09 29.0	-0.5
TLCR				*i* S			Sn	22 09 53.4	-1.1
CRAR	CRAIOVA	2.02	240	⇓iP			Pn	22 09 31.5	-0.3
CRAR				*i* S			Sn	22 09 58.3	-0.3
CRAR	CRAIOVA	2.02	240	⇓iP			Pn	22 09 31.5	-0.3
CRAR	CRAIOVA	2.02	240	S			Sn	22 09 58.3	-0.3
CRAR	CRAIOVA	2.02	240	⇓iP			Pn	22 09 31.5	-0.3
CRAR				*i* S			Sn	22 09 58.3	-0.3
SZH	Strazhica	2.11	186	*i* P			Pn	22 09 32.0	-0.8
SZH				S			Sn	22 09 58.5	-1.9
SZH	Strazhica	2.11	186	*i* P			Pn	22 09 32.0	-0.8
SZH				S			Sn	22 09 58.5	-1.9
EFOR	EFORIE	2.13	126	⇑iP			Pn	22 09 33.0	-0.1
EFOR				*i* S			Sn	22 09 59.8	-1.1
EFOR	EFORIE	2.13	126	⇑iP			Pn	22 09 33.0	-0.1
EFOR	EFORIE	2.13	126	S			Sn	22 09 59.8	-1.1
EFOR	EFORIE	2.13	126	⇑iP			Pn	22 09 33.0	-0.1
EFOR				*i* S			Sn	22 09 59.8	-1.1
PSN	Preselentsi	2.18	140	*i* P			Pn	22 09 33.9	+0.2
PSN				S			Sn	22 10 00.0	-1.9
PSN	Preselentsi	2.18	140	*i* P			Pn	22 09 33.9	+0.2
PSN				S			Sn	22 10 00.0	-1.9
NEF	NEVSHA	2.22	160	*i* P			Pn	22 09 34.3	0.0
NEF				S			Sn	22 10 00.5	-2.5
NEF	NEVSHA	2.22	160	*i* P			Pn	22 09 34.3	0.0
NEF				S			Sn	22 10 00.5	-2.5
PVL	Pavlikeni	2.24	197	*i* P			Pn	22 09 35.9	+1.5
PVL				S			Sn	22 10 03.3	0.0
PVL	Pavlikeni	2.24	197	*i* P			Pn	22 09 35.9	+1.5
PVL				S			Sn	22 10 03.3	0.0
MANR	Mangalia	2.28	132	⇓iP			Pn	22 09 34.9	0.0
MANR				*i* S			Sn	22 10 02.8	-1.3
MANR	Mangalia	2.28	132	⇓iP			Pn	22 09 34.9	0.0
MANR	Mangalia	2.28	132	S			Sn	22 10 02.8	-1.3
MANR	Mangalia	2.28	132	⇓iP			Pn	22 09 34.9	0.0
MANR				*i* S			Sn	22 10 02.8	-1.3
PRD	Provadia	2.31	159	*i* P			Pn	22 09 36.0	+0.7
PRD	Provadia	2.31	159	*i* P			Pn	22 09 36.0	+0.7
BURAR	Bucovina Array	2.36	343	⇓iP			Pn	22 09 37.2	+1.2
BURAR	Bucovina Array	2.36	343	⇓iP			Pn	22 09 37.2	+1.2
BURAR	Bucovina Array	2.36	343	⇓iP			Pn	22 09 37.2	+1.2
KIS	Kishinev	2.42	47	*i* S			Sn	22 10 04.0	-3.3
	500nm,0.7s								
MPEP	Malo Peshtene	2.69	223	*i* P			Pn	22 09 40.2	+0.2
MPEP				S			Sn	22 10 07.4	-5.9
DRGR		2.84	301	⇓iP			Pn	22 09 41.8	-0.2
DRGR		2.84	301	⇓iP			Pn	22 09 41.8	-0.2
DRGR		2.84	301	⇓iP			Pn	22 09 41.8	-0.2
BZS	Buzias	3.26	276	⇓iP			Pn	22 09 46.4	-0.9
BZS	Buzias	3.26	276	⇓iP			Pn	22 09 46.4	-0.9
BZS	Buzias	3.26	276	⇓iP			Pn	22 09 46.4	-0.9
VTS	Vitosha	3.53	219	⇓iP			Pn	22 09 50.6	-0.3
VTS	Vitosha	3.53	219	⇓iP			Pn	22 09 50.6	-0.3
VTS	Vitosha	3.53	219	⇓iP			Pn	22 09 50.6	-0.3
AKASG	Malin Array Be	5.71	19	P			Pn	22 10 17.5	-1.9
	1.3nm,0.3s,baz=200,slow=12,SNR=6.8								
AKASG				S			Sn	22 11 19.4	-4.5
	2.0nm,0.3s,baz=200,slow=21,SNR=5.1								
MKAR	Makanchi Array	38.20	67	P			P	22 16 03.5	+1.1
	0.4nm,1.0s,baz=260,slow=8.6,SNR=2.6								
TORD	Torodi Ar. Bea	38.29	221	P			P	22 16 04.7	+1.4
	0.6nm,0.8s,baz=32,slow=8.7,SNR=7.9								
DBIC	Dimbokro	47.04	225	P			P	22 17 14.4	+0.5
	0.8nm,0.3s,baz=32,slow=7.3,SNR=6.3								

IDC 21 22:10:52.8±4.2, 32°.45S×67°.80W, h151km±46km, mb3.5/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, MS3.6/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=85.9km s-min=30.3km az=96.0, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	8.56	194	P			Pn	22 12 53.0	-0.7
	0.2nm,0.3s,baz=14,slow=14,SNR=7.0								
PLCA				S			Sn	22 14 30.3	+1.4
	0.6nm,0.3s,baz=246,slow=20,SNR=3.1								
LPAZ	La Paz	16.09	359	P			Pn	22 14 31.5	0.0
	0.3nm,0.3s,baz=169,slow=11,SNR=8.8								
BDFB	Brasilia	24.55	52	LR			LR	22 26 30.3	
	comp=Z,67nm,18.6s,baz=303,sl

mb1 4.1/11,**mb1mx3.9**/26,**mbtmp3.9**/11,**MS3.3**/5,
Ms1 3.3/5,**ms1mx2.8**/40,**Error ellipse: s-maj=66.4km s-min=13.7km az=67.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.51**	**59**	LR	LR	22 24 14.3	
	comp=Z,69nm,18.1s,baz=300,slow=34						
FITZ	**Fitzroy Crossi**	**21.41**	**183**	P	P	22 17 37.0	+0.6
	1.4nm,0.5s,baz=31,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**24.36**	**163**	P	P	22 18 06.0	-0.8
	2.6nm,0.5s,baz=338,slow=11,SNR=27						
ASAR	**Alice Springs**	**27.79**	**166**	P	P	22 18 38.0	+0.2
	0.7nm,0.6s,baz=346,slow=7.5,SNR=19						
ASAR				PcP	PcP	22 21 54.5	+0.1
	0.4nm,0.8s,baz=8.4,slow=3.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**31.09**	**301**	P	P	22 19 06.8	-0.3
	0.7nm,0.4s,baz=117,slow=7.5,SNR=7.0						
KSRS	**Korea Array**	**33.89**	**2**	LR	LR	22 34 17.4	
	comp=Z,21nm,20.2s,baz=210,slow=38						
HNR	**Honiara**	**35.41**	**111**	LR	LR	22 33 44.0	
	comp=Z,62nm,19.1s,baz=289,slow=36						
STKA	**Stephens Creek**	**37.81**	**159**	P	P	22 20 04.6	-0.5
	4.6nm,0.9s,baz=292,slow=6.5,SNR=6.1						
STKA				PcP	PcP	22 22 22.5	+0.6
	1.7nm,0.7s,baz=333,slow=4.5,SNR=3.0						
SONM	**Songino Array**	**47.62**	**341**	P	P	22 21 24.5	-0.3
	0.7nm,0.9s,baz=156,slow=8.2,SNR=6.6						
MKAR	**Makanchi Array**	**57.85**	**325**	P	P	22 22 40.7	+0.3
	0.5nm,0.5s,baz=122,slow=8.0,SNR=18						
ZALV	**Zalesovo Beam**	**60.90**	**333**	P	P	22 23 01.1	-0.2
	0.9nm,0.8s,baz=119,slow=8.6,SNR=4.9						
ZALV				LR	LR	22 51 44.9	
	comp=Z,24nm,21.8s,baz=77,slow=38						
KURBB	**Kurchatov Arra**	**62.04**	**327**	P	P	22 23 09.2	+0.1
	2.0nm,0.7s,baz=128,slow=6.7,SNR=21						
BVAR	**Borovoye Array**	**67.62**	**327**	P	P	22 23 45.7	+0.3
	1.2nm,0.9s,baz=125,slow=7.4,SNR=5.9						
AKTO	**Aktyubinsk**	**73.95**	**322**	P	P	22 24 23.1	-0.9
	1.1nm,0.5s,baz=184,slow=1.9,SNR=3.8						
KDAK	**Kodiak Island**	**82.12**	**32**	LR	LR	23 03 35.8	
	comp=Z,38nm,18.5s,baz=8.4,slow=37						

IDC 21 22:26:46.9±2.5,**24.02S**×179.07E,**h557**km±32km,**mb3.2**/5,
mb1 3.4/5,**mb1mx3.1**/18,**mbtmp3.2**/5,**Error ellipse: s-maj=82.3km s-min=17.8km az=164.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.62**	**271**	P	P	22 32 16.7	+0.3
	4.6nm,0.4s,baz=77,slow=9.3,SNR=9.8						
STKA	**Stephens Creek**	**33.88**	**248**	P	P	22 32 44.0	+0.1
	2.2nm,0.6s,baz=84,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**41.17**	**261**	P	P	22 33 43.2	-0.3
	2.1nm,0.8s,baz=92,slow=8.3,SNR=13						
ASAR				S	S	22 39 18.4	+1.1
	0.3nm,0.7s,baz=96,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**41.55**	**267**	P	P	22 33 45.9	-0.7
	0.4nm,0.3s,baz=90,slow=6.0,SNR=18						
WRA				S	S	22 39 22.4	-0.4
	0.7nm,0.9s,baz=103,slow=12,SNR=3.8						
TXAR	**Lajitas Array**	**91.22**	**58**	P	P	22 38 53.3	-0.1
	0.1nm,0.8s,baz=217,slow=5.7,SNR=3.5						
FINES	**FINESS Array B**	**138.28**	**341**	PKP	PKPdf	22 45 06.5	-1.9
	2.1nm,0.9s,baz=100,slow=2.3,SNR=4.4						
HFS	**Hagfors**	**142.49**	**348**	PKhKP	PKPpre	22 45 12.0	
	2.0nm,0.4s,baz=80,slow=3.3,SNR=28						
AKASG	**Malin Array Be**	**144.61**	**327**	PKP	PKPdf	22 45 19.0	-1.0
	1.1nm,0.5s,baz=39,slow=3.9,SNR=5.5						
BRTR	**Keskin Array B**	**146.97**	**307**	PKPbc	PKPbc	22 45 26.9	-0.7
	0.6nm,0.6s,baz=132,slow=2.1,SNR=3.7						
BRTR				PKPab	PKPab	22 45 31.2	+0.3
	0.4nm,0.7s,baz=116,slow=2.9,SNR=4.2						

IDC 21 22:26:47.1±5.2,**6.36S**×149.49E,**h62**km±42km,**mb3.4**/8,
mb1 3.6/10,**mb1mx3.5**/20,**mbtmp3.5**/10,**ML3.0**/1,**Error ellipse: s-maj=44.7km s-min=24.5km az=94.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**217**	P	Pn	22 27 43.3	+0.1
	8.2nm,0.3s,baz=9.4,slow=2.3,SNR=18						
PMG				S	Sn	22 28 27.4	+0.6
	24nm,0.3s,baz=94,slow=19,SNR=17						
WRA	**Warramunga Arr**	**19.97**	**226**	P	P	22 31 13.7	-0.8
	0.4nm,0.3s,baz=53,slow=11,SNR=90						
WRA				PcP	PcP	22 35 28.9	-0.1
	0.0nm,0.3s,baz=43,slow=2.2,SNR=5.0						
ASAR	**Alice Springs**	**22.82**	**219**	P	P	22 31 45.6	+0.5
	1.6nm,0.5s,baz=55,slow=9.4,SNR=32						
FITZ	**Fitzroy Crossi**	**26.03**	**241**	P	P	22 32 14.1	-0.5
	3.4nm,0.5s,baz=48,slow=5.3,SNR=15						
STKA	**Stephens Creek**	**26.43**	**195**	P	P	22 32 19.1	+0.9
	2.2nm,0.8s,baz=55,slow=21,SNR=4.3						
SONM	**Songino Array**	**65.94**	**330**	P	P	22 37 27.8	+1.0
	0.2nm,0.6s,baz=139,slow=4.8,SNR=4.4						
MKAR	**Makanchi Array**	**79.36**	**320**	P	P	22 38 46.7	+0.3
	0.2nm,0.6s,baz=92,slow=4.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**80.65**	**327**	P	P	22 38 53.8	+0.7
	0.3nm,0.5s,baz=122,slow=5.4,SNR=3.1						
QSPA	**South Pole Qui**	**83.61**	**180**	P	P	22 39 08.9	+0.3
	0.7nm,0.9s,baz=268,slow=4.3,SNR=4.7						
ILAR	**Eielson Array**	**84.85**	**23**	P	P	22 39 13.3	-1.4
	0.2nm,0.6s,baz=247,slow=4.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.58**	**284**	PKPbc	PKPdf	22 46 23.7	+0.9
	0.6nm,0.5s,baz=40,slow=3.0,SNR=10						

*IDC **21** 22:37:08.6±1.0,31.51N×142.54E,h0km,mb3.7/12,*
mb1 3.8/14,mb1mx3.7/29,mbtmp3.7/14,ML3.5/2,Error ellipse: s-maj=31.7km s-min=17.0km az=78.0
*ISCJB **21** 22:37:10.3±1.9,31.72N±0.05×142.55E±0.09,*
h23km±14km,mb3.7/12,Error ellipse: s-maj=13.8km s-min=6.8km az=150.6
*JMA **21** 22:37:12.4±0.4,31.73N×142.53E,h89km,M3.5*

ISC 21 22:37:11.1±2.9,**31.60N**±0.05×**142.44E**±0.09,**h15**km±19km,
n28,σ1°04/29,mb3.6/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.68**	**305**	P	**Pn**	**22 37 54.5**	**+0.8**
JHJ2				*e*S	**Sn**	**22 38 26.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.71**	**305**	Pn	Pn	22 37 53.3	-0.8
	12nm,0.3s,baz=80,slow=18,SNR=5.0						
JHJ				Sn	**Sn**	**22 38 26.4**	**-0.3**
	20nm,0.3s,baz=244,slow=22,SNR=3.7						
BSO1	**Boso 1**	**3.28**	**338**	P	**Pn**	**22 38 01.0**	**-0.5**
BSO1				*e*S	**Sn**	**22 38 39.1**	**-0.9**
BSO3	**Boso 3**	**3.58**	**334**	P	**Pn**	**22 38 06.6**	**+0.8**
BSO4	**Boso 4**	**3.81**	**333**	P	**Pn**	**22 38 09.8**	**+0.6**
CBIJ	**Chichi jima**	**4.49**	**183**	Sn	Sn	22 39 06.5	-4.1
	9.1nm,0.3s,baz=96,slow=23,SNR=2.6						
JOD2	**Odawara 2**	**4.61**	**323**	P	**Pn**	**22 38 19.7**	**-0.5**
JOD2				*e*S	Sn	22 39 11.8	-1.6
JHU	**Hanno**	**4.99**	**329**	P	**Pn**	**22 38 24.9**	**-0.6**
JHU				*e*S	**Sn**	**22 39 21.1**	**-1.8**
JHO	**Hitachi**	**5.24**	**343**	P	**Pn**	**22 38 27.4**	**-1.4**
JHO				*e*S	Sn	22 39 25.4	-3.5
JRY	**Ryogami san**	**5.30**	**327**	P	**Pn**	**22 38 30.1**	**+0.4**
JRY				*e*S	**Sn**	**22 39 30.5**	**0.0**
JAG	**Ashikaga**	**5.42**	**334**	P	**Pn**	**22 38 30.7**	**-0.6**
JAG				*e*S	Sn	22 39 30.7	-2.6
MJAR	**Matsushiro Arr**	**6.05**	**326**	Pn	**Pn**	**22 38 40.2**	**+0.2**
	1.5nm,0.3s,baz=130,slow=37,SNR=14						
MJAR				Sn	**Sn**	**22 39 50.0**	**+0.9**
	0.8nm,0.3s,baz=303,slow=32,SNR=4.5						
MAT	**Matsushiro**	**6.05**	**326**	P	**Pn**	**22 38 39.8**	**-0.3**
MAT				*e*S	Sn	22 39 44.1	-5.0
JMK	**Ichinoseki**	**7.41**	**353**	*e*S	Sn	22 40 16.4	-5.9
ASAJ	**Asahikawa**	**12.50**	**1**	Pn	**Pn**	**22 40 05.9**	**-2.5**
	0.2nm,0.3s,baz=82,slow=19,SNR=2.4						
ASAJ				Sn	Sn	22 42 19.3	-7.9
	0.3nm,0.3s,baz=300,slow=25,SNR=3.5						
JOW	**Kunigami**	**13.25**	**253**	Sn	Sn	22 42 35.4	-10
	2.2nm,0.3s,baz=80,slow=30,SNR=1.9						
SONM	**Songino Array**	**31.77**	**311**	P	**P**	**22 43 36.8**	**+2.0**
	0.4nm,0.5s,baz=117,slow=8.5,SNR=9.0						
CMAR	**Chiang Mai Arr**	**41.27**	**262**	P	P	22 44 55.5	-0.5
	0.3nm,0.6s,baz=64,slow=6.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**46.32**	**316**	P	**P**	**22 45 37.3**	**+1.2**
	0.4nm,0.6s,baz=93,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**47.88**	**307**	P	**P**	**22 45 49.5**	**+1.1**
	0.3nm,0.5s,baz=85,slow=8.9,SNR=9.0						
WRA	**Warramunga Arr**	**51.83**	**190**	P	**P**	**22 46 17.4**	**-1.2**
	0.6nm,0.5s,baz=7.2,slow=7.9,SNR=12						
FITZ	**Fitzroy Crossi**	**51.98**	**200**	P	**P**	**22 46 20.2**	**+0.5**
	0.8nm,0.5s,baz=43,slow=13,SNR=3.8						
ILAR	**Eielson Array**	**53.69**	**30**	P	**P**	**22 46 32.0**	**+0.1**
	0.7nm,1.0s,baz=255,slow=6.5,SNR=4.5						
BVAR	**Borovoye Array**	**54.94**	**315**	P	**P**	**22 46 42.4**	**+1.1**
	0.3nm,0.3s,baz=92,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**55.55**	**189**	P	**P**	**22 46 45.1**	**-0.8**
	0.2nm,0.5s,baz=4.6,slow=6.8,SNR=6.6						
FINES	**FINESS Array B**	**74.03**	**333**	P	**P**	**22 48 46.3**	**+0.4**
	2.7nm,1.0s,baz=57,slow=7.0,SNR=8.2						
HFS	**Hagfors**	**79.39**	**337**	P	**P**	**22 49 16.4**	**+0.2**
	1.7nm,0.8s,baz=65,slow=6.8,SNR=4.1						
NOA	**NORSAR Array B**	**79.53**	**338**	P	**P**	**22 49 17.5**	**+0.5**
	0.5nm,0.7s,baz=46,slow=2.3,SNR=2.8						

IDC 21 22:42:15.8±0.9,**13.40N**×125.91E,**h0**km,**mb3.7**/9,
mb1 3.8/10,**mb1mx3.6**/27,**mbtmp3.7**/10,**ML4.1**/1,**Error ellipse: s-maj=39.6km s-min=16.6km az=74.0,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**19.29**	**199**	P	Pn	22 46 43.2	-0.1
	0.5nm,0.3s,baz=90,slow=6.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**26.40**	**285**	P	P	22 47 53.4	-1.0
	0.5nm,0.6s,baz=92,slow=7.2,SNR=5.0						
FITZ	**Fitzroy Crossi**	**31.30**	**180**	P	P	22 48 38.5	+0.6
	1.2nm,0.7s,baz=8.7,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**34.15**	**166**	P	P	22 49 02.0	-0.9
	0.5nm,1.1s,baz=345,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**37.66**	**168**	P	P	22 49 32.8	-0.1
	0.3nm,0.3s,baz=344,slow=7.3,SNR=7.4						
SONM	**Songino Array**	**37.99**	**339**	P	P	22 49 36.1	+0.4
	0.5nm,0.7s,baz=159,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**49.36**	**321**	P	P	22 51 07.7	+0.6
	1.5nm,0.7s,baz=114,slow=8.7,SNR=19						
BVAR	**Borovoye Array**	**58.92**	**324**	P	P	22 52 16.8	0.0
	0.9nm,0.9s,baz=126,slow=7.5,SNR=5.4						
INK	**Inuvik**	**81.53**	**22**	P	P	22 54 34.8	-0.1
	0.6nm,0.6s						
FINES	**FINESS Array B**	**82.99**	**332**	P	P	22 54 41.9	-0.8
	0.9nm,0.8s,baz=19,slow=9.1,SNR=3.6						

IDC 21 22:50:44.0±2.2,**6.71S**×154.94E,**h0**km,**mb3.6**/4,
mb1 3.8/5,**mb1mx3.6**/19,**mbtmp3.7**/5,**ML2.9**/1,**Error ellipse: s-maj=62.9km s-min=30.9km az=126.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.15**	**250**	P	Pn	22 52 44.1	+0.3
	0.8nm,0.3s,baz=178,slow=10,SNR=3.2						
PMG				Sn	Sn	22 54 18.6	+1.8
	0.4nm,0.3s,baz=342,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**23.93**	**235**	P	P	22 56 00.1	0.0
	1.2nm,0.9s,baz=56,slow=9.6,SNR=8.1						
ASAR	**Alice Springs**	**26.32**	**228**	P	P	22 56 21.5	-0.3
	0.5nm,0.8s,baz=64,slow=8.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**60.61**	**295**	P	P	23 00 57.3	+0.1
	0.7nm,0.3s,baz=108,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**83.16**	**319**	P	P	23 03 12.9	+0.8
	0.4nm,0.7s,baz=111,slow=4.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**152.90**	**286**	PKPbc	PKPbc	23 10 43.5	-0.9
	0.8nm,0.7s,baz=85,slow=1.9,SNR=7.5						

*IDC **21** 22:51:53.9±3.0,23.35S×174.85W,h0km,mb4.0/5,*
mb1 4.2/5,mb1mx3.9/21,mbtmp4.0/5,Error ellipse: s-maj=262.7km s-min=32.4km az=163.0
*ISCJB **21** 22:51:57.0±1.1,23.4S±0.3×174.9W±0.2,h29km,mb4.0/5,*
Error ellipse: s-maj=45.4km s-min=23.8km az=2.7

ISC 21 22:51:58.5±1.2,**23.4S**±0.4×**174.8W**±0.2,**h29**km,**n7,σ0°91/7,mb3.9**/5,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.24**	**268**	P	**P**	**22 58 59.4**	**+0.1**
	2.7nm,0.5s,baz=94,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**46.80**	**259**	P	**P**	**23 00 25.8**	**-0.1**
	0.8nm,0.9s,baz=102,slow=8.2,SNR=5.2						
WRA	**Warramunga Arr**	**47.18**	**264**	P	**P**	**23 00 27.2**	**-1.7**
	1.4nm,0.6s,baz=103,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**55.60**	**264**	P	**P**	**23 01 32.3**	**+0.3**
	0.8nm,0.6s,baz=90,slow=11,SNR=4.1						
VNA3	**Neumayer Olymp**	**85.04**	**175**	*e*P	**P**	**23 04 30.6**	**-0.4**
VNA2	**Neumayer--Wätz**	**85.52**	**176**	*e*P	**P**	**23 04 33.5**	**+0.1**
	baz=241,slow=1.9						
TXAR	**Lajitas Array**	**86.18**	**56**	P	**P**	**23 04 37.5**	**0.0**
	0.7nm,1.0s,baz=210,slow=5.2,SNR=4.3						

*DDA **21** 22:59:05.0,40.12N×28.93E,h11km,MD3.0*
*ISCJB **21** 22:59:05.4±0.4,40.13N±0.02×28.94E±0.04,h4km±5km,*
Error ellipse: s-maj=5.2km s-min=3.2km az=29.4
*ISK **21** 22:59:05.1,40.14N×28.93E,h6km,MD2.8*
*CSEM **21** 22:59:05.5±0.1,40.12N×28.97E,h2km,MD2.8,Error ellipse: s-maj=2.9km s-min=2.0km az=114.0*

ISC 21 22:59:05.5±0.8,**40.13N**±0.02×**28.95E**±0.02,**h11**km±5km,
n42,σ0°35/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.09**	**206**	*e*PG	**Pg**	**22 59 08.2**	**+0.1**
ORLT				*e*SG	**Sg**	**22 59 09.9**	**-0.1**
ORLT	**Orhaneli**	**0.09**	**206**	*e*Pg	**Pg**	**22 59 08.2**	**+0.1**
ORLT				*e*Sg	**Sg**	**22 59 09.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.25**	**349**	*e*PG	**Pg**	**22 59 10.5**	**-0.1**
MDNY				*e*SG	**Sg**	**22 59 14.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.25**	**349**	*e*Pg	**Pg**	**22 59 10.5**	**-0.1**
MDNY				*e*Sg	**Sg**	**22 59 14.0**	**-0.1**
GEMT	**Gemlik**	**0.36**	**31**	*e*PG	**Pg**	**22 59 12.7**	**0.0**
GEMT				*e*SG	**Sg**	**22 59 18.1**	**+0.6**
GEMT	**Gemlik**	**0.36**	**31**	*e*Pg	**Pg**	**22 59 12.7**	**0.0**
GEMT				*e*Sg	**Sg**	**22 59 18.1**	**+0.6**
ARMT	**Armutlu**	**0.45**	**352**	*e*PG	**Pg**	**22 59 14.1**	**-0.2**
ARMT				*e*SG	**Sg**	**22 59 19.9**	**-0.3**
ARMT	**Armutlu**	**0.45**	**352**	*e*Pg	**Pg**	**22 59 14.1**	**-0.2**
ARMT				*e*Sg	**Sg**	**22 59 19.9**	**-0.3**
YLV	**Yalova**	**0.55**	**36**	*e*PG	**Pb**	**22 59 17.0**	**-0.2**
YLV				*e*SG	**Sg**	**22 59 23.5**	**0.0**
YLV	**Yalova**	**0.55**	**36**	*e*Pg	**Pb**	**22 59 17.0**	**-0.2**
YLV				*e*Sg	**Sg**	**22 59 23.5**	**0.0**
DST	**Dursunbey**	**0.58**	**206**	*e*PG	**Pg**	**22 59 16.4**	**-0.3**
DST	**Dursunbey**	**0.58**	**206**	*e*Pg	**Pg**	**22 59 16.4**	**-0.3**
DURS	**Dursunbey**	**0.64**	**215**	*i* P	**Pg**	**22 59 17.5**	**-0.3**
DURS				*i* S	**Sg**	**22 59 25.8**	**-0.5**
DURS	**Dursunbey**	**0.64**	**215**	*i* P	**Pg**	**22 59 17.5**	**-0.3**
DURS				*i* S	**Sg**	**22 59 25.8**	**-0.5**
TVSB	**Tavsanli**	**0.78**	**149**	*e*PG	**Pg**	**22 59 20.4**	**-0.2**
TVSB	**Tavsanli**	**0.78**	**149**	*e*Pg	**Pg**	**22 59 20.4**	**-0.2**
EDC	**Edincik**	**0.86**	**285**	*e*PG	**Pn**	**22 59 24.1**	**+0.6**
EDC	**Edincik**	**0.86**	**285**	*e*Pg	**Pn**	**22 59 24.1**	**+0.6**
HRT	**Hereke**	**0.89**	**38**	*e*PG	**Pg**	**22 59 21.8**	**-0.8**
HRT	**Hereke**	**0.89**	**38**	*e*Pg	**Pg**	**22 59 21.8**	**-0.8**
ISK	**Istanbul-Kandi**	**0.94**	**5**	*e*PG	**Pg**	**22 59 23.1**	**-0.5**
ISK	**Istanbul-Kandi**	**0.94**	**5**	*e*Pg	**Pg**	**22 59 23.1**	**-0.5**
BALB	**Balikesir**	**0.95**	**240**	*e*PG	**Pg**	**22 59 23.8**	**0.0**
BALB	**Balikesir**	**0.95**	**240**	*e*Pg	**Pg**	**22 59 23.8**	**0.0**
GONE	**Gonen-Balikesi**	**0.97**	**266**	*e*PG	**Pg**	**22 59 23.7**	**-0.4**
GONE	**Gonen-Balikesi**	**0.97**	**266**	*e*Pg	**Pg**	**22 59 23.7**	**-0.4**
BALY	**Balya**	**1.09**	**250**	*e*P	**Pg**	**22 59 26.4**	**0.0**
BALY				*i* S	**Sb**	**22 59 40.4**	**-0.2**
BALY	**Balya**	**1.09**	**250**	*e*P	**Pg**	**22 59 26.4**	**0.0**
BALY				*i* S	**Sb**	**22 59 40.4**	**-0.2**
DEMI	**Demirci**	**1.09**	**189**	*i* P	**Pb**	**22 59 26.2**	**-0.3**
DEMI				*i* S	**Sg**	**22 59 41.1**	**+0.3**
DEMI	**Demirci**	**1.09**	**189**	*i* P	**Pb**	**22 59 26.2**	**-0.3**
DEMI				*i* S	**Sg**	**22 59 41.1**	**+0.3**
GDZ	**Gediz**	**1.11**	**158**	*i* P	**Pn**	**22 59 27.2**	**+0.1**
GDZ				*i* S	**Sb**	**22 59 41.1**	**-0.3**
GDZ	**Gediz**	**1.11**	**158**	*i* P	**Pn**	**22 59 27.2**	**+0.1**
GDZ				*i* S	**Sb**	**22 59 41.1**	**-0.3**
BORA	**Eskisehir**	**1.18**	**101**	*i* P	**Pb**	**22 59 27.5**	**-0.5**
BORA				*i* S	**Sn**	**22 59 44.7**	**+0.6**
BORA	**Eskisehir**	**1.18**	**101**	*i* P	**Pb**	**22 59 27.5**	**-0.5**
BORA				*i* S	**Sn**	**22 59 44.7**	**+0.6**
GULT	**Gulveren**	**1.24**	**75**	*e*PN	**Pg**	**22 59 29.5**	**+0.2**
GULT	**Gulveren**	**1.24**	**75**	*e*Pn	**Pg**	**22 59 29.5**	**+0.2**
AKHS	**Akhisar**	**1.52**	**216**	*i* P	**Pb**	**22 59 33.7**	**0.0**
AKHS				*i* S	**Sg**	**22 59 54.7**	**+0.3**
AKHS	**Akhisar**	**1.52**	**216**	*i* P	**Pb**	**22 59 33.7**	**0.0**
AKHS				*i* S	**Sg**	**22 59 54.7**	**+0.3**
AKS	**Akhisar**	**1.52**	**216**	*e*PN	**Pb**	**22 59 33.6**	**-0.1**
AKS	**Akhisar**	**1.52**	**216**	*e*Pn	**Pb**	**22 59 33.6**	**-0.1**
KHL	**Karahalli**	**1.85**	**166**	*e*PN	**Pb**	**22 59 38.9**	**-0.5**
KHL	**Karahalli**	**1.85**	**166**	*e*Pn	**Pb**	**22 59 38.9**	**-0.5**

*BJI **21** 23:22:32.8,14.83S×65.42E,h5km,mB5.1/24,mb4.8/38,*
Ms4.8/23,Ms7 4.5/22
*ISCJB **21** 23:22:38.6±1.9,14.50S±0.05×66.11E±0.04,h12km±12km,*
mb4.9/149,MS4.3/33,Error ellipse: s-maj=8.5km s-min=6.3km az=167.8
*MOS **21** 23:22:38.7±0.8,14.36S×66.14E,h10km,mb5.3/69,Error ellipse: s-maj=8.9km s-min=5.1km az=111.1*
*IDC **21** 23:22:38.1±0.4,14.51S×66.16E,h0km,mb4.6/22,*
mb1 4.6/23,mb1mx4.6/28,mbtmp4.5/23,ML4.0/1,MS4.2/24,
Ms1 4.2/24,ms1mx4.0/38,Error ellipse: s-maj=15.4km s-min=13.7km az=1.0
*NEIC **21** 23:22:39.9±0.1,14.51S×66.10E,h10km,mb5.1/74,Error ellipse: s-maj=5.2km s-min=4.4km az=189.0*
*GCMT **21** 23:22:40.0±0.2,14.49S×66.05E,h12km,MW5.0,Moment Tensor Solution. s29,c35; s76,c112; Moment tensor: Scale 10^{16}Nm; M_{rr}=-3.23±.09; $M_{\theta\theta}$1.77±.10; $M_{\phi\phi}$2.06±.09; $M_{r\theta}$0.67±.35; $M_{\theta\phi}$-1.31±.07; $M_{\phi r}$1.58±.34; Best double couple: $M_0$3.50000×10^{16} NP1:ϕ_s308.00000°,δ40.00000°, λ-120.00000°. NP2:ϕ_s165.00000°,δ57.00000°, λ-67.00000°. Principal axes: T 3.1400, Plg9.0000°, Azm239.0000°; N 0.7300, Plg19.0000°, Azm332.0000°; P -3.8700, Plg69.0000°, Azm124.0000°; Data Used: II IU IC G.*
*TEH **21** 23:22:40.0,14.49S×66.12E,h10km,ML4.9*
*SZGRF **21** 23:22:44.4,14.69S×64.94E,h33km,mb4.9,Mid-Indian Ridge*
*DJA **21** 23:23:02.9±1.8,14°S±8°×6°6E±°,h202km±19km,M4.6/19,*
mB5.5/3,mb4.5/19,Mw(mB)5.0/3

ISC 21 23:22:40.8±0.5,**14.52S**±0.06×**66.02E**±0.06,**h16**km±2km,
h15km:**pP-P,n642,σ0°90/683,mb5.0**/149,**MS4.3**/33,
111C-119D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**14.27**	**312**	Pn	**P**	**23 26 09.6**	**-0.1**
KAAM	**Kaadhehdhoo**	**16.44**	**25**	P	**P**	**23 26 38.2**	**+4.5**
	57nm,2.1s						
OPO	**Ambohidratompo**	**18.49**	**255**	P	**Pn**	**23 26 57.4**	**+0.6**
	0.5nm,0.3s,baz=72,slow=9.2,SNR=4.5						
OPO				LR	LR	23 32 43.6	
	comp=Z,2μm,18.4s,baz=55,slow=32						
OPO	**Ambohidratompo**	**18.49**	**255**	P	**Pn**	**23 26 57.4**	**+0.6**
ABPO	**Ambohimpanom**	**18.54**	**253**	*e*P	**P**	**23 26 58.6**	**+1.3**
ABPO				pmax	pmax		
	comp=Z,21nm,1.0s						
ABPO	**Ambohimpanom**	**18.54**	**253**	*e*P	**Pn**	**23 26 58.6**	**+1.3**
	comp=Z,21nm,1.0s						
PALK	**Pallekele**	**26.10**	**35**	*e*P	**P**	**23 28 15.2**	**+1.1**
	comp=Z,16nm,1.1s						
PALK	**Pallekele**	**26.10**	**35**	P	P	23 28 20.1	+5.9
	comp=Z,15nm,1.8s						
ATD	**Arta Tunnel**	**34.60**	**317**	P	**P**	**23 29 29.8**	**+0.3**
	comp=Z,7.9nm,0.9s,baz=158,slow=7.5,SNR=3.7						
ATD	**Arta Tunnel**	**34.60**	**317**	P	**P**	**23 29 29.8**	**+0.3**
GSI	**Gunungsitoli**	**34.98**	**66**	P	P	23 29 40.8	+8.1
LSZ	**Lusaka**	**36.54**	**264**	*e*P	**P**	**23 29 46.5**	**+0.3**
	comp=Z,17nm,1.1s						
MNSI	**Mandailing Nat**	**36.54**	**68**	P	P	23 29 52.7	+6.6
	comp=Z,25nm,0.3

KMI LR LR
comp=E,140nm,15.2s
KMI LR LR
comp=Z,180nm,17.8s
KAPI Kappang 53.68 86 LR LR 23 52 01.4
comp=Z,260nm,18.7s,baz=256,slow=33
KAPI Kappang 53.68 86 P **P 23 32 01.2 -1.2**
comp=Z,16nm,1.1s
QIZ Qiongzhong 54.53 54 P **P 23 32 09.9 +1.4**
QIZ pP **pP 23 32 11.8 -1.8**
QIZ S **S 23 39 48.3 +0.9**
QIZ pmax pmax
comp=Z,16nm,1.8s
QIZ LR LR
comp=E,120nm,21.6s
QIZ LR LR
comp=Z,300nm,21.3s
KSH Kashi 54.55 9 *e*P P 23 32 04.6 -3.8
KSH pP pP 23 32 10.4 -3.1
KSH sP sP 23 32 11.9 -3.5
KSH PcP **PcP 23 33 07.6 -3.9**
KSH *e*PP **PP 23 34 08.1 -2.9**
KSH *e*ScP **ScP 23 37 05.5 -4.0**
KSH PcS **PcS 23 37 06.5 -4.7**
KSH S S 23 39 38.3 -9.0
KSH sS sS 23 39 49.6 -6.0
KSH ScS ScS 23 41 49.8 -7.5
KSH SS **SKiKP 23 43 24.0 +6.3**
KSH pmax pmax
comp=Z,18nm,1.0s
KSH pmax pmax
comp=Z,60nm,3.6s
KSH LR LR
comp=N,130nm,6.3s
KSH LR LR
comp=E,100nm,4.5s
KSH LR LR
comp=Z,160nm,7.5s
ISRB Sarab 54.85 342 *e*P **P 23 32 08.6 -2.1**
IBST Bostanabad 54.97 341 *e*P **P 23 32 10.4 -1.2**
IMRD Marand 56.27 341 *e*P **P 23 32 20.3 -0.5**
GYA Guiyang 56.75 44⇑*i*P **P 23 32 24.1 -0.3**
GYA PP **PP 23 34 30.9 0.0**
GYA ScP **ScP 23 37 20.3 +0.8**
GYA S **S 23 40 13.9 -3.2**
GYA SS **SS 23 44 05.6 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.1s
GYA pmax pmax
comp=Z,90nm,5.8s
GYA LR LR
comp=N,470nm,19.3s
GYA LR LR
comp=E,440nm,18.8s
GYA LR LR
comp=Z,480nm,19.7s
FITZ Fitzroy Crossi 57.13 102 LR LR 23 52 58.9
comp=Z,438nm,21.0s,baz=268,slow=32
FITZ Fitzroy Crossi 57.13 102 *e*P **P 23 32 26.8 -0.4**
comp=Z,12nm,1.0s
EKS2 Erkin-Say 57.34 7 *e*P **P 23 32 28.5 +0.2**
EKS2 pmax pmax
comp=Z,14nm,1.3s
EKS2 Erkin-Say 57.34 7 *e*P **P 23 32 28.5 +0.2**
comp=Z,14nm,1.3s
AAK Ala-Archa 57.40 7 *e*P **P 23 32 28.4 -0.4**
AAK pmax pmax
comp=Z,48nm,1.4s
AAK Ala-Archa 57.40 7 *e*P **P 23 32 28.4 -0.4**
comp=Z,48nm,1.4s
KKAR Karatay Array 57.49 4 *e*P **P 23 32 28.7 -0.5**
KKAR *e* 23 33 23.2
KKAR Karatay Array 57.49 4 *e*P **P 23 32 28.7 -0.5**
KKAR *e*PcP **PcP 23 33 23.2 +0.5**
TKM2 Tokmak 2 57.83 8 *e*P **P 23 32 31.2 -0.7**
TKM2 pmax pmax
comp=Z,13nm,1.2s
TKM2 Tokmak 2 57.83 8 *e*P **P 23 32 31.2 -0.7**
comp=Z,13nm,1.2s
GNI Garni 57.88 341 *e*P **P 23 32 32.6 +0.4**
comp=Z,30nm,1.3s
ZEI Tsey 60.52 341 *e*P **P 23 32 50.3 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,1.5s
WMQ Urumqi 61.35 18 P **P 23 32 56.0 +0.1**
WMQ PcP **PcP 23 33 38.8 +0.6**
WMQ ScP **ScP 23 37 37.5 -1.8**
WMQ S **S 23 41 14.0 -2.0**
WMQ ScS **SKKSac 23 42 43.0 -3.7**
WMQ SS **SS 23 45 15.0 -2.0**
WMQ pmax pmax
comp=Z,18nm,1.8s
WMQ pmax pmax
comp=Z,130nm,3.5s
WMQ LR LR
comp=N,370nm,20.0s
WMQ LR LR
comp=E,170nm,20.0s
WMQ LR LR
comp=Z,320nm,20.0s
KBZ Khabaz 61.70 341 LR LR 23 58 06.3
comp=Z,99nm,22.0s,baz=317,slow=34
LZH Lanzhou 61.74 34 *e*P **P 23 33 01.4 +2.5**
LZH pP **pP 23 33 05.5 +1.5**
LZH sP **sP 23 33 08.1 +2.2**
LZH *e*S **S 23 41 24.0 +2.6**
LZH sS **sS 23 41 34.8 +4.9**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,71nm,4.8s
LZH LR LR
comp=N,340nm,16.7s
LZH LR LR
comp=E,430nm,18.9s
LZH LR LR
comp=Z,470nm,19.2s
BRTR Keskin Array B 61.83 332 P **P 23 32 59.8 +0.4**
comp=Z,3.1nm,1.0s,baz=141,slow=8.0,SNR=13
BRTR LR LR 23 58 36.2
comp=Z,40nm,18.2s,baz=123,slow=35
BRTR Keskin Array B 61.83 332 P **P 23 32 59.8 +0.4**
KIV Kislovodsk 61.97 341 *e*P **P 23 33 00.6 +0.4**
KIV *e* 23 33 38.3
KIV *i* 23 35 21.0
KIV pmax pmax
comp=Z,9.0nm,1.2s
GTA Gaotai 62.23 29⇓P **P 23 33 01.9 -0.2**
GTA pP **pP 23 33 05.5 -1.7**
GTA sP **sP 23 33 07.9 -1.2**
GTA S **S 23 41 26.3 -1.1**
GTA sS **sS 23 41 34.5 -1.4**
GTA SS **SS 23 45 32.8 +1.7**
GTA pmax pmax
comp=Z,14nm,1.4s
GTA pmax pmax
comp=Z,92nm,4.5s
GTA LR LR
comp=N,230nm,20.9s
GTA LR LR
comp=E,150nm,18.5s
GTA LR LR
comp=Z,360nm,21.4s
MK31 Makanchi Array 62.76 13*ce*P **P 23 33 03.7 -1.6**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 62.76 13 *e*P **P 23 33 04.5 -0.8**
MKAR Makanchi Array 62.76 13 P **P 23 33 04.4 -0.9**
comp=Z,8.2nm,1.0s,baz=212,slow=8.6,SNR=60
MKAR LR LR 23 58 49.3
comp=Z,116nm,18.9s,baz=76,slow=35
MKAR Makanchi Array 62.76 13*ce*P **P 23 33 04.4 -0.9**
MKAR pmax pmax
comp=Z,8.0nm,1.0s
MKAR Makanchi Array 62.76 13 *e*P **P 23 33 04.6 -0.7**
DAV Davao City (W) 62.84 74 LR LR 23 57 37.3
comp=Z,93nm,20.8s,baz=322,slow=34
XAN Xi'an 63.24 39 P **P 23 33 08.0 -0.8**
XAN pP **pP 23 33 13.8 -0.1**
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN pmax pmax
comp=Z,25nm,6.1s
AB31 Akbulak array 63.72 356*ce*P **P 23 33 09.9 -1.7**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 63.72 356 *e*P **P 23 33 11.2 -0.4**
ASAR Alice Springs 64.30 109 P **P 23 33 14.8 -1.3**
comp=Z,9.5nm,0.9s,baz=268,slow=6.2,SNR=83
ASAR LR LR 23 59 22.0
comp=Z,299nm,20.9s,baz=268,slow=34
ASAR Alice Springs 64.30 109 P **P 23 33 14.8 -1.3**
AS31 Alice Springs 64.30 109 *e*P **P 23 33 14.9 -1.2**
ANN Anapa 64.50 338 *e*P **P 23 33 16.7 -0.1**
ANN pmax pmax
comp=Z,28nm,0.9s
WHN Wuhan 64.57 46 *e*P P 23 33 23.5 +6.0
WRA Warramunga Arr 65.10 105 P **P 23 33 20.6 -0.8**
comp=Z,13nm,0.8s,baz=270,slow=5.8,SNR=114
WRA LR LR 23 59 15.0
comp=Z,139nm,19.1s,baz=270,slow=34
WRA Warramunga Arr 65.10 105 P **P 23 33 20.6 -0.8**
WRAB Tennant Creek 65.11 105 *e*P **P 23 33 20.7 -0.7**
WRAB pmax pmax
comp=Z,35nm,1.3s
WRAB Tennant Creek 65.11 105 *e*P **P 23 33 20.7 -0.7**
comp=Z,35nm,1.3s
BBOO Buckleboo 65.62 120 *e*P **P 23 33 23.6 -0.9**
KURK Kurchatov 65.89 9 *e*P **P 23 33 25.2 -0.5**
KURK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 65.89 9 *e*P **P 23 33 25.2 -0.5**
comp=Z,11nm,1.0s
KURK Kurchatov 65.89 9 P **P 23 33 25.2 -0.5**
comp=Z,62nm,1.1s,SNR=10
BRVK Borovoye 67.40 3*ce*P **P 23 33 35.0 -0.3**
BRVK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 67.40 3 *e*P **P 23 33 34.8 -0.5**
comp=Z,12nm,1.0s
NJ2 Nanjing 68.58 47 *e*P **P 23 33 43.4 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VRHR Novokhopersk 68.73 344 *e*P **P 23 33 43.3 -0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VTS Vitosha 69.11 328⇓P **P 23 33 46.6 +0.2**
VTS Vitosha 69.11 328⇓*i*P **P 23 33 46.6 +0.2**
VORD Divnogorie 69.27 342 *e*P **P 23 33 45.3 -1.7**
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=E,60nm,0.6s
TORD Torodi Ar. Bea 69.36 290 P **P 23 33 48.9 +0.5**
comp=E,2.8nm,1.1s,baz=77,slow=3.7,SNR=11
TORD LR LR 00 02 05.9
comp=E,96nm,18.3s,baz=130,slow=34
TORD Torodi Ar. Bea 69.36 290 P **P 23 33 48.9 +0.5**
HHC Hu-ho-hao-te 69.38 35 *e*P **P 23 33 48.9 +0.8**
HHC pP **pP 23 33 53.5 +0.2**
HHC sP **sP 23 33 55.9 +0.7**
HHC S **S 23 42 54.5 -0.2**
HHC sS **sS 23 43 02.8 -0.4**
HHC ScS **SKSac 23 43 46.8 -1.2**
HHC SS **SS 23 47 23.3 +1.0**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,120nm,3.5s
HHC LR LR
comp=N,140nm,16.3s
HHC LR LR
comp=E,170nm,18.2s
HHC LR LR
comp=Z,220nm,21.6s
VSR Storozhevoye 69.53 342 *e*P **P 23 33 47.9 -0.7**
SNAA Sanae 69.70 198 *e*P **P 23 33 48.2 -1.4**
comp=Z,4.7nm,1.1s
VRI Vrincioaia 69.79 332⇑P **P 23 33 51.5 +1.1**
VRI Vrincioaia 69.79 332⇑*i*P **P 23 33 51.5 +1.1**
PLOR Plostina 69.81 332⇓P **P 23 33 51.7 +1.1**
PLOR Plostina 69.81 332⇓*i*P **P 23 33 51.7 +1.1**
MLR Muntele Rosu 69.87 331⇑*i*P **P 23 33 52.1 +1.1**
ZAA0 Zalesovo Array 70.07 12 *e*P **P 23 33 50.7 -1.2**
ZALV Zalesovo Beam 70.07 12 P **P 23 33 50.8 -1.1**
comp=Z,7.8nm,0.8s,baz=215,slow=4.9,SNR=39
ZALV LR LR 00 03 14.6
comp=Z,164nm,18.4s,baz=67,slow=35
ZALV Zalesovo Beam 70.07 12 P **P 23 33 50.8 -1.1**
ZALV Zalesovo Beam 70.07 12 P **P 23 33 50.8 -1.1**
VOIR 70.25 331⇑P **P 23 33 53.4 +0.1**
VOIR 70.25 331⇑*i*P **P 23 33 53.4 +0.1**
TESR 70.31 332⇑*i*P **P 23 33 54.3 +0.7**
STKA Stephens Creek 70.36 119 P **P 23 33 53.2 -1.2**
comp=Z,4.7nm,0.9s,baz=307,slow=5.9,SNR=6.5
STKA Stephens Creek 70.36 119 *e*P **P 23 33 53.8 -0.5**
ARR Arges 70.40 330⇓*i*P **P 23 33 54.0 -0.2**
NVS Novosibirsk 70.62 10⇓*i*P **P 23 33 54.4 -0.8**
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=Z,22nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.8s
LOT Lotru 70.87 330⇑*i*P **P 23 33 54.2 -3.0**
ARU Arti 70.96 356*c i*P **P 23 33 56.5 -0.8**
ARU S **S 23 43 12.0 -0.2**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 70.96 356 *e*P **P 23 33 56.5 -0.8**
comp=Z,17nm,1.2s
ARU Arti 70.96 356 P **P 23 33 55.4 -1.9**
comp=Z,62nm,1.2s,SNR=5.8
VNA2 Neumayer--Watz 70.96 199 *e*P **P 23 33 58.7 +1.5**
VNA2 Neumayer--Watz 70.96 199 *es*P sP 23 34 02.7 -1.7
SVE Sverdlovsk 71.22 357⇓*i*P **P 23 33 58.9 0.0**
SVE pmax pmax
comp=Z,24nm,1.4s
BJI Beijing 71.54 38 P **P 23 34 01.8 +0.7**
BJI S **S 23 43 22.0 +2.4**
BJI pmax pmax
comp=Z,17nm,0.8s
BJI pmax pmax
comp=Z,120nm,3.7s
BJI LR LR
comp=N,120nm,16.0s
BJI LR LR
comp=E,140nm,15.3s
BJI LR LR
comp=Z,57nm,28.7s
VNA3 Neumayer Olymp 71.75 199 *e*P **P 23 34 03.2 +1.2**
VNA3 Neumayer Olymp 71.75 199 *es*P sP 23 34 07.9 -1.2
SONM Songino Array 71.76 27 P **P 23 34 02.7 +0.1**
comp=Z,6.1nm,0.9s,baz=215,slow=6.5,SNR=53
SONM LR LR 00 05 03.1
comp=Z,217nm,19.6s,baz=213,slow=36
SONM Songino Array 71.76 27 P **P 23 34 02.7 +0.1**
BURAR Bucovina Array 71.79 332⇓*i*P **P 23 34 03.2 +0.6**
BZS Buzias 72.05 329⇑P **P 23 34 04.7 +0.6**
BZS Buzias 72.05 329⇑*i*P **P 23 34 04.7 +0.6**
ULN Ulaanbaatar 72.08 28 *e*P **P 23 34 02.9 -1.5**
comp=Z,15nm,1.4s
DRGR 72.35 330⇓P **P 23 34 06.7 +0.7**
DRGR 72.35 330⇓*i*P **P 23 34 06.7 +0.7**
ZAK Zakamensk 72.42 24 *e*P **P 23 34 04.9 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
AKASG Malin Array Be 72.49 336 P **P 23 34 05.9 -0.7**
comp=Z,4.5nm,0.9s,baz=136,slow=5.0,SNR=9.3
AKASG Malin Array Be 72.49 336 P **P 23 34 05.9 -0.7**
AKASG Malin Array Be 72.49 336 P **P 23 34 05.9 -0.7**
KIEV Kiev 72.49 336 *e*P **P 23 34 06.2 -0.4**
KIEV pmax pmax
comp=Z,15nm,1.3s
KIEV Kiev 72.49 336 *e*P **P 23 34 06.2 -0.4**
comp=Z,15nm,1.3s
JOW Kunigami 73.08 56 LR LR 00 04 39.0
comp=Z,201nm,20.1s,baz=150,slow=35
KEST Kesra 73.26 315 LR LR 00 05 28.7
comp=Z,41nm,19.3s,baz=324,slow=35
DBIC Dimbokro 73.36 282 P **P 23 34 13.0 +0.4**
comp=Z,3.7nm,0.9s,baz=87,slow=7.9,SNR=2.9
DBIC LR LR 00 04 39.0
comp=Z,123nm,20.6s,baz=94,slow=34
DBIC Dimbokro 73.36 282 P **P 23 34 13.0 +0.4**
LIC Lamto 73.39 281 *e*P **P 23 34 12.4 -0.4**
comp=Z,71nm,1.4s
LIC *e*R
comp=Z,255nm,21.0s
LIC Lamto 73.39 281 *e*P **P 23 34 12.4 -0.4**
comp=Z,71nm,1.4s
TRPA Tarpa 73.39 331⇓*i*P **P 23 34 12.0 0.0**
TLY Talaya 73.59 23 *e*P P 23 34 09.9 -3.2
TLY *e* 23 44 08.5
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,154nm,17.0s
OBN Obninsk 73.71 343*ce*P **P 23 34 13.7 0.0**
OBN *e* 23 34 28.7
OBN *e* 23 36 59.2
OBN pmax pmax
comp=Z,14nm,1.3s
UZH Uzhgorod 73.87 331 *e*P **P 23 34 13.6 -1.2**
UZH *e* 23 34 20.4
UZH *e* 23 34 33.2
LVV L'vov 73.95 333 *e*P P 23 34 24.6 +9.3
MOS Moscow 73.96 344 *e*P **P 23 34 14.2 -1.0**
SOKR Solikamsk 74.21 355*c i*P **P 23 34 17.0 +0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s
IRK Irkutsk 74.27 23 *e*P **P 23 34 16.3 -0.8**
IRK pmax pmax
comp=Z,24nm,1.5s
KWP Kalwaria Pacla 74.40 332 *e*P **P 23 34 17.5 -0.4**
KWP Kalwaria Pacla 74.40 332⇑P **P 23 34 17.9 0.0**
KWP Kalwaria Pacla 74.40 332⇑*i*P **P 23 34 17.9 0.0**
KWP Kalwaria Pacla 74.40 332 *e*P **P 23 34 17.5 -0.4**
QSPA South Pole Qui 75.56 180 P **P 23 34 23.9 -0.7**
comp=Z,8.8nm,1.1s,baz=272,slow=1.6,SNR=10
QSPA South Pole Qui 75.56 180 P **P 23 34 23.9 -0.7**
OJC Ojcow 76.14 331 *e*P **P 23 34 28.2 +0.2**
OJC pmax pmax
comp=Z,78nm,2.7s
OJC Ojcow 76.14 331 *e*P **P 23 34 28.2 +0.2**
comp=Z,78nm,2.7s
OJC Ojcow 76.14 331 *e*P **P 23 34 27.4 -0.6**
CTA Charters Tower 76.15 107 LR LR 00 04 06.7
comp=Z,322nm,21.6s,baz=237,slow=33
ARSA Arzberg 76.27 327⇓*i*P **P 23 34 28.8 0.0**
comp=Z,16nm,1.3s
ARSA Arzberg 76.27 327⇓*i*P **P 23 34 28.8 0.0**
comp=Z,16nm,1.3s
CONA Conrad Observa 76.53 328⇓*i*P **P 23 34 31.0 +0.6**
comp=Z,25nm,1.4s
CONA Conrad Observa 76.53 328⇓*i*P **P 23 34 31.0 +0.6**
comp=Z,25nm,1.4s
OKC Ostrava-Krasne 76.66 330 *e*P **P 23 34 31.3 +0.4**
OKC *e* 23 34 47.6
OKC Ostrava-Krasne 76.66 330 *e*P **P 23 34 31.3 +0.4**
OKC *ex* x 23 34 47.6
MORC Moravsky Berou 76.91 330 *e*P **P 23 34 32.5 +0.2**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 76.91 330 *e*P **P 23 34 32.5 +0.2**
comp=Z,6.0nm,1.0s
VNDA Vanda 77.19 167 P **P 23 34 33.5 -0.1**
comp=Z,5.0nm,1.2s,baz=287,slow=6.1,SNR=3.6
VNDA LR LR 00 04 23.9
comp=Z,190nm,18.4s,baz=66,slow=32
VNDA Vanda 77.19 167 *e*P **P 23 34 35.9 +2.3**
MOA Molln 77.31 327⇓*i*P **P 23 34 35.2 +0.6**
comp=Z,23nm,1.3s
MOA Molln 77.31 327⇓*i*P **P 23 34 35.2 +0.6**
comp=Z,23nm,1.2s
SUW Suwalki 77.41 336 *e*P **P 23 34 35.2 +0.2**
SUW Suwalki 77.41 336 *e*P **P 23 34 35.5 +0.5**
SUW pmax pmax
comp=Z,20nm,1.1s
SUW Suwalki 77.41 336 *e*P **P 23 34 35.5 +0.5**
comp=Z,20nm,1.1s
SUW Suwalki 77.41 336 *e*P **P 23 34 35.1 +0.2**
KRLC Kraliky 77.47 330 *e*P **P 23 34 35.0 -0.5**
ABTA Abfaltersbach 77.57 326⇑*i*P **P 23 34 37.2 +1.0**
comp=Z,16nm,1.2s
ABTA Abfaltersbach 77.57 326⇑*i*P **P 23 34 37.2 +1.0**
comp=Z,16nm,1.2s
TREC Trest 77.60 329 *e*P **P 23 34 36.4 +0.2**
TREC Trest 77.60 329 *e*P **P 23 34 36.4 +0.2**
KSAR Wonju Array Be 77.72 46 P **P 23 34 36.5 -0.6**
KSRS Korea Array 77.76 46 P **P 23 34 36.5 -0.7**
comp=Z,5.1nm,0.9s,baz=240,slow=7.1,SNR=9.4
KSRS LR LR 00 07 52.0
comp=Z,94nm,19.1s,baz=55,slow=35
DPC Dobruska-Polom 77.88 330 *e*P **P 23 34 38.6 +0.8**
DPC pmax pmax
comp=Z,18nm,1.5s
DPC Dobruska-Polom 77.88 330 *e*P **P 23 34 38.6 +0.8**
comp=Z,18nm,1.5s
DPC Dobruska-Polom 77.88 330 *e*P **P 23 34 38.0 +0.2**
KLMR Klimovskoe 78.05 347*d i*P **P 23 34 38.2 -0.2**
KLMR pmax pmax
comp=Z,59nm,1.3s
UPC Upice 78.13 330 *e*P **P 23 34 39.9 +0.8**
UPC Upice 78.13 330 *e*P **P 23 34 39.9 +0.8**
GERES GERESS Array B 78.23 328 P **P 23 34 39.6 -0.2**
comp=Z,1.8nm,0.9s,baz=140,slow=6.6,SNR=8.7
GERES GERESS Array B 78.23 328 P **P 23 34 39.6 -0.2**
WTTA Wattenberg 78.36 326⇓*i*P **P 23 34 40.6 -0.1**
WTTA pmax pmax
comp=Z,13nm,1.0s
WTTA Wattenberg 78.36 326⇓*i*P **P 23 34 40.6 -0.1**
comp=Z,13nm,1.0s
WTTA Wattenberg 78.36 326⇓*i*P **P 23 34 40.6 -0.1**
comp=Z,13nm,1.0s
KHC Kasperske Hory 78.47 328 *e*P **P 23 34 40.5 -0.6**
KHC *e* 23 34 46.5
KHC Kasperske Hory 78.47 328 *e*P **P 23 34 41.0 -0.1**
comp=Z,12nm,1.2s
KHC Kasperske Hory 78.47 328 *e*P **P 23 34 40.5 -0.6**
KHC *ep*P **pP 23 34 46.5 +0.2**
PRU Pruhonice 78.52 329 *e*P **P 23 34 41.6 +0.3**
PRU Pruhonice 78.52 329 *e*P **P 23 34 41.6 +0.3**
FETA Feichten 78.72 325⇓*i*P **P 23 34 42.3 -0.4**
comp=Z,10nm,1.2s
FETA Feichten 78.72 325⇓*i*P **P 23 34 42.3 -0.4**
comp=Z,10nm,1.2s
FUORN Ofenpass-Fuorn 78.75 324 *e*P **P 23 34 43.7 +0.8**
comp=Z,15nm,1.2s
PVCC Panska Ves 78.85 329 *e*P **P 23 34 43.8 +0.7**
PVCC Panska Ves 78.85 329 *e*P **P 23 34 43.8 +0.7**
SAOF Saorge 78.86 321 *e*P **P 23 34 44.7 +1.4**
SAOF Saorge 78.86 321 *e*P **P 23 34 44.7 +1.4**
SAOF Saorge 78.86 321 *e*P **P 23 34 44.7 +1.4**
SBF Sospel 78.87 321 *e*P **P 23 34 43.4 0.0**
comp=Z,23nm,0.9s
SBF Sospel 78.87 321 *e*P **P 23 34 43.4 0.0**
SBF pmax pmax
comp=Z,23nm,0.9s
SBF Sospel 78.87 321 *e*P **P 23 34 43.4 0.0**
comp=Z,23nm,0.9s
TOUF Mont Tournerai 79.06 321 *e*P **P 23 34 45.8 +1.2**
TOUF Mont Tournerai 79.06 321 *e*P **P 23 34 45.8 +1.2**
TOUF Mont Tournerai 79.06 321 *e*P **P 23 34 45.8 +1.2**
FUR Furstenfeldbru 79.09 326 *e*P **P 23 34 45.0 +0.5**
FUR pmax pmax
comp=Z,40nm,1.1s
FUR Furstenfeldbru 79.09 326 *e*P **P 23 34 45.0 +0.5**
comp=Z,40nm,1.1s
LMR La Mourre 79.15 320 *e*P **P 23 34 44.8 -0.1**
comp=Z,61nm,1.3s
LMR La Mourre 79.15 320 *e*P **P 23 34 44.8 -0.1**
LMR pmax pmax
comp=Z,61nm,1.3s
LMR La Mourre 79.15 320 *e*P **P 23 34 44.8 -0.1**
comp=Z,61nm,1.3s
TUE Stuetta 79.18 324 *e*P **P 23 34 48.3 +3.0**
comp=Z,9.1nm,1.1s
FRF La Foret Royal 79.19 320 *e*P **P 23 34 45.1 0.0**
comp=Z,86nm,1.9s
FRF La Foret Royal 79.19 320 *e*P **P 23 34 45.1 0.0**
FRF pmax pmax
comp=Z,87nm,1.9s
FRF La Foret Royal 79.19 320 *e*P **P 23 34 45.1 0.0**
comp=Z,86nm,1.9s
DAVA Damuels 79.35 325⇓*i*P **P 23 34 46.3 +0.2**
comp=Z,9.1nm,1.1s
DAVA Damuels 79.35 325⇓*i*P **P 23 34 46.3 +0.2**
comp=Z,9.1nm,1.1s

BRG Berggiesshubel 79.38 329 *e*P **P 23 34 47.1 +1.2**
comp=Z,10nm,1.4s
BRG Berggiesshubel 79.38 329 *e*P **P 23 34 47.1 +1.2**
BRG pmax pmax
comp=Z,4.0nm,1.4s
ROTZ Rotzenmuhle 79.57 328 *e*P **P 23 34 47.3 +0.3**
comp=Z,5.0nm,1.2s
NKC Novy Kostel 79.73 328 *e*P **P 23 34 48.6 +0.7**
NKC Novy Kostel 79.73 328 *e*P **P 23 34 48.6 +0.7**
MBDF Montbardon 79.73 321 *e*P **P 23 34 48.5 +0.3**
comp=Z,27nm,1.2s
MBDF Montbardon 79.73 321 *e*P **P 23 34 48.5 +0.3**
MBDF pmax pmax
comp=Z,27nm,1.2s
MBDF Montbardon 79.73 321 *e*P **P 23 34 48.5 +0.3**
comp=Z,27nm,1.2s
TANN Tannenbergstha 79.83 328 *e*P **P 23 34 49.2 +0.7**
comp=Z,8.0nm,1.3s
BNI Bardonecchia 79.96 322 *e*P **P 23 34 50.8 +1.4**
BNI pmax pmax
comp=Z,10.0nm,1.2s
BNI Bardonecchia 79.96 322 *e*P **P 23 34 50.8 +1.4**
comp=Z,10nm,1.2s
GRF Grafenberg Arr 80.03 327 *e*P **P 23 34 49.9 +0.3**
GRF pmax pmax
comp=Z,29nm,1.4s
GRF Grafenberg Arr 80.03 327 *e*P **P 23 34 49.9 +0.3**
comp=Z,29nm,1.4s
SMRF Simiane la Rot 80.07 320 *e*P **P 23 34 50.7 +0.8**
comp=Z,20nm,1.1s
SMRF Simiane la Rot 80.07 320 *e*P **P 23 34 50.7 +0.8**
comp=Z,20nm,1.1s
CLL Collm 80.11 329 *i* P **P 23 34 50.5 +0.6**
CLL pmax pmax
comp=Z,21nm,1.5s
CLL Collm 80.11 329 *e*P **P 23 34 50.6 +0.6**
comp=Z,21nm,1.5s
CLL Collm 80.11 329 *i* P **P 23 34 50.5 +0.6**
comp=Z,21nm,1.5s
CLL LmV 00 11 00.0
comp=Z,100nm,19.8s
LPG La Plagne 80.16 322 *e*P **P 23 34 49.7 -1.0**
comp=Z,31nm,1.5s
LPG La Plagne 80.16 322 *e*P **P 23 34 49.7 -1.0**
LPG pmax pmax
comp=Z,31nm,1.5s
LPG La Plagne 80.16 322 *e*P **P 23 34 49.7 -1.0**
comp=Z,31nm,1.5s
LPL La Plagne 80.18 322 *e*P **P 23 34 49.9 -0.8**
comp=Z,38nm,1.6s
LPL La Plagne 80.18 322 *e*P **P 23 34 49.9 -0.8**
LPL pmax pmax
comp=Z,38nm,1.6s
LPL La Plagne 80.18 322 *e*P **P 23 34 49.9 -0.8**
comp=Z,38nm,1.6s
SENIN Lac Senin/Sane 80.30 323 *e*P **P 23 34 51.9 +0.5**
comp=Z,10nm,1.2s
ORIF Oris-en-Rattie 80.37 321 *e*P **P 23 34 51.6 0.0**
comp=Z,75nm,1.7s
ORIF Oris-en-Rattie 80.37 321 *e*P **P 23 34 51.6 0.0**
ORIF pmax pmax
comp=Z,75nm,1.7s
ORIF Oris-en-Rattie 80.37 321 *e*P **P 23 34 51.6 0.0**
comp=Z,75nm,1.7s
MOX Moxa 80.40 328 *e*P **P 23 34 52.3 +0.8**
MOX pmax pmax
comp=Z,18nm,1.4s
MOX Moxa 80.40 328 *e*P **P 23 34 52.3 +0.8**
comp=Z,18nm,1.4s
STU Stuttgart 80.58 326 *e*P **P 23 34 52.8 +0.3**
comp=Z,22nm,1.5s
FELD Feldberg im Sc 80.73 325 *e*P **P 23 34 52.9 -0.6**
BFO Black Forest 80.80 325 *e*P **P 23 34 54.2 +0.5**
BFO pmax pmax
comp=Z,14nm,1.4s
BFO Black Forest 80.80 325 *e*P **P 23 34 54.0 +0.3**
comp=Z,14nm,1.5s
BFO Black Forest 80.80 325 *e*P **P 23 34 54.2 +0.5**
comp=Z,14nm,1.4s
VIVF Saint-Julien-l 81.07 321 *e*P **P 23 34 55.4 +0.1**
comp=Z,13nm,1.0s
VIVF Saint-Julien-l 81.07 321 *e*P **P 23 34 55.4 +0.1**
VIVF pmax pmax
comp=Z,13nm,1.0s
VIVF Saint-Julien-l 81.07 321 *e*P **P 23 34 55.4 +0.1**
comp=Z,13nm,1.0s
LOMF Lomont 81.11 324 *e*P **P 23 34 56.0 +0.5**
LOMF Lomont 81.11 324 *e*P **P 23 34 56.0 +0.5**
LOMF Lomont 81.11 324 *e*P **P 23 34 56.0 +0.5**
CABF La Chapelle 81.14 323 *e*P **P 23 34 54.9 -0.8**
comp=Z,44nm,1.4s
CABF La Chapelle 81.14 323 *e*P **P 23 34 54.9 -0.8**
CABF pmax pmax
comp=Z,44nm,1.4s
CABF La Chapelle 81.14 323 *e*P **P 23 34 54.9 -0.8**
comp=Z,44nm,1.4s
LASF Ste Croix 81.19 320 *e*P **P 23 34 56.2 +0.3**
comp=Z,59nm,1.4s
LASF Ste Croix 81.19 320 *e*P **P 23 34 56.2 +0.3**
comp=Z,59nm,1.4s
UBBA Unterbreizbach 81.33 328 *e*P **P 23 34 57.2 +0.9**
comp=Z,13nm,1.3s
HINF Hinteralfeld 81.34 324 *e*P **P 23 34 55.9 -0.8**
comp=Z,24nm,1.4s
HINF Hinteralfeld 81.34 324 *e*P **P 23 34 55.9 -0.8**
HINF pmax pmax
comp=Z,24nm,1.4s
HINF Hinteralfeld 81.34 324 *e*P **P 23 34 55.9 -0.8**
comp=Z,24nm,1.4s
SSB Saint Sauveur 81.37 321 *e*P **P 23 34 57.6 +0.7**
SSB pmax pmax
comp=Z,18nm,1.3s
SSB Saint Sauveur 81.37 321 *e*P **P 23 34 57.6 +0.7**
comp=Z,18nm,1.3s
CDF Champ du Feu 81.43 325 *e*P **P 23 34 56.6 -0.6**
comp=Z,49nm,1.5s
CDF Champ du Feu 81.43 325 *e*P **P 23 34 56.6 -0.6**
CDF pmax pmax
comp=Z,49nm,1.5s
CDF Champ du Feu 81.43 325 *e*P **P 23 34 56.6 -0.6**
comp=Z,49nm,1.5s
HAU Haudompre 81.73 324 *e*P **P 23 34 58.2 -0.5**
comp=Z,22nm,1.2s
HAU Haudompre 81.73 324 *e*P **P 23 34 58.2 -0.5**
HAU pmax pmax
comp=Z,23nm,1.2s
HAU Haudompre 81.73 324 *e*P **P 23 34 58.2 -0.5**
comp=Z,22nm,1.2s
CLZ Clausthal 81.74 329 *e*P **P 23 34 59.7 +1.0**
CLZ pmax pmax
comp=Z,23nm,1.1s
CLZ Clausthal 81.74 329 *e*P **P 23 34 59.7 +1.0**
comp=Z,23nm,1.1s
TNS Taunus Mts 81.80 327 *e*P **P 23 34 59.7 +0.7**
TNS pmax pmax
comp=Z,30nm,1.7s
TNS Taunus Mts 81.80 327 *e*P **P 23 34 59.7 +0.7**
comp=Z,30nm,1.7s
MTLF Montolieu 81.86 319 *e*P **P 23 34 59.7 +0.2**
comp=Z,25nm,1.0s
MTLF Montolieu 81.86 319 *e*P **P 23 34 59.7 +0.2**
MTLF pmax pmax
comp=Z,25nm,1.0s
MTLF Montolieu 81.86 319 *e*P **P 23 34 59.7 +0.2**
comp=Z,25nm,1.0s
FINES FINESS Array B 82.05 342 P **P 23 34 59.8 -0.2**
comp=Z,1.0nm,0.7s,baz=44,slow=11,SNR=3.3
FINES FINESS Array B 82.05 342 P **P 23 34 59.8 -0.2**
THEF They Montfort 82.06 324 *e*P **P 23 35 00.7 +0.3**
THEF They Montfort 82.06 324 *e*P **P 23 35 00.7 +0.3**
THEF They Montfort 82.06 324 *e*P **P 23 35 00.7 +0.3**
BOD Bodaibo 82.16 24 *e*P **P 23 34 58.8 -1.9**
BOD pmax pmax
comp=Z,7.0nm,1.4s
RUP Ruppelstein 82.26 326 *e*P **P 23 35 02.0 +0.6**
RUP Ruppelstein 82.26 326 *e*P **P 23 35 02.0 +0.6**
PLDF La Plantade 82.28 321 *e*P **P 23 35 02.7 +1.0**
PLDF La Plantade 82.28 321 *e*P **P 23 35 02.7 +1.0**
PLDF La Plantade 82.28 321 *e*P **P 23 35 02.7 +1.0**
MDJ Mudanjiang 82.33 40 P **P 23 35 02.4 +0.5**
MDJ pmax pmax
comp=Z,20nm,1.5s
MDJ pmax pmax
comp=Z,82nm,4.0s
SMF Signal de Mont 82.48 322 *e*P **P 23 35 02.2 -0.5**
comp=Z,19nm,1.1s
SMF Signal de Mont 82.48 322 *e*P **P 23 35 02.2 -0.5**
SMF pmax pmax
comp=Z,19nm,1.1s
SMF Signal de Mont 82.48 322 *e*P **P 23 35 02.2 -0.5**
comp=Z,19nm,1.1s
CAF Calviac 82.72 320 *e*P **P 23 35 04.1 +0.1**
comp=Z,54nm,1.4s
CAF Calviac 82.72 320 *e*P **P 23 35 04.1 +0.1**
CAF pmax pmax
comp=Z,54nm,1.4s
CAF Calviac 82.72 320 *e*P **P 23 35 04.1 +0.1**
comp=Z,54nm,1.4s
MEZF Maizieres J'vi 82.73 324 *e*P **P 23 35 04.0 +0.1**
comp=Z,57nm,1.3s
MEZF Maizieres J'vi 82.73 324 *e*P **P 23 35 04.0 +0.1**
comp=Z,57nm,1.3s
WLF Walferdange 82.73 325 P **P 23 35 04.4 +0.6**
comp=Z,9.7nm,1.5s
WLF Walferdange 82.73 325 *e*P **P 23 35 04.6 +0.7**
comp=Z,20nm,1.3s
LOR Lormes 82.79 323 *e*P **P 23 35 04.1 -0.1**
comp=Z,34nm,1.3s
LOR Lormes 82.79 323 *e*P **P 23 35 04.1 -0.1**
comp=Z,34nm,1.3s
AVF Avril sur Loir 82.85 322 *e*P **P 23 35 04.1 -0.4**
comp=Z,20nm,1.2s
AVF Avril sur Loir 82.85 322 *e*P **P 23 35 04.1 -0.4**
AVF pmax pmax
comp=Z,20nm,1.2s
AVF Avril sur Loir 82.85 322 *e*P **P 23 35 04.1 -0.4**
comp=Z,20nm,1.2s
SSF Saint Saulge 82.89 322 *e*P **P 23 35 04.7 -0.1**
comp=Z,35nm,1.1s
SSF Saint Saulge 82.89 322 *e*P **P 23 35 04.7 -0.1**
SSF pmax pmax
comp=Z,35nm,1.1s
SSF Saint Saulge 82.89 322 *e*P **P 23 35 04.7 -0.1**
comp=Z,35nm,1.1s
BGF Bois d'Agland 83.03 322 *e*P **P 23 35 05.8 +0.3**
comp=Z,71nm,1.2s
BGF Bois d'Agland 83.03 322 *e*P **P 23 35 05.8 +0.3**
BGF pmax pmax
comp=Z,71nm,1.2s
BGF Bois d'Agland 83.03 322 *e*P **P 23 35 05.8 +0.3**
comp=Z,71nm,1.2s
BUG Bochum--Univer 83.10 327 *e*P **P 23 35 06.7 +1.0**
comp=Z,28nm,1.5s
RJF Les Rejaudoux 83.24 320 *e*P **P 23 35 07.0 +0.4**
comp=Z,65nm,1.4s
RJF Les Rejaudoux 83.24 320 *e*P **P 23 35 07.0 +0.4**
RJF pmax pmax
comp=Z,65nm,1.4s
RJF Les Rejaudoux 83.24 320 *e*P **P 23 35 07.0 +0.4**
comp=Z,65nm,1.4s
TCF Toulx Ste Croi 83.29 321 *e*P **P 23 35 06.8 -0.1**
comp=Z,62nm,1.8s
TCF Toulx Ste Croi 83.29 321 *e*P **P 23 35 06.8 -0.1**
TCF pmax pmax
comp=Z,62nm,1.8s
TCF Toulx Ste Croi 83.29 321 *e*P **P 23 35 06.8 -0.1**
comp=Z,62nm,1.8s
MEM Membach 83.32 326 P **P 23 35 08.1 +1.2**
IBBN Ibbenburen 83.33 328 *e*P **P 23 35 07.8 +0.9**
comp=Z,8.0nm,1.0s
ETSF Etsaut 83.46 317 *e*P **P 23 35 08.4 +0.5**
comp=Z,34nm,1.2s
ETSF Etsaut 83.46 317 *e*P **P 23 35 08.4 +0.5**
ETSF pmax pmax
comp=Z,34nm,1.2s
ETSF Etsaut 83.46 317 *e*P **P 23 35 08.4 +0.5**
comp=Z,34nm,1.2s
LFF La Frestale 83.56 320 *e*P **P 23 35 08.6 +0.4**
comp=Z,70nm,1.3s
LFF La Frestale 83.56 320 *e*P **P 23 35 08.6 +0.4**
LFF pmax pmax
comp=Z,70nm,1.3s
LFF La Frestale 83.56 320 *e*P **P 23 35 08.6 +0.4**
comp=Z,70nm,1.3s
BCLA Clavier 83.60 326 P **P 23 35 08.8 +0.5**
comp=Z,11nm,1.6s
USRK Ussuriysk Arra 83.66 41 P **P 23 35 07.5 -1.2**
comp=Z,3.2nm,0.7s,baz=250,slow=3.9,SNR=7.4
USRK LR LR 00 08 56.3
comp=Z,92nm,20.9s,baz=129,slow=33
GIVF Givet 83.69 325 *e*P **P 23 35 09.1 +0.3**
comp=Z,38nm,1.2s
GIVF Givet 83.69 325 *e*P **P 23 35 09.1 +0.3**
GIVF pmax pmax
comp=Z,38nm,1.2s
GIVF Givet 83.69 325 *e*P **P 23 35 09.1 +0.3**
comp=Z,38nm,1.2s
DOU Dourbes 83.81 325 P **P 23 35 10.4 +1.0**
comp=Z,16nm,3.4s
SJPF Ste Jean 83.99 317 *e*P **P 23 35 11.1 +0.6**
comp=Z,68nm,1.3s
SJPF Ste Jean 83.99 317 *e*P **P 23 35 11.1 +0.6**
SJPF pmax pmax
comp=Z,68nm,1.3s
SJPF Ste Jean 83.99 317 *e*P **P 23 35 11.1 +0.6**
comp=Z,68nm,1.3s
BAIF Baives 84.01 325 *e*P **P 23 35 10.9 +0.5**
comp=Z,48nm,1.3s
BAIF Baives 84.01 325 *e*P **P 23 35 10.9 +0.5**
BAIF pmax pmax
comp=Z,49nm,1.3s
BAIF Baives 84.01 325 *e*P **P 23 35 10.9 +0.5**
comp=Z,48nm,1.3s
SNF Seneffe 84.20 326 P **P 23 35 12.3 +0.9**
ESDC Sonseca Array 84.41 313 P **P 23 35 13.8 +0.9**
comp=Z,6.5nm,0.8s,baz=103,slow=4.3,SNR=27
ESDC Sonseca Array 84.41 313 P **P 23 35 13.8 +0.9**
ESLA Sonseca Array 84.41 313 *e*P **P 23 35 13.7 +0.9**
comp=Z,4.3nm,1.2s
PAB San Pablo 84.63 313 *e*P **P 23 35 14.8 +0.8**
PAB pmax pmax
comp=Z,13nm,1.0s
PAB San Pablo 84.63 313 *e*P **P 23 35 14.8 +0.8**
comp=Z,13nm,1.0s
MAJO Matsushiro 84.79 50 *e*P **P 23 35 13.9 -0.8**
MAJO pmax pmax
comp=Z,35nm,1.4s
MAJO Matsushiro 84.79 50 *e*P **P 23 35 13.9 -0.8**
comp=Z,35nm,1.4s
MAT Matsushiro 84.79 50 P **P 23 35 14.1 -0.6**
MAT *e*S **S 23 45 44.8 +2.4**
MJAR Matsushiro Arr 84.79 50 P **P 23 35 14.9 +0.1**
comp=Z,14nm,1.1s,baz=241,slow=5.9,SNR=14
MJAR LR LR 00 12 01.9
comp=Z,76nm,20.3s,baz=225,slow=35
MJAR Matsushiro Arr 84.79 50 P **P 23 35 14.9 +0.1**
MFF Saint Martin d 84.87 321 *e*P **P 23 35 15.0 +0.1**
comp=Z,55nm,1.2s
MFF Saint Martin d 84.87 321 *e*P **P 23 35 15.0 +0.1**
MFF pmax pmax
comp=Z,55nm,1.2s
MFF Saint Martin d 84.87 321 *e*P **P 23 35 15.0 +0.1**
comp=Z,55nm,1.2s
LDF La Druitiere 85.77 322 *e*P **P 23 35 19.3 0.0**
comp=Z,39nm,1.4s
LDF La Druitiere 85.77 322 *e*P **P 23 35 19.3 0.0**
LDF pmax pmax
comp=Z,39nm,1.4s
LDF La Druitiere 85.77 322 *e*P **P 23 35 19.3 0.0**
comp=Z,39nm,1.4s
KLR Kul'dur 85.83 37 *e*P P 23 35 13.4 -6.2
FLN La Foliniere 86.06 323 *e*P **P 23 35 20.8 0.0**
FLN La Foliniere 86.06 323 *e*P **P 23 35 20.8 0.0**
FLN La Foliniere 86.06 323 *e*P **P 23 35 20.8 0.0**
GRR Gorron 86.11 322 *e*P **P 23 35 20.8 -0.2**
comp=Z,87nm,1.6s
GRR Gorron 86.11 322 *e*P **P 23 35 20.8 -0.2**
GRR pmax pmax
comp=Z,87nm,1.6s
GRR Gorron 86.11 322 *e*P **P 23 35 20.8 -0.2**
comp=Z,87nm,1.6s
CLNS Chul'man 86.16 28 *e*P **P 23 35 21.0 -0.1**
CLNS *e* 23 35 26.4
CLNS *e* 23 38 42.0
CLNS *e*S S 23 45 45.5 -10
CLNS *e*SS **SS 23 51 37.7 +3.3**
CLNS pmax pmax
comp=N,3.0nm,1.7s
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,4.2s
CLNS pmax pmax
comp=N,4.0nm,1.7s
CLNS pmax pmax
comp=E,3.0nm,1.3s
CLNS smax smax
comp=E,186nm,15.9s
CLNS smax smax
comp=N,53nm,14.6s
CLNS MLR MLR
comp=N,132nm,12.0s
CLNS MLR MLR
comp=E,152nm,14.0s
CLNS MLR MLR
comp=Z,57nm,14.0s
PESTR Estremoz 86.70 311 *e*P **P 23 35 25.4 +1.2**
comp=Z,30nm,1.4s
MORF Marmelete 86.92 310 *e*P **P 23 35 25.9 +0.6**
comp=Z,61nm,1.8s
PMTG Montargil 87.23 311 *e*P **P 23 35 28.8 +2.1**
comp=Z,36nm,1.8s
TIXI Tiksi 95.53 16⇑ *i*P **P 23 36 03.6 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
SPITS Spitsbergen Ar 96.58 351 LR LR 00 21 48.2
comp=Z,51nm,19.2s,baz=310,slow=37
ILAR Eielson Array 125.00 17 PKP **PKPdf 23 41 38.5 -1.4**
comp=Z,2.9nm,1.0s,baz=311,slow=3.0,SNR=16
ILAR Eielson Array 125.00 17 PKP **PKPdf 23 41 38.5 -1.4**
SCHQ Schefferville 125.75 328 PKP **PKPdf 23 41 41.3 -0.3**
comp=Z,3.3nm,1.0s,baz=18,slow=3.2,SNR=4.7
SCHQ Schefferville 125.75 328 PKP **PKPdf 23 41 41.3 -0.3**
YKA Yellowknife Ar 132.09 0 PKP **PKPdf 23 41 52.6 -0.8**
comp=Z,1.9nm,0.8s,baz=349,slow=2.3,SNR=30
YKA PP **PP 23 44 14.5 0.0**
comp=Z,0.3nm,0.7s,baz=359,slow=5.9,SNR=5.2
YKA Yellowknife Ar 132.09 0 PKP **PKPdf 23 41 52.6 -0.8**
YKA PP **PP 23 44 14.6 0.0**
FFC Flin Flon 138.81 349 *i* PKIKP **PKPdf 23 42 08.8 +2.6**
ULM Lac du Bonnet 141.44 341 PKP **PKPdf 23 42 10.5 -0.6**
comp=Z,3.4nm,0.8s,baz=2.5,slow=3.4,SNR=6.1
ULM Lac du Bonnet 141.44 341 PKP **PKPdf 23 42 10.5 -0.6**
SPMN St. Paul 144.54 334 ⇑P **PKPab 23 42 15.1 -0.1**
baz=144
MDND Maddock 144.69 343 ⇓P PKPbc 23 42 15.8 +0.1
baz=145
A24A Westby 144.72 349 ⇓P PKPbc 23 42 16.2 +0.4
baz=145
A23A Redstone 144.85 350 ⇑P PKPbc 23 42 16.4 +0.1
baz=145
A22A Carney Farms, 144.99 351 ⇑P PKPbc 23 42 17.0 +0.2
baz=145
TZTN Tazewell 145.10 315 *e*PKPdf **PKPdf 23 42 17.9 -0.1**
A21A Bergtoll Ranch 145.14 352 ⇓P **PKPbc 23 42 17.1 -0.1**
baz=145
SFIN Scholer Farm 145.15 323 ⇑P **PKPbc 23 42 17.3 -0.2**
baz=145
DGMT Dagmar 145.20 349 *e*PKPdf **PKPdf 23 42 18.2 +0.4**
DGMT Dagmar 145.20 349 ⇑P **PKPdf 23 42 18.1 +0.2**
baz=145
B23A Brockton 145.35 349 ⇓P **PKPdf 23 42 18.2 +0.1**
baz=145
A20A Cobblestone Ra 145.38 353 ⇑P **PKPbc 23 42 18.1 +0.1**
baz=145
A19A Klindworth Far 145.42 354 ⇑P **PKPbc 23 42 17.8 -0.3**
baz=145
A18A Metzger Ranch, 145.53 355 ⇓P **PKPdf 23 42 17.7 -0.7**
baz=145
WALA Waterton Lakes 145.56 360 *e*PKPdf **PKPdf 23 42 18.1 -0.5**
BLO Bloomington 145.56 321 *e*PKIKP **PKPbc 23 42 18.9 0.0**
BLO Bloomington 145.56 321 *e*PKPdf **PKPbc 23 42 18.9 0.0**
A17A Triple J Farms 145.57 356 ⇑P **PKPdf 23 42 18.3 -0.2**
baz=146
A16A West Butte Ran 145.62 357 ⇓P **PKPdf 23 42 18.1 -0.6**
baz=146
A15A Johnson Ranch, 145.63 359 ⇑P **PKPdf 23 42 18.5 -0.2**
baz=146
A14A Double T Ranch 145.64 359 ⇓P **PKPdf 23 42 18.5 -0.2**
baz=146
A12A Yaak River Ran 145.66 2 ⇑P **PKPbc 23 42 18.9 0.0**
baz=146
A13A Flathead Natio 145.69 1 ⇑P **PKPdf 23 42 18.7 0.0**
baz=146
B20A Solberg Farm, 145.82 353 ⇓P **PKPdf 23 42 19.1 +0.1**
baz=146
B19A Brinkman Farms 145.91 354 ⇑P **PKPbc 23 42 19.5 -0.2**
baz=146
B12A Libby 146.12 2 ⇑P **PKPab 23 42 20.7 -0.2**
baz=146
C24A Savage 146.14 348 ⇓P **PKPab 23 42 20.8 -0.3**
baz=146
B16A M & M Farms, S 146.16 357 ⇓P **PKPbc 23 42 20.1 -0.4**
baz=146
C22A Vida 146.20 350 ⇑P **PKPbc 23 42 20.8 +0.2**
baz=146
B17A L&G Farms, Che 146.22 356 ⇓P **PKPdf 23 42 20.2 +0.5**
baz=146
B13A Whitefish 146.24 1 ⇑P **PKPbc 23 42 20.9 +0.1**
baz=146
B14A Marquette Ranc 146.25 359 ⇓P **PKPbc 23 42 20.5 -0.4**
baz=146
NEW Newport 146.26 4 *e*PKPbc **PKPab 23 42 21.3 -0.1**
NEW Newport 146.26 4 ⇑P **PKPbc 23 42 20.9 +0.1**
baz=146
B15A Bradely Ranch, 146.29 358 ⇓P **PKPdf 23 42 20.3 +0.5**
baz=146
HDIL Hopedale 146.29 325 *e*PKPbc **PKPbc 23 42 21.3 +0.3**
C21A Desert Coulee 146.31 352 ⇓P **PKPbc 23 42 21.0 +0.1**
baz=146
CPCT Cooper Cave 146.34 314 *e*PKPbc **PKPbc 23 42 21.3 -0.1**
EGMT Eagleton 146.41 355 *e*PKPbc **PKPdf 23 42 20.4 +0.4**
EGMT Eagleton 146.41 355 ⇑P **PKPbc 23 42 20.7 -0.6**
baz=146
D24A Glendive 146.52 348 ⇑P **PKPbc 23 42 21.8 +0.2**
baz=146
C20A Veseth Ranch, 146.54 353 ⇓P **PKPbc 23 42 21.4 -0.2**
baz=146
C19A Slack Wire Ran 146.63 354 ⇓P **PKPbc 23 42 21.2 -0.7**
baz=146
D23A Lindsay 146.63 349 ⇑P **PKPbc 23 42 21.9 -0.1**
baz=146
C11A Tepee Creek (N 146.73 3 ⇑P **PKPbc 23 42 22.2 0.0**
baz=147
YBMT Yellow Bay 146.76 0 *e*PKPbc **PKPbc 23 42 22.9 +0.5**
BSMT Bassoo Peak 146.76 1 *e*PKPbc **PKPbc 23 42 22.7 +0.2**
C16A Fuhringer Ranc 146.77 357 ⇓P **PKPbc 23 42 21.9 -0.4**
baz=147
OLIL Olney 146.80 321 *e*PKPbc **PKPbc 23 42 22.7 +0.1**
C15A Salmond Ranch, 146.83 358 ⇑P **PKPbc 23 42 22.1 -0.5**
baz=147
C14A Swan Lake 146.85 360 ⇑P **PKPbc 23 42 22.5 -0.1**
baz=147
JTMT Jette 146.87 0 *e*PKPbc **PKPbc 23 42 22.8 +0.1**
C17A Wharram Farm, 146.88 356 ⇓P **PKPbc 23 42 22.3 -0.4**
baz=147
C13A Hot Springs 146.94 1 ⇓P **PKPbc 23 42 22.4 -0.4**
baz=147
D21A La Casta Ranch 147.03 351 ⇑P **PKPbc 23 42 23.6 +0.5**
baz=147
E24A Baker 147.04 348 ⇑P **PKPbc 23 42 23.2 0.0**
baz=147
D20A Manuel Ranch, 147.16 353 ⇑P **PKPbc 23 42 23.1 -0.3**
baz=147
D19A Cripps Ranch, 147.18 354 ⇓P **PKPbc 23 42 23.5 0.0**
baz=147
D18A Linhart Farms, 147.24 355 ⇑P **PKPbc 23 42 24.0 +0.3**
baz=147
E23A Ismay 147.30 349 ⇓P **PKPbc 23 42 24.0 +0.2**
baz=147
ECSD EROS Data Cent 147.31 336 *e*PKPdf **PKPdf 23 42 21.2 -0.4**
ECSD *e*PKPbc **PKPbc 23 42 23.9 -0.1**
D17A Six Diamond Ra 147.35 356 ⇓P **PKPbc 23 42 23.8 -0.3**
baz=147
SLMT Seeley Lake 147.38 359 *e*PKPbc **PKPbc 23 42 24.3 +0.1**
E22A Miles City 147.47 350 ⇑P **PKPbc 23 42 23.7 -0.7**
baz=147
D13A Huson 147.52 1 ⇑P **PKPbc 23 42 24.2 -0.3**
baz=147
D16A Dana Ranch, Ca 147.53 357 ⇑P **PKPbc 23 42 24.8 +0.2**
baz=147
D14A Greenough 147.54 359 ⇓P **PKPbc 23 42 24.3 -0.3**
baz=147
D12A Red Ives Fores 147.55 2 ⇑P **PKPbc 23 42 24.1 -0.4**
baz=147
D15A Lincoln 147.56 358 ⇓P **PKPbc 23 42 24.6 -0.1**
baz=147
E21A Keefer Ranch, 147.56 351 ⇑P **PKPbc 23 42 24.3 -0.3**

	baz=148							
CHMT	Chamberlain Mo	147.70	359	ePKPbc	PKPbc	23 42 25.1	-0.1	
E20A	Meyer Farm, Mu	147.74	352	⇓P	PKPdf	23 42 23.3	+1.0	
	baz=148							
F24A	Ekalaka	147.76	347	⇑P	PKPdf	23 42 23.0	+0.6	
	baz=148							
MSO	Missoula	147.79	360	ePKPdf	PKPdf	23 42 22.7	+0.3	
MSO				ePKPbc	PKPbc	23 42 25.2	0.0	
MSO	Missoula	147.79	360	⇑P	PKPbc	23 42 25.3	0.0	
	baz=148							
HRY	Holter Researc	147.86	357	ePKPbc	PKPbc	23 42 25.8	+0.3	
E19A	Rath Farm, Rou	147.86	353	⇑P	PKPbc	23 42 25.7	+0.3	
	baz=148							
E18A	Harlowton	147.87	355	⇓P	PKPbc	23 42 26.1	+0.6	
	baz=148							
HAWA	Hanford	147.89	7	ePKPbc	PKPbc	23 42 25.8	+0.4	
E16A	East Helena	148.03	357	⇓P	PKPbc	23 42 26.3	+0.3	
	baz=148							
E17A	Martinsdale	148.05	356	⇓P	PKPbc	23 42 26.2	+0.1	
	baz=148							
F23A	Volborg	148.07	349	⇓P	PKPbc	23 42 25.6	-0.3	
	baz=148							
SIUC	Southern Illin	148.12	321	ePKPbc	PKPbc	23 42 26.5	+0.2	
F22A	Rosebud	148.17	350	⇑P	PKPbc	23 42 26.5	+0.3	
	baz=148							
E15A	Deer Lodge	148.18	358	⇑P	PKPbc	23 42 26.2	-0.1	
	baz=148							
E13A	Victor	148.18	0	⇑P	PKPbc	23 42 25.9	-0.4	
	baz=148							
E14A	Clinton	148.20	359	⇓P	PKPbc	23 42 26.4	-0.1	
	baz=148							
WVT	Waverly	148.22	317	ePKP2	PKPbc	23 42 25.9	-0.7	
WVT	Waverly	148.22	317	ePKPbc	PKPbc	23 42 25.9	-0.7	
F20A	Billings	148.43	352	⇓P	PKPbc	23 42 27.3	+0.3	
	baz=148							
F19A	Roth Farm, Mol	148.48	353	⇑P	PKPbc	23 42 27.7	+0.6	
	baz=148							
F18A	Big Timber	148.51	354	⇑P	PKPbc	23 42 27.7	+0.5	
	baz=148							
F17A	Fitzpatrick Pl	148.59	356	⇑P	PKPbc	23 42 27.8	+0.4	
	baz=148							
LRM	Limekiln Ridge	148.77	358	ePKPbc	PKPbc	23 42 28.2	+0.2	
F14A	Wisdom	148.81	359	⇓P	PKPbc	23 42 28.0	0.0	
	baz=149							
H24A	Dirks Ranch, A	148.83	347	⇓P	PKPdf	23 42 23.9	-0.3	
	baz=149							
F13A	Darby	148.83	0	⇑P	PKPbc	23 42 27.9	-0.1	
	baz=149							
F12A	Elk City	148.85	2	⇑P	PKPbc	23 42 26.5	-1.6	
	baz=149							
BOZ	Bozeman (W)	148.91	357	ePKIKP	PKPdf	23 42 25.0	+0.6	
BOZ				e		23 42 29.0		
BOZ	Bozeman (W)	148.91	357	ePKPdf	PKPdf	23 42 25.0	+0.6	
BOZ				ePKPbc	PKiKP	23 42 29.0	-0.6	
BOZ	Bozeman (W)	148.91	357	⇓P	PKPdf	23 42 24.9	+0.6	
	baz=149							
G20A	Bridger	149.01	352	⇑P	PKPdf	23 42 24.9	+0.4	
	baz=149							
G17A	Pierce Place,	149.18	356	⇓P	PKPbc	23 42 29.9	+1.0	
	baz=149							
RLMT	Red Lodge	149.24	353	ePKPdf	PKPdf	23 42 25.9	+0.9	
RLMT				ePKPbc	PKiKP	23 42 30.1	-0.4	
RLMT	Red Lodge	149.24	353	⇑P	PKPdf	23 42 25.8	+0.9	
	baz=149							
RSSD	Black Hills	149.30	346	ePKIKP	PKPdf	23 42 25.3	+0.2	
RSSD				e		23 42 29.6		
RSSD	Black Hills	149.30	346	ePKPdf	PKPdf	23 42 25.3	+0.2	
RSSD				ePKPbc	PKPbc	23 42 29.6	+0.2	
H22A	Clearmont	149.33	349	⇓P	PKPbc	23 42 29.6	+0.3	
	baz=149							
LRAL	Lakeview Retre	149.33	312	ePKPdf	PKPdf	23 42 25.0	-0.2	
LRAL				ePKPbc	PKPbc	23 42 29.5	0.0	
G16A	Moss Hill, Enn	149.34	357	⇑P	PKPbc	23 42 29.8	+0.4	
	baz=149							
G14A	Jackson	149.38	359	⇓P	PKPbc	23 42 29.7	+0.2	
	baz=149							
H21A	Big Horn, Sher	149.42	350	⇓P	PKPbc	23 42 29.7	+0.1	
	baz=149							
G15A	Dillon	149.43	358	⇑P	PKPbc	23 42 30.1	+0.4	
	baz=149							
I24A	Kuemmerle Ranc	149.69	347	⇑P	PKPbc	23 42 29.8	-0.4	
	baz=150							
H20A	Greybull	149.70	351	⇓P	PKPbc	23 42 30.1	-0.1	
	baz=150							
H18A	Shoshone NF, C	149.72	354	⇓P	PKPdf	23 42 26.7	+0.9	
	baz=150							
MCMT	McKenzie Canyo	149.78	358	ePKPbc	PKPbc	23 42 31.2	+0.6	
H16A	Russell Place,	149.83	356	⇑P	PKPdf	23 42 27.2	+1.3	
	baz=150							
YMR	Madison River	149.84	356	ePKPbc	PKPbc	23 42 32.0	+1.2	
BGNE	Belgrade	149.89	336	⇓P	PKPbc	23 42 30.2	-0.5	
	baz=150							
H14A	Leadore	150.00	359	⇑P	PKPbc	23 42 31.5	+0.4	
	baz=150							
I22A	9 Mile Ranch,	150.03	349	⇓P	PKPbc	23 42 31.0	-0.1	
	baz=150							
H13A	Challis	150.06	0	⇑P	PKPbc	23 42 30.5	-0.7	
	baz=150							
J24A	Dixon Ranch, L	150.20	346	⇓P	PKPbc	23 42 31.4	-0.1	
	baz=150							
OXF	Oxford	150.21	316	ePKIKP	PKPbc	23 42 30.9	-0.7	
OXF	Oxford	150.21	316	ePKPbc	PKPbc	23 42 30.9	-0.7	
I20A	Worland	150.25	351	⇓P	PKPbc	23 42 31.8	+0.2	
	baz=150							
I21A	Big Trails, Te	150.25	350	⇑P	PKPbc	23 42 31.2	-0.4	
	baz=150							
FLWY	Flagg Ranch	150.41	355	ePKPdf	PKPdf	23 42 27.6	+0.7	
FLWY				ePKPbc	PKiKP	23 42 33.6	+0.7	
J22A	Midwest	150.50	349	⇑P	PKPbc	23 42 31.5	-0.8	
	baz=150							
I17A	Pilgrim Ck.	150.56	355	⇑P	PKPbc	23 42 33.7	+1.3	
	baz=150							
I16A	Newdale	150.67	356	⇑P	PKPbc	23 42 33.6	+0.9	
	baz=151							
K25A	Mack Ranch, Ha	150.68	345	⇑P	PKPbc	23 42 32.7	0.0	
	baz=151							
I14A	Mackay	150.69	359	⇓P	PKPbc	23 42 32.9	+0.2	
	baz=151							
I18A	Diamond G Ranc	150.70	354	⇓P	PKPbc	23 42 33.1	+0.2	
	baz=151							
I13A	Wildhorse Cree	150.71	0	⇓P	PKPbc	23 42 33.2	+0.3	
	baz=151							
J21A	Lysite	150.73	350	⇓P	PKPbc	23 42 32.4	-0.5	
	baz=151							
MOOW	Moose Ponds	150.74	355	ePKPdf	PKPdf	23 42 27.9	+0.5	
MOOW				ePKPbc	PKiKP	23 42 33.7	+0.1	
I12A	Atlanta	150.81	2	⇓P	PKPbc	23 42 33.5	+0.5	
	baz=151							
J20A	Shoshoni	150.82	351	⇑P	PKPbc	23 42 33.1	+0.1	
	baz=151							
LOHW	Long Hollow	150.86	355	ePKPdf	PKPdf	23 42 28.4	+0.8	
LOHW				ePKPbc	PKiKP	23 42 33.8	0.0	
K23A	Bowen Ranch, D	150.96	347	⇓P	PKPbc	23 42 33.4	0.0	
	baz=151							
HUMO	Hull Mountain	150.96	14	PKPdf	PKPdf	23 42 28.4	+0.9	
HUMO				ePKPbc	PKiKP	23 42 34.2	+0.4	
HUMO				ePKPab	PKPab	23 42 41.4	+0.9	
TPAW	Teton Pass	151.01	355	ePKPdf	PKPdf	23 42 28.7	+0.8	
TPAW				ePKPbc	PKiKP	23 42 34.6	+0.4	
TPAW				ePKPab	PKPab	23 42 41.9	+0.9	
SNOW	Snow King Moun	151.03	355	ePKPbc	PKPbc	23 42 34.9	+1.3	
J19A	Crowheart	151.04	353	⇓P	PKPbc	23 42 34.3	+0.7	
	baz=151							
HLID	Hailey	151.06	1	ePKPdf	PKPdf	23 42 28.4	+0.6	
HLID				ePKPbc	PKiKP	23 42 34.2	0.0	
HLID	Hailey	151.06	1	⇑P	PKPbc	23 42 34.0	+0.4	
	baz=151							
J17A	Brown Place, J	151.12	355	⇑P	PKPbc	23 42 34.4	+0.6	
	baz=151							
KSU1	Kansas State U	151.13	331	ePKPbc	PKPbc	23 42 33.4	-0.3	
MFID	Camas Ranch	151.16	3	⇓P	PKPbc	23 42 34.1	+0.4	
	baz=151							
RRI2	Red Ridge	151.18	356	ePKPbc	PKPbc	23 42 34.7	+0.6	
J15A	Blackfoot	151.19	358	⇓P	PKPbc	23 42 34.7	+0.8	
	baz=151							
J18A	Kendall Valley	151.21	354	⇓P	PKPbc	23 42 34.1	0.0	
	baz=151							
J13A	Cove Ranch, Pi	151.22	0	⇓P	PKPbc	23 42 34.5	+0.6	
	baz=151							
K22A	Casper	151.24	349	⇑P	PKPbc	23 42 33.7	-0.3	
	baz=151							
J16A	Bone	151.28	356	⇓P	PKPbc	23 42 34.7	+0.6	
	baz=151							
J14A	Carey	151.29	359	⇑P	PKPbc	23 42 34.8	+0.7	
	baz=151							
K21A	Alcova	151.39	350	⇑P	PKPbc	23 42 34.4	0.0	
	baz=151							
K19A	Absolon Red Bu	151.45	352	⇓P	PKPbc	23 42 33.9	-0.6	
	baz=151							
K20A	Yellowstone Ra	151.54	351	⇓P	PKPbc	23 42 34.5	-0.2	
	baz=151							
L23A	Garrett	151.59	347	⇑P	PKPbc	23 42 34.7	-0.3	
	baz=152							
BW06	Boulder Array	151.60	353	⇓P	PKPbc	23 42 34.6	-0.4	
	baz=152							
PDAR	Pinedale Array	151.60	353	PKP	PKPdf	23 42 27.8	-1.0	
	comp=Z,2.4nm,1.1s,baz=75,slow=1.7,SNR=11							
PDAR				PKPbc	PKPbc	23 42 34.7	-0.2	
	comp=Z,13nm,0.8s,baz=69,slow=1.8,SNR=65							
PDAR	Pinedale Array	151.60	353	PKP	PKPdf	23 42 27.8	-1.0	
PDAR				PKPbc	PKPbc	23 42 34.7	-0.2	
K16A	Soda Springs	151.71	356	⇓P	PKPbc	23 42 35.9	+0.8	
	baz=152							
K18A	Toltan Ranch,	151.78	354	⇓P	PKPbc	23 42 35.6	+0.3	
	baz=152							
UALR	University of	151.95	320	ePKPbc	PKPbc	23 42 36.3	+0.6	
N27A	Anderson Farm,	151.97	341	⇑P	PKPbc	23 42 35.9	+0.2	
	baz=152							
M24A	Cheyenne	152.00	345	⇓P	PKPbc	23 42 36.2	+0.3	
	baz=152							
L21A	Rawlins	152.06	349	⇑P	PKPbc	23 42 35.8	-0.2	
	baz=152							
L20A	Wamsutter	152.18	351	⇑P	PKPbc	23 42 36.5	+0.2	
	baz=152							
M23A	Laramie	152.21	347	⇓P	PKPbc	23 42 36.3	-0.1	
	baz=152							
L19A	Farson	152.23	353	⇑P	PKPbc	23 42 36.4	+0.1	
	baz=152							
M21A	Separation Pea	152.41	349	⇓P	PKPbc	23 42 36.5	-0.3	
	baz=152							
L18A	Fontenelle, Gr	152.48	354	⇑P	PKPbc	23 42 36.6	-0.3	
	baz=152							
L16A	Fish Haven	152.52	356	⇓P	PKPbc	23 42 36.4	-0.6	
	baz=152							
L15A	Malad City	152.58	357	⇓P	PKPbc	23 42 36.8	-0.3	
	baz=152							
N24A	Carr	152.62	345	⇓P	PKPbc	23 42 37.3	0.0	
	baz=152							
N23A	Red Feather La	152.81	347	⇓P	PKPbc	23 42 37.7	-0.1	
	baz=153							
MIAR	Mount Ida	152.86	321	ePKIKP	PKPdf	23 42 30.7	+0.2	
MIAR				e		23 42 38.4		
MIAR	Mount Ida	152.86	321	ePKPdf	PKPdf	23 42 30.7	+0.2	
MIAR				ePKPbc	PKiKP	23 42 38.4	+0.5	
HWUT	Hardware Ranch	152.93	356	ePKPdf	PKPdf	23 42 31.4	+0.7	
HWUT				ePKPbc	PKiKP	23 42 38.2	+0.1	
HWUT				ePKPab	PKPab	23 42 50.1	+1.1	
M18A	Lyman	152.98	354	⇑P	PKPbc	23 42 37.8	-0.3	
	baz=153							
M17A	Scullys Gap (B	152.99	355	⇑P	PKPbc	23 42 37.9	-0.2	
	baz=153							
N22A	Wattenberg Ran	153.01	347	⇓P	PKPbc	23 42 36.9	-1.3	
	baz=153							
TUL1	Tulsa	153.18	326	⇓P	PKPbc	23 42 38.2	-0.2	
	baz=153							
M16A	Huntsville	153.23	356	⇑P	PKPbc	23 42 38.9	+0.3	
	baz=153							
N20A	Spence Gulch,	153.31	350	⇓P	PKPbc	23 42 38.9	0.0	
	baz=153							
P26A	Davis Ranch, A	153.36	341	⇓P	PKPbc	23 42 38.7	-0.2	
	baz=153							
O23A	Lake Granby, G	153.45	346	⇑P	PKPbc	23 42 39.2	-0.1	
	baz=153							
N17A	Moffit Pass	153.53	355	⇓P	PKPbc	23 42 39.1	-0.3	
	baz=153							
O22A	Kremmling	153.64	347	⇑P	PKPbc	23 42 39.2	-0.5	
	baz=154							
ISCO	Idaho Springs	153.77	345	⇑P	PKPbc	23 42 39.9	0.0	
	baz=154							
Q26A	Hugo	154.00	341	⇑P	PKPbc	23 42 39.8	-0.5	
	baz=154							
P23A	Jefferson	154.23	345	⇑P	PKPbc	23 42 40.4	-0.7	
	baz=154							
P22A	Eagle	154.23	347	⇓P	PKPbc	23 42 40.1	-0.8	
	baz=154							
R27A	Eads	154.34	339	⇓P	PKPbc	23 42 41.4	+0.4	
	baz=154							
DUG	Dugway	154.40	358	⇑P	PKPbc	23 42 41.1	0.0	
	baz=154							
Q24A	Divide	154.44	344	⇓P	PKPbc	23 42 41.0	-0.4	
	baz=154							
R26A	Arlington	154.54	340	⇑P	PKPbc	23 42 41.3	-0.1	
	baz=154							
SMCO	Snowmass	154.68	347	ePKPdf	PKPdf	23 42 34.0	+0.5	
SMCO				ePKPbc	PKiKP	23 42 42.5	+0.4	
R24A	Sanders Place,	155.11	343	⇓P	PKPdf	23 42 42.4	+8.5	
	baz=155							
S26A	Kim	155.17	340	⇓P	PKPdf	23 42 33.8	-0.1	
	baz=155							
Q19A	Hogan Spring (	155.31	351	⇑P	PKPdf	23 42 43.1	+9.0	
	baz=155							
NVAR	Mina Array Bea	155.88	8	PKPbc	PKPdf	23 42 40.8	+5.8	
	comp=Z,1.0nm,0.4s,baz=250,slow=6.1,SNR=4.0							
NVAR				PKPab	PKPab	23 43 01.6	0.0	
	comp=Z,1.8nm,0.7s,baz=323,slow=4.8,SNR=4.5							
NVAR	Mina Array Bea	155.88	8	PKPbc	PKPdf	23 42 40.8	+5.8	
NVAR				PKPab	PKPab	23 43 01.6	0.0	
S20A	Disappointment	156.25	349	⇑P	PKPab	23 43 04.4	+1.1	
	baz=156							
S21A	Coal Bank Pass	156.31	348	⇓P	PKPab	23 43 04.5	+0.9	
	baz=156							
V20A	Brimhall	158.24	348	⇓P	PKPab	23 43 12.3	+0.5	
	baz=158							
231A	Bronte	158.63	327	⇑P	PKPab	23 43 13.6	+0.1	
	baz=159							
332A	Millersview	158.74	325	⇓P	PKPab	23 43 14.0	+0.1	
	baz=159							
Z27A	Tatum	158.89	334	⇓P	PKPab	23 43 15.4	+0.8	
	baz=159							
PKM	Peak Mountain	159.04	14	⇓P	PKPab	23 43 15.8	+0.6	
	baz=159							
X21A	Alamocita Cree	159.39	345	⇓P	PKPab	23 43 17.2	+0.3	
	baz=159							
330A	Mertzon	159.50	327	⇑P	PKPab	23 43 17.5	+0.3	
	baz=160							
431A	Sonora	159.75	325	⇑P	PKPab	23 43 18.0	-0.4	
	baz=160							
532A	Rocksprings	159.76	322	⇓P	PKPab	23 43 18.4	-0.1	
	baz=160							
430A	Baggett Ranch,	160.02	326	⇓P	PKPab	23 43 19.3	-0.2	
	baz=160							
531A	Rocksprings	160.11	324	⇓P	PKPab	23 43 20.3	+0.3	
	baz=160							
631A	Perdido Creek	160.68	322	⇓P	PKPab	23 43 22.5	+0.1	
	baz=161							
Z20A	Nine Sixteen R	160.85	346	⇑P	PKPab	23 43 23.9	+0.7	
	baz=161							
529A	Stev Forest Ra	161.06	327	⇓P	PKPdf	23 42 41.3	+0.1	
	baz=161							
528A	Cox Ranch, San	161.33	328	⇓P	PKPdf	23 42 41.7	+0.1	
	baz=161							
324A	Moseley Ranch,	161.44	337	⇑P	PKPdf	23 42 42.0	+0.3	
	baz=161							
426A	McDonald Obser	161.51	332	⇑P	PKPdf	23 42 42.0	+0.1	
	baz=162							
527A	Woodward Ranch	161.75	330	⇑P	PKPdf	23 42 41.5	-0.6	
	baz=162							
425A	Indio Mountain	161.82	334	⇓P	PKPdf	23 42 42.2	+0.1	
	baz=162							
113A	Mohawk Valley,	161.83	359	⇓P	PKPdf	23 42 41.8	0.0	
	baz=162							
220A	Playas Peak, P	161.99	345	⇑P	PKPdf	23 42 42.5	+0.2	
	baz=162							
526A	Mary Lane Ranc	162.05	331	⇑P	PKPdf	23 42 42.1	-0.2	
	baz=162							
627A	Terlingua Ranc	162.21	328	⇑P	PKPdf	23 42 42.1	-0.4	
	baz=162							
TXAR	Lajitas Array	162.44	329	PKP	PKPdf	23 42 43.1	+0.4	
	comp=Z,2.0nm,1.0s,baz=214,slow=0.9,SNR=12							
TXAR				PKPab	PKPab	23 43 30.4	+0.1	
	comp=Z,2.3nm,1.1s,baz=27,slow=3.4,SNR=7.1							
TXAR	Lajitas Array	162.44	329	PKP	PKPdf	23 42 43.1	+0.4	
TXAR				PKPab	PKPab	23 43 30.4	+0.1	
626A	Big Bend Ranch	162.49	330	⇓P	PKPdf	23 42 42.7	-0.1	
	baz=162							

*ISCJB **21** 23:55:28.4±0.4, 55.4N±0.1×35.07W±0.07, h14km, mb4.4/41, MS3.5/6, Error ellipse: s-maj=14.7km s-min=5.5km az=8.9*
*IDC **21** 23:55:28.1±0.7, 55.48N×35.14W, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/32, mbtmp4.0/18, ML3.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/46, Error ellipse: s-maj=23.7km s-min=12.4km az=12.0*
*BJI **21** 23:55:28.1, 55.90N×35.10W, h10km, mB5.0/3, mb4.8/7, Ms4.9/2, Ms7 4.8/2*
*NEIC **21** 23:55:29.6±0.3, 55.38N×35.05W, h10km, mb4.6/22, Error ellipse: s-maj=13.9km s-min=4.9km az=9.0*

ISC 21 23:55:30.4±0.6, 55.5N±0.1×35.07W±0.06, h14km, n85, σ1°11/86, mb4.4/41, MS3.5/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	Borgarnes	11.54	31	Pn	Pn	23 58 20.0	+5.5
	0.6nm,0.3s,baz=300,slow=8.1,SNR=2.2						
BORG	Borgarnes	11.54	31	Pn	Pn	23 58 20.0	+5.5
SFJD	Kangerlussuaq	13.73	334	LR	LR	00 03 13.8	
	comp=Z,168nm,18.6s,baz=288,slow=34						
EKA	Eskdalemuir Ar	18.05	77	P	Pn	23 59 40.6	+0.2
	baz=275,slow=9.9,SNR=6.2						
EKA	Eskdalemuir Ar	18.05	77	P	Pn	23 59 40.6	+0.2
SCHQ	Schefferville	18.09	281	P	Pn	23 59 40.3	-0.7
	0.4nm,0.3s,baz=84,slow=9.1,SNR=20						
SCHQ				LR	LR	00 04 43.1	
	comp=Z,76nm,18.4s,baz=284,slow=31						
SCHQ	Schefferville	18.09	281	ePn	Pn	23 59 40.3	-0.7
	162nm,2.6s						
SGMF	Saint Gilles	21.18	96	eP	P	00 00 14.6	-0.5
	131nm,1.6s						
SGMF	Saint Gilles	21.18	96	eP	P	00 00 14.6	-0.5
	131nm,1.6s						
LDF	La Druitiere	22.39	93	eP	P	00 00 26.1	-1.9
LDF	La Druitiere	22.39	93	eP	P	00 00 26.1	-1.9
MFF	Saint Martin d	23.46	97	eP	P	00 00 37.8	-1.4
	70nm,1.7s						
MFF	Saint Martin d	23.46	97	eP	P	00 00 37.8	-1.4
	70nm,1.7s						
NOA	NORSAR Array B	24.56	58	P	P	00 00 48.9	-0.5
	1.6nm,0.7s,baz=278,slow=9.5,SNR=3.6						
NOA	NORSAR Array B	24.56	58	P	P	00 00 48.9	-0.5
TCF	Toulx Ste Croi	24.98	96	eP	P	00 00 52.8	-0.5
TCF	Toulx Ste Croi	24.98	96	eP	P	00 00 52.8	-0.5
RJF	Les Rejaudoux	25.16	98	eP	P	00 00 53.8	-1.2
RJF	Les Rejaudoux	25.16	98	eP	P	00 00 53.8	-1.2
BGF	Bois d'Agland	25.18	95	eP	P	00 00 53.8	-1.3
	16nm,1.1s						
BGF	Bois d'Agland	25.18	95	eP	P	00 00 53.8	-1.3
	16nm,1.1s						
SSF	Saint Saulge	25.27	93	eP	P	00 00 56.0	+0.1
	15nm,1.2s						
SSF	Saint Saulge	25.27	93	eP	P	00 00 56.0	+0.1
	15nm,1.2s						
AVF	Avril sur Loir	25.34	94	eP	P	00 00 56.5	0.0
	11nm,1.0s						
AVF	Avril sur Loir	25.34	94	eP	P	00 00 56.5	0.0
	11nm,1.0s						
LOR	Lormes	25.36	92	eP	P	00 00 55.2	-1.5
	3.9nm,0.7s						
LOR	Lormes	25.36	92	eP	P	00 00 55.2	-1.5
	3.9nm,0.7s						
HFS	Hagfors	25.91	59	P	P	00 01 03.1	+1.5
	5.4nm,1.1s,baz=251,slow=12,SNR=3.7						
HFS	Hagfors	25.91	59	P	P	00 01 03.1	+1.5
ESDC	Sonseca Array	25.96	114	P	P	00 01 03.0	+0.7
	1.6nm,0.8s,baz=316,slow=9.4,SNR=9.5						
ESDC				LR	LR	00 09 02.3	
	comp=Z,109nm,19.2s,baz=60,slow=31						
ESDC	Sonseca Array	25.96	114	P	P	00 01 03.0	+0.7
DAVOX	Davos/Dischmat	29.06	88	LR	LR	00 12 47.1	
	comp=Z,145nm,18.0s,baz=261,slow=36						
GERES	GERESS Array B	30.11	82	P	P	00 01 40.0	+0.6
	0.4nm,0.6s,baz=311,slow=10,SNR=5.2						
GERES				LR	LR	00 13 04.9	
	comp=Z,54nm,18.7s,baz=290,slow=35						
GERES	GERESS Array B	30.11	82	P	P	00 01 40.0	+0.6
EYMN	Ely	34.89	282	eP	P	00 02 21.2	+0.1
	6.1nm,1.0s						
ULM	Lac du Bonnet	36.05	288	P	P	00 02 30.4	-0.5
	3.0nm,0.6s,baz=56,slow=8.5,SNR=8.7						
ULM				LR	LR	00 15 49.4	
	comp=Z,76nm,19.5s,baz=40,slow=34						
ULM	Lac du Bonnet	36.05	288	eP	P	00 02 30.4	-0.5
	8.4nm,1.1s						
FFC	Flin Flon	36.96	297	eP	P	00 02 37.6	-1.1
	41nm,4s						
AK01	Malin Array Si	37.68	70	eP	P	00 02 43.9	-0.9
AKASG	Malin Array Be	37.68	70	P	P	00 02 43.8	-1.0
	2.9nm,0.7s,baz=305,slow=8.4,SNR=9.8						
AKASG	Malin Array Be	37.68	70	P	P	00 02 43.8	-1.0
AK02	Malin Array Si	37.70	70	eP	P	00 02 43.9	-1.1
YKA	Yellowknife Ar	39.11	314	P	P	00 02 55.5	-1.1
	1.0nm,0.7s,baz=59,slow=9.1,SNR=18						
YKA				PcP	PcP	00 05 06.3	+0.3
	0.5nm,0.9s,baz=58,slow=3.6,SNR=3.3						
YKA	Yellowknife Ar	39.11	314	P	P	00 02 55.5	-1.1
YKA				PcP	PcP	00 05 06.3	+0.3
OBN	Obninsk	39.13	60	eP	P	00 03 03.6	+6.7
	16nm,0.4s						
EGMT	Eagleton	44.75	293	eP	P	00 03 44.0	+1.0
	16nm,1.1s						
WALA	Waterton Lakes	46.25	297	eP	P	00 03 54.8	-0.1
RLMT	Red Lodge	46.35	290	eP	P	00 03 57.4	+1.4
	13nm,1.5s						
BR131	Keskin Array S	46.95	80	eP	P	00 04 01.

	comp=E,67nm,5.4s							
KSH					LR	LR		
	comp=Z,180nm,5.8s							
WMQ	**Urumqi**	**69.89**	**40**	P	**P**	**00 06 43.0**	**+2.5**
WMQ				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**72.12**	**26**	P	**P**	**00 06 54.2**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=347,slow=12,SNR=3.0							
SONM	**Songino Array**	**72.12**	**26**	P	**P**	**00 06 54.2**	**+0.1**
NJ2	**Nanjing**	**90.03**	**22**	*e*P	P	00 08 26.1	-3.3
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KMI	**Kunming**	**92.04**	**38**	P	**P**	**00 08 38.3**	**-0.8**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GYA	**Guiyang**	**92.11**	**34**	*e*P	**P**	**00 08 38.0**	**-1.3**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TRIS	**Tristan da Cun**	**94.19**	**162**	*e*P	P	00 08 51.5	+3.4
	comp=Z,234nm,0.3s							
ASAR	**Alice Springs**	**147.22**	**19**	PKPbc	**PKPbc**	**00 15 12.3**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=351,slow=1.9,SNR=5.3							
ASAR	**Alice Springs**	**147.22**	**19**	PKPbc	**PKPbc**	**00 15 12.3**	**-0.7**

IDC 21 23:55:32.9±2.7, 3°.27S×101°.02E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=99.5km s-min=22.0km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.48**	**120**	P	P	00 02 38.3	-1.9
	0.2nm,0.3s,baz=312,slow=8.8,SNR=5.9						
ASAR	**Alice Springs**	**37.69**	**125**	P	P	00 02 51.9	+1.4
	0.4nm,0.3s,baz=296,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**51.11**	**5**	P	P	00 04 38.0	+0.5
	0.6nm,0.5s,baz=186,slow=9.9,SNR=8.0						
MKAR	**Makanchi Array**	**52.52**	**344**	P	P	00 04 47.7	-0.2
	0.3nm,0.5s,baz=152,slow=9.1,SNR=5.8						
USRK	**Ussuriysk Arr**	**54.81**	**27**	P	P	00 05 04.6	-0.1
	3.4nm,0.8s,baz=220,slow=5.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**58.60**	**349**	P	P	00 05 30.8	-0.7
	0.3nm,0.4s,baz=159,slow=6.9,SNR=4.0						
TXAR	**Lajitas Array**	**145.06**	**40**	PKPbc	PKPbc	00 15 12.0	-0.6
	0.5nm,0.5s,baz=275,slow=1.3,SNR=11						

IDC 22 00:07:16.1±2.0, 2°.81N×127°.20E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=121.0km s-min=23.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.84**	**184**	P	Pn	00 12 00.7	-1.2
	0.9nm,0.6s,baz=7.1,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**23.67**	**163**	P	P	00 12 29.7	+0.2
	0.5nm,0.6s,baz=341,slow=11.2,SNR=9.6						
ASAR	**Alice Springs**	**27.12**	**166**	P	P	00 13 00.2	-0.7
	0.2nm,0.6s,baz=339,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**58.57**	**325**	P	P	00 17 14.6	-0.1
	0.2nm,0.5s,baz=120,slow=8.5,SNR=2.5						

*AUST **22** 00:07:55.1±7.3, 14°.45S×170°.58W, h5km, Error ellipse: s-maj=2.2km s-min=1.8km az=253.0*
*IDC **22** 00:08:15.7±0.9, 16°.07S×172°.99W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/24, mbtmp4.2/12, ML2.4/1, MS4.0/2, Ms1 4.0/2, ms1mx3.1/39, Error ellipse: s-maj=40.1km s-min=15.8km az=136.0*
*ISCJB **22** 00:08:17.8±0.5, 16°.09S±0°.09×172°.97W±0°.10, h26km, mb4.2/12, MS4.0/2, Error ellipse: s-maj=15.2km s-min=9.8km az=39.4*
ISC 22 00:08:19.3±0.6, 16°.08S±0°.08×172°.9W±0°.1, h26km, n25, σ1s04/20, mb4.4/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.41**	**27**	Pn	**Pn**	**00 08 58.0**	**+0.8**
	52nm,0.3s,baz=40,slow=0.9,SNR=68						
AFI				Sn	**Sn**	**00 09 23.1**	**-2.9**
	316nm,0.3s,baz=41,slow=24,SNR=18						
NIUE	**Niue**	**4.11**	**137**	P	**Pn**	**00 09 20.2**	**-0.2**
	baz=4.7,SNR=84						
NIUE				S	Sn	00 10 00.7	-6.9
	baz=4.7,SNR=12						
DZM	**Mont Dzumac**	**20.41**	**250**	*e*LR	LR	00 17 50.0	
	317nm,26.2s						
PPT2	**Papeete2**	**22.37**	**97**	*e*LR	LR	00 18 21.7	
	217nm,26.8s						
TBI	**Tubuai**	**23.19**	**112**	*e*LR	LR	00 18 51.7	
	208nm,29.0s						
URZ	**Urewera**	**23.78**	**200**	P	**P**	**00 13 30.4**	**+0.6**
	5.4nm,0.3s,baz=338,slow=5.9,SNR=11						
HNR	**Honiara**	**27.28**	**281**	LR	LR	00 23 22.5	
	comp=Z,180nm,20.3s,baz=124,slow=33						
RPZ	**Rata Peaks**	**30.74**	**203**	P	P	00 14 36.7	+4.3
	8.1nm,0.8s,baz=0.0,slow=10,SNR=2.4						
CMSA	**Cobar Meteorol**	**40.63**	**240**	P	**P**	**00 15 56.5**	**-0.9**
	baz=43,SNR=14						
STKA	**Stephens Creek**	**44.12**	**241**	P	**P**	**00 16 25.2**	**-0.5**
	6.5nm,0.7s,baz=93,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**44.12**	**241**	P	**P**	**00 16 25.5**	**-0.3**
	baz=47,SNR=7.4						
WRA	**Warramunga Arr**	**50.17**	**257**	P	**P**	**00 17 12.6**	**-0.5**
	2.7nm,0.8s,baz=92,slow=7.3,SNR=34						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**00 17 13.9**	**-0.7**
	6.9nm,0.7s,baz=87,slow=8.2,SNR=73						
FITZ	**Fitzroy Crossi**	**58.55**	**258**	P	**P**	**00 18 13.8**	**-0.3**
	1.8nm,0.8s,baz=58,slow=9.5,SNR=4.8						
MEEK	**Meekatharra**	**64.01**	**248**	P	**P**	**00 18 50.7**	**-0.3**
	baz=67,SNR=4.1						
KLBR	**Kellerberrin**	**64.36**	**242**	P	**P**	**00 18 53.2**	**0.0**
	baz=67,SNR=7.7						
PETK	**Petropavlovsk-**	**73.42**	**342**	P	**P**	**00 19 48.0**	**-1.0**
	2.2nm,0.5s,baz=79,slow=7,SNR=1.7						
TXAR	**Lajitas Array**	**80.59**	**56**	P	**P**	**00 20 29.9**	**-0.1**
	0.4nm,0.7s,baz=218,slow=7.5,SNR=6.2						
PDAR	**Pinedale Array**	**82.45**	**42**	P	**P**	**00 20 40.3**	**+0.6**
	1.3nm,0.8s,baz=214,slow=2.4,SNR=11						
ILAR	**Eielson Array**	**83.02**	**11**	P	**P**	**00 20 42.6**	**+0.8**
	0.5nm,0.6s,baz=228,slow=6.0,SNR=12						
PLCA	**Paso Flores**	**88.69**	**132**	LR	LR	00 55 42.7	
	comp=Z,98nm,18.1s,baz=90,slow=32						
YKA	**Yellowknife Ar**	**90.53**	**23**	P	**P**	**00 21 19.8**	**+1.2**
	0.1nm,0.4s,baz=235,slow=5.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**93.29**	**288**	P	**P**	**00 21 33.3**	**+0.9**
	0.8nm,0.3s,baz=90,slow=2.9,SNR=5.2						
RES	**Resolute Bay**	**102.25**	**15**	P	**Pdif**	**00 22 13.2**	**+1.6**
	1.3nm,0.7s,baz=212,slow=9.9,SNR=4.9						
BRTR	**Keskin Array B**	**146.99**	**321**	PKPbc	**PKPab**	**00 28 02.0**	**+0.4**
	1.5nm,0.7s,baz=114,slow=1.6,SNR=6.8						

*IDC **22** 00:12:33.6±1.4, 23°.51S×174°.79W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/21, mbtmp4.2/9, MS3.8/2, Ms1 3.8/2, ms1mx2.9/40, Error ellipse: s-maj=59.4km s-min=21.9km az=152.0*
*ISCJB **22** 00:12:37.0±0.8, 23°.45S±0°.2×175°.0W±0°.2, h29km, mb4.2/9, MS3.8/2, Error ellipse: s-maj=26.0km s-min=19.0km az=155.3*
ISC 22 00:12:38.3±0.9, 23°.5S±0°.2×174°.9W±0°.2, h29km, n18, σ0s97/14, mb4.3/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.94**	**18**	Sn	Sn	00 16 33.4	-17
	3.7nm,0.3s,baz=25,slow=21,SNR=4.2						
RAR	**Rarotonga**	**14.13**	**84**	Pn	Pn	00 15 47.1	-9.4
	6.8nm,0.3s,baz=270,slow=5.5,SNR=8.8						
PPT	**Papeete**	**24.37**	**81**	LR	LR	00 24 07.2	
	comp=Z,140nm,19.8s,baz=194,slow=28						
CTA	**Charters Tower**	**36.20**	**268**	P	**P**	**00 19 39.3**	**+0.6**
	5.1nm,0.5s,baz=97,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**39.26**	**248**	P	**P**	**00 20 04.2**	**-0.3**
	1.0nm,0.7s,baz=114,slow=17,SNR=2.9						
ASAR	**Alice Springs**	**46.76**	**259**	P	**P**	**00 21 05.2**	**-0.2**
	1.5nm,0.8s,baz=88,slow=8.4,SNR=8.3						
WRA	**Warramunga Arr**	**47.15**	**264**	P	**P**	**00 21 06.7**	**-1.7**
	3.3nm,0.7s,baz=92,slow=8.4,SNR=28						
FITZ	**Fitzroy Crossi**	**55.57**	**264**	P	**P**	**00 22 13.0**	**+1.5**
	3.5nm,0.8s,baz=168,slow=3.5,SNR=8.9						
MJAR	**Matsushiro Arr**	**74.33**	**322**	P	**P**	**00 24 12.7**	**-0.4**
	1.7nm,0.6s,baz=159,slow=6.1,SNR=6.3						

PETK	**Petropavlovsk-**	**79.90**	**344**	P	**P**	**00 24 45.5**	**+1.5**
	6.9nm,1.0s,baz=188,slow=6.4,SNR=3.3							
VNA3	**Neumayer Olymp**	**84.98**	**175**	*e*P	**P**	**00 25 10.6**	**+0.1**
VNA2	**Neumayer--Watz**	**85.45**	**176**	*e*P	**P**	**00 25 13.7**	**+0.9**
	baz=213,slow=4.2							
TXAR	**Lajitas Array**	**86.24**	**56**	P	**P**	**00 25 17.5**	**0.0**
	1.9nm,1.0s,baz=216,slow=6.2,SNR=12							
ILAR	**Eielson Array**	**90.58**	**12**	P	**P**	**00 25 36.1**	**-1.0**
	1.0nm,1.0s,baz=228,slow=4.8,SNR=5.0							
ATAH	**Atahualpa**	**93.07**	**99**	LR	LR	00 59 53.5		
	comp=Z,74nm,19.6s,baz=299,slow=30							
AKASG	**Malin Array Be**	**147.01**	**332**	PKPbc	**PKPbc**	**00 32 17.6**	**-0.3**
	1.3nm,0.6s,baz=44,slow=5.3,SNR=4.7							
BRTR	**Keskin Array B**	**150.98**	**311**	PKPbc	**PKPbc**	**00 32 28.6**	**-0.1**
	0.8nm,0.7s,baz=134,slow=5.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**169.23**	**162**	PKP	**PKPdf**	**00 32 43.0**	**-0.5**
	0.8nm,0.9s,baz=71,slow=1.7,SNR=3.6							

*ISCJB **22** 00:21:58.9±0.8, 23°.86N±0°.05×122°.69E±0°.02, h27km±7km, Error ellipse: s-maj=8.7km s-min=3.5km az=172.8*
*TAP **22** 00:21:58.9, 23°.91N×122°.53E, h103km±1km, ML2.9, D*
*JMA **22** 00:21:58.3±0.2, 23°.86N×122°.67E, h19km, M2.2*
ISC 22 00:21:57.9±3.1, 23°.84N±0°.05×122°.68E±0°.03, h17km±23km, n22, σ0s60/34, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**26**	P	**Pb**	**00 22 11.3**	**-0.1**
YOJ				*e*S	**Sb**	**00 22 20.6**	**-0.1**
TWD	**Chiawan**	**1.02**	**284**	*e*P	**Pn**	**00 22 18.0**	**+0.6**
	baz=289						
TWD				*e*S	**Sb**	**00 22 30.1**	**-0.2**
	baz=289						
ENA	**Nanau**	**1.04**	**304**	P	**Pn**	**00 22 18.6**	**+0.9**
	baz=306						
ENA				S	**Sn**	**00 22 32.6**	**+0.7**
	baz=306						
HATJ	**Hateruma jima**	**1.05**	**78**	P	**Pb**	**00 22 17.6**	**0.0**
HATJ				*e*S	**Sn**	**00 22 31.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.08**	**62**	P	**Pn**	**00 22 18.4**	**+0.2**
IRIF				*e*S	**Sn**	**00 22 32.2**	**-0.5**
TWC	**Suao**	**1.08**	**315**	P	**Pn**	**00 22 18.8**	**+0.5**
	baz=320						
TWC				S	**Sn**	**00 22 33.2**	**+0.4**
	baz=320						
ESL	**Shilin**	**1.15**	**269**	*e*P	**Pb**	**00 22 19.5**	**+0.3**
	baz=263						
ESL				*e*S	**Sn**	**00 22 34.7**	**+0.2**
	baz=263						
JKRS	**Kuro-shima**	**1.27**	**72**	P	**Pn**	**00 22 21.0**	**+0.1**
JKRS				*e*S	**Sb**	**00 22 38.4**	**+0.9**
TWE	**Neicheng**	**1.28**	**314**	*e*P	**Pb**	**00 22 21.7**	**+0.2**
	baz=311						
EHY	**Hungye**	**1.29**	**255**	*e*P	**Pn**	**00 22 21.2**	**0.0**
	baz=250						
EHY				S	**Sb**	**00 22 38.7**	**+0.6**
	baz=250						
WHF	**Hehuan Shan**	**1.33**	**284**	*e*P	**Pn**	**00 22 21.5**	**-0.6**
	baz=287						
NNS	**Nan Shan**	**1.34**	**297**	*e*P	**Pn**	**00 22 21.3**	**-0.6**
	baz=297						
TWF1	**Yuli**	**1.36**	**249**	*e*P	**Pn**	**00 22 22.6**	**+0.5**
	baz=239						
TWF1				*e*S	**Sn**	**00 22 39.8**	**0.0**
	baz=239						
JIJ	**Ishigaki jima**	**1.43**	**68**	P	**Pb**	**00 22 23.7**	**-0.4**
JIJ				*e*S	**Sn**	**00 22 41.4**	**-0.1**
NSK	**Sanguang**	**1.47**	**305**	*e*P	**Pn**	**00 22 23.8**	**+0.1**
	baz=302						
NWF	**Wu-fen Shan**	**1.48**	**326**	*e*P	**Pn**	**00 22 24.1**	**+0.3**
	baz=335						
NWF				*e*S	**Sn**	**00 22 41.4**	**-1.3**
	baz=335						
SMLT	**Sun Moon Lake**	**1.63**	**272**	*e*P	**Pn**	**00 22 25.1**	**-0.8**
	baz=274						
TYC	**Yuchr**	**1.67**	**273**	*e*P	**Pn**	**00 22 25.2**	**-1.2**
	baz=274						
TWG	**Pinlang**	**1.79**	**236**	*e*P	**Pn**	**00 22 28.7**	**+0.6**
	baz=237						
TWQ1	**Liyutan**	**1.82**	**287**	*e*P	**Pn**	**00 22 27.7**	**-0.7**
	baz=285						
CHN5	**Tsauling**	**1.85**	**263**	*e*P	**Pb**	**00 22 31.1**	**-0.3**
	baz=267						
WTP	**Ta-pu**	**1.99**	**253**	*e*P	**Pb**	**00 22 33.0**	**-0.7**
	baz=249						

IDC 22 00:25:09.4±2.4, 23°.22S×174°.86W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/20, mbtmp4.0/7, Error ellipse: s-maj=137.8km s-min=21.3km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.20**	**267**	P	P	00 32 13.8	-0.4
	5.2nm,0.6s,baz=103,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**46.79**	**259**	P	P	00 33 41.7	+0.6
	2.0nm,0.8s,baz=95,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**47.16**	**264**	P	P	00 33 43.4	-0.6
	0.8nm,0.3s,baz=96,slow=8.5,SNR=64						
NVAR	**Mina Array Bea**	**81.06**	**42**	P	P	00 37 27.1	+0.4
	0.7nm,0.6s,baz=232,slow=10,SNR=2.2						
VNA3	**Neumayer Olymp**	**85.22**	**175**	*e*P	P	00 37 50.2	+2.7
VNA2	**Neumayer--Watz**	**85.70**	**176**	*e*P	P	00 37 52.9	+3.1
	baz=202,slow=3.7						
TXAR	**Lajitas Array**	**86.11**	**56**	P	P	00 37 52.2	-0.5
	1.1nm,1.0s,baz=210,slow=7.2,SNR=7.7						
ILAR	**Eielson Array**	**90.35**	**12**	P	P	00 38 12.1	+0.2
	0.6nm,0.9s,baz=232,slow=4.4,SNR=4.1						
YKA	**Yellowknife Ar**	**97.78**	**24**	P	P	00 38 45.6	-0.4
	0.2nm,0.7s,baz=239,slow=4.3,SNR=4.9						
AKASG	**Malin Array Be**	**146.79**	**332**	PKPbc	PKPdf	00 44 52.0	+0.5
	1.2nm,0.6s,baz=39,slow=4.2,SNR=5.0						
BRTR	**Keskin Array B**	**150.82**	**311**	PKPbc	PKPbc	00 45 04.1	-0.1
	0.6nm,0.8s,baz=104,slow=0.6,SNR=3.6						

*CSEM **22** 00:38:14.3±0.3, 40°.33N×21°.70E, h20km, Error ellipse: s-maj=13.2km s-min=9.4km az=80.0*
ATH 22 00:38:12.1, 40°.46N×21°.63E, h24km±1km, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.19**	**145**	*e*PB	Pb	00 38 17.6	0.0
KZN				*e*SB	Sb	00 38 21.8	+0.4
KZN	**Kozani**	**0.19**	**145**	*e*Pb	Pb	00 38 17.6	0.0
KZN				*e*Sb	Sb	00 38 21.8	+0.4
THL	**Klokotos Trika**	**0.94**	**162**	*e*PN	Pn	00 38 30.0	+0.2
THL	**Klokotos Trika**	**0.94**	**162**	*e*Pn	Pn	00 38 30.0	+0.2
JAN	**Janina**	**1.00**	**217**	*e*PN	Pb	00 38 31.2	+0.4
JAN	**Janina**	**1.00**	**217**	*e*Pn	Pb	00 38 31.2	+0.4
SOH	**Sokhos**	**1.36**	**74**	*e*PN	Pb	00 38 37.2	+0.2
SOH	**Sokhos**	**1.36**	**74**	*e*Pn	Pb	00 38 37.2	+0.2
PLG	**Polygyros**	**1.39**	**93**	*e*PN	Pb	00 38 38.0	+0.6
PLG	**Polygyros**	**1.39**	**93**	*e*Pn	Pb	00 38 38.0	+0.6
AGG	**Agios Georgios**	**1.53**	**159**	*e*PN	Pb	00 38 40.1	+0.2
AGG	**Agios Georgios**	**1.53**	**159**	*e*Pn	Pb	00 38 40.1	+0.2
EVR	**Evrytania**	**1.55**	**175**	*e*PN	Pb	00 38 39.9	-0.3
EVR	**Evrytania**	**1.55**	**175**	*e*Pn	Pb	00 38 39.9	-0.3

*ISCJB **22** 00:38:18.1±0.9, 40°.43N±0°.04×21°.60E±0°.05, h4km±8km, Error ellipse: s-maj=6.8km s-min=5.2km az=40.2*
*ATH **22** 00:38:18.9, 40°.44N×21°.67E, h21km, MD3.2/8*
*SKO **22** 00:38:18.8, 40°.40N×21°.50E, h3km, M1.7, ML2.1*
*CSEM **22** 00:38:19.0±0.4, 40°.41N×21°.60E, h10km, MD3.2, Error ellipse: s-maj=9.3km s-min=6.1km az=110.0*
ISC 22 00:38:19.2±0.9, 40°.44N±0°.02×21°.57E±0°.04, h15km±7km, n34, σ0s96/57, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.20**	**131**	*e*PB	**Pg**	**00 38 23.9**	**-0.1**
KZN				*e*SB	**Sg**	**00 38 27.7**	**+0.6**
KZN	**Kozani**	**0.20**	**131**	*e*Pb	**Pg**	**00 38 23.9**	**-0.1**
KZN				*e*Sb	**Sg**	**00 38 27.7**	**+0.6**
BIA	**Bitola**	**0.61**	**342**	*i* Pg	**Pg**	**00 38 29.3**	**-2.0**
BIA				*i* Sg	**Sg**	**00 38 39.1**	**-0.3**
THL	**Klokotos Trika**	**0.94**	**159**	*e*PB	**Pg**	**00 38 36.0**	**-1.3**
THL				*e*SN	**Sb**	**00 38 49.4**	**+0.1**
THL	**Klokotos Trika**	**0.94**	**159**	*e*Pb	**Pg**	**00 38 36.0**	**-1.3**
THL				*e*Sn	**Sb**	**00 38 49.4**	**+0.1**
JAN	**Janina**	**0.96**	**216**	*e*PN	**Pb**	**00 38 38.0**	**+0.5**
JAN				*e*SN	**Sn**	**00 38 52.2**	**+0.7**
JAN	**Janina**	**0.96**	**216**	*e*Pn	**Pb**	**00 38 38.0**	**+0.5**
JAN				*e*Sn	**Sn**	**00 38 52.2**	**+0.7**
VAY	**Valandovo**	**1.16**	**40**	*i* Pg	**Pg**	**00 38 41.1**	**-0.6**
VAY				*i* Sg	**Sn**	**00 38 57.8**	**+1.3**
VAY				*e*Lg	Lg	00 38 59.4	
	comp=N,51nm,1.0s						
VAY				*e*Lg	Lg	00 39 00.1	
	comp=E,31nm,0.6s						
VAY	**Valandovo**	**1.16**	**40**	*i* Pg	**Pb**	**00 38 41.6**	**+0.6**
VAY				*i* Sg	**Sn**	**00 38 58.3**	**+1.8**
VAY				*e*Lg	Lg	00 39 00.5	
	comp=E,31nm,0.6s						
SOH	**Sokhos**	**1.41**	**74**	*e*PN	**Pn**	**00 38 44.0**	**-0.4**
SOH				*e*SN	**Sb**	**00 39 02.8**	**-0.2**
SOH	**Sokhos**	**1.41**	**74**	*e*Pn	**Pn**	**00 38 44.0**	**-0.4**
SOH				*e*Sn	**Sb**	**00 39 02.8**	**-0.2**
PLG	**Polygyros**	**1.43**	**92**	*e*PN	**Pn**	**00 38 44.3**	**-0.4**
PLG				*e*SN	**Sb**	**00 39 02.7**	**-1.0**
PLG	**Polygyros**	**1.43**	**92**	*e*Pn	**Pn**	**00 38 44.3**	**-0.4**
PLG				*e*Sn	**Sb**	**00 39 02.7**	**-1.0**
AGG	**Agios Georgios**	**1.53**	**157**	*e*PN	**Pn**	**00 38 46.3**	**+0.3**
AGG				*e*SN	**Sg**	**00 39 07.4**	**-1.1**
AGG	**Agios Georgios**	**1.53**	**157**	*e*Pn	**Pn**	**00 38 46.3**	**+0.3**
AGG				*e*Sn	**Sg**	**00 39 07.4**	**-1.1**
EVR	**Evrytania**	**1.53**	**173**	*e*PN	**Pn**	**00 38 46.8**	**+0.7**
EVR				*e*SN	**Sg**	**00 39 07.4**	**-1.1**
EVR	**Evrytania**	**1.53**	**173**	*e*Pn	**Pn**	**00 38 46.8**	**+0.7**
EVR				*e*Sn	**Sg**	**00 39 07.4**	**-1.1**
TIR	**Tirane**	**1.58**	**306**	*e*Pn	**Pn**	**00 38 47.6**	**+0.9**
NEO	**Neokhori**	**1.70**	**131**	*e*PN	**Pn**	**00 38 48.8**	**+0.5**
NEO				*e*SN	**Sb**	**00 39 10.8**	**-0.6**
NEO	**Neokhori**	**1.70**	**131**	*e*Pn	**Pn**	**00 38 48.8**	**+0.5**
NEO				*e*Sn	**Sb**	**00 39 10.8**	**-0.6**
NVR	**Nevrokopi**	**1.96**	**62**	*e*PN	**Pn**	**00 38 52.6**	**+0.7**
NVR	**Nevrokopi**	**1.96**	**62**	*e*Pn	**Pn**	**00 38 52.6**	**+0.7**
EFP	**Efpalio**	**2.02**	**173**	*e*PN	**Pn**	**00 38 54.3**	**+1.5**
EFP	**Efpalio**	**2.02**	**173**	*e*Pn	**Pn**	**00 38 54.3**	**+1.5**
KALE	**Kalithea**	**2.09**	**168**	*e*PB	**Pn**	**00 38 54.7**	**+1.0**
KALE				*e*SN	**Sb**	**00 39 21.5**	**-1.1**
KALE	**Kalithea**	**2.09**	**168**	*e*Pb	**Pn**	**00 38 54.7**	**+1.0**
KALE				*e*Sn	**Sb**	**00 39 21.5**	**-1.1**
LKR	**Lokris**	**2.10**	**148**	*e*PB	**Pn**	**00 38 54.2**	**+0.4**
LKR	**Lokris**	**2.10**	**148**	*e*Pb	**Pn**	**00 38 54.2**	**+0.4**
TRIZ	**Trizonia**	**2.10**	**169**	*e*PB	**Pn**	**00 38 54.8**	**+0.9**
TRIZ				*e*SN	**Sb**	**00 39 21.7**	**-1.3**
TRIZ	**Trizonia**	**2.10**	**169**	*e*Pb	**Pn**	**00 38 54.8**	**+0.9**
TRIZ				*e*Sn	**Sb**	**00 39 21.7**	**-1.3**
LAKA	**Lakka**	**2.22**	**172**	*e*PB	**Pn**	**00 38 56.4**	**+0.9**
LAKA	**Lakka**	**2.22**	**172**	*e*Pn	**Pn**	**00 38 56.4**	**+0.9**
GUR	**Goura**	**2.57**	**166**	*e*PN	**Pn**	**00 39 02.0**	**+1.6**
GUR	**Goura**	**2.57**	**166**	*e*Pn	**Pn**	**00 39 02.0**	**+1.6**

*ISCJB **22** 00:39:06.6±0.5, 40°.45N±0°.03×21°.56E±0°.04, h14km±5km, Error ellipse: s-maj=5.2km s-min=4.5km az=24.2*
*ATH **22** 00:39:06.5, 40°.46N×21°.63E, h23km±1km, MD2.9/5*
*SKO **22** 00:39:06.4, 40°.39N×21°.46E, h5km, M2.1, ML2.0*
*CSEM **22** 00:39:06.5±0.1, 40°.45N×21°.56E, h15km, MD2.9, Error ellipse: s-maj=3.0km s-min=3.0km az=109.0*
*THE **22** 00:39:07.0, 40°.47N×21°.58E, h15km±1km, ML2.4/3, Error ellipse: s-maj=1.8km s-min=0.6km az=226.0*
ISC 22 00:39:06.8±1.0, 40°.45N±0°.02×21°.56E±0°.02, h18km±5km, n22, σ0s69/44, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.22**	**132**	P	**Pg**	**00 39 11.8**	**-0.3**
KZN				S	**Sb**	**00 39 16.0**	**+0.2**
KZN	**Kozani**	**0.22**	**132**	*e*PB	**Pb**	**00 39 11.9**	**-0.3**
KZN				*e*SB	**Sb**	**00 39 16.0**	**+0.2**
KZN	**Kozani**	**0.22**	**132**	*e*Pb	**Pb**	**00 39 11.9**	**-0.3**
KZN				S	**Sb**	**00 39 16.0**	**+0.2**
FNA	**Florina**	**0.36**	**337**	P	**Pg**	**00 39 13.9**	**-0.5**
FNA				S	**Sb**	**00 39 19.6**	**-0.5**
FNA	**Florina**	**0.36**	**337**	P	**Pg**	**00 39 13.9**	**-0.5**
FNA				S	**Sb**	**00 39 19.6**	**-0.5**
NEST	**Nestorio**	**0.39**	**264**	P	**Pg**	**00 39 14.8**	**-0.2**
NEST				S	**Sb**	**00 39 21.7**	**+0.6**
NEST	**Nestorio**	**0.39**	**264**	P	**Pg**	**00 39 14.8**	**-0.2**
NEST				S	**Sb**	**00 39 21.7**	**+0.6**
BIA	**Bitola**	**0.59**	**343**	P	**Pg**	**00 39 17.5**	**-1.2**
BIA				S	**Sb**	**00 39 27.0**	**+0.2**
BIA	**Bitola**	**0.59**	**343**	*

TNTI	Ternate	5.82	283	P	Pn	00 47 34.1 +3.2
	107nm,1.1s,0.5nm					
NLAI	Namlea	6.53	245	P	Pn	00 47 38.6 -2.2
	148nm,0.6s,2µm0.6nm					
JAY	Jayapura	7.91	105	S	Sn	00 49 25.9 -2.4
	baz=8.0,SNR=3.9					
PALU	Palau	7.92	10	P	Pn	00 47 58.9 -1.0
	baz=8.0,SNR=6.8					
LUWI	Luwuk	10.29	267	P	Pn	00 48 29.2 -3.1
	137nm,0.9s,1µm					
MRSI	Marisa	11.15	275	P	Pn	00 48 47.3 +3.2
	35nm,0.7s					
BBSI	Bau Bau	11.57	244	P	Pn	00 49 00.7 +11
KDU	Kakadu	12.12	183	P	Pn	00 48 55.3 -2.1
	baz=12,SNR=146					
KDU				S	Sn	00 51 04.7 -6.8
	baz=12,SNR=6.8					
MTN	Manton Dam	12.40	189	P	Pn	00 48 59.1 -2.2
	baz=12,SNR=516					
MTN				S	Sn	00 51 11.6 -6.9
	baz=12,SNR=11					
PCI	Palu	13.21	268	S	S	00 52 06.2 +4.0
	baz=13,SNR=8.8					
TTSI	Tana Toraja	13.46	259	P	Pn	00 49 16.6 +0.9
	30nm,1.0s					
SPSI	Sidrap Palu	13.70	255	P	Pn	00 49 18.0 -1.0
	38nm,1.1s,454nm					
BKSI	Bulukumba	13.76	249	P	Pn	00 49 19.2 -0.6
	39nm,0.7s,486nm					
KAPI	Kappang	14.01	251	Pn	Pn	00 49 19.3 -3.9
	baz=66,slow=20,SNR=3.0					
KAPI				LR	LR	00 54 50.8
	comp=Z,174nm,20.0s,baz=81,slow=38					
KAPI	Kappang	14.01	251	ePn	Pn	00 49 22.8 -0.5
	38nm,0.9s					
KAPI	Kappang	14.01	251	P	Pn	00 49 23.8 +0.6
	43nm,1.0s					
WSI	Waingapu	15.61	234	P	Pn	00 49 43.4 -1.3
	baz=16,SNR=5.5					
WSI	Waingapu	15.61	234	P	P	00 49 50.1 +1.5
COEN	Coen	16.71	144	P	P	00 50 00.9 +0.2
	baz=17,SNR=6.5					
KBKI	Kotabaru	17.09	260	P	P	00 50 04.6 -0.4
	28nm,1.2s,4µm					
GUMO	Guam	18.26	39	LR	LR	00 56 26.0
	comp=Z,196nm,20.5s,baz=266,slow=34					
BBKI	Banjar Baru	18.43	261	P	Pn	00 50 20.2 +0.2
	57nm,1.0s,4µm					
FITZ	Fitzroy Crossi	18.94	202	P	P	00 50 22.9 -2.4
	1.6nm,0.3s,baz=30,slow=12,SNR=45					
FITZ				S	Sn	00 53 40.0 -17
	0.7nm,0.3s,baz=242,slow=23,SNR=5.2					
FITZ	Fitzroy Crossi	18.94	202	eP	P	00 50 21.0 -4.3
	16nm,0.6s					
FITZ				S	Sn	00 53 40.0 -17
FITZ	Fitzroy Crossi	18.94	202	P	P	00 50 22.9 -2.4
	baz=19,SNR=67					
FITZ				S	Sn	00 53 40.8 -17
	baz=19,SNR=4.1					
KHKI	Kahang-Kahang	19.05	245	P	P	00 50 24.7 -1.8
	57nm,1.2s,904nm					
SRBI	Singaraja	19.30	247	P	P	00 50 28.4 -0.9
	48nm,1.6s					
WRAB	Tennant Creek	19.35	176	eP	P	00 50 29.6 -0.3
	20nm,0.6s					
WRAB				eS	S	00 53 54.3 -13
WRA	Warramunga Arr	19.36	176	P	P	00 50 28.9 -1.0
	2.6nm,0.3s,baz=356,slow=11,SNR=149					
WRA				S	S	00 53 56.5 -11
	1.4nm,0.3s,baz=357,slow=22,SNR=10					
WRA	Warramunga Arr	19.36	176	P	P	00 50 28.9 -1.0
WRA				S	S	00 53 56.5 -11
KMMI	Kalianget	20.11	251	P	Pn	00 50 39.5 -0.6
	38nm,1.1s,1µm					
BYJI	Banyuwangi	20.13	247	P	P	00 50 39.2 +0.8
	196nm,1.2s					
JAGI	Jajag, Banyuwa	20.41	247	P	P	00 50 40.8 -0.7
	50nm,0.9s					
BLJI	Banyuglugur	20.68	249	P	Pn	00 50 48.4 +1.6
	61nm,1.2s					
QIS	Mount Isa	20.94	163	P	P	00 50 47.7 +0.6
	baz=21,SNR=18					
GMJI	Gumukmas	21.00	248	P	P	00 50 48.1 +0.3
	60nm,1.0s,1µm					
SBUM	Sibu	21.02	278	P	P	00 50 50.5 +2.4
	21nm,1.5s,400nm					
STKI	Sintang	21.57	271	P	P	00 50 54.8 +0.8
	32nm,0.6s,18µm					
SJI	Sawahan	22.39	251	P	P	00 51 08.7 +5.8
	45nm,0.3s,10µm					
KSM	Kuching	22.82	275	eP	P	00 51 05.5 -1.8
	50nm,1.6s					
KSM	Kuching	22.82	275	P	P	00 51 06.2 -1.1
	baz=23,SNR=5.4					
KSM	Kuching	22.82	275	P	P	00 51 07.1 -0.2
	19nm,1.3s					
AS31	Alice Springs	23.04	178	eP	P	00 51 09.2 -0.3
AS31				eS	S	00 55 24.8 +6.4
ASAR	Alice Springs	23.04	178	P	P	00 51 09.2 -0.3
	50nm,0.7s,baz=2.8,slow=10,SNR=437					
ASAR				S	S	00 55 22.9 +4.5
	12nm,0.9s,baz=0.8,slow=25,SNR=14					
ASAR				LR	LR	01 01 21.6
	comp=Z,99nm,19.9s,baz=350,slow=40					
ASAR	Alice Springs	23.04	178	P	P	00 51 09.2 -0.3
ASAR				S	S	00 55 22.9 +4.5
PCJI	Pacitan	23.09	250	P	P	00 51 07.8 -2.3
	56nm,1.1s					
CTA	Charters Tower	23.37	147	P	P	00 51 12.6 -0.2
	12nm,0.9s,baz=325,slow=12,SNR=9.5					
CTA				LR	LR	01 00 35.1
	comp=Z,69nm,20.4s,baz=284,slow=37					
CTA	Charters Tower	23.37	147	P	P	00 51 12.6 -0.2
CTAO	Charters Tower	23.37	147	eP	P	00 51 16.5 +3.7
	23nm,0.9s					
BJII	Banjamegara	24.23	253	P	P	00 51 21.3 +0.1
	63nm,1.4s					
MBWA	Marble Bar	24.30	211	eP	P	00 51 20.9 -0.7
	85nm,1.5s					
TGJI	Tegal	24.68	255	P	P	00 51 23.2 -2.0
	53nm,0.6s,2µm					
CISI	Cisompet, Garu	26.11	254	P	P	00 51 36.0 -2.2
	126nm,1.0s,5µm					
QLP	Quilpie	28.08	158	P	P	00 51 56.2 +0.6
	baz=28,SNR=8.3					
QIZ	Qiongzhong	29.93	312	P	P	00 52 12.8 +0.6
QIZ				S	S	00 57 05.6 -2.3
QIZ				pmax	pmax	
	comp=Z,11nm,1.6s					
QIZ				pmax	pmax	
	comp=Z,68nm,3.6s					
EIDS	Eidsvold	30.24	146	P	P	00 52 18.2 +3.3
	baz=30,SNR=4.4					
FORT	Forrest	30.48	188	eP	P	00 52 17.2 +0.3
	comp=Z,28nm,0.7s					
FORT	Forrest	30.48	188	P	P	00 52 17.4 +0.4
	baz=31,SNR=13					
STKA	Stephens Creek	32.23	166	P	P	00 52 32.2 -0.2
	comp=Z,21nm,0.7s,baz=337,slow=8.7,SNR=48					
STKA				LR	LR	01 05 54.9
	comp=Z,131nm,19.3s,baz=200,slow=37					
STKA	Stephens Creek	32.23	166	eP	P	00 52 32.2 -0.2
	comp=Z,4.6nm,0.8s					
STKA	Stephens Creek	32.23	166	P	P	00 52 32.2 -0.2
	baz=32,SNR=29					
MORW	Morawa	32.72	208	P	P	00 52 35.6 -1.1
	baz=33,SNR=7.5					
CMSA	Cobar Meteorol	33.11	160	P	P	00 52 40.5 +0.5
	baz=33,SNR=6.2					
BLDU	Ballidu	33.73	206	P	P	00 52 44.5 -0.9
	baz=34,SNR=30					
KLBR	Kellerberrin	34.14	204	P	P	00 52 48.2 -0.8
	baz=34,SNR=8.8					
PSI	Prapat	34.27	276	P	P	00 52 46.7 -3.8
	comp=Z,7.1nm,0.8s,baz=36,slow=8.7,SNR=4.6					
PSI	Prapat	34.27	276	P	P	00 52 46.7 -3.8
ARMA	Armidale	34.60	151	P	P	00 52 54.7 +1.5
	baz=35,SNR=4.2					
GSI	Gununguitoli	35.51	273	S	S	00 58 38.6 +3.7
	baz=36,SNR=5.7					
GYA	Guiyang	36.95	318	eP	P	00 53 13.3 -0.1
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ARPS	Mount Arapiles	36.99	168	P	P	00 53 13.9 +0.5
	baz=37,SNR=7.8					
MJAR	Matsushiro Art	37.17	7	LR	LR	01 05 36.3
	comp=Z,139nm,19.5s,baz=160,slow=32					
KSRS	Korea Array	38.06	353	LR	LR	01 06 58.7
	comp=Z,99nm,19.0s,baz=176,slow=33					
CMAR	Chiang Mai Arr	38.45	301	P	P	00 53 23.2 -2.8
	comp=Z,0.8nm,0.4s,baz=125,slow=7.1,SNR=6.7					
CMAR	Chiang Mai Arr	38.45	301	P	P	00 53 23.2 -2.8
KMI	Kunming	38.84	313	P	P	00 53 27.4 -2.1
KMI				pmax	pmax	
	comp=Z,12nm,0.9s					
CD2	Chengdu	41.83	321	P	P	00 53 54.9 +0.9
CD2				pP	pP	00 54 05.1 +1.7
CD2				PP	PnPn	00 55 35.3 -0.9
CD2				S	S	01 00 09.9 +0.1
CD2				sS	sS	01 00 26.9 +1.4
CD2				SS	SS	01 03 11.3 -5.6
CD2				pmax	pmax	
	comp=Z,20nm,0.5s					
CD2				pmax	pmax	
	comp=Z,50nm,3.9s					
CD2				LR	LR	
	comp=N,240nm,5.9s					
CD2				LR	LR	
	comp=Z,120nm,7.1s					
BJI	Beijing	43.19	341	P	P	00 54 03.3 -1.5
BJI				pmax	pmax	
	comp=Z,18nm,0.8s					
USRK	Ussuriysk Arra	44.52	359	P	P	00 54 14.6 -0.8
	comp=Z,1.2nm,0.6s,baz=161,slow=3.8,SNR=4.5					
CN2	Changchun	44.63	352	eP	P	00 54 19.4 +3.1
MDJ	Mudanjiang	45.03	357	P	P	00 54 20.0 +0.5
MDJ				pP	pP	00 54 29.0 0.0
MDJ				sP	sP	00 54 32.9 0.0
MDJ				ScP	ScP	00 59 50.4 0.0
MDJ				PcS	PcS	00 59 54.3 +0.6
MDJ				S	S	01 00 57.6 +1.5
MDJ				sS	sS	01 01 13.0 +1.1
MDJ				pmax	pmax	
	comp=Z,8.0nm,2.2s					
MDJ				pmax	pmax	
	comp=Z,36nm,4.0s					
LZH	Lanzhou	45.42	326	eP	P	00 54 24.1 +1.2
LZH				pP	pP	00 54 31.5 -1.0
LZH				sP	sP	00 54 35.4 -0.9
LZH				PP	PP	00 56 13.1 +3.5
LZH				eS	S	01 01 02.3 -0.1
LZH				sS	sS	01 01 21.4 +3.3
LZH				pmax	pmax	
	comp=Z,13nm,1.0s					
LZH				pmax	pmax	
	comp=Z,68nm,4.1s					
HHC	Hu-ho-hao-te	45.56	337	eP	P	00 54 24.3 +0.4
HHC				pP	pP	00 54 35.8 +2.4
HHC				PP	PP	00 56 13.0 +2.1
HHC				S	S	01 01 06.3 +2.2
HHC				sS	sS	01 01 21.8 +1.9
HHC				ScS	ScS	01 04 16.9 -1.2
HHC				SS	SS	01 04 20.8 -7.7
HHC				pmax	pmax	
	comp=Z,17nm,0.5s					
HHC				pmax	pmax	
	comp=Z,100nm,4.4s					
HHC				LR	LR	
	comp=N,120nm,14.9s					
HHC				LR	LR	
	comp=E,160nm,14.2s					
GTA	Gaotai	50.02	326	eP	P	00 54 59.8 +1.2
GTA				pP	pP	00 55 09.0 +0.8
GTA				sP	sP	00 55 13.3 +1.3
GTA				pmax	pmax	
	comp=Z,3.0nm,0.6s					
ODAN	Odare	51.65	305	eP	P	00 55 08.6 -2.6
RAMN	Ramite	52.33	305	eP	P	00 55 13.8 -2.4
	comp=Z,9.5nm,0.6s					
ULN	Ulaanbaatar	53.22	338	eP	P	00 55 21.4 -1.0
	comp=Z,65nm,3.0s					
ULN	Ulaanbaatar	53.22	338	P	P	00 55 28.0 +5.7
GUN	Gumba	53.30	306	eP	P	00 55 21.0 -2.5
	comp=Z,10nm,0.7s					
SONM	Songino Array	53.44	338	P	P	00 55 23.2 -0.7
	comp=Z,0.9nm,0.7s,baz=155,slow=7.9,SNR=9.8					
SONM	Songino Array	53.44	338	P	P	00 55 23.2 -0.7
KOLN	Koldanda	55.11	305	eP	P	00 55 34.4 -2.1
	comp=Z,19nm,0.8s					
DANN	Dangsing	55.20	306	eP	P	00 55 34.7 -2.6
	comp=Z,22nm,0.9s					
PYUN	Piuthan	55.73	305	eP	P	00 55 38.7 -2.3
	comp=Z,28nm,0.9s					
WMQ	Urumqi	59.83	323	eP	P	00 56 10.8 +1.5
WMQ				pmax	pmax	
	comp=Z,4.0nm,1.1s					
MK31	Makanchi Array	64.64	324	eP	P	00 56 40.5 -1.0
MKAR	Makanchi Array	64.64	324	P	P	00 56 40.4 -1.1
	comp=Z,1.4nm,0.6s,baz=118,slow=7.8,SNR=25					
MKAR	Makanchi Array	64.64	324	P	P	00 56 40.4 -1.1
KSH	Kashi	65.48	314	eP	P	00 56 49.4 +2.1
KSH				ePcP	PcP	00 57 21.3 +2.4
KSH				ePP	PP	00 59 15.8 +4.1
KSH				eScP		01 01 20.9
KSH				PcS		01 01 23.8
KSH				S	S	01 05 31.0 +0.8
KSH				sS	sS	01 05 47.8 +1.2
KSH				ScS	SKSac	01 06 39.1 -1.6
KSH				SS	SS	01 09 46.9 +2.6
KSH				pmax	pmax	
	comp=Z,6.0nm,1.3s					
KSH				pmax	pmax	
	comp=Z,120nm,5.0s					
KSH				LR	LR	
	comp=N,62nm,5.9s					
KSH				LR	LR	
	comp=E,72nm,4.3s					
KSH				LR	LR	
	comp=Z,140nm,6.0s					
ZALV	Zalesovo Beam	67.25	331	P	P	00 56 55.9 -2.2
	comp=Z,1.2nm,0.8s,baz=104,slow=6.3,SNR=3.6					
ZALV	Zalesovo Beam	67.25	331	P	P	00 56 55.9 -2.2
KURK	Kurchatov	68.71	326	eP	P	00 57 06.2 -1.1
	comp=Z,6.1nm,1.1s					
KKAR	Karatay Array	70.62	316	eP	P	00 57 17.7 -1.6
	comp=Z,1.1nm,0.6s					
VNDA	Vanda	78.51	174	P	P	00 58 03.8 -0.7
	comp=Z,1.0nm,0.6s,baz=337,slow=7.1,SNR=5.7					
VNDA				LR	LR	01 34 50.0
	comp=Z,183nm,19.4s,baz=333,slow=37					
VNDA	Vanda	78.51	174	P	P	00 58 03.8 -0.7
CHGN	Chignik	78.66	32	eP	P	00 58 11.7 +6.1
ABKAR	Akbulak array	79.41	320	eP	P	00 58 08.2 -1.7
	comp=Z,2.8nm,0.9s					
AKTO	Aktyubinsk	80.88	321	P	P	00 58 16.3 -1.5
	comp=Z,0.8nm,0.7s,baz=135,slow=11,SNR=2.0					
AKTO	Aktyubinsk	80.88	321	P	P	00 58 16.3 -1.5
ILAR	Eielson Array	86.22	25	P	P	00 58 43.3 -1.6
	comp=Z,1.3nm,0.8s,baz=254,slow=5.0,SNR=11					
ILAR				LR	LR	01 35 20.9
	comp=Z,37nm,18.1s,baz=293,slow=34					
ILAR	Eielson Array	86.22	25	P	P	00 58 43.3 -1.6
DOT	Dot Lake	87.28	26	eP	P	00 58 52.3 +2.1
	comp=Z,160nm,2.9s					
QSPA	South Pole Qui	89.43	180	eP	P	00 59 00.4 0.0
	comp=Z,3.2nm,0.7s					
ARCES	ARCESS Array B	96.56	340	LR	LR	01 50 23.2
	comp=Z,43nm,20.1s,baz=45,slow=40					
TORD	Torodi Ar. Bea	130.20	287	PKP	PKPdf	01 05 13.2 -1.7
	comp=Z,0.4nm,0.9s,baz=195,slow=2.0,SNR=3.0					
TORD	Torodi Ar. Bea	130.20	287	PKP	PKPdf	01 05 13.2 -1.7

*ISK **22** 00:53:20.2, 37°.91N×29°.13E, h5km, ML3.3*
*IDC **22** 00:53:20.4±1.1, 37°.94N×29°.06E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.5/28, mbtmp3.5/9, ML2.7/3, MS2.6/1, Ms1 2.6/1, ms1mx1.9/43, Error ellipse: s-maj=20.5km s-min=19.4km az=71.0*
*ISCJB **22** 00:53:21.4±0.4, 37°.91N±0°.02×29°.13E±0°.03, h6km±4km, mb3.5/5, Error ellipse: s-maj=3.5km s-min=2.9km az=5.8*
*DDA **22** 00:53:21.1, 37°.92N×29°.11E, h9km, MD3.8, ML4.0*
*CSEM **22** 00:53:21.6±0.1, 37°.90N×29°.12E, h2km, ML3.3, Error ellipse: s-maj=3.0km s-min=2.5km az=98.0*

ISC 22 00:53:21.7±1.0, 37°.93N±0°.02×29°.11E±0°.02, h4km±8km, n119, σ1$04/146, mb3.3/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	200	ePG		Pg		00 53 24.7	-0.6
DENT	Denizli	0.18	200	ePg		Pg		00 53 24.7	-0.6
DNZL	Cakiroluk	0.24	192	iP		Pg		00 53 25.9	-0.5
DNZL				iS		Sg		00 53 29.5	-0.1
KHL	Karahalli	0.51	39	ePG		Pg		00 53 30.8	-0.8
KHL	Karahalli	0.51	39	ePg		Pg		00 53 30.8	-0.8
KHAL	Karahalli	0.54	34	iP		Pg		00 53 31.2	-0.8
KHAL				iS		Sg		00 53 39.5	+0.4
KHAL	Karahalli	0.54	34	iP		Pg		00 53 31.2	-0.8
KHAL				iS		Sg		00 53 39.5	+0.4
KULA	Kula-Manisa	0.69	329	ePG		Pg		00 53 34.8	-0.1
KULA				eSG		Sg		00 53 45.1	+1.2
KULA	Kula-Manisa	0.69	329	ePg		Pg		00 53 34.8	-0.1
KULA				eSg		Sg		00 53 45.1	+1.2
GOLH	Golhisar	0.77	152	iP		Pg		00 53 35.9	-0.7
GOLH				iS		Sb		00 53 48.2	-0.5
GOLH	Golhisar	0.77	152	iP		Pg		00 53 35.9	-0.7
GOLH				iS		Sb		00 53 48.2	-0.5
AYDN	Tasoluk	1.01	255	iP		Pg		00 53 40.8	-0.3
AYDN				iS		Sg		00 53 53.6	-0.6
AYDN	Tasoluk	1.01	255	iP		Pg		00 53 40.8	-0.3
AYDN				iS		Sg		00 53 53.6	-0.6
YER	Yerkesik	1.03	220	ePG		Pg		00 53 40.5	-0.9
YER				eSG		Sb		00 53 56.6	+0.6
YER	Yerkesik	1.03	220	ePg		Pg		00 53 40.5	-0.9
ISP	Isparta	1.12	95	ePN		Pg		00 53 42.0	-1.3
DEMI	Demirci	1.16	345	iP		Pg		00 53 43.5	-0.4
DEMI				iS		Sg		00 53 58.5	-0.5
DEMI	Demirci	1.16	345	iP		Pg		00 53 43.5	-0.4
DEMI				iS		Sg		00 53 58.5	-0.5
GDZ	Gediz	1.20	14	iP		Pg		00 53 43.8	-0.9
GDZ				iS		Sg		00 54 00.0	-0.3
GDZ	Gediz	1.20	14	iP		Pg		00 53 43.8	-0.9
GDZ				iS		Sg		00 54 00.0	-0.3
MLSB	Milas	1.23	240	ePN		Pg		00 53 44.9	-0.4
MLSB	Milas	1.23	240	ePn		Pg		00 53 44.9	-0.4
BCK	Bucak	1.26	111	ePN		Pg		00 53 45.4	-0.5
BCK	Bucak	1.26	111	ePn		Pg		00 53 45.4	-0.5
FETY	Fethiye	1.29	181	ePN		Pg		00 53 45.4	-1.0
FETY	Fethiye	1.29	181	ePn		Pg		00 53 45.4	-1.0
SHUT	Suhut-Afyon	1.30	61	ePN		Pg		00 53 45.5	-1.1
SHUT	Suhut-Afyon	1.30	61	ePn		Pg		00 53 45.5	-1.1
ELL	Elmali	1.34	151	ePN		Pg		00 53 46.3	-1.0
ELL	Elmali	1.34	151	ePn		Pg		00 53 46.3	-1.0
KORT	Korkueli	1.35	133	iP		Pg		00 53 47.1	-0.5
KORT				iS		Sn		00 54 08.9	+3.0
KORT	Korkueli	1.35	133	iP		Pg		00 53 47.1	-0.5
KORT				iS		Sn		00 54 08.9	+3.0
ALT	Altintas	1.38	35	ePN		Pn		00 53 46.9	-0.9
ALT	Altintas	1.38	35	ePn		Pn		00 53 46.9	-0.9
AKHS	Akhisar	1.40	313	iP		Pn		00 53 48.2	+0.2
AKHS				iS		Sn		00 54 07.9	+1.1
AKHS	Akhisar	1.40	313	iP		Pn		00 53 48.2	+0.2
AKHS				iS		Sn		00 54 07.9	+1.1
AKS	Akhisar	1.40	313	ePN		Pb		00 53 48.7	+0.3
AKS	Akhisar	1.40	313	ePn		Pb		00 53 48.7	+0.3
IZM	Izmir	1.53	289	ePN		Pn		00 53 49.2	-0.7
IZM	Izmir	1.53	289	ePn		Pn		00 53 49.2	-0.7
TVSB	Tavsanli	1.55	10	ePN		Pn		00 53 49.6	-0.6
TVSB	Tavsanli	1.55	10	ePn		Pn		00 53 49.6	-0.6
BDRM	Kayabasi	1.58	238	iP		Pn		00 53 49.8	-0.7
BDRM				iS		Sg		00 54 14.3	+1.9
BDRM	Kayabasi	1.58	238	iP		Pn		00 53 49.8	-0.7
BDRM				iS		Sg		00 54 14.3	+1.9
ANTB	Antalya	1.60	129	ePN		Pn		00 53 51.0	+0.3
ANTB	Antalya	1.60	129	ePn		Pn		00 53 51.0	+0.3
BOLV	Bolvadin	1.65	61	iP		Pn		00 53 51.6	0.0
BOLV				iS		Sg		00 54 17.9	+3.1
BOLV	Bolvadin	1.65	61	iP		Pn		00 53 51.6	0.0
BOLV				iS		Sg		00 54 17.9	+3.1
BODT	Bodrum	1.67	240	ePN		Pn		00 53 51.9	+0.1
BODT	Bodrum	1.67	240	ePn		Pn		00 53 51.9	+0.1
DAT	Datca	1.71	226	ePN		Pn		00 53 52.2	-0.2
DAT	Datca	1.71	226	ePn		Pn		00 53 52.2	-0.2
DST	Dursunbey	1.72	347	ePN		Pb		00 53 53.4	-0.5
DST	Dursunbey	1.72	347	ePn		Pb		00 53 53.4	-0.5
AKAS	Kas	1.73	167	iP		Pb		00 53 53.8	-0.4
AKAS				iS		Sg		00 54 20.6	+3.2
AKAS	Kas	1.73	167	iP		Pb		00 53 53.8	-0.4
BALB	Balikesir	1.96	331	ePN		Pn		00 53 57.0	+1.2
BALB	Balikesir	1.96	331	ePn		Pn		00 53 57.0	+1.2
SEYT	Eskypehyr	2.10	40	iP		Pn		00 53 58.3	+0.6
SEYT				iS		Sn		00 54 24.4	+0.1
SEYT	Eskypehyr	2.10	40	iP		Pn		00 53 58.3	+0.6
SEYT				iS		Sn		00 54 24.4	+0.1
CAVI	Cavuskoy	2.34	14	ePN		Pn		00 54 01.4	+0.3
CAVI	Cavuskoy	2.34	14	ePn		Pn		00 54 01.4	+0.3
KIZT	Kizilcal	2.38	65	ePN		Pn		00 54 01.4	-0.1
KIZT	Kizilcal	2.38	65	ePn		Pn		00 54 01.5	-0.1
GONE	Gonen-Balikesi	2.39	333	ePN		Pn		00 54 01.7	+0.1
GONE	Gonen-Balikesi	2.39	333	ePn		Pn		00 54 01.7	+0.1
SVRH	Sivrihisar-ESK	2.42	50	ePN		Pn		00 54 03.1	+1.0
SVRH	Sivrihisar-ESK	2.42	50	ePn		Pn		00 54 03.2	+1.0
GEMT	Gemlik	2.51	1	ePN		Pn		00 54 04.1	+0.8
GEMT	Gemlik	2.51	1	ePn		Pn		00 54 04.1	+0.8
KONT	Konya--Tatoy	2.57	89	ePN		Pn		00 54 04.5	+0.3
KONT	Konya--Tatoy	2.57	89	ePn		Pn		00 54 04.5	+0.3
LADK	Ladik-KONYA	2.58	83	ePN		Pn		00 54 05.1	+0.7
LADK	Ladik-KONYA	2.58	83	ePn		Pn		00 54 05.1	+0.7
BNT	Bandirma	2.60	340	ePN		Pn		00 54 05.3	+0.8
BNT	Bandirma	2.60	340	ePn		Pn		00 54 05.3	+0.8
ARMT	Armutlu	2.64	356	ePN		Pn		00 54 06.6	+1.4
ARMT	Armutlu	2.64	356	ePn		Pn		00 54 06.6	+1.4
YLV	Yalova	2.65	4	ePN		Pn		00 54 06.2	+1.0
YLV	Yalova	2.65	4	ePn		Pn		00 54 06.2	+1.0
GULT	Gulveren	2.73	23	ePN		Pn		00 54 07.3	+0.9
GULT	Gulveren	2.73	23	ePn		Pn		00 54 07.3	+0.9
EZN	Ezine	2.89	312	ePN		Pn		00 54 09.8	+1.4
EZN	Ezine	2.89	312	ePn		Pn		00 54 09.8	+1.4
SPNC	Sapanca-Adapaz	2.91	18	ePN		Pn		00 54 09.8	+1.0
SPNC	Sapanca-Adapaz	2.91	18	ePn		Pn		00 54 09.8	+1.0
HRT	Hereke	2.92	8	ePN		Pn		00 54 09.8	+0.8
HRT	Hereke	2.92	8	ePn		Pn		00 54 09.8	+0.8
MDUB	Mudurnu	3.02	32	ePN		Pn		00 54 11.7	+1.4
MDUB	Mudurnu	3.02	32	ePn		Pn		00 54 11.7	+1.4
ISK	Istanbul-Kandi	3.14	359	ePN		Pn		00 54 13.1	+1.2
ISK	Istanbul-Kandi	3.14	359	ePn		P

s-min=11.1km az=80.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.82**	**171**	P	Pn	01 03 28.8	+0.2
	25nm,0.3s,baz=32,slow=4.0,SNR=62						
PMG				S	Sn	01 04 12.6	+0.3
	14nm,0.3s,baz=15,slow=20,SNR=7.1						
CTA	**Charters Tower**	**14.40**	**181**	P	Pn	01 05 54.3	+1.5
	0.7nm,0.3s,baz=352,slow=12,SNR=5.5						
CTA				LR	LR	01 11 09.4	
	comp=Z,92nm,21.6s,baz=50,slow=36						
WRA	**Warramunga Arr**	**18.56**	**219**	P	P	01 06 43.9	-0.1
	0.6nm,0.3s,baz=42,slow=12,SNR=17						
WRA				PcP	PcP	01 11 11.2	0.0
	0.1nm,0.3s,baz=34,slow=1.9,SNR=4.9						
WRA				LR	LR	01 13 38.0	
	comp=Z,75nm,19.0s,baz=180,slow=36						
ASAR	**Alice Springs**	**21.71**	**213**	P	P	01 07 18.0	-0.1
	1.9nm,0.6s,baz=43,slow=8.2,SNR=33						
ASAR				PcP	PcP	01 11 18.1	+1.1
	0.9nm,0.7s,baz=71,slow=2.5,SNR=7.0						
ASAR				LR	LR	01 14 45.1	
	comp=Z,91nm,21.6s,baz=351,slow=34						
FITZ	**Fitzroy Crossi**	**23.92**	**237**	P	P	01 07 40.4	+0.1
	2.3nm,0.4s,baz=55,slow=7.0,SNR=4.4						
FITZ				LR	LR	01 16 36.2	
	comp=Z,92nm,20.7s,baz=60,slow=35						
STKA	**Stephens Creek**	**26.55**	**190**	P	P	01 08 03.5	-0.5
	1.0nm,0.3s,baz=27,slow=6.8,SNR=3.3						
STKA				LR	LR	01 17 39.1	
	comp=Z,136nm,19.9s,baz=18,slow=34						
SONM	**Songino Array**	**63.86**	**331**	P	P	01 12 58.2	+0.1
	0.8nm,0.8s,baz=141,slow=2.4,SNR=6.5						
SONM				sP	sP	01 13 22.6	-0.2
	0.4nm,0.9s,baz=164,slow=5.9,SNR=2.1						
MKAR	**Makanchi Array**	**76.92**	**321**	P	P	01 14 17.8	+0.1
	0.3nm,0.6s,baz=98,slow=9.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**78.45**	**328**	P	P	01 14 24.4	-1.6
	0.3nm,0.3s,baz=106,slow=5.1,SNR=3.9						
ZALV				pP	pP	01 14 44.8	+0.9
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.1						
QSPA	**South Pole Qui**	**84.36**	**180**	P	P	01 14 56.7	-0.5
	1.0nm,0.7s,baz=58,slow=6.7,SNR=8.6						
TORD	**Torodi Ar. Bea**	**144.58**	**285**	PKP	PKPab	01 22 00.6	-0.5
	0.8nm,0.6s,baz=71,slow=3.8,SNR=14						
TORD				pPKP	pPKPdf	01 22 20.6	-0.8
	1.2nm,0.8s,baz=79,slow=3.6,SNR=4.8						
DBIC	**Dimbokro**	**151.57**	**274**	PKPbc	PKPbc	01 22 20.8	+0.7
	1.3nm,0.4s,baz=20,slow=2.1,SNR=4.3						
BDFB	**Brasilia**	**154.42**	**146**	PKPbc	PKPbc	01 22 26.6	+0.1
	2.2nm,0.4s,baz=246,slow=5.3,SNR=7.8						

NIED ***22*** *01:23:00,45.00N×150.30E,h20km,Mw4.0 Best double couple: M₀1.07000×10¹⁵ NP1:φ=274.00000°,δ71.00000°, λ101.00000°. NP2:φ=62.00000°,δ22.00000°,λ59.00000°.*
MOS ***22*** *01:23:36.6±1.0,44.90N×150.35E,h51km,mb4.4/15,Error ellipse: s-maj=12.0km s-min=10.7km az=57.2*
ISCJB ***22*** *01:23:37.1±1.1,44.66N±0.07×150.31E±0.09, h61km±10km,mb3.9/21,Error ellipse: s-maj=13.7km s-min=9.2km az=142.6*
JMA ***22*** *01:23:37.0±0.7,44.98N×150.33E,h30km,M4.6*
IDC ***22*** *01:23:38.4±0.6,44.96N×150.30E,h46km±5km,mb3.7/19, mb1 3.9/24,mb1mx3.8/33,mbtmp3.7/24,MS3.0/3, Ms1 3.0/3,ms1mx2.6/46,Error ellipse: s-maj=16.0km s-min=10.9km az=138.0*

ISC 22 01:23:38.0±0.7,44.77N±0.08×150.38E±0.06,h47km±5km, n65,σ1¶52/75,mb4.0/21,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.84**	**286**	*e*PN	**Pn**	**01 24 05.9**	**-1.2**
KUR				*e*S	**Sn**	**01 24 29.0**	**-0.2**
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				pmax	pmax		
	comp=N,270nm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,530nm,0.5s						
KUR				smax	smax		
	comp=N,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.32**	**259**	*c i*PN	**Pn**	**01 24 27.7**	**+0.4**
YUK				*i* S	**Sn**	**01 25 10.1**	**+4.6**
YUK				pmax	pmax		
	comp=N,22nm,0.2s						
YUK				pmax	pmax		
	comp=E,32nm,0.2s						
YUK				pmax	pmax		
	comp=Z,83nm,0.2s						
YUK				smax	smax		
	comp=N,42nm,0.2s						
YUK				smax	smax		
	comp=E,279nm,0.4s						
NEM2	**Nemuro 2**	**3.62**	**249**	P	**Pn**	**01 24 30.9**	**-0.6**
NEM2				*e*S	**Sn**	**01 25 11.0**	**-2.0**
JRA	**Rausu**	**3.86**	**259**	P	**Pn**	**01 24 35.9**	**+1.2**
JNK	**Nakash**	**4.24**	**256**	P	**Pn**	**01 24 40.3**	**+0.3**
JNK				*e*S	**Sn**	**01 25 27.6**	**-0.6**
JAK	**Akkeshi**	**4.47**	**249**	P	**Pn**	**01 24 42.8**	**-0.3**
JAK				*e*S	**Sn**	**01 25 31.6**	**-2.3**
JTKR	**Abashiri--Toko**	**4.71**	**263**	P	**Pn**	**01 24 47.8**	**+1.4**
JAR	**Ashorobuto**	**4.99**	**255**	P	**Pn**	**01 24 51.5**	**+1.3**
JAR				*e*S	**Sn**	**01 25 47.5**	**+0.9**
JOB	**Onbets**	**5.09**	**251**	P	**Pn**	**01 24 51.8**	**+0.2**
JOB				*e*S	**Sn**	**01 25 47.0**	**-2.0**
JMP	**Maruseppu**	**5.09**	**264**	P	**Pn**	**01 24 53.2**	**+1.6**
JCH	**Churui**	**5.52**	**250**	P	**Pn**	**01 24 57.4**	**-0.2**
JKK2	**Kamakawa 2**	**5.55**	**263**	P	**Pn**	**01 24 59.7**	**+1.8**
ASAJ	**Asahikawa**	**5.61**	**266**	P	**Pn**	**01 25 00.3**	**+1.6**
	comp=E,7.6nm,0.3s,baz=70,slow=21,SNR=23						
ASAJ				LR	LR	01 27 25.0	
	comp=E,98nm,18.1s,baz=290,slow=41						
ASAJ	**Asahikawa**	**5.61**	**266**	P	**Pn**	**01 25 00.8**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.76**	**295**	*e*PN	**Pn**	**01 25 02.1**	**+1.3**
JNBK	**Urakawa-nobuka**	**6.08**	**249**	P	**Pn**	**01 25 04.2**	**-0.9**
JBT2	**Biratori 2**	**6.13**	**254**	P	**Pn**	**01 25 05.8**	**-0.2**
JNB	**Noboribetsu**	**7.16**	**255**	P	**Pn**	**01 25 20.1**	**+0.1**
JKB	**Kayabe**	**7.40**	**250**	*e*S	**Sn**	**01 26 40.3**	**-5.5**
JYM2	**Yakumo 2**	**7.75**	**254**	P	**Pn**	**01 25 28.0**	**-0.1**
JANG	**Nango**	**7.88**	**239**	P	**Pn**	**01 25 27.3**	**-2.6**
JANG				*e*S	Sn	01 26 50.1	-7.5
JTM	**Tenmabayashi**	**7.92**	**243**	P	**Pn**	**01 25 29.6**	**-0.8**
JTH	**Tanohata**	**7.94**	**236**	*e*S	Sn	01 26 48.4	-11
JOSM	**Okushiri--Mats**	**8.38**	**255**	P	**Pn**	**01 25 36.5**	**-0.2**
OFUJ	**Ofunato**	**8.62**	**232**	*e*S	Sn	01 27 09.8	-6.2
JIO	**Ouri**	**9.24**	**230**	*e*S	Sn	01 27 24.4	-6.7
PETK	**Petropavlovsk-**	**9.63**	**27**	P	**Pn**	**01 25 53.0**	**-0.9**
	comp=E,0.4nm,0.3s,baz=184,slow=11,SNR=3.4						
PETK				LR	LR	01 29 38.1	
	comp=E,92nm,18.8s,baz=253,slow=38						
PETK	**Petropavlovsk-**	**9.63**	**27**	PN	**Pn**	**01 25 53.0**	**-0.9**
PETK				MLR	MLR		
	comp=Z,92nm,18.8s						
MJAR	**Matsushiro Arr**	**12.35**	**233**	P	**Pn**	**01 26 30.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=4.9						
USRK	**Ussuriysk Arra**	**13.14**	**274**	P	**Pn**	**01 26 41.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=83,slow=15,SNR=13						
USRK				LR	LR	01 32 17.3	
	comp=Z,74nm,18.3s,baz=22,slow=40						
KSRS	**Korea Array**	**18.40**	**254**	P	**Pn**	**01 27 50.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=61,slow=11,SNR=4.7						
YAK	**Yakutsk**	**21.08**	**332**	*e*P	**P**	**01 28 20.9**	**+3.0**
YAK				pmax	pmax		
	comp=Z,30nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
SONM	**Songino Array**	**30.24**	**292**	P	**P**	**01 29 43.2**	**-1.0**
	comp=N,0.9nm,0.7s,baz=78,slow=8.2,SNR=11						
KDAK	**Kodiak Island**	**36.85**	**49**	P	**P**	**01 30 40.9**	**-0.4**
	comp=N,4.8nm,0.6s,baz=100,slow=22,SNR=5.7						
ILAR	**Eielson Array**	**39.29**	**37**	P	**P**	**01 31 01.1**	**-0.7**
	comp=N,0.3nm,0.5s,baz=258,slow=7.5,SNR=8.1						
ZALV	**Zalesovo Beam**	**42.24**	**307**	P	**P**	**01 31 25.9**	**-0.3**
	comp=N,0.4nm,0.3s,baz=91,slow=7.0,SNR=4.8						
ZALV				PcP	**PcP**	**01 33 19.4**	**+0.1**
	comp=N,0.6nm,0.5s,baz=46,slow=4.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.24**	**307**	P	**P**	**01 31 25.9**	**-0.3**
ZALV						01 33 19.4	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**44.35**	**31**	P	**P**	**01 31 42.5**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=270,slow=20						
MKAR	**Makanchi Array**	**46.17**	**298**	P	**P**	**01 31 57.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=77,slow=8.6,SNR=12						
MKAR				PcP	**PcP**	**01 33 33.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=25,slow=3.2,SNR=5.0						
MKAR	**Makanchi Array**	**46.17**	**298**	P	**P**	**01 31 57.2**	**-0.6**
MKAR						01 33 33.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**50.03**	**256**	P	**P**	**01 32 27.9**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=61,slow=10.0,SNR=6.2						
YKA	**Yellowknife Ar**	**53.65**	**35**	P	**P**	**01 32 54.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=298,slow=6.4,SNR=10						
YKA				pP	**pP**	**01 33 08.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=298,slow=6.9,SNR=8.4						
FINES	**FINESS Array B**	**65.00**	**334**	P	**P**	**01 34 10.0**	**-2.5**
	comp=Z,1.0nm,0.6s,baz=43,slow=8.6,SNR=8.0						
WRA	**Warramunga Arr**	**66.04**	**197**	P	**P**	**01 34 20.9**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=13,slow=6.9,SNR=14						
WRA				pP	**pP**	**01 34 33.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=15,slow=6.8,SNR=7.1						
PDAR	**Pinedale Array**	**67.47**	**52**	P	**P**	**01 34 29.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=127,slow=0.7,SNR=5.8						
PDAR				pP	**pP**	**01 34 41.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=273,slow=3.3,SNR=3.3						
NB2	**NORSAR Subarra**	**69.47**	**340**	P	**P**	**01 34 39.5**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.47**	**340**	P	**P**	**01 34 39.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=111,slow=18,SNR=7.7						
HFS	**Hagfors**	**69.62**	**339**	P	**P**	**01 34 40.6**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.4,SNR=7.6						
ASAR	**Alice Springs**	**69.75**	**196**	P	**P**	**01 34 45.3**	**+2.3**
	comp=Z,1.8nm,0.7s,baz=15,slow=5.9,SNR=23						
ASAR				pP	**pP**	**01 34 59.0**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=12,slow=6.0,SNR=6.6						
KBZ	**Khabaz**	**70.83**	**313**	P	**P**	**01 34 49.7**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=48,slow=3.7,SNR=9.2						
KBZ	**Khabaz**	**70.83**	**313**	P	**P**	**01 34 49.7**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZEI	**Tsey**	**70.97**	**312**	*e*P	**P**	**01 34 50.0**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**72.11**	**325**	P	**P**	**01 34 56.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=37,slow=6.4,SNR=4.3						
AKASG	**Malin Array Be**	**72.11**	**325**	P	**P**	**01 34 56.1**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA	**Eskdalemuir Ar**	**77.79**	**345**	P	**P**	**01 35 29.0**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=22,slow=5.4,SNR=6.9						
KHC	**Kasperske Hory**	**79.16**	**333**	*e*P	**P**	**01 35 37.5**	**0.0**
KHC	**Kasperske Hory**	**79.16**	**333**	*e*P	**P**	**01 35 37.5**	**0.0**
GERES	**GERESS Array B**	**79.37**	**333**	P	**P**	**01 35 38.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=39,slow=6.0,SNR=8.5						
TXAR	**Lajitas Array**	**80.15**	**58**	P	**P**	**01 35 43.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=305,slow=4.3,SNR=6.7						
TXAR				pP	**pP**	**01 35 56.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=298,slow=3.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**115.74**	**326**	PKP	**PKPdf**	**01 42 14.2**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=307,slow=2.9,SNR=3.9						
PLCA	**Paso Flores**	**149.90**	**97**	PKPbc	**PKPbc**	**01 43 22.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=266,slow=5.6,SNR=5.3						
VNA2	**Neumayer--Watz**	**151.59**	**195**	*e*P	**PKPbc**	**01 43 27.0**	**+1.4**
	baz=18,slow=1.0						
VNA2	**Neumayer--Watz**	**151.59**	**195**	*e*WP	PKPab	01 43 39.7	+5.3
	baz=18,slow=1.0						
VNA3	**Neumayer Olymp**	**151.73**	**193**	*e*P	**PKPbc**	**01 43 26.9**	**+1.0**
VNA3	**Neumayer Olymp**	**151.73**	**193**	*e*WP	**PKPab**	**01 43 39.7**	**+4.7**

IDC ***22*** *01:49:29.3±0.8,11.39N×60.56W,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.9/25,mbtmp3.9/10,MS3.1/1, Ms1 3.2/1,ms1mx2.7/30,Error ellipse: s-maj=26.5km s-min=17.3km az=90.0*
ISCJB ***22*** *01:49:34.4±0.5,11.32N±0.02×60.45W±0.05,h53km±4km, mb3.8/10,MS3.0/1,Error ellipse: s-maj=7.7km s-min=4.1km az=5.0*
TRN ***22*** *01:49:35.8,11.45N×60.56W,h24km,MD3.6*
FUNV ***22*** *01:49:36.5,11.31N×60.41W,h35km,MW3.8*

ISC 22 01:49:35.2±0.8,11.36N±0.03×60.45W±0.06,h41km±6km, n42,σ1¶45/58,mb3.8/10,1C-7D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.11**	**235**	*i*P	**Pn**	**01 49 42.5**	**+0.5**
TOSP				*e*S	**Sn**	**01 49 46.8**	**+0.1**
BOT	**Bacolet**	**0.33**	**234**	*e*P	**Pn**	**01 49 45.0**	**+1.1**
BOT				*e*S	**Sn**	**01 49 49.9**	**0.0**
TPR	**Prospect**	**0.37**	**242**	*i*P	**Pn**	**01 49 45.5**	**+1.1**
TPR				*e*S	**Sn**	**01 49 50.6**	**-0.2**
TBH	**Brigand Hill**	**1.06**	**215**	*e*P	**Pn**	**01 49 56.3**	**+2.7**
TBH				*e*S	**Sn**	**01 50 12.1**	**+4.8**
TRN	**Trinidad (W)**	**1.18**	**233**	*i*P	Pn	01 49 58.5	+3.3
TRN				*e*S	**Sn**	**01 50 13.1**	**+3.0**
GRW	**Mount Saint Ca**	**1.43**	**304**	*e*P	**Pn**	**01 49 59.8**	**+1.0**
GRW				*e*S	**Sn**	**01 50 16.8**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.43**	**224**	*e*P	**Pn**	**01 50 01.7**	**+3.0**
TCE	**Chacachacare**	**1.44**	**243**	*e*P	**Pn**	**01 50 01.7**	**+2.8**
TCE				*e*S	**Sn**	**01 50 19.0**	**+2.4**
GRIC	**Isle de Caille**	**1.45**	**310**	*e*P	**Pn**	**01 49 59.6**	**+0.7**
GRIC				*e*S	**Sn**	**01 50 17.7**	**+1.0**
GRHS	**Sauteurs**	**1.45**	**306**	*e*P	**Pn**	**01 49 59.8**	**+0.8**
GRHS				*e*S	**Sn**	**01 50 17.4**	**+0.6**
GRSS	**Sisters**	**1.47**	**309**	*e*P	**Pn**	**01 50 00.1**	**+0.8**
GRSS				*e*S	**Sn**	**01 50 18.0**	**+0.7**
GUIV	**Guiria**	**1.88**	**248**	*e*P	**Pn**	**01 50 05.6**	**+0.7**
GUIV				*e*S	**Sn**	**01 50 26.6**	**-0.8**
FCV	**Fort Charlotte**	**1.95**	**336**	*e*P	**Pn**	**01 50 07.3**	**+1.5**
SVB	**Belmont**	**2.06**	**338**	*i*P	**Pn**	**01 50 07.9**	**+0.6**
SVB				*e*S	**Sn**	**01 50 32.1**	**+0.3**
SVV	**Soufriere Volc**	**2.09**	**339**	*e*P	**Pn**	**01 50 09.8**	**+2.1**
SVV				*e*S	**Sn**	**01 50 33.5**	**+1.0**
MCLT	**Moule a Chique**	**2.38**	**348**	*e*P	**Pn**	**01 50 12.5**	**+0.6**
MCLT				*e*S	**Sn**	**01 50 39.9**	**+0.1**
SLB	**Belfond**	**2.52**	**347**	*e*P	**Pn**	**01 50 15.6**	**+1.8**
SLB				*e*S	**Sn**	**01 50 43.8**	**+0.6**
GUNV	**Guanoco**	**2.73**	**244**	*e*P	**Pn**	**01 50 17.6**	**+1.1**
GUNV				*e*S	**Sn**	**01 50 47.7**	**-0.6**
CRUV	**Carupano**	**2.82**	**256**	*e*P	**Pn**	**01 50 17.8**	**0.0**
RIOV	**Rio Grande**	**3.54**	**203**	*e*P	**Pn**	**01 50 27.6**	**-0.1**
RIOV				*e*S	**Sn**	**01 51 05.0**	**-3.3**
ORIV	**Oritupano**	**3.70**	**232**	*e*P	**Pn**	**01 50 30.7**	**+0.8**
PCRV	**Puerto La Cruz**	**4.28**	**254**	*e*P	**Pn**	**01 50 37.6**	**-0.4**
GURV	**El Guri**	**4.42**	**216**	*e*P	**Pn**	**01 50 39.9**	**0.0**
HMG	**Houelmont**	**4.75**	**345**	*e*P	**Pn**	**01 50 44.9**	**+0.4**
PRGV	**PARIAGUAN**	**4.88**	**238**	*e*P	**Pn**	**01 50 46.8**	**+0.7**
LZG	**Guadaloupe-1**	**4.92**	**345**	*e*P	**Pn**	**01 50 47.8**	**+1.0**
CUPV	**Cepira**	**5.41**	**257**	*e*P	**Pn**	**01 50 53.0**	**-0.5**
LUEV	**Luepa**	**5.57**	**190**	*e*P	**Pn**	**01 50 54.1**	**-1.7**
BIRV	**Birongo**	**5.79**	**262**	*e*P	**Pn**	**01 50 58.9**	**+0.3**
MERV	**Las Mercedes**	**6.13**	**251**	*e*P	**Pn**	**01 51 02.4**	**-0.8**
BAUV	**El Baul**	**7.85**	**253**	*e*P	**Pn**	**01 51 25.2**	**-1.8**
ATAH	**Atahualpa**	**25.62**	**225**	P	**P**	**01 55 01.4**	**-0.1**
	4.3nm,0.7s,baz=32,slow=9.5,SNR=3.0						
SIV	**San Ignacio**	**27.18**	**181**	P	**P**	**01 55 14.5**	**-0.7**
	0.7nm,0.7s,baz=354,slow=9.4,SNR=4.5						
LPAZ	**La Paz**	**28.50**	**196**	P	**P**	**01 55 27.5**	**0.0**
	0.7nm,0.6s,baz=352,slow=7.1,SNR=4.1						
LPAZ				LR	LR	02 06 04.4	
	comp=Z,40nm,21.5s,baz=189,slow=35						
CFAA	**Coronel Fontan**	**43.37**	**190**	P	**P**	**01 57 32.8**	**-0.9**
	0.1nm,0.3s,baz=330,slow=7.3,SNR=4.5						
TXAR	**Lajitas Array**	**44.00**	**301**	PcP	**PcP**	**01 59 24.6**	**+0.4**
	0.2nm,0.6s,baz=114,slow=4.4,SNR=2.7						
ULM	**Lac du Bonnet**	**48.47**	**330**	P	**P**	**01 58 11.8**	**-1.8**
	2.4nm,0.4s,baz=128,slow=7.6,SNR=7.0						
PDAR	**Pinedale Array**	**52.76**	**316**	P	**P**	**01 58 45.7**	**-0.8**
	0.7nm,0.5s,baz=115,slow=10,SNR=7.4						
TORD	**Torodi Ar. Bea**	**60.62**	**81**	P	**P**	**01 59 43.2**	**+0.8**
	0.9nm,0.8s,baz=286,slow=5.2,SNR=9.4						
YKA	**Yellowknife Ar**	**63.90**	**335**	P	**P**	**02 00 03.0**	**-0.6**
	0.8nm,0.4s,baz=108,slow=7.2,SNR=16						
GERES	**GERESS Array B**	**71.10**	**42**	P	**P**	**02 00 50.6**	**+1.1**
	0.5nm,0.7s,baz=297,slow=6.5,SNR=3.4						
ILAR	**Eielson Array**	**78.29**	**334**	P	**P**	**02 01 31.1**	**+0.5**
	0.5nm,0.6s,baz=94,slow=4.3,SNR=11						

AUST ***22*** *01:49:26.9±11.0,10.61S×112.30E,h48km,Error ellipse: s-maj=5.1km s-min=1.4km az=28.0*

IDC ***22*** *01:50:50.1±3.0,8.08S×119.43E,h190km±28km,mb3.0/3, mb1 3.0/5,mb1mx2.9/22,mbtmp2.9/5,Error ellipse: s-maj=69.0km s-min=14.8km az=51.0*

ISC 22 01:50:49.4±1.6,8.12S±0.2×119.3E±0.3,h184km,n9, σ0¶69/7,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.82**	**146**	P	Pn	01 51 18.9	-5.9
	baz=7.9,SNR=6.3						
KAPI	**Kappang**	**3.16**	**9**	P	**Pn**	**01 51 39.9**	**-0.3**
	1.4nm,0.3s,baz=195,slow=6.0,SNR=9.0						
FITZ	**Fitzroy Crossi**	**11.67**	**149**	P	Pn	01 53 25.0	-5.5
	0.1nm,0.3s,baz=334,slow=12,SNR=5.1						
FITZ				S	Sn	01 55 25.5	-15
	0.8nm,0.3s,baz=195,slow=18,SNR=12						
MTN	**Manton Dam**	**12.57**	**113**	P	Pn	01 53 35.9	-6.1
	baz=19,SNR=3.6						
KDU	**Kakadu**	**13.75**	**110**	P	**Pn**	**01 53 57.5**	**+0.6**
	baz=20,SNR=6.5						
WRA	**Warramunga Arr**	**18.72**	**130**	P	**P**	**01 54 54.1**	**-0.1**
	0.1nm,0.3s,baz=303,slow=12,SNR=10						
WRA				S	**S**	**01 58 16.7**	**-1.0**
	0.1nm,0.3s,baz=308,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**20.85**	**139**	P	**P**	**01 55 16.6**	**-0.5**
	1.1nm,0.5s,baz=314,slow=8.9,SNR=25						
STKA	**Stephens Creek**	**31.44**	**142**	P	**P**	**01 56 53.9**	**+0.3**
	1.1nm,0.8s,baz=315,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**63.83**	**333**	P	**P**	**02 01 02.1**	**+0.1**
	0.2nm,0.5s,baz=154,slow=6.9,SNR=4.9						

IDC ***22*** *01:54:42.4±0.6,22.93S×174.67W,h0km,mb4.6/16, mb1 4.8/17,mb1mx4.7/23,mbtmp4.6/17,ML4.1/1,MS3.9/14, Ms1 4.0/14,ms1mx3.7/34,Error ellipse: s-maj=22.4km s-min=15.9km az=135.0*
SZGRF ***22*** *01:54:43.3,24.60S×172.29W,h33km,South of Tonga Islands*
BJI ***22*** *01:54:47.2,23.21S×175.08W,h34km,mB5.5/17, mb5.1/19,Ms5.3/9,Ms7 5.0/9*
ISCJB ***22*** *01:54:47.1±0.2,23.02S±0.07×174.76W±0.05,h37km, mb4.8/54,MS4.1/15,Error ellipse: s-maj=10.7km s-min=4.9km az=152.0*
MOS ***22*** *01:54:48.3±1.4,22.78S×174.83W,h41km,mb4.9/29, Error ellipse: s-maj=16.1km s-min=10.8km az=140.3*
AUST ***22*** *01:54:48.2±5.6,22.58S×174.03W,h78km,Error ellipse: s-maj=4.0km s-min=1.4km az=349.0*
NEIC ***22*** *01:54:48.2±0.2,22.91S×174.78W,h35km,mb4.8/30, Error ellipse: s-maj=10.2km s-min=4.7km az=144.0*

ISC 22 01:54:48.1±0.5,23.02S±0.08×174.75W±0.07,h34km±1km, h34km:pP-P,n519,σ0¶83/539,mb4.8/54,MS4.1/15, 168C-138D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.97**	**50**	P	Pn	01 56 03.9	-10
	baz=5.2,SNR=58						
NIUE				S	Sn	01 57 00.4	-21
	baz=5.2,SNR=6.9						
AFI	**Afiamalu**	**9.49**	**18**	Pn	Pn	01 56 54.1	-8.4
	5.7nm,0.3s,baz=31,slow=23,SNR=6.1						
AFI				Sn	Sn	01 58 31.4	-17
	10nm,0.3s,baz=7.9,slow=21,SNR=4.1						
AFI	**Afiamalu**	**9.49**	**18**	Pn	Pn	01 56 54.1	-8.4
AFI				Sn	Sn	01 58 31.4	-17
RAR	**Rarotonga**	**13.99**	**85**	Pn	Pn	01 57 53.7	-10
	12nm,0.3s,baz=270,slow=6.4,SNR=15						
RAR				LR	LR	02 02 16.4	
	comp=Z,377nm,19.0s,baz=90,slow=33						
RAR	**Rarotonga**	**13.99**	**85**	Pn	Pn	01 57 53.7	-10
URZ	**Urewera**	**16.72**	**203**	Pn	**Pn**	**01 58 38.5**	**-1.1**
	0.7nm,0.3s,baz=23,slow=2.7,SNR=3.7						
URZ	**Urewera**	**16.72**	**203**	*e*P	**P**	**01 58 41.9**	**+0.2

ISA	**Isabella**	79.00	44	⇑P		P	02 06 48.3	-0.4
	baz=79,SNR=6.8							
PFO	**Pinyon Flat Ob**	79.05	46	⇑P		P	02 06 49.3	+0.1
	baz=79							
CMB	**Columbia Colle**	79.32	41	*e*P		P	02 06 49.6	-0.8
CMB					pmax	pmax		
	comp=Z,7.0nm,1.0s							
CMB	**Columbia Colle**	79.32	41	*e*P		P	02 06 49.6	-0.8
	comp=Z,7.2nm,1.0s							
LRMC	**Laurel Mountai**	79.38	44	⇓P		P	02 06 51.2	+0.4
	baz=80							
PETK	**Petropavlovsk-**	79.50	344	P		P	02 06 50.9	-0.1
	comp=Z,9.7nm,0.8s,baz=132,slow=8.9,SNR=6.1							
PETK	**Petropavlovsk-**	79.50	344	P		P	02 06 50.9	-0.1
PETK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PETK	**Petropavlovsk-**	79.50	344	P		P	02 06 50.9	-0.1
YSS	**Yuzh-Sakhalins**	79.51	332	*e*P		P	02 06 53.3	+2.2
YSS					pmax	pmax		
	comp=Z,14nm,1.3s							
BELC	**Belle Mtn. Jos**	79.59	46	⇓P		P	02 06 52.7	+0.6
	baz=80							
BC3	**Big Chuckawall**	79.75	47	⇓P		P	02 06 53.3	+0.3
	baz=80							
GLA	**Glamis**	79.82	48	⇑P		P	02 06 53.8	+0.6
	baz=80							
GSC	**Goldstone**	79.85	45	*e*P		P	02 06 53.0	-0.4
GSC					pmax	pmax		
	comp=Z,8.0nm,1.1s							
GSC	**Goldstone**	79.85	45	*e*P		P	02 06 53.0	-0.4
	comp=Z,7.7nm,1.1s							
GSC	**Goldstone**	79.85	45	⇓P		P	02 06 52.9	-0.5
	baz=80,SNR=5.7							
MPMC	**Manual Prospec**	79.87	44	⇓P		P	02 06 53.2	-0.4
	baz=80,SNR=7.9							
HEC	**Hector,Ludlow**	79.87	45	⇓P		P	02 06 53.5	0.0
	baz=80							
MLAC	**Mammoth Lakes**	80.00	42	⇓P		P	02 06 54.5	+0.1
	baz=80							
TIN	**Tinemaha**	80.02	43	⇑P		P	02 06 54.6	+0.3
	baz=80							
IRM	**Iron Mountain**	80.25	47	⇑P		P	02 06 55.6	+0.1
	baz=80							
GMRC	**Granite Mounta**	80.28	46	⇓P		P	02 06 55.8	0.0
	baz=80							
113A	**Mohawk Valley,**	80.38	48	⇑P		P	02 06 56.2	+0.1
	baz=80							
YBH	**Yreka Blue Hor**	80.42	37	*e*P		P	02 06 56.4	+0.1
	comp=Z,8.6nm,1.1s							
Y12C	**Blythe**	80.43	47	⇓P		P	02 06 56.5	+0.1
	baz=81							
WCN	**Washoe City**	80.51	40	*e*P		P	02 06 57.2	+0.2
WCN	**Washoe City**	80.51	40	*e*P		P	02 06 57.2	+0.2
KSRS	**Korea Array**	80.78	317	P		P	02 06 59.0	+0.8
	comp=Z,0.8nm,0.6s,baz=144,slow=7.1,SNR=2.8							
KSRS				LR		LR	02 39 23.4	
	comp=Z,41nm,18.4s,baz=127,slow=33							
KSAR	**Wonju Array Be**	80.79	317	P		P	02 06 59.0	+0.7
NVAR	**Mina Array Bea**	80.83	42	P		P	02 06 56.7	-2.1
	comp=Z,6.7nm,0.8s,baz=226,slow=9.5,SNR=14							
NVAR	**Mina Array Bea**	80.83	42	P		P	02 06 56.7	-2.1
HUMO	**Hull Mountain**	80.88	36	*e*P		P	02 06 58.3	-0.4
	comp=Z,11nm,1.1s							
NV11	**Mina Array Sit**	80.93	42	*e*P		P	02 06 58.2	-1.0
PDMCI	**Parker Dam,Lak**	81.01	47	⇑P		P	02 06 59.5	0.0
	baz=81							
Z14A	**Wintersburg**	81.29	48	⇓P		P	02 07 01.1	+0.1
	baz=81							
Y14A	**Wickenburg**	81.57	48	⇓P		P	02 07 02.6	0.0
	baz=82							
W13A	**Hualapai Mount**	81.65	46	⇓P		P	02 07 03.0	-0.2
	baz=82							
TUC	**Tucson**	82.20	50	*e*P		P	02 07 05.0	-1.0
TUC					pmax	pmax		
	comp=Z,3.0nm,0.9s							
TUC	**Tucson**	82.20	50	*e*P		P	02 07 05.0	-1.0
	comp=Z,3.3nm,0.9s							
R11A	**Troy Canyon, C**	82.47	43	⇑P		P	02 07 07.4	0.0
	baz=83							
KDAK	**Kodiak Island**	82.60	12	LR		LR	02 41 04.4	
	comp=Z,86nm,18.6s,baz=260,slow=34							
USRK	**Ussuriysk Arra**	82.74	324	P		P	02 07 09.5	+1.1
	comp=Z,1.4nm,0.7s,baz=107,slow=4.6,SNR=7.4							
319A	**Douglas**	82.78	52	⇓P		P	02 07 09.3	+0.2
	baz=83							
X16A	**Lo Mia Camp, P**	82.91	48	⇓P		P	02 07 10.0	+0.2
	baz=83,SNR=12							
320A	**Kipp Ranch, An**	83.30	52	⇑P		P	02 07 12.3	+0.5
	baz=83							
CCUT	**Cedar City**	83.41	45	*e*P		P	02 07 13.0	+0.6
	comp=Z,9.4nm,1.0s							
CCUT				*e*pP		pP	02 07 25.0	+2.0
VIPM	**Ingram Point**	83.42	36	P		P	02 07 12.0	-0.1
VIPM	**Ingram Point**	83.42	36	P		P	02 07 11.9	-0.1
U15A	**North Rim**	83.47	46	⇓P		P	02 07 12.8	+0.1
	baz=84,SNR=8.3							
ARUT	**Antelope Range**	83.50	44	*e*P		P	02 07 12.5	-0.2
ARUT					pmax	pmax		
	comp=Z,7.0nm,0.9s							
ARUT	**Antelope Range**	83.50	44	*e*P		P	02 07 12.5	-0.2
	comp=Z,6.7nm,0.9s							
VFP	**Flag Point**	83.51	35	P		P	02 07 12.4	-0.2
WUAZ	**Wupatki**	83.57	47	⇑P		P	02 07 13.4	+0.3
	baz=84							
220A	**Playas Peak, P**	83.60	52	⇑P		P	02 07 13.1	-0.2
	baz=84,SNR=8.2							
NLWA	**Neilton Lookou**	83.70	32	*e*P		P	02 07 12.8	-0.6
	comp=Z,116nm,2.1s							
120A	**U Bar Ranch, L**	83.86	51	⇓P		P	02 07 15.0	+0.3
	baz=84							
VTHM	**Trough**	83.89	35	P		P	02 07 14.3	-0.1
X18A	**Snowflake**	84.00	49	⇓P		P	02 07 15.7	+0.3
	baz=84							
ELK	**Elko**	84.12	41	*e*P		P	02 07 15.2	-0.7
Z20A	**Nine Sixteen R**	84.19	50	⇓P		P	02 07 16.5	+0.1
	baz=84,SNR=5.7							
221A	**Mesquite Ranch**	84.20	52	⇑P		P	02 07 16.6	+0.2
	baz=84							
HDW	**Hoodsport**	84.28	32	P		P	02 07 16.8	+0.5
LON	**Longmire**	84.29	33	*e*P		P	02 07 16.1	-0.3
LON	**Longmire**	84.29	33	*e*P		P	02 07 16.1	-0.3
MDJ	**Mudanjiang**	84.32	324	P		P	02 07 16.8	+0.3
MDJ					pmax	pmax		
	comp=Z,8.0nm,1.9s							
121A	**Cookes Peak, D**	84.47	51	⇓P		P	02 07 18.1	+0.3
	baz=85							
QIZ	**Qiongzhong**	84.63	293	P		P	02 07 18.5	-0.2
QIZ				S		S	02 17 44.1	+0.1
QIZ					pmax	pmax		
	comp=Z,15nm,1.6s							
MVU	**Marysvale**	84.70	44	*e*P		P	02 07 19.4	+0.5
	comp=Z,8.8nm,1.0s							
MSU	**Marysvale**	84.73	44	*e*P		P	02 07 19.5	+0.5
MSU	**Marysvale**	84.73	44	*e*P		P	02 07 19.5	+0.5
Y20A	**Horse Springs,**	84.77	50	⇑P		P	02 07 19.4	+0.1
	baz=85,SNR=8.6							
SYO	**Syowa Base**	84.92	192	⇓*e*P		P	02 07 18.5	-0.7
Z21A	**St. Cloud Mine**	84.95	51	⇓P		P	02 07 20.3	+0.1
	baz=85,SNR=5.6							
X20A	**Quemado**	85.02	49	⇑P		P	02 07 20.5	0.0
	baz=85,SNR=7.2							
223A	**Chaparral, Ant**	85.18	52	⇑P		P	02 07 21.1	-0.2
	baz=85							
HAWA	**Hanford**	85.23	35	*e*P		P	02 07 21.2	+0.1
	comp=Z,27nm,1.5s							
CMW	**Cultus Mountai**	85.27	32	P		P	02 07 21.6	+0.3
DUG	**Dugway**	85.29	43	*e*P		P	02 07 21.4	-0.3
DUG					pmax	pmax		
	comp=Z,7.0nm,1.4s							
DUG	**Dugway**	85.29	43	*e*P		P	02 07 21.4	-0.3
	comp=Z,7.0nm,1.4s							
DUG	**Dugway**	85.29	43	⇓P		P	02 07 21.7	-0.1
	baz=85							
Y21A	**Point of Rocks**	85.32	50	⇓P		P	02 07 22.0	-0.1
	baz=86							
W20A	**Ramah**	85.33	49	⇑P		P	02 07 22.2	+0.1
	baz=86,SNR=14							
PLCA	**Paso Flores**	85.35	132	LR		LR	02 36 41.6	
	comp=Z,90nm,19.4s,baz=81,slow=30							
MFID	**Camas Ranch**	85.39	39	*e*P		P	02 07 21.8	-0.3
	comp=Z,9.0nm,1.0s							
MFID				*e*pP		pP	02 07 32.9	0.0
MFID	**Camas Ranch**	85.39	39	⇓P		P	02 07 22.2	+0.1
	baz=86							
SNAA	**Sanae**	85.39	177	*e*P		P	02 07 21.7	0.0
	comp=Z,3.3nm,0.9s							
VNA3	**Neumayer Olymp**	85.42	175	*e*P		P	02 07 22.0	+0.2
VNA3	**Neumayer Olymp**	85.42	175	*e*pP		pP	02 07 33.6	+1.1
Z22A	**Elephant Butte**	85.43	51	⇓P		P	02 07 23.0	+0.5
	baz=86							
X21A	**Alamocita Cree**	85.47	50	⇑P		P	02 07 22.6	-0.2
	baz=86							
324A	**Moseley Ranch,**	85.59	53	⇓P		P	02 07 22.8	-0.6
	baz=86,SNR=7.1							
Q16A	**Castle Valley**	85.61	44	⇑P		P	02 07 23.3	-0.1
	baz=86							
ETW	**Entiat**	85.61	34	P		P	02 07 22.8	-0.3
425A	**Indio Mountain**	85.63	54	⇓P		P	02 07 23.2	-0.4
	baz=86,SNR=8.7							
626A	**Big Bend Ranch**	85.66	56	⇓P		P	02 07 23.1	-0.7
	baz=86,SNR=12							
S18A	**Hurst Farm, Bl**	85.70	46	⇓P		P	02 07 23.7	-0.2
	baz=86							
V20A	**Brimhall**	85.71	48	⇑P		P	02 07 23.9	-0.1
	baz=86							
Y22A	**Socorro**	85.78	51	⇓P		P	02 07 24.7	+0.4
	baz=86							
TMUT	**Trail Mountain**	85.80	44	*e*P		P	02 07 25.0	+0.6
	comp=Z,13nm,0.9s							
224A	**Cornudas Mount**	85.88	53	⇑P		P	02 07 24.9	+0.1
	baz=86							
VNA2	**Neumayer--Watz**	85.89	176	*e*P		P	02 07 24.8	+0.7
	baz=187,slow=3.6							
VNA2	**Neumayer--Watz**	85.89	176	*e*PcP		PcP	02 07 26.8	0.0
	baz=187,slow=3.6							
LAZ	**Ladron**	85.90	50	*e*P		P	02 07 24.8	-0.2
	comp=Z,2.9nm,1.1s							
LAZ				*e*pP		pP	02 07 36.7	+1.0
TXAR	**Lajitas Array**	85.91	56	P		P	02 07 24.7	-0.3
	comp=Z,6.3nm,0.9s,baz=210,slow=7.2,SNR=40							
TXAR				LR		LR	02 40 03.8	
	comp=Z,67nm,18.1s,baz=175,slow=32							
TXAR	**Lajitas Array**	85.91	56	P		P	02 07 24.7	-0.3
325A	**Bean Ranch, Si**	85.93	54	⇓P		P	02 07 24.0	-1.1
	baz=86,SNR=6.6							
526A	**Mary Lane Ranc**	85.94	55	⇓P		P	02 07 24.4	-0.7
	baz=86,SNR=12							
U20A	**Newcomb**	85.98	48	⇓P		P	02 07 25.8	+0.5
	baz=86							
I12A	**Atlanta**	86.03	39	⇓P		P	02 07 25.6	+0.3
	baz=86							
X22A	**Bernardo**	86.04	50	⇓P		P	02 07 26.1	+0.5
	baz=86							
O16A	**Springville**	86.12	43	⇑P		P	02 07 26.1	+0.3
	baz=86							
SRU	**San Rafael**	86.14	45	*e*P		P	02 07 25.8	-0.1
SRU					pmax	pmax		
	comp=Z,11nm,1.1s							
SRU	**San Rafael**	86.14	45	*e*P		P	02 07 25.8	-0.1
	comp=Z,11nm,1.1s							
SRU	**San Rafael**	86.14	45	⇓P		P	02 07 26.3	+0.3
	baz=86							
CN2	**Changchun**	86.14	321	*e*P		P	02 07 27.3	+1.7
627A	**Terlingua Ranc**	86.18	56	⇑P		P	02 07 25.8	-0.5
	baz=86,SNR=14							
P17A	**Butcher Ranch,**	86.20	44	⇓P		P	02 07 26.6	+0.3
	baz=86							
124A	**Stringfield Ra**	86.24	52	⇑P		P	02 07 26.5	-0.2
	baz=86,SNR=6.5							
V21A	**Milan**	86.28	49	⇓P		P	02 07 27.0	+0.1
	baz=86							
426A	**McDonald Obser**	86.28	55	⇑P		P	02 07 26.5	-0.5
	baz=86,SNR=13							
HLID	**Hailey**	86.30	39	*e*P		P	02 07 26.6	-0.1
	comp=Z,22nm,2.1s							
HLID	**Hailey**	86.30	39	⇑P		P	02 07 26.8	+0.1
	baz=86							
527A	**Woodward Ranch**	86.34	55	⇓P		P	02 07 26.5	-0.7
	baz=86,SNR=5.9							
J13A	**Cove Ranch, Pi**	86.35	40	⇑P		P	02 07 27.0	+0.1
	baz=86							
225A	**Deer Hill, Car**	86.41	53	⇓P		P	02 07 27.1	-0.4
	baz=86,SNR=7.4							
Y23A	**Lovelace Mesa,**	86.43	51	⇑P		P	02 07 27.0	-0.5
	baz=87,SNR=5.3							
K14A	**Jones Ranch, D**	86.44	41	⇓P		P	02 07 27.6	+0.3
	baz=87							
MVCO	**Mesa Verde**	86.44	47	⇑P		P	02 07 27.5	-0.1
	baz=87							
N16A	**Rees Ranch, Co**	86.55	43	⇓P		P	02 07 28.1	+0.1
	baz=87							
628A	**Black Gap, Mar**	86.58	56	⇑P		P	02 07 27.9	-0.3
	baz=87,SNR=12							
U21A	**Nageezi**	86.60	48	⇑P		P	02 07 28.3	0.0
	baz=87,SNR=13							
L15A	**Malad City**	86.60	41	⇓P		P	02 07 27.6	-0.6
	baz=87							
O17A	**Robinson Place**	86.60	44	⇓P		P	02 07 28.8	+0.5
	baz=87							
Z24A	**Sheeppen Canyo**	86.62	52	⇓P		P	02 07 28.2	-0.3
	baz=87							
326A	**Caldwell Ranch**	86.64	54	⇓P		P	02 07 27.8	-0.8
	baz=87							
H12A	**Diamond D Ranc**	86.64	38	⇑P		P	02 07 28.0	-0.3
	baz=87							
ANMO	**Albuquerque**	86.66	50	*e*P		P	02 07 28.4	-0.3
	comp=Z,8.0nm,1.1s							
X23A	**Hourglass Bar**	86.66	50	⇑P		P	02 07 28.5	-0.2
	baz=87							
M16A	**Huntsville**	86.67	42	⇑P		P	02 07 28.9	+0.4
	baz=87							
I13A	**Wildhorse Cree**	86.69	39	⇓P		P	02 07 28.8	+0.2
	baz=87							
J14A	**Carey**	86.69	40	⇓P		P	02 07 28.7	+0.2
	baz=87							
G12A	**Big Creek, Yel**	86.72	38	⇑P		P	02 07 28.2	-0.5
	baz=87							
GDL2	**Guadalupe Moun**	86.79	53	*e*P		P	02 07 28.8	-0.4
GDL2				*e*pP		pP	02 07 41.4	+1.4
125A	**Gardner Draw,**	86.80	53	⇑P		P	02 07 29.0	-0.3
	baz=87,SNR=5.4							
V22A	**San Miguel Ran**	86.84	49	⇓P		P	02 07 29.5	-0.1
	baz=87							
427A	**Hayter Ranch,**	86.84	55	⇑P		P	02 07 29.4	-0.2
	baz=87,SNR=18							
Y24A	**Capitan**	86.87	51	⇓P		P	02 07 29.3	-0.4
	baz=87,SNR=17							
N17A	**Moffit Pass**	86.96	43	⇑P		P	02 07 30.2	+0.1
	baz=87							
T21A	**Navajo Lake**	86.98	48	⇑P		P	02 07 30.2	0.0
	baz=87							
528A	**Cox Ranch, San**	86.98	56	⇑P		P	02 07 29.9	-0.3
	baz=87,SNR=8.7							
W23A	**Werner Place,**	86.99	50	⇑P		P	02 07 30.6	+0.3
	baz=87							
H13A	**Challis**	86.99	39	⇓P		P	02 07 30.2	+0.2
	baz=87							
Z25A	**Roswell**	87.06	52	⇓P		P	02 07 30.7	+0.2
	baz=87							
I14A	**Mackay**	87.08	39	⇑P		P	02 07 30.9	+0.4
	baz=87							
O18A	**Roosevelt**	87.11	44	⇓P		P	02 07 30.8	+0.2
	baz=87							
U22A	**Llaves**	87.12	48	⇓P		P	02 07 30.4	-0.6
	baz=87							
F12A	**Elk City**	87.14	37	⇑P		P	02 07 30.5	-0.2
	baz=87							
S21A	**Coal Bank Pass**	87.16	47	⇑P		P	02 07 30.7	-0.4
	baz=87							
L16A	**Fish Haven**	87.19	42	⇓P		P	02 07 30.8	-0.2
	baz=87							
126A	**Clayton Basin,**	87.26	53	⇑P		P	02 07 31.1	-0.4
	baz=87							
V23A	**Ortiz Mt. (NFS**	87.26	49	⇑P		P	02 07 31.7	+0.1
	baz=87,SNR=5.5							
G13A	**Cobalt**	87.32	38	⇓P		P	02 07 31.1	-0.5
	baz=88							
428A	**Kincaid Ranch,**	87.33	55	⇑P		P	02 07 31.4	-0.5
	baz=87,SNR=5.3							
M17A	**Scullys Gap (B**	87.36	43	⇑P		P	02 07 31.3	-0.6
	baz=88							
E12A	**Beaver Dam Sad**	87.37	36	⇑P		P	02 07 31.6	-0.2
	baz=88							
J15A	**Blackfoot**	87.38	40	⇓P		P	02 07 32.0	+0.2
	baz=88							
529A	**Stev Forest Ra**	87.39	56	⇓P		P	02 07 31.2	-0.9
	baz=88,SNR=9.2							
Y25A	**Mesa, Roswell**	87.40	51	⇓P		P	02 07 31.8	-0.4
	baz=88,SNR=6.1							
P19A	**Cripple Cowboy**	87.42	45	⇑P		P	02 07 32.0	-0.3
	baz=88							
Q20A	**Ridgley Place,**	87.50	46	⇑P		P	02 07 32.1	-0.5
	baz=88							
H14A	**Leadore**	87.53	39	⇓P		P	02 07 32.8	+0.1
	baz=88							
W24A	**Lazy 6 Ranch,**	87.54	50	⇓P		P	02 07 32.6	-0.3
	baz=88							
328A	**Wristen Ranch,**	87.55	54	⇓P		P	02 07 32.1	-0.7
	baz=88							
U23A	**El Rito**	87.56	49	⇓P		P	02 07 33.4	+0.4
	baz=88							
K16A	**Soda Springs**	87.56	41	⇑P		P	02 07 32.5	-0.3
	baz=88							
Z26A	**Caprock**	87.60	52	⇑P		P	02 07 32.3	-0.8
	baz=88,SNR=8.9							
F13A	**Darby**	87.68	38	⇑P		P	02 07 32.8	-0.4
	baz=88							
NEW	**Newport**	87.69	34	*e*P		P	02 07 32.0	-1.1
	comp=Z,7.8nm,1.4s							
NEW	**Newport**	87.69	34	⇓P		P	02 07 32.6	-0.5
	baz=88							
O19A	**Miners Draw (B**	87.69	44	⇑P		P	02 07 33.4	-0.1
	baz=88							
R21A	**Cimarron**	87.69	46	⇑P		P	02 07 33.6	-0.1
	baz=88							
PSI	**Prapat**	87.70	274	LR		LR	02 46 42.8	
	comp=Z,94nm,19.7s,baz=112,slow=36							
M18A	**Lyman**	87.71	43	⇑P		P	02 07 33.5	-0.1
	baz=88							
N18A	**Larsen Ranch,**	87.71	43	⇓P		P	02 07 33.2	-0.4
	baz=88							
P20A	**De Beque**	87.73	45	⇑P		P	02 07 33.5	-0.2
	baz=88							
127A	**Arkansas Junct**	87.76	53	⇑P		P	02 07 33.6	-0.4
	baz=88							
J16A	**Bone**	87.80	41	⇓P		P	02 07 34.1	+0.2
	baz=88							
S22A	**4UR Ranch, Cre**	87.85	47	⇓P		P	02 07 34.1	-0.3
	baz=88							
G14A	**Jackson**	87.85	38	⇓P		P	02 07 34.4	+0.2
	baz=88							
429A	**Davenport Ranc**	87.88	56	⇓P		P	02 07 33.7	-0.8
	baz=88,SNR=21							
C11A	**Tepee Creek (N**	87.88	35	⇑P		P	02 07 33.9	-0.2
	baz=88							
D12A	**Red Ives Fores**	87.88	36	⇑P		P	02 07 33.7	-0.5
	baz=88							
V24A	**Rampart Ranch,**	87.89	50	⇓P		P	02 07 34.7	0.0
	baz=88							
N19A	**John Jarvie Ra**	87.98	44	⇑P		P	02 07 34.5	-0.4
	baz=88							
L18A	**Fontenelle, Gr**	88.00	42	⇑P		P	02 07 35.0	0.0
	baz=88							
228A	**UT Block 9, Go**	88.06	54	⇓P		P	02 07 35.6	+0.2
	baz=88							
530A	**J-C Ranch, Com**	88.08	56	⇑P		P	02 07 34.7	-0.7
	baz=88,SNR=5.9							
R22A	**Saguache, Gunn**	88.15	47	⇑P		P	02 07 35.8	-0.1
	baz=88							
O20A	**White River Ci**	88.17	45	⇑P		P	02 07 35.4	-0.5
	baz=88							
Z27A	**Tatum**	88.18	53	⇓P		P	02 07 35.3	-0.6
	baz=88							
I16A	**Newdale**	88.21	40	⇓P		P	02 07 35.9	0.0
	baz=88							
W25A	**X Bar L Ranch,**	88.21	50	⇑P		P	02 07 35.8	-0.3
	baz=88							
C12B	**Naegeli Ranch,**	88.21	36	⇓P		P	02 07 35.9	+0.3
	baz=88							
329A	**Wagon Wheel Ra**	88.22	55	⇑P		P	02 07 35.9	-0.2
	baz=88							
F14A	**Wisdom**	88.24	38	⇑P		P	02 07 36.1	+0.2
	baz=88							
TRF	**Thorofare Moun**	88.31	11	*e*P		P	02 07 34.7	-1.2
	comp=Z,133nm,2.5s							
631A	**Perdido Creek**	88.32	57	⇓P		P	02 07 36.5	-0.1
	baz=88							
G15A	**Dillon**	88.36	39	⇑P		P	02 07 36.2	-0.4
	baz=88							
P21A	**Newcastle**	88.36	46	⇓P		P	02 07 36.8	0.0
	baz=88							
Q22A	**Crested Butte,**	88.38	46	⇑P		P	02 07 36.7	-0.2
	baz=88							
128A	**Castleberry Fa**	88.38	54	⇓P		P	02 07 36.7	-0.2
	baz=88							
D13A	**Huson**	88.39	36	⇓P		P	02 07 36.2	-0.4
	baz=88							
K18A	**Toltan Ranch,**	88.39	42	⇓P		P	02 07 36.7	-0.1
	baz=88							
V25A	**Rancho No Teng**	88.41	50	⇓P		P	02 07 36.3	-0.7
	baz=88							
732A	**Laxson Ranch,**	88.48	58	⇑P		P	02 07 36.8	-0.5
	baz=89							
Y27A	**Causey**	88.49	52	⇑P		P	02 07 36.9	-0.5
	baz=89							
SMCO	**Snowmass**	88.50	46	*e*P		P	02 07 37.1	-0.5
	comp=Z,4.1nm,0.9s							
MSO	**Missoula**	88.52	37	⇓P		P	02 07 37.3	+0.1
	baz=89							
L19A	**Farson**	88.52	43	⇓P		P	02 07 37.2	-0.2
	baz=89							
E14A	**Clinton**	88.52	37	⇑P		P	02 07 37.3	0.0
	baz=89							
N20A	**Spence Gulch,**	88.53	44	⇑P		P	02 07 37.3	-0.3
	baz=89							
229A	**Bryant Ranch,**	88.57	54	⇑P		P	02 07 37.6	-0.2
	baz=89							
B12A	**Libby**	88.62	35	⇓P		P	02 07 37.5	0.0
	baz=89							
C13A	**Hot Springs**	88.68	36	⇑P		P	02 07 37.7	-0.1
	baz=89							
531A	**Rocksprings**	88.69	56	⇓P		P	02 07 37.9	-0.4
	baz=89,SNR=9.0							
J18A	**Kendall Valley**	88.72	41	⇓P		P	02 07 38.3	-0.1
	baz=89							
R23A	**Moffat**

	baz=89									
331A	**San Angelo**	89.31	56	⇓P		P		02 07 40.3	-0.9	
	baz=89									
J19A	**Crowheart**	89.34	42	⇑P		P		02 07 40.8	-0.4	
	baz=90									
S25A	**Robets Cordova**	89.44	48	⇑P		P		02 07 41.4	-0.5	
	baz=90									
K20A	**Yellowstone Ra**	89.45	43	⇑P		P		02 07 40.7	-1.1	
	baz=90									
M21A	**Separation Pea**	89.51	44	⇓P		P		02 07 41.6	-0.6	
	baz=90									
A13A	**Flathead Natio**	89.52	35	⇓P		P		02 07 41.8	-0.1	
	baz=90									
SEY	**Seymchan**	89.53	346	⇑*i*P		P		02 07 41.8	+0.4	
E16A	**East Helena**	89.61	38	⇑P		P		02 07 42.4	0.0	
	baz=90									
HRY	**Holter Researc**	89.63	38	*e*P		P		02 07 41.6	-0.8	
	comp=Z,2.0nm,0.6s									
231A	**Bronte**	89.68	55	⇑P		P		02 07 42.4	-0.6	
	baz=90									
N22A	**Wattenberg Ran**	89.68	45	⇓P		P		02 07 42.6	-0.4	
	baz=90									
L21A	**Rawlins**	89.70	44	⇑P		P		02 07 42.7	-0.3	
	baz=90									
ISCO	**Idaho Springs**	89.72	46	⇑P		P		02 07 42.8	-0.4	
	baz=90									
O23A	**Lake Granby, G**	89.73	46	⇓P		P		02 07 43.1	-0.1	
	baz=90									
R25A	**Fountain Ranch**	89.79	48	⇓P		P		02 07 42.4	-1.0	
	baz=90									
B14A	**Marquette Ranc**	89.79	36	⇑P		P		02 07 42.5	-0.6	
	baz=90									
I19A	**Meeteetse**	89.80	41	⇑P		P		02 07 43.3	-0.1	
	baz=90									
BJI	**Beijing**	89.81	314	P		P		02 07 44.8	+1.6	
BJI				pmax	pmax					
	comp=Z,11nm,0.8s									
C15A	**Salmond Ranch,**	89.81	37	⇑P		P		02 07 43.0	-0.3	
	baz=90									
X29A	**Tulia**	89.82	52	⇓P		P		02 07 43.1	-0.5	
	baz=90									
F17A	**Fitzpatrick Pl**	89.84	39	⇑P		P		02 07 44.2	+0.8	
	baz=90									
332A	**Millersview**	89.86	56	⇑P		P		02 07 43.4	-0.4	
	baz=90									
M22A	**Cedar Creek Ra**	89.90	44	⇑P		P		02 07 44.5	+0.5	
	baz=90									
D16A	**Dana Ranch, Ca**	89.97	38	⇑P		P		02 07 44.0	0.0	
	baz=90									
E17A	**Martinsdale**	90.04	38	⇑P		P		02 07 44.7	+0.3	
	baz=90									
COLA	**College**	90.05	11	*e*P		P		02 07 43.1	-0.6	
COLA				pmax	pmax					
	comp=Z,7.0nm,1.1s									
COLA	**College**	90.05	11	*e*P		P		02 07 43.1	-0.6	
	comp=Z,6.9nm,1.1s									
N23A	**Red Feather La**	90.06	45	⇓P		P		02 07 44.5	-0.3	
	baz=90									
A14A	**Double T Ranch**	90.07	35	⇑P		P		02 07 44.2	-0.2	
	baz=90									
S26A	**Kim**	90.09	49	⇓P		P		02 07 44.4	-0.4	
	baz=90									
K21A	**Alcova**	90.12	43	⇑P		P		02 07 44.4	-0.5	
	baz=90									
ILAR	**Eielson Array**	90.13	12	P		P		02 07 43.3	-0.8	
	comp=Z,3.3nm,0.9s,baz=216,slow=6.0,SNR=20									
ILAR	**Eielson Array**	90.13	12	P		P		02 07 43.3	-0.8	
B15A	**Bradely Ranch,**	90.14	36	⇑P		P		02 07 45.0	+0.2	
	baz=90									
H19A	**Powell**	90.15	41	⇑P		P		02 07 45.3	+0.4	
	baz=90									
G18A	**Lazy EL Ranch,**	90.16	40	⇓P		P		02 07 45.1	+0.1	
	baz=90									
232A	**Coleman**	90.17	55	⇓P		P		02 07 45.0	-0.2	
	baz=90									
RLMT	**Red Lodge**	90.22	40	⇑P		P		02 07 45.1	-0.3	
	baz=90									
O24A	**Longmont**	90.24	46	⇓P		P		02 07 45.5	0.0	
	baz=90									
I20A	**Worland**	90.28	42	⇑P		P		02 07 45.0	-0.5	
	baz=90									
C16A	**Fuhringer Ranc**	90.30	37	⇑P		P		02 07 45.1	-0.4	
	baz=90									
L22A	**Ellis Ranch, M**	90.33	44	⇑P		P		02 07 46.3	+0.4	
	baz=90									
J21A	**Lysite**	90.38	42	⇓P		P		02 07 45.9	-0.2	
	baz=90									
F18A	**Big Timber**	90.39	39	⇑P		P		02 07 46.4	+0.4	
	baz=90									
R26A	**Arlington**	90.44	48	⇑P		P		02 07 45.6	-0.8	
	baz=91									
A15A	**Johnson Ranch,**	90.44	36	⇑P		P		02 07 45.5	-0.6	
	baz=91									
Z31A	**Sharp Cattle R**	90.44	54	⇑P		P		02 07 46.1	-0.3	
	baz=91									
ABTX	**Abilene, Hawle**	90.50	55	⇑P		P		02 07 46.2	-0.5	
	baz=91									
GYA	**Guiyang**	90.51	299	*e*P		P		02 07 46.8	-0.2	
GYA				pP		pP		02 07 58.4	+0.6	
GYA				PP		PP		02 11 24.3	+2.0	
GYA				SKS		SKSac		02 18 13.8	-2.5	
GYA				S		S		02 18 37.0	-3.3	
GYA				sS		sS		02 18 55.3	-2.9	
GYA				SS		SS		02 24 41.8	-0.4	
GYA				pmax	pmax					
	comp=Z,10.0nm,1.0s									
GYA				pmax	pmax					
	comp=Z,90nm,5.4s									
GYA				LR	LR					
	comp=N,460nm,19.5s									
GYA				LR	LR					
	comp=E,410nm,18.3s									
GYA				LR	LR					
	comp=Z,480nm,19.0s									
D17A	**Six Diamond Ra**	90.52	38	⇑P		P		02 07 46.5	-0.1	
	baz=91									
E18A	**Harlowton**	90.64	39	⇓P		P		02 07 47.7	+0.6	
	baz=91									
Y31A	**Rekieta Farm,**	90.65	53	⇓P		P		02 07 47.2	-0.2	
	baz=91									
I21A	**Big Trails, Te**	90.72	42	⇓P		P		02 07 47.0	-0.6	
	baz=91									
C17A	**Wharram Farm,**	90.75	37	⇑P		P		02 07 47.6	0.0	
	baz=91									
F19A	**Roth Farm, Mol**	90.81	40	⇑P		P		02 07 47.9	0.0	
	baz=91									
L23A	**Garrett**	90.84	44	⇓P		P		02 07 48.0	-0.3	
	baz=91									
R27A	**Eads**	90.88	48	⇑P		P		02 07 47.9	-0.6	
	baz=91									
G20A	**Bridger**	90.90	40	⇑P		P		02 07 48.2	-0.2	
	baz=91									
Z32A	**Haskell**	90.94	54	⇓P		P		02 07 48.7	0.0	
	baz=91									
J22A	**Midwest**	91.01	43	⇓P		P		02 07 48.6	-0.4	
	baz=91									
A16A	**West Butte Ran**	91.03	36	⇑P		P		02 07 48.8	-0.1	
	baz=91									
D18A	**Linhart Farms,**	91.05	38	⇓P		P		02 07 49.3	+0.3	
	baz=91									
P26A	**Davis Ranch, A**	91.12	47	⇑P		P		02 07 48.9	-0.7	
	baz=91									
X31A	**McDonald Ranch**	91.17	53	⇓P		P		02 07 49.6	-0.2	
	baz=91									
E19A	**Rath Farm, Rou**	91.23	39	⇑P		P		02 07 50.5	+0.6	
	baz=91									
I22A	**9 Mile Ranch,**	91.26	42	⇑P		P		02 07 49.9	-0.2	
	baz=91									
KSCO	**Kaye Shedlock'**	91.34	48	⇑P		P		02 07 50.4	-0.2	
	baz=92									
D19A	**Cripps Ranch,**	91.56	39	⇑P		P		02 07 51.6	+0.2	
	baz=92									
B18A	**Beardsley Farm**	91.72	37	⇓P		P		02 07 51.7	-0.3	
	baz=92									
C19A	**Slack Wire Ran**	91.77	38	⇓P		P		02 07 53.0	+0.7	
	baz=92									
BILL	**Bilibino**	91.87	353	⇑*e*P		P		02 07 52.1	-0.1	
BILL				pmax	pmax					
	comp=Z,9.0nm,1.6s									
D20A	**Manuel Ranch,**	91.95	39	⇑P		P		02 07 53.4	+0.2	
	baz=92									
A18A	**Metzger Ranch,**	91.97	37	⇓P		P		02 07 52.9	-0.3	
	baz=92									
B19A	**Brinkman Farms**	92.22	37	⇑P		P		02 07 54.9	+0.6	
	baz=92									
C20A	**Veseth Ranch,**	92.36	38	⇓P		P		02 07 54.9	0.0	
	baz=92									
A19A	**Klindworth Far**	92.59	37	⇑P		P		02 07 55.9	-0.1	
	baz=93									
H24A	**Dirks Ranch, A**	92.89	42	⇓P		P		02 07 57.1	-0.5	
	baz=93									
RSSD	**Black Hills**	92.90	43	*e*P		P		02 07 56.8	-1.0	
RSSD				pmax	pmax					
	comp=Z,8.0nm,1.3s									
RSSD	**Black Hills**	92.90	43	*e*P		P		02 07 56.8	-1.0	
	comp=Z,8.3nm,1.3s									
C21A	**Desert Coulee**	92.94	39	⇑P		P		02 07 57.7	0.0	
	baz=93									
A20A	**Cobblestone Ra**	93.02	37	⇑P		P		02 07 58.0	0.0	
	baz=93									
D22A	**Cohagen**	93.12	40	⇑P		P		02 07 58.8	+0.3	
	baz=93									
KMI	**Kunming**	93.17	296	P		P		02 07 57.9	-1.6	
KMI				pmax	pmax					
	comp=Z,10.0nm,0.8s									
HHC	**Hu-ho-hao-te**	93.27	313	*e*P		P		02 07 59.3	-0.1	
HHC				pP		pP		02 08 11.3	+1.0	
HHC				sP		sP		02 08 15.1	+1.0	
HHC				PP		PP		02 11 47.3	+3.5	
HHC				SKS		SKSac		02 18 30.6	-0.6	
HHC				S		S		02 19 05.1	+0.6	
HHC				sS		sS		02 19 19.5	-3.0	
HHC				SS		SS		02 25 23.1	+1.7	
HHC				pmax	pmax					
	comp=Z,17nm,0.6s									
HHC				pmax	pmax					
	comp=Z,91nm,4.2s									
HHC				LR	LR					
	comp=N,260nm,18.7s									
HHC				LR	LR					
	comp=E,98nm,16.6s									
HHC				LR	LR					
	comp=Z,97nm,20.2s									
B21A	**Ellsworth Farm**	93.30	38	⇑P		P		02 07 59.6	+0.4	
	baz=93									
E23A	**Ismay**	93.30	40	⇑P		P		02 07 59.8	+0.4	
	baz=93									
F24A	**Ekalaka**	93.50	41	⇑P		P		02 08 00.3	-0.1	
	baz=94									
A21A	**Bergtoll Ranch**	93.64	38	⇑P		P		02 08 00.9	+0.1	
	baz=94									
D23A	**Lindsay**	93.70	40	⇑P		P		02 08 01.6	+0.4	
	baz=94									
CMAR	**Chiang Mai Arr**	93.79	288	P		P		02 08 02.8	+0.5	
	comp=Z,1.3nm,0.3s,baz=148,slow=2.2,SNR=4.6									
CMAR				LR		LR		02 50 52.7		
	comp=Z,22nm,20.9s,baz=180,slow=96									
CMAR	**Chiang Mai Arr**	93.79	288	P		P		02 08 02.8	+0.5	
C23A	**Lambert**	94.03	39	⇑P		P		02 08 03.0	+0.3	
	baz=94									
C24A	**Savage**	94.34	40	⇓P		P		02 08 04.6	+0.5	
	baz=94									
CD2	**Chengdu**	94.68	301	P		P		02 08 06.8	+0.7	
CD2				pP		pP		02 08 17.9	+1.0	
CD2				sP		sP		02 08 22.0	+1.2	
CD2				PP		PP		02 11 57.8	+2.8	
CD2				SKS		SKSac		02 18 37.9	-1.3	
CD2				S		S		02 19 14.3	-2.9	
CD2				sS		sS		02 19 33.0	-2.2	
CD2				SS		SS		02 25 42.4	+0.6	
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,90nm,5.4s									
CD2				LR	LR					
	comp=N,210nm,5.3s									
CD2				LR	LR					
	comp=Z,170nm,5.3s									
TUL1	**Tulsa**	94.81	53	⇓P		P		02 08 06.5	+0.1	
	baz=95									
DGMT	**Dagmar**	94.94	39	*e*P		P		02 08 07.0	+0.2	
	comp=Z,15nm,0.9s									
DGMT	**Dagmar**	94.94	39	⇓P		P		02 08 07.2	+0.4	
	baz=95									
A24A	**Westby**	95.27	39	⇓P		P		02 08 08.7	+0.4	
	baz=95									
LZH	**Lanzhou**	96.69	306	*e*P		P		02 08 16.1	+0.8	
LZH				pP		pP		02 08 25.6	-0.5	
LZH				sP		sP		02 08 29.3	-0.7	
LZH				pmax	pmax					
	comp=Z,16nm,1.0s									
YKA	**Yellowknife Ar**	97.55	24	P		P		02 08 17.6	-0.7	
	comp=Z,1.0nm,0.9s,baz=233,slow=4.2,SNR=15									
YKA	**Yellowknife Ar**	97.55	24	P		P		02 08 17.6	-0.7	
YKW3	**Yellowknife Ar**	97.59	24	*e*P		P		02 08 18.0	-0.4	
LPAZ	**La Paz**	98.32	112	LR		LR		02 44 59.1		
	comp=Z,47nm,19.4s,baz=110,slow=31									
WMQ	**Urumqi**	110.86	310	*e*PKP		PKiKP		02 13 17.8	+0.1	
ZALV	**Zalesovo Beam**	114.35	320	PKP		PKPdf		02 13 22.9	-1.0	
	comp=Z,0.3nm,0.4s,baz=270,slow=0.4,SNR=2.7									
ZALV	**Zalesovo Beam**	114.35	320	PKIKP		PKPdf		02 13 22.9	-1.0	
ZALV	**Zalesovo Beam**	114.35	320	PKP		PKPdf		02 13 22.9	-1.0	
MKAR	**Makanchi Array**	115.12	312	PKP		PKPdf		02 13 24.1	-1.6	
	comp=Z,0.7nm,1.1s,baz=70,slow=1.4,SNR=4.3									
MKAR	**Makanchi Array**	115.12	312	PKIKP		PKPdf		02 13 24.1	-1.6	
MKAR				pmax	pmax					
	comp=Z,1.0nm,1.1s									
MKAR	**Makanchi Array**	115.12	312	PKP		PKPdf		02 13 24.1	-1.6	
KURK	**Kurchatov**	117.89	316	PKIKP		PKPdf		02 13 29.2	-1.6	
KURK				pmax	pmax					
	comp=Z,1.0nm,1.1s									
KURK	**Kurchatov**	117.89	316	PKP		PKPdf		02 13 29.1	-1.6	
KURK				*e*PKPdf		PKiKP		02 13 30.1	-0.7	
KURBB	**Kurchatov Arra**	117.94	316	PKP		PKPdf		02 13 29.1	-1.8	
	comp=Z,0.9nm,1.1s,baz=82,slow=1.8,SNR=5.8									
KSH	**Kashi**	118.80	304	*e*PKP		PKPdf		02 13 33.1	0.0	
KSH				*es*PKP				02 13 48.5		
KSH				*e*PP		PP		02 14 58.3	+6.1	
KSH				PKS		PKSdf		02 17 09.8	-0.1	
KSH				SKS		SKSdf		02 20 41.0	-1.8	
KSH				SKKS		SKKSac		02 21 46.1	-3.7	
KSH				AMB		AMB				
	comp=Z,120nm,4.5s									
KSH				LR		LR				
	comp=N,70nm,4.5s									
KSH				LR		LR				
	comp=E,37nm,4.8s									
KSH				LR		LR				
	comp=Z,210nm,5.4s									
AAK	**Ala-Archa**	120.22	307	⇑*i*PKIKP		PKPdf		02 13 35.6	-0.2	
BRVK	**Borovoye**	123.01	319	*e*PKIKP		PKPdf		02 13 40.7	+0.1	
BRVK	**Borovoye**	123.01	319	*e*PKPdf		PKPdf		02 13 40.6	+0.1	
ARU	**Arti**	128.99	325	*e*PKPdf		PKPdf		02 13 51.9	0.0	
FINES	**FINESS Array B**	139.01	345	PKP		PKPdf		02 14 09.6	-1.0	
	comp=Z,2.8nm,1.1s,baz=350,slow=5.6,SNR=2.1									
FINES	**FINESS Array B**	139.01	345	PKP		PKPdf		02 14 09.6	-1.0	
GNI	**Garni**	142.63	307	*e*PKPdf		PKPdf		02 14 14.1	-3.9	
KIV	**Kislovodsk**	142.87	313	*e*PKPdf		PKPdf		02 14 16.6	-1.6	
SUW	**Suwalki**	146.23	341	*e*PKP		PKPbc		02 14 24.4	-0.2	
SUW	**Suwalki**	146.23	341	*e*PKP		PKPbc		02 14 24.4	-0.2	
AKASG	**Malin Array Be**	146.66	332	PKPbc		PKPbc		02 14 25.4	-0.7	
	comp=Z,3.2nm,0.6s,baz=40,slow=3.9,SNR=14									
AKASG	**Malin Array Be**	146.66	332	PKP2		PKPbc		02 14 25.4	-0.7	
AKASG				pmax	pmax					
	comp=Z,3.0nm,0.6s									
AKASG	**Malin Array Be**	146.66	332	PKPbc		PKPbc		02 14 25.4	-0.7	
KIEV	**Kiev**	146.67	332	*e*PKP2		PKPbc		02 14 25.4	-0.7	
KIEV	**Kiev**	146.67	332	*e*PKPbc		PKPbc		02 14 25.4	-0.7	
AK01	**Malin Array Si**	146.67	332	*e*PKPbc		PKPbc		02 14 25.4	-0.6	
AK02	**Malin Array Si**	146.70	332	*e*PKPbc		PKPbc		02 14 25.5	-0.6	
ESK	**Eskdalemuir**	147.14	9	*e*PKP2		PKPdf		02 14 25.8	+0.7	
ESK	**Eskdalemuir**	147.14	9	*e*PKPbc		PKPdf		02 14 25.8	+0.7	
MALT	**Malatya**	147.85	306	⇓PKP2		PKPbc		02 14 30.9	+1.0	
MALT	**Malatya**	147.85	306	*e*PKPbc		PKPbc		02 14 30.7	+0.8	
MALT	**Malatya**	147.85	306	⇓*i*P		PKPbc		02 14 30.9	+1.0	
KWP	**Kalwaria Pacla**	150.10	337	*e*PKP		PKPbc		02 14 35.6	+0.5	
KWP	**Kalwaria Pacla**	150.10	337	⇓PKP2		PKPbc		02 14 35.3	+0.2	
KWP	**Kalwaria Pacla**	150.10	337	*e*PKPbc		PKPbc		02 14 34.9	-0.2	
KWP	**Kalwaria Pacla**	150.10	337	⇓*i*P		PKPbc		02 14 35.3	+0.2	
KWP	**Kalwaria Pacla**	150.10	337	*e*PKP		PKPbc		02 14 35.6	+0.5	
OJC	**Ojcow**	150.56	341	*e*PKIKP		PKPbc		02 14 36.1	-0.1	
OJC	**Ojcow**	150.56	341	*e*PKP		PKPbc		02 14 36.1	-0.1	
IBBN	**Ibbenburen**	150.70	357	*e*PKPbc		PKPbc		02 14 36.8	+0.4	
BUR08	**Bucovina Ar. S**	150.70	332	*e*PKPbc		PKPbc		02 14 37.8	+1.0	
BURAR	**Bucovina Array**	150.72	332	⇓*i*P		PKPbc		02 14 37.3	+0.5	
BR131	**Keskin Array S**	150.76	311	*e*PKPdf		PKPdf		02 14 32.1	+0.5	
BR131				*e*PKPbc		PKPbc		02 14 36.8	-0.4	
BRTR	**Keskin Array B**	150.76	311	PKPbc		PKPbc		02 14 37.2	0.0	
	comp=Z,3.3nm,1.0s,baz=143,slow=3.1,SNR=11									
BRTR	**Keskin Array B**	150.76	311	PKPbc		PKPbc		02 14 37.2	0.0	
TESR		150.88	329	⇓*i*P		PKPbc		02 14 36.8	-0.3	
KSP	**Ksiaz**	150.93	346	*e*PKP		PKPbc		02 14 37.7	+0.6	
KSP	**Ksiaz**	150.93	346	*e*PKIKP		PKPbc		02 14 37.8	+0.8	
KSP				*e*				02 14 49.9		
KSP	**Ksiaz**	150.93	346	*e*PKP		PKPbc		02 14 37.6	+0.6	
CLZ	**Clausthal**	150.96	353	*e*PKIKP		PKPbc		02 14 37.6	+0.5	
CLZ	**Clausthal**	150.96	353	*e*PKPbc		PKPbc		02 14 37.6	+0.5	
CFR	**Carcaliu**	151.07	325	⇑PKIKP		PKPdf		02 14 33.3	+1.6	
CFR	**Carcaliu**	151.07	325	⇑*i*P		PKPdf		02 14 33.3	+1.6	
UZH	**Uzhgorod**	151.08	336	*e*PKIKP		PKPdf		02 14 30.0	-1.6	
UZH				*i*				02 14 38.0		
UZH				*i*				02 14 42.4		
NIE	**Niedzica**	151.10	339	*e*PKIKP		PKPbc		02 14 38.5	+1.0	
NIE	**Niedzica**	151.10	339	*e*PKP		PKPbc		02 14 38.5	+1.0	
CLL	**Collm**	151.13	350	*e*PKIKP		PKPdf		02 14 33.0	+1.4	
CLL				*e*				02 14 45.0		
CLL				*e*				02 14 50.0		
CLL				pmax	pmax					
	comp=Z,21nm,1.0s									
CLL	**Collm**	151.13	350	*e*PKPbc		PKPbc		02 14 37.7	+0.2	
CLL	**Collm**	151.13	350	*e*PKPdf		PKPdf		02 14 33.0	+1.4	
CLL				⇓*i*PKPbc		PKPbc		02 14 37.7	+0.2	
	comp=Z,14nm,1.0s									
CLL				*e*PKPab		PKPab		02 14 45.0	-0.2	
CLL				*e*(pPKPbc)				02 14 49.0		
UPC	**Upice**	151.31	346	*e*PKIKP		PKPbc		02 14 38.4	+0.5	
UPC				*e*				02 14 51.0		
UPC	**Upice**	151.31	346	⇑*e*PKP		PKPbc		02 14 38.4	+0.5	
UPC				*e*pPKP		PKPab		02 14 51.0	+5.0	
DPC	**Dobruska-Polom**	151.38	345	*e*PKIKP		PKPbc		02 14 38.1	-0.1	
DPC	**Dobruska-Polom**	151.38	345	⇑PKP		PKPbc		02 14 38.1	-0.1	
OKC	**Ostrava-Krasne**	151.38	342	*e*PKIKP		PKPbc		02 14 38.2	+0.1	
OKC	**Ostrava-Krasne**	151.38	342	⇑*e*PKP		PKPbc		02 14 38.2	+0.1	
BRG	**Berggiesshubel**	151.38	348	*e*PKP		PKPbc		02 14 38.3	+0.2	
	comp=Z,11nm,0.9s									
BRG				*e*				02 14 51.1		
	comp=Z,7.3nm,0.9s									
BRG	**Berggiesshubel**	151.38	348	*e*PKIKP		PKPbc		02 14 38.3	+0.2	
BRG				*e*				02 14 51.1		
BRG				pmax	pmax					
	comp=Z,10.0nm,0.9s									
BRG				pmax	pmax					
	comp=Z,11nm,0.9s									
BRG	**Berggiesshubel**	151.38	348	*e*PKPbc		PKPbc		02 14 38.5	+0.4	
TRPA	**Tarpa**	151.40	335	⇑*i*P		PKPbc		02 14 38.2	0.0	
FBE	**Freiberg**	151.44	349	*e*PKPbc		PKPbc		02 14 38.9	+0.7	
BUG	**Bochum--Univer**	151.59	357	*e*PKPbc		PKPbc		02 14 38.3	-0.2	
PVCC	**Panska Ves**	151.59	347	*e*PKIKP		PKPbc		02 14 38.9	+0.3	
PVCC				*e*				02 14 51.1		
PVCC	**Panska Ves**	151.59	347	⇑*e*PKP		PKPbc		02 14 38.9	+0.3	
PVCC				*e*pPKP		PKPab		02 14 51.1	+3.9	
MORC	**Moravsky Berou**	151.60	343	⇑PKIKP		PKPbc		02 14 39.5	+0.8	
MORC	**Moravsky Berou**	151.60	343	*e*PKPbc		PKPbc		02 14 39.2	+0.5	
MORC	**Moravsky Berou**	151.60	343	⇑*i*P		PKPbc		02 14 39.5	+0.8	
MLR	**Muntele Rosu**	151.96	328	⇓*i*P		PKPbc		02 14 39.3	-0.5	
MOX	**Moxa**	151.98	351	*e*PKIKP		PKPbc		02 14 39.5	0.0	
MOX	**Moxa**	151.98	351	*e*PKPbc		PKPbc		02 14 39.5	0.0	
PLN	**Plauen**	152.06	351	*e*PKPbc		PKPbc		02 14 40.0	+0.3	
WERD	**Werda**	152.07	350	*e*PKPbc		PKPbc		02 14 40.0	+0.3	
TANN	**Tannenbergstha**	152.08	350	*e*PKPbc		PKPbc		02 14 40.0	+0.2	
PRU	**Pruhonice**	152.11	347	*e*PKIKP		PKPbc		02 14 39.4	-0.4	
PRU				*e*				02 14 49.9		
PRU	**Pruhonice**	152.11	347	⇑*e*PKP		PKPbc		02 14 39.4	-0.4	
PRU				*e*PKPAB		PKPab		02 14 49.9	+0.6	
NKC	**Novy Kostel**	152.26	350	*e*PKIKP		PKPbc		02 14 41.1	+1.0	
NKC	**Novy Kostel**	152.26	350	⇑*e*PKP		PKPbc		02 14 41.1	+1.0	
DRGR		152.42	334	⇑PKIKP		PKPbc		02 14 41.0	+0.3	
DRGR		152.42	334	⇑*i*P		PKPbc		02 14 41.0	+0.3	
VOIR		152.43	329	⇑PKIKP		PKPbc		02 14

ILIC	**ilic-Erzincan**	0.26	192	*e*Pg		**Pg**	02 25 47.8	+0.2
KEMA	**Kemaliye**	0.45	194	*i* P		**Pg**	02 25 51.0	-0.2
KEMA				*i* S		**Sg**	02 25 57.8	+0.8
KEMA	**Kemaliye**	0.45	194	*i* P		**Pg**	02 25 51.0	-0.2
KEMA				*i* S		**Sg**	02 25 57.8	+0.8
SUSE	**Susehri**	0.60	327	*i* P		**Pb**	02 25 56.1	-0.2
SUSE				*i* S		**Sb**	02 26 06.0	+0.6
SUSE	**Susehri**	0.60	327	*i* P		**Pb**	02 25 56.1	-0.2
SUSE				*i* S		**Sb**	02 26 06.0	+0.6
KELT	**Kelkit**	0.65	47	*i* P		**Pg**	02 25 55.0	-0.2
KELT				*i* S		**Sg**	02 26 03.9	+0.2
KELT	**Kelkit**	0.65	47	*i* P		**Pg**	02 25 55.0	-0.2
KELT				*i* S		**Sg**	02 26 03.9	+0.2
ERZN	**Erzincan**	0.85	98	*e*PG		**Pg**	02 25 59.5	+0.6
DARE	**Darende-Malaty**	0.99	221	*e*PN		Pn	02 26 09.9	+6.0
GUMT	**Gumushane**	1.00	40	*e*PG		**Pg**	02 26 01.4	-0.4
GUMT	**Gumushane**	1.00	40	*e*Pg		**Pg**	02 26 01.4	-0.4
PTK	**Pertek**	1.00	144	*e*PG		**Pb**	02 26 03.2	+0.2
PTK	**Pertek**	1.00	144	*e*Pg		**Pb**	02 26 03.2	+0.2
ESPY	**Espiye-Giresun**	1.22	3	*e*PN		**Pg**	02 26 05.4	-0.6
ESPY	**Espiye-Giresun**	1.22	3	*e*Pn		**Pg**	02 26 05.4	-0.6
ELZG	**Elazig**	1.23	167	*i* P		**Pg**	02 26 04.6	-1.7
ELZG				*i* S		**Sg**	02 26 21.5	-0.8
ELZG	**Elazig**	1.23	167	*i* P		**Pg**	02 26 04.6	-1.7
ELZG				*i* S		**Sg**	02 26 21.5	-0.8
BAYT	**Ayd¯–ntepe-Bay**	1.35	59	*e*PN		**Pg**	02 26 08.3	-0.2
BAYT				*e*SN		**Sn**	02 26 27.4	-0.2
BAYT	**Ayd¯–ntepe-Bay**	1.35	59	*e*Pn		**Pg**	02 26 08.3	-0.2
BAYT				*e*Sn		**Sn**	02 26 27.4	-0.2
MALT	**Malatya**	1.40	187	*e*PN		**Pb**	02 26 10.3	+0.6
MALT	**Malatya**	1.40	187	*e*Pn		**Pb**	02 26 10.3	+0.6
EZM	**Erzurum**	2.11	84	*e*PN		**Pn**	02 26 19.5	0.0

IDC **22** *02:31:50.5±3.1, 37.°56N×38.°83E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/26, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=48.0km s-min=25.6km az=1.0*
DDA **22** *02:31:53.0, 38.°35N×38.°96E, h19km, ML4.0*
ISK **22** *02:31:52.5, 38.°35N×38.°92E, h5km, ML3.5*
CSEM **22** *02:31:53.8±0.2, 38.°30N×38.°94E, h2km, ML4.0, Error ellipse: s-maj=4.2km s-min=3.7km az=168.0*
NSSC **22** *02:31:53.3±9.6, 35.°57N×41.°67E, h0km±131km, MD2.1, ML3.2*

ISC 22 02:31:53.2±0.9, 38.°34N±0.°02×38.°94E±0.°02, h12km±6km, n87, σ1°41/113, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.16**	**12**	*i* P	**Pg**	**02 31 57.3**	**+0.2**
ELZG				*i* S	**Sg**	**02 31 59.8**	**0.0**
ELZG	**Elazig**	**0.16**	**12**	*i* P	**Pg**	**02 31 57.3**	**+0.2**
ELZG				*i* S	**Sg**	**02 31 59.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.29**	**82**	*e*PG	**Pg**	**02 31 59.1**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.29**	**82**	*e*Pg	**Pg**	**02 31 59.1**	**-0.2**
MALT	**Malatya**	**0.40**	**266**	*e*PG	**Pb**	**02 32 01.4**	**-1.0**
MALT	**Malatya**	**0.40**	**266**	*e*Pg	**Pb**	**02 32 01.4**	**-1.0**
MYA	**Malataya**	**0.41**	**268**	*e*PG	**Pb**	**02 32 01.5**	**-0.9**
MYA	**Malataya**	**0.41**	**268**	*e*Pg	**Pb**	**02 32 01.5**	**-0.9**
PTK	**Pertek**	**0.66**	**33**	*e*PG	**Pb**	**02 32 06.0**	**-0.7**
PTK	**Pertek**	**0.66**	**33**	*e*Pg	**Pb**	**02 32 06.0**	**-0.7**
AKCD	**Akcadag**	**0.80**	**267**	*i* P	**Pb**	**02 32 08.7**	**-0.5**
AKCD				*i* S	**Sb**	**02 32 19.9**	**-0.2**
AKCD	**Akcadag**	**0.80**	**267**	*i* P	**Pb**	**02 32 08.7**	**-0.5**
AKCD				*i* S	**Sb**	**02 32 19.9**	**-0.2**
URFA	**Urfa**	**0.90**	**186**	*e*PG	**Pn**	**02 32 11.1**	**-0.7**
URFA	**Urfa**	**0.90**	**186**	*e*Pg	**Pn**	**02 32 11.1**	**-0.7**
KEMA	**Kemaliye**	**0.99**	**339**	*i* P	**Pb**	**02 32 11.9**	**-0.5**
KEMA				*i* S	**Sb**	**02 32 25.9**	**+0.4**
KEMA	**Kemaliye**	**0.99**	**339**	*i* P	**Pb**	**02 32 11.9**	**-0.5**
KEMA				*i* S	**Sb**	**02 32 25.9**	**+0.4**
DIYA	**Diyarbakir**	**1.02**	**114**	*i* P	**Pn**	**02 32 13.2**	**-0.2**
DIYA				*i* S	**Sn**	**02 32 27.5**	**-0.2**
DIYA	**Diyarbakir**	**1.02**	**114**	*i* P	**Pn**	**02 32 13.2**	**-0.2**
DIYA				*i* S	**Sn**	**02 32 27.5**	**-0.2**
DARE	**Darende-Malaty**	**1.08**	**305**	*e*PN	**Pn**	**02 32 15.6**	**+1.3**
DARE	**Darende-Malaty**	**1.08**	**305**	*e*Pn	**Pn**	**02 32 15.6**	**+1.3**
DIY	**Diyarbakir**	**1.11**	**113**	*e*PN	**Pn**	**02 32 15.0**	**+0.4**
DIY	**Diyarbakir**	**1.11**	**113**	*e*Pn	**Pn**	**02 32 15.0**	**+0.4**
ILIC	**ilic-Erzincan**	**1.15**	**345**	*e*PN	**Pn**	**02 32 15.4**	**+0.2**
ILIC	**ilic-Erzincan**	**1.15**	**345**	*e*Pn	**Pn**	**02 32 15.4**	**+0.2**
BINT	**Bingol**	**1.33**	**66**	*e*Pn	Pg	02 32 22.0	+3.3
ERZN	**Erzincan**	**1.39**	**26**	*e*PN	**Pg**	**02 32 19.2**	**-0.7**
EZC	**Erzincan**	**1.45**	**13**	*e*Pn	**Pn**	**02 32 19.2**	**-0.2**
GZT	**Gaziantep**	**1.47**	**228**	*i* P	**Pg**	**02 32 20.7**	**-0.7**
GZT				*i* S	**Sg**	**02 32 42.2**	**+1.7**
BNGB	**Bing¯¶l**	**1.51**	**64**	*e*PN	**Pg**	**02 32 22.0**	**-0.1**
MARD	**Mardin**	**1.78**	**125**	*i* P	**Pn**	**02 32 24.6**	**+0.7**
MARD				*i* S	**Sb**	**02 32 47.9**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.79**	**282**	*e*PN	**Pg**	**02 32 28.2**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.79**	**282**	*e*Pn	**Pg**	**02 32 28.2**	**+0.6**
GAZ	**Gaziantep**	**1.80**	**230**	*e*PN	**Pb**	**02 32 25.8**	**-0.4**
GAZ	**Gaziantep**	**1.80**	**230**	*e*Pn	**Pb**	**02 32 25.8**	**-0.4**
KMRS	**Kahramanmaras**	**1.82**	**243**	*e*PN	**Pb**	**02 32 25.7**	**-0.7**
KMRS	**Kahramanmaras**	**1.82**	**243**	*e*Pn	**Pb**	**02 32 25.7**	**-0.7**
KELT	**Kelkit**	**1.82**	**8**	*i* P	**Pg**	**02 32 27.3**	**-0.9**
KELT				*i* S	**Sg**	**02 32 50.5**	**-1.3**
KELT	**Kelkit**	**1.82**	**8**	*i* P	**Pg**	**02 32 27.3**	**-0.9**
KELT				*i* S	**Sg**	**02 32 50.5**	**-1.3**
KBSD	**Kabsdagh**	**1.84**	**136**	*e*P	**Pb**	**02 32 26.4**	**-0.5**
KBSD				*e*S	**Sn**	**02 32 48.1**	**0.0**
KBSD				AML	AML	02 32 57.5	
	comp=Z,683nm,0.3s						
KBSD	**Kabsdagh** SNR=45	**1.84**	**136**	*e*P	**Pb**	**02 32 26.4**	**-0.5**
KBSD				*e*S	**Sn**	**02 32 48.1**	**0.0**
	comp=Z,683nm,0.3s,SNR=40						
BEST	**Besiri**	**1.89**	**103**	*i* P	**Pb**	**02 32 26.6**	**-1.1**
BEST				*i* S	**Sb**	**02 32 50.7**	**-0.7**
SUSE	**Susehri**	**1.95**	**343**	*i* P	**Pg**	**02 32 29.6**	**-1.1**
SUSE				*i* S	**Sg**	**02 32 55.1**	**-0.9**
SUSE	**Susehri**	**1.95**	**343**	*i* P	**Pg**	**02 32 29.6**	**-1.1**
SUSE				*i* S	**Sg**	**02 32 55.1**	**-0.9**
BTMT	**Batman**	**2.01**	**93**	*e*PN	**Pn**	**02 32 28.0**	**+0.9**
BTMT	**Batman**	**2.01**	**93**	*e*Pn	**Pn**	**02 32 28.0**	**+0.9**
PINB	**Pinarbasi**	**2.02**	**280**	*i* P	**Pg**	**02 32 30.3**	**-1.6**
PINB				*i* S	**Sg**	**02 33 02.2**	**+4.1**
PINB	**Pinarbasi**	**2.02**	**280**	*i* P	**Pg**	**02 32 30.3**	**-1.6**
KOPT	**Kop Dagi**	**2.07**	**35**	*i* P	**Pb**	**02 32 31.2**	**+0.4**
KOPT				*e*S	Sg	02 33 05.8	+6.1
KOPT	**Kop Dagi**	**2.07**	**35**	*i* P	**Pb**	**02 32 31.2**	**+0.4**
VRTB	**Varto-Mus**	**2.13**	**67**	*e*PN	**Pb**	**02 32 31.1**	**-0.8**
VRTB	**Varto-Mus**	**2.13**	**67**	*e*Pn	**Pb**	**02 32 31.1**	**-0.8**
KUZU	**Kuzuini**	**2.15**	**224**	*i* P	**Pn**	**02 32 30.0**	**+1.0**
KUZU				*i* S	**Sg**	**02 33 02.7**	**+0.2**
KUZU	**Kuzuini**	**2.15**	**224**	*i* P	**Pn**	**02 32 30.0**	**+1.0**
GUMT	**Gumushane**	**2.16**	**11**	*e*PN	**Pb**	**02 32 31.5**	**-0.8**
GUMT	**Gumushane**	**2.16**	**11**	*e*Pn	**Pb**	**02 32 31.5**	**-0.8**
BAYT	**Ayd¯–ntepe-Bay**	**2.25**	**24**	*e*PN	**Pb**	**02 32 32.8**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**2.25**	**24**	*e*Pn	**Pb**	**02 32 32.8**	**-1.1**
RSDY	**Resadiye-TOKAT**	**2.41**	**329**	*e*PN	**Pb**	**02 32 34.7**	**-1.7**
RSDY	**Resadiye-TOKAT**	**2.41**	**329**	*e*Pn	**Pb**	**02 32 34.7**	**-1.7**
EZM	**Erzurum**	**2.45**	**50**	*e*PN	**Pb**	**02 32 35.3**	**-2.0**
ERZM	**Erzurum**	**2.45**	**50**	*i* P	**Pb**	**02 32 36.5**	**-0.9**
ERZM				*e*S	Sg	02 33 18.0	+6.0
ERZM	**Erzurum**	**2.45**	**50**	*i* P	**Pb**	**02 32 36.5**	**-0.9**
ESPY	**Espiye-Giresun**	**2.58**	**356**	*e*PN	**Pb**	**02 32 37.2**	**-2.2**
ESPY	**Espiye-Giresun**	**2.58**	**356**	*e*Pn	**Pb**	**02 32 37.2**	**-2.2**
GRSN	**GIRESUNGRSN**	**2.63**	**349**	*i* P	**Pb**	**02 32 39.0**	**-1.3**
GRSN				*i* S	**Sg**	**02 33 15.6**	**-2.2**
GRSN	**GIRESUNGRSN**	**2.63**	**349**	*i* P	**Pb**	**02 32 39.0**	**-1.3**
JHLN	**Al Jahlan**	**2.69**	**189**	*e*P	**Pn**	**02 32 36.6**	**+0.2**
JHLN				*e*S	**Sn**	**02 33 06.7**	**-2.3**
JHLN				AML	AML	02 33 25.6	
	comp=Z,480nm,0.6s						
JHLN	**Al Jahlan** SNR=45	**2.69**	**189**	*e*P	**Pn**	**02 32 36.6**	**+0.2**
JHLN				*e*S	**Sn**	**02 33 06.7**	**-2.3**
	comp=Z,480nm,0.6s,SNR=40						
SIRN	**S¯–rnak**	**2.87**	**106**	*i* P	**Pn**	**02 32 39.7**	**+0.8**
SIRN				*e*S	**Sb**	**02 33 21.8**	**+2.2**
SIRN	**S¯–rnak**	**2.87**	**106**	*i* P	**Pn**	**02 32 39.7**	**+0.8**
ERBA	**Erbaa**	**2.88**	**325**	*i* P	**Pb**	**02 32 42.0**	**-2.7**
ERBA				*e*S	**Sb**	**02 33 19.6**	**-0.4**
ERBA	**Erbaa**	**2.88**	**325**	*i* P	**Pb**	**02 32 42.0**	**-2.7**
DDEM	**Demirkent**	**3.35**	**40**	*i* P	**Pn**	**02 32 48.2**	**+2.7**
DDEM				*e*S	**Sg**	**02 33 37.7**	**-3.0**
DDEM	**Demirkent**	**3.35**	**40**	*i* P	**Pn**	**02 32 48.2**	**+2.7**
DBAD	**Bademkaya**	**3.42**	**38**	*i* P	**Pn**	**02 32 49.2**	**+2.8**
DBAD				*e*S	Sg	02 33 49.1	+6.2
DBAD	**Bademkaya**	**3.42**	**38**	*i* P	**Pn**	**02 32 49.2**	**+2.8**
KFRA	**Kufra**	**3.56**	**209**	*e*P	**Pn**	**02 32 49.5**	**+1.1**
KFRA				*e*S	**Sg**	**02 33 43.1**	**-4.5**
KFRA				AML	AML	02 34 01.6	
	comp=E,180nm,1.0s						
KFRA				AML	AML	02 34 08.5	
	comp=N,356nm,0.6s						
DAGI	**Agillar**	**3.57**	**39**	*i* P	Pn	02 32 51.5	+2.9
DAGI				*e*S	**Sg**	**02 33 44.9**	**-2.9**
ARTV	**Artvin**	**3.66**	**38**	*i* P	**Pn**	**02 32 52.4**	**+2.6**
ARTV				*i* S	**Sg**	**02 33 49.7**	**-1.0**
ARTV	**Artvin**	**3.66**	**38**	*i* P	**Pn**	**02 32 52.4**	**+2.6**
HAWK	**Haweek**	**4.33**	**209**	*e*P	**Pn**	**02 32 59.9**	**+1.0**
HAWK				*e*S	**Sn**	**02 33 49.4**	**+0.1**
HAWK				AML	AML	02 34 21.8	
	comp=E,38nm,0.8s						
HAWK				AML	AML	02 34 28.5	
	comp=N,84nm,0.6s						
HAWK	**Haweek** SNR=45	**4.33**	**209**	*e*P	**Pn**	**02 32 59.9**	**+1.0**
HAWK				*e*S	**Sn**	**02 33 49.4**	**+0.1**
	comp=N,84nm,0.6s,SNR=40						
BRTR	**Keskin Array B**	**4.35**	**290**	Pn	Pn	02 33 02.6	+3.3
	comp=N,0.6nm,0.3s,baz=113,slow=14,SNR=32						
BRTR				Pg	Pg	02 33 13.1	-3.6
	comp=N,1.1nm,0.3s,baz=114,slow=15,SNR=15						
BRBR	**Barbar**	**5.48**	**207**	*e*P	**Pn**	**02 33 15.6**	**+0.6**
BRBR				*e*S	**Sn**	**02 34 17.6**	**-0.4**
BRBR				AML	AML	02 35 02.6	
	comp=N,37nm,0.6s						
BRBR				AML	AML	02 35 15.1	
	comp=E,39nm,0.6s						
KBZ	**Khabaz**	**6.16**	**28**	Pn	Pb	02 33 35.9	-4.5
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=3.1						
KURBB	**Kurchatov Arra**	**30.43**	**53**	P	**P**	**02 38 08.3**	**+2.9**
	comp=E,0.4nm,0.6s,baz=265,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**32.67**	**61**	P	P	02 38 28.9	+3.6
	comp=E,0.8nm,0.8s,baz=271,slow=8.1,SNR=8.8						

WAR **22** *02:39:42.7, 51.°58N×15.°99E*
ISCJB **22** *02:39:42.4±0.8, 51.°45N±0.°04×16.°10E±0.°04, h0km, Error ellipse: s-maj=5.8km s-min=3.3km az=20.1*
IPEC **22** *02:39:42.9±0.3, 51.°54N×16.°21E, h0km±1km, ML1.7/3, Error ellipse: s-maj=2.3km s-min=1.5km az=30.0*
CSEM **22** *02:39:43.5±0.4, 51.°48N×16.°11E, h2km, ML2.9/9, Error ellipse: s-maj=6.2km s-min=3.8km az=1.0*
PRU **22** *02:39:44.3, 51.°47N×16.°11E, h0km*
VIE **22** *02:39:46.2±0.4, 51.°28N×16.°17E, h0km, mb1.8/2, ML2.4/3, Error ellipse: s-maj=2.5km s-min=2.0km az=178.0 62 km WNW of Wroclaw Suspected Mining induced.*

ISC 22 02:39:42.4±1.2, 51.°55N±0.°05×16.°07E±0.°03, h0km, n30, σ0°73/55, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**02 39 57.0**	**+0.6**
KSP				*e*Sg	**Sg**	**02 40 05.2**	**-0.5**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**02 39 56.5**	**+0.2**
	baz=356						
KSP				*e*Sg	**Sg**	**02 40 05.0**	**-0.7**
	baz=356						
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**02 39 56.9**	**+0.6**
KSP				*e*Sg	**Sg**	**02 40 05.1**	**-0.5**
UPC	**Upice**	**1.05**	**182**	*e*PG	**Pg**	**02 40 03.0**	**+0.5**
UPC	**Upice**	**1.05**	**182**	Pg	**Pg**	**02 40 03.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*PG	**Pg**	**02 40 05.8**	**+0.1**
DPC				*e*SG	**Sg**	**02 40 21.2**	**-0.2**
	comp=Z,11nm,0.5s						
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*Pg	**Pg**	**02 40 05.7**	**+0.1**
	baz=357						
DPC				Sg	**Sg**	**02 40 21.2**	**-0.2**
	11nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pb**	**02 40 09.9**	**+0.5**
PVCC				*e*SG	**Sn**	**02 40 28.3**	**0.0**
	comp=Z,65nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**223**	Pg	**Pb**	**02 40 09.9**	**+0.5**
PVCC				Sg	**Sn**	**02 40 28.3**	**0.0**
	65nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**244**	PG	**Pb**	**02 40 11.8**	**+0.6**
BRG				SG	**Sn**	**02 40 32.2**	**+1.3**
	49nm,0.4s						
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**02 40 11.7**	**+0.4**
KRLC				*e*SG	**Sn**	**02 40 31.3**	**-0.8**
KRLC	**Kraliky**	**1.55**	**163**	Pg	**Pn**	**02 40 11.7**	**+0.4**
KRLC				Sg	**Sn**	**02 40 31.3**	**-0.8**
PRU	**Pruhonice**	**1.84**	**212**	*e*PN	**Pn**	**02 40 15.4**	**+0.1**
PRU				*e*PG	**Pg**	**02 40 17.2**	**-0.5**
PRU				*e*SG	**Sg**	**02 40 41.3**	**-0.3**
	comp=Z,14nm,0.3s						
PRU	**Pruhonice**	**1.84**	**212**	Pn	**Pn**	**02 40 15.4**	**+0.1**
PRU	**Pruhonice**	**1.84**	**212**	Pg	**Pg**	**02 40 17.2**	**-0.5**
PRU				Sg	**Sg**	**02 40 41.3**	**-0.3**
	14nm,0.3s						
CLL	**Collm**	**1.94**	**264**	*e*Pn	**Pb**	**02 40 17.0**	**-1.6**
CLL				*e*Pg	**Pg**	**02 40 20.0**	**+0.5**
CLL				*e*Sg	**Sg**	**02 40 45.0**	**+0.4**
	comp=Z,15nm,0.4s						
CLL				*i*		02 40 51.1	
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**02 40 17.4**	**-0.2**
	baz=335						
MORC				*e*Sg	**Sn**	**02 40 44.4**	**+0.9**
	comp=Z,4.9nm,0.2s,baz=335						
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*SG	**Sb**	**02 40 50.0**	**+0.1**
	comp=Z,8.6nm,0.5s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	Sg	**Sb**	**02 40 50.0**	**+0.1**
	comp=Z,8.6nm,0.5s						
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**02 40 21.4**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**02 40 53.4**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=354						
TREC	**Trest**	**2.29**	**190**	*e*PG	**Pg**	**02 40 25.8**	**-0.5**
TREC	**Trest**	**2.29**	**190**	Pg	**Pg**	**02 40 25.8**	**-0.5**
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**02 40 24.5**	**+0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**02 41 00.7**	**+1.1**
	comp=Z,2.8nm,0.3s,baz=357						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**02 40 33.9**	**-0.5**
OJC				*e*Sg	**Sg**	**02 41 09.1**	**-0.4**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**02 40 33.9**	**-0.5**
OJC				*e*Sg	**Sg**	**02 41 09.1**	**-0.4**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN	**Pn**	**02 40 30.8**	**+0.9**
KHC				*e*PG	**Pg**	**02 40 36.2**	**-1.9**
KHC				*e*SG	**Sg**	**02 41 14.3**	**-1.4**
	comp=Z,3.9nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**214**	Pn	**Pn**	**02 40 30.8**	**+0.9**
KHC	**Kasperske Hory**	**2.90**	**214**	Pg	**Pg**	**02 40 36.2**	**-1.9**
KHC				Sg	**Sg**	**02 41 14.3**	**-1.4**
	comp=Z,3.9nm,0.3s						
MOA	**Molln**	**3.89**	**198**	*i* Pn	**Pn**	**02 40 44.3**	**+0.9**
MOA				*i* Sg	**Sg**	**02 41 46.9**	**-0.4**
	comp=Z,4.3nm,0.4s						
MOA	**Molln**	**3.89**	**198**	Pn	**Pn**	**02 40 44.3**	**+0.9**
MOA				Sg	**Sg**	**02 41 46.9**	**-0.4**
	comp=Z,4.3nm,0.4s						

ISCJB **22** *02:47:42.9±0.5, 53.°28N±0.°03×160.°55E±0.°06, h54km±6km, mb3.3/6, Error ellipse: s-maj=7.4km s-min=2.8km az=32.6*
MOS **22** *02:47:42.5±1.6, 53.°42N×160.°46E, h53km, mb4.1/1, Error ellipse: s-maj=47.8km s-min=25.1km az=138.7*
KRSC **22** *02:47:43.4±0.4, 53.°30N×160.°52E, h43km±32km, ML4.0*
IDC **22** *02:47:46.6±2.4, 53.°41N×160.°34E, h79km±22km, mb3.1/6, mb1 3.4/6, mb1mx3.1/27, mbtmp3.1/6, Error ellipse: s-maj=31.4km s-min=20.0km az=152.0*

ISC 22 02:47:42.4±1.1, 53.°23N±0.°04×160.°66E±0.°05, h41km±11km, n45, σ1°25/82, mb3.3/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**251**	*i* P	**Pn**	**02 47 52.2**	**+0.2**
SPN				*i* S	**Sn**	**02 47 58.5**	**-0.1**
NLC	**Nalytchevo**	**0.79**	**266**	*e*P	**Pn**	**02 47 57.1**	**0.0**
NLC				*i* S	**Sn**	**02 48 07.1**	**-0.6**
SDLR	**Sedlovina**	**1.07**	**273**	*i* P	**Pn**	**02 48 01.1**	**+0.1**
SDLR				*i* S	**Sn**	**02 48 14.3**	**-0.3**
KII	**Karymskiy**	**1.08**	**319**	*e*P	**Pn**	**02 48 00.3**	**-0.9**
KII				*i* S	**Sn**	**02 48 12.9**	**-2.1**
UGLR	**Uglovaya**	**1.10**	**270**	*i* P	**Pn**	**02 48 01.9**	**+0.4**
UGLR				*i* S	**Sn**	**02 48 15.5**	**0.0**
SMAR	**Somma**	**1.11**	**273**	*i* P	**Pn**	**02 48 01.8**	**+0.1**
SMAR				*i* S	**Sn**	**02 48 15.1**	**-0.9**
KRER	**Koryakskii**	**1.15**	**275**	*i* P	**Pn**	**02 48 02.5**	**+0.3**
KRER				*i* S	**Sn**	**02 48 15.9**	**-0.9**
AVH	**Avacha**	**1.15**	**273**	*i* P	**Pn**	**02 48 02.6**	**+0.5**
AVH				*i* S	**Sn**	**02 48 16.8**	**+0.1**
KOK	**Koryaka**	**1.22**	**274**	*i* P	**Pn**	**02 48 03.2**	**+0.2**
KOK				*i* S	**Sn**	**02 48 16.9**	**-1.4**
PET	**Petropavlovsk**	**1.22**	**261**	*e*PN	**Pn**	**02 48 03.2**	**+0.2**
PET				*e*S	**Sn**	**02 48 18.0**	**-0.3**
PET				smax	smax		
	comp=E,471nm,0.4s						
PET				smax	smax		
	comp=N,358nm,0.5s						
PET	**Petropavlovsk**	**1.22**	**261**	*i* P	**Pn**	**02 48 03.2**	**+0.2**
PET				*i* S	**Sn**	**02 48 17.4**	**-0.9**
RUS	**Russkaya**	**1.52**	**239**	*i* P	**Pn**	**02 48 08.0**	**+0.9**
RUS				*i* S	**Sn**	**02 48 25.4**	**-0.3**
MTVR	**Mutnovka**	**1.68**	**245**	*e*P	**Pn**	**02 48 10.3**	**+1.0**
MTVR				*i* S	**Sn**	**02 48 29.5**	**-0.2**
GNL	**Ganaly**	**1.69**	**287**	*e*P	**Pn**	**02 48 10.1**	**+0.6**
GNL				*i* S	**Sn**	**02 48 29.6**	**-0.4**
GRL	**Gorelyy**	**1.71**	**248**	*e*P	**Pn**	**02 48 11.1**	**+1.4**
GRL				*i* S	**Sn**	**02 48 30.7**	**+0.3**
PETK	**Petropavlovsk-**	**1.78**	**267**	P	**Pn**	**02 48 12.1**	**+1.4**
	comp=N,24nm,0.3s,baz=90,slow=19,SNR=135						
PETK				S	**Sn**	**02 48 33.9**	**+1.8**
	comp=N,33nm,0.3s,baz=45,slow=4.4,SNR=25						
PETK	**Petropavlovsk-**	**1.78**	**267**	PN	**Pn**	**02 48 12.1**	**+1.4**
PETK				S	**Sn**	**02 48 33.9**	**+1.8**
PETK				pmax	pmax		
	comp=Z,24nm,0.3s						
PETK				smax	smax		
	comp=N,33nm,0.3s						
ASAK	**Asacha**	**1.88**	**244**	*e*P	**Pn**	**02 48 13.5**	**+1.5**
ASAK				*i* S	**Sn**	**02 48 35.9**	**+1.4**
TUMR	**Tumrok**	**2.08**	**352**	*i* P	**Pn**	**02 48 15.6**	**+0.7**
TUMR				*i* S	**Sn**	**02 48 39.0**	**-0.6**
APC	**Apacha**	**2.13**	**263**	*e*P	**Pn**	**02 48 17.2**	**+1.7**
APC				*i* S	**Sn**	**02 48 41.5**	**+0.8**
KMNR	**Kamenistaya**	**2.54**	**355**	*e*P	**Pn**	**02 48 22.6**	**+1.4**
KMNR				*e*S	**Sn**	**02 48 50.8**	**-0.2**
BZMR	**Bezymyannaya**	**2.71**	**358**	P	**Pn**	**02 48 24.7**	**+1.1**
BZMR				*i* S	**Sn**	**02 48 54.6**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**2.72**	**0**	P	**Pn**	**02 48 25.3**	**+1.7**
BZGR				*i* S	**Sn**	**02 48 55.7**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.74**	**358**	P	**Pn**	**02 48 26.2**	**+2.2**
BZWR				*i* S	**Sn**	**02 48 57.0**	**+1.0**
KPT	**Kopyto**	**2.75**	**355**	P	**Pn**	**02 48 26.0**	**+1.9**
KPT				*i* S	**Sn**	**02 48 57.0**	**+0.8**
ZLN	**Zelenaya**	**2.80**	**2**	P	**Pn**	**02 48 26.8**	**+2.1**
ZLN				*i* S	**Sn**	**02 48 58.1**	**+0.9**
LGNR	**Loginova**	**2.86**	**0**	P	**Pn**	**02 48 28.0**	**+2.2**
LG

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.86**	**122**	P	P	03 17 27.6	-0.1
	0.3nm,0.8s,baz=300,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**45.57**	**347**	P	P	03 17 41.4	+0.4
	0.6nm,0.4s,baz=158,slow=8.6,SNR=20						
SONM	**Songino Array**	**45.93**	**10**	P	P	03 17 44.2	+0.1
	0.6nm,0.6s,baz=193,slow=9.3,SNR=8.5						
KURBB	**Kurchatov Arra**	**50.04**	**346**	P	P	03 18 15.5	-0.1
	0.4nm,0.5s,baz=164,slow=6.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**51.97**	**352**	P	P	03 18 28.9	-1.2
	1.0nm,0.7s,baz=189,slow=7.3,SNR=5.9						
BVAR	**Borovoye Array**	**54.50**	**341**	P	P	03 18 48.8	0.0
	0.2nm,0.4s,baz=140,slow=7.5,SNR=3.1						

*ISCJB **22** 03:13:56.4±0.9, 51°.41N±0°.04×16°.10E±0°.04, h0km, Error ellipse: s-maj=6.4km s-min=3.3km az=12.4*
*WAR **22** 03:13:57.8, 51°.48N×16°.04E*
*CSEM **22** 03:13:57.9±0.4, 51°.40N×16°.08E, h1km, ML2.7/7, Error ellipse: s-maj=6.6km s-min=3.4km az=177.0*
*IPEC **22** 03:13:57.1±0.4, 51°.49N×16°.23E, h0km±1km, ML1.7/3, Error ellipse: s-maj=2.3km s-min=1.5km az=30.0*
*PRU **22** 03:13:58.5, 51°.42N×16°.09E, h0km*
ISC 22 03:13:57.7±1.2, 51°.46N±0°.06×16°.07E±0°.03, h0km, n22, σ0.58/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**03 14 10.2**	**+0.5**
KSP				*e*Sg	**Sg**	**03 14 18.7**	**+0.8**
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**03 14 09.8**	**+0.1**
	baz=357						
KSP				*e*Sg	**Sg**	**03 14 17.2**	**-0.7**
	baz=357						
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**03 14 10.2**	**+0.5**
KSP				*e*Sg	**Sg**	**03 14 18.7**	**+0.8**
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG	**Pg**	**03 14 19.0**	**-0.1**
DPC				*e*SG	**Sg**	**03 14 33.7**	**+0.1**
	comp=Z,9.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*Pg	**Pg**	**03 14 18.9**	**-0.1**
	baz=357						
DPC				*e*Sg	**Sg**	**03 14 32.9**	**-0.7**
	baz=357						
PVCC	**Panska Ves**	**1.33**	**226**	*e*PG	**Pg**	**03 14 23.2**	**+0.1**
PVCC				*e*SG	**Sg**	**03 14 41.0**	**+0.7**
	comp=Z,45nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**226**	*e*Pg	**Pb**	**03 14 23.5**	**0.0**
	baz=47						
PVCC				Sg	**Sg**	**03 14 41.0**	**+0.7**
	45nm,0.3s						
KRLC	**Kraliky**	**1.45**	**162**	*e*PG	**Pn**	**03 14 25.1**	**-0.2**
KRLC	**Kraliky**	**1.45**	**162**	Pg	**Pn**	**03 14 25.1**	**-0.2**
BRG	**Berggiesshubel**	**1.46**	**247**	PG	**Pn**	**03 14 25.5**	**+0.2**
BRG				SG	**Sn**	**03 14 45.6**	**+0.5**
	19nm,0.4s						
PRU	**Pruhonice**	**1.76**	**214**	*e*PG	**Pb**	**03 14 30.4**	**-0.5**
PRU				*e*SG	**Sg**	**03 14 54.5**	**+0.3**
	comp=Z,8.1nm,0.3s						
PRU	**Pruhonice**	**1.76**	**214**	Pg	**Pb**	**03 14 30.4**	**-0.5**
PRU				Sg	**Sg**	**03 14 54.5**	**+0.3**
	8.1nm,0.3s						
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**03 14 30.7**	**-1.0**
	baz=334						
MORC				*e*Sg	**Sn**	**03 14 56.6**	**0.0**
	8.0nm,0.5s,baz=334						
CLL	**Collm**	**1.93**	**267**	*e*Pg	**Pb**	**03 14 33.0**	**-0.7**
CLL				*e*		03 14 38.0	
CLL				*e*Sg	**Sg**	**03 15 00.0**	**+0.4**
	comp=Z,7.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*PG	**Pb**	**03 14 36.4**	**-0.1**
OKC				*e*SG	**Sb**	**03 15 02.6**	**-0.4**
	comp=Z,8.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**140**	Pg	**Pb**	**03 14 36.4**	**-0.1**
OKC				Sg	**Sb**	**03 15 02.6**	**-0.4**
	comp=Z,8.0nm,0.5s						
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**03 14 34.9**	**-0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**03 15 06.0**	**+0.6**
	comp=Z,3.4nm,0.3s,baz=354						
KRUC	**Moravsky**	**2.41**	**175**	*e*Pn	**Pn**	**03 14 38.0**	**-0.3**
	baz=358						
KRUC				*e*Sg	**Sb**	**03 15 13.1**	**+1.1**
	comp=Z,2.9nm,0.3s,baz=358						
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**03 14 49.2**	**+0.4**
OJC				*e*Sg	**Sg**	**03 15 23.9**	**+0.6**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**03 14 49.2**	**+0.4**
OJC				*e*Sg	**Sg**	**03 15 23.9**	**+0.6**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*PN	**Pn**	**03 14 43.7**	**-0.4**
KHC				*e*PG	**Pb**	**03 14 49.9**	**+0.9**
KHC				*e*SN	**Sn**	**03 15 17.1**	**-1.7**
KHC				*e*SG	**Sg**	**03 15 28.4**	**+0.1**
	comp=Z,3.4nm,0.5s						
KHC	**Kasperske Hory**	**2.82**	**215**	Pn	**Pn**	**03 14 43.7**	**-0.4**

*ISK **22** 03:18:14.7, 39°.36N×27°.96E, h12km, MD2.7*
*ISCJB **22** 03:18:15.4±0.5, 39°.37N±0°.03×27°.97E±0°.05, h7km±7km, Error ellipse: s-maj=6.3km s-min=4.6km az=163.5*
*DDA **22** 03:18:15.4, 39°.39N×27°.96E, h7km, MD2.9*
*CSEM **22** 03:18:15.4±0.1, 39°.37N×27°.97E, h10km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.7km az=65.0*
ISC 22 03:18:15.4±1.0, 39°.36N±0°.03×27°.96E±0°.03, h12km±10km, n22, σ0.34/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.29**	**348**	*e*PG	**Pg**	**03 18 21.1**	**-0.2**
BALB				*e*SG	**Sg**	**03 18 25.8**	**+0.6**
BALB	**Balikesir**	**0.29**	**348**	*e*Pg	**Pg**	**03 18 21.1**	**-0.2**
BALB				*e*Sg	**Sg**	**03 18 25.8**	**+0.6**
BALY	**Balya**	**0.46**	**326**	*i* P	**Pg**	**03 18 24.1**	**-0.4**
BALY				*i* S	**Sg**	**03 18 30.9**	**+0.2**
BALY	**Balya**	**0.46**	**326**	*i* P	**Pg**	**03 18 24.1**	**-0.4**
BALY				*i* S	**Sg**	**03 18 30.9**	**+0.2**
DURS	**Dursunbey**	**0.47**	**59**	*i* P	**Pg**	**03 18 24.2**	**-0.4**
DURS				*i* S	**Sg**	**03 18 30.9**	**+0.1**
DURS	**Dursunbey**	**0.47**	**59**	*i* P	**Pg**	**03 18 24.2**	**-0.4**
DURS				*i* S	**Sg**	**03 18 30.9**	**+0.1**
AKHS	**Akhisar**	**0.49**	**193**	*i* P	**Pb**	**03 18 26.1**	**+0.1**
AKHS				*i* S	**Sb**	**03 18 33.4**	**+0.2**
AKHS	**Akhisar**	**0.49**	**193**	*i* P	**Pb**	**03 18 26.1**	**+0.1**
AKHS				*i* S	**Sb**	**03 18 33.4**	**+0.2**
AKS	**Akhisar**	**0.49**	**193**	*e*PG	**Pg**	**03 18 24.9**	**-0.2**
AKS	**Akhisar**	**0.49**	**193**	*e*Pg	**Pg**	**03 18 24.9**	**-0.2**
DST	**Dursunbey**	**0.57**	**64**	*e*PG	**Pg**	**03 18 26.3**	**-0.2**
DST	**Dursunbey**	**0.57**	**64**	*e*Pg	**Pg**	**03 18 26.3**	**-0.2**
DEMI	**Demirci**	**0.67**	**118**	*e*P	**Pg**	**03 18 28.5**	**+0.1**
DEMI				*i* S	**Sb**	**03 18 38.2**	**-0.2**
DEMI	**Demirci**	**0.67**	**118**	*e*P	**Pg**	**03 18 28.5**	**+0.1**
DEMI				*i* S	**Sb**	**03 18 38.2**	**-0.2**
GONE	**Gonen-Balikesi**	**0.72**	**343**	*e*PG	**Pg**	**03 18 29.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.72**	**343**	*e*Pg	**Pg**	**03 18 29.1**	**-0.2**
KULA	**Kula-Manisa**	**1.01**	**147**	*e*PG	**Pg**	**03 18 34.1**	**-0.7**
KULA	**Kula-Manisa**	**1.01**	**147**	*e*Pg	**Pg**	**03 18 34.1**	**-0.7**
TVSB	**Tavsanli**	**1.17**	**85**	*e*PN	**Pb**	**03 18 37.4**	**-0.2**
TVSB				*e*SN	**Sn**	**03 18 53.9**	**+0.2**
TVSB	**Tavsanli**	**1.17**	**85**	*e*Pn	**Pb**	**03 18 37.4**	**-0.2**
TVSB				*e*Sn	**Sn**	**03 18 53.9**	**+0.2**
GDZ	**Gediz**	**1.21**	**102**	*i* P	**Pg**	**03 18 39.3**	**+0.5**
GDZ				*i* S	**Sg**	**03 18 54.5**	**-0.1**
GDZ	**Gediz**	**1.21**	**102**	*i* P	**Pg**	**03 18 39.3**	**+0.5**
GDZ				*i* S	**Sg**	**03 18 54.5**	**-0.1**

GUC 22 03:29:22.4±1.0, 38°.88S×73°.03W, h47km±5km, ML3.9, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.37**	**67**	↑*e*P	Pn	03 29 32.1	+0.2
TMU				*e*S	Sn	03 29 39.2	+0.6
VLCH	**Valdivia**	**0.94**	**190**	↓*i*P	Pn	03 29 39.4	+0.2
VLCH				*e*S	Sn	03 29 52.5	+1.0
AGCH	**Angol**	**1.10**	**14**	*e*P	Pn	03 29 42.1	+0.7
AGCH				*e*S	Sn	03 29 56.4	+0.9
AGCH				AML	AML	03 29 58.1	
	comp=E,6μm,0.4s						
PUYE	**Entre Lagos**	**1.83**	**170**	↓*e*P	Pn	03 29 52.0	+0.6
PUYE				*e*S	Sn	03 30 14.5	+1.1
PUYE				AML	AML	03 30 19.1	
	comp=E,2μm,0.2s						
PLCA	**Paso Flores**	**2.66**	**135**	*e*P	Pn	03 30 00.5	-2.4
COCH	**Cobquecura**	**2.75**	**4**	*e*P	Pn	03 30 03.0	-1.0
COCH				*e*S	Sn	03 30 34.2	-1.8
LMEL	**Las Melosas**	**5.52**	**25**	*e*P	Pn	03 30 40.4	-1.9
LMEL				*e*S	Sn	03 31 42.1	-2.5
PEL	**Peldehue**	**6.03**	**19**	*e*P	Pn	03 30 46.0	-3.2

IDC 22 03:33:18.6±2.8, 0°.40S×132°.00E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.4/21, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=130.2km s-min=26.2km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.67**	**199**	P	P	03 37 38.0	-0.4
	0.1nm,0.3s,baz=38,slow=15,SNR=5.3						
WRA	**Warramunga Arr**	**19.56**	**173**	P	P	03 37 48.1	0.0
	0.1nm,0.3s,baz=355,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**23.20**	**176**	P	P	03 38 27.4	+0.1
	0.8nm,0.6s,baz=351,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**63.94**	**324**	P	P	03 43 53.6	0.0
	0.1nm,0.3s,baz=107,slow=8.5,SNR=4.7						

WEL 22 03:35:58.9±0.3, 38°.48S×175°.89E, h156km±2km, ML4.0/21, 22C-9D, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.20**	**165**	PN	Pn	03 36 19.9	0.0
WATZ	**Wairara**	**0.26**	**208**	⇑PN	Pn	03 36 20.2	+0.2
WATZ				*e*SN	Sn	03 36 36.4	+0.1
ALRZ	**Allen Road**	**0.36**	**104**	PN	Pn	03 36 20.3	0.0
RATZ	**Rangitukua**	**0.40**	**194**	PN	Pn	03 36 20.6	0.0
HATZ	**Hinemaiaia**	**0.44**	**159**	PN	Pn	03 36 20.6	0.0
HATZ				SN	Sn	03 36 37.3	-0.1
RITZ	**Rihia Road**	**0.50**	**183**	⇓PN	Pn	03 36 21.4	+0.5
KATZ	**Kakaramea**	**0.52**	**197**	⇑PN	Pn	03 36 21.2	+0.1
TARZ	**Mount Tarawera**	**0.54**	**63**	PN	Pn	03 36 21.2	0.0
KRVZ	**Karewarewa**	**0.65**	**198**	PN	Pn	03 36 21.7	-0.1
WTVZ	**West Tongariro**	**0.68**	**200**	PN	Pn	03 36 22.0	0.0
WTVZ				SN	Sn	03 36 40.1	+0.3
TWVZ	**Taurewa**	**0.69**	**211**	⇑PN	Pn	03 36 22.0	0.0
OTVZ	**Oturere**	**0.71**	**194**	PN	Pn	03 36 22.2	0.0
OTVZ				SN	Sn	03 36 40.8	+0.6
NGZ	**Ngauruhoe**	**0.73**	**198**	PN	Pn	03 36 22.2	-0.2
WPVZ	**Whakapapa**	**0.78**	**200**	⇓PN	Pn	03 36 22.5	-0.2
TUVZ	**Tukino**	**0.81**	**193**	⇑PN	Pn	03 36 23.1	+0.1
TUVZ				SN	Sn	03 36 41.5	+0.1
HIZ	**Hauiti**	**0.81**	**267**	⇑PN	Pn	03 36 22.5	-0.3
FWVZ	**Far West T-bar**	**0.82**	**199**	PN	Pn	03 36 22.9	-0.2
BKZ	**Black Stump Fm**	**0.83**	**146**	PN	Pn	03 36 23.0	+0.1
DRZ	**Dome Shelter**	**0.84**	**198**	PN	Pn	03 36 23.3	0.0
TRVZ	**Turoa**	**0.86**	**198**	PN	Pn	03 36 23.4	0.0
WNVZ	**Wahianoa**	**0.88**	**195**	⇑PN	Pn	03 36 23.5	0.0
PKVZ	**Pokaka**	**0.92**	**208**	⇑PN	Pn	03 36 23.5	-0.1
MOVZ	**Moawhango**	**0.93**	**187**	⇑PN	Pn	03 36 23.5	-0.2
MOVZ				SN	Sn	03 36 41.9	-1.0
NMHZ	**Naumai**	**0.94**	**131**	⇑PN	Pn	03 36 24.9	+1.1
MTVZ	**Mangateitei**	**0.96**	**200**	PN	Pn	03 36 24.0	0.0
URZ	**Urewera**	**0.98**	**78**	PN	Pn	03 36 23.5	-0.5
URZ				SN	Sn	03 36 41.9	-1.3
BHHZ	**Black Hill Sta**	**1.02**	**173**	⇑PN	Pn	03 36 24.3	-0.1
RAHZ	**Arahi**	**1.03**	**116**	*e*PN	Pn	03 36 25.2	+0.8
VRZ	**Vera Road**	**1.10**	**234**	PN	Pn	03 36 24.6	-0.4
MCHZ	**McNeill Hill**	**1.15**	**147**	PN	Pn	03 36 26.6	+1.1
MWZ	**Matawai**	**1.29**	**84**	⇓PN	Pn	03 36 26.5	-0.3
RAEZ	**Rainy Point**	**1.42**	**235**	*e*PN	Pn	03 36 27.9	-0.1
PNHZ	**Pukenui**	**1.45**	**171**	PN	Pn	03 36 28.2	-0.2
WAZ	**Wanganui**	**1.46**	**209**	⇑PN	Pn	03 36 28.1	-0.3
KNZ	**Kokohu**	**1.49**	**112**	PN	Pn	03 36 29.1	+0.3
CKHZ	**Cape Kidnapper**	**1.50**	**142**	⇑PN	Pn	03 36 29.4	+0.6
KAHZ	**Kahuranaki**	**1.52**	**150**	⇑PN	Pn	03 36 29.6	+0.5
TSZ	**Takapari Road**	**1.58**	**178**	⇑PN	Pn	03 36 29.4	-0.4
NEZ	**North Egmont**	**1.61**	**240**	PN	Pn	03 36 30.2	+0.1
PRGZ	**Paritu Road**	**1.62**	**107**	PN	Pn	03 36 30.3	+0.2
DFE	**Dawson Falls**	**1.63**	**238**	PN	Pn	03 36 30.1	-0.2
WPHZ	**Waipukarau**	**1.64**	**165**	PN	Pn	03 36 30.2	-0.2
PKE	**Pukeiti**	**1.65**	**244**	*e*PN	Pn	03 36 30.1	-0.4
MHGZ	**Mahia Peninsul**	**1.71**	**114**	PN	Pn	03 36 31.5	+0.4
PXZ	**Pawanui**	**1.72**	**154**	PN	Pn	03 36 30.9	-0.3
NRZ	**Ngariki Road**	**1.75**	**240**	PN	Pn	03 36 31.1	-0.4
CNGZ	**Carnagh Static**	**1.82**	**91**	⇓PN	Pn	03 36 32.6	+0.3
DVHZ	**Dannevirke**	**1.83**	**173**	PN	Pn	03 36 31.7	-0.7
PRHZ	**Porangahau**	**1.88**	**162**	⇑PN	Pn	03 36 32.6	-0.3
PUZ	**Puketiti**	**1.91**	**78**	⇓PN	Pn	03 36 32.6	-0.7
POWZ	**Post Office Ro**	**1.91**	**183**	⇑PN	Pn	03 36 32.4	-0.9
MXZ	**Matakaoa Point**	**2.11**	**65**	PN	Pn	03 36 34.5	-1.1
MRZ	**Mangatainoka R**	**2.19**	**186**	⇑PN	Pn	03 36 35.2	-1.4
BFZ	**Birch Farm**	**2.22**	**173**	PN	Pn	03 36 35.8	-1.1
TIWZ	**Tintock**	**2.30**	**180**	PN	Pn	03 36 36.5	-1.4
OGWZ	**Otaki Gorge**	**2.40**	**193**	⇑PN	Pn	03 36 37.5	-1.5
HOWZ	**Holdsworth Sta**	**2.44**	**187**	PN	Pn	03 36 37.6	-1.9
KIW	**Kapiti Island**	**2.50**	**197**	⇑PN	Pn	03 36 38.2	-2.0
TMWZ	**Te Maipa**	**2.63**	**180**	⇓PN	Pn	03 36 40.1	-1.7
MTW	**Mount Morrison**	**2.69**	**186**	PN	Pn	03 36 40.4	-2.2
CAW	**Cannon Point**	**2.70**	**193**	PN	Pn	03 36 40.5	-2.2
DUWZ	**D'Urville Isla**	**2.78**	**213**	PN	Pn	03 36 41.2	-2.5
TRWZ	**Traveller**	**2.92**	**183**	⇓PN	Pn	03 36 43.3	-2.2
PAWZ	**Paruwai Farm**	**2.92**	**187**	⇑PN	Pn	03 36 43.0	-2.5
WEL	**Wellington**	**2.93**	**197**	PN	Pn	03 36 43.1	-2.5
SNZO	**South Karori**	**2.97**	**198**	PN	Pn	03 36 43.3	-2.7
MSWZ	**Moikau Station**	**2.98**	**189**	⇑PN	Pn	03 36 43.5	-2.6
TCW	**Tory Channel**	**3.00**	**204**	PN	Pn	03 36 43.7	-2.6
BHW	**Baring Head**	**3.03**	**195**	PN	Pn	03 36 44.1	-2.6
PLWZ	**Palliser**	**3.13**	**189**	PN	Pn	03 36 45.3	-2.8
TUWZ	**Tuamarina**	**3.31**	**206**	⇓PN	Pn	03 36 47.2	-3.1
NNZ	**Nelson**	**3.35**	**214**	⇑PN	Pn	03 36 47.5	-3.3
QRZ	**Quartz Range**	**3.50**	**227**	PN	Pn	03 36 49.0	-3.8
BSWZ	**Blackbirch Sta**	**3.58**	**205**	PN	Pn	03 36 50.8	-3.0
THZ	**Tophouse**	**4.00**	**214**	PN	Pn	03 36 55.9	-3.4
KHZ	**Kahutara**	**4.32**	**204**	PN	Pn	03 36 60.0	-3.4
DSZ	**Denniston Nort**	**4.53**	**223**	PN	Pn	03 37 01.3	-4.8
LTZ	**Lake Taylor**	**5.11**	**212**	PN	Pn	03 37 08.8	-5.0
MQZ	**McQueen's Vall**	**5.77**	**204**	PN	Pn	03 37 16.9	-5.5
RPZ	**Rata Peaks**	**6.38**	**213**	PN	Pn	03 37 25.9	-4.7
FOZ	**Fox Glacier**	**6.91**	**221**	PN	Pn	03 37 30.9	-6.8
LBZ	**Lake Benmore**	**7.29**	**214**	PN	Pn	03 37 37.3	-5.5
ODZ	**Otahua Downs**	**7.64**	**209**	⇓PN	Pn	03 37 42.4	-5.0
JCZ	**Jackson Bay**	**7.75**	**222**	*e*PN	Pn	03 37 42.7	-6.3

*ISCJB **22** 03:47:22.3±0.5, 53°.28N±0°.03×160°.56E±0°.06, h53km±6km, mb3.3/5, Error ellipse: s-maj=7.4km s-min=2.9km az=34.7*
*MOS **22** 03:47:22.6±1.7, 53°.59N×160°.35E, h50km, mb4.1/1, Error ellipse: s-maj=47.3km s-min=28.9km az=140.4*
*KRSC **22** 03:47:23.2±0.3, 53°.32N×160°.47E, h43km±3km, ML3.9*
*IDC **22** 03:47:26.4±2.3, 53°.26N×160°.33E, h85km±25km, mb3.0/5, mb1 3.2/5, mb1mx2.9/28, mbtmp3.0/5, Error ellipse: s-maj=54.1km s-min=22.9km az=2.0*
ISC 22 03:47:21.9±1.1, 53°.23N±0°.04×160°.65E±0°.05, h41km±11km, n45, σ1.28/81, mb3.2/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**251**	*i* P	**Pn**	**03 47 31.6**	**+0.2**
SPN				*e*S	**Sn**	**03 47 38.0**	**-0.1**
NLC	**Nalytchevo**	**0.79**	**266**	S	**Sn**	**03 47 46.7**	**-0.5**
SDLR	**Sedlovina**	**1.06**	**273**	*i* P	**Pn**	**03 47 40.5**	**0.0**
SDLR				*e*S	**Sn**	**03 47 53.5**	**-0.6**
KII	**Karymskiy**	**1.08**	**319**	*e*P	**Pn**	**03 47 39.7**	**-0.9**
KII				*e*S	**Sn**	**03 47 52.4**	**-2.0**
UGLR	**Uglovaya**	**1.10**	**270**	*i* P	**Pn**	**03 47 41.4**	**+0.5**
UGLR				*e*S	**Sn**	**03 47 54.7**	**-0.3**
SMAR	**Somma**	**1.11**	**272**	*e*P	**Pn**	**03 47 41.2**	**0.0**
SMAR				*e*S	**Sn**	**03 47 54.7**	**-0.8**
KRER	**Koryakskii**	**1.15**	**274**	*i* P	**Pn**	**03 47 42.0**	**+0.3**
KRER				*e*S	**Sn**	**03 47 55.2**	**-1.0**
AVH	**Avacha**	**1.15**	**272**	*i* P	**Pn**	**03 47 42.1**	**+0.5**
AVH				*e*S	**Sn**	**03 47 56.1**	**-0.1**
KOK	**Koryaka**	**1.21**	**274**	*i* P	**Pn**	**03 47 42.7**	**+0.2**
KOK				*e*S	**Sn**	**03 47 56.4**	**-1.3**
PET	**Petropavlovsk**	**1.22**	**261**	*e*PN	**Pn**	**03 47 42.5**	**+0.1**
PET				*e*S	**Sn**	**03 47 57.4**	**-0.4**
PET				smax	smax		
	comp=E,387nm,0.4s						
PET				smax	smax		
	comp=N,285nm,0.3s						
PET	**Petropavlovsk**	**1.22**	**261**	*e*P	**Pn**	**03 47 42.6**	**+0.1**
PET				*e*S	**Sn**	**03 47 56.9**	**-0.9**
RUS	**Russkaya**	**1.53**	**239**	*e*P	**Pn**	**03 47 47.2**	**+0.6**
RUS				*e*S	**Sn**	**03 48 04.6**	**-0.6**
MTVR	**Mutnovka**	**1.68**	**244**	*e*P	**Pn**	**03 47 49.8**	**+0.9**
MTVR				*e*S	**Sn**	**03 48 09.6**	**+0.4**
GNL	**Ganaly**	**1.69**	**287**	*e*P	**Pn**	**03 47 49.6**	**+0.6**
GNL				*e*S	**Sn**	**03 48 08.8**	**-0.6**
GRL	**Gorelyy**	**1.71**	**247**	*e*P	**Pn**	**03 47 50.4**	**+1.2**
GRL				*e*S	**Sn**	**03 48 09.5**	**-0.4**
PETK	**Petropavlovsk-**	**1.78**	**267**	P	**Pn**	**03 47 51.7**	**+1.5**
	comp=N,14nm,0.3s,baz=88,slow=19,SNR=198						
PETK				S	**Sn**	**03 48 13.4**	**+1.8**
	comp=N,32nm,0.3s,baz=45,slow=2.3,SNR=22						
PETK	**Petropavlovsk-**	**1.78**	**267**	PN	**Pn**	**03 47 51.7**	**+1.5**
PETK				S	**Sn**	**03 48 13.4**	**+1.8**
PETK				pmax	pmax		
	comp=Z,14nm,0.3s						
PETK				smax	smax		
	comp=N,32nm,0.3s						
ASAK	**Asacha**	**1.88**	**244**	*e*P	**Pn**	**03 47 53.0**	**+1.5**
ASAK				*e*S	**Sn**	**03 48 15.4**	**+1.4**
TUMR	**Tumrok**	**2.08**	**352**	*i* P	**Pn**	**03 47 55.0**	**+0.7**
TUMR				*e*S	**Sn**	**03 48 18.6**	**-0.4**
APC	**Apacha**	**2.13**	**263**	*e*P	**Pn**	**03 47 57.0**	**+2.0**
APC				*e*S	**Sn**	**03 48 21.9**	**+1.8**
KMNR	**Kamenistaya**	**2.54**	**355**	*e*P	**Pn**	**03 48 02.4**	**+1.7**
KMNR				S	**Sn**	**03 48 31.3**	**+0.9**
BZMR	**Bezymyannaya**	**2.71**	**358**	P	**Pn**	**03 48 04.7**	**+1.6**
BZMR				S	**Sn**	**03 48 35.2**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.71**	**0**	P	**Pn**	**03 48 04.1**	**+1.0**
BZGR				S	**Sn**	**03 48 34.1**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.74**	**358**	P	**Pn**	**03 48 05.2**	**+1.7**
BZWR				S	**Sn**	**03 48 36.4**	**+1.0**
KPT	**Kopyto**	**2.75**	**355**	P	**Pn**	**03 48 05.7**	**+2.1**
KPT				S	**Sn**	**03 48 36.3**	**+0.7**
ZLN	**Zelenaya**	**2.79**	**2**	P	**Pn**	**03 48 06.1**	**+2.0**
ZLN				*e*S	**Sn**	**03 48 37.4**	**+0.8**
LGNR	**Loginova**	**2.86**	**0**	P	**Pn**	**03 48 07.7**	**+2.5**
LGNR				*e*S	**Sn**	**03 48 40.6**	**+2.1**
KOZ	**Kozyrevsk**	**2.87**	**351**	P	**Pn**	**03 48 05.8**	**+0.7**
KOZ				S	**Sn**	**03 48 37.4**	**-1.0**
CIRR	**Tsirk**	**2.89**	**1**	P	**Pn**	**03 48 07.8**	**+2.3**
CIRR				S	**Sn**	**03 48 40.3**	**+1.2**
ESO	**Esso**	**2.93**	**338**	*e*P	**Pn**	**03 48 06.4**	**+0.5**
KRSR	**Krestovskiy**	**2.99**	**359**	P	**Pn**	**03 48 09.2**	**+2.3**
KRSR				S	**Sn**	**03 48 42.7**	**+1.2**
KLY	**Klyuchi**	**3.09**	**360**	P	**Pn**	**03 48 09.6**	**+1.5**
KLY				S	**Sn**	**03 48 43.2**	**-0.5**
SRDR	**Sredinnyy**	**3.14**	**350**	P	**Pn**	**03 48 09.5**	**+0.6**
SRDR				S	**Sn**	**03 48 43.6**	**-1.5**
KBTR	**Krutoberegovo**	**3.24**	**22**	*e*P	**Pn**	**03 48 10.9**	**+0.8**
KBTR				S	**Sn**	**03 48 46.2**	**-1.2**
BDR	**Baidarnaya**	**3.36**	**5**	P	**Pn**	**03 48 13.2**	**+1.3**
BDR				S	**Sn**	**03 48 50.5**	**0.0**
SMKR	**Semkarok**	**3.39**	**8**	P	**Pn**	**03 48 13.6**	**+1.3**
SMKR				S	**Sn**	**03 48 50.8**	**-0.5**
SRKR	**Sorokina**	**3.44**	**5**	P	**Pn**	**03 48 14.9**	**+1.9**
SRKR				S	**Sn**	**03 48 52.8**	**+0.2**
BKI	**Bering**	**3.69**	**56**	*e*P	**Pn**

MTN	**Manton Dam**	**12.25**	**185**	P	**Pn**	**03 53 57.1**	**-0.4**
	baz=12,SNR=13						
MTN				S	**Sn**	**03 56 09.8**	**-3.2**
	baz=12,SNR=4.0						
TTSI	**Tana Toraja**	**12.59**	**259**	P	Pn	03 54 07.3	+5.1
	25nm,1.2s						
SPSI	**Sidrap Palu**	**12.85**	**255**	P	**Pn**	**03 54 07.4**	**+1.7**
	14nm,1.0s						
BKSI	**Bulukumba**	**12.93**	**248**	P	**Pn**	**03 54 09.3**	**+2.5**
	18nm,0.9s						
KAPI	**Kappang**	**13.17**	**250**	Pn	**Pn**	**03 54 11.0**	**+0.9**
	1.1nm,0.3s,baz=120,slow=6.7,SNR=9.4						
KAPI	**Kappang**	**13.17**	**250**	Pn	**Pn**	**03 54 11.0**	**+0.9**
KAPI	**Kappang**	**13.17**	**250**	P	Pn	03 54 14.2	+4.1
	24nm,1.1s						
WSI	**Waingapu**	**14.88**	**232**	P	P	03 54 48.5	+10
	baz=14,SNR=3.9						
COEN	**Coen**	**17.20**	**141**	*e*P	**P**	**03 55 06.1**	**+1.6**
	35nm,0.7s						
COEN	**Coen**	**17.20**	**141**	P	**P**	**03 55 06.4**	**+1.9**
	baz=17,SNR=5.4						
KKM	**Kota Kinabalu**	**17.23**	**293**	*e*Pn	**Pn**	**03 55 02.2**	**-1.5**
	42nm,1.2s						
KKM	**Kota Kinabalu**	**17.23**	**293**	P	**P**	**03 55 05.1**	**+0.1**
	baz=17,SNR=3.8						
KKM	**Kota Kinabalu**	**17.23**	**293**	P	**P**	**03 55 05.3**	**+0.3**
	30nm,1.2s						
PMG	**Port Moresby**	**17.31**	**121**	*e*P	**Pn**	**03 55 03.8**	**-0.8**
	16nm,0.9s						
KHKI	**Kahang-Kahang**	**18.23**	**244**	P	**Pn**	**03 55 16.9**	**+1.0**
	35nm,1.4s						
SRBI	**Singaraja**	**18.48**	**246**	P	**Pn**	**03 55 19.9**	**+1.0**
	60nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.58**	**200**	P	**P**	**03 55 17.5**	**-2.2**
	0.6nm,0.3s,baz=26,slow=11,SNR=20						
FITZ				S	Sn	03 58 35.2	-12
	0.2nm,0.3s,baz=113,slow=13,SNR=3.0						
FITZ	**Fitzroy Crossi**	**18.58**	**200**	*e*P	**P**	**03 55 16.9**	**-2.7**
	11nm,1.1s						
FITZ				S	Sn	03 58 35.2	-12
FITZ	**Fitzroy Crossi**	**18.58**	**200**	P	**P**	**03 55 17.1**	**-2.5**
	baz=18,SNR=8.2						
BYJI	**Banyuwangi**	**19.31**	**246**	P	**Pn**	**03 55 30.5**	**+1.5**
	221nm,1.1s						
WRAB	**Tennant Creek**	**19.37**	**174**	*e*P	**P**	**03 55 28.9**	**+0.5**
	6.9nm,0.6s						
WRAB				*e*S	S	03 58 57.2	-8.7
WRA	**Warramunga Arr**	**19.38**	**174**	P	**P**	**03 55 29.2**	**+0.7**
	0.5nm,0.3s,baz=355,slow=10,SNR=31						
WRA				S	S	03 58 57.9	-8.2
	0.4nm,0.3s,baz=335,slow=22,SNR=6.2						
WRA	**Warramunga Arr**	**19.38**	**174**	P	**P**	**03 55 29.2**	**+0.7**
WRA				S	S	03 58 57.9	-8.2
JAGI	**Jajag, Banyuwa**	**19.59**	**246**	P	**P**	**03 55 31.9**	**+1.0**
	79nm,1.0s						
GMJI	**Gumukmas**	**20.17**	**247**	P	Pn	03 55 40.0	+0.8
	45nm,1.6s,2µm						
SJI	**Sawahan**	**21.55**	**250**	P	P	03 55 57.9	+5.7
	40nm,0.7s						
PWJI	**Pagerwojo**	**21.61**	**249**	P	**P**	**03 55 55.3**	**+2.6**
	35nm,0.9s						
AS31	**Alice Springs**	**23.03**	**176**	*e*P	**P**	**03 56 08.2**	**+0.4**
ASAR	**Alice Springs**	**23.03**	**176**	P	**P**	**03 56 08.2**	**+0.4**
	19nm,0.8s,baz=351,slow=10.0,SNR=148						
ASAR	**Alice Springs**	**23.03**	**176**	P	**P**	**03 56 08.2**	**+0.4**
BJII	**Banjamegara**	**23.39**	**253**	P	**P**	**03 56 13.9**	**+2.4**
	30nm,1.5s						
CTA	**Charters Tower**	**23.80**	**145**	LR	LR	04 06 42.3	
	comp=Z,239nm,19.2s,baz=326,slow=39						
PPBI	**Pangkal Pinang**	**26.08**	**266**	P	**P**	**03 56 38.1**	**+1.9**
	15nm,0.9s,2µm						
QLP	**Quilpie**	**28.36**	**157**	P	**P**	**03 56 56.5**	**0.0**
	baz=28,SNR=8.1						
QIZ	**Qiongzhong**	**29.32**	**313**	P	**P**	**03 57 04.6**	**-0.6**
QIZ				S	**S**	**04 01 57.0**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,13nm,1.8s						
FORT	**Forrest**	**30.30**	**187**	*e*P	**P**	**03 57 14.2**	**+0.5**
	comp=Z,14nm,0.7s						
RMQ	**Roma**	**30.32**	**150**	P	P	03 57 20.5	+6.5
	baz=30,SNR=4.5						
IPM	**Ipoh**	**31.52**	**279**	*e*P	**P**	**03 57 23.8**	**-0.9**
	comp=Z,17nm,1.1s						
IPM	**Ipoh**	**31.52**	**279**	P	**P**	**03 57 24.7**	**0.0**
	comp=Z,14nm,1.1s						
KULM	**Kulim**	**32.01**	**281**	*e*P	**P**	**03 57 28.4**	**-0.7**
	comp=Z,12nm,1.0s						
KULM	**Kulim**	**32.01**	**281**	P	**P**	**03 57 28.8**	**-0.2**
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**32.40**	**165**	P	**P**	**03 57 32.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=349,slow=8.2,SNR=6.0						
STKA	**Stephens Creek**	**32.40**	**165**	P	**P**	**03 57 32.5**	**+0.4**
PSI	**Prapat**	**33.41**	**276**	P	**P**	**03 57 38.7**	**-2.7**
	comp=Z,7.6nm,0.9s,baz=162,slow=6.4,SNR=4.4						
PSI	**Prapat**	**33.41**	**276**	P	**P**	**03 57 38.7**	**-2.7**
PSI	**Prapat**	**33.41**	**276**	P	**P**	**03 57 40.2**	**-1.2**
	baz=33,SNR=4.3						
ARMA	**Armidale**	**34.98**	**150**	P	**P**	**03 57 55.9**	**+1.1**
	baz=35,SNR=5.9						
GYA	**Guiyang**	**36.42**	**319**	*e*P	**P**	**03 58 07.6**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**38.25**	**314**	P	**P**	**03 58 25.4**	**+2.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**41.33**	**322**	P	**P**	**03 58 49.3**	**+1.1**
CD2				pP	**pP**	**03 58 59.4**	**+2.0**
CD2				sP	**sP**	**03 59 03.8**	**+2.6**
CD2				PP	**PnPn**	**04 00 28.4**	**-0.4**
CD2				S	**S**	**04 05 01.1**	**+0.2**
CD2				sS	**sS**	**04 05 18.3**	**+2.3**
CD2				SS	**SS**	**04 08 00.9**	**-4.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,4.1s						
CD2				LR	LR		
	comp=N,170nm,5.3s						
CD2				LR	LR		
	comp=Z,160nm,6.5s						
CN2	**Changchun**	**44.58**	**353**	*e*P	**P**	**03 59 15.8**	**+1.6**
LZH	**Lanzhou**	**44.99**	**327**	*e*P	**P**	**03 59 17.8**	**-0.1**
LZH				pP	**pP**	**03 59 24.5**	**-2.7**
LZH				sP	**sP**	**03 59 28.5**	**-2.4**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ	**Mudanjiang**	**45.04**	**357**	P	**P**	**03 59 17.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**45.28**	**338**	*e*P	**P**	**03 59 20.1**	**+0.1**
HHC				pP	**pP**	**03 59 31.3**	**+2.0**
HHC				sP	**sP**	**03 59 35.3**	**+2.3**
HHC				PP	**PP**	**04 01 08.0**	**+1.7**
HHC				S	**S**	**04 05 59.8**	**+1.3**
HHC				sS	**sS**	**04 06 15.4**	**+1.6**
HHC				ScS	**ScS**	**04 09 12.9**	**-1.9**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,86nm,5.1s						
HHC				LR	LR		
	comp=N,200nm,21.2s						
HHC				LR	LR		
	comp=E,140nm,20.2s						
HHC				LR	LR		
	comp=Z,91nm,15.5s						
ULN	**Ulaanbaatar**	**52.95**	**339**	*e*P	**P**	**04 00 17.6**	**-1.2**
	comp=Z,5.3nm,1.0s						
ULN	**Ulaanbaatar**	**52.95**	**339**	P	**P**	**04 00 21.5**	**+2.8**
SONM	**Songino Array**	**53.17**	**339**	P	**P**	**04 00 18.7**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=155,slow=7.0,SNR=8.1						
SONM	**Songino Array**	**53.17**	**339**	P	**P**	**04 00 18.7**	**-1.6**
HYB	**Hyderabad**	**55.71**	**292**	*i* P	**P**	**04 00 37.0**	**-2.2**
WMQ	**Urumqi**	**59.35**	**324**	*e*P	**P**	**04 01 05.4**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ				LR	LR		
	comp=Z,34nm,20.0s						
MK31	**Makanchi Array**	**64.17**	**324**	*e*P	**P**	**04 01 35.4**	**-1.5**
MKAR	**Makanchi Array**	**64.17**	**324**	P	**P**	**04 01 35.4**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=110,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**64.17**	**324**	P	**P**	**04 01 35.4**	**-1.4**
KSH	**Kashi**	**64.90**	**315**	*e*P	**P**	**04 01 41.8**	**-0.1**
KSH				*e*pP	**pP**	**04 01 52.6**	**+1.1**
KSH				*e*sP	**sP**	**04 01 58.6**	**+3.5**
KSH				*e*PcP	**PcP**	**04 02 15.6**	**+0.7**
KSH				*e*PP	**PP**	**04 04 07.4**	**+2.5**
KSH				*e*ScP		04 06 13.0	
KSH				PcS		04 06 17.8	
KSH				S	**S**	**04 10 18.8**	**-2.8**
KSH				sS	**sS**	**04 10 37.1**	**-0.3**
KSH				ScS	**SKSac**	**04 11 32.1**	**-2.6**
KSH				SS	**SS**	**04 14 35.8**	**+2.1**
KSH				pmax	pmax		
	comp=Z,87nm,5.7s						
KSH				LR	LR		
	comp=N,77nm,4.8s						
KSH				LR	LR		
	comp=E,63nm,5.8s						
KSH				LR	LR		
	comp=Z,130nm,5.3s						
TKM2	**Tokmak 2**	**66.55**	**318**	*e*P	**P**	**04 01 51.2**	**-1.3**
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**04 01 52.0**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=108,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**04 01 52.0**	**-2.1**
AAK	**Ala-Archa**	**67.17**	**317**	P	**P**	**04 01 54.1**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=167,slow=8.3,SNR=3.8						
AAK	**Ala-Archa**	**67.17**	**317**	*e*P	**P**	**04 01 55.5**	**-0.9**
	comp=Z,18nm,1.3s						
KURK	**Kurchatov**	**68.28**	**327**	*e*P	**P**	**04 02 02.7**	**-0.3**
	comp=Z,9.5nm,1.4s						
KURBB	**Kurchatov Arra**	**68.28**	**326**	P	**P**	**04 02 01.2**	**-1.7**
	comp=Z,2.6nm,0.7s,baz=123,slow=5.7,SNR=16						
KKAR	**Karatay Array**	**70.06**	**317**	*e*P	**P**	**04 02 13.3**	**-1.0**
TIXI	**Tiksi**	**72.12**	**359**	*e*P	**P**	**04 02 25.2**	**-0.9**
	comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**73.87**	**326**	P	**P**	**04 02 35.9**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=103,slow=6.5,SNR=11						
BVAR	**Borovoye Array**	**73.87**	**326**	P	**P**	**04 02 35.9**	**-1.0**
BRVK	**Borovoye**	**73.94**	**326**	*e*P	**P**	**04 02 36.1**	**-1.1**
	comp=Z,5.0nm,1.0s						
VNDA	**Vanda**	**78.55**	**174**	P	**P**	**04 03 03.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=293,slow=5.0,SNR=5.7						
VNDA	**Vanda**	**78.55**	**174**	*e*P	**P**	**04 03 03.7**	**+0.7**
	comp=Z,2.5nm,0.9s						
ABKAR	**Akbulak array**	**78.89**	**321**	*e*P	**P**	**04 03 04.2**	**-1.3**
AKTO	**Aktyubinsk**	**80.38**	**321**	P	**P**	**04 03 10.4**	**-3.1**
	comp=Z,1.4nm,0.6s,baz=128,slow=2.3,SNR=5.4						
AKTO	**Aktyubinsk**	**80.38**	**321**	P	**P**	**04 03 10.4**	**-3.1**
ARU	**Arti**	**81.45**	**327**	*e*P	**P**	**04 03 17.8**	**-1.3**
	comp=Z,6.8nm,1.1s						
ILAR	**Eielson Array**	**86.64**	**25**	P	**P**	**04 03 43.6**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=272,slow=4.1,SNR=5.2						
ILAR	**Eielson Array**	**86.64**	**25**	P	**P**	**04 03 43.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**129.38**	**287**	PKP	**PKPdf**	**04 10 11.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=70,slow=1.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**129.38**	**287**	PKP	**PKPdf**	**04 10 11.2**	**-0.5**

IDC ***22*** *03:53:50.8±2.0, 37.99N×71.59E, h0km, mb3.5/3, mb1 3.5/7, mb1mx3.3/30, mbtmp3.4/7, ML3.0/4, MS2.4/1, Ms1 2.4/1, ms1mx1.9/38, Error ellipse: s-maj=40.5km s-min=16.3km az=136.0*

NNC ***22*** *03:54:03.7±1.8, 38.73N×71.39E, h24km±8km, mb3.5, mpv3.1, Error ellipse: s-maj=14.6km s-min=11.1km az=49.0*

ISC 22 03:53:57.1±2.0, 38.5N±0.1×71.4E±0.1, h10km, n10, σ1s89/11, mb3.6/3, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.63**	**352**	↑Pn	**Pn**	**03 55 09.3**	**+2.1**
	0.6nm,0.3s,baz=179,slow=12,SNR=31						
KK31				↓Pg	Pb	03 55 25.0	+6.5
	2.8nm,0.6s,baz=174,slow=13,SNR=8.8						
KK31				↓Sn	**Sn**	**03 56 00.8**	**-0.3**
	5.0nm,0.8s,baz=167,slow=12,SNR=5.1						
KK31				↓Lg	Lg	03 56 23.1	
	4.6nm,0.6s,baz=172,slow=16,SNR=5.1						
AAK	**Ala-Archa**	**4.76**	**29**	Pn	**Pn**	**03 55 11.7**	**+2.6**
	0.2nm,0.3s,baz=230,slow=10,SNR=10.0						
AAK				Sn	**Sb**	**03 56 16.2**	**-2.0**
	0.2nm,0.3s,baz=327,slow=18,SNR=6.0						
AAK				Lg	Lg	03 56 35.0	
	0.4nm,0.3s,baz=76,slow=14,SNR=4.1						
TKM2	**Tokmak 2**	**5.46**	**35**	↓Pn	**Pn**	**03 55 21.0**	**+2.3**
	3.8nm,0.8s						
TKM2				↓Lg	Lg	03 56 49.9	
	5.3nm,0.8s						
MKAR	**Makanchi Array**	**11.54**	**41**	Pn	**Pn**	**03 56 43.2**	**+1.3**
	0.1nm,0.3s,baz=224,slow=12,SNR=7.3						
AB31	**Akbulak array**	**13.52**	**326**	Pn	**Pn**	**03 57 10.1**	**+1.3**
	0.8nm,0.8s,baz=136,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**15.23**	**326**	Pn	**Pn**	**03 57 31.2**	**-0.9**
	0.1nm,0.3s,baz=135,slow=2.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**17.98**	**26**	P	**Pn**	**03 58 06.4**	**-0.6**
	0.3nm,0.3s,baz=218,slow=9.1,SNR=3.7						
ZALV				LR	LR	04 04 46.3	
	comp=Z,11nm,18.4s,baz=48,slow=36						
FINES	**FINESS Array B**	**36.00**	**324**	P	**P**	**04 00 57.1**	**-0.8**
	2.2nm,0.9s,baz=100,slow=5.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**66.06**	**268**	P	P	04 04 41.2	-3.2
	0.2nm,0.5s,baz=42,slow=5.5,SNR=7.3						
YKA	**Yellowknife Ar**	**79.23**	**3**	P	**P**	**04 06 00.2**	**-1.8**
	0.2nm,0.7s,baz=349,slow=4.9,SNR=7.1						

DJA ***22*** *03:54:52.9±1.4, 0.5S±10.3E±1.0, h10km, M4.9/13, mB5.4/3, mb4.8/13, MLv4.9/4, Mw(mB)4.9/3*

BJI ***22*** *03:54:53.0, 1.29S×132.49E, h35km, mB4.9/13, mb4.6/19, Ms4.8/6, Ms7 4.5/7*

IDC ***22*** *03:54:54.7±1.0, 0.41S×132.14E, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.2/26, mbtmp4.3/13, ML4.3/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/33, Error ellipse: s-maj=46.5km s-min=13.8km az=77.0*

ISCJB ***22*** *03:54:58.1±0.3, 0.49S±0.03×132.29E±0.06, h33km, mb4.5/34, MS3.8/4, Error ellipse: s-maj=8.2km s-min=4.2km az=163.2*

NEIC ***22*** *03:55:00.7±1.6, 0.43S×132.24E, h42km±16km, mb4.5/17, Error ellipse: s-maj=12.6km s-min=6.5km az=52.0*

AUST ***22*** *03:55:08.5±1.6, 1.01S×132.14E, h92km, Error ellipse: s-maj=2.3km s-min=1.1km az=34.0*

ISC 22 03:55:00.2±0.5, 0.66S±0.04×132.11E±0.08, h31km, n86, σ1s93/102, mb4.5/34, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.25**	**176**	P	Pb	03 55 48.8	+8.6
MSAI	**Masohi**	**4.15**	**230**	P	Pn	03 56 06.8	+5.3
	141nm,0.8s,0.5nm						
BNDI	**Bandanaira**	**4.42**	**210**	P	Pn	03 56 10.3	+5.0
	1µm,0.7s,9µm3.9nm						
AAI	**Ambon**	**4.93**	**232**	P	Pn	03 56 15.7	+3.4
	baz=4.8,SNR=8.4						
AAI	**Ambon**	**4.93**	**232**	P	Pn	03 56 16.0	+3.7
	417nm,0.7s,3µm1.3nm						
TLE	**Tual**	**4.98**	**173**	P	Pn	03 56 17.8	+4.8
	baz=4.7,SNR=8.3						
TLE				S	**Sn**	**03 57 12.7**	**+3.1**
	baz=4.7,SNR=5.9						
NLAI	**Namlea**	**5.62**	**243**	P	Pb	03 56 31.2	-6.5
	61nm,0.6s,0.2nm						
LUWI	**Luwuk**	**9.34**	**268**	P	**Pn**	**03 57 13.7**	**+0.8**
	69nm,1.2s,676nm						
KDU	**Kakadu**	**11.95**	**178**	P	**Pn**	**03 57 50.0**	**+1.4**
	baz=12,SNR=32						
KDU				S	**Sn**	**04 00 00.9**	**-0.1**
	baz=12,SNR=7.6						
MTN	**Manton Dam**	**12.14**	**185**	P	**Pn**	**03 57 52.0**	**+0.7**
	baz=12,SNR=16						
MTN				S	**Sn**	**04 00 05.1**	**-0.5**
	baz=12,SNR=17						
PCI	**Palu**	**12.27**	**269**	S	Sn	03 59 55.9	-13
	baz=12,SNR=9.1						
TTSI	**Tana Toraja**	**12.51**	**259**	P	P	03 58 12.2	+4.6
SPSI	**Sidrap Palu**	**12.76**	**255**	P	Pn	03 58 04.1	+4.4
	13nm,1.1s						
BKSI	**Bulukumba**	**12.83**	**249**	P	**P**	**03 58 08.2**	**-3.0**
	20nm,1.3s						
KAPI	**Kappang**	**13.07**	**250**	Pn	Pn	03 58 08.1	+4.1
	0.7nm,0.3s,baz=122,slow=7.0,SNR=8.3						
KAPI				LR	LR	04 03 09.0	
	comp=Z,139nm,18.7s,baz=89,slow=38						
KAPI	**Kappang**	**13.07**	**250**	Pn	Pn	03 58 08.1	+4.1
KAPI	**Kappang**	**13.07**	**250**	P	P	03 58 10.3	-3.6
	18nm,1.0s						
MYLDM	**Lahad Datu**	**14.78**	**293**	P	**Pn**	**03 58 28.7**	**+1.5**
	34nm,1.3s						
COEN	**Coen**	**17.16**	**141**	*e*P	**P**	**03 59 01.1**	**+1.8**
	51nm,0.8s						
COEN	**Coen**	**17.16**	**141**	P	**Pn**	**03 58 54.8**	**-3.1**
	baz=17,SNR=5.4						
KKM	**Kota Kinabalu**	**17.21**	**293**	*e*P	**Pn**	**03 58 57.2**	**-1.4**
	36nm,1.3s						
PMG	**Port Moresby**	**17.31**	**121**	*e*P	**Pn**	**03 58 58.0**	**-1.8**
	33nm,1.1s						
KHKI	**Kahang-Kahang**	**18.13**	**245**	P	P	03 59 16.0	+6.0
	27nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.46**	**200**	P	**P**	**03 59 13.3**	**-0.3**
	1.0nm,0.3s,baz=27,slow=5.7,SNR=11						
FITZ				S	**Sn**	**04 02 34.8**	**-4.6**
	0.2nm,0.3s,baz=166,slow=13,SNR=4.7						
FITZ				LR	LR	04 05 38.1	
	comp=Z,110nm,21.5s,baz=26,slow=34						
FITZ	**Fitzroy Crossi**	**18.46**	**200**	*e*P	**Pn**	**03 59 14.7**	**+0.8**
	5.5nm,0.5s						
FITZ				S	**Sn**	**04 02 34.8**	**-4.6**
FITZ	**Fitzroy Crossi**	**18.46**	**200**	P	**Pn**	**03 59 14.6**	**+0.7**
	baz=18,SNR=4.9						
FITZ				S	**Sn**	**04 02 36.4**	**-3.0**
	baz=18,SNR=4.0						
GUMO	**Guam**	**18.98**	**41**	LR	LR	04 04 21.6	
	comp=Z,81nm,19.7s,baz=204,slow=30						
WRAB	**Tennant Creek**	**19.28**	**174**	*e*P	**Pn**	**03 59 25.4**	**+1.6**
	14nm,0.8s						
WRA	**Warramunga Arr**	**19.29**	**174**	P	**P**	**03 59 22.9**	**+0.3**
	0.9nm,0.3s,baz=351,slow=11,SNR=13						
WRA				S	**Sn**	**04 02 53.6**	**-5.8**
	0.7nm,0.3s,baz=352,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**19.29**	**174**	P	**P**	**03 59 22.9**	**+0.3**
WRA				S	**Sn**	**04 02 53.6**	**-5.8**
JAGI	**Jajag, Banyuwa**	**19.50**	**246**	P	**Pn**	**03 59 27.6**	**+1.2**
QIS	**Mount Isa**	**21.09**	**160**	S	**P**	**03 59 44.4**	**+2.1**
	baz=21,SNR=7.5						
QIS	**Mount Isa**	**21.09**	**160**	P	**P**	**03 59 44.2**	**+1.9**
	baz=21,SNR=6.5						
AS31	**Alice Springs**	**22.93**	**176**	*e*P	**P**	**04 00 03.8**	**+1.8**
ASAR	**Alice Springs**	**22.93**	**176**	P	**P**	**04 00 04.0**	**+1.9**
	18nm,0.8s,baz=348,slow=8.2,SNR=43						
ASAR				S	Sn	04 04 21.6	-5.5
	2.2nm,0.9s,baz=355,slow=26,SNR=6.6						
ASAR	**Alice Springs**	**22.93**	**176**	P	**P**	**04 00 04.0**	**+1.9**
ASAR				S	Sn	04 04 21.6	-5.5
MBWA	**Marble Bar**	**23.69**	**210**	*e*P	**P**	**04 00 11.2**	**+1.8**
	6.6nm,0.8s						
CTAO	**Charters Tower**	**23.76**	**145**	*e*P	**P**	**04 00 09.7**	**-0.4**
	15nm,1.1s						
QLP	**Quilpie**	**28.29**	**157**	P	**P**	**04 00 52.4**	**+1.3**
	baz=28,SNR=7.0						
QIZ	**Qiongzhong**	**29.34**	**313**	P	**P**	**04 00 59.6**	**-1.0**
QIZ				S	**S**	**04 05 52.4**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,16nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,33nm,4.7s						
FORT	**Forrest**	**30.20**	**187**	*e*P	**P**	**04 01 10.1**	**+2.1**
	comp=Z,17nm,0.7s						
IPM	**Ipoh**	**31.47**	**280**	*e*P	**P**	**04 01 19.6**	**+0.1**
	comp=Z,13nm,1.1s						
KULM	**Kulim**	**31.97**	**281**	*e*P	**P**	**04 01 23.8**	**-0.1**
	comp=Z,8.7nm,1.0s						
STKA	**Stephens Creek**	**32.32**	**165**	P	**P**	**04 01 27.3**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=350,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**32.32**	**165**	P	**P**	**04 01 27.3**	**+0.7**
STKA	**Stephens Creek**	**32.32**	**165**	P	**P**	**04 01 29.7**	**+3.1**
	baz=32,SNR=4.5						
BLDU	**Ballidu**	**33.19**	**205**	P	**P**	**04 01 36.1**	**+1.8**
	baz=33,SNR=5.0						
PSI	**Prapat**	**33.35**	**276**	P	**P**	**04 01 35.0**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=74,slow=2.8,SNR=4.1						
PSI				LR	LR	04 16 09.0	
	comp=Z,132nm,18.8s,baz=45,slow=38						
PSI	**Prapat**	**33.35**	**276**	P	**P**	**04 01 35.0**	**-1.1**
KLBR	**Kellerberrin**	**33.63**	**202**	P	**P**	**04 01 40.4**	**+2.2**
	baz=34,SNR=5.7						
NWAO	**Narrogin (SRO)**	**35.02**	**202**	P	**P**	**04 01 52.2**	**+2.0**
	comp=Z,5.4nm,0.7s,baz=31,slow=12,SNR=2.9						
NWAO	**Narrogin (SRO)**	**35.02**	**202**	P	**P**	**04 01 52.2**	**+2.0**
GYA	**Guiyang**	**36.45**	**320**	P	**P**	**04 02 02.8**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**38.27**	**314**	P	**P**	**04 02 20.6**	**+2.3**
KMI				pmax	pmax		
	comp=Z,23nm,0.6s						
CD2	**Chengdu**	**41.37**	**322**	P	**P**	**04 02 44.4**	**+0.7**
CD2				pP	**pP**	**04 02 54.6**	**+1.7**
CD2				sP	**sP**	**04 02 58.9**	**+2.2**
CD2				PP	**PnPn**	**04 03 23.8**	**-0.6**
CD2				S	**S**	**04 08 56.5**	**-0.1**
CD2				sS	**sS**	**04 09 13.5**	**+1.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,130nm,3.7s						
CD2				LR	LR		
	comp=N,200nm,4.8s						
CD2				LR	LR		
	comp=Z,170nm,5.7s						
BJI	**Beijing**	**43.05**	**342**	P	**P**	**04 02 54.8**	**-2.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CN2	**Changchun**	**44.67**	**353**	*e*P

KSH				LR	LR		
	comp=Z,190nm,5.8s						
TKM2	**Tokmak 2**	**66.58**	**318**	*e*P	**P**	**04 05 47.8**	**-0.1**
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**66.94**	**332**	P	**P**	**04 05 47.3**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=116,slow=6.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**66.94**	**332**	P	**P**	**04 05 47.3**	**-2.4**
AAK	**Ala-Archa**	**67.20**	**317**	*e*P	**P**	**04 05 51.7**	**-0.1**
	comp=Z,7.8nm,1.1s						
KURK	**Kurchatov**	**68.32**	**327**	*e*P	**P**	**04 05 57.1**	**-1.4**
	comp=Z,6.5nm,1.0s						
KURBB	**Kurchatov Arra**	**68.33**	**327**	P	**P**	**04 05 55.6**	**-2.9**
	comp=Z,2.4nm,0.6s,baz=124,slow=5.8,SNR=16						
KBL	**Kabul**	**68.44**	**308**	*e*P	**P**	**04 05 58.7**	**-1.1**
	comp=Z,2.5nm,0.5s						
KKAR	**Karatay Array**	**70.09**	**317**	*e*P	**P**	**04 06 08.8**	**-0.9**
	comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**04 06 31.1**	**-1.3**
	comp=Z,2.7nm,1.0s,baz=104,slow=6.3,SNR=9.6						
BVAR	**Borovoye Array**	**73.92**	**326**	P	**P**	**04 06 31.1**	**-1.3**
BRVK	**Borovoye**	**73.99**	**326**	*e*P	**P**	**04 06 31.1**	**-1.7**
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**78.46**	**174**	P	**P**	**04 06 58.5**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=327,slow=8.3,SNR=5.0						
VNDA	**Vanda**	**78.46**	**174**	*e*P	**P**	**04 06 58.9**	**+1.2**
	comp=Z,2.2nm,0.9s						
ABKAR	**Akbulak array**	**78.93**	**321**	*e*P	**P**	**04 06 59.5**	**-1.3**
	comp=Z,7.2nm,1.0s						
AKTO	**Aktyubinsk**	**80.42**	**321**	P	**P**	**04 07 06.2**	**-2.7**
	comp=Z,0.9nm,0.4s,baz=81,slow=7.0,SNR=6.0						
AKTO	**Aktyubinsk**	**80.42**	**321**	P	**P**	**04 07 06.2**	**-2.7**
ARCES	**ARCESS Array B**	**96.39**	**340**	LR	LR	04 53 53.9	
	comp=Z,47nm,19.1s,baz=114,slow=37						

IDC 22 04:09:51.0±19.0, 0.95N×127.55E, h202km±190km, mb3.2/4, mb1 3.3/5, mb1mx3.1/21, mbtmp3.2/5, ML3.8/1, Error ellipse: s-maj=118.8km s-min=24.9km az=54.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.02**	**186**	P		P	04 13 58.7	+0.8
	0.2nm,0.3s,baz=17,slow=11,SNR=7.5							
WRA	**Warramunga Arr**	**21.80**	**163**	P		P	04 14 27.1	-0.2
	0.9nm,0.3s,baz=339,slow=11,SNR=28							
ASAR	**Alice Springs**	**25.24**	**166**	P		P	04 14 58.5	-0.2
	0.4nm,0.3s,baz=341,slow=8.2,SNR=20							
STKA	**Stephens Creek**	**35.26**	**159**	P		P	04 16 26.1	-0.5
	3.7nm,0.8s,baz=324,slow=7.4,SNR=6.5							
MKAR	**Makanchi Array**	**60.30**	**326**	P		P	04 19 38.4	0.0
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.7							

*ISCJB **22** 04:19:56.5±1.0, 12.22N±0.03×123.86E±0.03, h9km±7km, mb3.5/5, Error ellipse: s-maj=5.5km s-min=5.2km az=27.9*
*MAN **22** 04:19:56, 12.24N×123.85E, h10km, mb4.4, ML3.2, MS3.1*
MAN INTENSITY II - MASBATE MASBATE.
*IDC **22** 04:19:57.1±1.3, 11.54N×122.65E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, ML4.2/1, Error ellipse: s-maj=137.3km s-min=18.6km az=66.0*

ISC 22 04:19:56.5±1.0, 12.17N±0.03×123.85E±0.03, h12km±8km, n22, σ0.88/29, mb3.6/5, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.29**	**311**	⇓*i*P		**Pg**	**04 20 02.3**	**-0.2**
MMPH				*i* S		**Sg**	**04 20 06.9**	**+0.5**
CNP	**Catarman**	**0.87**	**67**	*e*P		**Pg**	**04 20 12.8**	**-0.6**
CNP				*e*S		**Sg**	**04 20 25.8**	**+1.1**
RCP	**Roxas**	**1.23**	**241**	⇓*i*P		**Pg**	**04 20 19.7**	**-0.6**
RCP				*e*S		**Sn**	**04 20 37.9**	**+1.6**
OCLP	**Ormoc**	**1.34**	**146**	*e*P		**Pb**	**04 20 21.6**	**+0.1**
PVCP	**Virac**	**1.45**	**12**	*e*P		**Pn**	**04 20 21.6**	**-1.0**
PVCP				*e*S		**Sn**	**04 20 40.6**	**-1.1**
PLP	**Palo**	**1.49**	**132**	*e*P		**Pn**	**04 20 23.6**	**+0.4**
PLP				*i* S		**Sg**	**04 20 46.0**	**+1.5**
AUQP	**San Andres**	**1.62**	**315**	*e*P		**Pb**	**04 20 26.1**	**-0.3**
AUQP				*e*S		**Sg**	**04 20 49.8**	**+1.1**
BESP	**Borongan**	**1.66**	**110**	*e*P		**Pn**	**04 20 25.8**	**+0.4**
OTRP	**Odiongan**	**1.79**	**276**	*e*P		**Pn**	**04 20 27.7**	**+0.3**
LLP	**Lapu-Lapu**	**1.84**	**176**	*e*P		**Pn**	**04 20 28.2**	**+0.2**
LLP				*e*S		**Sb**	**04 20 53.7**	**+0.5**
GUIM	**Jordan**	**1.96**	**219**	*e*P		**Pn**	**04 20 29.3**	**-0.4**
GUIM				*e*S		**Sg**	**04 20 59.0**	**-0.7**
GQP	**Guinayangan**	**2.20**	**322**	⇑*e*P		**Pn**	**04 20 33.0**	**0.0**
GQP				*e*S		**Sb**	**04 21 05.2**	**+1.6**
MSLP	**Maasin**	**2.25**	**154**	*e*P		**Pb**	**04 20 35.7**	**-1.4**
BOAC	**Boac**	**2.34**	**304**	*e*P		**Pn**	**04 20 34.5**	**-0.3**
TBP	**Tagbilaran**	**2.46**	**180**	*e*P		**Pn**	**04 20 37.2**	**+0.7**
TBP				*e*S		**Sb**	**04 21 10.3**	**-0.8**
TGY	**Tagaytay City**	**3.43**	**304**	Pn		Pn	04 20 45.0	-4.9
	31nm,0.3s,baz=163,slow=11,SNR=2.2							
BOLP	**Bolinao**	**5.67**	**318**	*e*P		Pn	04 21 27.3	+6.7
CMAR	**Chiang Mai Arr**	**24.80**	**288**	P		**P**	**04 25 17.9**	**-0.9**
	0.7nm,0.4s,baz=100,slow=9.5,SNR=4.4							
WRA	**Warramunga Arr**	**33.54**	**162**	P		**P**	**04 26 35.9**	**-0.6**
	0.5nm,0.6s,baz=342,slow=9.2,SNR=3.9							
ASAR	**Alice Springs**	**36.95**	**165**	P		**P**	**04 27 06.6**	**+0.8**
	1.3nm,0.8s,baz=350,slow=7.3,SNR=10							
SONM	**Songino Array**	**38.44**	**341**	P		P	04 27 23.6	+5.3
	0.4nm,0.8s,baz=159,slow=9.3,SNR=2.5							
MKAR	**Makanchi Array**	**49.09**	**323**	P		**P**	**04 28 44.3**	**+0.4**
	0.5nm,0.8s,baz=119,slow=8.6,SNR=4.1							

IDC 22 04:51:47.0±2.8, 16.83S×177.11W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=319.4km s-min=33.6km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.05**	**258**	P		P	05 00 13.9	+1.0
	0.7nm,0.4s,baz=90,slow=8.4,SNR=36							
ASAR	**Alice Springs**	**46.28**	**253**	P		P	05 00 13.1	-1.7
	0.2nm,0.2s,baz=96,slow=9.4,SNR=4.4							
TXAR	**Lajitas Array**	**84.37**	**57**	P		P	05 04 21.7	0.0
	0.4nm,0.9s,baz=203,slow=8.2,SNR=4.4							

*DDA **22** 04:59:00.9, 38.19N×26.73E, h7km, MD2.8*
*CSEM **22** 04:59:01.1±0.3, 38.15N×26.69E, h2km, MD2.8, Error ellipse: s-maj=7.0km s-min=4.0km az=78.0*
*ISK **22** 04:59:03.0, 38.11N×26.91E, h9km, MD2.9*

ISC 22 04:59:00.9±1.2, 38.15N±0.03×26.71E±0.04, h6km±12km, n26, σ0.51/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.23**	**337**	*i* P		**Pg**	**04 59 05.1**	**-0.4**
URLA				*i* S		**Sg**	**04 59 08.5**	**-0.1**
URLA	**Izmir**	**0.23**	**337**	*i* P		**Pg**	**04 59 05.1**	**-0.4**
URLA				*i* S		**Sg**	**04 59 08.5**	**-0.1**
IZM	**Izmir**	**0.50**	**60**	*e*PG		**Pg**	**04 59 11.0**	**+0.4**
IZM				*e*SG		**Sg**	**04 59 18.0**	**+0.9**
IZM	**Izmir**	**0.50**	**60**	*e*Pg		**Pg**	**04 59 11.0**	**+0.4**
IZM				*e*Sg		**Sg**	**04 59 18.0**	**+0.9**
GCAM	**G?zelcaml?**	**0.61**	**137**	*i* P		**Pb**	**04 59 13.5**	**-0.5**
GCAM				*i* S		**Sb**	**04 59 22.4**	**-0.4**
GCAM	**G?zelcaml?**	**0.61**	**137**	*i* P		**Pb**	**04 59 13.5**	**-0.5**
GCAM				*i* S		**Sb**	**04 59 22.4**	**-0.4**
AYDN	**Tasoluk**	**1.04**	**117**	*i* P		**Pb**	**04 59 21.4**	**-0.1**
AYDN				*i* S		**Sb**	**04 59 35.4**	**0.0**
AYDN	**Tasoluk**	**1.04**	**117**	*i* P		**Pb**	**04 59 21.4**	**-0.1**
AYDN				*i* S		**Sb**	**04 59 35.4**	**0.0**
AKS	**Akhisar**	**1.13**	**49**	*e*PG		**Pn**	**04 59 23.3**	**-0.1**
AKS	**Akhisar**	**1.13**	**49**	*e*Pg		**Pn**	**04 59 23.3**	**-0.1**
AKHS	**Akhisar**	**1.13**	**49**	*i* P		**Pg**	**04 59 21.8**	**-0.8**
AKHS				*i* S		**Sb**	**04 59 37.6**	**-0.3**
AKHS	**Akhisar**	**1.13**	**49**	*i* P		**Pg**	**04 59 21.8**	**-0.8**
AKHS				*i* S		**Sb**	**04 59 37.6**	**-0.3**
BODT	**Bodrum**	**1.18**	**156**	*e*PN		**Pn**	**04 59 24.5**	**+0.4**
BODT	**Bodrum**	**1.18**	**156**	*e*Pn		**Pn**	**04 59 24.5**	**+0.4**
MLSB	**Milas**	**1.20**	**135**	*e*PG		**Pb**	**04 59 24.1**	**0.0**
MLSB	**Milas**	**1.20**	**135**	*e*Pg		**Pb**	**04 59 24.1**	**0.0**
KULA	**Kula-Manisa**	**1.58**	**76**	*e*PN		**Pn**	**04 59 29.8**	**+0.2**
KULA	**Kula-Manisa**	**1.58**	**76**	*e*Pn		**Pn**	**04 59 29.8**	**+0.2**
BALY	**Balya**	**1.74**	**24**	*i* P		**Pb**	**04 59 33.1**	**-0.2**
BALY				*i* S		**Sb**	**04 59 55.8**	**+0.3**
BALY	**Balya**	**1.74**	**24**	*i* P		**Pb**	**04 59 33.1**	**-0.2**
BALY				*i* S		**Sb**	**04 59 55.8**	**+0.3**
BALB	**Balikesir**	**1.75**	**31**	*e*PN		**Pb**	**04 59 33.6**	**+0.2**
BALB	**Balikesir**	**1.75**	**31**	*e*Pn		**Pb**	**04 59 33.6**	**+0.2**
DST	**Dursunbey**	**2.08**	**45**	*e*PN		**Pb**	**04 59 38.0**	**-1.1**
DST	**Dursunbey**	**2.08**	**45**	*e*Pn		**Pb**	**04 59 38.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.26**	**355**	*e*PN		**Pb**	**04 59 42.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.26**	**355**	*e*Pn		**Pb**	**04 59 42.8**	**+0.7**

IDC 22 04:59:41.8±1.3, 3.66N×126.76E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=91.4km s-min=19.1km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P		P	05 04 34.4	+0.4
	0.4nm,0.5s,baz=25,slow=9.8,SNR=4.5							
WRA	**Warramunga Arr**	**24.61**	**163**	P		P	05 05 03.0	-1.0
	2.8nm,0.6s,baz=343,slow=10,SNR=16							
STKA	**Stephens Creek**	**38.05**	**159**	P		P	05 07 03.0	+0.9
	4.7nm,0.9s,baz=339,slow=9.7,SNR=4.2							
SONM	**Songino Array**	**47.38**	**341**	P		P	05 08 18.4	+0.6
	0.2nm,0.4s,baz=158,slow=7.3,SNR=2.6							
MKAR	**Makanchi Array**	**57.63**	**325**	P		P	05 09 33.2	-0.7
	0.5nm,0.4s,baz=122,slow=6.8,SNR=16							

IDC 22 05:00:25.2±7.0, 6.07S×146.90E, h119km±60km, mb3.3/2, mb1 3.5/4, mb1mx3.1/19, mbtmp3.3/4, Error ellipse: s-maj=64.9km s-min=41.6km az=160.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.32**	**176**	P		Pn	05 01 16.3	+0.6
	6.0nm,0.3s,baz=354,slow=2.9,SNR=16							
PMG				S		Sn	05 01 54.9	+0.1
	2.5nm,0.3s,baz=346,slow=15,SNR=4.2							
WRA	**Warramunga Arr**	**18.42**	**220**	P		P	05 04 31.1	-0.3
	0.3nm,0.3s,baz=39,slow=12,SNR=18							
ASAR	**Alice Springs**	**21.51**	**214**	P		P	05 05 05.0	+0.2
	0.6nm,0.4s,baz=50,slow=8.6,SNR=9.6							
FITZ	**Fitzroy Crossi**	**23.95**	**238**	P		P	05 05 28.9	+0.3
	2.0nm,0.3s,baz=46,slow=10,SNR=11							
SIV	**San Ignacio**	**144.68**	**129**	PKP		PKPdf	05 19 49.1	+0.1
	1.0nm,0.6s,baz=247,slow=5.3,SNR=7.6							
TORD	**Torodi Ar. Bea**	**145.01**	**284**	PKPbc		PKPbc	05 19 47.5	-1.6
	0.3nm,0.7s,baz=60,slow=3.5,SNR=2.7							

*DDA **22** 05:02:16.7, 38.18N×26.73E, h7km, MD3.0*
*ISK **22** 05:02:17.2, 38.14N×26.82E, h5km, MD3.1*
*CSEM **22** 05:02:17.4±0.3, 38.14N×26.72E, h2km, MD3.0, Error ellipse: s-maj=7.4km s-min=5.0km az=77.0*

ISC 22 05:02:17.3±1.1, 38.18N±0.02×26.73E±0.03, h5km±10km, n36, σ0.92/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**331**	*i* P		**Pg**	**05 02 20.6**	**-0.9**
URLA				*i* S		**Sg**	**05 02 24.3**	**+0.1**
URLA	**Izmir**	**0.21**	**331**	*i* P		**Pg**	**05 02 20.6**	**-0.9**
URLA				*i* S		**Sg**	**05 02 24.3**	**+0.1**
IZM	**Izmir**	**0.48**	**62**	*e*PG		**Pg**	**05 02 26.4**	**-0.1**
IZM				*e*SG		**Sg**	**05 02 33.6**	**+0.9**
IZM	**Izmir**	**0.48**	**62**	*e*Pg		**Pg**	**05 02 26.4**	**-0.1**
IZM				*e*Sg		**Sg**	**05 02 33.6**	**+0.9**
GCAM	**G?zelcaml?**	**0.62**	**140**	*i* P		**Pg**	**05 02 29.2**	**0.0**
GCAM				*i* S		**Sb**	**05 02 37.8**	**-1.8**
GCAM	**G?zelcaml?**	**0.62**	**140**	*i* P		**Pg**	**05 02 29.2**	**0.0**
GCAM				*i* S		**Sb**	**05 02 37.8**	**-1.8**
AYDN	**Tasoluk**	**1.05**	**119**	*i* P		**Pg**	**05 02 37.0**	**-0.4**
AYDN				*i* S		**Sb**	**05 02 50.9**	**-1.1**
AYDN	**Tasoluk**	**1.05**	**119**	*i* P		**Pg**	**05 02 37.0**	**-0.4**
AYDN				*i* S		**Sb**	**05 02 50.9**	**-1.1**
AKHS	**Akhisar**	**1.10**	**50**	*e*P		**Pg**	**05 02 37.9**	**-0.6**
AKHS				*i* S		**Sb**	**05 02 54.1**	**+0.4**
AKHS	**Akhisar**	**1.10**	**50**	*e*P		**Pg**	**05 02 37.9**	**-0.6**
AKHS				*i* S		**Sb**	**05 02 54.1**	**+0.4**
AKS	**Akhisar**	**1.10**	**50**	*e*PG		**Pn**	**05 02 39.5**	**0.0**
AKS	**Akhisar**	**1.10**	**50**	*e*Pg		**Pn**	**05 02 39.5**	**0.0**
AYVA	**Ayvalik**	**1.13**	**359**	*i* P		**Pg**	**05 02 38.2**	**-0.8**
AYVA				*i* S		**Sg**	**05 02 54.5**	**+0.8**
AYVA	**Ayvalik**	**1.13**	**359**	*i* P		**Pg**	**05 02 38.2**	**-0.8**
AYVA				*i* S		**Sg**	**05 02 54.5**	**+0.8**
BODT	**Bodrum**	**1.20**	**157**	*e*PN		**Pb**	**05 02 40.1**	**-0.5**
BODT				*e*SN		**Sn**	**05 02 57.6**	**+0.1**
BODT	**Bodrum**	**1.20**	**157**	*e*Pn		**Pb**	**05 02 40.1**	**-0.5**
BODT				*e*Sn		**Sn**	**05 02 57.6**	**+0.1**
MLSB	**Milas**	**1.21**	**136**	*e*PN		**Pg**	**05 02 39.8**	**-0.7**
MLSB	**Milas**	**1.21**	**136**	*e*Pn		**Pg**	**05 02 39.8**	**-0.7**
APE	**Apeiranthos**	**1.46**	**221**	*e*PN		**Pb**	**05 02 45.5**	**+0.6**
APE	**Apeiranthos**	**1.46**	**221**	*e*Pn		**Pb**	**05 02 45.5**	**+0.6**
KULA	**Kula-Manisa**	**1.56**	**77**	*e*PN		**Pb**	**05 02 46.6**	**-0.1**
KULA	**Kula-Manisa**	**1.56**	**77**	*e*Pn		**Pb**	**05 02 46.6**	**-0.1**
EZN	**Ezine**	**1.68**	**349**	*e*PN		**Pg**	**05 02 49.7**	**+0.2**
EZN	**Ezine**	**1.68**	**349**	*e*Pn		**Pg**	**05 02 49.7**	**+0.2**
BALY	**Balya**	**1.71**	**24**	*i* P		**Pn**	**05 02 48.7**	**+0.9**
BALY				*e*S		**Sn**	**05 03 08.5**	**-1.6**
BALY	**Balya**	**1.71**	**24**	*i* P		**Pn**	**05 02 48.7**	**+0.9**
BALB	**Balikesir**	**1.72**	**31**	*e*PN		**Pn**	**05 02 48.8**	**+0.9**
BALB	**Balikesir**	**1.72**	**31**	*e*Pn		**Pn**	**05 02 48.8**	**+0.9**
GONE	**Gonen-Balikesi**	**2.01**	**21**	*e*PN		**Pb**	**05 02 54.1**	**-0.2**
GONE	**Gonen-Balikesi**	**2.01**	**21**	*e*Pn		**Pb**	**05 02 54.2**	**-0.2**
DST	**Dursunbey**	**2.05**	**45**	*e*PN		**Pb**	**05 02 54.2**	**-0.8**
DST	**Dursunbey**	**2.05**	**45**	*e*Pn		**Pb**	**05 02 54.3**	**-0.8**
KHL	**Karahalli**	**2.21**	**85**	*e*PN		**Pn**	**05 02 56.2**	**+1.5**
KHL	**Karahalli**	**2.21**	**85**	*e*Pn		**Pn**	**05 02 56.2**	**+1.5**
TVSB	**Tavsanli**	**2.49**	**58**	*e*PN		**Pn**	**05 03 00.7**	**+2.1**
TVSB	**Tavsanli**	**2.49**	**58**	*e*Pn		**Pn**	**05 03 00.7**	**+2.1**

*SZGRF **22** 05:03:01.3, 18.63S×14.59W, h33km, mb4.4, Southern Mid-Atlantic Ridge*
*ISCJB **22** 05:03:29.2±0.8, 13.4S±0.2×14.2W±0.2, h10km, mb4.1/12, MS3.8/17, Error ellipse: s-maj=28.6km s-min=12.8km az=138.7*
*IDC **22** 05:03:29.8±2.9, 13.27S×14.27W, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, MS3.8/17, Ms1 3.8/17, ms1mx3.6/36, Error ellipse: s-maj=111.3km s-min=19.6km az=146.0*
*NEIC **22** 05:03:31.1±0.6, 13.32S×14.24W, h10km, mb4.6/2, Error ellipse: s-maj=23.3km s-min=10.4km az=139.0*

ISC 22 05:03:31.2±0.9, 13.3S±0.2×14.3W±0.2, h10km, n34, σ0.71/22, mb4.2/12, MS3.8/17, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**21.96**	**26**	P		**P**	**05 08 26.3**	**+1.1**
	11nm,1.1s,baz=183,slow=8.2,SNR=4.2							
DBIC				LR		LR	05 14 50.8	
	comp=Z,160nm,19.5s,baz=184,slow=31							
DBIC	**Dimbokro**	**21.96**	**26**	P		**P**	**05 08 26.3**	**+1.1**
RCBR	**Riachuelo**	**22.58**	**287**	LR		LR	05 14 47.1	
	comp=Z,190nm,19.0s,baz=104,slow=30							
BBTS	**Babate**	**27.90**	**355**	LR		LR	05 19 19.3	
	comp=Z,92nm,18.5s,baz=88,slow=34							
TOA0	**Torodi Ar. Sit**	**30.70**	**32**	*e*P		**P**	**05 09 45.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**30.70**	**32**	P		**P**	**05 09 45.9**	**-0.6**
	1.0nm,0.9s,baz=215,slow=9.8,SNR=6.4							
TORD				LR		LR	05 19 58.2	
	comp=Z,205nm,20.9s,baz=205,slow=32							
TORD	**Torodi Ar. Bea**	**30.70**	**32**	P		**P**	**05 09 45.9**	**-0.6**
TSUM	**Tsumeb**	**31.10**	**105**	LR		LR	05 19 43.2	
	comp=Z,132nm,19.9s,baz=238,slow=31							
BDFB	**Brasilia**	**32.74**	**262**	P		**P**	**05 10 03.9**	**-0.7**
	2.9nm,0.9s,baz=70,slow=11,SNR=5.0							
BDFB				LR		LR	05 20 04.2	
	comp=Z,159nm,20.3s,baz=279,slow=30							
BDFB	**Brasilia**	**32.74**	**262**	P		**P**	**05 10 03.9**	**-0.7**
LBTB	**Lobatse**	**39.27**	**113**	LR		LR	05 24 26.4	
	comp=Z,179nm,18.7s,baz=316,slow=32							
BOSA	**Boshof**	**39.71**	**119**	LR		LR	05 24 32.4	
	comp=Z,136nm,20.2s,baz=88,slow=32							
SIV	**San Ignacio**	**45.29**	**261**	P		**P**	**05 11 50.8**	**+1.2**
	1.3nm,0.8s,baz=87,slow=14,SNR=5.2							
SIV	**San Ignacio**	**45.29**	**261**	P		**P**	**05 11 50.8**	**+1.2**
LPAZ	**La Paz**	**52.04**	**260**	P		**P**	**05 12 42.6**	**+0.4**
	1.0nm,0.9s,baz=84,slow=9.2,SNR=3.6							
LPAZ				LR		LR	05 32 06.7	
	comp=Z,73nm,19.3s,baz=264,slow=33							
LPAZ	**La Paz**	**52.04**	**260**	P		**P**	**05 12 42.6**	**+0.4**
PLCA	**Paso Flores**	**55.98**	**230**	LR		LR	05 33 09.8	

	comp=Z,125nm,20.2s,baz=277,slow=32							
SNAA	**Sanae**	**58.72**	**176**	*e*P		**P**	**05 13 29.0**	**+0.1**
	3.1nm,1.0s							
ROSC	**El Rosal**	**62.30**	**283**	LR		LR	05 40 29.6	
	comp=Z,127nm,18.7s,baz=186,slow=36							
ATAH	**Atahualpa**	**63.27**	**269**	LR		LR	05 39 28.7	
	comp=Z,141nm,21.8s,baz=197,slow=34							
GRF	**Grafenberg Arr**	**66.64**	**18**	*e*P		**P**	**05 14 22.4**	**+0.5**
	comp=Z,4.0nm,1.2s							
GERES	**GERESS Array B**	**66.67**	**20**	LR		LR	05 41 29.1	
	comp=Z,79nm,18.6s,baz=270,slow=34							
BRTR	**Keskin Array B**	**69.06**	**38**	P		**P**	**05 14 37.0**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=270,slow=2.9,SNR=3.9							
BRTR				LR		LR	05 44 32.9	
	comp=Z,51nm,19.0s,baz=32,slow=36							
BRTR	**Keskin Array B**	**69.06**	**38**	P		**P**	**05 14 37.0**	**-0.5**
AKASG	**Malin Array Be**	**74.20**	**27**	P		**P**	**05 15 08.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=224,slow=6.6,SNR=6.6							
AKASG	**Malin Array Be**	**74.20**	**27**	P		**P**	**05 15 08.2**	**+0.2**
NOA	**NORSAR Array B**	**76.85**	**12**	LR		LR	05 47 18.1	
	comp=Z,24nm,21.1s,baz=180,slow=34							
KBZ	**Khabaz**	**77.01**	**39**	LR		LR	05 49 55.5	
	comp=Z,34nm,19.6s,baz=23,slow=36							
FINES	**FINESS Array B**	**81.05**	**18**	LR		LR	05 53 36.4	
	comp=Z,48nm,18.0s,baz=169,slow=37							
SCHQ	**Schefferville**	**81.06**	**332**	P		**P**	**05 15 45.6**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=169,slow=5.2,SNR=3.3							
SCHQ	**Schefferville**	**81.06**	**332**	P		**P**	**05 15 45.6**	**-0.7**
JCT	**Junction City**	**92.88**	**300**	*e*P		**P**	**05 16 44.8**	**-0.1**
	comp=Z,2.8nm,0.7s							
TXAR	**Lajitas Array**	**95.90**	**299**	P		**P**	**05 16 58.6**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=116,slow=11,SNR=4.9							
TXAR	**Lajitas Array**	**95.90**	**299**	P		**P**	**05 16 58.6**	**-0.1**

IDC 22 05:06:39.7±2.5, 0.73S×131.08E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=127.5km s-min=24.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.08**	**197**	P		Pn	05 10 52.3	-0.2
	0.1nm,0.3s,baz=17,slow=14,SNR=2.6							
WRA	**Warramunga Arr**	**19.36**	**171**	P		P	05 11 06.4	-0.7
	0.1nm,0.3s,baz=351,slow=11,SNR=4.9							
ASAR	**Alice Springs**	**22.97**	**173**	P		P	05 11 46.4	+0.4
	1.8nm,0.9s,baz=353,slow=10.0,SNR=16							
MKAR	**Makanchi Array**	**63.68**	**325**	P		P	05 17 13.0	0.0
	0.1nm,0.5s,baz=121,slow=8.1,SNR=2.0							

GUC 22 05:08:01.3±0.6, 32.63S×71.53W, h26km±3km, MD3.8, ML3.3, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PACH	**Papudo**	**0.12**	**38**	⇑*i*P		Pb	05 08 06.8	+0.3
PACH				*i* S		Sb	05 08 10.3	+0.4
IHA	**Instituto Hidr**	**0.40**	**194**	⇑*i*P		Pb	05 08 09.8	-0.2
IHA				*i* S		Sb	05 08 15.8	-0.1
ROCH	**El Roble**	**0.55**	**128**	⇑*i*P		Pb	05 08 12.3	-0.4
ROCH				*i* S		Sb	05 08 20.3	-0.2
ROCH				AML		AML	05 08

KRVZ	Karewarewa	2.19	9	PN	Pb	05 11 26.7 -1.6
PKE	Pukeiti	2.26	336	PN	Pb	05 11 27.6 -1.7
LTZ	Lake Taylor	2.65	234	PN	Pn	05 11 29.1 -1.2
HIZ	Hauiti	2.75	355	*e*PN	Pn	05 11 32.3 +0.6

BJI ***22*** *05:14:06.4, 1.°00S×132.°68E, h40km, mB5.0/17, mb4.8/27, Ms4.6/11, Ms7 4.4/11*
IDC ***22*** *05:14:08.5±0.6, 0.°31S×132.°22E, h0km, mb4.6/13, mb1 4.7/15, mb1mx4.5/23, mbtmp4.6/15, ML4.2/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/35, Error ellipse: s-maj=26.9km s-min=10.9km az=79.0*
MOS ***22*** *05:14:10.3±0.8, 0.°34S×132.°20E, h26km, mb4.9/26, Error ellipse: s-maj=20.1km s-min=7.3km az=108.7*
AUST ***22*** *05:14:10.3±1.5, 0.°44S×132.°29E, h14km, Error ellipse: s-maj=1.0km s-min=0.8km az=246.0*
ISCJB ***22*** *05:14:11.4±0.2, 0.°34S±0.°03×132.°31E±0.°04, h33km, mb4.7/54, MS3.9/10, Error ellipse: s-maj=5.5km s-min=3.7km az=2.1*
NEIC ***22*** *05:14:13.6±0.2, 0.°37S×132.°24E, h35km, mb4.7/17, Error ellipse: s-maj=8.1km s-min=4.6km az=69.0*
DJA ***22*** *05:14:15.1±0.6, 1.°5±6°×13.°2E±.°, h5km, M4.8/26, mB5.5/9, mb4.8/26, MLv4.8/9, Mw(mB)4.9/9*

ISC 22 05:14:13.4±0.3, 0.°41S±0.°04×132.°30E±0.°06, h33km, h33km:pP-P, n171, σ1°57/188, mb4.8/54, MS3.8/10, 7C-5D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.13**	**247**	P	Pn	05 14 29.2	-3.8
	baz=1.1,SNR=396						
SWI				S	**Sn**	**05 14 45.8**	**-1.5**
	baz=1.1,SNR=8.0						
SWI	**Sorong**	**1.13**	**247**	P	Pn	05 14 28.6	-4.3
FAKI	**Fak Fak**	**2.49**	**181**	P	**Pn**	**05 14 51.5**	**-0.2**
BAKI	**Biak**	**3.89**	**102**	P	Pb	05 15 30.6	+9.3
MSAI	**Masohi**	**4.45**	**229**	P	**Pn**	**05 15 19.4**	**+0.7**
BNDI	**Bandanaira**	**4.73**	**210**	P	**Pn**	**05 15 22.5**	**0.0**
LBMI	**Labuha**	**4.80**	**267**	P	**Pn**	**05 15 24.8**	**+1.3**
TNTI	**Ternate**	**5.07**	**283**	P	Pn	05 15 33.7	+6.5
	145nm,0.9s,0.4nm						
TLE	**Tual**	**5.21**	**175**	P	Pn	05 15 32.4	+3.3
TLE	baz=5.2,SNR=8.3			S	**Sn**	**05 16 29.5**	**+1.4**
	baz=5.2,SNR=4.7						
TLE	**Tual**	**5.21**	**175**	P	Pn	05 15 32.6	+3.5
AAI	**Ambon**	**5.23**	**232**	P	**Pn**	**05 15 29.1**	**-0.4**
	baz=5.2,SNR=13						
AAI	**Ambon**	**5.23**	**232**	P	**Pn**	**05 15 29.4**	**0.0**
NLAI	**Namlea**	**5.91**	**242**	P	**Pn**	**05 15 38.6**	**0.0**
	137nm,0.7s,1μm0.4nm						
PALU	**Palau**	**8.00**	**16**	P	**Pn**	**05 16 05.8**	**-1.7**
	baz=8.1,SNR=8.3						
LUWI	**Luwuk**	**9.55**	**266**	P	**Pn**	**05 16 26.7**	**-2.0**
	130nm,1.0s,930nm						
KDU	**Kakadu**	**12.20**	**179**	P	**Pn**	**05 17 02.9**	**-2.1**
	baz=12,SNR=13						
KDU				S	Sn	05 19 12.9	-6.9
	baz=12,SNR=8.1						
MTN	**Manton Dam**	**12.40**	**185**	P	**Pn**	**05 17 04.7**	**-3.1**
	baz=12,SNR=35						
MTN				S	**Sn**	**05 19 19.5**	**-5.5**
	baz=12,SNR=5.8						
PCI	**Palu**	**12.47**	**268**	S	Sn	05 19 52.6	+26
	baz=12,SNR=7.3						
TTSI	**Tana Toraja**	**12.74**	**258**	P	Pn	05 17 17.1	+4.7
MMRI	**Maumere**	**12.93**	**231**	P	Pn	05 17 19.4	+4.4
SPSI	**Sidrap Palu**	**13.01**	**254**	P	**Pn**	**05 17 15.9**	**-0.1**
	27nm,0.9s						
BKSI	**Bulukumba**	**13.10**	**248**	P	**Pn**	**05 17 18.4**	**+1.1**
	33nm,1.0s,720nm						
KAPI	**Kappang**	**13.34**	**250**	Pn	**Pn**	**05 17 19.9**	**-0.7**
	0.8nm,0.3s,baz=118,slow=7.5,SNR=15						
KAPI	**Kappang**	**13.34**	**250**	Pn	**Pn**	**05 17 19.9**	**-0.7**
KAPI	**Kappang**	**13.34**	**250**	P	**Pn**	**05 17 22.5**	**+1.9**
	37nm,1.0s						
RCP	**Roxas**	**15.22**	**322**↑	*e*P	**P**	**05 17 51.5**	**+0.9**
COEN	**Coen**	**17.23**	**142**	*e*Pn	**Pn**	**05 18 11.7**	**-0.1**
	414nm,1.7s						
COEN	**Coen**	**17.23**	**142**	P	**P**	**05 18 12.4**	**-0.6**
	baz=17,SNR=6.4						
KKM	**Kota Kinabalu**	**17.29**	**292**	*e*Pn	**Pn**	**05 18 11.4**	**-1.2**
	32nm,1.1s						
KKM	**Kota Kinabalu**	**17.29**	**292**	P	**P**	**05 18 14.4**	**+0.6**
	27nm,1.0s						
BBKI	**Banjar Baru**	**17.71**	**260**	P	P	05 18 27.4	+9.1
KHKI	**Kahang-Kahang**	**18.41**	**244**	P	**Pn**	**05 18 27.0**	**+0.8**
	30nm,0.9s						
SRBI	**Singaraja**	**18.65**	**245**	P	**Pn**	**05 18 29.1**	**-0.1**
	87nm,1.0s,1μm						
GUMO	**Guam**	**18.67**	**41**	LR	LR	05 23 35.8	
	comp=Z,105nm,19.1s,baz=128,slow=30						
FITZ	**Fitzroy Crossi**	**18.76**	**200**	P	**P**	**05 18 26.1**	**-3.7**
	1.2nm,0.3s,baz=31,slow=10,SNR=34						
FITZ				S	Sn	05 21 45.1	-14
	0.6nm,0.3s,baz=179,slow=12,SNR=3.7						
FITZ				LR	LR	05 26 07.0	
	comp=Z,184nm,20.1s,baz=25,slow=38						
FITZ	**Fitzroy Crossi**	**18.76**	**200**	*e*P	**P**	**05 18 26.0**	**-3.7**
	16nm,0.9s						
FITZ				*e*Sn	Sn	05 21 42.5	-17
FITZ				S	S	05 21 45.1	-17
FITZ	**Fitzroy Crossi**	**18.76**	**200**	P	**P**	**05 18 26.1**	**-3.7**
	baz=19,SNR=20						
KMMI	**Kalianget**	**19.43**	**250**	P	**Pn**	**05 18 41.4**	**+2.8**
	32nm,0.9s						
BYJI	**Banyuwangi**	**19.49**	**246**	P	Pn	05 18 45.4	+6.2
	168nm,1.4s,6μm						
WRAB	**Tennant Creek**	**19.50**	**174**	*e*P	**P**	**05 18 37.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,28nm,1.0s						
WRAB	**Tennant Creek**	**19.50**	**174**	*e*P	**P**	**05 18 37.8**	**-0.2**
	comp=Z,28nm,1.0s						
WRA	**Warramunga Arr**	**19.51**	**174**	P	**Pn**	**05 18 38.5**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=351,slow=12,SNR=25						
WRA				S	S	05 22 06.2	-11
	comp=Z,0.6nm,0.3s,baz=356,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**19.51**	**174**	P	**Pn**	**05 18 38.5**	**-1.0**
WRA				S	S	05 22 06.2	-11
JAGI	**Jajag, Banyuwa**	**19.77**	**246**	P	**P**	**05 18 41.0**	**0.0**
	comp=Z,77nm,0.9s						
SBUM	**Sibu**	**20.27**	**278**	P	Pn	05 18 52.3	+3.7
	comp=Z,15nm,1.1s						
GMJI	**Gumukmas**	**20.34**	**247**	P	Pn	05 18 50.8	+1.4
	comp=Z,55nm,1.1s						
PBKI	**Pangkalan Bun**	**20.75**	**263**	P	Pn	05 18 55.4	+1.3
	comp=Z,163nm,1.0s,comp=Z,3μm						
QIS	**Mount Isa**	**21.26**	**161**	P	**P**	**05 18 57.9**	**+0.8**
	baz=21,SNR=8.7						
SJI	**Sawahan**	**21.72**	**250**	P	P	05 19 09.3	+7.2
PWJI	**Pagerwojo**	**21.78**	**249**	P	**P**	**05 19 04.9**	**+2.3**
	comp=Z,30nm,1.2s						
KSM	**Kuching**	**22.07**	**275**	*e*P	**P**	**05 19 06.8**	**+1.0**
	comp=Z,23nm,1.0s						
KSM	**Kuching**	**22.07**	**275**	P	**P**	**05 19 07.3**	**+1.5**
	baz=22,SNR=3.8						
KSM	**Kuching**	**22.07**	**275**	P	**P**	**05 19 07.9**	**+2.1**
	comp=Z,25nm,1.1s						
AS31	**Alice Springs**	**23.17**	**176**	*e*P	**P**	**05 19 17.6**	**+0.3**
ASAR	**Alice Springs**	**23.17**	**176**	P	**P**	**05 19 17.4**	**0.0**
	comp=Z,57nm,0.9s,baz=354,slow=9.4,SNR=257						
ASAR				S	**S**	**05 23 33.4**	**+6.5**
	comp=Z,2.3nm,0.7s,baz=358,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**23.17**	**176**	P	**P**	**05 19 17.4**	**0.0**
ASAR				S	**S**	**05 23 33.4**	**+6.5**
BJII	**Banjamegara**	**23.55**	**252**	P	P	05 19 26.5	+5.3
	comp=Z,35nm,1.4s						
CTA	**Charters Tower**	**23.85**	**146**	P	**P**	**05 19 25.7**	**+1.7**
	comp=Z,5.5nm,0.8s,baz=321,slow=13,SNR=4.0						
CTA	**Charters Tower**	**23.85**	**146**	P	**P**	**05 19 25.7**	**+1.7**
MBWA	**Marble Bar**	**24.00**	**210**	*e*P	**P**	**05 19 25.0**	**-0.2**
	comp=Z,26nm,1.0s						
PPBI	**Pangkal Pinang**	**26.21**	**266**	P	**P**	**05 19 47.1**	**+1.6**
	comp=Z,16nm,1.0s,comp=Z,3μm						
JOW	**Kunigami**	**27.36**	**352**	LR	LR	05 28 07.7	
	comp=Z,2μm,20.0s,baz=120,slow=31						
QLP	**Quilpie**	**28.44**	**157**	P	**P**	**05 20 06.7**	**+1.3**
	baz=29,SNR=8.3						
QIZ	**Qiongzhong**	**29.31**	**312**	P	**P**	**05 20 11.6**	**-1.6**
QIZ				S	**S**	**05 25 05.8**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,12nm,1.6s						
FORT	**Forrest**	**30.47**	**187**	*e*P	**P**	**05 20 23.2**	**0.0**
	comp=Z,56nm,0.7s						
FORT	**Forrest**	**30.47**	**187**	P	**P**	**05 20 24.0**	**+0.7**
	baz=31,SNR=28						
IPM	**Ipoh**	**31.62**	**279**	*e*P	**P**	**05 20 32.9**	**-0.8**
IPM	**Ipoh**	**31.62**	**279**	P	**P**	**05 20 34.2**	**+0.5**
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**32.51**	**165**	P	**P**	**05 20 42.0**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=342,slow=8.2,SNR=12						
STKA	**Stephens Creek**	**32.51**	**165**	P	**P**	**05 20 42.0**	**+0.8**
STKA	**Stephens Creek**	**32.51**	**165**	P	**P**	**05 20 42.5**	**+1.3**
	baz=33,SNR=6.4						
CMSA	**Cobar Meteorol**	**33.45**	**159**	P	**P**	**05 20 51.8**	**+2.3**
	baz=34,SNR=9.5						
BLDU	**Ballidu**	**33.49**	**205**	P	**P**	**05 20 49.7**	**-0.1**
	baz=34,SNR=6.7						
KLBR	**Kellerberrin**	**33.93**	**203**	P	**P**	**05 20 53.8**	**+0.1**
	baz=34,SNR=7.9						
ARMA	**Armidale**	**35.04**	**150**	*e*P	**P**	**05 21 04.4**	**+0.9**
	comp=Z,10nm,0.7s						
WHN	**Wuhan**	**35.20**	**333**	⇓P	**P**	**05 21 04.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**35.32**	**202**	P	**P**	**05 21 05.1**	**-0.5**
	comp=Z,8.9nm,0.7s,baz=29,slow=9.5,SNR=4.4						
NWAO				LR	LR	05 36 57.0	
	comp=Z,133nm,18.5s,baz=190,slow=39						
NWAO	**Narrogin (SRO)**	**35.32**	**202**	P	**P**	**05 21 05.1**	**-0.5**
GYA	**Guiyang**	**36.39**	**319**	*e*P	**P**	**05 21 14.8**	**-0.2**
GYA				pP	**pP**	**05 21 24.5**	**-0.2**
GYA				PP	**PP**	**05 22 40.0**	**+1.8**
GYA				S	**S**	**05 26 55.0**	**+0.4**
GYA				ScS	**ScS**	**05 31 27.4**	**-2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,16.5s						
GYA				LR	LR		
	comp=E,420nm,17.3s						
GYA				LR	LR		
	comp=Z,490nm,17.0s						
CMAR	**Chiang Mai Arr**	**37.76**	**302**	P	**P**	**05 21 26.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=126,slow=7.2,SNR=6.4						
CMAR	**Chiang Mai Arr**	**37.76**	**302**	P	**P**	**05 21 26.2**	**-0.4**
KSRS	**Korea Array**	**37.90**	**354**	LR	LR	05 35 34.9	
	comp=Z,67nm,18.4s,baz=15,slow=34						
KMI	**Kunming**	**38.24**	**314**	P	**P**	**05 21 31.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CD2	**Chengdu**	**41.29**	**322**	P	**P**	**05 21 57.3**	**+1.3**
CD2				pP	**pP**	**05 22 07.5**	**+1.8**
CD2				sP	**sP**	**05 22 11.8**	**+2.1**
CD2				PP	**PnPn**	**05 23 36.6**	**+0.1**
CD2				S	**S**	**05 28 09.3**	**+1.1**
CD2				sS	**sS**	**05 28 26.4**	**+2.1**
CD2				SS	**SS**	**05 31 09.3**	**-3.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,5.9s						
CD2				LR	LR		
	comp=N,170nm,5.4s						
CD2				LR	LR		
	comp=Z,120nm,4.8s						
BJI	**Beijing**	**42.87**	**342**	P	**P**	**05 22 08.3**	**-0.3**
BJI				pmax	pmax		
	comp=Z,29nm,1.0s						
USRK	**Ussuriysk Arra**	**44.42**	**360**	P	**P**	**05 22 20.2**	**-0.8**
	comp=Z,6.0nm,0.7s,baz=176,slow=8.7,SNR=11						
USRK				LR	LR	05 40 39.2	
	comp=Z,61nm,18.3s,baz=48,slow=36						
CN2	**Changchun**	**44.44**	**353**	*e*P	**P**	**05 22 23.8**	**+2.5**
MDJ	**Mudanjiang**	**44.90**	**357**	P	**P**	**05 22 25.1**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,65nm,4.3s						
LZH	**Lanzhou**	**44.93**	**327**	*e*P	**P**	**05 22 27.1**	**+1.6**
LZH				pP	**pP**	**05 22 37.9**	**+2.6**
LZH				sP	**sP**	**05 22 41.3**	**+2.0**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.19**	**338**	*e*P	**P**	**05 22 27.3**	**-0.1**
HHC				pP	**pP**	**05 22 39.3**	**+2.1**
HHC				sP	**sP**	**05 22 43.3**	**+2.1**
HHC				PP	**PP**	**05 24 16.0**	**+2.5**
HHC				S	**S**	**05 29 07.8**	**+2.6**
HHC				sS	**sS**	**05 29 23.4**	**+2.1**
HHC				ScS	**ScS**	**05 32 20.9**	**-1.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,4.5s						
HHC				LR	LR		
	comp=N,180nm,17.5s						
HHC				LR	LR		
	comp=E,190nm,17.8s						
HHC				LR	LR		
	comp=Z,66nm,19.0s						
ASAJ	**Asahikawa**	**45.28**	**10**	LR	LR	05 40 13.1	
	comp=Z,48nm,18.7s,baz=190,slow=35						
HABR	**Khabarovsk**	**48.75**	**2**	*e*P	**P**	**05 22 53.5**	**-1.4**
HABR				*e**PP	**pP**	**05 23 02.9**	**-1.9**
HABR						05 24 17.3	
HABR						05 24 47.2	
HABR				*e*S	**S**	**05 29 55.4**	**-0.1**
HABR				*e**SS	**sS**	**05 30 12.0**	**+0.2**
HABR				*e*		05 32 42.7	
HABR				*e*SSS	SSS	05 34 43.4	
HABR				pmax	pmax		
	comp=N,98nm,2.7s						
HABR				pmax	pmax		
	comp=Z,75nm,2.7s						
HABR				pmax	pmax		
	comp=E,60nm,1.9s						
HABR				MLR	MLR		
	comp=Z,80nm,24.0s						
KLR	**Kul'dur**	**49.45**	**360**	*e*P	P	05 22 56.7	-3.6
TAPN	**Taplejung**	**50.94**	**306**	*e*P	**P**	**05 23 11.1**	**-1.2**
RAMN	**Ramite**	**51.67**	**305**	*e*P	**P**	**05 23 16.7**	**-1.1**
JIRN	**Jiri**	**52.29**	**306**	*e*P	**P**	**05 23 20.8**	**-1.8**
GUN	**Gumba**	**52.65**	**306**	*e*P	**P**	**05 23 23.9**	**-1.2**
ULN	**Ulaanbaatar**	**52.86**	**339**	*e*P	**P**	**05 23 25.4**	**-0.8**
	comp=Z,13nm,0.9s						
SONM	**Songino Array**	**53.08**	**338**	P	**P**	**05 23 27.4**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=157,slow=7.7,SNR=34						
SONM	**Songino Array**	**53.08**	**338**	P	**P**	**05 23 27.4**	**-0.3**
DMN	**Daman**	**53.15**	**306**	*e*P	**P**	**05 23 27.0**	**-1.8**
KOLN	**Koldanda**	**54.44**	**305**	*e*P	**P**	**05 23 36.7**	**-1.5**
	comp=Z,32nm,0.9s						
DANN	**Dangsing**	**54.54**	**306**	*e*P	**P**	**05 23 37.2**	**-1.7**
	comp=Z,25nm,0.8s						
PYUN	**Piuthan**	**55.07**	**305**	*e*P	**P**	**05 23 41.4**	**-1.3**
	comp=Z,55nm,0.9s						
RPZ	**Rata Peaks**	**55.23**	**146**	LR	LR	05 45 12.2	
	comp=Z,163nm,20.1s,baz=292,slow=34						
HYB	**Hyderabad**	**55.77**	**291**	*i* P	**P**	**05 23 46.0**	**-1.7**
ZAK	**Zakamensk**	**56.34**	**338**	*e*P	**P**	**05 23 49.7**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**57.27**	**339**	*e*P	**P**	**05 23 56.9**	**-0.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PETK	**Petropavlovsk**	**57.39**	**18**	P	**P**	**05 23 58.3**	**-0.2**
	comp=Z,7.0nm,1.0s,baz=212,slow=8.1,SNR=3.6						
PETK	**Petropavlovsk-**	**57.39**	**18**	P	**P**	**05 23 58.3**	**-0.2**
PETK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PETK	**Petropavlovsk-**	**57.39**	**18**	P	**P**	**05 23 58.3**	**-0.2**
WMQ	**Urumqi**	**59.31**	**324**	*e*P	**P**	**05 24 12.3**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,15nm,1.2s						
BOD	**Bodaibo**	**59.86**	**349**	*e*P	**P**	**05 24 14.9**	**-0.7**
HVS	**Khovu-Aksy**	**60.87**	**333**	*e* iP	**P**	**05 24 22.5**	**-0.3**
HVS				pmax	pmax		
	comp=Z,46nm,0.9s						
YAK	**Yakutsk**	**62.31**	**359**	*d* iP	**P**	**05 24 31.9**	**-0.3**
YAK				*e**PP	**pP**	**05 24 42.7**	**+0.4**
YAK				*e*		05 25 12.8	
YAK				*e*		05 26 46.3	
YAK				*e*S	**S**	**05 32 52.9**	**-3.1**
YAK				*e*SS	**SS**	**05 36 58.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,62nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=Z,21nm,1.9s						
YAK				pmax	pmax		
	comp=N,27nm,2.0s						
YAK				smax	smax		
	comp=N,12nm,5.8s						
YAK				MLR	MLR		
	comp=Z,86nm,26.0s						
YAK	**Yakutsk**	**62.31**	**359**	*e*P	**P**	**05 24 32.2**	**+0.1**
	comp=Z,72nm,0.8s						
MK31	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**05 24 44.2**	**-0.4**
MK31	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**05 24 44.2**	**-0.4**
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**05 24 44.1**	**-0.5**
	comp=Z,7.5nm,0.7s,baz=117,slow=8.0,SNR=104						
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**05 24 44.1**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**05 24 44.1**	**-0.5**
KSH	**Kashi**	**64.89**	**315**	*e*P	**P**	**05 24 50.6**	**+0.8**
KSH				epP	**pP**	**05 25 02.1**	**+2.1**
KSH				esP	**sP**	**05 25 04.8**	**+0.9**
KSH				*e*PP	**PP**	**05 27 16.3**	**+3.4**
KSH				PcS		05 29 27.0	
KSH				S	**S**	**05 33 29.1**	**-0.2**
KSH				sS	**sS**	**05 33 46.3**	**+0.2**
KSH				ScS	**SKSac**	**05 34 39.9**	**-2.6**
KSH				SS	**SS**	**05 37 42.6**	**+1.2**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				LR	LR		
	comp=N,69nm,5.8s						
KSH				LR	LR		
	comp=E,120nm,5.4s						
KSH				LR	LR		
	comp=Z,160nm,5.5s						
SEY	**Seymchan**	**64.96**	**10**↑	*e*P	**P**	**05 24 50.6**	**+1.0**
KZA	**Kyzart**	**66.41**	**317**	P	**P**	**05 25 00.4**	**+0.4**
	SNR=9.9						
TKM2	**Tokmak 2**	**66.52**	**318**	*i* P	**P**	**05 25 00.1**	**-0.3**
TKM2	**Tokmak 2**	**66.52**	**318**	*e*P	**P**	**05 24 59.9**	**-0.5**
	comp=Z,5.8nm,0.7s						
TKM2	**Tokmak 2**	**66.52**	**318**	P	**P**	**05 25 00.1**	**-0.3**
	SNR=13						
ZAA0	**Zalesovo Array**	**66.81**	**332**	*e*P	**P**	**05 25 00.2**	**-1.5**
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**05 25 00.7**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=107,slow=5.1,SNR=13						
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**05 25 00.7**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**05 25 00.7**	**-1.1**
AAK	**Ala-Archa**	**67.15**	**317**↑	*i* P	**P**	**05 25 04.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,22nm,2.5s						
AAK	**Ala-Archa**	**67.15**	**317**	*e*P	**P**	**05 25 04.0**	**-0.3**
	comp=Z,27nm,1.3s						
USP	**Ospenovka**	**67.39**	**318**	P	**P**	**05 25 05.0**	**-0.8**
	SNR=11						
AML	**Almayashu**	**67.50**	**317**	P	**P**	**05 25 06.6**	**-0.3**
	SNR=15						
EKS2	**Erkin-Say**	**67.64**	**317**	*e*P	**P**	**05 25 07.2**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,67nm,0.6s						
EKS2	**Erkin-Say**	**67.64**	**317**	*e*P	**P**	**05 25 07.2**	**-0.3**
	comp=Z,67nm,0.6s						
EKS2	**Erkin-Say**	**67.64**	**317**	P	**P**	**05 25 07.5**	**0.0**
	SNR=10						
NVS	**Novosibirsk**	**68.09**	**332**	*i* P	**P**	**05 25 08.3**	**-1.5**
NVS				pmax	pmax		
	comp=Z,11nm,1.3s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.3s						
KURK	**Kurchatov**	**68.22**	**327**	*e*P	**P**	**05 25 10.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,18nm,1.4s						
KURK	**Kurchatov**	**68.22**	**327**	*e*P	**P**	**05 25 10.1**	**-0.6**
	comp=Z,18nm,1.4s						
KK31	**Karatay Array**	**70.04**	**317**	*ce*P	**P**	**05 25 20.9**	**-1.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**70.04**	**317**	*e*P	**P**	**05 25 21.3**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**70.04**	**317**	*e*P	**P**	**05 25 21.3**	**-0.9**
	comp=Z,4.7nm,0.8s						
TIXI	**Tiksi**	**71.98**	**359**↑	*e*P	**P**	**05 25 32.3**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**71.98**	**359**	*e*P	**P**	**05 25 33.1**	**-0.2**
	comp=Z,8.2nm,0.8s						
BILL	**Bilibino**	**72.22**	**13**⇓	*e*P	**P**	**05 25 34.4**	**-0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**72.22**	**13**	*e*P	**P**	**05 25 34.3**	**-0.6**
	comp=Z,4.3nm,1.0s						
VOSK	**Vostochnaya**	**73.37**	**326**	P	**P**	**05 25 40.7**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BVA0	**Borovoye Array**	**73.82**	**326**	P	**P**	**05 25 42.3**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BRVK	**Borovoye**	**73.89**	**326**	*e*P	**P**	**05 25 44.7**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,14nm,1.3s						
BRVK	**Borovoye**	**73.89**	**326**	*e*P	**P**	**05 25 44.7**	**-0.3**
	comp=Z,14nm,1.3s						
VNDA	**Vanda**	**78.69**	**174**	P	**P**	**05 26 12.7**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=324,slow=6.0,SNR=9.3						
VNDA	**Vanda**	**78.69**	**174**	P	**P**	**05 26 12.7**	**+0.9**
AB31	**Akbulak array**	**78.86**	**320**	*ce*P	**P**	**05 26 12.1**	**-1.2**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ABKAR	**Akbulak array**	**78.86**	**320**	*e*P	**P**	**05 26 12.5**	**-0.8**
	comp=Z,8.2nm,0.9s						
SVE	**Sverdlovsk**	**80.39**	**328**⇓	*i* P	**P**	**05 26 21.3**	**-0.1**
SVE				pmax	pmax		
	comp=Z,18nm,1.0s						
ARU	**Arti**

DPC				Sg	Sg	05 22 49.9	-2.3	
	5.8nm,0.4s							
PVCC	**Panska Ves**	**1.33 222**	*e*PG	Pn	05 22 40.2	+0.5		
PVCC			*e*SG	Sb	05 22 57.6	+0.3		
	comp=Z,26nm,0.3s							
PVCC	**Panska Ves**	**1.33 222**	Pg	Pn	05 22 40.2	+0.5		
PVCC			Sg	Sb	05 22 57.6	+0.3		
	26nm,0.3s							
BRG	**Berggiesshubel**	**1.43 244**	PG	Pb	05 22 43.1	+1.6		
BRG			SG	Sn	05 23 02.4	+1.8		
	18nm,0.7s							
PRU	**Pruhonice**	**1.78 211**	*e*PG	Pb	05 22 47.7	+0.3		
PRU			*e*SG	Sg	05 23 11.5	+0.4		
	comp=Z,8.6nm,0.4s							
PRU	**Pruhonice**	**1.78 211**	Pg	Pb	05 22 47.7	+0.3		
PRU			Sg	Sg	05 23 11.5	+0.4		
	8.6nm,0.4s							
CLL	**Collm**	**1.87 265**	*e*Sg	Sg	05 23 17.0	+2.9		
	comp=Z,5.0nm,0.5s							
MORC	**Moravsky Berou**	**2.01 150**	*e*Pn	Pn	05 22 47.9	-1.2		
MORC			*e*Sg	Sn	05 23 12.6	-2.4		
OKC	**Ostrava-Krasne**	**2.18 140**	*e*SG	Sn	05 23 20.1	+1.1		
OKC	**Ostrava-Krasne**	**2.18 140**	Sg	Sn	05 23 20.1	+1.1		
KHC	**Kasperske Hory**	**2.84 214**	*e*PG	Pg	05 23 07.4	-1.0		
KHC			*e*SN	Sn	05 23 35.4	-0.1		
KHC			*e*SG	Sg	05 23 43.5	-1.7		
	comp=Z,3.5nm,0.8s							
KHC	**Kasperske Hory**	**2.84 214**	Pg	Pg	05 23 07.4	-1.0		
KHC			Sn	Sn	05 23 35.4	-0.1		
KHC			Sg	Sg	05 23 43.5	-1.7		
	comp=Z,3.5nm,0.8s							

IDC ***22*** *05:27:39.8±1.4,0˚.43S×131˚.98E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML4.0/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/39, Error ellipse: s-maj=96.2km s-min=17.0km az=76.0*

DJA ***22*** *05:27:47.1±2.6,1˚.S±19˚×13˚.2E±1˚.5, h5km, M4.3/6, mb4.5/2, mB4.8/2, MLv4.3/6, Mw(mB)4.1/2*

ISC 22 05:27:44.5±1.0, 0˚.4S±0˚.1×131˚.9E±0˚.2, h31km, n17, σ1§11/10, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.81**	**237**	P	**Pb**	**05 28 00.2**	**+0.1**
FAKI	**Fak Fak**	**2.50**	**173**	P	**Pn**	**05 28 24.4**	**+1.3**
MSAI	**Masohi**	**4.18**	**226**	P	Pb	05 28 52.1	-5.3
BNDI	**Bandanaira**	**4.55**	**206**	P	Pn	05 28 55.1	+3.8
AAI	**Ambon**	**4.95**	**229**	P	Pn	05 29 02.0	+5.2
NLAI	**Namlea**	**5.59**	**240**	P	Pb	05 29 13.0	-8.4
	35nm,0.9s,641nm0.2nm						
LUWI	**Luwuk**	**9.19**	**266**	P	Pn	05 30 01.7	+6.7
FITZ	**Fitzroy Crossi**	**18.63**	**199**	P	**P**	**05 31 58.2**	**-1.5**
	0.4nm,0.3s,baz=26,slow=10,SNR=16						
FITZ				LR	LR	05 39 46.2	
	comp=Z,44nm,21.3s,baz=276,slow=39						
GUMO	**Guam**	**18.92**	**42**	LR	LR	05 38 52.0	
	comp=Z,8.0nm,18.3s,baz=239,slow=36						
WRA	**Warramunga Arr**	**19.54**	**173**	P	**P**	**05 32 09.3**	**-0.5**
	0.4nm,0.3s,baz=352,slow=11,SNR=27						
ASAR	**Alice Springs**	**23.19**	**175**	P	**P**	**05 32 49.1**	**+0.3**
	5.7nm,0.7s,baz=356,slow=9.3,SNR=35						
ASAR				LR	LR	05 42 32.4	
	comp=Z,133nm,21.1s,baz=78,slow=38						
STKA	**Stephens Creek**	**32.59**	**165**	P	**P**	**05 34 12.3**	**-1.0**
	0.9nm,0.5s,baz=331,slow=15,SNR=3.2						
MJAR	**Matsushiro Arr**	**37.23**	**8**	LR	LR	05 47 00.4	
	comp=Z,52nm,19.8s,baz=105,slow=31						
SONM	**Songino Array**	**52.95**	**339**	P	**P**	**05 36 58.7**	**+0.6**
	0.9nm,0.7s,baz=154,slow=7.4,SNR=7.2						
MKAR	**Makanchi Array**	**63.93**	**324**	P	**P**	**05 38 15.7**	**+1.0**
	1.2nm,0.5s,baz=112,slow=8.0,SNR=26						
ZALV	**Zalesovo Beam**	**66.65**	**332**	P	**P**	**05 38 30.7**	**-1.4**
	0.6nm,0.6s,baz=125,slow=4.0,SNR=4.4						
QSPA	**South Pole Qui**	**89.51**	**180**	P	**P**	**05 40 38.7**	**+0.1**
	2.5nm,1.0s,baz=299,slow=3.2,SNR=3.9						

IDC 22 05:29:30.3±0.8, 52˚.34S×27˚.62E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, MS3.0/1, Ms1 3.0/1, ms1mx2.8/34, Error ellipse: s-maj=31.4km s-min=18.8km az=74.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.55**	**343**	P	P	05 34 10.8	+0.3
	7.2nm,0.8s,baz=166,slow=11,SNR=6.4						
SUR				LR	LR	05 41 16.0	
	comp=Z,43nm,18.6s,baz=128,slow=34						
BOSA	**Boshof**	**23.77**	**355**	P	P	05 34 42.8	-1.7
	3.0nm,1.0s,baz=214,slow=9.1,SNR=6.1						
QSPA	**South Pole Qui**	**37.88**	**180**	P	P	05 36 47.9	-0.8
	2.0nm,0.5s,baz=309,slow=9.4,SNR=20						
VNDA	**Vanda**	**47.34**	**168**	P	P	05 38 04.1	-1.0
	0.9nm,0.7s,baz=226,slow=7.1,SNR=1.8						
PLCA	**Paso Flores**	**63.45**	**237**	P	P	05 40 01.8	+0.1
	0.8nm,0.7s,baz=134,slow=4.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**68.96**	**333**	P	P	05 40 37.2	+0.1
	0.3nm,0.6s,baz=169,slow=7.4,SNR=4.4						
SIV	**San Ignacio**	**76.72**	**261**	P	P	05 41 24.2	+0.8
	0.6nm,0.7s,baz=143,slow=10						
ASAR	**Alice Springs**	**80.94**	**117**	P	P	05 41 47.9	+1.3
	0.4nm,0.6s,baz=212,slow=5.1,SNR=6.0						
WRA	**Warramunga Arr**	**84.16**	**115**	P	P	05 42 03.5	+0.1
	0.6nm,0.8s,baz=212,slow=3.9,SNR=4.7						

IDC ***22*** *05:31:15.5±1.1,62˚.22N×79˚.39W, h0km, mb3.6/4, mb1 4.0/8, mb1mx3.6/31, mbtmp3.8/8, ML3.1/4, Error ellipse: s-maj=22.9km s-min=12.4km az=27.0*

OTT ***22*** *05:31:17.5±0.2,62˚.07N×79˚.62W, h5km, MN3.9/27, 95km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.*

ISC 22 05:31:15.3±0.7, 62˚.07N±0˚.05×79˚.74W±0˚.06, h10km, n39, σ2§08/44, mb3.5/5, Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INUQ	**Inukjuak**	**3.72**	**167**	PN	**Pn**	**05 32 15.0**	**+2.4**
INUQ				PG	**Pb**	**05 32 19.8**	**-1.2**
INUQ				SN	**Sn**	**05 32 58.0**	**+1.6**
INUQ				SG	**Sb**	**05 33 09.1**	**+3.1**
INUQ				Trac		05 33 13.4	
	comp=Z,278nm,0.4s						
QILN	**Qililugaq Expl**	**5.43**	**331**	PN	**Pn**	**05 32 38.5**	**+2.3**
QILN				SN	**Sn**	**05 33 37.8**	**-0.8**
QILN				LG	Lg	05 34 05.4	
QILN				Trac		05 34 11.5	
	comp=Z,87nm,0.5s						
WAGN	**Wager Bay**	**5.73**	**316**	PN	**Pn**	**05 32 43.5**	**+3.2**
WAGN				SN	**Sn**	**05 33 46.9**	**+0.8**
WAGN				LG	Lg	05 34 17.8	
WAGN				Trac		05 34 21.4	
	comp=Z,91nm,0.3s						
NUNN	**Nunuq Camp, NU**	**5.96**	**307**	PN	**Pn**	**05 32 46.0**	**+2.6**
NUNN				SN	**Sn**	**05 33 52.0**	**+0.4**
NUNN				LG	Lg	05 34 24.1	
NUNN				Trac		05 34 35.2	
	comp=Z,62nm,0.3s						
SRLN	**Sarcpa Lake, N**	**6.68**	**349**	PN	**Pn**	**05 32 55.9**	**+2.5**
SRLN				SN	**Sn**	**05 34 08.2**	**-1.3**
SRLN				LG	Lg	05 34 43.3	
SRLN				Trac		05 34 46.7	
	comp=Z,136nm,0.6s						
ARVN	**Arviat, NU**	**6.91**	**268**	PN	**Pn**	**05 32 58.3**	**+1.8**
ARVN				SN	**Sn**	**05 34 12.2**	**-2.8**
ARVN				LG	Lg	05 34 51.2	
ARVN				Trac		05 35 00.8	
	comp=Z,75nm,0.6s						
KUQ	**Kuujjuuaa**	**6.91**	**120**	PN	**Pn**	**05 32 56.6**	**+0.1**
KUQ				SN	**Sn**	**05 34 11.9**	**-3.3**
KUQ				LG	Lg	05 34 46.0	
KUQ				Trac		05 34 58.8	
	comp=Z,87nm,0.5s						
BULN	**Bullion Camp,**	**7.27**	**313**	PN	**Pn**	**05 33 03.4**	**+2.0**
BULN				SN	**Sn**	**05 34 23.1**	**-0.7**
BULN				LG	Lg	05 35 00.9	
BULN				Trac		05 35 17.9	
	comp=Z,76nm,0.8s						
ILON	**Igloolik, Nuna**	**7.39**	**354**	PN	**Pn**	**05 33 04.5**	**+1.5**
ILON				SN	**Sn**	**05 34 24.0**	**-2.7**
ILON				LG	Lg	05 35 03.1	
ILON				Trac		05 35 11.2	
	comp=Z,59nm,0.7s						
KUGN	**Kugaaruk Camp,**	**7.45**	**329**	PN	**Pn**	**05 33 04.9**	**+1.1**
KUGN				SN	**Sn**	**05 34 24.9**	**-3.3**
KUGN				LG	Lg	05 35 07.3	
KUGN				Trac		05 35 14.7	
	comp=Z,118nm,0.8s						
STLN	**Stellar Camp,**	**7.73**	**319**	PN	**Pn**	**05 33 09.8**	**+2.1**
STLN				SN	Sn	05 34 31.4	-3.8
STLN				LG	Lg	05 35 15.3	
STLN				Trac		05 35 34.9	
	comp=Z,78nm,0.6s						
FCC	**Fort Churchill**	**7.83**	**251**	PN	**Pn**	**05 33 12.2**	**+3.0**
FCC				SN	**Sn**	**05 34 35.3**	**-2.4**
FCC				LG	Lg	05 35 18.4	
FCC				Trac		05 35 30.6	
	comp=Z,22nm,0.4s						
SILO	**Sutton Inlier**	**8.08**	**202**	PN	**Pn**	**05 33 13.2**	**+0.6**
SILO				SN	**Sn**	**05 34 40.3**	**-3.6**
SILO				LG	Lg	05 35 17.5	
SILO				Trac		05 35 40.8	
	comp=Z,28nm,0.3s						
LG4Q	**La Grande 4**	**8.98**	**158**	PN	**Pn**	**05 33 25.1**	**+0.3**
LG4Q				SN	Sn	05 34 59.6	-6.3
LG4Q				LG	Lg	05 35 46.4	
LG4Q				Trac		05 35 56.4	
	comp=Z,84nm,0.4s						
VIMO	**Victor Mine**	**9.52**	**195**	PN	**Pn**	**05 33 33.8**	**+1.5**
VIMO				SN	Sn	05 35 15.1	-4.2
VIMO				LG	Lg	05 36 05.6	
VIMO				Trac		05 36 17.5	
	comp=Z,46nm,0.6s						
SCHQ	**Schefferville**	**9.90**	**131**	Pn	Pn	05 33 35.2	-2.3
	0.9nm,0.3s,baz=336,slow=13,SNR=24						
SCHQ				Sn	Sn	05 35 20.1	-8.5
	3.5nm,0.3s,baz=156,slow=14,SNR=5.9						
SCHQ				Lg	Lg	05 36 19.0	
	8.1nm,0.3s,baz=88,slow=6.3,SNR=8.5						
SCHQ	**Schefferville**	**9.90**	**131**	PN	**Pn**	**05 33 35.5**	**-2.0**
SCHQ				SN	Sn	05 35 20.1	-8.5
SCHQ				LG	Lg	05 36 17.5	
SCHQ				Trac		05 36 25.8	
	comp=Z,63nm,0.5s						
YOSQ	**Ashton Mining**	**10.07**	**153**	PN	**Pn**	**05 33 39.3**	**-0.5**
YOSQ				SN	Sn	05 35 26.3	-6.4
YOSQ				LG	Lg	05 36 23.6	
YOSQ				Trac		05 36 28.2	
	comp=Z,105nm,0.9s						
PKLO	**Pickle Lake**	**12.06**	**213**	PN	**Pn**	**05 34 07.3**	**+0.2**
PKLO				SN	Sn	05 36 14.1	-7.5
PKLO				LG	Lg	05 37 26.5	
PKLO				Trac		05 37 35.8	
	comp=Z,111nm,1.0s						
MALO	**McAlpine Lake**	**12.07**	**180**	PN	**Pn**	**05 34 06.5**	**-0.8**
MALO				SN	Sn	05 36 12.3	-9.4
MALO				LG	Lg	05 37 23.5	
MALO				Trac		05 37 42.0	
	comp=Z,37nm,0.6s						
NANO	**Nakina Ontario**	**12.40**	**202**	PN	**Pn**	**05 34 10.7**	**-1.0**
NANO				SN	Sn	05 36 22.1	-7.6
CHGQ	**Chibougamau**	**12.54**	**164**	PN	**Pn**	**05 34 12.0**	**-1.7**
CHGQ				SN	Sn	05 36 20.1	-13
CHGQ				LG	Lg	05 37 38.4	
CHGQ				Trac		05 37 48.6	
	comp=Z,60nm,0.6s						
CB31	**Cambridge Bay**	**12.56**	**315**	PN	**Pn**	**05 34 13.8**	**0.0**
CB31				SN	**Sn**	**05 36 30.6**	**-2.9**
CB31				LG	Lg	05 37 40.9	
CB31				Trac		05 37 58.1	
	comp=Z,38nm,0.5s						
WHFN	**White Fish Lak**	**12.69**	**284**	PN	**Pn**	**05 34 14.9**	**-0.7**
WHFN				SN	Sn	05 36 27.2	-10
WHFN				LG	Lg	05 37 48.2	
KAPO	**Kapuskasing**	**12.74**	**188**	PN	Pn	05 34 15.0	-1.4
KAPO				SN	Sn	05 36 30.8	-7.3
KAPO				LG	Lg	05 37 43.9	
KAPO				Trac		05 38 03.8	
	comp=Z,60nm,1.0s						
RES	**Resolute Bay**	**13.77**	**343**	Pn	Pn	05 34 28.3	-2.0
	0.2nm,0.3s,baz=161,slow=12,SNR=11						
RES				Sn	Sn	05 36 51.3	-12
	0.4nm,0.3s,baz=207,slow=18,SNR=4.2						
RES				Lg	Lg	05 38 23.3	
	0.8nm,0.3s,baz=53,slow=24,SNR=6.3						
RES	**Resolute Bay**	**13.77**	**343**	PN	**Pn**	**05 34 30.1**	**-0.2**
RES				SN	Sn	05 36 52.1	-11
RES				LG	Lg	05 38 20.3	
RES				Trac		05 38 40.5	
	comp=Z,62nm,1.2s						
SMQ	**Clarke City**	**13.88**	**143**	PN	Pn	05 34 28.3	-3.5
SMQ				SN	Sn	05 36 51.8	-14
SMQ				LG	Lg	05 38 20.1	
SMQ				Trac		05 38 30.7	
	comp=Z,18nm,0.4s						
VLDQ	**Val d'Or**	**14.04**	**174**	PN	Pn	05 34 30.5	-3.7
VLDQ				SN	Sn	05 36 55.7	-14
VLDQ				LG	Lg	05 38 17.8	
VLDQ				Trac		05 38 29.6	
	comp=Z,37nm,0.7s						
CNQ	**Baie Comeau**	**14.35**	**148**	PN	Pn	05 34 35.5	-2.8
CNQ				SN	Sn	05 37 04.4	-13
CNQ				LG	Lg	05 38 31.7	
CNQ				Trac		05 38 54.5	
	comp=Z,21nm,0.5s						
ULM	**Lac du Bonnet**	**14.81**	**224**	Pn	Pn	05 34 42.3	-2.2
	0.9nm,0.3s,baz=32,slow=13,SNR=8.3						
ULM				Sn	Sn	05 37 14.6	-14
	1.4nm,0.3s,baz=216,slow=18,SNR=5.9						
ULM				Lg	Lg	05 38 55.1	
	1.4nm,0.3s,baz=304,slow=20,SNR=7.2						
YKW3	**Yellowknife Ar**	**16.10**	**287**	PN	**Pn**	**05 34 59.3**	**-2.1**
YKW3				SN	Sn	05 37 47.0	-13
YKW3				LG	Lg	05 39 34.9	
YKW3				Trac		05 39 52.0	
	comp=Z,15nm,0.6s						
YKA	**Yellowknife Ar**	**16.11**	**287**	Pn	**Pn**	**05 34 59.4**	**-2.2**
	0.3nm,0.3s,baz=79,slow=12,SNR=37						
YKA				Sn	Sn	05 37 52.8	-7.2
	0.3nm,0.3s,baz=295,slow=16,SNR=7.4						
SADO	**Sadowa**	**17.33**	**179**	S	Sn	05 38 21.3	-8.6
	0.4nm,0.3s,baz=108,slow=20,SNR=3.1						
SADO				Lg	Lg	05 40 04.2	
	0.6nm,0.3s,baz=286,slow=18,SNR=3.6						
INK	**Inuvik**	**22.72**	**309**	P	**P**	**05 36 17.3**	**+0.5**
	1.1nm,0.7s,baz=46,slow=8.1,SNR=6.1						
PDAR	**Pinedale Array**	**26.14**	**236**	P	**P**	**05 36 53.5**	**+3.9**
	1.4nm,0.8s,baz=57,slow=11,SNR=11						
ILAR	**Eielson Array**	**28.90**	**305**	P	P	05 37 19.4	+5.5
	0.5nm,1.0s,baz=61,slow=7.5,SNR=4.3						
TXAR	**Lajitas Array**	**36.31**	**217**	P	P	05 38 22.9	+3.9
	0.4nm,0.5s,baz=42,slow=6.0,SNR=10						
TORD	**Torodi Ar. Bea**	**74.47**	**91**	P	**P**	**05 42 55.3**	**+1.6**
	0.3nm,0.6s,baz=336,slow=3.2,SNR=2.7						

OTT 22 05:35:10.7±0.3, 62˚.08N×79˚.48W, h5km, MN3.6/24, 90km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone., Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INUQ	**Inukjuak**	**3.71**	**169**	PN	Pn	05 36 08.7	+0.2
INUQ				PG	Pb	05 36 16.6	0.0
INUQ				SN	Sn	05 36 51.5	-1.0
INUQ				SG	Sb	05 36 58.1	-3.7
INUQ				Trac		05 37 07.0	
	comp=Z,137nm,0.3s						
QILN	**Qililugaq Expl**	**5.47**	**330**	PN	Pn	05 36 32.0	-0.8
QILN				SN	Sn	05 37 30.7	-5.3
QILN				LG	Lg	05 37 58.7	
QILN				Trac		05 38 12.0	
	comp=Z,44nm,0.3s						
SEDN	**First Sedna Si**	**5.53**	**287**	SN	Sb	05 37 59.9	+5.7
WAGN	**Wager Bay**	**5.81**	**315**	PN	Pn	05 36 37.3	-0.1
WAGN				SN	Sn	05 37 39.4	-4.8
WAGN				LG	Lg	05 38 11.5	
WAGN				Trac		05 38 15.1	
	comp=Z,39nm,0.2s						
NUNN	**Nunuq Camp, NU**	**6.04**	**306**	PN	Pn	05 36 40.1	-0.5
NUNN				SN	Sn	05 37 45.4	-4.7
NUNN				LG	Lg	05 38 17.6	
NUNN				Trac		05 38 28.8	
	comp=Z,42nm,0.5s						
SRLN	**Sarcpa Lake, N**	**6.69**	**348**	PN	Pn	05 36 49.4	-0.1
SRLN				SN	Sn	05 38 02.4	-3.6
SRLN				LG	Lg	05 38 38.8	
SRLN				Trac		05 38 40.5	
	comp=Z,53nm,0.6s						
KUQ	**Kuujjuuaa**	**6.81**	**121**	SN	Sn	05 38 03.6	-5.5
KUQ				LG	Lg	05 38 39.5	
KUQ				Trac		05 38 52.5	
	comp=Z,40nm,0.4s						
ARVN	**Arviat, NU**	**7.03**	**268**	SN	Sn	05 38 08.2	-6.2
ARVN				LG	Lg	05 38 46.8	
ARVN				Trac		05 38 54.0	
	comp=Z,40nm,0.7s						
BULN	**Bullion Camp,**	**7.35**	**312**	PN	Pn	05 36 58.6	+0.1
BULN				SN	Sn	05 38 16.6	-5.5
BULN				LG	Lg	05 38 55.2	
BULN				Trac		05 39 10.8	
	comp=Z,49nm,0.8s						
ILON	**Igloolik, Nuna**	**7.38**	**354**	PN	Pn	05 36 57.6	-1.3
ILON				SN	Sn	05 38 17.7	-5.2
ILON				LG	Lg	05 38 57.0	
ILON				Trac		05 39 06.6	
	comp=Z,21nm,0.2s						
KUGN	**Kugaaruk Camp,**	**7.50**	**328**	PN	Pn	05 37 01.0	+0.5
KUGN				SN	Sn	05 38 19.0	-6.7
KUGN				LG	Lg	05 39 01.6	
KUGN				Trac		05 39 08.8	
	comp=Z,24nm,0.4s						
STLN	**Stellar Camp,**	**7.80**	**318**	SN	Sn	05 38 25.5	-7.7
STLN				LG	Lg	05 39 10.1	
STLN				Trac		05 39 18.1	
	comp=Z,21nm,0.4s						
FCC	**Fort Churchill**	**7.96**	**252**	SN	Sn	05 38 29.8	-7.2
FCC				LG	Lg	05 39 14.1	
FCC				Trac		05 39 20.1	
	comp=Z,14nm,0.4s						
SILO	**Sutton Inlier**	**8.14**	**203**	SN	Sn	05 38 36.1	-5.7
SILO				LG	Lg	05 39 10.6	
SILO				Trac		05 39 34.6	
	comp=Z,14nm,0.3s						
LG4Q	**La Grande 4**	**8.95**	**159**	SN	Sn	05 38 55.5	-6.0
LG4Q				LG	Lg	05 39 42.1	
LG4Q				Trac		05 39 50.1	
	comp=Z,35nm,0.3s						
VIMO	**Victor Mine**	**9.57**	**196**	SN	Sn	05 39 08.5	-8.2
VIMO				Trac		05 40 11.1	
	comp=Z,21nm,0.5s						
SCHQ	**Schefferville**	**9.82**	**132**	SN	Sn	05 39 13.1	-10
SCHQ				LG	Lg	05 40 11.5	
SCHQ				Trac		05 40 30.8	
	comp=Z,42nm,0.7s						
YOSQ	**Ashton Mining**	**10.03**	**154**	SN	Sn	05 39 17.9	-10
YOSQ				LG	Lg	05 40 15.8	
YOSQ				Trac		05 40 32.0	
	comp=Z,24nm,0.3s						
MALO	**McAlpine Lake**	**12.09**	**181**	SN	Sn	05 40 06.2	-12
PKLO	**Pickle Lake**	**12.15**	**214**	SN	Sn	05 40 07.4	-13
PKLO				LG	Lg	05 41 19.5	
PKLO				Trac		05 41 29.6	
	comp=Z,52nm,1.0s						
CHGQ	**Chibougamau**	**12.53**	**165**	SN	Sn	05 40 15.6	-14
CHGQ				LG	Lg	05 41 27.9	
CHGQ				Trac		05 41 42.2	
	comp=Z,15nm,0.4s						
CB31	**Cambridge Bay**	**12.63**	**315**	SN	Sn	05 40 21.7	-10
CB31				LG	Lg	05 41 38.6	
CB31				Trac		05 41 51.6	
	comp=Z,17nm,0.5s						
KAPO	**Kapuskasing**	**12.78**	**189**	SN	Sn	05 40 22.3	-13
KAPO				LG	Lg	05 41 38.2	
KAPO				Trac		05 41 48.6	
	comp=Z,11nm,0.5s						
RES	**Resolute Bay**	**13.79**	**343**	SN	Sn	05 40 48.5	-11
RES				LG	Lg	05 42 21.9	
RES				Trac		05 42 29.2	
	comp=Z,22nm,1.0s						
SMQ	**Clarke City**	**13.82**	**144**	SN	Sn	05 40 48.3	-12
SMQ				LG	Lg	05 42 12.8	
SMQ				Trac		05 42 24.6	
	comp=Z,6.9nm,0.4s						
YKW3	**Yellowknife Ar**	**16.21**	**287**	SN	Sn	05 41 39.9	-19
YKW3				LG	Lg	05 43 30.6	
YKW3				Trac		05 43 45.7	
	comp=Z,7.2nm,0.6s						

IDC ***22*** *05:38:35.7±1.2,12˚.89S×14˚.60W, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/24, mbtmp4.1/13, Error ellipse: s-maj=42.8km s-min=17.1km az=147.0*

ISCJB ***22*** *05:38:36.3±0.6,12˚.9S±0˚.1×14˚.5W±0˚.1, h16km, mb4.3/22, Error ellipse: s-maj=21.4km s-min=10.5km az=44.9*

NEIC ***22*** *05:38:37.2±0.5,12˚.88S×14˚.58W, h10km, mb4.6/2, Error ellipse: s-maj=18.0km s-min=8.9km az=136.0*

SZGRF ***22*** *05:38:46.8,11˚.38S×15˚.31W, h33km, mb4.9, Ascension Island region*

ISC 22 05:38:38.2±0.7, 12˚.9S±0˚.1×14˚.6W±0˚.1, h16km, n55, σ0§91/54, mb4.5/22, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.22**	**27**	*e*P	**P**	**05 43 22.0**	**-1.5**
	42nm,1.2s,baz=225						
LIC	**Lamto**	**21.22**	**27**	*e*P	**P**	**05 43 22.0**	**-1.5**
	42nm,1.2s						
RCBR	**Riachuelo**	**22.13**	**286**	P	**P**	**05 43 34.8**	**+1.4**
	3.7nm,0.9s,baz=78,slow=9.3,SNR=3.4						
RCBR	**Riachuelo**	**22.13**	**286**	P	**P**	**05 43 34.8**	**+1.4**
TOA0	**Torodi Ar. Sit**	**30.48**	**33**	*e*P	**P**	**05 44 50.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**30.48**	**33**	P	**P**	**05 44 50.2**	**-0.4**
	1.3nm,0.9s,baz=217,slow=9.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**30.48**	**33**	P	**P**	**05 44 50.2**	**-0.4**
BDFB	**Brasilia**	**32.48**	**261**	P	**P**	**05 45 06.9**	**-1.5**
	6.6nm,1.2s,baz=79,slow=4.1,SNR=6.8						
BDFB	**Brasilia**	**32.48**	**261**	P	**P**	**05 45 06.9**	**-1.5**
SIV	**San Ignacio**	**45.04**	**260**	P	**P**	**05 46 54.3**	**+0.6**
	1.3nm,0.9s,baz=105,slow=13,SNR=5.0						
SIV	**San Ignacio**	**45.04**	**260**	P	**P**	**05 46 54.3**	**+0.6**
MDT	**Midelt**	**46.41**	**12**	P	**P**	**05 47 05.6**	**+1.3**
	7.1nm,1.2s,baz=174,slow=12,SNR=3.8						
MDT	**Midelt**	**46.41**	**12**	P	**P**	**05 47 05.6**	**+1.3**
LPAZ	**La Paz**	**51.80**	**259**	P	**P**	**05 47 46.2**	**-0.3**
	1.4nm,1.0s,baz=109,slow=9.5,SNR=3.9						
LPAZ	**La Paz**	**51.80**	**259**	P	**P**	**05 47 46.2**	**-0.3**
KEST	**Kesra**	**53.38**	**24**	P	**P**	**05 47 58.5**	**+1.3**
	5.7nm,1.1s,baz=182,slow=6.6,SNR=3.9						
KEST	**Kesra**	**53.38**	**24**	P	**P**	**05 47 58.5**

BRG				*e*			05 53 39.9	
	comp=Z,8.2nm,1.5s							
CLL	**Collm**	**68.27**	**18**	*e*(PKP)	P		05 49 44.0	+5.8
BRTR	**Keskin Array B**	**68.89**	**38**	P	**P**		**05 49 43.9**	**+1.4**
	comp=Z,1.5nm,1.0s,baz=215,slow=8.4,SNR=7.0							
BRTR	**Keskin Array B**	**68.89**	**38**	P	**P**		**05 49 43.9**	**+1.4**
AKASG	**Malin Array Be**	**73.94**	**27**	P	**P**		**05 50 12.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=229,slow=8.5,SNR=8.0							
AKASG	**Malin Array Be**	**73.94**	**27**	P	**P**		**05 50 12.2**	**-0.3**
FINES	**FINESS Array B**	**80.71**	**19**	P	**P**		**05 50 50.0**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=235,slow=9.7,SNR=3.7							
FINES	**FINESS Array B**	**80.71**	**19**	P	**P**		**05 50 50.0**	**-0.3**
VNDA	**Vanda**	**89.76**	**179**	P	**P**		**05 51 36.1**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=187,slow=5.6,SNR=3.5							
VNDA	**Vanda**	**89.76**	**179**	P	**P**		**05 51 36.1**	**+0.6**
TXAR	**Lajitas Array**	**95.38**	**299**	P	**P**		**05 52 02.3**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=144,slow=8.2,SNR=3.8							
TXAR	**Lajitas Array**	**95.38**	**299**	P	**P**		**05 52 02.3**	**-0.2**

*THE **22** 05:40:23.7,36°.22N×21°.75E,h25km±2km, ML3.0/2, Error ellipse: s-maj=3.3km s-min=2.1km az=30.0*
*CSEM **22** 05:40:25.6±0.6,36°.40N×21°.94E,h15km, MD3.4, Error ellipse: s-maj=12.8km s-min=6.8km az=42.0*
*ATH **22** 05:40:26.3,36°.45N×22°.01E,h25km, MD3.4/14*

ISC 22 05:40:23.7±1.8,36°.33N±0°.06×21°.88E±0°.04,h9km±10km, n44,σ0s74/74,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.57**	**40**	P	**Pb**	**05 40 36.2**	**+0.3**
DYR				S	**Sn**	**05 40 47.5**	**-0.1**
DYR	**Agios Nikonas**	**0.57**	**40**	*e*PB	**Pg**	**05 40 35.0**	**+0.2**
DYR				*e*SB	**Sg**	**05 40 41.8**	**-0.5**
DYR	**Agios Nikonas**	**0.57**	**40**	*e*Pb	**Pg**	**05 40 35.0**	**+0.2**
DYR	**Agios Nikonas**	**0.57**	**40**	P	**Pb**	**05 40 36.2**	**+0.3**
DYR				*e*Sb	**Sg**	**05 40 41.8**	**-0.5**
DYR				S	**Sn**	**05 40 47.5**	**-0.1**
PYL	**PYLOS**	**0.58**	**349**	P	**Pb**	**05 40 36.4**	**+0.5**
PYL				S	**Sn**	**05 40 47.3**	**-0.4**
PYL	**PYLOS**	**0.58**	**349**	*e*PN	**Pb**	**05 40 36.5**	**+0.5**
PYL				*e*SN	**Sb**	**05 40 44.7**	**+0.4**
PYL	**PYLOS**	**0.58**	**349**	*e*Pn	**Pb**	**05 40 36.5**	**+0.5**
PYL				*e*Sn	**Sb**	**05 40 44.7**	**+0.4**
PYL				S	**Sn**	**05 40 47.3**	**-0.4**
ITM	**Ithomi**	**0.85**	**3**	P	**Pb**	**05 40 41.0**	**+0.3**
ITM				S	**Sn**	**05 40 54.5**	**0.0**
ITM	**Ithomi**	**0.85**	**3**	*e*PN	**Pb**	**05 40 40.6**	**-0.1**
ITM				*e*SN	**Sb**	**05 40 51.1**	**-1.2**
ITM	**Ithomi**	**0.85**	**3**	*e*Pn	**Pb**	**05 40 40.6**	**-0.1**
ITM	**Ithomi**	**0.85**	**3**	P	**Pb**	**05 40 41.0**	**+0.3**
ITM				*e*Sn	**Sb**	**05 40 51.1**	**-1.2**
ITM				S	**Sn**	**05 40 54.5**	**0.0**
KYTH	**Kithira**	**0.94**	**92**	*e*PN	**Pb**	**05 40 42.5**	**+0.3**
KYTH	**Kithira**	**0.94**	**92**	*e*Pn	**Pb**	**05 40 42.5**	**+0.3**
VLI	**Veliai**	**0.94**	**65**	P	**Pb**	**05 40 42.6**	**+0.4**
VLI				S	**Sn**	**05 40 58.3**	**+1.6**
VLI	**Veliai**	**0.94**	**65**	*e*PN	**Pb**	**05 40 42.4**	**+0.2**
VLI				*e*SN	**Sb**	**05 40 53.3**	**-1.4**
VLI	**Veliai**	**0.94**	**65**	*e*Pn	**Pb**	**05 40 42.4**	**+0.2**
VLI				*e*Sn	**Sb**	**05 40 53.3**	**-1.4**
VLI				S	**Sn**	**05 40 58.3**	**+1.6**
VLX	**Vlachokerasia**	**1.12**	**21**	P	**Pb**	**05 40 45.7**	**+0.4**
VLX	**Vlachokerasia**	**1.12**	**21**	P	**Pb**	**05 40 45.7**	**+0.4**
AMT	**Artemida-Makis**	**1.21**	**354**	P	**Pn**	**05 40 46.0**	**-0.8**
AMT				S	**Sb**	**05 41 02.1**	**-0.5**
AMT	**Artemida-Makis**	**1.21**	**354**	*e*PN	**Pn**	**05 40 46.9**	**+0.1**
AMT				*e*SN	**Sn**	**05 41 03.3**	**-0.1**
AMT	**Artemida-Makis**	**1.21**	**354**	P	**Pn**	**05 40 46.0**	**-0.8**
AMT	**Artemida-Makis**	**1.21**	**354**	*e*Pn	**Pn**	**05 40 46.9**	**+0.1**
AMT				S	**Sb**	**05 41 02.1**	**-0.5**
AMT				*e*Sn	**Sn**	**05 41 03.3**	**-0.1**
DID	**Didima**	**1.61**	**42**	P	**Pn**	**05 40 51.6**	**-0.7**
DID				S	**Sb**	**05 41 13.4**	**-0.5**
DID	**Didima**	**1.61**	**42**	*e*PN	**Pn**	**05 40 52.7**	**+0.4**
DID				*e*SN	**Sn**	**05 41 12.1**	**-1.0**
DID	**Didima**	**1.61**	**42**	P	**Pn**	**05 40 51.6**	**-0.7**
DID	**Didima**	**1.61**	**42**	*e*Pn	**Pn**	**05 40 52.7**	**+0.4**
DID				*e*Sn	**Sn**	**05 41 12.1**	**-1.0**
DID				S	**Sb**	**05 41 13.4**	**-0.5**
GUR	**Goura**	**1.65**	**13**	*e*PN	**Pn**	**05 40 53.6**	**+0.7**
GUR				*e*SN	**Sn**	**05 41 14.3**	**0.0**
GUR	**Goura**	**1.65**	**13**	*e*Pn	**Pn**	**05 40 53.6**	**+0.7**
GUR				*e*Sn	**Sn**	**05 41 14.3**	**0.0**
RLS	**Riolos of Patr**	**1.76**	**349**	*e*PN	**Pb**	**05 40 56.4**	**+0.3**
RLS				*e*SN	**Sb**	**05 41 17.7**	**-0.6**
RLS	**Riolos of Patr**	**1.76**	**349**	*e*Pn	**Pb**	**05 40 56.4**	**+0.3**
RLS				*e*Sn	**Sb**	**05 41 17.7**	**-0.6**
LAKA	**Lakka**	**1.91**	**2**	*e*PN	**Pn**	**05 40 57.8**	**+1.3**
LAKA				*e*SN	**Sn**	**05 41 20.4**	**-0.3**
LAKA	**Lakka**	**1.91**	**2**	*e*Pn	**Pn**	**05 40 57.8**	**+1.3**
LAKA				*e*Sn	**Sb**	**05 41 20.4**	**-0.3**
NAIG	**Nisos Aigina**	**1.93**	**42**	*e*PN	**Pn**	**05 40 57.6**	**+1.0**
NAIG	**Nisos Aigina**	**1.93**	**42**	*e*Pn	**Pn**	**05 40 57.6**	**+1.0**
TRIZ	**Trizonia**	**2.04**	**4**	*e*PB	**Pn**	**05 40 59.3**	**+1.1**
TRIZ	**Trizonia**	**2.04**	**4**	*e*Pb	**Pn**	**05 40 59.3**	**+1.1**
KALE	**Kalithea**	**2.07**	**6**	*e*PN	**Pn**	**05 41 00.1**	**+1.4**
KALE	**Kalithea**	**2.07**	**6**	*e*Pn	**Pn**	**05 41 00.1**	**+1.4**
EFP	**Efpalio**	**2.10**	**1**	*e*PB	**Pn**	**05 41 00.3**	**+1.3**
EFP	**Efpalio**	**2.10**	**1**	*e*Pb	**Pn**	**05 41 00.3**	**+1.3**
VAM	**Vamos**	**2.10**	**115**	*e*PN	**Pb**	**05 41 01.7**	**-0.2**
VAM	**Vamos**	**2.10**	**115**	*e*Pn	**Pb**	**05 41 01.7**	**-0.2**
VLS	**Valsamata**	**2.11**	**331**	*e*PB	**Pb**	**05 41 01.8**	**-0.4**
VLS	**Valsamata**	**2.11**	**331**	*e*Pb	**Pb**	**05 41 01.8**	**-0.4**

*ISK **22** 05:41:26.3,37°.88N×29°.14E,h5km, ML3.3*
*DDA **22** 05:41:26.4,37°.93N×29°.11E,h12km, ML3.9*
*CSEM **22** 05:41:26.8±0.1,37°.89N×29°.12E,h2km, ML3.3, Error ellipse: s-maj=3.3km s-min=2.8km az=109.0*

ISC 22 05:41:27.0±0.9,37°.90N±0°.02×29°.11E±0°.02,h9km±7km, n107,σ1s16/134,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**202**	PG	**Pg**	**05 41 30.1**	**-0.4**
DENT	**Denizli**	**0.16**	**202**	*i* Pg	**Pg**	**05 41 30.1**	**-0.4**
DNZL	**Cakiroluk**	**0.22**	**193**	*i* P	**Pg**	**05 41 31.3**	**-0.3**
DNZL				*i* S	**Sg**	**05 41 35.3**	**+0.6**
DNZL	**Cakiroluk**	**0.22**	**193**	*i* P	**Pg**	**05 41 31.3**	**-0.3**
DNZL				*i* S	**Sg**	**05 41 35.3**	**+0.6**
KHL	**Karahalli**	**0.53**	**38**	*e*PG	**Pg**	**05 41 36.4**	**-1.0**
KHL	**Karahalli**	**0.53**	**38**	*e*Pg	**Pg**	**05 41 36.4**	**-1.0**
KHAL	**Karahalli**	**0.56**	**33**	*i* P	**Pg**	**05 41 36.6**	**-1.3**
KHAL				*i* S	**Sg**	**05 41 40.0**	**-0.2**
KHAL	**Karahalli**	**0.56**	**33**	*i* P	**Pg**	**05 41 36.6**	**-1.3**
KHAL				*i* S	**Sg**	**05 41 45.0**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**330**	*e*PG	**Pg**	**05 41 40.5**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**330**	*e*Pg	**Pg**	**05 41 40.5**	**-0.2**
GOLH	**Golhisar**	**0.76**	**151**	*i* P	**Pb**	**05 41 41.2**	**-1.2**
GOLH				*i* S	**Sn**	**05 41 53.5**	**-2.0**
GOLH	**Golhisar**	**0.76**	**151**	*i* P	**Pb**	**05 41 41.2**	**-1.2**
GOLH				*i* S	**Sn**	**05 41 53.5**	**-2.0**
AYDN	**Tasoluk**	**1.00**	**256**	*i* P	**Pb**	**05 41 46.1**	**-0.5**
AYDN				*i* S	**Sg**	**05 41 58.8**	**-0.5**
AYDN	**Tasoluk**	**1.00**	**256**	*i* P	**Pb**	**05 41 46.1**	**-0.5**
AYDN				*i* S	**Sg**	**05 41 58.8**	**-0.5**
YER	**Yerkesik**	**1.01**	**221**	*e*PG	**Pb**	**05 41 46.1**	**-0.6**
YER				*e*SG	**Sb**	**05 42 00.2**	**+0.1**
YER	**Yerkesik**	**1.01**	**221**	*e*Pg	**Pb**	**05 41 46.1**	**-0.6**
YER				*e*Sg	**Sb**	**05 42 00.2**	**+0.1**
TURN	**Turunc**	**1.10**	**201**	*i* P	Pn	05 41 51.9	+3.3
TURN				*i* S	Sn	05 42 10.4	+6.5
TURN	**Turunc**	**1.10**	**201**	*i* P	Pn	05 41 51.9	+3.3
ISP	**Isparta**	**1.12**	**94**	*e*PN	**Pg**	**05 41 47.4**	**-1.2**
ISP				*e*SN	**Sn**	**05 42 03.7**	**-0.9**
ISP	**Isparta**	**1.12**	**94**	*e*Pn	**Pg**	**05 41 47.4**	**-1.2**
ISP				*e*Sn	**Sn**	**05 42 03.7**	**-0.9**
DEMI	**Demirci**	**1.18**	**345**	*i* P	**Pg**	**05 41 49.2**	**-0.5**
DEMI				*i* S	**Sg**	**05 42 03.8**	**-1.2**
DEMI	**Demirci**	**1.18**	**345**	*i* P	**Pg**	**05 41 49.2**	**-0.5**
DEMI				*i* S	**Sg**	**05 42 03.8**	**-1.2**
MLSB	**Milas**	**1.22**	**241**	*e*PN	**Pn**	**05 41 50.5**	**+0.3**
MLSB	**Milas**	**1.22**	**241**	*e*Pn	**Pn**	**05 41 50.5**	**+0.3**
GDZ	**Gediz**	**1.22**	**14**	*i* P	**Pg**	**05 41 49.4**	**-1.1**
GDZ				*i* S	**Sg**	**05 42 05.1**	**-1.2**
GDZ	**Gediz**	**1.22**	**14**	*i* P	**Pg**	**05 41 49.4**	**-1.1**
GDZ				*i* S	**Sg**	**05 42 05.1**	**-1.2**
BCK	**Bucak**	**1.26**	**110**	*e*PN	**Pb**	**05 41 49.8**	**-1.1**
BCK	**Bucak**	**1.26**	**110**	*e*Pn	**Pb**	**05 41 49.8**	**-1.1**
FETY	**Fethiye**	**1.27**	**181**	*e*PN	**Pn**	**05 41 51.0**	**+0.1**
FETY	**Fethiye**	**1.27**	**181**	*e*Pn	**Pn**	**05 41 51.0**	**+0.1**
SHUT	**Suhut-Afyon**	**1.31**	**60**	*e*PN	**Pg**	**05 41 52.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.31**	**60**	*e*Pn	**Pg**	**05 41 52.0**	**-0.2**
ELL	**Elmali**	**1.32**	**151**	*e*PN	**Pb**	**05 41 51.8**	**-0.2**
ELL	**Elmali**	**1.32**	**151**	*e*Pn	**Pb**	**05 41 51.8**	**-0.2**
KORT	**Korkueli**	**1.34**	**132**	*i* P	**Pg**	**05 41 52.9**	**+0.2**
KORT				*i* S	Sn	05 42 16.1	+6.1
KORT	**Korkueli**	**1.34**	**132**	*i* P	**Pg**	**05 41 52.9**	**+0.2**
ALT	**Altintas**	**1.39**	**34**	*e*PN	**Pg**	**05 41 53.4**	**-0.4**
ALT	**Altintas**	**1.39**	**34**	*e*Pn	**Pg**	**05 41 53.4**	**-0.4**
AKHS	**Akhisar**	**1.41**	**314**	*i* P	**Pn**	**05 41 52.4**	**-0.4**
AKHS				*i* S	**Sg**	**05 42 12.3**	**-0.1**
AKHS	**Akhisar**	**1.41**	**314**	*i* P	**Pn**	**05 41 52.4**	**-0.4**
AKHS				*i* S	**Sg**	**05 42 12.3**	**-0.1**
AKS	**Akhisar**	**1.41**	**314**	*e*PN	**Pg**	**05 41 53.9**	**-0.1**
AKS	**Akhisar**	**1.41**	**314**	*e*Pn	**Pg**	**05 41 53.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.50**	**263**	*i* P	**Pn**	**05 41 53.9**	**-0.1**
GCAM				*i* S	**Sn**	**05 42 13.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.50**	**263**	*i* P	**Pn**	**05 41 53.9**	**-0.1**
GCAM				*i* S	**Sn**	**05 42 13.2**	**-0.4**
IZM	**Izmir**	**1.54**	**289**	*e*PN	**Pg**	**05 41 56.0**	**-0.5**
IZM	**Izmir**	**1.54**	**289**	*e*Pn	**Pg**	**05 41 56.0**	**-0.5**
BDRM	**Kayabasi**	**1.56**	**238**	*i* P	**Pn**	**05 41 55.1**	**+0.1**
BDRM				*i* S	**Sg**	**05 42 19.8**	**+2.4**
BDRM	**Kayabasi**	**1.56**	**238**	*i* P	**Sg**	**05 42 19.8**	**+2.5**
BDRM	**Kayabasi**	**1.56**	**238**	*i* P	**Pn**	**05 41 55.1**	**+0.1**
TVSB	**Tavsanli**	**1.57**	**10**	*e*PN	**Pn**	**05 41 55.1**	**0.0**
TVSB	**Tavsanli**	**1.57**	**10**	*e*Pn	**Pn**	**05 41 55.1**	**0.0**
ANTB	**Antalya**	**1.59**	**129**	*e*PN	**Pg**	**05 41 56.1**	**-1.3**
ANTB	**Antalya**	**1.59**	**129**	*e*Pn	**Pg**	**05 41 56.2**	**-1.3**
BODT	**Bodrum**	**1.66**	**240**	*e*PN	**Pn**	**05 41 56.2**	**0.0**
BODT	**Bodrum**	**1.66**	**240**	*e*Pn	**Pn**	**05 41 56.2**	**0.0**
BOLV	**Bolvadin**	**1.66**	**60**	*i* P	**Pb**	**05 41 56.8**	**-1.1**
BOLV				*i* S	**Sg**	**05 42 23.0**	**+2.5**
BOLV	**Bolvadin**	**1.66**	**60**	*i* P	**Pb**	**05 41 56.8**	**-1.1**
BOLV				*i* S	**Sg**	**05 42 23.0**	**+2.5**
DAT	**Datca**	**1.69**	**227**	*e*PN	**Pn**	**05 41 56.7**	**-0.1**
DAT	**Datca**	**1.69**	**227**	*e*Pn	**Pn**	**05 41 56.7**	**-0.1**
AKAS	**Kas**	**1.71**	**166**	*i* P	**Pg**	**05 41 58.8**	**-1.1**
AKAS				*i* S	**Sg**	**05 42 26.0**	**+3.9**
AKAS	**Kas**	**1.71**	**166**	*i* P	**Pg**	**05 41 58.8**	**-1.1**
DST	**Dursunbey**	**1.74**	**347**	*e*PN	**Pb**	**05 41 59.0**	**-0.2**
DST	**Dursunbey**	**1.74**	**347**	*e*Pn	**Pb**	**05 41 59.0**	**-0.2**
DURS	**Dursunbey**	**1.77**	**344**	*i* P	**Pn**	**05 41 57.4**	**-0.4**
DURS				*i* S	**Sb**	**05 42 23.1**	**+1.2**
DURS	**Dursunbey**	**1.77**	**344**	*i* P	**Pn**	**05 41 57.4**	**-0.4**
DURS				*i* S	**Sb**	**05 42 23.1**	**+1.2**
BALB	**Balikesir**	**1.98**	**331**	*e*PN	**Pb**	**05 42 02.0**	**-1.2**
BALB	**Balikesir**	**1.98**	**331**	*e*Pn	**Pb**	**05 42 02.0**	**-1.2**
SEYT	**Eskypehyr**	**2.11**	**40**	*i* P	**Pb**	**05 42 04.9**	**-0.6**
SEYT	**Eskypehyr**	**2.11**	**40**	*i* P	**Pb**	**05 42 04.9**	**-0.6**
BALY	**Balya**	**2.17**	**328**	*i* P	**Pn**	**05 42 04.0**	**+0.6**
BALY				*i* S	**Sg**	**05 42 37.3**	**+0.5**
BALY	**Balya**	**2.17**	**328**	*i* P	**Pn**	**05 42 04.0**	**+0.6**
BORA	**Eskisehir**	**2.24**	**28**	*i* P	**Pb**	**05 42 07.9**	**+0.3**
BORA				*i* S	**Sn**	**05 42 32.2**	**+0.2**
BORA	**Eskisehir**	**2.24**	**28**	*i* P	**Pb**	**05 42 07.9**	**+0.3**
BORA				*i* S	**Sn**	**05 42 32.2**	**+0.2**
CAVI	**Cavuskoy**	**2.37**	**14**	*e*PN	**Pn**	**05 42 07.5**	**+1.5**
CAVI	**Cavuskoy**	**2.37**	**14**	*e*Pn	**Pn**	**05 42 07.5**	**+1.5**
KIZT	**Kizilcal**	**2.39**	**65**	*e*PN	**Pn**	**05 42 07.2**	**+0.8**
KIZT	**Kizilcal**	**2.39**	**65**	*e*Pn	**Pn**	**05 42 07.2**	**+0.8**
GONE	**Gonen-Balikesi**	**2.41**	**333**	*e*PN	**Pn**	**05 42 07.3**	**+0.7**
GONE	**Gonen-Balikesi**	**2.41**	**333**	*e*Pn	**Pn**	**05 42 07.3**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.44**	**50**	*e*PN	**Pn**	**05 42 08.2**	**+1.1**
SVRH	**Sivrihisar-ESK**	**2.44**	**50**	*e*Pn	**Pn**	**05 42 08.2**	**+1.1**
KDHN	**Kadinhani**	**2.45**	**74**	*i* P	**Pn**	**05 42 07.5**	**+0.3**
KDHN	**Kadinhani**	**2.45**	**74**	*i* P	**Pn**	**05 42 07.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.47**	**356**	*e*PN	**Pn**	**05 42 09.0**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.47**	**356**	*e*Pn	**Pn**	**05 42 09.0**	**+1.6**
GEMT	**Gemlik**	**2.53**	**1**	*e*PN	**Pn**	**05 42 09.8**	**+1.6**
GEMT	**Gemlik**	**2.53**	**1**	*e*Pn	**Pn**	**05 42 09.8**	**+1.6**
KONT	**Konya--Tatoy**	**2.57**	**88**	*e*PN	**Pn**	**05 42 09.3**	**+0.4**
KONT	**Konya--Tatoy**	**2.57**	**88**	*e*Pn	**Pn**	**05 42 09.3**	**+0.4**
LADK	**Ladik-KONYA**	**2.59**	**82**	*e*PN	**Pn**	**05 42 09.9**	**+0.8**
LADK	**Ladik-KONYA**	**2.59**	**82**	*e*Pn	**Pn**	**05 42 10.0**	**+0.8**
BNT	**Bandirma**	**2.62**	**340**	*e*PN	**Pn**	**05 42 10.9**	**+1.4**
BNT	**Bandirma**	**2.62**	**340**	*e*Pn	**Pn**	**05 42 10.9**	**+1.4**
ARMT	**Armutlu**	**2.67**	**356**	*e*PN	**Pn**	**05 42 12.1**	**+2.0**
ARMT	**Armutlu**	**2.67**	**356**	*e*Pn	**Pn**	**05 42 12.1**	**+2.0**
GULT	**Gulveren**	**2.75**	**23**	*e*PN	**Pn**	**05 42 12.4**	**+1.0**
GULT	**Gulveren**	**2.75**	**23**	*e*Pn	**Pn**	**05 42 12.4**	**+1.0**
HRT	**Hereke**	**2.95**	**8**	*e*PN	**Pn**	**05 42 16.3**	**+2.3**
HRT	**Hereke**	**2.95**	**8**	*e*Pn	**Pn**	**05 42 16.3**	**+2.3**
MDUB	**Mudurnu**	**3.04**	**32**	*e*PN	**Pn**	**05 42 17.1**	**+1.8**
MDUB	**Mudurnu**	**3.04**	**32**	*e*Pn	**Pn**	**05 42 17.1**	**+1.8**
ISK	**Istanbul-Kandi**	**3.16**	**359**	*e*PN	**Pn**	**05 42 18.6**	**+1.7**
ISK	**Istanbul-Kandi**	**3.16**	**359**	*e*Pn	**Pn**	**05 42 18.6**	**+1.7**
BGKT	**Bogazkoy**	**3.28**	**356**	*e*PN	**Pn**	**05 42 21.3**	**+2.7**
BGKT	**Bogazkoy**	**3.28**	**356**	*e*Pn	**Pn**	**05 42 21.3**	**+2.7**
CTKS	**Kestanelik-??a**	**3.36**	**352**	*e*PN	**Pn**	**05 42 22.0**	**+2.4**
CTKS	**Kestanelik-??a**	**3.36**	**352**	*e*Pn	**Pn**	**05 42 22.0**	**+2.4**

IDC 22 05:42:36.0±3.7,12°.96S×14°.68W,h0km,mb3.9/8, mb1 3.9/8,mb1mx3.8/22,mbtmp3.9/8,MS4.1/8,Ms1 4.1/8, ms1mx3.6/51,Error ellipse: s-maj=161.6km s-min=19.6km az=146.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.81**	**27**	P	P	05 47 30.2	+0.3
	1.9nm,0.7s,baz=186,slow=11,SNR=3.1						
DBIC				LR	LR	05 53 54.0	
	comp=Z,488nm,19.4s,baz=186,slow=31						
RCBR	**Riachuelo**	**22.09**	**287**	LR	LR	05 54 10.5	
	comp=Z,622nm,18.4s,baz=97,slow=31						
BBTS	**Babate**	**27.51**	**356**	LR	LR	05 58 02.1	
	comp=Z,218nm,18.0s,baz=166,slow=34						
TORD	**Torodi Ar. Bea**	**30.60**	**33**	P	P	05 48 51.6	-0.3
	1.1nm,0.7s,baz=212,slow=10.0,SNR=5.4						
TORD				LR	LR	05 59 01.2	
	comp=Z,690nm,20.0s,baz=215,slow=32						
BDFB	**Brasilia**	**32.39**	**261**	P	P	05 49 07.6	-0.4
	3.6nm,1.0s,baz=95,slow=10,SNR=5.1						
SIV	**San Ignacio**	**44.95**	**260**	P	P	05 50 53.6	+0.3
	1.6nm,0.9s,baz=70,slow=11,SNR=3.5						
SIV				LR	LR	06 06 52.0	
	comp=Z,259nm,18.7s,slow=32						
LPAZ	**La Paz**	**51.71**	**259**	P	P	05 51 45.9	-0.3
	0.8nm,0.7s,baz=83,slow=8.1,SNR=4.0						
CFAA	**Coronel Fontan**	**52.38**	**240**	LR	LR	06 11 15.0	
	comp=Z,39nm,18.6s,baz=126,slow=33						
USHA	**Ushuaia**	**58.98**	**213**	LR	LR	06 11 22.5	
	comp=Z,415nm,21.3s,baz=59,slow=29						
MLR	**Muntele Rosu**	**66.78**	**29**	LR	LR	06 22 51.9	
	comp=Z,52nm,18.5s,baz=118,slow=35						
BRTR	**Keskin Array B**	**69.02**	**38**	P	P	05 53 44.5	+0.8
	0.7nm,0.8s,baz=193,slow=5.9,SNR=3.8						
AKASG	**Malin Array Be**	**74.06**	**27**	P	P	05 54 12.0	-1.7
	1.3nm,0.7s,baz=226,slow=9.3,SNR=5.2						
FINES	**FINESS Array B**	**80.83**	**19**	P	P	05 54 52.5	+1.2
	1.2nm,0.8s,baz=224,slow=3.8,SNR=6.7						

IDC 22 05:46:26.8±2.5,33°.45S×178°.55W,h0km,mb4.0/2, mb1 4.1/3,mb1mx3.8/17,mbtmp3.9/3,ML3.3/1,Error ellipse: s-maj=66.0km s-min=31.7km az=125.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.95**	**215**	Pn	Pn	05 47 56.9	+0.6
	0.7nm,0.3s,baz=13,slow=14,SNR=14						
URZ				Sn	Sn	05 49 04.0	-1.2
	2.4nm,0.3s,baz=147,slow=21,SNR=7.4						
ASAR	**Alice Springs**	**42.57**	**270**	P	P	05 54 24.9	+0.1
	1.5nm,0.7s,baz=110,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**43.84**	**276**	P	P	05 54 34.6	-0.4
	1.5nm,0.7s,baz=117,slow=7.6,SNR=21						
FINES	**FINESS Array B**	**147.82**	**338**	PKPbc	PKPbc	06 06 12.2	-0.7
	1.5nm,1.0s,baz=17,slow=2.6,SNR=5.3						
NOA	**NORSAR Array B**	**151.68**	**350**	PKPab	PKPab	06 06 30.7	-0.6
	1.2nm,0.8s,baz=350,slow=3.2,SNR=3.5						

*MOS **22** 05:52:26.9±0.7, 12°.82S×14°.59W,h10km, mb5.4/55, Error ellipse: s-maj=13.8km s-min=4.9km az=72.0*
*BJI **22** 05:52:26.5, 13°.00S×14°.41W,h6km, mB5.7/10, Ms5.2/8, Ms7 4.9/11*

*IDC **22** 05:52:26.6±0.5, 12°.98S×14°.59W,h0km,mb4.4/22, mb1 4.5/22,mb1mx4.4/25, mbtmp4.4/22,MS4.1/12, Ms1 4.1/12,ms1mx3.8/46,Error ellipse: s-maj=18.9km s-min=13.1km az=151.0*
*ISCJB **22** 05:52:27.9±0.2, 12°.89S±0°.05×14°.48W±0°.04,h16km, mb5.0/103,MS4.3/20, Error ellipse: s-maj=8.3km s-min=4.5km az=145.6*
*NEIC **22** 05:52:28.4±0.2, 12°.93S×14°.59W,h10km, mb5.1/25, Error ellipse: s-maj=5.5km s-min=3.7km az=137.0*
*SZGRF **22** 05:52:47.0, 10°.74S×12°.59W,h33km, mb5.3,MS4.5, Ascension Island region*

ISC 22 05:52:29.1±0.3,12°.96S±0°.08×14°.60W±0°.07,h16km,n424, σ0s90/410,mb5.1/102,MS4.3/21,61C-60D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.30**	**27**	*e*P	**P**	**05 57 14.7**	**-0.6**
	154nm,1.4s,baz=212						
LIC				*e*R			
	510nm,18.5s						
LIC	**Lamto**	**21.30**	**27**	*e*P	**P**	**05 57 14.7**	**-0.6**
	154nm,1.4s						
DBIC	**Dimbokro**	**21.77**	**27**	P	**P**	**05 57 20.5**	**+0.2**
	10nm,0.9s,baz=194,slow=11,SNR=7.9						
DBIC				LR	LR	06 03 36.6	
	comp=Z,562nm,21.8s,baz=187,slow=31						
DBIC	**Dimbokro**	**21.77**	**27**	P	**P**	**05 57 20.5**	**+0.2**
	24nm,1.1s						
RCBR	**Riachuelo**	**22.16**	**287**	LR	LR	06 03 42.1	
	comp=Z,746nm,19.0s,baz=99,slow=30						
RCBR	**Riachuelo**	**22.16**	**287**	*e*P	**P**	**05 57 25.9**	**+1.3**
BBTS	**Babate**	**27.51**	**356**	LR	LR	06 07 36.0	
	comp=Z,239nm,18.0s,baz=146,slow=33						
TOA0	**Torodi Ar. Sit**	**30.56**	**33**	*e*P	**P**	**05 58 41.3**	**-0.9**
TOA0				*e*PcP	**PcP**	**06 01 36.9**	**-4.1**
TORD	**Torodi Ar. Bea**	**30.56**	**33**	P	**P**	**05 58 41.4**	**-0.8**
	4.5nm,0.9s,baz=218,slow=8.9,SNR=24						
TORD				LR	LR	06 09 03.6	
	comp=Z,613nm,19.1s,baz=215,slow=33						
TORD	**Torodi

CAF	**Calviac**	**59.56**	**14**	*e*P		**P**	**06 02 31.9**	**0.0**
	comp=Z,43nm,1.6s								
RJF	**Les Rejaudoux**	**59.80**	**13**	*e*P		**P**	**06 02 33.6**	**+0.1**
RJF	comp=Z,44nm,1.2s			*e*R					
	comp=Z,205nm,17.5s								
RJF	**Les Rejaudoux**	**59.80**	**13**	*e*P		**P**	**06 02 33.6**	**+0.1**
RJF	comp=Z,44nm,1.2s				pmax	pmax			
RJF	**Les Rejaudoux**	**59.80**	**13**	*e*P		**P**	**06 02 33.6**	**+0.1**
	comp=Z,44nm,1.2s								
VIVF	**Saint-Julien-l**	**60.14**	**16**	*e*P		**P**	**06 02 36.3**	**+0.4**
	comp=Z,58nm,1.5s								
VIVF	**Saint-Julien-l**	**60.14**	**16**	*e*P		**P**	**06 02 36.3**	**+0.4**
VIVF	comp=Z,58nm,1.5s				pmax	pmax			
VIVF	**Saint-Julien-l**	**60.14**	**16**	*e*P		**P**	**06 02 36.3**	**+0.4**
	comp=Z,58nm,1.5s								
ORIF	**Oris-en-Rattie**	**60.52**	**17**	*e*P		**P**	**06 02 39.4**	**+0.8**
ORIF	comp=Z,75nm,1.5s			*e*R					
	comp=Z,318nm,19.0s								
ORIF	**Oris-en-Rattie**	**60.52**	**17**	*e*P		**P**	**06 02 39.4**	**+0.8**
ORIF	comp=Z,75nm,1.5s				pmax	pmax			
ORIF	**Oris-en-Rattie**	**60.52**	**17**	*e*P		**P**	**06 02 39.4**	**+0.8**
	comp=Z,75nm,1.5s								
MBDF	**Montbardon**	**60.60**	**17**	*e*P		**P**	**06 02 40.1**	**+0.9**
	comp=Z,55nm,1.4s								
MBDF	**Montbardon**	**60.60**	**17**	*e*P		**P**	**06 02 40.1**	**+0.9**
MBDF	comp=Z,55nm,1.4s				pmax	pmax			
MBDF	**Montbardon**	**60.60**	**17**	*e*P		**P**	**06 02 40.1**	**+0.9**
	comp=Z,55nm,1.4s								
MFF	**Saint Martin d**	**60.69**	**11**	*e*P		**P**	**06 02 39.8**	**+0.2**
	comp=Z,22nm,1.2s								
MFF	**Saint Martin d**	**60.69**	**11**	*e*P		**P**	**06 02 39.8**	**+0.2**
MFF	comp=Z,23nm,1.2s				pmax	pmax			
MFF	**Saint Martin d**	**60.69**	**11**	*e*P		**P**	**06 02 39.8**	**+0.2**
	comp=Z,22nm,1.2s								
AGO	**Saint Agoulin**	**60.87**	**14**	*e*P		**P**	**06 02 41.9**	**+1.1**
AGO	**Saint Agoulin**	**60.87**	**14**	*e*P		**P**	**06 02 41.9**	**+1.1**
BNI	**Bardonecchia**	**60.87**	**17**	*e*P		**P**	**06 02 42.2**	**+1.2**
BNI	comp=Z,21nm,1.3s				pmax	pmax			
BNI	**Bardonecchia**	**60.87**	**17**	*e*P		**P**	**06 02 42.2**	**+1.2**
	comp=Z,21nm,1.3s								
TCF	**Toulx Ste Croi**	**60.88**	**13**	*e*P		**P**	**06 02 41.3**	**+0.4**
	comp=Z,63nm,1.4s								
TCF	**Toulx Ste Croi**	**60.88**	**13**	*e*P		**P**	**06 02 41.3**	**+0.4**
TCF	comp=Z,63nm,1.4s				pmax	pmax			
TCF	**Toulx Ste Croi**	**60.88**	**13**	*e*P		**P**	**06 02 41.3**	**+0.4**
	comp=Z,63nm,1.4s								
PLDF	**La Plantade**	**60.91**	**14**	*e*P		**P**	**06 02 42.1**	**+0.9**
PLDF	**La Plantade**	**60.91**	**14**	*e*P		**P**	**06 02 42.1**	**+0.9**
PLDF	**La Plantade**	**60.91**	**14**	*e*P		**P**	**06 02 42.1**	**+0.9**
BGF	**Bois d'Agland**	**61.28**	**14**	*e*P		**P**	**06 02 44.0**	**+0.4**
	comp=Z,32nm,1.3s								
BGF	**Bois d'Agland**	**61.28**	**14**	*e*P		**P**	**06 02 44.0**	**+0.4**
BGF	comp=Z,33nm,1.3s				pmax	pmax			
BGF	**Bois d'Agland**	**61.28**	**14**	*e*P		**P**	**06 02 44.0**	**+0.4**
	comp=Z,32nm,1.3s								
LPG	**La Plagne**	**61.30**	**17**	*e*P		**P**	**06 02 44.9**	**+0.8**
	comp=Z,60nm,1.3s								
LPG	**La Plagne**	**61.30**	**17**	*e*P		**P**	**06 02 44.9**	**+0.8**
LPG	comp=Z,60nm,1.3s				pmax	pmax			
LPG	**La Plagne**	**61.30**	**17**	*e*P		**P**	**06 02 44.9**	**+0.8**
	comp=Z,60nm,1.3s								
LPL	**La Plagne**	**61.31**	**17**	*e*P		**P**	**06 02 44.8**	**+0.7**
	comp=Z,41nm,1.2s								
LPL	**La Plagne**	**61.31**	**17**	*e*P		**P**	**06 02 44.8**	**+0.7**
LPL	comp=Z,41nm,1.2s				pmax	pmax			
LPL	**La Plagne**	**61.31**	**17**	*e*P		**P**	**06 02 44.8**	**+0.7**
	comp=Z,41nm,1.2s								
QUIF	**Quistinic**	**61.45**	**9**	*e*P		**P**	**06 02 44.6**	**-0.1**
	comp=Z,48nm,1.3s								
QUIF	**Quistinic**	**61.45**	**9**	*e*P		**P**	**06 02 44.6**	**-0.1**
QUIF	comp=Z,48nm,1.3s				pmax	pmax			
QUIF	**Quistinic**	**61.45**	**9**	*e*P		**P**	**06 02 44.6**	**-0.1**
	comp=Z,48nm,1.3s								
SMF	**Signal de Mont**	**61.60**	**14**	*e*P		**P**	**06 02 45.9**	**+0.2**
	comp=Z,37nm,1.3s								
SMF	**Signal de Mont**	**61.60**	**14**	*e*P		**P**	**06 02 45.9**	**+0.2**
SMF	comp=Z,37nm,1.3s				pmax	pmax			
SMF	**Signal de Mont**	**61.60**	**14**	*e*P		**P**	**06 02 45.9**	**+0.2**
	comp=Z,37nm,1.3s								
AVF	**Avril sur Loir**	**61.62**	**14**	*e*P		**P**	**06 02 46.2**	**+0.4**
	comp=Z,8.3nm,0.9s								
AVF	**Avril sur Loir**	**61.62**	**14**	*e*P		**P**	**06 02 46.2**	**+0.4**
AVF	comp=Z,8.0nm,0.9s				pmax	pmax			
AVF	**Avril sur Loir**	**61.62**	**14**	*e*P		**P**	**06 02 46.2**	**+0.4**
	comp=Z,8.3nm,0.9s								
ROSF	**Rostrenen**	**61.84**	**9**	*e*P		**P**	**06 02 47.5**	**+0.2**
	comp=Z,31nm,1.1s								
ROSF	**Rostrenen**	**61.84**	**9**	*e*P		**P**	**06 02 47.5**	**+0.2**
ROSF	comp=Z,31nm,1.1s				pmax	pmax			
ROSF	**Rostrenen**	**61.84**	**9**	*e*P		**P**	**06 02 47.5**	**+0.2**
	comp=Z,31nm,1.1s								
SGMF	**Saint Gilles**	**61.87**	**9**	*e*P		**P**	**06 02 47.7**	**+0.2**
SGMF	**Saint Gilles**	**61.87**	**9**	*e*P		**P**	**06 02 47.7**	**+0.2**
SGMF	**Saint Gilles**	**61.87**	**9**	*e*P		**P**	**06 02 47.7**	**+0.2**
ROSC	**El Rosal**	**61.90**	**283**	P		**P**	**06 02 48.3**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=88,slow=12,SNR=8.8								
ROSC	**El Rosal**	**61.90**	**283**	*e*P		**P**	**06 02 49.9**	**+0.9**
HYF	**Humbligny**	**61.91**	**13**	*e*P		**P**	**06 02 48.3**	**+0.5**
HYF	**Humbligny**	**61.91**	**13**	*e*P		**P**	**06 02 48.3**	**+0.5**
SSF	**Saint Saulge**	**61.91**	**14**	*e*P		**P**	**06 02 48.1**	**+0.3**
	comp=Z,48nm,1.2s								
SSF	**Saint Saulge**	**61.91**	**14**	*e*P		**P**	**06 02 48.1**	**+0.3**
SSF	comp=Z,48nm,1.2s				pmax	pmax			
SSF	**Saint Saulge**	**61.91**	**14**	*e*P		**P**	**06 02 48.1**	**+0.3**
	comp=Z,48nm,1.2s								
CABF	**La Chapelle**	**62.14**	**16**	*e*P		**P**	**06 02 49.5**	**0.0**
	comp=Z,103nm,1.4s								
CABF	**La Chapelle**	**62.14**	**16**	*e*P		**P**	**06 02 49.5**	**0.0**
CABF	comp=Z,103nm,1.4s				pmax	pmax			
CABF	**La Chapelle**	**62.14**	**16**	*e*P		**P**	**06 02 49.5**	**0.0**
	comp=Z,103nm,1.4s								
LOR	**Lormes**	**62.19**	**14**	*e*P		**P**	**06 02 49.8**	**+0.1**
	comp=Z,30nm,1.4s								
LOR				*e*R					
	comp=Z,184nm,20.0s								
LOR	**Lormes**	**62.19**	**14**	*e*P		**P**	**06 02 49.8**	**+0.1**
	comp=Z,30nm,1.4s								
GRR	**Gorron**	**62.28**	**10**	*e*P		**P**	**06 02 50.3**	**0.0**
	comp=Z,96nm,1.5s								
GRR	**Gorron**	**62.28**	**10**	*e*P		**P**	**06 02 50.3**	**0.0**
GRR	comp=Z,96nm,1.5s				pmax	pmax			
GRR	**Gorron**	**62.28**	**10**	*e*P		**P**	**06 02 50.3**	**0.0**
	comp=Z,96nm,1.5s								
LDF	**La Druitiere**	**62.61**	**11**	*e*P		**P**	**06 02 52.4**	**-0.1**
	comp=Z,124nm,1.8s								
LDF	**La Druitiere**	**62.61**	**11**	*e*P		**P**	**06 02 52.4**	**-0.1**
LDF	comp=Z,124nm,1.8s				pmax	pmax			
LDF	**La Druitiere**	**62.61**	**11**	*e*P		**P**	**06 02 52.4**	**-0.1**
	comp=Z,124nm,1.8s								
ATAH	**Atahualpa**	**62.95**	**269**	LR		LR	06 28 34.9		
	comp=Z,343nm,20.8s,baz=53,slow=34								
TUE	**Stuetta**	**62.95**	**18**	*e*P		**P**	**06 02 54.7**	**-0.4**
	comp=Z,27nm,1.7s								
BBS	**Basel-Blauen**	**63.31**	**17**	*e*P		**P**	**06 02 57.7**	**+0.5**
BBS	**Basel-Blauen**	**63.31**	**17**	*e*P		**P**	**06 02 57.7**	**+0.5**
HINF	**Hinteralfeld**	**63.45**	**16**	*e*P		**P**	**06 02 57.7**	**-0.5**
	comp=Z,80nm,1.9s								
HINF	**Hinteralfeld**	**63.45**	**16**	*e*P		**P**	**06 02 57.7**	**-0.5**
HINF	comp=Z,80nm,1.9s				pmax	pmax			
HINF	**Hinteralfeld**	**63.45**	**16**	*e*P		**P**	**06 02 57.7**	**-0.5**
	comp=Z,80nm,1.9s								
HAU	**Haudompre**	**63.49**	**16**	*e*P		**P**	**06 02 58.2**	**-0.2**
	comp=Z,82nm,1.4s								
HAU				*e*R					
	comp=Z,166nm,21.2s								
HAU	**Haudompre**	**63.49**	**16**	*e*P		**P**	**06 02 58.2**	**-0.2**
HAU					pmax	pmax			
	comp=Z,82nm,1.4s								
HAU	**Haudompre**	**63.49**	**16**	*e*P		**P**	**06 02 58.2**	**-0.2**
	comp=Z,82nm,1.4s								
THEF	**They Montfort**	**63.60**	**15**	*e*P		**P**	**06 02 58.8**	**-0.3**
THEF	**They Montfort**	**63.60**	**15**	*e*P		**P**	**06 02 58.8**	**-0.3**
THEF	**They Montfort**	**63.60**	**15**	*e*P		**P**	**06 02 58.8**	**-0.3**
MEZF	**Maizieres J'vi**	**63.63**	**14**	*e*P		**P**	**06 02 59.5**	**+0.3**
	comp=Z,73nm,1.3s								
MEZF	**Maizieres J'vi**	**63.63**	**14**	*e*P		**P**	**06 02 59.5**	**+0.3**
	comp=Z,73nm,1.3s								
FELD	**Feldberg im Sc**	**63.82**	**17**	*e*P		**P**	**06 03 00.1**	**-0.6**
ECH	**Echery**	**63.90**	**16**	*e*P		**P**	**06 03 01.8**	**+0.7**
ECH	**Echery**	**63.90**	**16**	*e*P		**P**	**06 03 01.8**	**+0.7**
ECH	**Echery**	**63.90**	**16**	*e*P		**P**	**06 03 01.8**	**+0.7**
CDF	**Champ du Feu**	**64.11**	**16**	*e*P		**P**	**06 03 02.0**	**-0.6**
	comp=Z,47nm,1.6s								
CDF	**Champ du Feu**	**64.11**	**16**	*e*P		**P**	**06 03 02.0**	**-0.6**
CDF	comp=Z,47nm,1.6s				pmax	pmax			
CDF	**Champ du Feu**	**64.11**	**16**	*e*P		**P**	**06 03 02.0**	**-0.6**
	comp=Z,47nm,1.6s								
SPAK	**Spaichingen-Ko**	**64.25**	**17**	*e*P		**P**	**06 03 03.7**	**+0.2**
BFO	**Black Forest**	**64.33**	**17**	*e*P		**P**	**06 03 04.0**	**+0.1**
BFO	comp=Z,21nm,1.2s				pmax	pmax			
BFO	**Black Forest**	**64.33**	**17**	*e*P		**P**	**06 03 03.6**	**-0.3**
	comp=Z,28nm,1.4s								
BFO	**Black Forest**	**64.33**	**17**	*e*P		**P**	**06 03 04.0**	**+0.1**
	comp=Z,20nm,1.2s								
BFO	**Black Forest**	**64.33**	**17**	P		**P**	**06 03 03.1**	**-0.8**
	comp=Z,79nm,1.3s,SNR=6.7								
OTAV	**Otavalo**	**64.61**	**276**	*e*P		**P**	**06 03 07.2**	**+0.2**
	comp=Z,13nm,1.3s								
LANF	**Langenberg**	**64.78**	**16**	*e*P		**P**	**06 03 06.3**	**-0.5**
LANF	**Langenberg**	**64.78**	**16**	*e*P		**P**	**06 03 06.3**	**-0.5**
LANF	**Langenberg**	**64.78**	**16**	*e*P		**P**	**06 03 06.3**	**-0.5**
BAIF	**Baives**	**64.89**	**13**	*e*P		**P**	**06 03 07.1**	**-0.3**
	comp=Z,79nm,1.4s								
BAIF	**Baives**	**64.89**	**13**	*e*P		**P**	**06 03 07.1**	**-0.3**
BAIF	comp=Z,79nm,1.4s				pmax	pmax			
BAIF	**Baives**	**64.89**	**13**	*e*P		**P**	**06 03 07.1**	**-0.3**
	comp=Z,79nm,1.4s								
STU	**Stuttgart**	**64.97**	**17**	*e*P		**P**	**06 03 08.1**	**+0.1**
STU	comp=Z,20nm,1.1s				pmax	pmax			
STU	**Stuttgart**	**64.97**	**17**	*e*P		**P**	**06 03 07.9**	**-0.2**
	comp=Z,32nm,1.3s								
STU	**Stuttgart**	**64.97**	**17**	*e*P		**P**	**06 03 08.1**	**+0.1**
	comp=Z,20nm,1.1s								
WLF	**Walferdange**	**64.98**	**15**	P		**P**	**06 03 09.2**	**+1.2**
	comp=Z,20nm,2.1s								
DOU	**Dourbes**	**65.01**	**14**	P		**P**	**06 03 09.3**	**+1.1**
FUR	**Furstenfeldbru**	**65.06**	**19**	*e*P		**P**	**06 03 08.8**	**+0.1**
FUR	comp=Z,68nm,1.7s				pmax	pmax			
FUR	**Furstenfeldbru**	**65.06**	**19**	*e*P		**P**	**06 03 08.8**	**+0.1**
	comp=Z,68nm,1.7s								
GIVF	**Givet**	**65.06**	**14**	*e*P		**P**	**06 03 08.2**	**-0.4**
	comp=Z,54nm,1.4s								
GIVF	**Givet**	**65.06**	**14**	*e*P		**P**	**06 03 08.2**	**-0.4**
GIVF	comp=Z,54nm,1.4s				pmax	pmax			
GIVF	**Givet**	**65.06**	**14**	*e*P		**P**	**06 03 08.2**	**-0.4**
	comp=Z,54nm,1.4s								
RUP	**Ruppelstein**	**65.24**	**15**	*e*P		**P**	**06 03 10.2**	**+0.4**
RUP	**Ruppelstein**	**65.24**	**15**	*e*P		**P**	**06 03 10.2**	**+0.4**
ABH	**Alteburg**	**65.53**	**16**	*e*P		**P**	**06 03 12.0**	**+0.3**
SYO	**Syowa Base**	**65.59**	**161**	⇓*e*P		**P**	**06 03 11.0**	**-0.8**
SYO	**Syowa Base**	**65.59**	**161**	⇓*e*sP		sP	06 03 17.4	-1.5
TOD	**Tromm**	**65.62**	**16**	*e*P		**P**	**06 03 12.4**	**+0.2**
TOD	**Tromm**	**65.62**	**16**	*e*P		**P**	**06 03 12.4**	**+0.2**
MEM	**Membach**	**65.81**	**14**	P		**P**	**06 03 13.0**	**-0.5**
	comp=Z,15nm,1.8s								
BEBN	**Eben Emael**	**65.91**	**14**	P		**P**	**06 03 15.1**	**+1.0**
TNS	**Taunus Mts**	**66.08**	**16**	*e*P		**P**	**06 03 15.3**	**0.0**
TNS	comp=Z,30nm,1.4s				pmax	pmax			
TNS	**Taunus Mts**	**66.08**	**16**	*e*P		**P**	**06 03 15.3**	**0.0**
	comp=Z,30nm,1.4s								
GRF	**Grafenberg Arr**	**66.39**	**18**	*e*P		**P**	**06 03 17.2**	**0.0**
GRF	comp=Z,17nm,1.2s				pmax	pmax			
GRF	**Grafenberg Arr**	**66.39**	**18**	*e*P		**P**	**06 03 17.2**	**0.0**
	comp=Z,17nm,1.2s								
GRF				*e*L		L	06 45 21.2		
	comp=Z,354nm,20.6s								
WET	**Wettzell**	**66.43**	**19**	*e*P		**P**	**06 03 17.2**	**-0.3**
WET	comp=Z,16nm,1.1s				pmax	pmax			
WET	**Wettzell**	**66.43**	**19**	*e*P		**P**	**06 03 17.2**	**-0.3**
	comp=Z,16nm,1.1s								
GEC2	**GERESS Array S**	**66.44**	**20**	*e*P		**P**	**06 03 17.4**	**-0.2**
GEC2	comp=Z,43nm,2.0s				pmax	pmax			
GEC2	**GERESS Array S**	**66.44**	**20**	*e*P		**P**	**06 03 17.4**	**-0.2**
	comp=Z,43nm,2.0s								
GERES	**GERESS Array B**	**66.44**	**20**	P		**P**	**06 03 17.6**	**0.0**
	comp=Z,1.7nm,0.9s,baz=194,slow=5.1,SNR=9.0								
GERES	**GERESS Array B**	**66.44**	**20**	P		**P**	**06 03 17.6**	**0.0**
KHC	**Kasperske Hory**	**66.64**	**20**	*e*P		**P**	**06 03 19.0**	**+0.1**
KHC	comp=Z,15nm,1.5s				pmax	pmax			
KHC	**Kasperske Hory**	**66.64**	**20**	*e*P		**P**	**06 03 19.0**	**+0.1**
	comp=Z,15nm,1.5s								
KHC	**Kasperske Hory**	**66.64**	**20**	*e*P		**P**	**06 03 18.8**	**-0.1**
KHC				*ex*		x	06 03 28.4		
KHC					AMS	AMS	06 22 20.0		
	comp=Z,300nm,15.4s								
ROTZ	**Rotzenmuhle**	**66.76**	**19**	*e*P		**P**	**06 03 19.1**	**-0.5**
	comp=Z,28nm,1.5s								
UBBA	**Unterbreizbach**	**67.05**	**17**	*e*P		**P**	**06 03 21.5**	**+0.3**
	comp=Z,34nm,1.7s								
NKC	**Novy Kostel**	**67.24**	**18**	*e*P		**P**	**06 03 23.0**	**+0.3**
NKC	**Novy Kostel**	**67.24**	**18**	*e*P		**P**	**06 03 23.0**	**+0.3**
MOX	**Moxa**	**67.36**	**18**	*e*P		**P**	**06 03 23.3**	**0.0**
MOX	comp=Z,19nm,1.3s				pmax	pmax			
MOX	**Moxa**	**67.36**	**18**	*e*P		**P**	**06 03 23.3**	**0.0**
	comp=Z,19nm,1.3s								
TANN	**Tannenbergstha**	**67.41**	**18**	*e*P		**P**	**06 03 23.6**	**-0.1**
	comp=Z,15nm,1.2s								
PRU	**Pruhonice**	**67.70**	**20**	*e*P		**P**	**06 03 25.8**	**+0.3**
PRU	**Pruhonice**	**67.70**	**20**	*e*P		**P**	**06 03 25.8**	**+0.3**
IBBN	**Ibbenburen**	**67.81**	**15**	*e*P		**P**	**06 03 26.9**	**+0.8**
	comp=Z,33nm,1.4s								
PSZ	**Piszkesteto**	**67.94**	**24**	*e*P		**P**	**06 03 27.9**	**+0.8**
PSZ	comp=Z,24nm,1.4s				pmax	pmax			
PSZ	**Piszkesteto**	**67.94**	**24**	*e*P		**P**	**06 03 27.9**	**+0.8**
	comp=Z,24nm,1.4s								
CLZ	**Clausthal**	**68.07**	**16**	*e*P		**P**	**06 03 28.2**	**+0.4**
CLZ	comp=Z,46nm,2.1s				pmax	pmax			
CLZ	**Clausthal**	**68.07**	**16**	*e*P		**P**	**06 03 28.2**	**+0.4**
	comp=Z,46nm,2.1s								
PVCC	**Panska Ves**	**68.17**	**20**	*e*P		**P**	**06 03 28.8**	**+0.3**
PVCC	**Panska Ves**	**68.17**	**20**	*e*P		**P**	**06 03 28.8**	**+0.3**
DRGR		**68.23**	**27**	⇑P		**P**	**06 03 28.8**	**-0.2**
DRGR		**68.23**	**27**	⇑*i*P		**P**	**06 03 28.8**	**-0.2**
VOIR		**68.27**	**29**	⇑P		**P**	**06 03 29.5**	**+0.2**
VOIR		**68.27**	**29**	⇑*i*P		**P**	**06 03 29.5**	**+0.2**
BRG	**Berggiesshubel**	**68.27**	**19**	*e*P		**P**	**06 03 29.3**	**+0.2**
BRG	comp=Z,12nm,1.4s				pmax	pmax			
BRG	**Berggiesshubel**	**68.27**	**19**	*e*P		**P**	**06 03 29.3**	**+0.2**
	comp=Z,12nm,1.4s								
CLL	**Collm**	**68.36**	**18**	*e*P		**P**	**06 03 29.0**	**-0.6**
CLL	comp=Z,400nm,20.2s				MLR	MLR			
CLL	**Collm**	**68.36**	**18**	*e*P		**P**	**06 03 29.0**	**-0.6**
CLL	comp=Z,400nm,20.2s				LmV		06 47 00.0		
MORC	**Moravsky Berou**	**68.56**	**22**	⇓P		**P**	**06 03 31.2**	**+0.2**
MORC	**Moravsky Berou**	**68.56**	**22**	*e*P		**P**	**06 03 31.1**	**+0.2**
	comp=Z,17nm,1.5s								
MORC	**Moravsky Berou**	**68.56**	**22**	⇓*i*P		**P**	**06 03 31.2**	**+0.2**
NRDL	**Niedersach Rie**	**68.58**	**16**	*e*P		**P**	**06 03 32.1**	**+1.2**
	comp=Z,29nm,1.3s								
DPC	**Dobruska-Polom**	**68.61**	**21**	*e*P		**P**	**06 03 31.5**	**+0.2**
DPC	comp=Z,200nm,18.4s				MLR	MLR			
DPC	**Dobruska-Polom**	**68.61**	**21**	*e*P		**P**	**06 03 31.1**	**-0.2**
	comp=Z,32nm,1.5s								
DPC	**Dobruska-Polom**	**68.61**	**21**	*e*P		**P**	**06 03 31.5**	**+0.2**
DPC				*ex*		x	06 03 41.3		
DPC					AMS	AMS	06 23 00.0		
	comp=Z,200nm,18.4s								
UPC	**Upice**	**68.64**	**20**	*e*P		**P**	**06 03 31.6**	**+0.2**
UPC	**Upice**	**68.64**	**20**	*e*P		**P**	**06 03 31.6**	**+0.2**
MLR	**Muntele Rosu**	**68.73**	**29**	⇓*i*P		**P**	**06 03 32.1**	**-0.2**
BRTR	**Keskin Array B**	**68.97**	**38**	P		**P**	**06 03 35.0**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=202,slow=8.8,SNR=15								
BRTR	**Keskin Array B**	**68.97**	**38**	P		**P**	**06 03 35.0**	**+1.1**
KSP	**Ksiaz**	**69.02**	**20**	*e*P		**P**	**06 03 34.1**	**+0.4**
VRI	**Vrincioaia**	**69.38**	**30**	⇓P		**P**	**06 03 36.8**	**+0.7**
VRI	**Vrincioaia**	**69.38**	**30**	⇓*i*P		**P**	**06 03 36.8**	**+0.7**
UZH	**Uzhgorod**	**69.48**	**25**	*e*P		**P**	**06 03 36.8**	**+0.2**
UZH				*i*			06 03 41.0		
UZH				*e*			06 03 54.8		
UZH				*e*S		**S**	**06 12 41.0**	**-2.5**
UZH				*e*			06 13 30.0		
UZH				*e*			06 17 05.8		
UZH				*e*			06 20 17.0		
OJC	**Ojcow**	**69.76**	**23**	*e*P		**P**	**06 03 38.4**	**0.0**
OJC	comp=Z,12nm,1.0s				pmax	pmax			
OJC	**Ojcow**	**69.76**	**23**	*e*P		**P**	**06 03 38.4**	**0.0**
	comp=Z,12nm,1.0s								
OJC	**Ojcow**	**69.76**	**23**	*e*P		**P**	**06 03 38.3**	**0.0**
BURAR	**Bucovina Array**	**69.97**	**27**	⇓*i*P		**P**	**06 03 41.0**	**+1.2**
MALT	**Malatya**	**71.12**	**42**	⇑P		**P**	**06 03 48.7**	**+1.6**
MALT	**Malatya**	**71.12**	**42**	⇑*i*P		**P**	**06 03 48.7**	**+1.6**
LVV	**L'vov**	**71.12**	**25**	*e*P		**P**	**06 03 46.4**	**-0.3**
JTS	**JuntasAbangare**	**73.56**	**285**	LR		LR	06 36 15.8	
	comp=Z,155nm,20.2s,baz=94,slow=36								
AK02	**Malin Array Si**	**73.98**	**27**	*e*P		**P**	**06 04 03.4**	**-0.3**
AK01	**Malin Array Si**	**74.01**	**27**	*e*P		**P**	**06 04 03.8**	**-0.1**
KIEV	**Kiev**	**74.01**	**27**	*e*P		**P**	**06 04 03.6**	**-0.2**
KIEV	comp=Z,22nm,1.2s				pmax	pmax			
KIEV	**Kiev**	**74.01**	**27**	*e*P		**P**	**06 04 03.6**	**-0.2**
	comp=Z,22nm,1.2s								
AKASG	**Malin Array Be**	**74.02**	**27**	P		**P**	**06 04 03.8**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=225,slow=6.5,SNR=21								
AKASG	**Malin Array Be**	**74.02**	**27**	P		**P**	**06 04 03.8**	**-0.1**
AKASG	**Malin Array Be**	**74.02**	**27**	P		**P**	**06 04 03.8**	**-0.1**
SUW	**Suwalki**	**74.05**	**22**	*e*P		**P**	**06 04 04.2**	**+0.2**
SUW	comp=Z,37nm,1.1s				pmax	pmax			
SUW	**Suwalki**	**74.05**	**22**	*e*P		**P**	**06 04 04.2**	**+0.2**
	comp=Z,37nm,1.1s								
ANN	**Anapa**	**74.31**	**36**	*e*P		P	06 04 00.5	-5.2
ANN				*e*S		**SKiKP**	**06 13 32.8**	**+0.3**
ANN	comp=Z,34nm,1.0s				pmax	pmax			
NB2	**NORSAR Subarra**	**76.56**	**13**	P		**P**	**06 04 18.8**	**+0.4**
	comp=Z,7.3nm,1.0s,baz=209,slow=5.9								
NOA	**NORSAR Array B**	**76.56**	**13**	P		**P**	**06 04 19.1**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=206,slow=6.0,SNR=6.5								
NOA	**NORSAR Array B**	**76.56**	**13**	P		**P**	**06 04 19.1**	**+0.8**
KIV	**Kislovodsk**	**76.92**	**39**	*e*P		**P**	**06 04 21.1**	**+0.3**
KIV				*e*S		**S**	**06 14 09.8**	**+1.4**
KIV	comp=Z,13nm,1.1s				pmax	pmax			
KBZ	**Khabaz**	**76.92**	**39**	P		**P**	**06 04 20.2**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=206,slow=4.0,SNR=3.9								
KBZ	**Khabaz**	**76.92**	**39**	P		**P**	**06 04 20.2**	**-0.5**
KBZ	**Khabaz**	**76.92**	**39**	P		**P**	**06 04 20.2**	**-0.5**
KMSC	**Kings Mountain**	**79.17**	**310**	⇓P		**P**	**06 04 34.6**	**+1.2**
	baz=79								
TIGA	**Tifton**	**79.45**	**306**	⇑P		**P**	**06 04 36.2**	**+1.2**
	baz=80								
SCHQ	**Schefferville**	**80.58**	**332**	P		**P**	**06 04 40.9**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=110,slow=9.6,SNR=5.6								
SCHQ	**Schefferville**	**80.58**	**332**	P		**P**	**06 04 40.9**	**+0.3**
FINES	**FINESS Array B**	**80.80**	**18**	P		**P**	**06 04 42.3**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=180,slow=3.8,SNR=13								
FINES	**FINESS Array B**	**80.80**	**18**	P		**P**	**06 04 42.3**	**+0.6**
ALLY	**Alegheny Colle**	**81.08**	**316**	*e*P		**P**	**06 04 44.5**	**+0.8**

baz=94
Z30A Sanderson Ranc 94.14 303 ⇑P **P** 06 05 47.8 +0.3
baz=94
X30A Coker Ranch, T 94.19 304 ⇑P **P** 06 05 47.9 +0.2
baz=94
429A Davenport Ranc 94.20 300 ⇓P **P** 06 05 48.1 +0.2
baz=94
ULM Lac du Bonnet 94.35 320 P **P** 06 05 47.2 -0.8
comp=Z,3.5nm,0.9s,baz=56,slow=2.5,SNR=5.1
ULM Lac du Bonnet 94.35 320 P **P** 06 05 47.2 -0.8
329A Wagon Wheel Ra 94.46 301 ⇑P **P** 06 05 49.0 0.0
baz=94
Z29A Hungry Hill Ra 94.61 303 ⇑P **P** 06 05 50.2 +0.5
baz=95
Y29A Porterfield Fa 94.71 304 ⇑P **P** 06 05 50.9 +0.8
baz=95
628A Black Gap, Mar 94.80 299 ⇑P **P** 06 05 50.0 -0.5
baz=95,SNR=6.7
528A Cox Ranch, San 94.86 300 ⇓P **P** 06 05 50.9 0.0
baz=95
X29A Tulia 94.86 304 ⇓P **P** 06 05 51.1 +0.3
baz=95
428A Kincaid Ranch, 94.89 300 ⇓P **P** 06 05 51.1 +0.1
baz=95,SNR=11
328A Wristen Ranch, 95.13 301 ⇑P **P** 06 05 52.5 +0.5
baz=95
Z28A Tucker Farm, M 95.17 303 ⇑P **P** 06 05 53.0 +0.7
baz=95
Y28A McKinney Farm, 95.19 303 ⇑P **P** 06 05 52.6 +0.3
baz=95
627A Terlingua Ranc 95.22 299 ⇑P **P** 06 05 52.7 +0.1
baz=95
TXAR Lajitas Array 95.43 299 P **P** 06 05 53.8 +0.2
comp=Z,1.5nm,1.0s,baz=129,slow=7.2,SNR=12
TXAR Lajitas Array 95.43 299 P **P** 06 05 53.8 +0.2
427A Hayter Ranch, 95.51 300 ⇓P **P** 06 05 54.4 +0.5
baz=96
527A Woodward Ranch 95.55 300 ⇑P **P** 06 05 54.6 +0.4
baz=96,SNR=16
MSTX Muleshoe 95.62 303 ⇑P **P** 06 05 54.8 +0.5
baz=96
Z27A Tatum 95.85 303 ⇑P **P** 06 05 55.8 +0.4
baz=96
626A Big Bend Ranch 95.88 299 ⇓P **P** 06 05 55.7 +0.1
baz=96,SNR=5.6
Y27A Causey 95.93 303 ⇓P **P** 06 05 55.8 +0.1
baz=96
526A Mary Lane Ranc 95.94 299 ⇑P **P** 06 05 56.5 +0.5
baz=96,SNR=7.4
426A McDonald Obser 96.01 300 ⇓P **P** 06 05 56.9 +0.6
baz=96,SNR=5.9
126A Clayton Basin, 96.39 302 ⇓P **P** 06 05 58.2 +0.4
baz=96
X26A CR and CF Fran 96.58 304 ⇑P **P** 06 05 59.4 +0.6
baz=97
GDL2 Guadalupe Moun 96.59 301 *e*P **P** 06 05 59.2 +0.4
V26A Tequesquite Ra 96.80 305 ⇓P **P** 06 06 00.1 +0.4
baz=97
425A Indio Mountain 96.84 300 ⇑P **P** 06 05 59.4 -0.6
baz=97,SNR=7.1
S26A Kim 96.90 307 ⇓P **P** 06 06 01.3 +1.2
baz=97
T26A Comanche Natio 96.91 306 ⇓P **P** 06 06 01.2 +1.0
baz=97
125A Gardner Draw, 96.92 302 ⇓P **P** 06 06 00.6 +0.4
baz=97
325A Bean Ranch, Si 96.94 300 ⇑P **P** 06 06 00.8 +0.4
baz=97
R26A Arlington 97.01 308 ⇓P Pdif 06 06 01.4 +0.8
baz=97
Z25A Roswell 97.08 302 ⇑P Pdif 06 06 01.5 +0.4
baz=97
P26A Davis Ranch, A 97.17 309 ⇓P Pdif 06 06 01.9 +0.5
baz=97
Q26A Hugo 97.18 308 ⇓P Pdif 06 06 02.5 +1.0
baz=97
Y25A Mesa, Roswell 97.18 303 ⇓P Pdif 06 06 01.9 +0.4
baz=97
BRVK Borovoye 97.19 37⇑ *e*P **P** **06 05 58.4 -2.4**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
W25A X Bar L Ranch, 97.23 304 ⇓P Pdif 06 06 02.4 +0.7
baz=97
O26A Horse Wrangler 97.27 310 ⇑P Pdif 06 06 02.7 +0.9
baz=97
U25A Circle Dot Ran 97.41 306 ⇑P Pdif 06 06 03.1 +0.5
baz=98
L26A Underwood Farm 97.43 311 ⇑P Pdif 06 06 02.8 +0.4
baz=98
V25A Rancho No Teng 97.47 305 ⇑P Pdif 06 06 03.0 +0.1
baz=98
224A Cornudas Mount 97.53 301 ⇓P Pdif 06 06 03.2 +0.1
baz=98
T25A Trinidad 97.55 306 ⇓P Pdif 06 06 03.8 +0.6
baz=98
124A Stringfield Ra 97.58 302 ⇑P Pdif 06 06 03.6 +0.1
baz=98
S25A Robets Cordova 97.66 307 ⇑P Pdif 06 06 04.2 +0.5
baz=98
Q25A Bedland, Calha 97.74 308 ⇓P Pdif 06 06 04.6 +0.5
baz=98
Y24A Capitan 97.79 303 ⇑P Pdif 06 06 04.9 +0.6
baz=98
V24A Rampart Ranch, 97.98 305 ⇓P Pdif 06 06 05.6 +0.4
baz=98
W24A Lazy 6 Ranch, 98.00 304 ⇓P Pdif 06 06 06.3 +1.1
baz=98
T24A Torres, Weston 98.04 306 ⇓P Pdif 06 06 06.4 +0.9
baz=98
U24A Moreno Valley 98.10 305 ⇓P Pdif 06 06 06.4 +0.6
baz=98
R24A Sanders Place, 98.28 307 ⇑P Pdif 06 06 07.0 +0.5
baz=98
Y23A Lovelace Mesa, 98.30 303 ⇑Pdiff Pdif 06 06 07.3 +0.7
baz=98
Z23A Rita Site, Whi 98.33 302 ⇓Pdiff Pdif 06 06 07.4 +0.7
baz=98
N24A Carr 98.55 310 ⇓Pdiff Pdif 06 06 08.2 +0.6
baz=99
KSH Kashi 98.56 51 *e*P **P** **06 06 06.3 -1.2**
KSH *e*pP **pP** **06 06 11.5 -1.4**
KSH *es*P **sP** **06 06 13.4 -1.4**
KSH *e*PP **PP** **06 10 07.6 -0.8**
KSH SKS **SKSac** **06 16 42.1 -3.1**
KSH S S 06 17 29.3 -6.9
KSH sS **ScS** **06 17 36.8 +0.5**
KSH pmax pmax
comp=Z,86nm,4.9s
KSH LR LR
comp=N,170nm,5.9s
KSH LR LR
comp=E,120nm,10.0s
KSH LR LR
comp=Z,150nm,5.9s
W23A Werner Place, 98.58 304 ⇑Pdiff Pdif 06 06 08.8 +0.9
baz=99
V23A Ortiz Mt. (NFS 98.71 305 ⇑Pdiff Pdif 06 06 09.4 +0.9
baz=99
ANMO Albuquerque 98.80 304 *e*P Pdif 06 06 09.1 +0.3
comp=Z,8.8nm,1.9s
Z22A Elephant Butte 98.93 302 ⇓Pdiff Pdif 06 06 09.9 +0.6
baz=99
FFC Flin Flon 98.95 324 *i* P Pdif 06 06 10.7 +2.0
Y22A Socorro 99.04 303 ⇓Pdiff **Pdif** **06 06 10.3 +0.4**
baz=99
V22A San Miguel Ran 99.32 305 ⇑Pdiff **Pdif** **06 06 11.8 +0.7**
baz=99
N23A Red Feather La 99.36 310 ⇑Pdiff **Pdif** **06 06 11.6 +0.4**
baz=99
T22A Edith 99.49 306 ⇑Pdiff **Pdif** **06 06 12.2 +0.3**
baz=100
Z21A St. Cloud Mine 99.52 302 ⇓Pdiff **Pdif** **06 06 12.6 +0.5**
baz=100
R22A Saguache, Gunn 99.56 307 ⇑Pdiff **Pdif** **06 06 12.5 +0.2**
baz=100
O22A Kremmling 99.70 309 ⇑Pdiff **Pdif** **06 06 13.1 +0.3**
baz=100
X21A Alamocita Cree 99.80 303 ⇑Pdiff **Pdif** **06 06 13.0 -0.3**
baz=100
U21A Nageezi 100.00 305 ⇓Pdiff **Pdif** **06 06 14.4 +0.3**
baz=100
120A U Bar Ranch, L 100.20 301 ⇓Pdiff **Pdif** **06 06 15.8 +0.8**
baz=100
Z20A Nine Sixteen R 100.26 302 ⇓Pdiff **Pdif** **06 06 16.2 +0.9**
baz=100
S21A Coal Bank Pass 100.29 306 ⇓Pdiff **Pdif** **06 06 16.0 +0.5**
baz=100
P21A Newcastle 100.29 308 ⇑Pdiff **Pdif** **06 06 16.2 +0.9**
baz=100
X20A Quemado 100.39 303 ⇓Pdiff **Pdif** **06 06 16.3 +0.4**
baz=100
O19A Miners Draw (B 101.67 309 ⇑Pdiff **Pdif** **06 06 21.2 -0.2**
baz=102
D16A Dana Ranch, Ca 104.07 316 ⇓Pdiff **Pdif** **06 06 32.6 +0.7**
baz=104
O15A The Old Anders 104.21 309 ⇓Pdiff **Pdif** **06 06 32.1 -0.6**
baz=104
C14A Swan Lake 105.60 316 ⇑Pdiff Pdif 06 10 53.0
baz=106
YKA Yellowknife Ar 106.02 332 Pdiff **Pdif** **06 06 38.5 -1.4**
comp=Z,0.3nm,0.9s,baz=90,slow=4.3,SNR=3.7
YKA Yellowknife Ar 106.02 332 Pdif **Pdif** **06 06 38.5 -1.4**
MTUM Tungsten Hills 108.78 305 *e*Pdif **Pdif** **06 06 52.2 -1.0**
KMI Kunming 120.00 68 PKP **PKPdf** **06 11 20.3 +0.3**
KMI PP **PP** **06 12 49.1 +4.5**
KMI SS SS 06 29 12.0 +0.8
KMI AMB AMB
comp=Z,52nm,4.3s
KMI LR LR
comp=N,180nm,22.5s
KMI LR LR
comp=E,160nm,26.8s
KMI LR LR
comp=Z,240nm,29.0s
SONM Songino Array 120.19 42 PKP **PKPdf** **06 11 18.9 -0.7**
comp=Z,1.0nm,1.0s,baz=241,slow=2.7,SNR=5.6
SONM Songino Array 120.19 42 PKP **PKPdf** **06 11 18.9 -0.7**
LZH Lanzhou 120.45 56 *e*PKP **PKPdf** **06 11 18.3 -2.2**
CD2 Chengdu 120.79 62 PKP **PKPdf** **06 11 20.8 -0.4**
CD2 PP **PP** **06 12 53.3 +3.7**
CD2 PKS **PKSdf** **06 14 56.1 -1.9**
CD2 SKS **SKSdf** **06 18 30.3 -2.6**
CD2 SKKS **SKKSac** **06 19 44.3 -4.7**
CD2 SS **SS** **06 29 21.3 +0.7**
CD2 AMB AMB
comp=Z,80nm,5.1s
CD2 LR LR
comp=E,240nm,4.2s
CD2 LR LR
comp=Z,150nm,5.3s
TBI Tubuai 122.97 231 *e*LR LR 06 07 45.7
comp=Z,147nm,22.2s
TBI Tubuai 122.97 231 *e*LR LR 06 39 25.0
comp=Z,154nm,23.5s
GYA Guiyang 123.53 67 *e*Pdif **Pdif** **06 07 58.9 +0.1**
GYA PKP **PKPdf** **06 11 26.0 -0.6**
GYA PP **PP** **06 13 12.8 +4.4**
GYA PKS **PKSdf** **06 15 01.4 -2.1**
GYA SKKS 06 20 02.5
GYA SS **SS** **06 29 55.8 -0.1**
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,120nm,20.5s
GYA LR LR
comp=E,110nm,21.3s
GYA LR LR
comp=Z,130nm,20.0s
HHC Hu-ho-hao-te 125.56 49 *e*PKP **PKPdf** **06 11 29.8 -0.3**
HHC PP **PP** **06 13 26.5 +5.0**
HHC PKS **PKSdf** **06 15 06.6 -0.2**
HHC SKS **SKSdf** **06 18 42.0 +0.4**
HHC SKKS **SKKSac** **06 20 18.6 -0.8**
HHC SS **SS** **06 30 23.0 +2.5**
HHC LR LR
comp=N,140nm,16.2s
HHC LR LR
comp=E,140nm,16.6s
HHC LR LR
comp=Z,71nm,20.2s
PPT2 Papeete2 126.18 237 *e*LR LR 06 08 10.4
comp=Z,135nm,21.8s
PPT2 Papeete2 126.18 237 *e*LR LR 06 40 48.1
comp=Z,181nm,26.0s
BJI Beijing 129.17 49 PKP **PKPdf** **06 11 34.3 -2.5**
BJI LR LR
comp=N,150nm,17.8s
BJI LR LR
comp=E,190nm,18.5s
BJI LR LR
comp=Z,150nm,40.5s
ASAR Alice Springs 132.32 140 PKhKP PKPpre 06 11 40.0
comp=Z,0.7nm,0.9s,baz=197,slow=1.9,SNR=3.2
ASAR PKP **PKiKP** **06 11 44.0 -0.5**
comp=Z,0.6nm,0.7s,baz=211,slow=2.2,SNR=6.6
ASAR Alice Springs 132.32 140 PKPpre PKPpre 06 11 40.0
ASAR PKP **PKiKP** **06 11 44.0 -0.5**
CN2 Changchun 134.01 40 *e*PKP **PKPdf** **06 11 43.0 -2.9**
WRA Warramunga Arr 135.24 136 PKP **PKPdf** **06 11 48.2 -0.8**
comp=Z,0.5nm,0.6s,baz=237,slow=2.3,SNR=6.9
WRA Warramunga Arr 135.24 136 PKP **PKPdf** **06 11 48.2 -0.8**
MDJ Mudanjiang 136.10 37 PKP **PKPdf** **06 11 48.6 -1.2**
DZM Mont Dzumac 145.18 182 *e*LR LR 06 05 19.5
comp=Z,110nm,21.6s
COEN Coen 145.36 140 *e*PKPbc **PKPdf** **06 12 07.8 +0.4**
MJAR Matsushiro Arr 146.14 41 PKPbc **PKPdf** **06 12 07.9 -0.2**
comp=Z,3.2nm,1.0s,baz=305,slow=1.8,SNR=5.0
MJAR Matsushiro Arr 146.14 41 PKPbc **PKPdf** **06 12 07.9 -0.2**

IDC 22 05:57:15.5±2.9, 23°.89S×175°.13W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/18, mbtmp3.9/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/33, Error ellipse: s-maj=218.3km s-min=32.1km az=162.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**24.69**	**80**	LR	LR	06 10 05.7	
	comp=Z,208nm,21.9s,baz=353,slow=31						
HNR	**Honiara**	**27.80**	**297**	LR	LR	06 11 51.0	
	comp=Z,82nm,19.8s,baz=217,slow=32						
ASAR	**Alice Springs**	**46.43**	**259**	P	P	06 05 44.5	+0.1
	0.7nm,0.7s,baz=99,slow=7.5,SNR=7.1						
WRA	**Warramunga Arr**	**46.85**	**265**	P	P	06 05 46.5	-1.2
	0.9nm,0.3s,baz=101,slow=8.2,SNR=71						
TXAR	**Lajitas Array**	**86.69**	**56**	P	P	06 10 01.1	-0.4
	0.5nm,1.1s,baz=198,slow=8.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**93.73**	**288**	P	P	06 10 36.0	+1.3
	1.2nm,0.5s,baz=128,slow=3.5,SNR=13						

ISCJB 22 06:02:35.3±1.4, 40°.41N±0°.04×25°.70E±0°.09, h9km±6km, Error ellipse: s-maj=11.3km s-min=6.2km az=2.2
ISK 22 06:02:35.9, 40°.40N×25°.77E, h16km, MD2.7
CSEM 22 06:02:36.2±0.4, 40°.45N×25°.73E, h15km, MD2.7, Error ellipse: s-maj=7.9km s-min=5.0km az=86.0
DDA 22 06:02:37.4, 40°.36N×25°.90E, h7km, MD2.8

ISC 22 06:02:35.4±1.8, 40°.43N±0°.04×25°.77E±0°.07, h7km±14km, n27, σ0°28/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.43**	**43**	*e*PG	**Pb**	**06 02 45.3**	**0.0**
ENEZ				*e*SG	**Sb**	**06 02 52.0**	**+0.1**
ENEZ	**Enez**	**0.43**	**43**	*e*Pg	**Pb**	**06 02 45.3**	**0.0**
ENEZ				*e*Sg	**Sb**	**06 02 52.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.54**	**93**	*e*PG	**Pb**	**06 02 47.1**	**-0.1**
GELI				*e*SG	**Sb**	**06 02 55.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.54**	**93**	*e*Pg	**Pb**	**06 02 47.1**	**-0.1**
GELI				*e*Sg	**Sb**	**06 02 55.2**	**0.0**
BOZC	**Bozcaada**	**0.62**	**159**	*i* P	**Pb**	**06 02 48.3**	**-0.3**
BOZC				*i* S	**Sg**	**06 02 55.8**	**+0.3**
LPK	**Lapseki**	**0.76**	**94**	*e*PG	**Pn**	**06 02 52.0**	**-0.5**
LPK				*e*SG	**Sb**	**06 03 01.7**	**+0.2**
LPK	**Lapseki**	**0.76**	**94**	*e*Pg	**Pn**	**06 02 52.0**	**-0.5**
LPK				*e*Sg	**Sb**	**06 03 01.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**76**	*e*PN	**Pb**	**06 02 56.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.11**	**76**	*e*Pn	**Pb**	**06 02 56.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.17**	**91**	*e*PN	**Pn**	**06 02 58.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.17**	**91**	*e*Pn	**Pn**	**06 02 58.1**	**0.0**
MFT	**Murefte**	**1.21**	**72**	*e*PN	**Pn**	**06 02 59.3**	**+0.5**
MFT	**Murefte**	**1.21**	**72**	*e*Pn	**Pn**	**06 02 59.3**	**+0.5**
AYVA	**Ayvalik**	**1.32**	**147**	*e*P	**Pg**	**06 03 01.0**	**+0.2**
AYVA				*i* S	**Sb**	**06 03 17.7**	**+0.1**
AYVA	**Ayvalik**	**1.32**	**147**	*e*P	**Pg**	**06 03 01.0**	**+0.2**
AYVA				*i* S	**Sb**	**06 03 17.7**	**+0.1**
TKR	**Tekirdag**	**1.46**	**67**	*e*PN	**Pb**	**06 03 02.4**	**-0.4**
TKR	**Tekirdag**	**1.46**	**67**	*e*Pn	**Pb**	**06 03 02.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.52**	**104**	*e*PN	**Pn**	**06 03 02.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.52**	**104**	*e*Pn	**Pn**	**06 03 02.9**	**0.0**
BALY	**Balya**	**1.58**	**115**	*i* P	**Pg**	**06 03 05.3**	**-0.3**
BALY				*i* S	**Sg**	**06 03 26.1**	**0.0**
BALY	**Balya**	**1.58**	**115**	*i* P	**Pg**	**06 03 05.3**	**-0.3**
BALY				*i* S	**Sg**	**06 03 26.1**	**0.0**
EDRB	**Edirne**	**1.60**	**27**	*e*PN	**Pn**	**06 03 03.9**	**-0.2**
EDRB	**Edirne**	**1.60**	**27**	*e*Pn	**Pn**	**06 03 03.9**	**-0.2**
EDC	**Edincik**	**1.60**	**92**	*e*PN	**Pn**	**06 03 04.6**	**+0.5**
EDC	**Edincik**	**1.60**	**92**	*e*Pn	**Pn**	**06 03 04.6**	**+0.5**
BALB	**Balikesir**	**1.80**	**115**	*e*PN	**Pn**	**06 03 06.8**	**0.0**
BALB	**Balikesir**	**1.80**	**115**	*e*Pn	**Pn**	**06 03 06.8**	**0.0**

MOS 22 06:05:12.5±1.7, 52°.49N×159°.53E, h53km, mb4.1/4, Error ellipse: s-maj=20.1km s-min=14.6km az=98.6
ISCJB 22 06:05:14.4±0.5, 52°.58N±0°.04×159°.60E±0°.06, h59km±4km, mb3.6/12, MS3.1/1, Error ellipse: s-maj=7.5km s-min=4.1km az=44.7
KRSC 22 06:05:15.6±1.1, 52°.64N×159°.65E, h34km±23km, ML4.0
IDC 22 06:05:17.9±1.8, 52°.66N×159°.31E, h76km±13km, mb3.3/12, mb1 3.6/12, mb1mx3.4/27, mbtmp3.3/12, MS3.2/1, Ms1 3.2/1, ms1mx2.2/37, Error ellipse: s-maj=24.2km s-min=18.9km az=169.0

ISC 22 06:05:13.2±1.3, 52°.47N±0°.05×159°.72E±0°.04, h41km±12km, n53, σ1°66/77, mb3.7/12, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.66**	**16**	*i* P	**Pn**	**06 05 26.2**	**+0.1**
SPN				*i* S	**Sn**	**06 05 34.0**	**-1.3**
RUS	**Russkaya**	**0.74**	**268**	*i* P	**Pn**	**06 05 28.2**	**+1.0**
RUS				*i* S	**Sn**	**06 05 37.6**	**+0.4**
NLC	**Nalytchevo**	**0.74**	**342**	*i* P	**Pn**	**06 05 27.1**	**-0.1**
NLC				*i* S	**Sn**	**06 05 35.6**	**-1.6**
PET	**Petropavlovsk**	**0.85**	**311**⇓	*i*PN	**Pn**	**06 05 28.9**	**+0.2**
PET				*e*S	**Sn**	**06 05 39.4**	**-0.6**
PET				pmax	pmax		
	comp=Z,1μm,0.3s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.3s						
PET	**Petropavlovsk**	**0.85**	**311**	*i* P	**Pn**	**06 05 28.9**	**+0.2**
PET				*i* S	**Sn**	**06 05 38.4**	**-1.6**
UGLR	**Uglovaya**	**0.92**	**324**	*i* P	**Pn**	**06 05 30.2**	**+0.4**
UGLR				*i* S	**Sn**	**06 05 40.9**	**-0.9**
MTVR	**Mutnovka**	**0.94**	**271**	*i* P	**Pn**	**06 05 31.2**	**+1.1**
MTVR				*i* S	**Sn**	**06 05 42.5**	**+0.2**
SDLR	**Sedlovina**	**0.95**	**328**	*i* P	**Pn**	**06 05 30.3**	**0.0**
SDLR				*i* S	**Sn**	**06 05 40.9**	**-1.8**
SMAR	**Somma**	**0.97**	**325**	*i* P	**Pn**	**06 05 30.6**	**0.0**
SMAR				*e*S	**Sn**	**06 05 41.1**	**-2.1**
AVH	**Avacha**	**0.99**	**324**	*i* P	**Pn**	**06 05 31.2**	**+0.4**
AVH				*i* S	**Sn**	**06 05 42.3**	**-1.3**
GRL	**Gorelyy**	**1.01**	**275**	*i* P	**Pn**	**06 05 32.7**	**+1.7**
GRL				*i* S	**Sn**	**06 05 45.4**	**+1.4**
KRER	**Koryakskii**	**1.02**	**325**	*i* P	**Pn**	**06 05 31.6**	**+0.3**
KRER				*e*S	**Sn**	**06 05 43.6**	**-0.9**
KOK	**Koryaka**	**1.05**	**322**	*i* P	**Pn**	**06 05 32.0**	**+0.4**
KOK				*e*S	**Sn**	**06 05 44.2**	**-0.9**
PETK	**Petropavlovsk-**	**1.38**	**298**	P	**Pn**	**06 05 36.9**	**+0.9**
	comp=N,118nm,0.3s,baz=109,slow=18,SNR=1437						
PETK				S	**Sn**	**06 05 52.8**	**-0.3**
	comp=N,77nm,0.3s,baz=109,slow=20,SNR=15						
PETK	**Petropavlovsk-**	**1.38**	**298**	PN	**Pn**	**06 05 36.9**	**+0.9**
PETK				S	**Sn**	**06 05 52.8**	**-0.3**
PETK				pmax	pmax		
	comp=Z,118nm,0.3s						
PETK				smax	smax		
	comp=N,77nm,0.3s						
KII	**Karymskiy**	**1.58**	**354**	*e*P	**Pn**	**06 05 39.4**	**+0.6**
KII				*i* S	**Sn**	**06 05 56.6**	**-1.4**
APC	**Apacha**	**1.62**	**287**	*e*P	**Pn**	**06 05 41.2**	**+1.9**
APC				*i* S	**Sn**	**06 06 00.2**	**+1.3**
GNL	**Ganaly**	**1.63**	**320**	*i* P	**Pn**	**06 05 40.7**	**+1.2**
GNL				*i* S	**Sn**	**06 05 58.8**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.82**	**265**	*e*P	Pn	06 05 45.2	+3.1
TUMR	**Tumrok**	**2.83**	**5**	P	**Pn**	**06 05 58.1**	**+2.1**
TUMR				*i* S	**Sn**	**06 06 29.1**	**+0.2**
SKR	**Severo-Kuril's**	**2.87**	**233**	*e*PN	Pn	06 05 53.9	-2.5
SKR				*e*S	**Sn**	**06 06 26.0**	**-3.7**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax	smax		
	comp=N,230nm,0.5s						
SKR				smax	smax		
	comp=E,150nm,0.5s						
SKR				smax	smax		
	comp=Z,80nm,0.5s						
KMNR	**Kamenistaya**	**3.31**	**5**	P	**Pn**	**06 06 04.8**	**+2.3**
BZMR	**Bezymyannaya**	**3.50**	**7**	P	**Pn**	**06 06 07.6**	**+2.4**
ESO	**Esso**	**3.51**	**351**	*e*P	**Pn**	**06 06 08.8**	**+1.5**
KPT	**Kopyto**	**3.52**	**5**	P	**Pn**	**06 06 07.7**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.52**	**9**	P	**Pn**	**06 06 08.4**	**+2.9**
BZWR	**Bezymyannyi-We**	**3.53**	**7**	P	**Pn**	**06 06 08.0**	**+2.3**
KOZ	**Kozyrevsk**	**3.60**	**1**	P	**Pn**	**06 06 08.5**	**+2.1**
ZLN	**Zelenaya**	**3.61**	**10**	P	**Pn**	**06 06 09.5**	**+2.8**
ZLN				*i* S	**Sn**	**06 06 48.6**	**+0.5**
LGNR	**Loginova**	**3.67**	**9**	P	**Pn**	**06 06 10.4**	**+2.8**
LGNR				*i* S	**Sn**	**06 06 50.4**	**+0.7**
CIRR	**Tsirk**	**3.70**	**9**	P	**Pn**	**06 06 10.8**	**+2.8**
CIRR				*i* S	**Sn**	**06 06 51.3**	**+0.9**
KRSR	**Krestovskiy**	**3.79**	**7**	P	**Pn**	**06 06 11.5**	**+2.4**
KRSR				*i* S	**Sn**	**06 06 52.5**	**+0.1**
SRDR	**Sredinnyy**	**3.85**	**0**	P	**Pn**	**06 06 11.9**	**+1.9**
KLY	**Klyuchi**	**3.89**	**8**	P	**Pn**	**06 06 13.3**	**+2.9**
KLY				*i* S	**Sn**	**06 06 55.4**	**+0.6**
KBTR	**Krutoberegovo**	**4.16**	**25**	P	**Pn**	**06 06 15.3**	**+1.1**
KBTR				*i* S	**Sn**	**06 06 58.6**	**-2.9**
BKI	**Bering**	**4.61**	**51**	P	**Pn**	**06 06 20.8**	**+0.6**
BKI				*i* S	**Sn**	**06 07 08.2**	**-4.2**
FX1	**Attu Island--F**	**8.19**	**82**	P	**Pn**	**06 07 11.8**	**+2.4**
	comp=Z,3.3nm,0.3s,baz=273,slow=18,SNR=3.8						
MJAR	**Matsushiro Arr**	**21.98**	**232**	P	**P**	**06 10 04.7**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=311,slow=13,SNR=4.2						
GUMO	**Guam**	**40.56**	**203**	LR	LR	06 27 27.6	
	comp=Z,31nm,21.3s,baz=109,slow=33						
ZALV	**Zalesovo Beam**	**42.92**	**303**	P	**P**	**06 13 06.0**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=47,slow=28,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.92**	**303**	P	**P**	**06 13 06.0**	**-1.5**
YKA	**Yellowknife Ar**	**43.78**	**42**	P	**P**	**06 13 14.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=299,slow=7.9,SNR=6.9						
MKAR	**Makanchi Array**	**48.22**	**296**	P	**P**	**06 13 47.8**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=57,slow=6.6,SNR=9.2						
MKAR	**Makanchi Array**	**48.22**	**296**	P	**P**	**06 13 47.8**	**-1.7**
BVAR	**Borovoye Array**	**50.60**	**309**	P	**P**	**06 14 05.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=55,slow=8.7,SNR=2.8						
BVAR	**Borovoye Array**	**50.60**	**309**	P	**P**	**06 14 05.4**	**-2.2**
ARCES	**ARCESS Array B**	**53.81**	**342**	P	**P**	**06 14 30.2**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=24,slow=24,SNR=1.9						
PDAR	**Pinedale Array**	**58.03**	**60**	P	**P**	**06 15 04.0**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=357,slow=2.6,SNR=3.8						
FINES	**FINESS Array B**	**60.60**	**336**	P	**P**	**06 15 18.2**	**-1.0**
	comp=Z,2.1nm,1.0s,baz=35,slow=4.7,SNR=5.8						
NOA	**NORSAR Array B**	**64.08**	**344**	P	**P**	**06 15 41.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=23,slow=6.7,SNR=5.0						
TXAR	**Lajitas Array**	**71.09**	**66**	P	**P**	**06 16 29.1**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=295,slow=4.7,SNR=13						
GERES	**GERESS Array B**	**75.00**	**338**	P	**P**	**06 16 49.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=67,slow=7.6,SNR=2.5						
WRA	**Warramunga Arr**	**75.42**	**205**	P	**P**	**06 16 53.7**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=19,slow=6.2,SNR=1.6						

SZGRF 22 06:06:30.6, 14°.42S×14°.74W, h33km, mb5.0, Southern Mid-Atlantic Ridge
IDC 22 06:06:34.5±0.7, 12°.88S×14°.54W, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.3/27, mbtmp4.2/23, MS4.5/27, Ms1 4.5/27, ms1mx4.5/29, Error ellipse: s-maj=25.0km s-min=13.4km az=148.0
ISCJB 22 06:06:35.0±0.3, 12°.80S±0°.06×14°.55W±0°.06, h16km, mb4.7/66, MS4.6/34, Error ellipse: s-maj=10.2km s-min=6.1km az=39.8
NEIC 22 06:06:36.0±0.2, 12°.83S×14°.55W, h10km, mb4.9/20, Error ellipse: s-maj=7.8km s-min=4.6km az=135.0
GCMT 22 06:06:40.0±0.2, 12°.86S×14°.63W, h12km, MW5.3, Moment Tensor Solution. s60,c78; s90,c173; Moment tensor: Scale 10^17 Nm; Mrr-1.01±.02; Mθθ0.07±.02; Mφφ0.94±.02; Mrθ0.29±.06; Mθφ-0.23±.01; Mφr0.16±.05; Best double couple: M0 1.10000×10^17 NP1:ϕs331.00000°, δ45.00000°, λ-113.00000°. NP2:ϕs182.00000°,

δ50.00000°,λ-69.00000°. Principal axes: T 1.0000, Plg3.0000°, Azm257.0000°; N 0.1000, Plg16.0000°, Azm348.0000°; P -1.1000, Plg74.0000°, Azm158.0000°; Data Used: II IU IC G.

ISC 22 06:06:37.0±0.4, 12.86S±0.08 × 14.57W±0.07, h16km, n182, σ1§16/176, mb4.9/67, MS4.6/34, 5C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.20**	**27**	*eP*	**P**	**06 11 23.8**	**+1.7**
	166nm,1.5s,baz=214						
LIC				*eR*			
	2μm,17.5s						
LIC	**Lamto**	**21.20**	**27**	*eP*	**P**	**06 11 23.8**	**+1.7**
	166nm,1.5s						
DBIC	**Dimbokro**	**21.67**	**27**	P	**P**	**06 11 27.5**	**+0.4**
	10nm,1.1s,baz=191,slow=11,SNR=5.7						
DBIC				LR	LR	06 17 55.4	
	comp=Z,2μm,18.9s,baz=186,slow=31						
DBIC	**Dimbokro**	**21.67**	**27**	*eP*	**P**	**06 11 27.6**	**+0.4**
	30nm,1.3s						
RCBR	**Riachuelo**	**22.17**	**286**	P	**P**	**06 11 32.5**	**-0.2**
	7.9nm,1.0s,baz=108,slow=10.0,SNR=4.0						
RCBR				LR	LR	06 17 52.0	
	comp=Z,2μm,21.0s,baz=99,slow=30						
RCBR	**Riachuelo**	**22.17**	**286**	P	**P**	**06 11 32.5**	**-0.2**
BBTS	**Babate**	**27.41**	**356**	LR	LR	06 21 35.3	
	comp=Z,649nm,18.8s,baz=183,slow=33						
TOA0	**Torodi Ar. Sit**	**30.45**	**33**	*eP*	**P**	**06 12 48.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**30.45**	**33**	P	**P**	**06 12 48.2**	**-1.0**
	1.8nm,0.8s,baz=217,slow=8.7,SNR=10.0						
TORD				LR	LR	06 23 02.7	
	comp=Z,2μm,21.1s,baz=215,slow=32						
TORD	**Torodi Ar. Bea**	**30.45**	**33**	P	**P**	**06 12 48.2**	**-1.0**
TSUM	**Tsumeb**	**31.50**	**106**	LR	LR	06 22 59.1	
	comp=Z,1μm,20.9s,baz=323,slow=31						
BDFB	**Brasilia**	**32.52**	**261**	P	**P**	**06 13 06.8**	**-0.8**
	7.8nm,1.0s,baz=71,slow=8.2,SNR=12						
BDFB				LR	LR	06 23 51.2	
	comp=Z,1μm,19.3s,baz=70,slow=32						
BDFB	**Brasilia**	**32.52**	**261**	P	**P**	**06 13 06.8**	**-0.8**
SPB	**Sao Paulo**	**32.91**	**246**	*eP*	**P**	**06 13 10.5**	**-0.4**
	2.6nm,0.7s						
BOSA	**Boshof**	**40.19**	**119**	LR	LR	06 28 07.6	
	comp=Z,1μm,19.3s,baz=284,slow=32						
BOSA	**Boshof**	**40.19**	**119**	*eP*	**P**	**06 14 14.7**	**+1.6**
	15nm,1.2s						
TAM	**Tamanrasset**	**40.53**	**29**	*eP*	**P**	**06 14 15.3**	**-0.5**
	34nm,2.3s						
LSZ	**Lusaka**	**41.49**	**99**	P	**P**	**06 14 24.3**	**+0.3**
	3.2nm,0.9s,baz=122,slow=9.1,SNR=3.1						
LSZ	**Lusaka**	**41.49**	**99**	*eP*	**P**	**06 14 23.8**	**-0.1**
	20nm,1.5s						
SIV	**San Ignacio**	**45.08**	**260**	P	**P**	**06 14 52.9**	**+0.1**
	2.9nm,0.9s,baz=79,slow=7.9,SNR=8.8						
SIV	**San Ignacio**	**45.08**	**260**	P	**P**	**06 14 52.9**	**+0.1**
MDT	**Midelt**	**46.40**	**12**	LR	LR	06 34 18.0	
	comp=Z,483nm,18.3s,baz=19,slow=36						
SAML	**Samuel**	**47.84**	**270**	*eP*	**P**	**06 15 14.9**	**+0.3**
	36nm,1.8s						
TRQA	**Tornquist**	**48.95**	**230**	*eP*	**P**	**06 15 22.8**	**0.0**
	24nm,1.3s						
EVOP	**Sao Brissos**	**51.47**	**6**	*eP*	**P**	**06 15 40.4**	**-1.3**
	84nm,1.7s						
EVO	**Evora**	**51.49**	**7**	*eP*	**P**	**06 15 40.4**	**-1.4**
	84nm,1.7s						
EVO				*eR*			
	260nm,20.0s						
LPAZ	**La Paz**	**51.84**	**259**	P	**P**	**06 15 45.2**	**-0.4**
	2.2nm,0.9s,baz=86,slow=8.7,SNR=7.8						
LPAZ				LR	LR	06 35 55.5	
	comp=Z,492nm,21.8s,baz=92,slow=34						
LPAZ	**La Paz**	**51.84**	**259**	P	**P**	**06 15 45.2**	**-0.4**
CFAA	**Coronel Fontan**	**52.53**	**240**	P	**P**	**06 15 49.6**	**-0.4**
	0.5nm,1.0s,baz=81,slow=5.4,SNR=4.4						
CFAA	**Coronel Fontan**	**52.53**	**240**	P	**P**	**06 15 49.6**	**-0.4**
ESDC	**Sonseca Array**	**53.19**	**10**	P	**P**	**06 15 55.8**	**+1.3**
	0.1nm,0.4s,baz=144,slow=38,SNR=2.1						
ESDC				LR	LR	06 38 53.4	
	comp=Z,168nm,19.6s,baz=320,slow=36						
ESDC	**Sonseca Array**	**53.19**	**10**	P	**P**	**06 15 55.8**	**+1.3**
KEST	**Kesra**	**53.36**	**24**	P	**P**	**06 15 57.2**	**+1.3**
	5.7nm,1.0s,baz=184,slow=7.1,SNR=5.9						
KEST				LR	LR	06 37 47.7	
	comp=Z,302nm,19.5s,baz=174,slow=35						
KEST	**Kesra**	**53.36**	**24**	*eP*	**P**	**06 15 56.8**	**+0.9**
ARE	**Arequipa**	**55.04**	**259**	*eP*	**P**	**06 16 09.0**	**+0.2**
PLCA	**Paso Flores**	**56.06**	**229**	LR	LR	06 36 55.5	
	comp=Z,670nm,19.9s,baz=81,slow=32						
ETSF	**Etsaut**	**56.95**	**12**	*eP*	**P**	**06 16 21.5**	**-0.2**
	35nm,1.4s						
ETSF	**Etsaut**	**56.95**	**12**	*eP*	**P**	**06 16 21.5**	**-0.2**
	35nm,1.4s						
SJPF	**Ste Jean**	**57.02**	**12**	*eP*	**P**	**06 16 22.2**	**+0.1**
	91nm,1.5s						
SJPF	**Ste Jean**	**57.02**	**12**	*eP*	**P**	**06 16 22.2**	**+0.1**
	91nm,1.5s						
EPF	**Esparros**	**57.27**	**13**	*eP*	**P**	**06 16 23.6**	**-0.3**
	36nm,1.5s						
EPF	**Esparros**	**57.27**	**13**	*eP*	**P**	**06 16 23.6**	**-0.3**
	36nm,1.5s						
MTLF	**Montolieu**	**58.00**	**14**	*eP*	**P**	**06 16 27.8**	**-1.1**
	65nm,1.7s						
MTLF	**Montolieu**	**58.00**	**14**	*eP*	**P**	**06 16 27.8**	**-1.1**
	65nm,1.7s						
VNA2	**Neumayer--Watz**	**58.20**	**177**	*eP*	**P**	**06 16 30.0**	**0.0**
	baz=3.7,slow=8.6						
VNA3	**Neumayer Olymp**	**58.43**	**178**	*eP*	**P**	**06 16 31.8**	**+0.1**
LASF	**Ste Croix**	**59.10**	**15**	*eP*	**P**	**06 16 35.9**	**-0.7**
LASF	**Ste Croix**	**59.10**	**15**	*eP*	**P**	**06 16 35.9**	**-0.7**
LFF	**La Frestale**	**59.18**	**13**	*eP*	**P**	**06 16 36.6**	**-0.5**
LFF	**La Frestale**	**59.18**	**13**	*eP*	**P**	**06 16 36.6**	**-0.5**
SNAA	**Sanae**	**59.21**	**176**	*eP*	**P**	**06 16 36.5**	**-0.7**
	8.8nm,1.1s						
CAF	**Calviac**	**59.46**	**14**	*eP*	**P**	**06 16 38.4**	**-0.7**
CAF	**Calviac**	**59.46**	**14**	*eP*	**P**	**06 16 38.4**	**-0.7**
SJG	**San Juan**	**59.47**	**300**	*eP*	**P**	**06 16 39.6**	**-0.1**
	16nm,1.1s						
RJF	**Les Rejaudoux**	**59.69**	**13**	*eP*	**P**	**06 16 40.0**	**-0.7**
	35nm,1.3s						
RJF				*eR*			
	594nm,19.5s						
RJF	**Les Rejaudoux**	**59.69**	**13**	*eP*	**P**	**06 16 40.0**	**-0.7**
	35nm,1.3s						
VIVF	**Saint-Julien-l**	**60.04**	**16**	*eP*	**P**	**06 16 42.8**	**-0.3**
VIVF	**Saint-Julien-l**	**60.04**	**16**	*eP*	**P**	**06 16 42.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**60.42**	**17**	*eP*	**P**	**06 16 45.8**	**0.0**
	24nm,1.2s						
ORIF				*eR*			
	970nm,20.8s						
ORIF	**Oris-en-Rattie**	**60.42**	**17**	*eP*	**P**	**06 16 45.8**	**0.0**
	24nm,1.2s						
MBDF	**Montbardon**	**60.50**	**17**	*eP*	**P**	**06 16 46.5**	**+0.1**
	55nm,1.5s						
MBDF	**Montbardon**	**60.50**	**17**	*eP*	**P**	**06 16 46.5**	**+0.1**
	55nm,1.5s						
MFF	**Saint Martin d**	**60.59**	**11**	*eP*	**P**	**06 16 46.1**	**-0.7**
	33nm,1.3s						
MFF	**Saint Martin d**	**60.59**	**11**	*eP*	**P**	**06 16 46.1**	**-0.7**
	33nm,1.3s						
TCF	**Toulx Ste Croi**	**60.78**	**13**	*eP*	**P**	**06 16 47.8**	**-0.4**
	29nm,1.1s						
TCF	**Toulx Ste Croi**	**60.78**	**13**	*eP*	**P**	**06 16 47.8**	**-0.4**
	29nm,1.1s						
BGF	**Bois d'Agland**	**61.18**	**14**	*eP*	**P**	**06 16 50.4**	**-0.4**
BGF	**Bois d'Agland**	**61.18**	**14**	*eP*	**P**	**06 16 50.4**	**-0.4**
LPG	**La Plagne**	**61.20**	**17**	*eP*	**P**	**06 16 51.5**	**+0.2**
	60nm,1.7s						
LPG	**La Plagne**	**61.20**	**17**	*eP*	**P**	**06 16 51.5**	**+0.2**
	60nm,1.7s						
LPL	**La Plagne**	**61.21**	**17**	*eP*	**P**	**06 16 51.4**	**+0.1**
	20nm,1.0s						
LPL	**La Plagne**	**61.21**	**17**	*eP*	**P**	**06 16 51.4**	**+0.1**
	20nm,1.0s						
SMF	**Signal de Mont**	**61.49**	**14**	*eP*	**P**	**06 16 52.4**	**-0.6**
SMF	**Signal de Mont**	**61.49**	**14**	*eP*	**P**	**06 16 52.4**	**-0.6**
AVF	**Avril sur Loir**	**61.52**	**14**	*eP*	**P**	**06 16 52.5**	**-0.6**
AVF	**Avril sur Loir**	**61.52**	**14**	*eP*	**P**	**06 16 52.5**	**-0.6**
ROSF	**Rostrenen**	**61.74**	**9**	*eP*	**P**	**06 16 53.9**	**-0.7**
	107nm,1.4s						
ROSF	**Rostrenen**	**61.74**	**9**	*eP*	**P**	**06 16 53.9**	**-0.7**
	107nm,1.4s						
SSF	**Saint Saulge**	**61.80**	**14**	*eP*	**P**	**06 16 54.5**	**-0.6**
	24nm,1.2s						
SSF	**Saint Saulge**	**61.80**	**14**	*eP*	**P**	**06 16 54.5**	**-0.6**
	24nm,1.2s						
ROSC	**El Rosal**	**61.92**	**283**	P	**P**	**06 16 58.1**	**+1.1**
	2.8nm,0.6s,baz=288,slow=24,SNR=3.0						
ROSC				LR	LR	06 43 34.7	
	comp=Z,800nm,18.9s,baz=30,slow=36						
ROSC	**El Rosal**	**61.92**	**283**	P	**P**	**06 16 58.1**	**+1.1**
CABF	**La Chapelle**	**62.04**	**16**	*eP*	**P**	**06 16 56.3**	**-0.4**
	52nm,1.2s						
CABF	**La Chapelle**	**62.04**	**16**	*eP*	**P**	**06 16 56.3**	**-0.4**
	52nm,1.2s						
LOR	**Lormes**	**62.08**	**14**	*eP*	**P**	**06 16 56.1**	**-0.8**
LOR				*eR*			
	572nm,20.8s						
LOR	**Lormes**	**62.08**	**14**	*eP*	**P**	**06 16 56.1**	**-0.8**
GRR	**Gorron**	**62.18**	**10**	*eP*	**P**	**06 16 56.9**	**-0.6**
	68nm,1.5s						
GRR	**Gorron**	**62.18**	**10**	*eP*	**P**	**06 16 56.9**	**-0.6**
	68nm,1.5s						
LDF	**La Druitiere**	**62.51**	**11**	*eP*	**P**	**06 16 59.0**	**-0.7**
	33nm,1.2s						
LDF	**La Druitiere**	**62.51**	**11**	*eP*	**P**	**06 16 59.0**	**-0.7**
	33nm,1.3s						
HINF	**Hinteralfeld**	**63.35**	**16**	*eP*	**P**	**06 17 04.0**	**-1.4**
HINF	**Hinteralfeld**	**63.35**	**16**	*eP*	**P**	**06 17 04.0**	**-1.4**
HAU	**Haudompre**	**63.39**	**16**	*eP*	**P**	**06 17 04.7**	**-1.0**
	34nm,1.3s						
HAU				*eR*			
	495nm,21.0s						
HAU	**Haudompre**	**63.39**	**16**	*eP*	**P**	**06 17 04.7**	**-1.0**
	34nm,1.3s						
MEZF	**Maizieres J'vi**	**63.52**	**14**	*eP*	**P**	**06 17 05.9**	**-0.6**
MEZF	**Maizieres J'vi**	**63.52**	**14**	*eP*	**P**	**06 17 05.9**	**-0.6**
CDF	**Champ du Feu**	**64.01**	**16**	*eP*	**P**	**06 17 08.5**	**-1.3**
CDF	**Champ du Feu**	**64.01**	**16**	*eP*	**P**	**06 17 08.5**	**-1.3**
BFO	**Black Forest**	**64.22**	**17**	P	**P**	**06 17 10.7**	**-0.5**
	16nm,1.3s						
OTAV	**Otavalo**	**64.64**	**276**	*eP*	**P**	**06 17 14.9**	**-0.2**
	14nm,1.3s						
BAIF	**Baives**	**64.78**	**13**	*eP*	**P**	**06 17 13.7**	**-1.0**
	61nm,1.5s						
BAIF	**Baives**	**64.78**	**13**	*eP*	**P**	**06 17 13.7**	**-1.0**
	61nm,1.5s						
GIVF	**Givet**	**64.96**	**14**	*eP*	**P**	**06 17 14.8**	**-1.1**
	16nm,0.9s						
GIVF	**Givet**	**64.96**	**14**	*eP*	**P**	**06 17 14.8**	**-1.1**
	16nm,0.9s						
SYO	**Syowa Base**	**65.67**	**161⇑**	*eP*	**P**	**06 17 19.0**	**-1.2**
SYO	**Syowa Base**	**65.67**	**161⇑**	*epP*	**P**	**06 17 22.0**	**+1.8**
GRF	**Grafenberg Arr**	**66.29**	**18**	*eP*	**P**	**06 17 27.4**	**+2.9**
	comp=Z,14nm,1.3s						
GERES	**GERESS Array B**	**66.33**	**20**	P	**P**	**06 17 24.8**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=328,slow=9.6,SNR=4.5						
GERES				LR	LR	06 45 41.2	
	comp=Z,487nm,20.8s,baz=212,slow=35						
GERES	**GERESS Array B**	**66.33**	**20**	P	**P**	**06 17 24.8**	**-0.1**
KHC	**Kasperske Hory**	**66.54**	**20**	*eP*	**P**	**06 17 27.1**	**+0.9**
KHC				*ex*	x	06 17 35.5	
KHC				AMS	AMS	06 46 40.0	
	comp=Z,600nm,18.4s						
BZS	**Buzias**	**66.74**	**27⇑**	*iP*	**P**	**06 17 30.3**	**+2.9**
TREC	**Trest**	**67.33**	**21**	AMS	AMS	06 45 10.0	
	comp=Z,500nm,21.5s						
PRU	**Pruhonice**	**67.60**	**20**	*eP*	P	06 17 41.4	+8.6
PRU				AMS	AMS	06 44 40.0	
	comp=Z,400nm,18.4s						
VOIR		**68.17**	**29⇑**	*iP*	P	06 17 29.7	-6.9
BRG	**Berggiesshubel**	**68.17**	**19**	*e*(P)	**P**	**06 17 39.1**	**+2.7**
	comp=Z,12nm,1.5s						
CLL	**Collm**	**68.25**	**18**	LmV		06 18 00.0	
	comp=Z,200nm,20.8s						
MORC	**Moravsky Berou**	**68.46**	**22⇑**	*iP*	**P**	**06 17 39.6**	**+1.3**
DPC	**Dobruska-Polom**	**68.51**	**21**	*eP*	**P**	**06 17 39.5**	**+0.9**
DPC				AMS	AMS	06 46 50.0	
	comp=Z,500nm,19.6s						
MLR	**Muntele Rosu**	**68.63**	**29**	P	**P**	**06 17 39.1**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=143,slow=6.7,SNR=3.0						
MLR	**Muntele Rosu**	**68.63**	**29**	P	**P**	**06 17 39.1**	**-0.4**
MLR	**Muntele Rosu**	**68.63**	**29⇓**	*iP*	**P**	**06 17 36.4**	**-3.2**
OKC	**Ostrava-Krasne**	**68.73**	**22**	AMS	AMS	06 49 00.0	
	comp=Z,400nm,18.2s						
BRTR	**Keskin Array B**	**68.87**	**38**	P	**P**	**06 17 41.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=197,slow=6.4,SNR=6.8						
BRTR				LR	LR	06 47 24.5	
	comp=Z,155nm,21.7s,baz=224,slow=36						
BRTR	**Keskin Array B**	**68.87**	**38**	P	**P**	**06 17 41.4**	**+0.2**
MAW	**Mawson**	**73.41**	**157**	LR	LR	06 44 11.1	
	comp=Z,511nm,19.2s,baz=295,slow=31						
AK02	**Malin Array Si**	**73.88**	**27**	*eP*	**P**	**06 18 09.2**	**-1.8**
AK01	**Malin Array Si**	**73.91**	**27**	*eP*	**P**	**06 18 10.8**	**-0.4**
KIEV	**Kiev**	**73.91**	**27**	*eP*	**P**	**06 18 10.2**	**-1.0**
	comp=Z,14nm,1.1s						
AKASG	**Malin Array Be**	**73.92**	**27**	P	**P**	**06 18 10.7**	**-0.5**
	comp=Z,4.4nm,0.9s,baz=226,slow=5.9,SNR=9.4						
AKASG				LR	LR	06 52 11.4	
	comp=Z,269nm,19.0s,baz=225,slow=37						
AKASG	**Malin Array Be**	**73.92**	**27**	P	**P**	**06 18 10.7**	**-0.5**
NB2	**NORSAR Subarra**	**76.45**	**13**	P	**P**	**06 18 25.9**	**+0.2**
	comp=Z,5.7nm,1.1s,baz=204,slow=6.2						
NOA	**NORSAR Array B**	**76.45**	**13**	P	**P**	**06 18 24.9**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=203,slow=6.3,SNR=5.2						
NOA				LR	LR	06 53 49.6	
	comp=Z,149nm,18.8s,baz=180,slow=37						
NOA	**NORSAR Array B**	**76.45**	**13**	P	**P**	**06 18 24.9**	**-0.8**
KIV	**Kislovodsk**	**76.82**	**39**	*eP*	**P**	**06 18 28.5**	**+0.2**
	comp=Z,3.5nm,0.3s						
KBZ	**Khabaz**	**76.82**	**39**	P	**P**	**06 18 27.7**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=129,slow=3.1,SNR=4.6						
KBZ				LR	LR	06 54 25.9	
	comp=Z,110nm,20.0s,baz=243,slow=37						
KBZ	**Khabaz**	**76.82**	**39**	P	**P**	**06 18 27.7**	**-0.4**
TGUH	**Tegucigalpa,Un**	**76.82**	**288**	*eP*	P	06 18 23.2	-5.5
	comp=Z,27nm,1.2s						
WSAR	**Wadi Sarin**	**80.06**	**63**	LR	LR	06 55 34.2	
	comp=Z,586nm,18.6s,baz=222,slow=37						
SCHQ	**Schefferville**	**80.51**	**332**	P	**P**	**06 18 48.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=95,slow=11,SNR=3.1						
SCHQ				LR	LR	06 48 20.3	
	comp=Z,162nm,18.9s,baz=54,slow=31						
SCHQ	**Schefferville**	**80.51**	**332**	P	**P**	**06 18 48.5**	**+0.3**
FINES	**FINESS Array B**	**80.70**	**18**	P	**P**	**06 18 48.5**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=222,slow=2.6,SNR=7.0						
FINES				LR	LR	06 56 26.9	
	comp=Z,221nm,18.4s,baz=326,slow=37						
FINES	**FINESS Array B**	**80.70**	**18**	P	**P**	**06 18 48.5**	**-0.5**
ALLY	**Alegheny Colle**	**81.04**	**316**	*eP*	**P**	**06 18 52.8**	**+1.5**
	comp=Z,31nm,1.3s						
KAF	**Kangasniemi**	**81.28**	**18**	*ep*	**P**	**06 18 50.1**	**-2.0**
	comp=Z,1.7nm,0.8s						
SADO	**Sadowa**	**81.78**	**319**	P	**P**	**06 18 55.2**	**+0.1**
	comp=Z,8.3nm,1.1s,baz=82,slow=15,SNR=2.6						
SADO	**Sadowa**	**81.78**	**319**	P	**P**	**06 18 55.2**	**+0.1**
JOF	**Joensuu**	**83.45**	**19**	*ep*	**P**	**06 19 02.8**	**-0.6**
	comp=Z,2.0nm,0.8s						
WVT	**Waverly**	**84.40**	**309**	*eP*	**P**	**06 19 07.3**	**-1.7**
	comp=Z,8.1nm,1.0s						
ARCES	**ARCESS Array B**	**86.82**	**13**	LR	LR	06 59 01.3	
	comp=Z,176nm,20.8s,baz=15,slow=36						
SBA	**Scott Base**	**89.45**	**180**	*eP*	**P**	**06 19 33.6**	**+0.8**
	comp=Z,25nm,1.2s						
VNDA	**Vanda**	**89.77**	**179**	P	**P**	**06 19 34.5**	**+0.2**
	comp=Z,3.0nm,1.1s,baz=225,slow=3.7,SNR=8.1						
VNDA				LR	LR	06 53 20.5	
	comp=Z,266nm,18.6s,baz=175,slow=31						
VNDA	**Vanda**	**89.77**	**179**	P	**P**	**06 19 34.5**	**+0.2**
ABKAR	**Akbulak array**	**89.79**	**39**	*eP*	**P**	**06 19 34.8**	**0.0**
	comp=Z,1.1nm,0.8s						
JCT	**Junction City**	**92.39**	**301**	*eP*	**P**	**06 19 48.1**	**+0.7**
	comp=Z,9.0nm,0.8s						
ECSD	**EROS Data Cent**	**93.13**	**314**	*eP*	**P**	**06 19 50.6**	**+0.2**
	comp=Z,98nm,3.0s						
ULM	**Lac du Bonnet**	**94.30**	**320**	P	**P**	**06 19 57.0**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=135,slow=5.9,SNR=3.2						
ULM				LR	LR	06 53 58.9	
	comp=Z,299nm,21.7s,baz=63,slow=30						
ULM	**Lac du Bonnet**	**94.30**	**320**	P	**P**	**06 19 57.0**	**+1.3**
TXAR	**Lajitas Array**	**95.42**	**299**	P	**P**	**06 20 03.0**	**+1.6**
	comp=Z,2.8nm,1.0s,baz=69,slow=11,SNR=3.2						
TXAR				LR	LR	06 57 34.4	
	comp=Z,139nm,21.9s,baz=320,slow=32						
TXAR	**Lajitas Array**	**95.42**	**299**	P	**P**	**06 20 03.0**	**+1.6**
BVAR	**Borovoye Array**	**97.15**	**37**	LR	LR	07 08 53.5	
	comp=Z,147nm,18.4s,baz=253,slow=38						
KSH	**Kashi**	**98.47**	**51**	*eP*	**P**	**06 20 14.8**	**-0.2**
KSH				*es*P	**sP**	**06 20 20.8**	**-1.5**
KSH				*e*PP	**PP**	**06 24 16.6**	**+1.0**
KSH				SKS	**SKSac**	**06 30 49.8**	**-2.9**
KSH				S	S	06 31 36.8	-6.6
KSH				sS	**ScS**	**06 31 45.3**	**+1.8**
KSH				SS	**SS**	**06 38 23.9**	**-4.4**
KSH				LR	LR		
	comp=N,84nm,5.4s						
KSH				LR	LR		
	comp=E,74nm,7.5s						
KSH				LR	LR		
	comp=Z,150nm,6.0s						
ILAR	**Eielson Array**	**118.76**	**339**	PKP	**PKPdf**	**06 25 26.1**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=279,slow=14,SNR=6.0						
ILAR	**Eielson Array**	**118.76**	**339**	PKP	**PKPdf**	**06 25 26.1**	**+2.0**
KMI	**Kunming**	**119.93**	**68**	PKP	**PKPdf**	**06 25 28.6**	**+0.8**
SONM	**Songino Array**	**120.09**	**42**	PKP	**PKPdf**	**06 25 27.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=28,slow=42,SNR=3.0						
SONM	**Songino Array**	**120.09**	**42**	PKP	**PKPdf**	**06 25 27.6**	**+0.3**
LZH	**Lanzhou**	**120.36**	**56**	*e*PKP	PKPdf	06 25 36.3	+8.0
LZH				pPKP	pPKPdf	06 25 46.8	+13
LZH				sPKP		06 25 50.6	
CD2	**Chengdu**	**120.71**	**62**	PKP	**PKPdf**	**06 25 28.5**	**-0.5**
TBI	**Tubuai**	**123.06**	**231**	*e*LR	LR	07 03 43.9	
	comp=Z,451nm,23.5s						
GYA	**Guiyang**	**123.45**	**67**	*e*Pdif	**Pdif**	**06 22 05.8**	**-0.7**
GYA				PKP	**PKPdf**	**06 25 33.0**	**-1.4**
GYA				PP	**PP**	**06 27 18.6**	**+2.7**
GYA				PKS	**PKSdf**	**06 29 08.4**	**-2.9**
GYA				SKKS		06 34 10.0	
GYA				SS	**SS**	**06 44 02.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,110nm,7.6s						
GYA				LR	LR		
	comp=N,120nm,22.5s						
GYA				LR	LR		
	comp=E,110nm,23.3s						
GYA				LR	LR		
	comp=Z,130nm,21.0s						
HHC	**Hu-ho-hao-te**	**125.47**	**49**	*e*PKP	**PKPdf**	**06 25 37.4**	**-0.5**
HHC				PP	**PP**	**06 27 33.8**	**+5.0**
HHC				PKS	**PKSdf**	**06 29 14.5**	**0.0**
HHC				SKS	**SKSdf**	**06 32 49.8**	**+0.4**
HHC				SKKS	**SKKSac**	**06 34 25.8**	**-1.0**
HHC				AMB	AMB		
	comp=Z,87nm,10.2s						
HHC				LR	LR		
	comp=N,360nm,16.2s						
HHC				LR	LR		
	comp=E,350nm,16.5s						
HHC				LR	LR		
	comp=Z,310nm,21.1s						
PPT2	**Papeete2**	**126.26**	**237**	*e*LR	LR	07 05 11.4	
	comp=Z,411nm,24.0s						
ASAR	**Alice Springs**	**132.37**	**140**	PKP	**PKPdf**	**06 25 50.2**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=179,slow=2.7,SNR=7.0						
ASAR	**Alice Springs**	**132.37**	**140**	PKP	**PKPdf**	**06 25 50.2**	**-1.2**
CN2	**Changchun**	**133.91**	**40**	*e*PKP	**PKPdf**	**06 25 49.8**	**-3.9**
WRA	**Warramunga Arr**	**135.29**	**136**	PKP	**PKPdf**	**06 25 56.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=239,slow=2.5,SNR=7.3						
WRA	**Warramunga Arr**	**135.29**	**136**	PKP	**PKPdf**	**06 25 56.8**	**-0.2**
MDJ	**Mudanjiang**	**136.00**	**37**	PKP	**PKPdf**	**06 25 56.1**	**-1.4**
DZM	**Mont Dzumac**	**145.27**	**182**	*e*LR	LR	07 13 57.9	
	comp=Z,137nm,22.2s						
COEN	**Coen**	**145.41**	**140**	*e*PKPbc	**PKPbc**	**06 26 14.5**	**-0.7**
MJAR	**Matsushiro Arr**	**146.04**	**41**	PKPbc	**PKPbc**	**06 26 16.8**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=6.6,slow=39,SNR=2.9						
MJAR	**Matsushiro Arr**	**146.04**	**41**	PKPbc	**PKPbc**	**06 26 16.8**	**+0.1**

*IDC **22** 06:14:22.3±1.1, 18.34N×104.13W, h0km, mb4.2/12, mb1 4.4/15, mb1mx4.2/30, mbtmp4.2/15, ML3.3/3, MS3.8/4, Ms1 3.8/4, ms1mx3.3/42, Error ellipse: s-maj=29.8km s-min=17.5km az=44.0*

*ISCJB **22** 06:14:23.0±0.3, 18.41N±0.03×104.13W±0.02, h10km, mb4.4/28, MS3.6/3, Error ellipse: s-maj=4.7km s-min=2.4km az=34.5*

*NEIC **22** 06:14:26.6, 18.52N×104.12W, h8km, mb4.1/16, MD4.3(MEX), After MEX.*

*MEX **22** 06:14:26.6±1.1, 18.52N×104.12W, h8km±11km, MD4.3*

ISC 22 06:14:24.7±0.5, 18.48N±0.04×104.14W±0.05, h10km, n308, σ1§40/317, mb4.4/28, MS3.7/3, 102C-94D, Near coast of Jalisco

| Code | Station Name | Δ° | AZ° | Ph

426A	McDonald Obser baz=12	12.13	0	⇓P		Pn	06 17 19.9 +2.0
532A	Rocksprings baz=12,SNR=6.8	12.22	18	⇓P		Pn	06 17 21.4 +2.5
429A	Davenport Ranc baz=12	12.26	9	⇓P		Pn	06 17 21.7 +2.2
428A	Kincaid Ranch, baz=12,SNR=8.0	12.26	6	⇑P		Pn	06 17 22.2 +2.7
425A	Indio Mountain baz=12,SNR=10	12.27	357	⇑P		Pn	06 17 22.3 +2.6
427A	Hayter Ranch, baz=12	12.33	3	⇑P		Pn	06 17 22.2 +1.7
430A	Baggett Ranch, baz=12	12.53	12	⇑P		Pn	06 17 25.2 +2.0
431A	Sonora baz=13,SNR=6.1	12.56	14	⇓P		Pn	06 17 26.1 +2.5
JCT	Junction City 26nm,1.4s	12.58	17	*e*Pn		Pn	06 17 28.3 +4.5
JCT				*e*Sn		Sn	06 19 47.1 +3.1
326A	Caldwell Ranch baz=13	12.78	1	⇓P		Pn	06 17 29.0 +2.4
325A	Bean Ranch, Si baz=13,SNR=12	12.85	357	⇓P		Pn	06 17 31.0 +3.3
328A	Wristen Ranch, baz=13	12.90	5	⇓P		Pn	06 17 30.6 +2.4
432A	Menard baz=13	12.95	17	⇑P		Pn	06 17 31.1 +2.1
324A	Moseley Ranch, baz=13	12.96	355	⇑P		Pn	06 17 31.2 +2.1
330A	Mertzon baz=13,SNR=8.2	13.14	11	⇑P		Pn	06 17 33.8 +2.2
331A	San Angelo baz=13,SNR=8.7	13.20	14	⇓P		Pn	06 17 35.2 +2.8
320A	Kipp Ranch, An baz=13	13.40	344	⇓P		Pn	06 17 37.5 +2.3
332A	Millersview baz=14,SNR=6.1	13.45	16	⇑P		Pn	06 17 37.5 +1.8
225A	Deer Hill, Car baz=14	13.58	358	⇓P		Pn	06 17 40.2 +2.6
229A	Bryant Ranch, baz=14,SNR=5.9	13.59	8	⇓P		Pn	06 17 39.9 +2.2
224A	Cornudas Mount baz=14,SNR=9.1	13.59	355	⇓P		Pn	06 17 39.9 +2.1
230A	Sterling City baz=14	13.62	11	⇓P		Pn	06 17 40.2 +2.1
228A	UT Block 9, Go baz=14	13.65	6	⇓P		Pn	06 17 41.0 +2.5
GDL2	Guadalupe Moun	13.66	359	*e*Pn		Pn	06 17 41.9 +3.2
CLNB	Carlsbad 9.2nm,0.9s	13.72	1	*e*Pn		Pn	06 17 43.4 +3.9
231A	Bronte baz=14,SNR=6.8	13.83	14	⇑P		Pn	06 17 43.4 +2.5
220A	Playas Peak, P baz=14	13.94	344	⇑P		Pn	06 17 44.8 +2.4
232A	Coleman baz=14	13.95	16	⇑P		Pn	06 17 44.5 +1.9
125A	Gardner Draw, baz=14,SNR=6.0	14.12	358	⇓P		Pn	06 17 47.0 +2.0
127A	Arkansas Junct baz=14	14.15	3	⇓P		Pn	06 17 47.1 +1.7
128A	Castleberry Fa baz=14,SNR=11	14.16	6	⇑P		Pn	06 17 47.4 +2.0
129A	Stewart Farms, baz=14,SNR=12	14.23	8	⇓P		Pn	06 17 49.1 +2.6
121A	Cookes Peak, D baz=14	14.37	348	⇑P		Pn	06 17 50.6 +2.2
120A	U Bar Ranch, L baz=15	14.57	345	⇑P		Pn	06 17 53.2 +2.0
ABTX	Abilene, Hawle baz=15,SNR=5.9	14.65	15	⇑P		Pn	06 17 54.7 +2.6
Z26A	Caprock baz=15	14.73	1	⇓P		Pn	06 17 54.5 +1.3
Z25A	Roswell baz=15	14.74	358	⇓P		Pn	06 17 55.2 +1.8
Z27A	Tatum baz=15,SNR=22	14.79	3	⇑P		Pn	06 17 56.5 +2.4
Z24A	Sheeppen Canyo baz=15	14.82	356	⇑P		Pn	06 17 56.9 +2.2
Z28A	Tucker Farm, M baz=15	14.83	6	⇓P		Pn	06 17 56.3 +1.7
Z23A	Rita Site, Whi baz=15	14.84	353	⇑P		Pn	06 17 57.1 +2.4
Z29A	Hungry Hill Ra baz=15,SNR=7.1	14.88	8	⇑P		Pn	06 17 57.6 +2.4
Z22A	Elephant Butte baz=15,SNR=6.8	14.93	351	⇓P		Pn	06 17 58.4 +2.4
Z30A	Sanderson Ranc baz=15,SNR=16	14.99	10	⇓P		Pn	06 17 58.9 +2.1
TUC	Tucson 4.4nm,1.0s	15.01	338	*e*Pn		P	06 18 03.8 +1.2
Z21A	St. Cloud Mine baz=15,SNR=6.5	15.10	349	⇑P		Pn	06 18 00.8 +2.5
Z20A	Nine Sixteen R baz=15,SNR=5.2	15.11	346	⇓P		Pn	06 18 00.4 +2.0
Z31A	Sharp Cattle R baz=15	15.20	13	⇓P		Pn	06 18 01.0 +1.4
Z32A	Haskell baz=15	15.34	15	⇓P		Pn	06 18 02.9 +1.5
Y27A	Causey baz=15	15.36	3	⇑P		Pn	06 18 03.8 +2.0
Y25A	Mesa, Roswell baz=15	15.38	358	⇓P		Pn	06 18 04.2 +2.2
Y24A	Capitan baz=16	15.42	356	⇓P		Pn	06 18 05.2 +2.6
Y28A	McKinney Farm, baz=16,SNR=10	15.46	6	⇓P		Pn	06 18 04.6 +1.7
MSTX	Muleshoe baz=16,SNR=8.7	15.47	4	⇓P		Pn	06 18 03.6 +0.4
Y29A	Porterfield Fa baz=16,SNR=10	15.47	8	⇑P		Pn	06 18 03.6 +0.4
Y23A	Lovelace Mesa, baz=16	15.48	354	⇓P		Pn	06 18 03.5 +0.1
Y22A	Socorro baz=16	15.60	351	⇑P		Pn	06 18 05.1 +0.3
Y30A	Stafford Cattl baz=16	15.60	10	⇓P		Pn	06 18 05.4 +0.5
BNM	Barren Site 9.5nm,1.1s	15.76	352	*e*P		P	06 18 12.3 +1.3
Y21A	Point of Rocks baz=16	15.78	349	⇓P		Pn	06 18 07.0 -0.3
Y31A	Rekieta Farm, baz=16	15.80	12	⇑P		Pn	06 18 06.5 -0.9
Y20A	Horse Springs, baz=16	15.82	347	⇑P		Pn	06 18 07.2 -0.7
LPM	Los Pinos Moun	15.92	352	*e*Pn		P	06 18 13.9 +1.2
X26A	CR and CF Fran baz=16	16.00	1	⇑P		Pn	06 18 09.6 -0.6
Y32A	R-V Farms, Ver baz=16	16.02	14	⇓P		Pn	06 18 10.1 -0.1
X29A	Tulia baz=16	16.05	7	⇑P		Pn	06 18 10.0 -0.6
X28A	Dimmitt baz=16	16.06	6	⇑P		Pn	06 18 11.3 +0.4
X30A	Coker Ranch, T baz=16,SNR=5.8	16.16	10	⇓P		Pn	06 18 11.8 -0.3
X21A	Alamocita Cree baz=16	16.23	349	⇑P		Pn	06 18 14.4 +1.4
X20A	Quemado baz=16	16.46	347	⇓P		Pn	06 18 17.1 +1.1
AMTX	Amarillo 9.3nm,0.8s	16.48	7	*e*P		Pn	06 18 18.3 +2.1
AMTX	Amarillo baz=16	16.48	7	⇑P		Pn	06 18 17.2 +1.1
X31A	McDonald Ranch baz=16	16.50	12	⇓P		Pn	06 18 17.4 +1.0
ANMO	Albuquerque 0.1nm,0.3s,baz=160,slow=11,SNR=19	16.53	353	Pn		P	06 18 19.3 -0.2
ANMO	comp=Z,578nm,18.2s,baz=21,slow=40			LR		LR	06 25 23.2
ANMO	Albuquerque	16.53	353	Pn		P	06 18 19.3 -0.2
W27A	Bowe Ranch, En baz=17,SNR=7.8	16.54	3	⇑P		Pn	06 18 17.0 +0.1
W25A	X Bar L Ranch, baz=17,SNR=5.7	16.67	359	⇓P		Pn	06 18 19.6 +0.9
W22A	Albuquerque baz=17	16.70	352	⇑P		Pn	06 18 20.2 +1.2
W24A	Lazy 6 Ranch, baz=17	16.70	356	⇓P		Pn	06 18 19.7 +0.6
X16A	Lo Mia Camp, P baz=17,SNR=6.6	17.15	339	⇓P		Pn	06 18 25.9 +1.1
V24A	Rampart Ranch, baz=17	17.20	357	⇑P		Pn	06 18 25.3 -0.1
V26A	Tequesquite Ra baz=17,SNR=7.7	17.25	1	⇓P		Pn	06 18 26.6 +0.7
V28A	Channing baz=17	17.28	5	⇓P		Pn	06 18 26.9 +0.6
V23A	Ortiz Mt. (NFS baz=17,SNR=5.6	17.29	354	⇑P		P	06 18 28.4 +0.4
V25A	Rancho No Teng baz=17,SNR=6.5	17.29	359	⇑P		Pn	06 18 28.1 +1.6
W18A	Petrified Fore baz=17	17.30	344	⇑P		Pn	06 18 27.6 +1.0
V22A	San Miguel Ran baz=18,SNR=8.8	17.53	353	⇓P		P	06 18 31.3 +0.6
U26A	Atchley Ranch, baz=18	17.85	1	⇓P		Pn	06 18 34.3 +0.9
U25A	Circle Dot Ran baz=18,SNR=12	17.85	359	P		P	06 18 35.3 +1.2
U23A	El Rito baz=18	17.87	355	⇑P		Pn	06 18 34.6 +0.9
U24A	Moreno Valley baz=18	17.89	357	⇑P		Pn	06 18 34.9 +0.9
U22A	Llaves baz=18	17.98	353	⇑P		Pn	06 18 35.9 +0.8
MONP	Monument Peak baz=18	18.09	325	⇑P		Pn	06 18 36.7 +0.2
WUAZ	Wupatki baz=18	18.14	341	⇓P		Pn	06 18 37.5 +0.5
U21A	Nageezi baz=18	18.14	351	⇑P		Pn	06 18 37.3 +0.3
BC3	Big Chuckawall baz=18	18.19	328	⇓P		Pn	06 18 38.1 +0.6
IRM	Iron Mountain baz=18	18.45	330	⇓P		P	06 18 41.2 +0.6
109C	Camp Elliot, M baz=18	18.47	323	⇑P		P	06 18 41.1 +0.3
T24A	Torres, Weston baz=19	18.54	358	⇑P		P	06 18 41.8 0.0
T27A	Campo baz=19	18.55	4	⇑P		P	06 18 42.3 +0.6
T23A	Casias Ranch, baz=19	18.56	355	⇓P		P	06 18 42.3 +0.3
T25A	Trinidad baz=19	18.59	359	⇓P		P	06 18 42.4 +0.1
T22A	Edith baz=19,SNR=5.5	18.62	353	⇓P		P	06 18 43.4 +0.7
T26A	Comanche Natio baz=19	18.63	1	⇑P		P	06 18 42.6 -0.1
T28A	Walsh baz=19	18.65	5	⇓P		P	06 18 43.2 +0.3
PFO	Pinyon Flat Ob 12nm,1.0s	18.66	326	*e*P		Pn	06 18 45.3 +1.9
PFO	Pinyon Flat Ob baz=19,SNR=6.3	18.66	326	⇑P		Pn	06 18 44.7 +1.4
W13A	Hualapai Mount baz=19	18.68	334	⇑P		P	06 18 41.7 -1.6
BELC	Belle Mtn. Jos baz=19	18.73	328	⇑P		P	06 18 43.0 -0.8
TUL1	Tulsa baz=19	18.86	21	⇓P		P	06 18 44.4 -0.7
MVCO	Mesa Verde 14nm,1.3s	19.05	349	P		Pn	06 18 49.4 +1.3
MVCO	Mesa Verde baz=19	19.05	349	⇓P		P	06 18 46.9 -0.4
MURC	Murrieta baz=19	19.06	325	⇑P		P	06 18 47.0 -0.3
S26A	Kim baz=19	19.08	2	⇓P		P	06 18 48.0 +0.4
S25A	Robets Cordova baz=19	19.11	359	⇓P		P	06 18 48.2 +0.3
S24A	Houchin Ranch, baz=19	19.11	357	⇑P		P	06 18 48.4 +0.3
GMRC	Granite Mounta baz=19	19.20	330	⇑P		P	06 18 49.7 +0.9
U15A	North Rim baz=19	19.27	340	⇓P		P	06 18 50.6 +0.8
S22A	4UR Ranch, Cre baz=19,SNR=6.5	19.34	354	P		P	06 18 52.0 +1.4
S21A	Coal Bank Pass baz=19	19.37	351	⇑P		P	06 18 51.5 +0.5
SCI	San Clemente I baz=19	19.38	321	⇑P		P	06 18 51.9 +1.1
R25A	Fountain Ranch baz=20	19.59	360	⇑P		P	06 18 53.7 +0.5
S20A	Disappointment baz=20,SNR=8.0	19.63	350	⇑P		P	06 18 55.0 +1.3
R24A	Sanders Place, baz=20,SNR=5.0	19.69	358	P		P	06 18 55.2 +0.9
R26A	Arlington baz=20	19.75	2	⇑P		P	06 18 55.9 +1.0
R27A	Eads baz=20	19.77	3	⇑P		P	06 18 55.9 +0.9
BFSC	Mount Baldy Ra baz=20	19.79	325	⇑P		P	06 18 56.3 +0.9
R22A	Saguache, Gunn baz=20	19.80	354	⇑P		P	06 18 57.2 +1.5
R20A	Redvale baz=20	19.98	350	⇓P		P	06 18 58.3 +0.8
MWC	Mnt Wilson 26nm,1.5s	20.00	324	*e*Pn		P	06 18 59.7 +2.0
R21A	Cimarron baz=20	20.04	352	⇓P		P	06 18 58.7 +0.6
GSC	Goldstone 12nm,1.1s	20.17	329	*e*P		Pn	06 19 02.2 +0.9
GSC	Goldstone baz=20,SNR=7.6	20.17	329	⇑P		P	06 19 01.3 +1.9
Q25A	Bedland, Calha baz=20	20.36	360	⇑P		P	06 19 02.1 +0.5
Q26A	Hugo baz=20	20.37	1	⇓P		P	06 19 02.3 +0.6
Q23A	Hartsel baz=20	20.40	356	⇑P		P	06 19 02.9 +0.7
SHOC	Shoshone baz=20	20.40	331	⇓P		P	06 19 03.2 +1.3
Q22A	Crested Butte, baz=20	20.45	354	⇑P		P	06 19 03.1 +0.4
EDW2	Edwards Air Fo baz=20	20.45	326	⇓P		P	06 19 03.1 +0.6
KSCO	Kaye Shedlock' baz=20	20.50	3	⇑P		P	06 19 03.6 +0.6
Q20A	Ridgley Place, baz=21	20.71	351	⇑P		P	06 19 06.6 +1.2
SMCO	Snowmass 11nm,1.1s	20.77	354	*e*P		P	06 19 06.6 +0.4
Q19A	Hogan Spring (baz=21	20.88	349	⇑P		P	06 19 07.8 +0.6
ARUT	Antelope Range 10nm,1.3s	20.88	339	*e*P		Pn	06 19 12.2 +2.4
ARVC	Arvin baz=21,SNR=9.1	21.09	325	⇓P		P	06 19 10.8 +1.4
SBC	Santa Barbara baz=21	21.10	322	⇑P		P	06 19 11.2 +1.8
MPMC	Manual Prospec baz=21,SNR=11	21.11	329	⇓P		P	06 19 11.0 +1.2
MSU	Marysvale	21.15	342	*e*P		P	06 19 11.1 +0.9
MVU	Marysvale 7.4nm,1.0s	21.15	342	*e*P		P	06 19 11.2 +0.9
P22A	Eagle baz=21	21.16	354	⇑P		P	06 19 11.1 +0.8
P21A	Newcastle baz=21	21.16	353	⇓P		P	06 19 11.3 +1.0
Q16A	Castle Valley baz=21,SNR=6.9	21.26	345	P		P	06 19 12.3 +1.0
P20A	De Beque baz=21	21.26	351	⇑P		P	06 19 12.2 +0.8
SRU	San Rafael 5.1nm,1.0s	21.29	346	*e*P		P	06 19 11.4 -0.3
SRU	San Rafael baz=21	21.29	346	⇑P		P	06 19 12.6 +0.9
ISA	Isabella 11nm,1.0s	21.30	326	*e*P		P	06 19 13.8 +2.1
ISA	Isabella baz=21,SNR=11	21.30	326	⇑P		P	06 19 13.4 +1.7
PKM	Peak Mountain baz=22	21.48	323	⇓P		P	06 19 14.5 +0.7
O25A	Wiggins baz=22	21.55	0	⇑P		P	06 19 15.8 +1.4
TMUT	Trail Mountain 13nm,1.0s	21.63	345	*e*P		P	06 19 16.6 +1.2
P17A	Butcher Ranch, baz=22	21.68	346	⇑P		P	06 19 17.2 +1.3
O22A	Kremmling baz=22	21.70	355	⇑P		P	06 19 17.4 +1.2
P18A	Preston Nutter baz=22	21.72	347	⇓P		P	06 19 17.1 +0.7
VES	Vestal, Richgr baz=22,SNR=5.7	21.76	326	⇓P		P	06 19 18.1 +1.6
O20A	White River Ci baz=22	21.86	352	⇓P		P	06 19 19.8 +1.9
SMMC	Simmler baz=22	21.88	323	⇑P		P	06 19 19.6 +1.7
O19A	Miners Draw (B baz=22	22.16	350	⇓P		P	06 19 22.6 +1.6
R11A	Troy Canyon, C baz=22	22.17	336	⇓P		P	06 19 22.4 +1.3
RCTC	Rector, Farmer	22.20	326	⇓P		P	06 19 22.8 +1.6
O18A	Roosevelt baz=22	22.29	348	⇓P		P	06 19 23.7 +1.3
N19A	John Jarvie Ra baz=23	22.75	350	⇓P		P	06 19 28.8 +1.6
DUG	Dugway baz=23	22.89	343	⇓P		P	06 19 31.0 +2.2
N18A	Larsen Ranch, baz=23	22.91	349	⇑P		P	06 19 30.7 +1.7
N17A	Moffit Pass baz=23	23.11	347	⇑P		P	06 19 32.5 +1.4
NV11	Mina Array Sit	23.33	331	*e*P		P	06 19 35.3 +2.1
NVAR	Mina Array Bea 7.8nm,1.1s,baz=156,slow=9.0,SNR=11	23.39	331	P		P	06 19 35.1 +1.1
NVAR	Mina Array Bea	23.39	331	P		P	06 19 35.1 +1.1
L15A	Malad City baz=24	24.48	345	⇑P		P	06 19 44.4 +0.3
PDAR	Pinedale Array 0.4nm,0.6s,baz=119,slow=5.6,SNR=5.5	24.64	350	P		P	06 19 46.9 +1.2
PDAR	comp=Z,98nm,18.8s,baz=190,slow=37			LR		LR	06 29 34.9
PDAR	Pinedale Array	24.64	350	P		P	06 19 46.9 +1.2
TKL	Tuckaleechee C 4.8nm,1.0s,baz=207,slow=7.4,SNR=2.5	24.85	42	P		P	06 19 49.3 +1.9
TKL	Tuckaleechee C	24.85	42	P		P	06 19 49.3 +1.9
K15A	Arbon baz=25	25.15	345	⇑P		P	06 19 50.6 +0.3
K14A	Jones Ranch, D baz=25	25.18	344	⇓P		P	06 19 51.2 +0.7
J16A	Bone baz=26	25.51	347	⇓P		P	06 19 54.4 +0.9
TPAW	Teton Pass 5.5nm,1.0s	25.58	348	*e*P		P	06 19 54.0 -0.3
I20A	Worland baz=26	25.61	353	⇓P		P	06 19 55.2 +0.9
LOHW	Long Hollow 6.9nm,1.0s	25.64	349	*e*P		P	06 19 54.9 +0.1
MOOW	Moose Ponds 58nm,2.8s	25.80	349	*e*P		P	06 19 57.5 +1.3
J15A	Blackfoot baz=26	25.81	346	⇑P		P	06 19 57.2 +1.0
J14A	Carey baz=26	26.00	344	⇑P		P	06 19 58.9 +0.9
HLID	Hailey baz=26	26.46	343	⇓P		P	06 20 03.7 +1.5
I14A	Mackay baz=27	26.55	345	⇑P		P	06 20 04.4 +1.4
I13A	Wildhorse Cree baz=27	26.71	344	⇑P		P	06 20 05.8 +1.4
MFID	Camas Ranch baz=27	26.74	341	⇓P		P	06 20 06.1 +1.4
H16A	Russell Place, baz=27	26.81	349	⇓P		P	06 20 06.2 +0.9
I12A	Atlanta baz=27	26.88	342	⇓P		P	06 20 07.5 +1.6
H15A	Lima baz=27	27.01	347	⇑P		P	06 20 08.2 +1.0
H14A	Leadore baz=27	27.18	345	⇑P		P	06 20 10.1 +1.5
H12A	Diamond D Ranc baz=28	27.50	343	⇑P		P	06 20 12.3 +0.9
G14A	Jackson baz=28	27.79	346	⇑P		P	06 20 15.5 +1.4
BOZ	Bozeman (W) baz=28	27.79	349	⇑P		P	06 20 15.0 +1.0
G13A	Cobalt baz=28	27.84	345	⇑P		P	06 20 15.5 +1.1
G12A	Big Creek, Yel baz=28	28.16	343	⇓P		P	06 20 17.8 +0.4
F13A	Darby baz=29,SNR=5.6	28.51	345	⇑P		P	06 20 20.6 +0.1
F12A	Elk City baz=29,SNR=6.9	28.72	344	P		P	06 20 22.7 +0.4
E14A	Clinton baz=29	28.91	347	⇓P		P	06 20 24.3 +0.3
C24A	Savage baz=29	28.97	360	⇓P		P	06 20 24.9 +0.5
E13A	Victor baz=29	29.09	346	⇓P		P	06 20 26.0 +0.4
MSO	Missoula baz=29	29.40	346	⇑P		P	06 20 27.9 -0.4
E12A	Beaver Dam Sad baz=30	29.41	344	⇑P		P	06 20 28.5 +0.1
D14A	Greenough baz=30	29.54	347	⇑P		P	06 20 29.6 0.0
C17A	Wharram Farm, baz=30	29.57	351	⇑P		P	06 20 30.0 +0.2
D13A	Huson baz=30	29.77	346	⇑P		P	06 20 31.7 +0.2
EGMT	Eagleton baz=30	29.82	352	⇓P		P	06 20 32.2 +0.2
D12A	Red Blues Fores baz=30	29.95	345	⇑P		P	06 20 33.1 0.0
B21A	Ellsworth Farm baz=30	29.96	356	⇑P		P	06 20 33.5 +0.4
A14A	Double T Ranch baz=31	31.33	348	⇓P		P	06 20 46.6 +1.2
A13A	Flathead Natio baz=32	31.49	347	⇓P		P	06 20 48.5 +1.8
NEW	Newport baz=32	31.53	343	⇓P		P	06 20 48.2 +1.2
BBB	Bella Bella comp=Z,160nm,19.3s,baz=241,slow=39	38.53	336	LR		LR	06 39 17.2
DLBC	Dease Lake 4.5nm,0.9s,baz=167,slow=8.2,SNR=3.9	44.18	341	P		P	06 22 34.1 +0.4
DLBC	Dease Lake	44.18	341	P		P	06 22 34.1 +0.4
YKA	Yellowknife Ar 0.7nm,0.7s,baz=165,slow=7.7,SNR=17	44.57	353	P		P	06 22 34.8 -1.8
YKA	Yellowknife Ar	44.57	353	P		P	06 22 34.9 -1.8
INK	Inuvik 4.4nm,0.9s,baz=144,slow=7.0,SNR=16	53.13	347	P		P	06 23 41.6 -0.6
INK	Inuvik	53.13	347	P		P	06 23 41.6 -0.6
ILAR	Eielson Array 4.3nm,0.9s,baz=152,slow=6.2,SNR=34	54.31	339	P		P	06 23 51.1 +0.2
ILAR	Eielson Array	54.31	339	P		P	06 23 51.1 +0.2
SIV	San Ignacio 1.4nm,0.8s,baz=320,slow=10,SNR=5.3	54.51	126	P		P	06 23 51.5 -1.7
SIV	San Ignacio	54.51	126	P		P	06 23 51.5 -1.7
RES	Resolute Bay comp=Z,67nm,20.3s,baz=215,slow=36	56.45	3	LR		LR	06 48 07.6
SUMG	Summit 4.8nm,1.0s	65.28	18	*i* P		P	06 25 06.2 -0.6
DAG	Danmarks Havn 50nm,1.0s	71.10	14	*i* P		P	06 25 41.3 -1.5
EVOP	Sao Brissos 30nm,1.0s	83.25	52	*e*P		P	06 26 51.1 -0.7
EVO	Evora 30nm,1.0s	83.34	52	*e*P		P	06 26 51.1 -1.1
GRR	Gorron	84.86	41	*e*P		P	06 26 59.6 -0.2
GRR	Gorron	84.86	41	*e*P		P	06 26 59.6 -0.2
FLN	La Foliniere 138nm,1.4s	84.95	40	*e*P		P	06 27 00.2 0.0
FLN	La Foliniere 138nm,1.4s	84.95	40	*e*P		P	06 27 00.2 0.0
LDF	La Druitiere 16nm,0.9s	85.24	40	*e*P		P	06 27 01.6 -0.1
LDF	La Druitiere 16nm,0.9s	85.24	40	*e*P		P	06 27 01.6 -0.1
ARCES	ARCESS Array B 4.1nm,0.9s,baz=330,slow=11,SNR=4.8	85.30	16	P		P	06 27 01.4 -0.1
ARCES	ARCESS Array B	85.30	16	P		P	06 27 01.4 -0.1
NB2	NORSAR Subarra comp=Z,0.7nm,0.8s,baz=303,slow=5.3	85.56	26	P		P	06 27 02.9 -0.2
NOA	NORSAR Array B comp=Z,1.9nm,0.9s,baz=302,slow=5.4,SNR=4.2	85.56	26	P		P	06 27 02.1 -0.9
NOA	NORSAR Array B	85.56	26	P		P	06 27 02.1 -0.9
ESDC	Sonseca Array comp=Z,3.6nm,0.9s,baz=306,slow=5.6,SNR=13	85.93	50	P		P	06 27 04.3 -1.1
ESDC	Sonseca Array	85.93	50	P		P	06 27 04.3 -1.1
MFF	Saint Martin d	85.99	42	*e*P		P	06 27 05.2 -0.2
MFF	Saint Martin d	85.99	42	*e*P		P	06 27 05.2 -0.2
ETSF	Etsaut comp=Z,10nm,0.9s	87.14	46	*e*P		P	06 27 11.1 -0.2
ETSF	Etsaut comp=Z,10nm,0.9s	87.14	46	*e*P		P	06 27 11.1 -0.2
RJF	Les Rejaudoux comp=Z,28nm,1.2s	87.56	43	*e*P		P	06 27 12.9 -0.3
RJF	Les Rejaudoux comp=Z,28nm,1.2s	87.56	43	*e*P		P	06 27 12.9 -0.3
EPF	Esparros	87.69	45	*e*P		P	06 27 12.9 -1.0
EPF	Esparros	87.69	45	*e*P		P	06 27 12.9 -1.0
MDT	Midelt comp=Z,3.9nm,0.9s,baz=306,slow=4.0,SNR=4.7	87.84	56	P		P	06 27 14.9 0.0
MDT	Midelt	87.84	56	P		P	06 27 14.9 0.0
LOR	Lormes comp=Z,18nm,1.3s	88.22	40	*e*P		P	06 27 14.9 -1.4
LOR	Lormes	88.22	40	*e*P		P	06 27 14.9 -1.4

	comp=Z,18nm,1.3s							
WRA	**Warramunga Arr**	**125.00**	**258**	PKP	**PKPdf**	**06 33 25.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=77,slow=2.9,SNR=11							
WRA	**Warramunga Arr**	**125.00**	**258**	PKP	**PKPdf**	**06 33 25.5**	**-0.5**
ASAR	**Alice Springs**	**125.90**	**254**	PKP	**PKPdf**	**06 33 27.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=82,slow=1.6,SNR=4.4							
ASAR	**Alice Springs**	**125.90**	**254**	PKP	**PKPdf**	**06 33 27.1**	**-0.6**

MEX 22 06:20:01.4±1.5, 18°57'N×104°00'W, h8km±16km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.60**	**2**	*e*P	Pg	06 20 11.2	-1.9
R15V				*i* S	Sg	06 20 20.0	-1.0
MMIG	**Aquila**	**0.68**	**114**	*e*P	Pg	06 20 12.9	-1.7
MMIG				*i* S	Sg	06 20 22.6	-0.8
EZ5V		**0.98**	**23**	*e*P	Pg	06 20 18.8	-1.9
EZ5V				*i* S	Sg	06 20 30.8	-2.9
CJM	**Chamela**	**1.35**	**313**	*e*P	Pn	06 20 23.1	-3.5
CJM				*i* S	Sb	06 20 39.9	-4.6
SFJM	**Santa Fe**	**2.11**	**25**	*e*P	Pn	06 20 38.0	+0.7
SFJM				*i* S	Sn	06 21 02.4	-1.6
ANIG	**Ahuacatlan**	**2.52**	**349**	*i* P	Pn	06 20 39.3	-3.5
ANIG				*i* S	Sn	06 21 10.3	-3.6
ZAIG	**Zacatecas**	**4.39**	**18**	*i* P	Pn	06 21 07.2	-1.6
ZAIG				*i* S	Sn	06 21 58.2	-2.2

*ATH **22** 06:20:44.7, 37°.08N×27°.96E, h34km±5km, MD3.2/4*
*ISK **22** 06:20:46.6, 36°.96N×27°.87E, h10km, MD3.2*
*DDA **22** 06:20:46.9, 36°.98N×27°.87E, h7km, MD3.3*
*ISCJB **22** 06:20:47.0±0.5, 36°.94N±0°.02×27°.84E±0°.03, h13km±3km, Error ellipse: s-maj=4.5km s-min=3.4km az=36.1*
*CSEM **22** 06:20:47.1±0.2, 36°.93N×27°.82E, h15km, MD3.2, Error ellipse: s-maj=4.4km s-min=3.6km az=121.0*

ISC 22 06:20:47.2±0.9, 36°.97N±0°.02×27°.84E±0°.02, h15km±7km, n49, σ0°61/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.32**	**222**	*e*PG	**Pg**	**06 20 53.5**	**-0.4**
DAT				*e*SG	**Sg**	**06 20 58.8**	**+0.3**
DAT	**Datca**	**0.32**	**222**	*e*Pg	**Pg**	**06 20 53.5**	**-0.4**
DAT				*e*Sg	**Sg**	**06 20 58.8**	**+0.3**
BDRM	**Kayabasi**	**0.33**	**288**	*i* P	**Pg**	**06 20 53.9**	**-0.3**
BDRM				*i* S	**Sb**	**06 20 59.7**	**-0.3**
BDRM	**Kayabasi**	**0.33**	**288**	*i* P	**Pg**	**06 20 53.9**	**-0.3**
BDRM				*i* S	**Sb**	**06 20 59.7**	**-0.3**
MLSB	**Milas**	**0.33**	**351**	*e*PG	**Pg**	**06 20 54.1**	**-0.1**
MLSB				*e*SG	**Sb**	**06 20 59.9**	**-0.2**
MLSB	**Milas**	**0.33**	**351**	*e*Pg	**Pg**	**06 20 54.1**	**-0.1**
MLSB				*e*Sg	**Sb**	**06 20 59.9**	**-0.2**
YER	**Yerkesik**	**0.39**	**64**	*e*PG	**Pg**	**06 20 54.6**	**-0.7**
YER				*e*SG	**Sg**	**06 21 00.2**	**-0.5**
YER	**Yerkesik**	**0.39**	**64**	*e*Pg	**Pg**	**06 20 54.6**	**-0.7**
BODT	**Bodrum**	**0.43**	**283**	*e*PG	**Pg**	**06 20 56.1**	**+0.1**
BODT				*e*SG	**Sb**	**06 21 02.8**	**-0.1**
BODT	**Bodrum**	**0.43**	**283**	*e*Pg	**Pg**	**06 20 56.1**	**+0.1**
BODT				*e*Sg	**Sb**	**06 21 02.8**	**-0.1**
TURN	**Turunc**	**0.62**	**98**	*i* P	Pg	06 20 53.5	-5.9
TURN				*i* S	Sg	06 20 58.9	-8.7
NIS1	**Nisyros Isl.**	**0.64**	**236**	*e*PN	**Pb**	**06 21 00.2**	**0.0**
NIS1				*e*SN	**Sn**	**06 21 11.6**	**-0.1**
NIS1	**Nisyros Isl.**	**0.64**	**236**	*e*Pn	**Pb**	**06 21 00.2**	**0.0**
NIS1				*e*Sn	**Sn**	**06 21 11.6**	**-0.1**
AYDN	**Tasoluk**	**0.69**	**3**	*i* P	**Pb**	**06 21 00.8**	**-0.3**
AYDN				*i* S	**Sb**	**06 21 10.1**	**-0.4**
AYDN	**Tasoluk**	**0.69**	**3**	*i* P	**Pb**	**06 21 00.8**	**-0.3**
AYDN				*i* S	**Sb**	**06 21 10.1**	**-0.4**
ARG	**Arkhangelos**	**0.78**	**163**	*e*PN	**Pb**	**06 21 01.5**	**-1.0**
ARG				*e*SN	**Sn**	**06 21 14.4**	**-0.7**
ARG	**Arkhangelos**	**0.78**	**163**	*e*Pn	**Pb**	**06 21 01.5**	**-1.0**
ARG				*e*Sn	**Sn**	**06 21 14.4**	**-0.7**
GCAM	**G?zelcaml?**	**0.88**	**327**	*i* P	**Pg**	**06 21 04.2**	**-0.1**
GCAM				*i* S	**Sn**	**06 21 16.8**	**-0.7**
GCAM	**G?zelcaml?**	**0.88**	**327**	*i* P	**Pg**	**06 21 04.2**	**-0.1**
GCAM				*i* S	**Sn**	**06 21 16.8**	**-0.7**
DNZL	**Cakiroluk**	**1.20**	**53**	*i* P	**Pn**	**06 21 09.0**	**-0.7**
DNZL				*i* S	**Sg**	**06 21 26.9**	**+0.7**
DNZL	**Cakiroluk**	**1.20**	**53**	*i* P	**Pn**	**06 21 09.0**	**-0.7**
DNZL				*i* S	**Sg**	**06 21 26.9**	**+0.7**
DENT	**Denizli**	**1.23**	**50**	*e*PN	**Pb**	**06 21 10.3**	**+0.1**
DENT	**Denizli**	**1.23**	**50**	*e*Pn	**Pb**	**06 21 10.3**	**+0.1**
GOLH	**Golhisar**	**1.40**	**78**	*i* P	**Pg**	**06 21 13.7**	**-0.5**
GOLH				*i* S	**Sg**	**06 21 33.8**	**+1.3**
GOLH	**Golhisar**	**1.40**	**78**	*i* P	**Pg**	**06 21 13.7**	**-0.5**
GOLH				*i* S	**Sg**	**06 21 33.8**	**+1.3**
IZM	**Izmir**	**1.50**	**342**	*e*PN	**Pb**	**06 21 14.2**	**-0.6**
IZM	**Izmir**	**1.50**	**342**	*e*Pn	**Pb**	**06 21 14.2**	**-0.6**
KARP	**Karpathos**	**1.52**	**201**	*e*PB	**Pn**	**06 21 13.8**	**-0.1**
KARP				*e*SN	**Sn**	**06 21 33.6**	**+0.3**
KARP	**Karpathos**	**1.52**	**201**	*e*Pb	**Pn**	**06 21 13.8**	**-0.1**
KARP				*e*Sn	**Sn**	**06 21 33.6**	**+0.3**
AKAS	**Kas**	**1.60**	**117**	*i* P	**Pb**	**06 21 16.9**	**+0.4**
AKAS				*i* S	**Sg**	**06 21 39.5**	**+0.8**
AKAS	**Kas**	**1.60**	**117**	*i* P	**Pb**	**06 21 16.9**	**+0.4**
AKAS				*i* S	**Sg**	**06 21 39.5**	**+0.8**
ELL	**Elmali**	**1.67**	**97**	*e*PN	**Pn**	**06 21 16.4**	**+0.3**
ELL	**Elmali**	**1.67**	**97**	*e*Pn	**Pn**	**06 21 16.4**	**+0.3**
KULA	**Kula-Manisa**	**1.68**	**23**	*e*PN	**Pn**	**06 21 16.6**	**+0.5**
KULA	**Kula-Manisa**	**1.68**	**23**	*e*Pn	**Pn**	**06 21 16.6**	**+0.5**
AKHS	**Akhisar**	**1.91**	**359**	*i* P	**Pn**	**06 21 19.3**	**+0.1**
AKHS				*i* S	**Sn**	**06 21 41.8**	**-1.2**
AKHS	**Akhisar**	**1.91**	**359**	*i* P	**Pn**	**06 21 19.3**	**+0.1**
AKHS				*i* S	**Sn**	**06 21 41.8**	**-1.2**
AKS	**Akhisar**	**1.91**	**359**	*e*PN	**Pn**	**06 21 20.0**	**+0.7**
AKS	**Akhisar**	**1.91**	**359**	*e*Pn	**Pn**	**06 21 20.0**	**+0.7**
KHAL	**Karahalli**	**1.92**	**43**	*i* P	**Pn**	**06 21 20.0**	**+0.6**
KHAL				*i* S	**Sn**	**06 21 43.7**	**+0.3**
KHAL	**Karahalli**	**1.92**	**43**	*i* P	**Pn**	**06 21 20.0**	**+0.6**
KHAL				*i* S	**Sn**	**06 21 43.7**	**+0.3**
BCK	**Bucak**	**2.25**	**76**	*e*PN	**Pn**	**06 21 24.5**	**+0.6**
BCK	**Bucak**	**2.25**	**76**	*e*Pn	**Pn**	**06 21 24.5**	**+0.6**
ZKR	**Zakros**	**2.27**	**216**	*e*PB	**Pn**	**06 21 25.0**	**+0.9**
ZKR	**Zakros**	**2.27**	**216**	*e*Pb	**Pn**	**06 21 25.0**	**+0.9**
ALT	**Altintas**	**2.75**	**40**	*e*PN	**Pn**	**06 21 31.9**	**+1.0**
ALT	**Altintas**	**2.75**	**40**	*e*Pn	**Pn**	**06 21 31.9**	**+1.0**
TVSB	**Tavsanli**	**2.79**	**27**	*e*PN	**Pn**	**06 21 32.5**	**+1.1**
TVSB	**Tavsanli**	**2.79**	**27**	*e*Pn	**Pn**	**06 21 32.5**	**+1.1**

*ISCJB **22** 06:35:14.3±0.4, 12°.86S±0°.08×14°.56W±0°.08, h16km, mb4.2/28, MS4.2/20, Error ellipse: s-maj=13.3km s-min=8.4km az=41.4*
*IDC **22** 06:35:14.5±1.1, 12°.81S×14°.69W, h0km, mb4.0/16, mb1 4.0/16, mb1mx4.0/24, mbtmp4.0/16, MS4.1/20, Ms1 4.1/20, ms1mx4.1/24, Error ellipse: s-maj=46.3km s-min=15.8km az=143.0*
*NEIC **22** 06:35:15.4±0.3, 12°.87S×14°.62W, h10km, mb4.9/5, Error ellipse: s-maj=10.6km s-min=6.8km az=135.0*
*GCMT **22** 06:35:17.4±0.3, 12°.90S×14°.60W, h12km, MW4.9, Moment Tensor Solution. s26,c30; s73,c101; Moment tensor: Scale 10^16 Nm; Mrr=3.18±.10; Mθθ=0.40±.10; Mφφ=2.77±.09; Mrθ=0.09±.40; Mrφ=-0.79±.07; Mθφ=1.14±.32; Best double couple: M0=3.30000×10^16 NP1:φs159.00000°, δ35.00000°, λ-97.00000°. NP2:φs347.00000°, δ55.00000°, λ-85.00000°. Principal axes: T 3.2100, Plg10.0000°, Azm74.0000°; N 0.1800, Plg4.0000°, Azm165.0000°; P -3.3900, Plg79.0000°, Azm275.0000°; Data Used: II IU IC G.*

ISC 22 06:35:16.5±0.5, 12°.95N±0°.1×14°.62W±0°.10, h16km, n84, σ0°84/73, mb4.4/28, MS4.1/20, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEL	**Horse Pasture**	**9.13**	**111**	*e*Pn	**Pn**	**06 37 27.2**	**-0.5**
LIC	**Lamto**	**21.23**	**27**	*e*P	**P**	**06 40 00.3**	**-1.5**
	baz=225						
LIC	**Lamto**	**21.23**	**27**	*e*P	**P**	**06 40 00.3**	**-1.5**
DBIC	**Dimbokro**	**21.70**	**27**	P	**P**	**06 40 06.0**	**-0.9**
	3.2nm,0.8s,baz=248,slow=5.4,SNR=2.3						
DBIC				LR	LR	06 46 33.1	
	comp=Z,724nm,19.1s,baz=187,slow=31						
DBIC	**Dimbokro**	**21.70**	**27**	P	**P**	**06 40 06.0**	**-0.9**
RCBR	**Riachuelo**	**22.11**	**286**	LR	LR	06 46 28.8	
	comp=Z,749nm,19.6s,baz=99,slow=31						

BBTS	**Babate**	**27.41**	**356**	LR	LR	06 50 13.9		
	comp=Z,312nm,19.5s,baz=214,slow=33							
TOA0	**Torodi Ar. Sit**	**30.49**	**33**	*e*P	**P**	**06 41 29.0**	**0.0**	
TORD	**Torodi Ar. Bea**	**30.49**	**33**	P	**P**	**06 41 28.2**	**-0.7**	
	2.2nm,0.8s,baz=213,slow=9.4,SNR=8.4							
TORD				LR	LR	06 51 40.3		
	comp=Z,842nm,20.2s,baz=205,slow=32							
TORD	**Torodi Ar. Bea**	**30.49**	**33**	P	**P**	**06 41 28.2**	**-0.7**	
BDFB	**Brasilia**	**32.46**	**261**	P	**P**	**06 41 45.8**	**-0.8**	
BDFB	**Brasilia**	**32.46**	**261**	P	**P**	**06 41 45.8**	**-0.8**	
	4.5nm,0.9s,baz=62,slow=10,SNR=5.3							
BOSA	**Boshof**	**40.24**	**119**	LR	LR	06 56 26.0		
	comp=Z,474nm,20.3s,baz=286,slow=32							
SIV	**San Ignacio**	**45.02**	**260**	P	**P**	**06 43 32.4**	**+0.6**	
	1.3nm,0.9s,baz=97,slow=6.8,SNR=4.8							
SIV	**San Ignacio**	**45.02**	**260**	P	**P**	**06 43 32.4**	**+0.6**	
TRQA	**Tornquist**	**48.90**	**230**	*e*P	**P**	**06 44 00.6**	**-1.2**	
	16nm,1.4s							
EVO	**Evora**	**51.50**	**7**	*e*P	**P**	**06 44 20.2**	**-1.1**	
	49nm,1.6s							
LPAZ	**La Paz**	**51.78**	**259**	P	**P**	**06 44 24.4**	**-0.2**	
	1.4nm,1.0s,baz=132,slow=11,SNR=4.3							
LPAZ				LR	LR	07 07 05.7		
	comp=Z,156nm,18.2s,baz=51,slow=37							
LPAZ	**La Paz**	**51.78**	**259**	P	**P**	**06 44 24.4**	**-0.2**	
CFAA	**Coronel Fontan**	**52.48**	**240**	P	**P**	**06 44 30.0**	**+1.0**	
	0.1nm,0.5s,baz=48,slow=8.1,SNR=2.3							
CFAA	**Coronel Fontan**	**52.48**	**240**	P	**P**	**06 44 30.0**	**+1.0**	
ESDC	**Sonseca Array**	**53.20**	**10**	LR	LR	07 07 31.0		
	comp=Z,106nm,20.4s,baz=190,slow=36							
KEST	**Kesra**	**53.39**	**24**	P	**P**	**06 44 36.8**	**+1.3**	
	4.6nm,1.0s,baz=264,slow=15,SNR=3.8							
KEST				LR	LR	07 06 25.3		
	comp=Z,133nm,19.2s,baz=174,slow=35							
KEST	**Kesra**	**53.39**	**24**	P	**P**	**06 44 36.8**	**+1.3**	
PLCA	**Paso Flores**	**56.01**	**229**	LR	LR	07 05 33.2		
	comp=Z,322nm,18.6s,baz=62,slow=32							
VNA2	**Neumayer--Watz**	**58.20**	**177**	*e*P	**P**	**06 45 10.5**	**+1.0**	
	baz=331,slow=8.8							
SNAA	**Sanae**	**59.21**	**176**	*e*P	**P**	**06 45 16.0**	**-0.6**	
	3.4nm,0.9s							
PGF	**Pioggiola**	**59.25**	**20**	*e*P	**P**	**06 45 16.7**	**-0.6**	
PGF	**Pioggiola**	**59.25**	**20**	*e*P	**P**	**06 45 16.7**	**-0.6**	
RJF	**Les Rejaudoux**	**59.71**	**13**	*e*P	**P**	**06 45 19.8**	**-0.5**	
RJF	**Les Rejaudoux**	**59.71**	**13**	*e*P	**P**	**06 45 19.8**	**-0.5**	
SBF	**Sospel**	**59.93**	**18**	*e*P	**P**	**06 45 21.8**	**-0.1**	
SBF	**Sospel**	**59.93**	**18**	*e*P	**P**	**06 45 21.8**	**-0.1**	
VIVF	**Saint-Julien-l**	**60.05**	**16**	*e*P	**P**	**06 45 22.6**	**-0.1**	
	14nm,1.0s							
ORIF	**Oris-en-Rattie**	**60.44**	**17**	*e*P	**P**	**06 45 25.5**	**+0.1**	
	14nm,1.2s							
MBDF	**Montbardon**	**60.52**	**17**	*e*P	**P**	**06 45 26.3**	**+0.3**	
	13nm,1.1s							
TCF	**Toulx Ste Croi**	**60.80**	**13**	*e*P	**P**	**06 45 27.7**	**0.0**	
	7.4nm,0.9s							
LPG	**La Plagne**	**61.22**	**17**	*e*P	**P**	**06 45 31.2**	**+0.3**	
	9.8nm,0.9s							
LPG	**La Plagne**	**61.22**	**17**	*e*P	**P**	**06 45 31.2**	**+0.3**	
	9.8nm,0.9s							
LPL	**La Plagne**	**61.23**	**17**	*e*P	**P**	**06 45 31.1**	**+0.2**	
LPL	**La Plagne**	**61.23**	**17**	*e*P	**P**	**06 45 31.1**	**+0.2**	
SMF	**Signal de Mont**	**61.51**	**14**	*e*P	**P**	**06 45 32.2**	**-0.3**	
	19nm,1.1s							
SSF	**Saint Saulge**	**61.82**	**14**	*e*P	**P**	**06 45 34.4**	**-0.2**	
	9.0nm,1.0s							
ROSC	**El Rosal**	**61.86**	**283**	P	**P**	**06 45 36.4**	**+0.4**	
	1.2nm,0.5s,baz=99,slow=18,SNR=1.8							
ROSC				LR	LR	07 09 50.3		
	comp=Z,438nm,21.8s,baz=68,slow=34							
ROSC	**El Rosal**	**61.86**	**283**	P	**P**	**06 45 36.4**	**+0.4**	
CABF	**La Chapelle**	**62.06**	**16**	*e*P	**P**	**06 45 35.7**	**-0.6**	
	10nm,0.7s							
CABF	**La Chapelle**	**62.06**	**16**	*e*P	**P**	**06 45 35.7**	**-0.6**	
	10nm,0.7s							
LOR	**Lormes**	**62.10**	**14**	*e*P	**P**	**06 45 36.1**	**-0.4**	
LOR	**Lormes**	**62.10**	**14**	*e*P	**P**	**06 45 36.1**	**-0.4**	
HAU	**Haudompre**	**63.41**	**16**	*e*P	**P**	**06 45 44.5**	**-0.7**	
HAU	**Haudompre**	**63.41**	**16**	*e*P	**P**	**06 45 44.5**	**-0.7**	
BAIF	**Baives**	**64.80**	**13**	*e*P	**P**	**06 45 53.5**	**-0.7**	
BAIF	**Baives**	**64.80**	**13**	*e*P	**P**	**06 45 53.5**	**-0.7**	
GERES	**GERESS Array B**	**66.36**	**20**	P	**P**	**06 46 04.9**	**+0.4**	
	0.2nm,0.4s,baz=245,slow=44,SNR=3.0							
GERES				LR	LR	07 13 57.6		
	comp=Z,236nm,20.1s,baz=276,slow=35							
GERES	**GERESS Array B**	**66.36**	**20**	P	**P**	**06 46 04.9**	**+0.4**	
EKA	**Eskdalemuir Ar**	**68.62**	**7**	P	**P**	**06 46 19.0**	**+0.5**	
	1.1nm,0.8s,baz=210,slow=39,SNR=4.3							
EKA	**Eskdalemuir Ar**	**68.62**	**7**	P	**P**	**06 46 19.0**	**+0.5**	
BRTR	**Keskin Array B**	**68.91**	**38**	P	**P**	**06 46 22.9**	**+2.0**	
	0.7nm,0.7s,baz=208,slow=7.0,SNR=4.5							
BRTR				LR	LR	07 16 49.9		
	comp=Z,68nm,20.1s,baz=55,slow=36							
BRTR	**Keskin Array B**	**68.91**	**38**	P	**P**	**06 46 22.9**	**+2.0**	
MAW	**Mawson**	**73.43**	**157**	LR	LR	07 11 14.0		
	comp=Z,245nm,19.8s,baz=104,slow=29							
AKASG	**Malin Array Be**	**73.95**	**27**	P	**P**	**06 46 51.3**	**+0.5**	
	2.9nm,0.9s,baz=229,slow=6.9,SNR=6.1							
AKASG				LR	LR	07 20 49.2		
	comp=Z,132nm,18.3s,baz=275,slow=37							
AKASG	**Malin Array Be**	**73.95**	**27**	P	**P**	**06 46 51.3**	**+0.5**	
NB2	**NORSAR Subarra**	**76.47**	**13**	P	**P**	**06 47 07.4**	**+2.2**	
	comp=Z,0.8nm,0.9s,baz=204,slow=6.2							
NOA	**NORSAR Array B**	**76.47**	**13**	P	**P**	**06 47 07.4**	**+2.2**	
	comp=Z,1.1nm,0.9s,baz=203,slow=7.1,SNR=4.0							
NOA				LR	LR	07 22 28.7		
	comp=Z,55nm,20.9s,baz=180,slow=37							
NOA	**NORSAR Array B**	**76.47**	**13**	P	**P**	**06 47 07.4**	**+2.2**	
KBZ	**Khabaz**	**76.86**	**39**	LR	LR	07 24 14.4		
	comp=Z,50nm,18.9s,baz=243,slow=38							
SCHQ	**Schefferville**	**80.48**	**332**	P	**P**	**06 47 26.7**	**-0.8**	
	comp=Z,1.3nm,0.9s,baz=81,slow=19,SNR=3.8							
SCHQ	**Schefferville**	**80.48**	**332**	P	**P**	**06 47 26.7**	**-0.8**	
FINES	**FINESS Array B**	**80.72**	**19**	P	**P**	**06 47 28.5**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=185,slow=4.8,SNR=4.6							
FINES				LR	LR	07 24 55.8		
	comp=Z,99nm,19.0s,baz=163,slow=37							
FINES	**FINESS Array B**	**80.72**	**19**	P	**P**	**06 47 28.5**	**-0.1**	
ARCES	**ARCESS Array B**	**86.84**	**13**	LR	LR	07 27 27.2		
	comp=Z,69nm,18.8s,baz=198,slow=36							
VNDA	**Vanda**	**89.76**	**179**	LR	LR	07 23 23.9		
	comp=Z,172nm,19.7s,baz=44,slow=32							
JCT	**Junction City**	**92.34**	**301**	*e*P	**P**	**06 48 26.1**	**-0.6**	
	comp=Z,7.0nm,1.1s							
TXAR	**Lajitas Array**	**95.37**	**299**	P	**P**	**06 48 40.5**	**-0.2**	
	comp=Z,0.2nm,0.6s,baz=102,slow=5.8,SNR=2.7							
TXAR				LR	LR	07 35 02.7		
	comp=Z,55nm,19.4s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**95.37**	**299**	P	**P**	**06 48 40.5**	**-0.2**	
CMAR	**Chiang Mai Arr**	**116.09**	**76**	PKP	**PKPdf**	**06 54 00.1**	**+0.4**	
	comp=Z,0.6nm,0.4s,baz=258,slow=7.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**116.09**	**76**	PKP	**PKPdf**	**06 54 00.1**	**+0.4**	
TBI	**Tubuai**	**123.01**	**231**	*e*LR	LR	07 32 22.1		
	comp=Z,180nm,22.8s							
PPT2	**Papeete2**	**126.21**	**237**	*e*LR	LR	07 33 50.5		
	comp=Z,138nm,22.2s							
ASAR	**Alice Springs**	**132.40**	**140**	PKP	**PKPdf**	**06 54 30.8**	**-0.2**	
	comp=Z,0.4nm,0.8s,baz=230,slow=1.3,SNR=4.3							
ASAR	**Alice Springs**	**132.40**	**140**	PKP	**PKPdf**	**06 54 30.8**	**-0.2**	
WRA	**Warramunga Arr**	**135.32**	**136**	PKP	**PKPdf**	**06 54 36.0**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=241,slow=2.2,SNR=5.5							
WRA	**Warramunga Arr**	**135.32**	**136**	PKP	**PKPdf**	**06 54 36.0**	**-0.5**	
COEN	**Coen**	**145.45**	**140**	*e*PKPdf	**PKPbc**	**06 54 54.7**	**-0.1**	

*ISK **22** 06:55:13.1, 37°.92N×29°.16E, h5km, MD2.7*
*ISCJB **22** 06:55:14.5±0.6, 37°.92N±0°.03×29°.12E±0°.06, h1km±9km, Error ellipse: s-maj=8.3km s-min=4.5km az=7.7*
*DDA **22** 06:55:14.1, 37°.91N×29°.11E, h7km, MD2.7*
*CSEM **22** 06:55:14.3±0.2, 37°.91N×29°.14E, h2km, MD2.7, Error ellipse: s-maj=5.4km s-min=2.9km az=105.0*

ISC 22 06:55:14.3±1.0, 37°.91N±0°.03×29°.12E±0°.05, h11km±8km, n16, σ0°60/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.17**	**204**	*e*PG	**Pg**	**06 55 17.8**	**-0.3**
DENT	**Denizli**	**0.17**	**204**	*e*Pg	**Pg**	**06 55 17.8**	**-0.3**
DNZL	**Cakiroluk**	**0.23**	**195**	*i* P	**Pg**	**06 55 18.9**	**-0.3**
DNZL				*i* S	**Sg**	**06 55 22.6**	**+0.2**
DNZL	**Cakiroluk**	**0.23**	**195**	*i* P	**Pg**	**06 55 18.9**	**-0.3**
DNZL				*i* S	**Sg**	**06 55 22.6**	**+0.2**
KHL	**Karahalli**	**0.52**	**37**	*e*PG	**Pg**	**06 55 24.0**	**-0.5**
KHL				*e*SG	**Sg**	**06 55 31.4**	**-0.1**
KHL	**Karahalli**	**0.52**	**37**	*e*Pg	**Pg**	**06 55 24.0**	**-0.5**
KHL				*e*Sg	**Sg**	**06 55 31.4**	**-0.1**
KHAL	**Karahalli**	**0.55**	**32**	*i* P	**Pg**	**06 55 24.2**	**-0.8**
KHAL				*i* S	**Sg**	**06 55 33.2**	**+0.9**
KHAL	**Karahalli**	**0.55**	**32**	*i* P	**Pg**	**06 55 24.2**	**-0.8**
KHAL				*i* S	**Sg**	**06 55 33.2**	**+0.9**
KULA	**Kula-Manisa**	**0.71**	**329**	*e*PG	**Pg**	**06 55 28.0**	**0.0**
KULA				*e*SG	**Sb**	**06 55 38.7**	**+0.3**
KULA	**Kula-Manisa**	**0.71**	**329**	*e*Pg	**Pg**	**06 55 28.0**	**0.0**
KULA				*e*Sg	**Sb**	**06 55 38.7**	**+0.3**
GOLH	**Golhisar**	**0.76**	**152**	*i* P	**Pg**	**06 55 29.3**	**+0.4**
GOLH				*i* S	**Sn**	**06 55 41.8**	**-0.7**
GOLH	**Golhisar**	**0.76**	**152**	*i* P	**Pg**	**06 55 29.3**	**+0.4**
GOLH				*i* S	**Sn**	**06 55 41.8**	**-0.7**
ALT	**Altintas**	**1.38**	**34**	*e*PN	**Pb**	**06 55 40.3**	**0.0**
ALT				*e*SN	**Sg**	**06 56 00.2**	**+1.3**
ALT	**Altintas**	**1.38**	**34**	*e*Pn	**Pb**	**06 55 40.3**	**0.0**
ALT				*e*Sn	**Sg**	**06 56 00.2**	**+1.3**
TVSB	**Tavsanli**	**1.56**	**10**	*e*PN	**Pb**	**06 55 43.1**	**-0.2**
TVSB	**Tavsanli**	**1.56**	**10**	*e*Pn	**Pb**	**06 55 43.1**	**-0.2**

NNC 22 07:24:57.9±5.4, 38°.47N×69°.19E, h0km, mb3.6, mpv3.3, 2C-1D, Error ellipse: s-maj=52.1km s-min=28.9km az=167.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.73**	**12**	Pn	**Pn**	**07 26 10.8**	**+0.2**
	0.3nm,0.2s,baz=195,slow=16,SNR=20						
KK31				Pg	Pb	07 26 23.4	+1.6
	3.3nm,0.5s,baz=188,slow=15,SNR=14						
KK31				⇓Lg	Lg	07 27 26.0	
	13nm,0.6s,baz=188,slow=27,SNR=6.8						
TKM2	**Tokmak 2**	**6.59**	**46**	⇑Pn	**Pn**	**07 26 33.4**	**-2.9**
	3.8nm,0.7s						
TKM2				⇑Sn	Sn	07 27 54.9	+2.4
	13nm,0.8s						
AB31	**Akbulak array**	**12.66**	**331**	P	**Pn**	**07 28 00.8**	**+1.6**
	0.3nm,0.5s,baz=164,slow=12,SNR=18						

NNC 22 07:26:27.2±0.5, 50°.10N×78°.85E, h11km±10km, mb3.2, mpv2.7, 46C-12D, Error ellipse: s-maj=9.9km s-min=5.7km az=78.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR10	**Kurchatov Arra**	**0.48**	**332**	⇑P	**Pb**	**07 26 37.2**	**-0.5**
KUR09	**Kurchatov Arra**	**0.50**	**333**	⇑P	**Pb**	**07 26 37.6**	**-0.4**
KUR09				⇑S	Sb	07 26 46.3	+1.0
KUR08	**Kurchatov Arra**	**0.51**	**335**	⇑P	**Pb**	**07 26 38.0**	**-0.3**
KUR08				⇓S	Sb	07 26 46.3	+0.6
KUR11	**Kurchatov Arra**	**0.52**	**348**	⇑P	**Pb**	**07 26 38.5**	**+0.2**
KUR11				⇑S	Sb	07 26 46.7	+0.9
KUR12	**Kurchatov Arra**	**0.52**	**346**	⇑P	**Pb**	**07 26 38.5**	**0.0**
KUR12				⇑S	Sb	07 26 46.7	+0.6
KUR07	**Kurch

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NSK	Sanguang	0.94	267	eP	Pb	07 34 58.8	-0.1
	baz=271						
NSK				eS	Sg	07 35 10.4	-0.5
	baz=271						
PCYT	Pengchaiyu	0.95	342	eP	Pg	07 34 58.6	-0.2
	baz=346						
TWS1	Kuangyinshan	0.96	293	eP	Pb	07 34 59.4	+0.1
	baz=290						
TWS1				eS	Sg	07 35 11.0	-0.5
	baz=290						
TWD	Chiawan	0.96	229	eP	Pn	07 35 00.3	+0.2
	baz=231						
TWD				eS	Sn	07 35 13.3	-0.5
	baz=231						
NNS	Nan Shan	0.97	253	eP	Pn	07 35 00.2	-0.1
	baz=235						
NNS				eS	Sb	07 35 12.3	-0.1
	baz=235						
WHF	Hehuan Shan	1.17	241	P	Pn	07 35 03.8	+0.4
	baz=235						
WHF				S	Sb	07 35 19.0	+0.4
	baz=235						
TWT	Tachien	1.20	247	eP	Pn	07 35 04.5	+1.0
	baz=242						
TWT				eS	Sn	07 35 20.4	+0.4
	baz=242						
ESL	Shilin	1.26	224	eP	Pg	07 35 05.2	+0.5
	baz=236						
ESL				eS	Sn	07 35 23.2	+2.1
	baz=236						
NSTT	Nanjuang	1.27	266	eP	Pn	07 35 04.6	+0.3
	baz=261						
NSTT				eS	Sb	07 35 21.0	+0.2
	baz=261						
IRIF	Iriomote-Funau	1.28	107	P	Pb	07 35 05.0	+0.3
IRIF				S	Sb	07 35 20.9	-0.3
HATJ	Hateruma jima	1.45	117	eS	Sn	07 35 24.0	-1.9
NSY	Sanyi	1.51	259	eP	Pg	07 35 09.6	0.0
	baz=273						
TWQ1	Liyutan	1.52	256	eP	Pg	07 35 10.1	+0.4
	baz=251						
JKRS	Kuro-shima	1.55	108	eS	Sb	07 35 29.4	+0.3
SMLT	Sun Moon Lake	1.59	239	eP	Pg	07 35 11.3	+0.2
	baz=234						
TYC	Yuchr	1.62	240	eP	Pg	07 35 11.6	0.0
	baz=235						
JIJ	Ishigaki jima	1.64	102	eS	Sb	07 35 32.0	+0.5
TWF1	Yuli	1.69	216	eP	Pn	07 35 10.2	+0.1
	baz=212						
ALS	Alishan	1.88	231	eP	Pb	07 35 15.2	0.0
	baz=209						
ALS				eS	Sg	07 35 40.4	-0.8
	baz=209						
CHN5	Tsauling	1.92	235	eP	Pg	07 35 16.6	-0.8
	baz=231						
CHN5				eS	Sg	07 35 41.6	-0.7
	baz=231						
CHN4	Tsaushan	2.13	231	eP	Pb	07 35 19.6	+0.3
	baz=226						
WTP	Ta-pu	2.19	228	eP	Pb	07 35 20.1	-0.2
	baz=209						
WTP				eS	Sg	07 35 49.0	-1.9
	baz=209						
CHN1	Nanshi	2.29	228	eP	Pb	07 35 21.2	-0.8
	baz=225						

*IDC **22** 07:48:07.5±3.7, 36°.37N×71°.09E, h191km±32km, mb3.3/11, mb1 3.4/16, mb1mx3.2/32, mbtmp3.3/16, MS3.3/2, Ms1 3.3/2, ms1mx2.4/40, Error ellipse: s-maj=25.6km s-min=15.7km az=13.0*

*NNC **22** 07:48:15.1±3.3, 36°.93N×71°.14E, h215km±27km, mb2.6, mpv3.8, Error ellipse: s-maj=29.3km s-min=17.3km az=16.0*

ISC 22 07:48:10.4±0.7, **36°.69N**±0°.05×**71°.04E**±0°.08, **h188**km, **n59**, σ1§**66**/58, **mb3.5**/12, **9C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.95	166	⇑P	Pn	07 49 02.1	+3.1
CEP				S	Sn	07 49 39.0	+2.1
CHCP	Chirah Chowk	3.53	148	P	Pn	07 49 09.0	+3.0
THW	Thamme Wali	3.93	171	P	Pn	07 49 13.1	+2.1
DLH	Dalhousie	5.80	134	eP	Pn	07 49 36.0	+0.9
DLH				eS	Sn	07 50 40.0	-1.8
AML	Almayashu	5.81	20	P	Pn	07 49 38.0	+2.7
	SNR=110						
UCH	Uchtor	6.15	25	P	Sn	07 50 51.1	+0.7
	SNR=17						
KZA	Kyzart	6.29	30	P	Pn	07 49 43.8	+2.2
	SNR=6.1						
EKS2	Erkin-Say	6.33	19	P	Pn	07 49 44.5	+2.7
	SNR=15						
KK31	Karatay Array	6.42	357	P	Pn	07 49 45.3	+2.4
	0.8nm,0.3s,baz=180,slow=12,SNR=32						
KK31				⇑S	Sn	07 50 56.3	+0.3
	14nm,0.7s,baz=165,slow=13,SNR=3.8						
AAK	Ala-Archa	6.51	23	P	Pn	07 49 46.9	+2.8
	7.1nm,0.3s,baz=182,slow=6.0,SNR=46						
AAK				S	Sn	07 51 00.3	+2.0
	2.4nm,0.3s,baz=315,slow=23,SNR=14						
AAK	Ala-Archa	6.51	23	P	Pn	07 49 47.0	+2.8
	SNR=29						
KBK	Karagaybulak	6.68	26	P	Pn	07 49 49.4	+3.0
	SNR=8.7						
ULHL	Ulahol	6.85	34	P	Pn	07 49 51.0	+2.2
	SNR=27						
CHMS	Chumysh	6.92	23	P	Pn	07 49 52.2	+2.8
	SNR=6.9						
USP	Ospenovka	7.09	21	P	Pn	07 49 54.2	+2.5
	SNR=6.9						
SDNR	Sundarnagar	7.14	135	eP	Sn	07 51 00.5	-13
TKM2	Tokmak 2	7.14	28	⇑P	Pn	07 49 54.8	+2.2
	15nm,0.6s						
TKM2				⇑S	Sn	07 51 13.8	+0.3
	6.5nm,0.6s						
TKM2	Tokmak 2	7.14	28	P	Pn	07 49 54.9	+2.3
	SNR=14						
MK31	Makanchi Array	13.12	36	P	Pn	07 51 09.3	-0.4
	3.9nm,0.8s,baz=228,slow=15,SNR=43						
MKAR	Makanchi Array	13.12	36	P	Pn	07 51 09.9	+0.2
	0.5nm,0.3s,baz=208,slow=10.0,SNR=23						
PYUN	Piuthan	13.23	127	eP	Pn	07 51 09.2	-2.2
	13nm,0.3s						
DANN	Dangsing	13.57	124	eP	Pn	07 51 14.8	-0.9
	9.0nm,0.3s						
KOLN	Koldanda	13.85	126	eP	Pn	07 51 17.0	-2.2
	4.7nm,0.2s						
GKN	Gorkha	14.38	123	eP	Pn	07 51 25.5	-0.2
KURBB	Kurchatov Arra	14.93	19	P	Pn	07 51 31.5	-0.6
	0.3nm,0.3s,baz=205,slow=11,SNR=25						
KURBB	Kurchatov Arra	14.93	19	⇓P	Pn	07 51 31.4	-0.7
	0.9nm,0.8s						
AB31	Akbulak array	14.93	331	P	Pn	07 51 31.8	-0.4
	0.3nm,0.3s,baz=145,slow=12,SNR=33						
AB31				⇑S	Sn	07 54 18.4	-0.5
	1.2nm,0.8s,baz=150,slow=22,SNR=4.6						
DMN	Daman	14.95	123	eP	Pn	07 51 33.0	+0.2
	15nm,0.5s						
KKN	Kakani	14.95	122	eP	P	07 51 33.4	-0.4
KURK	Kurchatov	15.04	19	⇑P	Pn	07 51 32.4	-1.0
	2.9nm,1.0s						
PKIN	Phulchoki	15.17	123	eP	Pn	07 51 35.6	+0.1
	10nm,0.3s						
PKI	Pulchoki	15.18	123	eP	Pn	07 51 35.8	+0.1
GUN	Gumba	15.29	121	eP	P	07 51 37.6	0.0
JIRN	Jiri	15.66	121	eP	P	07 51 42.1	+0.4
	3.3nm,0.3s						
VOSK	Vostochnaya	16.03	360	⇑P	P	07 51 45.3	+0.1
	1.6nm,1.0s						
ZRNK	Zerenda	16.32	356	⇑P	Pn	07 51 51.5	+2.5
	0.9nm,0.5s						
BVA0	Borovoye Array	16.34	359	⇑P	Pn	07 51 51.1	+1.9
	0.1nm,0.4s,baz=162,slow=11,SNR=12						
BVAR	Borovoye Array	16.34	359	P	Pn	07 51 50.0	+0.8
	0.6nm,0.3s,baz=152,slow=11,SNR=14						
RAMN	Ramite	16.39	122	eP	P	07 51 48.8	-0.9
AKTO	Aktyubinsk	16.63	330	P	Pn	07 51 52.8	+0.1
	1.1nm,0.3s,baz=139,slow=10,SNR=21						
AKTO	Aktyubinsk	16.63	330	⇓P	Pn	07 51 52.6	-0.1
	1.1nm,0.7s						
TAPN	Taplejung	16.91	119	eP	P	07 51 55.5	+0.1
	5.6nm,0.3s						
ODAN	Odare	16.99	121	eP	P	07 51 56.7	+0.4
ZALV	Zalesovo Beam	19.73	25	P	P	07 52 24.8	-0.6
	3.8nm,0.3s,baz=214,slow=11,SNR=26						
SONM	Songino Array	28.20	56	P	P	07 53 43.6	-2.0
	0.6nm,0.8s,baz=252,slow=9.4,SNR=5.5						
BRTR	Keskin Array B	29.41	287	P	P	07 53 55.8	-0.5
	0.3nm,0.5s,baz=132,slow=45,SNR=2.5						
EIL	Elat	30.87	267	LR	LR	08 09 35.0	
	comp=Z,42nm,19.4s,baz=264,slow=42						
JOF	Joensuu	35.72	330	ep	P	07 54 49.0	-1.6
	2.3nm,0.4s						
FINES	FINESS Array B	37.34	326	P	P	07 55 03.6	-0.7
	1.3nm,0.4s,baz=120,slow=8.9,SNR=25						
KAF	Kangasniemi	37.48	327	ep	P	07 55 03.2	-2.3
	0.9nm,0.5s						
ARCES	ARCESS Array B	40.98	337	P	P	07 55 33.9	-0.5
	1.7nm,0.6s,baz=112,slow=7.8,SNR=9.7						
HFS	Hagfors	42.94	322	P	P	07 55 49.2	-1.1
	0.5nm,0.3s,baz=111,slow=10,SNR=8.7						
NB2	NORSAR Subarra	44.25	323	P	P	07 55 59.1	-1.7
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.25	323	P	P	07 55 59.2	-1.6
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=4.2						
JNU	Nakatsue	48.51	76	LR	LR	08 18 42.1	
	comp=Z,40nm,20.4s,baz=106,slow=38						
TORD	Torodi Ar. Bea	65.75	269	P	P	07 58 31.4	-4.0
	comp=Z,0.9nm,0.4s,baz=50,slow=5.9,SNR=26						
YKA	Yellowknife Ar	81.05	3	P	P	08 00 02.8	-1.2
	comp=Z,0.1nm,0.3s,baz=351,slow=5.7,SNR=5.2						
WRA	Warramunga Arr	82.06	122	P	P	08 00 05.7	-4.2
	comp=Z,0.3nm,0.9s,baz=324,slow=5.1,SNR=4.7						
ASAR	Alice Springs	84.34	125	P	P	08 00 17.5	-4.0
	comp=Z,0.2nm,0.7s,baz=310,slow=4.5,SNR=2.8						

IDC 22 07:59:30.9±2.1, **21°.52S**×**177°.69W**, **h0**km, **mb4.0**/6, **mb1 4.2**/6, **mb1mx3.9**/19, **mbtmp4.0**/6, **MS4.0**/1, **Ms1 4.0**/1, **ms1mx3.0**/30, **Error ellipse: s-maj=122.5km s-min=31.7km az=159.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.69	266	P	P	08 06 15.2	+1.2
	1.4nm,0.3s,baz=91,slow=11,SNR=3.5						
STKA	Stephens Creek	37.62	245	P	P	08 06 46.9	-0.8
	1.9nm,1.1s,baz=83,slow=8.1,SNR=3.2						
ASAR	Alice Springs	44.58	258	P	P	08 07 44.0	-1.1
	0.5nm,0.6s,baz=103,slow=8.2,SNR=10						
WRA	Warramunga Arr	44.75	263	P	P	08 07 46.4	-0.2
	0.7nm,0.3s,baz=92,slow=8.4,SNR=49						
FITZ	Fitzroy Crossi	53.19	263	LR	LR	08 29 26.0	
	comp=Z,137nm,18.2s,baz=140,slow=34						
TXAR	Lajitas Array	87.36	57	P	P	08 12 20.1	-0.3
	0.7nm,1.0s,baz=229,slow=4.2,SNR=3.8						
CMAR	Chiang Mai Arr	90.72	289	P	P	08 12 37.1	+0.8
	0.6nm,0.3s,baz=136,slow=3.4,SNR=5.3						

*BJI **22** 08:02:24.3, 12°.80S×14°.50W, h10km, mB5.5/4, Ms5.3/3, Ms7 4.7/4*

*IDC **22** 08:02:25.1±0.6, 12°.79S×14°.62W, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.3/29, mbtmp4.2/22, MS4.3/37, Ms1 4.3/37, ms1mx4.3/41, Error ellipse: s-maj=26.8km s-min=13.2km az=134.0*

*MOS **22** 08:02:25.2±0.8, 12°.71S×14°.65W, h10km, mb5.0/27, MS4.3/12, Error ellipse: s-maj=23.0km s-min=6.5km az=70.8*

*ISCJB **22** 08:02:25.9±0.4, 12°.77S±0°.08×14°.57W±0°.09, h16km, mb4.6/53, MS4.4/46, Error ellipse: s-maj=14.6km s-min=7.4km az=39.8*

*NEIC **22** 08:02:26.7±0.3, 12°.87S×14°.56W, h10km, mb4.8/8, Error ellipse: s-maj=11.2km s-min=6.0km az=128.0*

*GCMT **22** 08:02:31.3±0.2, 12°.72S×14°.65W, h19km, MW5.1, Moment Tensor Solution. s18,c22; s80,c115; Moment tensor: Scale 10^{16}Nm; M_{rr}-5.56±.31; $M_{\theta\theta}$0.86±.17; $M_{\phi\phi}$4.70±.20; $M_{r\theta}$1.25±.47; $M_{\theta\phi}$-1.01±.09; $M_{\phi r}$-0.05±.37; Best double couple: $M_0$5.40000×10^{16} NP1:ϕ_s176.00000°, δ44.00000°, λ-75.00000°. NP2:ϕ_s335.00000°, δ48.00000°, λ-104.00000°. Principal axes: T 4.9600, Plg2.0000°, Azm76.0000°; N 0.8400, Plg11.0000°, Azm345.0000°; P -5.8000, Plg79.0000°, Azm176.0000°; Data Used: IU IC G II.*

*SZGRF **22** 08:02:31.0, 12°.40S×14°.47W, h33km, mb5.0, MS4.4, Southern Mid-Atlantic Ridge*

ISC 22 08:02:27.3±0.4, **12°.77S**±0°.10×**14°.57W**±0°.10, **h16**km, **n210**, σ1§**31**/187, **mb4.8**/53, **MS4.4**/46, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIC	Lamto	21.12	27	eP	P	08 07 11.7	+0.1
	86nm,1.4s,baz=219						
LIC	Lamto	21.12	27	eP	P	08 07 11.7	+0.1
	86nm,1.4s						
DBIC	Dimbokro	21.59	27	P	P	08 07 16.9	+0.3
	4.8nm,0.8s,baz=189,slow=11,SNR=3.7						
DBIC				LR	LR	08 13 45.6	
	comp=Z,1μm,21.1s,baz=188,slow=32						
DBIC	Dimbokro	21.59	27	eP	P	08 07 17.2	+0.6
RCBR	Riachuelo	22.14	286	LR	LR	08 14 02.2	
	comp=Z,973nm,18.8s,baz=99,slow=32						
RCBR	Riachuelo	22.14	286	P	P	08 07 24.2	+1.6
	19nm,1.3s						
BBTS	Babate	27.33	356	LR	LR	08 17 06.0	
	comp=Z,450nm,20.6s,baz=226,slow=32						
TOA0	Torodi Ar. Sit	30.39	33	eP	P	08 08 38.7	-0.2
TORD	Torodi Ar. Bea	30.39	33	P	P	08 08 38.5	-0.4
	1.9nm,0.8s,baz=220,slow=8.4,SNR=10.0						
TORD				LR	LR	08 18 52.2	
	comp=Z,2μm,20.9s,baz=215,slow=32						
TORD	Torodi Ar. Bea	30.39	33	P	P	08 08 38.5	-0.4
TSUM	Tsumeb	31.53	106	LR	LR	08 18 49.6	
	comp=Z,762nm,21.6s,baz=333,slow=31						
BDFB	Brasilia	32.53	261	P	P	08 08 57.6	-0.4
	4.3nm,0.8s,baz=71,slow=7.9,SNR=7.0						
BDFB				LR	LR	08 19 31.8	
	comp=Z,944nm,20.8s,baz=141,slow=32						
BDFB	Brasilia	32.53	261	P	P	08 08 57.6	-0.4
SUR	Sutherland	37.81	127	LR	LR	08 21 59.5	
	comp=Z,478nm,20.4s,baz=123,slow=31						
LBTB	Lobatse	39.76	114	LR	LR	08 24 02.6	
	comp=Z,811nm,18.9s,baz=286,slow=33						
BOSA	Boshof	40.24	119	LR	LR	08 23 38.4	
	comp=Z,1μm,21.3s,baz=284,slow=32						
LSZ	Lusaka	41.51	99	LR	LR	08 25 01.1	
	comp=Z,537nm,21.2s,baz=347,slow=33						
SIV	San Ignacio	45.09	260	P	P	08 10 43.5	+0.3
	2.2nm,0.9s,baz=107,slow=9.6,SNR=6.5						
SIV				LR	LR	08 26 53.6	
	comp=Z,434nm,20.5s,slow=33						
SIV	San Ignacio	45.09	260	P	P	08 10 43.5	+0.3
MDT	Midelt	46.32	12	LR	LR	08 29 11.8	
	comp=Z,389nm,19.6s,baz=192,slow=35						
SAML	Samuel	47.84	269	eP	P	08 11 05.0	+0.2
	44nm,1.9s						
EVOP	Sao Brissos	51.39	6	eP	P	08 11 30.5	-0.8
EVOP				pmax	pmax		
	comp=Z,81nm,1.6s						
EVOP	Sao Brissos	51.39	6	eP	P	08 11 30.5	-0.8
	comp=Z,81nm,1.6s						
EVO	Evora	51.40	7	eP	P	08 11 30.5	-1.0
	comp=Z,81nm,1.6s						
LPAZ	La Paz	51.85	259	P	P	08 11 35.7	-0.3
	comp=Z,1.6nm,0.8s,baz=80,slow=8.5,SNR=6.9						
LPAZ				LR	LR	08 33 32.3	
	comp=Z,293nm,20.2s,baz=252,slow=36						
LPAZ	La Paz	51.85	259	P	P	08 11 35.7	-0.3
CFAA	Coronel Fontan	52.57	240	P	P	08 11 40.0	-0.5
	comp=Z,0.1nm,0.3s,baz=90,slow=7.1,SNR=3.2						
CFAA				LR	LR	08 31 40.3	
	comp=Z,48nm,20.7s,baz=79,slow=33						
CFAA	Coronel Fontan	52.57	240	P	P	08 11 40.0	-0.5
ESDC	Sonseca Array	53.10	10	LR	LR	08 34 32.6	
	comp=Z,110nm,21.3s,baz=120,slow=36						
KEST	Kesra	53.28	24	P	P	08 11 46.4	+0.8
	comp=Z,5.8nm,0.9s,baz=205,slow=5.6,SNR=4.4						
KEST				LR	LR	08 33 37.7	
	comp=Z,223nm,19.4s,baz=177,slow=35						
KEST	Kesra	53.28	24	eP	P	08 11 46.4	+0.8
ARE	Arequipa	55.05	259	eP	P	08 12 05.0	+5.8
ARE	Arequipa	55.05	259	eP	P	08 12 05.0	+5.8
PLCA	Paso Flores	56.11	229	LR	LR	08 31 29.1	
	comp=Z,539nm,21.9s,baz=79,slow=31						
MTLF	Montolieu	57.92	14	eP	P	08 12 19.2	+0.5
	comp=Z,23nm,1.2s						
MTLF	Montolieu	57.92	14	eP	P	08 12 19.2	+0.5
MTLF				pmax	pmax		
	comp=Z,23nm,1.2s						
MTLF	Montolieu	57.92	14	eP	P	08 12 19.2	+0.5
	comp=Z,23nm,1.2s						
VNA2	Neumayer--Watz	58.28	177	eP	P	08 12 21.8	+0.9
	baz=334,slow=6.8						
LMR	La Mourre	59.07	18	eP	P	08 12 28.0	+1.3
	comp=Z,22nm,1.1s						
LMR	La Mourre	59.07	18	eP	P	08 12 28.0	+1.3
LMR				pmax	pmax		
	comp=Z,22nm,1.1s						
LMR	La Mourre	59.07	18	eP	P	08 12 28.0	+1.3
	comp=Z,22nm,1.1s						
PGF	Pioggiola	59.15	20	eP	P	08 12 28.5	+1.1
	comp=Z,58nm,1.3s						
PGF	Pioggiola	59.15	20	eP	P	08 12 28.5	+1.1
PGF				pmax	pmax		
	comp=Z,58nm,1.3s						
PGF	Pioggiola	59.15	20	eP	P	08 12 28.5	+1.1
	comp=Z,58nm,1.3s						
SNAA	Sanae	59.30	176	P	P	08 12 46.6	+19
	comp=Z,1.5nm,1.0s,baz=6.7,slow=6.8,SNR=6.7						
SNAA	Sanae	59.30	176	eP	P	08 12 28.0	-0.1
	comp=Z,6.7nm,1.1s						
FRF	La Foret Royal	59.32	18	eP	P	08 12 29.5	+1.1
	comp=Z,31nm,1.3s						
FRF	La Foret Royal	59.32	18	eP	P	08 12 29.5	+1.1
FRF				pmax	pmax		
	comp=Z,31nm,1.3s						
FRF	La Foret Royal	59.32	18	eP	P	08 12 29.5	+1.1
	comp=Z,31nm,1.3s						
RJF	Les Rejaudoux	59.61	13	eP	P	08 12 31.5	+1.1
	comp=Z,28nm,1.1s						
RJF	Les Rejaudoux	59.61	13	eP	P	08 12 31.5	+1.1
RJF				pmax	pmax		
	comp=Z,28nm,1.1s						
RJF	Les Rejaudoux	59.61	13	eP	P	08 12 31.5	+1.1
	comp=Z,28nm,1.1s						
VIVF	Saint-Julien-l	59.96	16	eP	P	08 12 34.3	+1.5
	comp=Z,47nm,1.6s						
VIVF	Saint-Julien-l	59.96	16	eP	P	08 12 34.3	+1.5
VIVF				pmax	pmax		
	comp=Z,47nm,1.6s						
VIVF	Saint-Julien-l	59.96	16	eP	P	08 12 34.3	+1.5
	comp=Z,47nm,1.6s						
ORIF	Oris-en-Rattie	60.34	17	eP	P	08 12 37.4	+1.8
ORIF	Oris-en-Rattie	60.34	17	eP	P	08 12 37.4	+1.8
ORIF	Oris-en-Rattie	60.34	17	eP	P	08 12 37.4	+1.8
MBDF	Montbardon	60.42	17	eP	P	08 12 37.1	+0.9
	comp=Z,31nm,1.1s						
MBDF	Montbardon	60.42	17	eP	P	08 12 37.1	+0.9
MBDF				pmax	pmax		
	comp=Z,31nm,1.1s						
MBDF	Montbardon	60.42	17	eP	P	08 12 37.1	+0.9
	comp=Z,31nm,1.1s						
MFF	Saint Martin d	60.51	11	eP	P	08 12 37.8	+1.3
	comp=Z,25nm,1.1s						
MFF	Saint Martin d	60.51	11	eP	P	08 12 37.8	+1.3
MFF				pmax	pmax		
	comp=Z,25nm,1.1s						
MFF	Saint Martin d	60.51	11	eP	P	08 12 37.8	+1.3
	comp=Z,25nm,1.1s						
AGO	Saint Agoulin	60.69	14	eP	P	08 12 41.4	+3.6
AGO	Saint Agoulin	60.69	14	eP	P	08 12 41.4	+3.6
BNI	Bardonecchia	60.69	17	P	P	08 12 38.5	+0.5
BNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNI	Bardonecchia	60.69	17	P	P	08 12 38.5	+0.5
	comp=Z,7.2nm,0.9s						
TCF	Toulx Ste Croi	60.70	13	eP	P	08 12 39.3	+1.4
	comp=Z,21nm,1.0s						
TCF	Toulx Ste Croi	60.70	13	eP	P	08 12 39.3	+1.4
TCF				pmax	pmax		
	comp=Z,21nm,1.0s						
TCF	Toulx Ste Croi	60.70	13	eP	P	08 12 39.3	+1.4
	comp=Z,21nm,1.0s						
PLDF	La Plantade	60.73	14	eP	P	08 12 42.1	+3.9
PLDF	La Plantade	60.73	14	eP	P	08 12 42.1	+3.9
PLDF	La Plantade	60.73	14	eP	P	08 12 42.1	+3.9
LPG	La Plagne	61.12	17	eP	P	08 12 42.9	+1.8
	comp=Z,24nm,1.1s						
LPG	La Plagne	61.12	17	eP	P	08 12 42.9	+1.8
LPG				pmax	pmax		
	comp=Z,24nm,1.1s						
LPG	La Plagne	61.12	17	eP	P	08 12 42.9	+1.8
	comp=Z,24nm,1.1s						
LPL	La Plagne	61.13	17	eP	P	08 12 42.8	+1.7
	comp=Z,20nm,0.9s						
LPL	La Plagne	61.13	17	eP	P	08 12 42.8	+1.7
LPL				pmax	pmax		
	comp=Z,20nm,0.9s						
LPL	La Plagne	61.13	17	eP	P	08 12 42.8	+1.7
	comp=Z,20nm,0.9s						
SMF	Signal de Mont	61.41	14	eP	P	08 12 44.0	+1.3
	comp=Z,87nm,1.8s						
SMF	Signal de Mont	61.41	14	eP	P	08 12 44.0	+1.3
SMF				pmax	pmax		
	comp=Z,87nm,1.8s						
SMF	Signal de Mont	61.41	14	eP	P	08 12 44.0	+1.3
	comp=Z,87nm,1.8s						
AVF	Avril sur Loir	61.43	14	eP	P	08 12 44.1	+1.3
	comp=Z,33nm,1.3s						
AVF	Avril sur Loir	61.43	14	eP	P	08 12 44.1	+1.3
AVF				pmax	pmax		
	comp=Z,33nm,1.3s						
AVF	Avril sur Loir	61.43	14	eP	P	08 12 44.1	+1.3
	comp=Z,33nm,1.3s						
SSF	Saint Saulge	61.73	14	eP	P	08 12 46.1	+1.3
	comp=Z,27nm,1.2s						
SSF	Saint Saulge	61.73	14	eP	P	08 12 46.1	+1.3
SSF				pmax	pmax		
	comp=Z,27nm,1.2s						
SSF	Saint Saulge	61.73	14	eP	P	08 12 46.1	+1.3
	comp=Z,27nm,1.2s						
ROSC	El Rosal	61.89	283	P	P	08 12 47.0	-0.1
	comp=Z,2.1nm,0.4s,baz=83,slow=15,SNR=4.3						
ROSC				LR	LR	08 39 14.0	
	comp=Z,441nm,19.4s,baz=51,slow=36						
ROSC	El Rosal	61.89	283	P	P	08 12 47.0	-0.1
CABF	La Chapelle	61.96	16	eP	P	08 12 47.5	+1.0
	comp=Z,29nm,0.9s						
CABF	La Chapelle	61.96	16	eP	P	08 12 47.5	+1.0
CABF				pmax	pmax		
	comp=Z,29nm,0.9s						
CABF	La Chapelle	61.96	16	eP	P	08 12 47.5	+1.0
	comp=Z,29nm,0.9s						
LOMF	Lomont	62.84	16	eP	P	08 12 55.3	+3.0
LOMF	Lomont	62.84	16	eP	P	08 12 55.3	+3.0
LOMF	Lomont	62.84	16	eP	P	08 12 55.3	+3.0
BBS	Basel-Blauen	63.13	17	eP	P	08 12 55.7	+1.5
BBS	Basel-Blauen	63.13	17	eP	P	08 12 55.7	+1.5
DAVOX	Davos/Dischmat	63.21	19	P	P	08 12 56.1	+1.1
	comp=Z,2.8nm,0.7s,baz=130,slow=4.7,SNR=5.3						
DAVOX				LR	LR	08 40 00.1	
	comp=Z,568nm,20.4s,baz=217,slow=36						
DAVOX	Davos/Dischmat	63.21	19	P	P	08 12 56.1	+1.1
HINF	Hinteralfeld	63.27	16	eP	P	08 12 56.0	+0.8
HINF	Hinteralfeld	63.27	16	eP	P	08 12 56.0	+0.8
HINF	Hinteralfeld	63.27	16	eP	P	08 12 56.0	+0.8
HAU	Haudompre	63.31	16	eP	P	08 12 56.3	+0.9
HAU	Haudompre	63.31	16	eP	P	08 12 56.3	+0.9
HAU	Haudompre	63.31	16	eP	P	08 12 56.3	+0.9
THEF	They Montfort	63.42	15	eP	P	08 12 59.2	+3.1
THEF	They Montfort	63.42	15	eP	P	08 12 59.2	+3.1
THEF	They Montfort	63.42	15	eP	P	08 12 59.2	+3.1
MEZF	Maizieres J'vi	63.44	14	eP	P	08 12 57.5	+1.3
MEZF	Maizieres J'vi	63.44	14	eP	P	08 12 57.5	+1.3
FELD	Feldberg im Sc	63.64	17	eP	P	08 12 58.8	+1.0
BFO	Black Forest	64.14	17	eP	P	08 13 01.1	+0.2
BFO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BFO	Black Forest	64.14	17	eP	P	08 13 01.1	+0.2
	comp=Z,5.6nm,0.8s						
BAIF	Baives	64.70	13	eP	P	08 13 05.3	+0.8
BAIF	Baives	64.70	13	eP	P	08 13 05.3	+0.8
BAIF	Baives	64.70	13	eP	P	08 13 05.3	+0.8
GIVF	Givet	64.88	14	eP	P	08 13 06.3	+0.7
GIVF	Givet	64.88	14	eP	P	08 13 06.3	+0.7
GIVF	Givet	64.88	14	eP	P	08 13 06.3	+0.7
GRF	Grafenberg Arr	66.21	18	eP	P	08 13 15.0	+0.7
GRF				pmax	pmax		
	comp=Z,17nm,1.5s						
GRF	Grafenberg Arr	66.21	18	eP	P	08 13 15.0	+0.7
	comp=Z,17nm,1.5s						

GRF				*e*L	L	08 41 00.1		
	comp=Z,259nm,21.1s							
GERES	**GERESS Array B**	**66.26**	**20**	P	**P**	**08 13 15.2**	**+0.5**	
	comp=Z,1.4nm,0.7s,baz=183,slow=7.5,SNR=6.4							
GERES				LR	LR	08 42 02.0		
	comp=Z,336nm,19.3s,baz=30,slow=36							
GERES	**GERESS Array B**	**66.26**	**20**	P	**P**	**08 13 15.2**	**+0.5**	
KHC	**Kasperske Hory**	**66.46**	**20**	*e*P	**P**	**08 13 15.9**	**0.0**	
KHC				*e*		08 13 41.5		
KHC				MLR	MLR			
	comp=Z,400nm,27.1s							
KHC	**Kasperske Hory**	**66.46**	**20**	*e*P	**P**	**08 13 15.9**	**0.0**	
KHC				*ex*	x	08 13 26.5		
KHC				*e*PCP	**PcP**	**08 13 41.5**	**-4.0**	
KHC				AMS	AMS	08 39 30.0		
	comp=Z,400nm,27.1s							
ASF	**Jabal al Asfar**	**66.49**	**46**	P	**P**	**08 13 17.3**	**+0.7**	
	comp=Z,0.9nm,0.4s,baz=300,slow=8.1,SNR=2.8							
ASF	**Jabal al Asfar**	**66.49**	**46**	P	**P**	**08 13 17.3**	**+0.7**	
NKC	**Novy Kostel**	**67.06**	**18**	*e*P	**P**	**08 13 20.7**	**+1.0**	
NKC	**Novy Kostel**	**67.06**	**18**	*e*P	**P**	**08 13 20.7**	**+1.0**	
TREC	**Trest**	**67.25**	**21**	AMS	AMS	08 40 30.0		
	comp=Z,500nm,21.2s							
PRU	**Pruhonice**	**67.52**	**20**	*e*P	**P**	**08 13 23.3**	**+0.7**	
PRU				MLR	MLR			
	comp=Z,400nm,25.4s							
PRU	**Pruhonice**	**67.52**	**20**	*e*P	**P**	**08 13 23.3**	**+0.7**	
PRU				AMS	AMS	08 40 30.0		
	comp=Z,400nm,25.4s							
VRAC	**Vranov**	**67.65**	**21**	LR	LR	08 43 30.6		
	comp=Z,408nm,18.3s,baz=213,slow=36							
VYHS	**Vyhne**	**67.81**	**23**	*e*P	**P**	**08 13 25.6**	**+1.1**	
VYHS				pmax	pmax			
	comp=Z,13nm,1.8s							
VYHS	**Vyhne**	**67.81**	**23**	*e*P	**P**	**08 13 25.6**	**+1.1**	
PVCC	**Panska Ves**	**67.99**	**20**	AMS	AMS	08 40 50.0		
	comp=Z,300nm,17.0s							
BRG	**Berggiesshubel**	**68.09**	**19**	*e*P	**P**	**08 13 26.2**	**+0.1**	
	comp=Z,19nm,1.8s							
BRG				*e*		08 13 37.1		
	comp=Z,13nm,1.5s							
BRG	**Berggiesshubel**	**68.09**	**19**	*e*P	**P**	**08 13 26.2**	**0.0**	
BRG				pmax	pmax			
	comp=Z,12nm,1.8s							
BRG				pmax	pmax			
	comp=Z,19nm,1.5s							
DPC	**Dobruska-Polom**	**68.43**	**21**	*e*P	P	08 13 24.8	-3.6	
DPC				MLR	MLR			
	comp=Z,400nm,17.5s							
DPC	**Dobruska-Polom**	**68.43**	**21**	*e*P	P	08 13 24.8	-3.6	
DPC				AMS	AMS	08 42 50.0		
	comp=Z,400nm,17.5s							
UPC	**Upice**	**68.46**	**20**	*e*P	**P**	**08 13 29.9**	**+1.4**	
UPC	**Upice**	**68.46**	**20**	*e*P	**P**	**08 13 29.9**	**+1.4**	
EKA	**Eskdalemuir Ar**	**68.52**	**7**	P	**P**	**08 13 30.0**	**+1.2**	
	comp=Z,2.6nm,0.8s,baz=186,slow=6.2,SNR=5.7							
EKA	**Eskdalemuir Ar**	**68.52**	**7**	P	**P**	**08 13 30.0**	**+1.2**	
MLR	**Muntele Rosu**	**68.56**	**29**	P	**P**	**08 13 30.5**	**+1.1**	
	comp=Z,0.8nm,0.8s,baz=238,slow=9.9,SNR=5.1							
MLR				LR	LR	08 43 04.7		
	comp=Z,98nm,20.8s,baz=293,slow=36							
MLR	**Muntele Rosu**	**68.56**	**29**	P	**P**	**08 13 30.5**	**+1.1**	
OKC	**Ostrava-Krasne**	**68.65**	**22**	AMS	AMS	08 41 00.0		
	comp=Z,300nm,24.5s							
BRTR	**Keskin Array B**	**68.81**	**38**	P	**P**	**08 13 31.9**	**+0.8**	
	comp=Z,1.8nm,0.8s,baz=207,slow=8.1,SNR=9.9							
BRTR				LR	LR	08 42 51.1		
	comp=Z,101nm,21.1s,baz=236,slow=35							
BRTR	**Keskin Array B**	**68.81**	**38**	P	**P**	**08 13 31.9**	**+0.8**	
UZH	**Uzhgorod**	**69.30**	**25**	*e*P	**P**	**08 13 32.8**	**-1.0**	
UZH				*i*		08 13 35.0		
UZH				*i*		08 13 41.2		
UZH				*i*		08 13 55.4		
UZH				*e*S	S	08 22 31.4	-8.2	
UZH				*e*		08 23 17.8		
MAW	**Mawson**	**73.49**	**157**	LR	LR	08 38 26.8		
	comp=Z,414nm,18.6s,baz=287,slow=29							
AK02	**Malin Array Si**	**73.81**	**27**	*e*P	**P**	**08 14 00.5**	**-0.4**	
AK01	**Malin Array Si**	**73.83**	**27**	*e*P	**P**	**08 14 00.8**	**-0.3**	
KIEV	**Kiev**	**73.83**	**27**	*e*P	**P**	**08 14 01.1**	**+0.1**	
KIEV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIEV	**Kiev**	**73.83**	**27**	*e*P	**P**	**08 14 01.1**	**+0.1**	
	comp=Z,8.5nm,1.0s							
AKASG	**Malin Array Be**	**73.84**	**27**	P	**P**	**08 14 01.1**	**+0.1**	
	comp=Z,5.9nm,1.0s,baz=225,slow=6.5,SNR=12							
AKASG				LR	LR	08 47 41.1		
	comp=Z,182nm,19.9s,baz=225,slow=37							
AKASG	**Malin Array Be**	**73.84**	**27**	*i* P	**P**	**08 14 01.2**	**+0.1**	
AKASG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
AKASG	**Malin Array Be**	**73.84**	**27**	P	**P**	**08 14 01.1**	**+0.1**	
GNI	**Garni**	**76.08**	**43**	LR	LR	08 50 20.4		
	comp=Z,78nm,19.8s,baz=73,slow=38							
HFS	**Hagfors**	**76.12**	**14**	P	**P**	**08 14 14.3**	**+0.3**	
	comp=Z,4.4nm,1.1s,baz=241,slow=5.9,SNR=2.8							
HFS	**Hagfors**	**76.12**	**14**	P	**P**	**08 14 14.3**	**+0.3**	
NB2	**NORSAR Array B**	**76.37**	**13**	P	**P**	**08 14 16.0**	**+0.5**	
	comp=Z,3.9nm,1.1s,baz=205,slow=6.2							
NOA	**NORSAR Array B**	**76.37**	**13**	P	**P**	**08 14 15.6**	**+0.1**	
	comp=Z,2.1nm,0.9s,baz=206,slow=5.9,SNR=4.9							
NOA				LR	LR	08 49 29.9		
	comp=Z,83nm,20.3s,baz=180,slow=37							
NOA	**NORSAR Array B**	**76.37**	**13**	P	**P**	**08 14 15.7**	**+0.1**	
KIV	**Kislovodsk**	**76.75**	**39**	*e*P	**P**	**08 14 16.8**	**-1.4**	
KIV				*e*S	**S**	**08 24 00.9**	**-3.9**	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,87nm,19.0s							
KBZ	**Khabaz**	**76.76**	**39**	P	**P**	**08 14 19.1**	**+1.0**	
	comp=Z,1.0nm,0.6s,baz=225,slow=5.7,SNR=3.3							
KBZ				LR	LR	08 49 56.1		
	comp=Z,88nm,19.6s,baz=252,slow=37							
KBZ	**Khabaz**	**76.76**	**39**	P	**P**	**08 14 19.1**	**+1.0**	
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KBZ				MLR	MLR			
	comp=Z,88nm,19.7s							
KBZ	**Khabaz**	**76.76**	**39**	P	**P**	**08 14 19.1**	**+1.0**	
QSPA	**South Pole Qui**	**77.38**	**180**	P	**P**	**08 14 21.8**	**+0.5**	
	comp=Z,3.2nm,0.6s,baz=227,slow=3.0,SNR=29							
QSPA				LR	LR	08 42 41.7		
	comp=Z,190nm,18.9s,baz=149,slow=31							
QSPA	**South Pole Qui**	**77.38**	**180**	P	**P**	**08 14 21.9**	**+0.5**	
FINES	**FINESS Array B**	**80.62**	**18**	P	**P**	**08 14 39.6**	**+0.7**	
	comp=Z,4.1nm,0.9s,baz=194,slow=5.2,SNR=5.3							
FINES				LR	LR	08 50 46.1		
	comp=Z,154nm,19.3s,baz=173,slow=36							
FINES	**FINESS Array B**	**80.62**	**18**	P	**P**	**08 14 39.6**	**+0.7**	
JMIC	**Jan Mayen**	**83.66**	**2**	LR	LR	08 46 37.4		
	comp=Z,84nm,19.6s,baz=92,slow=32							
ARCES	**ARCESS Array B**	**86.74**	**13**	LR	LR	08 55 00.4		
	comp=Z,137nm,19.8s,baz=5.6,slow=36							
AKTO	**Aktyubinsk**	**88.98**	**38**	P	**P**	**08 15 22.4**	**+1.2**	
	comp=Z,0.3nm,0.2s,baz=191,slow=16,SNR=3.5							
AKTO	**Aktyubinsk**	**88.98**	**38**	P	**P**	**08 15 22.5**	**+1.2**	
AKTO	**Aktyubinsk**	**88.98**	**38**	P	**P**	**08 15 22.4**	**+1.2**	
SBA	**Scott Base**	**89.53**	**180**	*e*P	**P**	**08 15 24.7**	**+1.2**	
SBA				pmax	pmax			
	comp=Z,155nm,2.4s							
SBA	**Scott Base**	**89.53**	**180**	*e*P	**P**	**08 15 24.6**	**+1.2**	
	comp=Z,155nm,2.4s							
ABKAR	**Akbulak array**	**89.73**	**39**	*e*P	**P**	**08 15 25.8**	**+1.0**	
	comp=Z,0.8nm,0.7s							
VNDA	**Vanda**	**89.85**	**179**	P	**P**	**08 15 25.6**	**+0.6**	
	comp=Z,1.8nm,0.8s,baz=265,slow=4.7,SNR=6.3							
VNDA				LR	LR	08 49 08.6		
	comp=Z,234nm,20.2s,baz=172,slow=31							
VNDA	**Vanda**	**89.85**	**179**	P	**P**	**08 15 25.6**	**+0.6**	
ULM	**Lac du Bonnet**	**94.23**	**320**	LR	LR	08 50 44.2		
	comp=Z,135nm,20.4s,baz=13,slow=31							
TXAR	**Lajitas Array**	**95.37**	**299**	P	**P**	**08 15 51.6**	**+0.1**	
	comp=Z,0.7nm,0.9s,baz=119,slow=6.7,SNR=6.8							
TXAR				LR	LR	08 54 29.1		
	comp=Z,62nm,21.4s,baz=205,slow=33							
TXAR	**Lajitas Array**	**95.37**	**299**	P	**P**	**08 15 51.6**	**+0.1**	
BVAR	**Borovoye Array**	**97.08**	**37**	LR	LR	09 04 04.6		
	comp=Z,117nm,18.3s,baz=253,slow=38							
AAK	**Ala-Archa**	**97.85**	**48**	LR	LR	09 02 23.8		
	comp=Z,154nm,19.3s,baz=253,slow=37							
KSH	**Kashi**	**98.42**	**51**	*e*P	**P**	**08 16 02.6**	**-2.5**	
KSH				*ep*P	Pdif	08 16 07.3	+2.2	
KSH				*es*P	**sP**	**08 16 11.3**	**-1.1**	
KSH				*e*PP	**PP**	**08 20 05.4**	**-0.1**	
KSH				SKS	**SKSac**	**08 26 40.0**	**-2.8**	
KSH				S	S	08 27 25.8	-7.5	
KSH				sS	**ScS**	**08 27 34.3**	**+0.9**	
KSH				pmax	pmax			
	comp=Z,59nm,4.5s							
KSH				LR	LR			
	comp=N,85nm,6.2s							
KSH				LR	LR			
	comp=E,50nm,7.4s							
KSH				LR	LR			
	comp=Z,150nm,7.3s							
RKT	**Rikitea**	**111.64**	**239**	*e*LR	LR	08 16 28.0		
	comp=Z,274nm,24.5s							
KMI	**Kunming**	**119.90**	**68**	PKP	**PKPdf**	**08 21 20.5**	**+2.4**	
KMI				LR	LR			
	comp=Z,110nm,28.9s							
SONM	**Songino Array**	**120.04**	**42**	PKP	**PKPdf**	**08 21 18.1**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=3.6							
SONM	**Songino Array**	**120.04**	**42**	PKP	**PKPdf**	**08 21 18.1**	**+0.6**	
LZH	**Lanzhou**	**120.32**	**56**	*e*PKP	**PKPdf**	**08 21 16.3**	**-2.2**	
CD2	**Chengdu**	**120.68**	**62**	PKP	**PKPdf**	**08 21 18.4**	**-0.8**	
TBI	**Tubuai**	**123.11**	**231**	*e*LR	LR	08 59 36.7		
	comp=Z,297nm,23.2s							
GYA	**Guiyang**	**123.43**	**67**	*e*Pdif	**Pdif**	**08 17 55.0**	**-1.6**	
GYA				PKP	**PKPdf**	**08 21 23.5**	**-1.2**	
GYA				PP	**PP**	**08 23 09.6**	**+3.6**	
GYA				AMB	AMB			
	comp=Z,80nm,7.4s							
HHC	**Hu-ho-hao-te**	**125.42**	**49**	*e*PKP	**PKPdf**	**08 21 27.8**	**-0.3**	
HHC				PP	**PP**	**08 23 23.8**	**+5.1**	
HHC				PKS	**PKSdf**	**08 25 04.5**	**-0.2**	
HHC				SKS	**SKSdf**	**08 28 39.8**	**+0.2**	
HHC				SKKS	**SKKSac**	**08 30 15.8**	**-0.9**	
HHC				AMB	AMB			
	comp=Z,80nm,8.8s							
HHC				LR	LR			
	comp=N,210nm,16.8s							
HHC				LR	LR			
	comp=E,210nm,17.0s							
HHC				LR	LR			
	comp=Z,210nm,19.8s							
PPT2	**Papeete2**	**126.30**	**237**	*e*LR	LR	09 01 05.4		
	comp=Z,293nm,24.0s							
ASAR	**Alice Springs**	**132.44**	**139**	PKP	**PKPdf**	**08 21 41.6**	**-0.3**	
	comp=Z,0.6nm,0.9s,baz=214,slow=1.7,SNR=5.1							
ASAR	**Alice Springs**	**132.44**	**139**	PKP	**PKPdf**	**08 21 41.6**	**-0.3**	
CN2	**Changchun**	**133.85**	**40**	*e*PKP	**PKPdf**	**08 21 40.8**	**-3.0**	
WRA	**Warramunga Arr**	**135.35**	**136**	PKP	**PKPdf**	**08 21 47.4**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=245,slow=2.3,SNR=6.4							
WRA	**Warramunga Arr**	**135.35**	**136**	PKP	**PKPdf**	**08 21 47.5**	**0.0**	
MDJ	**Mudanjiang**	**135.94**	**37**	PKP	**PKPdf**	**08 21 47.6**	**-0.1**	
DZM	**Mont Dzumac**	**145.36**	**182**	*e*LR	LR	09 09 56.1		
	comp=Z,106nm,23.9s							
COEN	**Coen**	**145.48**	**140**	*e*PKPbc	**PKPbc**	**08 22 05.7**	**0.0**	
MJAR	**Matsushiro Arr**	**145.99**	**41**	PKPbc	**PKPdf**	**08 22 06.4**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=300,slow=2.2,SNR=3.4							
MJAR	**Matsushiro Arr**	**145.99**	**41**	PKPbc	**PKPdf**	**08 22 06.4**	**+0.3**	
SONM	**Songino Array**	**57.84**	**341**	P	**P**	**08 15 17.5**	**+0.4**	
	0.3nm,0.7s,baz=157,slow=7.8,SNR=2.8							
MKAR	**Makanchi Array**	**67.74**	**327**	P	**P**	**08 16 22.8**	**+0.2**	
	1.2nm,0.4s,baz=117,slow=6.3,SNR=35							

*CSEM **22** 08:03:27.0,23.54N×58.11E,h16km,After OMAN*
OMAN 22 08:03:26.9±5.3,23.54N×58.11E,h16km±41km,5C-3D, Error ellipse: s-maj=12.1km s-min=5.8km az=171.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOQ	**Hoqain**	**0.73**	**273**	⇓P	Pg	08 03 37.0	-4.2
	SNR=7.1						
HOQ	**Hoqain**	**0.73**	**273**	P	Pg	08 03 37.0	-4.3
	SNR=7.1						
HOQ	**Hoqain**	**0.73**	**273**	P	Pg	08 03 37.0	-4.3
	SNR=7.1						
HOQ	**Hoqain**	**0.73**	**273**	P	Pg	08 03 37.0	-4.3
	SNR=7.1						
HOQ	**Hoqain**	**0.73**	**273**	P	Pg	08 03 37.0	-4.3
	SNR=7.1						
BSYO	**Bisya**	**1.13**	**225**	P	Pg	08 03 49.2	+0.3
BSYO				S	Sg	08 04 05.3	+1.5
BSY	**Bisya**	**1.15**	**227**	⇑P	Pg	08 03 49.2	-0.1
BSY				⇓S	Sg	08 04 05.3	+1.0
JMDO	**Jabal Madar**	**1.17**	**180**	P	Pg	08 03 49.5	0.0
	SNR=80						
JMDO				⇑S	Sg	08 04 05.5	+0.7
JMDO	**Jabal Madar**	**1.17**	**180**	P	Pg	08 03 49.5	0.0
	SNR=80						
JMDO	**Jabal Madar**	**1.17**	**180**	P	Pg	08 03 49.5	0.0
	SNR=80						
JMDO	**Jabal Madar**	**1.17**	**180**	P	Pg	08 03 49.5	0.0
	SNR=80						
JMDO	**Jabal Madar**	**1.17**	**180**	P	Pg	08 03 49.5	0.0
	SNR=80						
JMDO				S	Sg	08 04 05.5	+0.7
WBK	**Wadi Bani Khal**	**1.22**	**139**	⇑P	Pb	08 03 50.0	+0.2
	SNR=104						
WBK				⇑S	Sg	08 04 07.9	+1.2
WBK	**Wadi Bani Khal**	**1.22**	**139**	P	Pb	08 03 50.0	+0.2
	SNR=104						
WBK	**Wadi Bani Khal**	**1.22**	**139**	P	Pb	08 03 50.0	+0.2
	SNR=104						
WBK	**Wadi Bani Khal**	**1.22**	**139**	P	Pb	08 03 50.0	+0.2
	SNR=104						
WBK	**Wadi Bani Khal**	**1.22**	**139**	P	Pb	08 03 50.0	+0.2
	SNR=104						
WBK				S	Sg	08 04 07.9	+1.2
ARQ	**Araqi**	**1.47**	**262**	⇑P	Pn	08 03 53.2	+0.4
ARQ	**Araqi**	**1.47**	**262**	P	Pn	08 03 53.2	+0.3
ASHO	**Ashiyiah**	**2.19**	**302**	⇓P	Pn	08 04 02.6	-0.2
ASHO	**Ashiyiah**	**2.19**	**302**	P	Pn	08 04 02.6	-0.2

*ISCJB **22** 08:05:39.6±0.7,6.27S±0.05×130.0E±0.1,h146km, mb3.7/3,Error ellipse: s-maj=14.3km s-min=6.8km az=2.8*
*AUST **22** 08:05:41.1,6.48S×130.03E,h60km*
*IDC **22** 08:05:46.2±4.6,6.39S×130.21E,h200km±45km,mb3.3/3, mb1 3.4/6,mb1mx3.2/19,mbtmp3.3/6,MS3.3/1,Ms1 3.3/1, ms1mx2.3/21,Error ellipse: s-maj=65.5km s-min=15.6km az=71.0*
ISC 22 08:05:40.8±0.9,6.30S±0.06×130.16E±0.09,h146km,n15, σ2.44/18,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.65**	**76**	P	**Pn**	**08 06 25.6**	**+2.0**
	baz=2.8,SNR=17						
TLE				S	**Sn**	**08 06 52.5**	**-3.9**
	baz=2.8,SNR=3.5						
SWI	**Sorong**	**5.51**	**11**	P	**Pn**	**08 07 00.1**	**-0.9**
	baz=5.7,SNR=6.7						
MTN	**Manton Dam**	**6.57**	**172**	P	**Pn**	**08 07 17.7**	**+2.6**
	baz=6.5,SNR=38						
MTN				S	**Sn**	**08 08 28.8**	**-0.2**
	baz=6.5,SNR=8.9						
KDU	**Kakadu**	**6.74**	**160**	P	**Pn**	**08 07 19.2**	**+1.8**
	baz=6.7,SNR=45						
KDU				S	**Sn**	**08 08 30.0**	**-3.0**
	baz=6.7,SNR=14						
FITZ	**Fitzroy Crossi**	**12.53**	**200**	P	**Pn**	**08 08 35.9**	**+1.8**
	0.3nm,0.3s,baz=26,slow=12,SNR=18						
FITZ				S	**Sn**	**08 10 48.2**	**-4.4**
	0.7nm,0.3s,baz=151,slow=19,SNR=9.9						
FITZ	**Fitzroy Crossi**	**12.53**	**200**	P	Pn	08 08 37.7	+3.6
	baz=12,SNR=10.0						
FITZ				S	**Sn**	**08 10 49.6**	**-3.1**
	baz=12,SNR=5.0						
WRA	**Warramunga Arr**	**14.15**	**164**	P	**Pn**	**08 08 55.4**	**+0.6**
	1.3nm,0.3s,baz=350,slow=11,SNR=16						
WRA				S	Sn	08 11 23.4	-8.4
	1.2nm,0.3s,baz=348,slow=18,SNR=11						
PALU	**Palau**	**14.22**	**18**	P	P	08 09 07.6	+8.9
	baz=14,SNR=3.3						
COEN	**Coen**	**14.89**	**122**	P	**P**	**08 09 07.1**	**+1.0**
	baz=15,SNR=12						
QIS	**Mount Isa**	**16.87**	**148**	P	**Pn**	**08 09 30.1**	**+1.7**
	baz=17,SNR=7.5						
ASAR	**Alice Springs**	**17.64**	**169**	P	**Pn**	**08 09 38.5**	**+0.9**
	1.3nm,0.3s,baz=347,slow=10,SNR=90						
ASAR				S	**S**	**08 12 48.9**	**-3.5**
	0.3nm,0.3s,baz=355,slow=25,SNR=7.8						
CTA	**Charters Tower**	**20.78**	**133**	LR	LR	08 18 17.2	
	comp=Z,83nm,21.6s,baz=207,slow=36						
STKA	**Stephens Creek**	**27.60**	**159**	P	**P**	**08 11 15.1**	**+0.6**
	0.7nm,0.4s,baz=333,slow=9.1,SNR=4.8						

*CSEM **22** 08:09:24.4±0.3,36.90N×28.04E,h2km,MD2.4,Error ellipse: s-maj=6.5km s-min=4.8km az=1.0*
*ISK **22** 08:09:25.7,36.97N×27.88E,h16km,MD2.4*
*DDA **22** 08:09:26.1,36.96N×27.89E,h7km,MD2.6*
ISC 22 08:09:23.6±1.3,36.85N±0.04×28.01E±0.03,h3km±18km, n13,σ9.41/23,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.36**	**38**	*e*Pg	**Pb**	**08 09 33.6**	**+0.9**
DAT	**Datca**	**0.37**	**250**	*e*PG	**Pb**	**08 09 33.1**	**+0.3**
DAT				*e*SG	**Sb**	**08 09 38.7**	**-0.3**
DAT	**Datca**	**0.37**	**250**	*e*Pg	**Pb**	**08 09 33.1**	**+0.3**
DAT				*e*Sg	**Sb**	**08 09 38.7**	**-0.3**
MLSB	**Milas**	**0.48**	**337**	*e*PG	**Pg**	**08 09 33.1**	**+0.3**
MLSB				*e*SG	**Sg**	**08 09 38.5**	**-0.5**
MLSB	**Milas**	**0.48**	**337**	*e*Pg	**Pg**	**08 09 33.2**	**+0.3**
MLSB				*e*Sg	**Sg**	**08 09 38.5**	**-0.5**
TURN	**Turunc**	**0.48**	**88**	*i* P	**Pg**	**08 09 32.9**	**+0.1**
TURN				*i* S	**Sg**	**08 09 38.5**	**-0.5**
TURN	**Turunc**	**0.48**	**88**	*i* P	**Pg**	**08 09 32.9**	**+0.1**
TURN				*i* S	**Sg**	**08 09 38.5**	**-0.5**
BDRM	**Kayabasi**	**0.50**	**295**	*i* P	**Pg**	**08 09 33.1**	**-0.1**
BDRM				*i* S	**Sg**	**08 09 39.7**	**0.0**
BDRM	**Kayabasi**	**0.50**	**295**	*i* P	**Pg**	**08 09 33.1**	**-0.1**
BDRM				*i* S	**Sg**	**08 09 39.7**	**0.0**
BODT	**Bodrum**	**0.60**	**291**	*e*PG	**Pg**	**08 09 35.5**	**+0.4**
BODT	**Bodrum**	**0.60**	**291**	*e*Pg	**Pg**	**08 09 35.5**	**+0.4**
AYDN	**Tasoluk**	**0.81**	**353**	*i* P	**Pb**	**08 09 40.1**	**-0.3**
AYDN				*i* S	**Sg**	**08 09 49.8**	**0.0**
AYDN	**Tasoluk**	**0.81**	**353**	*i* P	**Pb**	**08 09 40.1**	**-0.3**
AYDN				*i* S	**Sg**	**08 09 49.8**	**0.0**

IDC 22 08:05:58.3±3.4,16.46S×173.88W,h59km±37km,mb3.6/5, mb1 3.8/6,mb1mx3.5/22,mbtmp3.7/6,ML2.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.8/23,Error ellipse: s-maj=49.7km s-min=21.8km az=134.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.25**	**39**	P	Pn	08 06 46.8	0.0
	44nm,0.3s,baz=204,slow=2.2,SNR=24						
AFI				S	Sn	08 07 20.5	-3.9
	55nm,0.3s,baz=193,slow=23,SNR=6.7						
AFI				LR	LR	08 07 31.6	
	comp=Z,245nm,21.9s,baz=105,slow=29						
URZ	**Urewera**	**23.12**	**198**	P	P	08 10 59.3	0.0
	6.3nm,0.5s,baz=36,slow=13,SNR=13						
STKA	**Stephens Creek**	**43.12**	**241**	P	P	08 13 52.6	-0.4
	0.7nm,0.7s,baz=80,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**49.16**	**258**	P	P	08 14 40.0	-0.8
	0.2nm,0.4s,baz=94,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**49.35**	**253**	P	P	08 14 43.0	+0.8
	1.5nm,0.5s,baz=89,slow=8.1,SNR=11						
PDAR	**Pinedale Array**	**83.36**	**42**	P	P	08 18 19.4	0.0
	0.8nm,0.7s,baz=205,slow=3.9,SNR=7.7						

IDC 22 08:27:20.7±11.0,5.49S×129.02E,h317km±134km, mb2.5/1,mb1 2.7/3,mb1mx2.5/19,mbtmp2.5/3,Error ellipse: s-maj=107.4km s-min=47.9km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.27**	**161**	P	P	08 30 38.0	-2.0
	0.1nm,0.3s,baz=338,slow=13,SNR=13						
WRA				S	S	08 33 25.9	+0.5
	0.0nm,0.3s,baz=343,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**18.68**	**166**	P	P	08 31 17.7	+0.9
	0.1nm,0.3s,baz=349,slow=12,SNR=18						
MKAR	**Makanchi Array**	**66.43**	**327**	P	P	08 37 36.6	0.0
	0.1nm,0.4s,baz=112,slow=6.3,SNR=3.3						

IDC 22 08:57:46.3±1.1,58.59S×29.71W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.9/13,mbtmp4.0/4,MS3.9/4,Ms1 3.8/4, ms1mx3.3/20,Error ellipse: s-maj=47.9km s-min=31.7km az=15.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**17.07**	**151**	P	P	09 02 08.2	+20
	0.0nm,0.3s,baz=320,slow=16,SNR=2.9						
USHA	**Ushuaia**	**21.37**	**263**	LR	LR	09 08 23.7	
	comp=Z,263nm,20.2s,baz=188,slow=30						
PLCA	**Paso Flores**	**31.26**	**287**	P	P	09 04 07.3	-0.2
	0.8nm,0.3s,baz=122,slow=8.3,SNR=8.1						
PLCA				LR	LR	09 15 07.0	
	comp=Z,109nm,19.2s,baz=297,slow=33						
BOSA	**Boshof**	**47.92**	**76**	LR	LR	09 22 16.0	
	comp=Z,83nm,18.1s,baz=192,slow=31						
LPAZ

ILAR	**Eielson Array**	**150.71**	**309**	PKPbc	PKPbc	09 17 38.7	0.0
	3.4nm,0.8s,baz=139,slow=1.8,SNR=45						
SONM	**Songino Array**	**152.10**	**93**	PKPbc	PKPbc	09 17 42.4	-0.2
	0.3nm,0.4s,baz=215,slow=3.1,SNR=3.7						

*CSEM **22** 10:02:30.2±0.2, 35°.18N×51°.63E, h2km, ML3.5, Error ellipse: s-maj=3.8km s-min=3.6km az=103.0*
*TEH **22** 10:02:31.8, 35°.25N×51°.62E, h15km, ML3.5*
ISC 22 10:02:30.6±1.1, 35°.19N±0°.03×51°.62E±0°.02, h6km±12km, n38, σ0s79/47, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVRN	**Varamin**	**0.21**	**156**	*e*Pg	**Pg**	**10 02 34.2**	**-0.6**
IVRN				*e*		10 02 34.9	
	comp=Z,36μm,0.0s						
IVRN	**Varamin**	**0.21**	**156**	*e*Pg	**Pg**	**10 02 34.2**	**-0.6**
IDMV	**Damavand**	**0.51**	**41**	*e*Pg	**Pg**	**10 02 41.0**	**+0.5**
IDMV				*e*		10 02 58.4	
	comp=Z,14μm,0.1s						
IDMV	**Damavand**	**0.51**	**41**	*e*Pg	**Pg**	**10 02 41.0**	**+0.5**
DAMV	**Damavand**	**0.52**	**33**	*e*Pg	**Pg**	**10 02 41.3**	**+0.6**
DAMV				*e*Sg	**Sb**	**10 02 49.5**	**-0.8**
GHVR	**GHOM**	**0.76**	**201**	*e*Pg	**Pg**	**10 02 44.6**	**-0.5**
GHVR				*e*Sg	**Sg**	**10 02 55.3**	**+0.3**
CHTH	**Charan**	**0.82**	**331**	*e*Pg	**Pg**	**10 02 46.4**	**0.0**
IR5	**Iran Long-Peri**	**0.85**	**272**	*e*Pg	**Pg**	**10 02 46.2**	**-0.8**
IR5				*e*Sg	**Sg**	**10 02 57.8**	**-0.3**
IMHD	**Mahdasht**	**0.92**	**303**	*e*Pg	**Pg**	**10 02 47.7**	**-0.6**
IMHD				*e*Sg	**Sg**	**10 03 00.7**	**+0.4**
IMHD				*e*		10 03 03.1	
	comp=Z,28μm,0.1s						
IMHD	**Mahdasht**	**0.92**	**303**	*e*Pg	**Pg**	**10 02 47.7**	**-0.6**
IMHD				*e*Sg	**Sg**	**10 03 00.7**	**+0.4**
THKV	**Tehran--Karaj**	**0.94**	**320**	*e*Pg	**Pg**	**10 02 49.0**	**+0.3**
IFIR	**Firoozkooh**	**1.03**	**64**	*e*Pg	**Pg**	**10 02 50.2**	**-0.1**
IFIR				*e*		10 03 10.0	
	comp=Z,11μm,0.1s						
IFIR	**Firoozkooh**	**1.03**	**64**	*e*Pg	**Pg**	**10 02 50.2**	**-0.1**
ILAS	**Lasjerd**	**1.11**	**80**	*e*Pg	**Pg**	**10 02 51.3**	**-0.6**
ILAS				*e*Sg	**Sg**	**10 03 06.9**	**+0.6**
ILAS				*e*		10 03 10.3	
	comp=Z,13μm,0.1s						
ILAS	**Lasjerd**	**1.11**	**80**	*e*Pg	**Pg**	**10 02 51.3**	**-0.6**
ILAS				*e*Sg	**Sg**	**10 03 06.9**	**+0.6**
IPRN	**Peran**	**1.20**	**29**	*e*Pg	**Pg**	**10 02 53.4**	**-0.2**
IPRN				*e*		10 03 20.0	
	comp=Z,6μm,0.2s						
IALA	**Alasht**	**1.31**	**47**	*e*Pg	**Pn**	**10 02 54.3**	**-1.5**
IALA				*e*		10 03 21.0	
	comp=Z,10μm,0.1s						
IALA	**Alasht**	**1.31**	**47**	*e*Pg	**Pn**	**10 02 54.3**	**-1.5**
IRAZ	**Razeghan**	**1.40**	**279**	*e*Pn	**Pn**	**10 02 55.9**	**-1.0**
IRAZ				*e*Sg	**Sb**	**10 03 15.1**	**-0.4**
IRAZ				*e*		10 03 19.0	
	comp=Z,22μm,0.2s						
IRAZ	**Razeghan**	**1.40**	**279**	*e*Pn	**Pn**	**10 02 55.9**	**-1.0**
IRAZ				*e*Sg	**Sb**	**10 03 15.1**	**-0.4**
ISHM	**Shahmirzad**	**1.50**	**65**	*e*Pn	**Pn**	**10 02 58.2**	**0.0**
ISHM				*e*		10 03 29.8	
	comp=Z,24μm,0.1s						
ISHM	**Shahmirzad**	**1.50**	**65**	*e*Pn	**Pn**	**10 02 58.2**	**0.0**
IKLH	**Kolahrood**	**1.87**	**181**	*e*Pn	**Pn**	**10 03 02.8**	**-0.5**
IKLH				*e*		10 03 27.7	
	comp=Z,24μm,0.1s						
IKLH	**Kolahrood**	**1.87**	**181**	*e*Pn	**Pn**	**10 03 02.8**	**-0.5**
IANJ	**Anjilo**	**1.89**	**81**	*e*Pn	**Pn**	**10 03 03.3**	**-0.4**
IANJ				*e*		10 03 39.0	
	comp=Z,10μm,0.1s						
IANJ	**Anjilo**	**1.89**	**81**	*e*Pn	**Pn**	**10 03 03.3**	**-0.4**
IZEF	**Zefreh**	**2.36**	**165**	*e*		10 03 43.8	
	comp=Z,4μm,0.1s						
IZEF				*e*Pn	**Pn**	**10 03 09.9**	**-0.2**
IPIR	**Pirpir**	**2.57**	**194**	*e*Pn	**Pn**	**10 03 15.0**	**+2.0**
IPIR				*e*		10 03 52.8	
	comp=Z,3μm,0.1s						
IPIR	**Pirpir**	**2.57**	**194**	*e*Pn	**Pn**	**10 03 15.0**	**+2.0**
IGAR	**Gharneh**	**2.80**	**173**	*e*Pn	**Pn**	**10 03 17.0**	**+0.9**
IGAR				*e*		10 04 00.8	
	comp=Z,2μm,0.2s						
ZNJK	**Zanjan**	**2.80**	**303**	*e*Pn	**Pn**	**10 03 17.7**	**+1.5**
SNGE	**Sanandaj**	**3.50**	**270**	*e*Pn	**Pn**	**10 03 26.9**	**+1.1**
ICHK	**Chekchek**	**3.74**	**141**	*e*Pn	**Pn**	**10 03 29.8**	**+0.7**
ICHK				*e*		10 04 29.7	
	comp=Z,737nm,0.1s						
ICHK	**Chekchek**	**3.74**	**141**	*e*Pn	**Pn**	**10 03 29.8**	**+0.7**
IMEH	**Mehriz**	**4.54**	**146**	*e*Pn	**Pn**	**10 03 40.5**	**+0.4**
IMEH				*e*		10 04 50.1	
	comp=Z,304nm,0.2s						
IMEH	**Mehriz**	**4.54**	**146**	*e*Pn	**Pn**	**10 03 40.5**	**+0.4**
IBAF	**Bafgh**	**4.88**	**136**	*e*Pn	**Pn**	**10 03 44.9**	**+0.3**
IBAF				*e*		10 05 17.9	
	comp=Z,171nm,0.1s						
IBAF	**Bafgh**	**4.88**	**136**	*e*Pn	**Pn**	**10 03 44.9**	**+0.3**

*ISK **22** 10:05:11.7, 37°.18N×37°.11E, h5km, MD2.7*
*DDA **22** 10:05:11.6, 37°.16N×37°.08E, h15km, MD2.8*
*CSEM **22** 10:05:12.2±0.3, 37°.14N×37°.08E, h5km, MD2.8, Error ellipse: s-maj=7.5km s-min=5.7km az=119.0*
ISC 22 10:05:11.8±1.1, 37°.17N±0°.02×37°.05E±0°.03, h4km±10km, n27, σ0s87/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.13**	**90**	*e*PG	**Pg**	**10 05 13.5**	**-1.0**
GAZ	**Gaziantep**	**0.13**	**90**	*e*Pg	**Pg**	**10 05 13.5**	**-1.0**
KMRS	**Kahramanmaras**	**0.35**	**341**	*e*PG	**Pb**	**10 05 20.1**	**-0.6**
KMRS				*e*SG	**Sb**	**10 05 26.2**	**-0.5**
KMRS	**Kahramanmaras**	**0.35**	**341**	*e*Pg	**Pb**	**10 05 20.1**	**-0.6**
KMRS				*e*Sg	**Sb**	**10 05 26.2**	**-0.5**
KUZU	**Kuzuini**	**0.40**	**177**	*i* P	**Pg**	**10 05 20.0**	**+0.5**
KUZU				*i* S	**Sg**	**10 05 25.9**	**+1.2**
KUZU	**Kuzuini**	**0.40**	**177**	*i* P	**Pg**	**10 05 20.0**	**+0.5**
KUZU				*i* S	**Sg**	**10 05 25.9**	**+1.2**
GZT	**Gaziantep**	**0.45**	**66**	*i* P	**Pg**	**10 05 20.0**	**-0.5**
COBT	**Iskenderun**	**0.91**	**224**	*i* P	**Pg**	**10 05 27.8**	**-1.4**
COBT				*i* S	**Sb**	**10 05 42.4**	**-0.3**
COBT	**Iskenderun**	**0.91**	**224**	*i* P	**Pg**	**10 05 27.8**	**-1.4**
COBT				*i* S	**Sb**	**10 05 42.4**	**-0.3**
KOZT	**Kozan**	**1.02**	**288**	*e*PG	**Pn**	**10 05 33.3**	**+0.4**
KOZT	**Kozan**	**1.02**	**288**	*e*Pg	**Pn**	**10 05 33.3**	**+0.4**
CEYT	**Ceyhan**	**1.05**	**262**	*e*PN	**Pn**	**10 05 34.1**	**+0.8**
CEYT	**Ceyhan**	**1.05**	**262**	*e*Pn	**Pn**	**10 05 34.1**	**+0.8**
AKCD	**Akcadag**	**1.32**	**32**	*i* P	**Pg**	**10 05 37.3**	**+0.2**
AKCD				*i* S	**Sn**	**10 05 56.1**	**+0.8**
AKCD	**Akcadag**	**1.32**	**32**	*i* P	**Pg**	**10 05 37.3**	**+0.2**
AKCD				*i* S	**Sn**	**10 05 56.1**	**+0.8**
YAYL	**Yayladag**	**1.36**	**214**	*i* P	**Pn**	**10 05 36.5**	**-1.2**
YAYL				*i* S	**Sn**	**10 05 56.9**	**+0.6**
YAYL	**Yayladag**	**1.36**	**214**	*i* P	**Pn**	**10 05 36.5**	**-1.2**
YAYL				*i* S	**Sn**	**10 05 56.9**	**+0.6**
URFA	**Urfa**	**1.44**	**79**	*e*PN	**Pb**	**10 05 39.0**	**-0.3**
URFA	**Urfa**	**1.44**	**79**	*e*Pn	**Pb**	**10 05 39.0**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.53**	**350**	*e*PN	**Pn**	**10 05 38.4**	**-1.7**
SARI	**SarD1z-Kayseri**	**1.53**	**350**	*e*Pn	**Pn**	**10 05 38.4**	**-1.7**
MALT	**Malatya**	**1.58**	**43**	*e*PN	**Pb**	**10 05 41.8**	**+0.1**
MALT				*e*SN	**Sg**	**10 06 03.6**	**+1.0**
MALT	**Malatya**	**1.58**	**43**	*e*Pn	**Pb**	**10 05 41.8**	**+0.1**
MALT				*e*Sn	**Sg**	**10 06 03.6**	**+1.0**
PINB	**Pinarbasi**	**1.59**	**342**	*i* P	**Pn**	**10 05 41.0**	**+0.1**
PINB				*i* S	**Sg**	**10 06 03.9**	**+1.1**
PINB	**Pinarbasi**	**1.59**	**342**	*i* P	**Pn**	**10 05 41.0**	**+0.1**
PINB				*i* S	**Sg**	**10 06 03.9**	**+1.1**
MYA	**Malataya**	**1.59**	**43**	*e*PN	**Pb**	**10 05 41.6**	**-0.1**
MYA	**Malataya**	**1.59**	**43**	*e*Pn	**Pb**	**10 05 41.7**	**-0.1**

*IDC **22** 10:27:43.5±1.5, 23°.29S×174°.68W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/19, mbtmp4.1/10, MS3.3/1, Ms1 3.3/1, ms1mx2.1/41, Error ellipse: s-maj=58.7km s-min=21.9km az=151.0*
*NEIC **22** 10:27:46.7±0.6, 23°.61S×174°.34W, h35km, mb4.9/3, Error ellipse: s-maj=20.7km s-min=9.9km az=169.0*
*AUST **22** 10:27:58.1±5.6, 21°.77S×174°.11W, h171km, Error ellipse: s-maj=4.4km s-min=1.5km az=358.0*
ISC 22 10:27:47.1±0.8, 23°.5S±0°.2×174°.31W±0°.09, h35km, n35, σ1s14/28, mb4.2/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.02**	**44**	P	Pn	10 29 07.3	-6.4
	baz=4.8,SNR=18						
NIUE				S	Sn	10 30 06.3	-15
	baz=4.8,SNR=4.1						
MSVF	**Nonsavu**	**9.19**	**307**	*e*Pn	**Pn**	**10 29 56.6**	**-0.6**
AFI	**Afiamalu**	**9.86**	**14**	Pn	Pn	10 29 59.7	-6.7
RAR	**Rarotonga**	**13.64**	**83**	Pn	**Pn**	**10 30 56.5**	**-1.6**
	4.3nm,0.3s,baz=270,slow=9.3,SNR=5.9						
RAR				LR	LR	10 34 54.7	
	comp=Z,129nm,21.7s,baz=271,slow=31						
RAR	**Rarotonga**	**13.64**	**83**	*e*Pn	**Pn**	**10 30 56.8**	**-1.3**
CMSA	**Cobar Meteorol**	**36.20**	**248**	P	**P**	**10 34 46.9**	**+0.3**
	baz=37,SNR=7.0						
CTAO	**Charters Tower**	**36.70**	**268**	*e*P	**P**	**10 34 49.8**	**-1.3**
	13nm,0.6s						
STKA	**Stephens Creek**	**39.70**	**248**	P	**P**	**10 35 16.1**	**-0.1**
	1.5nm,0.6s,baz=79,slow=9.5,SNR=4.0						
STKA	**Stephens Creek**	**39.70**	**248**	P	**P**	**10 35 16.1**	**-0.1**
AS31	**Alice Springs**	**47.24**	**259**	*e*P	**P**	**10 36 16.7**	**-0.4**
ASAR	**Alice Springs**	**47.24**	**259**	P	**P**	**10 36 16.3**	**-0.8**
	2.0nm,0.6s,baz=87,slow=7.6,SNR=40						
ASAR	**Alice Springs**	**47.24**	**259**	P	**P**	**10 36 16.3**	**-0.8**
WRAB	**Tennant Creek**	**47.63**	**264**	*e*P	**P**	**10 36 18.6**	**-1.5**
	12nm,0.8s						
WRA	**Warramunga Arr**	**47.64**	**264**	P	**P**	**10 36 18.8**	**-1.5**
	10nm,0.6s,baz=102,slow=8.1,SNR=151						
WRA	**Warramunga Ar**	**47.64**	**264**	P	**P**	**10 36 18.8**	**-1.5**
KDU	**Kakadu**	**51.47**	**272**	P	**P**	**10 36 47.8**	**-1.6**
	baz=52,SNR=4.4						
FITZ	**Fitzroy Crossi**	**56.06**	**263**	*e*P	**P**	**10 37 23.1**	**+0.1**
	6.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.06**	**263**	P	**P**	**10 37 23.5**	**+0.5**
	baz=56,SNR=6.2						
PALU	**Palau**	**58.68**	**295**	P	P	10 37 33.0	-8.5
	baz=58,SNR=4.9						
MEEK	**Meekatharra**	**60.20**	**252**	P	**P**	**10 37 52.5**	**+0.5**
	baz=61,SNR=4.3						
BLDU	**Ballidu**	**61.00**	**247**	P	**P**	**10 37 58.7**	**+1.4**
	baz=62,SNR=4.7						
MORW	**Morawa**	**61.89**	**249**	P	**P**	**10 38 05.3**	**+2.0**
	1.5nm,0.7s,baz=170,slow=6.3,SNR=3.9						
MJAR	**Matsushiro Arr**	**74.68**	**322**	P	**P**	**10 39 22.5**	**-0.7**
PETK	**Petropavlovsk-**	**80.09**	**343**	P	**P**	**10 39 53.0**	**0.0**
	3.8nm,0.9s,baz=143,slow=8.3,SNR=2.6						
PETK	**Petropavlovsk-**	**80.09**	**343**	P	**P**	**10 39 53.0**	**0.0**
USRK	**Ussuriysk Arra**	**83.39**	**324**	P	**P**	**10 40 12.1**	**+1.6**
	1.4nm,0.8s,baz=116,slow=5.8,SNR=4.2						
TXAR	**Lajitas Array**	**85.85**	**56**	P	P	10 40 27.4	+3.9
	0.5nm,0.9s,baz=204,slow=9.0,SNR=5.8						
TXAR	**Lajitas Array**	**85.85**	**56**	P	P	10 40 27.4	+3.9
PDAR	**Pinedale Array**	**88.86**	**42**	P	**P**	**10 40 39.1**	**+1.2**
	0.2nm,0.5s,baz=256,slow=1.9,SNR=3.0						
PDAR	**Pinedale Array**	**88.86**	**42**	P	**P**	**10 40 39.1**	**+1.2**
ILAR	**Eielson Array**	**90.53**	**11**	P	**P**	**10 40 46.1**	**+1.1**
	0.8nm,0.9s,baz=215,slow=5.2,SNR=5.8						
ILAR	**Eielson Array**	**90.53**	**11**	P	**P**	**10 40 46.0**	**+1.1**
YKA	**Yellowknife Ar**	**97.84**	**24**	P	Pdif	10 41 19.1	+0.6
	0.2nm,0.9s,baz=240,slow=4.9,SNR=3.2						
YKA	**Yellowknife Ar**	**97.84**	**24**	P	Pdif	10 41 19.1	+0.6

IDC 22 10:34:24.4±3.4, 23°.49S×174°.65W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=178.5km s-min=28.2km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.39**	**268**	P	P	10 41 30.9	+0.2
	3.2nm,0.5s,baz=107,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**46.94**	**259**	P	P	10 42 57.6	+0.4
	1.0nm,0.8s,baz=91,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**47.33**	**264**	P	P	10 42 59.4	-0.9
	1.6nm,0.4s,baz=103,slow=8.5,SNR=30						
PDAR	**Pinedale Array**	**89.05**	**42**	P	P	10 47 20.9	-0.8
	0.8nm,1.1s,baz=229,slow=3.5,SNR=2.6						
ILAR	**Eielson Array**	**90.57**	**12**	P	P	10 47 29.0	+1.1
	0.4nm,0.9s,baz=229,slow=6.8,SNR=2.8						

IDC 22 10:35:12.0±26.0, 22°.53S×173°.88W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/21, mbtmp4.3/4, Error ellipse: s-maj=488.3km s-min=147.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.14**	**266**	P	P	10 42 25.2	+0.3
	6.8nm,0.6s,baz=100,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**40.44**	**247**	P	P	10 42 52.2	-0.2
	1.6nm,0.8s,baz=100,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**47.82**	**258**	P	P	10 43 51.5	-0.3
	1.3nm,0.6s,baz=96,slow=7.9,SNR=15						
WRA	**Warramunga Arr**	**48.14**	**263**	P	P	10 43 53.9	-0.3
	4.9nm,0.7s,baz=102,slow=8.1,SNR=29						

*IDC **22** 10:42:07.0±1.7, 23°.39S×174°.69W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/20, mbtmp4.1/8, Error ellipse: s-maj=81.2km s-min=20.8km az=154.0*
*ISCJB **22** 10:42:10.5±1.3, 23°.4S±0°.4×174°.8W±0°.2, h33km, mb4.1/10, Error ellipse: s-maj=59.7km s-min=16.1km az=152.6*
*NEIC **22** 10:42:12.3±1.1, 23°.39S×174°.73W, h35km, mb4.7/3, Error ellipse: s-maj=53.7km s-min=12.7km az=154.0*
ISC 22 10:42:12.3±1.5, 23°.4S±0°.5×174°.7W±0°.2, h35km, n20, σ0s75/20, mb4.1/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.35**	**268**	P	**P**	**10 49 12.7**	**-0.5**
	7.6nm,0.5s,baz=103,slow=12,SNR=14						
CTA	**Charters Tower**	**36.35**	**268**	P	**P**	**10 49 12.7**	**-0.5**
CTAO	**Charters Tower**	**36.35**	**268**	*e*P	**P**	**10 49 13.0**	**-0.2**
	7.4nm,0.5s						
STKA	**Stephens Creek**	**39.41**	**248**	P	**P**	**10 49 39.6**	**+0.7**
	1.3nm,0.6s,baz=79,slow=9.9,SNR=5.6						
STKA	**Stephens Creek**	**39.41**	**248**	*e*P	**P**	**10 49 39.7**	**+0.8**
	0.3nm,0.6s						
AS31	**Alice Springs**	**46.90**	**259**	*e*P	**P**	**10 50 39.7**	**+0.1**
ASAR	**Alice Springs**	**46.90**	**259**	P	**P**	**10 50 39.6**	**0.0**
	1.6nm,0.6s,baz=84,slow=7.9,SNR=29						
ASAR	**Alice Springs**	**46.90**	**259**	P	**P**	**10 50 39.6**	**0.0**
WRAB	**Tennant Creek**	**47.28**	**264**	*e*P	**P**	**10 50 41.5**	**-1.1**
	6.1nm,0.7s						
WRA	**Warramunga Arr**	**47.29**	**264**	P	**P**	**10 50 41.9**	**-0.8**
	7.1nm,0.6s,baz=102,slow=8.0,SNR=89						
WRA	**Warramunga Arr**	**47.29**	**264**	P	**P**	**10 50 41.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.71**	**263**	*e*P	**P**	**10 51 45.9**	**+0.3**
	2.4nm,0.8s						
KSRS	**Korea Array**	**81.10**	**317**	P	**P**	**10 54 24.7**	**+0.8**
	1.3nm,0.8s,baz=137,slow=8.8,SNR=3.5						
NVAR	**Mina Array Bea**	**81.11**	**41**	P	**P**	**10 54 25.3**	**+1.0**
	0.6nm,0.6s,baz=246,slow=6.6,SNR=3.0						
NVAR	**Mina Array Bea**	**81.11**	**41**	P	**P**	**10 54 25.2**	**+1.0**
KSAR	**Wonju Array Be**	**81.12**	**317**	P	**P**	**10 54 24.7**	**+0.7**
TXAR	**Lajitas Array**	**86.10**	**56**	P	**P**	**10 54 49.2**	**-0.7**
	0.4nm,0.8s,baz=204,slow=6.5,SNR=5.2						
TXAR	**Lajitas Array**	**86.10**	**56**	P	**P**	**10 54 49.2**	**-0.7**
ILAR	**Eielson Array**	**90.51**	**12**	P	**P**	**10 55 09.3**	**-0.7**
	0.5nm,0.9s,baz=224,slow=5.3,SNR=4.3						
ILAR	**Eielson Array**	**90.51**	**12**	P	**P**	**10 55 09.3**	**-0.7**

IDC 22 10:49:58.4±3.1, 33°.23S×178°.50W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=71.4km s-min=45.3km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.16**	**214**	Pn	Pn	10 51 29.2	-1.3
	3.8nm,0.3s,baz=338,slow=15,SNR=30						
URZ				Sn	Sn	10 52 36.0	-5.6
	2.4nm,0.3s,baz=157,slow=21,SNR=9.5						
ASAR	**Alice Springs**	**42.61**	**270**	P	P	10 57 56.6	0.0
	1.1nm,0.7s,baz=108,slow=7.6,SNR=26						
WRA	**Warramunga Arr**	**43.85**	**275**	P	P	10 58 06.6	0.0
	1.5nm,0.7s,baz=115,slow=8.2,SNR=16						
FINES	**FINESS Array B**	**147.63**	**338**	PKPbc	PKPbc	11 09 43.2	-0.7
	0.6nm,0.6s,baz=49,slow=4.2,SNR=5.4						

IDC 22 10:53:38.3±2.0, 0°.02N×125°.65E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/21, mbtmp3.1/3, Error ellipse: s-maj=201.1km s-min=27.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**157**	P	P	10 58 31.1	+1.2
	0.3nm,0.8s,baz=336,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**24.87**	**162**	P	P	10 59 02.0	-0.8
	0.2nm,0.7s,baz=341,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**60.01**	**327**	P	P	11 03 46.9	0.0
	0.1nm,0.3s,baz=129,slow=6.6,SNR=6.1						

IDC 22 11:00:04.2±2.2, 23°.70S×174°.84W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.0/6, Error ellipse: s-maj=127.3km s-min=26.9km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.19**	**248**	P	P	11 07 33.6	-0.5
	1.2nm,0.9s,baz=99,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**46.73**	**259**	P	P	11 08 35.4	0.0
	2.4nm,1.0s,baz=95,slow=8.2,SNR=13						
WRA	**Warramunga Arr**	**47.14**	**264**	P	P	11 08 37.9	-0.7
	1.3nm,0.6s,baz=101,slow=8.6,SNR=20						
TXAR	**Lajitas Array**	**86.36**	**56**	P	P	11 12 48.9	+0.2
	1.0nm,1.0s,baz=204,slow=8.2,SNR=7.1						
ILAR	**Eielson Array**	**90.80**	**12**	P	P	11 13 07.7	-1.1
	0.6nm,1.1s,baz=205,slow=4.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**93.92**	**288**	P	P	11 13 26.1	+1.8
	0.4nm,0.4s,baz=127,slow=2.9,SNR=5.2						

*CSEM **22** 11:04:45.8±0.9, 51°.32N×16°.14E, h2km, ML2.8/4, Error ellipse: s-maj=14.8km s-min=7.7km az=10.0*
*PRU **22** 11:04:45.8, 51°.35N×16°.17E, h0km*
WAR 22 11:04:43.9, 51°.47N×16°.10E, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	Pg	11 04 55.9	-0.3
KSP				*e*Sg	Sg	11 05 03.8	-0.6
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	Pg	11 04 55.8	-0.4
KSP				*e*Sg	Sg	11 05 03.8	-0.6
UPC	**Upice**	**0.96**	**183**	*e*PG	Pg	11 05 02.1	-0.3
UPC	**Upice**	**0.96**	**183**	Pg	Pg	11 05 02.1	-0.3
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	Pg	11 05 04.8	-0.8
DPC				*e*SG	Sg	11 05 18.9	-1.4
	comp=Z,4.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.13**	**173**	Pg	Pg	11 05 04.8	-0.8
DPC				Sg	Sg	11 05 18.9	-1.4
	4.5nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	Pb	11 05 10.5	+0.4
PVCC				*e*SG	Sb	11 05 28.0	+0.1
	comp=Z,30nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**226**	Pg	Pb	11 05 10.5	+0.4
PVCC				Sg	Sb	11 05 28.0	+0.1
	30nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**247**	PG	Pg	11 05 12.8	+0.4
BRG				SG	Sn	11 05 32.3	+0.4
	10nm,0.3s						
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	Pb	11 05 17.3	-0.1
PRU				*e*SG	Sg	11 05 41.0	-0.2
	comp=Z,5.0nm,0.2s						
PRU	**Pruhonice**	**1.78**	**214**	Pg	Pb	11 05 17.3	-0.1
PRU				Sg	Sg	11 05 41.0	-0.2
	5.0nm,0.2s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	Pn	11 05 18.1	+0.1
MORC				*e*Sg	Sn	11 05 42.2	-0.8
CLL	**Collm**	**1.95**	**266**	*e*Pg	Pg	11 05 23.0	+1.8
CLL				*e*Sg	Sg	11 05 49.0	+2.5
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*SG	Sn	11 05 47.1	+0.3
OKC	**Ostrava-Krasne**	**2.09**	**141**	Sg	Sn	11 05 47.1	+0.3
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	Pn	11 05 22.0	+0.5
VRAC				*e*Sg	Sn	11 05 50.5	+1.2
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	Pn	11 05 30.9	+0.3
KHC				*e*PG	Pb	11 05 36.5	+0.9
KHC				*e*SG	Sg	11 06 13.7	-1.7
	comp=Z,2.0nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**216**	Pn	Pn	11 05 30.9	+0.3

**IDC 22 11:11:08.9±4.4, 16°.24S×173°.39W, h0km, m

comp=N,806nm,0.5s
PEL Peldehue 2.11 168 *i* P Pn 11 29 06.1 +1.5
PEL *i* S Sn 11 29 31.7 +1.9
PEL AML AML 11 29 42.7
comp=E,838nm,0.7s
FCH Farellones 2.38 161 *e*P Pn 11 29 14.4 +5.8
FCH *i* S Sn 11 29 43.0 +6.1
FCH AML AML 11 29 46.6
comp=E,482nm,0.3s
ANTU Antumapu 2.54 169 *e*S Sn 11 29 40.7 +0.6
TACH Talagante 2.58 175 *e*P Pn 11 29 11.6 +0.7
CHCH Chadas Angostu 2.89 171 *e*P Pn 11 29 15.2 0.0
LMEL Las Melosas 2.89 163 *e*P Pn 11 29 17.5 +2.1
LMEL *i* S Sn 11 29 51.6 +2.5
LMEL AML AML 11 30 00.8
comp=N,351nm,0.3s
CACH El Canelo 3.08 171 *e*P Pn 11 29 19.2 +1.4

IDC ***22*** *11:48:22.7±0.5,22°.66S×175°.06W,h0km,mb4.3/17, mb1 4.6/18,mb1mx4.5/21,mbtmp4.3/18,ML3.8/1,MS4.0/7, Ms1 4.1/7,ms1mx3.6/35,Error ellipse: s-maj=20.8km s-min=15.9km az=134.0*
ISCJB ***22*** *11:48:25.3±5.0,22°.80S±0°.07×175°.02W±0°.06, h19km±35km,mb4.6/38,MS4.2/7,Error ellipse: s-maj=12.1km s-min=9.2km az=151.5*
NEIC ***22*** *11:48:28.6±0.2,22°.65S×175°.12W,h35km,mb4.6/18, Error ellipse: s-maj=12.0km s-min=7.7km az=134.0*
BJI ***22*** *11:48:28.3,22°.88S×174°.90W,h38km,mB5.5/12, mb5.1/13,Ms5.0/6,Ms7 4.7/6*
ISC 22 11:48:29.1±0.4,22°.91S±0°.08×174°.83W±0°.09,h39km±6km, h39km:pP-P,n343,σ1♀08/345,mb4.5/37,MS4.3/7, 129C-103D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.43**	**306**	*e*Pn		**Pn**	**11 50 30.3**	**+1.5**
AFI	**Afiamalu**	**9.41**	**18**	Pn		Pn	11 50 33.7	-8.6
	6.0nm,0.3s,baz=200,slow=15,SNR=14							
AFI				Sn		Sn	11 52 11.6	-15
	3.6nm,0.3s,baz=198,slow=20,SNR=4.1							
AFI	**Afiamalu**	**9.41**	**18**	*e*Pn		Pn	11 50 33.4	-8.9
	103nm,1.0s							
RAR	**Rarotonga**	**14.07**	**86**	Pn		Pn	11 51 38.9	-7.0
	8.1nm,0.3s,baz=270,slow=9.5,SNR=12							
RAR				Sn		Sn	11 54 03.2	-17
	baz=90,slow=18,SNR=4.3							
RAR				LR		LR	11 55 01.3	
	comp=Z,220nm,19.6s,baz=91,slow=28							
RAR	**Rarotonga**	**14.07**	**86**	*e*Pn		Pn	11 51 38.6	-7.2
URZ	**Urewera**	**16.79**	**202**	Pn		**Pn**	**11 52 21.0**	**-0.2**
	0.3nm,0.3s,baz=82,slow=7.1,SNR=4.4							
URZ				Sn		Sn	11 55 17.2	-9.4
	1.0nm,0.3s,baz=122,slow=20,SNR=7.9							
URZ	**Urewera**	**16.79**	**202**	*e*P		**P**	**11 52 23.0**	**0.0**
	79nm,1.6s							
DZM	**Mont Dzumac**	**17.32**	**269**	*e*LR		LR	11 56 31.7	
	460nm,22.4s							
TBI	**Tubuai**	**23.33**	**96**	*e*LQ		LQ	11 57 39.5	
	341nm,28.5s							
TBI				*e*LR		LR	11 59 08.3	
	355nm,26.0s,baz=268							
RPZ	**Rata Peaks**	**23.80**	**206**	P		**P**	**11 53 38.1**	**-0.2**
	3.9nm,0.6s,baz=346,slow=12,SNR=3.0							
RPZ	**Rata Peaks**	**23.80**	**206**	P		**P**	**11 53 38.1**	**-0.2**
PPT2	**Papeete2**	**24.26**	**82**	*e*LQ		LQ	11 58 27.3	
	314nm,25.5s							
PPT2				*e*LR		LR	11 59 27.6	
	370nm,26.0s,baz=250							
PPT	**Papeete**	**24.27**	**82**	LR		LR	12 00 21.2	
	comp=Z,182nm,19.8s,baz=264,slow=29							
CTA	**Charters Tower**	**36.24**	**267**	P		**P**	**11 55 26.6**	**-2.1**
	baz=93,slow=12							
CTA	**Charters Tower**	**36.24**	**267**	P		**P**	**11 55 26.6**	**-2.1**
STKA	**Stephens Creek**	**39.49**	**247**	P		**P**	**11 55 54.5**	**-1.5**
	1.2nm,0.4s,baz=79,slow=10,SNR=10.0							
STKA				LR		LR	12 11 33.1	
	comp=Z,426nm,18.7s,baz=27,slow=35							
STKA	**Stephens Creek**	**39.49**	**247**	*e*P		**P**	**11 55 54.4**	**-1.5**
	4.5nm,1.6s							
AS31	**Alice Springs**	**46.88**	**258**	*e*P		P	11 56 53.0	-2.9
ASAR	**Alice Springs**	**46.88**	**258**	P		**P**	**11 56 53.2**	**-2.7**
	6.3nm,0.9s,baz=94,slow=6.8,SNR=69							
ASAR				LR		LR	12 16 40.5	
	comp=Z,424nm,18.1s,baz=93,slow=36							
ASAR	**Alice Springs**	**46.88**	**258**	P		**P**	**11 56 53.2**	**-2.7**
WRAB	**Tennant Creek**	**47.21**	**264**	*e*P		P	11 56 55.0	-3.4
	3.2nm,0.7s							
WRA	**Warramunga Arr**	**47.22**	**264**	P		P	11 56 55.2	-3.4
	1.8nm,0.5s,baz=101,slow=8.8,SNR=53							
WRA	**Warramunga Arr**	**47.22**	**264**	P		P	11 56 55.2	-3.4
FORT	**Forrest**	**51.09**	**248**	*e*P		**P**	**11 57 28.1**	**+0.1**
	10nm,0.6s							
FITZ	**Fitzroy Crossi**	**55.65**	**263**	LR		LR	12 21 59.7	
	comp=Z,306nm,18.2s,baz=120,slow=36							
FITZ	**Fitzroy Crossi**	**55.65**	**263**	*e*P		**P**	**11 58 00.2**	**-1.4**
	1.6nm,0.6s							
VNDA	**Vanda**	**55.80**	**186**	P		**P**	**11 58 04.0**	**+2.2**
	3.1nm,0.8s,baz=18,slow=8.7,SNR=13							
VNDA	**Vanda**	**55.80**	**186**	*e*P		P	11 58 05.1	+3.2
	4.2nm,0.9s							
KAPI	**Kappang**	**65.43**	**275**	LR		LR	12 26 14.5	
	comp=Z,83nm,19.3s,baz=281,slow=35							
QSPA	**South Pole Qui**	**67.17**	**180**	*e*P		**P**	**11 59 20.8**	**+1.9**
	14nm,1.0s							
MJAR	**Matsushiro Arr**	**73.90**	**322**	P		**P**	**11 59 58.1**	**-2.1**
	2.1nm,0.6s,baz=161,slow=6.5,SNR=11							
MJAR	**Matsushiro Arr**	**73.90**	**322**	P		**P**	**11 59 58.1**	**-2.1**
MURC	**Murrieta**	**78.53**	**46**	⇑P		**P**	**12 00 27.1**	**+0.5**
	baz=79							
BFSC	**Mount Baldy Ra**	**78.62**	**45**	⇑P		**P**	**12 00 27.3**	**+0.1**
	baz=79							
VES	**Vestal, Richgr**	**78.70**	**43**	⇓P		**P**	**12 00 27.6**	**+0.3**
	baz=79							
EDW2	**Edwards Air Fo**	**78.80**	**45**	⇑P		**P**	**12 00 28.0**	**-0.1**
	baz=79,SNR=5.8							
ISA	**Isabella**	**78.97**	**44**	*e*P		**P**	**12 00 29.7**	**+0.7**
	7.6nm,1.2s							
ISA	**Isabella**	**78.97**	**44**	⇓P		**P**	**12 00 29.7**	**+0.7**
	baz=79							
CMB	**Columbia Colle**	**79.29**	**41**	*e*P		**P**	**12 00 30.4**	**-0.2**
	6.9nm,1.0s							
PETK	**Petropavlovsk-**	**79.37**	**344**	P		**P**	**12 00 30.1**	**-0.5**
	4.5nm,0.8s,baz=129,slow=8.7,SNR=5.4							
PETK	**Petropavlovsk-**	**79.37**	**344**	P		**P**	**12 00 30.1**	**-0.5**
CWC	**Cottonwood Cre**	**79.70**	**43**	⇑P		**P**	**12 00 31.4**	**-1.7**
	baz=80							
BC3	**Big Chuckawall**	**79.73**	**47**	⇑P		**P**	**12 00 32.0**	**-1.3**
	baz=80							
GLA	**Glamis**	**79.81**	**48**	⇑P		**P**	**12 00 33.5**	**-0.1**
	baz=80							
GSC	**Goldstone**	**79.83**	**45**	*e*P		**P**	**12 00 34.0**	**+0.3**
	6.6nm,1.1s							
GSC	**Goldstone**	**79.83**	**45**	⇓P		**P**	**12 00 34.2**	**+0.5**
	baz=80							
MPMC	**Manual Prospec**	**79.85**	**44**	⇓P		**P**	**12 00 33.8**	**-0.1**
	baz=80							
HEC	**Hector,Ludlow**	**79.85**	**45**	⇓P		**P**	**12 00 33.3**	**-0.5**
	baz=80							
IRM	**Iron Mountain**	**80.24**	**47**	⇑P		**P**	**12 00 36.4**	**+0.6**
	baz=80							
113A	**Mohawk Valley,**	**80.37**	**48**	⇓P		**P**	**12 00 36.8**	**+0.2**
	baz=81							
SHOC	**Shoshone**	**80.53**	**45**	⇓P		**P**	**12 00 38.3**	**+1.0**
	baz=81							
214A	**Organ Pipe Nat**	**80.57**	**50**	⇓P		**P**	**12 00 38.1**	**+0.4**
	baz=81							
KSRS	**Korea Array**	**80.64**	**317**	P		**P**	**12 00 36.1**	**-1.7**
	1.6nm,0.8s,baz=130,slow=6.4,SNR=4.3							
KSAR	**Wonju Array Be**	**80.66**	**317**	P		**P**	**12 00 36.1**	**-1.8**
NVAR	**Mina Array Bea**	**80.81**	**42**	P		**P**	**12 00 38.8**	**-0.2**
	4.3nm,0.8s,baz=224,slow=8.8,SNR=18							
NVAR	**Mina Array Bea**	**80.81**	**42**	P		**P**	**12 00 38.8**	**-0.2**
PDMCI	**Parker Dam,Lak**	**81.00**	**47**	⇓P		**P**	**12 00 40.3**	**+0.5**
	baz=81							
Z14A	**Wintersburg**	**81.27**	**48**	⇑P		**P**	**12 00 41.8**	**+0.4**
	baz=82							
Y14A	**Wickenburg**	**81.56**	**48**	⇓P		**P**	**12 00 43.1**	**+0.1**
	baz=82,SNR=5.8							
W13A	**Hualapai Mount**	**81.63**	**46**	⇓P		**P**	**12 00 44.0**	**+0.6**
	baz=82							
R11A	**Troy Canyon, C**	**82.44**	**43**	⇑P		**P**	**12 00 48.2**	**+0.6**
	baz=83							
USRK	**Ussuriysk Arra**	**82.61**	**325**	P		**P**	**12 00 47.2**	**-0.9**
	2.5nm,0.6s,baz=182,slow=5.8,SNR=5.6							
319A	**Douglas**	**82.77**	**52**	⇓P		**P**	**12 00 50.4**	**+1.0**
	baz=83							
X16A	**Lo Mia Camp, P**	**82.90**	**48**	⇑P		**P**	**12 00 50.8**	**+0.7**
	baz=83							
320A	**Kipp Ranch, An**	**83.30**	**52**	⇑P		**P**	**12 00 52.7**	**+0.6**
	baz=84							
CCUT	**Cedar City**	**83.39**	**45**	*e*P		**P**	**12 00 52.9**	**+0.2**
	6.2nm,1.3s							
U15A	**North Rim**	**83.45**	**46**	⇑P		**P**	**12 00 53.9**	**+0.8**
	baz=84,SNR=10							
WUAZ	**Wupatki**	**83.56**	**47**	⇓P		**P**	**12 00 54.1**	**+0.7**
	baz=84							
220A	**Playas Peak, P**	**83.60**	**52**	⇑P		**P**	**12 00 54.0**	**+0.3**
	baz=84							
120A	**U Bar Ranch, L**	**83.86**	**51**	⇓P		**P**	**12 00 55.5**	**+0.4**
	baz=84							
X18A	**Snowflake**	**83.99**	**49**	⇑P		**P**	**12 00 56.4**	**+0.7**
	baz=84							
ELK	**Elko**	**84.09**	**41**	*e*P		**P**	**12 00 56.1**	**-0.1**
MDJ	**Mudanjiang**	**84.18**	**324**	P		**P**	**12 00 57.6**	**+1.4**
MDJ					pmax	pmax		
	comp=Z,7.0nm,1.4s							
MDJ					pmax	pmax		
	comp=Z,190nm,3.5s							
Z20A	**Nine Sixteen R**	**84.19**	**51**	⇑P		**P**	**12 00 57.6**	**+0.9**
	baz=84							
221A	**Mesquite Ranch**	**84.19**	**52**	⇑P		**P**	**12 00 57.3**	**+0.6**
	baz=84							
W18A	**Petrified Fore**	**84.46**	**48**	⇓P		**P**	**12 00 58.6**	**+0.5**
	baz=85							
121A	**Cookes Peak, D**	**84.46**	**51**	⇑P		**P**	**12 00 58.6**	**+0.5**
	baz=85							
222A	**Williams Famil**	**84.73**	**52**	⇑P		**P**	**12 01 00.0**	**+0.5**
	baz=85							
Y20A	**Horse Springs,**	**84.76**	**50**	⇓P		**P**	**12 01 00.5**	**+0.8**
	baz=85,SNR=7.1							
Z21A	**St. Cloud Mine**	**84.94**	**51**	⇑P		**P**	**12 01 01.7**	**+1.1**
	baz=85							
X20A	**Quemado**	**85.01**	**49**	⇓P		**P**	**12 01 01.7**	**+0.8**
	baz=85							
122A	**Conniff Cattle**	**85.11**	**52**	⇑P		**P**	**12 01 01.9**	**+0.5**
	baz=85							
DUG	**Dugway**	**85.27**	**43**	⇓P		**P**	**12 01 02.3**	**+0.3**
	baz=86							
Y21A	**Point of Rocks**	**85.31**	**50**	⇓P		**P**	**12 01 03.4**	**+0.9**
	baz=86,SNR=10							
W20A	**Ramah**	**85.31**	**49**	⇑P		**P**	**12 01 02.8**	**+0.3**
	baz=86,SNR=13							
MFID	**Camas Ranch**	**85.36**	**39**	⇓P		**P**	**12 01 02.5**	**+0.2**
	baz=86							
Z22A	**Elephant Butte**	**85.42**	**51**	⇑P		**P**	**12 01 03.1**	**+0.1**
	baz=86,SNR=5.4							
X21A	**Alamocita Cree**	**85.46**	**50**	⇑P		**P**	**12 01 03.7**	**+0.5**
	baz=86							
PLCA	**Paso Flores**	**85.48**	**132**	P		**P**	**12 01 03.9**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=229,slow=5.0,SNR=3.7							
PLCA	**Paso Flores**	**85.48**	**132**	P		**P**	**12 01 03.9**	**+0.7**
SNAA	**Sanae**	**85.51**	**177**	*e*P		**P**	**12 01 03.1**	**+0.4**
	comp=Z,7.2nm,0.9s							
VNA3	**Neumayer Olymp**	**85.53**	**175**	*e*P		**P**	**12 01 04.0**	**+1.3**
324A	**Moseley Ranch,**	**85.58**	**53**	⇑P		**P**	**12 01 04.4**	**+0.6**
	baz=86							
Q16A	**Castle Valley**	**85.59**	**45**	⇓P		**P**	**12 01 04.1**	**+0.4**
	baz=86							
425A	**Indio Mountain**	**85.63**	**54**	⇑P		**P**	**12 01 04.2**	**+0.3**
	baz=86,SNR=5.4							
626A	**Big Bend Ranch**	**85.67**	**56**	⇓P		**P**	**12 01 03.8**	**-0.3**
	baz=86,SNR=7.9							
Y22A	**Socorro**	**85.77**	**51**	⇓P		**P**	**12 01 05.1**	**+0.4**
	baz=86							
MNTX	**Cornudas Mount**	**85.79**	**53**	⇑P		**P**	**12 01 04.2**	**-0.4**
	baz=86,SNR=8.0							
224A	**Cornudas Mount**	**85.87**	**53**	⇓P		**P**	**12 01 05.7**	**+0.5**
	baz=86							
LAZ	**Ladron**	**85.89**	**50**	*e*P		**P**	**12 01 05.7**	**+0.4**
	comp=Z,8.1nm,1.7s							
TXAR	**Lajitas Array**	**85.92**	**56**	P		**P**	**12 01 04.9**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=208,slow=5.1,SNR=22							
TXAR	**Lajitas Array**	**85.92**	**56**	P		**P**	**12 01 04.9**	**-0.5**
325A	**Bean Ranch, Si**	**85.93**	**54**	⇑P		**P**	**12 01 05.1**	**-0.4**
	baz=86,SNR=7.3							
526A	**Mary Lane Ranc**	**85.95**	**55**	⇑P		**P**	**12 01 05.7**	**+0.1**
	baz=86,SNR=5.9							
Z23A	**Rita Site, Whi**	**85.95**	**51**	⇑P		**P**	**12 01 05.7**	**+0.2**
	baz=86							
I12A	**Atlanta**	**85.99**	**39**	⇓P		**P**	**12 01 06.1**	**+0.6**
	baz=86							
VNA2	**Neumayer--Watz**	**86.00**	**176**	*e*P		**P**	**12 01 06.8**	**+1.7**
	baz=199,slow=2.8							
VNA2	**Neumayer--Watz**	**86.00**	**176**	*e*PcP		**PcP**	**12 01 08.7**	**+1.0**
	baz=199,slow=2.8							
CN2	**Changchun**	**86.00**	**321**	*e*P		**P**	**12 01 07.1**	**+1.8**
X22A	**Bernardo**	**86.03**	**50**	⇑P		**P**	**12 01 06.5**	**+0.5**
	baz=86							
SRU	**San Rafael**	**86.11**	**45**	*e*P		**P**	**12 01 07.5**	**+1.3**
	comp=Z,6.0nm,1.1s							
SRU	**San Rafael**	**86.11**	**45**	⇓P		**P**	**12 01 06.9**	**+0.6**
	baz=86							
P17A	**Butcher Ranch,**	**86.17**	**44**	⇑P		**P**	**12 01 07.4**	**+0.9**
	baz=86							
627A	**Terlingua Ranc**	**86.19**	**56**	⇑P		**P**	**12 01 06.6**	**-0.1**
	baz=86,SNR=6.5							
LPM	**Los Pinos Moun**	**86.20**	**50**	*e*P		**P**	**12 01 07.9**	**+1.0**
	comp=Z,5.3nm,1.4s							
VNA1	**Neumayer--Stat**	**86.22**	**176**	*e*P		**P**	**12 01 08.0**	**+2.0**
124A	**Stringfield Ra**	**86.23**	**52**	⇓P		**P**	**12 01 07.3**	**+0.3**
	baz=86							
HLID	**Hailey**	**86.27**	**39**	⇑P		**P**	**12 01 07.2**	**+0.3**
	baz=86							
426A	**McDonald Obser**	**86.29**	**55**	⇑P		**P**	**12 01 07.5**	**+0.1**
	baz=86,SNR=5.6							
J13A	**Cove Ranch, Pi**	**86.31**	**40**	⇑P		**P**	**12 01 07.7**	**+0.6**
	baz=86							
527A	**Woodward Ranch**	**86.35**	**55**	⇑P		**P**	**12 01 07.9**	**+0.3**
	baz=87							
225A	**Deer Hill, Car**	**86.40**	**53**	⇓P		**P**	**12 01 08.3**	**+0.4**
	baz=87							
K14A	**Jones Ranch, D**	**86.41**	**41**	⇓P		**P**	**12 01 07.9**	**+0.4**
	baz=87							
Y23A	**Lovelace Mesa,**	**86.42**	**51**	⇓P		**P**	**12 01 08.5**	**+0.6**
	baz=87							
N16A	**Re's Ranch, Co**	**86.52**	**43**	⇓P		**P**	**12 01 08.5**	**+0.2**
	baz=87							
L15A	**Malad City**	**86.57**	**41**	⇑P		**P**	**12 01 09.2**	**+0.8**
	baz=87							
O17A	**Robinson Place**	**86.58**	**44**	⇓P		**P**	**12 01 08.9**	**+0.3**
	baz=87							
P18A	**Preston Nutter**	**86.58**	**44**	⇑P		**P**	**12 01 09.2**	**+0.5**
	baz=87							
628A	**Black Gap, Mar**	**86.58**	**56**	⇑P		**P**	**12 01 08.8**	**+0.2**
	baz=87,SNR=6.8							
H12A	**Diamond D Ranc**	**86.60**	**38**	⇑P		**P**	**12 01 08.2**	**-0.3**
	baz=87							
Z24A	**Sheeppen Canyo**	**86.61**	**52**	⇑P		**P**	**12 01 08.8**	**-0.1**
	baz=87							
326A	**Caldwell Ranch**	**86.64**	**54**	⇓P		**P**	**12 01 09.5**	**+0.5**
	baz=87							
M16A	**Huntsville**	**86.64**	**42**	⇑P		**P**	**12 01 09.5**	**+0.6**
	baz=87							
ANMO	**Albuquerque**	**86.65**	**50**	*e*P		**P**	**12 01 09.2**	**+0.2**
	comp=Z,6.2nm,1.1s							
J14A	**Carey**	**86.66**	**40**	⇓P		**P**	**12 01 09.4**	**+0.6**
	baz=87							
X23A	**Hourglass Bar**	**86.66**	**50**	⇑P		**P**	**12 01 09.6**	**+0.5**
	baz=87							
G12A	**Big Creek, Yel**	**86.69**	**38**	⇑P		**P**	**12 01 09.3**	**+0.4**
	baz=87							
GDL2	**Guadalupe Moun**	**86.79**	**53**	*e*P		**P**	**12 01 10.0**	**+0.4**
125A	**Gardner Draw,**	**86.80**	**53**	⇓P		**P**	**12 01 10.5**	**+0.8**
	baz=87							
V22A	**San Miguel Ran**	**86.83**	**49**	⇑P		**P**	**12 01 10.6**	**+0.6**
	baz=87							
S20A	**Disappointment**	**86.84**	**47**	⇑P		**P**	**12 01 10.2**	**+0.3**
	baz=87							
427A	**Hayter Ranch,**	**86.85**	**55**	⇓P		**P**	**12 01 10.1**	**+0.2**
	baz=87,SNR=9.5							
Q19A	**Hogan Spring (**	**86.85**	**45**	⇑P		**P**	**12 01 10.2**	**+0.5**
	baz=87							
Y24A	**Capitan**	**86.86**	**51**	⇓P		**P**	**12 01 10.3**	**+0.2**
	baz=87,SNR=9.0							
N17A	**Moffit Pass**	**86.93**	**43**	⇑P		**P**	**12 01 11.0**	**+0.6**
	baz=87							
H13A	**Challis**	**86.96**	**39**	⇑P		**P**	**12 01 10.9**	**+0.7**
	baz=87							
T21A	**Navajo Lake**	**86.96**	**48**	⇓P		**P**	**12 01 11.1**	**+0.6**
	baz=87							
W23A	**Werner Place,**	**86.98**	**50**	⇑P		**P**	**12 01 11.5**	**+0.9**
	baz=87							
528A	**Cox Ranch, San**	**86.98**	**56**	⇑P		**P**	**12 01 10.4**	**-0.3**
	baz=87,SNR=5.8							
Z25A	**Roswell**	**87.06**	**52**	⇑P		**P**	**12 01 11.6**	**+0.6**
	baz=87							
F12A	**Elk City**	**87.11**	**37**	⇑P		**P**	**12 01 11.2**	**+0.4**
	baz=87							
S21A	**Coal Bank Pass**	**87.14**	**47**	⇑P		**P**	**12 01 11.9**	**+0.4**
	baz=87							
L16A	**Fish Haven**	**87.16**	**42**	⇑P		**P**	**12 01 11.9**	**+0.6**
	baz=87							
V23A	**Ortiz Mt. (NFS**	**87.25**	**49**	⇓P		**P**	**12 01 12.9**	**+0.9**
	baz=88							
126A	**Clayton Basin,**	**87.26**	**53**	⇓P		**P**	**12 01 12.4**	**+0.5**
	baz=88							
428A	**Kincaid Ranch,**	**87.33**	**55**	⇑P		**P**	**12 01 13.2**	**+0.9**
	baz=88							
M17A	**Scullys Gap (B**	**87.33**	**43**	⇑P		**P**	**12 01 12.9**	**+0.7**
	baz=88							
Y25A	**Mesa, Roswell**	**87.40**	**52**	⇓P		**P**	**12 01 13.1**	**+0.5**
	baz=88							
Q20A	**Ridgley Place,**	**87.49**	**46**	⇑P		**P**	**12 01 13.9**	**+1.0**
	baz=88							
H14A	**Leadore**	**87.50**	**39**	⇑P		**P**	**12 01 13.9**	**+1.0**
	baz=88							
W24A	**Lazy 6 Ranch,**	**87.53**	**50**	⇑P		**P**	**12 01 13.8**	**+0.5**
	baz=88							
K16A	**Soda Springs**	**87.53**	**41**	⇓P		**P**	**12 01 13.6**	**+0.5**
	baz=88							
U23A	**El Rito**	**87.54**	**49**	⇓P		**P**	**12 01 14.2**	**+0.9**
	baz=88							
L17A	**Cokeville**	**87.55**	**42**	⇑P		**P**	**12 01 13.8**	**+0.6**
	baz=88							
Z26A	**Caprock**	**87.59**	**52**	⇓P		**P**	**12 01 13.9**	**+0.4**
	baz=88							
F13A	**Darby**	**87.64**	**38**	⇑P		**P**	**12 01 13.9**	**+0.5**
	baz=88							
O19A	**Miners Draw (B**	**87.67**	**44**	⇑P		**P**	**12 01 14.1**	**+0.4**
	baz=88							
R21A	**Cimarron**	**87.67**	**47**	⇓P		**P**	**12 01 14.2**	**+0.2**
	baz=88							
M18A	**Lyman**	**87.68**	**43**	⇓P		**P**	**12 01 14.8**	**+0.9**
	baz=88							
P20A	**De Beque**	**87.71**	**45**	⇑P		**P**	**12 01 14.6**	**+0.6**
	baz=88							
X25A	**Clemmons Ranch**	**87.72**	**51**	⇓P		**P**	**12 01 14.7**	**+0.6**
	baz=88							
127A	**Arkansas Junct**	**87.76**	**53**	⇑P		**P**	**12 01 15.1**	**+0.7**
	baz=88							
S22A	**4UR Ranch, Cre**	**87.83**	**47**	⇑P		**P**	**12 01 15.0**	**+0.2**
	baz=88							
C11A	**Tepee Creek (N**	**87.83**	**35**	⇑P		**P**	**12 01 14.8**	**+0.5**
	baz=88							
D12A	**Red Ives Fores**	**87.84**	**36**	⇓P		**P**	**12 01 14.8**	**+0.5**
	baz=88							
429A	**Davenport Ranc**	**87.88**	**56**	⇓P		**P**	**12 01 14.7**	**-0.2**
	baz=88,SNR=10.0							
V24A	**Rampart Ranch,**	**87.88**	**50**	⇑P		**P**	**12 01 15.2**	**+0.2**
	baz=88							
H15A	**Lima**	**87.92**	**39**	⇑P		**P**	**12 01 15.0**	**+0.1**
	baz=88							
228A	**UT Block 9, Go**	**88.06**	**54**	⇓P		**P**	**12 01 16.0**	**+0.3**
	baz=88							
530A	**J-C Ranch, Com**	**88.08**	**56**	⇑P		**P**	**12 01 16.4**	**+0.5**
	baz=88							
E13A	**Victor**	**88.11**	**37**	⇑P		**P**	**12 01 16.0**	**+0.3**
	baz=88							
R22A	**Saguache, Gunn**	**88.13**	**47**	⇓P		**P**	**12 01 16.5**	**+0.3**
	baz=88							
C12B	**Naegeli Ranch,**	**88.17**	**36**	⇑P		**P**	**12 01 16.5**	**+0.7**
	baz=88							
Z27A	**Tatum**	**88.17**	**53**	⇓P		**P**	**12 01 16.5**	**+0.2**
	baz=88							
F14A	**Wisdom**	**88.20**	**38**	⇓P		**P**	**12 01 16.4**	**+0.2**
	baz=88							
W25A	**X Bar L Ranch,**	**88.20**	**50**	⇑P		**P**	**12 01 17.2**	**+0.8**
	baz=88							
TRF	**Thorofare Moun**	**88.22**	**11**	*e*P		**P**	**12 01 13.4**	**-2.4**
	comp=Z,137nm,2.7s							
329A	**Wagon Wheel Ra**	**88.22**	**55**	⇓P		**P**	**12 01 17.1**	**+0.6**
	baz=88							
G15A	**Dillon**	**88.33**	**39**	⇑P		**P**	**12 01 17.4**	**+0.6**
	baz=88							
631A	**Perdido Creek**	**88.33**	**57**	⇑P		**P**	**12 01 17.0**	**+0.1**
	baz=89							
X26A	**CR and CF Fran**	**88.34**	**51**	⇑P		**P**	**12 01 17.0**	**0.0**
	baz=89							
K18A	**Toltan Ranch,**	**88.36**	**42**	⇓P		**P**	**12 01 17.5**	**+0.4**
	baz=89							
128A	**Castleberry Fa**	**88.38**	**54**	⇓P		**P**	**12 01 17.6**	**+0.4**
	baz=89							
V25A	**Rancho No Teng**	**88.40**	**50**	⇓P		**P**	**12 01 17.7**	**+0.3**
	baz=89							
MSO	**Missoula**	**88.48**	**37**	⇑P		**P**	**12 01 17.9**	**+0.5**
	baz

baz=90
F17A Fitzpatrick Pl 89.81 39 ⇓P P 12 01 24.6 +0.9
baz=90
332A Millersview 89.87 56 ⇓P P 12 01 24.7 +0.5
baz=90
D16A Dana Ranch, Ca 89.93 38 ⇑P P 12 01 24.5 +0.3
baz=90
COLA College 89.95 11 eP P 12 01 22.7 -1.0
comp=Z,4.3nm,0.8s
J20A Shoshoni 89.96 42 ⇓P P 12 01 24.6 +0.1
baz=90
A14A Double T Ranch 90.03 35 ⇓P P 12 01 24.9 +0.3
baz=90
ILAR Eielson Array 90.04 12 P P 12 01 22.1 -2.0
comp=Z,2.5nm,1.0s,baz=219,slow=5.0,SNR=13
ILAR LR LR 12 42 32.1
comp=Z,57nm,18.0s,baz=302,slow=36
ILAR Eielson Array 90.04 12 P P 12 01 22.1 -2.0
S26A Kim 90.08 49 ⇑P P 12 01 25.7 +0.6
baz=90
K21A Alcova 90.10 43 ⇓P P 12 01 25.9 +0.7
baz=90
B15A Bradely Ranch, 90.10 36 ⇓P P 12 01 25.7 +0.7
baz=90
H19A Powell 90.12 41 ⇓P P 12 01 26.3 +1.1
baz=90
G18A Lazy EL Ranch, 90.12 40 ⇑P P 12 01 26.3 +1.1
baz=90
232A Coleman 90.17 55 ⇓P P 12 01 25.9 +0.3
baz=90
Q25A Bedland, Calha 90.18 47 ⇓P P 12 01 26.4 +0.7
baz=90
C16A Fuhringer Ranc 90.26 37 ⇑P P 12 01 26.2 +0.5
baz=90
J21A Lysite 90.35 42 ⇑P P 12 01 26.8 +0.4
baz=90
F18A Big Timber 90.36 39 ⇓P P 12 01 26.8 +0.6
baz=90
GYA Guiyang 90.39 299 eP P 12 01 27.8 +1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
A15A Johnson Ranch, 90.40 36 ⇑P P 12 01 26.3 0.0
baz=91
R26A Arlington 90.42 48 ⇑P P 12 01 27.5 +0.7
baz=91
D17A Six Diamond Ra 90.49 38 ⇓P P 12 01 27.8 +1.0
baz=91
E18A Harlowton 90.60 39 ⇓P P 12 01 28.8 +1.4
baz=91
H20A Greybull 90.61 41 ⇓P P 12 01 27.7 +0.3
baz=91
Y31A Rekieta Farm, 90.65 53 ⇑P P 12 01 28.2 +0.4
baz=91
I21A Big Trails, Te 90.69 42 ⇑P P 12 01 28.2 +0.3
baz=91
C17A Wharram Farm, 90.71 37 ⇑P P 12 01 28.1 +0.3
baz=91
F19A Roth Farm, Mol 90.78 40 ⇓P P 12 01 28.9 +0.7
baz=91
T28A Walsh 90.78 50 ⇑P P 12 01 29.0 +0.6
baz=91
L23A Garrett 90.82 44 ⇑P P 12 01 28.8 +0.2
baz=91
R27A Eads 90.86 48 ⇑P P 12 01 29.5 +0.7
baz=91
Z32A Haskell 90.94 54 ⇑P P 12 01 29.9 +0.8
baz=91
J22A Midwest 90.99 43 ⇑P P 12 01 30.4 +1.1
baz=91
A16A West Butte Ran 90.99 36 ⇑P P 12 01 29.8 +0.7
baz=91
D18A Linhart Farms, 91.01 38 ⇓P P 12 01 30.0 +0.8
baz=91
B17A L&G Farms, Che 91.06 37 ⇓P P 12 01 30.0 +0.6
baz=91
E19A Rath Farm, Rou 91.20 39 ⇑P P 12 01 31.3 +1.2
baz=91
H21A Big Horn, Sher 91.27 41 ⇑P P 12 01 31.1 +0.6
baz=92
D19A Cripps Ranch, 91.52 39 ⇑P P 12 01 32.4 +0.8
baz=92
H22A Clearmont 91.67 42 ⇑P P 12 01 33.1 +0.8
baz=92
C19A Slack Wire Ran 91.74 38 ⇑P P 12 01 33.2 +0.7
baz=92
F21A Absaloka Mine, 91.84 40 ⇓P P 12 01 34.3 +1.2
baz=92
D20A Manuel Ranch, 91.91 39 ⇑P P 12 01 33.7 +0.3
baz=92
A18A Metzger Ranch, 91.94 37 ⇓P P 12 01 33.4 0.0
baz=92
B19A Brinkman Farms 92.18 37 ⇑P P 12 01 35.0 +0.5
baz=92
C20A Veseth Ranch, 92.32 38 ⇑P P 12 01 36.1 +0.9
baz=92
A19A Klindworth Far 92.55 37 ⇓P P 12 01 37.0 +0.7
baz=93
D21A La Casta Ranch 92.56 39 ⇑P P 12 01 37.2 +0.8
baz=93
B20A Solberg Farm, 92.69 38 ⇑P P 12 01 37.6 +0.7
baz=93
F23A Volborg 92.82 41 ⇓P P 12 01 37.9 +0.3
baz=93
H24A Dirks Ranch, A 92.86 42 ⇓P P 12 01 38.2 +0.4
baz=93
C21A Desert Coulee 92.90 39 ⇑P P 12 01 38.5 +0.6
baz=93
A20A Cobblestone Ra 92.98 37 ⇓P P 12 01 39.0 +0.7
baz=93
KMI Kunming 93.05 296 P P 12 01 41.3 +1.9
KMI pmax pmax
comp=Z,7.0nm,1.1s
HHC Hu-ho-hao-te 93.14 313 eP P 12 01 40.0 +0.8
HHC pP pP 12 01 52.3 +1.0
HHC sP sP 12 01 56.3 +0.6
HHC PP PP 12 05 28.5 +5.3
HHC SKS SKSac 12 12 11.8 +1.4
HHC S S 12 12 43.8 +0.6
HHC sS sS 12 13 01.5 -2.0
HHC SS SS 12 19 04.3 +4.8
HHC pmax pmax
comp=Z,170nm,4.8s
HHC LR LR
comp=N,200nm,16.6s
HHC LR LR
comp=E,110nm,17.8s
HHC LR LR
comp=Z,100nm,17.2s
G24A Alzada 93.23 42 ⇑P P 12 01 40.3 +0.8
baz=93
B21A Ellsworth Farm 93.26 38 ⇑P P 12 01 40.4 +0.9
baz=93
A21A Bergtoll Ranch 93.60 38 ⇑P P 12 01 41.7 +0.6
baz=94
D23A Lindsay 93.67 40 ⇑P P 12 01 42.3 +0.8
baz=94
CMAR Chiang Mai Arr 93.68 288 P P 12 01 39.8 -2.3
comp=Z,1.4nm,0.7s,baz=133,slow=2.4,SNR=4.4
CMAR Chiang Mai Arr 93.68 288 P P 12 01 39.8 -2.3
CHTO Chiang Mai 93.81 289 eP P 12 01 43.2 +0.5
comp=Z,2.7nm,1.0s
E24A Baker 93.90 41 ⇑P P 12 01 42.8 +0.3
baz=94
C23A Lambert 94.00 39 ⇑P P 12 01 43.6 +0.7
baz=94
D24A Glendive 94.16 40 ⇑P P 12 01 44.4 +0.7
baz=94
A22A Carney Farms, 94.17 38 ⇓P P 12 01 44.5 +0.8
baz=94
C24A Savage 94.31 40 ⇑P P 12 01 45.2 +0.8
baz=94
B23A Brockton 94.44 39 ⇓P P 12 01 45.8 +0.8
baz=95
CD2 Chengdu 94.56 302 P P 12 01 47.9 +2.0
CD2 pP pP 12 01 59.0 +1.0
CD2 sP sP 12 02 03.1 +0.7
CD2 PP PP 12 05 38.8 +4.3
CD2 SKS SKSac 12 12 19.0 +0.6
CD2 S S 12 12 55.5 -0.5
CD2 sS sS 12 13 14.3 -2.0
CD2 SS SS 12 19 23.8 +3.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,220nm,4.8s
CD2 LR LR
comp=N,400nm,4.2s
CD2 LR LR
comp=Z,160nm,5.3s
TUL1 Tulsa 94.80 53 ⇑P P 12 01 47.9 +1.0
baz=95
DGMT Dagmar 94.90 39 ⇓P P 12 01 48.0 +0.9
baz=95
A24A Westby 95.24 39 ⇑P P 12 01 49.6 +1.0
baz=95
LZH Lanzhou 96.56 306 eP P 12 01 56.6 +1.5
LZH pP pP 12 02 08.9 +1.7
LZH sP sP 12 02 12.5 +0.9
LZH pmax pmax
comp=Z,14nm,1.0s
YKA Yellowknife Ar 97.48 24 P P 12 01 57.5 -0.8
comp=Z,0.7nm,0.8s,baz=234,slow=4.6,SNR=18
YKA Yellowknife Ar 97.48 24 P P 12 01 57.5 -0.8
SONM Songino Array 99.50 318 P Pdif 12 02 06.4 -1.5
comp=Z,0.4nm,0.8s,baz=88,slow=4.5,SNR=3.1
SONM Songino Array 99.50 318 P Pdif 12 02 06.4 -1.5
WMQ Urumqi 110.72 310 ePKP 12 06 57.9
ZALV Zalesovo Beam 114.21 320 PKiKP PKPdf 12 07 02.1 -1.9
comp=Z,0.3nm,0.3s,baz=180,slow=1.4,SNR=2.8
ZALV Zalesovo Beam 114.21 320 PKiKP PKPdf 12 07 02.1 -1.9
MKAR Makanchi Array 114.99 312 PKP PKPdf 12 07 04.2 -1.6
comp=Z,0.5nm,0.7s,baz=72,slow=1.2,SNR=6.9
MKAR Makanchi Array 114.99 312 PKP PKPdf 12 07 04.2 -1.6
KURK Kurchatov 117.76 316 PKP PKPdf 12 07 09.2 -1.8
KURBB Kurchatov Arra 117.81 316 PKP PKPdf 12 07 09.2 -1.9
comp=Z,0.8nm,0.7s,baz=91,slow=1.9,SNR=9.5
KSH Kashi 118.67 304 ePKP PKPdf 12 07 14.3 +1.0
KSH esPKP 12 07 29.3
KSH ePP PP 12 08 38.6 +6.9
KSH PKS PKSdf 12 10 50.4 +0.4
KSH SKS SKSdf 12 14 22.3 -0.2
KSH SKKS SKKSac 12 15 27.1 -1.7
KSH SS SS 12 24 53.6 +5.8
KSH AMB AMB
comp=Z,120nm,4.9s
KSH LR LR
comp=N,49nm,4.7s
KSH LR LR
comp=E,52nm,6.4s
KSH LR LR
comp=Z,170nm,5.2s
BVAR Borovoye Array 122.81 319 PKP PKPdf 12 07 18.9 -1.8
comp=Z,0.7nm,0.6s,baz=148,slow=3.2,SNR=5.1
BVAR Borovoye Array 122.81 319 PKP PKPdf 12 07 18.9 -1.8
ARCES ARCESS Array B 131.79 351 PKP PKPdf 12 07 35.6 -1.7
comp=Z,6.7nm,1.0s,baz=3.4,slow=6.1,SNR=4.6
ARCES ARCESS Array B 131.79 351 PKP PKPdf 12 07 35.6 -1.7
FINES FINESS Array B 138.88 345 PKP PKPdf 12 07 53.4 +2.7
comp=Z,1.5nm,0.8s,baz=48,slow=2.1,SNR=3.2
FINES FINESS Array B 138.88 345 PKP PKPdf 12 07 53.4 +2.7
SUW Suwalki 146.10 341 ePKPdf PKPdf 12 08 04.5 +0.8
AKASG Malin Array Be 146.53 332 PKPbc PKPdf 12 08 04.2 -0.4
comp=Z,4.3nm,0.6s,baz=40,slow=4.1,SNR=13
AKASG Malin Array Be 146.53 332 PKPbc PKPdf 12 08 04.2 -0.4
KIEV Kiev 146.54 332 ePKPdf PKPdf 12 08 04.4 -0.2
AK01 Malin Array Si 146.54 332 ePKPdf PKPdf 12 08 04.7 +0.1
AK02 Malin Array Si 146.57 332 ePKPdf PKPdf 12 08 04.9 +0.3
MALT Malatya 147.72 306 ePKPdf PKPbc 12 08 09.2 -0.8
BUR08 Bucovina Ar. S 150.57 332 ePKPbc PKPbc 12 08 16.8 0.0
BR131 Keskin Array S 150.63 311 ePKPbc PKPbc 12 08 16.4 -0.8
BRTR Keskin Array B 150.63 311 PKPbc PKPbc 12 08 15.8 -1.5
comp=Z,2.6nm,0.8s,baz=139,slow=2.9,SNR=12
BRTR Keskin Array B 150.63 311 PKPbc PKPbc 12 08 15.8 -1.5
CLL Colm 151.01 350 i PKPbc PKPbc 12 08 17.6 0.0
comp=Z,8.0nm,0.9s
CLL i sPKPbc sPKPbc 12 08 31.0 -3.3
BRG Berggiesshubel 151.26 348 ePKP PKPbc 12 08 18.4 +0.2
comp=Z,6.6nm,0.9s
MORC Moravsky Berou 151.47 343 ePKPbc PKPbc 12 08 18.6 -0.1
VYHS Vyhne 152.25 340 ePKP PKPdf 12 08 16.4 +2.6
GERES GERESS Array B 153.25 347 PKPbc PKPbc 12 08 22.1 -0.7
comp=Z,0.7nm,0.9s,baz=245,slow=2.1,SNR=2.7
GERES GERESS Array B 153.25 347 PKPbc PKPbc 12 08 22.1 -0.7
TORD Torodi Ar. Bea 169.75 161 PKPab PKPab 12 09 48.9 +1.7
comp=Z,1.6nm,0.7s,baz=182,slow=4.0,SNR=10.0
TORD Torodi Ar. Bea 169.75 161 PKPab PKPab 12 09 48.9 +1.7

GUC 22 11:51:31.8±0.9, 36°.68S×72°.19W, h91km±4km, ML3.6, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	0.11	50	i P	Pn	11 51 45.0	+0.3
CCHI				i S	Sn	11 51 54.3	+0.1
COCH	**Cobquecura**	0.73	318	⇓P	Pn	11 51 50.3	+1.7
COCH				i S	Sn	11 51 02.6	+1.4
LNCH	**Linares**	0.95	30	⇓P	Pn	11 51 51.4	+0.4
LNCH				i S	Sn	11 52 05.7	+0.3
LNCH				AML	AML	11 52 06.4	
comp=N,1μm,0.7s							
AGCH	**Angol**	1.20	200	⇑ i P	Pn	11 51 54.3	+0.4
AGCH				i S	Sn	11 52 10.0	-0.6
TALC	**Talca**	1.35	19	⇑ i P	Pn	11 51 56.3	+0.5
TALC				i S	Sn	11 52 14.1	+0.3
TALC				AML	AML	11 52 15.8	
comp=E,3μm,0.3s							
LNV	**Longovilo**	2.79	13	⇓ i P	Pn	11 52 15.0	+0.5
CACH	**El Canelo**	2.86	27	⇓ i P	Pn	11 52 16.1	+0.4
CHCH	**Chadas Angostu**	3.01	25	eP	Pn	11 52 17.9	+0.3
LMEL	**Las Melosas**	3.25	30	⇓ i P	Pn	11 52 22.3	+1.3
LMEL				AML	AML	11 53 05.0	
comp=N,80nm,0.2s							
FCH	**Farellones**	3.68	26	⇓ i P	Pn	11 52 26.1	-0.9
FCH				eS	Sn	11 53 09.1	-0.6
PEL	**Peldehue**	3.73	20	⇑ i P	Pn	11 52 27.6	+0.3
PEL				i S	Sn	11 53 10.6	+0.3
ROCH	**El Roble**	3.82	15	⇑ i P	Pn	11 52 28.8	+0.1
ROCH				i S	Sn	11 53 12.9	+0.2

*ISCJB **22** 11:55:17.0±1.3, 40°.44N±0°.06×25°.71E±0°.07, h10km, Error ellipse: s-maj=10.5km s-min=5.2km az=32.8*
*SOF **22** 11:55:17.4, 40°.43N×25°.73E, h10km, MD2.6*

ISC 22 11:55:16.2±1.6, 40°.34N±0°.08×25°.75E±0°.07, h10km, n6, σ0s60/10, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SART	**Tekirdag**	1.15	72	i P	Pb	11 55 38.6	+0.5
SART				i S	Sn	11 55 54.2	0.0
KDZ	**Kurdzhali**	1.33	349	i Pg	Pg	11 55 42.2	+0.4
KDZ				i Sg	Sb	11 55 57.9	-0.6
BALY	**Balya**	1.55	112	i P	Pb	11 55 45.5	+0.4
BALY				i S	Sn	11 56 03.1	-1.1
RZN	**Rozhen**	1.56	330	i Pg	Pg	11 55 46.5	+0.4
RZN				i Sg	Sg	11 56 06.2	-0.2
MMB	**Musomiste**	1.98	310	i Sg	Sg	11 56 19.4	-0.3
JMB	**Yambol**	2.22	16	i Sg	Sg	11 56 27.1	-0.3

TRN 22 12:01:18.2, 17°.34N×61°.18W, h11km, MD3.3, M3.5(FDF), 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	0.71	246	eP	Pn	12 01 35.4	+1.1
BPA				eS	Sn	12 01 46.5	+1.2
SEG	**Port Louis**	0.98	199	⇑ i P	Pn	12 01 39.5	+1.6
DEG	**La Desirade**	1.02	174	eP	Pn	12 01 39.6	+1.0
MBRV		1.11	242	eP	Pn	12 01 41.6	+1.9
MBLG		1.12	237	eP	Pn	12 01 41.7	+1.8
MBRY		1.13	236	eP	Pg	12 01 41.8	+1.8
MBRY				eS	Sn	12 01 59.2	+3.8
MBWH		1.14	239	eP	Pg	12 01 41.3	+1.1
MLYT	**Lee's Yard**	1.15	238	eP	Pg	12 01 42.0	+1.6
MBGB		1.17	239	eP	Pg	12 01 42.2	+1.4
BCG	**Bois Riant Cap**	1.31	199	eP	Pg	12 01 44.6	+1.0
LZG	**Guadaloupe-1**	1.32	206	eP	Pg	12 01 44.9	+1.2
DOG	**Dongo Capester**	1.36	198	eP	Pg	12 01 45.3	+0.7
PHG	**Guadaloupe-2**	1.39	199	eP	Pg	12 01 45.2	+0.1
MGG	**Marie-Galante**	1.42	185	eP	Pg	12 01 46.2	+0.7

IDC 22 12:01:52.7±2.1, 24°.56S×174°.49W, h0km, mb3.7/4, mb1 4.2/5, mb1mx3.9/19, mbtmp3.9/5, ML4.8/1, Error ellipse: s-maj=182.2km s-min=27.8km az=166.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR Rarotonga 13.97 79 Pn Pn 12 05 10.0 -2.0
5.0nm,0.3s,baz=270,slow=4.5,SNR=9.1
ASAR Alice Springs 46.88 260 P P 12 10 24.6 -0.5
0.4nm,0.6s,baz=97,slow=7.7,SNR=8.7
WRA Warramunga Arr 47.37 265 P P 12 10 27.9 -1.0
0.4nm,0.5s,baz=101,slow=8.2,SNR=8.2
TXAR Lajitas Array 86.58 56 P P 12 14 38.4 +0.2
0.3nm,0.8s,baz=213,slow=8.2,SNR=4.9
CMAR Chiang Mai Arr 94.49 288 P P 12 15 17.2 +1.8
0.5nm,0.7s,baz=105,slow=3.5,SNR=4.6

*ISCJB **22** 12:48:50.5±0.9, 26°.92N±0°.02×104°.06E±0°.03, h5km±5km, mb4.5/68, MS4.2/28, Error ellipse: s-maj=4.5km s-min=3.7km az=8.3*
*BJI **22** 12:48:52.1, 26°.95N×104°.20E, h11km, mB4.9/23, mb4.5/33, ML4.8/16, Ms4.9/51, Ms7 4.6/40*
*NEIC **22** 12:48:53.3±0.2, 26°.98N×104°.14E, h10km, mb4.7/21, Error ellipse: s-maj=6.7km s-min=4.8km az=77.0*
*DJA **22** 12:48:55.3±0.5, 27°.N±6'×10°.4E±1°.0, h10km, M4.4/9, mB5.3/1, mb4.4/9, Mw(mB)4.8/1*
*IDC **22** 12:48:56.3±3.4, 26°.93N×104°.12E, h33km±26km, mb4.2/27, mb1 4.3/28, mb1mx4.2/35, mbtmp4.2/28, ML4.0/1, MS4.2/22, Ms1 4.2/22, ms1mx4.0/51, Error ellipse: s-maj=16.3km s-min=10.5km az=52.0*
*MOS **22** 12:48:56.0±0.9, 26°.88N×104°.10E, h46km, mb4.7/43, MS4.2/14, Error ellipse: s-maj=10.2km s-min=5.5km az=109.8*

ISC 22 12:48:54.3±0.5, 26°.92N±0°.03×104°.12E±0°.04, h15km±3km, h14km:pP-P, n201, σ1s71/221, mb4.5/68, MS4.2/29, 14C-11D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	2.18	215	Pn	**Pn**	**12 49 29.8**	**-0.4**
KMI				Pg	**Pb**	**12 49 33.3**	**-0.3**
KMI				Sg	**Sb**	**12 49 59.8**	**-0.7**
KMI				smax	smax		
comp=N,2μm,1.2s							
KMI				smax	smax		
comp=E,2μm,1.1s							
GYA	**Guiyang**	2.32	101	Pg	**Pn**	**12 49 32.3**	**+0.2**
GYA				Sg	**Sn**	**12 50 02.0**	**+1.5**
GYA				smax	smax		
comp=N,16μm,0.9s							
GYA				smax	smax		
comp=E,7μm,1.0s							
CD2	**Chengdu**	3.99	356	Pn	**Pn**	**12 49 55.9**	**+0.9**
CD2				Sn	**Sn**	**12 50 45.8**	**+4.2**
CD2				Sg	**Sg**	**12 51 02.6**	**+0.1**
CD2				smax	smax		
comp=N,3μm,1.1s							
CD2				smax	smax		
comp=E,3μm,1.1s							
CD2				LR	LR		
comp=N,46μm,7.1s							
CD2				LR	LR		
comp=Z,7μm,7.1s							
XAN	**Xi'an**	8.22	29	P	**Pn**	**12 50 52.1**	**-1.0**
XAN				sP		12 50 56.6	
XAN				S	**Sn**	**12 52 26.3**	**+0.6**
XAN				pmax	pmax		
comp=Z,19nm,0.7s							
XAN				LR	LR		
comp=N,3μm,9.4s							
XAN				LR	LR		
comp=E,1μm,9.8s							
XAN				LR	LR		
comp=Z,2μm,13.0s							
LZH	**Lanzhou**	9.14	359	eP	**Pn**	**12 51 07.9**	**+2.0**
LZH				pP		12 51 10.3	
LZH				sP		12 51 13.3	
LZH				S	**Sn**	**12 52 52.3**	**+3.6**
LZH				sS		12 52 55.4	
LZH				pmax	pmax		
comp=Z,44nm,1.0s							
LZH				pmax	pmax		
comp=Z,120nm,4.5s							
LZH				LR	LR		
comp=N,6μm,6.0s							
LZH				LR	LR		
comp=E,8μm,7.0s							
LZH				LR	LR		
comp=Z,4μm,8.2s							
GZH	**Guangzhou**	9.19	113	P	**Pn**	**12 51 05.3**	**-1.1**
GZH				S	**Sn**	**12 52 44.4**	**-5.3**
GZH				LR	LR		
comp=N,6μm,4.5s							
GZH				LR	LR		
comp=E,4μm,3.8s							
CMMT	**Chiang Mai**	9.37	212	P	**Pn**	**12 51 12.0**	**+3.1**
comp=E,11nm,1.1s							
CHTO	**Chiang Mai**	9.37	212	eP	**Pn**	**12 51 11.2**	**+2.3**
CHTO	**Chiang Mai**	9.37	212	ePn	**Pn**	**12 51 11.2**	**+2.3**
CHTO	**Chiang Mai**	9.37	212	P	**Pn**	**12 51 11.5**	**+2.6**
comp=E,12nm,1.1s							
QIZ	**Qiongzhong**	9.45	145	P	**Pn**	**12 51 11.6**	**+1.6**
QIZ				S	**Sn**	**12 52 59.1**	**+3.0**
QIZ				pmax	pmax		
comp=Z,8.0nm,1.1s							
QIZ				LR	LR		
comp=N,4μm,9.8s							
QIZ				LR	LR		
comp=E,3μm,9.0s							
QIZ				LR	LR		
comp=Z,5μm,9.9s							
WHN	**Wuhan**	9.68	66	⇑P	**Pn**	**12 51 13.8**	**+0.8**
WHN				S	**Sn**	**12 53 00.8**	**-0.7**
WHN				LR	LR		
comp=N,18μm,6.1s							
WHN				LR	LR		
comp=E,7μm,3.7s							
WHN				LR	LR		
comp=Z,10μm,5.9s							
CM31	**Chiang Mai Arr**	9.68	211	ePn	**Pn**	**12 51 15.1**	**+2.0**
comp=Z,7.9nm,0.8s							
CMAR	**Chiang Mai Arr**	9.68	211	P	**Pn**	**12 51 15.2**	**+2.0**
comp=Z,0.4nm,0.3s,baz=22,slow=12,SNR=37							
CMAR				Sn	Sn	12 52 56.0	-5.7
comp=Z,0.1nm,0.3s,baz=7.4,slow=17,SNR=4.3							
CMAR				Lg	Lg	12 54 12.7	
baz=12,slow=28,SNR=4.2							
CMAR				LR	LR	12 55 22.3	
comp=Z,2μm,20.3s,baz=17,slow=40							
CMAR	**Chiang Mai Arr**	9.68	211	Pn	**Pn**	**12 51 15.2**	**+2.0**
CMAR				Sn	Sn	12 52 56.0	-5.7
CMAR				Lg	Lg	12 54 12.7	
SHL	**Shillong**	11.07	266	eP	Pn	12 51 25.5	-6.8
LSA	**Lhasa**	11.76	287	P	**Pn**	**12 51 44.3**	**+2.3**
LSA				LR	LR		
comp=N,2μm,16.3s							
LSA				LR	LR		
comp=E,2μm,17.6s							
GTA	**Gaotai**	12.97	345	eP	**Pn**	**12 51 59.0**	**+0.8**
GTA				pP	P	12 52 03.1	-5.6
GTA				sP		12 52 06.3	
GTA				S	Sn	12 54 28.8	+6.5
GTA				sS		12 54 35.0	
GTA				pmax	pmax		
comp=Z,4.0nm,1.2s							
GTA				pmax	pmax		
comp=Z,41nm,4.5s							
GTA				LR	LR		
comp=N,3μm,10.2s							
GTA				LR	LR		
comp=E,5μm,12.9s							
GTA				LR	LR		
comp=Z,2μm,10.2s							
SRDT	**SRDT**	13.35	201	P	**P**	**12 52 16.0**	**+3.1**
NJ2	**Nanjing**	13.81	65	eP	**P**	**12 52 18.6**	**+0.6**
NJ2				S	**Sn**	**12 54 42.0**	**-0.7**
NJ2				pmax	pmax		
comp=Z,20nm,0.7s							
NJ2				LR	LR		
comp=N,5μm,14.8s							
NJ2				LR	LR		
comp=E,4μm,16.9s							
NJ2				LR	LR		
comp=Z,4μm,18.0s							
CHBT	**CHBT**	14.19	187	P	**Pn**	**12 52 16.8**	**+1.9**
comp=Z,16nm,1.3s							
TIA	**Tai'an**	14.43	47	P	**Pn**	**12 52 17.9**	**-0.2**
TIA				S	Sn	12 54 50.8	-7.1

TIA LR LR
comp=N,2µm,18.0s
TIA LR LR
comp=E,2µm,16.7s
TIA LR LR
comp=Z,2µm,16.7s
BTO Baotou 14.50 18 *e*P Pn 12 52 15.8 -3.3
TAPN Taplejung 14.62 275 *e*P **Pn** **12 52 18.6 -2.4**
comp=Z,90nm,1.3s
ODAN Odare 14.93 274 *e*P Pn 12 52 22.2 -3.0
SSLB Suanglung 15.53 98 *e*P **Pn** **12 52 34.6 +1.7**
comp=Z,62nm,1.4s
RAMN Ramite 15.63 274 *e*P **Pn** **12 52 31.1 -3.3**
JIRN Jiri 15.96 277 *e*P **Pn** **12 52 36.0 -2.8**
GUN Gumba 16.23 278 *e*P **Pn** **12 52 39.5 -2.7**
comp=Z,92nm,1.0s
BJI Beijing 16.48 34 P **P** **12 52 46.9 -0.7**
BJI S **Sn** **12 55 48.1 +0.5**
BJI pmax pmax
comp=Z,28nm,1.2s
BJI pmax pmax
comp=Z,280nm,3.6s
BJI LR LR
comp=N,2µm,13.3s
BJI LR LR
comp=E,2µm,14.7s
BJI LR LR
comp=Z,1µm,19.0s
PKI Pulchoki 16.66 277 *e*P **Pn** **12 52 44.4 -3.2**
comp=Z,86nm,1.2s
PKIN Phulchoki 16.67 277 *e*P **Pn** **12 52 44.8 -2.9**
comp=Z,17nm,0.6s
KKN Kakani 16.77 277 *e*P **Pn** **12 52 46.3 -2.6**
comp=Z,59nm,0.8s
DMN Daman 16.92 277 *e*P **Pn** **12 52 48.9 -2.0**
comp=Z,98nm,1.3s
GKN Gorkha 17.33 278 *e*P **Pn** **12 52 53.0 -2.9**
comp=Z,60nm,1.1s
DANN Dangsing 18.10 279 *e*P **Pn** **12 53 04.4 -1.2**
comp=Z,25nm,0.7s
KOLN Koldanda 18.25 277 *e*P **Pn** **12 53 05.1 -2.3**
comp=Z,19nm,0.9s
PYUN Piuthan 18.78 278 *e*P **P** **12 53 11.2 -2.2**
comp=Z,79nm,1.0s
SONM Songino Array 20.96 4 P **P** **12 53 36.8 0.0**
comp=Z,12nm,0.6s,baz=188,slow=9.9,SNR=40
SONM Lg Lg 13 00 13.8
comp=Z,0.7nm,0.8s,baz=170,slow=18,SNR=2.5
SONM LR LR 13 02 49.0
comp=Z,870nm,19.9s,baz=182,slow=40
SONM Songino Array 20.96 4 P **P** **12 53 36.8 0.0**
SONM Lg Lg 13 00 13.8
ULN Ulaanbaatar 21.04 6 *e*P **P** **12 53 37.8 +0.1**
comp=Z,30nm,1.1s
ULN Ulaanbaatar 21.04 6 P **P** **12 53 38.6 +0.9**
comp=Z,22nm,1.2s
WMQ Urumqi 21.47 326 P **P** **12 53 42.3 0.0**
WMQ sP **sP** **12 53 48.9 +0.5**
WMQ PP **PnPn** **12 54 05.4 +2.8**
WMQ S **S** **12 57 34.5 -5.6**
WMQ PcP **PcP** **12 57 46.0 +0.9**
WMQ SS **SnSn** **12 58 08.1 +4.7**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=N,2µm,10.0s
WMQ LR LR
comp=E,1µm,11.0s
WMQ LR LR
comp=Z,360nm,12.0s
KULM Kulim 21.76 189 *e*P **P** **12 53 45.8 +0.3**
comp=Z,11nm,1.1s
KULM Kulim 21.76 189 P **P** **12 53 47.1 +1.6**
comp=Z,10nm,1.0s
IPM Ipoh 22.51 188 *e*P **P** **12 53 52.2 -1.3**
comp=Z,12nm,0.9s
IPM Ipoh 22.51 188 P **P** **12 53 53.3 -0.3**
comp=Z,22nm,1.5s
KSAR Wonju Array Be 22.63 56 P **P** **12 53 53.9 -0.8**
KSRS Korea Array 22.66 56 P **P** **12 53 53.9 -1.2**
comp=Z,5.8nm,0.7s,baz=248,slow=10,SNR=10
KSRS LR LR 13 03 34.8
comp=Z,811nm,18.4s,baz=255,slow=39
ZAK Zakamensk 23.44 359 *e*P **P** **12 54 02.0 -1.0**
ZAK pmax pmax
comp=Z,13nm,1.2s
KKM Kota Kinabalu 23.74 149 *e*P **P** **12 54 06.0 -0.2**
comp=Z,24nm,1.0s
TSI Tuntungan 23.89 194 P **P** **12 54 04.3 -3.2**
comp=Z,91nm,0.7s
JNU Nakatsue 23.94 69 P **P** **12 54 08.8 +0.8**
comp=Z,39nm,1.2s,baz=181,slow=8.7,SNR=3.6
JNU LR LR 13 04 43.8
comp=Z,429nm,18.5s,baz=259,slow=40
JNU Nakatsue 23.94 69 P **P** **12 54 08.8 +0.8**
CN2 Changchun 24.10 40 *e*P **P** **12 54 10.0 +0.7**
CN2 *es*P **sP** **12 54 17.0 +1.4**
CN2 *e*S S 12 58 14.0 -12
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,18.0s
CN2 LR LR
comp=E,1µm,18.0s
CN2 LR LR
comp=Z,2µm,20.0s
TLY Talaya 24.73 359 *e*P **P** **12 54 16.7 +1.6**
TLY *e*S **S** **12 58 32.4 -4.1**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY MLR MLR
comp=Z,493nm,12.0s
MOY Mondy 24.83 355 *e*P **P** **12 54 18.3 +2.3**
MOY pmax pmax
comp=Z,25nm,3.4s
IRK Irkutsk 25.29 0 *e*P **P** **12 54 22.1 +2.0**
IRK pmax pmax
comp=Z,77nm,1.4s
HYB Hyderabad 25.45 253 *i*P **P** **12 54 21.0 -0.9**
MYLDM Lahad Datu 25.60 145 P **P** **12 54 25.3 +2.1**
MK31 Makanchi Array 26.28 325*c e*P **P** **12 54 28.7 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 26.28 325 *e*P **P** **12 54 28.9 -0.2**
MKAR Makanchi Array 26.28 325 P **P** **12 54 29.0 -0.1**
comp=Z,9.1nm,0.8s,baz=128,slow=8.0,SNR=86
MKAR ScP **ScP** **13 01 32.4 -2.3**
comp=Z,0.9nm,1.0s,baz=135,slow=4.3,SNR=3.7
MKAR LR LR 13 06 16.9
comp=Z,516nm,18.8s,baz=126,slow=40
MKAR Makanchi Array 26.28 325 P **P** **12 54 29.0 -0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,1.0s
MKAR MLR MLR
comp=Z,516nm,18.8s
MKAR Makanchi Array 26.28 325 *e*P **P** **12 54 29.1 0.0**
MKAR ScP **ScP** **13 01 32.4 -2.3**
KSH Kashi 26.57 305 *e*P P 12 54 37.3 +5.3
KSH *ep*P pP 12 54 41.6 +5.2
KSH *es*P sP 12 54 44.0 +5.7
KSH *e*PP PnPn 12 55 21.8 +9.4
KSH *e*PcP PcP 12 58 01.3 +5.1
KSH S **S** **12 59 11.8 +5.6**
KSH sS sS 12 59 18.3 +4.7
KSH SS SnSn 13 00 22.8 +14
KSH ScP **ScP** **13 01 39.4 +3.6**
KSH PcS **PcS** **13 01 41.0 +3.5**
KSH ScS **ScS** **13 05 28.4 +2.1**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,84nm,5.1s
KSH LR LR
comp=N,460nm,14.6s
KSH LR LR
comp=E,220nm,6.0s
KSH LR LR
comp=Z,250nm,7.3s
MDJ Mudanjiang 27.02 43 P **P** **12 54 35.1 -0.6**
MDJ pP **pP** **12 54 38.0 -2.2**
MDJ S **S** **12 59 12.9 +0.1**
MDJ sS **sS** **12 59 18.3 -1.9**
MDJ ScP **ScP** **13 01 37.0 +0.2**
MDJ PcS **PcS** **13 01 38.4 +0.1**
MDJ pmax pmax
comp=Z,14nm,1.6s
MDJ pmax pmax
comp=Z,210nm,4.6s
MDJ LR LR
comp=N,610nm,15.4s
MDJ LR LR
comp=E,830nm,16.0s
MDJ LR LR
comp=Z,1µm,15.4s
USRK Ussuriysk Arra 28.30 45 P **P** **12 54 46.7 -0.5**
comp=Z,3.6nm,0.7s,baz=244,slow=11,SNR=5.7
USRK LR LR 13 05 46.6
comp=Z,518nm,21.3s,baz=222,slow=36
DAV Davao City (W) 28.38 130 LR LR 13 07 57.2
comp=Z,781nm,19.2s,baz=327,slow=40
AAK Ala-Archa 28.76 311 LR LR 13 07 59.6
comp=Z,430nm,18.3s,baz=87,slow=40
MJAR Matsushiro Arr 30.41 63 P **P** **12 55 06.4 +0.3**
comp=Z,5.3nm,1.2s,baz=351,slow=16,SNR=4.7
MJAR LR LR 13 08 08.2
comp=Z,568nm,20.9s,baz=265,slow=38
MJAR Matsushiro Arr 30.41 63 P **P** **12 55 06.4 +0.3**
ZAA0 Zalesovo Array 30.54 337 *e*P **P** **12 55 06.4 -0.5**
ZALV Zalesovo Beam 30.54 337 P **P** **12 55 06.1 -0.8**
comp=Z,8.2nm,0.6s,baz=141,slow=8.6,SNR=54
ZALV LR LR 13 08 05.4
comp=Z,443nm,18.2s,baz=305,slow=38
ZALV Zalesovo Beam 30.54 337 P **P** **12 55 06.1 -0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV MLR MLR
comp=Z,443nm,18.2s
ZALV Zalesovo Beam 30.54 337 P **P** **12 55 06.1 -0.8**
KURBB Kurchatov Arra 30.68 327 P **P** **12 55 08.1 -0.1**
comp=Z,18nm,0.7s,baz=133,slow=9.5,SNR=271
KURBB LR LR 13 08 44.2
comp=Z,438nm,18.3s,baz=110,slow=39
KURK Kurchatov 30.69 328*c i*P **P** **12 55 08.2 -0.2**
KURK pmax pmax
comp=Z,21nm,0.7s
KURK Kurchatov 30.69 328 *e*P **P** **12 55 08.1 -0.2**
comp=Z,22nm,0.8s
BOD Bodaibo 31.66 10 *e*P **P** **12 55 16.6 -0.2**
NVS Novosibirsk 31.80 337 *i*P **P** **12 55 17.8 -0.3**
NVS pmax pmax
comp=Z,13nm,1.7s
NVS pmax pmax
comp=N,7.0nm,1.7s
NVS pmax pmax
comp=E,4.0nm,1.7s
KAPI Kappang 35.16 152 P **P** **12 55 46.1 -1.6**
comp=E,4.9nm,0.4s,baz=333,slow=7.9,SNR=5.1
KAPI Kappang 35.16 152 *e*P **P** **12 55 47.0 -0.7**
comp=E,14nm,0.8s
BVA0 Borovoye Array 36.16 325 P **P** **12 55 56.0 0.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 36.16 325 P **P** **12 55 54.4 -1.6**
comp=Z,8.4nm,0.9s,baz=114,slow=8.9,SNR=38
BVAR LR LR 13 12 13.1
comp=Z,371nm,20.3s,baz=120,slow=39
BVAR Borovoye Array 36.16 325 P **P** **12 55 54.4 -1.6**
BVAR pmax pmax
comp=Z,8.0nm,0.9s
BVAR MLR MLR
comp=Z,371nm,20.3s
BVAR Borovoye Array 36.16 325 P **P** **12 55 54.4 -1.6**
BRVK Borovoye 36.23 325*c i*P **P** **12 55 56.5 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 36.23 325 *e*P **P** **12 55 56.5 -0.1**
comp=Z,14nm,0.9s
YAK Yakutsk 39.02 19 *e*P **P** **12 56 17.1 -3.0**
YAK *e**PP **pP** **12 56 26.6 +2.0**
YAK *e*S S 13 02 10.9 -7.5
YAK *e*SS **SnSn** **13 05 02.3 -7.6**
YAK *e*SSS SSS 13 05 32.6
YAK *e* 13 06 27.5
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK smax smax
comp=N,23nm,7.6s
YAK smax smax
comp=E,17nm,9.5s
YAK MLR MLR
comp=Z,796nm,16.0s
YAK MLR MLR
comp=E,312nm,18.0s
YAK MLR MLR
comp=N,558nm,15.0s
YAK Yakutsk 39.02 19 *e*P **P** **12 56 19.3 -0.8**
comp=N,19nm,0.6s
AB31 Akbulak array 40.56 315*ce*P **P** **12 56 33.0 0.0**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 40.56 315 *e*P **P** **12 56 33.2 +0.2**
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 42.09 317 P **P** **12 56 45.9 +0.2**
comp=Z,5.1nm,0.7s,baz=91,slow=13,SNR=19
AKTO Aktyubinsk 42.09 317 P **P** **12 56 45.9 +0.2**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 42.09 317 P **P** **12 56 45.9 +0.2**
SVE Sverdlovsk 42.92 326‖ *e*P **P** **12 56 52.4 +0.1**
SVE *e* 12 59 03.2
SVE *e*S S 13 03 05.5 -11
SVE pmax pmax
comp=Z,11nm,0.8s
ARU Arti 43.80 325*c i*P **P** **12 56 59.2 -0.2**
ARU 12 58 38.4
ARU S **S** **13 03 33.1 +3.7**
ARU SS **SS** **13 06 46.4 +1.2**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 43.80 325 *e*P **P** **12 56 58.8 -0.5**
comp=Z,15nm,0.9s
SOKR Solikamsk 45.92 329*c i*P **P** **12 57 16.9 +0.8**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,350nm,21.0s
PETK Petropavlovsk- 47.24 41 LR LR 13 19 57.1
comp=Z,368nm,18.3s,baz=250,slow=39
SEY Seymchan 47.75 27 *e*P **P** **12 57 32.2 +1.7**
FITZ Fitzroy Crossi 49.38 153 P **P** **12 57 43.2 -0.3**
comp=Z,4.0nm,1.0s,baz=22,slow=7.9,SNR=6.3
FITZ Fitzroy Crossi 49.38 153 P **P** **12 57 43.2 -0.3**
MIB Mutribah 49.62 287 *e*P **P** **12 57 45.0 -0.4**
MIB AMb AMB 12 57 45.9
comp=Z,17nm,1.2s
NAY Al-Naaiem 49.82 287 *e*P **P** **12 57 45.5 -1.4**
NAY AMb AMB 12 57 46.7
comp=Z,18nm,1.2s
GNI Garni 50.37 301 LR LR 13 23 57.6
comp=Z,143nm,18.4s,baz=348,slow=42
ZEI Tsey 50.86 305 *e*P **P** **12 57 54.5 -0.4**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 51.55 306 P **P** **12 58 00.6 +0.9**
comp=Z,0.9nm,0.8s,baz=129,slow=17,SNR=2.3
KBZ LR LR 13 23 46.2
comp=Z,302nm,18.6s,baz=257,slow=40
KBZ Khabaz 51.55 306 P **P** **12 58 00.6 +0.9**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ MLR MLR
comp=Z,302nm,18.7s
KBZ Khabaz 51.55 306 P **P** **12 58 00.6 +0.9**
KIV Kislovodsk 51.70 306 *e*P **P** **12 57 59.5 -1.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,266nm,17.0s
KLMR Klimovskoe 54.54 327 *e*P **P** **12 58 20.2 -1.3**
KLMR pmax pmax
comp=Z,20nm,1.2s
BILL Bilibino 54.96 24 *e*P **P** **12 58 26.6 +2.2**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 54.96 24 *e*P **P** **12 58 23.0 -1.4**
comp=Z,5.4nm,0.8s
WRAB Tennant Creek 55.03 145 *e*P **P** **12 58 24.2 -1.3**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 55.03 145 *e*P **P** **12 58 24.1 -1.3**
comp=Z,11nm,1.0s
WRA Warramunga Arr 55.03 145 P **P** **12 58 25.0 -0.5**
comp=Z,7.2nm,0.9s,baz=332,slow=7.8,SNR=39
WRA Warramunga Arr 55.03 145 P **P** **12 58 25.0 -0.5**
MALT Malatya 55.45 299‖ *i*P **P** **12 58 31.6 +3.0**
AS31 Alice Springs 57.94 147 *e*P **P** **12 58 46.1 -0.1**
ASAR Alice Springs 57.94 147 P **P** **12 58 45.7 -0.5**
comp=Z,3.4nm,0.8s,baz=328,slow=6.5,SNR=34
ASAR Alice Springs 57.94 147 P **P** **12 58 45.7 -0.5**
JOF Joensuu 58.59 329 *e*P **P** **12 58 48.7 -1.6**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 58.59 329 *ep* **P** **12 58 48.7 -1.6**
comp=Z,2.8nm,0.6s
BRTR Keskin Array B 58.89 302 P **P** **12 58 53.0 0.0**
comp=Z,1.3nm,0.9s,baz=103,slow=5.3,SNR=4.3
BRTR Keskin Array B 58.89 302 P **P** **12 58 53.0 0.0**
MMAI Mount Meron Ar 58.90 294 LR LR 13 27 57.3
comp=Z,143nm,20.0s,baz=190,slow=40
AKASG Malin Array Be 60.30 315 P **P** **12 59 01.2 -1.1**
comp=Z,2.6nm,0.6s,baz=70,slow=6.7,SNR=6.8
AKASG LR LR 13 25 27.2
comp=Z,124nm,19.9s,baz=185,slow=36
AKASG Malin Array Be 60.30 315 P **P** **12 59 01.2 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,124nm,19.9s
AKASG Malin Array Be 60.30 315 P **P** **12 59 01.2 -1.1**
AK02 Malin Array Si 60.32 315 *e*P **P** **12 59 00.9 -1.5**
KEV Kevo 60.56 337 *e*P **P** **12 59 02.4 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 60.56 337 *ep* **P** **12 59 02.4 -1.4**
comp=Z,7.1nm,0.7s
KAF Kangasniemi 60.92 328 *e*P **P** **12 59 05.1 -1.2**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 60.92 328 *ep* **P** **12 59 05.1 -1.2**
comp=Z,1.7nm,0.7s
FINES FINESS Array B 61.07 328 P **P** **12 59 05.8 -1.5**
comp=Z,2.8nm,0.8s,baz=70,slow=6.3,SNR=9.6
FINES FINESS Array B 61.07 328 P **P** **12 59 05.8 -1.5**
ARCES ARCESS Array B 61.09 337 P **P** **12 59 06.6 -0.8**
comp=Z,0.9nm,0.3s,baz=92,slow=7.8,SNR=30
ARCES ARCESS Array B 61.09 337 P **P** **12 59 06.6 -0.8**
ISP Isparta 61.67 300‖ *i*P P 12 59 02.9 -9.0
ISP Isparta 61.67 300‖ *i*P P 12 59 02.9 -9.0
VRI Vrincioaia 62.72 310⇑ *i*P **P** **12 59 19.0 +0.2**
VRI Vrincioaia 62.72 310⇑ *i*P **P** **12 59 19.0 +0.2**
PLOR Plostina 62.78 310⇑ *i*P **P** **12 59 20.2 +1.0**
PLOR Plostina 62.78 310⇑ *i*P **P** **12 59 20.2 +1.0**
MLR Muntele Rosu 63.34 310⇑ *i*P **P** **12 59 23.5 +0.5**
SUW Suwalki 63.48 319 *e*P **P** **12 59 22.8 -0.8**
SUW pmax pmax
comp=Z,19nm,0.8s
SUW Suwalki 63.48 319 *e*P **P** **12 59 22.8 -0.8**
comp=Z,19nm,0.8s
VOIR 63.96 310‖ *i*P **P** **12 59 27.0 -0.1**
VOIR 63.96 310‖ *i*P **P** **12 59 27.0 -0.1**
ARR Arges 64.27 310‖ *i*P **P** **12 59 28.6 -0.5**
KWP Kalwaria Pacla 64.61 315⇑ *i*P **P** **12 59 31.0 -0.2**
KWP Kalwaria Pacla 64.61 315⇑ *i*P **P** **12 59 31.0 -0.2**
DRGR 65.24 312‖ *i*P **P** **12 59 35.4 0.0**
DRGR 65.24 312‖ *i*P **P** **12 59 35.4 0.0**
VTS Vitosha 65.94 307‖ *i*P **P** **12 59 39.1 -1.0**
VTS Vitosha 65.94 307‖ *i*P **P** **12 59 39.1 -1.0**
HFS Hagfors 67.26 327 P **P** **12 59 46.4 -1.6**
comp=Z,4.7nm,0.8s,baz=122,slow=5.6,SNR=7.2
HFS Hagfors 67.26 327 P **P** **12 59 46.4 -1.6**
VYHS Vyhne 67.35 314 *e*P **P** **12 59 47.5 -1.3**
VYHS pmax pmax
comp=Z,14nm,2.3s
VYHS Vyhne 67.35 314 *e*P **P** **12 59 47.5 -1.3**
MORC Moravsky Berou 67.83 316 *e*P **P** **12 59 51.8 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 67.83 316 *e*P **P** **12 59 51.8 -0.1**
comp=Z,2.6nm,0.9s
NB2 NORSAR Subarra 68.20 328 P **P** **12 59 51.9 -2.1**
comp=Z,2.2nm,0.8s,baz=74,slow=6.5
NOA NORSAR Array B 68.20 328 P **P** **12 59 51.8 -2.2**
comp=Z,2.4nm,0.8s,baz=75,slow=6.3,SNR=8.1
NOA LR LR 13 28 55.8
comp=Z,130nm,20.1s,baz=295,slow=35
NOA NORSAR Array B 68.20 328 P **P** **12 59 51.8 -2.2**
STKA Stephens Creek 68.52 146 P **P** **12 59 55.1 -1.1**
comp=Z,1.1nm,0.8s,baz=281,slow=9.0,SNR=2.8
STKA Stephens Creek 68.52 146 P **P** **12 59 55.1 -1.1**
GERES GERESS Array B 70.50 316 P **P** **13 00 08.1 -0.5**
comp=Z,0.6nm,0.5s,baz=62,slow=6.2,SNR=4.4
GERES GERESS Array B 70.50 316 P **P** **13 00 08.1 -0.5**
COLA College 73.19 25 *e*P **P** **13 00 23.9 -0.3**
COLA pmax pmax
comp=Z,6.0nm,1.0s
COLA College 73.19 25 *e*P **P** **13 00 23.9 -0.3**
comp=Z,6.3nm,1.0s
ILAR Eielson Array 73.60 25 P **P** **13 00 25.5 -1.2**
comp=Z,0.6nm,0.4s,baz=283,slow=4.4,SNR=14
ILAR LR LR 13 35 43.9
comp=Z,102nm,18.6s,baz=317,slow=38
ILAR Eielson Array 73.60 25 P **P** **13 00 25.5 -1.2**
PMR Palmer 74.19 28 *e*P **P** **13 00 30.0 -0.1**
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 74.19 28 *e*P **P** **13 00 30.0 -0.1**
comp=Z,4.3nm,0.6s
CDF Champ du Feu 74.64 317 *e*P **P** **13 00 32.8 -0.4**
comp=Z,15nm,1.2s
CDF Champ du Feu 74.64 317 *e*P **P** **13 00 32.8 -0.4**
CDF pmax pmax
comp=Z,15nm,1.2s
CDF Champ du Feu 74.64 317 *e*P **P** **13 00 32.8 -0.4**
comp=Z,15nm,1.2s
LPG La Plagne 76.14 314 *e*P **P** **13 00 41.5 -0.6**
comp=Z,12nm,0.7s
LPG La Plagne 76.14 314 *e*P **P** **13 00 41.5 -0.6**
LPG pmax pmax
comp=Z,12nm,0.7s
LPG La Plagne 76.14 314 *e*P **P** **13 00 41.5 -0.6**
comp=Z,12nm,0.7s
LPL La Plagne 76.14 314 *e*P **P** **13 00 41.3 -0.7**
LPL La Plagne 76.14 314 *e*P **P** **13 00 41.3 -0.7**
LPL La Plagne 76.14 314 *e*P **P** **13 00 41.3 -0.7**
MBDF Montbardon 76.44 313 *e*P **P** **13 00 42.9 -0.8**
MBDF Montbardon 76.44 313 *e*P **P** **13 00 42.9 -0.8**
MBDF Montbardon 76.44 313 *e*P **P** **13 00 42.9 -0.8**
SUMG Summit 77.54 349 *e*P **P** **13 00 50.8 +1.2**
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 77.54 349 *e*P **P** **13 00 50.8 +1.2**
comp=Z,5.1nm,0.9s
RES Resolute Bay 77.89 5 *e*P **P** **13 00 49.8 -1.2**
comp=Z,2.5nm,0.9s
LSZ Lusaka 84.75 250 P **P** **13 01 27.5 -1.0**
comp=Z,3.9nm,0.9s,baz=49,slow=4.3,SNR=4.0
LSZ Lusaka 84.75 250 P **P** **13 01 27.5 -1.0**
YKA Yellowknife Ar 85.67 17 P **P** **13 01 31.6 -0.7**
comp=Z,1.2nm,0.7s,baz=327,slow=4.9,SNR=26
YKA Yellowknife Ar 85.67 17 P **P** **13 01 31.6 -0.7**
MDT Midelt 89.92 307 P **P** **13 01 51.7 -1.7**
comp=Z,2.8nm,0.4s,baz=246,slow=8.9,SNR=12
MDT Midelt 89.92 307 P **P** **13 01 51.7 -1.7**
RPZ Rata Peaks 93.23 138 LR LR 13 41 18.9
comp=Z,237nm,20.5s,baz=163,slow=34
BOSA Boshof 93.61 240 LR LR 13 41 38.9
comp=Z,107nm,18.7s,baz=254,slow=34
TORD Torodi Ar. Bea 94.90 287 LR LR 13 49 15.8
comp=Z,91nm,19.6s,baz=135,slow=38

---

*ISCJB **22** 12:54:30.0±0.7, 33.70S±0.08×178.6W±0.1, h41km, mb4.7/14, MS4.1/5, Error ellipse: s-maj=14.1km s-min=9.9km az=40.1*
*IDC **22** 12:54:30.9±8.6, 33.50S×178.69W, h33km±61km, mb4.4/10, mb1 4.6/11, mb1mx4.3/20, mbtmp4.4/11, ML4.6/1, MS4.1/5, Ms1 4.1/5, ms1mx3.4/28, Error ellipse: s-maj=28.2km s-min=20.7km az=48.0*
*NEIC **22** 12:54:33.1±1.9, 33.75S×178.61W, h56km±15km, mb4.9/8, Error ellipse: s-maj=17.2km s-min=12.4km az=215.0*
*AUST **22** 12:54:59.9±2.5, 34.05S×179.10E, h164km, Error ellipse:*

s-maj=2.8km s-min=1.4km az=26.0
ISC 22 12:54:31.3±0.5, 33°59S±0'08×178°53W±0'09, h41km, n91, σ1820/100, mb4.9/14, MS4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.85**	**216**	Pn	**Pn**	**12 55 53.8**	**-1.6**
	14nm,0.3s,baz=28,slow=6.3,SNR=100						
URZ				Sn	**Sn**	**12 57 00.9**	**-0.2**
	40nm,0.3s,baz=351,slow=22,SNR=10						
URZ	**Urewera**	**5.85**	**216**	ePn	**Pn**	**12 55 54.6**	**-0.8**
	184nm,0.6s						
URZ				eSn	**Sn**	**12 57 04.0**	**+2.8**
OUZ	**Omahuta**	**6.71**	**254**	ePn	**Pn**	**12 56 08.9**	**+1.7**
	87nm,0.9s						
RPZ	**Rata Peaks**	**12.97**	**216**	Pn	Pn	12 57 28.1	-4.8
	1.4nm,0.3s,baz=28,slow=16,SNR=7.5						
RPZ				Sn	Sn	12 59 44.1	-12
	2.6nm,0.3s,baz=306,slow=19,SNR=11						
RPZ	**Rata Peaks**	**12.97**	**216**	ePn	**Pn**	**12 57 30.3**	**-2.6**
RPZ				eSn	Sn	12 59 47.0	-8.8
DZM	**Mont Dzumac**	**17.53**	**307**	eP	**P**	**12 58 34.2**	**+0.8**
	115nm,1.1s						
DZM				eLR	LR	13 02 38.4	
	749nm,24.1s						
DZM	**Mont Dzumac**	**17.53**	**307**	eP	**P**	**12 58 35.6**	**+2.2**
	48nm,1.0s						
YNG	**Young**	**27.38**	**259**	S	S	13 04 25.5	-25
	baz=25,SNR=6.4						
TBI	**Tubuai**	**27.44**	**76**	eLR	LR	13 07 14.6	
	276nm,21.0s,baz=245						
TBI	**Tubuai**	**27.44**	**76**	eLR	LR	13 53 16.4	
	232nm,23.0s						
EIDS	**Eidsvold**	**27.61**	**279**	eP	**P**	**13 00 16.4**	**+1.5**
	8.8nm,0.8s						
MOO	**Moorlands**	**28.26**	**242**	P	**P**	**13 00 22.3**	**+1.8**
	baz=26,SNR=3.3						
RMQ	**Roma**	**29.10**	**275**	P	P	13 00 31.6	+3.5
	baz=27,SNR=7.7						
PPT2	**Papeete2**	**30.45**	**66**	eLR	LR	13 08 36.6	
	252nm,20.5s,baz=238						
PPT2	**Papeete2**	**30.45**	**66**	eLR	LR	13 54 44.6	
PPT	**Papeete**	**30.47**	**66**	LR	LR	13 10 21.4	
	comp=Z,241nm,19.3s,baz=341,slow=31						
QLP	**Quilpie**	**32.83**	**272**	P	**P**	**13 01 02.4**	**+1.3**
	baz=31,SNR=7.6						
STKA	**Stephens Creek**	**33.44**	**262**	P	**P**	**13 01 06.9**	**+0.5**
	3.1nm,0.8s,baz=78,slow=7.5,SNR=5.0						
STKA				PcP	**PcP**	**13 03 46.4**	**-0.5**
	1.6nm,0.7s,baz=57,slow=7.1,SNR=4.1						
STKA				LR	LR	13 14 41.6	
	comp=Z,668nm,18.4s,baz=28,slow=36						
STKA	**Stephens Creek**	**33.44**	**262**	eP	**P**	**13 01 06.8**	**+0.5**
	1.0nm,1.0s						
STKA				PcP	**PcP**	**13 03 46.4**	**-0.5**
STKA	**Stephens Creek**	**33.44**	**262**	P	**P**	**13 01 07.8**	**+1.5**
	baz=31,SNR=4.2						
CTA	**Charters Tower**	**34.00**	**284**	P	**P**	**13 01 12.0**	**+0.7**
	16nm,0.8s,baz=101,slow=9.7,SNR=14						
CTA	**Charters Tower**	**34.00**	**284**	P	**P**	**13 01 12.0**	**+0.7**
CTAO	**Charters Tower**	**34.00**	**284**	eP	**P**	**13 01 11.5**	**+0.2**
	32nm,1.1s						
QIS	**Mount Isa**	**39.21**	**278**	P	**P**	**13 01 55.9**	**+0.2**
	baz=37,SNR=5.4						
COEN	**Coen**	**39.82**	**290**	P	**P**	**13 02 01.5**	**+0.7**
	baz=38,SNR=6.8						
AS31	**Alice Springs**	**42.59**	**271**	eP	**P**	**13 02 23.0**	**-0.5**
ASAR	**Alice Springs**	**42.59**	**271**	P	**P**	**13 02 23.0**	**-0.5**
	16nm,0.8s,baz=112,slow=7.5,SNR=128						
ASAR				PcP	**PcP**	**13 04 15.2**	**-0.1**
	4.7nm,0.9s,baz=120,slow=4.1,SNR=9.6						
ASAR				LR	LR	13 20 34.5	
	comp=Z,215nm,18.3s,baz=76,slow=37						
ASAR	**Alice Springs**	**42.59**	**271**	P	**P**	**13 02 23.0**	**-0.5**
ASAR				PcP	**PcP**	**13 04 15.2**	**-0.1**
WRAB	**Tennant Creek**	**43.86**	**276**	eP	**P**	**13 02 32.8**	**-0.9**
	21nm,0.8s						
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**13 02 32.8**	**-1.0**
	21nm,0.8s,baz=116,slow=7.6,SNR=118						
WRA				PcP	**PcP**	**13 04 18.6**	**-1.1**
	1.6nm,0.7s,baz=123,slow=3.2,SNR=5.6						
WRA				LR	LR	13 18 10.9	
	comp=Z,169nm,21.5s,baz=110,slow=32						
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**13 02 32.8**	**-1.0**
WRA				PcP	**PcP**	**13 04 18.6**	**-1.1**
FORT	**Forrest**	**44.87**	**258**	eP	**P**	**13 02 39.7**	**-2.0**
	20nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.98**	**273**	P	**P**	**13 03 35.5**	**-1.0**
	8.5nm,0.9s,baz=154,slow=7.7,SNR=14						
FITZ	**Fitzroy Crossi**	**51.98**	**273**	eP	**P**	**13 03 35.6**	**-0.9**
	8.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.98**	**273**	P	**P**	**13 03 35.9**	**-0.6**
	baz=50,SNR=11						
MEEK	**Meekatharra**	**54.09**	**260**	P	**P**	**13 03 51.0**	**-1.2**
	baz=52,SNR=5.0						
QSPA	**South Pole Qui**	**56.53**	**180**	P	**P**	**13 04 11.2**	**+2.0**
	7.8nm,1.0s,baz=30,slow=4.0,SNR=20						
QSPA	**South Pole Qui**	**56.53**	**180**	eP	**P**	**13 04 11.2**	**+2.0**
	23nm,1.0s						
WSI	**Waingapu**	**60.74**	**278**	P	P	13 04 35.5	-3.6
	baz=59,SNR=3.6						
VNA2	**Neumayer--Watz**	**75.59**	**177**	eWP	**PcP**	**13 06 23.9**	**-0.1**
	baz=184,slow=5.5						
VNA1	**Neumayer--Stat**	**75.82**	**177**	eWP	**PcP**	**13 06 25.3**	**+0.3**
ASAJ	**Asahikawa**	**85.06**	**333**	LR	LR	13 44 40.2	
	comp=Z,820nm,18.8s,baz=155,slow=35						
PETK	**Petropavlovsk-**	**88.78**	**346**	P	**P**	**13 07 20.1**	**-0.1**
	7.7nm,0.9s,baz=150,slow=4.5,SNR=4.9						
PETK	**Petropavlovsk-**	**88.78**	**346**	P	**P**	**13 07 20.1**	**-0.1**
NVAR	**Mina Array Bea**	**90.88**	**43**	P	**P**	**13 07 31.7**	**+1.0**
	0.4nm,0.6s,baz=215,slow=6.1,SNR=3.1						
NVAR	**Mina Array Bea**	**90.88**	**43**	P	**P**	**13 07 31.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**94.02**	**289**	P	**P**	**13 07 45.5**	**+0.2**
	0.3nm,0.3s,baz=142,slow=3.1,SNR=4.3						
CMAR				PP	**PP**	**13 11 28.4**	**-3.8**
	0.4nm,0.4s,baz=124,slow=4.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**94.02**	**289**	P	**P**	**13 07 45.5**	**+0.2**
CMAR				PP	**PP**	**13 11 28.4**	**-3.8**
TXAR	**Lajitas Array**	**94.48**	**58**	P	**P**	**13 07 48.3**	**+1.0**
	0.3nm,0.7s,baz=211,slow=5.7,SNR=4.9						
TXAR	**Lajitas Array**	**94.48**	**58**	P	**P**	**13 07 48.3**	**+1.0**
JCT	**Junction City**	**97.88**	**59**	eP	**P**	**13 08 02.1**	**-0.6**
	21nm,1.0s						
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	**PKPdf**	**13 13 15.6**	**-0.4**
	1.5nm,0.9s,baz=67,slow=4.8,SNR=8.3						
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	**PKPdf**	**13 13 15.6**	**-0.4**
ZALV	**Zalesovo Beam**	**120.08**	**317**	PKP	**PKPdf**	**13 13 15.9**	**-1.0**
	0.8nm,0.6s,baz=132,slow=2.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**120.08**	**317**	PKP	**PKPdf**	**13 13 15.9**	**-1.0**
KURK	**Kurchatov**	**122.89**	**312**	ePKPdf	**PKPdf**	**13 13 21.6**	**-0.8**
KURK				PKP	**PKPdf**	**13 13 21.6**	**-0.8**
KURBB	**Kurchatov Arra**	**122.92**	**312**	PKP	**PKPdf**	**13 13 21.6**	**-0.8**
	3.3nm,0.9s,baz=108,slow=2.1,SNR=26						
EMMW	**East Machias**	**126.88**	**56**	ePKPdf	**PKPdf**	**13 13 30.4**	**+0.2**
BVAR	**Borovoye Array**	**128.33**	**314**	PKP	**PKPdf**	**13 13 32.8**	**+0.1**
	1.6nm,0.5s,baz=139,slow=3.2,SNR=12						
BVAR	**Borovoye Array**	**128.33**	**314**	PKP	**PKPdf**	**13 13 32.8**	**+0.1**
ABKAR	**Akbulak array**	**134.58**	**308**	ePKPdf	**PKPdf**	**13 13 45.3**	**+0.6**
SPITS	**Spitsbergen Ar**	**134.84**	**356**	PKP	**PKPdf**	**13 13 45.7**	**+1.2**
	2.2nm,0.8s,baz=103,slow=6.1,SNR=4.2						
SPITS	**Spitsbergen Ar**	**134.84**	**356**	PKP	**PKPdf**	**13 13 45.7**	**+1.2**
AKTO	**Aktyubinsk**	**135.85**	**310**	PKP	**PKPdf**	**13 13 48.3**	**+1.2**
	1.3nm,0.5s,baz=359,slow=0.7,SNR=6.4						
AKTO	**Aktyubinsk**	**135.85**	**310**	PKP	**PKPdf**	**13 13 48.3**	**+1.2**
ARCES	**ARCESS Array B**	**141.59**	**347**	PKP	**PKPdf**	**13 13 54.9**	**-2.1**
	2.8nm,0.9s,baz=343,slow=2.8,SNR=3.9						
ARCES	**ARCESS Array B**	**141.59**	**347**	PKP	**PKPdf**	**13 13 54.9**	**-2.1**
GNI	**Garni**	**145.03**	**294**	PKP	**PKPdf**	**13 14 04.3**	**+0.1**
	2.5nm,0.3s,baz=33,slow=3.3,SNR=5.1						
GNI	**Garni**	**145.03**	**294**	PKP	**PKPdf**	**13 14 04.3**	**+0.1**
JOF	**Joensuu**	**145.18**	**336**	ep	**PKPbc**	**13 14 01.6**	**-1.5**
	1.4nm,0.5s						
KBZ	**Khabaz**	**146.41**	**300**	PKPbc	**PKPbc**	**13 14 07.7**	**+0.2**
	8.9nm,1.0s,baz=88,slow=2.8,SNR=13						
KBZ	**Khabaz**	**146.41**	**300**	PKPbc	**PKPbc**	**13 14 07.7**	**+0.2**
KIV	**Kislovodsk**	**146.54**	**300**	ePKPbc	**PKPbc**	**13 14 08.2**	**+0.1**
KAF	**Kangasniemi**	**147.37**	**339**	ep	**PKPdf**	**13 14 08.0**	**+0.8**
	5.2nm,0.8s						
FIA1	**FINESS Array S**	**147.95**	**338**	ePKPbc	**PKPbc**	**13 14 10.4**	**-0.9**
FINES	**FINESS Array B**	**147.95**	**338**	PKPbc	**PKPbc**	**13 14 10.6**	**-0.7**
	4.9nm,0.5s,baz=46,slow=4.1,SNR=49						
FINES	**FINESS Array B**	**147.95**	**338**	PKPbc	**PKPbc**	**13 14 10.6**	**-0.7**
NB2	**NORSAR Subarra**	**151.81**	**350**	PKP	**PKPbc**	**13 14 20.2**	**-0.6**
	comp=Z,8.4nm,1.2s,baz=35,slow=2.6						
NOA	**NORSAR Array B**	**151.81**	**350**	PKPbc	**PKPbc**	**13 14 22.3**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.2,SNR=5.5						
NOA				PKPab	**PKPab**	**13 14 30.3**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=14,slow=4.1,SNR=6.2						
NOA	**NORSAR Array B**	**151.81**	**350**	PKPbc	**PKPbc**	**13 14 22.3**	**+1.5**
NOA				PKPab	**PKPab**	**13 14 30.3**	**+0.4**
NACGM	**Naroch**	**152.29**	**328**	e	**PKPbc**	**13 14 20.0**	**-2.0**
DBIC	**Dimbokro**	**152.58**	**166**	PKPab	**PKPab**	**13 14 34.5**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=143,slow=5.4,SNR=4.6						
DBIC	**Dimbokro**	**152.58**	**166**	PKPab	**PKPab**	**13 14 34.5**	**+0.3**
AKASG	**Malin Array Be**	**153.47**	**318**	PKPbc	**PKPbc**	**13 14 24.8**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=66,slow=2.6,SNR=9.0						
AKASG				PKPab	**PKPab**	**13 14 35.7**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=73,slow=2.6,SNR=4.5						
AKASG	**Malin Array Be**	**153.47**	**318**	PKPbc	**PKPbc**	**13 14 24.8**	**+0.1**
AKASG				PKPab	**PKPab**	**13 14 35.7**	**-1.5**
AK02	**Malin Array Si**	**153.50**	**318**	ePKPbc	**PKPbc**	**13 14 24.3**	**-0.5**
BR131	**Keskin Array S**	**153.56**	**293**	ePKPbc	**PKPbc**	**13 14 25.9**	**+0.4**
BRTR	**Keskin Array B**	**153.56**	**293**	PKPbc	**PKPbc**	**13 14 26.1**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=123,slow=4.6,SNR=7.0						
BRTR				PKPab	**PKPab**	**13 14 36.5**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=124,slow=1.6,SNR=4.6						
BRTR	**Keskin Array B**	**153.56**	**293**	PKPbc	**PKPbc**	**13 14 26.1**	**+0.5**
BRTR				PKPab	**PKPab**	**13 14 36.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**159.65**	**181**	PKP	**PKPdf**	**13 14 26.9**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=251,slow=0.6,SNR=2.6						
TORD				PKPab	**PKPab**	**13 15 05.0**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=177,slow=3.4,SNR=13						
TORD	**Torodi Ar. Bea**	**159.65**	**181**	PKP	**PKPdf**	**13 14 26.9**	**+0.7**
TORD				PKPab	**PKPab**	**13 15 05.0**	**+0.5**

*IDC **22** 12:54:50.0±0.5, 12°.72S×14°.67W, h0km, mb4.5/30, mb1 4.5/30, mb1mx4.5/33, mbtmp4.5/30, MS4.4/8, Ms1 4.3/8, ms1mx4.0/27, Error ellipse: s-maj=15.9km s-min=11.6km az=155.0*
*MOS **22** 12:54:50.1±0.6, 12°.54S×14°.79W, h10km, mb5.4/63, MS4.6/4, Error ellipse: s-maj=13.5km s-min=4.5km az=70.6*
*ISCJB **22** 12:54:51.1±0.3, 12°.62S±0'.05×14°.61W±0'.04, h16km, mb5.0/128, MS4.4/15, Error ellipse: s-maj=8.5km s-min=4.8km az=145.1*
*NEIC **22** 12:54:51.4±0.2, 12°.74S×14°.69W, h10km, mb5.3/71, Error ellipse: s-maj=5.3km s-min=3.7km az=133.0*
*BJI **22** 12:54:52.8, 13°.20S×14°.15W, h27km, mB5.5/9, Ms5.5/7, Ms7 5.1/10*
*GCMT **22** 12:54:53.1±0.3, 12°.78S×14°.63W, h22km, MW5.0, Moment Tensor Solution. s21,c23; s84,c105; Moment tensor: Scale 10^16Nm; Mrr-5.13±.28; Mθθ1.09±.16; Mφφ4.04±.19; Mrθ0.42±.31; Mθφ0.00±.11; Mφr-0.34±.28; Best double couple: M0 4.60000×10^16 NP1:φs184.00000°, δ43.00000°, λ-84.00000°. NP2:φs356.00000°, δ47.00000°, λ-95.00000°. Principal axes: T 4.0500, Plg2.0000°, Azm90.0000°; N 1.1200, Plg4.0000°, Azm360.0000°; P -5.1700, Plg86.0000°, Azm209.0000°; Data Used: II IC IU G.*
*SZGRF **22** 12:55:03.8, 11°.61S×12°.66W, h33km, mb5.3, MS4.4, Ascension Island region*
ISC 22 12:54:52.3±0.3, 12°.77S±0'.07×14°.69W±0'.07, h16km, n442, σ088/440, mb5.2/128, MS4.3/15, 48C-34D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.18**	**28**	eP	**P**	**12 59 35.8**	**-1.4**
	270nm,1.8s,baz=218						
LIC				eR			
	1μm,23.0s						
LIC	**Lamto**	**21.18**	**28**	eP	**P**	**12 59 35.8**	**-1.4**
	270nm,1.8s						
DBIC	**Dimbokro**	**21.65**	**27**	P	**P**	**12 59 42.5**	**+0.3**
	9.4nm,1.0s,baz=172,slow=11,SNR=7.1						
DBIC				LR	LR	13 06 07.0	
	comp=Z,650nm,20.3s,baz=188,slow=31						
DBIC	**Dimbokro**	**21.65**	**27**	eP	**P**	**12 59 42.6**	**+0.3**
	41nm,1.4s						
RCBR	**Riachuelo**	**22.03**	**286**	P	**P**	**12 59 46.7**	**+0.2**
	28nm,1.2s,baz=103,slow=12,SNR=5.8						
RCBR				LR	LR	13 06 04.1	
	comp=Z,839nm,20.1s,baz=100,slow=31						
RCBR	**Riachuelo**	**22.03**	**286**	eP	**P**	**12 59 46.8**	**+0.4**
	68nm,1.4s						
BBTS	**Babate**	**27.32**	**356**	P	**P**	**13 00 36.4**	**-0.2**
	30nm,1.0s,baz=172,slow=5.5,SNR=3.3						
BBTS	**Babate**	**27.32**	**356**	P	**P**	**13 00 36.4**	**-0.2**
TOA0	**Torodi Ar. Sit**	**30.45**	**33**	eP	**P**	**13 01 04.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**30.45**	**33**	P	**P**	**13 01 02.9**	**-1.5**
	2.3nm,0.8s,baz=217,slow=6.8,SNR=13						
TORD				LR	LR	13 11 14.7	
	comp=Z,792nm,21.0s,baz=225,slow=32						
TORD	**Torodi Ar. Bea**	**30.45**	**33**	P	**P**	**13 01 02.9**	**-1.5**
TSUM	**Tsumeb**	**31.64**	**106**	P	**P**	**13 01 15.0**	**-0.2**
	2.8nm,1.1s,baz=250,slow=12,SNR=2.6						
TSUM				LR	LR	13 11 43.0	
	comp=Z,623nm,21.1s,baz=333,slow=32						
TSUM	**Tsumeb**	**31.64**	**106**	P	**P**	**13 01 15.0**	**-0.2**
BDFB	**Brasilia**	**32.41**	**261**	P	**P**	**13 01 21.9**	**-0.1**
	13nm,1.1s,baz=70,slow=9.3,SNR=14						
BDFB				LR	LR	13 12 24.3	
	comp=Z,686nm,21.8s,baz=349,slow=32						
BDFB	**Brasilia**	**32.41**	**261**	P	**P**	**13 01 21.9**	**-0.1**
SUR	**Sutherland**	**37.90**	**127**	LR	LR	13 14 12.0	
	comp=Z,391nm,19.9s,baz=264,slow=31						
BOSA	**Boshof**	**40.34**	**119**	P	**P**	**13 02 29.4**	**-0.1**
	6.7nm,1.1s,baz=285,slow=5.3,SNR=5.5						
BOSA				LR	LR	13 16 21.6	
	comp=Z,732nm,20.8s,baz=281,slow=32						
BOSA	**Boshof**	**40.34**	**119**	eP	**P**	**13 02 28.7**	**-0.9**
	8.7nm,1.0s						
LSZ	**Lusaka**	**41.62**	**99**	P	**P**	**13 02 40.8**	**+0.5**
	4.8nm,0.8s,baz=359,slow=10,SNR=4.5						
LSZ	**Lusaka**	**41.62**	**99**	eP	**P**	**13 02 40.3**	**0.0**
	36nm,1.4s						
SIV	**San Ignacio**	**44.98**	**260**	P	**P**	**13 03 08.7**	**+1.4**
	4.9nm,1.0s,baz=102,slow=9.5,SNR=14						
SIV	**San Ignacio**	**44.98**	**260**	P	**P**	**13 03 08.7**	**+1.4**
MDT	**Midelt**	**46.34**	**12**	P	**P**	**13 03 18.7**	**+0.8**
	7.5nm,1.0s,baz=222,slow=6.8,SNR=5.2						
MDT	**Midelt**	**46.34**	**12**	P	**P**	**13 03 18.7**	**+0.8**
MBAR	**Mbarara**	**46.61**	**79**	P	**P**	**13 03 21.7**	**+1.3**
	2.2nm,0.2s,baz=310,slow=22,SNR=6.3						
MBAR	**Mbarara**	**46.61**	**79**	P	**P**	**13 03 21.7**	**+1.3**
SAML	**Samuel**	**47.73**	**269**	eP	**P**	**13 03 29.6**	**+0.7**
	4.9nm,0.9s						
TRQA	**Tornquist**	**48.91**	**230**	eP	**P**	**13 03 37.2**	**-0.6**
	20nm,1.2s						
EVOP	**Sao Brissos**	**51.40**	**7**	eP	**P**	**13 03 55.2**	**-1.3**
EVOP				pmax	pmax		
	comp=Z,83nm,1.5s						
EVOP	**Sao Brissos**	**51.40**	**7**	eP	**P**	**13 03 55.2**	**-1.3**
	comp=Z,83nm,1.5s						
EVO	**Evora**	**51.42**	**7**	eP	**P**	**13 03 55.2**	**-1.4**
	comp=Z,83nm,1.5s						
EVO				eR			
	comp=Z,131nm,21.5s						
LPAZ	**La Paz**	**51.74**	**259**	P	**P**	**13 04 00.2**	**0.0**
	comp=Z,3.1nm,0.9s,baz=75,slow=6.7,SNR=12						
LPAZ	**La Paz**	**51.74**	**259**	eP	**P**	**13 03 58.5**	**-1.7**
	comp=Z,7.2nm,1.1s						
CFAA	**Coronel Fontan**	**52.48**	**240**	P	**P**	**13 04 05.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=112,slow=12,SNR=3.0						
CFAA	**Coronel Fontan**	**52.48**	**240**	P	**P**	**13 04 05.3**	**+0.4**
KMBO	**Kilima Mbogo**	**52.73**	**82**	eP	**P**	**13 04 08.2**	**+1.0**
	comp=Z,26nm,1.5s						
ESDC	**Sonseca Array**	**53.12**	**10**	P	**P**	**13 04 08.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=186,slow=7.6,SNR=5.7						
ESDC				PcP	PcP	13 05 24.7	+7.2
	comp=Z,0.5nm,0.5s,baz=199,slow=3.6,SNR=5.3						
ESDC	**Sonseca Array**	**53.12**	**10**	P	**P**	**13 04 08.9**	**-0.5**
ESDC				PcP	PcP	13 05 24.7	+7.2
KEST	**Kesra**	**53.33**	**24**	P	**P**	**13 04 12.3**	**+1.3**
	comp=Z,7.0nm,1.1s,baz=174,slow=2.6,SNR=4.2						
KEST	**Kesra**	**53.33**	**24**	eP	**P**	**13 04 12.8**	**+1.8**
ARE	**Arequipa**	**54.94**	**259**	eP	**P**	**13 04 23.0**	**-0.4**
ARE	**Arequipa**	**54.94**	**259**	eP	**P**	**13 04 23.0**	**-0.4**
PLCA	**Paso Flores**	**56.03**	**229**	LR	LR	13 25 10.2	
	comp=Z,351nm,20.3s,baz=82,slow=32						
ETSF	**Etsaut**	**56.89**	**12**	eP	**P**	**13 04 36.4**	**-0.2**
ETSF	**Etsaut**	**56.89**	**12**	eP	**P**	**13 04 36.4**	**-0.2**
ETSF	**Etsaut**	**56.89**	**12**	eP	**P**	**13 04 36.4**	**-0.2**
SJPF	**Ste Jean**	**56.96**	**12**	eP	**P**	**13 04 37.1**	**+0.1**
	comp=Z,23nm,1.1s						
SJPF	**Ste Jean**	**56.96**	**12**	eP	**P**	**13 04 37.1**	**+0.1**
SJPF				pmax	pmax		
	comp=Z,23nm,1.1s						
SJPF	**Ste Jean**	**56.96**	**12**	eP	**P**	**13 04 37.1**	**+0.1**
	comp=Z,23nm,1.1s						
EPF	**Esparros**	**57.21**	**13**	eP	**P**	**13 04 38.7**	**-0.1**
	comp=Z,20nm,1.2s						
EPF	**Esparros**	**57.21**	**13**	eP	**P**	**13 04 38.7**	**-0.1**
EPF				pmax	pmax		
	comp=Z,20nm,1.2s						
EPF	**Esparros**	**57.21**	**13**	eP	**P**	**13 04 38.7**	**-0.1**
	comp=Z,20nm,1.2s						
MTLF	**Montolieu**	**57.94**	**14**	eP	**P**	**13 04 43.0**	**-0.9**
	comp=Z,18nm,1.1s						
MTLF	**Montolieu**	**57.94**	**14**	eP	**P**	**13 04 43.0**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,18nm,1.1s						
MTLF	**Montolieu**	**57.94**	**14**	eP	**P**	**13 04 43.0**	**-0.9**
	comp=Z,18nm,1.1s						
VNA1	**Neumayer--Stat**	**57.98**	**177**	eP	P	13 04 50.7	+6.9
VNA2	**Neumayer--Watz**	**58.29**	**177**	eP	P	13 04 51.3	+5.3
VNA3	**Neumayer Olymp**	**58.52**	**178**	eP	**P**	**13 04 49.1**	**+1.5**
MTP	**Monte Pirata**	**58.81**	**300**	eP	**P**	**13 04 50.2**	**-0.2**
	comp=Z,17nm,0.9s						
LASF	**Ste Croix**	**59.05**	**16**	eP	**P**	**13 04 51.0**	**-0.6**
	comp=Z,108nm,1.7s						
LASF	**Ste Croix**	**59.05**	**16**	eP	**P**	**13 04 51.0**	**-0.6**
	comp=Z,108nm,1.7s						
LMR	**La Mourre**	**59.10**	**18**	eP	**P**	**13 04 51.6**	**-0.4**
	comp=Z,51nm,1.3s						
LMR	**La Mourre**	**59.10**	**18**	eP	**P**	**13 04 51.6**	**-0.4**
LMR				pmax	pmax		
	comp=Z,51nm,1.3s						
LMR	**La Mourre**	**59.10**	**18**	eP	**P**	**13 04 51.6**	**-0.4**
	comp=Z,51nm,1.3s						
LFF	**La Frestale**	**59.12**	**13**	eP	**P**	**13 04 51.7**	**-0.3**
	comp=Z,58nm,1.2s						
LFF	**La Frestale**	**59.12**	**13**	eP	**P**	**13 04 51.7**	**-0.3**
LFF				pmax	pmax		
	comp=Z,58nm,1.2s						
LFF	**La Frestale**	**59.12**	**13**	eP	**P**	**13 04 51.7**	**-0.3**
	comp=Z,58nm,1.2s						
PGF	**Pioggiola**	**59.19**	**20**	eP	**P**	**13 04 52.1**	**-0.6**
PGF	**Pioggiola**	**59.19**	**20**	eP	**P**	**13 04 52.1**	**-0.6**
PGF	**Pioggiola**	**59.19**	**20**	eP	**P**	**13 04 52.1**	**-0.6**
SNAA	**Sanae**	**59.30**	**176**	P	P	13 05 08.2	+15
	comp=Z,0.6nm,0.6s,baz=291,slow=7.9,SNR=6.8						
SNAA	**Sanae**	**59.30**	**176**	eP	**P**	**13 04 52.4**	**-0.8**
	comp=Z,13nm,1.0s						
FRF	**La Foret Royal**	**59.35**	**18**	eP	**P**	**13 04 53.2**	**-0.5**
	comp=Z,36nm,1.2s						
FRF	**La Foret Royal**	**59.35**	**18**	eP	**P**	**13 04 53.2**	**-0.5**
FRF				pmax	pmax		
	comp=Z,36nm,1.2s						
FRF	**La Foret Royal**	**59.35**	**18**	eP	**P**	**13 04 53.2**	**-0.5**
	comp=Z,36nm,1.2s						
CAF	**Calviac**	**59.40**	**14**	eP	**P**	**13 04 53.3**	**-0.8**
	comp=Z,41nm,1.5s						
CAF	**Calviac**	**59.40**	**14**	eP	**P**	**13 04 53.3**	**-0.8**
CAF				pmax	pmax		
	comp=Z,41nm,1.5s						
CAF	**Calviac**	**59.40**	**14**	eP	**P**	**13 04 53.3**	**-0.8**
	comp=Z,41nm,1.5s						
RJF	**Les Rejaudoux**	**59.64**	**13**	eP	**P**	**13 04 55.1**	**-0.5**
	comp=Z,55nm,1.2s						
RJF				eR			
	comp=Z,273nm,22.2s						
RJF	**Les Rejaudoux**	**59.64**	**13**	eP	**P**	**13 04 55.1**	**-0.5**
RJF				pmax	pmax		
	comp=Z,55nm,1.2s						
RJF	**Les Rejaudoux**	**59.64**	**13**	eP	**P**	**13 04 55.1**	**-0.5**
	comp=Z,55nm,1.2s						
SBF

	comp=Z,68nm,1.5s									
AVF	**Avril sur Loir**	**61.46**	**14**	*e*P		**P**	**13 05 07.6**	**-0.4**		
	comp=Z,68nm,1.5s									
ROSF	**Rostrenen**	**61.68**	**9**	*e*P		**P**	**13 05 09.0**	**-0.5**		
	comp=Z,118nm,1.5s									
ROSF	**Rostrenen**	**61.68**	**9**	*e*P		**P**	**13 05 09.0**	**-0.5**		
ROSF				pmax	pmax					
	comp=Z,118nm,1.5s									
ROSF	**Rostrenen**	**61.68**	**9**	*e*P		**P**	**13 05 09.0**	**-0.5**		
	comp=Z,118nm,1.5s									
SGMF	**Saint Gilles**	**61.70**	**9**	*e*P		**P**	**13 05 09.0**	**-0.7**		
	comp=Z,98nm,1.4s									
SGMF	**Saint Gilles**	**61.70**	**9**	*e*P		**P**	**13 05 09.0**	**-0.7**		
SGMF				pmax	pmax					
	comp=Z,98nm,1.4s									
SGMF	**Saint Gilles**	**61.70**	**9**	*e*P		**P**	**13 05 09.0**	**-0.7**		
	comp=Z,98nm,1.4s									
HYF	**Humbligny**	**61.75**	**13**	*e*P		**P**	**13 05 09.9**	**-0.1**		
HYF	**Humbligny**	**61.75**	**13**	*e*P		**P**	**13 05 09.9**	**-0.1**		
SSF	**Saint Saulge**	**61.75**	**14**	*e*P		**P**	**13 05 09.6**	**-0.4**		
	comp=Z,65nm,1.2s									
SSF	**Saint Saulge**	**61.75**	**14**	*e*P		**P**	**13 05 09.6**	**-0.4**		
SSF				pmax	pmax					
	comp=Z,65nm,1.2s									
SSF	**Saint Saulge**	**61.75**	**14**	*e*P		**P**	**13 05 09.6**	**-0.4**		
	comp=Z,65nm,1.2s									
ROSC	**El Rosal**	**61.78**	**283**	P		**P**	**13 05 12.2**	**+0.8**		
	comp=Z,5.1nm,0.5s,baz=116,slow=17,SNR=7.9									
ROSC	**El Rosal**	**61.78**	**283**	*e*P		**P**	**13 05 11.8**	**+0.5**		
CABF	**La Chapelle**	**61.99**	**16**	*e*P		**P**	**13 05 11.0**	**-0.7**		
	comp=Z,74nm,1.1s									
CABF	**La Chapelle**	**61.99**	**16**	*e*P		**P**	**13 05 11.0**	**-0.7**		
CABF				pmax	pmax					
	comp=Z,74nm,1.1s									
CABF	**La Chapelle**	**61.99**	**16**	*e*P		**P**	**13 05 11.0**	**-0.7**		
	comp=Z,74nm,1.1s									
LOR	**Lormes**	**62.03**	**14**	*e*P		**P**	**13 05 11.2**	**-0.7**		
	comp=Z,38nm,1.4s									
LOR				*e*R						
	comp=Z,287nm,20.2s									
LOR	**Lormes**	**62.03**	**14**	*e*P		**P**	**13 05 11.2**	**-0.7**		
	comp=Z,38nm,1.4s									
GRR	**Gorron**	**62.12**	**10**	*e*P		**P**	**13 05 11.9**	**-0.5**		
	comp=Z,100nm,1.5s									
GRR	**Gorron**	**62.12**	**10**	*e*P		**P**	**13 05 11.9**	**-0.5**		
GRR				pmax	pmax					
	comp=Z,100nm,1.5s									
GRR	**Gorron**	**62.12**	**10**	*e*P		**P**	**13 05 11.9**	**-0.5**		
	comp=Z,100nm,1.5s									
LDF	**La Druitiere**	**62.45**	**11**	*e*P		**P**	**13 05 14.1**	**-0.5**		
	comp=Z,71nm,1.5s									
LDF	**La Druitiere**	**62.45**	**11**	*e*P		**P**	**13 05 14.1**	**-0.5**		
LDF				pmax	pmax					
	comp=Z,71nm,1.5s									
LDF	**La Druitiere**	**62.45**	**11**	*e*P		**P**	**13 05 14.1**	**-0.5**		
	comp=Z,71nm,1.5s									
FLN	**La Foliniere**	**62.54**	**11**	*e*P		**P**	**13 05 15.2**	**-0.1**		
	comp=Z,101nm,1.7s									
FLN				*e*R						
	comp=Z,389nm,20.5s									
FLN	**La Foliniere**	**62.54**	**11**	*e*P		**P**	**13 05 15.2**	**-0.1**		
FLN				pmax	pmax					
	comp=Z,101nm,1.7s									
FLN	**La Foliniere**	**62.54**	**11**	*e*P		**P**	**13 05 15.2**	**-0.1**		
	comp=Z,101nm,1.7s									
TUE	**Stuetta**	**62.80**	**18**	*e*P		**P**	**13 05 16.6**	**-0.7**		
	comp=Z,10nm,1.0s									
BBS	**Basel-Blauen**	**63.16**	**17**	*e*P		**P**	**13 05 19.3**	**-0.2**		
BBS	**Basel-Blauen**	**63.16**	**17**	*e*P		**P**	**13 05 19.3**	**-0.2**		
HINF	**Hinteralfeld**	**63.30**	**16**	*e*P		**P**	**13 05 19.2**	**-1.2**		
HINF	**Hinteralfeld**	**63.30**	**16**	*e*P		**P**	**13 05 19.2**	**-1.2**		
HINF	**Hinteralfeld**	**63.30**	**16**	*e*P		**P**	**13 05 19.2**	**-1.2**		
HAU	**Haudompre**	**63.34**	**16**	*e*P		**P**	**13 05 19.8**	**-0.8**		
	comp=Z,62nm,1.3s									
HAU				*e*R						
	comp=Z,357nm,20.5s									
HAU	**Haudompre**	**63.34**	**16**	*e*P		**P**	**13 05 19.8**	**-0.8**		
HAU				pmax	pmax					
	comp=Z,62nm,1.3s									
HAU	**Haudompre**	**63.34**	**16**	*e*P		**P**	**13 05 19.8**	**-0.8**		
	comp=Z,62nm,1.3s									
MOF	**Molkenrain**	**63.41**	**16**	*e*P		**P**	**13 05 21.1**	**-0.1**		
MOF	**Molkenrain**	**63.41**	**16**	*e*P		**P**	**13 05 21.1**	**-0.1**		
MOF	**Molkenrain**	**63.41**	**16**	*e*P		**P**	**13 05 21.1**	**-0.1**		
THEF	**They Montfort**	**63.45**	**15**	*e*P		**P**	**13 05 21.7**	**+0.3**		
THEF	**They Montfort**	**63.45**	**15**	*e*P		**P**	**13 05 21.7**	**+0.3**		
THEF	**They Montfort**	**63.45**	**15**	*e*P		**P**	**13 05 21.7**	**+0.3**		
MEZF	**Maizieres J'vi**	**63.47**	**15**	*e*P		**P**	**13 05 21.1**	**-0.3**		
	comp=Z,112nm,1.5s									
MEZF	**Maizieres J'vi**	**63.47**	**15**	*e*P		**P**	**13 05 21.1**	**-0.3**		
	comp=Z,112nm,1.5s									
FELD	**Feldberg im Sc**	**63.67**	**17**	*e*P		**P**	**13 05 22.8**	**-0.2**		
DAVA	**Damuels**	**63.70**	**18**⇑	*i*P		**P**	**13 05 22.9**	**-0.3**		
DAVA	**Damuels**	**63.70**	**18**⇑	*i*P		**P**	**13 05 22.9**	**-0.3**		
	comp=Z,36nm,1.1s									
FETA	**Feichten**	**63.73**	**19**⇑	*i*P		**P**	**13 05 23.1**	**-0.4**		
FETA	**Feichten**	**63.73**	**19**⇑	*i*P		**P**	**13 05 23.0**	**-0.4**		
	comp=Z,26nm,1.1s									
ECH	**Echery**	**63.75**	**16**	*e*P		**P**	**13 05 23.0**	**-0.3**		
ECH	**Echery**	**63.75**	**16**	*e*P		**P**	**13 05 23.0**	**-0.3**		
ECH	**Echery**	**63.75**	**16**	*e*P		**P**	**13 05 23.0**	**-0.3**		
LIBD	**Limburg**	**63.81**	**16**	*e*P		**P**	**13 05 23.9**	**+0.2**		
LIBD	**Limburg**	**63.81**	**16**	*e*P		**P**	**13 05 23.9**	**+0.2**		
CDF	**Champ du Feu**	**63.96**	**16**	*e*P		**P**	**13 05 23.5**	**-1.3**		
CDF	**Champ du Feu**	**63.96**	**16**	*e*P		**P**	**13 05 23.5**	**-1.3**		
CDF	**Champ du Feu**	**63.96**	**16**	*e*P		**P**	**13 05 23.5**	**-1.3**		
SPAK	**Spaichingen-Ko**	**64.10**	**17**	*e*P		**P**	**13 05 25.4**	**-0.3**		
BFO	**Black Forest**	**64.18**	**17**	*e*P		**P**	**13 05 26.2**	**0.0**		
BFO				pmax	pmax					
	comp=Z,31nm,1.1s									
BFO	**Black Forest**	**64.18**	**17**	*e*P		**P**	**13 05 26.2**	**0.0**		
	comp=Z,31nm,1.1s									
BFO	**Black Forest**	**64.18**	**17**	*e*P		**P**	**13 05 25.9**	**-0.2**		
	comp=Z,21nm,1.0s									
WTTA	**Wattenberg**	**64.23**	**20**⇑	*i*P		**P**	**13 05 26.4**	**-0.4**		
WTTA	**Wattenberg**	**64.23**	**20**⇑	*i*P		**P**	**13 05 26.4**	**-0.4**		
WTTA	**Wattenberg**	**64.23**	**20**⇑	*i*P		**P**	**13 05 26.4**	**-0.4**		
	comp=Z,42nm,1.3s									
LANF	**Langenberg**	**64.62**	**16**	*e*P		**P**	**13 05 29.1**	**0.0**		
LANF	**Langenberg**	**64.62**	**16**	*e*P		**P**	**13 05 29.1**	**0.0**		
LANF	**Langenberg**	**64.62**	**16**	*e*P		**P**	**13 05 29.1**	**0.0**		
BAIF	**Baives**	**64.73**	**13**	*e*P		**P**	**13 05 28.8**	**-0.9**		
	comp=Z,70nm,1.2s									
BAIF	**Baives**	**64.73**	**13**	*e*P		**P**	**13 05 28.8**	**-0.9**		
BAIF				pmax	pmax					
	comp=Z,70nm,1.2s									
BAIF	**Baives**	**64.73**	**13**	*e*P		**P**	**13 05 28.8**	**-0.9**		
	comp=Z,70nm,1.2s									
WLF	**Walferdange**	**64.82**	**15**	P		**P**	**13 05 30.7**	**+0.4**		
	comp=Z,16nm,2.0s									
WLF	**Walferdange**	**64.82**	**15**	*e*P		**P**	**13 05 30.7**	**+0.4**		
	comp=Z,55nm,1.9s									
STU	**Stuttgart**	**64.82**	**17**	*e*P		**P**	**13 05 29.7**	**-0.6**		
STU				pmax	pmax					
	comp=Z,17nm,0.9s									
STU	**Stuttgart**	**64.82**	**17**	*e*P		**P**	**13 05 30.2**	**-0.1**		
	comp=Z,26nm,1.2s									
STU	**Stuttgart**	**64.82**	**17**	*e*P		**P**	**13 05 29.7**	**-0.6**		
	comp=Z,17nm,0.9s									
DOU	**Dourbes**	**64.85**	**14**	P		**P**	**13 05 31.0**	**+0.6**		
	comp=Z,16nm,2.1s									
GIVF	**Givet**	**64.91**	**14**	*e*P		**P**	**13 05 29.9**	**-1.0**		
	comp=Z,67nm,1.3s									
GIVF	**Givet**	**64.91**	**14**	*e*P		**P**	**13 05 29.9**	**-1.0**		
GIVF				pmax	pmax					
	comp=Z,67nm,1.3s									
GIVF	**Givet**	**64.91**	**14**	*e*P		**P**	**13 05 29.9**	**-1.0**		
	comp=Z,67nm,1.3s									
FUR	**Furstenfeldbru**	**64.91**	**19**	*e*P		**P**	**13 05 31.0**	**0.0**		
FUR				pmax	pmax					
	comp=Z,35nm,0.9s									
FUR	**Furstenfeldbru**	**64.91**	**19**	*e*P		**P**	**13 05 31.0**	**0.0**		
	comp=Z,35nm,0.9s									
RJOB	**Jochberg**	**65.03**	**20**	*e*P		**P**	**13 05 31.0**	**-0.8**		
	comp=Z,12nm,1.3s									
RUP	**Ruppelstein**	**65.08**	**15**	*e*P		**P**	**13 05 32.5**	**+0.4**		
RUP	**Ruppelstein**	**65.08**	**15**	*e*P		**P**	**13 05 32.5**	**+0.4**		
VTS	**Vitosha**	**65.14**	**30**⇑	P		**P**	**13 05 33.6**	**+0.9**		
VTS	**Vitosha**	**65.14**	**30**⇑	*i*P		**P**	**13 05 33.6**	**+0.9**		
SNF	**Seneffe**	**65.17**	**13**	P		**P**	**13 05 33.4**	**+0.9**		
	comp=Z,16nm,2.6s									
BCLA	**Clavier**	**65.32**	**14**	P		**P**	**13 05 33.6**	**+0.1**		
TOD	**Tromm**	**65.47**	**17**	*e*P		**P**	**13 05 34.5**	**0.0**		
TOD	**Tromm**	**65.47**	**17**	*e*P		**P**	**13 05 34.5**	**0.0**		
MOA	**Molln**	**65.63**	**21**⇑	*i*P		**P**	**13 05 34.1**	**-1.6**		
MOA	**Molln**	**65.63**	**21**⇑	*i*P		**P**	**13 05 34.1**	**-1.6**		
	comp=Z,22nm,1.5s									
MEM	**Membach**	**65.66**	**14**	P		**P**	**13 05 36.2**	**+0.5**		
	comp=Z,13nm,1.9s									
SYO	**Syowa Base**	**65.78**	**161**⇑	*e*P		**P**	**13 05 34.2**	**-2.1**		
PKSM	**Moragy**	**65.92**	**25**⇑	P		**P**	**13 05 34.4**	**-3.1**		
PKSM	**Moragy**	**65.92**	**25**⇑	*i*P		**P**	**13 05 34.4**	**-3.1**		
TNS	**Taunus Mts**	**65.93**	**16**	*e*P		**P**	**13 05 37.8**	**+0.3**		
TNS				pmax	pmax					
	comp=Z,44nm,1.3s									
TNS	**Taunus Mts**	**65.93**	**16**	*e*P		**P**	**13 05 37.8**	**+0.3**		
	comp=Z,44nm,1.3s									
GRF	**Grafenberg Arr**	**66.25**	**18**	*e*P		**P**	**13 05 39.5**	**0.0**		
GRF				pmax	pmax					
	comp=Z,23nm,1.2s									
GRF				MLR	MLR					
	comp=Z,200nm,19.0s									
GRF	**Grafenberg Arr**	**66.25**	**18**	*e*P		**P**	**13 05 39.5**	**0.0**		
	comp=Z,23nm,1.2s									
GRF				*e*L		L	13 36 23.8			
	comp=Z,220nm,19.0s									
CONA	**Conrad Observa**	**66.27**	**22**⇑	*i*P		**P**	**13 05 40.5**	**+0.7**		
CONA	**Conrad Observa**	**66.27**	**22**⇑	*i*P		**P**	**13 05 40.5**	**+0.7**		
	comp=Z,17nm,1.3s									
WET	**Wettzell**	**66.28**	**19**	*e*P		**P**	**13 05 39.7**	**-0.1**		
WET				pmax	pmax					
	comp=Z,30nm,1.2s									
WET	**Wettzell**	**66.28**	**19**	*e*P		**P**	**13 05 39.7**	**-0.1**		
	comp=Z,30nm,1.2s									
GEC2	**GERESS Array S**	**66.29**	**20**	*e*P		**P**	**13 05 39.9**	**-0.1**		
GEC2				pmax	pmax					
	comp=Z,28nm,1.5s									
GEC2	**GERESS Array S**	**66.29**	**20**	*e*P		**P**	**13 05 39.9**	**-0.1**		
	comp=Z,28nm,1.5s									
GERES	**GERESS Array B**	**66.29**	**20**	P		**P**	**13 05 39.5**	**-0.5**		
	comp=Z,1.9nm,1.0s,baz=183,slow=2.3,SNR=8.0									
GERES	**GERESS Array B**	**66.29**	**20**	P		**P**	**13 05 39.5**	**-0.5**		
KHC	**Kasperske Hory**	**66.50**	**20**	*e*P		**P**	**13 05 42.5**	**+1.3**		
KHC				*e*			13 05 46.8			
KHC				MLR	MLR					
	comp=Z,300nm,11.2s									
KHC	**Kasperske Hory**	**66.50**	**20**	*e*P		**P**	**13 05 42.3**	**+1.1**		
	comp=Z,18nm,1.4s									
KHC	**Kasperske Hory**	**66.50**	**20**	*e*P		**P**	**13 05 42.5**	**+1.3**		
KHC				*ep*P		**pP**	**13 05 46.8**	**+0.4**		
KHC				AMS	AMS		13 33 10.0			
	comp=Z,300nm,11.2s									
ROTZ	**Rotzenmuhle**	**66.61**	**19**	*e*P		**P**	**13 05 42.0**	**+0.1**		
	comp=Z,30nm,1.3s									
BZS	**Buzias**	**66.72**	**27**⇓	P		**P**	**13 05 42.4**	**-0.2**		
BZS	**Buzias**	**66.72**	**27**⇓	*i*P		**P**	**13 05 42.4**	**-0.2**		
BUG	**Bochum--Univer**	**66.74**	**15**	*e*P		**P**	**13 05 42.8**	**+0.2**		
	comp=Z,19nm,1.0s									
UBBA	**Unterbreizbach**	**66.89**	**17**	*e*P		**P**	**13 05 44.4**	**+0.9**		
	comp=Z,32nm,1.6s									
NKC	**Novy Kostel**	**67.10**	**19**	*e*P		**P**	**13 05 44.7**	**-0.3**		
NKC				*e*			13 05 50.9			
NKC	**Novy Kostel**	**67.10**	**19**	*e*P		**P**	**13 05 44.7**	**-0.3**		
NKC				*ep*P		**pP**	**13 05 50.9**	**+0.7**		
MOX	**Moxa**	**67.21**	**18**	*e*P		**P**	**13 05 45.7**	**0.0**		
MOX				pmax	pmax					
	comp=Z,24nm,1.2s									
MOX	**Moxa**	**67.21**	**18**	*e*P		**P**	**13 05 45.7**	**0.0**		
	comp=Z,24nm,1.2s									
TANN	**Tannenbergstha**	**67.26**	**18**	*e*P		**P**	**13 05 46.0**	**-0.1**		
	comp=Z,21nm,1.2s									
LOT	**Lotru**	**67.56**	**28**⇑	*i*P		**P**	**13 05 48.5**	**+0.4**		
PRU	**Pruhonice**	**67.56**	**20**	*e*P		**P**	**13 05 48.7**	**+0.8**		
PRU				*e*			13 05 53.5			
PRU				MLR	MLR					
	comp=Z,400nm,18.6s									
PRU	**Pruhonice**	**67.56**	**20**	*e*P		**P**	**13 05 48.7**	**+0.8**		
PRU				*ep*P		**pP**	**13 05 53.5**	**+0.4**		
PRU				*ex*		x	13 05 59.0			
PRU				AMS	AMS		13 32 00.0			
	comp=Z,400nm,18.6s									
IBBN	**Ibbenburen**	**67.65**	**15**	*e*P		**P**	**13 05 49.2**	**+0.8**		
	comp=Z,46nm,1.3s									
VRAC	**Vranov**	**67.69**	**22**⇑	*i*P		**P**	**13 05 47.7**	**-1.1**		
PSZ	**Piszkesteto**	**67.81**	**24**	*e*P		**P**	**13 05 49.5**	**-0.1**		
PSZ				pmax	pmax					
	comp=Z,20nm,1.2s									
PSZ	**Piszkesteto**	**67.81**	**24**	*e*P		**P**	**13 05 49.5**	**-0.1**		
	comp=Z,20nm,1.2s									
PSZ	**Piszkesteto**	**67.81**	**24**⇑	*i*P		**P**	**13 05 49.7**	**+0.1**		
VYHS	**Vyhne**	**67.85**	**23**	*e*P		**P**	**13 05 50.0**	**+0.2**		
VYHS				pmax	pmax					
	comp=Z,16nm,1.3s									
VYHS	**Vyhne**	**67.85**	**23**	*e*P		**P**	**13 05 50.0**	**+0.2**		
ARR	**Arges**	**67.90**	**29**⇓	*i*P		**P**	**13 05 49.9**	**-0.3**		
CLZ	**Clausthal**	**67.92**	**16**	*e*P		**P**	**13 05 50.5**	**+0.4**		
CLZ				pmax	pmax					
	comp=Z,34nm,1.6s									
CLZ	**Clausthal**	**67.92**	**16**	*e*P		**P**	**13 05 50.5**	**+0.4**		
	comp=Z,34nm,1.6s									
PVCC	**Panska Ves**	**68.03**	**20**	*e*P		**P**	**13 05 50.8**	**0.0**		
PVCC				*e*			13 05 57.1			
PVCC	**Panska Ves**	**68.03**	**20**	*e*P		**P**	**13 05 50.8**	**0.0**		
PVCC				*ep*P		**pP**	**13 05 57.1**	**+1.0**		
DRGR		**68.11**	**27**	⇓P		**P**	**13 05 51.5**	**0.0**		
DRGR		**68.11**	**27**	⇓*i*P		**P**	**13 05 51.5**	**0.0**		
BRG	**Berggiesshubel**	**68.13**	**19**	*e*P		**P**	**13 05 51.2**	**-0.2**		
	comp=Z,4.9nm,1.1s									
BRG				*e*			13 05 57.0			
	comp=Z,15nm,1.3s									
BRG	**Berggiesshubel**	**68.13**	**19**	*e*P		**P**	**13 05 51.2**	**-0.2**		
BRG				*e*			13 05 57.0			
BRG				pmax	pmax					
	comp=Z,7.0nm,1.1s									
BRG				pmax	pmax					
	comp=Z,5.0nm,1.3s									
BRG	**Berggiesshubel**	**68.13**	**19**	*e*P		**P**	**13 05 51.3**	**-0.1**		
	comp=Z,15nm,1.3s									
VOIR		**68.15**	**29**	⇓P		**P**	**13 05 51.0**	**-0.8**		
VOIR		**68.15**	**29**	⇓*i*P		**P**	**13 05 51.0**	**-0.8**		
CLL	**Collm**	**68.21**	**18**	*e*P		**P**	**13 05 51.9**	**0.0**		
	comp=Z,72nm,2.6s									
CLL	**Collm**	**68.21**	**18**	*i* P		**P**	**13 05 51.7**	**-0.2**		
	comp=Z,24nm,1.8s									
CLL				*i*			13 06 03.9			
MORC	**Moravsky Berou**	**68.42**	**22**	*e*P		**P**	**13 05 53.3**	**-0.1**		
MORC				pmax	pmax					
	comp=Z,22nm,1.4s									
MORC	**Moravsky Berou**	**68.42**	**22**	*e*P		**P**	**13 05 53.3**	**-0.1**		
	comp=Z,22nm,1.4s									
MORC	**Moravsky Berou**	**68.42**	**22**⇑	*i*P		**P**	**13 05 52.6**	**-0.8**		
NRDL	**Niedersach Rie**	**68.43**	**16**	*e*P		**P**	**13 05 54.6**	**+1.4**		
	comp=Z,33nm,1.3s									
DPC	**Dobruska-Polom**	**68.47**	**21**	*e*P		**P**	**13 05 53.4**	**-0.3**		
DPC				*e*			13 05 58.6			
DPC				MLR	MLR					
	comp=Z,300nm,12.1s									
DPC	**Dobruska-Polom**	**68.47**	**21**	*e*P		**P**	**13 05 53.7**	**0.0**		
	comp=Z,15nm,1.3s									
DPC	**Dobruska-Polom**	**68.47**	**21**	*e*P		**P**	**13 05 53.4**	**-0.3**		
DPC				*ep*P		**pP**	**13 05 58.6**	**-0.3**		
DPC				*ex*		x	13 06 05.3			
DPC				AMS	AMS		13 30 50.0			
	comp=Z,300nm,12.1s									
UPC	**Upice**	**68.50**	**21**	*e*P		**P**	**13 05 54.1**	**+0.3**		
UPC				*e*			13 05 59.9			
UPC	**Upice**	**68.50**	**21**	*e*P		**P**	**13 05 54.1**	**+0.3**		
UPC				*ep*P		**pP**	**13 05 59.9**	**+0.9**		
MLR	**Muntele Rosu**	**68.61**	**29**⇓	*i*P		**P**	**13 05 54.3**	**-0.5**		
OKC	**Ostrava-Krasne**	**68.69**	**22**	*e*P		**P**	**13 05 55.0**	**0.0**		
OKC				*e*			13 06 01.1			
OKC	**Ostrava-Krasne**	**68.69**	**22**	*e*P		**P**	**13 05 55.0**	**0.0**		
OKC				*ep*P		**pP**	**13 06 01.1**	**+0.9**		
BRTR	**Keskin Array B**	**68.87**	**38**	P		**P**	**13 05 57.0**	**+0.5**		
	comp=Z,2.7nm,0.9s,baz=188,slow=7.5,SNR=8.2									
BRTR	**Keskin Array B**	**68.87**	**38**	P		**P**	**13 05 57.0**	**+0.5**		
BR131	**Keskin Array S**	**68.88**	**38**	*e*P		**P**	**13 05 56.5**	**0.0**		
	comp=Z,9.7nm,1.2s									
KSP	**Ksiaz**	**68.88**	**20**	*e*P		**P**	**13 05 56.5**	**+0.4**		
KSP	**Ksiaz**	**68.88**	**20**	*e*P		**P**	**13 05 56.4**	**+0.3**		
KSP	**Ksiaz**	**68.88**	**20**	*e*P		**P**	**13 05 56.5**	**+0.4**		
VRI	**Vrincioaia**	**69.26**	**30**⇑	P		**P**	**13 05 57.8**	**-0.9**		
VRI	**Vrincioaia**	**69.26**	**30**⇑	*i*P		**P**	**13 05 57.8**	**-0.9**		
UZH	**Uzhgorod**	**69.35**	**25**	*e*P		P	13 06 02.6	**+3.5**		
UZH				*i*			13 06 04.8			
UZH				*i*			13 06 28.8			
OJC	**Ojcow**	**69.62**	**23**	*e*P		**P**	**13 06 00.9**	**+0.1**		
OJC				pmax	pmax					
	comp=Z,23nm,1.2s									
OJC	**Ojcow**	**69.62**	**23**	*e*P		**P**	**13 06 00.8**	**+0.1**		
	comp=Z,23nm,1.2s									
KWP	**Kalwaria Pacla**	**70.30**	**25**	*e*P		**P**	**13 06 03.6**	**-1.4**		
KWP	**Kalwaria Pacla**	**70.30**	**25**	*e*P		**P**	**13 06 03.6**	**-1.4**		
LVV	**L'vov**	**70.99**	**25**	*e*P		**P**	**13 06 08.2**	**-1.0**		
MALT	**Malatya**	**71.03**	**42**	⇓P		**P**	**13 06 10.5**	**+0.7**		
MALT	**Malatya**	**71.03**	**42**	⇓*i*P		**P**	**13 06 10.5**	**+0.7**		
AK02	**Malin Array Si**	**73.86**	**27**	*e*P		**P**	**13 06 25.1**	**-1.1**		
AK01	**Malin Array Si**	**73.88**	**27**	*e*P		**P**	**13 06 25.9**	**-0.5**		
KIEV	**Kiev**	**73.88**	**27**	*e*P		**P**	**13 06 25.3**	**-1.1**		
KIEV				pmax	pmax					
	comp=Z,39nm,1.2s									
KIEV	**Kiev**	**73.88**	**27**	*e*P		**P**	**13 06 25.3**	**-1.1**		
	comp=Z,39nm,1.2s									
AKASG	**Malin Array Be**	**73.90**	**27**	P		**P**	**13 06 25.8**	**-0.6**		
	comp=Z,7.6nm,0.9s,baz=225,slow=6.5,SNR=19									
AKASG	**Malin Array Be**	**73.90**	**27**	P		**P**	**13 06 25.8**	**-0.6**		
AKASG	**Malin Array Be**	**73.90**	**27**	P		**P**	**13 06 25.8**	**-0.6**		
SUW	**Suwalki**	**73.91**	**22**	*e*P		**P**	**13 06 26.5**	**+0.1**		
SUW	**Suwalki**	**73.91**	**22**	*e*P		**P**	**13 06 25.8**	**-0.6**		
SUW				pmax	pmax					
	comp=Z,86nm,1.2s									
SUW	**Suwalki**	**73.91**	**22**	*e*P		**P**	**13 06 25.8**	**-0.6**		
	comp=Z,86nm,1.2s									
SUW	**Suwalki**	**73.91**	**22**	*e*P		**P**	**13 06 26.5**	**+0.1**		
ANN	**Anapa**	**74.21**	**36**	*e*P		P	13 06 32.9	**+4.5**		
ANN				pmax	pmax					
	comp=Z,47nm,1.1s									
GNI	**Garni**	**76.16**	**43**	P		**P**	**13 06 40.4**	**+0.4**		
	comp=Z,2.8nm,0.3s,baz=25,slow=11,SNR=3.6									
GNI	**Garni**	**76.16**	**43**	*e*P		**P**	**13 06 41.1**	**+1.1**		
	comp=Z,61nm,1.4s									
NB2	**NORSAR Subarra**	**76.40**	**13**	P		**P**	**13 06 40.8**	**+0.1**		
	comp=Z,3.3nm,0.9s,baz=204,slow=6.2									
NOA	**NORSAR Array B**	**76.40**	**13**	P		**P**	**13 06 41.1**	**+0.4**		
	comp=Z,3.9nm,0.9s,baz=205,slow=6.0,SNR=12									
NOA	**NORSAR Array B**	**76.40**	**13**	P		**P**	**13 06 41.1**	**+0.4**		
KIV	**Kislovodsk**	**76.83**	**39**	*e*P		P	13 06 50.0	**+6.4**		
KIV				pmax	pmax					
	comp=Z,28nm,1.1s									
KIV	**Kislovodsk**	**76.83**	**39**	*e*P		**P**	**13 06 43.9**	**+0.3**		
	comp=Z,46nm,1.3s									
KBZ	**Khabaz**	**76.83**	**39**	P		**P**	**13 06 43.0**	**-0.5**		
	comp=Z,3.7nm,1.0s,baz=227,slow=2.4,SNR=7.5									
KBZ	**Khabaz**	**76.83**	**39**	P		**P**	**13 06 43.0**	**-0.5**		
**KBZ

baz=93
Y31A Rekieta Farm, 93.42 304 ⇓P P **13 08 07.9 +0.5**
baz=94
530A J-C Ranch, Com 93.46 300 ⇑P P **13 08 07.8 +0.1**
baz=94
430A Baggett Ranch, 93.52 301 ⇓P P **13 08 08.0 +0.1**
baz=94
330A Mertzon 93.60 301 ⇑P P **13 08 08.5 +0.2**
baz=94
230A Sterling City 93.66 302 ⇑P P **13 08 08.6 +0.1**
baz=94
X30A Coker Ranch, T 94.02 304 ⇓P P **13 08 10.3 +0.1**
baz=94
429A Davenport Ranc 94.04 300 ⇓P P **13 08 10.1 -0.3**
baz=94
ULM Lac du Bonnet 94.16 320 P P **13 08 08.9 -1.4**
comp=Z,1.9nm,0.7s,baz=93,slow=3.3,SNR=3.9
ULM Lac du Bonnet 94.16 320 P P **13 08 08.9 -1.4**
529A Stev Forest Ra 94.20 300 ⇓P P **13 08 10.9 -0.3**
baz=94
Z29A Hungry Hill Ra 94.44 303 ⇓P P **13 08 12.1 0.0**
baz=94
628A Black Gap, Mar 94.64 299 ⇑P P **13 08 13.7 +0.5**
baz=95
428A Kincaid Ranch, 94.72 300 ⇑P P **13 08 13.9 +0.4**
baz=95
228A UT Block 9, Go 94.93 302 ⇑P P **13 08 14.2 -0.3**
baz=95
Y28A McKinney Farm, 95.02 303 ⇑P P **13 08 15.0 +0.2**
baz=95
TXAR Lajitas Array 95.27 299 P P **13 08 16.4 +0.3**
comp=Z,2.1nm,0.9s,baz=121,slow=6.1,SNR=15
TXAR Lajitas Array 95.27 299 P P **13 08 16.4 +0.3**
527A Woodward Ranch 95.39 300 ⇓P P **13 08 17.1 +0.4**
baz=95
MSTX Muleshoe 95.46 303 ⇓P P **13 08 17.2 +0.4**
baz=96
Z27A Tatum 95.69 303 ⇑P P **13 08 17.9 0.0**
baz=96
626A Big Bend Ranch 95.72 299 ⇑P P **13 08 18.2 +0.1**
baz=96
526A Mary Lane Ranc 95.78 299 ⇑P P **13 08 18.8 +0.3**
baz=96
426A McDonald Obser 95.85 300 ⇑P P **13 08 19.1 +0.3**
baz=96
326A Caldwell Ranch 95.93 301 ⇑P P **13 08 19.3 +0.3**
baz=96
X26A CR and CF Fran 96.41 304 ⇓P P **13 08 21.6 +0.4**
baz=96
GDL2 Guadalupe Moun 96.42 301 *e*P P **13 08 21.7 +0.4**
comp=Z,2.1nm,0.6s
425A Indio Mountain 96.68 300 ⇓P P **13 08 22.5 0.0**
baz=97
325A Bean Ranch, Si 96.77 301 ⇑P P **13 08 22.9 -0.1**
baz=97
R26A Arlington 96.83 308 ⇓P P **13 08 23.5 +0.5**
baz=97
Z25A Roswell 96.92 302 ⇓P P **13 08 23.6 +0.1**
baz=97
W25A X Bar L Ranch, 97.06 304 ⇑P Pdif 13 08 24.4 +0.1
baz=97
BRVK Borovoye 97.10 37 *e*P Pdif 13 08 28.5 +4.7
BRVK pmax pmax
comp=Z,2.0nm,1.2s
MNTX Cornudas Mount 97.18 301 ⇑P P **13 08 24.3 -0.3**
baz=97
224A Cornudas Mount 97.36 301 ⇓P P **13 08 25.3 -0.3**
baz=97
S25A Robets Cordova 97.48 307 ⇑P P **13 08 25.8 -0.2**
baz=98
ALE Alert 97.56 354 P P 13 08 19.0 -6.2
comp=Z,48nm,0.6s,SNR=5.0
Y24A Capitan 97.62 303 ⇓P P **13 08 26.5 -0.3**
baz=98
V24A Rampart Ranch, 97.81 305 ⇓P Pdif 13 08 27.9 +0.2
baz=98
W24A Lazy 6 Ranch, 97.83 304 ⇑P Pdif 13 08 28.0 +0.3
baz=98
KSH Kashi 98.51 51 *e*P P **13 08 28.8 -1.7**
KSH *e*pP **pP 13 08 34.8 -1.1**
KSH *e*PP **PP 13 12 31.3 +0.1**
KSH SKS **SKSac 13 19 05.6 -2.7**
KSH S S 13 19 52.4 -6.6
KSH SS **SS 13 26 39.9 -4.3**
KSH pmax pmax
comp=Z,210nm,4.9s
KSH LR LR
comp=N,51nm,5.1s
KSH LR LR
comp=E,84nm,6.1s
KSH LR LR
comp=Z,210nm,6.8s
ANMO Albuquerque 98.63 304 P P **13 08 31.1 -0.2**
comp=Z,0.6nm,0.5s,baz=133,slow=6.6,SNR=4.7
ANMO Albuquerque 98.63 304 *e*P Pdif 13 08 31.5 +0.2
comp=Z,1.0nm,1.0s
KURBB Kurchatov Arra 101.78 41 PKKPbc PKKPbc 13 24 54.0 +1.6
comp=Z,0.5nm,0.9s,baz=95,slow=4.0,SNR=5.1
KURK Kurchatov 101.85 40 PKKPbc PKKPbc 13 24 54.0 +1.8
KMI Kunming 120.01 68 PKP **PKPdf 13 13 42.3 -1.0**
KMI PP **PP 13 15 11.0 +3.1**
KMI AMB AMB
comp=Z,130nm,6.8s
KMI LR LR
comp=Z,84nm,28.9s
SONM Songino Array 120.11 42 PKP **PKPdf 13 13 42.6 -0.1**
comp=Z,0.3nm,0.7s,baz=86,slow=22,SNR=3.9
SONM Songino Array 120.11 42 PKP **PKPdf 13 13 42.6 -0.1**
LZH Lanzhou 120.42 56 *e*PKP **PKPdf 13 13 40.3 -3.4**
CD2 Chengdu 120.78 62 PKP **PKPdf 13 13 43.8 -0.6**
CD2 sPKP 13 13 58.0
CD2 PP **PP 13 15 16.3 +3.5**
CD2 PKS **PKSdf 13 17 19.1 -2.1**
CD2 SKS **SKSdf 13 20 53.3 -2.9**
CD2 LR LR
comp=N,320nm,4.8s
CD2 LR LR
comp=Z,250nm,4.8s
GYA Guiyang 123.53 67 Pdif **Pdif 13 10 21.0 -1.1**
GYA PKP **PKPdf 13 13 48.8 -1.1**
GYA PP **PP 13 15 34.3 +2.6**
GYA SKKS 13 22 25.5
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,120nm,21.5s
GYA LR LR
comp=E,110nm,22.3s
GYA LR LR
comp=Z,130nm,23.0s
BILL Bilibino 124.78 360 *i* PKIKP **PKPdf 13 13 55.3 +4.4**
BILL pmax pmax
comp=Z,8.0nm,1.4s
HHC Hu-ho-hao-te 125.50 49 *e*PKP **PKPdf 13 13 52.5 -0.8**
HHC PP **PP 13 15 49.5 +5.2**
HHC PKS **PKSdf 13 17 29.6 -0.3**
HHC AMB AMB
comp=Z,93nm,9.6s
HHC LR LR
comp=N,210nm,11.6s
HHC LR LR
comp=E,140nm,11.8s
HHC LR LR
comp=Z,120nm,17.6s
SEY Seymchan 129.07 8 *i* PKIKP PKPdf 13 14 05.1 +5.9
ASAR Alice Springs 132.51 140 PKP **PKPdf 13 14 07.9 +0.8**
comp=Z,0.4nm,0.9s,baz=192,slow=3.2,SNR=4.1
ASAR Alice Springs 132.51 140 PKP **PKPdf 13 14 07.9 +0.8**
CN2 Changchun 133.92 40 *e*PKP **PKPdf 13 14 10.5 +1.5**
WRA Warramunga Arr 135.43 136 PKP **PKPdf 13 14 12.4 -0.2**
comp=Z,1.4nm,1.3s,baz=190,slow=4.2,SNR=4.1
WRA Warramunga Arr 135.43 136 PKP **PKPdf 13 14 12.4 -0.2**
MDJ Mudanjiang 136.01 37 PKP **PKPdf 13 14 12.0 -0.9**
COEN Coen 145.55 140 *e*PKPdf **PKPdf 13 14 30.9 0.0**
MJAR Matsushiro Arr 146.06 41 PKPbc **PKPdf 13 14 30.3 -0.9**
comp=Z,2.3nm,1.0s,baz=315,slow=13,SNR=3.4
MJAR Matsushiro Arr 146.06 41 PKPbc **PKPdf 13 14 30.3 -0.9**

*ISCJB **22** 12:56:19.8±0.7, 12°.5S±0°.1×14°.8W±0°.2, h18km, mb4.5/19, MS4.2/2, Error ellipse: s-maj=27.1km s-min=10.2km az=40.2*
*IDC **22** 12:56:19.8±0.8, 12°.26S×14°.98W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, MS4.1/2, Ms1 4.1/2, ms1mx3.6/27, Error ellipse: s-maj=33.4km s-min=17.1km az=137.0*
*NEIC **22** 12:56:21.3±0.5, 12°.40S×14°.93W, h10km, mb4.9/7, Error ellipse: s-maj=19.9km s-min=8.1km az=129.0*

ISC 22 12:56:21.4±0.7, 12°.7S±0°.2×14°.7W±0°.2, h18km, n62, σ0°.87/56, mb4.7/20, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**21.10**	**28**	*e*P	**P**	**13 01 06.4**	**+1.3**
	84nm,1.5s						
LIC	**Lamto**	**21.10**	**28**	*e*P	**P**	**13 01 06.4**	**+1.3**
	84nm,1.5s						
DBIC	**Dimbokro**	**21.57**	**28**	P	**P**	**13 01 09.3**	**-0.9**
	4.5nm,1.1s,baz=194,slow=12,SNR=2.0						
DBIC	**Dimbokro**	**21.57**	**28**	P	**P**	**13 01 11.1**	**+0.9**
	29nm,1.4s						
TORD	**Torodi Ar. Bea**	**30.38**	**33**	P	**P**	**13 02 32.2**	**-0.5**
	1.1nm,0.8s,baz=217,slow=8.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.38**	**33**	P	**P**	**13 02 32.2**	**-0.5**
BDFB	**Brasilia**	**32.40**	**261**	P	**P**	**13 02 49.3**	**-1.4**
	6.9nm,1.1s,baz=102,slow=9.7,SNR=3.2						
BDFB	**Brasilia**	**32.40**	**261**	P	**P**	**13 02 49.3**	**-1.4**
SIV	**San Ignacio**	**44.97**	**260**	P	**P**	**13 04 36.3**	**+0.2**
	1.7nm,0.9s,baz=221,slow=22,SNR=2.1						
SIV	**San Ignacio**	**44.97**	**260**	P	**P**	**13 04 36.3**	**+0.2**
LPAZ	**La Paz**	**51.73**	**259**	P	**P**	**13 05 28.5**	**-0.4**
	5.0nm,1.3s,baz=84,slow=9.2,SNR=2.9						
LPAZ	**La Paz**	**51.73**	**259**	*e*P	**P**	**13 05 29.7**	**+0.8**
	5.0nm,1.0s						
ESDC	**Sonseca Array**	**53.03**	**10**	LR	LR	13 28 26.3	
	comp=Z,102nm,18.9s,baz=25,slow=37						
PLCA	**Paso Flores**	**56.07**	**229**	P	**P**	**13 06 01.7**	**+2.0**
	1.2nm,0.8s,baz=18,slow=3.2,SNR=2.9						
PLCA	**Paso Flores**	**56.07**	**229**	P	**P**	**13 06 01.7**	**+2.0**
VNA1	**Neumayer--Stat**	**58.08**	**177**	*e*P	**P**	**13 06 14.1**	**+0.9**
VNA2	**Neumayer--Watz**	**58.39**	**177**	*e*P	**P**	**13 06 12.4**	**-3.1**
	baz=184,slow=5.5						
VNA3	**Neumayer Olymp**	**58.62**	**178**	*e*P	P	13 06 09.6	-7.5
VNA3	**Neumayer Olymp**	**58.62**	**178**	*e*WP	P	13 06 21.4	+4.3
LASF	**Ste Croix**	**58.95**	**16**	*e*P	**P**	**13 06 19.2**	**-0.5**
	45nm,1.5s						
LASF	**Ste Croix**	**58.95**	**16**	*e*P	**P**	**13 06 19.2**	**-0.5**
	45nm,1.5s						
LMR	**La Mourre**	**59.02**	**18**	*e*P	**P**	**13 06 19.7**	**-0.4**
LMR	**La Mourre**	**59.02**	**18**	*e*P	**P**	**13 06 19.7**	**-0.4**
SNAA	**Sanae**	**59.41**	**176**	P	P	13 06 27.3	+4.7
	1.6nm,1.0s,baz=269,slow=2.3,SNR=4.9						
SNAA	**Sanae**	**59.41**	**176**	P	P	13 06 27.3	+4.7
RJF	**Les Rejaudoux**	**59.54**	**13**	*e*P	**P**	**13 06 24.0**	**+0.2**
	35nm,1.4s						
RJF	**Les Rejaudoux**	**59.54**	**13**	*e*P	**P**	**13 06 24.0**	**+0.2**
	35nm,1.4s						
MBDF	**Montbardon**	**60.36**	**17**	*e*P	**P**	**13 06 29.8**	**+0.2**
	10nm,0.8s						
MBDF	**Montbardon**	**60.36**	**17**	*e*P	**P**	**13 06 29.8**	**+0.2**
	10nm,0.8s						
TCF	**Toulx Ste Croi**	**60.63**	**13**	*e*P	**P**	**13 06 31.1**	**-0.1**
	9.0nm,0.8s						
TCF	**Toulx Ste Croi**	**60.63**	**13**	*e*P	**P**	**13 06 31.1**	**-0.1**
	9.0nm,0.8s						
LPG	**La Plagne**	**61.06**	**17**	*e*P	**P**	**13 06 34.6**	**+0.1**
LPG	**La Plagne**	**61.06**	**17**	*e*P	**P**	**13 06 34.6**	**+0.1**
LPL	**La Plagne**	**61.07**	**17**	*e*P	**P**	**13 06 34.6**	**+0.1**
	24nm,1.1s						
LPL	**La Plagne**	**61.07**	**17**	*e*P	**P**	**13 06 34.6**	**+0.1**
	24nm,1.1s						
AVF	**Avril sur Loir**	**61.37**	**14**	*e*P	**P**	**13 06 35.8**	**-0.4**
AVF	**Avril sur Loir**	**61.37**	**14**	*e*P	**P**	**13 06 35.8**	**-0.4**
SSF	**Saint Saulge**	**61.66**	**14**	*e*P	**P**	**13 06 37.8**	**-0.4**
	11nm,1.0s						
SSF	**Saint Saulge**	**61.66**	**14**	*e*P	**P**	**13 06 37.8**	**-0.4**
	11nm,1.0s						
CABF	**La Chapelle**	**61.90**	**16**	*e*P	**P**	**13 06 39.2**	**-0.7**
	14nm,0.7s						
CABF	**La Chapelle**	**61.90**	**16**	*e*P	**P**	**13 06 39.2**	**-0.7**
	14nm,0.7s						
LOR	**Lormes**	**61.94**	**14**	*e*P	**P**	**13 06 39.4**	**-0.7**
LOR	**Lormes**	**61.94**	**14**	*e*P	**P**	**13 06 39.4**	**-0.7**
HAU	**Haudompre**	**63.25**	**16**	*e*P	**P**	**13 06 48.0**	**-0.8**
	33nm,1.3s						
HAU	**Haudompre**	**63.25**	**16**	*e*P	**P**	**13 06 48.0**	**-0.8**
	33nm,1.3s						
MEZF	**Maizieres J'vi**	**63.38**	**15**	*e*P	**P**	**13 06 49.3**	**-0.3**
MEZF	**Maizieres J'vi**	**63.38**	**15**	*e*P	**P**	**13 06 49.3**	**-0.3**
CDF	**Champ du Feu**	**63.87**	**16**	*e*P	**P**	**13 06 51.8**	**-1.2**
CDF	**Champ du Feu**	**63.87**	**16**	*e*P	**P**	**13 06 51.8**	**-1.2**
BAIF	**Baives**	**64.63**	**13**	*e*P	**P**	**13 06 56.9**	**-0.9**
	27nm,1.2s						
BAIF	**Baives**	**64.63**	**13**	*e*P	**P**	**13 06 56.9**	**-0.9**
	27nm,1.2s						
KBZ	**Khabaz**	**76.77**	**39**	P	**P**	**13 08 12.6**	**+0.7**
	2.4nm,1.1s,baz=26,slow=2.3,SNR=2.2						
KBZ	**Khabaz**	**76.77**	**39**	P	P	**13 08 12.6**	**+0.7**
FINES	**FINESS Array B**	**80.57**	**19**	P	**P**	**13 08 31.9**	**-0.5**
	1.8nm,0.8s,baz=264,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**80.57**	**19**	P	P	**13 08 31.9**	**-0.5**
ARCES	**ARCESS Array B**	**86.67**	**13**	LR	LR	13 47 11.5	
	comp=Z,145nm,18.7s,baz=0.6,slow=35						
TXAR	**Lajitas Array**	**95.20**	**299**	P	**P**	**13 09 44.8**	**+0.2**
	0.4nm,0.9s,baz=145,slow=3.1,SNR=3.5						
TXAR	**Lajitas Array**	**95.20**	**299**	P	P	**13 09 44.8**	**+0.2**
ASAR	**Alice Springs**	**132.61**	**140**	PKP	**PKPdf**	**13 15 36.8**	**+0.8**
	0.2nm,0.6s,baz=227,slow=1.6,SNR=4.7						
ASAR	**Alice Springs**	**132.61**	**140**	PKP	**PKPdf**	**13 15 36.8**	**+0.8**
WRA	**Warramunga Arr**	**135.53**	**136**	PKP	**PKPdf**	**13 15 41.5**	**0.0**
	0.5nm,0.8s,baz=237,slow=2.9,SNR=3.3						
WRA	**Warramunga Arr**	**135.53**	**136**	PKP	**PKPdf**	**13 15 41.5**	**0.0**

IDC 22 13:02:08.3±2.9, 33°.45S×178°.68W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/17, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=67.5km s-min=35.3km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.89**	**214**	Pn	Pn	13 03 37.1	+0.4
	1.7nm,0.3s,baz=167,slow=20,SNR=15						
URZ				Sn	Sn	13 04 43.1	-1.8
	2.4nm,0.3s,baz=154,slow=20,SNR=7.9						
ASAR	**Alice Springs**	**42.46**	**271**	P	P	13 10 05.2	-0.1
	0.8nm,0.7s,baz=110,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**43.73**	**276**	P	P	13 10 15.5	0.0
	0.7nm,0.4s,baz=116,slow=8.2,SNR=21						
FINES	**FINESS Array B**	**147.78**	**338**	PKPbc	PKPbc	13 21 53.4	-0.9
	1.2nm,0.7s,baz=42,slow=4.3,SNR=9.1						

*ISCJB **22** 13:10:22.0±0.8, 36°.25N±0°.06×77°.2E±0°.1, h10km, mb3.4/6, Error ellipse: s-maj=15.2km s-min=8.7km az=0.6*
*IDC **22** 13:10:22.6±1.1, 36°.26N×77°.14E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.5/29, mbtmp3.5/10, ML3.4/4, Error ellipse: s-maj=25.3km s-min=17.5km az=71.0*

ISC 22 13:10:23.2±0.8, 36°.20N±0°.07×77°.0E±0°.1, h10km, n13, σ1832/12, mb3.4/6, 1C, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.41**	**347**	Pn	**Pn**	**13 11 16.1**	**-0.5**
KSH				Sn	**Sn**	**13 11 55.3**	**-1.8**
KSH				smax	smax		
	comp=N,220nm,0.9s						
KSH				smax	smax		
	comp=E,270nm,0.5s						
SDNR	**Sundarnagar**	**4.69**	**180**	*e*P	**Pn**	**13 11 32.5**	**-1.5**
AAK	**Ala-Archa**	**6.71**	**344**	Pn	Pn	13 12 06.8	+4.8
	comp=E,0.2nm,0.3s,baz=120,slow=8.5,SNR=3.4						
AAK				Pg	Pb	13 12 23.2	+3.2
	comp=E,0.5nm,0.3s,baz=119,slow=6.6,SNR=6.0						
AAK				Sn	Sn	13 13 24.1	+5.6
	comp=E,0.4nm,0.3s,baz=350,slow=13,SNR=2.2						
AAK				Lg	Lg	13 13 54.5	
	comp=E,0.8nm,0.3s,baz=22,slow=19,SNR=4.6						
KK31	**Karatay Array**	**8.51**	**326**	Pn	Pn	13 12 31.0	+4.5
	comp=E,0.6nm,0.5s,baz=136,slow=13,SNR=6.7						
KK31				⇑Lg	Lg	13 14 03.6	
	comp=E,1.2nm,0.5s,baz=148,slow=24,SNR=3.3						
MKAR	**Makanchi Array**	**11.31**	**19**	Pn	**Pn**	**13 13 05.1**	**+0.3**
	comp=E,0.5nm,0.3s,baz=202,slow=13,SNR=24						
MKAR				Sn	**Sn**	**13 15 11.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=205,slow=8.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**18.57**	**15**	P	**Pn**	**13 14 40.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=196,slow=10.0,SNR=2.4						
AKTO	**Aktyubinsk**	**19.74**	**322**	P	**Pn**	**13 14 55.1**	**+0.6**
	comp=E,0.2nm,0.3s,baz=111,slow=14,SNR=2.5						
SONM	**Songino Array**	**24.60**	**53**	P	**P**	**13 15 44.8**	**+1.2**
	comp=E,0.6nm,0.6s,baz=251,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**40.47**	**325**	P	**P**	**13 18 01.0**	**-0.7**
	comp=E,1.0nm,0.5s,baz=112,slow=8.5,SNR=6.5						
ARCES	**ARCESS Array B**	**43.31**	**336**	P	P	13 18 27.1	+2.2
	comp=E,5.1nm,1.1s,baz=114,slow=9.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**70.55**	**272**	P	**P**	**13 21 41.2**	**+2.4**
	comp=E,0.1nm,0.4s,baz=64,slow=6.6,SNR=2.7						
WRA	**Warramunga Arr**	**77.81**	**126**	P	**P**	**13 22 21.4**	**+0.4**
	comp=E,0.3nm,0.9s,baz=320,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**81.21**	**5**	P	**P**	**13 22 37.8**	**-1.1**
	comp=E,0.2nm,0.6s,baz=345,slow=5.4,SNR=6.4						

*IDC **22** 13:34:23.7±1.0, 40°.43S×173°.52E, h138km±10km, mb3.9/8, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, MS3.3/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=17.8km s-min=9.2km az=125.0*
*ISCJB **22** 13:34:24.8±0.2, 40°.46S±0°.03×173°.42E±0°.04, h165km±3km, mb4.0/9, Error ellipse: s-maj=6.2km s-min=3.1km az=33.5*
*NEIC **22** 13:34:26.8, 40°.43S×173°.51E, h160km, mb4.5/2, After WEL.*
NEIC Felt at Blenheim, Nelson, Wanganui and Wellington.
*WEL **22** 13:34:27.2±0.2, 40°.43S×173°.49E, h156km±1km, ML4.9/22, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, 4.*
WEL Felt between Taranaki, Canterbury and Manawatu, maximum reported intensity MM.

ISC 22 13:34:26.1±0.7, 40°.44S±0°.04×173°.48E±0°.04, h167km±5km, n253, σ1942/271, mb4.0/9, 30C-32D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.50**	**137**	⇑Pn	**Pn**	**13 34 49.4**	**0.0**
DUWZ				SN	**Sn**	**13 35 05.6**	**-1.7**
DUWZ	**D'Urville Isla**	**0.50**	**137**	Pn	**Pn**	**13 34 49.4**	**0.0**
DUWZ				Sn	**Sn**	**13 35 05.6**	**-1.7**
NNZ	**Nelson**	**0.78**	**185**	PN	**Pn**	**13 34 50.4**	**-0.5**
NNZ				SN	**Sn**	**13 35 08.2**	**-1.9**
NNZ	**Nelson**	**0.78**	**185**	Pn	**Pn**	**13 34 50.4**	**-0.5**
QRZ	**Quartz Range**	**0.82**	**242**	⇑PN	**Pn**	**13 34 50.9**	**-0.3**
QRZ				SN	**Sn**	**13 35 08.0**	**-2.4**
QRZ	**Quartz Range**	**0.82**	**242**	*e*Pn	**Pn**	**13 34 50.9**	**-0.3**
TCW	**Tory Channel**	**0.98**	**142**	⇑PN	**Pn**	**13 34 52.7**	**+0.4**
TCW				SN	**Sn**	**13 35 10.9**	**-1.6**
TCW	**Tory Channel**	**0.98**	**142**	Pn	**Pn**	**13 34 52.7**	**+0.4**
TUWZ	**Tuamarina**	**1.05**	**160**	⇑PN	**Pn**	**13 34 53.0**	**+0.1**
TUWZ	**Tuamarina**	**1.05**	**160**	Pn	**Pn**	**13 34 53.0**	**+0.1**
NRZ	**Ngariki Road**	**1.16**	**18**	⇑PN	**Pn**	**13 34 53.9**	**0.0**
NRZ	**Ngariki Road**	**1.16**	**18**	Pn	**Pn**	**13 34 53.9**	**0.0**
KIW	**Kapiti Island**	**1.17**	**112**	⇑PN	**Pn**	**13 34 53.9**	**0.0**
KIW				SN	**Sn**	**13 35 12.6**	**-2.6**
KIW	**Kapiti Island**	**1.17**	**112**	Pn	**Pn**	**13 34 53.9**	**0.0**
KIW				Sn	**Sn**	**13 35 12.5**	**-2.8**
NWEZ	**Newall Road**	**1.20**	**15**	⇓PN	**Pn**	**13 34 54.3**	**+0.1**
DFE	**Dawson Falls**	**1.21**	**24**	⇑PN	**Pn**	**13 34 54.1**	**-0.3**
DFE	**Dawson Falls**	**1.21**	**24**	Pn	**Pn**	**13 34 54.1**	**-0.3**
NEZ	**North Egmont**	**1.26**	**22**	⇑PN	**Pn**	**13 34 54.5**	**-0.4**
NEZ	**North Egmont**	**1.26**	**22**	Pn	**Pn**	**13 34 54.5**	**-0.4**
SNZO	**South Karori**	**1.27**	**133**	⇑PN	**Pn**	**13 34 54.9**	**+0.2**
SNZO	**South Karori**	**1.27**	**133**	*e*P	**Pn**	**13 34 54.7**	**0.0**
WEL	**Wellington**	**1.29**	**131**	⇑PN	**Pn**	**13 34 55.1**	**+0.1**
WEL	**Wellington**	**1.29**	**131**	Pn	**Pn**	**13 34 55.1**	**+0.1**
PKE	**Pukeiti**	**1.30**	**18**	⇓PN	**Pn**	**13 34 55.1**	**-0.1**
PKE	**Pukeiti**	**1.30**	**18**	Pn	**Pn**	**13 34 55.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.31**	**167**	⇑PN	**Pn**	**13 34 55.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.31**	**167**	Pn	**Pn**	**13 34 55.5**	**+0.4**
BSWZ				Sn	**Sn**	**13 35 15.5**	**-2.0**
OGWZ	**Otaki Gorge**	**1.34**	**107**	⇑PN	**Pn**	**13 34 55.7**	**+0.2**
OGWZ	**Otaki Gorge**	**1.34**	**107**	Pn	**Pn**	**13 34 55.7**	**+0.2**
WAZ	**Wanganui**	**1.34**	**60**	PN	**Pn**	**13 34 55.6**	**+0.1**
WAZ	**Wanganui**	**1.34**	**60**	Pn	**Pn**	**13 34 55.6**	**+0.1**
RAEZ	**Rainy Point**	**1.35**	**32**	⇓PN	**Pn**	**13 34 55.5**	**-0.1**
RAEZ	**Rainy Point**	**1.35**	**32**	Pn	**Pn**	**13 34 55.5**	**-0.1**
DREZ	**Durham Road**	**1.37**	**24**	⇓PN	**Pn**	**13 34 55.6**	**-0.1**
DREZ	**Durham Road**	**1.37**	**24**	Pn	**Pn**	**13 34 55.6**	**-0.1**
CAW	**Cannon Point**	**1.38**	**119**	⇑PN	**Pn**	**13 34 55.8**	**0.0**
CAW	**Cannon Point**	**1.38**	**119**	Pn	**Pn**	**13 34 55.9**	**0.0**
THZ	**Tophouse**	**1.39**	**198**	PN	**Pn**	**13 34 55.6**	**-0.3**
THZ	**Tophouse**	**1.39**	**198**	Pn	**Pn**	**13 34 55.6**	**-0.3**
CMWZ	**Cape Campbell**	**1.42**	**157**	⇑PN	**Pn**	**13 34 56.9**	**+0.8**
CMWZ	**Cape Campbell**	**1.42**	**157**	Pn	**Pn**	**13 34 57.0**	**+0.8**
BHW	**Baring Head**	**1.43**	**133**	⇑PN	**Pn**	**13 34 56.3**	**0.0**
BHW	**Baring Head**	**1.43**	**133**	Pn	**Pn**	**13 34 56.3**	**0.0**
MHEZ	**Mangahewa**	**1.51**	**26**	⇑PN	**Pn**	**13 34 57.2**	**+0.1**
MHEZ	**Mangahewa**	**1.51**	**26**	Pn	**Pn**	**13 34 57.2**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.62**	**107**	⇑PN	**Pn**	**13 34 58.1**	**0.0**
MRZ	**Mangatainoka R**	**1.62**	**99**	⇓PN	**Pn**	**13 34 58.0**	**-0.2**
MRZ	**Mangatainoka R**	**1.62**	**99**	Pn	**Pn**	**13 34 58.0**	**-0.2**
VRZ	**Vera Road**	**1.64**	**37**	PN	**Pn**	**13 34 57.8**	**-0.6**
VRZ	**Vera Road**	**1.64**	**37**	Pn	**Pn**	**13 34 57.8**	**-0.6**
MSWZ	**Moikau Station**	**1.66**	**126**	⇑PN	**Pn**	**13 34 58.6**	**0.0**
MSWZ	**Moikau Station**	**1.66**	**126**	Pn	**Pn**	**13 34 58.6**	**0.0**
MTW	**Mount Morrison**	**1.70**	**116**	⇑PN	**Pn**	**13 34 59.0**	**0.0**
MTW	**Mount Morrison**	**1.70**	**116**	Pn	**Pn**	**13 34 59.0**	**0.0**
POWZ	**Post Office Ro**	**1.75**	**89**	PN	**Pn**	**13 34 59.4**	**-0.1**
POWZ	**Post Office Ro**	**1.75**	**89**	Pn	**Pn**	**13 34 59.4**	**-0.1**
PAWZ	**Paruwai Farm**	**1.75**	**123**	⇑PN	**Pn**	**13 34 59.6**	**0.0**
PAWZ	**Paruwai Farm**	**1.75**	**123**	Pn	**Pn**	**13 34 59.6**	**0.0**
PLWZ	**Palliser**	**1.76**	**131**	⇑PN	**Pn**	**13 34 59.6**	**-0.1**
PLWZ	**Palliser**	**1.76**	**131**	Pn	**Pn**	**13 34 59.6**	**-0.1**
DSZ	**Denniston Nort**	**1.82**	**224**	PN	**Pn**	**13 34 60.0**	**-0.3**
DSZ	**Denniston Nort**	**1.82**	**224**	Pn	**Pn**	**13 34 60.0**	**-0.3**
PKVZ	**Pokaka**	**1.84**	**52**	PN	**Pn**	**13 35 00.2**	**-0.5**
PKVZ	**Pokaka**	**1.84**	**52**	Pn	**Pn**	**13 35 00.2**	**-0.5**
MTVZ	**Mangateitei**	**1.86**	**56**	PN	**Pn**	**13 35 00.4**	**-0.4**
MTVZ	**Mangateitei**	**1.86**	**56**	Pn	**Pn**	**13 35 00.5**	**-0.4**
TWZ	**Tintock**	**1.86**	**101**	⇑PN	**Pn**	**13 34 58.4**	**0.0**
TRWZ	**Traveller**	**1.93**	**120**	⇑PN	**Pn**	**13 35 01.5**	**+0.1**
TRWZ	**Traveller**	**1.93**	**120**	Pn	**

LTZ	Lake Taylor	2.51	201	PN	Pn	13 35 07.6	-0.5
LTZ	Lake Taylor	2.51	201	Pn	Pn	13 35 07.7	-0.5
HATZ	Hinemaiaia	2.54	53	PN	Pn	13 35 07.3	-1.3
HATZ	Hinemaiaia	2.54	53	Pn	Pn	13 35 07.3	-1.3
WHTZ	Whakaora	2.61	48	PN	Pn	13 35 09.3	-0.2
WHTZ	Whakaora	2.61	48	Pn	Pn	13 35 09.1	-0.4
PXZ	Pawanui	2.62	82	⇓PN	Pn	13 35 09.1	-0.5
PXZ	Pawanui	2.62	82	Pn	Pn	13 35 09.1	-0.5
BKZ	Black Stump Fm	2.65	62	PN	Pn	13 35 08.3	-1.6
BKZ	Black Stump Fm	2.65	62	Pn	Pn	13 35 08.3	-1.6
MCHZ	McNeill Hill	2.67	69	⇓PN	Pn	13 35 09.7	-0.4
MCHZ	McNeill Hill	2.67	69	Pn	Pn	13 35 09.7	-0.4
KAHZ	Kahuranaki	2.69	77	PN	Pn	13 35 09.9	-0.5
KAHZ	Kahuranaki	2.69	77	Pn	Pn	13 35 09.9	-0.5
NMHZ	Naumai	2.90	63	PN	Pn	13 35 12.3	-0.6
NMHZ	Naumai	2.90	63	Pn	Pn	13 35 12.3	-0.6
ALRZ	Allen Road	2.91	51	⇑PN	Pn	13 35 11.6	-1.4
ALRZ	Allen Road	2.91	51	Pn	Pn	13 35 11.6	-1.4
PRRZ	Plateau Road	2.98	50	⇑PN	Pn	13 35 12.5	-1.4
PRRZ	Plateau Road	2.98	50	Pn	Pn	13 35 12.5	-1.4
UTU	Utuhina	3.09	44	PN	Pn	13 35 14.6	-0.7
UTU	Utuhina	3.09	44	Pn	Pn	13 35 14.6	-0.7
TOZ	Tahuroa Road	3.13	31	PN	Pn	13 35 14.5	-1.3
TOZ	Tahuroa Road	3.13	31	Pn	Pn	13 35 14.5	-1.3
RAHZ	Arahi	3.17	63	PN	Pn	13 35 15.2	-1.2
RAHZ	Arahi	3.17	63	Pn	Pn	13 35 15.2	-1.2
CRLZ	Canterbury Las	3.20	191	⇑PN	Pn	13 35 14.9	-1.6
CRLZ	Canterbury Las	3.20	191	Pn	Pn	13 35 14.9	-1.6
TARZ	Mount Tarawera	3.22	48	⇓PN	Pn	13 35 15.8	-1.2
MQZ	McQueen's Vall	3.32	190	PN	Pn	13 35 16.2	-1.8
MQZ	McQueen's Vall	3.32	190	Pn	Pn	13 35 16.2	-1.8
WVZ	Waitaha Valley	3.34	217	⇓PN	Pn	13 35 17.0	-1.3
WVZ	Waitaha Valley	3.34	217	Pn	Pn	13 35 17.0	-1.3
EDRZ	Edgecumbe	3.44	48	PN	Pn	13 35 18.2	-1.6
EDRZ	Edgecumbe	3.44	48	Pn	Pn	13 35 18.2	-1.6
TGRZ	Tauranga	3.47	40	⇓PN	Pn	13 35 19.1	-1.0
TGRZ	Tauranga	3.47	40	Pn	Pn	13 35 19.1	-1.0
OPRZ	Ohinepanea	3.53	44	PN	Pn	13 35 19.2	-1.6
OPRZ	Ohinepanea	3.53	44	Pn	Pn	13 35 19.2	-1.6
KNZ	Kokohu	3.53	68	PN	Pn	13 35 19.4	-1.4
KNZ	Kokohu	3.53	68	Pn	Pn	13 35 19.4	-1.4
URZ	Urewera	3.56	53	P	Pn	13 35 18.8	-2.4
	100nm,0.3s,baz=249,slow=7.9,SNR=918						
URZ				S	Sn	13 35 59.2	-4.8
	131nm,0.3s,baz=183,slow=7.1,SNR=3.9						
URZ				LR	LR	13 36 49.9	
	comp=Z,146nm,19.5s,baz=17,slow=41						
URZ	Urewera	3.56	53	PN	Pn	13 35 18.6	-2.6
URZ	Urewera	3.56	53	*e*P	Pn	13 35 18.6	-2.6
URZ				P	Pn	13 35 18.8	-2.4
URZ				S	Sn	13 35 59.2	-4.8
MKAZ	Moumakai	3.58	22	⇑PN	Pn	13 35 21.0	-0.4
MKAZ	Moumakai	3.58	22	Pn	Pn	13 35 21.0	-0.4
WTAZ	Waiatarua	3.61	14	⇑PN	Pn	13 35 22.2	+0.3
WTAZ	Waiatarua	3.61	14	Pn	Pn	13 35 22.2	+0.3
MHGZ	Mahia Peninsul	3.65	71	PN	Pn	13 35 21.1	-1.2
MHGZ	Mahia Peninsul	3.65	71	Pn	Pn	13 35 21.1	-1.2
OTAZ	Otara	3.67	18	⇓PN	Pn	13 35 22.7	+0.2
OTAZ	Otara	3.67	18	Pn	Pn	13 35 22.7	+0.2
PRGZ	Paritu Road	3.72	67	⇓PN	Pn	13 35 21.7	-1.6
PRGZ	Paritu Road	3.72	67	Pn	Pn	13 35 21.8	-1.6
RPZ	Rata Peaks	3.74	208	P	Pn	13 35 22.2	-1.2
	43nm,0.3s,baz=268,slow=2.2,SNR=214						
RPZ				S	Sn	13 36 02.6	-5.6
	155nm,0.3s,baz=154,slow=23,SNR=43						
RPZ	Rata Peaks	3.74	208	PN	Pn	13 35 21.5	-1.9
RPZ	Rata Peaks	3.74	208	Pn	Pn	13 35 21.5	-1.9
RPZ				P	Pn	13 35 22.2	-1.2
RPZ				S	Sn	13 36 02.6	-5.6
KAAZ	Kauri Point	3.74	15	*e*PN	Pn	13 35 24.0	+0.6
KAAZ	Kauri Point	3.74	15	Pn	Pn	13 35 24.0	+0.6
RVAZ	Riverhead Bore	3.77	14	⇓PN	Pn	13 35 24.0	+0.2
MWZ	Matawai	3.78	57	PN	Pn	13 35 21.8	-2.3
MWZ	Matawai	3.78	57	Pn	Pn	13 35 21.8	-2.3
MTAZ	Motutapu	3.82	18	PN	Pn	13 35 24.5	+0.1
MTAZ	Motutapu	3.82	18	Pn	Pn	13 35 24.6	+0.1
KUZ	Kuaotunu	4.09	26	⇓PN	Pn	13 35 27.1	-0.9
KUZ	Kuaotunu	4.09	26	Pn	Pn	13 35 27.1	-0.9
CNGZ	Carnagh Statio	4.15	63	PN	Pn	13 35 27.1	-1.7
CNGZ	Carnagh Statio	4.15	63	Pn	Pn	13 35 27.1	-1.7
FOZ	Fox Glacier	4.21	221	⇓PN	Pn	13 35 26.4	-3.0
FOZ	Fox Glacier	4.21	221	Pn	Pn	13 35 26.4	-3.0
PUZ	Puketiti	4.40	59	PN	Pn	13 35 29.1	-2.9
PUZ	Puketiti	4.40	59	Pn	Pn	13 35 29.1	-2.9
WCZ	Waipu Caves	4.54	9	PN	Pn	13 35 33.8	-0.1
WCZ	Waipu Caves	4.54	9	Pn	Pn	13 35 33.8	-0.1
LBZ	Lake Benmore	4.63	211	PN	Pn	13 35 32.7	-2.2
LBZ	Lake Benmore	4.63	211	Pn	Pn	13 35 32.8	-2.2
MXZ	Matakaoa Point	4.73	54	PN	Pn	13 35 34.0	-2.4
MXZ	Matakaoa Point	4.73	54	Pn	Pn	13 35 34.0	-2.4
JCZ	Jackson Bay	5.04	222	PN	Pn	13 35 37.8	-2.6
JCZ	Jackson Bay	5.04	222	Pn	Pn	13 35 37.8	-2.6
ODZ	Otahua Downs	5.05	203	⇓PN	Pn	13 35 38.7	-1.7
ODZ	Otahua Downs	5.05	203	Pn	Pn	13 35 38.7	-1.7
OUZ	Omahuta	5.21	1	PN	Pn	13 35 42.9	+0.3
OUZ	Omahuta	5.21	1	*e*P	Pn	13 35 43.0	+0.3
	38nm,0.7s						
WKZ	Wanaka	5.48	215	PN	Pn	13 35 42.9	-3.1
WKZ	Wanaka	5.48	215	Pn	Pn	13 35 42.9	-3.1
EAZ	Earnscleugh	5.68	211	⇓PN	Pn	13 35 45.9	-2.8
EAZ	Earnscleugh	5.68	211	Pn	Pn	13 35 45.9	-2.8
MSZ	Milford Sound	5.89	222	PN	Pn	13 35 49.0	-2.4
MSZ	Milford Sound	5.89	222	Pn	Pn	13 35 49.0	-2.4
TUZ	Tuapeka	6.19	206	PN	Pn	13 35 53.3	-2.0
TUZ	Tuapeka	6.19	206	Pn	Pn	13 35 53.3	-2.0
MLZ	Mavora Lakes	6.26	217	PN	Pn	13 35 54.2	-2.1
MLZ	Mavora Lakes	6.26	217	Pn	Pn	13 35 54.2	-2.1
WHZ	Wether Hill Ro	6.78	215	PN	Pn	13 35 59.4	-3.8
WHZ	Wether Hill Ro	6.78	215	Pn	Pn	13 35 59.5	-3.8
DCZ	Deep Cove	6.84	221	PN	Pn	13 36 00.4	-3.6
DCZ	Deep Cove	6.84	221	Pn	Pn	13 36 00.4	-3.6
SYZ	Scrubby Hill	6.86	206	PN	Pn	13 36 02.0	-2.2
SYZ	Scrubby Hill	6.86	206	Pn	Pn	13 36 02.0	-2.2
APZ	The Paps	7.53	210	PN	Pn	13 36 10.0	-3.1
APZ	The Paps	7.53	210	Pn	Pn	13 36 10.0	-3.1
PYZ	Puysegur Point	7.57	219	PN	Pn	13 36 11.2	-2.4
PYZ	Puysegur Point	7.57	219	Pn	Pn	13 36 11.2	-2.4
CTZ	Chatham Island	8.07	117	PN	Pn	13 36 21.7	+1.5
CTZ	Chatham Island	8.07	117	Pn	Pn	13 36 21.7	+1.5
ASAR	Alice Springs	37.12	285	P	P	13 41 21.9	+1.1
	1.3nm,0.4s,baz=128,slow=7.3,SNR=54						
ASAR				PcP	PcP	13 43 37.2	-0.2
	0.5nm,0.5s,baz=120,slow=3.7,SNR=5.2						
ASAR	Alice Springs	37.12	285	P	P	13 41 21.9	+1.1
ASAR				PcP	PcP	13 43 37.2	-0.2
VNDA	Vanda	37.51	184	P	P	13 41 24.9	+1.6
	1.0nm,0.6s,baz=4.0,slow=7.7,SNR=4.7						
VNDA				LR	LR	13 54 59.8	
	comp=Z,145nm,21.3s,baz=42,slow=33						
VNDA	Vanda	37.51	184	P	P	13 41 24.9	+1.6
WRAB	Tennant Creek	39.10	290	*e*P	P	13 41 38.1	+0.8
	3.4nm,0.4s						
WRA	Warramunga Arr	39.10	290	P	P	13 41 38.9	+1.6
	0.4nm,0.4s,baz=126,slow=8.3,SNR=5.1						
WRA				PcP	PcP	13 43 43.6	-0.1
	0.2nm,0.4s,baz=146,slow=3.5,SNR=3.9						
WRA	Warramunga Arr	39.10	290	P	P	13 41 38.9	+1.6
WRA				PcP	PcP	13 43 43.6	-0.1
FITZ	Fitzroy Crossi	46.62	284	P	P	13 42 38.9	+1.2
	1.4nm,0.4s,baz=137,slow=9.0,SNR=8.3						
FITZ	Fitzroy Crossi	46.62	284	P	P	13 42 38.9	+1.2
QSPA	South Pole Qui	49.69	180	P	P	13 43 03.0	+2.3
	8.0nm,0.5s,baz=306,slow=0.8,SNR=103						
QSPA	South Pole Qui	49.69	180	P	P	13 43 03.0	+2.3
MJAR	Matsushiro Arr	83.18	332	P	P	13 46 33.4	+0.1
	2.4nm,0.9s,baz=163,slow=6.0,SNR=3.7						
MJAR	Matsushiro Arr	83.18	332	P	P	13 46 33.4	+0.1
KSRS	Korea Array	88.05	325	P	P	13 46 59.4	+2.2
	3.7nm,0.7s,baz=150,slow=5.7,SNR=11						
KSAR	Wonju Array Be	88.06	325	P	P	13 46 59.4	+2.2
CMAR	Chiang Mai Arr	90.58	294	P	P	13 47 11.3	+1.8
	1.3nm,0.5s,baz=149,slow=3.7,SNR=8.9						
CMAR	Chiang Mai Arr	90.58	294	P	P	13 47 11.3	+1.8
KURK	Kurchatov	122.67	311	PKP	PKPdf	13 52 59.9	-1.3
KURBB	Kurchatov Arra	122.68	311	PKP	PKPdf	13 52 59.9	-1.4
	0.2nm,0.6s,baz=114,slow=2.2,SNR=3.9						
ARCES	ARCESS Array B	146.35	340	PKPbc	PKPbc	13 53 45.8	-0.3
	6.6nm,1.0s,baz=94,slow=1.2,SNR=9.2						
ARCES	ARCESS Array B	146.35	340	PKPbc	PKPbc	13 53 45.8	-0.3
FINES	FINESS Array B	151.12	328	PKPbc	PKPbc	13 53 57.5	-0.9
	1.2nm,0.9s,baz=61,slow=4.5,SNR=7.4						
FINES				PKPab	PKPab	13 54 06.1	-0.8
	1.9nm,0.8s,baz=46,slow=2.3,SNR=5.4						
FINES	FINESS Array B	151.12	328	PKPbc	PKPbc	13 53 57.5	-0.9
FINES				PKPab	PKPab	13 54 06.1	-0.8
TORD	Torodi Ar. Bea	151.87	197	PKPbc	PKPbc	13 54 00.9	-0.7
	0.2nm,0.4s,baz=158,slow=2.6,SNR=7.7						
TORD				PKPab	PKPab	13 54 12.8	+1.6
	0.2nm,0.5s,baz=159,slow=3.2,SNR=4.7						
TORD	Torodi Ar. Bea	151.87	197	PKPbc	PKPbc	13 54 00.9	-0.7
TORD				PKPab	PKPab	13 54 12.8	+1.6
HFS	Hagfors	156.61	334	PKPab	PKPab	13 54 30.5	+0.2
	0.5nm,0.4s,baz=75,slow=7.8,SNR=5.5						
HFS	Hagfors	156.61	334	PKPab	PKPab	13 54 30.5	+0.2

NIED ***22*** *13:35:00.26˝00N×128˚70E,h17km,Mw4.2 Best double couple: M₀2.39000×10¹⁵ NP1:φ=47.00000°,δ55.00000°, λ107.00000°. NP2:φ=199.00000°,δ39.00000°,λ68.00000°.*

IDC ***22*** *13:35:27.5±0.7,26˚14N×128˚50E,h0km,mb4.0/17, mb1 4.1/19,mb1mx4.0/28,mbtmp4.0/19,ML3.4/2,MS3.3/4, Ms1 3.4/4,ms1mx2.9/46,Error ellipse: s-maj=24.5km s-min=11.8km az=76.0*

JMA ***22*** *13:35:29.3±0.2,26˚03N×128˚66E,h49km±4km,M3.7*

ISC 22 13:35:26.8±3.2,26˚04N±0˚05×128˚64E±0˚04,h2km±20km, n48,σ1s24/55,mb4.0/17,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.81	277	P		Pn	Pn	13 35 44.9	-0.2
JJT2				S		Sn	Sn	13 35 56.4	-1.3
JOW	Kunigami	0.86	338	Pn		Pn	Pn	13 35 45.5	-0.4
	304nm,0.3s,baz=148,slow=18,SNR=507								
JOW				LR		LR		13 35 55.2	
	comp=Z,4μm,20.5s,baz=0.0,slow=38								
JOW				Sn		Sb	Sb	13 35 56.3	0.0
JOW	Kunigami	0.86	338	P		Pn	Pn	13 35 45.4	-0.4
JOW				S		Sb	Sb	13 35 56.9	+0.5
JIH	Iheya	1.16	329	P		Pn	Pn	13 35 50.1	+0.1
JIH				S		Sb	Sb	13 36 04.7	-0.4
JAGN	Aguni-jima	1.37	294	P		Pb	Pb	13 35 52.9	-0.2
JKE	Kume jima 2	1.69	280	P		Pn	Pn	13 35 56.8	-0.5
JKE				S		Sn	Sn	13 36 17.6	-1.9
JTK	Tokunoshima	1.77	9	P		Pn	Pn	13 35 58.5	+0.1
JTK				S		Sn	Sn	13 36 17.4	-4.0
JMZ	Minamidaito 2	2.33	95	P		Pn	Pn	13 36 05.9	-0.3
JMZ				S		Sn	Sn	13 36 32.1	-3.3
JAM	Amami Oshima	2.52	20	P		Pn	Pn	13 36 08.7	0.0
JAM				S		Sn	Sn	13 36 38.1	-1.8
JZK	Kikaishima	2.56	27	P		Pb	Pb	13 36 11.7	-1.8
JZK				*e*S		Sn	Sn	13 36 40.7	-0.3
JOGS	Gusukube	3.19	247	P		Pn	Pn	13 36 18.2	+0.3
JTJ	Tarama	3.82	250	P		Pn	Pn	13 36 26.0	-0.6
JTJ				S		Sn	Sn	13 37 08.0	-4.2
JIJ	Ishigaki jima	4.40	249	P		Pn	Pn	13 36 33.7	-0.9
JNU	Nakatsue	7.33	15	Pn		Pn	Pn	13 37 16.8	+1.9
	1.3nm,0.3s,baz=79,slow=1.4,SNR=13								
JNU				LR		LR		13 40 11.8	
	comp=Z,98nm,19.6s,baz=16,slow=39								
USRK	Ussuriysk Arra	18.33	8	P		P		13 39 43.0	+0.8
	0.2nm,0.3s,baz=185,slow=7.6,SNR=4.2								
GUMO	Guam	19.63	126	LR		LR		13 45 55.0	
	comp=Z,49nm,20.7s,baz=90,slow=32								
SONM	Songino Array	27.91	327	P		P		13 41 19.9	+1.5
	2.5nm,0.8s,baz=141,slow=10,SNR=20								
CMAR	Chiang Mai Arr	28.45	261	P		P		13 41 24.9	+1.6
	0.5nm,0.3s,baz=54,slow=7.3,SNR=7.0								
CMAR				LR		LR		13 55 28.1	
	comp=Z,80nm,18.1s,baz=255,slow=42								
TAPN	Taplejung	36.48	281	*e*P		P		13 42 34.2	+0.4
ODAN	Odare	36.83	281	*e*P		P		13 42 37.1	+0.4
	36nm,0.7s								
RAMN	Ramite	37.51	281	*e*P		P		13 42 42.1	-0.4
	11nm,0.7s								
JIRN	Jiri	37.77	282	*e*P		P		13 42 45.2	+0.3
GUN	Gumba	38.02	283	*e*P		P		13 42 47.3	+0.4
	16nm,0.8s								
PKI	Pulchoki	38.47	282	*e*P		P		13 42 50.5	-0.3
PKIN	Phulchoki	38.48	282	*e*P		P		13 42 50.6	-0.2
	6.8nm,0.5s								
KKN	Kakani	38.56	283	*e*P		P		13 42 51.4	+0.1
DMN	Daman	38.73	282	*e*P		P		13 42 52.9	0.0
GKN	Gorkha	39.09	283	*e*P		P		13 42 55.9	+0.1
DANN	Dangsing	39.81	284	*e*P		P		13 43 02.5	+0.6
	34nm,0.8s								
KOLN	Koldanda	40.03	283	*e*P		P		13 43 04.0	+0.3
	18nm,0.8s								
PYUN	Piuthan	40.52	284	*e*P		P		13 43 08.2	+0.5
	35nm,1.0s								
MKAR	Makanchi Array	41.94	312	P		P		13 43 17.4	-1.5
	1.1nm,0.8s,baz=99,slow=10,SNR=20								
ZALV	Zalesovo Beam	42.62	323	P		P		13 43 23.3	-1.0
	0.6nm,0.4s,baz=102,slow=8.6,SNR=5.5								
FITZ	Fitzroy Crossi	43.97	184	LR		LR		14 03 47.5	
	comp=Z,112nm,18.5s,baz=229,slow=39								
KURBB	Kurchatov Arra	45.25	317	P		P		13 43 44.6	-0.8
	1.2nm,0.5s,baz=103,slow=8.6,SNR=13								
WRA	Warramunga Arr	46.04	173	P		P		13 43 52.7	+0.7
	2.2nm,0.8s,baz=354,slow=5.5,SNR=14								
ASAR	Alice Springs	49.67	174	P		P		13 44 21.4	+1.3
	1.0nm,0.8s,baz=7.4,slow=13,SNR=12								
BVAR	Borovoye Array	50.66	318	P		P		13 44 27.3	-0.1
	1.3nm,0.6s,baz=72,slow=9.3,SNR=6.8								
STKA	Stephens Creek	58.90	167	P		P		13 45 30.6	+3.4
	0.9nm,0.7s,baz=338,slow=5.4,SNR=2.3								
ILAR	Eielson Array	64.43	28	P		P		13 46 04.7	+0.4
	0.4nm,0.8s,baz=260,slow=6.0,SNR=4.0								
KBZ	Khabaz	69.56	310	P		P		13 46 37.8	+0.6
	1.6nm,0.5s,baz=97,slow=5.9,SNR=5.0								
FINES	FINESS Array B	73.21	331	P		P		13 46 58.8	-0.2
	1.1nm,0.6s,baz=86,slow=7.8,SNR=7.2								
AKASG	Malin Array Be	75.92	320	P		P		13 47 14.2	-0.7
	2.6nm,0.6s,baz=59,slow=6.2,SNR=6.5								
BRTR	Keskin Array B	77.44	308	P		P		13 47 24.6	+0.6
	2.6nm,0.9s,baz=71,slow=4.6,SNR=9.6								
YKA	Yellowknife Ar	78.55	25	P		P		13 47 30.6	+1.2
	0.3nm,0.6s,baz=300,slow=5.5,SNR=10								
HFS	Hagfors	79.16	332	P		P		13 47 33.0	+0.2
	1.9nm,0.9s,baz=119,slow=8.9,SNR=2.9								
NB2	NORSAR Subarra	79.65	334	P		P		13 47 35.0	-0.6
	comp=Z,0.8nm,0.6s,baz=49,slow=5.6								
NOA	NORSAR Array B	79.65	334	P		P		13 47 35.4	-0.2
	comp=Z,1.4nm,0.7s,baz=52,slow=5.4,SNR=5.0								

ISCJB ***22*** *13:40:57.5±0.7,25˚15S±0˚09×179˚6E±0˚1,h507km, mb3.6/9,Error ellipse: s-maj=13.3km s-min=11.6km az=177.7*

IDC ***22*** *13:40:59.2±2.4,25˚13S×179˚63E,h520km±26km,mb3.2/9, mb1 3.4/10,mb1mx3.3/21,mbtmp3.2/10,Error ellipse: s-maj=17.4km s-min=12.6km az=179.0*

ISC 22 13:40:58.0±0.6,25˚16S±0˚10×179˚7E±0˚1,h507km,n26, σ1s04/26,mb3.6/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.24	189	P		P		13 43 47.3	-2.1
	6.6nm,0.3s,baz=21,slow=1.7,SNR=54								
URZ				S		S		13 46 10.2	-0.5
	0.6nm,0.3s,baz=65,slow=23,SNR=8.2								
AFI	Afiamalu	13.80	37	P		P		13 43 50.0	-5.7
	2.7nm,0.3s,baz=154,slow=17,SNR=5.4								
RPZ	Rata Peaks	19.80	199	P		P		13 44 54.2	0.0
	1.9nm,0.3s,baz=15,slow=6.5,SNR=11								
CTA	Charters Tower	31.19	272	P		P		13 46 36.2	+0.9
	3.2nm,0.6s,baz=82,slow=14,SNR=5.8								
ASAR	Alice Springs	41.53	262	P		P		13 48 01.0	+0.2
	0.4nm,0.3s,baz=93,slow=7.5,SNR=13								
ASAR				PcP		PcP		13 49 46.8	+0.2
	0.3nm,0.6s,baz=91,slow=4.6,SNR=4.3								
ASAR				S		S		13 53 39.9	+0.1
	0.2nm,0.8s,baz=103,slow=13,SNR=4.9								
WRA	Warramunga Arr	42.02	268	P		P		13 48 04.6	-0.1
	0.7nm,0.3s,baz=99,slow=6.9,SNR=48								
WRA				S		S		13 53 46.4	-0.4
	0.7nm,1.0s,baz=100,slow=14,SNR=4.6								
FITZ	Fitzroy Crossi	50.43	267	P		P		13 49 09.2	+0.5
	0.8nm,0.7s,baz=95,slow=11,SNR=3.3								
VNDA	Vanda	53.10	185	P		P		13 49 27.1	+0.1
	2.4nm,0.5s,baz=87,slow=14,SNR=19								
QSPA	South Pole Qui	64.33	180	P		P		13 50 48.8	+1.9
	1.0nm,0.6s,baz=269,slow=4.0,SNR=6.7								
VNA3	Neumayer Olymp	83.64	177	*e*P		P		13 52 32.8	+0.4
VNA2	Neumayer--Watz	84.05	178	*e*P		P		13 52 35.7	+1.3
	baz=181,slow=4.1								
VNA1	Neumayer--Stat	84.29	177	*e*P		P		13 52 40.0	+4.5
NVAR	Mina Array Bea	85.88	44	P		P		13 52 44.5	+0.5
	1.0nm,0.8s,baz=224,slow=9.5,SNR=6.3								
TXAR	Lajitas Array	91.36	58	P		P		13 53 10.8	+1.1
	1.1nm,0.8s,baz=214,slow=5.7,SNR=12								
ILAR	Eielson Array	93.33	14	P		P		13 53 16.4	-1.4
	0.3nm,0.7s,baz=218,slow=4.8,SNR=5.2								
KURBB	Kurchatov Arra	115.93	316	PKP		PKPdf		13 58 41.1	-1.4
	0.5nm,0.8s,baz=84,slow=1.9,SNR=6.1								
BVAR	Borovoye Array	121.17	318	PKP		PKPdf		13 58 51.8	-0.8
	0.6nm,0.4s,baz=100,slow=1.8,SNR=5.4								
SPITS	Spitsbergen Ar	126.35	356	PKP		PKPdf		13 59 01.1	-0.7
	7.0nm,1.0s,baz=45,slow=4.1,SNR=4.4								
AKTO	Aktyubinsk	128.98	316	PKP		PKPdf		13 59 07.4	-0.2
	0.4nm,0.3s,baz=245,slow=14,SNR=4.2								
ARCES	ARCESS Array B	133.05	348	PKP		PKPdf		13 59 14.9	+0.2
	1.9nm,0.6s,baz=96,slow=3.7,SNR=6.3								
FINES	FINESS Array B	139.53	341	PKhKP		PKPpre		13 59 19.0	
	0.8nm,0.8s,baz=29,slow=4.4,SNR=3.8								
FINES				PKP		PKPdf		13 59 24.4	-2.5
	1.2nm,0.8s,baz=7.6,slow=4.2,SNR=3.8								
NB2	NORSAR Subarra	143.27	351	PKP		PKPab		13 59 30.9	-0.6
	comp=Z,1.0nm,0.5s,baz=15,slow=3.2								
NOA	NORSAR Array B	143.27	351	PKP		PKPab		13 59 31.0	-0.5
	comp=Z,1.9nm,0.7s,baz=15,slow=5.0,SNR=6.9								
HFS	Hagfors	143.71	348	PKP		PKPab		13 59 32.2	-0.9
	comp=Z,5.8nm,0.4s,baz=62,slow=3.5,SNR=68								
BRTR	Keskin Array B	148.06	305	PKPbc		PKPbc		13 59 46.9	+0.4
	comp=Z,0.4nm,0.4s,baz=90,slow=2.9,SNR=2.7								
TORD	Torodi Ar. Bea	167.89	190	PKP		PKPdf		14 00 06.2	-0.4
	comp=Z,0.3nm,0.8s,baz=157,slow=4.1,SNR=2.8								
TORD				PKPab		PKPab		14 01 16.9	-0.1
	comp=Z,0.4nm,0.8s,baz=190,slow=4.1,SNR=3.6								

IDC 22 13:52:32.3±6.0,5˚46N×72˚66W,h129km±39km,Error ellipse: s-maj=109.4km s-min=69.6km az=157.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	1.77	250	P		Pn		13 53 04.0	0.0
	19nm,0.3s,baz=73,slow=14,SNR=23								
ROSC				S		Sn		13 53 27.9	-0.1
	29nm,0.3s,baz=61,slow=19,SNR=7.9								
ASAR	Alice Springs	148.67	232	PKPbc		PKPbc		14 12 04.7	-0.6

WRA	**Warramunga Arr**	**22.76**	**224**	P	P	14 30 38.6	-1.4	
	2.6nm,0.5s,baz=50,slow=10,SNR=60							
ASAR	**Alice Springs**	**25.66**	**219**	P	P	14 31 07.5	+0.8	
	1.2nm,0.7s,baz=54,slow=9.0,SNR=19							
FITZ	**Fitzroy Crossi**	**28.57**	**239**	P	P	14 31 33.7	+0.9	
	1.3nm,0.3s,baz=54,slow=7.2,SNR=21							
SONM	**Songino Array**	**64.69**	**328**	P	P	14 36 14.0	+0.1	
	0.2nm,0.5s,baz=112,slow=6.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**148.39**	**289**	PKPbc	PKPbc	14 45 21.1	-1.6	
	0.3nm,0.7s,baz=81,slow=3.1,SNR=4.3							

IDC 22 14:33:16.7±2.5, 20.80S×178.72W, h606km±30km, mb3.1/11, mb1 3.4/11, mb1mx3.2/20, mbtmp3.1/11, Error ellipse: s-maj=22.2km s-min=12.4km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.77**	**191**	P	P	14 36 46.4	-3.4
	0.9nm,0.3s,baz=85,slow=2.5,SNR=8.7						
CTA	**Charters Tower**	**32.79**	**265**	P	P	14 39 02.0	0.0
	4.4nm,0.4s,baz=97,slow=11,SNR=13						
ASAR	**Alice Springs**	**43.80**	**257**	P	P	14 40 30.7	-0.1
	3.1nm,0.6s,baz=96,slow=7.6,SNR=62						
ASAR				S	S	14 46 18.1	-0.9
	0.8nm,0.8s,baz=95,slow=15,SNR=5.5						
WRA	**Warramunga Arr**	**43.90**	**263**	P	P	14 40 30.9	-0.6
	2.1nm,0.3s,baz=96,slow=7.7,SNR=135						
WRA				S	S	14 46 21.7	+1.4
	0.5nm,1.0s,baz=86,slow=12,SNR=2.9						
KDU	**Kakadu**	**47.29**	**272**	P	P	14 40 57.2	0.0
	baz=34,SNR=4.1						
MTN	**Manton Dam**	**48.49**	**271**	P	P	14 41 06.2	-0.1
	baz=36,SNR=4.8						
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	P	14 41 33.9	-0.1
	0.7nm,0.4s,baz=112,slow=14,SNR=8.6						
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	P	14 41 34.3	+0.3
	baz=38,SNR=5.0						
VNDA	**Vanda**	**57.55**	**185**	P	P	14 42 09.6	+0.3
	0.5nm,0.6s,baz=42,slow=6.3,SNR=4.6						
PCI	**Palu**	**63.08**	**280**	P	PcP	14 43 13.7	-4.0
	baz=51,SNR=7.4						
MJAR	**Matsushiro Arr**	**70.06**	**324**	P	P	14 43 29.5	+0.3
	0.9nm,0.5s,baz=169,slow=7.3,SNR=3.2						
XMIS	**Christmas Isla**	**73.01**	**265**	P	PcP	14 44 09.3	+10
	baz=59,SNR=3.4						
PETK	**Petropavlovsk-**	**76.39**	**346**	P	P	14 44 04.8	+0.1
	6.8nm,1.1s,baz=165,slow=6.0,SNR=3.0						
NVAR	**Mina Array Bea**	**81.70**	**44**	P	P	14 44 34.0	+0.5
	0.3nm,0.5s,baz=225,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	**88.76**	**13**	P	P	14 45 05.5	-1.1
	0.3nm,0.6s,baz=226,slow=5.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	P	14 45 13.1	+1.6
	0.4nm,0.4s,baz=120,slow=3.7,SNR=5.5						
PDAR	**Pinedale Array**	**89.64**	**43**	P	P	14 45 11.0	-0.4
	0.4nm,0.6s,baz=236,slow=6.4,SNR=3.1						
BVAR	**Borovoye Array**	**118.88**	**320**	PKP	PKPdf	14 50 56.2	-0.9
	0.5nm,0.3s,baz=114,slow=2.6,SNR=5.8						
AKASG	**Malin Array Be**	**142.95**	**330**	PKhKP	PKPpre	14 51 39.5	
	1.9nm,0.4s,baz=43,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**146.54**	**312**	PKPbc	PKPbc	14 51 51.2	-0.5
	0.8nm,0.6s,baz=129,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**150.30**	**343**	PKPbc	PKPbc	14 51 60.0	-0.7
	0.4nm,0.5s,baz=270,slow=1.0,SNR=4.2						

AUST ***22*** *14:34:52.2±8.9, 25.71S×166.34E, h462km, Error ellipse: s-maj=2.1km s-min=1.4km az=6.0*

ISCJB ***22*** *14:34:57.7±0.6, 23.75S±0.1×180.0E±0.1, h532km, mb3.9/9, Error ellipse: s-maj=19.6km s-min=13.3km az=159.7*

IDC ***22*** *14:34:57.0±2.0, 23.63S×179.96W, h516km±20km, mb3.4/9, mb1 3.6/10, mb1mx3.4/20, mbtmp3.4/10, Error ellipse: s-maj=34.8km s-min=13.9km az=162.0*

ISC 22 14:34:58.4±0.6, 23.8S±0.1×179.99W±0.10, h532km, n23, σ1§29/26, mb3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.47**	**65**	P	**S**	**14 39 20.3**	**+2.0**
	baz=23,SNR=4.4						
URZ	**Urewera**	**14.66**	**189**	P	**P**	**14 38 03.8**	**-0.7**
	0.7nm,0.3s,baz=29,slow=13,SNR=4.6						
EIDS	**Eidsvold**	**26.34**	**261**	S	**P**	**14 39 53.1**	**+1.1**
	baz=14,SNR=4.9						
CTA	**Charters Tower**	**31.49**	**270**	P	**P**	**14 40 37.8**	**+0.9**
	15nm,0.4s,baz=94,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**34.78**	**248**	P	**P**	**14 41 05.5**	**+0.9**
	1.2nm,0.5s,baz=63,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**42.07**	**260**	P	**P**	**14 42 03.3**	**-0.6**
	3.2nm,0.6s,baz=97,slow=7.4,SNR=21						
ASAR				ScP	**ScP**	**14 46 48.7**	**+2.4**
	1.0nm,0.6s,baz=108,slow=4.3,SNR=15						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**14 42 06.3**	**-0.3**
	3.7nm,0.3s,baz=95,slow=8.4,SNR=26						
WRA				ScP	**ScP**	**14 46 51.1**	**+3.4**
	0.9nm,0.8s,baz=97,slow=3.9,SNR=6.0						
WRA				S	**S**	**14 47 50.2**	**+0.1**
	0.4nm,1.0s,baz=104,slow=13,SNR=3.0						
FITZ	**Fitzroy Crossi**	**50.85**	**265**	P	**P**	**14 43 11.1**	**+0.7**
	2.1nm,0.6s,baz=270,slow=2.3,SNR=4.9						
NVAR	**Mina Array Bea**	**84.65**	**44**	P	**P**	**14 46 36.4**	**+0.1**
	0.4nm,0.5s,baz=227,slow=6.7,SNR=3.7						
VNA3	**Neumayer Olymp**	**85.01**	**177**	*e*P	**P**	**14 46 37.4**	**+0.1**
VNA2	**Neumayer--Watz**	**85.43**	**178**	*e*P	**P**	**14 46 39.7**	**+0.4**
	baz=197,slow=3.5						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**14 47 04.2**	**+1.0**
	1.0nm,0.7s,baz=221,slow=6.9,SNR=9.3						
ILAR	**Eielson Array**	**91.90**	**14**	P	**P**	**14 47 08.1**	**-1.3**
	0.4nm,1.0s,baz=216,slow=6.9,SNR=4.6						
PDAR	**Pinedale Array**	**92.58**	**44**	P	**P**	**14 47 12.4**	**-0.9**
	0.6nm,0.8s,baz=197,slow=4.6,SNR=4.9						
MKAR	**Makanchi Array**	**112.07**	**313**	PKiKP	**PKiKP**	**14 52 31.9**	**-1.4**
	0.1nm,0.4s,baz=166,slow=0.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**115.15**	**316**	PKP	**PKPdf**	**14 52 37.7**	**-1.3**
	0.4nm,0.4s,baz=105,slow=1.8,SNR=4.8						
BVAR	**Borovoye Array**	**120.34**	**319**	PKP	**PKPdf**	**14 52 48.2**	**-0.7**
	0.4nm,0.4s,baz=109,slow=3.2,SNR=6.2						
ARCES	**ARCESS Array B**	**131.76**	**348**	PKP	**PKPdf**	**14 53 09.0**	**-1.2**
	3.9nm,0.9s,baz=63,slow=3.0,SNR=5.8						
FINES	**FINESS Array B**	**138.32**	**341**	PKP	**PKPdf**	**14 53 23.4**	**+0.8**
	0.4nm,0.4s,baz=48,slow=2.8,SNR=4.0						
AKASG	**Malin Array Be**	**144.86**	**327**	PKP	**PKPdf**	**14 53 34.1**	**-0.5**
	0.7nm,0.3s,baz=44,slow=4.3,SNR=5.4						
BRTR	**Keskin Array B**	**147.50**	**307**	PKPbc	**PKPbc**	**14 53 42.1**	**-1.0**
	0.4nm,0.5s,baz=122,slow=4.8,SNR=3.7						
EKA	**Eskdalemuir Ar**	**148.38**	**3**	PKPbc	**PKPbc**	**14 53 43.5**	**-1.1**
	0.5nm,0.4s,baz=342,slow=2.7,SNR=8.1						
TORD	**Torodi Ar. Bea**	**169.32**	**189**	PKPab	**PKPab**	**14 55 21.2**	**-0.3**
	0.3nm,0.6s,baz=167,slow=4.7,SNR=4.7						

ISCJB ***22*** *14:39:12.3±1.2, 43.14N±0.06×126.73W±0.1, h10km, mb2.8/2, Error ellipse: s-maj=13.8km s-min=6.7km az=158.3*

IDC ***22*** *14:39:12.6±2.0, 43.04N×126.32W, h0km, mb2.9/3, mb1 3.6/8, mb1mx3.4/31, mbtmp3.2/8, ML3.5/4, MS3.1/3, Ms1 3.1/3, ms1mx2.6/15, Error ellipse: s-maj=30.3km s-min=13.6km az=56.0*

NEIC ***22*** *14:39:14.6±0.9, 43.11N×126.18W, h10km, mb3.6/2, Error ellipse: s-maj=11.1km s-min=5.8km az=71.0*

ISC 22 14:39:14.4±1.5, 43.13N±0.09×126.3W±0.1, h10km, n49, σ1§26/47, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.45**	**99**	P	**Pn**	**14 39 38.2**	**-2.5**
TAKO	**Tahkenitch**	**1.72**	**68**	P	**Pn**	**14 39 42.5**	**-1.8**
RNO	**Roman Nose**	**2.01**	**66**	P	**Pn**	**14 39 47.0**	**-1.4**
DBO	**Dodson Butte**	**2.23**	**89**	P	**Pn**	**14 39 49.9**	**-1.5**
HSO	**Harness Mounta**	**2.36**	**79**	P	**Pn**	**14 39 52.0**	**-1.3**
HUMO	**Hull Mountain**	**2.58**	**101**	*e*Pn	**Pn**	**14 39 53.4**	**-1.8**
EUO	**Eugene**	**2.50**	**68**	P	**Pn**	**14 39 54.1**	**-1.1**
COR	**Corvallis**	**2.60**	**55**	*e*Pn	**Pn**	**14 39 55.3**	**-1.1**
BBOR	**Butler Butte**	**2.65**	**94**	P	**Pn**	**14 39 56.5**	**-0.9**
YBH	**Yreka Blue Hor**	**2.99**	**117**	Pn	**Pn**	**14 40 01.0**	**-0.9**
	1.7nm,0.3s,baz=294,slow=12,SNR=15						
YBH				Sn	**Sn**	**14 40 38.9**	**+1.1**
	1.5nm,0.3s,baz=107,slow=12,SNR=4.2						
YBH	**Yreka Blue Hor**	**2.99**	**117**	*e*Pn	**Pn**	**14 40 00.8**	**-1.1**
YBH				Sn	**Sn**	**14 40 38.9**	**+1.1**
BROR	**Big Rock Looko**	**3.00**	**66**	P	**Pn**	**14 40 01.3**	**-0.7**
IRO	**Indian Ridge**	**3.06**	**72**	P	**Pn**	**14 40 02.5**	**-0.4**
FRIS	**Frissel Point**	**3.22**	**69**	P	**Pn**	**14 40 05.0**	**-0.2**
H04A	**Detroit Lake**	**3.34**	**61**	P	**Pn**	**14 40 06.2**	**-0.5**
VLL	**Laurance Lake**	**4.05**	**53**	P	**Pn**	**14 40 16.9**	**+0.4**
FL2	**Flat Top 2**	**4.16**	**41**	P	**Pn**	**14 40 17.9**	**-0.1**
ERK	**Elk Rock**	**4.24**	**40**	P	**Pn**	**14 40 18.8**	**-0.3**
VIPM	**Ingram Point**	**4.33**	**69**	P	**Pn**	**14 40 19.9**	**-0.5**
LON	**Longmire**	**4.82**	**40**	*e*Pn	**Pn**	**14 40 27.2**	**+0.2**
TRW	**Toppenish Ridg**	**5.17**	**50**	P	**Pn**	**14 40 32.2**	**+0.3**
HAWA	**Hanford**	**5.81**	**53**	*e*Pn	**Pn**	**14 40 40.5**	**-0.1**
	6.8nm,0.5s						
PGC	**Sidney**	**5.87**	**19**	*e*Pn	**Pn**	**14 40 39.9**	**-1.4**
BMO	**Blue Mountains**	**6.70**	**72**	*e*Pn	**Pn**	**14 40 52.3**	**-0.6**
	1.9nm,0.6s						
CMB	**Columbia Colle**	**6.78**	**137**	Pn	**Pn**	**14 40 53.6**	**-0.4**
NVAR	**Mina Array Bea**	**7.66**	**125**	Pn	**Pn**	**14 41 07.6**	**+1.4**
	0.1nm,0.3s,baz=302,slow=14,SNR=5.1						
NVAR	**Mina Array Bea**	**7.66**	**125**	Pn	**Pn**	**14 41 07.6**	**+1.4**
NEW	**Newport**	**8.21**	**48**	Pn	Pn	14 41 16.9	+3.3
	0.5nm,0.3s,baz=248,slow=14,SNR=8.5						
NEW				LR	LR	14 44 29.6	
	comp=Z,117nm,20.4s,baz=244,slow=38						
NEW	**Newport**	**8.21**	**48**	*e*Pn	**Pn**	**14 41 16.3**	**+2.7**
	1.8nm,0.4s						
HLID	**Hailey**	**8.66**	**83**	*e*Pn	**Pn**	**14 41 22.5**	**+2.6**
	2.7nm,1.1s						
BBB	**Bella Bella**	**9.15**	**353**	LR	LR	14 44 25.0	
	comp=Z,66nm,18.4s,baz=74,slow=34						
BSMT	**Bassoo Peak**	**9.35**	**56**	*e*Pn	**Pn**	**14 41 29.4**	**0.0**
WALA	**Waterton Lakes**	**10.44**	**51**	*e*Pn	**Pn**	**14 41 45.0**	**+0.9**
	0.1nm,0.6s						
BOZ	**Bozeman (W)**	**10.79**	**71**	*e*Pn	**Pn**	**14 41 49.2**	**+0.3**
	1.6nm,0.8s						
MWC	**Mount Wilson**	**10.96**	**141**	Pn	Pn	14 41 46.6	-4.8
	22nm,1.2s						
TPAW	**Teton Pass**	**11.18**	**83**	*e*Pn	**Pn**	**14 41 56.2**	**+1.7**
	11nm,1.4s						
PDAR	**Pinedale Array**	**12.27**	**86**	Pn	**Pn**	**14 42 12.0**	**+2.7**
	0.1nm,0.3s,baz=270,slow=8.9,SNR=5.1						
PDAR	**Pinedale Array**	**12.27**	**86**	Pn	**Pn**	**14 42 12.0**	**+2.7**
DLBC	**Dease Lake**	**15.51**	**353**	LR	LR	14 48 47.7	
	comp=Z,100nm,18.1s,baz=157,slow=37						
ANMO	**Albuquerque**	**17.40**	**111**	Pn	**P**	**14 43 18.4**	**-0.3**
	0.1nm,0.6s,baz=297,slow=11,SNR=7.1						
ANMO	**Albuquerque**	**17.40**	**111**	Pn	**P**	**14 43 18.4**	**-0.3**
BNM	**Barren Site**	**17.75**	**114**	*e*Pn	**Pn**	**14 43 21.0**	**-0.7**
	4.7nm,1.3s						
FFC	**Flin Flon**	**19.63**	**45**	P	**P**	**14 43 42.0**	**-0.8**
	2.6nm,0.7s						
YKA	**Yellowknife Ar**	**20.58**	**16**	P	**P**	**14 43 53.4**	**+0.3**
	0.6nm,0.8s,baz=204,slow=11,SNR=8.9						
YKA	**Yellowknife Ar**	**20.58**	**16**	P	**P**	**14 43 53.4**	**+0.3**
TXAR	**Lajitas Array**	**22.76**	**120**	P	**P**	**14 44 16.5**	**-0.4**
	0.1nm,0.4s,baz=291,slow=5.7,SNR=2.2						
TXAR	**Lajitas Array**	**22.76**	**120**	P	**P**	**14 44 16.5**	**-0.4**
ILAR	**Eielson Array**	**24.61**	**339**	P	**P**	**14 44 35.0**	**+0.5**
	0.3nm,0.7s,baz=147,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**24.61**	**339**	P	**P**	**14 44 35.0**	**+0.5**

BJI ***22*** *14:45:42.4, 25.90N×128.49E, h5km, mB5.1/42, mb4.6/52, Ms5.1/58, Ms7 5.0/55*

IDC ***22*** *14:45:44.4±0.5, 26.10N×128.50E, h0km, mb4.5/29, mb1 4.6/33, mb1mx4.6/36, mbtmp4.5/33, ML3.9/4, MS4.4/43, Ms1 4.4/43, ms1mx4.3/63, Error ellipse: s-maj=15.3km s-min=10.7km az=79.0*

ISCJB ***22*** *14:45:45.2±0.7, 26.02N±0.02×128.55E±0.03, h18km±4km, mb4.7/101, MS4.8/67, Error ellipse: s-maj=4.6km s-min=3.3km az=139.5*

JMA ***22*** *14:45:46.2±0.2, 26.03N×128.67E, h50km, MS5.3*

JMA Felt II J1.

NEIC ***22*** *14:45:47.0±1.3, 26.06N×128.49E, h17km±7km, mb4.9/35, MW5.0(NIED), Error ellipse: s-maj=6.5km s-min=4.5km az=129.0*

NEIC Felt [II] at Ishikawa, Okinawa. Also felt at Chatan, Naha, Nishihara, Okinawa, Urasoe and Yomitan. Recorded [2 JMA] on Okinawa and [1 JMA] on Yoron-jima.

MOS ***22*** *14:45:47.0±1.1, 26.12N×128.51E, h28km, mb5.0/60, MS4.5/17, Error ellipse: s-maj=9.4km s-min=4.9km az=111.9*

GCMT ***22*** *14:45:51.9±0.2, 25.97N×128.62E, h20km, MW5.1, Moment Tensor Solution. s44,c74; s78,c129; Moment tensor: Scale 10^{16}Nm; M_{rr}3.98±.20; $M_{\theta\theta}$-2.10±.12; $M_{\phi\phi}$-1.88±.14; $M_{r\theta}$3.00±.25; $M_{r\phi}$-2.10±.07; $M_{\theta\phi}$3.25±.27; Best double couple: $M_0$6.00000×10^{16} NP1:ϕ_s229.00000°, δ21.00000°, λ.95.00000°. NP2:ϕ_s44.00000°, δ69.00000°, λ88.00000°. Principal axes: T 5.9400, Plg66.0000°, Azm310.0000°; N 0.1000, Plg2.0000°, Azm44.0000°; P -6.0400, Plg24.0000°, Azm135.0000°; Data Used: II IU IC G.*

DJA ***22*** *14:45:53.9±0.7, 27.7N±7.2×12.8E±1.1, h10km, M4.8/14, mB5.3/4, mb4.9/14, Mw(mB)4.7/4*

NIED ***22*** *14:46:00.2, 26.00N×128.80E, h11km, Mw5.0 Best double couple: $M_0$4.07000×10^{16} NP1:ϕ_s55.00000°, δ56.00000°, λ98.00000°. NP2:ϕ_s221.00000°, δ35.00000°, λ79.00000°.*

ISC 22 14:45:47.0±0.4, 26.08N±0.03×128.53E±0.03, h16km±1km, h15km:pP-P, n341, σ1§81/407, mb4.8/101, MS4.7/68, 29C-21D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.70**	**275**	P	**Pn**	**14 46 01.8**	**-0.5**
JJT2				*e*S	**Sn**	**14 46 13.1**	**+0.3**
JOW	**Kunigami**	**0.79**	**343**	Pn	**Pb**	**14 46 02.3**	**0.0**
	2μm,0.3s,baz=153,slow=17,SNR=3220						
JOW				Sn	**Sn**	**14 46 16.1**	**+1.2**
	8μm,0.3s,baz=90,slow=25,SNR=43						
JOW	**Kunigami**	**0.79**	**343**	*e*Pg	**Pb**	**14 46 02.3**	**0.0**
JOW				Sn	**Sn**	**14 46 16.1**	**+1.2**
JOW	**Kunigami**	**0.79**	**343**	P	**Pb**	**14 46 02.3**	**0.0**
JOW				S	**Sn**	**14 46 14.8**	**-0.1**
JIH	**Iheya**	**1.08**	**332**	P	**Pb**	**14 46 07.0**	**-0.3**
JIH				S	**Sb**	**14 46 21.2**	**+0.1**
JAGN	**Aguni-jima**	**1.26**	**294**	P	**Pn**	**14 46 10.0**	**0.0**
JKE	**Kume jima 2**	**1.58**	**279**	P	**Pn**	**14 46 13.8**	**-0.6**
JKE				*e*S	**Sn**	**14 46 33.4**	**-1.2**
JTK	**Tokunoshima**	**1.74**	**12**	P	**Pn**	**14 46 15.4**	**-1.2**
JMZ	**Minamidaito 2**	**2.44**	**95**	P	Pn	14 46 22.8	-3.4
JMZ				S	Sn	14 46 49.4	-6.3
JAM	**Amami Oshima**	**2.51**	**22**	P	**Pn**	**14 46 25.6**	**-1.6**
JAM				S	**Sn**	**14 46 54.6**	**-3.0**
JZK	**Kikaishima**	**2.57**	**30**	P	**Pn**	**14 46 26.8**	**-1.2**
JZK				S	**Sn**	**14 46 55.5**	**-3.5**
JOGS	**Gusukube**	**3.11**	**246**	P	**Pn**	**14 46 35.5**	**0.0**
JOGS				S	**Sn**	**14 47 10.8**	**-1.5**
JMJ	**Miyako jima 2**	**3.18**	**247**	P	**Pn**	**14 46 36.2**	**-0.2**
JMJ				*e*S	**Sn**	**14 47 10.4**	**-3.7**
JTJ	**Tarama**	**3.75**	**248**	P	**Pn**	**14 46 43.1**	**-1.1**
JTJ				S	**Sn**	**14 47 25.1**	**-2.9**
JNN	**Nakanoshima**	**3.93**	**17**	P	**Pn**	**14 46 45.5**	**-1.3**
JIJ	**Ishigaki jima**	**4.32**	**248**	P	**Pn**	**14 46 50.9**	**-1.2**
JKRS	**Kuro-shima**	**4.49**	**247**	P	**Pn**	**14 46 52.8**	**-1.5**
IRIF	**Iriomote-Funau**	**4.68**	**249**	P	**Pn**	**14 46 56.6**	**-0.4**
YOJ	**Yonaguni jima**	**5.25**	**253**	P	Pn	14 47 01.2	-3.6
TATO	**Taipei**	**6.45**	**262**	*e*P	**Pn**	**14 47 23.1**	**+1.7**
NACB	**Ninganchiao**	**6.56**	**255**	*e*P	**Pn**	**14 47 20.5**	**-2.4**
	86nm,0.9s						
YHNB	**Yeheng**	**6.62**	**259**	*e*P	**Pn**	**14 47 24.1**	**+0.4**
	229nm,1.1s						
YULB	**Yu-li**	**7.10**	**249**	*e*P	Pn	14 47 26.1	-4.2
	22nm,0.4s						
SSLB	**Suanglung**	**7.24**	**253**	*e*P	**Pn**	**14 47 29.7**	**-2.6**
	57nm,0.4s						
JNU	**Nakatsue**	**7.31**	**16**	Pn	**Pn**	**14 47 33.7**	**+0.5**
	5.0nm,0.3s,baz=188,slow=4.8,SNR=63						
JNU				Sn	**Sn**	**14 48 54.8**	**-1.1**
	1.7nm,0.3s,baz=15,slow=20,SNR=2.3						
JNU	**Nakatsue**	**7.31**	**16**	*e*P	**Pn**	**14 47 33.5**	**+0.3**
	37nm,0.8s						
JNU				Sn	**Sn**	**14 48 54.8**	**-1.1**
TWG	**Pinlang**	**7.53**	**246**	*e*P	Pn	14 47 31.5	-4.6
	101nm,0.4s						
TPUB	**Ta-pu**	**7.70**	**251**	*e*P	**Pn**	**14 47 36.9**	**-1.6**
	43nm,0.5s						
SSE	**Sheshan**	**8.16**	**309**	P	Pn	14 47 41.1	-3.7
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,430nm,3.9s						
SSE				LR	LR		
	comp=N,8μm,11.9s						
SSE				LR	LR		
	comp=E,9μm,11.9s						
SSE				LR	LR		
	comp=Z,15μm,11.9s						
QZH	**Quanzhou**	**9.05**	**265**	P	Pn	14 47 50.3	-6.7
QZH				S	Sn	14 49 27.3	-11
QZH				LR	LR		
	comp=N,7μm,11.0s						
QZH				LR	LR		
	comp=E,10μm,13.6s						
QZH				LR	LR		
	comp=Z,9μm,11.5s						
NJ2	**Nanjing**	**10.34**	**307**	*e*P	**Pn**	**14 48 17.0**	**+2.3**
NJ2				S	**Sn**	**14 50 14.5**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,60nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,550nm,9.7s						
NJ2				LR	LR		
	comp=N,9μm,12.6s						
NJ2				LR	LR		
	comp=E,12μm,11.6s						
NJ2				LR	LR		
	comp=Z,17μm,11.8s						
KSAR	**Wonju Array Be**	**11.34**	**357**	Pn	**Pn**	**14 48 29.6**	**+1.1**
KSAR				Sn	Sn	14 50 26.6	-8.3
KSRS	**Korea Array**	**11.35**	**358**	Pn	**Pn**	**14 48 29.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=176,slow=13,SNR=15						
KSRS				Sn	Sn	14 50 26.6	-8.5
	baz=300,slow=35,SNR=2.2						
KSRS				LR	LR	14 53 11.3	
	comp=Z,3μm,18.1s,baz=179,slow=40						
CBIJ	**Chichi jima**	**12.27**	**82**	LR	LR	14 53 02.7	
	comp=Z,535nm,19.1s,baz=116,slow=36						
WHN	**Wuhan**	**13.26**	**293**	P	**Pn**	**14 48 56.4**	**+1.8**
WHN				S	Sn	14 51 30.3	+8.6
WHN				LR	LR		
	comp=N,8μm,15.4s						
WHN				LR	LR		
	comp=E,16μm,12.1s						
WHN				LR	LR		
	comp=Z,18μm,13.0s						
MAT	**Matsushiro**	**13.30**	**36**	P	**P**	**14 49 05.7**	**+0.8**
MAT				S	**Sn**	**14 51 26.0**	**+3.1**
MJAR	**Matsushiro Arr**	**13.30**	**36**	Pn	**Pn**	**14 48 55.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=238,slow=12,SNR=4.3						
MJAR	**Matsushiro Arr**	**13.30**	**36**	Pn	**Pn**	**14 48 55.7**	**+0.4**
DL2	**Dalian**	**14.05**	**337**	P	**Pn**	**14 49 07.4**	**+2.1**
DL2				S	**Sn**	**14 51 45.3**	**+4.4**
DL2				LR	LR		
	comp=N,2μm,11.9s						
DL2				LR	LR		
	comp=E,1μm,15.0s						
DL2				LR	LR		
	comp=Z,3μm,13.1s						
SNY	**Shenyang**	**16.23**	**347**	‖P	**P**	**14 49 37.8**	**+0.4**
SNY				pmax	pmax		
	comp=Z,21nm,1.3s						
SNY				pmax	pmax		
	comp=Z,840nm,11.7s						
SNY				LR	LR		
	comp=N,4μm,14.5s						
SNY				LR	LR		
	comp=E,2μm,11.2s						
SNY				LR	LR		
	comp=Z,5μm,13.9s						
ENH	**Enshi**	**17.30**	**288**	*e*P	**P**	**14 49 49.8**	**+0.4**
	comp=Z,9.7nm,0.4s						
BJT	**Baijiatuan**	**17.31**	**326**	*e*P	**P**	**14 49 49.1**	**-0.3**
	comp=Z,28nm,0.6s						
BJI	**Beijing**	**17.33**	**327**	P	**P**	**14 49 48.9**	**-0.6**
BJI				pmax	pmax		
	comp=Z,27nm,0.6s						
BJI				LR	LR		
	comp=N,12μm,13.3s						
BJI				LR	LR		
	comp=E,4μm,12.4s						
BJI				LR	LR		
	comp=Z,3μm,14.3s						
CN2	**Changchun**	**17.86**	**353**	*e*P	**P**	**14 49 57.4**	**+2.0**
CN2				*e*sP	**sP**	**14 50 04.4**	**+2.5**
CN2				*e*S	**Sn**	**14 53 15.5**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,7μm,10.0s						
CN2				LR	LR		
	comp=E,3μm,10.0s						
CN2				LR	LR		
	comp=Z,7μm,13.0s						
TIY	**Taiyuan**	**17.90**	**314**	*e*P	**P**	**14 49 56.0**	**+0.1**
TIY				pP	**pP**	**14 49 59.8**	**-0.6**
TIY				pmax	pmax		
	comp=Z,580nm,5.2s						
TIY				LR	LR		
	comp=N,4μm,10.6s						
TIY				LR	LR		
	comp=E,2μm,10.3s						

GUMO **Guam** 19.74 126 LR LR 14 56 14.4
comp=Z,463nm,20.3s,baz=72,slow=32
HHC Hu-ho-hao-te 20.38 321 *e*P **P** **14 50 22.6 -0.5**
HHC pP **pP** **14 50 28.0 +0.4**
HHC sP **sP** **14 50 31.0 +1.4**
HHC PP **PnPn** **14 50 44.3 +4.1**
HHC S **S** **14 54 05.8 -5.1**
HHC sS Sn 14 54 12.1 -2.4
HHC SS **SnSn** **14 54 35.5 +6.3**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,580nm,6.5s
HHC LR LR
comp=N,3μm,9.8s
HHC LR LR
comp=E,3μm,10.2s
HHC LR LR
comp=Z,4μm,10.6s
BTO Baotou 21.13 318 *e*P **P** **14 50 28.9 -2.3**
BTO S **S** **14 54 25.4 -0.5**
BTO LR LR
comp=N,2μm,12.0s
BTO LR LR
comp=E,760nm,14.3s
ASAJ Asahikawa 21.31 29 P **P** **14 50 32.3 -0.7**
comp=E,5.7nm,0.6s,baz=225,slow=9.2,SNR=4.7
ASAJ LR LR 14 59 06.6
comp=E,1μm,21.4s,baz=187,slow=38
ASAJ Asahikawa 21.31 29 P **P** **14 50 32.3 -0.7**
CD2 Chengdu 22.28 288 P **P** **14 50 40.3 -3.3**
CD2 pP **pP** **14 50 44.4 -3.7**
CD2 sP **sP** **14 50 47.3 -2.9**
CD2 PP **PnPn** **14 51 06.6 +0.3**
CD2 S S 14 54 39.6 -8.7
CD2 SS **SnSn** **14 55 18.3 +2.5**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,450nm,11.5s
CD2 LR LR
comp=N,5μm,16.7s
CD2 LR LR
comp=Z,8μm,12.5s
MYLDM **Lahad Datu** 22.89 206 P P 14 51 01.7 +12
HABR Khabarovsk 22.93 11 *e*P **P** **14 50 47.8 -2.5**
HABR *e**PP **pP** **14 50 56.4 +1.6**
HABR *e**SP **sP** **14 51 00.8 +3.9**
HABR *e* 14 51 11.9
HABR *e* 14 54 38.7
HABR *e*S **S** **14 54 54.6 -5.1**
HABR *e**SS **sS** **14 55 10.3 +2.8**
HABR *e*SSS SSS 14 55 41.4
HABR *e* 15 01 58.9
HABR pmax pmax
comp=N,25nm,1.9s
HABR pmax pmax
comp=E,51nm,1.9s
HABR pmax pmax
comp=Z,62nm,1.9s
HABR MLR MLR
comp=Z,2μm,19.0s
KLR Kul'dur 23.25 5 *e*P **P** **14 50 49.8 -3.8**
KLR *e*S **S** **14 55 05.0 -0.1**
KLR MLR MLR
comp=N,900nm,11.5s
KLR MLR MLR
comp=E,900nm,11.5s
KLR MLR MLR
comp=Z,6μm,11.5s
KMI Kunming 23.27 273 P **P** **14 50 54.1 -0.2**
KMI pP **pP** **14 50 57.4 -1.4**
KMI sP **sP** **14 50 58.6 -2.3**
KMI PP **PnPn** **14 51 23.6 +3.6**
KMI PcP **PcP** **14 54 43.3 +1.5**
KMI S **S** **14 55 00.6 -5.7**
KMI sS sS 14 55 06.8 -7.3
KMI SS **SnSn** **14 55 46.8 +6.4**
KMI pmax pmax
comp=Z,19nm,1.4s
KMI pmax pmax
comp=Z,400nm,3.9s
KMI LR LR
comp=N,3μm,16.2s
KMI LR LR
comp=E,3μm,8.8s
KMI LR LR
comp=Z,3μm,10.8s
LZH Lanzhou 23.32 301 ⇑P **P** **14 50 53.0 -1.6**
LZH pP **pP** **14 50 57.0 -2.2**
LZH sP **sP** **14 50 59.8 -1.4**
LZH S **S** **14 55 01.8 -5.0**
LZH pmax pmax
comp=Z,41nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.1s
LZH LR LR
comp=N,2μm,17.6s
LZH LR LR
comp=E,1μm,17.0s
LZH LR LR
comp=Z,2μm,18.5s
YSS Yuzh-Sakhalins 23.69 25⇑*e*P **P** **14 50 58.3 +0.3**
YSS *e* 14 51 06.0
YSS *e**SP sP 14 51 11.5 +6.8
YSS *e* 14 51 34.0
YSS *e*S **S** **14 55 15.0 +2.8**
YSS *e*SS **SnSn** **14 55 54.0 +3.8**
YSS pmax pmax
comp=N,110nm,1.0s
YSS pmax pmax
comp=E,100nm,1.0s
YSS pmax pmax
comp=Z,140nm,1.0s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS Yuzh-Sakhalins 23.69 25 *e*P **P** **14 50 58.1 +0.1**
comp=E,142nm,0.9s
MNI Manado 24.75 189 P P 14 51 18.9 +11
comp=E,82nm,1.0s
UGL Uglegorsk 25.27 21 *e*P **P** **14 51 14.0 +1.6**
UGL pmax pmax
comp=Z,123nm,1.0s
KMSI Cibinong 25.73 191 P P 14 51 29.5 +13
comp=Z,83nm,1.0s
MRSI Marisa 26.23 195 P P 14 51 28.9 +7.5
comp=Z,17nm,1.0s
LBMI Labuha 26.58 182 P P 14 51 36.2 +12
comp=Z,41nm,1.3s
GTA Gaotai 27.44 306 *e*P **P** **14 51 30.8 -1.5**
GTA pP **pP** **14 51 34.8 -2.3**
GTA sP **sP** **14 51 38.5 -0.6**
GTA S **S** **14 56 09.1 -3.2**
GTA sS **sS** **14 56 15.4 -4.8**
GTA SS **SnSn** **14 57 25.8 +3.8**
GTA pmax pmax
comp=Z,43nm,0.7s
GTA pmax pmax
comp=Z,260nm,5.5s
GTA LR LR
comp=N,3μm,12.3s
GTA LR LR
comp=E,3μm,15.0s
GTA LR LR
comp=Z,4μm,13.5s
ULN Ulaanbaatar 27.53 328 *e*P **P** **14 51 31.1 -1.9**
comp=Z,23nm,0.8s
ULN Ulaanbaatar 27.53 328 P **P** **14 51 31.9 -1.2**
comp=Z,17nm,1.4s,comp=Z,466nm
SONM Songino Array 27.83 327 P **P** **14 51 34.0 -1.7**
comp=Z,12nm,0.7s,baz=157,slow=9.4,SNR=57
SONM PcP **PcP** **14 54 52.7 +1.1**
comp=Z,1.6nm,1.1s,baz=169,slow=2.9,SNR=3.7
SONM LR LR 15 03 55.0
comp=Z,1μm,19.6s,baz=33,slow=39
SONM Songino Array 27.83 327 P **P** **14 51 34.0 -1.7**
SONM PcP **PcP** **14 54 52.7 +1.1**
CMMT Chiang Mai 28.23 261 P **P** **14 51 40.8 +1.3**
comp=Z,15nm,0.9s,comp=Z,298nm
CHTO Chiang Mai 28.24 261 *e*P **P** **14 51 39.6 +0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 28.24 261 *e*P **P** **14 51 39.6 +0.1**
comp=Z,7.9nm,0.8s
CHTO Chiang Mai 28.24 261 P **P** **14 51 40.2 +0.7**
comp=Z,17nm,0.9s
SBUM Sibu 28.24 216 P P 14 51 48.3 +8.8
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 28.36 261 P **P** **14 51 39.2 -1.4**
comp=Z,0.4nm,0.5s,baz=91,slow=33,SNR=4.6
CMAR PcP **PcP** **14 54 54.0 +0.7**
comp=Z,0.8nm,0.6s,baz=52,slow=1.2,SNR=5.7
CMAR LR LR 15 04 16.1
comp=Z,787nm,18.1s,baz=253,slow=39
CMAR Chiang Mai Arr 28.36 261 P **P** **14 51 39.2 -1.4**
CMAR PcP **PcP** **14 54 54.0 +0.7**
KSM Kuching 30.10 219 P **P** **14 51 54.9 -1.1**
comp=Z,20nm,1.1s
KSM Kuching 30.10 219 P P 14 52 03.5 +7.5
comp=Z,18nm,1.3s
ZAK Zakamensk 31.06 328 *e*P **P** **14 52 02.0 -2.3**
ZAK pmax pmax
comp=Z,2.0nm,2.2s
TLY Talaya 31.78 330 *e*P P 14 52 07.1 -3.4
TLY *e*S **S** **14 57 22.1 +2.1**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,1μm,13.0s
KAPI Kappang 32.06 197 LR LR 15 04 33.2
comp=Z,386nm,20.8s,baz=22,slow=35
SHL Shillong 32.92 277 *e*P **P** **14 52 21.2 +0.2**
LSA Lhasa 33.14 285 P **P** **14 52 22.8 -0.5**
LSA LR LR
comp=E,3μm,13.6s
LSA LR LR
comp=Z,4μm,12.5s
LSA Lhasa 33.14 285 *e*P **P** **14 52 22.9 -0.3**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 33.14 285 *e*P **P** **14 52 22.9 -0.3**
comp=Z,7.5nm,0.8s
KULM Kulim 33.73 237 P **P** **14 52 26.6 -1.3**
comp=Z,12nm,1.1s
KULM *e* 14 52 38.0
KULM Kulim 33.73 237 P **P** **14 52 30.4 +2.5**
comp=Z,16nm,1.8s,comp=Z,410nm
IPM Ipoh 33.98 235 *e*P **P** **14 52 30.1 -0.1**
comp=Z,11nm,0.9s
IPM Ipoh 33.98 235 P **P** **14 52 32.4 +2.3**
comp=Z,12nm,1.0s
PETK Petropavlovsk- 34.69 31 P **P** **14 52 35.6 -0.2**
comp=Z,2.9nm,0.7s,baz=221,slow=13,SNR=3.2
PETK LR LR 15 08 46.5
comp=Z,237nm,19.0s,baz=227,slow=40
PETK Petropavlovsk- 34.69 31 P **P** **14 52 35.7 -0.2**
PETK pmax pmax
comp=Z,3.0nm,0.7s
PETK MLR MLR
comp=Z,237nm,19.0s
PETK Petropavlovsk- 34.69 31 P **P** **14 52 35.6 -0.2**
YAK Yakutsk 35.95 1*c* *i*P **P** **14 52 45.9 -0.7**
YAK *e**PP **pP** **14 52 53.9 +2.5**
YAK *e* 14 54 09.2
YAK *e* 14 55 11.4
YAK *e*S **S** **14 58 20.3 -3.9**
YAK *e* 15 03 04.9
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=Z,89nm,3.3s
YAK pmax pmax
comp=N,57nm,3.5s
YAK pmax pmax
comp=E,73nm,3.0s
YAK smax smax
comp=N,151nm,11.4s
YAK smax smax
comp=E,106nm,11.4s
YAK MLR MLR
comp=Z,879nm,15.0s
YAK MLR MLR
comp=N,613nm,13.0s
YAK MLR MLR
comp=E,344nm,18.0s
YAK Yakutsk 35.95 1 *e*P **P** **14 52 45.9 -0.7**
comp=E,28nm,0.8s
TAPN Taplejung 36.37 281 *e*P **P** **14 52 50.8 -0.2**
comp=E,64nm,1.0s
HVS Khovu-Aksy 36.42 323*d* *i*P **P** **14 52 50.0 -0.9**
HVS pmax pmax
comp=Z,36nm,1.3s
ODAN Odare 36.72 281 *e*P **P** **14 52 53.7 -0.2**
comp=Z,174nm,0.8s
RAMN Ramite 37.41 281 *e*P **P** **14 52 59.2 -0.6**
comp=Z,24nm,0.6s
WMQ Urumqi 37.42 309 P **P** **14 52 59.0 -0.5**
WMQ sP **sP** **14 53 06.1 -0.2**
WMQ PP **PnPn** **14 54 25.8 +0.3**
WMQ PcP **PcP** **14 55 18.0 0.0**
WMQ S **S** **14 58 46.1 -1.1**
WMQ sS **sS** **14 58 53.8 -1.4**
WMQ ScP **ScP** **14 59 03.1 -1.7**
WMQ PcS **PcS** **14 59 05.5 -1.0**
WMQ SS **SnSn** **15 01 19.3 -5.0**
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ LR LR
comp=N,2μm,13.0s
WMQ LR LR
comp=E,2μm,12.0s
WMQ LR LR
comp=Z,1μm,15.0s
JIRN Jiri 37.67 282 *e*P **P** **14 53 01.7 -0.4**
comp=Z,9.4nm,0.9s
GUN Gumba 37.91 283 *e*P **P** **14 53 03.8 -0.3**
PKI Pulchoki 38.37 282 *e*P **P** **14 53 07.1 -0.9**
comp=Z,101nm,0.9s
PKIN Phulchoki 38.38 282 *e*P **P** **14 53 07.2 -0.8**
KKN Kakani 38.45 283 *e*P **P** **14 53 08.2 -0.3**
comp=Z,69nm,0.8s
DMN Daman 38.63 282 *e*P **P** **14 53 09.7 -0.4**
comp=Z,62nm,0.9s
GKN Gorkha 38.99 283 *e*P **P** **14 53 12.4 -0.6**
comp=Z,88nm,0.8s
DANN Dangsing 39.71 284 *e*P **P** **14 53 19.0 -0.2**
comp=Z,208nm,0.9s
KOLN Koldanda 39.93 283 *e*P **P** **14 53 20.6 -0.3**
comp=Z,97nm,0.8s
SEY Seymchan 40.09 17⇑ *i*P **P** **14 53 21.5 0.0**
PYUN Piuthan 40.41 283 *e*P **P** **14 53 24.9 0.0**
comp=Z,132nm,0.9s
MK31 Makanchi Array 41.84 312*ce*P **P** **14 53 34.8 -1.4**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 41.84 312 *e*P **P** **14 53 35.3 -0.9**
MKAR Makanchi Array 41.84 312 P **P** **14 53 35.2 -0.9**
comp=Z,4.2nm,0.6s,baz=99,slow=10,SNR=74
MKAR PcP **PcP** **14 55 32.0 +0.1**
comp=Z,4.0nm,1.0s,baz=90,slow=4.9,SNR=4.0
MKAR ScP **ScP** **14 59 25.5 +3.7**
comp=Z,0.3nm,0.8s,baz=107,slow=5.0,SNR=2.6
MKAR LR LR 15 10 45.8
comp=Z,165nm,19.4s,baz=272,slow=36
MKAR Makanchi Array 41.84 312 P **P** **14 53 35.2 -0.9**
MKAR 14 55 32.1
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR MLR MLR
comp=Z,165nm,19.4s
MKAR Makanchi Array 41.84 312 P **P** **14 53 35.2 -0.9**
MKAR PcP **PcP** **14 55 32.0 +0.1**
MKAR ScP **ScP** **14 59 25.5 +3.7**
ZAA0 Zalesovo Array 42.53 323 *e*P **P** **14 53 39.7 -1.9**
ZALV Zalesovo Beam 42.53 323 P **P** **14 53 40.1 -1.5**
comp=Z,3.5nm,0.5s,baz=112,slow=9.0,SNR=22
ZALV ScP **ScP** **14 59 30.0 +5.7**
comp=Z,0.2nm,0.3s,baz=117,slow=5.0,SNR=1.9
ZALV LR LR 15 12 45.8
comp=Z,787nm,18.9s,baz=352,slow=38
ZALV Zalesovo Beam 42.53 323 P **P** **14 53 40.1 -1.5**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,787nm,18.9s
ZALV Zalesovo Beam 42.53 323 P **P** **14 53 40.1 -1.5**
ZALV ScP **ScP** **14 59 30.0 +5.7**
NVS Novosibirsk 43.73 324 *e*P **P** **14 53 49.0 -2.3**
NVS *e* 14 55 32.6
NVS *e*S **S** **15 00 16.4 -4.4**
NVS pmax pmax
comp=Z,41nm,2.3s
NVS pmax pmax
comp=N,9.0nm,2.3s
NVS pmax pmax
comp=E,19nm,2.3s
NVS smax smax
comp=N,10.0nm,4.3s
NVS smax smax
comp=E,13nm,3.7s
FITZ Fitzroy Crossi 44.01 184 *e*P **P** **14 53 53.7 -0.2**
comp=E,19nm,1.3s
KURK Kurchatov 45.11 317 P **P** **14 54 01.2 -1.3**
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 45.11 317 *e*P **P** **14 54 01.3 -1.1**
comp=Z,16nm,1.0s
KURBB Kurchatov Arra 45.15 317 P **P** **14 54 02.1 -0.6**
comp=Z,5.2nm,0.5s,baz=103,slow=8.6,SNR=40
KURBB LR LR 15 13 59.0
comp=Z,682nm,18.5s,baz=115,slow=38
KSH Kashi 45.57 301 P **P** **14 54 09.4 +3.0**
KSH *e*pP **pP** **14 54 13.9 +2.5**
KSH *e*sP **sP** **14 54 16.1 +2.8**
KSH *e*PcP **PcP** **14 55 48.3 +3.4**
KSH *e*PP **PP** **14 55 57.8 +4.7**
KSH ScP **ScP** **14 59 38.8 +1.6**
KSH PcS **PcS** **14 59 40.1 +1.0**
KSH S **S** **15 00 52.4 +4.1**
KSH sS **sS** **15 00 59.9 +3.5**
KSH ScS **ScS** **15 04 01.8 -0.8**
KSH SS **SS** **15 04 08.8 -3.2**
KSH LR LR
comp=N,810nm,13.4s
KSH LR LR
comp=E,830nm,11.4s
KSH LR LR
comp=Z,1μm,15.6s
WRAB Tennant Creek 46.09 172 *e*P **P** **14 54 10.0 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 46.09 172 *e*P **P** **14 54 10.0 -0.4**
comp=Z,9.9nm,0.8s
WRA Warramunga Arr 46.09 172 P **P** **14 54 10.0 -0.5**
comp=Z,9.3nm,0.9s,baz=352,slow=8.3,SNR=49
WRA LR LR 15 14 11.8
comp=Z,302nm,18.8s,baz=350,slow=37
WRA Warramunga Arr 46.09 172 P **P** **14 54 10.0 -0.5**
FRU Bishkek 46.70 305 *e*P **P** **14 54 15.0 -0.2**
FRU pmax pmax
comp=Z,36nm,2.0s
AAK Ala-Archa 46.78 305 P **P** **14 54 16.3 +0.4**
comp=Z,1.5nm,0.6s,baz=112,slow=5.6,SNR=8.7
AAK LR LR 15 16 21.6
comp=Z,423nm,18.7s,baz=289,slow=39
AAK Ala-Archa 46.78 305 *e*P **P** **14 54 14.9 -1.1**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 46.78 305 *e*P **P** **14 54 14.9 -1.1**
comp=Z,17nm,0.8s
HYB Hyderabad 46.98 270 *i*P **P** **14 54 17.0 -0.7**
EKS2 Erkin-Say 47.31 305 *e*P **P** **14 54 19.9 -0.1**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 47.31 305 *e*P **P** **14 54 19.9 -0.1**
comp=Z,5.7nm,0.9s
BILL Bilibino 47.73 18*c* *i*P **P** **14 54 22.6 -0.2**
BILL *e* 14 55 52.3
BILL *i*S **S** **15 01 20.0 +1.8**
BILL pmax pmax
comp=Z,15nm,1.0s
BILL MLR MLR
comp=Z,500nm,17.0s
BILL Bilibino 47.73 18 *e*P **P** **14 54 22.3 -0.4**
comp=Z,14nm,0.8s
CTA Charters Tower 49.01 158 P **P** **14 54 33.3 +0.1**
comp=Z,12nm,0.9s,baz=325,slow=9.8,SNR=4.6
CTA LR LR 15 14 53.7
comp=Z,202nm,20.3s,baz=352,slow=36
CTA Charters Tower 49.01 158 P **P** **14 54 33.3 +0.1**
KK31 Karatay Array 49.72 305*ce*P **P** **14 54 38.3 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 49.72 305 *e*P **P** **14 54 38.3 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 49.72 305 *e*P **P** **14 54 38.2 -0.2**
comp=Z,4.4nm,0.7s
AS31 Alice Springs 49.72 174 *e*P **P** **14 54 38.2 -0.4**
ASAR Alice Springs 49.72 174 P **P** **14 54 38.7 +0.1**
comp=Z,6.9nm,0.9s,baz=357,slow=7.2,SNR=61
ASAR LR LR 15 14 20.4
comp=Z,216nm,19.3s,baz=347,slow=34
ASAR Alice Springs 49.72 174 P **P** **14 54 38.7 +0.1**
BVA0 Borovoye Array 50.57 318 P **P** **14 54 44.1 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 50.57 318 P **P** **14 54 44.2 -0.5**
comp=Z,4.6nm,0.5s,baz=81,slow=8.9,SNR=44
BVAR LR LR 15 17 23.4
comp=Z,982nm,20.3s,baz=86,slow=38
BVAR Borovoye Array 50.57 318 P **P** **14 54 44.2 -0.5**
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR MLR MLR
comp=Z,982nm,20.3s
BVAR Borovoye Array 50.57 318 P **P** **14 54 44.2 -0.5**
BRVK Borovoye 50.63 318 *e*P **P** **14 54 44.6 -0.6**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 50.63 318 *e*P **P** **14 54 44.6 -0.6**
comp=Z,14nm,0.8s
KBL Kabul 51.41 295 *e*P **P** **14 54 52.1 +0.4**
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 51.41 295 *e*P **P** **14 54 52.0 +0.4**
comp=Z,23nm,0.8s
TNA Tin City 55.65 27 *e*P **P** **14 55 23.7 +1.8**
comp=Z,18nm,1.1s
SVE Sverdlovsk 56.54 322⇓ *e*P **P** **14 55 29.4 +0.9**
SVE *e*PPP PPP 14 58 46.9
SVE pmax pmax
comp=Z,30nm,1.7s
SVE MLR MLR
comp=Z,3μm,13.0s
AB31 Akbulak array 56.95 313*ce*P **P** **14 55 31.3 -0.2**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 56.95 313 *e*P **P** **14 55 30.8 -0.6**
comp=Z,13nm,0.7s
ARU Arti 57.68 322*c* *i*P **P** **14 55 36.0 -0.5**
ARU 14 57 41.9
ARU S **S** **15 03 33.3 -1.0**
ARU SS **SS** **15 07 22.6 -1.6**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 57.68 322 *e*P **P** **14 55 35.6 -0.9**
comp=Z,10nm,0.9s
AKTO Aktyubinsk 58.13 315 P **P** **14 55 39.9 +0.1**
comp=Z,4.0nm,0.7s,baz=85,slow=6.0,SNR=17
AKTO LR LR 15 21 18.4
comp=Z,314nm,19.3s,baz=282,slow=37
AKTO Aktyubinsk 58.13 315 P **P** **14 55 39.9 +0.1**
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO MLR MLR
comp=Z,314nm,19.3s
AKTO Aktyubinsk 58.13 315 P **P** **14 55 39.9 +0.1**
SOKR Solikamsk 58.68 326*d* *i*P P 14 55 54.7 +11
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,2μm,19.0s
STKA Stephens Creek 58.97 167 P **P** **14 55 45.6 -0.1**
comp=Z,1.8nm,0.7s,baz=325,slow=12,SNR=3.3
STKA LR LR 15 22 12.7
comp=Z,159nm,18.4s,baz=16,slow=37

STKA	Stephens Creek	58.97	167	P		P	14 55 45.6	-0.1
DZM	Mont Dzumac	60.34	139	*e*S		S	15 04 01.8	-8.0
	comp=Z,331nm,24.6s							
DZM				*e*LR		LR	15 13 46.3	
	comp=Z,478nm,24.6s							
KDAK	Kodiak Island	62.48	36	P		P	14 56 09.6	+0.1
	comp=Z,9.9nm,0.8s,baz=310,slow=17,SNR=4.8							
KDAK	Kodiak Island	62.48	36	*e*P		P	14 56 09.5	+0.1
	comp=Z,232nm,2.3s							
WSAR	Wadi Sarin	62.88	284	LR		LR	15 27 50.5	
	comp=Z,437nm,20.1s,baz=214,slow=40							
COLA	College	64.02	28	*e*P		P	14 56 19.9	+0.4
COLA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
COLA	College	64.02	28	*e*P		P	14 56 19.9	+0.4
	comp=Z,5.8nm,0.9s							
ILAR	Eielson Array	64.44	28	P		P	14 56 21.4	-0.9
	comp=Z,1.0nm,0.7s,baz=267,slow=3.7,SNR=18							
ILAR				LR		LR	15 27 16.1	
	comp=Z,182nm,18.3s,baz=300,slow=39							
ILAR	Eielson Array	64.44	28	P		P	14 56 21.4	-0.9
DOT	Dot Lake	65.83	29	*e*P		P	14 56 30.8	-0.6
	comp=Z,4.0nm,0.8s							
MENT	Mentasta	66.11	30	*e*P		P	14 56 34.1	+0.9
TMCR	Tamitsa	67.07	332	*e*P		P	14 56 38.4	-0.8
TMCR				pmax	pmax			
	comp=Z,26nm,1.2s							
KLMR	Klimovskoe	67.12	328	*e*P		P	14 56 49.5	+10
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
KLMR				MLR	MLR			
	comp=Z,2μm,15.0s							
INK	Inuvik	68.92	23	P		P	14 56 50.4	-0.5
	comp=Z,3.7nm,0.7s,baz=292,slow=5.4,SNR=18							
INK	Inuvik	68.92	23	P		P	14 56 50.4	-0.5
ZEI	Tsey	69.03	308	*e*P		P	14 56 51.5	-0.8
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GNI	Garni	69.18	305	LR		LR	15 31 19.7	
	comp=Z,455nm,18.6s,baz=236,slow=40							
KBZ	Khabaz	69.46	309	P		P	14 56 55.3	+0.7
	comp=Z,6.2nm,0.7s,baz=116,slow=3.9,SNR=18							
KBZ				LR		LR	15 33 13.2	
	comp=Z,413nm,18.1s,baz=325,slow=41							
KBZ	Khabaz	69.46	309	P		P	14 56 55.3	+0.7
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KBZ	Khabaz	69.46	309	P		P	14 56 55.3	+0.7
KIV	Kislovodsk	69.54	310	*e*P		P	14 56 55.6	+0.3
KIV				*e*			14 57 15.6	
KIV				*e*S		S	15 05 59.8	-2.9
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KIV				MLR	MLR			
	comp=Z,376nm,18.0s							
KIV	Kislovodsk	69.54	310	P		P	14 56 54.8	-0.5
	comp=Z,38nm,1.3s							
KEV	Kevo	69.67	339	*e*P		P	14 56 53.9	-1.5
KEV				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KEV	Kevo	69.67	339	*e*p		P	14 56 53.9	-1.5
	comp=Z,6.8nm,0.7s							
OBN	Obninsk	70.11	322	*e*P		P	14 56 57.3	-1.1
OBN				*e*			14 57 21.5	
OBN				*e*			14 59 30.5	
OBN				*e*S		S	15 06 13.0	+4.3
OBN				pmax	pmax			
	comp=Z,53nm,2.5s							
OBN				MLR	MLR			
	comp=Z,1μm,15.0s							
ARCES	ARCESS Array B	70.25	339	P		P	14 56 58.5	-0.5
	comp=Z,11nm,1.0s,baz=65,slow=9.5,SNR=6.7							
ARCES				LR		LR	15 29 48.6	
	comp=Z,272nm,21.8s,baz=257,slow=38							
ARCES	ARCESS Array B	70.25	339	P		P	14 56 58.5	-0.5
JOF	Joensuu	70.30	331	*e*P		P	14 56 57.1	-2.3
JOF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
JOF	Joensuu	70.30	331	*e*p		P	14 56 57.1	-2.3
	comp=Z,6.0nm,0.6s							
AFI	Afiamalu	70.35	117	LR		LR	15 24 54.8	
	comp=Z,196nm,19.0s,baz=298,slow=33							
MIB	Mutribah	70.37	294	*e*P		P	14 57 00.5	0.0
MIB				AMb		AMB	14 57 03.1	
	comp=Z,35nm,1.1s							
NAY	Al-Naaiem	70.63	294	*e*P		P	14 57 01.7	-0.4
NAY				AMb		AMB	14 57 04.3	
	comp=Z,19nm,0.9s							
KAF	Kangasniemi	72.76	331	*e*P		P	14 57 11.8	-2.5
KAF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KAF	Kangasniemi	72.76	331	*e*p		P	14 57 11.8	-2.5
	comp=Z,7.4nm,0.7s							
ANN	Anapa	72.86	312	*e*P		P	14 57 14.2	-0.9
ANN				*e*S		S	15 06 35.6	-5.2
ANN				pmax	pmax			
	comp=Z,44nm,1.1s							
FIA1	FINESS Array S	73.12	331	*e*P		P	14 57 15.9	-0.6
FINES	FINESS Array B	73.13	331	P		P	14 57 16.1	-0.3
	comp=Z,8.1nm,0.8s,baz=68,slow=6.1,SNR=34							
FINES				LR		LR	15 33 06.1	
	comp=Z,632nm,19.8s,baz=204,slow=39							
FINES	FINESS Array B	73.13	331	P		P	14 57 16.1	-0.3
DLBC	Dease Lake	73.86	32	LR		LR	15 27 36.0	
	comp=Z,187nm,21.6s,baz=331,slow=34							
VSU	Vasula	74.02	328	*e*P		P	14 57 21.0	-0.7
VSU				pmax	pmax			
	comp=Z,20nm,1.0s							
MALT	Malatya	74.41	305	⇑P		P	14 57 25.7	+1.1
MALT	Malatya	74.41	305	*e*P		P	14 57 25.7	+1.1
	comp=Z,8.5nm,0.9s							
MALT	Malatya	74.41	305	⇑*i*P		P	14 57 25.7	+1.1
DAG	Danmarks Havn	75.44	353	*i* P		P	14 57 29.1	-0.6
	comp=Z,51nm,1.0s							
NACGM	Naroch	75.45	324	*e*		P	14 57 28.0	-2.1
RES	Resolute Bay	75.65	11	LR		LR	15 35 23.3	
	comp=Z,214nm,18.1s,baz=325,slow=39							
RES	Resolute Bay	75.65	11	P		P	14 57 30.6	-0.3
	comp=Z,15nm,0.7s							
AKASG	Malin Array Be	75.82	320	P		P	14 57 31.5	-0.8
	comp=Z,13nm,0.7s,baz=58,slow=6.2,SNR=24							
AKASG				LR		LR	15 33 48.3	
	comp=Z,656nm,18.4s,baz=75,slow=38							
AKASG	Malin Array Be	75.82	320	P		P	14 57 31.5	-0.8
AKASG				pmax	pmax			
	comp=Z,13nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,656nm,18.4s							
AKASG	Malin Array Be	75.82	320	P		P	14 57 31.5	-0.8
AK01	Malin Array Si	75.83	320	*e*P		P	14 57 31.7	-0.7
KIEV	Kiev	75.83	320	*e*P		P	14 57 31.4	-1.0
KIEV				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KIEV	Kiev	75.83	320	*e*P		P	14 57 31.4	-1.0
	comp=Z,7.0nm,0.6s							
AK02	Malin Array Si	75.85	320	*e*P		P	14 57 31.7	-0.7
BR131	Keskin Array S	77.34	308	*e*P		P	14 57 41.2	-0.1
	comp=Z,12nm,0.8s							
BRTR	Keskin Array B	77.34	308	P		P	14 57 41.6	+0.3
	comp=Z,14nm,0.9s,baz=95,slow=4.8,SNR=44							
BRTR				LR		LR	15 38 41.7	
	comp=Z,127nm,18.6s,baz=291,slow=41							
BRTR	Keskin Array B	77.34	308	P		P	14 57 41.6	+0.3
SUW	Suwalki	77.73	324	*e*P		P	14 57 43.2	+0.2
SUW	Suwalki	77.73	324	*e*P		P	14 57 42.8	-0.2
SUW				pmax	pmax			
	comp=Z,47nm,0.9s							
SUW	Suwalki	77.73	324	*e*P		P	14 57 42.8	-0.2
	comp=Z,47nm,0.9s							
SUW	Suwalki	77.73	324	*e*P		P	14 57 43.2	+0.2
ASF	Jabal al Asfar	77.88	300	LR		LR	15 38 50.9	
	comp=Z,169nm,18.4s,baz=121,slow=41							
TLCR		78.36	315	⇑P		P	14 57 46.3	-0.4
TLCR		78.36	315	⇑*i*P		P	14 57 46.3	-0.4
YKW3	Yellowknife Ar	78.51	25	*e*P		P	14 57 47.0	-0.2
YKA	Yellowknife Ar	78.55	25	P		P	14 57 47.6	+0.2
	comp=Z,9.9nm,0.8s,baz=298,slow=5.6,SNR=36							
YKA	Yellowknife Ar	78.55	25	P		P	14 57 47.6	+0.2
JMIC	Jan Mayen	78.62	347	LR		LR	15 35 37.5	
	comp=Z,219nm,18.3s,baz=78,slow=38							
MMAI	Mount Meron Ar	78.70	301	LR		LR	15 38 19.0	
	comp=Z,175nm,18.8s,baz=60,slow=40							
CFR	Carcaliu	78.79	315	⇑P		P	14 57 49.0	-0.1
CFR	Carcaliu	78.79	315	⇑*i*P		P	14 57 49.0	-0.1
TIRR	Tirgusor	78.93	314	⇑P		P	14 57 49.7	-0.1
TIRR	Tirgusor	78.93	314	⇑*i*P		P	14 57 49.7	-0.1
PRAR	RASCA	79.03	317	⇓*i*P		P	14 57 49.9	-0.5
HFS	Hagfors	79.08	332	LR		LR	15 36 35.5	
	comp=Z,679nm,18.1s,baz=57,slow=39							
TESR		79.14	317	⇑*i*P		P	14 57 51.1	+0.1
LVV	L'vov	79.21	320	*e*P		P	14 57 59.2	+7.9
LVV				MLR	MLR			
	comp=N,300nm,16.0s							
LVV				MLR	MLR			
	comp=E,300nm,16.0s							
LVV				MLR	MLR			
	comp=Z,400nm,16.0s							
VRI	Vrincioaia	79.38	316	⇓P		P	14 57 53.0	+0.6
VRI	Vrincioaia	79.38	316	⇓*i*P		P	14 57 53.0	+0.6
BUR08	Bucovina Ar. S	79.52	318	*e*P		P	14 57 53.0	-0.2
BURAR	Bucovina Array	79.52	318	⇓*i*P		P	14 57 54.0	+0.8
NB2	NORSAR Subarra	79.57	334	P		P	14 57 52.2	-0.9
	comp=Z,11nm,0.8s,baz=53,slow=5.3							
NOA	NORSAR Array B	79.57	334	P		P	14 57 52.2	-0.9
	comp=Z,11nm,1.0s,baz=52,slow=5.5,SNR=22							
NOA				LR		LR	15 38 16.7	
	comp=Z,415nm,18.7s,baz=80,slow=40							
NOA	NORSAR Array B	79.57	334	P		P	14 57 52.2	-0.9
ISR	Istrita	79.83	315	⇓P		P	14 57 56.2	+1.3
ISR	Istrita	79.83	315	⇓*i*P		P	14 57 56.2	+1.3
MLR	Muntele Rosu	80.04	316	⇑*i*P		P	14 57 56.2	+0.1
KWP	Kalwaria Pacla	80.05	321	*e*P		P	14 57 56.0	+0.1
KWP	Kalwaria Pacla	80.05	321	*e*P		P	14 57 56.0	+0.1
SECR		80.17	315	⇑*i*P		P	14 57 57.9	+1.3
DOPR	Dopca	80.17	316	⇓*i*P		P	14 57 57.5	+0.9
ISP	Isparta	80.34	307	⇑P		P	14 57 57.4	-0.4
ISP	Isparta	80.34	307	⇑*i*P		P	14 57 57.4	-0.4
EIL	Elat	80.42	298	LR		LR	15 40 49.5	
	comp=Z,198nm,18.0s,baz=276,slow=41							
VOIR		80.63	316	⇓P		P	14 57 59.0	-0.2
VOIR		80.63	316	⇓*i*P		P	14 57 59.0	-0.2
ARR	Arges	80.92	316	⇓*i*P		P	14 58 01.9	+1.2
HUMR	Humele	81.09	315	⇓*i*P		P	14 58 01.6	0.0
SUMG	Summit	81.20	356	*e*P		P	14 58 01.6	-0.6
SUMG				pmax	pmax			
	comp=Z,27nm,0.8s							
SUMG	Summit	81.20	356	*e*P		P	14 58 01.6	-0.6
	comp=Z,27nm,0.8s							
SUMG	Summit	81.20	356	*i* P		P	14 58 03.2	+1.1
	comp=Z,21nm,0.9s							
SUMG				*i*			14 58 16.0	
BSD	Bornholm Skovb	81.32	328	*i* P		P	14 58 02.8	+0.3
	comp=Z,16nm,0.8s							
BSD								
	comp=Z,1μm,13.0s							
OJC	Ojcow	81.40	322	*e*P		P	14 58 03.3	+0.2
OJC	Ojcow	81.40	322	*e*P		P	14 58 03.3	+0.2
LOT	Lotru	81.42	316	⇓*i*P		P	14 58 04.2	+0.8
DRGR		81.42	318	⇑P		P	14 58 03.7	+0.3
DRGR		81.42	318	⇑*i*P		P	14 58 03.7	+0.3
OKC	Ostrava-Krasne	82.51	322	*e*P		P	14 58 10.1	+1.2
OKC				*e*			14 58 17.6	
OKC				MLR	MLR			
	comp=Z,1μm,15.7s							
OKC	Ostrava-Krasne	82.51	322	*e*P		P	14 58 10.1	+1.2
OKC				*e*pP		PcP	14 58 17.6	+3.6
OKC				AMS	AMS		15 37 30.0	
	comp=Z,1μm,15.7s							
VYHS	Vyhne	82.83	321	*e*P		P	14 58 10.9	+0.3
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.3s							
VYHS	Vyhne	82.83	321	*e*P		P	14 58 10.9	+0.3
MORC	Moravsky Berou	82.87	322	*e*P		P	14 58 10.5	-0.4
MORC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MORC	Moravsky Berou	82.87	322	*e*P		P	14 58 10.5	-0.4
	comp=Z,4.7nm,0.9s							
MORC	Moravsky Berou	82.87	322	⇓*i*P		P	14 58 11.2	+0.3
KSP	Ksiaz	82.97	324	*e*P		P	14 58 11.7	+0.4
KSP	Ksiaz	82.97	324	*e*P		P	14 58 11.6	+0.3
KSP				MLR	MLR			
	comp=Z,2μm,18.1s							
KSP	Ksiaz	82.97	324	*e*P		P	14 58 11.7	+0.4
VTS	Vitosha	83.15	314	⇓P		P	14 58 13.4	+0.8
VTS	Vitosha	83.15	314	⇓*i*P		P	14 58 13.4	+0.8
DPC	Dobruska-Polom	83.23	323	*e*P		P	14 58 14.3	+1.6
DPC				*e*			14 58 23.4	
DPC				MLR	MLR			
	comp=Z,1μm,12.7s							
DPC	Dobruska-Polom	83.23	323	*e*P		P	14 58 14.3	+1.6
DPC				*ex*		x	14 58 23.4	
DPC				AMS	AMS		15 39 20.0	
	comp=Z,1μm,12.7s							
UPC	Upice	83.31	324	*e*P		P	14 58 13.6	+0.5
UPC	Upice	83.31	324	*e*P		P	14 58 13.6	+0.5
VRAC	Vranov	83.65	322	LR		LR	15 38 38.9	
	comp=Z,1μm,18.1s,baz=37,slow=38							
VRAC	Vranov	83.65	322	⇑*i*P		P	14 58 15.9	+1.1
PVCC	Panska Ves	84.06	324	AMS		AMS	15 40 00.0	
	comp=Z,1μm,11.9s							
PKSM	Moragy	84.14	319	⇓P		P	14 58 18.0	+0.6
PKSM	Moragy	84.14	319	⇓*i*P		P	14 58 18.0	+0.6
BRG	Berggiesshubel	84.19	325	*e*P		P	14 58 17.8	+0.2
	comp=Z,7.4nm,1.2s							
BRG				*e*			14 58 27.8	
	comp=Z,7.2nm,1.0s							
BRG								
	comp=N,646nm,16.4s							
BRG								
	comp=E,714nm,14.9s							
BRG								
	comp=Z,1μm,14.1s							
BRG	Berggiesshubel	84.19	325	*e*P		P	14 58 17.8	+0.2
BRG				*e*			14 58 27.8	
BRG				pmax	pmax			
	comp=Z,15nm,1.2s							
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRG				MLR	MLR			
	comp=N,7μm,16.4s							
BRG				MLR	MLR			
	comp=E,646nm,14.9s							
BRG				MLR	MLR			
	comp=Z,714nm,14.1s							
TREC	Trest	84.26	323	AMS		AMS	15 38 40.0	
	comp=Z,1μm,16.4s							
PRU	Pruhonice	84.38	324	*e*P		P	14 58 19.2	+0.7
PRU				*e*			14 58 30.3	
PRU				MLR	MLR			
	comp=Z,1μm,13.4s							
PRU	Pruhonice	84.38	324	*e*P		P	14 58 19.2	+0.7
PRU				*ex*		x	14 58 30.3	
PRU				AMS	AMS		15 40 00.0	
	comp=Z,1μm,13.4s							
CLL	Collm	84.43	325	⇑*i*P		P	14 58 18.6	-0.2
CLL				*e*			14 58 25.0	
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	Collm	84.43	325	⇑*i*P		P	14 58 18.6	-0.2
	comp=Z,12nm,0.9s							
CLL				*e*PP		PP	15 01 35.0	+1.7
CLL				*e*S		S	15 08 48.0	+3.6
CLL				*e*PPS		PPS	15 10 00.0	
CLL				*e*			15 18 48.0	
CLL				LmH			15 33 00.0	
	comp=N,1μm,19.3s							
CLL				LmH			15 33 00.0	
	comp=E,1μm,21.5s							
NKC	Novy Kostel	85.34	325	*e*P		P	14 58 23.9	+0.5
NKC	Novy Kostel	85.34	325	*e*P		P	14 58 23.9	+0.5
KHC	Kasperske Hory	85.38	323	*e*P		P	14 58 24.3	+0.6
KHC				*e*			14 58 35.3	
KHC				MLR	MLR			
	comp=Z,1μm,13.6s							
KHC	Kasperske Hory	85.38	323	*e*P		P	14 58 24.3	+0.6
KHC				*ex*		x	14 58 35.3	
KHC				AMS	AMS		15 40 40.0	
	comp=Z,1μm,13.6s							
GERES	GERESS Array B	85.48	323	P		P	14 58 24.8	+0.5
	comp=Z,1.5nm,0.7s,baz=47,slow=4.5,SNR=9.2							
GERES				LR		LR	15 39 56.9	
	comp=Z,1μm,18.7s,baz=86,slow=38							
GERES	GERESS Array B	85.48	323	P		P	14 58 24.8	+0.5
YBH	Yreka Blue Hor	85.79	45	LR		LR	15 33 36.9	
	comp=Z,82nm,18.2s,baz=70,slow=34							
SFJD	Kangerlussuaq	87.21	360	*i* P		P	14 58 31.2	-1.0
	comp=Z,5.7nm,0.9s							
FFC	Flin Flon	88.61	27	*e*P		P	14 58 38.9	-0.3
FFC				pmax	pmax			
	comp=Z,14nm,1.0s							
FFC	Flin Flon	88.61	27	*e*P		P	14 58 38.9	-0.3
	comp=Z,14nm,1.0s							
EKA	Eskdalemuir Ar	89.02	335	P		P	14 58 41.5	+0.4
	comp=Z,0.6nm,0.5s,baz=302,slow=26,SNR=4.3							
EKA	Eskdalemuir Ar	89.02	335	P		P	14 58 41.5	+0.4
CDF	Champ du Feu	89.13	325	*e*P		P	14 58 44.2	+2.3
	comp=Z,12nm,1.0s							
CDF	Champ du Feu	89.13	325	*e*P		P	14 58 44.2	+2.3
CDF				pmax	pmax			
	comp=Z,13nm,1.0s							
CDF	Champ du Feu	89.13	325	*e*P		P	14 58 44.2	+2.3
	comp=Z,12nm,1.0s							
NVAR	Mina Array Bea	90.42	46	P		P	14 58 49.0	+0.7
	comp=Z,0.5nm,0.6s,baz=296,slow=6.7,SNR=5.1							
NVAR	Mina Array Bea	90.42	46	P		P	14 58 49.0	+0.7
PPT	Papeete	90.59	109	LR		LR	15 34 58.1	
	comp=Z,289nm,18.5s,baz=343,slow=33							
PPT2	Papeete2	90.59	109	*e*LR		LR	15 27 45.5	
	comp=Z,916nm,21.8s							
LPL	La Plagne	91.28	323	*e*P		P	14 58 55.3	+3.2
LPL	La Plagne	91.28	323	*e*P		P	14 58 55.3	+3.2
LPL	La Plagne	91.28	323	*e*P		P	14 58 55.3	+3.2
LPG	La Plagne	91.28	323	*e*P		P	14 58 55.7	+3.5
	comp=Z,6.0nm,0.7s							
LPG	La Plagne	91.28	323	*e*P		P	14 58 55.7	+3.5
LPG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LPG	La Plagne	91.28	323	*e*P		P	14 58 55.7	+3.5
	comp=Z,6.0nm,0.7s							
SMF	Signal de Mont	92.05	325	*e*P		P	14 58 57.5	+2.1
SMF	Signal de Mont	92.05	325	*e*P		P	14 58 57.5	+2.1
SMF	Signal de Mont	92.05	325	*e*P		P	14 58 57.5	+2.1
PDAR	Pinedale Array	93.11	39	P		P	14 59 00.3	-0.4
	comp=Z,0.5nm,0.8s,baz=304,slow=3.4,SNR=4.5							
PDAR	Pinedale Array	93.11	39	P		P	14 59 00.3	-0.4
ULM	Lac du Bonnet	94.43	27	P		P	14 59 05.5	-0.7
	comp=Z,0.9nm,0.3s,baz=334,slow=5.8,SNR=3.6							
ULM				LR		LR	15 45 52.8	
	comp=Z,149nm,18.0s,baz=311,slow=38							
ULM	Lac du Bonnet	94.43	27	P		P	14 59 05.5	-0.7
SCHQ	Schefferville	98.34	9	LR		LR	15 45 17.6	
	comp=Z,296nm,21.4s,baz=22,slow=36							
TORD	Torodi Ar. Bea	115.24	300	PKP		PKPdf	15 04 27.1	-1.4
	comp=Z,0.7nm,1.0s,baz=42,slow=1.9,SNR=3.6							
TORD	Torodi Ar. Bea	115.24	300	PKP		PKPdf	15 04 27.1	-1.4

IDC 22 14:55:04.0±2.6, 11.58S×166.73E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, ML4.8/1, MS3.6/2, Ms1 3.7/2, ms1mx2.9/33, Error ellipse: s-maj=65.8km s-min=31.2km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.00	287	Pn	Pn	14 56 49.4	+1.5
	18nm,0.3s,baz=111,slow=4.2,SNR=6.6						
HNR				LR	LR	14 58 49.3	
	comp=Z,98nm,18.4s,baz=132,slow=32						
STKA	Stephens Creek	30.73	225	P	P	15 01 22.5	+1.5
	1.2nm,0.9s,baz=58,slow=12,SNR=3.9						
WRA	Warramunga Arr	32.22	251	P	P	15 01 33.2	-1.0
	0.5nm,0.7s,baz=82,slow=3.6,SNR=5.9						
ASAR	Alice Springs	33.43	244	P	P	15 01 43.9	-0.9
	0.2nm,0.6s,baz=68,slow=9.5,SNR=5.7						
FITZ	Fitzroy Crossi	40.18	256	P	P	15 02 41.9	-0.4
	1.4nm,0.7s,baz=107,slow=9.1,SNR=3.8						
CMAR	Chiang Mai Arr	73.21	293	P	P	15 06 37.8	+0.4
	1.0nm,0.9s,baz=126,slow=4.9,SNR=6.6						
SONM	Songino Array	79.67	323	P	P	15 07 13.2	-0.4
	0.6nm,1.0s,baz=107,slow=5.1,SNR=3.8						
PDAR	Pinedale Array	93.20	47	LR	LR	15 47 27.0	
	comp=Z,110nm,18.2s,baz=354,slow=34						
ZALV	Zalesovo Beam	94.55	324	P	P	15 08 26.0	-0.4
	0.3nm,0.5s,baz=98,slow=6.0,SNR=3.0						
MKAR	Makanchi Array	94.57	317	P	P	15 08 26.9	+0.3
	1.1nm,0.8s,baz=101,slow=6.1,SNR=14						

IDC 22 14:55:44.9±1.5, 2.96N×125.18E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=187.1km s-min=19.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.47	159	P	P	15 01 04.6	-1.2
	0.5nm,0.5s,baz=337,slow=11,SNR=11						
ASAR	Alice Springs	27.79	163	P	P	15 01 37.8	+1.9
	0.1nm,0.5s,baz=341,slow=11,SNR=5.7						
STKA	Stephens Creek	37.99	157	P	P	15 03 04.2	-0.5
	1.3nm,0.8s,baz=319,slow=11,SNR=2.9						
MKAR	Makanchi Array	57.32	326	P	P	15 05 35.2	+0.4
	0.2nm,0.5s,baz=115,slow=7.7,SNR=5.4						
KURBB	Kurchatov Arra	61.56	328	P	P	15 06 03.1	-0.8
	0.5nm,0.7s,baz=119,slow=7.8,SNR=5.1						

*ISCJB **22** 15:02:20.6±0.5, 58.60N±0.06×156.0W±0.1, h183km±5km, mb3.5/6, Error ellipse: s-maj=11.5km s-min=6.9km az=142.1*

*IDC **22** 15:02:20.0±1.2, 58.78N×156.15W, h156km±13km, mb3.2/7, mb1 3.2/11, mb1mx3.1/30, mbtmp3.1/11, Error ellipse: s-maj=18.2km s-min=15.4km az=20.0*

*NEIC **22** 15:02:22.5, 58.53N×156.02W, h174km, MG3.1(AEIC), After AEIC.*

ISC 22 15:02:21.3±0.8, 58.63N±0.06×156.01W±0.06, h173km±7km, n35, o18/44, mb3.5/6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELA	Mount Kelaz	0.24	144	P	Pn	15 02 44.7	+0.1
KAHC	Katmai Hardscr	0.52	88	P	Pn	15 02 45.9	+0.3
KABU	Katmai Buttres	0.53	133	P	Pn	15 02 46.0	+0.4
KABU				S	Sn	15 03 05.0	+0.9
KAK

MKAR	**Makanchi Array**	**64.51**	**320**	P		**P**	**15 12 38.0**	**-1.2**
	0.3nm,0.4s,baz=26,slow=5.9,SNR=12								

*IDC **22** 15:07:45.0±1.7,26°29N×128°89E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/23,mbtmp3.4/5, Error ellipse: s-maj=80.7km s-min=15.1km az=59.0*
*ISCJB **22** 15:07:48.7±0.8,26°05N±0°06×128°67E±0°05, h36km±10km,mb3.4/5, Error ellipse: s-maj=9.5km s-min=6.7km az=9.9*
*JMA **22** 15:07:48.4±0.3,26°04N×128°66E,h37km,M3.1*
ISC 22 15:07:47.7±1.8,26°15N±0°05×128°70E±0°04,h18km±12km, n14,σ0s74/21,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.78**	**331**	Pn	**Pn**	**15 08 03.9**	**-0.1**
	baz=180,slow=15						
JOW				Sn	**Sn**	**15 08 14.8**	**-0.5**
	baz=108,slow=20						
JOW	**Kunigami**	**0.78**	**331**	P	**Pn**	**15 08 04.3**	**+0.4**
JOW				S	**Sn**	**15 08 14.9**	**-0.3**
JJT2	**Tamagusuku 2**	**0.85**	**270**	P	**Pb**	**15 08 03.7**	**-0.3**
JJT2				S	**Sb**	**15 08 15.1**	**0.0**
JIH	**Iheya**	**1.10**	**324**	P	**Pg**	**15 08 09.4**	**+0.4**
JIH				S	**Sn**	**15 08 23.9**	**+0.9**
JAGN	**Aguni-jima**	**1.38**	**289**	P	**Pn**	**15 08 11.9**	**-0.2**
JAGN				*e*S	**Sn**	**15 08 29.2**	**-0.7**
JTK	**Tokunoshima**	**1.65**	**8**	P	**Pb**	**15 08 17.5**	**-0.1**
JTK				*e*S	**Sb**	**15 08 38.7**	**+0.5**
JKE	**Kume jima 2**	**1.73**	**276**	P	**Pn**	**15 08 15.8**	**-1.1**
JMZ	**Minamidaito 2**	**2.29**	**98**	P	**Pn**	**15 08 25.0**	**+0.3**
JMZ				*e*S	**Sn**	**15 08 51.6**	**-0.9**
JAM	**Amami Oshima**	**2.40**	**19**	P	**Pb**	**15 08 28.6**	**-1.7**
SONM	**Songino Array**	**27.85**	**327**	P	**P**	**15 13 36.4**	**0.0**
	0.2nm,0.5s,baz=133,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**41.90**	**312**	P	**P**	**15 15 37.5**	**+0.4**
	0.2nm,0.6s,baz=96,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**46.14**	**173**	P	**P**	**15 16 12.0**	**+0.7**
	0.4nm,0.5s,baz=354,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**49.77**	**174**	P	**P**	**15 16 40.4**	**+1.0**
	0.4nm,0.8s,baz=12,slow=9.6,SNR=8.2						
FINES	**FINESS Array B**	**73.14**	**331**	P	**P**	**15 19 16.4**	**-0.5**
	0.9nm,0.8s,baz=38,slow=7.0,SNR=3.7						

*ATH **22** 15:08:16.8,36°98N×28°32E,h20km±1km,MD3.4/6*
*ISCJB **22** 15:08:19.0±0.6,37°02N±0°03×28°14E±0°03,h10km±4km, Error ellipse: s-maj=4.5km s-min=3.2km az=161.7*
*ISK **22** 15:08:18.2,37°02N×28°18E,h3km,MD3.2*
*DDA **22** 15:08:18.1,36°97N×28°18E,h3km,MD3.1*
*CSEM **22** 15:08:18.6±0.1,37°00N×28°15E,h5km,MD3.2, Error ellipse: s-maj=3.4km s-min=2.8km az=157.0*
ISC 22 15:08:18.6±1.0,36°99N±0°02×28°18E±0°02,h6km±8km, n62,σ1s14/94,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**29**	*e*PG	**Pg**	**15 08 21.8**	**-0.2**
YER				*e*SG	**Sg**	**15 08 24.7**	**+0.4**
YER	**Yerkesik**	**0.17**	**29**	*e*Pg	**Pg**	**15 08 21.8**	**-0.2**
YER				*e*Sg	**Sg**	**15 08 24.7**	**+0.4**
TURN	**Turunc**	**0.36**	**108**	*i* P	Pg	15 08 21.9	-3.5
TURN				*i* S	**Sg**	**15 08 24.7**	**-5.5**
TURN	**Turunc**	**0.36**	**108**	*i* P	Pg	15 08 22.0	-3.5
MLSB	**Milas**	**0.45**	**314**	*e*PG	**Pg**	**15 08 27.1**	**-0.1**
MLSB				*e*SG	**Sg**	**15 08 34.1**	**+1.0**
MLSB	**Milas**	**0.45**	**314**	*e*Pg	**Pg**	**15 08 27.1**	**-0.1**
MLSB				*e*Sg	**Sg**	**15 08 34.1**	**+1.0**
BODT	**Bodrum**	**0.70**	**276**	*e*PG	**Pg**	**15 08 32.4**	**+0.4**
BODT				*e*SG	**Sb**	**15 08 43.0**	**-0.1**
BODT	**Bodrum**	**0.70**	**276**	*e*Pg	**Pg**	**15 08 32.4**	**+0.4**
BODT				*e*Sg	**Sb**	**15 08 43.0**	**-0.1**
AYDN	**Tasoluk**	**0.71**	**341**	*i* P	**Pg**	**15 08 31.9**	**-0.4**
AYDN				*i* S	**Sg**	**15 08 42.2**	**+0.6**
AYDN	**Tasoluk**	**0.71**	**341**	*i* P	**Pg**	**15 08 31.9**	**-0.4**
AYDN				*i* S	**Sg**	**15 08 42.2**	**+0.6**
ARG	**Arkhangelos**	**0.77**	**183**	*e*PN	**Pg**	**15 08 32.3**	**-1.0**
ARG				*e*SN	**Sg**	**15 08 42.8**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**183**	*e*Pn	**Pg**	**15 08 32.3**	**-1.0**
ARG				*e*Sn	**Sg**	**15 08 42.8**	**-0.5**
NIS1	**Nisyros Isl.**	**0.89**	**245**	*e*PN	**Pg**	**15 08 35.6**	**0.0**
NIS1				*e*SN	**Sn**	**15 08 49.8**	**-1.1**
NIS1	**Nisyros Isl.**	**0.89**	**245**	*e*Pn	**Pg**	**15 08 35.6**	**0.0**
NIS1				*e*Sn	**Sn**	**15 08 49.8**	**-1.1**
DNZL	**Cakiroluk**	**0.98**	**44**	*i* P	**Pg**	**15 08 36.5**	**-1.0**
DNZL				*i* S	**Sg**	**15 08 50.8**	**+0.5**
DNZL	**Cakiroluk**	**0.98**	**44**	*i* P	**Pg**	**15 08 36.5**	**-1.0**
DNZL				*i* S	**Sg**	**15 08 50.8**	**+0.5**
DENT	**Denizli**	**1.02**	**41**	*e*PG	**Pg**	**15 08 37.9**	**-0.3**
DENT	**Denizli**	**1.02**	**41**	*e*Pg	**Pg**	**15 08 37.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.04**	**314**	*i* P	**Pg**	**15 08 38.4**	**-0.1**
GCAM				*i* S	**Sg**	**15 08 51.0**	**-0.9**
GCAM	**G?zelcaml?**	**1.04**	**314**	*i* P	**Pg**	**15 08 38.4**	**-0.1**
GCAM				*i* S	**Sg**	**15 08 51.0**	**-0.9**
GOLH	**Golhisar**	**1.13**	**77**	*i* P	**Pg**	**15 08 40.2**	**-0.1**
GOLH				*i* S	**Sg**	**15 08 55.2**	**+0.2**
GOLH	**Golhisar**	**1.13**	**77**	*i* P	**Pg**	**15 08 40.2**	**-0.1**
GOLH				*i* S	**Sg**	**15 08 55.2**	**+0.2**
AKAS	**Kas**	**1.37**	**123**	*i* P	**Pb**	**15 08 45.1**	**+0.4**
AKAS				*i* S	**Sg**	**15 09 05.3**	**+2.7**
AKAS	**Kas**	**1.37**	**123**	*i* P	**Pb**	**15 08 45.1**	**+0.4**
AKAS				*i* S	**Sg**	**15 09 05.3**	**+2.7**
ELL	**Elmali**	**1.41**	**99**	*e*PN	**Pb**	**15 08 45.5**	**+0.2**
ELL				*e*SN	**Sg**	**15 09 05.5**	**+1.7**
ELL	**Elmali**	**1.41**	**99**	*e*Pn	**Pb**	**15 08 45.5**	**+0.2**
ELL				*e*Sn	**Sg**	**15 09 05.5**	**+1.7**
KULA	**Kula-Manisa**	**1.57**	**14**	*e*PN	**Pn**	**15 08 47.0**	**0.0**
KULA	**Kula-Manisa**	**1.57**	**14**	*e*Pn	**Pn**	**15 08 47.1**	**0.0**
IZM	**Izmir**	**1.59**	**333**	*e*PN	**Pb**	**15 08 47.8**	**-0.5**
IZM	**Izmir**	**1.59**	**333**	*e*Pn	**Pb**	**15 08 47.8**	**-0.5**
KARP	**Karpathos**	**1.66**	**210**	*e*PN	**Pn**	**15 08 47.4**	**-0.8**
KARP				*e*SN	**Sn**	**15 09 10.1**	**+0.3**
KARP	**Karpathos**	**1.66**	**210**	*e*Pn	**Pn**	**15 08 47.4**	**-0.8**
KARP				*e*Sn	**Sn**	**15 09 10.1**	**+0.3**
KHL	**Karahalli**	**1.71**	**38**	*e*PN	**Pn**	**15 08 49.4**	**+0.4**
KHL	**Karahalli**	**1.71**	**38**	*e*Pn	**Pn**	**15 08 49.4**	**+0.4**
KHAL	**Karahalli**	**1.73**	**37**	*i* P	**Pn**	**15 08 49.3**	**0.0**
KHAL				*i* S	**Sn**	**15 09 11.0**	**-0.8**
KHAL	**Karahalli**	**1.73**	**37**	*i* P	**Pn**	**15 08 49.3**	**0.0**
KHAL				*i* S	**Sn**	**15 09 11.0**	**-0.8**
KORT	**Korkueli**	**1.74**	**89**	*i* P	**Pb**	**15 08 51.5**	**+0.6**
KORT				*i* S	**Sg**	**15 09 14.9**	**+0.5**
KORT	**Korkueli**	**1.74**	**89**	*i* P	**Pb**	**15 08 51.5**	**+0.6**
KORT				*i* S	**Sg**	**15 09 14.9**	**+0.5**
URLA	**Izmir**	**1.86**	**318**	*i* P	**Pn**	**15 08 49.9**	**-1.1**
URLA				*i* S	**Sg**	**15 09 23.7**	**+5.4**
URLA	**Izmir**	**1.86**	**318**	*i* P	**Pn**	**15 08 49.9**	**-1.1**
AKHS	**Akhisar**	**1.91**	**351**	*i* P	**Pn**	**15 08 51.2**	**-0.5**
AKHS				*i* S	**Sn**	**15 09 13.0**	**-2.1**
AKHS	**Akhisar**	**1.91**	**351**	*i* P	**Pn**	**15 08 51.2**	**-0.5**
AKHS				*i* S	**Sn**	**15 09 14.0**	**-2.1**
AKS	**Akhisar**	**1.91**	**351**	*e*PN	**Pn**	**15 08 51.3**	**-0.4**
AKS	**Akhisar**	**1.91**	**351**	*e*Pn	**Pn**	**15 08 51.3**	**-0.4**
BCK	**Bucak**	**1.98**	**75**	*e*PN	**Pn**	**15 08 53.1**	**+0.4**
BCK	**Bucak**	**1.98**	**75**	*e*Pn	**Pn**	**15 08 53.1**	**+0.4**
ISP	**Isparta**	**2.04**	**65**	*e*PN	**Pn**	**15 08 54.5**	**+0.9**
ISP	**Isparta**	**2.04**	**65**	*e*Pn	**Pn**	**15 08 54.5**	**+0.9**
SHUT	**Suhut-Afyon**	**2.44**	**50**	*e*PN	**Pn**	**15 09 00.0**	**+0.9**
SHUT	**Suhut-Afyon**	**2.44**	**50**	*e*Pn	**Pn**	**15 09 00.0**	**+0.9**
ZKR	**Zakros**	**2.45**	**221**	*e*PN	**Pn**	**15 08 59.4**	**+0.3**
ZKR				*e*SN	**Sn**	**15 09 30.3**	**+0.9**
ZKR	**Zakros**	**2.45**	**221**	*e*Pn	**Pn**	**15 08 59.4**	**+0.3**
ZKR				*e*Sn	**Sn**	**15 09 30.3**	**+0.9**
ALT	**Altintas**	**2.57**	**36**	*e*PN	**Pn**	**15 09 01.4**	**+0.6**
ALT	**Altintas**	**2.57**	**36**	*e*Pn	**Pn**	**15 09 01.4**	**+0.6**
TVSB	**Tavsanli**	**2.66**	**22**	*e*PN	**Pn**	**15 09 03.0**	**+0.9**
TVSB	**Tavsanli**	**2.66**	**22**	*e*Pn	**Pn**	**15 09 03.0**	**+0.9**
NPS	**Neapolis**	**2.70**	**231**	*e*PN	**Pn**	**15 09 02.5**	**0.0**
NPS	**Neapolis**	**2.70**	**231**	*e*Pn	**Pn**	**15 09 02.5**	**0.0**
GONE	**Gonen-Balikesi**	**3.08**	**353**	*e*PN	**Pn**	**15 09 07.8**	**+0.1**
GONE	**Gonen-Balikesi**	**3.08**	**353**	*e*Pn	**Pn**	**15 09 07.8**	**+0.1**
IDI	**Anoyia**	**3.16**	**238**	*e*PN	**Pn**	**15 09 09.0**	**+0.1**
IDI	**Anoyia**	**3.16**	**238**	*e*Pn	**Pn**	**15 09 09.0**	**+0.1**

*IDC **22** 15:13:11.2±0.9,25°71N×67°31E,h0km,mb3.8/16, mb1 3.9/17,mb1mx3.8/33,mbtmp3.8/17,ML3.7/1,MS3.9/2, Ms1 4.0/2,ms1mx2.9/56,Error ellipse: s-maj=21.2km s-min=19.0km az=171.0*
*ISCJB **22** 15:13:13.8±0.5,25°76N±0°07×67°52E±0°04,h33km, mb3.8/20,MS3.9/3,Error ellipse: s-maj=10.5km s-min=5.3km az=8.4*
*MOS **22** 15:13:16.3±1.4,25°98N×67°39E,h33km,mb4.1/14,Error ellipse: s-maj=21.7km s-min=10.4km az=94.4*
ISC 22 15:13:16.6±0.7,25°90N±0°10×67°39E±0°07,h35km,n48, σ2s05/48,mb3.8/20,MS3.9/3,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.40**	**253**	Pn	**Pn**	**15 15 13.3**	**-2.5**
	0.9nm,0.3s,baz=27,slow=5.8,SNR=14						
WSAR				Sn	Sn	15 16 40.6	-8.9
	1.3nm,0.3s,baz=344,slow=11,SNR=5.0						
DDI	**Dehra Dun**	**10.40**	**63**	*ex*	x	15 15 49.0	
PYUN	**Piuthan**	**14.08**	**78**	*e*P	**Pn**	**15 16 32.1**	**-1.7**
	18nm,0.6s						
KOLN	**Koldanda**	**14.60**	**79**	*e*P	**Pn**	**15 16 38.6**	**-2.2**
	12nm,0.5s						
DANN	**Dangsing**	**14.78**	**77**	*e*P	**Pn**	**15 16 41.0**	**-2.4**
	33nm,0.9s						
GKN	**Gorkha**	**15.53**	**78**	*e*P	**Pn**	**15 16 50.1**	**-3.0**
DMN	**Daman**	**15.92**	**80**	*e*P	**Pn**	**15 16 55.5**	**-2.8**
	21nm,0.8s						
KKN	**Kakani**	**16.08**	**79**	*e*P	**Pn**	**15 16 56.6**	**-3.7**
PKIN	**Phulchoki**	**16.18**	**80**	*e*P	**Pn**	**15 16 58.7**	**-2.9**
	9.1nm,0.5s						
PKI	**Pulchoki**	**16.19**	**80**	*e*P	**Pn**	**15 16 58.8**	**-3.0**
	13nm,0.5s						
GUN	**Gumba**	**16.62**	**79**	*e*P	**Pn**	**15 17 04.2**	**-3.0**
	30nm,0.7s						
JIRN	**Jiri**	**16.89**	**80**	*e*P	**Pn**	**15 17 07.7**	**-2.9**
RAMN	**Ramite**	**17.25**	**82**	*e*P	**Pn**	**15 17 12.4**	**-2.6**
	14nm,0.5s						
AAK	**Ala-Archa**	**17.68**	**18**	P	**Pn**	**15 17 19.0**	**-1.2**
	0.5nm,0.3s,baz=190,slow=4.3,SNR=8.6						
AAK				S	**Sn**	**15 20 34.2**	**-1.9**
	0.1nm,0.3s,baz=283,slow=11,SNR=3.6						
AAK	**Ala-Archa**	**17.68**	**18**	P	**Pn**	**15 17 19.0**	**-1.2**
AAK				S	**Sn**	**15 20 34.2**	**-1.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
UMR	**Umm Al-Rimmam**	**17.79**	**286**	*e*P	**P**	**15 17 23.4**	**+1.5**
UMR				AMb	AMB	15 17 26.7	
	comp=Z,27nm,0.6s						
ODAN	**Odare**	**17.95**	**83**	*e*P	**Pn**	**15 17 21.7**	**-2.0**
MIB	**Mutribah**	**18.14**	**287**	*e*P	**P**	**15 17 26.7**	**+0.9**
MIB				AMb	AMB	15 17 29.6	
	comp=Z,20nm,0.9s						
NAY	**Al-Naaiem**	**18.16**	**285**	*e*P	**Pn**	**15 17 26.9**	**+0.8**
NAY				AMb	AMB	15 17 29.8	
	comp=Z,16nm,1.9s						
TAPN	**Taplejung**	**18.23**	**81**	*e*P	**Pn**	**15 17 24.3**	**-2.9**
	comp=Z,7.5nm,0.5s						
SHL	**Shillong**	**22.07**	**86**	*ex*	**P**	**15 18 11.2**	**+2.5**
MAK	**Makhachkala**	**23.53**	**321**	*e*P	**P**	**15 18 19.0**	**-4.5**
MAK				*e*PPP	PPP	15 18 57.8	
MAK				S	**S**	**15 22 31.9**	**-3.1**
MAK				pmax	pmax		
	comp=Z,138nm,0.9s						
MKAR	**Makanchi Array**	**23.98**	**26**	P	**P**	**15 18 29.1**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=206,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**23.98**	**26**	P	**P**	**15 18 29.1**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**25.53**	**346**	P	**P**	**15 18 43.6**	**+1.8**
	comp=Z,1.6nm,0.5s,baz=170,slow=5.7,SNR=11						
AKTO	**Aktyubinsk**	**25.53**	**346**	P	**P**	**15 18 43.6**	**+1.8**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**26.13**	**16**	P	**P**	**15 18 48.2**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=209,slow=9.0,SNR=18						
KURK	**Kurchatov**	**26.23**	**16**	*e*P	**P**	**15 18 48.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KBZ	**Khabaz**	**26.68**	**318**	P	**P**	**15 18 52.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=126,slow=7.4,SNR=4.2						
KBZ	**Khabaz**	**26.68**	**318**	P	**P**	**15 18 52.5**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**26.94**	**318**	*e*P	**P**	**15 18 54.6**	**-0.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,272nm,15.0s						
BVAR	**Borovoye Array**	**27.18**	**4**	P	**P**	**15 18 58.4**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=170,slow=10,SNR=9.3						
BVAR	**Borovoye Array**	**27.18**	**4**	P	**P**	**15 18 58.4**	**+1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**27.21**	**4**	*e*P	**P**	**15 18 58.7**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.09**	**98**	LR	LR	15 32 08.4	
	comp=Z,76nm,18.4s,baz=60,slow=38						
ZALV	**Zalesovo Beam**	**30.86**	**20**	P	**P**	**15 19 29.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=239,slow=8.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**30.86**	**20**	P	**P**	**15 19 29.7**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**37.57**	**44**	P	**P**	**15 20 29.9**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=246,slow=8.9,SNR=21						
FINES	**FINESS Array B**	**45.08**	**333**	P	**P**	**15 21 29.6**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=110,slow=12,SNR=5.1						
HFS	**Hagfors**	**49.98**	**328**	P	**P**	**15 22 09.1**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=134,slow=11,SNR=5.2						
ARCES	**ARCESS Array B**	**50.02**	**342**	P	**P**	**15 22 07.8**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=137,slow=8.7,SNR=7.9						
ESDC	**Sonseca Array**	**60.09**	**302**	P	**P**	**15 23 19.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**62.65**	**272**	P	**P**	**15 23 37.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=61,slow=5.4,SNR=10.0						
BBTS	**Babate**	**78.37**	**281**	LR	LR	16 04 07.8	
	comp=Z,176nm,18.1s,baz=31,slow=39						
WRA	**Warramunga Arr**	**79.38**	**118**	P	**P**	**15 25 18.9**	**-0.4**
	comp=Z,1.0nm,1.1s,baz=318,slow=4.8,SNR=5.6						
ASAR	**Alice Springs**	**81.05**	**122**	P	**P**	**15 25 28.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=307,slow=5.2,SNR=4.9						
INK	**Inuvik**	**84.81**	**8**	P	**P**	**15 25 48.7**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=281,slow=1.8,SNR=6.7						
YKA	**Yellowknife Ar**	**91.90**	**1**	P	**P**	**15 26 21.4**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=349,slow=4.8,SNR=4.5						

*DDA **22** 15:37:10.0,40°60N×28°92E,h9km,MD2.6*
*ISCJB **22** 15:37:10.7±0.7,40°62N±0°04×28°94E±0°06,h7km±5km, Error ellipse: s-maj=8.5km s-min=5.2km az=35.0*
*ISK **22** 15:37:10.2,40°59N×28°97E,h5km,MD2.5*
*CSEM **22** 15:37:10.5±0.2,40°63N×28°94E,h8km,MD2.5,Error ellipse: s-maj=4.5km s-min=2.9km az=132.0*
ISC 22 15:37:10.6±1.0,40°61N±0°03×28°93E±0°04,h7km±8km, n18,σ0s48/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.07**	**230**	*e*PG	**Pg**	**15 37 12.3**	**-0.1**
ARMT				*e*SG	**Sg**	**15 37 13.8**	**0.0**
ARMT	**Armutlu**	**0.07**	**230**	*e*Pg	**Pg**	**15 37 12.3**	**-0.1**
ARMT				*e*Sg	**Sg**	**15 37 13.8**	**0.0**
MDNY	**Mudanya-Bursa**	**0.25**	**189**	*e*PG	**Pg**	**15 37 15.9**	**+0.5**
MDNY				*e*SG	**Sg**	**15 37 20.0**	**+1.3**
MDNY	**Mudanya-Bursa**	**0.25**	**189**	*e*Pg	**Pg**	**15 37 15.9**	**+0.5**
MDNY				*e*Sg	**Sg**	**15 37 20.0**	**+1.3**
GEMT	**Gemlik**	**0.26**	**132**	*e*PG	**Pg**	**15 37 15.8**	**0.0**
GEMT				*e*SG	**Sg**	**15 37 19.7**	**+0.4**
GEMT	**Gemlik**	**0.26**	**132**	*e*Pg	**Pg**	**15 37 15.8**	**0.0**
GEMT				*e*Sg	**Sg**	**15 37 19.7**	**+0.4**
BUY	**Buyukada**	**0.28**	**30**	*i* P	**Pg**	**15 37 16.4**	**+0.3**
BUY				*i* S	**Sg**	**15 37 20.2**	**+0.5**
BUY	**Buyukada**	**0.28**	**30**	*i* P	**Pg**	**15 37 16.4**	**+0.3**
BUY				*i* S	**Sg**	**15 37 20.2**	**+0.5**
YLV	**Yalova**	**0.34**	**98**	*e*PG	**Pg**	**15 37 17.3**	**+0.1**
YLV	**Yalova**	**0.34**	**98**	*e*Pg	**Pg**	**15 37 17.3**	**+0.1**
DURS	**Dursunbey**	**1.07**	**199**	*i* P	**Pn**	**15 37 32.2**	**+0.1**
DURS				*i* S	**Sg**	**15 37 44.7**	**-0.3**
DURS	**Dursunbey**	**1.07**	**199**	*i* P	**Pn**	**15 37 32.2**	**+0.1**
DURS				*i* S	**Sg**	**15 37 44.7**	**-0.3**
GULT	**Gulveren**	**1.22**	**98**	*e*PN	**Pb**	**15 37 33.8**	**-0.2**
GULT	**Gulveren**	**1.22**	**98**	*e*Pn	**Pb**	**15 37 33.8**	**-0.2**
TVSB	**Tavsanli**	**1.23**	**161**	*e*PN	**Pb**	**15 37 34.1**	**-0.1**
TVSB	**Tavsanli**	**1.23**	**161**	*e*Pn	**Pb**	**15 37 34.1**	**-0.1**
BORA	**Eskisehir**	**1.37**	**122**	*e*P	**Pn**	**15 37 35.9**	**-0.3**
BORA				*i* S	**Sb**	**15 37 53.7**	**-0.7**

BORA	**Eskisehir**	**1.37**	**122**	*e*P		**Pn**	**15 37 35.9**	**-0.3**

IDC 22 15:39:16.3±1.9,3°01N×126°22E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/21,mbtmp3.5/4,Error ellipse: s-maj=180.6km s-min=23.4km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**161**	P	**P**	**15 44 34.0**	**-0.4**
	1.5nm,0.9s,baz=340,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**27.55**	**165**	P	**P**	**15 45 05.8**	**+0.6**
	0.2nm,0.6s,baz=349,slow=8.8,SNR=7.7						
STKA	**Stephens Creek**	**37.65**	**158**	P	**P**	**15 46 33.2**	**0.0**
	1.3nm,0.7s,baz=327,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**57.85**	**326**	P	**P**	**15 49 09.6**	**-0.3**
	0.2nm,0.5s,baz=126,slow=8.3,SNR=7.9						

*CSEM **22** 15:41:17.8±0.1,36°25N×25°68E,h15km,ML2.2/1,Error ellipse: s-maj=4.3km s-min=2.3km az=75.0*
*ISCJB **22** 15:41:18.1±0.8,36°24N±0°03×25°68E±0°07,h17km±9km, Error ellipse: s-maj=8.9km s-min=5.8km az=5.8*
*ATH **22** 15:41:18.1,36°25N×25°70E,h37km±1km,MD3.1/7*
*THE **22** 15:41:20.2,36°33N×25°60E,h14km±4km,ML2.2/1,Error ellipse: s-maj=5.9km s-min=0.9km az=264.0*
ISC 22 15:41:18.1±0.9,36°24N±0°02×25°67E±0°05,h16km±8km, n22,σ0s36/42,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.21**	**308**	P	**Pg**	**15 41 23.2**	**+0.2**
THR1				S	**Sg**	**15 41 26.6**	**+0.2**
THR1	**Thera Island**	**0.21**	**308**	P	**Pg**	**15 41 23.2**	**+0.2**
THR1				S	**Sg**	**15 41 26.6**	**+0.2**
THR6	**Thira Island,**	**0.24**	**298**	P	**Pb**	**15 41 24.1**	**0.0**
THR6				S	**Sg**	**15 41 27.4**	**+0.1**
THR6	**Thira Island,**	**0.24**	**298**	P	**Pb**	**15 41 24.1**	**0.0**
THR6				S	**Sg**	**15 41 27.4**	**+0.1**
THR2	**Thira island,**	**0.28**	**318**	P	**Pb**	**15 41 24.5**	**-0.1**
THR2				S	**Sg**	**15 41 27.4**	**-0.8**
THR2	**Thira island,**	**0.28**	**318**	P	**Pb**	**15 41 24.5**	**-0.1**
THR2				S	**Sg**	**15 41 27.4**	**-0.8**
APE	**Apeiranthos**	**0.83**	**353**	P	**Pg**	**15 41 34.6**	**+0.3**
APE				S	**Sg**	**15 41 45.5**	**+0.2**
APE	**Apeiranthos**	**0.83**	**353**	*e*PN	**Pn**	**15 41 34.8**	**-0.3**
APE				*e*SN	**Sg**	**15 41 46.2**	**+0.9**
APE	**Apeiranthos**	**0.83**	**353**	P	**Pg**	**15 41 34.6**	**+0.3**
APE	**Apeiranthos**	**0.83**	**353**	*e*Pn	**Pn**	**15 41 34.8**	**-0.3**
APE				S	**Sg**	**15 41 45.5**	**+0.2**
APE				*e*Sn	**Sg**	**15 41 46.2**	**+0.9**
NPS	**Neapolis**	**0.98**	**182**	*e*PN	**Pb**	**15 41 36.4**	**-0.2**
NPS				*e*SN	**Sg**	**15 41 50.1**	**+0.2**
NPS	**Neapolis**	**0.98**	**182**	*e*Pn	**Pb**	**15 41 36.4**	**-0.2**
NPS				*e*Sn	**Sg**	**15 41 50.1**	**+0.2**
LAST	**Lasithi**	**1.09**	**188**	*e*PN	**Pn**	**15 41 38.6**	**-0.1**
LAST				*e*SN	**Sg**	**15 41 53.7**	**+0.3**
LAST	**Lasithi**	**1.09**	**188**	*e*Pn	**Pn**	**15 41 38.6**	**-0.1**
LAST				*e*Sn	**Sg**	**15 41 53.7**	**+0.3**
IDI	**Anoyia**	**1.14**	**214**	*e*PN	**Pb**	**15 41 39.5**	**+0.1**
IDI				*e*SN	**Sg**	**15 41 55.4**	**+0.3**
IDI	**Anoyia**	**1.14**	**214**	*e*Pn	**Pb**	**15 41 39.5**	**+0.1**

*ISCJB **22** 15:59:59.4±1.0,26°.59N±0°.10×142°.6E±0°.2,h31km, mb3.8/10,MS3.3/1,Error ellipse: s-maj=33.0km s-min=9.2km az=160.5*

*IDC **22** 16:00:00.7±6.7,26°.63N×142°.49E,h24km±45km, mb3.7/9, mb1 3.9/10,mb1mx3.6/27,mbtmp3.7/10,ML3.3/1,MS3.1/2, Ms1 3.1/2,ms1mx2.3/48,Error ellipse: s-maj=55.3km s-min=12.4km az=75.0*

ISC 22 16:00:01.7±1.4,26.7N±0°.1×142.5E±0°.3,h31km,n15, σ1°20/15,mb3.8/10,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.53**	**327**	Pn	**Pb**	**16 00 12.3**	**-0.2**
CBIJ				Sn	**Sn**	**16 00 20.9**	**0.0**
JHJ	**Hachijo jima 2**	**6.86**	**340**	Sn	**Sn**	**16 02 54.1**	**-3.1**
	22nm,0.3s,baz=79,slow=19,SNR=4.7						
MJAR	**Matsushiro Arr**	**10.51**	**341**	Pn	**Pn**	**16 02 32.0**	**+1.7**
	0.2nm,0.3s,baz=127,slow=35,SNR=3.6						
KSRS	**Korea Array**	**16.37**	**315**	LR	LR	16 09 27.1	
	comp=Z,54nm,18.7s,baz=115,slow=34						
CMAR	**Chiang Mai Arr**	**40.89**	**268**	P	**P**	**16 07 41.5**	**+0.2**
	0.4nm,0.5s,baz=57,slow=8.5,SNR=5.8						
WRA	**Warramunga Arr**	**46.99**	**191**	P	**P**	**16 08 29.4**	**-0.6**
	3.8nm,0.5s,baz=12,slow=8.7,SNR=78						
FITZ	**Fitzroy Crossi**	**47.41**	**202**	P	**P**	**16 08 33.0**	**-0.3**
	0.7nm,0.6s,baz=333,slow=6.7,SNR=3.5						
ASAR	**Alice Springs**	**50.72**	**190**	P	**P**	**16 08 57.7**	**-0.9**
	0.2nm,0.5s,baz=17,slow=7.7,SNR=13						
MKAR	**Makanchi Array**	**50.98**	**310**	P	**P**	**16 09 01.4**	**+1.0**
	0.2nm,0.8s,baz=90,slow=6.1,SNR=3.2						
MKAR				LR	LR	16 31 46.7	
	comp=Z,29nm,21.7s,baz=356,slow=37						
KURBB	**Kurchatov Arra**	**53.55**	**315**	P	**P**	**16 09 18.4**	**-1.0**
	0.4nm,0.4s,baz=95,slow=7.5,SNR=4.3						
BVAR	**Borovoye Array**	**58.56**	**318**	P	**P**	**16 09 54.8**	**-0.4**
	0.4nm,0.5s,baz=84,slow=7.2,SNR=5.6						
JOF	**Joensuu**	**75.60**	**334**	*ep*	**P**	**16 11 43.2**	**0.0**
	2.3nm,0.7s						
KAF	**Kangasniemi**	**77.99**	**334**	*ep*	**P**	**16 11 57.1**	**+0.4**
FINES	**FINESS Array B**	**78.47**	**334**	P	**P**	**16 11 59.9**	**+0.6**
	1.4nm,0.6s,baz=63,slow=4.8,SNR=13						
KBZ	**Khabaz**	**78.52**	**313**	P	**P**	**16 12 00.7**	**+0.8**
	1.6nm,0.8s,baz=176,slow=4.7,SNR=4.1						

*IDC **22** 16:27:14.7±0.6,61°.97N×79°.55W,h0km,mb3.5/8, mb1 3.8/11,mb1mx3.6/32,mbtmp3.6/11,ML2.9/3,MS3.9/2, Ms1 3.9/2,ms1mx2.7/39,Error ellipse: s-maj=12.3km s-min=9.7km az=7.0*

*OTT **22** 16:27:15.1±0.2,62°.10N×79°.70W,h5km,MN3.8/27,90km west from Ivujivik, Qc Boothia Ungava Seismic Zone.*

ISC 22 16:27:10.7±0.5,61°.86N±0°.03×79°.67W±0°.03,h10km,n46, σ2°34/46,mb3.5/8,Hudson Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVKQ	**Ivujivik**	**1.00**	**55**	PG	**Pn**	**16 27 31.5**	**+0.7**
IVKQ				SG	**Sb**	**16 27 42.5**	**-0.7**
IVKQ				Trac		16 27 43.7	
	comp=Z,746nm,0.2s						
INUQ	**Inukjuak**	**3.50**	**167**	PN	**Pb**	**16 28 12.9**	**+0.2**
INUQ				PG	**Pg**	**16 28 17.4**	**-0.4**
INUQ				SN	**Sb**	**16 28 56.4**	**+1.1**
INUQ				SG	**Sg**	**16 29 01.6**	**-1.5**
INUQ				Trac		16 29 10.0	
	comp=Z,250nm,0.5s						
FRB	**Frobisher Bay**	**5.44**	**65**	Pn	Pn	16 28 34.5	+2.8
FRB				LR	LR	16 30 58.0	
	comp=Z,6μm,22.0s,baz=355,slow=42						
FRB	**Frobisher Bay**	**5.44**	**65**	PN	Pn	16 28 34.8	+3.1
SEDN	**First Sedna Si**	**5.52**	**290**	SN	**Sn**	**16 29 34.5**	**-1.7**
QILN	**Qililugaq Expl**	**5.63**	**332**	PN	**Pn**	**16 28 35.9**	**+1.6**
QILN				SN	**Sn**	**16 29 35.0**	**-3.9**
QILN				LG	Lg	16 30 02.4	
QILN				Trac		16 30 18.5	
	comp=Z,64nm,0.5s						
WAGN	**Wager Bay**	**5.91**	**317**	PN	**Pn**	**16 28 40.3**	**+2.2**
WAGN				SN	**Sn**	**16 29 44.3**	**-1.5**
WAGN				LG	Lg	16 30 13.1	
WAGN				Trac		16 30 27.3	
	comp=Z,127nm,0.7s						
NUNN	**Nunuq Camp, NU**	**6.11**	**308**	PN	**Pn**	**16 28 43.2**	**+2.3**
NUNN				SN	**Sn**	**16 29 50.9**	**+0.1**
NUNN				LG	Lg	16 30 21.6	
NUNN				Trac		16 30 32.0	
	comp=Z,104nm,0.6s						
KUQ	**Kuujjuuaa**	**6.78**	**119**	PN	Pn	16 28 54.4	+4.3
KUQ				PG	Pb	16 28 59.9	-8.6
KUQ				SN	**Sn**	**16 30 09.5**	**+2.2**
KUQ				LG	Lg	16 30 44.8	
KUQ				Trac		16 30 51.9	
	comp=Z,76nm,0.5s						
ARVN	**Arviat, NU**	**6.94**	**270**	PN	Pn	16 28 55.7	+3.4
ARVN				SN	**Sn**	**16 30 11.7**	**+0.6**
ARVN				LG	Lg	16 30 49.0	
ARVN				Trac		16 30 58.8	
	comp=Z,43nm,0.4s						
BULN	**Bullion Camp,**	**7.43**	**314**	PN	**Pn**	**16 29 01.1**	**+2.1**
BULN				SN	**Sn**	**16 30 19.6**	**-3.7**
BULN				LG	Lg	16 30 60.0	
BULN				Trac		16 31 06.8	
	comp=Z,41nm,0.5s						
ILON	**Igloolik, Nuna**	**7.60**	**354**	SN	Sn	16 30 21.0	-6.3
ILON				LG	Lg	16 31 01.0	
ILON				Trac		16 31 11.6	
	comp=Z,72nm,0.5s						
KUGN	**Kugaaruk Camp,**	**7.64**	**329**	PN	**Pn**	**16 29 02.3**	**+0.4**
KUGN				SN	Sn	16 30 22.5	-5.9
KUGN				LG	Lg	16 31 04.7	
KUGN				Trac		16 31 13.9	
	comp=Z,30nm,0.3s						
FCC	**Fort Churchill**	**7.80**	**253**	PN	Pn	16 29 09.3	+5.2
FCC				SN	**Sn**	**16 30 35.0**	**+2.7**
FCC				LG	Lg	16 31 16.1	
FCC				Trac		16 31 26.7	
	comp=Z,24nm,0.5s						
YBKN	**Baker Lake, Hu**	**7.81**	**296**	PN	**Pn**	**16 29 07.2**	**+3.1**
YBKN				SN	**Sn**	**16 30 29.8**	**-2.7**
YBKN				LG	Lg	16 31 09.6	
YBKN				Trac		16 31 22.5	
	comp=Z,35nm,0.5s						
SILO	**Sutton Inlier**	**7.90**	**203**	PN	Pn	16 29 11.1	+5.6
SILO				SN	**Sn**	**16 30 39.0**	**+4.2**
SILO				LG	Lg	16 31 15.4	
SILO				Trac		16 31 33.0	
	comp=Z,26nm,0.4s						
STLN	**Stellar Camp,**	**7.91**	**320**	PN	**Pn**	**16 29 07.4**	**+1.9**
STLN				SN	**Sn**	**16 30 31.0**	**-4.0**
STLN				LG	Lg	16 31 12.4	
STLN				Trac		16 31 16.6	
	comp=Z,49nm,0.5s						
LG4Q	**La Grande 4**	**8.77**	**158**	PN	Pn	16 29 21.7	+4.3
LG4Q				SN	**Sn**	**16 30 55.4**	**-0.8**
LG4Q				LG	Lg	16 31 44.7	
LG4Q				Trac		16 31 54.3	
	comp=Z,81nm,0.5s						
VIMO	**Victor Mine**	**9.33**	**195**	PN	Pn	16 29 31.4	+6.4
VIMO				SN	**Sn**	**16 31 13.2**	**+3.3**
VIMO				LG	Lg	16 32 03.8	
VIMO				Trac		16 32 15.6	
	comp=Z,23nm,0.4s						
SCHQ	**Schefferville**	**9.74**	**131**	Pn	**Pn**	**16 29 32.9**	**+2.3**
	0.5nm,0.3s,baz=317,slow=11,SNR=9.5						
SCHQ				Sn	**Sn**	**16 31 18.0**	**-2.0**
	3.6nm,0.3s,baz=87,slow=12,SNR=8.2						
SCHQ	**Schefferville**	**9.74**	**131**	PN	**Pn**	**16 29 33.7**	**+3.0**
SCHQ				SN	**Sn**	**16 31 17.6**	**-2.4**
SCHQ				LG	Lg	16 32 14.4	
SCHQ				Trac		16 32 25.9	
	comp=Z,69nm,0.7s						
YOSQ	**Ashton Mining**	**9.87**	**153**	PN	Pn	16 29 37.2	+4.8
YOSQ				SN	**Sn**	**16 31 22.1**	**-1.1**
YOSQ				LG	Lg	16 32 21.9	
YOSQ				Trac		16 32 27.0	
	comp=Z,53nm,0.4s						
MALO	**McAlpine Lake**	**11.86**	**180**	PN	Pn	16 30 04.3	+4.6
MALO				SN	**Sn**	**16 32 09.1**	**-3.0**
MALO				LG	Lg	16 33 21.6	
MALO				Trac		16 33 35.0	
	comp=Z,34nm,0.6s						
PKLO	**Pickle Lake**	**11.91**	**214**	PN	Pn	16 30 04.8	+4.4
PKLO				SN	Sn	16 32 09.7	-3.5
NANO	**Nakina Ontario**	**12.22**	**203**	PN	Pn	16 30 08.5	+3.9
NANO				SN	**Sn**	**16 32 19.4**	**-1.3**
NANO				LG	Lg	16 33 32.3	
CHGQ	**Chibougamau**	**12.33**	**164**	SN	**Sn**	**16 32 20.6**	**-2.9**
CHGQ				LG	Lg	16 33 34.8	
CHGQ				Trac		16 33 46.4	
	comp=Z,34nm,0.4s						
GDLN	**Gardenia Lake,**	**12.37**	**282**	SN	Sn	16 32 15.6	-8.7
KAPO	**Kapuskasing**	**12.54**	**189**	PN	Pn	16 30 14.0	+5.1
KAPO				SN	**Sn**	**16 32 27.3**	**-1.2**
KAPO				LG	Lg	16 33 40.1	
KAPO				Trac		16 33 54.0	
	comp=Z,22nm,0.7s						
CB31	**Cambridge Bay**	**12.73**	**316**	PN	**Pn**	**16 30 11.2**	**-0.3**
CB31				SN	Sn	16 32 25.6	-7.5
CB31				LG	Lg	16 33 44.0	
CB31				Trac		16 33 54.4	
	comp=Z,21nm,0.4s						
SMQ	**Clarke City**	**13.69**	**142**	PN	**Pn**	**16 30 25.8**	**+1.1**
SMQ				SN	Sn	16 32 50.1	-6.5
SMQ				LG	Lg	16 34 17.4	
SMQ				Trac		16 34 36.8	
	comp=Z,18nm,0.5s						
VLDQ	**Val d'Or**	**13.83**	**174**	PN	**Pn**	**16 30 28.6**	**+1.9**
VLDQ				SN	Sn	16 32 53.5	-6.6
VLDQ				LG	Lg	16 34 16.9	
VLDQ				Trac		16 34 25.9	
	comp=Z,55nm,1.2s						
RES	**Resolute Bay**	**13.98**	**343**	Pn	**Pn**	**16 30 26.4**	**-2.1**
	0.6nm,0.3s,baz=172,slow=12,SNR=18						
RES	**Resolute Bay**	**13.98**	**343**	PN	**Pn**	**16 30 26.8**	**-1.8**
RES				LG	Lg	16 34 16.1	
RES				Trac		16 34 41.7	
	comp=Z,16nm,0.7s						
CNQ	**Baie Comeau**	**14.15**	**147**	PN	**Pn**	**16 30 33.5**	**+2.5**
CNQ				SN	**Sn**	**16 33 03.6**	**-4.3**
CNQ				LG	Lg	16 34 36.0	
CNQ				Trac		16 34 39.9	
	comp=Z,24nm,0.5s						
ULM	**Lac du Bonnet**	**14.68**	**225**	Pn	**Pn**	**16 30 39.5**	**+1.3**
	0.3nm,0.3s,baz=45,slow=14,SNR=2.4						
ULM				Sn	Sn	16 33 16.2	-4.6
	0.9nm,0.3s,baz=117,slow=22,SNR=9.4						
YKW3	**Yellowknife Ar**	**16.20**	**288**	PN	**Pn**	**16 30 56.7**	**-1.3**
YKW3				SN	Sn	16 33 46.7	-11
YKW3				LG	Lg	16 35 30.4	
YKW3				Trac		16 35 53.8	
	comp=Z,6.4nm,0.5s						
YKA	**Yellowknife Ar**	**16.21**	**288**	Pn	**Pn**	**16 30 56.4**	**-1.8**
	0.4nm,0.3s,baz=71,slow=12,SNR=33						
YKA				Sn	Sn	16 33 48.7	-9.0
	0.2nm,0.3s,baz=69,slow=23,SNR=9.5						
INK	**Inuvik**	**22.88**	**309**	P	**P**	**16 32 17.2**	**+3.3**
	1.2nm,0.5s,baz=59,slow=8.9,SNR=10						
PDAR	**Pinedale Array**	**26.05**	**237**	P	P	16 32 52.2	+8.0
	0.5nm,0.7s,baz=46,slow=6.4,SNR=5.4						
BBB	**Bella Bella**	**27.45**	**272**	LR	LR	16 44 01.0	
	comp=Z,52nm,18.7s,baz=34,slow=37						
ILAR	**Eielson Array**	**29.05**	**306**	P	P	16 33 16.9	+6.4
	0.1nm,0.5s,baz=64,slow=8.6,SNR=4.8						
TXAR	**Lajitas Array**	**36.16**	**217**	P	P	16 34 20.4	+7.3
	0.4nm,0.6s,baz=49,slow=7.3,SNR=4.3						
FINES	**FINESS Array B**	**44.74**	**41**	P	P	16 35 27.9	+4.4
	0.4nm,0.5s,baz=352,slow=8.1,SNR=4.6						
AKTO	**Aktyubinsk**	**63.08**	**29**	P	P	16 37 42.8	+5.1
	0.4nm,0.5s,baz=348,slow=9.3,SNR=3.1						
BRTR	**Keskin Array B**	**65.43**	**51**	P	P	16 37 58.6	+5.1
	0.2nm,0.5s,baz=323,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**70.73**	**13**	P	P	16 38 31.3	+4.8
	0.2nm,0.5s,baz=25,slow=6.8,SNR=6.8						

*IDC **22** 16:36:47.1±0.7,4°.21S×137°.68E,h0km,mb4.2/8, mb1 4.4/13,mb1mx4.2/21,mbtmp4.3/13,ML4.2/5,MS3.5/4, Ms1 3.5/4,ms1mx3.0/31,Error ellipse: s-maj=22.1km s-min=15.1km az=59.0*

*ISCJB **22** 16:36:49.8±0.3,4°.45S±0°.04×137°.62E±0°.05,h33km, mb4.3/9,MS3.8/2,Error ellipse: s-maj=7.4km s-min=5.2km az=147.0*

*DJA **22** 16:36:50.8±0.4,4°.5S±5°×13°.8E±°,h10km,M4.5/8,mb4.8/7, mB5.0/4,MLv4.5/8,Mw(mB)4.3/4*

*AUST **22** 16:36:53.8±0.0,4°.49S×137°.51E,h52km,Error ellipse: s-maj=0.9km s-min=0.7km az=15.0*

ISC 22 16:36:52.0±0.6,4°.40S±0°.06×137°.67E±0°.06,h35km,n54, σ1°55/49,mb5.0/18,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**2.61**	**24**	P	**Pn**	**16 37 31.7**	**-0.1**
BAKI	**Biak**	**3.55**	**334**	P	**Pn**	**16 37 44.6**	**-0.1**
JAY	**Jayapura**	**3.57**	**58**	P	**Pn**	**16 37 45.5**	**+0.6**
	baz=3.8,SNR=11						
JAY				S	Sn	16 38 37.9	+12
	baz=3.8,SNR=3.6						
JAY	**Jayapura**	**3.57**	**58**	P	Pn	16 37 48.3	+3.4
MMPI	**Merauke**	**4.86**	**146**	S	Sn	16 39 05.3	+7.6
	baz=4.9,SNR=6.4						
TLE	**Tual**	**5.06**	**256**	P	**Pn**	**16 38 06.2**	**+0.8**
	baz=4.9,SNR=11						
TLE	**Tual**	**5.06**	**256**	P	**Pn**	**16 38 07.2**	**+1.7**
	63nm,0.8s,0.6nm						
FAKI	**Fak Fak**	**5.60**	**285**	P	**Pn**	**16 38 11.2**	**-1.7**
	52nm,1.0s,663nm0.2nm						
SWI	**Sorong**	**7.30**	**299**	P	**Pn**	**16 38 34.3**	**-2.0**
	baz=7.2,SNR=14						
SWI	**Sorong**	**7.30**	**299**	P	**Pn**	**16 38 34.4**	**-1.9**
	49nm,0.6s,596nm0.2nm						
BNDI	**Bandanaira**	**7.74**	**269**	P	Pn	16 38 47.0	+4.7
	93nm,1.0s,2μm0.9nm						
AAI	**Ambon**	**9.47**	**274**	P	**Pn**	**16 39 04.9**	**-1.2**
	baz=9.3,SNR=3.1						
AAI	**Ambon**	**9.47**	**274**	P	**Pn**	**16 39 06.8**	**+0.7**
	22nm,0.6s						
KDU	**Kakadu**	**9.70**	**212**	P	**Pn**	**16 39 09.0**	**-0.2**
	baz=9.6,SNR=23						
MTN	**Manton Dam**	**10.58**	**217**	P	**Pn**	**16 39 21.2**	**-0.1**
	baz=10,SNR=68						
PMG	**Port Moresby**	**10.65**	**118**	Pn	**Pn**	**16 39 22.3**	**+0.1**
	2.7nm,0.3s,baz=340,slow=5.0,SNR=12						
PMG				Sn	**Sn**	**16 41 17.8**	**-2.6**
	0.6nm,0.3s,baz=257,slow=18,SNR=2.8						
LBMI	**Labuha**	**10.82**	**290**	P	**Pn**	**16 39 23.0**	**-1.6**
	34nm,0.9s,1μm						
COEN	**Coen**	**10.94**	**151**	P	**Pn**	**16 39 26.0**	**-0.2**
	baz=11,SNR=56						
COEN				S	**Sn**	**16 41 27.3**	**-0.1**
	baz=11,SNR=4.3						
TNTI	**Ternate**	**11.50**	**296**	P	Pn	16 39 39.2	+5.3
WRA	**Warramunga Arr**	**15.78**	**192**	Pn	**Pn**	**16 40 28.0**	**-3.8**
	1.1nm,0.3s,baz=12,slow=13,SNR=40						
WRA				Sn	Sn	16 43 18.3	-7.4
	1.1nm,0.3s,baz=12,slow=22,SNR=7.3						
QIS	**Mount Isa**	**16.17**	**173**	P	**Pn**	**16 40 34.4**	**-2.3**
	baz=16,SNR=8.8						
QIS				S	**Sn**	**16 43 29.4**	**-5.7**
	baz=16,SNR=4.6						
CTA	**Charters Tower**	**17.69**	**152**	P	**P**	**16 40 58.8**	**+2.3**
	1.2nm,0.3s,baz=328,slow=11,SNR=9.2						
KAPI	**Kappang**	**17.86**	**267**	P	**Pn**	**16 40 58.0**	**+0.1**
	0.2nm,0.3s,baz=59,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**18.00**	**220**	P	**Pn**	**16 40 59.9**	**+0.3**
	1.0nm,0.3s,baz=50,slow=11,SNR=29						
FITZ				LR	LR	16 48 48.2	
	comp=Z,101nm,19.1s,baz=42,slow=40						
FITZ	**Fitzroy Crossi**	**18.00**	**220**	P	**Pn**	**16 40 59.6**	**+0.1**
	baz=18,SNR=23						
PCI	**Palu**	**18.14**	**281**	P	Pn	16 40 55.8	-5.6
	baz=18,SNR=73						
GUMO	**Guam**	**19.25**	**22**	LR	LR	16 48 15.7	
	comp=Z,30nm,18.3s,baz=154,slow=36						
ASAR	**Alice Springs**	**19.49**	**190**	P	**P**	**16 41 16.9**	**+0.6**
	1.7nm,0.3s,baz=12,slow=12,SNR=116						
HNR	**Honiara**	**22.67**	**104**	P	**P**	**16 41 49.9**	**-0.7**
	153nm,1.0s,baz=166,slow=5.2,SNR=2.5						
QLP	**Quilpie**	**22.93**	**165**	P	**P**	**16 41 54.5**	**+1.3**
	baz=23,SNR=32						
STKA	**Stephens Creek**	**27.58**	**173**	P	**P**	**16 42 38.6**	**+2.6**
	1.0nm,0.3s,baz=345,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**27.58**	**173**	P	**P**	**16 42 38.9**	**+2.9**
	baz=28,SNR=3.6						
CBIJ	**Chichi jima**	**31.62**	**8**	LR	LR	16 54 59.1	
	comp=Z,294nm,18.1s,baz=101,slow=35						
MORW	**Morawa**	**31.97**	**218**	P	**P**	**16 43 15.6**	**+0.7**
	baz=32,SNR=3.9						
NWAO	**Narrogin (SRO)**	**34.20**	**211**	P	**P**	**16 43 35.2**	**+0.9**
	3.9nm,0.8s,baz=9.6,slow=9.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**44.41**	**302**	P	**P**	**16 44 59.5**	**-0.2**
	4.3nm,0.8s,baz=124,slow=6.3,SNR=52						
RPZ	**Rata Peaks**	**48.99**	**148**	P	**P**	**16 45 36.7**	**+1.4**
	7.7nm,0.8s,baz=14,slow=21,SNR=3.8						
TAPN	**Taplejung**	**57.60**	**306**	*eP*	**P**	**16 46 39.3**	**+0.1**
	16nm,0.9s						
ODAN	**Odare**	**57.66**	**306**	*eP*	**P**	**16 46 38.8**	**-0.7**
	24nm,0.7s						
RAMN	**Ramite**	**58.34**	**305**	*eP*	**P**	**16 46 44.5**	**+0.2**
	14nm,0.6s						
SONM	**Songino Array**	**58.81**	**336**	LR	LR	17 11 11.6	
	comp=Z,50nm,19.1s,baz=216,slow=35						
JIRN	**Jiri**	**58.96**	**306**	*eP*	**P**	**16 46 48.5**	**-0.3**
GUN	**Gumba**	**59.31**	**306**	*eP*	**P**	**16 46 51.1**	**-0.1**
	16nm,0.7s						
KKN	**Kakani**	**59.75**	**306**	*eP*	**P**	**16 46 53.5**	**-0.6**
	12nm,0.8s						
DMN	**Daman**	**59.82**	**305**	*eP*	**P**	**16 46 54.7**	**+0.1**
GKN	**Gorkha**	**60.35**	**306**	*eP*	**P**	**16 46 58.4**	**+0.3**
	25nm,0.9s						
KOLN	**Koldanda**	**61.11**	**305**	*eP*	**P**	**16 47 03.3**	**0.0**
	9.7nm,0.7s						
DANN	**Dangsing**	**61.20**	**306**	*eP*	**P**	**16 47 03.9**	**-0.2**
	9.8nm,0.7s						
PYUN	**Piuthan**	**61.73**	**305**	*eP*	**P**	**16 47 07.9**	**+0.4**
	43nm,0.9s						
MKAR	**Makanchi Array**	**70.50**	**323**	P	**P**	**16 48 03.2**	**0.0**
	1.0nm,0.6s,baz=108,slow=8.1,SNR=20						
ZALV	**Zalesovo Beam**	**72.88**	**330**	P	**P**	**16 48 16.3**	**-1.1**
	0.5nm,0.5s,baz=116,slow=3.4,SNR=3.3						
VNDA	**Vanda**	**74.20**	**175**	P	**P**	**16 48 26.1**	**+1.3**
	1.0nm,0.5s,baz=324,slow=8.0,SNR=8.4						
ILAR	**Eielson Array**	**87.80**	**25**	P	**P**	**16 49 36.2**	**-1.1**
	0.7nm,0.6s,baz=265,slow=4.3,SNR=9.4						
LPAZ	**La Paz**	**147.23**	**129**	PKPbc	**PKPab**	**16 56 35.3**	**+0.1**
	3.0nm,0.9s,baz=231,slow=1.5,SNR=9.1						

*ISCJB **22** 16:37:47.7±0.6,40°.62N±0°.04×29°.14E±0°.04,h11km±5km, Error ellipse: s-maj=6.2km s-min=5.6km az=173.9*

*ISK **22** 16:37:47.0,40°.56N×29°.12E,h17km, MD2.5*

*DDA **22** 16:37:47.6,40°.61N×29°.12E,h7km,MD2.2*

*CSEM **22** 16:37:47.4±0.3,40°.62N×29°.13E,h15km,MD2.5,Error ellipse: s-maj=6.9km s-min=5.3km az=161.0*

ISC 22 16:37:47.3±0.9,40°.61N±0°.03×29°.14E±0°.03,h14km±6km, n18,σ0°52/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEMT	**Gemlik**	**0.18**	**167**	*e*PG	**Pg**	**16 37 51.4**	**-0.2**
GEMT				*e*SG	**Sg**	**16 37 54.3**	**-0.1**
GEMT	**Gemlik**	**0.18**	**167**	*e*Pg	**Pg**	**16 37 51.4**	**-0.2**
GEMT				*e*Sg	**Sg**	**16 37 54.3**	**-0.1**
YLV	**Yalova**	**0.18**	**103**	*e*PG	**Pb**	**16 37 52.6**	**+0.1**
YLV				*e*SG	**Sg**	**16 37 55.5**	**+0.8**
YLV	**Yalova**	**0.18**	**103**	*e*Pg	**Pb**	**16 37 52.6**	**+0.1**
YLV				*e*Sg	**Sg**	**16 37 55.5**	**+0.8**
ARMT	**Armutlu**	**0.21**	**258**	*e*PG	**Pg**	**16 37 52.1**	**0.0**
ARMT				*e*SG	**Sg**	**16 37 55.7**	**+0.3**
ARMT	**Armutlu**	**0.21**	**258**	*e*Pg	**Pg**	**16 37 52.1**	**0.0**
ARMT				*e*Sg	**Sg**	**16 37 55.7**	**+0.3**
BUY	**Buyukada**	**0.24**	**357**	*i* P	**Pg**	**16 37 52.8**	**+0.2**
BUY				*i* S	**Sg**	**16 37 56.1**	**-0.1**
BUY	**Buyukada**	**0.24**	**357**	*i* P	**Pg**	**16 37 52.8**	**+0.2**
BUY				*i* S	**Sg**	**16 37 56.1**	**-0.1**
HRT	**Hereke**	**0.46**	**62**	*e*PG	**Pb**	**16 37 57.1**	**-0.1**
HRT	**Hereke**	**0.46**	**62**	*e*Pg	**Pb**	**16 37 57.1**	**-0.1**
GULT	**Gulveren**	**1.06**	**99**	*e*PG	**Pn**	**16 38 07.9**	**0.0**
GULT	**Gulveren**	**1.06**	**99**	*e*Pg	**Pn**	**16 38 07.9**	**0.0**
DURS	**Dursunbey**	**1.13**	**207**	*i* P	**Pg**	**16 38 10.0**	**+0.9**
DURS				*i* S	**Sg**	**16 38 24.3**	**+0.5**
DURS	**Dursunbey**	**1.13**	**207**	*i* P	**Pg**	**16 38 10.0**	**+0.9**
DURS				*i* S	**Sg**	**16 38 24.3**	**+0.5**
TVSB	**Tavsanli**	**1.19**	**168**	*e*PN	**Pn**	**16 38 08.3**	**-1.2**
TVSB	**Tavsanli**	**1.19**	**168**	*e*Pn	**Pn**	**16 38 08.3**	**-1.2**
BORA	**Eskisehir**	**1.24**	**125**	*i* P	**Pg**	**16 38 11.2**	**-0.1**
BORA				*i* S	**Sb**	**16 38 26.6**	**+0.1**
BORA	**Eskisehir**	**1.24**	**125**	*i* P	**Pg**	**16 38 11.2**	**-0.1**
BORA				*i* S	**Sb**	**16 38 26.6**	**+0.1**

*ISCJB **22** 16:38:47.2±0.4,62°.01N±0°.03×79°.84W±0°.06,h10km, Error ellipse: s-maj=4.4km s-min=4.1km az=34.8*

*OTT **22** 16:38:52.0±0.2,62°.08N×79°.64W,h5km,MN3.4/19,90km west from Ivujivik, Qc Boothia Ungava Seismic Zone.*

*IDC **22** 16:38:51.5±2.1,61°.99N×79°.50W,h0km,mb1 3.7/3, mb1mx3.3/30,mbtmp3.6/3,ML2.3/2,Error ellipse: s-maj=31.8km s-min=12.6km az=22.0*

ISC 22 16:38:48.6±0.6,62°.04N±0°.04×79°.59W±0°.04,h10km,n29, σ2°17/36,Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVKQ	**Ivujivik**	**0.87**	**63**	PG	**Pn**	**16 39 08.3**	**+1.4**
IVKQ				SG	**Sn**	**16 39 19.2**	**-0.4**
IVKQ				Trac		16 39 20.6	
	comp=Z,314nm,0.2s						
INUQ	**Inukjuak**	**3.67**	**168**	PN	Pn

SILO				LG	Lg	16 42 58.5	
SILO				Trac		16 43 09.9	
	comp=Z,12nm,0.4s						
LG4Q	**La Grande 4**	**8.92**	**158**	PN	Pn	16 41 14.3	+17
LG4Q				SN	Sn	16 42 50.5	+13
LG4Q				LG	Lg	16 43 36.0	
LG4Q				Trac		16 43 47.5	
	comp=Z,32nm,0.5s						
VIMO	**Victor Mine**	**9.51**	**195**	PN	Pn	16 41 09.1	+3.7
VIMO				SN	**Sn**	**16 42 49.9**	**-2.3**
SCHQ	**Schefferville**	**9.83**	**132**	Pn	**Pn**	**16 41 10.7**	**+0.9**
	0.2nm,0.3s,baz=300,slow=11,SNR=2.0						
SCHQ				Sn	Sn	16 42 54.4	-5.6
	1.1nm,0.3s,baz=25,slow=16,SNR=6.9						
SCHQ	**Schefferville**	**9.83**	**132**	PN	**Pn**	**16 41 10.3**	**+0.5**
SCHQ				SN	Sn	16 42 54.7	-5.4
SCHQ				LG	Lg	16 43 50.2	
SCHQ				Trac		16 44 02.8	
	comp=Z,52nm,0.9s						
YOSQ	**Ashton Mining**	**10.01**	**153**	PN	**Pn**	**16 41 13.9**	**+1.5**
YOSQ				SN	**Sn**	**16 43 00.5**	**-4.1**
YOSQ				LG	Lg	16 43 56.0	
YOSQ				Trac		16 44 03.5	
	comp=Z,33nm,0.6s						
MALO	**McAlpine Lake**	**12.04**	**181**	PN	**Pn**	**16 41 40.8**	**+0.7**
MALO				SN	Sn	16 43 48.4	-5.9
PKLO	**Pickle Lake**	**12.08**	**214**	PN	**Pn**	**16 41 42.2**	**+1.6**
PKLO				SN	Sn	16 43 47.3	-7.9
NANO	**Nakina Ontario**	**12.40**	**203**	PN	**Pn**	**16 41 45.2**	**+0.3**
NANO				SN	Sn	16 43 56.8	-6.2
SMQ	**Clarke City**	**13.81**	**143**	PN	**Pn**	**16 42 03.7**	**-0.5**
SMQ				SN	Sn	16 44 28.6	-8.9
SMQ				LG	Lg	16 45 49.7	
SMQ				Trac		16 46 05.5	
	comp=Z,6.9nm,0.5s						
RES	**Resolute Bay**	**13.82**	**343**	Pn	**Pn**	**16 42 04.3**	**+0.1**
	0.2nm,0.3s,baz=161,slow=12,SNR=9.9						
RES				Sn	Sn	16 44 30.4	-7.1
	0.2nm,0.3s,baz=184,slow=20,SNR=2.4						
RES	**Resolute Bay**	**13.82**	**343**	PN	**Pn**	**16 42 04.0**	**-0.2**
RES				SN	Sn	16 44 30.2	-7.3
RES				LG	Lg	16 45 57.3	
RES				Trac		16 46 10.3	
	comp=Z,10nm,0.8s						
ULM	**Lac du Bonnet**	**14.84**	**225**	Pn	Pn	16 42 17.4	-0.8
	0.3nm,0.3s,baz=7.3,slow=5.2,SNR=1.4						
ULM				Sn	Sn	16 44 53.5	-8.9
	0.6nm,0.3s,baz=130,slow=22,SNR=4.2						
YKA	**Yellowknife Ar**	**16.19**	**287**	Pn	**Pn**	**16 42 34.9**	**-0.9**
	0.1nm,0.3s,baz=80,slow=12,SNR=5.8						
YKA				Sn	Sn	16 45 24.9	-10
	0.1nm,0.3s,baz=67,slow=21,SNR=5.3						

*IDC **22** 16:54:40.7±2.6,5.°12S×130.°17E,h0km,mb3.2/1, mb1 3.9/3,mb1mx3.5/18,mbtmp3.7/3,ML3.9/3,Error ellipse: s-maj=127.3km s-min=28.7km az=76.0*
*AUST **22** 16:54:58.2±0.0,5.°68S×129.°79E,h202km,Error ellipse: s-maj=1.4km s-min=1.1km az=260.0*
*ISCJB **22** 16:54:59.4±0.7,5.°75S±0.°05×130.°01E±0.°08,h200km, mb2.8/1,Error ellipse: s-maj=10.6km s-min=7.1km az=3.8*

ISC 22 16:54:58.2±1.1,5.°73S±0.°06×129.°8E±0.°1,h200km,n12, σ2°99/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.60**	**321**	P	Pn	16 55 46.9	+3.7
	baz=2.5,SNR=4.0						
TLE	**Tual**	**2.90**	**88**	P	**Pn**	**16 55 48.8**	**+2.2**
	baz=2.9,SNR=14						
TLE				S	**Sn**	**16 56 21.8**	**-2.6**
	baz=2.9,SNR=11						
SWI	**Sorong**	**5.04**	**16**	P	**Pn**	**16 56 13.4**	**+0.2**
	baz=5.0,SNR=18						
SWI				S	**Sn**	**16 57 07.8**	**-4.6**
	baz=5.0,SNR=13						
MTN	**Manton Dam**	**7.18**	**170**	P	**Pn**	**16 56 41.9**	**+1.1**
	baz=7.3,SNR=19						
MTN				S	**Sn**	**16 57 58.9**	**-3.5**
	baz=7.3,SNR=6.3						
KDU	**Kakadu**	**7.39**	**159**	P	**Pn**	**16 56 44.2**	**+0.8**
	baz=7.5,SNR=86						
KDU				S	**Sn**	**16 58 03.2**	**-3.9**
	baz=7.5,SNR=8.7						
PCI	**Palu**	**11.07**	**295**	S	Sn	16 59 21.1	-14
	baz=11,SNR=32						
FITZ	**Fitzroy Crossi**	**12.96**	**198**	Pn	**Pn**	**16 57 55.6**	**+0.5**
	0.2nm,0.3s,baz=38,slow=13,SNR=16						
FITZ	**Fitzroy Crossi**	**12.96**	**198**	P	**Pn**	**16 57 56.1**	**+0.9**
	baz=13,SNR=4.4						
FITZ				S	**S**	**17 00 19.3**	**-0.5**
	baz=13,SNR=3.3						
WRA	**Warramunga Ar**	**14.79**	**163**	Pn	**Pn**	**16 58 18.8**	**+0.9**
	0.7nm,0.3s,baz=335,slow=14,SNR=26						
WRA				Sn	**S**	**17 00 57.9**	**-4.4**
	0.3nm,0.3s,baz=333,slow=22,SNR=4.9						
COEN	**Coen**	**15.47**	**123**	P	**P**	**16 58 31.2**	**+4.8**
	baz=16,SNR=6.2						
ASAR	**Alice Springs**	**18.26**	**168**	P	**Pn**	**16 59 01.3**	**+2.0**
	0.8nm,0.3s,baz=346,slow=9.8,SNR=139						
ASAR				S	**S**	**17 02 17.6**	**+2.2**
	0.1nm,0.3s,baz=196,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**67.08**	**327**	P	P	17 05 34.0	+4.0
	0.1nm,0.5s,baz=116,slow=7.0,SNR=4.3						

*PGC **22** 17:22:25.7±24.0,69.°25N×141.°35W,h5km,ML2.6/2, 291km east of Prudhoe Bay, Ak Alaska*

NEIC 22 17:22:14.7,69.°80N×143.°34W,h4km,ML2.7(AEIC)**,5D, After AEIC.,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.44**	**192**	P	Pn	17 22 54.7	-0.6
BM3				S	Sb	17 23 28.5	-1.1
COLD	**Coldfoot**	**3.61**	**228**	P	Pn	17 23 11.4	+0.1
COLD				S	Sn	17 23 55.3	+0.9
INK	**Inuvik**	**3.83**	**108**	P	Pn	17 23 14.4	+0.1
INK	**Inuvik**	**3.83**	**108**	∥Pn	Pn	17 23 14.4	+0.2
INK				∥Sg	Sn	17 23 59.0	-0.7
EGAK	**Eagle**	**5.12**	**169**	*e*P	Pn	17 23 31.6	-0.3
	2.5nm,0.4s						
IL1	**Eielson Array**	**5.24**	**197**	P	Pn	17 23 33.7	+0.1
COLA	**College**	**5.25**	**202**	*e*P	Pn	17 23 33.8	+0.1
DAWY	**Dawson**	**5.96**	**163**	P	Pn	17 23 44.1	+0.4
DAWY	**Dawson**	**5.96**	**163**	∥Pn	Pn	17 23 44.0	+0.2
DDM	**Donnelly Dome**	**6.12**	**191**	P	Pn	17 23 45.8	-0.1
BCA3	**Beaver Creek A**	**6.79**	**174**	P	Pn	17 23 55.1	+0.1
GALN	**Gameti Lake**	**11.60**	**107**	∥Pn	Pn	17 24 57.1	-3.6
CTLN	**Castor Lake**	**11.83**	**104**	∥Pn	Pn	17 25 01.4	-2.6
JERN	**Jeri Cho Mine,**	**12.47**	**92**	∥Pn	Pn	17 25 09.7	-3.0
YKW3	**Yellowknife Ar**	**13.55**	**108**	∥Pn	Pn	17 25 23.9	-3.4

MEX 22 17:33:00.6±0.9,16.°48N×94.°94W,h84km±10km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**5**	*e*P	Pn	17 33 14.4	-1.4
CMIG				*i* S	Sn	17 33 25.1	-2.0
HUIG	**Huatulco**	**1.33**	**238**	*i* P	Pn	17 33 22.0	-1.9
HUIG				*i* S	Sn	17 33 40.3	-1.2
TGIG		**1.76**	**80**	*i* P	Pn	17 33 29.2	-0.4
TGIG				*i* S	Sn	17 33 50.7	-0.9
OXX	**Oaxaca**	**1.81**	**290**	*i* P	Pn	17 33 30.1	-0.4
OXX				*i* S	Sn	17 33 51.9	-1.3
VHO	**Vista Hermosa**	**1.82**	**289**	*e*P	Pn	17 33 29.6	-1.0
VHO				*i* S	Sn	17 33 52.0	-1.3
CCIG	**Comitan**	**2.69**	**94**	*i* P	Pn	17 33 40.5	-1.6
CCIG				*i* S	Sn	17 34 12.2	-1.9
THIG		**3.01**	**121**	*i* P	Pn	17 33 43.4	-2.7
THIG				*i* S	Sn	17 34 18.9	-2.4
TPIG	**Tehuac#an**	**3.02**	**310**	*i* P	Pn	17 33 45.0	-1.5
TPIG				*i* S	Sn	17 34 20.7	-1.1
UTMO	**Huajuapan**	**3.05**	**297**	*i* P	Pn	17 33 46.1	-0.9
UTMO				*i* S	Sn	17 34 20.1	-2.7
PNIG	**Pinotepa**	**3.06**	**269**	*e*P	Pn	17 33 44.4	-2.5
PNIG				*i* S	Sn	17 34 20.3	-2.4

IDC 22 17:44:34.7±4.7,1.°79S×139.°03E,h0km,mb3.0/2, mb1 3.4/3,mb1mx3.2/18,mbtmp3.1/3,Error ellipse: s-maj=190.7km s-min=27.9km az=86.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.62**	**194**	P	Pn	17 48 54.5	+0.3
	0.1nm,0.3s,baz=15,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**22.31**	**192**	P	P	17 49 33.8	-0.2
	0.5nm,0.7s,baz=24,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**69.26**	**322**	P	P	17 55 43.7	-0.1
	0.1nm,0.5s,baz=96,slow=6.5,SNR=3.0						

IDC 22 17:48:40.7±5.3,23.°65S×170.°57E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/18,mbtmp3.9/6,MS3.7/1,Ms1 3.7/1, ms1mx2.8/28,Error ellipse: s-maj=211.0km s-min=33.1km az=153.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.52**	**262**	P	P	17 55 22.1	-0.3
	1.3nm,0.9s,baz=90,slow=9.0,SNR=26						
WRA	**Warramunga Arr**	**33.78**	**269**	P	P	17 55 23.2	-1.4
	0.8nm,0.9s,baz=126,slow=8.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**42.21**	**269**	P	P	17 56 35.9	+0.2
	3.4nm,0.9s,baz=126,slow=8.6,SNR=8.5						
NWAO	**Narrogin (SRO)**	**47.44**	**246**	LR	LR	18 16 51.2	
	comp=Z,81nm,20.2s,baz=84,slow=36						
CMAR	**Chiang Mai Arr**	**81.44**	**294**	P	P	18 01 01.1	+1.0
	0.8nm,0.7s,baz=132,slow=3.9,SNR=7.4						
SONM	**Songino Array**	**91.47**	**323**	P	P	18 01 49.1	+0.1
	0.7nm,0.9s,baz=135,slow=2.6,SNR=4.6						
ILAR	**Eielson Array**	**94.06**	**17**	P	P	18 01 58.5	-1.9
	0.5nm,0.8s,baz=251,slow=4.5,SNR=4.7						
GERES	**GERESS Array B**	**148.93**	**330**	PKPbc	PKPbc	18 08 31.0	+0.5
	1.1nm,0.8s,baz=80,slow=1.5,SNR=8.0						

IDC 22 17:57:31.3±1.9,8.°05S×120.°05E,h208km±19km,mb2.9/3, mb1 3.0/6,mb1mx2.8/23,mbtmp2.9/6,Error ellipse: s-maj=61.4km s-min=12.0km az=54.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.03**	**354**	P	Pn	17 58 20.6	-1.1
	3.8nm,0.3s,baz=184,slow=7.6,SNR=12						
FITZ	**Fitzroy Crossi**	**11.38**	**152**	P	Pn	18 00 07.4	-0.7
	0.1nm,0.3s,baz=343,slow=12,SNR=9.0						
FITZ				S	S	18 02 07.6	-6.7
	0.2nm,0.3s,baz=189,slow=20,SNR=10.0						
WRA	**Warramunga Arr**	**18.21**	**132**	P	P	18 01 29.5	+0.5
	0.3nm,0.3s,baz=303,slow=13,SNR=20						
WRA				S	S	18 04 45.7	-0.9
	0.1nm,0.3s,baz=298,slow=28,SNR=4.4						
ASAR	**Alice Springs**	**20.44**	**141**	P	P	18 01 53.7	+0.7
	0.4nm,0.3s,baz=318,slow=9.2,SNR=36						
ASAR				S	S	18 05 30.3	+0.1
	0.3nm,0.7s,baz=316,slow=18,SNR=4.0						
STKA	**Stephens Creek**	**31.05**	**143**	P	P	18 03 31.5	+1.6
	1.5nm,0.9s,baz=92,slow=4.6						
MKAR	**Makanchi Array**	**64.09**	**332**	P	P	18 07 43.0	-0.2
	0.1nm,0.6s,baz=149,slow=8.2,SNR=2.4						

IDC 22 18:00:54.9±2.9,23.°83S×175.°40W,h0km,mb4.3/7, mb1 4.4/7,mb1mx4.0/21,mbtmp4.2/7,MS3.5/2,Ms1 3.5/2, ms1mx2.8/40,Error ellipse: s-maj=103.3km s-min=30.8km az=144.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.69**	**268**	P	P	18 07 55.4	+0.1
	4.1nm,0.7s,baz=114,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**46.19**	**259**	P	P	18 09 21.6	-0.3
	0.8nm,0.6s,baz=92,slow=7.1,SNR=15						
WRA	**Warramunga Arr**	**46.61**	**265**	P	P	18 09 23.8	-1.3
	1.6nm,0.7s,baz=93,slow=8.5,SNR=22						
FITZ	**Fitzroy Crossi**	**55.03**	**264**	P	P	18 10 29.2	+0.6
	1.7nm,0.7s,baz=148,slow=4.5,SNR=4.0						
FITZ				LR	LR	18 32 17.2	
	comp=Z,85nm,21.6s,baz=220,slow=34						
PETK	**Petropavlovsk-**	**80.11**	**344**	P	P	18 13 06.1	-0.3
	4.8nm,1.1s,baz=252,slow=35,SNR=4.1						
USRK	**Ussuriysk Arra**	**83.06**	**325**	P	P	18 13 22.2	+0.1
	3.8nm,0.9s,baz=349,slow=1.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**93.47**	**289**	P	P	18 14 14.8	+1.9
	2.1nm,0.8s,baz=136,slow=3.1,SNR=16						
KURBB	**Kurchatov Arra**	**118.11**	**316**	PKP	PKPdf	18 19 43.9	+0.3
	0.1nm,0.4s,baz=92,slow=1.9,SNR=3.5						
NOA	**NORSAR Array B**	**142.53**	**355**	SKPbc	SKPbc	18 24 07.7	-0.8
	1.2nm,0.8s,baz=40,slow=4.7,SNR=3.4						
AKASG	**Malin Array Be**	**147.08**	**331**	PKPbc	PKPdf	18 20 38.2	+0.8
	0.7nm,0.5s,baz=40,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**150.83**	**310**	PKPbc	PKPbc	18 20 48.5	-1.2
	1.2nm,1.0s,baz=128,slow=2.0,SNR=4.7						

*IDC **22** 18:11:05.8±1.5,29.°88N×51.°59E,h0km,mb3.4/8, mb1 3.6/11,mb1mx3.5/31,mbtmp3.5/11,ML3.5/3,Error ellipse: s-maj=28.8km s-min=21.3km az=3.0*
*THR **22** 18:11:06.2±0.8,29.°89N×51.°54E,h15km,ML3.5*
*ISCJB **22** 18:11:08.0±0.4,29.°97N±0.°04×51.°64E±0.°04,h15km, mb3.4/7,Error ellipse: s-maj=5.8km s-min=4.3km az=19.1*
*TEH **22** 18:11:08.5,29.°78N×51.°53E,h22km,ML3.5*
*CSEM **22** 18:11:10.0±0.1,29.°95N×51.°67E,h20km,ML3.5,Error ellipse: s-maj=4.1km s-min=3.5km az=28.0*

ISC 22 18:11:08.1±0.7,29.°92N±0.°04×51.°66E±0.°04,h15km,n73, σ1°36/75,mb3.3/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.79**	**110**	*e*Pg	**Pb**	**18 11 24.3**	**+0.7**
SHI				*e*Sg	**Sn**	**18 11 36.4**	**-0.1**
SHI				*e*		18 11 39.6	
	comp=N,45μm,0.1s						
ISRV	**Sarvestan**	**1.37**	**112**	*e*Pn	**Pn**	**18 11 33.5**	**+0.5**
ISRV				*e*		18 12 06.9	
	comp=Z,12μm,0.3s						
ISRV	**Sarvestan**	**1.37**	**112**	*e*Pn	**Pn**	**18 11 33.5**	**+0.5**
GHIR	**Ghir-Karzin**	**2.00**	**144**	*e*Pg	**Pn**	**18 11 43.3**	**+1.9**
GHIR				AML	AML	18 12 28.7	
	comp=N,452nm,0.5s						
GHIR				AML	AML	18 12 29.5	
	comp=E,391nm,0.5s						
GHIR	**Ghir-Karzin**	**2.00**	**144**	*e*Pg	**Pn**	**18 11 43.3**	**+1.9**
IGAR	**Gharneh**	**2.50**	**7**	*e*Pn	**Pn**	**18 11 50.1**	**+1.6**
IGAR				*e*		18 12 30.8	
	comp=Z,3μm,0.2s						
IPIR	**Pirpir**	**2.84**	**347**	*e*Pn	**Pn**	**18 11 54.5**	**+1.4**
IPIR				*e*		18 12 43.8	
	comp=Z,2μm,0.2s						
IPIR	**Pirpir**	**2.84**	**347**	*e*Pn	**Pn**	**18 11 54.5**	**+1.4**
IMEH	**Mehriz**	**2.94**	**59**	*e*Pn	**Pn**	**18 11 56.2**	**+1.7**
IMEH				*e*		18 12 03.8	
	comp=Z,1μm,0.2s						
IMEH	**Mehriz**	**2.94**	**59**	*e*Pn	**Pn**	**18 11 56.2**	**+1.7**
IZEF	**Zefreh**	**3.03**	**11**	*e*Pn	**Pn**	**18 11 57.2**	**+1.5**
IZEF				*e*		18 12 04.5	
	comp=Z,514nm,0.2s						
IZEF	**Zefreh**	**3.03**	**11**	*e*Pn	**Pn**	**18 11 57.2**	**+1.5**
NASN	**Na'in**	**3.04**	**19**	*e*Pn	**Pn**	**18 11 56.5**	**+0.6**
NASN	**Na'in**	**3.04**	**19**	*e*Pn	**Pn**	**18 11 56.5**	**+0.6**
ICHK	**Chekchek**	**3.31**	**45**	*e*Pn	**Pn**	**18 12 01.2**	**+1.7**
ICHK				*e*		18 12 56.9	
	comp=Z,734nm,0.3s						
ICHK	**Chekchek**	**3.31**	**45**	*e*Pn	**Pn**	**18 12 01.2**	**+1.7**
IKLH	**Kolahrood**	**3.40**	**359**	*e*Pn	**Pn**	**18 12 02.0**	**+1.2**
IKLH				*e*		18 13 19.5	
	comp=Z,847nm,0.3s						
IKLH	**Kolahrood**	**3.40**	**359**	*e*Pn	**Pn**	**18 12 02.0**	**+1.2**
UMR	**Umm Al-Rimmam**	**3.45**	**265**	*e*P	**Pn**	**18 12 03.0**	**+1.8**
UMR				AML	AML	18 12 47.8	
	comp=Z,178nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.45**	**265**	*e*P	**Pn**	**18 12 03.0**	**+1.8**
KBD	**Kabd**	**3.53**	**259**	*e*P	**Pn**	**18 12 04.5**	**+2.1**
KBD				AML	AML	18 12 46.5	
	comp=Z,31nm,0.4s						
KBD	**Kabd**	**3.53**	**259**	*e*P	**Pn**	**18 12 04.5**	**+2.1**
RDF	**Al-Radifah**	**3.72**	**256**	*e*P	**Pn**	**18 12 07.1**	**+2.2**
RDF	**Al-Radifah**	**3.72**	**256**	*e*P	**Pn**	**18 12 07.1**	**+2.2**
MIB	**Mutribah**	**3.75**	**269**	*e*P	**Pn**	**18 12 07.0**	**+1.6**
MIB	**Mutribah**	**3.75**	**269**	*e*P	**Pn**	**18 12 07.1**	**+1.6**
IBAF	**Bafgh**	**3.76**	**63**	*e*		18 12 17.9	
	comp=Z,605nm,0.3s						
IBAF				*e*Pn	**Pn**	**18 12 07.5**	**+1.9**
NAY	**Al-Naaiem**	**3.90**	**261**	*e*P	**Pn**	**18 12 09.3**	**+1.8**
NAY				AML	AML	18 12 58.1	
	comp=Z,44nm,0.4s						
NAY	**Al-Naaiem**	**3.90**	**261**	*e*P	**Pn**	**18 12 09.3**	**+1.8**
KRBR	**Kerman**	**4.43**	**88**	*e*Pn	**Pn**	**18 12 17.2**	**+2.2**
KRBR				AML	AML	18 13 34.4	
	comp=N,38nm,0.6s						
KRBR				AML	AML	18 13 44.4	
	comp=E,46nm,0.8s						
KRBR	**Kerman**	**4.43**	**88**	*e*Pn	**Pn**	**18 12 17.2**	**+2.2**
ISFB	**Sefidab**	**4.45**	**6**	*e*Pn	**Pn**	**18 12 15.6**	**+0.5**
ISFB				*e*		18 13 09.7	
	comp=Z,385nm,0.2s						
ISFB	**Sefidab**	**4.45**	**6**	*e*Pn	**Pn**	**18 12 15.6**	**+0.5**
GHVR	**GHOM**	**4.56**	**356**	*e*Pn	**Pn**	**18 12 17.7**	**+1.0**
GHVR	**GHOM**	**4.56**	**356**	*e*Pn	**Pn**	**18 12 17.7**	**+1.0**
BNDS	**Bandar-Abbas**	**4.69**	**121**	*e*Pn	**Pn**	**18 12 19.6**	**+1.1**
BNDS	**Bandar-Abbas**	**4.69**	**121**	*e*Pn	**Pn**	**18 12 19.6**	**+1.1**
IVRN	**Varamin**	**5.07**	**1**	*e*Pn	**Pn**	**18 12 24.5**	**+0.9**
IVRN				*e*		18 12 27.4	
	comp=Z,292nm,0.1s						
IVRN	**Varamin**	**5.07**	**1**	*e*Pn	**Pn**	**18 12 24.5**	**+0.9**
ILAS	**Lasjerd**	**5.56**	**11**	*e*Pn	**Pn**	**18 12 31.5**	**+1.0**
ILAS				*e*		18 14 28.7	
	comp=Z,136nm,0.3s						
ILAS	**Lasjerd**	**5.56**	**11**	*e*Pn	**Pn**	**18 12 31.5**	**+1.0**
IR3	**Iran Long-Peri**	**5.57**	**355**	*e*Pn	**Pn**	**18 12 31.0**	**+0.5**
IR3	**Iran Long-Peri**	**5.57**	**355**	*e*Pn	**Pn**	**18 12 31.0**	**+0.5**
IDMV	**Damavand**	**5.66**	**3**	*e*Pn	**Pn**	**18 12 32.7**	**+0.8**
IDMV				*e*		18 12 44.4	
	comp=Z,131nm,0.1s						
IDMV	**Damavand**	**5.66**	**3**	*e*Pn	**Pn**	**18 12 32.7**	**+0.8**
IRAZ	**Razeghan**	**5.67**	**346**	*e*Pn	**Pn**	**18 12 32.3**	**+0.4**
IRAZ				*e*		18 13 45.2	
	comp=Z,241nm,0.3s						
IRAZ	**Razeghan**	**5.67**	**346**	*e*Pn	**Pn**	**18 12 32.3**	**+0.4**
DAMV	**Damavand**	**5.71**	**3**	*e*Pn	**Pn**	**18 12 32.9**	**+0.4**
DAMV	**Damavand**	**5.71**	**3**	*e*Pn	**Pn**	**18 12 32.9**	**+0.4**
ISHM	**Shahmirzad**	**6.03**	**13**	*e*Pn	**Pn**	**18 12 38.2**	**+1.2**
ISHM				*e*		18 12 44.7	
	comp=Z,196nm,0.1s						
ISHM	**Shahmirzad**	**6.03**	**13**	*e*Pn	**Pn**	**18 12 38.2**	**+1.2**
IALA	**Alasht**	**6.23**	**9**	*e*Pn	**Pn**	**18 12 40.6**	**+0.9**
IALA				*e*		18 12 45.9	
	comp=Z,324nm,0.1s						
IALA	**Alasht**	**6.23**	**9**	*e*Pn	**Pn**	**18 12 40.6**	**+0.9**
SNGE	**Sanandaj**	**6.32**	**326**	*e*Pn	**Pn**	**18 12 41.0**	**+0.1**
SNGE	**Sanandaj**	**6.32**	**326**	*e*Pn	**Pn**	**18 12 41.0**	**+0.1**
IPRN	**Peran**	**6.34**	**5**	*e*Pn	**Pn**	**18 12 41.8**	**+0.8**
IPRN				*e*		18 13 14.5	
	comp=Z,193nm,0.3s						
IPRN	**Peran**	**6.34**	**5**	*e*Pn	**Pn**	**18 12 41.8**	**+0.8**
ILIN	**Lien**	**6.38**	**323**	*e*Pn	**Pn**	**18 12 41.3**	**-0.4**
ILIN				*e*		18 14 00.1	
	comp=Z,354nm,0.2s						
ILIN	**Lien**	**6.38**	**323**	*e*Pn	**Pn**	**18 12 41.3**	**-0.4**
BHD	**Baghdad**	**7.05**	**300**	*e*Pn	**Pn**	**18 12 49.0**	**-1.7**
BHD				*e*Sn	**Sn**	**18 14 09.0**	**-1.7**
WSAR	**Wadi Sarin**	**9.12**	**135**	Pn	**Pn**	**18 13 18.6**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=313,slow=8.0,SNR=15						
WSAR				Sn	**Sn**	**18 14 57.2**	**-4.3**
	comp=Z,0.7nm,0.3s,baz=330,slow=19,SNR=5.3						
MMAI	**Mount Meron Ar**	**14.21**	**287**	Pn	Pn	18 14 32.5	+3.6
	comp=Z,0.8nm,0.3s,baz=176,slow=13,SNR=4.4						
EIL	**Elat**	**14.51**	**273**	Pn	**P**	**18 14 38.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=49,slow=17,SNR=3.7						
KBZ	**Khabaz**	**15.46**	**336**	Pn	**Pn**	**18 14 47.1**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=103,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**17.71**	**308**	P	**Pn**	**18 15 14.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=7.7						
AKTO	**Aktyubinsk**	**21.05**	**11**	P	**P**	**18 15 52.6**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=20,slow=23,SNR=2.1						
MLR	**Muntele Rosu**	**25.46**	**315**	P	**P**	**18 16 36.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=261,slow=19,SNR=2.9						
AKASG	**Malin Array Be**	**26.71**	**327**	P	**P**	**18 16 46.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=9.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**28.86**	**37**	P	**P**	**18 17 06.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=235,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**29.09**	**46**	P	**P**	**18 17 08.7**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=260,slow=7.2,SNR=3.1						
ZALV	**Zalesovo Bam**	**33.92**	**35**	P	**P**	**18 17 50.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=250,slow=9.0,SNR=6.4						
FINES	**FINESS Array B**	**35.76**	**339**	P	**P**	**18 18 05.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=147,slow=8.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**48.99**	**261**	P	**P**	**

1.0nm,0.7s,baz=137,slow=4.1,SNR=13

MEX 22 18:27:28.1±1.2, 16.76N×94.58W, h127km±19km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.40**	**89**	*i* P	Pn	18 27 53.8	-1.1
TGIG				*i* S	Sn	18 28 12.9	-2.4
HUIG	**Huatulco**	**1.77**	**236**	*e*P	Pn	18 27 57.2	-2.0
HUIG				*i* S	Sn	18 28 22.0	-0.8
VHO	**Vista Hermosa**	**2.09**	**279**	*i* P	Pn	18 28 02.6	-0.6
VHO				*i* S	Sn	18 28 28.2	-1.9
CCIG	**Comitan**	**2.39**	**101**	*i* P	Pn	18 28 06.5	-0.6
CCIG				*i* S	Sn	18 28 34.7	-2.2
UTMO	**Huajuapan**	**3.26**	**289**	*i* P	Pn	18 28 17.7	-0.6
UTMO				*i* S	Sn	18 28 55.4	-1.6
PNIG	**Pinotepa**	**3.42**	**264**	*i* P	Pn	18 28 18.1	-2.1
PNIG				*i* S	Sn	18 28 58.6	-1.9

IDC 22 18:31:36.5±2.7, 5.50S×154.27E, h426km±24km, mb3.0/9, mb1 3.2/10, mb1mx3.1/21, mbtmp3.0/10, Error ellipse: s-maj=38.9km s-min=13.1km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**241**	P	P	18 33 32.7	+0.4
	1.3nm,0.3s,baz=115,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**24.12**	**232**	P	P	18 36 17.1	+0.4
	1.5nm,0.4s,baz=55,slow=9.6,SNR=52						
WRA				PcP	PcP	18 39 45.6	+1.3
	0.2nm,0.4s,baz=52,slow=2.7,SNR=5.4						
ASAR	**Alice Springs**	**26.66**	**225**	P	P	18 36 39.0	-0.3
	0.5nm,0.3s,baz=56,slow=9.1,SNR=35						
ASAR				PcP	PcP	18 39 51.2	+1.1
	0.5nm,1.0s,baz=53,slow=2.7,SNR=4.3						
ASAR				S	S	18 40 43.3	0.0
	0.4nm,0.6s,baz=56,slow=14,SNR=12						
FITZ	**Fitzroy Crossi**	**30.64**	**243**	P	P	18 37 13.2	-1.0
	0.5nm,0.4s,baz=46,slow=16,SNR=8.1						
CMAR	**Chiang Mai Arr**	**59.50**	**295**	P	P	18 40 58.5	+1.0
	0.4nm,0.7s,baz=126,slow=4.5,SNR=4.1						
SONM	**Songino Array**	**67.70**	**327**	P	P	18 41 50.5	+0.5
	0.5nm,0.5s,baz=148,slow=4.5,SNR=9.0						
MKAR	**Makanchi Array**	**81.82**	**319**	P	P	18 43 09.9	+0.1
	0.7nm,0.5s,baz=97,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**82.26**	**22**	P	P	18 43 10.3	-1.3
	0.4nm,0.6s,baz=246,slow=5.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**82.55**	**326**	P	P	18 43 12.5	-0.7
	0.7nm,0.5s,baz=113,slow=6.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**85.26**	**322**	P	P	18 43 25.9	-0.9
	0.2nm,0.5s,baz=98,slow=5.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**151.92**	**288**	PKPbc	PKPbc	18 50 43.0	-0.2
	0.5nm,0.6s,baz=98,slow=2.9,SNR=4.1						

*ISCJB **22** 18:40:27.6±0.7, 48°.2N±0°.1×154°.0E±0°.2, h64km, mb3.6/13, Error ellipse: s-maj=19.4km s-min=7.6km az=43.2*
*MOS **22** 18:40:30.1±0.9, 48°.19N×154°.00E, h88km, mb3.6/4, Error ellipse: s-maj=22.7km s-min=11.8km az=62.3*
*IDC **22** 18:40:32.4±2.8, 48°.18N×153°.85E, h93km±25km, mb3.2/12, mb1 3.4/14, mb1mx3.3/30, mbtmp3.2/14, MS2.8/2, Ms1 2.8/2, ms1mx2.3/28, Error ellipse: s-maj=24.6km s-min=12.3km az=133.0*
ISC 22 18:40:29.4±0.8, 48°.2N±0°.1×153.9E±0°.2, h64km, n21, σ1§17/19, mb3.5/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.89**	**29**	*e*PN	**Pn**	**18 41 13.0**	**+0.1**
SKR				*e*S	**Sn**	**18 41 43.5**	**-3.0**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax	smax		
	comp=N,240nm,0.2s						
SKR				smax	smax		
	comp=E,170nm,0.2s						
SKR				smax	smax		
	comp=Z,80nm,0.5s						
PETK	**Petropavlovsk-**	**5.49**	**24**	P	**Pn**	**18 41 50.4**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=184,slow=11,SNR=9.6						
PETK	**Petropavlovsk-**	**5.49**	**24**	PN	**Pn**	**18 41 50.4**	**+1.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.66**	**265**	*e*PN	Pn	18 42 22.5	+4.4
ASAJ	**Asahikawa**	**8.85**	**247**	P	Pn	18 42 38.5	+4.1
	comp=Z,0.8nm,0.3s,baz=21,slow=7.0,SNR=7.6						
ASAJ				LR	LR	18 45 52.3	
	comp=Z,36nm,19.0s,baz=28,slow=36						
KSRS	**Korea Array**	**21.78**	**250**	P	**P**	**18 45 16.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=46,slow=12,SNR=3.7						
JOW	**Kunigami**	**29.23**	**232**	P	**P**	**18 46 24.2**	**-0.8**
	comp=Z,16nm,0.8s						
ILAR	**Eielson Array**	**35.09**	**40**	P	**P**	**18 47 16.4**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=263,slow=6.6,SNR=5.0						
INK	**Inuvik**	**40.16**	**33**	P	**P**	**18 47 59.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=284,slow=4.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.24**	**305**	LR	LR	19 05 17.3	
	comp=Z,16nm,19.7s,baz=89,slow=35						
MKAR	**Makanchi Array**	**46.79**	**297**	P	**P**	**18 48 51.8**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=44,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**46.79**	**297**	*e*P	**P**	**18 48 53.5**	**+1.2**
KURK	**Kurchatov**	**47.05**	**303**	P	**P**	**18 48 54.5**	**+0.4**
KURBB	**Kurchatov Arra**	**47.14**	**303**	P	**P**	**18 48 54.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=69,slow=8.3,SNR=5.5						
RES	**Resolute Bay**	**49.31**	**19**	P	**P**	**18 49 11.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=246,slow=2.2,SNR=3.9						
YKA	**Yellowknife Ar**	**49.45**	**38**	P	**P**	**18 49 12.9**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=296,slow=7.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**53.25**	**256**	P	**P**	**18 49 41.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=29,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**18 50 48.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=46,slow=7.9,SNR=9.5						
WRA	**Warramunga Arr**	**70.04**	**200**	P	**P**	**18 51 33.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=16,slow=6.5,SNR=6.5						
ASAR	**Alice Springs**	**73.74**	**199**	P	**P**	**18 51 56.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.5,SNR=12						
TXAR	**Lajitas Array**	**76.32**	**61**	P	**P**	**18 52 11.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=312,slow=4.1,SNR=4.4						

IDC 22 18:57:12.6±57.0, 22.80S×179.15W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=1021.0km s-min=150.9km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.87**	**247**	P	P	19 04 14.3	-0.1
	1.3nm,0.7s,baz=76,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**43.00**	**259**	P	P	19 05 14.1	0.0
	0.9nm,1.0s,baz=91,slow=9.0,SNR=5.9						
WRA	**Warramunga Arr**	**43.27**	**265**	P	P	19 05 16.1	-0.3
	1.1nm,0.8s,baz=103,slow=8.3,SNR=8.8						

*ISCJB **22** 19:08:05.7±0.3, 6°.85S±0°.03×129°.50E±0°.05, h139km, mb3.8/10, Error ellipse: s-maj=7.8km s-min=4.3km az=162.5*
*IDC **22** 19:08:07.3±4.8, 6°.75S×129°.78E, h142km±43km, mb3.7/10, mb1 3.9/13, mb1mx3.8/22, mbtmp3.7/13, Error ellipse: s-maj=47.3km s-min=14.0km az=62.0*
*AUST **22** 19:08:09.4±0.0, 6°.96S×129°.58E, h132km, Error ellipse: s-maj=1.1km s-min=0.8km az=247.0*
*DJA **22** 19:08:11.1±0.9, 7°.5S×13°.0E±°, h221km±17km, M4.5/8, mb4.8/3, mB5.2/3, MLv4.4/8, Mw(mB)4.5/3*
ISC 22 19:08:07.1±0.5, 6.89S±0.04×129.59E±0.07, h139km, n45, σ1§28/39, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.37**	**8**	P	Pn	19 08 52.9	+6.8
TLE	**Tual**	**3.37**	**69**	P	Pn	19 09 04.7	+5.9
	baz=3.4,SNR=46						
TLE				S	**Sn**	**19 09 39.5**	**+0.7**
	baz=3.4,SNR=42						
TLE	**Tual**	**3.37**	**69**	P	Pn	19 09 05.2	+6.4
AAI	**Ambon**	**3.47**	**336**	P	Pn	19 09 07.1	+7.0
	baz=3.6,SNR=5.7						
AAI	**Ambon**	**3.47**	**336**	P	Pn	19 09 06.9	+6.7
MSAI	**Masohi**	**3.58**	**349**	P	Pn	19 09 08.4	+6.8
FAKI	**Fak Fak**	**4.75**	**34**	P	**Pn**	**19 09 18.8**	**+1.8**
MTN	**Manton Dam**	**6.11**	**166**	P	Pn	19 09 39.3	+4.0
	baz=6.1,SNR=199						
MTN				S	**Sn**	**19 10 45.8**	**+1.7**
	baz=6.1,SNR=11						
SWI	**Sorong**	**6.21**	**16**	P	**Pn**	**19 09 38.2**	**+1.6**
	baz=6.3,SNR=44						
SWI	**Sorong**	**6.21**	**16**	P	**Pn**	**19 09 38.5**	**+1.9**
	59nm,0.4s,4µm0.4nm						
KDU	**Kakadu**	**6.43**	**154**	P	Pn	19 09 43.0	+3.6
	baz=6.4,SNR=418						
KDU				S	**Sn**	**19 10 51.9**	**+0.2**
	baz=6.4,SNR=9.5						
LBMI	**Labuha**	**6.55**	**341**	P	Pn	19 09 46.4	+5.3
WSI	**Waingapu**	**9.60**	**253**	P	Pn	19 10 25.5	+3.4
	baz=9.6,SNR=4.6						
PCI	**Palu**	**11.40**	**301**	P	**Pn**	**19 10 44.9**	**-1.1**
	baz=11,SNR=46						
FITZ	**Fitzroy Crossi**	**11.79**	**199**	P	**Pn**	**19 10 52.6**	**+1.5**
	3.7nm,0.3s,baz=31,slow=12,SNR=65						
FITZ				S	**Sn**	**19 12 59.8**	**-1.5**
	3.2nm,0.3s,baz=334,slow=22,SNR=5.1						
FITZ	**Fitzroy Crossi**	**11.79**	**199**	P	**Pn**	**19 10 52.1**	**+1.0**
	baz=12,SNR=127						
WRA	**Warramunga Arr**	**13.77**	**161**	P	**Pn**	**19 11 15.9**	**-0.8**
	0.0nm,0.3s,baz=339,slow=13,SNR=19						
WRA				S	**Sn**	**19 13 45.4**	**-3.7**
	2.8nm,0.3s,baz=328,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.19**	**167**	P	**Pn**	**19 12 01.1**	**+2.1**
	2.4nm,0.3s,baz=342,slow=9.2,SNR=180						
ASAR				S	**S**	**19 15 07.7**	**-2.9**
	0.5nm,0.3s,baz=352,slow=25,SNR=9.8						
STKA	**Stephens Creek**	**27.27**	**157**	P	**P**	**19 13 39.5**	**+1.0**
	1.7nm,0.8s,baz=281,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**27.27**	**157**	P	**P**	**19 13 39.7**	**+1.2**
	baz=27,SNR=6.0						
PPI	**Padang Panjang**	**29.81**	**281**	P	P	19 13 51.8	-9.5
	baz=30,SNR=6.1						
CMAR	**Chiang Mai Arr**	**39.35**	**310**	P	**P**	**19 15 23.6**	**+0.4**
	1.6nm,0.7s,baz=140,slow=7.5,SNR=17						
ODAN	**Odare**	**52.88**	**311**	*e*P	**P**	**19 17 08.9**	**-0.3**
TAPN	**Taplejung**	**52.91**	**312**	*e*P	**P**	**19 17 09.1**	**-0.4**
	3.5nm,0.3s						
RAMN	**Ramite**	**53.52**	**311**	*e*P	**P**	**19 17 13.9**	**0.0**
	7.6nm,0.5s						
JIRN	**Jiri**	**54.21**	**311**	*e*P	**P**	**19 17 18.6**	**-0.5**
GUN	**Gumba**	**54.57**	**311**	*e*P	**P**	**19 17 21.0**	**-0.7**
	8.5nm,0.5s						
PKI	**Pulchoki**	**54.74**	**311**	*e*P	**P**	**19 17 22.4**	**-0.5**
PKIN	**Phulchoki**	**54.76**	**311**	*e*P	**P**	**19 17 23.0**	**+0.1**
KKN	**Kakani**	**54.96**	**311**	*e*P	**P**	**19 17 23.2**	**-1.1**
	3.1nm,0.4s						
GKN	**Gorkha**	**55.55**	**311**	*e*P	**P**	**19 17 28.0**	**-0.5**
	13nm,0.4s						
KOLN	**Koldanda**	**56.22**	**310**	*e*P	**P**	**19 17 33.0**	**-0.3**
	7.9nm,0.4s						
DANN	**Dangsing**	**56.39**	**311**	*e*P	**P**	**19 17 33.1**	**-1.5**
PYUN	**Piuthan**	**56.85**	**310**	*e*P	**P**	**19 17 36.9**	**-0.9**
	13nm,0.6s						
SONM	**Songino Array**	**58.21**	**342**	P	**P**	**19 17 47.0**	**+0.3**
	0.7nm,0.5s,baz=159,slow=7.4,SNR=23						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**19 18 51.1**	**+0.4**
	5.3nm,0.4s,baz=115,slow=8.4,SNR=166						
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	**P**	**19 19 10.4**	**-0.9**
	1.4nm,0.6s,baz=108,slow=4.8,SNR=9.2						
KURBB	**Kurchatov Arra**	**72.20**	**329**	P	**P**	**19 19 16.6**	**-0.2**
	3.1nm,0.5s,baz=126,slow=4.9,SNR=51						
VNDA	**Vanda**	**72.61**	**173**	P	**P**	**19 19 19.3**	**+0.5**
	0.5nm,0.8s,baz=310,slow=4.2,SNR=4.0						
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**	**19 19 48.3**	**-0.4**
	1.0nm,0.8s,baz=133,slow=6.3,SNR=6.8						
AKTO	**Aktyubinsk**	**83.73**	**322**	P	**P**	**19 20 20.2**	**-0.4**
	0.5nm,0.5s,baz=95,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**93.42**	**25**	P	P	19 21 03.8	-2.6
	0.3nm,0.7s,baz=280,slow=5.1,SNR=3.4						
TXAR	**Lajitas Array**	**125.22**	**59**	PKP	**PKPdf**	**19 26 51.1**	**-0.9**
	0.1nm,0.4s,baz=107,slow=1.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**128.39**	**281**	PKP	**PKPdf**	**19 26 57.2**	**-1.1**
	0.2nm,0.5s,baz=54,slow=1.3,SNR=3.6						
LPAZ	**La Paz**	**151.06**	**143**	PKPbc	**PKPbc**	**19 27 45.6**	**+0.1**
	1.0nm,0.4s,baz=50,slow=3.3,SNR=8.9						

*DJA **22** 19:18:54.3±0.8, 3°.N±5°×9°.5E±°, h10km, M4.6/9, mb4.8/9, mB5.7/4, MLv4.4/9, Mw(mB)5.2/4*
*ISCJB **22** 19:18:55.1±0.5, 2°.67N±0°.06×95°.55E±0°.05, h25km, mb4.4/20, Error ellipse: s-maj=10.6km s-min=4.6km az=40.9*
*BJI **22** 19:18:59.0, 3°.40N×95°.64E, h15km, mB5.0/9, mb4.7/19, Ms4.8/3, Ms7 4.6/3*
*IDC **22** 19:19:01.4±4.6, 2°.82N×95°.85E, h56km±39km, mb4.0/15, mb1 4.0/17, mb1mx3.8/32, mbtmp4.0/17, ML4.1/2, Error ellipse: s-maj=40.5km s-min=12.0km az=53.0*
ISC 22 19:18:56.4±0.8, 2.70N±0.07×95.50E±0.09, h25km, n91, σ1§07/78, mb4.4/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.77**	**72**	P	**Pn**	**19 19 24.0**	**-1.4**
TPTI		**1.77**	**72**	P	**Pn**	**19 19 24.0**	**-1.4**
GSI	**Gunungsitoli**	**2.49**	**124**	S	**Pn**	**19 19 34.9**	**-0.6**
	baz=33,SNR=30						
GSI	**Gunungsitoli**	**2.49**	**124**	P	**Pn**	**19 19 34.7**	**-0.7**
GSI	**Gunungsitoli**	**2.49**	**124**	P	**Pn**	**19 19 34.7**	**-0.7**
BSI	**Banda Aceh**	**2.79**	**356**	P	**Pn**	**19 19 38.5**	**-1.0**
BSI	**Banda Aceh**	**2.79**	**356**	P	**Pn**	**19 19 38.5**	**-1.0**
LHMI	**Lhok Sumawe**	**2.90**	**30**	P	**Pn**	**19 19 41.8**	**+0.8**
LHMI	**Lhok Sumawe**	**2.90**	**30**	P	**Pn**	**19 19 41.8**	**+0.8**
TSI	**Tuntungan**	**3.16**	**75**	P	**Pn**	**19 19 45.5**	**+0.9**
TSI	**Tuntungan**	**3.16**	**75**	P	**Pn**	**19 19 45.5**	**+0.9**
PSI	**Prapat**	**3.42**	**88**	P	**Pn**	**19 19 48.6**	**+0.3**
	6.5nm,0.3s,baz=290,slow=6.2,SNR=30						
PSI	**Prapat**	**3.42**	**88**	P	**Pn**	**19 19 48.3**	**0.0**
PSI	**Prapat**	**3.42**	**88**	P	**Pn**	**19 19 48.3**	**0.0**
MNSI	**Mandailing Nat**	**4.49**	**115**	P	**Pn**	**19 20 03.0**	**0.0**
MNSI	**Mandailing Nat**	**4.49**	**115**	P	**Pn**	**19 20 03.0**	**0.0**
KULM	**Kulim**	**5.74**	**63**	P	**Pn**	**19 20 20.6**	**+0.5**
KULM	**Kulim**	**5.74**	**63**	P	**Pn**	**19 20 19.9**	**-0.3**
	170nm,0.8s,1µm0.6nm						
IPM	**Ipoh**	**5.79**	**72**	P	**Pn**	**19 20 21.1**	**+0.3**
IPM	**Ipoh**	**5.79**	**72**	P	**Pn**	**19 20 20.6**	**-0.2**
	57nm,0.8s,776nm0.2nm						
PPI	**Padang Panjang**	**5.81**	**123**	P	Pn	19 20 21.8	+0.7
	44nm,1.2s,657nm0.2nm						
PPI	**Padang Panjang**	**5.81**	**123**	P	Pn	19 20 21.8	+0.7
	44nm,1.2s,657nm0.2nm						
BKNI	**Bangkinang**	**6.02**	**113**	P	Pn	19 20 25.3	+1.4
	69nm,0.9s,0.3nm						
BKNI	**Bangkinang**	**6.02**	**113**	P	Pn	19 20 25.3	+1.4
	69nm,0.9s,0.3nm						
FRIM	**Kepong**	**6.14**	**85**	P	**Pn**	**19 20 25.6**	**0.0**
KGM	**Kluang**	**7.84**	**95**	P	**Pn**	**19 20 49.5**	**+0.5**
MYKOM	**Kota Tinggi**	**8.39**	**96**	P	**Pn**	**19 20 57.5**	**+1.0**
MYKOM	**Kota Tinggi**	**8.39**	**96**	P	**Pn**	**19 20 57.2**	**+0.7**
	20nm,0.7s,0.1nm						
CHBT	**CHBT**	**12.06**	**34**	P	P	19 22 01.9	+2.5
CHBT	**CHBT**	**12.06**	**34**	P	P	19 22 01.9	+2.5
TNG	**Tangerang**	**14.20**	**128**	P	Pn	19 22 10.9	-5.1
	626nm,0.4s,10µm						
TNG	**Tangerang**	**14.20**	**128**	P	Pn	19 22 10.9	-5.1
	1µm,0.4s,16µm						
TNG	**Tangerang**	**14.20**	**128**	P	Pn	19 22 10.9	-5.1
	1µm,0.4s,16µm						
TNG	**Tangerang**	**14.20**	**128**	P	Pn	19 22 10.9	-5.1
	626nm,0.4s,10µm						
KSM	**Kuching**	**14.85**	**94**	P	**P**	**19 22 30.3**	**-0.2**
KSM	**Kuching**	**14.85**	**94**	P	P	19 22 32.0	+1.5
CMAR	**Chiang Mai Arr**	**16.02**	**12**	P	**Pn**	**19 22 40.2**	**0.0**
	0.5nm,0.3s,baz=201,slow=11,SNR=99						
STKI	**Sintang**	**16.18**	**99**	P	**P**	**19 22 46.6**	**+1.3**
STKI	**Sintang**	**16.18**	**99**	P	**P**	**19 22 46.6**	**+1.3**
CHTO	**Chiang Mai**	**16.36**	**12**	P	**Pn**	**19 22 44.1**	**-0.5**
	14nm,1.0s						
CHTO	**Chiang Mai**	**16.36**	**12**	P	**Pn**	**19 22 44.1**	**-0.5**
	14nm,1.0s						
CMMT	**Chiang Mai**	**16.36**	**12**	P	**P**	**19 22 45.6**	**-1.7**
	12nm,1.0s						
CMMT	**Chiang Mai**	**16.36**	**12**	P	**P**	**19 22 45.6**	**-1.7**
	12nm,1.0s						
SBUM	**Sibu**	**16.70**	**90**	P	**P**	**19 22 51.6**	**+0.4**
SBUM	**Sibu**	**16.70**	**90**	P	**P**	**19 22 51.5**	**+0.4**
	12nm,1.1s						
KBKI	**Kotabaru**	**21.50**	**106**	P	P	19 23 54.3	+11
KBKI	**Kotabaru**	**21.50**	**106**	P	P	19 23 54.3	+11
SDKM	**Sandakan**	**21.83**	**82**	P	**P**	**19 23 47.7**	**+0.4**
NBBI	**Negara**	**22.01**	**120**	P	P	19 23 42.9	-6.2
NBBI	**Negara**	**22.01**	**120**	P	P	19 23 42.9	-6.2
SHL	**Shillong**	**23.00**	**352**	*e*P	**P**	**19 23 58.0**	**-1.7**
MYLDM	**Lahad Datu**	**23.07**	**83**	P	P	19 24 08.0	+7.6
KMI	**Kunming**	**23.36**	**17**	P	**P**	**19 24 04.6**	**+1.2**
KMI				pmax	pmax		
	comp=Z,19nm,0.9s						
ODAN	**Odare**	**25.25**	**343**	*e*P	**P**	**19 24 22.0**	**+1.1**
	comp=Z,35nm,0.9s						
KAPI	**Kappang**	**25.41**	**108**	P	**P**	**19 24 21.2**	**-1.0**
	comp=Z,18nm,1.0s,baz=348,slow=4.9,SNR=8.7						
KAPI	**Kappang**	**25.41**	**108**	P	**P**	**19 24 21.7**	**-0.6**
	comp=Z,18nm,1.1s						
KAPI	**Kappang**	**25.41**	**108**	P	**P**	**19 24 21.7**	**-0.6**
	comp=Z,18nm,1.1s						
RAMN	**Ramite**	**25.58**	**341**	*e*P	**P**	**19 24 25.3**	**+1.4**
	comp=Z,18nm,0.7s						
TAPN	**Taplejung**	**25.62**	**344**	*e*P	**P**	**19 24 26.0**	**+1.6**
	comp=Z,40nm,0.9s						
BKSI	**Bulukumba**	**25.85**	**108**	P	**P**	**19 24 27.8**	**+1.5**
BKSI	**Bulukumba**	**25.85**	**108**	P	**P**	**19 24 27.8**	**+1.5**
JIRN	**Jiri**	**26.37**	**341**	*e*P	**P**	**19 24 33.0**	**+1.8**
	comp=Z,5.5nm,0.6s						
PKI	**Pulchoki**	**26.55**	**340**	*e*P	**P**	**19 24 34.2**	**+1.4**
PKIN	**Phulchoki**	**26.56**	**340**	*e*P	**P**	**19 24 34.2**	**+1.4**
DMN	**Daman**	**26.69**	**339**	*e*P	**P**	**19 24 35.9**	**+1.9**
	comp=Z,6.1nm,0.5s						
GUN	**Gumba**	**26.70**	**341**	*e*P	**P**	**19 24 35.8**	**+1.6**
	comp=Z,17nm,0.6s						
KKN	**Kakani**	**26.79**	**340**	*e*P	**P**	**19 24 36.2**	**+1.3**
LSA	**Lhasa**	**27.17**	**352**	P	**P**	**19 24 39.8**	**+1.3**
GKN	**Gorkha**	**27.22**	**339**	*e*P	**P**	**19 24 39.9**	**+1.3**
KOLN	**Koldanda**	**27.40**	**337**	*e*P	**P**	**19 24 41.9**	**+1.6**
	comp=Z,15nm,0.6s						
DANN	**Dangsing**	**27.86**	**337**	*e*P	**P**	**19 24 45.7**	**+1.2**
	comp=Z,27nm,0.8s						
PYUN	**Piuthan**	**27.94**	**336**	*e*P	**P**	**19 24 46.3**	**+1.1**
XAN	**Xi'an**	**33.60**	**20**	P	**P**	**19 25 33.9**	**-1.0**
XAN				pP	**pP**	**19 25 40.8**	**-1.5**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,27nm,5.1s						
LZH	**Lanzhou**	**34.11**	**12**	*e*P	**P**	**19 25 38.6**	**-0.8**
LZH				pP	**pP**	**19 25 45.5**	**-1.4**
LZH				sP	**sP**	**19 25 50.0**	**+0.1**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**36.18**	**126**	P	**P**	**19 25 55.8**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=219,slow=8.4,SNR=4.2						
GTA	**Gaotai**	**36.75**	**6**	*e*P	**P**	**19 26 02.0**	**0.0**
GTA				pP	**pP**	**19 26 06.5**	**-3.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI	**Beijing**	**41.63**	**24**	P	**P**	**19 26 43.6**	**+1.0**
BJI				pmax	pmax		
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**44.27**	**122**	P	**P**	**19 27 03.8**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=298,slow=9.3,SNR=31						
MKAR	**Makanchi Array**	**45.40**	**347**	P	**P**	**19 27 13.8**	**+0.8**
	comp=Z,11nm,0.7s,baz=164,slow=7.9,SNR=140						
KSRS	**Korea Array**	**45.62**	**37**	P	**P**	**19 27 14.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=220,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**45.65**	**127**	P	**P**	**19 27 15.2**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=299,slow=8.0,SNR=39						
SONM	**Songino Array**	**45.94**	**10**	P	**P**	**19 27 17.4**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=190,slow=8.8,SNR=26						
SONM				PcP	**PcP**	**19 28 55.1**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=185,slow=3.7,SNR=9.9						
KURBB	**Kurchatov Arra**	**49.86**	**346**	P	**P**	**19 27 48.4**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=166,slow=7.0,SNR=45						
ZALV	**Zalesovo Beam**	**51.83**	**352**	P	**P**	**19 28 02.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=181,slow=6.4,SNR=65						
PMG	**Port Moresby**	**52.85**	**104**	P	**P**	**19 28 09.6**	**-0.9**
	comp=Z,8.4nm,0.9s,baz=263,slow=12,SNR=2.8						
BVAR	**Borovoye Array**	**54.29**	**342**	P	**P**	**19 28 21.1**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=139,slow=9.2,SNR=39						
STKA	**Stephens Creek**	**55.62**	**132**	P	**P**	**19 28 29.9**	**-0.5**
	comp=Z,0.6nm,

URFA	Urfa	2.46	90	ePN	Pn	19 24 16.0	+0.6		
URFA	Urfa	2.46	90	ePn	Pn	19 24 16.0	+0.6		
KONT	Konya--Tatoy	2.71	281	ePN	Pn	19 24 19.8	+1.1		
KONT	Konya--Tatoy	2.71	281	ePn	Pn	19 24 19.8	+1.1		
LADK	Ladik-KONYA	2.76	286	ePN	Pn	19 24 20.1	+0.7		
LADK	Ladik-KONYA	2.76	286	ePn	Pn	19 24 20.1	+0.7		
ELZG	Elazig	2.77	67	iP	Pb	19 24 26.8	+1.9		
ELZG				iS	Sg	19 25 03.0	-1.4		
KEMA	Kemaliye	2.82	50	iP	Pn	19 24 21.4	+1.2		
KEMA				iS	Sg	19 25 05.1	-0.9		
KEMA	Kemaliye	2.82	50	iP	Pn	19 24 21.4	+1.2		
LFK	Lefkose	2.82	220	ePN	Pn	19 24 21.8	+1.6		
LFK	Lefkose	2.82	220	ePn	Pn	19 24 21.8	+1.6		
CORM	Corum	2.83	343	ePN	Pn	19 24 21.2	+0.8		
CORM	Corum	2.83	343	ePn	Pn	19 24 21.2	+0.8		
AFSR	Afˇar-Bala (A	2.87	314	ePN	Pn	19 24 21.8	+0.9		
AFSR	Afˇar-Bala (A	2.87	314	ePn	Pn	19 24 21.8	+0.9		
BBAL	Bala	2.90	316	iP	Pn	19 24 21.8	+0.4		
BBAL				iS	Sn	19 24 56.0	-0.2		
BBAL	Bala	2.90	316	iP	Pn	19 24 21.8	+0.4		
BBAL				iS	Sn	19 24 56.0	-0.2		
SVRC	Sivrice-ELAZID	2.97	71	ePN	Pn	19 24 22.9	+0.4		
SVRC	Sivrice-ELAZID	2.97	71	ePn	Pn	19 24 22.9	+0.4		
ILIC	ilic-Erzincan	2.98	48	ePN	Pn	19 24 22.4	-0.1		
ILIC	ilic-Erzincan	2.98	48	ePn	Pn	19 24 22.4	-0.1		
RSDY	Resadiye-TOKAT	3.17	23	ePN	Pn	19 24 25.9	+0.9		
RSDY	Resadiye-TOKAT	3.17	23	ePn	Pn	19 24 25.9	+0.9		
PTK	Pertek	3.22	63	ePN	Pn	19 24 26.6	+0.9		
PTK	Pertek	3.22	63	ePn	Pn	19 24 26.7	+0.9		
CTKT	Corum	3.23	347	iP	Pb	19 24 30.9	-1.8		
CTKT	Corum	3.23	347	iP	Pb	19 24 30.9	-1.8		
ERBA	Erbaa	3.30	14	iP	Pb	19 24 34.2	+0.3		
LOD	Lodumlu	3.34	317	ePN	Pn	19 24 28.6	+1.2		
LOD	Lodumlu	3.34	317	ePn	Pn	19 24 28.6	+1.2		
ELDT	Eldivan	3.50	330	iP	Pb	19 24 36.6	-0.8		
ELDT				iS	Sb	19 25 22.1	+2.3		
DIYA	Diyarbakir	3.51	81	iP	Pg	19 24 40.5	-2.3		
KVT	Kavak	3.61	4	ePN	Pn	19 24 32.3	+1.2		
KVT	Kavak	3.61	4	ePn	Pn	19 24 32.3	+1.2		
ERZN	Erzincan	3.78	55	ePN	Pn	19 24 34.8	+1.3		
DIKM	Dikmen	4.18	355	ePN	Pn	19 24 39.9	+1.0		
DIKM	Dikmen	4.18	355	ePn	Pn	19 24 39.9	+1.0		
SAFT	Safranbolu	4.43	329	ePN	Pn	19 24 43.9	+1.5		
SAFT	Safranbolu	4.43	329	ePn	Pn	19 24 43.9	+1.5		
BAYT	Ayd¨ˇntepe-Bay	4.51	48	ePN	Pn	19 24 45.3	+1.7		
BAYT	Ayd¨ˇntepe-Bay	4.51	48	ePn	Pn	19 24 45.3	+1.7		

BJI ***22*** *19:23:40.4, 2.˙65N×95.˙64E, h39km, mB5.1/35, mb5.1/55, Ms4.6/42, Ms7 4.5/42*

ISCJB ***22*** *19:23:40.1±0.9, 2.˙72N±0.˙03×95.˙57E±0.˙03, h29km±6km, mb4.8/108, MS4.5/20, Error ellipse: s-maj=6.3km s-min=3.8km az=38.2*

IDC ***22*** *19:23:40.2±4.2, 2.˙68N×95.˙64E, h17km±26km, mb4.4/33, mb1 4.4/35, mb1mx4.4/41, mbtmp4.4/35, ML4.6/2, MS4.0/4, Ms1 4.1/4, ms1mx3.5/46, Error ellipse: s-maj=15.3km s-min=9.6km az=40.0*

AUST ***22*** *19:23:41.6±3.4, 2.˙76N×95.˙62E, h27km±1km, Error ellipse: s-maj=2.7km s-min=0.9km az=226.0*

MOS ***22*** *19:23:42.3±0.8, 2.˙77N×95.˙68E, h50km, mb5.0/46, MS4.0/4, Error ellipse: s-maj=9.4km s-min=5.6km az=107.4*

DJA ***22*** *19:23:43.1±0.3, 3˚N×3˚×9˚E×˚, h10km, M4.8/43, mB5.2/18, mb5.0/43, MLv5.0/12, Mw(mB)4.6/18*

NEIC ***22*** *19:23:44.2±1.1, 2.˙77N×95.˙72E, h50km±10km, mb4.9/23, Error ellipse: s-maj=8.0km s-min=4.8km az=50.0*

ISC 22 19:23:42.5±0.4, 2.˙71N±0.˙04×95.˙57E±0.˙04, h34km, n272, σ1§51/328, mb5.0/108, MS4.4/21, 14C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TPTI		1.70	71	P		Pn	19 24 08.4	-1.3
GSI	Gunungsitoli	2.44	125	P		Pn	19 24 19.1	-0.9
	baz=2.4,SNR=102							
GSI				S		Sn	19 24 46.3	-2.3
	baz=2.4,SNR=9.8							
GSI	Gunungsitoli	2.44	125	P		Pn	19 24 19.4	-0.6
BSI	Banda Aceh	2.79	354	P		Pn	19 24 23.2	-1.6
LHMI	Lhok Sumawe	2.86	29	P		Pb	19 24 34.3	+1.4
TSI	Tuntungan	3.09	75	P		Pn	19 24 30.2	+1.3
PSI	Prapat	3.35	88	Pn		Pn	19 24 32.7	+0.1
	42nm,0.3s,baz=281,slow=7.4,SNR=39							
PSI				Sn		Sn	19 25 11.8	+0.6
	20nm,0.3s,baz=268,slow=14,SNR=3.9							
PSI				LR		LR	19 25 36.7	
	comp=Z,991nm,20.5s,baz=267,slow=36							
PSI	Prapat	3.35	88	Pn		Pn	19 24 32.7	+0.1
PSI				Sn		Sn	19 25 11.8	+0.6
PSI	Prapat	3.35	88	P		Pn	19 24 32.7	+0.1
	baz=3.3,SNR=60							
PSI	Prapat	3.35	88	P		Pn	19 24 32.7	+0.1
MNSI	Mandailing Nat	4.43	115	P		Pn	19 24 47.5	+0.1
KULM	Kulim	5.68	63	eP		Pn	19 25 03.9	-0.7
	291nm,0.6s							
KULM	Kulim	5.68	63	P		Pn	19 25 04.7	+0.2
KULM	Kulim	5.68	63	P		Pn	19 25 04.5	0.0
	529nm,1.0s,6µm2.2nm							
IPM	Ipoh	5.72	72	P		Pn	19 25 05.3	+0.2
IPM	Ipoh	5.72	72	P		Pn	19 25 05.1	0.0
	279nm,0.9s,3µm0.9nm							
PPI	Padang Panjang	5.75	123	P		Pn	19 25 06.5	+0.8
	baz=5.8,SNR=25							
PPI	Padang Panjang	5.75	123	P		Pn	19 25 05.9	+0.3
	185nm,1.3s,3µm1.2nm							
BKNI	Bangkinang	5.95	113	P		Pn	19 25 08.0	-0.3
	246nm,1.0s,2µm1.3nm							
FRIM	Kepong	6.07	85	P		Pn	19 25 09.7	-0.2
KGM	Kluang	7.77	95	P		Pn	19 25 33.3	0.0
MYKOM	Kota Tinggi	8.32	96	P		Pn	19 25 40.7	-0.2
MYKOM	Kota Tinggi	8.32	96	P		Pn	19 25 41.1	+0.3
	80nm,0.8s,0.3nm							
KSI	Kapahiang	9.44	132	P		Pn	19 25 58.5	+2.2
	154nm,0.8s,2µm							
LWLI	Liwa	11.43	132	P		Pn	19 26 29.4	+5.7
	167nm,0.7s,2µm							
PPBI	Pangkal Pinang	11.61	115	P		Pn	19 26 33.2	+7.2
	12nm,1.1s,560nm							
CHBT	CHBT	12.02	33	P		Pn	19 26 32.8	+1.3
	48nm,1.4s,3µm							
SRDT	SRDT	12.09	17	P		P	19 26 40.7	-4.1
KASI	Kota Agung	12.09	133	P		Pn	19 26 36.8	+4.2
	65nm,0.9s							
KSM	Kuching	14.78	94	ePn		Pn	19 27 08.8	-0.4
	112nm,1.5s							
KSM	Kuching	14.78	94	P		Pn	19 27 11.0	+1.8
KSM	Kuching	14.78	94	P		P	19 27 15.2	+0.4
	42nm,1.6s,520nm							
CM31	Chiang Mai Arr	16.00	12	ePn		Pn	19 27 24.2	-0.9
	40nm,0.8s							
CMAR	Chiang Mai Arr	16.00	12	Pn		Pn	19 27 24.4	-0.8
	1.2nm,0.3s,baz=200,slow=11,SNR=127							
CMAR				LR		LR	19 33 13.8	
	comp=Z,624nm,21.4s,baz=200,slow=36							
CMAR	Chiang Mai Arr	16.00	12	Pn		Pn	19 27 24.4	-0.8
STKI	Sintang	16.11	99	P		P	19 27 28.8	-0.8
	76nm,1.2s							
CHTO	Chiang Mai	16.34	11	P		Pn	19 27 28.1	-1.5
	15nm,2.0s,555nm							
CMMT	Chiang Mai	16.34	11	P		Pn	19 27 28.6	-1.0
	47nm,1.1s,526nm							
SBUM	Sibu	16.63	90	P		Pn	19 27 32.9	-0.3
SBUM	Sibu	16.63	90	P		Pn	19 27 34.1	+0.9
	43nm,1.2s							
PBKI	Pangkalan Bun	16.96	108	P		Pn	19 27 38.3	+0.9
	78nm,1.2s,1µm							
BTM	Bintulu	17.49	88	P		P	19 27 46.0	+1.0
KMMI	Kalianget	20.76	118	P		P	19 28 21.8	+1.1
	70nm,1.0s							
KKM	Kota Kinabalu	20.84	80	eP		P	19 28 20.7	-1.0
	148nm,0.9s							
KKM	Kota Kinabalu	20.84	80	P		P	19 28 22.1	+0.4
KKM	Kota Kinabalu	20.84	80	P		P	19 28 22.4	+0.7
	190nm,1.0s,2µm							
QIZ	Qiongzhong	21.40	40	P		P	19 28 26.9	-0.7
QIZ				pP		pP	19 28 36.5	-0.1
QIZ				sP		sP	19 28 43.1	+2.2
QIZ				S		S	19 32 23.4	-0.1
QIZ				sS		sS	19 32 37.3	-0.5
QIZ				LR		LR		
	comp=N,830nm,16.7s							
QIZ				LR		LR		
	comp=Z,990nm,13.0s							
QIZ	Qiongzhong	21.40	40	eP		P	19 28 26.0	-1.6
	comp=Z,45nm,1.0s							
KBKI	Kotabaru	21.43	106	P		P	19 28 30.2	+2.3
	comp=Z,45nm,1.0s							
KDM	Kudat	21.59	78	P		P	19 28 29.6	0.0
SDKM	Sandakan	21.76	82	P		P	19 28 31.3	-0.2
SMKI	Samarinda	21.85	98	P		P	19 28 38.0	+5.5
	comp=Z,93nm,0.8s							
NBBI	Negara	21.95	120	P		P	19 28 33.4	-0.1
	comp=Z,102nm,0.8s							
HYB	Hyderabad	22.20	312	iP		P	19 28 37.0	+0.8
TSM	Tawau	22.31	85	P		P	19 28 37.4	0.0
SRBI	Singaraja	22.33	119	P		P	19 28 39.1	+1.5
	comp=Z,65nm,1.0s							
KHKI	Kahang-Kahang	22.80	119	P		P	19 28 48.0	+5.4
	comp=Z,31nm,0.8s,comp=Z,857nm							
MYLDM	Lahad Datu	23.00	83	P		P	19 28 45.3	+0.6
MYLDM	Lahad Datu	23.00	83	P		P	19 28 45.2	+0.5
	comp=Z,67nm,1.1s,comp=Z,1µm							
SHL	Shillong	23.00	351	eP		P	19 28 41.0	-3.8
SHL				eS		S	19 32 52.5	-0.8
KMI	Kunming	23.33	17	P		P	19 28 49.3	+1.2
KMI				pP		pP	19 28 58.8	+1.4
KMI				sP		sP	19 29 02.9	+1.3
KMI				PP		PnPn	19 29 20.8	+5.9
KMI				PcP		PcP	19 32 37.1	+2.3
KMI				S		S	19 32 56.4	-2.4
KMI				sS		sS	19 33 13.3	-1.6
KMI				SS		SnSn	19 33 44.6	+9.3
KMI				pmax		pmax		
	comp=Z,73nm,0.9s							
KMI				LR		LR		
	comp=N,2µm,11.6s							
KMI				LR		LR		
	comp=E,790nm,16.2s							
KMI				LR		LR		
	comp=Z,2µm,12.1s							
PCI	Palu	24.52	98	S		S	19 32 55.5	-22
	baz=24,SNR=11							
TTSI	Tana Toraja	24.90	103	P		P	19 29 08.9	+6.3
	comp=Z,33nm,1.0s							
SPSI	Sidrap Palu	25.07	105	P		P	19 29 09.2	+5.0
	comp=Z,20nm,1.2s							
ODAN	Odare	25.27	343	eP		P	19 29 06.5	+0.5
	comp=Z,96nm,0.7s							
KAPI	Kappang	25.34	108	P		P	19 29 05.8	-0.9
	comp=Z,50nm,1.0s,baz=288,slow=7.9,SNR=28							
KAPI	Kappang	25.34	108	eP		P	19 29 05.0	-1.6
	comp=Z,52nm,1.0s							
KAPI	Kappang	25.34	108	P		P	19 29 05.7	-0.9
	comp=Z,56nm,1.1s,comp=Z,548nm							
RAMN	Ramite	25.59	341	eP		P	19 29 09.7	+0.7
	comp=Z,78nm,0.7s							
TAPN	Taplejung	25.64	344	eP		P	19 29 09.6	+0.1
	comp=Z,156nm,0.9s							
BKSI	Bulukumba	25.79	108	P		P	19 29 11.1	+0.5
	comp=Z,42nm,1.1s							
GYA	Guiyang	25.91	23	⇓iP		P	19 29 11.0	-0.7
GYA				pP		pP	19 29 23.0	+1.6
GYA				PP		PnPn	19 29 55.3	+5.4
GYA				PcP		PcP	19 32 40.8	+0.5
GYA				S		S	19 33 38.6	-1.2
GYA				ScP		ScP	19 36 17.0	-0.5
GYA				pmax		pmax		
	comp=Z,30nm,1.1s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,560nm,15.9s							
GYA				LR		LR		
	comp=E,480nm,16.0s							
GYA				LR		LR		
	comp=E,550nm,15.6s							
JIRN	Jiri	26.39	341	eP		P	19 29 16.9	+0.6
	comp=Z,23nm,0.7s							
MRSI	Marisa	26.45	94	P		P	19 29 16.2	-0.4
	comp=Z,26nm,1.4s,comp=Z,348nm							
PKI	Pulchoki	26.57	339	eP		P	19 29 18.2	+0.3
	comp=Z,36nm,0.8s							
PKIN	Phulchoki	26.58	339	eP		P	19 29 18.8	+0.8
	comp=Z,19nm,0.6s							
DMN	Daman	26.71	339	eP		P	19 29 19.8	+0.7
	comp=Z,29nm,0.7s							
GUN	Gumba	26.72	341	eP		P	19 29 19.4	+0.1
	comp=Z,77nm,0.7s							
KKN	Kakani	26.81	339	eP		P	19 29 20.0	0.0
	comp=Z,52nm,0.8s							
LSA	Lhasa	27.17	352	P		P	19 29 24.0	+0.5
LSA				LR		LR		
	comp=E,470nm,21.2s							
GKN	Gorkha	27.24	338	eP		P	19 29 23.8	0.0
	comp=E,143nm,0.9s							
KOLN	Koldanda	27.43	336	eP		P	19 29 26.0	+0.5
	comp=E,61nm,0.6s							
TGY	Tagaytay City	27.49	64	P		P	19 29 24.8	-1.2
	comp=E,134nm,0.4s,baz=278,slow=17,SNR=4.4							
TGY	Tagaytay City	27.49	64	P		P	19 29 24.8	-1.2
DANN	Dangsing	27.88	337	eP		P	19 29 29.2	-0.5
	comp=E,100nm,0.8s							
PYUN	Piuthan	27.96	336	eP		P	19 29 30.4	+0.1
	comp=E,115nm,1.0s							
BBSI	Bau Bau	28.17	107	P		P	19 29 35.1	+3.0
	comp=E,43nm,0.8s							
CD2	Chengdu	29.10	15	⇓iP		P	19 29 42.3	+2.1
CD2				pP		pP	19 29 52.3	+2.3
CD2				sP		sP	19 29 56.5	+2.4
CD2				PP		PnPn	19 30 37.3	+3.9
CD2				S		S	19 34 30.8	+0.8
CD2				sS		sS	19 34 47.5	+1.4
CD2				SS		SnSn	19 36 02.1	+6.3
CD2				pmax		pmax		
	comp=Z,90nm,0.8s							
CD2				pmax		pmax		
	comp=Z,100nm,4.6s							
CD2				LR		LR		
	comp=N,900nm,14.3s							
CD2				LR		LR		
	comp=Z,1µm,13.7s							
DAV	Davao City (W)	30.20	81	P		P	19 29 52.8	+2.6
	comp=Z,97nm,0.4s,baz=311,slow=1.4,SNR=4.0							
DAV	Davao City (W)	30.20	81	P		P	19 29 52.8	+2.6
ENH	Enshi	30.42	24	eP		P	19 29 49.5	-2.4
	comp=Z,36nm,1.0s							
LBMI	Labuha	32.09	95	P		P	19 30 08.5	+1.7
	comp=Z,36nm,1.2s							
WHN	Wuhan	32.90	31	P		P	19 30 13.8	+0.2
WHN				pmax		pmax		
	comp=Z,66nm,0.8s							
WHN				LR		LR		
	comp=N,980nm,10.5s							
WHN				LR		LR		
	comp=E,2µm,18.5s							
WHN				LR		LR		
	comp=Z,2µm,14.0s							
XAN	Xi'an	33.57	20	P		P	19 30 18.5	-1.1
XAN				pP		pP	19 30 28.3	-1.1
XAN				sP		sP	19 30 32.1	-1.4
XAN				PP		PnPn	19 31 30.1	-1.6
XAN				S		S	19 35 35.6	-4.2
XAN				pmax		pmax		
	comp=Z,33nm,0.8s							
XAN				pmax		pmax		
	comp=Z,25nm,4.7s							
XAN				LR		LR		
	comp=N,370nm,13.5s							
XAN				LR		LR		
	comp=E,120nm,12.1s							
XAN				LR		LR		
	comp=Z,240nm,13.3s							
LZH	Lanzhou	34.09	12	⇓P		P	19 30 23.6	-0.5
LZH				pP		pP	19 30 31.9	-2.1
LZH				sP		sP	19 30 34.5	-3.5
LZH				PP		PP	19 31 40.8	-0.9
LZH				S		S	19 35 50.6	+2.7
LZH				sS		sS	19 36 05.1	+1.0
LZH				pmax		pmax		
	comp=Z,45nm,1.0s							
LZH				pmax		pmax		
	comp=Z,150nm,4.1s							
LZH				LR		LR		
	comp=N,520nm,11.5s							
LZH				LR		LR		
	comp=E,300nm,10.3s							
LZH				LR		LR		
	comp=Z,720nm,13.0s							
SWI	Sorong	35.85	95	P		P	19 30 38.4	-1.1
	comp=Z,31nm,0.9s							
FITZ	Fitzroy Crossi	36.12	126	P		P	19 30 40.3	-1.4
	comp=Z,6.6nm,0.8s,baz=313,slow=5.9,SNR=16							
FITZ	Fitzroy Crossi	36.12	126	eP		P	19 30 37.7	-4.0
	comp=Z,5.6nm,0.8s							
FITZ	Fitzroy Crossi	36.12	126	P		P	19 30 40.7	-1.0
	baz=36,SNR=10							
NJ2	Nanjing	36.49	34	eP		P	19 30 44.8	+0.1
NJ2				pP		pP	19 30 51.3	-3.3
NJ2				sP		sP	19 30 57.3	-1.3
NJ2				S		S	19 36 32.0	+7.3
NJ2				sS		sS	19 36 45.0	+4.1
NJ2				pmax		pmax		
	comp=Z,50nm,1.2s							
NJ2				pmax		pmax		
	comp=Z,290nm,4.0s							
NJ2				LR		LR		
	comp=N,910nm,13.4s							
NJ2				LR		LR		
	comp=E,990nm,19.8s							
NJ2				LR		LR		
	comp=Z,800nm,11.2s							
GTA	Gaotai	36.74	5	P		P	19 30 46.4	-0.5
GTA				pP		pP	19 30 55.9	-0.8
GTA				sP		sP	19 30 59.5	-1.3
GTA				S		S	19 36 26.9	-1.6
GTA				sS		sS	19 36 44.0	-0.8
GTA				SS		SnSn	19 38 56.5	-4.7
GTA				pmax		pmax		
	comp=Z,21nm,1.0s							
GTA				pmax		pmax		
	comp=Z,98nm,6.4s							
GTA				LR		LR		
	comp=N,330nm,13.3s							
GTA				LR		LR		
	comp=E,270nm,14.7s							
GTA				LR		LR		
	comp=Z,500nm,12.8s							
FAKI	Fak Fak	37.08	98	P		P	19 30 49.8	-0.2
	comp=Z,31nm,0.9s							
MTN	Manton Dam	38.54	114	P		P	19 31 00.7	-1.5
	baz=39,SNR=4.6							
PALU	Palau	39.01	82	P		P	19 31 05.1	-1.1
	baz=39,SNR=11							
BTO	Baotou	39.92	17	eP		P	19 31 12.4	-1.2
KBL	Kabul	40.16	325	eP		P	19 31 16.1	+0.3
KBL				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KBL	Kabul	40.16	325	eP		P	19 31 16.1	+0.3
	comp=Z,3.7nm,0.9s							
HHC	Hu-ho-hao-te	40.62	19	eP		P	19 31 20.8	+1.4
HHC				pP		pP	19 31 30.8	+1.4
HHC				sP		sP	19 31 34.8	+1.4
HHC				PP		PnPn	19 32 58.8	+1.2
HHC				S		S	19 37 29.0	+1.9
HHC				sS		sS	19 37 45.1	+1.6
HHC				SS		SS	19 40 25.0	-3.1
HHC				ScS		ScS	19 41 21.6	-1.1
HHC				pmax		pmax		
	comp=Z,42nm,0.6s							
HHC				pmax		pmax		
	comp=Z,210nm,3.7s							
HHC				LR		LR		
	comp=N,380nm,18.3s							
HHC				LR		LR		
	comp=E,790nm,19.7s							
HHC				LR		LR		
	comp=Z,720nm,15.4s							
KSH	Kashi	40.74	337	P		P	19 31 19.4	-1.1
KSH				pP		pP	19 31 29.6	-0.8
KSH				sP		sP	19 31 32.9	-1.6
KSH				PP		PnPn	19 32 57.9	-1.1
KSH				PcP		PcP	19 33 20.1	-1.4
KSH				ScP		ScP	19 37 07.8	-0.9
KSH				PcS		PcS	19 37 11.5	-0.8
KSH				S		S	19 37 27.8	-1.1
KSH				SS		SS	19 40 24.6	-6.0
KSH				ScS		ScS	19 41 20.3	-3.2
KSH				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KSH				LR		LR		
	comp=N,240nm,4.5s							
KSH				LR		LR		
	comp=E,250nm,5.0s							
KSH				LR		LR		
	comp=Z,220nm,8.6s							
WMQ	Urumqi	41.53	351	P		P	19 31 27.3	+0.5
WMQ				sP		sP	19 31 43.3	+2.5
WMQ				PP		PnPn	19 33 06.4	-1.7
WMQ				ScP		ScP	19 37 11.4	-0.2
WMQ				S		S	19 37 40.5	+0.1
WMQ				sS		sS	19 37 57.8	+0.9
WMQ				SS		SS	19 40 40.4	-5.6
WMQ				ScS		ScS	19 41 26.0	-2.0
WMQ				pmax		pmax		
	comp=Z,35nm,1.4s							
WMQ				pmax		pmax		
	comp=Z,130nm,4.0s							
WMQ				LR		LR		
	comp=N,41nm,19.0s							
WMQ				LR		LR		
	comp=E,320nm,23.0s							
WMQ				LR		LR		
	comp=Z,160nm,23.0s							
BJT	Baijiatuau	41.57	24	eP		P	19 31 26.0	-1.1
	comp=Z,54nm,0.9s							
BJI	Beijing	41.59	24	P		P	19 31 27.9	+0.7
BJI				pmax		pmax		
	comp=Z,53nm,1.0s							
BJI				pmax		pmax		
	comp=Z,210nm,6.1s							
BJI				LR		LR		
	comp=N,230nm,15.7s							
BJI				LR		LR		
	comp=E,440nm,15.4s							
BJI				LR		LR		
	comp=Z,380nm,24.1s							
ULHL	Ulahol	43.01	339	P		P	19 31 40.0	+1.0
	SNR=18							
KZA	Kyzart	43.23	338	P		P	19 31 42.2	+1.2
	SNR=6.6							
TKM2	Tokmak 2	43.83	339	eP		P	19 31 45.4	-0.2
TKM2				pmax		pmax		
	comp=Z,26nm,1.4s							
TKM2	Tokmak 2	43.83	339	eP		P	19 31 45.4	-0.2
	comp=Z,26nm,1.4s							
KBK	Karagaybulak	43.84	338	P		P	19 31 47.4	+1.7
	SNR=15							
AML	Almayashu	43.88	336	P		P	19 31 47.6	+1.3
	SNR=25							
AAK	Ala-Archa	43.99	338	cP		P	19 31 48.0	+1.1
AAK	Ala-Archa	43.99	338	P		P	19 31 48.3	+1.4
	SNR=6.9							
FRU	Bishkek	44.11	338	eP		P	19 31 49.0	+1.3
FRU				pmax		pmax		
	comp=Z,50nm,2.2s							
WRA	Warramunga Arr	44.21	122	P		P	19 31 48.0	-0.8
	comp=Z,9.3nm,0.7s,baz=299,slow=9.4,SNR=86							
WRA	Warramunga Arr	44.21	122	P		P	19 31 48.0	-0.8
WRAB	Tennant Creek	44.21	122	eP		P	19 31 47.4	-1.4
WRAB				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WRAB	Tennant Creek	44.21	122	eP		P	19 31 47.4	-1.4
	comp=Z,9.5nm,0.8s							
EKS2	Erkin-Say	44.29	337

MKAR	**Makanchi Array**	**45.41**	**347**	*eP*		**P**		**19 31 57.7**	**-0.3**
KSAR	**Wonju Array Be**	**45.55**	**37**	P		**P**		**19 31 58.6**	**-0.5**
KSRS	**Korea Array**	**45.58**	**37**	P		**P**		**19 31 58.6**	**-0.8**
	comp=Z,6.6nm,0.6s,baz=220,slow=8.8,SNR=21								
AS31	**Alice Springs**	**45.59**	**127**	*eP*		**P**		**19 31 57.8**	**-2.0**
ASAR	**Alice Springs**	**45.59**	**127**	P		**P**		**19 31 59.2**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=299,slow=8.0,SNR=105								
ASAR	**Alice Springs**	**45.59**	**127**	P		**P**		**19 31 59.2**	**-0.6**
SONM	**Songino Array**	**45.92**	**10**	P		**P**		**19 32 01.9**	**-0.1**
	comp=Z,9.0nm,0.8s,baz=190,slow=8.7,SNR=70								
SONM				PcP		**PcP**		**19 33 39.5**	**+0.8**
	comp=Z,4.8nm,0.6s,baz=190,slow=4.0,SNR=11								
SONM				ScP		**ScP**		**19 37 31.2**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=163,slow=5.3,SNR=3.6								
SONM	**Songino Array**	**45.92**	**10**	P		**P**		**19 32 01.9**	**-0.1**
SONM				PcP		**PcP**		**19 33 39.5**	**+0.8**
SONM				ScP		**ScP**		**19 37 31.2**	**+1.7**
KKAR	**Karatay Array**	**46.00**	**334**	*eP*		**P**		**19 32 03.1**	**+0.4**
KKAR	**Karatay Array**	**46.00**	**334**	*eP*		**P**		**19 32 03.1**	**+0.4**
ULN	**Ulaanbaatar**	**46.07**	**11**	*eP*		**P**		**19 32 01.3**	**-2.0**
	comp=Z,13nm,1.1s								
ULN	**Ulaanbaatar**	**46.07**	**11**	P		**P**		**19 32 03.0**	**-0.3**
	comp=Z,13nm,1.1s								
ZAK	**Zakamensk**	**47.95**	**7⇑**	*iP*		**P**		**19 32 17.2**	**-0.7**
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.3s								
HVS	**Khovu-Aksy**	**48.28**	**358**	*ciP*		**P**		**19 32 20.3**	**-0.1**
HVS				pmax	pmax				
	comp=Z,63nm,1.1s								
CN2	**Changchun**	**48.74**	**29**	*eP*		**P**		**19 32 24.0**	**+0.1**
CN2				*es*P		**sP**		**19 32 37.8**	**-0.3**
CN2				*eS*		**S**		**19 39 23.8**	**-0.7**
CN2				pmax	pmax				
	comp=Z,20nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,500nm,20.0s								
CN2				LR	LR				
	comp=E,400nm,20.0s								
CN2				LR	LR				
	comp=Z,400nm,13.0s								
QIS	**Mount Isa**	**48.96**	**120**	P		**P**		**19 32 26.3**	**+0.2**
	baz=49,SNR=6.1								
MOY	**Mondy**	**49.00**	**4**	*eP*		**P**		**19 32 25.9**	**-0.1**
TLY	**Talaya**	**49.27**	**7**	*eP*		**P**		**19 32 26.8**	**-1.1**
TLY				*eS*		S		19 39 22.6	-9.2
TLY				pmax	pmax				
	comp=Z,11nm,0.9s								
TLY				MLR	MLR				
	comp=Z,253nm,19.0s								
TLY	**Talaya**	**49.27**	**7**	*eP*		**P**		**19 32 27.2**	**-0.7**
	comp=Z,9.6nm,0.8s								
KURBB	**Kurchatov Arra**	**49.87**	**346**	P		**P**		**19 32 33.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=166,slow=6.9,SNR=85								
IRK	**Irkutsk**	**49.90**	**7**	*eP*		**P**		**19 32 30.9**	**-1.8**
IRK				pmax	pmax				
	comp=Z,26nm,1.7s								
KURK	**Kurchatov**	**49.94**	**346**	P		**P**		**19 32 33.1**	**+0.1**
KURK				pmax	pmax				
	comp=Z,13nm,0.8s								
KURK	**Kurchatov**	**49.94**	**346**	*eP*		**P**		**19 32 32.9**	**0.0**
	comp=Z,25nm,0.9s								
HIA	**Hailar**	**50.77**	**20**	*eP*		**P**		**19 32 38.6**	**-0.8**
	comp=Z,14nm,0.8s								
MDJ	**Mudanjiang**	**51.38**	**31**	P		**P**		**19 32 44.8**	**+0.8**
MDJ				pP		**pP**		**19 32 54.0**	**-0.2**
MDJ				sP		**sP**		**19 32 57.6**	**-0.6**
MDJ				ScP		**ScP**		**19 37 53.3**	**+0.7**
MDJ				PcS		**PcS**		**19 37 56.6**	**+0.6**
MDJ				S		**S**		**19 40 02.3**	**+1.0**
MDJ				pmax	pmax				
	comp=Z,17nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,170nm,4.5s								
MDJ				LR	LR				
	comp=N,670nm,27.1s								
MDJ				LR	LR				
	comp=E,300nm,28.4s								
MDJ				LR	LR				
	comp=Z,180nm,22.7s								
MJAR	**Matsushiro Arr**	**51.71**	**44**	P		**P**		**19 32 47.1**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=240,slow=9.1,SNR=4.0								
MJAR				PcP		**PcP**		**19 34 00.4**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=236,slow=2.7,SNR=4.1								
MJAR	**Matsushiro Arr**	**51.71**	**44**	P		**P**		**19 32 47.1**	**+0.4**
MJAR				PcP		**PcP**		**19 34 00.4**	**+0.6**
ZAA0	**Zalesovo Array**	**51.84**	**352**	*eP*		**P**		**19 32 46.8**	**-0.4**
ZALV	**Zalesovo Beam**	**51.84**	**352**	P		**P**		**19 32 47.6**	**+0.4**
	comp=Z,33nm,0.7s,baz=182,slow=6.1,SNR=159								
ZALV	**Zalesovo Beam**	**51.84**	**352**	P		**P**		**19 32 47.6**	**+0.4**
ZALV				pmax	pmax				
	comp=Z,33nm,0.7s								
ZALV	**Zalesovo Beam**	**51.84**	**352**	P		**P**		**19 32 47.6**	**+0.4**
USRK	**Ussuriysk Arra**	**52.36**	**33**	P		**P**		**19 32 52.0**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=141,slow=1.8,SNR=5.5								
RAYN	**Ar Rayn**	**52.62**	**298**	*eP*		**P**		**19 32 53.4**	**-0.3**
	comp=Z,54nm,1.8s								
PMG	**Port Moresby**	**52.78**	**104**	P		**P**		**19 32 54.5**	**-0.4**
	comp=Z,13nm,0.6s,baz=295,slow=7.9,SNR=6.7								
PMG	**Port Moresby**	**52.78**	**104**	P		**P**		**19 32 54.5**	**-0.4**
NVS	**Novosibirsk**	**52.94**	**351⇑**	*eP*		**P**		**19 32 54.5**	**-0.8**
NVS				*eS*		S		19 40 12.8	-9.4
NVS				pmax	pmax				
	comp=Z,21nm,0.9s								
NVS				pmax	pmax				
	comp=N,14nm,0.9s								
NVS				pmax	pmax				
	comp=E,7.0nm,0.9s								
NVS				smax	smax				
	comp=N,6.0nm,2.5s								
NVS				smax	smax				
	comp=E,42nm,3.2s								
VOSK	**Vostochnaya**	**53.87**	**342**	P		**P**		**19 33 01.5**	**-0.8**
VOSK				pmax	pmax				
	comp=Z,20nm,0.7s								
BVA0	**Borovoye Array**	**54.31**	**342**	*i* P		**P**		**19 33 05.1**	**-0.4**
BVA0				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BVAR	**Borovoye Array**	**54.31**	**342**	P		**P**		**19 33 05.4**	**-0.1**
	comp=Z,13nm,0.7s,baz=140,slow=9.4,SNR=107								
BVAR	**Borovoye Array**	**54.31**	**342**	P		**P**		**19 33 05.4**	**-0.1**
BVAR				pmax	pmax				
	comp=Z,13nm,0.7s								
BVAR	**Borovoye Array**	**54.31**	**342**	P		**P**		**19 33 05.4**	**-0.1**
BRVK	**Borovoye**	**54.37**	**342**	*ciP*		**P**		**19 33 05.5**	**-0.4**
BRVK				pmax	pmax				
	comp=Z,22nm,1.0s								
BRVK	**Borovoye**	**54.37**	**342**	*eP*		**P**		**19 33 05.4**	**-0.5**
	comp=Z,15nm,0.8s								
CTA	**Charters Tower**	**54.63**	**117**	P		**P**		**19 33 08.4**	**+0.1**
	comp=Z,14nm,1.1s,baz=308,slow=6.0,SNR=4.0								
CTA	**Charters Tower**	**54.63**	**117**	P		**P**		**19 33 08.4**	**+0.1**
ZRNK	**Zerenda**	**54.70**	**341**	*i* P		**P**		**19 33 07.9**	**-0.4**
ZRNK				pmax	pmax				
	comp=Z,16nm,0.9s								
QLP	**Quilpie**	**55.25**	**125**	P		**P**		**19 33 13.7**	**+0.9**
	baz=55,SNR=4.5								
AB31	**Akbulak array**	**55.43**	**332**	*ceP*		**P**		**19 33 13.8**	**+0.1**
AB31				pmax	pmax				
	comp=Z,9.0nm,0.6s								
ABKAR	**Akbulak array**	**55.43**	**332**	*eP*		**P**		**19 33 13.5**	**-0.2**
STKA	**Stephens Creek**	**55.56**	**132**	P		**P**		**19 33 15.0**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=315,slow=6.9,SNR=8.5								
STKA	**Stephens Creek**	**55.56**	**132**	P		**P**		**19 33 15.0**	**+0.1**
STKA	**Stephens Creek**	**55.56**	**132**	P		**P**		**19 33 15.2**	**+0.3**
	baz=56,SNR=4.1								
KLR	**Kul'dur**	**55.67**	**28**	*eP*		P		19 33 12.0	-3.4
KLR				pmax	pmax				
	comp=E,24nm,1.4s								
KLR				pmax	pmax				
	comp=Z,38nm,1.4s								
HABR	**Khabarovsk**	**56.76**	**30**	*eP*		P		19 33 29.8	+6.6
HABR				*e*				19 34 13.7	
HABR								19 35 27.3	
HABR				*eS*		**S**		**19 41 13.5**	**-0.3**
HABR				*e**SS		sS		19 41 30.7	-0.1
HABR				*e*				19 43 06.0	
HABR				*eSS		**SS**		**19 45 04.4**	**+2.2**
HABR				MLR	MLR				
	comp=Z,205nm,19.0s								
BOD	**Bodaibo**	**56.85**	**12**	*eP*		**P**		**19 33 23.2**	**-0.4**
BOD				pmax	pmax				
	comp=Z,17nm,1.0s								
AKTO	**Aktyubinsk**	**57.15**	**332**	P		**P**		**19 33 25.8**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=133,slow=6.8,SNR=15								
AKTO	**Aktyubinsk**	**57.15**	**332**	P		**P**		**19 33 25.8**	**-0.1**
AKTO				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**57.15**	**332**	P		**P**		**19 33 25.8**	**-0.1**
KMBO	**Kilima Mbogo**	**58.43**	**267**	*eP*		**P**		**19 33 36.3**	**+0.4**
	comp=Z,4.8nm,1.1s								
CMSA	**Cobar Meteorol**	**58.50**	**130**	P		**P**		**19 33 36.3**	**+0.6**
	baz=59,SNR=15								
CLNS	**Chul'man**	**58.81**	**18**	*eP*		**P**		**19 33 37.7**	**+0.2**
CLNS				pmax	pmax				
	comp=Z,11nm,0.9s								
CLNS				pmax	pmax				
	comp=N,11nm,1.1s								
CLNS				pmax	pmax				
	comp=E,9.0nm,1.3s								
GNI	**Garni**	**59.09**	**316**	P		**P**		**19 33 41.2**	**+1.3**
	comp=E,0.9nm,0.4s,baz=217,slow=22,SNR=2.6								
GNI	**Garni**	**59.09**	**316**	P		**P**		**19 33 41.2**	**+1.3**
SVE	**Sverdlovsk**	**60.70**	**339⇑**	*iP*		**P**		**19 33 50.8**	**+0.4**
SVE				pmax	pmax				
	comp=Z,32nm,1.0s								
ARU	**Arti**	**61.18**	**338**	*diP*		**P**		**19 33 53.4**	**-0.2**
ARU								19 36 08.1	
ARU				S		S		19 42 17.1	+6.3
ARU				SS		**SS**		**19 46 15.1**	**+3.8**
ARU				pmax	pmax				
	comp=Z,11nm,1.0s								
ARU	**Arti**	**61.18**	**338**	*eP*		**P**		**19 33 52.3**	**-1.3**
	comp=Z,19nm,1.2s								
KBZ	**Khabaz**	**61.88**	**319**	P		**P**		**19 33 58.7**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=201,slow=4.8,SNR=4.3								
KBZ	**Khabaz**	**61.88**	**319**	P		**P**		**19 33 58.7**	**+0.1**
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
KBZ	**Khabaz**	**61.88**	**319**	P		**P**		**19 33 58.7**	**+0.1**
KIV	**Kislovodsk**	**62.11**	**319**	*eP*		**P**		**19 33 57.6**	**-2.8**
KIV				*eS*		**S**		**19 42 24.6**	**+1.2**
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,79nm,18.0s								
ASF	**Jabal al Asfar**	**62.27**	**305**	P		**P**		**19 34 03.9**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=200,slow=1.4,SNR=3.3								
ASF	**Jabal al Asfar**	**62.27**	**305**	P		**P**		**19 34 03.9**	**+2.3**
SOKR	**Solikamsk**	**64.10**	**339**	*ciP*		**P**		**19 34 13.5**	**+0.4**
SOKR				pmax	pmax				
	comp=Z,20nm,1.0s								
YAK	**Yakutsk**	**64.45**	**17**	*eP*		**P**		**19 34 13.7**	**-1.6**
YAK				*e*				19 34 45.9	
YAK				*e*				19 36 31.9	
YAK				*eS*		**S**		**19 42 50.9**	**-0.7**
YAK				*eSS		SS		19 46 54.4	-7.8
YAK				pmax	pmax				
	comp=Z,59nm,1.0s								
YAK				pmax	pmax				
	comp=N,15nm,1.1s								
YAK				pmax	pmax				
	comp=E,13nm,1.1s								
YAK				pmax	pmax				
	comp=Z,134nm,4.0s								
YAK				pmax	pmax				
	comp=E,118nm,3.4s								
YAK				pmax	pmax				
	comp=N,25nm,1.9s								
YAK				smax	smax				
	comp=N,33nm,11.0s								
YAK				smax	smax				
	comp=E,12nm,8.3s								
YAK				MLR	MLR				
	comp=Z,553nm,18.0s								
YAK				MLR	MLR				
	comp=N,352nm,21.0s								
YAK				MLR	MLR				
	comp=E,348nm,22.0s								
MBAR	**Mbarara**	**64.90**	**268**	P		**P**		**19 34 20.1**	**+0.7**
	comp=E,2.2nm,0.6s,baz=103,slow=23,SNR=3.1								
MBAR	**Mbarara**	**64.90**	**268**	P		**P**		**19 34 20.1**	**+0.7**
VRHR	**Novokhopersk**	**65.98**	**326**	*eP*		**P**		**19 34 24.1**	**-1.3**
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VRHR				pmax	pmax				
	comp=N,6.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.8s								
BRTR	**Keskin Array B**	**66.90**	**312**	P		**P**		**19 34 32.4**	**+0.5**
	comp=E,1.2nm,0.7s,baz=148,slow=7.3,SNR=7.4								
BRTR	**Keskin Array B**	**66.90**	**312**	P		**P**		**19 34 32.4**	**+0.5**
VORD	**Divnogorie**	**67.23**	**325**	*eP*		**P**		**19 34 31.5**	**-2.0**
VORD				pmax	pmax				
	comp=Z,8.0nm,0.5s								
VORD				pmax	pmax				
	comp=N,20nm,0.8s								
VORD				pmax	pmax				
	comp=E,20nm,0.7s								
VSR	**Storozhevoye**	**67.42**	**325**	*eP*		**P**		**19 34 33.4**	**-1.2**
LSZ	**Lusaka**	**69.00**	**253**	LR		LR		20 00 27.1	
	comp=E,163nm,18.1s,baz=155,slow=32								
MOS	**Moscow**	**70.22**	**329**	*eP*		P		19 34 59.7	+7.7
MOS				pmax	pmax				
	comp=Z,58nm,1.0s								
OBN	**Obninsk**	**70.49**	**329**	*eP*		**P**		**19 34 52.9**	**-0.7**
OBN				pmax	pmax				
	comp=Z,21nm,1.6s								
KLMR	**Klimovskoe**	**71.70**	**335**	*eP*		**P**		**19 34 59.9**	**-1.0**
KLMR				pmax	pmax				
	comp=Z,19nm,1.5s								
SEY	**Seymchan**	**73.03**	**24⇓**	*iP*		**P**		**19 35 08.5**	**-0.3**
AKASG	**Malin Array Be**	**73.08**	**322**	P		**P**		**19 35 08.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=105,slow=5.2,SNR=5.3								
AKASG	**Malin Array Be**	**73.08**	**322**	P		**P**		**19 35 08.8**	**-0.5**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**73.08**	**322**	P		**P**		**19 35 08.8**	**-0.5**
LBTB	**Lobatse**	**73.11**	**243**	LR		LR		20 01 00.9	
	comp=Z,188nm,21.4s,baz=94,slow=31								
LBTB	**Lobatse**	**73.11**	**243**	*eP*		**P**		**19 35 10.7**	**+0.6**
	comp=Z,34nm,1.6s								
VRI	**Vrincioaia**	**73.42**	**317⇑**	P		**P**		**19 35 11.5**	**0.0**
VRI	**Vrincioaia**	**73.42**	**317⇑**	*iP*		**P**		**19 35 11.5**	**0.0**
PLOR	**Plostina**	**73.47**	**317⇑**	P		**P**		**19 35 08.9**	**-2.9**
PLOR	**Plostina**	**73.47**	**317⇑**	*iP*		**P**		**19 35 08.9**	**-2.9**
TESR		**73.62**	**318⇓**	*iP*		**P**		**19 35 13.0**	**+0.4**
MLR	**Muntele Rosu**	**73.86**	**317⇓**	*iP*		P		19 35 21.5	+7.3
BOSA	**Boshof**	**74.13**	**239**	P		**P**		**19 35 16.3**	**+0.2**
	comp=Z,7.7nm,1.3s,baz=131,slow=11,SNR=3.0								
BOSA	**Boshof**	**74.13**	**239**	P		**P**		**19 35 16.3**	**+0.2**
BURAR	**Bucovina Array**	**74.83**	**319⇑**	*iP*		P		19 35 08.7	-11
BUR08	**Bucovina Ar. S**	**74.84**	**319**	*eP*		**P**		**19 35 20.3**	**+0.4**
JOF	**Joensuu**	**76.10**	**335**	*eP*		**P**		**19 35 25.3**	**-1.3**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
JOF	**Joensuu**	**76.10**	**335**	*ep*		**P**		**19 35 25.3**	**-1.3**
	comp=Z,2.9nm,0.7s								
SUW	**Suwalki**	**77.52**	**325**	*eP*		**P**		**19 35 34.5**	**-0.2**
SUW				pmax	pmax				
	comp=Z,27nm,1.1s								
SUW	**Suwalki**	**77.52**	**325**	*eP*		**P**		**19 35 34.5**	**-0.2**
	comp=Z,27nm,1.1s								
FINES	**FINESS Array B**	**77.92**	**333**	P		**P**		**19 35 36.4**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=93,slow=6.1,SNR=12								
FINES	**FINESS Array B**	**77.92**	**333**	P		**P**		**19 35 36.4**	**-0.5**
KAF	**Kangasniemi**	**78.02**	**333**	*eP*		**P**		**19 35 36.1**	**-1.3**
KAF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KAF	**Kangasniemi**	**78.02**	**333**	*ep*		**P**		**19 35 36.1**	**-1.3**
	comp=Z,3.1nm,0.7s								
OJC	**Ojcow**	**78.84**	**321**	*eP*		**P**		**19 35 42.4**	**+0.2**
OJC	**Ojcow**	**78.84**	**321**	*eP*		**P**		**19 35 42.4**	**+0.2**
VYHS	**Vyhne**	**79.20**	**319**	*eP*		P		19 35 52.1	+7.8
VYHS				pmax	pmax				
	comp=Z,8.0nm,1.8s								
VYHS	**Vyhne**	**79.20**	**319**	*eP*		P		19 35 52.0	+7.8
BILL	**Bilibino**	**80.35**	**21**	*eP*		**P**		**19 35 49.1**	**-0.9**
BILL				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ARCES	**ARCESS Array B**	**80.58**	**340**	P		**P**		**19 35 51.8**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=98,slow=6.2,SNR=14								
ARCES	**ARCESS Array B**	**80.58**	**340**	P		**P**		**19 35 51.8**	**+0.5**
RPZ	**Rata Peaks**	**81.41**	**135**	P		**P**		**19 35 54.7**	**-1.6**
	comp=Z,4.9nm,0.5s,baz=302,slow=12,SNR=3.8								
RPZ	**Rata Peaks**	**81.41**	**135**	P		**P**		**19 35 54.6**	**-1.6**
GERES	**GERESS Array B**	**82.62**	**319**	P		**P**		**19 36 03.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=92,slow=4.0,SNR=7.2								
GERES	**GERESS Array B**	**82.62**	**319**	P		**P**		**19 36 03.2**	**+0.6**
HFS	**Hagfors**	**83.61**	**330**	P		**P**		**19 36 07.4**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=134,slow=4.3,SNR=11								
HFS	**Hagfors**	**83.61**	**330**	P		**P**		**19 36 07.4**	**+0.1**
NOA	**NORSAR Array B**	**84.91**	**331**	P		**P**		**19 36 14.6**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=92,slow=6.2,SNR=2.8								
NOA	**NORSAR Array B**	**84.91**	**331**	P		**P**		**19 36 14.6**	**+0.6**
SPITS	**Spitsbergen Ar**	**85.15**	**348**	P		**P**		**19 36 15.1**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=59,slow=14,SNR=6.7								
SPITS	**Spitsbergen Ar**	**85.15**	**348**	P		**P**		**19 36 15.1**	**+0.2**
LPG	**La Plagne**	**87.26**	**315**	*eP*		P		19 36 30.9	+4.7
	comp=Z,11nm,1.1s								
LPG	**La Plagne**	**87.26**	**315**	*eP*		P		19 36 30.9	+4.7
LPG				pmax	pmax				
	comp=Z,11nm,1.1s								
LPG	**La Plagne**	**87.26**	**315**	*eP*		P		19 36 30.9	+4.7
	comp=Z,11nm,1.1s								
LPL	**La Plagne**	**87.28**	**315**	*eP*		P		19 36 30.7	+4.5
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**87.28**	**315**	*eP*		P		19 36 30.7	+4.5
LPL				pmax	pmax				
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**87.28**	**315**	*eP*		P		19 36 30.7	+4.5
	comp=Z,11nm,0.9s								
QSPA	**South Pole Qui**	**92.64**	**180**	P		**P**		**19 36 52.2**	**+1.5**
	comp=Z,1.7nm,1.1s,baz=39,slow=6.1,SNR=3.4								
QSPA	**South Pole Qui**	**92.64**	**180**	P		**P**		**19 36 52.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**93.17**	**283**	P		**P**		**19 36 55.5**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=326,slow=2.0,SNR=2.8								
TORD	**Torodi Ar. Bea**	**93.17**	**283**	P		**P**		**19 36 55.5**	**+1.4**
TXAR	**Lajitas Array**	**143.19**	**29**	PKhKP	PKPpre			19 43 11.4	
	comp=Z,0.6nm,0.7s,baz=254,slow=1.7,SNR=7.5								
TXAR	**Lajitas Array**	**143.19**	**29**	PKPpre	PKPpre			19 43 11.3	

*ISCJB **22** 19:34:16.5±1.2,5.°38S±0.°03×151.°75E±0.°03, h28km±8km, mb5.0/89, MS4.8/48, Error ellipse: s-maj=5.6km s-min=4.5km az=148.3*

*IDC **22** 19:34:18.6±2.0,5.°36S×151.°71E, h29km±13km, mb4.7/21, mb1 4.8/22, mb1mx4.8/24, mbtmp4.7/22, ML4.1/1, MS4.7/23, Ms1 4.8/23, ms1mx4.6/37, Error ellipse: s-maj=14.3km s-min=9.1km az=118.0*

*MOS **22** 19:34:18.4±1.2,5.°22S×151.°57E, h33km, mb5.4/21, MS4.9/13, Error ellipse: s-maj=10.2km s-min=6.7km az=95.6*

*BJI **22** 19:34:18.1,5.°58S×151.°95E, h57km, mB5.3/27, mb5.0/44, Ms5.1/37, MS7 4.8/35*

*DJA **22** 19:34:18.1±0.5,5.°S±4.×15.°2E±., h20km, M5.2/24, mB5.7/9, mb5.2/24, Mw(mB)5.2/9*

*NEIC **22** 19:34:20.4±0.2,5.°32S×151.°74E, mb5.1/32, Error ellipse: s-maj=7.7km s-min=5.2km az=108.0*

*GCMT **22** 19:34:24.8±0.1,5.°68S×151.°78E, h38km, MW5.4, Moment Tensor Solution. s82,c152; s88,c161; Moment tensor: Scale 10^{17}Nm; M_{rr}1.06±.03; $M_{\theta\theta}$-1.18±.02; $M_{\phi\phi}$0.13±.02; $M_{r\theta}$0.51±.02; $M_{\theta\phi}$-0.62±.02; $M_{\phi r}$-0.03±.02; Best double couple: M_o1.40000×10^{17} NP1:ϕ_s232.00000°, δ37.00000°, λ66.00000°. NP2:ϕ_s82.00000°, δ57.00000°, λ107.00000°. Principal axes: T 1.2000, Plg72.0000°, Azm34.0000°; N 0.3200, Plg14.0000°, Azm252.0000°; P -1.5100, Plg10.0000°, Azm159.0000°; Data Used: II IU IC G.*

*AUST **22** 19:34:27.6±1.0,5.°59S×151.°52E, h98km Error ellipse: s-maj=1.4km s-min=0.9km az=241.0*

ISC 22 19:34:21.3±0.3, 5.°41S±0.°04×151.°80E±0.°05, h52km±2km, h52km:pP-P, n526, σ1$44/579, mb5.0/89, MS4.8/48, 56C-51D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**229**	Pn		**Pn**		**19 35 48.1**	**-0.5**
	27nm,0.3s,baz=42,slow=7.6,SNR=79								
PMG				Sn		**Sn**		**19 36 57.1**	**+0.3**
	50nm,0.3s,baz=125,slow=22,SNR=10								
PMG	**Port Moresby**	**6.08**	**229⇓**	*e*Pn		**Pn**		**19 35 48.1**	**-0.5**
	528nm,0.7s								
PMG				Sn		**Sn**		**19 36 57.1**	**+0.3**
PMG	**Port Moresby**	**6.08**	**229**	P		**Pn**		**19 35 45.8**	**-2.8**
COEN	**Coen**	**12.01**	**224**	*e*P		**Pn**		**19 37 08.1**	**-1.8**
	240nm,1.0s								
COEN	**Coen**	**12.01**	**224**	P		**Pn**		**19 37 08.8**	**-1.0**
	baz=12,SNR=9.1								
CTA	**Charters Tower**	**15.55**	**200**	Pn		**P**		**19 37 59.7**	**-1.0**
	0.7nm,0.3s,baz=20,slow=12,SNR=7.3								
CTA				LR		LR		19 43 17.4	
	comp=Z,4μm,21.2s,baz=23,slow=35								
CTA	**Charters Tower**	**15.55**	**200**	Pn		**P**		**19 37 59.7**	**-1.0**
CTAO	**Charters Tower**	**15.55**	**200**	P		**Pn**		**19 37 56.3**	**-1.0**
CTAO				pmax	pmax				
	comp=Z,38nm,0.9s								
CTAO

MNI	Manado	27.77	283	P	P	19 40 03.8	-1.7		
STKA	Stephens Creek	28.01	199	P	P	19 40 06.3	-1.1		
	comp=Z,6.1nm,0.9s,baz=11,slow=11,SNR=14								
STKA				ScP	ScP	19 47 01.4	+3.3		
	comp=Z,6.6nm,1.1s,baz=38,slow=5.0,SNR=4.3								
STKA				LR	LR	19 51 29.8			
	comp=Z,2μm,18.6s,baz=142,slow=37								
STKA	Stephens Creek	28.01	199	*e*P	P	19 40 07.2	-0.2		
	comp=Z,4.0nm,0.9s								
STKA				ScP	ScP	19 47 01.4	+3.3		
STKA	Stephens Creek	28.01	199	P	P	19 40 06.7	-0.7		
	baz=28,SNR=13								
KMSI	Cibinong	28.41	281	P	P	19 40 10.0	-1.2		
FITZ	Fitzroy Crossi	28.49	242	P	P	19 40 10.7	-1.2		
	comp=Z,140nm,0.9s,baz=57,slow=8.8,SNR=142								
FITZ				S	S	19 44 57.0	+0.9		
	comp=Z,17nm,1.0s,baz=148,slow=18,SNR=4.7								
FITZ				LR	LR	19 53 07.6			
	comp=Z,1μm,18.0s,baz=318,slow=40								
FITZ	Fitzroy Crossi	28.49	242⇑	*e*P	P	19 40 10.9	-0.9		
	comp=Z,118nm,0.9s								
FITZ				S	S	19 44 57.0	+0.9		
FITZ	Fitzroy Crossi	28.49	242	P	P	19 40 11.1	-0.8		
	baz=28,SNR=114								
FITZ				S	S	19 44 57.3	+1.2		
	baz=28,SNR=6.3								
DAV	Davao City (W)	28.95	295	P	P	19 40 18.3	+2.3		
	comp=Z,58nm,0.4s,baz=346,slow=3.1,SNR=3.3								
DAV				LR	LR	19 51 32.2			
	comp=Z,2μm,18.9s,baz=347,slow=36								
DAV	Davao City (W)	28.95	295	P	P	19 40 18.3	+2.3		
MMRI	Maumere	29.50	262	P	P	19 40 19.2	-1.7		
WSI	Waingapu	31.50	260	P	P	19 40 35.6	-2.9		
KAPI	Kappang	31.91	269	P	P	19 40 43.1	+0.9		
	comp=Z,4.2nm,0.5s,baz=117,slow=9.0,SNR=5.0								
KAPI	Kappang	31.91	269	P	P	19 40 43.1	+0.9		
ARPS	Mount Arapiles	32.52	195	P	P	19 40 47.1	-0.1		
	baz=32,SNR=16								
CBIJ	Chichi jima	33.62	344	P	P	19 40 57.7	+0.7		
	comp=Z,55nm,0.6s,baz=318,slow=19,SNR=3.7								
CBIJ	Chichi jima	33.62	344	P	P	19 40 57.7	+0.7		
FORT	Forrest	33.69	219	P	P	19 40 56.6	-0.9		
	baz=34,SNR=24								
MBWA	Marble Bar	34.80	240	*e*P	P	19 41 06.0	-1.3		
	comp=Z,40nm,0.8s								
MBWA	Marble Bar	34.80	240	P	P	19 41 07.1	-0.1		
	SNR=6.0								
MBWA	Marble Bar	34.80	240	mb	P	19 41 11.1	+3.8		
	SNR=9.6								
MYLDM	Lahad Datu	34.87	287	P	P	19 41 10.2	+2.2		
	comp=Z,49nm,1.6s								
KHKI	Kahang-Kahang	36.04	263	P	P	19 41 29.1	+11		
TGY	Tagaytay City	36.24	303	P	P	19 41 20.7	+1.0		
	comp=Z,215nm,0.4s,baz=231,slow=12,SNR=5.1								
TGY				LR	LR	19 56 21.7			
	comp=Z,4.1nm,20.0s,baz=336,slow=37								
TGY	Tagaytay City	36.24	303	P	P	19 41 20.7	+1.0		
JAGI	Jajag, Banyuwa	37.48	263	P	P	19 41 28.4	-1.9		
	comp=Z,55nm,1.0s								
MEEK	Meekatharra	38.04	233	P	P	19 41 34.0	-0.8		
	baz=38,SNR=38								
NIUE	Niue	39.68	113	P	P	19 41 55.6	+6.9		
	baz=40,SNR=9.4								
PWJI	Pagerwojo	39.79	264	P	P	19 41 49.3	-0.3		
	comp=Z,46nm,0.9s								
JHJ	Hachijo jima 2	39.98	344	LR	LR	19 55 33.1			
	comp=Z,2μm,18.7s,baz=55,slow=32								
URZ	Urewera	39.98	148	P	P	19 41 51.6	+0.8		
	comp=Z,4.8nm,0.6s,baz=314,slow=15,SNR=4.9								
URZ	Urewera	39.98	148	P	P	19 41 51.6	+0.8		
GIRL	Giralia	40.10	241	P	P	19 41 54.9	+2.9		
	baz=40,SNR=3.7								
STKI	Sintang	40.62	276	P	P	19 41 57.3	+0.7		
	comp=Z,20nm,1.6s,comp=Z,2μm								
KLBR	Kellerberrin	41.16	227	P	P	19 42 00.1	-0.7		
	baz=41,SNR=10								
MORW	Morawa	41.19	231	P	P	19 41 59.9	-1.1		
	baz=41,SNR=13								
YULB	Yu-li	41.30	315	*e*P	P	19 42 01.3	-0.7		
BLDU	Ballidu	41.43	228	P	P	19 42 02.1	-0.9		
	baz=41,SNR=4.7								
RPZ	Rata Peaks	41.76	159	P	P	19 42 06.7	+1.3		
	comp=Z,8.3nm,0.5s,baz=198,slow=2.4,SNR=5.8								
RPZ				LR	LR	19 57 50.5			
	comp=Z,2μm,18.3s,baz=33,slow=34								
RPZ	Rata Peaks	41.76	159	P	P	19 42 06.7	+1.3		
SSLB	Suanglung	41.80	315	*e*P	P	19 42 03.0	-3.0		
KSM	Kuching	42.00	278	*e*P	P	19 42 04.9	-2.9		
	comp=Z,62nm,0.6s								
KSM	Kuching	42.00	278	P	P	19 42 08.3	+0.5		
	comp=Z,23nm,0.8s,comp=Z,568nm								
NWAO	Narrogin (SRO)	42.25	225	P	P	19 42 10.4	+0.8		
	comp=Z,6.0nm,0.7s,baz=54,slow=12,SNR=3.7								
NWAO				LR	LR	19 59 48.2			
	comp=Z,2μm,21.0s,baz=170,slow=36								
NWAO	Narrogin (SRO)	42.25	225	P	P	19 42 10.4	+0.8		
JNU	Nakatsue	43.16	334	P	P	19 42 19.1	+2.2		
	comp=Z,12nm,0.5s,baz=142,slow=6.6,SNR=18								
JNU				LR	LR	19 58 45.1			
	comp=Z,594nm,21.4s,baz=326,slow=34								
JNU	Nakatsue	43.16	334	P	P	19 42 19.1	+2.2		
RKGY	Rocky Gully	43.35	223	P	P	19 42 18.8	+0.3		
	baz=43,SNR=5.3								
MJAR	Matsushiro Arr	43.63	344	P	P	19 42 21.4	+0.8		
	comp=Z,5.1nm,0.6s,baz=154,slow=1.8,SNR=27								
MJAR				LR	LR	19 59 17.6			
	comp=Z,984nm,20.7s,baz=180,slow=34								
MJAR	Matsushiro Arr	43.63	344	P	P	19 42 21.4	+0.8		
MAT	Matsushiro	43.63	344	P	P	19 42 20.8	+0.1		
MAT				*e*S	S	19 48 48.8	+2.2		
LEM	Lembang	43.94	266	P	P	19 42 27.5	+3.8		
	comp=Z,43nm,1.0s								
CBJI	Citeko	44.71	266	P	P	19 42 36.7	+7.0		
PPBI	Pangkal Pinang	45.66	272	P	P	19 42 38.8	+1.5		
	comp=Z,12nm,1.1s,comp=Z,879nm								
KASI	Kota Agung	47.07	267	P	P	19 42 47.5	-0.8		
	comp=Z,40nm,1.2s								
QIZ	Qiongzhong	47.92	302	P	P	19 42 55.8	+0.9		
QIZ				pP	pP	19 43 05.5	-3.4		
QIZ				sP	sP	19 43 14.1	-0.8		
QIZ				S	S	19 49 49.9	+1.0		
QIZ				sS	sS	19 50 18.5	+6.0		
QIZ				pmax	pmax				
	comp=Z,30nm,1.3s								
QIZ				LR	LR				
	comp=N,450nm,22.9s								
QIZ				LR	LR				
	comp=E,320nm,24.1s								
QIZ				LR	LR				
	comp=Z,1μm,27.7s								
QIZ	Qiongzhong	47.92	302	*e*P	P	19 42 54.7	-0.2		
KSRS	Korea Array	48.10	334	P	P	19 42 58.3	+2.5		
	comp=Z,2.4nm,0.6s,baz=154,slow=7.1,SNR=12								
KSRS				LR	LR	20 01 40.4			
	comp=Z,592nm,21.2s,baz=145,slow=34								
KSAR	Wonju Array Be	48.11	334	P	P	19 42 58.4	+2.4		
MYKOM	Kota Tinggi	48.42	277	P	P	19 42 59.8	+1.0		
	comp=Z,12nm,1.0s,comp=Z,466nm								
ASAJ	Asahikawa	49.99	351	P	P	19 43 17.1	+6.8		
	comp=Z,5.9nm,0.7s,baz=172,slow=13,SNR=4.7								
ASAJ				LR	LR	20 02 08.5			
	comp=Z,674nm,22.0s,baz=180,slow=33								
WHN	Wuhan	50.61	317	P	P	19 43 16.4	+1.2		
WHN				S	S	19 50 25.8	-0.4		
WHN				LR	LR				
	comp=N,3μm,21.3s								
WHN				LR	LR				
	comp=E,3μm,19.6s								
WHN				LR	LR				
	comp=Z,2μm,15.8s								
PPI	Padang Panjang	51.55	274	P	P	19 43 21.9	-0.6		
	comp=Z,47nm,1.1s								
KULM	Kulim	52.17	281	*e*P	P	19 43 25.9	-1.2		
	comp=Z,9.3nm,1.1s								
KULM	Kulim	52.17	281	P	P	19 43 27.0	-0.1		
	comp=Z,14nm,0.9s,comp=Z,622nm								
USRK	Ussuriysk Arra	52.50	342	P	P	19 43 28.0	-1.0		
	comp=Z,3.0nm,0.6s,baz=142,slow=44,SNR=3.7								
USRK				LR	LR	20 01 55.1			
	comp=Z,852nm,21.3s,baz=158,slow=32								
MNSI	Mandailing Nat	52.51	275	P	P	19 43 29.4	-0.3		
	comp=Z,28nm,1.1s								
PSI	Prapat	53.44	277	LR	LR	20 08 55.8			
	comp=Z,462nm,19.9s,baz=114,slow=39								
MDJ	Mudanjiang	53.65	340	P	P	19 43 37.4	-0.1		
MDJ				pP	pP	19 43 49.1	-2.6		
MDJ				sP	sP	19 43 53.8	-3.9		
MDJ				ScP	ScP	19 48 37.3	+0.3		
MDJ				PcS	PcS	19 48 42.0	-0.3		
MDJ				S	S	19 51 09.8	+2.4		
MDJ				sS	sS	19 51 29.8	-1.5		
MDJ				pmax	pmax				
	comp=Z,4.0nm,1.5s								
MDJ				LR	LR				
	comp=N,270nm,19.0s								
MDJ				LR	LR				
	comp=E,250nm,20.1s								
MDJ				LR	LR				
	comp=Z,170nm,19.3s								
ENH	Enshi	53.84	314	*e*P	P	19 43 38.4	-0.9		
	comp=Z,73nm,1.3s								
GYA	Guiyang	53.97	308	P	P	19 43 41.3	+0.9		
GYA				pP	pP	19 43 54.0	-0.6		
GYA				sP	sP	19 44 01.6	+1.0		
GYA				PcP	PcP	19 44 44.9	-0.2		
GYA				PP	PP	19 45 43.6	+1.3		
GYA				ScP	ScP	19 48 38.3	-0.7		
GYA				S	S	19 51 12.0	-0.7		
GYA				SS	SS	19 54 53.3	-1.6		
GYA				pmax	pmax				
	comp=Z,30nm,1.0s								
GYA				pmax	pmax				
	comp=Z,150nm,5.0s								
GYA				LR	LR				
	comp=N,760nm,18.9s								
GYA				LR	LR				
	comp=E,680nm,19.0s								
GYA				LR	LR				
	comp=Z,850nm,18.6s								
GSI	Gunungsitoli	54.56	275	P	P	19 43 42.8	-1.9		
	baz=54,SNR=4.4								
HABR	Khabarovsk	55.63	347	*e*P	P	19 43 47.7	-4.0		
HABR				*e**PP	pP	19 43 57.5	-8.5		
HABR				*e**SP	sP	19 44 01.8	-10		
HABR						19 44 48.6			
HABR						19 45 51.5			
HABR				*e*S	S	19 51 28.9	-4.9		
HABR				*e**SS	sS	19 51 46.0	-12		
HABR				*e*		19 53 33.9			
HABR				*e*SS	SS	19 55 14.4	-5.5		
HABR				*e*SSS	SSS	19 57 22.5			
HABR				pmax	pmax				
	comp=Z,128nm,3.2s								
HABR				pmax	pmax				
	comp=E,94nm,3.2s								
HABR				pmax	pmax				
	comp=N,150nm,3.2s								
HABR				MLR	MLR				
	comp=Z,561nm,19.0s								
SRDT	SRDT	55.80	291	P	P	19 43 54.4	+0.8		
	comp=Z,31nm,1.3s								
XAN	Xi'an	56.38	317	P	P	19 43 57.0	-0.5		
XAN				pP	pP	19 44 12.4	+0.6		
XAN				sP	sP	19 44 19.4	+1.6		
XAN				PP	PP	19 46 05.3	+1.7		
XAN				S	S	19 51 41.4	-3.1		
XAN				SS	SS	19 55 30.4	-2.0		
XAN				pmax	pmax				
	comp=Z,7.0nm,1.4s								
XAN				LR	LR				
	comp=N,490nm,23.4s								
XAN				LR	LR				
	comp=E,160nm,21.2s								
XAN				LR	LR				
	comp=Z,280nm,21.2s								
KMI	Kunming	56.50	305	P	P	19 43 59.5	+0.8		
KMI				pP	pP	19 44 15.8	+2.7		
KMI				sP	sP	19 44 21.4	+2.3		
KMI				PP	PP	19 46 08.8	+3.7		
KMI				S	S	19 51 46.9	+0.1		
KMI				sS	sS	19 52 13.5	+2.6		
KMI				SS	SS	19 55 36.3	+1.3		
KMI				pmax	pmax				
	comp=Z,18nm,1.4s								
KMI				pmax	pmax				
	comp=Z,250nm,4.0s								
KMI				LR	LR				
	comp=N,340nm,20.0s								
KMI				LR	LR				
	comp=E,380nm,13.9s								
KMI				LR	LR				
	comp=Z,670nm,22.6s								
KLR	Kul'dur	57.15	344	*e*P	P	19 44 02.7	+0.1		
KLR				MLR	MLR				
	comp=E,500nm,14.0s								
KLR				MLR	MLR				
	comp=Z,1μm,14.0s								
CM31	Chiang Mai Arr	57.23	296	*e*P	P	19 44 04.1	+0.3		
	comp=Z,26nm,1.0s								
CMAR	Chiang Mai Arr	57.23	296	P	P	19 44 04.4	+0.6		
	comp=Z,10nm,0.8s,baz=115,slow=5.3,SNR=84								
CMAR				LR	LR	20 08 37.7			
	comp=Z,462nm,19.4s,baz=300,slow=36								
CMAR	Chiang Mai Arr	57.23	296	P	P	19 44 04.4	+0.6		
CMMT	Chiang Mai	57.35	296	P	P	19 44 05.2	+0.6		
	comp=Z,30nm,1.3s,comp=Z,415nm								
CHTO	Chiang Mai	57.35	296	*e*P	P	19 44 03.1	-1.5		
CHTO				pmax	pmax				
	comp=Z,45nm,1.3s								
CHTO	Chiang Mai	57.35	296	*e*P	P	19 44 03.1	-1.5		
	comp=Z,45nm,1.3s								
CHTO	Chiang Mai	57.35	296	P	P	19 44 04.9	+0.3		
	SNR=22								
CHTO	Chiang Mai	57.35	296	P	P	19 44 04.7	+0.1		
	comp=Z,34nm,1.4s,comp=Z,510nm								
CD2	Chengdu	58.38	311	P	P	19 44 11.9	+0.2		
CD2				pP	pP	19 44 25.3	-0.7		
CD2				sP	sP	19 44 30.9	-1.1		
CD2				PP	PP	19 46 23.4	+2.0		
CD2				S	S	19 52 10.3	-0.6		
CD2				sS	sS	19 52 32.9	-2.2		
CD2				SS	SS	19 56 05.0	+1.0		
CD2				pmax	pmax				
	comp=Z,20nm,0.6s								
CD2				pmax	pmax				
	comp=Z,350nm,7.1s								
CD2				LR	LR				
	comp=N,830nm,19.6s								
CD2				LR	LR				
	comp=Z,1μm,22.0s								
PPT2	Papeete2	58.50	107	*e*S	S	19 52 14.4	+1.5		
	comp=Z,445nm,28.2s								
PPT2				*e*SS	SS	19 56 12.1	+5.9		
	comp=Z,275nm,27.5s								
PPT2				*e*LQ	LQ	19 58 59.0			
	comp=Z,1μm,29.8s								
PPT2				*e*LR	LR	20 01 28.9			
	comp=Z,540nm,25.8s								
PET	Petropavlovsk	58.50	5	*e*P	pP	19 44 28.9	+2.6		
PET				*e*S	S	19 52 31.0	+19		
PET				MLR	MLR				
	comp=Z,1μm,20.0s								
PETK	Petropavlovsk-	58.51	4	P	P	19 44 15.4	+3.3		
	comp=Z,2.4nm,0.4s,baz=170,slow=7.9,SNR=12								
PETK	Petropavlovsk-	58.51	4	P	P	19 44 15.4	+3.3		
PETK	Petropavlovsk-	58.51	4	P	P	19 44 15.4	+3.3		
HHC	Hu-ho-hao-te	58.96	325	*e*P	P	19 44 15.9	+0.3		
HHC				pP	pP	19 44 33.3	+3.3		
HHC				sP	sP	19 44 40.3	+4.3		
HHC				PP	PP	19 46 30.3	+3.8		
HHC				S	S	19 52 18.6	+0.3		
HHC				sS	sS	19 52 46.0	+3.5		
HHC				ScS	ScS	19 53 57.9	-3.4		
HHC				SS	SS	19 56 15.3	+2.4		
HHC				pmax	pmax				
	comp=Z,18nm,0.8s								
HHC				pmax	pmax				
	comp=Z,250nm,4.4s								
HHC				LR	LR				
	comp=N,730nm,21.6s								
HHC				LR	LR				
	comp=E,630nm,19.0s								
HHC				LR	LR				
	comp=Z,1μm,20.0s								
TBI	Tubuai	59.22	114	*e*S	S	19 52 22.0	0.0		
	comp=Z,540nm,28.2s								
TBI				*e*SS	SS	19 56 23.4	+6.1		
	comp=Z,238nm,27.8s								
TBI				*e*LQ	LQ	19 59 21.9			
	comp=Z,1μm,34.8s								
TBI				*e*LR	LR	20 01 46.5			
	comp=Z,773nm,25.8s,baz=286								
LZH	Lanzhou	60.97	317	⇑P	P	19 44 30.3	+0.7		
LZH				pP	pP	19 44 46.8	+2.8		
LZH				sP	sP	19 44 55.5	+5.5		
LZH				*e*S	S	19 52 49.0	+4.6		
LZH				sS	sS	19 53 15.1	+6.4		
LZH				pmax	pmax				
	comp=Z,70nm,1.4s								
LZH				pmax	pmax				
	comp=Z,160nm,4.0s								
LZH				LR	LR				
	comp=N,400nm,15.1s								
LZH				LR	LR				
	comp=E,540nm,19.0s								
LZH				LR	LR				
	comp=Z,780nm,19.7s								
HIA	Hailar	61.18	337	*e*P	P	19 44 28.1	-2.4		
	comp=Z,11nm,0.6s								
SHL	Shillong	65.76	301	*e*P	P	19 45 01.5	+0.1		
CLNS	Chul'man	65.81	344	*e*P	P	19 45 04.2	+3.3		
CLNS				*e*		19 45 34.3			
CLNS				*e*		19 47 21.3			
CLNS				*e*S	S	19 53 51.6	+7.9		
CLNS				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CLNS				pmax	pmax				
	comp=N,4.0nm,0.7s								
CLNS				pmax	pmax				
	comp=E,2.0nm,0.6s								
CLNS				pmax	pmax				
	comp=N,3.0nm,0.9s								
CLNS				pmax	pmax				
	comp=E,3.0nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,2.0nm,0.9s								
CLNS				smax	smax				
	comp=E,233nm,14.9s								
CLNS				smax	smax				
	comp=N,108nm,12.0s								
CLNS				MLR	MLR				
	comp=E,371nm,17.0s								
CLNS				MLR	MLR				
	comp=N,445nm,17.0s								
CLNS				MLR	MLR				
	comp=Z,272nm,17.0s								
ULN	Ulaanbaatar	65.99	329	*e*P	P	19 45 00.5	-2.0		
	comp=Z,18nm,1.1s								
ULN	Ulaanbaatar	65.99	329	P	P	19 45 03.0	+0.6		
	SNR=6.8								
ULN	Ulaanbaatar	65.99	329	P	P	19 45 02.7	+0.3		
	comp=Z,13nm,1.4s								
SONM	Songino Array	66.31	328	P	P	19 45 04.7	+0.2		
	comp=Z,10nm,0.5s,baz=146,slow=5.4,SNR=159								
SONM				LR	LR	20 12 31.9			
	comp=Z,766nm,20.8s,baz=134,slow=35								
SONM	Songino Array	66.31	328	P	P	19 45 04.7	+0.2		
LSA	Lhasa	67.76	305	P	P	19 45 13.9	-0.6		
LSA	Lhasa	67.76	305	*e*P	P	19 45 13.5	-0.9		
LSA				pmax	pmax				
	comp=Z,11nm,0.8s								
LSA	Lhasa	67.76	305	*e*P	P	19 45 13.5	-0.9		
	comp=Z,10nm,0.8s								
SEY	Seymchan	68.15	0	*e*P	P	19 45 13.5	-2.1		
YAK	Yakutsk	69.37	349	*e*P	P	19 45 24.6	+1.4		
YAK				pmax	pmax				
	comp=Z,16nm,1.0s								
YAK				pmax	pmax				
	comp=N,2.0nm,0.8s								
YAK	Yakutsk	69.37	349	*e*P	P	19 45 22.4	-0.8		
	comp=N,19nm,0.6s								
ZAK	Zakamensk	69.50	329	*i* P	P	19 45 23.9	-0.5		
ZAK				pmax	pmax				
	comp=Z,16nm,1.2s								
TAPN	Taplejung	69.87	302	*e*P	P	19 45 26.7	-0.7		
ODAN	Odare	69.99	301	*e*P	P	19 45 27.6	-0.5		
	comp=Z,96nm,1.3s								
BOD	Bodaibo	70.00	340	*e*P	P	19 45 25.8	-1.4		
BOD				pmax	pmax				
	comp=Z,40nm,1.5s								
TLY	Talaya	70.11	330	*e*P	P	19 45 26.5	-1.5		
TLY				pmax	pmax				
	comp=Z,9.0nm,1.3s								
TLY				MLR	MLR				
	comp=Z,303nm,19.0s								
TLY	Talaya	70.11	330	*e*P	P	19 45 25.6	-2.4		
	comp=Z,5.7nm,1.0s								
TLY	Talaya	70.11	330	P	P	19 45 28.8	+0.8		
	SNR=5.7								
IRK	Irkutsk	70.15	331	*e*P	P	19 45 27.2	-1.1		
IRK				pmax	pmax				
	comp=Z,33nm,1.3s								
RAMN	Ramite	70.69	301	*e*P	P	19 45 31.7	-0.7		
JIRN	Jiri	71.25	301	*e*P	P	19 45 35.3	-0.6		
	comp=Z,5.3nm,0.8s								
MOY	Mondy	71.42	329	*e*P	P	19 45 36.3	+0.2		
MOY				pmax	pmax				
	comp=Z,37nm,1.6s								
GUN	Gumba	71.58	302	*e*P	P	19 45 37.2	-0.7		
	comp=Z,46nm,0.8s								
PKI	Pulchoki	71.89	301	*e*P	P	19 45 38.6	-1.1		
PKIN	Phulchoki	71.90	301	*e*P	P	19 45 39.3	-0.4		
	comp=Z,17nm,0.9s								
KKN	Kakani	72.06	301	*e*P	P	19 45 39.7	-0.9		
	comp=Z,28nm,0.8s								
DMN	Daman	72.16	301	*e*P	P	19 45 40.7	-0.5		
	comp=Z,99nm,1.2s								
VNDA	Vanda	72.26	178	P	P	19 45 41.5	+0.9		
	comp=Z,4.1nm,0.8s,baz=333,slow=6.3,SNR=19								
VNDA	Vanda	72.26	178	P	P	19 45 41.5	+0.9		
RKT	Rikitea	72.48	112	*e*LR	LR	20 08 00.5			
	comp=Z,840nm,26.5s								
GKN	Gorkha	72.66	301	*e*P	P	19 45 43.3	-0.8		
	comp=Z,106nm,1.2s								
KOLN	Koldanda	73.48	301	*e*P	P	19 45 48.1	-0.9		
	comp=Z,27nm,0.7s								
DANN	Dangsing	73.50	302	*e*P	P	19 45 48.2	-1.1		
	comp=Z,24nm,0.8s								
BILL	Bilibino	73.99	6	*e*P	P	19 45 49.1	-1.8		
BILL				pmax	pmax				
	comp=Z,7.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,300nm,16.0s								
BILL	Bilibino	73.99	6	*e*P	P	19 45 49.5	-1.4		
	comp=Z,6.3nm,0.9s								
PYUN	Piuthan	74.09	301	*e*P	P	19 45 51.5	-1.1		
	comp=Z,99nm,1.2s								
HVS	Khovu-Aksy	75.00	326	*c i* P	P	19 45 56.9	-0.3		
HVS				pmax	pmax				
	comp=Z,186nm,1.2s								
WMQ	Urumqi	75.51	318	P	P	19 46 00.0	-0.3		
WMQ				pP	pP	19 46 14.3	-0.9		
WMQ				pmax	pmax				
	comp=Z,21nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,180nm,6.0s								
WMQ				LR	LR				
	comp=N,240nm,23.0s								
WMQ				LR	LR				
	comp=E,280nm,23.0s								
WMQ				LR	LR				
	comp=Z,340nm,28.0s								
HYB	Hyderabad	75.75	289	*i* P	P	19 46 00.0	-2.1		
KDAK	Kodiak Island	77.17	27	LR	LR	20 16 50.2			
	comp=Z,258nm,21.9s,baz=236,slow=

ZALV	Zalesovo Beam	81.10	327	P		P		19 46 29.2	-1.6
TRF	Thorofare Moun	81.14	23	*e*P		P		19 46 30.8	-0.3
	comp=Z,4.3nm,0.6s								
NVS	Novosibirsk	82.29	327	*i* P		P		19 46 35.1	-2.0
NVS				pmax	pmax				
	comp=Z,37nm,1.9s								
NVS				pmax	pmax				
	comp=N,11nm,1.8s								
NVS				pmax	pmax				
	comp=E,16nm,1.8s								
KSH	Kashi	82.57	311	*e*P		P		19 46 40.4	+1.3
KSH				pP		pP		19 46 57.9	+3.7
KSH				sP		sP		19 47 05.0	+5.0
KSH				PP		PP		19 49 53.6	+4.4
KSH				SKS		S		19 56 51.9	-0.6
KSH				S		SKSac		19 56 53.5	-2.8
KSH				sS		sS		19 57 22.4	+4.5
KSH				SS		SS		20 02 21.5	+6.3
KSH				pmax	pmax				
	comp=Z,11nm,1.0s								
KSH				pmax	pmax				
	comp=Z,110nm,3.8s								
KSH				LR	LR				
	comp=N,90nm,5.4s								
KSH				LR	LR				
	comp=E,130nm,5.1s								
KSH				LR	LR				
	comp=Z,180nm,6.8s								
COLA	College	82.78	22	*e*P		P		19 46 37.3	-2.1
COLA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
COLA	College	82.78	22	*e*P		P		19 46 37.3	-2.1
	comp=Z,6.0nm,0.6s								
ILAR	Eielson Array	83.10	22	P		P		19 46 39.6	-1.5
	comp=Z,7.8nm,0.6s,baz=252,slow=4.8,SNR=30								
ILAR				LR		LR		20 21 27.3	
	comp=Z,591nm,20.1s,baz=64,slow=34								
ILAR	Eielson Array	83.10	22	P		P		19 46 39.5	-1.5
COLD	Coldfoot	83.16	19	*e*P		P		19 46 39.8	-1.6
KURK	Kurchatov	83.63	322	*c i*P		P		19 46 43.4	-0.7
KURK				pmax	pmax				
	comp=Z,25nm,1.2s								
KURK	Kurchatov	83.63	322	*e*P		P		19 46 42.2	-1.9
	comp=Z,33nm,1.3s								
KURK	Kurchatov	83.63	322	P		P		19 46 43.6	-0.5
	SNR=12								
KURK	Kurchatov	83.63	322	P		P		19 46 43.2	-0.9
	comp=Z,115nm,1.0s,SNR=19								
KURBB	Kurchatov Arra	83.66	322	P		P		19 46 43.2	-1.1
	comp=Z,7.3nm,1.0s,baz=112,slow=4.2,SNR=36								
KURBB				LR		LR		20 24 50.0	
	comp=Z,360nm,19.4s,baz=105,slow=36								
DOT	Dot Lake	83.69	24	*e*P		P		19 46 41.7	-2.5
	comp=Z,1.9nm,0.6s								
KZA	Kyzart	83.69	313	P		P		19 46 45.9	+0.7
	SNR=8.1								
CHMS	Chumysh	84.25	314	P		P		19 46 47.8	+0.2
	SNR=16								
AAK	Ala-Archa	84.36	314	⇓ *i*P		P		19 46 48.5	+0.2
AAK				pmax	pmax				
	comp=Z,35nm,1.3s								
AAK	Ala-Archa	84.36	314	P		P		19 46 48.0	-0.3
	comp=Z,77nm,1.4s,SNR=5.1								
AAK	Ala-Archa	84.36	314	P		P		19 46 48.3	+0.1
	SNR=8.2								
USP	Ospenovka	84.49	314	P		P		19 46 48.6	-0.2
	SNR=28								
MAW	Mawson	84.63	203	LR		LR		20 21 04.0	
	comp=Z,709nm,18.4s,baz=106,slow=33								
AML	Almayashu	84.83	313	P		P		19 46 51.4	+0.4
	SNR=23								
EKS2	Erkin-Say	84.88	314	*e*P		P		19 46 48.6	-2.3
EKS2				pmax	pmax				
	comp=Z,49nm,1.2s								
EKS2	Erkin-Say	84.88	314	*e*P		P		19 46 48.6	-2.3
	comp=Z,49nm,1.2s								
EKS2	Erkin-Say	84.88	314	P		P		19 46 51.6	+0.7
	SNR=30								
EGAK	Eagle	85.31	23	*e*P		P		19 46 49.7	-2.6
	comp=Z,13nm,1.1s								
DAWY	Dawson	85.75	24	*e*P		P		19 46 53.1	-1.5
KBL	Kabul	87.09	305	*e*P		P		19 46 59.5	-2.6
KBL				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KBL	Kabul	87.09	305	*e*P		P		19 46 59.5	-2.6
	comp=Z,4.4nm,0.9s								
KBL	Kabul	87.09	305	P		P		19 47 00.3	-1.8
	baz=87,SNR=4.1								
KKAR	Karatay Array	87.32	314	*e*P		P		19 47 01.7	-1.0
KKAR				pmax	pmax				
	comp=Z,21nm,1.1s								
KKAR	Karatay Array	87.32	314	*e*P		P		19 47 01.7	-1.0
	comp=Z,21nm,1.1s								
DLBC	Dease Lake	88.42	31	*e*P		P		19 47 05.8	-1.8
BVAR	Borovoye Array	89.13	323	P		P		19 47 09.5	-1.5
	comp=Z,6.6nm,0.8s,baz=103,slow=6.7,SNR=29								
BVAR	Borovoye Array	89.13	323	P		P		19 47 09.5	-1.5
BVAR	Borovoye Array	89.13	323	P		P		19 47 09.5	-1.5
BRVK	Borovoye	89.20	323	*c i*P		P		19 47 09.7	-1.6
BRVK				pmax	pmax				
	comp=Z,14nm,1.2s								
BRVK	Borovoye	89.20	323	*e*P		P		19 47 09.7	-1.6
	comp=Z,20nm,1.3s								
BRVK	Borovoye	89.20	323	P		P		19 47 09.2	-2.1
	comp=Z,67nm,1.3s,SNR=6.8								
INK	Inuvik	89.38	21	P		P		19 47 12.0	+0.2
	comp=Z,1.8nm,0.5s,baz=280,slow=4.0,SNR=12								
INK	Inuvik	89.38	21	*e*P		P		19 47 09.6	-2.3
	comp=Z,12nm,1.2s								
SYO	Syowa Base	92.76	200	⇑ *e*P		P		19 47 26.2	-1.4
NVAR	Mina Array Bea	93.25	52	P		P		19 47 32.3	+1.5
	comp=Z,6.5nm,0.7s,baz=254,slow=6.4,SNR=27								
NVAR				LR		LR		20 24 58.2	
	comp=Z,802nm,18.7s,baz=51,slow=32								
NVAR	Mina Array Bea	93.25	52	P		P		19 47 32.3	+1.5
NV11	Mina Array Sit	93.36	52	*e*P		P		19 47 29.3	-1.9
DAC	Darwin (Calif)	93.65	54	*e*P		P		19 47 31.1	-1.6
DAC				*e**PP		pP		19 47 44.4	-3.6
DAC				pmax	pmax				
	comp=Z,21nm,1.2s								
DAC	Darwin (Calif)	93.65	54	*e*P		P		19 47 31.1	-1.6
	comp=Z,21nm,1.2s								
DAC				*e*pP		pP		19 47 44.4	-3.6
MPMC	Manual Prospec	93.72	54	⇓P		P		19 47 34.0	+1.0
	baz=94								
FURC	Furnace Creek,	94.26	54	⇑P		P		19 47 35.5	+0.3
	baz=94								
MONP	Monument Peak	94.40	58	⇑P		P		19 47 36.2	0.0
	baz=94								
DVTC	Desert V Tower	94.65	58	⇓P		P		19 47 38.0	+0.8
	baz=95								
NEW	Newport	94.72	42	⇑P		P		19 47 37.3	+0.2
	baz=95								
GMRC	Granite Mounta	95.14	56	⇓P		P		19 47 40.4	+0.9
	baz=95								
ABKAR	Akbulak array	95.27	319	*e*P		P		19 47 36.6	-2.9
	comp=Z,1.1nm,0.7s								
ABKAR				*e*pP		pP		19 47 52.4	-2.4
C11A	Tepee Creek (N	95.28	43	⇓P		P		19 47 40.0	+0.3
	baz=95								
R11A	Troy Canyon, C	95.37	52	⇓P		P		19 47 40.4	-0.2
	baz=95								
MFID	Camas Ranch	95.41	47	*e*P		P		19 47 39.9	-0.5
	comp=Z,34nm,1.8s								
MFID				*e*pP		pP		19 47 53.5	-2.2
E12A	Beaver Dam Sad	95.70	44	⇑P		P		19 47 41.5	-0.2
	baz=96								
G12A	Big Creek, Yel	95.83	45	⇑P		P		19 47 42.1	-0.3
	baz=96								
D12A	Red Ives Fores	95.86	43	⇓P		P		19 47 42.4	-0.1
	baz=96								
F12A	Elk City	95.90	45	⇓P		P		19 47 42.3	-0.4
	baz=96								
I12A	Atlanta	95.92	47	⇑P		P		19 47 42.9	0.0
	baz=96								
H12A	Diamond D Ranc	96.14	46	⇓P		P		19 47 43.9	0.0
	baz=96								
ABKT	Ailbek	96.19	307	P		P		19 47 47.8	+3.7
	comp=Z,26nm,0.4s,SNR=5.1								
ARU	Arti	96.26	326	*c i*P		P		19 47 40.8	-3.1
ARU								19 51 31.5	
ARU				S		SKSac		19 58 13.9	-2.1
ARU				pmax	pmax				
	comp=Z,10.0nm,1.2s								
ARU				MLR	MLR				
	comp=Z,1μm,22.0s								

YKA	Yellowknife Ar	96.43	28	P		P		19 47 44.6	+0.1
	comp=Z,0.5nm,0.5s,baz=269,slow=4.8,SNR=18								
YKA	Yellowknife Ar	96.43	28	P		P		19 47 44.6	+0.1
HLID	Hailey	96.44	47	⇓P		P		19 47 45.0	-0.2
	baz=96								
B13A	Whitefish	96.49	42	⇑P		P		19 47 45.6	+0.4
	baz=96								
AKTO	Aktyubinsk	96.54	320	P		P		19 47 42.5	-2.8
	comp=Z,4.1nm,1.2s,baz=72,slow=10.0,SNR=5.5								
AKTO	Aktyubinsk	96.54	320	P		P		19 47 42.5	-2.8
AKTO	Aktyubinsk	96.54	320	P		P		19 47 42.5	-2.8
F13A	Darby	96.54	45	⇑P		P		19 47 45.2	-0.4
	baz=97								
H13A	Challis	96.58	46	⇑P		P		19 47 45.9	+0.1
	baz=97								
G13A	Cobalt	96.60	45	⇑P		P		19 47 45.9	0.0
	baz=97								
I13A	Wildhorse Cree	96.66	47	⇑P		P		19 47 46.2	-0.1
	baz=97								
WALA	Waterton Lakes	96.86	41	*e*P		P		19 47 45.0	-2.0
	comp=Z,0.9nm,1.6s								
G14A	Jackson	97.15	45	⇓P		P		19 47 48.4	-0.1
	baz=97								
A14A	Double T Ranch	97.19	41	⇑P		Pdif		19 47 48.6	0.0
	baz=97								
B14A	Marquette Ranc	97.29	42	⇓P		P		19 47 49.0	0.0
	baz=97								
K14A	Jones Ranch, D	97.33	48	⇑P		P		19 47 49.3	0.0
	baz=97								
E15A	Deer Lodge	97.72	44	⇓P		P		19 47 50.7	-0.2
	baz=98								
C15A	Salmond Ranch,	97.74	43	⇓P		P		19 47 50.6	-0.4
	baz=98								
D15A	Lincoln	97.80	43	⇓P		P		19 47 51.3	0.0
	baz=98								
G15A	Dillon	97.83	45	⇓P		P		19 47 51.3	-0.2
	baz=98								
C16A	Fuhringer Ranc	98.32	43	⇑P		P		19 47 53.2	-0.3
	baz=98								
E16A	East Helena	98.39	44	⇑P		P		19 47 53.9	0.0
	baz=98								
BOZ	Bozeman (W)	98.44	45	⇓P		Pdif		19 47 54.4	+0.2
	baz=98								
D16A	Dana Ranch, Ca	98.47	43	⇑P		P		19 47 54.1	-0.1
	baz=98								
WUAZ	Wupatki	98.67	55	⇓P		P		19 47 55.0	-0.5
	baz=99								
H16A	Russell Place,	98.72	46	⇓P		Pdif		19 47 55.9	+0.3
	baz=99								
B17A	L&G Farms, Che	98.94	42	⇑P		Pdif		19 47 56.7	+0.5
	baz=99								
A17A	Triple J Farms	98.98	41	⇑P		Pdif		19 47 56.5	0.0
	baz=99								
C17A	Wharram Farm,	98.98	43	⇓P		Pdif		19 47 56.6	+0.1
	baz=99								
D17A	Six Diamond Ra	99.05	43	⇑P		Pdif		19 47 57.1	+0.3
	baz=99								
F17A	Fitzpatrick Pl	99.11	45	⇓P		Pdif		19 47 57.3	+0.2
	baz=99								
J17A	Brown Place, J	99.13	47	⇑P		Pdif		19 47 57.5	0.0
	baz=99								
O17A	Robinson Place	99.17	50	⇑P		Pdif		19 47 57.6	0.0
	baz=99								
I17A	Pilgrim Ck.	99.22	47	⇑P		Pdif		19 47 57.8	0.0
	baz=99								
J18A	Kendall Valley	99.64	47	⇑P		Pdif		19 47 59.3	-0.5
	baz=100								
K18A	Toltan Ranch,	99.64	48	⇓P		Pdif		19 47 59.6	-0.1
	baz=100								
G18A	Lazy EL Ranch,	99.90	45	⇓P		Pdif		19 48 00.9	+0.2
	baz=100								
N18A	Larsen Ranch,	99.96	49	⇓P		Pdif		19 48 01.0	-0.1
	baz=100								
BW06	Boulder Array	100.00	48	⇑P		Pdif		19 48 00.8	-0.5
	baz=100								
PDAR	Pinedale Array	100.00	48	P		Pdif		19 48 01.1	-0.3
	comp=Z,3.0nm,0.7s,baz=242,slow=1.8,SNR=18								
PDAR	Pinedale Array	100.00	48	P		Pdif		19 48 01.1	-0.3
D19A	Cripps Ranch,	100.28	43	⇓P		Pdif		19 48 01.7	-0.5
	baz=100								
J19A	Crowheart	100.35	47	⇑P		Pdif		19 48 02.5	-0.2
	baz=100								
K19A	Absolon Red Bu	100.52	48	⇓P		Pdif		19 48 03.2	-0.4
	baz=100								
P19A	Cripple Cowboy	100.53	51	⇑P		Pdif		19 48 03.5	-0.2
	baz=100								
J20A	Shoshoni	101.05	47	⇑P		Pdif		19 48 05.7	-0.2
	baz=101								
Q20A	Ridgley Place,	101.08	52	⇓P		Pdif		19 48 06.8	+0.7
	baz=101								
A21A	Bergtoll Ranch	101.46	41	⇑P		Pdif		19 48 07.7	+0.3
	baz=101								
J21A	Lysite	101.52	47	⇑P		Pdif		19 48 08.0	0.0
	baz=102								
I21A	Big Trails, Te	101.60	47	⇓P		Pdif		19 48 08.0	-0.3
	baz=102								
K21A	Alcova	101.70	48	⇑P		Pdif		19 48 08.7	-0.2
	baz=102								
Q22A	Crested Butte,	102.17	52	⇑P		Pdif		19 48 11.7	+0.6
	baz=102								
I22A	9 Mile Ranch,	102.17	46	⇑P		Pdif		19 48 11.2	+0.4
	baz=102								
J22A	Midwest	102.21	47	⇑P		Pdif		19 48 11.4	+0.3
	baz=102								
O22A	Kremmling	102.38	50	⇑P		Pdif		19 48 12.4	+0.4
	baz=102								
N23A	Red Feather La	102.79	49	⇓P		Pdif		19 48 14.6	+0.8
	baz=103								
L23A	Garrett	102.88	48	⇓P		Pdif		19 48 14.2	0.0
	baz=103								
ARCES	ARCESS Array B	107.15	343	PKiKP		PKiKP		19 52 40.8	-0.4
	comp=Z,1.3nm,0.8s,baz=116,slow=1.5,SNR=11								
ARCES	ARCESS Array B	107.15	343	PKiKP		PKiKP		19 52 40.8	-0.4
FINES	FINESS Array B	111.19	335	Pdiff		Pdif		19 48 49.4	-0.9
	comp=Z,0.9nm,0.7s,baz=59,slow=7.4,SNR=4.7								
FINES				PKiKP		PKiKP		19 52 48.5	-0.4
	comp=Z,1.6nm,0.7s,baz=75,slow=2.2,SNR=11								
FINES	FINESS Array B	111.19	335	Pdif		Pdif		19 48 49.4	-0.9
FINES				PKiKP		PKiKP		19 52 48.5	-0.4
AKASG	Malin Array Be	114.40	324	PKP		PKPdf		19 52 54.2	-1.1
	comp=Z,1.3nm,0.5s,baz=59,slow=2.1,SNR=7.4								
AKASG	Malin Array Be	114.40	324	PKiKP		PKPdf		19 52 54.3	-1.0
AKASG	Malin Array Be	114.40	324	PKP		PKPdf		19 52 54.2	-1.1
BRTR	Keskin Array B	114.96	311	PKP		PKPdf		19 52 56.0	-1.0
	comp=Z,0.9nm,0.6s,baz=122,slow=3.1,SNR=4.8								
BRTR	Keskin Array B	114.96	311	PKP		PKPdf		19 52 56.0	-1.0
NB2	NORSAR Subarra	117.14	340	PKPdf		PKPdf		19 52 59.3	-1.1
	comp=Z,0.9nm,0.7s,baz=45,slow=1.9								
NOA	NORSAR Array B	117.14	340	PKP		PKPdf		19 52 60.0	-0.4
	comp=Z,1.0nm,0.6s,baz=46,slow=1.8,SNR=5.5								
NOA	NORSAR Array B	117.14	340	PKP		PKPdf		19 52 60.0	-0.4
CFR	Carcaliu	117.16	319	⇓PKiKP		PKPdf		19 53 00.2	-0.6
CFR	Carcaliu	117.16	319	⇓*i*P		PKPdf		19 53 00.2	-0.6
PLOR	Plostina	117.88	320	⇓PKiKP		PKPdf		19 53 01.6	-0.6
PLOR	Plostina	117.88	320	⇓*i*P		PKPdf		19 53 01.6	-0.6
BUR08	Bucovina Ar. S	118.06	322	*e*PKPdf		PKPdf		19 53 01.2	-1.5
BURAR	Bucovina Array	118.06	322	⇑*i*P		PKPdf		19 53 03.5	+0.9
BOSA	Boshof	118.46	233	PKP		PKPdf		19 53 08.1	+4.1
	comp=Z,1.6nm,0.5s,baz=182,slow=3.9,SNR=8.6								
BOSA	Boshof	118.46	233	PKP		PKPdf		19 53 08.1	+4.1
MLR	Muntele Rosu	118.47	320	PKP		PKPdf		19 53 04.5	+1.0
	comp=Z,0.6nm,0.6s,baz=185,slow=7.8,SNR=3.1								
MLR	Muntele Rosu	118.47	320	PKP		PKPdf		19 53 04.5	+1.0
MLR	Muntele Rosu	118.47	320	⇓*i*P		PKPdf		19 53 01.9	-1.6
VOIR		119.07	320	⇑PKiKP		PKPdf		19 53 04.4	-0.2
VOIR		119.07	320	⇑*i*P		PKPdf		19 53 04.4	-0.2
ARR	Arges	119.37	320	⇓PKiKP		PKPdf		19 53 05.7	+0.5
HUMR	Humele	119.48	319	⇑*i*P		PKPdf		19 53 04.6	-0.7
LBTB	Lobatse	119.61	237	PKP		PKPdf		19 53 06.3	0.0
	comp=Z,1.5nm,0.4s,baz=124,slow=23,SNR=5.0								
LBTB	Lobatse	119.61	237	PKP		PKPdf		19 53 06.3	0.0
PLCA	Paso Flores	119.89	144	PKP		PKPdf		19 53 06.4	+0.1
	comp=Z,1.4nm,0.7s,baz=83,slow=22,SNR=6.1								
PLCA	Paso Flores	119.89	144	PKP		PKPdf		19 53 06.4	+0.1
DRGR		119.95	322	⇓PKiKP		PKPdf		19 53 05.8	-0.5
DRGR		119.95	322	⇓*i*P		PKPdf		19 53 05.8	-0.5
LSZ	Lusaka	120.49	249	PKP		PKPdf		19 53 09.0	+0.8
	comp=Z,2.2nm,0.7s,baz=62,slow=7.8,SNR=3.9								
LSZ	Lusaka	120.49	249	PKP		PKPdf		19 53 09.0	+0.8
OKC	Ostrava-Krasne	121.08	327	AMS		AMS		20 45 20.0	
	comp=Z,400nm,16.0s								
BZS	Buzias	121.17	321	⇓PKiKP		PKPdf		19 53 07.9	-0.6
BZS	Buzias	121.17	321	⇓*i*P		PKPdf		19 53 07.9	-0.6
VYHS	Vyhne	121.42	325	*e*P		Pdif		19 49 47.0	+11
VYHS	Vyhne	121.42	325	PDIF		Pdif		19 49 47.0	+11
VTS	Vitosha	121.45	317	⇑PKiKP		PKPdf		19 53 09.0	-0.4

VTS	Vitosha	121.45	317	⇑*i*P		PKPdf		19 53 09.0	-0.4
SCHQ	Schefferville	121.76	25	PKP		PKPdf		19 53 10.7	+1.3
	comp=Z,1.3nm,0.8s,baz=27,slow=13,SNR=4.0								
SCHQ	Schefferville	121.76	25	PKP		PKPdf		19 53 10.7	+1.3
DPC	Dobruska-Polom	121.78	328	*e*PKiKP		PKPdf		19 53 09.5	-0.1
DPC				*e*				19 53 24.0	
DPC				MLR	MLR				
	comp=Z,600nm,17.4s								
DPC	Dobruska-Polom	121.78	328	*e*PKPdf		PKPdf		19 53 09.5	-0.1
DPC				*ep*PKP		pPKPdf		19 53 24.0	-1.4
DPC				AMS	AMS			20 46 30.0	
	comp=Z,600nm,17.4s								
UPC	Upice	121.85	328	*e*PKiKP		PKPdf		19 53 10.0	+0.3
UPC	Upice	121.85	328	*e*PKPdf		PKPdf		19 53 10.0	+0.3
VRAC	Vranov	122.22	327	PKP		PKPdf		19 53 10.2	-0.3
	comp=Z,1.2nm,0.4s,baz=155,slow=1.4,SNR=4.3								
VRAC	Vranov	122.22	327	PKP		PKPdf		19 53 10.2	-0.3
PVCC	Panska Ves	122.58	329	*e*PKiKP		PKPdf		19 53 11.3	+0.2
PVCC				MLR	MLR				
	comp=Z,500nm,17.0s								
PVCC	Panska Ves	122.58	329	*e*PKPdf		PKPdf		19 53 11.3	+0.2
PVCC				AMS	AMS			20 48 00.0	
	comp=Z,500nm,17.0s								
BRG	Berggiesshubel	122.69	330	*e*PKP		PKPdf		19 53 11.1	-0.2
	comp=Z,8.6nm,1.1s								
BRG	Berggiesshubel	122.69	330	*e*PKiKP		PKPdf		19 53 11.1	-0.2
BRG				pmax	pmax				
	comp=Z,15nm,1.1s								
BRG	Berggiesshubel	122.69	330	*e*PKP		PKPdf		19 53 10.8	-0.5
PKSM	Moragy	122.70	323	⇑PKiKP		PKPdf		19 53 11.0	-0.4
PKSM	Moragy	122.70	323	⇑*i*P		PKPdf		19 53 11.0	-0.4
TREC	Trest	122.83	327	AMS		AMS		20 47 10.0	
	comp=Z,600nm,19.4s								
CLL	Collm	122.89	330	⇓PKiKP		PKPdf		19 53 11.6	0.0
CLL				pmax	pmax				
	comp=Z,12nm,0.7s								
CLL				MLR	MLR				
	comp=Z,400nm,20.1s								
CLL	Collm	122.89	330	*e*PKP		PKPdf		19 53 11.2	-0.4
CLL	Collm	122.89	330	⇓*i*PKPdf		PKPdf		19 53 11.6	0.0
	comp=Z,6.0nm,0.7s								
CLL				*e*PP		PP		19 55 00.0	+10
CLL				*e*PS		PS		20 04 48.0	+1.1
CLL				*e*PPS		PPS		20 06 22.0	
CLL				*e*(SS)				20 12 18.0	
CLL				*e*SSS		SSS		20 16 42.0	
CLL				LmV				20 52 00.0	
	comp=Z,400nm,20.1s								
PRU	Pruhonice	122.92	329	*e*PKiKP		PKPdf		19 53 11.4	-0.4
PRU				*e*				19 53 27.2	
PRU				MLR	MLR				
	comp=Z,600nm,21.9s								
PRU	Pruhonice	122.92	329	*e*PKPdf		PKPdf		19 53 11.4	-0.4
PRU				*ep*PKP		pPKPdf		19 53 27.2	-0.3
PRU				AMS	AMS			20 47 30.0	
	comp=Z,600nm,21.9s								
CONA	Conrad Observa	123.40	326	⇓*i*P		PKPdf		19 53 12.6	-0.2
CONA	Conrad Observa	123.40	326	⇓*i*PKiKP		PKPdf		19 53 12.6	-0.2
	comp=Z,4.5nm,0.6s								
NKC	Novy Kostel	123.84	330	*e*PKiKP		PKPdf		19 53 13.4	-0.2
NKC	Novy Kostel	123.84	330	*e*PKPdf		PKPdf		19 53 13.4	-0.2
KHC	Kasperske Hory	123.94	328	*e*PKiKP		PKPdf		19 53 13.4	-0.4
KHC				*e*				19 53 27.5	
KHC				MLR	MLR				
	comp=Z,500nm,18.8s								
KHC	Kasperske Hory	123.94	328	*e*PKPdf		PKPdf		19 53 12.5	-1.3
KHC	Kasperske Hory	123.94	328	*e*PKPdf		PKPdf		19 53 13.4	-0.4
KHC				*ep*PKP		pPKPdf		19 53 27.5	-2.1
KHC				AMS	AMS			20 47 50.0	
	comp=Z,500nm,18.8s								
GEC2	GERESS Array S	124.04	328	*e*PKiKP		PKPdf		19 53 13.6	-0.5
GEC2	GERESS Array S	124.04	328	*e*PKP		PKPdf		19 53 13.6	-0.5
GERES	GERESS Array B	124.04	328	PKP		PKPdf		19 53 13.9	-0.2
	comp=Z,4.4nm,0.5s,baz=77,slow=1.6,SNR=66								
GERES	GERESS Array B	124.04	328	PKP		PKPdf		19 53 13.9	-0.2
ROTZ	Rotzenmuhle	124.25	329	*e*PKP		PKPdf		19 53 13.9	-0.4
WET	Wettzell	124.29	329	*e*PKiKP		PKPdf		19 53 13.9	-0.6
WET	Wettzell	124.29	329	*e*PKP		PKPdf		19 53 13.9	-0.6
GRF	Grafenberg Arr	124.80	330

AVF	**Avril sur Loir**	**130.61 332**	*e*PKIKP	**PKPdf**	**19 53 26.3**	**-0.2**	
AVF	**Avril sur Loir**	**130.61 332**	*e*PKIKP	**PKPdf**	**19 53 26.3**	**-0.2**	
AVF	**Avril sur Loir**	**130.61 332**	*e*PKIKP	**PKPdf**	**19 53 26.3**	**-0.2**	
ORIF	**Oris-en-Rattie**	**130.67 328**	*e*PKIKP	**PKPdf**	**19 53 26.8**	**-0.1**	
	comp=Z,8.3nm,0.6s						
ORIF			*e*R				
	comp=Z,928nm,22.8s						
ORIF	**Oris-en-Rattie**	**130.67 328**	*e*PKIKP	**PKPdf**	**19 53 26.8**	**-0.1**	
ORIF	**Oris-en-Rattie**	**130.67 328**	*e*PKPdf	**PKPdf**	**19 53 26.8**	**-0.1**	
LDF	**La Druitiere**	**130.78 336**	*e*PKIKP	**PKPdf**	**19 53 26.7**	**-0.1**	
LDF	**La Druitiere**	**130.78 336**	*e*PKIKP	**PKPdf**	**19 53 26.7**	**-0.1**	
LDF	**La Druitiere**	**130.78 336**	*e*PKIKP	**PKPdf**	**19 53 26.7**	**-0.1**	
FLN	**La Foliniere**	**130.80 336**	*e*PKIKP	**PKPdf**	**19 53 26.8**	**0.0**	
FLN			*e*R				
	comp=Z,380nm,21.2s						
FLN	**La Foliniere**	**130.80 336**	*e*PKIKP	**PKPdf**	**19 53 26.8**	**0.0**	
FLN	**La Foliniere**	**130.80 336**	*e*PKPdf	**PKPdf**	**19 53 26.8**	**0.0**	
BGF	**Bois d'Agland**	**131.02 332**	*e*PKIKP	**PKPdf**	**19 53 27.5**	**+0.1**	
	comp=Z,9.9nm,0.5s						
BGF	**Bois d'Agland**	**131.02 332**	*e*PKIKP	**PKPdf**	**19 53 27.5**	**+0.1**	
BGF	**Bois d'Agland**	**131.02 332**	*e*PKPdf	**PKPdf**	**19 53 27.5**	**+0.1**	
FRF	**La Foret Royal**	**131.17 327**	*e*PKIKP	**PKPdf**	**19 53 27.6**	**-0.1**	
	comp=Z,10nm,0.8s						
FRF	**La Foret Royal**	**131.17 327**	*e*PKIKP	**PKPdf**	**19 53 27.6**	**-0.1**	
FRF	**La Foret Royal**	**131.17 327**	*e*PKPdf	**PKPdf**	**19 53 27.6**	**-0.1**	
GRR	**Gorron**	**131.25 336**	*e*PKIKP	**PKPdf**	**19 53 27.8**	**+0.1**	
	comp=Z,8.4nm,0.7s						
GRR	**Gorron**	**131.25 336**	*e*PKIKP	**PKPdf**	**19 53 27.8**	**+0.1**	
GRR	**Gorron**	**131.25 336**	*e*PKPdf	**PKPdf**	**19 53 27.8**	**+0.1**	
VIVF	**Saint-Julien-l**	**131.34 329**	*e*PKIKP	**PKPdf**	**19 53 28.1**	**0.0**	
VIVF	**Saint-Julien-l**	**131.34 329**	*e*PKIKP	**PKPdf**	**19 53 28.1**	**0.0**	
VIVF	**Saint-Julien-l**	**131.34 329**	*e*PKPdf	**PKPdf**	**19 53 28.1**	**0.0**	
LMR	**La Mourre**	**131.39 326**	*e*PKIKP	**PKPdf**	**19 53 28.0**	**-0.1**	
	comp=Z,7.5nm,0.6s						
LMR	**La Mourre**	**131.39 326**	*e*PKIKP	**PKPdf**	**19 53 28.0**	**-0.1**	
LMR	**La Mourre**	**131.39 326**	*e*PKPdf	**PKPdf**	**19 53 28.0**	**-0.1**	
TCF	**Toulx Ste Croi**	**131.52 332**	*e*PKIKP	**PKPdf**	**19 53 28.5**	**+0.2**	
	comp=Z,9.1nm,0.6s						
TCF	**Toulx Ste Croi**	**131.52 332**	*e*PKIKP	**PKPdf**	**19 53 28.5**	**+0.2**	
TCF	**Toulx Ste Croi**	**131.52 332**	*e*PKPdf	**PKPdf**	**19 53 28.5**	**+0.2**	
SGMF	**Saint Gilles**	**132.03 337**	*e*PKIKP	**PKPdf**	**19 53 29.1**	**-0.1**	
SGMF	**Saint Gilles**	**132.03 337**	*e*PKIKP	**PKPdf**	**19 53 29.1**	**-0.1**	
SGMF	**Saint Gilles**	**132.03 337**	*e*PKPdf	**PKPdf**	**19 53 29.1**	**-0.1**	
ROSF	**Rostrenen**	**132.23 338**	*e*PKIKP	**PKPdf**	**19 53 29.8**	**+0.2**	
ROSF	**Rostrenen**	**132.23 338**	*e*PKIKP	**PKPdf**	**19 53 29.8**	**+0.2**	
ROSF	**Rostrenen**	**132.23 338**	*e*PKPdf	**PKPdf**	**19 53 29.8**	**+0.2**	
LASF	**Ste Croix**	**132.30 329**	*e*PKIKP	**PKPdf**	**19 53 29.9**	**0.0**	
LASF	**Ste Croix**	**132.30 329**	*e*PKPdf	**PKPdf**	**19 53 29.9**	**0.0**	
MFF	**Saint Martin d**	**132.35 334**	*e*PKIKP	**PKPdf**	**19 53 30.0**	**+0.2**	
MFF	**Saint Martin d**	**132.35 334**	*e*PKIKP	**PKPdf**	**19 53 30.0**	**+0.2**	
MFF	**Saint Martin d**	**132.35 334**	*e*PKPdf	**PKPdf**	**19 53 30.0**	**+0.2**	
QUIF	**Quistinic**	**132.54 337**	*e*PKIKP	**PKPdf**	**19 53 30.5**	**+0.4**	
QUIF	**Quistinic**	**132.54 337**	*e*PKIKP	**PKPdf**	**19 53 30.5**	**+0.4**	
QUIF	**Quistinic**	**132.54 337**	*e*PKPdf	**PKPdf**	**19 53 30.5**	**+0.4**	
RJF	**Les Rejaudoux**	**132.57 332**	*e*PKIKP	**PKPdf**	**19 53 31.2**	**+0.9**	
RJF			*e*R				
	comp=Z,406nm,21.8s						
RJF	**Les Rejaudoux**	**132.57 332**	*e*PKIKP	**PKPdf**	**19 53 31.2**	**+0.9**	
RJF	**Les Rejaudoux**	**132.57 332**	*e*PKPdf	**PKPdf**	**19 53 31.2**	**+0.9**	
MTLF	**Montolieu**	**133.66 329**	*e*PKIKP	**PKPdf**	**19 53 32.7**	**+0.3**	
MTLF	**Montolieu**	**133.66 329**	*e*PKIKP	**PKPdf**	**19 53 32.7**	**+0.3**	
MTLF	**Montolieu**	**133.66 329**	*e*PKPdf	**PKPdf**	**19 53 32.7**	**+0.3**	
KEST	**Kesra**	**134.16 316**	PKP	**PKPdf**	**19 53 34.7**	**+1.0**	
	comp=Z,1.9nm,0.9s,baz=144,slow=12,SNR=8.4						
KEST	**Kesra**	**134.16 316**	PKP	**PKPdf**	**19 53 34.7**	**+1.0**	
EPF	**Esparros**	**134.83 330**	*e*PKIKP	**PKPdf**	**19 53 35.1**	**+0.4**	
	comp=Z,4.3nm,0.6s						
EPF	**Esparros**	**134.83 330**	*e*PKIKP	**PKPdf**	**19 53 35.1**	**+0.4**	
EPF	**Esparros**	**134.83 330**	*e*PKPdf	**PKPdf**	**19 53 35.1**	**+0.4**	
LPAZ	**La Paz**	**135.00 119**	PKP	**PKPdf**	**19 53 37.6**	**+1.2**	
	comp=Z,1.7nm,0.7s,baz=188,slow=14,SNR=4.1						
LPAZ	**La Paz**	**135.00 119**	PKP	**PKPdf**	**19 53 37.6**	**+1.2**	
ETSF	**Etsaut**	**135.37 331**	*e*PKIKP	**PKPdf**	**19 53 36.0**	**+0.3**	
	comp=Z,8.5nm,0.6s						
ETSF	**Etsaut**	**135.37 331**	*e*PKIKP	**PKPdf**	**19 53 36.0**	**+0.3**	
ETSF	**Etsaut**	**135.37 331**	*e*PKPdf	**PKPdf**	**19 53 36.0**	**+0.3**	
SJPF	**Ste Jean**	**135.52 332**	*e*PKIKP	**PKPdf**	**19 53 35.9**	**0.0**	
	comp=Z,3.8nm,0.5s						
SJPF	**Ste Jean**	**135.52 332**	*e*PKIKP	**PKPdf**	**19 53 35.9**	**0.0**	
SJPF	**Ste Jean**	**135.52 332**	*e*PKPdf	**PKPdf**	**19 53 35.9**	**0.0**	
ESDC	**Sonseca Array**	**139.48 331**	PKP	**PKPdf**	**19 53 45.5**	**+2.1**	
	comp=Z,0.3nm,0.5s,baz=8.4,slow=2.3,SNR=4.7						
ESDC			PP	**PP**	**19 56 40.1**	**+2.8**	
	comp=Z,0.4nm,0.5s,baz=10,slow=5.7,SNR=4.6						
ESDC	**Sonseca Array**	**139.48 331**	PKP	**PKPdf**	**19 53 45.5**	**+2.1**	
ESDC			PP	**PP**	**19 56 40.1**	**+2.8**	
SAML	**Samuel**	**142.32 112**	*e*PKPdf	**PKPdf**	**19 53 48.9**	**-0.3**	
TAM	**Tamanrasset**	**143.15 301**	*e*PKIKP	**PKPdf**	**19 53 49.5**	**-1.1**	
TAM	**Tamanrasset**	**143.15 301**	*e*PKPdf	**PKPdf**	**19 53 49.5**	**-1.1**	
SPB	**Sao Paulo**	**145.60 148**	*e*PKPdf	**PKPdf**	**19 53 54.0**	**-0.7**	
TOA0	**Torodi Ar. Sit**	**149.53 287**	*e*PKPdf	**PKPdf**	**19 54 00.6**	**-0.7**	
TOA0			*e*PKPbc	**PKPbc**	**19 54 05.4**	**-0.6**	
TORD	**Torodi Ar. Bea**	**149.53 287**	PKP	**PKPdf**	**19 54 00.3**	**-1.0**	
	comp=Z,12nm,1.1s,baz=28,slow=2.5,SNR=11						
TORD			PKPbc	**PKPbc**	**19 54 05.5**	**-0.4**	
	comp=Z,103nm,1.2s,baz=49,slow=2.0,SNR=55						
TORD	**Torodi Ar. Bea**	**149.53 287**	PKP	**PKPdf**	**19 54 00.3**	**-1.0**	
TORD			PKPbc	**PKPbc**	**19 54 05.5**	**-0.4**	
BDFB	**Brasilia**	**151.32 137**	PKPbc	**PKPbc**	**19 54 10.3**	**0.0**	
	comp=Z,7.7nm,0.5s,baz=215,slow=1.2,SNR=21						
BDFB	**Brasilia**	**151.32 137**	PKPbc	**PKPbc**	**19 54 10.3**	**0.0**	
DBIC	**Dimbokro**	**156.75 274**	PKPbc	PKPdf	19 54 21.7	+10	
	comp=Z,2.1nm,0.5s,baz=191,slow=2.2,SNR=5.9						
DBIC			PKPab	**PKPab**	**19 54 41.3**	**-0.1**	
	comp=Z,13nm,1.1s,baz=65,slow=6.2,SNR=6.0						
DBIC	**Dimbokro**	**156.75 274**	PKPab	**PKPab**	**19 54 41.3**	**-0.1**	
LIC	**Lamto**	**156.93 273**	*e*PKP2	**PKPab**	**19 54 40.0**	**-2.3**	
	comp=Z,37nm,1.0s						
LIC			*e*R				
	comp=Z,457nm,22.2s						
LIC	**Lamto**	**156.93 273**	*e*PKPab	**PKPab**	**19 54 40.0**	**-2.3**	

*ISCJB **22** 19:39:12.7±1.1,51.51N±0.05×16.05E±0.05,h0km, Error ellipse: s-maj=7.5km s-min=3.9km az=22.1*
*CSEM **22** 19:39:13.6±0.7,51.53N×16.06E,h2km,ML2.7/5, Error ellipse: s-maj=10.8km s-min=6.0km az=1.0*
*PRU **22** 19:39:14.6,51.51N×16.07E,h0km*

ISC 22 19:39:13.4±1.6,51.57N±0.07×16.09E±0.04,h0km,n18, σ0°48/36,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**170**	*e*Pg	**Pg**	**19 39 28.0**	**+0.4**
KSP				*e*Sg	**Sg**	**19 39 37.8**	**+0.8**
KSP	**Ksiaz**	**0.74**	**170**	*e*Pg	**Pg**	**19 39 27.9**	**+0.4**
KSP				*e*Sg	**Sg**	**19 39 37.8**	**+0.8**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**19 39 33.9**	**+0.2**
UPC				*e*SG	**Sg**	**19 39 46.8**	**-0.7**
	comp=Z,5.8nm,0.2s						
UPC	**Upice**	**1.06**	**183**	Pg	**Pg**	**19 39 33.9**	**+0.2**
UPC				Sg	**Sg**	**19 39 46.8**	**-0.7**
	5.8nm,0.2s						
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG	**Pg**	**19 39 36.7**	**-0.2**
DPC				*e*SG	**Sg**	**19 39 52.3**	**-0.5**
	comp=Z,6.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.23**	**173**	Pg	**Pg**	**19 39 36.7**	**-0.2**
DPC				Sg	**Sg**	**19 39 52.3**	**-0.5**
	6.2nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pb**	**19 39 40.6**	**0.0**
PVCC				*e*SG	**Sg**	**19 39 58.7**	**-0.1**
	comp=Z,25nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**223**	Pg	**Pb**	**19 39 40.6**	**0.0**
PVCC				Sg	**Sg**	**19 39 58.7**	**-0.1**
	25nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	PG	**Pb**	**19 39 42.3**	**-0.1**
BRG				SG	**Sn**	**19 40 02.3**	**+0.1**
	15nm,0.4s						
PRU	**Pruhonice**	**1.86**	**212**	*e*PG	**Pb**	**19 39 48.3**	**+0.1**
PRU				*e*SG	**Sb**	**19 40 12.2**	**+0.2**
	comp=Z,2.1nm,0.2s						
PRU	**Pruhonice**	**1.86**	**212**	Pg	**Pb**	**19 39 48.3**	**+0.1**
PRU				Sg	**Sb**	**19 40 12.2**	**+0.2**
	2.1nm,0.2s						
CLL	**Collm**	**1.95**	**263**	*e*Pg	**Pb**	**19 39 50.0**	**+0.3**
CLL				*e*Sg	**Sg**	**19 40 16.0**	**+0.1**
	comp=Z,4.0nm,0.6s						
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**19 39 48.4**	**-0.3**
MORC				*e*Sg	**Sb**	**19 40 16.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pg**	**19 39 54.5**	**-0.5**
OKC				*e*SG	**Sg**	**19 40 22.9**	**-0.2**
	comp=Z,5.3nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pg**	**19 39 54.5**	**-0.5**
OKC				Sg	**Sg**	**19 40 22.9**	**-0.2**
	comp=Z,5.3nm,0.6s						
VRAC	**Vranov**	**2.29**	**172**	*e*Pn	**Pn**	**19 39 52.3**	**0.0**
VRAC				*e*Sg	**Sb**	**19 40 24.7**	**+0.4**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PG	**Pb**	**19 40 07.0**	**+0.7**
KHC				*e*SG	**Sg**	**19 40 46.1**	**-1.1**
KHC	**Kasperske Hory**	**2.92**	**214**	Pg	**Pb**	**19 40 07.0**	**+0.7**
KHC				Sg	**Sg**	**19 40 46.1**	**-1.1**

MEX 22 19:39:14.1±1.1,16.98N×95.23W,h115km±10km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.35**	**71**	*e*P	Pn	19 39 29.2	-1.5
CMIG				*i* S	Sn	19 39 40.7	-2.4
VHO	**Vista Hermosa**	**1.44**	**274**	*e*P	Pn	19 39 40.5	-0.4
VHO				*i* S	Sn	19 40 00.0	-1.1
HUIG	**Huatulco**	**1.47**	**215**	*i* P	Pn	19 39 38.9	-2.0
HUIG				*i* S	Sn	19 40 00.0	-1.2
TGIG		**2.02**	**95**	*i* P	Pn	19 39 46.7	-1.0
TGIG				*i* S	Sn	19 40 11.5	-1.9
TPIG	**Tehuac#an**	**2.49**	**305**	*e*P	Pn	19 39 53.4	-0.4
TPIG				*i* S	Sn	19 40 22.6	-1.6
UTMO	**Huajuapan**	**2.60**	**289**	*i* P	Pn	19 39 54.5	-0.8
UTMO				*i* S	Sn	19 40 24.5	-2.5
PNIG	**Pinotepa**	**2.84**	**259**	*i* P	Pn	19 39 55.9	-2.2
PNIG				*i* S	Sn	19 40 30.1	-2.0
CCIG	**Comitan**	**3.04**	**103**	*i* P	Pn	19 40 00.6	-0.5
CCIG				*i* S	Sn	19 40 35.0	-2.2

IDC 22 19:44:38.1±5.2,5.31S×151.17E,h104km±43km,mb3.6/4, mb1 3.8/5,mb1mx3.4/19,mbtmp3.6/5,Error ellipse: s-maj=95.3km s-min=30.8km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.69**	**224**	P	Pn	19 45 59.0	-1.4
	1.1nm,0.3s,baz=349,slow=14,SNR=2.6						
PMG				S	Sn	19 47 07.0	+2.6
	1.7nm,0.3s,baz=25,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**21.90**	**227**	P	P	19 49 22.3	-0.8
	3.4nm,0.6s,baz=52,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.70**	**221**	P	P	19 49 49.2	-0.5
	3.4nm,0.6s,baz=56,slow=8.7,SNR=25						
FITZ	**Fitzroy Crossi**	**28.00**	**241**	P	P	19 50 19.7	+0.3
	1.3nm,0.5s,baz=289,slow=18,SNR=5.6						
ILAR	**Eielson Array**	**83.24**	**22**	P	P	19 56 53.0	+0.3
	0.5nm,0.7s,baz=250,slow=5.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.91**	**287**	PKPbc	PKPbc	20 04 14.8	-0.1
	0.2nm,0.3s,baz=77,slow=2.8,SNR=6.5						

*NIED **22** 19:48:00,26.10N×128.70E,h11km,Mw4.1 Best double couple: Mo1.57000×10^15 NP1:φs46.00000°,δs59.00000°, λs74.00000°. NP2:φs255.00000°,δs34.00000°,λs114.00000°.*
*IDC **22** 19:48:13.8±0.7,26.11N×128.58E,h0km,mb3.9/15, mb1 4.0/15,mb1mx4.0/25,mbtmp3.9/15, Error ellipse: s-maj=24.2km s-min=13.8km az=73.0*
*ISCJB **22** 19:48:15.5±0.9,26.05N±0.04×128.67E±0.04,h27km±6km, mb3.7/15, Error ellipse: s-maj=6.2km s-min=5.2km az=147.4*
*JMA **22** 19:48:16.1±0.2,26.05N×128.67E,h44km±5km,M3.8*

ISC 22 19:48:15.3±3.4,26.02N±0.05×128.63E±0.04,h15km±21km, n38,σ1°23/49,mb3.9/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.81**	**279**	P	**Pn**	**19 48 31.6**	**-0.6**
JJT2				S	**Sb**	**19 48 42.2**	**+0.4**
JOW	**Kunigami**	**0.87**	**338**	Pn	**Pb**	**19 48 31.9**	**-0.3**
	271nm,0.3s,baz=149,slow=17,SNR=192						
JOW				Sn	**Sb**	**19 48 43.5**	**-0.3**
	1μm,0.3s,baz=145,slow=24,SNR=44						
JOW	**Kunigami**	**0.87**	**338**	P	**Pb**	**19 48 31.8**	**-0.4**
JOW				S	**Sb**	**19 48 43.4**	**-0.3**
JIH	**Iheya**	**1.18**	**330**	P	**Pn**	**19 48 36.6**	**-0.7**
JIH				S	**Sb**	**19 48 50.8**	**-1.7**
JAGN	**Aguni-jima**	**1.37**	**295**	P	**Pn**	**19 48 39.8**	**-0.2**
JAGN				S	**Sn**	**19 48 57.0**	**-0.9**
JKE	**Kume jima 2**	**1.69**	**281**	P	**Pn**	**19 48 43.5**	**-0.8**
JKE				*e*S	**Sn**	**19 49 04.0**	**-1.7**
JTK	**Tokunoshima**	**1.78**	**9**	P	**Pn**	**19 48 44.9**	**-0.8**
JTK				*e*S	**Sn**	**19 49 05.4**	**-2.7**
JMZ	**Minamidaito 2**	**2.34**	**94**	P	**Pn**	**19 48 52.0**	**-1.3**
JMZ				S	**Sn**	**19 49 18.9**	**-2.9**
JAM	**Amami Oshima**	**2.54**	**20**	P	**Pn**	**19 48 55.8**	**-0.2**
JAM				*e*S	**Sn**	**19 49 24.7**	**-2.0**
JTJ	**Tarama**	**3.81**	**250**	P	**Pn**	**19 49 12.6**	**-1.0**
JIJ	**Ishigaki jima**	**4.39**	**249**	P	**Pn**	**19 49 20.4**	**-1.1**
JIJ				*e*S	**Sn**	**19 50 08.2**	**-4.2**
JNU	**Nakatsue**	**7.34**	**15**	Pn	**Pn**	**19 50 03.7**	**+1.6**
	1.0nm,0.3s,baz=344,slow=4.7,SNR=29						
JNU				Sn	**Sn**	**19 51 24.5**	**-0.7**
	baz=149,slow=22,SNR=2.0						
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**19 54 06.6**	**+1.5**
	1.5nm,0.6s,baz=141,slow=10,SNR=17						
CMAR	**Chiang Mai Arr**	**28.45**	**261**	P	**P**	**19 54 11.4**	**+1.6**
	0.4nm,0.7s,baz=62,slow=7.6,SNR=6.3						
TAPN	**Taplejung**	**36.48**	**281**	*e*P	**P**	**19 55 20.3**	**-0.1**
ODAN	**Odare**	**36.83**	**281**	*e*P	**P**	**19 55 23.1**	**-0.2**
	24nm,0.7s						
RAMN	**Ramite**	**37.51**	**281**	*e*P	**P**	**19 55 29.1**	**-0.1**
GUN	**Gumba**	**38.01**	**283**	*e*P	**P**	**19 55 34.4**	**+0.9**
PKI	**Pulchoki**	**38.47**	**282**	*e*P	**P**	**19 55 37.4**	**0.0**
	8.3nm,0.5s						
PKIN	**Phulchoki**	**38.48**	**282**	*e*P	**P**	**19 55 37.9**	**+0.5**
KKN	**Kakani**	**38.56**	**283**	*e*P	**P**	**19 55 38.2**	**+0.2**
	11nm,0.6s						
GKN	**Gorkha**	**39.09**	**283**	*e*P	**P**	**19 55 42.6**	**+0.2**
	11nm,0.5s						
DANN	**Dangsing**	**39.81**	**284**	*e*P	**P**	**19 55 49.0**	**+0.4**
	12nm,0.5s						
KOLN	**Koldanda**	**40.03**	**283**	*e*P	**P**	**19 55 50.7**	**+0.4**
	8.9nm,0.9s						
PYUN	**Piuthan**	**40.52**	**284**	*e*P	**P**	**19 55 54.8**	**+0.5**
	24nm,0.9s						
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**19 56 04.9**	**-0.7**
	1.0nm,0.6s,baz=99,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**42.63**	**323**	P	**P**	**19 56 09.4**	**-1.6**
	0.8nm,0.5s,baz=116,slow=9.3,SNR=6.0						
KURBB	**Kurchatov Arra**	**45.26**	**317**	P	**P**	**19 56 31.5**	**-0.7**
	0.8nm,0.5s,baz=104,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**46.02**	**173**	P	**P**	**19 56 39.1**	**+0.7**
	1.2nm,0.6s,baz=353,slow=8.6,SNR=21						
ASAR	**Alice Springs**	**49.66**	**174**	P	**P**	**19 57 07.8**	**+1.2**
	0.6nm,0.6s,baz=11,slow=9.8,SNR=7.5						
ILAR	**Eielson Array**	**64.45**	**28**	P	**P**	**19 58 51.2**	**+0.3**
	0.2nm,0.7s,baz=280,slow=5.4,SNR=2.9						
INK	**Inuvik**	**68.94**	**23**	P	**P**	**19 59 20.5**	**+1.1**
	0.5nm,0.5s,baz=3.8,slow=5.1,SNR=2.6						
KBZ	**Khabaz**	**69.57**	**310**	P	**P**	**19 59 24.7**	**+0.9**
	1.4nm,0.8s,baz=97,slow=9.2,SNR=4.3						
FINES	**FINESS Array B**	**73.22**	**331**	P	**P**	**19 59 45.8**	**+0.2**
	1.6nm,0.7s,baz=52,slow=10,SNR=9.7						
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**20 00 01.1**	**-0.4**
	1.4nm,0.6s,baz=56,slow=6.9,SNR=6.3						
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**20 00 11.1**	**+0.6**
	0.9nm,0.5s,baz=126,slow=4.7,SNR=8.6						
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**20 00 17.0**	**+0.9**
	0.2nm,0.7s,baz=306,slow=5.3,SNR=3.7						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**20 00 22.1**	**-0.1**
	1.0nm,0.7s,baz=53,slow=5.7,SNR=3.1						

JMA 22 19:51:17.9±0.5,30.16N×139.64E,h429km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**4.62**	**14**	P	P	19 52 38.5	+1.9
BSO1				*e*S	S	19 53 44.1	+3.0
BSO3	**Boso 3**	**4.69**	**9**	P	P	19 52 39.0	+1.4
BSO3				*e*S	S	19 53 43.6	+0.8
BSO4	**Boso 4**	**4.85**	**7**	P	P	19 52 41.0	+1.6
BSO4				*e*S	S	19 53 46.8	+0.7
JHU	**Hanno**	**5.68**	**357**	P	P	19 52 48.1	+0.1
JHU				*e*S	S	19 53 59.6	-2.1
JRY	**Ryogami san**	**5.87**	**354**	P	P	19 52 51.3	+1.3
JYT	**Yasato**	**6.07**	**4**	P	P	19 52 52.6	+0.7
JAG	**Ashikaga**	**6.25**	**359**	P	P	19 52 54.2	+0.3
JHO	**Hitachi**	**6.48**	**7**	P	P	19 52 57.9	+1.6

*IDC **22** 19:52:10.3±1.0,23.30S×174.80W,h0km,mb4.4/15, mb1 4.6/15,mb1mx4.4/23,mbtmp4.4/15,MS4.4/1, Ms1 4.4/1,ms1mx3.2/32,Error ellipse: s-maj=45.7km s-min=15.6km az=158.0*
*ISCJB **22** 19:52:14.2±0.5,22.9S±0.1×175.0W±0.1,h30km,mb4.4/19, MS3.4/2,Error ellipse: s-maj=22.8km s-min=11.6km az=155.5*
*NEIC **22** 19:52:15.3±0.5,23.35S×174.78W,h35km,mb4.8/3,Error ellipse: s-maj=20.7km s-min=10.1km az=162.0*

ISC 22 19:52:15.7±0.6,23.1S±0.2×174.9W±0.1,h30km,n59, σ1°06/50,mb4.5/18,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.47**	**308**	*e*Pn	Pn	19 54 20.8	+4.3
	23nm,0.8s						
AFI	**Afiamalu**	**9.60**	**19**	*e*Pn	Pn	19 54 22.0	-10
CTA	**Charters Tower**	**36.15**	**267**	P	**P**	**19 59 15.9**	**+0.3**
	7.5nm,0.8s,baz=94,slow=12,SNR=5.5						
CTA	**Charters Tower**	**36.15**	**267**	P	**P**	**19 59 15.9**	**+0.3**
PMG	**Port Moresby**	**38.73**	**284**	P	**P**	**19 59 37.2**	**-0.2**
	15nm,0.9s,baz=116,slow=4.7,SNR=3.6						
PMG	**Port Moresby**	**38.73**	**284**	P	**P**	**19 59 37.2**	**-0.2**
STKA	**Stephens Creek**	**39.35**	**247**	P	**P**	**19 59 42.3**	**-0.3**
	1.1nm,0.8s,baz=341,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**39.35**	**247**	P	**P**	**19 59 42.3**	**-0.3**
AS31	**Alice Springs**	**46.77**	**259**	*e*P	**P**	**20 00 42.3**	**-0.4**
ASAR	**Alice Springs**	**46.77**	**259**	P	**P**	**20 00 42.3**	**-0.5**
	2.5nm,0.8s,baz=92,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**46.77**	**259**	P	**P**	**20 00 42.3**	**-0.5**
WRAB	**Tennant Creek**	**47.11**	**264**	*e*P	**P**	**20 00 44.0**	**-1.4**
	8.6nm,0.8s						
WRA	**Warramunga Arr**	**47.12**	**264**	P	**P**	**20 00 44.5**	**-1.1**
	6.2nm,0.8s,baz=99,slow=8.5,SNR=32						
WRA	**Warramunga Arr**	**47.12**	**264**	P	**P**	**20 00 44.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**55.55**	**263**	P	**P**	**20 01 48.9**	**+0.3**
	2.3nm,0.7s,baz=120,slow=7.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**55.55**	**263**	P	**P**	**20 01 48.9**	**+0.3**
MJAR	**Matsushiro Arr**	**73.98**	**322**	P	**P**	**20 03 48.6**	**+0.2**
	1.3nm,0.6s,baz=158,slow=6.3,SNR=5.9						
MJAR	**Matsushiro Arr**	**73.98**	**322**	P	**P**	**20 03 48.6**	**+0.2**
NVAR	**Mina Array Bea**	**80.98**	**42**	P	**P**	**20 04 28.1**	**+0.2**
	3.8nm,0.9s,baz=225,slow=9.0,SNR=7.6						
NVAR	**Mina Array Bea**	**80.98**	**42**	P	**P**	**20 04 28.1**	**+0.2**
USRK	**Ussuriysk Arra**	**82.70**	**325**

GIVF *e*Sg **Sb** **19 59 23.6 +1.1**
comp=E,21nm,0.2s
GIVF Givet 1.46 242 *e*P **Pn** **19 59 04.1 +0.9**
GIVF *e*Sg **Sb** **19 59 23.6 +1.1**
comp=E,10nm,0.2s
BAIF Baives 1.83 247 *e*P **Pn** **19 59 09.4 +1.1**
BAIF Baives 1.83 247 *e*Pg **Pb** **19 59 11.7 +1.1**
BAIF *e*Sn **Sn** **19 59 29.9 -1.1**
comp=E,13nm,0.3s
BAIF Baives 1.83 247 *e*P **Pn** **19 59 09.4 +1.1**
BAIF Baives 1.83 247 *e*Pg **Pb** **19 59 11.7 +1.1**
BAIF *e*Sn **Sn** **19 59 29.9 -1.1**
comp=E,6.3nm,0.3s
CDF Champ du Feu 2.40 173 *e*Pn **Pn** **19 59 17.0 +0.7**
CDF Champ du Feu 2.40 173 *e*Pg **Pg** **19 59 23.7 -0.1**
CDF *e*Sn **Sn** **19 59 45.3 0.0**
CDF *e*Sg **Sg** **19 59 55.0 +0.1**
comp=E,1.3nm,0.2s
CDF Champ du Feu 2.40 173 *e*Pn **Pn** **19 59 17.0 +0.7**
CDF Champ du Feu 2.40 173 *e*Pg **Pg** **19 59 23.7 -0.1**
CDF *e*Sn **Sn** **19 59 45.3 0.0**
CDF *e*Sg **Sg** **19 59 55.0 +0.1**
comp=E,0.6nm,0.2s
MEZF Maizieres J'vi 2.57 207 *e*Pn **Pn** **19 59 18.4 -0.1**
MEZF *e*Sg **Sg** **19 59 59.9 -0.3**
comp=E,3.1nm,0.4s
MEZF Maizieres J'vi 2.57 207 *e*Pn **Pn** **19 59 18.4 -0.1**
MEZF *e*Sg **Sg** **19 59 59.9 -0.3**
comp=E,1.5nm,0.4s
HAU Haudompre 2.81 187 *e*Pg **Pg** **19 59 31.5 0.0**
HAU *e*Sn **Sn** **19 59 54.0 -1.3**
HAU *e*Sg **Sg** **20 00 08.0 +0.1**
comp=E,2.3nm,0.3s
HAU Haudompre 2.81 187 *e*Pg **Pg** **19 59 31.5 0.0**
HAU *e*Sn **Sn** **19 59 54.0 -1.3**
HAU *e*Sg **Sg** **20 00 08.0 +0.1**
comp=E,1.1nm,0.3s
HINF Hinteralfeld 2.98 180 *e*Pn **Pn** **19 59 24.6 +0.4**
HINF *e*Sn **Sn** **19 59 58.4 -1.1**
HINF *e*Sg **Sg** **20 00 12.5 -0.9**
comp=E,1.3nm,0.3s
HINF Hinteralfeld 2.98 180 *e*Pn **Pn** **19 59 24.6 +0.4**
HINF *e*Sn **Sn** **19 59 58.4 -1.1**
HINF *e*Sg **Sg** **20 00 12.5 -0.9**
comp=E,0.6nm,0.3s
LOR Lormes 4.03 210 *e*Pn **Pn** **19 59 38.9 +0.3**
LOR *e*Sn **Sn** **20 00 23.5 -1.9**
LOR *e*Sg **Sg** **20 00 45.3 -1.8**
comp=E,1.7nm,0.3s
LOR Lormes 4.03 210 *e*Pn **Pn** **19 59 38.9 +0.3**
LOR *e*Sn **Sn** **20 00 23.5 -1.9**
LOR *e*Sg **Sg** **20 00 45.3 -1.8**
comp=E,0.9nm,0.3s
SSF Saint Saulge 4.33 212 *e*Pn **Pn** **19 59 43.2 +0.5**
SSF *e*Sg **Sg** **20 00 54.5 -2.1**
comp=E,0.9nm,0.2s
SSF Saint Saulge 4.33 212 *e*Pn **Pn** **19 59 43.2 +0.5**
SSF *e*Sg **Sg** **20 00 54.5 -2.1**
comp=E,0.4nm,0.2s

MAN **22** *19:59:04.5*≈*84N×119.63E, h85km, mb5.4, ML4.3, MS4.6*
IDC **22** *19:59:06.4*≈*0.7, 6.15N×120.12E, h0km, mb3.8/13,*
mb1 4.0/13, mb1mx3.9/26, mbtmp3.9/13, MS3.7/7,
Ms1 3.7/7, ms1mx3.5/47, Error ellipse: s-maj=29.1km
s-min=15.6km az=62.0
ISCJB **22** *19:59:09.3*±*0.2, 6.15N*±*0.03×119.95E*±*0.03, h33km,*
mb3.8/15, MS3.6/5, Error ellipse: s-maj=4.3km
s-min=3.6km az=150.6
BJI **22** *19:59:13.8, 6.68N×120.26E, h23km, mB5.2/2, mb4.2/5*
DJA **22** *19:59:16.5*±*0.4, 6°N*±*5°×12°0E*±*°, h50km, M4.4/4, mB5.0/1,*
mb4.4/4, Mw(mB)4.3/1
AUST **22** *19:59:46.9*±*6.5, 5.95N×121.08E, h364km, Error ellipse:*
s-maj=2.4km s-min=1.5km az=255.0
ISC 22 19:59:11.9±0.4**, 6.15N**±0.06**×119.91E**±0.04**, h35**km**, n89,**
σ1§**98/80, mb4.1/22, MS3.6/5, 2C-2D, Sulu Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**1.70**	**235**	P	**Pn**	**19 59 37.5**	**-1.6**
ZMPH	**Zamboanga City**	**2.29**	**70** ‖	*i*P	**Pn**	**19 59 46.3**	**-0.9**
ZMPH				*i* S	Sn	20 00 23.6	+10
TSM	**Tawau**	**2.74**	**228**	P	**Pn**	**19 59 52.3**	**-1.2**
SDKM	**Sandakan**	**2.75**	**259**	P	**Pn**	**19 59 52.1**	**-1.5**
IPIL	**Ipil**	**3.10**	**58** ‖	*i*P	**Pn**	**19 59 56.6**	**-1.8**
IPIL				eS	**Sn**	**20 00 33.5**	**-0.8**
KDM	**Kudat**	**3.15**	**284**	P	**Pn**	**19 59 59.4**	**+0.4**
BATP	**Bataraza**	**3.36**	**322**	*e*P	**Pn**	19 59 57.6	-4.3
KKM	**Kota Kinabalu**	**3.67**	**269**	P	**Pn**	**20 00 05.3**	**-1.1**
PAGZ	**Pagadian**	**3.84**	**64**	*e*P	**Pn**	**20 00 08.2**	**-0.3**
PAGZ				eS	**Sn**	**20 00 56.8**	**+4.3**
CTBH	**Cotabato--PC H**	**4.44**	**76** ‖	*i*P	**Pn**	**20 00 15.6**	**-1.1**
CUYO	**Cuyo Island**	**4.79**	**13**	*e*P	**Pn**	**20 00 20.1**	**-1.6**
ENPP	**El Nido**	**5.04**	**355**	*e*P	**Pn**	**20 00 23.0**	**-2.1**
TBP	**Tagbilaran**	**5.26**	**48**	*e*P	**Pn**	**20 00 27.9**	**-0.3**
CGP	**Cagayan de Oro**	**5.27**	**64**	*e*P	**Pn**	**20 00 25.4**	**-2.8**
BUKP	**Musuan**	**5.39**	**71**	*e*P	**Pn**	**20 00 31.7**	**+1.7**
DAV	**Davao City (W)**	**5.71**	**81**	LR	LR	20 03 05.0	
	comp=Z,1μm,18.8s,baz=174,slow=43						
LLP	**Lapu-Lapu**	**5.76**	**44**	*e*P	**Pn**	**20 00 34.0**	**-1.0**
LLP				eS	**Sn**	**20 01 38.5**	**-1.5**
MRSI	**Marisa**	**5.99**	**160**	P	**Pn**	**20 00 36.6**	**-1.6**
RCP	**Roxas**	**6.06**	**27** ‖	*e*P	**Pn**	**20 00 39.7**	**+0.6**
MSLP	**Maasin**	**6.30**	**51**	*e*P	**Pn**	**20 00 42.0**	**-0.4**
SJMP	**San Jose**	**6.38**	**11**	*e*P	**Pn**	**20 00 42.2**	**-1.3**
MNI	**Manado**	**6.79**	**133**	P	**Pn**	**20 00 47.3**	**-1.8**
KMSI	**Cibinong**	**6.87**	**144**	P	**Pn**	**20 00 49.8**	**-0.5**
BTM	**Bintulu**	**7.41**	**247**	P	**Pn**	**20 00 56.0**	**-1.7**
LUWI	**Luwuk**	**7.70**	**158**	P	**Pn**	**20 01 02.3**	**+0.7**
SBUM	**Sibu**	**8.50**	**245**	P	**Pn**	**20 01 11.4**	**-1.2**
TTSI	**Tana Toraja**	**9.14**	**181**	P	**Pn**	**20 01 22.7**	**+1.3**
TNTI	**Ternate**	**9.16**	**125**	P	Pn	20 01 18.4	-3.3
SPSI	**Sidrap Palu**	**10.05**	**181**	P	**Pn**	**20 01 36.0**	**+2.1**
LBMI	**Labuha**	**10.15**	**131**	P	**Pn**	**20 01 33.6**	**-1.6**
KSM	**Kuching**	**10.64**	**244**	P	**Pn**	**20 01 40.4**	**-1.7**
KAPI	**Kappang**	**11.09**	**181**	P	Pn	20 01 55.1	+6.9
	1.3nm,0.3s,baz=12,slow=4.9,SNR=5.3						
KAPI				LR	LR	20 06 18.1	
	comp=Z,369nm,18.3s,baz=26,slow=39						
KAPI	**Kappang**	**11.09**	**181**	P	**Pn**	**20 01 48.9**	**+0.7**
BKSI	**Bulukumba**	**11.40**	**179**	P	**Pn**	**20 01 55.2**	**+2.8**
AAI	**Ambon**	**12.81**	**140**	P	**Pn**	**20 02 09.5**	**-2.1**
MSAI	**Masohi**	**13.04**	**136**	P	**Pn**	**20 02 12.0**	**-2.9**
PALU	**Palau**	**14.51**	**84**	P	**P**	**20 02 43.2**	**+2.1**
	baz=13,SNR=8.0						
BNDI	**Bandanaira**	**14.56**	**137**	P	**Pn**	**20 02 34.1**	**-1.5**
SRBI	**Singaraja**	**14.90**	**198**	P	**P**	**20 02 43.7**	**-1.7**
PPBI	**Pangkal Pinang**	**16.04**	**239**	P	**P**	**20 02 57.8**	**-0.3**
MYKOM	**Kota Tinggi**	**16.59**	**256**	P	**Pn**	**20 03 01.5**	**-0.5**
KGM	**Kluang**	**17.05**	**257**	P	**Pn**	**20 03 07.0**	**-0.8**
CHBT	**CHBT**	**18.53**	**292**	P	**Pn**	**20 03 30.0**	**+4.0**
IPM	**Ipoh**	**18.88**	**266**	P	**P**	**20 03 29.6**	**+0.2**
KULM	**Kulim**	**19.18**	**268**	P	**P**	**20 03 33.5**	**+0.7**
LWLI	**Liwa**	**19.33**	**235**	P	**Pn**	**20 03 37.8**	**+2.1**
KSI	**Kapahiang**	**19.84**	**241**	P	Pn	20 03 49.2	+7.3
	59nm,0.9s						
PSI	**Prapat**	**21.18**	**262**	P	**P**	**20 03 55.8**	**+1.1**
	2.5nm,0.3s,baz=348,slow=10.0,SNR=4.1						
PSI	**Prapat**	**21.18**	**262**	P	P	20 04 03.8	+9.1
	15nm,1.1s						
SRDT	**SRDT**	**22.00**	**293**	P	P	20 04 10.3	+7.0
	9.2nm,1.5s						
KDU	**Kakadu**	**22.50**	**146**	P	P	20 04 14.3	+5.7
	baz=22,SNR=3.1						
GSI	**Gunungsitoli**	**22.79**	**259**	P	**P**	**20 04 16.0**	**+4.2**
	baz=24,SNR=4.0						
CMAR	**Chiang Mai Arr**	**23.82**	**303**	P	**P**	**20 04 24.3**	**+2.4**
	0.7nm,0.7s,baz=108,slow=8.1,SNR=4.9						
CMMT	**Chiang Mai**	**23.98**	**304**	P	P	20 04 32.1	+8.6
FITZ	**Fitzroy Crossi**	**24.76**	**167**	P	**P**	**20 04 30.1**	**-0.3**
	baz=24,SNR=4.9						
GUMO	**Guam**	**25.66**	**71**	LR	LR	20 15 48.5	
	comp=Z,174nm,18.1s,baz=73,slow=39						
JNU	**Nakatsue**	**28.71**	**19**	LR	LR	20 18 43.2	
	comp=Z,66nm,19.3s,baz=331,slow=41						
WRA	**Warramunga Arr**	**29.57**	**152**	P	**P**	**20 05 11.4**	**-2.3**
	0.8nm,0.8s,baz=334,slow=9.5,SNR=6.2						
KSRS	**Korea Array**	**32.00**	**12**	LR	LR	20 18 27.3	
	comp=Z,83nm,19.5s,baz=195,slow=36						
MEEK	**Meekatharra**	**32.62**	**182**	P	P	20 05 46.8	+6.3
	baz=33,SNR=3.7						
ASAR	**Alice Springs**	**32.64**	**156**	P	**P**	**20 05 40.5**	**-0.2**
	0.3nm,0.6s,baz=341,slow=8.3,SNR=6.0						
ASAR				PcP	**PcP**	**20 08 25.0**	**-1.5**
	0.2nm,0.7s,baz=340,slow=3.2,SNR=3.8						
QIS	**Mount Isa**	**32.85**	**144**	P	**P**	**20 05 42.4**	**-0.3**
	baz=32,SNR=5.1						
MJAR	**Matsushiro Arr**	**34.58**	**26**	LR	LR	20 18 50.7	
	comp=Z,119nm,21.4s,baz=170,slow=34						
TAPN	**Taplejung**	**37.15**	**308**	*e*P	**P**	**20 06 19.6**	**-0.4**
	7.6nm,0.6s						
ODAN	**Odare**	**37.17**	**307**	*e*P	**P**	**20 06 20.6**	**+0.5**
	14nm,0.8s						
GTA	**Gaotai**	**37.74**	**334**	*e*P	**P**	**20 06 26.9**	**+2.2**
GTA				pP	**pP**	**20 06 31.0**	**-3.9**
GTA				sP	**sP**	**20 06 34.5**	**-4.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RAMN	**Ramite**	**37.84**	**307**	*e*P	**P**	**20 06 25.7**	**-0.1**
	comp=Z,11nm,0.7s						
JIRN	**Jiri**	**38.49**	**308**	*e*P	**P**	**20 06 30.9**	**-0.5**
	comp=Z,5.0nm,0.8s						
GUN	**Gumba**	**38.85**	**308**	*e*P	**P**	**20 06 33.6**	**-0.8**
	comp=Z,24nm,0.7s						
PKI	**Pulchoki**	**39.06**	**307**	*e*P	**P**	**20 06 34.6**	**-1.6**
PKIN	**Phulchoki**	**39.08**	**307**	*e*P	**P**	**20 06 34.7**	**-1.5**
KKN	**Kakani**	**39.26**	**307**	*e*P	**P**	**20 06 36.5**	**-1.2**
GKN	**Gorkha**	**39.87**	**307**	*e*P	**P**	**20 06 41.1**	**-1.6**
KOLN	**Koldanda**	**40.59**	**306**	*e*P	**P**	**20 06 47.6**	**-1.2**
	comp=Z,32nm,0.7s						
DANN	**Dangsing**	**40.71**	**307**	*e*P	**P**	**20 06 48.6**	**-1.3**
	comp=Z,14nm,0.6s						
PYUN	**Piuthan**	**41.22**	**306**	*e*P	**P**	**20 06 53.2**	**-0.7**
	comp=Z,58nm,0.8s						
STKA	**Stephens Creek**	**43.11**	**153**	P	**P**	**20 07 08.7**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=360,slow=16,SNR=3.9						
SONM	**Songino Array**	**43.11**	**347**	P	**P**	**20 07 09.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=160,slow=9.0,SNR=11						
SONM				PcP	**PcP**	**20 08 57.6**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=179,slow=3.1,SNR=3.8						
MKAR	**Makanchi Array**	**51.79**	**328**	P	**P**	**20 08 16.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=131,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**55.47**	**336**	P	**P**	**20 08 42.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=55,slow=20,SNR=3.4						
PETK	**Petropavlovsk-**	**56.04**	**26**	P	**P**	**20 08 47.4**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=224,slow=6.0,SNR=2.7						
KURBB	**Kurchatov Arra**	**56.13**	**330**	P	**P**	**20 08 47.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=131,slow=8.0,SNR=10						
NIUE	**Niue**	**73.47**	**112**	P	P	20 10 33.9	-7.6
	baz=72,SNR=3.5						
BRTR	**Keskin Array B**	**83.24**	**309**	P	**P**	**20 11 36.8**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=97,slow=4.8,SNR=3.0						
ILAR	**Eielson Array**	**85.85**	**25**	P	**P**	**20 11 46.1**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=245,slow=4.3,SNR=5.7						
MLR	**Muntele Rosu**	**88.43**	**315**	LR	LR	20 56 59.7	
	comp=Z,60nm,18.4s,baz=120,slow=39						
YKA	**Yellowknife Ar**	**100.00**	**23**	P	**Pdif**	**20 12 53.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=302,slow=3.5,SNR=4.1						
VNA2	**Neumayer--Watz**	**107.38**	**196**	*e*	**Pdif**	**20 13 32.3**	**+6.4**
	baz=201,slow=4.2						
VNA1	**Neumayer--Stat**	**107.77**	**196**	*e*	**Pdif**	**20 13 33.8**	**+6.2**

ISCJB **22** *20:01:26.8*±*0.6, 33.58S*±*0.07×178.86W*±*0.09, h50km,*
mb4.6/17, MS4.3/16, Error ellipse: s-maj=11.4km
s-min=9.2km az=22.6
IDC **22** *20:01:29.2*≈*2.7, 33.35S×178.74W, h59km*±*23km, mb4.3/14,*
mb1 4.4/14, mb1mx4.4/20, mbtmp4.3/14, MS4.3/16,
Ms1 4.3/16, ms1mx4.0/41, Error ellipse: s-maj=19.4km
s-min=13.6km az=14.0
MOS **22** *20:01:31.9*≈*1.5, 33.44S×179.08W, h83km, mb5.0/2, Error*
ellipse: s-maj=25.4km s-min=14.9km az=24.4
NEIC **22** *20:01:33.7*±*1.3, 33.92S×179.03W, h103km*±*10km, mb5.1/5,*
Error ellipse: s-maj=15.1km s-min=12.1km az=144.0
ISC 22 20:01:27.9±0.4**, 33.49S**±0.09**×178.71W**±0.08**, h50**km**,**
n140, σ1§**06/131, mb4.8/17, MS4.3/16, 1C-1D, South of**
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.28**	**9**	*e*Pn	Pn	20 02 44.6	+14
URZ	**Urewera**	**5.84**	**214**	P	Pn	20 02 48.7	-3.2
	34nm,0.3s,baz=43,slow=6.3,SNR=135						
URZ				S	**Sn**	**20 03 55.5**	**-2.0**
	33nm,0.3s,baz=7.4,slow=19,SNR=8.0						
URZ	**Urewera**	**5.84**	**214**	*e*Pn	Pn	20 02 49.0	-2.9
OUZ	**Omahuta**	**6.59**	**253**	*e*Pn	**Pn**	**20 03 02.6**	**+0.5**
	150nm,0.8s						
RPZ	**Rata Peaks**	**12.96**	**215**	P	Pn	20 04 22.8	-6.5
	2.2nm,0.3s,baz=59,slow=8.4,SNR=11						
RPZ				S	Sn	20 06 36.4	-16
	1.1nm,0.3s,baz=331,slow=19,SNR=9.0						
RPZ	**Rata Peaks**	**12.96**	**215**	P	Pn	20 04 22.8	-6.5
RPZ				S	Sn	20 06 36.4	-16
DZM	**Mont Dzumac**	**17.35**	**307**	*e*P	**P**	**20 05 31.4**	**+4.0**
	110nm,1.1s						
DZM				eLR	LR	20 09 33.4	
	2μm,24.6s						
DZM	**Mont Dzumac**	**17.35**	**307**	*e*P	**P**	**20 05 30.3**	**+2.9**
	52nm,0.9s						
RAR	**Rarotonga**	**20.75**	**59**	LR	LR	20 12 25.5	
	comp=Z,477nm,20.6s,baz=269,slow=32						
ARMA	**Armidale**	**25.31**	**269**	*e*P	P	20 06 44.2	-5.8
	39nm,1.4s						
TBI	**Tubuai**	**27.55**	**76**	*e*LR	LR	20 13 40.8	
	652nm,21.5s,baz=244						
PPT2	**Papeete2**	**30.55**	**66**	*e*LR	LR	20 15 14.2	
	525nm,21.0s,baz=236						
PPT	**Papeete**	**30.56**	**66**	LR	LR	20 17 38.7	
	comp=Z,562nm,20.4s,baz=199,slow=32						
HNR	**Honiara**	**30.97**	**316**	LR	LR	20 17 40.1	
	comp=Z,283nm,20.6s,baz=167,slow=32						
STKA	**Stephens Creek**	**33.31**	**262**	P	**P**	**20 08 01.6**	**+0.7**
	4.3nm,0.8s,baz=116,slow=14,SNR=4.1						
STKA				PcP	**PcP**	**20 10 42.1**	**+0.1**
	5.9nm,0.9s,baz=51,slow=4.5,SNR=5.5						
STKA	**Stephens Creek**	**33.31**	**262**	P	**P**	**20 08 01.6**	**+0.7**
STKA				PcP	**PcP**	**20 10 42.1**	**+0.1**
CTA	**Charters Tower**	**33.83**	**284**	P	**P**	**20 08 06.3**	**+0.8**
	14nm,0.6s,baz=114,slow=12,SNR=20						
CTA	**Charters Tower**	**33.83**	**284**	P	**P**	**20 08 06.3**	**+0.8**
CTAO	**Charters Tower**	**33.83**	**284**	*e*P	P	20 08 02.6	-3.0
CTAO				pmax	pmax		
	comp=Z,47nm,1.1s						
CTAO	**Charters Tower**	**33.83**	**284**	*e*P	P	20 08 02.6	-3.0
	comp=Z,47nm,1.1s						
PMG	**Port Moresby**	**39.49**	**299**	P	**P**	**20 08 54.0**	**+0.3**
	comp=Z,20nm,0.8s,baz=133,slow=7.7,SNR=5.6						
PMG	**Port Moresby**	**39.49**	**299**	P	**P**	**20 08 54.0**	**+0.3**
RKT	**Rikitea**	**39.62**	**86**	*e*LR	LR	20 19 23.5	
	comp=Z,702nm,21.0s						
AS31	**Alice Springs**	**42.44**	**271**	*e*P	**P**	**20 09 16.1**	**-1.8**
ASAR	**Alice Springs**	**42.44**	**271**	P	**P**	**20 09 17.9**	**0.0**
	comp=Z,25nm,0.8s,baz=111,slow=7.5,SNR=198						
ASAR				PcP	**PcP**	**20 11 10.2**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=119,slow=4.0,SNR=8.4						
ASAR				S	**S**	**20 15 37.0**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=114,slow=16,SNR=11						
ASAR				LR	LR	20 28 17.8	
	comp=Z,610nm,18.3s,baz=116,slow=38						
ASAR	**Alice Springs**	**42.44**	**271**	P	**P**	**20 09 17.9**	**0.0**
ASAR				PcP	**PcP**	**20 11 10.2**	**-0.1**
ASAR				S	**S**	**20 15 37.0**	**+0.7**
WRAB	**Tennant Creek**	**43.70**	**276**	*e*P	**P**	**20 09 26.7**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,31nm,0.8s						
WRAB	**Tennant Creek**	**43.70**	**276**	*e*P	**P**	**20 09 26.6**	**-1.5**
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**43.71**	**276**	P	**P**	**20 09 27.6**	**-0.6**
	comp=Z,33nm,0.8s,baz=118,slow=7.6,SNR=156						
WRA				PcP	**PcP**	**20 11 14.5**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=124,slow=3.1,SNR=4.6						
WRA				S	**S**	**20 15 53.9**	**-1.1**
	comp=Z,1.7nm,1.0s,baz=118,slow=12,SNR=5.0						
WRA				LR	LR	20 28 04.8	
	comp=Z,392nm,19.1s,baz=120,slow=36						
WRA	**Warramunga Arr**	**43.71**	**276**	P	**P**	**20 09 27.6**	**-0.6**
WRA				PcP	**PcP**	**20 11 14.5**	**-0.1**
WRA				S	**S**	**20 15 53.9**	**-1.1**
VNDA	**Vanda**	**44.97**	**186**	P	**P**	**20 09 39.8**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=7.4,slow=6.5,SNR=5.3						
VNDA	**Vanda**	**44.97**	**186**	P	**P**	**20 09 39.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**51.82**	**273**	P	**P**	**20 10 30.9**	**-0.2**
	comp=Z,13nm,0.9s,baz=142,slow=7.9,SNR=22						
FITZ				LR	LR	20 32 49.5	
	comp=Z,734nm,18.6s,baz=109,slow=36						
FITZ	**Fitzroy Crossi**	**51.82**	**273**	P	**P**	**20 10 30.9**	**-0.2**

QSPA South Pole Qui 56.63 180 P **P** **20 11 07.0 +1.4**
comp=Z,4.9nm,0.9s,baz=79,slow=0.5,SNR=8.6
QSPA South Pole Qui 56.63 180 P **P** **20 11 07.0 +1.4**
GUMO Guam 58.29 317 LR LR 20 33 03.0
comp=Z,133nm,18.1s,baz=274,slow=33
KAPI Kappang 63.61 282 P **P** **20 11 52.0 -2.0**
comp=Z,3.1nm,0.3s,baz=187,slow=4.8,SNR=5.0
KAPI Kappang 63.61 282 P **P** **20 11 52.0 -2.0**
USHA Ushuaia 73.72 146 LR LR 20 40 20.2
comp=Z,606nm,18.9s,baz=218,slow=32
SYO Syowa Base 73.98 193‖ *e*P P 20 12 55.7 -1.8
VNA3 Neumayer Olymp 75.27 176 *e*P **P** **20 13 05.6 +0.6**
VNA3 Neumayer Olymp 75.27 176 *e*WP **PcP** **20 13 15.8 -2.4**
VNA2 Neumayer--Watz 75.69 177 *e*P **P** **20 13 07.8 +0.3**
baz=201,slow=4.2
VNA2 Neumayer--Watz 75.69 177 *e*WP **PcP** **20 13 18.4 -1.6**
baz=201,slow=4.2
NVL N'lazarevskaya 75.76 184 *e*P **PcP** **20 13 17.9 -2.4**
NVL pmax pmax
comp=Z,9.0nm,0.6s
VNA1 Neumayer--Stat 75.93 177 *e*WP **PcP** **20 13 19.9 -1.1**
MJAR Matsushiro Arr 80.45 326 P **P** **20 13 32.9 -1.3**
comp=Z,2.2nm,0.9s,baz=167,slow=6.1,SNR=3.5
MJAR LR LR 20 45 31.4
comp=Z,68nm,20.4s,baz=150,slow=33
MJAR Matsushiro Arr 80.45 326 P **P** **20 13 32.9 -1.3**
PLCA Paso Flores 80.85 133 P **P** **20 13 37.7 +1.1**
comp=Z,2.1nm,0.9s,baz=229,slow=4.7,SNR=3.9
PLCA Paso Flores 80.85 133 P **P** **20 13 37.7 +1.1**
JNU Nakatsue 81.48 319 LR LR 20 42 45.1
comp=Z,120nm,19.2s,baz=238,slow=30
ASAJ Asahikawa 84.91 333 LR LR 20 48 32.4
comp=Z,211nm,18.5s,baz=168,slow=33
FX1 Attu Island--F 86.30 355 LR LR 20 49 01.5
comp=Z,250nm,18.3s,baz=222,slow=33
KSRS Korea Array 86.32 320 P **P** **20 14 05.6 +1.4**
comp=Z,2.1nm,0.8s,baz=143,slow=6.7,SNR=3.4
KSRS LR LR 20 52 26.6
comp=Z,87nm,18.1s,baz=274,slow=36
KSAR Wonju Array Be 86.33 320 P **P** **20 14 05.6 +1.3**
PETK Petropavlovsk- 88.65 346 P **P** **20 14 15.9 +0.8**
comp=Z,12nm,0.9s,baz=145,slow=5.4,SNR=6.6
PETK LR LR 20 47 09.3
comp=Z,161nm,19.3s,baz=315,slow=31
PETK Petropavlovsk- 88.65 346 P **P** **20 14 15.9 +0.8**
PETK Petropavlovsk- 88.65 346 P **P** **20 14 15.9 +0.8**
USRK Ussuriysk Arra 89.40 327 LR LR 20 52 31.9
comp=Z,180nm,18.3s,baz=270,slow=34
CMAR Chiang Mai Arr 93.85 289 PP PP 20 18 26.6 0.0
comp=Z,0.8nm,0.6s,baz=144,slow=6.7,SNR=9.7
CMAR LR LR 20 58 17.4
comp=Z,65nm,19.2s,baz=130,slow=36
CMAR Chiang Mai Arr 93.85 289 PP PP 20 18 26.6 0.0
TXAR Lajitas Array 94.55 58 P **P** **20 14 42.5 -0.7**
comp=Z,0.3nm,0.7s,baz=200,slow=11,SNR=4.8
TXAR Lajitas Array 94.55 58 P **P** **20 14 42.5 -0.7**
YKA Yellowknife Ar 108.48 26 PKiKP **PKiKP** **20 19 51.2 +1.2**
comp=Z,0.2nm,0.7s,baz=216,slow=1.6,SNR=3.4
YKA PKKPbc **PKKPbc** **20 31 01.0 -0.7**
comp=Z,0.2nm,0.6s,baz=50,slow=3.3,SNR=6.9
YKA Yellowknife Ar 108.48 26 PKiKP **PKiKP** **20 19 51.2 +1.2**
YKA PKKPbc **PKKPbc** **20 31 01.0 -0.7**
MK31 Makanchi Array 119.27 309 *e*PKiKP **PKPdf** **20 20 10.3 -0.8**
MK31 Makanchi Array 119.27 309 *e*PKPdf **PKPdf** **20 20 10.3 -0.8**
MKAR Makanchi Array 119.27 309 PKP **PKPdf** **20 20 09.8 -1.4**
comp=Z,2.0nm,0.9s,baz=64,slow=2.8,SNR=20
MKAR Makanchi Array 119.27 309 PKiKP **PKPdf** **20 20 09.8 -1.4**
MKAR Makanchi Array 119.27 309 PKP **PKPdf** **20 20 09.8 -1.4**
ZAA0 Zalesovo Array 119.91 317 *e*PKPdf **PKPdf** **20 20 09.9 -2.2**
ZALV Zalesovo Beam 119.91 317 PKP **PKPdf** **20 20 11.1 -0.9**
comp=Z,1.6nm,0.8s,baz=169,slow=1.5,SNR=9.0
ZALV Zalesovo Beam 119.91 317 PKiKP **PKPdf** **20 20 11.1 -0.9**
ZALV Zalesovo Beam 119.91 317 PKP **PKPdf** **20 20 11.1 -0.9**
KURK Kurchatov 122.72 313 PKiKP **PKPdf** **20 20 17.2 -0.3**
KURK Kurchatov 122.72 313 PKP **PKPdf** **20 20 17.2 -0.3**
KURBB Kurchatov Arra 122.75 312 PKP **PKPdf** **20 20 17.2 -0.4**
comp=Z,5.5nm,0.8s,baz=109,slow=2.0,SNR=57
KBL Kabul 124.83 291 *e*PKiKP **PKPdf** **20 20 22.4 0.0**
KBL Kabul 124.83 291 *e*PKPdf **PKPdf** **20 20 22.4 0.0**
KKAR Karatay Array 126.23 302 *e*PKiKP **PKPdf** **20 20 24.2 -0.4**
KKAR Karatay Array 126.23 302 *e*PKPdf **PKPdf** **20 20 24.2 -0.4**
BRVK Borovoye 128.22 314 *e*PKiKP **PKPdf** **20 20 27.8 -0.3**
BRVK Borovoye 128.22 314 *e*PKPdf **PKPdf** **20 20 27.7 -0.3**
ABKAR Akbulak array 134.41 308 *e*PKPdf **PKPdf** **20 20 38.8 -1.1**
AKTO Aktyubinsk 135.68 310 PKP **PKPdf** **20 20 41.6 -0.6**
comp=Z,1.4nm,0.6s,baz=109,slow=1.7,SN

TORD PKPab **PKPab** **20 22 00.0 -0.4**
comp=Z,2.3nm,0.8s,baz=178,slow=3.7,SNR=7.8
TORD Torodi Ar. Bea 159.75 181 PKP **PKPdf** **20 21 21.1 -0.7**
TORD PKPab **PKPab** **20 22 00.0 -0.4**
VYHS Vyhne 160.07 324 *e*PKP2 **PKPab** **20 22 01.4 +0.2**
CLL Collm 160.25 338 *i* PKPab **PKPab** **20 22 01.4 -0.4**
comp=Z,8.0nm,0.9s
CLL *i* 20 22 06.4
GERES GERESS Array B 162.08 333 PKPab **PKPab** **20 22 09.7 -0.3**
comp=Z,1.4nm,0.9s,baz=46,slow=5.8,SNR=7.4
GERES GERESS Array B 162.08 333 PKPab **PKPab** **20 22 09.7 -0.3**
GRF Grafenberg Arr 162.22 338 *e*PKP2 **PKPab** **20 22 10.9 +0.4**

AUST ***22*** *20:17:02.7,6.48S×130.03E,h60km*
IDC ***22*** *20:17:03.2±5.9,6.46S×130.32E,h95km±54km,mb3.5/5, mb1 3.8/8,mb1mx3.6/19,mbtmp3.7/8, Error ellipse: s-maj=70.0km s-min=19.0km az=65.0*
ISCJB ***22*** *20:17:06.6±0.6,6.58S±0.05×130.35E±0.07,h146km, mb3.6/5, Error ellipse: s-maj=9.7km s-min=6.7km az=2.2*

ISC 22 20:17:08.1±0.7, 6.64S±0.06×130.40E±0.08, h146km, n20, σ1§76/20, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.53**	**67**	P	**Pn**	**20 17 48.9**	**-0.5**
	baz=2.8,SNR=296						
TLE				S	**Sn**	**20 18 20.1**	**-1.1**
	baz=2.8,SNR=6.8						
SWI	**Sorong**	**5.80**	**9**	P	Pn	20 18 26.1	-6.0
	baz=5.7,SNR=38						
SWI				S	Sn	20 19 23.8	-14
	baz=5.7,SNR=21						
MTN	**Manton Dam**	**6.21**	**173**	P	**Pn**	**20 18 38.9**	**+1.3**
	baz=6.5,SNR=28						
MTN				S	**Sn**	**20 19 47.6**	**-0.1**
	baz=6.5,SNR=16						
KDU	**Kakadu**	**6.35**	**161**	P	**Pn**	**20 18 39.6**	**+0.1**
	baz=6.7,SNR=479						
KDU				S	**Sn**	**20 19 49.5**	**-1.5**
	baz=6.7,SNR=6.7						
PCI	**Palu**	**11.97**	**298**	S	Sn	20 21 45.4	-21
	baz=12,SNR=6.1						
FITZ	**Fitzroy Crossi**	**12.30**	**202**	P	**Pn**	**20 19 56.5**	**-2.0**
	2.1nm,0.3s,baz=34,slow=8.9,SNR=76						
FITZ				S	Sn	20 22 05.7	-8.8
	4.6nm,0.3s,baz=244,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**12.30**	**202**	P	**Pn**	**20 19 56.7**	**-1.8**
	baz=12,SNR=59						
FITZ				S	Sn	20 22 07.5	-7.1
	baz=12,SNR=6.2						
WRA	**Warramunga Arr**	**13.77**	**164**	P	**Pn**	**20 20 15.5**	**-1.8**
	1.1nm,0.3s,baz=347,slow=13,SNR=43						
WRA				S	Sn	20 22 41.0	-8.9
	3.2nm,0.3s,baz=352,slow=21,SNR=13						
COEN	**Coen**	**14.52**	**121**	P	**P**	**20 20 29.0**	**-0.3**
	baz=15,SNR=11						
QIS	**Mount Isa**	**16.47**	**148**	P	**P**	**20 20 53.3**	**+2.4**
	baz=17,SNR=7.4						
ASAR	**Alice Springs**	**17.27**	**169**	P	**Pn**	**20 21 01.8**	**+1.3**
	0.9nm,0.3s,baz=348,slow=9.1,SNR=40						
ASAR				S	**S**	**20 24 08.5**	**-3.8**
	0.8nm,0.3s,baz=354,slow=18,SNR=8.0						
MEEK	**Meekatharra**	**22.84**	**208**	P	**P**	**20 22 01.1**	**+2.2**
	baz=23,SNR=3.4						
STKA	**Stephens Creek**	**27.20**	**159**	P	**P**	**20 22 40.4**	**+2.2**
	1.2nm,0.7s,baz=338,slow=8.4,SNR=5.0						
PPI	**Padang Panjang**	**30.55**	**280**	S	S	20 27 35.0	-24
	baz=30,SNR=3.7						
GSI	**Gunungsitoli**	**33.70**	**282**	S	**S**	**20 28 48.9**	**+0.6**
	baz=33,SNR=29						
CMAR	**Chiang Mai Arr**	**39.80**	**309**	P	**P**	**20 24 26.1**	**-1.1**
	0.5nm,0.4s,baz=133,slow=6.8,SNR=5.7						
SONM	**Songino Array**	**58.23**	**341**	P	**P**	**20 26 46.0**	**-1.1**
	0.3nm,0.4s,baz=161,slow=7.5,SNR=11						
HMDM	**Hanimaadhoo**	**58.62**	**282**	P	P	20 26 54.1	+3.7
	baz=58,SNR=6.1						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**20 27 52.1**	**-0.3**
	0.6nm,0.3s,baz=115,slow=8.1,SNR=28						
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**20 29 20.0**	**+1.4**
	1.0nm,0.6s,baz=351,slow=1.1,SNR=9.1						

ISCJB ***22*** *20:21:26.0±0.9,49.80N±0.05×18.53E±0.06,h0km, Error ellipse: s-maj=7.8km s-min=5.2km az=13.2*
CSEM ***22*** *20:21:26.4±0.2,49.80N×18.56E,h2km,ML1.5/4, Error ellipse: s-maj=4.4km s-min=2.8km az=178.0*
IPEC ***22*** *20:21:26.9±0.2,49.82N×18.58E,h0km,3km,ML0.9/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
PRU ***22*** *20:21:27.8,49.79N×18.51E,h0km*

ISC 22 20:21:26.7±1.2, 49.80N±0.05×18.58E±0.04, h0km, n10, σ0§56/19, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.28**	**278**	*e*PG	**Pg**	**20 21 32.7**	**+0.7**
OKC				*e*SG	**Sg**	**20 21 36.3**	**+0.7**
	comp=Z,6.2nm,0.5s						
OKC	**Ostrava-Krasne**	**0.28**	**278**	*e*Pg	**Pg**	**20 21 32.4**	**+0.4**
	baz=94						
OKC				Sg	**Sg**	**20 21 36.3**	**+0.7**
	6.2nm,0.5s						
MORC	**Moravsky Berou**	**0.67**	**268**	*e*Pg	**Pg**	**20 21 39.8**	**+0.3**
	baz=86						
MORC				*e*Sg	**Sg**	**20 21 47.8**	**-0.4**
	1.9nm,0.3s,baz=86						
OJC	**Ojcow**	**0.89**	**62**	*e*Pg	**Pg**	**20 21 43.7**	**-0.1**
	baz=244						
VYHS	**Vyhne**	**1.32**	**172**	*e*PN	**Pg**	**20 21 51.9**	**0.0**
VYHS				*e*SN	**Sn**	**20 22 11.2**	**+0.6**
VYHS	**Vyhne**	**1.32**	**172**	*e*Pn	**Pg**	**20 21 51.9**	**0.0**
VYHS				*e*Sn	**Sn**	**20 22 11.2**	**+0.6**
VRAC	**Vranov**	**1.38**	**250**	*e*Pg	**Pg**	**20 21 52.7**	**-0.4**
	baz=68						
VRAC				*e*Sg	**Sg**	**20 22 10.3**	**-0.7**
	1.9nm,0.3s,baz=68						
DPC	**Dobruska-Polom**	**1.55**	**292**	*e*PG	**Pn**	**20 21 55.7**	**+0.1**
DPC				*e*SG	**Sn**	**20 22 16.1**	**-0.4**
	comp=Z,1.2nm,0.3s						
DPC	**Dobruska-Polom**	**1.55**	**292**	Pg	**Pn**	**20 21 55.7**	**+0.1**
DPC				*e*Sg	**Sn**	**20 22 15.2**	**-1.3**
	baz=109						
KRUC	**Moravsky**	**1.60**	**243**	*e*Pg	**Pn**	**20 21 56.1**	**-0.1**
	baz=61						
KRUC				*e*Sg	**Sn**	**20 22 17.3**	**-0.3**
	1.1nm,0.2s,baz=61						

IDC 22 20:22:02.2±0.9, 23.60S×174.76W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/21, mbtmp4.2/9, MS3.8/2, Ms1 3.8/2, ms1mx3.2/43, Error ellipse: s-maj=36.4km s-min=22.9km az=161.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.04**	**17**	Pn	Pn	20 24 22.1	-5.9
	4.0nm,0.3s,baz=247,slow=9.5,SNR=6.8						
AFI				Sn	Sn	20 26 08.2	-13
	4.7nm,0.3s,baz=27,slow=20,SNR=8.0						
RAR	**Rarotonga**	**14.06**	**83**	Pn	Pn	20 25 15.6	-7.2
	6.3nm,0.3s,baz=270,slow=6.8,SNR=10						
RAR				LR	LR	20 28 58.5	
	comp=Z,347nm,18.2s,baz=273,slow=30						
PPT	**Papeete**	**24.31**	**80**	LR	LR	20 33 24.4	
	comp=Z,281nm,20.2s,baz=186,slow=28						
PMG	**Port Moresby**	**39.00**	**285**	P	P	20 29 30.6	-0.2
	25nm,1.0s,baz=116,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**46.81**	**259**	P	P	20 30 34.1	0.0
	3.0nm,1.0s,baz=93,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**47.22**	**264**	P	P	20 30 35.9	-1.4
	2.3nm,0.8s,baz=96,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**55.64**	**264**	P	P	20 31 40.9	+0.5
	2.3nm,0.9s,baz=96,slow=5.5,SNR=4.5						
QSPA	**South Pole Qui**	**66.48**	**180**	P	P	20 32 53.6	+0.1
	2.9nm,1.0s,baz=32,slow=4.4,SNR=5.4						
TXAR	**Lajitas Array**	**86.24**	**56**	P	P	20 34 46.3	+0.2
	1.0nm,0.8s,baz=216,slow=8.1,SNR=13						
ANMO	**Albuquerque**	**87.04**	**50**	LR	LR	21 06 03.6	
	comp=Z,3µm,21.6s,baz=301,slow=30						
ILAR	**Eielson Array**	**90.70**	**12**	P	P	20 35 05.8	-0.5
	0.6nm,0.8s,baz=211,slow=6.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**93.96**	**288**	P	P	20 35 23.9	+1.4
	2.2nm,1.1s,baz=120,slow=3.3,SNR=13						
YKA	**Yellowknife Ar**	**98.08**	**24**	P	P	20 35 39.8	-0.4
	0.1nm,0.3s,baz=242,slow=4.7,SNR=5.0						
AKASG	**Malin Array Be**	**147.17**	**332**	PKPbc	PKPbc	20 41 46.4	-0.8
	1.7nm,0.8s,baz=32,slow=3.1,SNR=4.5						
BRTR	**Keskin Array B**	**151.14**	**311**	PKPbc	PKPbc	20 41 57.3	-0.5
	0.8nm,0.8s,baz=143,slow=0.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**169.07**	**161**	PKP	PKPdf	20 42 10.8	-1.5
	0.6nm,1.0s,baz=252,slow=3.0,SNR=3.6						

ISCJB ***22*** *20:36:01.4±0.6,47.47N±0.05×107.0E±0.1,h10km, mb3.8/9, Error ellipse: s-maj=11.0km s-min=6.1km az=157.9*
IDC ***22*** *20:36:01.8±0.7,47.42N×106.84E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/28,mbtmp3.8/11,ML3.2/2, Error ellipse: s-maj=22.0km s-min=7.9km az=57.0*
MOS ***22*** *20:36:03.7±1.3,47.52N×106.73E,h26km,mb4.1/7, Error ellipse: s-maj=17.8km s-min=11.5km az=107.1*
BJI ***22*** *20:36:06.4,47.34N×106.52E,h16km,mB4.5/3,mb4.2/7, ML3.9/3,Ms3.8/1,Ms7 3.7/2*

ISC 22 20:36:03.9±0.7, 47.41N±0.06×106.78E±0.09, h10km, n37, σ1§13/33, mb3.9/9, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**0.50**	**329**	Pg	Pg	20 36 12.0	-1.6
	389nm,0.3s,baz=148,slow=17,SNR=5266						
SONM				Lg	Lg	20 36 18.5	
	1µm,0.3s,baz=153,slow=33,SNR=129						
ZAK	**Zakamensk**	**3.76**	**323**	*e*P	**Pn**	**20 37 00.9**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,102nm,0.7s						
KPC	**Khapcheranga**	**4.37**	**56**	*e*P	Pb	20 37 22.6	+1.8
KAB	**Kabansk**	**4.64**	**359**	*e*P	Pb	20 37 29.8	+4.4
TLY	**Talaya**	**4.73**	**336**	*e*P	**Pn**	**20 37 14.8**	**-0.5**
IRK	**Irkutsk**	**5.10**	**342**	*e*P	**Pb**	**20 37 34.4**	**+1.2**
IRK				pmax	pmax		
	comp=Z,43nm,0.3s						
MOY	**Mondy**	**5.68**	**321**	*e*P	**Pb**	**20 37 44.6**	**+1.5**
MOY				pmax	pmax		
	comp=Z,44nm,0.8s						
BTO	**Baotou**	**7.19**	**160**	*e*Pn	**Pn**	**20 37 49.6**	**+0.4**
BTO				Sn	**Sn**	**20 39 11.1**	**+0.1**
GTA	**Gaotai**	**9.46**	**215**	*e*P	**Pn**	**20 38 22.8**	**+2.5**
GTA				pP		20 38 26.9	
GTA				sP		20 38 30.1	
GTA				S	**Sn**	**20 40 03.8**	**-3.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GTA				pmax	pmax		
	comp=Z,89nm,4.7s						
GTA				LR	LR		
	comp=N,210nm,9.3s						
GTA				LR	LR		
	comp=E,260nm,6.9s						
GTA				LR	LR		
	comp=Z,280nm,9.0s						
ZALV	**Zalesovo Beam**	**15.34**	**303**	Lg	Lg	20 44 03.3	
	comp=Z,0.1nm,0.3s,baz=110,slow=25,SNR=5.7						
MKAR	**Makanchi Array**	**16.67**	**277**	Pn	**Pn**	**20 39 57.7**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=83,slow=15,SNR=7.1						
MKAR				Lg	Lg	20 44 46.0	
	comp=Z,0.0nm,0.3s,baz=82,slow=25,SNR=5.7						
MKAR	**Makanchi Array**	**16.67**	**277**	P	**Pn**	**20 39 57.7**	**+0.2**
KURK	**Kurchatov**	**18.70**	**291**	*e*P	**P**	**20 40 19.6**	**-2.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**18.75**	**290**	P	**P**	**20 40 21.6**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=90,slow=12,SNR=17						
LSA	**Lhasa**	**21.43**	**220**	P	**P**	**20 40 54.8**	**+2.3**
AAK	**Ala-Archa**	**23.21**	**270**	P	**P**	**20 41 11.0**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=81,slow=6.6,SNR=12						
AAK	**Ala-Archa**	**23.21**	**270**	P	**P**	**20 41 11.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TAPN	**Taplejung**	**24.99**	**223**	*e*P	**P**	**20 41 28.1**	**+0.1**
	comp=Z,17nm,0.8s						
GUN	**Gumba**	**25.41**	**227**	*e*P	**P**	**20 41 32.3**	**+0.4**
ODAN	**Odare**	**25.55**	**223**	*e*P	**P**	**20 41 33.0**	**-0.1**
	comp=Z,33nm,0.9s						
KKN	**Kakani**	**25.81**	**228**	*e*P	**P**	**20 41 35.8**	**+0.4**
	comp=Z,19nm,0.6s						
RAMN	**Ramite**	**25.85**	**225**	*e*P	**P**	**20 41 35.4**	**-0.4**
	comp=Z,10nm,0.7s						
PKI	**Pulchoki**	**25.92**	**228**	*e*P	**P**	**20 41 36.7**	**+0.2**
PKIN	**Phulchoki**	**25.92**	**228**	*e*P	**P**	**20 41 37.0**	**+0.5**
	comp=Z,6.7nm,0.7s						
GKN	**Gorkha**	**25.96**	**230**	*e*P	**P**	**20 41 36.9**	**+0.2**
DMN	**Daman**	**26.04**	**228**	*e*P	**P**	**20 41 38.5**	**+1.0**
	comp=Z,24nm,1.0s						
DANN	**Dangsing**	**26.14**	**231**	*e*P	**P**	**20 41 38.8**	**+0.3**
	comp=Z,9.6nm,0.8s						
KOLN	**Koldanda**	**26.69**	**231**	*e*P	**P**	**20 41 44.2**	**+0.9**
	comp=Z,10.0nm,0.8s						
PYUN	**Piuthan**	**26.75**	**232**	*e*P	**P**	**20 41 44.1**	**+0.2**
	comp=Z,27nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.58**	**195**	P	**P**	**20 42 09.5**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=358,slow=8.9,SNR=8.0						
FINES	**FINESS Array B**	**45.86**	**319**	P	**P**	**20 44 25.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=65,slow=8.3,SNR=10						
BRTR	**Keskin Array B**	**51.75**	**290**	P	**P**	**20 45 11.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=97,slow=5.1,SNR=6.0						
ILAR	**Eielson Array**	**54.46**	**30**	P	**P**	**20 45 31.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=302,slow=9.7,SNR=12						
YKA	**Yellowknife Ar**	**65.58**	**20**	P	P	20 46 46.1	-1.1
	comp=Z,0.2nm,0.5s,baz=332,slow=6.1,SNR=6.6						
FITZ	**Fitzroy Crossi**	**67.38**	**161**	P	**P**	**20 46 58.3**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=224,slow=2.6,SNR=5.3						
WRA	**Warramunga Arr**	**71.48**	**153**	P	P	20 47 23.6	-1.0
	comp=Z,1.1nm,0.7s,baz=344,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**74.86**	**154**	P	**P**	**20 47 44.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=349,slow=6.0,SNR=8.4						

IDC 22 20:36:20.4±3.7, 5.41S×151.71E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/17, mbtmp3.2/2, Error ellipse: s-maj=154.2km s-min=48.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.23**	**228**	P	P	20 41 19.0	0.0
	0.4nm,0.6s,baz=52,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**24.98**	**222**	P	P	20 41 46.0	0.0
	0.4nm,0.8s,baz=60,slow=8.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.46**	**287**	PKPbc	PKPbc	20 56 12.2	-0.5
	0.9nm,1.2s,baz=85,slow=4.6,SNR=3.3						

IDC 22 20:37:38.8±2.8, 11.55N×142.85E, h55km±27km, mb3.5/12, mb1 3.7/13, mb1mx3.6/28, mbtmp3.5/13, ML3.6/1, Error ellipse: s-maj=26.7km s-min=15.3km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.83**	**44**	P	Pn	20 38 19.7	-1.8
	9.2nm,0.3s,baz=181,slow=15,SNR=6.5						
GUMO				S	Sn	20 38 55.5	+1.1
	14nm,0.3s,baz=217,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**32.40**	**195**	P	P	20 44 03.4	-0.2
	1.0nm,0.8s,baz=18,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**36.08**	**194**	P	P	20 44 35.8	+0.3
	0.5nm,0.8s,baz=19,slow=12,SNR=7.2						
CMAR	**Chiang Mai Arr**	**42.87**	**285**	P	P	20 45 32.5	+0.3
	0.5nm,0.7s,baz=87,slow=6.0,SNR=4.6						
SONM	**Songino Array**	**47.30**	**327**	P	P	20 46 06.9	-0.2
	0.3nm,0.6s,baz=137,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	**61.60**	**317**	P	P	20 47 51.5	+0.7
	0.2nm,0.6s,baz=100,slow=8.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**64.92**	**321**	P	P	20 48 12.5	-0.1
	0.8nm,0.6s,baz=107,slow=6.3,SNR=8.0						
BVAR	**Borovoye Array**	**70.31**	**322**	P	P	20 48 45.9	-0.6
	0.6nm,0.3s,baz=102,slow=7.5,SNR=7.1						
ILAR	**Eielson Array**	**71.24**	**25**	P	P	20 48 51.3	-0.7
	0.8nm,0.6s,baz=249,slow=5.9,SNR=14						
YKA	**Yellowknife Ar**	**85.56**	**27**	P	P	20 50 11.2	+0.3
	0.3nm,0.6s,baz=287,slow=5.0,SNR=6.2						
RES	**Resolute Bay**	**86.97**	**13**	P	P	20 50 18.7	+1.1
	0.4nm,0.5s,baz=276,slow=3.7,SNR=6.6						
ARCES	**ARCESS Array B**	**88.40**	**342**	P	P	20 50 24.7	+0.1
	4.3nm,1.0s,baz=82,slow=8.9,SNR=8.4						
FINES	**FINESS Array B**	**92.15**	**335**	P	P	20 50 41.3	-1.0
	0.9nm,0.5s,baz=66,slow=6.5,SNR=8.5						

IDC 22 20:42:30.1±2.9, 19.40S×178.10W, h428km±29km, mb3.9/7, mb1 4.0/8, mb1mx3.5/23, mbtmp3.9/8, Error ellipse: s-maj=25.2km s-min=16.9km az=24.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.16**	**49**	P	P	20 44 19.0	-8.2
	11nm,0.3s,baz=52,slow=2.0,SNR=12						
AFI				S	S	20 45 55.1	-8.2
	8.9nm,0.3s,baz=255,slow=20,SNR=5.1						
URZ	**Urewera**	**19.25**	**192**	P	P	20 46 24.0	-1.8
	1.3nm,0.3s,baz=24,slow=2.0,SNR=6.6						
CTA	**Charters Tower**	**33.52**	**263**	P	P	20 48 32.9	+0.4
	9.6nm,0.5s,baz=101,slow=9.7,SNR=15						
STKA	**Stephens Creek**	**38.19**	**243**	P	P	20 49 12.2	+0.8
	4.9nm,0.5s,baz=92,slow=9.5,SNR=40						
WRA	**Warramunga Arr**	**44.67**	**261**	P	P	20 50 02.3	-1.0
	3.8nm,0.7s,baz=98,slow=7.4,SNR=58						
ASAR	**Alice Springs**	**44.69**	**256**	P	P	20 50 03.5	0.0
	44nm,0.6s,baz=92,slow=8.4,SNR=626						
ASAR				S	S	20 56 07.6	-0.2
	0.4nm,0.8s,baz=93,slow=14,SNR=6.5						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	P	20 51 06.2	-0.1
	6.5nm,0.6s,baz=98,slow=4.7,SNR=40						
QSPA	**South Pole Qui**	**70.66**	**180**	P	P	20 53 01.6	+0.6
	4.2nm,0.7s,baz=37,slow=1.4,SNR=26						
VNA3	**Neumayer Olymp**	**89.24**	**176**	*e*P	P	20 54 38.3	-0.4
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	P	20 54 41.8	+0.1
	0.9nm,0.8s,baz=108,slow=2.8,SNR=8.5						
VNA2	**Neumayer--Watz**	**89.68**	**177**	*e*P	P	20 54 41.1	+0.4
	baz=191,slow=4.6						
BRTR	**Keskin Array B**	**146.03**	**313**	PKPbc	PKPdf	21 01 20.1	+0.4
	0.5nm,0.6s,baz=116,slow=2.9,SNR=3.7						
GERES	**GERESS Array B**	**149.12**	**345**	PKPbc	PKPbc	21 01 27.9	-1.2
	0.4nm,0.8s,baz=335,slow=6.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**173.78**	**178**	PKPab	PKPab	21 03 23.0	+0.1
	0.3nm,0.7s,baz=189,slow=4.9,SNR=2.9						

IDC 22 20:58:13.4±2.4, 0.07S×132.70E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.2/21, mbtmp3.2/4, MS3.5/2, Ms1 3.5/2, ms1mx2.7/25, Error ellipse: s-maj=140.3km s-min=24.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.81**	**175**	P	P	21 02 45.6	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.48**	**177**	P	P	21 03 24.9	0.0
	0.3nm,0.5s,baz=357,slow=9.0,SNR=5.7						
ASAR				LR	LR	21 13 11.2	
	comp=Z,85nm,20.2s,baz=238,slow=38						
ASAJ	**Asahikawa**	**44.87**	**10**	LR	LR	21 22 17.2	
	comp=Z,72nm,21.4s,baz=94,slow=32						
MKAR	**Makanchi Array**	**64.09**	**324**	P	P	21 08 48.1	-1.3
	0.2nm,0.6s,baz=127,slow=6.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**68.17**	**326**	P	P	21 09 16.7	+1.2
	0.5nm,0.8s,baz=127,slow=6.2,SNR=5.2						

IDC ***22*** *21:00:34.6±1.9,2.72S×127.11E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/22,mbtmp3.4/4,ML3.8/1,Error ellipse: s-maj=107.8km s-min=25.7km az=69.0*
ISCJB ***22*** *21:00:44.2±0.8,3.03S±0.1×126.55E±0.08,h100km, mb3.3/2,Error ellipse: s-maj=15.3km s-min=10.8km az=20.6*
AUST ***22*** *21:00:46.0±0.0,2.82S×126.56E,h104km,Error ellipse: s-maj=1.7km s-min=1.0km az=19.0*

ISC 22 21:00:46.1±0.9, 3.03S±0.1×126.57E±0.10, h100km, n11, σ1§41/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.78**	**114**	P	**Pn**	**21 01 14.5**	**-1.4**
	baz=1.8,SNR=3.7						
SWI	**Sorong**	**5.13**	**66**	P	**Pn**	**21 02 00.1**	**-0.5**
	baz=5.1,SNR=7.1						
PCI	**Palu**	**7.03**	**287**	P	**Pn**	**21 02 26.4**	**+0.1**
	baz=7.0,SNR=4.4						
PCI				S	Sn	21 03 53.4	+8.6
	baz=7.0,SNR=9.6						
MTN	**Manton Dam**	**10.82**	**156**	P	Pn	21 03 22.8	+4.8
	baz=11,SNR=3.5						
FITZ	**Fitzroy Crossi**	**15.08**	**183**	Pn	**Pn**	**21 04 14.4**	**+0.5**
	0.3nm,0.3s,baz=357,slow=7.3,SNR=11						
FITZ	**Fitzroy Crossi**	**15.08**	**183**	P	**Pn**	**21 04 15.0**	**+1.0**
	baz=15,SNR=5.0						
WRA	**Warramunga Arr**	**18.51**	**156**	P	P	**21 04 53.8**	**-1.0**
	0.1nm,0.3s,baz=336,slow=13,SNR=8.5						
LEM	**Lembang**	**19.26**	**258**	P	**P**	**21 05 01.6**	**-1.6**
	baz=19,SNR=6.9						
COEN	**Coen**	**19.71**	**125**	P	**P**	**21 05 08.9**	**+1.0**
	baz=20,SNR=6.8						
ASAR	**Alice Springs**	**21.78**	**162**	P	**P**	**21 05 28.9**	**-1.2**
	1.3nm,0.7s,baz=341,slow=9.2,SNR=6.2						
ASAR				S	**S**	**21 09 27.6**	**+2.3**
	1.8nm,1.0s,baz=344,slow=20,SNR=12						
MKAR	**Makanchi Array**	**62.99**	**327**	P	**P**	**21 11 03.4**	**+1.0**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=5.0						

IDC 22 21:49:36.2±1.9, 22.71S×174.98W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML2.3/1, Error ellipse: s-maj=76.8km s-min=25.2km az=148.0, Tonga Islands region

| Code | Station Name | Δ

LQP	Lukban	2.82	131	*e*P		Pn	21 51 22.2	+1.2	
CVP	Callao Caves	2.91	54	*e*P		Pn	21 51 21.7	-0.4	
PALP	Palanan	3.13	70‖	*e*P		Pn	21 51 28.0	+2.9	
PALP	Palanan	3.13	70	*e*P		Pn	21 51 28.2	+3.1	
PALP				*e*S		Sb	21 52 09.7	-1.0	
SGCP	Mt. Cagua	3.41	49	*e*P		Pn	21 51 27.0	-1.9	
GQP	Guinayangan	3.64	124‖	*e*P		Pb	21 51 43.1	+1.5	
SJMP	San Jose	3.91	154	*e*P		Pn	21 51 35.5	-0.3	
AUQP	San Andres	4.17	129	*e*P		Pn	21 51 45.1	+5.7	
OTRP	Odiongan	4.44	144	*e*P		Pn	21 51 44.3	+1.2	
CUYO	Cuyo Island	5.36	162	*e*P		Pn	21 51 53.9	-1.9	
TWG	Pinlang	6.98	13	*e*Pn		Pn	21 52 16.7	-1.4	
TWG				*e*Sn		Sn	21 53 31.1	-5.3	
BATP	Bataraza	7.31	192	*e*P		Pn	21 52 22.8	+0.1	
YULB	Yu-li	7.58	14	*e*Pn		Pn	21 52 26.3	0.0	
YULB				*e*Sn		Sn	21 53 48.3	-2.9	
SSLB	Suanglung	7.90	11	*e*Pn		Pn	21 52 30.3	-0.4	
SSLB				Sn		Sn	21 53 55.3	-3.6	
QIZ	Qiongzhong	9.57	290	P		Pn	21 52 53.1	-0.5	
QIZ				S		Sn	21 54 40.3	+0.3	
QIZ				pmax	pmax				
	comp=Z,11nm,1.6s								
QIZ				LR	LR				
	comp=N,400nm,11.8s								
QIZ				LR	LR				
	comp=E,290nm,17.0s								
QIZ				LR	LR				
	comp=Z,760nm,15.4s								
DAV	Davao City (W)	10.76	145	LR	LR		21 58 45.5		
	comp=Z,362nm,18.3s,baz=359,slow=46								
JOW	Kunigami	13.60	36	LR	LR		21 59 25.3		
	comp=Z,89nm,19.4s,baz=83,slow=39								
GYA	Guiyang	15.75	313	*e*P		Pn	21 54 17.4	-0.3	
GYA				pP		pP	21 54 25.8	-4.0	
GYA				S		Sn	21 57 11.0	-0.3	
GYA				SS		S	21 57 29.9	+4.6	
GYA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
GYA				LR	LR				
	comp=N,460nm,15.9s								
GYA				LR	LR				
	comp=E,380nm,17.0s								
GYA				LR	LR				
	comp=Z,450nm,16.6s								
KSM	Kuching	16.96	213	*e*Pn		P	21 54 34.5	-0.2	
	comp=Z,16nm,1.3s								
KSM				Sn		Sn	21 57 42.7	+2.0	
KMI	Kunming	18.00	303	P		P	21 54 47.1	+0.7	
KMI				pP		pP	21 54 55.3	+0.4	
KMI				sP		sP	21 55 00.0	+0.9	
KMI				PP		PnPn	21 55 02.6	+5.2	
KMI				S		Sn	21 58 02.9	-3.2	
KMI				sS		S	21 58 15.8	+4.3	
KMI				SS		SnSn	21 58 23.8	+3.9	
KMI				pmax	pmax				
	comp=Z,190nm,8.4s								
KMI				LR	LR				
	comp=N,410nm,10.9s								
KMI				LR	LR				
	comp=E,320nm,12.1s								
KMI				LR	LR				
	comp=Z,340nm,10.9s								
CMAR	Chiang Mai Arr	19.65	280	P		Pn	21 55 04.5	-1.3	
	comp=Z,0.1nm,0.3s,baz=92,slow=8.2,SNR=19								
CMAR				LR	LR		22 02 50.0		
	comp=Z,314nm,19.1s,baz=127,slow=37								
CMAR				ScP		ScP	22 03 02.2	+5.3	
	comp=Z,0.2nm,0.3s,baz=148,slow=1.5,SNR=4.5								
CMAR	Chiang Mai Arr	19.65	280	P		Pn	21 55 04.5	-1.3	
CMAR				ScP		ScP	22 03 02.2	+5.3	
CHTO	Chiang Mai	19.68	281	*e*P		Pn	21 55 06.2	0.0	
CHTO				pmax	pmax				
	comp=Z,9.0nm,1.5s								
CHTO	Chiang Mai	19.68	281	*e*P		Pn	21 55 06.2	0.0	
	comp=Z,9.4nm,1.5s								
JNU	Nakatsue	19.99	29	P		P	21 55 06.8	-1.0	
	comp=Z,0.3nm,0.3s,baz=179,slow=2.7,SNR=5.2								
JNU				LR	LR		22 02 02.4		
	comp=Z,112nm,21.4s,baz=221,slow=35								
JNU	Nakatsue	19.99	29	P		P	21 55 06.8	-1.0	
JNU				*e*Pn		Pn	21 55 08.7	-1.0	
CD2	Chengdu	20.58	319	P		Pn	21 55 16.5	-0.3	
CD2				pP		pP	21 55 25.8	+2.8	
CD2				sP		sP	21 55 30.3	+3.1	
CD2				PP		PnPn	21 55 37.9	+5.3	
CD2				S		S	21 58 59.0	-3.9	
CD2				sS		sS	21 59 13.1	-3.6	
CD2				SS		SnSn	21 59 29.9	+6.8	
CD2				pmax	pmax				
	comp=Z,20nm,0.6s								
CD2				pmax	pmax				
	comp=Z,190nm,6.5s								
CD2				LR	LR				
	comp=N,1μm,13.1s								
CD2				LR	LR				
	comp=Z,550nm,13.1s								
KAPI	Kappang	20.88	179	*e*P		P	21 55 17.5	-0.1	
	comp=Z,30nm,1.1s								
KULM	Kulim	21.22	242	*e*P		P	21 55 22.8	+1.5	
	comp=Z,14nm,1.2s								
IPM	Ipoh	21.34	240	*e*P		P	21 55 22.9	+0.3	
	comp=Z,7.1nm,0.7s								
KSAR	Wonju Array Be	22.66	18	P		P	21 55 36.1	-0.4	
KSRS	Korea Array	22.68	18	P		P	21 55 36.1	-0.6	
	comp=Z,0.6nm,0.3s,baz=79,slow=26,SNR=4.9								
KSRS				LR	LR		22 05 02.7		
	comp=Z,75nm,19.9s,baz=15,slow=38								
PSI	Prapat	24.01	239	P		P	21 55 49.8	-0.4	
	comp=Z,8.9nm,0.8s,baz=11,slow=6.0,SNR=7.5								
PSI				LR	LR		22 04 16.4		
	comp=Z,124nm,18.3s,baz=206,slow=34								
PSI	Prapat	24.01	239	P		P	21 55 49.8	-0.4	
LZH	Lanzhou	24.32	328	*e*P		P	21 55 53.4	+0.4	
LZH				pP		pP	21 56 01.4	-1.0	
LZH				sP		sP	21 56 06.1	-0.2	
LZH				PP		PnPn	21 56 28.6	+4.8	
LZH				S		S	22 00 07.3	-2.9	
LZH				sS		sS	22 00 23.0	-2.6	
LZH				pmax	pmax				
	comp=Z,23nm,1.2s								
LZH				pmax	pmax				
	comp=Z,61nm,5.2s								
LZH				LR	LR				
	comp=N,870nm,12.7s								
LZH				LR	LR				
	comp=E,920nm,13.0s								
LZH				LR	LR				
	comp=Z,1μm,14.6s								
GUMO	Guam	24.78	92	LR	LR		22 04 05.3		
	comp=Z,97nm,18.6s,baz=285,slow=33								
HHC	Hu-ho-hao-te	25.67	346	*e*P		P	21 56 05.6	+0.5	
HHC				pP		pP	21 56 16.1	+1.6	
HHC				sP		sP	21 56 20.3	+1.9	
HHC				PP		PnPn	21 56 46.8	+4.6	
HHC				S		S	22 00 32.0	+0.4	
HHC				sS		sS	22 00 45.6	-1.5	
HHC				SS		SnSn	22 01 34.4	+6.7	
HHC				pmax	pmax				
	comp=Z,16nm,0.6s								
HHC				pmax	pmax				
	comp=Z,130nm,6.7s								
HHC				LR	LR				
	comp=N,270nm,10.6s								
HHC				LR	LR				
	comp=E,380nm,14.7s								
HHC				LR	LR				
	comp=Z,210nm,19.4s								
CN2	Changchun	28.20	9	*e*P		P	21 56 30.8	+3.2	
CN2				*e*pP		pP	21 56 40.1	+3.1	
CN2				*e*S		S	22 01 12.5	+1.4	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				LR	LR				
	comp=N,300nm,14.0s								
CN2				LR	LR				
	comp=E,400nm,14.0s								
CN2				LR	LR				
	comp=Z,500nm,17.0s								
GTA	Gaotai	28.92	328	*e*P		P	21 56 34.5	+0.2	
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
LSA	Lhasa	29.26	303	*e*P		P	21 56 37.5	-0.3	
LSA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
LSA	Lhasa	29.26	303	*e*P		P	21 56 37.5	-0.3	
	comp=Z,4.0nm,0.8s								
MDJ	Mudanjiang	29.82	15	P		P	21 56 42.8	+0.8	
MDJ				pP		pP	21 56 51.4	0.0	
MDJ				sP		sP	21 56 55.1	-0.3	
MDJ				S		S	22 01 37.9	+1.3	
MDJ				sS		sS	22 01 52.9	+0.8	
MDJ				ScP		ScP	22 03 25.3	+0.6	
MDJ				PcS		PcS	22 03 29.0	+0.9	
MDJ				pmax	pmax				
	comp=Z,9.0nm,2.3s								
MDJ				pmax	pmax				
	comp=Z,110nm,3.7s								
MDJ				LR	LR				
	comp=N,43nm,19.4s								
MDJ				LR	LR				
	comp=E,58nm,17.6s								
MDJ				LR	LR				
	comp=Z,79nm,18.8s								
TAPN	Taplejung	31.42	296	*e*P		P	21 56 56.2	-0.6	
ODAN	Odare	31.58	295	*e*P		P	21 56 57.4	-0.7	
	comp=Z,17nm,0.9s								
RAMN	Ramite	32.28	295	*e*P		P	21 57 03.6	-0.7	
JIRN	Jiri	32.80	296	*e*P		P	21 57 09.1	+0.1	
GUN	Gumba	33.13	297	*e*P		P	21 57 11.3	-0.5	
	comp=Z,14nm,0.7s								
ULN	Ulaanbaatar	33.36	345	*e*P		P	21 57 12.8	-0.6	
	comp=Z,3.7nm,0.9s								
PKI	Pulchoki	33.46	296	*e*P		P	21 57 13.3	-1.4	
SONM	Songino Array	33.51	344	P		P	21 57 13.6	-1.0	
	comp=Z,3.7nm,0.9s,baz=159,slow=8.3,SNR=18								
SONM	Songino Array	33.51	344	P		P	21 57 13.6	-1.0	
KKN	Kakani	33.62	296	*e*P		P	21 57 15.6	-0.3	
DMN	Daman	33.73	296	*e*P		P	21 57 15.9	-1.0	
GKN	Gorkha	34.22	296	*e*P		P	21 57 19.7	-1.4	
ASAJ	Asahikawa	34.26	30	LR	LR		22 09 46.2		
	comp=Z,94nm,20.6s,baz=143,slow=34								
FITZ	Fitzroy Crossi	34.44	169	P		P	21 57 19.7	-3.1	
	comp=Z,3.1nm,1.0s,baz=69,slow=7.7,SNR=4.8								
FITZ	Fitzroy Crossi	34.44	169	P		P	21 57 19.7	-3.1	
DANN	Dangsing	35.05	297	*e*P		P	21 57 27.3	-1.1	
	comp=Z,17nm,0.8s								
KOLN	Koldanda	35.06	296	*e*P		P	21 57 27.2	-1.3	
PYUN	Piuthan	35.66	296	*e*P		P	21 57 33.0	-0.6	
	comp=Z,21nm,0.8s								
ZAK	Zakamensk	36.68	343	*e*P		P	21 57 40.9	-0.9	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
TLY	Talaya	37.75	344	*e*P		P	21 57 51.3	+0.5	
TLY				pmax	pmax				
	comp=Z,3.0nm,1.1s								
TLY				MLR	MLR				
	comp=Z,83nm,15.0s								
TLY	Talaya	37.75	344	*e*P		P	21 57 51.9	+1.1	
WRAB	Tennant Creek	38.62	157	*e*P		P	21 57 55.1	-3.4	
WRAB				pmax	pmax				
	comp=Z,8.0nm,0.7s								
WRAB	Tennant Creek	38.62	157	*e*P		P	21 57 55.1	-3.4	
	comp=Z,8.0nm,0.7s								
WRA	Warramunga Arr	38.63	157	P		P	21 57 55.5	-3.0	
	comp=Z,8.9nm,0.7s,baz=338,slow=9.4,SNR=100								
WRA				PcP		PcP	22 00 09.8	-0.7	
	comp=Z,0.9nm,0.6s,baz=339,slow=3.3,SNR=5.0								
WRA	Warramunga Arr	38.63	157	P		P	21 57 55.5	-3.0	
WRA				PcP		PcP	22 00 09.8	-0.7	
AS31	Alice Springs	41.90	160	*e*P		P	21 58 23.4	-2.2	
ASAR	Alice Springs	41.90	160	P		P	21 58 23.4	-2.3	
	comp=Z,9.0nm,0.6s,baz=340,slow=6.9,SNR=110								
ASAR				PcP		PcP	22 00 20.4	-0.6	
	comp=Z,0.9nm,0.7s,baz=357,slow=1.6,SNR=4.5								
ASAR	Alice Springs	41.90	160	P		P	21 58 23.4	-2.3	
ASAR				PcP		PcP	22 00 20.4	-0.6	
MK31	Makanchi Array	43.43	323	*e*P		P	21 58 37.0	-0.8	
MK31	Makanchi Array	43.43	323	*e*P		P	21 58 37.0	-0.8	
MKAR	Makanchi Array	43.43	323	P		P	21 58 36.9	-1.0	
	comp=Z,1.0nm,0.7s,baz=120,slow=8.5,SNR=14								
MKAR				PcP		PcP	22 00 25.8	0.0	
	comp=Z,0.9nm,0.7s,baz=114,slow=5.5,SNR=3.9								
MKAR				LR	LR		22 15 51.7		
	comp=Z,83nm,18.6s,baz=343,slow=35								
MKAR	Makanchi Array	43.43	323	*e*P		P	21 58 37.6	-0.2	
MKAR							22 00 25.8		
MKAR	Makanchi Array	43.43	323	*e*P		P	21 58 37.6	-0.2	
MKAR				PcP		PcP	22 00 25.8	0.0	
ZAA0	Zalesovo Array	46.44	332	*e*P		P	21 59 00.5	-1.0	
ZALV	Zalesovo Beam	46.44	332	P		P	21 59 00.5	-1.1	
	comp=Z,2.1nm,0.8s,baz=134,slow=6.4,SNR=8.4								
ZALV	Zalesovo Beam	46.44	332	P		P	21 59 00.5	-1.1	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ZALV	Zalesovo Beam	46.44	332	P		P	21 59 00.5	-1.1	
AAK	Ala-Archa	46.54	314	*e*P		P	21 59 03.2	+0.4	
AAK				pmax	pmax				
	comp=Z,11nm,1.7s								
EKS2	Erkin-Say	47.04	314	*e*P		P	21 59 12.2	+5.5	
EKS2				pmax	pmax				
	comp=Z,10.0nm,1.5s								
EKS2	Erkin-Say	47.04	314	*e*P		P	21 59 12.2	+5.5	
	comp=Z,10.0nm,1.5s								
KURK	Kurchatov	47.57	326	*e*P		P	21 59 10.1	-0.4	
KURK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KURK	Kurchatov	47.57	326	*e*P		P	21 59 10.1	-0.4	
	comp=Z,9.9nm,1.0s								
PETK	Petropavlovsk-	47.68	30	P		P	21 59 10.1	-1.2	
	comp=Z,9.0nm,0.7s,baz=208,slow=6.8,SNR=9.8								
PETK	Petropavlovsk-	47.68	30	P		P	21 59 10.1	-1.2	
PETK				pmax	pmax				
	comp=Z,9.0nm,0.7s								
PETK	Petropavlovsk-	47.68	30	P		P	21 59 10.1	-1.2	
KBL	Kabul	48.58	302	*e*P		P	21 59 18.8	-0.1	
KBL				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KBL	Kabul	48.58	302	*e*P		P	21 59 18.8	-0.1	
	comp=Z,4.7nm,1.1s								
KKAR	Karatay Array	49.46	313	*e*P		P	21 59 24.8	-0.4	
KKAR	Karatay Array	49.46	313	*e*P		P	21 59 24.8	-0.4	
STKA	Stephens Creek	52.16	156	P		P	21 59 42.1	-3.4	
	comp=Z,4.0nm,0.8s,baz=22,slow=6.7,SNR=6.6								
STKA	Stephens Creek	52.16	156	P		P	21 59 42.1	-3.4	
BRVK	Borovoye	53.23	325	‖*i*P		P	21 59 52.9	-0.4	
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BRVK	Borovoye	53.23	325	*e*P		P	21 59 52.2	-1.0	
	comp=Z,6.2nm,1.1s								
ABKAR	Akbulak array	58.16	318	*e*P		P	22 00 28.1	-0.6	
AKTO	Aktyubinsk	59.64	319	P		P	22 00 38.0	-0.9	
	comp=Z,2.6nm,0.7s,baz=102,slow=9.8,SNR=12								
AKTO				LR	LR		22 27 56.2		
	comp=Z,72nm,19.7s,baz=356,slow=38								
AKTO	Aktyubinsk	59.64	319	P		P	22 00 38.0	-0.9	
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.7s								
AKTO				MLR	MLR				
	comp=Z,72nm,19.7s								
AKTO	Aktyubinsk	59.64	319	P		P	22 00 38.0	-0.9	
SVE	Sverdlovsk	59.78	327	‖*i*P		P	22 00 39.6	-0.2	
SVE				pmax	pmax				
	comp=Z,13nm,0.9s								
BILL	Bilibino	59.94	19	*e*P		P	22 00 39.3	-1.4	
BILL				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ARU	Arti	60.77	326	*d i*P		P	22 00 44.8	-1.7	
ARU							22 02 56.7		
ARU				S		S	22 09 01.7	+0.3	
ARU				SS		SS	22 13 01.7	+1.4	
ARU				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ARU	Arti	60.77	326	*e*P		P	22 00 45.0	-1.6	
	comp=Z,5.0nm,0.6s								
RAYN	Ar Rayn	69.26	289	*e*P		P	22 01 42.7	+0.2	
	comp=Z,10nm,0.9s								
KBZ	Khabaz	69.40	311	P		P	22 01 42.9	+0.1	
	comp=Z,4.7nm,1.0s,baz=171,slow=5.7,SNR=8.3								
KBZ	Khabaz	69.40	311	P		P	22 01 42.9	+0.1	
KBZ				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KBZ	Khabaz	69.40	311	P		P	22 01 42.9	+0.1	
KIV	Kislovodsk	69.54	311	*e*P		P	22 01 43.5	-0.4	
KIV				pmax	pmax				
	comp=Z,12nm,1.0s								
KIV				MLR	MLR				
	comp=Z,72nm,19.0s								
KIV	Kislovodsk	69.54	311	*e*P		P	22 01 44.2	+0.4	
	comp=Z,9.8nm,0.8s								
JOF	Joensuu	75.02	332	*e*P		P	22 02 13.8	-2.3	
JOF				pmax	pmax				
	comp=Z,2.0nm,0.7s								
JOF	Joensuu	75.02	332	*ep*		P	22 02 13.8	-2.3	
	comp=Z,2.0nm,0.7s								
ARCES	ARCESS Array B	76.49	339	P		P	22 02 23.4	-1.0	
	comp=Z,4.1nm,0.8s,baz=81,slow=7.5,SNR=7.0								
ARCES	ARCESS Array B	76.49	339	P		P	22 02 23.4	-1.0	
ILAR	Eielson Array	77.27	26	P		P	22 02 25.7	-3.2	
	comp=Z,0.4nm,0.6s,baz=244,slow=4.9,SNR=7.1								
ILAR	Eielson Array	77.27	26	P		P	22 02 25.7	-3.2	
KAF	Kangasniemi	77.43	331	*e*P		P	22 02 27.3	-2.5	
KAF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KAF	Kangasniemi	77.43	331	*ep*		P	22 02 27.3	-2.5	
	comp=Z,2.6nm,0.7s								
FINES	FINESS Array B	77.66	331	P		P	22 02 30.0	-1.1	
	comp=Z,1.6nm,0.6s,baz=47,slow=5.2,SNR=16								
FINES	FINESS Array B	77.66	331	P		P	22 02 30.0	-1.1	
AKASG	Malin Array Be	77.88	319	P		P	22 02 31.5	-1.1	
	comp=Z,0.8nm,0.6s,baz=67,slow=5.8,SNR=5.5								
AKASG	Malin Array Be	77.88	319	P		P	22 02 31.5	-1.1	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	Malin Array Be	77.88	319	P		P	22 02 31.5	-1.1	
BUR08	Bucovina Ar. S	81.11	317	*e*P		P	22 02 49.7	-0.6	
NOA	NORSAR Array B	84.64	332	LR	LR		22 47 26.2		
	comp=Z,44nm,19.0s,baz=55,slow=40								
VYHS	Vyhne	84.97	319	*e*P		P	22 03 10.4	+0.2	
VYHS				pmax	pmax				
	comp=Z,24nm,2.8s								
VYHS	Vyhne	84.97	319	*e*P		P	22 03 10.4	+0.2	
VYHS				*ep*P		pP	22 03 24.6	+4.1	
YKA	Yellowknife Ar	91.16	22	P		P	22 03 38.4	-1.1	
	comp=Z,0.3nm,0.5s,baz=314,slow=4.6,SNR=8.7								
YKA	Yellowknife Ar	91.16	22	P		P	22 03 38.4	-1.1	
AGMN	Agassiz Nation	108.71	24	*e*Pdif		Pdif	22 04 59.6	+0.7	
	comp=Z,5.1nm,0.3s								
PLCA	Paso Flores	153.89	163	PKPbc		PKPbc	22 10 34.6	+0.2	
	comp=Z,1.8nm,0.7s,baz=198,slow=3.4,SNR=6.9								
PLCA	Paso Flores	153.89	163	PKPbc		PKPbc	22 10 34.6	+0.2	

IDC 22 21:59:39.2±3.7, 2°.41N×128°.50E, h214km±37km, mb3.5/11, mb1 3.6/12, mb1mx3.5/22, mbtmp3.5/12, MS4.2/1, Ms1 4.2/1, ms1mx2.6/28, Error ellipse: s-maj=26.9km s-min=11.3km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	Kappang	11.44	230	P		Pn	22 02 17.1	+0.4
	1.1nm,0.3s,baz=53,slow=9.3,SNR=4.2							
WRA	Warramunga Arr	22.94	166	P		P	22 04 24.7	-0.3
	3.1nm,0.6s,baz=345,slow=10.0,SNR=31							
ASAR	Alice Springs	26.45	169	P		P	22 04 55.8	-0.9
	0.2nm,0.3s,baz=358,slow=7.6,SNR=4.1							
ASAR				PcP		PcP	22 08 16.9	+0.7
	0.3nm,0.4s,baz=0.5,slow=2.0,SNR=7.0							
JHJ	Hachijo jima 2	32.33	18	LR		LR	22 18 46.6	
	comp=Z,388nm,18.7s,baz=53,slow=36							
CMAR	Chiang Mai Arr	33.06	301	P		P	22 05 54.6	-0.4
	0.3nm,0.3s,baz=112,slow=6.5,SNR=4.3							
MJAR	Matsushiro Arr	35.13	14	P		P	22 06 11.4	-1.1
	2.2nm,0.8s,baz=183,slow=11,SNR=3.7							
STKA	Stephens Creek	36.30	161	P		P	22 06 23.0	+0.5
	1.7nm,0.3s,baz=334,slow=9.4,SNR=7.8							
USRK	Ussuriysk Arra	41.73	4	P		P	22 07 08.3	+1.1
	1.3nm,0.6s,baz=216,slow=5.7,SNR=3.4							
SONM	Songino Array	49.12	340	P		P	22 08 05.9	+0.6
	0.4nm,0.6s,baz=155,slow=6.8,SNR=6.1							
MKAR	Makanchi Array	59.64	325	P		P	22 09 21.2	+0.2
	0.7nm,0.4s,baz=113,slow=8.3,SNR=22							
ZALV	Zalesovo Beam	62.56	333	P		P	22 09 40.0	-0.4
	0.3nm,0.4s,baz=111,slow=7.9,SNR=3.2							
ARCES	ARCESS Array B	92.29	340	P		P	22 12 23.4	-1.3
	2.0nm,0.8s,baz=73,slow=5.6,SNR=5.6							
FINES	FINESS Array B	93.82	332	P		P	22 12 31.0	-0.9
	0.5nm,0.7s,baz=46,slow=4.0,SNR=4.3							
TORD	Torodi Ar. Bea	125.01	288	PKP		PKPdf	22 18 14.7	-0.4
	0.2nm,0.4s,baz=73,slow=1.6,SNR=5.9							

IDC 22 22:02:14.0±0.9, 34°.26N×141°.76E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.7/26, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=22.4km s-min=18.1km az=86.0
JMA 22 22:02:14.3±0.4, 34°.15N×141°.80E, h24km±3km, M3.2
ISCJB 22 22:02:16.7±1.2, 34°.22N±0°.05×141°.70E±0°.09, h35km±11km, mb3.6/7, Error ellipse: s-maj=11.9km s-min=7.6km az=174.3

ISC 22 22:02:16.3±2.6, 34°.19N±0°.05×141°.59E±0°.08, h16km±15km, n18, σ0°83/24, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	Boso 1	0.68	312	P		Pn	22 02 30.0	-0.8
BSO1				*e*S		Sn	22 02 41.3	+0.4
BSO3	Boso 3	1.08	305	P		Pn	22 02 36.4	-0.1
BSO4	Boso 4	1.30	308	P		Pb	22 02 40.1	-0.3
BSO4				*e*S		Sg	22 02 58.5	+0.1
CHOJ	Chosi	1.62	338	P		Pn	22 02 44.2	0.0
JHJ2	Mitsune	1.83	234	*e*S		Sb	22 03 11.2	-0.9
JHJ	Hachijo jima 2	1.85	235	Pn		Pb	22 02 49.9	+0.1
	39nm,0.3s,baz=60,slow=16,SNR=7.2							
JHJ				Sn		Sn	22 03 10.5	0.0
	54nm,0.3s,baz=51,slow=24,SNR=5.2							
JOD2	Odawara 2	2.32	298	P		Pn	22 02 53.6	-0.3
JOD2				*e*S		Sn	22 03 21.6	-0.5
MJAR	Matsushiro Arr	3.62	311	Pn		Pn	22 03 12.2

AAK	**Ala-Archa**	**3.14**	**342**	P	**Pn**	**22 36 51.2**	**+1.8**
	SNR=29						
TKM2	**Tokmak 2**	**3.27**	**357**	⇑Pn	**Pn**	**22 36 52.9**	**+1.8**
	25nm,0.9s						
TKM2				⇓Sn	**Sb**	**22 37 37.1**	**-0.7**
	50nm,0.6s						
TKM2	**Tokmak 2**	**3.27**	**357**	P	**Pn**	**22 36 53.0**	**+1.8**
	SNR=29						
EKS2	**Erkin-Say**	**3.37**	**334**	P	**Pn**	**22 36 54.5**	**+1.9**
	SNR=15						
CHMS	**Chumysh**	**3.44**	**347**	P	**Pn**	**22 36 55.0**	**+1.7**
	SNR=12						
KNDC	**Almaty**	**3.67**	**13**	⇑Pn	**Pn**	**22 36 58.3**	**+1.7**
	11nm,0.3s						
KNDC				⇑Sn	**Sb**	**22 37 49.9**	**+0.7**
USP	**Ospenovka**	**3.74**	**345**	P	**Pn**	**22 36 59.5**	**+1.9**
	SNR=8.1						
KK31	**Karatay Array**	**5.26**	**313**	⇑Pn	**Pn**	**22 37 17.9**	**-0.5**
	0.2nm,0.3s,baz=116,slow=11,SNR=12						
KK31				⇑Pg	**Pb**	**22 37 31.3**	**-0.8**
	1.0nm,0.5s,baz=126,slow=16,SNR=11						
KK31				⇓Lg	Lg	22 38 41.7	
	4.5nm,0.6s,baz=132,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**8.57**	**31**	Pn	**Pn**	**22 38 03.4**	**-0.4**
	0.1nm,0.3s,baz=114,slow=16,SNR=10						
MKAR				Lg	Lg	22 40 27.3	
	0.1nm,0.3s,baz=224,slow=27,SNR=2.6						
TORD	**Torodi Ar. Bea**	**69.53**	**270**	P	**P**	**22 47 06.7**	**-1.8**
	0.3nm,0.7s,baz=48,slow=5.3,SNR=3.9						
YKA	**Yellowknife Ar**	**77.86**	**5**	P	**P**	**22 47 58.3**	**+1.6**
	0.1nm,0.6s,baz=345,slow=4.7,SNR=4.7						

MAN ***22*** *22:47:08, 7.2*^{h}*4N×128.5*$^{\circ}$*8E, h0*^{km}*, mb4.3,ML3.1,MS2.9*

IDC 22 22:47:05.2±1.2, 3.3°0N×126.8°6E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/23, mbtmp4.0/7, MS3.0/3, Ms1 3.0/3, ms1mx2.8/38, 1C, Error ellipse: s-maj=72.5km s-min=16.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.28**	**323**	⇑*iP*	Pn	22 48 16.4	+4.7
PAGZ	**Pagadian**	**5.31**	**319**	*eP*	Pn	22 48 27.9	+2.1
PAGZ				*eS*	Sn	22 49 29.9	+2.1
MSLP	**Maasin**	**6.60**	**343**	*eP*	Pn	22 48 21.0	-23
KAPI	**Kappang**	**11.27**	**219**	LR	LR	22 52 59.1	
	comp=Z,50nm,21.9s,baz=281,slow=31						
GUMO	**Guam**	**20.27**	**60**	LR	LR	22 58 21.7	
	comp=Z,29nm,19.1s,baz=284,slow=33						
FITZ	**Fitzroy Crossi**	**21.80**	**160**	P	P	22 51 58.5	-0.5
	2.9nm,0.5s,baz=336,slow=2.3,SNR=5.6						
WRA	**Warramunga Arr**	**24.71**	**163**	P	P	22 52 28.2	-0.1
	13nm,0.8s,baz=344,slow=11,SNR=67						
PSI	**Prapat**	**27.91**	**269**	LR	LR	23 04 15.9	
	comp=Z,98nm,19.6s,baz=223,slow=37						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	22 52 59.5	+0.1
	0.8nm,0.4s,baz=338,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	P	22 53 24.8	+0.4
	0.3nm,0.3s,baz=118,slow=7.4,SNR=4.3						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	22 54 26.5	+0.1
	5.6nm,0.7s,baz=329,slow=8.3,SNR=20						
SONM	**Songino Array**	**47.27**	**341**	P	P	22 55 40.5	0.0
	0.5nm,0.6s,baz=158,slow=9.4,SNR=5.5						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	22 56 56.5	-0.4
	0.6nm,0.5s,baz=126,slow=6.9,SNR=17						

IDC 22 22:53:55.0±2.7, 21.2°52S×177.2°18W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=183.6km s-min=34.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**16.21**	**92**	LR	LR	23 02 13.3	
	comp=Z,131nm,19.6s,baz=271,slow=31						
ASAR	**Alice Springs**	**45.05**	**258**	P	P	23 02 12.1	-0.8
	0.3nm,0.5s,baz=97,slow=7.2,SNR=3.1						
WRA	**Warramunga Arr**	**45.23**	**263**	P	P	23 02 13.5	-0.9
	0.3nm,0.3s,baz=93,slow=8.5,SNR=26						
TXAR	**Lajitas Array**	**86.96**	**57**	P	P	23 06 41.0	-1.5
	0.2nm,0.8s,baz=231,slow=7.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**91.18**	**289**	P	P	23 07 03.8	+1.3
	0.7nm,0.3s,baz=126,slow=4.6,SNR=4.9						
BRTR	**Keskin Array B**	**148.09**	**312**	PKPbc	PKPbc	23 13 44.0	+0.9
	0.5nm,0.6s,baz=97,slow=2.6,SNR=2.5						

IDC 22 22:55:16.4±3.5, 5.9°3S×151.3°4E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.1/16, mbtmp3.1/2, Error ellipse: s-maj=146.5km s-min=48.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.62**	**228**	P	P	23 00 08.5	+0.2
	0.5nm,0.7s,baz=54,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**24.35**	**222**	P	P	23 00 36.3	0.0
	0.4nm,0.6s,baz=55,slow=9.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.25**	**286**	PKPbc	PKPbc	23 15 07.5	-0.6
	0.6nm,0.6s,baz=69,slow=2.8,SNR=10						

IDC 22 23:07:42.7±1.9, 19.2°81S×177.9°3W, h469km±21km, mb3.3/6, mb1 3.6/8, mb1mx3.3/21, mbtmp3.4/8, Error ellipse: s-maj=33.4km s-min=14.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.31**	**46**	P	P	23 09 42.9	+0.9
	7.1nm,0.3s,baz=219,slow=18,SNR=12						
AFI				S	S	23 11 18.1	-1.7
	14nm,0.3s,baz=15,slow=21,SNR=11						
URZ	**Urewera**	**18.88**	**192**	P	P	23 11 33.1	+0.4
	1.6nm,0.3s,baz=156,slow=17,SNR=6.2						
CTA	**Charters Tower**	**33.63**	**263**	P	P	23 13 44.2	+0.9
	3.8nm,0.4s,baz=84,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**44.74**	**256**	P	P	23 15 13.0	-0.5
	3.3nm,0.7s,baz=99,slow=7.6,SNR=36						
ASAR				PcP	PcP	23 16 44.9	-1.1
	0.8nm,0.5s,baz=105,slow=3.6,SNR=8.1						
WRA	**Warramunga Arr**	**44.76**	**261**	P	P	23 15 12.6	-1.1
	0.7nm,0.3s,baz=96,slow=7.6,SNR=52						
WRA				PcP	PcP	23 16 44.8	-1.3
	0.1nm,0.3s,baz=91,slow=3.2,SNR=5.1						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P	P	23 16 16.5	+0.2
	0.8nm,0.5s,baz=133,slow=18,SNR=5.7						
TXAR	**Lajitas Array**	**86.63**	**57**	P	P	23 19 36.9	+0.9
	0.3nm,0.7s,baz=212,slow=4.4,SNR=5.0						
VNA3	**Neumayer Olymp**	**88.82**	**176**	*eP*	P	23 19 41.8	-3.7
VNA2	**Neumayer--Watz**	**89.27**	**177**	*eP*	P	23 19 43.6	-3.9
	baz=208,slow=2.9						
CMAR	**Chiang Mai Arr**	**89.95**	**290**	P	P	23 19 53.1	+1.5
	0.9nm,0.6s,baz=124,slow=3.0,SNR=7.4						
MKAR	**Makanchi Array**	**110.77**	**314**	PKiKP	PKiKP	23 25 19.5	-2.0
	0.3nm,0.6s,baz=80,slow=1.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**113.58**	**317**	PKiKP	PKiKP	23 25 25.1	-1.7
	0.4nm,0.3s,baz=86,slow=1.5,SNR=4.0						
BVAR	**Borovoye Array**	**118.59**	**320**	PKP	PKPdf	23 25 34.9	-1.4
	0.8nm,0.5s,baz=0.0,slow=1.5,SNR=4.9						
FINES	**FINESS Array B**	**135.13**	**344**	PKP	PKPdf	23 26 09.1	+1.6
	0.4nm,0.5s,baz=68,slow=4.0,SNR=5.2						
AKASG	**Malin Array Be**	**142.44**	**332**	PKhKP	PKPpre	23 26 17.2	
	1.5nm,0.4s,baz=43,slow=4.1,SNR=8.5						
BRTR	**Keskin Array B**	**146.42**	**313**	PKPbc	PKPbc	23 26 30.4	-0.4
	1.2nm,0.6s,baz=142,slow=4.3,SNR=13						
MMAI	**Mount Meron Ar**	**147.53**	**301**	PKPbc	PKPbc	23 26 34.2	+0.3
	1.5nm,0.4s,baz=69,slow=7.2,SNR=8.3						
GERES	**GERESS Array B**	**149.56**	**345**	PKPbc	PKPbc	23 26 37.9	-0.6
	0.7nm,0.7s,baz=113,slow=3.0,SNR=6.0						

IDC 22 23:23:58.3±9.8, 15.4°44S×173.5°30W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/13, Error ellipse: s-maj=528.1km s-min=27.1km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.12**	**44**	Pn	Pn	23 24 33.8	-1.3
	40nm,0.3s,baz=248,slow=5.4,SNR=76						
AFI				Sn	Sn	23 24 53.8	-8.5
	63nm,0.3s,baz=146,slow=23,SNR=15						
URZ	**Urewera**	**24.25**	**199**	LR	LR	23 36 15.8	
	comp=Z,92nm,18.2s,baz=328,slow=30						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	23 32 53.6	-0.7
	0.2nm,0.7s,baz=90,slow=6.9,SNR=5.7						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	23 32 55.6	-0.6
	0.4nm,0.6s,baz=88,slow=8.5,SNR=5.1						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	PKPab	23 43 42.5	+0.5
	0.7nm,0.8s,baz=103,slow=2.4,SNR=3.8						

IDC 22 23:29:49.0±27.0, 18.5°1S×174.3°2W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/20, mbtmp4.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/38, Error ellipse: s-maj=535.7km s-min=148.7km az=88.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**26.52**	**286**	LR	LR	23 43 09.2	
	comp=Z,108nm,20.9s,baz=319,slow=30						
STKA	**Stephens Creek**	**41.77**	**243**	P	P	23 37 40.4	0.0
	1.5nm,0.5s,baz=83,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**48.34**	**259**	P	P	23 38 32.6	-0.1
	1.9nm,0.3s,baz=98,slow=7.1,SNR=136						
ASAR	**Alice Springs**	**48.37**	**255**	P	P	23 38 32.6	-0.3
	3.9nm,0.5s,baz=89,slow=8.0,SNR=54						
FITZ	**Fitzroy Crossi**	**56.76**	**260**	P	P	23 39 35.1	0.0
	2.0nm,0.6s,baz=88,slow=4.9,SNR=14						

AUST ***22*** *23:36:06.0±5.1, 3.5°1N×126.7°47E, h0km, Error ellipse: s-maj=1.6km s-min=1.1km az=287.0*

IDC ***22*** *23:36:06.3±0.8, 3.5°7N×126.5°1E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/23, mbtmp4.2/12, Error ellipse: s-maj=49.9km s-min=13.9km az=70.0*

ISCJB ***22*** *23:36:10.9±0.3, 3.6°9N±0.0°5×126.7°5E±0.0°8, h48km, mb4.4/25, Error ellipse: s-maj=11.8km s-min=5.5km az=155.9*

BJI ***22*** *23:36:10.7, 3.4°5N×126.7°0E, h47km, mB5.0/3, mb4.7/3*

NEIC ***22*** *23:36:10.6±1.3, 3.8°5N×127.2°2E, h37km±11km, mb4.5/11, Error ellipse: s-maj=16.7km s-min=5.8km az=71.0*

ISC 22 23:36:12.9±0.5, 3.7°1N±0.0°6×126.7°4E±0.1°0, h48km, n66, σ1°01/63, mb4.4/25, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.54**	**341**	*ePn*	**Pn**	**23 37 03.6**	**-1.8**
DAV				*eSn*	**Sn**	**23 37 45.0**	**-0.9**
CTBH	**Cotabato--PC H**	**4.28**	**325**	⇑*iP*	Pn	23 37 21.2	+5.5
SWI	**Sorong**	**6.40**	**135**	P	**Pn**	**23 37 45.4**	**+0.6**
	baz=6.5,SNR=8.6						
PALU	**Palau**	**8.50**	**65**	P	**Pn**	**23 38 14.0**	**+0.4**
	baz=8.8,SNR=3.3						
PALU				S	Sn	23 39 29.4	-19
	baz=8.8,SNR=3.6						
WSI	**Waingapu**	**14.76**	**206**	P	Pn	23 39 31.6	-7.2
	baz=14,SNR=5.7						
KSM	**Kuching**	**16.56**	**263**	*ePn*	**P**	**23 40 07.6**	**+3.7**
	12nm,1.2s						
MTN	**Manton Dam**	**17.01**	**165**	P	Pn	23 40 00.8	-6.8
	baz=17,SNR=5.4						
KDU	**Kakadu**	**17.25**	**161**	P	**Pn**	**23 40 09.2**	**-1.4**
	baz=17,SNR=6.2						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**23 40 58.4**	**-1.6**
	1.4nm,0.5s,baz=12,slow=10,SNR=5.8						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*eP*	**P**	**23 40 59.9**	**0.0**
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**23 41 00.3**	**+0.3**
	baz=22,SNR=8.5						
WRAB	**Tennant Creek**	**24.65**	**163**	*eP*	**P**	**23 41 28.0**	**-1.3**
	18nm,0.8s						
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**23 41 27.6**	**-1.7**
	18nm,0.8s,baz=343,slow=10,SNR=64						
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**23 41 27.6**	**-1.7**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**23 42 00.1**	**-0.3**
	1.1nm,0.3s,baz=336,slow=6.5,SNR=11						
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**23 42 00.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**23 42 23.6**	**-1.6**
	1.4nm,0.7s,baz=119,slow=7.9,SNR=9.1						
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**23 42 23.6**	**-1.6**
CHTO	**Chiang Mai**	**31.04**	**301**	*eP*	**P**	**23 42 27.2**	**+0.6**
	3.9nm,1.0s						
MEEK	**Meekatharra**	**31.17**	**194**	P	**P**	**23 42 27.8**	**+0.2**
	baz=31,SNR=3.7						
PATS	**Pohnpei**	**31.59**	**83**	S	S	23 48 01.7	+24
	baz=32,SNR=3.5						
KSAR	**Wonju Array Be**	**33.59**	**2**	P	**P**	**23 42 50.2**	**+1.6**
KSRS	**Korea Array**	**33.60**	**2**	P	**P**	**23 42 50.2**	**+1.5**
	1.0nm,0.4s,baz=181,slow=9.2,SNR=4.4						
BJI	**Beijing**	**37.41**	**347**	P	**P**	**23 43 23.0**	**+1.6**
BJI				*pmax*	*pmax*		
	comp=Z,26nm,0.7s						
BJI				*pmax*	*pmax*		
	comp=Z,92nm,4.0s						
NWAO	**Narrogin (SRO)**	**37.53**	**193**	P	**P**	**23 43 23.3**	**+0.9**
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**23 43 26.6**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=346,slow=8.0,SNR=18						
STKA	**Stephens Creek**	**38.10**	**159**	*eP*	**P**	**23 43 25.6**	**-1.8**
	comp=Z,9.3nm,2.1s						
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**23 43 27.1**	**-0.2**
	baz=38,SNR=13						
SHL	**Shillong**	**39.90**	**306**	*eP*	**P**	**23 43 44.0**	**+1.3**
TAPN	**Taplejung**	**44.04**	**306**	*eP*	**P**	**23 44 16.6**	**0.0**
ODAN	**Odare**	**44.09**	**306**	*eP*	**P**	**23 44 17.0**	**0.0**
RAMN	**Ramite**	**44.77**	**305**	*eP*	**P**	**23 44 22.9**	**+0.5**
JIRN	**Jiri**	**45.39**	**306**	*eP*	**P**	**23 44 27.6**	**+0.1**
GUN	**Gumba**	**45.75**	**306**	*eP*	**P**	**23 44 30.3**	**0.0**
PKI	**Pulchoki**	**45.99**	**305**	*eP*	**P**	**23 44 31.7**	**-0.5**
ULN	**Ulaanbaatar**	**47.14**	**342**	*eP*	**P**	**23 44 38.8**	**-1.9**
SONM	**Songino Array**	**47.32**	**341**	P	**P**	**23 44 42.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=157,slow=7.7,SNR=13						
SONM	**Songino Array**	**47.32**	**341**	P	**P**	**23 44 42.6**	**+0.5**
KOLN	**Koldanda**	**47.55**	**305**	*eP*	**P**	**23 44 44.0**	**-0.2**
	comp=Z,8.7nm,0.3s						
DANN	**Dangsing**	**47.64**	**306**	*eP*	**P**	**23 44 44.7**	**-0.3**
	comp=Z,12nm,0.4s						
PYUN	**Piuthan**	**48.17**	**305**	*eP*	**P**	**23 44 49.2**	**+0.2**
MK31	**Makanchi Array**	**57.58**	**325**	*eP*	**P**	**23 45 57.7**	**-0.2**
MKAR	**Makanchi Array**	**57.58**	**325**	P	**P**	**23 45 58.4**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=119,slow=7.0,SNR=50						
MKAR	**Makanchi Array**	**57.58**	**325**	*eP*	**P**	**23 45 57.6**	**-0.3**
TKM2	**Tokmak 2**	**59.77**	**319**	*eP*	**P**	**23 46 13.4**	**-0.1**
	comp=Z,2.5nm,0.9s						
AAK	**Ala-Archa**	**60.38**	**318**	*eP*	**P**	**23 46 17.6**	**0.0**
	comp=Z,3.9nm,0.6s						
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	**P**	**23 46 18.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=114,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	**P**	**23 46 18.7**	**0.0**
EKS2	**Erkin-Say**	**60.87**	**318**	*eP*	**P**	**23 46 21.2**	**+0.3**
	comp=Z,3.8nm,0.8s						
KBL	**Kabul**	**61.55**	**307**	*eP*	**P**	**23 46 25.9**	**+0.1**
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**61.77**	**328**	*eP*	**P**	**23 46 26.4**	**-0.2**
	comp=Z,10nm,0.7s						
KKAR	**Karatay Array**	**63.26**	**317**	*eP*	**P**	**23 46 37.6**	**+0.8**
BRVK	**Borovoye**	**67.42**	**327**	*eP*	**P**	**23 47 03.6**	**+0.2**
	comp=Z,7.3nm,1.0s						
ABKAR	**Akbulak array**	**72.17**	**321**	*eP*	**P**	**23 47 32.6**	**-0.2**
ARU	**Arti**	**74.96**	**328**	*eP*	**P**	**23 47 48.8**	**-0.2**
	comp=Z,6.4nm,1.2s						
RDF	**Al-Radifah**	**78.76**	**299**	*eP*	**P**	**23 48 10.3**	**-0.7**
RDF				*AMb*	*AMB*	23 48 11.8	
	comp=Z,51nm,1.5s						
MIB	**Mutribah**	**78.97**	**299**	*eP*	**P**	**23 48 11.1**	**-1.0**
MIB				*AMb*	*AMB*	23 48 14.5	
	comp=Z,15nm,0.8s						
NAY	**Al-Naaiem**	**79.04**	**299**	*eP*	**P**	**23 48 11.5**	**-1.0**
NAY				*AMb*	*AMB*	23 48 25.7	
	comp=Z,11nm,1.6s						
BRTR	**Keskin Array B**	**90.04**	**310**	P	**P**	**23 49 07.3**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=129,slow=6.5,SNR=5.4						
BRTR	**Keskin Array B**	**90.04**	**310**	P	**P**	**23 49 07.3**	**-0.7**
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**23 49 08.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=90,slow=7.3,SNR=12						
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**23 49 08.7**	**-0.5**
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**	**23 49 16.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=49,slow=3.5,SNR=4.8						
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**	**23 49 16.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP	**PKPdf**	**23 55 05.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=50,slow=1.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP	**PKPdf**	**23 55 05.2**	**+0.3**

MEX 23 00:09:33.3±1.5, 17.2°19N×94.9°1W, h136km±12km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.10**	**163**	*eP*	Pn	00 09 50.5	-1.2
CMIG				*iS*	Sn	00 10 03.1	-2.5
VHO	**Vista Hermosa**	**1.74**	**267**	*eP*	Pn	00 10 04.7	-0.1
VHO				*iS*	Sn	00 10 27.0	-1.9
TGIG		**1.76**	**103**	*eP*	Pn	00 10 04.2	-0.6
TGIG				*iS*	Sn	00 10 26.8	-2.2
HUIG	**Huatulco**	**1.82**	**219**	*eP*	Pn	00 10 03.3	-2.2
HUIG				*iS*	Sn	00 10 29.2	-0.8
TPIG	**Tehuac#an**	**2.64**	**298**	*eP*	Pn	00 10 15.3	-0.4
TPIG				*iS*	Sn	00 10 45.7	-2.7
CCIG	**Comitan**	**2.81**	**108**	*iP*	Pn	00 10 16.6	-1.3
CCIG				*iS*	Sn	00 10 49.5	-2.8
UTMO	**Huajuapan**	**2.83**	**284**	*iP*	Pn	00 10 17.8	-0.5
UTMO				*iS*	Sn	00 10 50.3	-2.6
PNIG	**Pinotepa**	**3.18**	**256**	*iP*	Pn	00 10 19.9	-2.6
PNIG				*iS*	Sn	00 10 57.9	-2.6

ISCJB ***23*** *00:14:12.2±0.3, 47.5°50S±0.0°05×99.9°1E±0.0°09, h11km, mb4.6/26, MS4.5/14, Error ellipse: s-maj=9.0km s-min=7.2km az=33.1*

BJI ***23*** *00:14:12.1, 47.5°50S×100.0°0E, h10km, mB5.1/2, mb4.6/6, Ms4.9/2, Ms7 4.7/2*

IDC ***23*** *00:14:12.7±0.5, 47.5°6S×99.9°2E, h0km, mb4.5/15, mb1 4.6/15, mb1mx4.5/20, mbtmp4.5/15, MS4.4/14, Ms1 4.4/14, ms1mx4.2/21, Error ellipse: s-maj=17.7km s-min=14.1km az=133.0*

NEIC ***23*** *00:14:14.2±0.2, 47.5°52S×99.9°7E, h10km, mb4.8/11, Error ellipse: s-maj=7.8km s-min=6.1km az=148.0*

GCMT ***23*** *00:14:18.4±0.2, 47.4°8S×99.7°9E, h19km±1km, MW5.1, Moment Tensor Solution. s45,c57; s75,c119; Moment tensor: Scale 10*^{16}*Nm; Mrr=0.87±.18; Mθθ 5.96±.18; Mϕϕ -5.10±.16; Mrθ 0.17±.34; Mrϕ 2.40±.13; Mθϕ 0.07±.31; Best double couple: M0 6.00000×10*^{16} *NP1: ϕ 123.00000°, δ 89.00000°, λ 1.00000°. NP2: ϕ 33.00000°, δ 89.00000°, λ 179.00000°. Principal axes: T 6.4600, Plg 1.0000°, Azm 348.0000°; N -0.8700, Plg 89.0000°, Azm 187.0000°; P -5.6000, Plg 0.0000°, Azm 78.0000°; Data Used: ll IU IC G.*

ISC 23 00:14:14.7±0.3, 47.5°52S±0.0°7×99.8°8E±0.0°8, h11km, n110, σ1°52/112, mb4.7/25, MS4.5/14, 2D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**19.63**	**167**	*eP*	**P**	**00 18 42.5**	**-0.3**
	103nm,1.6s						
NWAO	**Narrogin (SRO)**	**19.63**	**48**	LR	LR	00 24 21.9	
	comp=Z,874nm,21.5s,baz=216,slow=31						
MAW	**Mawson**	**27.56**	**210**	LR	LR	00 28 05.5	
	comp=Z,701nm,18.8s,baz=224,slow=30						
MBWA	**Marble Bar**	**30.81**	**38**	*eP*	**P**	**00 20 29.0**	**-1.4**
	15nm,1.0s						
BBOO	**Buckleboo**	**30.99**	**75**	*eP*	**P**	**00 20 30.9**	**-1.0**
	694nm,1.3s						
BBOO				*ePP*	**PP**	**00 21 41.3**	**-0.5**
TAU	**Tasmania Unive**	**33.32**	**100**	*eP*	**P**	**00 20 51.7**	**-0.6**
STKA	**Stephens Creek**	**35.23**	**79**	P	**P**	**00 21 07.8**	**-1.2**
	15nm,0.8s,baz=231,slow=6.5,SNR=30						
STKA				LR	LR	00 32 31.9	
	comp=Z,892nm,22.0s,baz=210,slow=31						
STKA	**Stephens Creek**	**35.23**	**79**	*eP*	**P**	**00 21 07.3**	**-1.6**
	2.4nm,0.6s						
ASAR	**Alice Springs**	**36.05**	**61**	P	**P**	**00 21 14.9**	**-1.1**
	6.7nm,1.0s,baz=216,slow=7.2,SNR=35						
ASAR				PcP	**PcP**	**00 23 47.0**	**+4.7**
	1.3nm,0.7s,baz=203,slow=1.9,SNR=7.4						
ASAR	**Alice Springs**	**36.05**	**61**	P	**P**	**00 21 14.9**	**-1.1**
ASAR				PcP	**PcP**	**00 23 47.0**	**+4.7**
AS31	**Alice Springs**	**36.05**	**61**	*eP*	**P**	**00 21 14.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**36.13**	**45**	*eP*	**P**	**00 21 15.8**	**-0.9**
	16nm,1.4s						
SYO	**Syowa Base**	**36.20**	**212**	‖*eP*	**P**	**00 21 15.5**	**-1.4**
SYO	**Syowa Base**	**36.20**	**212**	‖*ePnPn*	PnPn	00 22 37.7	-0.5
VNDA	**Vanda**	**38.10**	**162**	P	**P**	**00 21 32.7**	**-0.2**
	19nm,1.1s,baz=284,slow=9.0,SNR=39						
VNDA				LR	LR	00 35 51.7	
	comp=Z,1μm,19.0s,baz=292,slow=34						
VNDA	**Vanda**	**38.10**	**162**	*eP*	**P**	**00 21 32.4**	**-0.5**
	15nm,1.0s						
WRA	**Warramunga Arr**	**39.19**	**57**	P	**P**

	comp=Z,28nm,0.8s							
KOLN	**Kolodanda**	**76.37**	**345**	*e*P		**P**	**00 26 02.5**	**-1.4**
	comp=Z,10nm,0.8s							
PYUN	**Piuthan**	**76.80**	**345**	*e*P		**P**	**00 26 04.9**	**-1.4**
	comp=Z,42nm,1.1s							
DANN	**Dangsing**	**76.91**	**345**	*e*P		**P**	**00 26 05.5**	**-1.5**
	comp=Z,36nm,0.9s							
USHA	**Ushuaia**	**77.54**	**187**	LR		LR	00 58 30.7	
	comp=Z,713nm,21.5s,baz=209,slow=34							
AFI	**Afiamalu**	**78.77**	**98**	LR		LR	00 52 54.6	
	comp=Z,138nm,18.5s,baz=66,slow=30							
LZH	**Lanzhou**	**83.31**	**3**	*e*P		**P**	**00 26 44.1**	**+2.8**
LZH				pP		PcP	00 26 51.5	+5.8
LZH				sP		sP	00 26 53.9	+7.7
LZH				pmax		pmax		
	comp=Z,19nm,1.2s							
TBI	**Tubuai**	**85.98**	**120**	*e*LR		LR	00 54 03.9	
	comp=Z,204nm,30.5s							
KBL	**Kabul**	**86.25**	**335**	*e*P		**P**	**00 26 55.4**	**-0.8**
	comp=Z,11nm,0.8s							
KSRS	**Korea Array**	**88.23**	**22**	LR		LR	01 05 40.6	
	comp=Z,52nm,21.3s,baz=20,slow=35							
BJT	**Baijiatuan**	**88.36**	**12**	P		P	00 27 09.7	+3.7
PPT2	**Papeete2**	**90.34**	**117**	*e*LR		LR	00 56 06.3	
	comp=Z,220nm,24.2s							
PLCA	**Paso Flores**	**91.72**	**187**	P		**P**	**00 27 22.3**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=135,slow=5.7,SNR=2.7							
PLCA				LR		LR	01 07 09.8	
	comp=Z,340nm,20.1s,baz=169,slow=35							
PLCA	**Paso Flores**	**91.72**	**187**	P		**P**	**00 27 22.3**	**+0.1**
RKT	**Rikitea**	**94.14**	**131**	*e*T		T	02 11 53.0	
	comp=Z,3.3nm,0.3s							
SONM	**Songino Array**	**95.14**	**4**	P		**P**	**00 27 38.0**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=159,slow=2.8,SNR=3.8							
SONM	**Songino Array**	**95.14**	**4**	P		**P**	**00 27 38.0**	**+0.6**
MKAR	**Makanchi Array**	**95.18**	**348**	P		**P**	**00 27 37.8**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=164,slow=2.6,SNR=3.2							
MKAR	**Makanchi Array**	**95.18**	**348**	P		**P**	**00 27 37.8**	**+0.3**
USRK	**Ussuriysk Arra**	**95.62**	**23**	LR		LR	01 08 03.7	
	comp=Z,94nm,21.1s,baz=319,slow=34							
KURBB	**Kurchatov Arra**	**99.48**	**346**	P		**Pdif**	**00 27 55.3**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=185,slow=5.3,SNR=2.8							
KURK	**Kurchatov**	**99.56**	**346**	P		**Pdif**	**00 27 55.3**	**-1.8**
VYHS	**Vyhne**	**118.61**	**312**	PDIF		**Pdif**	**00 29 24.4**	**+2.5**
GERES	**GERESS Array B**	**121.48**	**309**	PKP		**PKPdf**	**00 33 08.2**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=204,slow=2.9,SNR=2.6							
GERES	**GERESS Array B**	**121.48**	**309**	PKP		**PKPdf**	**00 33 08.2**	**+0.8**
MBDF	**Montbardon**	**122.81**	**302**	*e*PKIKP		**PKPdf**	**00 33 14.3**	**+4.1**
	comp=Z,9.9nm,0.9s							
MBDF	**Montbardon**	**122.81**	**302**	*e*PKPdf		**PKPdf**	**00 33 14.3**	**+4.1**
LPG	**La Plagne**	**123.28**	**303**	*e*PKIKP		**PKPdf**	**00 33 14.1**	**+2.9**
LPG	**La Plagne**	**123.28**	**303**	*e*PKPdf		**PKPdf**	**00 33 14.1**	**+2.9**
LPL	**La Plagne**	**123.30**	**303**	*e*PKIKP		**PKPdf**	**00 33 13.8**	**+2.6**
LPL	**La Plagne**	**123.30**	**303**	*e*PKPdf		**PKPdf**	**00 33 13.8**	**+2.6**
ORIF	**Oris-en-Rattie**	**123.44**	**302**	*e*PKIKP		**PKPdf**	**00 33 12.4**	**+1.1**
ORIF	**Oris-en-Rattie**	**123.44**	**302**	*e*PKPdf		**PKPdf**	**00 33 12.4**	**+1.1**
FINES	**FINESS Array B**	**123.64**	**326**	PKP		**PKPdf**	**00 33 10.6**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=238,slow=18,SNR=3.1							
FINES	**FINESS Array B**	**123.64**	**326**	PKP		**PKPdf**	**00 33 10.7**	**-0.3**
EPF	**Esparros**	**125.61**	**297**	*e*PKIKP		**PKPdf**	**00 33 16.9**	**+1.4**
	comp=Z,27nm,1.4s							
EPF	**Esparros**	**125.61**	**297**	*e*PKPdf		**PKPdf**	**00 33 16.9**	**+1.4**
ESDC	**Sonseca Array**	**126.35**	**291**	PKP		**PKPdf**	**00 33 18.7**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=156,slow=1.6,SNR=3.8							
ESDC	**Sonseca Array**	**126.35**	**291**	PKP		**PKPdf**	**00 33 18.7**	**+1.7**
ILAR	**Eielson Array**	**141.16**	**39**	PKP		**PKPdf**	**00 33 48.2**	**+4.3**
	comp=Z,0.4nm,0.8s,baz=277,slow=2.9,SNR=4.5							
ILAR	**Eielson Array**	**141.16**	**39**	PKP		**PKPdf**	**00 33 48.2**	**+4.3**
DAWY	**Dawson**	**144.35**	**40**	*e*PKPdf		**PKPdf**	**00 33 49.5**	**-0.1**
INK	**Inuvik**	**146.39**	**33**	PKPbc		**PKPbc**	**00 33 54.4**	**+0.2**
	comp=Z,6.0nm,1.2s,baz=284,slow=3.1,SNR=8.8							
INK	**Inuvik**	**146.39**	**33**	PKPbc		**PKPbc**	**00 33 54.4**	**+0.2**
INK				*e*PKP		**PKPab**	**00 33 54.6**	**-0.4**
DLBC	**Dease Lake**	**148.75**	**51**	PKPbc		**PKPbc**	**00 34 01.3**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=277,slow=11,SNR=3.5							
DLBC	**Dease Lake**	**148.75**	**51**	PKPbc		**PKPbc**	**00 34 01.3**	**+0.2**
RES	**Resolute Bay**	**152.00**	**8**	PKPbc		**PKPbc**	**00 34 08.1**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=300,slow=1.8,SNR=8.4							
RES				PKPab		**PKPab**	**00 34 19.0**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=9.9,slow=3.6,SNR=6.7							
RES	**Resolute Bay**	**152.00**	**8**	*e*PKP		**PKPbc**	**00 34 08.0**	**-0.3**
RES				PKPab		**PKPab**	**00 34 19.0**	**+1.2**
TXAR	**Lajitas Array**	**154.28**	**127**	PKPbc		**PKPbc**	**00 34 13.0**	**-1.8**
	comp=Z,1.0nm,1.0s,baz=197,slow=2.6,SNR=3.5							
TXAR				PKPab		**PKPab**	**00 34 31.0**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=199,slow=7.0,SNR=7.5							
TXAR	**Lajitas Array**	**154.28**	**127**	PKPbc		**PKPbc**	**00 34 13.0**	**-1.8**
TXAR				PKPab		**PKPab**	**00 34 31.0**	**+2.2**
YKA	**Yellowknife Ar**	**155.59**	**40**	PKP		**PKPdf**	**00 34 06.9**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=289,slow=1.9,SNR=2.9							
YKA				PKPbc		PKPab	00 34 17.0	-16
	comp=Z,0.5nm,1.0s,baz=288,slow=1.6,SNR=6.1							
YKA				PKPab		PKPab	00 34 32.4	-0.9
	comp=Z,0.8nm,0.8s,baz=294,slow=2.8,SNR=6.5							
YKA	**Yellowknife Ar**	**155.59**	**40**	PKP		**PKPdf**	**00 34 06.9**	**-0.2**
YKA				PKPbc		PKPab	00 34 17.0	-16
YKA				PKPab		PKPab	00 34 32.4	-0.9
SRU	**San Rafael**	**156.45**	**100**	*e*PKPdf		**PKPdf**	**00 34 08.2**	**-1.2**
PDAR	**Pinedale Array**	**158.76**	**92**	PKP		**PKPdf**	**00 34 12.8**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=267,slow=8.9,SNR=3.4							
PDAR				PKPab		**PKPab**	**00 34 48.2**	**+0.3**
	comp=Z,1.8nm,1.1s,baz=333,slow=0.3,SNR=2.7							
PDAR	**Pinedale Array**	**158.76**	**92**	PKP		**PKPdf**	**00 34 12.8**	**+0.7**
PDAR				PKPab		**PKPab**	**00 34 48.2**	**+0.3**

IDC 23 00:40:24.1±77.0, 8°.17N×91°.54E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.2/25, mbtmp3.4/3, MS3.9/2, Ms1 4.0/2, ms1mx3.1/22, Error ellipse: s-maj=1410.0km s-min=126.0km az=3.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.30**	**350**	P	P	00 47 54.7	-0.1
	0.3nm,0.6s,baz=169,slow=8.5,SNR=6.1						
SONM	**Songino Array**	**41.50**	**15**	P	P	00 48 13.0	-0.2
	0.1nm,0.3s,baz=190,slow=7.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**45.98**	**354**	P	P	00 48 48.8	-0.1
	0.3nm,0.3s,baz=170,slow=9.6,SNR=3.3						
ZALV				LR	LR	01 10 37.7	
	comp=Z,169nm,20.1s,baz=53,slow=39						
NOA	**NORSAR Array B**	**78.22**	**331**	LR	LR	01 28 25.2	
	comp=Z,60nm,19.6s,baz=280,slow=37						

IDC 23 00:44:12.0±1.6, 11°.64N×86°.12W, h73km±17km, mb3.6/7, mb1 3.8/8, mb1mx3.5/22, mbtmp3.6/8, Error ellipse: s-maj=34.6km s-min=12.6km az=57.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.76**	**139**	P	Pn	00 44 40.0	-0.6
	13nm,0.3s,baz=351,slow=22,SNR=78						
JTS				S	Sn	00 45 02.5	+0.2
	55nm,0.3s,baz=328,slow=19,SNR=12						
CMIG	**Matias Romero**	**10.07**	**304**	P	Pn	00 46 34.0	+0.1
	1.1nm,0.3s,baz=132,slow=9.0,SNR=12						
TXAR	**Lajitas Array**	**24.03**	**320**	P	P	00 49 20.6	+0.2
	2.7nm,0.6s,baz=141,slow=9.0,SNR=42						
SADO	**Sadowa**	**33.56**	**9**	P	P	00 50 46.0	+1.1
	2.2nm,0.7s,baz=222,slow=9.0,SNR=3.1						
SIV	**San Ignacio**	**36.99**	**137**	P	P	00 51 15.4	+0.7
	1.1nm,0.4s,baz=342,slow=7.6,SNR=8.8						
PDAR	**Pinedale Array**	**37.11**	**331**	P	P	00 51 16.5	+0.8
	0.3nm,0.3s,baz=134,slow=11,SNR=3.8						
ULM	**Lac du Bonnet**	**39.33**	**350**	P	P	00 51 33.1	-0.9
	1.1nm,0.4s,baz=114,slow=10.0,SNR=2.4						
SCHQ	**Schefferville**	**45.70**	**15**	P	P	00 52 25.0	-0.6
	0.8nm,0.5s,baz=225,slow=8.6,SNR=8.1						
PLCA	**Paso Flores**	**54.06**	**165**	P	P	00 53 28.6	-0.6
	1.4nm,0.9s,baz=14,slow=8.3,SNR=2.9						
YKA	**Yellowknife Ar**	**54.74**	**344**	P	P	00 53 32.9	-0.9
	0.1nm,0.5s,baz=145,slow=6.6,SNR=5.4						
ASAR	**Alice Springs**	**140.16**	**247**	PKP	PKPdf	01 03 32.7	-0.5
	0.3nm,0.6s,baz=122,slow=2.6,SNR=3.5						
WRA	**Warramunga Arr**	**140.28**	**253**	PKP	PKPdf	01 03 33.0	-0.4
	0.4nm,0.7s,baz=89,slow=1.9,SNR=9.2						

MAN 23 00:57:20, 7°.56N×125°.84E, h18km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.83**	**292**	*e*P	Pg	00 57 36.4	+0.1
BUKP				*e*S	Sn	00 57 50.2	+1.5
CGP	**Cagayan de Oro**	**1.44**	**308**	*i*P	Pn	00 57 45.5	+0.3
CGP				*i* S	Sb	00 58 05.3	+1.0
CTBH	**Cotabato--PC H**	**1.61**	**258**	*i*P	Pn	00 57 48.4	+0.8
PAGZ	**Pagadian**	**2.45**	**277**	*e*P	Pn	00 58 00.3	+1.2

*AUST **23** 01:04:26.3, 22°.31S×175°.94W, h100km*
*ISCJB **23** 01:05:30.2±1.0, 23°.4S±0°.1×179°.8W±0°.1, h536km, mb4.0/9, Error ellipse: s-maj=18.6km s-min=12.4km az=155.9*
*IDC **23** 01:05:34.2±2.9, 23°.42S×179°.84W, h569km±32km, mb3.5/9, mb1 3.7/9, mb1mx3.4/21, mbtmp3.5/9, Error ellipse: s-maj=23.3km s-min=15.8km az=16.0*
ISC 23 01:05:30.9±0.9, 23°.5S±0°.1×179°.7W±0°.1, h536km, n28, σ1s07/29, mb4.2/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.92**	**190**	P	**P**	**01 08 39.7**	**0.0**
	1.5nm,0.3s,baz=299,slow=5.4,SNR=6.4						
URZ				S	**S**	**01 11 12.4**	**-2.8**
	1.0nm,0.3s,baz=252,slow=21,SNR=8.6						
RPZ	**Rata Peaks**	**21.51**	**198**	P	**P**	**01 09 42.3**	**+1.1**
	4.2nm,0.4s,baz=356,slow=3.8,SNR=6.8						
CMSA	**Cobar Meteorol**	**31.58**	**248**	P	**P**	**01 11 11.1**	**+1.3**
	baz=35,SNR=16						
CTA	**Charters Tower**	**31.73**	**270**	P	**P**	**01 11 12.3**	**+1.1**
	9.3nm,0.3s,baz=86,slow=12,SNR=17						
QLP	**Quilpie**	**32.72**	**257**	P	**P**	**01 11 20.5**	**+0.9**
	baz=36,SNR=19						
STKA	**Stephens Creek**	**35.09**	**248**	P	**P**	**01 11 40.6**	**+1.2**
	4.6nm,0.6s,baz=91,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**35.09**	**248**	P	**P**	**01 11 40.7**	**+1.3**
	baz=39,SNR=8.9						
BBOO	**Buckleboo**	**39.82**	**247**	P	**P**	**01 12 18.2**	**+0.2**
	baz=44,SNR=9.7						
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**01 12 38.5**	**+0.2**
	4.0nm,0.5s,baz=99,slow=6.9,SNR=42						
ASAR				S	**S**	**01 18 18.9**	**-2.0**
	0.4nm,0.6s,baz=101,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**42.68**	**266**	P	**P**	**01 12 40.5**	**-0.4**
	2.9nm,0.3s,baz=93,slow=8.5,SNR=192						
FORT	**Forrest**	**46.67**	**249**	P	**P**	**01 13 11.4**	**-0.1**
	baz=50,SNR=13						
MTN	**Manton Dam**	**47.68**	**274**	P	**P**	**01 13 18.6**	**-0.6**
	baz=51,SNR=4.1						
FITZ	**Fitzroy Crossi**	**51.11**	**265**	P	**P**	**01 13 44.7**	**+0.3**
	3.6nm,0.6s,baz=85,slow=6.4,SNR=19						
FITZ	**Fitzroy Crossi**	**51.11**	**265**	P	**P**	**01 13 44.8**	**+0.4**
	baz=55,SNR=10						
PALU	**Palau**	**54.25**	**299**	S	S	01 21 49.7	+45
	baz=57,SNR=4.7						
VNDA	**Vanda**	**54.76**	**185**	P	**P**	**01 14 11.8**	**+2.2**
	1.1nm,0.5s,baz=7.3,slow=7.9,SNR=12						
KLBR	**Kellerberrin**	**55.36**	**247**	P	**P**	**01 14 14.8**	**+0.2**
	baz=59,SNR=15						
MEEK	**Meekatharra**	**55.46**	**253**	P	**P**	**01 14 15.2**	**-0.1**
	baz=59,SNR=3.9						
NWAO	**Narrogin (SRO)**	**55.61**	**245**	P	**P**	**01 14 16.4**	**+0.1**
	5.1nm,0.6s,baz=117,slow=9.0,SNR=3.1						
BLDU	**Ballidu**	**56.40**	**248**	P	**P**	**01 14 21.7**	**0.0**
	baz=60,SNR=13						
MORW	**Morawa**	**57.23**	**250**	P	**P**	**01 14 27.7**	**+0.2**
	baz=61,SNR=6.7						
PCI	**Palu**	**62.68**	**282**	P	P	01 15 17.6	+14
	baz=66,SNR=5.4						
TXAR	**Lajitas Array**	**90.03**	**58**	P	**P**	**01 17 33.7**	**-0.2**
	0.2nm,0.9s,baz=224,slow=3.8,SNR=3.5						
MKAR	**Makanchi Array**	**112.09**	**313**	PKiKP	**PKiKP**	**01 23 04.4**	**-1.0**
	0.1nm,0.6s,baz=146,slow=1.0,SNR=2.8						
ARCES	**ARCESS Array B**	**131.59**	**348**	PKP	**PKPdf**	**01 23 41.1**	**-1.0**
	2.8nm,0.9s,baz=1.9,slow=2.7,SNR=4.6						
AKASG	**Malin Array Be**	**144.80**	**328**	PKP	**PKPdf**	**01 24 05.9**	**-0.7**
	0.5nm,0.3s,baz=48,slow=4.1,SNR=5.1						
BRTR	**Keskin Array B**	**147.56**	**308**	PKPbc	**PKPbc**	**01 24 14.7**	**-0.6**
	0.4nm,0.5s,baz=98,slow=4.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**169.58**	**188**	PKP	**PKPdf**	**01 24 36.9**	**-0.8**
	0.5nm,1.1s,baz=8.5,slow=0.1,SNR=2.7						
TORD				PKPab	**PKPab**	**01 25 55.2**	**+0.4**
	0.4nm,0.6s,baz=168,slow=5.2,SNR=7.2						

*IDC **23** 01:19:52.6±1.3, 36°.07S×179°.73W, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.2/18, mbtmp4.4/6, ML4.0/2, MS3.7/5, Ms1 3.6/5, ms1mx3.3/24, Error ellipse: s-maj=43.9km s-min=26.4km az=144.0*
*NEIC **23** 01:19:54.7, 35°.97S×179°.65W, h78km, ML4.4(WEL), After WEL.*
ISC 23 01:19:60.0±0.8, 36°.34S±0°.09×179°.83W±0°.09, h50km, n50, σ1s95/52, mb4.3/5, MS3.8/5, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.93**	**230**	Pn	**Pn**	**01 20 31.1**	**+0.8**
MXZ				Sn	**Sn**	**01 20 56.7**	**+3.3**
MXZ				TT		01 22 38.3	
PUZ	**Puketiti**	**2.31**	**221**	Pn	**Pn**	**01 20 37.1**	**+1.5**
PUZ				Sn	**Sn**	**01 21 07.7**	**+4.9**
CNGZ	**Carnagh Statio**	**2.65**	**215**	Pn	**Pn**	**01 20 42.1**	**+1.8**
MWZ	**Matawai**	**2.90**	**226**	Pn	**Pn**	**01 20 44.6**	**+0.9**
URZ	**Urewera**	**3.10**	**231**	Pn	**Pn**	**01 20 47.6**	**+1.2**
	23nm,0.3s,baz=43,slow=4.6,SNR=84						
URZ				Sn	**Sn**	**01 21 26.6**	**+4.4**
	41nm,0.3s,baz=284,slow=21,SNR=10.0						
URZ	**Urewera**	**3.10**	**231**	Pn	**Pn**	**01 20 47.5**	**+1.0**
URZ				Sn	**Sn**	**01 21 26.2**	**+4.0**
KNZ	**Kokohu**	**3.33**	**216**	Pn	**Pn**	**01 20 50.1**	**+0.6**
MHGZ	**Mahia Peninsul**	**3.33**	**212**	Pn	**Pn**	**01 20 51.1**	**+1.5**
BKZ	**Black Stump Fm**	**4.06**	**225**	Pn	**Pn**	**01 20 59.8**	**+0.2**
MCHZ	**McNeill Hill**	**4.14**	**220**	Pn	**Pn**	**01 21 01.7**	**+1.0**
BHHZ	**Black Hill Sta**	**4.52**	**225**	Pn	**Pn**	**01 21 06.7**	**+0.7**
FWVZ	**Far West T-bar**	**4.67**	**230**	Pn	**Pn**	**01 21 08.9**	**+0.7**
WNVZ	**Wahianoa**	**4.69**	**229**	Pn	**Pn**	**01 21 08.8**	**+0.4**
PNHZ	**Pukenui**	**4.75**	**220**	Pn	**Pn**	**01 21 08.9**	**-0.2**
MRZ	**Mangatainoka R**	**5.62**	**218**	Pn	**Pn**	**01 21 19.3**	**-1.7**
MRZ				Sn	**Sn**	**01 22 23.0**	**-1.2**
CTZ	**Chatham Island**	**7.79**	**163**	*e*Pn	**Pn**	**01 21 51.7**	**+1.0**
THZ	**Tophouse**	**7.83**	**224**	*e*Pn	**Pn**	**01 21 48.7**	**-2.6**
RPZ	**Rata Peaks**	**10.15**	**221**	Pn	**Pn**	**01 22 22.3**	**-0.7**
	0.8nm,0.3s,baz=166,slow=20,SNR=4.5						
RPZ				Sn	**Sn**	**01 24 09.7**	**-5.6**
	2.0nm,0.3s,baz=335,slow=21,SNR=8.4						
RPZ	**Rata Peaks**	**10.15**	**221**	Pn	**Pn**	**01 22 22.3**	**-0.7**
RPZ				Sn	**Sn**	**01 24 09.7**	**-5.6**
DZM	**Mont Dzumac**	**18.56**	**316**	*e*LR	LR	01 28 27.5	
	243nm,24.6s						
TBI	**Tubuai**	**29.22**	**72**	*e*LR	LR	01 33 26.4	
	55nm,24.8s						
STKA	**Stephens Creek**	**32.10**	**267**	LR	LR	01 36 50.2	
	comp=Z,90nm,21.4s,baz=25,slow=32						
PPT2	**Papeete2**	**32.60**	**63**	*e*LR	LR	01 34 57.1	
	49nm,24.8s						
CTA	**Charters Tower**	**33.77**	**289**	P	**P**	**01 26 37.3**	**+0.2**
	11nm,0.9s,baz=110,slow=10,SNR=5.5						
CTA				LR	LR	01 36 58.8	
	comp=Z,58nm,19.8s,baz=230,slow=30						
CTA	**Charters Tower**	**33.77**	**289**	P	**P**	**01 26 37.3**	**+0.2**
ASAR	**Alice Springs**	**41.64**	**274**	P	**P**	**01 27 43.4**	**-0.2**
	4.5nm,0.7s,baz=116,slow=7.8,SNR=55						
ASAR				LR	LR	01 46 01.6	
	comp=Z,116nm,18.4s,baz=172,slow=38						
ASAR	**Alice Springs**	**41.64**	**274**	P	**P**	**01 27 43.4**	**-0.2**
WRA	**Warramunga Arr**	**43.17**	**280**	P	**P**	**01 27 54.6**	**-1.3**
	4.3nm,0.7s,baz=119,slow=7.7,SNR=62						
WRA				LR	LR	01 46 50.4	
	comp=Z,121nm,18.8s,baz=130,slow=37						
WRA	**Warramunga Arr**	**43.17**	**280**	P	**P**	**01 27 54.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.11**	**276**	P	**P**	**01 28 57.4**	**-0.4**
	2.4nm,1.0s,baz=151,slow=9.1,SNR=4.2						
FITZ	**Fitzroy Crossi**	**51.11**	**276**	P	**P**	**01 28 57.4**	**-0.4**
QSPA	**South Pole Qui**	**53.79**	**180**	P	P	01 29 22.2	+4.9
	1.2nm,0.5s,baz=312,slow=2.7,SNR=4.5						
QSPA	**South Pole Qui**	**53.79**	**180**	P	P	01 29 22.2	+4.9
JOW	**Kunigami**	**79.61**	**314**	LR	LR	01 59 08.7	
	comp=Z,50nm,20.2s,baz=168,slow=30						
MKAR	**Makanchi Array**	**120.31**	**308**	PKP	**PKPdf**	**01 38 44.5**	**-0.6**
	0.2nm,0.5s,baz=109,slow=2.2,SNR=4.1						
MKAR	**Makanchi Array**	**120.31**	**308**	PKP	**PKPdf**	**01 38 44.5**	**-0.6**
KURK	**Kurchatov**	**123.93**	**311**	PKP	**PKPdf**	**01 38 50.2**	**-1.7**
KURBB	**Kurchatov Arra**	**123.95**	**311**	PKP	**PKPdf**	**01 38 50.2**	**-1.8**
	2.0nm,0.3s,baz=115,slow=1.7,SNR=5.0						
ARCES	**ARCESS Array B**	**143.99**	**345**	PKP	**PKPdf**	**01 39 29.6**	**+0.8**
	4.2nm,0.9s,baz=346,slow=3.0,SNR=4.2						
ARCES	**ARCESS Array B**	**143.99**	**345**	PKP	**PKPdf**	**01 39 29.6**	**+0.8**
JOF	**Joensuu**	**147.22**	**334**	*e*pkp	**PKPdf**	**01 39 35.0**	**+0.5**
	2.6nm,0.6s						
KAF	**Kangasniemi**	**149.48**	**336**	*e*pkp	**PKPdf**	**01 39 41.3**	**+3.1**
FINES	**FINESS Array B**	**150.04**	**335**	PKPbc	**PKPbc**	**01 39 43.9**	**-0.1**
	2.1nm,0.6s,baz=29,slow=3.8,SNR=17						
FINES	**FINESS Array B**	**150.04**	**335**	PKPbc	**PKPbc**	**01 39 43.9**	**-0.1**
EIL	**Elat**	**150.19**	**267**	PKPbc	**PKPbc**	**01 39 46.0**	**+0.5**
	3.6nm,0.8s,baz=349,slow=4.9,SNR=4.8						
EIL	**Elat**	**150.19**	**267**	PKPbc	**PKPbc**	**01 39 46.0**	**+0.5**
MMAI	**Mount Meron Ar**	**150.93**	**274**	PKPbc	**PKPbc**	**01 39 48.0**	**+0.7**
	3.8nm,0.7s,baz=83,slow=4.5,SNR=5.7						
MMAI				PKPab	**PKPab**	**01 39 54.5**	**-0.3**
	0.8nm,0.4s,baz=74,slow=6.3,SNR=3.6						
MMAI	**Mount Meron Ar**	**150.93**	**274**	PKPbc	**PKPbc**	**01 39 48.0**	**+0.7**
MMAI				PKPab	**PKPab**	**01 39 54.5**	**-0.3**
BRTR	**Keskin Array B**	**153.50**	**288**	PKPbc	**PKPbc**	**01 39 52.9**	**-0.1**
	1.9nm,0.9s,baz=147,slow=3.6,SNR=11						
BRTR	**Keskin Array B**	**153.50**	**288**	PKPbc	**PKPbc**	**01 39 52.9**	**-0.1**

*ISK **23** 01:22:05.6, 37°.56N×35°.65E, h6km, MD2.6*
*CSEM **23** 01:22:06.5±0.2, 37°.56N×35°.72E, h12km, MD2.6, Error ellipse: s-maj=4.8km s-min=4.0km az=165.0*
*DDA **23** 01:22:07.4, 37°.59N×35°.58E, h7km, MD2.9*
ISC 23 01:22:05.7±1.1, 37°.55N±0°.05×35°.65E±0°.04, h13km±7km, n12, σ0s24/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.16**	**118**	*e*PG	**Pg**	**01 22 09.5**	**0.0**
KOZT				*e*SG	**Sg**	**01 22 12.3**	**+0.1**
KOZT	**Kozan**	**0.16**	**118**	*e*Pg	**Pg**	**01 22 09.5**	**0.0**
KOZT				*e*Sg	**Sg**	**01 22 12.3**	**+0.1**
CEYT	**Ceyhan**	**0.55**	**172**	*e*PG	**Pb**	**01 22 16.9**	**-0.2**
CEYT				*e*SG	**Sb**	**01 22 25.1**	**+0.2**
CEYT	**Ceyhan**	**0.55**	**172**	*e*Pg	**Pb**	**01 22 16.9**	**-0.2**
CEYT				*e*Sg	**Sb**	**01 22 25.1**	**+0.2**
ANDN	**Andirin**	**0.55**	**87**	*i* P	**Pn**	**01 22 19.3**	**-0.1**
ANDN				*i* S	**Sn**	**01 22 28.3**	**-0.2**
ANDN	**Andirin**	**0.55**	**87**	*i* P	**Pn**	**01 22 19.3**	**-0.1**
GULE	**Gulek**	**0.75**	**249**	*i* P	**Pn**	**01 22 21.8**	**-0.3**
GULE				*i* S	**Sn**	**01 22 33.8**	**+0.5**
GULE	**Gulek**	**0.75**	**249**	*i* P	**Pn**	**01 22 21.8**	**-0.3**
GULE				*i* S	**Sn**	**01 22 33.8**	**+0.5**
KMRS	**Kahramanmaras**	**0.99**	**92**	*e*PG	**Pb**	**01 22 24.8**	**0.0**
KMRS	**Kahramanmaras**	**0.99**	**92**	*e*Pg	**Pb**	**01 22 24.8**	**0.0**
BNN	**Bunyan**	**1.30**	**7**	*e*PN	**Pg**	**01 22 30.8**	**-0.1**
BNN	**Bunyan**

comp=Z,168nm,20.1s,baz=222,slow=39
NEW Newport 9.68 34 Pn **Pn 01 36 45.4 +1.7**
C11A Tepee Creek (N 9.76 38 ⇓P **Pn 01 36 47.2 +2.5**
baz=9.8
E13A Victor 9.96 50 ⇓P **Pn 01 36 50.7 +3.0**
baz=10
C12B Naegeli Ranch, 10.04 41 ⇓P **Pn 01 36 51.2 +2.6**
baz=10
MCMT McKenzie Canyo 10.07 60 *e*Pn **Pn 01 36 52.3 +3.1**
6.2nm,0.9s
H15A Lima 10.13 62 ⇓P **Pn 01 36 53.0 +3.0**
baz=10
D13A Huson 10.18 46 ⇓P **Pn 01 36 53.0 +2.4**
baz=10
M16A Huntsville 10.30 81 ⇑P Pn 01 36 55.7 +3.5
baz=10
MSO Missoula 10.32 48 *e*Pn Pn 01 36 55.9 +3.4
15nm,0.9s
MSO Missoula 10.32 48 ⇑P **Pn 01 36 55.5 +3.0**
baz=10
HWUT Hardware Ranch 10.35 79 *e*Pn Pn 01 36 56.8 +3.9
8.1nm,1.0s
E14A Clinton 10.36 51 ⇓P **Pn 01 36 55.6 +2.5**
baz=10
G15A Dillon 10.43 59 ⇓P **Pn 01 36 56.3 +2.2**
baz=10
DLMT Dillon 10.44 58 *e*Pn **Pn 01 36 57.1 +3.0**
16nm,1.0s
C13A Hot Springs 10.48 43 ⇓P **Pn 01 36 57.1 +2.5**
baz=11
BSMT Bassoo Peak 10.48 42 *e*Pn **Pn 01 36 57.4 +2.6**
9.6nm,1.0s
J16A Bone 10.50 70 ⇑P Pn 01 36 58.7 +3.7
baz=11
JTMT Jette 10.68 44 *e*Pn **Pn 01 36 59.3 +1.9**
3.4nm,0.8s
SWMT Swartz Lake 10.68 45 *e*Pn **Pn 01 37 00.1 +2.6**
8.7nm,1.0s
D14A Greenough 10.71 48 ⇓P **Pn 01 37 00.5 +2.7**
baz=11
LRM Limekiln Ridge 10.72 56 *e*Pn **Pn 01 37 00.2 +2.1**
40nm,1.0s
RRI2 Red Ridge 10.72 70 *e*Pn **Pn 01 37 00.5 +2.4**
4.7nm,0.8s
CHMT Chamberlain Mo 10.76 49 *e*Pn **Pn 01 37 01.6 +3.0**
8.5nm,1.0s
BLMT Blacktail Moun 10.80 42 *e*Pn **Pn 01 37 00.6 +1.4**
11nm,0.9s
SLMT Seeley Lake 10.80 47 *e*Pn **Pn 01 37 01.9 +2.7**
24nm,1.0s
A12A Yaak River Ran 10.83 36 ⇓P **Pn 01 37 02.0 +2.6**
baz=11
YBMT Yellow Bay 10.89 44 *e*Pn **Pn 01 37 02.7 +2.3**
2.9nm,0.8s
G16A Moss Hill, Enn 10.90 60 ⇑P **Pn 01 37 02.5 +2.0**
baz=11
C14A Swan Lake 10.98 45 ⇓P **Pn 01 37 04.0 +2.6**
baz=11
TPAW Teton Pass 11.01 69 Pn Pn 01 37 07.0 +4.9
4.5nm,1.0s
QLMT Earthquake Lak 11.02 62 *e*P **Pn 01 37 02.9 +0.7**
0.3nm,0.6s
H16A Russell Place, 11.10 63 ⇓P Pn 01 37 06.7 +3.4
baz=11
IMW Indian Meadow 11.11 67 *e*Pn **Pn 01 37 03.7 +0.2**
5.9nm,0.9s
BOZ Bozeman (W) 11.18 58 ⇓P **Pn 01 37 06.4 +2.2**
baz=11
MOOW Moose Ponds 11.21 68 *e*Pn Pn 01 37 09.0 +4.2
3.4nm,1.0s
F16A Kennard Place, 11.23 57 ⇑P **Pn 01 37 07.3 +2.3**
baz=11
D15A Lincoln 11.26 50 ⇑P **Pn 01 37 08.1 +2.8**
baz=11
LOHW Long Hollow 11.28 69 *e*Pn **Pn 01 37 07.1 +1.3**
2.4nm,0.9s
FLWY Flagg Ranch 11.32 67 *e*Pn Pn 01 37 10.2 +4.0
29nm,1.4s
A13A Flathead Natio 11.40 39 ⇑P **Pn 01 37 10.0 +2.8**
baz=12
E16A East Helena 11.52 54 ⇓P **Pn 01 37 11.0 +2.1**
baz=12
B14A Marquette Ranc 11.59 43 ⇑P **Pn 01 37 12.4 +2.5**
baz=12
C15A Salmond Ranch, 11.60 47 ⇓P **Pn 01 37 12.8 +2.7**
baz=12
J18A Kendall Valley 11.63 71 ⇓P **Pn 01 37 11.9 +1.3**
baz=12
LKWY Lake 11.64 65 *e*Pn Pn 01 37 15.2 +4.4
6.7nm,1.1s
WALA Waterton Lakes 11.72 39 *e*Pn **Pn 01 37 13.8 +2.1**
0.2nm,0.9s
D16A Dana Ranch, Ca 11.83 52 ⇓P **Pn 01 37 14.9 +1.8**
baz=12
F17A Fitzpatrick Pl 11.90 58 ⇑P **Pn 01 37 16.1 +1.9**
baz=12
PDAR Pinedale Array 11.92 74 Pn **Pn 01 37 17.1 +2.6**
0.1nm,0.3s,baz=243,slow=10.0,SNR=9.3
PDAR Pinedale Array 11.92 74 Pn **Pn 01 37 17.1 +2.6**
B15A Bradley Ranch, 11.94 45 ⇑P **Pn 01 37 16.7 +2.1**
baz=12
C16A Fuhringer Ranc 12.10 48 ⇑P **Pn 01 37 19.0 +2.2**
baz=12
D17A Six Diamond Ra 12.40 53 ⇓P **Pn 01 37 23.3 +2.2**
baz=12
C17A Wharram Farm, 12.59 51 ⇑P **Pn 01 37 25.7 +2.2**
baz=13
B17A L&G Farms, Che 12.90 48 ⇑P **Pn 01 37 29.2 +1.5**
baz=13
J20A Shoshoni 13.05 72 ⇓P Pn 01 37 33.3 +3.4
baz=13
N21A Black Mountain 13.43 83 ⇓P **Pn 01 37 37.3 +2.2**
baz=14
J21A Lysite 13.52 72 ⇑P **Pn 01 37 37.8 +1.6**
baz=14
B18A Beardsley Farm 13.54 49 ⇑P **Pn 01 37 37.8 +1.3**
baz=14
I21A Big Trails, Te 13.69 70 ⇓P **Pn 01 37 39.9 +1.3**
baz=14
E20A Meyer Farm, Mu 13.76 58 ⇑P **Pn 01 37 40.5 +1.2**
baz=14
D20A Manuel Ranch, 13.96 56 ⇑P **Pn 01 37 43.2 +1.1**
baz=14
J22A Midwest 14.22 72 ⇓P **Pn 01 37 46.9 +1.0**
baz=14
I22A 9 Mile Ranch, 14.28 70 ⇑P **Pn 01 37 47.8 +1.2**
baz=14
N23A Red Feather La 14.61 82 ⇓P **Pn 01 37 52.6 +1.3**
baz=15
A21A Bergtoll Ranch 15.49 51 ⇑P **Pn 01 38 02.6 -0.2**
baz=16
H24A Dirks Ranch, A 15.77 68 ⇓P **Pn 01 38 05.7 -0.8**
baz=16
S24A Houchin Ranch, 15.77 94 ⇓P **P 01 38 09.9 -1.0**
baz=16
ANMO Albuquerque 15.81 104 Pn **P 01 38 10.4 -0.7**
0.1nm,0.3s,baz=325,slow=15,SNR=3.6
ANMO Albuquerque 15.81 104 Pn **P 01 38 10.4 -0.7**
LPIG La Paz 20.56 138 LR LR 01 46 42.3
comp=Z,7.9nm,18.4s,baz=31,slow=36
TXAR Lajitas Array 20.80 116 P Pn 01 39 09.1 +0.7
1.6nm,0.9s,baz=304,slow=8.9,SNR=15
TXAR Lajitas Array 20.80 116 P Pn 01 39 09.1 +0.7
FFC Flin Flon 21.02 40 *e*P **P 01 39 08.7 +0.6**
13nm,1.1s
AGMN Agassiz Nation 22.26 60 *e*P **P 01 39 22.6 +1.1**
14nm,0.9s
ULM Lac du Bonnet 22.66 55 P **P 01 39 25.5 -0.1**
11nm,0.9s,baz=261,slow=10.0,SNR=15
ULM Lac du Bonnet 22.66 55 P **P 01 39 25.5 -0.1**
YKA Yellowknife Ar 22.95 13 P **P 01 39 30.1 +1.5**
0.6nm,0.8s,baz=199,slow=9.2,SNR=7.7
YKA Yellowknife Ar 22.95 13 P **P 01 39 30.1 +1.5**
ARCES ARCESS Array B 68.20 11 LR LR 02 17 46.1
comp=Z,46nm,18.2s,baz=357,slow=38

*ISCJB **23** 01:53:15.9±0.9,2°.4N±0°.1×95°.82E±0°.07, h25km, mb3.9/7, MS3.3/1, Error ellipse: s-maj=18.1km s-min=7.8km az=26.3*
*IDC **23** 01:53:22.5±6.6,2°.52N×96°.01E, h61km±52km, mb3.7/7, mb1 3.7/9, mb1mx3.5/28, mbtmp3.7/9, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/54, Error ellipse: s-maj=54.7km s-min=16.5km az=53.0*
ISC 23 01:53:17.7±1.3, 2°.4N±0°.2×95°.8E±0°.1, h25km, n20, σ0°61/21, mb4.1/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.11**	**82**	P	**Pn**	**01 54 06.0**	**+0.6**
	2.4nm,0.3s,baz=295,slow=7.0,SNR=10						
PSI				S	**Sn**	**01 54 41.5**	**-0.4**
	2.7nm,0.3s,baz=231,slow=18,SNR=4.0						
CMAR	**Chiang Mai Arr**	**16.27**	**11**	P	**Pn**	**01 57 05.6**	**+0.9**
	baz=197,slow=10,SNR=7.9						
KAPI	**Kappang**	**25.00**	**107**	P	**P**	**01 58 39.6**	**-0.3**
	3.9nm,0.7s,baz=278,slow=14,SNR=4.4						
ODAN	**Odare**	**25.66**	**342**	*e*P	**P**	**01 58 45.9**	**0.0**
	19nm,0.7s						
RAMN	**Ramite**	**25.99**	**341**	*e*P	**P**	**01 58 49.6**	**+0.6**
	22nm,0.7s						
TAPN	**Taplejung**	**26.02**	**343**	*e*P	**P**	**01 58 49.7**	**+0.4**
	25nm,0.7s						
JIRN	**Jiri**	**26.78**	**341**	*e*P	**P**	**01 58 56.4**	**+0.1**
	8.7nm,0.8s						
PKI	**Pulchoki**	**26.96**	**339**	*e*P	**P**	**01 58 57.9**	**0.0**
GUN	**Gumba**	**27.11**	**340**	*e*P	**P**	**01 58 59.2**	**-0.1**
	26nm,0.9s						
KKN	**Kakani**	**27.21**	**339**	*e*P	**P**	**01 58 59.7**	**-0.3**
GKN	**Gorkha**	**27.64**	**338**	*e*P	**P**	**01 59 03.6**	**-0.1**
KOLN	**Koldanda**	**27.83**	**336**	*e*P	**P**	**01 59 05.4**	**-0.1**
	5.7nm,0.6s						
DANN	**Dangsing**	**28.28**	**337**	*e*P	**P**	**01 59 09.3**	**-0.3**
	8.7nm,0.6s						
WRA	**Warramunga Arr**	**43.81**	**122**	P	**P**	**02 01 21.8**	**-0.2**
	0.9nm,1.0s,baz=302,slow=8.9,SNR=6.8						
AAK	**Ala-Archa**	**44.39**	**337**	P	**P**	**02 01 27.9**	**+1.4**
	0.9nm,0.6s,baz=162,slow=8.2,SNR=5.6						
ASAR	**Alice Springs**	**45.19**	**127**	P	**P**	**02 01 33.5**	**+0.4**
	0.3nm,0.5s,baz=319,slow=7.4,SNR=4.4						
KSRS	**Korea Array**	**45.68**	**36**	LR	LR	02 20 34.4	
	comp=Z,34nm,19.0s,baz=342,slow=36						
MKAR	**Makanchi Array**	**45.79**	**347**	P	**P**	**02 01 36.9**	**-0.4**
	3.1nm,0.8s,baz=163,slow=7.9,SNR=45						
SONM	**Songino Array**	**46.19**	**10**	P	**P**	**02 01 39.4**	**-1.3**
	2.1nm,0.8s,baz=187,slow=8.7,SNR=22						
SONM				PcP	**PcP**	**02 03 16.5**	**+0.2**
	0.5nm,0.7s,baz=200,slow=3.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.20**	**352**	P	**P**	**02 02 25.7**	**-0.6**
	5.5nm,1.0s,baz=182,slow=6.7,SNR=12						

*ISK **23** 01:58:48.5,37°.54N×35°.68E, h4km, MD3.1*
*ISCJB **23** 01:58:49.2±0.6,37°.54N±0°.04×35°.65E±0°.05, h6km±7km, Error ellipse: s-maj=7.6km s-min=6.1km az=149.0*
*CSEM **23** 01:58:49.4±0.2,37°.52N×35°.64E, h8km, MD3.1, Error ellipse: s-maj=6.0km s-min=4.5km az=16.0*
*DDA **23** 01:58:50.3,37°.48N×35°.67E, h7km, ML2.9*
ISC 23 01:58:49.2±0.9, 37°.53N±0°.04×35°.68E±0°.03, h11km±6km, n29, σ0°76/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.13**	**110**	*e*PG	**Pg**	**01 58 52.1**	**-0.3**
KOZT				*e*SG	**Sg**	**01 58 54.5**	**-0.1**
KOZT	**Kozan**	**0.13**	**110**	*e*Pg	**Pg**	**01 58 52.1**	**-0.3**
KOZT				*e*Sg	**Sg**	**01 58 54.5**	**-0.1**
CEYT	**Ceyhan**	**0.52**	**174**	*e*PG	**Pg**	**01 58 59.4**	**+0.1**
CEYT				*e*SG	**Sb**	**01 59 07.4**	**-0.3**
CEYT	**Ceyhan**	**0.52**	**174**	*e*Pg	**Pg**	**01 58 59.4**	**+0.1**
CEYT				*e*Sg	**Sb**	**01 59 07.4**	**-0.3**
ANDN	**Andirin**	**0.54**	**84**	*i* P	**Pb**	**01 59 01.7**	**+1.0**
ANDN				*i* S	**Sn**	**01 59 10.5**	**-1.4**
ANDN	**Andirin**	**0.54**	**84**	*i* P	**Pb**	**01 59 01.7**	**+1.0**
ANDN				*i* S	**Sn**	**01 59 10.5**	**-1.4**
GULE	**Gulek**	**0.76**	**252**	*i* P	**Pg**	**01 59 04.0**	**+0.2**
GULE				*i* S	**Sn**	**01 59 16.7**	**-0.8**
GULE	**Gulek**	**0.76**	**252**	*i* P	**Pg**	**01 59 04.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*PG	**Pg**	**01 59 07.5**	**-0.5**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*Pg	**Pg**	**01 59 07.5**	**-0.5**
NIG	**Nigde**	**1.03**	**305**	*e*PG	**Pg**	**01 59 08.6**	**-0.4**
NIG	**Nigde**	**1.03**	**305**	*e*Pg	**Pg**	**01 59 08.6**	**-0.4**
MERS	**Mersin**	**1.13**	**235**	*e*PN	**Pb**	**01 59 10.8**	**0.0**
MERS	**Mersin**	**1.13**	**235**	*e*Pn	**Pb**	**01 59 10.8**	**0.0**
GAZ	**Gaziantep**	**1.27**	**106**	*e*PN	**Pb**	**01 59 13.5**	**+0.3**
GAZ	**Gaziantep**	**1.27**	**106**	*e*Pn	**Pb**	**01 59 13.5**	**+0.3**
BNN	**Bunyan**	**1.33**	**6**	*e*PN	**Pn**	**01 59 13.4**	**-0.4**
BNN	**Bunyan**	**1.33**	**6**	*e*Pn	**Pn**	**01 59 13.5**	**-0.4**
HTY	**Hatay**	**1.45**	**165**	*e*PN	**Pb**	**01 59 16.0**	**-0.2**
HTY	**Hatay**	**1.45**	**165**	*e*Pn	**Pb**	**01 59 16.0**	**-0.2**
SULT	**Sultanhani-AKS**	**1.84**	**292**	*e*PN	**Pn**	**01 59 21.6**	**+0.8**
SULT	**Sultanhani-AKS**	**1.84**	**292**	*e*Pn	**Pn**	**01 59 21.6**	**+0.8**
YOZ	**Yozgat**	**2.13**	**353**	*e*PN	**Pn**	**01 59 26.0**	**+1.1**
YOZ	**Yozgat**	**2.13**	**353**	*e*Pn	**Pn**	**01 59 26.0**	**+1.1**
DARE	**Darende-Malaty**	**2.20**	**49**	*e*PN	Pn	01 59 20.8	-4.9
MALT	**Malatya**	**2.31**	**69**	*e*PN	**Pn**	**01 59 28.7**	**+1.4**
MALT	**Malatya**	**2.31**	**69**	*e*Pn	**Pn**	**01 59 28.7**	**+1.4**
KAMT	**Kaman**	**2.40**	**321**	*e*PN	**Pn**	**01 59 29.5**	**+1.0**
KAMT	**Kaman**	**2.40**	**321**	*e*Pn	**Pn**	**01 59 29.5**	**+1.0**

IDC 23 01:59:37.0±1.1, 27°.68N×143°.12E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/22, mbtmp3.7/7, Error ellipse: s-maj=28.0km s-min=17.3km az=113.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.01**	**235**	Pn	Pn	01 59 59.2	+0.7
	baz=333,slow=11						
CBIJ				Sn	Sn	02 00 13.2	-0.3
	baz=107,slow=19						
SONM	**Songino Array**	**34.88**	**315**	P	P	02 06 30.5	+0.2
	0.3nm,0.5s,baz=119,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**48.09**	**191**	P	P	02 08 18.7	0.0
	4.1nm,0.8s,baz=12,slow=8.4,SNR=40						
ZALV	**Zalesovo Beam**	**49.60**	**319**	P	P	02 08 30.0	+0.1
	0.3nm,0.4s,baz=105,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**50.75**	**309**	P	P	02 08 38.1	-0.7
	0.4nm,0.7s,baz=89,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**51.81**	**191**	P	P	02 08 46.5	-0.5
	0.5nm,0.5s,baz=4.8,slow=7.9,SNR=6.6						
YKA	**Yellowknife Ar**	**71.24**	**29**	P	P	02 10 57.8	0.0
	0.3nm,0.8s,baz=293,slow=6.3,SNR=6.7						
FINES	**FINESS Array B**	**77.79**	**334**	P	P	02 11 35.9	0.0
	0.8nm,0.8s,baz=54,slow=7.1,SNR=4.7						

IDC 23 02:05:52.0±4.2, 19°.66S×174°.87W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML2.0/1, Error ellipse: s-maj=178.0km s-min=26.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.44**	**28**	Pn	Pn	02 07 29.3	+1.0
	1.8nm,0.3s,baz=293,slow=22,SNR=3.8						
AFI				Sn	Sn	02 08 33.9	-8.6
	3.4nm,0.3s,baz=40,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**47.58**	**256**	P	P	02 14 29.4	-0.5
	0.2nm,0.3s,baz=93,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**47.64**	**261**	P	P	02 14 30.8	+0.4
	0.1nm,0.3s,baz=96,slow=7.6,SNR=9.1						
ILAR	**Eielson Array**	**86.87**	**12**	P	P	02 18 37.7	-0.5
	0.5nm,0.9s,baz=204,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**94.54**	**24**	P	P	02 19 13.9	-0.1
	0.7nm,1.2s,baz=229,slow=4.3,SNR=5.8						

*ISK **23** 02:08:07.1,40°.80N×38°.48E, h5km, MD3.2*
*DDA **23** 02:08:07.2,40°.79N×38°.51E, h12km, MD3.1*
*CSEM **23** 02:08:07.6±0.1,40°.80N×38°.51E, h2km, MD3.2, Error ellipse: s-maj=4.0km s-min=2.7km az=3.0*
ISC 23 02:08:07.9±1.0, 40°.80N±0°.03×38°.51E±0°.02, h6km±9km, n42, σ0°75/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPY	**Espiye-Giresun**	**0.20**	**55**	*e*PG	**Pg**	**02 08 12.2**	**+0.2**
ESPY	**Espiye-Giresun**	**0.20**	**55**	*e*Pg	**Pg**	**02 08 12.2**	**+0.2**
GRSN	**GIRESUNGRSN**	**0.22**	**305**	*i* P	**Pg**	**02 08 12.5**	**+0.2**
GRSN				*i* S	**Sg**	**02 08 15.9**	**+0.7**
GRSN	**GIRESUNGRSN**	**0.22**	**305**	*i* P	**Pg**	**02 08 12.5**	**+0.2**
GRSN				*i* S	**Sg**	**02 08 15.9**	**+0.7**
SUSE	**Susehri**	**0.63**	**202**	*i* P	**Pg**	**02 08 19.7**	**-0.4**
SUSE				*i* S	**Sg**	**02 08 28.8**	**+0.4**
SUSE	**Susehri**	**0.63**	**202**	*i* P	**Pg**	**02 08 19.7**	**-0.4**
SUSE				*i* S	**Sg**	**02 08 28.8**	**+0.4**
GUMT	**Gumushane**	**0.81**	**114**	*e*PG	**Pg**	**02 08 22.8**	**-0.8**
GUMT	**Gumushane**	**0.81**	**114**	*e*Pg	**Pg**	**02 08 22.8**	**-0.8**
KELT	**Kelkit**	**0.86**	**138**	*i* P	**Pg**	**02 08 23.8**	**-0.7**
KELT				*i* S	**Sg**	**02 08 35.3**	**-0.4**
KELT	**Kelkit**	**0.86**	**138**	*i* P	**Pg**	**02 08 23.8**	**-0.7**
KELT				*i* S	**Sg**	**02 08 35.3**	**-0.4**
MACK	**Trabzon**	**0.97**	**81**	*i* P	**Pg**	**02 08 25.9**	**-0.5**
MACK				*i* S	**Sn**	**02 08 42.7**	**+0.5**
MACK	**Trabzon**	**0.97**	**81**	*i* P	**Pg**	**02 08 25.9**	**-0.5**
MACK				*i* S	**Sn**	**02 08 42.7**	**+0.5**
RSDY	**Resadiye-TOKAT**	**0.98**	**246**	*e*PG	**Pg**	**02 08 26.1**	**-0.7**
RSDY				*e*SG	**Sg**	**02 08 39.4**	**-0.2**
RSDY	**Resadiye-TOKAT**	**0.98**	**246**	*e*Pg	**Pg**	**02 08 26.1**	**-0.7**
RSDY				*e*Sg	**Sg**	**02 08 39.4**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.31**	**108**	*e*PN	**Pb**	**02 08 32.7**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.31**	**108**	*e*Pn	**Pb**	**02 08 32.7**	**-0.3**
ERBA	**Erbaa**	**1.34**	**266**	*i* P	**Pn**	**02 08 31.9**	**-1.3**
ERBA				*i* S	**Sn**	**02 08 51.8**	**+0.4**
ERBA	**Erbaa**	**1.34**	**266**	*i* P	**Pn**	**02 08 31.9**	**-1.3**
ERBA				*i* S	**Sn**	**02 08 51.8**	**+0.4**
ILIC	**ilic-Erzincan**	**1.35**	**178**	*e*PN	**Pb**	**02 08 33.1**	**-0.5**
ILIC	**ilic-Erzincan**	**1.35**	**178**	*e*Pn	**Pb**	**02 08 33.1**	**-0.5**
ERZN	**Erzincan**	**1.53**	**142**	*e*PN	**Pb**	**02 08 35.9**	**-0.8**
KVT	**Kavak**	**1.89**	**279**	*e*PN	**Pn**	**02 08 40.8**	**+0.1**
KVT	**Kavak**	**1.89**	**279**	*e*Pn	**Pn**	**02 08 40.8**	**+0.1**
DARE	**Darende-Malaty**	**1.92**	**197**	*e*PN	**Pg**	**02 08 47.3**	**+2.6**
PTK	**Pertek**	**2.02**	**160**	*e*PN	**Pb**	**02 08 43.8**	**-1.4**
PTK	**Pertek**	**2.02**	**160**	*e*Pn	**Pb**	**02 08 43.8**	**-1.4**
EZM	**Erzurum**	**2.36**	**111**	*e*PN	**Pn**	**02 08 48.6**	**+1.2**
DBAD	**Bademkaya**	**2.42**	**84**	*i* P	**Pn**	**02 08 48.4**	**+0.2**
DBAD				*i* S	**Sb**	**02 09 22.2**	**0.0**
DBAD	**Bademkaya**	**2.42**	**84**	*i* P	**Pn**	**02 08 48.4**	**+0.2**
DBAD				*i* S	**Sb**	**02 09 22.2**	**0.0**
BINT	**Bingol**	**2.45**	**141**	*e*Pn	**Pn**	**02 08 49.3**	**+0.7**
BNGB	**Bing¯‖l**	**2.46**	**137**	*e*PN	**Pn**	**02 08 49.3**	**+0.6**
MYA	**Malataya**	**2.47**	**182**	*e*PN	**Pn**	**02 08 49.1**	**+0.3**
MYA	**Malataya**	**2.47**	**182**	*e*Pn	**Pn**	**02 08 49.1**	**+0.3**
MALT	**Malatya**	**2.48**	**181**	*e*PN	**Pn**	**02 08 50.0**	**+1.0**
MALT	**Malatya**	**2.48**	**181**	*e*Pn	**Pn**	**02 08 50.0**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.50**	**165**	*e*PN	**Pn**	**02 08 50.3**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.50**	**165**	*e*Pn	**Pn**	**02 08 50.3**	**+1.1**
DAGI	**Agillar**	**2.59**	**83**	*i* P	**Pn**	**02 08 50.7**	**+0.2**
DAGI				*i* S	**Sb**	**02 09 27.1**	**0.0**
DIKM	**Dikmen**	**2.59**	**290**	*e*PN	**Pn**	**02 08 50.3**	**-0.1**
DIKM	**Dikmen**	**2.59**	**290**	*e*Pn	**Pn**	**02 08 50.3**	**-0.1**
CORM	**Corum**	**3.02**	**259**	*e*PN	**Pn**	**02 08 56.9**	**+0.5**
CORM	**Corum**	**3.02**	**259**	*e*Pn	**Pn**	**02 08 56.9**	**+0.5**

*BJI **23** 02:08:30.7,25°.20N×120°.30E, h10km, ML4.5/5, Ms7 4.0/1*
*IDC **23** 02:08:33.7±0.9,25°.41N×120°.01E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, MS3.6/1, Ms1 3.6/1, ms1mx2.3/56, Error ellipse: s-maj=54.9km s-min=17.0km az=63.0*
*ISCJB **23** 02:08:35.2±1.0,25°.39N±0°.03×119°.86E±0°.02, h12km±7km, mb3.7/8, MS3.6/1, Error ellipse: s-maj=5.0km s-min=3.4km az=13.6*
*TAP **23** 02:08:35.6,25°.34N×119°.88E, h15km±1km, ML4.3, C*
*NEIC **23** 02:08:36.7±12.0,25°.31N×119°.99E, h10km, Error ellipse: s-maj=144.0km s-min=21.1km az=133.0*
NEIC Felt at Fuzhou.
ISC 23 02:08:33.9±1.2, 25°.40N±0°.03×119°.90E±0°.03, h1km±9km, n67, σ0°84/85, mb3.8/8, 2C, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSN	**Hsinchu**	**1.14**	**121**	P	**Pn**	**02 08 58.1**	**+1.1**
	baz=116						
HSN				S	**Sn**	**02 09 14.0**	**+0.8**
	baz=116						
NCU	**National Centr**	**1.24**	**110**	*e*P	**Pn**	**02 08 59.2**	**+0.8**
	baz=107						
NCU				S	**Sn**	**02 09 16.2**	**+0.3**
	baz=107						
NSY	**Sanyi**	**1.25**	**141**	*e*P	**Pn**	**02 08 58.5**	**-0.1**
	baz=139						
NSTT	**Nanjuang**	**1.26**	**127**	P	**Pn**	**02 08 59.2**	**+0.5**
	baz=125						
NSTT				S	**Sn**	**02 09 16.2**	**-0.1**
	baz=125						
QZH	**Quanzhou**	**1.27**	**249**	⇑*i* Pn	**Pn**	**02 08 59.4**	**+0.6**
QZH				Sn	**Sg**	**02 09 15.5**	**+0.8**
QZH				smax	smax		
	comp=N,10μm,0.2s						
QZH				smax	smax		
	comp=E,6μm,0.6s						
TWQ1	**Liyutan**	**1.31**	**143**	*e*P	**Pn**	**02 08 59.5**	**+0.1**
	baz=141						
TWS1	**Kuangyinshan**	**1.41**	**102**	P	**Pb**	**02 09 02.1**	**+1.1**
	baz=99						
TWS1				*e*S	**Sn**	**02 09 21.0**	**+1.1**
	baz=99						
TCU	**Taichung**	**1.43**	**150**	*e*P	**Pg**	**02 09 01.4**	**+0.1**
	baz=149						
TAP	**Taipei**	**1.50**	**104**	*e*P	**Pg**	**02 09 02.5**	**0.0**
	baz=101						
TAP				*e*S	**Sg**	**02 09 22.8**	**+0.7**
	baz=101						
TATO	**Taipei**	**1.50**	**106**	*e*Pn	**Pb**	**02 09 02.3**	**-0.2**
TATO				*e*S	**Sg**	**02 09 23.1**	**+1.0**
NSK	**Sanguang**	**1.51**	**118**	*e*P	**Pn**	**02 09 02.2**	**0.0**
	baz=116						
NSK				*e*S	**Sg**	**02 09 22.5**	**+0.2**
	baz=116						
TAP1	**Taipei**	**1.51**	**103**	*e*P	**Pb**	**02 09 02.6**	**-0.2**
	baz=101						
TAP1				S	**Sg**	**02 09 22.1**	**-0.4**
	baz=101						
TWY	**Chenhua**	**1.54**	**94**	*e*P	**Pg**	**02 09 03.7**	**+0.3**
	baz=92						
TWY				*e*S	**Sg**	**02 09 24.8**	**+1.3**
	baz=92						
WTCT	**Ta-ch'eng**	**1.57**	**167**	*e*P	**Pn**	**02 09 02.9**	**-0.1**
	baz=167						
WTCT				*e*S	**Sn**	**02 09 23.4**	**-0.5**
	baz=167						
TWT	**Tachien**	**1.63**	**134**	P	**Pn**	**02 09 03.8**	**-0.1**
	baz=133						
NNS	**Nan Shan**	**1.64**	**125**	P	**Pn**	**02 09 04.2**	**+0.2**
	baz=124						
NNS				*e*S	**Sn**	**02 09 24.6**	**-1.3**
	baz=124						
KNM	**Kinmen**	**1.66**	**234**	*e*P	**Pn**	**02 09 04.8**	**+0.8**
	baz=237						
KNM				*e*S	**Sg**	**02 09 27.6**	**+0.6**
	baz=237						
WNT	**Mingjian**	**1.68**	**155**	*e*P	**Pn**	**02 09 04.4**	**0.0**
	baz=154						
ENTT	**Nioudou**	**1.69**	**116**	*e*P	**Pn**	**02 09 04.6**	**0.0**
	baz=115						
ENTT				*e*S	**Sb**	**02 09 27.4**	**-0.2**
	baz=115						
TYC	**Yuchr**	**1.73**	**150**	*e*P	**Pn**	**02 09 05.2**	**+

NACB	**Ninganchiao**	**1.97**	**128**	*e*Pn	**Pn**	02 09 08.2	-0.2	-0.1
PCYT	**Pengchaiyu**	**1.97**	**83**	*e*P	**Pg**	**02 09 11.4**	**-0.3**	
	baz=81							
TWD	**Chiawan**	**2.03**	**130**	*e*P	**Pb**	02 09 10.2	-1.3	
	baz=129							
ALS	**Alishan**	**2.06**	**156**	*e*P	**Pn**	02 09 10.4	+0.5	
	baz=156							
CHN4	**Tsaushan**	**2.14**	**163**	*e*P	**Pn**	02 09 11.1	+0.4	
	baz=163							
WDGT	**Dungji**	**2.14**	**186**	*e*P	**Pn**	02 09 11.0	+0.2	
	baz=186							
TWK	**Hsinying**	**2.19**	**166**	*e*P	**Pn**	02 09 12.1	+0.6	
	baz=166							
TPUB	**Ta-pu**	**2.19**	**162**	*e*Pn	**Pn**	02 09 11.5	-0.1	
WTP	**Ta-pu**	**2.24**	**163**	*e*P	**Pn**	02 09 12.3	+0.1	
	baz=163							
CHN1	**Nanshi**	**2.28**	**165**	⇑P	**Pn**	02 09 13.3	+0.6	
	baz=166							
CHN1				*e*S	**Sn**	02 09 40.5	-1.0	
	baz=166							
EHY	**Hungye**	**2.29**	**145**	*e*P	**Pn**	02 09 13.8	+1.0	
	baz=145							
YULB	**Yu-li**	**2.37**	**147**	*e*Pn	**Pn**	02 09 14.7	+0.7	
SGST	**Jiashian**	**2.39**	**165**	*e*P	**Pn**	02 09 14.4	+0.1	
	baz=165							
TWF1	**Yuli**	**2.41**	**148**	P	**Pn**	02 09 15.4	+1.0	
	baz=148							
TWF1				*e*S	**Sn**	02 09 43.8	-0.8	
	baz=148							
ELDTW	**Lidau**	**2.43**	**155**	*e*P	**Pn**	02 09 15.3	+0.5	
	baz=155							
TWM1	**Shoushan**	**2.61**	**169**	*e*P	**Pb**	02 09 20.7	-0.8	
	baz=170							
SSD	**Sandimen**	**2.73**	**166**	*e*P	**Pn**	02 09 19.9	+1.0	
	baz=166							
TWG	**Pinlang**	**2.78**	**157**	*e*P	**Pn**	02 09 20.7	+1.0	
	baz=158							
TWG	**Pinlang**	**2.78**	**157**	*e*Pn	**Pn**	02 09 20.4	+0.8	
YOJ	**Yonaguni jima**	**2.97**	**108**	*e*P	**Pn**	02 09 22.0	-0.2	
	baz=107							
SCZT	**Fangliau**	**3.09**	**168**	*e*P	**Pn**	02 09 24.2	+0.4	
	baz=168							
EAST	**Anshuo**	**3.13**	**164**	*e*P	**Pn**	02 09 24.6	+0.2	
	baz=165							
NJ2	**Nanjing**	**6.69**	**352**	*e*Pg	**Pg**	02 10 42.1	0.0	
NJ2				Sg	**Sg**	02 12 05.5	-3.3	
NJ2				smax	smax			
	comp=N,260nm,0.8s							
NJ2				smax	smax			
	comp=E,180nm,0.7s							
NJ2				SMZ				
	comp=E,170nm,1.0s							
WHN	**Wuhan**	**7.09**	**317**	P	**Pn**	02 10 24.1	+5.2	
WHN				S	**Sn**	02 11 44.1	+3.9	
CMAR	**Chiang Mai Arr**	**20.62**	**255**	P	Pn	02 13 22.6	+5.5	
	comp=E,0.5nm,0.5s,baz=57,slow=9.8,SNR=8.7							
SONM	**Songino Array**	**24.80**	**338**	P	**P**	**02 13 57.5**	**-0.1**	
	comp=E,1.6nm,0.7s,baz=161,slow=8.6,SNR=12							
MKAR	**Makanchi Array**	**36.66**	**315**	P	**P**	**02 15 42.0**	**-0.1**	
	comp=E,0.4nm,0.6s,baz=111,slow=10,SNR=4.6							
ZALV	**Zalesovo Beam**	**38.59**	**327**	P	**P**	**02 15 57.7**	**-0.7**	
	comp=E,0.9nm,0.6s,baz=115,slow=10.0,SNR=4.1							
KURBB	**Kurchatov Arra**	**40.43**	**320**	P	**P**	**02 16 15.0**	**+1.2**	
	comp=E,0.3nm,0.5s,baz=110,slow=8.6,SNR=2.7							
BVAR	**Borovoye Array**	**46.00**	**320**	P	**P**	**02 16 59.2**	**+0.5**	
	comp=E,0.9nm,0.7s,baz=116,slow=6.8,SNR=7.4							
WRA	**Warramunga Arr**	**47.21**	**161**	P	**P**	**02 17 07.6**	**-0.9**	
	comp=E,2.4nm,0.8s,baz=346,slow=8.6,SNR=21							
ASAR	**Alice Springs**	**50.63**	**163**	P	**P**	**02 17 34.9**	**+0.1**	
	comp=E,1.4nm,0.7s,baz=340,slow=6.3,SNR=13							
CTA	**Charters Tower**	**51.97**	**148**	LR	LR	02 39 07.4		
	comp=E,56nm,21.1s,baz=229,slow=35							
YKA	**Yellowknife Ar**	**82.30**	**22**	P	**P**	**02 20 56.8**	**-0.2**	
	comp=E,0.4nm,0.6s,baz=317,slow=5.2,SNR=13							

CASC 23 02:11:33.0±2.5, 13°21N×91°69W, h37km±999km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.11**	**3**	*e*P	Pn	02 11 53.7	+1.7
FUG	**Fuego 3**	**1.48**	**34**	*e*P	Pn	02 11 57.3	-0.1
FUG				*e*S	Sn	02 12 16.8	+1.1
FG6		**1.56**	**30**	*e*P	Pn	02 11 59.7	+1.2
FG6				*e*S	Sn	02 12 19.2	+1.4
PCG	**Pacaya**	**1.58**	**42**	*e*P	Pn	02 11 59.0	+0.2
PCG				*e*S	Sn	02 12 20.9	+2.6
TP2	**Tecpan 2**	**1.70**	**22**	*e*P	Pn	02 12 01.1	+0.5
TP2				*e*S	Sn	02 12 21.5	+0.1
NBG	**Las Nubes**	**1.89**	**43**	*e*P	Pn	02 12 04.9	+1.7
NBG				*e*S	Sn	02 12 28.5	+2.4
RTR	**El Retiro**	**2.10**	**71**	*e*P	Pn	02 12 05.9	-0.1
SBLS	**San Blas**	**2.11**	**72**	*e*P	Pn	02 12 06.2	+0.2
SBLS				*e*S	Sn	02 12 32.7	+1.5
RBDL	**Robledal**	**2.15**	**65**	*e*P	Pn	02 12 05.6	-0.8
LFRS	**El Faro**	**2.59**	**81**	*e*P	Pn	02 12 12.9	+0.3
LFRS				*e*S	Sn	02 12 43.2	+0.3
MRL	**Marmol**	**2.68**	**46**	*e*S	Sn	02 12 15.7	-30
MRL				*e*P	Pn	02 12 17.1	+3.3

*IDC **23** 02:46:04.3±2.3, 0.°48S×133.°16E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=177.0km s-min=17.2km az=73.0*
*ISCJB **23** 02:46:07.0±0.9, 0.°66S±0.°07×133.°2E±0.°2, h32km, mb4.0/6, Error ellipse: s-maj=22.7km s-min=9.0km az=172.5*
*AUST **23** 02:46:12.7, 0.°98S×133.°00E, h25km*
ISC 23 02:46:09.2±1.3, 0.°63S±0.°09×133.°1E±0.°2, h32km, n13, σ1°29/14, mb4.1/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.89**	**263**	P	**Pn**	**02 46 38.8**	**-0.5**
	baz=1.7,SNR=36						
AAI	**Ambon**	**5.80**	**238**	P	**Pn**	**02 47 35.0**	**+2.0**
	baz=5.5,SNR=3.5						
KDU	**Kakadu**	**12.00**	**183**	P	**Pn**	**02 48 58.5**	**+0.4**
	baz=12,SNR=20						
KDU				S	**Sn**	**02 51 08.5**	**-2.5**
	baz=12,SNR=5.0						
MTN	**Manton Dam**	**12.30**	**189**	P	**Pn**	**02 49 02.8**	**+0.5**
	baz=12,SNR=51						
MTN				S	**Sn**	**02 51 16.3**	**-2.0**
	baz=12,SNR=6.6						
PCI	**Palu**	**13.30**	**269**	S	Sn	02 51 24.4	-18
	baz=13,SNR=6.2						
FITZ	**Fitzroy Crossi**	**18.86**	**203**	P	**Pn**	**02 50 28.1**	**+0.5**
	baz=19,SNR=17						
WRA	**Warramunga Arr**	**19.23**	**177**	P	**Pn**	**02 50 32.0**	**0.0**
	0.6nm,0.3s,baz=356,slow=12,SNR=40						
ASAR	**Alice Springs**	**22.91**	**178**	P	**P**	**02 51 11.8**	**+1.2**
	4.1nm,0.9s,baz=358,slow=12,SNR=22						
STKA	**Stephens Creek**	**32.09**	**166**	P	**P**	**02 52 34.2**	**+0.6**
	4.3nm,0.7s,baz=341,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**64.79**	**324**	P	**P**	**02 56 44.5**	**-0.4**
	0.8nm,0.8s,baz=114,slow=7.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.40**	**331**	P	**P**	**02 57 00.7**	**-0.8**
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**68.87**	**326**	P	**P**	**02 57 10.1**	**-0.6**
	2.0nm,0.8s,baz=122,slow=4.3,SNR=16						
BVAR	**Borovoye Array**	**74.46**	**326**	P	**P**	**02 57 43.7**	**-0.6**
	1.8nm,0.7s,baz=120,slow=8.8,SNR=10						

*IDC **23** 02:46:34.6±0.9, 44.°80N×37.°44E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/28, mbtmp3.5/9, ML3.4/5, Error ellipse: s-maj=17.8km s-min=9.1km az=29.0*
*MOS **23** 02:46:35.6±1.3, 45.°20N×37.°65E, h16km, mb4.0/1, Error ellipse: s-maj=10.8km s-min=8.2km az=125.7*
*CSEM **23** 02:46:37.3±0.2, 45.°13N×37.°60E, h15km, mb4.0, Error ellipse: s-maj=9.2km s-min=5.6km az=15.0*
*NNC **23** 02:46:44.0±16.0, 45.°84N×38.°59E, h0km, mb3.3, mpv3.4, Error ellipse: s-maj=153.2km s-min=87.4km az=79.0*
ISC 23 02:46:35.6±2.3, 44.°94N±0.°05×37.°53E±0.°03, h17km±16km, n69, σ1°72/64, mb3.2/4, 5C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.16**	**206**	*i* P	Pg	02 46 46.3	+6.5
ANN				*i*	Sg	02 46 51.9	+9.3
ANN	**Anapa**	**0.16**	**206**	*i* P	Pg	02 46 46.3	+6.5
ANN				*i* S	Sg	02 46 51.9	+9.3
KERU	**Kerch**	**0.84**	**296**	*e*P	Pg	02 46 58.3	+6.3
KERU				*e*S	Sg	02 47 12.8	+10
KERU	**Kerch**	**0.84**	**296**	*e*P	Pg	02 46 58.3	+6.3
KERU				*e*S	Sg	02 47 12.8	+10
SUDU	**Sudak**	**1.80**	**269**	*e*P	**Pb**	**02 47 08.5**	**+0.5**
SUDU				*e*		02 47 30.2		
SUDU	**Sudak**	**1.80**	**269**	*e*P	**Pb**	**02 47 08.5**	**+0.5**
SUDU				*e*S	**Sn**	**02 47 30.2**	**+2.1**
SOC	**Sochi**	**2.08**	**130**	*e*P	**Pn**	**02 47 10.6**	**+1.0**
SOC				*e*		02 47 34.5		
SOC				pmax	pmax			
	comp=Z,21nm,0.8s							
SOC				smax	smax			
	comp=N,23nm,0.3s							
SOC				smax	smax			
	comp=E,49nm,0.4s							
SOC	**Sochi**	**2.08**	**130**	*e*P	**Pn**	**02 47 10.6**	**+1.0**
	comp=E,21nm,0.8s							
SOC				*e*S	**Sn**	**02 47 34.5**	**-0.6**
	comp=E,23nm,0.3s							
ALU	**Alushta**	**2.24**	**264**	*e*P	**Pn**	**02 47 13.8**	**+2.0**
ALU				*e*		02 47 39.2		
ALU	**Alushta**	**2.24**	**264**	*e*P	**Pn**	**02 47 13.8**	**+2.0**
ALU				*e*S	**Sn**	**02 47 39.2**	**+0.2**
SIM	**Simferopol'**	**2.42**	**271**	P	**Pb**	**02 47 18.1**	**-0.6**
SIM				*e*S	**Sn**	**02 47 45.3**	**+1.7**
SIM	**Simferopol'**	**2.42**	**271**	P	**Pb**	**02 47 18.1**	**-0.6**
SIM				*e*S	**Sn**	**02 47 45.3**	**+1.7**
YAL	**Yalta**	**2.45**	**260**	*e*P	**Pn**	**02 47 17.8**	**+3.1**
YAL				*e*		02 47 44.8		
YAL	**Yalta**	**2.45**	**260**	*e*P	**Pn**	**02 47 17.8**	**+3.1**
YAL				*e*S	**Sn**	**02 47 44.8**	**+0.6**
DOMR	**Dombai**	**3.38**	**118**	*e*P	**Pn**	**02 47 29.1**	**+1.4**
DOMR				*e*S	**Sn**	**02 48 08.4**	**+1.0**
DOMR	**Dombai**	**3.38**	**118**	*e*P	**Pn**	**02 47 29.1**	**+1.4**
DOMR				*e*S	**Sn**	**02 48 08.4**	**+1.0**
DIKM	**Dikmen**	**3.68**	**208**	*e*PN	Pn	02 47 31.7	0.0
DIKM				*e*SN	Sn	02 48 07.7	-7.1
KIV	**Kislovodsk**	**3.82**	**103**	⇑Pn	**Pb**	**02 47 40.2**	**-2.4**
	comp=E,6.2nm,0.5s							
KIV				⇑Sn	**Sn**	**02 48 20.8**	**+2.5**
	comp=E,20nm,0.5s							
KIV	**Kislovodsk**	**3.82**	**103**	*i* P	Pb	02 47 37.7	-4.9	
KIV				*i* S	**Sn**	**02 48 21.5**	**+3.2**	
KIV	**Kislovodsk**	**3.82**	**103**	*i* P	Pb	02 47 37.7	-4.9	
KIV	**Kislovodsk**	**3.82**	**103**	Pn	**Pb**	**02 47 40.2**	**-2.4**	
	comp=E,6.2nm,0.5s							
KIV				Sn	**Sn**	**02 48 20.8**	**+2.5**	
	comp=E,20nm,0.5s							
KIV				*i* S	**Sn**	**02 48 21.5**	**+3.2**	
BZK	**Bozkurt**	**3.93**	**222**	*e*PN	**Pn**	**02 47 35.8**	**+0.7**	
KVT	**Kavak**	**4.01**	**196**	*e*PN	Pn	02 47 35.8	-0.4	
BYBT	**Boyabat**	**4.02**	**211**	*e*PN	**Pn**	**02 47 36.1**	**+0.5**	
KBZ	**Khabaz**	**4.04**	**106**	Pn	**Pn**	**02 47 38.7**	**+2.2**	
	comp=E,1.7nm,0.3s,baz=337,slow=6.4,SNR=42							
KBZ				Sn	**Sn**	**02 48 25.8**	**+2.4**	
	comp=E,1.5nm,0.3s,baz=107,slow=18,SNR=5.2							
KBZ	**Khabaz**	**4.04**	**106**	P	**Pn**	**02 47 38.7**	**+2.2**	
KBZ						02 48 25.8		
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KBZ				smax	smax			
	comp=N,2.0nm,0.3s							
KBZ	**Khabaz**	**4.04**	**106**	P	**Pn**	**02 47 38.7**	**+2.2**	
	comp=N,2.0nm,0.3s							
KBZ				S	**Sn**	**02 48 25.8**	**+2.4**	
	comp=N,2.0nm,0.3s							
ESPY	**Espiye-Giresun**	**4.12**	**167**	*e*PN	Pn	02 47 37.2	-0.5	
RSDY	**Resadiye-TOKAT**	**4.54**	**182**	*e*PN	Pn	02 47 43.1	-0.4	
GUMT	**Gumushane**	**4.70**	**162**	*e*PN	**Pn**	**02 47 45.5**	**-0.4**	
BAYT	**Ayd¨–ntepe-Bay**	**4.94**	**156**	*e*PN	**Pn**	**02 47 49.2**	**+0.1**	
KORR	**Kora**	**5.07**	**109**	*e*P	Pn	02 47 53.8	+3.0	
KORR	**Kora**	**5.07**	**109**	*e*P	Pn	02 47 53.8	+3.0	
ZEI	**Tsey**	**5.09**	**113**	*e*P	**Pn**	**02 47 52.9**	**+1.6**	
ZEI	**Tsey**	**5.09**	**113**	*e*P	**Pn**	**02 47 52.9**	**+1.6**	
SAFT	**Safranbolu**	**5.12**	**225**	*e*PN	**Pn**	**02 47 53.0**	**+1.5**	
CANT	**Cankiri**	**5.20**	**215**	*e*PN	**Pn**	**02 47 53.6**	**+1.0**	
CORM	**Corum**	**5.22**	**205**	*e*PN	**Pn**	**02 47 54.1**	**+1.2**	
ILIC	**ilic-Erzincan**	**5.54**	**172**	*e*PN	**Pn**	**02 47 57.3**	**0.0**	
YOZ	**Yozgat**	**5.54**	**198**	*e*PN	**Pn**	**02 47 58.0**	**+0.5**	
ERZN	**Erzincan**	**5.59**	**162**	*e*PN	**Pn**	**02 47 58.4**	**+0.3**	
BRTR	**Keskin Array B**	**5.96**	**210**	Pn	**Pn**	**02 48 03.6**	**+0.5**	
	comp=N,0.6nm,0.3s,baz=25,slow=11,SNR=58							
BRTR				Sn	Sn	02 49 09.6	-1.3	
	comp=N,0.2nm,0.3s,baz=280,slow=16,SNR=5.1							
BRTR	**Keskin Array B**	**5.96**	**210**	P	**Pn**	**02 48 03.6**	**+0.5**	
	comp=N,1.0nm,0.3s							
KAMT	**Kaman**	**6.25**	**208**	*e*PN	**Pn**	**02 48 07.9**	**+0.9**	
AKASG	**Malin Array Be**	**8.02**	**319**	Pn	Pn	02 48 33.1	+2.0	
	comp=N,2.9nm,0.3s,baz=138,slow=21,SNR=13							
AKASG				Sn	**Sn**	**02 49 59.3**	**-2.2**	
	comp=N,2.9nm,0.3s,baz=132,slow=25,SNR=6.8							
AKASG	**Malin Array Be**	**8.02**	**319**	P	Pn	02 48 33.2	+2.0	
AKASG						02 49 59.3		
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.3s							
AKASG				smax	smax			
	comp=N,3.0nm,0.3s							
AKASG	**Malin Array Be**	**8.02**	**319**	P	Pn	02 48 33.2	+2.0	
	comp=N,3.0nm,0.3s							
AKASG				S	**Sn**	**02 49 59.3**	**-2.2**	
	comp=N,3.0nm,0.3s							
AKTK	**Aktyubinsk**	**14.83**	**61**	P	**Pn**	**02 50 03.0**	**-1.4**	
AKTO	**Aktyubinsk**	**14.83**	**61**	Pn	**Pn**	**02 50 03.0**	**-1.4**	
	comp=N,0.2nm,0.3s,baz=255,slow=12,SNR=5.7							
AKTO	**Aktyubinsk**	**14.83**	**61**	⇓Pn	Pn	02 49 54.6	-10	
	comp=N,0.1nm,0.5s							
AKTO				⇑Sn	Sn	02 52 37.9	-10	
	comp=N,0.1nm,0.3s							
AKTO	**Aktyubinsk**	**14.83**	**61**	P	**Pn**	**02 50 03.0**	**-1.4**	
AKTO	**Aktyubinsk**	**14.83**	**61**	Pn	Pn	02 49 54.6	-10	
	comp=N,0.1nm,0.5s							
AKTO				Sn	Sn	02 52 37.9	-10	
	comp=N,0.1nm,0.3s							
AB31	**Akbulak array**	**15.84**	**66**	⇑Pn	**P**	**02 50 18.6**	**-2.7**	
	comp=N,0.3nm,0.5s,baz=264,slow=13,SNR=5.2							
AB31				⇑Sn	Sn	02 53 02.8	-10	
	comp=N,0.1nm,0.2s,baz=274,slow=25,SNR=2.5							
AB31	**Akbulak array**	**15.84**	**66**	Pn	**P**	**02 50 18.6**	**-2.7**	
	comp=N,0.3nm,0.5s,baz=264,SNR=5.2							
FINES	**FINESS Array B**	**17.85**	**342**	Pn	**Pn**	**02 50 40.0**	**-2.8**	
	comp=N,0.1nm,0.3s,baz=145,slow=13,SNR=4.3							
JOF	**Joensuu**	**18.36**	**351**	*e*P	**P**	**02 50 48.6**	**-0.5**	
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**18.36**	**351**	*e*p	**P**	**02 50 48.6**	**-0.5**	
	comp=Z,0.6nm,0.4s							
JOF	**Joensuu**	**18.36**	**351**	*e*P	**P**	**02 50 48.6**	**-0.5**	
	comp=Z,1.0nm,0.4s							
KAF	**Kangasniemi**	**18.40**	**343**	*e*P	**P**	**02 50 49.1**	**-0.4**	
KAF	**Kangasniemi**	**18.40**	**343**	*e*p	**P**	**02 50 49.1**	**-0.4**	
	comp=Z,0.4nm,0.3s							
KAF	**Kangasniemi**	**18.40**	**343**	*e*P	**P**	**02 50 49.1**	**-0.4**	
ARCES	**ARCESS Array B**	**25.40**	**350**	P	P	02 52 04.1	+2.4	
	comp=Z,2.3nm,0.9s,baz=164,slow=9.4,SNR=5.8							
ARCES	**ARCESS Array B**	**25.40**	**350**	P	P	02 52 04.1	+2.4	
	comp=Z,2.0nm,0.9s							
KURBB	**Kurchatov Arra**	**27.86**	**63**	P	**P**	**02 52 25.8**	**+1.8**	
	comp=Z,0.2nm,0.5s,baz=272,slow=9.5,SNR=4.9							
KURK	**Kurchatov**	**27.91**	**63**	P	**P**	**02 52 25.8**	**+1.4**	
KURK	**Kurchatov**	**27.91**	**63**	P	**P**	**02 52 25.8**	**+1.4**	
TORD	**Torodi Ar. Bea**	**43.95**	**235**	P	**P**	**02 54 41.8**	**+0.1**	
	comp=Z,0.5nm,1.1s,baz=39,slow=9.7,SNR=3.8							
YKA	**Yellowknife Ar**	**70.61**	**347**	P	P	02 57 51.2	+1.8	
	comp=Z,0.1nm,0.5s,baz=17,slow=6.8,SNR=3.6							
YKA	**Yellowknife Ar**	**70.61**	**347**	P	P	02 57 51.2	+1.8	

MEX 23 02:53:36.5±1.1, 18.°92N×97.°01W, h46km±20km, MD3.9, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.60**	**214**	*e*P	Pn	02 53 46.6	-2.5
TPIG				*i* S	Sn	02 53 56.5	-1.6
LVIG	**Laguna Verde**	**0.97**	**35**	*e*P	Pn	02 53 51.7	-2.1
LVIG				*i* S	Sn	02 54 05.2	-1.2
UTMO	**Huajuapan**	**1.32**	**215**	*e*P	Pn	02 53 57.9	-0.9
UTMO				*i* S	Sn	02 54 14.1	-1.4
PPM	**Popocatepetl**	**1.54**	**276**	*e*P	Pn	02 54 00.0	-2.2
PPM				*i* S	Sn	02 54 18.9	-2.6
IIO	**Organos**	**1.75**	**293**	*e*P	Pn	02 54 02.4	-2.5
IIO				*i* S	Sn	02 54 23.8	-2.6
VHO	**Vista Hermosa**	**1.86**	**172**	*i* P	Pn	02 54 05.9	-0.3
VHO				*i* S	Sn	02 54 26.8	-1.8

YAIG	**Yautepec**	**1.95**	**269**	*i* P	Pn	02 54 06.2	-1.1	
YAIG				*i* S	Sn	02 54 28.5	-2.3	
PTVM	**Pico Tres Padr**	**2.10**	**289**	*e*P	Pn	02 54 08.3	-1.2	
PTVM				*i* S	Sn	02 54 32.8	-2.0	
MZVM		**2.12**	**278**	*e*P	Pn	02 54 08.6	-0.8	
MZVM				*i* S	Sn	02 54 32.4	-2.2	
AZVM	**Cuida Lopez Ma**	**2.25**	**287**	*i* P	Pn	02 54 10.6	-1.0	
AZVM				*i* S	Sn	02 54 36.3	-2.2	
SZVM	**Salazar**	**2.28**	**280**	*i* P	Pn	02 54 10.8	-1.4	
SZVM				*i* S	Sn	02 54 38.1	-1.4	
DEIG	**Demacu**	**2.35**	**306**	*i* S	Sn	02 54 39.5	-1.5	
CMIG	**Matias Romero**	**2.72**	**132**	*i* P	Pn	02 54 16.4	-1.3	
PNIG	**Pinotepa**	**2.73**	**203**	*i* P	Pn	02 54 16.5	-1.5	
HUIG	**Huatulco**	**3.25**	**165**	*i* P	Pn	02 54 27.6	+2.5	
TGIG		**4.27**	**119**	*i* P	Pn	02 54 38.9	-0.2	

IDC 23 03:16:52.9±5.9, 22.°05S×176.°43W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, ML2.4/1, Error ellipse: s-maj=198.4km s-min=27.5km az=136.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.22**	**29**	P	Pn	03 19 07.7	+0.4
	2.2nm,0.3s,baz=207,slow=18,SNR=4.2						
AFI				Sn	Sn	03 20 50.8	-1.1
	2.5nm,0.3s,baz=79,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**45.61**	**258**	P	P	03 25 15.1	-0.2
	1.1nm,0.7s,baz=90,slow=8.2,SNR=9.6						
WRA	**Warramunga Arr**	**45.86**	**263**	P	P	03 25 16.9	-0.3
	1.2nm,0.6s,baz=103,slow=8.2,SNR=15						
AKASG	**Malin Array Be**	**145.07**	**331**	PKPbc	PKPbc	03 36 30.9	-0.5
	0.8nm,0.4s,baz=47,slow=3.8,SNR=4.5						

*CSEM **23** 03:18:43.9±0.3, 36.°71N×7.°55W, h20km, ML2.9/6, Error ellipse: s-maj=6.8km s-min=3.2km az=25.0*
*MDD **23** 03:18:43.8±1.3, 36.°57N×7.°67W, h26km±12km, mb5.0/1, mbLg2.2/17, Error ellipse: s-maj=14.2km s-min=5.5km az=30.0, PRXIMO*
*ISCJB **23** 03:18:44.1±0.8, 36.°74N±0.°04×7.°54W±0.°04, h67km±7km, Error ellipse: s-maj=7.9km s-min=4.0km az=29.4*
*INMG **23** 03:18:44.5±1.5, 36.°61N×7.°65W, h22km±4km, ML2.0, Error ellipse: s-maj=6.8km s-min=3.0km az=41.0*
ISC 23 03:18:44.0±1.5, 36.°65N±0.°06×7.°62W±0.°04, h51km±13km, n73, σ0°92/134, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.65**	**337**	*e*Pg	**Pn**	**03 18 57.0**	**-0.1**
PBDV				*e*Sg	**Sn**	**03 19 06.4**	**-0.2**
PBDV				A	A	03 19 09.0	
	14nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.65**	**337**	P	**Pn**	**03 18 57.0**	**-0.1**
PBDV				S	**Sn**	**03 19 06.4**	**-0.2**
	14nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.65**	**337**	P	**Pn**	**03 18 57.0**	**-0.1**
PBDV				S	**Sn**	**03 19 06.4**	**-0.2**
	14nm,0.1s						
PVAQ	**Vaqueiros**	**0.76**	**354**	*e*Pg	**Pn**	**03 18 58.7**	**+0.2**
PVAQ				*e*Sg	**Sn**	**03 19 09.3**	**+0.1**
PVAQ				A	A	03 19 10.4	
	48nm,0.2s						
PVAQ	**Vaqueiros**	**0.76**	**354**	P	**Pn**	**03 18 58.7**	**+0.2**
PVAQ				S	**Sn**	**03 19 09.3**	**+0.1**
	48nm,0.2s						
PVAQ	**Vaqueiros**	**0.76**	**354**	P	**Pn**	**03 18 58.7**	**+0.2**
PVAQ				S	**Sn**	**03 19 09.3**	**+0.1**
	48nm,0.2s						
EGRO	**El Granado**	**0.89**	**7**	⇑P	**Pn**	**03 19 00.7**	**+0.4**
	3.3nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 19 12.5**	**+0.2**
	15nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.89**	**7**	P	**Pn**	**03 19 00.7**	**+0.4**
	3.3nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 19 12.5**	**+0.2**
	15nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**1.06**	**309**	*e*S	**Sn**	**03 19 15.3**	**-1.0**
MORF				A	A	03 19 23.3	
	13nm,0.3s						
MORF	**Marmelete**	**1.06**	**309**	S	**Sn**	**03 19 15.3**	**-1.0**
	13nm,0.3s						
**

PCBR	**Castelo Branco**	**3.19**	**2**	P		**Pn**	**03 19 32.3**	**+0.7**
PCBR				S		**Sn**	**03 20 08.6**	**+0.2**
	1.3nm,0.2s							
ECOG	**Cogollos-Vega**	**3.30**	**78**	P		**Pn**	**03 19 36.4**	**+3.1**
	0.6nm,0.1s,SNR=4.0							
ECOG				S		**Sn**	**03 20 12.0**	**+0.6**
	1.1nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**3.30**	**78**	P		**Pn**	**03 19 36.4**	**+3.1**
	0.6nm,0.1s,SNR=4.0							
ECOG				S		**Sn**	**03 20 12.0**	**+0.6**
	1.1nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**3.62**	**19**	P		**Pn**	**03 19 38.5**	**+0.9**
	0.6nm,0.1s,SNR=11							
EPLA				S		**Sn**	**03 20 18.4**	**-0.6**
	2.8nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**3.62**	**19**	P		**Pn**	**03 19 38.5**	**+0.9**
	0.6nm,0.1s,SNR=11							
EPLA				S		**Sn**	**03 20 18.5**	**-0.6**
	2.8nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.81**	**71**	P		**Pn**	**03 19 40.8**	**+0.6**
	0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**03 20 23.8**	**+0.1**
	0.5nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.81**	**71**	P		**Pn**	**03 19 40.8**	**+0.6**
	0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**03 20 23.8**	**+0.1**
	0.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**4.17**	**72**	P		**Pn**	**03 19 45.5**	**+0.3**
	SNR=7.9							
EHUE				S		**Sn**	**03 20 33.1**	**+0.3**
	0.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**4.17**	**72**	P		**Pn**	**03 19 45.5**	**+0.3**
	SNR=7.9							
EHUE				S		**Sn**	**03 20 33.1**	**+0.3**
	0.5nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.17**	**42**	P		**Pn**	**03 19 45.8**	**+0.6**
	1.6nm,0.1s,baz=225,slow=13,SNR=8.0							
ESDC				S		**Sn**	**03 20 31.7**	**-1.0**
	0.9nm,0.1s,baz=225,slow=23,SNR=6.2							
ESDC	**Sonseca Array**	**4.17**	**42**	P		**Pn**	**03 19 45.8**	**+0.6**
	1.6nm,0.1s,baz=225,slow=13,SNR=8.0							
ESDC				S		**Sn**	**03 20 31.7**	**-1.0**
	0.9nm,0.1s,baz=225,slow=23,SNR=6.2							
EVIA	**Vianos**	**4.52**	**62**	P		**Pn**	**03 19 49.8**	**-0.2**
	0.5nm,0.1s,SNR=4.0							
EVIA				S		**Sn**	**03 20 39.1**	**-2.2**
	1.1nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**4.52**	**62**	P		**Pn**	**03 19 49.8**	**-0.2**
	0.5nm,0.1s,SNR=4.0							
EVIA				S		**Sn**	**03 20 39.1**	**-2.2**
	1.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.54**	**6**	*e*Pn		**Pn**	**03 19 50.8**	**+0.7**
MVO				*e*Sn		**Sn**	**03 20 39.8**	**-1.8**
MVO				A		A	03 20 42.7	
	2.8nm,0.5s							
MVO	**Moncorvo**	**4.54**	**6**	*e*Pn		**Pn**	**03 19 50.8**	**+0.7**
MVO				*e*Sn		**Sn**	**03 20 39.8**	**-1.8**
	2.8nm,0.5s							
PVRL	**Vila Real**	**4.62**	**359**	*e*Sn		**Sn**	**03 20 42.9**	**-0.8**
PVRL				A		A	03 20 45.6	
	3.6nm,0.1s							
PVRL	**Vila Real**	**4.62**	**359**	S		**Sn**	**03 20 42.9**	**-0.8**
	1.8nm,0.1s							
PVRL	**Vila Real**	**4.62**	**359**	S		**Sn**	**03 20 42.9**	**-0.8**
	1.8nm,0.1s							
POLO	**Lamas de Olo**	**4.72**	**358**	*e*Pn		**Pn**	**03 19 53.1**	**+0.4**
POLO				*e*Sn		**Sn**	**03 20 46.2**	**0.0**
POLO				A		A	03 20 47.4	
	1.1nm,0.3s							
POLO	**Lamas de Olo**	**4.72**	**358**	*e*Pn		**Pn**	**03 19 53.1**	**+0.4**
POLO				*e*Sn		**Sn**	**03 20 46.2**	**0.0**
	1.1nm,0.3s							
GUD	**Guadarrama**	**4.82**	**33**	P		**Pn**	**03 19 55.9**	**+1.8**
	0.3nm,0.1s,SNR=7.9							
GUD				S		**Sn**	**03 20 48.4**	**-0.4**
	0.6nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**4.82**	**33**	P		**Pn**	**03 19 55.9**	**+1.8**
	0.3nm,0.1s,SNR=7.9							
GUD				S		**Sn**	**03 20 48.4**	**-0.4**
	0.6nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**5.20**	**7**	*e*Pn		**Pn**	**03 19 59.7**	**+0.5**
PBRG				*e*Sn		**Sn**	**03 20 56.9**	**-0.9**
PBRG				A		A	03 21 04.1	
	0.8nm,0.1s							
PBRG	**Braganca**	**5.20**	**7**	P		**Pn**	**03 19 59.7**	**+0.5**
PBRG				S		**Sn**	**03 20 56.9**	**-0.9**
	0.4nm,0.1s							
PBRG	**Braganca**	**5.20**	**7**	*e*Pn		**Pn**	**03 19 59.7**	**+0.5**
PBRG				S		**Sn**	**03 20 56.9**	**-0.9**
	0.4nm,0.1s							
ETOB	**Tobarra**	**5.21**	**66**	P		**Pn**	**03 19 59.0**	**-0.4**
	0.2nm,0.1s,SNR=6.3							
ETOB				S		**Sn**	**03 20 55.7**	**-2.5**
	0.7nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**5.21**	**66**	P		**Pn**	**03 19 59.0**	**-0.4**
	0.2nm,0.1s,SNR=6.3							
ETOB				S		**Sn**	**03 20 55.7**	**-2.5**
	0.7nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.23**	**356**	P		**Pn**	**03 20 00.2**	**+0.6**
	0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**03 20 59.1**	**+0.5**
	1.5nm,0.1s,SNR=148							
ELOB	**Lobios**	**5.23**	**356**	P		**Pn**	**03 20 00.2**	**+0.6**
	0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**03 20 59.1**	**+0.5**
	1.5nm,0.1s,SNR=148							
ECAL	**Calabor**	**5.33**	**7**	P		**Pn**	**03 20 01.7**	**+0.7**
	0.8nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**03 20 59.7**	**-1.4**
	1.1nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.34**	**355**	*e*Pn		**Pn**	**03 20 01.8**	**+0.7**
PGAV				*e*Sn		**Sn**	**03 21 00.1**	**-1.2**
PGAV				A		A	03 21 04.5	
	3.4nm,0.8s							
PGAV	**Gavieira, Arco**	**5.34**	**355**	*e*Pn		**Pn**	**03 20 01.8**	**+0.7**
PGAV				*e*Sn		**Sn**	**03 21 00.1**	**-1.2**
	3.4nm,0.8s							
ETOR	**Torete**	**6.02**	**45**	P		**Pn**	**03 20 11.0**	**+0.5**
	1.0nm,0.1s,SNR=7.9							
ETOR				S		**Sn**	**03 21 16.2**	**-2.0**
	1.9nm,0.2s,SNR=7.9							
ETOR	**Torete**	**6.02**	**45**	P		**Pn**	**03 20 11.0**	**+0.5**
	1.0nm,0.1s,SNR=7.9							
ETOR				S		**Sn**	**03 21 16.2**	**-2.0**
	1.9nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**6.21**	**68**	S		**Sn**	**03 21 22.1**	**-0.7**
	0.2nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**6.21**	**68**	S		**Sn**	**03 21 22.1**	**-0.7**
	0.2nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**6.72**	**54**	S		**Sn**	**03 21 32.4**	**-3.0**
	0.3nm,0.3s,SNR=4.0							

IDC 23 03:24:04.6±30.0, 22°09S×178°31W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=578.1km s-min=140.6km az=90.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.86**	**246**	P	P	03 31 14.1	-0.8
	0.4nm,0.4s,baz=54,slow=8.7,SNR=2.4						
ASAR	**Alice Springs**	**43.89**	**258**	P	P	03 32 13.3	0.0
	1.1nm,0.5s,baz=100,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**44.12**	**264**	P	P	03 32 15.7	+0.5
	1.7nm,0.3s,baz=96,slow=8.5,SNR=44						
FITZ	**Fitzroy Crossi**	**52.55**	**264**	P	P	03 33 19.8	-0.4
	1.9nm,0.8s,baz=117,slow=6.8,SNR=3.1						

*ISCJB **23** 03:27:19.0±0.5, 24°.66N±0°.06×122°.58E±0°.02, h19km±11km, Error ellipse: s-maj=10.5km s-min=3.0km az=11.0*
*JMA **23** 03:27:18.8±0.2, 24°.61N×122°.56E, h16km, M2.2*
*TAP **23** 03:27:19.1, 24°.67N×122°.53E, h15km±1km, ML3.0, C*
ISC 23 03:27:18.6±1.1, 24°.64N±0°.07×122°.56E±0°.03, h17km±9km, n14, σ0s43/28, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**114**	P	**Pg**	**03 27 27.5**	**-0.1**
YOJ				*e*S	**Sg**	**03 27 33.6**	**-0.1**
TWB1	**Santiao Chiao**	**0.64**	**305**	*e*P	**Pb**	**03 27 31.4**	**+0.1**
	baz=304						
TWB1				*e*S	**Sb**	**03 27 39.6**	**-0.4**
	baz=304						
TWC	**Suao**	**0.65**	**267**	P	**Pb**	**03 27 30.8**	**-0.8**
	baz=264						
TWC				S	**Sb**	**03 27 39.9**	**-0.4**
	baz=264						
ENA	**Nanau**	**0.78**	**254**	*e*P	**Pb**	**03 27 33.8**	**+0.1**
	baz=259						
ENA				*e*S	**Sg**	**03 27 44.2**	**+0.1**
	baz=259						
TWE	**Neicheng**	**0.82**	**276**	*e*P	**Pb**	**03 27 34.1**	**-0.3**
	baz=265						
TWE				*e*S	**Sb**	**03 27 44.9**	**-0.3**
	baz=265						
NWF	**Wu-fen Shan**	**0.83**	**301**	P	**Pb**	**03 27 35.0**	**+0.3**
	baz=300						
NWF				S	**Sg**	**03 27 46.1**	**+0.3**
	baz=300						
ENTT	**Nioudou**	**0.91**	**270**	P	**Pb**	**03 27 36.0**	**+0.1**
	baz=267						
ENTT				*e*S	**Sb**	**03 27 47.9**	**+0.1**
	baz=267						
NSK	**Sanguang**	**1.10**	**272**	P	**Pn**	**03 27 39.4**	**+0.1**
	baz=269						
NSK				S	**Sn**	**03 27 53.9**	**-0.2**
	baz=269						
NNS	**Nan Shan**	**1.10**	**260**	P	**Pn**	**03 27 39.8**	**+0.4**
	baz=257						
NNS				*e*S	**Sn**	**03 27 54.3**	**-0.1**
	baz=257						
IRIF	**Iriomote-Funau**	**1.11**	**106**	P	**Pn**	**03 27 39.4**	**0.0**
IRIF				*e*S	**Sb**	**03 27 54.0**	**+0.5**
HATJ	**Hateruma jima**	**1.27**	**117**	P	**Pn**	**03 27 41.9**	**+0.2**
HATJ				*e*S	**Sn**	**03 27 58.0**	**-0.4**
WHF	**Hehuan Shan**	**1.28**	**248**	*e*P	**Pn**	**03 27 42.4**	**+0.2**
	baz=252						
WHF				*e*S	**Sb**	**03 28 00.1**	**+1.1**
	baz=252						
JKRS	**Kuro-shima**	**1.38**	**107**	P	**Pn**	**03 27 42.7**	**-0.4**
JKRS				*e*S	**Sn**	**03 28 00.3**	**-0.7**
JIJ	**Ishigaki jima**	**1.47**	**101**	P	**Pn**	**03 27 44.9**	**+0.6**
JIJ				*e*S	**Sn**	**03 28 03.6**	**+0.4**

*ISCJB **23** 03:32:08.6±0.6, 24°.81N±0°.04×122°.16E±0°.02, h93km±5km, Error ellipse: s-maj=6.0km s-min=3.3km az=165.6*
*TAP **23** 03:32:08.2, 24°.82N×122°.15E, h96km, ML3.6, C*
*JMA **23** 03:32:08.4±0.3, 24°.94N×122°.19E, h91km, M2.5*
ISC 23 03:32:09.1±1.5, 24°.78N±0°.05×122°.17E±0°.03, h91km±9km, n41, σ0s89/80, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.28**	**325**	*i* P	**Pn**	**03 32 22.3**	**-0.3**
	baz=315						
TWB1				S	**Sn**	**03 32 32.3**	**-0.3**
	baz=315						
TWC	**Suao**	**0.33**	**240**	*i* P	**Pn**	**03 32 22.7**	**-0.2**
	baz=232						
TWC				*e*S	**Sn**	**03 32 32.9**	**-0.2**
	baz=232						
ILA	**Ilan**	**0.38**	**268**	P	**Pn**	**03 32 23.2**	**+0.1**
	baz=259						
ILA				S	**Sn**	**03 32 33.7**	**+0.2**
	baz=259						
NWF	**Wu-fen Shan**	**0.46**	**310**	*i* P	**Pn**	**03 32 23.4**	**-0.4**
	baz=299						
NWF				S	**Sn**	**03 32 34.1**	**-0.6**
	baz=299						
TWE	**Neicheng**	**0.46**	**263**	*i* P	**Pn**	**03 32 23.5**	**-0.1**
	baz=259						
TWE				*e*S	**Sn**	**03 32 34.8**	**+0.4**
	baz=259						
ENA	**Nanau**	**0.52**	**228**	*i* P	**Pn**	**03 32 24.5**	**+0.4**
	baz=217						
ENA				S	**Sn**	**03 32 36.3**	**+1.0**
	baz=217						
ENTT	**Nioudou**	**0.56**	**256**	*i* P	**Pn**	**03 32 24.6**	**+0.1**
	baz=248						
ENTT				*e*S	**Sn**	**03 32 36.5**	**+0.5**
	baz=248						
TAP1	**Taipei**	**0.64**	**294**	*e*P	**Pn**	**03 32 25.5**	**+0.4**
	baz=291						
TWY	**Chenhua**	**0.71**	**314**	P	**Pn**	**03 32 25.2**	**-0.7**
	baz=307						
TWY				*e*S	**Sn**	**03 32 37.5**	**-0.8**
	baz=307						
NSK	**Sanguang**	**0.74**	**262**	*i* P	**Pn**	**03 32 26.1**	**-0.1**
	baz=258						
NSK				S	**Sn**	**03 32 38.9**	**-0.1**
	baz=258						
TWS1	**Kuangyinshan**	**0.75**	**296**	*e*P	**Pn**	**03 32 26.0**	**-0.2**
	baz=293						
TWS1				*e*S	**Sn**	**03 32 38.2**	**-0.8**
	baz=293						
NNS	**Nan Shan**	**0.80**	**245**	P	**Pn**	**03 32 27.1**	**+0.3**
	baz=246						
NNS				S	**Sn**	**03 32 40.7**	**+0.6**
	baz=246						
YOJ	**Yonaguni jima**	**0.83**	**112**	P	**Pn**	**03 32 27.0**	**0.0**
YOJ				*e*S	**Sn**	**03 32 41.1**	**+0.6**
TWD	**Chiawan**	**0.87**	**217**	*e*P	**Pn**	**03 32 27.3**	**-0.1**
	baz=223						
TWD				*e*S	**Sn**	**03 32 41.0**	**-0.1**
	baz=223						
NCU	**National Centr**	**0.91**	**282**	*e*P	**Pn**	**03 32 27.3**	**-0.5**
	baz=285						
NCU				*e*S	**Sn**	**03 32 42.2**	**+0.2**
	baz=285						
HWA	**Hwalien**	**0.95**	**213**	P	**Pn**	**03 32 28.4**	**+0.2**
	baz=200						
HWA				*e*S	**Sn**	**03 32 43.7**	**+1.0**
	baz=200						
WHF	**Hehuan Shan**	**1.03**	**233**	*i* P	**Pn**	**03 32 29.7**	**0.0**
	baz=223						
WHF				S	**Sn**	**03 32 45.6**	**+0.5**
	baz=223						
TWT	**Tachien**	**1.04**	**240**	*i* P	**Pn**	**03 32 30.3**	**+0.7**
	baz=229						
TWT				S	**Sn**	**03 32 45.8**	**+0.9**
	baz=229						
NSTT	**Nanjuang**	**1.07**	**262**	*e*P	**Pn**	**03 32 29.5**	**-0.2**
	baz=259						
NSTT				*e*S	**Sn**	**03 32 44.6**	**-0.5**
	baz=259						
ESL	**Shilin**	**1.17**	**215**	*e*P	**Pn**	**03 32 30.1**	**-0.8**
	baz=216						
ESL				*e*S	**Sn**	**03 32 46.4**	**-0.9**
	baz=216						
NSY	**Sanyi**	**1.33**	**255**	*e*P	**Pn**	**03 32 32.6**	**-0.2**
	baz=251						
NSY				*e*S	**Sn**	**03 32 49.9**	**-0.8**
	baz=251						
TWQ1	**Liyutan**	**1.34**	**252**	*e*P	**Pn**	**03 32 33.8**	**+0.9**
	baz=248						
TWQ1				*e*S	**Sn**	**03 32 51.3**	**+0.4**
	baz=248						
SMLT	**Sun Moon Lake**	**1.46**	**233**	*i* P	**Pn**	**03 32 35.0**	**+0.5**
	baz=223						
SMLT				S	**Sn**	**03 32 54.7**	**+1.0**
	baz=223						
TYC	**Yuchr**	**1.48**	**234**	P	**Pn**	**03 32 35.0**	**+0.4**
	baz=238						
TYC				S	**Sn**	**03 32 54.9**	**+1.0**
	baz=238						
EHY	**Hungye**	**1.48**	**211**	*e*P	**Pn**	**03 32 33.7**	**-1.0**
	baz=206						
EHY				*e*S	**Sn**	**03 32 52.8**	**-1.3**
	baz=206						
IRIF	**Iriomote-Funau**	**1.49**	**107**	P	**Pn**	**03 32 34.4**	**-0.4**
IRIF				*e*S	**Sn**	**03 32 54.8**	**+0.6**
TWF1	**Yuli**	**1.62**	**209**	*e*P	**Pn**	**03 32 35.4**	**-1.2**
	baz=210						
TWF1				*e*S	**Sn**	**03 32 56.1**	**-1.2**
	baz=210						
HATJ	**Hateruma jima**	**1.66**	**115**	P	**Pn**	**03 32 37.5**	**+0.6**
HATJ				*e*S	**Sn**	**03 32 58.7**	**+0.7**
JKRS	**Kuro-shima**	**1.76**	**107**	P	**Pn**	**03 32 38.7**	**+0.4**
JKRS				*e*S	**Sn**	**03 33 01.2**	**+0.8**
ALS	**Alishan**	**1.77**	**225**	P	**Pn**	**03 32 39.7**	**+1.1**
	baz=230						
ALS				*e*S	**Sn**	**03 33 02.6**	**+1.5**
	baz=230						
CHN5	**Tsauling**	**1.80**	**229**	*e*P	**Pn**	**03 32 39.1**	**+0.3**
	baz=225						
CHN5				*i* S	**Sn**	**03 33 02.7**	**+1.3**
	baz=225						
JIJ	**Ishigaki jima**	**1.85**	**102**	P	**Pn**	**03 32 39.2**	**-0.1**
JIJ				*e*S	**Sn**	**03 33 02.0**	**-0.4**
ELDTW	**Lidau**	**1.90**	**214**	*e*P	**Pn**	**03 32 39.9**	**-0.3**
	baz=204						
CHN4	**Tsaushan**	**2.02**	**226**	*e*P	**Pn**	**03 32 42.8**	**+1.2**
	baz=221						
CHN4				S	**Sn**	**03 33 07.9**	**+1.4**
	baz=221						
WTP	**Ta-pu**	**2.08**	**223**	P	**Pn**	**03 32 43.3**	**+0.8**
	baz=229						
WTP				*e*S	**Sn**	**03 33 09.2**	**+1.3**
	baz=229						
TWK	**Hsinying**	**2.15**	**226**	*e*P	**Pn**	**03 32 45.7**	**+2.4**
	baz=221						
TWK				*e*S	**Sn**	**03 33 10.2**	**+0.7**
	baz=221						
CHN1	**Nanshi**	**2.18**	**224**	*e*P	**Pn**	**03 32 44.7**	**+1.0**
	baz=229						
CHN1				*e*S	**Sn**	**03 33 11.2**	**+0.9**
	baz=229						
TWG	**Pinlang**	**2.19**	**207**	*e*P	**Pn**	**03 32 43.4**	**-0.5**
	baz=196						
TWG				*e*S	**Sn**	**03 33 09.0**	**-1.5**
	baz=196						
JTJ	**Tarama**	**2.31**	**93**	P	**Pn**	**03 32 45.7**	**+0.3**
JTJ				*e*S	**Sn**	**03 33 13.8**	**+0.5**
PNG	**Penghu**	**2.67**	**244**	*e*P	**Pn**	**03 32 50.1**	**-0.1**
	baz=242						
PNG				*e*S	**Sn**	**03 33 20.0**	**-1.8**
	baz=242						
LAY	**Lan-yu**	**2.78**	**192**	*e*P	**Pn**	**03 32 50.1**	**-1.7**
	baz=186						
LAY				*e*S	**Sn**	**03 33 21.3**	**-3.3**
	baz=186						

*IDC **23** 03:49:30.4±0.8, 19°.14N×66°.78W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, MS3.2/2, Ms1 3.2/2, ms1mx2.6/30, Error ellipse: s-maj=29.1km s-min=14.7km az=45.0*
*ISCJB **23** 03:49:33.0±1.1, 19°.17N±0°.04×66°.82W±0°.04, h31km±8km, mb3.5/7, MS3.1/2, Error ellipse: s-maj=7.2km s-min=5.4km az=148.6*
*RSPR **23** 03:49:34.6, 19°.14N×66°.81W, h9km±3km, MD3.5/16*
*NEIC **23** 03:49:34.6, 19°.14N×66°.81W, h9km, MD3.5(RSPR), After RSPR.*
ISC 23 03:49:33.5±1.0, 19°.12N±0°.06×66°.80W±0°.04, h20km±9km, n55, σ0s57/67, mb3.6/7, 17C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**204**	*e*P	**Pb**	**03 49 47.4**	**+0.2**
AGPR	**Aguadilla, PR**	**0.71**	**204**	*e*P	**Pb**	**03 49 47.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.77**	**176**	*e*P	**Pb**	**03 49 48.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.77**	**176**	*e*S	**Sb**	**03 49 59.2**	**+1.0**
AOPR	**Arecibo Observ**	**0.77**	**176**	*e*P	**Pb**	**03 49 48.5**	**+0.3**
AOPR				*e*S	**Sb**	**03 49 59.2**	**+1.0**
LRS	**Lares**	**0.82**	**183**	*i*P	**Pb**	**03 49 49.1**	**-0.1**
LRS	**Lares**	**0.82**	**183**	*i*P	**Pb**	**03 49 49.1**	**-0.1**
MPR	**Mayaguez**	**0.96**	**200**	*e*P	**Pb**	**03 49 51.1**	**-0.3**
MPR	**Mayaguez**	**0.96**	**200**	*e*S	**Sn**	**03 50 04.2**	**-0.6**
MPR	**Mayaguez**	**0.96**	**200**	*e*P	**Pb**	**03 49 51.1**	**-0.3**
MPR				*e*S	**Sn**	**03 50 04.2**	**-0.6**
LSP	**Las Mesas**	**0.97**	**196**	*e*P	**Pb**	**03 49 51.3**	**-0.5**
LSP	**Las Mesas**	**0.97**	**196**	*e*P	**Pb**	**03 49 51.3**	**-0.5**
CELP	**Cerrillos**	**1.06**	**168**	*e*P	**Pn**	**03 49 53.0**	**-0.2**
CELP				*e*S	**Sb**	**03 50 07.1**	**+0.5**
CELP	**Cerrillos**	**1.06**	**168**	*e*P	**Pn**	**03 49 53.0**	**-0.2**
CELP				*e*S	**Sb**	**03 50 07.1**	**+0.5**
OBIP	**Obispado Ponce**	**1.09**	**170**	*e*P	**Pn**	**03 49 53.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.09**	**170**	*e*S	**Sb**	**03 50 07.4**	**0.0**
OBIP	**Obispado Ponce**	**1.09**	**170**	*e*P	**Pn**	**03 49 53.4**	**-0.2**
OBIP				*e*S	**Sb**	**03 50 07.4**	**0.0**
GBPR	**Guanica, Bosqu**	**1.14**	**184**	*e*P	**Pb**	**03 49 54.4**	**-0.2**
GBPR				*e*S	**Sn**	**03 50 09.2**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.14**	**184**	*e*P	**Pb**	**03 49 54.4**	**-0.2**
GBPR				*e*S	**Sn**	**03 50 09.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**195**	*e*P	**Pn**	**03 49 54.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.14**	**195**	*e*S	**Sb**	**03 50 09.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.14**	**195**	*e*P	**Pn**	**03 49 54.3**	**-0.1**
CRPR				*e*S	**Sb**	**03 50 09.1**	**+0.1**
SJG	**San Juan**	**1.18**	**148**	*e*P	**Pn**	**03 49 54.5**	**-0.4**
SJG	**San Juan**	**1.18**	**148**	*e*S	**Sb**	**03 50 09.5**	**-0.5**
SJG	**San Juan**	**1.18**	**148**	*i*P	**Pn**	**03 49 54.5**	**-0.4**
SJG	**San Juan**	**1.18**	**148**	Pn	**Pn**	**03 49 54.5**	**-0.4**
	38nm,0.3s,baz=270,slow=8.9,SNR=45						
SJG				Sn	**Sb**	**03 50 10.0**	**0.0**
	234nm,0.3s,baz=90,slow=22,SNR=34						
SJG	**San Juan**	**1.18**	**148**	*e*P	**Pn**	**03 49 54.5**	**-0.4**
SJG				*e*S	**Sb**	**03 50 09.5**	**-0.5**
SJG				Sn	**Sb**	**03 50 10.1**	**0.0**
HUMP	**Col San Antoni**	**1.33**	**137**	*e*P	**Pn**	**03 49 56.2**	**-0.7**
HUMP	**Col San Antoni**	**1.33**	**137**	*e*S	**Sn**	**03 50 13.6**	**-0.4**
HUMP	**Col San Antoni**	**1.33**	**137**	*e*P	**Pn**	**03 49 56.2**	**-0.7**
HUMP				*e*S	**Sn**	**03 50 13.6**	**-0.4**
STVI	**Saint Thomas**	**1.91**	**113**	*e*P	**Pn**	**03 50 04.6**	**-0.4**
STVI	**Saint Thomas**	**1.91**	**113**	*e*P	**Pn**	**03 50 04.6**	**-0.4**
TBVI	**Tortola**	**2.19**	**108**	*e*P	**Pn**	**03 50 08.8**	**0.0**
TBVI				*e*S	**Sn**	**03 50 35.1**	**-0.1**
TBVI	**Tortola**	**2.19**	**108**	*e*P	**Pn**	**03 50 08.8**	**0.0**
TBVI				*e*S	**Sn**	**03 50 35.1**	**-0.1**
SMN1	**Samana, DR**	**2.33**	**272**	*e*P	**Pn**	**03 50 09.7**	**-1.1**
DR12	**Loma Pena Alta**	**2.46**	**263**	*e*P	**Pn**	**03 50 12.6**	**0.0**
DR12	**Loma Pena Alta**	**2.46**	**263**	*e*P	**Pn**	**03 50 12.6**	**0.0**
TEIG	**Tepich**	**20.25**	**277**	P	**P**	**03 54 07.5**	**-0.2**
	4.2nm,0.7s,baz=76,slow=17,SNR=4.0						
TEIG	**Tepich**	**20.25**	**277**	P	**P**	**03 54 07.5**	**-0.2**
TKL	**Tuckaleechee C**	**22.27**	**321**	LR	LR	04 03 22.1	
	comp=Z,22nm,19.2s,baz=51,slow=37						
TXAR	**Lajitas Array**	**34.99**	**294**	P	**P**	**03 56 25.4**	**+0.5**
	1.4nm,0.6s,baz=110,slow=10,SNR=17						
TXAR	**Lajitas Array**	**34.99**	**294**	P	**P**	**03 56 25.4**	**+0.5**
PDAR	**Pinedale Array**	**42.99**	**313**	P	**P**	**03 57 33.3**	**+1.6**
	0.6nm,0.9s,baz=90,slow=

ILAR	**Eielson Array**	**31.66**	**43**	P		**P**	**04 09 00.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=267,slow=8.1,SNR=4.2							
YKA	**Yellowknife Ar**	**46.00**	**40**	P		**P**	**04 10 59.7**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=298,slow=7.0,SNR=2.7							
KURK	**Kurchatov**	**46.92**	**302**	P		**P**	**04 11 07.6**	**+0.5**
KURBB	**Kurchatov Arra**	**47.02**	**302**	P		**P**	**04 11 07.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=62,slow=7.5,SNR=4.3							
TXAR	**Lajitas Array**	**73.37**	**64**	P		**P**	**04 14 08.4**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=317,slow=6.5,SNR=3.2							

BJI ***23*** *04:28:14.7, 9.2*′*4N, 57.4*′*3E, h10km, mB5.5/45, mb4.8/48, Ms5.3/49, Ms7 5.1/46*

SZGRF ***23*** *04:28:18.7, 9.6*′*9N, 58.8*′*9E, h33km, mb5.3, MS4.5, Carlsberg Ridge*

MOS ***23*** *04:28:20.0±1.4, 9.8*′*1N, 57.7*′*7E, h10km, mb5.3/63, MS4.8/39, Error ellipse: s-maj=7.1km s-min=3.9km az=105.4*

IDC ***23*** *04:28:20.4±0.4, 9.7*′*4N, 57.9*′*8E, h0km, mb4.6/30, mb1 4.7/31, mb1mx4.6/37, mbtmp4.6/31, ML3.6/1, MS4.9/37, Ms1 4.9/37, ms1mx4.8/44, Error ellipse: s-maj=11.4km s-min=10.9km az=105.0*

ISCJB ***23*** *04:28:21.7±0.8, 9.7*′*1N±0.0*′*3, 57.7*′*8E±0.0*′*2, h23km±6km, mb4.9/147, MS5.0/216, Error ellipse: s-maj=5.0km s-min=4.0km az=10.6*

GCMT ***23*** *04:28:21.4±0.1, 9.6*′*9N, 57.7*′*6E, h12km, MW5.5, Moment Tensor Solution. s85,c142; s41,c42; Moment tensor: Scale 10*^{17}*Nm; Mrr-1.99±.03; Mθθ 1.85±.03; Mφφ 0.14±.03; Mrθ 0.97±.08; Mθφ-0.98±.03; Mφr-0.29±.08; Best double couple: M=2.40000×10*^{17} *NP1:φs119.00000°, δ33.00000°, λ-83.00000°. NP2:φs291.00000°, δ58.00000°, λ-95.00000°. Principal axes: T 2.5200, Plg13.0000°, Azm24.0000°; N -0.2900, Plg4.0000°, Azm293.0000°; P -2.2200, Plg77.0000°, Azm186.0000°; Data Used: II IU IC G. Surface waves: sta=105, comp=217, per= 50.*

NEIC ***23*** *04:28:21.8±0.3, 9.8*′*0N, 57.8*′*2E, h10km, mb5.1/66, MS5.2/149, MW5.5 Error ellipse: s-maj=6.6km s-min=6.0km az=211.0, Moment Tensor Solution. s49 Moment tensor: Scale 10*^{17}*Nm; Mrr-1.50; Mθθ 1.52; Mφφ-0.02; Mrθ 1.43; Mθφ-0.60; Mφr-0.33; Best double couple: M=2.20000×10*^{17} *NP1:φs114.00000°, δ24.00000°, λ-81.00000°. NP2:φs285.00000°, δ66.00000°, λ-94.00000°. Principal axes: T 2.2900, Plg21.0000°, Azm17.0000°; N -0.2200, Plg3.0000°, Azm286.0000°; P -2.0700, Plg68.0000°, Azm186.0000°;*

TEH ***23*** *04:28:22.0, 9.8*′*2N, 57.8*′*7E, h10km, ML5.2*

CSEM ***23*** *04:28:26.9±0.3, 9.7*′*8N, 57.7*′*8E, h47km±2km, mb5.0/83, Ms4.9, Mw5.5, Error ellipse: s-maj=6.9km s-min=6.3km az=63.0*

ISC 23 04:28:22.7±0.4, 9°80N±0.0°×57°88E±0.0°, h15km±1km, h15km:pP-P, n814, σ1§45/701, mb5.0/147, MS5.1/217, 56C-23D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**8.74**	**330**	⇑P		**Pn**	**Pn**	**04 30 28.8**	**+0.1**
ABTO	**Aybut**	**8.74**	**330**	P		**Pn**	**Pn**	**04 30 28.8**	**+0.1**
JMDO	**Jabal Madar**	**12.51**	**1**	P		Pn	Pn	04 31 24.7	+4.5
	SNR=7.1								
JMDO	**Jabal Madar**	**12.51**	**1**	P		Pn	Pn	04 31 24.7	+4.5
	SNR=7.1								
WSAR	**Wadi Sarin**	**13.39**	**3**	Pn		**Pn**	**Pn**	**04 31 31.9**	**-0.3**
	0.3nm,0.3s,baz=197,slow=16,SNR=2.8								
WSAR				LR		LR	LR	04 36 02.8	
	comp=Z,16μm,18.9s,baz=185,slow=34								
WSAR	**Wadi Sarin**	**13.39**	**3**	Pn		**Pn**	**Pn**	**04 31 31.9**	**-0.3**
WSAR	**Wadi Sarin**	**13.39**	**3**	Pn		**Pn**	**Pn**	**04 31 32.0**	**-0.3**
ARQ	**Araqi**	**13.53**	**355**	P		P	P	04 31 38.0	-5.3
	SNR=7.5								
ARQ	**Araqi**	**13.53**	**355**	P		P	P	04 31 38.0	-5.3
	SNR=7.5								
MSEY	**Mahe Island**	**14.57**	**190**	*e*Pn		**Pn**	**Pn**	**04 31 49.6**	**+1.0**
MSEY				*e*S		S	S	04 34 39.2	-10
MSEY	**Mahe Island**	**14.57**	**190**	⇑P		**Pn**	**Pn**	**04 31 49.6**	**+1.0**
MSEY	**Mahe Island**	**14.57**	**190**	Pn		Pn	Pn	04 31 42.2	-6.4
	273nm,1.1s,SNR=5.3								
MSEY	**Mahe Island**	**14.57**	**190**	*e*Pn		**Pn**	**Pn**	**04 31 49.6**	**+1.0**
ATD	**Arta Tunnel**	**14.88**	**278**	Pn		**Pn**	**Pn**	**04 31 51.2**	**-1.5**
	2.2nm,0.3s,baz=138,slow=21,SNR=4.1								
ATD				LR		LR	LR	04 36 59.5	
	comp=Z,2μm,19.6s,baz=95,slow=35								
ATD	**Arta Tunnel**	**14.88**	**278**	Pn		**Pn**	**Pn**	**04 31 51.2**	**-1.5**
ATD	**Arta Tunnel**	**14.88**	**278**	Pn		**Pn**	**Pn**	**04 31 51.2**	**-1.5**
ASHO	**Ashiyiah**	**14.91**	**354**	⇓P		**Pn**	**Pn**	**04 31 50.9**	**-2.2**
ASUD	**Al Ashush, Dub**	**14.95**	**351**	⇑P		**Pn**	**Pn**	**04 31 54.1**	**+0.6**
HATD	**Hatta, Dubai**	**15.04**	**354**	⇓P		**Pn**	**Pn**	**04 31 55.4**	**+0.6**
BANOM	**Banah**	**16.11**	**355**	⇑P		**P**	**P**	**04 32 09.8**	**-2.3**
BANOM	**Banah**	**16.11**	**355**	P		**P**	**P**	**04 32 10.6**	**-1.4**
	SNR=5.3								
KAD	**Karad**	**17.51**	**63**	*i* P		**P**	**P**	**04 32 28.5**	**+0.9**
POO	**Poona**	**17.74**	**59**	‖*i*P		**P**	**P**	**04 32 31.0**	**+0.9**
RAYN	**Ar Rayn**	**18.06**	**321**	Pn		**P**	**P**	**04 32 32.9**	**-0.8**
	149nm,0.8s,SNR=6.0								
RAYN	**Ar Rayn**	**18.06**	**321**	*e*P		**P**	**P**	**04 32 34.2**	**+0.5**
	71nm,1.1s								
RAYN	**Ar Rayn**	**18.06**	**321**	*e*P		**P**	**P**	**04 32 34.2**	**+0.5**
	71nm,1.1s								
ISRV	**Sarvestan**	**19.99**	**348**	*e*P		**Pn**	**Pn**	**04 32 56.1**	**-0.7**
ISRV	**Sarvestan**	**19.99**	**348**	*e*P		**Pn**	**Pn**	**04 32 56.1**	**-0.7**
QRN	**Al-Qurain**	**21.05**	**335**	*e*P		**P**	**P**	**04 33 05.5**	**-0.7**
QRN				AMb		AMB	AMB	04 33 11.7	
	comp=Z,323nm,0.8s								
RDF	**Al-Radifah**	**21.36**	**334**	*e*P		**P**	**P**	**04 33 08.4**	**-1.1**
RDF				AMb		AMB	AMB	04 33 12.9	
	comp=Z,293nm,1.5s								
RDF	**Al-Radifah**	**21.36**	**334**	*e*P		**P**	**P**	**04 33 08.4**	**-1.1**
	comp=Z,293nm,1.5s								
HYB	**Hyderabad**	**21.45**	**67**	*i* P		**P**	**P**	**04 33 10.0**	**-0.7**
	comp=Z,50nm,0.5s								
HYB				*e*S		**S**	**S**	**04 37 10.0**	**+1.5**
KBD	**Kabd**	**21.52**	**335**	*e*P		**P**	**P**	**04 33 10.4**	**-0.8**
KBD				AMb		AMB	AMB	04 33 15.2	
	comp=Z,131nm,2.0s								
KBD	**Kabd**	**21.52**	**335**	*e*P		**P**	**P**	**04 33 10.4**	**-0.8**
	comp=Z,131nm,2.0s								
IMEH	**Mehriz**	**21.70**	**352**	*e*P		**P**	**P**	**04 33 13.4**	**-0.1**
IMEH	**Mehriz**	**21.70**	**352**	*e*P		**P**	**P**	**04 33 13.4**	**-0.1**
NAY	**Al-Naaiem**	**21.77**	**334**	*e*P		**P**	**P**	**04 33 12.9**	**-1.1**
NAY				AMb		AMB	AMB	04 33 17.7	
	comp=Z,45nm,1.6s								
NAY	**Al-Naaiem**	**21.77**	**334**	*e*P		**P**	**P**	**04 33 12.9**	**-1.1**
	comp=Z,45nm,1.6s								
IBAF	**Bafgh**	**21.79**	**355**	*e*P		**P**	**P**	**04 33 13.9**	**-0.5**
IBAF	**Bafgh**	**21.79**	**355**	*e*P		**P**	**P**	**04 33 13.9**	**-0.5**
MIB	**Mutribah**	**22.21**	**335**	*e*P		**P**	**P**	**04 33 17.1**	**-1.6**
MIB				AMb		AMB	AMB	04 33 20.9	
	comp=Z,135nm,1.0s								
MIB	**Mutribah**	**22.21**	**335**	*e*P		**P**	**P**	**04 33 17.1**	**-1.6**
	comp=Z,135nm,1.0s								
DGAR	**Diego Garcia**	**22.42**	**139**	PFAKE				04 33 30.0	+8.9
DGAR				LR		LR	LR		
	comp=Z,8μm,21.0s								
IKOO	**Kooshah**	**22.54**	**2**	*e*P		**P**	**P**	**04 33 23.7**	**+1.2**
IKOO	**Kooshah**	**22.54**	**2**	*e*P		**P**	**P**	**04 33 23.7**	**+1.2**
ICHK	**Chekchek**	**22.57**	**352**	*e*P		**P**	**P**	**04 33 23.0**	**+0.2**
ICHK	**Chekchek**	**22.57**	**352**	*e*P		**P**	**P**	**04 33 23.0**	**+0.2**
IDAH	**Dahanechah**	**22.91**	**4**	*e*P		**P**	**P**	**04 33 27.7**	**+1.3**
IDAH	**Dahanechah**	**22.91**	**4**	*e*P		**P**	**P**	**04 33 27.7**	**+1.3**
AJM	**Ajmer**	**22.95**	**42**	*e*P		**P**	**P**	**04 33 29.0**	**+2.3**
ITEG	**Tejag**	**23.00**	**2**	*e*P		**P**	**P**	**04 33 28.8**	**+1.5**
ITEG	**Tejag**	**23.00**	**2**	*e*P		**P**	**P**	**04 33 28.8**	**+1.5**
IGAR	**Gharneh**	**23.14**	**347**	*e*P		**P**	**P**	**04 33 29.2**	**+0.5**
KMBO	**Kilima Mbogo**	**23.23**	**243**	*e*P		**P**	**P**	**04 33 28.9**	**-0.9**
	comp=Z,65nm,1.1s								
KMBO				LR		LR	LR		
	comp=Z,3μm,19.0s								
KMBO	**Kilima Mbogo**	**23.23**	**243**	P		**P**	**P**	**04 33 29.3**	**-0.5**
	SNR=36								
KMBO	**Kilima Mbogo**	**23.23**	**243**	*e*P		**P**	**P**	**04 33 29.0**	**-0.9**
	comp=Z,65nm,1.1s								
KMBO	**Kilima Mbogo**	**23.23**	**243**	*e*P		**P**	**P**	**04 33 29.3**	**-0.5**
NGP	**Nagpur**	**23.28**	**59**	*i* P		**P**	**P**	**04 33 30.6**	**+0.5**
NGP				*ex*		x	x	04 33 43.3	
	comp=Z,62nm,1.6s								
NGP				*i* x		x	x	04 37 48.9	
IZEF	**Zefreh**	**23.55**	**348**	*e*P		**P**	**P**	**04 33 32.5**	**-0.4**
IZEF	**Zefreh**	**23.55**	**348**	*e*P		**P**	**P**	**04 33 32.5**	**-0.4**
IPIR	**Pirpir**	**23.68**	**345**	*e*P		**P**	**P**	**04 33 34.9**	**+0.7**
IPIR	**Pirpir**	**23.68**	**345**	*e*P		**P**	**P**	**04 33 34.9**	**+0.7**
IKLH	**Kolahrood**	**24.12**	**347**	*e*P		**P**	**P**	**04 33 39.1**	**+0.8**
IKLH	**Kolahrood**	**24.12**	**347**	*e*P		**P**	**P**	**04 33 39.1**	**+0.8**
ISFB	**Sefidab**	**24.98**	**349**	*e*P		**P**	**P**	**04 33 47.8**	**+1.9**
ISFB	**Sefidab**	**24.98**	**349**	*e*P		**P**	**P**	**04 33 47.8**	**+1.9**
IVRN	**Varamin**	**25.71**	**348**	*e*P		**P**	**P**	**04 33 54.2**	**+1.7**
IVRN				*e*P		**P**	**P**	**04 33 54.3**	**+1.7**
IVRN	**Varamin**	**25.71**	**348**	*e*P		**P**	**P**	**04 33 54.2**	**+1.7**
IANJ	**Anjilo**	**25.81**	**353**	*e*P		**P**	**P**	**04 33 54.7**	**+1.1**
IANJ	**Anjilo**	**25.81**	**353**	*e*P		**P**	**P**	**04 33 54.7**	**+1.1**
ILAS	**Lasjerd**	**25.86**	**351**	*e*P		**P**	**P**	**04 33 55.8**	**+1.7**
ILAS	**Lasjerd**	**25.86**	**351**	*e*P		**P**	**P**	**04 33 55.8**	**+1.7**
VIS	**Vishakhapatnam**	**25.92**	**70**	*i* P		**P**	**P**	**04 33 54.7**	**+0.2**
VIS				*ex*		x	x	04 34 00.6	
	comp=Z,33nm,1.5s								
VIS				*i* S		**S**	**S**	**04 38 27.9**	**+3.6**
IKOM	**Komasi**	**26.07**	**340**	*e*P		**P**	**P**	**04 33 56.3**	**+0.4**
IKOM	**Komasi**	**26.07**	**340**	*e*P		**P**	**P**	**04 33 56.3**	**+0.4**
IR5	**Iran Long-Peri**	**26.16**	**346**	*e*P		**P**	**P**	**04 33 57.8**	**+1.1**
IDMV	**Damavand**	**26.21**	**349**	*e*P		**P**	**P**	**04 33 59.0**	**+1.7**
IDMV	**Damavand**	**26.21**	**349**	*e*P		**P**	**P**	**04 33 59.0**	**+1.7**
IMOG	**Moghan**	**26.23**	**3**	*e*P		**P**	**P**	**04 34 00.0**	**+2.5**
IMOG	**Moghan**	**26.23**	**3**	*e*P		**P**	**P**	**04 34 00.0**	**+2.5**
ISHM	**Shahmirzad**	**26.23**	**352**	*e*P		**P**	**P**	**04 33 58.8**	**+1.3**
ISHM	**Shahmirzad**	**26.23**	**352**	*e*P		**P**	**P**	**04 33 58.8**	**+1.3**
IR3	**Iran Long-Peri**	**26.32**	**347**	*e*P		**P**	**P**	**04 33 59.2**	**+1.2**
IR3	**Iran Long-Peri**	**26.32**	**347**	*e*P		**P**	**P**	**04 33 59.2**	**+1.2**
ISRO	**Mashad**	**26.43**	**3**	*e*P		**P**	**P**	**04 34 00.2**	**+1.1**
ISRO	**Mashad**	**26.43**	**3**	*e*P		**P**	**P**	**04 34 00.2**	**+1.1**
IMYA	**Miami**	**26.50**	**4**	*e*P		**P**	**P**	**04 34 01.4**	**+1.6**
IMYA	**Miami**	**26.50**	**4**	*e*P		**P**	**P**	**04 34 01.4**	**+1.6**
IRAZ	**Razeghan**	**26.50**	**345**	*e*P		**P**	**P**	**04 34 01.1**	**+1.2**
IRAZ	**Razeghan**	**26.50**	**345**	*e*P		**P**	**P**	**04 34 01.1**	**+1.2**
IGHG	**Ghaleghazi**	**26.53**	**339**	*e*P		**P**	**P**	**04 34 00.5**	**+0.3**
IGHG	**Ghaleghazi**	**26.53**	**339**	*e*P		**P**	**P**	**04 34 00.5**	**+0.3**
IPAY	**Payeh**	**26.55**	**2**	*e*P		**P**	**P**	**04 34 02.1**	**+1.8**
IPAY	**Payeh**	**26.55**	**2**	*e*P		**P**	**P**	**04 34 02.1**	**+1.8**
IALA	**Alasht**	**26.57**	**351**	*e*P		**P**	**P**	**04 34 02.6**	**+2.0**
IALA	**Alasht**	**26.57**	**351**	*e*P		**P**	**P**	**04 34 02.6**	**+2.0**
IMHD	**Mahdasht**	**26.60**	**347**	*e*P		**P**	**P**	**04 34 03.6**	**+3.0**
IMHD	**Mahdasht**	**26.60**	**347**	*e*P		**P**	**P**	**04 34 03.6**	**+3.0**
IVIS	**Veis**	**26.61**	**339**	*e*P		**P**	**P**	**04 34 00.6**	**-0.1**
IVIS	**Veis**	**26.61**	**339**	*e*P		**P**	**P**	**04 34 00.6**	**-0.1**
KBL	**Kabul**	**26.67**	**21**	*e*P		**P**	**P**	**04 34 04.1**	**+2.7**
KBL				pmax		pmax	pmax		
	comp=Z,23nm,0.9s								
KBL	**Kabul**	**26.67**	**21**	*e*P		**P**	**P**	**04 34 04.1**	**+2.7**
	comp=Z,23nm,0.9s								
KBL	**Kabul**	**26.67**	**21**	*e*P		**P**	**P**	**04 34 04.1**	**+2.7**
	comp=Z,23nm,0.9s								
IAKL	**Akhelmad**	**26.70**	**2**	*e*P		**P**	**P**	**04 34 02.6**	**+0.9**
IGLO	**Ghaloghah**	**26.84**	**353**	*e*P		**P**	**P**	**04 34 05.6**	**+2.7**
IKRD	**Kardeh**	**26.87**	**1**	*e*P		**P**	**P**	**04 34 05.1**	**+1.9**
IKRD	**Kardeh**	**26.87**	**1**	*e*P		**P**	**P**	**04 34 05.1**	**+1.9**
IDHR	**Dehrash**	**26.93**	**339**	*e*P		**P**	**P**	**04 34 03.6**	**-0.1**
IDHR	**Dehrash**	**26.93**	**339**	*e*P		**P**	**P**	**04 34 03.6**	**-0.1**
ISFR	**Sfrayin**	**27.14**	**0**	*e*P		**P**	**P**	**04 34 07.3**	**+1.7**
NIL	**Nilore**	**27.63**	**28**	PFAKE				04 34 20.0	+10
NIL				LR		LR	LR		
	comp=Z,25nm,21.0s								
DDI	**Dehra Dun**	**27.77**	**40**	*e*P		**P**	**P**	**04 34 11.8**	**+0.7**
MBAR	**Mbarara**	**28.93**	**251**	LR		LR	LR	04 46 04.5	
	comp=Z,6μm,19.6s,baz=64,slow=37								
EIL	**Elat**	**29.16**	**316**	P		**P**	**P**	**04 34 25.1**	**+1.6**
	comp=Z,7.5nm,0.9s,baz=156,slow=1.9,SNR=5.5								
EIL				LR		LR	LR	04 45 13.2	
	comp=Z,2μm,21.7s,baz=126,slow=35								
EIL	**Elat**	**29.16**	**316**	P		**P**	**P**	**04 34 25.1**	**+1.6**
EIL	**Elat**	**29.16**	**316**	P		**P**	**P**	**04 34 25.1**	**+1.6**
ISRB	**Sarab**	**29.39**	**343**	*e*P		**P**	**P**	**04 34 25.6**	**0.0**
ISRB	**Sarab**	**29.39**	**343**	*e*P		**P**	**P**	**04 34 25.6**	**0.0**
IBST	**Bostanabad**	**29.50**	**342**	*e*P		**P**	**P**	**04 34 26.3**	**-0.3**
IBST	**Bostanabad**	**29.50**	**342**	*e*P		**P**	**P**	**04 34 26.3**	**-0.3**
ASF	**Jabal al Asfar**	**29.55**	**322**	P		**P**	**P**	**04 34 27.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=70,slow=4.8,SNR=5.3								
ASF				LR		LR	LR	04 46 16.0	
	comp=Z,2μm,21.8s,baz=184,slow=36								
ASF	**Jabal al Asfar**	**29.55**	**322**	P		**P**	**P**	**04 34 27.9**	**+0.9**
PYUN	**Piuthan**	**29.81**	**49**	*e*P		**P**	**P**	**04 34 31.1**	**+1.6**
	comp=Z,103nm,1.3s								
KOLN	**Koldanda**	**30.09**	**50**	*e*P		**P**	**P**	**04 34 33.6**	**+1.6**
	comp=Z,30nm,0.9s								
OPO	**Ambohidratompo**	**30.10**	**201**	P		**P**	**P**	**04 34 32.5**	**+0.5**
	comp=Z,15nm,1.2s,baz=47,slow=8.0,SNR=5.4								
OPO				LR		LR	LR	04 43 46.9	
	comp=Z,9μm,21.0s,baz=16,slow=31								
OPO	**Ambohidratompo**	**30.10**	**201**	P		**P**	**P**	**04 34 32.5**	**+0.5**
OPO	**Ambohidratompo**	**30.10**	**201**	P		**P**	**P**	**04 34 32.5**	**+0.5**
ABPO	**Ambohimpanom**	**30.50**	**200**	*e*P		**P**	**P**	**04 34 36.0**	**+0.5**
ABPO				pmax		pmax	pmax		
	comp=Z,45nm,1.2s								
ABPO				MLR		MLR	MLR		
	comp=Z,7μm,22.0s								
ABPO	**Ambohimpanom**	**30.50**	**200**	*e*P		**P**	**P**	**04 34 36.0**	**+0.5**
	comp=Z,45nm,1.2s								
ABPO				LR		LR	LR		
	comp=Z,7μm,22.0s								
ABPO	**Ambohimpanom**	**30.50**	**200**	*e*P		**P**	**P**	**04 34 36.0**	**+0.5**
	comp=Z,45nm,1.2s								
DANN	**Dangsing**	**30.52**	**49**	*e*P		**P**	**P**	**04 34 37.2**	**+1.3**
	comp=Z,60nm,1.0s								
IMRD	**Marand**	**30.80**	**341**	*e*P		**P**	**P**	**04 34 39.7**	**+1.6**
IMRD	**Marand**	**30.80**	**341**	*e*P		**P**	**P**	**04 34 39.7**	**+1.6**
RER	**Riviere de l'E**	**30.83**	**184**	PFAKE				04 34 50.0	+12
RER				LR		LR	LR		
	comp=Z,4μm,21.0s								
GKN	**Gorkha**	**31.00**	**51**	*e*P		**P**	**P**	**04 34 41.2**	**+1.2**
DMN	**Daman**	**31.16**	**52**	*e*P		**P**	**P**	**04 34 43.4**	**+1.8**
	comp=Z,116nm,1.3s								
NAX	**Nakhchivan**	**31.28**	**341**	P		P	P	04 34 44.7	+2.5
	SNR=8.3								
NAX	**Nakhchivan**	**31.28**	**341**	P		P	P	04 34 44.7	+2.5
	SNR=8.3								
NAX	**Nakhchivan**	**31.28**	**341**	P		P	P	04 34 44.7	+2.5
	SNR=8.3								
PKIN	**Phulchoki**	**31.38**	**52**	*e*P		**P**	**P**	**04 34 45.1**	**+1.7**
	comp=Z,30nm,1.0s								
PKI	**Pulchoki**	**31.38**	**52**	*e*P		**P**	**P**	**04 34 44.9**	**+1.4**
	comp=Z,84nm,1.1s								
KKN	**Kakani**	**31.39**	**52**	*e*P		**P**	**P**	**04 34 45.0**	**+1.5**
	comp=Z,82nm,1.1s								
CAL	**Calcutta**	**31.79**	**63**	*e*P		**P**	**P**	**04 34 45.7**	**-1.1**
CAL				*ex*		x	x	04 39 38.4	
GUN	**Gumba**	**31.91**	**52**	*e*P		**P**	**P**	**04 34 49.9**	**+1.7**
	comp=Z,276nm,1.4s								
PQL	**Pirkuli**	**31.95**	**347**	P		P	P	04 34 52.1	+4.0
	SNR=3.8								
PQL	**Pirkuli**	**31.95**	**347**	P		P	P	04 34 52.1	+4.0
	SNR=3.8								
RAMN	**Ramite**	**32.03**	**54**	*e*P		**P**	**P**	**04 34 50.7**	**+1.5**
JIRN	**Jiri**	**32.03**	**52**	*e*P		**P**	**P**	**04 34 50.6**	**+1.3**
	comp=Z,18nm,1.0s								
IML	**Ismayilli**	**32.05**	**346**	P		**P**	**P**	**04 34 50.8**	**+1.9**
	SNR=6.0								
IML	**Ismayilli**	**32.05**	**346**	P		**P**	**P**	**04 34 50.8**	**+1.9**
	SNR=6.0								
IML	**Ismayilli**	**32.05**	**346**	P		**P**	**P**	**04 34 50.8**	**+1.9**
	SNR=6.0								
SIZA	**Siyzn**	**32.15**	**347**	P		P	P	04 34 52.8	+3.0
	SNR=3.4								
SIZA	**Siyzn**	**32.15**	**347**	P		P	P	04 34 52.8	+3.0
	SNR=3.4								
SIZA	**Siyzn**	**32.15**	**347**	P		P	P	04 34 52.8	+3.0
	SNR=3.4								
GANJ	**Ganja**	**32.39**	**343**	P		P	P	04 34 55.2	+3.3
	SNR=4.5								
GANJ	**Ganja**	**32.39**	**343**	P		P	P	04 34 55.2	+3.3
	SNR=4.5								
GNI	**Garni**	**32.41**	**341**	P		P	P	04 34 54.6	+2.4
	comp=Z,13nm,0.8s,baz=143,slow=7.5,SNR=10								
GNI	**Garni**	**32.41**	**341**	*e*P		**P**	**P**	**04 34 54.0**	**+1.8**
	comp=Z,34nm,1.1s								
GNI				LR		LR	LR		
	comp=Z,5μm,20.0s								
GNI	**Garni**	**32.41**	**341**	‖P		**P**	**P**	**04 34 52.2**	**0.0**
	SNR=7.2								
GNI	**Garni**	**32.41**	**341**	P		**P**	**P**	**04 34 52.2**	**0.0**
	SNR=7.2								
QUBA	**Quba, Azerbaij**	**32.51**	**347**	P		P	P	04 34 57.0	+4.1
	SNR=3.7								
QUBA	**Quba, Azerbaij**	**32.51**	**347**	P		P	P	04 34 57.0	+4.1
	SNR=3.7								
ODAN	**Odare**	**32.62**	**55**	*e*P		**P**	**P**	**04 34 55.7**	**+1.3**
	comp=Z,54nm,1.3s								
TAPN	**Taplejung**	**33.09**	**54**	*e*P		**P**	**P**	**04 35 00.0**	**+1.5**
	comp=Z,225nm,1.7s								
MALT	**Malatya**	**33.34**	**332**	*e*P		P	P	04 35 02.9	+2.6
MALT				pmax		pmax			
	comp=Z,17nm,0.9s								
MALT				MLR		MLR			
	comp=Z,2μm,19.0s								
MALT	**Malatya**	**33.34**	**332**	*e*P		P		04 35 02.9	+2.6
	comp=Z,17nm,0.9s								
MALT				LR		LR			
	comp=Z,2μm,19.0s								
MALT	**Malatya**	**33.34**	**332**	‖*i*P		P		04 35 03.7	+3.4
MALT	**Malatya**	**33.34**	**332**	*e*P		P		04 35 02.9	+2.6
	comp=Z,17nm,0.9s								
DGRG	**David-gareji**	**33.41**	**343**	P		P		04 34 50.8	-10
CSS	**Prodhromos**	**33.62**	**322**	PFAKE				04 35 10.0	+7.3
CSS				LR		LR			
	comp=Z,2μm,22.0s								
KSH	**Kashi**	**33.71**	**26**	P		**P**		**04 35 00.5**	**-3.1**
KSH				pP		**pP**		**04 35 05.0**	**-3.3**
KSH				*es*P		**sP**		**04 35 08.4**	**-1.8**
KSH				PP		**PnPn**		**04 36 11.9**	**-3.8**
KSH				*e*PcP		**PcP**		**04 37 41.9**	**-1.3**
KSH				S		S		04 40 18.3	-8.1
KSH				*e*ScP		**ScP**		**04 41 24.1**	**-3.4**
KSH				PcS		**PcS**		**04 41 26.6**	**-2.5**
KSH				ScS		**ScS**		**04 45 24.1**	**-4.9**
KSH				pmax		pmax			
	comp=Z,11nm,1.0s								
KSH				pmax		pmax			
	comp=Z,220nm,3.8s								
KSH				LR		LR			
	comp=N,2μm,16.0s								
KSH				LR		LR			
	comp=E,2μm,18.1s								
KSH				LR		LR			
	comp=Z,6μm,24.8s								
TBLG	**Delisi**	**33.85**	**342**	*e*P		P		04 35 00.0	-4.6
TBLG	**Delisi**	**33.85**	**342**	P		P		04 34 60.0	-4.6
AKH	**Akhalkalaki**	**33.95**	**340**	P		**P**		**04 35 03.0**	**-2.7**
MAK	**Makhachkala**	**34.26**	**346**	*e*P		**P**		**04 35 07.1**	**-1.0**
MAK				*i*				04 36 21.6	
MAK				*e*PPP		PPP		04 36 35.0	
MAK				*e*				04 37 41.7	
MAK				*i* S		**S**		**04 40 36.6**	**+2.1**
MAK				*e*SS		**SnSn**		**04 42 46.8**	**+2.9**
MAK				*e*				04 45 24.3	
MAK				pmax		pmax			
	comp=Z,98nm,1.0s								
MAK				MLR		MLR			
	comp=Z,3μm,24.0s								
MAK	**

SOC Sochi 37.19 338 *e*P **P** **04 35 34.3 +1.0**
SOC *e* 04 36 55.6
SOC *e*PPP PPP 04 37 16.4
SOC *e* 04 37 46.4
SOC *e*S **S** **04 41 22.1 +2.6**
SOC *e*SS SnSn 04 43 40.1 -15
SOC pmax pmax
comp=Z,7.0nm,0.6s
SOC MLR MLR
comp=Z,2μm,17.0s
SOC Sochi 37.19 338 *e*P **P** **04 35 34.3 +1.0**
comp=Z,7.0nm,0.6s
ISP Isparta 37.21 323 PFAKE 04 35 50.0 +16
ISP LR LR
comp=Z,1μm,22.0s
LSZ Lusaka 38.55 230 P **P** **04 35 45.3 +0.1**
comp=Z,11nm,0.8s,baz=37,slow=9.6,SNR=9.7
LSZ Lusaka 38.55 230 *e*P **P** **04 35 45.4 +0.1**
comp=Z,22nm,1.1s
LSZ LR LR
comp=Z,3μm,20.0s
LSZ Lusaka 38.55 230 *e*P **P** **04 35 45.3 +0.1**
comp=Z,22nm,1.1s
LSZ Lusaka 38.55 230 *e*P **P** **04 35 43.6 -1.7**
AB31 Akbulak array 39.37 2*c*e**P** **P** **04 35 52.1 +0.6**
AB31 pmax pmax
comp=Z,53nm,1.1s
AB31 Akbulak array 39.37 2 *e*P **P** **04 35 52.1 +0.6**
comp=Z,53nm,1.1s
ABKAR Akbulak array 39.37 2 *e*P **P** **04 35 52.2 +0.7**
ABKAR Akbulak array 39.37 2 *e*P **P** **04 35 52.2 +0.7**
AKTK Aktyubinsk 40.52 0 *i*P **P** **04 36 01.5 +0.5**
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 40.52 0 P **P** **04 36 02.0 +1.0**
comp=Z,10nm,0.7s,baz=177,slow=9.0,SNR=38
AKTO Aktyubinsk 40.52 0 *i*P **P** **04 36 01.5 +0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 40.52 0 P **P** **04 36 02.0 +1.0**
AKTO Aktyubinsk 40.52 0 P **P** **04 36 02.0 +1.0**
SIM Simferopol' 40.58 334 *e*P P 04 36 09.3 +7.7
SIM *e*S S 04 42 19.0 +8.5
SIM pmax pmax
comp=Z,21nm,1.5s
CM31 Chiang Mai Arr 40.66 73 *e*P **P** **04 36 04.3 +1.6**
CM31 Chiang Mai Arr 40.66 73 *e*P **P** **04 36 04.3 +1.6**
CMAR Chiang Mai Arr 40.66 73 P **P** **04 36 03.8 +1.1**
comp=Z,17nm,1.1s,baz=261,slow=9.1,SNR=24
CMAR LR LR 04 52 30.6
comp=Z,731nm,18.2s,baz=266,slow=36
CMAR Chiang Mai Arr 40.66 73 P **P** **04 36 03.8 +1.1**
CMAR Chiang Mai Arr 40.66 73 P **P** **04 36 03.8 +1.1**
CHTO Chiang Mai 40.70 73 *e*P **P** **04 36 04.4 +1.4**
CHTO pmax pmax
comp=Z,47nm,1.4s
CHTO MLR MLR
comp=Z,653nm,20.0s
CHTO Chiang Mai 40.70 73 *e*P **P** **04 36 04.4 +1.4**
comp=Z,47nm,1.4s
CHTO LR LR
comp=Z,653nm,20.0s
CHTO Chiang Mai 40.70 73 P **P** **04 36 04.2 +1.2**
SNR=19
CHTO Chiang Mai 40.70 73 *e*P **P** **04 36 04.4 +1.4**
comp=Z,47nm,1.4s
PSI Prapat 41.35 97 P **P** **04 36 09.8 +1.2**
comp=Z,6.8nm,0.7s,baz=268,slow=8.9,SNR=11
PSI LR LR 04 50 58.1
comp=Z,856nm,18.2s,baz=266,slow=33
PSI Prapat 41.35 97 P **P** **04 36 09.8 +1.2**
DID Didima 41.64 317 *e*P **P** **04 36 10.4 -0.2**
ALN Alexandroupoli 41.84 323 *e*P **P** **04 36 11.7 -0.4**
MSNA Messina 42.03 220 *e*P **P** **04 36 14.4 +0.5**
MSNA AMB AMB 04 36 22.1
comp=Z,27nm,2.8s
LTK Loutraki 42.10 318 *e*P **P** **04 36 15.0 +0.7**
RDO Rodhopi 42.30 323 *e*P **P** **04 36 16.3 +0.5**
RDO Rodhopi 42.30 323 *e*P **P** **04 36 16.3 +0.5**
MK31 Makanchi Array 42.31 25*c*e**P** **P** **04 36 16.0 +0.1**
MK31 pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 42.31 25 *e*P **P** **04 36 16.0 +0.1**
MK31 Makanchi Array 42.31 25 *e*P **P** **04 36 16.0 +0.1**
comp=Z,15nm,1.0s
MKAR Makanchi Array 42.31 25 P **P** **04 36 16.1 +0.2**
comp=Z,3.1nm,0.9s,baz=211,slow=8.1,SNR=25
MKAR LR LR 04 55 33.1
comp=Z,2μm,19.6s,baz=213,slow=39
MKAR Makanchi Array 42.31 25*c*e**P** **P** **04 36 16.1 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 42.31 25 *e*P **P** **04 36 16.1 +0.2**
MKAR Makanchi Array 42.31 25 *e*P **P** **04 36 16.1 +0.2**
comp=Z,3.0nm,0.9s
GUR Goura 42.47 317 *e*P **P** **04 36 17.5 +0.1**
KULM Kulim 42.61 93 *e*P **P** **04 36 18.4 -0.3**
comp=Z,20nm,1.1s
KULM LR LR
comp=Z,1μm,19.0s
KULM Kulim 42.61 93 *e*P **P** **04 36 18.4 -0.3**
comp=Z,20nm,1.1s
WMQ Urumqi 42.64 32 P P 04 36 30.0 +11
WMQ pmax pmax
comp=Z,21nm,1.6s
WMQ LR LR
comp=N,2μm,27.0s
WMQ LR LR
comp=E,2μm,20.0s
WMQ LR LR
comp=Z,3μm,24.0s
WMQ Urumqi 42.64 32 *e*P **P** **04 36 20.3 +1.6**
WMQ PP PP 04 38 02.3 +4.7
WMQ PcP **PcP** **04 38 10.8 +0.2**
WMQ S **S** **04 42 42.6 +1.3**
WMQ ScS **ScS** **04 46 16.3 -3.5**
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ pmax pmax
comp=Z,710nm,5.7s
WMQ LR LR
comp=N,1μm,22.0s
WMQ LR LR
comp=E,2μm,19.0s
WMQ LR LR
comp=Z,3μm,24.0s
AMT Artemida-Makis 42.69 316 *e*P **P** **04 36 17.2 -1.9**
KALE Kalithea 42.85 318 *e*P **P** **04 36 21.1 +0.7**
LAKA Lakka 42.88 317 *e*P **P** **04 36 21.6 +1.0**
TIRR Tirgusor 42.91 329 *e*P **P** **04 36 20.6 -0.1**
TIRR pmax pmax
comp=Z,29nm,1.0s
TIRR Tirgusor 42.91 329 *e*P **P** **04 36 20.6 -0.1**
comp=Z,29nm,1.0s
TIRR Tirgusor 42.91 329⇑ *i*P **P** **04 36 21.6 +0.9**
TIRR Tirgusor 42.91 329 *e*P **P** **04 36 20.6 -0.1**
comp=Z,29nm,1.0s
EFP Efpalio 43.02 317 *e*P **P** **04 36 19.6 -2.2**
AGG Agios Georgios 43.06 318 *e*P **P** **04 36 23.0 +0.9**
RLS Riolos of Patr 43.13 317 *e*P **P** **04 36 22.6 0.0**
VRHR Novokhopersk 43.30 345 *e*P **P** **04 36 23.8 +0.1**
VRHR *e*S **S** **04 42 49.6 -0.9**
VRHR pmax pmax
comp=Z,20nm,1.2s
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR smax smax
comp=E,420nm,8.9s
VRHR smax smax
comp=Z,360nm,8.8s
VRHR smax smax
comp=N,180nm,8.1s
VRHR MLR MLR
comp=N,480nm,19.0s
VRHR MLR MLR
comp=Z,2μm,19.0s
VRHR MLR MLR
comp=E,450nm,13.0s
VRHR Novokhopersk 43.30 345 *e*P **P** **04 36 23.8 +0.1**
comp=E,30nm,1.1s
EVR Evrytania 43.35 318 *e*P **P** **04 36 23.3 -1.2**
NVR Nevrokopi 43.42 322 *e*P **P** **04 36 22.5 -2.5**
CFR Carcaliu 43.55 329⇓P **P** **04 36 26.3 +0.4**
CFR Carcaliu 43.55 329⇓ *i*P **P** **04 36 26.3 +0.4**
comp=N,2μm,18.4s
CD2 LR LR
comp=Z,1μm,21.4s
GTA Gaotai 47.55 45 *e*P **P** **04 36 58.3 +0.4**
GTA pP **pP** **04 37 02.8 +0.1**
GTA sP **sP** **04 37 05.8 +1.2**
GTA S **S** **04 43 53.5 +0.8**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,400nm,5.7s
GTA LR LR
comp=N,2μm,18.5s
GTA LR LR
comp=E,1μm,19.0s
GTA LR LR
comp=Z,2μm,18.3s
OBN Obninsk 48.25 344⇑ *i*P **P** **04 37 03.1 +0.3**
OBN *e* 04 38 25.6
OBN pmax pmax
comp=Z,54nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 48.25 344 *e*P **P** **04 37 02.9 0.0**
comp=Z,30nm,0.4s
OBN LR LR
comp=Z,1μm,20.0s
OBN Obninsk 48.25 344 *i* P **P** **04 37 03.1 +0.3**
comp=Z,54nm,1.7s
TRPA Tarpa 48.39 329⇑ *i*P **P** **04 37 04.8 +0.8**
SWZ Schweizer 48.45 220 *e*P **P** **04 37 03.3 -1.7**
SWZ AMB AMB 04 37 14.7
comp=Z,37nm,2.1s
MOS Moscow 48.52 345 *e*P **P** **04 37 03.2 -1.7**
MOS pmax pmax
comp=Z,70nm,1.6s
MOS MLR MLR
comp=Z,2μm,21.0s
MOS MLR MLR
comp=N,3μm,22.0s
MOS Moscow 48.52 345 *e*P **P** **04 37 03.2 -1.7**
comp=N,3μm,22.0s
LVV L'vov 48.78 331 *e*P P 04 36 55.7 -11
UZH Uzhgorod 48.84 329 *e*P **P** **04 37 07.0 -0.5**
UZH *e* 04 37 14.0
UZH *e* 04 39 03.8
UZH *e* 04 39 59.4
UZH *e*S **S** **04 44 07.2 -3.1**
UZH *e* 04 44 21.0
UZH *e* 04 47 37.4
UZH Uzhgorod 48.84 329 *e*P **P** **04 37 07.0 -0.5**
GYA Guiyang 48.92 63⇑ *i*P **P** **04 37 07.9 -0.8**
GYA PcP **PcP** **04 38 32.6 -0.4**
GYA PP **PP** **04 39 02.0 -0.1**
GYA ScP **ScP** **04 42 27.4 -0.3**
GYA S **S** **04 44 12.0 -0.4**
GYA SS **SS** **04 47 38.9 -4.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.2s
GYA LR LR
comp=N,760nm,18.9s
GYA LR LR
comp=E,680nm,18.0s
GYA LR LR
comp=Z,850nm,17.6s
ZAA0 Zalesovo Array 49.02 21 *e*P **P** **04 37 08.2 -0.6**
ZAA0 Zalesovo Array 49.02 21 *e*P **P** **04 37 08.2 -0.6**
ZALV Zalesovo Beam 49.02 21 P **P** **04 37 08.6 -0.2**
comp=Z,17nm,0.6s,baz=225,slow=8.0,SNR=72
ZALV LR LR 04 58 47.8
comp=Z,3μm,21.5s,baz=223,slow=37
ZALV Zalesovo Beam 49.02 21 P **P** **04 37 08.6 -0.2**
ZALV Zalesovo Beam 49.02 21 P **P** **04 37 08.6 -0.2**
ZALV Zalesovo Beam 49.02 21 P **P** **04 37 08.6 -0.2**
TSUM Tsumeb 49.07 234 P **P** **04 37 10.4 +0.6**
comp=Z,25nm,1.1s,baz=40,slow=7.5,SNR=12
TSUM Tsumeb 49.07 234 *e*P **P** **04 37 10.8 +0.9**
comp=Z,41nm,1.4s
TSUM LR LR
comp=Z,4μm,22.0s
TSUM Tsumeb 49.07 234 *e*P **P** **04 37 10.8 +0.9**
comp=Z,41nm,1.4s
TSUM Tsumeb 49.07 234 *e*P **P** **04 37 10.3 +0.5**
LZH Lanzhou 49.15 50⇑P **P** **04 37 10.8 +0.5**
LZH pP **pP** **04 37 15.0 -0.2**
LZH sP **sP** **04 37 17.4 +0.3**
LZH PP **PP** **04 39 07.1 +3.0**
LZH S **S** **04 44 16.5 +1.1**
LZH SS **SS** **04 47 52.8 +6.0**
LZH pmax pmax
comp=Z,45nm,1.0s
LZH pmax pmax
comp=Z,400nm,4.1s
LZH LR LR
comp=N,2μm,15.6s
LZH LR LR
comp=E,2μm,15.1s
LZH LR LR
comp=Z,3μm,16.0s
NVS Novosibirsk 49.23 19⇑ *i*P **P** **04 37 09.7 -0.6**
NVS *e*S S 04 44 07.7 -7.8
NVS pmax pmax
comp=Z,91nm,2.2s
NVS pmax pmax
comp=N,42nm,2.3s
NVS pmax pmax
comp=E,8.0nm,1.7s
NVS smax smax
comp=N,64nm,2.8s
NVS Novosibirsk 49.23 19 *i* P **P** **04 37 09.7 -0.6**
comp=N,42nm,2.3s
KWP Kalwaria Pacla 49.29 330 *e*P **P** **04 37 11.9 +0.9**
KWP Kalwaria Pacla 49.29 330 PFAKE 04 37 20.0 +9.0
KWP LR LR
comp=Z,884nm,22.0s
KWP Kalwaria Pacla 49.29 330 *e*P **P** **04 37 11.8 +0.9**
PKSM Moragy 49.33 325⇑P **P** **04 37 11.4 +0.1**
PKSM Moragy 49.33 325⇑ *i*P **P** **04 37 11.4 +0.1**
PKSM Moragy 49.33 325 P **P** **04 37 11.4 +0.1**
BOSA Boshof 49.51 219 P **P** **04 37 12.5 -0.5**
comp=Z,9.8nm,0.8s,baz=54,slow=8.7,SNR=12
BOSA LR LR 04 55 22.6
comp=Z,5μm,21.8s,baz=43,slow=33
BOSA Boshof 49.51 219 *e*P **P** **04 37 12.9 -0.2**
comp=Z,242nm,2.6s
BOSA Boshof 49.51 219 *e*P **P** **04 37 12.9 -0.2**
comp=Z,242nm,2.6s
BOSA Boshof 49.51 219 *e*P **P** **04 37 13.1 0.0**
BOSA AMB AMB 04 37 21.5
comp=Z,45nm,2.5s
PSZ Piszkesteto 49.64 327 *e*P **P** **04 37 13.3 -0.4**
PSZ pmax pmax
comp=Z,68nm,2.4s
PSZ MLR MLR
comp=Z,549nm,21.0s
PSZ Piszkesteto 49.64 327 *e*P **P** **04 37 13.3 -0.4**
comp=Z,68nm,2.4s
PSZ LR LR
comp=Z,549nm,21.0s
PSZ Piszkesteto 49.64 327 *e*P **P** **04 37 13.3 -0.4**
comp=Z,68nm,2.4s
VYHS Vyhne 50.55 327 *e*P **P** **04 37 19.8 -0.8**
VYHS pmax pmax
comp=Z,33nm,2.5s
VYHS Vyhne 50.55 327 *e*P **P** **04 37 19.8 -0.8**
VYHS Vyhne 50.55 327 *e*P **P** **04 37 19.8 -0.8**
comp=Z,33nm,2.5s
HVS Khovu-Aksy 50.60 29*c i*P **P** **04 37 21.8 +0.8**
HVS pmax pmax
comp=Z,44nm,0.9s
QIZ Qiongzhong 51.00 73 P **P** **04 37 24.0 -0.4**
QIZ sP **sP** **04 37 28.4 -2.8**
QIZ S **S** **04 44 41.8 +0.5**
QIZ sS sS 04 44 55.5 +6.1
QIZ pmax pmax
comp=Z,250nm,4.0s
QIZ LR LR
comp=N,570nm,17.7s
QIZ LR LR
comp=Z,1μm,17.1s
QIZ Qiongzhong 51.00 73 PFAKE 04 37 40.0 +16
QIZ LR LR
comp=Z,738nm,19.0s

KEST Kesra 51.01 308 LR LR 04 59 24.0
comp=Z,287nm,21.1s,baz=201,slow=36
TAM Tamanrasset 51.64 291 P P 04 37 31.3 +1.9
TAM pmax pmax
comp=Z,36nm,1.8s
TAM MLR MLR
comp=Z,908nm,21.0s
TAM Tamanrasset 51.64 291 P P 04 37 31.3 +1.9
comp=Z,36nm,1.8s
TAM LR LR
comp=Z,908nm,21.0s
TAM Tamanrasset 51.64 291 P P 04 37 31.3 +1.9
comp=Z,36nm,1.8s
SOKA Soboth 51.68 323⇑ iP P 04 37 26.3 -2.8
comp=Z,9.6nm,1.6s
SOKA Soboth 51.68 323⇑ iP P 04 37 26.3 -2.8
comp=Z,9.6nm,1.6s
SOKA Soboth 51.68 323⇑ iP P 04 37 26.3 -2.8
comp=Z,9.6nm,1.6s
OKC Ostrava-Krasne 51.72 328 eP P 04 37 31.4 +2.1
OKC MLR MLR
comp=Z,500nm,20.5s
OKC Ostrava-Krasne 51.72 328 eP P 04 37 31.4 +2.1
OKC AMS AMS 05 03 10.0
comp=Z,500nm,20.5s
CONA Conrad Observa 51.87 325⇓ iP P 04 37 29.8 -0.8
comp=Z,14nm,1.2s
CONA Conrad Observa 51.87 325⇓ iP P 04 37 29.8 -0.8
comp=Z,14nm,1.2s
CONA Conrad Observa 51.87 325⇓ iP P 04 37 29.8 -0.8
comp=Z,14nm,1.2s
MORC Moravsky Berou 52.00 328 eP P 04 37 31.1 -0.3
MORC pmax pmax
comp=Z,22nm,1.3s
MORC Moravsky Berou 52.00 328 eP P 04 37 31.1 -0.3
comp=Z,22nm,1.3s
MORC Moravsky Berou 52.00 328⇑ iP P 04 37 30.9 -0.5
MORC Moravsky Berou 52.00 328 eP P 04 37 31.1 -0.3
comp=Z,22nm,1.3s
SUW Suwalki 52.07 335 eP P 04 37 31.4 -0.4
SUW Suwalki 52.07 335 eP P 04 37 31.5 -0.4
SUW pmax pmax
comp=Z,49nm,1.2s
SUW Suwalki 52.07 335 eP P 04 37 31.5 -0.4
comp=Z,49nm,1.2s
SUW Suwalki 52.07 335 eP P 04 37 31.5 -0.4
comp=Z,49nm,1.2s
SUW Suwalki 52.07 335 eP P 04 37 31.4 -0.4
ENH Enshi 52.09 59 eP P 04 37 31.6 -0.9
comp=Z,51nm,1.3s
ENH LR LR
comp=Z,1μm,21.0s
ENH Enshi 52.09 59 eP P 04 37 31.6 -0.9
comp=Z,51nm,1.3s
VRAC Vranov 52.23 327⇓ iP P 04 37 33.1 -0.1
VRAC Vranov 52.23 327 eP P 04 37 31.4 -1.8
VSL Villasalto 52.24 313 PFAKE 04 37 50.0 +17
VSL LR LR
comp=Z,300nm,20.0s
MYKA Terra Mystica 52.48 323⇑ iP P 04 37 34.5 -0.6
comp=Z,13nm,1.1s
MYKA Terra Mystica 52.48 323⇑ iP P 04 37 34.5 -0.6
comp=Z,13nm,1.1s
MYKA Terra Mystica 52.48 323⇑ iP P 04 37 34.5 -0.6
comp=Z,13nm,1.1s
XAN Xi'an 52.50 54 P P 04 37 35.3 -0.1
XAN PcP PcP 04 38 46.8 +0.9
XAN S S 04 44 56.8 -4.9
XAN ScS ScS 04 47 21.8 -3.5
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN pmax pmax
comp=Z,100nm,6.4s
XAN LR LR
comp=N,810nm,25.8s
XAN LR LR
comp=E,160nm,21.8s
XAN LR LR
comp=Z,520nm,20.2s
MOA Molln 52.73 324⇑ iP P 04 37 35.9 -1.0
comp=Z,7.9nm,0.8s
MOA Molln 52.73 324⇑ iP P 04 37 35.9 -1.0
comp=Z,7.9nm,0.8s
MOA Molln 52.73 324⇑ iP P 04 37 35.9 -1.0
comp=Z,7.9nm,0.8s
KLMR Klimovskoe 52.75 349 eP P 04 37 34.7 -2.0
KLMR S S 04 45 02.5 -1.6
KLMR pmax pmax
comp=Z,66nm,1.6s
KLMR MLR MLR
comp=Z,1μm,22.0s
KSM Kuching 52.76 96 eP P 04 37 37.8 +0.2
comp=Z,57nm,1.6s
KSM LR LR
comp=Z,607nm,22.0s
KSM Kuching 52.76 96 eP P 04 37 37.8 +0.2
comp=Z,57nm,1.6s
TREC Trest 52.82 326 AMS AMS 05 05 20.0
comp=Z,800nm,20.4s
DPC Dobruska-Polom 52.97 328 eP P 04 37 38.2 -0.5
DPC MLR MLR
comp=Z,700nm,19.4s
DPC Dobruska-Polom 52.97 328 eP P 04 37 38.4 -0.3
comp=Z,21nm,1.3s
DPC Dobruska-Polom 52.97 328 eP P 04 37 38.2 -0.5
DPC ex x 04 37 52.2
DPC AMS AMS 05 03 40.0
comp=Z,700nm,19.4s
DPC Dobruska-Polom 52.97 328 eP P 04 37 38.4 -0.3
comp=Z,21nm,1.3s
UPC Upice 53.22 328 eP P 04 37 40.1 -0.4
UPC Upice 53.22 328 eP P 04 37 40.1 -0.4
KSP Ksiaz 53.27 328 eP P 04 37 42.4 +1.5
KSP Ksiaz 53.27 328 eP P 04 37 40.4 -0.4
KSP Ksiaz 53.27 328 eP P 04 37 40.4 -0.4
KSP Ksiaz 53.27 328 eP P 04 37 42.3 +1.5
VLC Villacollemand 53.37 319 PFAKE 04 37 50.0 +8.3
VLC LR LR
comp=Z,653nm,22.0s
GERES GERESS Array B 53.57 325 P P 04 37 41.5 -1.6
comp=Z,1.0nm,0.7s,baz=134,slow=5.8,SNR=6.1
GERES GERESS Array B 53.57 325 P P 04 37 41.5 -1.6
GERES GERESS Array B 53.57 325 P P 04 37 41.5 -1.6
PRU Pruhonice 53.72 327 eP P 04 37 43.1 -1.0
PRU e 04 37 50.7
PRU e 04 45 14.1
PRU MLR MLR
comp=Z,500nm,24.3s
PRU Pruhonice 53.72 327 eP P 04 37 43.1 -1.0
PRU epP pP 04 37 50.7 +1.7
PRU eS S 04 45 14.1 -3.6
PRU AMS AMS 05 02 10.0
comp=Z,500nm,24.3s
KHC Kasperske Hory 53.79 325 eP P 04 37 43.6 -1.1
KHC MLR MLR
comp=Z,400nm,20.9s
KHC Kasperske Hory 53.79 325 eP P 04 37 43.7 -1.0
comp=Z,17nm,1.5s
KHC Kasperske Hory 53.79 325 eP P 04 37 43.6 -1.1
KHC ex x 04 37 58.1
KHC ex x 04 38 07.5
KHC AMS AMS 05 05 00.0
comp=Z,400nm,20.9s
KHC Kasperske Hory 53.79 325 eP P 04 37 43.7 -1.0
comp=Z,17nm,1.5s
WTTA Wattenberg 53.99 323⇑ iP P 04 37 44.2 -2.2
WTTA pmax pmax
comp=Z,19nm,0.9s
WTTA Wattenberg 53.99 323⇑ iP P 04 37 44.1 -2.2
comp=Z,18nm,0.9s
WTTA Wattenberg 53.99 323⇑ iP P 04 37 44.2 -2.2
comp=Z,18nm,0.9s
WTTA Wattenberg 53.99 323⇑ iP P 04 37 44.2 -2.2
comp=Z,18nm,0.9s
PVCC Panska Ves 54.00 327 eP P 04 37 45.8 -0.3
PVCC Panska Ves 54.00 327 eP P 04 37 45.8 -0.3
WATA Walderalm 54.06 323⇑ iP P 04 37 43.7 -3.1
WATA pmax pmax
comp=Z,5.0nm,0.6s
WATA Walderalm 54.06 323⇑ iP P 04 37 43.7 -3.1
comp=Z,4.5nm,0.6s
WATA Walderalm 54.06 323⇑ iP P 04 37 43.7 -3.1
comp=Z,4.5nm,0.6s
MOTA Moosalm 54.34 322⇓ iP P 04 37 47.0 -1.9
MOTA pmax pmax
comp=Z,14nm,0.9s
MOTA Moosalm 54.34 322⇓ iP P 04 37 47.0 -1.9
comp=Z,14nm,0.9s
MOTA Moosalm 54.34 322⇓ ip P 04 37 47.0 -1.9
comp=Z,14nm,0.9s
MOTA Moosalm 54.34 322⇓ iP P 04 37 47.0 -1.9
comp=Z,14nm,0.9s
FETA Feichten 54.42 322⇑ iP P 04 37 48.3 -1.2
comp=Z,8.4nm,0.9s
FETA Feichten 54.42 322⇑ iP P 04 37 48.3 -1.2
comp=Z,8.4nm,0.9s
FETA Feichten 54.42 322⇑ iP P 04 37 48.3 -1.2
comp=Z,8.4nm,0.9s
BRG Berggiesshubel 54.52 327 eP P 04 37 50.4 +0.5
comp=Z,21nm,1.6s
BRG PP PP 04 39 51.0 -1.2
BRG S S 04 45 29.0 +0.5
BRG
comp=N,476nm,17.6s
BRG
comp=E,393nm,22.8s
BRG
comp=Z,444nm,17.8s
BRG Berggiesshubel 54.52 327 eP P 04 37 50.4 +0.5
BRG 04 39 51.0
BRG S S 04 45 29.0 +0.5
BRG pmax pmax
comp=Z,21nm,1.6s
BRG MLR MLR
comp=N,476nm,17.6s
BRG MLR MLR
comp=E,393nm,22.8s
BRG MLR MLR
comp=Z,444nm,17.8s
MOY Mondy 54.52 32 eP P 04 37 50.7 +0.6
FUORN Ofenpass-Fuorn 54.52 321 eP P 04 37 53.1 +2.8
comp=Z,7.4nm,0.9s
SUR Sutherland 54.88 219 PFAKE 04 38 00.0 +7.0
SUR LR LR
comp=Z,3μm,20.0s
SUR Sutherland 54.88 219 eP S 04 45 37.3 +3.1
NKC Novy Kostel 54.99 326 eP P 04 37 52.5 -0.9
NKC Novy Kostel 54.99 326 eP P 04 37 52.5 -0.9
TUE Stuetta 55.03 321 PFAKE 04 38 10.0 +16
TUE LR LR
comp=Z,479nm,20.0s
ZAK Zakamensk 55.05 34 eP P 04 37 55.4 +1.5
ZAK e 04 40 00.2
ZAK pmax pmax
comp=Z,3.0nm,1.9s
DAVA Damuels 55.06 322⇓ iP P 04 37 52.5 -1.6
comp=Z,12nm,1.1s
DAVA Damuels 55.06 322⇓ iP P 04 37 52.5 -1.6
comp=Z,12nm,1.1s
DAVA Damuels 55.06 322⇓ iP P 04 37 52.5 -1.6
comp=Z,12nm,1.1s
TOA0 Torodi Ar. Sit 55.08 279 eP P 04 37 55.2 +0.6
TOA0 Torodi Ar. Sit 55.08 279 eP P 04 37 55.2 +0.6
TORD Torodi Ar. Bea 55.08 279 P P 04 37 55.3 +0.7
comp=Z,14nm,0.9s,baz=104,slow=4.9,SNR=61
TORD LR LR 04 59 50.2
comp=Z,675nm,21.9s,baz=115,slow=34
TORD Torodi Ar. Bea 55.08 279 P P 04 37 55.3 +0.7
TORD Torodi Ar. Bea 55.08 279 P P 04 37 55.3 +0.7
CLL Collm 55.25 327 iP P 04 37 55.9 +0.7
CLL i 04 38 02.4
CLL eS S 04 45 40.0 +1.7
CLL pmax pmax
comp=Z,5.0nm,1.5s
CLL MLR MLR
comp=Z,500nm,20.4s
CLL Collm 55.25 327 iP P 04 37 55.9 +0.7
comp=Z,18nm,1.5s
CLL i 04 38 02.4
CLL ePP PP 04 40 12.0 +13
CLL eS S 04 45 40.0 +1.7
CLL eSS SS 04 49 18.0 -4.6
CLL eSSS SSS 04 51 30.0
CLL e 04 52 09.0
CLL LmV 05 05 00.0
comp=Z,500nm,20.4s
AUTN L'Aution 55.26 317 eP P 04 37 57.7 +2.0
UGM Wanagama 55.29 107 eP P 04 37 56.6 +0.4
comp=Z,255nm,1.4s
UGM Wanagama 55.29 107 eP P 04 37 56.6 +0.4
comp=Z,255nm,1.4s
TOUF Mont Tournerai 55.38 317 eP P 04 37 58.6 +2.0
GRF Grafenberg Arr 55.40 325 eP P 04 37 55.1 -1.3
GRF pmax pmax
comp=Z,67nm,1.9s
GRF Grafenberg Arr 55.40 325 eP P 04 37 55.1 -1.3
comp=Z,67nm,1.9s
GRF eL L 05 07 19.9
comp=Z,389nm,22.0s
MVIF Mont Vial 55.41 317 eP P 04 37 57.5 +0.8
CALN Calern 55.53 317 eP P 04 37 57.0 -0.5
SONM Songino Array 55.61 38 P P 04 37 58.0 -0.1
comp=Z,2.0nm,0.9s,baz=232,slow=7.6,SNR=14
SONM LR LR 05 04 48.9
comp=Z,1μm,20.6s,baz=255,slow=39
SONM Songino Array 55.61 38 P P 04 37 58.0 -0.1
SONM Songino Array 55.61 38 P P 04 37 58.0 -0.1
FRF La Foret Royal 55.62 317 eP P 04 37 55.9 -2.1
FRF La Foret Royal 55.62 317 eP P 04 37 55.9 -2.1
FRF La Foret Royal 55.62 317 eP P 04 37 55.9 -2.1
FRF La Foret Royal 55.62 317 eP P 04 37 55.9 -2.1
TLY Talaya 55.92 33 eP P 04 38 00.0 0.0
TLY e 04 47 45.2
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 55.92 33 PFAKE 04 38 10.0 +10
TLY LR LR
comp=Z,2μm,20.0s
MBDF Montbardon 55.97 318 eP P 04 37 59.0 -1.7
comp=Z,35nm,1.2s
MBDF Montbardon 55.97 318 eP P 04 37 59.0 -1.7
MBDF pmax pmax
comp=Z,35nm,1.2s
MBDF Montbardon 55.97 318 eP P 04 37 59.0 -1.7
comp=Z,35nm,1.2s
MBDF Montbardon 55.97 318 eP P 04 37 59.0 -1.7
comp=Z,18nm,1.2s
ULN Ulaanbaatar 56.02 38 eP P 04 38 01.1 +0.1
comp=Z,55nm,2.4s
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 56.02 38 eP P 04 38 01.1 +0.1
comp=Z,55nm,2.4s
TMCR Tamitsa 56.07 350 eP P 04 37 58.4 -2.4
TMCR pmax pmax
comp=Z,45nm,1.4s
BNI Bardonecchia 56.16 318 PFAKE 04 38 10.0 +8.0
BNI LR LR
comp=Z,497nm,20.0s
SENIN Lac Senin/Sane 56.27 320 eP P 04 38 02.8 -0.1
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 56.27 320 eP P 04 38 02.8 -0.1
comp=Z,11nm,0.9s
WHN Wuhan 56.27 60 P P 04 38 03.3 +0.4
WHN S S 04 45 51.8 -0.8
WHN LR LR
comp=N,2μm,14.5s
WHN LR LR
comp=E,2μm,19.4s
WHN LR LR
comp=Z,3μm,22.2s
LPG La Plagne 56.28 319 eP P 04 38 01.4 -1.7
comp=Z,74nm,1.4s
LPG La Plagne 56.28 319 eP P 04 38 01.4 -1.7
LPG pmax pmax
comp=Z,74nm,1.4s
LPG La Plagne 56.28 319 eP P 04 38 01.4 -1.7
comp=Z,74nm,1.4s
LPG La Plagne 56.28 319 eP P 04 38 01.4 -1.7
comp=Z,37nm,1.4s
LPL La Plagne 56.30 319 eP P 04 38 01.3 -1.8
comp=Z,34nm,1.0s
LPL La Plagne 56.30 319 eP P 04 38 01.3 -1.8
LPL pmax pmax
comp=Z,34nm,1.0s
LPL La Plagne 56.30 319 eP P 04 38 01.3 -1.8
comp=Z,34nm,1.0s
LPL La Plagne 56.30 319 eP P 04 38 01.3 -1.8
comp=Z,17nm,1.0s
JOF Joensuu 56.38 346 eP P 04 38 01.5 -1.6
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 56.38 346 ep P 04 38 01.5 -1.6
comp=Z,3.3nm,0.6s
JOF Joensuu 56.38 346 eP P 04 38 01.5 -1.6
comp=Z,3.3nm,0.6s
HHC Hu-ho-hao-te 56.43 47 eP P 04 38 02.9 -1.1
HHC pP pP 04 38 09.8 +0.9
HHC sP sP 04 38 12.3 +1.5
HHC PP PP 04 40 12.3 +2.6
HHC S S 04 45 56.4 +1.8
HHC ScS ScS 04 47 50.4 -2.7
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,500nm,5.4s
HHC LR LR
comp=N,3μm,22.1s
HHC LR LR
comp=E,3μm,19.8s
HHC LR LR
comp=Z,4μm,20.6s
BFO Black Forest 56.46 322 eP P 04 38 03.4 -0.6
BFO pmax pmax
comp=Z,46nm,1.9s
BFO MLR MLR
comp=Z,396nm,20.0s
BFO Black Forest 56.46 322 eP P 04 38 03.4 -0.6
comp=Z,46nm,1.9s
BFO LR LR
comp=Z,396nm,20.0s
BFO Black Forest 56.46 322 eP P 04 38 03.4 -0.6
comp=Z,46nm,1.9s
IRK Irkutsk 56.54 32 eP P 04 38 04.2 -0.3
IRK pmax pmax
comp=Z,50nm,1.8s
FINES FINESS Array B 56.59 342 P P 04 38 03.4 -1.2
comp=Z,3.9nm,0.6s,baz=132,slow=7.6,SNR=17
FINES LR LR 05 05 30.1
comp=Z,510nm,21.5s,baz=137,slow=39
FINES FINESS Array B 56.59 342 P P 04 38 03.4 -1.2
FINES FINESS Array B 56.59 342 P P 04 38 03.3 -1.2
LOMF Lomont 56.96 321 eP P 04 38 06.3 -1.4
KAF Kangasniemi 57.05 343 eP P 04 38 06.3 -1.5
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 57.05 343 ep P 04 38 06.3 -1.5
comp=Z,0.7nm,0.3s
KAF Kangasniemi 57.05 343 eP P 04 38 06.3 -1.5
comp=Z,0.7nm,0.3s
ECH Echery 57.12 322 eP P 04 38 08.5 -0.1
ECH pmax pmax
comp=Z,16nm,1.3s
ECH MLR MLR
comp=Z,499nm,22.0s
ECH Echery 57.12 322 eP P 04 38 08.5 -0.1
comp=Z,16nm,1.3s
ECH LR LR
comp=Z,499nm,22.0s
ECH Echery 57.12 322 eP P 04 38 05.7 -2.9
ECH Echery 57.12 322 eP P 04 38 08.5 -0.1
comp=Z,16nm,1.3s
CDF Champ du Feu 57.13 322 eP P 04 38 07.3 -1.5
comp=Z,50nm,1.3s
CDF Champ du Feu 57.13 322 eP P 04 38 07.3 -1.5
CDF pmax pmax
comp=Z,50nm,1.3s
CDF Champ du Feu 57.13 322 eP P 04 38 07.3 -1.5
comp=Z,50nm,1.3s
CDF Champ du Feu 57.13 322 eP P 04 38 07.3 -1.5
comp=Z,25nm,1.3s
CABF La Chapelle 57.13 320 eP P 04 38 08.0 -0.9
comp=Z,94nm,1.0s
CABF La Chapelle 57.13 320 eP P 04 38 08.0 -0.9
CABF pmax pmax
comp=Z,94nm,1.0s
CABF La Chapelle 57.13 320 eP P 04 38 08.0 -0.9
comp=Z,94nm,1.0s
CABF La Chapelle 57.13 320 eP P 04 38 08.0 -0.9
comp=Z,47nm,1.0s
HINF Hinteralfeld 57.14 321 eP P 04 38 07.1 -1.7
HINF Hinteralfeld 57.14 321 eP P 04 38 07.1 -1.7
HINF Hinteralfeld 57.14 321 eP P 04 38 07.1 -1.7
HINF Hinteralfeld 57.14 321 eP P 04 38 07.1 -1.7
HAU Haudompre 57.52 321 eP P 04 38 09.8 -1.7
HAU eR
comp=Z,476nm,20.5s
HAU Haudompre 57.52 321 eP P 04 38 09.8 -1.7
HAU Haudompre 57.52 321 eP P 04 38 09.8 -1.7
HAU Haudompre 57.52 321 eP P 04 38 09.8 -1.7
SSB Saint Sauveur 57.65 318 PFAKE 04 38 20.0 +7.5
SSB LR LR
comp=Z,740nm,21.0s
KKM Kota Kinabalu 57.84 89 PFAKE 04 38 30.0 +16
KKM LR LR
comp=Z,351nm,19.0s
WLF Walferdange 58.32 323 P P 04 38 16.8 -0.3
WLF Walferdange 58.32 323 eP P 04 38 16.4 -0.7
WLF pmax pmax
comp=Z,13nm,0.9s
WLF MLR MLR
comp=Z,707nm,19.0s
WLF Walferdange 58.32 323 eP P 04 38 16.4 -0.7
comp=Z,13nm,0.9s
WLF LR LR
comp=Z,707nm,19.0s
WLF Walferdange 58.32 323 P P 04 38 16.7 -0.3
LBL Lubilhac 58.49 317 eP P 04 38 13.3 -5.1
PLDF La Plantade 58.49 318 eP P 04 38 12.1 -6.3
MEZF Maizieres J'vi 58.52 322 eP P 04 38 16.2 -2.2
MEZF Maizieres J'vi 58.52 322 eP P 04 38 16.2 -2.2
MEZF Maizieres J'vi 58.52 322 eP P 04 38 16.2 -2.2
SMF Signal de Mont 58.59 319 eP P 04 38 17.1 -1.9
comp=Z,65nm,1.7s
SMF Signal de Mont 58.59 319 eP P 04 38 17.1 -1.9
SMF pmax pmax
comp=Z,65nm,1.7s
SMF Signal de Mont 58.59 319 eP P 04 38 17.1 -1.9
comp=Z,65nm,1.7s
SMF Signal de Mont 58.59 319 eP P 04 38 17.1 -1.9
comp=Z,33nm,1.7s
LOR Lormes 58.80 320 eP P 04 38 19.0 -1.5
comp=Z,26nm,0.8s
LOR eR
comp=Z,333nm,22.5s
LOR Lormes 58.80 320 eP P 04 38 19.0 -1.5
comp=Z,26nm,0.8s
LOR Lormes 58.80 320 eP P 04 38 19.0 -1.5
comp=Z,13nm,0.8s
PYM Petit Puy Mans 58.82 318 eP P 04 38 12.8 -7.9
SSF Saint Saulge 58.95 320 eP P 04 38 19.9 -1.6
comp=Z,29nm,1.0s
SSF Saint Saulge 58.95 320 eP P 04 38 19.9 -1.6
SSF pmax pmax
comp=Z,29nm,1.0s
SSF Saint Saulge 58.95 320 eP P 04 38 19.9 -1.6
comp=Z,29nm,1.0s
SSF Saint Saulge 58.95 320 eP P 04 38 19.9 -1.6
comp=Z,14nm,1.0s
AVF Avril sur Loir 58.95 319 eP P 04 38 19.7 -1.8
comp=Z,50nm,1.6s
AVF Avril sur Loir 58.95 319 eP P 04 38 19.7 -1.8
AVF pmax pmax
comp=Z,50nm,1.6s
AVF Avril sur Loir 58.95 319 eP P 04 38 19.7 -1.8
comp=Z,50nm,1.6s
AVF Avril sur Loir 58.95 319 eP P 04 38 19.7 -1.8
comp=Z,25nm,1.6s
BGF Bois d'Agland 59.20 319 eP P 04 38 22.0 -1.2
comp=Z,38nm,0.8s
BGF Bois d'Agland 59.20 319 eP P 04 38 22.0 -1.2
BGF pmax pmax
comp=Z,38nm,0.8s
BGF Bois d'Agland 59.20 319 eP P 04 38 22.0 -1.2
comp=Z,38nm,0.8s
BGF Bois d'Agland 59.20 319 eP P 04 38 22.0 -1.2
comp=Z,19nm,0.8s
GIVF Givet 59.29 323 eP P 04 38 21.6 -2.2
comp=Z,21nm,0.9s
GIVF Givet 59.29 323 eP P 04 38 21.6 -2.2
GIVF pmax pmax
comp=Z,21nm,0.9s
GIVF Givet 59.29 323 eP P 04 38 21.6 -2.2
comp=Z,21nm,0.9s
GIVF Givet 59.29 323 eP P 04 38 21.6 -2.2
comp=Z,10nm,0.9s

DOU Dourbes 59.42 323 P **P** **04 38 24.4 -0.3**
comp=Z,13nm,2.6s
BJT Baijiatuau 59.59 49 PFAKE 04 38 40.0 +14
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 59.60 49 P **P** **04 38 25.5 -0.6**
BJI S **S** **04 46 37.0 +1.1**
BJI SS **SS** **04 50 33.1 +1.7**
BJI pmax pmax
comp=Z,16nm,0.5s
BJI pmax pmax
comp=Z,370nm,6.0s
BJI LR LR
comp=N,2μm,17.5s
BJI LR LR
comp=E,980nm,17.5s
BJI LR LR
comp=Z,2μm,27.6s
BAIF Baives 59.63 323 *e*P **P** **04 38 23.9 -2.2**
comp=Z,19nm,0.9s
BAIF Baives 59.63 323 *e*P **P** **04 38 23.9 -2.2**
BAIF pmax pmax
comp=Z,19nm,0.9s
BAIF Baives 59.63 323 *e*P **P** **04 38 23.9 -2.2**
comp=Z,19nm,0.9s
BAIF Baives 59.63 323 *e*P **P** **04 38 23.9 -2.2**
comp=Z,9.4nm,0.9s
APA Apatity 59.98 349 ⇓ *i*P **P** **04 38 26.0 -2.2**
APA *e*S S 04 46 34.0 -5.8
APA *i* SS **SS** **04 50 41.0 +4.7**
APA MLR MLR
comp=Z,1μm,18.0s
HFS Hagfors 60.00 336 LR LR 05 06 49.1
comp=Z,2μm,21.1s,baz=131,slow=38
LVZ Lovozero 60.05 350 PFAKE 04 38 40.0 +11
LVZ LR LR
comp=Z,1μm,21.0s
NJ2 Nanjing 60.30 59 *e*P **P** **04 38 31.1 0.0**
NJ2 pP **pP** **04 38 34.8 -1.2**
NJ2 sP **sP** **04 38 37.1 -0.8**
NJ2 PP **PP** **04 40 44.1 0.0**
NJ2 S **S** **04 46 48.5 +3.3**
NJ2 sS **sS** **04 46 54.0 +0.7**
NJ2 pmax pmax
comp=Z,20nm,1.0s
NJ2 pmax pmax
comp=Z,480nm,5.3s
NJ2 LR LR
comp=N,1μm,23.2s
NJ2 LR LR
comp=E,2μm,26.5s
NJ2 LR LR
comp=Z,2μm,27.8s
KONO Kongsberg 61.40 334 PFAKE 04 38 50.0 +12
KONO LR LR
comp=Z,1μm,19.0s
NOA NORSAR Array B 61.52 336 LR LR 05 07 46.2
comp=Z,1μm,21.0s,baz=115,slow=38
MDT Midelt 61.68 302 LR LR 05 05 42.6
comp=Z,622nm,21.4s,baz=20,slow=36
LDF La Druitiere 61.77 320 *e*P **P** **04 38 38.9 -1.8**
comp=Z,38nm,1.1s
LDF La Druitiere 61.77 320 *e*P **P** **04 38 38.9 -1.8**
LDF pmax pmax
comp=Z,38nm,1.1s
LDF La Druitiere 61.77 320 *e*P **P** **04 38 38.9 -1.8**
comp=Z,38nm,1.1s
LDF La Druitiere 61.77 320 *e*P **P** **04 38 38.9 -1.8**
comp=Z,19nm,1.1s
TATO Taipei 62.05 67 PFAKE 04 39 00.0 +17
TATO LR LR
comp=Z,845nm,20.0s
DBIC Dimbokro 62.10 272 P P 04 38 45.6 +2.1
comp=Z,22nm,0.9s,baz=71,slow=8.2,SNR=19
DBIC LR LR 05 05 14.6
comp=Z,518nm,19.0s,baz=68,slow=36
DBIC Dimbokro 62.10 272 P P 04 38 45.6 +2.1
DBIC Dimbokro 62.10 272 *e*P **P** **04 38 45.2 +1.7**
SSE Sheshan 62.18 60 P P 04 38 40.8 -3.0
SSE pP pP 04 38 50.3 +1.5
SSE S **S** **04 47 05.5 -3.6**
SSE sS sS 04 47 23.0 +5.7
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,230nm,5.2s
SSE LR LR
comp=N,410nm,25.6s
SSE LR LR
comp=E,770nm,25.5s
SSE LR LR
comp=Z,980nm,26.5s
ESDC Sonseca Array 62.20 310 P **P** **04 38 44.4 +0.5**
comp=Z,5.5nm,0.8s,baz=86,slow=5.4,SNR=27
ESDC LR LR 05 09 24.9
comp=Z,160nm,19.0s,baz=145,slow=40
ESDC Sonseca Array 62.20 310 P **P** **04 38 44.4 +0.5**
ESDC Sonseca Array 62.20 310 P **P** **04 38 44.4 +0.5**
ESLA Sonseca Array 62.20 310 *e*P **P** **04 38 44.5 +0.6**
comp=Z,2.4nm,0.9s
ESLA Sonseca Array 62.20 310 *e*P **P** **04 38 44.5 +0.6**
comp=Z,2.4nm,0.9s
LIC Lamto 62.33 272 *e*P **P** **04 38 45.4 +0.3**
comp=Z,83nm,1.0s
LIC *e*R
comp=Z,654nm,21.5s
LIC Lamto 62.33 272 *e*P **P** **04 38 45.4 +0.3**
comp=Z,83nm,1.0s
LIC Lamto 62.33 272 *e*P **P** **04 38 45.4 +0.3**
comp=Z,42nm,1.0s
KEV Kevo 63.07 348 *e*P P 04 38 52.4 +3.4
KEV MLR MLR
comp=Z,1μm,21.0s
KEV Kevo 63.07 348 *e*P P 04 38 52.4 +3.4
KEV LR LR
comp=Z,1μm,21.0s
KEV Kevo 63.07 348 *e*p P 04 38 45.0 -4.0
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 63.19 348 P **P** **04 38 48.6 -1.3**
comp=Z,5.1nm,0.8s,baz=140,slow=7.8,SNR=14
ARCES LR LR 05 09 29.2
comp=Z,1μm,21.6s,baz=135,slow=39
ARCES ARCESS Array B 63.19 348 P **P** **04 38 48.6 -1.3**
ARCES ARCESS Array B 63.19 348 P **P** **04 38 48.6 -1.3**
KAPI Kappang 63.37 101 P **P** **04 38 50.4 -1.6**
comp=Z,26nm,1.3s,baz=257,slow=4.9,SNR=17
KAPI LR LR 05 03 13.1
comp=Z,575nm,21.3s,baz=292,slow=33
KAPI Kappang 63.37 101 P **P** **04 38 50.4 -1.6**
KAPI Kappang 63.37 101 P **P** **04 38 52.7 +0.7**
comp=Z,157nm,1.2s,SNR=5.2
KAPI Kappang 63.37 101 P **P** **04 38 50.4 -1.6**
HIA Hailar 64.39 40 PFAKE 04 39 10.0 +12
HIA LR LR
comp=Z,1μm,19.0s
MTE Manteigas 65.03 310 PFAKE 04 39 10.0 +7.4
MTE LR LR
comp=Z,364nm,19.0s
DAV Davao City (W) 66.92 86 PFAKE 04 39 30.0 +15
DAV LR LR
comp=Z,481nm,20.0s
CN2 Changchun 67.11 47 *e*P **P** **04 39 15.8 0.0**
CN2 *es*P **sP** **04 39 22.8 +0.1**
CN2 *e*S **S** **04 48 08.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,19.0s
CN2 LR LR
comp=E,2μm,19.0s
CN2 LR LR
comp=Z,3μm,21.0s
INCN Inchon 67.26 54 PFAKE 04 39 30.0 +13
INCN LR LR
comp=Z,1μm,21.0s
SHEL Horse Pasture 67.98 248 PFAKE 04 39 30.0 +8.2
SHEL LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 68.07 117 PFAKE 04 39 30.0 +7.7
MBWA LR LR
comp=Z,804nm,19.0s
KSAR Wonju Array Be 68.25 54 P **P** **04 39 22.0 -1.1**
KSAR Wonju Array Be 68.25 54 P **P** **04 39 22.0 -1.1**
KSRS Korea Array 68.28 54 P **P** **04 39 22.0 -1.3**
comp=Z,4.4nm,1.0s,baz=260,slow=8.4,SNR=7.3
KSRS LR LR 05 10 37.5
comp=Z,842nm,20.1s,baz=279,slow=37
MDJ Mudanjiang 70.17 46 P **P** **04 39 34.9 0.0**
MDJ pP **pP** **04 39 37.3 -2.6**
MDJ sP **sP** **04 39 38.8 -3.0**
MDJ S **S** **04 48 47.3 +1.4**
MDJ pmax pmax
comp=Z,13nm,2.3s
MDJ pmax pmax
comp=Z,250nm,5.4s
MDJ LR LR
comp=N,610nm,27.2s
MDJ LR LR
comp=E,870nm,41.8s
MDJ LR LR
comp=Z,2μm,25.4s
MDJ Mudanjiang 70.17 46 PFAKE 04 39 50.0 +15
MDJ LR LR
comp=Z,2μm,22.0s
JNU Nakatsue 70.50 58 LR LR 05 10 52.2
comp=Z,417nm,19.6s,baz=49,slow=36
JNU Nakatsue 70.50 58 *e*P **P** **04 39 37.9 +0.7**
comp=Z,197nm,2.6s
JNU Nakatsue 70.50 58 *e*P **P** **04 39 37.9 +0.7**
comp=Z,197nm,2.6s
NWAO Narrogin (SRO) 70.66 130 PFAKE 04 39 50.0 +12
NWAO LR LR
comp=Z,678nm,22.0s
USRK Ussuriysk Arra 71.85 47 LR LR 05 12 21.9
comp=Z,2μm,20.6s,baz=258,slow=37
KLR Kul'dur 72.11 41 *e*P **P** **04 39 44.2 -2.4**
KLR *e*S **S** **04 49 05.5 -2.7**
KLR pmax pmax
comp=Z,64nm,1.8s
FITZ Fitzroy Crossi 72.38 113 P **P** **04 39 48.6 0.0**
comp=Z,6.5nm,1.0s,baz=259,slow=1.9,SNR=9.6
FITZ Fitzroy Crossi 72.38 113 *e*P **P** **04 39 48.7 0.0**
comp=Z,36nm,1.5s
FITZ Fitzroy Crossi 72.38 113 *e*P **P** **04 39 48.7 0.0**
comp=Z,36nm,1.5s
BBTS Babate 72.62 282 LR LR 05 11 05.0
comp=Z,482nm,20.4s,baz=238,slow=35
KBS Kingsbay 72.64 352 *e*P **P** **04 39 48.0 -1.2**
KBS pmax pmax
comp=Z,226nm,2.8s
KBS MLR MLR
comp=Z,642nm,20.0s
KBS Kingsbay 72.64 352 *e*P **P** **04 39 48.0 -1.2**
comp=Z,226nm,2.8s
KBS LR LR
comp=Z,642nm,20.0s
KBS Kingsbay 72.64 352 *e*P **P** **04 39 48.0 -1.2**
comp=Z,226nm,2.8s
YAK Yakutsk 72.89 28 *e*P **P** **04 39 49.3 -1.6**
YAK *e**PP **PcP** **04 40 10.7 +2.8**
YAK *e* 04 42 29.7
YAK *e*S S 04 49 07.4 -9.2
YAK *e* 04 49 47.0
YAK *e**SS **SKSac** **04 49 54.1 -1.6**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK smax smax
comp=N,108nm,3.3s
YAK smax smax
comp=E,25nm,2.6s
YAK MLR MLR
comp=N,341nm,17.0s
YAK MLR MLR
comp=E,878nm,19.0s
YAK MLR MLR
comp=Z,1μm,19.0s
YAK Yakutsk 72.89 28 *e*P **P** **04 39 50.0 -0.9**
comp=Z,32nm,0.7s
YAK LR LR
comp=Z,1μm,21.0s
YAK Yakutsk 72.89 28 *e*P **P** **04 39 50.0 -0.9**
comp=Z,32nm,0.7s
JMIC Jan Mayen 73.20 342 LR LR 05 13 35.7
comp=Z,413nm,21.9s,baz=298,slow=37
TIXI Tiksi 74.81 18 *i* P **P** **04 40 00.9 -1.1**
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI Tiksi 74.81 18 PFAKE 04 40 10.0 +8.0
TIXI LR LR
comp=Z,2μm,22.0s
MAJO Matsushiro 76.49 55 PFAKE 04 40 20.0 +7.6
MAJO LR LR
comp=Z,1μm,22.0s
MJAR Matsushiro Arr 76.49 55 LR LR 05 16 37.8
comp=Z,666nm,18.2s,baz=260,slow=38
BORG Borgarnes 76.59 334 LR LR 05 15 51.3
comp=Z,773nm,18.1s,baz=278,slow=37
MAW Mawson 77.28 178 LR LR 05 10 40.4
comp=Z,1μm,18.4s,baz=3.6,slow=33
DAG Danmarks Havn 77.45 347 *i* P **P** **04 40 16.7 -0.3**
comp=Z,65nm,1.0s
SACV Santiago Islan 79.38 283 PFAKE 04 40 40.0 +11
SACV LR LR
comp=Z,547nm,20.0s
YSS Yuzh-Sakhalins 79.43 44 PFAKE 04 40 40.0 +12
YSS LR LR
comp=Z,488nm,20.0s
WRA Warramunga Arr 80.80 112 P **P** **04 40 35.0 -1.4**
comp=Z,4.5nm,0.8s,baz=296,slow=4.4,SNR=26
WRA Warramunga Arr 80.80 112 P **P** **04 40 35.0 -1.4**
WRA Warramunga Arr 80.80 112 P **P** **04 40 35.0 -1.4**
WRAB Tennant Creek 80.81 112 *e*P **P** **04 40 35.3 -1.1**
WRAB pmax pmax
comp=Z,41nm,1.4s
WRAB MLR MLR
comp=Z,761nm,19.0s
WRAB Tennant Creek 80.81 112 *e*P **P** **04 40 35.3 -1.1**
comp=Z,41nm,1.4s
WRAB LR LR
comp=Z,761nm,19.0s
WRAB Tennant Creek 80.81 112 P **P** **04 40 35.0 -1.4**
comp=Z,65nm,1.2s,SNR=10
WRAB Tennant Creek 80.81 112 *e*P **P** **04 40 35.3 -1.1**
comp=Z,41nm,1.4s
ASAR Alice Springs 81.32 116 P **P** **04 40 38.0 -1.1**
comp=Z,3.6nm,0.7s,baz=290,slow=5.1,SNR=34
ASAR Alice Springs 81.32 116 P **P** **04 40 38.0 -1.1**
ASAR Alice Springs 81.32 116 P **P** **04 40 38.0 -1.1**
AS31 Alice Springs 81.33 116 *e*P **P** **04 40 38.0 -1.2**
AS31 Alice Springs 81.33 116 *e*P **P** **04 40 38.0 -1.2**
SUMG Summit 82.62 342 *i* P P 04 40 54.1 +8.6
comp=Z,4.0nm,0.9s
SEY Seymchan 83.40 27 ⇑ *i*P **P** **04 40 49.5 +0.3**
GUMO Guam 84.84 77 PFAKE 04 41 10.0 +13
GUMO LR LR
comp=Z,327nm,20.0s
CASY Casey 84.99 161 PFAKE 04 41 10.0 +13
CASY LR LR
comp=Z,1μm,20.0s
NVL N'lazarevskaya 86.15 194 *e*P P 04 40 58.2 -4.5
NVL pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 87.73 21 *i* P **P** **04 41 09.8 -0.8**
BILL *e* 04 44 34.9
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,600nm,19.0s
BILL Bilibino 87.73 21 *e*P **P** **04 41 12.0 +1.3**
comp=Z,8.3nm,1.2s
BILL LR LR
comp=Z,588nm,19.0s
BILL Bilibino 87.73 21 *e*P **P** **04 41 12.0 +1.3**
comp=Z,8.3nm,1.2s
PETK Petropavlovsk- 88.08 36 LR LR 05 23 25.7
comp=Z,788nm,19.7s,baz=274,slow=38
SFJD Kangerlussuaq 88.14 338 LR LR 05 26 26.5
comp=Z,302nm,18.5s,baz=58,slow=40
PET Petropavlovsk 88.66 36 *e*P P 04 41 18.0 +2.7
PET *e*S **S** **04 52 00.0 -1.5**
PET pmax pmax
comp=Z,100nm,7.9s
PET MLR MLR
comp=Z,2μm,21.0s
PET Petropavlovsk 88.66 36 PFAKE 04 41 30.0 +15
PET LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 89.83 122 P **P** **04 41 21.5 +0.2**
comp=Z,2.6nm,0.8s,baz=274,slow=7.4,SNR=5.2
STKA LR LR 05 15 48.6
comp=Z,1μm,20.5s,baz=101,slow=32
STKA Stephens Creek 89.83 122 P **P** **04 41 21.5 +0.2**
STKA Stephens Creek 89.83 122 P **P** **04 41 21.5 +0.2**
PMG Port Moresby 90.87 99 PFAKE 04 41 40.0 +14
PMG LR LR
comp=Z,392nm,21.0s
CTAO Charters Tower 91.80 110 PFAKE 04 41 40.0 +9.3
CTAO LR LR
comp=Z,536nm,19.0s
RCBR Riachuelo 94.69 265 PFAKE 04 41 50.0 +5.8
RCBR LR LR
comp=Z,1μm,20.0s
CAN Canberra 96.49 125 PFAKE 04 42 00.0 +8.0
CAN LR LR
comp=Z,421nm,22.0s
QSPA South Pole Qui 99.73 180 PFAKE 04 42 20.0 +14
QSPA LR LR
comp=Z,2μm,19.0s
COLA College 103.08 11 PFAKE 04 42 30.0 +9.3
COLA LR LR
comp=Z,801nm,22.0s
HNR Honiara 103.34 97 PFAKE 04 42 30.0 +7.1
HNR LR LR
comp=Z,657nm,19.0s
SBA Scott Base 103.46 168 PFAKE 04 42 30.0 +7.9
SBA LR LR
comp=Z,2μm,21.0s
EGAK Eagle 104.27 8 PFAKE 04 42 40.0 +14
EGAK LR LR
comp=Z,729nm,22.0s
SPB Sao Paulo 107.83 248 PFAKE 04 47 00.0
SPB LR LR
comp=Z,936nm,19.0s
KDAK Kodiak Island 108.20 17 PFAKE 04 47 00.0
KDAK LR LR
comp=Z,732nm,20.0s
LBNH Lisbon 109.64 324 PFAKE 04 47 00.0
LBNH LR LR
comp=Z,604nm,19.0s
DZM Mont Dzumac 110.74 110 *e*LR LR 05 19 47.8
comp=Z,646nm,21.6s
LONY Lake Ozonia 110.91 326 PFAKE 04 47 10.0
LONY LR LR
comp=Z,521nm,20.0s
NCB Newcomb 111.11 325 PFAKE 04 47 10.0
NCB LR LR
comp=Z,668nm,21.0s
BINY Binghamton 113.23 324 PFAKE 04 47 10.0
BINY LR LR
comp=Z,491nm,20.0s
WRAK Wrangell Islan 113.48 6 PFAKE 04 47 10.0
WRAK LR LR
comp=Z,572nm,20.0s
FFC Flin Flon 113.52 347 PFAKE 04 47 10.0
FFC LR LR
comp=Z,568nm,22.0s
EFI East Falkland 113.63 218 PFAKE 04 47 10.0
EFI LR LR
comp=Z,1μm,20.0s
TARA Tarawa 114.40 84 PFAKE 04 47 10.0 +6.9
TARA LR LR
comp=Z,784nm,21.0s
ANWB Willy Bob 114.47 294 PFAKE 04 47 10.0 +7.0
ANWB LR LR
comp=Z,520nm,20.0s
FDF Fort de France 114.84 291 PFAKE 04 47 20.0 +16
FDF LR LR
comp=Z,250nm,19.0s
ERPA Erie 115.53 326 PFAKE 04 47 20.0 +15
ERPA LR LR
comp=Z,490nm,21.0s
GLMI Grayling 115.96 331 PFAKE 04 47 20.0 +15
GLMI LR LR
comp=Z,496nm,19.0s
GRGR Grenville 116.10 289 PFAKE 04 47 20.0 +14
GRGR LR LR
comp=Z,303nm,19.0s
EYMN Ely 116.43 338 PFAKE 04 47 20.0 +14
EYMN LR LR
comp=Z,582nm,20.0s
CBN Corbin 116.58 322 PFAKE 04 47 20.0 +13
CBN LR LR
comp=Z,392nm,20.0s
COWI Conover 116.99 335 PFAKE 04 47 20.0 +13
COWI LR LR
comp=Z,615nm,19.0s
AAM Ann Arbor 117.34 329 PFAKE 04 47 20.0 +12
AAM LR LR
comp=Z,553nm,19.0s
AGMN Agassiz Nation 117.67 341 PFAKE 04 47 20.0 +12
AGMN LR LR
comp=Z,625nm,19.0s
SJG San Juan 118.19 297 PFAKE 04 47 20.0 +10
SJG LR LR
comp=Z,383nm,21.0s
ACSO Alum Creek Sta 118.46 327 PFAKE 04 47 20.0 +10
ACSO LR LR
comp=Z,476nm,19.0s
CNNC Cliffs of the 118.75 319 PFAKE 04 47 20.0 +9.1
CNNC LR LR
comp=Z,499nm,21.0s
BLA Blacksburg 119.06 323 PFAKE 04 47 20.0 +8.5
BLA LR LR
comp=Z,390nm,20.0s
TRQA Tornquist 119.42 232 PFAKE 04 47 20.0 +7.9
TRQA LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 119.86 346 PFAKE 04 47 20.0 +7.3
DGMT LR LR
comp=Z,494nm,21.0s
EGMT Eagleton 121.40 350 PFAKE 04 47 30.0 +14
EGMT LR LR
comp=Z,617nm,20.0s
HDIL Hopedale 121.44 331 PFAKE 04 47 30.0 +14
HDIL LR LR
comp=Z,852nm,22.0s
NHSC New Hope 121.57 319 PFAKE 04 47 30.0 +14
NHSC LR LR
comp=Z,443nm,19.0s
ECSD EROS Data Cent 121.90 338 PFAKE 04 47 30.0 +13
ECSD LR LR
comp=Z,1μm,21.0s
SAML Samuel 121.91 266 PFAKE 04 47 30.0 +13
SAML LR LR
comp=Z,1μm,22.0s
NEW Newport 122.03 356 PFAKE 04 47 30.0 +13
NEW LR LR
comp=Z,810nm,20.0s
SCIA State Center 122.11 335 PFAKE 04 47 30.0 +13
SCIA LR LR
comp=Z,770nm,21.0s
SDDR Presa de Saban 122.31 300 PFAKE 04 47 30.0 +12
SDDR LR LR
comp=Z,406nm,19.0s
SWMT Swartz Lake 122.50 353 *e*PKPdf **PKPdf** **04 47 18.0 +0.1**
SWMT Swartz Lake 122.50 353 *e*PKIKP **PKPdf** **04 47 18.0 +0.1**
NLWA Neilton Lookou 123.05 1 PFAKE 04 47 30.0 +11
NLWA LR LR
comp=Z,865nm,19.0s
MSO Missoula 123.16 353 PFAKE 04 47 30.0 +11
MSO LR LR
comp=Z,376nm,20.0s
GOGA Godfrey 123.45 321 PFAKE 04 47 30.0 +10
GOGA LR LR
comp=Z,516nm,21.0s
HAWA Hanford 124.02 358 PFAKE 04 47 30.0 +9.3
HAWA LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 124.12 349 PFAKE 04 47 30.0 +8.8
RLMT LR LR
comp=Z,787nm,21.0s
LKWY Lake 124.86 350 PFAKE 04 47 30.0 +7.3
LKWY LR LR
comp=Z,1μm,21.0s
PLAL Pickwick Lake 125.04 326 PFAKE 04 47 30.0 +7.0

PLAL				LR	LR				
	comp=Z,601nm,20.0s								
PLCA	**Paso Flores**	**125.13**	**227**	PKP	**PKPdf**	**04**	**47**	**23.4**	**+0.3**
	comp=Z,4.3nm,1.0s,baz=114,slow=5.9,SNR=7.5								
PLCA	**Paso Flores**	**125.13**	**227**	PKP	**PKPdf**	**04**	**47**	**23.4**	**+0.3**
PLCA	**Paso Flores**	**125.13**	**227**	PKIKP	**PKPdf**	**04**	**47**	**23.4**	**+0.3**
BMO	**Blue Mountains**	**125.44**	**356**	PFAKE		04	47	40.0	+16
BMO				LR	LR				
	comp=Z,581nm,19.0s								
SDV	**Santo Domingo**	**125.49**	**288**	PFAKE		04	47	40.0	+15
SDV				LR	LR				
	comp=Z,1.0nm,22.0s								
LRAL	**Lakeview Retre**	**125.84**	**323**	PFAKE		04	47	40.0	+15
LRAL				LR	LR				
	comp=Z,467nm,19.0s								
KSU1	**Kansas State U**	**125.87**	**336**	PFAKE		04	47	40.0	+16
KSU1				LR	LR				
	comp=Z,917nm,21.0s								
OXF	**Oxford**	**126.12**	**326**	PFAKE		04	47	40.0	+15
OXF				LR	LR				
	comp=Z,651nm,20.0s								
JOHN	**Johnston Islan**	**126.21**	**61**	PFAKE		04	47	40.0	+14
JOHN				LR	LR				
	comp=Z,5.0nm,20.0s								
OGNE	**Ogallala**	**126.22**	**341**	PFAKE		04	47	40.0	+15
OGNE				LR	LR				
	comp=Z,698nm,20.0s								
HLID	**Hailey**	**126.44**	**353**	PFAKE		04	47	40.0	+14
HLID				LR	LR				
	comp=Z,547nm,21.0s								
BW06	**Boulder Array**	**126.45**	**349**	PFAKE		04	47	40.0	+14
BW06				LR	LR				
	comp=Z,750nm,20.0s								
PDAR	**Pinedale Array**	**126.45**	**349**	PKP	**PKPdf**	**04**	**47**	**25.4**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=82,slow=2.8,SNR=9.0								
PDAR	**Pinedale Array**	**126.45**	**349**	PKP	**PKPdf**	**04**	**47**	**25.4**	**-0.4**
PDAR	**Pinedale Array**	**126.45**	**349**	PKIKP	**PKPdf**	**04**	**47**	**25.4**	**-0.4**
AHID	**Auburn Hatcher**	**126.73**	**350**	PFAKE		04	47	40.0	+14
AHID				LR	LR				
	comp=Z,673nm,22.0s								
BRAL	**Brewton**	**127.30**	**322**	PFAKE		04	47	40.0	+13
BRAL				LR	LR				
	comp=Z,600nm,21.0s								
LVC	**Limon Verde**	**127.60**	**249**	PFAKE		04	47	40.0	+12
LVC				LR	LR				
	comp=Z,12nm,19.0s								
MTDJ	**Mount Denham**	**127.93**	**302**	PFAKE		04	47	40.0	+11
MTDJ				LR	LR				
	comp=Z,461nm,21.0s								
HWUT	**Hardware Ranch**	**127.94**	**350**	*e*PKPdf	**PKPdf**	**04**	**47**	**28.4**	**-0.2**
HWUT				LR	LR				
	comp=Z,722nm,20.0s								
HWUT	**Hardware Ranch**	**127.94**	**350**	*e*PKIKP	**PKPdf**	**04**	**47**	**28.4**	**-0.2**
MIAR	**Mount Ida**	**128.26**	**330**	PFAKE		04	47	40.0	+11
MIAR				LR	LR				
	comp=Z,553nm,19.0s								
ISCO	**Idaho Springs**	**128.34**	**344**	PFAKE		04	47	40.0	+10
ISCO				LR	LR				
	comp=Z,651nm,22.0s								
VBMS	**Vicksburg**	**128.46**	**325**	PFAKE		04	47	40.0	+10
VBMS				LR	LR				
	comp=Z,470nm,19.0s								
DUG	**Dugway**	**129.52**	**351**	PFAKE		04	47	40.0	+8.4
DUG				LR	LR				
	comp=Z,562nm,20.0s								
BMN	**Battle Mountai**	**129.82**	**355**	PFAKE		04	47	40.0	+7.8
BMN				LR	LR				
	comp=Z,667nm,20.0s								
WMOK	**Wichita Mounta**	**130.50**	**335**	PFAKE		04	47	40.0	+6.5
WMOK				LR	LR				
	comp=Z,568nm,22.0s								
NATX	**Nacogdoches**	**131.03**	**329**	PFAKE		04	47	50.0	+15
NATX				LR	LR				
	comp=Z,583nm,21.0s								
MVU	**Marysvale**	**131.07**	**350**	PFAKE		04	47	50.0	+15
MVU				LR	LR				
	comp=Z,499nm,19.0s								
MVCO	**Mesa Verde**	**131.53**	**345**	PFAKE		04	47	50.0	+14
MVCO				LR	LR				
	comp=Z,653nm,20.0s								
AMTX	**Amarillo**	**131.53**	**337**	PFAKE		04	47	50.0	+14
AMTX				LR	LR				
	comp=Z,663nm,21.0s								
TPH	**Tonopah**	**132.16**	**355**	PFAKE		04	47	50.0	+13
TPH				LR	LR				
	comp=Z,669nm,22.0s								
ANMO	**Albuquerque**	**133.10**	**342**	PFAKE		04	47	50.0	+11
ANMO				LR	LR				
	comp=Z,602nm,20.0s								
WUAZ	**Wupatki**	**133.81**	**348**	PFAKE		04	47	50.0	+10
WUAZ				LR	LR				
	comp=Z,521nm,20.0s								
BCIP	**Isla Barro Col**	**133.89**	**293**	PFAKE		04	47	50.0	+10
BCIP				LR	LR				
	comp=Z,287nm,20.0s								
DAC	**Darwin (Calif)**	**133.98**	**355**	PFAKE		04	47	50.0	+10
DAC				LR	LR				
	comp=Z,509nm,20.0s								
JCT	**Junction City**	**134.58**	**333**	PFAKE		04	47	50.0	+8.7
JCT				LR	LR				
	comp=Z,526nm,20.0s								
TEIG	**Tepich**	**135.29**	**312**	PFAKE		04	47	50.0	+7.2
TEIG				LR	LR				
	comp=Z,435nm,19.0s								
OTAV	**Otavalo**	**135.42**	**280**	PFAKE		04	48	00.0	+16
OTAV				LR	LR				
	comp=Z,531nm,19.0s								
NNA	**Nana**	**135.52**	**263**	PFAKE		04	47	50.0	+6.6
NNA				LR	LR				
	comp=Z,2μm,21.0s								
KVTX	**Kingsville**	**136.08**	**328**	PFAKE		04	48	00.0	+16
KVTX				LR	LR				
	comp=Z,716nm,19.0s								
PFO	**Pinyon Flat Ob**	**136.50**	**353**	PFAKE		04	48	00.0	+15
PFO				LR	LR				
	comp=Z,971nm,21.0s								
TUC	**Tucson**	**136.75**	**346**	PFAKE		04	48	00.0	+15
TUC				LR	LR				
	comp=Z,521nm,21.0s								
TXAR	**Lajitas Array**	**137.22**	**336**	PKhKP	PKPpre	04	47	36.2	
	comp=Z,0.5nm,1.1s,baz=206,slow=5.6,SNR=2.4								
TXAR	**Lajitas Array**	**137.22**	**336**	PKPpre	PKPpre	04	47	36.2	
JTS	**JuntasAbangare**	**137.99**	**297**	PFAKE		04	48	00.0	+12
JTS				LR	LR				
	comp=Z,412nm,19.0s								
TGUH	**Tegucigalpa,Un**	**138.09**	**304**	PFAKE		04	48	00.0	+12
TGUH				LR	LR				
	comp=Z,344nm,20.0s								
PAYG	**Puerto Ayora**	**147.07**	**284**	PFAKE		04	48	20.0	+12
PAYG				LR	LR				
	comp=Z,1μm,20.0s								
TBI	**Tubuai**	**150.60**	**121**	*e*LR	LR	05	38	17.4	
	comp=Z,508nm,28.2s								
PPT2	**Papeete2**	**152.25**	**109**	*e*LR	LR	05	38	58.4	
	comp=Z,392nm,23.8s								
RKT	**Rikitea**	**161.92**	**139**	*e*LR	LR	05	43	33.9	
	comp=Z,1μm,30.2s								

IDC 23 04:34:03.6±1.9,2°39N×127°72E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/21,mbtmp3.5/4,Error ellipse: s-maj=152.6km s-min=22.0km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.12**	**164**	P	P	04 39 11.7	+0.1
	0.4nm,0.3s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.59**	**167**	P	P	04 39 43.4	-0.4
	0.3nm,0.5s,baz=353,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**59.21**	**325**	P	P	04 44 07.1	+0.4
	0.2nm,0.4s,baz=116,slow=8.1,SNR=5.3						
KURBB	**Kurchatov Arra**	**63.39**	**327**	P	P	04 44 34.8	-0.1
	0.1nm,0.3s,baz=132,slow=5.6,SNR=4.3						

*IDC **23** 04:41:24.4±0.7,3°86N×126°44E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.1/24,mbtmp4.1/11,MS3.4/1, Ms1 3.4/1,ms1mx2.4/38,Error ellipse: s-maj=53.6km s-min=13.9km az=75.0*

*ISCJB **23** 04:41:24.1±0.3,3°88N±0°03×126°45E±0°07,h10km, mb4.2/17,Error ellipse: s-maj=10.3km s-min=4.9km az=176.4*

*NEIC **23** 04:41:25.2±4.1,3°86N×126°43E,h6km±26km,mb4.3/9, Error ellipse: s-maj=16.8km s-min=6.1km az=78.0*

*AUST **23** 04:41:26.9±4.3,3°70N×126°57E,h11km,Error ellipse: s-maj=1.7km s-min=1.1km az=302.0*

*MAN **23** 04:42:24,7°39N×124°77E,h31km,mb4.3,ML3.2,MS3.0*

ISC 23 04:41:26.0±0.5,3°90N±0°05×126°46E±0°09,h10km,n50, σ0s93/53,mb4.2/17,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.27**	**344**	Pn	**Pn**	**04 42 17.3**	**-0.1**
DAV				*e*Sn	**Sn**	**04 42 56.4**	**+0.1**
CTBH	**Cotabato--PC H**	**3.97**	**326**	‖ *i*P	**Pb**	**04 42 36.1**	**0.0**
BUKP	**Musuan**	**4.19**	**341**	*e*P	Pb	04 42 36.9	-3.0
BUKP				*e*S	**Pg**	**04 42 45.8**	**-0.5**
PAGZ	**Pagadian**	**4.97**	**322**	*e*P	Pb	04 42 48.7	-4.6
PAGZ				*e*S	Pg	04 42 56.8	-4.6
PALU	**Palau**	**8.67**	**66**	P	**Pn**	**04 43 31.4**	**-0.3**
	baz=8.7,SNR=5.4						
KAPI	**Kappang**	**11.11**	**217**	LR	LR	04 49 06.9	
	comp=Z,162nm,18.1s,baz=166,slow=42						
KAPI	**Kappang**	**11.11**	**217**	*e*Pn	**Pn**	**04 44 04.0**	**-1.1**
	16nm,0.3s						
KAPI				*e*Sn	**Sn**	**04 46 10.8**	**+1.3**
MTN	**Manton Dam**	**17.27**	**164**	P	**Pn**	**04 45 25.2**	**-2.3**
	baz=17,SNR=7.6						
KDU	**Kakadu**	**17.53**	**160**	P	**Pn**	**04 45 30.1**	**-0.7**
	baz=17,SNR=5.3						
YULB	**Yu-li**	**20.01**	**346**	*e*P	**P**	**04 45 58.7**	**-0.3**
	9.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.88**	**182**	P	**P**	**04 46 19.3**	**0.0**
	2.8nm,0.3s,baz=16,slow=7.5,SNR=27						
FITZ	**Fitzroy Crossi**	**21.88**	**182**	*e*P	**P**	**04 46 19.1**	**-0.2**
	3.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.88**	**182**	P	**P**	**04 46 19.4**	**+0.1**
	baz=22,SNR=31						
WRAB	**Tennant Creek**	**24.92**	**162**	*e*P	**P**	**04 46 48.5**	**-1.1**
	7.2nm,0.6s						
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**04 46 48.4**	**-1.2**
	2.4nm,0.5s,baz=335,slow=11,SNR=47						
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**04 46 48.4**	**-1.2**
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**04 47 20.0**	**-0.4**
	0.9nm,0.3s,baz=350,slow=14,SNR=16						
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**04 47 20.0**	**-0.4**
MEEK	**Meekatharra**	**31.30**	**194**	P	**P**	**04 47 47.0**	**+0.5**
	baz=31,SNR=11						
KSAR	**Wonju Array Be**	**33.40**	**2**	P	**P**	**04 48 05.2**	**+0.3**
KSRS	**Korea Array**	**33.42**	**2**	P	**P**	**04 48 05.2**	**+0.2**
	1.2nm,0.5s,baz=174,slow=10,SNR=3.4						
MORW	**Morawa**	**34.28**	**196**	P	**P**	**04 48 13.4**	**+0.8**
	baz=34,SNR=3.5						
BLDU	**Ballidu**	**35.57**	**195**	P	**P**	**04 48 24.1**	**+0.4**
	baz=36,SNR=9.9						
KLBR	**Kellerberrin**	**36.26**	**193**	P	**P**	**04 48 30.1**	**+0.5**
	baz=36,SNR=8.6						
BBOO	**Buckleboo**	**37.63**	**167**	P	**P**	**04 48 41.0**	**-0.2**
	baz=38,SNR=11						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	*e*P	**P**	**04 48 41.9**	**+0.4**
	5.5nm,0.8s						
STKA	**Stephens Creek**	**38.39**	**159**	P	**P**	**04 48 48.3**	**+0.6**
	3.0nm,0.4s,baz=336,slow=9.8,SNR=16						
STKA	**Stephens Creek**	**38.39**	**159**	*e*P	**P**	**04 48 47.1**	**-0.5**
	0.9nm,0.7s						
STKA	**Stephens Creek**	**38.39**	**159**	P	**P**	**04 48 47.4**	**-0.2**
	baz=38,SNR=13						
MGCD	**Mangrove Creek**	**43.67**	**150**	P	**P**	**04 49 33.6**	**+2.5**
	baz=44,SNR=10						
MGCD	**Mangrove Creek**	**43.67**	**150**	P	**P**	**04 49 33.6**	**+2.5**
	baz=32,SNR=10						
DZM	**Mont Dzumac**	**46.85**	**125**	*e*P	**P**	**04 49 57.8**	**+1.1**
	18nm,1.0s						
ULN	**Ulaanbaatar**	**46.87**	**342**	*e*P	**P**	**04 49 55.8**	**-0.8**
	1.1nm,0.4s						
SONM	**Songino Array**	**47.05**	**342**	P	**P**	**04 49 59.5**	**+1.5**
	0.6nm,0.5s,baz=154,slow=8.6,SNR=7.3						
SONM	**Songino Array**	**47.05**	**342**	P	**P**	**04 49 59.5**	**+1.5**
MK31	**Makanchi Array**	**57.26**	**325**	*e*P	**P**	**04 51 13.5**	**-0.4**
MK31				*e*PcP	**PcP**	**04 52 08.1**	**0.0**
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**04 51 14.5**	**+0.6**
	0.8nm,0.3s,baz=120,slow=7.3,SNR=7.5						
MKAR				ScP	**ScP**	**04 56 08.3**	**0.0**
	0.2nm,0.6s,baz=115,slow=5.4,SNR=3.7						
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**04 51 14.5**	**+0.6**
MKAR				ScP	**ScP**	**04 56 08.3**	**0.0**
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	**P**	**04 51 43.0**	**+0.3**
	1.2nm,0.5s,baz=128,slow=6.6,SNR=9.9						
KURK	**Kurchatov**	**61.45**	**328**	*e*P	**P**	**04 51 43.6**	**+0.9**
BRVK	**Borovoye**	**67.10**	**327**	*e*P	**P**	**04 52 20.8**	**+1.1**
	5.0nm,0.9s						
ABKAR	**Akbulak array**	**71.85**	**321**	*e*P	**P**	**04 52 49.1**	**-0.1**
	0.7nm,0.3s						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**04 54 02.0**	**+0.2**
	0.2nm,0.5s,baz=245,slow=6.2,SNR=7.3						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**04 54 02.0**	**+0.2**
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**04 54 25.8**	**-0.7**
	4.1nm,1.0s,baz=79,slow=6.5,SNR=7.1						
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**04 54 25.8**	**-0.7**
FINES	**FINESS Array B**	**91.55**	**332**	P	**P**	**04 54 32.4**	**-0.5**
	0.7nm,0.6s,baz=67,slow=7.7,SNR=3.9						
FINES	**FINESS Array B**	**91.55**	**332**	P	**P**	**04 54 32.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP	**PKPdf**	**05 00 21.7**	**-1.4**
	0.1nm,0.3s,baz=84,slow=1.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP	**PKPdf**	**05 00 21.7**	**-1.4**

*AUST **23** 04:43:26.0±8.5,22°39S×174°79W,h0km,Error ellipse: s-maj=1.9km s-min=1.4km az=298.0*

*IDC **23** 04:43:28.9±0.4,22°80S×175°22W,h0km,mb4.9/23, mb1 5.0/24,mb1mx5.0/27,mbtmp4.9/24,ML4.4/1,MS4.3/7, Ms1 4.3/7,ms1mx4.0/25,Error ellipse: s-maj=16.2km s-min=13.9km az=119.0*

*MOS **23** 04:43:32.7±1.5,22°75S×175°33W,h29km,mb5.3/18, Error ellipse: s-maj=12.0km s-min=11.1km az=49.2*

*SZGRF **23** 04:43:32.9,22°83S×173°21W,h33km,Tonga Islands region*

*ISCJB **23** 04:43:32.7±0.1,22°88S±0°05×175°23W±0°04,h34km, mb5.2/79,MS4.6/15,Error ellipse: s-maj=7.8km s-min=3.6km az=152.7*

*GCMT **23** 04:43:33.2±0.4,23°02S×174°53W,h22km±1km,MW5.1, Moment Tensor Solution. s29,c33; s57,c77; Moment tensor: Scale 10¹⁶Nm; Mrr4.12±.31; Mθθ-1.46±.20; Mφφ-2.65±.19; Mrθ1.65±.32; Mrφ-2.16±.11; Mθφ2.52±.29; Best double couple: Mo5.20000×10¹⁶ NP1:ϕ220.00000°, δ27.00000°, λ94.00000°. NP2:ϕ35.00000°, δ63.00000°, λ88.00000°. Principal axes: T 5.0900, Plg72.0000°, Azm300.0000°; N 0.1800, Plg2.0000°, Azm36.0000°; P -5.2600, Plg18.0000°, Azm127.0000°; Data Used: II IU IC G.*

*BJI **23** 04:43:33.3,22°65S×175°02W,h37km,mB5.4/18, mb5.3/33,Ms5.4/21,Ms7 5.0/18*

*NEIC **23** 04:43:34.5±2.4,22°82S×175°25W,h36km±20km,mb5.2/45, Error ellipse: s-maj=8.9km s-min=6.7km az=155.0*

ISC 23 04:43:34.2±0.4,22°88S±0°06×175°21W±0°06,h34km±1km, h34km:pP-P,n566,σ1s93/594,mb5.3/78,MS4.6/16, 113C-124D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.22**	**53**	P	Pn	04 44 53.5	-10
	baz=5.6,SNR=42						
NIUE				S	Sn	04 45 52.5	-21
	baz=5.6,SNR=7.1						
MSVF	**Nonsavu**	**8.14**	**308**	*e*P	Pn	04 45 35.3	+5.3
MSVF	**Nonsavu**	**8.14**	**308**	*e*Pn	Pn	04 45 35.3	+5.3
MSVF	**Nonsavu**	**8.14**	**308**	Pn	Pn	04 45 35.4	+5.4
	929nm,0.9s,SNR=17						
AFI	**Afiamalu**	**9.49**	**21**	Pn	Pn	04 45 40.8	-7.8
	7.8nm,0.3s,baz=221,slow=9.5,SNR=15						
AFI				Sn	Sn	04 47 19.9	-14
	7.0nm,0.3s,baz=311,slow=21,SNR=2.9						
AFI	**Afiamalu**	**9.49**	**21**	*e*Pn	Pn	04 45 40.9	-7.7
AFI				*e*S	Sn	04 47 19.5	-15
RAR	**Rarotonga**	**14.41**	**86**	Pn	Pn	04 46 43.9	-12
	16nm,0.3s,baz=270,slow=6.3,SNR=7.7						
RAR	**Rarotonga**	**14.41**	**86**	*e*Pn	Pn	04 46 44.3	-11
URZ	**Urewera**	**16.69**	**202**	Pn	**Pn**	**04 47 26.0**	**+0.7**
	1.3nm,0.3s,baz=44,slow=3.9,SNR=7.2						
URZ				Sn	Sn	04 50 13.6	-16
	0.7nm,0.3s,baz=208,slow=12,SNR=3.3						
URZ	**Urewera**	**16.69**	**202**	Pn	**Pn**	**04 47 26.0**	**+0.7**
URZ				Sn	Sn	04 50 13.6	-16
DZM	**Mont Dzumac**	**16.98**	**269**	*e*P	P	04 47 35.7	+4.9
	196nm,1.1s						
DZM				*e*LR	LR	04 51 31.5	
	1μm,20.9s						
DZM	**Mont Dzumac**	**16.98**	**269**	*e*P	**P**	**04 47 32.8**	**+2.0**
DZM	**Mont Dzumac**	**16.98**	**269**	*e*Pn	**P**	**04 47 33.6**	**+2.8**
	82nm,0.9s						
NOUC	**Port Laguerre**	**17.11**	**269**	*e*P	P	04 47 37.9	+5.7
TBI	**Tubuai**	**23.68**	**96**	*e*LR	LR	04 54 03.1	
	950nm,22.8s						
RPZ	**Rata Peaks**	**23.68**	**205**	P	**P**	**04 48 43.5**	**+0.8**
	11nm,0.6s,baz=155,slow=3.7,SNR=9.5						
RPZ	**Rata Peaks**	**23.68**	**205**	*e*P	**P**	**04 48 41.5**	**-1.2**
	23nm,0.8s						
PPT2	**Papeete2**	**24.60**	**82**	*e*LR	LR	04 54 17.6	
	845nm,21.8s						
PPT	**Papeete**	**24.61**	**82**	LR	LR	04 56 18.8	
	comp=Z,781nm,20.8s,baz=262,slow=31						
ODZ	**Otahua Downs**	**24.96**	**204**	*e*P	**P**	**04 48 56.1**	**+1.8**
	179nm,2.5s						
WHZ	**Wether Hill Ro**	**26.73**	**207**	*e*P	**P**	**04 49 10.3**	**-0.1**
HNR	**Honiara**	**27.29**	**295**	LR	LR	04 58 03.8	
	comp=Z,583nm,21.7s,baz=322,slow=32						
ARMA	**Armidale**	**30.50**	**249**	*e*P	**P**	**04 49 45.4**	**+1.1**
	14nm,0.8s						
ARMA	**Armidale**	**30.50**	**249**	P	**P**	**04 49 45.4**	**+1.1**
	baz=31,SNR=4.2						
EIDS	**Eidsvold**	**30.82**	**259**	*e*P	**P**	**04 49 47.7**	**+0.7**
	34nm,1.1s						
EIDS	**Eidsvold**	**30.82**	**259**	P	**P**	**04 49 47.7**	**+0.7**
	baz=31,SNR=3.5						
RMQ	**Roma**	**32.87**	**256**	P	**P**	**04 50 06.2**	**+1.2**
	baz=33,SNR=11						
CMSA	**Cobar Meteorol**	**35.68**	**247**	P	**P**	**04 50 28.9**	**-0.4**
	baz=36,SNR=13						
CTA	**Charters Tower**	**35.90**	**267**	P	**P**	**04 50 31.1**	**-0.3**
	22nm,0.6s,baz=100,slow=10,SNR=19						
CTA				LR	LR	05 03 02.6	
	comp=Z,174nm,19.9s,baz=251,slow=33						
CTA	**Charters Tower**	**35.90**	**267**	P	**P**	**04 50 31.1**	**-0.3**
CTAO	**Charters Tower**	**35.90**	**267**	*e*P	**P**	**04 50 31.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,38nm,0.9s						
CTAO	**Charters Tower**	**35.90**	**267**	*e*P	**P**	**04 50 31.3**	**-0.1**
	comp=Z,38nm,0.9s						
TOO	**Toolangi**	**36.70**	**237**	P	**P**	**04 50 38.5**	**+0.5**
	baz=37,SNR=6.3						
QLP	**Quilpie**	**36.92**	**256**	P	**P**	**04 50 39.6**	**-0.3**
	baz=37,SNR=15						
RKT	**Rikitea**	**36.95**	**98**	*e*LR	LR	05 00 07.2	
	comp=Z,690nm,24.2s						
PMG	**Port Moresby**	**38.42**	**284**	P	**P**	**04 50 52.8**	**0.0**
	comp=Z,80nm,0.9s,baz=111,slow=4.1,SNR=16						
PMG	**Port Moresby**	**38.42**	**284**	*e*P	**P**	**04 50 52.4**	**-0.4**
	comp=Z,95nm,0.9s						
STKA	**Stephens Creek**	**39.18**	**247**	P	**P**	**04 50 58.4**	**-0.7**
	comp=Z,11nm,0.7s,baz=95,slow=9.3,SNR=9.4						
STKA	**Stephens Creek**	**39.18**	**247**	*e*P	**P**	**04 50 58.1**	**-0.9**
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**39.18**	**247**	P	**P**	**04 50 58.6**	**-0.4**
	baz=40,SNR=14						
ARPS	**Mount Arapiles**	**39.43**	**239**	P	**P**	**04 51 01.1**	**+0.2**
	baz=40,SNR=11						
COEN	**Coen**	**40.36**	**275**	*e*P	**P**	**04 51 09.6**	**+0.7**
	comp=Z,494nm,1.8s						
COEN	**Coen**	**40.36**	**275**	P	**P**	**04 51 09.6**	**+0.7**
	baz=41,SNR=7.6						
QIS	**Mount Isa**	**41.92**	**264**	P	**P**	**04 51 21.3**	**-0.5**
	baz=42,SNR=8.4						
BBOO	**Buckleboo**	**43.89**	**246**	*e*P	**P**	**04 51 36.2**	**-1.3**
	comp=Z,4μm,2.8s						
BBOO	**Buckleboo**	**43.89**	**246**	P	**P**	**04 51 36.2**	**-1.3**
	baz=44,SNR=8.5						
AS31	**Alice Springs**	**46.55**	**259**	*e*P	**P**	**04 51 58.2**	**-0.7**
ASAR	**Alice Springs**	**46.55**	**259**	P	**P**	**04 51 57.9**	**-1.0**
	comp=Z,34nm,0.9s,baz=94,slow=8.0,SNR=166						
ASAR				S	**S**	**04 58 41.2**	**-4.3**
	comp=Z,0.8nm,0.6s,baz=84,slow=16,SNR=7.2						
ASAR	**Alice Springs**	**46.55**	**259**	P	**P**	**04 51 57.9**	**-1.0**
ASAR				S	**S**	**04 58 41.2**	**-4.3**
WRAB	**Tennant Creek**	**46.88**	**264**	*e*P	**P**	**04 51 59.7**	**-1.7**
WRAB	**Tennant Creek**	**46.88**	**264**	*e*P	**P**	**04 51 59.7**	**-1.7**
WRAB	**Tennant Creek**	**46.88**	**264**	P	**P**	**04 51 59.2**	**-2.2**
	comp=Z,219nm,0.9s,SNR=14						
WRA	**Warramunga Arr**	**46.88**	**264**	P	**P**	**04 51 59.8**	**-1.7**
	comp=Z,29nm,0.9s,baz=100,slow=8.0,SNR=97						
WRA				S	**S**	**04 58 46.5**	**-3.8**
	comp=Z,3.3nm,1.1s,baz=96,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**46.88**	**264**	P	**P**	**04 51 59.8**	**-1.7**
WRA				S	**S**	**04 58 46.5**	**-3.8**
KDU	**Kakadu**	**50.62**	**272**	P	**P**	**04 52 29.6**	**-0.5**
	baz=51,SNR=3.4						
FORT	**Forrest**	**50.79**	**248**	*e*P	**P**	**04 52 29.8**	**-1.5**
	comp=Z,29nm,0.7s						
FORT	**Forrest**	**50.79**	**248**	P	**P**	**04 52 30.4**	**-0.9**
	baz=51,SNR=7.2						
MTN	**Manton Dam**	**51.80**	**271**	P	**P**	**04 52 37.9**	**-1.2**
	baz=52,SNR=4.0						
FITZ	**Fitzroy Crossi**	**55.31**	**263**	P	**P**	**04 53 04.5**	**-0.4**
	comp=Z,16nm,0.8s,baz=103,slow=7.3,SNR=28						
FITZ				LR	LR	05 17 01.0	
	comp=Z,551nm,18.8s,baz=233,slow=36						
FITZ	**Fitzroy Crossi**	**55.31**	**263**	*e*P	**P**	**04 53 04.4**	**-0.4**
	comp=Z,18nm,0.9s

comp=Z,9.9nm,0.9s,baz=86,slow=12,SNR=3.6
JNU Nakatsue 75.78 316 P P 04 55 16.4 -0.3
KSM Kuching 76.31 278 eP P 04 55 20.0 -0.1
comp=Z,9.2nm,0.7s
TWG Pinlang 76.84 302 eP P 04 55 20.9 -2.1
comp=E,174nm,1.3s
ASAJ Asahikawa 77.06 330 P P 04 55 25.0 +1.3
comp=Z,21nm,0.7s,baz=227,slow=13,SNR=8.0
ASAJ Asahikawa 77.06 330 P P 04 55 25.0 +1.3
MURC Murrieta 78.76 46 ⇓P P 04 55 34.3 +0.9
baz=79
VES Vestal, Richgr 78.91 43 ⇓P P 04 55 34.2 0.0
baz=79
EDW2 Edwards Air Fo 79.02 45 ⇑P P 04 55 34.9 0.0
baz=79
YSS Yuzh-Sakhalins 79.19 332 eP P 04 55 37.3 +1.9
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 79.19 332 eP P 04 55 36.6 +1.3
comp=Z,84nm,1.1s
ISA Isabella 79.19 44 eP P 04 55 36.0 +0.2
ISA pmax pmax
comp=Z,21nm,1.5s
ISA Isabella 79.19 44 eP P 04 55 36.0 +0.2
comp=Z,21nm,1.5s
PETK Petropavlovsk- 79.25 344 P P 04 55 35.9 +0.3
comp=Z,13nm,0.9s,baz=123,slow=5.5,SNR=9.8
PETK Petropavlovsk- 79.25 344 P P 04 55 35.9 +0.3
PETK Petropavlovsk- 79.25 344 P P 04 55 35.9 +0.3
CMB Columbia Colle 79.49 41 eP P 04 55 36.9 -0.4
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 79.49 41 eP P 04 55 36.9 -0.4
comp=Z,6.5nm,1.0s
MPMC Manual Prospec 80.06 44 ⇑P P 04 55 40.7 0.0
baz=80
MTUM Tungsten Hills 80.18 42 eP P 04 55 42.1 +0.9
KSRS Korea Array 80.38 317 P P 04 55 43.2 +1.2
comp=Z,4.4nm,0.8s,baz=143,slow=6.1,SNR=10
KSRS LR LR 05 27 39.5
comp=Z,161nm,18.9s,baz=90,slow=33
KSAR Wonju Array Be 80.40 317 P P 04 55 43.2 +1.1
GMRC Granite Mounta 80.49 46 ⇓P P 04 55 43.1 +0.2
baz=81
WCN Washoe City 80.68 40 eP P 04 55 44.1 +0.2
WCN pmax pmax
comp=Z,14nm,1.3s
WCN Washoe City 80.68 40 eP P 04 55 44.1 +0.2
comp=Z,14nm,1.3s
GRAC Grapevine Rang 80.71 43 ⇑P P 04 55 43.9 -0.1
baz=81
Y14A Wickenburg 81.79 48 ⇓P P 04 55 49.4 -0.4
baz=82
W13A Hualapai Mount 81.86 47 ⇓P P 04 55 50.0 -0.3
baz=82
MYKOM Kota Tinggi 82.35 275 P P 04 55 54.3 +1.2
USRK Ussuriysk Arra 82.38 325 P P 04 55 54.2 +1.7
comp=Z,31nm,0.9s,baz=138,slow=3.9,SNR=33
TUC Tucson 82.44 50 eP P 04 55 53.1 -0.2
TUC pmax pmax
comp=Z,24nm,1.9s
TUC Tucson 82.44 50 eP P 04 55 53.1 -0.2
comp=Z,24nm,1.9s
R11A Troy Canyon, C 82.65 43 ⇓P P 04 55 54.4 0.0
baz=83
KGM Kluang 82.93 275 P P 04 55 57.2 +1.0
319A Douglas 83.02 52 ⇓P P 04 55 56.3 -0.1
baz=83
X16A Lo Mia Camp, P 83.14 48 ⇓P P 04 55 56.9 -0.1
baz=83
NJ2 Nanjing 83.39 309 eP P 04 55 59.1 +1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
320A Kipp Ranch, An 83.55 52 ⇑P P 04 55 58.8 -0.3
baz=84
CCUT Cedar City 83.61 45 eP P 04 55 59.7 +0.3
comp=Z,12nm,1.1s
U15A North Rim 83.68 46 ⇑P P 04 55 59.9 0.0
baz=84
ARUT Antelope Range 83.70 45 eP P 04 55 59.9 +0.1
ARUT Antelope Range 83.70 45 eP P 04 55 59.9 +0.1
WUAZ Wupatki 83.79 47 ⇓P P 04 56 00.1 -0.2
baz=84
HABR Khabarovsk 83.80 329 eP P 04 56 01.5 +1.8
HABR e*SP sP 04 56 12.9 -1.6
HABR e 04 59 11.3
HABR PPP PPP 05 01 03.4
HABR eS SKSac 05 06 17.5 -2.3
HABR eSS SS 05 11 47.2 -1.6
HABR eSSS SSS 05 15 16.8
HABR pmax pmax
comp=E,33nm,1.1s
HABR pmax pmax
comp=Z,119nm,1.6s
HABR pmax pmax
comp=N,17nm,0.9s
HABR MLR MLR
comp=Z,153nm,16.0s
220A Playas Peak, P 83.85 52 ⇑P P 04 56 00.5 -0.1
baz=84
MDJ Mudanjiang 83.95 324 P P 04 56 02.0 +1.3
MDJ pP pP 04 56 11.5 0.0
MDJ S S 05 06 25.0 +2.9
MDJ pmax pmax
comp=Z,37nm,1.1s
MDJ pmax pmax
comp=Z,130nm,6.4s
MDJ LR LR
comp=N,170nm,38.4s
MDJ LR LR
comp=E,110nm,37.1s
MDJ Mudanjiang 83.95 324 eP P 04 56 02.1 +1.4
comp=E,46nm,1.1s
120A U Bar Ranch, L 84.11 51 ⇑P P 04 56 01.2 -0.7
baz=84
QIZ Qiongzhong 84.19 293 P P 04 56 02.6 +0.2
QIZ S S 05 06 25.4 -0.1
ELK Elko 84.30 41 eP P 04 56 02.7 -0.1
KTGM Kuala Trenggan 84.40 278 P P 04 56 04.7 +1.1
Z20A Nine Sixteen R 84.43 51 ⇑P P 04 56 03.3 -0.3
baz=85
MSU Marysvale 84.93 45 eP P 04 56 06.5 +0.4
MSU Marysvale 84.93 45 eP P 04 56 06.5 +0.4
FRIM Kepong 84.96 276 P P 04 56 06.6 +0.1
SYO Syowa Base 84.97 192 eP P 04 56 03.9 -1.6
Y20A Horse Springs, 85.00 50 ⇓P P 04 56 06.6 +0.1
baz=85
Z21A St. Cloud Mine 85.19 51 ⇑P P 04 56 07.3 -0.2
baz=85
X20A Quemado 85.25 50 ⇑P P 04 56 07.6 -0.2
baz=85
HAWA Hanford 85.36 35 eP P 04 56 08.0 +0.2
comp=E,14nm,1.2s
P15A Leamington 85.46 44 ⇓P P 04 56 08.7 +0.1
baz=86
DUG Dugway 85.48 43 ⇑P P 04 56 08.3 -0.3
baz=86
MFID Camas Ranch 85.55 39 eP P 04 56 08.7 -0.2
comp=E,43nm,2.0s
MFID Camas Ranch 85.55 39 ⇓P P 04 56 08.8 -0.2
baz=86
Y21A Point of Rocks 85.55 50 ⇑P P 04 56 08.8 -0.5
baz=86
W20A Ramah 85.55 49 ⇑P P 04 56 08.9 -0.3
baz=86
SNAA Sanae 85.56 178 eP P 04 56 08.5 -0.1
comp=E,8.3nm,1.0s
VNA3 Neumayer Olymp 85.59 175 eP P 04 56 08.6 -0.1
VNA3 Neumayer Olymp 85.59 175 ePcP PcP 04 56 11.2 -0.4
VNA3 Neumayer Olymp 85.59 175 epP pP 04 56 18.9 -0.6
VNA3 Neumayer Olymp 85.59 175 esP sP 04 56 23.1 -0.4
PLCA Paso Flores 85.76 133 P P 04 56 12.0 +1.8
comp=E,3.5nm,1.0s,baz=230,slow=4.6,SNR=4.1
PLCA Paso Flores 85.76 133 P P 04 56 12.0 +1.8
CN2 Changchun 85.77 321 ⇑P P 04 56 10.6 +0.8
CN2 epP pP 04 56 21.1 +0.4
CN2 esP sP 04 56 24.9 +0.3
CN2 eS S 05 06 40.4 +0.3
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,400nm,17.0s
CN2 LR LR
comp=Z,400nm,19.0s
Q16A Castle Valley 85.81 45 ⇓P P 04 56 10.1 -0.3
baz=86
SPU Mount Spurr 85.83 11 eP P 04 56 08.5 -1.2
324A Moseley Ranch, 85.84 54 ⇓P P 04 56 10.4 -0.2
baz=86
KLR Kul'dur 85.90 328 eP P 04 56 07.8 -2.5
KLR pmax pmax
comp=Z,57nm,1.6s
V20A Brimhall 85.93 48 ⇑P P 04 56 11.2 +0.2
baz=86
626A Big Bend Ranch 85.93 56 ⇓P P 04 56 10.9 -0.2
baz=86,SNR=10
WHN Wuhan 85.94 305 P P 04 56 12.0 +1.1
TMUT Trail Mountain 85.99 44 eP P 04 56 11.7 +0.3
comp=Z,18nm,1.1s
IPM Ipoh 86.00 277 eP P 04 56 12.5 +0.8
comp=Z,38nm,0.9s
IPM Ipoh 86.00 277 P P 04 56 12.8 +1.1
Y22A Socorro 86.02 51 ⇑P P 04 56 11.6 +0.1
baz=86
VNA2 Neumayer--Watz 86.06 176 eP P 04 56 11.4 +0.4
baz=200,slow=3.6
VNA2 Neumayer--Watz 86.06 176 ePcP PcP 04 56 14.9 +1.3
baz=200,slow=3.6
VNA2 Neumayer--Watz 86.06 176 epP pP 04 56 22.6 +0.7
baz=200,slow=3.6
VNA2 Neumayer--Watz 86.06 176 esP sP 04 56 26.9 +1.1
baz=200,slow=3.6
224A Cornudas Mount 86.13 53 ⇓P P 04 56 11.9 -0.2
baz=86
LAZ Ladron 86.13 50 eP P 04 56 11.9 -0.2
I12A Atlanta 86.18 39 ⇑P P 04 56 11.7 -0.4
baz=86
TXAR Lajitas Array 86.18 56 P P 04 56 12.1 -0.3
comp=Z,4.6nm,0.9s,baz=214,slow=6.0,SNR=32
TXAR Lajitas Array 86.18 56 P P 04 56 12.1 -0.3
325A Bean Ranch, Si 86.19 54 ⇓P P 04 56 11.8 -0.6
baz=86,SNR=6.2
U20A Newcomb 86.20 48 ⇓P P 04 56 12.4 +0.1
baz=86
526A Mary Lane Ranc 86.21 55 ⇑P P 04 56 12.2 -0.4
baz=86,SNR=6.8
L14A Malta 86.27 41 ⇑P P 04 56 12.7 +0.2
baz=86
O16A Springville 86.31 43 ⇑P P 04 56 12.7 -0.1
baz=86
SRU San Rafael 86.33 45 eP P 04 56 12.0 -1.0
SRU pmax pmax
comp=Z,23nm,1.4s
SRU San Rafael 86.33 45 eP P 04 56 12.0 -1.0
comp=Z,23nm,1.4s
SRU San Rafael 86.33 45 ⇑P P 04 56 13.1 +0.1
baz=86
P17A Butcher Ranch, 86.39 44 ⇓P P 04 56 13.1 -0.1
baz=87
GAMB Gambell 86.41 2 eP P 04 56 13.2 +0.8
comp=Z,24nm,1.0s
M15A Larsen Ranch, 86.43 42 ⇑P P 04 56 13.0 -0.3
baz=87
627A Terlingua Ranc 86.45 56 ⇓P P 04 56 13.4 -0.3
baz=87,SNR=7.1
HLID Hailey 86.46 39 eP P 04 56 13.5 0.0
HLID Hailey 86.46 39 ⇑P P 04 56 13.4 -0.1
baz=87
124A Stringfield Ra 86.49 52 ⇓P P 04 56 13.6 -0.3
baz=87
J13A Cove Ranch, Pi 86.51 40 ⇓P P 04 56 13.6 -0.1
baz=87
426A McDonald Obser 86.55 55 ⇑P P 04 56 13.8 -0.5
baz=87,SNR=6.7
527A Woodward Ranch 86.61 55 ⇑P P 04 56 13.9 -0.6
baz=87
MVCO Mesa Verde 86.65 47 ⇓P P 04 56 14.7 0.0
baz=87
KULM Kulim 86.66 277 eP P 04 56 15.5 +0.5
comp=Z,121nm,1.9s
KULM Kulim 86.66 277 P P 04 56 16.3 +1.3
225A Deer Hill, Car 86.66 53 ⇑P P 04 56 14.2 -0.6
baz=87
Y23A Lovelace Mesa, 86.67 51 ⇑P P 04 56 14.5 -0.2
baz=87
N16A Rees Ranch, Co 86.73 43 ⇑P P 04 56 14.9 0.0
baz=87
PMR Palmer 86.75 12 eP P 04 56 13.6 -0.6
PMR pmax pmax
comp=Z,38nm,1.5s
PMR Palmer 86.75 12 eP P 04 56 13.6 -0.6
comp=Z,38nm,1.5s
L15A Malad City 86.78 42 ⇑P P 04 56 15.3 +0.3
baz=87
O17A Robinson Place 86.79 44 ⇓P P 04 56 15.4 +0.1
baz=87
H12A Diamond D Ranc 86.79 38 ⇓P P 04 56 15.0 -0.1
baz=87
P18A Preston Nutter 86.80 44 ⇑P P 04 56 15.4 0.0
baz=87
U21A Nageezi 86.82 48 ⇓P P 04 56 15.3 -0.2
baz=87
628A Black Gap, Mar 86.85 56 ⇑P P 04 56 15.1 -0.4
baz=87,SNR=6.9
J14A Carey 86.85 40 ⇓P P 04 56 15.7 +0.3
baz=87
G12A Big Creek, Yel 86.87 38 ⇓P P 04 56 15.4 -0.1
baz=87
ANMO Albuquerque 86.89 50 eP P 04 56 15.9 +0.1
comp=Z,26nm,1.8s
125A Gardner Draw, 87.05 53 ⇓P P 04 56 16.2 -0.3
baz=87
Q19A Hogan Spring (87.07 45 ⇓P P 04 56 16.0 -0.5
baz=87
427A Hayter Ranch, 87.11 55 ⇓P P 04 56 16.6 -0.2
baz=87,SNR=10
Y24A Capitan 87.11 51 ⇑P P 04 56 16.7 -0.3
baz=87
N17A Moffit Pass 87.14 43 ⇑P P 04 56 16.6 -0.4
baz=87
H13A Challis 87.15 39 ⇓P P 04 56 16.6 -0.2
baz=87
T21A Navajo Lake 87.19 48 ⇓P P 04 56 17.1 -0.2
baz=87
528A Cox Ranch, San 87.25 56 ⇓P P 04 56 17.1 -0.5
baz=87
PSI Prapat 87.27 274 P P 04 56 17.2 -0.8
comp=Z,33nm,1.0s,baz=201,slow=1.4,SNR=22
PSI Prapat 87.27 274 P P 04 56 17.2 -0.8
PSI Prapat 87.27 274 P P 04 56 18.3 +0.2
baz=88,SNR=12
F12A Elk City 87.29 37 ⇑P P 04 56 16.7 -0.7
baz=88
O18A Roosevelt 87.30 44 ⇓P P 04 56 17.1 -0.6
baz=88
E12A Beaver Dam Sad 87.51 37 ⇓P P 04 56 18.6 +0.1
baz=88
J15A Blackfoot 87.54 40 ⇓P P 04 56 18.9 +0.2
baz=88
428A Kincaid Ranch, 87.59 55 ⇓P P 04 56 18.8 -0.4
baz=88
P19A Cripple Cowboy 87.62 45 ⇑P P 04 56 19.2 -0.1
baz=88
T22A Edith 87.64 48 ⇑P P 04 56 19.4 -0.1
baz=88
Y25A Mesa, Roswell 87.65 52 ⇓P P 04 56 19.4 -0.1
baz=88
529A Stev Forest Ra 87.66 56 ⇓P P 04 56 18.9 -0.6
baz=88
H14A Leadore 87.69 39 ⇑P P 04 56 19.9 +0.4
baz=88
Q20A Ridgley Place, 87.71 46 ⇑P P 04 56 19.6 -0.1
baz=88
K16A Soda Springs 87.73 41 ⇑P P 04 56 19.9 +0.2
baz=88
328A Wristen Ranch, 87.81 55 ⇓P P 04 56 19.7 -0.5
baz=88
NEW Newport 87.81 35 eP P 04 56 18.9 -0.8
NEW Newport 87.81 35 ⇑P P 04 56 19.3 -0.4
baz=88
F13A Darby 87.83 38 ⇓P P 04 56 19.4 -0.6
baz=88
Z26A Caprock 87.85 53 ⇓P P 04 56 20.0 -0.4
baz=88
O19A Miners Draw (B 87.88 44 ⇑P P 04 56 20.3 -0.2
baz=88
M18A Lyman 87.89 43 ⇓P P 04 56 20.0 -0.5
baz=88
N18A Larsen Ranch, 87.90 44 ⇓P P 04 56 20.2 -0.3
baz=88
R21A Cimarron 87.90 47 ⇑P P 04 56 20.5 -0.2
baz=88
P20A De Beque 87.94 45 ⇓P P 04 56 20.7 -0.1
baz=88
GSI Gunungsitoli 87.94 272 P P 04 56 23.1 +2.0
baz=88,SNR=5.4
J16A Bone 87.96 41 ⇓P P 04 56 20.7 -0.1
baz=88
X25A Clemmons Ranch 87.97 51 ⇑P P 04 56 20.6 -0.4
baz=88
C11A Tepee Creek (N 88.01 35 ⇓P P 04 56 20.7 0.0
baz=88,SNR=8.5
D12A Red Ives Fores 88.02 36 ⇓P P 04 56 20.5 -0.3
baz=88
127A Arkansas Junct 88.02 53 ⇓P P 04 56 20.9 -0.2
baz=88
S22A 4UR Ranch, Cre 88.07 48 ⇑P P 04 56 21.0 -0.6
baz=88
Q21A Lamborn Mesa, 88.13 46 ⇑P P 04 56 21.4 -0.3
baz=88
429A Davenport Ranc 88.15 56 ⇓P P 04 56 21.0 -0.8
baz=88,SNR=10
N19A John Jarvie Ra 88.17 44 ⇓P P 04 56 21.8 0.0
baz=88
TRF Thorofare Moun 88.25 11 eP P 04 56 20.3 -1.3
comp=Z,18nm,0.9s
E13A Victor 88.29 37 ⇑P P 04 56 21.1 -1.0
baz=88
SKAG Skagway 88.33 19 eP P 04 56 22.8 +0.9
comp=Z,35nm,1.5s
C12B Naegeli Ranch, 88.35 36 ⇑P P 04 56 21.9 -0.4
baz=88,SNR=5.7
530A J-C Ranch, Com 88.35 56 ⇑P P 04 56 22.3 -0.4
baz=88
R22A Saguache, Gunn 88.36 47 ⇓P P 04 56 22.5 -0.5
baz=88
I16A Newdale 88.38 40 ⇓P P 04 56 22.8 +0.1
baz=89
329A Wagon Wheel Ra 88.48 55 ⇓P P 04 56 22.5 -0.8
baz=89
G15A Dillon 88.52 39 ⇓P P 04 56 22.7 -0.6
baz=89
J17A Brown Place, J 88.56 41 ⇑P P 04 56 23.6 0.0
baz=89
DLMT Dillon 88.57 39 eP P 04 56 22.8 -0.8
K18A Toltan Ranch, 88.57 42 ⇓P P 04 56 23.1 -0.6
baz=89
Q22A Crested Butte, 88.58 47 ⇑P P 04 56 23.6 -0.4
baz=89
631A Perdido Creek 88.60 57 ⇑P P 04 56 23.2 -0.7
baz=89
128A Castleberry Fa 88.64 54 ⇓P P 04 56 23.4 -0.7
baz=89
E14A Clinton 88.67 38 ⇑P P 04 56 23.7 -0.3
baz=89
L19A Farson 88.70 43 ⇓P P 04 56 23.9 -0.5
baz=89
N20A Spence Gulch, 88.72 44 ⇑P P 04 56 23.8 -0.7
baz=89
B12A Libby 88.75 35 ⇓P P 04 56 24.0 -0.2
baz=89
732A Laxson Ranch, 88.76 58 ⇓P P 04 56 23.7 -1.0
baz=89
C13A Hot Springs 88.81 36 ⇓P P 04 56 24.0 -0.5
baz=89
J18A Kendall Valley 88.90 42 ⇑P P 04 56 24.6 -0.6
baz=89
BW06 Boulder Array 88.94 42 ⇑P P 04 56 24.7 -0.8
baz=89
PDAR Pinedale Array 88.94 42 P P 04 56 24.1 -1.3
comp=Z,1.8nm,0.9s,baz=186,slow=2.9,SNR=11
PDAR Pinedale Array 88.94 42 P P 04 56 24.1 -1.3
G16A Moss Hill, Enn 88.95 39 ⇓P P 04 56 24.6 -0.8
baz=89
531A Rocksprings 88.97 57 ⇓P P 04 56 25.1 -0.6
baz=89
H16A Russell Place, 88.98 40 ⇓P P 04 56 25.8 +0.2
baz=89
A12A Yaak River Ran 88.99 35 ⇑P P 04 56 25.4 +0.1
baz=89
Z28A Tucker Farm, M 89.03 53 ⇓P P 04 56 25.1 -0.8
baz=89
D14A Greenough 89.05 37 ⇑P P 04 56 25.1 -0.6
baz=89
P22A Eagle 89.06 46 ⇓P P 04 56 24.6 -1.5
baz=89
CHMT Chamberlain Mo 89.09 37 eP P 04 56 24.9 -1.1
comp=Z,7.3nm,1.5s
S24A Houchin Ranch, 89.12 48 ⇓P P 04 56 25.9 -0.6
baz=89
M20A Sweetwater, Wa 89.12 44 ⇓P P 04 56 25.7 -0.7
baz=89
E15A Deer Lodge 89.15 38 ⇓P P 04 56 26.3 +0.1
baz=89
N21A Black Mountain 89.17 45 ⇓P P 04 56 26.1 -0.4
baz=89
632A Uvalde 89.26 58 ⇓P P 04 56 26.7 -0.3
baz=89
B13A Whitefish 89.28 36 ⇓P P 04 56 25.2 -1.5
baz=90
SEY Seymchan 89.29 346 ⇑P P 04 56 26.7 +0.4
I18A Diamond G Ranc 89.29 41 ⇑P P 04 56 26.9 -0.2
baz=90
L20A Wamsutter 89.30 43 ⇑P P 04 56 26.3 -0.8
baz=90
C14A Swan Lake 89.32 36 ⇑P P 04 56 26.1 -0.9
baz=90
BJI Beijing 89.40 314 P P 04 56 28.3 +1.0
BJI pmax pmax
comp=Z,17nm,1.6s
532A Rocksprings 89.44 57 ⇓P P 04 56 27.5 -0.5
baz=90
O22A Kremmling 89.49 46 ⇓P P 04 56 27.5 -0.7
baz=90
ENH Enshi 89.51 303 eP P 04 56 29.6 +1.4
comp=Z,123nm,1.4s
J19A Crowheart 89.52 42 ⇑P P 04 56 28.0 -0.1
baz=90
D15A Lincoln 89.58 37 ⇓P P 04 56 28.0 -0.2
baz=90
DOT Dot Lake 89.64 13 eP P 04 56 28.3 +0.4
comp=Z,22nm,1.2s
A13A Flathead Natio 89.65 35 ⇓P P 04 56 28.5 0.0
baz=90
S25A Robets Cordova 89.66 49 ⇑P P 04 56 28.0 -0.9
baz=90
N22A Wattenberg Ran 89.88 45 ⇓P P 04 56 29.5 -0.5
baz=90
L21A Rawlins 89.89 44 ⇑P P 04 56 28.9 -1.0
baz=90
B14A Marquette Ranc 89.92 36 ⇓P P 04 56 29.0 -0.8
baz=90,SNR=5.8
ISCO Idaho Springs 89.93 46 ⇑P P 04 56 30.3 0.0
baz=90
C15A Salmond Ranch, 89.95 37 ⇑P P 04 56 29.0 -0.9
baz=90
I19A Meeteetse 89.97 41 ⇓P P 04 56 29.3 -0.9
baz=90
WALA Waterton Lakes 89.99 35 eP P 04 56 29.6 -0.5
comp=Z,0.9nm,1.5s
COLA College 89.99 11 eP P 04 56 29.0 -0.5
COLA pmax pmax
comp=Z,21nm,1.2s
COLA College 89.99 11 eP P 04 56 29.0 -0.5
comp=Z,21nm,1.2s
F17A Fitzpatrick Pl 90.00 39 ⇑P P 04 56 29.9 -0.3
baz=90
GYA Guiyang 90.07 299 P P 04 56 31.0 0.0
GYA pP pP 04 56 41.3 -0.6
GYA PP PP 05 00 07.8 +3.0
GYA SKS SKSac 05 06 56.3 -3.5
GYA S S 05 07 20.8 -1.4
GYA sS sS 05 07 37.4 -3.0
GYA SS SS 05 13 23.5 +1.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,660nm,19.8s
GYA LR LR
comp=E,510nm,18.7s
GYA LR LR
comp=Z,680nm,19.2s
ILAR Eielson Array 90.08 12 P P 04 56 29.4 -0.6
comp=Z,7.5nm,1.1s,baz=221,slow=5.0,SNR=30
ILAR Eielson Array 90.08 12 P P 04 56 29.4 -0.6
M22A Cedar Creek Ra 90.09 44 ⇑P P 04 56 31.2 +0.3

	baz=90									
D16A	**Dana Ranch, Ca**	**90.12**	**38**	⇓	P		**P**	**04 56 30.2**	**-0.5**
	baz=90									
A14A	**Double T Ranch**	**90.20**	**35**	⇑	P		**P**	**04 56 30.3**	**-0.7**
	baz=90,SNR=9.3									
B15A	**Bradely Ranch,**	**90.28**	**36**	⇓	P		**P**	**04 56 31.0**	**-0.5**
	baz=90									
G18A	**Lazy EL Ranch,**	**90.32**	**40**	⇑	P		**P**	**04 56 31.7**	**-0.1**
	baz=90									
RLMT	**Red Lodge**	**90.39**	**40**	⇓	P		**P**	**04 56 32.0**	**-0.1**
	baz=91									
F18A	**Big Timber**	**90.55**	**39**	⇑	P		**P**	**04 56 32.5**	**-0.3**
	baz=91									
A15A	**Johnson Ranch,**	**90.57**	**36**	⇑	P		**P**	**04 56 32.0**	**-0.8**
	baz=91,SNR=7.3									
R26A	**Arlington**	**90.66**	**48**	⇑	P		**P**	**04 56 32.6**	**-0.9**
	baz=91									
D17A	**Six Diamond Ra**	**90.67**	**38**	⇑	P		**P**	**04 56 33.2**	**-0.1**
	baz=91,SNR=12									
P25A	**Willow Gulch B**	**90.75**	**47**	⇑	P		**P**	**04 56 33.5**	**-0.4**
	baz=91									
E18A	**Harlowton**	**90.79**	**39**	⇑	P		**P**	**04 56 33.8**	**-0.1**
	baz=91									
C17A	**Wharram Farm,**	**90.90**	**38**	⇑	P		**P**	**04 56 34.0**	**-0.3**
	baz=91,SNR=9.7									
I21A	**Big Trails, Te**	**90.90**	**42**	⇑	P		**P**	**04 56 33.9**	**-0.6**
	baz=91									
F19A	**Roth Farm, Mol**	**90.97**	**40**	⇑	P		**P**	**04 56 34.6**	**-0.1**
	baz=91									
DAWY	**Dawson**	**91.05**	**15**	*e*	P		**P**	**04 56 34.8**	**+0.2**
B17A	**L&G Farms, Che**	**91.24**	**37**	⇑	P		**P**	**04 56 35.6**	**-0.3**
	baz=91									
E19A	**Rath Farm, Rou**	**91.39**	**39**	⇑	P		**P**	**04 56 36.8**	**+0.2**
	baz=92									
F20A	**Billings**	**91.42**	**40**	⇓	P		**P**	**04 56 36.8**	**0.0**
	baz=92									
XAN	**Xi'an**	**91.63**	**306**		P		**P**	**04 56 39.3**	**+1.3**
XAN					pmax	pmax				
	comp=Z,12nm,1.1s									
BILL	**Bilibino**	**91.68**	**353**	⇓	*i* P		**P**	**04 56 37.6**	**+0.3**
BILL					*e*			04 56 50.1		
BILL					*e*			05 00 18.6		
BILL					*e*SS	SS		05 13 45.1	+2.1	
BILL					pmax	pmax				
	comp=Z,9.0nm,1.3s									
D19A	**Cripps Ranch,**	**91.71**	**39**	⇑	P		**P**	**04 56 37.7**	**-0.4**
	baz=92									
COLD	**Coldfoot**	**91.76**	**9**	*e*	P		**P**	**04 56 37.5**	**-0.2**
B18A	**Beardsley Farm**	**91.87**	**37**	⇓	P		**P**	**04 56 38.6**	**-0.2**
	baz=92									
C19A	**Slack Wire Ran**	**91.92**	**38**	⇑	P		**P**	**04 56 38.8**	**-0.2**
	baz=92,SNR=10									
D20A	**Manuel Ranch,**	**92.11**	**39**	⇑	P		**P**	**04 56 40.1**	**+0.2**
	baz=92									
A18A	**Metzger Ranch,**	**92.12**	**37**	⇓	P		**P**	**04 56 40.3**	**+0.4**
	baz=92									
C20A	**Veseth Ranch,**	**92.51**	**39**	⇑	P		**P**	**04 56 42.0**	**+0.2**
	baz=93									
F22A	**Rosebud**	**92.54**	**41**	⇓	P		**P**	**04 56 41.6**	**-0.3**
	baz=93									
KMI	**Kunming**	**92.73**	**296**		P		**P**	**04 56 45.8**	**+2.3**
KMI					pmax	pmax				
	comp=Z,22nm,1.4s									
A19A	**Klindworth Far**	**92.73**	**37**	⇑	P		**P**	**04 56 42.3**	**-0.5**
	baz=93,SNR=5.7									
D21A	**La Casta Ranch**	**92.76**	**39**	⇓	P		**P**	**04 56 43.1**	**+0.2**
	baz=93									
G23A	**Biddle**	**92.78**	**42**	⇓	P		**P**	**04 56 43.2**	**+0.1**
	baz=93									
HHC	**Hu-ho-hao-te**	**92.87**	**313**	*e*	P		**P**	**04 56 44.3**	**+0.7**
HHC					pP		**pP**	**04 56 55.9**	**+1.3**
HHC					sP		**sP**	**04 56 59.8**	**+1.3**
HHC					PP		**PP**	**05 00 31.0**	**+4.4**
HHC					SKS		**SKSac**	**05 07 15.0**	**0.0**
HHC					S		**ScS**	**05 07 50.3**	**+1.5**
HHC					sS		**sS**	**05 08 03.9**	**-1.2**
HHC					SS		**SS**	**05 14 05.0**	**+3.5**
HHC					pmax	pmax				
	comp=Z,21nm,0.8s									
HHC					pmax	pmax				
	comp=Z,260nm,9.8s									
HHC					LR	LR				
	comp=N,340nm,20.8s									
HHC					LR	LR				
	comp=E,400nm,21.6s									
HHC					LR	LR				
	comp=Z,230nm,15.7s									
K26A	**Motz Farm, Whi**	**92.95**	**45**	⇓	P		**P**	**04 56 43.9**	**0.0**
	baz=93									
F23A	**Volborg**	**93.03**	**41**	⇑	P		**P**	**04 56 44.4**	**+0.3**
	baz=93									
H24A	**Dirks Ranch, A**	**93.07**	**42**	⇓	P		**P**	**04 56 43.9**	**-0.5**
	baz=93									
RSSD	**Black Hills**	**93.08**	**43**	*e*	P		**P**	**04 56 44.1**	**-0.6**
RSSD					pmax	pmax				
	comp=Z,8.0nm,1.1s									
RSSD	**Black Hills**	**93.08**	**43**	*e*	P		**P**	**04 56 44.1**	**-0.6**
	comp=Z,7.5nm,1.1s									
A20A	**Cobblestone Ra**	**93.17**	**38**	⇓	P		**P**	**04 56 44.8**	**+0.1**
	baz=93									
D22A	**Cohagen**	**93.28**	**40**	⇓	P		**P**	**04 56 45.0**	**-0.2**
	baz=94									
CMAR	**Chiang Mai Arr**	**93.34**	**289**		P		**P**	**04 56 48.5**	**+2.3**
	comp=Z,11nm,0.9s,baz=121,slow=3.1,SNR=55									
CMAR					LR	LR		05 37 11.2		
	comp=Z,145nm,18.7s,baz=110,slow=34									
CMAR	**Chiang Mai Arr**	**93.34**	**289**		P		**P**	**04 56 48.5**	**+2.3**
E23A	**Ismay**	**93.47**	**41**	⇓	P		**P**	**04 56 46.1**	**-0.1**
	baz=94									
CHTO	**Chiang Mai**	**93.48**	**289**	*e*	P		**P**	**04 56 48.4**	**+1.6**
CHTO					pmax	pmax				
	comp=Z,32nm,1.3s									
CHTO	**Chiang Mai**	**93.48**	**289**	*e*	P		**P**	**04 56 48.4**	**+1.6**
	comp=Z,32nm,1.3s									
B22A	**Reddig Ranch S**	**93.97**	**39**	⇓	P		**P**	**04 56 48.5**	**+0.1**
	baz=94									
E24A	**Baker**	**94.10**	**41**	⇓	P		**P**	**04 56 48.8**	**-0.3**
	baz=94									
C23A	**Lambert**	**94.19**	**39**	⇑	P		**P**	**04 56 49.5**	**0.0**
	baz=94									
CD2	**Chengdu**	**94.25**	**302**		P		**P**	**04 56 51.0**	**+0.9**
CD2					pP		**pP**	**04 57 02.1**	**+1.0**
CD2					sP		**sP**	**04 57 06.3**	**+1.3**
CD2					PP		**PP**	**05 00 41.0**	**+3.4**
CD2					SKS		**SKSac**	**05 07 21.8**	**-1.1**
CD2					S		**S**	**05 07 57.1**	**-2.3**
CD2					sS		**sS**	**05 08 15.8**	**-1.8**
CD2					SS		**SS**	**05 14 23.1**	**+1.5**
CD2					pmax	pmax				
	comp=Z,20nm,0.6s									
CD2					pmax	pmax				
	comp=Z,170nm,4.2s									
CD2					LR	LR				
	comp=N,290nm,5.9s									
CD2					LR	LR				
	comp=Z,290nm,14.9s									
D24A	**Glendive**	**94.36**	**40**	⇑	P		**P**	**04 56 50.6**	**+0.3**
	baz=94									
B23A	**Brockton**	**94.63**	**39**	⇓	P		**P**	**04 56 51.6**	**+0.2**
	baz=95									
DGMT	**Dagmar**	**95.09**	**39**	*e*	P		**P**	**04 56 53.8**	**+0.2**
	comp=Z,16nm,1.0s									
DGMT	**Dagmar**	**95.09**	**39**	⇑	P		**P**	**04 56 53.7**	**+0.2**
	baz=95									
YAK	**Yakutsk**	**95.29**	**337**	*e*	P		**P**	**04 56 53.5**	**-0.5**
YAK					pmax	pmax				
	comp=Z,19nm,1.3s									
A24A	**Westby**	**95.43**	**39**	⇑	P		**P**	**04 56 55.0**	**-0.1**
	baz=96									
LZH	**Lanzhou**	**96.27**	**306**	*e*	P		**P**	**04 57 00.5**	**+1.1**
LZH					pP		**pP**	**04 57 10.9**	**+0.5**
LZH					sP		**sP**	**04 57 14.5**	**+0.2**
LZH					pmax	pmax				
	comp=Z,17nm,1.1s									
LZH					LR	LR				
	comp=N,400nm,15.8s									
LZH					LR	LR				
	comp=E,360nm,15.2s									
LZH					LR	LR				
	comp=Z,420nm,16.9s									
YKA	**Yellowknife Ar**	**97.59**	**24**		P		**P**	**04 57 03.9**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=235,slow=4.1,SNR=27									
YKA					PKKPbc		**PKKPbc**	**05 13 40.8**	**-2.5**	
	comp=Z,0.3nm,0.9s,baz=41,slow=2.6,SNR=4.5									
YKA	**Yellowknife Ar**	**97.59**	**24**		P		**P**	**04 57 03.9**	**-0.6**
YKA					PKKPbc		**PKKPbc**	**05 13 40.8**	**-2.5**	
SONM	**Songino Array**	**99.25**	**318**		P		**Pdif**	**04 57 12.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=140,slow=4.0,SNR=4.7									
SONM	**Songino Array**	**99.25**	**318**		P		**Pdif**	**04 57 12.4**	**-0.1**
GTA	**Gaotai**	**100.48**	**308**	*e*	P		**Pdif**	**04 57 19.3**	**+1.1**
GTA					pP		pP	04 57 29.8	+0.6	
GTA					sP		sP	04 57 34.3	+1.2	
GTA					pmax	pmax				
	comp=Z,4.0nm,1.3s									
ZALV	**Zalesovo Beam**	**113.97**	**320**		PKiKP		**PKiKP**	**05 02 07.8**	**-1.4**	
	comp=Z,0.9nm,0.6s,baz=157,slow=1.1,SNR=5.9									
ZALV	**Zalesovo Beam**	**113.97**	**320**		PKiKP			05 02 07.9		
ZALV	**Zalesovo Beam**	**113.97**	**320**		PKiKP		**PKiKP**	**05 02 07.8**	**-1.4**	
MK31	**Makanchi Array**	**114.71**	**312**	*e*	PKiKP		PKPdf	05 02 10.0	-0.9	
MK31	**Makanchi Array**	**114.71**	**312**	*e*	PKPdf		PKPdf	05 02 10.0	-0.9	
MKAR	**Makanchi Array**	**114.71**	**312**		PKP		PKPdf	05 02 10.0	-0.9	
	comp=Z,0.7nm,0.6s,baz=222,slow=1.0,SNR=9.8									
MKAR	**Makanchi Array**	**114.71**	**312**	*c*	*i* PKiKP		PKPdf	05 02 10.0	-0.9	
MKAR					pmax	pmax				
	comp=Z,1.0nm,0.6s									
MKAR	**Makanchi Array**	**114.71**	**312**		PKP		PKPdf	05 02 10.0	-0.9	
KURK	**Kurchatov**	**117.50**	**317**	*i*	PKiKP		**PKPdf**	**05 02 14.8**	**-1.3**	
KURK	**Kurchatov**	**117.50**	**317**	*e*	PKPdf		**PKPdf**	**05 02 14.8**	**-1.3**	
KSH	**Kashi**	**118.37**	**304**	*e*	PKP		**PKPdf**	**05 02 19.6**	**+1.3**	
KSH					*e*SPKP			05 02 33.5		
KSH					*e*PP		**PP**	**05 03 39.9**	**+4.7**	
KSH					PKS		**PKSdf**	**05 05 53.6**	**-1.5**	
KSH					SKS		**SKSdf**	**05 09 26.1**	**-1.9**	
KSH					SKKS		**SKKSac**	**05 10 30.3**	**-2.6**	
KSH					SS		**SS**	**05 19 53.8**	**+4.0**	
KSH					AMB	AMB				
	comp=Z,56nm,4.1s									
KSH					LR	LR				
	comp=N,150nm,10.8s									
KSH					LR	LR				
	comp=E,89nm,8.6s									
KSH					LR	LR				
	comp=Z,210nm,9.2s									
AAK	**Ala-Archa**	**119.80**	**307**	*i*	PKiKP		**PKPdf**	**05 02 19.8**	**-1.3**	
AAK					pmax	pmax				
	comp=Z,7.0nm,1.2s									
BVAR	**Borovoye Array**	**122.56**	**319**		PKP		**PKPdf**	**05 02 25.2**	**-0.6**	
	comp=Z,3.0nm,0.8s,baz=132,slow=2.2,SNR=12									
BVAR	**Borovoye Array**	**122.56**	**319**		PKiKP		**PKPdf**	**05 02 25.2**	**-0.6**	
BVAR	**Borovoye Array**	**122.56**	**319**		PKP		**PKPdf**	**05 02 25.2**	**-0.6**	
BRVK	**Borovoye**	**122.63**	**319**	*i*	PKiKP		**PKPdf**	**05 02 24.8**	**-1.1**	
BRVK					pmax	pmax				
	comp=Z,5.0nm,1.2s									
KKAR	**Karatay Array**	**122.75**	**307**	*e*	PKiKP		**PKPdf**	**05 02 25.8**	**-0.7**	
KKAR	**Karatay Array**	**122.75**	**307**	*e*	PKPdf		**PKPdf**	**05 02 25.8**	**-0.7**	
KBL	**Kabul**	**123.29**	**297**	*e*	PKiKP		**PKPdf**	**05 02 28.2**	**+0.1**	
KBL	**Kabul**	**123.29**	**297**	*e*	PKPdf		**PKPdf**	**05 02 28.2**	**+0.1**	
BOSA	**Boshof**	**125.14**	**202**		PKP		**PKPdf**	**05 02 32.1**	**+0.3**	
	comp=Z,4.9nm,1.1s,baz=199,slow=1.7,SNR=3.9									
BOSA	**Boshof**	**125.14**	**202**		PKP		**PKPdf**	**05 02 32.1**	**+0.3**	
ARU	**Arti**	**128.63**	**325**	*i*	PKiKP		**PKPdf**	**05 02 37.0**	**-0.3**	
ARU								05 04 43.6		
ARU					SS	SS		05 21 55.7	-2.4	
AKTO	**Aktyubinsk**	**130.56**	**318**		PKP		**PKPdf**	**05 02 40.6**	**-0.6**	
	comp=Z,1.6nm,0.8s,baz=339,slow=4.9,SNR=5.4									
AKTO	**Aktyubinsk**	**130.56**	**318**		PKiKP		**PKPdf**	**05 02 40.6**	**-0.6**	
AKTO	**Aktyubinsk**	**130.56**	**318**		PKP		**PKPdf**	**05 02 40.6**	**-0.6**	
ARCES	**ARCESS Array B**	**131.70**	**350**		PKP		**PKPdf**	**05 02 42.4**	**-0.4**	
	comp=Z,2.0nm,0.6s,baz=67,slow=3.2,SNR=7.9									
ARCES	**ARCESS Array B**	**131.70**	**350**		PKP		**PKPdf**	**05 02 42.4**	**-0.4**	
KLMR	**Klimovskoe**	**135.09**	**337**	*e*	PKiKP		**PKPdf**	**05 02 46.1**	**-3.2**	
KLMR					pmax	pmax				
	comp=Z,14nm,1.4s									
FINES	**FINESS Array B**	**138.76**	**345**		PKP		**PKPdf**	**05 02 55.0**	**-1.1**	
	comp=Z,1.9nm,0.7s,baz=64,slow=4.4,SNR=4.6									
FINES	**FINESS Array B**	**138.76**	**345**		PKP		**PKPdf**	**05 02 55.0**	**-1.1**	
MOS	**Moscow**	**139.21**	**332**	*e*	PKiKP		PKPdf	05 02 51.6	-5.5	
MOS					*e*			05 05 58.4		
OBN	**Obninsk**	**140.07**	**332**	*e*	PKiKP		**PKPdf**	**05 02 58.7**	**0.0**	
OBN					*e*			05 03 12.9		
OBN					pmax	pmax				
	comp=Z,7.0nm,1.2s									
HFS	**Hagfors**	**142.25**	**353**		PKhKP		PKPpre	05 02 52.6		
	comp=Z,4.6nm,0.9s,baz=54,slow=3.8,SNR=5.3									
HFS	**Hagfors**	**142.25**	**353**		PKPpre		PKPpre	05 02 52.6		
EZM	**Erzurum**	**144.76**	**307**	*e*	P		**PKPdf**	**05 03 08.1**	**+0.1**	
VRTB	**Varto-Mus**	**144.91**	**306**	*e*	P		**PKPdf**	**05 03 09.1**	**+1.1**	
BAYT	**Ayd¨–ntepe-Bay**	**145.49**	**309**	*e*	P		**PKPdf**	**05 03 08.4**	**-0.7**	
ANN	**Anapa**	**145.52**	**317**	*i*	PKiKP		**PKPdf**	**05 03 08.7**	**0.0**	
ANN					pmax	pmax				
	comp=Z,132nm,1.5s									
BNGB	**Bing¨ll**	**145.54**	**306**	*e*	P		**PKPab**	**05 03 10.2**	**+0.7**	
MBAR	**Mbarara**	**145.61**	**231**		PKPbc		**PKPab**	**05 03 10.7**	**+0.1**	
	comp=Z,16nm,1.0s,baz=225,slow=1.4,SNR=12									
MBAR	**Mbarara**	**145.61**	**231**		PKPbc		**PKPab**	**05 03 10.7**	**+0.1**	
GUMT	**Gumushane**	**145.94**	**309**	*e*	P		**PKPbc**	**05 03 10.4**	**-0.1**	
SUW	**Suwalki**	**145.95**	**341**	*e*	PKP		**PKPbc**	**05 03 09.6**	**-0.3**	
SUW	**Suwalki**	**145.95**	**341**	*e*	PKP		**PKPbc**	**05 03 09.6**	**-0.3**	
AKASG	**Malin Array Be**	**146.34**	**332**		PKPbc		**PKPdf**	**05 03 10.3**	**+0.5**	
	comp=Z,13nm,0.7s,baz=40,slow=3.9,SNR=44									
AKASG	**Malin Array Be**	**146.34**	**332**		PKP2		**PKPdf**	**05 03 10.4**	**+0.5**	
AKASG	**Malin Array Be**	**146.34**	**332**		PKPbc		**PKPdf**	**05 03 10.3**	**+0.5**	
AK01	**Malin Array Si**	**146.35**	**332**	*e*	PKPbc		**PKPbc**	**05 03 10.7**	**-0.5**	
KIEV	**Kiev**	**146.35**	**332**	*e*	PKP2		**PKPbc**	**05 03 10.8**	**-0.4**	
KIEV	**Kiev**	**146.35**	**332**	*e*	PKPbc		**PKPbc**	**05 03 10.8**	**-0.4**	
AK02	**Malin Array Si**	**146.38**	**332**	*e*	PKPbc		**PKPbc**	**05 03 10.7**	**-0.6**	
PTK	**Pertek**	**146.53**	**307**	*e*	P		**PKPab**	**05 03 13.2**	**-0.2**	
EKA	**Eskdalemuir Ar**	**147.05**	**8**		PKPbc		**PKPbc**	**05 03 12.1**	**-0.9**	
	comp=Z,7.3nm,0.9s,baz=350,slow=3.6,SNR=6.0									
EKA	**Eskdalemuir Ar**	**147.05**	**8**		PKPbc		**PKPbc**	**05 03 12.1**	**-0.9**	
URFA	**Urfa**	**147.39**	**304**	*e*	P		**PKPbc**	**05 03 14.1**	**-0.6**	
MYA	**Malataya**	**147.43**	**306**	*e*	P		**PKPbc**	**05 03 14.2**	**-0.5**	
MALT	**Malatya**	**147.43**	**306**	*e*	P		**PKPbc**	**05 03 13.7**	**-1.1**	
MALT	**Malatya**	**147.43**	**306**	⇑	PKP2		**PKPbc**	**05 03 15.7**	**+0.9**	
MALT	**Malatya**	**147.43**	**306**	*e*	PKPbc		**PKPbc**	**05 03 15.4**	**+0.6**	
MALT	**Malatya**	**147.43**	**306**	⇑	*i* P		**PKPbc**	**05 03 15.7**	**+0.9**	
SIM	**Simferopol'**	**147.48**	**320**	*e*	PKP2		**PKPbc**	**05 03 13.7**	**-0.9**	
SIM					pmax	pmax				
	comp=Z,24nm,1.1s									
DARE	**Darende-Malaty**	**147.68**	**307**	*e*	P		**PKPab**	**05 03 17.0**	**-0.8**	
BEL	**Belsk**	**148.56**	**341**	*e*	PKP		**PKPbc**	**05 03 18.1**	**+0.9**	
BEL	**Belsk**	**148.56**	**341**	*e*	PKP		**PKPbc**	**05 03 18.1**	**+0.9**	
BNN	**Bunyan**	**149.14**	**308**	*e*	P		**PKPbc**	**05 03 19.0**	**-0.4**	
LVV	**L'vov**	**149.15**	**335**	*e*	PKP2		**PKPbc**	**05 03 18.7**	**-0.1**	
CORM	**Corum**	**149.47**	**311**	*e*	P		**PKPbc**	**05 03 18.6**	**-1.4**	
KWP	**Kalwaria Pacla**	**149.80**	**337**	*e*	PKP		**PKPbc**	**05 03 20.7**	**+0.3**	
KWP	**Kalwaria Pacla**	**149.80**	**337**	⇑	PKP2		**PKPbc**	**05 03 20.6**	**+0.2**	
KWP	**Kalwaria Pacla**	**149.80**	**337**	⇑	*i* P		**PKPbc**	**05 03 20.6**	**+0.2**	
KWP	**Kalwaria Pacla**	**149.80**	**337**	*e*	PKP		**PKPbc**	**05 03 20.7**	**+0.3**	
HTY	**Hatay**	**149.84**	**303**	*e*	P		**PKPbc**	**05 03 18.7**	**-2.2**	
ASF	**Jabal al Asfar**	**150.16**	**295**		PKPbc		**PKPbc**	**05 03 22.7**	**+0.7**	
	comp=Z,10nm,0.9s,baz=295,slow=1.1,SNR=12									
ASF	**Jabal al Asfar**	**150.16**	**295**		PKPbc		**PKPbc**	**05 03 22.7**	**+0.7**	
OJC	**Ojcow**	**150.28**	**340**	*i*	PKiKP		**PKPbc**	**05 03 21.5**	**-0.1**	
OJC	**Ojcow**	**150.28**	**340**	*e*	PKiKP		**PKPbc**	**05 03 21.5**	**-0.1**	
SAFT	**Safranbolu**	**150.29**	**315**	*e*	P		**PKPbc**	**05 03 21.8**	**-0.1**	
TLCR		**150.35**	**324**	⇑	PKiKP		**PKPbc**	**05 03 22.3**	**+0.5**	
TLCR		**150.35**	**324**	⇑	*i* P		**PKPbc**	**05 03 22.3**	**+0.5**	
BR131	**Keskin Array S**	**150.35**	**311**	*e*	PKPbc		**PKPbc**	**05 03 21.9**	**-0.4**	
BRTR	**Keskin Array B**	**150.35**	**311**		PKPbc		**PKPbc**	**05 03 22.3**	**0.0**	
	comp=Z,8.2nm,0.9s,baz=124,slow=2.6,SNR=42									
BRTR	**Keskin Array B**	**150.35**	**311**		PKPbc		**PKPbc**	**05 03 22.3**	**0.0**	
BUR08	**Bucovina Ar. S**	**150.38**	**332**	*e*	PKPbc		**PKPbc**	**05 03 23.2**	**+1.2**	
BURAR	**Bucovina Array**	**150.39**	**331**	⇑	*i* P		**PKPbc**	**05 03 23.0**	**+1.0**	
IBBN	**Ibbenburen**	**150.53**	**356**	*e*	PKPbc		**PKPbc**	**05 03 22.2**	**+0.2**	
TESR		**150.54**	**328**	⇓	*i* P		**PKPbc**	**05 03 22.3**	**0.0**	
KSP	**Ksiaz**	**150.68**	**345**	*e*	PKP		**PKPbc**	**05 03 22.9**	**+0.4**	
KSP	**Ksiaz**	**150.68**	**345**	*e*	PKiKP		**PKPbc**	**05 03 22.9**	**+0.4**	
KSP	**Ksiaz**	**150.68**	**345**	*e*	PKP		**PKPbc**	**05 03 22.9**	**+0.4**	
CFR	**Carcaliu**	**150.71**	**325**	⇓	PKiKP		**PKPbc**	**05 03 22.6**	**-0.1**	
CFR	**Carcaliu**	**150.71**	**325**	⇓	*i* P		**PKPbc**	**05 03 22.6**	**-0.1**	
CLZ	**Clausthal**	**150.77**	**353**	*e*	PKiKP		**PKPbc**	**05 03 22.8**	**+0.1**	
CLZ	**Clausthal**	**150.77**	**353**	*e*	PKPbc		**PKPbc**	**05 03 22.9**	**+0.2**	
UZH	**Uzhgorod**	**150.78**	**336**	*e*	PKiKP		**PKPdf**	**05 03 19.2**	**+2.0**	
UZH					*e*			05 03 23.4		
UZH					*e*			05 03 29.4		
NIE	**Niedzica**	**150.82**	**339**	*i*	PKiKP		**PKPbc**	**05 03 23.6**	**+0.7**	
NIE	**Niedzica**	**150.82**	**339**	*e*	PKiKP		**PKPbc**	**05 03 23.6**	**+0.7**	
CLL	**Collm**	**150.91**	**349**	*e*	PKiKP		**PKPdf**	**05 03 17.0**	**-0.3**	
CLL					*i*			05 03 22.9		
CLL					*i*			05 03 25.1		
CLL					*i*			05 03 29.4		
CLL					pmax	pmax				
	comp=Z,18nm,1.1s									
CLL					pmax	pmax				
	comp=Z,27nm,1.0s									
CLL	**Collm**	**150.91**	**349**	*e*	PKPbc		**PKPbc**	**05 03 23.0**	**0.0**	
CLL	**Collm**	**150.91**	**349**	*e*	PKPdf		**PKPdf**	**05 03 17.0**	**-0.3**	
CLL					⇑ *i* PKPbc		**PKPbc**	**05 03 22.9**	**0.0**	
	comp=Z,27nm,1.1s									
CLL					*i* PKiKP		**PKiKP**	**05 03 25.1**	**+1.5**	
CLL					*i* PKPab		**PKPab**	**05 03 29.4**	**-0.9**	
	comp=Z,15nm,1.0s									
CLL					*e*(pPKPbc)			05 03 32.0		
VRI	**Vrincioaia**	**150.96**	**327**	⇓	PKiKP		**PKPbc**	**05 03 23.6**	**+0.3**	
VRI	**Vrincioaia**	**150.96**	**327**	⇓	*i* P		**PKPbc**	**05 03 23.6**	**+0.3**	
PLOR	**Plostina**	**151.01**	**328**	⇓	PKiKP		**PKPbc**	**05 03 24.6**	**+1.1**	
PLOR	**Plostina**	**151.01**	**328**	⇓	*i* P		**PKPbc**	**05 03 24.5**	**+1.1**	
TIRR	**Tirgusor**	**151.04**	**324**	⇓	PKiKP		**PKPbc**	**05 03 23.9**	**+0.4**	
TIRR	**Tirgusor**	**151.04**	**324**	⇓	*i* P		**PKPbc**	**05 03 23.9**	**+0.4**	
UPC	**Upice**	**151.06**	**345**	*e*	PKiKP		**PKPbc**	**05 03 23.0**	**-0.4**	
UPC					*e*			05 03 30.4		
UPC	**Upice**	**151.06**	**345**	⇑	*e* PKP		**PKPbc**	**05 03 23.0**	**-0.4**	
UPC					*e*PKPAB		**PKPab**	**05 03 30.4**	**-0.6**	
TRPA	**Tarpa**	**151.10**	**335**	⇑	*i* P		**PKPbc**	**05 03 23.1**	**-0.4**	
TRPA	**Tarpa**	**151.10**	**335**	⇓	*e*		**PKPbc**	**05 03 23.9**	**+0.4**	
OKC	**Ostrava-Krasne**	**151.12**	**342**	*e*	PKiKP		**PKPbc**	**05 03 23.6**	**+0.1**	
OKC					*e*			05 03 32.0		
OKC	**Ostrava-Krasne**	**151.12**	**342**	⇑	*e* PKP		**PKPbc**	**05 03 23.6**	**+0.1**	
OKC					*e*PKPAB		**PKPab**	**05 03 32.0**	**+0.8**	
DPC	**Dobruska-Polom**	**151.13**	**345**	*e*	PKiKP		**PKPbc**	**05 03 23.9**	**+0.3**	
DPC					*e*			05 03 31.4		
DPC	**Dobruska-Polom**	**151.13**	**345**	⇑	*e* PKP		**PKPbc**	**05 03 23.9**	**+0.3**	
DPC					*e*PKPAB		**PKPab**	**05 03 31.4**	**0.0**	
BRG	**Berggiesshubel**	**151.16**	**348**	*e*	PKP		**PKPbc**	**05 03 23.8**	**+0.2**	
	comp=Z,14nm,0.9s									
BRG	**Berggiesshubel**	**151.16**	**348**	*e*	PKiKP		**PKPbc**	**05 03 23.8**	**+0.2**	

LBTB	**Lobatse**	**46.62**	**222**	P	**P**	**05 10 08.4**	**-0.3**
	0.5nm,0.3s,baz=83,slow=16,SNR=2.1						
LBTB	**Lobatse**	**46.62**	**222**	P	**P**	**05 10 08.4**	**-0.3**
ZAA0	**Zalesovo Array**	**49.22**	**21**	*e*P	**P**	**05 10 27.2**	**-1.0**
ZALV	**Zalesovo Beam**	**49.22**	**21**	P	**P**	**05 10 27.3**	**-0.9**
	3.8nm,0.9s,baz=237,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**49.22**	**21**	P	**P**	**05 10 27.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**55.12**	**279**	P	**P**	**05 11 13.2**	**+0.4**
	3.6nm,1.1s,baz=90,slow=5.5,SNR=10						
TORD	**Torodi Ar. Bea**	**55.12**	**279**	P	**P**	**05 11 13.2**	**+0.4**
SONM	**Songino Array**	**55.77**	**38**	PcP	**PcP**	**05 12 15.6**	**-0.5**
	0.6nm,1.0s,baz=256,slow=4.3,SNR=3.1						
SONM	**Songino Array**	**55.77**	**38**	PcP	**PcP**	**05 12 15.6**	**-0.5**
FINES	**FINESS Array B**	**56.79**	**342**	P	**P**	**05 11 23.4**	**-0.5**
	4.1nm,1.1s,baz=142,slow=7.7,SNR=3.8						
FINES	**FINESS Array B**	**56.79**	**342**	P	**P**	**05 11 23.4**	**-0.5**
DBIC	**Dimbokro**	**62.12**	**272**	P	**P**	**05 12 02.8**	**+1.2**
	2.0nm,0.9s,baz=125,slow=7.4,SNR=3.3						
DBIC	**Dimbokro**	**62.12**	**272**	P	**P**	**05 12 02.8**	**+1.2**
ESDC	**Sonseca Array**	**62.34**	**310**	P	**P**	**05 12 01.9**	**-0.8**
	1.2nm,0.9s,baz=97,slow=6.0,SNR=5.0						
ESDC	**Sonseca Array**	**62.34**	**310**	P	**P**	**05 12 01.9**	**-0.8**
WRA	**Warramunga Arr**	**80.71**	**112**	P	**P**	**05 13 53.1**	**-0.7**
	4.9nm,1.3s,baz=310,slow=3.9,SNR=7.0						
WRA	**Warramunga Arr**	**80.71**	**112**	P	**P**	**05 13 53.1**	**-0.7**
ASAR	**Alice Springs**	**81.22**	**116**	P	**P**	**05 13 55.7**	**-0.8**
	0.5nm,0.7s,baz=296,slow=4.4,SNR=7.7						
ASAR	**Alice Springs**	**81.22**	**116**	P	**P**	**05 13 55.7**	**-0.8**
TXAR	**Lajitas Array**	**137.42**	**336**	PKP	**PKPdf**	**05 21 05.2**	**+0.6**
	0.4nm,1.0s,baz=222,slow=1.7,SNR=3.5						
TXAR	**Lajitas Array**	**137.42**	**336**	PKP	**PKPdf**	**05 21 05.2**	**+0.6**

GUC 23 05:07:23.2±0.4, 36°95S×72°07W, h16km±3km, MD4.0, ML3.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.34**	**359**	↑*i* P	Pg	05 07 30.2	-0.1
CCHI				*i* S	Sb	05 07 35.7	-0.5
AGCH	**Angol**	**1.00**	**210**	*e*P	Pb	05 07 40.6	-1.5
AGCH				*i* S	Sb	05 07 53.9	-1.1
AGCH				AML	AML	05 07 54.5	
	comp=E,7μm,0.3s						
COCH	**Cobquecura**	**1.00**	**324**	↓*i* P	Pb	05 07 40.9	-1.2
COCH				*i* S	Sb	05 07 54.1	-0.9
LNCH	**Linares**	**1.16**	**19**	↑*i* P	Pn	05 07 43.3	-1.5
LNCH				*i* S	Sb	05 07 58.8	-0.9
TALC	**Talca**	**1.58**	**13**	*e*P	Pn	05 07 50.0	-0.6
TALC				*e*S	Sn	05 08 10.3	-0.5
TALC				AML	AML	05 08 13.8	
	comp=E,4μm,0.1s						
TMU	**Temuco**	**1.83**	**193**	*e*P	Pn	05 07 54.1	0.0
TMU				*e*S	Sn	05 08 17.7	+0.7
LNV	**Longovilo**	**3.03**	**10**	*e*P	Pn	05 08 10.3	-0.2
CACH	**El Canelo**	**3.07**	**23**	*e*P	Pn	05 08 10.9	-0.3
CACH				*i* S	Sn	05 08 49.3	+1.6
CHCH	**Chadas Angostu**	**3.22**	**21**	*e*P	Pn	05 08 12.6	-0.7
LMEL	**Las Melosas**	**3.45**	**27**	*e*P	Pn	05 08 17.7	+1.2
LMEL				*e*S	Sn	05 08 58.8	+1.6
LMEL				AML	AML	05 09 10.8	
	comp=N,115nm,0.3s						

MEX 23 05:14:45.7±1.7, 15°51N×98°43W, h16km±30km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.93**	**18**	*i* P	Pb	05 14 60.0	-3.5
PNIG				*i* S	Sb	05 15 11.1	-4.5
HUIG	**Huatulco**	**2.25**	**83**	*i* P	Pn	05 15 19.3	-3.0
HUIG				*i* S	Sn	05 15 43.6	-6.1
VHO	**Vista Hermosa**	**2.25**	**46**	*i* P	Pn	05 15 20.3	-2.3
VHO				*i* S	Sn	05 15 45.9	-4.4
OXX	**Oaxaca**	**2.27**	**46**	*i* P	Pn	05 15 21.6	-1.2
OXX				*i* S	Sn	05 15 49.5	-1.1
CAIG	**El Cayaco**	**2.34**	**311**	*i* P	Pn	05 15 21.9	-1.7
CAIG				*i* S	Sn	05 15 46.1	-5.9
TPIG	**Tehuac#an**	**3.07**	**19**	*i* P	Pn	05 15 32.4	-1.4
TPIG				*i* S	Sn	05 16 06.0	-4.4
CMIG	**Matias Romero**	**3.75**	**65**	*e*P	Pn	05 15 40.3	-2.7
CMIG				*i* S	Sn	05 16 23.7	-3.1
TGIG		**5.25**	**75**	*i* P	Pn	05 16 02.5	-1.2
CCIG	**Comitan**	**6.10**	**82**	*i* P	Pn	05 16 13.9	-1.6
CCIG				*i* S	Sn	05 17 21.5	-3.7

JMA 23 05:36:31.4, 36°11N×137°55E, h4km±2km, M0.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.22**	**301**	P	Pg	05 36 36.1	+0.3
JGN				*e*S	Sg	05 36 39.1	+0.3
JNG	**Nsakai**	**0.53**	**56**	P	Pg	05 36 42.0	+0.2

JMA 23 05:36:58.3±0.2, 36°09N×141°91E, h67km±3km, M3.0
IDC 23 05:37:10.5±1.6, 34°52N×137°93E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/25, mbtmp3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/14, Error ellipse: s-maj=40.7km s-min=25.5km az=78.0

ISC 23 05:36:57.0±3.8, 36°10N±0°05×141°70E±0°09, h1km±25km, n17, σ1s49/21, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.79**	**240**	P	**Pn**	**05 37 16.1**	**+0.9**
CHOJ				*e*S	**Sn**	**05 37 29.7**	**+2.1**
JHO	**Hitachi**	**1.05**	**300**	P	**Pn**	**05 37 19.6**	**+0.8**
JFK	**Kawauchi**	**1.43**	**333**	P	**Pn**	**05 37 23.9**	**-0.2**
JFK				*e*S	**Sb**	**05 37 43.2**	**0.0**
BSO1	**Boso 1**	**1.56**	**202**	P	**Pn**	**05 37 25.2**	**-0.1**
BSO1				*e*S	**Sn**	**05 37 46.0**	**+0.2**
BSO3	**Boso 3**	**1.61**	**217**	P	**Pn**	**05 37 26.3**	**-0.1**
JFT	**Otama**	**1.79**	**323**	P	**Pn**	**05 37 30.4**	**+1.3**
JAG	**Ashikaga**	**1.84**	**281**	P	**Pn**	**05 37 30.9**	**+1.1**
JFY	**Yanaizu**	**2.07**	**310**	P	**Pb**	**05 37 35.1**	**-0.2**
JKT	**Katashina**	**2.08**	**289**	P	**Pb**	**05 37 35.2**	**-0.5**
JRY	**Ryogami san**	**2.27**	**269**	P	**Pn**	**05 37 36.8**	**+1.2**
JOD2	**Odawara 2**	**2.28**	**249**	P	**Pn**	**05 37 37.3**	**+1.5**
MJAR	**Matsushiro Arr**	**2.85**	**280**	Pn	**Pn**	**05 37 45.5**	**+1.8**
	3.1nm,0.3s,baz=190,slow=23,SNR=16						
MJAR				Sn	**Sn**	**05 38 16.0**	**-2.6**
	1.5nm,0.3s,baz=109,slow=7.9,SNR=5.7						
MAT	**Matsushiro**	**2.85**	**280**	P	**Pn**	**05 37 46.3**	**+2.6**
MAT				S	**Sb**	**05 38 21.4**	**-2.8**
USRK	**Ussuriysk Arra**	**10.97**	**320**	LR	LR	05 43 30.8	
	comp=Z,127nm,21.3s,baz=301,slow=36						
SONM	**Songino Array**	**28.50**	**305**	P	**P**	**05 42 54.2**	**+0.2**
	0.3nm,0.7s,baz=105,slow=8.8,SNR=3.5						
MKAR	**Makanchi Array**	**44.81**	**303**	P	**P**	**05 45 12.6**	**+0.1**
	0.4nm,0.6s,baz=83,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**56.17**	**188**	P	**P**	**05 46 38.2**	**-0.3**
	0.1nm,0.5s,baz=6.1,slow=8.6,SNR=3.4						

NEIC 23 05:43:26.0, 37.41N×113.16W, h4km, ML3.2(SLC), After SLC.
NEIC Felt [II] at Cedar City, Hurricane, Kanarraville and New Harmony. Also felt at Saint George, Springdale and Virgin.

ISC 23 05:43:26.2±1.2, 37°42N±0°02×113°17W±0°03, h3km±11km, n31, σ1s16/52, 10C-10D, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCUT	**Cedar City**	**0.20**	**312**	*e*Pg	**Pg**	**05 43 30.5**	**+0.4**
CCUT				*e*Sg	**Sg**	**05 43 33.8**	**+0.9**
ARUT	**Antelope Range**	**0.43**	**330**	*e*Pg	**Pg**	**05 43 34.5**	**0.0**
ARUT				*e*Sg	**Sg**	**05 43 39.0**	**-1.1**
U15A	**North Rim**	**1.21**	**144**	↑P	**Pg**	**05 43 48.4**	**-1.0**
	baz=1.2						
MVU	**Marysvale**	**1.32**	**35**	*e*Pg	**Pn**	**05 43 50.8**	**-1.1**
MVU				*e*Sg	**Sg**	**05 44 08.5**	**-0.3**
MSU	**Marysvale**	**1.35**	**35**	*e*Pn	**Pn**	**05 43 51.2**	**-1.0**
MSU				*e*Sg	**Sg**	**05 44 08.9**	**-0.6**
R11A	**Troy Canyon, C**	**2.12**	**297**	↑Pb	**Pb**	**05 44 04.7**	**-0.8**
	baz=2.1						
Q16A	**Castle Valley**	**2.18**	**46**	↓Pb	**Pn**	**05 44 04.0**	**+0.5**
	baz=2.2						
Q16A				↓Sb	**Sb**	**05 44 33.1**	**-0.7**
	baz=2.2						
W13A	**Hualapai Mount**	**2.38**	**194**	↑P	**Pn**	**05 44 06.1**	**-0.3**
	baz=2.4						
W13A				↑Sb	**Sb**	**05 44 39.4**	**-0.3**
	baz=2.4						
WUAZ	**Wupatki**	**2.38**	**142**	*e*Pn	**Pn**	**05 44 06.4**	**0.0**
WUAZ				*e*Sn	**Sn**	**05 44 37.3**	**+1.1**
WUAZ	**Wupatki**	**2.38**	**142**	↑Pb	**Pb**	**05 44 08.4**	**-1.4**
	baz=2.4						
WUAZ				↓Sb	**Sb**	**05 44 39.2**	**-0.6**
	baz=2.4						
TMUT	**Trail Mountain**	**2.43**	**39**	*e*Pg	**Pb**	**05 44 11.6**	**+0.8**
TMUT				*e*Sg	**Sg**	**05 44 43.6**	**-0.7**
S18A	**Hurst Farm, BI**	**2.54**	**83**	↑Pb	**Pb**	**05 44 10.8**	**-1.8**
	baz=2.5						
S18A				↓Sb	**Sb**	**05 44 43.7**	**-0.7**
	baz=2.5						
SRU	**San Rafael**	**2.69**	**50**	Pn	**Pn**	**05 44 10.9**	**+0.4**
SRU				*e*Pg	**Pb**	**05 44 15.8**	**+0.8**
SRU				*e*Sg	**Sb**	**05 44 50.4**	**+2.0**
SRU	**San Rafael**	**2.69**	**50**	↓Sb	**Sb**	**05 44 49.0**	**+0.6**
	baz=2.7						
DUG	**Dugway**	**2.79**	**6**	*e*Pn	**Pn**	**05 44 11.6**	**-0.3**
DUG				*e*Sg	**Sg**	**05 44 56.2**	**+0.4**
DUG	**Dugway**	**2.79**	**6**	↓Pb	**Pb**	**05 44 16.3**	**-0.5**
	baz=2.8						
P17A	**Butcher Ranch,**	**2.81**	**42**	↑Sb	**Sb**	**05 44 51.6**	**-0.3**
	baz=2.8						
MPU	**Maple Canyon**	**2.86**	**24**	*e*Pn	**Pn**	**05 44 11.6**	**-1.4**
MPU				*e*Pg	**Pb**	**05 44 19.2**	**+1.2**
MPU				*e*Sg	**Sg**	**05 44 57.5**	**-0.6**
TUQ	**Turquoise Moun**	**2.97**	**229**	↓P	**Pn**	**05 44 14.0**	**-0.4**
	baz=3.0						
P18A	**Preston Nutter**	**3.19**	**45**	↓Sb	**Sb**	**05 45 03.9**	**+1.0**
	baz=3.2						
X16A	**Lo Mia Camp, P**	**3.30**	**154**	↑Sb	**Sb**	**05 45 06.7**	**+0.4**
	baz=3.3						
GMRC	**Granite Mounta**	**3.31**	**218**	↓P	**Pn**	**05 44 18.2**	**-0.9**
	baz=3.3						
Y14A	**Wickenburg**	**3.47**	**178**	↑Sb	**Sb**	**05 45 13.0**	**+2.0**
	baz=3.5						
PV04	**Paradox Valley**	**3.51**	**73**	*e*Pn	**Pn**	**05 44 23.5**	**+1.6**
PV04				*e*Sg	**Sb**	**05 45 14.0**	**+1.8**
GSC	**Goldstone**	**3.61**	**235**	*e*Pn	**Pn**	**05 44 23.2**	**+0.1**
GSC				*e*Sg	**Sg**	**05 45 23.0**	**+0.8**
PV01	**Paradox Valley**	**3.72**	**77**	*e*Pn	**Pn**	**05 44 25.0**	**+0.2**
PV01				*e*Pg	**Pb**	**05 44 34.9**	**+2.3**
PV01				*e*Sn	**Sn**	**05 45 08.1**	**-1.0**
MPMC	**Manual Prospec**	**3.72**	**250**	↓P	**Pn**	**05 44 24.3**	**-0.5**
	baz=3.7						
MVCO	**Mesa Verde**	**3.73**	**92**	*e*Pn	**Pn**	**05 44 24.4**	**-0.5**
Z14A	**Wintersburg**	**4.05**	**177**	↑Sb	**Sb**	**05 45 31.1**	**+3.7**
	baz=4.1						
HWUT	**Hardware Ranch**	**4.37**	**16**	*e*Pn	**Pn**	**05 44 34.3**	**+0.7**
HWUT				*e*Sn	**Sn**	**05 45 23.9**	**-1.3**
SMCO	**Snowmass**	**5.18**	**68**	*e*Pn	**Pn**	**05 44 46.7**	**+1.6**
	3.5nm,0.4s						
SMCO				*e*Sn	**Sn**	**05 45 44.4**	**-1.2**

MEX 23 05:51:44.3±0.5, 16°44N×99°44W, h10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.59**	**317**	*i* P	Pg	05 51 55.4	-0.4
ACX				*i* S	Sg	05 52 04.0	+0.3
CAIG	**El Cayaco**	**1.00**	**307**	*i* P	Pg	05 52 00.4	-3.2
CAIG				*i* S	Sg	05 52 12.7	-4.0
PNIG	**Pinotepa**	**1.26**	**92**	*i* P	Pn	05 52 04.3	-3.7
PNIG				*i* S	Sb	05 52 19.6	-4.8

TIF 23 05:56:15.9, 41°33N×48°56E, h21km±2km
CSEM 23 05:56:19.5±1.8, 41°33N×48°58E, h2km, mb4.1, Error ellipse: s-maj=32.6km s-min=20.8km az=102.0
MOS 23 05:56:20.6±1.1, 41°31N×48°12E, h10km, mb4.1/1, Error ellipse: s-maj=44.7km s-min=16.2km az=106.0

ISC 23 05:56:18.0±2.7, 41°24N±0°09×48°5E±0°1, h16km±10km, n12, σ1s12/24, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**0.47**	**320**	*e*PG	**Pg**	**05 56 26.5**	**-1.1**
KSMR				*e*S	**Sb**	**05 56 34.5**	**-0.4**
KSMR				pmax	pmax		
	comp=Z,270nm,0.1s						
KSMR	**Kasumkent**	**0.47**	**320**	*e*Pg	**Pg**	**05 56 26.5**	**-1.1**
	comp=Z,270nm,0.1s						
KSMR				*e*Sg	**Sb**	**05 56 34.5**	**-0.4**
AKT	**Akhty**	**0.65**	**292**	*e*PG	**Pb**	**05 56 30.0**	**-1.1**
AKT				*e*S	**Sg**	**05 56 38.5**	**+1.1**
DRN	**Derbent**	**0.80**	**349**	*e*PG	**Pg**	**05 56 34.0**	**+0.3**
DRN				*e*S	**Sg**	**05 56 45.0**	**+0.7**
DRN	**Derbent**	**0.80**	**349**	*e*Pg	**Pg**	**05 56 34.0**	**+0.3**
DRN				*e*Sg	**Sg**	**05 56 45.0**	**+0.7**
URKR	**Urkarakh**	**1.14**	**324**	↑*i*PG	**Pn**	**05 56 39.0**	**-0.6**
URKR				*i* S	**Sb**	**05 56 54.0**	**-0.2**
URKR				pmax	pmax		
	comp=Z,47nm,0.2s						
URKR	**Urkarakh**	**1.14**	**324**	*i* Pg	**Pn**	**05 56 39.0**	**-0.6**
	comp=Z,47nm,0.2s						
URKR				*i* Sg	**Sb**	**05 56 54.0**	**-0.2**
KMKR	**Kumukh**	**1.40**	**310**	*e*PG	**Pn**	**05 56 42.5**	**-0.6**
KMKR				*e*S	**Sn**	**05 57 00.0**	**-1.3**
DBIC	**Dubki**	**2.18**	**325**	*i* PN	**Pg**	**05 57 01.2**	**+1.3**
DBC				*i* S	**Sg**	**05 57 29.9**	**+1.6**
DBC	**Dubki**	**2.18**	**325**	*i* Pn	**Pg**	**05 57 01.2**	**+1.3**
DBC				*i* Sg	**Sg**	**05 57 29.9**	**+1.6**
DGRG	**David-gareji**	**2.39**	**276**	P	**Pb**	**05 57 01.1**	**+0.4**
DGRG				S	**Sb**	**05 57 31.9**	**+1.9**
DGRG	**David-gareji**	**2.39**	**276**	P	**Pb**	**05 57 01.1**	**+0.4**
DGRG				S	**Sb**	**05 57 31.9**	**+1.9**

AUST 23 06:14:08.4±2.8, 3°49N×128°61E, h5km, Error ellipse: s-maj=1.0km s-min=0.7km az=272.0
IDC 23 06:14:08.6±0.4, 3°48N×128°53E, h0km, mb4.6/23, mb1 4.7/23, mb1mx4.7/27, mbtmp4.6/23, MS3.4/4, Ms1 3.4/4, ms1mx2.9/46, Error ellipse: s-maj=23.6km s-min=10.4km az=74.0
BJI 23 06:14:09.4, 3°22N×129°02E, h38km, mB5.0/26, mb4.9/46, Ms4.7/24, Ms7 4.4/23
MOS 23 06:14:12.1±1.1, 3°55N×128°50E, h34km, mb5.0/43, Error ellipse: s-maj=14.4km s-min=6.3km az=112.1
ISCJB 23 06:14:13.6±0.7, 3°48N±0°03×128°67E±0°04, h50km±6km, mb4.8/83, MS3.9/10, Error ellipse: s-maj=6.8km s-min=4.5km az=156.9
DJA 23 06:14:15.1±0.5, 3°N±4°×12°9E±°, h10km, M4.9/17, mB5.3/10, mb5.2/17, MLv5.0/10, Mw(mB)4.7/10
NEIC 23 06:14:16.3±1.1, 3°46N×128°53E, h57km±10km, mb4.9/33, Error ellipse: s-maj=9.2km s-min=4.9km az=70.0

ISC 23 06:14:13.8±0.4, 3°53N±0°03×128°68E±0°05, h33km±1km, h33km:pP-P, n230, σ1s54/295, mb4.9/81, MS3.9/10, 7C-3D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.04**	**206**	P	**Pn**	**06 15 00.5**	**+1.0**
TNTI				S	**Sb**	**06 15 41.9**	**-2.0**
LBMI	**Labuha**	**4.30**	**196**	P	Pn	06 15 22.6	+5.6
MNI	**Manado**	**4.36**	**242**	P	**Pn**	**06 15 19.4**	**+1.7**
MNI				S	**Sn**	**06 16 09.8**	**+2.3**
DAV	**Davao City (W)**	**4.68**	**319**	Pn	Pn	06 15 25.6	+3.5
	128nm,0.3s,baz=263,slow=11,SNR=8.5						
DAV				Sn	**Sb**	**06 16 26.9**	**-4.3**
	81nm,0.3s,baz=56,slow=21,SNR=2.4						
DAV	**Davao City (W)**	**4.68**	**319**	Pn	Pn	06 15 25.6	+3.5
DAV				Sn	**Sb**	**06 16 26.9**	**-4.3**
DAV	**Davao City (W)**	**4.68**	**319**	P	Pn	06 15 26.7	+4.5
	SNR=6.8						
DAV	**Davao City (W)**	**4.68**	**319**	P	Pn	06 15 26.6	+4.5
KMSI	**Cibinong**	**5.54**	**238**	P	**Pn**	**06 15 36.1**	**+2.2**
	1μm,0.9s						
CTBH	**Cotabato--PC H**	**5.74**	**310**	↑*i*P	**Pn**	**06 15 37.6**	**+0.9**
MSAI	**Masohi**	**6.83**	**178**	P	**Pn**	**06 15 54.6**	**+2.9**
	20nm,1.2s,1μm0.1nm						
PALU	**Palau**	**6.90**	**56**	P	**Pn**	**06 15 51.6**	**-1.0**
	baz=7.0,SNR=7.0						
NLAI	**Namlea**	**6.91**	**193**	P	**Pn**	**06 15 54.7**	**+2.0**
	76nm,0.9s,651nm0.2nm						
FAKI	**Fak Fak**	**7.33**	**151**	P	**Pn**	**06 16 00.8**	**+2.2**
	51nm,0.7s,0.2nm						
MRSI	**Marisa**	**7.39**	**246**	P	**Pn**	**06 16 02.0**	**+2.7**
	722nm,0.7s,5μm2.1nm						
LUWI	**Luwuk**	**7.45**	**233**	P	**Pn**	**06 16 02.2**	**+2.0**
	182nm,0.9s,2μm0.9nm						
BNDI	**Bandanaira**	**8.09**	**171**	P	**Pn**	**06 16 11.2**	**+2.2**
	195nm,1.0s,0.7nm						
APSI	**Ampana**	**8.30**	**238**	S	**Pn**	**06 16 15.0**	**+3.2**
KDI	**Kendari**	**9.59**	**219**	P	**Pn**	**06 16 30.1**	**+0.5**
	216nm,0.7s,2μm						
TLE	**Tual**	**9.96**	**156**	P	Pn	06 16 43.9	+9.2
MYLDM	**Lahad Datu**	**10.28**	**280**	P	Pn	06 16 45.5	+6.4
	106nm,0.9s,60μm						
TTSI	**Tana Toraja**	**11.01**	**234**	P	**Pn**	**06 16 49.2**	**+0.2**
	93nm,0.8s,2μm						
SPSI	**Sidrap Palu**	**11.61**	**230**	P	**Pn**	**06 16 57.0**	**-0.2**
	84nm,0.9s,716nm						
SMKI	**Samarinda**	**12.13**	**251**	P	**Pn**	**06 17 07.2**	**+2.9**
	250nm,0.8s						
BKSI	**Bulukumba**	**12.26**	**224**	P	**Pn**	**06 17 06.8**	**+0.6**
	37nm,0.8s,444nm						
KAPI	**Kappang**	**12.31**	**226**	Pn	**Pn**	**06 17 06.6**	**-0.3**
	7.8nm,0.3s,baz=247,slow=1.0,SNR=33						
KAPI				Sn	**Sn**	**06 19 20.3**	**-2.7**
	baz=147,slow=20,SNR=2.8						
KAPI	**Kappang**	**12.31**	**226**	*e*Pn	**Pn**	**06 17 05.7**	**-1.1**
KAPI				Sn	**Sn**	**06 19 20.3**	**-2.7**
KAPI	**Kappang**	**12.31**	**226**	P	**Pn**	**06 17 06.4**	**-0.5**
	SNR=11						
KAPI	**Kappang**	**12.31**	**226**	P	**Pn**	**06 17 06.6**	**-0.3**
	54nm,0.6s						
KKM	**Kota Kinabalu**	**12.67**	**282**	*e*Pn	**Pn**	**06 17 12.8**	**+0.9**
KBKI	**Kotabaru**	**14.23**	**242**	P	**P**	**06 17 37.5**	**-2.5**
BBKI	**Banjar Baru**	**15.48**	**243**	P	**P**	**06 17 56.1**	**+2.2**
MTN	**Manton Dam**	**16.45**	**172**	P	**Pn**	**06 18 00.7**	**-1.5**
	baz=16,SNR=9.3						
MTN				S	**S**	**06 21 18.2**	**+3.1**
	baz=16,SNR=3.5						
KDU	**Kakadu**	**16.54**	**167**	P	**Pn**	**06 18 00.7**	**-2.7**
	baz=17,SNR=4.9						
KHKI	**Kahang-Kahang**	**17.60**	**228**	P	**P**	**06 18 18.7**	**+1.4**
KSM	**Kuching**	**18.47**	**264**	*e*Pn	**Pn**	**06 18 28.1**	**+0.9**
	34nm,0.9s						
KSM	**Kuching**	**18.47**	**264**	P	**Pn**	**06 18 28.6**	**+1.3**
	baz=18,SNR=4.5						
GUMO	**Guam**	**18.85**	**57**	LR	LR	06 24 49.6	
	comp=Z,63nm,18.5s,baz=240,slow=34						
TPUB	**Ta-pu**	**21.14**	**339**	*e*P	**P**	**06 18 54.9**	**-1.2**
	92nm,1.1s						
SSLB	**Suanglung**	**21.48**	**340**	*e*P	**P**	**06 18 58.3**	**-1.4**
	34nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.70**	**188**	P	**P**	**06 19 00.4**	**-1.7**
	7.8nm,0.7s,baz=12,slow=7.8,SNR=24						
FITZ				LR	LR	06 27 44.8	
	comp=Z,97nm,19.8s,baz=21,slow=38						
FITZ	**Fitzroy Crossi**	**21.70**	**188**	*e*P	**P**	**06 19 00.3**	**-1.7**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.70**	**188**	P	**P**	**06 19 00.3**	**-1.7**
	baz=22,SNR=14						
PMG	**Port Moresby**	**22.45**	**125**	P	**P**	**06 19 10.8**	**+0.6**
	34nm,1.0s,baz=323,slow=8.5,SNR=5.0						
PMG	**Port Moresby**	**22.45**	**125**	*e*P	**P**	**06 19 12.3**	**+2.1**
	65nm,1.2s						
COEN	**Coen**	**22.55**	**141**	*e*P	**P**	**06 19 12.5**	**+1.3**
	176nm,1.0s						
COEN	**Coen**	**22.55**	**141**	P	**P**	**06 19 12.5**	**+1.3**
	baz=23,SNR=9.1						
WRAB	**Tennant Creek**	**23.97**	**167**	*e*P	**P**	**06 19 25.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**23.97**	**167**	*e*P	**P**	**06 19 25.3**	**0.0**
	comp=Z,38nm,0.8s						
WRA	**Warramunga Arr**	**23.98**	**167**	P	**P**	**06 19 24.4**	**-1.0**
	comp=Z,14nm,0.6s,baz=345,slow=10,SNR=94						
WRA				PcP	**PcP**	**06 23 06.9**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=334,slow=2.5,SNR=3.3						
WRA	**Warramunga Arr**	**23.98**	**167**	P	**P**	**06 19 24.4**	**-1.0**
WRA				PcP	**PcP**	**06 23 06.9**	**-0.3**
QIZ	**Qiongzhong**	**24.01**	**311**	P	**P**	**06 19 26.1**	**+0.4**
QIZ				pP	**pP**	**06 19 34.9**	**-0.3**
QIZ				sP	**sP**	**06 19 38.6**	**-0.7**
QIZ				S	**S**	**06 23 42.8**	**+2.0**
QIZ				sS	**sS**	**06 23 55.3**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,22nm,1.3s						
MBWA	**Marble Bar**	**26.06**	**199**	*e*P	**P**	**06 19 42.8**	**-1.5**
	comp=Z,37nm,1.4s						
QIS	**Mount Isa**	**26.23**	**156**	P	**P**	**06 19 45.5**	**-0.3**
	baz=26,SNR=11						
AS31	**Alice Springs**	**27.50**	**170**	*e*P	**P**	**06 19 57.5**	**+0.1**
ASAR	**Alice Springs**	**27.51**	**170**	P	**P**	**06 19 56.4**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=358,slow=7.9,SNR=21						
ASAR				PcP	**PcP**	**06 23 15.3**	**+0.1**

MAJO **Matsushiro** 34.01 14 eP P 06 20 53.6 -1.0
MAJO pmax pmax
comp=Z,26nm,0.8s
MAJO Matsushiro 34.01 14 eP P 06 20 53.6 -1.0
comp=Z,26nm,0.8s
MAT Matsushiro 34.01 14 P P 06 20 53.9 -0.7
MJAR Matsushiro Arr 34.01 14 P P 06 20 53.9 -0.7
comp=Z,18nm,0.8s,baz=189,slow=9.6,SNR=28
MJAR Matsushiro Arr 34.01 14 P P 06 20 53.9 -0.7
FORT Forrest 34.12 181 P P 06 20 54.6 -0.9
baz=34,SNR=8.4
MORW Morawa 34.61 200 P P 06 20 58.2 -1.7
baz=35,SNR=5.0
KMBL Kambalda 35.30 190 P P 06 21 04.3 -1.5
baz=35,SNR=9.5
XAN Xi'an 35.50 331 P P 06 21 07.3 -0.3
XAN pP **pP** 06 21 15.8 -1.5
XAN sP **sP** 06 21 19.9 -1.4
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,32nm,5.4s
BLDU Ballidu 35.83 198 P P 06 21 08.6 -1.7
baz=36,SNR=18
CD2 Chengdu 35.98 322 P P 06 21 13.9 +2.2
CD2 pP **pP** 06 21 24.0 +2.6
CD2 sP **sP** 06 21 28.3 +2.9
CD2 PP **PP** 06 22 36.3 +2.4
CD2 S **S** 06 26 49.8 +1.4
CD2 sS **sS** 06 27 06.5 +2.1
CD2 SS **SnSn** 06 29 13.5 -0.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,50nm,4.9s
CD2 LR LR
comp=N,360nm,6.5s
CD2 LR LR
comp=Z,200nm,6.5s
KLBR Kellerberrin 36.44 196 P P 06 21 14.1 -1.5
baz=37,SNR=14
STKA Stephens Creek 37.29 162 P P 06 21 22.0 -0.8
comp=Z,5.0nm,0.7s,baz=333,slow=9.1,SNR=14
STKA PcP **PcP** 06 23 42.4 +0.5
comp=Z,2.3nm,0.6s,baz=21,slow=3.9,SNR=4.0
STKA Stephens Creek 37.29 162 eP P 06 21 22.0 -0.8
comp=Z,2.8nm,0.8s
STKA PcP **PcP** 06 23 42.4 +0.5
STKA Stephens Creek 37.29 162 P P 06 21 22.0 -0.8
baz=38,SNR=13
BJI Beijing 38.07 344 P P 06 21 29.0 -0.2
BJI pmax pmax
comp=Z,31nm,1.1s
RKGY Rocky Gully 39.50 195 P P 06 21 41.6 +0.3
baz=40,SNR=7.8
LZH Lanzhou 39.69 328 ⇑P P 06 21 44.8 +1.7
LZH pP **pP** 06 21 53.1 +0.2
LZH sP **sP** 06 21 56.4 -0.5
LZH PP **PnPn** 06 23 21.0 +3.1
LZH S **S** 06 27 49.5 +4.8
LZH sS **sS** 06 28 03.8 +3.0
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,160nm,5.2s
LZH LR LR
comp=N,660nm,17.4s
LZH LR LR
comp=E,490nm,15.1s
LZH LR LR
comp=Z,820nm,18.0s
CN2 Changchun 40.21 356 eP P 06 21 46.8 -0.3
CN2 epP **pP** 06 21 57.5 +0.6
CN2 eS **S** 06 27 52.3 +0.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
HHC Hu-ho-hao-te 40.23 340 i P P 06 21 48.3 +0.8
HHC pP **pP** 06 21 58.1 +0.8
HHC sP **sP** 06 22 02.1 +0.8
HHC PP **PnPn** 06 23 25.5 +1.3
HHC S **S** 06 27 53.5 +1.0
HHC sS **sS** 06 28 09.8 +1.1
HHC SS **SS** 06 30 47.6 -4.0
HHC ScS **ScS** 06 31 49.8 -1.9
HHC pmax pmax
comp=Z,39nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.8s
HHC LR LR
comp=N,320nm,16.4s
HHC LR LR
comp=E,320nm,16.1s
HHC LR LR
comp=Z,140nm,11.8s
ARMA Armidale 40.26 149 eP P 06 21 48.2 +0.4
comp=Z,11nm,0.9s
ARMA Armidale 40.26 149 P P 06 21 48.1 +0.3
baz=40,SNR=5.1
USRK Ussuriysk Arra 40.61 4 P P 06 21 51.2 +0.9
comp=Z,9.8nm,0.8s,baz=177,slow=7.2,SNR=13
MDJ Mudanjiang 40.93 1 P P 06 21 54.1 +1.1
MDJ sP **sP** 06 22 02.6 -4.2
MDJ PP **PP** 06 23 27.9 +0.1
MDJ PcP **PcP** 06 23 52.3 -0.8
MDJ S S 06 27 55.9 -6.7
MDJ pmax pmax
comp=Z,24nm,1.2s
MDJ pmax pmax
comp=Z,130nm,4.8s
MDJ LR LR
comp=N,130nm,40.8s
MDJ LR LR
comp=E,83nm,42.5s
MDJ Mudanjiang 40.93 1 eP P 06 21 54.4 +1.4
comp=E,22nm,1.0s
CNB Canberra Magne 43.24 155 S S 06 28 28.1 -9.0
baz=43,SNR=5.9
LSA Lhasa 44.04 310 eP P 06 22 18.5 -0.7
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 44.04 310 eP P 06 22 18.5 -0.7
comp=Z,6.4nm,0.6s
GTA Gaotai 44.29 328 eP P 06 22 21.1 +0.5
GTA pP **pP** 06 22 30.5 0.0
GTA sP **sP** 06 22 34.6 +0.1
GTA pmax pmax
comp=Z,14nm,0.8s
HABR Khabarovsk 45.11 6 eP P 06 22 24.8 -2.0
HABR e*PP **pP** 06 22 34.5 -2.2
HABR e*SP **sP** 06 22 38.7 -1.9
HABR 06 24 10.7
HABR eS **S** 06 29 02.4 -1.4
HABR e*SS **sS** 06 29 18.9 -1.2
HABR e 06 32 18.9
HABR eSSS SSS 06 33 12.9
HABR pmax pmax
comp=Z,38nm,1.0s
HABR pmax pmax
comp=E,31nm,1.2s
HABR pmax pmax
comp=N,53nm,1.8s
KLR Kul'dur 45.61 3 eP P 06 22 27.8 -3.0
KLR pmax pmax
comp=Z,43nm,1.2s
TAPN Taplejung 45.71 305 eP P 06 22 32.3 0.0
comp=Z,29nm,0.8s
ODAN Odare 45.78 305 eP P 06 22 32.8 0.0
comp=Z,39nm,0.9s
RAMN Ramite 46.46 304 eP P 06 22 38.5 +0.3
comp=Z,40nm,0.9s
JIRN Jiri 47.07 305 eP P 06 22 43.4 +0.3
comp=Z,14nm,0.9s
GUN Gumba 47.42 305 eP P 06 22 46.1 +0.3
comp=Z,50nm,0.8s
PKI Pulchoki 47.68 305 eP P 06 22 47.4 -0.4
KKN Kakani 47.87 305 eP P 06 22 49.1 0.0
ULN Ulaanbaatar 47.94 340 eP P 06 22 49.3 +0.1
comp=Z,16nm,1.0s
ULN ePcP **PcP** 06 24 17.8 +0.5
ULN Ulaanbaatar 47.94 340 P P 06 22 49.8 +0.6
SNR=6.8
DMN Daman 47.94 305 eP P 06 22 49.5 -0.2
comp=Z,36nm,1.0s
SONM Songino Array 48.13 340 P P 06 22 50.9 +0.2
comp=Z,4.6nm,0.8s,baz=152,slow=7.8,SNR=36
SONM PcP **PcP** 06 24 18.1 +0.2
comp=Z,2.3nm,0.8s,baz=152,slow=3.7,SNR=6.2
SONM Songino Array 48.13 340 P P 06 22 50.9 +0.2
SONM PcP **PcP** 06 24 18.1 +0.2
GKN Gorkha 48.48 305 eP P 06 22 53.6 -0.1
KOLN Koldanda 49.24 304 eP P 06 22 59.8 +0.1
comp=Z,67nm,0.8s
DANN Dangsing 49.32 305 eP P 06 23 00.4 0.0
comp=Z,80nm,0.7s
PYUN Piuthan 49.87 304 eP P 06 23 04.8 +0.4
comp=Z,96nm,1.0s
HYB Hyderabad 51.02 290 i P P 06 23 12.5 -0.6
ZAK Zakamensk 51.38 339 eP P 06 23 14.9 -0.4
ZAK e 06 24 29.9
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 52.35 341 eP P 06 23 21.7 -0.7
TLY pmax pmax
comp=Z,3.0nm,0.8s
MSVF Nonsavu 53.06 115 eP P 06 23 30.4 +2.1
MSVF pmax pmax
comp=Z,20nm,1.0s
MSVF Nonsavu 53.06 115 eP P 06 23 30.4 +2.1
comp=Z,20nm,1.0s
MOY Mondy 53.25 339 eP P 06 23 29.6 +0.4
WMQ Urumqi 54.02 324 P P 06 23 35.9 +1.0
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ LR LR
comp=N,78nm,19.0s
WMQ LR LR
comp=E,41nm,22.0s
WMQ LR LR
comp=Z,48nm,29.0s
DDI Dehra Dun 54.67 305 eP P 06 23 39.0 -0.9
PETK Petropavlovsk- 54.90 21 P P 06 23 42.4 +1.3
comp=Z,12nm,1.0s,baz=204,slow=6.3,SNR=5.1
PETK Petropavlovsk- 54.90 21 P P 06 23 42.4 +1.3
PETK pmax pmax
comp=Z,13nm,1.0s
PETK Petropavlovsk- 54.90 21 P P 06 23 42.4 +1.3
POO Poona 55.61 290 ‖ iP P 06 23 45.0 -1.9
comp=Z,5.0nm,1.0s
YAK Yakutsk 58.37 1 eP P 06 24 04.9 -0.6
YAK e 06 26 11.5
YAK eS **S** 06 32 06.3 +0.5
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=N,161nm,5.6s
YAK smax smax
comp=E,57nm,4.0s
YAK Yakutsk 58.37 1 eP P 06 24 05.9 +0.4
comp=E,62nm,0.8s
MK31 Makanchi Array 58.84 324 eP P 06 24 09.2 0.0
MK31 Makanchi Array 58.84 324 eP P 06 24 09.2 0.0
MKAR Makanchi Array 58.84 324 P P 06 24 09.3 +0.1
comp=E,12nm,0.6s,baz=120,slow=8.0,SNR=166
MKAR Makanchi Array 58.84 324 P P 06 24 09.3 +0.1
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 58.84 324 P P 06 24 09.3 +0.1
KSH Kashi 59.57 314 P P 06 24 16.1 +1.6
KSH pP **pP** 06 24 26.1 +1.4
KSH sP **sP** 06 24 29.8 +1.2
KSH PcP **PcP** 06 25 02.4 +0.8
KSH PP **PP** 06 26 30.6 +4.4
KSH eScP **ScP** 06 29 01.3 +1.1
KSH PcS **PcS** 06 29 04.1 +0.3
KSH S **S** 06 32 21.0 -1.5
KSH sS **sS** 06 32 40.3 +1.1
KSH ScS **ScS** 06 34 00.6 -2.0
KSH SS **SS** 06 36 21.0 +2.7
KSH pmax pmax
comp=Z,13nm,1.2s
KSH pmax pmax
comp=Z,60nm,3.4s
KSH LR LR
comp=N,130nm,7.4s
KSH LR LR
comp=E,140nm,5.2s
KSH LR LR
comp=Z,210nm,5.0s
ULHL Ulahol 60.48 317 P P 06 24 21.2 +0.4
SNR=7.8
KZA Kyzart 61.08 317 P P 06 24 26.2 +1.0
SNR=18
TKM2 Tokmak 2 61.19 318 eP P 06 24 25.8 +0.2
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 61.19 318 eP P 06 24 25.8 +0.2
comp=Z,8.6nm,0.6s
TKM2 Tokmak 2 61.19 318 P P 06 24 25.9 +0.3
SNR=14
AFI Afiamalu 61.53 108 LR LR 06 45 40.2
comp=Z,95nm,19.8s,baz=113,slow=31
ZAA0 Zalesovo Array 61.66 332 eP P 06 24 27.4 -0.9
ZALV Zalesovo Beam 61.66 332 P P 06 24 27.2 -1.1
comp=Z,10.0nm,0.8s,baz=104,slow=6.3,SNR=38
ZALV Zalesovo Beam 61.66 332 P P 06 24 27.2 -1.1
ZALV pmax pmax
comp=Z,10.0nm,0.8s
ZALV Zalesovo Beam 61.66 332 P P 06 24 27.2 -1.1
SEY Seymchan 61.81 12 ce P P 06 24 30.4 +1.3
AAK Ala-Archa 61.82 317 ‖ iP P 06 24 29.7 -0.1
AAK pmax pmax
comp=Z,12nm,1.4s
USP Ospenovka 62.07 318 P P 06 24 31.8 +0.4
SNR=15
AML Almayashu 62.17 316 P P 06 24 33.0 +0.5
SNR=18
EKS2 Erkin-Say 62.32 317 eP P 06 24 33.7 +0.6
EKS2 Erkin-Say 62.32 317 eP P 06 24 33.6 +0.6
EKS2 Erkin-Say 62.32 317 P P 06 24 33.7 +0.6
SNR=16
NVS Novosibirsk 62.94 332 i P P 06 24 35.6 -1.2
NVS pmax pmax
comp=Z,16nm,0.9s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
KURK Kurchatov 62.97 327 eP P 06 24 36.8 -0.3
KURK pmax pmax
comp=Z,27nm,0.6s
KURK Kurchatov 62.97 327 eP P 06 24 36.8 -0.3
comp=Z,27nm,0.6s
KURK Kurchatov 62.97 327 P P 06 24 37.1 0.0
SNR=10
KK31 Karatay Array 64.71 317 ce P P 06 24 48.3 -0.5
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 64.71 317 eP P 06 24 48.4 -0.4
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 64.71 317 eP P 06 24 48.4 -0.4
comp=Z,6.4nm,0.7s
TIXI Tiksi 68.03 0 eP P 06 25 08.8 -0.6
TIXI pmax pmax
comp=Z,18nm,0.6s
TIXI Tiksi 68.03 0 eP P 06 25 08.9 -0.6
comp=Z,22nm,0.7s
VOSK Vostochnaya 68.10 326 P P 06 25 09.2 -1.1
VOSK pmax pmax
comp=Z,12nm,0.6s
BVA0 Borovoye Array 68.56 326 i P P 06 25 12.5 -0.6
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 68.63 326 d iP P 06 25 13.0 -0.6
BRVK pmax pmax
comp=Z,27nm,1.0s
BRVK Borovoye 68.63 326 eP P 06 25 12.9 -0.6
comp=Z,18nm,0.7s
BRVK Borovoye 68.63 326 P P 06 25 13.5 0.0
SNR=9.4
BILL Bilibino 69.26 14 c iP P 06 25 17.8 +0.6
BILL e 06 25 41.5
BILL e 06 27 46.7
BILL pmax pmax
comp=Z,10.0nm,1.4s
ZRNK Zerenda 69.29 326 i P P 06 25 17.1 -0.6
ZRNK pmax pmax
comp=Z,19nm,0.6s
ABKAR Akbulak array 73.54 320 eP P 06 25 42.8 -0.6
comp=Z,7.2nm,0.7s
AKTO Aktyubinsk 75.03 321 P P 06 25 51.7 -0.3
comp=Z,7.6nm,0.7s,baz=101,slow=7.9,SNR=33
AKTO Aktyubinsk 75.03 321 P P 06 25 51.7 -0.3
AKTO pmax pmax
comp=Z,8.0nm,0.7s
AKTO Aktyubinsk 75.03 321 P P 06 25 51.7 -0.3
SVE Sverdlovsk 75.15 328 eP P 06 25 52.0 -0.6
SVE pmax pmax
comp=Z,18nm,1.1s
TNA Tin City 76.02 23 eP P 06 25 59.0 +1.6
comp=Z,4.9nm,1.0s
TRF Thorofare Moun 82.84 27 eP P 06 26 35.0 +0.1
comp=Z,8.6nm,0.9s
VNDA Vanda 82.99 173 P P 06 26 34.7 -0.4
comp=Z,3.1nm,0.8s,baz=317,slow=6.6,SNR=17
VNDA Vanda 82.99 173 P P 06 26 34.7 -0.4
COLD Coldfoot 83.32 23 eP P 06 26 38.7 +1.7
comp=Z,26nm,1.1s
SML Sawmill 83.59 28 eP P 06 26 39.6 +1.1
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 83.59 28 eP P 06 26 39.6 +1.1
comp=Z,3.8nm,1.0s
ILAR Eielson Array 84.45 25 P P 06 26 42.6 -0.2
comp=Z,0.2nm,0.5s,baz=250,slow=5.9,SNR=5.5
ILAR PP **PP** 06 29 56.2 -1.9
comp=Z,1.5nm,1.1s,baz=257,slow=7.0,SNR=5.7
ILAR Eielson Array 84.45 25 P P 06 26 42.6 -0.2
ILAR PP **PP** 06 29 56.2 -1.9
DIV Divide 84.78 29 eP P 06 26 46.2 +1.6
comp=Z,17nm,0.9s
PAX Paxson 84.99 27 eP P 06 26 47.0 +1.3
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 84.99 27 eP P 06 26 47.0 +1.3
comp=Z,6.0nm,0.9s
BMRM Bremner River 85.34 29 eP P 06 26 49.0 +1.5
comp=Z,13nm,0.9s
VRHR Novokhopersk 85.42 321 eP P 06 26 46.5 -1.5
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
KLMR Klimovskoe 86.53 331 eP P 06 26 50.7 -2.6
KLMR pmax pmax
comp=Z,13nm,0.9s
VORD Divnogorie 86.90 321 eP P 06 26 53.2 -2.1
VSR Storozhevoye 86.97 321 eP P 06 26 54.5 -1.1
OBN Obninsk 88.34 325 ‖ eP P 06 27 00.7 -1.4
OBN e*PP **pP** 06 27 13.3 +0.6
OBN e 06 30 29.8
OBN eS **SKSac** 06 37 28.3 -0.2
OBN ePS **PnS** 06 38 51.4 +0.6
OBN pmax pmax
comp=Z,30nm,2.0s
ANN Anapa 88.43 315 eP P 06 27 06.2 +3.5
ANN e 06 27 16.5
ANN pmax pmax
comp=Z,41nm,1.4s
ARCES ARCESS Array B 91.31 340 P P 06 27 14.0 -1.7
comp=Z,3.1nm,0.7s,baz=53,slow=4.7,SNR=7.6
ARCES ARCESS Array B 91.31 340 P P 06 27 14.0 -1.7
BRTR Keskin Array B 91.65 310 P P 06 27 16.2 -2.0
comp=Z,0.6nm,0.8s,baz=90,slow=2.5,SNR=4.0
BRTR Keskin Array B 91.65 310 P P 06 27 16.2 -2.0
FINES FINESS Array B 92.93 332 P P 06 27 21.4 -1.9
comp=Z,6.1nm,1.2s,baz=76,slow=8.0,SNR=3.4
FINES FINESS Array B 92.93 332 P P 06 27 21.4 -1.9
SYO Syowa Base 92.94 201 ‖ eP P 06 27 22.0 -1.2
AKASG Malin Array Be 93.27 321 P P 06 27 22.9 -2.2
comp=Z,2.3nm,0.8s,baz=72,slow=4.2,SNR=7.2
AKASG Malin Array Be 93.27 321 P P 06 27 23.0 -2.2
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 93.27 321 P P 06 27 22.9 -2.2
QSPA South Pole Qui 93.44 180 eP P 06 27 25.6 -0.1
comp=Z,9.9nm,0.6s
RES Resolute Bay 97.66 11 eP Pdif 06 27 44.8 +0.1
comp=Z,1.7nm,0.8s
YKA Yellowknife Ar 98.87 25 P Pdif 06 27 50.4 +0.1
comp=Z,0.6nm,0.6s,baz=297,slow=4.3,SNR=16
YKA Yellowknife Ar 98.87 25 P Pdif 06 27 50.5 +0.1
VYHS Vyhne 100.36 321 eP **Pdif** 06 28 04.2 +6.9
VYHS Vyhne 100.36 321 PDIF **Pdif** 06 28 04.2 +6.9
PDAR Pinedale Array 110.21 42 PKKPab PKKPab 06 43 53.9 -2.2
comp=Z,0.8nm,0.8s,baz=115,slow=3.4,SNR=5.0
PDAR Pinedale Array 110.21 42 PKKPab PKKPab 06 43 53.9 -2.2
TXAR Lajitas Array 120.17 53 PKP **PKPdf** 06 33 02.8 +0.6
comp=Z,0.6nm,0.8s,baz=325,slow=1.5,SNR=6.2
TXAR PKKPbc **PKKPbc** 06 43 08.8 -1.6
comp=Z,0.2nm,0.6s,baz=119,slow=6.0,SNR=3.7
TXAR Lajitas Array 120.17 53 PKP **PKPdf** 06 33 02.8 +0.6
TXAR PKKPbc **PKKPbc** 06 43 08.8 -1.6
JCT Junction City 122.70 50 ePKIKP **PKPdf** 06 33 07.5 +0.6
JCT Junction City 122.70 50 ePKPdf **PKPdf** 06 33 07.5 +0.6
TOA0 Torodi Ar. Sit 124.83 289 ePKPdf **PKPdf** 06 33 11.1 -0.2
TORD Torodi Ar. Bea 124.83 289 PKP **PKPdf** 06 33 11.1 -0.3
comp=Z,3.2nm,0.8s,baz=52,slow=2.0,SNR=22
TORD Torodi Ar. Bea 124.83 289 PKP **PKPdf** 06 33 11.1 -0.3
DBIC Dimbokro 132.52 282 PKP **PKPdf** 06 33 25.9 -0.2
comp=Z,2.6nm,0.6s,baz=52,slow=1.4,SNR=4.1
DBIC Dimbokro 132.52 282 PKP **PKPdf** 06 33 25.9 -0.2
PLCA Paso Flores 139.10 158 PKP **PKPdf** 06 33 38.5 +0.9
comp=Z,2.4nm,0.8s,baz=201,slow=5.9,SNR=8.0
PLCA Paso Flores 139.10 158 PKP **PKPdf** 06 33 38.5 +0.9
LPAZ La Paz 159.17 129 PKPab **PKPab** 06 34 49.5 +2.2
comp=Z,2.8nm,0.7s,baz=288,slow=2.4,SNR=12
LPAZ La Paz 159.17 129 PKPab **PKPab** 06 34 49.5 +2.2

IDC 23 06:18:26.3±1.6, 3.38N×128.08E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=112.9km s-min=19.1km az=73.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.48**	**186**	P	P	P	06 23 16.5	-0.2
	1.1nm,0.8s,baz=5.2,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**23.97**	**165**	P	P	P	06 23 41.9	-0.8
	0.6nm,0.4s,baz=346,slow=10,SNR=5.8							
ASAR	**Alice Springs**	**27.47**	**168**	P	P	P	06 24 15.3	+0.9
	0.3nm,0.6s,baz=6.0,slow=9.7,SNR=2.6							
SONM	**Songino Array**	**48.07**	**340**	P	P	P	06 27 08.8	+1.0
	0.3nm,0.6s,baz=153,slow=9.2,SNR=2.2							
MKAR	**Makanchi Array**	**58.62**	**325**	P	P	P	06 28 25.4	+0.1
	0.5nm,0.6s,baz=111,slow=7.4,SNR=6.4							
KURBB	**Kurchatov Arra**	**62.77**	**327**	P	P	P	06 28 52.7	-0.7
	1.0nm,0.6s,baz=127,slow=6.4,SNR=10							

*ISCJB **23** 06:20:27.5±0.5, 3.51N±0.06×128.6E±0.1, h45km, mb4.1/19, Error ellipse: s-maj=15.3km s-min=8.1km az=1.3*

*IDC **23** 06:20:28.0±7.2, 3.51N×128.70E, h33km±56km, mb3.8/14, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML4.3/1, Error ellipse: s-maj=32.6km s-min=14.0km az=75.0*

*NEIC **23** 06:20:28.2±0.3, 3.50N×128.69E, h35km, mb4.1/7, Error ellipse: s-maj=12.8km s-min=6.2km az=85.0*

ISC 23 06:20:29.2±0.6, 3.40N±0.08×128.5E±0.1, h45km, n37, σ1s31/43, mb4.0/18, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**12.07**	**226**	Pn	**Pn**		**06 23 21.0**	**+2.2**
	1.7nm,0.3s,baz=204,slow=13,SNR=4.5							

KAPI				Sn	**Sn**	**06 25 28.5**	**-3.6**
	1.0nm,0.3s,baz=243,slow=23,SNR=1.8							
KAPI	**Kappang**	**12.07**	**226**	*e*Pn	**Pn**	**06 23 21.1**	**+2.4**
KAPI				Sn	**Sn**	**06 25 28.5**	**-3.6**
KAPI				*e*Sn	S	06 25 38.1	-21
FITZ	**Fitzroy Crossi**	**21.54**	**187**	P	**P**	**06 25 15.0**	**+0.2**
	1.0nm,0.5s,baz=11,slow=1.1,SNR=6.5							
FITZ	**Fitzroy Crossi**	**21.54**	**187**	*e*P	**P**	**06 25 14.6**	**-0.3**
	1.3nm,0.7s							
WRAB	**Tennant Creek**	**23.89**	**166**	*e*P	**P**	**06 25 40.0**	**+1.2**
	1.9nm,0.4s							
WRA	**Warramunga Arr**	**23.90**	**166**	P	**P**	**06 25 40.4**	**+1.4**
	1.8nm,0.4s,baz=345,slow=10,SNR=14							
WRA				PcP	**PcP**	**06 29 19.9**	**-1.1**
	0.5nm,1.1s,baz=339,slow=1.9,SNR=3.0							
WRA	**Warramunga Arr**	**23.90**	**166**	P	**P**	**06 25 40.4**	**+1.4**
WRA				PcP	**PcP**	**06 29 19.9**	**-1.1**
ASAR	**Alice Springs**	**27.41**	**169**	P	**P**	**06 26 11.4**	**+0.6**
	0.3nm,0.3s,baz=354,slow=7.7,SNR=4.7							
ASAR				PcP	**PcP**	**06 29 29.8**	**+0.7**
	0.5nm,0.4s,baz=353,slow=2.0,SNR=7.8							
ASAR	**Alice Springs**	**27.41**	**169**	P	**P**	**06 26 11.4**	**+0.6**
ASAR				PcP	**PcP**	**06 29 29.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**32.55**	**300**	P	**P**	**06 26 58.4**	**+2.0**
	1.4nm,0.7s,baz=103,slow=6.1,SNR=5.8							
CMAR	**Chiang Mai Arr**	**32.55**	**300**	P	**P**	**06 26 58.4**	**+2.0**
KSAR	**Wonju Array Be**	**33.89**	**359**	P	**P**	**06 27 07.4**	**-0.3**
KSRS	**Korea Array**	**33.90**	**359**	P	**P**	**06 27 07.4**	**-0.4**
	1.0nm,0.5s,baz=31,slow=35,SNR=4.2							
MJAR	**Matsushiro Arr**	**34.18**	**14**	P	**P**	**06 27 08.6**	**-1.8**
	4.2nm,0.8s,baz=187,slow=10.0,SNR=7.9							
MJAR	**Matsushiro Arr**	**34.18**	**14**	P	**P**	**06 27 08.6**	**-1.8**
STKA	**Stephens Creek**	**37.23**	**161**	P	**P**	**06 27 36.7**	**+0.2**
	1.1nm,0.5s,baz=292,slow=1.0,SNR=2.9							
STKA	**Stephens Creek**	**37.23**	**161**	*e*P	**P**	**06 27 36.8**	**+0.2**
	0.6nm,0.9s							
SONM	**Songino Array**	**48.19**	**340**	P	**P**	**06 29 04.9**	**-0.4**
	0.7nm,0.7s,baz=149,slow=7.9,SNR=5.8							
SONM	**Songino Array**	**48.19**	**340**	P	**P**	**06 29 04.9**	**-0.4**
MK31	**Makanchi Array**	**58.83**	**325**	*e*P	**P**	**06 30 24.1**	**+0.8**
MKAR	**Makanchi Array**	**58.83**	**325**	P	**P**	**06 30 24.0**	**+0.8**
	1.9nm,0.4s,baz=110,slow=8.2,SNR=50							
MKAR	**Makanchi Array**	**58.83**	**325**	P	**P**	**06 30 24.0**	**+0.8**
ZALV	**Zalesovo Beam**	**61.68**	**332**	P	**P**	**06 30 41.9**	**-0.6**
	0.7nm,0.4s,baz=115,slow=6.7,SNR=3.9							
ZALV	**Zalesovo Beam**	**61.68**	**332**	P	**P**	**06 30 41.9**	**-0.6**
KURK	**Kurchatov**	**62.97**	**327**	*e*P	**P**	**06 30 51.3**	**+0.1**
	5.1nm,0.7s							
KURBB	**Kurchatov Arra**	**62.97**	**327**	P	**P**	**06 30 51.3**	**+0.1**
	4.7nm,0.6s,baz=127,slow=6.2,SNR=49							
TIXI	**Tiksi**	**68.16**	**0**	*e*P	**P**	**06 31 23.7**	**-0.6**
	2.1nm,0.3s							
BRVK	**Borovoye**	**68.63**	**327**	*e*P	**P**	**06 31 28.0**	**+0.3**
	3.1nm,0.9s							
ABKAR	**Akbulak array**	**73.51**	**321**	*e*P	**P**	**06 31 57.5**	**+0.2**
	1.5nm,0.7s							
ILAR	**Eielson Array**	**84.66**	**25**	P	**P**	**06 32 57.5**	**-0.5**
	0.5nm,0.8s,baz=241,slow=5.0,SNR=8.7							
ILAR	**Eielson Array**	**84.66**	**25**	P	**P**	**06 32 57.5**	**-0.5**
ARCES	**ARCESS Array B**	**91.36**	**340**	P	**P**	**06 33 29.1**	**-0.9**
	4.5nm,1.0s,baz=80,slow=7.4,SNR=2.4							
ARCES	**ARCESS Array B**	**91.36**	**340**	P	**P**	**06 33 29.1**	**-0.9**
YKA	**Yellowknife Ar**	**99.08**	**25**	P	**Pdif**	**06 34 04.8**	**-0.4**
	0.1nm,0.6s,baz=297,slow=4.3,SNR=4.7							
YKA	**Yellowknife Ar**	**99.08**	**25**	P	**Pdif**	**06 34 04.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**124.68**	**288**	PKP	**PKPdf**	**06 39 25.7**	**+0.7**
	0.6nm,0.6s,baz=112,slow=1.8,SNR=4.4							
TORD	**Torodi Ar. Bea**	**124.68**	**288**	PKP	**PKPdf**	**06 39 25.7**	**+0.7**

NIED ***23*** *06:25:00,27˚.20N×127˚.50E,h104km,Mw4.1 Best double couple: M0 1.47000×10^15 NP1:ϕ=68.00000°, δ=77.00000°,λ=-80.00000°. NP2:ϕ=210.00000°,δ=16.00000°, λ=-126.00000°.*

ISCJB ***23*** *06:25:19.4±0.3,27˚.15N±0˚.05×127˚.50E±0˚.06,h97km±4km, mb3.9/18,Error ellipse: s-maj=10.9km s-min=5.1km az=136.1*

IDC ***23*** *06:25:19.7±0.8,27˚.19N×127˚.52E,h85km±9km,mb3.7/18, mb1 3.9/19,mb1mx3.9/26,mbtmp3.7/19,Error ellipse: s-maj=22.0km s-min=13.4km az=71.0*

JMA ***23*** *06:25:20.8±0.2,27˚.19N×127˚.50E,h86km±2km,M3.7*

ISC 23 06:25:20.6±0.7,27˚.10N±0˚.06×127˚.57E±0˚.05,h97km±6km, n35,σ1ϟ10/47,mb3.9/18,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.36**	**100**	P	**Pn**	**06 25 35.0**	**-0.1**
JIH				S	**Sn**	**06 25 45.0**	**-0.9**
JAGN	**Aguni-jima**	**0.58**	**210**	P	**Pn**	**06 25 36.4**	**-0.3**
JAGN				S	**Sn**	**06 25 48.1**	**-0.6**
JOW	**Kunigami**	**0.68**	**113**	P	**Pn**	**06 25 37.8**	**+0.2**
JOW				S	**Sn**	**06 25 49.7**	**-0.5**
JOW	**Kunigami**	**0.68**	**113**	P	**Pn**	**06 25 37.7**	**+0.2**
JOW				S	**Sn**	**06 25 49.6**	**-0.6**
JJT2	**Tamagusuku 2**	**0.97**	**171**	P	**Pn**	**06 25 41.5**	**+1.1**
JJT2				*e*S	**Sn**	**06 25 57.0**	**+1.7**
JKE	**Kume jima 2**	**1.04**	**223**	P	**Pn**	**06 25 41.0**	**-0.2**
JKE				S	**Sn**	**06 25 56.0**	**-0.7**
JTK	**Tokunoshima**	**1.41**	**60**	P	**Pn**	**06 25 45.6**	**+0.1**
JTK				*e*S	**Sn**	**06 26 03.8**	**-0.6**
JAM	**Amami Oshima**	**2.23**	**53**	P	**Pn**	**06 25 56.2**	**+0.2**
JAM				*e*S	**Sn**	**06 26 21.6**	**-1.5**
JZK	**Kikaishima**	**2.45**	**60**	P	**Pn**	**06 25 59.8**	**+0.9**
JZK				*e*S	**Sn**	**06 26 28.9**	**+0.6**
JMZ	**Minamidaito 2**	**3.51**	**110**	P	**Pn**	**06 26 12.8**	**-0.3**
JMZ				*e*S	**Sn**	**06 26 49.3**	**-4.4**
JTJ	**Tarama**	**3.56**	**227**	P	**Pn**	**06 26 13.5**	**-0.2**
JIJ	**Ishigaki jima**	**4.12**	**229**	P	**Pn**	**06 26 20.0**	**-1.3**
IRIF	**Iriomote-Funau**	**4.42**	**232**	P	**Pn**	**06 26 24.3**	**-1.1**
JNU	**Nakatsue**	**6.65**	**25**	P	**Pn**	**06 26 55.5**	**-0.3**
	4.2nm,0.3s,baz=191,slow=5.6,SNR=16							
KSRS	**Korea Array**	**10.33**	**2**	P	**Pn**	**06 27 47.0**	**+1.2**
	0.1nm,0.3s,baz=183,slow=12,SNR=6.5							
MJAR	**Matsushiro Arr**	**13.05**	**41**	P	**P**	**06 28 30.0**	**+1.2**
	0.4nm,0.3s,baz=223,slow=9.1,SNR=6.8							
SONM	**Songino Array**	**26.51**	**327**	P	**P**	**06 30 49.7**	**+0.7**
	1.0nm,0.5s,baz=141,slow=11,SNR=11							
SONM				PcP	**PcP**	**06 34 11.6**	**+0.1**
	0.2nm,0.4s,baz=150,slow=3.9,SNR=2.6							
MKAR	**Makanchi Array**	**40.52**	**311**	P	**P**	**06 32 48.8**	**-1.3**
	1.0nm,0.6s,baz=94,slow=10,SNR=9.8							
MKAR				PcP	**PcP**	**06 34 50.8**	**0.0**
	0.6nm,0.7s,baz=80,slow=3.2,SNR=4.9							
ZALV	**Zalesovo Beam**	**41.20**	**322**	P	**P**	**06 32 54.1**	**-1.4**
	0.7nm,0.4s,baz=106,slow=7.0,SNR=3.4							
KURBB	**Kurchatov Arra**	**43.82**	**316**	P	**P**	**06 33 16.2**	**-0.6**
	1.2nm,0.5s,baz=104,slow=9.0,SNR=8.8							
FITZ	**Fitzroy Crossi**	**44.97**	**183**	P	**P**	**06 33 26.3**	**+0.1**
	1.2nm,0.9s,baz=64,slow=9.7,SNR=2.5							
WRA	**Warramunga Arr**	**47.22**	**171**	P	**P**	**06 33 44.6**	**+0.8**
	1.7nm,0.5s,baz=353,slow=8.5,SNR=20							
ASAR	**Alice Springs**	**50.83**	**173**	P	**P**	**06 34 13.8**	**+2.3**
	0.6nm,0.6s,baz=357,slow=17,SNR=6.0							
ILAR	**Eielson Array**	**63.96**	**28**	P	**P**	**06 35 42.5**	**-0.6**
	0.8nm,0.7s,baz=256,slow=4.8,SNR=26							
KBZ	**Khabaz**	**68.16**	**309**	P	**P**	**06 36 10.8**	**+0.5**
	3.0nm,0.7s,baz=62,slow=2.9,SNR=5.7							
ARCES	**ARCESS Array B**	**68.99**	**338**	P	**P**	**06 36 14.2**	**-0.9**
	4.2nm,1.1s,baz=50,slow=8.4,SNR=3.9							
FINES	**FINESS Array B**	**71.82**	**330**	P	**P**	**06 36 32.0**	**-0.5**
	1.2nm,0.6s,baz=65,slow=5.7,SNR=8.4							
AKASG	**Malin Array Be**	**74.49**	**319**	P	**P**	**06 36 47.8**	**-0.6**
	0.9nm,0.5s,baz=57,slow=5.6,SNR=3.6							
BRTR	**Keskin Array B**	**76.04**	**308**	P	**P**	**06 36 57.1**	**-0.5**
	1.2nm,0.8s,baz=118,slow=4.9,SNR=6.6							
YKA	**Yellowknife Ar**	**77.99**	**25**	P	**P**	**06 37 08.2**	**+0.3**
	1.6nm,0.6s,baz=302,slow=5.6,SNR=48							
NB2	**NORSAR Subarra**	**78.28**	**334**	P	**P**	**06 37 09.0**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=52,slow=5.9							
NOA	**NORSAR Array B**	**78.28**	**334**	P	**P**	**06 37 08.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=52,slow=5.7,SNR=4.6							
GERES	**GERESS Array B**	**84.16**	**323**	P	**P**	**06 37 42.0**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=46,slow=3.9,SNR=4.9							
PDAR	**Pinedale Array**	**92.85**	**38**	P	**P**	**06 38 23.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=270,slow=0.1,SNR=5.0							
ULM	**Lac du Bonnet**	**93.91**	**26**	P	**P**	**06 38 27.1**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=218,slow=3.8,SNR=3.4							

IDC 23 06:26:43.3±1.6,37˚.76N×74˚.96E,h0km,mb3.5/5, mb1 3.5/7,mb1mx3.4/28,mbtmp3.4/7,ML2.4/2,MS3.4/1, Ms1 3.4/1,ms1mx2.3/41,2C-2D,Error ellipse: s-maj=32.6km s-min=23.6km az=110.0,

Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.88**	**356**	Pn	Pn	06 28 01.1	+2.9
	0.2nm,0.3s,baz=171,slow=11,SNR=1.4						
AAK				Pg	Pb	06 28 13.2	+3.4
	0.5nm,0.3s,baz=182,slow=6.4,SNR=3.2						
AAK				Lg	Lg	06 29 17.3	
	0.2nm,0.3s,baz=351,slow=21,SNR=2.6						
TKM2	**Tokmak 2**	**5.17**	**5**	⇑Pn	Pn	06 28 04.9	+2.6
	2.4nm,0.8s						
TKM2				⇑Lg	Lg	06 29 19.9	
	3.8nm,0.6s						
KK31	**Karatay Array**	**6.32**	**329**	⇓Pn	Pn	06 28 20.8	+3.0
	0.6nm,0.5s,baz=136,slow=12,SNR=9.1						
KK31				⇓Sn	Sn	06 29 33.0	+2.2
	0.9nm,0.3s,baz=140,slow=23,SNR=6.7						
MKAR	**Makanchi Array**	**10.53**	**29**	Pn	Pn	06 29 16.2	+0.8
	0.0nm,0.3s,baz=210,slow=17,SNR=2.8						
SONM	**Songino Array**	**25.01**	**56**	P	P	06 32 09.8	+0.8
	0.4nm,0.7s,baz=254,slow=9.8,SNR=3.7						
SONM				LR	LR	06 42 09.3	
	comp=Z,91nm,20.6s,baz=358,slow=37						
FINES	**FINESS Array B**	**38.26**	**324**	P	P	06 34 05.4	+0.6
	0.5nm,0.4s,baz=115,slow=12,SNR=5.8						
ARCES	**ARCESS Array B**	**41.23**	**336**	P	P	06 34 30.1	+0.5
	4.1nm,1.1s,baz=104,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**68.89**	**270**	P	P	06 37 50.0	-0.3
	0.2nm,0.6s,baz=46,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**79.79**	**4**	P	P	06 38 51.9	-1.0
	0.1nm,0.5s,baz=348,slow=5.6,SNR=4.1						

TAP ***23*** *06:28:49.4,24˚.79N×122˚.28E,h4km,ML3.4,C*

JMA ***23*** *06:28:49.6±0.2,25˚.01N×122˚.78E,h0km,M2.8*

ISC 23 06:28:48.4±1.2,24˚.77N±0˚.04×122˚.37E±0˚.03,h8km±11km, n30,σ0ϟ82/48,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**304**	⇓*i*P	**Pb**	**06 28 57.4**	**-0.7**
	baz=309						
TWB1				*i* S	**Sb**	**06 29 02.6**	**-2.0**
	baz=309						
TWC	**Suao**	**0.50**	**251**	⇑*i*P	**Pb**	**06 28 58.5**	**-1.0**
	baz=257						
TWC				*e*S	**Sb**	**06 29 04.8**	**-2.1**
	baz=257						
ILA	**Ilan**	**0.57**	**270**	*e*P	**Pb**	**06 28 60.0**	**-0.6**
	baz=265						
NWF	**Wu-fen Shan**	**0.61**	**299**	P	**Pb**	**06 29 01.4**	**-0.1**
	baz=300						
NWF				*e*S	**Sb**	**06 29 09.6**	**-0.7**
	baz=300						
TWE	**Neicheng**	**0.64**	**266**	P	**Pb**	**06 29 01.1**	**-0.8**
	baz=252						
TWE				*e*S	**Sb**	**06 29 09.8**	**-1.2**
	baz=252						
YOJ	**Yonaguni jima**	**0.66**	**118**	P	**Pg**	**06 29 01.2**	**+0.1**
YOJ				S	**Sg**	**06 29 09.3**	**-0.4**
ENA	**Nanau**	**0.67**	**239**	*e*P	**Pb**	**06 29 02.0**	**-0.3**
	baz=233						
ENA				*e*S	**Sb**	**06 29 11.7**	**0.0**
	baz=233						
ENTT	**Nioudou**	**0.74**	**260**	*e*P	**Pb**	**06 29 03.0**	**-0.6**
	baz=256						
ENTT				*e*S	**Sb**	**06 29 13.3**	**-0.6**
	baz=256						
TWY	**Chenhua**	**0.86**	**306**	*e*P	**Pb**	**06 29 05.6**	**0.0**
	baz=307						
TWY				*e*S	**Sb**	**06 29 17.4**	**+0.1**
	baz=307						
PCYT	**Pengchaiyu**	**0.90**	**342**	P	**Pb**	**06 29 07.0**	**+0.8**
	baz=335						
NSK	**Sanguang**	**0.93**	**264**	*e*P	**Pb**	**06 29 06.2**	**-0.6**
	baz=261						
NSK				*e*S	**Sb**	**06 29 18.4**	**-0.9**
	baz=261						
NNS	**Nan Shan**	**0.97**	**250**	*e*P	**Pb**	**06 29 07.3**	**-0.1**
	baz=234						
NNS				*e*S	**Sb**	**06 29 20.1**	**-0.3**
	baz=234						
TWD	**Chiawan**	**0.99**	**226**	*e*P	**Pb**	**06 29 07.6**	**-0.1**
	baz=220						
WHF	**Hehuan Shan**	**1.19**	**239**	P	**Pg**	**06 29 11.4**	**+0.2**
	baz=235						
WHF				*e*S	**Sb**	**06 29 26.7**	**-0.4**
	baz=235						
TWT	**Tachien**	**1.21**	**245**	P	**Pn**	**06 29 11.8**	**+0.1**
	baz=233						
TWT				*e*S	**Sn**	**06 29 28.3**	**0.0**
	baz=233						
NSTT	**Nanjuang**	**1.25**	**264**	*e*P	**Pn**	**06 29 12.7**	**+0.4**
	baz=261						
NSTT				*e*S	**Sn**	**06 29 29.6**	**+0.3**
	baz=261						
ESL	**Shilin**	**1.28**	**222**	*e*P	**Pn**	**06 29 13.1**	**+0.5**
	baz=228						
IRIF	**Iriomote-Funau**	**1.31**	**109**	P	Pn	06 29 10.5	-2.5
IRIF				*e*S	Sb	06 29 25.2	-5.0
HATJ	**Hateruma jima**	**1.49**	**118**	P	**Pn**	**06 29 15.2**	**-0.2**
TWQ1	**Liyutan**	**1.52**	**254**	*e*P	**Pg**	**06 29 18.1**	**+0.7**
	baz=252						
TWQ1				*e*S	**Sg**	**06 29 38.2**	**+1.1**
	baz=252						
JKRS	**Suro-shima**	**1.58**	**109**	P	Pn	06 29 15.0	-1.8
SMLT	**Sun Moon Lake**	**1.61**	**237**	*e*P	**Pg**	**06 29 19.4**	**+0.2**
	baz=235						
SMLT				*e*S	**Sg**	**06 29 40.4**	**+0.3**
	baz=235						
TYC	**Yuchr**	**1.63**	**238**	*e*P	**Pg**	**06 29 19.2**	**-0.4**
	baz=236						
TYC				*e*S	**Sg**	**06 29 42.0**	**+1.3**
	baz=236						
JIJ	**Ishigaki jima**	**1.66**	**104**	P	Pn	06 29 16.3	-1.6
ALS	**Alishan**	**1.90**	**229**	*e*P	**Pb**	**06 29 23.7**	**+0.2**
	baz=235						
ALS				*e*S	**Sb**	**06 29 48.3**	**+0.7**
	baz=235						
CHN5	**Tsauling**	**1.94**	**233**	*e*P	**Pg**	**06 29 25.3**	**-0.3**
	baz=241						
CHN5				*e*S	**Sg**	**06 29 50.4**	**-0.3**
	baz=241						
CHN4	**Tsaushan**	**2.15**	**229**	*e*P	**Pb**	**06 29 28.0**	**+0.3**
	baz=228						
CHN4				*e*S	**Sg**	**06 29 55.7**	**-1.9**
	baz=228						
WTP	**Ta-pu**	**2.21**	**227**	*e*P	**Pb**	**06 29 28.1**	**-0.5**
	baz=226						
WTP				*e*S	**Sb**	**06 29 57.1**	**+0.9**
	baz=226						
TWK	**Hsinying**	**2.28**	**229**	*e*P	**Pn**	**06 29 28.1**	**+1.7**
	baz=227						
CHN1	**Nanshi**	**2.31**	**227**	*e*P	**Pb**	**06 29 29.4**	**-0.9**
	baz=227						
CHN1				*e*S	**Sb**	**06 29 59.4**	**+0.3**
	baz=227						

IDC ***23*** *06:32:38.0±0.6,3˚.50N×128˚.75E,h0km,mb4.1/17, mb1 4.3/18,mb1mx4.2/28,mbtmp4.2/18,ML4.2/1,Error ellipse: s-maj=27.2km s-min=12.7km az=78.0*

BJI ***23*** *06:32:37.8,3˚.05N×129˚.11E,h35km,mB4.9/21,mb4.7/26, Ms4.7/14,Ms7 4.3/11*

ISCJB ***23*** *06:32:40.9±0.4,3˚.41N±0˚.05×128˚.86E±0˚.08,h33km, mb4.4/32,MS4.3/2,Error ellipse: s-maj=11.1km s-min=7.6km az=169.8*

NEIC ***23*** *06:32:45.6±1.5,3˚.44N×128˚.74E,h60km±13km,mb4.4/7, Error ellipse: s-maj=17.5km s-min=7.0km az=73.0*

ISC 23 06:32:43.0±0.5,3˚.33N±0˚.05×128˚.88E±0˚.08,h35km,n74,
σ1ϟ65/110,mb4.4/31,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.96**	**319**	Pn	**Pn**	**06 33 56.0**	**+0.8**
	73nm,0.3s,baz=115,slow=2.5,SNR=5.0						
DAV				Sn	**Sn**	**06 34 55.6**	**+4.3**
	26nm,0.3s,baz=264,slow=21,SNR=2.2						
DAV	**Davao City (W)**	**4.96**	**319**	Pn	**Pn**	**06 33 56.0**	**+0.8**
DAV				Sn	**Sn**	**06 34 55.6**	**+4.3**
KAPI	**Kappang**	**12.33**	**228**	Pn	**Pn**	**06 35 36.0**	**-0.1**
	1.4nm,0.3s,baz=157,slow=7.9,SNR=5.0						
KAPI				Sn	**Sn**	**06 37 49.9**	**-2.5**
	baz=98,slow=23,SNR=3.1						
KAPI	**Kappang**	**12.33**	**228**	Pn	**Pn**	**06 35 36.0**	**-0.1**
KAPI				*e*Pn	**Pn**	**06 35 36.3**	**+0.2**
KAPI				Sn	**Sn**	**06 37 49.9**	**-2.5**
KKM	**Kota Kinabalu**	**12.91**	**283**	*e*Pn	**Pn**	**06 35 45.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.54**	**188**	P	**P**	**06 37 30.0**	**+0.6**
	1.3nm,0.3s,baz=15,slow=7.3,SNR=10.0						
FITZ	**Fitzroy Crossi**	**21.54**	**188**	*e*P	**P**	**06 37 30.2**	**+0.8**
	1.5nm,0.4s						
WRAB	**Tennant Creek**	**23.73**	**167**	*e*P	**P**	**06 37 55.3**	**+3.1**
	9.5nm,1.0s						
WRA	**Warramunga Arr**	**23.74**	**167**	P	**P**	**06 37 53.9**	**+1.6**
	3.0nm,0.5s,baz=346,slow=10,SNR=23						
WRA	**Warramunga Arr**	**23.74**	**167**	P	**P**	**06 37 53.9**	**+1.6**
QIZ	**Qiongzhong**	**24.29**	**311**	P	**P**	**06 37 57.6**	**+0.2**
QIZ				S	**S**	**06 42 14.8**	**+0.6**
ASAR	**Alice Springs**	**27.28**	**170**	P	**P**	**06 38 26.2**	**+1.8**
	0.3nm,0.6s,baz=358,slow=8.5,SNR=5.4						
ASAR				PcP	**PcP**	**06 41 44.9**	**+1.2**
	0.5nm,0.4s,baz=353,slow=2.0,SNR=6.7						
ASAR	**Alice Springs**	**27.28**	**170**	P	**P**	**06 38 26.1**	**+1.8**
ASAR				PcP	**PcP**	**06 41 44.9**	**+1.2**
NJ2	**Nanjing**	**30.09**	**343**	*e*P	**P**	**06 38 50.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**31.34**	**319**	*e*P	**P**	**06 39 02.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.93**	**299**	P	**P**	**06 39 13.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=103,slow=6.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**32.93**	**299**	P	**P**	**06 39 13.8**	**-0.7**
KMI	**Kunming**	**33.20**	**313**	P	**P**	**06 39 17.8**	**+0.8**
KMI				pP	**pP**	**06 39 27.5**	**+0.4**
KMI				sP	**sP**	**06 39 31.4**	**0.0**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSAR	**Wonju Array Be**	**33.96**	**359**	P	**P**	**06 39 22.0**	**-1.2**
KSRS	**Korea Array**	**33.97**	**359**	P	**P**	**06 39 22.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=173,slow=9.7,SNR=7.3						
MJAR	**Matsushiro Arr**	**34.15**	**13**	P	**P**	**06 39 23.3**	**-1.5**
	comp=Z,6.2nm,0.8s,baz=188,slow=9.8,SNR=14						
MJAR	**Matsushiro Arr**	**34.15**	**13**	P	**P**	**06 39 23.3**	**-1.5**
MAT	**Matsushiro**	**34.15**	**13**	P	**P**	**06 39 23.8**	**-1.1**
XAN	**Xi'an**	**35.77**	**331**	P	**P**	**06 39 37.3**	**-1.6**
XAN				pP	**pP**	**06 39 45.3**	**-3.8**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,36nm,5.6s						
CD2	**Chengdu**	**36.26**	**322**	P	**P**	**06 39 43.5**	**+0.3**
CD2				pP	**pP**	**06 39 53.6**	**+0.3**
CD2				sP	**sP**	**06 39 57.8**	**+0.2**
CD2				S	**S**	**06 45 20.8**	**-0.7**
CD2				sS	**sS**	**06 45 37.4**	**-0.9**
CD2				SS	**SnSn**	**06 47 45.8**	**-4.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,5.4s						
CD2				LR	LR		
	comp=N,340nm,5.9s						
CD2				LR	LR		
	comp=Z,160nm,6.5s						
STKA	**Stephens Creek**	**37.04**	**162**	P	**P**	**06 39 51.5**	**+1.8**
	comp=Z,2.6nm,0.9s,baz=340,slow=9.9,SNR=6.3						
STKA	**Stephens Creek**	**37.04**	**162**	P	**P**	**06 39 51.5**	**+1.8**
LZH	**Lanzhou**	**39.96**	**328**	*e*P	**P**	**06 40 14.4**	**0.0**
LZH				pP	**pP**	**06 40 22.9**	**-1.8**
LZH				sP	**sP**	**06 40 25.9**	**-3.0**
LZH				*e*S	**S**	**06 46 20.0**	**+2.3**
LZH				sS	**sS**	**06 46 37.8**	**+3.2**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.3s						
LZH				LR	LR		
	comp=N,340nm,13.8s						
LZH				LR	LR		
	comp=E,230nm,13.5s						
LZH				LR	LR		
	comp=Z,420nm,15.0s						
CN2	**Changchun**	**40.41**	**356**	*e*P	**P**	**06 40 17.6**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**40.48**	**340**	*e*P	**P**	**06 40 17.5**	**-1.1**
HHC				pP	**pP**	**06 40 29.3**	**+0.4**
HHC				sP	**sP**	**06 40 33.3**	**+0.2**
HHC				PP	**PnPn**	**06 41 56.9**	**+0.6**
HHC				S	**S**	**06 46 25.9**	**+0.7**
HHC				sS	**sS**	**06 46 42.1**	**0.0**
HHC				SS	**SS**	**06 49

comp=Z,3.8nm,0.7s,baz=120,slow=8.8,SNR=20
BVAR Borovoye Array 68.83 326 P P 06 43 42.5 -1.3
BRVK Borovoye 68.90 326 *e*P **P 06 43 43.1 -1.2**
comp=Z,4.9nm,0.6s
ABKAR Akbulak array 73.82 320 *e*P **P 06 44 12.6 -1.5**
comp=Z,3.3nm,0.7s
AKTO Aktyubinsk 75.31 321 P **P 06 44 20.3 -2.4**
comp=Z,2.3nm,0.6s,baz=105,slow=7.8,SNR=6.0
AKTO Aktyubinsk 75.31 321 P **P 06 44 20.3 -2.4**
ILAR Eielson Array 84.54 25 P **P 06 45 12.0 -0.3**
comp=Z,0.5nm,0.6s,baz=242,slow=5.1,SNR=9.6
ILAR Eielson Array 84.54 25 P **P 06 45 12.0 -0.3**
YKA Yellowknife Ar 98.96 25 P Pdif 06 46 20.1 +0.3
comp=Z,0.2nm,0.7s,baz=296,slow=4.1,SNR=9.0
YKA Yellowknife Ar 98.96 25 P Pdif 06 46 20.1 +0.3
MWC Mount Wilson 106.96 53 *e*PKPdf 06 51 02.7
TXAR Lajitas Array 120.13 53 PKP **PKPdf 06 51 31.6 +0.5**
comp=Z,0.2nm,0.9s,baz=271,slow=6.1,SNR=2.7
TXAR Lajitas Array 120.13 53 PKP **PKPdf 06 51 31.6 +0.5**
TORD Torodi Ar. Bea 125.08 288 PKP **PKPdf 06 51 40.8 0.0**
comp=Z,0.6nm,0.6s,baz=93,slow=2.0,SNR=5.7
TORD Torodi Ar. Bea 125.08 288 PKP **PKPdf 06 51 40.8 0.0**

*IDC **23** 06:51:20.4±1.3,37.94N×21.08E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/24,mbtmp3.7/7,Error ellipse: s-maj=41.8km s-min=24.3km az=131.0*
*ISCJB **23** 06:51:21.3±0.5,37.83N±0.02×21.04E±0.03,h4km±3km, mb3.6/8,Error ellipse: s-maj=4.2km s-min=3.3km az=33.3*
*ATH **23** 06:51:21.7,37.85N×21.05E,h5km±1km,MD3.2/14,ML3.6*
*THE **23** 06:51:22.7,37.87N×21.07E,h0km±2km,ML3.7/5,Error ellipse: s-maj=2.8km s-min=0.9km az=210.0*
*CSEM **23** 06:51:22.2±0.2,37.86N×21.07E,h0km±1km,ML3.7/5, Error ellipse: s-maj=4.2km s-min=3.0km az=35.0*

ISC 23 06:51:22.0±1.0,37.86N±0.02×21.04E±0.02,h11km±7km, n93,σ0.86/134,mb3.7/8,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.32**	**322**	P	**Pb**	**06 51 29.3**	**-0.4**
KFL				S	**Sb**	**06 51 34.6**	**-0.3**
KFL	**Anninata**	**0.32**	**322**	P	**Pb**	**06 51 29.3**	**-0.4**
KFL				S	**Sb**	**06 51 34.6**	**-0.3**
RLS	**Riolos of Patr**	**0.39**	**60**	P	**Pg**	**06 51 29.2**	**-0.5**
RLS				S	**Sg**	**06 51 35.7**	**+0.7**
RLS	**Riolos of Patr**	**0.39**	**60**	*e*PB	**Pg**	**06 51 29.3**	**-0.5**
RLS				*e*SB	**Sg**	**06 51 35.1**	**+0.1**
RLS	**Riolos of Patr**	**0.39**	**60**	*e*Pb	**Pg**	**06 51 29.3**	**-0.5**
RLS				S	**Sg**	**06 51 34.5**	**-0.5**
RLS				*e*Sb	**Sg**	**06 51 35.1**	**+0.1**
VLS	**Valsamata**	**0.48**	**312**	P	**Pb**	**06 51 32.0**	**-0.4**
VLS				S	**Sb**	**06 51 39.9**	**+0.5**
VLS	**Valsamata**	**0.48**	**312**	*e*PB	**Pg**	**06 51 31.4**	**+0.1**
VLS	**Valsamata**	**0.48**	**312**	*e*Pb	**Pg**	**06 51 31.4**	**+0.1**
VLS	**Valsamata**	**0.48**	**312**	P	**Pb**	**06 51 32.0**	**-0.4**
VLS				S	**Sb**	**06 51 39.9**	**+0.5**
AMT	**Artemida-Makis**	**0.62**	**121**	P	**Pb**	**06 51 34.2**	**-0.7**
AMT				S	**Sb**	**06 51 44.2**	**+0.5**
AMT	**Artemida-Makis**	**0.62**	**121**	*e*PB	**Pg**	**06 51 33.8**	**-0.3**
AMT				*e*SB	**Sg**	**06 51 42.1**	**-0.2**
AMT	**Artemida-Makis**	**0.62**	**121**	*e*Pb	**Pg**	**06 51 33.8**	**-0.3**
AMT				*e*Sb	**Sg**	**06 51 42.1**	**-0.2**
AMT				S	**Sb**	**06 51 42.5**	**-1.2**
UPR	**University Cam**	**0.73**	**54**	P	**Pg**	**06 51 36.1**	**0.0**
UPR				S	**Sb**	**06 51 46.3**	**-0.3**
UPR	**University Cam**	**0.73**	**54**	*e*PB	**Pg**	**06 51 35.8**	**-0.3**
UPR	**University Cam**	**0.73**	**54**	*e*Pb	**Pg**	**06 51 35.8**	**-0.3**
UPR	**University Cam**	**0.73**	**54**	P	**Pg**	**06 51 36.1**	**0.0**
UPR				S	**Sg**	**06 51 46.0**	**+0.4**
PSA1	**Psathopyrgos**	**0.81**	**55**	*e*PB	**Pg**	**06 51 37.2**	**-0.5**
LAKA	**Lakka**	**0.83**	**63**	P	**Pg**	**06 51 37.2**	**-0.9**
LAKA				S	**Sb**	**06 51 50.7**	**+0.9**
LAKA	**Lakka**	**0.83**	**63**	*e*PG	**Pg**	**06 51 37.3**	**-0.9**
LAKA	**Lakka**	**0.83**	**63**	P	**Pg**	**06 51 37.2**	**-0.9**
LAKA				S	**Sb**	**06 51 49.8**	**0.0**
EFP	**Efpalio**	**0.89**	**50**	P	**Pg**	**06 51 38.3**	**-0.8**
EFP				S	**Sb**	**06 51 51.6**	**+0.3**
EFP	**Efpalio**	**0.89**	**50**	*e*PG	**Pg**	**06 51 38.3**	**-0.8**
EFP				*e*SB	**Sg**	**06 51 50.7**	**0.0**
EFP	**Efpalio**	**0.89**	**50**	P	**Pg**	**06 51 38.3**	**-0.8**
EFP				S	**Sg**	**06 51 50.7**	**0.0**
TRIZ	**Trizonia**	**0.96**	**58**	P	**Pg**	**06 51 39.5**	**-1.0**
TRIZ				S	**Sb**	**06 51 53.9**	**+0.6**
TRIZ	**Trizonia**	**0.96**	**58**	*e*PG	**Pg**	**06 51 39.4**	**-1.0**
TRIZ	**Trizonia**	**0.96**	**58**	P	**Pg**	**06 51 39.5**	**-1.0**
TRIZ				S	**Sg**	**06 51 52.7**	**-0.3**
LKD2	**Lefkada island**	**0.97**	**342**	P	**Pg**	**06 51 40.3**	**-0.5**
LKD2				S	**Sn**	**06 51 56.1**	**+0.6**
LKD2	**Lefkada island**	**0.97**	**342**	*e*PB	**Pg**	**06 51 40.3**	**-0.5**
LKD2	**Lefkada island**	**0.97**	**342**	P	**Pg**	**06 51 40.3**	**-0.5**
LKD2				S	**Sn**	**06 51 56.1**	**+0.6**
KALE	**Kalithea**	**1.02**	**58**	P	**Pg**	**06 51 40.4**	**-1.2**
KALE				S	**Sb**	**06 51 56.3**	**+1.2**
KALE	**Kalithea**	**1.02**	**58**	*e*PG	**Pg**	**06 51 40.5**	**-1.2**
KALE				*e*SB	**Sb**	**06 51 55.0**	**-0.1**
KALE	**Kalithea**	**1.02**	**58**	P	**Pg**	**06 51 40.4**	**-1.2**
KALE				*e*Sb	**Sb**	**06 51 55.0**	**-0.1**
KALE				S	**Sg**	**06 51 55.5**	**+0.6**
GUR	**Goura**	**1.03**	**85**	P	**Pg**	**06 51 40.7**	**-1.2**
GUR				S	**Sn**	**06 51 57.3**	**+0.2**
GUR	**Goura**	**1.03**	**85**	*e*PG	**Pg**	**06 51 40.7**	**-1.2**
GUR				*e*SB	**Sb**	**06 51 55.3**	**-0.3**
GUR	**Goura**	**1.03**	**85**	P	**Pg**	**06 51 40.7**	**-1.2**
GUR				*e*Sb	**Sb**	**06 51 55.3**	**-0.3**
GUR				S	**Sg**	**06 51 55.7**	**+0.3**
PYL	**PYLOS**	**1.11**	**150**	P	**Pg**	**06 51 42.5**	**-0.9**
PYL	**PYLOS**	**1.11**	**150**	*e*PB	**Pg**	**06 51 42.5**	**-0.9**
PYL	**PYLOS**	**1.11**	**150**	P	**Pg**	**06 51 42.5**	**-0.9**
VLX	**Vlachokerasia**	**1.17**	**114**	P	**Pg**	**06 51 43.9**	**-0.6**
VLX	**Vlachokerasia**	**1.17**	**114**	*e*PB	**Pg**	**06 51 43.8**	**-0.7**
VLX	**Vlachokerasia**	**1.17**	**114**	P	**Pg**	**06 51 43.9**	**-0.6**
VLX				S	**Sb**	**06 52 00.2**	**+0.7**
EVR	**Evrytania**	**1.22**	**30**	P	**Pg**	**06 51 44.4**	**-1.0**
EVR	**Evrytania**	**1.22**	**30**	*e*PN	**Pg**	**06 51 44.3**	**-1.1**
EVR	**Evrytania**	**1.22**	**30**	*e*Pn	**Pg**	**06 51 44.3**	**-1.1**
EVR	**Evrytania**	**1.22**	**30**	P	**Pg**	**06 51 44.9**	**-0.5**
EVR				S	**Sn**	**06 52 02.7**	**+1.1**
DSF	**Desfina**	**1.30**	**64**	P	**Pg**	**06 51 45.2**	**-1.7**
DSF	**Desfina**	**1.30**	**64**	P	**Pg**	**06 51 45.2**	**-1.7**
DSF				S	**Sg**	**06 52 02.8**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.44**	**36**	P	**Pn**	**06 51 48.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.44**	**36**	P	**Pn**	**06 51 48.5**	**+0.5**
DYR	**Agios Nikonas**	**1.50**	**136**	*e*PB	**Pb**	**06 51 50.0**	**0.0**
DYR	**Agios Nikonas**	**1.50**	**136**	*e*Pb	**Pb**	**06 51 50.0**	**0.0**
LTK	**Loutraki**	**1.53**	**83**	P	**Pn**	**06 51 49.5**	**+0.2**
LTK	**Loutraki**	**1.53**	**83**	*e*PG	**Pn**	**06 51 49.9**	**+0.6**
LTK	**Loutraki**	**1.53**	**83**	P	**Pn**	**06 51 49.5**	**+0.2**
LTK				S	**Sg**	**06 52 12.4**	**+1.1**
AGG	**Agios Georgios**	**1.54**	**41**	P	**Pb**	**06 51 51.0**	**+0.4**
AGG				S	**Sg**	**06 52 12.3**	**+0.7**
AGG	**Agios Georgios**	**1.54**	**41**	*e*PB	**Pb**	**06 51 51.0**	**+0.4**
AGG	**Agios Georgios**	**1.54**	**41**	P	**Pb**	**06 51 51.0**	**+0.4**
AGG				S	**Sg**	**06 52 12.3**	**+0.7**
AXAR	**Agios Charalam**	**1.56**	**54**	P	**Pb**	**06 51 50.8**	**-0.2**
AXAR				S	**Sg**	**06 52 11.9**	**-0.4**
AXAR	**Agios Charalam**	**1.56**	**54**	P	**Pb**	**06 51 50.8**	**-0.2**
AXAR				S	**Sg**	**06 52 11.9**	**-0.4**
LKR	**Lokris**	**1.73**	**62**	P	**Pb**	**06 51 53.7**	**-0.1**
LKR	**Lokris**	**1.73**	**62**	*e*PG	**Pb**	**06 51 53.6**	**-0.2**
LKR	**Lokris**	**1.73**	**62**	P	**Pb**	**06 51 53.7**	**-0.1**
ATAL	**Atalanti**	**1.77**	**61**	P	**Pn**	**06 51 53.7**	**+1.1**
ATAL				S	**Sb**	**06 52 17.1**	**+0.5**
ATAL	**Atalanti**	**1.77**	**61**	P	**Pn**	**06 51 53.7**	**+1.1**
ATAL				S	**Sb**	**06 52 17.1**	**+0.5**
DID	**Didima**	**1.78**	**101**	P	**Pb**	**06 51 54.8**	**+0.2**
DID	**Didima**	**1.78**	**101**	*e*PN	**Pg**	**06 51 55.1**	**-1.0**
DID	**Didima**	**1.78**	**101**	P	**Pb**	**06 51 54.8**	**+0.2**
DID				S	**Sg**	**06 52 19.8**	**+0.6**
THL	**Klokotos Trika**	**1.87**	**24**	P	**Pb**	**06 51 55.9**	**-0.2**
THL	**Klokotos Trika**	**1.87**	**24**	*e*PN	**Pb**	**06 51 56.2**	**+0.1**
THL	**Klokotos Trika**	**1.87**	**24**	P	**Pb**	**06 51 55.9**	**-0.2**
THL	**Klokotos Trika**	**1.87**	**24**	*e*Pn	**Pb**	**06 51 56.2**	**+0.1**
VLI	**Veliai**	**1.90**	**126**	P	**Pb**	**06 51 57.0**	**+0.4**
VLI	**Veliai**	**1.90**	**126**	*e*PG	**Pg**	**06 51 57.2**	**-1.1**
VLI	**Veliai**	**1.90**	**126**	P	**Pb**	**06 51 57.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.94**	**92**	*e*PN	**Pb**	**06 51 57.5**	**+0.1**
ATH	**Athens Observa**	**2.12**	**86**	*e*PN	**Pb**	**06 52 00.1**	**-0.3**
ATH	**Athens Observa**	**2.12**	**86**	*e*Pn	**Pb**	**06 52 00.1**	**-0.3**
KYTH	**Kithira**	**2.24**	**134**	P	**Pb**	**06 52 02.5**	**-0.1**
VAM	**Vamos**	**3.53**	**133**	*e*PN	**Pn**	**06 52 19.1**	**+2.3**
VAM	**Vamos**	**3.53**	**133**	*e*Pn	**Pn**	**06 52 19.1**	**+2.3**
NVLJ	**Novalja**	**8.15**	**327**	*e*Pn	**Pn**	**06 53 20.9**	**+0.7**
NVLJ				Sn	**Sn**	**06 54 48.4**	**-3.8**
NVLJ	**Novalja**	**8.15**	**327**	*e*Pn	**Pn**	**06 53 20.8**	**+0.7**
MLR	**Muntele Rosu**	**8.46**	**24**	Pn	Pn	06 53 29.0	+4.4
	0.1nm,0.3s,baz=131,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**10.01**	**75**	Pn	Pn	06 53 51.4	+5.5
	0.1nm,0.3s,baz=265,slow=12,SNR=3.8						
VYHS	**Vyhne**	**10.75**	**352**	*e*PN	Pn	06 54 04.3	+8.5
VYHS				*e*SN	**Sn**	**06 55 53.5**	**-2.6**
HFS	**Hagfors**	**22.78**	**350**	P	**P**	**06 56 26.6**	**+2.3**
	2.9nm,0.9s,baz=140,slow=12,SNR=6.9						
FINES	**FINESS Array B**	**23.82**	**6**	P	**P**	**06 56 33.5**	**-1.1**
	0.6nm,0.4s,baz=192,slow=20,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.05**	**220**	P	**P**	**06 57 31.9**	**+0.8**
	1.0nm,0.8s,baz=30,slow=8.5,SNR=6.7						
ARCES	**ARCESS Array B**	**31.83**	**3**	P	**P**	**06 57 45.9**	**-0.5**
	1.6nm,0.9s,baz=185,slow=10.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**42.09**	**53**	P	**P**	**06 59 13.3**	**-0.5**
	0.7nm,0.7s,baz=281,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**45.12**	**58**	P	**P**	**06 59 38.0**	**-0.3**
	0.5nm,0.5s,baz=280,slow=8.3,SNR=8.7						
ZALV	**Zalesovo Beam**	**45.60**	**48**	P	**P**	**06 59 40.9**	**-1.1**
	0.8nm,0.4s,baz=272,slow=8.5,SNR=3.3						
YKA	**Yellowknife Ar**	**73.83**	**340**	P	**P**	**07 02 56.3**	**+0.1**
	0.2nm,0.9s,baz=48,slow=5.1,SNR=4.0						

IDC 23 07:15:22.1±2.2,2.94N×126.35E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/21,mbtmp3.5/3,Error ellipse: s-maj=220.3km s-min=27.4km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.05**	**161**	P	P	07 20 39.8	+0.5
	0.6nm,0.5s,baz=341,slow=10,SNR=11						
STKA	**Stephens Creek**	**37.53**	**158**	P	P	07 22 37.7	-0.3
	1.4nm,0.8s,baz=315,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**57.09**	**326**	P	P	07 25 16.4	-0.3
	0.2nm,0.5s,baz=124,slow=8.5,SNR=4.1						

*ISK **23** 07:42:54.7,38.72N×40.30E,h9km,MD3.0*
*ISCJB **23** 07:42:56.9±0.4,38.76N±0.03×40.30E±0.04,h22km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=12.3*
*DDA **23** 07:42:56,38.75N×40.32E,h7km,MD3.0*
*CSEM **23** 07:42:56.3±0.3,38.68N×40.38E,h20km,MD3.0,Error ellipse: s-maj=7.4km s-min=5.9km az=129.0*

ISC 23 07:42:56.8±0.9,38.72N±0.02×40.31E±0.03,h27km±8km, n41,σ1.47/53,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.21**	**42**	*e*Pg	**Pb**	**07 43 03.5**	**+0.5**
BINT				*e*Sg	**Sb**	**07 43 09.1**	**+1.9**
BNGB	**Bing¯¶l**	**0.40**	**47**	*e*PG	**Pb**	**07 43 03.5**	**-2.1**
BNGB				*e*SG	**Sb**	**07 43 09.1**	**-2.4**
PTK	**Pertek**	**0.73**	**284**	*e*PG	**Pb**	**07 43 08.9**	**-2.2**
DIYA	**Diyarbakir**	**0.80**	**190**	*i* P	**Pn**	**07 43 13.0**	**+0.6**
DIYA				*i* S	**Sn**	**07 43 25.0**	**+1.5**
DIYA	**Diyarbakir**	**0.80**	**190**	*i* P	**Pn**	**07 43 13.0**	**+0.6**
DIYA				*i* S	**Sn**	**07 43 25.0**	**+1.5**
DIY	**Diyarbakir**	**0.82**	**184**	*e*PG	**Pb**	**07 43 10.8**	**-1.7**
DIY	**Diyarbakir**	**0.82**	**184**	*e*Pg	**Pb**	**07 43 10.8**	**-1.7**
SVRC	**Sivrice-ELAZID**	**0.85**	**247**	*e*PG	**Pb**	**07 43 11.6**	**-1.5**
SVRC	**Sivrice-ELAZID**	**0.85**	**247**	*e*Pg	**Pb**	**07 43 11.6**	**-1.5**
ERZN	**Erzincan**	**0.98**	**333**	*e*PG	**Pb**	**07 43 13.8**	**-1.4**
VRTB	**Varto-Mus**	**1.00**	**63**	*e*PG	**Pb**	**07 43 14.4**	**-1.2**
VRTB	**Varto-Mus**	**1.00**	**63**	*e*Pg	**Pb**	**07 43 14.4**	**-1.2**
ELZG	**Elazig**	**1.06**	**259**	*i* P	**Pn**	**07 43 16.0**	**0.0**
ELZG				*i* S	**Sn**	**07 43 32.2**	**+2.3**
ELZG	**Elazig**	**1.06**	**259**	*i* P	**Pn**	**07 43 16.0**	**0.0**
ELZG				*i* S	**Sn**	**07 43 32.2**	**+2.3**
BTMT	**Batman**	**1.07**	**119**	*e*PG	**Pn**	**07 43 14.2**	**-1.8**
BTMT	**Batman**	**1.07**	**119**	*e*Pg	**Pn**	**07 43 14.2**	**-1.8**
BEST	**Besiri**	**1.12**	**137**	*i* P	**Pb**	**07 43 18.4**	**+0.9**
BEST				*i* S	**Sn**	**07 43 33.9**	**+2.5**
KOPT	**Kop Dagi**	**1.31**	**6**	*i* P	**Pb**	**07 43 20.1**	**-0.8**
KOPT				*i* S	**Sb**	**07 43 38.7**	**+1.3**
KOPT	**Kop Dagi**	**1.31**	**6**	*i* P	**Pb**	**07 43 20.1**	**-0.8**
KOPT				*i* S	**Sb**	**07 43 38.7**	**+1.3**
EZM	**Erzurum**	**1.44**	**34**	*e*PN	**Pn**	**07 43 21.3**	**-0.1**
MARD	**Mardin**	**1.45**	**165**	*i* P	**Pb**	**07 43 23.4**	**+0.2**
MARD				*i* S	**Sb**	**07 43 42.9**	**+1.7**
KEMA	**Kemaliye**	**1.52**	**292**	*i* P	**Pn**	**07 43 20.1**	**-2.1**
KEMA	**Kemaliye**	**1.52**	**292**	*i* P	**Pn**	**07 43 20.1**	**-2.1**
MYA	**Malataya**	**1.52**	**256**	*e*PN	**Pn**	**07 43 22.5**	**+0.1**
MYA	**Malataya**	**1.52**	**256**	*e*Pn	**Pn**	**07 43 22.5**	**+0.1**
MALT	**Malatya**	**1.53**	**255**	*e*PN	**Pb**	**07 43 23.1**	**-1.4**
MALT	**Malatya**	**1.53**	**255**	*e*Pn	**Pb**	**07 43 23.1**	**-1.4**
KELT	**Kelkit**	**1.65**	**331**	*i* P	**Pb**	**07 43 25.3**	**-1.3**
KELT				*i* S	**Sn**	**07 43 45.6**	**+1.1**
KELT	**Kelkit**	**1.65**	**331**	*i* P	**Pb**	**07 43 25.3**	**-1.3**
KELT				*i* S	**Sn**	**07 43 45.6**	**+1.1**
BAYT	**Ayd¯¬ntepe-Bay**	**1.68**	**356**	*e*PN	**Pn**	**07 43 24.7**	**+0.1**
BAYT	**Ayd¯¬ntepe-Bay**	**1.68**	**356**	*e*Pn	**Pn**	**07 43 24.7**	**+0.1**
URFA	**Urfa**	**1.73**	**223**	*e*PN	**Pb**	**07 43 26.1**	**-1.7**
URFA	**Urfa**	**1.73**	**223**	*e*Pn	**Pb**	**07 43 26.2**	**-1.7**
GUMT	**Gumushane**	**1.85**	**340**	*e*PN	**Pn**	**07 43 27.8**	**+0.8**
GUMT	**Gumushane**	**1.85**	**340**	*e*Pn	**Pn**	**07 43 27.8**	**+0.8**
AKCD	**Akcadag**	**1.92**	**258**	*i* P	**Pb**	**07 43 31.1**	**0.0**
AKCD	**Akcadag**	**1.92**	**258**	*i* P	**Pb**	**07 43 31.1**	**0.0**
AGRB	**Hanur-Agry**	**2.26**	**67**	*e*PN	**Pn**	**07 43 33.0**	**+0.5**
AGRB	**Hanur-Agry**	**2.26**	**67**	*e*Pn	**Pn**	**07 43 33.0**	**+0.5**
BHD	**Baghdad**	**6.36**	**147**	*e*Pn	Pn	07 44 24.6	-4.1
BHD				*e*Sn	**Sn**	**07 45 38.3**	**-2.1**
BHD	**Baghdad**	**6.36**	**147**	*e*Pn	Pn	07 44 24.6	-4.1
BHD				*e*Sn	**Sn**	**07 45 38.3**	**-2.1**

*ISCJB **23** 08:06:32.5±0.4,33.32N±0.02×115.78W±0.03,h7km±5km, Error ellipse: s-maj=4.8km s-min=4.0km az=178.6*
*NEIC **23** 08:06:33.8,33.31N×115.74W,h5km,ML2.9(PAS),After PAS.*
NEIC Felt at Bombay Beach and in the Salton Sea area.
*ECX **23** 08:06:34.2±0.7,33.31N×115.74W,h6km,MD3.1,ML3.2*

ISC 23 08:06:33.6±1.0,33.29N±0.02×115.77W±0.03,h12km±9km, n19,σ1.02/31,1C-9D,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRK	**Frink**	**0.16**	**43**	⇓*i*P	**Pg**	**08 06 36.5**	**-0.7**
HAY	**Hayfield**	**0.42**	**9**	⇓*i*P	**Pg**	**08 06 41.5**	**-0.4**
CRR	**Carrizo Plain**	**0.43**	**203**	⇓*i*P	**Pg**	**08 06 42.5**	**+0.4**
COK	**Cook Ranch**	**0.44**	**176**	⇓*i*P	**Pg**	**08 06 42.5**	**+0.3**
SGL	**Mount Signal**	**0.64**	**177**	⇓*i*P	**Pg**	**08 06 45.6**	**-0.4**
YUH	**Yuha Desert**	**0.65**	**192**	⇓*i*P	**Pg**	**08 06 46.6**	**+0.3**
PFO	**Pinyon Flat Ob**	**0.66**	**299**	*e*Pg	**Pg**	**08 06 46.0**	**-0.4**
PFO				*e*Sg	**Sg**	**08 06 55.0**	**-0.1**
RMX	**La Rumorosa**	**0.73**	**201**	*e*P	**Pg**	**08 06 47.4**	**-0.4**
RMX				*e*S	**Sg**	**08 06 57.7**	**+0.3**
GLA	**Glamis**	**0.82**	**106**	*e*Pg	**Pg**	**08 06 48.0**	**-1.5**
GLA				*e*Sg	**Sg**	**08 07 00.3**	**+0.1**
GLA	**Glamis**	**0.82**	**106**	⇑*i*P	**Pg**	**08 06 48.6**	**-0.9**
BAR	**Barrett**	**0.97**	**232**	*e*Pg	**Pg**	**08 06 51.7**	**-0.6**
BAR				*e*Sg	**Sg**	**08 07 05.2**	**+0.2**
CBX	**Cerro Bola**	**1.23**	**218**	*e*P	**Pn**	**08 06 55.6**	**-1.1**
CBX				*e*S	**Sg**	**08 07 12.7**	**-0.5**
CBX				⇓*e*		08 07 14.8	
	comp=N,562nm,0.6s						
CBX				⇓*e*		08 07 16.4	
	comp=E,662nm,0.5s						
RDX	**Rancho Dawling**	**1.36**	**186**	*e*P	**Pn**	**08 06 57.1**	**-1.6**
RDX				*e*S	**Sb**	**08 07 16.5**	**-0.1**
RDX				⇓*e*		08 07 17.1	
	comp=E,344nm,0.4s						
PBX	**Punta Banda**	**1.74**	**208**	*e*P	**Pn**	**08 07 03.8**	**+0.2**
PBX				*e*S	**Sn**	**08 07 27.4**	**+1.7**
ECNX	**Esteban Cantu**	**1.77**	**204**	*e*P	**Pn**	**08 07 04.7**	**+0.5**
ECNX				*e*S	**Sn**	**08 07 24.1**	**-2.6**
ECNX				*e*S	**Sb**	**08 07 28.2**	**0.0**
LDFC	**Landfair**	**1.87**	**17**	*e*Pg	**Pb**	**08 07 08.7**	**+1.0**
LDFC				*e*Sg	**Sg**	**08 07 35.7**	**+2.0**
GSC	**Goldstone**	**2.19**	**337**	*e*Pg	**Pb**	**08 07 14.0**	**+0.9**
GSC				*e*Sg	**Sg**	**08 07 44.1**	**+0.3**
SPX	**San Pedro Mart**	**2.25**	**173**	*e*PN	**Pn**	**08 07 12.1**	**+1.2**
ISA	**Isabella**	**3.26**	**317**	*e*Pg	**Pg**	**08 07 35.3**	**-0.7**
ISA				*e*Sg	**Sg**	**08 08 17.1**	**-1.1**

IDC 23 08:14:58.4±10.0,60.50N×152.12W,h0km,mb1 2.6/1, mb1mx2.5/25,mbtmp2.2/1,ML2.0/1,Error ellipse: s-maj=108.1km s-min=29.6km az=23.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**4.92**	**27**	P	Pn	08 16 09.3	-4.1
	0.0nm,0.3s,baz=212,slow=15,SNR=3.5						

*NNC **23** 08:25:42.8±5.4,36.54N×69.22E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=55.6km s-min=33.9km az=173.0*
*IDC **23** 08:25:44.8±1.0,36.65N×69.51E,h0km,mb3.8/10, mb1 3.9/15,mb1mx3.8/31,mbtmp3.8/15,ML3.5/5,MS3.2/2, Ms1 3.2/2,ms1mx2.5/49,Error ellipse: s-maj=20.2km s-min=15.8km az=140.0*
*ISCJB **23** 08:25:50.1±0.5,37.00N±0.04×69.25E±0.08,h37km, mb3.7/9,MS3.4/1,Error ellipse: s-maj=8.8km s-min=6.0km az=171.5*

ISC 23 08:25:51.5±0.7,36.87N±0.07×69.37E±0.08,h37km,n28, σ1.57/27,mb3.7/9,4C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.68**	**145**	P	**Pn**	**08 26 48.8**	**+2.9**
CEP				S	Sn	08 27 34.0	+5.9
THW	**Thamme Wali**	**4.51**	**154**	P	**Pn**	**08 26 59.1**	**+1.9**
AML	**Almayashu**	**6.23**	**31**	P	**Pn**	**08 27 22.1**	**+0.9**
	SNR=12						
KK31	**Karatay Array**	**6.29**	**8**	⇑Pn	**Pn**	**08 27 22.0**	**+0.3**
	2.1nm,0.5s,baz=181,slow=12,SNR=7.1						
KK31				⇑Lg	Lg	08 29 11.5	
	3.8nm,0.5s,baz=187,slow=28						
KZA	**Kyzart**	**6.91**	**39**	P	**Pn**	**08 27 31.3**	**+0.8**
	SNR=7.7						
AAK	**Ala-Archa**	**6.98**	**33**	Pn	**Pn**	**08 27 32.4**	**+1.1**
	1.7nm,0.3s,baz=205,slow=8.9,SNR=35						
AAK				Sn	**Sn**	**08 28 51.5**	**+2.0**
	0.7nm,0.3s,baz=230,slow=21,SNR=3.8						
AAK				LR	LR	08 30 41.5	
	comp=Z,84nm,18.5s,baz=214,slow=42						
AAK	**Ala-Archa**	**6.98**	**33**	P	**Pn**	**08 27 32.5**	**+1.2**
	SNR=12						
CHMS	**Chumysh**	**7.39**	**32**	P	**Pn**	**08 27 37.5**	**+0.7**
	SNR=10						
USP	**Ospenovka**	**7.51**	**30**	P	**Pn**	**08 27 38.6**	**+0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.71**	**36**	⇓Pn	**Pn**	**08 27 41.7**	**+0.4**
	4.3nm,0.6s						
TKM2				⇑Lg	Lg	08 30 00.8	
	2.8nm,0.7s						
TKM2	**Tokmak 2**	**7.71**	**36**	P	**Pn**	**08 27 42.0**	**+0.6**
	SNR=9.3						
MKAR	**Makanchi Array**	**13.81**	**40**	Pn	**Pn**	**08 29 03.7**	**-0.9**
	0.1nm,0.3s,baz=221,slow=14,SNR=6.0						
AB31	**Akbulak array**	**14.15**	**334**	P	Pn	08 29 05.9	-3.3
	2.2nm,0.5s,baz=155,slow=13,

IDC 23 08:48:42.4±0.6, 27°62N×140°67E, h22km±3km, mb3.7/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.6/9, ML3.2/1, MS3.2/3, Ms1 3.3/3, ms1mx2.6/43, Error ellipse: s-maj=16.4km s-min=16.1km az=17.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.45**	**111**	Pn	Pn	08 49 06.6	-0.6
	91nm,0.3s,baz=285,slow=21,SNR=23						
CBIJ				Sn	Sn	08 49 25.0	-0.6
	418nm,0.3s,baz=307,slow=23,SNR=44						
MJAR	**Matsushiro Arr**	**9.13**	**347**	Pn	Pn	08 50 52.8	-0.2
	0.2nm,0.3s,baz=163,slow=15,SNR=2.9						
KSRS	**Korea Array**	**14.54**	**316**	Pn	P	08 52 13.4	+0.3
	0.4nm,0.3s,baz=124,slow=10,SNR=9.1						
USRK	**Ussuriysk Arra**	**17.95**	**339**	LR	LR	08 59 21.7	
	comp=Z,42nm,21.4s,baz=165,slow=36						
SONM	**Songino Array**	**33.40**	**316**	P	P	08 55 18.8	-0.7
	0.5nm,0.9s,baz=104,slow=6.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**39.31**	**266**	P	P	08 56 10.1	0.0
	0.5nm,0.3s,baz=83,slow=12,SNR=2.4						
CMAR				pP	pP	08 56 16.8	+0.1
	0.3nm,0.3s,baz=76,slow=7.0,SNR=1.8						
CMAR				LR	LR	09 12 11.8	
	comp=Z,41nm,20.9s,baz=200,slow=36						
WRA	**Warramunga Arr**	**47.68**	**188**	P	P	08 57 17.2	-0.2
	1.3nm,0.7s,baz=9.6,slow=8.4,SNR=15						
WRA				pP	pP	08 57 23.8	-0.3
	2.3nm,0.7s,baz=8.7,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**47.73**	**199**	pP	pP	08 57 23.7	-0.8
	1.8nm,0.7s,baz=276,slow=1.4,SNR=3.3						
FITZ				LR	LR	09 14 54.7	
	comp=Z,56nm,20.2s,baz=89,slow=33						
MKAR	**Makanchi Array**	**49.10**	**309**	P	P	08 57 27.6	-0.6
	0.6nm,0.8s,baz=102,slow=7.3,SNR=5.2						
ASAR	**Alice Springs**	**51.41**	**188**	pP	pP	08 57 51.4	-1.1
	0.3nm,0.7s,baz=355,slow=5.1,SNR=2.7						
ILAR	**Eielson Array**	**57.90**	**29**	P	P	08 58 32.4	0.0
	1.8nm,0.9s,baz=260,slow=5.8,SNR=13						
ILAR				pP	pP	08 58 38.8	-0.5
	3.0nm,1.0s,baz=260,slow=5.6,SNR=11						
STKA	**Stephens Creek**	**59.18**	**179**	pP	pP	08 58 47.3	-1.2
	1.2nm,0.7s,baz=357,slow=12,SNR=2.3						
YKA	**Yellowknife Ar**	**72.32**	**28**	P	P	09 00 05.8	-0.3
	0.8nm,0.9s,baz=298,slow=5.5,SNR=13						
YKA				pP	pP	09 00 12.6	-0.5
	1.2nm,0.8s,baz=292,slow=5.3,SNR=15						
FINES	**FINESS Array B**	**76.88**	**333**	pP	pP	09 00 37.1	-2.4
	1.2nm,0.9s,baz=32,slow=8.2,SNR=2.0						
PDAR	**Pinedale Array**	**84.78**	**44**	P	P	09 01 16.1	+0.6
	1.3nm,1.1s,baz=318,slow=2.0,SNR=4.9						
PDAR				pP	pP	09 01 22.6	0.0
	1.8nm,1.0s,baz=270,slow=3.1,SNR=8.7						
TXAR	**Lajitas Array**	**96.36**	**52**	P	P	09 02 11.2	+1.1
	0.5nm,0.8s,baz=318,slow=3.5,SNR=6.5						
TXAR				pP	pP	09 02 18.1	+0.9
	1.7nm,0.8s,baz=301,slow=3.1,SNR=16						
LPAZ	**La Paz**	**151.08**	**73**	PKPbc	PKPbc	09 08 35.0	-0.3
	0.7nm,0.7s,baz=71,slow=7.3,SNR=3.5						
LPAZ				pPKPbc	pPKPbc	09 08 42.5	-0.1
	4.0nm,0.8s,baz=329,slow=2.2,SNR=12						
PLCA	**Paso Flores**	**151.21**	**125**	pPKPbc	pPKPbc	09 08 41.2	-0.3
	1.5nm,0.6s,baz=274,slow=5.6,SNR=4.6						

*NIED **23** 08:50:00.27˝40N×140˝70E, h5km, Mw4.1 Best double couple: M0 1.42000×10^15 NP1:ϕs344.00000°, δ62.00000°, λ-76.00000°. NP2:ϕs135.00000°, δ31.00000°, λ-115.00000°.*

*ISCJB **23** 08:51:00.1±0.5, 27°51N±0°06×140°56E±0°07, h33km, mb4.2/17, Error ellipse: s-maj=10.7km s-min=6.7km az=142.9*

*NEIC **23** 08:51:00.5±0.3, 27°52N×140°62E, mb4.5/4, MW4.0(NIED), Error ellipse: s-maj=10.8km s-min=7.1km az=75.0*

*IDC **23** 08:51:00.3±0.6, 27°59N×140°62E, h22km±3km, mb3.8/11, mb1 4.0/11, mb1mx3.9/22, mbtmp3.8/11, MS3.4/2, Ms1 3.4/2, ms1mx2.6/42, Error ellipse: s-maj=18.7km s-min=14.2km az=94.0*

ISC 23 08:51:01.4±0.5, 27°48N±0°07×140°66E±0°08, h35km, h35km:pP-P, n43, σ1§81/58, mb4.2/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.41**	**105**	Pn	Pn	**08 51 24.9**	**+0.4**
	20nm,0.3s,baz=143,slow=17,SNR=6.5						
CBIJ				Sn	**Sn**	**08 51 43.5**	**+1.6**
	576nm,0.3s,baz=306,slow=23,SNR=14						
CBIJ	**Chichi jima**	**1.41**	**105**	Pn	**Pn**	**08 51 24.9**	**+0.4**
CBIJ				Sn	**Sn**	**08 51 43.5**	**+1.6**
MJAR	**Matsushiro Arr**	**9.27**	**348**	Pn	**Pn**	**08 53 13.7**	**+1.1**
	0.3nm,0.3s,baz=158,slow=12,SNR=4.2						
MJAR				LR	LR	08 56 27.7	
	comp=Z,141nm,18.0s,baz=220,slow=36						
MJAR	**Matsushiro Arr**	**9.27**	**348**	Pn	**Pn**	**08 53 13.7**	**+1.1**
MAJO	**Matsushiro**	**9.27**	**348**	*e*Pn	**Pn**	**08 53 12.7**	**+0.1**
MAJO				*e*Sn	**Sn**	**08 54 58.7**	**+3.0**
JOW	**Kunigami**	**11.05**	**269**	LR	LR	08 57 03.2	
	comp=Z,232nm,18.1s,baz=95,slow=33						
KSRS	**Korea Array**	**14.63**	**316**	Pn	**P**	**08 54 33.4**	**+1.7**
	0.3nm,0.3s,baz=121,slow=12,SNR=9.2						
KSAR	**Wonju Array Be**	**14.65**	**316**	Pn	**P**	**08 54 33.4**	**+1.5**
SONM	**Songino Array**	**33.50**	**317**	P	**P**	**08 57 37.0**	**-0.6**
	0.6nm,0.8s,baz=112,slow=16,SNR=4.5						
SONM	**Songino Array**	**33.50**	**317**	P	**P**	**08 57 37.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**39.30**	**266**	P	P	08 58 31.5	+4.3
	2.6nm,0.7s,baz=19,slow=4.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**39.30**	**266**	P	P	08 58 31.5	+4.3
WRAB	**Tennant Creek**	**47.53**	**188**	*e*P	**P**	**08 59 35.0**	**+1.5**
	1.7nm,0.6s						
WRAB				*e*pP	**pP**	**08 59 42.0**	**-1.9**
WRA	**Warramunga Arr**	**47.54**	**188**	P	**P**	**08 59 34.8**	**+1.3**
	1.8nm,0.6s,baz=9.8,slow=8.6,SNR=7.0						
WRA				pP	**pP**	**08 59 41.9**	**-2.0**
	3.5nm,0.6s,baz=9.4,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	**47.54**	**188**	P	**P**	**08 59 34.8**	**+1.3**
WRA				pP	**pP**	**08 59 41.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**47.60**	**200**	pP	pP	08 59 42.7	-1.6
	1.4nm,0.8s,baz=330,slow=8.7,SNR=2.5						
FITZ	**Fitzroy Crossi**	**47.60**	**200**	pP	pP	08 59 42.7	-1.6
MKAR	**Makanchi Array**	**49.19**	**309**	P	**P**	**08 59 45.7**	**-0.4**
	0.5nm,0.7s,baz=90,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**49.19**	**309**	P	**P**	**08 59 45.7**	**-0.4**
ASAR	**Alice Springs**	**51.27**	**188**	P	**P**	**09 00 03.0**	**+1.1**
	0.3nm,0.7s,baz=16,slow=6.5,SNR=3.9						
ASAR				pP	**pP**	**09 00 09.5**	**-3.0**
	0.4nm,0.6s,baz=356,slow=5.6,SNR=3.8						
ASAR	**Alice Springs**	**51.27**	**188**	P	**P**	**09 00 03.0**	**+1.1**
ASAR				pP	**pP**	**09 00 09.5**	**-3.0**
KKAR	**Karatay Array**	**57.76**	**305**	*e*P	**P**	**09 00 49.1**	**+0.1**
	5.0nm,1.0s						
ILAR	**Eielson Array**	**58.02**	**29**	P	**P**	**09 00 50.3**	**-0.2**
	1.8nm,0.9s,baz=263,slow=6.0,SNR=11						
ILAR				pP	**pP**	**09 00 57.2**	**-3.9**
	2.0nm,0.9s,baz=248,slow=5.7,SNR=8.6						
ILAR	**Eielson Array**	**58.02**	**29**	P	**P**	**09 00 50.3**	**-0.2**
ILAR				pP	**pP**	**09 00 57.2**	**-3.9**
STKA	**Stephens Creek**	**59.03**	**179**	P	**P**	**09 00 58.9**	**+1.1**
	1.1nm,0.7s,baz=331,slow=17,SNR=3.8						
STKA	**Stephens Creek**	**59.03**	**179**	P	**P**	**09 00 58.9**	**+1.1**
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**09 02 23.8**	**-0.1**
	1.0nm,0.9s,baz=294,slow=5.6,SNR=11						
YKA				pP	**pP**	**09 02 31.0**	**-3.8**
	1.0nm,0.6s,baz=296,slow=6.3,SNR=13						
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**09 02 23.8**	**-0.1**
YKA				pP	**pP**	**09 02 31.0**	**-3.8**
RRI2	**Red Ridge**	**83.48**	**44**	*e*P	**P**	**09 03 28.0**	**+2.0**
	2.1nm,0.7s						
BRTR	**Keskin Array B**	**84.75**	**312**	P	**P**	**09 03 32.2**	**-0.1**
	0.9nm,0.8s,baz=343,slow=1.3,SNR=4.2						
BRTR	**Keskin Array B**	**84.75**	**312**	P	**P**	**09 03 32.2**	**-0.1**
PDAR	**Pinedale Array**	**84.88**	**44**	P	**P**	**09 03 33.5**	**+0.4**
	0.7nm,0.8s,baz=225,slow=0.8,SNR=4.5						
PDAR				pP	**pP**	**09 03 40.7**	**-3.4**
	1.5nm,0.9s,baz=298,slow=3.2,SNR=5.5						
PDAR	**Pinedale Array**	**84.88**	**44**	P	**P**	**09 03 33.5**	**+0.4**
PDAR				pP	**pP**	**09 03 40.7**	**-3.4**
MORC	**Moravsky Berou**	**88.01**	**327**	*e*P	**P**	**09 03 48.0**	**0.0**
	9.2nm,0.6s						
ANMO	**Albuquerque**	**91.26**	**49**	P	**P**	**09 04 04.6**	**+0.9**
	0.7nm,0.6s,baz=280,slow=7.0,SNR=4.2						
ANMO	**Albuquerque**	**91.26**	**49**	P	**P**	**09 04 04.6**	**+0.9**
TXAR	**Lajitas Array**	**96.45**	**52**	P	**P**	**09 04 29.4**	**+1.9**
	0.8nm,0.9s,baz=300,slow=3.6,SNR=8.2						
TXAR				pP	**pP**	**09 04 36.3**	**-2.4**
	1.4nm,0.7s,baz=305,slow=1.3,SNR=16						
TXAR	**Lajitas Array**	**96.45**	**52**	P	**P**	**09 04 29.4**	**+1.9**
TXAR				pP	**pP**	**09 04 36.3**	**-2.4**
GLMI	**Grayling**	**97.03**	**31**	*e*P	P	09 04 26.4	-3.4
	46nm,0.7s						
LPAZ	**La Paz**	**151.12**	**73**	PKPbc	**PKPbc**	**09 10 53.8**	**+1.4**
	1.7nm,0.8s,baz=298,slow=4.7,SNR=4.1						
LPAZ				pPKPbc	**PKPab**	**09 11 00.3**	**+0.2**
	2.2nm,0.6s,baz=319,slow=4.2,SNR=8.2						
LPAZ	**La Paz**	**151.12**	**73**	*e*PKPbc	**PKPbc**	**09 10 53.5**	**+1.2**
LPAZ				PKPbc	**PKPbc**	**09 10 53.8**	**+1.4**
LPAZ				pPKPbc	**PKPab**	**09 11 00.3**	**+0.2**
PLCA	**Paso Flores**	**151.14**	**125**	PKPbc	**PKPbc**	**09 10 52.0**	**+0.9**
	0.8nm,0.7s,baz=303,slow=7.0,SNR=2.8						
PLCA				pPKPbc	**PKPab**	**09 11 00.3**	**+1.4**
	2.2nm,0.7s,baz=256,slow=5.5,SNR=5.5						
PLCA	**Paso Flores**	**151.14**	**125**	PKPbc	**PKPbc**	**09 10 52.0**	**+0.9**
PLCA				pPKPbc	**PKPab**	**09 11 00.3**	**+1.4**

*ISK **23** 09:06:31.5, 37°25N×28°22E, h7km, MD2.2*
*DDA **23** 09:06:31.7, 37°23N×28°15E, h7km, MD2.6*
*ISCJB **23** 09:06:32.1±0.5, 37°24N±0°03×28°20E±0°04, h0km, Error ellipse: s-maj=5.2km s-min=3.6km az=31.1*
*CSEM **23** 09:06:32.0±0.2, 37°25N×28°22E, h1km, MD2.2, Error ellipse: s-maj=5.4km s-min=3.6km az=36.0*

ISC 23 09:06:31.2±0.9, 37°24N±0°03×28°22E±0°03, h0km, n16, σ1§24/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.12**	**155**	*e*PG	**Pg**	**09 06 34.2**	**+0.7**
YER				*e*SG	**Sg**	**09 06 37.3**	**+2.3**
YER	**Yerkesik**	**0.12**	**155**	*e*Pg	**Pg**	**09 06 34.2**	**+0.7**
YER				*e*Sg	**Sg**	**09 06 37.3**	**+2.3**
MLSB	**Milas**	**0.36**	**279**	*e*PG	**Pg**	**09 06 38.5**	**+0.4**
MLSB				*e*SG	**Sg**	**09 06 44.6**	**+1.9**
MLSB	**Milas**	**0.36**	**279**	*e*Pg	**Pg**	**09 06 38.5**	**+0.4**
MLSB				*e*Sg	**Sg**	**09 06 44.6**	**+1.9**
TURN	**Turunc**	**0.48**	**140**	*i* P	**Pg**	**09 06 40.5**	**+0.1**
TURN				*i* S	**Sb**	**09 06 48.1**	**-2.0**
TURN	**Turunc**	**0.48**	**140**	*i* P	**Pg**	**09 06 40.5**	**+0.1**
TURN				*i* S	**Sb**	**09 06 48.1**	**-2.0**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**09 06 41.4**	**+0.6**
AYDN				*i* S	**Sg**	**09 06 48.6**	**+1.3**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**09 06 41.4**	**+0.6**
AYDN				*i* S	**Sg**	**09 06 48.6**	**+1.3**
BODT	**Bodrum**	**0.75**	**256**	*e*PG	**Pb**	**09 06 46.3**	**-0.9**
BODT				*e*SG	**Sb**	**09 06 57.2**	**-0.8**
BODT	**Bodrum**	**0.75**	**256**	*e*Pg	**Pb**	**09 06 46.3**	**-0.9**
BODT				*e*Sg	**Sb**	**09 06 57.2**	**-0.8**
DNZL	**Cakiroluk**	**0.79**	**56**	*e*P	**Pb**	**09 06 48.4**	**+0.3**
DNZL				*e*S	**Sn**	**09 07 01.1**	**-1.5**
DNZL	**Cakiroluk**	**0.79**	**56**	*e*P	**Pb**	**09 06 48.4**	**+0.3**
DNZL				*e*S	**Sn**	**09 07 01.1**	**-1.5**
FETY	**Fethiye**	**0.92**	**131**	*e*PG	**Pb**	**09 06 50.2**	**+0.1**
FETY	**Fethiye**	**0.92**	**131**	*e*Pg	**Pb**	**09 06 50.2**	**+0.1**
KULA	**Kula-Manisa**	**1.32**	**15**	*e*PN	**Pb**	**09 06 56.7**	**-0.2**
KULA	**Kula-Manisa**	**1.32**	**15**	*e*Pn	**Pb**	**09 06 56.7**	**-0.2**

IDC 23 09:20:56.5±1.2, 9°49N×57°90E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, MS3.6/1, Ms1 3.4/1, ms1mx2.5/39, Error ellipse: s-maj=41.0km s-min=24.8km az=20.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**37.07**	**328**	P	P	09 28 08.8	+0.1
	0.5nm,0.9s,baz=176,slow=7.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**40.73**	**73**	P	P	09 28 41.3	+1.8
	0.6nm,0.3s,baz=261,slow=8.7,SNR=7.9						
BOSA	**Boshof**	**49.28**	**219**	LR	LR	09 50 58.4	
	comp=Z,57nm,19.8s,baz=325,slow=37						
ZALV	**Zalesovo Beam**	**49.30**	**21**	P	P	09 29 45.5	-1.7
	1.0nm,0.5s,baz=227,slow=8.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**55.14**	**279**	P	P	09 30 31.7	+0.5
	1.8nm,1.2s,baz=92,slow=7.8,SNR=6.8						
WRA	**Warramunga Arr**	**80.67**	**117**	P	P	09 33 11.2	-0.8
	0.8nm,1.1s,baz=293,slow=4.5,SNR=4.7						
ASAR	**Alice Springs**	**81.18**	**116**	P	P	09 33 14.2	-0.5
	0.4nm,0.9s,baz=293,slow=4.9,SNR=5.6						

*NIED **23** 09:36:00.27˝60N×140˝60E, h5km, Mw4.2 Best double couple: M0 2.14000×10^15 NP1:ϕs344.00000°, δ60.00000°, λ-81.00000°. NP2:ϕs148.00000°, δ31.00000°, λ-105.00000°.*

IDC 23 09:36:24.4±0.7, 27°59N×140°62E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.7/10, MS3.7/3, Ms1 3.7/3, ms1mx2.9/44, Error ellipse: s-maj=21.1km s-min=16.8km az=60.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.48**	**109**	Pn	Pn	09 36 52.0	-0.3
	55nm,0.3s,baz=292,slow=19,SNR=30						
CBIJ				Sn	Sg	09 37 11.4	-0.5
	282nm,0.3s,baz=312,slow=23,SNR=42						
MJAR	**Matsushiro Arr**	**9.16**	**348**	Pn	Pn	09 38 38.4	+0.5
	baz=163,slow=13,SNR=3.3						
JOW	**Kunigami**	**11.01**	**269**	LR	LR	09 42 55.5	
	comp=Z,2μm,18.7s,baz=349,slow=36						
GUMO	**Guam**	**14.48**	**163**	LR	LR	09 44 27.3	
	comp=Z,52nn,19.1s,baz=138,slow=33						
KSRS	**Korea Array**	**14.53**	**316**	Pn	P	09 39 58.9	+0.7
	0.1nm,0.3s,baz=119,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**47.64**	**188**	P	P	09 45 02.0	-0.5
	0.8nm,0.7s,baz=9.0,slow=8.5,SNR=15						
CTA	**Charters Tower**	**47.70**	**173**	LR	LR	10 06 14.0	
	comp=Z,52nn,18.1s,baz=268,slow=38						
MKAR	**Makanchi Array**	**49.09**	**309**	P	P	09 45 12.7	-0.8
	1.1nm,1.1s,baz=88,slow=7.9,SNR=5.2						
ASAR	**Alice Springs**	**51.36**	**188**	P	P	09 45 31.5	+0.6
	0.4nm,1.0s,baz=2.9,slow=5.6,SNR=3.5						
BVAR	**Borovoye Array**	**56.74**	**317**	P	P	09 46 09.2	-0.7
	0.3nm,0.4s,baz=103,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**57.95**	**29**	P	P	09 46 17.6	-0.7
	1.9nm,1.1s,baz=243,slow=8.0,SNR=5.4						
INK	**Inuvik**	**63.17**	**25**	P	P	09 46 54.1	+0.4
	0.7nm,0.5s,baz=323,slow=6.9,SNR=9.0						
YKA	**Yellowknife Ar**	**72.37**	**28**	P	P	09 47 51.7	-0.2
	0.8nm,0.9s,baz=293,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**84.84**	**44**	P	P	09 49 01.6	+0.2
	0.6nm,0.9s,baz=270,slow=1.2,SNR=4.3						
TXAR	**Lajitas Array**	**96.42**	**52**	P	P	09 49 56.9	+0.9
	0.3nm,0.8s,baz=303,slow=3.1,SNR=4.4						
LPAZ	**La Paz**	**151.13**	**73**	PKPbc	PKPbc	09 56 21.9	+0.8
	1.1nm,0.8s,baz=315,slow=1.4,SNR=3.5						
LPAZ				PKPab	PKPab	09 56 28.3	-0.4
	1.5nm,0.7s,baz=322,slow=2.2,SNR=6.4						
PLCA	**Paso Flores**	**151.23**	**125**	PKPab	PKPab	09 56 26.8	-1.1
	1.6nm,0.7s,baz=235,slow=4.9,SNR=6.1						

IDC 23 09:41:01.6±14.0, 60°25N×152°32W, h0km, mb1 3.0/1, mb1mx2.8/25, mbtmp2.6/1, ML2.4/1, Error ellipse: s-maj=151.7km s-min=30.5km az=22.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**5.19**	**27**	Pn	Pn	09 42 16.0	-4.5
	0.1nm,0.3s,baz=213,slow=15,SNR=4.2						

IDC 23 09:48:32.0±2.1, 60°02N×152°71W, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=36.3km s-min=15.6km az=104.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.25**	**178**	Pn	Pn	09 49 10.0	-0.4
	0.8nm,0.3s,baz=37,slow=14,SNR=3.4						
ILAR	**Eielson Array**	**5.48**	**27**	Pn	Pn	09 49 50.6	-4.3
	0.1nm,0.3s,baz=212,slow=13,SNR=5.2						
ILAR				Sn	Sn	09 50 51.7	-6.9
	0.1nm,0.3s,baz=212,slow=20,SNR=4.3						
ILAR				Lg	Lg	09 51 26.8	
	0.1nm,0.3s,baz=216,slow=27,SNR=4.6						
YKA	**Yellowknife Ar**	**18.31**	**66**	P	Pn	09 52 45.0	-2.1
	0.1nm,0.3s,baz=280,slow=10,SNR=5.5						

*BJI **23** 09:57:45.0, 0°76N×97°12E, h26km, mB5.1/10, mb4.7/17, Ms4.7/5, Ms7 4.4/5*

*IDC **23** 09:57:46.4±0.8, 1°17N×96°96E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.2/27, mbtmp4.3/15, ML4.1/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/43, Error ellipse: s-maj=24.3km s-min=15.3km az=53.0*

*ISCJB **23** 09:57:49.2±0.6, 1°19N±0°07×97°13E±0°06, h28km, mb4.4/23, MS3.9/8, Error ellipse: s-maj=11.0km s-min=7.6km az=29.9*

*NEIC **23** 09:57:52.6±2.1, 1°26N×97°15E, h41km±16km, mb4.3/8, Error ellipse: s-maj=19.8km s-min=6.7km az=52.0*

ISC 23 09:57:51.2±0.6, 1°28N±0°08×97°11E±0°07, h28km, n69, σ1§22/74, mb4.3/23, MS3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.36**	**50**	Pn	**Pn**	**09 58 28.1**	**-0.2**
	12nm,0.3s,baz=192,slow=3.1,SNR=39						
PSI				Sn	**Sb**	**09 59 00.9**	**-1.0**
	15nm,0.3s,baz=246,slow=12,SNR=4.9						
PSI				LR	LR	09 59 18.2	
	comp=Z,541nm,20.2s,baz=315,slow=37						
PSI	**Prapat**	**2.36**	**50**	Pn	**Pn**	**09 58 28.1**	**-0.2**
PSI				Sn	**Sb**	**09 59 00.9**	**-1.0**
IPM	**Ipoh**	**5.04**	**51**	*e*Pn	**Pn**	**09 59 06.4**	**+1.4**
	38nm,0.6s						
IPM	**Ipoh**	**5.04**	**51**	P	**Pn**	**09 59 07.0**	**+2.0**
KULM	**Kulim**	**5.33**	**41**	*e*Pn	**Pn**	**09 59 09.2**	**+0.3**
	59nm,0.9s						
KULM	**Kulim**	**5.33**	**41**	P	**Pn**	**09 59 10.1**	**+1.2**
KGM	**Kluang**	**6.25**	**83**	P	**Pn**	**09 59 22.1**	**+0.5**
CM31	**Chiang Mai Arr**	**17.17**	**6**	*e*Pn	**P**	**10 01 50.1**	**-0.5**
	5.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**10 01 48.5**	**-0.7**
	0.5nm,0.3s,baz=199,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**10 01 48.5**	**-0.7**
CHTO	**Chiang Mai**	**17.52**	**6**	*e*Pn	**P**	**10 01 54.0**	**-0.5**
	3.5nm,0.8s						
KKM	**Kota Kinabalu**	**19.64**	**76**	*e*P	**P**	**10 02 17.9**	**-0.1**
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**10 02 40.3**	**+1.1**
QIZ				S	**S**	**10 06 41.9**	**+4.5**
QIZ				pmax	pmax		
	comp=Z,13nm,1.0s						
QIZ				LR	LR		
	comp=N,200nm,11.6s						
QIZ				LR	LR		
	comp=E,91nm,19.3s						
QIZ				LR	LR		
	comp=Z,160nm,12.6s						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**10 03 07.9**	**+1.0**
KMI				pmax	pmax		
	comp=Z,32nm,1.3s						
KMI				LR	LR		
	comp=N,460nm,14.2s						
KMI				LR	LR		
	comp=E,300nm,12.0s						
KMI				LR	LR		
	comp=Z,510nm,14.8s						
ODAN	**Odare**	**27.10**	**341**	*e*P	**P**	**10 03 33.5**	**+1.4**
	comp=Z,34nm,0.7s						
TAPN	**Taplejung**	**27.45**	**342**	*e*P	**P**	**10 03 36.7**	**+1.4**
	comp=Z,70nm,0.9s						
RAMN	**Ramite**	**27.45**	**339**	*e*P	**P**	**10 03 37.1**	**+1.8**
	comp=Z,18nm,0.5s						
JIRN	**Jiri**	**28.24**	**339**	*e*P	**P**	**10 03 43.8**	**+1.3**
	comp=Z,9.5nm,0.8s						
GUN	**Gumba**	**28.58**	**339**	*e*P	**P**	**10 03 46.8**	**+1.3**
	comp=Z,41nm,0.8s						
DMN	**Daman**	**28.60**	**337**	*e*P	**P**	**10 03 47.5**	**+2.0**
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**10 03 47.4**	**+1.1**
LSA	**Lhasa**	**28.83**	**349**	P	**P**	**10 03 50.1**	**+2.3**
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**10 03 51.3**	**+1.1**
KOLN	**Koldanda**	**29.35**	**335**	*e*P	**P**	**10 03 53.5**	**+1.4**
	comp=Z,13nm,0.6s						
DANN	**Dangsing**	**29.79**	**336**	*e*P	**P**	**10 03 57.2**	**+1.0**
	comp=Z,20nm,0.8s						
ENH	**Enshi**	**31.14**	**21**	*e*P	**P**	**10 04 06.7**	**-1.0**
	comp=Z,7.2nm,0.5s						
XAN	**Xi'an**	**34.42**	**17**	P	**P**	**10 04 35.1**	**-1.3**
XAN				pP	**pP**	**10 04 42.1**	**-2.5**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,29nm,5.5s						
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**	**10 05

IDC 23 10:01:56.0±2.4, 25°.65S×178°.69E, h604km±30km, mb3.6/4, mb1 3.8/5, mb1mx3.2/18, mbtmp3.6/5, Error ellipse: s-maj=39.9km s-min=15.5km az=171.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.64**	**186**	P	P	10 04 39.5	-1.3
	0.8nm,0.3s,baz=324,slow=4.9,SNR=8.2						
URZ				S	S	10 06 58.6	+2.1
	0.4nm,0.3s,baz=221,slow=22,SNR=5.7						
AFI	**Afiamalu**	**14.72**	**39**	P	P	10 04 53.5	-8.2
	2.9nm,0.3s,baz=76,slow=22,SNR=6.8						
AFI				S	S	10 07 20.6	-13
	0.7nm,0.3s,baz=243,slow=14,SNR=2.7						
CTA	**Charters Tower**	**30.35**	**274**	P	P	10 07 20.8	+0.2
	18nm,0.5s,baz=95,slow=11,SNR=26						
ASAR	**Alice Springs**	**40.61**	**263**	P	P	10 08 45.5	+0.3
	2.3nm,0.5s,baz=87,slow=6.5,SNR=30						
ASAR				S	S	10 14 13.8	+1.0
	0.7nm,0.8s,baz=103,slow=15,SNR=6.7						
WRA	**Warramunga Arr**	**41.14**	**269**	P	P	10 08 48.8	-0.6
	7.0nm,0.5s,baz=102,slow=7.9,SNR=79						
WRA				S	S	10 14 20.1	-0.3
	0.6nm,0.9s,baz=108,slow=16,SNR=3.7						
TXAR	**Lajitas Array**	**92.36**	**59**	P	P	10 14 03.8	+0.4
	0.8nm,0.8s,baz=212,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**112.45**	**312**	PKiKP	PKiKP	10 19 24.8	+0.5
	0.1nm,0.5s,baz=48,slow=2.1,SNR=2.8						
ARCES	**ARCESS Array B**	**133.34**	**347**	PKP	PKPdf	10 20 04.0	+0.5
	5.2nm,1.0s,baz=61,slow=2.1,SNR=6.0						
NOA	**NORSAR Array B**	**143.60**	**350**	PKP	PKPbc	10 20 20.1	-1.4
	5.3nm,0.7s,baz=22,slow=3.8,SNR=19						
AKASG	**Malin Array Be**	**145.75**	**325**	PKPbc	PKPbc	10 20 27.3	-0.9
	0.8nm,0.5s,baz=44,slow=5.3,SNR=4.6						

*NEIC **23** 10:04:50.0, 18°.14N×100°.39W, h53km, MD4.0(MEX), After MEX.*

MEX 23 10:04:50.1±0.8, 18°.14N×100°.39W, h53km±5km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.14**	**15**	*eP*	Pn	10 04 56.9	-1.6
ARIG				*i* S	Sn	10 05 02.8	-1.7
MEIG	**Mezcala**	**0.76**	**106**	*i* P	Pn	10 05 03.0	-1.9
MEIG				*i* S	Sn	10 05 13.9	-1.7
MEIG	**Mezcala**	**0.76**	**106**	*i* P	Pn	10 05 03.0	-1.9
MEIG				*i* S	Sn	10 05 13.9	-1.7
CAIG	**El Cayaco**	**1.09**	**174**	*eP*	Pn	10 05 07.1	-2.1
CAIG				*i* S	Sn	10 05 21.2	-2.1
CAIG	**El Cayaco**	**1.09**	**174**	*eP*	Pn	10 05 07.1	-2.1
CAIG				*i* S	Sn	10 05 21.2	-2.1
ZIIG	**Zihuatanejo**	**1.16**	**243**	*i* P	Pn	10 05 09.2	-0.8
ZIIG				*i* S	Sn	10 05 21.9	-2.9
ZIIG	**Zihuatanejo**	**1.16**	**243**	*i* P	Pn	10 05 09.2	-0.8
ZIIG				*i* S	Sn	10 05 21.9	-2.9
ACX	**Acapulco**	**1.36**	**158**	*i* P	Pn	10 05 16.7	+3.9
ACX	**Acapulco**	**1.36**	**158**	*i* P	Pn	10 05 11.8	-1.1
ACX				*i* S	Sn	10 05 27.8	-2.1
YAIG	**Yautepec**	**1.44**	**60**	*eP*	Pn	10 05 12.2	-1.9
YAIG				*i* S	Sn	10 05 29.8	-2.3
YAIG	**Yautepec**	**1.44**	**60**	*eP*	Pn	10 05 12.2	-1.9
YAIG				*i* S	Sn	10 05 29.8	-2.3
PPM	**Popocatepetl**	**1.91**	**61**	*eP*	Pn	10 05 19.5	-1.4
PPM	**Popocatepetl**	**1.91**	**61**	*eP*	Pn	10 05 19.5	-1.4
UTMO	**Huajuapan**	**2.48**	**97**	*i* P	Pn	10 05 27.5	-0.8
UTMO				*i* S	Sn	10 05 53.3	-4.3
UTMO	**Huajuapan**	**2.48**	**97**	*i* P	Pn	10 05 27.5	-0.8
UTMO				*i* S	Sn	10 05 54.7	-2.9
PNIG	**Pinotepa**	**2.77**	**129**	*i* P	Pn	10 05 35.3	+3.1
PNIG	**Pinotepa**	**2.77**	**129**	*i* P	Pn	10 05 31.3	-0.8
MMIG	**Aquila**	**2.82**	**273**	*eP*	Pn	10 05 31.5	-1.1
MMIG				*i* S	Sn	10 06 11.5	+6.1
MMIG	**Aquila**	**2.82**	**273**	*eP*	Pn	10 05 31.5	-1.1
MMIG				*i* S	Sn	10 06 03.9	-1.5
VHO	**Vista Hermosa**	**3.64**	**106**	*i* P	Pn	10 05 44.8	+0.5
VHO	**Vista Hermosa**	**3.64**	**106**	*i* P	Pn	10 05 44.1	-0.1

IDC 23 10:22:27.8±3.8, 31°.49N×70°.48E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/30, mbtmp3.6/5, ML3.7/2, MS3.5/1, Ms1 3.6/1, ms1mx2.3/31, Error ellipse: s-maj=200.1km s-min=50.2km az=113.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**11.57**	**15**	Pn	Pn	10 25 14.0	-0.4
	0.8nm,0.3s,baz=175,slow=4.9,SNR=15						
AAK				Sn	Sn	10 27 23.8	-0.8
	0.1nm,0.3s,baz=325,slow=21,SNR=4.0						
MKAR	**Makanchi Array**	**17.78**	**27**	P	P	10 26 37.9	+0.2
	0.1nm,0.3s,baz=210,slow=12,SNR=9.0						
KURBB	**Kurchatov Arra**	**20.03**	**15**	P	Pn	10 27 03.4	-0.5
	1.1nm,0.7s,baz=205,slow=10,SNR=8.4						
ZALV	**Zalesovo Beam**	**24.70**	**21**	P	P	10 27 49.6	-0.7
	0.7nm,0.5s,baz=214,slow=7.2,SNR=4.4						
NOA	**NORSAR Array B**	**48.20**	**326**	LR	LR	10 54 07.2	
	comp=Z,47nm,18.2s,baz=305,slow=39						
YKA	**Yellowknife Ar**	**86.26**	**2**	P	P	10 35 11.2	+0.2
	0.1nm,0.6s,baz=349,slow=4.7,SNR=4.1						

*ISCJB **23** 10:27:42.2±1.0, 51°.1N±0°.2×178°.15W±0°.07, h34km, mb3.8/13, MS3.4/1, Error ellipse: s-maj=24.2km s-min=5.4km az=173.6*
*NEIC **23** 10:27:46.2, 50°.84N×177°.65W, h16km, ML4.0(AEIC), After AEIC.*
*IDC **23** 10:27:49.3±3.4, 51°.52N×178°.09W, h70km±26km, mb3.4/13, mb1 3.6/15, mb1mx3.5/33, mbtmp3.5/15, MS3.0/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=44.1km s-min=13.0km az=178.0*

ISC 23 10:27:44.4±1.4, 51°.2N±0°.2×178°.07W±0°.06, h34km, n25, σ1§48/25, mb3.8/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.63**	**65**	P	**Pn**	**10 28 24.5**	**+0.2**
ATKA				S	**Sn**	**10 28 55.3**	**+0.3**
KOWE	**Korovin West**	**2.66**	**62**	P	**Pn**	**10 28 26.1**	**+1.2**
KOKV	**Korovin Volcan**	**2.71**	**62**	P	**Pn**	**10 28 27.0**	**+1.5**
KOKV				S	**Sn**	**10 28 59.8**	**+2.7**
KOFP	**Korovin Flat P**	**2.71**	**64**	P	**Pn**	**10 28 26.9**	**+1.3**
KOSE	**Korovin Southe**	**2.77**	**63**	P	**Pn**	**10 28 28.4**	**+2.1**
FX1	**Attu Island--F**	**5.68**	**291**	P	**Pn**	**10 29 08.1**	**+1.8**
	2.6nm,0.3s,baz=318,slow=8.1,SNR=7.2						
FX1				S	**Sn**	**10 30 13.2**	**+3.0**
	2.3nm,0.3s,baz=318,slow=19,SNR=2.4						
FX1				LR	LR	10 31 15.6	
	comp=Z,92nm,19.4s,baz=295,slow=37						
FX1	**Attu Island--F**	**5.68**	**291**	*e*Pn	Pb	10 29 14.4	-8.2
OKSP	**Okmok Steeple**	**6.37**	**67**	P	**Pn**	**10 29 15.6**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**6.55**	**66**	P	**Pn**	**10 29 19.9**	**+1.7**
CHGN	**Chignik**	**12.71**	**58**	Pn	Pn	10 30 46.0	+3.6
PETK	**Petropavlovsk-**	**14.99**	**287**	LR	LR	10 36 12.1	
	comp=Z,40nm,20.7s,baz=210,slow=34						
KDAK	**Kodiak Island**	**16.16**	**56**	P	**Pn**	**10 31 28.9**	**+0.2**
	3.1nm,0.3s,baz=301,slow=14,SNR=17						
ILAR	**Eielson Array**	**21.13**	**38**	P	**P**	**10 32 24.9**	**-1.0**
	0.5nm,0.5s,baz=236,slow=9.6,SNR=6.1						
INK	**Inuvik**	**27.38**	**35**	P	**P**	**10 33 25.0**	**-0.9**
	0.5nm,0.7s,baz=256,slow=7.7,SNR=5.6						
USRK	**Ussuriysk Arra**	**33.77**	**278**	P	**P**	**10 34 22.8**	**+0.1**
	1.5nm,0.6s,baz=72,slow=11,SNR=6.3						
YKA	**Yellowknife Ar**	**35.05**	**46**	P	**P**	**10 34 32.3**	**-1.2**
	0.6nm,0.7s,baz=283,slow=8.6,SNR=11						
PDAR	**Pinedale Array**	**45.94**	**72**	P	**P**	**10 36 04.2**	**+0.3**
	0.6nm,0.5s,baz=330,slow=4.0,SNR=7.4						
SONM	**Songino Array**	**47.15**	**297**	P	**P**	**10 36 14.1**	**+0.9**
	0.3nm,0.4s,baz=59,slow=8.7,SNR=4.9						
SONM				LR	LR	10 56 45.0	
	comp=Z,38nm,18.0s,baz=201,slow=37						
TXAR	**Lajitas Array**	**58.23**	**82**	P	**P**	**10 37 36.9**	**+1.6**
	0.1nm,0.4s,baz=301,slow=6.1,SNR=4.2						
ARCES	**ARCESS Array B**	**58.38**	**350**	P	**P**	**10 37 34.2**	**-1.5**
	6.3nm,0.9s,baz=12,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**59.61**	**314**	P	**P**	**10 37 43.4**	**-1.0**
	0.3nm,0.4s,baz=41,slow=6.2,SNR=5.4						
MKAR	**Makanchi Array**	**60.53**	**309**	P	**P**	**10 37 49.0**	**-1.8**
	0.2nm,0.4s,baz=51,slow=6.1,SNR=7.7						
BVAR	**Borovoye Array**	**61.35**	**320**	P	**P**	**10 37 55.7**	**-0.6**
	0.6nm,0.3s,baz=53,slow=6.8,SNR=8.4						
AKTO	**Aktyubinsk**	**68.13**	**325**	P	**P**	**10 38 39.6**	**-0.9**
	0.4nm,0.3s,baz=14,slow=8.3,SNR=3.8						
BRTR	**Keskin Array B**	**85.33**	**336**	P	**P**	**10 40 17.2**	**-0.7**
	0.7nm,0.7s,baz=339,slow=3.2,SNR=4.6						

IDC 23 10:28:32.8±3.5, 4°.91S×151°.28E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/16, mbtmp3.5/2, Error ellipse: s-maj=140.0km s-min=47.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**226**	P	P	10 33 30.8	-0.7
	0.8nm,0.6s,baz=52,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.06**	**220**	P	P	10 33 59.5	+0.4
	1.0nm,0.6s,baz=58,slow=8.7,SNR=22						
TORD	**Torodi Ar. Bea**	**148.89**	**287**	PKPbc	PKPbc	10 48 23.0	-0.6
	0.2nm,0.7s,baz=94,slow=1.7,SNR=2.5						

*ISCJB **23** 10:40:26.0±0.7, 6°.68S±0°.06×147°.8E±0°.1, h54km, mb4.0/11, MS3.0/5, Error ellipse: s-maj=18.7km s-min=7.0km az=14.5*
*IDC **23** 10:40:30.3±1.7, 6°.79S×147°.67E, h75km±17km, mb3.7/11, mb1 3.9/13, mb1mx3.8/18, mbtmp3.7/13, MS3.2/7, Ms1 3.2/7, ms1mx2.9/30, Error ellipse: s-maj=23.5km s-min=9.7km az=114.0*
*AUST **23** 10:40:52.6, 8°.19S×147°.19E, h200km*

ISC 23 10:40:28.1±0.8, 6°.71S±0°.07×147°.8E±0°.1, h54km, n27, σ1§58/25, mb4.0/11, MS3.1/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.74**	**192**	P	**Pn**	**10 41 09.6**	**0.0**
	90nm,0.3s,baz=38,slow=5.6,SNR=92						
PMG				S	**Sn**	**10 41 43.6**	**+2.0**
	60nm,0.3s,baz=327,slow=21,SNR=14						
COEN	**Coen**	**8.49**	**212**	P	**Pn**	**10 42 29.5**	**+1.0**
	baz=7.0,SNR=6.7						
HNR	**Honiara**	**12.37**	**103**	LR	LR	10 47 29.6	
	comp=Z,95nm,21.7s,baz=256,slow=34						
CTA	**Charters Tower**	**13.38**	**186**	LR	LR	10 48 12.2	
	comp=Z,126nm,20.6s,baz=150,slow=35						
QIS	**Mount Isa**	**15.87**	**209**	P	**Pn**	**10 44 08.3**	**+0.2**
	baz=14,SNR=5.7						
KDU	**Kakadu**	**16.19**	**247**	P	**P**	**10 44 17.9**	**+3.5**
	baz=15,SNR=4.8						
PATS	**Pohnpei**	**17.09**	**38**	P	P	10 44 54.2	+30
	baz=19,SNR=3.5						
WRA	**Warramunga Arr**	**18.51**	**223**	P	**P**	**10 44 39.8**	**-0.4**
	0.6nm,0.3s,baz=51,slow=11,SNR=21						
WRA				S	**Sn**	**10 48 02.4**	**-4.7**
	0.0nm,0.3s,baz=41,slow=21,SNR=3.0						
RMQ	**Roma**	**19.69**	**177**	P	**Pn**	**10 44 57.0**	**+2.3**
	baz=18,SNR=5.1						
QLP	**Quilpie**	**20.04**	**189**	P	**P**	**10 44 56.0**	**-0.7**
	baz=19,SNR=13						
GUMO	**Guam**	**20.37**	**352**	LR	LR	10 52 12.9	
	comp=Z,31nm,18.9s,baz=89,slow=34						
ASAR	**Alice Springs**	**21.48**	**217**	P	**P**	**10 45 11.7**	**-0.7**
	2.0nm,0.5s,baz=54,slow=9.1,SNR=32						
ASAR				S	**S**	**10 49 07.2**	**-0.6**
	1.8nm,0.9s,baz=34,slow=23,SNR=8.4						
ASAR				LR	LR	10 54 11.0	
	comp=Z,69nm,18.3s,baz=57,slow=38						
FITZ	**Fitzroy Crossi**	**24.35**	**240**	P	**P**	**10 45 41.0**	**-0.2**
	4.5nm,0.4s,baz=53,slow=7.9,SNR=44						
FITZ				LR	LR	10 55 19.2	
	comp=Z,63nm,21.8s,baz=182,slow=37						
FITZ	**Fitzroy Crossi**	**24.35**	**240**	P	**P**	**10 45 40.7**	**-0.4**
	baz=23,SNR=12						
STKA	**Stephens Creek**	**25.69**	**192**	P	**P**	**10 45 52.0**	**-1.2**
	1.5nm,0.5s,baz=4.8,slow=13,SNR=5.8						
STKA				LR	LR	10 55 28.6	
	comp=Z,96nm,21.9s,baz=24,slow=35						
DAV	**Davao City (W)**	**26.02**	**301**	LR	LR	10 54 06.7	
	comp=Z,58nm,21.8s,baz=164,slow=31						
MEEK	**Meekatharra**	**34.08**	**231**	P	**P**	**10 47 07.2**	**-0.5**
	baz=33,SNR=5.1						
KSRS	**Korea Array**	**47.68**	**339**	P	**P**	**10 49 00.2**	**+0.9**
	1.2nm,0.8s,baz=147,slow=6.9,SNR=3.8						
USRK	**Ussuriysk Arra**	**52.64**	**346**	P	**P**	**10 49 37.5**	**+0.9**
	2.0nm,0.7s,baz=175,slow=9.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**54.25**	**298**	P	**P**	**10 49 50.1**	**+1.2**
	1.2nm,0.8s,baz=125,slow=5.5,SNR=8.4						
PETK	**Petropavlovsk-**	**60.19**	**7**	P	**P**	**10 50 30.1**	**-0.2**
	4.2nm,0.8s,baz=208,slow=12,SNR=2.7						
VNDA	**Vanda**	**71.16**	**177**	P	**P**	**10 51 40.5**	**-0.1**
	1.0nm,0.8s,baz=325,slow=6.5,SNR=4.9						
MKAR	**Makanchi Array**	**78.52**	**320**	P	**P**	**10 52 23.9**	**+0.1**
	1.5nm,0.7s,baz=103,slow=6.3,SNR=20						
ZALV	**Zalesovo Beam**	**80.01**	**328**	P	**P**	**10 52 30.6**	**-1.0**
	1.3nm,0.7s,baz=98,slow=6.1,SNR=6.8						
ILAR	**Eielson Array**	**85.84**	**23**	P	**P**	**10 52 59.9**	**-1.7**
	0.9nm,0.7s,baz=253,slow=5.5,SNR=8.1						
TORD	**Torodi Ar. Bea**	**145.99**	**284**	PKPbc	**PKPbc**	**11 00 03.1**	**+0.1**
	1.4nm,0.7s,baz=71,slow=3.0,SNR=8.6						
BDFB	**Brasilia**	**152.85**	**145**	PKPbc	**PKPbc**	**11 00 19.5**	**-0.8**
	2.1nm,0.5s,baz=114,slow=3.1,SNR=3.8						

IDC 23 10:53:07.8±2.2, 3°.65N×126°.20E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=186.7km s-min=27.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**161**	P	P	10 58 30.1	-1.5
	1.1nm,0.6s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.17**	**165**	P	P	10 59 03.8	+1.5
	0.2nm,0.4s,baz=338,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**57.32**	**326**	P	P	11 02 57.6	-0.1
	0.2nm,0.5s,baz=122,slow=6.5,SNR=4.5						

*ISCJB **23** 10:57:26.9±0.6, 39°.43N±0°.03×28°.13E±0°.04, h4km±5km, Error ellipse: s-maj=5.6km s-min=4.0km az=44.3*
*ISK **23** 10:57:26.6, 39°.43N×28°.14E, h11km, MD2.8*
*DDA **23** 10:57:26.8, 39°.47N×28°.16E, h7km, MD2.8*
*CSEM **23** 10:57:27.2±0.1, 39°.45N×28°.14E, h10km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.5km az=44.0*

ISC 23 10:57:27.1±0.9, 39°.45N±0°.02×28°.14E±0°.02, h13km±8km, n40, σ0§42/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.28**	**314**	*e*PG	**Pg**	**10 57 32.8**	**-0.1**
BALB				*e*SG	**Sb**	**10 57 38.4**	**-0.1**
BALB	**Balikesir**	**0.28**	**314**	*e*Pg	**Pg**	**10 57 32.8**	**-0.1**
BALB				*e*Sg	**Sb**	**10 57 38.4**	**-0.1**
DURS	**Dursunbey**	**0.30**	**59**	*i* P	**Pg**	**10 57 32.9**	**-0.5**
DURS				*i* S	**Sg**	**10 57 38.2**	**+0.6**
DURS	**Dursunbey**	**0.30**	**59**	*i* P	**Pg**	**10 57 32.9**	**-0.5**
DURS				*i* S	**Sg**	**10 57 38.2**	**+0.6**
DST	**Dursunbey**	**0.40**	**67**	*e*PG	**Pg**	**10 57 34.5**	**-0.7**
DST				*e*SG	**Sb**	**10 57 42.0**	**-0.1**
DST	**Dursunbey**	**0.40**	**67**	*e*Pg	**Pg**	**10 57 34.5**	**-0.7**
DST				*e*Sg	**Sb**	**10 57 42.0**	**-0.1**
DEMI	**Demirci**	**0.60**	**132**	*i* P	**Pg**	**10 57 39.0**	**+0.1**
DEMI				*i* S	**Sg**	**10 57 47.3**	**+0.5**
DEMI	**Demirci**	**0.60**	**132**	*i* P	**Pg**	**10 57 39.0**	**+0.1**
DEMI				*i* S	**Sg**	**10 57 47.3**	**+0.5**
AKS	**Akhisar**	**0.62**	**204**	*e*PG	**Pg**	**10 57 39.0**	**-0.1**
AKS	**Akhisar**	**0.62**	**204**	*e*Pg	**Pg**	**10 57 39.1**	**-0.1**
GONE	**Gonen-Balikesi**	**0.70**	**330**	*e*PG	**Pg**	**10 57 39.9**	**-0.7**
GONE	**Gonen-Balikesi**	**0.70**	**330**	*e*Pg	**Pg**	**10 57 39.9**	**-0.7**
ORLT	**Orhaneli**	**0.84**	**44**	*e*PG	**Pg**	**10 57 43.2**	**-0.1**
ORLT	**Orhaneli**	**0.84**	**44**	*e*Pg	**Pg**	**10 57 43.2**	**-0.1**
KULA	**Kula-Manisa**	**1.01**	**156**	*e*PG	**Pb**	**10 57 46.6**	**+0.1**
KULA	**Kula-Manisa**	**1.01**	**156**	*e*Pg	**Pb**	**10 57 46.6**	**+0.1**
TVSB	**Tavsanli**	**1.02**	**89**	*e*PG	**Pn**	**10 57 47.2**	**0.0**
TVSB	**Tavsanli**	**1.02**	**89**	*e*Pg	**Pn**	**10 57 47.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.09**	**32**	*e*PN	**Pn**	**10 57 48.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.09**	**32**	*e*Pn	**Pn**	**10 57 48.0**	**+0.1**
GDZ	**Gediz**	**1.10**	**108**	*i* P	**Pb**	**10 57 48.0**	**0.0**
GDZ				*i* S	**Sn**	**10 58 03.7**	**+0.4**
GDZ	**Gediz**	**1.10**	**108**	*i* P	**Pb**	**10 57 48.0**	**0.0**
GDZ				*i* S	**Sn**	**10 58 03.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.15**	**326**	*e*PN	**Pg**	**10 57 48.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.15**	**326**	*e*Pn	**Pg**	**10 57 48.9**	**-0.3**
ARMT	**Armutlu**	**1.25**	**26**	*e*PN	**Pg**	**10 57 50.7**	**-0.4**
ARMT	**Armutlu**	**1.25**	**26**	*e*Pn	**Pg**	**10 57 50.7**	**-0.4**
LPK	**Lapseki**	**1.41**	**312**	*e*PN	**Pb**	**10 57 52.9**	**-0.3**
LPK	**Lapseki**	**1.41**	**312**	*e*Pn	**Pb**	**10 57 52.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**330**	*e*PN	**Pb**	**10 57 53.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**330**	*e*Pn	**Pb**	**10 57 53.7**	**-0.1**
SART	**Tekirdag**	**1.45**	**330**	*i* P	**Pb**	**10 57 54.1**	**+0.3**
SART				*i* S	**Sg**	**10 58 14.9**	**+1.2**
SART	**Tekirdag**	**1.45**	**330**	*i* P	**Pb**	**10 57 54.1**	**+0.3**
KHAL	**Karahalli**	**1.50**	**135**	*i* P	**Pb**	**10 57 54.8**	**-0.1**
KHAL	**Karahalli**	**1.50**	**135**	*i* P	**Pb**	**10 57 54.8**	**-0.1**
CAVI	**Cavuskoy**	**1.51**	**59**	*e*PN	**Pb**	**10 57 54.7**	**-0.3**
CAVI	**Cavuskoy**	**1.51**	**59**	*e*Pn	**Pb**	**10 57 54.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*PN	**Pn**	**10 57 55.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.60**	**307**	*e*Pn	**Pn**	**10 57 55.3**	**+0.4**
AYDN	**Tasoluk**	**1.79**	**187**	*i* P	**Pn**	**10 57 57.8**	**+0.1**
AYDN				*i* S	**Sg**	**10 58 23.8**	**-1.0**
AYDN	**Tasoluk**	**1.79**	**187**	*i* P	**Pn**	**10 57 57.8**	**+0.1**
AYDN				*i* S	**Sg**	**10 58 23.8**	**-1.0**

*IDC **23** 11:01:30.9±0.6, 5°.74S×122°.77E, h0km, mb4.2/13, mb1 4.3/16, mb1mx4.1/28, mbtmp4.2/16, ML3.8/3, MS3.7/13, Ms1 3.7/13, ms1mx3.3/43, Error ellipse: s-maj=32.0km s-min=10.4km az=59.0*
*NEIC **23** 11:01:32.4±0.3, 5°.72S×122°.74E, h10km, mb4.8/8, Error ellipse: s-maj=16.7km s-min=5.9km az=50.0*
NEIC Felt [IV] at Baubau.
*ISCJB **23** 11:01:33.8±0.3, 5°.78S±0°.07×122°.74E±0°.07, h33km, mb4.3/18, MS3.6/9, Error ellipse: s-maj=13.4km s-min=5.8km az=43.0*

ISC 23 11:01:36.2±0.5, 5°.75S±0°.09×122°.69E±0°.09, h35km, n58, σ1§02/55, mb4.3/18, MS3.6/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.02**	**284**	Pn	**Pn**	**11 02 19.1**	**-2.4**
	34nm,0.3s,baz=148,slow=12,SNR=92						
KAPI				Sn	**Sn**	**11 02 57.1**	**+0.7**
	22nm,0.3s,baz=339,slow=23,SNR=6.3						
KAPI				LR	LR	11 03 29.4	
	comp=Z,737nm,21.4s,baz=116,slow=38						
KAPI	**Kappang**	**3.02**	**284**	Pn	**Pn**	**11 02 19.1**	**-2.4**
KAPI				Sn	**Sn**	**11 02 57.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**12.61**	**167**	Pn	**Pn**	**11 04 32.0**	**-1.1**
	0.3nm,0.3s,baz=358,slow=8.1,SNR=8.1						
FITZ				LR	LR	11 10 32.5	
	comp=Z,174nm,18.5s,baz=352,slow=43						
FITZ	**Fitzroy Crossi**	**12.61**	**167**	*e*Pn	**Pn**	**11 04 31.9**	**-1.3**
	5.2nm,0.8s						
DAV	**Davao City (W)**	**13.06**	**13**	LR	LR	11 09 04.4	
	comp=Z,257nm,20.6s,baz=136,slow=35						
WRA	**Warramunga Arr**	**18.09**	**142**	P	**Pn**	**11 05 42.4**	**-2.5**
	0.3nm,0.3s,baz=315,slow=12,SNR=26						
WRA				LR	LR	11 12 51.7	
	comp=Z,195nm,21.4s,baz=340,slow=38						
WRA	**Warramunga Arr**	**18.09**	**142**	P	**Pn**	**11 05 42.4**	**-2.5**
WRAB	**Tennant Creek**	**18.09**	**142**	*e*Pn	**Pn**	**11 05 42.3**	**-2.6**
	13nm,0.9s						
AS31	**Alice Springs**	**20.82**	**150**	*e*P	Pn	11 06 16.0	-1.5
ASAR	**Alice Springs**	**20.83**	**150**	P	**P**	**11 06 15.7**	**+0.7**
	5.6nm,0.6s,baz=322,slow=9.7,SNR=49						
ASAR				S	**S**	**11 10 06.6**	**+1.1**
	1.0nm,0.9s,baz=328,slow=21,SNR=5.4						
ASAR				LR	LR	11 15 27.7	
	comp=Z,234nm,18.0s,baz=315,slow=40						
ASAR	**Alice Springs**	**20.83**	**150**	P	**P**	**11 06 15.7**	**+0.7**
ASAR				S	**S**	**11 10 06.6**	**+1.1**
COEN	**Coen**	**21.75**	**114**	*e*P	**P**	**11 06 24.1**	**-0.8**
IPM	**Ipoh**	**23.91**	**295**	*e*P	**P**	**11 06 48.0**	**+0.9**
	30nm,1.1s						
KULM	**Kulim**	**24.59**	**296**	*e*P	**P**	**11 06 53.9**	**+0.6**
	22nm,1.1s						
PSI	**Prapat**	**25.21**	**289**	P	**P**	**11 06 59.4**	**+0.3**
	39nm,0.9s,baz=104,slow=4.1,SNR=28						
PSI				LR	LR	11 16 54.9	
	comp=Z,317nm,19.4s,baz=122,slow=37						
PSI	**Prapat**	**25.21**	**289**	P	**P**	**11 06 59.4**	**+0.3

BJI ***23*** *11:14:13.0,27.60N×140.40E,h20km,mB4.8/20,mb4.4/28, Ms4.6/17,Ms7 4.3/13*
NEIC ***23*** *11:14:13.7±0.2,27.52N×140.52E,mb4.8/32, MW4.4(NIED),Error ellipse: s-maj=6.3km s-min=5.7km az=46.0*

ISC 23 11:14:13.5±0.3,27.56N±0.05×140.61E±0.04,h23km±1km, h23km:pP-P,n144,σ1≤21/229,mb4.6/63,MS3.8/17,3C,
Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.47**	**108**	Pn	**Pn**	**11 14 37.5**	**-1.1**
	194nm,0.3s,baz=297,slow=3.4,SNR=101						
CBIJ				Sn	**Sn**	**11 14 56.0**	**-1.2**
	365nm,0.3s,baz=134,slow=23,SNR=35						
CBIJ	**Chichi jima**	**1.47**	**108**	Pn	**Pn**	**11 14 37.5**	**-1.1**
CBIJ				Sn	**Sn**	**11 14 56.0**	**-1.2**
MJAR	**Matsushiro Arr**	**9.18**	**348**	Pn	Pn	11 16 28.1	+3.5
	0.2nm,0.3s,baz=146,slow=13,SNR=3.6						
MJAR				LR	LR	11 19 47.9	
	comp=Z,296nm,19.4s,baz=130,slow=37						
MJAR	**Matsushiro Arr**	**9.18**	**348**	Pn	Pn	11 16 28.1	+3.5
MAJO	**Matsushiro**	**9.19**	**348**	*e*P	**Pn**	**11 16 24.4**	**-0.2**
MAJO	**Matsushiro**	**9.19**	**348**	*e*Pn	**Pn**	**11 16 24.4**	**-0.2**
MAT	**Matsushiro**	**9.19**	**348**	P	**Pn**	**11 16 23.6**	**-1.0**
MAT				S	**Sn**	**11 18 11.3**	**+4.0**
JNU	**Nakatsue**	**10.07**	**306**	Pn	**Pn**	**11 16 35.4**	**-1.4**
JOW	**Kunigami**	**11.01**	**269**	LR	LR	11 20 46.5	
	comp=Z,162nm,19.4s,baz=108,slow=36						
GUMO	**Guam**	**14.46**	**163**	LR	LR	11 21 57.1	
	comp=Z,186nm,20.6s,baz=89,slow=32						
GUMO	**Guam**	**14.46**	**163**	*e*Pn	**Pn**	**11 17 36.2**	**-0.7**
KSRS	**Korea Array**	**14.54**	**316**	Pn	**P**	**11 17 42.6**	**-1.6**
	0.1nm,0.3s,baz=126,slow=10,SNR=4.4						
KSAR	**Wonju Array Be**	**14.56**	**316**	Pn	**P**	**11 17 42.6**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**16.97**	**13**	i P	**Pn**	**11 18 10.1**	**+0.7**
YUK				*i* S	**Sn**	**11 21 16.1**	**-1.2**
YUK				pmax	pmax		
	comp=E,78nm,0.2s						
YUK				pmax	pmax		
	comp=Z,108nm,0.2s						
YUK				pmax	pmax		
	comp=N,3μm,2.8s						
YUK				pmax	pmax		
	comp=E,4μm,2.8s						
YUK				MLR	MLR		
	comp=Z,686nm,6.0s						
MDJ	**Mudanjiang**	**19.18**	**335**	P	P	11 18 30.4	-5.0
MDJ				pP	**Pn**	**11 18 36.3**	**-0.1**
MDJ				S	Sn	11 21 58.3	-12
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.7s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.4s						
MDJ				LR	LR		
	comp=N,48nm,23.3s						
MDJ				LR	LR		
	comp=E,41nm,25.4s						
MDJ				LR	LR		
	comp=Z,56nm,20.1s						
NJ2	**Nanjing**	**19.40**	**289**	*e*P	**Pn**	**11 18 43.5**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2	**Changchun**	**20.30**	**327**	*e*P	Pn	11 18 50.5	+0.7
CN2				*es*P	sP	11 19 02.0	+5.0
CN2				*e*S	**S**	**11 22 30.8**	**-3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
KLR	**Kul'dur**	**22.69**	**345**	*e*P	**P**	**11 19 10.1**	**-3.3**
WHN	**Wuhan**	**23.14**	**284**	P	**P**	**11 19 20.9**	**+2.8**
BJI	**Beijing**	**23.73**	**308**	P	**P**	**11 19 23.8**	**-0.1**
BJI				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC	**Hu-ho-hao-te**	**27.30**	**307**	*e*P	**P**	**11 19 55.3**	**-1.2**
HHC				pP	**pP**	**11 20 02.6**	**-0.7**
HHC				sP	**sP**	**11 20 05.8**	**-0.4**
HHC				PP	**PnPn**	**11 20 43.3**	**+2.7**
HHC				S	**S**	**11 24 33.9**	**-0.9**
HHC				sS	**sS**	**11 24 41.8**	**-4.3**
HHC				SS	**SnSn**	**11 25 47.3**	**+3.4**
HHC				ScS	**ScS**	**11 30 45.6**	**-0.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,8.8s						
HHC				LR	LR		
	comp=N,2μm,21.4s						
HHC				LR	LR		
	comp=E,470nm,19.4s						
PETK	**Petropavlovsk-**	**28.50**	**22**	LR	LR	11 29 26.3	
	comp=E,54nm,20.3s,baz=45,slow=32						
QIZ	**Qiongzhong**	**29.45**	**260**	P	**P**	**11 20 15.9**	**+0.2**
QIZ				pP	**pP**	**11 20 22.3**	**-0.3**
QIZ				sP	**sP**	**11 20 24.9**	**-0.5**
QIZ				S	**S**	**11 25 08.8**	**0.0**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
GYA	**Guiyang**	**30.21**	**276**	*e*P	**P**	**11 20 23.6**	**+1.0**
GYA				pP	**pP**	**11 20 30.4**	**+0.9**
GYA				PP	**PnPn**	**11 21 22.0**	**+1.5**
GYA				S	**S**	**11 25 18.9**	**-2.1**
GYA				SS	**SnSn**	**11 26 55.8**	**+0.5**
GYA				ScP	**ScP**	**11 27 03.3**	**-1.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,16.8s						
GYA				LR	LR		
	comp=E,410nm,17.7s						
GYA				LR	LR		
	comp=Z,440nm,17.2s						
LZH	**Lanzhou**	**32.23**	**295**	*e*P	**P**	**11 20 42.8**	**+2.5**
LZH				pP	**pP**	**11 20 49.0**	**+1.8**
LZH				sP	**sP**	**11 20 51.1**	**+1.1**
LZH				PP	**PnPn**	**11 21 43.0**	**-3.6**
LZH				*e*S	**S**	**11 25 52.3**	**-0.1**
LZH				sS	**sS**	**11 26 02.4**	**-1.3**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,77nm,5.4s						
LZH				LR	LR		
	comp=N,320nm,16.4s						
LZH				LR	LR		
	comp=E,210nm,14.6s						
LZH				LR	LR		
	comp=Z,500nm,16.5s						
CD2	**Chengdu**	**32.24**	**285**	P	**P**	**11 20 40.8**	**+0.5**
CD2				pP	**pP**	**11 20 47.9**	**+0.7**
CD2				sP	**sP**	**11 20 51.3**	**+1.2**
CD2				PP	**PnPn**	**11 21 47.3**	**+0.5**
CD2				S	**S**	**11 25 49.8**	**-2.7**
CD2				sS	**sS**	**11 26 01.9**	**-1.9**
CD2				SS	**SnSn**	**11 27 42.9**	**-1.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,4.8s						
CD2				LR	LR		
	comp=E,280nm,6.5s						
CD2				LR	LR		
	comp=Z,210nm,10.1s						
ULN	**Ulaanbaatar**	**33.03**	**317**	*e*P	**P**	**11 20 46.6**	**-0.5**
	comp=Z,7.9nm,1.2s						
SONM	**Songino Array**	**33.41**	**317**	P	**P**	**11 20 50.2**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=122,slow=7.1,SNR=5.9						
SONM	**Songino Array**	**33.41**	**317**	P	**P**	**11 20 50.2**	**-0.3**
KMI	**Kunming**	**33.94**	**275**	P	**P**	**11 20 56.6**	**+1.1**
KMI				pP	**pP**	**11 21 03.8**	**+1.4**
KMI				sP	**sP**	**11 21 06.6**	**+1.4**
KMI				S	**S**	**11 26 18.6**	**-0.8**
KMI				sS	**sS**	**11 26 29.8**	**-0.9**
KMI				SS	**SnSn**	**11 28 21.9**	**-4.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,110nm,5.8s						
KMI				LR	LR		
	comp=N,130nm,18.5s						
KMI				LR	LR		
	comp=E,200nm,16.6s						
GTA	**Gaotai**	**35.74**	**300**	*e*P	**P**	**11 21 10.9**	**+0.2**
GTA				pP	**pP**	**11 21 18.0**	**+0.3**
GTA				sP	**sP**	**11 21 21.1**	**+0.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SEY	**Seymchan**	**36.21**	**9**	*i* P	**P**	**11 21 14.9**	**+0.7**
ZAK	**Zakamensk**	**36.34**	**319**	*e*P	**P**	**11 21 14.2**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	**Talaya**	**36.70**	**321**	*e*P	P	11 21 22.2	+3.6
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,40nm,18.0s						
KAPI	**Kappang**	**38.14**	**215**	LR	LR	11 35 41.6	
	comp=Z,52nm,18.4s,baz=290,slow=34						
CHTO	**Chiang Mai**	**39.13**	**266**	*e*P	**P**	**11 21 39.5**	**-0.1**
CHTO				*e**PP	**pP**	**11 21 46.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**39.13**	**266**	*e*P	**P**	**11 21 39.5**	**-0.1**
	comp=Z,6.6nm,0.9s						
CHTO				*e*pP	**pP**	**11 21 46.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.26**	**266**	P	**P**	**11 21 41.5**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=53,slow=7.8,SNR=15						
CMAR				pP	**pP**	**11 21 48.8**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=57,slow=8.1,SNR=4.2						
CMAR				LR	LR	11 37 01.7	
	comp=Z,42nm,20.3s,baz=160,slow=35						
CMAR	**Chiang Mai Arr**	**39.26**	**266**	P	**P**	**11 21 41.5**	**+0.8**
CMAR				pP	**pP**	**11 21 48.8**	**+1.2**
BILL	**Bilibino**	**43.33**	**14**	*i* P	**P**	**11 22 13.8**	**+0.4**
BILL				*e*		11 22 21.2	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
BILL	**Bilibino**	**43.33**	**14**	*e*P	**P**	**11 22 13.7**	**+0.3**
	comp=Z,29nm,1.4s						
BILL				*e*pP	**pP**	**11 22 20.5**	**+0.1**
WMQ	**Urumqi**	**45.17**	**305**	P	**P**	**11 22 29.1**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,11nm,1.6s						
WMQ				LR	LR		
	comp=N,38nm,16.0s						
WMQ				LR	LR		
	comp=E,16nm,14.0s						
WRAB	**Tennant Creek**	**47.60**	**188**	*e*P	**P**	**11 22 47.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**47.60**	**188**	*e*P	**P**	**11 22 47.3**	**-0.4**
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**47.61**	**188**	P	**P**	**11 22 47.8**	**0.0**
	comp=Z,10.0nm,0.7s,baz=9.5,slow=8.6,SNR=132						
WRA	**Warramunga Arr**	**47.61**	**188**	P	**P**	**11 22 47.8**	**0.0**
FITZ	**Fitzroy Crossi**	**47.66**	**199**	LR	LR	11 42 09.7	
	comp=Z,46nm,18.2s,baz=342,slow=35						
FITZ	**Fitzroy Crossi**	**47.66**	**199**	*e*P	**P**	**11 22 48.5**	**+0.4**
	comp=Z,15nm,1.3s						
FITZ				*e*pP	**pP**	**11 22 54.5**	**-0.7**
CTA	**Charters Tower**	**47.68**	**173**	LR	LR	11 38 26.8	
	comp=Z,72nm,21.1s,baz=35,slow=30						
MK31	**Makanchi Array**	**49.10**	**309**	*e*P	**P**	**11 22 58.6**	**-0.6**
MK31	**Makanchi Array**	**49.10**	**309**	*e*P	**P**	**11 22 58.6**	**-0.6**
MKAR	**Makanchi Array**	**49.10**	**309**	P	**P**	**11 22 58.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=94,slow=8.0,SNR=11						
MKAR				pP	**pP**	**11 23 06.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=93,slow=7.7,SNR=6.4						
MKAR	**Makanchi Array**	**49.10**	**309**	P	**P**	**11 22 58.7**	**-0.4**
MKAR				*PP	**pP**	**11 23 06.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**49.10**	**309**	*e*P	**P**	**11 22 58.8**	**-0.4**
MKAR				pP	**pP**	**11 23 06.5**	**+0.2**
ASAR	**Alice Springs**	**51.34**	**188**	P	**P**	**11 23 16.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=13,slow=14,SNR=20						
ASAR				PcP	**PcP**	**11 24 30.7**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=18,slow=3.8,SNR=4.7						
ASAR	**Alice Springs**	**51.34**	**188**	P	**P**	**11 23 16.0**	**-0.2**
ASAR				PcP	**PcP**	**11 24 30.7**	**-0.2**
KURK	**Kurchatov**	**51.66**	**314**	*e*P	**P**	**11 23 17.6**	**-0.8**
KURK				*e**PP	**pP**	**11 23 25.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KURK	**Kurchatov**	**51.66**	**314**	*e*P	**P**	**11 23 17.6**	**-0.8**
	comp=Z,7.1nm,1.2s						
KURK				*e*pP	**pP**	**11 23 25.0**	**-0.6**
TKM2	**Tokmak 2**	**54.01**	**305**	*e*P	**P**	**11 23 36.4**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,72nm,1.0s						
TKM2	**Tokmak 2**	**54.01**	**305**	*e*P	**P**	**11 23 36.4**	**+0.2**
	comp=Z,72nm,1.0s						
KSH	**Kashi**	**54.14**	**300**	*e*P	P	11 23 40.5	+3.4
KSH				*e*pP	pP	11 23 47.0	+2.8
KSH				*es*P	sP	11 23 51.5	+4.5
KSH				*e*PcP	**PcP**	**11 24 43.8**	**+2.2**
KSH				*e*PP	**PP**	**11 25 43.0**	**+4.4**
KSH				*e*ScP	**ScP**	**11 28 39.3**	**+0.9**
KSH				PcS	**PcS**	**11 28 42.3**	**+1.2**
KSH				S	**S**	**11 31 14.5**	**+1.8**
KSH				sS	sS	11 31 27.3	+2.8
KSH				ScS	**ScS**	**11 33 24.9**	**-0.4**
KSH				SS	**SS**	**11 34 54.3**	**0.0**
KSH				pmax	pmax		
	comp=Z,120nm,4.2s						
KSH				LR	LR		
	comp=N,190nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,5.4s						
KSH				LR	LR		
	comp=Z,210nm,6.0s						
AAK	**Ala-Archa**	**54.84**	**304**	P	**P**	**11 23 42.5**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=96,slow=5.9,SNR=6.2						
AAK				pP	**pP**	**11 23 49.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=49,slow=6.3,SNR=4.9						
AAK	**Ala-Archa**	**54.84**	**304**	*e*P	**P**	**11 23 41.9**	**-0.3**
AAK				*PP	**pP**	**11 23 49.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,26nm,1.2s						
AAK	**Ala-Archa**	**54.84**	**304**	*e*P	**P**	**11 23 41.9**	**-0.3**
	comp=Z,5.9nm,1.2s						
AAK				pP	**pP**	**11 23 49.6**	**+0.3**
EKS2	**Erkin-Say**	**55.37**	**304**	*e*P	**P**	**11 23 45.7**	**-0.2**
EKS2				*e**PP	**pP**	**11 23 53.5**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,47nm,2.5s						
EKS2	**Erkin-Say**	**55.37**	**304**	*e*P	**P**	**11 23 45.7**	**-0.2**
	comp=Z,47nm,2.5s						
EKS2				*e*pP	**pP**	**11 23 53.5**	**+0.4**
BVAR	**Borovoye Array**	**56.76**	**317**	P	**P**	**11 23 54.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=93,slow=7.7,SNR=7.1						
BVAR				pP	**pP**	**11 24 02.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=96,slow=11,SNR=6.5						
BVAR	**Borovoye Array**	**56.76**	**317**	P	**P**	**11 23 54.4**	**-1.1**
BVAR				*PP	**pP**	**11 24 02.4**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**56.76**	**317**	P	**P**	**11 23 54.4**	**-1.1**
BVAR				pP	**pP**	**11 24 02.4**	**-0.3**
BRVK	**Borovoye**	**56.82**	**317**	*ce*P	**P**	**11 23 54.6**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,2.5s						
KKAR	**Karatay Array**	**57.68**	**305**	*e*P	**P**	**11 24 02.1**	**-0.1**
KKAR				*e**PP	**pP**	**11 24 09.3**	**-0.1**
KKAR	**Karatay Array**	**57.68**	**305**	*e*P	**P**	**11 24 02.1**	**-0.1**
KKAR				*e*pP	**pP**	**11 24 09.3**	**-0.1**
ILAR	**Eielson Array**	**57.98**	**29**	P	**P**	**11 24 03.5**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=258,slow=6.0,SNR=26						
ILAR				pP	**pP**	**11 24 10.7**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=263,slow=5.7,SNR=19						
ILAR	**Eielson Array**	**57.98**	**29**	P	**P**	**11 24 03.5**	**-0.4**
ILAR				pP	**pP**	**11 24 10.7**	**-0.5**
STKA	**Stephens Creek**	**59.12**	**179**	P	**P**	**11 24 11.9**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=357,slow=8.5,SNR=8.0						
STKA				pP	**pP**	**11 24 19.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=317,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**59.12**	**179**	P	**P**	**11 24 11.9**	**-0.3**
STKA				pP	**pP**	**11 24 19.6**	**+0.2**
DOT	**Dot Lake**	**59.19**	**30**	*e*P	**P**	**11 24 12.3**	**-0.1**
	comp=Z,23nm,0.9s						
DOT				*e*pP	**pP**	**11 24 19.7**	**+0.1**
KBL	**Kabul**	**60.56**	**296**	*e*P	**P**	**11 24 22.9**	**+0.3**
KBL				pmax	pmax		
	comp=Z,19nm,1.5s						
KBL	**Kabul**	**60.56**	**296**	*e*P	**P**	**11 24 22.9**	**+0.3**
	comp=Z,19nm,1.5s						
INK	**Inuvik**	**63.19**	**25**	P	**P**	**11 24 39.5**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=272,slow=5.8,SNR=8.5						
INK				pP	**pP**	**11 24 46.3**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=297,slow=7.9,SNR=6.6						
INK	**Inuvik**	**63.19**	**25**	*e*P	**P**	**11 24 39.5**	**+0.2**
	comp=Z,3.6nm,0.8s						
INK				pP	**pP**	**11 24 46.3**	**-0.4**
ABKAR	**Akbulak array**	**63.77**	**314**	*e*P	**P**	**11 24 42.6**	**-0.9**
NWAO	**Narrogin (SRO)**	**64.13**	**202**	P	**P**	**11 24 46.9**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=8.1,slow=7.1,SNR=2.5						
NWAO	**Narrogin (SRO)**	**64.13**	**202**	P	**P**	**11 24 46.9**	**+0.9**
AKTO	**Aktyubinsk**	**64.72**	**315**	P	**P**	**11 24 50.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=66,slow=10.0,SNR=3.8						
AKTO	**Aktyubinsk**	**64.72**	**315**	P	**P**	**11 24 50.3**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**64.72**	**315**	P	**P**	**11 24 50.3**	**+0.5**
DLBC	**Dease Lake**	**66.63**	**35**	LR	LR	11 52 57.5	
	comp=Z,43nm,18.6s,baz=151,slow=35						
RES	**Resolute Bay**	**71.93**	**13**	P	**P**	**11 25 34.6**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=332,slow=5.8,SNR=16						
RES				pP	**pP**	**11 25 41.7**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=313,slow=6.6,SNR=15						
RES	**Resolute Bay**	**71.93**	**13**	*e*P	**P**	**11 25 34.5**	**0.0**
	comp=Z,7.1nm,0.9s						
RES				pP	**pP**	**11 25 41.7**	**-0.1**
YKW3	**Yellowknife Ar**	**72.36**	**28**	*e*P	**P**	**11 25 36.8**	**-0.4**
	comp=Z,0.1nm,1.1s						
YKA	**Yellowknife Ar**	**72.39**	**28**	P	**P**	**11 25 37.2**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=294,slow=5.7,SNR=24						
YKA				pP	**pP**	**11 25 44.6**	**-0.2**
	comp=Z,4.9nm,1.0s,baz=291,slow=5.6,SNR=20						
YKA	**Yellowknife Ar**	**72.39**	**28**	P	**P**	**11 25 37.2**	**-0.2**
YKA				pP	**pP**	**11 25 44.6**	**-0.2**
RPZ	**Rata Peaks**	**76.23**	**158**	LR	LR	11 52 10.1	
	comp=Z,67nm,19.8s,baz=225,slow=30						
KBZ	**Khabaz**	**76.67**	**312**	P	**P**	**11 26 02.0**	**-0.6**
	comp=Z,2.4nm,0.2s,baz=50,slow=11,SNR=3.5						
KBZ	**Khabaz**	**76.67**	**312**	P	**P**	**11 26 02.0**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KBZ	**Khabaz**	**76.67**	**312**	P	**P**	**11 26 02.0**	**-0.6**
NEW	**Newport**	**77.50**	**42**	P	**P**	**11 26 08.3**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=305,slow=4.5,SNR=8.8						
NEW				pP	**pP**	**11 26 15.2**	**+0.5**
	comp=Z,7.5nm,0.8s,baz=298,slow=4.2,SNR=11						
NEW	**Newport**	**77.50**	**42**	*e*P	**P**	**11 26 08.1**	**+0.8**
	comp=Z,9.1nm,0.9s						
NEW				pP	**pP**	**11 26 15.2**	**+0.5**
BMO	**Blue Mountains**	**78.97**	**45**	*e*P	**P**	**11 26 16.6**	**+1.0**
	comp=Z,8.7nm,0.8s						
JTMT	**Jette**	**79.43**	**42**	*e*P	**P**	**11 26 19.2**	**+1.2**
JTMT				*e*pP	**pP**	**11 26 25.3**	**-0.2**
SWMT	**Swartz Lake**	**79.71**	**42**	*e*P	**P**	**11 26 20.3**	**+0.7**
SWMT				*e*pP	**PcP**	**11 26 27.2**	**-0.1**
SLMT	**Seeley Lake**	**80.14**	**42**	*e*P	**P**	**11 26 22.5**	**+0.5**
MFID	**Camas Ranch**	**80.59**	**46**	*e*P	**P**	**11 26 25.4**	**+1.0**
	comp=Z,8.6nm,0.8s						
HLID	**Hailey**	**81.41**	**45**	*e*P	**P**	**11 26 30.2**	**+1.3**
	comp=Z,3.2nm,0.9s						
HLID				*e*pP	**pP**	**11 26 37.2**	**+0.9**
LRM	**Limekiln Ridge**	**81.48**	**43**	*e*P	**P**	**11 26 30.4**	**+1.1**
DLMT	**Dillon**	**81.63**	**43**	*e*P	**P**	**11 26 31.2**	**+1.2**
	comp=Z,4.6nm,0.9s						
FFC	**Flin Flon**	**82.08**	**31**	*e*P	**P**	**11 26 31.9**	**0.0**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FFC	**Flin Flon**	**82.08**	**31**	*e*P	**P**	**11 26 31.9**	**0.0**
	comp=Z,1.7nm,0.9s						
FFC				*e*pP	**pP**	**11 26 38.6**	**-0.8**
QLMT	**Earthquake Lak**	**82.61**	**43**	*e*P	**P**	**11 26 36.8**	**+1.6**
QLMT				*e*pP	**pP**	**11 26 44.0**	**+1.3**
NOA	**NORSAR Array B**	**82.66**	**338**	LR	LR	12 09 56.3	
	comp=Z,50nm,18.6s,baz=40,slow=40						
IMW	**Indian Meadow**	**83.40**	**44**	*e*P	**P**	**11 26 40.9**	**+1.5**
	comp=Z,5.9nm,0.9s						
FLWY	**Flagg Ranch**	**83.45**	**43**	*e*P	**P**	**11 26 42.1**	**+2.6**
	comp=Z,49nm,2.1s						
RRI2	**Red Ridge**	**83.46**	**44**	*e*P	**P**	**11 26 40.5**	**+0.8**
	comp=Z,44nm,2.0s						
MWC	**Mount Wilson**	**83.50**	**55**	*e*P	**P**	**11 26 42.9**	**+2.9**
MWC				*e**PP	pP	11 26 55.9	+8.4
MWC				pmax	pmax		
	comp=Z,117nm,1.1s						
MWC	**Mount Wilson**	**83.50**	**55**	*e*P	**P**	**11 26 42.9**	**+2.9**
	comp=Z,117nm,1.1s						
MWC				*e*pP	pP	11 26 55.9	+8.4
TPAW	**Teton Pass**	**83.61**	**44**	*e*P	**P**	**11 26 40.8**	**+0.3**
	comp=Z,8.9nm,1.3s						
RLMT	**Red Lodge**	**83.75**	**42**	*e*P	**P**	**11 26 41.3**	**+0.2**
	comp=Z,6.0nm,1.3s						
LOHW	**Long Hollow**	**83.76**	**44**	*e*P	**P**	**11 26 41.7**	**+0.6**
	comp=Z,6.5nm,1.4s						
LOHW				*e*pP	**pP**	**11 26 48.7**	**0.0**
HWUT	**Hardware Ranch**	**84.22**	**46**	*e*P	**P**	**11 26 44.4**	**+0.9**
	comp=Z,5.2nm,1.1s						
BRTR	**Keskin Array B**	**84.66**	**312**	P	**P**	**11 26 44.3**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=74,slow=5.4,SNR=6.1						
BRTR				pP	**pP**	**11 26 52.7**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=108,slow=4.0,SNR=4.5						
BRTR	**Keskin Array B**	**84.66**	**312**	P	**P**	**11 26 44.3**	**-1.4**
BRTR				pP	**pP**	**11 26 52.7**	**-0.5**
JLU	**Jordanelle**	**84.83**	**47**	*e*P	**P**	**11 26 48.0**	**+1.3**
	comp=Z,5.1nm,0.9s						
PDAR	**Pinedale Array**	**84.86**	**44**	P	**P**	**11 26 46.8**	**0.0**
	comp=Z,2.5nm,1.0s,baz=298,slow=3.2,SNR=10						
PDAR				pP	**pP**	**11 26 54.7**	**+0.4**
	comp=Z

PLCA pPKPbc **PKPab** **11 34 13.1 0.0**
comp=Z,6.3nm,1.0s,baz=198,slow=3.5,SNR=8.3
PLCA Paso Flores 151.22 125 PKPbc **PKPbc** **11 34 05.5 +0.3**
PLCA pPKPbc **PKPab** **11 34 13.1 0.0**

IDC 23 11:26:05.1±1.6, 5.44N×126.40E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=164.6km s-min=18.2km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.40**	**163**	P	P	11 31 43.4	-0.2
	0.2nm,0.3s,baz=343,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**29.84**	**166**	P	P	11 32 13.4	-0.9
	0.1nm,0.4s,baz=350,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**39.84**	**160**	P	P	11 33 41.4	+1.0
	1.4nm,0.9s,baz=356,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**55.98**	**325**	P	P	11 35 45.8	+0.4
	1.2nm,0.7s,baz=126,slow=7.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**60.13**	**327**	P	P	11 36 14.2	-0.2
	1.6nm,0.8s,baz=126,slow=6.1,SNR=17						
BVAR	**Borovoye Array**	**65.72**	**327**	P	P	11 36 51.3	-0.3
	0.6nm,0.6s,baz=116,slow=6.8,SNR=5.9						

*ISCJB **23** 11:26:09.0±0.5, 24.83N×122.48E±0.02, h4km±4km, mb3.5/3, Error ellipse: s-maj=4.9km s-min=2.6km az=11.1*
*JMA **23** 11:26:10.7±0.1, 24.85N×122.51E, h34km, M3.1*
*TAP **23** 11:26:11.3, 24.80N×122.33E, h16km, ML3.6, C*
*IDC **23** 11:26:11.9±1.4, 24.82N×121.59E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/24, mbtmp3.6/4, Error ellipse: s-maj=47.0km s-min=25.3km az=74.0*
ISC 23 11:26:08.8±1.2, 24.78N±0.03×122.47E±0.02, h7km±10km, n52, σ0.73/75, mb3.5/3, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.50**	**297**	P	**Pb**	**11 26 19.4**	**-0.5**
	baz=303						
TWB1				S	**Sg**	**11 26 24.9**	**-0.1**
	baz=303						
YOJ	**Yonaguni jima**	**0.58**	**123**	P	**Pb**	**11 26 22.4**	**+1.1**
YOJ				S	**Sb**	**11 26 30.7**	**+0.9**
TWC	**Suao**	**0.59**	**254**	⇑*i* P	**Pg**	**11 26 20.6**	**+0.4**
	baz=245						
ILA	**Ilan**	**0.66**	**269**	*e*P	**Pb**	**11 26 22.3**	**-0.3**
	baz=265						
NWF	**Wu-fen Shan**	**0.69**	**295**	*i* P	**Pb**	**11 26 23.6**	**+0.3**
	baz=298						
NWF				S	**Sg**	**11 26 31.4**	**+0.2**
	baz=298						
TWE	**Neicheng**	**0.74**	**266**	⇑*i* P	**Pg**	**11 26 23.3**	**+0.3**
	baz=262						
ENA	**Nanau**	**0.75**	**243**	*e*P	**Pg**	**11 26 23.2**	**-0.1**
	baz=234						
ENA				*e*S	**Sg**	**11 26 33.2**	**+0.1**
	baz=234						
ENTT	**Nioudou**	**0.84**	**261**	P	**Pg**	**11 26 25.0**	**+0.1**
	baz=256						
ENTT				*e*S	**Sg**	**11 26 35.5**	**-0.4**
	baz=256						
TAP1	**Taipei**	**0.90**	**287**	*e*P	**Pn**	**11 26 27.7**	**-0.2**
	baz=287						
TAP1				*e*S	**Sb**	**11 26 38.7**	**-0.4**
	baz=287						
TAP	**Taipei**	**0.92**	**287**	*e*P	**Pg**	**11 26 26.7**	**+0.3**
	baz=287						
TAP				*e*S	**Sg**	**11 26 37.9**	**-0.5**
	baz=287						
PCYT	**Pengchaiyu**	**0.92**	**337**	*e*P	**Pb**	**11 26 26.9**	**-0.2**
	baz=344						
TWY	**Chenhua**	**0.94**	**302**	*e*P	**Pb**	**11 26 27.5**	**+0.1**
	baz=305						
TWY				S	**Sb**	**11 26 39.4**	**-0.6**
	baz=305						
TWS1	**Kuangyinshan**	**1.01**	**289**	*e*P	**Pn**	**11 26 29.6**	**+0.2**
	baz=289						
TWS1				*e*S	**Sg**	**11 26 41.3**	**-0.1**
	baz=289						
NSK	**Sanguang**	**1.02**	**264**	⇑P	**Pg**	**11 26 28.4**	**0.0**
	baz=270						
NSK				S	**Sg**	**11 26 40.3**	**-1.3**
	baz=270						
NNS	**Nan Shan**	**1.06**	**252**	*e*P	**Pg**	**11 26 29.3**	**+0.2**
	baz=236						
NNS				*e*S	**Sg**	**11 26 42.6**	**-0.3**
	baz=236						
TWD	**Chiawan**	**1.06**	**229**	*e*P	**Pg**	**11 26 29.4**	**+0.2**
	baz=230						
TWD				*e*S	**Sn**	**11 26 44.5**	**-0.7**
	baz=230						
HWA	**Hwalien**	**1.12**	**225**	*e*P	**Pn**	**11 26 30.9**	**-0.1**
	baz=225						
NCU	**National Centr**	**1.18**	**280**	*e*P	**Pn**	**11 26 32.3**	**+0.5**
	baz=278						
NCU				*e*S	**Sg**	**11 26 46.6**	**-0.3**
	baz=278						
IRIF	**Iriomote-Funau**	**1.23**	**111**	P	**Pb**	**11 26 31.8**	**-0.5**
IRIF				*e*S	**Sb**	**11 26 47.6**	**-0.8**
WHF	**Hehuan Shan**	**1.27**	**240**	P	**Pn**	**11 26 33.1**	**-0.3**
	baz=235						
WHF				*e*S	**Sb**	**11 26 49.3**	**-0.8**
	baz=235						
TWT	**Tachien**	**1.29**	**246**	P	**Pg**	**11 26 34.2**	**+0.6**
	baz=233						
TWT				*e*S	**Sg**	**11 26 51.1**	**+0.7**
	baz=233						
NSTT	**Nanjuang**	**1.35**	**264**	*e*P	**Pb**	**11 26 34.5**	**0.0**
	baz=261						
NSTT				*e*S	**Sn**	**11 26 52.2**	**-0.1**
	baz=261						
ESL	**Shilin**	**1.35**	**225**	*e*P	**Pg**	**11 26 34.8**	**+0.1**
	baz=202						
ESL				*e*S	**Sg**	**11 26 53.0**	**+0.7**
	baz=202						
HATJ	**Hateruma jima**	**1.41**	**120**	P	**Pn**	**11 26 34.9**	**0.0**
JKRS	**Kuro-shima**	**1.50**	**111**	P	**Pn**	**11 26 36.1**	**-0.1**
JKRS				*e*S	**Sn**	**11 26 55.3**	**-0.7**
JIJ	**Ishigaki jima**	**1.57**	**105**	P	**Pn**	**11 26 36.6**	**-0.6**
JIJ				*e*S	**Sn**	**11 26 56.7**	**-1.2**
NSY	**Sanyi**	**1.60**	**257**	*e*P	**Pg**	**11 26 40.3**	**+0.8**
	baz=271						
TWQ1	**Liyutan**	**1.61**	**255**	*e*P	**Pg**	**11 26 40.5**	**+0.8**
	baz=252						
SMLT	**Sun Moon Lake**	**1.69**	**238**	*e*P	**Pb**	**11 26 40.8**	**+0.5**
	baz=241						
SMLT				*e*S	**Sb**	**11 27 02.8**	**+0.9**
	baz=241						
TYC	**Yuchr**	**1.71**	**240**	*e*P	**Pg**	**11 26 41.2**	**-0.4**
	baz=236						
TYC				*e*S	**Sg**	**11 27 03.4**	**-0.5**
	baz=236						
TWF1	**Yuli**	**1.78**	**217**	*e*P	**Pn**	**11 26 40.3**	**+0.2**
	baz=212						
ALS	**Alishan**	**1.98**	**231**	*e*P	**Pn**	**11 26 44.4**	**+1.3**
	baz=210						
CHN5	**Tsauling**	**2.02**	**235**	*e*P	**Pn**	**11 26 45.9**	**0.0**
	baz=231						
JTJ	**Tarama**	**2.03**	**93**	P	**Pn**	**11 26 43.7**	**+0.2**
WGK	**Gukeng**	**2.06**	**238**	*e*P	**Pb**	**11 26 46.1**	**-0.4**
	baz=235						
ELDTW	**Lidau**	**2.07**	**220**	*e*P	**Pb**	**11 26 45.7**	**-1.1**
	baz=202						
CHN4	**Tsaushan**	**2.23**	**231**	*e*P	**Pb**	**11 26 49.6**	**+0.1**
	baz=212						
CHN4				*e*S	**Sb**	**11 27 16.2**	**-1.1**
	baz=212						
WTP	**Ta-pu**	**2.29**	**228**	*e*P	**Pb**	**11 26 48.9**	**-1.5**
	baz=210						
WTP				*e*S	**Sb**	**11 27 19.3**	**+0.3**
	baz=210						
TWG	**Pinlang**	**2.33**	**214**	*e*P	**Pn**	**11 26 48.5**	**+0.8**
	baz=210						
TWK	**Hsinying**	**2.36**	**231**	*e*P	**Pb**	**11 26 51.0**	**-0.7**
	baz=212						
TWK				*e*S	**Sn**	**11 27 18.6**	**+1.3**
	baz=212						
CHN1	**Nanshi**	**2.38**	**229**	*e*P	**Pb**	**11 26 50.9**	**-1.2**
	baz=225						
SGST	**Jiashian**	**2.42**	**226**	*e*P	**Pb**	**11 26 51.3**	**-1.4**
	baz=207						
SGST				*e*S	**Sb**	**11 27 22.7**	**-0.1**
	baz=207						
ECL	**Taimali**	**2.58**	**213**	*e*P	**Pn**	**11 26 51.3**	**+0.2**
	baz=209						
SSD	**Sandimen**	**2.63**	**220**	*e*P	**Pb**	**11 26 55.6**	**-0.8**
	baz=202						
TWM1	**Shoushan**	**2.71**	**224**	*e*P	**Pb**	**11 26 56.3**	**-1.3**
	baz=221						
EAST	**Anshuo**	**2.81**	**212**	*e*P	**Pb**	**11 26 57.8**	**-1.7**
	baz=209						
LAY	**Lan-yu**	**2.86**	**197**	*e*P	**Pn**	**11 26 57.0**	**+2.1**
	baz=194						
JOW	**Kunigami**	**5.61**	**67**	Pn	**Pb**	**11 27 47.0**	**-0.2**
	baz=112,slow=19						
KSRS	**Korea Array**	**13.46**	**19**	Pn	P	11 29 33.5	+3.8
	0.1nm,0.3s,baz=195,slow=12,SNR=3.2						
SONM	**Songino Array**	**26.30**	**335**	P	**P**	**11 31 45.9**	**+0.7**
	0.4nm,0.8s,baz=152,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**45.93**	**164**	P	P	11 34 38.0	+5.5
	0.8nm,0.5s,baz=347,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**49.42**	**166**	P	P	11 35 06.1	+6.5
	0.3nm,0.6s,baz=341,slow=6.8,SNR=7.4						

IDC 23 11:41:13.5±4.7, 30.26S×178.07W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=287.1km s-min=65.9km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.06**	**267**	P	P	11 49 15.2	-0.1
	0.2nm,0.4s,baz=105,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**44.03**	**272**	P	P	11 49 23.0	-0.2
	0.5nm,0.5s,baz=111,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**144.99**	**340**	PKP	PKPbc	12 00 51.4	+0.2
	0.8nm,0.3s,baz=44,slow=4.7,SNR=7.9						

IDC 23 12:14:07.3±2.0, 1.01N×126.49E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/21, mbtmp3.1/4, Error ellipse: s-maj=226.9km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.19**	**160**	P	P	12 19 04.8	-0.7
	0.1nm,0.4s,baz=338,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**25.56**	**164**	P	P	12 19 38.6	+0.5
	0.2nm,0.3s,baz=344,slow=11,SNR=9.1						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	12 24 14.2	+0.7
	0.1nm,0.5s,baz=130,slow=7.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**63.90**	**328**	P	P	12 24 41.2	-0.8
	0.2nm,0.5s,baz=128,slow=6.7,SNR=2.9						

IDC 23 12:19:54.2±1.7, 0.52S×133.30E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/39, Error ellipse: s-maj=80.6km s-min=20.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.11**	**39**	LR	LR	12 30 45.0	
	comp=Z,30nm,19.4s,baz=261,slow=36						
FITZ	**Fitzroy Crossi**	**19.03**	**203**	P	P	12 24 17.6	-0.3
	0.1nm,0.3s,baz=20,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**19.33**	**177**	P	Pn	12 24 22.4	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=24						
ASAR	**Alice Springs**	**23.02**	**179**	P	P	12 25 01.4	+0.3
	3.6nm,0.9s,baz=5.0,slow=8.5,SNR=29						
STKA	**Stephens Creek**	**32.16**	**167**	P	P	12 26 22.7	-1.2
	1.3nm,0.7s,baz=342,slow=6.4,SNR=3.1						
KSRS	**Korea Array**	**38.11**	**353**	LR	LR	12 42 47.0	
	comp=Z,32nm,18.6s,baz=125,slow=36						
MKAR	**Makanchi Array**	**64.80**	**324**	P	P	12 30 35.5	+0.5
	0.3nm,0.5s,baz=121,slow=7.5,SNR=5.1						
KURBB	**Kurchatov Arra**	**68.87**	**326**	P	P	12 31 00.3	-0.4
	0.5nm,0.7s,baz=120,slow=5.5,SNR=6.6						

NEIC 23 12:29:21.2, 39.57N×123.45W, h7km, MW3.6(BRK), After NCEDC., Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCPM	**Cahto Peak**	**0.16**	**318**	*e*Pg	Pg	12 29 24.6	-0.1
KCPM				*e*Sg	Sg	12 29 27.8	+0.7
KIPM	**Iron Peak**	**0.24**	**354**	*e*Pg	Pg	12 29 26.0	-0.2
HOPS	**Hopland**	**0.65**	**153**	*e*Pg	Pg	12 29 33.9	+0.2
HOPS				*e*Sg	Sb	12 29 43.4	-0.7
WDC	**Whiskeytown Da**	**1.23**	**34**	*e*Pg	Pb	12 29 43.7	-1.0
KHMM	**Horse Mountain**	**1.32**	**351**	*e*Pn	Pb	12 29 46.6	0.0
MCCM	**Marconi Confer**	**1.49**	**163**	*e*Pn	Pb	12 29 49.5	+0.3
KRMB	**Red Mountain**	**1.98**	**350**	*e*Pn	Pn	12 29 55.5	+0.2
SAC	**San Andreas**	**2.14**	**158**	*e*Pn	Pn	12 29 58.1	+0.7
YBH	**Yreka Blue Hor**	**2.23**	**14**	*e*Pn	Pn	12 29 58.7	0.0
CMB	**Columbia Colle**	**2.84**	**122**	*e*Pn	Pn	12 30 06.8	-0.3
WCN	**Washoe City**	**2.87**	**94**	*e*Pn	Pn	12 30 08.8	+1.1
HUMO	**Hull Mountain**	**3.06**	**7**	*e*Pn	Pn	12 30 10.0	0.0
MOD	**Modoc**	**3.34**	**45**	*e*Pn	Pn	12 30 14.3	+0.3

*NIED **23** 12:30:00, 27.50N×140.70E, h5km, Mw4.3 Best double couple: M0 3.52000×10^15 NP1:φs350.00000°, δ67.00000°, λ-79.00000°. NP2:φs144.00000°, δ26.00000°, λ-114.00000°.*
*NEIC **23** 12:30:51.0±0.3, 27.48N×140.55E, mb4.6/27, MW4.3(NIED), Error ellipse: s-maj=8.1km s-min=7.8km az=150.0*
*IDC **23** 12:30:50.8±0.5, 27.58N×140.67E, h21km±3km, mb3.8/11, mb1 4.0/12, mb1mx3.9/23, mbtmp3.8/12, ML3.3/1, MS3.4/3, Ms1 3.5/3, ms1mx2.9/42, Error ellipse: s-maj=16.9km s-min=14.0km az=97.0*
ISC 23 12:30:50.7±0.5, 27.53N±0.08×140.65E±0.07, h21km±7km, h21km:pP-P, n76, σ1.9/10/95, mb4.5/40, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.44**	**107**	Pn	**Pn**	**12 31 14.7**	**-0.8**
	120nm,0.3s,baz=318,slow=3.2,SNR=113						
CBIJ				Sn	**Sn**	**12 31 33.1**	**-0.6**
	1μm,0.3s,baz=308,slow=19,SNR=59						
CBIJ	**Chichi jima**	**1.44**	**107**	Pn	**Pn**	**12 31 14.7**	**-0.8**
CBIJ				Sn	**Sn**	**12 31 33.1**	**-0.6**
MJAR	**Matsushiro Arr**	**9.22**	**348**	Pn	**Pn**	**12 33 05.3**	**+2.9**
	0.5nm,0.3s,baz=160,slow=14,SNR=7.1						
MJAR	**Matsushiro Arr**	**9.22**	**348**	Pn	**Pn**	**12 33 05.3**	**+2.9**
KSRS	**Korea Array**	**14.59**	**316**	Pn	**P**	**12 34 20.2**	**-1.8**
	0.1nm,0.3s,baz=122,slow=12,SNR=3.8						
KSAR	**Wonju Array Be**	**14.60**	**316**	Pn	**P**	**12 34 20.2**	**-2.0**
ASAJ	**Asahikawa**	**16.62**	**5**	Pn	**Pn**	**12 34 40.4**	**-2.0**
	0.2nm,0.3s,baz=220,slow=16,SNR=1.8						
ASAJ				LR	LR	12 41 08.9	
	comp=Z,129nm,21.2s,baz=148,slow=37						
ASAJ	**Asahikawa**	**16.62**	**5**	Pn	**Pn**	**12 34 40.4**	**-2.0**
PETK	**Petropavlovsk-**	**28.52**	**22**	LR	LR	12 48 38.1	
	comp=Z,58nm,19.2s,baz=6.2,slow=38						
ULN	**Ulaanbaatar**	**33.07**	**317**	*e*P	**P**	**12 37 24.4**	**-0.6**
	7.5nm,1.5s						
SONM	**Songino Array**	**33.45**	**317**	P	**P**	**12 37 28.6**	**+0.3**
	0.8nm,1.0s,baz=110,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**33.45**	**317**	P	**P**	**12 37 28.6**	**+0.3**
CHTO	**Chiang Mai**	**39.16**	**266**	*e*P	**P**	**12 38 18.3**	**+1.1**
	5.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**39.28**	**266**	P	**P**	**12 38 17.8**	**-0.5**
	0.3nm,0.3s,baz=48,slow=9.8,SNR=5.7						
CMAR				LR	LR	12 53 50.3	
	comp=Z,65nm,21.3s,baz=75,slow=35						
CMAR	**Chiang Mai Arr**	**39.28**	**266**	P	**P**	**12 38 17.8**	**-0.5**
BILL	**Bilibino**	**43.35**	**14**	*e*P	**P**	**12 38 50.4**	**-0.6**
	12nm,1.4s						
WRAB	**Tennant Creek**	**47.58**	**188**	*e*P	**P**	**12 39 25.4**	**+0.4**
	8.2nm,0.9s						
WRA	**Warramunga Arr**	**47.59**	**188**	P	**P**	**12 39 25.4**	**+0.4**
	2.2nm,0.7s,baz=9.2,slow=8.5,SNR=28						
WRA				pP	**pP**	**12 39 32.1**	**+0.5**
	7.4nm,0.9s,baz=8.3,slow=8.4,SNR=19						
WRA	**Warramunga Arr**	**47.59**	**188**	P	**P**	**12 39 25.4**	**+0.4**
WRA				pP	**pP**	**12 39 32.1**	**+0.5**
MKAR	**Makanchi Array**	**49.14**	**309**	P	**P**	**12 39 36.4**	**-0.6**
	1.5nm,1.1s,baz=89,slow=7.8,SNR=7.9						
MKAR	**Makanchi Array**	**49.14**	**309**	*e*P	**P**	**12 39 36.5**	**-0.5**
AS31	**Alice Springs**	**51.31**	**188**	P	**P**	**12 39 52.4**	**-1.1**
ASAR	**Alice Springs**	**51.31**	**188**	P	**P**	**12 39 54.0**	**+0.6**
	0.4nm,0.8s,baz=17,slow=7.0,SNR=4.9						
ASAR				pPcP		12 41 16.3	
	0.9nm,0.9s,baz=28,slow=3.0,SNR=4.5						
ASAR	**Alice Springs**	**51.31**	**188**	P	**P**	**12 39 54.0**	**+0.6**
ASAR				pPcP		12 41 16.3	
TKM2	**Tokmak 2**	**54.04**	**305**	*e*P	**P**	**12 40 13.8**	**-0.1**
	4.1nm,1.3s						
AAK	**Ala-Archa**	**54.88**	**304**	*e*P	**P**	**12 40 17.8**	**-2.1**
	3.3nm,1.1s						
KKAR	**Karatay Array**	**57.72**	**305**	*e*P	**P**	**12 40 39.7**	**-0.3**
ILAR	**Eielson Array**	**57.99**	**29**	P	**P**	**12 40 41.2**	**-0.3**
	2.2nm,1.0s,baz=263,slow=6.5,SNR=8.5						
ILAR				pP	**pP**	**12 40 47.5**	**-0.6**
	3.6nm,0.9s,baz=269,slow=6.4,SNR=11						
ILAR	**Eielson Array**	**57.99**	**29**	P	**P**	**12 40 41.2**	**-0.3**
ILAR				pP	**pP**	**12 40 47.5**	**-0.6**
STKA	**Stephens Creek**	**59.09**	**179**	P	**P**	**12 40 49.0**	**-0.4**
	1.6nm,0.9s,baz=77,slow=2.5,SNR=2.9						
STKA	**Stephens Creek**	**59.09**	**179**	P	**P**	**12 40 49.0**	**-0.4**
INK	**Inuvik**	**63.20**	**25**	*e*P	**P**	**12 41 17.1**	**+0.1**
	14nm,1.5s						
ABKAR	**Akbulak array**	**63.81**	**314**	P	**P**	**12 41 20.0**	**-1.2**
RES	**Resolute Bay**	**71.95**	**13**	*e*P	**P**	**12 42 11.7**	**-0.4**
	3.8nm,0.9s						
YKW3	**Yellowknife Ar**	**72.37**	**28**	*e*P	**P**	**12 42 15.0**	**+0.2**
	0.1nm,1.1s						
YKA	**Yellowknife Ar**	**72.41**	**28**	P	**P**	**12 42 14.6**	**-0.4**
	0.5nm,0.5s,baz=292,slow=5.6,SNR=11						
YKA				pP	**pP**	**12 42 21.1**	**-0.7**
	1.1nm,0.7s,baz=293,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**72.41**	**28**	P	**P**	**12 42 14.6**	**-0.4**
YKA				pP	**pP**	**12 42 21.1**	**-0.7**
NEW	**Newport**	**77.50**	**42**	*e*P	**P**	**12 42 44.9**	**+0.1**
	6.7nm,0.9s						
BMO	**Blue Mountains**	**78.97**	**45**	*e*P	**P**	**12 42 53.9**	**+0.8**
	9.9nm,1.3s						
WALA	**Waterton Lakes**	**79.00**	**40**	*e*P	**P**	**12 42 54.0**	**+0.9**
	0.2nm,0.8s						
BSMT	**Bassoo Peak**	**79.08**	**42**	*e*P	**P**	**12 42 55.1**	**+1.4**
	3.5nm,1.1s						
JTMT	**Jette**	**79.43**	**42**	*e*P	**P**	**12 42 56.5**	**+0.9**
SWMT	**Swartz Lake**	**79.71**	**42**	*e*P	**P**	**12 42 58.4**	**+1.4**
CMB	**Columbia Colle**	**80.05**	**52**	P	**P**	**12 42 59.4**	**+0.4**
SLMT	**Seeley Lake**	**80.14**	**42**	*e*P	**P**	**12 42 59.8**	**+0.3**
MFID	**Camas Ranch**	**80.59**	**46**	*e*P	**P**	**12 43 02.9**	**+1.0**
	5.4nm,0.8s						
HLID	**Hailey**	**81.41**	**45**	*e*P	**P**	**12 43 08.2**	**+1.8**
	40nm,2.5s						
LRM	**Limekiln Ridge**	**81.48**	**43**	*e*P	**P**	**12 43 08.0**	**+1.3**
LRM				*e*PcP	**pP**	**12 43 13.5**	**-0.2**
DLMT	**Dillon**	**81.63**	**43**	*e*P	**P**	**12 43 09.0**	**+1.6**
	6.9nm,1.3s						
FFC	**Flin Flon**	**82.09**	**31**	*e*P	**P**	**12 43 09.1**	**-0.3**
	8.8nm,1.3s						
FFC				*e*PcP	**PcP**	**12 43 15.6**	**+0.7**
LKWY	**Lake**	**83.38**	**43**	*e*P	**P**	**12 43 18.8**	**+2.1**
	36nm,1.7s						
IMW	**Indian Meadow**	**83.40**	**44**	*e*P	**P**	**12 43 18.4**	**+1.5**
	3.4nm,0.9s						
RRI2	**Red Ridge**	**83.46**	**44**	*e*P	**P**	**12 43 18.9**	**+1.7**
	5.4nm,1.0s						
MOOW	**Moose Ponds**	**83.60**	**44**	*e*P	P	12 43 25.7	+7.8
	9.6nm,1.5s						
RLMT	**Red Lodge**	**83.75**	**42**	*e*P	**P**	**12 43 20.4**	**+1.9**
	17nm,1.6s						
LOHW	**Long Hollow**	**83.76**	**44**	*e*P	**P**	**12 43 19.9**	**+1.3**
	3.5nm,1.1s						
HWUT	**Hardware Ranch**	**84.22**	**46**	*e*P	**P**	**12 43 22.3**	**+1.3**
	13nm,1.2s						
HWUT				*e*pP	**pP**	**12 43 28.6**	**+0.7**
JLU	**Jordanelle**	**84.82**	**47**	*e*P	**P**	**12 43 24.9**	**+0.8**
	7.9nm,1.2s						
BW06	**Boulder Array**	**84.86**	**44**	*e*P	**P**	**12 43 25.4**	**+1.1**
	4.9nm,1.1s						
PDAR	**Pinedale Array**	**84.86**	**44**	P	**P**	**12 43 24.3**	**0.0**
	1.4nm,1.0s,baz=258,slow=4.4,SNR=7.3						
PDAR				pP	**pP**	**12 43 31.2**	**0.0**
	3.8nm,1.1s,baz=264,slow=2.5,SNR=12						
PDAR	**Pinedale Array**	**84.86**	**44**	P	**P**	**12 43 24.3**	**0.0**
PDAR				pP	**pP**	**12 43 31.2**	**0.0**
MSU	**Marysvale**	**85.45**	**49**	*e*P	**P**	**12 43 29.4**	**+2.1**
SRU	**San Rafael**	**86.22**	**48**	*e*P	**P**	**12 43 32.3**	**+1.2**
	5.2nm,0.8s						
PV04	**Paradox Valley**	**87.67**	**47**	*e*P	**P**	**12 43 39.6**	**+1.4**
ULM	**Lac du Bonnet**	**87.82**	**32**	P	**P**	**12 43 38.3**	**0.0**
	1.3nm,0.5s,baz=318,slow=2.8,SNR=2.3						
ULM	**Lac du Bonnet**	**87.82**	**32**	P	**P**	**12 43 38.3**	**0.0**
SMCO	**Snowmass**	**88.48**	**46**	*e*P	**P**	**12 43 43.7**	**+1.4**
	4.9nm,1.1s						
ANMO	**Albuquerque**	**91.24**	**49**	*e*P	**P**	**12 43 56.4**	**+1.4**
	2.6nm,1.0s						
GDL2	**Guadalupe Moun**	**94.26**	**50**	*e*P	**P**	**12 44 10.4**	**+1.6**
TXAR	**Lajitas Array**	**96.43**	**52**	P	**P**	**12 44 19.8**	**+1.0**
	0.4nm,0.6s,baz=307,slow=4.6,SNR=5.3						
TXAR				pP	**pP**	**12 44 26.8**	**+1.0**
	2.0nm,0.9s,baz=302,slow=3.5,SNR=12						
TXAR	**Lajitas Array**	**96.43**	**52**	P	**P**	**12 44 19.8**	**+1.0**
TXAR				pP	**pP**	**12 44 26.8**	**+1.0**
SAML	**Samuel**	**150.88**	**55**	*e*PKPbc	**PKPbc**	**12 50 41.0**	**-1.4**
LPAZ	**La Paz**	**151.12**	**73**	PKPbc	**PKPbc**	**12 50 44.3**	**+0.5**
	1.6nm,0.9s,baz=343,slow=2.7,SNR=6.0						
LPAZ				pPKPbc	**pPKPbc**	**12 50 50.9**	**+0.1**
	4.6nm,0.9s,baz=0.9,slow=2.6,SNR=11						
LPAZ	**La Paz**	**151.12**	**73**	*e*PKPdf	**PKPdf**	**12 50 39.0**	**+1.2**
LPAZ				PKPbc	**PKPbc**	**12 50 44.3**	**+0.5**
LPAZ				*e*PKPbc	**PKPbc**	**12 50 45.7**	**+2.0**
LPAZ				p

PCI	**Palu** baz=52,SNR=14	**48.12 281**	P	P	12 49 13.8	+8.0
ASAJ	**Asahikawa** 16nm,1.1s,baz=113,slow=13,SNR=10	**61.00 340**	P	**P**	**12 50 39.2**	**+1.0**
VNDA	**Vanda** 0.3nm,0.5s,baz=333,slow=4.5,SNR=3.5	**64.57 181**	P	**P**	**12 51 02.9**	**+1.4**
PETK	**Petropavlovsk-** comp=Z,47nm,20.7s,baz=67,slow=32	**66.31 354**	LR	LR	13 15 29.0	
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=125,slow=5.2,SNR=4.9	**73.91 294**	P	**P**	**12 52 00.2**	**0.0**
SONM	**Songino Array** 0.3nm,0.3s,baz=144,slow=6.6,SNR=5.3	**80.89 324**	P	**P**	**12 52 39.3**	**+0.6**
ILAR	**Eielson Array** 1.3nm,0.9s,baz=233,slow=5.3,SNR=12	**85.00 18**	P	**P**	**12 52 58.8**	**-0.6**
MKAR	**Makanchi Array** 1.2nm,0.9s,baz=105,slow=5.8,SNR=9.4	**95.70 317**	P	**P**	**12 53 50.2**	**+0.2**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=261,slow=4.7,SNR=6.6	**96.19 27**	P	**P**	**12 53 51.0**	**-0.9**
ARCES	**ARCESS Array B** 4.3nm,1.0s,baz=59,slow=2.7,SNR=7.0	**118.49 346**	PKP	**PKPdf**	**12 59 09.7**	**-1.2**
ESDC	**Sonseca Array** 0.7nm,0.5s,baz=14,slow=3.6,SNR=5.2	**152.23 345**	PKPab	**PKPab**	**13 00 30.4**	**+0.5**

IDC 23 12:57:36.7±9.8, 22.84S×172.53E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=286.6km s-min=63.3km az=140.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 1.2nm,1.0s,baz=88,slow=7.8,SNR=6.7	**35.42 261**		P	P	13 04 34.1	-0.7
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=101,slow=8.4,SNR=10.0	**35.61 267**		P	P	13 04 36.8	+0.3
SONM	**Songino Array** 0.5nm,0.9s,baz=130,slow=5.8,SNR=3.6	**91.93 322**		P	P	13 10 47.2	+0.1

IDC 23 13:03:33.8±11.0, 6.92S×108.95E, h172km±116km, mb3.3/5, mb1 3.5/6, mb1mx3.2/23, mbtmp3.3/6, Error ellipse: s-maj=129.9km s-min=16.4km az=54.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=319,slow=12,SNR=11	**19.70 126**		P	P	13 07 50.1	0.0
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=172,slow=8.9,SNR=3.5	**27.08 339**		P	P	13 09 00.7	+0.1
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=293,slow=11,SNR=11	**27.83 120**		P	P	13 09 06.9	-0.4
ASAR	**Alice Springs** 0.7nm,0.3s,baz=303,slow=8.0,SNR=54	**29.18 127**		P	P	13 09 19.5	+0.2
STKA	**Stephens Creek** 1.7nm,0.4s,baz=292,slow=8.3,SNR=8.9	**39.28 134**		P	P	13 10 46.0	+0.1
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=153,slow=8.6,SNR=6.0	**58.49 339**		P	P	13 13 11.8	-0.1

IDC 23 13:14:37.3±1.9, 5.73N×126.92E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=203.5km s-min=17.5km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=344,slow=10,SNR=3.9	**26.53 164**		P	P	13 20 16.2	-0.8
ASAR	**Alice Springs** 0.1nm,0.6s,baz=357,slow=8.4,SNR=3.5	**30.00 167**		P	P	13 20 48.0	0.0
STKA	**Stephens Creek** 1.7nm,0.8s,baz=321,slow=13,SNR=2.6	**39.93 160**		P	P	13 22 14.0	+0.6
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=126,slow=7.5,SNR=9.5	**56.04 324**		P	P	13 24 18.4	+0.3
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=126,slow=6.0,SNR=13	**60.17 327**		P	P	13 24 46.7	-0.2
BVAR	**Borovoye Array** 0.6nm,0.8s,baz=116,slow=6.6,SNR=4.3	**65.76 326**		P	P	13 25 23.9	-0.2

*IDC **23** 13:24:12.2±5.8, 36.18N×71.33E, h39km±48km, mb3.4/6, mb1 3.5/10, mb1mx3.3/29, mbtmp3.4/10, ML3.5/4, Error ellipse: s-maj=42.0km s-min=27.3km az=22.0*
*ISCJB **23** 13:24:19.0±0.5, 36.52N×0.03×71.55E±0.08, h114km, mb3.5/6, Error ellipse: s-maj=9.6km s-min=4.0km az=173.4*
*NNC **23** 13:24:20.4±6.1, 37.03N×71.09E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=53.1km s-min=37.2km az=160.0*

ISC 23 13:24:19.6±0.7, 36.51N±0.05×71.59E±0.09, h114km, n42, σ1§99/40, mb3.4/6, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.69 174**		⇓P	**Pn**	**13 25 02.5**	**+0.7**
CEP				S	**Sn**	**13 25 36.0**	**+1.9**
CHCP	**Chirah Chowk**	**3.15 154**		P	Pn	13 25 10.3	+2.5
THW	**Thamme Wali**	**3.70 178**		P	**Pn**	**13 25 15.1**	**0.0**
SARP	**Sargodha**	**4.66 169**		P	**Pn**	**13 25 27.4**	**-0.5**
DLH	**Dalhousie**	**5.35 136**		*ex*	x	13 25 28.0	
DLH				*ex*	x	13 26 41.0	
AML	**Almayashu** SNR=37	**5.85 16**		P	**Pn**	**13 25 45.6**	**+1.4**
KZA	**Kyzart** SNR=12	**6.25 26**		P	**Pn**	**13 25 50.8**	**+1.2**
EKS2	**Erkin-Say** SNR=17	**6.38 15**		P	**Pn**	**13 25 52.2**	**+1.2**
AAK	**Ala-Archa** 3.3nm,0.3s,baz=183,slow=6.6,SNR=54	**6.52 19**		Pn	**Pn**	**13 25 54.9**	**+1.8**
AAK				Sn	**Sn**	**13 27 07.7**	**+1.7**
	0.8nm,0.3s,baz=319,slow=22,SNR=8.1						
AAK	**Ala-Archa** SNR=7.1	**6.52 19**		P	**Pn**	**13 25 54.8**	**+1.8**
KK31	**Karatay Array** 1.8nm,0.2s,baz=181,slow=13,SNR=176	**6.64 353**		P	**Pn**	**13 25 53.5**	**-1.0**
KK31				S	**Sn**	**13 27 03.9**	**-5.0**
	baz=175,slow=23						
SDNR	**Sundarnagar**	**6.70 137**		*e*S	**Sn**	**13 27 06.5**	**-3.8**
CHMS	**Chumysh** SNR=10	**6.92 20**		P	**Pn**	**13 26 00.4**	**+2.0**
SMLA	**Simla**	**7.09 138**		*i* P	**Pn**	**13 26 01.4**	**+0.7**
SMLA				*e*S	**Sn**	**13 27 14.7**	**-5.0**
TKM2	**Tokmak 2** 4.7nm,0.7s	**7.11 24**		⇑P	**Pn**	**13 26 02.8**	**+1.7**
TKM2				⇑S	**Sn**	**13 27 19.7**	**-0.8**
	2.2nm,0.7s						
TKM2	**Tokmak 2** SNR=12	**7.11 24**		P	**Pn**	**13 26 03.8**	**+2.7**
KKR	**Kurukshetra**	**7.86 145**		*e*S	Sn	13 27 29.3	-9.1
KHET	**Khetri**	**9.13 156**		*ex*	x	13 26 20.5	
KHET				*e*S	Sn	13 28 01.5	-7.9
KHET				AML	AML	13 28 07.5	
	comp=N,19nm,0.3s						
KHET				AML	AML	13 28 07.7	
	comp=E,22nm,0.4s						
AYAN	**Aya Nagar**	**9.26 148**		*e*S	Sn	13 28 03.8	-8.7
AYAN				AML	AML	13 28 24.6	
	comp=Z,20nm,0.3s						
AGRA	**Agra**	**10.70 148**		*e*S	Sn	13 28 39.5	-7.9
AGRA				AML	AML	13 28 56.3	
	comp=N,47nm,0.2s						
AGRA				AML	AML	13 28 56.4	
	comp=E,58nm,0.1s						
MKAR	**Makanchi Array** comp=E,0.0nm,0.3s,baz=222,slow=17,SNR=4.0	**13.01 35**		Pn	**Pn**	**13 27 20.7**	**+0.7**
DANN	**Dangsing** comp=E,6.0nm,0.2s	**13.10 125**		*e*P	**Pn**	**13 27 21.2**	**-0.3**
KOLN	**Koldanda** comp=E,4.4nm,0.3s	**13.38 127**		*e*P	**Pn**	**13 27 24.3**	**-0.9**
GKN	**Gorkha** comp=E,8.0nm,0.3s	**13.90 124**		*e*P	**Pn**	**13 27 31.3**	**-0.6**
DMN	**Daman** comp=E,5.3nm,0.3s	**14.48 124**		*e*P	**Pn**	**13 27 39.5**	**+0.2**
GUN	**Gumba** comp=E,6.8nm,0.3s	**14.81 121**		*e*P	**Pn**	**13 27 44.0**	**+0.4**
KURBB	**Kurchatov Arra** comp=E,0.0nm,0.3s,baz=212,slow=12,SNR=4.2	**14.97 17**		Pn	**Pn**	**13 27 44.1**	**-1.0**
AB31	**Akbulak array** comp=E,0.4nm,0.2s,baz=137,slow=12,SNR=57	**15.31 330**		⇑P	**Pn**	**13 27 45.6**	**-3.9**
RAMN	**Ramite** comp=E,5.2nm,0.3s	**15.91 123**		*e*P	**P**	**13 27 58.2**	**-0.5**
TAPN	**Taplejung** comp=E,3.1nm,0.3s	**16.43 119**		*e*P	**P**	**13 28 05.5**	**+1.1**
BVA0	**Borovoye Array** comp=E,0.3nm,0.8s,baz=164,slow=11,SNR=8.9	**16.54 357**		⇑P	**Pn**	**13 28 04.8**	**+0.2**
BVAR	**Borovoye Array** comp=E,0.3nm,0.3s,baz=159,slow=8.9,SNR=6.6	**16.54 357**		Pn	**Pn**	**13 28 04.1**	**-0.4**
AKTO	**Aktyubinsk** comp=E,0.6nm,0.3s,baz=135,slow=9.8,SNR=8.1	**17.02 329**		P	**P**	**13 28 07.9**	**-2.5**
AKTO	**Aktyubinsk** comp=E,0.3nm,0.5s	**17.02 329**		⇑P	**P**	**13 28 09.4**	**-1.0**
ZALV	**Zalesovo Beam** comp=E,1.0nm,0.3s,baz=229,slow=9.0,SNR=9.6	**19.71 24**		P	**Pn**	**13 28 41.9**	**-0.5**
FINES	**FINESS Array B** comp=E,0.6nm,0.4s,baz=116,slow=8.7,SNR=4.0	**37.75 326**		P	**P**	**13 31 25.0**	**+1.0**
ARCES	**ARCESS Array B** comp=E,2.4nm,0.8s,baz=114,slow=7.9,SNR=10	**41.32 337**		P	P	13 31 57.6	+4.0
NB2	**NORSAR Subarra** comp=Z,0.1nm,0.5s,baz=96,slow=8.6	**44.66 323**		P	**P**	**13 32 22.9**	**+2.3**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=98,slow=7.9,SNR=4.7	**44.66 323**		P	**P**	**13 32 23.1**	**+2.5**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=46,slow=4.8,SNR=4.7	**66.20 269**		P	**P**	**13 34 54.4**	**-1.0**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=347,slow=5.3,SNR=9.0	**81.22 3**		P	**P**	**13 36 24.7**	**+2.4**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,baz=324,slow=4.9,SNR=6.6	**81.59 122**		P	**P**	**13 36 26.4**	**+1.5**

*THE **23** 13:25:39.7, 38.37N×22.95E, h2km±30km, ML1.9/1, Error ellipse: s-maj=30.2km s-min=1.1km az=141.0*
*ISCJB **23** 13:25:40.8±0.6, 38.51N±0.04×22.84E±0.05, h19km±7km, Error ellipse: s-maj=7.4km s-min=6.6km az=143.8*
*CSEM **23** 13:25:40.2±0.2, 38.51N×22.88E, h20km, MD2.7, Error ellipse: s-maj=5.4km s-min=4.3km az=66.0*
*ATH **23** 13:25:41.0, 38.50N×22.90E, h17km±5km, MD2.7/7*

ISC 23 13:25:40.2±1.1, 38.51N±0.03×22.89E±0.04, h15km±9km, n19, σ0§59/30, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.17**	**31**	P	**Pb**	**13 25 45.3**	**+0.3**
LKR				S	**Sb**	**13 25 49.1**	**+0.9**
LKR	**Lokris**	**0.17**	**31**	*e*PB	**Pb**	**13 25 45.3**	**+0.3**
LKR				*e*SB	**Sb**	**13 25 48.6**	**+0.4**
LKR	**Lokris**	**0.17**	**31**	P	**Pb**	**13 25 45.3**	**+0.3**
LKR				*e*Sb	**Sb**	**13 25 48.6**	**+0.4**
DSF	**Desfina**	**0.30**	**251**	P	**Pg**	**13 25 46.5**	**0.0**
DSF				S	**Sg**	**13 25 50.7**	**-0.2**
DSF	**Desfina**	**0.30**	**251**	P	**Pg**	**13 25 46.5**	**0.0**
AXAR	**Agios Charalam**	**0.32**	**325**	P	**Pb**	**13 25 48.0**	**+0.4**
AXAR				S	**Sn**	**13 25 55.5**	**-1.2**
AXAR	**Agios Charalam**	**0.32**	**325**	P	**Pb**	**13 25 48.0**	**+0.4**
AXAR				S	**Sn**	**13 25 55.5**	**-1.2**
LTK	**Loutraki**	**0.49**	**173**	*e*PB	**Pb**	**13 25 50.3**	**-0.2**
LTK				*e*SB	**Sb**	**13 25 57.9**	**+0.4**
LTK	**Loutraki**	**0.49**	**173**	*e*Pb	**Pb**	**13 25 50.3**	**-0.2**
LTK				*e*Sb	**Sb**	**13 25 57.9**	**+0.4**
KALE	**Kalithea**	**0.60**	**259**	*e*PB	**Pg**	**13 25 51.9**	**-0.1**
KALE	**Kalithea**	**0.60**	**259**	*e*Pb	**Pg**	**13 25 51.9**	**-0.1**
TRIZ	**Trizonia**	**0.66**	**258**	*e*PB	**Pg**	**13 25 53.0**	**-0.1**
TRIZ				*e*SN	**Sb**	**13 26 03.5**	**+1.2**
TRIZ	**Trizonia**	**0.66**	**258**	*e*Pb	**Pg**	**13 25 53.0**	**-0.1**
TRIZ				*e*Sn	**Sb**	**13 26 03.5**	**+1.2**
AGG	**Agios Georgios**	**0.68**	**320**	*e*PN	**Pn**	**13 25 54.8**	**-0.5**
AGG	**Agios Georgios**	**0.68**	**320**	*e*Pn	**Pn**	**13 25 54.8**	**-0.5**
LAKA	**Lakka**	**0.77**	**250**	*e*PN	**Pb**	**13 25 55.4**	**+0.2**
LAKA	**Lakka**	**0.77**	**250**	*e*Pn	**Pb**	**13 25 55.4**	**+0.2**
DID	**Didima**	**1.04**	**165**	*e*PB	**Pb**	**13 25 59.9**	**0.0**
DID				*e*SN	**Sn**	**13 26 15.3**	**+0.8**
DID	**Didima**	**1.04**	**165**	*e*Pb	**Pb**	**13 25 59.9**	**0.0**

BUC 23 13:27:18.9±0.9, 45.84N×26.48E, h76km±8km, MD2.1/3, 6C-2D, Error ellipse: s-maj=25.9km s-min=4.6km az=329.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**83**	⇓*i* P	Pn	13 27 30.5	+0.5
PLOR				*i* S	Sn	13 27 39.0	+0.8
PLOR	**Plostina**	**0.12**	**83**	⇓*i* P	Pn	13 27 30.5	+0.5
PLOR	**Plostina**	**0.12**	**83**	S	Sn	13 27 39.0	+0.8
VRI	**Vrincioaia**	**0.18**	**80**	⇑*i* P	Pn	13 27 30.3	+0.1
VRI				*i* S	Sn	13 27 38.7	+0.2
VRI	**Vrincioaia**	**0.18**	**80**	⇑*i* P	Pn	13 27 30.3	+0.1
VRI	**Vrincioaia**	**0.18**	**80**	S	Sn	13 27 38.7	+0.2
MLR	**Muntele Rosu**	**0.51**	**228**	⇑*i* P	Pn	13 27 42.7	+0.1
MLR				*i* S	Sn	13 27 42.7	+0.1
MLR	**Muntele Rosu**	**0.51**	**228**	⇑*i* P	Pn	13 27 32.7	+0.1
MLR	**Muntele Rosu**	**0.51**	**228**	S	Sn	13 27 42.7	+0.1
VOIR		**1.08**	**249**	⇑*i* P	Pn	13 27 39.2	+0.4
VOIR				*i* S	Sn	13 27 54.4	+0.7
VOIR		**1.08**	**249**	⇑*i* P	Pn	13 27 39.2	+0.4
VOIR		**1.08**	**249**	S	Sn	13 27 54.4	+0.7

*ISK **23** 13:27:40.8, 41.43N×35.93E, h8km, MD2.8*
*ISCJB **23** 13:27:41.8±0.8, 41.40N±0.04×35.86E±0.04, h2km±6km, Error ellipse: s-maj=7.3km s-min=3.9km az=28.9*
*DDA **23** 13:27:41.4, 41.40N×35.82E, h11km, MD3.3*
*CSEM **23** 13:27:42.3±0.3, 41.35N×35.85E, h5km, MD3.3, Error ellipse: s-maj=8.5km s-min=4.4km az=25.0*

ISC 23 13:27:42.2±1.0, 41.33N±0.03×35.85E±0.02, h13km±9km, n35, σ0§76/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAVZ	**Havza**	**0.28**	**202**	*i* P	**Pg**	**13 27 48.0**	**0.0**
HAVZ				*e*S	**Sb**	**13 27 53.5**	**-0.3**
HAVZ	**Havza**	**0.28**	**202**	*i* P	**Pg**	**13 27 48.0**	**0.0**
HAVZ				*e*S	**Sb**	**13 27 53.5**	**-0.3**
KVT	**Kavak**	**0.29**	**150**	*e*PG	**Pg**	**13 27 48.2**	**-0.1**
KVT				*e*SG	**Sb**	**13 27 54.3**	**+0.1**
KVT	**Kavak**	**0.29**	**150**	*e*Pg	**Pg**	**13 27 48.2**	**-0.1**
KVT				*e*Sg	**Sb**	**13 27 54.3**	**+0.1**
DIKM	**Dikmen**	**0.55**	**305**	*e*PG	**Pg**	**13 27 52.1**	**-0.9**
DIKM				*e*SG	**Sg**	**13 28 00.5**	**+0.3**
DIKM	**Dikmen**	**0.55**	**305**	*e*Pg	**Pg**	**13 27 52.1**	**-0.9**
DIKM				*e*Sg	**Sg**	**13 28 00.5**	**+0.3**
BYBT	**Boyabat**	**0.83**	**280**	*e*PG	**Pg**	**13 27 57.2**	**-1.1**
BYBT				*e*SG	**Sb**	**13 28 10.1**	**+0.5**
BYBT	**Boyabat**	**0.83**	**280**	*e*Sg	**Sb**	**13 28 10.1**	**+0.5**
ERBA	**Erbaa**	**0.94**	**133**	*e*P	**Pb**	**13 28 00.4**	**-0.1**
ERBA				*e*S	**Sn**	**13 28 15.2**	**+0.5**
ERBA	**Erbaa**	**0.94**	**133**	*e*P	**Pb**	**13 28 00.4**	**-0.1**
ERBA				*e*S	**Sn**	**13 28 15.2**	**+0.5**
CTKT	**Corum**	**1.07**	**229**	*i* P	**Pb**	**13 28 02.1**	**-0.7**
CTKT				*i* S	**Sb**	**13 28 15.7**	**-1.1**
CTKT	**Corum**	**1.07**	**229**	*i* P	**Pb**	**13 28 02.1**	**-0.7**
CTKT				*i* S	**Sb**	**13 28 15.7**	**-1.1**
TOKT	**Tokat**	**1.14**	**152**	*e*PN	**Pg**	**13 28 04.2**	**0.0**
TOKT	**Tokat**	**1.14**	**152**	*e*Pn	**Pg**	**13 28 04.2**	**0.0**
TOS	**Tosya**	**1.41**	**258**	*e*PN	**Pb**	**13 28 08.5**	**0.0**
TOS	**Tosya**	**1.41**	**258**	*e*Pn	**Pb**	**13 28 08.5**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.46**	**129**	*e*PN	**Pn**	**13 28 08.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.46**	**129**	*e*Pn	**Pn**	**13 28 08.3**	**-0.1**
CORM	**Corum**	**1.48**	**219**	*e*PN	**Pb**	**13 28 10.1**	**+0.4**
CORM	**Corum**	**1.48**	**219**	*e*Pn	**Pb**	**13 28 10.1**	**+0.4**
BZK	**Bozkurt**	**1.52**	**295**	*e*PN	**Pn**	**13 28 09.3**	**+0.2**
BZK	**Bozkurt**	**1.52**	**295**	*e*Pn	**Pn**	**13 28 09.3**	**+0.2**
YOZ	**Yozgat**	**1.74**	**194**	*e*PN	**Pb**	**13 28 13.8**	**-0.3**
YOZ	**Yozgat**	**1.74**	**194**	*e*Pn	**Pb**	**13 28 13.8**	**-0.3**
BALT	**Daday**	**1.87**	**277**	*e*P	**Pb**	**13 28 16.0**	**-0.3**
BALT				*e*S	**Sg**	**13 28 46.0**	**+3.7**
BALT	**Daday**	**1.87**	**277**	*e*P	**Pb**	**13 28 16.0**	**-0.3**
GRSN	**GIRESUNGRSN**	**1.87**	**102**	*e*P	**Pn**	**13 28 14.7**	**+0.7**
GRSN				*e*S	**Sb**	**13 28 39.2**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.87**	**102**	*e*P	**Pn**	**13 28 14.7**	**+0.7**
GRSN				*e*S	**Sb**	**13 28 39.2**	**-0.4**
ELDT	**Eldivan**	**2.02**	**246**	*e*P	**Pb**	**13 28 18.6**	**-0.4**
ELDT	**Eldivan**	**2.02**	**246**	*e*P	**Pb**	**13 28 18.6**	**-0.4**
CDAG	**Cicekdag**	**2.05**	**214**	*e*P	**Pb**	**13 28 18.6**	**-0.7**
CDAG				*e*S	**Sg**	**13 28 47.6**	**-0.5**
CDAG	**Cicekdag**	**2.05**	**214**	*e*P	**Pb**	**13 28 18.6**	**-0.7**
SUSE	**Susehri**	**2.11**	**121**	*e*P	**Pb**	**13 28 20.4**	**0.0**
SUSE				*e*S	**Sg**	**13 28 48.8**	**-1.2**
SUSE	**Susehri**	**2.11**	**121**	*e*P	**Pb**	**13 28 20.4**	**0.0**
KELT	**Kelkit**	**2.84**	**113**	*e*P	**Pb**	**13 28 32.3**	**-0.7**

*ISCJB **23** 13:33:36.7±1.0, 37.73N±0.06×72.2E±0.2, h130km, Error ellipse: s-maj=18.3km s-min=7.0km az=160.2*
*NNC **23** 13:33:41.0±7.0, 38.23N×72.05E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=56.0km s-min=37.2km az=176.0*

ISC 23 13:33:37.2±1.3, 37.70N±0.10×72.1E±0.1, h130km, n10, σ1§37/12, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 7.4nm,0.2s,baz=166,slow=12,SNR=232	**5.54 348**		Pn	**Pn**	**13 34 58.8**	**+1.3**
KK31				⇑Sn	**Sn**	**13 35 57.4**	**-2.6**
	2.4nm,0.2s,baz=168,slow=22,SNR=13						
TKM2	**Tokmak 2** 1.6nm,0.6s	**5.84 26**		⇑Pn	**Pn**	**13 35 03.5**	**+1.7**
TKM2				⇑Sn	**Sn**	**13 36 06.5**	**-1.3**
	1.2nm,0.6s						
PYUN	**Piuthan**	**13.21 133**		*e*P	**Pn**	**13 36 38.8**	**-1.3**
DANN	**Dangsing** 7.6nm,0.4s	**13.48 130**		*e*P	**Pn**	**13 36 43.4**	**-0.2**
KOLN	**Koldanda** 3.8nm,0.3s	**13.81 132**		*e*P	**Pn**	**13 36 46.7**	**-1.1**
GKN	**Gorkha** 10.0nm,0.4s	**14.27 129**		*e*P	**Pn**	**13 36 53.1**	**-0.4**
AB31	**Akbulak array** 0.1nm,0.2s,baz=159,slow=9.7,SNR=21	**14.53 327**		⇑P	**Pn**	**13 36 56.9**	**+0.4**
DMN	**Daman** 6.3nm,0.5s	**14.84 129**		*e*P	**Pn**	**13 37 00.5**	**-0.3**
RAMN	**Ramite** 5.2nm,0.3s	**16.24 127**		*e*P	**Pn**	**13 37 17.6**	**-0.6**
TAPN	**Taplejung**	**16.68 124**		*e*P	**P**	**13 37 24.1**	**+0.3**

*ISK **23** 13:37:45.4, 35.06N×30.29E, h53km, MD3.4*
*CSEM **23** 13:37:49.9±0.2, 35.39N×30.56E, h20km, MD3.3, Error ellipse: s-maj=9.3km s-min=5.1km az=73.0*
*DDA **23** 13:37:50.3, 35.83N×30.66E, h8km, MD3.3*

ISC 23 13:37:49.0±1.3, 35.41N±0.04×30.48E±0.03, h33km±7km, n41, σ1§64/63, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.09 319**		*e*P	**Pb**	**13 38 09.5**	**+0.1**
AKAS				*e*S	**Sn**	**13 38 20.3**	**-1.7**
AKAS	**Kas**	**1.09 319**		*e*P	**Pb**	**13 38 09.5**	**+0.1**
AKAS				*e*S	**Sn**	**13 38 20.3**	**-1.7**
ELL	**Elmali**	**1.41 341**		*e*PN	**Pb**	**13 38 14.1**	**-0.8**
ELL				*e*SN	**Sb**	**13 38 34.7**	**+2.1**
ELL	**Elmali**	**1.41 341**		*e*Pn	**Pb**	**13 38 14.1**	**-0.8**
ELL				*e*Sn	**Sb**	**13 38 34.7**	**+2.1**
KORT	**Korkueli**	**1.59 356**		*e*P	**Pb**	**13 38 19.6**	**+1.7**
KORT				*e*S	**Sn**	**13 38 36.5**	**+2.0**
KORT	**Korkueli**	**1.59 356**		*e*P	**Pb**	**13 38 19.6**	**+1.7**
KORT				*e*S	**Sn**	**13 38 36.5**	**+2.0**
GAZI	**Gazipasa**	**1.70 61**		*e*P	**Pn**	**13 38 16.4**	**0.0**
GAZI				*e*S	**Sn**	**13 38 36.6**	**-0.5**
GAZI	**Gazipasa**	**1.70 61**		*e*P	**Pn**	**13 38 16.4**	**0.0**
GAZI				*e*S	**Sn**	**13 38 36.6**	**-0.5**
GOLH	**Golhisar**	**1.97 338**		*e*P	**Pb**	**13 38 23.4**	**-0.9**
GOLH				*e*S	**Sn**	**13 38 44.9**	**+1.1**
GOLH	**Golhisar**	**1.97 338**		*e*P	**Pb**	**13 38 23.4**	**-0.9**
GOLH				*e*S	**Sn**	**13 38 44.9**	**+1.1**
BCK	**Bucak**	**2.05 2**		*e*PN	**Pb**	**13 38 23.6**	**-2.0**
BCK	**Bucak**	**2.05 2**		*e*Pn	**Pb**	**13 38 23.6**	**-2.0**
TURN	**Turunc**	**2.11 314**		*e*P	**Pb**	**13 38 25.9**	**-0.6**
TURN				*e*S	**Sb**	**13 38 52.0**	**-0.3**
TURN	**Turunc**	**2.11 314**		*e*P	**Pb**	**13 38 25.9**	**-0.6**
TURN				*e*S	**Sb**	**13 38 52.0**	**-0.3**
ERMK	**Ermenek**	**2.32 57**		*e*P	**Pb**	**13 38 30.2**	**-0.1**
ERMK				*e*S	**Sb**	**13 38 56.2**	**-2.5**
ERMK	**Ermenek**	**2.32 57**		*e*P	**Pb**	**13 38 30.2**	**-0.1**
ERMK				*e*S	**Sb**	**13 38 56.2**	**-2.5**
CSS	**Prodhromos**	**2.38 100**		*e*PN	**Pn**	**13 38 25.8**	**+0.1**
CSS				*e*SN	**Sn**	**13 38 53.6**	**-0.1**
CSS	**Prodhromos**	**2.38 100**		*e*Pn	**Pn**	**13 38 25.8**	**+0.1**
CSS				*e*Sn	**Sn**	**13 38 53.6**	**-0.1**
ISP	**Isparta**	**2.41 1**		*e*PN	**Pn**	**13 38 28.9**	**+2.7**
ISP	**Isparta**	**2.41 1**		*e*Pn	**Pn**	**13 38 28.9**	**+2.7**
DNZL	**Cakiroluk**	**2.55 334**		*e*P	**Pb**	**13 38 33.0**	**-1.2**
DNZL				*e*S	**Sn**	**13 38 56.9**	**-1.3**
DNZL	**Cakiroluk**	**2.55 334**		*e*P	**Pb**	**13 38 33.0**	**-1.2**
DNZL				*e*S	**Sn**	**13 38 56.9**	**-1.3**
KHL	**Karahalli**	**3.01 346**		*e*PN	**Pn**	**13 38 36.5**	**+2.1**
KHL	**Karahalli**	**3.01 346**		*e*Pn	**Pn**	**13 38 36.5**	**+2.1**
BODT	**Bodrum**	**3.05 304**		*e*PN	**Pn**	**13 38 33.8**	**-1.1**
BODT	**Bodrum**	**3.05 304**		*e*Pn	**Pn**	**13 38 33.8**	**-1.1**
KHAL	**Karahalli**	**3.06 345**		*e*P	**Pn**	**13 38 36.2**	**+1.1**
KHAL				*e*S	**Sn**	**13 39 08.2**	**-2.5**
KHAL	**Karahalli**	**3.06 345**		*e*P	**Pn**	**13 38 36.2**	**+1.1**
KHAL				*e*S	**Sn**	**13 39 08.2**	**-2.5**
AYDN	**Tasoluk**	**3.07 318**		*e*P	**Pn**	**13 38 37.0**	**+1.7**
AYDN				*e*S	**

comp=Z,33nm,0.7s
GKN Gorkha 18.33 340 *e*P **Pn** **13 48 57.4 +0.1**
KOLN Koldanda 18.49 337 *e*P **Pn** **13 48 59.6 +0.3**
comp=Z,50nm,0.6s
LSA Lhasa 18.77 358 P **P** **13 49 01.3 -1.1**
LSA Lhasa 18.77 358 P **Pn** **13 49 03.1 +0.1**
comp=Z,30nm,1.2s
POO Poona 18.89 296 *e*P **Pn** **13 49 04.0 -0.1**
POO *ex* x 13 52 16.0
DANN Dangsing 18.95 338 *e*P **Pn** **13 49 04.9 -0.1**
comp=Z,25nm,0.5s
QIZ Qiongzhong 19.29 63 P **P** **13 49 04.9 -2.8**
QIZ pP **pP** **13 49 15.8 -0.4**
QIZ S **Sn** **13 52 43.4 -1.0**
QIZ pmax pmax
comp=Z,140nm,4.2s
QIZ LR LR
comp=N,170nm,14.3s
QIZ LR LR
comp=E,130nm,13.8s
QIZ LR LR
comp=Z,300nm,12.6s
KSM Kuching 20.67 115 *e*P Pn 13 49 24.0 -1.1
comp=Z,12nm,1.0s
GYA Guiyang 20.98 40 *e*P Pn 13 49 27.9 -1.0
GYA pP pP 13 49 37.6 +2.9
GYA PP **PnPn** **13 49 52.0 +6.5**
GYA S **S** **13 53 14.8 -3.6**
GYA sS sS 13 53 31.3 -0.7
GYA ScP **ScP** **13 57 06.5 -1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 22.88 27 P **P** **13 49 45.9 -0.4**
CD2 pP **pP** **13 49 55.5 +0.5**
CD2 sP **sP** **13 49 59.8 +0.8**
CD2 PP **PnPn** **13 50 16.0 +4.6**
CD2 PcP **PcP** **13 53 37.0 +0.5**
CD2 S **S** **13 53 49.3 -4.8**
CD2 sS **sS** **13 54 05.0 -4.0**
CD2 SS **SnSn** **13 54 34.4 +7.5**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,120nm,5.5s
CD2 LR LR
comp=N,280nm,10.7s
CD2 LR LR
comp=Z,260nm,9.5s
SMLA Simla 24.29 328 *e*P **P** **13 50 00.9 +1.1**
ENH Enshi 25.43 38 *e*P **P** **13 50 08.9 -1.4**
comp=Z,30nm,0.7s
LZH Lanzhou 27.43 22 *e*P **P** **13 50 24.0 -4.4**
LZH pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 29.35 13 *e*P **P** **13 50 46.4 +0.9**
GTA pP **pP** **13 50 55.5 +0.8**
GTA sP **sP** **13 50 59.6 +1.0**
GTA pmax pmax
comp=Z,12nm,1.0s
KSH Kashi 31.81 337 *e*P **P** **13 51 06.9 -0.3**
KSH pP **pP** **13 51 16.9 +0.4**
KSH *es*P **sP** **13 51 20.4 0.0**
KSH PP **PnPn** **13 52 12.3 +0.1**
KSH *e*PcP **PcP** **13 53 56.8 -1.0**
KSH S **S** **13 56 12.4 -3.2**
KSH sS **sS** **13 56 29.6 -1.4**
KSH ScP **ScP** **13 57 37.3 -1.8**
KSH PcS **PcS** **13 57 41.3 -1.2**
KSH SS **SnSn** **13 58 04.8 +0.1**
KSH ScS **ScS** **14 01 34.3 -3.1**
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,100nm,5.0s
KSH LR LR
comp=N,110nm,5.5s
KSH LR LR
comp=E,130nm,5.3s
KSH LR LR
comp=Z,180nm,7.4s
NJ2 Nanjing 32.74 46 *e*P **P** **13 51 16.1 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 33.05 355 *e*P **P** **13 51 19.5 +1.6**
WMQ pmax pmax
comp=Z,3.0nm,1.0s
WMQ LR LR
comp=N,87nm,26.0s
WMQ LR LR
comp=E,220nm,21.0s
WMQ LR LR
comp=Z,95nm,22.0s
WSAR Wadi Sarin 33.87 296 LR LR 14 05 32.8
comp=Z,98nm,20.9s,baz=81,slow=37
HHC Hu-ho-hao-te 34.64 27 *e*P **P** **13 51 32.0 +0.2**
HHC pP **pP** **13 51 43.4 +2.2**
HHC sP **sP** **13 51 47.3 +2.3**
HHC PP **PP** **13 52 51.1 +0.4**
HHC S **S** **13 57 00.5 +1.0**
HHC sS **sS** **13 57 16.5 +1.6**
HHC SS **SnSn** **13 59 13.8 +0.5**
HHC ScS **ScS** **14 01 50.8 -1.1**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,87nm,4.9s
HHC LR LR
comp=N,470nm,17.1s
HHC LR LR
comp=E,260nm,18.8s
HHC LR LR
comp=Z,180nm,14.3s
AAK Ala-Archa 35.06 338 LR LR 14 08 19.0
comp=Z,248nm,19.8s,baz=142,slow=40
AAK Ala-Archa 35.06 338 *e*P **P** **13 51 37.0 +1.5**
comp=Z,13nm,0.8s
EKS2 Erkin-Say 35.36 337 *e*P **P** **13 51 40.2 +2.2**
comp=Z,6.7nm,1.0s
MK31 Makanchi Array 36.72 349 *e*P **P** **13 51 49.7 +0.2**
MKAR Makanchi Array 36.72 349 P **P** **13 51 49.6 +0.2**
comp=Z,5.5nm,0.7s,baz=170,slow=8.1,SNR=61
MKAR PcP **PcP** **13 54 12.2 +0.5**
comp=Z,0.8nm,0.6s,baz=195,slow=3.6,SNR=3.5
MKAR pPcP 13 54 20.5
comp=Z,0.6nm,0.5s,baz=213,slow=4.3,SNR=4.3
MKAR LR LR 14 10 10.8
comp=Z,75nm,20.8s,baz=167,slow=42
MKAR Makanchi Array 36.72 349 P **P** **13 51 49.6 +0.2**
MKAR PcP **PcP** **13 54 12.2 +0.5**
MKAR pPcP 13 54 20.5
KKAR Karatay Array 37.06 334 *e*P **P** **13 51 53.4 +1.0**
comp=Z,7.8nm,0.8s
SONM Songino Array 38.89 16 P **P** **13 52 08.0 +0.1**
comp=Z,6.4nm,1.1s,baz=199,slow=8.5,SNR=27
SONM PcP **PcP** **13 54 19.4 +1.0**
comp=Z,0.7nm,0.7s,baz=180,slow=3.5,SNR=3.5
SONM LR LR 14 11 28.3
comp=Z,148nm,19.5s,baz=55,slow=41
SONM Songino Array 38.89 16 P **P** **13 52 08.0 +0.1**
SONM PcP **PcP** **13 54 19.4 +1.0**
ULN Ulaanbaatar 39.10 16 *e*P **P** **13 52 09.4 -0.3**
comp=Z,2.1nm,0.8s
KURBB Kurchatov Arra 41.13 347 LR LR 14 13 11.5
comp=Z,94nm,18.8s,baz=330,slow=42
KURK Kurchatov 41.19 347 *e*P **P** **13 52 27.0 +0.2**
comp=Z,10.0nm,1.2s
KSAR Wonju Array Be 41.89 45 P **P** **13 52 32.5 -0.3**
KSRS Korea Array 41.92 45 P **P** **13 52 32.5 -0.5**
comp=Z,2.6nm,1.0s,baz=262,slow=8.5,SNR=5.7
KSRS LR LR 14 12 06.2
comp=Z,77nm,18.0s,baz=180,slow=39
ZAA0 Zalesovo Array 43.35 354 *e*P **P** **13 52 44.2 -0.1**
ZALV Zalesovo Beam 43.35 354 P **P** **13 52 44.4 +0.1**
comp=Z,3.4nm,0.5s,baz=177,slow=8.9,SNR=27
ZALV LR LR 14 14 27.4
comp=Z,104nm,18.2s,baz=252,slow=41
ZALV Zalesovo Beam 43.35 354 P **P** **13 52 44.4 +0.1**
CN2 Changchun 43.91 35 *e*P **P** **13 52 48.6 -0.4**
CN2 *ep*P **pP** **13 52 58.5 0.0**
CN2 *e*S **S** **13 59 17.9 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,300nm,16.0s
FITZ Fitzroy Crossi 44.13 130 P **P** **13 52 50.7 -0.5**
comp=Z,4.9nm,0.5s,baz=341,slow=7.6,SNR=3.4
FITZ Fitzroy Crossi 44.13 130 *e*P **P** **13 52 50.3 -0.8**
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 45.44 342 LR LR 14 14 07.6
comp=Z,68nm,21.7s,baz=98,slow=39
BRVK Borovoye 45.50 342 *e*P **P** **13 53 02.1 +0.5**
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 46.51 332 *e*P **P** **13 53 10.1 +0.6**
comp=Z,2.7nm,0.5s
MDJ Mudanjiang 46.79 37 P **P** **13 53 11.6 -0.3**
MDJ ScP **ScP** **13 58 34.9 -1.4**
MDJ S **S** **14 00 01.8 +1.8**
MDJ pmax pmax
comp=Z,12nm,2.1s
MDJ pmax pmax
comp=Z,190nm,4.9s
MDJ LR LR
comp=N,58nm,21.8s
MDJ LR LR
comp=E,47nm,20.9s
MDJ LR LR
comp=Z,85nm,20.0s
USRK Ussuriysk Arra 48.02 39 LR LR 14 16 11.9
comp=Z,111nm,19.6s,baz=18,slow=39
MJAR Matsushiro Arr 49.04 51 LR LR 14 16 09.4
comp=Z,90nm,18.5s,baz=280,slow=38
WRA Warramunga Arr 51.92 126 P **P** **13 53 50.8 -0.6**
comp=Z,1.5nm,0.3s,baz=300,slow=10.0,SNR=87
WRA Warramunga Arr 51.92 126 P **P** **13 53 50.8 -0.6**
WRAB Tennant Creek 51.92 126 *e*P **P** **13 53 50.6 -0.8**
comp=Z,6.8nm,0.6s
GUMO Guam 51.93 81 LR LR 14 17 54.9
comp=Z,40nm,18.6s,baz=87,slow=38
AS31 Alice Springs 53.64 130 *e*P **P** **13 54 03.9 -0.2**
ASAR Alice Springs 53.64 130 P **P** **13 54 03.9 -0.2**
comp=Z,4.3nm,0.8s,baz=303,slow=7.1,SNR=55
ASAR LR LR 14 20 15.3
comp=Z,61nm,18.8s,baz=313,slow=40
ASAR Alice Springs 53.64 130 P **P** **13 54 03.9 -0.2**
ASF Jabal al Asfar 54.63 302 LR LR 14 19 05.9
comp=Z,28nm,19.1s,baz=319,slow=38
EIL Elat 55.91 298 LR LR 14 20 12.9
comp=Z,44nm,18.9s,baz=294,slow=38
BR131 Keskin Array S 58.70 310 *e*P **P** **13 54 39.5 -0.7**
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 58.70 310 P **P** **13 54 39.5 -0.7**
comp=Z,1.8nm,0.7s,baz=126,slow=8.7,SNR=11
BRTR pP **pP** **13 54 47.6 -2.4**
comp=Z,2.7nm,0.8s,baz=115,slow=7.2,SNR=12
BRTR LR LR 14 21 18.9
comp=Z,21nm,18.9s,baz=268,slow=37
BRTR Keskin Array B 58.70 310 P **P** **13 54 39.5 -0.7**
BRTR pP **pP** **13 54 47.6 -2.4**
STKA Stephens Creek 63.87 134 P **P** **13 55 15.2 +0.2**
comp=Z,2.2nm,0.7s,baz=317,slow=6.4,SNR=6.8
STKA Stephens Creek 63.87 134 P **P** **13 55 15.2 +0.2**
AKASG Malin Array Be 64.36 321 P **P** **13 55 17.9 -0.1**
comp=Z,0.2nm,0.3s,baz=106,slow=6.8,SNR=3.1
AKASG Malin Array Be 64.36 321 P **P** **13 55 17.9 -0.1**
TIXI Tiksi 64.83 12 *e*P **P** **13 55 19.7 -1.0**
comp=Z,3.4nm,0.6s
VRI Vrancioaia 64.93 316 *ǁ iP* **P** **13 55 22.7 +0.9**
PLOR Plostina 64.98 316 *ǁ iP* **P** **13 55 23.8 +1.6**
MLR Muntele Rosu 65.40 315 *ǁ iP* **P** **13 55 26.2 +1.1**
VOIR 66.01 315 *ǁ iP* **P** **13 55 28.0 -0.9**
PETK Petropavlovsk- 67.03 37 LR LR 14 29 05.3
comp=Z,54nm,19.5s,baz=34,slow=40
JOF Joensuu 67.16 334 *ep* **P** **13 55 36.6 +0.8**
comp=Z,5.2nm,0.7s
DRGR 67.82 316 *ǁ iP* **P** **13 55 38.1 -2.3**
FINES FINESS Array B 68.99 332 P **P** **13 55 47.5 +0.2**
comp=Z,2.5nm,0.7s,baz=113,slow=13,SNR=8.2
FINES pP **pP** **13 55 55.5 -1.8**
comp=Z,5.8nm,0.8s,baz=101,slow=9.9,SNR=8.4
FINES FINESS Array B 68.99 332 P **P** **13 55 47.5 +0.2**
FINES pP **pP** **13 55 55.5 -1.8**
KAF Kangasniemi 69.08 333 *ep* P 13 55 55.7 +7.8
comp=Z,2.5nm,0.6s
ARCES ARCESS Array B 71.69 340 P **P** **13 56 04.6 +0.9**
comp=Z,2.3nm,0.6s,baz=86,slow=6.2,SNR=9.4
ARCES pP **pP** **13 56 12.7 -1.0**
comp=Z,5.0nm,0.8s,baz=93,slow=6.8,SNR=2.8
ARCES LR LR 14 30 39.2
comp=Z,91nm,21.2s,baz=145,slow=38
ARCES ARCESS Array B 71.69 340 P **P** **13 56 04.6 +0.9**
ARCES pP **pP** **13 56 12.7 -1.0**
BRG Berggiesshubel 73.96 320 *e*P **P** **13 56 18.8 +1.2**
comp=Z,5.1nm,0.7s
GERES GERESS Array B 74.04 318 P **P** **13 56 18.9 +0.7**
comp=Z,1.7nm,0.8s,baz=116,slow=6.1,SNR=5.2
GERES pP **pP** **13 56 26.5 -1.8**
comp=Z,1.5nm,0.6s,baz=126,slow=6.8,SNR=5.5
GERES GERESS Array B 74.04 318 P **P** **13 56 18.9 +0.7**
GERES pP **pP** **13 56 26.5 -1.8**
BILL Bilibino 74.24 22 P **P** **13 56 18.5 -0.4**
comp=Z,1.9nm,0.6s
BOSA Boshof 75.18 236 P **P** **13 56 27.0 +1.9**
comp=Z,3.0nm,0.8s,baz=105,slow=7.2,SNR=4.7
BOSA LR LR 14 27 53.7
comp=Z,46nm,18.9s,baz=260,slow=34
BOSA Boshof 75.18 236 P **P** **13 56 27.0 +1.9**
NB2 NORSAR Subarra 75.99 330 P **P** **13 56 29.4 +0.3**
comp=Z,1.1nm,0.7s,baz=94,slow=5.9
NOA NORSAR Array 75.99 330 P **P** **13 56 29.2 +0.1**
comp=Z,1.6nm,0.7s,baz=92,slow=5.8,SNR=5.2
NOA NORSAR Array B 75.99 330 P **P** **13 56 29.2 +0.1**
TORD Torodi Ar. Bea 87.61 283 P **P** **13 57 32.2 +1.1**
comp=Z,0.7nm,0.7s,baz=87,slow=4.9,SNR=5.5
TORD pP **pP** **13 57 39.5 -1.8**
comp=Z,0.9nm,0.9s,baz=94,slow=4.6,SNR=5.0
TORD LR LR 14 38 28.3
comp=Z,48nm,18.7s,baz=165,slow=37
TORD Torodi Ar. Bea 87.61 283 P **P** **13 57 32.2 +1.1**
TORD pP **pP** **13 57 39.5 -1.8**
ILAR Eielson Array 92.89 21 P **P** **13 57 54.4 -0.4**
comp=Z,0.8nm,0.7s,baz=299,slow=3.9,SNR=10
ILAR LR LR 14 47 16.9
comp=Z,43nm,18.5s,baz=346,slow=40
ILAR Eielson Array 92.89 21 P **P** **13 57 54.4 -0.4**
RES Resolute Bay 94.54 2 P **P** **13 58 02.5 +0.3**
comp=Z,0.9nm,0.8s,baz=340,slow=4.5,SNR=6.1
RES Resolute Bay 94.54 2 P **P** **13 58 02.5 +0.3**
DBIC Dimbokro 95.18 278 LR LR 14 42 22.0
comp=Z,54nm,18.6s,baz=49,slow=36
VNA2 Neumayer~Watz 103.16 199 *e*PP PP 14 02 56.4 +0.5
PDAR Pinedale Array 123.21 19 PKP **PKPdf** **14 03 39.4 -0.1**
comp=Z,0.4nm,0.6s,baz=137,slow=1.7,SNR=4.8
PDAR Pinedale Array 123.21 19 PKP **PKPdf** **14 03 39.4 -0.1**
PLCA Paso Flores 146.36 205 PKPbc **PKPab** **14 04 24.5 +0.3**
comp=Z,1.0nm,0.7s,baz=172,slow=4.9,SNR=3.6
PLCA pPKPbc pPKPbc 14 04 33.8 0.0
comp=Z,2.6nm,0.8s,baz=102,slow=3.2,SNR=6.6
PLCA Paso Flores 146.36 205 PKPbc **PKPab** **14 04 24.5 +0.3**
PLCA pPKPbc pPKPbc 14 04 33.8 0.0

*TAP **23** 13:55:57.9,24˚.42N×121˚.96E,h30km,ML3.1,C*
*JMA **23** 13:55:57.5±0.4,24˚.33N×121˚.93E,h42km,M2.2*
*ISCJB **23** 13:55:58.1±0.4,24˚.40N±0˚.03×122˚.03E±0˚.02,h21km±4km,*
Error ellipse: s-maj=4.7km s-min=3.1km az=151.4
ISC 23 13:55:58.3±0.9,24˚.42N±0˚.03×122˚.00E±0˚.02,h25km±7km,
n32,σ0s66/57,2C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.23**	**325**	*ǁ iP*	**Pb**	**13 56 04.4**	**0.0**
	baz=334						
TWC				*i* S	**Sb**	**13 56 08.6**	**0.0**
	baz=334						
ENA	**Nanau**	**0.23**	**272**	*ǁ iP*	**Pb**	**13 56 04.2**	**-0.3**
	baz=270						
ENA				*e*S	**Sb**	**13 56 08.7**	**+0.1**
	baz=270						
ILA	**Ilan**	**0.41**	**327**	*e*P	**Pb**	**13 56 06.7**	**-0.4**
	baz=324						
TWE	**Neicheng**	**0.42**	**315**	*ǁ iP*	**Pb**	**13 56 07.1**	**-0.2**
	baz=319						
TWE				S	**Sb**	**13 56 13.4**	**0.0**
	baz=319						
ENTT	**Nioudou**	**0.45**	**299**	P	**Pb**	**13 56 07.5**	**-0.2**
	baz=301						
ENTT				*e*S	**Sb**	**13 56 14.2**	**+0.1**
	baz=301						
TWD	**Chiawan**	**0.50**	**227**	P	**Pb**	**13 56 08.2**	**-0.3**
	baz=232						
TWD				S	**Sb**	**13 56 16.2**	**+0.8**
	baz=232						
HWA	**Hwalien**	**0.57**	**219**	*e*P	**Pb**	**13 56 09.9**	**+0.2**
	baz=214						
NNS	**Nan Shan**	**0.57**	**272**	*ǁ iP*	**Pb**	**13 56 09.4**	**-0.4**
	baz=274						
NNS				S	**Sb**	**13 56 17.6**	**0.0**
	baz=274						
TWB1	**Santiao Chiao**	**0.59**	**359**	*e*P	**Pb**	**13 56 10.1**	**+0.1**
	baz=4.0						
TWB1				S	**Sn**	**13 56 18.7**	**-1.1**
	baz=4.0						
NSK	**Sanguang**	**0.64**	**294**	*e*P	**Pb**	**13 56 10.5**	**-0.3**
	baz=299						
NSK				S	**Sb**	**13 56 18.9**	**-0.5**
	baz=299						
NWF	**Wu-fen Shan**	**0.68**	**343**	*e*P	**Pb**	**13 56 11.8**	**+0.1**
	baz=339						
NWF				S	**Sn**	**13 56 21.2**	**-1.0**
	baz=339						
WHF	**Hehuan Shan**	**0.72**	**248**	*ǁ iP*	**Pb**	**13 56 12.1**	**-0.5**
	baz=246						
WHF				*e*S	**Sb**	**13 56 22.4**	**+0.2**
	baz=246						
TWT	**Tachien**	**0.77**	**258**	*e*P	**Pb**	**13 56 13.1**	**0.0**
	baz=257						
TWT				*e*S	**Sn**	**13 56 24.0**	**-0.5**
	baz=257						
ESL	**Shilin**	**0.79**	**221**	*e*P	**Pb**	**13 56 11.9**	**-1.6**
	baz=229						
TWS1	**Kuangyinshan**	**0.86**	**322**	*e*P	**Pb**	**13 56 13.9**	**-0.7**
	baz=333						
TWS1				*e*S	**Sn**	**13 56 27.4**	**+0.9**
	baz=333						
YOJ	**Yonaguni jima**	**0.93**	**87**	P	**Pb**	**13 56 15.3**	**-0.4**
YOJ				*e*S	**Sb**	**13 56 28.3**	**+0.7**
NSTT	**Nanjuang**	**0.93**	**283**	P	**Pn**	**13 56 15.8**	**0.0**
	baz=283						
NSTT				*e*S	**Sn**	**13 56 28.4**	**+0.1**
	baz=283						
EHY	**Hungye**	**1.10**	**214**	*e*P	**Pn**	**13 56 17.4**	**-0.7**
	baz=210						
EHY				*e*S	**Sb**	**13 56 32.9**	**+0.3**
	baz=210						
TWQ1	**Liyutan**	**1.12**	**267**	*e*P	**Pb**	**13 56 19.0**	**0.0**
	baz=266						
TWQ1				*e*S	**Sn**	**13 56 34.0**	**+1.0**
	baz=266						
SMLT	**Sun Moon Lake**	**1.14**	**242**	*e*P	**Pn**	**13 56 18.3**	**-0.4**
	baz=232						
TYC	**Yuchr**	**1.16**	**244**	P	**Pn**	**13 56 18.6**	**-0.3**
	baz=235						
TWF1	**Yuli**	**1.24**	**211**	*e*P	**Pn**	**13 56 19.5**	**-0.6**
	baz=221						
TWF1				*e*S	**Sn**	**13 56 35.0**	**-1.0**
	baz=221						
ALS	**Alishan**	**1.42**	**231**	*e*P	**Pn**	**13 56 22.8**	**+0.1**
	baz=218						
CHN5	**Tsauling**	**1.46**	**236**	*e*P	**Pn**	**13 56 24.0**	**+0.9**
	baz=236						
CHN5				*e*S	**Sb**	**13 56 44.2**	**+1.3**
	baz=236						
ELDTW	**Lidau**	**1.52**	**216**	*e*P	**Pn**	**13 56 23.5**	**-0.5**
	baz=201						
IRIF	**Iriomote-Funau**	**1.58**	**93**	P	**Pn**	**13 56 24.3**	**-0.4**
IRIF				*e*S	**Sn**	**13 56 44.6**	**+0.2**
CHN4	**Tsaushan**	**1.67**	**231**	*e*P	**Pn**	**13 56 26.7**	**+0.8**
	baz=230						
CHN4				*e*S	**Sb**	**13 56 48.7**	**-0.3**
	baz=230						
WTP	**Ta-pu**	**1.72**	**228**	*e*P	**Pn**	**13 56 27.9**	**+1.2**
	baz=211						
WTP				*e*S	**Sb**	**13 56 49.9**	**-0.6**
	baz=211						
TWK	**Hsinying**	**1.80**	**231**	*e*P	**Pn**	**13 56 28.2**	**+0.5**
	baz=230						
TWK				*e*S	**Sn**	**13 56 51.2**	**+1.5**
	baz=230						
CHN1	**Nanshi**	**1.82**	**228**	*e*P	**Pn**	**13 56 29.5**	**+1.4**
	baz=228						
CHN1				*e*S	**Sb**	**13 56 52.9**	**-0.5**
	baz=228						
JKRS	**Kuro-shima**	**1.84**	**95**	P	**Pn**	**13 56 28.7**	**+0.4**
JKRS				*e*S	**Sn**	**13 56 50.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.96**	**91**	P	**Pn**	**13 56 30.5**	**+0.6**
JIJ				*e*S	**Sn**	**13 56 53.7**	**+0.1**

*CSEM **23** 13:59:25.6±0.2,38˚.11N×26˚.51E,h5km,MD2.8,Error*
ellipse: s-maj=4.3km s-min=3.5km az=72.0
*ISCJB **23** 13:59:26.1±1.0,38˚.12N±0˚.04×26˚.56E±0˚.06,h8km±7km,*
Error ellipse: s-maj=8.9km s-min=5.4km az=152.1
*ISK **23** 13:59:26.1,38˚.13N×26˚.62E,h8km,MD2.8*
*DDA **23** 13:59:26.7,38˚.12N×26˚.61E,h7km,MD2.9*
*ATH **23** 13:59:27.8,38˚.18N×25˚.90E,h10km,MD3.1/3*
ISC 23 13:59:26.3±1.1,38˚.11N±0˚.03×26˚.57E±0˚.04,h12km±9km,
n29,σ0s61/38,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.25**	**5**	*i* Pg	**Pg**	**13 59 31.9**	**+0.3**
URLA				*i* Sg	**Sg**	**13 59 35.6**	**+0.5**
BLCB	**Balcova**	**0.46**	**54**	*e*PG	**Pg**	**13 59 35.0**	**-0.4**
BLCB				*e*SG	**Sg**	**13 59 40.9**	**-0.6**
BLCB	**Balcova**	**0.46**	**54**	*e*Pg	**Pg**	**13 59 35.0**	**-0.4**
BLCB				*e*Sg	**Sg**	**13 59 40.9**	**-0.6**
IZM	**Izmir**	**0.62**	**62**	*e*PG	**Pg**	**13 59 38.0**	**-0.3**
IZM				*e*SG	**Sb**	**13 59 46.6**	**-1.2**
IZM	**Izmir**	**0.62**	**62**	*e*Pg	**Pg**	**13 59 38.0**	**-0.3**
IZM				*e*Sg	**Sb**	**13 59 46.6**	**-1.2**
GCAM	**G?zelcaml?**	**0.67**	**128**	*i* P	**Pb**	**13 59 39.9**	**0.0**
GCAM				*i* S	**Sb**	**13 59 48.8**	**-0.3**
GCAM	**G?zelcaml?**	**0.67**	**128**	*i* P	**Pb**	**13 59 39.9**	**0.0**
GCAM				*i* S	**Sb**	**13 59 48.8**	**-0.3**
AYDN	**Tasoluk**	**1.13**	**113**	*e*P	**Pb**	**13 59 47.9**	**0.0**
AYDN	**Tasoluk**	**1.13**	**113**	*e*P	**Pb**	**13 59 47.9**	**0.0**
PRK	**Paraskevi**	**1.16**	**349**	*e*PB	**Pb**	**13 59 48.5**	**+0.3**
PRK	**Paraskevi**	**1.16**	**349**	*e*Pb	**Pb**	**13 59 48.5**	**+0.3**
BODT	**Bodrum**	**1.20**	**150**	*e*PN	**Pg**	**13 59 50.3**	**+0.9**
BODT				*e*SN	**Sn**	**14 00 05.9**	**+0.6**
BODT	**Bodrum**	**1.20**	**150**	*e*Pn	**Pg**	**13 59 50.3**	**+0.9**
BODT				*e*Sn	**Sn**	**14 00 05.9**	**+0.6**
AKS	**Akhisar**	**1.24**	**52**	*e*PN	**Pn**	**13 59 49.4**	**-0.1**
AKS	**Akhisar**	**1.24**	**52**	*e*Pn	**Pn**	**13 59 49.4**	**-0.1**
MLSB	**Milas**	**1.26**	**130**	*e*PN	**Pg**	**13 59 50.8**	**+0.3**
MLSB	**Milas**	**1.26**	**130**	*e*Pn	**Pg**	**13 59 50.8**	**+0.3**
APE	**Apeiranthos**	**1.33**	**219**	*e*PB	**Pn**	**13 59 49.6**	**-1.1**
APE	**Apeiranthos**	**1.33**	**219**	*e*Pb	**Pn**	**13 59 49.6**	**-1.1**
KULA	**Kula-Manisa**	**1.70**	**76**	*e*PN	**Pn**	**13 59 56.5**	**+0.7**
KULA	**Kula-Manisa**	**1.70**	**76**	*e*Pn	**Pn**	**13 59 56.5**	**+0.7**
EZN	**Ezine**	**1.72**	**354**	*e*PN	**Pn**	**13 59 56.5**	**+0.4**
EZN	**Ezine**	**1.72**	**354**	*e*Pn	**Pn**	**13 59 56.5**	**+0.4**
BALB	**Balikesir**	**1.84**	**34**	*e*PN	**Pn**	**13 59 58.3**	**+0.6**
BALB	**Balikesir**	**1.84**	**34**	*e*Pn	**Pn**	**13 59 58.3**	**+0.6**
LIA	**Limnos Island**	**2.08**	**329**	*e*PN	**Pn**	**14 00 01.0**	**-0.1**
LIA	**Limnos Island**	**2.08**	**329**	*e*Pn	**Pn**	**14 00 01.0**	**-0.1**
GONE	**Gonen-Balikesi**	**2.12**	**24**	*e*PN	**Pn**	**14 00 02.2**	**+0.7**
GONE	**Gonen-Balikesi**	**2.12**	**24**	*e*Pn	**Pn**	**14 00 02.2**	**+0.7**

*ISCJB **23** 14:30:22.0±0.5,40˚.16N±0˚.03×30˚.03E±0˚.04,h3km±6km,*
Error ellipse: s-maj=5.8km s-min=4.0km az=29.9
*ISK **23** 14:30:21.9,40˚.20N×30˚.02E,h4km,MD2.5*
*DDA **23** 14:30:21.2,40˚.09N×29˚.94E,h7km,MD2.7*
*CSEM **23** 14:30:22.2±0.1,40˚.17N×30˚.04E,h5km,MD2.5,Error*
ellipse: s-maj=2.8km s-min=2.2km az=21.0
ISC 23 14:30:22.2±0.9,40˚.17N±0˚.03×30˚.02E±0˚.02,h10km±7km,
n29,σ0s49/43,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAVI	**Cavuskoy**	**0.14**	**282**	*e*PG	**Pg**	**14 30 25.2**	**-0.3**
CAVI				*e*SG	**Sg**	**14 30 27.9**	**+0.2**
CAVI	**Cavuskoy**	**0.14**	**282**	*e*Pg	**Pg**	**14 30 25.2**	**-0.3**
CAVI				*e*Sg	**Sg**	**14 30 27.9**	**+0.2**
GPA	**Golpazari**	**0.25**	**62**	*e*PG	**Pg**	**14 30 27.0**	**-0.3**
GPA				*e*SG	**Sg**	**14 30 31.6**	**+0.9**
GPA	**Golpazari**	**0.25**	**62**	*e*Pg	**Pg**	**14 30 27.0**	**-0.3**

GPA *e*Sg **Sg** **14 30 31.6 +0.9**
BORA Eskisehir 0.44 131 *i* P **Pg** **14 30 30.3 -0.5**
BORA *i* S **Sg** **14 30 35.8 -0.8**
BORA Eskisehir 0.44 131 *i* P **Pg** **14 30 30.3 -0.5**
BORA *i* S **Sg** **14 30 35.8 -0.8**
GULT Gulveren 0.46 55 *e*PG **Pg** **14 30 31.2 +0.1**
GULT Gulveren 0.46 55 *e*Pg **Pg** **14 30 31.2 +0.1**
YLV Yalova 0.64 309 *e*PG **Pb** **14 30 35.1 -0.3**
YLV Yalova 0.64 309 *e*Pg **Pb** **14 30 35.1 -0.3**
HRT Hereke 0.70 337 *e*PG **Pg** **14 30 35.6 -0.2**
HRT Hereke 0.70 337 *e*Pg **Pg** **14 30 35.6 -0.2**
TVSB Tavsanli 0.84 211 *e*PG **Pb** **14 30 39.2 +0.3**
TVSB Tavsanli 0.84 211 *e*Pg **Pb** **14 30 39.2 +0.3**
ORLT Orhaneli 0.87 262 *e*PG **Pb** **14 30 39.7 +0.2**
ORLT Orhaneli 0.87 262 *e*Pg **Pb** **14 30 39.7 +0.2**
MDNY Mudanya-Bursa 0.89 283 *e*PG **Pb** **14 30 39.7 -0.1**
MDNY Mudanya-Bursa 0.89 283 *e*Pg **Pb** **14 30 39.7 -0.1**
SEYT Eskypehyr 0.91 135 *i* P **Pg** **14 30 39.6 -0.1**
SEYT *i* S **Sg** **14 30 51.9 +0.4**
SEYT Eskypehyr 0.91 135 *i* P **Pg** **14 30 39.6 -0.1**
SEYT *i* S **Sg** **14 30 51.9 +0.4**
BUY Buyukada 0.97 315 *i* P **Pg** **14 30 40.6 -0.2**
BUY *i* S **Sb** **14 30 54.5 +0.6**
BUY Buyukada 0.97 315 *i* P **Pg** **14 30 40.6 -0.2**
BUY *i* S **Sb** **14 30 54.5 +0.6**
ARMT Armutlu 0.97 294 *e*PG **Pg** **14 30 39.9 -1.0**
ARMT Armutlu 0.97 294 *e*Pg **Pg** **14 30 39.9 -1.0**
GDZ Gediz 1.16 201 *i* P **Pg** **14 30 45.0 +0.6**
GDZ *i* S **Sb** **14 30 59.0 -0.5**
GDZ Gediz 1.16 201 *i* P **Pg** **14 30 45.0 +0.6**
GDZ *i* S **Sb** **14 30 59.0 -0.5**
DURS Dursunbey 1.32 245 *i* P **Pn** **14 30 46.6 -0.2**
DURS *i* S **Sg** **14 31 05.4 +0.7**
DURS Dursunbey 1.32 245 *i* P **Pn** **14 30 46.6 -0.2**
DURS *i* S **Sg** **14 31 05.4 +0.7**
BALY Balya 1.90 258 *i* P Pn 14 30 46.7 -8.0
BALY *i* S **Sb** **14 31 20.5 -0.1**

*ISCJB **23** 14:30:59.5±0.3,31°.46N±0°.03×70°.09E±0°.04, h10km, mb4.1/35, MS3.6/17, Error ellipse: s-maj=5.6km s-min=3.7km az=39.1*
*IDC **23** 14:31:00.3±0.6, 31°.44N×69°.99E, h0km, mb4.1/26, mb1 4.3/29, mb1mx4.2/37, mbtmp4.2/29, ML4.3/3, MS3.7/19, Ms1 3.7/19, ms1mx3.5/51, Error ellipse: s-maj=15.1km s-min=12.2km az=19.0*
*NEIC **23** 14:31:01.7±4.9, 31°.46N×70°.03E, h9km±30km, mb4.4/6, Error ellipse: s-maj=12.6km s-min=6.5km az=208.0*
NEIC Felt in the Kolachi area.
*NNC **23** 14:31:03.5±4.1, 31°.72N×69°.96E, h0km, mb4.1, Error ellipse: s-maj=51.2km s-min=42.2km az=166.0*
*MOS **23** 14:31:04.2±1.4, 31°.59N×70°.11E, h39km, mb4.4/27, Error ellipse: s-maj=10.8km s-min=5.7km az=87.7*

ISC 23 14:31:01.9±0.5, 31°.49N±0°.05×70°.04E±0°.05, h10km, n146, σ1§12/129, mb4.2/35, MS3.7/17, 6C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.94**	**48**	P	**Pn**	**14 31 36.9**	**+1.8**
SARP	**Sargodha**	**2.28**	**79**	P	**Pn**	**14 31 41.8**	**+2.1**
CEP	**Cherat**	**2.81**	**34**	P	**Pn**	**14 31 49.1**	**+2.0**
CEP				S	**Sb**	**14 32 24.0**	**-2.8**
KBL	**Kabul**	**3.15**	**345**	*e*P	**Pn**	**14 31 54.6**	**+2.7**
KBL	**Kabul**	**3.15**	**345**	*e*P	**Pn**	**14 31 54.6**	**+2.7**
CHCP	**Chirah Chowk**	**3.48**	**51**	P	**Pn**	**14 31 58.4**	**+2.3**
JMU	**Jammu**	**4.30**	**72**	*e*P	**Pn**	**14 32 05.5**	**+1.1**
JMU				*e*S	**Sn**	**14 33 00.0**	**+2.3**
DLH	**Dalhousie**	**5.14**	**77**	*e*P	**Pn**	**14 32 20.0**	**+0.8**
DLH				*ex*	x	14 33 21.0	
BHK	**Bhakra**	**5.45**	**89**	*e*P	**Pn**	**14 32 25.2**	**+1.9**
BHK				*ex*	x	14 33 29.0	
SDNR	**Sundarnagar**	**5.92**	**88**	*e*P	**Pn**	**14 32 31.3**	**+1.6**
SDNR				*ex*	x	14 33 39.5	
KHET	**Khetri**	**6.06**	**123**	*e*P	Pn	14 32 30.6	-1.1
KHET				*e*S	Sn	14 33 36.9	-4.2
KHET				AML	AML	14 34 28.6	
	comp=N,92nm,0.6s						
KHET				AML	AML	14 34 32.8	
	comp=E,98nm,0.5s						
SMLA	**Simla**	**6.11**	**92**	*e*P	**Pn**	**14 32 34.1**	**+1.8**
SMLA				*e*S	**Sn**	**14 33 40.6**	**-1.7**
SMLA				⇓AML	AML	14 33 46.9	
	comp=N,4μm,0.5s						
SMLA				⇓AML	AML	14 33 47.5	
	comp=E,4μm,0.3s						
AJM	**Ajmer**	**6.42**	**140**	*i* P	**Pn**	**14 32 38.0**	**+1.4**
AJM				*i* x	x	14 34 23.0	
AYAN	**Aya Nagar**	**6.84**	**114**	*e*P	**Pn**	**14 32 42.4**	**0.0**
AYAN				*ex*	x	14 33 59.6	
DDI	**Dehra Dun**	**6.99**	**98**	*e*P	**Pn**	**14 32 44.0**	**-0.4**
DDI				*ex*	x	14 34 40.0	
AGRA	**Agra**	**8.10**	**120**	*e*S	Sn	14 34 24.1	-7.1
AGRA				AML	AML	14 35 51.5	
	comp=N,203nm,0.7s						
AGRA				AML	AML	14 35 53.1	
	comp=E,205nm,0.9s						
AML	**Almayashu** SNR=33	**11.01**	**14**	P	**Pn**	**14 33 41.8**	**+1.9**
UCH	**Uchtor** SNR=19	**11.29**	**17**	P	**Pn**	**14 33 44.9**	**+1.1**
EKS2	**Erkin-Say**	**11.54**	**14**	*e*P	**Pn**	**14 33 47.0**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,43nm,0.7s						
EKS2	**Erkin-Say**	**11.54**	**14**	*e*P	**Pn**	**14 33 47.0**	**+0.1**
	comp=Z,43nm,0.7s						
EKS2	**Erkin-Say** SNR=13	**11.54**	**14**	P	**Pn**	**14 33 48.3**	**+1.5**
KK31	**Karatay Array**	**11.60**	**2**	⇑Pn	**Pn**	**14 33 47.3**	**-0.2**
	comp=Z,23nm,0.7s,baz=185,slow=12,SNR=378						
KK31				⇑Sn	**Sn**	**14 35 56.1**	**-1.0**
	comp=Z,12nm,0.7s,baz=187,slow=24,SNR=7.7						
KK31	**Karatay Array**	**11.60**	**2**	*i* P	**Pn**	**14 33 47.3**	**-0.2**
KK31				S	**Sn**	**14 35 56.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,18nm,0.5s						
KK31				smax	smax		
	comp=N,7.0nm,0.4s						
KKAR	**Karatay Array**	**11.60**	**2**	*e*P	**Pn**	**14 33 46.8**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,26nm,0.6s						
KKAR	**Karatay Array**	**11.60**	**2**	*e*P	**Pn**	**14 33 46.8**	**-0.7**
	comp=Z,26nm,0.6s						
AAK	**Ala-Archa**	**11.67**	**16**	Pn	**Pn**	**14 33 49.6**	**+0.8**
	comp=Z,2.8nm,0.3s,baz=127,slow=10,SNR=13						
AAK				Sn	**Sn**	**14 35 58.5**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=334,slow=23,SNR=6.9						
AAK				LR	LR	14 38 47.3	
	comp=Z,472nm,19.0s,baz=186,slow=40						
AAK	**Ala-Archa**	**11.67**	**16**	P	**Pn**	**14 33 49.6**	**+0.8**
AAK						14 35 58.5	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK				smax	smax		
	comp=N,1.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,472nm,19.0s						
AAK	**Ala-Archa**	**11.67**	**16**	Pn	**Pn**	**14 33 49.6**	**+0.8**
	comp=Z,11nm,0.8s						
AAK				Sn	**Sn**	**14 35 58.5**	**-0.6**
AAK	**Ala-Archa** SNR=29	**11.67**	**16**	P	**Pn**	**14 33 49.5**	**+0.8**
PYUN	**Piuthan**	**11.74**	**103**	*e*P	Pn	14 33 48.4	-1.4
	comp=Z,171nm,0.4s						
FRU	**Bishkek**	**11.89**	**17**	*e*P	**Pn**	**14 33 52.0**	**+0.4**
FRU				*e*S	**Sn**	**14 36 04.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,80nm,1.0s						
FRU				smax	smax		
	comp=N,150nm,1.6s						
CHMS	**Chumysh** SNR=22	**12.08**	**17**	P	**Pn**	**14 33 54.0**	**-0.1**
TKM2	**Tokmak 2**	**12.23**	**20**	*e*P	**Pn**	**14 33 56.9**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,19nm,0.5s						
TKM2	**Tokmak 2**	**12.23**	**20**	*e*P	**Pn**	**14 33 56.9**	**+0.5**
	comp=Z,20nm,0.5s						
DANN	**Dangsing**	**12.31**	**101**	*e*P	Pn	14 33 56.1	-1.5
	comp=Z,47nm,0.3s						
KOLN	**Koldanda**	**12.37**	**104**	*e*P	Pn	14 33 56.8	-1.5
	comp=Z,85nm,0.4s						
WSAR	**Wadi Sarin**	**13.04**	**234**	Pn	Pn	14 34 05.7	-1.7
	comp=Z,0.5nm,0.3s,baz=59,slow=5.5,SNR=6.2						
WSAR				Sn	Sn	14 36 17.6	-15
	comp=Z,0.2nm,0.3s,baz=246,slow=10.0,SNR=3.3						
WSAR	**Wadi Sarin**	**13.04**	**234**	Pn	Pn	14 34 05.7	-1.7
WSAR				Sn	Sn	14 36 17.6	-15
NGP	**Nagpur**	**13.08**	**140**	*ex*	P	14 34 03.4	-15
NGP				*e*S	Sn	14 36 23.6	-10
GKN	**Gorkha**	**13.15**	**102**	*e*P	Pn	14 34 06.6	-2.4
	comp=Z,56nm,0.4s						
DMN	**Daman**	**13.67**	**103**	*e*P	Pn	14 34 13.3	-2.9
	comp=Z,51nm,0.5s						
KKN	**Kakani**	**13.76**	**102**	*e*P	Pn	14 34 14.5	-2.8
	comp=Z,139nm,0.7s						
PKIN	**Phulchoki**	**13.93**	**102**	*e*P	Pn	14 34 17.0	-2.7
	comp=Z,89nm,0.6s						
PKI	**Pulchoki**	**13.94**	**102**	*e*P	Pn	14 34 16.7	-3.2
	comp=Z,81nm,0.7s						
GUN	**Gumba**	**14.22**	**101**	*e*P	Pn	14 34 20.6	-3.2
	comp=Z,155nm,0.5s						
RAMN	**Ramite**	**15.15**	**103**	*e*P	Pn	14 34 32.1	-4.2
	comp=Z,50nm,0.4s						
ODAN	**Odare**	**15.84**	**103**	*e*P	Pn	14 34 41.6	-3.7
	comp=Z,72nm,0.8s						
TAPN	**Taplejung**	**15.94**	**101**	*e*P	Pn	14 34 42.7	-4.0
	comp=Z,46nm,0.6s						
HYB	**Hyderabad**	**16.00**	**149**	*i* P	**Pn**	**14 34 50.5**	**+3.2**
HYB				*e*S	**S**	**14 37 58.0**	**-0.7**
MK31	**Makanchi Array**	**17.96**	**28**	⇓P	**Pn**	**14 35 12.0**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=214,slow=12,SNR=9.2						
MK31	**Makanchi Array**	**17.96**	**28**	*e*P	**Pn**	**14 35 10.7**	**-1.0**
MK31	**Makanchi Array**	**17.96**	**28**	*e*P	**Pn**	**14 35 10.7**	**-1.0**
MKAR	**Makanchi Array**	**17.96**	**28**	Pn	**Pn**	**14 35 11.4**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=195,slow=13,SNR=25						
MKAR				LR	LR	14 43 09.6	
	comp=Z,228nm,20.4s,baz=47,slow=40						
MKAR	**Makanchi Array**	**17.96**	**28**	P	**Pn**	**14 35 11.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,228nm,20.4s						
MKAR	**Makanchi Array**	**17.96**	**28**	Pn	**Pn**	**14 35 11.4**	**-0.3**
LSA	**Lhasa**	**18.26**	**90**	*e*P	**Pn**	**14 35 14.4**	**-1.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**18.26**	**90**	*e*P	**Pn**	**14 35 14.4**	**-1.6**
	comp=Z,9.6nm,0.8s						
AB31	**Akbulak array**	**19.31**	**340**	P	**P**	**14 35 27.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=155,slow=12,SNR=120						
AB31	**Akbulak array**	**19.31**	**340**	*e*P	**P**	**14 35 27.6**	**+0.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**19.31**	**340**	*e*P	**P**	**14 35 27.1**	**+0.1**
	comp=Z,3.1nm,0.4s						
KURBB	**Kurchatov Arra**	**20.13**	**16**	P	**P**	**14 35 35.5**	**-0.4**
	comp=Z,13nm,0.7s,baz=205,slow=10,SNR=35						
KURBB				LR	LR	14 44 10.0	
	comp=Z,345nm,18.8s,baz=205,slow=39						
KURBB	**Kurchatov Arra**	**20.13**	**16**	⇑P	**P**	**14 35 36.1**	**+0.1**
	comp=Z,2.8nm,0.7s						
KURK	**Kurchatov**	**20.24**	**16**	⇓P	**P**	**14 35 36.8**	**-0.3**
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**20.24**	**16**	P	**P**	**14 35 36.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**20.24**	**16**	*e*P	**P**	**14 35 36.6**	**-0.5**
AKTO	**Aktyubinsk**	**20.94**	**338**	P	**P**	**14 35 45.3**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=161,slow=10,SNR=10						
AKTO				LR	LR	14 44 41.7	
	comp=Z,102nm,18.3s,baz=331,slow=39						
AKTO	**Aktyubinsk**	**20.94**	**338**	⇑P	**P**	**14 35 45.7**	**+1.0**
	comp=Z,1.2nm,0.7s						
AKTO	**Aktyubinsk**	**20.94**	**338**	P	**P**	**14 35 45.3**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTO				MLR	MLR		
	comp=Z,102nm,18.3s						
AKTO	**Aktyubinsk**	**20.94**	**338**	P	**P**	**14 35 45.3**	**+0.5**
VOSK	**Vostochnaya**	**21.23**	**2**	⇓P	**P**	**14 35 50.2**	**+2.4**
	comp=Z,14nm,0.8s						
ZRNK	**Zerenda**	**21.46**	**358**	⇑P	**P**	**14 35 50.3**	**0.0**
	comp=Z,17nm,0.8s						
BVA0	**Borovoye Array**	**21.52**	**1**	⇑P	**P**	**14 35 51.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=185,slow=13,SNR=86						
BVA0	**Borovoye Array**	**21.52**	**1**	*i* P	**P**	**14 35 51.0**	**0.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**21.52**	**1**	P	**P**	**14 35 51.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=178,slow=10,SNR=30						
BVAR				LR	LR	14 45 29.6	
	comp=Z,244nm,19.0s,baz=89,slow=40						
BVAR	**Borovoye Array**	**21.52**	**1**	P	**P**	**14 35 51.2**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,12nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,244nm,19.0s						
BVAR	**Borovoye Array**	**21.52**	**1**	P	**P**	**14 35 51.2**	**+0.2**
BRVK	**Borovoye**	**21.55**	**0**	*e*P	**P**	**14 35 49.8**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,19nm,0.8s						
BRVK	**Borovoye**	**21.55**	**0**	*e*P	**P**	**14 35 49.8**	**-1.5**
	comp=Z,19nm,0.8s						
GNI	**Garni**	**22.20**	**300**	LR	LR	14 47 17.6	
	comp=Z,55nm,19.2s,baz=64,slow=44						
ZEI	**Tsey**	**23.59**	**306**	*e*P	P	14 36 20.8	+7.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZAA0	**Zalesovo Array**	**24.83**	**21**	*e*P	**P**	**14 36 24.1**	**-0.1**
ZALV	**Zalesovo Beam**	**24.83**	**21**	P	**P**	**14 36 24.2**	**0.0**
	comp=Z,9.3nm,0.5s,baz=221,slow=9.4,SNR=39						
ZALV				LR	LR	14 47 11.7	
	comp=Z,287nm,19.9s,baz=254,slow=39						
ZALV	**Zalesovo Beam**	**24.83**	**21**	P	**P**	**14 36 24.2**	**0.0**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,287nm,19.9s						
ZALV	**Zalesovo Beam**	**24.83**	**21**	P	**P**	**14 36 24.2**	**0.0**
NVS	**Novosibirsk**	**25.16**	**18**	*e*P	**P**	**14 36 27.1**	**0.0**
NVS				*e*S	**S**	**14 40 53.9**	**+1.9**
NVS				pmax	pmax		
	comp=N,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,18nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				smax	smax		
	comp=N,21nm,1.7s						
ASF	**Jabal al Asfar**	**28.11**	**280**	LR	LR	14 50 24.0	
	comp=N,90nm,18.8s,baz=152,slow=42						
CHTO	**Chiang Mai**	**28.95**	**109**	*e*P	**P**	**14 37 01.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	**28.95**	**109**	*e*P	**P**	**14 37 01.8**	**+0.2**
	comp=Z,9.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.14**	**110**	P	**P**	**14 37 03.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=291,slow=10,SNR=21						
CMAR	**Chiang Mai Arr**	**29.14**	**110**	P	**P**	**14 37 03.6**	**+0.3**
MMAI	**Mount Meron Ar**	**29.26**	**282**	LR	LR	14 50 49.8	
	comp=Z,133nm,20.0s,baz=110,slow=41						
EIL	**Elat**	**30.19**	**276**	LR	LR	14 52 05.5	
	comp=Z,135nm,18.6s,baz=82,slow=42						
BRTR	**Keskin Array B**	**30.55**	**296**	P	**P**	**14 37 16.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=113,slow=9.7,SNR=6.6						
BRTR	**Keskin Array B**	**30.55**	**296**	P	**P**	**14 37 16.2**	**+0.4**
ZAK	**Zakamensk**	**31.05**	**43**	*e*P	P	14 37 16.6	-3.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**32.04**	**49**	P	**P**	**14 37 31.2**	**+2.4**
	comp=Z,2.5nm,0.8s,baz=248,slow=8.7,SNR=18						
SONM				LR	LR	14 52 33.4	
	comp=Z,169nm,19.1s,baz=73,slow=40						
SONM	**Songino Array**	**32.04**	**49**	P	**P**	**14 37 31.2**	**+2.4**
OBN	**Obninsk**	**33.40**	**325**	*e*P	P	14 37 34.1	-6.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AK02	**Malin Array Si**	**35.67**	**314**	P	**P**	**14 37 60.0**	**-0.2**
AKASG	**Malin Array Be**	**35.68**	**315**	P	**P**	**14 37 59.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=97,slow=6.6,SNR=6.6						
AKASG	**Malin Array Be**	**35.68**	**315**	P	**P**	**14 37 59.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**35.68**	**315**	P	**P**	**14 37 59.7**	**-0.5**
MLR	**Muntele Rosu**	**36.77**	**305**	P	**P**	**14 38 08.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=223,slow=6.2,SNR=3.9						
MLR	**Muntele Rosu**	**36.77**	**305**	P	**P**	**14 38 08.8**	**-1.0**
IPM	**Ipoh**	**39.60**	**126**	*e*P	**P**	**14 38 33.3**	**-0.6**
	comp=Z,7.5nm,0.8s						
FINES	**FINESS Array B**	**41.29**	**330**	P	**P**	**14 38 47.4**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=112,slow=9.1,SNR=8.3						
FINES	**FINESS Array B**	**41.29**	**330**	P	**P**	**14 38 47.4**	**+0.1**
GERES	**GERESS Array B**	**45.33**	**309**	P	**P**	**14 39 21.7**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=75,slow=8.3,SNR=3.7						
GERES	**GERESS Array B**	**45.33**	**309**	P	**P**	**14 39 21.7**	**+1.5**
ARCES	**ARCESS Array B**	**45.51**	**340**	P	**P**	**14 39 22.0**	**+0.8**
	comp=Z,2.9nm,0.5s,baz=131,slow=10,SNR=35						
ARCES				LR	LR	15 00 22.6	
	comp=Z,91nm,18.6s,baz=166,slow=39						
ARCES	**ARCESS Array B**	**45.51**	**340**	P	**P**	**14 39 22.0**	**+0.8**
HFS	**Hagfors**	**46.61**	**325**	P	**P**	**14 39 28.6**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=127,slow=9.5,SNR=4.5						
HFS	**Hagfors**	**46.61**	**325**	P	**P**	**14 39 28.6**	**-1.3**
KSAR	**Wonju Array Be**	**47.42**	**66**	P	**P**	**14 39 35.6**	**-1.0**
KSRS	**Korea Array**	**47.45**	**66**	P	**P**	**14 39 35.6**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=251,slow=5.1,SNR=4.7						
KSRS				LR	LR	15 04 02.0	
	comp=Z,29nm,18.0s,baz=99,slow=42						
NB2	**NORSAR Subarra**	**47.98**	**326**	P	**P**	**14 39 39.5**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=103,slow=7.9						
NOA	**NORSAR Array B**	**47.98**	**326**	P	**P**	**14 39 39.1**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=103,slow=7.8,SNR=4.1						
NOA				LR	LR	15 02 16.3	
	comp=Z,165nm,18.6s,baz=85,slow=39						
NOA	**NORSAR Array B**	**47.98**	**326**	P	**P**	**14 39 39.1**	**-1.6**
USRK	**Ussuriysk Arra**	**49.46**	**57**	LR	LR	15 03 52.2	
	comp=Z,58nm,18.9s,baz=312,slow=40						
KEST	**Kesra**	**50.03**	**292**	P	**P**	**14 39 57.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=69,slow=14,SNR=4.1						
KEST	**Kesra**	**50.03**	**292**	P	**P**	**14 39 57.1**	**+0.3**
SPITS	**Spitsbergen Ar**	**52.19**	**348**	P	**P**	**14 40 13.9**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=90,slow=11,SNR=14						
SPITS	**Spitsbergen Ar**	**52.19**	**348**	P	**P**	**14 40 13.9**	**+1.5**
EKA	**Eskdalemuir Ar**	**55.41**	**318**	P	**P**	**14 40 35.4**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=86,slow=7.2,SNR=6.6						
EKA	**Eskdalemuir Ar**	**55.41**	**318**	P	**P**	**14 40 35.4**	**-0.9**
MJAR	**Matsushiro Ar**	**55.67**	**65**	P	**P**	**14 40 39.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=298,slow=10,SNR=3.8						
MJAR	**Matsushiro Ar**	**55.67**	**65**	P	**P**	**14 40 39.0**	**+0.6**
ESDC	**Sonseca Array**	**59.19**	**300**	P	**P**	**14 41 02.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=62,slow=5.1,SNR=5.1						
ESDC	**Sonseca Array**	**59.19**	**300**	P	**P**	**14 41 02.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**64.88**	**270**	P	**P**	**14 41 41.4**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=57,slow=5.6,SNR=14						
TORD				LR	LR	15 14 02.8	
	comp=Z,64nm,18.1s,baz=345,slow=40						
TORD	**Torodi Ar. Bea**	**64.88**	**270**	P	**P**	**14 41 41.4**	**-0.4**
BOSA	**Boshof**	**73.42**	**220**	P	**P**	**14 42 33.9**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=90,slow=5.1,SNR=3.5						
BOSA	**Boshof**	**73.42**	**220**	P	**P**	**14 42 33.9**	**-0.7**
DBIC	**Dimbokro**	**73.67**	**268**	LR	LR	15 18 09.0	
	comp=Z,80nm,19.1s,baz=48,slow=38						
INK	**Inuvik**	**78.96**	**9**	LR	LR	15 22 31.2	
	comp=Z,42nm,21.2s,baz=328,slow=39						
ILAR	**Eielson Array**	**79.81**	**15**	P	**P**	**14 43 10.1**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=308,slow=5.1,SNR=6.3						
ILAR				LR	LR	15 20 59.1	
	comp=Z,38nm,18.8s,baz=318,slow=38						
ILAR	**Eielson Array**	**79.81**	**15**	P	**P**	**14 43 10.1**	**-0.1**
WRA	**Warramunga Arr**	**80.08**	**121**	P	**P**	**14 43 12.5**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=322,slow=5.2,SNR=34						
WRA	**Warramunga Arr**	**80.08**	**121**	P	**P**	**14 43 12.5**	**+0.2**
WRAB	**Tennant Creek**	**80.08**	**121**	*e*P	**P**	**14 43 12.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRAB	**Tennant Creek**	**80.08**	**121**	*e*P	**P**	**14 43 12.2**	**0.0**
	comp=Z,7.4nm,1.0s						
AS31	**Alice Springs**	**82.09**	**124**	*e*P	**P**	**14 43 22.1**	**-0.9**
ASAR	**Alice Springs**	**82.09**	**124**	P	**P**	**14 43 22.9**	**0.0**
	comp=Z,3.0nm,0.8s,baz=309,slow=5.2,SNR=35						
ASAR	**Alice Springs**	**82.09**	**124**	P	**P**	**14 43 22.9**	**0.0**
YKA	**Yellowknife Ar**	**86.27**	**2**	P	**P**	**14 43 44.0**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=348,slow=5.0,SNR=33						
YKA	**Yellowknife Ar**	**86.27**	**2**	P	**P**	**14 43 44.0**	**+0.4**

*ISCJB **23** 14:33:53.0±1.2, 51°.45N±0°.05×16°.10E±0°.06, h0km, Error ellipse: s-maj=8.3km s-min=4.0km az=25.2*
*CSEM **23** 14:33:53.5±0.8, 51°.49N×16°.07E, h2km, ML2.7/5, Error ellipse: s-maj=11.8km s-min=6.4km az=8.0*
*PRU **23** 14:33:54.9, 51°.44N×16°.13E, h0km*
*WAR **23** 14:33:55.0, 51°.47N×16°.10E*

ISC 23 14:33:55.0±1.7, 51°.45N±0°.08×16°.09E±0°.05, h0km, n18, σ0§48/34, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**14 34 06.9**	**+0.1**
KSP				*e*Sg	**Sg**	**14 34 15.4**	**+0.6**
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**14 34 06.9**

*BJI **23** 14:58:09.8,5˚.15N×94˚.37E,h64km,mB4.9/32,mb5.0/53, Ms4.5/32,Ms7 4.2/31*
*MOS **23** 14:58:11.7±0.8,5˚.54N×94˚.56E,h56km,mb5.2/49,Error ellipse: s-maj=10.5km s-min=4.7km az=120.4*
*ISCJB **23** 14:58:11.3±0.5,5˚.39N±0˚.03×94˚.36E±0˚.03,h53km±4km, mb4.9/133,MS3.9/32,Error ellipse: s-maj=5.9km s-min=4.0km az=40.6*
*IDC **23** 14:58:12.6±0.5,5˚.41N×94˚.46E,h52km±4km,mb4.4/38, mb1 4.4/39,mb1mx4.4/42,mbtmp4.4/39,MS3.7/21, Ms1 3.7/21,ms1mx3.6/47,Error ellipse: s-maj=13.7km s-min=7.2km az=46.0*
*NEIC **23** 14:58:12.3±0.2,5˚.36N×94˚.38E,mb5.1/39,Error ellipse: s-maj=6.2km s-min=4.3km az=219.0*
NEIC Felt [II] at Banda Aceh.
*AUST **23** 14:58:13.4±6.2,5˚.29N×94˚.35E,h65km,Error ellipse: s-maj=5.5km s-min=1.1km az=230.0*
*SZGRF **23** 14:58:14.9,5˚.74N×94˚.89E,h66km,mb5.2,Northern Sumatera, Indonesia*
*DJA **23** 14:58:15.2±2.8,5˚N±6˚×9˚5E±2˚3,h21km±11km,M4.9/6, mb5.1/5,mB5.3/5,MLv4.9/6,Mw(mB)4.7/5*
ISC 23 14:58:12.9±0.3,5˚.33N±0˚.04×94˚.29E±0˚.04,h59km±2km, h59km:pP-P,n520,σ1§45/617,mb4.9/131,MS3.8/32, 89C-77D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSI	**Banda Aceh**	**1.02**	**81**	P	**Pn**		**14 58 28.7**	**-2.4**
LHMI	**Lhok Sumawe**	**2.65**	**92**	P	**Pn**		**14 58 52.2**	**-1.0**
TPTI		**3.54**	**125**	P	**Pn**		**14 59 05.3**	**-0.2**
TSI	**Tuntungan**	**4.64**	**113**	P	**Pn**		**14 59 20.7**	**+0.3**
PSI	**Prapat**	**5.26**	**118**	P	**Pn**		**14 59 29.9**	**+0.7**
	12nm,0.3s,baz=341,slow=11,SNR=54							
PSI				LR	LR		15 01 55.8	
	comp=Z,734nm,18.2s,baz=287,slow=43							
PSI	**Prapat**	**5.26**	**118**	P	**Pn**		**14 59 29.9**	**+0.7**
PSI	**Prapat**	**5.26**	**118**	P	**Pn**		**14 59 30.1**	**+0.9**
	baz=53,SNR=45							
PSI	**Prapat**	**5.26**	**118**	P	**Pn**		**14 59 29.6**	**+0.4**
	155nm,0.9s,2µm0.6nm							
KULM	**Kulim**	**6.33**	**90**	P	**Pn**		**14 59 42.5**	**-1.2**
IPM	**Ipoh**	**6.77**	**97**	P	**Pn**		**14 59 48.0**	**-1.7**
MNSI	**Mandailing Nat**	**6.95**	**130**	P	**Pn**		**14 59 51.3**	**-0.8**
	142nm,0.7s,3µm0.6nm							
FRIM	**Kepong**	**7.61**	**106**	P	**Pn**		**15 00 00.5**	**-0.7**
BKNI	**Bangkinang**	**8.38**	**126**	P	Pn		15 00 17.0	+5.3
	186nm,0.9s,1µm							
PPI	**Padang Panjang**	**8.38**	**133**	P	**Pn**		**15 00 12.9**	**+1.1**
KGM	**Kluang**	**9.60**	**110**	P	**Pn**		**15 00 28.5**	**+0.1**
SRDT	**SRDT**	**10.14**	**28**	P	**Pn**		**15 00 36.3**	**+0.4**
	29nm,1.1s,3µm							
MYKOM	**Kota Tinggi**	**10.17**	**110**	P	**Pn**		**15 00 37.3**	**+1.1**
CHBT	**CHBT**	**10.83**	**47**	P	**Pn**		**15 00 45.7**	**+0.4**
KSI	**Kapahiang**	**12.19**	**137**	P	**Pn**		**15 01 06.3**	**+2.4**
CM31	**Chiang Mai Arr**	**13.81**	**19**	*e*P	**Pn**		**15 01 27.0**	**+1.0**
	65nm,0.8s							
CMAR	**Chiang Mai Arr**	**13.81**	**19**	P	**Pn**		**15 01 26.8**	**+0.8**
	7.0nm,0.3s,baz=207,slow=14,SNR=230							
CMAR				LR	LR		15 06 19.4	
	comp=Z,321nm,20.9s,baz=199,slow=36							
CMAR				ScP	**ScP**		**15 10 16.4**	**+2.1**
	baz=237,slow=3.5,SNR=7.7							
CMAR	**Chiang Mai Arr**	**13.81**	**19**	P	**Pn**		**15 01 26.8**	**+0.8**
CMAR				ScP	**ScP**		**15 10 16.4**	**+2.1**
CHTO	**Chiang Mai**	**14.15**	**18**	*e*P	**Pn**		**15 01 30.3**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,66nm,0.6s							
CHTO	**Chiang Mai**	**14.15**	**18**	*e*P	**Pn**		**15 01 30.3**	**-0.1**
	comp=Z,66nm,0.6s							
CHTO	**Chiang Mai**	**14.15**	**18**	P	**Pn**		**15 01 31.1**	**+0.7**
CMMT	**Chiang Mai**	**14.15**	**18**	P	**Pn**		**15 01 31.6**	**+1.2**
VIS	**Vishakhapatnam**	**16.32**	**320**	*e*P	**Pn**		**15 01 58.0**	**-0.4**
VIS				AMb	AMB		15 02 00.5	
	comp=Z,32nm,0.4s							
VIS				*e*S	Sn		15 04 46.1	-13
KSM	**Kuching**	**16.44**	**103**	P	**P**		**15 02 02.2**	**+0.4**
STKI	**Sintang**	**17.94**	**106**	P	**Pn**		**15 02 19.7**	**+1.2**
LEM	**Lembang**	**17.97**	**132**	P	P		15 02 13.1	-5.8
	baz=18,SNR=4.4							
TGJI	**Tegal**	**19.13**	**129**	P	**Pn**		**15 02 33.9**	**+1.1**
HYB	**Hyderabad**	**19.53**	**309**	*i* P	**P**		**15 02 36.0**	**+0.3**
QIZ	**Qiongzhong**	**20.38**	**47**	P	**P**		**15 02 45.5**	**+0.5**
QIZ				pP	**pP**		**15 02 59.4**	**+1.6**
QIZ				sP	**sP**		**15 03 05.3**	**+0.1**
QIZ				S	**S**		**15 06 30.4**	**+0.2**
QIZ				pmax	pmax			
	comp=Z,26nm,0.8s							
QIZ				LR	LR			
	comp=N,290nm,20.0s							
QIZ				LR	LR			
	comp=E,170nm,17.8s							
QIZ				LR	LR			
	comp=E,410nm,18.7s							
KMI	**Kunming**	**21.28**	**22**	P	**P**		**15 02 55.8**	**+0.9**
KMI				pP	**pP**		**15 03 07.3**	**-0.5**
KMI				sP	**sP**		**15 03 13.5**	**-1.7**
KMI				PP	**PnPn**		**15 03 22.5**	**+5.6**
KMI				S	**S**		**15 06 44.8**	**-3.6**
KMI				SS	**SnSn**		**15 07 19.6**	**+4.8**
KMI				pmax	pmax			
	comp=Z,40nm,1.0s							
KMI				pmax	pmax			
	comp=Z,64nm,4.8s							
KMI				LR	LR			
	comp=N,170nm,20.8s							
KMI				LR	LR			
	comp=E,210nm,17.9s							
KMI				LR	LR			
	comp=Z,260nm,19.8s							
KKM	**Kota Kinabalu**	**21.83**	**87**	P	**P**		**15 03 02.5**	**+1.8**
ODAN	**Odare**	**22.40**	**344**	*e*P	**P**		**15 03 04.3**	**-2.5**
	comp=Z,63nm,0.7s							
KDM	**Kudat**	**22.47**	**85**	P	**P**		**15 03 08.3**	**+0.8**
RAMN	**Ramite**	**22.71**	**342**	*e*P	**P**		**15 03 08.6**	**-1.6**
	comp=Z,61nm,0.5s							
TAPN	**Taplejung**	**22.77**	**345**	*e*P	**P**		**15 03 08.4**	**-2.5**
	comp=Z,62nm,0.6s							
SDKM	**Sandakan**	**22.80**	**88**	P	**P**		**15 03 11.8**	**+0.7**
TSM	**Tawau**	**23.52**	**91**	P	**P**		**15 03 17.5**	**-0.5**
PKI	**Pulchoki**	**23.68**	**340**	*e*P	**P**		**15 03 18.3**	**-1.4**
	comp=Z,37nm,0.5s							
PKIN	**Phulchoki**	**23.68**	**340**	*e*P	**P**		**15 03 18.6**	**-1.1**
	comp=Z,35nm,0.6s							
DMN	**Daman**	**23.82**	**339**	*e*P	**P**		**15 03 20.0**	**-0.9**
	comp=Z,69nm,0.8s							
GUN	**Gumba**	**23.84**	**341**	*e*P	**P**		**15 03 19.8**	**-1.3**
	comp=Z,82nm,0.7s							
KKN	**Kakani**	**23.92**	**340**	*e*P	**P**		**15 03 20.7**	**-1.1**
GYA	**Guiyang**	**24.11**	**28⇑**	*i*P	**P**		**15 03 22.8**	**-0.6**
GYA				pP	**pP**		**15 03 40.0**	**+2.2**
GYA				sP	**sP**		**15 03 48.3**	**+3.5**
GYA				PP	**PnPn**		**15 04 01.8**	**+6.5**
GYA				PcP	**PcP**		**15 07 04.3**	**+0.8**
GYA				S	**S**		**15 07 34.6**	**-2.6**
GYA				sS	**sS**		**15 08 02.5**	**+0.9**
GYA				SS	**SnSn**		**15 08 31.8**	**+8.2**
GYA				ScP	**ScP**		**15 10 36.5**	**-0.7**
GYA				PcS	**PcS**		**15 10 44.9**	**+1.4**
GYA				pmax	pmax			
	comp=Z,90nm,0.7s							
GYA				pmax	pmax			
	comp=Z,140nm,4.9s							
GYA				LR	LR			
	comp=N,860nm,15.8s							
GYA				LR	LR			
	comp=E,510nm,16.7s							
GYA				LR	LR			
	comp=Z,640nm,16.2s							
MYLDM	**Lahad Datu**	**24.11**	**89**	P	**P**		**15 03 24.7**	**+1.3**
GKN	**Gorkha**	**24.34**	**339**	*e*P	**P**		**15 03 25.4**	**-0.1**
	comp=Z,72nm,0.5s							
LSA	**Lhasa**	**24.42**	**353**	P	**P**		**15 03 26.6**	**0.0**
KOLN	**Koldanda**	**24.52**	**337**	*e*P	**P**		**15 03 27.7**	**+0.5**
	comp=Z,54nm,0.6s							
DANN	**Dangsing**	**24.98**	**338**	*e*P	**P**		**15 03 31.8**	**+0.3**
	comp=Z,127nm,0.6s							
PYUN	**Piuthan**	**25.06**	**336**	*e*P	**P**		**15 03 32.4**	**+0.3**
	comp=Z,350nm,0.9s							
PCI	**Palu**	**26.26**	**103**	P	**pP**		**15 03 58.5**	**+1.1**
	baz=26,SNR=9.5							
PCI				S	**S**		**15 08 10.3**	**-1.2**
	baz=26,SNR=51							
CD2	**Chengdu**	**26.96**	**18**	P	**P**		**15 03 50.9**	**+1.8**
CD2				pP	**pP**		**15 04 06.6**	**+3.1**
CD2				sP	**sP**		**15 04 14.8**	**+4.3**
CD2				PP	**PnPn**		**15 04 39.1**	**+5.0**
CD2				S	**S**		**15 08 21.9**	**-0.4**
CD2				sS	**sS**		**15 08 49.0**	**+2.0**
CD2				SS	**SnSn**		**15 09 40.3**	**+7.3**
CD2				pmax	pmax			
	comp=Z,60nm,0.5s							
CD2				pmax	pmax			
	comp=Z,70nm,5.1s							
CD2				LR	LR			
	comp=N,230nm,7.7s							
CD2				LR	LR			
	comp=Z,180nm,8.9s							
KAPI	**Kappang**	**27.43**	**112**	P	**P**		**15 03 52.4**	**-1.0**
	comp=Z,10nm,0.6s,baz=305,slow=5.4,SNR=14							
KAPI				LR	LR		15 14 41.6	
	comp=Z,112nm,19.2s,baz=298,slow=36							
KAPI	**Kappang**	**27.43**	**112**	*e*P	**P**		**15 03 52.1**	**-1.3**
	comp=Z,17nm,0.6s							
WHN	**Wuhan**	**31.39**	**35**	P	**P**		**15 04 28.4**	**0.0**
WHN				*e*S	**S**		**15 09 34.9**	**+3.0**
WHN				LR	LR			
	comp=Z,820nm,14.2s							
XAN	**Xi'an**	**31.63**	**24**	P	**P**		**15 04 29.1**	**-1.4**
XAN				pmax	pmax			
	comp=Z,24nm,7.0s							
LZH	**Lanzhou**	**31.84**	**15**	*e*P	**P**		**15 04 31.1**	**-1.4**
LZH				pP	**pP**		**15 04 45.8**	**-1.3**
LZH				sP	**sP**		**15 04 52.3**	**-1.7**
LZH				PP	**PP**		**15 05 45.5**	**+0.1**
LZH				*e*S	**S**		**15 09 42.4**	**+3.3**
LZH				sS	**sS**		**15 10 04.0**	**+0.1**
LZH				pmax	pmax			
	comp=Z,22nm,1.0s							
LZH				pmax	pmax			
	comp=Z,100nm,6.1s							
GTA	**Gaotai**	**34.29**	**8**	*e*P	**P**		**15 04 53.0**	**-0.8**
GTA				pP	**pP**		**15 05 08.6**	**+0.1**
GTA				sP	**sP**		**15 05 15.6**	**+0.2**
GTA				pmax	pmax			
	comp=Z,24nm,0.9s							
NJ2	**Nanjing**	**35.14**	**38**	*e*P	**P**		**15 05 01.1**	**+0.1**
NJ2				pP	**pP**		**15 05 16.1**	**+0.4**
NJ2				sP	**sP**		**15 05 24.1**	**+1.5**
NJ2				PP	**PP**		**15 06 22.0**	**+0.3**
NJ2				S	**S**		**15 10 33.5**	**+3.6**
NJ2				sS	**sS**		**15 10 55.0**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,40nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,190nm,5.9s							
NJ2				LR	LR			
	comp=N,250nm,18.0s							
NJ2				LR	LR			
	comp=E,330nm,17.4s							
NJ2				LR	LR			
	comp=Z,400nm,19.4s							
KSH	**Kashi**	**37.84**	**337**	P	**P**		**15 05 22.9**	**-1.2**
KSH				pP	**pP**		**15 05 37.9**	**-1.1**
KSH				sP	**sP**		**15 05 46.8**	**+1.0**
KSH				PP	**PnPn**		**15 06 54.5**	**+1.3**
KSH				PcP	**PcP**		**15 07 38.6**	**-1.0**
KSH				S	**S**		**15 11 07.8**	**-3.4**
KSH				PcS	**PcS**		**15 11 27.8**	**-0.7**
KSH				sS	**sS**		**15 11 35.1**	**-1.3**
KSH				SS	**SnSn**		**15 13 48.4**	**-8.5**
KSH				ScS	**ScS**		**15 15 28.8**	**-2.6**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,81nm,5.2s							
KSH				LR	LR			
	comp=N,170nm,6.5s							
KSH				LR	LR			
	comp=E,120nm,5.8s							
KSH				LR	LR			
	comp=Z,210nm,6.2s							
HHC	**Hu-ho-hao-te**	**38.61**	**21**	*e*P	**P**		**15 05 30.5**	**0.0**
HHC				pP	**pP**		**15 05 45.8**	**+0.4**
HHC				sP	**sP**		**15 05 53.0**	**+0.8**
HHC				PP	**PnPn**		**15 07 03.9**	**+1.5**
HHC				S	**S**		**15 11 22.5**	**-0.3**
HHC				sS	**sS**		**15 11 48.1**	**+0.1**
HHC				SS	**SS**		**15 14 05.8**	**-9.0**
HHC				ScS	**ScS**		**15 15 33.1**	**-2.7**
HHC				pmax	pmax			
	comp=Z,21nm,0.7s							
HHC				pmax	pmax			
	comp=Z,160nm,4.9s							
HHC				LR	LR			
	comp=N,170nm,14.7s							
HHC				LR	LR			
	comp=E,290nm,13.7s							
HHC				LR	LR			
	comp=Z,280nm,20.0s							
FITZ	**Fitzroy Crossi**	**38.72**	**128**	P	**P**		**15 05 30.6**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=286,slow=4.5,SNR=21							
FITZ				LR	LR		15 20 39.7	
	comp=Z,123nm,21.1s,baz=310,slow=35							
FITZ	**Fitzroy Crossi**	**38.72**	**128**	P	**P**		**15 05 30.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**38.72**	**128**	P	**P**		**15 05 30.7**	**-0.8**
	baz=39,SNR=9.1							
WMQ	**Urumqi**	**38.77**	**352**	P	**P**		**15 05 32.3**	**+0.5**
WMQ				LR	LR			
	comp=N,73nm,29.0s							
WMQ				LR	LR			
	comp=E,56nm,24.0s							
WMQ				LR	LR			
	comp=Z,99nm,23.0s							
JOW	**Kunigami**	**38.81**	**53**	P	**P**		**15 05 32.3**	**0.0**
	comp=Z,13nm,0.4s,baz=203,slow=13							
JOW	**Kunigami**	**38.81**	**53**	P	**P**		**15 05 32.3**	**0.0**
BJI	**Beijing**	**39.78**	**27**	P	**P**		**15 05 40.8**	**+0.7**
BJI				pmax	pmax			
	comp=Z,40nm,1.3s							
BJI				pmax	pmax			
	comp=Z,190nm,5.4s							
BJI				LR	LR			
	comp=N,190nm,22.4s							
BJI				LR	LR			
	comp=E,120nm,22.4s							
BJI				LR	LR			
	comp=Z,150nm,22.4s							
ULHL	**Ulahol**	**40.11**	**339**	P	**P**		**15 05 43.7**	**+0.6**
	SNR=14							
KZA	**Kyzart**	**40.33**	**338**	P	**P**		**15 05 46.0**	**+0.8**
	SNR=9.8							
MTN	**Manton Dam**	**40.82**	**117**	P	**P**		**15 05 47.5**	**-1.6**
	baz=41,SNR=22							
TKM2	**Tokmak 2**	**40.93**	**339**	*i* P	**P**		**15 05 50.5**	**+0.6**
TKM2	**Tokmak 2**	**40.93**	**339**	*e*P	**P**		**15 05 50.3**	**+0.4**
	comp=Z,5.8nm,0.5s							
TKM2	**Tokmak 2**	**40.93**	**339**	P	**P**		**15 05 50.6**	**+0.6**
	SNR=17							
KBK	**Karagaybulak**	**40.94**	**338**	P	**P**		**15 05 51.3**	**+1.4**
	SNR=28							
AML	**Almayashu**	**40.97**	**336**	P	**P**		**15 05 51.3**	**+0.9**
	SNR=35							
AAK	**Ala-Archa**	**41.09**	**338**	*e*P	**P**		**15 05 52.8**	**+1.7**
AAK				pmax	pmax			
	comp=Z,106nm,1.1s							
AAK	**Ala-Archa**	**41.09**	**338**	*e*P	**P**		**15 05 52.8**	**+1.7**
	comp=Z,106nm,1.1s							
AAK	**Ala-Archa**	**41.09**	**338**	P	**P**		**15 05 52.7**	**+1.5**
	SNR=6.2							
EKS2	**Erkin-Say**	**41.39**	**337**	*e*P	**P**		**15 05 54.6**	**+1.1**
EKS2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
EKS2	**Erkin-Say**	**41.39**	**337**	*e*P	**P**		**15 05 54.6**	**+1.1**
	comp=Z,6.4nm,0.5s							
EKS2	**Erkin-Say**	**41.39**	**337**	P	**P**		**15 05 54.8**	**+1.2**
	SNR=16							
USP	**Ospenovka**	**41.63**	**338**	P	**P**		**15 05 55.9**	**+0.4**
	SNR=6.3							
KDU	**Kakadu**	**41.96**	**116**	P	**P**		**15 05 57.4**	**-1.0**
	baz=42,SNR=6.7							
MK31	**Makanchi Array**	**42.59**	**348**	*e*P	**P**		**15 06 03.5**	**+0.3**
MK31	**Makanchi Array**	**42.59**	**348**	*e*P	**P**		**15 06 03.5**	**+0.3**
MKAR	**Makanchi Array**	**42.59**	**348**	P	**P**		**15 06 03.5**	**+0.4**
	comp=Z,54nm,0.6s,baz=170,slow=7.7,SNR=855							
MKAR				LR	LR		15 26 37.6	
	comp=Z,67nm,21.8s,baz=168,slow=40							
MKAR	**Makanchi Array**	**42.59**	**348**	P	**P**		**15 06 03.5**	**+0.4**
MKAR	**Makanchi Array**	**42.59**	**348**	P	**P**		**15 06 03.5**	**+0.4**
KK31	**Karatay Array**	**43.09**	**334**	*ce*P	**P**		**15 06 07.7**	**+0.4**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KKAR	**Karatay Array**	**43.09**	**334**	*e*P	**P**		**15 06 07.6**	**+0.3**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KKAR	**Karatay Array**	**43.09**	**334**	*e*P	**P**		**15 06 07.6**	**+0.3**
	comp=Z,3.8nm,0.4s							
SONM	**Songino Array**	**43.60**	**12**	P	**P**		**15 06 10.7**	**-0.7**
	comp=Z,10nm,0.7s,baz=197,slow=8.4,SNR=82							
SONM				pP	**pP**		**15 06 24.5**	**-2.0**
	comp=Z,9.4nm,0.8s,baz=195,slow=8.4,SNR=10							
SONM				PcP	**PcP**		**15 07 59.1**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=191,slow=3.8,SNR=15							
SONM				ScP	**ScP**		**15 11 47.3**	**+2.5**
	comp=Z,1.8nm,0.8s,baz=185,slow=4.2,SNR=9.5							
SONM				LR	LR		15 27 11.8	
	comp=Z,110nm,20.8s,baz=306,slow=40							
SONM	**Songino Array**	**43.60**	**12**	P	**P**		**15 06 10.7**	**-0.7**
SONM				pP	**pP**		**15 06 24.5**	**-2.0**
SONM				PcP	**PcP**		**15 07 59.1**	**+1.0**
SONM				ScP	**ScP**		**15 11 47.3**	**+2.5**
ULN	**Ulaanbaatar**	**43.77**	**12**	*e*P	**P**		**15 06 11.6**	**-1.2**
	comp=Z,6.1nm,0.6s							
JNU	**Nakatsue**	**43.85**	**46**	P	**P**		**15 06 12.2**	**-1.5**
	comp=Z,14nm,0.9s,baz=222,slow=4.6,SNR=4.6							
JNU	**Nakatsue**	**43.85**	**46**	P	**P**		**15 06 12.2**	**-1.5**
KSAR	**Wonju Array Be**	**44.27**	**39**	P	**P**		**15 06 16.2**	**-0.6**
KSRS	**Korea Array**	**44.30**	**39**	P	**P**		**15 06 16.2**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=230,slow=8.8,SNR=12							
ZAK	**Zakamensk**	**45.53**	**8**	*e*P	**P**		**15 06 25.4**	**-1.3**
ZAK				*e*			15 08 01.9	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
HVS	**Khovu-Aksy**	**45.65**	**359**	*c i*P	**P**		**15 06 27.4**	**-0.3**
ABKT	**Ailbek**	**46.20**	**320**	P	**P**		**15 06 33.3**	**+1.1**
	comp=Z,135nm,0.5s,SNR=6.7							
WRA	**Warramunga Arr**	**46.71**	**124**	P	**P**		**15 06 36.2**	**-0.2**
	comp=Z,16nm,0.7s,baz=302,slow=9.3,SNR=159							
WRA				pP	**pP**		**15 06 49.1**	**-2.5**
	comp=Z,24nm,0.9s,baz=303,slow=9.3,SNR=14							
WRA				S	**S**		**15 13 20.8**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=299,slow=16,SNR=4.6							
WRA				LR	LR		15 26 41.2	
	comp=Z,61nm,20.7s,baz=10.0,slow=37							
WRA	**Warramunga Arr**	**46.71**	**124**	P	**P**		**15 06 36.2**	**-0.2**
WRA				pP	**pP**		**15 06 49.1**	**-2.5**
WRA				S	**S**		**15 13 20.8**	**-1.4**
WRAB	**Tennant Creek**	**46.71**	**124**	*e*P	**P**		**15 06 36.2**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,32nm,0.9s							
WRAB	**Tennant Creek**	**46.71**	**124**	*e*P	**P**		**15 06 36.1**	**-0.2**
	comp=Z,32nm,0.9s							
TLY	**Talaya**	**46.85**	**8**	*e*P	**P**		**15 06 35.9**	**-1.1**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,88nm,19.0s							
KURBB	**Kurchatov Arra**	**47.03**	**346**	S	**S**		**15 13 27.3**	**+1.5**
	comp=Z,1.0nm,0.2s,baz=131,slow=22,SNR=7.5							
KURK	**Kurchatov**	**47.10**	**346**	*c i*P	**P**		**15 06 39.6**	**+0.7**
KURK				pmax	pmax			
	comp=Z,55nm,1.0s							
KURK	**Kurchatov**	**47.10**	**346**	*e*P	**P**		**15 06 39.6**	**+0.7**
	comp=Z,42nm,0.8s							
KURK				S	**S**		**15 13 27.3**	**+0.6**
KURK	**Kurchatov**	**47.10**	**346**	P	**P**		**15 06 39.1**	**+0.2**
	comp=Z,340nm,0.6s,SNR=50							
CN2	**Changchun**	**47.11**	**31**	*e*P	**P**		**15 06 38.0**	**-1.1**
CN2				*e*pP	**pP**		**15 06 54.0**	**-0.4**
CN2				*e*sP	**sP**		**15 07 03.1**	**+2.0**
CN2				*e*S	**S**		**15 13 25.6**	**-1.5**
CN2				pmax	pmax			
	comp=Z,20nm,0.5s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,300nm,13.0s							
CN2				LR	LR			
	comp=E,400nm,13.0s							
CN2				LR	LR			
	comp=Z,300nm,12.0s							
ASAR	**Alice Springs**	**48.21**	**128**	P	**P**		**15 06 47.9**	**-0.1**
	comp=Z,5.5nm,0.5s,baz=301,slow=8.1,SNR=237							
ASAR				pP	**pP**		**15 07 00.9**	**-2.4**
	comp=Z,14nm,0.5s,baz=299,slow=7.5,SNR=22							
ASAR				PcP	**PcP**		**15 08 15.3**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=297,slow=4.1,SNR=2.9							
ASAR				ScP	**ScP**		**15 12 04.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=294,slow=4.6,SNR=3.5							
ASAR				S	**S**		**15 13 41.9**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=293,slow=15,SNR=7.6							
ASAR				LR	LR		15 26 34.8	
	comp=Z,82nm,21.2s,baz=294,slow=35							
ASAR	**Alice Springs**	**48.21**	**128**	P	**P**		**15 06 47.9**	**-0.1**
ASAR				pP	**pP**		**15 07 00.9**	**-2.4**
ASAR				PcP	**PcP**		**15 08 15.3**	**+0.8**
ASAR				ScP	**ScP**		**15 12 04.6**	**+0.2**
ASAR				S	**S**		**15 13 41.9**	**-1.6**
AS31	**Alice Springs**	**48.21**	**128**	*e*P	**P**		**15 06 47.9**	**-0.2**
ZAA0	**Zalesovo Array**	**49.08**	**353**	*e*P	**P**		**15 06 54.4**	**+0.3**
ZALV	**Zalesovo Beam**	**49.08**	**353**	P	**P**		**15 06 54.5**	**+0.4**
	comp=Z,30nm,0.5s,baz=188,slow=7.1,SNR=202							
ZALV				S	**S**		**15 13 54.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=183,slow=13,SNR=4.0							
ZALV				LR	LR		15 30 03.4	
	comp=Z,73nm,19.4s,baz=185,slow=39							
ZALV	**Zalesovo Beam**	**49.08**	**353**	P	**P**		**15 06 54.5**	**+0.4**
ZALV				S	**S**		**15 13 54.7**	**0.0**
ZALV	**Zalesovo Beam**	**49.08**	**353**	P	**P**		**15 06 54.5**	**+0.4**
ZALV				S	**S**		**15 13 54.7**	**0.0**
MDJ	**Mudanjiang**	**49.84**	**33**	P	**P**		**15 07 00.4**	**+0.3**
MDJ				sP	**sP**		**15 07 22.4**	**+0.2**
MDJ				PcP	**PcP**		**15 08 19.3**	**-0.7**
MDJ				S	**S**		**15 14 06.5**	**+0.9**
MDJ				pmax	pmax			
	comp=Z,17nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,120nm,6.6s							
MDJ				LR	LR			

AB31	**Akbulak array**	**52.52 332**	*ce*	P	**P**	**15 07 20.5 +0.3**
AB31				pmax	pmax	
	comp=Z,5.0nm,0.3s					
ABKAR	**Akbulak array**	**52.52 332**	*e*	P	**P**	**15 07 20.4 +0.2**
	comp=Z,10nm,0.6s					
KLR	**Kul'dur**	**54.00 30**	*e*	P	**P**	**15 07 28.0 -3.0**
KLR				pmax	pmax	
	comp=Z,63nm,2.0s					
AKTO	**Aktyubinsk**	**54.24 332**		P	**P**	**15 07 32.7 -0.1**
	comp=Z,6.4nm,0.6s,baz=116,slow=8.4,SNR=29					
AKTO				LR	LR	15 32 09.3
	comp=Z,30nm,19.7s,baz=358,slow=38					
AKTO	**Aktyubinsk**	**54.24 332**		P	**P**	**15 07 32.7 -0.1**
AKTO	**Aktyubinsk**	**54.24 332**		P	**P**	**15 07 32.7 -0.1**
PMG	**Port Moresby**	**54.69 105**		P	**P**	**15 07 36.1 -0.5**
	comp=Z,10.0nm,0.7s,baz=277,slow=0.7,SNR=9.9					
PMG	**Port Moresby**	**54.69 105**		P	**P**	**15 07 36.1 -0.5**
HABR	**Khabarovsk**	**55.19 32**	*eP*		**P**	**15 07 37.2 -2.4**
HABR			*e*	SP	sP	15 07 51.0 -11
HABR			*eS*		**S**	**15 15 17.7 -0.9**
HABR			*e*	SS	sS	15 15 34.5 -10
HABR			*e*			15 17 22.9
HABR				SS	**SS**	**15 19 03.3 -0.2**
HABR				pmax	pmax	
	comp=E,33nm,1.8s					
HABR				pmax	pmax	
	comp=N,18nm,1.3s					
HABR				pmax	pmax	
	comp=Z,40nm,1.8s					
HABR				MLR	MLR	
	comp=Z,164nm,20.0s					
CTA	**Charters Tower**	**56.97 118**		P	**P**	**15 07 52.8 0.0**
	comp=Z,4.4nm,0.8s,baz=315,slow=5.7,SNR=3.3					
CTA				LR	LR	15 31 52.1
	comp=Z,96nm,20.4s,baz=74,slow=36					
CTA	**Charters Tower**	**56.97 118**		P	**P**	**15 07 52.8 0.0**
ASAJ	**Asahikawa**	**57.24 40**		P	**P**	**15 07 54.3 0.0**
	comp=Z,6.0nm,0.7s,baz=235,slow=16,SNR=3.9					
ASAJ	**Asahikawa**	**57.24 40**		P	**P**	**15 07 54.3 0.0**
SVE	**Sverdlovsk**	**57.80 339**	⇑*i*	P	**P**	**15 07 58.9 +0.8**
SVE				pmax	pmax	
	comp=Z,26nm,1.2s					
QLP	**Quilpie**	**57.81 126**		P	**P**	**15 07 59.4 +0.7**
	baz=58,SNR=15					
ZEI	**Tsey**	**58.00 318**	*eP*		**P**	**15 07 59.7 -0.3**
ZEI				pmax	pmax	
	comp=Z,6.0nm,0.6s					
STKA	**Stephens Creek**	**58.27 133**		P	**P**	**15 08 02.0 +0.2**
	comp=Z,1.5nm,0.3s,baz=304,slow=7.3,SNR=7.4					
STKA	**Stephens Creek**	**58.27 133**		P	**P**	**15 08 02.0 +0.2**
ARU	**Arti**	**58.27 338**	*c i*	P	**P**	**15 08 01.3 -0.1**
ARU						15 10 09.2
ARU				S	**S**	**15 16 04.0 +4.9**
ARU				SS	**SS**	**15 19 50.4 -1.3**
ARU				pmax	pmax	
	comp=Z,19nm,1.7s					
ARU	**Arti**	**58.27 338**	*eP*		**P**	**15 08 01.1 -0.3**
	comp=Z,24nm,1.3s					
YSS	**Yuzh-Sakhalins**	**58.70 37**	*eP*		**P**	**15 08 04.7 +0.2**
YSS				pmax	pmax	
	comp=Z,54nm,1.7s					
KBZ	**Khabaz**	**59.07 319**		P	**P**	**15 08 07.7 +0.6**
	comp=Z,4.0nm,0.8s,baz=165,slow=5.5,SNR=8.0					
KBZ				LR	LR	15 37 45.9
	comp=Z,33nm,18.8s,baz=224,slow=40					
KBZ	**Khabaz**	**59.07 319**		P	**P**	**15 08 07.7 +0.6**
KBZ	**Khabaz**	**59.07 319**		P	**P**	**15 08 07.7 +0.6**
KIV	**Kislovodsk**	**59.30 319**	*eP*		**P**	**15 08 09.2 +0.3**
KIV				pmax	pmax	
	comp=Z,11nm,1.1s					
CMSA	**Cobar Meteorol**	**61.16 130**		P	**P**	**15 08 22.4 +0.8**
	baz=61,SNR=54					
YAK	**Yakutsk**	**62.35 18**	*eP*		**P**	**15 08 26.4 -2.6**
YAK			*e*	PP	**pP**	**15 08 40.3 -4.6**
YAK			*e*			15 09 07.6
YAK			*eS*		**S**	**15 16 51.5 +0.5**
YAK			*e*	SS	sS	15 17 07.9 -10
YAK			*eS*		SS	15 20 46.0 -9.3
YAK				pmax	pmax	
	comp=Z,15nm,1.0s					
YAK				pmax	pmax	
	comp=E,7.0nm,1.4s					
YAK				pmax	pmax	
	comp=N,4.0nm,1.1s					
YAK				pmax	pmax	
	comp=E,134nm,3.7s					
YAK				pmax	pmax	
	comp=Z,75nm,5.2s					
YAK				pmax	pmax	
	comp=N,50nm,2.6s					
YAK				smax	smax	
	comp=N,25nm,2.5s					
YAK				smax	smax	
	comp=E,62nm,3.0s					
YAK				MLR	MLR	
	comp=Z,136nm,17.0s					
YAK	**Yakutsk**	**62.35 18**	*eP*		**P**	**15 08 27.5 -1.5**
	comp=Z,12nm,0.6s					
VRHR	**Novokhopersk**	**63.10 326**	*eP*		**P**	**15 08 32.3 -2.0**
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.6s					
VRHR				pmax	pmax	
	comp=E,10.0nm,1.7s					
TOO	**Toolangi**	**63.92 136**		P	**P**	**15 08 42.1 +2.2**
	baz=64,SNR=6.5					
BR131	**Keskin Array S**	**64.20 312**	*eP*		**P**	**15 08 41.5 -0.5**
	comp=E,4.0nm,0.7s					
BRTR	**Keskin Array B**	**64.20 312**		P	**P**	**15 08 42.0 +0.1**
	comp=E,4.9nm,0.7s,baz=130,slow=7.2,SNR=30					
BRTR				LR	LR	15 37 51.1
	comp=E,32nm,18.3s,baz=279,slow=37					
BRTR	**Keskin Array B**	**64.20 312**		P	**P**	**15 08 42.0 +0.1**
VSR	**Storozhevoye**	**64.54 325**	*eP*		**P**	**15 08 42.3 -1.4**
OBN	**Obninsk**	**67.60 328**	⇓*i*	P	**P**	**15 09 03.3 0.0**
OBN			*e*			15 09 17.0
OBN				pmax	pmax	
	comp=Z,29nm,1.0s					
KLMR	**Klimovskoe**	**68.80 335**	*eP*		P	15 09 07.3 -3.4
KLMR				pmax	pmax	
	comp=Z,17nm,1.4s					
CFR	**Carcaliu**	**69.51 316**	⇑*i*	P	P	15 09 10.2 -5.2
TIXI	**Tiksi**	**69.68 11**	*i*	P	**P**	**15 09 14.8 -1.1**
TIXI				pmax	pmax	
	comp=Z,17nm,0.6s					
TIXI	**Tiksi**	**69.68 11**	*eP*		**P**	**15 09 14.2 -1.8**
	comp=Z,17nm,0.6s					
PETK	**Petropavlovsk-**	**69.98 35**		LR	LR	15 39 52.8
	comp=Z,96nm,19.5s,baz=87,slow=36					
AK02	**Malin Array Si**	**70.23 322**	*eP*		**P**	**15 09 18.9 -0.9**
AKASG	**Malin Array Be**	**70.23 322**		P	**P**	**15 09 19.1 -0.6**
	comp=Z,5.5nm,0.5s,baz=92,slow=5.6,SNR=27					
AKASG	**Malin Array Be**	**70.23 322**		P	**P**	**15 09 19.1 -0.6**
AKASG	**Malin Array Be**	**70.23 322**		P	**P**	**15 09 19.1 -0.6**
AK01	**Malin Array Si**	**70.23 322**	*eP*		**P**	**15 09 18.9 -0.8**
KIEV	**Kiev**	**70.24 322**	*eP*		**P**	**15 09 19.0 -0.8**
KIEV				pmax	pmax	
	comp=Z,4.0nm,0.6s					
KIEV	**Kiev**	**70.24 322**	*eP*		**P**	**15 09 19.0 -0.8**
	comp=Z,4.3nm,0.6s					
VRI	**Vrincioaia**	**70.63 317**	⇓	P	**P**	**15 09 24.0 +1.7**
VRI	**Vrincioaia**	**70.63 317**	⇓*i*	P	**P**	**15 09 24.0 +1.7**
PLOR	**Plostina**	**70.68 317**	⇑	P	**P**	**15 09 24.1 +1.4**
PLOR	**Plostina**	**70.68 317**	⇑*i*	P	**P**	**15 09 24.1 +1.4**
TESR		**70.83 317**	⇑*i*	P	**P**	**15 09 24.3 +0.8**
TMCR	**Tamitsa**	**71.01 337**	*eP*		**P**	**15 09 24.7 +0.5**
TMCR				pmax	pmax	
	comp=Z,8.0nm,0.5s					
MLR	**Muntele Rosu**	**71.09 316**		P	**P**	**15 09 26.5 +1.3**
	comp=Z,1.6nm,0.5s,baz=150,slow=2.6,SNR=14					
MLR	**Muntele Rosu**	**71.09 316**		P	**P**	**15 09 26.5 +1.3**
MLR	**Muntele Rosu**	**71.09 316**	⇑*i*	P	**P**	**15 09 26.5 +1.3**
VOIR		**71.69 316**	⇓	P	**P**	**15 09 29.3 +0.4**
VOIR		**71.69 316**	⇓*i*	P	**P**	**15 09 29.3 +0.4**
ARR	**Arges**	**71.97 316**	⇑*i*	P	**P**	**15 09 30.9 +0.4**
BUR08	**Bucovina Ar. S**	**72.04 318**	*eP*		**P**	**15 09 31.8 +0.9**
VTS	**Vitosha**	**72.50 313**	⇑	P	**P**	**15 09 33.8 0.0**
VTS	**Vitosha**	**72.50 313**	⇑*i*	P	**P**	**15 09 33.8 0.0**
JOF	**Joensuu**	**73.19 335**	*eP*		**P**	**15 09 35.9 -1.4**
JOF				pmax	pmax	
	comp=Z,3.0nm,0.7s					
JOF	**Joensuu**	**73.19 335**	*ep*		**P**	**15 09 35.9 -1.4**
	comp=Z,3.2nm,0.7s					
DRGR		**73.54 317**	⇑	P	**P**	**15 09 40.6 +0.8**
DRGR		**73.54 317**	⇑*i*	P	**P**	**15 09 40.6 +0.8**
KWP	**Kalwaria Pacla**	**74.05 320**	*eP*		**P**	**15 09 43.5 +0.9**
KWP	**Kalwaria Pacla**	**74.05 320**	⇓	P	**P**	**15 09 43.4 +0.7**
KWP	**Kalwaria Pacla**	**74.05 320**	*eP*		**P**	**15 09 43.4 +0.7**
	comp=Z,8.0nm,0.6s					
KWP	**Kalwaria Pacla**	**74.05 320**	⇓*i*	P	**P**	**15 09 43.4 +0.7**
KWP	**Kalwaria Pacla**	**74.05 320**	*eP*		**P**	**15 09 43.5 +0.9**
KOLS	**Kolonicke sedl**	**74.21 319**	*eP*		**P**	**15 09 44.8 +1.2**
KOLS				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KOLS	**Kolonicke sedl**	**74.21 319**	*eP*		**P**	**15 09 44.8 +1.2**
KOLS			*ep*	P	**PcP**	**15 09 55.7 -2.6**
BOSA	**Boshof**	**74.38 238**		P	**P**	**15 09 47.7 +2.6**
	comp=Z,1.7nm,0.5s,baz=134,slow=2.2,SNR=7.1					
BOSA				LR	LR	15 36 57.9
	comp=Z,86nm,20.6s,baz=262,slow=31					
BOSA	**Boshof**	**74.38 238**		P	**P**	**15 09 47.7 +2.6**
SUW	**Suwalki**	**74.64 325**	*eP*		**P**	**15 09 46.3 +0.4**
SUW	**Suwalki**	**74.64 325**	*eP*		**P**	**15 09 46.3 +0.4**
CRVS	**Cervenica-Dubn**	**74.73 319**	*eP*		**P**	**15 09 47.7 +1.1**
CRVS				pmax	pmax	
	comp=Z,11nm,1.4s					
CRVS	**Cervenica-Dubn**	**74.73 319**	*eP*		**P**	**15 09 47.7 +1.1**
CRVS			*ep*	P	**PcP**	**15 09 59.3 -1.2**
CRVS			*e*			15 33 25.8
CRVS			*e*			15 33 49.1
FINES	**FINESS Array B**	**75.01 332**		P	**P**	**15 09 48.1 +0.2**
	comp=Z,3.8nm,0.6s,baz=96,slow=5.7,SNR=16					
FINES	**FINESS Array B**	**75.01 332**		P	**P**	**15 09 48.1 +0.2**
PSZ	**Piszkesteto**	**75.61 318**	⇑	P	**P**	**15 09 52.6 +0.8**
PSZ	**Piszkesteto**	**75.61 318**	⇑*i*	P	**P**	**15 09 52.6 +0.8**
OJC	**Ojcow**	**76.01 320**	*eP*		**P**	**15 09 54.9 +1.0**
OJC	**Ojcow**	**76.01 320**	*eP*		**P**	**15 09 54.8 +0.9**
	comp=Z,27nm,0.7s					
OJC	**Ojcow**	**76.01 320**	*eP*		**P**	**15 09 54.9 +1.0**
MAW	**Mawson**	**76.09 192**		LR	LR	15 34 47.0
	comp=Z,133nm,19.5s,baz=138,slow=29					
VYHS	**Vyhne**	**76.39 319**	*eP*		**P**	**15 09 56.9 +0.8**
VYHS				pmax	pmax	
	comp=Z,3.0nm,0.7s					
VYHS	**Vyhne**	**76.39 319**	*eP*		**P**	**15 09 56.9 +0.8**
KEV	**Kevo**	**77.27 341**		P	**P**	**15 10 01.1 +0.6**
KEV	**Kevo**	**77.27 341**		P	**P**	**15 10 01.1 +0.6**
KEV	**Kevo**	**77.27 341**	*ep*		**P**	**15 10 00.3 -0.3**
	comp=Z,0.9nm,0.4s					
MORC	**Moravsky Berou**	**77.39 320**	⇓	P	**P**	**15 10 02.7 +0.9**
MORC	**Moravsky Berou**	**77.39 320**	*eP*		**P**	**15 10 02.9 +1.1**
	comp=Z,30nm,1.5s					
MORC	**Moravsky Berou**	**77.39 320**	*eP*		**P**	**15 10 02.3 +0.6**
	comp=Z,19nm,1.1s					
MORC	**Moravsky Berou**	**77.39 320**	⇓*i*	P	**P**	**15 10 02.7 +0.9**
ARCES	**ARCESS Array B**	**77.69 340**		P	**P**	**15 10 03.2 +0.3**
	comp=Z,3.5nm,0.5s,baz=54,slow=6.2,SNR=28					
ARCES				pP	**pP**	**15 10 18.4 -0.9**
	comp=Z,3.3nm,0.6s,baz=93,slow=6.3,SNR=2.6					
ARCES				LR	LR	15 46 52.2
	comp=Z,90nm,18.9s,baz=186,slow=38					
ARCES	**ARCESS Array B**	**77.69 340**		P	**P**	**15 10 03.2 +0.3**
ARCES				pP	**pP**	**15 10 18.4 -0.9**
ARE0	**ARCESS Array S**	**77.69 340**	*eP*		**P**	**15 10 04.3 +1.3**
KOGS	**Kog**	**77.91 316**	*i*	P	**P**	**15 10 05.7 +1.1**
DPC	**Dobruska-Polom**	**78.23 320**	*eP*		**P**	**15 10 08.0 +1.6**
DPC			*e*			15 10 20.7
DPC	**Dobruska-Polom**	**78.23 320**	*eP*		**P**	**15 10 08.1 +1.6**
	comp=Z,9.0nm,0.7s					
DPC	**Dobruska-Polom**	**78.23 320**	*eP*		**P**	**15 10 08.0 +1.6**
DPC			*ep*	P	**pP**	**15 10 20.7 -2.1**
KSP	**Ksiaz**	**78.30 321**	*eP*		**P**	**15 10 08.2 +1.4**
KSP	**Ksiaz**	**78.30 321**	*eP*		**P**	**15 10 08.1 +1.4**
KSP	**Ksiaz**	**78.30 321**	*eP*		**P**	**15 10 08.1 +1.4**
BILL	**Bilibino**	**78.38 21**	⇓*i*	P	**P**	**15 10 06.1 -0.8**
BILL			*e*			15 10 15.6
BILL			*e*			15 13 02.4
BILL				pmax	pmax	
	comp=Z,4.0nm,0.6s					
BILL	**Bilibino**	**78.38 21**	*eP*		**P**	**15 10 06.0 -0.8**
	comp=Z,4.7nm,0.6s					
UPC	**Upice**	**78.45 320**	*eP*		**P**	**15 10 09.1 +1.5**
UPC	**Upice**	**78.45 320**	*eP*		**P**	**15 10 09.1 +1.5**
BOJS	**Bojanci**	**78.53 315**	*i*	P	**P**	**15 10 09.1 +1.0**
PERS	**Pernice**	**78.71 316**	*i*	P	**P**	**15 10 10.5 +1.3**
SOKA	**Soboth**	**78.77 316**	⇑*i*	P	**P**	**15 10 10.8 +1.3**
SOKA	**Soboth**	**78.77 316**	⇑*i*	P	**P**	**15 10 10.8 +1.3**
	comp=Z,12nm,0.8s					
FX1	**Attu Island--F**	**79.06 37**	*eP*		**P**	**15 10 10.4 -0.4**
LJU	**Ljubljana**	**79.07 316**	*i*	P	**P**	**15 10 12.6 +1.5**
PRU	**Pruhonice**	**79.34 320**	*eP*		**P**	**15 10 13.5 +1.0**
PRU	**Pruhonice**	**79.34 320**	*eP*		**P**	**15 10 13.5 +1.0**
MOA	**Molln**	**79.37 318**	⇓*i*	P	**P**	**15 10 13.3 +0.6**
MOA	**Molln**	**79.37 318**	⇓*i*	P	**P**	**15 10 13.3 +0.6**
	comp=Z,5.7nm,0.8s					
CADS	**Cadrg**	**79.63 316**	*i*	P	**P**	**15 10 14.8 +0.6**
MYKA	**Terra Mystica**	**79.72 316**	⇑*i*	P	**P**	**15 10 15.7 +1.0**
MYKA	**Terra Mystica**	**79.72 316**	⇑*i*	P	**P**	**15 10 15.7 +1.0**
	comp=Z,6.8nm,0.8s					
BRG	**Berggiesshubel**	**79.79 321**	*eP*		**P**	**15 10 16.1 +1.2**
	comp=Z,9.6nm,0.7s					
BRG			*e*			15 10 30.4
	comp=Z,5.2nm,0.8s					
BRG	**Berggiesshubel**	**79.79 321**	*eP*		**P**	**15 10 16.0 +1.2**
BRG			*e*			15 10 30.4
BRG				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BRG				pmax	pmax	
	comp=Z,5.0nm,0.9s					
BRG	**Berggiesshubel**	**79.79 321**	*eP*		**P**	**15 10 16.1 +1.2**
	comp=Z,10.0nm,0.7s					
GERES	**GERESS Array B**	**79.81 319**		P	**P**	**15 10 16.4 +1.2**
	comp=Z,11nm,0.7s,baz=100,slow=4.8,SNR=49					
GERES	**GERESS Array B**	**79.81 319**		P	**P**	**15 10 16.4 +1.2**
KHC	**Kasperske Hory**	**79.91 319**	*eP*		**P**	**15 10 16.7 +1.1**
KHC			*e*			15 10 28.3
KHC			*e*			15 10 43.0
KHC	**Kasperske Hory**	**79.91 319**	*eP*		**P**	**15 10 16.5 +0.9**
	comp=Z,3.9nm,0.6s					
KHC	**Kasperske Hory**	**79.91 319**	*eP*		**P**	**15 10 16.7 +1.1**
KHC			*ep*	P	**pP**	**15 10 28.3 -3.7**
KHC			*ex*		x	15 10 43.0
KBA	**Koelnbreinsper**	**79.95 317**	⇓*i*	P	**P**	**15 10 16.4 +0.4**
KBA	**Koelnbreinsper**	**79.95 317**	⇓*i*	P	**P**	**15 10 16.4 +0.4**
KBA	**Koelnbreinsper**	**79.95 317**	⇓*i*	P	**P**	**15 10 16.4 +0.4**
	comp=Z,6.8nm,1.0s					
FBE	**Freiberg**	**80.17 321**	*eP*		**P**	**15 10 18.1 +1.2**
	comp=Z,12nm,0.7s					
RJOB	**Jochberg**	**80.35 317**	*eP*		**P**	**15 10 18.5 +0.4**
	comp=Z,21nm,1.6s					
WET	**Wettzell**	**80.37 319**	*eP*		**P**	**15 10 19.3 +1.2**
WET				pmax	pmax	
	comp=Z,16nm,1.3s					
WET	**Wettzell**	**80.37 319**	*eP*		**P**	**15 10 19.3 +1.2**
	comp=Z,16nm,1.3s					
CLL	**Collm**	**80.41 321**	*eP*		**P**	**15 10 18.0 -0.2**
CLL				pmax	pmax	
	comp=Z,15nm,1.1s					
CLL	**Collm**	**80.41 321**	*eP*		**P**	**15 10 19.0 +0.8**
	comp=Z,9.0nm,1.1s					
CLL	**Collm**	**80.41 321**	*eP*		**P**	**15 10 18.0 -0.2**
	comp=Z,9.0nm,1.1s					
NKC	**Novy Kostel**	**80.70 320**	*eP*		**P**	**15 10 20.4 +0.6**
NKC	**Novy Kostel**	**80.70 320**	*eP*		**P**	**15 10 20.4 +0.6**
HFS	**Hagfors**	**80.71 330**		P	**P**	**15 10 19.9 +0.3**
	comp=Z,2.7nm,0.6s,baz=101,slow=7.7,SNR=10					
HFS	**Hagfors**	**80.71 330**		P	**P**	**15 10 19.9 +0.3**
ROTZ	**Rotzenmuhle**	**80.84 319**	*eP*		**P**	**15 10 22.2 +1.7**
	comp=Z,21nm,1.5s					
PLN	**Plauen**	**80.90 320**	*eP*		**P**	**15 10 21.8 +0.9**
	comp=Z,33nm,0.8s					
WTTA	**Wattenberg**	**81.12 317**	⇓*i*	P	**P**	**15 10 22.8 +0.5**
WTTA	**Wattenberg**	**81.12 317**	⇓*i*	P	**P**	**15 10 22.8 +0.5**
WTTA	**Wattenberg**	**81.12 317**	⇓*i*	P	**P**	**15 10 22.8 +0.5**
	comp=Z,9.3nm,0.5s					
MOX	**Moxa**	**81.25 320**	*eP*		**P**	**15 10 23.8 +1.1**
MOX				pmax	pmax	
	comp=Z,4.0nm,0.6s					
MOX	**Moxa**	**81.25 320**	*eP*		**P**	**15 10 23.8 +1.1**
	comp=Z,4.0nm,0.6s					
GRF	**Grafenberg Arr**	**81.47 319**	*eP*		**P**	**15 10 25.3 +1.4**
GRF				pmax	pmax	
	comp=Z,33nm,1.4s					
GRF	**Grafenberg Arr**	**81.47 319**	*eP*		**P**	**15 10 25.3 +1.4**
	comp=Z,33nm,1.4s					
RETA	**Reutte**	**81.72 317**	⇑*i*	P	**P**	**15 10 25.9 +0.5**
RETA	**Reutte**	**81.72 317**	⇑*i*	P	**P**	**15 10 25.9 +0.5**
	comp=Z,15nm,0.5s					
FETA	**Feichten**	**81.73 317**	⇑*i*	P	**P**	**15 10 26.2 +0.7**
FETA	**Feichten**	**81.73 317**	⇑*i*	P	**P**	**15 10 26.2 +0.7**
	comp=Z,7.9nm,0.7s					
NOA	**NORSAR Array B**	**82.00 331**		P	**P**	**15 10 26.7 +0.2**
	comp=Z,1.3nm,0.8s,baz=93,slow=6.0,SNR=3.4					
NOA	**NORSAR Array B**	**82.00 331**		P	**P**	**15 10 26.7 +0.2**
CLZ	**Clausthal**	**82.07 321**	*eP*		**P**	**15 10 28.1 +1.0**
CLZ				pmax	pmax	
	comp=Z,21nm,0.8s					
CLZ	**Clausthal**	**82.07 321**	*eP*		**P**	**15 10 28.1 +1.0**
	comp=Z,21nm,0.8s					
BSEG	**Bad Segeberg**	**82.17 324**	*eP*		**P**	**15 10 28.7 +1.3**
BSEG				pmax	pmax	
	comp=Z,78nm,1.5s					
BSEG	**Bad Segeberg**	**82.17 324**	*eP*		**P**	**15 10 28.7 +1.3**
	comp=Z,78nm,1.5s					
DAVOX	**Davos/Dischmat**	**82.31 316**		P	**P**	**15 10 29.9 +1.3**
	comp=Z,21nm,0.6s,baz=124,slow=4.4,SNR=32					
DAVOX	**Davos/Dischmat**	**82.31 316**		P	**P**	**15 10 29.9 +1.3**
SPITS	**Spitsbergen Ar**	**82.34 348**		P	**P**	**15 10 28.0 +0.1**
	comp=Z,3.1nm,0.5s,baz=95,slow=9.3,SNR=25					
SPITS	**Spitsbergen Ar**	**82.34 348**		P	**P**	**15 10 28.0 +0.1**
TUE	**Stuetta**	**82.68 316**	*eP*		**P**	**15 10 30.7 +0.1**
	comp=Z,7.0nm,0.8s					
KEST	**Kesra**	**82.81 305**		P	**P**	**15 10 32.8 +1.4**
	comp=Z,1.2nm,0.7s,baz=349,slow=5.4,SNR=3.5					
KEST				LR	LR	15 49 05.2
	comp=Z,32nm,20.3s,baz=183,slow=37					
KEST	**Kesra**	**82.81 305**		P	**P**	**15 10 32.8 +1.4**
PGF	**Pioggiola**	**82.95 312**	⇑*i*	P	**P**	**15 10 32.7 +0.7**
	comp=Z,21nm,0.9s					
PGF	**Pioggiola**	**82.95 312**	⇑*i*	P	**P**	**15 10 32.7 +0.7**
PGF				pmax	pmax	
	comp=Z,21nm,0.9s					
PGF	**Pioggiola**	**82.95 312**	⇑*i*	P	**P**	**15 10 32.7 +0.7**
	comp=Z,21nm,0.9s					
BFO	**Black Forest**	**83.36 318**	*eP*		**P**	**15 10 34.5 +0.7**
BFO				pmax	pmax	
	comp=Z,6.0nm,0.7s					
BFO	**Black Forest**	**83.36 318**	*eP*		**P**	**15 10 34.5 +0.7**
	comp=Z,6.0nm,0.7s					
HLG	**Helgoland**	**83.60 324**	*eP*		**P**	**15 10 35.3 +0.5**
	comp=Z,350nm,1.0s					
IBBN	**Ibbenburen**	**83.69 322**	*eP*		**P**	**15 10 34.8 -0.6**
	comp=Z,72nm,1.0s					
CDF	**Champ du Feu**	**84.06 318**	⇑*i*	P	**P**	**15 10 37.7 +0.2**
	comp=Z,14nm,0.8s					
CDF	**Champ du Feu**	**84.06 318**	⇑*i*	P	**P**	**15 10 37.7 +0.2**
CDF				pmax	pmax	
	comp=Z,14nm,0.8s					
CDF	**Champ du Feu**	**84.06 318**	⇑*i*	P	**P**	**15 10 37.7 +0.2**
	comp=Z,14nm,0.8s					
SBF	**Sospel**	**84.07 313**	*eP*		**P**	**15 10 38.4 +0.8**
	comp=Z,28nm,0.6s					
SBF	**Sospel**	**84.07 313**	*eP*		**P**	**15 10 38.4 +0.8**
SBF				pmax	pmax	
	comp=Z,28nm,0.6s					
SBF	**Sospel**	**84.07 313**	*eP*		**P**	**15 10 38.4 +0.8**
	comp=Z,28nm,0.6s					
HINF	**Hinteralfeld**	**84.36 317**	*eP*		**P**	**15 10 39.2 +0.2**
	comp=Z,3.8nm,0.5s					
HINF	**Hinteralfeld**	**84.36 317**	*eP*		**P**	**15 10 39.2 +0.2**
HINF				pmax	pmax	
	comp=Z,4.0nm,0.5s					
HINF	**Hinteralfeld**	**84.36 317**	*eP*		**P**	**15 10 39.2 +0.2**
	comp=Z,3.8nm,0.5s					
LPG	**La Plagne**	**84.51 315**	⇑*i*	P	**P**	**15 10 40.8 +0.7**
	comp=Z,17nm,0.6s					
LPG	**La Plagne**	**84.51 315**	⇑*i*	P	**P**	**15 10 40.8 +0.7**
LPG				pmax	pmax	
	comp=Z,17nm,0.6s					
LPG	**La Plagne**	**84.51 315**	⇑*i*	P	**P**	**15 10 40.8 +0.7**
	comp=Z,17nm,0.6s					
LPL	**La Plagne**	**84.52 315**	⇑*i*	P	**P**	**15 10 40.9 +0.9**
	comp=Z,26nm,0.8s					
LPL	**La Plagne**	**84.52 315**	⇑*i*	P	**P**	**15 10 40.9 +0.9**
LPL				pmax	pmax	
	comp=Z,26nm,0.8s					
LPL	**La Plagne**	**84.52 315**	⇑*i*	P	**P**	**15 10 40.9 +0.9**
	comp=Z,26nm,0.8s					
MBDF	**Montbardon**	**84.52 314**	*eP*		**P**	**15 10 40.0 0.0**
MBDF	**Montbardon**	**84.52 314**	*eP*		**P**	**15 10 40.0 0.0**
MBDF	**Montbardon**	**84.52 314**	*eP*		**P**	**15 10 40.0 0.0**
FRF	**La Foret Royal**	**84.65 313**	⇑*i*	P	**P**	**15 10 41.4 +0.9**
	comp=Z,23nm,0.7s					
FRF	**La Foret Royal**	**84.65 313**	⇑*i*	P	**P**	**15 10 41.4 +0.9**
FRF				pmax	pmax	
	comp=Z,23nm,0.7s					
FRF	**La Foret Royal**	**84.65 313**	⇑*i*	P	**P**	**15 10 41.4 +0.9**
	comp=Z,23nm,0.7s					
HAU	**Haudompre**	**84.69 318**	⇑*i*	P	**P**	**15 10 41.0 +0.4**
	comp=Z,27nm,0.6s					
HAU	**Haudompre**	**84.69 318**	⇑*i*	P	**P**	**15 10 41.0 +0.4**
HAU				pmax	pmax	
	comp=Z,27nm,0.6s					
HAU	**Haudompre**	**84.69 318**	⇑*i*	P	**P**	**15 10 41.0 +0.4**
	comp=Z,27nm,0.6s					
**LM

CAF	**Calviac**	**87.85**	**315**	*e*P		**P**		**15 10 56.4**	**+0.2**
MTLF	**Montolieu**	**87.89**	**313**	*e*P		**P**		**15 10 57.5**	**+1.1**
MTLF	**Montolieu**	**87.89**	**313**	*e*P		**P**		**15 10 57.5**	**+1.1**
MTLF	**Montolieu**	**87.89**	**313**	*e*P		**P**		**15 10 57.5**	**+1.1**
RJF	**Les Rejaudoux**	**88.20**	**315**	⇑*i*P		**P**		**15 10 59.2**	**+1.4**
RJF	**Les Rejaudoux**	**88.20**	**315**	⇑*i*P		**P**		**15 10 59.2**	**+1.4**
RJF	**Les Rejaudoux**	**88.20**	**315**	⇑*i*P		**P**		**15 10 59.2**	**+1.4**
TNA	**Tin City**	**88.41**	**24**	*e*P		**P**		**15 10 59.0**	**+0.7**
	comp=Z,2.2nm,0.5s								
LDF	**La Druitiere**	**88.96**	**319**	⇑*i*P		**P**		**15 11 02.1**	**+0.8**
	comp=Z,21nm,0.9s								
LDF	**La Druitiere**	**88.96**	**319**	⇑*i*P		**P**		**15 11 02.1**	**+0.8**
LDF					pmax	pmax			
	comp=Z,21nm,0.9s								
LDF	**La Druitiere**	**88.96**	**319**	⇑*i*P		**P**		**15 11 02.1**	**+0.8**
	comp=Z,21nm,0.9s								
FLN	**La Foliniere**	**89.17**	**319**	*e*P		**P**		**15 11 03.1**	**+0.8**
FLN	**La Foliniere**	**89.17**	**319**	*e*P		**P**		**15 11 03.1**	**+0.8**
FLN	**La Foliniere**	**89.17**	**319**	*e*P		**P**		**15 11 03.1**	**+0.8**
MFF	**Saint Martin d**	**89.21**	**317**	⇑*i*P		**P**		**15 11 03.3**	**+0.8**
MFF	**Saint Martin d**	**89.21**	**317**	⇑*i*P		**P**		**15 11 03.3**	**+0.8**
MFF	**Saint Martin d**	**89.21**	**317**	⇑*i*P		**P**		**15 11 03.3**	**+0.8**
GRR	**Gorron**	**89.47**	**318**	*e*P		**P**		**15 11 04.6**	**+0.9**
GRR	**Gorron**	**89.47**	**318**	*e*P		**P**		**15 11 04.6**	**+0.9**
GRR	**Gorron**	**89.47**	**318**	*e*P		**P**		**15 11 04.6**	**+0.9**
EKA	**Eskdalemuir Ar**	**89.88**	**325**	P		**P**		**15 11 06.8**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=95,slow=5.7,SNR=6.9								
EKA	**Eskdalemuir Ar**	**89.88**	**325**	P		**P**		**15 11 06.8**	**+1.3**
SJPF	**Ste Jean**	**90.41**	**313**	*e*P		**P**		**15 11 08.8**	**+0.6**
SJPF	**Ste Jean**	**90.41**	**313**	*e*P		**P**		**15 11 08.8**	**+0.6**
SJPF	**Ste Jean**	**90.41**	**313**	*e*P		**P**		**15 11 08.8**	**+0.6**
VNDA	**Vanda**	**90.43**	**168**	P		**P**		**15 11 09.4**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=316,slow=7.0,SNR=1.9								
VNDA					pP	**pP**		**15 11 24.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=332,slow=9.8,SNR=4.1								
VNDA	**Vanda**	**90.43**	**168**	P		**P**		**15 11 09.4**	**+2.0**
VNDA					pP	**pP**		**15 11 24.0**	**-0.2**
QUIF	**Quistinic**	**91.06**	**318**	*e*P		**P**		**15 11 11.8**	**+0.7**
QUIF	**Quistinic**	**91.06**	**318**	*e*P		**P**		**15 11 11.8**	**+0.7**
QUIF	**Quistinic**	**91.06**	**318**	*e*P		**P**		**15 11 11.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**91.32**	**283**	P		**P**		**15 11 14.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=74,slow=2.6,SNR=2.7								
TORD					pP	**pP**		**15 11 28.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=79,slow=4.3,SNR=5.1								
TORD					LR	LR		15 50 57.5	
	comp=Z,67nm,18.9s,baz=145,slow=35								
TORD	**Torodi Ar. Bea**	**91.32**	**283**	P		**P**		**15 11 14.4**	**+1.4**
TORD					pP	**pP**		**15 11 28.9**	**-0.7**
ESDC	**Sonseca Array**	**92.96**	**310**	P		**P**		**15 11 19.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=55,slow=4.9,SNR=4.0								
ESDC	**Sonseca Array**	**92.96**	**310**	P		**P**		**15 11 19.9**	**-0.3**
ILAR	**Eielson Array**	**97.03**	**22**	P		**P**		**15 11 36.9**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=307,slow=3.9,SNR=24								
ILAR					PP	**PP**		**15 15 32.9**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=303,slow=6.7,SNR=5.3								
ILAR	**Eielson Array**	**97.03**	**22**	P		**P**		**15 11 36.9**	**-1.3**
ILAR					PP	**PP**		**15 15 32.9**	**-1.2**
NIUE	**Niue**	**97.18**	**108**	P		Pdif		15 11 45.9	+6.0
	baz=97,SNR=4.0								
DBIC	**Dimbokro**	**98.43**	**278**	LR		LR		15 52 14.2	
	comp=Z,64nm,19.0s,baz=83,slow=33								
INK	**Inuvik**	**99.38**	**16**	P		**Pdif**		**15 11 48.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=349,slow=4.8,SNR=24								
INK	**Inuvik**	**99.38**	**16**	P		**Pdif**		**15 11 48.4**	**-0.2**
RES	**Resolute Bay**	**99.92**	**2**	*e*Pdif		**Pdif**		**15 11 51.7**	**+0.8**
	comp=Z,1.1nm,0.4s								
YKA	**Yellowknife Ar**	**108.84**	**14**	Pdiff		**Pdif**		**15 12 32.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=329,slow=4.5,SNR=7.1								
YKA				PKiKP		**PKiKP**		**15 16 35.2**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=348,slow=1.1,SNR=3.8								
YKA				PP		**PP**		**15 16 58.9**	**-3.2**
	comp=Z,0.7nm,0.6s,baz=335,slow=7.7,SNR=5.4								
YKA	**Yellowknife Ar**	**108.84**	**14**	Pdif		**Pdif**		**15 12 32.1**	**+1.3**
YKA				PKiKP		**PKiKP**		**15 16 35.2**	**-0.1**
YKA				PP		**PP**		**15 16 59.0**	**-3.2**
SCHQ	**Schefferville**	**118.02**	**348**	PKP		**PKPdf**		**15 16 53.5**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=14,slow=4.2,SNR=4.0								
SCHQ	**Schefferville**	**118.02**	**348**	PKP		**PKPdf**		**15 16 53.5**	**+0.4**
A13A	**Flathead Natio**	**120.43**	**22**	⇓P		**PKPdf**		**15 16 58.6**	**+0.6**
	baz=120								
B13A	**Whitefish**	**120.88**	**22**	⇓P		**PKPdf**		**15 16 58.6**	**-0.3**
	baz=121								
A15A	**Johnson Ranch,**	**121.00**	**20**	⇑P		**PKPdf**		**15 16 59.0**	**-0.1**
	baz=121								
B14A	**Marquette Ranc**	**121.33**	**21**	⇓P		**PKPdf**		**15 16 59.8**	**0.0**
	baz=121								
A16A	**West Butte Ran**	**121.41**	**20**	⇓P		**PKPdf**		**15 16 59.5**	**-0.5**
	baz=121								
B15A	**Bradely Ranch,**	**121.62**	**21**	⇓P		**PKPdf**		**15 17 00.2**	**-0.2**
	baz=121								
B16A	**M & M Farms, S**	**121.83**	**20**	⇑P		**PKPdf**		**15 17 00.7**	**0.0**
	baz=122								
D13A	**Huson**	**121.94**	**23**	⇑P		**PKPdf**		**15 17 00.9**	**-0.1**
	baz=122								
C15A	**Salmond Ranch,**	**122.06**	**21**	⇓P		**PKPdf**		**15 17 01.4**	**+0.1**
	baz=122								
D14A	**Greenough**	**122.31**	**22**	⇑P		**PKPdf**		**15 17 01.7**	**-0.1**
	baz=122								
A19A	**Klinworth Far**	**122.34**	**18**	⇓P		**PKPdf**		**15 17 01.8**	**+0.2**
	baz=122								
C16A	**Fuhringer Ranc**	**122.34**	**21**	⇑P		**PKPdf**		**15 17 01.7**	**-0.1**
	baz=122								
MSO	**Missoula**	**122.36**	**23**	⇓P		**PKPdf**		**15 17 01.9**	**+0.1**
	baz=122								
B18A	**Beardsley Farm**	**122.49**	**19**	⇓P		**PKPdf**		**15 17 02.2**	**+0.2**
	baz=122								
E13A	**Victor**	**122.58**	**23**	⇓P		**PKPdf**		**15 17 02.4**	**+0.1**
	baz=122								
D15A	**Lincoln**	**122.71**	**22**	⇓P		**PKPdf**		**15 17 02.7**	**+0.2**
	baz=122								
C17A	**Wharram Farm,**	**122.83**	**20**	⇓P		**PKPdf**		**15 17 02.7**	**0.0**
	baz=123								
E14A	**Clinton**	**122.88**	**23**	⇑P		**PKPdf**		**15 17 03.3**	**+0.4**
	baz=123								
F13A	**Darby**	**123.07**	**24**	⇑P		**PKPdf**		**15 17 03.5**	**+0.2**
	baz=123								
D16A	**Dana Ranch, Ca**	**123.07**	**21**	⇓P		**PKPdf**		**15 17 03.6**	**+0.4**
	baz=123								
D17A	**Six Diamond Ra**	**123.27**	**20**	⇑P		**PKPdf**		**15 17 03.9**	**+0.2**
	baz=123								
C19A	**Slack Wire Ran**	**123.30**	**19**	⇑P		**PKPdf**		**15 17 04.4**	**+0.8**
	baz=123								
G14A	**Jackson**	**123.86**	**23**	⇓P		**PKPdf**		**15 17 05.6**	**+0.6**
	baz=124								
H12A	**Diamond D Ranc**	**123.87**	**25**	⇓P		**PKPdf**		**15 17 05.1**	**+0.2**
	baz=124								
ULM	**Lac du Bonnet**	**123.95**	**8**	PKP		**PKPdf**		**15 17 02.4**	**-2.2**
	comp=Z,3.2nm,0.6s,baz=38,slow=2.7,SNR=5.2								
ULM	**Lac du Bonnet**	**123.95**	**8**	PKP		**PKPdf**		**15 17 02.4**	**-2.2**
H13A	**Challis**	**124.10**	**24**	⇓P		**PKPdf**		**15 17 05.9**	**+0.6**
	baz=124								
F17A	**Fitzpatrick Pl**	**124.35**	**21**	⇓P		**PKPdf**		**15 17 06.4**	**+0.7**
	baz=124								
I12A	**Atlanta**	**124.36**	**26**	⇓P		**PKPdf**		**15 17 06.8**	**+0.9**
	baz=124								
E19A	**Rath Farm, Rou**	**124.51**	**19**	⇓P		**PKPdf**		**15 17 06.6**	**+0.7**
	baz=124								
G16A	**Moss Hill, Enn**	**124.51**	**22**	⇑P		**PKPdf**		**15 17 07.0**	**+0.9**
	baz=124								
F18A	**Big Timber**	**124.68**	**20**	⇓P		**PKPdf**		**15 17 07.3**	**+0.9**
	baz=124								
I13A	**Wildhorse Cree**	**124.69**	**25**	⇓P		**PKPdf**		**15 17 07.1**	**+0.6**
	baz=124								
HLID	**Hailey**	**124.85**	**25**	*e*PKPdf		**PKPdf**		**15 17 08.0**	**+1.2**
HLID	**Hailey**	**124.85**	**25**	⇓P		**PKPdf**		**15 17 07.8**	**+1.0**
	baz=125								
J13A	**Cove Ranch, Pi**	**125.09**	**25**	⇓P		**PKPdf**		**15 17 08.5**	**+1.2**
	baz=125								
J14A	**Carey**	**125.42**	**25**	⇓P		**PKPdf**		**15 17 08.5**	**+0.6**
	baz=125								
G20A	**Bridger**	**125.79**	**19**	⇑P		**PKPdf**		**15 17 09.2**	**+0.7**
	baz=126								
J15A	**Blackfoot**	**125.81**	**24**	⇓P		**PKPdf**		**15 17 09.9**	**+1.3**
	baz=126								
H19A	**Powell**	**126.01**	**20**	⇓P		**PKPdf**		**15 17 10.5**	**+1.6**
	baz=126								
J18A	**Kendall Valley**	**126.90**	**22**	⇑P		**PKPdf**		**15 17 11.3**	**+0.5**
	baz=127								
NVAR	**Mina Array Bea**	**127.00**	**32**	PKP		**PKPdf**		**15 17 12.8**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=310,slow=2.2,SNR=16								
NVAR	**Mina Array Bea**	**127.00**	**32**	PKP		**PKPdf**		**15 17 12.8**	**+1.7**
I21A	**Big Trails, Te**	**127.34**	**20**	⇑P		**PKPdf**		**15 17 11.9**	**+0.4**
	baz=127								
H24A	**Dirks Ranch, A**	**127.35**	**17**	⇓P		**PKPdf**		**15 17 11.9**	**+0.4**
	baz=127								
BW06	**Boulder Array**	**127.46**	**22**	⇓P		**PKPdf**		**15 17 12.5**	**+0.6**
	baz=127								
PDAR	**Pinedale Array**	**127.46**	**22**	PKP		**PKPdf**		**15 17 12.6**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=29,slow=2.1,SNR=10								
PDAR	**Pinedale Array**	**127.46**	**22**	PKP		**PKPdf**		**15 17 12.6**	**+0.7**
L17A	**Cokeville**	**127.52**	**24**	⇓P		**PKPdf**		**15 17 12.0**	**0.0**
	baz=127								
K19A	**Absolon Red Bu**	**127.67**	**21**	⇓P		**PKPdf**		**15 17 12.6**	**+0.4**
	baz=127								
R11A	**Troy Canyon, C**	**128.45**	**30**	⇓P		**PKPdf**		**15 17 15.2**	**+1.3**
	baz=128								
N17A	**Moffit Pass**	**128.51**	**24**	⇓P		**PKPdf**		**15 17 14.7**	**+0.7**
	baz=128								
L21A	**Rawlins**	**128.95**	**21**	⇓P		**PKPdf**		**15 17 15.0**	**+0.2**
	baz=129								
M21A	**Separation Pea**	**129.27**	**21**	⇓P		**PKPdf**		**15 17 15.6**	**+0.2**
	baz=129								
L23A	**Garrett**	**129.39**	**19**	⇑P		**PKPdf**		**15 17 16.0**	**+0.4**
	baz=129								
O18A	**Roosevelt**	**129.42**	**24**	⇓P		**PKPdf**		**15 17 16.2**	**+0.6**
	baz=129								
O19A	**Miners Draw (B**	**129.75**	**23**	⇑P		**PKPdf**		**15 17 16.9**	**+0.6**
	baz=130								
P18A	**Preston Nutter**	**129.86**	**25**	⇓P		**PKPdf**		**15 17 17.5**	**+0.8**
	baz=130								
N21A	**Black Mountain**	**129.96**	**22**	⇓P		**PKPdf**		**15 17 17.4**	**+0.7**
	baz=130								
Q16A	**Castle Valley**	**130.06**	**26**	⇓P		**PKPdf**		**15 17 17.8**	**+0.9**
	baz=130								
O20A	**White River Ci**	**130.23**	**23**	⇓P		**PKPdf**		**15 17 18.0**	**+0.8**
	baz=130								
Q19A	**Hogan Spring (**	**130.84**	**24**	⇓P		**PKPdf**		**15 17 19.7**	**+1.5**
	baz=131								
U15A	**North Rim**	**131.57**	**29**	⇓P		**PKPdf**		**15 17 20.3**	**+0.3**
	baz=131								
S18A	**Hurst Farm, Bl**	**131.59**	**26**	⇓P		**PKPdf**		**15 17 20.6**	**+0.7**
	baz=131								
U20A	**Newcomb**	**133.33**	**25**	⇓P		**PKPdf**		**15 17 24.2**	**+1.0**
	baz=133								
X16A	**Lo Mia Camp, P**	**133.60**	**30**	⇑P		**PKPdf**		**15 17 24.5**	**+0.8**
	baz=133								
T24A	**Torres, Weston**	**134.11**	**22**	⇓P		**PKPdf**		**15 17 25.8**	**+1.1**
	baz=134								
W20A	**Ramah**	**134.40**	**26**	⇑P		**PKPdf**		**15 17 26.4**	**+1.2**
	baz=134								
X21A	**Alamocita Cree**	**135.28**	**26**	⇓P		**PKPdf**		**15 17 27.0**	**+0.1**
	baz=135								
V25A	**Rancho No Teng**	**135.37**	**22**	⇓P		**PKPdf**		**15 17 27.5**	**+0.5**
	baz=135								
ANMO	**Albuquerque**	**135.42**	**24**	*e*PKPdf		**PKPdf**		**15 17 28.7**	**+1.5**
Y20A	**Horse Springs,**	**135.47**	**27**	⇓P		**PKPdf**		**15 17 28.6**	**+1.3**
	baz=135								
W24A	**Lazy 6 Ranch,**	**135.62**	**23**	⇓P		**PKPdf**		**15 17 26.4**	**-1.1**
	baz=135								
Z20A	**Nine Sixteen R**	**136.03**	**28**	⇑P		**PKPdf**		**15 17 29.2**	**+0.9**
	baz=136								
W27A	**Bowe Ranch, En**	**136.62**	**21**	⇓P		**PKPdf**		**15 17 29.9**	**+0.6**
	baz=136								
Z27A	**Tatum**	**138.13**	**22**	⇑P		**PKPdf**		**15 17 33.0**	**+0.9**
	baz=138								
Z31A	**Sharp Cattle R**	**139.20**	**19**	⇓P		**PKPdf**		**15 17 34.2**	**+0.2**
	baz=139								
425A	**Indio Mountain**	**139.63**	**26**	⇓P		**PKPdf**		**15 17 34.9**	**-0.1**
	baz=139								
230A	**Sterling City**	**140.18**	**21**	⇓P		**PKPdf**		**15 17 36.9**	**+1.1**
	baz=140								
330A	**Mertzon**	**140.60**	**21**	⇓P		**PKPdf**		**15 17 31.4**	**-5.1**
	baz=140								
527A	**Woodward Ranch**	**140.77**	**25**	⇓P		**PKPdf**		**15 17 32.7**	**-4.3**
	baz=140								
331A	**San Angelo**	**140.95**	**20**	⇓P		PKPdf		15 17 29.8	-7.4
	baz=141								
529A	**Stev Forest Ra**	**141.35**	**23**	⇑P		**PKPdf**		**15 17 39.4**	**+1.5**
	baz=141								
TXAR	**Lajitas Array**	**141.45**	**26**	PKhKP		PKPpre		15 17 32.4	
	comp=Z,0.6nm,0.5s,baz=64,slow=1.3,SNR=8.2								
TXAR					PKP	**PKPdf**		**15 17 36.9**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=90,slow=0.1,SNR=10.0								
TXAR	**Lajitas Array**	**141.45**	**26**	PKPpre		PKPpre		15 17 32.4	
TXAR					PKP	**PKPdf**		**15 17 36.9**	**-1.4**
627A	**Terlingua Ranc**	**141.47**	**25**	⇓P		**PKPdf**		**15 17 34.2**	**-4.1**
	baz=141								
628A	**Black Gap, Mar**	**141.65**	**25**	⇓P		**PKPdf**		**15 17 41.7**	**+3.2**
	baz=141								
530A	**J-C Ranch, Com**	**141.67**	**22**	⇓P		**PKPdf**		**15 17 42.1**	**+3.6**
	baz=141								
531A	**Rocksprings**	**141.95**	**21**	⇓P		**PKPdf**		**15 17 33.8**	**-5.2**
	baz=142								
CELP	**Cerrillos**	**150.04**	**321**	*e*PKPbc		**PKPbc**		**15 17 58.7**	**+0.8**
LRS	**Lares**	**150.04**	**322**	*e*PKPbc		**PKPbc**		**15 17 58.4**	**+0.4**

*ISCJB **23** 15:07:41.7±0.6,37°.23N±0°.04×28°.21E±0°.04, h0km, Error ellipse: s-maj=7.1km s-min=3.8km az=34.6*
*ISK **23** 15:07:41.2,37°.19N×28°.18E,h17km, MD2.4*
*DDA **23** 15:07:41.6,37°.23N×28°.19E,h7km,MD2.8*
*CSEM **23** 15:07:41.9±0.2,37°.23N×28°.22E, h1km, MD2.4, Error ellipse: s-maj=6.8km s-min=4.0km az=34.0*

ISC 23 15:07:41.4±1.0,**37°.21N**±0°.04×**28°.19E**±0°.03,**h0**km,**n14**, σ1°**54**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.10**	**136**			*e*PG	**Pg**	**15 07 44.4**	**+1.0**
YER						*e*SG	**Sg**	**15 07 48.1**	**+3.4**
YER	**Yerkesik**	**0.10**	**136**			*e*Pg	**Pg**	**15 07 44.4**	**+1.0**
YER						*e*Sg	**Sg**	**15 07 48.1**	**+3.4**
MLSB	**Milas**	**0.34**	**285**			*e*PG	**Pg**	**15 07 48.8**	**+0.7**
MLSB						*e*SG	**Sg**	**15 07 54.2**	**+1.7**
MLSB	**Milas**	**0.34**	**285**			*e*Pg	**Pg**	**15 07 48.8**	**+0.7**
MLSB						*e*Sg	**Sg**	**15 07 54.2**	**+1.7**
TURN	**Turunc**	**0.47**	**136**			*i* P	**Pg**	**15 07 49.5**	**-0.9**
TURN						*i* S	**Sb**	**15 07 57.7**	**-2.3**
TURN	**Turunc**	**0.47**	**136**			*i* P	**Pg**	**15 07 49.5**	**-0.9**
TURN						*i* S	**Sb**	**15 07 57.7**	**-2.3**
AYDN	**Tasoluk**	**0.52**	**331**			*i* P	**Pg**	**15 07 51.7**	**+0.3**
AYDN						*i* S	**Sg**	**15 07 58.9**	**+0.9**
AYDN	**Tasoluk**	**0.52**	**331**			*i* P	**Pg**	**15 07 51.7**	**+0.3**
AYDN						*i* S	**Sg**	**15 07 58.9**	**+0.9**
BODT	**Bodrum**	**0.72**	**259**			*e*PG	**Pb**	**15 07 56.3**	**-0.6**
BODT						*e*SG	**Sg**	**15 08 05.4**	**+0.8**
BODT	**Bodrum**	**0.72**	**259**			*e*Pg	**Pb**	**15 07 56.3**	**-0.6**
BODT						*e*Sg	**Sg**	**15 08 05.4**	**+0.8**
DNZL	**Cakiroluk**	**0.83**	**54**			*i* P	**Pg**	**15 07 57.8**	**+0.4**
DNZL	**Cakiroluk**	**0.83**	**54**			*i* P	**Pg**	**15 07 57.8**	**+0.4**
FETY	**Fethiye**	**0.91**	**129**			*e*PG	**Pb**	**15 07 59.5**	**-0.7**
FETY	**Fethiye**	**0.91**	**129**			*e*Pg	**Pb**	**15 07 59.5**	**-0.7**

*ISCJB **23** 15:07:58.3±1.8,27°.46N±0°.05×140°.51E±0°.06, h15km±11km,mb4.3/47,MS3.7/8, Error ellipse: s-maj=8.8km s-min=8.0km az=148.6*
*IDC **23** 15:08:00.8±0.5,27°.57N×140°.63E,h22km±3km,mb3.7/15, mb1 3.9/17,mb1mx3.8/27,mbtmp3.7/17,MS3.5/8, Ms1 3.5/8,ms1mx3.1/46,Error ellipse: s-maj=13.8km s-min=12.3km az=111.0*
*NIED **23** 15:08:00,27°.60N×141°.40E,h5km,Mw4.2 Best double couple: M0 2.03000×10^15 NP1:ϕ=319.00000°,δ82.00000°, λ=-32.00000°. NP2:ϕ=54.00000°,δ58.00000°, λ=-171.00000°.*
*NEIC **23** 15:08:02.7±0.5,27°.44N×139°.79E,h10km,mb4.7/20, MW4.1(NIED),Error ellipse: s-maj=12.8km s-min=11.0km az=172.0*
*MOS **23** 15:08:02.4±2.5,27°.51N×140°.16E,h33km,mb4.5/15,Error ellipse: s-maj=14.5km s-min=7.8km az=105.3*
*BJI **23** 15:08:08.4,27°.88N×140°.12E,h61km,mB4.8/15,mb4.5/29, Ms4.5/14,Ms7 4.2/15*

ISC 23 15:08:01.2±0.5,**27°.48N**±0°.07×**140°.63E**±0°.05,**h27**km±3km, **h26**km:**pP-P**,**n90**,σ1°**49**/76,**mb4.4**/47,**MS3.6**/8,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.43**	**105**			Pn	**Pn**	**15 08 24.9**	**-0.5**
	77nm,0.3s,baz=300,slow=20,SNR=124								
CBIJ						Sn	**Sn**	**15 08 44.0**	**+0.7**
	440nm,0.3s,baz=301,slow=19,SNR=38								
MJAR	**Matsushiro Arr**	**9.27**	**348**			Pn	**Pn**	**15 10 13.2**	**+0.1**
	0.5nm,0.3s,baz=158,slow=14,SNR=7.7								
MJAR						LR	LR	15 13 42.4	
	comp=Z,172nm,18.9s,baz=235,slow=37								
MAJO	**Matsushiro**	**9.27**	**348**			*e*P	**Pn**	**15 10 15.1**	**+2.1**
MAJO	**Matsushiro**	**9.27**	**348**			*e*P	**Pn**	**15 10 15.1**	**+2.1**
JNU	**Nakatsue**	**10.13**	**306**			LR	LR	15 13 54.3	
	comp=Z,169nm,21.1s,baz=77,slow=35								
JOW	**Kunigami**	**11.03**	**269**			LR	LR	15 14 28.2	
	comp=Z,326nm,20.9s,baz=105,slow=35								
GUMO	**Guam**	**14.38**	**163**			LR	LR	15 15 52.7	
	comp=Z,79nm,19.4s,baz=274,slow=33								
KSRS	**Korea Array**	**14.61**	**316**			Pn	**Pn**	**15 11 28.6**	**+2.4**
	0.1nm,0.3s,baz=122,slow=12,SNR=4.3								
ASAJ	**Asahikawa**	**16.68**	**5**			Pn	**Pn**	**15 11 54.0**	**+1.1**
	0.6nm,0.3s,baz=215,slow=18,SNR=4.8								
ASAJ						Sn	**Sn**	**15 14 58.0**	**+0.7**
	0.2nm,0.3s,baz=232,slow=19,SNR=5.0								
MDJ	**Mudanjiang**	**19.26**	**336**			P	**Pn**	**15 12 24.8**	**+0.1**
MDJ						pmax	pmax		
	comp=Z,7.0nm,1.4s								
MDJ						pmax	pmax		
	comp=Z,50nm,5.4s								
NJ2	**Nanjing**	**19.44**	**289**			*e*P	**P**	**15 12 23.3**	**-2.3**
NJ2						pmax	pmax		
	comp=Z,10.0nm,0.7s								
YSS	**Yuzh-Sakhalins**	**19.51**	**4**			*e*P	**Pn**	**15 12 30.6**	**+3.0**
CN2	**Changchun**	**20.38**	**327**			*e*P	Pn	15 12 37.6	-0.3
CN2						*e*sP	sP	15 12 57.3	+11
CN2						*e*S	S	15 16 01.4	-21
CN2						pmax	pmax		
	comp=Z,10.0nm,0.7s								
CN2						pmax	pmax		
	comp=Z,200nm,4.0s								
CN2						LR	LR		
	comp=N,300nm,13.0s								
CN2						LR	LR		
	comp=E,300nm,13.0s								
CN2						LR	LR		
	comp=Z,300nm,12.0s								
KLR	**Kul'dur**	**22.77**	**345**			*e*P	P	15 12 53.8	-7.6
WHN	**Wuhan**	**23.17**	**284**			P	**P**	**15 13 06.8**	**+1.1**
DAV	**Davao City (W)**	**24.82**	**218**			LR	LR	15 21 14.0	
	comp=Z,172nm,18.7s,baz=337,slow=32								
PETK	**Petropavlovsk-**	**28.57**	**22**			LR	LR	15 24 37.4	
	comp=Z,49nm,19.4s,baz=35,slow=35								
QIZ	**Qiongzhong**	**29.45**	**260**			P	**P**	**15 14 03.5**	**+0.6**
QIZ						sP	sP	15 14 21.9	+7.8
QIZ						S	**S**	**15 18 52.6**	**-3.1**
QIZ						sS	**sS**	**15 19 11.8**	**+3.1**
QIZ						pmax	pmax		
	comp=Z,12nm,1.4s								
QIZ						LR	LR		
	comp=N,130nm,17.5s								
QIZ						LR	LR		
	comp=E,81nm,20.1s								
QIZ						LR	LR		
	comp=Z,170nm,24.0s								
GYA	**Guiyang**	**30.24**	**276**			*e*P	**P**	**15 14 08.9**	**-1.1**
GYA						pP	pP	15 14 24.3	+6.4
GYA						sP	sP	15 14 32.0	+11
GYA						PP	**PnPn**	**15 15 06.8**	**-1.3**
GYA						PcP	**PcP**	**15 17 15.0**	**+4.5**
GYA						S	S	15 18 57.8	-10
GYA						sS	**sS**	**15 19 23.5**	**+2.3**
GYA						ScP	**ScP**	**15 20 51.

comp=Z,180nm,6.6s
AAK Ala-Archa 54.90 304 *e*P **P 15 17 28.5 -1.3**
AAK pmax pmax
comp=Z,50nm,1.5s
AAK Ala-Archa 54.90 304 *e*P **P 15 17 28.5 -1.3**
comp=Z,50nm,1.5s
BVAR Borovoye Array 56.83 317 P **P 15 17 41.8 -1.3**
comp=Z,0.5nm,0.4s,baz=82,slow=7.5,SNR=6.6
BVAR Borovoye Array 56.83 317 P **P 15 17 41.8 -1.3**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 57.74 305 *e*P **P 15 17 49.5 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 57.74 305 *e*P **P 15 17 49.5 -0.3**
comp=Z,3.1nm,0.7s
ILAR Eielson Array 58.04 29 P **P 15 17 50.8 -0.7**
comp=Z,1.4nm,1.0s,baz=259,slow=6.0,SNR=8.9
ILAR pP **pP 15 17 58.0 -1.8**
comp=Z,4.4nm,1.0s,baz=267,slow=5.6,SNR=19
DOT Dot Lake 59.25 30 *e*P P 15 18 06.4 +6.5
comp=Z,6.3nm,1.1s
INK Inuvik 63.26 25 P **P 15 18 26.8 -0.2**
comp=Z,1.2nm,0.5s,baz=343,slow=4.6,SNR=7.1
INK pP **pP 15 18 33.8 -1.5**
comp=Z,4.5nm,0.9s,baz=288,slow=7.2,SNR=4.9
INK Inuvik 63.26 25 P P 15 18 32.2 +5.3
comp=Z,9.7nm,1.2s
RES Resolute Bay 72.01 13 *e*P P 15 19 28.4 +6.3
comp=Z,8.4nm,0.9s
YKW3 Yellowknife Ar 72.42 28 *e*P P 15 19 30.9 +6.1
comp=Z,0.8nm,1.9s
YKA Yellowknife Ar 72.46 28 P **P 15 19 24.4 -0.6**
comp=Z,0.3nm,0.5s,baz=290,slow=5.4,SNR=6.9
YKA pP **pP 15 19 31.1 -2.3**
comp=Z,2.9nm,0.9s,baz=294,slow=5.6,SNR=22
KBZ Khabaz 76.73 312 paz pP 15 19 57.7 -0.9
comp=Z,1.6nm,0.6s,baz=77,slow=9.6,SNR=3.0
FINES FINESS Array B 76.99 333 P **P 15 19 51.6 +0.4**
comp=Z,0.8nm,0.8s,baz=76,slow=5.9,SNR=2.5
NEW Newport 77.55 42 *e*P P 15 20 02.2 +7.5
comp=Z,15nm,1.1s
NEW *e* 15 20 08.0
BMO Blue Mountains 79.01 45 *e*P P 15 20 10.2 +7.2
BMO *e* 15 20 16.4
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO Blue Mountains 79.01 45 *e*P P 15 20 10.2 +7.2
comp=Z,8.9nm,1.1s
BMO *e* 15 20 16.4
JTMT Jette 79.47 42 *e*P P 15 20 12.7 +7.2
comp=Z,14nm,1.6s
JTMT *e* 15 20 18.7
SWMT Swartz Lake 79.76 42 *e*P P 15 20 14.2 +7.2
comp=Z,9.5nm,1.1s
PPT Papeete 81.08 115 LR LR 15 46 31.5
comp=Z,101nm,21.9s,baz=326,slow=28
PPT2 Papeete2 81.09 115 *e*LR LR 15 45 26.2
comp=Z,63nm,24.8s
NVAR Mina Array Bea 81.36 51 P **P 15 20 16.8 +0.9**
comp=Z,0.6nm,0.6s,baz=261,slow=6.0,SNR=3.9
NVAR pP **pP 15 20 24.0 -0.5**
comp=Z,1.7nm,0.8s,baz=278,slow=6.6,SNR=7.7
HLID Hailey 81.46 45 *e*P P 15 20 23.8 +7.5
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 81.49 323 P **P 15 20 18.3 +2.3**
comp=Z,1.2nm,0.7s,baz=56,slow=5.0,SNR=4.3
AKASG Malin Array Be 81.49 323 P **P 15 20 18.3 +2.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
LRM Limekiln Ridge 81.53 43 *e*P P 15 20 24.0 +7.4
comp=Z,142nm,1.0s
QLMT Earthquake Lak 82.66 43 *e*P P 15 20 30.2 +7.7
comp=Z,0.2nm,0.4s
HWUT Hardware Ranch 84.26 46 *e*P P 15 20 38.2 +7.3
comp=Z,12nm,1.1s
HWUT *e* 15 20 44.4
TBI Tubuai 84.28 120 *e*LR LR 15 46 53.7
comp=Z,63nm,34.8s
BRTR Keskin Array B 84.72 312 P **P 15 20 32.4 -0.8**
comp=Z,0.6nm,0.9s,baz=72,slow=3.3,SNR=2.8
PDAR Pinedale Array 84.90 44 pP pP 15 20 41.0 -1.7
comp=Z,5.9nm,1.0s,baz=275,slow=5.4,SNR=4.3
ARUT Antelope Range 85.01 50 *e*P P 15 20 42.0 +7.3
ARUT pmax pmax
comp=Z,2.0nm,0.7s
ARUT Antelope Range 85.01 50 *e*P P 15 20 42.0 +7.3
comp=Z,2.4nm,0.7s
SRU San Rafael 86.27 48 *e*P P 15 20 48.2 +7.3
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 86.27 48 *e*P P 15 20 48.2 +7.3
comp=Z,8.8nm,0.9s
AGMN Agassiz Nation 89.19 34 *e*P P 15 21 00.4 +5.9
comp=Z,2.1nm,0.6s
TXAR Lajitas Array 96.47 52 P **P 15 21 29.4 +0.8**
comp=Z,0.4nm,0.6s,baz=339,slow=2.0,SNR=2.5
TXAR pP **pP 15 21 37.0 -0.3**
comp=Z,2.7nm,0.8s,baz=279,slow=2.4,SNR=7.7
SAML Samuel 150.92 55 *e*PKPdf **PKPbc 15 27 51.8 -0.4**
SAML *e*PKPbc **PKPab 15 27 58.6 -0.9**
SAML *e*PKPab PKiKP 15 28 05.1 +12
LPAZ La Paz 151.15 73 PKPbc **PKPbc 15 27 54.5 +1.0**
comp=Z,1.4nm,0.7s,baz=244,slow=3.6,SNR=4.8
LPAZ pPKPbc **PKPab 15 28 01.0 -0.2**
comp=Z,5.7nm,0.9s,baz=319,slow=3.1,SNR=14
LPAZ La Paz 151.15 73 *e*PKPdf **PKPbc 15 27 53.8 +0.4**
LPAZ *e*PKPbc **PKPab 15 28 00.5 -0.7**
LPAZ *e*PKPab PKiKP 15 28 07.2 +13
PLCA Paso Flores 151.16 125 pPKPbc **PKPab 15 28 00.2 +0.3**
comp=Z,3.3nm,0.8s,baz=190,slow=2.3,SNR=7.1

MAN 23 15:19:38,11.02N×124.87E,h5km,mb4.8,ML3.7,MS3.8, 1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.18**	**37**	↓*e*P	Pg	15 19 43.5	+1.8
PLP				*i* S	Sg	15 19 46.2	+2.0
OCLP	**Ormoc**	**0.26**	**278**	*e*P	Pb	15 19 44.3	-0.8
OCLP				*e*S	Sb	15 19 50.6	+0.8
BESP	**Borongan**	**0.81**	**44**	*e*P	Pb	15 19 54.5	0.0
MSLP	**Maasin**	**0.88**	**181**	*e*P	Pn	15 19 57.3	+0.3
MSLP				*e*S	Sn	15 20 10.6	+0.5
LLP	**Lapu-Lapu**	**1.13**	**232**	*e*P	Pb	15 19 59.9	-0.1
LLP				*e*S	Sg	15 20 14.3	0.0
CNP	**Catarman**	**1.50**	**352**	*e*P	Pn	15 20 05.6	0.0
TBP	**Tagbilaran**	**1.65**	**217**	*e*P	Pg	15 20 09.3	-0.3
RCP	**Roxas**	**2.15**	**285**	*e*P	Pb	15 20 16.1	-1.3
GUIM	**Jordan**	**2.27**	**260**	*e*P	Pn	15 20 17.4	+1.2
BUKP	**Musuan**	**3.12**	**176**	*e*P	Pb	15 20 31.4	-2.8
PAGZ	**Pagadian**	**3.47**	**205**	*e*P	Pb	15 20 36.6	-3.4
CUYO	**Cuyo Island**	**3.78**	**268**	*e*P	Pn	15 20 38.8	+1.7

AUST 23 15:22:23.6,5.97S×132.04E,h35km,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**0.77**	**65**	P	Pn	15 22 37.9	-0.1
	baz=0.8,SNR=699						
TLE				S	Sn	15 22 50.2	+1.8
	baz=0.8,SNR=5.5						
AAI	**Ambon**	**4.45**	**300**	P	Pn	15 23 34.5	+5.8
	baz=4.5,SNR=5.6						
SWI	**Sorong**	**5.13**	**351**	P	Pn	15 23 39.8	+1.8
	baz=5.2,SNR=5.5						
SWI				S	Sn	15 24 33.8	-2.3
	baz=5.2,SNR=5.7						
KDU	**Kakadu**	**6.69**	**176**	P	Pn	15 24 01.0	+1.6
	baz=6.7,SNR=19						
KDU				S	Sn	15 25 12.9	-1.5
	baz=6.7,SNR=4.8						
MTN	**Manton Dam**	**6.89**	**187**	P	Pn	15 24 04.8	+2.7
	baz=6.9,SNR=8.6						
MTN				S	Sn	15 25 18.1	-1.3
	baz=6.9,SNR=9.9						
PCI	**Palu**	**13.17**	**292**	S	Sn	15 27 50.4	-3.4
	baz=13,SNR=34						
COEN	**Coen**	**13.53**	**127**	P	Pn	15 25 30.2	-3.1
	baz=14,SNR=6.7						
FITZ	**Fitzroy Crossi**	**13.58**	**207**	P	Pn	15 25 35.1	+1.2
	baz=14,SNR=5.6						
FITZ				S	Sn	15 27 54.7	-8.9
	baz=14,SNR=5.8						
QIS	**Mount Isa**	**16.25**	**154**	P	Pn	15 26 07.5	-1.9
	baz=16,SNR=5.2						

NIED ***23*** *15:23:00,27.70N×142.30E,h20km,Mw4.6 Best double couple: M₀8.97000×10¹⁵ NP1:φ₀130.00000°,δ86.00000°, λ61.00000°. NP2:φ₀32.00000°,δ30.00000°,λ171.00000°.*
JMA ***23*** *15:23:29.0±0.1,27.7N×142.3E,h174km,M3.7*
NEIC ***23*** *15:23:29.8±0.2,27.5N×140.49E,mb4.9/56, MW4.6(NIED),Error ellipse: s-maj=6.1km s-min=5.9km az=194.0*
IDC ***23*** *15:23:29.6±0.4,27.63N×140.53E,h24km±2km,mb4.4/21, mb1 4.6/21,mb1mx4.5/25,mbtmp4.3/21,MS3.7/16, Ms1 3.7/16,ms1mx3.4/41,Error ellipse: s-maj=14.2km s-min=11.3km az=95.0*
MOS ***23*** *15:23:30.7±1.1,27.49N×140.45E,h48km,mb4.9/44,Error ellipse: s-maj=11.0km s-min=5.6km az=110.0*
ISCJB ***23*** *15:23:30.8±1.3,27.57N±0.03×140.38E±0.03,h33km±8km, mb4.7/100,MS3.8/21,Error ellipse: s-maj=5.8km s-min=4.1km az=4.9*
BJI ***23*** *15:23:35.0,27.71N×140.44E,h77km,mB4.9/24,mb4.7/48, Ms4.5/19,Ms7 4.2/21*
ISC 23 15:23:29.9±0.5,27.60N±0.04×140.53E±0.05,h28km±3km, n461,σ1ˢ55/470,mb4.8/100,MS3.8/21,125C-110D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.56**	**108**	Pn	**Pn**	**15 23 54.0**	**-1.6**
	381nm,0.3s,baz=295,slow=22,SNR=310						
CBIJ				Sn	**Sn**	**15 24 13.0**	**-1.9**
	2μm,0.3s,baz=288,slow=19,SNR=124						
CBIJ	**Chichi jima**	**1.56**	**108**	Pn	**Pn**	**15 23 54.0**	**-1.6**
CBIJ				Sn	**Sn**	**15 24 13.0**	**-1.9**
CBIJ	**Chichi jima**	**1.56**	**108**	P	**Pn**	**15 23 53.6**	**-2.1**
CBIJ				S	**Sn**	**15 24 12.8**	**-2.1**
JHHJ	**Haha-jima-NKT**	**1.76**	**123**	P	**Pn**	**15 23 56.8**	**-1.7**
JHHJ				S	**Sn**	**15 24 17.8**	**-2.1**
BSO3	**Boso 3**	**7.18**	**360**	P	Pn	15 25 15.5	+2.8
BSO4	**Boso 4**	**7.37**	**359**	P	Pn	15 25 20.8	+5.3
JOD2	**Odawara 2**	**7.74**	**351**	P	Pn	15 25 25.3	+4.7
JNY	**Yasuok**	**8.06**	**344**	P	Pn	15 25 30.7	+5.5
JAO	**Obara**	**8.14**	**341**	P	Pn	15 25 32.3	+6.1
JHU	**Hanno**	**8.29**	**353**	P	Pn	15 25 30.8	+2.5
JEG	**Eigenji**	**8.30**	**336**	P	Pn	15 25 36.3	+7.9
JRY	**Ryogami san**	**8.50**	**351**	P	Pn	15 25 34.4	+3.2
JHO	**Hitachi**	**8.98**	**0**	P	**Pn**	**15 25 37.9**	**+0.2**
JHO				S	**Sn**	**15 27 13.8**	**-4.2**
MJAR	**Matsushiro Arr**	**9.13**	**348**	Pn	Pn	15 25 43.0	+3.3
	0.4nm,0.3s,baz=164,slow=12,SNR=16						
MJAR				LR	LR	15 28 41.5	
	comp=Z,314nm,20.1s,baz=245,slow=34						
MJAR	**Matsushiro Arr**	**9.13**	**348**	Pn	Pn	15 25 43.0	+3.3
MAJO	**Matsushiro**	**9.13**	**348**	*e*P	Pn	15 25 45.6	+5.9
MAJO				pmax	pmax		
	comp=Z,34nm,1.2s						
MAJO	**Matsushiro**	**9.13**	**348**	*e*P	Pn	15 25 45.6	+5.9
	comp=Z,34nm,1.2s						
MAT	**Matsushiro**	**9.13**	**348**	P	Pn	15 25 42.4	+2.6
MAT				S	**Sn**	**15 27 26.2**	**+4.6**
JOW	**Kunigami**	**10.94**	**269**	LR	LR	15 29 44.1	
	comp=Z,586nm,20.4s,baz=138,slow=34						
KSRS	**Korea Array**	**14.46**	**316**	Pn	**P**	**15 26 56.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=130,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**14.48**	**316**	Pn	**P**	**15 26 56.5**	**-2.8**
GUMO	**Guam**	**14.52**	**163**	Pn	**Pn**	**15 26 51.4**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=312,slow=16,SNR=2.4						
GUMO				LR	LR	15 31 03.3	
	comp=Z,137nm,19.3s,baz=175,slow=31						
GUMO	**Guam**	**14.52**	**163**	Pn	**Pn**	**15 26 51.4**	**-2.1**
ASAJ	**Asahikawa**	**16.57**	**5**	Pn	**P**	**15 27 23.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=230,slow=21,SNR=7.2						
ASAJ				LR	LR	15 33 09.5	
	comp=Z,355nm,20.8s,baz=35,slow=35						
ASAJ	**Asahikawa**	**16.57**	**5**	*e*P	**P**	**15 27 24.3**	**+1.9**
MDJ	**Mudanjiang**	**19.11**	**336**	P	**Pn**	**15 27 51.0**	**-0.4**
MDJ				S	**Sn**	**15 31 21.8**	**-2.9**
MDJ				*s*S	*s*S	15 31 47.5	+10
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,72nm,7.5s						
NJ2	**Nanjing**	**19.32**	**289**	*e*P	**Pn**	**15 27 53.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**19.40**	**5**	*e*P	**Pn**	**15 27 57.4**	**+2.6**
YSS	**Yuzh-Sakhalins**	**19.40**	**5**	*e*P	**Pn**	**15 27 55.5**	**+0.6**
	comp=Z,97nm,1.3s						
SNY	**Shenyang**	**19.84**	**320**	↓P	Pn	15 28 05.5	+5.4
SNY				pmax	pmax		
	comp=Z,19nm,0.9s						
CN2	**Changchun**	**20.23**	**327**	*e*P	Pn	15 28 06.9	+2.2
CN2				*e*sP	sP	15 28 35.3	+21
CN2				*e*S	**S**	**15 31 43.1**	**-5.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
HABR	**Khabarovsk**	**21.27**	**350**	*e*P	**P**	**15 28 13.7**	**-0.1**
HABR				*e**SP	sP	15 28 34.7	+10
HABR				*e*		15 28 35.5	
HABR				*e*S	**S**	**15 32 07.1**	**-1.6**
HABR				*e*		15 32 16.5	
HABR				*e**SS	sS	15 32 29.3	+8.5
HABR				*e*		15 39 31.8	
HABR				pmax	pmax		
	comp=Z,18nm,1.1s						
HABR				pmax	pmax		
	comp=E,36nm,1.5s						
HABR				pmax	pmax		
	comp=N,37nm,2.2s						
HABR				MLR	MLR		
	comp=Z,96nm,16.0s						
KLR	**Kul'dur**	**22.63**	**345**	*e*P	P	15 28 22.7	-5.8
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
WHN	**Wuhan**	**23.05**	**284**	P	**P**	**15 28 35.1**	**+2.1**
WHN				S	S	15 32 32.8	-9.4
WHN				LR	LR		
	comp=Z,420nm,15.4s						
BJI	**Beijing**	**23.65**	**308**	P	**P**	**15 28 38.8**	**0.0**
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
DAV	**Davao City (W)**	**24.86**	**218**	LR	LR	15 36 28.5	
	comp=Z,220nm,20.3s,baz=342,slow=31						
ENH	**Enshi**	**27.26**	**283**	*e*P	**P**	**15 29 13.0**	**+1.2**
	comp=Z,34nm,1.2s						
XAN	**Xi'an**	**27.82**	**291**	P	**P**	**15 29 17.9**	**+1.0**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
QIZ	**Qiongzhong**	**29.38**	**260**	P	**P**	**15 29 31.4**	**+0.6**
QIZ				*s*P	*s*P	15 29 58.8	+16
QIZ				S	**S**	**15 34 18.6**	**-4.4**
QIZ				*s*S	*s*S	15 34 50.6	+14
QIZ				LR	LR		
	comp=E,110nm,23.8s						
QIZ				LR	LR		
	comp=Z,280nm,20.9s						
GYA	**Guiyang**	**30.14**	**276**	P	**P**	**15 29 38.8**	**+1.2**
GYA				PP	**PnPn**	**15 30 39.5**	**+4.2**
GYA				PcP	**PcP**	**15 32 40.0**	**+1.3**
GYA				S	S	**15 34 29.9**	**-5.1**
GYA				*s*S	*s*S	15 35 01.3	+13
GYA				ScP	**ScP**	**15 36 13.0**	**-6.1**
GYA				ScS	ScS	15 40 06.8	-8.1
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,660nm,17.8s						
GYA				LR	LR		
	comp=E,520nm,18.7s						
GYA				LR	LR		
	comp=Z,610nm,17.2s						
LZH	**Lanzhou**	**32.14**	**295**	*e*P	**P**	**15 29 56.8**	**+1.6**
LZH				PP	**PnPn**	**15 31 03.5**	**+2.1**
LZH				*e*S	**S**	**15 35 03.5**	**-2.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,80nm,5.9s						
LZH				LR	LR		
	comp=N,380nm,15.2s						
LZH				LR	LR		
	comp=E,300nm,14.0s						
LZH				LR	LR		
	comp=Z,490nm,15.8s						
ULN	**Ulaanbaatar**	**32.95**	**317**	*e*P	**P**	**15 30 02.9**	**+0.8**
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**33.33**	**317**	P	**P**	**15 30 06.7**	**+1.2**
	comp=Z,3.6nm,1.0s,baz=119,slow=8.6,SNR=20						
SONM	**Songino Array**	**33.33**	**317**	P	**P**	**15 30 06.7**	**+1.2**
KMI	**Kunming**	**33.87**	**275**	P	**P**	**15 30 12.8**	**+2.3**
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
YAK	**Yakutsk**	**35.18**	**351**	*e*P	**P**	**15 30 19.1**	**-2.0**
YAK				*e*		15 30 28.2	
YAK				*e*		15 30 35.9	
YAK				pmax	pmax		
	comp=Z,17nm,1.5s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.5s						
YAK	**Yakutsk**	**35.18**	**351**	*e*P	**P**	**15 30 20.9**	**-0.2**
	comp=N,17nm,1.0s						
GTA	**Gaotai**	**35.66**	**300**	*e*P	**P**	**15 30 27.3**	**+1.6**
GTA				pP	pP	15 30 45.3	+11
GTA				sP	sP	15 30 54.8	+17
GTA				pmax	pmax		
	comp=Z,15nm,1.3s						
SEY	**Seymchan**	**36.18**	**9**	↓*i*P	**P**	**15 30 30.9**	**+1.2**
ZAK	**Zakamensk**	**36.26**	**319**	*e*P	**P**	**15 30 30.5**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY	**Talaya**	**36.62**	**321**	*e*P	**P**	**15 30 34.1**	**+0.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,54nm,18.0s						
KAPI	**Kappang**	**38.13**	**215**	P	**P**	**15 30 47.4**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=45,slow=13,SNR=5.8						
KAPI				pP	**pP**	**15 30 55.2**	**+0.1**
	comp=Z,9.4nm,0.7s,baz=318,slow=3.5,SNR=3.7						
KAPI				LR	LR	15 43 07.1	
	comp=Z,78nm,21.7s,baz=94,slow=31						
KAPI	**Kappang**	**38.13**	**215**	*e*P	**P**	**15 30 46.8**	**+0.1**
	comp=Z,12nm,1.0s						
KAPI				pP	**pP**	**15 30 55.1**	**+0.1**
CHTO	**Chiang Mai**	**39.06**	**266**	*e*P	**P**	**15 30 55.8**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s						
CHTO	**Chiang Mai**	**39.06**	**266**	*e*P	**P**	**15 30 55.8**	**+1.2**
	comp=Z,19nm,1.1s						
CM31	**Chiang Mai Arr**	**39.19**	**266**	*e*P	**P**	**15 30 57.2**	**+1.6**
	comp=Z,5.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.19**	**266**	P	**P**	**15 30 57.0**	**+1.3**
	comp=Z,3.9nm,0.8s,baz=62,slow=6.8,SNR=46						
CMAR				LR	LR	15 44 53.6	
	comp=Z,137nm,21.9s,baz=101,slow=33						
CMAR	**Chiang Mai Arr**	**39.19**	**266**	P	**P**	**15 30 57.0**	**+1.3**
HVS	**Khovu-Aksy**	**42.23**	**317**	*d*P	**P**	**15 31 21.0**	**+0.5**
LSA	**Lhasa**	**43.12**	**285**	P	**P**	**15 31 29.8**	**+1.3**
BILL	**Bilibino**	**43.31**	**14**	↓*i*P	**P**	**15 31 29.5**	**+0.6**
BILL				*e*		15 33 18.3	
BILL				*e*S	**S**	**15 37 53.0**	**-1.3**
BILL				pmax	pmax		
	comp=Z,28nm,1.4s						
BILL	**Bilibino**	**43.31**	**14**	*e*P	**P**	**15 31 29.7**	**+0.8**
	comp=Z,81nm,1.7s						
TIXI	**Tiksi**	**44.57**	**355**	*e*P	**P**	**15 31 38.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**44.57**	**355**	*e*P	**P**	**15 31 38.9**	**0.0**
	comp=Z,11nm,1.0s						
WMQ	**Urumqi**	**45.09**	**305**	P	**P**	**15 31 45.6**	**+2.0**
WMQ				pP	pP	15 32 06.4	+14
WMQ				pmax	pmax		
	comp=Z,22nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,280nm,4.5s						
WMQ				LR	LR		
	comp=Z,78nm,32.0s						
TAPN	**Taplejung**	**46.55**	**283**	*e*P	**P**	**15 31 57.3**	**+1.6**
	comp=Z,18nm,0.8s						
PSI	**Prapat**	**46.75**	**246**	LR	LR	15 48 24.2	
	comp=Z,109nm,21.5s,baz=242,slow=32						
ODAN	**Odare**	**46.95**	**282**	*e*P	**P**	**15 32 00.2**	**+1.5**
	comp=Z,32nm,0.7s						
RAMN	**Ramite**	**47.61**	**282**	*e*P	**P**	**15 32 05.1**	**+1.2**
WRAB	**Tennant Creek**	**47.63**	**188**	*e*P	**P**	**15 32 03.7**	**+0.1**
WRAB	**Tennant Creek**	**47.63**	**188**	*e*P	**P**	**15 32 03.6**	**+0.1**
WRA	**Warramunga Arr**	**47.64**	**188**	P	**P**	**15 32 04.1**	**+0.4**
	comp=Z,16nm,0.7s,baz=9.4,slow=8.5,SNR=53						
WRA	**Warramunga Arr**	**47.64**	**188**	P	**P**	**15 32 04.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**47.67**	**199**	P	**P**	**15 32 04.4**	**+0.5**
	comp=Z,7.5nm,0.9s,baz=7.0,slow=9.6,SNR=8.4						
FITZ	**Fitzroy Crossi**	**47.67**	**199**	*e*P	**P**	**15 32 05.2**	**+1.3**
CTA	**Charters Tower**	**47.73**	**173**	LR	LR	15 48 29.8	
	comp=Z,56nm,21.0s,baz=245,slow=31						
GUN	**Gumba**	**48.01**	**284**	*e*P	**P**	**15 32 09.0**	**+1.9**
	comp=Z,61nm,0.8s						
ZAA0	**Zalesovo Array**	**48.14**	**319**	*e*P	**P**	**15 32 06.8**	**-0.4**
ZALV	**Zalesovo Beam**	**48.14**	**319**	P	**P**	**15 32 07.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=94,slow=6.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**48.14**	**319**	P	**P**	**15 32 07.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**48.14**	**319**	P	**P**	**15 32 07.0**	**-0.3**
PKI	**Pulchoki**	**48.49**	**283**	*e*P	**P**	**15 32 11.7**	**+0.9**
	comp=Z,34nm,1.1s						
KKN	**Kakani**	**48.55**	**284**	*e*P	**P**	**15 32 12.0**	**+0.9**
	comp=Z,30nm,0.9s						
DMN	**Daman**	**48.75**	**284**	*e*P	**P**	**15 32 14.1**	**+1.5**
	comp=Z,24nm,0.9s						
MK31	**Makanchi Array**	**49.02**	**309**	*e*P	**P**	**15 32 14.9**	**+0.7**
MK31	**Makanchi Array**	**49.02**	**309**	*e*P	**P**	**15 32 14.9**	**+0.7**
MKAR	**Makanchi Array**	**49.02**	**309**	P	**P**	**15 32 14.6**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=91,slow=8.7,SNR=36						
MKAR				PcP	**PcP**	**15 33 37.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=74,slow=5.1,SNR=4.5						
MKAR	**Makanchi Array**	**49.02**	**309**	P	**P**	**15 32 14.6**	**+0.4**
MKAR						15 33 37.4	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**49.02**	**309**	P	**P**	**15 32 14.6**	**+0.4**
MKAR				PcP	**PcP**	**15 33 37.4**	**-0.5**
GKN	**Gorkha**	**49.06**	**284**	*e*P	**P**	**15 32 16.4**	**+1.5**
	comp=Z,57nm,1.1s						
NVS	**Novosibirsk**	**49.21**	**320**	*e*P	**P**	**15 32 12.6**	**-2.8**
TNA	**Tin City**	**49.56**	**25**	*e*P	P	15 32 20.7	+2.8
	comp=Z,16nm,1.4s						
DANN	**Dangsing**	**49.73**	**285**	*e*P	**P**	**15 32 21.8**	**+1.6**
	comp=Z,55nm,0.9s						
KOLN	**Koldanda**	**50.01**	**284**	*e*P	**P**	**15 32 23.8**	**+1.6**
	comp=Z,25nm,0.8s						
PYUN	**Piuthan**	**50.45**	**285**	*e*P	**P**	**15 32 27.2**	**+1.6**
	comp=Z,120nm,1.1s						
ASAR	**Alice Springs**	**51.37**	**188**	P	**P**	**15 32 32.0**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=8.2,SNR=12						
ASAR				PcP	**PcP**	**15 33 46.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=17,slow=4.8,SNR=3.3						
ASAR				LR	LR	15 51 45.9	
	comp=Z,97nm,19.8s,baz=321,slow=33						
ASAR	**Alice Springs**	**51.37**	**188**	P	**P**	**15 32 32.0**	**-0.1**
ASAR				PcP	**PcP**	**15 33 46.9**	**+0.3**
KURK	**Kurchatov**	**51.58**	**314**

KSH sS sS 15 40 59.8 +19
KSH ScS **ScS** **15 42 36.3 -3.5**
KSH SS **SS** **15 44 08.6 +0.4**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=N,70nm,5.5s
KSH LR LR
comp=E,140nm,6.0s
KSH LR LR
comp=Z,140nm,7.0s
KZA Kyzart 54.27 304 P **P** **15 32 56.2 +2.3**
SNR=12
KBK Karagaybulak 54.42 304 P **P** **15 32 56.6 +1.8**
SNR=13
CHMS Chumysh 54.53 305 P **P** **15 32 57.1 +1.7**
SNR=5.1
AAK Ala-Archa 54.76 304 *i* P **P** **15 32 58.6 +1.4**
AAK Ala-Archa 54.76 304 *eP* **P** **15 32 58.1 +0.9**
comp=Z,83nm,1.5s
AAK Ala-Archa 54.76 304 P **P** **15 32 58.6 +1.4**
SNR=6.5
EKS2 Erkin-Say 55.28 304 *eP* **P** **15 33 01.1 +0.2**
EKS2 pmax pmax
comp=Z,11nm,1.2s
EKS2 Erkin-Say 55.28 304 *eP* **P** **15 33 01.1 +0.2**
comp=Z,11nm,1.2s
EKS2 Erkin-Say 55.28 304 P **P** **15 33 02.4 +1.5**
SNR=8.3
AML Almayashu 55.41 304 P **P** **15 33 04.0 +1.8**
SNR=24
BVAR Borovoye Array 56.67 317 P **P** **15 33 10.2 -0.4**
comp=Z,2.7nm,0.7s,baz=90,slow=7.2,SNR=19
BVAR Borovoye Array 56.67 317 P **P** **15 33 10.2 -0.4**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 56.67 317 P **P** **15 33 10.2 -0.4**
BRVK Borovoye 56.74 317 ⇓ *iP* **P** **15 33 10.9 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
COLD Coldfoot 56.85 26 *eP* **P** **15 33 13.4 +1.8**
comp=Z,14nm,1.3s
COLA College 57.57 29 *eP* **P** **15 33 18.6 +1.9**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 57.57 29 *eP* **P** **15 33 18.6 +1.9**
comp=Z,8.0nm,0.9s
KK31 Karatay Array 57.59 305 *i* P **P** **15 33 18.0 +0.7**
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 57.59 305 *eP* **P** **15 33 18.1 +0.8**
KKAR pmax pmax
comp=Z,35nm,1.0s
KKAR Karatay Array 57.59 305 *eP* **P** **15 33 18.1 +0.8**
comp=Z,35nm,1.0s
ILAR Eielson Array 57.98 29 P **P** **15 33 19.9 +0.4**
comp=Z,8.8nm,0.9s,baz=264,slow=5.6,SNR=61
ILAR pP **pP** **15 33 26.9 -1.3**
comp=Z,6.9nm,1.0s,baz=247,slow=3.0,SNR=12
ILAR Eielson Array 57.98 29 P **P** **15 33 19.9 +0.4**
ILAR pP **pP** **15 33 26.9 -1.3**
PAX Paxson 58.55 31 *eP* **P** **15 33 25.1 +1.4**
PAX pmax pmax
comp=Z,70nm,1.7s
PAX Paxson 58.55 31 *eP* **P** **15 33 25.1 +1.4**
comp=Z,70nm,1.7s
BMRM Bremner River 58.98 33 *eP* **P** **15 33 27.6 +0.9**
comp=Z,23nm,1.0s
STKA Stephens Creek 59.16 179 P **P** **15 33 28.0 -0.1**
comp=Z,5.7nm,0.7s,baz=344,slow=10.0,SNR=12
STKA LR LR 15 59 06.6
comp=Z,65nm,18.9s,baz=25,slow=36
STKA Stephens Creek 59.16 179 P **P** **15 33 28.0 -0.1**
DOT Dot Lake 59.19 30 *eP* **P** **15 33 29.0 +1.0**
comp=Z,10nm,1.2s
MENT Mentasta 59.35 31 *eP* **P** **15 33 31.2 +2.0**
KBL Kabul 60.48 296 *eP* **P** **15 33 37.9 +0.2**
KBL pmax pmax
comp=Z,20nm,1.1s
KBL Kabul 60.48 296 *eP* **P** **15 33 37.9 +0.2**
comp=Z,20nm,1.1s
SVE Sverdlovsk 61.93 322 *eP* **P** **15 33 47.1 +0.3**
ARU Arti 63.12 322 *d iP* **P** **15 33 54.2 -0.6**
ARU *PP sP 15 34 10.0 +3.2
ARU 15 36 12.3
ARU S **S** **15 42 23.0 -0.9**
ARU SS **SS** **15 46 23.9 -5.6**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 63.12 322 *eP* **P** **15 33 53.5 -1.3**
comp=Z,6.8nm,0.9s
INK Inuvik 63.18 25 *eP* **P** **15 33 55.5 +0.5**
comp=Z,3.1nm,0.5s
AB31 Akbulak array 63.69 314 *i* P **P** **15 33 58.0 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,1.1s
ABKAR Akbulak array 63.69 314 *eP* **P** **15 33 58.4 -0.2**
comp=Z,4.1nm,0.9s
APA Apatity 71.02 337 ⇑ *eP* **P** **15 34 44.8 +0.1**
APA MLR MLR
comp=Z,400nm,16.0s
RES Resolute Bay 71.91 13 *eP* **P** **15 34 50.6 +0.6**
comp=Z,7.8nm,0.8s
YKW3 Yellowknife Ar 72.36 28 *eP* **P** **15 34 53.0 +0.1**
comp=Z,0.2nm,1.2s
YKA Yellowknife Ar 72.39 28 P **P** **15 34 53.5 +0.4**
comp=Z,4.4nm,0.9s,baz=294,slow=5.7,SNR=57
YKA pP **pP** **15 35 00.5 -1.4**
comp=Z,4.3nm,0.9s,baz=301,slow=6.2,SNR=14
YKA Yellowknife Ar 72.39 28 P **P** **15 34 53.5 +0.4**
YKA pP **pP** **15 35 00.6 -1.4**
ARCES ARCESS Array B 72.58 340 P **P** **15 34 53.1 -1.0**
comp=Z,6.2nm,0.8s,baz=78,slow=11,SNR=9.9
ARCES LR LR 16 09 55.9
comp=Z,80nm,18.1s,baz=86,slow=38
ARCES ARCESS Array B 72.58 340 P **P** **15 34 53.1 -1.0**
VRHR Novokhopersk 74.27 320 *eP* **P** **15 35 02.6 -1.8**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.9s
OBN Obninsk 75.27 325 *eP* **P** **15 35 09.8 -0.2**
OBN pmax pmax
comp=Z,8.0nm,1.1s
VSR Storozhevoye 75.62 320 *eP* **P** **15 35 12.0 -0.2**
VORD Divnogorie 75.66 320 *eP* **P** **15 35 11.7 -0.7**
ZEI Tsey 76.33 311 *eP* **P** **15 35 16.4 -0.3**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 76.58 312 P **P** **15 35 18.2 +0.5**
comp=Z,5.4nm,0.8s,baz=116,slow=4.4,SNR=13
KBZ Khabaz 76.58 312 P **P** **15 35 18.3 +0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 76.58 312 P **P** **15 35 18.2 +0.5**
KIV Kislovodsk 76.63 313 *eP* P 15 35 08.5 -10
KIV pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 76.84 333 P **P** **15 35 17.9 -0.9**
comp=Z,3.9nm,0.9s,baz=68,slow=6.8,SNR=7.3
FINES FINESS Array B 76.84 333 P **P** **15 35 17.9 -0.9**
NEW Newport 77.52 42 *eP* **P** **15 35 23.6 +0.6**
comp=Z,16nm,1.1s
NEW Newport 77.52 42 ⇑ P **P** **15 35 24.6 +1.5**
baz=77
A12A Yaak River Ran 78.07 41 ⇓ P **P** **15 35 27.8 +1.7**
baz=78
C11A Tepee Creek (N 78.23 42 ⇓ P **P** **15 35 28.8 +1.7**
baz=78,SNR=6.2
B12A Libby 78.33 41 ⇓ P **P** **15 35 28.9 +1.3**
baz=78
C12B Naegeli Ranch, 78.76 42 ⇓ P **P** **15 35 31.7 +1.8**
baz=79
A13A Flathead Natio 78.79 40 ⇑ P **P** **15 35 31.7 +1.6**
baz=79
BMO Blue Mountains 78.99 45 *eP* **P** **15 35 32.7 +1.3**
BMO pmax pmax
comp=Z,14nm,1.1s
BMO Blue Mountains 78.99 45 *eP* **P** **15 35 32.7 +1.3**
comp=Z,14nm,1.1s
WALA Waterton Lakes 79.02 40 *eP* **P** **15 35 32.8 +1.3**
comp=Z,0.3nm,1.0s
WALA *e* 15 35 40.2
B13A Whitefish 79.03 41 ⇓ P **P** **15 35 33.3 +1.9**
baz=79,SNR=7.2
BSMT Bassoo Peak 79.10 42 *eP* **P** **15 35 33.6 +1.6**
comp=Z,30nm,1.8s
C13A Hot Springs 79.31 42 ⇓ P **P** **15 35 34.7 +1.7**
baz=79,SNR=10.0
E12A Beaver Dam Sad 79.32 43 ⇓ P **P** **15 35 33.8 +0.7**
baz=79
A14A Double T Ranch 79.34 40 ⇑ P **P** **15 35 34.7 +1.5**
baz=79,SNR=9.6
MIB Mutribah 79.34 298 *eP* **P** **15 35 33.4 0.0**
MIB AMb AMB 15 35 34.8
comp=Z,36nm,0.9s
JTMT Jette 79.45 41 *eP* **P** **15 35 35.2 +1.4**
comp=Z,13nm,1.1s
JTMT *e* 15 35 42.3
YBMT Yellow Bay 79.55 41 *eP* **P** **15 35 35.9 +1.5**
comp=Z,1.5nm,0.3s
RDF Al-Radifah 79.55 297 *eP* **P** **15 35 34.9 +0.3**
RDF AMb AMB 15 35 38.1
comp=Z,50nm,1.4s
ANN Anapa 79.60 315 *e*PP **P** **15 35 33.6 -0.9**
ANN pmax pmax
comp=Z,32nm,1.7s
NAY Al-Naaiem 79.66 298 *eP* **P** **15 35 35.2 +0.1**
NAY AMb AMB 15 35 37.2
comp=Z,30nm,1.2s
D13A Huson 79.66 42 ⇑ P **P** **15 35 36.3 +1.4**
baz=80
A15A Johnson Ranch, 79.73 40 ⇑ P **P** **15 35 36.6 +1.3**
baz=80
B14A Marquette Ranc 79.73 41 ⇓ P **P** **15 35 37.2 +1.8**
baz=80,SNR=9.2
SWMT Swartz Lake 79.73 42 *eP* **P** **15 35 36.6 +1.3**
comp=Z,11nm,1.1s
C14A Swan Lake 79.75 41 ⇓ P **P** **15 35 36.3 +0.9**
baz=80
F12A Elk City 79.83 44 ⇓ P **P** **15 35 37.3 +1.3**
baz=80,SNR=6.7
SUMG Summit 80.09 360 P **P** **15 35 38.7 +1.6**
SUMG pmax pmax
comp=Z,3.0nm,0.3s
SUMG Summit 80.09 360 P **P** **15 35 38.7 +1.6**
comp=Z,3.1nm,0.3s
G12A Big Creek, Yel 80.10 44 ⇑ P **P** **15 35 38.3 +0.8**
baz=80
E13A Victor 80.14 43 ⇓ P **P** **15 35 39.0 +1.4**
baz=80
SLMT Seeley Lake 80.16 42 *eP* **P** **15 35 38.5 +0.7**
comp=Z,14nm,1.1s
B15A Bradely Ranch, 80.16 40 ⇑ P **P** **15 35 39.1 +1.4**
baz=80
D14A Greenough 80.23 42 ⇑ P **P** **15 35 39.5 +1.4**
baz=80
F13A Darby 80.38 43 ⇓ P **P** **15 35 39.5 +0.6**
baz=80
A16A West Butte Ran 80.39 40 ⇓ P **P** **15 35 40.1 +1.3**
baz=80
C15A Salmond Ranch, 80.41 41 ⇑ P **P** **15 35 40.4 +1.4**
baz=80,SNR=7.9
CHMT Chamberlain Mo 80.47 42 *eP* **P** **15 35 39.9 +0.5**
comp=Z,5.4nm,1.2s
E14A Clinton 80.58 42 ⇓ P **P** **15 35 40.6 +0.7**
baz=80
B16A M & M Farms, S 80.60 40 ⇑ P **P** **15 35 41.2 +1.2**
baz=80
MFID Camas Ranch 80.61 46 *eP* **P** **15 35 41.3 +1.1**
comp=Z,19nm,1.1s
MFID *e* 15 35 48.9
MFID Camas Ranch 80.61 46 ⇑ P **P** **15 35 41.8 +1.6**
baz=80,SNR=7.3
H12A Diamond D Ranc 80.67 45 ⇑ P **P** **15 35 41.8 +1.2**
baz=81,SNR=10
G13A Cobalt 80.79 44 ⇓ P **P** **15 35 42.1 +0.9**
baz=81
I12A Atlanta 80.87 45 ⇑ P **P** **15 35 42.7 +1.1**
baz=81
A17A Triple J Farms 80.89 39 ⇑ P **P** **15 35 42.4 +0.9**
baz=81
C16A Fuhringer Ranc 80.90 41 ⇓ P **P** **15 35 42.7 +1.1**
baz=81
F14A Wisdom 80.95 43 ⇑ P **P** **15 35 43.3 +1.2**
baz=81
H13A Challis 81.04 44 ⇑ P **P** **15 35 44.0 +1.5**
baz=81,SNR=13
E15A Deer Lodge 81.08 42 ⇓ P **P** **15 35 43.8 +1.2**
baz=81
B17A L&G Farms, Che 81.18 40 ⇑ P **P** **15 35 44.5 +1.5**
baz=81
PPT2 Papeete2 81.22 115 *e*LR LR 16 00 46.6
comp=Z,63nm,25.5s
AKASG Malin Array Be 81.34 323 P P 15 35 40.4 -3.3
comp=Z,1.6nm,0.7s,baz=49,slow=7.3,SNR=5.5
AKASG Malin Array Be 81.34 323 P P 15 35 40.4 -3.3
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 81.34 323 P P 15 35 40.4 -3.3
NVAR Mina Array Bea 81.36 51 P **P** **15 35 45.6 +1.3**
comp=Z,4.1nm,0.8s,baz=281,slow=5.2,SNR=23
NVAR pP **pP** **15 35 53.0 -0.3**
comp=Z,6.1nm,1.0s,baz=274,slow=5.4,SNR=10
NVAR Mina Array Bea 81.36 51 P **P** **15 35 45.6 +1.3**
NVAR pP **pP** **15 35 53.0 -0.3**
A18A Metzger Ranch, 81.39 39 ⇑ P **P** **15 35 45.4 +1.3**
baz=81
D16A Dana Ranch, Ca 81.41 41 ⇓ P **P** **15 35 45.6 +1.2**
baz=81
HLID Hailey 81.44 45 *eP* **P** **15 35 46.1 +1.4**
comp=Z,3.8nm,0.8s
HLID Hailey 81.44 45 ⇓ P **P** **15 35 46.4 +1.8**
baz=81,SNR=6.2
I13A Wildhorse Cree 81.45 45 ⇑ P **P** **15 35 46.6 +1.8**
baz=81,SNR=9.5
F15A Butte 81.47 43 ⇓ P **P** **15 35 46.0 +1.3**
baz=81,SNR=14
LRM Limekiln Ridge 81.50 43 *eP* **P** **15 35 46.4 +1.4**
comp=Z,157nm,1.1s
LRM *e* 15 35 53.3
C17A Wharram Farm, 81.55 40 ⇑ P **P** **15 35 46.4 +1.3**
baz=81
H14A Leadore 81.56 44 ⇑ P **P** **15 35 46.5 +1.2**
baz=81
E16A East Helena 81.59 42 ⇓ P **P** **15 35 47.1 +1.7**
baz=82,SNR=6.4
DLMT Dillon 81.65 43 *eP* **P** **15 35 46.6 +0.9**
comp=Z,14nm,1.2s
J13A Cove Ranch, Pi 81.67 45 ⇑ P **P** **15 35 47.5 +1.7**
baz=82,SNR=6.1
B18A Beardsley Farm 81.71 39 ⇓ P **P** **15 35 47.2 +1.4**
baz=82,SNR=6.7
G15A Dillon 81.82 43 ⇑ P **P** **15 35 47.9 +1.3**
baz=82,SNR=6.0
D17A Six Diamond Ra 81.85 41 ⇑ P **P** **15 35 48.1 +1.4**
baz=82
I14A Mackay 81.86 45 ⇓ P **P** **15 35 48.9 +2.0**
baz=82,SNR=12
EGMT Eagleton 81.92 40 ⇓ P **P** **15 35 48.3 +1.3**
baz=82
A19A Klindworth Far 81.99 39 ⇑ P **P** **15 35 48.8 +1.4**
baz=82
H15A Lima 82.00 44 ⇓ P **P** **15 35 49.0 +1.3**
baz=82
F16A Kennard Place, 82.01 42 ⇑ P **P** **15 35 48.9 +1.3**
baz=82
VES Vestal, Richgr 82.03 54 ⇓ P **P** **15 35 49.1 +1.4**
baz=82
E17A Martinsdale 82.11 41 ⇑ P **P** **15 35 50.0 +1.8**
baz=82,SNR=5.2
J14A Carey 82.12 45 ⇓ P **P** **15 35 49.7 +1.4**
baz=82
B19A Brinkman Farms 82.14 39 ⇓ P **P** **15 35 49.6 +1.6**
baz=82
G16A Moss Hill, Enn 82.20 43 ⇑ P **P** **15 35 50.0 +1.4**
baz=82,SNR=7.0
D18A Linhart Farms, 82.33 40 ⇓ P **P** **15 35 49.9 +0.8**
baz=82
A20A Cobblestone Ra 82.47 38 ⇑ P **P** **15 35 50.9 +1.1**
baz=82
C19A Slack Wire Ran 82.47 40 ⇑ P **P** **15 35 51.3 +1.4**
baz=82,SNR=6.3
F17A Fitzpatrick Pl 82.53 42 ⇑ P **P** **15 35 51.4 +1.2**
baz=82
NB2 NORSAR Subarra 82.59 338 P **P** **15 35 48.9 -1.3**
comp=Z,0.9nm,0.6s,baz=48,slow=4.8
NOA NORSAR Array B 82.59 338 P **P** **15 35 48.6 -1.6**
comp=Z,2.5nm,0.9s,baz=46,slow=5.0,SNR=4.0
NOA LR LR 16 16 02.5
comp=Z,67nm,19.5s,baz=0.0,slow=38
NOA NORSAR Array B 82.59 338 P **P** **15 35 48.6 -1.6**
E18A Harlowton 82.61 41 ⇓ P **P** **15 35 52.2 +1.6**
baz=82,SNR=10
QLMT Earthquake Lak 82.63 43 *eP* **P** **15 35 52.7 +1.8**
comp=Z,2.0nm,1.0s
QLMT *e* 15 36 00.0
B20A Solberg Farm, 82.66 39 ⇑ P **P** **15 35 51.8 +1.0**
baz=82
GRAC Grapevine Rang 82.69 52 ⇓ P **P** **15 35 53.1 +1.9**
baz=83
K14A Jones Ranch, D 82.73 46 ⇑ P **P** **15 35 53.4 +2.0**
baz=83
J15A Blackfoot 82.76 45 ⇓ P **P** **15 35 53.4 +1.9**
baz=83
G17A Pierce Place, 82.79 42 ⇓ P **P** **15 35 53.4 +1.7**
baz=83
H16A Russell Place, 82.81 43 ⇓ P **P** **15 35 53.3 +1.4**
baz=83
D19A Cripps Ranch, 82.88 40 ⇑ P **P** **15 35 53.5 +1.5**
baz=83,SNR=5.8
L14A Malta 82.95 46 ⇑ P **P** **15 35 54.3 +1.7**
baz=83
A21A Bergtoll Ranch 82.96 38 ⇓ P **P** **15 35 53.5 +1.2**
baz=83
YMR Madison River 83.00 43 *eP* **P** **15 35 55.0 +2.1**
comp=Z,5.2nm,0.7s
YMR *e* 15 36 01.6
C20A Veseth Ranch, 83.08 39 ⇑ P **P** **15 35 54.3 +1.3**
baz=83
F18A Big Timber 83.08 41 ⇓ P **P** **15 35 54.5 +1.4**
baz=83
I16A Newdale 83.10 44 ⇓ P **P** **15 35 55.3 +1.9**
baz=83
R11A Troy Canyon, C 83.26 50 ⇓ P **P** **15 35 55.7 +1.4**
baz=83
E19A Rath Farm, Rou 83.32 41 ⇓ P **P** **15 35 55.7 +1.4**
baz=83,SNR=6.6
J16A Bone 83.34 44 ⇑ P **P** **15 35 56.2 +1.6**
baz=83
D20A Manuel Ranch, 83.34 40 ⇓ P **P** **15 35 55.7 +1.3**
baz=83
H17A Grant Village 83.38 43 ⇑ P **P** **15 35 56.4 +1.5**
baz=83,SNR=6.5
IMW Indian Meadow 83.42 44 *eP* **P** **15 35 57.0 +1.8**
comp=Z,11nm,1.0s
FLWY Flagg Ranch 83.47 43 *eP* **P** **15 35 57.9 +2.6**
comp=Z,11nm,1.1s
RRI2 Red Ridge 83.48 44 *eP* **P** **15 35 57.2 +1.7**
comp=Z,25nm,1.5s
G18A Lazy EL Ranch, 83.49 42 ⇓ P **P** **15 35 56.6 +1.3**
baz=83
A22A Carney Farms, 83.50 37 ⇑ P **P** **15 35 56.2 +1.0**
baz=83
L15A Malad City 83.52 46 ⇑ P **P** **15 35 56.8 +1.3**
baz=83
C21A Desert Coulee 83.52 39 ⇓ P **P** **15 35 56.4 +1.2**
baz=83
F19A Roth Farm, Mol 83.56 41 ⇑ P **P** **15 35 57.1 +1.5**
baz=83
K16A Soda Springs 83.58 45 ⇓ P **P** **15 35 57.5 +1.6**
baz=84
MOOW Moose Ponds 83.62 44 *eP* **P** **15 35 57.4 +1.3**
comp=Z,12nm,1.4s
E20A Meyer Farm, Mu 83.67 40 ⇓ P **P** **15 35 57.5 +1.4**
baz=84
CIS Catalina Islan 83.68 56 ⇑ P **P** **15 35 58.9 +2.6**
baz=84
RLMT Red Lodge 83.77 42 *eP* **P** **15 35 58.5 +1.6**
comp=Z,6.9nm,0.9s
RLMT Red Lodge 83.77 42 ⇑ P **P** **15 35 58.3 +1.4**
baz=84
H18A Shoshone NF, C 83.78 42 ⇑ P **P** **15 35 58.3 +1.4**
baz=84
B22A Reddig Ranch S 83.86 38 ⇑ P **P** **15 35 58.3 +1.3**
baz=84
GSC Goldstone 83.92 53 ⇓ P **P** **15 35 58.7 +1.1**
baz=84
DUG Dugway 84.18 48 *eP* **P** **15 36 00.3 +1.4**
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway 84.18 48 *eP* **P** **15 36 00.3 +1.4**
comp=Z,12nm,1.1s
DUG Dugway 84.18 48 ⇑ P **P** **15 36 00.4 +1.4**
baz=84,SNR=6.1
H19A Powell 84.19 42 ⇑ P **P** **15 36 00.8 +1.9**
baz=84
HWUT Hardware Ranch 84.25 46 *eP* **P** **15 36 00.9 +1.6**
comp=Z,23nm,1.1s
HWUT *e* 15 36 07.9
B23A Brockton 84.31 37 ⇓ P **P** **15 36 00.1 +0.8**
baz=84
G20A Bridger 84.34 41 ⇑ P **P** **15 36 00.4 +0.8**
baz=84
J18A Kendall Valley 84.36 44 ⇓ P **P** **15 36 01.6 +1.7**
baz=84,SNR=13
M16A Huntsville 84.36 46 ⇑ P **P** **15 36 00.9 +1.1**
baz=84
D22A Cohagen 84.42 39 ⇓ P **P** **15 36 01.1 +1.3**
baz=84
TBI Tubuai 84.42 120 *e*LR LR 16 02 14.6
comp=Z,57nm,27.0s
L17A Cokeville 84.42 45 ⇓ P **P** **15 36 01.5 +1.3**
baz=84,SNR=5.5
TUQ Turquoise Moun 84.48 53 ⇑ P **P** **15 36 02.5 +2.0**
baz=84
HEC Hector,Ludlow 84.49 54 ⇑ P **P** **15 36 02.4 +1.9**
baz=84
I19A Meeteetse 84.53 43 ⇓ P **P** **15 36 01.7 +1.1**
baz=84
BR131 Keskin Array S 84.58 312 *eP* **P** **15 36 01.3 +0.4**
comp=Z,3.6nm,0.9s
BRTR Keskin Array B 84.58 312 P **P** **15 36 01.2 +0.3**
comp=Z,2.8nm,0.8s,baz=96,slow=4.9,SNR=14
BRTR Keskin Array B 84.58 312 P **P** **15 36 01.2 +0.3**
C23A Lambert 84.59 38 ⇓ P **P** **15 36 01.8 +1.1**
baz=84
K18A Toltan Ranch, 84.65 44 ⇑ P **P** **15 36 03.2 +1.8**
baz=84
JLU Jordanelle 84.85 47 *eP* **P** **15 36 03.7 +1.3**
comp=Z,34nm,1.5s
BW06 Boulder Array 84.88 44 ⇑ P **P** **15 36 03.7 +1.2**
baz=85
PDAR Pinedale Array 84.88 44 P **P** **15 36 03.0 +0.4**
comp=Z,6.8nm,1.0s,baz=281,slow=2.9,SNR=25
PDAR pP **pP** **15 36 10.6 -0.9**
comp=Z,5.3nm,1.0s,baz=290,slow=4.3,SNR=11
PDAR LR LR 16 16 21.2
comp=Z,52nm,18.4s,baz=139,slow=37
PDAR Pinedale Array 84.88 44 P **P** **15 36 03.0 +0.4**
PDAR pP **pP** **15 36 10.6 -0.9**
M17A Scullys Gap (B 84.89 46 ⇑ P **P** **15 36 03.8 +1.2**
baz=85
J19A Crowheart 84.92 43 ⇓ P **P** **15 36 04.4 +1.7**
baz=85
G21A Lodge Grass 84.93 41 ⇓ P **P** **15 36 04.2 +1.6**
baz=85
E22A Miles City 84.95 40 ⇑ P **P** **15 36 04.0 +1.4**
baz=85
PFO Pinyon Flat Ob 85.00 55 ⇑ P **P** **15 36 04.4 +1.3**
baz=85
ARUT Antelope Range 85.01 50 *eP* **P** **15 36 04.6 +1.4**
ARUT pmax pmax
comp=Z,17nm,1.2s
ARUT Antelope Range 85.01 50 *eP* **P** **15 36 04.6 +1.4**
comp=Z,17nm,1.2s
O16A Springville 85.03 47 ⇓ P **P** **15 36 04.9 +1.6**
baz=85
L18A Fontenelle, Gr 85.04 45 ⇑ P **P** **15 36 04.7 +1.4**
baz=85
N17A Moffit Pass 85.07 46 ⇓ P **P** **15 36 04.6 +1.0**
baz=85
I20A Worland 85.10 42 ⇓ P **P** **15 36 03.5 0.0**
baz=85
BELC Belle Mtn. Jos 85.14 54 ⇓ P **P** **15 36 05.2 +1.4**
baz=85
K19A Absolon Red Bu 85.29 44 ⇑ P **P** **15 36 05.4 +0.9**
baz=85
M18A Lyman 85.29 45 ⇑ P **P** **15 36 05.8 +1.2**
baz=85
H21A Big Horn, Sher 85.36 41 ⇑ P **P** **15 36 06.0 +1.3**
baz=85
L19A Farson 85.37 45 ⇑ P **P** **15 36 06.2 +1.3**
baz=85,SNR=8.5
MONP Monument Peak 85.39 55 ⇑ P **P** **15 36 06.2 +1.0**
baz=85
D24A Glendive 85.46 38 ⇓ P **P** **15 36 06.7 +1.6**
baz=85
MSU Marysvale 85.48 49 *eP* **P** **15 36 07.1 +1.5**
MSU pmax pmax

comp=Z,16nm,1.3s
MSU Marysvale 85.48 49 *e*P P **15 36 07.1 +1.5**
comp=Z,16nm,1.3s
O17A Robinson Place 85.53 47 ⇑P P **15 36 06.3 +0.5**
baz=85
IRM Iron Mountain 85.67 54 ⇑P P **15 36 08.3 +2.0**
baz=86
I21A Big Trails, Te 85.67 42 ⇑P P **15 36 07.6 +1.2**
baz=86,SNR=7.8
K20A Yellowstone Ra 85.69 44 ⇑P P **15 36 07.9 +1.4**
baz=86
BC3 Big Chuckawall 85.70 54 ⇑P P **15 36 08.4 +1.7**
baz=86
H22A Clearmont 85.78 41 ⇓P P **15 36 08.0 +1.2**
baz=86
N18A Larsen Ranch, 85.79 46 ⇑P P **15 36 08.1 +1.1**
baz=86
J21A Lysite 85.85 43 ⇑P P **15 36 08.5 +1.2**
baz=86
P17A Butcher Ranch, 85.92 47 ⇑P P **15 36 09.0 +1.3**
baz=86
Q16A Castle Valley 85.93 48 ⇓P P **15 36 09.1 +1.3**
baz=86
O18A Roosevelt 85.96 46 ⇑P P **15 36 09.5 +1.6**
baz=86
L20A Wamsutter 86.05 44 ⇑P P **15 36 09.6 +1.2**
baz=86
W13A Hualapai Mount 86.08 52 ⇑P P **15 36 10.1 +1.5**
baz=86
N19A John Jarvie Ra 86.15 45 ⇑P P **15 36 09.9 +1.1**
baz=86
P18A Preston Nutter 86.15 47 ⇓P P **15 36 10.2 +1.1**
baz=86
SRU San Rafael 86.25 48 *e*P P **15 36 10.1 +0.7**
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael 86.25 48 *e*P P **15 36 10.1 +0.7**
comp=Z,12nm,1.0s
SRU San Rafael 86.25 48 ⇑P P **15 36 10.5 +1.2**
baz=86
PDMCI Parker Dam,Lak 86.31 53 ⇑P P **15 36 10.8 +1.3**
baz=86
Y12C Blythe 86.32 54 ⇓P P **15 36 10.8 +1.2**
baz=86
K21A Alcova 86.37 43 ⇓P P **15 36 11.1 +1.2**
baz=86
J22A Midwest 86.39 42 ⇑P P **15 36 10.8 +0.9**
baz=86
M20A Sweetwater, Wa 86.44 45 ⇓P P **15 36 11.8 +1.6**
baz=86,SNR=6.2
CRVS Cervenica-Dubn 86.46 325 *e*P P 15 36 13.7 +3.8
CRVS Cervenica-Dubn 86.46 325 *e*P P 15 36 13.7 +3.8
GLA Glamis 86.46 54 ⇑P P **15 36 12.1 +1.8**
baz=86
U15A North Rim 86.50 51 ⇓P P **15 36 12.3 +1.6**
baz=86,SNR=8.3
L21A Rawlins 86.67 44 ⇓P P **15 36 12.8 +1.3**
baz=87
H24A Dirks Ranch, A 86.74 40 ⇑P P **15 36 13.0 +1.5**
baz=87
N20A Spence Gulch, 86.76 45 ⇓P P **15 36 13.7 +1.8**
baz=87
M21A Separation Pea 86.88 44 ⇓P P **15 36 13.7 +1.2**
baz=87,SNR=12
J23A Dilts Ranch, B 86.94 42 ⇑P P **15 36 14.2 +1.6**
baz=87
P19A Cripple Cowboy 86.97 46 ⇓P P **15 36 14.6 +1.7**
baz=87
O20A White River Ci 87.16 46 ⇑P P **15 36 15.4 +1.6**
baz=87
L22A Ellis Ranch, M 87.21 43 ⇑P P **15 36 15.5 +1.5**
baz=87
N21A Black Mountain 87.26 45 ⇓P P **15 36 15.6 +1.3**
baz=87,SNR=7.4
K23A Bowen Ranch, D 87.28 42 ⇑P P **15 36 15.4 +1.1**
baz=87
Y14A Wickenburg 87.31 53 ⇑P P **15 36 16.0 +1.6**
baz=87
113A Mohawk Valley, 87.37 54 ⇓P P **15 36 16.7 +2.1**
baz=87
S18A Hurst Farm, Bl 87.37 48 ⇑P P **15 36 16.2 +1.3**
baz=87
M22A Cedar Creek Ra 87.47 44 ⇑P P **15 36 17.1 +1.8**
baz=87
L23A Garrett 87.61 43 ⇑P P **15 36 16.8 +0.8**
baz=88
WUAZ Wupatki 87.61 51 ⇑P P **15 36 17.8 +1.8**
baz=88
PV04 Paradox Valley 87.70 47 *e*P P **15 36 17.9 +1.4**
Q20A Ridgley Place, 87.79 47 ⇓P P **15 36 18.1 +1.3**
baz=88,SNR=9.5
ULM Lac du Bonnet 87.82 32 P P **15 36 16.9 +0.4**
comp=Z,6.2nm,1.0s,baz=272,slow=2.0,SNR=5.2
ULM Lac du Bonnet 87.82 32 P P **15 36 16.9 +0.4**
N22A Wattenberg Ran 87.90 44 ⇓P P **15 36 18.9 +1.5**
baz=88
M23A Laramie 87.97 43 ⇓P P **15 36 19.0 +1.3**
baz=88
VYHS Vyhne 88.05 326 *e*P P 15 36 22.5 +4.8
VYHS Vyhne 88.05 326 *e*P P 15 36 22.5 +4.8
X16A Lo Mia Camp, P 88.15 52 ⇓P P **15 36 20.3 +1.7**
baz=88
R20A Redvale 88.16 47 ⇑P P **15 36 20.2 +1.6**
baz=88
N23A Red Feather La 88.17 44 ⇓P P **15 36 20.0 +1.3**
baz=88
O22A Kremmling 88.22 45 ⇑P P **15 36 20.7 +1.7**
baz=88
Q21A Lamborn Mesa, 88.32 46 ⇓P P **15 36 20.0 +0.6**
baz=88
S20A Disappointment 88.37 48 ⇓P P **15 36 21.3 +1.5**
baz=88
P22A Eagle 88.41 45 ⇓P P **15 36 21.6 +1.8**
baz=88
SMCO Snowmass 88.51 46 *e*P P **15 36 22.1 +1.6**
comp=Z,11nm,1.3s
M24A Cheyenne 88.52 43 ⇑P P **15 36 22.2 +2.0**
baz=88
O23A Lake Granby, G 88.58 45 ⇓P P **15 36 22.4 +1.7**
baz=88
R21A Cimarron 88.60 47 ⇓P P **15 36 22.9 +2.2**
baz=88
Q22A Crested Butte, 88.73 46 ⇓P P **15 36 23.2 +1.8**
baz=89,SNR=6.0
S21A Coal Bank Pass 88.84 48 ⇑P P **15 36 23.6 +1.6**
baz=89
ISCO Idaho Springs 89.01 45 ⇓P P **15 36 23.8 +1.1**
baz=89
AGMN Agassiz Nation 89.14 34 *e*P P **15 36 22.9 +0.1**
comp=Z,12nm,1.1s
AGMN *e* 15 36 30.7
W20A Ramah 89.79 50 ⇑P P **15 36 27.9 +1.5**
baz=90
R23A Moffat 89.81 46 ⇑P P **15 36 28.0 +1.5**
baz=90
X20A Quemado 90.12 50 ⇑P P **15 36 29.8 +1.8**
baz=90
R24A Sanders Place, 90.25 46 ⇓P P **15 36 30.3 +1.9**
baz=90
V22A San Miguel Ran 90.42 49 ⇑P P **15 36 31.9 +2.5**
baz=90
S24A Houchin Ranch, 90.53 46 ⇑P P **15 36 31.9 +2.1**
baz=90
Y20A Horse Springs, 90.56 51 ⇑P P **15 36 32.0 +2.0**
baz=90
X21A Alamocita Cree 90.66 50 ⇓P P **15 36 32.0 +1.5**
baz=91
Z20A Nine Sixteen R 90.85 52 ⇓P P **15 36 33.3 +2.0**
baz=91,SNR=7.5
120A U Bar Ranch, L 91.14 52 ⇓P P **15 36 34.1 +1.5**
baz=91
R26A Arlington 91.25 45 ⇓P P **15 36 34.1 +1.1**
baz=91
ANMO Albuquerque 91.27 49 LR LR 16 14 00.6
comp=Z,60nm,20.1s,baz=31,slow=33
ANMO Albuquerque 91.27 49 *e*P P **15 36 34.8 +1.5**
comp=Z,11nm,1.2s
319A Douglas 91.33 53 ⇓P P **15 36 35.9 +2.4**
baz=91
W23A Werner Place, 91.36 49 ⇓P P **15 36 35.7 +2.1**
baz=91
Y22A Socorro 91.51 50 ⇓P P **15 36 35.5 +1.2**
baz=91
220A Playas Peak, P 91.57 53 ⇑P P **15 36 36.5 +1.9**
baz=92,SNR=6.2
V24A Rampart Ranch, 91.61 48 ⇑P P **15 36 37.0 +2.2**
baz=92
BNM Barren Site 91.61 50 *e*P P **15 36 36.6 +1.7**
comp=Z,16nm,1.6s
BNM *e* 15 36 43.4
121A Cookes Peak, D 91.74 52 ⇑P P **15 36 37.9 +2.4**
baz=92
U25A Circle Dot Ran 91.78 47 ⇑P P **15 36 37.0 +1.4**
baz=92
ECSD EROS Data Cent 91.81 38 *e*P P **15 36 35.9 +0.6**
comp=Z,13nm,1.4s
ECSD *e* 15 36 42.5
W24A Lazy 6 Ranch, 91.82 48 ⇑P P **15 36 38.2 +2.4**
baz=92
T26A Comanche Natio 91.84 46 ⇓P P **15 36 37.2 +1.4**
baz=92
320A Kipp Ranch, An 91.89 53 ⇑P P **15 36 38.3 +2.2**
baz=92
Z22A Elephant Butte 91.90 51 ⇑P P **15 36 38.2 +2.1**
baz=92
V25A Rancho No Teng 91.97 48 ⇓P P **15 36 38.4 +1.9**
baz=92
Y23A Lovelace Mesa, 92.13 50 ⇑P P **15 36 39.1 +1.8**
baz=92
Z23A Rita Site, Whi 92.40 50 ⇑P P **15 36 40.3 +1.9**
baz=92
W25A X Bar L Ranch, 92.44 48 ⇓P P **15 36 40.1 +1.5**
baz=92
BGNE Belgrade 92.48 40 ⇑P P **15 36 41.1 +2.6**
baz=92
X25A Clemmons Ranch 92.72 49 ⇑P P **15 36 41.2 +1.3**
baz=93
Y25A Mesa, Roswell 93.05 49 ⇑P P **15 36 42.5 +1.1**
baz=93
124A Stringfield Ra 93.25 50 ⇓P P **15 36 44.1 +1.6**
baz=93
Z25A Roswell 93.42 50 ⇑P P **15 36 44.8 +1.7**
baz=93
W27A Bowe Ranch, En 93.45 47 ⇑P P **15 36 45.5 +2.3**
baz=93
224A Cornudas Mount 93.57 51 ⇑P P **15 36 45.6 +1.7**
baz=94
Z26A Caprock 93.92 49 ⇓P P **15 36 46.6 +1.2**
baz=94
324A Moseley Ranch, 93.97 52 ⇓P P **15 36 47.5 +1.8**
baz=94
Y27A Causey 94.10 48 ⇑P P **15 36 47.2 +1.0**
baz=94
MSTX Muleshoe 94.30 48 ⇑P P **15 36 48.3 +1.1**
baz=94
325A Bean Ranch, Si 94.36 51 ⇑P P **15 36 49.6 +2.0**
baz=94
LPIG La Paz 94.53 60 LR LR 16 15 49.9
comp=Z,3.8nm,19.2s,baz=109,slow=33
425A Indio Mountain 94.69 52 ⇓P P **15 36 50.8 +1.8**
baz=95
326A Caldwell Ranch 95.08 51 ⇑P P **15 36 52.2 +1.5**
baz=95
Z29A Hungry Hill Ra 95.44 48 ⇑P P **15 36 54.0 +1.7**
baz=95
526A Mary Lane Ranc 95.74 52 ⇓P P **15 36 55.9 +2.1**
baz=96
626A Big Bend Ranch 96.01 52 ⇓P P **15 36 56.7 +1.7**
baz=96
428A Kincaid Ranch, 96.32 51 ⇓P P **15 36 58.1 +1.7**
baz=96
329A Wagon Wheel Ra 96.34 50 ⇓P P **15 36 58.0 +1.6**
baz=96
Z31A Sharp Cattle R 96.43 47 ⇓P P **15 36 58.8 +2.0**
baz=96
TXAR Lajitas Array 96.47 52 P P **15 36 58.9 +1.8**
comp=Z,3.2nm,0.8s,baz=304,slow=3.4,SNR=27
TXAR pP **pP** **15 37 05.9 -0.2**
comp=Z,3.9nm,0.8s,baz=296,slow=2.8,SNR=17
TXAR Lajitas Array 96.47 52 P P **15 36 58.9 +1.8**
TXAR pP **pP** **15 37 05.9 -0.2**
528A Cox Ranch, San 96.59 51 ⇑P P **15 36 59.4 +1.7**
baz=96
627A Terlingua Ranc 96.59 52 ⇓P P **15 36 59.5 +1.8**
baz=96
628A Black Gap, Mar 96.92 52 ⇓P P **15 36 59.9 +0.8**
baz=97
529A Stev Forest Ra 97.00 51 ⇑P P **15 37 00.9 +1.5**
baz=97
530A J-C Ranch, Com 97.59 50 ⇑P Pdif 15 37 03.9 +1.7
531A Rocksprings 98.12 50 ⇑P Pdif 15 37 06.4 +1.8
baz=98
TORD Torodi Ar. Bea 123.14 310 PKP **PKPdf** **15 42 22.5 -2.2**
comp=Z,0.7nm,1.0s,baz=38,slow=2.7,SNR=4.5
TORD Torodi Ar. Bea 123.14 310 PKP **PKPdf** **15 42 22.5 -2.2**
SAML Samuel 150.93 55 *e*PKPbc **PKPbc** **15 43 20.9 +0.2**
LPAZ La Paz 151.20 73 PKPbc **PKPbc** **15 43 23.1 +1.0**
comp=Z,9.2nm,0.9s,baz=319,slow=2.4,SNR=29
LPAZ pPKPbc **pPKPbc** **15 43 29.8 -1.6**
comp=Z,9.8nm,0.7s,baz=263,slow=2.9,SNR=15
LPAZ La Paz 151.20 73 *e*PKPbc **PKPbc** **15 43 22.7 +0.7**
LPAZ pPKPbc **pPKPbc** **15 43 29.8 -1.6**
PLCA Paso Flores 151.30 125 PKPbc **PKPbc** **15 43 21.6 +0.7**
comp=Z,3.5nm,0.9s,baz=260,slow=4.8,SNR=11
PLCA pPKPbc **PKPab** **15 43 28.9 -0.1**
comp=Z,8.6nm,0.8s,baz=222,slow=4.3,SNR=14
PLCA Paso Flores 151.30 125 PKPbc **PKPbc** **15 43 21.6 +0.7**
PLCA pPKPbc **PKPab** **15 43 28.9 -0.1**

IDC 23 15:28:47.5±6.5, 15°.83S×95°.01E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=216.0km s-min=25.3km az=46.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**37.34**	**108**	P	P	15 36 02.1	+0.1
	0.3nm,0.7s,baz=278,slow=7.7,SNR=7.4						
WRA	**Warramunga Arr**	**37.60**	**102**	P	P	15 36 03.9	-0.3
	0.3nm,0.6s,baz=270,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**63.38**	**350**	P	P	15 39 18.5	-0.1
	0.4nm,0.7s,baz=161,slow=7.1,SNR=5.3						
SONM	**Songino Array**	**64.19**	**8**	P	P	15 39 23.7	-0.4
	0.2nm,0.4s,baz=187,slow=7.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**70.05**	**354**	P	P	15 40 01.4	+0.5
	0.8nm,0.6s,baz=189,slow=5.4,SNR=5.4						

IDC 23 15:31:24.6±0.7, 27°.59N×140°.65E, h24km±5km, mb3.4/10, mb1 3.7/10, mb1mx3.6/24, mbtmp3.4/10, Error ellipse: s-maj=17.6km s-min=16.1km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.45**	**109**	Pn	Pn	15 31 48.7	-0.6
	53nm,0.3s,baz=289,slow=21,SNR=19						
CBIJ				Sn	Sn	15 32 07.4	-0.1
	106nm,0.3s,baz=334,slow=23,SNR=28						
SONM	**Songino Array**	**33.42**	**316**	P	P	15 38 00.5	-1.0
	0.3nm,0.7s,baz=99,slow=6.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**39.29**	**266**	P	P	15 38 52.6	+0.8
	0.2nm,0.4s,baz=61,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**47.64**	**188**	P	P	15 39 58.8	-0.2
	1.2nm,0.7s,baz=9.7,slow=8.5,SNR=17						
WRA				pP	pP	15 40 06.3	0.0
	1.4nm,0.6s,baz=8.2,slow=8.5,SNR=8.5						
FITZ	**Fitzroy Crossi**	**47.69**	**199**	P	P	15 39 57.4	-1.9
	1.7nm,0.9s,baz=5.4,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**49.11**	**309**	P	P	15 40 09.8	-0.3
	0.1nm,0.4s,baz=76,slow=6.1,SNR=3.6						
ASAR	**Alice Springs**	**51.37**	**188**	P	P	15 40 28.2	+0.9
	0.2nm,0.8s,baz=9.8,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**57.94**	**29**	P	P	15 41 14.8	+0.1
	0.8nm,0.9s,baz=253,slow=6.2,SNR=5.7						
ILAR				pP	pP	15 41 21.6	-0.5
	0.8nm,0.9s,baz=261,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**72.36**	**28**	P	P	15 42 48.3	+0.1
	0.2nm,0.8s,baz=284,slow=5.6,SNR=4.7						
YKA				pP	pP	15 42 55.3	-0.5
	0.3nm,0.6s,baz=293,slow=5.8,SNR=4.2						
BRTR	**Keskin Array B**	**84.67**	**312**	P	P	15 43 56.0	-0.7
	0.5nm,0.8s,baz=35,slow=5.3,SNR=2.6						
TXAR	**Lajitas Array**	**96.40**	**52**	P	P	15 44 53.1	+1.1
	0.1nm,0.4s,baz=298,slow=5.5,SNR=3.5						
TXAR				pP	pP	15 45 00.9	+1.0
	0.5nm,0.8s,baz=296,slow=4.0,SNR=4.1						

IDC 23 15:48:00.5±0.9, 27°.64N×140°.62E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.4/6, Error ellipse: s-maj=23.5km s-min=19.8km az=23.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.50**	**111**	Pn	Pn	15 48 28.8	+0.1
	69nm,0.3s,baz=284,slow=21,SNR=23						
CBIJ				Sn	Sg	15 48 48.0	-0.7
	48nm,0.3s,baz=332,slow=23,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.27**	**266**	P	P	15 55 31.9	+0.8
	0.3nm,0.7s,baz=59,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**47.69**	**188**	P	P	15 56 39.1	+0.1
	1.5nm,0.7s,baz=11,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**49.05**	**309**	P	P	15 56 47.4	-2.0
	0.2nm,0.6s,baz=111,slow=7.9,SNR=3.1						
ASAR	**Alice Springs**	**51.42**	**188**	P	P	15 57 06.9	-0.5
	0.2nm,0.8s,baz=9.4,slow=10,SNR=4.7						
ILAR	**Eielson Array**	**57.91**	**29**	P	P	15 57 54.8	+0.7
	0.6nm,0.9s,baz=247,slow=7.1,SNR=5.0						
YKA	**Yellowknife Ar**	**72.32**	**28**	P	P	15 59 27.8	+0.1
	0.1nm,0.5s,baz=297,slow=5.9,SNR=3.7						

CASC 23 15:50:33.1±2.3, 13°.40N×89°.25W, h64km±9km, MD3.7, ML4.0, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.28**	**4**	*e*P	Pn	15 50 43.3	-0.4
SNET				*e*S	Sn	15 50 52.2	+1.0
SNET				AML	AML	15 50 56.9	
	comp=Z,6μm,0.3s						
LFRS	**El Faro**	**0.29**	**40**	*i*P	Pn	15 50 43.4	-0.3
BOQS	**Boqueron**	**0.33**	**355**	*e*P	Pn	15 50 44.1	-0.1
BOQS				*e*S	Sn	15 50 53.0	+0.8
LFU	**La Fuente**	**0.37**	**21**	*e*P	Pn	15 50 44.8	+0.5
LFU				*e*S	Sn	15 50 54.6	+2.2
LBRS	**Las Brisas**	**0.39**	**31**	*e*P	Pn	15 50 45.0	+0.6
SNVI	**San Vicente**	**0.45**	**62**	*e*P	Pn	15 50 44.6	-0.5
SBLS	**San Blas**	**0.57**	**320**	*e*P	Pn	15 50 45.9	-0.5
SNJE	**San Jose**	**0.58**	**323**	*e*P	Pn	15 50 46.1	-0.4
RTR	**El Retiro**	**0.62**	**322**	*e*P	Pn	15 50 46.9	0.0
RBDL	**Robledal**	**0.82**	**329**	*i*P	Pn	15 50 49.6	+0.2
VSM	**San Miguel**	**0.95**	**88**	*e*P	Pn	15 50 51.0	-0.1
BLLM	**Bellamira**	**0.99**	**88**	*e*P	Pn	15 50 51.4	+0.2
MTO2	**Montecristo 2**	**1.00**	**354**	*e*P	Pn	15 50 52.5	+0.8
CAHU	**Cacacuatique**	**1.07**	**70**	*e*P	Pn	15 50 52.9	+0.3
CNCH	**Conchagua**	**1.38**	**95**	*e*P	Pn	15 50 55.8	-0.7
IXG	**Ixpaco**	**1.40**	**303**	*e*P	Pn	15 50 56.6	-0.2
IXG				*e*S	Sn	15 51 14.3	-0.2
NBG	**Las Nubes**	**1.59**	**318**	*e*P	Pn	15 51 01.4	+2.0
NBG				*e*S	Sn	15 51 19.4	+0.1
PCG	**Pacaya**	**1.65**	**307**	*e*P	Pn	15 51 00.9	+0.7
PCG				*e*S	Sn	15 51 22.7	+2.1
MRL	**Marmol**	**1.71**	**346**	*e*P	Pn	15 51 01.3	+0.4
MRL				*e*S	Sn	15 51 20.9	-1.1
FUG	**Fuego 3**	**1.86**	**304**	*e*P	Pn	15 51 03.3	+0.3
FUG				*e*S	Sn	15 51 27.6	+1.8
TP2	**Tecpan 2**	**2.20**	**309**	*e*P	Pn	15 51 11.9	+4.0
TP2				*e*S	Sn	15 51 37.5	+3.1

IDC 23 15:56:07.5±2.5, 6°.96N×125°.13E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=221.5km s-min=27.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.22**	**161**	P	P	16 02 02.6	+0.2
	0.3nm,0.9s,baz=341,slow=9.2,SNR=5.8						
ASAR	**Alice Springs**	**31.62**	**165**	P	P	16 02 32.1	-0.3
	0.1nm,0.5s,baz=344,slow=7.3,SNR=8.3						
MKAR	**Makanchi Array**	**54.02**	**325**	P	P	16 05 33.6	-0.1
	0.1nm,0.4s,baz=120,slow=7.3,SNR=5.1						

IDC 23 16:00:23.2±0.9, 19°.54S×69°.21W, h100km±6km, mb3.6/5, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=22.9km s-min=20.7km az=29.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.40**	**18**	P	Pn	16 01 16.7	+1.6
	4.9nm,0.3s,baz=192,slow=7.5,SNR=143						
SIV	**San Ignacio**	**8.52**	**67**	P	Pn	16 02 23.1	-0.8
	3.4nm,0.3s,baz=271,slow=9.7,SNR=57						
NNA	**Nana**	**10.51**	**315**	P	Pn	16 02 52.2	+1.3
	2.2nm,0.3s,baz=161,slow=18,SNR=3.2						
NNA				S	Sn	16 04 43.5	-3.2
	1.6nm,0.3s,baz=113,slow=13,SNR=2.6						
BDFB	**Brasilia**	**20.57**	**82**	P	Pn	16 04 56.2	-1.2
	2.7nm,0.5s,baz=259,slow=8.5,SNR=5.2						
PLCA	**Paso Flores**	**21.15**	**183**	P	P	16 05 01.1	+0.8
	1.9nm,0.7s,baz=356,slow=13,SNR=7.5						
NVAR	**Mina Array Bea**	**73.79**	**322**	P	P	16 11 47.3	+0.2
	0.6nm,0.7s,baz=129,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	P	16 12 04.5	-0.9
	0.7nm,0.7s,baz=256,slow=5.3,SNR=6.9						
TORD				pP	pP	16 12 30.8	-0.4
	2.3nm,0.8s,baz=253,slow=5.9,SNR=7.3						
YKA	**Yellowknife Ar**	**89.26**	**341**	P	P	16 13 06.9	-0.6
	2.7nm,0.7s,baz=135,slow=4.7,SNR=69						
YKA				pP	pP	16 13 32.6	-1.2
	0.6nm,0.6s,baz=134,slow=4.9,SNR=4.3						
YKA				sP	sP	16 13 41.6	-2.9
	1.6nm,0.8s,baz=134,slow=4.6,SNR=5.9						
ASAR	**Alice Springs**	**131.50**	**209**	PKP	PKPdf	16 19 24.0	-0.8
	0.4nm,0.9s,baz=134,slow=2.7,SNR=2.9						
WRA	**Warramunga Arr**	**134.47**	**212**	PKP	PKPdf	16 19 30.5	-0.1
	0.3nm,0.7s,baz=169,slow=1.6,SNR=5.0						
MKAR	**Makanchi Array**	**144.20**	**34**	PKP	PKPdf	16 19 47.2	-0.2
	0.4nm,0.9s,baz=318,slow=3.9,SNR=2.3						
SONM	**Songino Array**	**151.55**	**6**	PKPbc	PKPbc	16 20 05.6	-0.2
	1.0nm,0.6s,baz=6.7,slow=1.8,SNR=11						
SONM				pPKPbc	pPKPbc	16 20 33.5	+0.2
	0.9nm,0.9s,baz=284,slow=1.1,SNR=3.9						

*IDC **23** 16:21:22.9±2.9, 4°.57S×131°.66E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=132.2km s-min=30.1km az=79.0*
*AUST **23** 16:21:28.5, 4°.48S×131°.52E, h100km*
ISC 23 16:21:29.0±1.7, 4°.7S±0°.1×131°.3E±0°.2, h50km, n11, σ2s81/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.69**	**124**	P	Pn	16 21 59.4	+3.3
	baz=1.7,SNR=13						
AAI	**Ambon**	**3.28**	**287**	P	Pn	16 22 23.4	+5.5
	baz=3.4,SNR=4.4						
SWI	**Sorong**	**3.80**	**359**	P	Pn	16 22 17.2	-7.8
	baz=3.6,SNR=7.7						
KDU	**Kakadu**	**8.03**	**172**	P	Pn	16 23 25.8	+2.7
	baz=8.3,SNR=27						
KDU				S	**Sn**	**16 24 56.5**	**+3.9**
	baz=8.3,SNR=6.2						
MTN	**Manton Dam**	**8.11**	**181**	P	Pn	16 23 28.7	+4.6
	baz=8.4,SNR=26						
MTN				S	Sn	16 25 02.9	+8.4
	baz=8.4,SNR=7.4						
PCI	**Palu**	**12.08**	**288**	P	**Pn**	**16 24 16.6**	**-2.0**
	baz=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**14.45**	**202**	Pn	**Pn**	**16 24 51.6**	**+0.9**
	0.2nm,0.3s,baz=29,slow=15,SNR=7.9						
FITZ				Sn	**Sn**	**16 27 30.0**	**+0.4**
	0.1nm,0.3s,baz=39,slow=6.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**14.45**	**202**	P	**P**	**16 24 56.2**	**-0.1**
	baz=15,SNR=5.4						
WRA	**Warramunga Arr**	**15.45**	**169**	Pn	**Pn**	**16 25 01.7**	**-2.0**
	0.2nm,0.3s,baz=351,slow=13,SNR=16						
WRA				Sn	**Sn**	**16 27 49.5**	**-4.4**
	0.2nm,0.3s,baz=350,slow=24,SNR=6.7						
ASAR	**Alice Springs**	**19.03**	**173**	Pn	**Pn**	**16 25 49.5**	**+1.3**
	0.2nm,0.3s,baz=353,slow=12,SNR=21						
ASAR				Sn	**S**	**16 29 17.8**	**-2.8**
	0.1nm,0.3s,baz=357,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**67.05**	**326**	P	**P**	**16 32 18.6**	**+1.6**
	0.4nm,1.0s,baz=106,slow=8.2,SNR=2.8						

*IDC **23** 16:28:13.2±2.6, 35°.74N×143°.39E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/26, mbtmp3.2/5, ML3.2/1, MS3.1/1, Ms1 3.3/1, ms1mx2.1/19, Error ellipse: s-maj=70.4km s-min=24.9km az=53.0*
*ISCJB **23** 16:28:17.1±1.0, 35°.75N±0°.05×143°.09E±0°.07, h33km, mb3.4/4, MS3.1/1, Error ellipse: s-maj=8.0km s-min=7.0km az=178.6*

*JMA **23** 16:28:18.6±0.3,35°.75N×142°.92E,h91km,M3.0*
ISC 23 16:28:19.0±1.5,35°.75N±0'.06×143°.1E±0'.1,h35km,n16,
σ1s54/24,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.82**	**269**	P	**Pn**	**16 28 47.2**	**-0.6**
CHOJ				S	**Sn**	**16 29 09.3**	**-0.4**
BSO1	**Boso 1**	**2.05**	**238**	P	**Pn**	**16 28 49.5**	**-1.1**
BSO1				S	**Sn**	**16 29 13.9**	**-0.8**
BSO2	**Boso 2**	**2.16**	**243**	*e*S	**Sn**	**16 29 17.5**	**-0.2**
JHO	**Hitachi**	**2.22**	**293**	P	**Pn**	**16 28 52.2**	**-1.1**
JHO				S	**Sn**	**16 29 17.7**	**-1.8**
BSO3	**Boso 3**	**2.32**	**247**	P	**Pn**	**16 28 53.9**	**-0.6**
BSO3				S	**Sn**	**16 29 21.4**	**-0.2**
BSO4	**Boso 4**	**2.38**	**252**	S	**Sn**	**16 29 21.9**	**-1.4**
JYT	**Yasato**	**2.40**	**282**	P	**Pn**	**16 28 54.9**	**-0.9**
JYT				S	**Sn**	**16 29 20.5**	**-3.5**
JFK	**Kawauchi**	**2.41**	**313**	P	**Pn**	**16 28 54.8**	**-1.1**
JFK				S	**Sn**	**16 29 21.7**	**-2.5**
JFT	**Otama**	**2.83**	**309**	P	**Pn**	**16 29 02.1**	**+0.3**
JFT				S	**Sn**	**16 29 33.8**	**-0.9**
MJAR	**Matsushiro Arr**	**4.03**	**283**	Pn	**Pn**	**16 29 19.4**	**+1.1**
	1.5nm,0.3s,baz=92,slow=15,SNR=17						
MJAR				Sn	**Sn**	**16 30 07.7**	**+3.4**
	0.9nm,0.3s,baz=84,slow=12,SNR=4.4						
MAT	**Matsushiro**	**4.03**	**283**	P	**Pn**	**16 29 19.9**	**+1.6**
MAT				S	**Sn**	**16 30 05.2**	**+0.9**
SONM	**Songino Array**	**29.63**	**305**	P	**P**	**16 34 22.7**	**+1.6**
	0.4nm,0.8s,baz=102,slow=7.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**42.52**	**258**	LR	LR	16 55 05.9	
	comp=Z,26nm,19.8s,baz=40,slow=38						
MKAR	**Makanchi Array**	**45.95**	**303**	P	**P**	**16 36 39.0**	**+0.5**
	0.2nm,0.7s,baz=86,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**56.01**	**190**	P	**P**	**16 37 53.7**	**-0.5**
	0.4nm,0.8s,baz=9.6,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	**59.73**	**190**	P	**P**	**16 38 19.8**	**-0.5**
	0.9nm,1.2s,baz=26,slow=11,SNR=4.0						

*SKO **23** 16:33:24.9,40°.48N×27°.30E,h0km*
*CSEM **23** 16:33:40.5±0.1,40°.38N×25°.70E,h2km,MD3.3,Error ellipse: s-maj=3.3km s-min=2.3km az=32.0*
*DDA **23** 16:33:40.6,40°.37N×25°.78E,h25km,MD3.4*
*ATH **23** 16:33:40.5,40°.37N×25°.80E,h21km±1km,MD3.3/6*
*THE **23** 16:33:40.5,40°.37N×25°.76E,h0km±2km,MD3.2/7,Error ellipse: s-maj=2.1km s-min=0.7km az=96.0*
*ISK **23** 16:33:40.0,40°.39N×25°.79E,h5km,MD3.3*
*SOF **23** 16:33:42.3,40°.50N×25°.35E,h2km,MD3.1*
ISC 23 16:33:40.2±1.0,40°.39N±0'.01×25°.71E±0'.02,h13km±8km,
n153,σ1s26/196,10C-6D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.48**	**44**	*e*PG	**Pg**	**16 33 49.9**	**+0.1**
ENEZ				*e*SG	**Sb**	**16 33 57.2**	**-0.5**
ENEZ	**Enez**	**0.48**	**44**	*e*Pg	**Pg**	**16 33 49.9**	**+0.1**
ENEZ				*e*Sg	**Sb**	**16 33 57.2**	**-0.5**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**16 33 51.5**	**+0.1**
ALN				S	**Sg**	**16 33 59.5**	**+0.5**
ALN	**Alexandroupoli**	**0.57**	**26**	*e*PN	**Pg**	**16 33 51.5**	**+0.1**
ALN				*e*SN	**Sg**	**16 33 59.5**	**+0.5**
ALN	**Alexandroupoli**	**0.57**	**26**	P	**Pg**	**16 33 51.5**	**+0.1**
ALN				S	**Sg**	**16 33 59.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.58**	**89**	*e*PG	**Pg**	**16 33 51.3**	**-0.3**
GELI				*e*SG	**Sg**	**16 33 59.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.58**	**89**	*e*Pg	**Pg**	**16 33 51.3**	**-0.3**
GELI				*e*Sg	**Sg**	**16 33 59.7**	**+0.3**
BOZC	**Bozcaada**	**0.60**	**154**	*i* P	**Pb**	**16 33 52.5**	**+0.1**
BOZC				*i* S	**Sb**	**16 34 00.3**	**-0.7**
LIA	**Limnos Island**	**0.63**	**220**	P	**Pb**	**16 33 53.6**	**+0.4**
LIA				S	**Sb**	**16 34 03.0**	**+1.1**
LIA	**Limnos Island**	**0.63**	**220**	*e*PN	**Pb**	**16 33 53.4**	**+0.2**
LIA				*e*SN	**Sb**	**16 34 03.0**	**+1.1**
LIA	**Limnos Island**	**0.63**	**220**	*e*Pn	**Pb**	**16 33 53.4**	**+0.2**
LIA				S	**Sb**	**16 34 03.0**	**+1.1**
EZN	**Ezine**	**0.73**	**140**	*e*PG	**Pb**	**16 33 54.6**	**-0.2**
EZN	**Ezine**	**0.73**	**140**	*e*Pg	**Pb**	**16 33 54.6**	**-0.2**
LPK	**Lapseki**	**0.80**	**91**	*e*PG	**Pb**	**16 33 55.8**	**-0.3**
LPK	**Lapseki**	**0.80**	**91**	*e*Pg	**Pb**	**16 33 55.8**	**-0.3**
KAVA	**Kavala**	**1.10**	**304**	P	**Pn**	**16 34 01.6**	**+0.3**
KAVA				S	**Sn**	**16 34 18.2**	**+1.9**
KAVA	**Kavala**	**1.10**	**304**	P	**Pn**	**16 34 01.6**	**+0.3**
KAVA				S	**Sn**	**16 34 18.2**	**+1.9**
RKY	**Sarkoy-Tekirda**	**1.16**	**74**	*e*PN	**Pb**	**16 34 01.7**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.16**	**74**	*e*Pn	**Pb**	**16 34 01.7**	**-0.4**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pb**	**16 34 02.3**	**+0.1**
SART				*i* S	**Sg**	**16 34 17.8**	**+0.1**
SART	**Tekirdag**	**1.16**	**74**	*i* P	**Pb**	**16 34 02.3**	**+0.1**
SART				*i* S	**Sg**	**16 34 17.8**	**+0.1**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pg**	**16 34 02.7**	**-0.2**
SIGR				S	**Sn**	**16 34 19.4**	**+1.1**
SIGR	**SIGRI**	**1.18**	**175**	P	**Pg**	**16 34 02.7**	**-0.2**
SIGR				S	**Sn**	**16 34 19.4**	**+1.1**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*PN	**Pn**	**16 34 02.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.21**	**89**	*e*Pn	**Pn**	**16 34 02.3**	**-0.6**
PRK	**Paraskevi**	**1.22**	**159**	P	**Pg**	**16 34 03.5**	**-0.2**
PRK				S	**Sn**	**16 34 20.5**	**+1.2**
PRK	**Paraskevi**	**1.22**	**159**	*e*PN	**Pg**	**16 34 03.2**	**-0.5**
PRK				*e*SN	**Sn**	**16 34 19.5**	**+0.2**
PRK	**Paraskevi**	**1.22**	**159**	*e*Pn	**Pg**	**16 34 03.2**	**-0.5**
PRK	**Paraskevi**	**1.22**	**159**	P	**Pg**	**16 34 03.5**	**-0.2**
PRK				*e*Sn	**Sn**	**16 34 19.5**	**+0.2**
PRK				S	**Sn**	**16 34 20.5**	**+1.2**
MFT	**Murefte**	**1.26**	**71**	*e*PN	**Pb**	**16 34 04.0**	**+0.1**
MFT	**Murefte**	**1.26**	**71**	*e*Pn	**Pb**	**16 34 04.0**	**+0.1**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pg**	**16 34 04.6**	**-0.3**
KDZ				Sg	**Sb**	**16 34 20.8**	**+0.1**
KDZ	**Kurdzhali**	**1.28**	**350**	*i* P	**Pg**	**16 34 04.6**	**-0.3**
KDZ				Sg	**Sb**	**16 34 20.8**	**+0.1**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pg**	**16 34 05.0**	**-0.5**
AYVA				*i* S	**Sg**	**16 34 22.5**	**-0.1**
AYVA	**Ayvalik**	**1.31**	**145**	*i* P	**Pg**	**16 34 05.0**	**-0.5**
AYVA				*i* S	**Sg**	**16 34 22.5**	**-0.1**
RZN	**Rozhen**	**1.50**	**330**	P	**Pb**	**16 34 07.9**	**-0.2**
RZN				Sg	**Sn**	**16 34 25.5**	**-1.1**
RZN	**Rozhen**	**1.50**	**330**	P	**Pb**	**16 34 07.9**	**-0.2**
RZN				Sg	**Sn**	**16 34 25.5**	**-1.1**
TKR	**Tekirdag**	**1.51**	**66**	*e*PN	**Pb**	**16 34 08.0**	**-0.2**
TKR	**Tekirdag**	**1.51**	**66**	*e*Pn	**Pb**	**16 34 08.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.55**	**102**	*e*PN	**Pb**	**16 34 08.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.55**	**102**	*e*Pn	**Pb**	**16 34 08.7**	**-0.1**
BALY	**Balya**	**1.60**	**113**	*i* P	**Pb**	**16 34 09.2**	**-0.5**
BALY				*i* S	**Sb**	**16 34 30.7**	**+0.9**
BALY	**Balya**	**1.60**	**113**	*i* P	**Pb**	**16 34 09.2**	**-0.5**
BALY				*i* S	**Sb**	**16 34 30.7**	**+0.9**
EDRB	**Edirne**	**1.65**	**28**	*e*PN	**Pb**	**16 34 10.7**	**+0.1**
EDRB	**Edirne**	**1.65**	**28**	*e*Pn	**Pb**	**16 34 10.7**	**+0.1**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pg**	**16 34 12.1**	**-0.2**
DIM				Sg	**Sg**	**16 34 33.2**	**-0.7**
DIM	**Dimitrovgrad**	**1.67**	**355**	P	**Pg**	**16 34 12.1**	**-0.2**
DIM				Sg	**Sg**	**16 34 33.2**	**-0.7**
BNT	**Bandirma**	**1.69**	**90**	*e*PN	**Pb**	**16 34 10.5**	**-0.6**
BNT	**Bandirma**	**1.69**	**90**	*e*Pn	**Pb**	**16 34 10.5**	**-0.6**
NVR	**Nevrokopi**	**1.70**	**305**	P	**Pn**	**16 34 10.3**	**+0.6**
NVR				S	**Sg**	**16 34 35.5**	**+0.5**
NVR	**Nevrokopi**	**1.70**	**305**	*e*PN	**Pb**	**16 34 11.5**	**+0.1**
NVR				*e*SN	**Sg**	**16 34 35.2**	**+0.2**
NVR	**Nevrokopi**	**1.70**	**305**	P	**Pb**	**16 34 10.3**	**+0.6**
NVR	**Nevrokopi**	**1.70**	**305**	*e*Pn	**Pb**	**16 34 11.5**	**+0.1**
NVR				*e*Sn	**Sg**	**16 34 35.2**	**+0.2**
NVR				S	**Sg**	**16 34 35.5**	**+0.5**
CRLT	**Corlu**	**1.71**	**64**	*e*PN	**Pb**	**16 34 11.5**	**0.0**
CRLT	**Corlu**	**1.71**	**64**	*e*Pn	**Pb**	**16 34 11.5**	**0.0**
PLG	**Polygyros**	**1.73**	**270**	P	**Pn**	**16 34 10.6**	**+0.5**
PLG	**Polygyros**	**1.73**	**270**	*e*PB	**Pb**	**16 34 11.7**	**-0.2**
PLG				*e*SN	**Sg**	**16 34 35.0**	**-0.9**
PLG	**Polygyros**	**1.73**	**270**	P	**Pn**	**16 34 10.6**	**+0.5**
PLG	**Polygyros**	**1.73**	**270**	*e*Pb	**Pb**	**16 34 11.7**	**-0.2**
PLG				*e*Sn	**Sg**	**16 34 35.0**	**-0.9**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**16 34 11.2**	**+0.6**
SRS				S	**Sg**	**16 34 37.1**	**0.0**
SRS	**Serrai**	**1.77**	**295**	P	**Pn**	**16 34 11.2**	**+0.6**
SRS				S	**Sg**	**16 34 37.1**	**0.0**
BALB	**Balikesir**	**1.82**	**113**	*e*PN	**Pb**	**16 34 13.0**	**-0.5**
BALB	**Balikesir**	**1.82**	**113**	*e*Pn	**Pb**	**16 34 13.0**	**-0.5**
SOH	**Sokhos**	**1.85**	**284**	P	**Pn**	**16 34 12.4**	**+0.7**
SOH				S	**Sg**	**16 34 38.9**	**-0.8**
SOH	**Sokhos**	**1.85**	**284**	*e*PN	**Pb**	**16 34 13.9**	**0.0**
SOH				*e*SN	**Sg**	**16 34 38.9**	**-0.8**
SOH	**Sokhos**	**1.85**	**284**	*e*Pn	**Pb**	**16 34 13.9**	**0.0**
SOH				*e*Sn	**Sg**	**16 34 38.9**	**-0.9**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pb**	**16 34 13.5**	**-0.9**
PLD				S	**Sg**	**16 34 39.9**	**-0.7**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pg**	**16 34 16.1**	**-0.2**
PLD	**Plovdiv**	**1.88**	**336**	P	**Pb**	**16 34 13.5**	**-0.9**
PLD				S	**Sg**	**16 34 39.9**	**-0.7**
MMB	**Musomiste**	**1.92**	**309**	P	**Pn**	**16 34 13.2**	**+0.5**
MMB	**Musomiste**	**1.92**	**309**	P	**Pn**	**16 34 13.2**	**+0.5**
CHOS	**Chios island**	**2.02**	**172**	*e*PB	**Pn**	**16 34 14.6**	**+0.6**
CHOS	**Chios island**	**2.02**	**172**	*e*Pb	**Pn**	**16 34 14.6**	**+0.6**
SLVT	**Silivri**	**2.08**	**65**	*e*PN	**Pb**	**16 34 16.8**	**-0.9**
SLVT	**Silivri**	**2.08**	**65**	*e*Pn	**Pb**	**16 34 16.8**	**-0.9**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**16 34 17.8**	**+1.6**
JMB	**Yambol**	**2.18**	**17**	P	**Pg**	**16 34 22.3**	**+0.3**
JMB				S	**Sg**	**16 34 51.1**	**+0.8**
JMB	**Yambol**	**2.18**	**17**	P	**Pn**	**16 34 17.8**	**+1.6**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**16 34 17.3**	**+0.6**
AKHS	**Akhisar**	**2.21**	**132**	*i* P	**Pn**	**16 34 17.3**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*PN	**Pn**	**16 34 17.9**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.23**	**60**	*e*Pn	**Pn**	**16 34 17.9**	**+1.0**
BLCB	**Balcova**	**2.25**	**152**	*e*PN	**Pb**	**16 34 19.4**	**-1.3**
BLCB	**Balcova**	**2.25**	**152**	*e*Pn	**Pb**	**16 34 19.4**	**-1.3**
DURS	**Dursunbey**	**2.26**	**109**	*e*P	**Pn**	**16 34 18.1**	**+0.7**
DURS				*i* S	**Sb**	**16 34 47.9**	**-1.0**
DURS	**Dursunbey**	**2.26**	**109**	*e*P	**Pn**	**16 34 18.1**	**+0.7**
DURS				*i* S	**Sb**	**16 34 47.9**	**-1.0**
CTKS	**Kestanelik-??a**	**2.29**	**67**	*e*PN	**Pb**	**16 34 20.0**	**-1.3**
CTKS	**Kestanelik-??a**	**2.29**	**67**	*e*Pn	**Pb**	**16 34 20.0**	**-1.3**
IZM	**Izmir**	**2.32**	**148**	*e*PN	**Pb**	**16 34 20.3**	**-1.7**
IZM	**Izmir**	**2.32**	**148**	*e*Pn	**Pb**	**16 34 20.3**	**-1.7**
DST	**Dursunbey**	**2.37**	**108**	*e*PN	**Pb**	**16 34 21.0**	**-1.8**
DST	**Dursunbey**	**2.37**	**108**	*e*Pn	**Pb**	**16 34 21.0**	**-1.8**
ARMT	**Armutlu**	**2.41**	**85**	*e*PN	**Pb**	**16 34 21.5**	**-2.0**
ARMT	**Armutlu**	**2.41**	**85**	*e*Pn	**Pb**	**16 34 21.5**	**-2.0**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*PN	**Pn**	**16 34 21.5**	**+2.0**
MDNY	**Mudanya-Bursa**	**2.42**	**89**	*e*Pn	**Pn**	**16 34 21.5**	**+2.0**
PGB	**Panagyurishte**	**2.45**	**332**	P	**Pg**	**16 34 26.1**	**-1.2**
PGB	**Panagyurishte**	**2.45**	**332**	P	**Pg**	**16 34 26.1**	**-1.2**
BGKT	**Bogazkoy**	**2.46**	**70**	*e*PN	**Pb**	**16 34 22.8**	**-1.4**
BGKT	**Bogazkoy**	**2.46**	**70**	*e*Pn	**Pb**	**16 34 22.8**	**-1.4**
KKB	**Krupnik**	**2.48**	**308**	P	**Pn**	**16 34 21.3**	**+1.0**
KKB	**Krupnik**	**2.48**	**308**	P	**Pn**	**16 34 21.3**	**+1.0**
VAY	**Valandovo**	**2.56**	**292**	P	**Pn**	**16 34 22.5**	**+1.1**
VAY	**Valandovo**	**2.56**	**292**	*i* Pn	**Pn**	**16 34 22.6**	**+1.1**
VAY	**Valandovo**	**2.56**	**292**	P	**Pn**	**16 34 22.5**	**+1.1**
VAY	**Valandovo**	**2.56**	**292**	*i* Pn	**Pn**	**16 34 23.1**	**+1.7**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*PN	**Pb**	**16 34 24.9**	**-2.3**
ISK	**Istanbul-Kandi**	**2.63**	**74**	*e*Pn	**Pb**	**16 34 24.9**	**-2.3**
GEMT	**Gemlik**	**2.66**	**88**	*e*PN	**Pb**	**16 34 25.5**	**-2.2**
GEMT	**Gemlik**	**2.66**	**88**	*e*Pn	**Pb**	**16 34 25.5**	**-2.2**
YLV	**Yalova**	**2.80**	**85**	*e*PN	**Pn**	**16 34 27.3**	**+2.5**
YLV	**Yalova**	**2.80**	**85**	*e*Pn	**Pn**	**16 34 27.3**	**+2.5**
PVL	**Pavlikeni**	**2.84**	**354**	Sg	**Sg**	**16 35 09.2**	**-2.3**
PVL	**Pavlikeni**	**2.84**	**354**	Sg	**Sg**	**16 35 09.2**	**-2.3**
SZH	**Strazhica**	**2.88**	**3**	S	**Sg**	**16 35 11.9**	**-0.9**
VTS	**Vitosha**	**2.90**	**320**	P	**Pn**	**16 34 27.9**	**+1.7**
VTS	**Vitosha**	**2.90**	**320**	*i* P	**Pn**	**16 34 27.8**	**+1.6**
VTS	**Vitosha**	**2.90**	**320**	P	**Pn**	**16 34 27.8**	**+1.6**
VTS	**Vitosha**	**2.90**	**320**	P	**Pn**	**16 34 27.9**	**+1.7**
KULA	**Kula-Manisa**	**2.95**	**128**	*e*PN	**Pn**	**16 34 29.1**	**+2.2**
KULA	**Kula-Manisa**	**2.95**	**128**	*e*Pn	**Pn**	**16 34 29.1**	**+2.2**
TVSB	**Tavsanli**	**3.03**	**107**	*e*PN	**Pn**	**16 34 30.1**	**+2.1**
TVSB	**Tavsanli**	**3.03**	**107**	*e*Pn	**Pn**	**16 34 30.1**	**+2.1**
HRT	**Hereke**	**3.04**	**81**	*e*PN	**Pn**	**16 34 31.0**	**+2.9**
HRT	**Hereke**	**3.04**	**81**	*e*Pn	**Pn**	**16 34 31.0**	**+2.9**
SILT	**Sile**	**3.08**	**74**	*e*PN	**Pn**	**16 34 31.0**	**+2.4**
SILT	**Sile**	**3.08**	**74**	*e*Pn	**Pn**	**16 34 31.0**	**+2.4**
CAVI	**Cavuskoy**	**3.17**	**92**	*e*PN	**Pn**	**16 34 32.6**	**+2.8**
CAVI	**Cavuskoy**	**3.17**	**92**	*e*Pn	**Pn**	**16 34 32.6**	**+2.8**
ZIMR		**3.28**	**356**	*i* P	Pg	16 34 49.9	+6.9
MPEP	**Malo Peshtene**	**3.31**	**334**	*i* P	**Pn**	**16 34 33.7**	**+1.9**
MPEP					Pg	**16 34 42.7**	**-1.0**
ALT	**Altintas**	**3.64**	**110**	*e*PN	**Pn**	**16 34 38.9**	**+2.5**
ALT	**Altintas**	**3.64**	**110**	*e*Pn	**Pn**	**16 34 38.9**	**+2.5**
GULT	**Gulveren**	**3.67**	**88**	*e*PN	**Pn**	**16 34 38.7**	**+1.9**
GULT	**Gulveren**	**3.67**	**88**	*e*Pn	**Pn**	**16 34 38.7**	**+1.9**
BARS	**Barje**	**3.80**	**311**	*i* Pn	**Pn**	**16 34 40.3**	**+1.8**
BOLS	**Boljevac**	**4.43**	**322**	*i* Pn	**Pn**	**16 34 47.4**	**+0.2**
KIZT	**Kizilcal**	**4.99**	**106**	*e*PN	**Pn**	**16 34 57.5**	**+2.5**
KIZT	**Kizilcal**	**4.99**	**106**	*e*Pn	**Pn**	**16 34 57.5**	**+2.5**
VOIR		**5.07**	**355**	*i* P	**Pn**	**16 34 58.5**	**+2.5**
VOIR		**5.07**	**355**	*i* P	**Pn**	**16 34 58.5**	**+2.5**
GRUS	**Gruza**	**5.10**	**315**	*i* Pn	**Pn**	**16 34 57.6**	**+1.2**
PLOR	**Plostina**	**5.50**	**7**	*i* P	Pn	16 35 06.0	+4.1
PLOR	**Plostina**	**5.50**	**7**	*i* P	Pn	16 35 06.0	+4.1
VRI	**Vrincioaia**	**5.53**	**7**	*i* P	**Pn**	**16 35 04.6**	**+2.4**
VRI	**Vrincioaia**	**5.53**	**7**	*i* P	**Pn**	**16 35 04.6**	**+2.4**
DIVS	**Divibare**	**5.64**	**313**	*i* Pn	**Pn**	**16 35 04.9**	**+1.1**
BZS	**Buzias**	**6.03**	**331**	*i* P	**Pn**	**16 35 09.9**	**+0.8**
BZS	**Buzias**	**6.03**	**331**	*i* P	**Pn**	**16 35 09.9**	**+0.8**
KOLS	**Kolonicke sedl**	**8.89**	**345**	*e*PN	Pn	16 35 51.8	+3.5
KOLS	**Kolonicke sedl**	**8.89**	**345**	*e*Pn	Pn	16 35 51.8	+3.5
CRVS	**Cervenica-Dubn**	**9.04**	**342**	*e*PN	Pn	16 35 54.7	+4.4
CRVS				*e*SN	**Sn**	**16 37 28.0**	**-3.9**

*IDC **23** 16:36:01.4±0.9,10°.95N×125°.11E,h0km,mb3.8/9,mb1 3.9/9,mb1mx3.8/24,mbtmp3.8/9,MS3.4/7,Ms1 3.5/7,ms1mx3.1/38,Error ellipse: s-maj=46.7km s-min=15.5km az=67.0*
*ISCJB **23** 16:36:03.6±0.5,11°.05N±0'.03×124°.93E±0'.04,h19km±4km,mb3.9/14,MS3.4/7,Error ellipse: s-maj=7.3km s-min=5.1km az=3.7*
*MAN **23** 16:36:03,11°.05N×124°.82E,h3km,mb4.4,ML3.3,MS3.1*
MAN INTENSITY II - TACLOBAN CITY.
*NEIC **23** 16:36:06.8±0.5,10°.99N×125°.05E,h35km,mb4.2/6,Error ellipse: s-maj=27.2km s-min=7.8km az=67.0*
NEIC Felt [II PIVS] at Tacloban.
ISC 23 16:36:02.9±1.0,10°.97N±0'.03×124°.94E±0'.04,h10km±7km,
n55,σ1s33/53,mb3.9/14,MS3.5/7,2C-5D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.20**	**13**	*e*P	**Pg**	**16 36 07.5**	**+0.4**
PLP				*i* S	**Sg**	**16 36 10.1**	**+0.2**
OCLP	**Ormoc**	**0.33**	**284**	*e*P	**Pg**	**16 36 08.4**	**-1.1**
BESP	**Borongan**	**0.80**	**38**	*e*P	**Pn**	**16 36 19.1**	**-1.1**
MSLP	**Maasin**	**0.84**	**185**	*e*P	**Pn**	**16 36 21.4**	**+0.6**
LLP	**Lapu-Lapu**	**1.15**	**236**	*e*P	**Pg**	**16 36 23.9**	**-1.2**
LLP				*i* S	**Sg**	**16 36 40.5**	**+0.4**
CNP	**Catarman**	**1.55**	**350**	*e*P	**Pn**	**16 36 29.4**	**-1.1**
TBP	**Tagbilaran**	**1.66**	**220**	*e*P	**Pb**	**16 36 33.4**	**-0.1**
MMPH	**Masbate**	**1.88**	**317**	*i* P	**Pn**	**16 36 34.3**	**-0.8**
MMPH				*i* S	**Sn**	**16 36 59.4**	**+0.5**
BUTP	**Butuan**	**2.10**	**161**	*e*P	**Pb**	**16 36 41.5**	**+0.4**
RCP	**Roxas**	**2.23**	**285**	*e*P	**Pn**	**16 36 40.3**	**+0.5**
SNPH	**Sibulan**	**2.33**	**226**	*e*P	Pn	16 36 30.4	-11
SNPH				*i* S	**Sn**	**16 37 05.8**	**-4.2**
GUIM	**Jordan**	**2.33**	**262**	*e*P	**Pn**	**16 36 41.8**	**+0.5**
CGP	**Cagayan de Oro**	**2.51**	**185**	*e*P	**Pn**	**16 36 46.0**	**+2.2**
CGP				*e*S	**Sb**	**16 37 19.9**	**+0.7**
BUKP	**Musuan**	**3.08**	**178**	*e*P	**Pn**	**16 36 55.5**	**-2.3**
OTRP	**Odiongan**	**3.17**	**296**	*e*P	**Pn**	**16 36 54.6**	**+1.7**
AUQP	**San Andres**	**3.21**	**317**	*e*P	**Pg**	**16 37 03.5**	**-1.0**
PAGZ	**Pagadian**	**3.46**	**206**	*e*P	**Pn**	**16 36 59.3**	**+2.4**
CTBH	**Cotabato--PC H**	**3.79**	**190**	*i* P	**Pn**	**16 37 04.1**	**+2.7**
CUYO	**Cuyo Island**	**3.85**	**269**	*e*P	**Pn**	**16 37 02.8**	**+0.6**
SJMP	**San Jose**	**4.02**	**292**	*e*P	**Pn**	**16 37 06.3**	**+1.8**
MATI	**Mati**	**4.21**	**162**	*e*P	**Pb**	**16 37 15.9**	**-1.2**
ENPP	**El Nido**	**5.41**	**273**	*e*P	**Pn**	**16 37 24.8**	**+1.0**
BALP	**Baler**	**5.76**	**326**	*e*P	**Pn**	**16 37 29.9**	**+1.5**
CAUP	**Cauayan**	**6.66**	**333**	*e*P	**Pn**	**16 37 41.5**	**+0.7**
JNU	**Nakatsue**	**22.71**	**13**	LR	LR	16 48 38.5	
	comp=Z,50nm,19.1s,baz=54,slow=33						
CMAR	**Chiang Mai Arr**	**26.19**	**290**	P	**P**	**16 41 39.1**	**+1.1**
	0.6nm,0.8s,baz=96,slow=8.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**26.19**	**290**	P	**P**	**16 41 39.1**	**+1.1**
KSRS	**Korea Array**	**26.50**	**5**	LR	LR	16 51 14.0	
	comp=Z,61nm,18.5s,baz=346,slow=34						
MJAR	**Matsushiro Arr**	**28.14**	**23**	LR	LR	16 51 58.3	
	comp=Z,37nm,18.8s,baz=210,slow=34						
FITZ	**Fitzroy Crossi**	**28.90**	**179**	P	**P**	**16 42 02.0**	**-0.1**
	1.9nm,0.7s,baz=3.1,slow=7.1,SNR=4.7						
FITZ	**Fitzroy Crossi**	**28.90**	**179**	*e*P	**P**	**16 42 03.0**	**+0.9**
WRA	**Warramunga Arr**	**32.09**	**163**	P	**P**	**16 42 29.7**	**-0.6**
	0.7nm,0.8s,baz=344,slow=9.4,SNR=3.4						
WRA	**Warramunga Arr**	**32.09**	**163**	P	**P**	**16 42 29.7**	**-0.6**
AS31	**Alice Springs**	**35.53**	**166**	*e*P	**P**	**16 43 01.4**	**+1.1**
ASAR	**Alice Springs**	**35.53**	**166**	P	**P**	**16 43 00.9**	**+0.6**
	1.3nm,0.8s,baz=342,slow=6.9,SNR=26						
ASAR	**Alice Springs**	**35.53**	**166**	P	**P**	**16 43 00.9**	**+0.6**
ULN	**Ulaanbaatar**	**39.73**	**341**	*e*P	**P**	**16 43 35.7**	**0.0**
	1.2nm,0.6s						
SONM	**Songino Array**	**39.91**	**340**	P	**P**	**16 43 37.6**	**+0.3**
	0.3nm,0.5s,baz=155,slow=7.6,SNR=5.4						
SONM				LR	LR	17 00 29.0	
	comp=Z,57nm,18.4s,baz=258,slow=37						
SONM	**Songino Array**	**39.91**	**340**	P	**P**	**16 43 37.6**	**+0.3**
STKA	**Stephens Creek**	**45.50**	**160**	P	**P**	**16 44 20.5**	**-2.1**
	2.2nm,0.7s,baz=333,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**45.50**	**160**	*e*P	**P**	**16 44 22.1**	**-0.5**
	1.0nm,1.0s						
MK31	**Makanchi Array**	**50.68**	**323**	*e*P	**P**	**16 45 03.8**	**+1.2**
MKAR	**Makanchi Array**	**50.68**	**323**	P	**P**	**16 45 03.5**	**+0.9**
	0.8nm,0.7s,baz=121,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**50.68**	**323**	P	**P**	**16 45 03.5**	**+0.9**
ZALV	**Zalesovo Beam**	**53.38**	**332**	P	**P**	**16 45 24.5**	**+1.9**
	0.7nm,0.4s,baz=124,slow=6.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**53.38**	**332**	P	**P**	**16

IDC 23 17:49:28.6±7.9, 30°30S×178°05W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/17, mbtmp3.2/2, Error ellipse: s-maj=337.5km s-min=55.1km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.07**	**267**	P	P	17 57 30.7	+0.1
	0.3nm,0.9s,baz=107,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**44.05**	**272**	P	P	17 57 37.8	-0.6
	0.1nm,0.3s,baz=110,slow=8.0,SNR=4.6						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	PKPbc	18 09 05.8	-0.7
	0.8nm,0.3s,baz=38,slow=4.4,SNR=13						

MEX 23 17:56:07.5±0.6, 17°37N×100°84W, h4km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.64**	**120**	*eP*	Pg	17 56 18.7	-1.0
CAIG				*i* S	Sg	17 56 28.3	+0.3
ZIIG	**Zihuatanejo**	**0.64**	**292**	*eP*	Pg	17 56 19.1	-0.7
ZIIG				*i* S	Sg	17 56 28.4	+0.3
ARIG	**Puente Sto Nin**	**1.02**	**27**	*eP*	Pg	17 56 24.7	-2.5
ARIG				*i* S	Sg	17 56 37.5	-3.0
MEIG	**Mezcala**	**1.29**	**64**	*i* P	Pn	17 56 29.4	-3.0
YAIG	**Yautepec**	**2.25**	**48**	*eP*	Pn	17 56 42.7	-3.0
YAIG				*i* S	Sn	17 57 09.8	-4.2
MMIG	**Aquila**	**2.55**	**291**	*eP*	Pn	17 56 47.1	-2.6
MMIG				*i* S	Sn	17 57 16.2	-5.0
PNIG	**Pinotepa**	**2.77**	**110**	*i* P	Pn	17 56 50.1	-2.6
PNIG				*i* S	Sn	17 57 23.6	-3.2

*ISCJB **23** 18:25:05.6±2.1, 31°9N±0°2×142°4E±0°6, h44km, mb3.3/3, Error ellipse: s-maj=81.3km s-min=12.8km az=166.6*
*IDC **23** 18:25:07.6±3.9, 31°30N×140°68E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/25, mbtmp3.1/4, ML2.7/1, Error ellipse: s-maj=161.5km s-min=26.0km az=73.0*
*JMA **23** 18:25:10.0±0.4, 32°23N×142°43E, h57km, M3.1*
ISC 23 18:25:07.6±2.1, 31°9N±0°2×142°5E±0°5, h44km, n7, σ0°36/7, mb3.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.02**	**336**	P	Pn	**18 25 52.3**	**0.0**
JHO	**Hitachi**	**4.96**	**342**	P	Pn	**18 26 19.6**	**+0.1**
JAG	**Ashikaga**	**5.16**	**332**	P	Pn	**18 26 22.6**	**+0.4**
MJAR	**Matsushiro Arr**	**5.82**	**324**	Pn	Pn	**18 26 31.6**	**+0.3**
	0.2nm,0.3s,baz=116,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**47.71**	**306**	P	P	**18 33 39.5**	**-0.4**
	0.1nm,0.5s,baz=82,slow=9.6,SNR=4.0						
WRA	**Warramunga Arr**	**52.13**	**190**	P	P	**18 34 13.5**	**-0.1**
	0.4nm,0.4s,baz=5.6,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**55.85**	**189**	P	P	**18 34 41.0**	**+0.3**
	0.1nm,0.5s,baz=356,slow=5.9,SNR=5.3						

*DDA **23** 18:37:53.5, 37°60N×29°63E, h7km, MD2.8*
*CSEM **23** 18:37:53.9±0.2, 37°57N×29°57E, h15km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.7km az=53.0*
*ISK **23** 18:37:54.2, 37°62N×29°63E, h21km, MD2.6*
ISC 23 18:37:54.1±1.2, 37°59N±0°04×29°60E±0°06, h11km±13km, n10, σ0°59/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.36**	**185**	*i* P	**Pg**	**18 38 00.7**	**-0.6**
GOLH				*i* S	**Sg**	**18 38 06.8**	**+0.7**
GOLH	**Golhisar**	**0.36**	**185**	*i* P	**Pg**	**18 38 00.7**	**-0.6**
GOLH				*i* S	**Sg**	**18 38 06.8**	**+0.7**
DNZL	**Cakiroluk**	**0.45**	**282**	*i* P	**Pg**	**18 38 02.6**	**-0.5**
DNZL				*i* S	**Sg**	**18 38 10.0**	**+0.9**
DNZL	**Cakiroluk**	**0.45**	**282**	*i* P	**Pg**	**18 38 02.6**	**-0.5**
DNZL				*i* S	**Sg**	**18 38 10.0**	**+0.9**
KHL	**Karahalli**	**0.73**	**355**	*e*PG	**Pb**	**18 38 08.5**	**-0.4**
KHL				*e*SG	**Sb**	**18 38 19.2**	**+0.2**
KHL	**Karahalli**	**0.73**	**355**	*e*Pg	**Pb**	**18 38 08.5**	**-0.4**
KHL				*e*Sg	**Sb**	**18 38 19.2**	**+0.2**
BCK	**Bucak**	**0.80**	**99**	*e*PG	**Pb**	**18 38 09.7**	**-0.3**
BCK				*e*SG	**Sb**	**18 38 21.4**	**+0.6**
BCK	**Bucak**	**0.80**	**99**	*e*Pg	**Pb**	**18 38 09.7**	**-0.3**
BCK				*e*Sg	**Sb**	**18 38 21.4**	**+0.6**
ELL	**Elmali**	**0.88**	**164**	*e*PG	**Pb**	**18 38 11.1**	**-0.3**
ELL				*e*SG	**Sn**	**18 38 25.3**	**0.0**
ELL	**Elmali**	**0.88**	**164**	*e*Pg	**Pb**	**18 38 11.1**	**-0.3**

*ISCJB **23** 18:44:34.7±0.3, 34°49N±0°02×13°82E±0°04, h10km, mb3.7/9, MS3.1/4, Error ellipse: s-maj=5.1km s-min=3.4km az=13.4*
*IDC **23** 18:44:35.2±1.2, 34°64N×13°63E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.8/30, mbtmp3.8/13, ML3.7/4, MS3.2/5, Ms1 3.2/5, ms1mx2.8/40, Error ellipse: s-maj=25.2km s-min=19.8km az=156.0*
*CSEM **23** 18:44:36.4±0.2, 34°46N×13°72E, h10km, Mw4.0, Error ellipse: s-maj=9.1km s-min=3.2km az=96.0*
*ROM **23** 18:44:49.2±0.2, 35°34N×14°16E, h20km, Md3.5/8, Ml3.6/19, Error ellipse: s-maj=12.5km s-min=0.0km az=100.0*
ISC 23 18:44:36.3±0.6, 34°51N±0°04×13°77E±0°06, h10km, n112, σ1°39/95, mb3.8/9, MS3.1/4, 4C-5D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMSR	**Misrath**	**2.43**	**154**	*i* P	**Pn**	**18 45 15.6**	**-0.4**
	SNR=44						
LMSR				*e*S	**Sn**	**18 45 46.7**	**+0.9**
	SNR=44						
ALAS	**Alassa**	**2.45**	**228**	*i* P	**Pn**	**18 45 15.8**	**-0.6**
	SNR=44						
GHAR	**Gharyan**	**2.45**	**194**	*i* P	**Pn**	**18 45 16.2**	**-0.2**
	SNR=44						
GHAR				*e*S	**Sn**	**18 45 46.0**	**-0.5**
	1µm,0.4s,SNR=44						
HMDC	**Modica**	**2.58**	**18**	Pg	**Pn**	**18 45 17.8**	**-0.3**
	288nm,0.7s						
HMDC	**Modica**	**2.58**	**18**	Pg	**Pn**	**18 45 17.8**	**-0.3**
	288nm,0.7s						
HAVL	**Avola**	**2.68**	**24**	Pg	**Pn**	**18 45 19.3**	**-0.3**
	396nm,0.4s						
HAVL	**Avola**	**2.68**	**24**	Pg	**Pn**	**18 45 19.3**	**-0.3**
	396nm,0.4s						
RAFF	**Raffo Rosso**	**2.75**	**10**	Pg	**Pn**	**18 45 20.7**	**+0.2**
	288nm,1.1s						
RAFF	**Raffo Rosso**	**2.75**	**10**	Pg	**Pn**	**18 45 20.7**	**+0.2**
	288nm,1.1s						
HVZN	**Vizzini**	**2.77**	**16**	Pg	**Pn**	**18 45 22.0**	**+1.2**
	431nm,0.5s						
HVZN	**Vizzini**	**2.77**	**16**	Pg	**Pn**	**18 45 22.0**	**+1.2**
	431nm,0.5s						
SSY	**Sortino**	**2.84**	**21**	Pg	**Pn**	**18 45 21.9**	**+0.1**
	472nm,0.4s						
SSY	**Sortino**	**2.84**	**21**	Pg	**Pn**	**18 45 21.9**	**+0.1**
	472nm,0.4s						
HCRL	**Carlentini**	**2.95**	**20**	Pn	**Pn**	**18 45 23.5**	**+0.3**
	246nm,0.6s						
HCRL	**Carlentini**	**2.95**	**20**	Pn	**Pn**	**18 45 23.5**	**+0.3**
	246nm,0.6s						
HAGA	**Augusta**	**2.99**	**22**	Pg	**Pn**	**18 45 23.6**	**-0.1**
	221nm,0.6s						
HAGA	**Augusta**	**2.99**	**22**	Pg	**Pn**	**18 45 23.6**	**-0.1**
	221nm,0.6s						
RESU	**Resuttano**	**3.14**	**4**	Pn	**Pn**	**18 45 28.2**	**+2.3**
	178nm,0.7s						
RESU	**Resuttano**	**3.14**	**4**	Pn	**Pn**	**18 45 28.2**	**+2.3**
	178nm,0.7s						
GALF	**Gagliano Caste**	**3.26**	**11**	Pn	**Pn**	**18 45 29.2**	**+1.7**
	275nm,0.7s						
GALF	**Gagliano Caste**	**3.26**	**11**	Pn	**Pn**	**18 45 29.2**	**+1.7**
	275nm,0.7s						
CORL	**Corleone**	**3.40**	**354**	Pn	**Pn**	**18 45 30.2**	**+0.8**
	191nm,0.5s						
CORL	**Corleone**	**3.40**	**354**	Pn	**Pn**	**18 45 30.2**	**+0.8**
	191nm,0.5s						
CSLB	**Castelbuono**	**3.43**	**4**	Pn	**Pn**	**18 45 30.9**	**+1.1**
	169nm,0.5s						
CSLB	**Castelbuono**	**3.43**	**4**	Pn	**Pn**	**18 45 30.9**	**+1.1**
	169nm,0.5s						
GIB	**Gibilmanna**	**3.48**	**3**	Pn	**Pn**	**18 45 31.9**	**+1.3**
	570nm,0.6s						
GIB	**Gibilmanna**	**3.48**	**3**	Pn	**Pn**	**18 45 31.9**	**+1.3**
	570nm,0.6s						
MMME	**Mongiuffi-Meli**	**3.62**	**19**	Pn	**Pn**	**18 45 33.3**	**+0.8**
	406nm,0.5s						
MMME	**Mongiuffi-Meli**	**3.62**	**19**	Pn	**Pn**	**18 45 33.3**	**+0.8**
	406nm,0.5s						
MTTG	**Motta San Giov**	**3.81**	**23**	Pn	**Pn**	**18 45 36.9**	**+1.7**
	362nm,1.3s						
MTTG	**Motta San Giov**	**3.81**	**23**	Pn	**Pn**	**18 45 36.9**	**+1.7**
	362nm,1.3s						
KEST	**Kesra**	**3.83**	**290**	Pn	**Pn**	**18 45 35.3**	**-0.1**
	4.8nm,0.3s,baz=70,slow=9.0,SNR=185						
KEST				Sn	**Sn**	**18 46 18.0**	**-2.5**
	3.8nm,0.3s,baz=258,slow=23,SNR=18						
MPAZ	**Palizzi**	**3.88**	**27**	Pn	**Pn**	**18 45 36.9**	**+0.8**
	119nm,0.4s						
MPAZ	**Palizzi**	**3.88**	**27**	Pn	**Pn**	**18 45 36.9**	**+0.8**
	119nm,0.4s						
VPL	**Vulcano Piano**	**3.98**	**14**	Pn	**Pn**	**18 45 38.1**	**+0.7**
	379nm,0.5s						
VPL	**Vulcano Piano**	**3.98**	**14**	Pn	**Pn**	**18 45 38.1**	**+0.7**
	379nm,0.5s						
MSRU	**Castanea**	**4.00**	**20**	Pn	**Pn**	**18 45 38.5**	**+0.8**
	503nm,0.7s						
MSRU	**Castanea**	**4.00**	**20**	Pn	**Pn**	**18 45 38.5**	**+0.8**
	503nm,0.7s						
IFIL	**Filicudi I Eol**	**4.09**	**9**	Pn	**Pn**	**18 45 39.5**	**+0.5**
	280nm,0.5s						
IFIL	**Filicudi I Eol**	**4.09**	**9**	Pn	**Pn**	**18 45 39.5**	**+0.5**
	280nm,0.5s						
LSHF	**Shwairf**	**4.53**	**175**	*i* P	**Pn**	**18 45 44.8**	**-0.2**
	SNR=43						
LSHF				*e*S	**Sn**	**18 46 36.5**	**-1.3**
	SNR=43						
SERS	**Sersale**	**5.09**	**27**	Pn	**Pn**	**18 45 53.1**	**+0.4**
	55nm,0.8s						
SERS	**Sersale**	**5.09**	**27**	Pn	**Pn**	**18 45 53.1**	**+0.4**
	55nm,0.8s						
CARO	**Carolei**	**5.12**	**22**	Pn	**Pn**	**18 45 53.4**	**+0.2**
	143nm,0.7s						
CARO	**Carolei**	**5.12**	**22**	Pn	**Pn**	**18 45 53.4**	**+0.2**
	143nm,0.7s						
LJFR	**Jufra**	**5.67**	**162**	*i* P	**Pn**	**18 46 00.0**	**-0.6**
	22nm,0.5s,SNR=43						
LGHD	**Ghdames**	**5.79**	**220**	*i* P	**Pn**	**18 46 00.0**	**-2.3**
	SNR=43						
VLS	**Valsamata**	**6.61**	**54**	*e*P	**Pn**	**18 46 12.0**	**-1.5**
VLS	**Valsamata**	**6.61**	**54**	*e*P	Sn	18 47 23.8	-5.1
LZLA	**Zalla**	**6.76**	**150**	*i* P	**Pn**	**18 46 15.1**	**-0.6**
	SNR=41						
PYL	**PYLOS**	**6.91**	**68**	*e*P	**Pn**	**18 46 16.3**	**-1.3**
PYL	**PYLOS**	**6.91**	**68**	*e*P	Sn	18 47 31.8	-4.5
LKD2	**Lefkada island**	**6.99**	**50**	*e*P	**Pn**	**18 46 17.6**	**-1.2**
LKD2	**Lefkada island**	**6.99**	**50**	*e*P	Sn	18 47 33.7	-4.6
KEK	**Kerkira**	**7.08**	**41**	*e*P	**Pn**	**18 46 19.3**	**-0.7**
KEK	**Kerkira**	**7.08**	**41**	*e*P	Sn	18 47 34.4	-6.1
AMT	**Artemida-Makis**	**7.10**	**63**	*e*P	**Pn**	**18 46 20.1**	**-0.2**
AMT	**Artemida-Makis**	**7.10**	**63**	*e*P	Sn	18 47 36.3	-4.8
ITM	**Ithomi**	**7.14**	**66**	*e*P	**Pn**	**18 46 20.2**	**-0.6**
ITM	**Ithomi**	**7.14**	**66**	*e*P	Sn	18 47 37.0	-5.0
RLS	**Riolos of Patr**	**7.15**	**58**	*e*P	**Pn**	**18 46 21.4**	**+0.5**
RLS	**Riolos of Patr**	**7.15**	**58**	*e*P	Sn	18 47 34.3	-7.9
VLX	**Vlachokerasia**	**7.54**	**65**	*e*P	**Sn**	**18 47 49.7**	**-2.3**
LAKA	**Lakka**	**7.59**	**58**	*e*P	**Pn**	**18 46 27.8**	**+0.7**
LAKA	**Lakka**	**7.59**	**58**	*e*P	Sn	18 47 46.6	-6.6
EFP	**Efpalio**	**7.63**	**57**	*e*P	**Pn**	**18 46 27.2**	**-0.3**
TRIZ	**Trizonia**	**7.72**	**58**	*e*P	**Pn**	**18 46 29.7**	**+1.0**
GUR	**Goura**	**7.72**	**61**	*e*P	**Pn**	**18 46 29.2**	**+0.3**
GUR	**Goura**	**7.72**	**61**	*e*P	Sn	18 47 52.0	-4.5
KALE	**Kalithea**	**7.78**	**58**	*e*P	**Pn**	**18 46 30.4**	**+0.8**
KALE	**Kalithea**	**7.78**	**58**	*e*P	Sn	18 47 45.2	-13
DID	**Didima**	**8.23**	**66**	*e*P	**Pn**	**18 46 34.7**	**-1.1**
DID	**Didima**	**8.23**	**66**	*e*P	Sn	18 47 56.5	-12
THL	**Klokotos Trika**	**8.30**	**50**	*e*P	**Pn**	**18 46 36.1**	**-0.6**
THL	**Klokotos Trika**	**8.30**	**50**	*e*P	Sn	18 48 03.1	-7.3
KARN	**Karanos**	**8.38**	**81**	*e*P	**Pn**	**18 46 39.1**	**+1.3**
LAST	**Lasithi**	**9.65**	**83**	*e*P	**Pn**	**18 46 57.4**	**+2.1**
ZKR	**Zakros**	**10.25**	**83**	*e*P	**Pn**	**18 47 06.2**	**+2.7**
VTS	**Vitosha**	**10.93**	**40**	⇓*i*P	**Pn**	**18 47 12.9**	**0.0**
DAVOX	**Davos/Dischmat**	**12.60**	**348**	LR	LR	18 52 01.5	
	comp=Z,54nm,20.3s,baz=202,slow=36						
BZS	**Buzias**	**12.61**	**26**	⇑*i*P	Pn	18 47 39.1	+3.4
VOIR		**13.91**	**35**	⇑*i*P	Pn	18 47 58.3	+4.8
GERES	**GERESS Array B**	**14.32**	**360**	Pn	**Pn**	**18 48 01.1**	**+1.9**
	0.1nm,0.3s,baz=163,slow=11,SNR=4.4						
MLR	**Muntele Rosu**	**14.38**	**37**	Pn	**Pn**	**18 48 02.4**	**+2.4**
	0.1nm,0.3s,baz=218,slow=19,SNR=4.2						
MLR	**Muntele Rosu**	**14.38**	**37**	⇑*i*P	**P**	**18 48 05.3**	**-1.8**
PLOR	**Plostina**	**14.98**	**37**	⇓*i*P	**P**	**18 48 16.9**	**+3.2**
VRI	**Vrincioaia**	**15.03**	**37**	⇓*i*P	**P**	**18 48 14.8**	**+0.6**
ESDC	**Sonseca Array**	**15.05**	**295**	Pn	**P**	**18 48 11.9**	**-2.6**
	0.2nm,0.3s,baz=103,slow=14,SNR=3.7						
CFR	**Carcaliu**	**15.31**	**42**	⇓*i*P	**P**	**18 48 18.9**	**+1.7**
TESR		**15.45**	**35**	⇓*i*P	P	18 48 27.8	+9.0
BRTR	**Keskin Array B**	**16.67**	**66**	Pn	**Pn**	**18 48 32.0**	**+1.9**
	0.1nm,0.3s,baz=256,slow=10,SNR=3.8						
MMAI	**Mount Meron Ar**	**18.05**	**89**	P	**P**	**18 48 49.9**	**+2.1**
	0.3nm,0.3s,baz=280,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**19.71**	**30**	P	**P**	**18 49 05.3**	**-0.5**
	1.4nm,0.3s,baz=223,slow=10,SNR=14						
MALT	**Malatya**	**20.19**	**72**	⇑*i*P	Pn	18 49 15.3	+2.2
TORD	**Torodi Ar. Bea**	**23.92**	**210**	P	**P**	**18 49 51.0**	**+0.5**
	1.1nm,0.6s,baz=19,slow=9.4,SNR=8.9						
TORD				LR	LR	19 00 25.7	
	comp=Z,50nm,21.4s,baz=240,slow=40						
KBZ	**Khabaz**	**24.30**	**59**	P	**P**	**18 49 56.4**	**+2.6**
	1.8nm,0.8s,baz=263,slow=9.3,SNR=4.9						
GNI	**Garni**	**25.18**	**68**	LR	LR	19 00 08.0	
	comp=Z,34nm,20.3s,baz=247,slow=37						
HFS	**Hagfors**	**25.64**	**360**	P	**P**	**18 50 04.8**	**-1.0**
	1.7nm,0.8s,baz=166,slow=18,SNR=3.2						
NOA	**NORSAR Array B**	**26.59**	**357**	P	**P**	**18 50 13.6**	**-0.9**
	1.1nm,0.8s,baz=183,slow=8.8,SNR=3.4						
FINES	**FINESS Array B**	**28.08**	**13**	P	**P**	**18 50 27.6**	**-0.1**
	1.6nm,0.9s,baz=191,slow=9.3,SNR=4.8						
DBIC	**Dimbokro**	**32.61**	**216**	LR	LR	19 04 58.5	
	comp=Z,72nm,19.2s,baz=100,slow=38						
ARCES	**ARCESS Array B**	**35.68**	**7**	P	**P**	**18 51 32.9**	**-1.4**
	11nm,1.2s,baz=173,slow=11,SNR=4.5						
AKTO	**Aktyubinsk**	**35.72**	**50**	LR	LR	19 10 49.5	
	comp=Z,48nm,18.2s,baz=175,slow=44						
MKAR	**Makanchi Array**	**51.86**	**54**	P	**P**	**18 53 44.5**	**-0.3**
	0.5nm,0.5s,baz=279,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**52.16**	**45**	P	**P**	**18 53 46.3**	**-0.5**
	1.0nm,0.8s,baz=289,slow=9.0,SNR=5.8						
SONM	**Songino Array**	**66.97**	**47**	P	**P**	**18 55 30.0**	**+0.7**
	0.5nm,0.8s,baz=286,slow=7.9,SNR=5.5						

*IDC **23** 18:55:34.4±1.1, 4°34N×128°00E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, Error ellipse: s-maj=64.7km s-min=16.3km az=70.0*
*ISCJB **23** 18:55:40.5±1.0, 4°4N±0°1×128°2E±0°2, h66km, mb3.5/8, Error ellipse: s-maj=38.2km s-min=11.1km az=152.6*
ISC 23 18:55:42.6±1.2, 4°3N±0°2×128°0E±0°3, h66km, n15, σ0°54/16, mb4.2/14, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.76**	**308**	⇑*i*P	**Pn**	**18 56 51.9**	**0.0**
FITZ	**Fitzroy Crossi**	**22.36**	**186**	P	**P**	**19 00 34.8**	**-0.6**
	0.7nm,0.7s,baz=7.1,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**24.85**	**166**	P	**P**	**19 00 59.8**	**+0.7**
	1.2nm,0.7s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.36**	**169**	P	**P**	**19 01 30.6**	**-0.1**
	0.3nm,0.6s,baz=355,slow=8.8,SNR=6.3						
ASAR				PcP	**PcP**	**19 04 43.1**	**+0.9**
	0.3nm,0.6s,baz=337,slow=2.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**31.72**	**299**	P	**P**	**19 02 00.7**	**+0.1**
	0.2nm,0.5s,baz=128,slow=7.5,SNR=5.0						
TAPN	**Taplejung**	**44.74**	**305**	*e*P	**P**	**19 03 50.4**	**+0.2**
	4.6nm,0.5s						
ODAN	**Odare**	**44.81**	**304**	*e*P	**P**	**19 03 51.1**	**+0.5**
	10nm,0.7s						
GUN	**Gumba**	**46.46**	**305**	*e*P	**P**	**19 04 03.5**	**-0.2**
	8nm,0.8s						
SONM	**Songino Array**	**47.21**	**340**	P	**P**	**19 04 08.3**	**-0.7**
	0.6nm,0.7s,baz=160,slow=8.8,SNR=8.4						
KOLN	**Koldanda**	**48.28**	**304**	*e*P	**P**	**19 04 18.4**	**+0.7**
	7.7nm,0.6s						
DANN	**Dangsing**	**48.36**	**305**	*e*P	**P**	**19 04 18.9**	**+0.5**
	10nm,0.6s						
PYUN	**Piuthan**	**48.90**	**304**	*e*P	**P**	**19 04 23.2**	**+0.7**
	14nm,0.9s						
MKAR	**Makanchi Array**	**57.85**	**324**	P	**P**	**19 05 27.9**	**+0.2**
	0.7nm,0.3s,baz=112,slow=7.8,SNR=31						
KURBB	**Kurchatov Arra**	**61.98**	**327**	P	**P**	**19 05 55.5**	**-0.3**
	1.3nm,0.5s,baz=126,slow=6.2,SNR=20						
BVAR	**Borovoye Array**	**67.57**	**326**	P	**P**	**19 06 31.9**	**-0.3**
	0.4nm,0.5s,baz=126,slow=9.3,SNR=4.4						

*ISCJB **23** 18:55:48.8±1.0, 34°00N±0°06×72°1E±0°1, h33km, mb3.5/2, MS3.6/1, Error ellipse: s-maj=16.3km s-min=5.4km az=154.6*
*IDC **23** 18:55:49.5±2.3, 34°27N×71°73E, h0km, mb3.5/2, mb1 3.4/7, mb1mx3.2/31, mbtmp3.3/7, ML3.4/5, MS3.6/1, Ms1 3.7/1, ms1mx2.3/32, Error ellipse: s-maj=57.1km s-min=25.9km az=82.0*
*NNC **23** 18:55:52.0±7.3, 34°43N×71°50E, h0km, mb3.3, mpv3.6, Error ellipse: s-maj=77.1km s-min=56.5km az=128.0*
ISC 23 18:55:50.1±1.6, 34°0N±0°1×71°9E±0°2, h35km, n22, σ1°59/23, 2C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.91**	**13**	Pn	**Pn**	**18 57 59.4**	**+3.0**
	0.8nm,0.3s,baz=175,slow=10,SNR=17						
AAK				Sn	**Sn**	**18 59 35.6**	**+0.1**
	0.1nm,0.3s,baz=25,slow=19,SNR=4.5						
KK31	**Karatay Array**	**9.19**	**354**	Pn	**Pn**	**18 58 01.5**	**+1.3**
	1.1nm,0.4s,baz=177,slow=13,SNR=44						
KK31				⇑Sn	**Sn**	**18 59 39.6**	**-2.8**
	0.8nm,0.4s,baz=177,slow=25						
TKM2	**Tokmak 2**	**9.42**	**17**	⇓Pn	**Pn**	**18 58 04.8**	**+1.4**
	0.7nm,0.6s						
TKM2				⇓Sn	**Sn**	**18 59 47.1**	**-1.0**
	1.1nm,0.8s						
PYUN	**Piuthan**	**11.19**	**118**	*e*P	**Pn**	**18 58 28.1**	**+0.4**
	5.6nm,0.4s						
DANN	**Dangsing**	**11.62**	**116**	*e*P	**Pn**	**18 58 34.5**	**+0.8**
	3.3nm,0.3s						
KOLN	**Koldanda**	**11.82**	**118**	*e*P	**Pn**	**18 58 36.5**	**+0.1**
	3.8nm,0.4s						
GKN	**Gorkha**	**12.46**	**115**	*e*P	**Pn**	**18 58 45.3**	**+0.2**
	3.4nm,0.2s						
DMN	**Daman**	**13.02**	**116**	*e*P	**Pn**	**18 58 51.9**	**-1.0**
KKN	**Kakani**	**13.06**	**114**	*e*Pn	**Pn**	**18 58 52.9**	**-0.4**
PKIN	**Phulchoki**	**13.26**	**115**	*e*P	**Pn**	**18 58 54.7**	**-1.4**
	4.4nm,0.3s						
PKI	**Pulchoki**	**13.27**	**115**	*e*P	**Pn**	**18 58 54.9**	**-1.4**
GUN	**Gumba**	**13.45**	**113**	*e*P	**Pn**	**18 58 58.1**	**-0.7**
MKAR	**Makanchi Array**	**15.07**	**29**	Pn	**Pn**	**18 59 20.9**	**+0.6**
	0.0nm,0.3s,baz=220,slow=13,SNR=3.7						
TAPN	**Taplejung**	**15.14**	**112**	*e*P	**Pn**	**18 59 17.6**	**-4.0**
KURBB	**Kurchatov Arra**	**17.36**	**14**	P	**P**	**18 59 50.6**	**+0.1**
	0.0nm,0.3s,baz=206,slow=11,SNR=5.9						
AB31	**Akbulak array**	**17.66**	**334**	⇑P	**P**	**18 59 54.1**	**+0.3**
	0.5nm,0.6s,baz=160,slow=11,SNR=8.0						
BVA0	**Borovoye Array**	**19.09**	**357**	⇓P	**P**	**19 00 07.2**	**-2.3**
	0.2nm,0.8s,baz=183,slow=9.8,SNR=3.7						
BVAR	**Borovoye Array**	**19.09**	**357**	P	**Pn**	**19 00 10.5**	**-0.1**
	0.1nm,0.3s,baz=164,slow=12,SNR=4.6						
AKTO	**Aktyubinsk**	**19.34**	**332**	P	**Pn**	**19 00 12.8**	**-0.9**
	0.2nm,0.3s,baz=141,slow=13,SNR=4.9						
ZALV	**Zalesovo Beam**	**21.99**	**21**	P	**P**	**19 00 41.4**	**+0.5**
	1.0nm,0.4s,baz=219,slow=11,SNR=6.6						
NOA	**NORSAR Array B**	**46.84**	**324**	LR	LR	19 24 45.9	
	comp=Z,58nm,18.8s,baz=280,slow=37						
WRA	**Warramunga Arr**	**80.05**	**122**	P	P	19 08 02.8	+6.4
	0.2nm,0.5s,baz=323,slow=5.0,SNR=4.7						

IDC 23 18:57:03.9±1.3, 4°37N×128°10E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, Error ellipse: s-maj=71.3km s-min=18.4km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.46**	**186**	P	P	19 02 04.6	-0.2
	1.3nm,0.8s,baz=9.2,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**24.93**	**166**	P	P	19 02 29.0	0.0
	1.1nm,0.7s,baz=345,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**28.44**	**169**	P	P	19 03 01.5	+0.8
	0.2nm,0.4s,baz=349,slow=8.6,SNR=1.3						
ASAR				PcP	PcP	19 06 11.3	-1.8
	0.2nm,0.6s,baz=345

Error ellipse: s-maj=4.6km s-min=2.8km az=8.8
*TAP **23** 19:38:37.2, 24°.82N × 122°.37E, h12km, ML3.1, C*
*JMA **23** 19:38:37.6±0.1, 25°.01N × 122°.74E, h12km±4km, M2.6*
ISC 23 19:38:35.3±1.2, **24°.82N**±0°.03 × **122°.49E**±0°.02, **h7**km±10km, **n32**, σ0.**70**/60, **1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.49**	**292**	P	**Pb**	**19 38 46.0**	**-0.3**
	baz=299						
TWB1				S	**Sg**	**19 38 51.9**	**+0.5**
	baz=299						
YOJ	**Yonaguni jima**	**0.59**	**127**	P	**Pb**	**19 38 49.2**	**+1.2**
YOJ				*e*S	**Sb**	**19 38 57.3**	**+0.8**
TWC	**Suao**	**0.62**	**250**	⇑*i*P	**Pg**	**19 38 47.4**	**+0.1**
	baz=254						
TWC				*e*S	**Sg**	**19 38 54.6**	**-0.8**
	baz=254						
ILA	**Ilan**	**0.68**	**265**	*e*P	**Pg**	**19 38 48.8**	**+0.4**
	baz=265						
NWF	**Wu-fen Shan**	**0.69**	**291**	P	**Pb**	**19 38 50.1**	**+0.4**
	baz=295						
NWF				S	**Sb**	**19 38 59.0**	**-0.4**
	baz=295						
TWE	**Neicheng**	**0.76**	**263**	*i* P	**Pg**	**19 38 50.0**	**+0.1**
	baz=261						
TWE				S	**Sg**	**19 38 59.7**	**0.0**
	baz=261						
ENA	**Nanau**	**0.79**	**240**	P	**Pg**	**19 38 50.6**	**+0.1**
	baz=235						
ENA				*e*S	**Sg**	**19 39 00.9**	**+0.2**
	baz=235						
ENTT	**Nioudou**	**0.86**	**258**	P	**Pg**	**19 38 52.1**	**+0.3**
	baz=256						
ENTT				*e*S	**Sg**	**19 39 03.3**	**+0.2**
	baz=256						
PCYT	**Pengchaiyu**	**0.89**	**335**	*e*P	**Pn**	**19 38 54.9**	**+0.7**
	baz=342						
PCYT				*e*S	**Sn**	**19 39 06.7**	**-0.7**
	baz=342						
TWY	**Chenhua**	**0.93**	**299**	*e*P	**Pn**	**19 38 54.7**	**0.0**
	baz=303						
TWY				*e*S	**Sb**	**19 39 06.1**	**0.0**
	baz=303						
TWS1	**Kuangyinshan**	**1.01**	**286**	*e*P	**Pn**	**19 38 56.0**	**+0.1**
	baz=288						
TWS1				*e*S	**Sb**	**19 39 08.6**	**-0.1**
	baz=288						
NSK	**Sanguang**	**1.04**	**262**	P	**Pg**	**19 38 55.3**	**0.0**
	baz=261						
NSK				*e*S	**Sg**	**19 39 08.2**	**-0.7**
	baz=261						
NNS	**Nan Shan**	**1.09**	**250**	P	**Pg**	**19 38 56.2**	**0.0**
	baz=234						
NNS				*e*S	**Sg**	**19 39 10.1**	**-0.2**
	baz=234						
TWD	**Chiawan**	**1.10**	**228**	*e*P	**Pb**	**19 38 56.1**	**-0.6**
	baz=232						
TWD				*e*S	**Sg**	**19 39 09.5**	**-1.3**
	baz=232						
IRIF	**Iriomote-Funau**	**1.23**	**113**	P	**Pn**	**19 38 58.4**	**-0.4**
IRIF				*e*S	**Sb**	**19 39 13.5**	**-1.3**
WHF	**Hehuan Shan**	**1.30**	**239**	P	**Pn**	**19 39 00.4**	**+0.1**
	baz=235						
WHF				*e*S	**Sb**	**19 39 16.0**	**-1.5**
	baz=235						
TWT	**Tachien**	**1.33**	**245**	P	**Pb**	**19 39 00.9**	**+0.3**
	baz=242						
TWT				*e*S	**Sb**	**19 39 17.1**	**-0.8**
	baz=242						
NSTT	**Nanjuang**	**1.37**	**262**	*e*P	**Pb**	**19 39 01.3**	**+0.1**
	baz=260						
NSTT				*e*S	**Sb**	**19 39 18.4**	**-0.6**
	baz=260						
ESL	**Shilin**	**1.39**	**224**	*e*P	**Pb**	**19 39 02.0**	**+0.4**
	baz=201						
ESL				S	**Sb**	**19 39 20.1**	**+0.5**
	baz=201						
HATJ	**Hateruma jima**	**1.42**	**122**	P	**Pb**	**19 39 02.1**	**+0.1**
HATJ				*e*S	**Sn**	**19 39 20.6**	**+0.3**
JKRS	**Kuro-shima**	**1.50**	**113**	P	**Pn**	**19 39 02.9**	**+0.3**
JKRS				*e*S	**Sn**	**19 39 20.9**	**-1.4**
JJ	**Ishigaki jima**	**1.57**	**107**	P	**Pn**	**19 39 03.4**	**-0.1**
TWQ1	**Liyutan**	**1.64**	**254**	*e*P	**Pg**	**19 39 07.0**	**+0.4**
	baz=251						
TWQ1				*e*S	**Sn**	**19 39 25.4**	**-0.3**
	baz=251						
SMLT	**Sun Moon Lake**	**1.73**	**238**	*e*P	**Pb**	**19 39 08.0**	**+0.6**
	baz=242						
SMLT				*e*S	**Sb**	**19 39 29.3**	**0.0**
	baz=242						
TYC	**Yuchr**	**1.75**	**239**	*e*P	**Pb**	**19 39 08.2**	**+0.5**
	baz=235						
TYC				*e*S	**Sb**	**19 39 29.3**	**-0.5**
	baz=235						
TWF1	**Yuli**	**1.83**	**217**	*e*P	**Pn**	**19 39 07.5**	**+0.5**
	baz=212						
TWF1				*e*S	**Sn**	**19 39 30.5**	**0.0**
	baz=212						
ALS	**Alishan**	**2.02**	**230**	*e*P	**Pb**	**19 39 12.0**	**-0.5**
	baz=209						
ALS				*e*S	**Sn**	**19 39 36.3**	**+0.7**
	baz=209						
CHN5	**Tsauling**	**2.06**	**234**	*e*P	**Pb**	**19 39 12.4**	**-0.6**
	baz=212						
CHN5				*e*S	**Sb**	**19 39 39.1**	**+0.3**
	baz=212						
ELDTW	**Lidau**	**2.11**	**220**	*e*P	**Pn**	**19 39 11.4**	**+0.3**
	baz=202						
ELDTW				*e*S	**Sn**	**19 39 37.5**	**-0.2**
	baz=202						
CHN4	**Tsaushan**	**2.27**	**230**	*e*P	**Pn**	**19 39 14.8**	**+1.6**
	baz=210						
CHN4				*e*S	**Sn**	**19 39 43.3**	**+1.9**
	baz=210						
WTP	**Ta-pu**	**2.33**	**228**	*e*P	**Pn**	**19 39 14.7**	**+0.7**
	baz=208						
CHN1	**Nanshi**	**2.42**	**228**	*e*P	**Pb**	**19 39 17.5**	**-1.8**
	baz=225						

*NIED **23** 19:53:00, 37°.30N × 141°.90E, h35km, Mw3.9 Best double couple: M0 9.16000×10^14 NP1:φs 127.00000°, δ85.00000°, λ-66.00000°. NP2:φs 229.00000°, δ25.00000°, λ-167.00000°.*
*IDC **23** 19:53:34.9±0.7, 37°.15N × 141°.96E, h0km, mb3.7/10, mb1 3.9/15, mb1mx3.8/30, mbtmp3.8/15, ML3.9/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/56, Error ellipse: s-maj=21.0km s-min=14.2km az=109.0*
*ISCJB **23** 19:53:36.8±1.1, 37°.18N±0°.03 × 141°.96E±0°.05, h27km±7km, mb3.6/11, Error ellipse: s-maj=6.4km s-min=5.3km az=9.6*
*NEIC **23** 19:53:39.4±3.7, 37°.15N × 142°.01E, h32km±28km, mb4.2/1, Error ellipse: s-maj=15.7km s-min=10.7km az=103.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
*JMA **23** 19:53:39.0±0.2, 37°.25N × 141°.85E, h39km±4km, M4.2*
JMA Felt I J1.
ISC 23 19:53:36.8±1.8, **37°.22N**±0°.04 × **141°.92E**±0°.05, **h12**km±11km, **n45**, σ1.**06**/54, **mb3.7**/11, **3C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.85**	**280**	⇓P	**Pg**	**19 53 53.7**	**+0.5**
JFK				S	**Sg**	**19 54 03.8**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.91**	**263**	⇓P	**Pb**	**19 53 54.5**	**+0.1**
ONAJ				*e*S	**Sb**	**19 54 05.8**	**-0.6**
JMM	**Marumori**	**1.10**	**306**	⇑P	**Pb**	**19 53 57.6**	**-0.2**
JMM				S	**Sb**	**19 54 10.6**	**-1.5**
JHO	**Hitachi**	**1.24**	**241**	*e*S	**Sb**	**19 54 13.9**	**-2.2**
JFT	**Otama**	**1.30**	**284**	⇓P	**Pn**	**19 54 01.1**	**+0.4**
JFT				S	**Sb**	**19 54 16.5**	**-1.2**
JIO	**Ouri**	**1.31**	**340**	⇑P	**Pn**	**19 54 00.5**	**-0.4**
JIO				S	**Sb**	**19 54 15.0**	**-3.1**
JOU	**Okura**	**1.52**	**319**	P	**Pn**	**19 54 04.0**	**+0.3**
JOU				S	**Sn**	**19 54 22.7**	**-0.7**
JFY	**Yanaizu**	**1.78**	**277**	P	**Pn**	**19 54 07.6**	**+0.3**
JFY				*e*S	**Sn**	**19 54 29.5**	**-0.3**
JYS	**Shirataka**	**1.78**	**305**	P	**Pn**	**19 54 08.3**	**+1.0**
JYS				*e*S	**Sn**	**19 54 29.7**	**-0.2**
JMK	**Ichinoseki**	**1.82**	**342**	⇑P	**Pn**	**19 54 08.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.05**	**258**	Pn	**Pn**	**19 54 25.9**	**+1.1**
	11nm,0.3s,baz=88,slow=14,SNR=4.4						
MJAR				Sn	**Sb**	**19 55 07.6**	**-0.6**
	15nm,0.3s,baz=23,slow=22,SNR=5.2						
MJAR				Sn	**Sb**	**19 55 07.6**	**-0.6**
MAT	**Matsushiro**	**3.05**	**258**	P	**Pn**	**19 54 26.6**	**+1.7**
MAT				S	**Sn**	**19 55 02.2**	**+0.9**
JHJ	**Hachijo jima 2**	**4.45**	**204**	Pn	**Pn**	**19 54 44.4**	**+0.4**
	53nm,0.3s,baz=232,slow=22,SNR=2.2						
JHJ				Sn	**Sn**	**19 55 34.0**	**-1.8**
	50nm,0.3s,baz=242,slow=23,SNR=5.7						
ASAJ	**Asahikawa**	**6.91**	**4**	Pn	**Pn**	**19 55 18.0**	**+0.2**
	1.7nm,0.3s,baz=203,slow=16,SNR=13						
ASAJ				Sn	**Sn**	**19 56 37.7**	**+1.5**
	0.7nm,0.3s,baz=157,slow=33,SNR=3.1						
ASAJ	**Asahikawa**	**6.91**	**4**	Pn	**Pn**	**19 55 18.0**	**+0.2**
ASAJ				Sn	**Sn**	**19 56 37.7**	**+1.5**
JNU	**Nakatsue**	**9.92**	**249**	Pn	Pn	19 56 02.9	+3.7
	0.2nm,0.3s,baz=94,slow=7.8,SNR=2.6						
JNU	**Nakatsue**	**9.92**	**249**	Pn	Pn	19 56 02.9	+3.7
CBIJ	**Chichi jima**	**10.10**	**179**	Pn	**Pn**	**19 56 00.8**	**-0.7**
	7.2nm,0.3s,baz=119,slow=23,SNR=6.3						
CBIJ	**Chichi jima**	**10.10**	**179**	Pn	**Pn**	**19 56 00.8**	**-0.7**
USRK	**Ussuriysk Arra**	**10.26**	**316**	Pn	**Pn**	**19 56 05.4**	**+1.7**
	0.1nm,0.3s,baz=125,slow=17,SNR=2.4						
USRK				LR	LR	19 59 46.6	
	comp=Z,67nm,18.7s,baz=83,slow=36						
KSRS	**Korea Array**	**11.15**	**275**	LR	LR	20 00 17.4	
	comp=Z,40nm,18.3s,baz=90,slow=36						
JOW	**Kunigami**	**15.51**	**232**	LR	LR	20 01 36.7	
	comp=Z,35nm,20.7s,baz=63,slow=31						
PETK	**Petropavlovsk-**	**19.32**	**30**	LR	LR	20 04 51.1	
	comp=Z,41nm,21.5s,baz=226,slow=35						
SONM	**Songino Array**	**28.02**	**304**	P	**P**	**19 59 28.0**	**+0.3**
	0.2nm,0.4s,baz=104,slow=6.1,SNR=3.5						
SONM	**Songino Array**	**28.02**	**304**	P	**P**	**19 59 28.0**	**+0.3**
ZALV	**Zalesovo Beam**	**42.09**	**312**	P	**P**	**20 01 28.4**	**+0.1**
	0.4nm,0.3s,baz=103,slow=6.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.09**	**312**	P	**P**	**20 01 28.4**	**+0.1**
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**20 01 46.9**	**+0.1**
	0.4nm,0.6s,baz=88,slow=8.7,SNR=6.7						
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**20 01 46.9**	**+0.1**
ILAR	**Eielson Array**	**49.12**	**32**	P	**P**	**20 02 24.4**	**+0.7**
	1.2nm,0.7s,baz=269,slow=6.4,SNR=14						
ILAR	**Eielson Array**	**49.12**	**32**	P	**P**	**20 02 24.4**	**+0.7**
INK	**Inuvik**	**54.04**	**27**	P	**P**	**20 03 01.6**	**+1.2**
	0.4nm,0.4s,baz=298,slow=9.8,SNR=5.5						
INK	**Inuvik**	**54.04**	**27**	P	**P**	**20 03 01.6**	**+1.2**
WRAB	**Tennant Creek**	**57.29**	**188**	*e*P	**P**	**20 03 21.8**	**-2.5**
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**57.30**	**188**	P	**P**	**20 03 23.5**	**-1.0**
	0.3nm,0.3s,baz=6.8,slow=7.0,SNR=22						
WRA	**Warramunga Arr**	**57.30**	**188**	P	**P**	**20 03 23.5**	**-1.0**
ASAR	**Alice Springs**	**61.03**	**188**	P	**P**	**20 03 49.6**	**-0.6**
	0.3nm,0.9s,baz=17,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**61.03**	**188**	P	**P**	**20 03 49.6**	**-0.6**
YKA	**Yellowknife Ar**	**63.44**	**30**	P	**P**	**20 04 06.4**	**+0.5**
	0.3nm,0.6s,baz=304,slow=6.6,SNR=8.3						
YKA	**Yellowknife Ar**	**63.44**	**30**	P	**P**	**20 04 06.5**	**+0.5**
NVAR	**Mina Array Bea**	**74.55**	**53**	P	**P**	**20 05 16.8**	**+1.1**
	0.6nm,0.7s,baz=288,slow=6.5,SNR=3.5						
NVAR	**Mina Array Bea**	**74.55**	**53**	P	**P**	**20 05 16.8**	**+1.1**
PDAR	**Pinedale Array**	**77.25**	**46**	P	**P**	**20 05 30.5**	**-0.6**
	0.5nm,0.6s,baz=264,slow=2.2,SNR=4.5						
PDAR	**Pinedale Array**	**77.25**	**46**	P	**P**	**20 05 30.5**	**-0.6**

IDC 23 19:55:33.1±1.1, **4°.77N** × **75°.85W**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.5**/21, **mbtmp3.5**/4, **Error ellipse: s-maj=26.6km s-min=15.4km az=2.0, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.52**	**87**	Pn	Pn	19 56 01.4	-0.6
	25nm,0.3s,baz=299,slow=3.8,SNR=41						
ROSC				Lg	Lg	19 56 22.7	
	44nm,0.3s,baz=255,slow=23,SNR=12						
LPAZ	**La Paz**	**22.27**	**160**	P	P	20 00 33.0	+0.1
	0.9nm,0.4s,baz=32,slow=20,SNR=7.1						
SIV	**San Ignacio**	**25.29**	**145**	P	P	20 01 00.8	-0.7
	2.4nm,0.7s,baz=334,slow=12,SNR=10						
YKA	**Yellowknife Ar**	**64.28**	**341**	P	P	20 06 09.8	-0.2
	0.2nm,0.5s,baz=132,slow=6.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.82**	**78**	P	P	20 07 27.4	-0.1
	0.2nm,0.9s,baz=276,slow=5.0,SNR=2.4						
ASAR	**Alice Springs**	**145.71**	**234**	PKPbc	PKPbc	20 15 14.9	0.0
	0.3nm,0.6s,baz=119,slow=4.0,SNR=2.9						
WRA	**Warramunga Arr**	**146.97**	**240**	PKPbc	PKPbc	20 15 18.3	-0.4
	0.3nm,0.8s,baz=107,slow=3.3,SNR=4.1						

KRSC 23 19:55:38.6±0.7, **54°.79N** × **160°.67E**, **h141**km±30km, **ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.58**	**329**	*i* P	Pn	19 56 00.7	+1.2
MKZ	**Mys Kozlova**	**0.66**	**110**	*i* P	Pn	19 56 00.9	+1.1
MKZ				*e*S	Sn	19 56 17.4	+1.5
KMNR	**Kamenistaya**	**1.00**	**346**	*i* P	Pn	19 56 03.7	+1.1
KII	**Karymskiy**	**1.04**	**224**	*e*P	Pn	19 56 03.7	+0.7
KII				*e*S	Sn	19 56 22.2	+0.7
BZMR	**Bezymyannaya**	**1.15**	**355**	*e*P	Pn	19 56 05.0	+0.9
BZGR	**Bezymyannyi-Gr**	**1.15**	**1**	P	Pn	19 56 04.9	+0.9
BZWR	**Bezymyannyi-We**	**1.18**	**355**	*e*P	Pn	19 56 05.3	+0.9
KIRR	**Kirishev**	**1.18**	**351**	*e*P	Pn	19 56 05.1	+0.8
KPT	**Kopyto**	**1.21**	**348**	*i* P	Pn	19 56 04.9	+0.4
ZLN	**Zelenaya**	**1.23**	**3**	*i* P	Pn	19 56 06.1	+1.3
ZLN				S	Sn	19 56 26.5	+1.7
LGNR	**Loginova**	**1.30**	**0**	P	Pn	19 56 06.7	+1.0
CIRR	**Tsirk**	**1.33**	**2**	*i* P	Pn	19 56 07.3	+1.5
KOZ	**Kozyrevsk**	**1.35**	**341**	*i* P	Pn	19 56 06.4	+0.5
KRSR	**Krestovskiy**	**1.43**	**358**	*e*P	Pn	19 56 07.1	+0.3
KLY	**Klyuchi**	**1.53**	**360**	*i* P	Pn	19 56 08.5	+0.8
KLY				*e*S	Sn	19 56 30.5	+0.5
ESO	**Esso**	**1.60**	**316**	*e*P	Pn	19 56 08.5	0.0
SRDR	**Sredinnyy**	**1.62**	**341**	*i* P	Pn	19 56 09.0	+0.1
SPN	**Mys Shipunski**	**1.74**	**193**	*e*P	Pn	19 56 10.6	+0.5
SPN				*e*S	Sn	19 56 34.1	-0.1
NLC	**Nalytchevo**	**1.80**	**206**	*e*P	Pn	19 56 11.7	+0.9
NLC				*e*S	Sn	19 56 36.1	+0.7
BDR	**Baidarnaya**	**1.81**	**9**	*e*P	Pn	19 56 12.6	+1.6
BDR				*e*S	Sn	19 56 37.7	+1.8
SDLR	**Sedlovina**	**1.84**	**216**	P	Pn	19 56 12.1	+0.6
SDLR				S	Sn	19 56 35.9	-0.8
SMKR	**Semkarok**	**1.85**	**14**	P	Pn	19 56 12.6	+1.1
SMKR				S	Sn	19 56 37.4	+0.6
KBTR	**Krutoberegovo**	**1.88**	**40**	*i* P	Pn	19 56 12.6	+1.0
KBTR				*e*S	Sn	19 56 37.5	+0.5
SMAR	**Somma**	**1.89**	**217**	P	Pn	19 56 12.8	+0.7
SRKR	**Sorokina**	**1.89**	**8**	*e*P	Pn	19 56 12.8	+0.9
SRKR				S	Sn	19 56 37.8	+0.3
AVH	**Avacha**	**1.91**	**218**	P	Pn	19 56 15.2	+3.0
KOK	**Koryaka**	**1.92**	**219**	P	Pn	19 56 15.4	+3.0
UGLR	**Uglovaya**	**1.92**	**215**	P	Pn	19 56 13.3	+0.9
GNL	**Ganaly**	**1.94**	**237**	*e*P	Pn	19 56 13.6	+1.0
GNL				S	Sn	19 56 39.5	+0.9
PET	**Petropavlovsk**	**2.13**	**215**	S	Sn	19 56 44.2	+1.7
MTVR	**Mutnovka**	**2.75**	**214**	P	Pn	19 56 24.2	+1.7
ASAK	**Asacha**	**2.92**	**216**	P	Pn	19 56 25.6	+0.9
BKI	**Bering**	**3.08**	**80**	*e*P	Pn	19 56 27.9	+1.4
BKI				*e*S	Sn	19 57 03.4	-0.2

IDC 23 20:08:31.6±2.2, **2°.17S** × **99°.56E**, **h20**km±4km, **mb3.4/7, mb1 3.6**/7, **mb1mx3.5**/22, **mbtmp3.5**/7, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.4**/37, **Error ellipse: s-maj=89.9km s-min=13.6km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.98**	**353**	Pn	Pn	20 09 48.8	+3.4
	1.2nm,0.3s,baz=240,slow=8.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**20.50**	**358**	P	P	20 13 07.8	-0.8
	0.3nm,0.5s,baz=187,slow=11,SNR=4.1						
CMAR				pP	pP	20 13 14.7	+0.4
	1.3nm,0.8s,baz=187,slow=10.0,SNR=7.3						
WRA	**Warramunga Arr**	**38.28**	**120**	P	P	20 15 50.5	-0.6
	0.4nm,0.6s,baz=305,slow=8.9,SNR=3.5						
WRA				pP	pP	20 15 56.6	-0.6
	1.9nm,0.7s,baz=302,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**39.51**	**126**	P	P	20 16 00.6	-0.8
	0.5nm,0.4s,baz=301,slow=7.5,SNR=4.1						
ASAR				pP	pP	20 16 07.1	-0.4
	0.7nm,0.6s,baz=302,slow=7.8,SNR=6.1						
STKA	**Stephens Creek**	**49.37**	**131**	P	P	20 17 21.4	+1.5
	0.8nm,0.7s,baz=281,slow=10,SNR=1.4						
SONM	**Songino Array**	**50.15**	**6**	P	P	20 17 26.3	+0.4
	0.9nm,0.7s,baz=201,slow=10,SNR=5.3						
SONM				pP	pP	20 17 32.8	+0.7
	4.2nm,0.7s,baz=185,slow=9.1,SNR=22						
MKAR	**Makanchi Array**	**51.07**	**345**	P	P	20 17 32.5	-0.2
	0.2nm,0.3s,baz=151,slow=9.2,SNR=2.3						
MKAR				pP	pP	20 17 39.1	+0.1
	2.3nm,0.7s,baz=148,slow=8.1,SNR=8.3						
USRK	**Ussuriysk Arra**	**54.51**	**28**	pP	pP	20 18 04.9	+0.5
	2.8nm,0.6s,baz=205,slow=8.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**57.25**	**350**	P	P	20 18 16.9	-0.6
	1.2nm,0.7s,baz=191,slow=2.9,SNR=2.9						
ZALV				pP	pP	20 18 23.3	-0.6
	3.5nm,0.7s,baz=180,slow=4.4,SNR=8.8						
ATD	**Arta Tunnel**	**57.99**	**285**	LR	LR	20 41 25.7	
	comp=Z,27nm,18.8s,baz=39,slow=34						
TXAR	**Lajitas Array**	**145.10**	**37**	pPKPbc	pPKPbc	20 28 14.7	-0.3
	1.6nm,0.7s,baz=271,slow=2.3,SNR=7.8						

*ISCJB **23** 20:10:08.6±0.5, 41°.18N±0°.05 × 88°.26E±0°.07, h33km, mb3.5/12, MS2.5/1, Error ellipse: s-maj=8.6km s-min=6.1km az=136.6*
*BJI **23** 20:10:09.6, 41°.00N × 88°.30E, h15km, mb4.0/5, ML3.9/11, Ms3.4/1, Ms7 3.3/1*
*IDC **23** 20:10:10.1±1.0, 41°.14N × 88°.41E, h29km±6km, mb3.5/11, mb1 3.7/17, mb1mx3.6/33, mbtmp3.6/17, ML3.8/6, MS2.6/1, Ms1 2.6/1, ms1mx1.8/46, Error ellipse: s-maj=24.4km s-min=13.2km az=50.0*
*NNC **23** 20:10:14.8±4.8, 41°.79N × 88°.30E, h0km, mb3.7, mpv4.2, Error ellipse: s-maj=47.0km s-min=39.5km az=99.0*
ISC 23 20:10:10.7±0.7, **41°.25N**±0°.07 × **88°.43E**±0°.07, **h35**km, **n34,** σ1.**99**/36, **mb3.6**/12, **9C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.63**	**348**	Pn	Pn	20 10 55.3	+4.6
WMQ				Sn	Sn	20 11 28.6	+7.2
WMQ				smax	smax		
	comp=N,1μm,0.8s						
WMQ				smax	smax		
	comp=E,990nm,0.7s						
MK31	**Makanchi Array**	**7.09**	**323**	⇑Pn	**Pn**	**20 11 53.7**	**+1.7**
	comp=E,6.0nm,0.3s,baz=139,slow=14,SNR=548						
MK31				⇓Sn	**Sn**	**20 13 11.9**	**+0.6**
	comp=E,12nm,0.7s,baz=134,slow=22,SNR=9.2						
MK31				⇑Lg	Lg	20 13 44.5	
	comp=E,10nm,0.6s,baz=138,slow=29						
MKAR	**Makanchi Array**	**7.09**	**323**	Pn	**Pn**	**20 11 53.3**	**+1.3**
	comp=E,7.5nm,0.3s,baz=140,slow=14,SNR=436						
MKAR				Sn	**Sn**	**20 13 12.2**	**+0.8**
	comp=E,3.3nm,0.3s,baz=135,slow=22,SNR=7.8						
MKAR				Lg	Lg	20 13 53.6	
	comp=E,1.7nm,0.3s,baz=141,slow=31,SNR=2.7						
GTA	**Gaotai**	**8.89**	**98**	*e*P	Pn	20 12 18.3	+1.6
GTA				pP		20 12 23.0	
GTA				sP		20 12 26.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH	**Kashi**	**9.66**	**264**	*e*P	Pn	20 12 31.8	+4.5
KSH				S	**Sn**	**20 14 19.5**	**+4.9**
KSH				smax	smax		
	comp=N,38nm,1.0s						
KSH				smax	smax		
	comp=E,30nm,0.7s						
TKM2	**Tokmak 2**	**9.69**	**284**	⇓Pn	**Pn**	**20 12 26.7**	**-1.1**
	comp=E,1.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**20 14 20.5**	**+5.1**
	comp=E,3.4nm,0.5s						
TKM2				⇓Lg	Lg	20 15 12.0	
	comp=E,12nm,0.9s						
AAK	**Ala-Archa**	**10.48**	**282**	Pn	**Pn**	**20 12 37.7**	**-0.7**
	comp=E,0.2nm,0.3s,baz=128,slow=12,SNR=3.1						
AAK				Lg	Lg	20 15 39.0	
	comp=E,0.1nm,0.3s,baz=223,slow=19,SNR=2.4						
KURBB	**Kurchatov Arra**	**11.63**	**327**	Pn	**Pn**	**20 12 53.2**	**-0.7**
	comp=E,0.3nm,0.3s,baz=138,slow=13,SNR=55						
KURBB				Sn	**Sn**	**20 15 00.1**	**-2.3**
	comp=E,0.2nm,0.3s,baz=230,slow=19,SNR=4.0						
KURBB	**Kurchatov Arra**	**11.63**	**327**	⇑Pn	**Pn**	**20 12 53.3**	**-0.7**
	comp=E,0.4nm,0.5s,baz=142,slow=13						
KURBB				⇑Lg	Lg	20 16 12.2	
	comp=E,1.9nm,1.0s,baz=132,slow=30						
KURK	**Kurchatov**	**11.66**	**328**	⇑Pn	**Pn**	**20 12 53.8**	**-0.7**
	comp=E,4.2nm,0.9s						
KURK				⇑Sn	**Sn**	**20 14 59.3**	**-3.9**
	comp=E,3.5nm,0.7s						
KURK				⇓Lg	Lg	20 16 10.4	
	comp=E,13nm,1.2s						
ZALV	**Zalesovo Beam**	**12.94**	**350**	Pn	**Pn**	**20 13 11.9**	**+0.1**
	comp=E,0.6nm,0.3s,baz=170,slow=13,SNR=14						
ZALV				Sn	Sn	20 15 28.2	-6.2
	comp=E,0.1nm,0.3s,baz=166,slow=24,SNR=3.8						
KK31	**Karatay Array**	**13.42**	**284**	⇓P	P	20 13 23.8	-3.7
	comp=E,0.8nm,0.7s,baz=94,slow=13,SNR=6.6						
CHCP	**Chirah Chowk**	**14.22**	**243**	P

ISCJB ***23*** *20:26:13.6±0.6,36.98N±0.04×71.34E±0.09,h106km, mb3.6/6, Error ellipse: s-maj=11.3km s-min=4.7km az=156.8*

NNC ***23*** *20:26:16.7±5.7,37.44N×71.71E,h0km,mb3.6,mpv3.8, Error ellipse: s-maj=51.7km s-min=41.0km az=25.0*

IDC ***23*** *20:26:19.2±4.2,37.13N×72.08E,h184km±31km, mb3.2/6, mb1 3.3/12,mb1mx3.1/31,mbtmp3.2/12, Error ellipse: s-maj=45.0km s-min=24.1km az=147.0*

ISC 23 20:26:15.1±0.8,37.09N±0.05×71.55E±0.09,h106km,n44,σ1§49/34,mb3.6/6,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.30**	**17**	P	Pn	20 27 36.2	+3.9
	SNR=280						
UCH	**Uchtor**	**5.62**	**23**	P	**Sn**	**20 28 39.5**	**-0.6**
	SNR=23						
KZA	**Kyzart**	**5.74**	**29**	P	**Pn**	**20 27 40.8**	**+2.5**
	SNR=8.2						
DLH	**Dalhousie**	**5.81**	**140**	*e*P	**Sn**	**20 28 48.0**	**+3.5**
EKS2	**Erkin-Say**	**5.82**	**16**	P	Pn	20 27 43.0	+3.8
	SNR=42						
AAK	**Ala-Archa**	**5.98**	**21**	P	Pn	20 27 45.0	+3.7
	9.8nm,0.3s,baz=168,slow=6.8,SNR=127						
AAK				S	**Sn**	**20 28 48.3**	**-0.2**
	2.1nm,0.3s,baz=323,slow=21,SNR=25						
AAK	**Ala-Archa**	**5.98**	**21**	P	Pn	20 27 45.1	+3.7
	SNR=19						
KK31	**Karatay Array**	**6.06**	**353**	Pn	Pn	20 27 47.1	+4.8
	2.7nm,0.3s,baz=170,slow=12,SNR=166						
KK31				⇓Sn	**Sn**	**20 28 50.8**	**+0.5**
	14nm,0.4s,baz=170,slow=23						
KBK	**Karagaybulak**	**6.14**	**24**	P	Pn	20 27 47.3	+3.8
	SNR=15						
ULHL	**Ulahol**	**6.29**	**34**	P	**Pn**	**20 27 47.7**	**+2.1**
	SNR=11						
CHMS	**Chumysh**	**6.39**	**22**	P	Pn	20 27 50.3	+3.5
	SNR=9.2						
USP	**Ospenovka**	**6.57**	**19**	P	Pn	20 27 52.6	+3.4
	SNR=8.6						
TKM2	**Tokmak 2**	**6.60**	**27**	⇑Pn	**Pn**	**20 27 52.2**	**+2.5**
	6.5nm,0.5s						
TKM2				⇓Lg	Lg	20 29 32.4	
	6.1nm,0.8s						
TKM2	**Tokmak 2**	**6.60**	**27**	P	**Pn**	**20 27 52.3**	**+2.5**
	SNR=24						
MK31	**Makanchi Array**	**12.55**	**36**	⇑P	**Pn**	**20 29 10.8**	**+0.9**
	0.7nm,0.7s,baz=220,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**12.55**	**36**	P	**Pn**	**20 29 08.2**	**-1.7**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.1						
PYUN	**Piuthan**	**13.15**	**130**	*e*P	**Pn**	**20 29 18.1**	**+0.1**
	11nm,0.3s						
DANN	**Dangsing**	**13.46**	**127**	*e*P	**Pn**	**20 29 22.5**	**+0.4**
KOLN	**Koldanda**	**13.77**	**129**	*e*P	**Pn**	**20 29 26.1**	**+0.1**
GKN	**Gorkha**	**14.26**	**126**	*e*P	**Pn**	**20 29 32.5**	**+0.1**
	19nm,0.4s						
KURBB	**Kurchatov Arra**	**14.43**	**18**	P	**Pn**	**20 29 34.7**	**+0.6**
	0.1nm,0.3s,baz=206,slow=11,SNR=19						
KURBB	**Kurchatov Arra**	**14.43**	**18**	⇑P	**Pn**	**20 29 34.7**	**+0.6**
	0.1nm,0.4s						
KURK	**Kurchatov**	**14.53**	**18**	⇓P	**Pn**	**20 29 35.4**	**-0.1**
	0.7nm,0.7s						
AB31	**Akbulak array**	**14.80**	**329**	⇑P	**P**	**20 29 42.3**	**+0.3**
	0.8nm,0.5s,baz=136,slow=12,SNR=3.6						
KKN	**Kakani**	**14.83**	**125**	*e*P	**Pn**	**20 29 39.4**	**-0.2**
	6.0nm,0.4s						
DMN	**Daman**	**14.84**	**126**	*e*P	**Pn**	**20 29 40.2**	**+0.5**
	12nm,0.5s						
PKIN	**Phulchoki**	**15.05**	**125**	*e*P	**Pn**	**20 29 42.9**	**+0.5**
	7.3nm,0.5s						
PKI	**Pulchoki**	**15.06**	**125**	*e*P	**Pn**	**20 29 42.9**	**+0.3**
GUN	**Gumba**	**15.14**	**123**	*e*P	**Pn**	**20 29 44.0**	**+0.2**
	10nm,0.5s						
BVA0	**Borovoye Array**	**15.96**	**357**	⇓P	**Pn**	**20 29 53.2**	**-0.1**
	0.2nm,0.6s,baz=162,slow=11,SNR=10						
BVAR	**Borovoye Array**	**15.96**	**357**	P	**Pn**	**20 29 53.5**	**+0.1**
	0.5nm,0.3s,baz=160,slow=9.9,SNR=14						
RAMN	**Ramite**	**16.26**	**124**	*e*P	**P**	**20 29 57.6**	**-1.0**
	7.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.50**	**328**	P	**P**	**20 30 01.9**	**+1.0**
	2.7nm,0.3s,baz=127,slow=12,SNR=27						
AKTO	**Aktyubinsk**	**16.50**	**328**	⇑P	**P**	**20 30 02.0**	**+1.1**
	1.1nm,0.5s						
TAPN	**Taplejung**	**16.75**	**121**	*e*P	**P**	**20 30 03.3**	**-0.8**
	3.2nm,0.3s						
ODAN	**Odare**	**16.84**	**123**	*e*P	**P**	**20 30 04.7**	**-0.4**
	9.7nm,0.6s						
ZALV	**Zalesovo Beam**	**19.20**	**24**	P	**P**	**20 30 27.1**	**-3.3**
	1.6nm,0.3s,baz=212,slow=10,SNR=34						
BRTR	**Keskin Array B**	**29.68**	**287**	P	**P**	**20 32 12.6**	**+1.6**
	0.4nm,0.5s,baz=104,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**20 33 14.1**	**-2.0**
	1.7nm,0.9s,baz=111,slow=8.0,SNR=4.6						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**20 33 43.1**	**-2.3**
	1.0nm,0.4s,baz=113,slow=7.6,SNR=14						
NB2	**NORSAR Subarra**	**44.18**	**323**	P	P	20 34 10.3	-2.8
	comp=Z,0.7nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.18**	**323**	P	P	20 34 10.7	-2.5
	comp=Z,1.0nm,0.6s,baz=93,slow=7.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P	P	20 36 48.8	-2.9
	comp=Z,0.4nm,1.1s,baz=36,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**80.64**	**3**	P	P	20 38 10.6	-5.1
	comp=Z,0.2nm,0.4s,baz=351,slow=5.6,SNR=5.4						

IDC 23 20:28:48.6±4.3,54.39S×119.79W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/15,mbtmp4.1/3,MS3.8/2,Ms1 3.8/2, ms1mx3.2/17,Error ellipse: s-maj=133.1km s-min=51.3km az=61.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**35.80**	**180**	P	P	20 35 49.3	-0.1
	2.0nm,1.0s,baz=116,slow=3.7,SNR=4.6						
TBI	**Tubuai**	**38.12**	**313**	*e*LR	LR	20 46 35.2	
	120nm,26.2s						
TBI				*e*T	T	21 16 41.6	
	4.6nm,0.3s						
TVO	**Taravao**	**42.99**	**317**	*e*T	T	21 22 48.7	
	6.2nm,0.3s						
PPT2	**Papeete2**	**43.30**	**316**	*e*LR	LR	20 48 59.0	
	149nm,25.0s						
PMOR	**Pomariorio Ree**	**44.99**	**320**	*e*T	T	21 25 20.2	
	6.1nm,0.2s						
ASAR	**Alice Springs**	**80.03**	**243**	P	P	20 40 59.7	-0.3
	0.9nm,0.9s,baz=142,slow=4.9,SNR=7.5						
WRA	**Warramunga Arr**	**82.85**	**246**	P	P	20 41 15.3	+0.3
	3.6nm,0.7s,baz=143,slow=4.5,SNR=26						
BOSA	**Boshof**	**92.01**	**150**	LR	LR	21 18 47.6	
	comp=Z,98nm,19.5s,baz=166,slow=33						
SONM	**Songino Array**	**150.72**	**276**	PKPbc	PKPbc	20 48 41.7	-0.3
	0.3nm,0.7s,baz=116,slow=3.4,SNR=3.2						

ISCJB ***23*** *20:37:45.8±0.2,39.26N±0.02×16.26E±0.02,h77km±4km, Error ellipse: s-maj=3.0km s-min=2.4km az=153.9*

PDG ***23*** *20:37:46.9±0.6,39.24N×16.28E,h61km±3km,ML3.8/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

CSEM ***23*** *20:37:47.0±0.1,39.24N×16.21E,h60km,ML5.1/11,Ms3.5, Error ellipse: s-maj=2.4km s-min=2.2km az=94.0*

ROM ***23*** *20:37:47.2±0.2,39.23N×16.07E,h58km±4km,Ml3.9/31, Error ellipse: s-maj=3.1km s-min=1.6km az=101.0*

VIE ***23*** *20:37:49.9±0.7,39.61N×16.09E,h10km,mb2.9/5,Ms3.5/2, Error ellipse: s-maj=12.3km s-min=5.5km az=83.0 180 km SSW of Bari*

TIR ***23*** *20:37:51.1,39.97N×16.67E,h0km,ML4.3*

SOF ***23*** *20:38:18.2,40.51N×19.01E,h15km,MD3.1*

ISC 23 20:37:46.5±1.0,39.23N±0.03×16.19E±0.03,h74km±6km, n208,σ1§41/304,15C-16D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARO	**Carolei**	**0.03**	**41**	Pg	**Pn**	**20 37 56.1**	**-1.1**
CARO				Sg	**Sn**	**20 38 02.8**	**-2.3**
	15µm,0.3s						
CARO	**Carolei**	**0.03**	**41**	Pg	**Pn**	**20 37 56.1**	**-1.1**
CARO				Sg	**Sn**	**20 38 02.8**	**-2.3**
	15µm,0.3s						
SERS	**Sersale**	**0.43**	**116**	Pg	**Pn**	**20 37 59.8**	**+0.6**
SERS				Sg	**Sn**	**20 38 09.7**	**+1.1**
	2µm,0.6s						
SERS	**Sersale**	**0.43**	**116**	Pg	Pn	**20 37 59.8**	**+0.6**
GRI	**Girifalco**	**0.44**	**156**	Pg	**Pn**	**20 37 59.3**	**+0.1**
GRI	**Girifalco**	**0.44**	**156**	Pg	**Pn**	**20 37 59.3**	**+0.1**
TIP	**Timpagrande**	**0.44**	**96**	Pg	**Pn**	**20 37 59.9**	**+0.6**
TIP				Sg	**Sn**	**20 38 09.6**	**+0.9**
	1µm,0.7s						
TIP	**Timpagrande**	**0.44**	**96**	Pg	**Pn**	**20 37 59.9**	**+0.6**
JOPP	**Joppolo**	**0.67**	**201**	Pg	**Pn**	**20 38 00.7**	**-0.7**
JOPP				Sg	**Sn**	**20 38 10.5**	**-1.8**
	4µm,0.3s						
JOPP	**Joppolo**	**0.67**	**201**	Pg	**Pn**	**20 38 00.7**	**-0.7**
JOPP				Sg	**Sn**	**20 38 10.5**	**-1.8**
	4µm,0.3s						
PLAC	**Placanica**	**0.80**	**166**	Pg	**Pn**	**20 38 03.4**	**+0.5**
PLAC				Sg	**Sn**	**20 38 15.8**	**+0.8**
	4µm,0.3s						
PLAC	**Placanica**	**0.80**	**166**	Pg	**Pn**	**20 38 03.4**	**+0.5**
PLAC				Sg	**Sn**	**20 38 15.8**	**+0.8**
	4µm,0.3s						
CUC	**Castrocucco**	**0.82**	**339**	Pg	**Pn**	**20 38 02.2**	**-0.9**
CUC				Sg	**Sn**	**20 38 13.4**	**-2.0**
	2µm,0.3s						
CUC	**Castrocucco**	**0.82**	**339**	Pg	**Pn**	**20 38 02.2**	**-0.9**
CUC				Sg	**Sn**	**20 38 13.4**	**-2.0**
	2µm,0.3s						
SIRI	**Monte Sirino -**	**0.98**	**345**	Pn	**Pn**	**20 38 04.7**	**-0.4**
SIRI				Sn	**Sn**	**20 38 18.3**	**-0.7**
	3µm,0.3s						
SIRI	**Monte Sirino -**	**0.98**	**345**	Pn	**Pn**	**20 38 04.7**	**-0.4**
SIRI				Sn	**Sn**	**20 38 18.3**	**-0.7**
	3µm,0.3s						
BULG	**Bulgheria - Ca**	**1.06**	**324**	Pn	**Pn**	**20 38 05.8**	**-0.1**
BULG				Sn	**Sn**	**20 38 20.3**	**-0.2**
	3µm,0.3s						
BULG	**Bulgheria - Ca**	**1.06**	**324**	Pn	**Pn**	**20 38 05.8**	**-0.1**
BULG				Sn	**Sn**	**20 38 20.3**	**-0.2**
	3µm,0.3s						
MSRU	**Castanea**	**1.10**	**209**	Pn	**Pn**	**20 38 05.8**	**-0.7**
MSRU				Sn	**Sn**	**20 38 19.4**	**-2.0**
	5µm,0.3s						
MSRU	**Castanea**	**1.10**	**209**	Pn	**Pn**	**20 38 05.8**	**-0.7**
MSRU				Sn	**Sn**	**20 38 19.4**	**-2.0**
	5µm,0.3s						
MCEL	**Monticello**	**1.14**	**345**	Pn	**Pn**	**20 38 06.7**	**-0.3**
MCEL				Sn	**Sn**	**20 38 22.6**	**+0.3**
	1µm,0.3s						
MCEL	**Monticello**	**1.14**	**345**	Pn	**Pn**	**20 38 06.7**	**-0.3**
MCEL				Sn	**Sn**	**20 38 22.6**	**+0.3**
	1µm,0.3s						
LLI	**Lipari**	**1.25**	**232**	Pn	**Pn**	**20 38 08.3**	**0.0**
LLI				Sn	**Sn**	**20 38 24.6**	**0.0**
	12µm,0.6s						
LLI	**Lipari**	**1.25**	**232**	Pn	**Pn**	**20 38 08.3**	**0.0**
LLI				Sn	**Sn**	**20 38 24.6**	**0.0**
	12µm,0.6s						
VPL	**Vulcano Piano**	**1.27**	**228**	Pn	**Pn**	**20 38 08.3**	**-0.3**
VPL				Sn	**Sn**	**20 38 23.4**	**-1.8**
	5µm,0.4s						
VPL	**Vulcano Piano**	**1.27**	**228**	Pn	**Pn**	**20 38 08.3**	**-0.3**
VPL				Sn	**Sn**	**20 38 23.4**	**-1.8**
	5µm,0.4s						
MPAZ	**Palizzi**	**1.28**	**187**	Pn	**Pn**	**20 38 09.4**	**+0.6**
	1µm,0.4s						
MPAZ	**Palizzi**	**1.28**	**187**	Pn	**Pn**	**20 38 09.4**	**+0.6**
	1µm,0.4s						
CMPR	**Campora**	**1.28**	**328**	Pn	**Pn**	**20 38 08.6**	**-0.2**
CMPR				Sn	**Sn**	**20 38 25.6**	**0.0**
	976nm,0.4s						
CMPR	**Campora**	**1.28**	**328**	Pn	**Pn**	**20 38 08.6**	**-0.2**
CMPR				Sn	**Sn**	**20 38 25.6**	**0.0**
	976nm,0.4s						
MTTG	**Motta San Giov**	**1.28**	**198**	Pn	**Pn**	**20 38 08.5**	**-0.3**
	2µm,0.6s						
MTTG	**Motta San Giov**	**1.28**	**198**	Pn	**Pn**	**20 38 08.5**	**-0.3**
	2µm,0.6s						
MIGL	**Miglionico**	**1.39**	**8**	Pn	**Pn**	**20 38 11.3**	**+1.2**
	2µm,0.4s						
MIGL	**Miglionico**	**1.39**	**8**	Pn	**Pn**	**20 38 11.3**	**+1.2**
	2µm,0.4s						
IFIL	**Filicudi I Eol**	**1.43**	**243**	Pn	**Pn**	**20 38 10.0**	**-0.7**
IFIL				Sn	**Sn**	**20 38 27.0**	**-1.9**
	4µm,0.3s						
IFIL	**Filicudi I Eol**	**1.43**	**243**	Pn	**Pn**	**20 38 10.0**	**-0.7**
IFIL				Sn	**Sn**	**20 38 27.0**	**-1.9**
	4µm,0.3s						
CDRU	**Civita di Ruta**	**1.43**	**332**	Pn	**Pn**	**20 38 10.7**	**-0.1**
	928nm,0.5s						
CDRU	**Civita di Ruta**	**1.43**	**332**	Pn	**Pn**	**20 38 10.7**	**-0.1**
	928nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.49**	**210**	Pn	**Pn**	**20 38 11.3**	**-0.2**
	949nm,0.4s						
MMME	**Mongiuffi-Meli**	**1.49**	**210**	Pn	**Pn**	**20 38 11.3**	**-0.2**
	949nm,0.4s						
SGO	**Sicignano**	**1.49**	**333**	Pn	**Pn**	**20 38 11.7**	**+0.2**
	116nm,0.2s						
SGO	**Sicignano**	**1.49**	**333**	Pn	**Pn**	**20 38 11.7**	**+0.2**
	116nm,0.2s						
ACER	**Acerenza**	**1.57**	**353**	Pn	**Pn**	**20 38 13.7**	**+1.2**
	2µm,0.5s						
ACER	**Acerenza**	**1.57**	**353**	Pn	**Pn**	**20 38 13.7**	**+1.2**
	2µm,0.5s						
IACL	**Alicudi**	**1.59**	**245**	Pn	**Pn**	**20 38 12.3**	**-0.4**
	1µm,0.6s						
IACL	**Alicudi**	**1.59**	**245**	Pn	**Pn**	**20 38 12.3**	**-0.4**
	1µm,0.6s						
MRLC	**Muro Lucano**	**1.62**	**341**	Pn	**Pn**	**20 38 14.4**	**+1.2**
	721nm,0.4s						
MRLC	**Muro Lucano**	**1.62**	**341**	Pn	**Pn**	**20 38 14.4**	**+1.2**
	721nm,0.4s						
SG1	**Sgolgore (BA)**	**1.65**	**13**	*e*Pn	**Pn**	**20 38 13.0**	**-0.6**
SG1				*e*Sn	**Sn**	**20 38 35.4**	**+1.2**
NOCI	**Noci**	**1.70**	**23**	Pn	**Pn**	**20 38 13.5**	**-0.7**
	623nm,0.4s						
NOCI	**Noci**	**1.70**	**23**	Pn	**Pn**	**20 38 13.5**	**-0.7**
	623nm,0.4s						
AMUR	**Altamura**	**1.71**	**11**	Pn	**Pn**	**20 38 13.9**	**-0.4**
	578nm,0.3s						
AMUR	**Altamura**	**1.71**	**11**	Pn	**Pn**	**20 38 13.9**	**-0.4**
	578nm,0.3s						
PALZ	**Palazzo San Ge**	**1.72**	**354**	Pn	**Pn**	**20 38 15.4**	**+0.9**
	783nm,0.6s						
PALZ	**Palazzo San Ge**	**1.72**	**354**	Pn	**Pn**	**20 38 15.4**	**+0.9**
	783nm,0.6s						
MCRV	**Calabrutti - M**	**1.74**	**333**	Pn	**Pn**	**20 38 15.4**	**+0.6**
	888nm,0.5s						
MCRV	**Calabrutti - M**	**1.74**	**333**	Pn	**Pn**	**20 38 15.4**	**+0.6**
	888nm,0.5s						
ESLN	**Serra La Nave**	**1.81**	**212**	Pn	**Pn**	**20 38 17.7**	**+1.9**
ESLN	**Serra La Nave**	**1.81**	**212**	Pn	**Pn**	**20 38 17.7**	**+1.9**
MRVN	**Minervino Murg**	**1.83**	**0**	Pn	**Pn**	**20 38 16.2**	**+0.2**
	335nm,0.6s						
MRVN	**Minervino Murg**	**1.83**	**0**	Pn	**Pn**	**20 38 16.2**	**+0.2**
	335nm,0.6s						
CDT	**Castel del Mon**	**1.85**	**2**	*e*Pn	**Pn**	**20 38 15.7**	**-0.6**
CDT				*e*Sn	**Sn**	**20 38 38.8**	**-0.1**
SNAL	**S. Angelo Dei**	**1.85**	**336**	Pn	**Pn**	**20 38 17.8**	**+1.5**
	925nm,0.8s						
SNAL	**S. Angelo Dei**	**1.85**	**336**	Pn	**Pn**	**20 38 17.8**	**+1.5**
	925nm,0.8s						
CSSN	**Cassano Irpino**	**1.86**	**332**	Pn	**Pn**	**20 38 17.2**	**+0.8**
	280nm,0.4s						
CSSN	**Cassano Irpino**	**1.86**	**332**	Pn	**Pn**	**20 38 17.2**	**+0.8**
	280nm,0.4s						
CAFE	**Carife**	**1.94**	**338**	Pn	**Pn**	**20 38 19.1**	**+1.6**
	356nm,0.8s						
CAFE	**Carife**	**1.94**	**338**	Pn	**Pn**	**20 38 19.1**	**+1.6**
	356nm,0.8s						
BAI	**Bari**	**1.95**	**15**	*e*Pn	**Pn**	**20 38 16.7**	**-0.8**
BAI				*e*Sn	**Sn**	**20 38 40.1**	**-1.0**
HAGA	**Augusta**	**2.10**	**203**	Pn	**Pn**	**20 38 19.7**	**+0.1**
	457nm,0.6s						
HAGA	**Augusta**	**2.10**	**203**	Pn	**Pn**	**20 38 19.7**	**+0.1**
	457nm,0.6s						
CSLB	**Castelbuono**	**2.11**	**233**	Pn	**Pn**	**20 38 19.8**	**+0.1**
	75nm,0.2s						
CSLB	**Castelbuono**	**2.11**	**233**	Pn	**Pn**	**20 38 19.8**	**+0.1**
	75nm,0.2s						
HCRL	**Carlentini**	**2.15**	**206**	Pn	**Pn**	**20 38 20.4**	**+0.2**
	495nm,0.4s						
HCRL	**Carlentini**	**2.15**	**206**	Pn	**Pn**	**20 38 20.4**	**+0.2**
	495nm,0.4s						
MS1	**Monte Sant'Ang**	**2.48**	**356**	*e*Pn	**Pn**	**20 38 25.3**	**+0.6**
MS1				*e*Sn	**Sn**	**20 38 54.9**	**+0.8**
KEK	**Kerkira**	**2.83**	**79**	P	**Pn**	**20 38 29.8**	**+0.3**
KEK				S	**Sn**	**20 38 59.9**	**-2.6**
KEK	**Kerkira**	**2.83**	**79**	*e*P	**Pn**	**20 38 30.1**	**+0.6**
KEK	**Kerkira**	**2.83**	**79**	P	**Pn**	**20 38 29.8**	**+0.3**
KEK				S	**Sn**	**20 38 59.9**	**-2.6**
IGT	**Igoumenitsa**	**3.22**	**83**	P	**Pn**	**20 38 35.1**	**+0.3**
IGT	**Igoumenitsa**	**3.22**	**83**	P	**Pn**	**20 38 35.1**	**+0.3**
LKD2	**Lefkada island**	**3.51**	**96**	P	**Pn**	**20 38 39.3**	**+0.7**
LKD2				S	**Sn**	**20 39 16.6**	**-2.4**
LKD2	**Lefkada island**	**3.51**	**96**	P	**Pn**	**20 38 39.3**	**+0.7**
LKD2				S	**Sn**	**20 39 16.6**	**-2.4**
TIR	**Tirane**	**3.52**	**52**	*i* PN	**Pn**	**20 38 39.0**	**+0.3**
TIR				*i* SN	**Sn**	**20 39 14.4**	**-4.8**
TIR	**Tirane**	**3.52**	**52**	*i* Pn	**Pn**	**20 38 39.0**	**+0.3**
TIR				*i* Sn	**Sn**	**20 39 14.4**	**-4.8**
ULC	**Ulcinj**	**3.59**	**39**	⇑*i*Pn	**Pn**	**20 38 39.5**	**-0.2**
ULC				*e*Sn	**Sn**	**20 39 19.8**	**-1.1**
ULC	**Ulcinj**	**3.59**	**39**	⇑*i*Pn	**Pn**	**20 38 39.5**	**-0.2**
ULC				*e*Sn	**Sn**	**20 39 19.8**	**-1.1**
VLS	**Valsamata**	**3.60**	**106**	P	**Pn**	**20 38 39.9**	**0.0**
VLS				S	**Sn**	**20 39 17.9**	**-3.3**
VLS	**Valsamata**	**3.60**	**106**	*e*P	**Pn**	**20 38 39.4**	**-0.5**
VLS	**Valsamata**	**3.60**	**106**	P	**Pn**	**20 38 39.9**	**0.0**
VLS				S	**Sn**	**20 39 17.9**	**-3.3**
JAN	**Janina**	**3.63**	**82**	S	**Sn**	**20 39 21.8**	**-0.3**
JAN	**Janina**	**3.63**	**82**	*e*P	**Pn**	**20 38 42.0**	**+1.6**
JAN	**Janina**	**3.63**	**82**	S	**Sn**	**20 39 21.8**	**-0.3**
HCY	**Herceg Novi**	**3.66**	**28**	⇓*i*Pn	**Pn**	**20 38 40.7**	**0.0**
HCY				*e*Sn	**Sn**	**20 39 21.6**	**-1.0**
HCY	**Herceg Novi**	**3.66**	**28**	⇓*i*Pn	**Pn**	**20 38 40.7**	**0.0**
HCY				*e*Sn	**Sn**	**20 39 21.6**	**-1.0**
BUM	**Brajici-Budva**	**3.69**	**33**	⇑*i*Pn	**Pn**	**20 38 41.1**	**-0.1**
BUM				*e*Sn	**Sn**	**20 39 22.4**	**-1.1**
BUM	**Brajici-Budva**	**3.69**	**33**	⇑*i*Pn	**Pn**	**20 38 41.1**	**-0.1**
BUM				*e*Sn	**Sn**	**20 39 22.4**	**-1.1**
KFL	**Anninata**	**3.77**	**106**	P	**Pn**	**20 38 42.6**	**+0.4**
KFL				S	**Sn**	**20 39 23.8**	**-1.5**
KFL	**Anninata**	**3.77**	**106**	P	**Pn**	**20 38 42.6**	**+0.4**
KFL				S	**Sn**	**20 39 23.8**	**-1.5**
STON	**Ston**	**3.81**	**17**	*i* Pn	**Pn**	**20 38 42.0**	**-0.7**
STON				Sn	**Sn**	**20 39 22.4**	**-4.0**
STON	**Ston**	**3.81**	**17**	*i* Pn	**Pn**	**20 38 42.0**	**-0.7**
STON				Sn	**Sn**	**20 39 22.4**	**-4.0**
PDG	**Podgorica**	**3.95**	**35**	⇑*i*Pn	**Pn**	**20 38 44.4**	**-0.3**
PDG				*e*Sn	**Sn**	**20 39 28.9**	**-0.9**
TTG	**Podgorica**	**3.96**	**35**	⇑*i*Pn	**Pn**	**20 38 44.4**	**-0.3**
TTG				*e*Sn	**Sn**	**20 39 28.9**	**-0.9**
PUK	**Puka**	**3.98**	**44**	*i* PN	**Pn**	**20 38 44.5**	**-0.6**
PUK				*i* SN	Sx	20 39 19.7	
PUK	**Puka**	**3.98**	**44**	*i* Pn	**Pn**	**20 38 44.5**	**-0.6**
PHP	**Peshkopia**	**4.07**	**52**	*i* PN	**Pn**	**20 38 46.8**	**+0.5**
PHP				*i* SN	Sx	20 39 22.3	
PHP	**Peshkopia**	**4.07**	**52**	P	**Pn**	**20 38 46.7**	**+0.5**
PHP				S	**Sn**	**20 39 31.4**	**-1.2**
PHP	**Peshkopia**	**4.07**	**52**	P	**Pn**	**20 38 46.7**	**+0.5**
PHP				S	**Sn**	**20 39 31.4**	**-1.2**
BRY	**Bratogost**	**4.08**	**25**	⇓*i*Pn	**Pn**	**20 38 46.1**	**-0.4**
BRY				*e*Sn	**Sn**	**20 39 31.4**	**-1.6**
BRY	**Bratogost**	**4.08**	**25**	⇓*i*Pn	**Pn**	**20 38 46.1**	**-0.4**
BRY				*e*Sn	**Sn**	**20 39 31.4**	**-1.6**
NKY	**Niksic**	**4.16**	**30**	⇑*i*Pn	**Pn**	**20 38 47.4**	**-0.2**
NKY				*e*Sn	**Sn**	**20 39 33.7**	**-1.3**
NKY	**Niksic**	**4.16**	**30**	⇑*i*Pn	**Pn**	**20 38 47.4**	**-0.2**
NKY				*e*Sn	**Sn**	**20 39 33.7**	**-1.3**
FNA	**Florina**	**4.27**	**67**	P	**Pn**	**20 38 49.9**	**+0.8**
FNA				S	**Sn**	**20 39 36.7**	**-1.1**
FNA	**Florina**	**4.27**	**67**	P	**Pn**	**20 38 49.9**	**+0.8**
FNA				S	**Sn**	**20 39 36.7**	**-1.1**
RLS	**Riolos of Patr**	**4.29**	**104**	*e*P	Pn	20 38 46.0	-3.3
BIA	**Bitola**	**4.32**	**64**	P	**Pn**	**20 38 51.0**	**+1.2**
BIA				S	**Sn**	**20 39 36.4**	**-2.5**
BIA	**Bitola**	**4.32**	**64**	P	**Pn**	**20 38 51.0**	**+1.2**
BIA				S	**Sn**	**20 39 36.4**	**-2.5**
BIA				*e*Sn	Sn	20 39 37.2	-1.8
EVR	**Evrytania**	**4.38**	**92**	P	**Pn**	**20 38 52.7**	**+2.1**
EVR	**Evrytania**	**4.38**	**92**	*e*P	**Pn**	**20 38 50.2**	**-0.4**
EVR	**Evrytania**	**4.38**	**92**	P	**Pn**	**20 38 52.7**	**+2.1**
PVY	**Plav**	**4.41**	**39**	⇓*i*Pn	**Pn**	**20 38 51.9**	**+0.9**
PVY				*e*Sn	**Sn**	**20 39 40.6**	**-0.6**
UPM	**Unac-Piva**	**4.47**	**26**	⇑*i*Pn	**Pn

DIVS	**Divibare**	**5.64**	**29**	P		**Pn**	**20 39 07.2**	**-0.5**
DID	**Didima**	**5.80**	**105**	P		**Pn**	**20 39 10.3**	**+0.4**
DID				S		**Sn**	**20 40 14.3**	**-0.7**
DID	**Didima**	**5.80**	**105**	*e*P		**Pn**	**20 39 10.3**	**+0.4**
DID	**Didima**	**5.80**	**105**	P		**Pn**	**20 39 10.3**	**+0.4**
DID				S		**Sn**	**20 40 14.3**	**-0.7**
VLI	**Veliai**	**5.89**	**113**	P		**Pn**	**20 39 12.7**	**+1.6**
VLI	**Veliai**	**5.89**	**113**	P		**Pn**	**20 39 12.7**	**+1.6**
NAIG	**Nisos Aigina**	**5.91**	**102**	*e*P		**Pn**	**20 39 11.5**	**+0.1**
ATH	**Athens Observa**	**6.03**	**100**	*e*P		**Pn**	**20 39 12.6**	**-0.4**
KYTH	**Kithira**	**6.17**	**116**	P		**Pn**	**20 39 16.5**	**+1.5**
KYTH	**Kithira**	**6.17**	**116**	*e*P		**Pn**	**20 39 16.4**	**+1.5**
KYTH	**Kithira**	**6.17**	**116**	P		**Pn**	**20 39 16.5**	**+1.5**
MMB	**Musomiste**	**6.22**	**65**	P		**Pn**	**20 39 17.0**	**+1.4**
MMB				Sg		**Sn**	**20 40 21.7**	**-3.5**
VTS	**Vitosha**	**6.29**	**55**	P		**Pn**	**20 39 18.0**	**+1.3**
VTS				*e*Sg		**Sn**	**20 40 24.0**	**-3.1**
MPEP	**Malo Peshtene**	**7.02**	**52**	S		**Sn**	**20 40 47.3**	**+2.4**
OBKA	**Obir**	**7.38**	**351**	⇓*i*Pn		**Pn**	**20 39 32.7**	**+1.2**
OBKA				⇓*i*Sn		**Sn**	**20 40 54.0**	**+0.4**
OBKA	**Obir**	**7.38**	**351**	Pn		**Pn**	**20 39 32.7**	**+1.2**
OBKA				Sn		**Sn**	**20 40 54.0**	**+0.4**
ABTA	**Abfaltersbach**	**7.98**	**341**	⇑*i*Pn		**Pn**	**20 39 40.9**	**+1.2**
ABTA				⇓*i*Sn		**Sn**	**20 41 07.5**	**-1.0**
ABTA	**Abfaltersbach**	**7.98**	**341**	Pn		**Pn**	**20 39 40.9**	**+1.2**
ABTA				Sn		**Sn**	**20 41 07.5**	**-1.0**
JMB	**Yambol**	**8.52**	**64**	S		**Sn**	**20 41 20.3**	**-1.1**
CONA	**Conrad Observa**	**8.70**	**359**	⇑*i*Pn		**Pn**	**20 39 50.2**	**+0.7**
CONA				⇓*i*Sn		**Sn**	**20 41 26.1**	**+0.1**
CONA	**Conrad Observa**	**8.70**	**359**	Pn		**Pn**	**20 39 50.2**	**+0.7**
CONA				Sn		**Sn**	**20 41 26.1**	**+0.1**
MOA	**Molln**	**8.73**	**351**	⇑*i*Pn		**Pn**	**20 39 51.1**	**+1.2**
MOA				⇓*i*Sn		**Sn**	**20 41 25.9**	**-0.7**
MOA	**Molln**	**8.73**	**351**	Pn		**Pn**	**20 39 51.1**	**+1.2**
MOA				Sn		**Sn**	**20 41 25.9**	**-0.7**
ARR	**Arges**	**8.76**	**43**	⇓*i*P		**Pn**	**20 39 52.7**	**+2.4**
VOIR		**9.03**	**44**	⇓*i*P		**Pn**	**20 39 56.0**	**+2.0**
VOIR		**9.03**	**44**	⇓*i*P		**Pn**	**20 39 56.0**	**+2.0**
VYHS	**Vyhne**	**9.46**	**11**	*e*PN		**Pn**	**20 40 00.5**	**+0.7**
VYHS				*e*SN		**Sn**	**20 41 40.0**	**-4.4**
VYHS	**Vyhne**	**9.46**	**11**	*e*P		**Pn**	**20 40 00.5**	**+0.7**
MLR	**Muntele Rosu**	**9.55**	**46**	⇓*i*P		**Pn**	**20 40 04.2**	**+3.0**
KHC	**Kasperske Hory**	**10.07**	**350**	*e*P		**Pn**	**20 40 10.0**	**+1.8**
KHC				*ex*		x	20 40 18.0	
KHC	**Kasperske Hory**	**10.07**	**350**	P		**Pn**	**20 40 10.0**	**+1.8**

IDC 23 20:43:21.8±5.0, 7°25S×155°34E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.3/3, Error ellipse: s-maj=139.0km s-min=40.7km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**236**	P		P	20 48 38.1	+0.1
	0.4nm,0.5s,baz=61,slow=9.6,SNR=2.2							
SONM	**Songino Array**	**69.73**	**327**	P		P	20 54 34.5	+0.7
	0.3nm,0.4s,baz=141,slow=5.4,SNR=16							
MKAR	**Makanchi Array**	**83.82**	**319**	P		P	20 55 52.0	-1.3
	0.2nm,0.6s,baz=114,slow=4.8,SNR=3.7							

IDC 23 20:44:20.6±3.0, 0°58S×133°35E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=159.8km s-min=26.7km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.26**	**177**	P		P	20 48 47.0	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**22.95**	**179**	P		P	20 49 26.7	-0.1
	0.2nm,0.7s,baz=5.7,slow=10,SNR=6.2							
MKAR	**Makanchi Array**	**64.89**	**324**	P		P	20 55 01.8	0.0
	0.1nm,0.6s,baz=112,slow=6.9,SNR=3.5							

*ISCJB **23** 21:24:35.8±0.3, 24°.34N±0°.02×122°.00E±0°.02, h39km±7km, Error ellipse: s-maj=3.9km s-min=2.7km az=154.7*
*JMA **23** 21:24:35.4±0.2, 24°.66N×122°.04E, h75km*
*TAP **23** 21:24:35.4, 24°.34N×121°.92E, h44km, ML3.5, B*
ISC 23 21:24:35.8±1.1, 24°34N±0°.02×121°99E±0°.02, h32km±2km, n52, σ1°04/81, 4C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.23**	**262**	*i* P		Pn	21 24 43.1	+0.1
	baz=258							
EHP				S		**Sb**	**21 24 49.4**	**+2.1**
	baz=258							
ENA	**Nanau**	**0.24**	**291**	⇑*i*P		**Pn**	**21 24 43.3**	**+0.2**
	baz=305							
ENA				S		**Sb**	**21 24 48.9**	**+1.4**
	baz=305							
TWC	**Suao**	**0.29**	**335**	⇑*i*P		**Pn**	**21 24 44.1**	**+0.2**
	baz=354							
TWC				*i* S		**Sn**	**21 24 50.2**	**+1.1**
	baz=354							
TWD	**Chiawan**	**0.44**	**234**	⇓*i*P		**Pb**	**21 24 45.1**	**-0.4**
	baz=228							
TWD				*i* S		**Sb**	**21 24 52.7**	**+0.5**
	baz=228							
ILA	**Ilan**	**0.47**	**333**	*e*P		**Pb**	**21 24 46.2**	**+0.2**
	baz=337							
ILA				S		**Sb**	**21 24 54.7**	**+1.7**
	baz=337							
TWE	**Neicheng**	**0.48**	**322**	⇑*i*P		**Pb**	**21 24 46.1**	**+0.1**
	baz=334							
TWE				*i* S		**Sb**	**21 24 53.8**	**+0.8**
	baz=334							
ENTT	**Nioudou**	**0.48**	**308**	⇑*i*P		**Pb**	**21 24 46.0**	**-0.2**
	baz=310							
ENTT				S		**Sb**	**21 24 53.9**	**+0.6**
	baz=310							
HWA	**Hwalien**	**0.50**	**224**	*e*P		**Pn**	**21 24 46.4**	**-0.4**
	baz=209							
NNS	**Nan Shan**	**0.57**	**280**	⇓*i*P		**Pn**	**21 24 46.8**	**-1.0**
	baz=281							
NNS				*e*S		**Sn**	**21 24 54.8**	**-1.3**
	baz=281							
NSK	**Sanguang**	**0.66**	**300**	⇓*i*P		**Pn**	**21 24 48.3**	**-0.8**
	baz=303							
NSK				S		**Sn**	**21 24 57.0**	**-1.4**
	baz=303							
TWB1	**Santiao Chiao**	**0.66**	**0**	*e*P		**Pn**	**21 24 48.9**	**0.0**
	baz=6.0							
TWB1				*e*S		**Sn**	**21 24 58.9**	**+0.6**
	baz=6.0							
WHF	**Hehuan Shan**	**0.69**	**253**	⇓*i*P		**Pn**	**21 24 48.6**	**-1.1**
	baz=252							
WHF				*e*S		**Sn**	**21 24 58.6**	**-0.9**
	baz=252							
ESL	**Shilin**	**0.73**	**224**	*e*P		**Pn**	**21 24 48.8**	**-1.1**
	baz=229							
TWT	**Tachien**	**0.74**	**263**	⇓P		**Pn**	**21 24 49.7**	**-0.6**
	baz=262							
TWT				*e*S		**Sn**	**21 24 59.6**	**-0.9**
	baz=262							
NWF	**Wu-fen Shan**	**0.75**	**346**	⇓*i*P		**Pn**	**21 24 50.7**	**+0.4**
	baz=351							
NWF				*i* S		**Sn**	**21 25 01.5**	**+1.0**
	baz=351							
TAP1	**Taipei**	**0.81**	**329**	*e*P		**Pn**	**21 24 51.2**	**+0.2**
	baz=324							
TAP1				*e*S		**Sn**	**21 25 02.2**	**+0.3**
	baz=324							
TAP	**Taipei**	**0.82**	**328**	*e*P		**Pn**	**21 24 51.1**	**0.0**
	baz=332							
TWS1	**Kuangyinshan**	**0.92**	**326**	⇓P		**Pn**	**21 24 52.2**	**-0.2**
	baz=330							
TWS1				S		**Sn**	**21 25 05.0**	**+0.4**
	baz=330							
YOJ	**Yonaguni jima**	**0.94**	**83**	*e*P		**Pn**	**21 24 53.2**	**+0.4**
	baz=83							
YOJ	**Yonaguni jima**	**0.94**	**83**	P		**Pn**	**21 24 53.1**	**+0.3**
YOJ				*e*S		**Sn**	**21 25 06.2**	**+1.1**
NSTT	**Nanjuang**	**0.94**	**288**	⇓P		**Pn**	**21 24 52.7**	**-0.1**
	baz=289							
NSTT				*e*S		**Sn**	**21 25 04.3**	**-0.9**
	baz=289							
NCU	**National Centr**	**0.96**	**311**	*e*P		Pn	21 24 51.3	-1.7
	baz=313							
TWY	**Chenhua**	**0.99**	**339**	*e*P		**Pn**	**21 24 52.1**	**-1.4**
	baz=343							
EHY	**Hungye**	**1.03**	**216**	*e*P		Pn	21 24 52.3	-1.7
	baz=212							
SMLT	**Sun Moon Lake**	**1.09**	**245**	⇓*e*P		**Pn**	**21 24 54.7**	**-0.3**
	baz=237							
SMLT				*e*S		**Sn**	**21 25 08.7**	**-0.4**
	baz=237							
TWQ1	**Liyutan**	**1.11**	**271**	*e*P		**Pn**	**21 24 55.4**	**+0.3**
	baz=270							
TWQ1				*e*S		**Sn**	**21 25 10.1**	**+0.8**
	baz=270							
NSY	**Sanyi**	**1.12**	**274**	*e*P		**Pn**	**21 24 55.6**	**+0.3**
	baz=274							
NSY				*e*S		**Sn**	**21 25 11.4**	**+1.8**
	baz=274							
TYC	**Yuchr**	**1.12**	**247**	⇓P		**Pn**	**21 24 55.0**	**-0.3**
	baz=239							
TYC				*e*S		**Sn**	**21 25 09.6**	**0.0**
	baz=239							
TWF1	**Yuli**	**1.17**	**213**	*e*P		Pn	21 24 54.4	-1.6
	baz=220							
TCU	**Taichung**	**1.21**	**261**	*e*P		**Pn**	**21 24 56.5**	**0.0**
	baz=259							
WNT	**Mingjian**	**1.28**	**249**	*e*P		**Pn**	**21 24 58.1**	**+0.7**
	baz=246							
ALS	**Alishan**	**1.36**	**233**	*e*P		**Pn**	**21 24 59.2**	**+0.3**
	baz=222							
CHN5	**Tsauling**	**1.41**	**238**	*e*P		**Pn**	**21 24 59.6**	**+0.3**
	baz=226							
CHN5				*e*S		**Sn**	**21 25 18.1**	**+1.3**
	baz=226							
ELDTW	**Lidau**	**1.45**	**218**	*e*P		**Pn**	**21 24 58.8**	**-1.1**
	baz=207							
WGK	**Gukeng**	**1.46**	**244**	*e*P		**Pn**	**21 25 00.5**	**+0.5**
	baz=242							
WGK				*e*S		**Sn**	**21 25 19.6**	**+1.7**
	baz=242							
IRIF	**Iriomote-Funau**	**1.59**	**90**	P		**Pn**	**21 25 01.5**	**-0.2**
IRIF				*e*S		**Sn**	**21 25 21.5**	**+0.3**
CHN2	**Minshiung**	**1.60**	**240**	*e*P		**Pn**	**21 25 01.7**	**-0.2**
	baz=239							
CHN2				*e*S		**Sn**	**21 25 24.2**	**+2.8**
	baz=239							
CHN4	**Tsaushan**	**1.61**	**233**	*e*P		**Pn**	**21 25 03.5**	**+1.5**
	baz=220							
CHN4				*e*S		**Sn**	**21 25 24.5**	**+2.7**
	baz=220							
CHY	**Chiayi**	**1.66**	**240**	*e*P		**Pn**	**21 25 03.5**	**+0.8**
	baz=238							
CHY				*e*S		**Sn**	**21 25 24.2**	**+1.4**
	baz=238							
HATJ	**Hateruma jima**	**1.69**	**99**	*e*S		**Sn**	**21 25 25.1**	**+1.6**
TWG	**Pinlang**	**1.73**	**209**	*e*P		**Pn**	**21 25 02.6**	**-1.1**
	baz=196							
TWK	**Hsinying**	**1.74**	**232**	*e*P		**Pn**	**21 25 04.9**	**+1.0**
	baz=231							
TWK				*e*S		**Sn**	**21 25 27.0**	**+2.0**
	baz=231							
CHN1	**Nanshi**	**1.77**	**230**	*e*P		**Pn**	**21 25 05.9**	**+1.7**
	baz=228							
CHN1				*e*S		**Sn**	**21 25 26.8**	**+1.2**
	baz=228							
SGST	**Jiashian**	**1.80**	**226**	*e*P		**Pn**	**21 25 05.2**	**+0.6**
	baz=214							
SGST				*e*S		**Sn**	**21 25 27.9**	**+1.5**
	baz=214							
JKRS	**Kuro-shima**	**1.85**	**93**	P		**Pn**	**21 25 05.8**	**+0.5**
JKRS				*e*S		**Sn**	**21 25 28.7**	**+1.2**
JIJ	**Ishigaki jima**	**1.97**	**89**	P		**Pn**	**21 25 06.9**	**0.0**
JIJ				*e*S		**Sn**	**21 25 30.1**	**-0.4**
ECL	**Taimali**	**1.98**	**209**	*e*P		**Pn**	**21 25 05.8**	**-1.3**
	baz=197							
SSD	**Sandimen**	**2.02**	**218**	*e*P		**Pn**	**21 25 08.3**	**+0.7**
	baz=217							
SSD				*e*S		**Sn**	**21 25 33.3**	**+1.5**
	baz=217							
EAST	**Anshuo**	**2.21**	**208**	*e*P		Pn	21 25 08.9	-1.4
	baz=198							
LAY	**Lan-yu**	**2.33**	**190**	*e*P		**Pn**	**21 25 11.5**	**-0.4**
	baz=179							
SCZT	**Fangliau**	**2.33**	**213**	*e*P		**Pn**	**21 25 11.2**	**-0.7**
	baz=209							
JTJ	**Tarama**	**2.49**	**83**	P		**Pn**	**21 25 13.6**	**-0.5**
JTJ				*e*S		**Sn**	**21 25 43.1**	**-0.3**

*IDC **23** 21:27:60.0±0.9, 3°.57N×128°.91E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, MS3.2/3, Ms1 3.2/3, ms1mx2.6/46, Error ellipse: s-maj=42.9km s-min=15.3km az=75.0*
*ISCJB **23** 21:28:03.1±0.7, 3°.53N±0°.09×128°.9E±0°.1, h33km, mb3.8/10, MS3.1/1, Error ellipse: s-maj=22.2km s-min=9.7km az=154.8*
ISC 23 21:28:05.3±0.9, 3°.5N±0°.1×128°.9E±0°.2, h35km, n23, σ0s82/20, mb3.9/10, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.84**	**317**	LR		LR	21 30 54.4	
	comp=Z,222nm,20.4s,baz=306,slow=36							
CTBH	**Cotabato--PC H**	**5.92**	**309**	⇑*i*P		**Pn**	**21 29 31.2**	**+0.7**
GUMO	**Guam**	**18.69**	**57**	LR		LR	21 38 28.5	
	comp=Z,88nm,19.6s,baz=98,slow=34							
FITZ	**Fitzroy Crossi**	**21.71**	**188**	P		**P**	**21 32 52.5**	**-0.9**
	1.7nm,0.7s,baz=82,slow=18,SNR=9.1							
WRA	**Warramunga Arr**	**23.31**	**167**	P		**P**	**21 33 16.9**	**+0.9**
	0.8nm,0.5s,baz=345,slow=10,SNR=22							
ASAR	**Alice Springs**	**27.44**	**170**	P		**P**	**21 33 47.9**	**-0.2**
	0.1nm,0.3s,baz=319,slow=5.1,SNR=3.2							
JNU	**Nakatsue**	**29.52**	**3**	LR		LR	21 44 31.5	
	comp=Z,42nm,19.2s,baz=60,slow=34							
CMAR	**Chiang Mai Arr**	**32.86**	**299**	P		**P**	**21 34 36.3**	**+0.2**
	1.4nm,0.8s,baz=105,slow=6.9,SNR=12							
KSRS	**Korea Array**	**33.80**	**359**	P		**P**	**21 34 45.9**	**+2.0**
	2.1nm,0.8s,baz=181,slow=9.9,SNR=4.7							
MJAR	**Matsushiro Arr**	**33.98**	**13**	P		**P**	**21 34 44.8**	**-0.8**
	3.7nm,0.8s,baz=194,slow=9.6,SNR=8.3							
STKA	**Stephens Creek**	**37.20**	**162**	P		**P**	**21 35 14.1**	**+0.8**
	1.3nm,1.0s,baz=340,slow=12,SNR=2.7							
TAPN	**Taplejung**	**45.90**	**305**	*e*P		**P**	**21 36 24.7**	**-0.4**
	12nm,1.1s							
ODAN	**Odare**	**45.97**	**305**	*e*P		**P**	**21 36 24.6**	**-1.0**
	4.7nm,0.5s							
RAMN	**Ramite**	**46.66**	**304**	*e*P		**P**	**21 36 30.8**	**-0.2**
	16nm,1.2s							
GUN	**Gumba**	**47.62**	**305**	*e*P		**P**	**21 36 38.1**	**-0.5**
	22nm,1.2s							
DMN	**Daman**	**48.13**	**304**	*e*P		**P**	**21 36 41.9**	**-0.6**
	9.3nm,1.0s							
SONM	**Songino Array**	**48.23**	**340**	P		**P**	**21 36 42.4**	**-0.3**
	1.0nm,0.9s,baz=145,slow=7.9,SNR=8.1							
GKN	**Gorkha**	**48.67**	**305**	*e*P		**P**	**21 36 45.9**	**-0.6**
KOLN	**Koldanda**	**49.44**	**304**	*e*P		**P**	**21 36 52.1**	**-0.3**
	11nm,0.8s							
DANN	**Dangsing**	**49.51**	**305**	*e*P		**P**	**21 36 52.7**	**-0.4**
	17nm,1.0s							
PYUN	**Piuthan**	**50.06**	**304**	*e*P		**P**	**21 36 57.0**	**-0.2**
	28nm,1.1s							
MKAR	**Makanchi Array**	**58.98**	**324**	P		**P**	**21 38 01.1**	**-0.3**
	1.1nm,0.5s,baz=122,slow=8.1,SNR=26							
ZALV	**Zalesovo Beam**	**61.78**	**332**	P		**P**	**21 38 19.1**	**-1.3**
	0.5nm,0.3s,baz=104,slow=4.7,SNR=7.6							

*ISCJB **23** 21:49:10.1±0.8, 51°.45N±0°.04×16°.09E±0°.05, h0km, Error ellipse: s-maj=5.6km s-min=3.7km az=31.1*
*CSEM **23** 21:49:11.2±0.3, 51°.47N×16°.09E, h2km, ML3.0/7, Error ellipse: s-maj=5.9km s-min=5.3km az=65.0*
*PRU **23** 21:49:12.6, 51°.43N×16°.12E, h0km*
*WAR **23** 21:49:12.5, 51°.47N×16°.10E*
ISC 23 21:49:10.6±0.9, 51°.53N±0°.03×16°.10E±0°.03, h0km, n26, σ0s98/49, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg		**Pg**	**21 49 24.4**	**+0.3**
KSP				*e*Sg		**Sg**	**21 49 33.5**	**+0.3**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg		**Pg**	**21 49 24.4**	**+0.3**
KSP				*e*Sg		**Sg**	**21 49 32.7**	**-0.4**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg		**Pg**	**21 49 24.3**	**+0.3**
KSP				*e*Sg		**Sg**	**21 49 33.4**	**+0.3**
UPC	**Upice**	**1.03**	**183**	*e*PG		**Pg**	**21 49 30.4**	**+0.1**
UPC				*e*SG		**Sg**	**21 49 42.2**	**-1.4**
	comp=Z,10nm,0.2s							
UPC	**Upice**	**1.03**	**183**	Pg		**Pg**	**21 49 30.4**	**+0.1**
UPC				Sg		**Sg**	**21 49 42.2**	**-1.4**
	10nm,0.2s							
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG		**Pg**	**21 49 33.2**	**-0.3**
DPC				*e*SG		**Sg**	**21 49 47.7**	**-1.2**
	comp=Z,11nm,0.3s							
DPC	**Dobruska-Polom**	**1.19**	**173**	Pg		**Pg**	**21 49 33.2**	**-0.3**
DPC				Sg		**Sg**	**21 49 47.7**	**-1.2**
	11nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG		**Pb**	**21 49 37.7**	**+0.2**
PVCC				*e*SG		**Sg**	**21 49 55.2**	**-0.2**
	comp=Z,69nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**224**	Pg		**Pb**	**21 49 37.7**	**+0.2**
PVCC				Sg		**Sg**	**21 49 55.2**	**-0.2**
	69nm,0.3s							
BRG	**Berggiesshubel**	**1.51**	**245**	PG		**Pg**	**21 49 40.0**	**+0.5**
BRG				SG		**Sn**	**21 50 00.0**	**+0.8**
	36nm,0.7s							
PRU	**Pruhonice**	**1.84**	**213**	*e*PG		**Pb**	**21 49 45.0**	**-0.1**
PRU				*e*SG		**Sb**	**21 50 08.5**	**-0.1**
	comp=Z,18nm,0.4s							
PRU	**Pruhonice**	**1.84**	**213**	Pg		**Pb**	**21 49 45.0**	**-0.1**
PRU				Sg		**Sb**	**21 50 08.5**	**-0.1**
	18nm,0.4s							
CLL	**Collm**	**1.95**	**265**	*e*Pg		**Pg**	**21 49 48.0**	**0.0**
CLL				*e*Sg		**Sg**	**21 50 14.0**	**+0.7**
	comp=Z,10.0nm,0.4s							
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn		**Pn**	**21 49 45.3**	**-0.2**
MORC				*e*Sg		**Sb**	**21 50 12.7**	**-0.2**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG		**Pb**	**21 49 50.7**	**+0.5**
OKC				*e*SG		**Sb**	**21 50 18.4**	**+1.1**
	comp=Z,12nm,0.6s							
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg		**Pb**	**21 49 50.7**	**+0.5**
OKC				Sg		**Sb**	**21 50 18.4**	**+1.1**
	comp=Z,12nm,0.6s							
VRAC	**Vranov**	**2.25**	**172**	*e*Sg		**Sb**	**21 50 21.3**	**+0.8**
TREC	**Trest**	**2.27**	**190**	*e*SG		**Sb**	**21 50 21.8**	**+0.6**
	comp=Z,7.6nm,0.2s							
TREC	**Trest**	**2.27**	**190**	Sg		**Sb**	**21 50 21.8**	**+0.6**
	comp=Z,7.6nm,0.2s							
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN		**Pn**	**21 49 59.0**	**+1.0**
KHC				*e*PG		**Pb**	**21 50 03.9**	**+0.7**
KHC				*e*SN		**Sn**	**21 50 32.0**	**-1.6**
KHC				*e*SG		**Sg**	**21 50 41.9**	**-1.7**
	comp=Z,4.4nm,0.4s							
KHC	**Kasperske Hory**	**2.90**	**215**	Pn		**Pn**	**21 49 59.0**	**+1.0**
KHC	**Kasperske Hory**	**2.90**	**215**	Pg		**Pb**	**21 50 03.9**	**+0.7**
KHC				Sn		**Sn**	**21 50 32.0**	**-1.6**
KHC				Sg		**Sg**	**21 50 41.9**	**-1.7**
	comp=Z,4.4nm,0.4s							
VYHS	**Vyhne**	**3.52**	**149**	*e*SG		**Sb**	**21 50 58.3**	**+1.3**
VYHS	**Vyhne**	**3.52**	**149**	*e*Sg		**Sb**	**21 50 58.3**	**+1.3**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P		**Pn**	**21 50 09.3**	**+0.9**
BSD				*i* S		**Sn**	**21 50 49.8**	**-2.4**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P		**Pn**	**21 50 09.3**	**+0.9**
BSD				*i* S		**Sn**	**21 50 49.8**	**-2.4**

*DDA **23** 21:54:49.5, 34°.89N×40°.49E, h7km, MD3.7*
*ISK **23** 21:54:52.3, 35°.06N×40°.53E, h5km, ML3.5*
*ISCJB **23** 21:54:53.2±0.9, 35°.01N±0°.03×40°.55E±0°.04, h4km±6km, Error ellipse: s-maj=6.4km s-min=4.4km az=143.0*
*CSEM **23** 21:54:54.5±0.3, 35°.02N×40°.53E, h10km, ML3.0, Error ellipse: s-maj=8.6km s-min=4.7km az=43.0*
*NSSC **23** 21:54:56.9±2.5, 35°.14N×40°.50E, h10km±16km, ML3.0*
*KISR **23** 21:54:57.1±0.9, 35°.08N×41°.86E, h34km, ML3.0*
ISC 23 21:54:54.1±1.5, 35°03N±0°.03×40°51E±0°.03, h12km±12km, n47, σ1°38/68, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.80**	**8**	*e*P		**Pb**	**21 55 10.3**	**+0.3**
MZRK				*e*S		**Sb**	**21 55 21.0**	**+0.2**
MZRK				AML		AML	21 55 29.7	
	comp=Z,439nm,0.4s							
MZRK				AML		AML	21 55 41.8	
	comp=N,860nm,0.8s							
MZRK	**Al-Mazaregh**	**0.80**	**8**	*e*P		**Pb**	**21 55 10.3**	**+0.3**
	SNR=75							
MZRK				*e*S		**Sb**	**21 55 21.0**	**+0.2**
	comp=N,860nm,0.8s,SNR=59							
SFNV	**Sufian**	**1.42**	**347**	*e*P		**Pn**	**21 55 20.4**	**+0.6**
SFNV				*e*S		**Sn**	**21 55 38.5**	**+0.1**
SFNV				AML		AML	21 55 43.6	
	comp=E,358nm,0.5s							
SFNV				AML		AML	21 55 44.3	
	comp=N,809nm,0.6s							
SFNV				AML		AML	21 55 45.3	
	comp=Z,1μm,0.5s							
SFNV	**Sufian**	**1.42**	**347**	*e*P		**Pn**	**21 55 20.4**	**+0.6**
	SNR=57							
SFNV				*e*S		**Sn**	**21 55 38.5**	**+0.1**
	comp=Z,1μm,0.5s,SNR=49							
JHLN	**Al Jahlan**	**1.81**	**291**	*e*P		**Pn**	**21 55 26.0**	**+1.0**
JHLN				*e*S		**Sn**	**21 55 49.0**	**+1.1**
JHLN				AML		AML	21 55 56.2	
	comp=Z,104nm,0.2s							
JHLN	**Al Jahlan**	**1.81**	**291**	*e*P		**Pn**	**21 55 26.0**	**+1.0**
	SNR=45							
JHLN				*e*S		**Sn**	**21 55 49.0**	**+1.1**
	comp=Z,104nm,0.2s,SNR=40							
KBSD	**Kabsdagh**	**1.97**	**1**	*e*P		**Pn**	**21 55 28.1**	**+0.9**
KBSD				*e*S		**Sn**	**21 55 52.4**	**+0.6**
KBSD				AML		AML	21 56 06.1	
	comp=Z,212nm,0.3s							
KBSD	**Kab

comp=Z,1.1nm,0.8s
NAY Al-Naaiem 8.11 133 *e*P **Pn 21 56 51.4 -0.2**

*ISCJB **23** 21:55:56.9±0.8, 39.91N±0.04×39.70E±0.06, h19km±16km, Error ellipse: s-maj=7.4km s-min=5.9km az=23.9*
*ISK **23** 21:55:56.1, 39.93N×39.68E, h12km, MD2.6*
*CSEM **23** 21:55:56.6±0.4, 39.92N×39.70E, h15km, MD3.0, Error ellipse: s-maj=8.6km s-min=4.5km az=135.0*
*DDA **23** 21:56:00.1, 40.07N×39.55E, h7km, MD3.0*
ISC 23 21:55:56.7±1.0, 39°92N±0°03×39°69E±0°03, h16km±8km, n14, σ0§41/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZC	**Erzincan**	**0.31**	**236**	*e*Pg	**Pg**	**21 56 03.6**	**+0.2**
EZC				*e*Sg	**Sb**	**21 56 08.8**	**0.0**
ERZN	**Erzincan**	**0.34**	**175**	*e*PG	**Pg**	**21 56 03.6**	**-0.3**
ERZN				*e*SG	**Sg**	**21 56 08.8**	**+0.1**
KELT	**Kelkit**	**0.40**	**304**	*i* P	**Pg**	**21 56 05.0**	**0.0**
KELT				*i* S	**Sg**	**21 56 10.4**	**-0.2**
KELT	**Kelkit**	**0.40**	**304**	*i* P	**Pg**	**21 56 05.0**	**0.0**
KELT				*i* S	**Sg**	**21 56 10.4**	**-0.2**
GUMT	**Gumushane**	**0.56**	**344**	*e*PG	**Pg**	**21 56 07.5**	**-0.4**
GUMT				*e*SG	**Sg**	**21 56 15.5**	**+0.1**
GUMT	**Gumushane**	**0.56**	**344**	*e*Pg	**Pg**	**21 56 07.5**	**-0.4**
GUMT				*e*Sg	**Sg**	**21 56 15.5**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.58**	**36**	*e*PG	**Pg**	**21 56 07.8**	**-0.5**
BAYT				*e*SG	**Sg**	**21 56 16.5**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.58**	**36**	*e*Pg	**Pg**	**21 56 07.8**	**-0.5**
BAYT				*e*Sg	**Sg**	**21 56 16.5**	**+0.3**
MACK	**Trabzon**	**1.02**	**3**	*i* P	**Pn**	**21 56 17.1**	**+0.7**
MACK				*i* S	**Sn**	**21 56 30.3**	**-0.1**
MACK	**Trabzon**	**1.02**	**3**	*i* P	**Pn**	**21 56 17.1**	**+0.7**
MACK				*i* S	**Sn**	**21 56 30.3**	**-0.1**
SUSE	**Susehri**	**1.18**	**284**	*i* P	**Pn**	**21 56 18.0**	**-0.6**
SUSE				*i* S	**Sg**	**21 56 35.2**	**+0.4**
SUSE	**Susehri**	**1.18**	**284**	*i* P	**Pn**	**21 56 18.0**	**-0.6**
SUSE				*i* S	**Sg**	**21 56 35.2**	**+0.4**
ESPY	**Espiye-Giresun**	**1.23**	**324**	*e*PN	**Pn**	**21 56 19.4**	**+0.2**
ESPY	**Espiye-Giresun**	**1.23**	**324**	*e*Pn	**Pn**	**21 56 19.5**	**+0.2**

*IDC **23** 22:03:48.0±1.7, 43.71N×82.33E, h0km, mb3.6/3, mb1 3.5/9, mb1mx3.4/32, mbtmp3.4/9, ML3.2/6, Error ellipse: s-maj=27.4km s-min=15.3km az=120.0*
*NNC **23** 22:03:55.2±2.8, 44.01N×81.94E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=25.7km s-min=14.2km az=127.0*
ISC 23 22:03:51.7±1.4, 43°7N±0°1×82°1E±0°1, h24km, n17, σ1§43/19, mb3.6/3, 13C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.10**	**3**	Pn	**Pn**	**22 04 40.0**	**+0.8**
	8.6nm,0.5s,baz=187,slow=12,SNR=442						
MK31				Sn	**Sn**	**22 05 17.8**	**+2.4**
	34nm,0.5s,baz=186,slow=29,SNR=10						
MK31				⇑Lg	Lg	22 05 30.0	
	53nm,0.5s,baz=185,slow=28,SNR=9.1						
MKAR	**Makanchi Array**	**3.10**	**3**	Pn	**Pn**	**22 04 40.1**	**+1.0**
	1.4nm,0.3s,baz=179,slow=13,SNR=56						
MKAR				Pg	**Pb**	**22 04 45.9**	**-0.2**
	7.9nm,0.3s,baz=171,slow=17,SNR=89						
MKAR				Sn	**Sn**	**22 05 17.0**	**+1.6**
	18nm,0.3s,baz=183,slow=29,SNR=25						
MKAR				Lg	Lg	22 05 32.8	
	28nm,0.3s,baz=184,slow=25,SNR=18						
TKM2	**Tokmak 2**	**4.78**	**263**	⇓Pn	Pn	22 05 08.9	+6.5
	2.2nm,0.6s						
TKM2				⇑Lg	Lg	22 06 27.1	
	15nm,0.5s						
AAK	**Ala-Archa**	**5.63**	**262**	Pn	Pn	22 05 20.2	+6.2
	0.2nm,0.3s,baz=85,slow=5.1,SNR=7.0						
AAK				Pg	Pb	22 05 38.3	+9.0
	1.3nm,0.3s,baz=85,slow=6.8,SNR=12						
AAK				Lg	Lg	22 06 50.8	
	0.7nm,0.3s,baz=240,slow=20,SNR=3.0						
KURBB	**Kurchatov Arra**	**7.33**	**342**	Pn	**Pn**	**22 05 37.9**	**+0.7**
	0.4nm,0.3s,baz=167,slow=12,SNR=74						
KURBB				Sn	**Sn**	**22 06 58.8**	**-0.7**
	0.5nm,0.3s,baz=151,slow=25,SNR=8.2						
KURBB				Lg	Lg	22 07 40.5	
	0.4nm,0.3s,baz=180,slow=33,SNR=5.7						
KURBB	**Kurchatov Arra**	**7.33**	**342**	⇑Pn	**Pn**	**22 05 37.5**	**+0.4**
	1.0nm,0.6s						
KURBB				⇓Sn	**Sn**	**22 07 00.3**	**+0.7**
	0.6nm,0.5s						
KURBB				⇑Lg	Lg	22 07 42.9	
	1.7nm,0.6s						
KURK	**Kurchatov**	**7.40**	**343**	⇑Pn	**Pn**	**22 05 38.6**	**+0.5**
	2.3nm,0.5s						
KURK				⇑Sn	**Sn**	**22 07 00.6**	**-0.6**
	4.5nm,0.8s						
KURK				⇑Lg	Lg	22 07 43.5	
	8.5nm,0.7s						
KK31	**Karatay Array**	**8.43**	**270**	⇑Pn	Pn	22 06 04.4	+12
	0.1nm,0.3s,baz=75,slow=14,SNR=6.7						
KK31				⇑Lg	Lg	22 08 22.5	
	2.3nm,0.5s,baz=81,slow=29,SNR=5.5						
ZALV	**Zalesovo Beam**	**10.42**	**9**	Pn	**Pn**	**22 06 17.5**	**-2.0**
	0.1nm,0.3s,baz=187,slow=13,SNR=2.9						
ZALV				Sn	Sn	22 08 07.1	-8.2
	0.4nm,0.3s,baz=190,slow=23,SNR=3.9						
ZALV				Lg	Lg	22 09 16.1	
	0.2nm,0.3s,baz=196,slow=29,SNR=3.9						
VOSK	**Vostochnaya**	**11.65**	**325**	⇑Pn	**Pn**	**22 06 36.0**	**-0.4**
	0.6nm,0.4s						
VOSK				⇑Lg	Lg	22 09 58.8	
	4.2nm,0.8s						
BVA0	**Borovoye Array**	**12.12**	**324**	⇓Lg	Lg	22 10 14.2	
	0.6nm,0.9s,baz=141,slow=25,SNR=6.3						
BVAR	**Borovoye Array**	**12.12**	**324**	Pn	**Pn**	**22 06 40.7**	**-2.0**
	0.2nm,0.3s,baz=138,slow=15,SNR=5.3						
BVAR				Sn	Sn	22 08 50.1	-6.9
	0.1nm,0.3s,baz=127,slow=21,SNR=2.0						
BVAR				Lg	Lg	22 10 17.2	
	0.2nm,0.3s,baz=125,slow=25,SNR=7.7						
ZRNK	**Zerenda**	**12.68**	**321**	⇑Pn	Pn	22 06 47.5	-2.8
	0.1nm,0.3s						
ZRNK				⇑Sn	**Sn**	**22 09 07.8**	**-2.7**
	1.4nm,0.8s						
ZRNK				⇓Lg	Lg	22 10 28.9	
	7.1nm,1.2s						
SONM	**Songino Array**	**17.45**	**68**	P	**Pn**	**22 07 52.5**	**-1.0**
	0.1nm,0.3s,baz=256,slow=12,SNR=7.8						
ARCES	**ARCESS Array B**	**38.27**	**332**	P	**P**	**22 11 11.0**	**+1.4**
	3.8nm,1.0s,baz=90,slow=9.9,SNR=4.5						
YKA	**Yellowknife Ar**	**73.31**	**8**	P	**P**	**22 15 19.8**	**-0.9**
	0.1nm,0.3s,baz=337,slow=6.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**74.10**	**273**	P	**P**	**22 15 27.2**	**+1.1**
	0.2nm,0.3s,baz=40,slow=5.3,SNR=16						

IDC 23 22:07:16.2±3.4, 23°90S×175°03W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=114.5km s-min=50.3km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.02**	**268**	P	P	22 14 19.1	-0.3
	6.2nm,0.8s,baz=90,slow=13,SNR=4.3						
PMG	**Port Moresby**	**38.84**	**285**	P	P	22 14 43.3	0.0
	7.6nm,0.7s,baz=118,slow=5.4,SNR=4.2						
ASAR	**Alice Springs**	**46.51**	**259**	P	P	22 15 45.6	-0.1
	1.6nm,0.8s,baz=98,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**46.94**	**265**	P	P	22 15 48.5	-0.6
	1.5nm,0.7s,baz=101,slow=8.3,SNR=23						
FITZ	**Fitzroy Crossi**	**55.35**	**264**	P	P	22 16 52.8	+0.5
	1.0nm,0.6s,baz=119,slow=7.8,SNR=3.6						
BRTR	**Keskin Array B**	**151.14**	**310**	PKPbc	PKPbc	22 27 09.9	-1.8
	0.2nm,0.5s,baz=26,slow=8.0,SNR=3.6						
BRTR				PKPab	PKPab	22 27 20.6	+1.1
	0.5nm,0.7s,baz=142,slow=3.1,SNR=3.4						

IDC 23 22:09:10.9±2.9, 20°33S×68°76W, h115km±25km, mb3.3/4, mb1 3.4/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=33.3km s-min=27.0km az=107.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.07**	**9**	P	Pn	22 10 13.1	+0.9
	1.4nm,0.3s,baz=202,slow=5.6,SNR=26						
LPAZ				S	Sn	22 10 58.9	-0.6
	0.6nm,0.3s,baz=159,slow=6.9,SNR=4.0						
SIV	**San Ignacio**	**8.49**	**61**	P	Pn	22 11 09.6	-1.6
	1.5nm,0.3s,baz=257,slow=12,SNR=20						
BDFB	**Brasilia**	**20.27**	**80**	P	P	22 13 37.6	-0.1
	1.9nm,0.5s,baz=211,slow=11,SNR=3.8						
PLCA	**Paso Flores**	**20.39**	**184**	P	P	22 13 38.8	+0.1
	1.9nm,0.9s,baz=345,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	P	22 20 51.2	+0.5
	0.5nm,0.5s,baz=255,slow=5.2,SNR=16						
TORD				pP	pP	22 21 19.0	-0.9
	0.9nm,0.9s,baz=254,slow=5.3,SNR=4.7						
YKA	**Yellowknife Ar**	**90.14**	**341**	P	P	22 21 56.8	-0.8
	0.2nm,0.5s,baz=136,slow=4.8,SNR=7.4						
WRA	**Warramunga Arr**	**134.02**	**211**	PKP	PKPdf	22 28 15.1	-0.4
	0.2nm,0.7s,baz=148,slow=1.3,SNR=3.5						

IDC 23 22:36:05.8±0.9, 33.64N×82.38E, h0km, mb3.4/9, mb1 3.6/11, mb1mx3.4/29, mbtmp3.4/11, ML3.0/2, Error ellipse: s-maj=29.5km s-min=17.5km az=59.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.13**	**360**	Pn	Pn	22 39 13.2	-0.3
	0.1nm,0.3s,baz=178,slow=12,SNR=5.3						
KURBB	**Kurchatov Arra**	**17.20**	**352**	P	P	22 40 08.2	-0.8
	0.0nm,0.3s,baz=170,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**20.37**	**4**	P	P	22 40 44.0	+0.2
	0.5nm,0.7s,baz=224,slow=4.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**21.17**	**131**	P	P	22 40 53.3	+0.6
	1.7nm,0.8s,baz=311,slow=11,SNR=15						
BVAR	**Borovoye Array**	**21.19**	**340**	P	P	22 40 53.5	+0.8
	0.5nm,0.7s,baz=138,slow=11,SNR=3.5						
SONM	**Songino Array**	**22.94**	**45**	P	P	22 41 12.2	+0.5
	0.3nm,0.8s,baz=243,slow=6.3,SNR=2.9						
FINES	**FINESS Array B**	**45.09**	**326**	P	P	22 44 23.5	+0.2
	0.7nm,0.7s,baz=110,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**72.75**	**129**	P	P	22 47 36.0	0.0
	0.7nm,0.9s,baz=322,slow=5.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**75.16**	**276**	P	P	22 47 50.5	+0.1
	0.2nm,0.5s,baz=50,slow=4.4,SNR=10						
ASAR	**Alice Springs**	**75.18**	**132**	P	P	22 47 50.4	+0.1
	0.3nm,0.6s,baz=310,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**83.22**	**8**	P	P	22 48 31.9	-1.7
	0.1nm,0.4s,baz=338,slow=5.2,SNR=3.7						

IDC 23 22:36:52.6±1.2, 33.44N×82.13E, h0km, mb3.3/6, mb1 3.6/7, mb1mx3.4/27, mbtmp3.4/7, ML2.6/1, Error ellipse: s-maj=32.4km s-min=24.5km az=69.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.34**	**0**	Pn	Pn	22 40 03.2	+0.1
	0.0nm,0.3s,baz=191,slow=14,SNR=3.2						
ZALV	**Zalesovo Beam**	**20.59**	**5**	P	P	22 41 33.0	0.0
	0.3nm,0.4s,baz=179,slow=16,SNR=2.8						
CMAR	**Chiang Mai Arr**	**21.20**	**131**	P	P	22 41 40.0	+0.2
	1.5nm,0.7s,baz=308,slow=11,SNR=6.1						
SONM	**Songino Array**	**23.23**	**45**	P	P	22 42 03.0	+1.6
	0.1nm,0.4s,baz=228,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**72.78**	**129**	P	P	22 48 22.8	-0.3
	0.6nm,0.9s,baz=327,slow=5.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**74.97**	**276**	P	P	22 48 37.1	+1.0
	0.3nm,0.4s,baz=56,slow=4.8,SNR=6.0						
YKA	**Yellowknife Ar**	**83.45**	**8**	P	P	22 49 19.8	-1.9
	0.1nm,0.4s,baz=335,slow=5.5,SNR=3.1						

*DDA **23** 22:43:31.8, 36.36N×41.01E, h21km, MD3.4*
*ISK **23** 22:43:33.9, 36.32N×40.91E, h12km, MD3.6*
*ISCJB **23** 22:43:34.6±1.0, 36.47N±0.04×40.94E±0.04, h3km±8km, Error ellipse: s-maj=7.2km s-min=5.2km az=27.3*
*CSEM **23** 22:43:36.7±0.4, 36.59N×40.94E, h10km, MD3.4, Error ellipse: s-maj=11.2km s-min=7.5km az=20.0*
ISC 23 22:43:34.5±1.4, 36°42N±0°04×40°97E±0°04, h5km±12km, n35, σ1§19/49, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**0.90**	**350**	*i* P	**Pg**	**22 43 50.4**	**-1.5**
MARD				*i* S	**Sg**	**22 44 05.2**	**+1.5**
BEST	**Besiri**	**1.48**	**9**	*i* P	**Pn**	**22 44 01.0**	**-1.0**
BEST				*i* S	**Sn**	**22 44 22.4**	**+0.6**
SIRN	**S¯–rnak**	**1.57**	**47**	*i* P	**Pn**	**22 44 01.2**	**-2.0**
SIRN				*i* S	**Sn**	**22 44 23.3**	**-0.6**
SIRN	**S¯–rnak**	**1.57**	**47**	*i* P	**Pn**	**22 44 01.2**	**-2.0**
SIRN				*i* S	**Sn**	**22 44 23.3**	**-0.6**
DIY	**Diyarbakir**	**1.59**	**338**	*e*PN	**Pn**	**22 44 02.8**	**-0.5**
DIY				*e*SN	**Sn**	**22 44 24.6**	**+0.3**
DIY	**Diyarbakir**	**1.59**	**338**	*e*Pn	**Pn**	**22 44 02.8**	**-0.5**
DIY				*e*Sn	**Sn**	**22 44 24.6**	**+0.3**
DIYA	**Diyarbakir**	**1.65**	**336**	*i* P	**Pn**	**22 44 03.2**	**-0.9**
DIYA				*i* S	**Sn**	**22 44 26.5**	**+0.8**
DIYA	**Diyarbakir**	**1.65**	**336**	*i* P	**Pn**	**22 44 03.2**	**-0.9**
BTMT	**Batman**	**1.81**	**13**	*e*PN	**Pn**	**22 44 05.8**	**-0.6**
BTMT				*e*SN	**Sn**	**22 44 29.9**	**+0.1**
BTMT	**Batman**	**1.81**	**13**	*e*Pn	**Pn**	**22 44 05.8**	**-0.6**
BTMT				*e*Sn	**Sn**	**22 44 29.9**	**+0.1**
URFA	**Urfa**	**2.00**	**301**	*e*PN	**Pn**	**22 44 08.7**	**-0.3**
URFA	**Urfa**	**2.00**	**301**	*e*Pn	**Pn**	**22 44 08.7**	**-0.3**
CUKT	**Cukurca**	**2.27**	**68**	*e*PN	**Pn**	**22 44 12.9**	**+0.2**
CUKT				*e*SN	**Sn**	**22 44 42.2**	**+1.1**
CUKT	**Cukurca**	**2.27**	**68**	*e*Pn	**Pn**	**22 44 12.9**	**+0.2**
CUKT				*e*Sn	**Sn**	**22 44 42.2**	**+1.1**
HAKT	**HAKKARI**	**2.46**	**62**	*i* P	**Pn**	**22 44 15.5**	**0.0**
HAKT				*i* S	**Sn**	**22 44 47.1**	**+1.0**
HAKT	**HAKKARI**	**2.46**	**62**	*i* P	**Pn**	**22 44 15.5**	**0.0**
HAKT				*i* S	**Sn**	**22 44 47.1**	**+1.0**
PTK	**Pertek**	**2.77**	**333**	*e*PN	**Pn**	**22 44 21.0**	**+1.4**
PTK	**Pertek**	**2.77**	**333**	*e*Pn	**Pn**	**22 44 21.0**	**+1.4**
MALT	**Malatya**	**2.77**	**314**	*e*PN	**Pn**	**22 44 20.3**	**+0.7**
MALT	**Malatya**	**2.77**	**314**	*e*Pn	**Pn**	**22 44 20.3**	**+0.7**
MYA	**Malataya**	**2.78**	**314**	*e*PN	**Pn**	**22 44 19.8**	**0.0**
MYA	**Malataya**	**2.78**	**314**	*e*Pn	**Pn**	**22 44 19.8**	**0.0**
GZT	**Gaziantep**	**2.89**	**290**	*i* P	**Pn**	**22 44 19.2**	**-2.0**
GAZ	**Gaziantep**	**3.11**	**285**	*e*PN	**Pn**	**22 44 24.6**	**+0.3**
GAZ	**Gaziantep**	**3.11**	**285**	*e*Pn	**Pn**	**22 44 24.6**	**+0.3**
ERZN	**Erzincan**	**3.31**	**343**	*e*PN	**Pn**	**22 44 28.7**	**+1.7**
KMRS	**Kahramanmaras**	**3.44**	**290**	*e*PN	**Pn**	**22 44 28.9**	**+0.2**
KMRS	**Kahramanmaras**	**3.44**	**290**	*e*Pn	**Pn**	**22 44 28.9**	**+0.2**
AGRB	**Hanur-Agry**	**3.53**	**26**	*e*PN	**Pn**	**22 44 32.3**	**+2.2**
AGRB	**Hanur-Agry**	**3.53**	**26**	*e*Pn	**Pn**	**22 44 32.3**	**+2.2**
EZC	**Erzincan**	**3.56**	**339**	*e*Pn	**Pn**	**22 44 28.7**	**-1.8**
ILIC	**ilic-Erzincan**	**3.57**	**329**	*e*PN	**Pn**	**22 44 32.6**	**+1.9**
ILIC	**ilic-Erzincan**	**3.57**	**329**	*e*Pn	**Pn**	**22 44 32.6**	**+1.9**
BHD	**Baghdad**	**4.21**	**137**	*i* Pn	Pn	22 44 43.0	+3.7
BHD				*i* Pb	**Pg**	**22 44 55.4**	**-0.2**
BHD				*i* Pg	Pb	22 45 01.3	+12
BHD				*i* Sn	**Sb**	**22 45 37.6**	**-2.6**
BHD				*i* Sb	**Sg**	**22 45 51.3**	**+1.5**
BHD				*i* Sg	Sn	22 46 01.6	+33
BHD	**Baghdad**	**4.21**	**137**	*i* Pn	Pn	22 44 43.0	+3.7

IDC 23 22:51:54.6±4.9, 1.76S×139.34E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=198.5km s-min=28.9km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.72**	**195**	P	P	22 56 14.4	-0.6
	0.1nm,0.3s,baz=19,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**22.40**	**193**	P	P	22 56 55.6	+0.7
	0.3nm,0.8s,baz=23,slow=9.4,SNR=3.5						
MKAR	**Makanchi Array**	**69.43**	**322**	P	P	23 03 04.5	-0.2
	0.1nm,0.3s,baz=124,slow=8.0,SNR=6.2						

*ISCJB **23** 22:59:23.3±0.6, 11.07N±0.03×62.37W±0.03, h110km±7km, Error ellipse: s-maj=6.7km s-min=3.9km az=41.2*
*TRN **23** 22:59:24.4, 11.10N×62.27W, h123km, MD3.6*
*FUNV **23** 22:59:26.2, 10.93N×62.31W, h100km, MWS.4*
ISC 23 22:59:22.5±1.3, 11°01N±0°03×62°33W±0°04, h123km±9km, n27, σ1§64/44, 4C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.38**	**164**	*e*P	**Pn**	**22 59 40.1**	**-0.1**
GUIV				*e*S	**Sn**	**22 59 51.1**	**-2.4**
CRUV	**Carupano**	**0.95**	**250**	⇓*e*P	**Pn**	**22 59 44.9**	**+0.6**
CRUV				*e*S	**Sn**	**22 59 59.7**	**-1.2**
TRN	**Trinidad (W)**	**0.98**	**111**	⇑*i*P	**Pn**	**22 59 46.2**	**+1.6**
TRN				*e*S	**Sn**	**23 00 02.9**	**+1.5**
GUNV	**Guanoco**	**1.03**	**216**	⇑*e*P	**Pn**	**22 59 46.4**	**+1.2**
GUNV				*e*S	**Sn**	**23 00 00.6**	**-1.8**
TPP	**Pointe-a-Pierr**	**1.10**	**128**	*e*P	**Pn**	**22 59 48.1**	**+2.2**
GRW	**Mount Saint Ca**	**1.32**	**30**	*e*P	**Pn**	**22 59 48.5**	**+0.3**
GRW				*e*S	**Sn**	**23 00 07.0**	**-0.8**
TBH	**Brigand Hill**	**1.35**	**113**	⇑*i*P	**Pn**	**22 59 50.4**	**+1.9**
TBH				*e*S	**Sn**	**23 00 09.9**	**+1.8**
GRHS	**Sauteurs**	**1.38**	**29**	*e*P	**Pn**	**22 59 49.1**	**+0.2**
GRHS				*e*S	**Sn**	**23 00 07.5**	**-1.4**
GRSS	**Sisters**	**1.46**	**29**	*e*P	**Pn**	**22 59 50.5**	**+0.7**
GRSS				*e*S	**Sn**	**23 00 09.7**	**-0.8**
GRIC	**Isle de Caille**	**1.46**	**30**	*e*P	**Pn**	**22 59 50.4**	**+0.7**
GRIC				*e*S	**Sn**	**23 00 10.2**	**-0.3**
TPR	**Prospect**	**1.54**	**83**	*e*P	**Pn**	**22 59 52.2**	**+1.6**
TPR				*e*S	**Sn**	**23 00 11.6**	**-0.3**
BOT	**Bacolet**	**1.59**	**84**	*e*P	**Pn**	**22 59 52.6**	**+1.4**
TOSP	**Speyside**	**1.79**	**81**	*e*P	**Pn**	**22 59 53.7**	**+0.2**
TOSP				*e*S	**Sn**	**23 00 16.1**	**-1.1**
ORIV	**Oritupano**	**2.20**	**209**	⇑*e*P	**Pn**	**23 00 00.4**	**+1.7**
ORIV				*e*S	**Sn**	**23 00 24.3**	**-2.1**
PCRV	**Puerto La Cruz**	**2.41**	**250**	*e*P	**Pn**	**23 00 03.5**	**+2.1**
SVB	**Belmont**	**2.48**	**25**	*e*P	**Pn**	**23 00 03.1**	**+0.8**
SVB				*e*S	**Sn**	**23 00 31.4**	**-1.4**
RIOV	**Rio Grande**	**2.97**	**170**	*e*P	**Pn**	**23 00 10.4**	**+1.9**
RIOV				*e*S	**Sn**	**23 00 42.0**	**-2.0**
MCLT	**Moule a Chique**	**3.01**	**27**	*e*P	**Pn**	**23 00 10.0**	**+0.9**
MCLT				*e*S	**Sn**	**23 00 43.6**	**-1.3**
SLB	**Belfond**	**3.07**	**24**	*e*S	**Sn**	**23 00 44.0**	**-2.5**
PRGV	**PARIAGUAN**	**3.19**	**226**	*e*P	**Pn**	**23 00 12.9**	**+1.4**
GURV	**El Guri**	**3.31**	**193**	⇓*e*P	**Pn**	**23 00 14.2**	**+1.2**
CUPV	**Cœpira**	**3.53**	**255**	*e*P	**Pn**	**23 00 18.0**	**+2.0**
CUPV				*e*S	**Sn**	**23 00 57.5**	**+0.2**
BIRV	**Birongo**	**3.91**	**263**	*e*P	**Pn**	**23 00 23.6**	**+2.7**
MERV	**Las Mercedes**	**4.28**	**246**	*e*P	**Pn**	**23 00 27.1**	**+1.2**
LUEV	**Luepa**	**5.21**	**170**	*e*P	**Pn**	**23 00 38.4**	**-0.1**
LUEV				*e*S	**Sn**	**23 01 33.1**	**-4.5**
BAUV	**El Baul**	**5.99**	**250**	*e*P	**Pn**	**23 00 49.4**	**+0.6**
MAPV	**Macapo**	**6.14**	**260**	*e*P	**Pn**	**23 00 52.1**	**+1.2**

*ISCJB **23** 23:20:55.7±0.6, 37.30N±0.04×37.12E±0.04, h6km±6km, Error ellipse: s-maj=8.3km s-min=4.8km az=30.8*
*ISK **23** 23:20:55.2, 37.32N×37.13E, h5km, MD2.7*
*DDA **23** 23:20:55.2, 37.33N×37.12E, h7km, MD3.0*
*CSEM **23** 23:20:55.7±0.1, 37.32N×37.15E, h2km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.6km az=53.0*
ISC 23 23:20:55.7±0.9, 37°32N±0°03×37°14E±0°03, h9km±8km, n25, σ0§49/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**158**	PG	**Pg**	**23 20 58.8**	**-0.3**
GAZ				*e*SG	**Sg**	**23 21 01.8**	**+0.3**
GAZ	**Gaziantep**	**0.15**	**158**	*i* Pg	**Pg**	**23 20 58.8**	**-0.3**
GAZ				*e*Sg	**Sg**	**23 21 01.8**	**+0.3**
KMRS	**Kahramanmaras**	**0.27**	**315**	*e*PG	**Pg**	**23 21 01.0**	**-0.2**
KMRS				*e*SG	**Sg**	**23 21 04.8**	**0.0**
KMRS	**Kahramanmaras**	**0.27**	**315**	*e*Pg	**Pg**	**23 21 01.0**	**-0.2**
KMRS				*e*Sg	**Sg**	**23 21 04.8**	**0.0**
GZT	**Gaziantep**	**0.34**	**83**	*i* P	**Pg**	**23 21 02.4**	**-0.2**
GZT				*i* S	**Sg**	**23 21 08.5**	**+1.3**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pg**	**23 21 06.3**	**0.0**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pg**	**23 21 06.3**	**0.0**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pg**	**23 21 13.6**	**-0.1**
ATAB				*i* S	**Sb**	**23 21 26.4**	**-0.3**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pg**	**23 21 13.6**	**-0.1**
ATAB				*i* S	**Sb**	**23 21 26.4**	**-0.3**
KOZT	**Kozan**	**1.06**	**279**	*e*PG	**Pg**	**23 21 15.8**	**-0.2**
KOZT	**Kozan**	**1.

*IDC **23** 23:36:39.5±2.5, 37.°34S×179.°66E, h0km, mb4.0/3, mb1 4.2/5, mb1mx4.0/18, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=69.5km s-min=27.7km az=141.0*
*WEL **23** 23:36:42.5±0.5, 37.°38S×179.°87E, h33km, ML4.4/25, Error ellipse: s-maj=4.5km s-min=4.1km az=90.0*
*NEIC **23** 23:36:42.4, 37.°38S×179.°87E, h33km, ML4.4(WEL), After WEL.*

ISC 23 23:36:39.0±1.8, 37.°65S±0.°07×179.°86E±0.°10, h33km, n117, σ2s21/81, mb3.9/3, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.23**	**273**	‖PN	**Pb**	**23 37 03.1**	**+1.3**
MXZ				SN	**Sb**	**23 37 18.6**	**+1.3**
MXZ	**Matakaoa Point**	**1.23**	**273**	Pn	**Pb**	**23 37 03.1**	**+1.3**
MXZ				Sn	**Sb**	**23 37 18.6**	**+1.3**
PUZ	**Puketiti**	**1.34**	**251**	PN	**Pb**	**23 37 05.5**	**+2.1**
PUZ				SN	**Sb**	**23 37 23.0**	**+2.7**
PUZ	**Puketiti**	**1.34**	**251**	Pn	**Pb**	**23 37 05.5**	**+2.1**
PUZ				Sn	**Sb**	**23 37 23.0**	**+2.7**
CNGZ	**Carnagh Statio**	**1.55**	**237**	PN	**Pb**	**23 37 09.7**	**+2.7**
CNGZ	**Carnagh Statio**	**1.55**	**237**	Pn	**Pb**	**23 37 09.8**	**+2.7**
MWZ	**Matawai**	**1.96**	**249**	PN	**Pb**	**23 37 14.0**	**-0.1**
MWZ	**Matawai**	**1.96**	**249**	Pn	**Pb**	**23 37 14.0**	**-0.1**
PRGZ	**Paritu Road**	**2.01**	**230**	*e*PN	**Pb**	**23 37 16.0**	**+1.1**
PRGZ	**Paritu Road**	**2.01**	**230**	Pn	**Pb**	**23 37 15.9**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.15**	**225**	PN	**Pb**	**23 37 17.7**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.15**	**225**	Pn	**Pb**	**23 37 17.7**	**+0.5**
KNZ	**Kokohu**	**2.20**	**231**	PN	**Pb**	**23 37 17.8**	**-0.2**
KNZ	**Kokohu**	**2.20**	**231**	Pn	**Pb**	**23 37 17.8**	**-0.2**
URZ	**Urewera**	**2.26**	**253**	Pn	**Pb**	**23 37 18.9**	**-0.1**
	64nm,0.3s,baz=70,slow=8.0,SNR=152						
URZ				Sn	**Sb**	**23 37 45.3**	**-1.2**
	78nm,0.3s,baz=355,slow=22,SNR=5.4						
URZ	**Urewera**	**2.26**	**253**	PN	**Pb**	**23 37 18.9**	**-0.1**
URZ				SN	**Sb**	**23 37 45.7**	**-0.9**
URZ	**Urewera**	**2.26**	**253**	Pn	**Pb**	**23 37 18.9**	**-0.1**
URZ				Sn	**Sb**	**23 37 45.3**	**-1.2**
URZ				Sn	**Sb**	**23 37 45.7**	**-0.9**
EDRZ	**Edgecumbe**	**2.51**	**259**	*e*PN	**Pb**	**23 37 22.0**	**-1.4**
EDRZ	**Edgecumbe**	**2.51**	**259**	Pn	**Pb**	**23 37 22.2**	**-1.2**
RAHZ	**Arahi**	**2.52**	**239**	PN	**Pb**	**23 37 22.7**	**-0.9**
RAHZ	**Arahi**	**2.52**	**239**	Pn	**Pb**	**23 37 22.7**	**-0.9**
OPRZ	**Ohinepanea**	**2.63**	**265**	PN	**Pb**	**23 37 22.6**	**-2.7**
OPRZ	**Ohinepanea**	**2.63**	**265**	Pn	**Pb**	**23 37 22.6**	**-2.7**
TARZ	**Mount Tarawera**	**2.71**	**257**	Pn	**Pb**	**23 37 25.1**	**-1.8**
NMHZ	**Naumai**	**2.80**	**238**	*e*PN	**Pb**	**23 37 26.2**	**-2.1**
NMHZ	**Naumai**	**2.80**	**238**	Pn	**Pb**	**23 37 26.2**	**-2.1**
BKZ	**Black Stump Fm**	**3.05**	**239**	PN	Pb	23 37 29.4	-3.1
BKZ	**Black Stump Fm**	**3.05**	**239**	Pn	Pb	23 37 29.4	-3.1
MCHZ	**McNeill Hill**	**3.06**	**233**	PN	**Pb**	**23 37 29.9**	**-2.8**
MCHZ	**McNeill Hill**	**3.06**	**233**	Pn	**Pb**	**23 37 29.9**	**-2.8**
KAHZ	**Kahuranaki**	**3.17**	**226**	*e*PN	Pb	23 37 30.8	-3.7
KAHZ	**Kahuranaki**	**3.17**	**226**	Pn	Pb	23 37 30.8	-3.7
PXZ	**Pawanui**	**3.34**	**224**	PN	Pn	23 37 33.0	+4.2
PXZ	**Pawanui**	**3.34**	**224**	Pn	Pn	23 37 33.0	+4.2
KUZ	**Kuaotunu**	**3.42**	**284**	PN	**Pn**	**23 37 32.8**	**+2.8**
KUZ	**Kuaotunu**	**3.42**	**284**	Pn	**Pn**	**23 37 32.8**	**+2.8**
TOZ	**Tahuroa Road**	**3.46**	**267**	PN	Pn	23 37 34.0	+3.6
TOZ	**Tahuroa Road**	**3.46**	**267**	Pn	Pn	23 37 34.0	+3.6
BHHZ	**Black Hill Sta**	**3.50**	**237**	PN	Pn	23 37 35.4	+4.4
BHHZ	**Black Hill Sta**	**3.50**	**237**	Pn	Pn	23 37 35.4	+4.4
WPHZ	**Waipukurau**	**3.60**	**227**	PN	Pn	23 37 36.3	+3.9
WPHZ	**Waipukurau**	**3.60**	**227**	Pn	Pn	23 37 36.3	+3.9
KRVZ	**Karewarewa**	**3.62**	**245**	PN	Pn	23 37 37.1	+4.4
KRVZ	**Karewarewa**	**3.62**	**245**	Pn	Pn	23 37 37.1	+4.4
PNHZ	**Pukenui**	**3.65**	**231**	PN	Pn	23 37 36.7	+3.6
PNHZ	**Pukenui**	**3.65**	**231**	Pn	Pn	23 37 36.7	+3.6
MOVZ	**Moawhango**	**3.67**	**240**	*e*PN	Pn	23 37 37.8	+4.3
MOVZ	**Moawhango**	**3.67**	**240**	Pn	Pn	23 37 37.5	+4.0
WPVZ	**Whakapapa**	**3.73**	**244**	*e*PN	Pn	23 37 38.6	+4.4
WPVZ	**Whakapapa**	**3.73**	**244**	Pn	Pn	23 37 38.6	+4.4
WNVZ	**Wahianoa**	**3.74**	**242**	PN	Pn	23 37 38.6	+4.1
WNVZ	**Wahianoa**	**3.74**	**242**	Pn	Pn	23 37 38.6	+4.1
FWVZ	**Far West T-bar**	**3.74**	**243**	*e*PN	Pn	23 37 38.6	+4.1
FWVZ	**Far West T-bar**	**3.74**	**243**	Pn	Pn	23 37 38.6	+4.1
TRVZ	**Turoa**	**3.76**	**243**	Pn	Pn	23 37 39.3	+4.4
MKAZ	**Moumakai**	**3.77**	**277**	PN	Pn	23 37 38.4	+3.6
MKAZ	**Moumakai**	**3.77**	**277**	Pn	Pn	23 37 38.5	+3.6
TSZ	**Takapari Road**	**3.88**	**230**	PN	Pn	23 37 39.8	+3.5
TSZ	**Takapari Road**	**3.88**	**230**	Pn	Pn	23 37 39.8	+3.5
DVHZ	**Dannevirke**	**3.91**	**226**	PN	Pn	23 37 40.2	+3.5
DVHZ	**Dannevirke**	**3.91**	**226**	Pn	Pn	23 37 40.2	+3.5
BFZ	**Birch Farm**	**4.13**	**222**	PN	**Pn**	**23 37 42.5**	**+2.8**
BFZ	**Birch Farm**	**4.13**	**222**	Pn	**Pn**	**23 37 42.5**	**+2.8**
POWZ	**Post Office Ro**	**4.20**	**228**	PN	Pn	23 37 44.4	+3.7
POWZ	**Post Office Ro**	**4.20**	**228**	Pn	Pn	23 37 44.4	+3.7
WAZ	**Wanganui**	**4.35**	**240**	Pn	Pb	23 37 49.0	-5.7
TIWZ	**Tintock**	**4.39**	**223**	PN	Pn	23 37 46.6	+3.2
TIWZ	**Tintock**	**4.39**	**223**	Pn	Pn	23 37 46.6	+3.2
MRZ	**Mangatainoka R**	**4.49**	**227**	PN	**Pn**	**23 37 47.7**	**+3.1**
MRZ				SN	**Sn**	**23 38 37.7**	**+2.0**
MRZ	**Mangatainoka R**	**4.49**	**227**	Pn	**Pn**	**23 37 47.7**	**+3.1**
TMWZ	**Te Maipa**	**4.62**	**220**	PN	**Pn**	**23 37 48.9**	**+2.4**
TMWZ	**Te Maipa**	**4.62**	**220**	Pn	**Pn**	**23 37 48.9**	**+2.4**
HOWZ	**Holdsworth Sta**	**4.68**	**225**	PN	**Pn**	**23 37 49.9**	**+2.6**
HOWZ	**Holdsworth Sta**	**4.68**	**225**	Pn	**Pn**	**23 37 49.9**	**+2.6**
WCZ	**Waipu Caves**	**4.74**	**289**	*e*PN	Pn	23 37 51.8	+3.7
WCZ	**Waipu Caves**	**4.74**	**289**	Pn	**Pn**	**23 37 49.8**	**+1.7**
OGWZ	**Otaki Gorge**	**4.82**	**228**	PN	**Pn**	**23 37 51.9**	**+2.6**
OGWZ	**Otaki Gorge**	**4.82**	**228**	Pn	**Pn**	**23 37 51.9**	**+2.6**
MTW	**Mount Morrison**	**4.87**	**223**	PN	**Pn**	**23 37 51.8**	**+2.0**
MTW	**Mount Morrison**	**4.87**	**223**	Pn	**Pn**	**23 37 51.8**	**+2.0**
KIW	**Kapiti Island**	**5.00**	**229**	PN	**Pn**	**23 37 54.9**	**+3.1**
KIW	**Kapiti Island**	**5.00**	**229**	Pn	**Pn**	**23 37 54.9**	**+3.1**
PAWZ	**Paruwai Farm**	**5.06**	**221**	PN	**Pn**	**23 37 54.6**	**+2.1**
PAWZ	**Paruwai Farm**	**5.06**	**221**	Pn	**Pn**	**23 37 54.6**	**+2.1**
CAW	**Cannon Point**	**5.07**	**226**	PN	**Pn**	**23 37 55.2**	**+2.6**
CAW	**Cannon Point**	**5.07**	**226**	Pn	**Pn**	**23 37 55.2**	**+2.6**
MSWZ	**Moikau Station**	**5.18**	**222**	PN	**Pn**	**23 37 55.9**	**+1.8**
MSWZ	**Moikau Station**	**5.18**	**222**	Pn	**Pn**	**23 37 55.9**	**+1.8**
PLWZ	**Palliser**	**5.29**	**221**	PN	**Pn**	**23 37 56.9**	**+1.3**
PLWZ	**Palliser**	**5.29**	**221**	Pn	**Pn**	**23 37 57.0**	**+1.3**
TCW	**Tory Channel**	**5.60**	**229**	PN	**Pn**	**23 38 02.1**	**+2.2**
TCW	**Tory Channel**	**5.60**	**229**	Pn	**Pn**	**23 38 02.1**	**+2.2**
TUWZ	**Tuamarina**	**5.93**	**229**	PN	**Pn**	**23 38 06.5**	**+2.1**
TUWZ	**Tuamarina**	**5.93**	**229**	Pn	**Pn**	**23 38 06.5**	**+2.1**
NNZ	**Nelson**	**6.15**	**233**	PN	**Pn**	**23 38 09.7**	**+2.3**
NNZ	**Nelson**	**6.15**	**233**	Pn	**Pn**	**23 38 09.7**	**+2.3**
QRZ	**Quartz Range**	**6.51**	**239**	PN	**Pn**	**23 38 14.4**	**+2.0**
QRZ	**Quartz Range**	**6.51**	**239**	Pn	**Pn**	**23 38 14.4**	**+2.0**
CTZ	**Chatham Island**	**6.64**	**157**	PN	Pn	23 38 21.5	+7.4
CTZ	**Chatham Island**	**6.64**	**157**	Pn	Pn	23 38 21.6	+7.4
THZ	**Tophouse**	**6.75**	**230**	PN	**Pn**	**23 38 17.6**	**+1.8**
THZ	**Tophouse**	**6.75**	**230**	Pn	**Pn**	**23 38 17.6**	**+1.8**
KHZ	**Kahutara**	**6.79**	**224**	PN	**Pn**	**23 38 18.9**	**+2.6**
KHZ	**Kahutara**	**6.79**	**224**	Pn	**Pn**	**23 38 18.9**	**+2.6**
LTZ	**Lake Taylor**	**7.74**	**226**	Pn	**Pn**	**23 38 31.2**	**+1.9**
RPZ	**Rata Peaks**	**9.02**	**225**	Pn	Pn	23 38 50.6	+3.8
	0.8nm,0.3s,baz=67,slow=7.7,SNR=3.2						
RPZ				Sn	**Sn**	**23 40 22.2**	**-5.1**
	1.8nm,0.3s,baz=160,slow=9.0,SNR=16						
RPZ	**Rata Peaks**	**9.02**	**225**	Pn	Pn	23 38 50.6	+3.8
RPZ				Sn	**Sn**	**23 40 22.2**	**-5.1**
JCZ	**Jackson Bay**	**10.57**	**229**	PN	**Pn**	**23 39 09.5**	**+1.3**
JCZ	**Jackson Bay**	**10.57**	**229**	Pn	**Pn**	**23 39 09.5**	**+1.3**
ASAR	**Alice Springs**	**41.52**	**276**	P	P	23 44 27.2	+3.9
	1.7nm,0.8s,baz=119,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**41.52**	**276**	P	P	23 44 27.2	+3.9
WRA	**Warramunga Arr**	**43.16**	**281**	P	P	23 44 40.0	+3.3
	1.1nm,0.5s,baz=124,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**43.16**	**281**	P	P	23 44 40.0	+3.3
FITZ	**Fitzroy Crossi**	**51.01**	**277**	P	P	23 45 42.5	+4.6
	3.2nm,1.1s,baz=139,slow=9.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**51.01**	**277**	P	P	23 45 42.5	+4.6
FINES	**FINESS Array B**	**151.12**	**334**	PKPbc	**PKPab**	**23 56 33.5**	**-2.0**
	1.2nm,0.8s,baz=35,slow=5.1,SNR=2.5						
FINES				PKPab	PKiKP	23 56 37.9	+10
	0.9nm,0.6s,baz=46,slow=8.2,SNR=4.9						
FINES	**FINESS Array B**	**151.12**	**334**	PKPbc	**PKPab**	**23 56 33.5**	**-2.0**
FINES				PKPab	PKiKP	23 56 37.9	+10

*TAP **23** 23:38:57.0, 24.°81N×122.°33E, h13km, ML3.1, C*
*JMA **23** 23:38:57.4±0.2, 24.°74N×122.°47E, h0km, M2.5*

ISC 23 23:38:56.4±1.1, 24.°79N±0.°04×122.°41E±0.°02, h7km±10km, n25, σ0s47/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.44**	**299**	P	**Pg**	**23 39 05.0**	**+0.1**
	baz=302						
TWB1				S	**Sg**	**23 39 10.6**	**0.0**
	baz=302						
TWC	**Suao**	**0.54**	**250**	*e*P	**Pg**	**23 39 06.4**	**-0.4**
	baz=253						
TWC				*e*S	**Sg**	**23 39 13.3**	**-0.6**
	baz=253						
NWF	**Wu-fen Shan**	**0.63**	**296**	P	**Pb**	**23 39 09.4**	**-0.3**
	baz=297						
NWF				S	**Sg**	**23 39 17.6**	**+0.8**
	baz=297						
YOJ	**Yonaguni jima**	**0.64**	**121**	P	**Pg**	**23 39 08.8**	**+0.1**
YOJ				S	**Sg**	**23 39 16.9**	**-0.2**
TWE	**Neicheng**	**0.68**	**264**	P	**Pg**	**23 39 09.0**	**-0.4**
	baz=261						
TWE				*e*S	**Sg**	**23 39 18.1**	**-0.2**
	baz=261						
ENA	**Nanau**	**0.71**	**239**	*e*P	**Pg**	**23 39 10.2**	**+0.2**
	baz=234						
ENA				*e*S	**Sg**	**23 39 19.4**	**+0.3**
	baz=234						
ENTT	**Nioudou**	**0.78**	**259**	P	**Pg**	**23 39 11.3**	**0.0**
	baz=255						
ENTT				*e*S	**Sg**	**23 39 21.6**	**+0.1**
	baz=255						
TWY	**Chenhua**	**0.88**	**303**	*e*P	**Pb**	**23 39 13.8**	**-0.1**
	baz=305						
TWY				*e*S	**Sb**	**23 39 25.4**	**-0.3**
	baz=305						
NSK	**Sanguang**	**0.96**	**263**	*e*P	**Pg**	**23 39 14.3**	**-0.6**
	baz=261						
NSK				*e*S	**Sg**	**23 39 26.7**	**-0.6**
	baz=261						
NNS	**Nan Shan**	**1.00**	**250**	*e*P	**Pg**	**23 39 15.7**	**+0.1**
	baz=235						
NNS				*e*S	**Sg**	**23 39 28.4**	**-0.3**
	baz=235						
TWD	**Chiawan**	**1.02**	**226**	*e*P	**Pg**	**23 39 16.0**	**-0.1**
	baz=231						
TWD				*e*S	**Sb**	**23 39 30.1**	**0.0**
	baz=231						
TWT	**Tachien**	**1.24**	**245**	*e*P	**Pg**	**23 39 20.5**	**+0.3**
	baz=241						
TWT				*e*S	**Sg**	**23 39 35.9**	**-0.5**
	baz=241						
IRIF	**Iriomote-Funau**	**1.29**	**111**	S	**Sb**	**23 39 37.1**	**-0.6**
NSTT	**Nanjuang**	**1.29**	**263**	*e*P	**Pb**	**23 39 21.0**	**+0.1**
	baz=260						
NSTT				*e*S	**Sb**	**23 39 36.8**	**-0.9**
	baz=260						
HATJ	**Hateruma jima**	**1.47**	**120**	P	**Pb**	**23 39 23.9**	**-0.1**
HATJ				*e*S	**Sn**	**23 39 42.5**	**-0.2**
TWQ1	**Liyutan**	**1.55**	**254**	*e*P	**Pg**	**23 39 27.0**	**+0.8**
	baz=251						
JKRS	**Kuro-shima**	**1.56**	**110**	P	**Pb**	**23 39 25.9**	**+0.3**
EHY	**Hungye**	**1.62**	**218**	*e*P	**Pb**	**23 39 26.6**	**0.0**
	baz=214						
JIJ	**Ishigaki jima**	**1.64**	**105**	S	**Sn**	**23 39 46.0**	**-0.9**
SMLT	**Sun Moon Lake**	**1.65**	**237**	*e*P	**Pn**	**23 39 26.2**	**+0.4**
	baz=234						
SMLT				*e*S	**Sn**	**23 39 47.3**	**0.0**
	baz=234						
TYC	**Yuchr**	**1.67**	**238**	*e*P	**Pb**	**23 39 27.3**	**-0.1**
	baz=235						
TYC				*e*S	**Sn**	**23 39 47.5**	**0.0**
	baz=235						
TWF1	**Yuli**	**1.76**	**215**	*e*P	**Pn**	**23 39 27.7**	**+0.4**
	baz=212						
TWF1				*e*S	**Sb**	**23 39 50.9**	**-0.3**
	baz=212						
ALS	**Alishan**	**1.94**	**229**	*e*P	**Pn**	**23 39 31.2**	**+1.2**
	baz=209						
ALS				*e*S	**Sb**	**23 39 57.2**	**+0.5**
	baz=209						
CHN5	**Tsauling**	**1.98**	**233**	*e*P	**Pb**	**23 39 32.8**	**0.0**
	baz=230						
CHN5				*e*S	**Sb**	**23 39 57.9**	**+0.3**
	baz=230						
CHN4	**Tsaushan**	**2.19**	**229**	*e*P	**Pb**	**23 39 35.9**	**-0.5**
	baz=210						
CHN4				*e*S	**Sb**	**23 40 02.7**	**-1.1**
	baz=210						

IDC 23 23:42:11.5±0.9, 5.°86N×127.°33E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, Error ellipse: s-maj=64.3km s-min=16.3km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.11**	**305**	Pn	Pg	23 42 53.3	+1.3
	66nm,0.3s,baz=38,slow=12,SNR=3.9						
DAV				Sn	Sg	23 43 24.7	+5.4
	103nm,0.3s,baz=300,slow=23,SNR=9.9						
FITZ	**Fitzroy Crossi**	**23.87**	**184**	P	P	23 47 25.7	-1.1
	1.3nm,0.7s,baz=352,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**26.56**	**165**	P	P	23 47 52.2	+0.9
	0.4nm,0.3s,baz=335,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**30.05**	**168**	P	P	23 48 23.0	+0.5
	0.2nm,0.3s,baz=355,slow=9.5,SNR=3.6						
STKA	**Stephens Creek**	**39.92**	**161**	P	P	23 49 47.3	-0.2
	1.2nm,0.7s,baz=340,slow=18,SNR=3.3						
SONM	**Songino Array**	**45.49**	**340**	P	P	23 50 32.7	-0.1
	0.2nm,0.4s,baz=158,slow=5.8,SNR=5.0						
MKAR	**Makanchi Array**	**56.17**	**324**	P	P	23 51 53.7	+0.5
	1.8nm,0.4s,baz=114,slow=7.6,SNR=56						
ZALV	**Zalesovo Beam**	**58.98**	**332**	P	P	23 52 12.8	0.0
	0.6nm,0.3s,baz=128,slow=8.5,SNR=5.0						
ILAR	**Eielson Array**	**82.93**	**26**	P	P	23 54 37.6	-0.5
	0.3nm,0.5s,baz=234,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**122.80**	**290**	PKP	PKPdf	00 01 09.3	-1.3
	0.4nm,1.0s,baz=352,slow=1.1,SNR=3.2						

*NEIC **23** 23:44:05.0, 13.°80S×76.°85W, h40km, MG4.2(ARE), After ARE.*
NEIC Felt [IV] at Pisco and [III] at Chincha Alta.
*ISCJB **23** 23:44:10.7±0.8, 13.°36S±0.°08×76.°15W±0.°09, h55km, mb3.8/5, Error ellipse: s-maj=15.7km s-min=5.8km az=136.7*
*IDC **23** 23:44:11.1±1.0, 13.°45S×76.°22W, h47km±5km, mb3.6/5, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=41.2km s-min=16.0km az=44.0*

ISC 23 23:44:11.0±0.7, 13.°44S±0.°08×76.°27W±0.°09, h55km, n22, σ1s77/27, mb3.8/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.55**	**339**	P	**Pn**	**23 44 37.0**	**+0.6**
	58nm,0.3s,baz=164,slow=12,SNR=48						
NNA				S	**Sn**	**23 44 56.5**	**+1.0**
	212nm,0.3s,baz=219,slow=14,SNR=14						
NNA	**Nana**	**1.55**	**339**	*e*Pn	**Pn**	**23 44 37.3**	**+1.0**
NNA				*e*Sn	**Sn**	**23 44 54.6**	**-0.9**
ARE	**Arequipa**	**5.51**	**124**	*e*P	**Pn**	**23 45 34.0**	**+3.2**
ARE				*e*S	**Sn**	**23 46 34.0**	**+1.0**
ATAH	**Atahualpa**	**6.61**	**341**	P	Pn	23 45 50.3	+4.3
	2.5nm,0.3s,baz=174,slow=3.9,SNR=16						
ATAH				S	Sn	23 47 10.7	+10
	1.0nm,0.3s,baz=87,slow=19,SNR=3.3						
LPAZ	**La Paz**	**8.36**	**111**	P	**Pn**	**23 46 11.4**	**+1.2**
	3.5nm,0.3s,baz=295,slow=9.1,SNR=68						
LPAZ				S	Sn	23 47 50.6	+7.0
	baz=184,slow=19,SNR=5.2						
LPAZ	**La Paz**	**8.36**	**111**	*e*Pn	**Pn**	**23 46 10.9**	**+0.7**
	13nm,0.5s						
LPAZ				*e*Sn	**Sn**	**23 47 47.4**	**+3.8**
LVC	**Limon Verde**	**11.49**	**144**	*e*Pn	Pn	23 46 47.7	-5.0
	0.6nm,0.4s						
LVC				*e*Sn	**Sn**	**23 48 56.0**	**-3.7**
SAML	**Samuel**	**13.59**	**72**	*e*Pn	Pn	23 47 19.0	-2.2
	6.8nm,0.8s						
SAML				*e*Sn	**Sn**	**23 49 48.0**	**-2.7**
OTAV	**Otavalo**	**13.76**	**351**	Pn	Pn	**23 47 22.2**	**-1.6**
	2.8nm,0.6s						
SIV	**San Ignacio**	**14.92**	**102**	P	**Pn**	**23 47 39.5**	**+0.7**
	0.5nm,0.3s,baz=283,slow=12,SNR=10						
ROSC	**El Rosal**	**18.28**	**6**	*e*P	**P**	**23 48 20.5**	**-0.3**
CFAA	**Coronel Fontan**	**19.53**	**159**	P	**Pn**	**23 48 34.6**	**-1.1**
	0.1nm,0.3s,baz=342,slow=9.1,SNR=8.1						
TXAR	**Lajitas Array**	**50.08**	**328**	P	**P**	**23 53 02.8**	**+2.1**
	0.3nm,0.7s,baz=128,slow=8.1,SNR=4.1						
TXAR				pP	**pP**	**23 53 14.1**	**-1.3**
	0.8nm,0.8s,baz=160,slow=8.8,SNR=5.9						
PDAR	**Pinedale Array**	**63.73**	**333**	P	**P**	**23 54 38.5**	**+1.2**
	0.2nm,0.6s,baz=155,slow=6.6,SNR=2.9						
NVAR	**Mina Array Bea**	**64.87**	**324**	pP	pP	23 54 60.0	-0.1
	1.4nm,0.8s,baz=132,slow=7.3,SNR=5.2						
ULM	**Lac du Bonnet**	**65.71**	**346**	pP	pP	23 55 04.7	-0.3
	1.7nm,0.5s,baz=145,slow=5.7,SNR=2.1						
DBIC	**Dimbokro**	**73.66**	**79**	P	**P**	**23 55 39.7**	**+0.2**
	1.6nm,0.8s,baz=234,slow=8.6,SNR=6.4						
YKA	**Yellowknife Ar**	**81.39**	**343**	P	**P**	**23 56 21.9**	**+0.4**
	0.9nm,0.8s,baz=140,slow=5.7,SNR=15						
YKA				pP	**pP**	**23 56 36.5**	**-0.6**
	0.7nm,0.7s,baz=141,slow=6.1,SNR=11						
TORD	**Torodi Ar. Bea**	**81.64**	**74**	P	**P**	**23 56 24.4**	**+0.5**
	3.4nm,0.8s,baz=262,slow=4.7,SNR=26						
TORD				pP	**pP**	**23 56 38.1**	**-1.5**
	1.0nm,0.8s,baz=267,slow=3.3,SNR=3.8						
WRA	**Warramunga Arr**	**135.19**	**223**	PKP	**PKPdf**	**00 03 25.7**	**+0.3**
	0.3nm,0.9s,baz=127,slow=2.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**136.92**	**16**	PKP	**PKPdf**	**00 03 25.7**	**-1.8**
	0.5nm,0.5s,baz=318,slow=4.0,SNR=3.8						
ZALV				pPKP	**pPKPdf**	**00 03 41.9**	**-2.0**
	0.7nm,0.6s,baz=289,slow=4.5,SNR=2.8						
SONM	**Songino Array**	**145.64**	**357**	PKPbc	**PKPab**	**00 03 45.1**	**+1.0**
	0.8nm,0.4s,baz=327,slow=2.5,SNR=16						
SONM				pPKPbc	pPKPbc	00 03 58.5	-1.6
	2.1nm,0.8s,baz=339,slow=2.3,SNR=11						

IDC 23 23:50:19.8±17.0, 23.°50S×176.°35W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/21, mbtmp4.0/5, Error ellipse: s-maj=326.4km s-min=136.4km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.83**	**268**	P	P	23 57 13.7	+1.0
	3.3nm,0.5s,baz=97,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**37.98**	**248**	P	P	23 57 39.0	-0.5
	3.1nm,1.1s,baz=74,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**45.40**	**259**	P	P	23 58 40.0	-0.5
	0.9nm,0.5s,baz=96,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**45.78**	**265**	P	P	23 58 42.8	-0.7
	2.5nm,0.7s,baz=103,slow=8.0,SNR=29						
FITZ	**Fitzroy Crossi**	**54.20**	**264**	P	P	23 59 47.8	+0.3
	1.3nm,0.8s,baz=102,slow=9.3,SNR=3.3						

*TAP **24** 00:06:05.2, 24.°74N×122.°29E, h4km, ML3.1, D*
*JMA **24** 00:06:05.1±0.2, 24.°76N×122.°40E, h0km*

ISC 24 00:06:05.2±1.1, 24.°74N±0.°05×122.°36E±0.°02, h6km±10km, n21, σ0s49/40, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.43**	**309**	P	**Pg**	**00 06 13.2**	**-0.4**
	baz=314						
TWB1				*e*S	**Sg**	**00 06 18.8**	**-0.6**
	baz=314						
TWC	**Suao**	**0.48**	**255**	*i* P	**Pg**	**00 06 14.2**	**-0.4**
	baz=251						
TWC				S	**Sg**	**00 06 20.6**	**-0.3**
	baz=251						
NWF	**Wu-fen Shan**	**0.62**	**302**	*i* P	**Pg**	**00 06 17.5**	**+0.2**
	baz=305						
NWF				*i* S	**Sg**	**00 06 26.4**	**+0.9**
	baz=305						
TWE	**Neicheng**	**0.63**	**269**	P	**Pg**	**00

TWC	**Suao**	**0.51**	**254**⇑	*i*P	**Pg**	**00 34 44.8**	**-0.1**
	baz=245						
TWC				S	**Sg**	**00 34 51.8**	**0.0**
	baz=245						
ILA	**Ilan**	**0.58**	**272**	*e*P	**Pb**	**00 34 46.8**	**-0.4**
	baz=269						
ILA				*e*S	**Sg**	**00 34 54.8**	**+0.7**
	baz=269						
YOJ	**Yonaguni jima**	**0.63**	**117**	P	**Pg**	**00 34 47.3**	**+0.1**
YOJ				S	**Sg**	**00 34 55.4**	**-0.1**
NWF	**Wu-fen Shan**	**0.64**	**300**	P	**Pg**	**00 34 47.7**	**+0.3**
	baz=304						
NWF				S	**Sg**	**00 34 56.3**	**+0.5**
	baz=304						
TWE	**Neicheng**	**0.66**	**268**	P	**Pg**	**00 34 47.5**	**-0.2**
	baz=264						
TWE				*e*S	**Sg**	**00 34 56.1**	**-0.2**
	baz=264						
ENA	**Nanau**	**0.67**	**242**	*e*P	**Pg**	**00 34 48.0**	**0.0**
	baz=233						
ENA				*e*S	**Sg**	**00 34 57.2**	**+0.3**
	baz=233						
ENTT	**Nioudou**	**0.76**	**262**	*e*P	**Pg**	**00 34 49.8**	**+0.2**
	baz=257						
ENTT				*e*S	**Sg**	**00 34 59.9**	**+0.3**
	baz=257						
TWY	**Chenhua**	**0.89**	**306**	*e*P	**Pg**	**00 34 52.1**	**+0.1**
	baz=310						
TWY				*e*S	**Sg**	**00 35 03.7**	**+0.1**
	baz=310						
NSK	**Sanguang**	**0.94**	**266**	P	**Pg**	**00 34 52.6**	**-0.5**
	baz=263						
NSK				*e*S	**Sg**	**00 35 04.6**	**-0.8**
	baz=263						
TWS1	**Kuangyinshan**	**0.95**	**292**	*e*P	**Pg**	**00 34 53.3**	**+0.1**
	baz=293						
TWS1				*e*S	**Sg**	**00 35 05.7**	**0.0**
	baz=293						
NNS	**Nan Shan**	**0.98**	**252**	*e*P	**Pg**	**00 34 53.6**	**-0.1**
	baz=247						
NNS				*e*S	**Sg**	**00 35 06.6**	**+0.1**
	baz=247						
TWD	**Chiawan**	**0.99**	**228**	P	**Pb**	**00 34 54.0**	**0.0**
	baz=220						
TWD				*e*S	**Sn**	**00 35 08.1**	**-0.6**
	baz=220						
WHF	**Hehuan Shan**	**1.19**	**240**	P	**Pb**	**00 34 57.7**	**-0.1**
	baz=235						
WHF				*e*S	**Sb**	**00 35 13.4**	**0.0**
	baz=235						
TWT	**Tachien**	**1.21**	**246**	*e*P	**Pb**	**00 34 58.2**	**+0.2**
	baz=242						
TWT				*e*S	**Sn**	**00 35 14.9**	**+0.3**
	baz=242						
NSTT	**Nanjuang**	**1.27**	**265**	*e*P	**Pg**	**00 34 59.6**	**+0.3**
	baz=262						
NSTT				*e*S	**Sb**	**00 35 15.2**	**-0.1**
	baz=262						
IRIF	**Iriomote-Funau**	**1.29**	**109**	P	**Pb**	**00 34 59.1**	**-0.1**
IRIF				S	**Sb**	**00 35 15.0**	**-0.7**
HATJ	**Hateruma jima**	**1.46**	**118**	P	**Pn**	**00 35 01.6**	**+0.3**
HATJ				*e*S	**Sn**	**00 35 20.3**	**-0.2**
TWQ1	**Liyutan**	**1.53**	**255**	*e*P	**Pg**	**00 35 04.6**	**+0.3**
	baz=252						
TWQ1				*e*S	**Sb**	**00 35 22.6**	**-0.1**
	baz=252						
JKRS	**Kuro-shima**	**1.56**	**109**	*e*S	**Sb**	**00 35 23.7**	**+0.1**
SMLT	**Sun Moon Lake**	**1.61**	**238**	*e*P	**Pb**	**00 35 04.5**	**-0.3**
	baz=234						
SMLT				*e*S	**Sb**	**00 35 25.1**	**-0.1**
	baz=234						
TYC	**Yuchr**	**1.63**	**239**	*e*P	**Pb**	**00 35 04.9**	**-0.2**
	baz=235						
JIJ	**Ishigaki jima**	**1.64**	**103**	S	**Sn**	**00 35 25.2**	**+0.3**
CHN5	**Tsauling**	**1.94**	**234**	*e*P	**Pb**	**00 35 09.9**	**-0.5**
	baz=230						
CHN5				*e*S	**Sb**	**00 35 35.1**	**+0.4**
	baz=230						

IDC 24 00:36:31.5±1.1, 3°31N×82°92W, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML3.6/2, MS3.1/6, Ms1 3.1/6, ms1mx3.0/27, Error ellipse: s-maj=38.5km s-min=17.8km az=51.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**7.22**	**344**	Pn	Pn	00 38 16.9	-1.6
	11nm,0.3s,baz=295,slow=22,SNR=84						
JTS				Sn	Sn	00 39 37.8	-3.5
	1.2nm,0.3s,baz=327,slow=20,SNR=2.4						
JTS				LR	LR	00 40 56.2	
	comp=Z,98nm,19.0s,baz=167,slow=37						
ROSC	**El Rosal**	**8.70**	**80**	Pn	Pn	00 38 41.2	+2.0
	0.5nm,0.3s,baz=98,slow=22,SNR=1.8						
ROSC				Sn	Sn	00 40 19.9	+1.4
	0.7nm,0.3s,baz=87,slow=17,SNR=2.9						
ATAH	**Atahualpa**	**11.32**	**157**	Pn	Pn	00 39 16.4	+1.2
	1.1nm,0.3s,baz=358,slow=5.7,SNR=6.5						
ATAH				LR	LR	00 42 21.9	
	comp=Z,54nm,20.4s,baz=336,slow=31						
NNA	**Nana**	**16.36**	**158**	Pn	P	00 40 26.7	+0.8
	0.7nm,0.3s,baz=326,slow=11,SNR=6.9						
CMIG	**Matias Romero**	**18.04**	**320**	P	P	00 40 44.8	+0.4
	0.1nm,0.3s,baz=114,slow=9.4,SNR=4.1						
CMIG				LR	LR	00 46 32.0	
	comp=Z,68nm,20.3s,baz=178,slow=33						
SJG	**San Juan**	**22.05**	**47**	LR	LR	00 50 29.2	
	comp=Z,43nm,18.1s,baz=90,slow=38						
LPAZ	**La Paz**	**24.35**	**144**	P	P	00 41 51.8	-0.5
	5.2nm,0.6s,baz=324,slow=10,SNR=21						
SIV	**San Ignacio**	**28.89**	**132**	P	P	00 42 31.8	-0.7
	0.7nm,0.8s,baz=270,slow=11,SNR=2.2						
SIV				LR	LR	00 54 24.3	
	comp=Z,134nm,21.8s,slow=37						
TXAR	**Lajitas Array**	**32.52**	**325**	LR	LR	00 56 53.0	
	comp=Z,29nm,21.0s,baz=50,slow=38						
NVAR	**Mina Array Bea**	**47.56**	**322**	P	P	00 45 09.7	+0.4
	0.7nm,0.6s,baz=134,slow=6.9,SNR=6.4						
YKA	**Yellowknife Ar**	**63.56**	**344**	P	P	00 47 03.4	-0.2
	0.1nm,0.3s,baz=84,slow=36,SNR=2.7						
TORD	**Torodi Ar. Bea**	**84.01**	**77**	P	P	00 49 04.3	-0.4
	0.4nm,0.9s,baz=221,slow=3.3,SNR=2.3						
WRA	**Warramunga Arr**	**140.09**	**243**	PKP	PKPdf	00 56 03.5	+0.3
	0.3nm,0.7s,baz=96,slow=2.2,SNR=1.7						

*ISCJB **24** 00:41:59.6±0.5, 44°.21N±0°.03×12°.51E±0°.05, h43km±6km, Error ellipse: s-maj=5.8km s-min=4.6km az=20.6*
*ROM **24** 00:42:00.3±0.2, 44°.14N×12°.43E, h35km±2km, Md2.3/20, Ml2.1/13, Error ellipse: s-maj=4.2km s-min=2.6km az=52.0*
*CSEM **24** 00:42:00.1±0.2, 44°.19N×12°.47E, h40km, ML3.1/9, Error ellipse: s-maj=4.5km s-min=3.8km az=88.0*
ISC 24 00:42:00.6±1.0, 44°.19N±0°.03×12°.49E±0°.03, h33km±2km, n49, σ0§94/76, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLLA	**Bellaria**	**0.05**	**194**	Pg	**Pb**	**00 42 06.3**	**+0.2**
BLLA				Sg	**Sb**	**00 42 11.9**	**+2.0**
BLLA	**Bellaria**	**0.05**	**194**	Pg	**Pn**	**00 42 06.3**	**+0.2**
BLLA				Sg	**Sb**	**00 42 11.9**	**+2.0**
RSM	**Repubblica di**	**0.27**	**186**	Pg	**Pn**	**00 42 07.2**	**-0.7**
RSM				Sg	**Sn**	**00 42 13.1**	**+1.0**
	22nm,0.8s						
RSM	**Repubblica di**	**0.27**	**186**	Pg	**Pn**	**00 42 07.2**	**-0.7**
RSM				Sg	**Sn**	**00 42 13.1**	**+1.0**
	22nm,0.8s						
PESA	**Pesaro**	**0.36**	**135**	Pg	**Pb**	**00 42 08.7**	**-0.4**
PESA				Sg	**Sn**	**00 42 15.6**	**+0.5**
	975nm,0.2s						
PESA	**Pesaro**	**0.36**	**135**	Pg	**Pb**	**00 42 08.7**	**-0.4**
PESA				Sg	**Sn**	**00 42 15.6**	**+0.5**
	975nm,0.2s						
FSSB	**Fossombrone**	**0.54**	**157**	Pg	**Pn**	**00 42 10.6**	**-1.3**
FSSB				Sg	**Sn**	**00 42 19.3**	**-0.6**
	368nm,0.2s						
FSSB	**Fossombrone**	**0.54**	**157**	Pg	**Pn**	**00 42 10.6**	**-1.3**
FSSB				Sg	**Sn**	**00 42 19.3**	**-0.6**
	368nm,0.2s						
PARC	**Parchiule**	**0.57**	**198**	Pg	**Pn**	**00 42 10.7**	**-1.7**
PARC				Sg	**Sn**	**00 42 19.4**	**-1.3**
	62nm,0.2s						
PARC	**Parchiule**	**0.57**	**198**	Pg	**Pn**	**00 42 10.7**	**-1.7**
PARC				Sg	**Sn**	**00 42 19.4**	**-1.3**
	62nm,0.2s						

CMPO	**Campotto Po**	**0.62**	**309**	Pg	**Pb**	**00 42 13.9**	**+0.8**
CMPO	**Campotto Po**	**0.62**	**309**	Pg	**Pb**	**00 42 13.9**	**+0.8**
ASQU	**Asqua**	**0.64**	**232**	Pg	**Pn**	**00 42 11.8**	**-1.5**
ASQU				Sg	**Sn**	**00 42 22.4**	**0.0**
	55nm,0.4s						
ASQU	**Asqua**	**0.64**	**232**	Pg	**Pn**	**00 42 11.8**	**-1.5**
ASQU				Sg	**Sn**	**00 42 22.4**	**0.0**
	55nm,0.4s						
PIEI	**Pieia**	**0.66**	**177**	Pg	**Pn**	**00 42 12.0**	**-1.5**
PIEI				Sg	**Sn**	**00 42 22.0**	**-0.8**
	125nm,0.2s						
PIEI	**Pieia**	**0.66**	**177**	Pg	**Pn**	**00 42 12.0**	**-1.5**
PIEI				Sg	**Sn**	**00 42 22.0**	**-0.8**
	125nm,0.2s						
BADI	**Badiali**	**0.71**	**195**	Pg	**Pn**	**00 42 12.9**	**-1.3**
BADI				Sg	**Sn**	**00 42 23.4**	**-0.5**
	136nm,0.5s						
BADI	**Badiali**	**0.71**	**195**	Pg	**Pn**	**00 42 12.9**	**-1.3**
BADI				Sg	**Sn**	**00 42 23.4**	**-0.5**
	136nm,0.5s						
VMG	**Vicchio**	**0.72**	**252**	Pg	**Pn**	**00 42 13.7**	**-0.7**
	18nm,0.2s						
VMG	**Vicchio**	**0.72**	**252**	Pg	**Pn**	**00 42 13.7**	**-0.7**
	18nm,0.2s						
CDCA	**Citt' di Caste**	**0.76**	**194**	Pg	**Pn**	**00 42 13.8**	**-1.1**
CDCA				Sg	**Sn**	**00 42 24.9**	**-0.2**
	99nm,0.8s						
CDCA	**Citt' di Caste**	**0.76**	**194**	Pg	**Pn**	**00 42 13.8**	**-1.1**
CDCA				Sg	**Sn**	**00 42 24.9**	**-0.2**
	99nm,0.8s						
ARVD	**Arcevia**	**0.77**	**155**	Pg	**Pn**	**00 42 14.1**	**-1.0**
ARVD				Sg	**Sb**	**00 42 26.5**	**+0.7**
	32nm,0.3s						
ARVD	**Arcevia**	**0.77**	**155**	Pg	**Pn**	**00 42 14.1**	**-1.0**
ARVD				Sg	**Sb**	**00 42 26.5**	**+0.7**
	32nm,0.3s						
SEI	**Scarperia**	**0.83**	**261**	Pg	**Pn**	**00 42 15.6**	**-0.3**
	123nm,0.4s						
SEI	**Scarperia**	**0.83**	**261**	Pg	**Pn**	**00 42 15.6**	**-0.3**
	123nm,0.4s						
MURB	**Monte Urbino**	**0.93**	**178**	Pg	**Pn**	**00 42 17.0**	**-0.3**
MURB				Sg	**Sb**	**00 42 30.7**	**+0.3**
	174nm,0.4s						
MURB	**Monte Urbino**	**0.93**	**178**	Pg	**Pn**	**00 42 17.0**	**-0.3**
MURB				Sg	**Sb**	**00 42 30.7**	**+0.3**
	174nm,0.4s						
CAFI	**Castiglion Fio**	**0.94**	**204**	Pg	**Pn**	**00 42 16.6**	**-0.9**
CAFI	**Castiglion Fio**	**0.94**	**204**	Pg	**Pn**	**00 42 16.6**	**-0.9**
CING	**Cingoli**	**0.96**	**148**	Pg	**Pn**	**00 42 18.5**	**+0.7**
CING	**Cingoli**	**0.96**	**148**	Pg	**Pn**	**00 42 18.5**	**+0.7**
ASSB	**Assisi San Ben**	**1.16**	**174**	Pg	**Pn**	**00 42 20.7**	**+0.2**
	21nm,0.4s						
ASSB	**Assisi San Ben**	**1.16**	**174**	Pg	**Pn**	**00 42 20.7**	**+0.2**
	21nm,0.4s						
CESI	**CESI - Serrava**	**1.23**	**166**	Pg	**Pn**	**00 42 21.8**	**+0.4**
	9.0nm,0.6s						
CESI	**CESI - Serrava**	**1.23**	**166**	Pg	**Pn**	**00 42 21.8**	**+0.4**
	9.0nm,0.6s						
NRCA	**Norcia**	**1.43**	**161**	Pg	**Pn**	**00 42 25.1**	**+0.8**
	3.0nm,0.3s						
NRCA	**Norcia**	**1.43**	**161**	Pg	**Pn**	**00 42 25.1**	**+0.8**
	3.0nm,0.3s						
PII	**Pisa**	**1.49**	**252**	Pg	**Pn**	**00 42 23.9**	**-1.1**
	10.0nm,0.1s						
PII	**Pisa**	**1.49**	**252**	Pg	**Pn**	**00 42 23.9**	**-1.1**
	10.0nm,0.1s						
NVLJ	**Novalja**	**1.75**	**77**	*e*Pn	**Pn**	**00 42 28.1**	**-0.4**
NVLJ				Sn	**Sn**	**00 42 48.9**	**-0.7**
CTI	**Castel Tesino**	**1.95**	**343**	Pg	**Pn**	**00 42 31.0**	**-0.4**
	12nm,0.2s						
CTI	**Castel Tesino**	**1.95**	**343**	Pg	**Pn**	**00 42 31.0**	**-0.4**
	12nm,0.2s						
JAVS	**Javornik**	**2.03**	**33**	*i* Pn	**Pn**	**00 42 31.7**	**-0.9**
JAVS	**Javornik**	**2.03**	**33**	*i* Pn	**Pn**	**00 42 31.7**	**-0.9**
CADS	**Cadrg**	**2.22**	**23**	*i* Pn	**Pn**	**00 42 34.5**	**-0.6**
CADS				*i* Sn	**Sn**	**00 43 00.5**	**-0.9**
CADS	**Cadrg**	**2.22**	**23**	*i* Pn	**Pn**	**00 42 34.5**	**-0.6**
CADS				*i* Sn	**Sn**	**00 43 00.4**	**-0.9**
STON	**Ston**	**4.01**	**107**	*i* Pn	**Pn**	**00 42 59.7**	**+0.1**
STON				Sn	**Sn**	**00 43 43.9**	**-1.6**
STON	**Ston**	**4.01**	**107**	*i* Pn	**Pn**	**00 42 59.7**	**+0.1**
STON				Sn	**Sn**	**00 43 43.9**	**-1.6**

*IDC **24** 00:53:07.2±0.9, 45°.35S×167°.04E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, ML4.2/2, MS3.7/2, Ms1 3.6/2, ms1mx3.2/18, Error ellipse: s-maj=29.7km s-min=22.9km az=169.0*
*ISCJB **24** 00:53:10.0±0.8, 45°.15S±0°.04×166°.97E±0°.07, h24km±6km, mb3.8/3, MS3.5/2, Error ellipse: s-maj=8.4km s-min=5.9km az=32.9*
*NEIC **24** 00:53:10.2, 45°.13S×166°.91E, h12km, ML4.6(WEL), After WEL.*
NEIC Felt [IV] at Te Anau. Also felt at Invercargill.
*WEL **24** 00:53:12.4±0.3, 45°.15S×167°.11E, h12km, ML4.5/19, Error ellipse: s-maj=2.9km s-min=1.3km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
ISC 24 00:53:10.1±1.4, 45°.17S±0°.03×167°.02E±0°.05, h18km±9km, n70, σ1§19/83, mb3.9/3, 2C, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.33**	**163**	*e*P*	**Pn**	**00 53 19.1**	**-0.8**
DCZ				S*	**Sb**	**00 53 23.4**	**+1.2**
DCZ				S*	**Sn**	**00 53 23.5**	**+1.2**
DCZ	**Deep Cove**	**0.33**	**163**	*e*P*	**Pn**	**00 53 19.1**	**-0.8**
DCZ				S*	**Sb**	**00 53 23.5**	**+1.2**
MSZ	**Milford Sound**	**0.81**	**53**	P*	**Pg**	**00 53 25.9**	**-0.1**
MSZ				S*	**Sb**	**00 53 36.0**	**-0.2**
MSZ	**Milford Sound**	**0.81**	**53**	P*	**Pg**	**00 53 25.9**	**-0.1**
MLZ	**Mavora Lakes**	**0.84**	**103**	P*	**Pg**	**00 53 26.4**	**0.0**
MLZ				S*	**Sb**	**00 53 36.6**	**-0.4**
MLZ	**Mavora Lakes**	**0.84**	**103**	P*	**Pg**	**00 53 26.4**	**0.0**
MLZ				S*	**Sb**	**00 53 36.6**	**-0.4**
WHZ	**Wether Hill Ro**	**0.98**	**138**	P*	**Pg**	**00 53 29.0**	**-0.1**
WHZ				S*	**Sb**	**00 53 41.2**	**+0.1**
WHZ	**Wether Hill Ro**	**0.98**	**138**	P*	**Pg**	**00 53 29.0**	**-0.1**
PYZ	**Puysegur Point**	**1.03**	**193**	P*	**Pb**	**00 53 28.9**	**-0.5**
PYZ				S*	**Sn**	**00 53 46.9**	**+3.3**
PYZ	**Puysegur Point**	**1.03**	**193**	P*	**Pb**	**00 53 28.9**	**-0.5**
WKZ	**Wanaka**	**1.46**	**77**	PN	**Pb**	**00 53 37.0**	**+0.3**
WKZ	**Wanaka**	**1.46**	**77**	Pn	**Pb**	**00 53 37.0**	**+0.3**
EAZ	**Earnscleugh**	**1.62**	**93**	PN	**Pn**	**00 53 38.5**	**+0.8**
EAZ				SN	**Sn**	**00 53 59.0**	**+0.9**
EAZ	**Earnscleugh**	**1.62**	**93**	Pn	**Pn**	**00 53 38.5**	**+0.8**
JCZ	**Jackson Bay**	**1.65**	**49**	⇑PN	**Pb**	**00 53 39.9**	**-0.1**
JCZ				SN	**Sg**	**00 54 02.5**	**-1.0**
JCZ	**Jackson Bay**	**1.65**	**49**	⇑Pn	**Pb**	**00 53 39.9**	**-0.1**
JCZ				Sn	**Sb**	**00 54 01.5**	**+0.9**
APZ	**The Paps**	**1.80**	**158**	PN	**Pn**	**00 53 40.9**	**+0.7**
APZ	**The Paps**	**1.80**	**158**	Pn	**Pn**	**00 53 40.9**	**+0.7**
TUZ	**Tuapeka**	**2.00**	**114**	PN	**Pn**	**00 53 43.3**	**+0.4**
TUZ	**Tuapeka**	**2.00**	**114**	Pn	**Pn**	**00 53 43.3**	**+0.4**
SYZ	**Scrubby Hill**	**2.02**	**134**	PN	**Pn**	**00 53 43.8**	**+0.7**
SYZ	**Scrubby Hill**	**2.02**	**134**	Pn	**Pn**	**00 53 43.9**	**+0.7**
LBZ	**Lake Benmore**	**2.39**	**72**	PN	**Pn**	**00 53 49.1**	**+0.9**
LBZ	**Lake Benmore**	**2.39**	**72**	Pn	**Pn**	**00 53 49.1**	**+0.9**
FOZ	**Fox Glacier**	**2.50**	**51**	PN	**Pn**	**00 53 51.6**	**+1.9**
FOZ	**Fox Glacier**	**2.50**	**51**	Pn	**Pn**	**00 53 51.6**	**+1.9**
ODZ	**Otahua Downs**	**2.57**	**89**	PN	**Pn**	**00 53 51.4**	**+0.7**
ODZ	**Otahua Downs**	**2.57**	**89**	Pn	**Pn**	**00 53 51.4**	**+0.7**
RPZ	**Rata Peaks**	**3.23**	**65**	Pn	**Pn**	**00 54 01.1**	**+1.2**
	92nm,0.3s,baz=222,slow=5.9,SNR=379						
RPZ				Sn	**Sn**	**00 54 40.2**	**+2.2**
	75nm,0.3s,baz=21,slow=17,SNR=18						
RPZ	**Rata Peaks**	**3.23**	**65**	PN	**Pn**	**00 54 00.5**	**+0.6**
RPZ	**Rata Peaks**	**3.23**	**65**	Pn	**Pn**	**00 54 00.5**	**+0.6**
RPZ				Sn	**Sn**	**00 54 40.2**	**+2.2**
WVZ	**Waitaha Valley**	**3.40**	**53**	*e*PN	**Pn**	**00 54 03.0**	**+1.0**
WVZ	**Waitaha Valley**	**3.40**	**53**	*e*Pn	**Pn**	**00 54 02.0**	**0.0**
MQZ	**McQueen's Vall**	**4.29**	**72**	PN	**Pn**	**00 54 15.0**	**+0.6**
MQZ	**McQueen's Vall**	**4.29**	**72**	Pn	**Pn**	**00 54 14.3**	**-0.1**
LTZ	**Lake Taylor**	**4.48**	**60**	PN	**Pn**	**00 54 17.4**	**+0.4**
LTZ	**Lake Taylor**	**4.48**	**60**	Pn	**Pn**	**00 54 17.4**	**+0.4**
DSZ	**Denniston Nort**	**4.88**	**47**	*e*PN	**Pn**	**00 54 23.0**	**+0.5**
DSZ	**Denniston Nort**	**4.88**	**47**	*e*Pn	**Pn**	**00 54 22.7**	**+0.1**
THZ	**Tophouse**	**5.47**	**54**	*e*PN	**Pn**	**00 54 31.6**	**+0.9**
THZ	**Tophouse**	**5.47**	**54**	*e*Pn	**Pn**	**00 54 31.1**	**+0.4**
QRZ	**Quartz Range**	**5.93**	**45**	PN	**Pn**	**00 54 37.4**	**+0.6**
QRZ	**Quartz Range**	**5.93**	**45**	Pn	**Pn**	**00 54 37.2**	**+0.3**

NNZ	**Nelson**	**6.10**	**52**	*e*PN	**Pn**	**00 54 41.1**	**+1.9**
NNZ	**Nelson**	**6.10**	**52**	*e*Pn	**Pn**	**00 54 42.1**	**+2.9**
TCW	**Tory Channel**	**6.61**	**56**	*e*Pn	Pn	00 54 50.7	+4.4
SNZO	**South Karori**	**6.81**	**58**	*e*Pn	**Pn**	**00 54 51.3**	**+2.3**
FWVZ	**Far West T-bar**	**8.66**	**50**	*e*Pn	Pn	00 55 18.1	+3.6
URZ	**Urewera**	**10.22**	**51**	Pn	**Pn**	**00 55 37.6**	**+1.9**
	0.4nm,0.3s,baz=111,slow=23,SNR=1.5						
URZ				Sn	**Sn**	**00 57 26.4**	**-3.4**
	1.0nm,0.3s,baz=37,slow=19,SNR=4.7						
URZ	**Urewera**	**10.22**	**51**	Pn	**Pn**	**00 55 37.6**	**+1.9**
URZ				Sn	**Sn**	**00 57 26.4**	**-3.4**
WCZ	**Waipu Caves**	**10.76**	**34**	*e*Pn	**Pn**	**00 55 43.9**	**+0.7**
STKA	**Stephens Creek**	**23.79**	**295**	LR	LR	01 06 28.1	
	comp=Z,120nm,18.9s,baz=295,slow=34						
ASAR	**Alice Springs**	**34.37**	**297**	P	**P**	**00 59 57.2**	**+1.3**
	0.4nm,0.6s,baz=134,slow=6.8,SNR=7.9						
ASAR				LR	LR	01 13 18.3	
	comp=Z,125nm,18.0s,baz=111,slow=35						
ASAR	**Alice Springs**	**34.37**	**297**	P	**P**	**00 59 57.2**	**+1.3**
WRA	**Warramunga Arr**	**36.89**	**302**	P	**P**	**01 00 18.6**	**+1.0**
	1.4nm,0.6s,baz=137,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**36.89**	**302**	P	**P**	**01 00 18.6**	**+1.0**
QSPA	**South Pole Qui**	**44.96**	**180**	P	**P**	**01 01 21.9**	**-1.8**
	0.9nm,0.6s,baz=82,slow=5.4,SNR=2.1						
QSPA	**South Pole Qui**	**44.96**	**180**	P	**P**	**01 01 21.9**	**-1.8**
BRTR	**Keskin Array B**	**145.55**	**278**	PKPbc	**PKPab**	**01 12 47.5**	**+0.2**
	1.7nm,0.7s,baz=151,slow=4.6,SNR=11						
BRTR	**Keskin Array B**	**145.55**	**278**	PKPbc	**PKPab**	**01 12 47.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**145.73**	**206**	PKPbc	**PKPdf**	**01 12 47.6**	**-0.1**
	1.4nm,0.5s,baz=138,slow=2.3,SNR=45						
TORD	**Torodi Ar. Bea**	**145.73**	**206**	PKPbc	**PKPdf**	**01 12 47.6**	**-0.1**
ARCES	**ARCESS Array B**	**148.91**	**335**	PKPbc	**PKPbc**	**01 12 54.9**	**-0.5**
	9.5nm,1.1s,baz=72,slow=4.0,SNR=6.7						
ARCES	**ARCESS Array B**	**148.91**	**335**	PKPbc	**PKPbc**	**01 12 54.9**	**-0.5**
JOF	**Joensuu**	**149.33**	**321**	*e*pkp	P	01 12 55.5	
AKASG	**Malin Array Be**	**151.49**	**297**	PKPbc	**PKPbc**	**01 13 02.0**	**0.0**
	0.8nm,0.4s,baz=70,slow=3.4,SNR=5.3						
AKASG	**Malin Array Be**	**151.49**	**297**	PKPbc	**PKPbc**	**01 13 02.0**	**0.0**
KAF	**Kangasniemi**	**151.79**	**321**	*e*pkp	**PKPbc**	**01 13 01.5**	**-0.9**
FINES	**FINESS Array B**	**152.10**	**320**	PKPbc	**PKPbc**	**01 13 03.1**	**+0.1**
	1.7nm,0.6s,baz=90,slow=4.9,SNR=12						
FINES				PKPab	**PKPab**	**01 13 12.1**	**-0.7**
	2.2nm,1.0s,baz=8.9,slow=14,SNR=4.2						
FINES	**FINESS Array B**	**152.10**	**320**	PKPbc	**PKPbc**	**01 13 03.1**	**+0.1**
FINES				PKPab	**PKPab**	**01 13 12.1**	**-0.7**

*NNC **24** 01:16:36.5±8.3, 36°.55N×69°.13E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=87.7km s-min=48.5km az=0.0*
*ISCJB **24** 01:16:41.9±0.5, 37°.03N±0°.05×69°.24E±0°.08, h10km, mb3.5/9, MS3.2/6, Error ellipse: s-maj=10.1km s-min=5.6km az=155.8*
*IDC **24** 01:16:41.1±1.0, 36°.79N×69°.43E, h0km, mb3.6/10, mb1 3.7/15, mb1mx3.7/31, mbtmp3.6/15, ML3.0/5, MS3.3/8, Ms1 3.3/8, ms1mx3.0/39, Error ellipse: s-maj=20.5km s-min=14.9km az=144.0*
*NDI **24** 01:18:31.3±3.2, 30°.47N×75°.41E, h10km, ML2.4*
ISC 24 01:16:44.8±0.9, 36°.99N±0°.09×69°.1E±0°.1, h10km, n39, σ1§61/20, mb3.7/9, MS3.2/6, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.88**	**144**	P	**Pn**	**01 17 43.5**	**-1.1**
CEP				S	**Sn**	**01 18 31.0**	**+0.7**
THW	**Thamme Wali**	**4.70**	**152**	P	Pn	01 17 53.1	-2.6
CHCP	**Chirah Chowk**	**4.73**	**133**	P	**Pn**	**01 17 55.7**	**-0.5**
CHCP				S	Sg	01 19 09.0	-7.7
SARP	**Sargodha**	**5.83**	**149**	P	Pn	01 18 07.6	-3.7
SARP				S	Sn	01 19 14.0	-4.2
KK31	**Karatay Array**	**6.20**	**9**	Pn	**Pn**	**01 18 16.8**	**+0.4**
	2.7nm,0.6s,baz=196,slow=14,SNR=37						
KK31				⇑Lg	Lg	01 20 05.8	
	33nm,1.1s,baz=188,slow=28						
AAK	**Ala-Archa**	**6.99**	**34**	Pn	**Pn**	**01 18 26.7**	**-0.6**
	0.7nm,0.3s,baz=206,slow=8.7,SNR=26						
AAK				Lg	Lg	01 20 28.0	
	0.4nm,0.3s,baz=252,slow=13,SNR=2.3						
AAK				LR	LR	01 21 36.8	

az=141.6
*IDC **24** 01:19:23.5±1.6,20.°30S×177.°67W,h507km±18km, mb3.6/12,mb1 3.8/15,mb1mx3.6/23,mbtmp3.6/15,Error ellipse: s-maj=19.5km s-min=11.5km az=148.0*
*AUST **24** 01:20:09.7,20.°83S×176.°94E,h600km*

ISC 24 01:19:22.5±0.7,20.°3S±0.°1×177.°6W±0.°1,h500km,n35, σ0s85/37,mb3.9/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.33**	**82**	P	**S**	01 22 50.7	+8.9
	baz=12,SNR=3.9						
AFI	**Afiamalu**	**8.46**	**42**	P	**P**	**01 21 24.2**	**+0.3**
	3.3nm,0.3s,baz=32,slow=18,SNR=1.9						
AFI				S	S	01 22 55.7	-7.7
	15nm,0.3s,baz=20,slow=22,SNR=9.3						
DZM	**Mont Dzumac**	**14.99**	**260**	P	**P**	**01 22 34.1**	**+1.3**
	2.4nm,0.3s,baz=70,slow=17,SNR=20						
URZ	**Urewera**	**18.46**	**193**	P	**P**	**01 23 06.4**	**-0.5**
	3.0nm,0.3s,baz=57,slow=2.7,SNR=7.2						
RPZ	**Rata Peaks**	**25.18**	**200**	P	**P**	**01 24 08.0**	**+0.5**
	2.2nm,0.5s,baz=24,slow=12,SNR=1.6						
EIDS	**Eidsvold**	**29.26**	**254**	P	**P**	**01 24 43.9**	**+0.3**
	baz=24,SNR=5.0						
ARMA	**Armidale**	**29.49**	**244**	P	**P**	**01 24 46.6**	**+1.0**
	baz=25,SNR=11						
RMQ	**Roma**	**31.42**	**252**	P	**P**	**01 25 03.3**	**+1.0**
	baz=26,SNR=5.1						
CMSA	**Cobar Meteorol**	**34.71**	**244**	P	**P**	**01 25 30.2**	**+0.1**
	baz=30,SNR=9.0						
QLP	**Quilpie**	**35.48**	**252**	P	**P**	**01 25 36.7**	**+0.2**
	baz=30,SNR=11						
PMG	**Port Moresby**	**35.68**	**282**	P	**P**	**01 25 38.1**	**-0.2**
	9.6nm,0.6s,baz=86,slow=7.0,SNR=5.2						
COEN	**Coen**	**37.95**	**273**	P	**P**	**01 25 57.3**	**+0.2**
	baz=33,SNR=11						
STKA	**Stephens Creek**	**38.21**	**244**	P	**P**	**01 25 59.3**	**+0.4**
	5.8nm,0.5s,baz=89,slow=9.4,SNR=30						
STKA	**Stephens Creek**	**38.21**	**244**	P	**P**	**01 25 59.4**	**+0.4**
	baz=33,SNR=21						
MMPI	**Merauke**	**42.25**	**280**	P	P	01 26 36.0	+4.3
	baz=37,SNR=4.6						
BBOO	**Buckleboo**	**42.97**	**243**	P	**P**	**01 26 36.9**	**-0.2**
	baz=38,SNR=23						
ASAR	**Alice Springs**	**44.93**	**257**	P	**P**	**01 26 52.3**	**-0.2**
	23nm,0.6s,baz=97,slow=7.6,SNR=284						
ASAR				PcP	**PcP**	**01 28 23.2**	**-0.2**
	0.7nm,0.8s,baz=108,slow=3.3,SNR=4.1						
ASAR				S	**S**	**01 32 51.5**	**-2.3**
	2.0nm,0.8s,baz=92,slow=16,SNR=13						
WRA	**Warramunga Arr**	**45.00**	**262**	P	**P**	**01 26 52.2**	**-0.9**
	6.6nm,0.3s,baz=97,slow=7.7,SNR=352						
WRA				PcP	**PcP**	**01 28 23.7**	**-0.1**
	1.1nm,0.8s,baz=99,slow=3.4,SNR=4.2						
WRA				S	**S**	**01 32 54.9**	**0.0**
	0.1nm,0.5s,baz=100,slow=16,SNR=3.3						
KDU	**Kakadu**	**48.33**	**271**	P	**P**	**01 27 17.9**	**-0.4**
	baz=43,SNR=7.2						
KDU				S	S	01 33 28.9	-12
	baz=43,SNR=6.2						
MTN	**Manton Dam**	**49.54**	**270**	P	**P**	**01 27 26.7**	**-0.7**
	baz=44,SNR=7.4						
MTN				S	S	01 33 48.3	-10
	baz=44,SNR=3.4						
FORT	**Forrest**	**49.72**	**246**	P	**P**	**01 27 27.9**	**-0.5**
	baz=45,SNR=15						
MEEK	**Meekatharra**	**58.34**	**251**	P	**P**	**01 28 28.7**	**-0.8**
	baz=53,SNR=6.7						
MORW	**Morawa**	**60.25**	**247**	P	**P**	**01 28 41.9**	**-0.3**
	baz=55,SNR=5.3						
MJAR	**Matsushiro Arr**	**70.30**	**323**	P	**P**	**01 29 45.0**	**-0.2**
	2.0nm,0.5s,baz=160,slow=6.3,SNR=4.6						
USRK	**Ussuriysk Arra**	**79.03**	**326**	P	**P**	**01 30 35.0**	**+0.8**
	4.3nm,0.8s,baz=99,slow=6.6,SNR=5.5						
NVAR	**Mina Array Bea**	**80.63**	**43**	P	**P**	**01 30 42.8**	**-0.3**
	0.7nm,0.8s,baz=216,slow=6.7,SNR=4.1						
ILAR	**Eielson Array**	**88.06**	**13**	P	**P**	**01 31 18.1**	**-0.5**
	0.5nm,0.6s,baz=222,slow=5.9,SNR=6.2						
PDAR	**Pinedale Array**	**88.57**	**43**	P	**P**	**01 31 21.6**	**-0.3**
	0.3nm,0.6s,baz=241,slow=5.4,SNR=2.2						
CMAR	**Chiang Mai Arr**	**90.42**	**289**	P	**P**	**01 31 32.2**	**+1.5**
	1.6nm,0.4s,baz=123,slow=2.9,SNR=11						
SONM	**Songino Array**	**95.87**	**319**	P	**P**	**01 31 55.8**	**+0.7**
	0.2nm,0.6s,baz=88,slow=3.6,SNR=2.4						
MKAR	**Makanchi Array**	**111.35**	**313**	PKiKP	**PKiKP**	**01 36 58.1**	**-1.2**
	0.2nm,0.6s,baz=89,slow=0.6,SNR=5.4						
AKASG	**Malin Array Be**	**143.04**	**332**	PKP	PKPab	01 37 55.4	-0.8
	4.1nm,0.6s,baz=44,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc	**PKPbc**	**01 38 08.4**	**-0.7**
	1.3nm,0.7s,baz=138,slow=4.5,SNR=8.7						
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	**PKPbc**	**01 38 16.4**	**-0.1**
	0.8nm,0.7s,baz=70,slow=1.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**172.83**	**174**	PKP	**PKPdf**	**01 38 33.1**	**-1.6**
	0.5nm,0.8s,baz=318,slow=1.1,SNR=3.0						
TORD				PKPab	**PKPab**	**01 40 06.1**	**+1.9**
	0.1nm,0.5s,baz=170,slow=2.6,SNR=3.0						

TRN 24 01:32:35.5,15.°06N×60.°57W,h54km,MD3.7,M3.2(FDF), 4C-1D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.59**	**212**	⇓*eP*	Pn	01 32 50.3	+2.2
FDF	**Fort de France**	**0.65**	**240**	⇑*iP*	Pn	01 32 50.4	+1.6
FDF	**Fort de France**	**0.65**	**240**	⇑*eP*	Pn	01 32 50.5	+1.7
FDF				⇑*eS*	Sn	01 33 00.5	+2.0
FDF				⇑*eS*	S	01 33 00.9	
BIM	**Bigot**	**0.72**	**222**	*eP*	Pn	01 32 50.3	+0.5
DSTT	**Stowe**	**0.73**	**285**	*eP*	Pn	01 32 51.4	+1.6
DBCT	**Belle View Cho**	**0.77**	**286**	*eP*	Pn	01 32 52.0	+1.6
DFBT	**Forest Bistro**	**0.78**	**283**	*eP*	Pn	01 32 51.8	+1.5
DFBT				*eS*	Sn	01 33 03.2	+1.9
DSHT	**Scott's Head**	**0.79**	**281**	*eP*	Pn	01 32 52.0	+1.5
MDN	**Morne-Daniel**	**0.83**	**288**	*eP*	Pn	01 32 53.0	+1.9
MGG	**Marie-Galante**	**1.11**	**320**	*eP*	Pn	01 32 56.2	+1.4
TBG	**Guadaloupe-3**	**1.30**	**307**	*eP*	Pn	01 32 58.2	+0.9
SLB	**Belfond**	**1.31**	**200**	*eP*	Pn	01 32 59.1	+1.6
SLB				*eS*	Sn	01 33 16.0	+1.9
DEG	**La Desirade**	**1.33**	**339**	*eP*	Pn	01 32 58.8	+1.0
DEG				*eS*	Sn	01 33 15.8	+1.2
MCLT	**Moule a Chique**	**1.39**	**195**	*eP*	Pn	01 32 59.6	+1.0
MCLT				*eS*	Sn	01 33 17.6	+1.7
DOG	**Dongo Capester**	**1.39**	**314**	*eP*	Pn	01 33 00.4	+1.7
PHG	**Guadaloupe-2**	**1.40**	**313**	*eP*	Pn	01 33 00.4	+1.6
HMG	**Houelmont**	**1.42**	**310**	*eP*	Pn	01 33 00.8	+1.8
BCG	**Bois Riant Cap**	**1.43**	**315**	*eP*	Pn	01 33 00.9	+1.7
SCG	**Saint Claude**	**1.44**	**312**	*eP*	Pn	01 33 01.2	+1.9
SCG				*eS*	Sn	01 33 18.8	+1.7
LZG	**Guadaloupe-1**	**1.58**	**313**	*eP*	Pn	01 33 03.4	+2.2
SVV	**Soufriere Volc**	**1.84**	**200**	*eS*	Sn	01 33 29.3	+2.3
SVB	**Belmont**	**1.90**	**200**	*eP*	Pn	01 33 07.2	+1.7
SVB				*eS*	Sn	01 33 29.8	+1.5

*ISCJB **24** 01:54:10.7±0.7,36.°90N±0.°05×27.°89E±0.°03,h10km±5km, Error ellipse: s-maj=8.4km s-min=4.2km az=15.9*
*ISK **24** 01:54:10.6,36.°96N×27.°91E,h20km, MD2.6*
*CSEM **24** 01:54:10.8±0.3,36.°91N×27.°89E,h15km,MD2.6,Error ellipse: s-maj=6.9km s-min=3.6km az=17.0*
*DDA **24** 01:54:11.4,36.°96N×27.°88E,h7km, MD2.8*

ISC 24 01:54:11.1±1.1,36.°94N±0.°06×27.°86E±0.°03,h16km±9km, n26,σ0s91/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.36**	**292**	*iP*	**Pg**	**01 54 18.3**	**-0.2**
BDRM				*iS*	**Sb**	**01 54 24.5**	**-0.1**
BDRM	**Kayabasi**	**0.36**	**292**	*iP*	**Pg**	**01 54 18.3**	**-0.2**
BDRM				*iS*	**Sb**	**01 54 24.5**	**-0.1**
MLSB	**Milas**	**0.37**	**350**	*e*PG	**Pg**	**01 54 18.9**	**+0.3**
MLSB				*e*SG	**Sg**	**01 54 24.2**	**+0.4**
MLSB	**Milas**	**0.37**	**350**	*e*Pg	**Pg**	**01 54 18.9**	**+0.3**
MLSB				*e*Sg	**Sg**	**01 54 24.2**	**+0.4**
YER	**Yerkesik**	**0.39**	**59**	*e*PG	**Pg**	**01 54 18.6**	**-0.6**
YER				*e*SG	**Sg**	**01 54 24.1**	**-0.5**
YER	**Yerkesik**	**0.39**	**59**	*e*Pg	**Pg**	**01 54 18.6**	**-0.6**
YER				*e*Sg	**Sg**	**01 54 24.1**	**-0.5**
BODT	**Bodrum**	**0.46**	**286**	*e*PG	**Pb**	**01 54 20.7**	**-0.2**
BODT				*e*SG	**Sb**	**01 54 28.6**	**+1.2**
BODT	**Bodrum**	**0.46**	**286**	*e*Pg	**Pb**	**01 54 20.7**	**-0.2**
BODT				*e*Sg	**Sb**	**01 54 28.6**	**+1.2**
TURN	**Turunc**	**0.60**	**96**	*i*P	Pg	01 54 18.4	-4.5
TURN				*i*S	Sg	01 54 23.4	-7.5
TURN	**Turunc**	**0.60**	**96**	*i*P	Pg	01 54 18.4	-4.5
AYDN	**Tasoluk**	**0.72**	**1**	*i*P	**Pg**	**01 54 25.1**	**-0.2**
AYDN				*i*S	**Sg**	**01 54 34.8**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**1**	*i*P	**Pg**	**01 54 25.1**	**-0.2**
AYDN				*i*S	**Sg**	**01 54 34.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.91**	**327**	*i*P	**Pn**	**01 54 29.7**	**+0.3**
GCAM				*i*S	**Sg**	**01 54 41.6**	**+0.8**
GCAM	**G?zelcaml?**	**0.91**	**327**	*i*P	**Pn**	**01 54 29.7**	**+0.3**
GCAM				*i*S	**Sg**	**01 54 41.6**	**+0.8**
FETY	**Fethiye**	**1.03**	**107**	*e*PG	**Pn**	**01 54 30.1**	**-0.8**
FETY				*e*SG	**Sn**	**01 54 44.1**	**-1.0**
FETY	**Fethiye**	**1.03**	**107**	*e*Pg	**Pn**	**01 54 30.1**	**-0.8**
FETY				*e*Sg	**Sn**	**01 54 44.1**	**-1.0**
DNZL	**Cakiroluk**	**1.21**	**51**	*i*P	**Pg**	**01 54 34.9**	**+0.4**
DNZL				*i*S	**Sg**	**01 54 51.0**	**+0.7**
DNZL	**Cakiroluk**	**1.21**	**51**	*i*P	**Pg**	**01 54 34.9**	**+0.4**
DNZL				*i*S	**Sg**	**01 54 51.0**	**+0.7**
GOLH	**Golhisar**	**1.39**	**77**	*i*P	**Pg**	**01 54 39.6**	**+1.6**
GOLH				*i*S	**Sg**	**01 54 59.5**	**+3.3**
GOLH	**Golhisar**	**1.39**	**77**	*i*P	**Pg**	**01 54 39.6**	**+1.6**
BLCB	**Balcova**	**1.59**	**336**	*e*PN	**Pn**	**01 54 38.2**	**-0.4**
BLCB	**Balcova**	**1.59**	**336**	*e*Pn	**Pn**	**01 54 38.2**	**-0.4**
ELL	**Elmali**	**1.66**	**96**	*e*PN	**Pn**	**01 54 38.6**	**-1.1**
ELL	**Elmali**	**1.66**	**96**	*e*Pn	**Pn**	**01 54 38.6**	**-1.1**
KULA	**Kula-Manisa**	**1.70**	**22**	*e*PN	**Pn**	**01 54 39.5**	**-0.8**
KULA	**Kula-Manisa**	**1.70**	**22**	*e*Pn	**Pn**	**01 54 39.5**	**-0.8**

*IDC **24** 01:57:58.0±1.1,27.°96N×87.°70E,h0km,mb3.4/5, mb1 3.4/6,mb1mx3.3/27,mbtmp3.3/6,ML3.1/1,Error ellipse: s-maj=38.5km s-min=22.4km az=63.0*
*ISCJB **24** 01:57:58.3±1.0,28.°0N±0.°1×87.°5E±0.°1,h10km,mb3.4/5, Error ellipse: s-maj=26.8km s-min=7.6km az=42.6*

ISC 24 01:57:59.6±1.2,28.°0N±0.°2×87.°7E±0.°2,h10km,n8,σ0s89/8, mb3.3/5,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.06**	**128**	*e*PG	Pn	01 58 23.0	+2.3
GTK				*e*SG	**Sn**	**01 58 37.0**	**+1.5**
SHL	**Shillong**	**4.46**	**122**	*e*P	Pb	01 59 12.0	-6.2
SHL				*e*S	**Sg**	**02 00 22.0**	**-1.0**
MKAR	**Makanchi Array**	**19.24**	**349**	P	**Pn**	**02 02 25.2**	**+0.2**
	0.1nm,0.3s,baz=172,slow=12,SNR=2.0						
KURBB	**Kurchatov Arra**	**23.64**	**345**	P	**P**	**02 03 11.6**	**+0.6**
	0.5nm,0.5s,baz=161,slow=8.6,SNR=8.5						
SONM	**Songino Array**	**24.58**	**31**	P	**P**	**02 03 19.5**	**-0.4**
	0.4nm,0.5s,baz=216,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**65.62**	**131**	P	**P**	**02 08 44.0**	**-0.1**
	0.3nm,0.4s,baz=327,slow=6.7,SNR=16						
ASAR	**Alice Springs**	**68.00**	**134**	P	**P**	**02 08 59.3**	**0.0**
	0.3nm,0.4s,baz=310,slow=6.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**80.46**	**280**	P	**P**	**02 10 11.8**	**-0.5**
	0.3nm,1.0s,baz=50,slow=4.9,SNR=2.6						

*CSEM **24** 02:00:44.5±0.7,51.°44N×16.°08E,h2km,ML2.7/4, Error ellipse: s-maj=11.6km s-min=6.4km az=8.0*
*PRU **24** 02:00:45.2,51.°45N×16.°11E,h0km*

WAR 24 02:00:42.8,51.°59N×15.°99E,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**166**	*e*Pg	Pg	02 00 57.1	-0.5
KSP				*e*Sg	Sg	02 01 06.1	-1.5
KSP	**Ksiaz**	**0.77**	**166**	*e*Pg	Pg	02 00 57.1	-0.5
KSP				*e*Sg	Sg	02 01 06.1	-1.5
UPC	**Upice**	**1.08**	**179**	*e*PG	Pg	02 01 03.1	-0.5
UPC	**Upice**	**1.08**	**179**	*e*Pg	Pg	02 01 03.1	-0.5
DPC	**Dobruska-Polom**	**1.26**	**170**	*e*PG	Pg	02 01 06.0	-1.0
DPC				*e*SG	Sg	02 01 20.6	-2.8
	comp=Z,4.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.26**	**170**	Pg	Pg	02 01 06.0	-1.0
DPC				Sg	Sg	02 01 20.6	-2.8
	4.0nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**221**	*e*PG	Pb	02 01 10.6	+1.0
PVCC				*e*SG	Sg	02 01 27.6	+0.1
	comp=Z,28nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**221**	Pg	Pb	02 01 10.6	+1.0
PVCC				Sg	Sg	02 01 27.6	+0.1
	28nm,0.2s						
BRG	**Berggiesshubel**	**1.47**	**242**	PG	Pb	02 01 12.5	+1.4
BRG				SG	Sn	02 01 32.7	+2.2
	7.9nm,0.3s						
PRU	**Pruhonice**	**1.85**	**210**	*e*PG	Pb	02 01 17.6	+0.2
PRU				*e*SG	Sb	02 01 41.4	+0.3
	comp=Z,4.4nm,0.3s						
PRU	**Pruhonice**	**1.85**	**210**	Pg	Pb	02 01 17.6	+0.2
PRU				Sg	Sb	02 01 41.4	+0.3
	4.4nm,0.3s						
CLL	**Collm**	**1.89**	**263**	*e*Pg	Pg	02 01 21.0	+2.0
CLL				*e*Sg	Sg	02 01 47.0	+3.5
MORC	**Moravsky Berou**	**2.06**	**151**	*e*Pn	Pn	02 01 17.9	-0.9
MORC				*e*Sg	Sn	02 01 44.7	-0.6
OKC	**Ostrava-Krasne**	**2.23**	**141**	*e*SG	Sb	02 01 50.8	-1.2
	comp=Z,6.5nm,0.6s						
OKC	**Ostrava-Krasne**	**2.23**	**141**	Sg	Sb	02 01 50.8	-1.2
	6.5nm,0.6s						
VRAC	**Vranov**	**2.31**	**170**	*e*Pn	Pn	02 01 21.9	-0.3
VRAC				*e*Sg	Sb	02 01 54.6	0.0
KHC	**Kasperske Hory**	**2.90**	**213**	*e*PN	Pn	02 01 31.3	+1.0
KHC				*e*PG	Pb	02 01 36.9	+1.4
KHC				*e*SN	Sn	02 02 06.0	0.0
KHC				*e*SG	Sg	02 02 14.4	-1.8
KHC	**Kasperske Hory**	**2.90**	**213**	Pn	Pn	02 01 31.3	+1.0
KHC	**Kasperske Hory**	**2.90**	**213**	Pg	Pb	02 01 36.9	+1.4
KHC				Sn	Sn	02 02 06.0	0.0
KHC				Sg	Sg	02 02 14.4	-1.8

MEX 24 02:08:47.2±1.2,16.°20N×98.°07W,h27km±11km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**345**	*e*P	Pb	02 08 51.8	-1.2
PNIG				*i*S	Sb	02 08 55.7	-1.3
VHO	**Vista Hermosa**	**1.55**	**56**	*e*P	Pn	02 09 09.9	-3.5
VHO				*i*S	Sn	02 09 29.3	-3.5
OXX	**Oaxaca**	**1.56**	**56**	*e*P	Pn	02 09 10.5	-3.1
OXX				*i*S	Sn	02 09 29.6	-3.5
UTMO	**Huajuapan**	**1.64**	**9**	*e*P	Pn	02 09 12.3	-2.3
UTMO				*i*S	Sn	02 09 31.8	-3.2
ACX	**Acapulco**	**1.84**	**291**	*e*P	Pn	02 09 16.4	-0.6
ACX				*i*S	Sn	02 09 37.7	-1.8
HUIG	**Huatulco**	**1.94**	**103**	*e*P	Pn	02 09 16.6	-1.9
HUIG				*i*S	Sn	02 09 40.1	-1.8
TPIG	**Tehuac#an**	**2.31**	**17**	*e*P	Pn	02 09 22.5	-1.2
TPIG				*i*S	Sn	02 09 48.9	-2.6
CMIG	**Matias Romero**	**3.18**	**73**	*i*P	Pn	02 09 32.0	-3.6
CMIG				*i*S	Sn	02 10 10.2	-2.5

*PRE **24** 02:12:03.1±2.0,11.°52S×34.°62E,h10km,mb4.3*
*ISCJB **24** 02:12:04.6±0.3,11.°51S±0.°04×34.°58E±0.°05,h10km, mb3.9/13,MS3.6/1,Error ellipse: s-maj=7.0km s-min=5.1km az=18.9*
*IDC **24** 02:12:05.2±0.7,11.°52S×34.°61E,h0km,mb3.9/10, mb1 4.1/15,mb1mx3.9/31,mbtmp4.0/15,ML4.4/3,MS3.4/4, Ms1 3.4/4,ms1mx3.0/40,Error ellipse: s-maj=20.7km s-min=14.8km az=131.0*
*NEIC **24** 02:12:10.0±0.9,11.°65S×34.°61E,h32km±7km,mb4.1/4, Error ellipse: s-maj=11.0km s-min=8.6km az=69.0*
*BUL **24** 02:12:11.0±0.3,11.°07S×34.°01E,h15km,MD5.3*

ISC 24 02:12:07.0±0.5,11.°71S±0.°05×34.°49E±0.°05,h10km,n61, σ2s26/69,mb4.0/13,1C-1D,Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.08**	**239**	Pn	Pn	02 13 54.4	+3.5
	5.8nm,0.3s,baz=61,slow=11,SNR=72						
LSZ				Sn	**Sn**	**02 15 12.5**	**+0.9**
	29nm,0.3s,baz=328,slow=13,SNR=14						
LSZ				Lg	Lg	02 15 55.2	
	33nm,0.3s,baz=302,slow=7.8,SNR=6.6						
LSZ				LR	LR	02 16 42.8	
	comp=Z,165nm,21.8s,baz=156,slow=38						
LSZ	**Lusaka**	**7.08**	**239**	*e*Pn	**Pn**	**02 13 54.0**	**+3.1**
	27nm,0.4s						
LSZ				*e*Sn	**Sn**	**02 15 10.6**	**-1.1**
LSZ				Sn	**Sn**	**02 15 12.5**	**+0.9**
LSZ				Lg	Lg	02 15 55.2	
LSZ	**Lusaka**	**7.08**	**239**	⇑*iP*	Pn	02 13 54.4	+3.5
LSZ				*e*S	**Sn**	**02 15 10.0**	**-1.6**
BLWY	**Bulawayo**	**10.11**	**213**	*i*P	**Pn**	**02 14 35.1**	**+2.6**
BLWY				*i*		02 14 35.2	
	baz=31,slow=18						
BLWY				*i*S	**Sn**	**02 16 21.8**	**-4.4**
KMBO	**Kilima Mbogo**	**10.86**	**15**	*e*Pn	Pn	02 14 27.8	-15
KMBO				*e*Sn	**Sn**	**02 16 39.6**	**-5.0**
KMBO	**Kilima Mbogo**	**10.86**	**15**	*e*P	Pn	02 14 38.5	-4.3
MSNA	**Messina**	**11.41**	**201**	⇓*iP*	**Pn**	**02 14 53.0**	**+2.8**
MSNA				*e*S	**Sn**	**02 16 56.0**	**-1.9**
MBAR	**Mbarara**	**11.64**	**341**	Pn	Pn	02 14 50.1	-3.4
	1.2nm,0.3s,baz=164,slow=17,SNR=6.9						
MBAR				Sn	**Sn**	**02 17 05.7**	**+1.9**
	2.3nm,0.3s,baz=291,slow=22,SNR=2.4						
MBAR				Lg	Lg	02 18 05.7	
	4.0nm,0.3s,baz=60,slow=22,SNR=4.5						
MBAR	**Mbarara**	**11.64**	**341**	Sn	**Sn**	**02 17 05.7**	**+1.9**
MBAR				Lg	Lg	02 18 05.7	
MBAR	**Mbarara**	**11.64**	**341**	*e*P	Pn	02 14 48.9	-4.6
OPO	**Ambohidratompo**	**14.02**	**121**	Pn	**Pn**	**02 15 27.0**	**+1.0**
	0.9nm,0.3s,baz=313,slow=14,SNR=6.6						
OPO				Sn	**Sn**	**02 18 03.0**	**+1.0**
	1.9nm,0.3s,baz=91,slow=12,SNR=11						
OPO	**Ambohidratompo**	**14.02**	**121**	Pn	**Pn**	**02 15 27.0**	**+1.0**
OPO				Sn	**Sn**	**02 18 03.0**	**+1.0**
ABPO	**Ambohimpanom**	**14.27**	**122**	*e*Pn	**Pn**	**02 15 30.0**	**+0.7**
ABPO				*e*Sn	**Sn**	**02 18 05.7**	**-2.2**
SLR	**Silverton**	**15.14**	**202**	*e*P	**Pn**	**02 15 43.1**	**+1.9**
LBTB	**Lobatse**	**15.69**	**211**	Pn	**Pn**	**02 15 46.9**	**-1.5**
	1.0nm,0.3s,baz=48,slow=14,SNR=25						
LBTB				Sn	**Sn**	**02 18 37.0**	**-5.5**
	1.6nm,0.3s,baz=122,slow=22,SNR=7.4						
LBTB				Lg	Lg	02 20 23.1	
	0.7nm,0.3s,baz=307,slow=23,SNR=3.5						
LBTB				LR	LR	02 22 03.0	
	comp=Z,144nm,19.6s,baz=229,slow=38						
LBTB	**Lobatse**	**15.69**	**211**	Sn	**Sn**	**02 18 37.0**	**-5.5**
LBTB				Lg	Lg	02 20 23.1	
ERPM	**east rand prop**	**15.71**	**201**	*e*P	**Pn**	**02 15 48.6**	**0.0**
KSR	**Koster**	**15.79**	**206**	*e*P	**Pn**	**02 15 51.2**	**+1.4**
PRYS	**Parys**	**16.56**	**203**	*e*P	**P**	**02 16 01.9**	**-0.2**
TSUM	**Tsumeb**	**17.91**	**243**	Pn	**P**	**02 16 19.3**	**+2.2**
	0.7nm,0.3s,baz=49,slow=13,SNR=22						
TSUM				Sn	**S**	**02 19 43.2**	**+0.2**
	0.4nm,0.3s,baz=146,slow=24,SNR=3.7						
TSUM				Lg	Lg	02 21 40.6	
	0.3nm,0.3s,baz=133,slow=16,SNR=2.5						
TSUM				LR	LR	02 23 33.3	
	comp=Z,153nm,20.6s,baz=252,slow=38						
TSUM	**Tsumeb**	**17.91**	**243**	*e*Pn	**P**	**02 16 19.0**	**+1.9**
	11nm,0.8s						
TSUM				*e*Sn	**S**	**02 19 41.5**	**-1.6**
TSUM				Sn	**S**	**02 19 43.2**	**+0.2**
TSUM				Lg	Lg	02 21 40.6	
BOSA	**Boshof**	**18.91**	**206**	P	**P**	**02 16 28.5**	**+0.5**
	1.3nm,0.3s,baz=27,slow=11,SNR=22						
BOSA				S	Sn	02 19 52.9	-7.6
	0.3nm,0.3s,baz=277,slow=9.9,SNR=3.0						
BOSA				Lg	Lg	02 21 59.9	
	0.9nm,0.3s,baz=144,slow=8.6,SNR=3.6						
BOSA	**Boshof**	**18.91**	**206**	*e*Pn	**Pn**	**02 16 29.9**	**+1.3**
	8.8nm,0.6s						
BOSA				S	Sn	02 19 52.9	-7.6
BOSA				*e*Sn	**S**	**02 19 59.9**	**-3.2**
BOSA				Lg	Lg	02 21 59.9	
BOSA	**Boshof**	**18.91**	**206**	*e*P	**Pn**	**02 16 29.9**	**+1.3**
BOSA				AMB	AMB	02 16 32.3	
	comp=Z,29nm,3.2s						
HVD	**Gariep Dam**	**20.57**	**203**	*e*P	**P**	**02 16 46.8**	**+0.5**
HVD				AMB	AMB	02 16 48.1	
	comp=Z,12nm,1.4s						
SOE	**Somerset East**	**22.46**	**200**	*e*P	**P**	**02 17 10.5**	**+4.1**
CVNA	**Calvinia**	**23.93**	**212**	*e*P	**P**	**02 17 23.5**	**+2.1**
CVNA				AMB	AMB	02 17 32.6	
	comp=Z,32nm,4.5s						
KOMG	**Komaggas**	**23.96**	**219**	*e*P	**P**	**02 17 20.9**	**-0.8**
KOMG				AMB	AMB	02 17 25.5	
	comp=Z,23nm,1.6s						
SUR

BRY				*e*Sg	**Sb**	**02 23 11.4**	**-0.7**
BBLS	**Lazići**	**0.78**	**71**	*e*Pg	**Pg**	**02 23 02.8**	**+0.3**
BBLS				*e*Sg	**Sg**	**02 23 12.6**	**-0.1**
BBLS	**Lazići**	**0.78**	**71**	*e*Pg	**Pg**	**02 23 02.8**	**+0.3**
BBLS				*e*Sg	**Sg**	**02 23 12.6**	**-0.1**
PLE	**Pljevlja**	**0.78**	**111** ⇑	*i*Pg	**Pg**	**02 23 02.0**	**-0.5**
PLE				*e*Sg	**Sb**	**02 23 13.9**	**0.0**
PLE	**Pljevlja**	**0.78**	**111** ⇑	*i*Pg	**Pg**	**02 23 02.0**	**-0.5**
PLE				*e*Sg	**Sb**	**02 23 13.9**	**0.0**
STON	**Ston**	**0.90**	**214**	*e*Pg	**Pg**	**02 23 03.8**	**-0.8**
STON				Sg	**Sb**	**02 23 16.4**	**-0.5**
STON	**Ston**	**0.90**	**214**	*e*Pg	**Pg**	**02 23 03.8**	**-0.8**
STON				Sg	**Sb**	**02 23 16.4**	**-0.5**
NKY	**Niksic**	**0.92**	**151** ⇓	*i*Pg	**Pg**	**02 23 03.9**	**-1.2**
NKY				*e*Sg	**Sb**	**02 23 17.8**	**+0.2**
NKY	**Niksic**	**0.92**	**151** ⇓	*i*Pg	**Pg**	**02 23 03.9**	**-1.2**
NKY				*e*Sg	**Sb**	**02 23 17.8**	**+0.2**
HCY	**Herceg Novi**	**1.17**	**176**	*e*Pg	**Pb**	**02 23 08.7**	**-1.0**
HCY				*e*Sg	**Sn**	**02 23 26.9**	**+1.2**
HCY	**Herceg Novi**	**1.17**	**176**	*e*Pg	**Pb**	**02 23 08.7**	**-1.0**
SJES	**Sjenica**	**1.21**	**106**	*e*Pg	**Pb**	**02 23 08.2**	**-2.2**
SJES				*e*Sg	**Sb**	**02 23 26.5**	**+0.4**
TEKS	**Tekeris**	**1.25**	**41**	*e*Pn	**Pb**	**02 23 11.5**	**+0.5**
TEKS				*e*Sg	**Sg**	**02 23 28.3**	**+0.7**
TEKS	**Tekeris**	**1.25**	**41**	*e*Pn	**Pb**	**02 23 11.5**	**+0.5**
TEKS				*e*Sg	**Sg**	**02 23 28.3**	**+0.7**
DIVS	**Divibare**	**1.26**	**67**	*e*Pg	**Pn**	**02 23 11.2**	**+0.1**
DIVS				*e*Sg	**Sn**	**02 23 29.2**	**+1.1**
DIVS	**Divibare**	**1.26**	**67**	*e*Pg	**Pn**	**02 23 11.2**	**+0.1**
DIVS				*e*Sg	**Sn**	**02 23 29.2**	**+1.1**
IVAS	**Ivanjica**	**1.28**	**91**	*e*Pg	**Pn**	**02 23 10.7**	**-0.7**
IVAS				*e*Sg	**Sn**	**02 23 29.7**	**+1.0**
IVAS	**Ivanjica**	**1.28**	**91**	*e*Pg	**Pn**	**02 23 10.7**	**-0.7**
IVAS				*e*Sg	**Sn**	**02 23 29.7**	**+1.0**
BEY	**Berane**	**1.33**	**123** ⇓	*i*Pg	**Pn**	**02 23 11.8**	**-0.3**
IVA	**Berane**	**1.33**	**123** ⇓	*i*Pg	**Pn**	**02 23 11.8**	**-0.3**
IVA				*e*Sg	**Sg**	**02 23 32.6**	**+2.4**
PDG	**Podgorica**	**1.34**	**151** ⇓	*i*Pg	**Pn**	**02 23 10.7**	**-1.5**
TTG	**Podgorica**	**1.35**	**151** ⇓	*i*Pg	**Pn**	**02 23 10.7**	**-1.5**
TTG				*e*Sg	**Sg**	**02 23 33.3**	**+2.6**
BUM	**Brajici-Budva**	**1.36**	**164** ⇓	*i*Pg	**Pn**	**02 23 12.2**	**-0.3**
BUM				*e*Sg	**Sg**	**02 23 33.9**	**+2.6**
BUM	**Brajici-Budva**	**1.36**	**164** ⇓	*i*Pg	**Pn**	**02 23 12.2**	**-0.3**
BLY	**Banja Luka**	**1.43**	**323**	*e*Pg	**Pn**	**02 23 13.5**	**+0.1**
BLY				*e*Sg	**Sg**	**02 23 34.0**	**+0.6**
BLY	**Banja Luka**	**1.43**	**323**	*e*Pg	**Pn**	**02 23 13.5**	**+0.1**
BLY				*e*Sg	**Sg**	**02 23 34.0**	**+0.6**
PVY	**Plav**	**1.54**	**131** ⇑	*i*Pg	**Pb**	**02 23 15.8**	**-0.2**
PVY				*e*Sg	**Sg**	**02 23 38.7**	**+1.8**
PVY	**Plav**	**1.54**	**131** ⇑	*i*Pg	**Pb**	**02 23 15.8**	**-0.2**
PVY				*e*Sg	**Sg**	**02 23 38.7**	**+1.8**
TRUS	**Trudelj**	**1.58**	**67**	*e*Pg	**Pn**	**02 23 16.3**	**+0.8**
TRUS				*e*Sg	**Sg**	**02 23 38.7**	**+0.4**
TRUS	**Trudelj**	**1.58**	**67**	*e*Pg	**Pn**	**02 23 16.3**	**+0.8**
TRUS				*e*Sg	**Sg**	**02 23 38.7**	**+0.4**
GRUS	**Gruza**	**1.71**	**80**	*e*Pg	**Pn**	**02 23 18.0**	**+0.8**
GRUS				*e*Sg	**Sg**	**02 23 42.4**	**0.0**
GRUS	**Gruza**	**1.71**	**80**	*e*Pg	**Pn**	**02 23 18.0**	**+0.8**
GRUS				*e*Sg	**Sg**	**02 23 42.4**	**0.0**
ULC	**Ulcinj**	**1.77**	**159** ⇓	*i*Pn	**Pb**	**02 23 19.5**	**-0.4**
ULC				*e*Sn	**Sg**	**02 23 44.0**	**-0.2**
ULC	**Ulcinj**	**1.77**	**159** ⇓	*i*Pn	**Pb**	**02 23 19.5**	**-0.4**
FGSL	**Fruska Gora**	**1.85**	**33**	*e*Pn	**Pn**	**02 23 20.2**	**+1.0**
FGSL				*e*Sg	**Sg**	**02 23 46.4**	**-0.5**
FRGS	**Fruska Gora**	**1.85**	**33**	*e*Pn	**Pn**	**02 23 20.2**	**+1.0**
FRGS				*e*Sg	**Sg**	**02 23 46.4**	**-0.5**
SELS	**Selova**	**2.03**	**100**	*e*Pn	**Pn**	**02 23 22.2**	**+0.5**
SELS	**Selova**	**2.03**	**100**	*e*Pn	**Pn**	**02 23 22.2**	**+0.5**
PKSM	**Moragy**	**2.60**	**4**	*e*Pn	**Pn**	**02 23 29.5**	**0.0**
PKSM	**Moragy**	**2.60**	**4**	*e*Pn	**Pn**	**02 23 29.5**	**0.0**
BARS	**Barje**	**2.63**	**106**	*e*Pn	**Pn**	**02 23 30.8**	**+0.9**
BARS	**Barje**	**2.63**	**106**	*e*Pn	**Pn**	**02 23 30.8**	**+0.9**
NVLJ	**Novalja**	**2.71**	**292**	*e*Pn	**Pn**	**02 23 32.9**	**+1.9**
NVLJ				Sn	**Sn**	**02 24 05.9**	**+2.3**
NVLJ	**Novalja**	**2.71**	**292**	*e*Pn	**Pn**	**02 23 32.8**	**+1.9**
NVLJ				Sn	**Sn**	**02 24 05.9**	**+2.3**
BOJS	**Bojanci**	**2.93**	**311**	*i*Pn	**Pn**	**02 23 35.6**	**+1.6**
BOJS	**Bojanci**	**2.93**	**311**	Pn	**Pn**	**02 23 35.6**	**+1.6**
ZAPS	**Zavoj**	**3.11**	**95**	*e*Pn	**Pn**	**02 23 38.3**	**+1.8**
KOGS	**Kog**	**3.21**	**333**	*i*Pn	**Pn**	**02 23 38.7**	**+0.8**
KOGS	**Kog**	**3.21**	**333**	*i*Pn	**Pn**	**02 23 38.7**	**+0.8**
VISS	**Visnje**	**3.34**	**312**	*i*Pn	**Pn**	**02 23 41.2**	**+1.5**
VISS	**Visnje**	**3.34**	**312**	*i*Pn	**Pn**	**02 23 41.2**	**+1.5**
VTS	**Vitosha**	**3.68**	**104**	*e*Pn	**Pn**	**02 23 44.3**	**-0.1**
VTS	**Vitosha**	**3.68**	**104**	*e*Pn	**Pn**	**02 23 44.3**	**-0.1**
SOKA	**Soboth**	**3.88**	**323**	⇑ *i*Pn	**Pn**	**02 23 47.8**	**+0.7**
SOKA				⇑ *i*Sn	**Sn**	**02 24 31.1**	**-1.5**
SOKA	**Soboth**	**3.88**	**323**	Pn	**Pn**	**02 23 47.8**	**+0.7**
SOKA				Sn	**Sn**	**02 24 31.1**	**-1.5**
OBKA	**Obir**	**3.97**	**318**	⇑ *i*Pn	**Pn**	**02 23 49.6**	**+1.2**
OBKA				⇓ *i*Sn	**Sn**	**02 24 34.6**	**-0.4**
OBKA	**Obir**	**3.97**	**318**	Pn	**Pn**	**02 23 49.6**	**+1.2**
OBKA				Sn	**Sn**	**02 24 34.6**	**-0.4**
VOY	**Vojsko**	**4.01**	**309**	*e*Pn	Pn	02 23 52.4	+3.5
VOY				*e*		02 24 00.2	
VOY				*e*Sn	**Sn**	**02 24 36.7**	**+0.8**
VOY	**Vojsko**	**4.01**	**309**	*e*Pn	Pn	02 23 52.4	+3.5
VOY				*e*Sn	**Sn**	**02 24 36.7**	**+0.8**
ARSA	**Arzberg**	**4.16**	**332** ⇑	*i*Pn	**Pn**	**02 23 51.3**	**+0.4**
ARSA				⇑ *i*Sn	**Sn**	**02 24 37.3**	**-2.3**
ARSA	**Arzberg**	**4.16**	**332**	Pn	**Pn**	**02 23 51.3**	**+0.4**
ARSA				Sn	**Sn**	**02 24 37.3**	**-2.3**
CONA	**Conrad Observa**	**4.66**	**339**	⇓ *i*Pn	**Pn**	**02 23 58.0**	**+0.1**
CONA	**Conrad Observa**	**4.66**	**339**	Pn	**Pn**	**02 23 58.0**	**+0.1**
VYHS	**Vyhne**	**4.89**	**4**	*e*PN	**Pn**	**02 24 00.1**	**-0.9**
VYHS				*e*SN	**Sn**	**02 24 57.7**	**+0.1**
SMOL	**Smolenice**	**4.95**	**353**	*e*SN	**Sn**	**02 24 59.2**	**+0.3**
SMOL	**Smolenice**	**4.95**	**353**	*e*Sn	**Sn**	**02 24 59.2**	**+0.3**
KBA	**Koelnbreinsper**	**4.96**	**316**	⇑ *i*Pn	**Pn**	**02 24 03.4**	**+1.3**
KBA				⇑ *i*Sn	**Sn**	**02 24 58.9**	**-0.7**
KBA	**Koelnbreinsper**	**4.96**	**316**	Pn	**Pn**	**02 24 03.4**	**+1.3**
KBA				Sn	**Sn**	**02 24 58.9**	**-0.7**
MOA	**Molln**	**5.12**	**327** ⇓	*i*Pn	**Pn**	**02 24 04.8**	**+0.6**
MOA				⇓ *i*Sn	**Sn**	**02 25 01.9**	**-1.5**
MOA	**Molln**	**5.12**	**327**	Pn	**Pn**	**02 24 04.8**	**+0.6**
MOA				Sn	**Sn**	**02 25 01.9**	**-1.5**
ABTA	**Abfaltersbach**	**5.20**	**309** ⇓	*i*Pn	**Pn**	**02 24 06.7**	**+1.4**
ABTA	**Abfaltersbach**	**5.20**	**309**	Pn	**Pn**	**02 24 06.7**	**+1.4**
CRVS	**Cervenica-Dubn**	**5.70**	**21**	*e*Pn	**Pn**	**02 24 10.1**	**-2.0**
KHC	**Kasperske Hory**	**6.44**	**331**	*e*PN	**Pn**	**02 24 24.2**	**+1.9**
KHC				*e*SN	**Sn**	**02 25 34.4**	**-1.4**
KHC	**Kasperske Hory**	**6.44**	**331**	Pn	**Pn**	**02 24 24.2**	**+1.9**

IDC 24 02:28:56.5±3.1, **33°40S**×**178°62W**, **h0**km, **mb3.7**/2, **mb1 3.9**/3, **mb1mx3.7**/17, **mbtmp3.7**/3, **ML3.5**/1, **Error ellipse: s-maj=71.5km s-min=36.3km az=116.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.96**	**214**	Pn	Pn	02 30 26.8	+0.7
	1.2nm,0.3s,baz=40,slow=5.9,SNR=15						
URZ				Sn	Sn	02 31 34.0	-1.0
	1.1nm,0.3s,baz=139,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**42.51**	**270**	P	P	02 36 54.0	+0.1
	0.4nm,0.3s,baz=110,slow=7.4,SNR=8.3						
WRA	**Warramunga Arr**	**43.77**	**276**	P	P	02 37 03.8	-0.4
	1.2nm,0.8s,baz=117,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**147.75**	**338**	PKPbc	PKPbc	02 48 41.6	-0.8
	1.4nm,0.8s,baz=66,slow=4.7,SNR=5.1						

ISK ***24*** *02:43:51.6, 39°.96N*×*39°.21E, h8*km*, MD2.8*
DDA ***24*** *02:43:51.9, 39°.92N*×*39°.16E, h1*km*, MD3.0*
ISCJB ***24*** *02:43:52.1*±*0.5, 39°.95N*±*0°.03*×*39°.19E*±*0°.04, h5*km*±5*km*, Error ellipse: s-maj=5.2km s-min=3.8km az=31.1*
CSEM ***24*** *02:43:52.2*±*0.2, 39°.95N*×*39°.20E, h2*km*, MD2.8, Error ellipse: s-maj=6.0km s-min=3.5km az=123.0*

ISC 24 02:43:52.2±0.9, **39°93N**±0°.03×**39°19E**±0°.03, **h13**km±9km, **n27**, **σ0°55/44**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.22**	**12**	*i* P	**Pg**	**02 43 57.3**	**+0.1**
KELT				*i* S	**Sg**	**02 44 00.6**	**0.0**
KELT	**Kelkit**	**0.22**	**12**	*i* P	**Pg**	**02 43 57.3**	**+0.1**
KELT				*i* S	**Sg**	**02 44 00.6**	**0.0**
ERZN	**Erzincan**	**0.53**	**130**	*e*PG	**Pg**	**02 44 02.7**	**0.0**
ERZN				*e*SG	**Sb**	**02 44 10.8**	**-0.4**
GUMT	**Gumushane**	**0.57**	**22**	*e*PG	**Pg**	**02 44 02.8**	**-0.6**
GUMT				*e*SG	**Sg**	**02 44 10.8**	**-0.2**
GUMT	**Gumushane**	**0.57**	**22**	*e*Pg	**Pg**	**02 44 02.8**	**-0.6**
GUMT				*e*Sg	**Sg**	**02 44 10.9**	**-0.2**
ILIC	**ilic-Erzincan**	**0.68**	**225**	*e*PG	**Pb**	**02 44 06.3**	**+0.3**
ILIC				*e*SG	**Sb**	**02 44 15.1**	**-0.3**
ILIC	**ilic-Erzincan**	**0.68**	**225**	*e*Pg	**Pb**	**02 44 06.3**	**+0.3**
ILIC				*e*Sg	**Sb**	**02 44 15.1**	**-0.3**
SUSE	**Susehri**	**0.81**	**290**	*i* P	**Pg**	**02 44 07.5**	**-0.4**
SUSE				*i* S	**Sg**	**02 44 18.3**	**-0.2**
SUSE	**Susehri**	**0.81**	**290**	*i* P	**Pg**	**02 44 07.5**	**-0.4**
SUSE				*i* S	**Sg**	**02 44 18.3**	**-0.2**
KEMA	**Kemaliye**	**0.85**	**220**	*i* P	**Pg**	**02 44 08.0**	**-0.7**
KEMA				*i* S	**Sg**	**02 44 19.4**	**-0.5**
KEMA	**Kemaliye**	**0.85**	**220**	*i* P	**Pg**	**02 44 08.0**	**-0.7**
KEMA				*i* S	**Sg**	**02 44 19.4**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.86**	**57**	*e*PG	**Pg**	**02 44 08.0**	**-0.9**
BAYT				*e*SG	**Sg**	**02 44 19.7**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.86**	**57**	*e*Pg	**Pg**	**02 44 08.0**	**-0.9**
BAYT				*e*Sg	**Sg**	**02 44 19.7**	**-0.5**
PTK	**Pertek**	**1.05**	**172**	*e*PG	**Pb**	**02 44 12.6**	**+0.3**
PTK	**Pertek**	**1.05**	**172**	*e*Pg	**Pb**	**02 44 12.6**	**+0.3**
MACK	**Trabzon**	**1.10**	**23**	*i* P	**Pg**	**02 44 12.9**	**-0.6**
MACK				*i* S	**Sg**	**02 44 27.4**	**-0.5**
MACK	**Trabzon**	**1.10**	**23**	*i* P	**Pg**	**02 44 12.9**	**-0.6**
MACK				*i* S	**Sg**	**02 44 27.4**	**-0.5**
BINT	**Bingol**	**1.46**	**136**	*e*Pn	**Pb**	**02 44 19.4**	**+0.2**
BNGB	**Bing¶l**	**1.48**	**129**	*e*PN	**Pn**	**02 44 19.4**	**+0.7**
RSDY	**Resadiye-TOKAT**	**1.50**	**289**	*e*PN	**Pn**	**02 44 19.4**	**+0.5**
RSDY	**Resadiye-TOKAT**	**1.50**	**289**	*e*Pn	**Pn**	**02 44 19.4**	**+0.5**
MYA	**Malataya**	**1.71**	**201**	*e*PN	**Pn**	**02 44 23.1**	**+1.3**
MYA	**Malataya**	**1.71**	**201**	*e*Pn	**Pn**	**02 44 23.1**	**+1.3**
MALT	**Malatya**	**1.72**	**201**	*e*PN	**Pb**	**02 44 24.1**	**+0.3**
MALT	**Malatya**	**1.72**	**201**	*e*Pn	**Pb**	**02 44 24.1**	**+0.3**
AKCD	**Akcadag**	**1.91**	**212**	*i* P	**Pg**	**02 44 28.3**	**-0.5**
AKCD				*i* S	**Sg**	**02 44 53.1**	**-0.5**
AKCD	**Akcadag**	**1.91**	**212**	*i* P	**Pg**	**02 44 28.3**	**-0.5**
AKCD				*i* S	**Sg**	**02 44 53.1**	**-0.5**

IDC 24 02:49:43.1±1.8, **2°16N**×**124°43E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/22, **mbtmp3.6**/4, **MS3.6**/3, **Ms1 3.6**/3, **ms1mx2.9**/36, **Error ellipse: s-maj=194.2km s-min=24.8km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**157**	P	P	02 54 59.6	-0.3
	0.8nm,0.6s,baz=335,slow=11,SNR=11						
JOW	**Kunigami**	**24.81**	**8**	LR	LR	03 05 25.9	
	comp=Z,133nm,18.9s,baz=276,slow=38						
ASAR	**Alice Springs**	**27.27**	**161**	P	P	02 55 30.6	+1.1
	0.2nm,0.3s,baz=349,slow=12,SNR=1.9						
KSRS	**Korea Array**	**35.27**	**5**	LR	LR	03 10 05.1	
	comp=Z,59nm,21.3s,baz=1.7,slow=35						
STKA	**Stephens Creek**	**37.56**	**156**	P	P	02 56 59.1	-0.2
	1.9nm,0.7s,baz=324,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**57.57**	**327**	P	P	02 59 34.2	-0.5
	0.2nm,0.4s,baz=121,slow=7.7,SNR=5.3						
MKAR				LR	LR	03 26 08.8	
	comp=Z,70nm,18.7s,baz=334,slow=38						

IDC ***24*** *02:50:08.3*±*0.8, 3°.36N*×*126°.87E, h0*km*, mb4.1/10, mb1 4.3/10, mb1mx4.1/23, mbtmp4.2/10, MS3.9/3, Ms1 3.9/3, ms1mx3.0/40, Error ellipse: s-maj=52.8km s-min=14.1km az=70.0*
NEIC ***24*** *02:50:11.3*±*3.2, 3°.36N*×*126°.89E, h21*km±*23*km*, mb4.4/7, Error ellipse: s-maj=24.5km s-min=5.6km az=71.0*
ISCJB ***24*** *02:50:12.6*±*0.4, 3°.59N*±*0°.04*×*127°.28E*±*0°.05, h48*km*, mb4.2/15, MS3.8/3, Error ellipse: s-maj=6.6km s-min=5.1km az=0.3*
DJA ***24*** *02:50:16.0*±*0.5, 4°N*±*4°*×*127°E*±*°, h58*km±*7*km*, M4.6/10, mB5.1/3, mb4.5/10, ML v4.6/8, Mw(mB)4.4/3*
AUST ***24*** *02:50:26.3, 3°.50N*×*128°.00E, h200*km*

ISC 24 02:50:14.9±0.5, **3°58N**±0°.05×**127°26E**±0°.07, **h48**km, **n58**, **σ1°57/59**, **mb4.1**/15, **MS3.8**/3, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.79**	**178**	P	**Pn**	**02 50 56.0**	**-1.1**
MNI	**Manado**	**3.21**	**229**	P	**Pn**	**02 51 03.2**	**+0.3**
MNI				S	**Sn**	**02 51 42.5**	**+2.5**
DAV	**Davao City (W)**	**3.85**	**334**	Pn	**Pn**	**02 51 14.1**	**+2.5**
	26nm,0.3s,baz=244,slow=17,SNR=5.2						
DAV				Sn	Sn	02 52 06.1	+11
	28nm,0.3s,baz=44,slow=20,SNR=4.3						
DAV	**Davao City (W)**	**3.85**	**334**	*e*Pn	**Pn**	**02 51 10.2**	**-1.4**
DAV				*e*Sn	**Sn**	**02 51 54.4**	**-1.2**
DAV	**Davao City (W)**	**3.85**	**334**	P	**Pn**	**02 51 12.9**	**+1.3**
LBMI	**Labuha**	**4.20**	**177**	P	**Pn**	**02 51 16.9**	**+0.5**
KMSI	**Cibinong**	**4.43**	**228**	P	**Pn**	**02 51 19.6**	**0.0**
SWI	**Sorong**	**5.96**	**138**	P	**Pn**	**02 51 42.4**	**+1.8**
	baz=5.4,SNR=4.2						
SWI	**Sorong**	**5.96**	**138**	P	**Pn**	**02 51 42.8**	**+2.2**
	98nm,1.1s,0.3nm						
MRSI	**Marisa**	**6.14**	**240**	P	**Pn**	**02 51 40.3**	**-2.8**
LUWI	**Luwuk**	**6.42**	**224**	P	**Pn**	**02 51 48.9**	**+2.0**
	55nm,1.2s,2µm0.5nm						
NLAI	**Namlea**	**6.78**	**181**	P	**Pn**	**02 51 51.2**	**-0.6**
	18nm,0.6s,0.1nm						
PALU	**Palu**	**8.10**	**62**	P	**Pn**	**02 52 11.8**	**+1.8**
	baz=7.5,SNR=5.6						
PCI	**Palu**	**8.65**	**239**	S	**Sn**	**02 53 56.1**	**+2.3**
	baz=9.3,SNR=4.9						
KDI	**Kendari**	**8.81**	**212**	P	**Pn**	**02 52 20.1**	**+0.4**
	16nm,1.0s						
MYLDM	**Lahad Datu**	**8.87**	**281**	P	**Pn**	**02 52 20.3**	**-0.3**
	36nm,1.0s						
TTSI	**Tana Toraja**	**9.93**	**229**	P	**Pn**	**02 52 35.1**	**+0.1**
	20nm,1.3s,1µm						
SBUM	**Sibu**	**15.06**	**266**	P	**Pn**	**02 53 44.8**	**+0.1**
	11nm,1.6s,340nm						
MTN	**Manton Dam**	**16.77**	**167**	P	**Pn**	**02 54 06.8**	**+0.3**
	baz=17,SNR=5.4						
KDU	**Kakadu**	**16.97**	**162**	S	**S**	**02 57 27.4**	**+2.4**
	baz=17,SNR=4.0						
KSM	**Kuching**	**17.06**	**263**	P	**P**	**02 54 14.2**	**+2.8**
	baz=18,SNR=3.5						
GUMO	**Guam**	**20.04**	**59**	LR	LR	03 02 07.7	
	comp=Z,113nm,19.9s,baz=284,slow=35						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**02 54 58.3**	**-2.6**
	4.7nm,0.9s,baz=24,slow=9.8,SNR=13						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	*e*P	**P**	**02 54 57.9**	**-3.0**
	26nm,1.6s						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**02 54 58.4**	**-2.6**
	baz=22,SNR=5.8						
WRAB	**Tennant Creek**	**24.39**	**164**	*e*P	**P**	**02 55 26.7**	**-2.1**
	27nm,1.0s						
WRA	**Warramunga Arr**	**24.39**	**164**	P	**P**	**02 55 26.7**	**-2.2**
	16nm,0.9s,baz=342,slow=10,SNR=35						
WRA	**Warramunga Arr**	**24.39**	**164**	P	**P**	**02 55 26.7**	**-2.2**
QIS	**Mount Isa**	**26.88**	**154**	P	**P**	**02 55 51.2**	**-0.2**
	baz=27,SNR=7.7						
AS31	**Alice Springs**	**27.85**	**167**	*e*P	**P**	**02 55 58.6**	**-1.5**
ASAR	**Alice Springs**	**27.85**	**167**	P	**P**	**02 55 58.6**	**-1.4**
	1.5nm,0.6s,baz=345,slow=8.3,SNR=16						
ASAR				PcP	**PcP**	**02 59 16.4**	**+1.0**
	0.8nm,0.8s,baz=306,slow=1.1,SNR=4.9						
ASAR	**Alice Springs**	**27.85**	**167**	P	**P**	**02 55 58.6**	**-1.4**
ASAR				PcP	**PcP**	**02 59 16.4**	**+1.0**
PSI	**Prapat**	**28.30**	**269**	S	**S**	**03 00 48.6**	**+0.9**
	baz=29,SNR=3.3						
CMAR	**Chiang Mai Arr**	**31.40**	**300**	P	**P**	**02 56 29.4**	**-2.2**
	1.1nm,0.3s,baz=117,slow=7.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.40**	**300**	P	**P**	**02 56 29.4**	**-2.2**
KSAR	**Wonju Array Be**	**33.70**	**1**	P	**P**	**02 56 53.4**	**+1.9**
KSRS	**Korea Array**	**33.72**	**1**	P	**P**	**02 56 53.4**	**+1.8**
	1.0nm,0.5s,baz=172,slow=10.0,SNR=4.4						
EIDS	**Eidsvold**	**36.91**	**143**	P	P	02 57 07.5	-12
	baz=36,SNR=4.0						
BBOO	**Buckleboo**	**37.14**	**168**	P	**P**	**02 57 20.0**	**-1.1**
	baz=37,SNR=13						
STKA	**Stephens Creek**	**37.81**	**160**	P	**P**	**02 57 25.9**	**-0.8**
	23nm,0.9s,baz=341,slow=8.0,SNR=30						
STKA	**Stephens Creek**	**37.81**	**160**	*e*P	**P**	**02 57 25.8**	**-1.0**
	4.7nm,0.9s						
STKA	**Stephens Creek**	**37.81**	**160**	P	**P**	**02 57 26.1**	**-0.8**
	baz=38,SNR=14						
ULN	**Ulaanbaatar**	**47.42**	**342**	*e*P	**P**	**02 58 44.5**	**-0.2**
	4.6nm,1.0s						
SONM	**Songino Array**	**47.61**	**341**	P	**P**	**02 58 47.0**	**+0.8**
	1.1nm,0.8s,baz=150,slow=9.4,SNR=10						
SONM				LR	LR	03 21 14.1	
	comp=Z,104nm,20.2s,baz=356,slow=39						
SONM	**Songino Array**	**47.61**	**341**	P	**P**	**02 58 47.0**	**+0.8**
MK31	**Makanchi Array**	**57.98**	**325**	*e*P	**P**	**03 00 01.3**	**-1.4**
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**03 00 01.6**	**-1.1**
	1.1nm,0.5s,baz=122,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**03 00 01.6**	**-1.1**
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**03 00 23.6**	**+0.6**
	0.4nm,0.3s,baz=101,slow=7.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**03 00 23.6**	**+0.6**
KURK	**Kurchatov**	**62.15**	**327**	*e*P	**P**	**03 00 30.3**	**-0.7**
	6.3nm,0.7s						
KKAR	**Karatay Array**	**63.70**	**317**	*e*P	**P**	**03 00 40.4**	**-1.2**
	1.9nm,0.9s						
ABKAR	**Akbulak array**	**72.60**	**321**	*e*P	**P**	**03 01 36.2**	**-1.0**
	1.0nm,0.6s						
PPT	**Papeete**	**84.57**	**108**	LR	LR	03 35 30.5	
	comp=Z,166nm,19.7s,baz=354,slow=32						
BRTR	**Keskin Array B**	**90.52**	**310**	P	**P**	**03 03 12.4**	**+0.2**
	0.2nm,0.5s,baz=308,slow=26,SNR=3.4						
BRTR	**Keskin Array B**	**90.52**	**310**	P	**P**	**03 03 12.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**123.46**	**288**	PKP	**PKPdf**	**03 09 08.1**	**+0.2**
	0.5nm,0.9s,baz=37,slow=2.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**123.46**	**288**	PKP	**PKPdf**	**03 09 08.1**	**+0.2**

NIED ***24*** *03:21:00, 34°.20N*×*135°.10E, h5*km*, Mw3.6 Best double couple: M0 2.87000*×*10*^{14} *NP1:*ϕ*s187.00000°, δ49.00000°, λ105.00000°. NP2:*ϕ*s345.00000°, δ43.00000°, λ74.00000°.*
ISCJB ***24*** *03:21:13.3*±*0.6, 34°.14N*±*0°.03*×*135°.06E*±*0°.03, h12*km±*4*km*, mb3.6/8, Error ellipse: s-maj=4.7km s-min=3.9km az=19.2*
IDC ***24*** *03:21:13.1*±*0.8, 34°.07N*×*135°.01E, h0*km*, mb3.6/8, mb1 3.7/12, mb1mx3.7/29, mbtmp3.6/12, ML3.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.5/44, Error ellipse: s-maj=18.2km s-min=14.4km az=148.0*
JMA ***24*** *03:21:13.5, 34°.15N*×*135°.07E, h10*km±*1*km*, M3.5 Broadband fault plane solution: P waves. NP1:*ϕ*s207.00000°, δ60.00000°, λ132.00000°. NP2:*ϕ*s326.00000°, δ50.00000°, λ41.00000°. Principal axes: T Plg54.0000°, Azm171.0000°; N Plg35.0000°, Azm3.0000°; P Plg6.0000°, Azm269.0000°;*
JMA Felt III J1.

ISC 24 03:21:13.9±1.1, **

*NEIC **24** 03:39:18.3±1.1,42.°42N×87.°26E,h21km±7km,mb4.9/37, Error ellipse: s-maj=5.2km s-min=3.6km az=186.0*
*NNC **24** 03:39:20.5±2.5,42.°80N×86.°94E,h0km,mb4.5,mpv4.6, Error ellipse: s-maj=25.8km s-min=16.0km az=85.0*
ISC 24 03:39:19.2±0.6,42.°45N±0.°04×87.°19E±0.°03,h25km±4km, h25km:pP-P,n332,σ1≒19/363,mb4.7/75,MS3.6/7,42C-14D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.42**	**15**	Pg	**Pn**	**Pn**	**03 39 44.3**	**+0.9**
WMQ				Sg	**Sb**	**Sb**	**03 40 03.8**	**+1.1**
WMQ	comp=N,8μm,0.7s			smax	smax			
WMQ	comp=E,7μm,0.6s			smax	smax			
MK31	**Makanchi Array**	**5.57**	**323**	⇑Pn	**Pn**	**Pn**	**03 40 43.4**	**+2.9**
MK31	comp=E,18nm,0.3s,baz=135,slow=14,SNR=8.4			⇑Sn	**Sn**	**Sn**	**03 41 45.7**	**+2.0**
MK31	comp=E,114nm,0.6s			⇓Lg	Lg	Lg	03 42 07.0	
MK31	comp=E,123nm,0.6s,baz=133,slow=29,SNR=4.7 **Makanchi Array**	**5.57**	**323**	*e*P	**Pn**	**Pn**	**03 40 42.2**	**+1.7**
MK31				*e*			03 41 45.5	
MK31	**Makanchi Array**	**5.57**	**323**	*e*Pn	**Pn**	**Pn**	**03 40 42.2**	**+1.7**
MK31				*e*Sn	**Sn**	**Sn**	**03 41 45.5**	**+1.8**
MKAR	**Makanchi Array**	**5.57**	**323**	Pn	**Pn**	**Pn**	**03 40 42.1**	**+1.7**
MKAR	comp=E,30nm,0.3s,baz=138,slow=13,SNR=1200			Sn	**Sn**	**Sn**	**03 41 43.6**	**-0.1**
MKAR	comp=E,15nm,0.3s,baz=140,slow=15,SNR=4.3			Lg	Lg	Lg	03 42 12.7	
MKAR	comp=E,30nm,0.3s,baz=128,slow=26,SNR=6.5			LR	LR	LR	03 43 15.0	
MKAR	comp=E,275nm,18.4s,baz=125,slow=42 **Makanchi Array**	**5.57**	**323**	P	**Pn**	**Pn**	**03 40 42.2**	**+1.7**
MKAR							03 41 43.6	
MKAR	comp=Z,31nm,0.3s			pmax	pmax			
MKAR	comp=N,15nm,0.3s			smax	smax			
MKAR	comp=Z,275nm,18.4s			MLR	MLR			
MKAR	**Makanchi Array**	**5.57**	**323**	Pn	**Pn**	**Pn**	**03 40 42.1**	**+1.7**
MKAR				Sn	**Sn**	**Sn**	**03 41 43.6**	**-0.1**
MKAR				Lg	Lg	Lg	03 42 12.7	
ULHL	**Ulahol**	**8.11**	**272**	*i* P	**Pn**	**Pn**	**03 41 16.2**	**+0.7**
ULHL	**Ulahol** SNR=24	**8.11**	**272**	P	**Pn**	**Pn**	**03 41 16.2**	**+0.7**
TKM2	**Tokmak 2** comp=Z,18nm,0.5s	**8.55**	**277**	⇑Pn	**Pn**	**Pn**	**03 41 22.4**	**+0.9**
TKM2	comp=Z,81nm,0.7s			⇑Sn	**Sn**	**Sn**	**03 42 58.2**	**+0.9**
TKM2	comp=Z,64nm,0.8s			⇑Lg	Lg	Lg	03 43 50.0	
TKM2	**Tokmak 2**	**8.55**	**277**	*i* P	**Pn**	**Pn**	**03 41 22.9**	**+1.4**
TKM2	**Tokmak 2**	**8.55**	**277**	*e*Pn	**Pn**	**Pn**	**03 41 22.6**	**+1.0**
TKM2	**Tokmak 2** SNR=25	**8.55**	**277**	P	**Pn**	**Pn**	**03 41 22.9**	**+1.4**
KZA	**Kyzart**	**8.86**	**272**	*i* P	**Pn**	**Pn**	**03 41 28.3**	**+2.3**
KZA	**Kyzart** SNR=13	**8.86**	**272**	P	**Pn**	**Pn**	**03 41 28.4**	**+2.3**
KSH	**Kashi**	**8.98**	**255**	P	Pn	Pn	03 41 33.3	+6.0
KSH				S	Sn	Sn	03 43 13.6	+6.0
KSH	comp=N,100nm,0.7s			smax	smax			
KSH	comp=E,200nm,1.1s			smax	smax			
KBK	**Karagaybulak** SNR=5.5	**9.04**	**275**	P	**Pn**	**Pn**	**03 41 30.5**	**+2.3**
FRU	**Bishkek**	**9.28**	**277**	*e*P	Pn	Pn	03 41 40.0	+8.7
FRU				*e*S	Sn	Sn	03 43 24.0	+9.2
FRU	comp=Z,60nm,2.0s			pmax	pmax			
FRU	comp=N,460nm,2.2s			pmax	pmax			
USP	**Ospenovka** SNR=10.0	**9.36**	**279**	P	**Pn**	**Pn**	**03 41 33.4**	**+1.0**
AAK	**Ala-Archa** comp=N,1.8nm,0.3s,baz=107,slow=6.9,SNR=18	**9.38**	**275**	Pn	**Pn**	**Pn**	**03 41 33.8**	**+1.0**
AAK	comp=N,0.7nm,0.3s,baz=169,slow=23,SNR=2.2			Sn	**Sn**	**Sn**	**03 43 16.5**	**-0.9**
AAK	comp=N,1.2nm,0.3s,baz=353,slow=21,SNR=2.9			Lg	Lg	Lg	03 44 16.6	
AAK	comp=N,125nm,18.6s,baz=65,slow=40			LR	LR	LR	03 45 27.3	
AAK	**Ala-Archa**	**9.38**	**275**	P	**Pn**	**Pn**	**03 41 33.8**	**+1.0**
AAK							03 43 16.5	
AAK	comp=Z,2.0nm,0.3s			pmax	pmax			
AAK	comp=N,1.0nm,0.3s			smax	smax			
AAK	comp=Z,125nm,18.6s			MLR	MLR			
AAK	**Ala-Archa** comp=Z,99nm,1.0s	**9.38**	**275**	*e*Pn	**Pn**	**Pn**	**03 41 33.0**	**+0.2**
AAK				*e*Sn	**Sn**	**Sn**	**03 43 20.8**	**+3.4**
AAK				Lg	Lg	Lg	03 44 16.6	
AAK	**Ala-Archa** comp=Z,84nm,0.3s,SNR=9.3	**9.38**	**275**	Pn	**Pn**	**Pn**	**03 41 33.0**	**+0.2**
EKS2	**Erkin-Say**	**9.90**	**276**	*e*P	**Pn**	**Pn**	**03 41 40.1**	**+0.2**
EKS2				*e*			03 43 33.9	
EKS2	comp=Z,13nm,0.6s			pmax	pmax			
EKS2	**Erkin-Say** comp=Z,13nm,0.6s	**9.90**	**276**	*e*Pn	**Pn**	**Pn**	**03 41 40.1**	**+0.2**
EKS2				*e*Sn	**Sn**	**Sn**	**03 43 33.9**	**+3.6**
EKS2	**Erkin-Say** SNR=6.8	**9.90**	**276**	P	**Pn**	**Pn**	**03 41 40.6**	**+0.7**
GTA	**Gaotai**	**10.02**	**103**	*e*P	**Pn**	**Pn**	**03 41 40.8**	**-0.8**
GTA				pP			03 41 45.3	
GTA				sP			03 41 48.1	
GTA				S	**Sn**	**Sn**	**03 43 37.3**	**+4.0**
GTA				sS			03 43 42.8	
GTA	comp=Z,8.0nm,1.0s			pmax	pmax			
GTA	comp=Z,41nm,5.5s			pmax	pmax			
GTA	comp=N,300nm,10.2s			LR	LR			
GTA	comp=E,380nm,8.8s			LR	LR			
GTA	comp=Z,340nm,11.2s			LR	LR			
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.3s,baz=140,slow=13,SNR=114	**10.11**	**327**	Pn	**Pn**	**Pn**	**03 41 42.6**	**0.0**
KURBB				Sn	**Sn**	**Sn**	**03 43 34.9**	**-0.3**
KURBB	comp=Z,0.7nm,0.3s,baz=125,slow=17,SNR=4.2			Lg	Lg	Lg	03 44 36.0	
KURBB	comp=Z,0.9nm,0.3s,baz=159,slow=33,SNR=4.8			LR	LR	LR	03 46 02.4	
KURBB	comp=Z,182nm,20.5s,baz=135,slow=40 **Kurchatov Arra** comp=Z,37nm,0.8s	**10.11**	**327**	Lg	Lg	Lg	03 44 31.5	
KURK	**Kurchatov** comp=Z,5.7nm,0.5s	**10.15**	**327**	⇑Pn	**Pn**	**Pn**	**03 41 42.5**	**-0.6**
KURK	comp=Z,132nm,0.9s			⇓Lg	Lg	Lg	03 44 30.0	
KURK	**Kurchatov**	**10.15**	**327**	*e*P	**Pn**	**Pn**	**03 41 42.5**	**-0.6**
KURK				*e*			03 43 36.1	
KURK	comp=Z,19nm,0.7s			pmax	pmax			
KURK	**Kurchatov** comp=Z,19nm,0.7s	**10.15**	**327**	*e*Pn	**Pn**	**Pn**	**03 41 42.5**	**-0.6**
KURK				*e*Sn	**Sn**	**Sn**	**03 43 36.1**	**+0.1**
KURK				Lg	Lg	Lg	03 44 36.0	
KURK	**Kurchatov** comp=Z,105nm,0.5s,SNR=18	**10.15**	**327**	Pn	**Pn**	**Pn**	**03 41 42.7**	**-0.4**
ZAA0	**Zalesovo Array**	**11.61**	**353**	*e*Pn	**Pn**	**Pn**	**03 42 02.8**	**-0.4**
ZAA0				*e*Sn	**Sn**	**Sn**	**03 44 07.9**	**-4.0**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.3s,baz=168,slow=13,SNR=22	**11.61**	**353**	Pn	**Pn**	**Pn**	**03 42 02.7**	**-0.4**
ZALV	comp=Z,2.9nm,0.3s,baz=167,slow=20,SNR=6.5			Sn	**Sn**	**Sn**	**03 44 08.5**	**-3.4**
ZALV	baz=179,slow=24,SNR=2.5			Lg	Lg	Lg	03 45 29.6	
ZALV	comp=Z,167nm,19.8s,baz=202,slow=40			LR	LR	LR	03 46 59.4	
ZALV	**Zalesovo Beam**	**11.61**	**353**	P	**Pn**	**Pn**	**03 42 02.7**	**-0.4**
ZALV							03 44 08.5	
ZALV	comp=Z,1.0nm,0.3s			pmax	pmax			
ZALV	comp=N,3.0nm,0.3s			smax	smax			
ZALV	comp=Z,167nm,19.8s			MLR	MLR			
ZALV	**Zalesovo Beam**	**11.61**	**353**	Pn	**Pn**	**Pn**	**03 42 02.7**	**-0.4**
ZALV						Sn	**03 44 08.5**	**-3.4**
ZALV						Lg	03 45 29.6	
KK31	**Karatay Array** comp=Z,1.7nm,0.6s,baz=72,slow=13,SNR=9.3	**12.28**	**279**	⇑Pn		Pn	03 42 17.0	+4.6
KK31				⇑Lg		Lg	03 45 38.7	
KKAR	comp=Z,23nm,0.9s,baz=83,slow=26,SNR=4.7 **Karatay Array**	**12.28**	**279**	*e*P		**Pn**	**03 42 13.7**	**+1.4**
KKAR				*e*			03 44 33.2	
KKAR	comp=Z,4.0nm,0.6s			pmax	pmax			
KKAR	**Karatay Array** comp=Z,4.1nm,0.6s	**12.28**	**279**	*e*Pn		**Pn**	**03 42 13.7**	**+1.4**
KKAR				*e*Sn		**Sn**	**03 44 33.2**	**+4.9**
NVS	**Novosibirsk**	**12.67**	**350**	*e*P		**Pn**	**03 42 17.3**	**-0.2**
NVS				*e*			03 44 33.2	
MOY	**Mondy**	**13.15**	**41**	*e*P		**P**	**03 42 36.5**	**+2.3**
MOY				*e*S		**Sn**	**03 44 51.5**	**+1.8**
MOY	comp=Z,14nm,1.5s			pmax	pmax			
MOY	comp=N,144nm,2.1s			pmax	pmax			
ZAK	**Zakamensk**	**13.62**	**49**	*e*P		**Pn**	**03 42 32.2**	**+1.5**
ZAK				*e*			03 45 01.3	
ZAK	comp=Z,5.0nm,1.1s			pmax	pmax			
DANN	**Dangsing** comp=Z,18nm,0.5s	**14.34**	**192**	*e*P		**Pn**	**03 42 39.3**	**-1.6**
LZH	**Lanzhou**	**14.37**	**111**	*e*P		**Pn**	**03 42 42.0**	**+0.9**
LZH				pP		**P**	**03 42 48.0**	**+0.2**
LZH				sP			03 42 52.5	
LZH	comp=Z,16nm,1.4s			pmax	pmax			
GUN	**Gumba**	**14.55**	**185**	*e*P		**Pn**	**03 42 42.6**	**-1.1**
GKN	**Gorkha** comp=Z,19nm,0.4s	**14.56**	**189**	*e*P		**Pn**	**03 42 43.2**	**-0.6**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=250,slow=12,SNR=15	**14.57**	**62**	Pn		**Pn**	**03 42 44.0**	**+0.3**
SONM				Lg		Lg	03 46 50.5	
SONM	comp=Z,0.4nm,0.3s,baz=242,slow=27,SNR=4.6			LR		LR	03 48 40.9	
SONM	comp=Z,225nm,19.4s,baz=308,slow=39 **Songino Array**	**14.57**	**62**	Pn		**Pn**	**03 42 44.0**	**+0.3**
SONM				Lg		Lg	03 46 50.5	
KKN	**Kakani**	**14.71**	**187**	*e*P		**Pn**	**03 42 44.5**	**-1.3**
PYUN	**Piuthan** comp=Z,27nm,0.8s	**14.72**	**195**	*e*P		**Pn**	**03 42 42.8**	**-3.1**
CEP	**Cherat**	**14.78**	**239**	P		**Pn**	**03 42 44.8**	**-1.8**
CEP				S		Sn	03 45 19.0	-11
PKIN	**Phulchoki**	**14.91**	**186**	*e*P		**Pn**	**03 42 46.6**	**-2.0**
PKI	**Pulchoki** comp=Z,62nm,1.0s	**14.92**	**186**	*e*P		**Pn**	**03 42 46.5**	**-2.2**
KOLN	**Koldanda** comp=Z,12nm,0.5s	**14.94**	**192**	*e*P		**Pn**	**03 42 46.6**	**-2.2**
VOSK	**Vostochnaya** comp=Z,29nm,0.8s	**14.97**	**319**	⇑Pn		**Pn**	**03 42 47.3**	**-1.6**
ULN	**Ulaanbaatar** comp=Z,12nm,0.9s	**15.01**	**62**	*e*Pn		**Pn**	**03 42 47.7**	**-1.9**
ULN				*e*Sn		**Sn**	**03 45 35.0**	**0.0**
TAPN	**Taplejung**	**15.07**	**178**	*e*P		**Pn**	**03 42 49.5**	**-1.2**
BVA0	**Borovoye Array** comp=Z,3.1nm,0.8s,baz=143,slow=11,SNR=120	**15.44**	**319**	⇑P		**Pn**	**03 42 54.5**	**-0.6**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.3s,baz=118,slow=12,SNR=27	**15.44**	**319**	Pn		**Pn**	**03 42 54.4**	**-0.7**
BVAR				Sn		**Sn**	**03 45 39.8**	**-5.4**
BVAR	comp=Z,0.1nm,0.3s,baz=94,slow=20,SNR=2.0			LR		LR	03 49 19.3	
BVAR	comp=Z,73nm,21.7s,baz=256,slow=39							
BVAR	**Borovoye Array**	**15.44**	**319**	P		**Pn**	**03 42 54.4**	**-0.7**
BVAR							03 45 39.8	
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax			
BVAR	comp=Z,73nm,21.7s			MLR	MLR			
BVAR	**Borovoye Array**	**15.44**	**319**	Pn		**Pn**	**03 42 54.4**	**-0.7**
BVAR				Sn		**Sn**	**03 45 39.8**	**-5.4**
RAMN	**Ramite**	**15.47**	**182**	*e*P		**Pn**	**03 42 53.8**	**-2.1**
BRVK	**Borovoye** comp=Z,43nm,1.1s	**15.51**	**319**	⇑P		**Pn**	**03 42 54.7**	**-1.3**
BRVK	**Borovoye**	**15.51**	**319**	*e*P		**Pn**	**03 42 54.6**	**-1.4**
BRVK				*e*			03 45 49.1	
BRVK	comp=Z,16nm,0.7s			pmax	pmax			
BRVK	**Borovoye** comp=Z,16nm,0.7s	**15.51**	**319**	*e*Pn		**Pn**	**03 42 54.6**	**-1.4**
BRVK				*e*Sn		**Sn**	**03 45 49.0**	**+2.1**
ODAN	**Odare**	**15.56**	**179**	*e*P		**Pn**	**03 42 54.6**	**-2.4**
THW	**Thamme Wali**	**15.56**	**237**	P		**Pn**	**03 42 53.5**	**-3.3**
SARP	**Sargodha**	**15.61**	**232**	P		**Pn**	**03 42 58.9**	**+1.5**
NDI	**New Delhi**	**15.94**	**214**	*e*P		Pn	03 42 56.0	-5.7
ZRNK	**Zerenda** comp=Z,32nm,0.9s	**16.08**	**317**	⇓Pn		**Pn**	**03 43 01.3**	**-2.1**
KBL	**Kabul**	**16.23**	**247**	*e*P		**Pn**	**03 43 03.1**	**-2.6**
KBL				*e*			03 46 10.0	
KBL	comp=Z,13nm,0.6s			pmax	pmax			
KBL	**Kabul** comp=Z,14nm,0.6s	**16.23**	**247**	*e*Pn		**Pn**	**03 43 03.1**	**-2.6**
KBL				*e*Sn		**Sn**	**03 46 10.0**	**+4.9**
SHL	**Shillong**	**17.28**	**166**	*e*P		**P**	**03 43 20.0**	**-0.2**
AB31	**Akbulak array** comp=Z,4.1nm,0.6s,baz=98,slow=11,SNR=56	**20.09**	**299**	⇑P		**P**	**03 43 50.2**	**-0.5**
ABKAR	**Akbulak array** comp=Z,3.1nm,0.5s	**20.09**	**299**	*e*P		**P**	**03 43 50.2**	**-0.4**
KMI	**Kunming**	**21.52**	**139**	P		**P**	**03 44 06.8**	**+0.3**
KMI	comp=Z,57nm,0.8s			pmax	pmax			
KMI	comp=Z,99nm,4.1s			pmax	pmax			
KMI	comp=N,170nm,9.3s			LR	LR			
KMI	comp=E,71nm,12.3s			LR	LR			
KMI	comp=Z,130nm,17.0s			LR	LR			
AKTO	**Aktyubinsk** comp=Z,8.6nm,0.7s,baz=113,slow=9.6,SNR=16	**21.52**	**302**	P		**P**	**03 44 06.3**	**+0.1**
AKTO	**Aktyubinsk** comp=Z,2.8nm,0.8s	**21.52**	**302**	⇑P		**P**	**03 44 04.5**	**-1.7**
AKTO	**Aktyubinsk**	**21.52**	**302**	P		**P**	**03 44 06.3**	**+0.1**
AKTO	comp=Z,9.0nm,0.7s			pmax	pmax			
AKTO	**Aktyubinsk**	**21.52**	**302**	P		**P**	**03 44 06.3**	**+0.1**
ENH	**Enshi** comp=Z,32nm,0.8s	**21.61**	**117**	*e*P		**P**	**03 44 05.6**	**-1.7**
SVE	**Sverdlovsk**	**22.23**	**319**	*e*P		**P**	**03 44 13.6**	**0.0**
SVE	comp=Z,35nm,1.4s			pmax	pmax			
GYA	**Guiyang**	**22.55**	**129**	⇑*i*P		**P**	**03 44 17.3**	**-0.2**
GYA	comp=Z,20nm,0.8s			pmax	pmax			
ARU	**Arti**	**23.07**	**317**	*d i*P		**P**	**03 44 22.3**	**-0.2**
ARU							03 44 46.1	
ARU				S		**S**	**03 48 32.7**	**+1.0**
ARU				SS		**SnSn**	**03 49 05.1**	**+0.2**
ARU	comp=Z,12nm,0.7s			pmax	pmax			
ARU	**Arti** comp=Z,29nm,1.0s	**23.07**	**317**	*e*P		**P**	**03 44 22.1**	**-0.4**
WHN	**Wuhan**	**24.75**	**110**	P		**P**	**03 44 39.0**	**+0.4**
WHN				pP		**pP**	**03 44 49.0**	**+3.0**
CMAR	**Chiang Mai Arr** comp=Z,9.1nm,0.7s,baz=332,slow=9.1,SNR=35	**25.92**	**154**	P		**P**	**03 44 50.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.92**	**154**	P		**P**	**03 44 50.1**	**+0.8**
QIZ	**Qiongzhong**	**30.22**	**134**	P		**P**	**03 45 26.6**	**-1.1**
QIZ				S		**S**	**03 50 25.3**	**-0.4**
QIZ	comp=Z,15nm,1.9s			pmax	pmax			
WSAR	**Wadi Sarin** comp=Z,6.3nm,0.6s,baz=96,slow=6.8,SNR=6.1	**30.48**	**240**	P		**P**	**03 45 31.2**	**+1.2**
WSAR	**Wadi Sarin**	**30.48**	**240**	P		**P**	**03 45 31.2**	**+1.2**
KSAR	**Wonju Array Be**	**31.38**	**85**	P		**P**	**03 45 37.7**	**-0.1**
KLR	**Kul'dur**	**31.40**	**62**	*e*P		**P**	**03 45 40.8**	**+2.9**
KLR	comp=E,500nm,13.0s			MLR	MLR			
KLR	comp=Z,1μm,13.0s			MLR	MLR			
KSRS	**Korea Array** comp=Z,0.8nm,0.6s,baz=71,slow=38,SNR=3.2	**31.40**	**85**	P		**P**	**03 45 37.7**	**-0.3**
KSRS				LR		LR	03 59 46.6	
YAK	**Yakutsk** comp=Z,46nm,19.4s,baz=345,slow=39	**31.75**	**37**	*e*P		**P**	**03 45 40.0**	**-0.8**
YAK	comp=E,6.0nm,0.9s			pmax	pmax			
YAK	comp=Z,16nm,0.9s			pmax	pmax			
VRHR	**Novokhopersk**	**31.93**	**302**	*e*P		**P**	**03 45 42.0**	**-0.5**
VRHR	comp=N,4.0nm,0.4s			pmax	pmax			
VRHR	comp=E,2.0nm,0.4s			pmax	pmax			
VRHR	comp=Z,4.0nm,0.4s			pmax	pmax			
KBZ	**Khabaz** comp=Z,1.4nm,0.9s,baz=89,slow=11,SNR=1.9	**32.09**	**288**	P		**P**	**03 45 43.6**	**-0.3**
KBZ	comp=Z,110nm,18.3s,baz=276,slow=40			LR		LR	04 00 41.6	
KBZ	**Khabaz**	**32.09**	**288**	P		**P**	**03 45 43.6**	**-0.3**
KBZ	comp=Z,1.0nm,0.9s			pmax	pmax			
KBZ	comp=Z,110nm,18.3s			MLR	MLR			
KBZ	**Khabaz**	**32.09**	**288**	P		**P**	**03 45 43.6**	**-0.3**
KIV	**Kislovodsk**	**32.18**	**288**	*e*P		P	03 45 41.7	-3.3
KIV	comp=Z,4.0nm,0.6s			pmax	pmax			
KIV	comp=Z,85nm,15.0s			MLR	MLR			
VORD	**Divnogorie**	**33.41**	**302**	*e*P		**P**	**03 45 54.9**	**-0.6**
VORD				*e**PP		**pP**	**03 46 01.2**	**-1.8**
VSR	**Storozhevoye**	**33.47**	**302**	*e*P		**P**	**03 45 55.4**	**-0.6**
VSR				*e**PP		**pP**	**03 46 01.5**	**-2.0**
KLMR	**Klimovskoe**	**33.86**	**319**	*e*P		**P**	**03 45 59.1**	**-0.2**
KLMR				*e*			03 47 17.2	
KLMR	comp=Z,26nm,1.1s			pmax	pmax			
MIB	**Mutribah**	**34.27**	**262**	*e*P		**P**	**03 46 03.6**	**+0.5**
MIB	comp=Z,31nm,0.5s			AMb	AMB	AMB	03 46 04.6	
RDF	**Al-Radifah**	**34.59**	**260**	*e*P		**P**	**03 46 06.7**	**+0.7**
RDF	comp=Z,19nm,0.7s			AMb	AMB	AMB	03 46 08.1	
NAY	**Al-Naaiem**	**34.64**	**261**	*e*P		**P**	**03 46 06.9**	**+0.5**
NAY	comp=Z,18nm,0.8s			AMb	AMB	AMB	03 46 08.1	
TIXI	**Tiksi**	**35.61**	**21**	*e*P		**P**	**03 46 13.9**	**-0.4**
TIXI	comp=Z,14nm,1.0s			pmax	pmax			
MALT	**Malatya**	**36.97**	**280**	⇑*i*P		**P**	**03 46 28.6**	**+2.2**
LVZ	**Lovozero**	**37.55**	**330**	*e*P		**P**	**03 46 30.6**	**-0.3**
LVZ	**Lovozero**	**37.55**	**330**	*e*P		**P**	**03 46 30.6**	**-0.3**
JOF	**Joensuu**	**38.01**	**322**	*e*P		**P**	**03 46 34.3**	**-0.4**
JOF	comp=Z,10.0nm,0.6s			pmax	pmax			
JOF	**Joensuu** comp=Z,9.8nm,0.6s	**38.01**	**322**	*e*p		**P**	**03 46 34.3**	**-0.4**
AKASG	**Malin Array Be** comp=Z,2.6nm,0.7s,baz=64,slow=8.5,SNR=4.7	**39.77**	**303**	P		**P**	**03 46 49.2**	**-0.4**
AKASG	**Malin Array Be**	**39.77**	**303**	P		**P**	**03 46 49.2**	**-0.4**
AKASG	comp=Z,3.0nm,0.7s			pmax	pmax			
AKASG	**Malin Array Be**	**39.77**	**303**	P		**P**	**03 46 49.2**	**-0.4**
AK01	**Malin Array Si**	**39.78**	**303**	*e*P		**P**	**03 46 49.6**	**-0.1**
AK02	**Malin Array Si**	**39.79**	**303**	*e*P		**P**	**03 46 49.8**	**0.0**
BR131	**Keskin Array S** comp=Z,3.9nm,0.8s	**39.90**	**285**	*e*P		**P**	**03 46 51.7**	**+0.6**
BRTR	**Keskin Array B** comp=Z,3.8nm,0.9s,baz=102,slow=9.3,SNR=18	**39.90**	**285**	P		**P**	**03 46 52.0**	**+1.0**
BRTR	**Keskin Array B**	**39.90**	**285**	P		**P**	**03 46 52.0**	**+1.0**
KAF	**Kangasniemi**	**40.28**	**321**	*e*P		**P**	**03 46 53.0**	**-0.8**
KAF	comp=Z,5.0nm,0.7s			pmax	pmax			
KAF	**Kangasniemi** comp=Z,5.1nm,0.7s	**40.28**	**321**	*e*p		**P**	**03 46 53.0**	**-0.8**
FINES	**FINESS Array B** comp=Z,2.2nm,0.7s,baz=82,slow=11,SNR=14	**40.40**	**320**	P		**P**	**03 46 55.2**	**+0.5**
FINES	comp=Z,1.6nm,0.7s,baz=92,slow=5.7,SNR=3.5			PcP		**PcP**	**03 48 56.6**	**-0.7**
FINES	**FINESS Array B**	**40.40**	**320**	P		**P**	**03 46 55.2**	**+0.5**
FINES				PcP		**PcP**	**03 48 56.6**	**-0.7**
KEV	**Kevo**	**40.66**	**332**	*e*P		P	03 47 02.0	+5.2
KEV	comp=Z,11nm,0.8s			pmax	pmax			
KEV	**Kevo** comp=Z,10nm,0.8s	**40.66**	**332**	*e*p		P	03 47 02.0	+5.2
ARCES	**ARCESS Array B** comp=Z,2.4nm,0.4s,baz=87,slow=7.9,SNR=33	**41.15**	**332**	P		**P**	**03 47 01.6**	**+0.7**
ARCES	comp=Z,2.4nm,0.4s,baz=98,slow=4.4,SNR=13			PcP		**PcP**	**03 48 59.2**	**-0.4**
ARCES	**ARCESS Array B**	**41.15**	**332**	P		**P**	**03 47 01.6**	**+0.7**
ARCES				PcP		**PcP**	**03 48 59.2**	**-0.4**
TESR		**42.46**	**297**	⇓*i*P		**P**	**03 47 12.3**	**+0.4**
VRI	**Vrincioaia**	**42.61**	**296**	⇑P		P	03 47 16.8	+3.7
VRI	**Vrincioaia**	**42.61**	**296**	⇑*i*P		P	03 47 16.8	+3.7
PLOR	**Plostina**	**42.66**	**296**	⇓P		**P**	**03 47 15.2**	**+1.6**
PLOR	**Plostina**	**42.66**	**296**	⇓*i*P		**P**	**03 47 15.2**	**+1.6**
BUR08	**Bucovina Ar. S**	**43.08**	**299**	*e*P		**P**	**03 47 17.4**	**+0.5**
MLR	**Muntele Rosu**	**43.24**	**296**	⇓*i*P		**P**	**03 47 20.1**	**+1.7**
EIL	**Elat** comp=Z,12nm,1.0s,baz=342,slow=8.7,SNR=5.4	**43.48**	**271**	P		**P**	**03 47 20.5**	**+0.2**
EIL	**Elat**	**43.48**	**271**	P		**P**	**03 47 20.5**	**+0.2**
VOIR		**43.86**	**296**	⇑P		**P**	**03 47 25.0**	**+1.7**
VOIR		**43.86**	**296**	⇑*i*P		**P**	**03 47 25.0**	**+1.7**
KWP	**Kalwaria Pacla**	**44.09**	**303**	*e*P		**P**	**03 47 25.9**	**+0.8**
KWP	**Kalwaria Pacla**	**44.09**	**303**	*e*P		**P**	**03 47 25.7**	**+0.7**
KWP	comp=Z,14nm,0.6s			pmax	pmax			
KWP	**Kalwaria Pacla** comp=Z,14nm,0.6s	**44.09**	**303**	*e*P		**P**	**03 47 25.7**	**+0.7**
KWP	**Kalwaria Pacla**	**44.09**	**303**	⇑*i*P		**P**	**03 47 26.4**	**+1.4**
KWP	**Kalwaria Pacla**	**44.09**	**303**	*e*P		**P**	**03 47 25.8**	**+0.8**
ARR	**Arges**	**44.16**	**296**	⇑*i*P		**P**	**03 47 26.6**	**+0.9**
TRPA	**Tarpa**	**44.64**	**300**	⇑*i*P		**P**	**03 47 30.3**	**+1.0**
CRVS	**Cervenica-Dubn**	**45.09**	**302**	*e*P		**P**	**03 47 32.1**	**-0.8**
CRVS				*e*			03 47 42.6	
CRVS	**Cervenica-Dubn**	**45.09**	**302**	*e*P		**P**	**03 47 32.1**	**-0.8**
CRVS				*ep*P		**pP**	**03 47 42.6**	**+2.0**
OJC	**Ojcow**	**45.72**	**304**	*e*P		**P**	**03 47 37.7**	**-0.2**
OJC				*e**PP		**pP**	**03 47 44.7**	**-1.0**
OJC	**Ojcow**	**45.72**	**304**	*e*P		**P**	**03 47 37.7**	**-0.2**
OJC				*ep*P		**pP**	**03 47 44.7**	**-1.0**
VTS	**Vitosha**	**46.12**	**293**	⇓P		P	03 47 35.3	-6.0
VTS	**Vitosha**	**46.12**	**293**	⇓*i*P		P	03 47 35.3	-6.0
PSZ	**Piszkesteto**	**46.39**	**301**	⇑P		**P**	**03 47 45.1**	**+1.8**
PSZ	**Piszkesteto**	**46.39**	**301**	⇑*i*P		**P**	**03 47 45.1**	**+1.8**
VYHS	**Vyhne**	**46.86**	**302**	*e*P		**P**	**03 47 47.8**	**+0.8**
VYHS				*e*			03 47 54.2	
VYHS	**Vyhne**	**46.86**	**302**	*e*P		**P**	**03 47 47.8**	**+0.8**
VYHS				*

GERES	**GERESS Array B**	**49.92**	**304**	P		**P**	**03 48 11.4**	**+0.8**
WTTA	**Wattenberg**	**51.82**	**303**	⇑*i*P		**P**	**03 48 25.6**	**+0.6**
WTTA				pmax	pmax			
	comp=Z,12nm,0.5s							
WTTA	**Wattenberg**	**51.82**	**303**	⇑*i*P		**P**	**03 48 25.6**	**+0.6**
	comp=Z,12nm,0.5s							
WTTA	**Wattenberg**	**51.82**	**303**	⇑*i*P		**P**	**03 48 25.6**	**+0.6**
	comp=Z,12nm,0.5s							
WATA	**Walderalm**	**51.83**	**303**	⇑*i*P		**P**	**03 48 25.3**	**+0.3**
WATA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WATA	**Walderalm**	**51.83**	**303**	⇑*i*P		**P**	**03 48 25.3**	**+0.3**
	comp=Z,6.4nm,0.6s							
WATA	**Walderalm**	**51.83**	**303**	⇑*i*P		**P**	**03 48 25.3**	**+0.3**
	comp=Z,6.4nm,0.6s							
MOTA	**Moosalm**	**52.12**	**303**	⇑*i*P		**P**	**03 48 27.4**	**+0.2**
MOTA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MOTA	**Moosalm**	**52.12**	**303**	⇑*i*P		**P**	**03 48 27.4**	**+0.2**
	comp=Z,3.3nm,0.5s							
MOTA	**Moosalm**	**52.12**	**303**	⇑*i*P		**P**	**03 48 27.4**	**+0.2**
	comp=Z,3.3nm,0.5s							
RETA	**Reutte**	**52.27**	**304**	⇑*i*P		**P**	**03 48 28.8**	**+0.6**
	comp=Z,5.8nm,0.7s							
RETA	**Reutte**	**52.27**	**304**	⇑*i*P		**P**	**03 48 28.8**	**+0.6**
	comp=Z,5.8nm,0.7s							
FETA	**Feichten**	**52.48**	**303**	⇑*i*P		**P**	**03 48 30.1**	**+0.2**
	comp=Z,6.7nm,0.9s							
FETA	**Feichten**	**52.48**	**303**	⇑*i*P		**P**	**03 48 30.1**	**+0.2**
	comp=Z,6.7nm,0.9s							
DAG	**Danmarks Havn**	**52.56**	**344**	*i* P		**P**	**03 48 30.2**	**+0.3**
	comp=Z,17nm,0.7s							
DAG				*i*			03 48 36.8	
CDF	**Champ du Feu**	**54.00**	**306**	*e*P		**P**	**03 48 41.0**	**0.0**
CDF	**Champ du Feu**	**54.00**	**306**	*e*P		**P**	**03 48 41.0**	**0.0**
CDF	**Champ du Feu**	**54.00**	**306**	*e*P		**P**	**03 48 41.0**	**0.0**
HINF	**Hinteralfeld**	**54.51**	**305**	*e*P		**P**	**03 48 44.7**	**0.0**
HINF	**Hinteralfeld**	**54.51**	**305**	*e*P		**P**	**03 48 44.7**	**0.0**
HINF	**Hinteralfeld**	**54.51**	**305**	*e*P		**P**	**03 48 44.7**	**0.0**
GIVF	**Givet**	**54.70**	**309**	*e*P		**P**	**03 48 46.4**	**+0.4**
GIVF	**Givet**	**54.70**	**309**	*e*P		**P**	**03 48 46.4**	**+0.4**
GIVF	**Givet**	**54.70**	**309**	*e*P		**P**	**03 48 46.4**	**+0.4**
HAU	**Haudompre**	**54.73**	**306**	*e*P		**P**	**03 48 46.3**	**+0.1**
HAU	**Haudompre**	**54.73**	**306**	*e*P		**P**	**03 48 46.3**	**+0.1**
HAU	**Haudompre**	**54.73**	**306**	*e*P		**P**	**03 48 46.3**	**+0.1**
PAGF	**Fort de Pagny**	**54.86**	**307**	*e*P		**P**	**03 48 47.6**	**+0.5**
PAGF	**Fort de Pagny**	**54.86**	**307**	*e*P		**P**	**03 48 47.6**	**+0.5**
BAIF	**Baives**	**55.08**	**309**	*e*P		**P**	**03 48 49.2**	**+0.5**
BAIF	**Baives**	**55.08**	**309**	*e*P		**P**	**03 48 49.2**	**+0.5**
BAIF	**Baives**	**55.08**	**309**	*e*P		**P**	**03 48 49.2**	**+0.5**
MEZF	**Maizieres J'vi**	**55.28**	**307**	*e*P		**P**	**03 48 50.9**	**+0.7**
	comp=Z,45nm,0.8s							
MEZF	**Maizieres J'vi**	**55.28**	**307**	*e*P		**P**	**03 48 50.9**	**+0.7**
	comp=Z,45nm,0.8s							
SFTF	**Sexfontaines**	**55.43**	**306**	*e*P		**P**	**03 48 51.5**	**+0.3**
	comp=Z,20nm,0.8s							
SFTF	**Sexfontaines**	**55.43**	**306**	*e*P		**P**	**03 48 51.5**	**+0.3**
	comp=Z,20nm,0.8s							
PGF	**Pioggiola**	**55.60**	**299**	*e*P		**P**	**03 48 52.9**	**+0.2**
PGF	**Pioggiola**	**55.60**	**299**	*e*P		**P**	**03 48 52.9**	**+0.2**
PGF	**Pioggiola**	**55.60**	**299**	*e*P		**P**	**03 48 52.9**	**+0.2**
LPG	**La Plagne**	**55.63**	**303**	⇑*i*P		**P**	**03 48 53.8**	**+0.7**
	comp=Z,45nm,0.7s							
LPG	**La Plagne**	**55.63**	**303**	⇑*i*P		**P**	**03 48 53.8**	**+0.7**
LPG				pmax	pmax			
	comp=Z,45nm,0.7s							
LPG	**La Plagne**	**55.63**	**303**	⇑*i*P		**P**	**03 48 53.8**	**+0.7**
	comp=Z,45nm,0.7s							
LPL	**La Plagne**	**55.63**	**303**	*e*P		**P**	**03 48 53.8**	**+0.8**
	comp=Z,48nm,0.7s							
LPL	**La Plagne**	**55.63**	**303**	*e*P		**P**	**03 48 53.8**	**+0.8**
LPL				pmax	pmax			
	comp=Z,48nm,0.7s							
LPL	**La Plagne**	**55.63**	**303**	*e*P		**P**	**03 48 53.8**	**+0.8**
	comp=Z,48nm,0.7s							
SBF	**Sospel**	**55.97**	**301**	*e*P		**P**	**03 48 55.5**	**+0.2**
SBF	**Sospel**	**55.97**	**301**	*e*P		**P**	**03 48 55.5**	**+0.2**
SBF	**Sospel**	**55.97**	**301**	*e*P		**P**	**03 48 55.5**	**+0.2**
MBDF	**Montbardon**	**55.98**	**302**	*e*P		**P**	**03 48 56.7**	**+1.2**
	comp=Z,14nm,0.6s							
MBDF	**Montbardon**	**55.98**	**302**	*e*P		**P**	**03 48 56.7**	**+1.2**
MBDF				pmax	pmax			
	comp=Z,14nm,0.6s							
MBDF	**Montbardon**	**55.98**	**302**	*e*P		**P**	**03 48 56.7**	**+1.2**
	comp=Z,14nm,0.6s							
ORIF	**Oris-en-Rattie**	**56.45**	**303**	*e*P		**P**	**03 48 58.7**	**0.0**
	comp=Z,17nm,0.7s							
ORIF	**Oris-en-Rattie**	**56.45**	**303**	*e*P		**P**	**03 48 58.7**	**0.0**
ORIF				pmax	pmax			
	comp=Z,17nm,0.7s							
ORIF	**Oris-en-Rattie**	**56.45**	**303**	*e*P		**P**	**03 48 58.7**	**0.0**
	comp=Z,17nm,0.7s							
FRF	**La Foret Royal**	**56.62**	**301**	*e*P		**P**	**03 48 59.7**	**-0.1**
FRF	**La Foret Royal**	**56.62**	**301**	*e*P		**P**	**03 48 59.7**	**-0.1**
FRF	**La Foret Royal**	**56.62**	**301**	*e*P		**P**	**03 48 59.7**	**-0.1**
LMR	**La Mourre**	**56.82**	**301**	*e*P		**P**	**03 49 01.1**	**-0.1**
LMR	**La Mourre**	**56.82**	**301**	*e*P		**P**	**03 49 01.1**	**-0.1**
LMR	**La Mourre**	**56.82**	**301**	*e*P		**P**	**03 49 01.1**	**-0.1**
SMF	**Signal de Mont**	**56.87**	**305**	*e*P		**P**	**03 49 01.4**	**-0.2**
	comp=Z,22nm,0.8s							
SMF	**Signal de Mont**	**56.87**	**305**	*e*P		**P**	**03 49 01.4**	**-0.2**
SMF				pmax	pmax			
	comp=Z,22nm,0.8s							
SMF	**Signal de Mont**	**56.87**	**305**	*e*P		**P**	**03 49 01.4**	**-0.2**
	comp=Z,22nm,0.8s							
SSF	**Saint Saulge**	**56.88**	**306**	*e*P		**P**	**03 49 02.2**	**+0.6**
SSF	**Saint Saulge**	**56.88**	**306**	*e*P		**P**	**03 49 02.2**	**+0.6**
SSF	**Saint Saulge**	**56.88**	**306**	*e*P		**P**	**03 49 02.2**	**+0.6**
SMRF	**Simiane la Rot**	**57.10**	**302**	*e*P		**P**	**03 49 03.4**	**+0.2**
SMRF	**Simiane la Rot**	**57.10**	**302**	*e*P		**P**	**03 49 03.4**	**+0.2**
AVF	**Avril sur Loir**	**57.10**	**306**	*e*P		**P**	**03 49 03.0**	**-0.2**
	comp=Z,20nm,1.0s							
AVF	**Avril sur Loir**	**57.10**	**306**	*e*P		**P**	**03 49 03.0**	**-0.2**
AVF				pmax	pmax			
	comp=Z,20nm,1.0s							
AVF	**Avril sur Loir**	**57.10**	**306**	*e*P		**P**	**03 49 03.0**	**-0.2**
	comp=Z,20nm,1.0s							
VIVF	**Saint-Julien-l**	**57.23**	**303**	*e*P		**P**	**03 49 04.3**	**+0.1**
	comp=Z,6.0nm,0.6s							
VIVF	**Saint-Julien-l**	**57.23**	**303**	*e*P		**P**	**03 49 04.3**	**+0.1**
VIVF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
VIVF	**Saint-Julien-l**	**57.23**	**303**	*e*P		**P**	**03 49 04.3**	**+0.1**
	comp=Z,6.0nm,0.6s							
BGF	**Bois d'Agland**	**57.52**	**306**	*e*P		**P**	**03 49 06.1**	**0.0**
BGF	**Bois d'Agland**	**57.52**	**306**	*e*P		**P**	**03 49 06.1**	**0.0**
BGF	**Bois d'Agland**	**57.52**	**306**	*e*P		**P**	**03 49 06.1**	**0.0**
TCF	**Toulx Ste Croi**	**58.03**	**305**	*e*P		**P**	**03 49 09.9**	**+0.1**
	comp=Z,21nm,0.8s							
TCF	**Toulx Ste Croi**	**58.03**	**305**	*e*P		**P**	**03 49 09.9**	**+0.1**
TCF				pmax	pmax			
	comp=Z,21nm,0.8s							
TCF	**Toulx Ste Croi**	**58.03**	**305**	*e*P		**P**	**03 49 09.9**	**+0.1**
	comp=Z,21nm,0.8s							
LASF	**Ste Croix**	**58.12**	**303**	*e*P		**P**	**03 49 10.9**	**+0.4**
	comp=Z,32nm,1.1s							
LASF	**Ste Croix**	**58.12**	**303**	*e*P		**P**	**03 49 10.9**	**+0.4**
	comp=Z,32nm,1.1s							
LDF	**La Druitiere**	**58.27**	**309**	*e*P		**P**	**03 49 12.0**	**+0.6**
LDF	**La Druitiere**	**58.27**	**309**	*e*P		**P**	**03 49 12.0**	**+0.6**
LDF	**La Druitiere**	**58.27**	**309**	*e*P		**P**	**03 49 12.0**	**+0.6**
FLN	**La Foliniere**	**58.39**	**309**	*e*P		**P**	**03 49 12.4**	**+0.2**
FLN	**La Foliniere**	**58.39**	**309**	*e*P		**P**	**03 49 12.4**	**+0.2**
FLN	**La Foliniere**	**58.39**	**309**	*e*P		**P**	**03 49 12.4**	**+0.2**
GRR	**Gorron**	**58.80**	**309**	*e*P		**P**	**03 49 15.2**	**+0.2**
GRR	**Gorron**	**58.80**	**309**	*e*P		**P**	**03 49 15.2**	**+0.2**
GRR	**Gorron**	**58.80**	**309**	*e*P		**P**	**03 49 15.2**	**+0.2**
CAF	**Calviac**	**58.80**	**304**	*e*P		**P**	**03 49 16.0**	**+0.8**
CAF	**Calviac**	**58.80**	**304**	*e*P		**P**	**03 49 16.0**	**+0.8**
CAF	**Calviac**	**58.80**	**304**	*e*P		**P**	**03 49 16.0**	**+0.8**
RJF	**Les Rejaudoux**	**58.95**	**305**	*e*P		**P**	**03 49 16.6**	**+0.5**
	comp=Z,26nm,1.0s							
RJF	**Les Rejaudoux**	**58.95**	**305**	*e*P		**P**	**03 49 16.6**	**+0.5**
RJF				pmax	pmax			
	comp=Z,26nm,1.0s							
RJF	**Les Rejaudoux**	**58.95**	**305**	*e*P		**P**	**03 49 16.6**	**+0.5**
	comp=Z,26nm,1.0s							
MFF	**Saint Martin d**	**59.28**	**307**	*e*P		**P**	**03 49 19.1**	**+0.7**
MFF	**Saint Martin d**	**59.28**	**307**	*e*P		**P**	**03 49 19.1**	**+0.7**
MFF	**Saint Martin d**	**59.28**	**307**	*e*P		**P**	**03 49 19.1**	**+0.7**
MTLF	**Montolieu**	**59.52**	**303**	*e*P		**P**	**03 49 20.5**	**+0.3**
MTLF	**Montolieu**	**59.52**	**303**	*e*P		**P**	**03 49 20.5**	**+0.3**
MTLF	**Montolieu**	**59.52**	**303**	*e*P		**P**	**03 49 20.5**	**+0.3**
LFF	**La Frestale**	**59.60**	**305**	*e*P		**P**	**03 49 21.3**	**+0.6**
	comp=Z,22nm,0.9s							
LFF	**La Frestale**	**59.60**	**305**	*e*P		**P**	**03 49 21.3**	**+0.6**
LFF				pmax	pmax			
	comp=Z,22nm,0.9s							
LFF	**La Frestale**	**59.60**	**305**	*e*P		**P**	**03 49 21.3**	**+0.6**
	comp=Z,22nm,0.9s							
QUIF	**Quistinic**	**60.36**	**309**	*e*P		**P**	**03 49 25.9**	**+0.1**
QUIF	**Quistinic**	**60.36**	**309**	*e*P		**P**	**03 49 25.9**	**+0.1**
QUIF	**Quistinic**	**60.36**	**309**	*e*P		**P**	**03 49 25.9**	**+0.1**
EPF	**Esparros**	**60.85**	**303**	*e*P		**P**	**03 49 28.9**	**-0.4**
	comp=Z,7.0nm,0.7s							
EPF	**Esparros**	**60.85**	**303**	*e*P		**P**	**03 49 28.9**	**-0.4**
EPF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
EPF	**Esparros**	**60.85**	**303**	*e*P		**P**	**03 49 28.9**	**-0.4**
	comp=Z,7.0nm,0.7s							
ETSF	**Etsaut**	**61.48**	**303**	*e*P		**P**	**03 49 34.3**	**+0.7**
	comp=Z,23nm,1.2s							
ETSF	**Etsaut**	**61.48**	**303**	*e*P		**P**	**03 49 34.3**	**+0.7**
ETSF				pmax	pmax			
	comp=Z,23nm,1.2s							
ETSF	**Etsaut**	**61.48**	**303**	*e*P		**P**	**03 49 34.3**	**+0.7**
	comp=Z,23nm,1.2s							
COLD	**Coldfoot**	**62.34**	**22**	*e*P		**P**	**03 49 39.1**	**+0.2**
	comp=Z,7.3nm,0.8s							
ILAR	**Eielson Array**	**65.07**	**23**	P		**P**	**03 49 56.9**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=311,slow=5.1,SNR=20							
ILAR	**Eielson Array**	**65.07**	**23**	P		**P**	**03 49 56.9**	**-0.1**
ESDC	**Sonseca Array**	**65.41**	**302**	P		**P**	**03 49 59.7**	**0.0**
	comp=Z,6.6nm,0.4s,baz=52,slow=6.6,SNR=10							
ESDC	**Sonseca Array**	**65.41**	**302**	P		**P**	**03 49 59.7**	**0.0**
INK	**Inuvik**	**65.44**	**15**	*e*P		**P**	**03 49 59.7**	**+0.5**
	comp=Z,6.3nm,1.1s							
FRB	**Frobisher Bay**	**72.41**	**349**	LR		LR	04 25 21.5	
	comp=Z,49nm,18.5s,baz=100,slow=38							
YKW3	**Yellowknife Ar**	**73.88**	**10**	*e*P		**P**	**03 50 50.7**	**-0.6**
	comp=Z,0.2nm,1.0s							
YKA	**Yellowknife Ar**	**73.94**	**10**	P		**P**	**03 50 51.6**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=337,slow=5.8,SNR=100							
YKA	**Yellowknife Ar**	**73.94**	**10**	P		**P**	**03 50 51.6**	**-0.1**
WRAB	**Tennant Creek**	**75.79**	**135**	*e*P		**P**	**03 51 02.3**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.6s							
WRAB	**Tennant Creek**	**75.79**	**135**	*e*P		**P**	**03 51 02.3**	**-0.6**
	comp=Z,4.4nm,0.6s							
WRAB	**Tennant Creek**	**75.79**	**135**	P		**P**	**03 51 02.2**	**-0.6**
	comp=Z,52nm,0.6s,SNR=14							
WRA	**Warramunga Arr**	**75.79**	**135**	P		**P**	**03 51 02.5**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=334,slow=5.2,SNR=80							
WRA	**Warramunga Arr**	**75.79**	**135**	P		**P**	**03 51 02.5**	**-0.4**
TOA0	**Torodi Ar. Sit**	**77.96**	**277**	*e*P		**P**	**03 51 14.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.96**	**277**	P		**P**	**03 51 14.4**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=40,slow=4.6,SNR=26							
TORD	**Torodi Ar. Bea**	**77.96**	**277**	P		**P**	**03 51 14.4**	**-0.9**
ASAR	**Alice Springs**	**78.65**	**137**	P		**P**	**03 51 18.6**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=328,slow=5.4,SNR=23							
ASAR	**Alice Springs**	**78.65**	**137**	P		**P**	**03 51 18.6**	**-0.3**
SCHQ	**Schefferville**	**80.58**	**345**	P		**P**	**03 51 28.9**	**-0.3**
	comp=Z,2.8nm,1.1s,baz=45,slow=8.7,SNR=1.9							
SCHQ	**Schefferville**	**80.58**	**345**	P		**P**	**03 51 28.9**	**-0.3**
FFC	**Flin Flon**	**82.88**	**5**	*e*P		**P**	**03 51 40.3**	**-0.9**
FFC				*e*			03 51 46.0	
FFC				pmax	pmax			
	comp=Z,10.0nm,0.8s							
FFC	**Flin Flon**	**82.88**	**5**	*e*P		**P**	**03 51 40.3**	**-0.9**
	comp=Z,10nm,0.8s							
FFC				*e*PcP		**PcP**	**03 51 46.0**	**0.0**
DBIC	**Dimbokro**	**87.06**	**276**	P		**P**	**03 52 02.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=325,slow=5.7,SNR=6.5							
DBIC	**Dimbokro**	**87.06**	**276**	P		**P**	**03 52 02.3**	**-0.5**
BSMT	**Bassoo Peak**	**88.00**	**15**	*e*P		**P**	**03 52 07.3**	**+0.2**
	comp=Z,12nm,1.3s							
SWMT	**Swartz Lake**	**88.48**	**14**	*e*P		**P**	**03 52 08.9**	**-0.4**
	comp=Z,4.8nm,1.1s							
DGMT	**Dagmar**	**88.91**	**8**	*e*P		**P**	**03 52 10.9**	**-0.2**
	comp=Z,16nm,0.9s							
CHMT	**Chamberlain Mo**	**89.19**	**14**	*e*P		**P**	**03 52 12.0**	**-0.8**
	comp=Z,2.5nm,1.0s							
STKA	**Stephens Creek**	**89.25**	**136**	P		**P**	**03 52 10.9**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=345,slow=7.7,SNR=4.5							
STKA	**Stephens Creek**	**89.25**	**136**	P		**P**	**03 52 10.9**	**-1.8**
BMO	**Blue Mountains**	**90.36**	**17**	*e*P		**P**	**03 52 17.7**	**-0.4**
	comp=Z,5.3nm,1.3s							
BOSA	**Boshof**	**90.82**	**231**	P		**P**	**03 52 19.5**	**-0.8**
	comp=Z,5.4nm,1.2s,baz=117,slow=13,SNR=4.8							
BOSA	**Boshof**	**90.82**	**231**	P		**P**	**03 52 19.5**	**-0.8**
PDAR	**Pinedale Array**	**93.84**	**12**	P		**P**	**03 52 33.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=85,slow=25,SNR=2.5							
PDAR	**Pinedale Array**	**93.84**	**12**	P		**P**	**03 52 33.8**	**-0.7**
ECSD	**EROS Data Cent**	**94.13**	**3**	*e*P		**P**	**03 52 34.4**	**-1.1**
	comp=Z,5.7nm,0.9s							
LPAZ	**La Paz**	**146.44**	**314**	PKPbc		**PKPdf**	**03 58 57.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=38,slow=7.6,SNR=5.4							
LPAZ	**La Paz**	**146.44**	**314**	PKPbc		**PKPdf**	**03 58 57.6**	**0.0**

JSN 24 03:42:31.3±0.4, 18°28N×77°21W, h21km±2km, MD3.6, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBJ	**Bamboo Saint A**	**0.12**	**329**	*i* P	Pb	03 42 35.2	-2.7
BNJ	**Bonny Gate**	**0.24**	**81**	*i* P	Pb	03 42 36.8	-0.6
CVJ	**Coleyville**	**0.32**	**260**	*i* P	Pb	03 42 37.7	-0.7
STH	**Stony Hill**	**0.43**	**119**	*i* P	Pb	03 42 39.4	-0.8
STH				*i* S	Sb	03 42 45.8	-0.4
GWJ	**Greenwich**	**0.50**	**115**	*i* P	Pb	03 42 40.6	-1.0
PCJ	**Portland Cotta**	**0.54**	**175**	*i* P	Pb	03 42 41.3	-0.9
MCJ	**Malvern**	**0.58**	**232**	*i* P	Pb	03 42 42.1	-0.9
MBJ	**Montego Bay**	**0.64**	**281**	*i* P	Pb	03 42 43.0	-0.9
MBJ				*i* S	Sb	03 42 51.7	-0.8
YHJ	**Yallahs**	**0.78**	**120**	*i* P	Pb	03 42 45.2	-1.0

*IDC **24** 03:58:39.5±0.9, 23°.29S×174°.75W, h0km, mb4.4/12, mb1 4.7/12, mb1mx4.5/20, mbtmp4.4/12, MS3.9/4, Ms1 3.9/4, ms1mx3.2/37, Error ellipse: s-maj=39.1km s-min=17.7km az=158.0*

*ISCJB **24** 03:58:43.2±0.3, 23°.42S±0°.09×174°.80W±0°.06, h33km, mb4.5/19, MS3.9/4, Error ellipse: s-maj=14.3km s-min=6.2km az=160.0*

*NEIC **24** 03:58:44.2±0.4, 23°.53S×174°.69W, h35km, mb4.8/6, Error ellipse: s-maj=14.0km s-min=8.2km az=166.0*

*AUST **24** 03:58:50.5±6.9, 22°.41S×174°.27W, h120km, Error ellipse: s-maj=4.3km s-min=1.3km az=357.0*

ISC 24 03:58:45.0±0.5, 23°.4S±0°.1×174°.68W±0°.09, h35km, n153, o073/146, mb4.6/19, MS3.8/4, 44C-45D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.16**	**47**	P	Pn	04 00 04.9	-8.5
	baz=5.2,SNR=20						
NIUE				S	Sn	04 01 05.4	-17
	baz=5.2,SNR=4.7						
MSVF	**Nonsavu**	**8.82**	**308**	*e*Pn	**Pn**	**04 00 51.8**	**+1.6**
	38nm,0.9s						
AFI	**Afiamalu**	**9.80**	**17**	Pn	Pn	04 00 55.8	-7.8
	5.8nm,0.3s,baz=165,slow=14,SNR=8.9						
AFI				Sn	Sn	04 02 41.9	-11
	5.3nm,0.3s,baz=104,slow=22,SNR=2.7						
AFI	**Afiamalu**	**9.80**	**17**	Pn	Pn	04 00 55.8	-7.8
AFI				Sn	Sn	04 02 41.9	-11
RAR	**Rarotonga**	**13.96**	**84**	Pn	Pn	04 01 52.1	-8.2
	7.5nm,0.3s,baz=252,slow=8.1,SNR=9.9						
RAR				Sn	Sn	04 04 18.8	-15
	7.8nm,0.3s,baz=85,slow=6.9,SNR=5.9						
RAR	**Rarotonga**	**13.96**	**84**	*e*Pn	Pn	04 01 52.2	-8.2
RAR				*e*Sn	Sn	04 04 15.4	-19
URZ	**Urewera**	**16.42**	**203**	Pn	**P**	**04 02 36.4**	**+1.2**
	1.0nm,0.3s,baz=345,slow=15,SNR=5.8						
URZ				Sn	Sn	04 05 23.6	-10
	0.6nm,0.3s,baz=141,slow=21,SNR=7.1						
URZ	**Urewera**	**16.42**	**203**	Pn	**P**	**04 02 36.4**	**+1.2**
URZ				Sn	Sn	04 05 23.6	-10
DZM	**Mont Dzumac**	**17.47**	**271**	P	**P**	**04 02 48.8**	**+1.8**
	0.5nm,0.3s,baz=85,slow=18,SNR=6.1						
DZM	**Mont Dzumac**	**17.47**	**271**	*e*LR	LR	04 07 23.7	
	215nm,28.2s						
DZM	**Mont Dzumac**	**17.47**	**271**	Pn	**Pn**	**04 02 46.6**	**+0.6**
PPT2	**Papeete2**	**24.19**	**81**	*e*LR	LR	04 09 33.0	
	297nm,28.8s						
PPT	**Papeete**	**24.20**	**81**	LR	LR	04 10 15.7	
	comp=Z,216nm,20.8s,baz=177,slow=29						

CTA	**Charters Tower**	**36.37**	**267**	P		**P**	**04 05 45.0**	**-1.1**
	4.7nm,0.5s,baz=95,slow=12,SNR=5.8							
CTA	**Charters Tower**	**36.37**	**267**	P		**P**	**04 05 45.0**	**-1.1**
PMG	**Port Moresby**	**39.02**	**284**	P		**P**	**04 06 06.7**	**-1.8**
	16nm,0.8s,baz=126,slow=2.9,SNR=5.8							
PMG	**Port Moresby**	**39.02**	**284**	*e*P		**P**	**04 06 07.2**	**-1.3**
STKA	**Stephens Creek**	**39.44**	**248**	P		**P**	**04 06 12.4**	**+0.5**
	1.4nm,0.5s,baz=95,slow=11,SNR=8.3							
STKA					LR	LR	04 21 05.0	
	comp=Z,134nm,18.2s,baz=206,slow=34							
STKA	**Stephens Creek**	**39.44**	**248**	*e*P		**P**	**04 06 10.5**	**-1.4**
	1.1nm,1.0s							
STKA	**Stephens Creek**	**39.44**	**248**	P		**P**	**04 06 12.1**	**+0.2**
	baz=40,SNR=5.1							
ASAR	**Alice Springs**	**46.93**	**259**	P		**P**	**04 07 11.7**	**-0.9**
	7.9nm,1.0s,baz=92,slow=7.8,SNR=25							
ASAR	**Alice Springs**	**46.93**	**259**	P		**P**	**04 07 11.7**	**-0.9**
WRAB	**Tennant Creek**	**47.31**	**264**	*e*P		**P**	**04 07 13.4**	**-2.1**
	12nm,0.9s							
WRA	**Warramunga Arr**	**47.31**	**264**	P		**P**	**04 07 13.7**	**-1.8**
	7.8nm,0.7s,baz=103,slow=8.4,SNR=73							
WRA	**Warramunga Arr**	**47.31**	**264**	P		**P**	**04 07 13.7**	**-1.8**
GUMO	**Guam**	**54.00**	**309**	LR		LR	04 27 57.8	
	comp=Z,67nm,21.3s,baz=159,slow=33							
FITZ	**Fitzroy Crossi**	**55.74**	**263**	*e*P		**P**	**04 08 17.4**	**-1.2**
	3.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**55.74**	**263**	P		**P**	**04 08 18.9**	**+0.4**
	baz=56,SNR=12							
KLBR	**Kellerberrin**	**59.68**	**246**	P		**P**	**04 08 46.5**	**+0.3**
	baz=60,SNR=6.5							
NWAO	**Narrogin (SRO)**	**59.88**	**244**	*e*P		**P**	**04 08 46.0**	**-1.5**
MEEK	**Meekatharra**	**59.93**	**252**	P		**P**	**04 08 47.1**	**-0.9**
	baz=60,SNR=4.7							
BLDU	**Ballidu**	**60.74**	**247**	P		**P**	**04 08 53.6**	**+0.1**
	baz=61,SNR=5.2							
MORW	**Morawa**	**61.62**	**249**	P		**P**	**04 08 59.9**	**+0.5**
	baz=62,SNR=6.0							
QSPA	**South Pole Qui**	**66.72**	**180**	*e*P		**P**	**04 09 32.0**	**-0.3**
	9.9nm,1.1s							
MJAR	**Matsushiro Arr**	**74.35**	**322**	P		**P**	**04 10 18.7**	**-0.4**
	1.9nm,0.6s,baz=158,slow=6.0,SNR=4.3							
MJAR	**Matsushiro Arr**	**74.35**	**322**	P		**P**	**04 10 18.7**	**-0.4**
VES	**Vestal, Richgr**	**78.93**	**43**	⇓P		**P**	**04 10 45.7**	**+0.8**
	baz=79							
EDW2	**Edwards Air Fo**	**79.03**	**44**	⇑P		**P**	**04 10 45.3**	**-0.3**
	baz=79							
ISA	**Isabella**	**79.20**	**44**	⇓P		**P**	**04 10 47.4**	**+0.8**
	baz=80							
GSC	**Goldstone**	**80.05**	**45**	⇑P		**P**	**04 10 51.3**	**+0.1**
	baz=80							

Y25A	**Mesa, Roswell**	**87.57**	**51**	⇓P		**P**	**04 11 29.6**	**-0.2**
	baz=88								
328A	**Wristen Ranch,**	**87.70**	**54**	⇓P		**P**	**04 11 30.2**	**-0.1**
	baz=88								
Z26A	**Caprock**	**87.76**	**52**	⇓P		**P**	**04 11 30.8**	**+0.1**
	baz=88								
O19A	**Miners Draw (B**	**87.89**	**44**	⇓P		**P**	**04 11 31.1**	**-0.1**
	baz=88								
429A	**Davenport Ranc**	**88.02**	**55**	⇓P		**P**	**04 11 31.9**	**0.0**
	baz=88								
S22A	**4UR Ranch, Cre**	**88.04**	**47**	⇑P		**P**	**04 11 32.0**	**-0.1**
	baz=88								
C11A	**Tepee Creek (N**	**88.13**	**35**	⇓P		**P**	**04 11 31.7**	**-0.3**
	baz=88								
530A	**J-C Ranch, Com**	**88.22**	**56**	⇑P		**P**	**04 11 32.9**	**+0.1**
	baz=88								
Z27A	**Tatum**	**88.34**	**53**	⇓P		**P**	**04 11 33.2**	**-0.2**
	baz=89								
329A	**Wagon Wheel Ra**	**88.37**	**55**	⇑P		**P**	**04 11 34.0**	**+0.5**
	baz=89								
W25A	**X Bar L Ranch,**	**88.38**	**50**	⇓P		**P**	**04 11 33.7**	**+0.1**
	baz=89								
I16A	**Newdale**	**88.44**	**40**	⇑P		**P**	**04 11 34.7**	**+1.1**
	baz=89								
631A	**Perdido Creek**	**88.46**	**57**	⇑P		**P**	**04 11 33.9**	**-0.1**
	baz=89								
128A	**Castleberry Fa**	**88.54**	**53**	⇑P		**P**	**04 11 34.4**	**+0.1**
	baz=89								
Q22A	**Crested Butte,**	**88.57**	**46**	⇑P		**P**	**04 11 34.7**	**+0.1**
	baz=89								
K18A	**Toltan Ranch,**	**88.61**	**42**	⇑P		**P**	**04 11 35.0**	**+0.4**
	baz=89								
Y27A	**Causey**	**88.65**	**52**	⇑P		**P**	**04 11 34.7**	**-0.2**
	baz=89								
L19A	**Farson**	**88.73**	**43**	⇑P		**P**	**04 11 34.9**	**-0.2**
	baz=89								
N20A	**Spence Gulch,**	**88.73**	**44**	⇑P		**P**	**04 11 36.0**	**+0.7**
	baz=89								
E14A	**Clinton**	**88.76**	**37**	⇓P		**P**	**04 11 35.5**	**+0.4**
	baz=89								
531A	**Rocksprings**	**88.83**	**56**	⇑P		**P**	**04 11 36.2**	**+0.5**
	baz=89								
J18A	**Kendall Valley**	**88.94**	**41**	⇓P		**P**	**04 11 36.0**	**-0.1**
	baz=89								
PDAR	**Pinedale Array**	**88.98**	**42**	P		**P**	**04 11 35.6**	**-0.7**
	0.8nm,0.9s,baz=228,slow=1.8,SNR=5.1								
PDAR	**Pinedale Array**	**88.98**	**42**	P		**P**	**04 11 35.6**	**-0.7**
431A	**Sonora**	**89.03**	**56**	⇓P		**P**	**04 11 37.2**	**+0.6**
	baz=89								
632A	**Uvalde**	**89.11**	**57**	⇑P		**P**	**04 11 37.2**	**+0.2**
	baz=89								
532A	**Rocksprings**	**89.31**	**57**	⇓P		**P**	**04 11 38.1**	**+0.2**
	baz=90								
ENH	**Enshi**	**90.19**	**303**	*e*P		**P**	**04 11 40.9**	**-1.1**
	5.8nm,0.3s								
A14A	**Double T Ranch**	**90.31**	**35**	⇑P		**P**	**04 11 42.5**	**+0.2**
	baz=91								
ILAR	**Eielson Array**	**90.45**	**12**	P		**P**	**04 11 42.0**	**-0.4**
	2.7nm,1.0s,baz=216,slow=6.0,SNR=12								
ILAR	**Eielson Array**	**90.45**	**12**	P		**P**	**04 11 42.0**	**-0.4**
C16A	**Fuhringer Ranc**	**90.54**	**37**	⇓P		**P**	**04 11 43.3**	**0.0**
	baz=91								
D17A	**Six Diamond Ra**	**90.76**	**38**	⇓P		**P**	**04 11 44.6**	**+0.1**
	baz=91								
C17A	**Wharram Farm,**	**90.99**	**37**	⇓P		**P**	**04 11 45.4**	**0.0**
	baz=91								
E19A	**Rath Farm, Rou**	**91.46**	**39**	⇑P		**P**	**04 11 47.9**	**+0.3**
	baz=92								
A17A	**Triple J Farms**	**91.76**	**36**	⇑P		**P**	**04 11 49.0**	**+0.1**
	baz=92								
D19A	**Cripps Ranch,**	**91.79**	**39**	⇑P		**P**	**04 11 49.7**	**+0.5**
	baz=92								
C19A	**Slack Wire Ran**	**92.01**	**38**	⇓P		**P**	**04 11 50.8**	**+0.6**
	baz=92								
D20A	**Manuel Ranch,**	**92.18**	**39**	⇓P		**P**	**04 11 51.5**	**+0.6**
	baz=92								
A18A	**Metzger Ranch,**	**92.22**	**37**	⇑P		**P**	**04 11 51.3**	**+0.2**
	baz=93								
CMAR	**Chiang Mai Arr**	**93.96**	**288**	P		**P**	**04 12 02.0**	**+2.3**
	1.2nm,0.3s,baz=152,slow=3.9,SNR=4.6								
CMAR	**Chiang Mai Arr**	**93.96**	**288**	P		**P**	**04 12 02.0**	**+2.3**
YKA	**Yellowknife Ar**	**97.84**	**24**	P		**P**	**04 12 15.8**	**-0.5**
	0.3nm,0.8s,baz=243,slow=4.4,SNR=6.6								
YKA	**Yellowknife Ar**	**97.84**	**24**	P		**P**	**04 12 15.8**	**-0.5**
AKASG	**Malin Array Be**	**147.00**	**332**	PKPbc		**PKPdf**	**04 18 22.6**	**+0.9**
	4.3nm,0.6s,baz=40,slow=3.7,SNR=12								
AKASG	**Malin Array Be**	**147.00**	**332**	PKPbc		**PKPdf**	**04 18 22.6**	**+0.9**
BRTR	**Keskin Array B**	**151.04**	**311**	PKPbc		**PKPbc**	**04 18 34.4**	**-0.2**
	2.0nm,0.8s,baz=134,slow=2.6,SNR=8.9								
BRTR	**Keskin Array B**	**151.04**	**311**	PKPbc		**PKPbc**	**04 18 34.4**	**-0.2**
CLL	**Collm**	**151.48**	**350**	*e*PKPdf		**PKPdf**	**04 18 28.0**	**-0.9**
CLL				*i* PKPbc		**PKPbc**	**04 18 35.3**	**+0.3**
	comp=Z,4.0nm,0.8s								
BRG	**Berggiesshubel**	**151.74**	**348**	*e*PKP		**PKPbc**	**04 18 36.1**	**+0.5**
	comp=Z,3.2nm,0.8s								
BRG				*e*			04 18 37.5		
	comp=Z,4.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**169.27**	**161**	PKP		**PKPdf**	**04 18 48.4**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=8.3,slow=0.2,SNR=7.7								
TORD				PKPab		**PKPab**	**04 20 02.0**	**+0.6**
	comp=Z,1.2nm,1.1s,baz=193,slow=6.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**169.27**	**161**	PKP		**PKPdf**	**04 18 48.4**	**-1.0**
TORD				PKPab		**PKPab**	**04 20 02.0**	**+0.6**

*ISCJB **24** 04:04:19.2±1.0, 43°.57N±0°.03×73°.60E±0°.05, h2km±7km, Error ellipse: s-maj=7.1km s-min=4.1km az=143.4*
*NNC **24** 04:04:20.8±1.0, 43°.57N×73°.72E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.2km s-min=6.6km az=19.0*
*KNET **24** 04:04:23.7±0.5, 43°.39N×73°.81E, h16km±2km, ml3.0, Error ellipse: s-maj=3.6km s-min=1.8km az=169.0*

ISC 24 04:04:22.1±1.4, 43°.45N±0°.04×73°.73E±0°.03, h12km±11km, n20,σ1°.43/33, 17C-17D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.59**	**108**	⇓P	**Pg**	**04 04 33.9**	**+0.2**
	56nm,0.1s,SNR=217						
USP				⇓S	**Sb**	**04 04 42.0**	**-0.8**
	733nm,0.2s						
EKS2	**Erkin-Say**	**0.79**	**177**	⇑P	**Pb**	**04 04 38.1**	**+0.3**
	54nm,0.1s,SNR=399						
EKS2				⇑S	**Sb**	**04 04 49.0**	**+0.5**
	440nm,0.2s						
CHMS	**Chumysh**	**0.87**	**121**	⇓P	**Pb**	**04 04 39.0**	**-0.3**
	53nm,0.1s,SNR=19						
CHMS				⇑S	**Sb**	**04 04 50.5**	**-0.4**
	632nm,0.1s						
KBK	**Karagaybulak**	**1.20**	**131**	⇑P	**Pb**	**04 04 45.1**	**+0.2**
	102nm,0.1s,SNR=93						
KBK				⇑S	**Sg**	**04 05 01.3**	**+0.5**
	1μm,0.4s						
AML	**Almayashu**	**1.32**	**181**	⇓P	**Pn**	**04 04 47.3**	**+0.6**
	66nm,0.2s,SNR=134						
AML				⇓S	**Sn**	**04 05 04.9**	**+0.5**
	322nm,0.4s						
UCH	**Uchtor**	**1.35**	**154**	⇑P	**Pn**	**04 04 47.9**	**+0.7**
	12nm,0.1s,SNR=16						
TKM2	**Tokmak 2**	**1.47**	**111**	⇓P	**Pb**	**04 04 49.2**	**-0.3**
	14nm,0.4s						
TKM2				⇑S	**Sb**	**04 05 08.5**	**+0.4**
	89nm,0.2s						
TKM2	**Tokmak 2**	**1.47**	**111**	⇓P	**Pb**	**04 04 49.2**	**-0.3**
	33nm,0.1s,SNR=176						
TKM2				⇓S	**Sg**	**04 05 08.9**	**-0.5**
	498nm,0.1s						
KZA	**Kyzart**	**1.77**	**140**	⇑P	**Pb**	**04 04 55.3**	**+0.6**
	86nm,0.1s,SNR=234						
KZA				⇑S	**Sg**	**04 05 19.0**	**-0.1**
	341nm,0.2s						
ULHL	**Ulahol**	**2.21**	**122**	⇑P	**Pb**	**04 05 01.5**	**-0.6**
	142nm,0.5s,SNR=79						
KK31	**Karatay Array**	**2.37**	**263**	⇑Pn	**Pb**	**04 05 05.6**	**+0.7**
	1.9nm,0.2s,baz=81,slow=14,SNR=101						
KK31				Sn	**Sb**	**04 05 36.2**	**+2.1**
	22nm,0.3s,baz=78,slow=31,SNR=40						
KNDC	**Almaty**	**2.37**	**95**	⇑Sn	**Sg**	**04 05 36.4**	**-2.0**
	80nm,0.6s						
MK31	**Makanchi Array**	**6.92**	**58**	Pn	**Pn**	**04 06 05.4**	**+2.1**
	0.4nm,0.2s,baz=245,slow=13,SNR=168						
MK31				⇓Sn	**Sn**	**04 07 25.2**	**+3.3**
	0.5nm,0.3s,baz=236,slow=24,SNR=3.8						
MK31				⇓Lg	Lg	04 08 00.6	
	2.3nm,0.5s,baz=258,slow=26,SNR=2.7						
KURK	**Kurchatov**	**8.00**	**23**	⇑Lg	Lg	04 08 29.5	
	23nm,1.2s						
VOSK	**Vostochnaya**	**9.46**	**350**	⇓Pn	**Pn**	**04 06 37.2**	**-0.9**
	0.8nm,0.3s						
VOSK				⇓Sn	**Sn**	**04 08 24.4**	**+0.1**
	2.7nm,0.9s						
BVA0	**Borovoye Array**	**9.84**	**348**	Pn	**Pn**	**04 06 42.4**	**-0.9**
	0.3nm,0.8s,baz=151,slow=13,SNR=9.6						
BVA0				⇑Lg	Lg	04 09 28.0	
	1.9nm,1.1s,baz=165,slow=24,SNR=3.6						
BRVK	**Borovoye**	**9.88**	**348**	⇑Pn	**Pn**	**04 06 42.4**	**-1.5**
	3.8nm,0.9s						
BRVK				⇓Lg	Lg	04 09 29.1	
	13nm,0.9s						
ZRNK	**Zerenda**	**10.01**	**343**	⇓Pn	**Pn**	**04 06 45.5**	**-0.2**
	1.3nm,0.6s						
ZRNK				⇓Sn	**Sn**	**04 08 37.8**	**0.0**
	0.9nm,0.4s						
ZRNK				⇑Lg	Lg	04 09 36.2	
	11nm,1.1s						
AB31	**Akbulak array**	**11.15**	**306**	Pn	**Pn**	**04 06 59.7**	**-1.5**
	0.5nm,0.4s,baz=110,slow=15,SNR=33						
AB31				⇓Sn	**Sn**	**04 09 01.4**	**-4.3**
	0.6nm,0.5s,baz=113,slow=24,SNR=2.9						
AKTO	**Aktyubinsk**	**12.79**	**309**	⇓Pn	**Pn**	**04 07 22.7**	**-1.0**
	0.4nm,0.8s						
AKTO				⇑Sn	**Sn**	**04 09 43.5**	**-2.4**
	0.3nm,0.8s						

*ISK **24** 04:05:52.2, 36°.96N×27°.89E, h11km, MD2.5*
*DDA **24** 04:05:52.3, 36°.95N×27°.85E, h7km, MD2.8*
*CSEM **24** 04:05:52.6±0.2, 36°.93N×27°.88E, h8km, MD2.8, Error ellipse: s-maj=4.9km s-min=2.8km az=12.0*

ISC 24 04:05:50.7±1.4, 36°.86N±0°.06×27°.86E±0°.03, h5km±10km, n19,σ1°.15/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.40**	**302**	*i* P	**Pg**	**04 05 59.3**	**+0.9**
BDRM				*i* S	**Sb**	**04 06 05.8**	**-0.8**
BDRM	**Kayabasi**	**0.40**	**302**	*i* P	**Pg**	**04 05 59.3**	**+0.9**
BDRM				*i* S	**Sb**	**04 06 05.8**	**-0.8**
YER	**Yerkesik**	**0.44**	**50**	*e*PG	**Pg**	**04 05 59.8**	**+0.6**
YER				*e*SG	**Sg**	**04 06 05.5**	**+0.6**
YER	**Yerkesik**	**0.44**	**50**	*e*Pg	**Pg**	**04 05 59.8**	**+0.6**
YER				*e*Sg	**Sg**	**04 06 05.5**	**+0.6**
MLSB	**Milas**	**0.45**	**351**	*e*PG	**Pg**	**04 05 59.6**	**+0.3**
MLSB				*e*SG	**Sg**	**04 06 05.1**	**0.0**
MLSB	**Milas**	**0.45**	**351**	*e*Pg	**Pg**	**04 05 59.7**	**+0.3**
MLSB				*e*Sg	**Sg**	**04 06 05.1**	**0.0**
BODT	**Bodrum**	**0.49**	**295**	*e*PG	**Pb**	**04 06 01.9**	**+0.1**
BODT				*e*SG	**Sb**	**04 06 09.1**	**-0.2**
BODT	**Bodrum**	**0.49**	**295**	*e*Pg	**Pb**	**04 06 01.9**	**+0.1**
BODT				*e*Sg	**Sb**	**04 06 09.1**	**-0.2**
TURN	**Turunc**	**0.59**	**88**	*i* P	Pg	04 05 59.0	-3.1
TURN				*i* S	**Sg**	**04 06 04.9**	**-5.0**
AYDN	**Tasoluk**	**0.80**	**1**	*i* P	**Pg**	**04 06 06.2**	**0.0**
AYDN				*i* S	**Sg**	**04 06 15.6**	**-1.1**
AYDN	**Tasoluk**	**0.80**	**1**	*i* P	**Pg**	**04 06 06.2**	**0.0**
AYDN				*i* S	**Sg**	**04 06 15.6**	**-1.1**
GCAM	**G?zelcaml?**	**0.98**	**329**	*i* P	**Pn**	**04 06 11.2**	**0.0**
GCAM				*i* S	**Sb**	**04 06 22.5**	**-1.0**
GCAM	**G?zelcaml?**	**0.98**	**329**	*i* P	**Pn**	**04 06 11.2**	**0.0**
GCAM				*i* S	**Sb**	**04 06 22.5**	**-1.0**
FETY	**Fethiye**	**1.00**	**102**	*e*PG	**Pn**	**04 06 12.2**	**+0.7**
FETY	**Fethiye**	**1.00**	**102**	*e*Pg	**Pn**	**04 06 12.2**	**+0.7**
DNZL	**Cakiroluk**	**1.26**	**48**	*i* P	**Pg**	**04 06 16.2**	**+1.3**
DNZL				*i* S	**Sn**	**04 06 32.8**	**+0.2**
DNZL	**Cakiroluk**	**1.26**	**48**	*i* P	**Pg**	**04 06 16.2**	**+1.3**
DNZL				*i* S	**Sn**	**04 06 32.8**	**+0.2**
ELL	**Elmali**	**1.65**	**93**	*e*PN	**Pb**	**04 06 21.8**	**+0.2**
ELL	**Elmali**	**1.65**	**93**	*e*Pn	**Pb**	**04 06 21.8**	**+0.2**

*NEIC **24** 04:07:55.2, 35°.98N×117°.30W, h4km, ML2.8(PAS), After PAS.*

ISC 24 04:07:55.0±1.1, 35°.99N±0°.02×117°.30W±0°.02, h4km±10km, n36,σ0°.81/69, 19C-16D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.17**	**295**	⇓P	**Pg**	**04 07 58.9**	**+0.3**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**04 08 01.5**	**+0.6**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.38**	**320**	*e*P	**Pg**	**04 08 02.5**	**+0.1**
DAC				*e*S	**Sg**	**04 08 07.3**	**-0.1**
FURC	**Furnace Creek,**	**0.60**	**36**	⇓P	**Pg**	**04 08 07.0**	**+0.4**
	baz=0.6,SNR=226						
FURC				⇑S	**Sg**	**04 08 15.4**	**+1.1**
	baz=0.6						
LRMC	**Laurel Mountai**	**0.60**	**212**	⇑P	**Pg**	**04 08 06.5**	**-0.1**
	baz=0.6,SNR=60						
LRMC				⇓S	**Sg**	**04 08 14.8**	**+0.5**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.78**	**306**	⇓P	**Pg**	**04 08 10.0**	**0.0**
	baz=0.8,SNR=24						
CWC				⇑S	**Sg**	**04 08 21.0**	**+0.8**
	baz=0.8						
GSC	**Goldstone**	**0.79**	**150**	*e*P	**Pg**	**04 08 10.1**	**-0.2**
GSC				*e*S	**Sg**	**04 08 20.8**	**+0.4**
GSC	**Goldstone**	**0.79**	**150**	⇑P	**Pg**	**04 08 10.2**	**0.0**
	baz=0.8						
GSC				⇑S	**Sg**	**04 08 21.2**	**+0.8**
	baz=0.8						
SHOC	**Shoshone**	**0.83**	**96**	P	**Pg**	**04 08 11.1**	**+0.2**
	baz=0.8,SNR=157						
SHOC				⇑S	**Sg**	**04 08 22.7**	**+1.0**
	baz=0.8						
ISA	**Isabella**	**1.01**	**252**	*e*P	**Pg**	**04 08 14.2**	**-0.2**
ISA				*e*S	**Sg**	**04 08 27.4**	**-0.2**
ISA	**Isabella**	**1.01**	**252**	⇑P	**Pg**	**04 08 14.2**	**-0.2**
	baz=1.0,SNR=117						
ISA				⇑S	**Sg**	**04 08 27.6**	**0.0**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.01**	**357**	⇓P	**Pg**	**04 08 14.7**	**+0.1**
	baz=1.0,SNR=16						
RRX	**Edison Barstow**	**1.13**	**168**	⇓P	**Pg**	**04 08 16.7**	**0.0**
	baz=1.1,SNR=24						
RRX				⇓S	**Sb**	**04 08 32.8**	**+0.6**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.24**	**207**	⇓P	**Pg**	**04 08 17.9**	**-0.9**
	baz=1.2,SNR=294						
EDW2				⇓S	**Sn**	**04 08 35.9**	**-0.5**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.24**	**116**	⇑P	**Pg**	**04 08 18.5**	**-0.4**
	baz=1.2,SNR=34						
TUQ				⇓S	**Sb**	**04 08 36.2**	**+0.6**
	baz=1.2						
TIN	**Tinemaha**	**1.30**	**325**	⇓P	**Pn**	**04 08 19.8**	**-0.4**
	baz=1.3,SNR=9.5						
TIN				⇓S	**Sb**	**04 08 37.8**	**+0.4**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.40**	**145**	⇑S	**Sn**	**04 08 40.7**	**+0.3**
	baz=1.4						
VES	**Vestal, Richgr**	**1.46**	**265**	⇑Pg	**Pg**	**04 08 22.8**	**-0.2**
	baz=1.5,SNR=25						
VES				⇑S	**Sb**	**04 08 41.5**	**-0.2**
	baz=1.5						
ARVC	**Arvin**	**1.52**	**236**	⇑S	**Sg**	**04 08 44.0**	**+0.2**
	baz=1.5						
BBRC	**Big Bear Solar**	**1.75**	**170**	⇑Pg	**Pb**	**04 08 28.3**	**+0.5**
	baz=1.7,SNR=9.1						
BBRC				⇓S	**Sb**	**04 08 50.2**	**+0.1**
	baz=1.7						
BFSC	**Mount Baldy Ra**	**1.77**	**190**	⇓S	**Sb**	**04 08 50.3**	**-0.4**
	baz=1.8						
GMRC	**Granite Mounta**	**1.80**	**132**	⇓S	**Sb**	**04 08 51.8**	**+0.3**
	baz=1.8						
MWC	**Mount Wilson**	**1.86**	**200**	*e*P	**Pb**	**04 08 29.1**	**-0.7**
MWC				*e*S	**Sg**	**04 08 54.9**	**-0.1**
DECC	**Green Verdugo**	**1.93**	**206**	⇑Sb	**Sg**	**04 08 57.5**	**+0.5**
	baz=1.9						
PASC	**Pasadena Art C**	**1.95**	**202**	*e*Pn	**Pn**	**04 08 28.8**	**-0.1**
PASC				Sn	**Sn**	**04 08 54.2**	**+0.3**
LDFC	**Landfair**	**2.00**	**116**	*e*Pn	**Pn**	**04 08 29.6**	**-0.1**
LDFC				*e*Sn	**Sn**	**04 08 55.9**	**+0.7**
BELC	**Belle Mtn. Jos**	**2.25**	**151**	⇓Sb	**Sg**	**04 09 07.3**	**0.0**
	baz=2.2						
SMMC	**Simmler**	**2.30**	**254**	⇑Sb	**Sg**	**04 09 08.1**	**-0.9**
	baz=2.3						
MURC	**Murrieta**	**2.38**	**178**	⇑Sb	**Sg**	**04 09 10.9**	**-0.7**
	baz=2.4						
PFO	**Pinyon Flat Ob**	**2.47**	**164**	*e*Pn	**Pn**	**04 08 36.2**	**0.0**
PFO				*e*Pg	**Pg**	**04 08 42.3**	**-0.1**
PFO				*e*Sn	**Sn**	**04 09 06.4**	**-0.5**
PFO				*e*Sg	**Sg**	**04 09 13.7**	**-0.6**
PFO	**Pinyon Flat Ob**	**2.47**	**164**	⇑Sb	**Sg**	**04 09 13.0**	**-1.4**
	baz=2.5						
NV11	**Mina Array Sit**	**2.54**	**345**	*e*Pn	**Pn**	**04 08 37.6**	**+0.4**
NV11				*e*Pg	**Pg**	**04 08 43.6**	**-0.1**
NV11				*e*Sg	**Sg**	**04 09 16.7**	**+0.1**
CMB	**Columbia Colle**	**3.21**	**310**	*e*Pn	**Pn**	**04 08 46.9**	**+0.6**
CMB				*e*Pg	**Pb**	**04 08 52.6**	**-0.1**
CMB				*e*Sg	**Sb**	**04 09 33.5**	**+1.4**
BAR	**Barrett**	**3.34**	**171**	*e*Pn	**Pn**	**04 08 47.9**	**-0.2**
BAR				*e*Pg	**Pg**	**04 08 58.3**	**-0.7**
BAR				*e*Sg	**Sb**	**04 09 38.8**	**+3.1**
CCUT	**Cedar City**	**3.52**	**63**	*e*Pn	**Pn**	**04 08 51.4**	**+0.6**
CCUT				*e*Sg	**Sg**	**04 09 45.9**	**-2.4**
ARUT	**Antelope Range**	**3.58**	**59**	*e*Pn	**Pn**	**04 08 51.6**	**+0.1**
ARUT				*e*Pg	**Pg**	**04 09 03.5**	**-0.1**
ARUT				*e*Sg	**Sg**	**04 09 50.1**	**+0.2**
ELK	**Elko**	**5.02**	**18**	*e*Pn	**Pn**	**04 09 11.4**	**0.0**
ELK				*e*Pg	**Pg**	**04 09 29.0**	**-2.2**
ELK				*e*Sg	**Sg**	**04 10 33.7**	**-2.6**

*ISK **24** 04:10:02.6, 39°.51N×28°.61E, h10km, MD2.4*
*DDA **24** 04:10:03, 39°.51N×28°.57E, h9km, MD2.8*
*CSEM **24** 04:10:03.4±0.1, 39°.52N×28°.59E, h0km±2km, MD2.4, Error ellipse: s-maj=2.5km s-min=2.1km az=86.0*

ISC 24 04:10:03.2±1.0, 39°.52N±0°.03×28°.59E±0°.02, h8km±7km, n24,σ0°.42/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.09**	**14**	*e*PG	**Pg**	**04 10 05.4**	**0.0**
DST				*e*SG	**Sg**	**04 10 07.5**	**+0.5**
DST	**Dursunbey**	**0.09**	**14**	*e*Pg	**Pg**	**04 10 05.4**	**0.0**
DST				*e*Sg	**Sg**	**04 10 07.5**	**+0.5**
DURS	**Dursunbey**	**0.12**	**312**	*i* P	**Pg**	**04 10 05.9**	**0.0**
DURS				*i* S	**Sg**	**04 10 07.7**	**-0.1**
DURS	**Dursunbey**	**0.12**	**312**	*i* P	**Pg**	**04 10 05.9**	**0.0**
DURS				*i* S	**Sg**	**04 10 07.7**	**-0.1**
DEMI	**Demirci**	**0.49**	**168**	*i* P	**Pg**	**04 10 12.8**	**+0.2**
DEMI				*i* S	**Sg**	**04 10 19.4**	**+0.4**
DEMI	**Demirci**	**0.49**	**168**	*i* P	**Pg**	**04 10 12.8**	**+0.2**
DEMI				*i* S	**Sg**	**04 10 19.4**	**+0.4**
TVSB	**Tavsanli**	**0.68**	**96**	*e*PG	**Pg**	**04 10 15.8**	**-0.4**
TVSB				*e*SG	**Sg**	**04 10 25.3**	**+0.2**
TVSB	**Tavsanli**	**0.68**	**96**	*e*Pg	**Pg**	**04 10 15.9**	**-0.4**
TVSB				*e*Sg	**Sg**	**04 10 25.3**	**+0.2**
BALY	**Balya**	**0.78**	**287**	*i* P	**Pg**	**04 10 18.7**	**+0.4**
BALY	**Balya**	**0.78**	**287**	*i* P	**Pg**	**04 10 18.7**	**+0.4**
GDZ	**Gediz**	**0.81**	**122**	*i* P	**Pb**	**04 10 19.9**	**+0.2**
GDZ				*i* S	**Sb**	**04 10 30.6**	**-0.3**
GDZ	**Gediz**	**0.81**	**122**	*i* P	**Pb**	**04 10 19.9**	**+0.2**
GDZ				*i* S	**Sb**	**04 10 30.6**	**-0.3**
GONE	**Gonen-Balikesi**	**0.87**	**307**	*e*PG	**Pg**	**04 10 20.1**	**+0.1**
GONE	**Gonen-Balikesi**	**0.87**	**307**	*e*Pg	**Pg**	**04 10 20.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.88**	**15**	*e*PG	**Pg**	**04 10 20.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.88**	**15**	*e*Pg	**Pg**	**04 10 20.3**	**+0.2**
AKHS	**Akhisar**	**0.88**	**224**	*i* P	**Pg**	**04 10 20.4**	**+0.3**
AKHS				*i* S	**Sg**	**04 10 31.9**	**+0.3**
AKHS	**Akhisar**	**0.88**	**224**	*i* P	**Pg**	**04 10 20.4**	**+0.3**
AKHS				*i* S	**Sg**	**04 10 31.9**	**+0.3**
KULA	**Kula-Manisa**	**1.01**	**177**	*e*PG	**Pb**	**04 10 22.2**	**-0.8**
KULA	**Kula-Manisa**	**1.01**	**177**	*e*Pg	**Pb**	**04 10 22.2**	**-0.8**
ARMT	**Armutlu**	**1.06**	**11**	*e*PG	**Pb**	**04 10 23.5**	**-0.4**
ARMT	**Armutlu**	**1.06**	**11**	*e*Pg	**Pb**	**04 10 23.5**	**-0.4**
BORA	**Eskisehir**	**1.48**	**75**	*i* P	**Pg**	**04 10 31.5**	**-0.1**
BORA				*i* S	**Sg**	**04 10 51.8**	**+1.0**
BORA	**Eskisehir**	**1.48**	**75**	*i* P	**Pg**	**04 10 31.5**	**-0.1**
BORA				*i* S	**Sg**	**04 10 51.8**	**+1.0**

*ISCJB **24** 04:10:24.2±1.8, 36°.79N±0°.08×27°.97E±0°.05, h19km±53km, Error ellipse: s-maj=13.5km s-min=6.9km az=13.2*
*CSEM **24** 04:10:24.1±0.9, 36°.78N×27°.97E, h20km, MD2.7, Error ellipse: s-maj=20.5km s-min=10.0km az=7.0*
*ISK **24** 04:10:27.3, 36°.97N×27°.87E, h5km, MD2.2*
*DDA **24** 04:10:27.1, 36°.95N×27°.88E, h7km, MD2.7*

**ISC 24 04:10:23.9±1.5, 36°.79N±0°.06×27°.98E±0°.03, h1km±18km, n12,σ0

MDJ	**Mudanjiang**	**34.58**	**342**	P	**P**	**04 21 51.8**	**+1.1**
MDJ				pmax	pmax			
	comp=Z,4.0nm,0.5s							
MDJ				pmax	pmax			
	comp=Z,79nm,5.2s							
FITZ	**Fitzroy Crossi**	**35.07**	**211**	*e*P	**P**	**04 21 54.0**	**-1.1**
	comp=Z,3.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**35.07**	**211**	P	**P**	**04 21 54.9**	**-0.2**
	baz=32,SNR=6.2							
CN2	**Changchun**	**35.31**	**337**	*e*P	**P**	**04 21 59.8**	**+2.9**
ASAR	**Alice Springs**	**36.94**	**195**	P	**P**	**04 22 10.6**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=18,slow=10,SNR=32							
ASAR	**Alice Springs**	**36.94**	**195**	P	**P**	**04 22 10.6**	**-0.5**
BJI	**Beijing**	**36.99**	**324**	P	P	04 22 07.3	-4.1
BJI				pmax	pmax			
	comp=Z,11nm,1.1s							
GYA	**Guiyang**	**37.75**	**298**	P	**P**	**04 22 17.8**	**-0.4**
GYA				pP	**pP**	**04 22 27.6**	**-0.7**
GYA				PP	**PnPn**	**04 23 47.9**	**+1.9**
GYA				PcP	**PcP**	**04 24 34.5**	**-0.3**
GYA				S	**S**	**04 28 05.4**	**-1.4**
GYA				ScP	**ScP**	**04 28 19.0**	**-0.8**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,130nm,5.2s							
GYA				LR	LR			
	comp=N,650nm,17.4s							
GYA				LR	LR			
	comp=E,580nm,18.4s							
GYA				LR	LR			
	comp=Z,640nm,17.8s							
QLP	**Quilpie**	**38.52**	**180**	P	**P**	**04 22 23.6**	**-0.8**
	baz=36,SNR=4.5							
HHC	**Hu-ho-hao-te**	**40.25**	**321**	*e*P	**P**	**04 22 39.1**	**+0.2**
HHC				sP	**sP**	**04 22 53.5**	**+0.3**
HHC				PP	**PnPn**	**04 24 16.6**	**+0.9**
HHC				PcP	**PcP**	**04 24 43.8**	**+1.4**
HHC				ScP	**ScP**	**04 28 28.8**	**-0.3**
HHC				PcS	**PcS**	**04 28 32.5**	**-0.4**
HHC				S	**S**	**04 28 43.6**	**-0.4**
HHC				sS	**sS**	**04 29 00.1**	**-0.7**
HHC				ScS	**ScS**	**04 32 40.8**	**-2.1**
HHC				pmax	pmax			
	comp=Z,21nm,0.6s							
HHC				pmax	pmax			
	comp=Z,74nm,6.4s							
HHC				LR	LR			
	comp=N,220nm,14.6s							
HHC				LR	LR			
	comp=E,380nm,14.7s							
HHC				LR	LR			
	comp=Z,200nm,14.2s							
DZM	**Mont Dzumac**	**40.58**	**147**	P	**P**	**04 22 42.1**	**+0.3**
	comp=Z,9.5nm,0.6s,baz=358,slow=12,SNR=8.3							
DZM	**Mont Dzumac**	**40.58**	**147**	P	**P**	**04 22 42.1**	**+0.3**
MBWA	**Marble Bar**	**40.76**	**216**	*e*P	**P**	**04 22 41.7**	**-1.4**
	comp=Z,3.2nm,0.6s							
KMI	**Kunming**	**40.91**	**294**	P	**P**	**04 22 45.3**	**+0.6**
KMI				pP	**pP**	**04 22 55.3**	**+0.4**
KMI				sP	**sP**	**04 22 59.5**	**+0.5**
KMI				PP	**PnPn**	**04 24 22.6**	**-1.2**
KMI				S	**S**	**04 28 52.9**	**-1.6**
KMI				sS	**sS**	**04 29 09.1**	**-2.2**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KMI				pmax	pmax			
	comp=Z,94nm,4.8s							
KMI				LR	LR			
	comp=N,150nm,36.3s							
KMI				LR	LR			
	comp=E,120nm,28.7s							
KMI				LR	LR			
	comp=Z,91nm,23.6s							
CD2	**Chengdu**	**41.45**	**303**	P	**P**	**04 22 49.3**	**+0.4**
CD2				pP	**pP**	**04 22 59.5**	**+0.4**
CD2				sP	**sP**	**04 23 03.8**	**+0.6**
CD2				PP	**PnPn**	**04 24 28.6**	**-1.3**
CD2				S	**S**	**04 29 01.4**	**-0.7**
CD2				sS	**sS**	**04 29 18.4**	**-0.5**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,110nm,4.2s							
CD2				LR	LR			
	comp=N,270nm,6.5s							
CD2				LR	LR			
	comp=Z,190nm,8.3s							
ARMA	**Armidale**	**42.99**	**170**	*e*P	**P**	**04 23 00.9**	**-0.4**
	comp=Z,3.2nm,0.6s							
LZH	**Lanzhou**	**43.19**	**310**	*e*P	**P**	**04 23 04.0**	**+0.9**
LZH				pP	**pP**	**04 23 14.5**	**+1.1**
LZH				sP	**sP**	**04 23 18.3**	**+0.8**
LZH				pmax	pmax			
	comp=Z,21nm,1.3s							
LZH				pmax	pmax			
	comp=Z,73nm,6.0s							
LZH				LR	LR			
	comp=N,460nm,14.2s							
LZH				LR	LR			
	comp=E,400nm,13.5s							
LZH				LR	LR			
	comp=Z,510nm,17.6s							
STKA	**Stephens Creek**	**43.85**	**183**	P	**P**	**04 23 06.5**	**-1.7**
	comp=Z,6.1nm,0.9s,baz=344,slow=9.3,SNR=10							
STKA	**Stephens Creek**	**43.85**	**183**	*e*P	**P**	**04 23 06.7**	**-1.4**
STKA	**Stephens Creek**	**43.85**	**183**	P	**P**	**04 23 07.1**	**-1.1**
	baz=41,SNR=7.2							
MSVF	**Nonsavu**	**44.94**	**131**	*e*P	**P**	**04 23 18.2**	**+1.1**
	comp=Z,10nm,0.8s							
BBOO	**Buckleboo**	**45.35**	**189**	*e*P	**P**	**04 23 19.5**	**-0.6**
	comp=Z,264nm,0.8s							
BBOO	**Buckleboo**	**45.35**	**189**	P	**P**	**04 23 19.6**	**-0.6**
	baz=43,SNR=16							
ULN	**Ulaanbaatar**	**47.02**	**326**	*e*P	**P**	**04 23 32.3**	**-1.0**
	comp=Z,1.0nm,0.4s							
GSI	**Gunungsitoli**	**47.18**	**260**	S	S	04 29 59.1	-27
	baz=46,SNR=3.1							
SONM	**Songino Array**	**47.36**	**326**	P	**P**	**04 23 37.2**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=144,slow=8.0,SNR=13							
SONM				PcP	**PcP**	**04 25 06.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=144,slow=2.0,SNR=4.1							
SONM	**Songino Array**	**47.36**	**326**	P	**P**	**04 23 37.2**	**+1.2**
SONM				PcP	**PcP**	**04 25 06.6**	**+0.3**
GTA	**Gaotai**	**47.43**	**313**	*e*P	**P**	**04 23 36.0**	**-0.6**
GTA				pP	**pP**	**04 23 45.1**	**-1.8**
GTA				sP	**sP**	**04 23 49.8**	**-1.3**
GTA				S	**S**	**04 30 29.3**	**+0.5**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,100nm,6.2s							
GTA				LR	LR			
	comp=N,230nm,15.2s							
GTA				LR	LR			
	comp=E,290nm,16.9s							
GTA				LR	LR			
	comp=Z,110nm,13.1s							
MORW	**Morawa**	**49.04**	**213**	P	**P**	**04 23 48.7**	**-0.3**
	baz=46,SNR=6.7							
BLDU	**Ballidu**	**49.94**	**211**	P	**P**	**04 23 55.4**	**-0.4**
	baz=47,SNR=5.9							
LSA	**Lhasa**	**51.82**	**298**	*e*P	**P**	**04 24 10.4**	**-0.2**
	comp=Z,6.4nm,0.3s							
WMQ	**Urumqi**	**57.44**	**314**	*e*P	**P**	**04 24 53.4**	**+2.7**
WMQ				LR	LR			
	comp=N,72nm,21.0s							
WMQ				LR	LR			
	comp=E,9.0nm,20.0s							
WMQ				LR	LR			
	comp=Z,52nm,27.0s							
BILL	**Bilibino**	**57.71**	**10**	*e*P	**P**	**04 24 52.0**	**-0.1**
	comp=Z,1.7nm,0.4s							
MK31	**Makanchi Array**	**61.86**	**317**	*e*P	**P**	**04 25 20.7**	**-0.4**
MK31				*e*PP	**PP**	**04 27 35.6**	**-1.8**
MKAR	**Makanchi Array**	**61.86**	**317**	P	**P**	**04 25 21.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=91,slow=7.8,SNR=22							
MKAR	**Makanchi Array**	**61.86**	**317**	P	**P**	**04 25 21.2**	**+0.2**
ZALV	**Zalesovo Beam**	**62.23**	**325**	P	**P**	**04 25 24.6**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=111,slow=8.3,SNR=9.9							
ZALV				PcP	**PcP**	**04 26 04.9**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=138,slow=3.2,SNR=5.8							
ZALV	**Zalesovo Beam**	**62.23**	**325**	P	**P**	**04 25 24.6**	**+1.2**
ZALV				PcP	**PcP**	**04 26 04.9**	**+1.8**
KURK	**Kurchatov**	**65.06**	**320**	*e*P	**P**	**04 25 41.8**	**-0.3**
	comp=Z,7.8nm,1.1s							
KSH	**Kashi**	**65.36**	**308**	P	**P**	**04 25 46.3**	**+1.9**
KSH				pP	**pP**	**04 25 56.3**	**+1.2**
KSH				sP	**sP**	**04 25 59.3**	**+0.2**
KSH				*e*PcP	**PcP**	**04 26 15.9**	**-0.5**
KSH				*e*PP	**PP**	**04 28 11.9**	**+3.5**
KSH				*e*ScP		04 30 15.8		
KSH				PcS		04 30 19.6		
KSH				S	**S**	**04 34 25.0**	**-1.4**
KSH				sS	**sS**	**04 34 43.8**	**-0.2**
KSH				ScS	**SKSac**	**04 35 35.8**	**-1.6**
KSH				SS	**SS**	**04 38 42.8**	**+3.0**
KSH				pmax	pmax			
	comp=Z,150nm,4.3s							
KSH				LR	LR			
	comp=N,93nm,4.4s							
KSH				LR	LR			
	comp=E,140nm,5.3s							
KSH				LR	LR			
	comp=Z,230nm,7.9s							
TKM2	**Tokmak 2**	**65.94**	**312**	*e*P	**P**	**04 25 48.6**	**+0.3**
	comp=Z,1.7nm,0.8s							
EKS2	**Erkin-Say**	**67.26**	**311**	*e*P	**P**	**04 25 55.8**	**-0.7**
	comp=Z,0.8nm,0.4s							
ILAR	**Eielson Array**	**70.24**	**25**	P	**P**	**04 26 12.4**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=254,slow=6.0,SNR=15							
ILAR	**Eielson Array**	**70.24**	**25**	P	**P**	**04 26 12.4**	**-2.1**
KBL	**Kabul**	**70.79**	**302**	P	**P**	**04 26 18.3**	**-0.4**
DOT	**Dot Lake**	**71.21**	**27**	*e*P	**P**	**04 26 20.9**	**+0.4**
	comp=Z,80nm,2.4s							
INK	**Inuvik**	**76.03**	**22**	*e*P	**P**	**04 26 47.7**	**-0.9**
	comp=Z,6.6nm,0.9s							
ABKAR	**Akbulak array**	**76.96**	**318**	*e*P	**P**	**04 26 55.6**	**+1.3**
ARU	**Arti**	**77.39**	**325**	P	**P**	**04 26 56.4**	**-0.2**
YKA	**Yellowknife Ar**	**84.54**	**27**	P	**P**	**04 27 33.8**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=286,slow=5.1,SNR=32							
YKA	**Yellowknife Ar**	**84.54**	**27**	P	**P**	**04 27 33.9**	**-0.7**
RES	**Resolute Bay**	**86.14**	**13**	P	**P**	**04 27 42.0**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=311,slow=4.2,SNR=17							
RES	**Resolute Bay**	**86.14**	**13**	*e*P	**P**	**04 27 42.3**	**+0.1**
NEW	**Newport**	**86.91**	**41**	*e*P	**P**	**04 27 47.7**	**+1.0**
	comp=Z,18nm,1.3s							
BMO	**Blue Mountains**	**87.65**	**45**	*e*P	**P**	**04 27 52.0**	**+1.6**
	comp=Z,10nm,1.2s							
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**04 27 53.2**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=73,slow=6.7,SNR=11							
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**04 27 53.2**	**+1.2**
BSMT	**Bassoo Peak**	**88.53**	**41**	*e*P	**P**	**04 27 55.3**	**+0.7**
NVAR	**Mina Array Bea**	**88.53**	**51**	P	**P**	**04 27 55.8**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=273,slow=5.1,SNR=12							
NVAR	**Mina Array Bea**	**88.53**	**51**	P	**P**	**04 27 55.8**	**+0.8**
MFID	**Camas Ranch**	**89.06**	**46**	*e*P	**P**	**04 27 58.0**	**+0.9**
	comp=Z,5.1nm,1.0s							
JOF	**Joensuu**	**89.18**	**335**	*e*p	**P**	**04 27 54.4**	**-2.7**
	comp=Z,3.6nm,0.6s							
ELK	**Elko**	**90.21**	**48**	*e*P	**P**	**04 28 03.0**	**+0.3**
	comp=Z,4.2nm,1.1s							
KAF	**Kangasniemi**	**91.61**	**335**	*e*p	P	04 28 04.9	-3.5
	comp=Z,2.9nm,0.5s							
FINES	**FINESS Array B**	**92.04**	**335**	P	**P**	**04 28 09.2**	**-1.2**
	comp=Z,4.9nm,0.5s,baz=55,slow=5.3,SNR=33							
FINES	**FINESS Array B**	**92.04**	**335**	P	**P**	**04 28 09.2**	**-1.2**
TMUT	**Trail Mountain**	**93.60**	**49**	*e*P	**P**	**04 28 19.5**	**+1.0**
	comp=Z,16nm,0.8s							
PDAR	**Pinedale Array**	**93.62**	**45**	P	**P**	**04 28 18.0**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=289,slow=2.8,SNR=2.4							
PDAR	**Pinedale Array**	**93.62**	**45**	P	**P**	**04 28 18.0**	**-0.5**
HFS	**Hagfors**	**97.73**	**337**	P	Pdif	04 28 36.7	+0.2
	comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=7.2							
HFS	**Hagfors**	**97.73**	**337**	P	Pdif	04 28 36.7	+0.2
NB2	**NORSAR Subarra**	**98.03**	**339**	P	Pdif	04 28 39.3	+1.4
	comp=Z,2.0nm,0.8s,baz=46,slow=5.1							
NOA	**NORSAR Array B**	**98.03**	**339**	P	Pdif	04 28 39.0	+1.1
	comp=Z,0.7nm,0.6s,baz=243,slow=3.0,SNR=3.4							
NOA	**NORSAR Array B**	**98.03**	**339**	P	Pdif	04 28 39.0	+1.1
TORD	**Torodi Ar. Bea**	**134.86**	**303**	PKP	**PKPdf**	**04 34 21.3**	**-0.2**
	comp=Z,0.8nm,1.1s,baz=25,slow=2.8,SNR=3.2							
TORD	**Torodi Ar. Bea**	**134.86**	**303**	PKP	**PKPdf**	**04 34 21.2**	**-0.2**
PLCA	**Paso Flores**	**138.49**	**140**	PKP	**PKPdf**	**04 34 29.1**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=263,slow=4.2,SNR=3.4							
PLCA	**Paso Flores**	**138.49**	**140**	PKP	**PKPdf**	**04 34 29.1**	**+1.5**
DBIC	**Dimbokro**	**143.74**	**299**	PKP	**PKPdf**	**04 34 39.1**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=54,slow=3.0,SNR=4.8							
DBIC	**Dimbokro**	**143.74**	**299**	PKP	**PKPdf**	**04 34 39.1**	**+1.4**
LPAZ	**La Paz**	**148.70**	**101**	PKPbc	**PKPbc**	**04 34 51.1**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=17,slow=2.6,SNR=10.0							
LPAZ	**La Paz**	**148.70**	**101**	*e*PKPbc	**PKPbc**	**04 34 51.5**	**+1.0**

IDC 24 04:23:15.6±0.9, 12°.17N×144°.07E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, Error ellipse: s-maj=41.0km s-min=16.5km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.61**	**29**	Pn	Pg	04 23 47.1	+0.6
	316nm,0.3s,baz=229,slow=3.8,SNR=52						
GUMO				Sn	Sb	04 24 07.0	-0.1
	145nm,0.3s,baz=3.0,slow=23,SNR=11						
WRA	**Warramunga Arr**	**33.32**	**197**	P	P	04 29 55.1	-0.3
	1.1nm,0.5s,baz=22,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**36.98**	**196**	P	P	04 30 27.4	+0.5
	0.5nm,0.6s,baz=17,slow=10.0,SNR=8.7						
SONM	**Songino Array**	**47.45**	**326**	P	P	04 31 51.8	-0.4
	0.2nm,0.3s,baz=140,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**61.97**	**317**	P	P	04 33 38.8	+1.3
	0.1nm,0.4s,baz=99,slow=7.7,SNR=4.1						
ILAR	**Eielson Array**	**70.17**	**25**	P	P	04 34 28.1	-1.8
	0.3nm,0.5s,baz=248,slow=4.8,SNR=4.0						
YKA	**Yellowknife Ar**	**84.47**	**27**	P	P	04 35 50.2	+0.1
	0.3nm,0.5s,baz=285,slow=5.0,SNR=7.5						
RES	**Resolute Bay**	**86.10**	**13**	P	P	04 35 59.2	+1.2
	0.8nm,0.8s,baz=320,slow=2.6,SNR=3.5						
NVAR	**Mina Array Bea**	**88.41**	**51**	P	P	04 36 14.3	+4.0
	0.3nm,0.7s,baz=255,slow=5.5,SNR=2.6						
FINES	**FINESS Array B**	**92.11**	**335**	P	P	04 36 24.8	-1.9
	0.9nm,0.5s,baz=45,slow=5.9,SNR=5.2						

IDC 24 04:34:44.0±1.0, 25°.36S×70°.21E, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.9/26, mbtmp4.1/6, MS4.1/1, Ms1 4.1/1, ms1mx3.1/39, Error ellipse: s-maj=32.9km s-min=25.4km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**22.38**	**283**	P	P	04 39 46.1	+1.8
	2.8nm,0.9s,baz=112,slow=10,SNR=5.3						
BOSA	**Boshof**	**40.02**	**255**	P	P	04 42 19.2	-1.8
	3.0nm,0.8s,baz=90,slow=8.4,SNR=3.9						
QSPA	**South Pole Qui**	**64.77**	**180**	P	P	04 45 24.1	-0.1
	1.9nm,0.7s,baz=288,slow=3.2,SNR=19						
VNDA	**Vanda**	**65.79**	**166**	P	P	04 45 31.1	+0.7
	1.3nm,0.7s,baz=271,slow=7.8,SNR=6.3						
AKTO	**Aktyubinsk**	**76.23**	**352**	LR	LR	05 17 54.4	
	comp=Z,100nm,18.2s,baz=131,slow=34						
TORD	**Torodi Ar. Bea**	**76.91**	**291**	P	P	04 46 38.7	+0.1
	1.2nm,0.9s,baz=119,slow=3.9,SNR=11						
SONM	**Songino Array**	**79.79**	**24**	P	P	04 46 53.9	-0.1
	0.7nm,0.5s,baz=201,slow=5.2,SNR=2.0						
YKA	**Yellowknife Ar**	**142.74**	**4**	PKP	PKPdf	04 54 16.8	-1.9
	0.2nm,0.8s,baz=342,slow=2.9,SNR=3.7						

IDC 24 04:35:37.8±0.4, 5°.30N×94°.28E, h0km, mb4.9/42, mb1 5.0/43, mb1mx4.9/46, mbtmp4.9/43, ML4.8/1, MS4.3/28, Ms1 4.3/28, ms1mx4.2/38, Error ellipse: s-maj=11.4km s-min=9.4km az=32.0

SZGRF 24 04:35:38.6, 3°.90N×94°.11E, h33km, mb5.3, Off west coast of northern Sumatera, Indonesia

MOS 24 04:35:41.5±0.9, 5°.36N×94°.35E, h34km, mb5.5/84, MS4.6/6, Error ellipse: s-maj=8.4km s-min=4.0km az=121.7

BJI 24 04:35:42.4, 5°.13N×94°.27E, h56km, mB5.0/29, mb5.2/56, Ms4.6/52, Ms7 4.4/49

ISCJB 24 04:35:42.2±0.5, 5°.21N±0°.03×94°.31E±0°.02, h43km±4km, mb5.2/193, MS4.4/49, Error ellipse: s-maj=4.7km s-min=3.4km az=31.9

AUST 24 04:35:42.1±2.7, 5°.22N×94°.27E, h27km, Error ellipse: s-maj=1.8km s-min=0.9km az=230.0

GCMT 24 04:35:44.8±0.3, 5°.10N×94°.11E, h36km, MW5.0, Moment Tensor Solution. s46,c59; s68,c89; Moment tensor: Scale 10^16Nm; Mrr4.27±.19; Mθθ-1.39±.13; Mϕϕ-2.88±.16; Mrθ1.95±.13; Mθϕ1.95±.10; Mϕr-0.75±.15; Best double couple: M=4.70000×10^16 NP1:ϕ=338.00000°, δ=35.00000°, λ=112.00000°. NP2:ϕ=132.00000°, δ=58.00000°, λ=75.00000°. Principal axes: T 4.8800, Plg73.0000°, Azm4.0000°; N -0.3100, Plg12.0000°, Azm140.0000°; P -4.5700, Plg11.0000°, Azm232.0000°; Data Used: ll IU IC G CN.

DJA 24 04:35:44.9±0.6, 5°.14N×94°.4E±°, h61km±7km, M5.0/19, mB5.4/12, mb5.1/19, MLv5.2/6, Mw(mB)4.9/12, Mwp5.3/1

NEIC 24 04:35:45.8±0.6, 5°.26N×94°.31E, h59km±5km, mb5.2/87, Error ellipse: s-maj=4.7km s-min=3.1km az=223.0

NEIC Felt at Banda Aceh.

ISC 24 04:35:43.6±0.4, 5°.22N±0°.04×94°.31E±0°.04, h40km±2km, h40km: pP-P, n778, σ1§10/839, mb5.2/191, MS4.4/49, 179C-89D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**3.47**	**124**	P	**Pn**	**04 36 35.7**	**+0.6**
TSI	**Tuntungan**	**4.58**	**112**	P	**Pn**	**04 36 52.5**	**+2.1**
GSI	**Gunungsitoli**	**5.08**	**140**	P	**Pn**	**04 36 58.3**	**+1.0**
	baz=5.1,SNR=4.1						
GSI	**Gunungsitoli**	**5.08**	**140**	P	**Pn**	**04 36 56.2**	**-1.1**
PSI	**Prapat**	**5.20**	**117**	Pn	**Pn**	**04 36 60.0**	**+0.9**
	32nm,0.3s,baz=310,slow=12,SNR=56						
PSI				Sn	Sn	04 38 10.5	+13
	17nm,0.3s,baz=318,slow=15,SNR=4.1						
PSI	**Prapat**	**5.20**	**117**	Pn	**Pn**	**04 36 60.0**	**+0.9**
PSI				Sn	Sn	04 38 10.5	+13
PSI	**Prapat**	**5.20**	**117**	P	**Pn**	**04 37 00.7**	**+1.7**
	baz=5.3,SNR=65						
PSI	**Prapat**	**5.20**	**117**	P	**Pn**	**04 37 00.8**	**+1.7**
	306nm,1.1s,4μm1.6nm						
KULM	**Kulim**	**6.32**	**89**	*e*Pn	**Pn**	**04 37 15.9**	**+1.6**
KULM				*e*Sn	**Sn**	**04 38 25.6**	**+0.3**
KULM	**Kulim**	**6.32**	**89**	P	**Pn**	**04 37 16.6**	**+2.3**
KULM	**Kulim**	**6.32**	**89**	P	**Pn**	**04 37 16.0**	**+1.6**
	209nm,0.7s,3μm1.0nm						
IPM	**Ipoh**	**6.74**	**96**	*e*Pn	**Pn**	**04 37 21.2**	**+1.2**
IPM				*e*Sn	**Sn**	**04 38 36.6**	**+1.0**
IPM	**Ipoh**	**6.74**	**96**	P	**Pn**	**04 37 21.7**	**+1.6**
IPM	**Ipoh**	**6.74**	**96**	P	**Pn**	**04 37 21.4**	**+1.3**
	204nm,0.8s,2μm7μm0.9nm						
MNSI	**Mandailing Nat**	**6.86**	**130**	P	**Pn**	**04 37 21.9**	**+0.2**
	226nm,0.9s,9μm						
FRIM	**Kepong**	**7.56**	**105**	P	**Pn**	**04 37 32.5**	**+1.1**
PPI	**Padang Panjang**	**8.30**	**133**	P	**Pn**	**04 37 41.3**	**-0.2**
	118nm,1.1s,1μm						
BKNI	**Bangkinang**	**8.30**	**126**	P	**Pn**	**04 37 39.8**	**-1.7**
	267nm,1.0s,7μm						
KTGM	**Kuala Trenggan**	**8.79**	**89**	P	**Pn**	**04 37 50.7**	**+2.4**
KGM	**Kluang**	**9.54**	**109**	P	**Pn**	**04 37 60.0**	**+1.4**
MYKOM	**Kota Tinggi**	**10.12**	**109**	P	**Pn**	**04 38 07.3**	**+0.9**
MYKOM	**Kota Tinggi**	**10.12**	**109**	P	**Pn**	**04 38 06.7**	**+0.3**
	40nm,0.9s						
SRDT	**SRDT**	**10.24**	**27**	P	Pn	04 38 11.6	+3.5
	68nm,1.5s,4μm						
CHBT	**CHBT**	**10.90**	**46**	P	Pn	04 38 20.8	+3.7
MNAI	**Manna**	**12.85**	**138**	P	**Pn**	**04 38 44.3**	**+0.4**
	183nm,1.3s						
CM31	**Chiang Mai Arr**	**13.91**	**19**	*e*Pn	**Pn**	**04 39 01.1**	**+2.8**
	39nm,0.5s						
CMAR	**Chiang Mai Arr**	**13.91**	**19**	Pn	**Pn**	**04 39 01.4**	**+3.0**
	4.4nm,0.3s,baz=210,slow=14,SNR=35						
CMAR				LR	LR	04 45 15.1	
	comp=Z,674nm,18.5s,baz=208,slow=42						
CMAR	**Chiang Mai Arr**	**13.91**	**19**	Pn	**Pn**	**04 39 01.4**	**+3.0**
CHTO	**Chiang Mai**	**14.25**	**18**	*e*P	**Pn**	**04 39 04.8**	**+1.9**
CHTO				pmax	pmax		
	comp=Z,126nm,0.7s						
CHTO	**Chiang Mai**	**14.25**	**18**	*e*Pn	**Pn**	**04 39 04.8**	**+1.9**
	comp=Z,126nm,0.7s						
KASI	**Kota Agung**	**14.75**	**136**	P	**Pn**	**04 39 07.1**	**-2.5**
	comp=Z,203nm,0.8s,comp=Z,2μm						
CGJI	**Cibinong**	**16.35**	**136**	P	**Pn**	**04 39 30.1**	**-0.3**
	comp=Z,76nm,1.1s						
KSM	**Kuching**	**16.40**	**103**	*e*Pn	**P**	**04 39 33.7**	**+0.3**
	comp=Z,224nm,1.5s						
KSM	**Kuching**	**16.40**	**103**	P	**P**	**04 39 34.1**	**+0.6**
	baz=16,SNR=9.6						
KSM	**Kuching**	**16.40**	**103**	P	**P**	**04 39 34.0**	**+0.6**
KSM	**Kuching**	**16.40**	**103**	P	**P**	**04 39 34.0**	**+0.6**
	comp=Z,98nm,0.8s,comp=Z,887nm						
VIS	**Vishakhapatnam**	**16.42**	**320**	*i* P	**Pn**	**04 39 31.6**	**+0.4**
	baz=136,slow=9.3						
VIS				*i* x	x	04 42 18.9	
VIS				*ex*	x	04 42 20.7	
	comp=E,33nm,0.6s						
VIS				*ex*	x	04 42 21.5	
	comp=N,30nm,0.6s						
TRD	**Trivandrum**	**17.53**	**282**	*ex*	**S**	**04 43 09.5**	**+3.4**
SBUM	**Sibu**	**18.08**	**98**	P	**P**	**04 39 52.3**	**+0.3**
SBUM	**Sibu**	**18.08**	**98**	P	**Pn**	**04 39 50.9**	**-1.1**
	comp=N,42nm,1.3s,comp=N,592nm						
BTM	**Bintulu**	**18.83**	**95**	P	**Pn**	**04 40 01.7**	**+0.5**
IMP	**Imphal**	**19.45**	**359**	*e*P	**P**	**04 40 05.0**	**-2.1**
IMP				*ex*	x	04 43 40.0	
HYB	**Hyderabad**	**19.61**	**309**	*e*P	**P**	**04 40 09.0**	**+0.2**
HYB				*e*S	**S**	**04 43 46.0**	**-2.2**
HYB	**Hyderabad**	**19.61**	**309**	*e*P	**P**	**04 40 09.0**	**+0.2**
HYB	

KKN **Kakani** 24.03 340 *e*P P 04 40 54.4 -0.8
MYLDM **Lahad Datu** 24.09 89 P P 04 40 56.7 +0.9
MYLDM **Lahad Datu** 24.09 89 P P 04 40 52.2 -3.5
comp=Z,97nm,1.0s,comp=Z,5µm
GYA **Guiyang** 24.20 28⇑ *i*P P 04 40 56.5 -0.2
GYA pP **pP** 04 41 07.8 +0.1
GYA PP **PnPn** 04 41 33.3 +5.8
GYA PcP **PcP** 04 44 38.9 +2.2
GYA S **S** 04 45 11.3 -1.2
GYA sS **sS** 04 45 28.0 -2.7
GYA SS **SnSn** 04 46 05.6 +8.5
GYA pmax pmax
comp=Z,270nm,0.7s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,840nm,18.8s
GYA LR LR
comp=E,620nm,17.4s
GYA LR LR
comp=Z,730nm,15.8s
GKN **Gorkha** 24.45 339 *e*P P 04 40 59.1 +0.1
comp=Z,292nm,0.8s
LSA **Lhasa** 24.53 353 P P 04 40 59.8 -0.3
LSA **Lhasa** 24.53 353 *e*P P 04 40 59.0 -1.1
LSA pmax pmax
comp=Z,78nm,0.7s
LSA **Lhasa** 24.53 353 *e*P P 04 40 59.0 -1.1
comp=Z,78nm,0.7s
KOLN **Koldanda** 24.63 337 *e*P P 04 41 00.8 +0.1
comp=Z,230nm,0.6s
DANN **Dangsing** 25.09 338 *e*P P 04 41 04.9 -0.1
comp=Z,678nm,0.7s
PYUN **Piuthan** 25.17 336 *e*P P 04 41 05.7 +0.1
comp=Z,535nm,0.9s
KHKI **Kahang-Kahang** 25.17 122 P P 04 41 03.6 -1.9
PCI **Palu** 26.22 103 P P 04 41 09.2 -5.8
baz=26,SNR=40
PCI S S 04 45 50.0 +5.3
baz=26,SNR=6.8
CD2 **Chengdu** 27.06 18⇑ *i*P P 04 41 21.8 -0.7
CD2 pP **pP** 04 41 34.4 +0.9
CD2 sP **sP** 04 41 38.6 +0.3
CD2 PP **PnPn** 04 42 11.4 +4.9
CD2 S **S** 04 45 58.8 +1.0
CD2 sS **sS** 04 46 15.0 -1.1
CD2 SS **SnSn** 04 47 14.6 +7.8
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,110nm,6.0s
CD2 LR LR
comp=N,950nm,18.4s
CD2 LR LR
comp=Z,520nm,14.3s
KAPI **Kappang** 27.37 111 P P 04 41 24.4 -1.0
comp=Z,24nm,0.7s,baz=293,slow=11,SNR=36
KAPI LR LR 04 52 13.3
comp=Z,372nm,21.7s,baz=305,slow=36
KAPI **Kappang** 27.37 111 *e*P P 04 41 24.4 -1.0
comp=Z,150nm,1.7s
KAPI **Kappang** 27.37 111 P P 04 41 24.8 -0.6
SNR=19
KAPI **Kappang** 27.37 111 mb pP 04 41 39.4 +3.1
SNR=18
KAPI **Kappang** 27.37 111 P P 04 41 24.6 -0.8
comp=Z,256nm,0.7s,SNR=9.9
TGY **Tagaytay City** 27.67 69 P P 04 41 28.5 +0.4
comp=Z,137nm,0.3s,baz=180,slow=7.3,SNR=11
TGY **Tagaytay City** 27.67 69 P P 04 41 28.5 +0.4
AJM **Ajmer** 28.28 320 *e*P P 04 41 34.7 +1.3
AJM AMb AMB 04 41 35.1
comp=Z,14nm,0.6s
NDI **New Delhi** 28.41 327 *e*P P 04 41 34.0 -0.5
ENH **Enshi** 28.74 28 *e*P P 04 41 36.5 -1.0
comp=Z,72nm,0.7s
ENH *e*PP PP 04 42 42.4 -0.5
WSI **Waingapu** 29.83 120 S S 04 46 31.3 -10
baz=30,SNR=7.4
WHN **Wuhan** 31.48 34 ⇓P P 04 42 02.8 +1.2
WHN pmax pmax
comp=Z,110nm,0.8s
WHN LR LR
comp=N,2µm,13.8s
WHN LR LR
comp=E,1µm,13.5s
WHN LR LR
comp=Z,3µm,15.6s
SSLB **Suanglung** 31.61 52 *e*P P 04 42 03.0 +0.1
comp=Z,22nm,0.9s
YULB **Yu-li** 31.68 53 *e*P P 04 42 04.1 +0.5
comp=Z,46nm,1.3s
XAN **Xi'an** 31.72 23 P P 04 42 02.9 -0.9
XAN S S 04 47 13.3 +2.3
XAN pmax pmax
comp=Z,53nm,0.7s
XAN LR LR
comp=N,440nm,15.8s
XAN LR LR
comp=E,160nm,14.9s
XAN LR LR
comp=Z,260nm,20.9s
LZH **Lanzhou** 31.95 15 ⇑P P 04 42 05.4 -0.5
LZH pP **pP** 04 42 15.6 -1.4
LZH PP **PnPn** 04 43 12.3 +0.4
LZH *e*S **S** 04 47 13.5 -1.2
LZH SS **SnSn** 04 49 07.3 +1.4
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.6s
LZH LR LR
comp=N,550nm,14.0s
LZH LR LR
comp=E,920nm,13.2s
LZH LR LR
comp=Z,1µm,16.0s
YHNB **Yeheng** 32.40 51 *e*P P 04 42 09.8 -0.1
comp=Z,35nm,0.8s
GTA **Gaotai** 34.40 8 P P 04 42 26.9 -0.3
GTA PcP **PcP** 04 45 03.1 +0.8
GTA S **S** 04 47 52.4 -0.2
GTA SS **SnSn** 04 50 05.0 -0.3
GTA pmax pmax
comp=Z,75nm,0.9s
GTA pmax pmax
comp=Z,160nm,7.6s
GTA LR LR
comp=N,320nm,18.3s
GTA LR LR
comp=E,150nm,14.3s
GTA LR LR
comp=Z,350nm,19.2s
NJ2 **Nanjing** 35.22 38 *e*P P 04 42 34.8 +0.6
NJ2 pP **pP** 04 42 44.0 -1.4
NJ2 PP **PP** 04 43 54.8 +0.1
NJ2 S **S** 04 48 04.5 -0.6
NJ2 pmax pmax
comp=Z,100nm,0.8s
NJ2 pmax pmax
comp=Z,90nm,5.7s
NJ2 LR LR
comp=N,960nm,17.2s
NJ2 LR LR
comp=E,920nm,19.2s
MBWA **Marble Bar** 36.19 137 *e*P P 04 42 45.2 +2.6
comp=E,31nm,1.3s
KSH **Kashi** 37.95 337 P P 04 42 55.8 -1.8
KSH pP **pP** 04 43 06.5 -2.3
KSH PP **PnPn** 04 44 26.4 0.0
KSH PcP **PcP** 04 45 13.8 +0.9
KSH S **S** 04 48 43.8 -3.1
KSH ScP **ScP** 04 48 56.3 -1.3
KSH PcS **PcS** 04 49 00.3 -1.6
KSH SS SnSn 04 51 19.9 -11
KSH ScS **ScS** 04 53 04.1 -2.7
KSH pmax pmax
comp=Z,19nm,0.7s
KSH pmax pmax
comp=Z,81nm,3.1s
KSH LR LR
comp=N,180nm,5.3s
KSH LR LR
comp=E,150nm,7.3s
KSH LR LR
comp=Z,230nm,7.7s

FITZ **Fitzroy Crossi** 38.63 128 S S 04 49 09.6 +12
comp=Z,1.9nm,0.4s,baz=43,slow=18,SNR=2.6
FITZ **Fitzroy Crossi** 38.63 128 *e*P P 04 43 02.0 -1.5
comp=Z,34nm,0.9s
FITZ *e* 04 43 18.1
FITZ *e*PcP **PcP** 04 45 15.5 +0.2
FITZ S S 04 49 09.6 +12
FITZ **Fitzroy Crossi** 38.63 128 P P 04 43 02.4 -1.0
baz=39,SNR=28
FITZ S S 04 49 14.4 +17
baz=39,SNR=6.6
HHC **Hu-ho-hao-te** 38.71 21 *e*P P 04 43 04.5 +0.6
HHC PP **PnPn** 04 44 38.1 +2.7
HHC PcP **PcP** 04 45 16.4 +1.2
HHC S **S** 04 49 00.3 +2.1
HHC PcS **PcS** 04 49 03.9 -0.7
HHC sS **sS** 04 49 16.5 -0.4
HHC SS **SnSn** 04 51 43.3 -6.0
HHC ScS **ScS** 04 53 09.8 -1.3
HHC pmax pmax
comp=Z,63nm,0.7s
HHC pmax pmax
comp=Z,170nm,6.5s
HHC LR LR
comp=N,710nm,15.9s
HHC LR LR
comp=E,800nm,15.0s
HHC LR LR
comp=Z,620nm,14.8s
WSAR **Wadi Sarin** 38.77 301 P P 04 43 05.1 +0.5
comp=Z,10nm,0.8s,baz=101,slow=10,SNR=5.8
WSAR LR LR 04 57 41.2
comp=Z,224nm,21.6s,baz=116,slow=34
WSAR **Wadi Sarin** 38.77 301 P P 04 43 05.1 +0.5
JOW **Kunigami** 38.87 53 P P 04 43 05.9 +0.6
comp=Z,64nm,0.6s,baz=243,slow=8.1,SNR=16
JOW **Kunigami** 38.87 53 *e*P P 04 43 06.2 +0.9
comp=Z,28nm,0.7s
WMQ **Urumqi** 38.88 352 P P 04 43 06.3 +1.0
WMQ sP **sP** 04 43 21.3 0.0
WMQ PcP **PcP** 04 45 16.9 +1.2
WMQ S **ScP** 04 49 01.8 +0.9
WMQ pmax pmax
comp=Z,58nm,1.0s
WMQ LR LR
comp=N,200nm,29.0s
WMQ LR LR
comp=E,160nm,27.0s
WMQ LR LR
comp=Z,310nm,28.0s
BJT **Baijiatuan** 39.85 27 *e*P P 04 43 14.3 +1.0
comp=Z,53nm,0.8s
BJT *e*PP **PP** 04 44 45.3 -0.2
BJI **Beijing** 39.87 26 P P 04 43 14.4 +0.9
BJI PP **PnPn** 04 44 52.1 +2.9
BJI pmax pmax
comp=Z,72nm,1.0s
BJI pmax pmax
comp=Z,240nm,4.0s
BJI LR LR
comp=N,530nm,20.0s
BJI LR LR
comp=E,360nm,21.2s
BJI LR LR
comp=Z,430nm,23.7s
PALU **Palau** 39.97 85 S S 04 49 12.8 -5.0
baz=40,SNR=3.4
KZA **Kyzart** 40.44 338 P P 04 43 19.1 +0.4
SNR=10
MTN **Manton Dam** 40.75 116 P P 04 43 19.7 -1.4
baz=41,SNR=12
TKM2 **Tokmak 2** 41.04 339 *i*P P 04 43 23.5 +0.1
TKM2 **Tokmak 2** 41.04 339 P P 04 43 23.5 +0.1
SNR=17
KBK **Karagaybulak** 41.05 338 P P 04 43 24.5 +1.1
SNR=9.4
AML **Almayashu** 41.08 337 P P 04 43 24.6 +0.6
SNR=49
AAK **Ala-Archa** 41.20 338 PcP **PcP** 04 45 22.6 -0.6
comp=Z,12nm,0.6s,baz=143,slow=5.7,SNR=5.8
AAK LR LR 05 01 49.5
comp=Z,466nm,20.6s,baz=141,slow=38
AAK **Ala-Archa** 41.20 338 *e*P P 04 43 24.5 -0.1
AAK *e* 04 43 40.4
AAK 04 45 22.6
AAK pmax pmax
comp=Z,124nm,0.8s
AAK **Ala-Archa** 41.20 338 *e*P P 04 43 24.5 -0.1
comp=Z,124nm,0.8s
AAK *e* 04 43 40.4
AAK *e*PcP **PcP** 04 45 22.2 -1.0
AAK PcP PP 04 45 22.6 +22
AAK **Ala-Archa** 41.20 338 P P 04 43 25.8 +1.1
SNR=14
AAK **Ala-Archa** 41.20 338 P P 04 43 25.0 +0.4
comp=Z,78nm,0.8s,SNR=12
FRU **Bishkek** 41.32 338 *e*P P 04 43 25.5 0.0
FRU *i* 04 43 37.0
EKS2 **Erkin-Say** 41.50 337 *e*P P 04 43 27.8 +0.8
EKS2 pmax pmax
comp=Z,24nm,0.8s
EKS2 **Erkin-Say** 41.50 337 *e*P P 04 43 27.8 +0.8
comp=Z,24nm,0.8s
EKS2 **Erkin-Say** 41.50 337 P P 04 43 27.8 +0.8
SNR=23
DL2 **Dalian** 41.68 33 P P 04 43 29.8 +1.4
DL2 *e*S **S** 04 49 43.5 +1.0
DL2 pmax pmax
comp=Z,40nm,0.7s
DL2 LR LR
comp=N,330nm,17.0s
DL2 LR LR
comp=E,300nm,16.2s
DL2 LR LR
comp=Z,320nm,18.5s
USP **Ospenovka** 41.74 338 P P 04 43 29.2 +0.3
SNR=22
KDU **Kakadu** 41.89 115 P P 04 43 29.4 -1.0
baz=42,SNR=4.3
MK31 **Makanchi Array** 42.70 348 *i*P P 04 43 36.4 -0.3
MK31 pmax pmax
comp=Z,54nm,0.7s
MK31 **Makanchi Array** 42.70 348 *e*P P 04 43 36.4 -0.3
MKAR **Makanchi Array** 42.70 348 P P 04 43 36.9 +0.3
comp=Z,48nm,0.7s,baz=166,slow=8.1,SNR=595
MKAR S S 04 49 55.5 -1.9
comp=Z,0.2nm,0.6s,baz=165,slow=17,SNR=2.6
MKAR LR LR 05 04 24.8
comp=Z,307nm,21.1s,baz=162,slow=40
MKAR **Makanchi Array** 42.70 348 *e*P P 04 43 37.0 +0.3
MKAR S S 04 49 55.5 -1.9
MKAR **Makanchi Array** 42.70 348 *e*P P 04 43 37.0 +0.4
MKAR S S 04 49 55.5 -1.9
KK31 **Karatay Array** 43.20 334 *i*P P 04 43 40.5 -0.3
KK31 pmax pmax
comp=Z,13nm,0.5s
SONM **Songino Array** 43.71 12 P P 04 43 44.6 -0.3
comp=Z,39nm,0.7s,baz=191,slow=8.1,SNR=360
SONM PcP **PcP** 04 45 31.7 +0.3
comp=Z,9.9nm,0.7s,baz=190,slow=4.1,SNR=5.8
SONM LR LR 05 04 48.5
comp=Z,284nm,19.9s,baz=182,slow=40
SONM **Songino Array** 43.71 12 P P 04 43 44.6 -0.3
SONM PcP **PcP** 04 45 31.7 +0.3
ULN **Ulaanbaatar** 43.87 12 *e*P P 04 43 45.7 -0.5
comp=Z,29nm,0.7s
ULN **Ulaanbaatar** 43.87 12 P P 04 43 46.1 -0.2
SNR=8.8
JNU **Nakatsue** 43.92 46 P P 04 43 47.0 +0.2
comp=Z,22nm,0.8s,baz=201,slow=4.4,SNR=9.5
JNU **Nakatsue** 43.92 46 *e*P P 04 43 47.4 +0.6
comp=Z,12nm,1.0s
KSAR **Wonju Array Be** 44.35 39 P P 04 43 50.1 +0.1
KSRS **Korea Array** 44.38 39 P P 04 43 50.1 -0.2
comp=Z,5.3nm,0.8s,baz=235,slow=7.6,SNR=18
KSRS LR LR 05 03 40.4
comp=Z,384nm,19.3s,baz=68,slow=38
SNY **Shenyang** 44.82 31 ⇑P P 04 43 53.8 +0.1
SNY pmax pmax
comp=Z,27nm,0.9s
ZAK **Zakamensk** 45.64 8 *e*P P 04 43 59.3 -0.9
ZAK *e* 04 45 35.9
ZAK pmax pmax
comp=Z,10.0nm,1.0s
ABKT **Ailbek** 46.30 320 P P 04 44 06.9 +1.3
comp=Z,318nm,0.6s,SNR=6.1

MOY **Mondy** 46.63 6 *e*P P 04 44 07.5 -0.5
WRA **Warramunga Arr** 46.63 124 P P 04 44 08.2 -0.2
comp=Z,34nm,0.6s,baz=303,slow=9.2,SNR=363
WRA S S 04 50 52.0 -3.1
comp=Z,0.5nm,0.7s,baz=294,slow=14,SNR=3.0
WRA LR LR 05 04 02.6
comp=Z,364nm,21.5s,baz=275,slow=36
WRA **Warramunga Arr** 46.63 124 P P 04 44 08.2 -0.2
WRA S S 04 50 52.0 -3.1
WRAB **Tennant Creek** 46.63 124 *e*P P 04 44 08.3 -0.1
WRAB pmax pmax
comp=Z,110nm,0.9s
WRAB **Tennant Creek** 46.63 124 *e*P P 04 44 08.3 -0.1
comp=Z,110nm,0.9s
WRAB **Tennant Creek** 46.63 124 P P 04 44 08.0 -0.4
comp=Z,423nm,0.6s,SNR=70
TLY **Talaya** 46.95 8 *e*P P 04 44 09.9 -0.6
TLY pmax pmax
comp=Z,16nm,0.9s
TLY MLR MLR
comp=Z,309nm,20.0s
TLY **Talaya** 46.95 8 *e*P P 04 44 10.9 +0.5
comp=Z,15nm,0.8s
TLY **Talaya** 46.95 8 P P 04 44 11.4 +0.9
SNR=9.1
TLY **Talaya** 46.95 8 P P 04 44 10.4 -0.1
comp=Z,113nm,0.8s,SNR=5.3
KURBB **Kurchatov Arra** 47.15 346 PcP **PcP** 04 45 43.7 +0.6
comp=Z,15nm,0.7s,baz=160,slow=2.9,SNR=5.0
KURBB S S 04 51 01.5 0.0
comp=Z,1.3nm,0.2s,baz=142,slow=17,SNR=5.0
KURBB LR LR 05 06 27.6
comp=Z,300nm,21.6s,baz=115,slow=39
CN2 **Changchun** 47.19 31 *e*P P 04 44 12.3 -0.1
CN2 PcP **PcP** 04 45 43.1 -0.4
CN2 *e*S **S** 04 51 01.8 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2µm,20.0s
CN2 LR LR
comp=E,900nm,20.0s
CN2 LR LR
comp=Z,400nm,19.0s
KURK **Kurchatov** 47.21 346 *e*P P 04 44 12.8 +0.4
KURK 04 45 43.7
KURK S **S** 04 51 01.5 -1.0
KURK pmax pmax
comp=Z,67nm,0.8s
KURK **Kurchatov** 47.21 346 *e*P P 04 44 12.8 +0.4
comp=Z,67nm,0.8s
KURK PcP **PcP** 04 45 43.7 +0.4
KURK S **S** 04 51 01.5 -1.0
KURK **Kurchatov** 47.21 346 P P 04 44 13.3 +0.9
SNR=28
KURK **Kurchatov** 47.21 346 P P 04 44 13.8 +1.4
comp=Z,318nm,0.6s,SNR=34
IRK **Irkutsk** 47.59 8 *e*P P 04 44 14.8 -0.6
IRK pmax pmax
comp=Z,44nm,1.5s
ASAR **Alice Springs** 48.12 128 P P 04 44 19.5 -0.5
comp=Z,12nm,0.7s,baz=306,slow=7.7,SNR=132
ASAR S S 04 51 13.4 -3.0
comp=Z,1.3nm,0.9s,baz=294,slow=14,SNR=5.9
ASAR LR LR 05 04 41.0
comp=Z,233nm,21.8s,baz=292,slow=36
ASAR **Alice Springs** 48.12 128 P P 04 44 19.5 -0.5
ASAR S S 04 51 13.4 -3.0
AS31 **Alice Springs** 48.12 128 *e*P P 04 44 19.6 -0.4
AS31 *e* 04 44 32.4
FORT **Forrest** 48.19 140 *e*P P 04 44 20.9 +0.6
comp=Z,51nm,0.7s
FORT **Forrest** 48.19 140 S S 04 51 31.1 +14
baz=48,SNR=39
HIA **Hailar** 48.90 22 *e*P P 04 44 25.4 -0.1
comp=Z,28nm,1.0s
ZAA0 **Zalesovo Array** 49.19 353 *e*P P 04 44 28.1 +0.5
ZAA0 *e*PcP **PcP** 04 45 50.1 -0.3
ZALV **Zalesovo Beam** 49.19 353 P P 04 44 28.0 +0.3
comp=Z,44nm,0.7s,baz=170,slow=7.3,SNR=219
ZALV S S 04 51 29.3 -1.1
comp=Z,1.8nm,0.7s,baz=180,slow=17,SNR=6.2
ZALV LR LR 05 09 17.7
comp=Z,310nm,21.1s,baz=192,slow=41
ZALV **Zalesovo Beam** 49.19 353 P P 04 44 28.0 +0.3
ZALV S S 04 51 29.3 -1.1
ZALV **Zalesovo Beam** 49.19 353 P P 04 44 28.0 +0.3
ZALV S S 04 51 29.3 -1.1
MDJ **Mudanjiang** 49.92 33 P P 04 44 34.0 +0.6
MDJ PcP **PcP** 04 45 54.3 +1.0
MDJ PcS **PcS** 04 49 51.3 +1.2
MDJ S S 04 51 44.3 +3.4
MDJ pmax pmax
comp=Z,34nm,1.4s
MDJ pmax pmax
comp=Z,130nm,5.4s
MDJ LR LR
comp=E,250nm,13.2s
MDJ LR LR
comp=Z,450nm,13.2s
MDJ **Mudanjiang** 49.92 33 *e*P P 04 44 33.3 -0.1
comp=Z,60nm,1.3s
RDF **Al-Radifah** 50.09 304 *e*P P 04 44 35.5 +0.5
RDF AMb AMB 04 44 37.4
comp=Z,58nm,1.0s
NVS **Novosibirsk** 50.28 352⇑ *i*P P 04 44 35.5 -0.4
NVS *e*S **S** 04 51 43.3 -2.2
NVS pmax pmax
comp=Z,32nm,0.9s
NVS pmax pmax
comp=N,18nm,0.8s
NVS pmax pmax
comp=E,12nm,0.7s
NVS smax smax
comp=E,19nm,1.6s
RAYN **Ar Rayn** 50.36 296 P P 04 44 38.2 +1.1
comp=E,107nm,0.6s,SNR=6.7
NAY **Al-Naaiem** 50.45 304 *e*P P 04 44 37.9 +0.3
NAY AMb AMB 04 44 39.8
comp=Z,36nm,0.8s
MIB **Mutribah** 50.55 305 *e*P P 04 44 38.6 +0.2
MIB AMb AMB 04 44 39.8
comp=Z,62nm,0.8s
MAT **Matsushiro** 50.84 46 P P 04 44 40.6 +0.1
MAT S S 04 51 54.0 -0.1
MJAR **Matsushiro Arr** 50.84 46 P P 04 44 41.1 +0.5
comp=Z,6.4nm,0.7s,baz=241,slow=7.4,SNR=15
MJAR PcP **PcP** 04 45 56.9 0.0
comp=Z,4.7nm,0.6s,baz=230,slow=2.9,SNR=8.9
MJAR LR LR 05 09 24.0
comp=Z,373nm,18.2s,baz=240,slow=40
MJAR **Matsushiro Arr** 50.84 46 P P 04 44 41.1 +0.5
MJAR PcP **PcP** 04 45 56.9 0.0
USRK **Ussuriysk Arra** 50.98 34 P P 04 44 41.2 -0.1
comp=Z,9.9nm,0.8s,baz=235,slow=6.7,SNR=13
USRK LR LR 05 08 23.3
comp=Z,370nm,18.1s,baz=20,slow=39
QIS **Mount Isa** 51.33 121 P P 04 44 44.4 0.0
baz=51,SNR=5.2
BVA0 **Borovoye Array** 51.54 342 P P 04 44 44.2 -1.3
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BVAR **Borovoye Array** 51.54 342 P P 04 44 45.2 -0.2
comp=Z,21nm,0.7s,baz=146,slow=8.4,SNR=140
BVAR LR LR 05 08 48.6
comp=Z,191nm,18.3s,baz=3.4,slow=39
BVAR **Borovoye Array** 51.54 342 P P 04 44 45.2 -0.2
BVAR **Borovoye Array** 51.54 342 P P 04 44 45.2 -0.2
BRVK **Borovoye** 51.60 342 *e*P P 04 44 45.8 -0.1
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK **Borovoye** 51.60 342 *e*P P 04 44 45.8 -0.1
comp=Z,28nm,0.7s
BRVK **Borovoye** 51.60 342 P P 04 44 45.5 -0.4
comp=Z,245nm,0.6s,SNR=20
BRVK **Borovoye** 51.60 342 P P 04 44 46.1 +0.2
SNR=13
COEN **Coen** 52.10 112 *e*P P 04 44 51.2 +1.0
comp=Z,121nm,0.9s
COEN **Coen** 52.10 112 P P 04 44 49.0 -1.2
baz=52,SNR=7.7
AB31 **Akbulak array** 52.63 332 *i*P P 04 44 53.5 -0.1
AB31 pmax pmax
comp=Z,40nm,0.7s

KLR Kul'dur 54.09 29 *e*P **P** **04 45 01.3 -3.0**
KLR *e*S **S** **04 52 32.0 -6.0**
KLR pmax pmax
comp=Z,100nm,1.8s
AKTO Aktyubinsk 54.35 332 P **P** **04 45 05.8 -0.4**
comp=Z,10nm,0.7s,baz=125,slow=9.2,SNR=34
AKTO Aktyubinsk 54.35 332 P **P** **04 45 05.8 -0.4**
AKTO Aktyubinsk 54.35 332 P **P** **04 45 05.8 -0.4**
PMG Port Moresby 54.64 105 P **P** **04 45 08.2 -0.7**
comp=Z,17nm,0.7s,baz=284,slow=1.7,SNR=9.7
PMG Port Moresby 54.64 105 *e*P **P** **04 45 08.4 -0.5**
comp=Z,15nm,0.6s
BBOO Buckleboo 54.77 137 *e*P P 04 45 13.1 +3.6
comp=Z,320nm,0.9s
HABR Khabarovsk 55.28 32 *e*P **P** **04 45 10.9 -2.0**
HABR *e**PP **pP** **04 45 20.9 -3.7**
HABR *e* 04 46 10.7
HABR PPP PPP 04 48 27.4
HABR *e*S **S** **04 52 53.8 -0.2**
HABR *e**SS **sS** **04 53 11.0 -2.3**
HABR *e* 04 54 57.4
HABR *e*SS **SS** **04 56 40.0 +1.2**
HABR pmax pmax
comp=E,97nm,1.8s
HABR pmax pmax
comp=N,92nm,1.8s
HABR pmax pmax
comp=Z,174nm,1.8s
HABR MLR MLR
comp=Z,877nm,19.0s
GNI Garni 56.42 316 P **P** **04 45 21.8 +0.3**
comp=Z,8.0nm,0.6s,baz=121,slow=5.9,SNR=5.8
GNI Garni 56.42 316 P **P** **04 45 21.8 +0.3**
DGRG David-gareji 56.53 317 P **P** **04 45 22.6 +0.5**
CLNS Chul'man 56.86 20 *e*P **P** **04 45 24.7 +0.5**
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CTA Charters Tower 56.90 118 LR LR 05 11 50.7
comp=E,303nm,20.4s,baz=47,slow=38
TBLG Delisi 57.09 317 *e*P **P** **04 45 25.6 -0.5**
TBLG Delisi 57.09 317 P **P** **04 45 25.6 -0.5**
KZR Kazreti 57.16 317 P P 04 45 34.6 +8.0
ASAJ Asahikawa 57.32 40 P **P** **04 45 28.6 +1.0**
comp=E,14nm,0.7s,baz=248,slow=16,SNR=4.6
ASAJ Asahikawa 57.32 40 P **P** **04 45 28.6 +1.0**
KMBO Kilima Mbogo 57.33 265 *e*P **P** **04 45 29.9 +1.4**
comp=E,18nm,1.2s
QLP Quilpie 57.73 126 P **P** **04 45 31.4 +0.6**
baz=58,SNR=12
SVE Sverdlovsk 57.92 339 *de*P **P** **04 45 31.7 +0.1**
SVE *e* 04 47 35.5
SVE *e*S **S** **04 53 32.1 +3.5**
SVE pmax pmax
comp=Z,86nm,1.1s
ZEI Tsey 58.09 318 *e*P **P** **04 45 33.2 -0.2**
ZEI pmax pmax
comp=Z,22nm,0.7s
STKA Stephens Creek 58.18 133 P **P** **04 45 33.7 -0.1**
comp=Z,8.9nm,0.8s,baz=307,slow=8.5,SNR=16
STKA LR LR 05 11 10.3
comp=Z,292nm,21.2s,baz=124,slow=37
STKA Stephens Creek 58.18 133 *e*P **P** **04 45 33.8 -0.1**
comp=Z,5.0nm,0.8s
STKA Stephens Creek 58.18 133 P **P** **04 45 33.9 0.0**
baz=58,SNR=6.1
ARU Arti 58.38 338 *c i*P **P** **04 45 34.4 -0.4**
ARU 04 47 43.0
ARU S **S** **04 53 37.9 +3.2**
ARU SS **SS** **04 57 24.5 -2.9**
ARU pmax pmax
comp=Z,64nm,1.7s
ARU Arti 58.38 338 *e*P **P** **04 45 34.5 -0.3**
comp=Z,26nm,0.8s
YSS Yuzh-Sakhalins 58.78 37⇑ *i*P **P** **04 45 39.0 +1.3**
YSS *e* 04 46 28.0
YSS pmax pmax
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 58.78 37 *e*P **P** **04 45 36.5 -1.2**
comp=Z,32nm,0.8s
KBZ Khabaz 59.16 319 P **P** **04 45 39.3 -1.1**
comp=Z,11nm,0.8s,baz=123,slow=4.8,SNR=25
KBZ Khabaz 59.16 319 P **P** **04 45 39.3 -1.1**
KBZ Khabaz 59.16 319 P **P** **04 45 39.3 -1.1**
YUK Yuzh-Kuril'sk 59.39 41 P P 04 45 37.5 -4.5
YUK S **S** **04 53 44.5 -3.7**
YUK MLR MLR
comp=N,255nm,17.0s
YUK MLR MLR
comp=Z,293nm,17.0s
KIV Kislovodsk 59.40 319 *e*P **P** **04 45 41.5 -0.7**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,79nm,16.0s
KIV Kislovodsk 59.40 319 *e*P **P** **04 45 41.6 -0.7**
comp=Z,20nm,0.9s
KIV Kislovodsk 59.40 319 P **P** **04 45 42.2 -0.1**
SNR=5.7
MALT Malatya 60.31 311 *e*P **P** **04 45 49.1 +0.4**
MALT pmax pmax
comp=Z,6.0nm,0.8s
MALT Malatya 60.31 311 *e*P **P** **04 45 49.0 +0.4**
comp=Z,5.7nm,0.8s
MALT Malatya 60.31 311⇑ *i*P **P** **04 45 49.2 +0.5**
EIL Elat 60.90 301 P **P** **04 45 53.6 +1.0**
comp=Z,6.2nm,0.6s,baz=37,slow=7.5
EIL Elat 60.90 301 P **P** **04 45 53.6 +1.0**
ARPS Mount Arapiles 60.92 137 P **P** **04 45 54.5 +1.9**
baz=61,SNR=5.4
CMSA Cobar Meteorol 61.08 130 P **P** **04 45 54.3 +0.5**
baz=61,SNR=31
MMAI Mount Meron Ar 61.24 305 P **P** **04 45 54.7 -0.3**
comp=Z,3.5nm,0.5s,baz=102,slow=13,SNR=2.9
MMAI LR LR 05 10 55.5
comp=Z,100nm,20.1s,baz=125,slow=35
MMAI Mount Meron Ar 61.24 305 P **P** **04 45 54.7 -0.3**
SOKR Solikamsk 61.32 339⇓ *i*P **P** **04 45 54.9 0.0**
SOKR pmax pmax
comp=Z,30nm,0.9s
RMQ Roma 61.39 124 P **P** **04 45 57.2 +1.2**
baz=62,SNR=8.0
YAK Yakutsk 62.45 18 *e*P **P** **04 46 00.4 -2.1**
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,51nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK MLR MLR
comp=Z,372nm,16.0s
YAK MLR MLR
comp=E,176nm,14.0s
YAK MLR MLR
comp=N,265nm,18.0s
YAK Yakutsk 62.45 18 *e*P **P** **04 46 01.2 -1.3**
comp=N,62nm,0.7s
VRHR Novokhopersk 63.20 326 *e*P **P** **04 46 06.2 -1.5**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,60nm,0.8s
TOO Toolangi 63.83 136 P **P** **04 46 13.6 +1.4**
baz=64,SNR=8.7
BRTR Keskin Array B 64.29 312 P **P** **04 46 14.4 -0.9**
comp=Z,21nm,0.7s,baz=125,slow=7.4,SNR=132
BRTR Keskin Array B 64.29 312 P **P** **04 46 14.4 -0.9**
BR131 Keskin Array S 64.29 312 *e*P **P** **04 46 14.2 -1.1**
comp=Z,17nm,0.7s
YNG Young 64.35 132 P **P** **04 46 16.3 +0.7**
baz=64,SNR=6.1
VORD Divnogorie 64.46 325 *e*P **P** **04 46 14.3 -1.7**
VSR Storozhevoye 64.64 325 *e*P **P** **04 46 15.4 -1.8**
ARMA Armidale 65.23 127 *e*P **P** **04 46 22.6 +1.1**
comp=Z,19nm,1.2s
CAN Canberra 65.25 133 *e*P **P** **04 46 22.3 +0.8**
CAN *e* 04 46 37.1
CAN pmax pmax
comp=Z,38nm,1.0s
CAN Canberra 65.25 133 *e*P **P** **04 46 22.3 +0.8**
comp=Z,38nm,1.0s
CAN *e* 04 46 37.1
SIM Simferopol' 65.47 317 *e*P **P** **04 46 22.5 -0.2**
SIM pmax pmax
comp=Z,26nm,0.8s
MOO Moorlands 67.41 140 P pP 04 46 52.4 +5.3
baz=68,SNR=3.4
LSZ Lusaka 68.56 251 P **P** **04 46 42.4 -0.6**
comp=Z,3.0nm,0.7s,baz=62,slow=9.3,SNR=3.4
LSZ Lusaka 68.56 251 *e*P **P** **04 46 44.0 +1.0**
comp=Z,19nm,1.3s
KLMR Klimovskoe 68.90 335 *e*P **P** **04 46 42.4 -1.7**
KLMR pmax pmax
comp=Z,39nm,0.9s
PSN Preselentsi 69.23 315 *i* P **P** **04 46 46.4 -0.1**
TIRR Tirgusor 69.24 316⇓ *i*P **P** **04 46 46.5 -0.1**
TIRR Tirgusor 69.24 316⇓ *i*P **P** **04 46 46.5 -0.1**
CFR Carcaliu 69.61 316⇑ *i*P **P** **04 46 48.3 -0.5**
CFR Carcaliu 69.61 316⇑ *i*P **P** **04 46 48.3 -0.5**
PETK Petropavlovsk- 70.06 35 LR LR 05 18 06.1
comp=Z,174nm,20.9s,baz=67,slow=36
AKASG Malin Array Be 70.33 322 P **P** **04 46 51.4 -1.7**
comp=Z,13nm,0.7s,baz=93,slow=4.9,SNR=31
AKASG LR LR 05 23 10.8
comp=Z,84nm,19.4s,baz=315,slow=41
AKASG Malin Array Be 70.33 322 *i* P **P** **04 46 51.7 -1.4**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 70.33 322 P **P** **04 46 51.4 -1.7**
KIEV Kiev 70.34 322 *e*P **P** **04 46 51.9 -1.3**
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 70.34 322 *e*P **P** **04 46 51.9 -1.3**
comp=Z,14nm,0.8s
PET Petropavlovsk 70.58 35 *e*P **P** **04 46 53.5 -1.1**
PET pmax pmax
comp=Z,101nm,2.5s
VRI Vrincioaia 70.73 317⇓ *i*P **P** **04 46 56.5 +0.8**
VRI Vrincioaia 70.73 317⇓ *i*P **P** **04 46 56.5 +0.8**
PLOR Plostina 70.78 317⇓ *i*P **P** **04 46 56.8 +0.8**
PLOR Plostina 70.78 317⇓ *i*P **P** **04 46 56.8 +0.8**
KDZ Kurdzhali 70.81 312 *i* P **P** **04 46 57.0 +0.7**
TESR 70.92 317⇑ *i*P **P** **04 46 56.8 -0.1**
TMCR Tamitsa 71.12 337 *e*P **P** **04 46 55.2 -2.5**
TMCR pmax pmax
comp=Z,34nm,0.5s
MLR Muntele Rosu 71.18 316 P **P** **04 46 58.9 +0.2**
comp=Z,8.0nm,0.8s,baz=182,slow=3.9
MLR Muntele Rosu 71.18 316 P **P** **04 46 58.9 +0.2**
MLR Muntele Rosu 71.18 316⇓ *i*P **P** **04 46 59.2 +0.6**
SEY Seymchan 71.26 24⇓ *i*P **P** **04 46 57.3 -1.2**
VOIR 71.79 316⇓ *i*P **P** **04 47 01.6 -0.7**
VOIR 71.79 316⇓ *i*P **P** **04 47 01.5 -0.7**
PGB Panagyurishte 71.89 313 *i* P **P** **04 47 02.2 -0.6**
MMB Musomiste 72.05 312 *i* P **P** **04 47 02.5 -1.3**
ARR Arges 72.06 316⇑ *i*P **P** **04 47 03.5 -0.3**
BURAR Bucovina Array 72.12 318⇑ *i*P **P** **04 47 04.8 +0.6**
BUR08 Bucovina Ar. S 72.14 318 *e*P **P** **04 47 04.5 +0.3**
MPEP Malo Peshtene 72.33 314 *i* P **P** **04 47 05.6 +0.2**
KKB Krupnik 72.57 312 *i* P **P** **04 47 06.2 -0.7**
VTS Vitosha 72.59 313⇓ *i*P **P** **04 47 06.9 -0.3**
VTS Vitosha 72.59 313⇓ *i*P **P** **04 47 06.9 -0.3**
VTS Vitosha 72.59 313 *i* P **P** **04 47 06.7 -0.5**
PUL Pulkovo 72.60 332 *ce*P **P** **04 47 06.7 +0.1**
PUL pmax pmax
comp=Z,77nm,0.5s
LBTB Lobatse 73.14 242 P **P** **04 47 11.6 +0.9**
comp=Z,6.0nm,0.6s,baz=98,slow=6.4,SNR=17
LBTB Lobatse 73.14 242 P **P** **04 47 11.6 +0.9**
JOF Joensuu 73.30 335 *e*P **P** **04 47 09.1 -1.6**
JOF pmax pmax
comp=Z,25nm,0.7s
JOF Joensuu 73.30 335 *ep* **P** **04 47 09.1 -1.6**
comp=Z,25nm,0.7s
LVV L'vov 73.35 320⇓ *i*P **P** **04 47 10.7 -0.6**
IIGN Ignalina 73.35 326 *e*P **P** **04 47 11.3 +0.1**
IIGN AMB AMB 04 47 11.8
comp=Z,26nm,0.9s
IZAR Zarasai 73.44 327 *e*P **P** **04 47 11.8 0.0**
IZAR AMB AMB 04 47 12.3
comp=Z,27nm,0.7s
ISAL Salakas 73.46 327 *e*P **P** **04 47 11.9 +0.1**
ISAL AMB AMB 04 47 12.4
comp=Z,18nm,0.9s
TRPA Tarpa 73.99 319⇓ *i*P **P** **04 47 15.6 +0.5**
TRPA Tarpa 73.99 319⇓ *e*P **P** **04 47 15.3 +0.2**
KWP Kalwaria Pacla 74.15 320 *e*P **P** **04 47 16.2 +0.2**
KWP Kalwaria Pacla 74.15 320 *e*P **P** **04 47 15.5 -0.5**
KWP pmax pmax
comp=Z,25nm,0.9s
KWP Kalwaria Pacla 74.15 320 *e*P **P** **04 47 15.5 -0.5**
comp=Z,25nm,0.9s
KWP Kalwaria Pacla 74.15 320 *e*P **P** **04 47 16.2 +0.2**
UZH Uzhgorod 74.24 319 *e*P **P** **04 47 15.0 -1.5**
UZH *e* 04 47 22.5
UZH *e* 04 47 29.5
KOLS Kolonicke sedl 74.30 319 *e*P **P** **04 47 17.3 +0.4**
KOLS pmax pmax
comp=Z,13nm,0.9s
KOLS Kolonicke sedl 74.30 319 *e*P **P** **04 47 17.3 +0.4**
BOSA Boshof 74.33 239 P **P** **04 47 18.2 +0.6**
comp=Z,6.1nm,0.7s,baz=90,slow=6.1,SNR=14
BOSA LR LR 05 15 51.6
comp=Z,225nm,18.7s,baz=141,slow=32
BOSA Boshof 74.33 239 *e*P **P** **04 47 18.5 +0.9**
comp=Z,67nm,1.5s
APA Apatity 74.38 340⇑ *i*P **P** **04 47 16.2 -0.7**
APA *i* 04 47 32.0
APA *e*S **S** **04 56 46.0 -2.2**
APA *i* 04 57 16.0
APA pmax pmax
comp=Z,28nm,1.2s
APA MLR MLR
comp=Z,600nm,18.0s
SUW Suwalki 74.75 325 *e*P **P** **04 47 18.6 -0.7**
SUW Suwalki 74.75 325 *e*P **P** **04 47 18.2 -1.1**
SUW pmax pmax
comp=Z,112nm,0.9s
SUW Suwalki 74.75 325 *e*P **P** **04 47 18.2 -1.1**
comp=Z,112nm,0.9s
SUW Suwalki 74.75 325 *e*P **P** **04 47 18.6 -0.7**
CRVS Cervenica-Dubn 74.83 319 *e*P **P** **04 47 20.2 +0.2**
CRVS pmax pmax
comp=Z,24nm,1.2s
CRVS Cervenica-Dubn 74.83 319 *e*P **P** **04 47 20.2 +0.2**
CRVS *e*pP **pP** **04 47 31.0 -1.1**
FIA1 FINESS Array S 75.12 333 *e*P **P** **04 47 20.7 -0.7**
FINES FINESS Array B 75.12 333 P **P** **04 47 20.7 -0.7**
comp=Z,36nm,0.8s,baz=97,slow=7.1,SNR=102
FINES LR LR 05 24 39.3
comp=Z,260nm,21.5s,baz=324,slow=39
FINES FINESS Array B 75.12 333 P **P** **04 47 20.7 -0.7**
KAF Kangasniemi 75.22 333 *e*P **P** **04 47 20.1 -1.8**
KAF pmax pmax
comp=Z,20nm,0.6s
KAF Kangasniemi 75.22 333 *ep* **P** **04 47 20.1 -1.8**
comp=Z,20nm,0.6s
NIE Niedzica 75.65 320 *e*P **P** **04 47 25.3 +0.6**
NIE Niedzica 75.65 320 *e*P **P** **04 47 25.3 +0.6**
PSZ Piszkesteto 75.70 318 *e*P **P** **04 47 25.1 0.0**
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 75.70 318 *e*P **P** **04 47 25.1 0.0**
comp=Z,13nm,0.9s
PSZ Piszkesteto 75.70 318⇑ *i*P **P** **04 47 25.4 +0.3**
PSZ Piszkesteto 75.70 318⇑ *e*P **P** **04 47 25.2 +0.1**
BEL Belsk 75.75 322 *e*P **P** **04 47 25.5 +0.3**
BEL Belsk 75.75 322 *e*P **P** **04 47 25.4 +0.3**
OJC Ojcow 76.10 320 *e*P **P** **04 47 27.2 -0.1**
OJC Ojcow 76.10 320 *e*P **P** **04 47 27.2 -0.1**
PKSM Moragy 76.33 316⇑ *e*P **P** **04 47 28.3 -0.3**
VYHS Vyhne 76.48 319 *e*P **P** **04 47 29.4 -0.1**
VYHS pmax pmax
comp=Z,45nm,2.3s
VYHS Vyhne 76.48 319 *e*P **P** **04 47 29.4 -0.1**
OKC Ostrava-Krasne 77.11 320⇑ *i*P **P** **04 47 33.3 +0.4**
OKC *e* 04 47 43.4
OKC Ostrava-Krasne 77.11 320⇑ *i*P **P** **04 47 33.3 +0.4**
OKC *e*PCP **PcP** **04 47 43.4 -0.2**
KEV Kevo 77.38 341 *e*P P 04 47 30.6 -3.4
KEV pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 77.38 341 *ep* P 04 47 30.6 -3.4
comp=Z,10nm,0.8s
MORC Moravsky Berou 77.49 320 *e*P **P** **04 47 35.2 +0.1**
MORC pmax pmax
comp=Z,55nm,1.5s
MORC Moravsky Berou 77.49 320⇑ *i*P **P** **04 47 35.8 +0.7**
comp=Z,55nm,1.5s
MORC Moravsky Berou 77.49 320⇑ *i*P **P** **04 47 35.8 +0.7**
ARCES ARCESS Array B 77.80 340 P **P** **04 47 35.9 -0.5**
comp=Z,10nm,0.9s,baz=102,slow=6.8,SNR=17
ARCES LR LR 05 24 36.7
comp=Z,299nm,19.3s,baz=303,slow=38
ARCES ARCESS Array B 77.80 340 P **P** **04 47 35.9 -0.5**
SOP Sopron 77.91 318⇑ *e*P **P** **04 47 37.4 -0.1**
VRAC Vranov 78.05 319 P **P** **04 47 38.2 0.0**
comp=Z,4.3nm,0.7s,baz=90,slow=9.1,SNR=5.2
VRAC Vranov 78.05 319 P **P** **04 47 38.2 0.0**
GKP Gorka Klasztor 78.11 323 *e*P **P** **04 47 38.3 -0.1**
GKP Gorka Klasztor 78.11 323 *e*P **P** **04 47 38.3 -0.1**
DPC Dobruska-Polom 78.33 320⇑ *i*P **P** **04 47 40.5 +0.7**
DPC *e* 04 47 48.2
DPC Dobruska-Polom 78.33 320⇑ *i*P **P** **04 47 40.5 +0.7**
DPC *e*PCP **PcP** **04 47 48.2 -0.8**
CSNA Conrad Observa 78.40 318⇑ *i*P **P** **04 47 40.1 -0.2**
comp=Z,8.1nm,1.1s
CSNA Conrad Observa 78.40 318⇑ *i*P **P** **04 47 40.1 -0.2**
comp=Z,8.1nm,1.1s
KSP Ksiaz 78.40 321 *e*P **P** **04 47 41.2 +1.0**
KSP Ksiaz 78.40 321 *e*P **P** **04 47 40.4 +0.3**
KSP *e**PP **pP** **04 47 51.3 -1.0**
KSP Ksiaz 78.40 321 *e*P **P** **04 47 41.1 +1.0**
BILL Bilibino 78.48 21⇓ *i*P **P** **04 47 39.7 -0.5**
BILL *e* 04 50 37.6
BILL *e*S S 04 57 51.2 +18
BILL pmax pmax
comp=Z,21nm,1.0s
BILL MLR MLR
comp=Z,400nm,18.0s
BILL Bilibino 78.48 21 *e*P **P** **04 47 39.1 -1.1**
comp=Z,12nm,0.7s
GROS Grobnik 78.52 316 *e*P **P** **04 47 40.9 -0.1**
UPC Upice 78.55 320 *i* P **P** **04 47 41.5 +0.6**
UPC Upice 78.55 320⇑ *i*P **P** **04 47 41.5 +0.6**
ARSA Arzberg 78.57 317⇑ *i*P **P** **04 47 41.4 +0.2**
ARSA Arzberg 78.57 317⇑ *i*P **P** **04 47 41.4 +0.2**
BOJS Bojanci 78.62 315 *i* P **P** **04 47 40.5 -1.0**
BOJS *i* 04 47 56.6
TREC Trest 78.77 319 *i* P **P** **04 47 42.3 +0.1**
TREC Trest 78.77 319⇑ *i*P **P** **04 47 42.3 +0.1**
PERS Pernice 78.80 316 *i* P **P** **04 47 42.7 +0.2**
PERS *i* 04 47 55.8
SOKA Soboth 78.86 316⇑ *i*P **P** **04 47 43.1 +0.2**
comp=Z,25nm,0.9s
SOKA Soboth 78.86 316⇑ *i*P **P** **04 47 43.1 +0.2**
comp=Z,25nm,0.9s
VISS Visnje 78.93 316 *i* P **P** **04 47 43.2 0.0**
SUR Sutherland 78.97 236 P **P** **04 47 44.8 +1.0**
comp=Z,7.4nm,0.7s,baz=70,slow=8.9,SNR=8.6
SUR Sutherland 78.97 236 *e*P **P** **04 47 45.5 +1.7**
FX1 Attu Island--F 79.13 37 P **P** **04 47 43.8 -0.3**
comp=Z,26nm,0.6s,baz=344,slow=0.4,SNR=16
FX1 Attu Island--F 79.13 37 *e*P **P** **04 47 43.9 -0.2**
PRU Pruhonice 79.44 320⇑ *i*P **P** **04 47 46.2 +0.4**
PRU *e* 04 47 53.3
PRU Pruhonice 79.44 320⇑ *i*P **P** **04 47 46.2 +0.4**
PRU *e*PCP **PcP** **04 47 53.3 -0.5**
PVCC Panska Ves 79.47 320⇑ *i*P **P** **04 47 46.5 +0.5**
PVCC Panska Ves 79.47 320⇑ *i*P **P** **04 47 46.5 +0.5**
JAVS Javornik 79.48 316 *i* P **P** **04 47 45.9 -0.4**
JAVS *i* 04 47 59.5
VOY Vojsko 79.61 316 *e*P **P** **04 47 46.5 -0.5**
VOY *e* 04 48 01.0
BSD Bornholm Skovb 79.67 325⇑ *i*P **P** **04 47 46.2 -0.7**
comp=Z,34nm,0.7s
BSD *i* 04 48 01.5
MYKA Terra Mystica 79.81 316⇑ *i*P **P** **04 47 48.1 +0.1**
comp=Z,9.2nm,0.8s
MYKA Terra Mystica 79.81 316⇑ *i*P **P** **04 47 48.1 +0.1**
comp=Z,9.2nm,0.8s
BRG Berggiesshubel 79.89 321 *i* P **P** **04 47 48.7 +0.4**
comp=Z,19nm,1.0s
BRG *i* 04 48 02.2
comp=Z,11nm,0.9s
BRG Berggiesshubel 79.89 321 *i* P **P** **04 47 48.7 +0.4**
BRG *i* 04 48 02.2
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,11nm,0.9s
BRG Berggiesshubel 79.89 321 *e*P **P** **04 47 48.7 +0.4**
comp=Z,19nm,1.0s
GEC2 GERESS Array S 79.91 319 *e*P **P** **04 47 48.9 +0.4**
GEC2 pmax pmax
comp=Z,30nm,1.0s
GEC2 GERESS Array S 79.91 319 *e*P **P** **04 47 48.9 +0.4**
comp=Z,30nm,1.0s
GERES GERESS Array B 79.91 319 P **P** **04 47 48.6 +0.1**
comp=Z,13nm,0.7s,baz=93,slow=5.2,SNR=89
GERES LR LR 05 27 04.0
comp=Z,82nm,18.4s,baz=99,slow=39
GERES GERESS Array B 79.91 319 P **P** **04 47 48.6 +0.1**
KHC Kasperske Hory 80.00 319⇑ *i*P **P** **04 47 49.1 +0.1**
KHC *e* 04 47 55.3
KHC *e* 04 48 02.5
KHC Kasperske Hory 80.00 319 *e*P **P** **04 47 49.1 +0.1**
comp=Z,5.6nm,0.8s
KHC Kasperske Hory 80.00 319⇑ *i*P **P** **04 47 49.1 +0.1**
KHC *e*PCP **PcP** **04 47 55.3 -1.0**
KHC *e*pP **pP** **04 48 02.5 +1.3**
RUE Ruedersdorf 80.11 322 *e*P **P** **04 47 49.2 -0.1**
comp=Z,26nm,0.6s
RJOB Jochberg 80.45 317 *e*P **P** **04 47 51.0 -0.4**
comp=Z,14nm,1.1s
WET Wettzell 80.47 319 *e*P **P** **04 47 51.8 +0.4**
WET pmax pmax
comp=Z,24nm,1.2s
WET Wettzell 80.47 319 *e*P **P** **04 47 51.8 +0.4**
comp=Z,24nm,1.2s
CLL Collm 80.51 321⇑ *i*P **P** **04 47 51.4 -0.2**
CLL *i* *PP **PcP** **04 47 58.6 +0.2**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 80.51 321 *e*P **P** **04 47 51.4 -0.2**
comp=Z,18nm,1.0s
CLL Collm 80.51 321⇑ *i*P **P** **04 47 51.4 -0.2**
comp=Z,18nm,1.0s
CLL *i* PcP **PcP** **04 47 58.6 +0.2**
NKC Novy Kostel 80.80 320⇑ *i*P **P** **04 47 53.5 +0.3**
NKC Novy Kostel 80.80 320⇑ *i*P **P** **04 47 53.5 +0.3**
TANN Tannenbergstha 80.80 320 *e*P **P** **04 47 53.4 +0.1**
comp=Z,10.0nm,1.1s
HFS Hagfors 80.82 330 P **P** **04 47 52.5 -0.6**
comp=Z,12nm,0.6s,baz=103,slow=5.0,SNR=63
HFS Hagfors 80.82 330 P **P** **04 47 52.5 -0.6**
ROTZ Rotzenmuhle 80.93 319 *e*P **P** **04 47 54.7 +0.8**
comp=Z,65nm,1.9s
WTTA Wettenberg 81.22 317 *i* P **P** **04 47 55.1 -0.6**
WTTA pmax pmax
comp=Z,19nm,0.8s
WTTA Wettenberg 81.22 317 *i* P **P** **04 47 55.0 -0.6**
comp=Z,19nm,0.8s
WTTA Wettenberg 81.22 317 *i* P **P** **04 47 55.0 -0.6**
comp=Z,19nm,0.8s,SNR=8.6
WATA Walderalm 81.26 317⇑ *i*P **P** **04 47 55.0 -0.9**
WATA pmax pmax
comp=Z,7.0nm,0.6s
WATA Walderalm 81.26 317⇑ *i*P **P** **04 47 55.0 -0.9**
comp=Z,6.8nm,0.6s
WATA Walderalm 81.26 317⇑ *i*P **P** **04 47 55.0 -0.9**
comp=Z,6.8nm,0.6s
MOX Moxa 81.35 320 *e*P **P** **04 47 56.3 +0.2**
MOX pmax pmax
comp=Z,16nm,1.3s
MOX Moxa 81.35 320 *e*P **P** **04 47 56.3 +0.2**
comp=Z,16nm,1.3s
GRF Grafenberg Arr 81.57 319 *e*P **P** **04 47 58.0 +0.7**
GRF pmax pmax
comp=Z,21nm,0.8s
GRF Grafenberg Arr 81.57 319 *e*P **P** **04 47 58.0 +0.7**
comp=Z,21nm,0.8s
MOTA Moosalm 81.58 317⇑ *i*P **P** **04 47 56.8 -0.8**
MOTA pmax pmax
comp=Z,14nm,0.8s
MOTA Moosalm 81.58 317⇑ *i*P **P** **04 47 56.8 -0.8**
comp=Z,14nm,0.8s
MOTA Moosalm 81.58 317⇑ *i*P **P** **04 47 56.8 -0.8**
comp=Z,14nm,0.8s,SNR=9.7
RETA Reutte 81.81 317 *i* P **P** **04 47 58.4 -0.3**

comp=Z,18nm,0.7s
RETA Reutte 81.81 317 *i* P **P 04 47 58.4 -0.3**
comp=Z,18nm,0.7s,SNR=14
FETA Feichten 81.83 317⇑ *i* P **P 04 47 58.6 -0.3**
comp=Z,12nm,0.8s
FETA Feichten 81.83 317⇑ *i* P **P 04 47 58.6 -0.3**
comp=Z,12nm,0.8s,SNR=6.4
NB2 NORSAR Subarra 82.11 331 P **P 04 47 59.1 -0.8**
comp=Z,8.4nm,0.7s,baz=98,slow=5.6
NOA NORSAR Array B 82.11 331 P **P 04 47 59.1 -0.8**
comp=Z,8.5nm,0.7s,baz=99,slow=5.6,SNR=28
NOA NORSAR Array B 82.11 331 P **P 04 47 59.1 -0.8**
CLZ Clausthal 82.17 321 *e*P **P 04 48 00.8 +0.4**
CLZ pmax pmax
comp=Z,26nm,1.0s
CLZ Clausthal 82.17 321 *e*P **P 04 48 00.8 +0.4**
comp=Z,26nm,1.0s
BSEG Bad Segeberg 82.27 324 *e*P **P 04 48 01.4 +0.6**
BSEG pmax pmax
comp=Z,68nm,1.0s
BSEG Bad Segeberg 82.27 324 *e*P **P 04 48 01.4 +0.6**
comp=Z,68nm,1.0s
NRDL Niedersach Rie 82.35 322 *e*P **P 04 48 01.8 +0.6**
comp=Z,57nm,1.6s
DAVOX Davos/Dischmat 82.41 316 P **P 04 48 02.3 +0.3**
comp=Z,22nm,0.6s,baz=108,slow=6.4,SNR=39
DAVOX Davos/Dischmat 82.41 316 P **P 04 48 02.3 +0.3**
DAVA Damuels 82.41 317⇑ *i*P **P 04 48 01.9 -0.1**
comp=Z,14nm,0.9s
DAVA Damuels 82.41 317⇑ *i*P **P 04 48 01.9 -0.1**
comp=Z,14nm,0.9s
TUE Stuetta 82.77 316 *e*P **P 04 48 03.7 -0.2**
comp=Z,13nm,0.8s
STU Stuttgart 82.88 318 *e*P **P 04 48 04.0 -0.2**
comp=Z,14nm,0.6s
KEST Kesra 82.89 305 P **P 04 48 05.4 +0.8**
comp=Z,3.5nm,0.9s,baz=343,slow=2.7,SNR=5.9
KEST Kesra 82.89 305 P **P 04 48 05.4 +0.8**
SYO Syowa Base 82.94 197⇑ *e*P **P 04 48 06.2 +2.3**
MUD Monsted U'grnd 82.99 326 *i* P **P 04 48 04.9 +0.4**
comp=Z,18nm,1.0s
PGF Pioggiola 83.04 312 *e*P **P 04 48 05.1 -0.2**
PGF Pioggiola 83.04 312 *e*P **P 04 48 05.1 -0.2**
PGF Pioggiola 83.04 312 *e*P **P 04 48 05.1 -0.2**
SPAK Spaichingen-Ko 83.15 318 *e*P **P 04 48 05.7 0.0**
TNS Taunus Mts 83.37 320 *e*P **P 04 48 07.0 +0.3**
TNS pmax pmax
comp=Z,14nm,1.1s
TNS Taunus Mts 83.37 320 *e*P **P 04 48 07.0 +0.3**
comp=Z,14nm,1.1s
BFO Black Forest 83.46 318 *e*P **P 04 48 06.8 -0.4**
BFO pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 83.46 318 *e*P **P 04 48 06.8 -0.4**
comp=Z,13nm,0.9s
BFO Black Forest 83.46 318 *e*P **P 04 48 06.6 -0.6**
FELD Feldberg im Sc 83.68 317 *e*P **P 04 48 08.5 0.0**
IBBN Ibbenburen 83.79 322 *e*P **P 04 48 09.2 +0.5**
comp=Z,38nm,1.1s
LANF Langenberg 83.80 319 *e*P **P 04 48 09.2 +0.3**
LANF Langenberg 83.80 319 *e*P **P 04 48 09.2 +0.3**
LANF Langenberg 83.80 319 *e*P **P 04 48 09.2 +0.3**
RPZ Rata Peaks 84.07 135 LR LR 05 24 25.4
comp=Z,225nm,18.1s,baz=186,slow=35
BUG Bochum--Univer 84.10 321 *e*P **P 04 48 10.7 +0.4**
comp=Z,25nm,0.9s
CDF Champ du Feu 84.16 318⇑ *i*P **P 04 48 10.2 -0.6**
comp=Z,8.5nm,0.7s
CDF Champ du Feu 84.16 318⇑ *i*P **P 04 48 10.2 -0.6**
CDF pmax pmax
comp=Z,9.0nm,0.7s
CDF Champ du Feu 84.16 318⇑ *i*P **P 04 48 10.2 -0.6**
comp=Z,8.5nm,0.7s
SBF Sospel 84.16 313 *e*P **P 04 48 10.1 -0.8**
comp=Z,58nm,0.8s
SBF Sospel 84.16 313 *e*P **P 04 48 10.1 -0.8**
SBF pmax pmax
comp=Z,58nm,0.8s
SBF Sospel 84.16 313 *e*P **P 04 48 10.1 -0.8**
comp=Z,58nm,0.8s
SENIN Lac Senin/Sane 84.19 316 *e*P **P 04 48 11.7 +0.4**
comp=Z,17nm,0.8s
RUP Ruppelstein 84.27 319 *e*P **P 04 48 11.3 0.0**
RUP Ruppelstein 84.27 319 *e*P **P 04 48 11.3 0.0**
HINF Hinteralfeld 84.46 317 *e*P **P 04 48 11.3 -1.0**
HINF Hinteralfeld 84.46 317 *e*P **P 04 48 11.3 -1.0**
HINF Hinteralfeld 84.46 317 *e*P **P 04 48 11.3 -1.0**
LPG La Plagne 84.60 315⇑ *i*P **P 04 48 13.3 -0.1**
comp=Z,27nm,0.8s
LPG La Plagne 84.60 315⇑ *i*P **P 04 48 13.3 -0.1**
LPG pmax pmax
comp=Z,27nm,0.8s
LPG La Plagne 84.60 315⇑ *i*P **P 04 48 13.3 -0.1**
comp=Z,27nm,0.8s
MBDF Montbardon 84.61 314⇑ *i*P **P 04 48 12.4 -0.9**
comp=Z,36nm,1.2s
MBDF Montbardon 84.61 314⇑ *i*P **P 04 48 12.4 -0.9**
MBDF pmax pmax
comp=Z,36nm,1.2s
MBDF Montbardon 84.61 314⇑ *i*P **P 04 48 12.4 -0.9**
comp=Z,36nm,1.2s
LPL La Plagne 84.61 315⇑ *i*P **P 04 48 13.3 -0.1**
comp=Z,33nm,0.8s
LPL La Plagne 84.61 315⇑ *i*P **P 04 48 13.3 -0.1**
LPL pmax pmax
comp=Z,33nm,0.8s
LPL La Plagne 84.61 315⇑ *i*P **P 04 48 13.3 -0.1**
comp=Z,33nm,0.8s
BNI Bardonecchia 84.66 315 *e*P **P 04 48 13.6 +0.1**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 84.66 315 *e*P **P 04 48 13.6 +0.1**
comp=Z,10nm,0.8s
FRF La Foret Royal 84.74 313⇑ *i*P **P 04 48 13.9 +0.1**
comp=Z,34nm,0.8s
FRF La Foret Royal 84.74 313⇑ *i*P **P 04 48 13.9 +0.1**
FRF pmax pmax
comp=Z,34nm,0.8s
FRF La Foret Royal 84.74 313⇑ *i*P **P 04 48 13.9 +0.1**
comp=Z,34nm,0.8s
HAU Haudompre 84.79 318⇑ *i*P **P 04 48 13.4 -0.6**
comp=Z,23nm,0.7s
HAU eR
comp=Z,98nm,20.0s
HAU Haudompre 84.79 318⇑ *i*P **P 04 48 13.4 -0.6**
HAU pmax pmax
comp=Z,23nm,0.7s
HAU Haudompre 84.79 318⇑ *i*P **P 04 48 13.4 -0.6**
comp=Z,23nm,0.7s
LMR La Mourre 84.85 313⇑ *i*P **P 04 48 14.2 -0.1**
comp=Z,38nm,1.0s
LMR La Mourre 84.85 313⇑ *i*P **P 04 48 14.2 -0.1**
LMR pmax pmax
comp=Z,38nm,1.0s
LMR La Mourre 84.85 313⇑ *i*P **P 04 48 14.2 -0.1**
comp=Z,38nm,1.0s
WLF Walferdange 84.86 319 P **P 04 48 14.7 +0.5**
WLF Walferdange 84.86 319 *e*P **P 04 48 14.8 +0.5**
comp=Z,40nm,1.4s
MEM Membach 84.92 320 P **P 04 48 14.8 +0.2**
THEF They Montfort 85.02 318 *e*P **P 04 48 14.9 -0.2**
THEF They Montfort 85.02 318 *e*P **P 04 48 14.9 -0.2**
THEF They Montfort 85.02 318 *e*P **P 04 48 14.9 -0.2**
ORIF Oris-en-Rattie 85.24 315⇑ *i*P **P 04 48 15.8 -0.6**
comp=Z,18nm,0.8s
ORIF eR
comp=Z,220nm,22.0s
ORIF Oris-en-Rattie 85.24 315⇑ *i*P **P 04 48 15.8 -0.6**
ORIF pmax pmax
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 85.24 315⇑ *i*P **P 04 48 15.8 -0.6**
comp=Z,18nm,0.8s
SMRF Simiane la Rot 85.50 314 *e*P **P 04 48 18.0 +0.4**
comp=Z,54nm,1.2s
SMRF Simiane la Rot 85.50 314 *e*P **P 04 48 18.0 +0.4**
comp=Z,54nm,1.2s
SFTF Sexfontaines 85.66 318⇑ *i*P **P 04 48 18.0 -0.3**
comp=Z,36nm,0.8s
SFTF Sexfontaines 85.66 318⇑ *i*P **P 04 48 18.0 -0.3**
comp=Z,36nm,0.8s
GIVF Givet 85.70 320 *e*P **P 04 48 18.3 -0.1**
GIVF Givet 85.70 320 *e*P **P 04 48 18.3 -0.1**
GIVF Givet 85.70 320 *e*P **P 04 48 18.3 -0.1**
VIVF Saint-Julien-l 86.10 315⇑ *i*P **P 04 48 20.4 -0.2**
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 86.10 315⇑ *i*P **P 04 48 20.4 -0.2**
VIVF pmax pmax
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 86.10 315⇑ *i*P **P 04 48 20.4 -0.2**
comp=Z,14nm,0.8s
BAIF Baives 86.10 320⇑ *i*P **P 04 48 20.5 +0.1**
comp=Z,41nm,1.1s
BAIF Baives 86.10 320⇑ *i*P **P 04 48 20.5 +0.1**
BAIF pmax pmax
comp=Z,41nm,1.1s
BAIF Baives 86.10 320⇑ *i*P **P 04 48 20.5 +0.1**
comp=Z,41nm,1.1s
SSB Saint Sauveur 86.16 315 *e*P **P 04 48 20.7 -0.2**
SSB Saint Sauveur 86.16 315 *e*P **P 04 48 20.7 -0.2**
LOR Lormes 86.51 317⇑ *i*P **P 04 48 22.2 -0.3**
comp=Z,26nm,0.8s
LOR eR
comp=Z,92nm,17.5s
LOR Lormes 86.51 317⇑ *i*P **P 04 48 22.2 -0.3**
comp=Z,26nm,0.8s
SMF Signal de Mont 86.56 316⇑ *i*P **P 04 48 22.4 -0.4**
comp=Z,26nm,0.8s
SMF Signal de Mont 86.56 316⇑ *i*P **P 04 48 22.4 -0.4**
SMF pmax pmax
comp=Z,26nm,0.8s
SMF Signal de Mont 86.56 316⇑ *i*P **P 04 48 22.4 -0.4**
comp=Z,26nm,0.8s
LASF Ste Croix 86.73 314 *e*P **P 04 48 23.2 -0.5**
LASF Ste Croix 86.73 314 *e*P **P 04 48 23.2 -0.5**
PLDF La Plantade 86.76 316 *e*P **P 04 48 24.0 +0.1**
PLDF La Plantade 86.76 316 *e*P **P 04 48 24.0 +0.1**
PLDF La Plantade 86.76 316 *e*P **P 04 48 24.0 +0.1**
SSF Saint Saulge 86.76 317⇑ *i*P **P 04 48 23.4 -0.3**
comp=Z,7.1nm,0.8s
SSF Saint Saulge 86.76 317⇑ *i*P **P 04 48 23.4 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 86.76 317⇑ *i*P **P 04 48 23.4 -0.3**
comp=Z,7.1nm,0.8s
TAM Tamanrasset 86.88 292 *e*P **P 04 48 25.6 +0.6**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 86.88 292 *e*P **P 04 48 25.6 +0.6**
comp=Z,6.8nm,1.0s
AVF Avril sur Loir 86.89 317⇑ *i*P **P 04 48 24.0 -0.3**
comp=Z,15nm,0.9s
AVF Avril sur Loir 86.89 317⇑ *i*P **P 04 48 24.0 -0.3**
AVF pmax pmax
comp=Z,15nm,0.9s
AVF Avril sur Loir 86.89 317⇑ *i*P **P 04 48 24.0 -0.3**
comp=Z,15nm,0.9s
GAMB Gambell 87.12 26 *e*P **P 04 48 24.6 -0.5**
comp=Z,14nm,0.7s
BGF Bois d'Agland 87.25 316⇑ *i*P **P 04 48 26.2 +0.1**
comp=Z,34nm,1.1s
BGF Bois d'Agland 87.25 316⇑ *i*P **P 04 48 26.2 +0.1**
BGF pmax pmax
comp=Z,34nm,1.1s
BGF Bois d'Agland 87.25 316⇑ *i*P **P 04 48 26.2 +0.1**
comp=Z,34nm,1.1s
HYF Humbligny 87.34 317 *e*P **P 04 48 26.8 +0.3**
HYF Humbligny 87.34 317 *e*P **P 04 48 26.8 +0.3**
URZ Urewera 87.57 129 LR LR 05 31 16.3
comp=Z,188nm,18.1s,baz=13,slow=38
TCF Toulx Ste Croi 87.72 316 *e*P **P 04 48 27.3 -1.1**
TCF Toulx Ste Croi 87.72 316 *e*P **P 04 48 27.3 -1.1**
TCF Toulx Ste Croi 87.72 316 *e*P **P 04 48 27.3 -1.1**
CAF Calviac 87.94 315 *e*P **P 04 48 29.8 +0.3**
CAF Calviac 87.94 315 *e*P **P 04 48 29.8 +0.3**
CAF Calviac 87.94 315 *e*P **P 04 48 29.8 +0.3**
MTLF Montolieu 87.97 313 *e*P **P 04 48 29.8 +0.1**
comp=Z,20nm,1.0s
MTLF Montolieu 87.97 313 *e*P **P 04 48 29.8 +0.1**
MTLF pmax pmax
comp=Z,20nm,1.0s
MTLF Montolieu 87.97 313 *e*P **P 04 48 29.8 +0.1**
comp=Z,20nm,1.0s
RJF Les Rejaudoux 88.29 315 *e*P **P 04 48 30.8 -0.3**
RJF eR
comp=Z,150nm,19.8s
RJF Les Rejaudoux 88.29 315 *e*P **P 04 48 30.8 -0.3**
RJF Les Rejaudoux 88.29 315 *e*P **P 04 48 30.8 -0.3**
TNA Tin City 88.50 24 *e*P **P 04 48 32.2 +0.6**
comp=Z,5.3nm,0.6s
LFF La Frestale 88.87 315 *e*P **P 04 48 33.6 -0.3**
comp=Z,12nm,0.7s
LFF La Frestale 88.87 315 *e*P **P 04 48 33.6 -0.3**
LFF pmax pmax
comp=Z,12nm,0.7s
LFF La Frestale 88.87 315 *e*P **P 04 48 33.6 -0.3**
comp=Z,12nm,0.7s
MFF Saint Martin d 89.30 317 *e*P **P 04 48 35.7 -0.1**
MFF Saint Martin d 89.30 317 *e*P **P 04 48 35.7 -0.1**
MFF Saint Martin d 89.30 317 *e*P **P 04 48 35.7 -0.1**
EPF Esparros 89.37 313 *e*P **P 04 48 35.9 -0.4**
EPF Esparros 89.37 313 *e*P **P 04 48 35.9 -0.4**
EPF Esparros 89.37 313 *e*P **P 04 48 35.9 -0.4**
GRR Gorron 89.56 318 *e*P **P 04 48 37.4 +0.4**
GRR Gorron 89.56 318 *e*P **P 04 48 37.4 +0.4**
GRR Gorron 89.56 318 *e*P **P 04 48 37.4 +0.4**
ETSF Etsaut 90.04 313 *e*P **P 04 48 40.7 +1.2**
comp=Z,32nm,1.2s
ETSF Etsaut 90.04 313 *e*P **P 04 48 40.7 +1.2**
ETSF pmax pmax
comp=Z,32nm,1.2s
ETSF Etsaut 90.04 313 *e*P **P 04 48 40.7 +1.2**
comp=Z,32nm,1.2s
DAG Danmarks Havn 90.09 348 *i* P **P 04 48 39.2 +0.3**
comp=Z,28nm,0.8s
VNDA Vanda 90.31 168 P **P 04 48 40.5 +0.6**
comp=Z,1.1nm,0.5s,baz=305,slow=7.9,SNR=10
VNDA LR LR 05 22 52.0
comp=Z,412nm,18.7s,baz=144,slow=31
VNDA Vanda 90.31 168 *e*P **P 04 48 40.5 +0.6**
comp=Z,12nm,1.4s
SJPF Ste Jean 90.50 313 *e*P **P 04 48 42.3 +0.7**
SJPF Ste Jean 90.50 313 *e*P **P 04 48 42.3 +0.7**
SJPF Ste Jean 90.50 313 *e*P **P 04 48 42.3 +0.7**
SGMF Saint Gilles 90.70 318⇑ *i*P **P 04 48 42.5 +0.2**
comp=Z,121nm,1.4s
SGMF Saint Gilles 90.70 318⇑ *i*P **P 04 48 42.5 +0.2**
SGMF pmax pmax
comp=Z,121nm,1.4s
SGMF Saint Gilles 90.70 318⇑ *i*P **P 04 48 42.5 +0.2**
comp=Z,121nm,1.4s
QUIF Quistinic 91.16 318⇑ *i*P **P 04 48 44.4 0.0**
QUIF Quistinic 91.16 318⇑ *i*P **P 04 48 44.4 0.0**
QUIF Quistinic 91.16 318⇑ *i*P **P 04 48 44.4 0.0**
ROSF Rostrenen 91.16 319⇑ *i*P **P 04 48 44.7 +0.2**
comp=Z,126nm,1.5s
ROSF Rostrenen 91.16 319⇑ *i*P **P 04 48 44.7 +0.2**
ROSF pmax pmax
comp=Z,126nm,1.5s
ROSF Rostrenen 91.16 319⇑ *i*P **P 04 48 44.7 +0.2**
comp=Z,126nm,1.5s
TORD Torodi Ar. Bea 91.36 283 P **P 04 48 46.2 +0.1**
comp=Z,1.8nm,0.8s,baz=80,slow=4.4,SNR=11
TORD LR LR 05 28 55.6
comp=Z,189nm,18.7s,baz=115,slow=35
TORD Torodi Ar. Bea 91.36 283 P **P 04 48 46.2 +0.1**
SBA Scott Base 91.42 168 *e*P **P 04 48 46.6 +1.6**
SBA Scott Base 91.42 168 *e*P **P 04 48 46.6 +1.6**
ESDC Sonseca Array 93.04 310 P **P 04 48 53.5 +0.1**
comp=Z,1.6nm,0.8s,baz=50,slow=4.6,SNR=8.5
ESDC Sonseca Array 93.04 310 P **P 04 48 53.5 +0.1**
QSPA South Pole Qui 95.14 180 P **P 04 49 02.9 +0.4**
comp=Z,0.9nm,0.9s,baz=301,slow=2.5,SNR=7.4
QSPA South Pole Qui 95.14 180 P **P 04 49 03.0 +0.4**
SUMG Summit 96.75 347 *i* P pP 04 49 24.1 +1.6
comp=Z,3.5nm,0.8s
ILAR Eielson Array 97.12 22 P **P 04 49 10.7 -0.8**
comp=Z,0.8nm,0.7s,baz=288,slow=4.0,SNR=7.4
ILAR Eielson Array 97.12 22 P **P 04 49 10.7 -0.8**
DBIC Dimbokro 98.46 278 LR LR 05 28 40.6
comp=Z,176nm,21.4s,baz=81,slow=32
INK Inuvik 99.48 16 *e*P **Pdif 04 49 21.9 0.0**
comp=Z,6.9nm,1.1s
RES Resolute Bay 100.03 2 *e*Pdif **Pdif 04 49 24.4 +0.1**
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 108.95 14 Pdiff **Pdif 04 50 05.5 +1.3**
comp=Z,0.2nm,0.7s,baz=333,slow=5.1,SNR=5.9
YKA Yellowknife Ar 108.95 14 Pdif **Pdif 04 50 05.5 +1.3**
PSMN Pico do Norte, 109.69 312 *e*LQ LQ 05 20 30.7
SCHQ Schefferville 118.13 348 PKP **PKPdf 04 54 25.7 -0.7**
comp=Z,2.4nm,0.6s,baz=0.0,slow=2.0,SNR=10
SCHQ Schefferville 118.13 348 PKP **PKPdf 04 54 25.7 -0.7**
FFC Flin Flon 118.75 11 *i* PKIKP **PKPdf 04 54 27.9 +0.4**
A13A Flathead Natio 120.53 22⇑P **PKPdf 04 54 31.4 +0.1**
baz=120
A14A Double T Ranch 120.86 21⇑P **PKPdf 04 54 31.5 -0.4**
baz=121
B13A Whitefish 120.98 22⇑P **PKPdf 04 54 32.1 +0.1**
baz=121
A15A Johnson Ranch, 121.09 20⇓P **PKPdf 04 54 31.8 -0.6**
baz=121
B14A Marquette Ranc 121.42 21⇑P **PKPdf 04 54 32.5 -0.6**
baz=121
A16A West Butte Ran 121.51 20⇑P **PKPdf 04 54 32.9 -0.3**
baz=121
B15A Bradely Ranch, 121.72 21⇓P **PKPdf 04 54 33.0 -0.6**
baz=122
D12A Red Ives Fores 121.72 23⇑P **PKPdf 04 54 33.0 -0.6**
baz=122
C14A Swan Lake 121.75 22⇑P **PKPdf 04 54 33.3 -0.3**
baz=122
A17A Triple J Farms 121.81 19⇑P **PKPdf 04 54 33.5 -0.2**
baz=122
D13A Huson 122.04 23⇑P **PKPdf 04 54 33.5 -0.7**
baz=122
A18A Metzger Ranch, 122.11 19⇓P **PKPdf 04 54 33.6 -0.6**
baz=122
C15A Salmond Ranch, 122.16 21⇑P **PKPdf 04 54 34.1 -0.4**
baz=122
SLMT Seeley Lake 122.28 22 *e*PKPdf **PKPdf 04 54 33.9 -0.9**
B17A L&G Farms, Che 122.34 20⇓P **PKPdf 04 54 34.3 -0.4**
baz=122
D14A Greenough 122.41 22⇓P **PKPdf 04 54 34.2 -0.8**
baz=122
A19A Klindworth Far 122.44 18⇓P **PKPdf 04 54 34.5 -0.4**
baz=122
C16A Fuhringer Ranc 122.44 21⇓P **PKPdf 04 54 34.3 -0.7**
baz=122
MSO Missula 122.46 23 *e*PKPdf **PKPdf 04 54 34.3 -0.8**
MSO Missoula 122.46 23⇑P **PKPdf 04 54 34.5 -0.6**
baz=122
B18A Beardsley Farm 122.59 19⇑P **PKPdf 04 54 34.5 -0.7**
baz=122
E13A Victor 122.68 23⇓P **PKPdf 04 54 34.9 -0.6**
baz=122
A20A Cobblestone Ra 122.73 17⇑P **PKPdf 04 54 34.9 -0.6**
baz=122
B19A Brinkman Farms 122.80 18⇓P **PKPdf 04 54 35.2 -0.4**
baz=123
D15A Lincoln 122.81 22⇓P **PKPdf 04 54 35.2 -0.5**
baz=123
A21A Bergtoll Ranch 122.92 17⇑P **PKPdf 04 54 35.5 -0.3**
baz=123
EGMT Eagleton 122.92 19 *e*PKPdf **PKPdf 04 54 35.5 -0.4**
EGMT Eagleton 122.92 19⇓P **PKPdf 04 54 35.8 0.0**
baz=123
C17A Wharram Farm, 122.93 20⇓P **PKPdf 04 54 35.4 -0.5**
baz=123
E14A Clinton 122.97 23⇑P **PKPdf 04 54 35.7 -0.4**
baz=123
F13A Darby 123.16 24⇑P **PKPdf 04 54 36.1 -0.4**
baz=123
D16A Dana Ranch, Ca 123.17 21⇑P **PKPdf 04 54 36.1 -0.3**
baz=123
D17A Six Diamond Ra 123.37 20⇓P **PKPdf 04 54 36.3 -0.5**
baz=123
C19A Slack Wire Ran 123.40 19⇑P **PKPdf 04 54 36.7 -0.1**
baz=123
MOD Modoc 123.49 31 *e*PKPdf **PKPdf 04 54 37.9 +0.6**
E16A East Helena 123.55 21⇓P **PKPdf 04 54 36.7 -0.5**
baz=123
C20A Veseth Ranch, 123.75 18⇑P **PKPdf 04 54 37.1 -0.3**
baz=124
G13A Cobalt 123.77 24⇑P **PKPdf 04 54 36.8 -0.9**
baz=124
E17A Martinsdale 123.90 21⇓P **PKPdf 04 54 37.5 -0.5**
baz=124
D19A Cripps Ranch, 123.96 19⇑P **PKPdf 04 54 37.7 -0.1**
baz=124
G14A Jackson 123.96 23⇑P **PKPdf 04 54 37.9 -0.2**
baz=124
ULM Lac du Bonnet 124.06 8 PKP **PKPdf 04 54 36.9 -0.9**
comp=Z,5.2nm,0.8s,baz=21,slow=3.2,SNR=8.9
ULM Lac du Bonnet 124.06 8 PKP **PKPdf 04 54 36.9 -0.9**
DLMT Dillon 124.20 23 *e*PKPdf **PKPdf 04 54 38.4 -0.1**
H13A Challis 124.20 24⇓P **PKPdf 04 54 38.2 -0.3**
baz=124
D20A Manuel Ranch, 124.26 18⇑P **PKPdf 04 54 38.3 -0.1**
baz=124
BOZ Bozeman (W) 124.32 22 *e*PKIKP **PKPdf 04 54 38.4 -0.3**
BOZ Bozeman (W) 124.32 22 *e*PKPdf **PKPdf 04 54 38.4 -0.3**
BOZ Bozeman (W) 124.32 22⇓P **PKPdf 04 54 38.8 +0.1**
baz=124
G15A Dillon 124.40 23⇑P **PKPdf 04 54 39.0 +0.1**
baz=124
F17A Fitzpatrick Pl 124.45 21⇑P **PKPdf 04 54 38.8 -0.1**
baz=124
I12A Atlanta 124.45 26⇑P **PKPdf 04 54 39.0 0.0**
baz=124
MFID Camas Ranch 124.45 26 *e*PKPdf **PKPdf 04 54 39.0 0.0**
MFID Camas Ranch 124.45 26⇑P **PKPdf 04 54 38.8 -0.2**
baz=124
C23A Lambert 124.48 16⇓P **PKPdf 04 54 38.8 0.0**
baz=124
H14A Leadore 124.52 24⇓P **PKPdf 04 54 39.0 -0.2**
baz=124
E19A Rath Farm, Rou 124.61 19⇑P **PKPdf 04 54 39.2 0.0**
baz=124
G16A Moss Hill, Enn 124.61 22⇓P **PKPdf 04 54 38.9 -0.4**
baz=124
E20A Meyer Farm, Mu 124.78 19⇑P **PKPdf 04 54 39.8 +0.3**
baz=124
F18A Big Timber 124.78 20⇓P **PKPdf 04 54 39.6 0.0**
baz=124
I13A Wildhorse Cree 124.79 25⇑P **PKPdf 04 54 39.6 -0.1**
baz=125
HLID Hailey 124.95 25 *e*PKPdf **PKPdf 04 54 40.0 0.0**
HLID Hailey 124.95 25⇓P **PKPdf 04 54 39.8 -0.2**
baz=125
I14A Mackay 125.05 24⇑P **PKPdf 04 54 39.9 -0.3**
baz=125
D23A Lindsay 125.05 16⇓P **PKPdf 04 54 40.1 +0.2**
baz=125
J13A Cove Ranch, Pi 125.18 25⇓P **PKPdf 04 54 40.9 +0.5**
baz=125
H16A Russell Place, 125.27 22⇓P **PKPdf 04 54 41.0 +0.3**
baz=125
F20A Billings 125.40 19⇑P **PKPdf 04 54 40.6 -0.2**
baz=125
J14A Carey 125.52 25⇓P **PKPdf 04 54 41.2 +0.1**
baz=125
E24A Baker 125.86 16⇑P **PKPdf 04 54 42.2 +0.7**
baz=126
H18A Shoshone NF, C 125.87 21⇑P **PKPdf 04 54 42.2 +0.4**
baz=126
I16A Newdale 125.88 23⇓P **PKPdf 04 54 42.4 +0.6**
baz=126
G20A Bridger 125.89 20⇑P **PKPdf 04 54 41.5 -0.2**
baz=126
F22A Rosebud 126.02 18⇓P **PKPdf 04 54 41.8 -0.1**
baz=126
H19A Powell 126.11 20⇓P **PKPdf 04 54 42.9 +0.7**
baz=126
I17A Pilgrim Ck. 126.19 22⇑P **PKPdf 04 54 42.6 +0.1**
baz=126
K14A Jones Ranch, D 126.30 25⇓P **PKPdf 04 54 42.6 0.0**
baz=126
J16A Bone 126.33 23⇓P **PKPdf 04 54 43.1 +0.3**
baz=126
RRI2 Red Ridge 126.39 23 *e*PKPdf **PKPdf 04 54 43.5 +0.6**
K15A Arbon 126.46 24⇓P **PKPdf 04 54 43.1 +0.2**
baz=126
SNOW Snow King Moun 126.51 23 *e*PKPdf **PKPdf 04 54 42.9 -0.2**
J17A Brown Place, J 126.61 23⇑P **PKPdf 04 54 43.8 +0.6**
baz=126
J18A Kendall Valley 127.00 22⇑P **PKPdf 04 54 44.2 +0.1**
baz=127
I20A Worland 127.04 20⇑P **PKPdf 04 54 44.4 +0.5**
baz=127
H22A Clearmont 127.05 18⇓P **PKPdf 04 54 44.3 +0.4**
baz=127
L15A Malad City 127.08 25⇓P **PKPdf 04 54 43.7 -0.4**
baz=127
NVAR Mina Array Bea 127.08 32 PKP **PKPdf 04 54 45.1 +0.8**
comp=Z,1.9nm,0.7s,baz=336,slow=2.0,SNR=19
NVAR Mina Array Bea 127.08 32 PKP **PKPdf 04 54 45.1 +0.8**
J19A Crowheart 127.31 21⇓P **PKPdf 04 54 44.6 +0.1**
baz=127
I21A Big Trails, Te 127.44 20⇓P **PKPdf 04 54 44.2 -0.6**
baz=127

H24A	**Dirks Ranch, A** baz=127	**127.46**	**17**	⇓P		**PKPdf**	**04 54 44.3**	**-0.4**
BW06	**Boulder Array** baz=127	**127.56**	**22**	⇑P		**PKPdf**	**04 54 44.7**	**-0.4**
PDAR	**Pinedale Array** comp=Z,2.6nm,0.8s,baz=325,slow=1.1,SNR=23	**127.56**	**22**	PKP		**PKPdf**	**04 54 45.1**	**0.0**
PDAR	**Pinedale Array**	**127.56**	**22**	PKP		**PKPdf**	**04 54 45.1**	**0.0**
I22A	**9 Mile Ranch,** baz=127	**127.64**	**19**	⇓P		**PKPdf**	**04 54 44.9**	**-0.2**
K19A	**Absolon Red Bu** baz=128	**127.77**	**21**	⇓P		**PKPdf**	**04 54 44.9**	**-0.6**
J22A	**Midwest** baz=128	**128.07**	**19**	⇓P		**PKPdf**	**04 54 45.6**	**-0.4**
K20A	**Yellowstone Ra** baz=128	**128.10**	**21**	⇓P		**PKPdf**	**04 54 45.6**	**-0.4**
L19A	**Farson** baz=128	**128.20**	**22**	⇑P		**PKPdf**	**04 54 46.1**	**-0.2**
DUG	**Dugway**	**128.38**	**26**	*e*PKIKP		**PKPdf**	**04 54 46.4**	**-0.3**
DUG	**Dugway**	**128.38**	**26**	*e*PKPdf		**PKPdf**	**04 54 46.4**	**-0.3**
DUG	**Dugway** baz=128	**128.38**	**26**	⇓P		**PKPdf**	**04 54 47.0**	**+0.3**
R11A	**Troy Canyon, C** baz=128	**128.54**	**30**	⇓P		**PKPdf**	**04 54 47.3**	**+0.3**
K22A	**Casper** baz=128	**128.73**	**20**	⇓P		**PKPdf**	**04 54 46.9**	**-0.4**
L21A	**Rawlins** baz=129	**129.05**	**21**	⇑P		**PKPdf**	**04 54 47.5**	**-0.4**
M20A	**Sweetwater, Wa** baz=129	**129.17**	**22**	⇓P		**PKPdf**	**04 54 48.2**	**0.0**
MPMC	**Manual Prospec** baz=129	**129.26**	**33**	⇑P		**PKPdf**	**04 54 48.9**	**+0.4**
N19A	**John Jarvie Ra** baz=129	**129.31**	**23**	⇓P		**PKPdf**	**04 54 48.4**	**0.0**
M21A	**Separation Pea** baz=129	**129.37**	**21**	⇓P		**PKPdf**	**04 54 48.4**	**-0.2**
L23A	**Garrett** baz=129	**129.49**	**19**	⇑P		**PKPdf**	**04 54 48.6**	**-0.2**
O18A	**Roosevelt** baz=129	**129.51**	**24**	⇑P		**PKPdf**	**04 54 49.4**	**+0.5**
N20A	**Spence Gulch,** baz=130	**129.71**	**22**	⇓P		**PKPdf**	**04 54 49.8**	**+0.6**
K26A	**Motz Farm, Whi** baz=130	**129.73**	**17**	⇑P		**PKPdf**	**04 54 48.9**	**-0.1**
O19A	**Miners Draw (B** baz=130	**129.84**	**23**	⇓P		**PKPdf**	**04 54 49.2**	**-0.3**
MSU	**Marysvale**	**130.04**	**27**	*e*PKIKP		**PKPdf**	**04 54 50.8**	**+0.8**
MSU	**Marysvale**	**130.04**	**27**	*e*PKPdf		**PKPdf**	**04 54 50.8**	**+0.8**
ECSD	**EROS Data Cent**	**130.28**	**10**	*e*PKPdf		**PKPdf**	**04 54 49.2**	**-0.7**
O20A	**White River Ci** baz=130	**130.33**	**23**	⇓P		**PKPdf**	**04 54 50.8**	**+0.4**
N22A	**Wattenberg Ran** baz=130	**130.40**	**21**	⇓P		**PKPdf**	**04 54 50.5**	**-0.1**
P19A	**Cripple Cowboy** baz=130	**130.47**	**24**	⇓P		**PKPdf**	**04 54 50.9**	**+0.2**
N23A	**Red Feather La** baz=130	**130.50**	**20**	⇓P		**PKPdf**	**04 54 51.2**	**+0.4**
Q19A	**Hogan Spring (** baz=131	**130.93**	**24**	⇓P		**PKPdf**	**04 54 52.0**	**+0.5**
O23A	**Lake Granby, G** baz=131	**131.11**	**21**	⇑P		**PKPdf**	**04 54 52.1**	**+0.1**
P21A	**Newcastle** baz=131	**131.16**	**22**	⇓P		**PKPdf**	**04 54 51.8**	**-0.2**
U15A	**North Rim** baz=132	**131.66**	**29**	⇓P		**PKPdf**	**04 54 53.4**	**+0.2**
P25A	**Willow Gulch B** baz=132	**132.33**	**19**	⇑P		**PKPdf**	**04 54 54.2**	**0.0**
P26A	**Davis Ranch, A** baz=132	**132.56**	**19**	⇓P		**PKPdf**	**04 54 54.6**	**+0.1**
S21A	**Coal Bank Pass** baz=132	**132.63**	**24**	⇑P		**PKPdf**	**04 54 55.8**	**+0.8**
U21A	**Nageezi** baz=134	**133.75**	**25**	⇑P		**PKPdf**	**04 54 57.8**	**+0.7**
S26A	**Kim** baz=134	**134.27**	**20**	⇑P		**PKPdf**	**04 54 57.9**	**+0.1**
T25A	**Trinidad** baz=134	**134.38**	**21**	⇑P		**PKPdf**	**04 54 59.0**	**+0.9**
U25A	**Circle Dot Ran** baz=135	**135.04**	**21**	⇑P		**PKPdf**	**04 55 00.1**	**+0.7**
V24A	**Rampart Ranch,** baz=135	**135.31**	**23**	⇓P		**PKPdf**	**04 55 00.7**	**+0.7**
ANMO	**Albuquerque**	**135.52**	**25**	*e*PKPdf		**PKPdf**	**04 55 00.6**	**+0.3**
X24A	**Lazy VL Ranch,** baz=136	**136.26**	**24**	⇑P		**PKPdf**	**04 55 02.2**	**+0.4**
Y23A	**Lovelace Mesa,** baz=136	**136.56**	**25**	⇓P		**PKPdf**	**04 55 01.5**	**-0.8**
W27A	**Bowe Ranch, En** baz=136	**136.72**	**21**	⇓P		**PKPdf**	**04 55 01.3**	**-1.2**
Y24A	**Capitan** baz=137	**136.82**	**24**	⇓P		**PKPdf**	**04 55 02.8**	**0.0**
Y25A	**Mesa, Roswell** baz=137	**137.12**	**23**	⇓P		**PKPdf**	**04 55 03.6**	**+0.3**
220A	**Playas Peak, P** baz=137	**137.15**	**29**	⇓P		**PKPdf**	**04 55 03.9**	**+0.5**
Z24A	**Sheeppen Canyo** baz=137	**137.37**	**25**	⇑P		**PKPdf**	**04 55 04.2**	**+0.4**
Z25A	**Roswell** baz=138	**137.68**	**24**	⇓P		**PKPdf**	**04 55 04.1**	**-0.2**
X31A	**McDonald Ranch** baz=138	**138.13**	**18**	⇓P		PKPdf	04 54 55.1	-10
Z27A	**Tatum** baz=138	**138.23**	**22**	⇑P		PKPdf	04 54 56.8	-8.5
125A	**Gardner Draw,** baz=138	**138.24**	**24**	⇓P		**PKPdf**	**04 55 06.8**	**+1.4**
Y29A	**Porterfield Fa** baz=138	**138.29**	**20**	⇓P		PKPdf	04 54 56.8	-8.6
Z28A	**Tucker Farm, M** baz=138	**138.56**	**21**	⇓P		**PKPdf**	**04 55 07.2**	**+1.3**
225A	**Deer Hill, Car** baz=138	**138.65**	**25**	⇑P		**PKPdf**	**04 55 05.7**	**-0.4**
Z29A	**Hungry Hill Ra** baz=139	**138.83**	**21**	⇑P		PKPdf	04 54 58.6	-7.8
Z32A	**Haskell** baz=139	**139.52**	**18**	⇑P		PKPdf	04 54 59.0	-8.5
231A	**Bronte** baz=140	**140.51**	**20**	⇓P		PKPdf	04 55 01.4	-8.0
527A	**Woodward Ranch** baz=141	**140.87**	**25**	⇑P		PKPdf	04 55 02.2	-8.0
626A	**Big Bend Ranch** baz=141	**141.15**	**26**	⇑P		PKPdf	04 55 03.4	-7.3
528A	**Cox Ranch, San** baz=141	**141.19**	**24**	⇓P		PKPdf	04 55 03.0	-7.7
529A	**Stev Forest Ra** baz=141	**141.45**	**23**	⇑P		PKPdf	04 55 04.3	-6.8
TXAR	**Lajitas Array** comp=Z,1.1nm,0.6s,baz=237,slow=1.0,SNR=18	**141.55**	**26**	PKhKP		PKPpre	04 55 05.3	
TXAR				PP		**PP**	**04 58 14.5**	**+0.9**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.8s,baz=312,slow=5.9,SNR=5.9	**141.55**	**26**	PKPpre		PKPpre	04 55 05.3	
TXAR				PP		**PP**	**04 58 14.5**	**+0.9**
627A	**Terlingua Ranc** baz=141	**141.56**	**25**	⇑P		PKPdf	04 55 04.5	-7.0
628A	**Black Gap, Mar** baz=142	**141.74**	**25**	⇑P		PKPdf	04 55 05.0	-6.7
530A	**J-C Ranch, Com** baz=142	**141.77**	**22**	⇑P		PKPdf	04 55 05.3	-6.4
531A	**Rocksprings** baz=142	**142.05**	**21**	⇑P		PKPdf	04 55 05.5	-6.7
PLCA	**Paso Flores** comp=Z,1.1nm,0.7s,baz=239,slow=3.0,SNR=3.1	**142.12**	**199**	PKhKP		PKPpre	04 55 07.0	
PLCA	**Paso Flores**	**142.12**	**199**	PKPpre		PKPpre	04 55 07.0	
532A	**Rocksprings** baz=142	**142.31**	**20**	⇑P		PKPdf	04 55 06.4	-6.3
LPAZ	**La Paz** comp=Z,1.8nm,0.8s,baz=102,slow=0.7,SNR=7.5	**159.56**	**236**	PKP		**PKPdf**	**04 55 40.0**	**+0.2**
LPAZ				PKPab		**PKPab**	**04 56 18.0**	**0.0**
LPAZ	**La Paz** comp=Z,2.9nm,0.7s,baz=96,slow=3.4,SNR=7.3	**159.56**	**236**	PKP		**PKPdf**	**04 55 40.0**	**+0.2**
LPAZ				PKPab		**PKPab**	**04 56 18.0**	**0.0**

*ISK **24** 04:56:06.6, 40°.32N×25°.83E, h2km, MD3.1*
*ISCJB **24** 04:56:07.2±0.5, 40°.33N±0°.02×25°.80E±0°.03, h7km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=167.0*
*THE **24** 04:56:07.5, 40°.34N×25°.83E, h13km±1km, ML2.3/7, Error ellipse: s-maj=1.6km s-min=0.7km az=45.0*
*DDA **24** 04:56:07.2, 40°.32N×25°.90E, h4km, MD2.9*
*CSEM **24** 04:56:07.2±0.2, 40°.32N×25°.79E, h5km, MD3.1, Error ellipse: s-maj=3.7km s-min=3.4km az=77.0*

ISC 24 04:56:07.1±1.0, 40°.34N±0°.02×25°.80E±0°.02, h10km±9km, n63, σ0s71/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
ENEZ	**Enez**	**0.48**	**34**	Op	ISC		
ENEZ				*e*SG	**Sb**	**04 56 24.2**	**-0.6**
ENEZ	**Enez**	**0.48**	**34**	*i* Pg	**Pg**	**04 56 16.4**	**-0.1**
ENEZ				*e*Sg	**Sb**	**04 56 24.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.52**	**83**	*e*PG	**Pg**	**04 56 17.3**	**+0.1**
GELI				*e*SG	**Sb**	**04 56 25.1**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.52**	**83**	*e*Pg	**Pg**	**04 56 17.3**	**+0.1**
GELI				*e*Sg	**Sb**	**04 56 25.1**	**-0.8**
BOZC	**Bozcaada**	**0.53**	**159**	*i* P	**Pg**	**04 56 17.4**	**0.0**
BOZC				*i* S	**Sg**	**04 56 24.7**	**+0.3**
ALN	**Alexandroupoli**	**0.59**	**18**	P	**Pg**	**04 56 18.7**	**+0.1**
ALN				S	**Sg**	**04 56 26.5**	**+0.1**
ALN	**Alexandroupoli**	**0.59**	**18**	P	**Pg**	**04 56 18.7**	**+0.1**
ALN				S	**Sg**	**04 56 26.5**	**+0.1**
LIA	**Limnos Island**	**0.65**	**227**	P	**Pb**	**04 56 20.5**	**0.0**
LIA				S	**Sb**	**04 56 29.8**	**+0.3**
LIA	**Limnos Island**	**0.65**	**227**	P	**Pb**	**04 56 20.5**	**0.0**
LIA				S	**Sb**	**04 56 29.8**	**+0.3**
EZN	**Ezine**	**0.65**	**142**	*e*PG	**Pg**	**04 56 19.5**	**-0.2**
EZN				*e*SG	**Sg**	**04 56 28.4**	**+0.2**
EZN	**Ezine**	**0.65**	**142**	*e*Pg	**Pg**	**04 56 19.5**	**-0.2**
EZN				*e*Sg	**Sg**	**04 56 28.4**	**+0.2**
LPK	**Lapseki**	**0.73**	**87**	*e*PG	**Pg**	**04 56 21.6**	**+0.3**
LPK	**Lapseki**	**0.73**	**87**	*e*Pg	**Pg**	**04 56 21.6**	**+0.3**
RDO	**Rodhopi**	**0.83**	**346**	P	**Pg**	**04 56 23.3**	**+0.1**
RDO				S	**Sb**	**04 56 35.0**	**0.0**
RDO	**Rodhopi**	**0.83**	**346**	P	**Pg**	**04 56 23.3**	**+0.1**
RDO				S	**Sb**	**04 56 35.0**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*PN	**Pb**	**04 56 27.6**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*Pn	**Pb**	**04 56 27.6**	**-0.8**
SART	**Tekirdag**	**1.11**	**71**	*i* P	**Pb**	**04 56 27.2**	**-1.2**
SART				*i* S	**Sb**	**04 56 42.5**	**-0.4**
SART	**Tekirdag**	**1.11**	**71**	*i* P	**Pb**	**04 56 27.2**	**-1.2**
SART				*i* S	**Sb**	**04 56 42.6**	**-0.4**
SIGR	**SIGRI**	**1.12**	**178**	P	**Pb**	**04 56 28.1**	**-0.6**
SIGR				S	**Sg**	**04 56 43.3**	**0.0**
SIGR	**SIGRI**	**1.12**	**178**	P	**Pb**	**04 56 28.1**	**-0.6**
SIGR				S	**Sg**	**04 56 43.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.15**	**87**	*e*PN	**Pb**	**04 56 29.0**	**0.0**
KRBG	**Karabiga-Canak**	**1.15**	**87**	*e*Pn	**Pb**	**04 56 29.0**	**0.0**
PRK	**Paraskevi**	**1.15**	**161**	P	**Pb**	**04 56 28.8**	**-0.3**
PRK				S	**Sb**	**04 56 43.9**	**-0.1**
PRK	**Paraskevi**	**1.15**	**161**	P	**Pb**	**04 56 28.8**	**-0.3**
PRK				S	**Sb**	**04 56 43.9**	**-0.1**
KAVA	**Kavala**	**1.18**	**304**	P	**Pb**	**04 56 29.6**	**0.0**
KAVA				S	**Sn**	**04 56 46.0**	**+0.1**
KAVA	**Kavala**	**1.18**	**304**	P	**Pb**	**04 56 29.6**	**0.0**
KAVA				S	**Sn**	**04 56 46.0**	**+0.1**
MFT	**Murefte**	**1.21**	**68**	*e*PN	**Pn**	**04 56 30.0**	**-0.3**
MFT	**Murefte**	**1.21**	**68**	*e*Pn	**Pn**	**04 56 30.0**	**-0.3**
AYVA	**Ayvalik**	**1.23**	**146**	*i* P	**Pn**	**04 56 30.2**	**-0.2**
AYVA				*i* S	**Sb**	**04 56 46.3**	**-0.2**
AYVA	**Ayvalik**	**1.23**	**146**	*i* P	**Pn**	**04 56 30.2**	**-0.2**
AYVA				*i* S	**Sb**	**04 56 46.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.47**	**101**	*e*PN	**Pb**	**04 56 34.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.47**	**101**	*e*Pn	**Pb**	**04 56 34.3**	**-0.3**
TKR	**Tekirdag**	**1.47**	**63**	*e*PN	**Pg**	**04 56 35.6**	**+0.2**
TKR	**Tekirdag**	**1.47**	**63**	*e*Pn	**Pg**	**04 56 35.6**	**+0.2**
BALY	**Balya**	**1.52**	**113**	*i* P	**Pn**	**04 56 34.6**	**+0.2**
BALY				*i* S	**Sn**	**04 56 54.4**	**+0.2**
BALY	**Balya**	**1.52**	**113**	*i* P	**Pn**	**04 56 34.6**	**+0.2**
BALY				*i* S	**Sn**	**04 56 54.4**	**+0.2**
BNT	**Bandirma**	**1.62**	**89**	*e*PN	**Pb**	**04 56 36.6**	**-0.5**
BNT	**Bandirma**	**1.62**	**89**	*e*Pn	**Pb**	**04 56 36.6**	**-0.5**
EDRB	**Edirne**	**1.67**	**25**	*e*PN	**Pb**	**04 56 37.8**	**-0.2**
EDRB	**Edirne**	**1.67**	**25**	*e*Pn	**Pb**	**04 56 37.8**	**-0.2**
PAIG	**Paliouri**	**1.68**	**257**	P	**Pn**	**04 56 35.8**	**-0.7**
PAIG	**Paliouri**	**1.68**	**257**	P	**Pn**	**04 56 35.8**	**-0.7**
BALB	**Balikesir**	**1.74**	**113**	*e*PN	**Pn**	**04 56 37.5**	**+0.1**
BALB	**Balikesir**	**1.74**	**113**	*e*Pn	**Pn**	**04 56 37.6**	**+0.1**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**04 56 38.0**	**-0.1**
NVR				S	**Sn**	**04 57 00.8**	**-0.1**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**04 56 38.0**	**-0.1**
NVR				S	**Sn**	**04 57 00.8**	**-0.1**
CHOS	**Chios island**	**1.96**	**174**	P	**Pn**	**04 56 40.6**	**+0.1**
CHOS	**Chios island**	**1.96**	**174**	P	**Pn**	**04 56 40.6**	**+0.1**
SLVT	**Silivri**	**2.04**	**63**	*e*PN	**Pb**	**04 56 43.3**	**-0.9**
SLVT	**Silivri**	**2.04**	**63**	*e*Pn	**Pb**	**04 56 43.3**	**-0.9**
DURS	**Dursunbey**	**2.18**	**109**	*i* P	**Pn**	**04 56 43.8**	**+0.2**
DURS				*i* S	**Sn**	**04 57 10.4**	**-0.3**
DURS	**Dursunbey**	**2.18**	**109**	*i* P	**Pn**	**04 56 43.8**	**+0.2**
DURS				*i* S	**Sn**	**04 57 10.4**	**-0.3**
CTYL	**Yal??k??y-??at**	**2.20**	**58**	*e*PN	**Pb**	**04 56 46.0**	**-1.0**
CTYL	**Yal??k??y-??at**	**2.20**	**58**	*e*Pn	**Pb**	**04 56 46.0**	**-1.0**
CTKS	**Kestanelik-??a**	**2.24**	**65**	*e*PN	**Pb**	**04 56 46.6**	**-1.1**
CTKS	**Kestanelik-??a**	**2.24**	**65**	*e*Pn	**Pb**	**04 56 46.6**	**-1.1**
BGKT	**Bogazkoy**	**2.41**	**69**	*e*PN	**Pn**	**04 56 48.4**	**+1.8**
BGKT	**Bogazkoy**	**2.41**	**69**	*e*Pn	**Pn**	**04 56 48.4**	**+1.8**
YLV	**Yalova**	**2.73**	**84**	*e*PN	**Pn**	**04 56 53.5**	**+2.3**
YLV	**Yalova**	**2.73**	**84**	*e*Pn	**Pn**	**04 56 53.5**	**+2.3**
TVSB	**Tavsanli**	**2.95**	**106**	*e*PN	**Pn**	**04 56 56.4**	**+2.2**
TVSB	**Tavsanli**	**2.95**	**106**	*e*Pn	**Pn**	**04 56 56.4**	**+2.2**

IDC 24 05:07:22.9±1.2, 3°.34N×128°.28E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, Error ellipse: s-maj=88.5km s-min=17.4km az=73.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
FITZ	**Fitzroy Crossi**	**21.47**	**187**	P	P	05 12 13.4	+0.3
	0.9nm,0.5s,baz=14,slow=9.8,SNR=8.9						
WRA	**Warramunga Arr**	**23.89**	**166**	P	P	05 12 38.4	-0.2
	1.1nm,0.5s,baz=345,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.40**	**169**	P	P	05 13 11.4	+1.0
	0.2nm,0.3s,baz=356,slow=8.3,SNR=4.1						
ASAR				PcP	PcP	05 16 28.8	-0.9
	0.3nm,0.5s,baz=357,slow=1.8,SNR=4.5						
SONM	**Songino Array**	**48.17**	**340**	P	P	05 16 05.4	+0.2
	0.6nm,0.9s,baz=148,slow=6.0,SNR=4.7						
MKAR	**Makanchi Array**	**58.76**	**325**	P	P	05 17 23.5	+0.6
	0.8nm,0.6s,baz=114,slow=8.0,SNR=13						
KURBB	**Kurchatov Arra**	**62.90**	**327**	P	P	05 17 50.9	-0.1
	1.0nm,0.4s,baz=124,slow=6.1,SNR=14						
TORD	**Torodi Ar. Bea**	**124.51**	**288**	PKP	PKPdf	05 26 23.6	-1.7
	0.2nm,0.7s,baz=58,slow=2.5,SNR=2.3						

GUC 24 05:09:32.3±0.6, 33°.04S×72°.04W, h20km, MD3.7, ML2.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
ROCH	**El Roble**	**0.87**	**86**	*e*P	Pb	05 09 48.2	-0.8
ROCH				*e*S	Sb	05 10 00.2	-0.1
LNV	**Longovilo**	**1.06**	**150**	⇓*i*P	Pb	05 09 50.1	-1.9
PEL	**Peldehue**	**1.14**	**96**	*e*P	Pn	05 09 52.8	-0.4
PEL				*e*S	Sb	05 10 07.8	-0.1
PEL				AML	AML	05 10 09.3	
	comp=E,277nm,0.4s						
CLCH	**Cerro Calan**	**1.31**	**106**	*e*P	Pn	05 09 55.2	-0.4
CLCH				*e*S	Sn	05 10 12.5	-0.1
CLCH				AML	AML	05 10 18.6	
	comp=N,128nm,0.6s						
CHCH	**Chadas Angostu**	**1.47**	**128**	*i* P	Pn	05 09 57.3	-0.4
CHCH				*i* S	Sn	05 10 16.4	+0.1
CACH	**El Canelo**	**1.61**	**132**	*e*P	Pn	05 09 59.9	0.0
CACH				*i* S	Sb	05 10 21.6	-0.2
LMEL	**Las Melosas**	**1.74**	**118**	*e*P	Pn	05 10 02.0	+0.5
LMEL				*e*S	Sb	05 10 24.6	-0.6
LMEL				AML	AML	05 10 29.1	
	comp=N,94nm,0.2s						

IDC 24 05:14:11.0±2.1, 23°.84S×174°.47W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/20, mbtmp4.0/7, Error ellipse: s-maj=141.0km s-min=24.5km az=158.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TBI	**Tubuai**	**22.92**	**94**	*e*LR	LR	05 24 39.5	
	213nm,27.5s						
PPT2	**Papeete2**	**24.08**	**80**	*e*LR	LR	05 25 00.8	
	259nm,27.8s						
CTA	**Charters Tower**	**36.54**	**268**	P	P	05 21 18.6	-0.1
	4.8nm,0.4s,baz=95,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**39.45**	**248**	P	P	05 21 41.3	-1.8
	0.6nm,0.5s,baz=85,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**47.03**	**259**	P	P	05 22 45.3	+0.7
	1.8nm,0.7s,baz=98,slow=7.0,SNR=9.6						
WRA	**Warramunga Arr**	**47.46**	**264**	P	P	05 22 47.5	-0.5
	3.2nm,0.5s,baz=103,slow=8.3,SNR=23						
FITZ	**Fitzroy Crossi**	**55.88**	**264**	P	P	05 23 51.8	+0.8
	0.6nm,0.4s,baz=117,slow=6.8,SNR=6.3						
NVAR	**Mina Array Bea**	**81.27**	**41**	P	P	05 26 28.6	-0.8
	0.6nm,0.8s,baz=236,slow=6.4,SNR=3.3						
TXAR	**Lajitas Array**	**86.15**	**56**	P	P	05 26 55.3	+0.8
	0.3nm,0.9s,baz=205,slow=6.0,SNR=3.2						

IDC 24 06:07:14.5±3.7, 17°.81S×70°.55W, h104km±26km, mb3.7/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.7/6, Error ellipse: s-maj=37.4km s-min=28.5km az=116.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
LPAZ	**La Paz**	**2.77**	**57**	P	Pn	06 07 58.7	+0.6
	21nm,0.3s,baz=262,slow=12,SNR=774						
LPAZ				S	Sn	06 08 31.4	-0.1
	1.0nm,0.3s,baz=75,slow=17,SNR=1.6						
SIV	**San Ignacio**	**9.25**	**80**	P	Pn	06 09 24.5	-0.6
	1.4nm,0.3s,baz=275,slow=11,SNR=23						
CFAA	**Coronel Fontan**	**13.89**	**172**	P	Pn	06 10 26.2	-0.7
	0.0nm,0.3s,baz=348,slow=14,SNR=12						
BDFB	**Brasilia**	**21.69**	**88**	P	P	06 11 58.8	+1.5
	0.8nm,0.5s,baz=251,slow=9.4,SNR=4.2						
DBIC	**Dimbokro**	**69.24**	**75**	P	P	06 18 10.7	-0.1
	4.3nm,0.8s,baz=219,slow=7.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.63**	**72**	P	P	06 18 59.8	-0.2
	2.4nm,0.7s,baz=252,slow=5.2,SNR=23						
YKA	**Yellowknife Ar**	**87.22**	**341**	P	P	06 19 48.8	+0.1
	0.3nm,0.7s,baz=135,slow=4.6,SNR=9.5						

*NIED **24** 06:17:00, 39°.60N×142°.10E, h68km, Mw4.1 Best double couple: M0=1.34000×10^15 NP1:φs=35.00000°, δ73.00000°, λ100.00000°. NP2:φs185.00000°, δ20.00000°, λ62.00000°.*
*ISCJB **24** 06:17:36.1±0.8, 39°.63N±0°.04×142°.2E±0°.1, h55km±5km, mb3.7/11, MS3.9/1, Error ellipse: s-maj=13.4km s-min=5.9km az=5.0*
*JMA **24** 06:17:37.3, 39°.63N×142°.11E, h48km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs27.00000°, δ65.00000°, λ83.00000°. NP2:φs223.00000°, δ26.00000°, λ105.00000°. Principal axes: T Plg69.0000°, Azm282.0000°; N Plg7.0000°, Azm30.0000°; P Plg20.0000°, Azm122.0000°;*
JMA Felt II J1.
*IDC **24** 06:17:42.0±1.9, 39°.57N×141°.97E, h96km±16km, mb3.4/11, mb1 3.6/15, mb1mx3.5/28, mbtmp3.4/15, MS3.2/2, Ms1 3.3/2, ms1mx2.6/36 Error ellipse: s-maj=20.1km s-min=12.5km az=110.0*

ISC 24 06:17:36.9±1.0, 39°.63N±0°.04×142°.15E±0°.09, h48km±8km, n29, σ0s95/35, mb3.7/11, 1C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
MIYJ	**Miyakonagasawa**	**0.26**	**259**	⇓P	**Pn**	**06 17 45.7**	**+0.2**
MIYJ				S	**Sn**	**06 17 51.4**	**-0.2**
JTH	**Tanohata**	**0.39**	**325**	⇓P	**Pn**	**06 17 46.8**	**+0.1**
JTH				S	**Sn**	**06 17 53.4**	**-0.3**
OFUJ	**Ofunato**	**0.66**	**215**	⇑P	**Pn**	**06 17 50.1**	**0.0**
OFUJ				S	**Sn**	**06 17 59.1**	**-0.5**
JOM	**Ohasama**	**0.68**	**257**	⇓P	**Pn**	**06 17 50.5**	**+0.1**
JOM				S	**Sn**	**06 17 59.9**	**-0.2**
JKZ	**Kuzumaki**	**0.73**	**300**	⇓P	**Pn**	**06 17 51.1**	**+0.1**
JKZ				S	**Sn**	**06 18 00.6**	**-0.6**
JANG	**Nango**	**0.89**	**327**	⇓P	**Pn**	**06 17 52.9**	**-0.3**
JANG				*e*S	**Sn**	**06 18 04.2**	**-0.9**
JMK	**Ichinoseki**	**0.99**	**227**	⇓P	**Pn**	**06 17 54.5**	**+0.1**
JMK				S	**Sn**	**06 18 06.9**	**-0.4**
JRG	**Rokugo**	**1.20**	**259**	⇓P	**Pn**	**06 17 57.3**	**0.0**
JAH	**Hinai**	**1.30**	**296**	⇓P	**Pn**	**06 17 58.8**	**+0.2**
JIO	**Ouri**	**1.33**	**208**	P	**Pn**	**06 17 59.1**	**+0.1**
JIO				*e*S	**Sn**	**06 18 14.9**	**-0.6**
JTM	**Tenmabayashi**	**1.43**	**325**	⇓P	**Pn**	**06 18 00.5**	**+0.1**
MJAR	**Matsushiro Arr**	**4.38**	**227**	P	**Pn**	**06 18 44.0**	**+3.2**
	3.8nm,0.3s,baz=32,slow=13,SNR=34						
MJAR				S	Sn	06 19 38.2	+7.6
	baz=61,slow=13,SNR=3.1						
MAT	**Matsushiro**	**4.38**	**227**	P	**Pn**	**06 18 42.3**	**+1.4**
MAT				*e*S	Sn	06 19 40.7	+10
ASAJ	**Asahikawa**	**4.50**	**4**	P	Pn	06 18 49.8	+7.3
	3.6nm,0.3s,baz=253,slow=10,SNR=5.0						
ASAJ				S	Sn	06 19 41.1	+7.6
	1.5nm,0.3s,baz=50,slow=32,SNR=3.5						
USRK	**Ussuriysk Arra**	**8.84**	**304**	P	**Pn**	**06 19 45.0**	**+3.0**
	0.5nm,0.3s,baz=119,slow=14,SNR=7.7						
KSRS	**Korea Array**	**11.36**	**263**	P	Pn	06 20 21.0	+4.6
	0.9nm,0.3s,baz=68,slow=14,SNR=8.3						
KSRS				LR	LR	06 24 03.2

ROCH **El Roble** 4.80 168 ⇓iP Pn 06 23 58.5 +1.1
ANCH **Antofagasta** 4.84 20 P Pn 06 23 57.5 -0.4
ANCH eS Sn 06 24 50.5 -3.6
ANCH **Antofagasta** 4.84 20 ⇓iP Pn 06 23 57.5 -0.4
ANCH eS Sn 06 24 50.5 -3.6
PEL **Peldehue** 5.03 165 ⇑eP Pn 06 24 00.9 +0.5
PEL eS Sn 06 24 54.9 -3.8
CEN1 **Los Morros** 5.18 21 ⇑iP Pn 06 23 58.6 -4.1
CEN1 eS Sn 06 24 54.2 -8.5
CEN1 **Los Morros** 5.18 21 ⇑iP Pn 06 23 58.6 -4.1
CEN1 eS Sn 06 24 54.2 -8.5
ANTU **Antumapu** 5.45 166 P Pn 06 24 07.6 +1.3
ANTU S Sn 06 25 05.6 -3.5
ANTU **Antumapu** 5.45 166 eP Pn 06 24 07.6 +1.3
ANTU eS Sn 06 25 05.6 -3.5
LNV **Longovilo** 5.71 173 P Pn 06 24 09.4 -0.3
LNV **Longovilo** 5.71 173 eP Pn 06 24 09.4 -0.3
LMEL **Las Melosas** 5.82 163 eP Pn 06 24 13.3 +1.9
LMEL eS Sn 06 25 14.3 -4.0
CACH **El Canelo** 5.99 167 eP Pn 06 24 15.0 +1.3
CACH **El Canelo** 5.99 167 eP Pn 06 24 15.0 +1.3
LVC **Limon Verde** 6.37 29 ⇓iP Pb 06 24 33.5 -2.5
LVC eS Sb 06 25 44.0 -8.4
PB04 **Plate Boundary** 6.46 23 ⇓iP Pn 06 24 15.8 -4.3
PB07 **Plate Boundary** 6.84 18 ⇓iP Pn 06 24 24.9 -0.6
ARE **Arequipa** 11.77 3 eP Pn 06 25 32.2 -1.0
ARE eS Sn 06 27 42.0 -2.9
LPAZ **La Paz** 12.50 18 Pn Pn 06 25 44.7 +1.1
comp=N,7.5nm,0.3s,baz=202,slow=6.2,SNR=232
LPAZ Sn Sn 06 28 04.1 +0.8
comp=N,0.2nm,0.3s,baz=270,slow=24,SNR=2.1
LPAZ LR LR 06 29 41.6
comp=N,81nm,21.5s,baz=237,slow=33
LPAZ **La Paz** 12.50 18 ePn Pn 06 25 44.6 +1.0
comp=N,56nm,0.8s
PLCA **Paso Flores** 12.51 174 Pn Pn 06 25 43.5 +0.5
comp=N,5.7nm,0.3s,baz=338,slow=12,SNR=151
PLCA Sn Sn 06 28 07.1 +4.7
comp=N,0.1nm,0.3s,baz=31,slow=24,SNR=1.7
PLCA **Paso Flores** 12.51 174 ePn Pn 06 25 43.5 +0.5
PLCA Sn Sn 06 28 07.1 +4.7
TRQA **Tornquist** 12.97 141 ePn Pn 06 25 50.5 +1.2
TRQA eSn Sn 06 28 07.4 -6.3
SIV **San Ignacio** 15.97 42 Pn Pn 06 26 26.4 -3.5
comp=N,1.5nm,0.3s,baz=245,slow=13,SNR=41
SIV Sn Sn 06 29 17.6 -10
baz=313,slow=23,SNR=2.9
SIV LR LR 06 31 49.7
comp=N,210nm,20.7s,slow=34
SIV **San Ignacio** 15.97 42 Pn Pn 06 26 26.4 -3.5
SIV Sn Sn 06 29 17.6 -10
NNA **Nana** 16.77 344 Sn Sn 06 29 34.6 -12
comp=N,5.3nm,0.3s,baz=216,slow=16,SNR=8.9
NNA **Nana** 16.77 344 eP P 06 26 43.1 +0.8
comp=N,26nm,1.1s
NNA Sn Sn 06 29 34.6 -12
SAML **Samuel** 21.01 26 eP Pn 06 27 31.3
comp=N,54nm,1.1s
SPB **Sao Paulo** 22.74 84 P P 06 27 46.6 -0.7
comp=N,15nm,0.9s
BDFB **Brasilia** 25.65 66 P P 06 28 16.7 +1.6
comp=N,27nm,0.8s,baz=239,slow=9.0,SNR=59
BDFB LR LR 06 40 00.1
comp=N,686nm,19.5s,baz=106,slow=40
BDFB **Brasilia** 25.65 66 P P 06 28 16.7 +1.6
VNA3 **Neumayer Olymp** 54.73 159 eP P 06 32 14.9 +0.8
VNA3 **Neumayer Olymp** 54.73 159 ePcP PcP 06 33 17.0 +0.4
VNA2 **Neumayer--Watz** 55.36 159 eP P 06 32 19.3 +0.6
baz=296,slow=8.8
SNAA **Sanae** 56.95 159 eP P 06 32 30.3 +0.2
comp=N,9.8nm,0.6s
QSPA **South Pole Qui** 61.95 180 P P 06 33 05.4 +0.6
comp=N,1.3nm,0.7s,baz=179,slow=2.1,SNR=13
QSPA **South Pole Qui** 61.95 180 P P 06 33 05.4 +0.6
732A **Laxson Ranch,** 62.61 333 ⇓P P 06 33 10.2 +0.8
baz=63,SNR=8.4
632A **Uvalde** 63.22 333 ⇓P P 06 33 14.4 +0.9
baz=64,SNR=5.2
532A **Rocksprings** 63.82 333 ⇑P P 06 33 18.3 +0.8
baz=64,SNR=6.5
531A **Rocksprings** 64.11 333 ⇑P P 06 33 20.6 +1.2
baz=64
530A **J-C Ranch, Com** 64.42 332 ⇑P P 06 33 22.0 +0.6
baz=65
432A **Menard** 64.44 334 ⇓P P 06 33 22.0 +0.4
baz=65,SNR=6.0
SWET **Sewanee** 64.46 348 eP P 06 33 21.3 -0.4
comp=N,12nm,0.7s
628A **Black Gap, Mar** 64.50 330 ⇑P P 06 33 23.1 +1.1
baz=65
WHTX **Lake Whitney** 64.57 336 ⇓P P 06 33 22.7 +0.4
baz=65
431A **Sonora** 64.59 333 ⇑P P 06 33 23.3 +0.7
baz=65
627A **Terlingua Ranc** 64.69 330 ⇓P P 06 33 23.8 +0.5
baz=65
TXAR **Lajitas Array** 64.71 330 P P 06 33 24.1 +0.6
comp=N,1.6nm,0.6s,baz=154,slow=8.7,SNR=28
TXAR LR LR 06 58 39.1
comp=N,77nm,18.9s,baz=110,slow=33
TXAR **Lajitas Array** 64.71 330 P P 06 33 24.1 +0.6
529A **Stev Forest Ra** 64.76 331 ⇑P P 06 33 24.5 +0.7
baz=65,SNR=8.8
332A **Millersview** 64.87 334 ⇑P P 06 33 24.7 +0.3
baz=65
430A **Baggett Ranch,** 64.93 333 ⇓P P 06 33 25.2 +0.4
baz=65,SNR=5.8
528A **Cox Ranch, San** 65.04 331 ⇑P P 06 33 25.9 +0.4
baz=65,SNR=6.2
429A **Davenport Ranc** 65.06 332 ⇑P P 06 33 26.4 +0.8
baz=65,SNR=5.6
331A **San Angelo** 65.07 333 ⇓P P 06 33 26.1 +0.4
baz=65,SNR=6.6
626A **Big Bend Ranch** 65.10 329 ⇓P P 06 33 26.9 +0.9
baz=65,SNR=16
527A **Woodward Ranch** 65.38 330 ⇑P P 06 33 28.3 +0.4
baz=66,SNR=5.3
330A **Mertzon** 65.45 333 ⇑P P 06 33 28.6 +0.4
baz=66,SNR=5.5
526A **Mary Lane Ranc** 65.52 330 ⇑P P 06 33 29.6 +0.9
baz=66
231A **Bronte** 65.58 334 ⇓P P 06 33 29.3 +0.3
baz=66
WVT **Waverly** 65.73 346 eP P 06 33 28.7 -1.1
comp=N,13nm,1.0s
329A **Wagon Wheel Ra** 65.85 332 ⇑P P 06 33 31.2 +0.5
baz=66
230A **Sterling City** 65.85 333 ⇑P P 06 33 31.2 +0.4
baz=66
427A **Hayter Ranch,** 65.89 331 ⇓P P 06 33 31.4 +0.3
baz=66
ABTX **Abilene, Hawle** 65.94 335 ⇓P P 06 33 31.9 +0.6
baz=66
426A **McDonald Obser** 66.01 330 ⇑P P 06 33 32.6 +0.6
baz=66,SNR=5.2
328A **Wristen Ranch,** 66.10 332 ⇑P P 06 33 33.0 +0.6
baz=66
229A **Bryant Ranch,** 66.20 333 ⇓P P 06 33 33.5 +0.5
baz=66
Z32A **Haskell** 66.49 335 ⇑P P 06 33 35.2 +0.4
baz=67
425A **Indio Mountain** 66.54 329 ⇑P P 06 33 35.5 +0.2
baz=67
326A **Caldwell Ranch** 66.55 331 ⇑P P 06 33 35.9 +0.6
baz=67
228A **UT Block 9, Go** 66.65 332 ⇓P P 06 33 36.2 +0.3
baz=67,SNR=5.4
Z31A **Sharp Cattle R** 66.75 335 ⇑P P 06 33 36.7 +0.3
baz=67,SNR=8.4
129A **Stewart Farms,** 66.81 333 ⇓P P 06 33 37.4 +0.5
baz=67
227A **Bennet, Jal** 66.85 331 ⇓P P 06 33 38.1 +0.9
baz=67
325A **Bean Ranch, Si** 67.03 330 ⇑P P 06 33 38.5 0.0
baz=67,SNR=10
128A **Castleberry Fa** 67.05 332 ⇑P P 06 33 38.8 +0.3
baz=67,SNR=6.0
Z30A **Sanderson Ranc** 67.09 334 ⇓P P 06 33 38.7 +0.1
baz=67
Y32A **R-V Farms, Ver** 67.10 336 ⇑P P 06 33 39.0 +0.3
baz=67
Z29A **Hungry Hill Ra** 67.30 333 ⇑P P 06 33 40.0 0.0
baz=68
324A **Moseley Ranch,** 67.32 329 ⇑P P 06 33 39.8 -0.5
baz=68,SNR=7.5
Y31A **Rekieta Farm,** 67.36 335 ⇑P P 06 33 40.7 +0.3
baz=68,SNR=8.4
127A **Arkansas Junct** 67.46 332 ⇓P P 06 33 41.5 +0.4
baz=68
MNTX **Cornudas Mount** 67.49 330 ⇓P P 06 33 40.7 -0.5
baz=68,SNR=7.6
WMOK **Wichita Mounta** 67.52 336 eP P 06 33 41.6 +0.3
comp=N,2.0nm,0.7s
Y30A **Stafford Cattl** 67.53 334 ⇑P P 06 33 41.6 +0.2
baz=68
SIUC **Southern Illin** 67.55 345 eP P 06 33 41.6 +0.2
comp=N,19nm,0.7s
Z28A **Tucker Farm, M** 67.59 333 ⇑P P 06 33 41.9 0.0
baz=68
TUL1 **Tulsa** 67.60 339 ⇓P P 06 33 42.0 +0.3
baz=68
126A **Clayton Basin,** 67.71 331 ⇑P P 06 33 43.0 +0.4
baz=68
Y29A **Porterfield Fa** 67.81 334 ⇓P P 06 33 43.5 +0.3
baz=68,SNR=8.9
X31A **McDonald Ranch** 67.86 335 ⇑P P 06 33 43.6 +0.2
baz=68
224A **Cornudas Mount** 67.87 330 ⇓P P 06 33 43.5 -0.3
baz=68
Z27A **Tatum** 67.95 332 ⇑P P 06 33 44.4 +0.2
baz=68
125A **Gardner Draw,** 67.99 331 ⇓P P 06 33 44.4 -0.1
baz=68,SNR=5.1
X30A **Coker Ranch, T** 68.02 335 ⇓P P 06 33 44.8 +0.3
baz=68
Y28A **McKinney Farm,** 68.08 333 ⇑P P 06 33 45.6 +0.6
baz=68
FVM **French Village** 68.08 345 eP P 06 33 44.8 0.0
comp=N,13nm,0.6s
Z26A **Caprock** 68.23 332 ⇑P P 06 33 46.1 +0.2
baz=69,SNR=21
X29A **Tulia** 68.34 334 ⇑P P 06 33 46.5 0.0
baz=69,SNR=7.9
MSTX **Muleshoe** 68.34 333 ⇓P P 06 33 46.5 -0.1
baz=69,SNR=8.5
124A **Stringfield Ra** 68.37 330 ⇑P P 06 33 47.8 +0.9
baz=69
Y27A **Causey** 68.42 333 ⇑P P 06 33 47.2 +0.1
baz=69
Z25A **Roswell** 68.55 331 ⇑P P 06 33 47.9 0.0
baz=69,SNR=5.6
AMTX **Amarillo** 68.72 334 ⇓P P 06 33 49.7 +0.8
baz=69
Z24A **Sheeppen Canyo** 68.87 331 ⇓P P 06 33 51.0 +1.0
baz=69
W29A **Amraillo** 68.91 334 ⇓P P 06 33 50.7 +0.6
baz=69
319A **Douglas** 69.04 326 ⇑P P 06 33 51.9 +0.9
baz=69
Y25A **Mesa, Roswell** 69.09 331 ⇓P P 06 33 51.7 +0.4
baz=69
220A **Playas Peak, P** 69.11 327 ⇓P P 06 33 52.5 +1.0
baz=69
Z23A **Rita Site, Whi** 69.19 330 ⇑P P 06 33 53.6 +1.7
baz=70
W28A **Vega** 69.25 334 ⇑P P 06 33 53.4 +1.2
baz=70
X26A **CR and CF Fran** 69.27 332 ⇓P P 06 33 53.3 +0.9
baz=70
121A **Cookes Peak, D** 69.28 328 ⇑P P 06 33 53.6 +1.0
baz=70
Y24A **Capitan** 69.41 331 ⇑P P 06 33 54.9 +1.5
baz=70
W27A **Bowe Ranch, En** 69.41 333 ⇑P P 06 33 53.4 +0.1
baz=70
X25A **Clemmons Ranch** 69.60 332 ⇓P P 06 33 54.6 +0.1
baz=70
Y23A **Lovelace Mesa,** 69.68 330 ⇑P P 06 33 55.8 +0.8
baz=70
V28A **Channing** 69.69 334 ⇓P P 06 33 55.5 +0.5
baz=70,SNR=5.3
120A **U Bar Ranch, L** 69.69 328 ⇓P P 06 33 56.3 +1.1
baz=70
W26A **Owens Ranch, T** 69.72 333 ⇑P P 06 33 55.5 +0.4
baz=70,SNR=5.9
Z21A **St. Cloud Mine** 69.88 329 ⇓P P 06 33 57.3 +1.0
baz=70
X24A **Lazy VL Ranch,** 69.96 331 ⇓P P 06 33 57.6 +0.9
baz=70
Y22A **Socorro** 70.09 330 ⇓P P 06 33 58.6 +1.1
baz=70
W25A **X Bar L Ranch,** 70.11 332 ⇓P P 06 33 58.5 +0.9
baz=70
Z20A **Nine Sixteen R** 70.14 328 ⇑P P 06 33 58.9 +1.0
baz=70,SNR=5.2
X23A **Hourglass Bar** 70.29 331 ⇑P P 06 34 00.3 +1.5
baz=71
V26A **Tequesquite Ra** 70.34 333 ⇑P P 06 33 59.8 +0.8
baz=71
Y21A **Point of Rocks** 70.47 329 ⇑P P 06 34 01.3 +1.4
baz=71
W24A **Lazy 6 Ranch,** 70.50 332 ⇑P P 06 34 00.5 +0.4
baz=71
Y20A **Horse Springs,** 70.70 329 ⇑P P 06 34 02.6 +1.2
baz=71
V25A **Rancho No Teng** 70.71 333 ⇑P P 06 34 01.7 +0.3
baz=71,SNR=6.0
ANMO **Albuquerque** 70.72 331 eP P 06 34 01.5 +0.2
comp=N,3.2nm,1.2s
W23A **Werner Place,** 70.77 331 ⇓P P 06 34 02.6 +0.9
baz=71,SNR=5.8
U26A **Atchley Ranch,** 70.84 333 ⇓P P 06 34 03.3 +1.1
baz=71
X21A **Alamocita Cree** 70.88 329 ⇑P P 06 34 03.8 +1.4
baz=71
W22A **Albuquerque** 71.00 330 ⇑P P 06 34 04.6 +1.5
baz=71
T27A **Campo** 71.03 335 ⇑P P 06 34 03.6 +0.4
baz=71,SNR=5.6
U25A **Circle Dot Ran** 71.11 333 ⇓P P 06 34 05.0 +1.3
baz=71
SYO **Syowa Base** 71.24 159 ⇓eP P 06 34 02.6 -1.3
SYO **Syowa Base** 71.24 159 ⇑ePcP PcP 06 34 20.0 -3.8
214A **Organ Pipe Nat** 71.28 324 ⇓P P 06 34 06.0 +1.4
baz=72
V23A **Ortiz Mt. (NFS** 71.28 331 ⇓P P 06 34 06.5 +1.6
baz=72
X20A **Quemado** 71.29 329 ⇑P P 06 34 06.3 +1.4
baz=72
W21A **San Fidel** 71.38 330 ⇓P P 06 34 07.0 +1.6
baz=72
T26A **Comanche Natio** 71.47 334 ⇓P P 06 34 06.9 +1.1
baz=72
V22A **San Miguel Ran** 71.73 331 ⇑P P 06 34 08.7 +1.1
baz=72,SNR=5.5
T25A **Trinidad** 71.75 333 ⇑P P 06 34 08.9 +1.2
baz=72,SNR=5.1
W20A **Ramah** 71.77 329 ⇓P P 06 34 09.0 +1.2
baz=72
U23A **El Rito** 71.78 332 ⇓P P 06 34 09.1 +1.3
baz=72
S26A **Kim** 71.81 334 ⇓P P 06 34 09.0 +1.1
baz=72,SNR=6.2
X18A **Snowflake** 71.95 328 ⇓P P 06 34 10.3 +1.5
baz=72
T24A **Torres, Weston** 71.95 333 ⇑P P 06 34 10.3 +1.4
baz=72
U22A **Llaves** 72.10 331 ⇓P P 06 34 11.3 +1.5
baz=72
R27A **Eads** 72.14 335 ⇑P P 06 34 10.5 +0.7
baz=72
S25A **Robets Cordova** 72.22 334 ⇑P P 06 34 11.5 +1.1
baz=73,SNR=8.3
V20A **Brimhall** 72.32 330 ⇑P P 06 34 12.0 +1.0
baz=73
T23A **Casias Ranch,** 72.32 332 ⇓P P 06 34 12.2 +1.1
baz=73
W18A **Petrified Fore** 72.33 328 ⇓P P 06 34 12.6 +1.5
baz=73
R26A **Arlington** 72.39 335 ⇓P P 06 34 12.4 +1.1
baz=73
U21A **Nageezi** 72.49 331 ⇑P P 06 34 13.2 +1.1
baz=73,SNR=5.1
S24A **Houchin Ranch,** 72.51 333 ⇓P P 06 34 13.7 +1.5
baz=73,SNR=7.9
X16A **Lo Mia Camp, P** 72.56 327 ⇑P P 06 34 13.8 +1.3
baz=73,SNR=5.9
R25A **Fountain Ranch** 72.58 334 ⇓P P 06 34 13.5 +1.0
baz=73
T22A **Edith** 72.67 331 ⇑P P 06 34 14.6 +1.5
baz=73
KSCO **Kaye Shedlock'** 72.71 336 ⇓P P 06 34 14.6 +1.3
baz=73
T21A **Navajo Lake** 72.91 331 ⇓P P 06 34 16.2 +1.6
baz=73
Y14A **Wickenburg** 72.95 325 ⇓P P 06 34 15.5 +0.8
baz=73
R24A **Sanders Place,** 72.97 333 ⇓P P 06 34 16.3 +1.4
baz=73,SNR=6.3
R23A **Moffat** 73.23 333 ⇑P P 06 34 17.7 +1.3
baz=74
S22A **4UR Ranch, Cre** 73.26 332 ⇓P P 06 34 17.8 +1.1
baz=74
WUAZ **Wupatki** 73.42 327 eP P 06 34 19.3 +1.8
comp=N,9.4nm,0.9s
WUAZ **Wupatki** 73.42 327 ⇑P P 06 34 18.9 +1.4
baz=74,SNR=7.3
MVCO **Mesa Verde** 73.51 330 eP P 06 34 19.3 +1.1
comp=N,2.7nm,0.8s
MVCO **Mesa Verde** 73.51 330 ⇑P P 06 34 19.2 +1.1
baz=74
DBIC **Dimbokro** 73.55 73 P P 06 34 20.0 +1.4
comp=N,22nm,0.7s,baz=216,slow=7.1,SNR=33
DBIC LR LR 07 03 43.0
comp=N,105nm,18.1s,baz=206,slow=33
DBIC **Dimbokro** 73.55 73 eP P 06 34 19.9 +1.3
comp=N,23nm,0.7s
S21A **Coal Bank Pass** 73.59 331 ⇑P P 06 34 19.8 +1.2
baz=74
Q24A **Divide** 73.62 334 ⇓P P 06 34 19.9 +1.0
baz=74,SNR=8.3
O27A **Beecher Island** 73.70 336 ⇑P P 06 34 20.3 +1.3
baz=74
P25A **Willow Gulch B** 73.72 335 ⇓P P 06 34 20.5 +1.2
baz=74,SNR=6.2
S20A **Disappointment** 73.97 331 ⇑P P 06 34 22.3 +1.4
baz=74,SNR=5.5
BC3 **Big Chuckawall** 73.98 324 ⇓P P 06 34 21.8 +1.0
baz=74
O26A **Horse Wrangler** 74.05 336 ⇓P P 06 34 22.2 +1.1
baz=74
R21A **Cimarron** 74.08 332 ⇑P P 06 34 22.8 +1.3
baz=74
Q22A **Crested Butte,** 74.24 332 ⇑P P 06 34 23.7 +1.3
baz=75
R20A **Redvale** 74.28 331 ⇓P P 06 34 24.1 +1.5
baz=75,SNR=7.6
W13A **Hualapai Mount** 74.31 325 ⇓P P 06 34 24.0 +1.1
baz=75,SNR=6.3
PV01 **Paradox Valley** 74.32 331 eP P 06 34 23.7 +0.9
comp=N,311nm,1.1s
ISCO **Idaho Springs** 74.53 334 eP P 06 34 25.3 +1.2
comp=N,4.0nm,1.1s
ISCO **Idaho Springs** 74.53 334 ⇓P P 06 34 25.3 +1.2
baz=75
SMCO **Snowmass** 74.53 333 eP P 06 34 25.8 +1.5
comp=N,8.4nm,0.9s
S18A **Hurst Farm, Bl** 74.57 330 ⇑P P 06 34 25.7 +1.4
baz=75,SNR=9.7
U15A **North Rim** 74.60 327 ⇑P P 06 34 25.9 +1.3
baz=75,SNR=8.3
PV10 **Paradox Valley** 74.72 331 eP P 06 34 25.8 +0.6
comp=N,106nm,0.9s
P22A **Eagle** 74.80 333 ⇓P P 06 34 26.9 +1.3
baz=75
GMRC **Granite Mounta** 74.96 324 ⇑P P 06 34 27.9 +1.4
baz=75
O23A **Lake Granby, G** 75.00 334 ⇑P P 06 34 28.0 +1.2
baz=75,SNR=6.8
P21A **Newcastle** 75.02 332 ⇓P P 06 34 28.4 +1.6
baz=75
ECSD **EROS Data Cent** 75.07 342 eP P 06 34 26.9 +0.1
comp=N,10nm,0.8s
O22A **Kremmling** 75.20 333 ⇓P P 06 34 29.0 +0.9
baz=76
P20A **De Beque** 75.39 332 ⇑P P 06 34 30.4 +1.5
baz=76
P19A **Cripple Cowboy** 75.75 332 ⇓P P 06 34 32.1 +1.1
baz=76,SNR=11
K27A **Flueckinger Fa** 75.85 338 ⇑P P 06 34 32.8 +1.5
baz=76
O20A **White River Ci** 75.86 332 ⇓P P 06 34 32.9 +1.3
baz=76,SNR=8.5
SRU **San Rafael** 75.98 330 eP P 06 34 32.9 +0.6
comp=N,2.5nm,0.7s
SRU **San Rafael** 75.98 330 ⇑P P 06 34 33.5 +1.1
baz=76
MSU **Marysvale** 76.23 329 eP P 06 34 34.2 +0.4
ARUT **Antelope Range** 76.23 327 eP P 06 34 35.7 +1.9
comp=N,3.9nm,0.8s
O19A **Miners Draw (B** 76.36 332 ⇓P P 06 34 35.3 +0.8
baz=77,SNR=6.5
N20A **Spence Gulch,** 76.46 333 ⇑P P 06 34 36.3 +1.2
baz=77
O18A **Roosevelt** 76.71 331 ⇑P P 06 34 38.3 +1.8
baz=77
M21A **Separation Pea** 76.76 334 ⇑P P 06 34 38.4 +1.6
baz=77
N19A **John Jarvie Ra** 76.89 332 ⇑P P 06 34 38.3 +0.9
baz=77,SNR=5.1
O17A **Robinson Place** 76.96 331 ⇑P P 06 34 39.1 +1.2
baz=77,SNR=5.1
M20A **Sweetwater, Wa** 76.99 333 ⇓P P 06 34 39.1 +1.1
baz=77
L21A **Rawlins** 77.07 334 ⇑P P 06 34 39.1 +0.6
baz=77,SNR=6.4
ISA **Isabella** 77.12 323 eP P 06 34 40.2 +1.5
comp=N,4.8nm,0.9s
ISA **Isabella** 77.12 323 ⇓P P 06 34 40.1 +1.5
baz=77
P15A **Leamington** 77.13 329 ⇑P P 06 34 39.8 +1.0
baz=78
J24A **Dixon Ranch, L** 77.24 336 ⇓P P 06 34 40.9 +1.6
baz=78
O16A **Springville** 77.31 330 ⇓P P 06 34 41.1 +1.3
baz=78
K22A **Casper** 77.33 335 ⇓P P 06 34 40.9 +1.1
baz=78,SNR=5.1
L20A **Wamsutter** 77.48 333 ⇓P P 06 34 41.8 +1.0
baz=78
GRAC **Grapevine Rang** 77.56 324 ⇑P P 06 34 42.1 +1.0
baz=78
VES **Vestal, Richgr** 77.58 323 ⇑P P 06 34 42.3 +1.1
baz=78
K21A **Alcova** 77.59 334 ⇓P P 06 34 42.2 +0.8
baz=78
JLU **Jordanelle** 77.61 330 eP P 06 34 42.5 +0.9
comp=N,5.3nm,0.8s
N17A **Moffit Pass** 77.62 331 ⇑P P 06 34 42.5 +0.8
baz=78,SNR=9.6
I24A **Kuemmerle Ranc** 77.69 337 ⇓P P 06 34 43.0 +1.3
baz=78
M18A **Lyman** 77.70 332 ⇓P P 06 34 42.6 +0.5
baz=78
R11A **Troy Canyon, C** 77.71 326 ⇓P P 06 34 43.2 +1.1
baz=78,SNR=5.8
RSSD **Black Hills** 77.72 337 eP P 06 34 42.7 +0.7
comp=N,5.0nm,0.6s
N16A **Rees Ranch, Co** 77.84 331 ⇑P P 06 34 43.7 +0.9
baz=78
DUG **Dugway** 77.88 329 eP P 06 34 43.8 +0.9
comp=N,4.5nm,0.8s
DUG **Dugway** 77.88 329 ⇑P P 06 34 43.9 +0.9
baz=78,SNR=5.3
J22A **Midwest** 77.97 335 ⇑P P 06 34 43.9 +0.5
baz=78,SNR=8.1
L19A **Farson** 77.97 333 ⇑P P 06 34 44.4 +0.8
baz=78,SNR=8.2
K20A **Yellowstone Ra** 78.03 334 ⇑P P 06 34 44.2 +0.4
baz=78,SNR=5.3
M16A **Huntsville** 78.27 331 ⇓P P 06 34 45.8 +0.6
baz=79
K19A **Absolon Red Bu** 78.38 333 ⇓P P 06 34 46.1 +0.4
baz=79,SNR=5.9
I22A **9 Mile Ranch,** 78.38 335 ⇓P P 06 34 46.2 +0.6
baz=79,SNR=6.6
H24A **Dirks Ranch, A** 78.44 337 ⇓P P 06 34 46.3 +0.4
baz=79
H23A **Clabaugh Cattl** 78.58 336 ⇓P P 06 34 47.2 +0.5
baz=79
L17A **Cokeville** 78.59 332 ⇑P P 06 34 47.3 +0.3
baz=79
BW06 **Boulder Array** 78.61 333 eP P 06 34 47.1 0.0
comp=N,6.9nm,1.2s
BW06 **Boulder Array** 78.61 333 ⇓P P 06 34 47.5 +0.4
baz=79
PDAR **Pinedale Array** 78.61 333 P P 06 34 47.2 +0.1
comp=N,1.6nm,0.6s,baz=138,slow=7.2,SNR=18
PDAR **Pinedale Array** 78.61 333 P P 06 34 47.2 +0.1
I21A **Big Trails, Te** 78.61 335 ⇓P P 06 34 47.3 +0.4
baz=79,SNR=8.3
K18A **Toltan Ranch,** 78.70 333 ⇓P P 06 34 48.7 +1.2

	baz=79,SNR=15					
M15A	**Larsen Ranch,** baz=79	78.75	330	⇑P	P	06 34 48.4 +0.7
L16A	**Fish Haven** baz=79,SNR=6.7	78.76	331	⇓P	P	06 34 48.9 +1.0
J19A	**Crowheart** baz=79,SNR=15	78.83	333	⇓P	P	06 34 48.9 +0.7
H22A	**Clearmont** baz=79	78.94	336	⇑P	P	06 34 49.3 +0.6
I20A	**Worland** baz=79	79.05	334	⇓P	P	06 34 50.0 +0.7
AGMN	**Agassiz Nation** comp=N,5.2nm,0.8s	79.12	344	*e*P	P	06 34 49.4 0.0
NVAR	**Mina Array Bea** comp=N,1.8nm,0.7s,baz=143,slow=6.5,SNR=14	79.13	325	P	P	06 34 50.8 +0.8
NVAR	**Mina Array Bea**	79.13	325	P	P	06 34 50.8 +0.8
G23A	**Biddle** baz=80	79.13	337	⇓P	P	06 34 50.4 +0.8
HVU	**Hansel Valley** comp=N,6.6nm,0.6s	79.15	330	*e*P	P	06 34 50.3 +0.3
K17A	**Gardner Place,** baz=80,SNR=12	79.15	332	⇓P	P	06 34 50.4 +0.4
L15A	**Malad City** baz=80,SNR=7.0	79.16	331	⇓P	P	06 34 50.3 +0.3
J18A	**Kendall Valley** baz=80,SNR=17	79.17	333	⇑P	P	06 34 50.7 +0.6
ELK	**Elko**	79.43	328	*e*P	P	06 34 52.3 +0.7
I19A	**Meeteetse** baz=80,SNR=6.9	79.45	334	⇑P	P	06 34 52.5 +0.9
H20A	**Greybull** baz=80	79.46	335	⇑P	P	06 34 51.9 +0.4
G22A	**Birney** baz=80	79.46	336	⇓P	P	06 34 52.6 +1.1
I18A	**Diamond G Ranc** baz=80,SNR=20	79.50	333	⇓P	P	06 34 52.8 +0.9
K16A	**Soda Springs** baz=80,SNR=8.5	79.50	332	⇓P	P	06 34 52.9 +1.0
L14A	**Malta** baz=80	79.56	330	⇑P	P	06 34 52.8 +0.7
J17A	**Brown Place, J** baz=80,SNR=6.5	79.57	332	⇓P	P	06 34 52.9 +0.7
F23A	**Volborg** baz=80	79.58	337	⇑P	P	06 34 52.6 +0.4
SNOW	**Snow King Moun** comp=N,6.2nm,0.9s	79.67	333	*e*P	P	06 34 53.1 +0.2
LOHW	**Long Hollow** comp=N,7.4nm,1.2s	79.74	333	*e*P	P	06 34 53.7 +0.5
K15A	**Arbon** baz=80	79.78	331	⇓P	P	06 34 53.8 +0.4
TPAW	**Teton Pass** comp=N,5.6nm,0.9s	79.78	332	*e*P	P	06 34 54.4 +0.9
G21A	**Lodge Grass** baz=80,SNR=8.4	79.79	336	⇓P	P	06 34 53.9 +0.6
RRI2	**Red Ridge** comp=N,4.2nm,0.8s	79.81	332	*e*P	P	06 34 53.9 +0.2
J16A	**Bone** baz=80	79.87	332	⇑P	P	06 34 54.3 +0.4
F22A	**Rosebud** baz=80,SNR=7.5	79.93	337	⇑P	P	06 34 54.6 +0.7
K14A	**Jones Ranch, D** baz=80	79.94	331	⇓P	P	06 34 54.5 +0.3
E24A	**Baker** baz=80	79.95	338	⇑P	P	06 34 55.1 +1.0
DCID1	**Drake Creek** comp=N,5.7nm,0.7s	79.96	332	*e*P	P	06 34 55.6 +1.2
I17A	**Pilgrim Ck.** baz=80,SNR=6.6	79.98	333	⇑P	P	06 34 55.6 +1.1
H19A	**Powell** baz=80	79.99	334	⇓P	P	06 34 55.3 +0.9
IMW	**Indian Meadow** comp=N,6.7nm,1.3s	80.11	333	*e*P	P	06 34 55.9 +0.6
G20A	**Bridger** baz=80,SNR=12	80.16	335	⇓P	P	06 34 55.6 +0.3
FLWY	**Flagg Ranch** comp=N,8.8nm,0.7s	80.17	333	*e*P	P	06 34 56.0 +0.6
H18A	**Shoshone NF, C** baz=81,SNR=27	80.25	334	⇑P	P	06 34 56.6 +0.7
I16A	**Newdale** baz=81,SNR=7.8	80.31	332	⇑P	P	06 34 57.0 +0.8
J15A	**Blackfoot** baz=81,SNR=5.1	80.32	331	⇓P	P	06 34 57.1 +0.9
H17A	**Grant Village** baz=81	80.38	333	⇑P	P	06 34 58.0 +1.4
D24A	**Glendive** baz=81	80.44	338	⇑P	P	06 34 57.8 +1.1
RLMT	**Red Lodge** baz=81	80.47	334	⇓P	P	06 34 58.3 +1.1
F20A	**Billings** baz=81	80.63	335	⇓P	P	06 34 58.6 +0.8
J14A	**Carey** baz=81	80.72	331	⇓P	P	06 34 59.1 +0.7
G18A	**Lazy EL Ranch,** baz=81,SNR=9.9	80.75	334	⇓P	P	06 34 59.1 +0.5
YMR	**Madison River** comp=N,14nm,0.8s	80.76	333	*e*P	P	06 34 60.0 +1.3
D23A	**Lindsay** baz=81,SNR=5.7	80.78	338	⇓P	P	06 34 59.5 +1.0
I15A	**Monteview** baz=81	80.83	332	⇓P	P	06 35 00.2 +1.2
C24A	**Savage** baz=81	80.84	339	⇑P	P	06 34 60.0 +1.1
H16A	**Russell Place,** baz=81	80.90	333	⇑P	P	06 35 00.5 +1.1
ULM	**Lac du Bonnet** comp=N,1.5nm,0.5s,baz=155,slow=6.3,SNR=6.7	80.95	345	P	P	06 35 00.2 +0.9
ULM	**Lac du Bonnet**	80.95	345	P	P	06 35 00.2 +0.9
TSUM	**Tsumeb** comp=N,5.6nm,0.7s	80.95	107	*e*P	P	06 35 01.8 +1.5
F19A	**Roth Farm, Mol** baz=81,SNR=5.1	80.97	335	⇑P	P	06 34 60.0 +0.3
J13A	**Cove Ranch, Pi** baz=81,SNR=8.3	81.06	330	⇑P	P	06 35 01.3 +1.0
I14A	**Mackay** baz=82	81.18	331	⇑P	P	06 35 02.3 +1.4
G17A	**Pierce Place,** baz=82	81.21	334	⇓P	P	06 35 02.3 +1.3
E20A	**Meyer Farm, Mu** baz=82,SNR=9.6	81.22	336	⇑P	P	06 35 01.5 +0.6
HLID	**Hailey** comp=N,6.9nm,1.0s	81.30	330	*e*P	P	06 35 02.6 +1.0
HLID	**Hailey** baz=82,SNR=9.1	81.30	330	⇓P	P	06 35 02.5 +1.0
D21A	**La Casta Ranch** baz=82	81.30	337	⇑P	P	06 35 02.5 +1.2
F18A	**Big Timber** baz=82,SNR=10	81.30	335	⇑P	P	06 35 01.9 +0.5
C23A	**Lambert** baz=82	81.33	338	⇑P	P	06 35 02.5 +1.1
E19A	**Rath Farm, Rou** baz=82,SNR=12	81.42	335	⇓P	P	06 35 02.8 +0.8
I13A	**Wildhorse Cree** baz=82,SNR=14	81.45	331	⇑P	P	06 35 03.5 +1.1
G16A	**Moss Hill, Enn** baz=82	81.56	333	⇑P	P	06 35 03.8 +1.0
DGMT	**Dagmar** comp=N,19nm,0.8s	81.60	339	*e*P	P	06 35 03.6 +0.8
DGMT	**Dagmar** baz=82	81.60	339	⇑P	P	06 35 04.0 +1.2
MCMT	**McKenzie Canyo** comp=N,2.9nm,0.8s	81.65	332	*e*P	P	06 35 04.4 +0.9
F17A	**Fitzpatrick Pl** baz=82	81.67	334	⇑P	P	06 35 04.2 +0.8
H14A	**Leadore** baz=82	81.70	332	⇑P	P	06 35 04.8 +1.1
D20A	**Manuel Ranch,** baz=82,SNR=5.9	81.72	336	⇓P	P	06 35 04.1 +0.5
G15A	**Dillon** baz=82,SNR=6.2	81.78	332	⇓P	P	06 35 04.6 +0.6
I12A	**Atlanta** baz=82	81.80	330	⇑P	P	06 35 04.6 +0.5
MFID	**Camas Ranch** comp=N,1.2nm,0.8s	81.81	329	*e*P	P	06 35 04.5 +0.3
MFID	**Camas Ranch** baz=82	81.81	329	⇑P	P	06 35 04.7 +0.5
BOZ	**Bozeman (W)** baz=82	81.83	333	⇑P	P	06 35 04.7 +0.4
E18A	**Harlowton** baz=82	81.93	335	⇑P	P	06 35 05.7 +1.0
DLMT	**Dillon** comp=N,34nm,2.1s	81.99	333	*e*P	P	06 35 06.2 +1.1
C21A	**Desert Coulee** baz=82	81.99	337	⇓P	P	06 35 05.1 +0.2
B22A	**Reddig Ranch S** baz=82,SNR=5.2	82.03	338	⇑P	P	06 35 05.9 +0.8
H13A	**Challis** baz=82,SNR=12	82.03	331	⇑P	P	06 35 06.1 +0.7
D19A	**Cripps Ranch,** baz=82	82.06	336	⇑P	P	06 35 05.9 +0.6
E17A	**Martinsdale** baz=82	82.20	334	⇑P	P	06 35 06.7 +0.5
C20A	**Veseth Ranch,** baz=82	82.21	336	⇑P	P	06 35 06.2 +0.2
LRM	**Limekiln Ridge** comp=N,43nm,1.1s	82.30	333	*e*P	P	06 35 07.0 +0.2
F15A	**Butte** baz=83	82.34	333	⇑P	P	06 35 07.6 +0.7
D18A	**Linhart Farms,** baz=83	82.42	335	⇑P	P	06 35 08.1 +0.9
TOA0	**Torodi Ar. Sit**	82.42	71	*e*P	P	06 35 08.6 +0.8
TORD	**Torodi Ar. Bea** comp=N,17nm,0.7s,baz=270,slow=4.7,SNR=90	82.42	71	P	P	06 35 08.9 +1.0
TORD				LR	LR	07 08 00.6
	comp=N,116nm,19.1s,baz=190,slow=33					
TORD	**Torodi Ar. Bea**	82.42	71	P	P	06 35 08.9 +1.0
G13A	**Cobalt** baz=83,SNR=10	82.45	331	⇑P	P	06 35 08.4 +0.9
B21A	**Ellsworth Farm** baz=83	82.48	337	⇑P	P	06 35 08.3 +0.8
E16A	**East Helena** baz=83	82.58	334	⇓P	P	06 35 08.9 +0.8
C19A	**Slack Wire Ran** baz=83	82.60	336	⇑P	P	06 35 08.8 +0.7
F14A	**Wisdom** baz=83,SNR=6.4	82.67	332	⇑P	P	06 35 09.6 +0.9
D17A	**Six Diamond Ra** baz=83,SNR=6.2	82.71	335	⇑P	P	06 35 09.3 +0.5
B20A	**Solberg Farm,** baz=83	82.83	337	⇓P	P	06 35 09.7 +0.4
BOSA	**Boshof** comp=N,11nm,0.9s,baz=242,slow=5.0,SNR=13	82.88	119	P	P	06 35 11.0 +0.6
BOSA				LR	LR	07 06 01.5
	comp=N,160nm,19.2s,baz=179,slow=31					
BOSA	**Boshof** comp=N,11nm,0.9s	82.88	119	*e*P	P	06 35 10.9 +0.6
SCHQ	**Schefferville** comp=N,3.8nm,1.1s,baz=215,slow=6.3,SNR=7.9	82.89	3	P	P	06 35 09.1 -0.3
SCHQ	**Schefferville**	82.89	3	P	P	06 35 09.1 -0.3
A21A	**Bergtoll Ranch** baz=83	82.94	338	⇓P	P	06 35 10.1 +0.3
D16A	**Dana Ranch, Ca** baz=83	82.94	334	⇓P	P	06 35 10.6 +0.6
F13A	**Darby** baz=83,SNR=5.4	83.05	332	⇓P	P	06 35 11.0 +0.4
EGMT	**Eagleton** baz=83	83.10	336	⇑P	P	06 35 11.0 +0.2
C17A	**Wharram Farm,** baz=84	83.14	335	⇑P	P	06 35 11.1 +0.1
A20A	**Cobblestone Ra** baz=84	83.18	337	⇓P	P	06 35 11.2 +0.1
F12A	**Elk City** baz=84	83.41	331	⇑P	P	06 35 12.6 +0.2
B18A	**Beardsley Farm** baz=84	83.42	336	⇓P	P	06 35 12.7 +0.3
A19A	**Klindworth Far** baz=84	83.50	337	⇓P	P	06 35 13.3 +0.5
E13A	**Victor** baz=84	83.51	332	⇓P	P	06 35 13.3 +0.4
C16A	**Fuhringer Ranc** baz=84	83.65	334	⇓P	P	06 35 14.2 +0.6
A18A	**Metzger Ranch,** baz=84	83.89	336	⇑P	P	06 35 14.8 +0.1
C15A	**Salmond Ranch,** baz=84	83.96	334	⇑P	P	06 35 16.0 +0.8
D13A	**Huson** baz=84	84.15	332	⇑P	P	06 35 16.8 +0.7
A17A	**Triple J Farms** baz=84	84.21	336	⇑P	P	06 35 16.5 +0.1
B15A	**Bradely Ranch,** baz=85	84.39	334	⇓P	P	06 35 17.2 -0.2
C14A	**Swan Lake** baz=85	84.41	333	⇑P	P	06 35 18.5 +1.0
D12A	**Red Lakes Fores** baz=85	84.48	332	⇑P	P	06 35 18.0 +0.2
A16A	**West Butte Ran** baz=85	84.55	335	⇓P	P	06 35 18.6 +0.4
BSMT	**Bassoo Peak** comp=N,4.9nm,1.0s	84.89	333	*e*P	P	06 35 20.4 +0.4
C12B	**Naegeli Ranch,** baz=85	85.06	332	⇓P	P	06 35 21.5 +0.8
A13A	**Flathead Natio** baz=86	85.61	334	⇓P	P	06 35 24.0 +0.5
B12A	**Libby** baz=86	85.70	333	⇑P	P	06 35 24.4 +0.6
A12A	**Yaak River Ran** baz=86	86.10	333	⇓P	P	06 35 26.6 +0.8
YKA	**Yellowknife Ar** comp=N,0.4nm,0.8s,baz=148,slow=4.0,SNR=9.9	96.60	342	P	P	06 36 13.4 -1.0
YKA	**Yellowknife Ar**	96.60	342	P	P	06 36 13.4 -1.0
VYHS	**Vyhne**	111.25	46	PDIF	**Pdif**	06 37 25.6 +5.5
CRVS	**Cervenica-Dubn**	113.03	46	PDIF	**Pdif**	06 37 32.1 +4.1
KOLS	**Kolonicke sedl**	113.55	46	PDIF	**Pdif**	06 37 33.7 +3.3
AKASG	**Malin Array Ba** comp=N,1.6nm,0.5s,baz=271,slow=3.0,SNR=5.7	118.34	45	PKP	**PKPdf**	06 41 31.1 -1.2
AKASG	**Malin Array Be**	118.34	45	PKP	**PKPdf**	06 41 31.1 -1.2
BRTR	**Keskin Array B** comp=N,0.9nm,0.7s,baz=225,slow=3.5,SNR=4.5	119.05	58	PKP	**PKPdf**	06 41 32.7 -1.5
BRTR	**Keskin Array B**	119.05	58	PKP	**PKPdf**	06 41 32.7 -1.5
ASAR	**Alice Springs** comp=N,0.8nm,0.6s,baz=131,slow=2.6,SNR=9.1	122.56	209	PKP	**PKPdf**	06 41 40.1 -1.3
ASAR	**Alice Springs**	122.56	209	PKP	**PKPdf**	06 41 40.1 -1.3
WRA	**Warramunga Arr** comp=N,2.6nm,0.7s,baz=151,slow=1.6,SNR=52	125.64	211	PKP	**PKPdf**	06 41 46.4 -1.0
WRA	**Warramunga Arr**	125.64	211	PKP	**PKPdf**	06 41 46.4 -1.0
FITZ	**Fitzroy Crossi** comp=N,2.2nm,0.9s,baz=153,slow=6.2,SNR=3.6	130.78	203	PKP	**PKPdf**	06 41 56.5 -0.6
FITZ	**Fitzroy Crossi**	130.78	203	PKP	**PKPdf**	06 41 56.5 -0.6
ABKAR	**Akbulak array**	138.05	47	*e*PKPdf	**PKPdf**	06 42 09.8 0.0
BVAR	**Borovoye Array** comp=N,1.4nm,0.6s,baz=306,slow=3.8,SNR=8.3	143.00	38	PKP	**PKPdf**	06 42 16.2 -2.4
BVAR	**Borovoye Array**	143.00	38	PKP	**PKPdf**	06 42 16.2 -2.4
KAPI	**Kappang** comp=N,22nm,0.7s,baz=189,slow=4.1,SNR=18	144.96	201	PKP	**PKPab**	06 42 21.4 -1.0
KAPI	**Kappang**	144.96	201	PKP	**PKPab**	06 42 21.4 -1.0
KURK	**Kurchatov**	148.57	36	*e*PKPdf	**PKPdf**	06 42 29.0 +0.9
KURK				*e*PKPbc	**PKPbc**	06 42 32.6 +0.8
KURBB	**Kurchatov Arra** comp=N,8.4nm,0.6s,baz=306,slow=3.1,SNR=67	148.57	37	PKPbc	**PKPbc**	06 42 32.5 +0.7
EKS2	**Erkin-Say**	149.02	53	*e*PKPdf	**PKPdf**	06 42 30.8 +1.4
EKS2				*e*PKPbc	**PKiKP**	06 42 34.6 -0.1
ZAA0	**Zalesovo Array**	149.32	27	*e*PKPdf	**PKPdf**	06 42 29.6 +0.3
ZAA0				*e*PKPbc	**PKPbc**	06 42 34.1 +0.5
ZALV	**Zalesovo Beam** comp=N,27nm,0.7s,baz=294,slow=2.2,SNR=60	149.32	27	PKP	**PKPdf**	06 42 29.9 +0.6
ZALV				PKPbc	**PKPbc**	06 42 34.1 +0.5
	comp=N,27nm,0.7s,baz=310,slow=3.0,SNR=83					
ZALV	**Zalesovo Beam**	149.32	27	PKP	**PKPdf**	06 42 29.9 +0.6
ZALV				PKPbc	**PKPbc**	06 42 34.1 +0.5
AAK	**Ala-Archa** comp=N,11nm,0.8s,baz=210,slow=3.3,SNR=36	149.54	53	PKPbc	**PKPbc**	06 42 36.2 +1.4
AAK	**Ala-Archa**	149.54	53	*e*PKPdf	**PKPdf**	06 42 31.6 +1.4
AAK				PKPbc	**PKPbc**	06 42 36.2 +1.4
AAK				*e*PKPbc	**PKPbc**	06 42 36.3 +1.5
TKM2	**Tokmak 2**	150.22	52	*e*PKPdf	**PKPdf**	06 42 31.7 +0.4
TKM2				*e*PKPbc	**PKiKP**	06 42 37.4 +0.1
KSH	**Kashi**	151.44	59	*e*PKPbc	**PKPdf**	06 42 34.3 +1.1
KSH				PKS	**PKSdf**	06 46 08.5 +0.5
KSH				PP	**PP**	06 46 23.0 +4.2
KSH				AMB	AMB	
	comp=Z,150nm,8.5s					
KSH				LR	LR	
	comp=N,60nm,6.0s					
KSH				LR	LR	
	comp=E,68nm,7.2s					
KSH				LR	LR	
	comp=Z,170nm,7.1s					
MK31	**Makanchi Array**	152.78	40	*e*PKPdf	**PKPdf**	06 42 34.7 -0.2
MK31				*e*PKPbc	**PKPbc**	06 42 42.0 0.0
MK31				*e*PKPab	**PKPab**	06 42 54.3 +1.4
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=63,slow=2.0,SNR=5.1	152.78	40	PKP	**PKPdf**	06 42 34.7 -0.2
MKAR				PKPbc	**PKPbc**	06 42 42.2 +0.2
	comp=Z,4.8nm,0.8s,baz=315,slow=2.0,SNR=45					
MKAR	**Makanchi Array**	152.78	40	PKP	**PKPdf**	06 42 34.7 -0.2
MKAR				PKPbc	**PKPbc**	06 42 42.2 +0.2
WMQ	**Urumqi**	157.61	41	*e*PKP	**PKPdf**	06 42 42.0 +0.4
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=350,slow=4.1,SNR=6.2	160.44	3	PKPab	**PKPab**	06 43 26.8 +1.0
SONM	**Songino Array**	160.44	3	PKPab	**PKPab**	06 43 26.8 +1.0
HHC	**Hu-ho-hao-te**	167.08	347	*e*PKP	**PKPdf**	06 42 49.0 -2.2
HHC				PKS	**PKSdf**	06 46 20.5 -3.4
HHC				PP	**PP**	06 47 44.4 +2.0
HHC				SKS	**SKSdf**	06 49 51.8 -3.6
HHC				SKKS	**SKKSac**	06 54 30.8 0.0
HHC				SS	**SS**	07 08 27.3 +0.5
HHC				AMB	AMB	
	comp=Z,180nm,9.5s					
HHC				LR	LR	
	comp=N,100nm,22.0s					
HHC				LR	LR	
	comp=E,250nm,22.0s					
HHC				LR	LR	
	comp=Z,140nm,21.9s					
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=231,slow=5.2,SNR=6.0	167.29	138	PKPab	**PKPab**	06 43 56.7 +0.2
CMAR	**Chiang Mai Arr**	167.29	138	PKPab	**PKPab**	06 43 56.8 +0.2
LZH	**Lanzhou**	171.52	22	*e*PKP	PKPdf	06 43 02.5 +8.3
LZH				pPKP	pPKPdf	06 43 05.9 +8.6
LZH				sPKP		06 43 07.0
LZH				PKP	PKPab	06 44 25.6 +11
LZH				LR	LR	
	comp=N,140nm,18.3s					
LZH				LR	LR	
	comp=E,110nm,18.0s					
LZH				LR	LR	
	comp=Z,170nm,20.1s					
KMI	**Kunming**	174.49	124	PKP	**PKPdf**	06 42 55.3 -0.5
CD2	**Chengdu**	175.60	52	PKP	**PKPdf**	06 42 55.1 -0.6
GYA	**Guiyang**	177.93	150	*e*PKP	**PKPdf**	06 42 55.8 -0.5
GYA				PKPab	PKPab	06 44 45.6 +2.0
GYA				PKS	**PKSdf**	**06 46 27.0 -1.7**
GYA				PP	**PP**	**06 48 39.8 +3.6**
GYA				AMB	AMB	
	comp=Z,90nm,7.0s					

MEX 24 06:41:20.9±0.4, 16°.66N×100°.41W, h16km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	0.41	20	*e*P	Pg	06 41 27.9	-1.5
CAIG				*i* S	Sg	06 41 33.7	-1.4
ACX	**Acapulco**	0.57	68	*i* P	Pg	06 41 29.6	-2.7
ACX				*i* S	Sg	06 41 37.0	-3.0
ZIIG	**Zihuatanejo**	1.38	313	*i* P	Pn	06 41 41.9	-3.6
ZIIG				*i* S	Sn	06 41 58.2	-5.2
ARIG	**Puente Sto Nin**	1.62	2	*i* P	Pn	06 41 45.6	-3.2
ARIG				*i* S	Sn	06 42 04.3	-5.1
PNIG	**Pinotepa**	2.21	96	*i* P	Pn	06 41 54.4	-2.6
PNIG				*i* S	Sn	06 42 19.1	-4.9
YAIG	**Yautepec**	2.54	30	*i* P	Pn	06 41 58.9	-2.9
YAIG				*i* S	Sn	06 42 28.2	-4.3
UTMO	**Huajuapan**	2.75	65	*i* P	Pn	06 42 02.6	-2.1
UTMO				*i* S	Sn	06 42 33.4	-4.5
PPM	**Popocatepetl**	2.94	35	*i* P	Pn	06 42 02.8	-4.9
VHO	**Vista Hermosa**	3.55	83	*i* P	Pn	06 42 14.1	-1.5
VHO				*i* S	Sn	06 42 53.5	-3.9

*ISCJB **24** 06:49:25.8±0.6, 34°.14N±0°.03×135°.07E±0°.03, h11km±5km, mb3.2/2, Error ellipse: s-maj=5.3km s-min=4.0km az=29.1*
*JMA **24** 06:49:26.0, 34°.15N×135°.07E, h10km±1km, M3.3*
Broadband fault plane solution: P waves. NP1: ϕs208.00000°, δ64.00000°, λ117.00000°. NP2: ϕs339.00000°, δ37.00000°, λ47.00000°. Principal axes: T Plg61.0000°, Azm160.0000°; N Plg24.0000°, Azm16.0000°; P Plg15.0000°, Azm279.0000°;
JMA Felt II J1.
*IDC **24** 06:49:37.2±1.9, 34°.39N×134°.90E, h119km±21km, mb2.9/2, mb1 3.1/5, mb1mx3.0/28, mbtmp3.0/5 Error ellipse: s-maj=26.8km s-min=19.2km az=24.0*

ISC 24 06:49:26.1±1.0, 34°.14N±0°.03×135°.07E±0°.02, h13km±8km, n14, σ0.98/25, 1C-7D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAJ2	**Tsuna**	0.32	331	⇓P	**Pg**	**06 49 32.7**	**+0.1**
JAJ2				S	**Sg**	**06 49 37.0**	**+0.1**
JWM	**Minabe**	0.37	141	⇓P	**Pg**	**06 49 33.7**	**+0.1**
JWM				S	**Sg**	**06 49 38.7**	**+0.1**
JWY	**Kouya**	0.44	80	⇓P	**Pg**	**06 49 34.3**	**-0.5**
JWY				S	**Sg**	**06 49 40.9**	**+0.2**
JAI	**Aioi**	0.62	236	⇓P	**Pg**	**06 49 37.9**	**-0.3**
JAI				S	**Sg**	**06 49 46.4**	**-0.1**
JHE	**Heguri**	0.72	45	⇓P	**Pg**	**06 49 39.8**	**-0.3**
JHE				S	**Sg**	**06 49 49.4**	**-0.1**
JWZ	**Kozaga**	0.81	139	⇑P	**Pg**	**06 49 41.7**	**-0.1**
JWZ				S	**Sg**	**06 49 52.7**	**+0.3**
JKS	**Kasai**	0.86	347	P	**Pg**	**06 49 42.6**	**-0.1**
JKS				S	**Sg**	**06 49 53.7**	**-0.3**
JJS	**Sakaide**	0.97	284	⇓P	**Pb**	**06 49 43.9**	**-1.0**
JJS				S	**Sb**	**06 49 57.4**	**-0.3**
JKN2	**Miekihoku**	1.00	84	⇓P	**Pb**	**06 49 44.8**	**-0.5**
JKN2				S	**Sg**	**06 49 58.4**	**-0.1**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=234,slow=15,SNR=13	3.51	46	P	**Pb**	**06 50 29.7**	**+1.6**
MJAR				S	**Sg**	**06 51 19.3**	**+0.5**
	0.7nm,0.3s,baz=234,slow=31,SNR=4.5						
JNU	**Nakatsue** 6.1nm,0.3s,baz=70,slow=5.1,SNR=21	3.64	255	P	**Pb**	**06 50 32.2**	**+1.8**
JNU				S	**Sg**	**06 51 23.1**	**-0.1**
	0.1nm,0.3s,baz=146,slow=16,SNR=1.8						
KSRS	**Korea Array** 0.3nm,0.3s,baz=120,slow=14,SNR=5.0	6.68	302	P	Pn	06 51 07.8	+3.8
KSRS				S	**Sn**	**06 52 22.5**	**+2.6**
	0.3nm,0.3s,baz=121,slow=24,SNR=3.7						
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=74,slow=9.8,SNR=2.1	41.36	304	P	**P**	**06 57 09.5**	**-2.3**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=355,slow=7.8,SNR=8.9	53.79	181	P	**P**	**06 58 48.8**	**+0.4**

MEX 24 07:19:50.8±0.7, 16°.11N×98°.10W, h28km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.28	354	*i* P	Pb	07 19 56.9	-1.0
PNIG				*i* S	Sb	07 20 00.8	-1.9
VHO	**Vista Hermosa**	1.62	54	*e*P	Pn	07 20 14.7	-3.0
VHO				*i* S	Sn	07 20 34.6	-3.3
OXX	**Oaxaca**	1.63	54	*i* P	Pn	07 20 15.8	-2.2
OXX				*i* S	Sn	07 20 35.3	-2.9
UTMO	**Huajuapan**	1.73	9	*e*P	Pn	07 20 17.2	-2.1
UTMO				*i* S	Sn	07 20 37.8	-3.0
HUIG	**Huatulco**	1.94	100	*i* P	Pn	07 20 20.6	-1.3
HUIG				*i* S	Sn	07 20 43.0	-2.4
TPIG	**Tehuac#an**	2.40	17	*i* P	Pn	07 20 25.9	-2.6
TPIG				*i* S	Sn	07 20 53.5	-3.6
CMIG	**Matias Romero**	3.23	72	*i* P	Pn	07 20 37.1	-2.6
CMIG				*i* S	Sn	07 21 14.6	-2.7

IDC 24 08:21:29.6±8.1, 0°.70S×15°.07W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/24, mbtmp3.9/3, ML3.9/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/40, Error ellipse: s-maj=164.1km s-min=36.9km az=110.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro** 0.7nm,0.3s,baz=231,slow=14,SNR=8.5	12.55	54	Pn	Pn	08 24 30.1	+0.6
DBIC				Sn	Sn	08 26 51.0	+0.8
	0.1nm,0.3s,baz=148,slow=13,SNR=1.9						
DBIC				LR	LR	08 27 34.7	
	comp=Z,62nm,21.1s,baz=224,slow=29						
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=227,slow=11,SNR=6.3	21.58	50	P	P	08 26 20.9	-0.2
TORD				LR	LR	08 33 18.7	
	comp=Z,144nm,21.1s,baz=220,slow=33						
MDT	**

*IDC **24** 08:42:12.5±4.1,6˚17S×130˚52E,h122km×38km,mb3.8/5, mb1 3.8/9,mb1mx3.6/20,mbtmp3.7/9,Error ellipse: s-maj=38.4km s-min=13.7km az=70.0*

*DJA **24** 08:42:13.9±0.5,6˚S×7˚×13˚1E×˚,h122km×10km,M4.4/4, mB5.1/1,mb4.1/4,MLv4.5/3,Mw(mB)4.5/1*

ISC 24 08:42:12.3±0.7,6˚19S±0˚06×130˚57E±0˚06,h124km,n19, σ1§92/24,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.78**	**338**	P	**Pn**	**08 42 43.8**	**+0.4**
BNDI				S	**Sn**	**08 43 06.9**	**+0.1**
TLE	**Tual**	**2.22**	**76**	P	**Pn**	**08 42 49.1**	**+0.4**
	baz=2.4,SNR=7.8						
TLE				S	**Sn**	**08 43 12.3**	**-4.3**
	baz=2.4,SNR=16						
TLE	**Tual**	**2.22**	**76**	P	**Pn**	**08 42 49.2**	**+0.4**
TLE				S	**Sn**	**08 43 17.8**	**+1.1**
FAKI	**Fak Fak**	**3.65**	**27**	P	Sn	08 43 40.9	-9.0
MTN	**Manton Dam**	**6.64**	**175**	P	Pn	08 43 51.1	+3.7
	baz=7.5,SNR=18						
MTN				S	**Sn**	**08 45 03.5**	**+1.7**
	baz=7.5,SNR=6.6						
KDU	**Kakadu**	**6.73**	**164**	P	**Pn**	**08 43 50.5**	**+1.8**
	baz=7.6,SNR=37						
FITZ	**Fitzroy Crossi**	**12.79**	**202**	P	**Pn**	**08 45 09.5**	**-0.2**
	0.9nm,0.3s,baz=37,slow=11,SNR=51						
FITZ				S	**Sn**	**08 47 25.6**	**-5.1**
	1.8nm,0.3s,baz=180,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**12.79**	**202**	P	**Pn**	**08 45 11.3**	**+1.5**
	baz=14,SNR=9.9						
FITZ				S	**Sn**	**08 47 26.8**	**-3.9**
	baz=14,SNR=7.2						
WRA	**Warramunga Arr**	**14.16**	**165**	P	**Pn**	**08 45 27.3**	**-0.1**
	0.3nm,0.3s,baz=345,slow=13,SNR=16						
WRA				S	Sn	08 47 57.8	-6.1
	0.8nm,0.3s,baz=356,slow=22,SNR=8.8						
COEN	**Coen**	**14.61**	**123**	P	**P**	**08 45 36.0**	**-0.1**
	baz=15,SNR=5.1						
PMG	**Port Moresby**	**16.74**	**102**	P	**P**	**08 46 00.1**	**+0.3**
	0.4nm,0.3s,baz=280,slow=6.2,SNR=8.4						
PMG	**Port Moresby**	**16.74**	**102**	P	**Pn**	**08 45 59.4**	**-0.2**
ASAR	**Alice Springs**	**17.67**	**170**	P	**Pn**	**08 46 12.4**	**+1.6**
	0.2nm,0.3s,baz=351,slow=10,SNR=18						
ASAR				S	**S**	**08 49 27.4**	**0.0**
	0.3nm,0.3s,baz=354,slow=24,SNR=7.4						
STKA	**Stephens Creek**	**27.56**	**159**	P	**P**	**08 47 48.5**	**+0.8**
	0.5nm,0.3s,baz=333,slow=4.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**39.66**	**309**	P	**P**	**08 49 32.4**	**-0.1**
	0.6nm,0.4s,baz=140,slow=9.1,SNR=4.1						
SONM	**Songino Array**	**57.86**	**341**	P	**P**	**08 51 51.0**	**-0.2**
	1.0nm,0.7s,baz=160,slow=7.4,SNR=6.5						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**08 52 57.5**	**+0.1**
	4.6nm,0.8s,baz=120,slow=8.2,SNR=49						
QSPA	**South Pole Qui**	**83.79**	**180**	P	**P**	**08 54 29.4**	**+1.8**
	0.6nm,0.7s,baz=224,slow=5.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**129.21**	**282**	PKP	**PKPdf**	**09 01 06.0**	**-1.0**
	0.4nm,0.8s,baz=101,slow=1.5,SNR=2.4						

IDC 24 08:48:53.0±3.2,33˚51S×178˚72W,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.7/17,mbtmp3.9/3,ML3.8/1,Error ellipse: s-maj=71.5km s-min=36.4km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.83**	**214**	Pn	Pn	08 50 20.9	+0.3
	2.6nm,0.3s,baz=42,slow=5.3,SNR=26						
URZ				Sn	Sn	08 51 26.6	-1.5
	2.6nm,0.3s,baz=180,slow=20,SNR=7.5						
ASAR	**Alice Springs**	**42.43**	**271**	P	P	08 56 50.0	+0.2
	0.9nm,0.7s,baz=109,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**43.70**	**276**	P	P	08 56 59.6	-0.3
	1.0nm,0.6s,baz=115,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**147.82**	**338**	PKPbc	PKPbc	09 08 38.2	-0.8
	7.3nm,1.2s,baz=69,slow=4.6,SNR=4.7						

*MOS **24** 09:03:34.6±0.9,36˚52N×71˚46E,h137km,mb4.5/43,Error ellipse: s-maj=7.0km s-min=4.6km az=105.4*

*ISCJB **24** 09:03:36.8±0.3,36˚60N±0˚02×71˚51E±0˚03,h159km±4km, mb4.3/63,Error ellipse: s-maj=4.3km s-min=3.2km az=163.5*

*NEIC **24** 09:03:37.4±0.7,36˚56N×71˚48E,h152km±6km,mb4.7/26, Error ellipse: s-maj=7.0km s-min=5.4km az=161.0*

IDC 24 09:03:39.6±0.9,36˚64N×71˚44E,h173km±8km,mb3.8/22, mb1 4.0/27,mb1mx3.9/35,mbtmp3.9/27,Error ellipse: s-maj=11.0km s-min=8.9km az=5.0

*BJI **24** 09:03:39.2,36˚86N×71˚51E,h158km,mB4.7/5,mb4.6/12*

*NNC **24** 09:03:41.6±5.2,37˚51N×71˚46E,h0km,mb4.6,mpv4.3, Error ellipse: s-maj=42.8km s-min=39.5km az=15.0*

ISC 24 09:03:37.9±0.4,36˚61N±0˚03×71˚51E±0˚03,h156km±4km, h156km:pP-P,n290,σ1§22/312,mb4.4/63,35C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.79**	**173**	P	**Pn**	**09 04 24.4**	**+1.2**
CEP				S	**Sn**	**09 04 59.0**	**+0.9**
KBL	**Kabul**	**2.88**	**225**	*e*Pn	**Pn**	**09 04 23.9**	**-0.4**
KBL				*e*		09 04 59.8	
KBL	**Kabul**	**2.88**	**225**	*e*Pn	**Pn**	**09 04 23.9**	**-0.4**
KBL				*e*Sn	**Sn**	**09 04 59.8**	**-0.2**
CHCP	**Chirah Chowk**	**3.27**	**153**	P	**Pn**	**09 04 31.4**	**+2.3**
THW	**Thamme Wali**	**3.81**	**177**	⇓P	**Pn**	**09 04 36.6**	**+0.7**
KSH	**Kashi**	**4.57**	**49**	*i* P	Pn	09 04 42.1	-3.8
KSH				S	Sn	09 05 26.8	-12
KSH				smax	smax		
	comp=N,4μm,0.6s						
KSH				smax	smax		
	comp=E,3μm,0.3s						
SARP	**Sargodha**	**4.77**	**168**	P	**Pn**	**09 04 49.2**	**+0.7**
JMU	**Jammu**	**4.78**	**143**	*e*P	**Pn**	**09 04 50.0**	**+1.4**
JMU				*e*S	**Sn**	**09 05 42.5**	**-1.2**
THN	**Thein Dam**	**5.42**	**139**	*ex*	x	09 04 52.3	
THN				*e*S	**Sn**	**09 05 58.4**	**-0.4**
DLH	**Dalhousie**	**5.47**	**136**	*e*P	**Pn**	**09 04 57.0**	**-0.9**
DLH				*e*S	**Sn**	**09 05 56.0**	**-4.4**
AML	**Almayashu**	**5.77**	**16**	*i* PN	**Pn**	**09 05 01.3**	**-0.7**
AML	**Almayashu**	**5.77**	**16**	P	**Pn**	**09 05 01.3**	**-0.7**
	SNR=555						
UCH	**Uchtor**	**6.08**	**22**	P	**Pn**	**09 05 06.3**	**+0.2**
	SNR=16						
KZA	**Kyzart**	**6.19**	**27**	*i* PN	**Pn**	**09 05 07.3**	**-0.2**
KZA	**Kyzart**	**6.19**	**27**	P	**Pn**	**09 05 07.3**	**-0.2**
	SNR=31						
EKS2	**Erkin-Say**	**6.30**	**15**	*e*PN	**Pn**	**09 05 08.1**	**-0.6**
EKS2				pmax	pmax		
	comp=Z,55nm,0.4s						
EKS2	**Erkin-Say**	**6.30**	**15**	*e*Pn	**Pn**	**09 05 08.1**	**-0.6**
	comp=Z,55nm,0.4s						
EKS2				*e*Sn	**Sn**	**09 06 17.6**	**-2.2**
EKS2	**Erkin-Say**	**6.30**	**15**	P	**Pn**	**09 05 08.6**	**-0.1**
	SNR=104						
AAK	**Ala-Archa**	**6.45**	**20**	P	**Pn**	**09 05 10.7**	**0.0**
	comp=Z,23nm,0.3s,baz=171,slow=6.1,SNR=140						
AAK				S	**Sn**	**09 06 20.9**	**-2.6**
	comp=Z,16nm,0.3s,baz=302,slow=23,SNR=18						
AAK	**Ala-Archa**	**6.45**	**20**	PN	**Pn**	**09 05 10.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,23nm,0.3s						
AAK	**Ala-Archa**	**6.45**	**20**	*e*Pn	**Pn**	**09 05 10.2**	**-0.5**
	comp=Z,336nm,0.4s						
AAK				S	**Sn**	**09 06 20.9**	**-2.6**
AAK				*e*Sn	Sn	09 06 23.5	-0.2
AAK	**Ala-Archa**	**6.45**	**20**	P	**Pn**	**09 05 10.8**	**0.0**
	SNR=59						
KK31	**Karatay Array**	**6.54**	**354**	Pn	**Pn**	**09 05 10.7**	**-1.1**
	comp=Z,12nm,0.3s,baz=179,slow=13,SNR=811						
KK31				⇓Sn	Sn	09 06 19.1	-6.3
	comp=Z,36nm,0.3s,baz=176,slow=24,SNR=13						
KK31	**Karatay Array**	**6.54**	**354**	*i* PN	**Pn**	**09 05 10.7**	**-1.1**
KK31				pmax	pmax		
	comp=Z,28nm,0.1s						
KKAR	**Karatay Array**	**6.54**	**354**	*e*PN	**Pn**	**09 05 10.9**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,48nm,0.3s						
KKAR	**Karatay Array**	**6.54**	**354**	*e*Pn	**Pn**	**09 05 10.9**	**-0.9**
	comp=Z,48nm,0.3s						
KKAR				*e*Sn	Sn	09 06 19.3	-6.1
BHK	**Bhakra**	**6.59**	**140**	*e*P	**Pn**	**09 05 14.0**	**+1.5**
BHK				*e*S	**Sn**	**09 06 23.2**	**-3.5**
KBK	**Karagaybulak**	**6.60**	**23**	P	**Pn**	**09 05 13.3**	**+0.5**
	SNR=20						
ULHL	**Ulahol**	**6.72**	**32**	*i* PN	**Pn**	**09 05 14.2**	**-0.2**
ULHL	**Ulahol**	**6.72**	**32**	P	**Pn**	**09 05 14.2**	**-0.2**
	SNR=33						
SDNR	**Sundarnagar**	**6.82**	**137**	*e*P	**Pn**	**09 05 15.0**	**-0.6**
SDNR				*e*S	Sn	09 06 27.0	-5.2
CHMS	**Chumysh**	**6.86**	**20**	P	**Pn**	**09 05 17.0**	**+1.0**
	SNR=28						
USP	**Ospenovka**	**7.04**	**18**	P	**Pn**	**09 05 19.0**	**+0.5**
	SNR=17						
TKM2	**Tokmak 2**	**7.05**	**25**	⇑Pn	**Pn**	**09 05 18.2**	**-0.6**
	comp=Z,17nm,0.6s						
TKM2				⇑Sn	Sn	09 06 26.2	-12
	comp=Z,20nm,0.5s						
TKM2	**Tokmak 2**	**7.05**	**25**	*i* PN	**Pn**	**09 05 18.2**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,18nm,0.6s						
TKM2	**Tokmak 2**	**7.05**	**25**	P	**Pn**	**09 05 19.0**	**+0.2**
	SNR=10						
SMLA	**Simla**	**7.21**	**138**	*i* P	**Pn**	**09 05 21.0**	**+0.2**
SMLA				*i* S	**Sn**	**09 06 37.7**	**-3.8**
SMLA				AML	AML	09 06 41.1	
	comp=N,6μm,0.3s						
SMLA				⇓AML	AML	09 06 42.3	
	comp=E,8μm,0.3s						
KKR	**Kurukshetra**	**7.98**	**145**	*e*P	**Pn**	**09 05 30.5**	**-0.5**
KKR				*e*S	Sn	09 06 54.4	-5.7
DDI	**Dehra Dun**	**8.31**	**137**	*e*P	**Pn**	**09 05 35.0**	**-0.6**
DDI				*e*S	**Sn**	**09 07 04.0**	**-4.3**
NDI	**New Delhi**	**9.25**	**147**	*ex*	P	09 05 44.0	
NDI				*e*S	Sn	09 07 22.0	-8.6
KHET	**Khetri**	**9.25**	**156**	*e*P	**Pn**	**09 05 45.9**	**-2.0**
KHET				*e*S	Sn	09 07 22.6	-8.1
KHET				AML	AML	09 07 26.5	
	comp=E,100nm,0.5s						
KHET				AML	AML	09 07 27.1	
	comp=N,90nm,0.5s						
AYAN	**Aya Nagar**	**9.38**	**148**	*e*P	**Pn**	**09 05 48.2**	**-1.5**
AYAN				*e*S	Sn	09 07 26.6	-7.2
KUDL	**Kundal**	**9.43**	**152**	*e*P	**Pn**	**09 05 48.5**	**-1.8**
KUDL				*e*S	Sn	09 07 26.2	-8.7
KUDL				AML	AML	09 07 29.5	
	comp=E,121nm,0.4s						
KUDL				AML	AML	09 07 31.7	
	comp=N,58nm,0.5s						
PTH	**Pithoragarh**	**10.14**	**131**	*e*P	**Pn**	**09 06 02.1**	**+2.2**
PTH				*ex*	x	09 07 47.9	
AJM	**Ajmer**	**10.44**	**164**	*e*P	**Pn**	**09 06 02.0**	**-1.8**
AJM				*i* x	x	09 07 51.0	
AGRA	**Agra**	**10.82**	**148**	*e*P	**Pn**	**09 06 07.8**	**-0.9**
AGRA				*e*S	Sn	09 07 58.8	-10
AGRA				AML	AML	09 08 10.3	
	comp=E,138nm,0.5s						
AGRA				AML	AML	09 08 10.4	
	comp=N,156nm,0.3s						
PYUN	**Piuthan**	**12.88**	**128**	*e*P	**Pn**	**09 06 33.2**	**-2.4**
MK31	**Makanchi Array**	**12.97**	**35**	P	**Pn**	**09 06 35.7**	**-0.7**
	comp=N,8.1nm,0.8s,baz=217,slow=13,SNR=93						
MK31	**Makanchi Array**	**12.97**	**35**	*e*P	**Pn**	**09 06 36.3**	**-0.1**
MK31	**Makanchi Array**	**12.97**	**35**	*e*Pn	**Pn**	**09 06 36.3**	**-0.1**
MKAR	**Makanchi Array**	**12.97**	**35**	P	**Pn**	**09 06 36.3**	**-0.1**
	comp=N,0.3nm,0.3s,baz=221,slow=14,SNR=42						
MKAR	**Makanchi Array**	**12.97**	**35**	P	**Pn**	**09 06 36.3**	**-0.1**
MKAR	**Makanchi Array**	**12.97**	**35**	P	**Pn**	**09 06 36.3**	**-0.1**
DANN	**Dangsing**	**13.21**	**125**	*e*P	**Pn**	**09 06 38.4**	**-1.5**
	comp=N,238nm,0.5s						
KOLN	**Kolanda**	**13.50**	**127**	*e*P	**Pn**	**09 06 42.0**	**-1.5**
	comp=N,154nm,0.5s						
GKN	**Gorkha**	**14.02**	**124**	*e*P	**Pn**	**09 06 48.7**	**-1.3**
WMQ	**Urumqi**	**14.30**	**55**	Pn	**P**	**09 06 58.1**	**+2.2**
WMQ				Sg	**Sn**	**09 09 31.3**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,13nm,1.0s						
WMQ				smax	smax		
	comp=N,16nm,0.6s						
WMQ				smax	smax		
	comp=E,20nm,0.9s						
KKN	**Kakani**	**14.59**	**123**	*e*P	**Pn**	**09 06 56.7**	**-0.5**
	comp=E,348nm,0.6s						
DMN	**Daman**	**14.59**	**124**	*e*P	**Pn**	**09 06 57.5**	**+0.3**
	comp=E,436nm,0.7s						
PKIN	**Phulchoki**	**14.80**	**124**	*e*P	**Pn**	**09 06 59.9**	**0.0**
PKI	**Pulchoki**	**14.82**	**123**	*e*P	**Pn**	**09 07 00.3**	**+0.2**
	comp=E,404nm,0.6s						
KURBB	**Kurchatov Arra**	**14.90**	**18**	P	Pn	09 06 57.2	-3.4
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=20						
KURBB				S	**S**	**09 09 49.3**	**-2.4**
	baz=205,slow=20,SNR=4.1						
GUN	**Gumba**	**14.92**	**121**	*e*P	**Pn**	**09 07 00.8**	**-0.6**
	comp=E,246nm,0.6s						
KURK	**Kurchatov**	**15.00**	**18**	⇑P	**Pn**	**09 06 59.3**	**-2.6**
	comp=E,7.9nm,0.9s						
KURK	**Kurchatov**	**15.00**	**18**	*e*P	Pn	09 06 58.6	-3.3
KURK				S	**Sn**	**09 09 49.3**	**+0.7**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**15.00**	**18**	*e*Pn	Pn	09 06 58.6	-3.3
	comp=Z,8.0nm,0.8s						
KURK				S	**Sn**	**09 09 49.3**	**+0.7**
KURK				*e*S	**S**	**09 09 49.6**	**-4.2**
AB31	**Akbulak array**	**15.19**	**330**	P	**Pn**	**09 07 04.5**	**+0.2**
	comp=Z,11nm,0.7s,baz=153,slow=12,SNR=11						
ABKAR	**Akbulak array**	**15.19**	**330**	*e*Pn	**P**	**09 07 04.8**	**-0.8**
	comp=Z,11nm,0.4s						
RAMN	**Ramite**	**16.02**	**123**	*e*P	**Pn**	**09 07 14.1**	**-0.8**
VOSK	**Vostochnaya**	**16.12**	**359**	⇑P	**Pn**	**09 07 14.7**	**-0.9**
	comp=Z,4.1nm,0.5s						
BVAR	**Borovoye Array**	**16.44**	**358**	P	**P**	**09 07 18.2**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=171,slow=9.2,SNR=19						
BVAR				S	S	09 10 13.5	-8.1
	comp=Z,0.6nm,0.3s,baz=166,slow=24,SNR=5.6						
BVAR	**Borovoye Array**	**16.44**	**358**	P	**P**	**09 07 18.2**	**-1.2**
BVAR				S	S	09 10 13.5	-8.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.44**	**358**	P	**P**	**09 07 18.2**	**-1.2**
BVAR				S	S	09 10 13.5	-8.1
ZRNK	**Zerenda**	**16.44**	**355**	⇑P	**Pn**	**09 07 20.1**	**+0.6**
	comp=N,12nm,0.6s						
BRVK	**Borovoye**	**16.48**	**357**	⇑P	**Pn**	**09 07 20.2**	**+0.3**
	comp=N,9.1nm,0.5s						
BRVK	**Borovoye**	**16.48**	**357**	*e*P	**Pn**	**09 07 20.8**	**+0.9**
BRVK				*e*S	S	09 10 15.1	-7.3
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**16.48**	**357**	*e*P	**Pn**	**09 07 20.8**	**+0.9**
	comp=Z,9.2nm,0.6s						
BRVK				*e*S	S	09 10 15.1	-7.3
TAPN	**Taplejung**	**16.54**	**119**	*e*P	**Pn**	**09 07 22.3**	**+1.1**
	comp=Z,215nm,0.7s						
ODAN	**Odare**	**16.62**	**121**	*e*P	**Pn**	**09 07 22.3**	**+0.1**
	comp=Z,160nm,0.6s						
AKTO	**Aktyubinsk**	**16.90**	**329**	P	**Pn**	**09 07 24.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=133,slow=11,SNR=12						
AKTO				S	S	09 10 20.6	-12
	comp=Z,0.6nm,0.3s,baz=155,slow=19,SNR=5.9						
AKTO	**Aktyubinsk**	**16.90**	**329**	⇑P	**Pn**	**09 07 24.6**	**-0.4**
	comp=Z,1.5nm,0.5s						
AKTO	**Aktyubinsk**	**16.90**	**329**	P	**Pn**	**09 07 24.8**	**-0.2**
AKTO				S	S	09 10 20.6	-12
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.90**	**329**	P	**Pn**	**09 07 24.8**	**-0.2**
AKTO				S	S	09 10 20.6	-12
WSAR	**Wadi Sarin**	**17.35**	**223**	P	**P**	**09 07 27.4**	**-2.3**
	comp=N,0.3nm,0.3s,baz=31,slow=8.7,SNR=4.2						
WSAR	**Wadi Sarin**	**17.35**	**223**	P	**P**	**09 07 27.4**	**-2.3**
LSA	**Lhasa**	**17.82**	**107**	P	**Pn**	**09 07 39.6**	**+2.9**
LSA	**Lhasa**	**17.82**	**107**	*e*P	**Pn**	**09 07 40.0**	**+3.3**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s						
LSA	**Lhasa**	**17.82**	**107**	*e*P	**Pn**	**09 07 40.0**	**+3.3**
	comp=Z,22nm,0.6s						
POO	**Poona**	**18.12**	**173**	*ex*	x	09 08 05.0	
ZAA0	**Zalesovo Array**	**19.65**	**24**	*e*P	**P**	**09 07 54.7**	**+0.3**
ZALV	**Zalesovo Beam**	**19.65**	**24**	P	**P**	**09 07 54.8**	**+0.4**
	comp=Z,8.2nm,0.3s,baz=218,slow=11,SNR=95						
ZALV				S	**S**	**09 11 26.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=211,slow=18,SNR=4.9						
ZALV	**Zalesovo Beam**	**19.65**	**24**	P	**P**	**09 07 54.8**	**+0.4**
ZALV				S	**S**	**09 11 26.2**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.65**	**24**	P	**P**	**09 07 54.8**	**+0.4**
ZALV				S	**S**	**09 11 26.2**	**-1.2**
NVS	**Novosibirsk**	**19.94**	**20**	⇑*i* P	**P**	**09 07 57.7**	**+0.2**
NVS				*e*S	**S**	**09 11 30.9**	**-2.1**
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,12nm,0.8s						
NVS				smax	smax		
	comp=E,9.0nm,1.0s						
SHL	**Shillong**	**20.59**	**117**	*ex*	**P**	**09 08 07.0**	**+2.1**
SHL				*ex*	x	09 11 45.0	
DGRG	**David-gareji**	**20.84**	**291**	P	**P**	**09 08 08.3**	**+1.0**
GNI	**Garni**	**21.25**	**288**	P	**P**	**09 08 11.6**	**-0.3**
	comp=E,8.1nm,0.5s,baz=230,slow=1.3,SNR=3.8						
GNI	**Garni**	**21.25**	**288**	*e*P	**P**	**09 08 14.3**	**+2.5**
	comp=E,16nm,0.8s						
KBD	**Kabd**	**21.29**	**257**	*e*P	**P**	**09 08 11.2**	**-1.0**
KBD				AMb	AMB	09 08 14.0	
	comp=Z,26nm,0.7s						
QRN	**Al-Qurain**	**21.31**	**255**	*e*P	**P**	**09 08 10.8**	**-1.7**
QRN				AMb	AMB	09 08 13.8	
	comp=Z,57nm,0.8s						
NAY	**Al-Naaiem**	**21.61**	**257**	*e*P	**P**	**09 08 14.4**	**-1.2**
NAY				AMb	AMB	09 08 17.3	
	comp=Z,22nm,1.0s						
ARU	**Arti**	**21.67**	**340**	*d iP*	**P**	**09 08 17.8**	**+1.9**
ARU						09 08 42.0	
ARU				S	**S**	**09 12 09.9**	**+4.5**
ARU				SS	**SnSn**	**09 12 44.4**	**-2.9**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEI	**Tsey**	**22.07**	**295**	*e*P	**P**	**09 08 22.5**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,19nm,1.0s						
AKH	**Akhalkalaki**	**22.25**	**291**	P	**P**	**09 08 24.6**	**+2.4**
ONI	**Oni**	**22.37**	**294**	P	**P**	**09 08 24.8**	**+1.6**
GTA	**Gaotai**	**22.44**	**74**	*e*P	**P**	**09 08 25.9**	**+1.9**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**09 08 27.8**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=122,slow=8.4,SNR=6.3						
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**09 08 27.8**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**09 08 27.8**	**-0.4**
KIV	**Kislovodsk**	**23.10**	**297**	*e*P	**P**	**09 08 29.2**	**-0.8**
KIV				*e*PP	**pP**	**09 08 59.5**	**+0.1**
KIV				*e*S	**S**	**09 12 29.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,11nm,0.7s						
KIV				MLR	MLR		
	comp=Z,42nm,14.0s						
ZAK	**Zakamensk**	**26.61**	**49**	*e*P	**P**	**09 09 03.2**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	**Talaya**	**27.27**	**46**	*e*P	**P**	**09 09 08.9**	**+1.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**27.94**	**55**	P	**P**	**09 09 14.9**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=257,slow=9.4,SNR=22						
SONM				pP	pP	09 09 51.6	+5.3
	comp=Z,2.0nm,0.9s,baz=256,slow=10,SNR=3.3						
SONM	**Songino Array**	**27.94**	**55**	P	**P**	**09 09 14.9**	**+1.3**
SONM				pP	pP	09 09 51.6	+5.3
ULN	**Ulaanbaatar**	**28.38**	**55**	*e*P	**P**	**09 09 18.0**	**+0.4**
	comp=Z,2.1nm,0.7s						
BR131	**Keskin Array S**	**29.79**	**288**	*e*P	**P**	**09 09 29.0**	**-1.1**
	comp=Z,0.8nm,0.4s						
BRTR	**Keskin Array B**	**29.79**	**288**	P	**P**	**09 09 31.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=104,slow=8.4,SNR=6.5						
BRTR	**Keskin Array B**	**29.79**	**288**	P	**P**	**09 09 31.1**	**+0.9**
OBN	**Obninsk**	**30.13**	**319**	⇑*e*P	**P**	**09 09 33.5**	**+0.9**
OBN				*e*		09 10 34.9	
OBN				*e*S	**S**	**09 14 20.3**	**+0.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
CMAR	**Chiang Mai Arr**	**30.15**	**119**	P	**P**	**09 09 34.8**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=302,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**30.15**	**119**	P	**P**	**09 09 34.8**	**+1.5**
AKASG	**Malin Array Be**	**33.20**	**309**	P	**P**	**09 09 59.5**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=83,slow=7.7,SNR=18						
AKASG	**Malin Array Be**	**33.20**	**309**	P	**P**	**09 09 59.5**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**33.20**	**309**	P	**P**	**09 09 59.5**	**-0.1**
AK01	**Malin Array Si**	**33.20**	**309**	*e*P	**P**	**09 09 59.6**	**-0.1**
AK02	**Malin Array Si**	**33.20**	**309**	*e*P	**P**	**09 09 59.6**	**0.0**
TESR		**34.58**	**301**	⇓*i* P	**P**	**09 10 12.3**	**+0.7**
BUR08	**Bucovina Ar. S**	**35.58**	**303**	*e*P	**P**	**09 10 20.9**	**+0.6**
VOIR		**35.72**	**299**

HFS	**Hagfors**	**43.24**	**322**	P		**P**	**09 11 23.0**	**-0.3**
KHC	**Kasperske Hory**	**43.26**	**306**	*e*P		**P**	**09 11 24.6**	**+0.9**
KHC	**Kasperske Hory**	**43.26**	**306**	*e*P		**P**	**09 11 24.6**	**+0.9**
CLL	**Collm**	**43.44**	**309**	*e*P		**P**	**09 11 25.0**	**-0.1**
CLL				*e**PP		**pP**	**09 11 58.0**	**-1.6**
CLL	comp=Z,4.0nm,0.6s			pmax	pmax			
CLL	**Collm**	**43.44**	**309**	*e*P		**P**	**09 11 25.0**	**-0.1**
CLL	comp=Z,4.0nm,0.6s			*e*pP		**pP**	**09 11 58.0**	**-1.6**
YAK	**Yakutsk**	**43.64**	**35**	*e*P		**P**	**09 11 26.5**	**0.0**
YAK	comp=Z,13nm,0.7s			pmax	pmax			
KSAR	**Wonju Array Be**	**44.43**	**71**	P		**P**	**09 11 33.9**	**+0.7**
KSRS	**Korea Array**	**44.46**	**71**	P		**P**	**09 11 33.9**	**+0.5**
NB2	comp=Z,1.0nm,0.5s,baz=279,slow=6.3,SNR=3.8 **NORSAR Subarra**	**44.54**	**323**	P		**P**	**09 11 33.4**	**-0.4**
NOA	comp=Z,7.9nm,0.5s,baz=96,slow=7.9 **NORSAR Array B**	**44.54**	**323**	P		**P**	**09 11 32.8**	**-1.0**
NOA	comp=Z,7.8nm,0.6s,baz=96,slow=7.8,SNR=25 **NORSAR Array B**	**44.54**	**323**	P		**P**	**09 11 32.8**	**-1.0**
FETA	**Feichten**	**45.43**	**303**	⇑*i*P		**P**	**09 11 40.5**	**-0.7**
FETA	**Feichten**	**45.43**	**303**	⇑*i*P		**P**	**09 11 40.5**	**-0.7**
DAVA	comp=Z,4.0nm,1.0s **Damuels**	**45.96**	**304**	⇓*i*P		**P**	**09 11 45.2**	**0.0**
DAVA	**Damuels**	**45.96**	**304**	⇓*i*P		**P**	**09 11 45.2**	**0.0**
HABR	comp=Z,28nm,1.0s **Khabarovsk**	**47.02**	**55**	P		**P**	**09 11 52.6**	**-0.7**
HABR				*e**PP		**pP**	**09 12 28.2**	**-0.1**
HABR				*e*			09 13 22.2	
HABR				*e*			09 13 44.5	
HABR				*e*			09 21 29.9	
HABR				*e*SS		SS	09 22 02.9	+1.5
HABR	comp=Z,51nm,1.7s			pmax	pmax			
HABR	comp=N,34nm,1.7s			pmax	pmax			
HABR	comp=E,91nm,2.9s			pmax	pmax			
CDF	**Champ du Feu**	**47.48**	**306**	*e*P		**P**	**09 11 56.8**	**-0.2**
CDF	**Champ du Feu**	**47.48**	**306**	*e*P		**P**	**09 11 56.8**	**-0.2**
CDF	**Champ du Feu**	**47.48**	**306**	*e*P		**P**	**09 11 56.8**	**-0.2**
SPITS	**Spitsbergen Ar**	**47.48**	**347**	P		**P**	**09 11 57.8**	**+1.3**
SPITS	comp=E,1.9nm,0.7s,baz=176,slow=8.8,SNR=9.5 **Spitsbergen Ar**	**47.48**	**347**	P		**P**	**09 11 57.8**	**+1.3**
HINF	**Hinteralfeld**	**47.87**	**305**	*e*P		**P**	**09 12 00.0**	**0.0**
HINF	comp=E,11nm,0.7s			pmax	pmax			
HINF	**Hinteralfeld**	**47.87**	**305**	*e*P		**P**	**09 12 00.0**	**0.0**
HAU	comp=Z,11nm,0.7s **Haudompre**	**48.17**	**305**	⇑*i*P		**P**	**09 12 02.3**	**+0.1**
HAU	comp=Z,11nm,0.6s **Haudompre**	**48.17**	**305**	⇑*i*P		**P**	**09 12 02.3**	**+0.1**
HAU	comp=Z,11nm,0.6s			pmax	pmax			
HAU	**Haudompre**	**48.17**	**305**	⇑*i*P		**P**	**09 12 02.3**	**+0.1**
LPG	comp=Z,11nm,0.6s **La Plagne**	**48.44**	**302**	*e*P		**P**	**09 12 05.2**	**+0.5**
LPG	**La Plagne**	**48.44**	**302**	*e*P		**P**	**09 12 05.2**	**+0.5**
LPG	**La Plagne**	**48.44**	**302**	*e*P		**P**	**09 12 05.2**	**+0.5**
LPL	**La Plagne**	**48.45**	**302**	*e*P		**P**	**09 12 05.0**	**+0.4**
LPL	comp=Z,14nm,0.8s **La Plagne**	**48.45**	**302**	*e*P		**P**	**09 12 05.0**	**+0.4**
LPL	comp=Z,14nm,0.8s			pmax	pmax			
LPL	**La Plagne**	**48.45**	**302**	*e*P		**P**	**09 12 05.0**	**+0.4**
MBDF	comp=Z,14nm,0.8s **Montbardon**	**48.61**	**301**	*e*P		**P**	**09 12 05.6**	**-0.2**
MBDF	**Montbardon**	**48.61**	**301**	*e*P		**P**	**09 12 05.6**	**-0.2**
MBDF	**Montbardon**	**48.61**	**301**	*e*P		**P**	**09 12 05.6**	**-0.2**
CABF	**La Chapelle**	**48.64**	**303**	*e*P		**P**	**09 12 06.7**	**+0.8**
CABF	comp=Z,17nm,0.7s **La Chapelle**	**48.64**	**303**	*e*P		**P**	**09 12 06.7**	**+0.8**
CABF	comp=Z,17nm,0.7s			pmax	pmax			
CABF	**La Chapelle**	**48.64**	**303**	*e*P		**P**	**09 12 06.7**	**+0.8**
SFTF	comp=Z,17nm,0.7s **Sexfontaines**	**48.99**	**306**	*e*P		**P**	**09 12 07.4**	**-1.1**
SFTF	comp=Z,12nm,0.5s **Sexfontaines**	**48.99**	**306**	*e*P		**P**	**09 12 07.4**	**-1.1**
FRF	comp=Z,12nm,0.5s **La Foret Royal**	**48.99**	**299**	*e*P		**P**	**09 12 08.5**	**0.0**
FRF	**La Foret Royal**	**48.99**	**299**	*e*P		**P**	**09 12 08.5**	**0.0**
FRF	**La Foret Royal**	**48.99**	**299**	*e*P		**P**	**09 12 08.5**	**0.0**
LMR	**La Mourre**	**49.15**	**299**	*e*P		**P**	**09 12 11.2**	**+1.5**
LMR	comp=Z,22nm,0.9s **La Mourre**	**49.15**	**299**	*e*P		**P**	**09 12 11.2**	**+1.5**
LMR	comp=Z,22nm,0.9s			pmax	pmax			
LMR	**La Mourre**	**49.15**	**299**	*e*P		**P**	**09 12 11.2**	**+1.5**
BAIF	comp=Z,22nm,0.9s **Baives**	**49.15**	**308**	*e*P		**P**	**09 12 10.4**	**+0.8**
BAIF	comp=Z,24nm,0.9s **Baives**	**49.15**	**308**	*e*P		**P**	**09 12 10.4**	**+0.8**
BAIF	comp=Z,24nm,0.9s			pmax	pmax			
BAIF	**Baives**	**49.15**	**308**	*e*P		**P**	**09 12 10.4**	**+0.8**
ORIF	comp=Z,24nm,0.9s **Oris-en-Rattie**	**49.18**	**301**	*e*P		**P**	**09 12 09.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**49.18**	**301**	*e*P		**P**	**09 12 09.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**49.18**	**301**	*e*P		**P**	**09 12 09.8**	**-0.2**
VIVF	**Saint-Julien-l**	**50.02**	**301**	⇑*i*P		**P**	**09 12 16.5**	**+0.1**
VIVF	comp=Z,7.9nm,0.6s **Saint-Julien-l**	**50.02**	**301**	⇑*i*P		**P**	**09 12 16.5**	**+0.1**
VIVF	comp=Z,8.0nm,0.6s			pmax	pmax			
VIVF	**Saint-Julien-l**	**50.02**	**301**	⇑*i*P		**P**	**09 12 16.5**	**+0.1**
SMF	comp=Z,7.9nm,0.6s **Signal de Mont**	**50.13**	**304**	⇑*i*P		**P**	**09 12 17.2**	**0.0**
SMF	comp=Z,15nm,0.6s **Signal de Mont**	**50.13**	**304**	⇑*i*P		**P**	**09 12 17.2**	**0.0**
SMF	comp=Z,15nm,0.6s			pmax	pmax			
SMF	**Signal de Mont**	**50.13**	**304**	⇑*i*P		**P**	**09 12 17.2**	**0.0**
AVF	comp=Z,15nm,0.6s **Avril sur Loir**	**50.42**	**304**	⇑*i*P		**P**	**09 12 19.3**	**0.0**
AVF	comp=Z,17nm,0.6s **Avril sur Loir**	**50.42**	**304**	⇑*i*P		**P**	**09 12 19.3**	**0.0**
AVF	comp=Z,17nm,0.6s			pmax	pmax			
AVF	**Avril sur Loir**	**50.42**	**304**	⇑*i*P		**P**	**09 12 19.3**	**0.0**
LASF	comp=Z,17nm,0.6s **Ste Croix**	**50.80**	**301**	*e*P		**P**	**09 12 22.8**	**+0.6**
LASF	**Ste Croix**	**50.80**	**301**	*e*P		**P**	**09 12 22.8**	**+0.6**
BGF	**Bois d'Agland**	**50.82**	**304**	⇑*i*P		**P**	**09 12 22.1**	**-0.2**
BGF	comp=Z,7.9nm,0.6s **Bois d'Agland**	**50.82**	**304**	⇑*i*P		**P**	**09 12 22.1**	**-0.2**
BGF	comp=Z,8.0nm,0.6s			pmax	pmax			
BGF	**Bois d'Agland**	**50.82**	**304**	⇑*i*P		**P**	**09 12 22.1**	**-0.2**
TCF	comp=Z,7.9nm,0.6s **Toulx Ste Croi**	**51.32**	**304**	*e*P		**P**	**09 12 26.3**	**+0.3**
TCF	comp=Z,50nm,1.2s **Toulx Ste Croi**	**51.32**	**304**	*e*P		**P**	**09 12 26.3**	**+0.3**
TCF	comp=Z,50nm,1.2s			pmax	pmax			
TCF	**Toulx Ste Croi**	**51.32**	**304**	*e*P		**P**	**09 12 26.3**	**+0.3**
MTLF	comp=Z,50nm,1.2s **Montolieu**	**52.15**	**300**	*e*P		**P**	**09 12 32.5**	**+0.3**
MTLF	**Montolieu**	**52.15**	**300**	*e*P		**P**	**09 12 32.5**	**+0.3**
MTLF	**Montolieu**	**52.15**	**300**	*e*P		**P**	**09 12 32.5**	**+0.3**
LDF	**La Druitiere**	**52.24**	**307**	*e*P		**P**	**09 12 33.0**	**+0.2**
LDF	comp=Z,4.9nm,0.4s **La Druitiere**	**52.24**	**307**	*e*P		**P**	**09 12 33.0**	**+0.2**
LDF	comp=Z,5.0nm,0.4s			pmax	pmax			
LDF	**La Druitiere**	**52.24**	**307**	*e*P		**P**	**09 12 33.0**	**+0.2**
FLN	comp=Z,4.9nm,0.4s **La Foliniere**	**52.43**	**307**	*e*P		**P**	**09 12 33.8**	**-0.3**
FLN	**La Foliniere**	**52.43**	**307**	*e*P		**P**	**09 12 33.8**	**-0.3**
FLN	**La Foliniere**	**52.43**	**307**	*e*P		**P**	**09 12 33.8**	**-0.3**
EKA	**Eskdalemuir Ar**	**52.49**	**316**	P		**P**	**09 12 33.0**	**-1.5**
EKA	comp=Z,2.2nm,0.6s,baz=60,slow=6.9,SNR=9.0 **Eskdalemuir Ar**	**52.49**	**316**	P		**P**	**09 12 33.0**	**-1.5**
LFF	**La Frestale**	**52.68**	**303**	*e*P		**P**	**09 12 36.5**	**+0.4**
LFF	**La Frestale**	**52.68**	**303**	*e*P		**P**	**09 12 36.5**	**+0.4**
LFF	**La Frestale**	**52.68**	**303**	*e*P		**P**	**09 12 36.5**	**+0.4**
GRR	**Gorron**	**52.77**	**307**	*e*P		**P**	**09 12 36.3**	**-0.3**
GRR	**Gorron**	**52.77**	**307**	*e*P		**P**	**09 12 36.3**	**-0.3**
GRR	**Gorron**	**52.77**	**307**	*e*P		**P**	**09 12 36.3**	**-0.3**
SGMF	**Saint Gilles**	**53.89**	**307**	*e*P		**P**	**09 12 44.9**	**0.0**
SGMF	**Saint Gilles**	**53.89**	**307**	*e*P		**P**	**09 12 44.9**	**0.0**
SGMF	**Saint Gilles**	**53.89**	**307**	*e*P		**P**	**09 12 44.9**	**0.0**
ETSF	**Etsaut**	**54.22**	**300**	*e*P		**P**	**09 12 47.8**	**+0.4**
ETSF	comp=Z,5.0nm,0.4s **Etsaut**	**54.22**	**300**	*e*P		**P**	**09 12 47.8**	**+0.4**
ETSF	comp=Z,5.0nm,0.4s			pmax	pmax			
ETSF	**Etsaut**	**54.22**	**300**	*e*P		**P**	**09 12 47.8**	**+0.4**
QUIF	comp=Z,5.0nm,0.4s **Quistinic**	**54.38**	**307**	*e*P		**P**	**09 12 48.1**	**-0.3**
QUIF	comp=Z,24nm,0.8s **Quistinic**	**54.38**	**307**	*e*P		**P**	**09 12 48.1**	**-0.3**
QUIF	comp=Z,24nm,0.8s			pmax	pmax			
QUIF	**Quistinic**	**54.38**	**307**	*e*P		**P**	**09 12 48.1**	**-0.3**
ESDC	comp=Z,24nm,0.8s **Sonseca Array**	**57.77**	**298**	P		**P**	**09 13 12.4**	**-0.3**
ESDC	comp=Z,1.0nm,0.4s,baz=63,slow=7.0,SNR=8.9 **Sonseca Array**	**57.77**	**298**	P		**P**	**09 13 12.4**	**-0.3**
BILL	**Bilibino**	**58.33**	**26**	⇑*i*P		**P**	**09 13 17.3**	**+1.2**
BILL	comp=Z,3.0nm,1.0s			pmax	pmax			
TOA0	**Torodi Ar. Sit**	**66.13**	**269**	*e*P		**P**	**09 14 06.2**	**-2.5**
TORD	**Torodi Ar. Bea**	**66.13**	**269**	P		**P**	**09 14 06.2**	**-2.5**
TORD	comp=Z,2.6nm,0.4s,baz=50,slow=5.8,SNR=50 **Torodi Ar. Bea**	**66.13**	**269**	P		**P**	**09 14 06.2**	**-2.5**
INK	**Inuvik**	**73.73**	**9**	*e*P		**P**	**09 14 55.1**	**+0.9**
ILAR	comp=Z,8.2nm,1.4s **Eielson Array**	**74.57**	**16**	P		**P**	**09 14 58.9**	**-0.3**
ILAR	comp=Z,0.6nm,0.8s,baz=344,slow=4.5,SNR=5.5 **Eielson Array**	**74.57**	**16**	P		**P**	**09 14 58.9**	**-0.3**
DBIC	**Dimbokro**	**75.11**	**267**	P		**P**	**09 15 00.9**	**-2.1**
DBIC	comp=Z,5.5nm,1.2s,baz=38,slow=3.6,SNR=3.6 **Dimbokro**	**75.11**	**267**	P		**P**	**09 15 00.9**	**-2.1**
YKA	**Yellowknife Ar**	**81.12**	**3**	P		**P**	**09 15 35.7**	**+0.3**
YKA	comp=Z,1.4nm,0.5s,baz=350,slow=5.4,SNR=95			pP		**pP**	**09 16 17.7**	**+3.7**
YKA	comp=Z,0.5nm,0.6s,baz=352,slow=5.5,SNR=2.6 **Yellowknife Ar**	**81.12**	**3**	P		**P**	**09 15 35.7**	**+0.3**
YKA				pP		**pP**	**09 16 17.8**	**+3.7**
WRA	**Warramunga Arr**	**81.70**	**122**	P		**P**	**09 15 38.5**	**-0.6**
WRA	comp=Z,2.7nm,0.5s,baz=324,slow=4.9,SNR=59 **Warramunga Arr**	**81.70**	**122**	P		**P**	**09 15 38.5**	**-0.6**
WRAB	**Tennant Creek**	**81.70**	**122**	*e*P		**P**	**09 15 38.6**	**-0.5**
WRAB	comp=Z,3.0nm,0.5s			pmax	pmax			
WRAB	**Tennant Creek**	**81.70**	**122**	*e*P		**P**	**09 15 38.6**	**-0.5**
ASAR	comp=Z,3.3nm,0.5s **Alice Springs**	**83.98**	**125**	P		**P**	**09 15 50.4**	**-0.4**
ASAR	comp=Z,2.6nm,0.7s,baz=308,slow=5.0,SNR=44 **Alice Springs**	**83.98**	**125**	P		**P**	**09 15 50.4**	**-0.4**

*IDC **24** 09:27:51.8±1.0, 31°.73N×104°.10E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.5/28, mbtmp3.4/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/36, Error ellipse: s-maj=38.8km s-min=17.8km az=58.0*
*BJI **24** 09:27:54.3, 31°.80N×104°.10E, h22km, ML3.2/9*
IDC 24 09:27:54.2±0.7, 31°.74N±0°.04×104°.05E±0°.07, h15km, n13, σ1§49/19, mb3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**0.87**	**197**	Pg		**Pn**	**09 28 12.4**	**+0.5**
CD2				Sg		**Sn**	**09 28 26.3**	**+2.0**
CD2	comp=N,2μm,0.5s			smax	smax			
CD2	comp=E,1μm,0.5s			smax	smax			
LZH	**Lanzhou**	**4.34**	**358**	*e*Pg		**Pg**	**09 29 17.0**	**-0.3**
LZH				Sn		**Sn**	**09 29 52.3**	**+2.1**
LZH				Sg		**Sg**	**09 30 12.3**	**-1.2**
LZH	comp=N,57nm,1.0s			smax	smax			
LZH	comp=E,46nm,1.0s			smax	smax			
LZH	comp=N,150nm,4.2s			LR	LR			
LZH	comp=E,160nm,4.5s			LR	LR			
LZH	comp=Z,240nm,6.1s			LR	LR			
XAN	**Xi'an**	**4.69**	**59**	Pn		**Pn**	**09 29 03.3**	**-1.3**
XAN				Pg		**Pb**	**09 29 17.4**	**+1.1**
XAN				Sg		**Sb**	**09 30 16.1**	**+3.5**
XAN	comp=N,56nm,0.9s			smax	smax			
XAN	comp=E,23nm,0.8s			smax	smax			
GYA	**Guiyang**	**5.74**	**156**	Pn		**Pn**	**09 29 18.4**	**-0.6**
GYA				Sn		**Sn**	**09 30 23.3**	**-1.4**
GYA				Sg		**Sg**	**09 30 57.8**	**-0.7**
GYA	comp=N,40nm,0.8s			smax	smax			
GYA	comp=E,40nm,1.0s			smax	smax			
SONM	**Songino Array**	**16.17**	**6**	Pn		**Pn**	**09 31 38.8**	**-2.2**
KSRS	baz=184,slow=12,SNR=2.2 **Korea Array**	**20.44**	**67**	P		**P**	**09 32 31.0**	**0.0**
MKAR	comp=E,0.9nm,0.6s,baz=249,slow=9.6,SNR=2.5 **Makanchi Array**	**22.47**	**316**	P		**P**	**09 32 54.0**	**+1.1**
ZALV	comp=E,0.8nm,0.8s,baz=117,slow=12,SNR=8.8 **Zalesovo Beam**	**26.13**	**334**	P		**P**	**09 33 26.8**	**-0.7**
KURBB	comp=E,0.3nm,0.4s,baz=132,slow=6.0,SNR=2.8 **Kurchatov Arra**	**26.70**	**322**	P		**P**	**09 33 33.3**	**+0.6**
DAV	comp=E,0.3nm,0.6s,baz=130,slow=8.9,SNR=5.3 **Davao City (W)**	**31.72**	**136**	LR		LR	09 47 28.9	
WRA	comp=E,70nm,20.4s,baz=106,slow=37 **Warramunga Arr**	**59.03**	**146**	P		**P**	**09 37 53.1**	**-0.5**
ASAR	comp=E,0.5nm,0.5s,baz=325,slow=9.5,SNR=15 **Alice Springs**	**62.06**	**149**	P		**P**	**09 38 14.1**	**-0.3**
YKA	comp=E,0.3nm,0.5s,baz=336,slow=6.6,SNR=9.1 **Yellowknife Ar**	**81.10**	**17**	P		**P**	**09 40 08.3**	**-0.1**
	comp=E,0.4nm,0.6s,baz=328,slow=5.1,SNR=11							

IDC 24 09:40:29.2±1.0, 33°.49N×82°.21E, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.5/30, mbtmp3.4/10, ML2.7/2, Error ellipse: s-maj=32.4km s-min=17.6km az=59.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.29**	**0**	Pn		Pn	09 43 37.8	-1.3
KURBB	0.0nm,0.3s,baz=181,slow=14,SNR=7.2 **Kurchatov Arra**	**17.34**	**352**	P		Pn	09 44 32.8	+0.4
ZALV	0.0nm,0.5s,baz=170,slow=11,SNR=3.7 **Zalesovo Beam**	**20.54**	**4**	P		P	09 45 07.0	-2.0
CMAR	0.6nm,0.5s,baz=212,slow=10,SNR=3.5 **Chiang Mai Arr**	**21.18**	**131**	P		P	09 45 15.9	-0.3
BVAR	2.6nm,0.8s,baz=310,slow=10,SNR=19 **Borovoye Array**	**21.29**	**340**	P		P	09 45 18.3	+1.2
SONM	0.3nm,0.4s,baz=149,slow=14,SNR=2.3 **Songino Array**	**23.16**	**45**	P		P	09 45 38.3	+1.0
AKTO	0.7nm,1.0s,baz=241,slow=8.3,SNR=4.3 **Aktyubinsk**	**24.53**	**321**	P		P	09 45 50.2	-0.2
WRA	0.9nm,0.6s,baz=131,slow=10,SNR=3.5 **Warramunga Arr**	**72.76**	**129**	P		P	09 51 59.3	-0.2
TORD	1.0nm,0.9s,baz=327,slow=5.9,SNR=9.7 **Torodi Ar. Bea**	**75.03**	**276**	P		P	09 52 13.1	+0.1
ASAR	0.4nm,0.5s,baz=56,slow=4.9,SNR=4.9 **Alice Springs**	**75.18**	**132**	P		P	09 52 14.1	+0.4
	0.4nm,0.7s,baz=319,slow=5.8,SNR=7.1							

IDC 24 09:59:22.3±1.3, 12°.47N×86°.82W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.5/23, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=95.1km s-min=13.6km az=51.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.84**	**140**	Pn		Pn	10 00 08.9	0.0
JTS	5.9nm,0.3s,baz=335,slow=13,SNR=29			Pg		Pb	10 00 12.5	-1.4
JTS	5.9nm,0.3s,baz=335,slow=10,SNR=31			Lg		Lg	10 00 53.8	
CMIG	4.9nm,0.3s,baz=309,slow=19,SNR=5.8 **Matias Romero**	**9.05**	**301**	Pn		Pn	10 01 33.0	-1.3
TXAR	0.2nm,0.3s,baz=8.1,slow=14,SNR=3.8 **Lajitas Array**	**22.95**	**320**	P		P	10 04 29.0	+0.5
PDAR	1.4nm,0.8s,baz=140,slow=9.0,SNR=24 **Pinedale Array**	**36.05**	**331**	P		P	10 06 26.8	+0.9
YKA	0.4nm,0.6s,baz=130,slow=9.9,SNR=5.8 **Yellowknife Ar**	**53.76**	**344**	P		P	10 08 44.9	-1.2
	0.1nm,0.5s,baz=127,slow=8.7,SNR=3.8							

*IDC **24** 10:09:33.6±2.3, 6°.10S×130°.17E, h0km, mb4.0/1, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=110.2km s-min=26.8km az=77.0*
*AUST **24** 10:09:49.2, 6°.98S×130°.04E, h100km*
ISC 24 10:09:47.2±1.0, 6°.70S±0°.06×129°.7E±0°.1, h100km, n10, σ2§37/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**6.01**	**15**	P		**Pn**	**10 11 15.6**	**+1.9**
SWI	baz=6.2,SNR=4.4			S		**Sn**	**10 12 19.6**	**-1.5**
MTN	baz=6.2,SNR=10 **Manton Dam**	**6.26**	**167**	P		**Pn**	**10 11 19.8**	**+2.6**
MTN	baz=6.0,SNR=15			S		**Sn**	**10 12 25.3**	**-2.0**
KDU	baz=6.0,SNR=6.7 **Kakadu**	**6.54**	**156**	P		**Pn**	**10 11 22.2**	**+1.2**
KDU	baz=6.2,SNR=96			S		**Sn**	**10 12 30.5**	**-3.7**
PCI	baz=6.2,SNR=8.2 **Palu**	**11.40**	**300**	P		Pn	10 12 30.5	+3.5
PCI	baz=12,SNR=51			S		Sn	10 14 42.8	+10
FITZ	baz=12,SNR=13 **Fitzroy Crossi**	**12.00**	**199**	Pn		**Pn**	**10 12 34.6**	**-0.4**
FITZ	0.9nm,0.3s,baz=26,slow=12,SNR=30 **Fitzroy Crossi**	**12.00**	**199**	P		**Pn**	**10 12 34.7**	**-0.3**
WRA	baz=12,SNR=23 **Warramunga Arr**	**13.91**	**162**	Pn		**Pn**	**10 12 57.2**	**-2.9**
COEN	0.4nm,0.3s,baz=350,slow=14,SNR=16 **Coen**	**15.08**	**120**	P		**Pn**	**10 13 15.9**	**+0.7**
COEN	baz=15,SNR=6.0			S		Sn	10 15 49.7	-12
ASAR	baz=15,SNR=4.2 **Alice Springs**	**17.34**	**167**	P		**Pn**	**10 13 44.9**	**+1.8**
MKAR	0.2nm,0.3s,baz=346,slow=11,SNR=12 **Makanchi Array**	**67.81**	**327**	P		**P**	**10 20 32.0**	**-2.6**
	0.9nm,0.5s,baz=115,slow=8.1,SNR=17							

*ISCJB **24** 10:09:58.5±0.5, 16°.05S±0°.1×175°.03W±0°.07, h278km, mb3.9/14, Error ellipse: s-maj=16.8km s-min=7.6km az=155.3*
*IDC **24** 10:09:59.0±1.2, 16°.08S×174°.88W, h276km±12km, mb3.6/13, mb1 3.8/14, mb1mx3.6/22, mbtmp3.6/14, Error ellipse: s-maj=33.2km s-min=11.6km az=148.0*
*AUST **24** 10:10:01.2±0.0, 15°.90S×174°.72W, h308km, Error ellipse: s-maj=2.3km s-min=1.6km az=349.0*
ISC 24 10:09:59.7±0.6, 16°.05S±0°.1×174°.95W±0°.09, h278km, n25, σ0§78/26, mb3.8/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.68**	**57**	P		**Pn**	**10 11 01.8**	**+0.4**
AFI	36nm,0.3s,baz=101,slow=1.8,SNR=75			S		**S**	**10 11 49.8**	**-0.8**
NIUE	60nm,0.3s,baz=284,slow=23,SNR=9.0 **Niue**	**5.71**	**124**	P		**Pn**	**10 11 25.6**	**+0.7**
PMG	baz=5.6,SNR=20 **Port Moresby**	**37.49**	**275**	P		**P**	**10 16 49.0**	**+1.4**
QLP	4.1nm,0.5s,baz=74,slow=16,SNR=3.8 **Quilpie**	**39.33**	**247**	P		**P**	**10 17 02.5**	**-0.2**
TOO	baz=40,SNR=6.6 **Toolangi**	**40.96**	**231**	P		**P**	**10 17 16.0**	**+0.1**
STKA	baz=41,SNR=3.9 **Stephens Creek**	**42.47**	**240**	P		**P**	**10 17 27.4**	**-0.6**
STKA	4.0nm,0.8s,baz=84,slow=7.6,SNR=8.2 **Stephens Creek**	**42.47**	**240**	P		**P**	**10 17 28.4**	**+0.3**
BBOO	baz=43,SNR=5.2 **Buckleboo**	**47.24**	**240**	P		**P**	**10 18 05.2**	**-0.3**
WRA	baz=47,SNR=6.4 **Warramunga Arr**	**48.26**	**257**	P		**P**	**10 18 12.8**	**-0.7**
ASAR	6.1nm,0.7s,baz=91,slow=6.8,SNR=21 **Alice Springs**	**48.52**	**252**	P		**P**	**10 18 14.9**	**-0.6**
KDU	47nm,0.6s,baz=85,slow=8.5,SNR=248 **Kakadu**	**50.94**	**266**	P		**P**	**10 18 33.7**	**0.0**
MTN	baz=51,SNR=3.5 **Manton Dam**	**52.20**	**266**	P		**P**	**10 18 42.5**	**-0.5**
FORT	baz=52,SNR=4.7 **Forrest**	**53.83**	**243**	P		**P**	**10 18 53.7**	**-0.9**
FITZ	baz=54,SNR=16 **Fitzroy Crossi**	**56.64**	**259**	P		**P**	**10 19 13.9**	**-0.7**
MEEK	2.2nm,0.8s,baz=75,slow=4.7,SNR=3.3 **Meekatharra**	**62.22**	**248**	P		**P**	**10 19 51.9**	**-0.8**
JNU	baz=62,SNR=3.4 **Nakatsue**	**71.10**	**314**	P		**P**	**10 20 47.2**	**-1.1**
PETK	3.0nm,0.5s,baz=141,slow=23,SNR=4.9 **Petropavlovsk-**	**72.72**	**343**	P		**P**	**10 20 56.5**	**-1.0**
KSRS	1.6nm,0.4s,baz=141,slow=9.3,SNR=4.9 **Korea Array**	**75.52**	**316**	P		**P**	**10 21 15.0**	**+1.1**
NVAR	1.4nm,0.9s,baz=111,slow=6.7,SNR=4.0 **Mina Array Bea**	**75.75**	**43**	P		**P**	**10 21 14.8**	**-0.6**
USRK	1.2nm,0.7s,baz=220,slow=8.2,SNR=8.5 **Ussuriysk Arra**	**76.94**	**324**	P		**P**	**10 21 22.7**	**+1.1**
TXAR	2.1nm,0.9s,baz=125,slow=17,SNR=3.8 **Lajitas Array**	**82.16**	**57**	P		**P**	**10 21 50.5**	**+0.3**
ILAR	0.5nm,0.7s,baz=220,slow=8.7,SNR=7.1 **Eielson Array**	**83.29**	**12**	P		**P**	**10 21 55.8**	**+0.8**
PDAR	0.5nm,0.8s,baz=203,slow=5.9,SNR=3.8 **Pinedale Array**	**83.68**	**42**	P		**P**	**10 21 57.0**	**-0.8**
CMAR	0.9nm,0.6s,baz=203,slow=3.5,SNR=10 **Chiang Mai Arr**	**91.38**	**289**	P		**P**	**10 22 35.7**	**+0.8**
BRTR	0.7nm,0.5s,baz=123,slow=2.6,SNR=5.8 **Keskin Array B**	**145.63**	**319**	PKPbc		**PKPdf**	**10 29 05.7**	**+0.3**
	3.8nm,1.0s,baz=90,slow=2.4,SNR=12							

MEX 24 10:27:05.2±0.9, 15°.38N×97°.07W, h17km±999km, MD3.7, Near coast of Oaxaca

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

CLDR	Caldiran	1.59	85	*e*PN	Pn	10 37 32.4	-0.6		
CLDR	Caldiran	1.59	85	*e*Pn	Pn	10 37 32.4	-0.6		
DIY	Diyarbakir	1.72	230	*e*PN	Pn	10 37 34.4	-0.3		
DIY	Diyarbakir	1.72	230	*e*Pn	Pn	10 37 34.4	-0.3		
DIYA	Diyarbakir	1.77	232	*e*P	Pn	10 37 36.1	+0.8		
DIYA	Diyarbakir	1.77	232	*e*P	Pn	10 37 36.1	+0.8		
ERZN	Erzincan	1.77	289	*e*PN	Pn	10 37 34.8	-0.6		
KARS	Kars	1.85	30	*e*PN	Pn	10 37 35.9	-0.6		
KARS	Kars	1.85	30	*e*Pn	Pn	10 37 35.9	-0.6		
DDEM	Demirkent	1.87	357	*e*P	Pb	10 37 38.3	-0.4		
DDEM	Demirkent	1.87	357	*e*P	Pb	10 37 38.3	-0.4		
MARD	Mardin	1.92	207	*e*P	Pb	10 37 39.6	+0.1		
MARD				*e*S	Sg	10 38 05.6	+0.1		
BAYT	Ayd¨–ntepe-Bay	1.92	316	*e*PN	Pn	10 37 37.1	-0.4		
BAYT	Ayd¨–ntepe-Bay	1.92	316	*e*Pn	Pn	10 37 37.1	-0.4		
EZC	Erzincan	2.09	291	*e*PN	Pn	10 37 39.4	-0.5		
EZC	Erzincan	2.09	291	*e*Pn	Pn	10 37 39.4	-0.5		
KELT	Kelkit	2.32	300	*e*P	Pb	10 37 45.3	-1.2		
KELT				*e*S	Sg	10 38 19.0	+0.4		
KELT	Kelkit	2.32	300	*e*P	Pb	10 37 45.3	-1.2		
DBOC	Borcka	2.33	356	*e*P	Pb	10 37 45.2	-1.3		
DBOC	Borcka	2.33	356	*e*P	Pb	10 37 45.2	-1.3		
GUMT	Gumushane	2.34	309	*e*PN	Pn	10 37 43.6	+0.3		
GUMT	Gumushane	2.34	309	*e*Pn	Pn	10 37 43.6	+0.3		
GNI	Garni	2.48	62	*e*PN	Pn	10 37 45.1	-0.1		
GNI	Garni	2.48	62	*e*Pn	Pn	10 37 45.1	-0.1		
AKH	Akhalkalaki	2.68	27	P	Pn	10 37 48.8	+0.7		
AKH	Akhalkalaki	2.68	27	P	Pn	10 37 48.8	+0.7		
MYA	Malataya	2.79	257	*e*PN	Pn	10 37 49.5	0.0		
MYA	Malataya	2.79	257	*e*Pn	Pn	10 37 49.5	0.0		
MALT	Malatya	2.80	256	*e*PN	Pn	10 37 50.5	+1.0		
MALT	Malatya	2.80	256	*e*Pn	Pn	10 37 50.6	+1.0		
URFA	Urfa	2.88	238	*e*PN	Pn	10 37 51.2	+0.5		
URFA	Urfa	2.88	238	*e*Pn	Pn	10 37 51.2	+0.5		
ESPY	Espiye-Giresun	3.08	309	*e*PN	Pn	10 37 53.7	+0.4		
ESPY	Espiye-Giresun	3.08	309	*e*Pn	Pn	10 37 53.7	+0.4		
AKCD	Akcadag	3.18	258	*e*P	Pg	10 38 03.6	-1.4		
GOR	Gori	3.41	29	P	Pn	10 37 59.2	+1.3		
GOR	Gori	3.41	29	P	Pn	10 37 59.2	+1.3		
TBLG	Delisi	3.47	38	P	Pn	10 38 00.7	+1.9		
DGRG	David-gareji	3.61	47	P	Pn	10 38 02.8	+2.2		
ONI	Oni	3.76	18	P	Pn	10 38 01.7	-1.0		

TIF ***24*** *10:39:59.9, 38.°93N×41.°98E, h17km±6km*
ISK ***24*** *10:40:00.6, 38.°95N×41.°87E, h8km, MD3.1*
ISCJB ***24*** *10:40:01.4±0.7, 39.°03N±0.°02×41.°94E±0.°04, h2km±6km, Error ellipse: s-maj=5.0km s-min=4.0km az=153.7*
DDA ***24*** *10:40:01.7, 39.°00N×41.°83E, h7km, MD3.1*
CSEM ***24*** *10:40:01.7±0.2, 39.°05N×41.°94E, h2km, MD3.1, Error ellipse: s-maj=5.4km s-min=4.3km az=35.0*
ISC 24 10:40:01.7±1.1, 39.°01N±0.°02×41.°88E±0.°02, h8km±10km, n35, σ0°90/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.36**	**294**	*e*PG	**Pg**	**10 40 07.7**	**-1.1**
VRTB				*e*SG	**Sg**	**10 40 15.3**	**+1.7**
BTMT	**Batman**	**0.87**	**201**	*e*PG	**Pb**	**10 40 19.2**	**0.0**
BTMT				*e*SG	**Sn**	**10 40 32.8**	**-0.6**
BTMT	**Batman**	**0.87**	**201**	*e*Pg	**Pb**	**10 40 19.2**	**0.0**
BTMT				*e*Sg	**Sn**	**10 40 32.8**	**-0.6**
ERZM	**Erzurum**	**0.98**	**336**	*e*P	**Pg**	**10 40 19.9**	**-0.6**
ERZM				*e*S	**Sg**	**10 40 32.2**	**-1.0**
ERZM	**Erzurum**	**0.98**	**336**	*e*P	**Pg**	**10 40 19.9**	**-0.6**
ERZM				*e*S	**Sg**	**10 40 32.2**	**-1.0**
EZM	**Erzurum**	**0.98**	**336**	*e*PG	**Pg**	**10 40 20.6**	**+0.1**
EZM				*e*SG	**Sn**	**10 40 35.9**	**-0.3**
AGRB	**Hanur-Agry**	**1.03**	**57**	*e*PG	**Pg**	**10 40 20.7**	**-0.8**
AGRB	**Hanur-Agry**	**1.03**	**57**	*e*Pg	**Pg**	**10 40 20.7**	**-0.8**
HOMI	**Horasan**	**1.03**	**1**	*e*P	**Pg**	**10 40 38.0**	**-0.6**
HOMI				*e*S	**Sn**	**10 40 38.1**	**+0.6**
GEVA	**Gevas**	**1.16**	**127**	*e*P	**Pg**	**10 40 23.7**	**-0.2**
GEVA				*e*S	**Sg**	**10 40 37.8**	**-1.1**
GEVA	**Gevas**	**1.16**	**127**	*e*P	**Pg**	**10 40 23.7**	**-0.2**
GEVA				*e*S	**Sg**	**10 40 37.8**	**-1.1**
BEST	**Besiri**	**1.22**	**203**	*e*P	**Pn**	**10 40 25.4**	**+0.3**
BEST				*e*S	**Sg**	**10 40 41.3**	**+0.4**
VANT	**Van**	**1.23**	**118**	*e*PN	**Pg**	**10 40 25.0**	**-0.4**
VANT	**Van**	**1.23**	**118**	*e*Pn	**Pg**	**10 40 25.0**	**-0.4**
VANB	**Van**	**1.25**	**109**	*e*PN	**Pb**	**10 40 25.1**	**-0.5**
VANB	**Van**	**1.25**	**109**	*e*Pn	**Pb**	**10 40 25.1**	**-0.5**
KOPT	**Kop Dagi**	**1.47**	**314**	*e*P	**Pn**	**10 40 28.6**	**-0.1**
KOPT				*e*S	**Sg**	**10 40 50.0**	**+1.1**
KOPT	**Kop Dagi**	**1.47**	**314**	*e*P	**Pn**	**10 40 28.6**	**-0.1**
KOPT				*e*S	**Sg**	**10 40 50.0**	**+1.1**
DYDN	**Diyadin**	**1.50**	**69**	*e*P	**Pb**	**10 40 30.1**	**+0.2**
DYDN				*e*S	**Sg**	**10 40 53.3**	**+3.3**
DYDN	**Diyadin**	**1.50**	**69**	*e*P	**Pb**	**10 40 30.1**	**+0.2**
CLDR	**Caldiran**	**1.59**	**85**	*e*PN	**Pn**	**10 40 30.7**	**+0.3**
CLDR	**Caldiran**	**1.59**	**85**	*e*Pn	**Pn**	**10 40 30.7**	**+0.3**
DIYA	**Diyarbakir**	**1.76**	**232**	*e*P	**Pb**	**10 40 34.0**	**-0.2**
DIYA				*e*S	**Sg**	**10 41 00.2**	**+2.1**
DIYA	**Diyarbakir**	**1.76**	**232**	*e*P	**Pb**	**10 40 34.0**	**-0.2**
DIYA				*e*S	**Sg**	**10 41 00.2**	**+2.1**
ERZN	**Erzincan**	**1.77**	**290**	*e*PN	**Pn**	**10 40 32.2**	**-0.5**
KARS	**Kars**	**1.86**	**29**	*e*PN	**Pn**	**10 40 34.6**	**+0.6**
KARS	**Kars**	**1.86**	**29**	*e*Pn	**Pn**	**10 40 34.6**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.92**	**316**	*e*PN	**Pn**	**10 40 35.0**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.92**	**316**	*e*Pn	**Pn**	**10 40 35.0**	**+0.1**
KELT	**Kelkit**	**2.32**	**300**	*e*P	**Pb**	**10 40 43.6**	**-0.4**
KELT	**Kelkit**	**2.32**	**300**	*e*P	**Pb**	**10 40 43.6**	**-0.4**
GUMT	**Gumushane**	**2.35**	**309**	*e*PN	**Pn**	**10 40 40.8**	**+0.1**
GUMT	**Gumushane**	**2.35**	**309**	*e*Pn	**Pn**	**10 40 40.8**	**+0.1**
GNI	**Garni**	**2.49**	**62**	*e*PN	**Pn**	**10 40 42.9**	**+0.3**
GNI	**Garni**	**2.49**	**62**	*e*Pn	**Pn**	**10 40 42.9**	**+0.3**

ISCJB ***24*** *10:40:37.1±0.6, 38.°25N±0.°04×73.°08E±0.°10, h127km, mb3.1/4, Error ellipse: s-maj=11.6km s-min=3.9km az=162.4*
NNC ***24*** *10:40:38.9±6.6, 38.°88N×72.°81E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=59.2km s-min=34.2km az=16.0*
IDC ***24*** *10:40:39.8±6.3, 38.°48N×73.°09E, h78km±42km, mb3.0/4, mb1 3.4/10, mb1mx3.2/32, mbtmp3.3/10, ML3.6/6, Error ellipse: s-maj=50.2km s-min=31.0km az=6.0*
ISC 24 10:40:36.0±0.8, 38.°20N±0.°06×72.°95E±0.°10, h127km, n45, σ2°00/40, mb3.0/4, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=56	**3.96**	**8**	P	**Pn**	**10 41 37.0**	**+1.5**
UCH	**Uchtor** SNR=19	**4.19**	**16**	P	**Pn**	**10 41 40.5**	**+1.9**
KZA	**Kyzart** SNR=39	**4.25**	**24**	P	**Pn**	**10 41 40.5**	**+1.2**
CEP	**Cherat**	**4.45**	**191**	P	Pn	10 41 51.8	+10
EKS2	**Erkin-Say** SNR=24	**4.50**	**8**	P	**Pn**	**10 41 44.5**	**+2.2**
AAK	**Ala-Archa** 5.2nm,0.3s,baz=166,slow=6.5,SNR=91	**4.58**	**14**	P	**Pn**	**10 41 44.7**	**+1.2**
AAK	6.0nm,0.3s,baz=2.4,slow=17,SNR=4.6			S	**Sn**	**10 42 32.7**	**-3.2**
KBK	**Karagaybulak** SNR=15	**4.70**	**18**	P	**Pn**	**10 41 46.6**	**+1.5**
ULHL	**Ulahol** SNR=72	**4.76**	**31**	P	**Pn**	**10 41 47.2**	**+1.3**
CHMS	**Chumysh** SNR=10	**4.98**	**15**	P	**Pn**	**10 41 50.5**	**+1.8**
TKM2	**Tokmak 2** 6.7nm,0.6s	**5.12**	**22**	⇓Pn	**Pn**	**10 41 52.2**	**+1.4**
TKM2	16nm,0.7s			⇑Sn	**Sn**	**10 42 46.6**	**-2.4**
TKM2	**Tokmak 2** SNR=23	**5.12**	**22**	P	**Pn**	**10 41 52.3**	**+1.5**
USP	**Ospenovka** SNR=12	**5.19**	**13**	P	**Pn**	**10 41 53.9**	**+2.3**
KK31	**Karatay Array** 4.6nm,0.4s,baz=158,slow=13,SNR=141	**5.24**	**340**	⇑Pn	**Pn**	**10 41 54.2**	**+2.1**
KK31	24nm,0.5s,baz=152,slow=23,SNR=13			⇑Sn	**Sn**	**10 42 47.9**	**-3.6**
THW	**Thamme Wali**	**5.49**	**191**	P	Pn	10 42 04.7	+9.1
DLH	**Dalhousie**	**6.16**	**156**	*e*P	Pn	10 42 11.0	+6.2
DLH				*e*S	**Sn**	**10 43 15.0**	**+0.8**
THN	**Thein Dam**	**6.18**	**158**	*ex*	P	10 42 06.0	
THN				*e*S	**Sn**	**10 43 12.5**	**-1.8**
SARP	**Sargodha**	**6.27**	**182**	P	Pn	10 42 14.4	+8.3
SMLA	**Simla**	**7.86**	**153**	*i* P	Pn	10 42 33.9	+6.3
SMLA				*i* S	**Sn**	**10 43 54.4**	**-0.6**
SMLA	comp=N,1μm,0.3s			AML	AML	10 43 60.0	
SMLA	comp=E,2μm,0.3s			⇓AML	AML	10 44 00.2	
NDI	**New Delhi**	**10.14**	**158**	*ex*	Sn	10 44 43.5	-6.6
AYAN	**Aya Nagar**	**10.30**	**159**	*e*S	**Sn**	**10 44 51.1**	**-2.9**
KHET	**Khetri**	**10.38**	**166**	*e*P	Pn	10 43 06.0	+4.5
KHET				*e*S	**Sn**	**10 44 50.4**	**-5.6**
KHET	comp=N,11nm,0.3s			AML	AML	10 44 59.6	
KHET	comp=E,14nm,0.3s			AML	AML	10 45 02.5	
KUDL	**Kundal**	**10.46**	**163**	*e*P	Pn	10 43 08.0	+5.5
KUDL				*e*S	Sn	10 44 52.0	-5.9
KUDL	comp=N,15nm,0.6s			AML	AML	10 45 01.2	
KUDL	comp=E,19nm,0.6s			AML	AML	10 45 01.7	
MK31	**Makanchi Array** comp=E,2.2nm,0.8s,baz=217,slow=14,SNR=7.2	**11.00**	**36**	Pn	**Pn**	**10 43 10.4**	**+0.8**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=8.5	**11.00**	**36**	P	**Pn**	**10 43 10.0**	**+0.4**
KURBB	**Kurchatov Arra** comp=E,0.0nm,0.3s,baz=210,slow=11,SNR=5.7	**13.04**	**16**	P	**Pn**	**10 43 35.7**	**-0.5**
PYUN	**Piuthan** comp=E,109nm,0.5s	**13.11**	**137**	*e*P	**Pn**	**10 43 38.9**	**+1.3**
DANN	**Dangsing** comp=E,28nm,0.4s	**13.34**	**134**	*e*P	**Pn**	**10 43 42.1**	**+1.5**
KOLN	**Koldanda** comp=E,15nm,0.4s	**13.70**	**136**	*e*P	**Pn**	**10 43 47.3**	**+2.1**
GKN	**Gorkha**	**14.11**	**133**	*e*P	**Pn**	**10 43 51.6**	**+1.3**
AB31	**Akbulak array** comp=E,1.8nm,0.6s,baz=134,slow=12,SNR=25	**14.48**	**324**	⇑Pn	**Pn**	**10 43 55.9**	**+1.1**
AB31	comp=E,0.8nm,0.5s,baz=135,slow=23,SNR=4.4			⇓Sn	Sn	10 46 25.9	-8.9
KKN	**Kakani** comp=E,13nm,0.5s	**14.64**	**132**	*e*P	**Pn**	**10 43 58.4**	**+1.3**
PKIN	**Phulchoki**	**14.87**	**132**	*e*P	**P**	**10 44 01.7**	**-0.9**
PKI	**Pulchoki**	**14.88**	**132**	*e*P	**Pn**	**10 44 01.5**	**+1.2**
GUN	**Gumba**	**14.91**	**130**	*e*P	**Pn**	**10 44 01.7**	**+1.0**
BVAR	**Borovoye Array** comp=E,0.5nm,0.3s,baz=159,slow=8.9,SNR=2.9	**14.93**	**354**	P	**P**	**10 44 01.8**	**-0.9**
RAMN	**Ramite**	**16.05**	**130**	*e*P	**Pn**	**10 44 15.2**	**+0.5**
AKTO	**Aktyubinsk** comp=E,0.6nm,0.3s,baz=116,slow=12,SNR=10	**16.20**	**324**	P	**P**	**10 44 18.8**	**+1.9**
AKTO	comp=E,0.1nm,0.3s,baz=314,slow=15,SNR=4.1			S	Sn	10 47 06.7	-9.4
AKTO	**Aktyubinsk** comp=E,1.0nm,1.0s	**16.20**	**324**	⇓Pn	**P**	**10 44 18.4**	**+1.6**
AKTO	comp=E,0.3nm,0.8s			⇑Sn	**Sn**	**10 47 12.5**	**-3.6**
TAPN	**Taplejung**	**16.44**	**127**	*e*P	**P**	**10 44 20.8**	**+0.8**
ODAN	**Odare**	**16.59**	**129**	*e*P	**P**	**10 44 22.6**	**+1.0**
ZALV	**Zalesovo Beam** comp=E,0.8nm,0.3s,baz=216,slow=10,SNR=33	**17.73**	**24**	P	**Pn**	**10 44 35.8**	**+1.2**
SONM	**Songino Array** comp=E,0.4nm,0.8s,baz=268,slow=4.0,SNR=4.4	**26.10**	**58**	P	P	10 46 04.4	+6.6
NOA	**NORSAR Array B** comp=E,1.4nm,0.6s,baz=74,slow=9.9,SNR=6.3	**43.98**	**322**	P	P	10 48 38.3	+8.1
ILAR	**Eielson Array** comp=E,0.1nm,0.5s,baz=330,slow=8.5,SNR=3.2	**72.71**	**17**	P	P	10 51 56.8	+7.2
YKA	**Yellowknife Ar** comp=E,0.1nm,0.5s,baz=352,slow=5.6,SNR=4.2	**79.46**	**4**	P	P	10 52 36.0	+8.2

ISK ***24*** *10:41:01.0, 37.°35N×37.°18E, h6km, MD2.9*
DDA ***24*** *10:41:01.5, 37.°32N×37.°12E, h1km, MD3.2, ML3.2*
ISCJB ***24*** *10:41:02.3±0.5, 37.°31N±0.°04×37.°13E±0.°04, h7km±5km, Error ellipse: s-maj=6.5km s-min=4.7km az=12.2*
CSEM ***24*** *10:41:02.1±0.2, 37.°31N×37.°17E, h10km, MD2.9, Error ellipse: s-maj=6.4km s-min=5.7km az=174.0*
ISC 24 10:41:01.9±1.0, 37.°34N±0.°03×37.°16E±0.°03, h7km±8km, n24, σ0°61/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.17**	**167**	*e*PG	**Pg**	**10 41 05.2**	**-0.3**
GAZ				*e*SG	**Sg**	**10 41 07.8**	**-0.1**
GAZ	**Gaziantep**	**0.17**	**167**	*e*Pg	**Pg**	**10 41 05.2**	**-0.3**
GAZ				*e*Sg	**Sg**	**10 41 07.8**	**-0.1**
KMRS	**Kahramanmaras**	**0.26**	**308**	*e*PG	**Pg**	**10 41 07.0**	**-0.1**
KMRS				*e*SG	**Sg**	**10 41 10.7**	**0.0**
KMRS	**Kahramanmaras**	**0.26**	**308**	*e*Pg	**Pg**	**10 41 07.0**	**-0.1**
KMRS				*e*Sg	**Sg**	**10 41 10.7**	**0.0**
GZT	**Gaziantep**	**0.32**	**88**	*i* P	**Pg**	**10 41 08.9**	**+0.6**
GZT				*i* S	**Sb**	**10 41 15.5**	**0.0**
KUZU	**Kuzuini**	**0.57**	**187**	*i* P	**Pg**	**10 41 12.8**	**-0.1**
KUZU				*i* S	**Sb**	**10 41 23.8**	**+1.2**
KUZU	**Kuzuini**	**0.57**	**187**	*i* P	**Pg**	**10 41 12.8**	**-0.1**
KUZU				*i* S	**Sb**	**10 41 23.8**	**+1.2**
ANDN	**Andirin**	**0.69**	**290**	*i* P	**Pn**	**10 41 17.7**	**-0.5**
ANDN				*i* S	**Sn**	**10 41 28.1**	**-1.1**
ANDN	**Andirin**	**0.69**	**290**	*i* P	**Pn**	**10 41 17.7**	**-0.5**
ANDN				*i* S	**Sn**	**10 41 28.1**	**-1.1**
ATAB	**Bozova**	**0.91**	**82**	*e*P	**Pb**	**10 41 20.0**	**0.0**
ATAB				*e*S	**Sn**	**10 41 33.6**	**-1.0**
ATAB	**Bozova**	**0.91**	**82**	*e*S	**Sn**	**10 41 33.6**	**-1.0**
ATAB	**Bozova**	**0.91**	**82**	*e*P	**Pb**	**10 41 20.0**	**0.0**
KOZT	**Kozan**	**1.07**	**278**	*e*PN	**Pg**	**10 41 22.4**	**-0.1**
KOZT	**Kozan**	**1.07**	**278**	*e*Pn	**Pg**	**10 41 22.4**	**-0.1**
AKCD	**Akcadag**	**1.13**	**32**	*e*P	**Pn**	**10 41 24.2**	**0.0**
AKCD				*e*S	**Sn**	**10 41 40.8**	**+0.8**
AKCD	**Akcadag**	**1.13**	**32**	*e*P	**Pn**	**10 41 24.2**	**0.0**
AKCD				*e*S	**Sn**	**10 41 40.8**	**+0.8**
CEYT	**Ceyhan**	**1.18**	**254**	*e*PN	**Pg**	**10 41 24.5**	**0.0**
CEYT	**Ceyhan**	**1.18**	**254**	*e*Pn	**Pg**	**10 41 24.5**	**0.0**
URFA	**Urfa**	**1.33**	**85**	*e*PN	**Pn**	**10 41 26.2**	**-0.7**
URFA	**Urfa**	**1.33**	**85**	*e*Pn	**Pn**	**10 41 26.2**	**-0.7**
MALT	**Malatya**	**1.39**	**46**	*e*PN	**Pn**	**10 41 27.9**	**0.0**
MALT	**Malatya**	**1.39**	**46**	*e*Pn	**Pn**	**10 41 27.9**	**0.0**
MERS	**Mersin**	**2.16**	**258**	*e*PN	**Pn**	**10 41 39.2**	**+0.8**
MERS	**Mersin**	**2.16**	**258**	*e*Pn	**Pn**	**10 41 39.2**	**+0.8**

NIED ***24*** *10:47:00, 35.°00N×129.°70E, h5km, Mw3.5 Best double couple: M0 1.70000×10^14 NP1:φ=223.00000°, δ=69.00000°, λ=-155.00000°. NP2:φ=123.00000°, δ=67.00000°, λ=-22.00000°.*
JMA 24 10:47:49.8±0.1, 35.°03N×129.°66E, h16km±2km, M3.8, 2C, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTU	**Tsushima**	**0.55**	**203**	⇑P	Pg	10 48 00.5	-0.2
JTU				S	Sg	10 48 07.6	-0.4
JII	**Iki**	**1.23**	**177**	⇑P	Pn	10 48 12.5	+0.1
JII				S	Sn	10 48 28.7	0.0
JTY	**Toyota**	**1.39**	**123**	P	Pn	10 48 14.3	-0.2
JTY				S	Sb	10 48 33.1	+0.2

ISCJB ***24*** *10:52:28.0±0.4, 14.°61N±0.°03×92.°86W±0.°02, h62km±3km, mb4.7/78, Error ellipse: s-maj=6.2km s-min=2.6km az=27.9*
MEX ***24*** *10:52:28.6±0.4, 14.°56N×92.°90W, h8km±7km, MD4.6*
BJI ***24*** *10:52:28.4, 14.°60N×92.°80W, h69km, mB5.1/3, Ms5.3/2, Ms7 4.9/2*
IDC ***24*** *10:52:28.6±1.7, 14.°74N×92.°72W, h58km±15km, mb4.1/16, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, MS3.8/17, Ms1 3.8/17, ms1mx3.7/40, Error ellipse: s-maj=17.8km s-min=9.4km az=44.0*
NEIC ***24*** *10:52:28.4±0.5, 14.°54N×92.°80W, h56km±4km, mb4.7/74, MD4.6(MEX), Error ellipse: s-maj=7.0km s-min=4.3km az=202.0*
NEIC Felt at Tuxtla Gutierrez. Felt [II] at Quetzaltenango, Guatemala. Also felt at Antigua Guatemala, Atitlan, Guatemala, Olintepeque, San Pedro la Laguna and Santa Maria de Jesus.
CASC ***24*** *10:52:29.3±1.4, 14.°34N×92.°85W, h69km±46km, MD4.5, ML5.0, mb4.7(NEIC)*
ISC 24 10:52:29.2±0.8, 14.°65N±0.°05×92.°85W±0.°03, h63km±7km, n529, σ1°23/556, mb4.7/79, 152C-183D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**66**	*i* P	**Pn**	**10 52 40.7**	**-2.1**
THIG				*e*S	**Sn**	**10 52 50.5**	**-2.2**
THIG		**0.62**	**66**	*i* P	**Pn**	**10 52 40.7**	**-2.1**
THIG				*e*S	**Sn**	**10 52 50.5**	**-2.2**

JAT	**Jato**	**1.23**	**105**	⇓*i* P	**Pn**	**10 52 50.1**	**-0.2**
CCIG	**Comitan**	**1.76**	**23**	*i* P	**Pn**	**10 52 57.8**	**+0.1**
CCIG				*e*S	**Sn**	**10 53 20.6**	**+1.3**
CCIG	**Comitan**	**1.76**	**23**	*i* P	**Pn**	**10 52 57.8**	**+0.1**
CCIG				*e*S	**Sn**	**10 53 20.6**	**+1.3**
TP2	**Tecpan 2**	**1.78**	**85**	*e*P	**Pn**	**10 52 58.7**	**+0.6**
FUG	**Fuego 3**	**1.96**	**96**	⇓*e*P	**Pn**	**10 52 59.8**	**-0.6**
TGIG		**2.13**	**353**	*i* P	**Pn**	**10 53 02.4**	**-0.2**
TGIG				*e*S	**Sn**	**10 53 28.4**	**+0.4**
TGIG		**2.13**	**353**	*i* P	**Pn**	**10 53 02.4**	**-0.2**
TGIG				*e*S	**Sn**	**10 53 28.4**	**+0.4**
PCG	**Pacaya**	**2.19**	**96**	⇓*e*P	**Pn**	**10 53 03.4**	**-0.2**
GCG	**Guatemala City**	**2.25**	**91**	*e*P	**Pn**	**10 53 05.6**	**+1.3**
GCG				*e*S	**Sn**	**10 53 33.4**	**+2.3**
NBG	**Las Nubes**	**2.43**	**91**	⇑*e*P	**Pn**	**10 53 08.5**	**+1.7**
MRL	**Marmol**	**3.09**	**82**	⇓*e*P	**Pn**	**10 53 16.6**	**+0.9**
CMIG	**Matias Romero** 196nm,0.3s,baz=144,slow=11,SNR=1010	**3.12**	**321**	P	**Pn**	**10 53 14.6**	**-1.3**
CMIG	306nm,0.3s,baz=100,slow=7.7,SNR=4.9			S	**Sn**	**10 53 51.3**	**-0.7**
CMIG	comp=Z,2μm,21.2s,baz=153,slow=44			LR	LR	10 54 47.5	
CMIG	**Matias Romero**	**3.12**	**321**	P	**Pn**	**10 53 14.6**	**-1.3**
CMIG				S	**Sn**	**10 53 51.3**	**-0.7**
RBDL	**Robledal**	**3.12**	**99**	*i* P	**Pn**	**10 53 16.1**	**0.0**
RTR	**El Retiro**	**3.20**	**103**	⇑*i* P	**Pn**	**10 53 17.3**	**+0.1**
SBLS	**San Blas**	**3.23**	**104**	*i* P	**Pn**	**10 53 17.4**	**-0.4**
SNJE	**San Jose**	**3.24**	**103**	*i* P	**Pn**	**10 53 17.7**	**-0.2**
HUIG	**Huatulco**	**3.33**	**290**	*i* P	**Pn**	**10 53 17.6**	**-1.3**
HUIG				*e*S	**Sn**	**10 53 56.5**	**-0.8**
HUIG	**Huatulco**	**3.33**	**290**	*i* P	**Pn**	**10 53 17.6**	**-1.3**
HUIG				*e*S	**Sn**	**10 53 56.5**	**-0.8**
MTO2	**Montecristo 2**	**3.39**	**94**	*e*P	**Pn**	**10 53 20.2**	**+0.3**
BOQS	**Boqueron**	**3.58**	**104**	*i* P	**Pn**	**10 53 22.6**	**+0.1**
BOQS				*e*S	**Sn**	**10 54 04.8**	**+1.0**
SNET	**Serv Nac Est T**	**3.64**	**105**	*i* P	**Pn**	**10 53 23.1**	**-0.1**
SNET				*e*S	**Sn**	**10 54 03.6**	**-1.4**
SNET	comp=Z,8μm,0.4s			AML	AML	10 54 20.3	
LFU	**La Fuente**	**3.74**	**103**	*i* P	**Pn**	**10 53 24.9**	**+0.4**
LBRS	**Las Brisas**	**3.81**	**103**	*i* P	**Pn**	**10 53 25.9**	**+0.5**
LFRS	**El Faro**	**3.82**	**105**	⇑*i* P	**Pn**	**10 53 25.4**	**-0.3**
OXX	**Oaxaca**	**4.44**	**304**	*i* P	**Pn**	**10 53 34.5**	**+0.3**
OXX				*e*S	**Sn**	**10 54 25.7**	**+0.9**
OXX	**Oaxaca**	**4.44**	**304**	*i* P	**Pn**	**10 53 34.5**	**+0.3**
OXX				*e*S	**Sn**	**10 54 25.7**	**+0.9**
VHO	**Vista Hermosa**	**4.44**	**303**	*i* P	**Pn**	**10 53 34.9**	**+0.6**
VHO				*e*S	**Sn**	**10 54 24.7**	**-0.2**
VHO	**Vista Hermosa**	**4.44**	**303**	*i* P	**Pn**	**10 53 34.9**	**+0.6**
VHO				*e*S	**Sn**	**10 54 24.7**	**-0.2**
PNIG	**Pinotepa**	**5.37**	**290**	*i* P	**Pn**	**10 53 46.2**	**-0.6**
PNIG				*e*S	**Sn**	**10 54 48.0**	**+0.7**
PNIG	**Pinotepa**	**5.37**	**290**	*i* P	**Pn**	**10 53 46.2**	**-0.6**
PNIG				*e*S	**Sn**	**10 54 48.0**	**+0.7**
TGUH	**Tegucigalpa,Un** comp=Z,383nm,0.6s	**5.44**	**96**	*e*Pn	**Pn**	**10 53 47.1**	**-0.7**
UTMO	**Huajuapan**	**5.71**	**304**	*i* P	**Pn**	**10 53 52.3**	**+0.6**
UTMO				*e*S	**Sn**	**10 54 58.1**	**+2.2**
UTMO	**Huajuapan**	**5.71**	**304**	*i* P	**Pn**	**10 53 52.3**	**+0.6**
UTMO				*e*S	**Sn**	**10 54 58.1**	**+2.2**
TPIG	**Tehuac#an**	**5.72**	**312**	*i* P	**Pn**	**10 53 51.5**	**-0.3**
TPIG				*e*S	**Sn**	**10 54 57.1**	**+0.9**
TPIG	**Tehuac#an**	**5.72**	**312**	*i* P	**Pn**	**10 53 51.5**	**-0.3**
TPIG				*e*S	**Sn**	**10 54 57.1**	**+0.9**
PPM	**Popocatepetl**	**7.06**	**309**	*i* P	**Pn**	**10 54 11.7**	**+1.3**
PPM	**Popocatepetl**	**7.06**	**309**	*i* P	**Pn**	**10 54 11.7**	**+1.3**
TEIG	**Tepich** comp=Z,159nm,0.3s,baz=232,slow=3.0,SNR=222

328A	Wristen Ranch, baz=19,SNR=32	18.99	333	⇓P		P	10 56 47.3	+1.6
LRAL	Lakeview Retre comp=Z,17nm,0.9s	19.06	15	ePn		Pn	10 56 50.1	+2.3
326A	Caldwell Ranch baz=20,SNR=47	19.47	330	⇑P		P	10 56 52.3	+1.3
Z32A	Haskell baz=20,SNR=13	19.52	343	⇓P		P	10 56 52.3	+0.8
228A	UT Block 9, Go baz=20,SNR=11	19.53	335	⇓P		P	10 56 52.6	+0.9
425A	Indio Mountain baz=20,SNR=23	19.55	327	⇑P		P	10 56 53.0	+1.0
129A	Stewart Farms, baz=20,SNR=17	19.69	337	⇓P		P	10 56 54.2	+0.8
Z31A	Sharp Cattle R baz=20,SNR=20	19.73	342	⇓P		P	10 56 54.0	+0.2
227A	Bennet, Jal baz=20,SNR=30	19.74	333	⇓P		P	10 56 55.4	+1.4
MIAR	Mount Ida comp=Z,42nm,1.0s	19.82	358	eP		P	10 56 54.6	-0.1
128A	Castleberry Fa baz=20,SNR=22	19.93	336	⇑P		P	10 56 56.6	+0.7
325A	Bean Ranch, Si baz=20,SNR=20	20.01	328	⇓P		P	10 56 57.9	+0.9
Z30A	Sanderson Ranc baz=20,SNR=15	20.02	339	⇓P		P	10 56 56.8	-0.1
OXF	Oxford comp=Z,53nm,0.9s	20.02	8	eP		Pn	10 56 59.0	-0.1
OXF				eS		S	11 00 29.5	-9.0
UALR	University of comp=Z,24nm,0.8s	20.04	1	eP		P	10 56 57.9	+0.8
UALR				eS		S	11 00 30.8	-8.2
Y32A	R-V Farms, Ver baz=20,SNR=7.9	20.17	344	⇑P		P	10 56 58.3	-0.3
Z29A	Hungry Hill Ra baz=20,SNR=13	20.20	338	⇓P		P	10 56 58.4	-0.5
CLNB	Carlsbad comp=Z,12nm,0.6s	20.21	332	eP		P	10 57 00.7	+1.5
324A	Moseley Ranch, baz=20,SNR=31	20.33	327	⇓P		P	10 57 00.9	+0.5
127A	Arkansas Junct baz=20,SNR=22	20.34	334	⇓P		P	10 57 00.3	-0.2
Y31A	Rekieta Farm, baz=21,SNR=27	20.36	342	⇑P		P	10 57 00.6	0.0
GDL2	Guadalupe Moun	20.39	331	eP		P	10 57 02.5	+1.4
Z28A	Tucker Farm, M baz=21,SNR=14	20.48	337	⇑P		P	10 57 02.1	+0.1
MNTX	Cornudas Mount comp=Z,31nm,1.3s	20.48	328	eP		P	10 57 02.6	+0.7
MNTX	Cornudas Mount baz=21,SNR=32	20.48	328	⇑P		P	10 57 02.6	+0.7
Y30A	Stafford Cattl baz=21,SNR=21	20.48	341	⇓P		P	10 57 01.9	-0.1
GOGA	Godfrey comp=Z,76nm,1.1s	20.53	23	eP		P	10 57 02.1	-0.3
225A	Deer Hill, Car baz=21,SNR=42	20.53	330	⇓P		P	10 57 03.7	+1.0
126A	Clayton Basin, baz=21,SNR=41	20.60	332	⇓P		P	10 57 04.1	+0.7
ROSC	El Rosal comp=Z,7.7nm,0.5s,baz=100,slow=20,SNR=6.2	20.67	116	P		Pn	10 57 06.6	-0.9
ROSC				LR		LR	11 04 41.1	
ROSC	El Rosal comp=Z,208nm,19.7s,baz=200,slow=36	20.67	116	P		Pn	10 57 06.6	-0.9
ROSC				ePn		P	10 57 07.8	+3.3
WMOK	Wichita Mounta comp=Z,11nm,0.7s	20.70	346	eP		P	10 57 04.5	+0.2
Y29A	Porterfield Fa baz=21,SNR=14	20.73	339	⇓P		P	10 57 04.4	-0.2
Z27A	Tatum baz=21,SNR=54	20.83	335	⇓P		P	10 57 06.1	+0.4
224A	Cornudas Mount baz=21,SNR=58	20.85	328	⇑P		P	10 57 07.0	+0.9
CPRX	Cap Rock comp=Z,42nm,0.7s	20.86	333	eP		P	10 57 07.1	+0.9
125A	Gardner Draw, baz=21,SNR=100	20.90	331	⇓P		P	10 57 07.8	+1.2
X31A	McDonald Ranch baz=21,SNR=35	20.91	343	⇓P		P	10 57 06.4	-0.2
Y28A	McKinney Farm, baz=21,SNR=32	20.98	338	⇓P		P	10 57 07.3	0.0
X30A	Coker Ranch, T baz=21,SNR=18	21.00	341	⇓P		P	10 57 07.9	+0.3
SDDR	Presa de Saban comp=Z,22nm,0.8s	21.08	75	eP		P	10 57 09.0	+0.4
Z26A	Caprock baz=21,SNR=53	21.11	333	⇓P		P	10 57 09.6	+0.7
MSTX	Muleshoe baz=21,SNR=18	21.23	337	⇓P		P	10 57 10.0	0.0
223A	Chaparral, Ant baz=21	21.27	327	⇓P		P	10 57 10.8	+0.3
X29A	Tulia baz=22,SNR=12	21.27	339	⇓P		P	10 57 10.5	0.0
Y27A	Causey baz=22,SNR=18	21.30	336	⇑P		P	10 57 10.6	-0.3
124A	Stringfield Ra baz=22,SNR=63	21.32	330	⇑P		P	10 57 12.4	+1.2
TUL1	Tulsa baz=22	21.34	353	⇑P		P	10 57 11.0	-0.1
SWET	Sewanee comp=Z,24nm,0.9s	21.41	16	eP		P	10 57 12.3	+0.5
Z25A	Roswell baz=22	21.45	332	⇑P		P	10 57 13.1	+0.6
X28A	Dimmitt baz=22,SNR=6.5	21.51	339	⇑P		P	10 57 13.0	0.0
Y26A	Elida baz=22	21.61	335	⇓P		P	10 57 14.0	-0.1
AMTX	Amarillo comp=Z,25nm,0.6s	21.66	340	eP		P	10 57 14.5	-0.1
AMTX	Amarillo baz=22,SNR=22	21.66	340	⇓P		P	10 57 14.7	0.0
123A	Bell Site, Whi baz=22,SNR=8.5	21.67	328	⇑P		P	10 57 15.9	+1.1
NHSC	New Hope comp=Z,196nm,1.1s	21.69	30	eP		P	10 57 17.6	+2.8
222A	Williams Famil baz=22,SNR=43	21.70	326	⇓P		P	10 57 16.5	+1.3
Z24A	Sheeppen Canyo baz=22,SNR=28	21.79	331	⇑P		P	10 57 17.1	+0.9
WVT	Waverly comp=Z,13nm,0.9s	21.86	11	eP		P	10 57 18.2	+1.6
W29A	Amraillo baz=22,SNR=17	21.87	340	⇓P		P	10 57 17.4	+0.5
UTMT	University of	21.90	9	epP		pP	10 57 31.8	+1.1
X27A	F and S Farms, baz=22,SNR=14	21.95	337	⇓P		P	10 57 17.9	+0.1
320A	Kipp Ranch, An baz=22,SNR=16	21.95	322	⇓P		P	10 57 19.8	+1.9
Y25A	Mesa, Roswell baz=22,SNR=66	21.98	333	⇓P		P	10 57 19.2	+1.1
221A	Mesquite Ranch baz=22,SNR=22	22.01	324	⇑P		P	10 57 20.5	+2.0
CPCT	Cooper Cave	22.02	18	eP		P	10 57 20.6	+2.2
122A	Conniff Cattle baz=22,SNR=12	22.11	327	⇑P		P	10 57 21.0	+1.5
X26A	CR and CF Fran baz=22,SNR=11	22.14	335	⇓P		P	10 57 19.9	0.0
Z23A	Rita Site, Whi baz=22,SNR=45	22.16	329	⇓P		P	10 57 21.6	+1.5
W28A	Vega baz=22,SNR=10.0	22.18	339	⇑P		P	10 57 20.6	+0.3
JSC	Jenkinsville	22.18	26	eP		P	10 57 21.3	+1.2
W27A	Bowe Ranch, En baz=22,SNR=58	22.31	337	⇓P		P	10 57 22.1	+0.4
Y24A	Capitan baz=22,SNR=31	22.32	332	⇓P		P	10 57 22.8	+0.9
220A	Playas Peak, P baz=22,SNR=28	22.36	323	⇑P		P	10 57 23.9	+1.7
121A	Cookes Peak, D baz=23,SNR=13	22.41	325	⇑P		P	10 57 24.3	+1.5
319A	Douglas baz=23,SNR=15	22.44	321	⇑P		P	10 57 24.6	+1.5
TKL	Tuckaleechee C comp=Z,11nm,1.0s,baz=188,slow=11,SNR=6.5	22.45	20	P		P	10 57 21.5	-1.6
TKL				LR		LR	11 07 16.8	
TKL	Tuckaleechee C comp=Z,103nm,20.0s,baz=52,slow=40	22.45	20	P		P	10 57 21.5	-1.6
X25A	Clemmons Ranch baz=23,SNR=23	22.48	334	⇓P		P	10 57 24.0	+0.5
V29A	Stinnett baz=23	22.52	341	⇑P		P	10 57 25.2	+1.3
Z22A	Elephant Butte baz=23,SNR=11	22.52	328	⇓P		P	10 57 25.0	+1.0
W26A	Owens Ranch, T baz=23	22.60	336	⇑P		P	10 57 25.8	+1.0
Y23A	Lovelace Mesa, baz=23,SNR=39	22.61	330	⇓P		P	10 57 26.1	+1.1
V28A	Channing	22.63	340	⇓P		P	10 57 25.5	+0.4
X24A	Lazy VL Ranch, baz=23	22.85	332	⇑P		P	10 57 28.1	+0.6
KMSC	Kings Mountain baz=23	22.89	25	⇓P		P	10 57 27.8	+0.1
120A	U Bar Ranch, L baz=23,SNR=24	22.89	324	⇑P		P	10 57 29.5	+1.6
Z21A	St. Cloud Mine baz=23	22.93	327	⇓P		P	10 57 29.2	+0.8
W25A	X Bar L Ranch, baz=23,SNR=37	22.99	335	⇑P		P	10 57 29.3	+0.5
BNM	Barren Site comp=Z,69nm,1.5s	23.07	330	eP		P	10 57 31.3	+1.6
LPM	Los Pinos Moun	23.20	330	eP		P	10 57 32.0	+1.1
X23A	Hourglass Bar baz=23,SNR=13	23.21	331	⇓P		P	10 57 31.7	+0.6
V26A	Tequesquite Ra baz=23,SNR=28	23.23	337	⇑P		P	10 57 31.4	+0.2
LENM	Lemitar	23.25	329	eP		P	10 57 33.3	+1.9
Z20A	Nine Sixteen R baz=24,SNR=20	23.29	325	⇓P		P	10 57 33.9	+2.1
TZTN	Tazewell comp=Z,27nm,0.8s	23.34	19	eP		P	10 57 33.1	+1.1
W24A	Lazy 6 Ranch, baz=24,SNR=36	23.38	333	⇓P		P	10 57 33.8	+1.1
Y21A	Point of Rocks baz=24,SNR=11	23.48	328	⇓P		P	10 57 35.4	+1.8
LAZ	Ladron comp=Z,8.2nm,0.8s	23.52	329	eP		P	10 57 35.9	+1.9
X22A	Bernardo baz=24	23.54	330	⇓P		P	10 57 34.9	+0.8
V25A	Rancho No Teng baz=24,SNR=36	23.59	336	⇓P		P	10 57 35.3	+0.7
ANMO	Albuquerque comp=Z,7.9nm,0.7s,baz=142,slow=12,SNR=42	23.64	331	P		P	10 57 35.7	+0.7
ANMO				LR		LR	11 08 23.5	
ANMO	Albuquerque comp=Z,128nm,18.4s,baz=166,slow=40	23.64	331	eP		P	10 57 35.6	+0.7
W23A	Werner Place, baz=24,SNR=8.1	23.67	332	⇓P		P	10 57 36.1	+0.8
U26A	Atchley Ranch, baz=24,SNR=61	23.74	338	⇓P		P	10 57 36.7	+0.8
V24A	Rampart Ranch, baz=24,SNR=17	23.76	334	⇑P		P	10 57 37.5	+1.3
Y20A	Horse Springs, baz=24,SNR=30	23.77	326	⇓P		P	10 57 38.6	+2.3
T28A	Walsh baz=24	23.85	341	⇓P		P	10 57 36.1	-0.7
X21A	Alamocita Cree baz=24,SNR=14	23.88	328	⇑P		P	10 57 38.9	+1.7
W22A	Albuquerque baz=24	23.93	331	⇓P		P	10 57 38.8	+1.2
T27A	Campo baz=24,SNR=15	23.99	340	⇑P		P	10 57 38.2	+0.1
U25A	Circle Dot Ran baz=24,SNR=41	24.00	337	⇑P		P	10 57 39.6	+1.3
V23A	Ortiz Mt. (NFS baz=24,SNR=39	24.17	333	⇓P		P	10 57 42.0	+2.2
WCI	Wyandotte Cave comp=Z,23nm,0.7s	24.19	13	eP		P	10 57 41.9	+2.1
X20A	Quemado baz=24,SNR=21	24.32	327	⇑P		P	10 57 43.2	+2.0
U24A	Mono Valley baz=24	24.35	335	⇑P		P	10 57 43.2	+1.7
OLIL	Olney comp=Z,8.4nm,0.3s	24.36	9	P		P	10 57 40.0	-1.2
T26A	Comanche Natio baz=25,SNR=14	24.39	339	⇓P		P	10 57 42.2	+0.4
KSU1	Kansas State U comp=Z,22nm,0.7s	24.58	353	eP		P	10 57 43.3	0.0
S27A	Las Animas baz=25,SNR=14	24.61	341	⇓P		P	10 57 44.0	+0.2
V22A	San Miguel Ran baz=25,SNR=15	24.64	332	⇑P		P	10 57 45.6	+1.5
T25A	Trinidad baz=25,SNR=39	24.65	337	⇑P		P	10 57 45.8	+1.6
U23A	El Rito baz=25,SNR=46	24.66	333	⇑P		P	10 57 45.6	+1.2
S26A	Kim baz=25,SNR=9.5	24.75	340	⇑P		P	10 57 46.1	+1.1
W20A	Ramah baz=25,SNR=11	24.78	328	⇓P		P	10 57 47.0	+1.6
T24A	Torres, Weston baz=25,SNR=16	24.84	336	⇓P		P	10 57 47.5	+1.5
U22A	Llaves baz=25,SNR=32	25.00	332	⇑P		P	10 57 48.9	+1.5
BLO	Bloomington comp=Z,17nm,1.0s	25.06	12	eP		P	10 57 50.6	+3.0
X18A	Snowflake baz=25,SNR=12	25.09	325	⇑P		P	10 57 49.6	+1.3
S25A	Robets Cordova baz=25,SNR=22	25.12	338	⇑P		P	10 57 49.1	+0.7
R27A	Eads baz=25,SNR=8.8	25.13	341	⇓P		P	10 57 48.9	+0.4
T23A	Casias Ranch, baz=25,SNR=23	25.20	335	⇓P		P	10 57 50.5	+1.2
V20A	Brimhall baz=26,SNR=6.6	25.29	329	⇓P		P	10 57 51.2	+1.2
R26A	Arlington baz=26,SNR=11	25.35	340	⇓P		P	10 57 52.0	+1.5
S24A	Houchin Ranch, baz=26,SNR=9.5	25.39	337	⇓P		P	10 57 52.6	+1.6
U21A	Nageezi baz=26,SNR=9.9	25.41	331	⇓P		P	10 57 52.6	+1.5
W18A	Petrified Fore baz=26	25.42	326	⇑P		P	10 57 51.9	+0.7
R25A	Fountain Ranch baz=26,SNR=14	25.50	339	⇓P		P	10 57 52.7	+0.9
T22A	Edith baz=26,SNR=31	25.55	333	⇑P		P	10 57 54.3	+1.9
S23A	Nye Farm, Mont baz=26,SNR=9.4	25.76	335	⇑P		P	10 57 56.2	+1.9
T21A	Navajo Lake baz=26,SNR=16	25.81	332	⇑P		P	10 57 56.4	+1.6
X16A	Lo Mia Camp, P baz=26,SNR=9.6	25.86	323	⇑P		P	10 57 56.8	+1.5
R24A	Sanders Place, baz=26,SNR=9.8	25.87	337	⇓P		P	10 57 56.8	+1.6
Q26A	Hugo baz=26,SNR=5.2	25.94	341	⇓P		P	10 57 57.0	+1.2
ATAH	Atahualpa comp=Z,125nm,20.5s,baz=299,slow=28	25.96	146	LR		LR	11 04 47.7	
Z14A	Wintersburg baz=26	26.06	319	⇑P		P	10 57 57.6	+0.8
R23A	Moffat baz=26,SNR=22	26.11	336	⇑P		P	10 57 58.5	+0.9
S22A	4UR Ranch, Cre baz=26,SNR=17	26.13	334	⇑P		P	10 57 59.2	+1.4
Q25A	Bedland, Calha baz=26,SNR=7.9	26.18	340	⇓P		P	10 57 58.4	+0.4
113A	Mohawk Valley, baz=26	26.22	317	⇑P		P	10 57 58.9	+0.7
MVCO	Mesa Verde comp=Z,38nm,0.9s	26.43	331	eP		P	10 58 02.0	+1.6
MVCO	Mesa Verde baz=27,SNR=17	26.43	331	⇓P		P	10 58 01.7	+1.3
Y14A	Wickenburg baz=27	26.48	320	⇑P		P	10 58 02.0	+1.3
S21A	Coal Bank Pass baz=27,SNR=12	26.48	333	⇑P		P	10 58 02.0	+1.1
R22A	Saguache, Gunn baz=27,SNR=10.0	26.51	335	⇑P		P	10 58 02.4	+1.2
Q24A	Divide baz=27	26.53	338	⇑P		P	10 58 01.9	+0.6
WUAZ	Wupatki comp=Z,9.6nm,0.9s	26.61	325	eP		P	10 58 03.8	+1.8
WUAZ	Wupatki baz=27,SNR=6.7	26.61	325	⇓P		P	10 58 03.5	+1.6
Q23A	Hartsel baz=27	26.73	337	⇑P		P	10 58 04.2	+1.0
S20A	Disappointment baz=27,SNR=8.9	26.87	332	⇓P		P	10 58 06.4	+2.0
R21A	Cimarron baz=27,SNR=8.5	26.96	334	⇓P		P	10 58 06.4	+1.2
GLA	Glamis comp=Z,15nm,0.9s	27.09	316	eP		P	10 58 08.2	+2.0
GLA	Glamis baz=27	27.09	316	⇓P		P	10 58 06.9	+0.7
Q22A	Crested Butte, baz=27,SNR=12	27.12	335	⇑P		P	10 58 08.2	+1.5
P23A	Jefferson baz=27,SNR=7.8	27.15	338	⇓P		P	10 58 08.3	+1.4
R20A	Redvale baz=27,SNR=12	27.18	332	⇓P		P	10 58 08.3	+1.2
PV01	Paradox Valley comp=Z,3µm,1.3s	27.22	332	eP		P	10 58 09.6	+2.1
Q21A	Lamborn Mesa,	27.37	334	⇓P		P	10 58 10.0	+1.3
SMCO	Snowmass comp=Z,28nm,1.6s	27.41	336	eP		P	10 58 08.8	-0.6
PDMCI	Parker Dam,Lak baz=28	27.43	319	⇑P		P	10 58 10.3	+1.3
ISCO	Idaho Springs	27.44	338	eP		P	10 58 10.5	+1.0
ISCO	Idaho Springs baz=28	27.44	338	⇓P		P	10 58 10.4	+0.9
S18A	Hurst Farm, Bl baz=28	27.53	330	⇓P		P	10 58 11.3	+1.0
PV04	Paradox Valley	27.58	332	eP		P	10 58 12.4	+1.7
P22A	Eagle baz=28	27.69	336	⇑P		P	10 58 12.5	+0.9
DVTC	Desert V Tower baz=28	27.73	314	⇑P		P	10 58 13.0	+1.1
Q20A	Ridgley Place, baz=28,SNR=6.6	27.77	334	⇓P		P	10 58 13.4	+1.0
U15A	North Rim baz=28,SNR=6.2	27.78	325	⇓P		P	10 58 13.8	+1.2
W13A	Hualapai Mount baz=28,SNR=8.0	27.79	321	⇑P		P	10 58 13.8	+1.2
BC3	Big Chuckawall baz=28,SNR=14	27.87	317	⇓P		P	10 58 14.6	+1.4
P21A	Newcastle baz=28,SNR=6.6	27.90	335	⇑P		P	10 58 14.9	+1.4
IRM	Iron Mountain baz=28,SNR=7.1	27.98	318	⇓P		P	10 58 15.6	+1.4
O22A	Kremmling baz=28,SNR=6.3	28.10	337	⇓P		P	10 58 15.9	+0.5
P20A	De Beque baz=28,SNR=11	28.27	334	⇓P		P	10 58 17.8	+1.0
BELC	Belle Mtn. Jos baz=29	28.44	317	⇑P		P	10 58 19.6	+1.2
O21A	Pagoda baz=29	28.50	336	⇓P		P	10 58 20.0	+1.1
N22A	Wattenberg Ran baz=29	28.63	338	⇑P		P	10 58 20.9	+0.9
GMRC	Granite Mounta baz=29	28.70	318	⇓P		P	10 58 21.7	+1.1
O20A	White River Ci baz=29,SNR=7.4	28.74	335	⇓P		P	10 58 22.0	+1.1
SRU	San Rafael comp=Z,23nm,1.5s	28.91	331	eP		P	10 58 23.9	+1.5
SRU	San Rafael baz=29	28.91	331	⇑P		P	10 58 23.5	+1.1
N21A	Black Mountain baz=29,SNR=6.1	28.99	337	⇑P		P	10 58 24.1	+0.9
Q16A	Castle Valley baz=29	29.07	330	⇓P		P	10 58 25.3	+1.4
ECSD	EROS Data Cent comp=Z,4.3nm,0.8s	29.16	354	eP		P	10 58 23.3	-1.1
HEC	Hector,Ludlow baz=29	29.16	318	⇓P		P	10 58 26.0	+1.3
CCUT	Cedar City comp=Z,8.7nm,1.0s	29.18	325	eP		P	10 58 27.5	+2.5
O19A	Miners Draw (B baz=29	29.24	334	⇓P		P	10 58 26.2	+0.8
MSU	Marysvale comp=Z,4.2nm,1.0s	29.26	328	eP		P	10 58 29.4	+3.8
P17A	Butcher Ranch, baz=30	29.30	331	⇓P		P	10 58 27.1	+1.2
N20A	Spence Gulch, baz=30,SNR=20	29.34	336	⇓P		P	10 58 27.4	+1.1
ARUT	Antelope Range comp=Z,14nm,1.0s	29.40	325	eP		P	10 58 29.2	+2.4
O18A	Roosevelt baz=30,SNR=17	29.60	333	⇓P		P	10 58 30.2	+1.7
M21A	Separation Pea baz=30	29.66	338	⇓P		P	10 58 30.0	+0.8
N19A	John Jarvie Ra baz=30,SNR=7.4	29.76	335	⇑P		P	10 58 30.5	+0.5
P16A	Fountain Green baz=30	29.84	330	⇓P		P	10 58 32.0	+1.3
M20A	Sweetwater, Wa baz=30,SNR=5.3	29.87	336	⇑P		P	10 58 31.5	+0.5
O17A	Robinson Place baz=30,SNR=14	29.87	332	⇑P		P	10 58 32.4	+1.3
L21A	Rawlins baz=30,SNR=6.6	29.98	338	⇑P		P	10 58 32.5	+0.6
N18A	Larsen Ranch, baz=30,SNR=8.2	30.04	334	⇓P		P	10 58 33.5	+1.0
K23A	Bowen Ranch, D baz=30	30.09	341	⇓P		P	10 58 33.2	+0.4
P15A	Leamington baz=30	30.12	329	⇑P		P	10 58 34.0	+0.9
BRSD	Miller baz=30	30.15	351	⇓P		P	10 58 34.3	+1.2
MPU	Maple Canyon comp=Z,24nm,1.6s	30.15	331	eP		P	10 58 35.3	+1.8
O16A	Springville baz=30,SNR=14	30.24	331	⇑P		P	10 58 35.3	+1.1
K22A	Casper baz=30	30.29	340	⇑P		P	10 58 35.6	+1.0
L20A	Wamsutter baz=31	30.37	337	⇑P		P	10 58 36.2	+0.8
N17A	Moffit Pass baz=31,SNR=10	30.52	333	⇓P		P	10 58 38.2	+1.4
FURC	Furnace Creek, baz=31	30.52	320	⇑P		P	10 58 37.9	+1.4
JLU	Jordanelle comp=Z,18nm,1.6s	30.52	331	eP		P	10 58 38.1	+1.3
M18A	Lyman baz=31	30.58	334	⇑P		P	10 58 37.9	+0.6
MPMC	Manual Prospec baz=31,SNR=8.1	30.66	319	⇑P		P	10 58 39.4	+1.4
N16A	Rees Ranch, Co baz=31,SNR=9.7	30.74	332	⇑P		P	10 58 39.8	+1.1
L19A	Farson baz=31	30.85	336	⇓P		P	10 58 40.3	+0.7
NNA	Nana comp=Z,198nm,21.8s,baz=319,slow=31	30.86	148	LR		LR	11 08 32.5	
DUG	Dugway comp=Z,33nm,2.1s	30.86	329	eP		P	10 58 41.7	+2.1
DUG	Dugway baz=31	30.86	329	⇓P		P	10 58 41.1	+1.4
M17A	Scullys Gap (B baz=31,SNR=14	30.87	333	⇑P		P	10 58 40.4	+0.6
K20A	Yellowstone Ra baz=31	30.93	337	⇓P		P	10 58 40.9	+0.6
J22A	Midwest baz=31,SNR=5.2	30.95	341	⇑P		P	10 58 40.6	+0.2
L18A	Fontenelle, Gr baz=31,SNR=12	30.98	335	⇓P		P	10 58 41.7	+1.0
R11A	Troy Canyon, C baz=31,SNR=5.8	31.00	324	⇑P		P	10 58 42.3	+1.4
ISA	Isabella baz=31	31.07	317	⇓P		P	10 58 42.8	+1.4
GRAC	Grapevine Rang baz=31	31.17	320	⇓P		P	10 58 44.0	+1.7
M16A	Huntsville baz=31,SNR=7.8	31.17	332	⇑P		P	10 58 43.2	+0.7
J21A	Lysite baz=31,SNR=6.8	31.21	339	⇓P		P	10 58 43.3	+0.5
K19A	Absolon Red Bu baz=32,SNR=7.5	31.27	337	⇓P		P	10 58 43.1	-0.1
I22A	9 Mile Ranch, baz=32	31.38	341	⇓P		P	10 58 44.7	+0.5
L17A	Cokeville baz=32,SNR=9.6	31.47	334	⇑P		P	10 58 45.7	+0.6
PDAR	Pinedale Array comp=Z,1.9nm,0.6s,baz=132,slow=9.7,SNR=18	31.49	336	P		P	10 58 45.4	+0.1
PDAR				PcP		PcP	11 01 37.5	+0.5
PDAR	comp=Z,0.6nm,0.6s,baz=137,slow=5.2,SNR=7.1			ScP		ScP	11 05 18.6	+3.6
PDAR	comp=Z,0.7nm,0.9s,baz=108,slow=3.8,SNR=3.9			LR		LR	11 14 25.2	
PDAR	Pinedale Array comp=Z,106nm,18.9s,baz=29,slow=42	31.49	336	P		P	10 58 45.4	+0.1
PDAR				PcP		PcP	11 01 37.5	+0.5
PDAR				ScP		ScP	11 05 18.6	+3.6
BW06	Boulder Array comp=Z,2.9nm,0.8s	31.49	336	eP		P	10 58 45.6	+0.3
BW06	Boulder Array baz=32,SNR=5.5	31.49	336	⇑P		P	10 58 45.2	-0.1
K18A	Toltan Ranch, baz=32,SNR=22	31.57	335	⇓P		P	10 58 47.4	+1.4
VES	Vestal, Richgr baz=32,SNR=6.7	31.57	317	⇑P		P	10 58 47.5	+1.7
I21A	Big Trails, Te baz=32	31.58	340	⇑P		P	10 58 46.7	+0.8
H24A	Dirks Ranch, A baz=32	31.60	344	⇑P		P	10 58 47.1	+1.1
L16A	Fish Haven baz=32,SNR=14	31.65	333	⇑P		P	10 58 47.2	+0.6
M15A	Larsen Ranch, baz=32	31.67	331	⇑P		P	10 58 47.7	+1.0
J19A	Crowheart baz=32,SNR=5.1	31.72	337	⇓P		P	10 58 47.4	+0.1

RCTC	**Rector, Farmer**	31.95	317	⇑P		P	10 58 50.8	+1.7
	baz=32,SNR=7.0							
I20A	**Worland**	31.98	339	⇓P		P	10 58 50.3	+0.9
	baz=32,SNR=9.2							
K17A	**Gardner Place,**	32.03	334	⇓P		P	10 58 50.7	+0.7
	baz=32,SNR=11							
J18A	**Kendall Valley**	32.05	336	⇓P		P	10 58 50.5	+0.3
	baz=32,SNR=15							
L15A	**Malad City**	32.06	332	⇑P		P	10 58 51.0	+0.7
	baz=32,SNR=12							
HVU	**Hansel Valley**	32.07	331	*e*P		P	10 58 52.2	+1.9
	comp=Z,72nm,1.8s							
AHID	**Auburn Hatcher**	32.12	334	*e*P		P	10 58 51.9	+1.2
	comp=Z,75nm,1.9s							
H21A	**Big Horn, Sher**	32.22	341	⇓P		P	10 58 52.0	+0.4
	baz=32							
I19A	**Meeteetse**	32.37	338	⇑P		P	10 58 53.9	+1.0
	baz=33,SNR=8.6							
K16A	**Soda Springs**	32.38	334	⇑P		P	10 58 53.5	+0.4
	baz=33							
I18A	**Diamond G Ranc**	32.38	337	⇓P		P	10 58 53.8	+0.7
	baz=33,SNR=9.2							
H20A	**Greybull**	32.41	340	⇑P		P	10 58 53.4	+0.2
	baz=33,SNR=6.9							
J17A	**Brown Place, J**	32.45	335	⇓P		P	10 58 54.9	+1.2
	baz=33,SNR=45							
L14A	**Malta**	32.48	331	⇑P		P	10 58 55.1	+1.2
	baz=33,SNR=24							
ELK	**Elko**	32.50	327	*e*P		P	10 58 56.1	+2.0
REDW	**Red Top Meadow**	32.51	335	*e*P		P	10 58 55.8	+1.6
	comp=Z,0.6nm,0.9s							
SNOW	**Snow King Moun**	32.55	335	*e*P		P	10 58 55.9	+1.3
	comp=Z,64nm,0.8s							
NV11	**Mina Array Sit**	32.56	321	*e*P		P	10 58 57.0	+2.3
LOHW	**Long Hollow**	32.62	336	*e*P		P	10 58 56.2	+1.1
	comp=Z,16nm,0.8s							
NVAR	**Mina Array Bea**	32.65	321	P		P	10 58 57.2	+1.7
	comp=Z,15nm,0.7s,baz=134,slow=8.4,SNR=141							
NVAR	**Mina Array Bea**	32.65	321	P		P	10 58 57.2	+1.7
TPAW	**Teton Pass**	32.65	335	*e*P		P	10 58 56.7	+1.2
	comp=Z,28nm,1.1s							
K15A	**Arbon**	32.67	333	⇑P		P	10 58 56.3	+0.7
	baz=33,SNR=13							
J16A	**Bone**	32.75	334	⇓P		P	10 58 57.0	+0.7
	baz=33,SNR=13							
G21A	**Lodge Grass**	32.81	341	⇓P		P	10 58 57.2	+0.5
	baz=33							
DCID1	**Drake Creek**	32.84	335	*e*P		P	10 58 58.2	+1.2
	comp=Z,28nm,1.0s							
K14A	**Jones Ranch, D**	32.85	332	⇑P		P	10 58 58.1	+1.0
	baz=33,SNR=9.9							
I17A	**Pilgrim Ck.**	32.86	336	⇑P		P	10 58 58.2	+0.9
	baz=33,SNR=21							
H19A	**Powell**	32.91	339	⇓P		P	10 58 58.4	+0.8
	baz=33,SNR=7.1							
IMW	**Indian Meadow**	32.99	336	*e*P		P	10 58 59.3	+0.8
	comp=Z,10nm,0.8s							
FLWY	**Flagg Ranch**	33.05	336	*e*P		P	10 59 00.3	+1.4
	comp=Z,9.7nm,0.8s							
G20A	**Bridger**	33.13	340	⇓P		P	10 58 59.1	-0.3
	baz=33,SNR=5.3							
H18A	**Shoshone NF, C**	33.16	338	⇓P		P	10 59 00.2	+0.3
	baz=33,SNR=27							
I16A	**Newdale**	33.19	335	⇓P		P	10 59 01.3	+1.2
	baz=33,SNR=7.6							
J15A	**Blackfoot**	33.20	334	⇑P		P	10 59 01.1	+1.0
	baz=33,SNR=11							
H17A	**Grant Village**	33.26	337	⇑P		P	10 59 02.3	+1.5
	baz=34							
LKWY	**Lake**	33.34	337	*e*P		P	10 59 03.4	+1.9
	comp=Z,20nm,1.4s							
BMN	**Battle Mountai**	33.34	325	*e*P		P	10 59 03.7	+2.2
	comp=Z,12nm,0.9s							
RLMT	**Red Lodge**	33.40	339	*e*P		P	10 59 02.6	+0.6
	comp=Z,14nm,1.5s							
RLMT	**Red Lodge**	33.40	339	⇑P		P	10 59 02.4	+0.4
	baz=34							
YFT	**Old Faithful**	33.41	336	*e*P		P	10 59 04.6	+2.5
	comp=Z,33nm,1.4s							
F20A	**Billings**	33.62	341	⇓P		P	10 59 04.1	+0.4
	baz=34							
YMR	**Madison River**	33.64	336	*e*P		P	10 59 05.9	+1.8
	comp=Z,52nm,1.4s							
G18A	**Lazy EL Ranch,**	33.68	339	⇓P		P	10 59 04.0	-0.3
	baz=34,SNR=5.6							
I15A	**Monteview**	33.71	334	⇓P		P	10 59 05.4	+0.9
	baz=34,SNR=7.6							
D24A	**Glendive**	33.75	346	⇑P		P	10 59 05.6	+0.8
	baz=34							
H16A	**Russell Place,**	33.78	336	⇓P		P	10 59 06.3	+1.1
	baz=34,SNR=9.5							
F19A	**Roth Farm, Mol**	33.93	340	⇑P		P	10 59 06.5	+0.1
	baz=34							
QLMT	**Earthquake Lak**	33.96	336	*e*P		P	10 59 08.9	+2.1
J13A	**Cove Ranch, Pi**	33.97	332	⇑P		P	10 59 07.7	+0.8
	baz=34,SNR=9.3							
D23A	**Lindsay**	34.02	345	⇑P		P	10 59 07.6	+0.4
	baz=34							
I14A	**Mackay**	34.07	333	⇓P		P	10 59 09.5	+1.8
	baz=34,SNR=19							
G17A	**Pierce Place,**	34.11	337	⇑P		P	10 59 09.8	+1.8
	baz=34,SNR=6.8							
C24A	**Savage**	34.17	346	⇓P		P	10 59 09.2	+0.8
	baz=34							
HLID	**Hailey**	34.21	332	*e*P		P	10 59 10.2	+1.2
	comp=Z,14nm,1.1s							
HLID	**Hailey**	34.21	332	⇑P		P	10 59 10.1	+1.2
	baz=34,SNR=17							
F18A	**Big Timber**	34.24	339	⇑P		P	10 59 09.4	+0.3
	baz=34,SNR=7.4							
E20A	**Meyer Farm, Mu**	34.24	341	⇓P		P	10 59 09.4	+0.4
	baz=34,SNR=7.3							
D22A	**Cohagen**	34.26	344	⇓P		P	10 59 09.6	+0.4
	baz=34							
H15A	**Lima**	34.27	335	⇓P		P	10 59 11.7	+2.2
	baz=34,SNR=20							
I13A	**Wildhorse Cree**	34.35	332	⇑P		P	10 59 11.6	+1.4
	baz=34,SNR=16							
D21A	**La Casta Ranch**	34.41	343	⇓P		P	10 59 11.4	+0.9
	baz=35							
E19A	**Rath Farm, Rou**	34.41	340	⇑P		P	10 59 10.7	+0.2
	baz=35,SNR=6.7							
G16A	**Moss Hill, Enn**	34.44	336	⇑P		P	10 59 12.2	+1.3
	baz=35,SNR=8.6							
MCMT	**McKenzie Canyo**	34.53	335	*e*P		P	10 59 13.8	+2.0
	comp=Z,6.2nm,0.9s							
F17A	**Fitzpatrick Pl**	34.58	338	⇓P		P	10 59 13.0	+1.0
	baz=35,SNR=12							
H14A	**Leadore**	34.58	334	⇓P		P	10 59 13.7	+1.5
	baz=35,SNR=22							
C23A	**Lambert**	34.60	345	⇑P		P	10 59 12.9	+0.7
	baz=35							
G15A	**Dillon**	34.66	335	⇓P		P	10 59 14.5	+1.7
	baz=35,SNR=24							
BOZ	**Bozeman (W)**	34.72	337	*e*P		P	10 59 13.9	+0.6
	comp=Z,37nm,2.4s							
BOZ	**Bozeman (W)**	34.72	337	⇓P		P	10 59 14.2	+0.9
	baz=35,SNR=7.4							
MFID	**Camas Ranch**	34.77	330	*e*P		P	10 59 15.0	+1.3
	comp=Z,20nm,1.4s							
MFID	**Camas Ranch**	34.77	330	⇓P		P	10 59 14.4	+0.7
	baz=35,SNR=9.1							
D20A	**Manuel Ranch,**	34.77	342	⇑P		P	10 59 14.4	+0.8
	baz=35,SNR=5.6							
F16A	**Kennard Place,**	34.83	337	⇑P		P	10 59 15.0	+0.8
	baz=35,SNR=6.9							
DLMT	**Dillon**	34.86	335	*e*P		P	10 59 16.0	+1.5
	comp=Z,23nm,1.0s							
E18A	**Harlowton**	34.88	339	⇑P		P	10 59 15.0	+0.4
	baz=35							
H13A	**Challis**	34.92	333	⇓P		P	10 59 16.4	+1.3
	baz=35,SNR=38							
D19A	**Cripps Ranch,**	35.06	341	⇑P		P	10 59 16.5	+0.3
	baz=35,SNR=8.8							
E17A	**Martinsdale**	35.12	338	⇓P		P	10 59 17.5	+0.7
	baz=35							
G14A	**Jackson**	35.12	334	⇓P		P	10 59 17.8	+1.0
	baz=35,SNR=17							
C21A	**Desert Coulee**	35.13	343	⇑P		P	10 59 17.1	+0.5
	baz=35							
H12A	**Diamond D Ranc**	35.18	332	⇓P		P	10 59 18.7	+1.4
	baz=35,SNR=49							
LRM	**Limekiln Ridge**	35.19	336	*e*P		P	10 59 18.5	+1.1
F15A	**Butte**	35.22	336	⇑P		P	10 59 18.5	+0.9
	baz=35,SNR=9.8							
B22A	**Reddig Ranch S**	35.27	345	⇑P		P	10 59 18.5	+0.6
	baz=36							
C20A	**Veseth Ranch,**	35.29	342	⇓P		P	10 59 19.0	+0.9
	baz=36							
G13A	**Cobalt**	35.33	333	⇓P		P	10 59 19.2	+0.7
	baz=36,SNR=8.9							
D18A	**Linhart Farms,**	35.39	340	⇑P		P	10 59 19.8	+0.8
	baz=36							
E16A	**East Helena**	35.48	337	⇑P		P	10 59 20.4	+0.6
	baz=36,SNR=13							
F14A	**Wisdom**	35.55	335	⇓P		P	10 59 20.8	+0.4
	baz=36,SNR=7.6							
ULM	**Lac du Bonnet**	35.59	357	P		P	10 59 17.9	-2.6
	comp=Z,2.0nm,0.4s,baz=171,slow=10,SNR=3.5							
ULM					LR	LR	11 14 42.2	
	comp=Z,94nm,18.7s,baz=236,slow=38							
ULM	**Lac du Bonnet**	35.59	357	P		P	10 59 17.9	-2.6
C19A	**Slack Wire Ran**	35.62	341	⇓P		P	10 59 21.8	+0.8
	baz=36							
D17A	**Six Diamond Ra**	35.65	339	⇑P		P	10 59 21.8	+0.5
	baz=36,SNR=6.9							
HRY	**Holter Researc**	35.69	337	*e*P		P	10 59 22.7	+1.1
E15A	**Deer Lodge**	35.76	336	⇑P		P	10 59 22.6	+0.4
	baz=36,SNR=9.5							
G12A	**Big Creek, Yel**	35.84	332	⇓P		P	10 59 23.8	+0.9
	baz=36,SNR=16							
D16A	**Dana Ranch, Ca**	35.86	338	⇓P		P	10 59 23.8	+0.8
	baz=36							
F13A	**Darby**	35.93	334	⇓P		P	10 59 24.1	+0.4
	baz=36,SNR=16							
B20A	**Solberg Farm,**	35.95	343	⇓P		P	10 59 24.3	+0.6
	baz=36							
MOD	**Modoc**	36.06	324	*e*P		P	10 59 26.1	+1.2
	comp=Z,9.1nm,1.1s							
E14A	**Clinton**	36.09	336	⇓P		P	10 59 25.7	+0.7
	baz=36,SNR=11							
C17A	**Wharram Farm,**	36.09	339	⇑P		P	10 59 25.3	+0.3
	baz=36,SNR=8.7							
EGMT	**Eagleton**	36.10	341	*e*P		P	10 59 25.7	+0.6
	comp=Z,14nm,1.2s							
EGMT	**Eagleton**	36.10	341	⇑P		P	10 59 25.3	+0.3
	baz=36,SNR=5.3							
A21A	**Bergtoll Ranch**	36.15	344	⇓P		P	10 59 26.0	+0.6
	baz=36							
D15A	**Lincoln**	36.22	337	⇓P		P	10 59 26.9	+0.7
	baz=36,SNR=6.1							
B19A	**Brinkman Farms**	36.23	342	⇓P		P	10 59 26.8	+0.7
	baz=36,SNR=7.7							
A20A	**Cobblestone Ra**	36.32	343	⇑P		P	10 59 27.4	+0.6
	baz=36							
E13A	**Victor**	36.39	335	⇑P		P	10 59 28.0	+0.5
	baz=37,SNR=24							
CHMT	**Chamberlain Mo**	36.40	336	*e*P		P	10 59 28.4	+0.7
B18A	**Beardsley Farm**	36.44	341	⇓P		P	10 59 28.5	+0.6
	baz=37							
BMO	**Blue Mountains**	36.55	330	*e*P		P	10 59 29.3	+0.4
	comp=Z,14nm,1.4s							
C16A	**Fuhringer Ranc**	36.58	339	⇑P		P	10 59 29.9	+0.8
	baz=37,SNR=15							
A19A	**Klindworth Far**	36.59	342	⇓P		P	10 59 29.6	+0.4
	baz=37							
MSO	**Missoula**	36.60	336	*e*P		P	10 59 29.9	+0.5
	comp=Z,9.9nm,1.0s							
MSO	**Missoula**	36.60	336	⇓P		P	10 59 30.2	+0.8
	baz=37,SNR=12							
D14A	**Greenough**	36.64	336	⇑P		P	10 59 29.7	0.0
	baz=37,SNR=8.0							
B17A	**L&G Farms, Che**	36.68	340	⇑P		P	10 59 30.3	+0.4
	baz=37							
SLMT	**Seeley Lake**	36.76	336	*e*P		P	10 59 30.9	+0.1
C15A	**Salmond Ranch,**	36.87	338	⇓P		P	10 59 32.1	+0.4
	baz=37,SNR=5.4							
A18A	**Metzger Ranch,**	36.92	341	⇓P		P	10 59 32.1	+0.2
	baz=37,SNR=8.2							
E12A	**Beaver Dam Sad**	36.95	334	⇓P		P	10 59 32.9	+0.5
	baz=37,SNR=18							
D13A	**Hixson**	37.02	335	⇓P		P	10 59 33.5	+0.6
	baz=37,SNR=16							
B16A	**M & M Farms, S**	37.09	339	⇓P		P	10 59 33.5	+0.1
	baz=37							
SWMT	**Swartz Lake**	37.18	336	*e*P		P	10 59 34.7	+0.5
A17A	**Triple J Farms**	37.21	340	⇑P		P	10 59 34.4	-0.1
	baz=37,SNR=5.4							
B15A	**Bradely Ranch,**	37.31	338	⇓P		P	10 59 35.5	+0.2
	baz=38							
D12A	**Red Lakes Fores**	37.36	334	⇑P		P	10 59 35.9	+0.2
	baz=38							
KHMM	**Horse Mountain**	37.46	320	*e*P		P	10 59 38.5	+1.8
	comp=Z,13nm,0.9s							
JTMT	**Jette**	37.48	336	*e*P		P	10 59 37.7	+0.8
C13A	**Hot Springs**	37.54	336	⇑P		P	10 59 37.6	+0.3
	baz=38,SNR=8.2							
SAML	**Samuel**	37.62	127	*e*P		P	10 59 36.1	-2.2
	comp=Z,5.1nm,0.8s							
BLMT	**Blacktail Moun**	37.73	336	*e*P		P	10 59 40.0	+1.0
BSMT	**Bassoo Peak**	37.77	336	*e*P		P	10 59 40.0	+0.7
	comp=Z,2.4nm,0.8s							
A15A	**Johnson Ranch,**	37.93	339	⇑P		P	10 59 40.5	-0.1
	baz=38,SNR=6.1							
C12B	**Naegeli Ranch,**	37.93	335	⇓P		P	10 59 41.2	+0.6
	baz=38							
B13A	**Whitefish**	38.07	337	⇑P		P	10 59 42.3	+0.6
	baz=38							
A14A	**Double T Ranch**	38.17	338	⇓P		P	10 59 43.2	+0.6
	baz=38,SNR=8.5							
A13A	**Bathead Natio**	38.50	337	⇓P		P	10 59 46.2	+0.8
	baz=39							
B12A	**Libby**	38.58	336	⇑P		P	10 59 46.9	+0.9
	baz=39,SNR=10							
A12A	**Yaak River Ran**	38.98	336	⇓P		P	10 59 50.5	+1.1
	baz=39,SNR=5.4							
NEW	**Newport**	39.05	334	*e*P		P	10 59 50.3	+0.3
	comp=Z,4.0nm,0.8s							
NEW	**Newport**	39.05	334	⇑P		P	10 59 50.2	+0.3
	baz=39							
LPAZ	**La Paz**	39.26	141	P		P	10 59 51.3	-1.4
	comp=Z,1.2nm,0.6s,baz=315,slow=6.1,SNR=4.3							
LPAZ	**La Paz**	39.26	141	P		P	10 59 51.3	-1.4
LON	**Longmire**	40.11	329	*e*P		P	10 59 59.9	+1.1
	comp=Z,71nm,2.2s							
FFC	**Flin Flon**	40.62	352	*e*P		P	11 00 01.9	-0.8
	comp=Z,87nm,3.0s							
SIV	**San Ignacio**	43.74	133	P		P	11 00 27.4	-1.2
	comp=Z,4.9nm,0.7s,baz=305,slow=8.1,SNR=24							
SIV					LR	LR	11 18 42.7	
	comp=Z,229nm,18.2s,slow=36							
SIV	**San Ignacio**	43.74	133	P		P	11 00 27.4	-1.2
SCHQ	**Schefferville**	44.91	21	P		P	11 00 35.2	-2.3
	comp=Z,2.9nm,0.8s,baz=227,slow=10,SNR=4.0							
SCHQ					PcP	PcP	11 02 17.2	-0.8
	comp=Z,3.3nm,0.7s,baz=234,slow=3.9,SNR=4.0							
SCHQ					LR	LR	11 18 47.4	
	comp=Z,155nm,20.4s,baz=60,slow=35							
SCHQ	**Schefferville**	44.91	21	P		P	11 00 35.2	-2.3
SCHQ					PcP	PcP	11 02 17.2	-0.8
YKA	**Yellowknife Ar**	50.21	347	P		P	11 01 17.9	-0.5
	comp=Z,4.8nm,0.6s,baz=152,slow=7.3,SNR=109							
YKA	**Yellowknife Ar**	50.21	347	P		P	11 01 17.9	-0.5
YKW3	**Yellowknife Ar**	50.27	347	*e*P		P	11 01 18.5	-0.4
	comp=Z,0.5nm,1.3s							
BDFB	**Brasilia**	53.57	122	P		P	11 01 43.3	-0.9
	comp=Z,2.8nm,0.7s,baz=306,slow=16,SNR=3.9							
BDFB					LR	LR	11 25 55.0	
	comp=Z,194nm,21.0s,baz=259,slow=38							
BDFB	**Brasilia**	53.57	122	P		P	11 01 43.3	-0.9
PLCA	**Paso Flores**	58.86	160	P		P	11 02 20.8	-0.7
	comp=Z,1.5nm,0.8s,baz=328,slow=8.8,SNR=5.4							
PLCA					LR	LR	11 22 58.0	
	comp=Z,566nm,18.5s,baz=184,slow=31							
PLCA	**Paso Flores**	58.86	160	P		P	11 02 20.8	-0.7
INK	**Inuvik**	59.59	344	*e*P		P	11 02 26.1	0.0
	comp=Z,26nm,1.3s							
RES	**Resolute Bay**	60.04	359	LR		LR	11 29 01.7	
	comp=Z,98nm,21.1s,baz=269,slow=37							
DOT	**Dot Lake**	60.30	336	*e*P		P	11 02 31.8	+0.7
	comp=Z,8.6nm,1.0s							
PAX	**Paxson**	60.52	335	*e*P		P	11 02 33.1	+0.4
	comp=Z,138nm,2.4s							
ILAR	**Eielson Array**	61.92	337	P		P	11 02 42.0	-0.1
	comp=Z,3.9nm,0.7s,baz=137,slow=4.7,SNR=32							
ILAR	**Eielson Array**	61.92	337	P		P	11 02 42.0	-0.1
TRF	**Thorofare Moun**	62.70	335	*e*P		P	11 02 47.4	-0.1
	comp=Z,16nm,0.8s							
COLD	**Coldfoot**	64.23	339	*e*P		P	11 02 58.7	+1.5
	comp=Z,2nm,2.2s							
ESDC	**Sonseca Array**	79.96	52	P		P	11 04 29.6	-2.3
	comp=Z,0.3nm,0.3s,baz=293,slow=6.7,SNR=4.0							
ESDC	**Sonseca Array**	79.96	52	P		P	11 04 29.6	-2.3
BILL	**Bilibino**	80.55	338	*e*P		P	11 04 35.0	+0.6
	comp=Z,9.6nm,1.0s							
KONO	**Kongsberg**	83.66	30	*e*P		P	11 04 59.0	+8.2
	comp=Z,75nm,0.7s							
ARCES	**ARCESS Array B**	85.78	18	P		P	11 05 00.1	-1.3
	comp=Z,5.3nm,1.0s,baz=247,slow=5.8,SNR=3.9							
ARCES	**ARCESS Array B**	85.78	18	P		P	11 05 00.1	-1.3
DBIC	**Dimbokro**	86.41	84	P		P	11 05 05.0	-0.5
	comp=Z,3.2nm,0.9s,baz=215,slow=2.0,SNR=4.4							
DBIC					LR	LR	11 37 52.8	
	comp=Z,70nm,18.4s,baz=199,slow=32							
DBIC	**Dimbokro**	86.41	84	P		P	11 05 05.0	-0.5
FINES	**FINESS Array B**	90.26	25	P		P	11 05 22.6	-0.3
	comp=Z,2.2nm,0.8s,baz=317,slow=4.2,SNR=3.8							
FINES	**FINESS Array B**	90.26	25	P		P	11 05 22.6	-0.3
TORD	**Torodi Ar. Bea**	91.03	76	LR		LR	11 45 43.1	
	comp=Z,94nm,18.2s,baz=190,slow=35							
HHC	**Hu-ho-hao-te**	120.32	339	*e*PKP		PKPdf	11 11 05.4	-8.4
HHC				sPKP			11 11 40.8	
HHC				PP		PP	11 12 36.0	-3.1
HHC				PKS		PKSdf	11 14 40.8	-10
HHC				SKS		SKSdf	11 18 06.1	-15
HHC				SKKS		SKKSac	11 19 17.5	-17
HHC				SS		SKSdf	11 28 50.8	-9.5
HHC				AMB		AMB		
	comp=Z,170nm,9.5s							
HHC				LR		LR		
	comp=N,120nm,20.6s							
HHC				LR		LR		
	comp=E,180nm,20.5s							
HHC				LR		LR		
	comp=Z,160nm,20.5s							
WMQ	**Urumqi**	121.81	360	*e*PKP		PKPdf	11 11 16.5	0.0
AAK	**Ala-Archa**	121.83	11	PKP		PKPdf	11 11 18.2	+1.5
	comp=Z,0.6nm,0.3s,baz=211,slow=5.9,SNR=2.4							
AAK	**Ala-Archa**	121.83	11	PKP		PKPdf	11 11 18.2	+1.5
NJ2	**Nanjing**	124.51	327	*e*PKP		PKPdf	11 11 16.6	-5.3
KSH	**Kashi**	125.12	11	*e*PKP		PKPdf	11 11 19.1	-4.0
KSH				PP		PP	11 13 14.3	+2.9
KSH				PKS		PKSdf	11 14 55.3	-4.5
KSH				AMB		AMB		
	comp=Z,67nm,5.0s							
KSH				LR		LR		
	comp=N,130nm,6.8s							
KSH				LR		LR		
	comp=E,98nm,7.1s							
KSH				LR		LR		
	comp=Z,150nm,7.0s							
LZH	**Lanzhou**	127.12	343	*e*PKP		PKPdf	11 11 25.0	-2.0
LZH				sPKP			11 11 51.3	
LZH				LR		LR		
	comp=N,150nm,18.0s							
LZH				LR		LR		
	comp=E,130nm,18.1s							
LZH				LR		LR		
	comp=Z,170nm,20.0s							
CD2	**Chengdu**	131.97	341	PKP		PKPdf	11 11 35.3	-0.9
WRA	**Warramunga Arr**	134.75	256	PKP		PKPdf	11 11 40.8	-0.9
	comp=Z,0.5nm,0.7s,baz=54,slow=1.4,SNR=2.7							
WRA	**Warramunga Arr**	134.75	256	PKP		PKPdf	11 11 40.8	-0.9
GYA	**Guiyang**	134.94	335	*e*Pdif		Pdif	11 08 41.0	-2.6
GYA				PKP		PKPdf	11 11 39.8	-2.2
GYA				sPKP			11 12 08.4	
GYA				PP		PP	11 14 18.6	+3.0
GYA				AMB		AMB		
	comp=Z,80nm,7.6s							
KMI	**Kunming**	137.64	339	PKP		PKPdf	11 11 44.0	-3.2
CMAR	**Chiang Mai Arr**	145.11	340	PKPbc		PKPbc	11 11 59.6	-0.3
	comp=Z,4.2nm,0.9s,baz=345,slow=3.8,SNR=23							
CMAR	**Chiang Mai Arr**	145.11	340	PKPbc		PKPbc	11 11 59.6	-0.3
KAPI	**Kappang**	146.52	283	PKPbc		PKPdf	11 12 03.3	+0.4
	comp=Z,7.3nm,0.6s,baz=148,slow=1.8,SNR=7.0							
KAPI	**Kappang**	146.52	283	PKPbc		PKPdf	11 12 03.3	+0.4

IDC 24 11:05:23.6±5.6, 0.81N×100.36W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.8/5, Error ellipse: s-maj=173.7km s-min=116.4km az=88.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TXAR	**Lajitas Array**	28.54	354	P		P	11 11 21.7	+0.4
	0.5nm,0.8s,baz=178,slow=11,SNR=5.7							
PDAR	**Pinedale Array**	42.58	350	P		P	11 13 21.2	-0.4
	1.1nm,0.6s,baz=149,slow=8.4,SNR=14							
YKA	**Yellowknife Ar**	62.46	353	P		P	11 15 48.2	-0.1
	1.0nm,0.9s,baz=163,slow=6.5,SNR=14							
ILAR	**Eielson Array**	72.09	341	P		P	11 16 49.5	0.0
	1.2nm,0.7s,baz=148,slow=5.4,SNR=16							
RES	**Resolute Bay**	73.86	2	P		P	11 16 59.9	+0.1
	1.1nm,0.8s,baz=174,slow=9.2,SNR=3.5							

*NNC **24** 11:08:01.9±4.3, 55.31N×95.19E, h0km, mb4.4, Error ellipse: s-maj=46.6km s-min=26.6km az=108.0*
*BJI **24** 11:08:15.9, 55.07N×93.14E

comp=Z,522nm,1.4s
MOY smax smax
comp=E,2μm,1.3s
UKR Ust'-Kan 6.46 235 *e*Pn **Pn** **11 09 52.5 +0.1**
UKR *e*Pg Pb 11 10 13.3 +3.7
UKR *e*Sn **Sn** **11 11 05.1 -1.2**
UKR *e*Sg Sb 11 11 35.7 +8.8
UKR Ust'-Kan 6.46 235 *e*PN **Pn** **11 09 52.5 +0.1**
UKR *e* 11 10 13.3
UKR *e* 11 11 05.1
TLY Talaya 7.11 113 *e*PN Pb 11 10 16.9 -3.7
TLY *e* 11 11 50.4
TLY pmax pmax
comp=Z,34nm,0.4s
TLY smax smax
comp=N,442nm,0.5s
TLY Talaya 7.11 113 *e*Pn **Pn** **11 10 03.6 +2.3**
comp=N,50nm,0.4s
TLY *e*Sn **Sn** **11 11 21.4 -0.9**
IRK Irkutsk 7.17 108 *e*PN **Pb** **11 10 20.1 -1.6**
IRK *e* 11 11 51.2
IRK pmax pmax
comp=Z,157nm,0.1s
IRK smax smax
comp=N,3μm,1.0s
ZAK Zakamensk 7.69 122 *e*P **Pn** **11 10 08.0 -1.4**
ZAK pmax pmax
comp=Z,66nm,1.0s
KURK Kurchatov 9.75 250 ⇑Pn **Pn** **11 10 37.0 -0.4**
comp=Z,13nm,0.7s
KURK Kurchatov 9.75 250 *e*P **Pn** **11 10 36.7 -0.7**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 9.75 250 *e*Pn **Pn** **11 10 36.7 -0.7**
comp=Z,16nm,0.7s
KURK *e*Sg Sb 11 13 23.8
KURK Lg Lg 11 13 29.5
KURBB Kurchatov Arra 9.84 250 Pn **Pn** **11 10 37.6 -1.1**
comp=Z,0.6nm,0.3s,baz=62,slow=14,SNR=43
KURBB Lg Lg 11 13 29.5
comp=Z,0.9nm,0.3s,baz=64,slow=33,SNR=6.1
MK31 Makanchi Array 10.65 224 ⇓Pn **Pn** **11 10 50.2 +0.2**
comp=Z,2.1nm,0.5s,baz=29,slow=12,SNR=126
MK31 ⇓Sn Sn 11 13 09.1 +20
comp=Z,47nm,0.8s,baz=34,slow=27
MK31 Makanchi Array 10.65 224 *e*P **Pn** **11 10 50.1 +0.2**
MK31 Makanchi Array 10.65 224 *e*Pn **Pn** **11 10 50.1 +0.2**
MK31 *e*Sg Sb 11 13 48.3
MKAR Makanchi Array 10.65 224 Pn **Pn** **11 10 50.0 +0.1**
comp=Z,0.6nm,0.3s,baz=28,slow=12,SNR=34
MKAR Lg Lg 11 13 53.9
comp=Z,1.3nm,0.3s,baz=42,slow=31,SNR=6.1
MKAR LR LR 11 14 54.8
comp=Z,159nm,20.2s,baz=42,slow=37
MKAR Makanchi Array 10.65 224 P **Pn** **11 10 50.0 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,159nm,20.2s
MKAR Makanchi Array 10.65 224 Pn **Pn** **11 10 50.0 +0.1**
MKAR Lg Lg 11 13 53.9
SONM Songino Array 10.93 125 Pn **Pn** **11 10 54.7 +1.0**
comp=Z,0.1nm,0.3s,baz=312,slow=16,SNR=6.1
SONM Pg Sb 11 11 25.6
comp=Z,1.2nm,0.3s,baz=315,slow=17,SNR=43
SONM Sn **Sn** **11 12 59.4 +3.2**
comp=Z,1.1nm,0.3s,baz=314,slow=23,SNR=3.1
SONM Lg Lg 11 13 51.3
comp=Z,5.1nm,0.3s,baz=318,slow=26,SNR=11
SONM LR LR 11 15 01.2
comp=Z,173nm,20.7s,baz=184,slow=37
SONM Songino Array 10.93 125 Pn **Pn** **11 10 54.7 +1.0**
SONM Pg Sb 11 11 25.6
SONM Sn **Sn** **11 12 59.4 +3.2**
SONM Lg Lg 11 13 51.3
VOSK Vostochnaya 13.25 269 ⇑Pn **Pn** **11 11 25.5 +0.2**
comp=Z,4.3nm,0.4s
VOSK ⇓Sn S 11 14 10.4 -7.2
comp=Z,28nm,0.9s
BVA0 Borovoye Array 13.50 271 ⇓Pn **Pn** **11 11 30.3 +1.5**
comp=Z,0.8nm,0.5s,baz=72,slow=15
BVA0 ⇓Sn **S** **11 14 17.6 -5.1**
comp=Z,5.2nm,1.2s,baz=67,slow=27
BVAR Borovoye Array 13.50 271 Pn **Pn** **11 11 27.9 -0.8**
comp=Z,1.7nm,0.3s,baz=70,slow=13,SNR=30
BVAR LR LR 11 17 13.1
comp=Z,210nm,19.9s,baz=80,slow=40
BVAR Borovoye Array 13.50 271 P **Pn** **11 11 27.9 -0.8**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR MLR MLR
comp=Z,210nm,19.9s
BVAR Borovoye Array 13.50 271 Pn **Pn** **11 11 27.9 -0.8**
BRVK Borovoye 13.55 271 ⇑Pn **Pn** **11 11 30.3 +0.9**
comp=Z,31nm,1.4s
BRVK ⇓Sn **S** **11 14 18.2 -5.5**
comp=Z,47nm,1.1s
BRVK Borovoye 13.55 271 *e*P **Pn** **11 11 30.9 +1.5**
BRVK *e* 11 14 00.7
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK Borovoye 13.55 271 *e*Pn **Pn** **11 11 30.9 +1.5**
comp=Z,10nm,0.6s
BRVK *e*Sn **Sn** **11 14 00.7 +0.6**
ZRNK Zerenda 14.32 272 ⇓Pn **Pn** **11 11 40.5 +0.6**
comp=Z,29nm,0.9s
ZRNK ⇓Sn **S** **11 14 35.0 -4.4**
comp=Z,13nm,0.8s
GTA Gaotai 16.20 161 *e*P **Pn** **11 12 06.1 +1.1**
GTA pP **pP** **11 12 10.3 +0.2**
GTA sP **sP** **11 12 13.5 +2.4**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,65nm,5.2s
GTA LR LR
comp=N,300nm,7.6s
GTA LR LR
comp=E,1μm,4.8s
GTA LR LR
comp=Z,180nm,5.7s
TKM2 Tokmak 2 16.60 231 ⇓Pn **Pn** **11 12 11.5 +1.2**
comp=Z,10nm,0.8s
TKM2 Tokmak 2 16.60 231 *e*P **Pn** **11 12 11.3 +1.0**
TKM2 *e* 11 15 11.4
TKM2 pmax pmax
comp=Z,39nm,0.7s
TKM2 Tokmak 2 16.60 231 *e*Pn **Pn** **11 12 11.2 +1.0**
comp=Z,39nm,0.7s
TKM2 *e*Sn **Sn** **11 15 11.4 -3.4**
FRU Bishkek 17.12 232 *e*P **Pn** **11 12 17.0 +0.4**
FRU pmax pmax
comp=Z,100nm,1.6s
AAK Ala-Archa 17.33 232 P **Pn** **11 12 19.4 +0.1**
comp=Z,0.2nm,0.3s,baz=87,slow=7.2,SNR=8.6
AAK Ala-Archa 17.33 232 *e*P **Pn** **11 12 17.4 -1.9**
AAK pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa 17.33 232 *e*Pn **Pn** **11 12 19.4 +0.1**
comp=Z,136nm,1.3s
AAK *e*S **S** **11 15 42.3 +1.0**
EKS2 Erkin-Say 17.64 234 *e*P **Pn** **11 12 22.1 -1.1**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 Erkin-Say 17.64 234 *e*Pn **Pn** **11 12 22.1 -1.1**
comp=Z,7.5nm,0.7s
SVE Sverdlovsk 18.22 289 *e*P **P** **11 12 32.4 +2.1**
SVE pmax pmax
comp=Z,18nm,0.9s
KK31 Karatay Array 18.89 240 ⇓Pn **Pn** **11 12 40.0 +1.6**
comp=Z,3.6nm,0.8s,baz=39,slow=14,SNR=6.6
KKAR Karatay Array 18.89 240 *e*P **P** **11 12 36.3 -1.5**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 18.89 240 *e*P **P** **11 12 36.3 -1.5**
comp=Z,4.8nm,0.8s
ARU Arti 19.41 289*c i*P **Pn** **11 12 45.4 +0.8**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 19.41 289 *e*P **Pn** **11 12 45.2 +0.7**
comp=Z,48nm,1.2s
YAK Yakutsk 20.14 55 *e*P **P** **11 12 46.9 -4.4**
YAK *e*PPP PPP 11 13 09.0
YAK *e*S **S** **11 16 34.7 -2.7**
YAK *e* 11 17 00.4
YAK *e*SSS SSS 11 17 05.4
YAK *e* 11 24 18.8
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=Z,266nm,4.2s
YAK pmax pmax
comp=N,177nm,4.1s
YAK pmax pmax
comp=E,318nm,5.6s
YAK smax smax
comp=N,29nm,0.9s
YAK smax smax
comp=E,14nm,0.7s
YAK MLR MLR
comp=Z,127nm,10.0s
YAK MLR MLR
comp=E,126nm,11.0s
YAK Yakutsk 20.14 55 *e*P **P** **11 12 49.7 -1.6**
comp=E,37nm,0.6s
AB31 Akbulak array 21.02 268 P **P** **11 13 00.9 0.0**
comp=E,15nm,0.8s,baz=60,slow=8.2,SNR=120
ABKAR Akbulak array 21.02 268 *e*P **P** **11 13 00.6 -0.4**
comp=E,7.3nm,0.6s
AKTO Aktyubinsk 21.60 272 P **P** **11 13 07.5 +0.3**
comp=E,12nm,0.8s,baz=76,slow=9.0,SNR=52
AKTO LR LR 11 22 21.3
comp=E,92nm,20.3s,baz=239,slow=39
AKTO Aktyubinsk 21.60 272 ⇑P **P** **11 13 06.9 -0.2**
comp=E,3.1nm,0.8s
AKTO Aktyubinsk 21.60 272 P **P** **11 13 07.5 +0.3**
AKTO pmax pmax
comp=Z,12nm,0.8s
AKTO MLR MLR
comp=Z,92nm,20.3s
AKTO Aktyubinsk 21.60 272 P **P** **11 13 07.5 +0.3**
CN2 Changchun 23.60 105 *e*P **P** **11 13 30.1 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 26.39 229 *e*P **P** **11 13 55.0 +0.9**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 26.39 229 *e*P **P** **11 13 55.0 +0.9**
comp=Z,7.9nm,0.9s
KSAR Wonju Array Be 29.35 112 P **P** **11 14 22.0 +1.8**
KSRS Korea Array 29.36 112 P **P** **11 14 22.0 +1.7**
comp=Z,1.0nm,0.6s,baz=322,slow=7.2,SNR=4.2
KSRS LR LR 11 26 53.5
comp=Z,83nm,19.6s,baz=295,slow=38
OBN Obninsk 31.65 294⇓*e*P **P** **11 14 40.4 +0.1**
OBN *e* 11 15 46.8
OBN *e*S **S** **11 19 53.4 +3.9**
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,100nm,19.0s
ARCES ARCESS Array B 32.65 323 P **P** **11 14 50.5 +1.4**
comp=Z,1.8nm,0.5s,baz=79,slow=9.4,SNR=14
ARCES LR LR 11 28 54.7
comp=Z,75nm,21.6s,baz=2.0,slow=38
ARCES ARCESS Array B 32.65 323 P **P** **11 14 50.5 +1.4**
SPITS Spitsbergen Ar 34.24 339 P **P** **11 15 04.7 +1.8**
comp=Z,0.4nm,0.3s,baz=80,slow=11,SNR=11
SPITS Spitsbergen Ar 34.24 339 P **P** **11 15 04.7 +1.8**
FINES FINESS Array B 34.46 309 P **P** **11 15 06.0 +1.2**
comp=Z,1.4nm,0.8s,baz=73,slow=6.4,SNR=5.2
FINES FINESS Array B 34.46 309 P **P** **11 15 06.0 +1.2**
BILL Bilibino 34.93 39⇑*e*P **P** **11 15 08.6 -0.3**
BILL *e* 11 16 23.0
BILL *e*S **S** **11 20 37.7 -2.5**
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,200nm,16.0s
AKASG Malin Array Be 37.64 291 P **P** **11 15 31.8 -0.4**
comp=Z,0.6nm,0.3s,baz=52,slow=9.0,SNR=3.9
AKASG Malin Array Be 37.64 291 P **P** **11 15 31.8 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 37.64 291 P **P** **11 15 31.8 -0.4**
HFS Hagfors 40.52 311 P **P** **11 15 56.3 +0.2**
comp=Z,2.7nm,0.6s,baz=38,slow=5.6,SNR=8.8
HFS Hagfors 40.52 311 P **P** **11 15 56.3 +0.2**
NB2 NORSAR Subarra 41.13 313 P **P** **11 16 02.0 +0.7**
comp=Z,2.2nm,0.6s,baz=61,slow=8.6
NOA NORSAR Array B 41.13 313 P **P** **11 16 01.6 +0.4**
comp=Z,1.5nm,0.5s,baz=61,slow=8.2,SNR=6.9
NOA NORSAR Array B 41.13 313 P **P** **11 16 01.6 +0.4**
BRTR Keskin Array B 41.76 274 P **P** **11 16 07.3 +0.5**
comp=Z,1.2nm,0.8s,baz=60,slow=7.3,SNR=4.9
BRTR Keskin Array B 41.76 274 P **P** **11 16 07.3 +0.5**
DAG Danmarks Havn 41.78 341 *i* P **P** **11 16 07.0 +0.7**
comp=Z,14nm,0.8s
JMIC Jan Mayen 42.80 332 LR LR 11 36 02.9
comp=Z,124nm,19.0s,baz=243,slow=39
VYHS Vyhne 44.45 294 *e*P **P** **11 16 29.4 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 44.45 294 *e*P **P** **11 16 29.4 +1.1**
GERES GERESS Array B 46.90 297 LR LR 11 38 17.9
comp=Z,78nm,21.6s,baz=271,slow=38
SUMG Summit 48.42 342 *i* P **P** **11 16 59.7 +0.1**
comp=Z,3.4nm,0.7s
COLD Coldfoot 49.33 27 *e*P **P** **11 17 07.5 +1.3**
comp=Z,2.2nm,0.6s
ILAR Eielson Array 52.08 28 P **P** **11 17 26.8 -0.2**
comp=Z,0.5nm,0.7s,baz=331,slow=4.6,SNR=5.6
ILAR Eielson Array 52.08 28 P **P** **11 17 26.8 -0.2**
INK Inuvik 52.33 20 *e*P **P** **11 17 29.8 +1.1**
comp=Z,1.5nm,0.6s
YKA Yellowknife Ar 60.89 14 P **P** **11 18 28.7 -0.9**
comp=Z,0.4nm,0.7s,baz=338,slow=7.1,SNR=6.8
YKA Yellowknife Ar 60.89 14 P **P** **11 18 28.8 -0.9**
TORD Torodi Ar. Bea 80.17 279 P **P** **11 20 26.8 -1.2**
comp=Z,0.7nm,0.7s,baz=35,slow=4.7,SNR=6.3
TORD Torodi Ar. Bea 80.17 279 P **P** **11 20 26.8 -1.2**
WRAB Tennant Creek 82.46 141 P **P** **11 20 38.3 -1.6**
WRAB pmax pmax
comp=Z,21nm,1.9s
WRAB Tennant Creek 82.46 141 P **P** **11 20 38.3 -1.6**
comp=Z,21nm,1.9s
WRA Warramunga Arr 82.47 141 P **P** **11 20 41.4 +1.5**
comp=Z,0.6nm,0.8s,baz=344,slow=5.6,SNR=5.2
WRA Warramunga Arr 82.47 141 P **P** **11 20 41.4 +1.5**
ASAR Alice Springs 85.74 143 P **P** **11 20 57.4 +0.8**
comp=Z,0.7nm,0.8s,baz=339,slow=5.6,SNR=5.6
ASAR Alice Springs 85.74 143 P **P** **11 20 57.4 +0.8**
VNDA Vanda 138.75 162 PKP **PKPdf** **11 27 42.1 +0.2**
comp=Z,0.5nm,0.3s,baz=288,slow=6.4,SNR=6.0
VNDA Vanda 138.75 162 PKP **PKPdf** **11 27 42.1 +0.2**
QSPA South Pole Qui 144.73 180 PKP **PKPdf** **11 27 52.6 -0.3**
comp=Z,2.5nm,1.0s,baz=335,slow=3.6,SNR=8.6
QSPA South Pole Qui 144.73 180 PKP **PKPdf** **11 27 52.6 -0.3**

*AUST **24** 11:16:30.2, 0.˚49S×131.˚50E, h25km*
*ISCJB **24** 11:16:32.5±1.3, 0.˚68S±0.˚05×131.˚47E±0.˚06, h7km±7km, mb3.9/10, Error ellipse: s-maj=9.9km s-min=7.9km az=13.5*
*IDC **24** 11:16:33.9±1.3, 0.˚77S×131.˚12E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=86.9km s-min=17.1km az=70.0*
*DJA **24** 11:16:37.0±0.6, 1.˚S±.˚5×13.˚1E±.˚, h10km, M4.3/9, MLv4.3/9*
*NEIC **24** 11:16:39.2±0.8, 0.˚86S×131.˚05E, h35km, mb3.9/3, Error ellipse: s-maj=39.6km s-min=8.7km az=74.0*
NEIC Felt [V] at Sorong.
ISC 24 11:16:35.4±1.3, 0.˚79S±0.˚06×131.˚36E±0.˚07, h10km±6km, n37, σ1$71/38, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong** baz=0.4,SNR=1000	**0.12**	**232**	P	**Pg**		**11 16 37.8**	**-0.5**
SWI	**Sorong**	**0.12**	**232**	P	**Pg**		**11 16 37.6**	**-0.7**
SWI				S	**Sg**		**11 16 41.5**	**+1.1**
FAKI	**Fak Fak**	**2.30**	**157**	P	**Pn**		**11 17 13.5**	**+0.2**
FAKI				S	**Sg**		**11 17 52.1**	**+2.8**
MSAI	**Masohi**	**3.51**	**224**	P	Pb		11 17 33.1	-4.6
MSAI				S	**Sb**		**11 18 15.5**	**-4.9**
LBMI	**Labuha**	**3.86**	**272**	P	**Pn**		**11 17 35.9**	**+1.1**
BNDI	**Bandanaira**	**3.98**	**201**	P	**Pn**		**11 17 38.0**	**+1.5**
AAI	**Ambon** baz=4.6,SNR=6.0	**4.28**	**228**	P	Pn		11 17 43.1	+2.6
AAI	**Ambon**	**4.28**	**228**	P	**Pn**		**11 17 42.5**	**+2.0**
AAI				S	**Sn**		**11 18 33.3**	**+2.8**
TNTI	**Ternate**	**4.28**	**291**	P	**Pn**		**11 17 42.7**	**+2.1**
TLE	**Tual**	**5.01**	**164**	P	**Pn**		**11 17 51.1**	**+0.4**
PCI	**Palu** baz=12,SNR=12	**11.52**	**269**	P	Pn		11 19 12.6	-7.5
PCI				S	Sn		11 21 20.6	-8.3
KDU	**Kakadu** baz=12,SNR=34	**11.88**	**175**	P	**Pn**		**11 19 22.0**	**-2.9**
KDU				S	Sn		11 21 28.1	-9.5
MTN	**Manton Dam** baz=12,SNR=16	**11.98**	**181**	P	**Pn**		**11 19 23.9**	**-2.4**
MTN				S	Sn		11 21 32.5	-7.6
FITZ	**Fitzroy Crossi**	**18.10**	**198**	*e*Pn	**Pn**		**11 20 46.1**	**-0.9**
FITZ				*e*S	**S**		**11 24 15.7**	**+0.7**
FITZ	**Fitzroy Crossi** baz=18,SNR=6.1	**18.10**	**198**	P	**P**		**11 20 46.9**	**-0.5**
WRAB	**Tennant Creek** 2.6nm,0.5s	**19.25**	**171**	*e*P	**Pn**		**11 21 00.9**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=353,slow=12,SNR=16	**19.26**	**171**	P	**P**		**11 20 59.1**	**-1.1**
WRA				S	Sn		11 24 26.9	-10
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=356,slow=23,SNR=6.8	**19.26**	**171**	P	**P**		**11 20 59.1**	**-1.1**
WRA				S	Sn		11 24 26.9	-10
AS31	**Alice Springs**	**22.88**	**174**	*e*P	**P**		**11 21 38.8**	**-0.5**
ASAR	**Alice Springs** 3.6nm,0.8s,baz=352,slow=11,SNR=24	**22.88**	**174**	P	**P**		**11 21 40.8**	**+1.6**
ASAR	**Alice Springs**	**22.88**	**174**	P	**P**		**11 21 40.8**	**+1.6**
STKA	**Stephens Creek** 0.7nm,0.6s,baz=333,slow=6.8,SNR=2.8	**32.40**	**164**	P	**P**		**11 23 06.7**	**+1.2**
STKA	**Stephens Creek**	**32.40**	**164**	P	**P**		**11 23 06.7**	**+1.2**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=126,slow=7.3,SNR=4.7	**37.16**	**303**	P	**P**		**11 23 45.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**37.16**	**303**	P	**P**		**11 23 45.9**	**-0.9**
SONM	**Songino Array** 0.4nm,0.8s,baz=150,slow=5.0,SNR=1.8	**53.08**	**339**	P	**P**		**11 25 53.4**	**+0.4**
SONM	**Songino Array**	**53.08**	**339**	P	**P**		**11 25 53.4**	**+0.4**
MK31	**Makanchi Array**	**63.88**	**325**	*e*P	**P**		**11 27 07.2**	**-1.2**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=122,slow=7.1,SNR=9.1	**63.88**	**325**	P	**P**		**11 27 07.2**	**-1.2**
MKAR	**Makanchi Array**	**63.88**	**325**	P	**P**		**11 27 07.2**	**-1.2**
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=129,slow=4.0,SNR=3.9	**66.70**	**332**	P	**P**		**11 27 27.5**	**+1.1**
ZALV	**Zalesovo Beam**	**66.70**	**332**	P	**P**		**11 27 27.5**	**+1.1**
KURK	**Kurchatov** 2.2nm,0.6s	**68.02**	**327**	*e*P	**P**		**11 27 33.7**	**-1.1**
KURBB	**Kurchatov Arra** 2.3nm,0.7s,baz=125,slow=6.0,SNR=16	**68.02**	**327**	P	**P**		**11 27 33.2**	**-1.6**
BVAR	**Borovoye Array** 1.2nm,0.7s,baz=138,slow=6.7,SNR=2.8	**73.61**	**327**	P	**P**		**11 28 07.0**	**-1.9**
BVAR	**Borovoye Array**	**73.61**	**327**	P	**P**		**11 28 07.0**	**-1.9**
ABKAR	**Akbulak array** 0.8nm,0.6s	**78.55**	**321**	*e*P	P		11 28 43.8	+6.7

IDC 24 11:35:27.7±1.9, 14.˚71S×173.˚90W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.8/7, MS3.7/3, Ms1 3.7/3, ms1mx3.2/42, Error ellipse: s-maj=122.8km s-min=22.2km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 8.3nm,0.3s,baz=350,slow=3.7,SNR=19	**2.20**	**69**	Pn	Pn		11 36 00.1	-5.6
AFI				Sn	Sn		11 36 21.1	-13
PPT	**Papeete** 21nm,0.3s,baz=36,slow=22,SNR=13	**23.53**	**100**	LR	LR		11 46 40.2	
PPT2	**Papeete2** comp=Z,301nm,19.2s,baz=339,slow=29	**23.53**	**100**	*e*LR	LR		11 46 10.8	
PPT2	265nm,24.0s			*e*T	T		12 04 15.3	
PAE	**Paea** 2.7nm,0.4s	**23.53**	**100**	*e*T	T		12 04 14.5	
TBI	**Tubuai** 1.5nm,0.3s	**24.62**	**114**	*e*LR	LR		11 46 43.2	
TBI	232nm,28.2s			*e*T	T		12 05 49.5	
HNR	**Honiara** 6.6nm,0.3s comp=Z,94nm,20.1s,baz=41,slow=32	**26.10**	**279**	LR	LR		11 49 24.4	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=89,slow=7.1,SNR=7.7	**49.54**	**256**	P	P		11 44 21.1	+0.3
ASAR	**Alice Springs** 2.1nm,0.7s,baz=88,slow=7.8,SNR=28	**49.87**	**251**	P	P		11 44 22.8	-0.5
ASAR	comp=Z,117nm,20.7s,baz=104,slow=33			LR	LR		12 03 15.1	
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=263,slow=7.0,SNR=3.1	**74.14**	**42**	P	P		11 47 06.3	-0.2
TXAR	**Lajitas Array** 1.4nm,1.1s,baz=248,slow=6.6,SNR=5.1	**80.63**	**56**	P	P		11 47 43.0	+0.1
ILAR	**Eielson Array** 1.0nm,1.0s,baz=210,slow=6.7,SNR=4.5	**81.86**	**11**	P	P		11 47 48.0	-0.5
PDAR	**Pinedale Array** 1.4nm,1.1s,baz=209,slow=1.5,SNR=5.1	**82.07**	**42**	P	P		11 47 50.3	-0.1
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=250,slow=4.6,SNR=4.2	**89.66**	**24**	P	P		11 48 28.1	+0.9

IDC 24 11:41:07.5±1.7, 22.˚73S×174.˚90W, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.8/20, mbtmp3.9/6, ML2.1/1, Error ellipse: s-maj=64.8km s-min=25.4km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 1.0nm,0.3s,baz=16,slow=20,SNR=3.1	**9.26**	**19**	Pn	Pn		11 43 20.5	-2.0
ASAR	**Alice Springs** 0.4nm,0.8s,baz=103,slow=6.8,SNR=5.9	**46.85**	**258**	P	P		11 49 39.0	-0.8
WRA	**Warramunga Arr** 2.8nm,0.7s,baz=102,slow=8.1,SNR=38	**47.18**	**263**	P	P		11 49 42.0	-0.2
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=149,slow=6.1,SNR=4.4	**73.71**	**322**	P	P		11 52 44.4	+0.9
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=197,slow=3.9,SNR=4.0	**85.87**	**56**	P	P		11 53 50.1	+0.5
PDAR	**Pinedale Array** 0.3nm,0.8s,baz=228,slow=9.4,SNR=2.8	**88.64**	**42**	P	P		11 54 02.5	-0.4

*ISCJB **24** 11:55:41.9±0.3, 33.˚32N±0.˚01×115.˚68W±0.˚01, h10km±2km, mb4.2/12, MS4.2/23, Error ellipse: s-maj=1.9km s-min=1.7km az=0.4*
*NEIC **24** 11:55:43.0, 33.˚32N×115.˚73W, h6km, mb4.6/5, MW4.8(PAS), MW4.7(SLM), After PAS.*
NEIC Felt [IV] at Niland; [III] at Mecca and Salton City; [II] at Alpine, Blythe, Borrego Springs, Carlsbad, Cathedral City, Chula Vista, El Cajon, Escondido, Hemet, Idyllwild, Imperial Beach, Indio, La Quinta, Lakeside, Oceanside, Palm Desert, Palm Springs, Poway, Ramona, Rancho Mirage, San Diego and Santee. Felt in much of Imperial, San Diego and Riverside Counties. Felt [II] at Parker, Arizona. Also felt at Ehrenberg, Lake Havasu City, Quartzsite and Yuma.
*BJI **24** 11:55:43.0, 33.˚30N×115.˚70W, h15km, mB5.4/9, mb5.1/5, Ms5.1/6, Ms7 4.8/6*
*ECX **24** 11:55:44.0±0.8, 33.˚31N×115.˚73W, h15km, MD4.8, ML4.9, MW4.9*
*IDC **24** 11:55:45.6±1.2, 33.˚34N×115.˚38W, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/30, mbtmp4.0/11, ML4.0/4, MS4.2/25, Ms1 4.2/25, ms1mx4.0/56, Error ellipse: s-maj=22.2km s-min=12.9km az=41.0*
*GCMT **24** 11:55:46.2±0.3, 33.˚31N×115.˚66W, h12km, MW5.0, Moment Tensor Solution. s16,c21; s78,c104; Moment tensor: Scale 10^16 Nm; Mrr-0.52±.11; Mθθ-2.12±.10; Mϕϕ2.64±.08; Mrθ-0.20±.30; Mθϕ1.46±.10; Mϕr-2.32±.27; Best double couple: M0 3.40000×10^16 NP1:ϕs246.00000°, δ57.00000°, λ6.00000°. NP2:ϕs153.00000°, δ85.00000°, λ147.00000°. Principal axes: T 4.1700, Plg26.0000°, Azm104.0000°; N -1.4900, Plg57.0000°, Azm325.0000°; P -2.6800, Plg19.0000°, Azm204.0000°; Data Used: lI lU IC G CN.*
ISC 24 11:55:43.6±0.8, 33.˚29N±0.˚01×115.˚73W±0.˚02, h9km±5km, n217, σ1$75/267, mb4.3/11, MS4.2/23, 48C-60D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.13**	**34**⇓*i*	P	**Pg**		**11 55 46.6**	**0.0**
SWSC	**Sam W. Stewart** baz=0.4,SNR=1000	**0.35**	**189**	⇑P	**Pg**		**11 55 50.9**	**+0.4**

SWSC ⇑S Sg 11 55 56.2 +1.0
baz=0.4
HAY Hayfield 0.42 5 ⇓iP Pg 11 55 51.6 -0.2
BC3 Big Chuckawall 0.43 32 ⇑P Pg 11 55 51.5 -0.5
baz=0.4,SNR=1000
BC3 ⇓S Sg 11 55 57.9 +0.1
baz=0.4
CRR Carrizo Plain 0.45 207 ⇓iP Pg 11 55 52.6 +0.2
SNR Schaffner Ranc 0.49 150 ⇓iP Pg 11 55 53.6 +0.5
SGL Mount Signal 0.64 180 ⇓iP Pg 11 55 55.7 -0.3
COA Coachella 0.66 130 ⇑iP Pg 11 55 56.7 +0.3
YUH Yuha Desert 0.66 194 ⇓iP Pg 11 55 56.7 +0.3
PFO Pinyon Flat Ob 0.69 298 ePg Pg 11 55 56.1 -0.8
PFO eSg Sg 11 56 05.3 -0.6
PFO Pinyon Flat Ob 0.69 298 ⇑P Pg 11 55 56.1 -0.8
baz=0.7
PFO ⇑S Sg 11 56 05.5 -0.4
baz=0.7
DVTC Desert V Tower 0.70 207 P Pg 11 55 57.0 -0.2
baz=0.7,SNR=823
DVTC ⇓S Sg 11 56 07.0 +0.6
baz=0.7
RUN Ruthven 0.70 117 ⇑iP Pg 11 55 56.7 -0.5
MONP Monument Peak 0.71 236 P Pg 11 55 57.0 -0.2
baz=0.7,SNR=1000
MONP ⇑S Sg 11 56 06.5 0.0
baz=0.7
BELC Belle Mtn. Jos 0.74 342 ⇓P Pg 11 55 57.3 -0.7
baz=0.7
BELC ⇓S Sg 11 56 07.2 -0.5
baz=0.7
RMX La Rumorosa 0.75 203 ⇓eP Pg 11 55 57.6 -0.5
RMX eS Sg 11 56 08.3 +0.5
GLA Glamis 0.79 107 ePg Pg 11 55 58.2 -0.7
GLA eSg Sg 11 56 10.0 +0.8
GLA Glamis 0.79 107 ⇑iP Pg 11 55 57.7 -1.1
GLA Glamis 0.79 107 ⇑P Pg 11 55 58.1 -0.7
baz=0.8
GLA ⇑S Sg 11 56 09.7 +0.5
baz=0.8
CPBX Cerro Prieto 0.94 158 ⇑eP Pg 11 56 00.5 -1.2
CPBX eS Sg 11 56 14.1 +0.2
CPBX ⇓e 11 56 41.5
comp=E,91μm,0.9s
IRM Iron Mountain 0.99 29 ⇑P Pg 11 56 01.3 -1.3
baz=1.0,SNR=1000
IRM ⇓S Sg 11 56 14.8 -0.8
baz=1.0
BAR Barrett 1.00 233 ePg Pg 11 56 01.6 -1.3
BAR eSg Sg 11 56 15.8 -0.1
Y12C Blythe 1.10 65 ⇑P Pg 11 56 02.9 -1.9
baz=1.1
Y12C ⇓S Sg 11 56 18.2 -1.0
baz=1.1
109C Camp Elliot, M 1.22 251 ⇑P Pn 11 56 04.6 -2.3
baz=1.2,SNR=305
109C ⇓S Sb 11 56 20.9 -1.9
baz=1.2
CBX Cerro Bola 1.25 219 ⇓eP Pn 11 56 05.8 -1.6
CBX eS Sb 11 56 22.6 -1.1
MURC Murrieta 1.27 284 ⇓P Pn 11 56 04.9 -2.6
baz=1.3,SNR=1000
MURC ⇑S Sb 11 56 22.2 -1.9
baz=1.3
EMX El Mayor 1.36 162 eP Pn 11 56 07.2 -1.5
EMX eS Sb 11 56 25.5 -1.3
EMX ⇓e 11 56 42.4
comp=N,14μm,0.9s
EMX ⇑e 11 56 46.4
comp=E,12μm,1.0s
RDX Rancho Dawling 1.37 188 ⇓eP Pn 11 56 07.1 -2.0
RDX eS Sb 11 56 25.5 -1.7
RDX ⇑e 11 56 45.4
comp=N,7μm,1.0s
BBRC Big Bear Solar 1.39 315 ⇓P Pn 11 56 07.0 -2.4
baz=1.4,SNR=468
BBRC ⇑Sb Sb 11 56 26.7 -1.1
baz=1.4
GMRC Granite Mounta 1.49 2 P Pn 11 56 08.2 -2.4
baz=1.5,SNR=197
GMRC ⇓Sb Sn 11 56 29.4 -0.8
baz=1.5
HEC Hector,Ludlow 1.61 342 ⇓P Pn 11 56 09.7 -2.6
baz=1.6,SNR=86
HEC ⇓Sb Sn 11 56 33.3 0.0
baz=1.6
PDMCI Parker Dam,Lak 1.66 52 ⇓P Pn 11 56 10.6 -2.3
baz=1.6,SNR=46
PDMCI ⇓S Sn 11 56 31.9 -2.4
baz=1.6
113A Mohawk Valley, 1.73 107 ⇑P Pn 11 56 11.0 -2.8
baz=1.7
113A ⇓Sb Sn 11 56 37.4 +0.1
baz=1.7
NEE2 Needles Airpor 1.74 32 ⇓P Pn 11 56 11.8 -2.2
baz=1.7,SNR=168
NEE2 ⇓Sb Sn 11 56 36.7 +0.5
baz=1.7
PBX Punta Banda 1.76 209 ⇓eP Pn 11 56 13.5 -0.7
PBX eS Sn 11 56 37.0 +0.2
ECNX Esteban Cantu 1.79 205 ⇓eP Pb 11 56 13.9 -2.7
ECNX ⇓eP Pn 11 56 11.3 -3.4
ECNX eS Sn 11 56 33.0 -4.6
ECNX eS Sb 11 56 37.8 -1.3
LDFC Landfair 1.85 16 ePn Pn 11 56 14.9 -0.8
LDFC eSn Sn 11 56 38.8 -0.5
BFSC Mount Baldy Ra 1.87 301 ⇑P Pn 11 56 13.8 -2.0
baz=1.9,SNR=328
BFSC ⇑Sb Sb 11 56 40.6 -0.8
baz=1.9
ECBX El Chinero 1.90 162 ePN Pn 11 56 15.7 -0.5
ECBX eS Sn 11 56 41.0 +0.8
ECBX ⇓e 11 56 55.8
comp=N,11μm,1.1s
ECBX ⇑e 11 57 01.3
comp=E,7μm,1.0s
RRX Edison Barstow 1.91 327 ⇑P Pn 11 56 14.2 -2.1
baz=1.9
RRX ⇑Sb Sb 11 56 41.7 -0.7
baz=1.9
TUQ Turquoise Moun 2.15 356 ⇑P Pn 11 56 17.4 -2.3
baz=2.1
TUQ ⇑Sb Sb 11 56 49.1 -0.4
baz=2.1
MWC Mount Wilson 2.15 296 ePn Pn 11 56 17.8 -2.1
MWC eSn Sn 11 56 43.8 +1.6
FMP Fort Macarthur 2.19 282 ⇓P Pn 11 56 17.8 -2.2
baz=2.2
FMP ⇓Sb Sb 11 56 50.7 +0.2
baz=2.2
GSC Goldstone 2.20 336 ePn Pn 11 56 18.2 -2.2
GSC eSn Sn 11 56 45.2 -2.4
GSC Goldstone 2.20 336 ⇓P Pn 11 56 17.8 -2.5
baz=2.2
GSC ⇑Sb Sb 11 56 51.7 +0.8
baz=2.2
PASC Pasadena Art C 2.23 294 ePn Pn 11 56 20.2 -0.5
PASC eSn Sn 11 56 47.2 -1.1
CIS Catalina Islan 2.24 274 P Pn 11 56 18.7 -2.3
baz=2.2,SNR=18
CIS ⇓Sb Sb 11 56 52.6 +0.5
baz=2.2
Z14A Wintersburg 2.33 87 ⇑P Pn 11 56 19.7 -2.4
baz=2.3
Z14A ⇓Sb Sb 11 56 56.0 +1.4
baz=2.3
Y14A Wickenburg 2.36 73 ⇓P Pn 11 56 20.6 -1.9
baz=2.4,SNR=73
Y14A ⇑Sb Sb 11 56 55.1 -0.5
baz=2.4
W13A Hualapai Mount 2.36 40 ⇑P Pn 11 56 21.5 -1.2
baz=2.3,SNR=153
W13A ⇓Sb Sb 11 56 55.7 -0.1
baz=2.3
DECC Green Verdugo 2.37 295 ⇑Pb Pb 11 56 24.8 -1.6
baz=2.4
DECC ⇑Sb Sb 11 56 55.3 -0.5
baz=2.4
SCI San Clemente I 2.39 263 ⇓Sb Sb 11 56 55.0 -1.2
baz=2.4
EDW2 Edwards Air Fo 2.46 311 ⇓P Pn 11 56 21.5 -2.4
baz=2.4,SNR=62
EDW2 ⇑Sb Sb 11 56 58.5 +0.2
baz=2.4
OSI Osito Adit 2.82 299 ePn Pn 11 56 27.3 -1.5
OSI eSn Sn 11 57 03.5 +0.5
OSI Osito Adit 2.82 299 ⇑P Pn 11 56 26.4 -2.4
baz=2.8
BLG Laguna Peak 2.90 287 ⇑P Pn 11 56 27.8 -2.1
baz=2.9
MPMC Manual Prospec 3.12 333 ⇓P Pn 11 56 30.8 -2.3
baz=3.1,SNR=47
ARVC Arvin 3.16 306 ⇓P Pn 11 56 31.3 -2.1
baz=3.1,SNR=22
ISA Isabella 3.28 317 ePn Pn 11 56 33.2 -2.0
ISA eSg Sg 11 57 26.1 -2.8
ISA Isabella 3.28 317 ⇓P Pn 11 56 32.8 -2.4
baz=3.3,SNR=25
DAC Darwin (Calif) 3.35 333 ePn Pn 11 56 34.5 -1.8
DAC eSn Sn 11 57 15.6 -0.7
GVA Apache Junctio 3.48 87 P Pn 11 56 35.8 -2.1
X16A Lo Mia Camp, P 3.74 71 ⇓P Pn 11 56 40.4 -1.3
baz=3.7,SNR=59
PKM Peak Mountain 3.75 296 ⇑P Pn 11 56 40.3 -1.5
baz=3.7
VES Vestal, Richgr 3.76 313 ⇓P Pn 11 56 40.6 -1.2
baz=3.7
GRAC Grapevine Rang 3.94 340 ⇓P Pn 11 56 43.0 -1.2
baz=3.9
SMMC Simmler 4.07 301 ⇓P Pn 11 56 44.6 -1.4
baz=4.1
U15A North Rim 4.22 41 ⇑P Pn 11 56 47.6 -0.7
baz=4.2
WUAZ Wupatki 4.23 57 ePn Pn 11 56 49.3 +0.9
WUAZ eSn Sn 11 57 39.2 +1.3
WUAZ eSg Sg 11 57 57.4 -2.0
WUAZ Wupatki 4.23 57 ⇑P Pn 11 56 47.2 -1.1
baz=4.2
TUC Tucson 4.28 102 ePn Pn 11 56 46.5 -2.4
TUC eSn Sn 11 57 42.4 +3.5
PTRM Twissleman Ran 4.39 304 ePn Pb 11 56 56.3 -4.6
CCUT Cedar City 4.67 24 ePn Pn 11 56 54.4 0.0
CCUT eSn Sn 11 57 45.9 -3.0
MTUM Tungsten Hills 4.67 331 ePn Pn 11 56 55.8 +1.4
ARUT Antelope Range 4.86 22 ePn Pn 11 56 58.1 +1.1
ARUT eSn Sn 11 57 52.0 -1.4
X18A Snowflake 4.96 74 ⇑P Pn 11 56 56.2 -2.2
baz=4.9,SNR=87
NV11 Mina Array Sit 5.50 340 ePn Pn 11 57 07.5 +1.7
NV11 eSg Sg 11 58 36.0 -4.0
NVAR Mina Array Bea 5.54 339 Pn Pn 11 57 05.8 -0.5
comp=E,1.5nm,0.3s,baz=158,slow=14,SNR=19
NVAR Pg Pb 11 57 23.1 +2.6
comp=E,4.2nm,0.3s,baz=160,slow=16,SNR=28
NVAR Mina Array Bea 5.54 339 Pn Pn 11 57 05.8 -0.5
NVAR Pg Pb 11 57 23.1 +2.6
319A Douglas 5.78 108 ⇓P Pn 11 57 08.2 -1.5
baz=5.8,SNR=23
SAO San Andreas Ge 5.83 308 ePn Pn 11 57 07.5 -2.8
comp=E,100nm,0.9s
SAO eSn Sn 11 58 17.5 +0.2
MVU Marysvale 5.93 28 ePn Pn 11 57 14.6 +2.8
MVU eSg Sg 11 58 51.4 -2.6
MSU Marysvale 5.95 28 ePn Pn 11 57 12.4 +0.3
MSU eSg Sg 11 58 55.0 +0.3
Z20A Nine Sixteen R 5.98 90 ⇓P Pn 11 57 11.3 -1.2
baz=6.0,SNR=25
120A U Bar Ranch, L 6.01 95 ⇓P Pn 11 57 11.4 -1.5
baz=6.0
CMB Columbia Colle 6.06 323 ePn Pn 11 57 12.6 -0.8
CMB eSn Sn 11 58 23.5 +0.5
CMB eSg Sg 11 58 51.6 -6.7
X20A Quemado 6.14 76 ⇓P Pn 11 57 13.3 -1.3
baz=6.1,SNR=16
Y20A Horse Springs, 6.16 82 ⇓P Pn 11 57 13.7 -1.3
baz=6.1,SNR=51
220A Playas Peak, P 6.23 101 ⇓P Pn 11 57 14.4 -1.4
baz=6.2,SNR=18
W20A Ramah 6.26 71 ⇑P Pn 11 57 14.9 -1.5
baz=6.2
320A Kipp Ranch, An 6.40 106 ⇑P Pn 11 57 17.5 -0.7
baz=6.4,SNR=32
121A Cookes Peak, D 6.72 94 ⇓P Pn 11 57 21.7 -1.0
baz=6.7,SNR=34
Y21A Point of Rocks 6.75 82 ⇓P Pn 11 57 22.2 -0.9
baz=6.7,SNR=44
221A Mesquite Ranch 6.83 99 ⇓P Pn 11 57 23.2 -0.7
baz=6.8
TMUT Trail Mountain 7.01 30 ePn Pn 11 57 25.1 -1.7
TMUT eSg Sg 11 59 33.5 +4.7
MVCO Mesa Verde 7.09 54 ePn Pn 11 57 27.1 -0.6
MVCO eSg Sg 11 59 29.7 -1.5
SRU San Rafael 7.17 34 Pn Pn 11 57 27.7 -1.1
SRU eSg Sg 11 59 32.4 -1.3
BMN Battle Mountai 7.23 351 ePn Pn 11 57 31.6 +2.0
BMN eSn Sn 11 58 50.8 -1.0
LAZ Ladron 7.23 79 ePn Pn 11 57 31.5 +1.9
LAZ eSg Sg 11 59 33.4 -2.3
DUG Dugway 7.28 18 ePn Pn 11 57 28.1 -2.1
DUG eSg Sg 11 59 36.7 -0.4
Y22A Socorro 7.34 83 ⇑P Pn 11 57 30.5 -0.6
baz=7.3
Z22A Elephant Butte 7.34 88 ⇑P Pn 11 57 30.5 -0.6
baz=7.3
LENM Lemitar 7.34 81 ePn Pn 11 57 32.1 +1.0
LENM eSg Sg 11 59 35.1 -4.3
ELK Elko 7.45 3 ePn Pn 11 57 34.2 +1.6
ELK eSg Sg 11 59 39.8 -2.9
MPU Maple Canyon 7.47 25 ePn Pn 11 57 33.2 +0.3
PV04 Paradox Valley 7.52 45 ePn Pn 11 57 32.0 -1.6
PV04 eSg Sg 11 59 42.8 -2.2
PV01 Paradox Valley 7.56 48 ePn Pn 11 57 34.1 -0.1
PV01 ePg Pg 11 58 03.9 -4.5
PV01 eSg Sg 11 59 43.8 -2.6
BNM Barren Site 7.63 81 ePn Pn 11 57 34.9 -0.2
BNM eSg Sg 11 59 44.0 -4.5
LPM Los Pinos Moun 7.64 80 ePn Pn 11 57 35.3 0.0
LPM ePg Pg 11 58 08.1 -1.8
LPM eSg Sg 11 59 44.1 -4.7
ANMO Albuquerque 7.86 75 Pn Pn 11 57 38.9 +0.6
comp=E,0.3nm,0.3s,baz=269,slow=12,SNR=20
ANMO Lg Lg 11 59 47.6
comp=E,2.0nm,0.3s,baz=19,slow=22,SNR=5.8
ANMO LR LR 12 01 10.6
comp=E,996nm,18.2s,baz=261,slow=43
ANMO Albuquerque 7.86 75 ePn Pn 11 57 38.0 -0.3
ANMO Lg Lg 11 59 47.6
ANMO eSg Sg 11 59 53.4 -2.6
DAU Daniels Canyon 7.96 25 ePn Pn 11 57 40.9 +1.2
DAU ePg Pg 11 58 14.7 -1.2
DAU eSg Sg 11 59 54.9 -4.2
JLU Jordanelle 8.06 24 ePn Pn 11 57 41.4 +0.3
JLU eSg Sg 12 00 03.6 +1.4
Y23A Lovelace Mesa, 8.09 83 ⇑P Pn 11 57 40.7 -0.7
baz=8.1
124A Stringfield Ra 8.65 91 ⇑P Pn 11 57 47.8 -1.3
baz=8.6,SNR=20
HVU Hansel Valley 8.79 15 Pn Pn 11 57 48.9 -2.0
HVU eSn Sn 11 59 30.6 +0.4
324A Moseley Ranch, 8.86 99 ⇑P Pn 11 57 51.0 -0.9
baz=8.8,SNR=25
MNTX Cornudas Mount 8.88 97 ePn Pn 11 57 51.4 -0.8
MNTX eSn Sn 11 59 34.7 +2.4
MNTX Cornudas Mount 8.88 97 ⇑P Pn 11 57 51.1 -1.0
baz=8.9,SNR=33
SMCO Snowmass 9.19 48 ePn Pn 11 57 56.0 -0.7
225A Deer Hill, Car 9.27 94 ⇓P Pn 11 57 57.3 -0.2
baz=9.2,SNR=10
325A Bean Ranch, Si 9.30 99 ⇓P Pn 11 57 57.4 -0.6
baz=9.3,SNR=14
GDL2 Guadalupe Moun 9.63 93 ePn Pn 11 58 03.1 +0.6
GDL2 eSn Sn 11 59 52.5 +1.6
CPRX Cap Rock 9.95 88 ePn Pn 11 58 07.8 +1.0
CPRX eSn Sn 11 59 59.0 +0.4
CLNB Carlsbad 10.03 93 ePn Pn 11 58 07.2 -0.7
CLNB eSn Sn 12 00 04.4 +3.8
YBH Yreka Blue Hor 10.08 329 Pn Pn 11 58 18.3 +10
comp=E,0.2nm,0.3s,baz=140,slow=16,SNR=2.5
YBH Lg Lg 12 01 06.2
comp=E,0.2nm,0.3s,baz=241,slow=14,SNR=4.6
YBH LR LR 12 01 32.3
comp=E,731nm,21.3s,baz=323,slow=34
YBH Yreka Blue Hor 10.08 329 Pn Pn 11 58 18.3 +10
YBH Lg Lg 12 01 06.2
MFID Camas Ranch 10.11 360 Pn Pn 11 58 10.6 +1.6
MFID eSn Sn 12 00 04.2 +1.6
AHID Auburn Hatcher 10.14 20 Pn Pn 11 58 09.3 -0.1
HLID Hailey 10.31 5 ePn Pn 11 58 12.1 +0.4
LPIG La Paz 10.31 151 LR LR 12 02 25.3
comp=E,75nm,20.4s,baz=338,slow=39
ISCO Idaho Springs 10.41 49 ePn Pn 11 58 13.3 0.0
RRI2 Red Ridge 10.62 18 ePn Pn 11 58 18.1 +2.0
BW06 Boulder Array 10.63 25 ePn Pn 11 58 20.7 +4.4
PDAR Pinedale Array 10.63 25 Pn Pn 11 58 20.6 +4.3
comp=E,0.3nm,0.3s,baz=224,slow=10,SNR=130
PDAR LR LR 12 02 15.7
comp=E,2μm,19.7s,baz=218,slow=37
PDAR Pinedale Array 10.63 25 Pn Pn 11 58 20.6 +4.3
REDW Red Top Meadow 10.76 19 ePn Pn 11 58 18.0 0.0
527A Woodward Ranch 10.78 104 ⇓P Pn 11 58 18.4 +0.1
baz=11,SNR=18
TPAW Teton Pass 10.85 19 ePn Pn 11 58 23.8 +4.6
SNOW Snow King Moun 10.88 20 ePn Pn 11 58 18.7 -1.0
DCID1 Drake Creek 10.88 18 ePn Pn 11 58 18.9 -0.7
TXAR Lajitas Array 11.04 108 Pn Pn 11 58 22.5 +0.7
comp=E,0.7nm,0.3s,baz=288,slow=13,SNR=19
TXAR Lg Lg 12 01 32.8
comp=E,0.4nm,0.3s,baz=281,slow=19,SNR=3.8
TXAR Lajitas Array 11.04 108 Pn Pn 11 58 22.5 +0.7
TXAR Lg Lg 12 01 32.8
LOHW Long Hollow 11.06 20 ePn Pn 11 58 27.4 +5.3
IMW Indian Meadow 11.23 18 ePn Pn 11 58 28.5 +4.0
FLWY Flagg Ranch 11.47 19 ePn Pn 11 58 31.6 +4.0
AMTX Amarillo 11.76 78 ePn Pn 11 58 30.9 -0.7
LKWY Lake 11.99 19 ePn Pn 11 58 34.8 -0.1
QLMT Earthquake Lak 11.99 15 ePn Pn 11 58 34.2 -0.7
YNR Norris Junctio 12.06 17 Pn Pn 11 58 35.9 +0.1
DLMT Dillon 12.29 10 ePn Pn 11 58 37.3 -1.6
LRM Limekiln Ridge 12.77 10 ePn Pn 11 58 45.1 -0.3
RLMT Red Lodge 12.83 21 ePn Pn 11 58 42.4 -3.8
HAWA Hanford 13.40 349 ePn Pn 11 58 51.8 -2.1
MSO Missoula 13.59 5 Pn Pn 11 58 56.1 -0.4
CHMT Chamberlain Mo 13.74 7 ePn Pn 11 58 58.0 -0.6
JCT Junction City 13.82 97 ePn Pn 11 59 00.4 +0.7
SLMT Seeley Lake 14.04 6 ePn Pn 11 59 02.6 -0.1
WMOK Wichita Mounta 14.13 79 ePn Pn 11 59 00.7 -3.3
SWMT Swartz Lake 14.26 5 ePn Pn 11 59 06.2 +0.4
JTMT Jette 14.48 4 ePn Pn 11 59 07.7 -1.0
BSMT Bassoo Peak 14.56 3 ePn Pn 11 59 09.7 -0.2
NEW Newport 14.99 356 Pn P 11 59 21.7 +0.5
comp=E,0.1nm,0.3s,baz=175,slow=13,SNR=9.7
NEW LR LR 12 05 52.3
comp=E,1μm,21.8s,baz=186,slow=40
NEW Newport 14.99 356 ePn Pn 11 59 13.6 -2.1
comp=E,25nm,1.1s
EGMT Eagleton 15.39 15 ePn Pn 11 59 19.6 -1.4
comp=E,76nm,1.4s
EGMT e 11 59 24.8
WALA Waterton Lakes 15.81 4 ePn Pn 11 59 26.6 +0.1
ECSD EROS Data Cent 18.19 49 eP P 11 59 57.6 +1.0
comp=E,44nm,1.6s
MIAR Mount Ida 18.43 80 ePn Pn 11 59 59.6 +0.3
comp=E,13nm,1.0s
BBB Bella Bella 20.91 338 LR LR 12 08 07.8
comp=E,617nm,18.3s,baz=167,slow=35
AGMN Agassiz Nation 21.14 39 eP P 12 00 30.0 +1.3
comp=E,41nm,0.8s
ULM Lac du Bonnet 22.39 35 P P 12 00 43.3 +1.2
comp=E,13nm,1.0s,baz=234,slow=9.8,SNR=11
ULM Lac du Bonnet 22.39 35 P P 12 00 43.3 +1.2
FFC Flin Flon 23.52 20 eP P 12 00 56.0 +2.3
comp=E,21nm,1.1s
CMIG Matias Romero 24.74 126 LR LR 12 11 17.7
comp=E,713nm,18.3s,baz=278,slow=38
TKL Tuckaleechee C 26.39 76 LR LR 12 11 48.6
comp=E,625nm,21.8s,baz=273,slow=37
DLBC Dease Lake 26.93 343 P P 12 01 28.2 +3.2
comp=E,2.3nm,0.8s,baz=117,slow=7.6,SNR=3.6
DLBC LR LR 12 12 06.9
comp=E,685nm,20.1s,baz=159,slow=36
DLBC Dease Lake 26.93 343 P P 12 01 28.2 +3.2
TEIG Tepich 27.66 111 LR LR 12 15 24.1
comp=E,581nm,18.2s,baz=138,slow=43
YKA Yellowknife Ar 29.23 1 P P 12 01 47.1 +1.8
comp=E,0.3nm,0.7s,baz=183,slow=8.8,SNR=6.7
YKA Yellowknife Ar 29.23 1 P P 12 01 47.1 +1.8
SADO Sadowa 30.40 57 LR LR 12 13 48.7
comp=E,716nm,19.9s,baz=276,slow=36
INK Inuvik 36.52 349 P P 12 02 51.2 +2.3
comp=E,1.2nm,0.9s,baz=163,slow=8.3,SNR=4.4
INK Inuvik 36.52 349 P P 12 02 51.2 +2.3
ILAR Eielson Array 36.80 338 P P 12 02 53.5 +2.1
comp=E,1.0nm,0.9s,baz=152,slow=7.9,SNR=8.1
ILAR Eielson Array 36.80 338 P P 12 02 53.5 +2.1
ROSC El Rosal 47.78 117 LR LR 12 27 07.4
comp=E,155nm,20.7s,baz=8.8,slow=40
PPT Papeete 60.02 218 LR LR 12 26 22.5
comp=E,215nm,21.0s,baz=5.3,slow=30
PPT2 Papeete2 60.04 218 eLR LR 12 23 29.8
comp=E,261nm,26.8s
PETK Petropavlovsk- 62.22 317 LR LR 12 28 41.9
comp=E,66nm,19.6s,baz=228,slow=32
TBI Tubuai 64.86 214 eLR LR 12 25 47.0
comp=E,311nm,26.0s,baz=36
RAR Rarotonga 68.58 224 LR LR 12 30 50.2
comp=E,139nm,20.1s,baz=101,slow=31
AFI Afiamalu 71.11 238 LR LR 12 36 27.3
comp=E,128nm,18.0s,baz=83,slow=34
ARCES ARCESS Array B 73.64 13 LR LR 12 40 26.2
comp=E,220nm,19.9s,baz=148,slow=36
ASAJ Asahikawa 75.11 313 LR LR 12 38 43.4
comp=E,81nm,18.8s,baz=346,slow=34
USRK Ussuriysk Arra 81.30 318 LR LR 12 41 25.3
comp=E,105nm,19.7s,baz=179,slow=34
MJAR Matsushiro Arr 82.11 309 LR LR 12 36 48.0
comp=E,107nm,21.6s,baz=80,slow=30
CBIJ Chichi jima 84.77 299 LR LR 12 37 06.2
comp=E,119nm,21.9s,baz=114,slow=29
CN2 Changchun 85.16 320 eP P 12 08 18.3 -1.9
KSRS Korea Array 88.00 314 LR LR 12 41 08.6
comp=E,55nm,21.4s,baz=70,slow=31
JNU Nakatsue 88.97 310 LR LR 12 45 08.0
comp=E,182nm,19.7s,baz=63,slow=33
SONM Songino Array 90.85 333 LR LR 12 52 40.9
comp=E,139nm,18.8s,baz=297,slow=38
ZALV Zalesovo Beam 91.31 348 LR LR 12 53 25.3
comp=E,174nm,18.9s,baz=57,slow=38
BJI Beijing 92.67 323 P P 12 08 55.4 -0.5
BJI pmax
comp=Z,6.0nm,0.6s
BJI pmax pmax
comp=Z,120nm,4.8s
BVAR Borovoye Array 93.88 356 P P 12 09 06.3 +5.0
comp=Z,0.5nm,0.6s,baz=22,slow=1.6,SNR=4.1
BVAR Borovoye Array 93.88 356 P P 12 09 06.3 +5.0
HHC Hu-ho-hao-te 94.30 326 eP P 12 09 01.4 -2.2
HHC PP PP 12 12 50.3 +0.6
HHC SKS SKSac 12 19 35.9 -3.2
HHC S S 12 20 10.1 -5.4
HHC SS SS 12 26 32.5 -2.8
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.4s
HHC LR LR
comp=N,130nm,17.2s
HHC LR LR
comp=E,200nm,17.0s
HHC LR LR
comp=Z,150nm,17.4s
JOW Kunigami 94.75 306 LR LR 12 43 38.3
comp=Z,162nm,21.6s,baz=305,slow=30
KURK Kurchatov 95.40 351 P P 12 09 13.8 +5.5
KURBB Kurchatov Arra 95.50 351 P P 12 09 13.8 +5.1
comp=Z,0.5nm,0.4s,baz=356,slow=3.7,SNR=4.3
MKAR Makanchi Array 98.64 348 P Pdif 12 09 27.1 +4.0
comp=Z,0.3nm,0.8s,baz=64,slow=3.4,SNR=3.0
MKAR Makanchi Array 98.64 348 P Pdif 12 09 27.1 +4.0
CD2 Chengdu 106.04 325 Pdif Pdif 12 09 55.9 -0.4
KSH Kashi 106.75 351 ePdif Pdif 12 10 01.4 +2.0
KSH PP PP 12 14 30.3 +6.7
KSH S Sdif 12 22 00.6 -0.1
KSH SS SS 12 29 32.6 +4.7
KSH AMB AMB
comp=Z,180nm,6.3s
KSH LR LR
comp=N,170nm,4.8s
KSH LR LR
comp=E,94nm,5.6s
KSH LR LR
comp=Z,220nm,8.2s
GYA Guiyang 108.21 320 ePdif Pdif 12 10 04.3 -1.8
GYA PKP PKiKP 12 14 10.5 -2.2
GYA PP PP 12 14 37.0 +2.0
GYA AMB AMB

comp=Z,70nm,7.9s
KMI Kunming 111.33 323 PKP **PKiKP 12 14 17.5 -1.2**
KMI sPKP **PKiKP 12 14 20.6 +1.9**
KMI LR LR
comp=N,120nm,21.5s
KMI LR LR
comp=E,110nm,20.4s
KMI LR LR
comp=Z,160nm,20.4s
ASAR Alice Springs 119.04 259 PKP **PKPdf 12 14 37.3 +4.2**
comp=Z,0.4nm,0.7s,baz=96,slow=2.3,SNR=5.4
ASAR Alice Springs 119.04 259 PKP **PKPdf 12 14 37.3 +4.2**

*IDC **24** 11:56:27.9±0.6, 14°.56N×45°.03W, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, MS3.9/15, Ms1 3.9/15, ms1mx3.7/43, Error ellipse: s-maj=20.0km s-min=14.7km az=118.0*
*ISCJB **24** 11:56:28.3±0.5, 14°.55N±0°.09×44°.99W±0°.10, h12km, mb4.2/17, MS3.9/15, Error ellipse: s-maj=15.9km s-min=10.5km az=43.9*
*NEIC **24** 11:56:29.6±0.4, 14°.54N×44°.98W, h10km, mb4.3/4, Error ellipse: s-maj=15.1km s-min=9.9km az=133.0*
ISC 24 11:56:29.9±0.5, 14°.6N±0°.1×45°.0W±0°.1, h12km, n46, σ1§07/37, mb4.3/17, MS3.9/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJG	**San Juan**	**20.59 283**		LR		LR	12 06 14.4	
	comp=Z,69nm,20.5s,baz=90,slow=28							
RCBR	**Riachuelo**	**22.16 155**		LR		LR	12 07 42.0	
	comp=Z,251nm,21.3s,baz=329,slow=30							
BBTS	**Babate**	**27.55 86**		LR		LR	12 10 32.1	
	comp=Z,342nm,18.8s,baz=321,slow=31							
SAML	**Samuel**	**29.49 219**		*eP*		**P**	**12 02 34.6 +0.3**	
	5.2nm,1.0s							
BDFB	**Brasilia**	**30.14 186**		P		**P**	**12 02 40.9 +0.8**	
	9.1nm,0.8s,baz=348,slow=5.7,SNR=12							
BDFB				LR		LR	12 13 12.3	
	comp=Z,244nm,21.2s,baz=161,slow=33							
BDFB	**Brasilia**	**30.14 186**		P		**P**	**12 02 40.9 +0.8**	
SIV	**San Ignacio**	**34.24 208**		P		**P**	**12 03 16.4 +0.5**	
	1.6nm,0.8s,baz=65,slow=9.5,SNR=7.2							
SIV	**San Ignacio**	**34.24 208**		P		**P**	**12 03 16.4 +0.5**	
OTAV	**Otavalo**	**36.00 250**		*eP*		**P**	**12 03 33.1 +1.3**	
	2.4nm,0.5s							
LPAZ	**La Paz**	**38.22 218**		P		**P**	**12 03 50.8 +0.2**	
	7.2nm,1.1s,baz=31,slow=12,SNR=5.7							
LPAZ				LR		LR	12 19 26.7	
	comp=Z,176nm,18.8s,baz=232,slow=36							
LPAZ	**La Paz**	**38.22 218**		*eP*		**P**	**12 03 50.8 +0.2**	
	9.5nm,1.1s							
DBIC	**Dimbokro**	**40.18 97**		P		**P**	**12 04 06.8 +0.3**	
	3.3nm,0.9s,baz=258,slow=9.6,SNR=4.1							
DBIC				LR		LR	12 16 54.3	
	comp=Z,194nm,21.3s,baz=221,slow=30							
DBIC	**Dimbokro**	**40.18 97**		P		**P**	**12 04 06.8 +0.3**	
NNA	**Nana**	**41.11 232**		LR		LR	12 20 59.1	
	comp=Z,159nm,20.2s,baz=349,slow=36							
ESDC	**Sonseca Array**	**43.75 47**		P		**P**	**12 04 36.8 +1.3**	
	0.6nm,0.3s,baz=256,slow=7.2,SNR=5.6							
ESDC				LR		LR	12 19 01.7	
	comp=Z,77nm,19.2s,baz=205,slow=31							
ESDC	**Sonseca Array**	**43.75 47**		P		**P**	**12 04 36.8 +1.3**	
TOA0	**Torodi Ar. Sit**	**45.31 86**		*eP*		**P**	**12 04 47.7 -0.5**	
TORD	**Torodi Ar. Bea**	**45.31 86**		P		**P**	**12 04 47.1 -1.0**	
	3.5nm,1.1s,baz=285,slow=7.6,SNR=12							
TORD				LR		LR	12 21 38.2	
	comp=Z,188nm,18.7s,baz=245,slow=33							
TORD	**Torodi Ar. Bea**	**45.31 86**		P		**P**	**12 04 47.1 -1.0**	
KEST	**Kesra**	**52.82 56**		P		**P**	**12 05 46.9 +1.2**	
	1.7nm,0.9s,baz=198,slow=9.6,SNR=3.3							
KEST	**Kesra**	**52.82 56**		P		**P**	**12 05 46.9 +1.2**	
ULM	**Lac du Bonnet**	**54.29 322**		LR		LR	12 27 33.2	
	comp=Z,110nm,18.5s,baz=96,slow=34							
TXAR	**Lajitas Array**	**55.84 296**		LR		LR	12 30 15.2	
	comp=Z,100nm,18.6s,baz=180,slow=36							
PLCA	**Paso Flores**	**59.89 202**		P		**P**	**12 06 34.8 -1.0**	
	5.1nm,1.1s,baz=49,slow=12,SNR=4.5							
PLCA	**Paso Flores**	**59.89 202**		P		**P**	**12 06 34.8 -1.0**	
NB2	**NORSAR Subarra**	**61.31 27**		P		**P**	**12 06 46.0 +0.8**	
	comp=Z,4.6nm,0.9s,baz=246,slow=6.2							
NOA	**NORSAR Array B**	**61.31 27**		P		**P**	**12 06 43.7 -1.5**	
	comp=Z,2.2nm,0.8s,baz=246,slow=6.4,SNR=6.4							
NOA	**NORSAR Array B**	**61.31 27**		P		**P**	**12 06 43.7 -1.5**	
PDAR	**Pinedale Array**	**61.62 311**		P		**P**	**12 06 47.6 -0.4**	
	comp=Z,0.7nm,1.0s,baz=80,slow=10,SNR=3.8							
PDAR				LR		LR	12 30 12.4	
	comp=Z,100nm,20.2s,baz=118,slow=33							
PDAR	**Pinedale Array**	**61.62 311**		P		**P**	**12 06 47.6 -0.4**	
YKA	**Yellowknife Ar**	**67.80 332**		P		**P**	**12 07 27.1 -0.4**	
	comp=Z,0.2nm,0.5s,baz=102,slow=6.1,SNR=4.1							
YKA	**Yellowknife Ar**	**67.80 332**		P		**P**	**12 07 27.1 -0.4**	
ARCES	**ARCESS Array B**	**69.68 21**		P		**P**	**12 07 37.6 -1.5**	
	comp=Z,5.5nm,1.0s,baz=258,slow=4.5,SNR=3.6							
ARCES	**ARCESS Array B**	**69.68 21**		P		**P**	**12 07 37.6 -1.5**	
TSUM	**Tsumeb**	**70.14 117**		LR		LR	12 32 26.9	
	comp=Z,131nm,19.1s,baz=335,slow=31							
BR131	**Keskin Array S**	**72.19 53**		*eP*		**P**	**12 07 55.8 +0.6**	
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**72.19 53**		P		**P**	**12 07 55.8 +0.6**	
	comp=Z,2.9nm,0.8s,baz=240,slow=5.0,SNR=11							
BRTR	**Keskin Array B**	**72.19 53**		P		**P**	**12 07 55.8 +0.6**	
RPN	**Rapa Nui**	**74.89 236**		LR		LR	12 35 00.6	
	comp=Z,153nm,20.9s,baz=120,slow=31							
INK	**Inuvik**	**76.05 337**		P		**P**	**12 08 18.3 +1.4**	
	comp=Z,5.5nm,1.1s,baz=53,slow=5.6,SNR=9.2							
INK	**Inuvik**	**76.05 337**		P		**P**	**12 08 18.3 +1.4**	
SUR	**Sutherland**	**78.31 128**		LR		LR	12 34 14.4	
	comp=Z,158nm,20.2s,baz=94,slow=29							
ILAR	**Eielson Array**	**81.95 335**		P		**P**	**12 08 49.2 -0.2**	
	comp=Z,5.6nm,1.0s,baz=80,slow=3.7,SNR=7.9							
ILAR	**Eielson Array**	**81.95 335**		P		**P**	**12 08 49.2 -0.2**	
ASAR	**Alice Springs**	**170.87 174**		PKPab		**PKPab**	**12 17 55.0 -2.1**	
	comp=Z,0.4nm,0.7s,baz=189,slow=4.2,SNR=5.4							
ASAR	**Alice Springs**	**170.87 174**		PKPab		**PKPab**	**12 17 55.0 -2.1**	

IDC 24 11:58:50.1±2.0, 10°.49S×122°.95E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=143.6km s-min=25.9km az=52.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.46 132**		Pn		Pn	12 02 14.4	-1.8
	0.2nm,0.3s,baz=314,slow=13,SNR=20							
WRA				Sn		Sn	12 04 59.3	+1.9
	0.4nm,0.3s,baz=308,slow=22,SNR=8.2							
ASAR	**Alice Springs**	**16.76 143**		Pn		Pn	12 02 47.3	+0.7
	0.2nm,0.3s,baz=319,slow=12,SNR=17							
ASAR				Sn		Sn	12 05 55.8	+2.3
	0.2nm,0.3s,baz=317,slow=23,SNR=5.2							
MKAR	**Makanchi Array**	**67.59 331**		P		P	12 09 48.7	0.0
	0.2nm,0.6s,baz=138,slow=6.6,SNR=2.6							

*ISCJB **24** 12:00:21.8±0.4, 62°.03N±0°.02×79°.83W±0°.06, h10km, Error ellipse: s-maj=4.0km s-min=3.2km az=144.3*
*OTT **24** 12:00:27.1±0.2, 62°.05N×79°.63W, h5km, MN3.4/22, 98km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.*
*IDC **24** 12:00:27.0±1.1, 62°.04N×79°.49W, h0km, mb1 3.7/4, mb1mx3.3/31, mbtmp3.6/4, ML2.7/4, Error ellipse: s-maj=13.9km s-min=9.5km az=171.0*
ISC 24 12:00:24.4±0.6, 62°.05N±0°.04×79°.71W±0°.04, h10km, n33, σ2§36/50, Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IVKQ	**Ivujivik**	**0.92 65**		PG		**Pb**	**12 00 43.5 +1.1**	
IVKQ				SG		**Sg**	**12 00 54.7 +0.6**	
IVKQ				Trac			12 00 56.4	
	comp=Z,164nm,0.1s							
AKVQ	**Akulivik**	**1.44 149**		PG		**Pg**	**12 00 53.2 +1.1**	
AKVQ				SG		**Sn**	**12 01 10.2 +0.6**	
AKVQ				Trac			12 01 15.4	
	comp=Z,130nm,0.2s							
INUQ	**Inukjuak**	**3.70 167**		PN		Pn	12 01 25.2	+3.7
INUQ				PG		**Pg**	**12 01 33.6 -1.6**	
INUQ				SN		**Sn**	**12 02 07.3 +2.3**	
INUQ				SG		**Sb**	**12 02 18.2 +3.7**	
INUQ				Trac			12 02 22.1	
	comp=Z,26nm,0.1s							
FRB	**Frobisher Bay**	**5.38 67**		Pn		**Pn**	**12 01 46.5 +1.9**	
	0.4nm,0.3s,baz=249,slow=14,SNR=4.5							
FRB				Pg		Pb	12 02 02.6	+4.2
	1.4nm,0.3s,baz=262,slow=16,SNR=10.0							
FRB				Sn		**Sn**	**12 02 45.4 -1.1**	
	3.0nm,0.3s,baz=169,slow=20,SNR=12							
FRB				Lg		Lg	12 03 06.8	
	6.3nm,0.3s,baz=346,slow=21,SNR=11							
FRB	**Frobisher Bay**	**5.38 67**		Trac			12 03 20.8	
	comp=Z,17nm,0.3s							
QILN	**Qililugaq Expl**	**5.45 331**		PN		**Pn**	**12 01 48.2 +2.6**	
QILN				SN		**Sn**	**12 02 46.9 -1.4**	
QILN				LG		Lg	12 03 15.2	
QILN				Trac			12 03 30.6	
	comp=Z,37nm,0.6s							
WAGN	**Wager Bay**	**5.75 316**		PN		**Pn**	**12 01 52.5 +2.7**	
WAGN				SN		**Sn**	**12 02 56.5 +0.8**	
WAGN				LG		Lg	12 03 24.0	
WAGN				Trac			12 03 33.5	
	comp=Z,28nm,0.3s							
NUNN	**Nunuq Camp, NU**	**5.98 307**		PN		**Pn**	**12 01 55.8 +3.0**	
NUNN				SN		**Sn**	**12 03 00.3 -0.9**	
NUNN				LG		Lg	12 03 33.9	
NUNN				Trac			12 03 52.3	
	comp=Z,48nm,0.7s							
SRLN	**Sarcpa Lake, N**	**6.70 349**		PN		**Pn**	**12 02 05.6 +2.8**	
SRLN				SN		**Sn**	**12 03 17.6 -1.4**	
SRLN				LG		Lg	12 03 47.4	
SRLN				Trac			12 03 56.0	
	comp=Z,37nm,0.5s							
KUQ	**Kuujjuuaa**	**6.89 120**		PN		Pn	12 02 01.6	-3.7
KUQ				SN		**Sn**	**12 03 18.7 -5.0**	
KUQ				LG		Lg	12 03 57.0	
KUQ				Trac			12 04 03.9	
	comp=Z,20nm,0.3s							
ARVN	**Arviat, NU**	**6.92 268**		PN		**Pn**	**12 02 08.2 +2.4**	
ARVN				SN		**Sn**	**12 03 25.0 +0.6**	
ARVN				LG		Lg	12 04 00.2	
ARVN				Trac			12 04 11.9	
	comp=Z,20nm,0.6s							
BULN	**Bullion Camp,**	**7.29 313**		PN		**Pn**	**12 02 13.7 +2.9**	
BULN				SN		**Sn**	**12 03 31.9 -1.6**	
BULN				LG		Lg	12 04 13.8	
BULN				Trac			12 04 21.2	
	comp=Z,15nm,0.4s							
ILON	**Igloolik, Nuna**	**7.41 354**		PN		**Pn**	**12 02 14.5 +2.1**	
ILON				SN		**Sn**	**12 03 33.1 -3.2**	
ILON				LG		Lg	12 04 13.3	
ILON				Trac			12 04 23.7	
	comp=Z,28nm,0.5s							
KUGN	**Kugaaruk Camp,**	**7.47 329**		PN		**Pn**	**12 02 14.7 +1.4**	
KUGN				SN		**Sn**	**12 03 33.8 -4.0**	
KUGN				LG		Lg	12 04 12.7	
KUGN				Trac			12 04 26.2	
	comp=Z,12nm,0.3s							
YBKN	**Baker Lake, Hu**	**7.71 294**		PN		**Pn**	**12 02 19.4 +2.8**	
YBKN				SN		**Sn**	**12 03 42.0 -1.8**	
YBKN				LG		Lg	12 04 24.5	
YBKN				Trac			12 04 47.0	
	comp=Z,22nm,0.5s							
STLN	**Stellar Camp,**	**7.75 319**		PN		**Pn**	**12 02 19.4 +2.3**	
STLN				SN		**Sn**	**12 03 41.2 -3.6**	
STLN				LG		Lg	12 04 22.6	
STLN				Trac			12 04 29.2	
	comp=Z,44nm,0.9s							
FCC	**Fort Churchill**	**7.84 252**		PN		Pn	12 02 21.5	+3.1
FCC				SN		**Sn**	**12 03 46.0 -1.0**	
FCC				LG		Lg	12 04 27.4	
FCC				Trac			12 04 37.0	
	comp=Z,9.2nm,0.4s							
SILO	**Sutton Inlier**	**8.07 202**		PN		**Pn**	**12 02 23.4 +1.8**	
SILO				SN		**Sn**	**12 03 52.0 -0.8**	
SILO				LG		Lg	12 04 26.0	
SILO				Trac			12 04 45.3	
	comp=Z,12nm,0.5s							
LG4Q	**La Grande 4**	**8.96 158**		PN		**Pn**	**12 02 34.3 +0.6**	
LG4Q				SN		Sn	12 04 04.9	-10
LG4Q				LG		Lg	12 04 55.9	
LG4Q				Trac			12 05 10.0	
	comp=Z,26nm,0.4s							
VIMO	**Victor Mine**	**9.51 195**		PN		**Pn**	**12 02 43.6 +2.4**	
VIMO				SN		**Sn**	**12 04 25.1 -2.9**	
SCHQ	**Schefferville**	**9.88 131**		Pn		**Pn**	**12 02 46.2 -0.2**	
	0.4nm,0.3s,baz=312,slow=10,SNR=4.8							
SCHQ				Sn		Sn	12 04 30.5	-6.7
	1.0nm,0.3s,baz=68,slow=8.6,SNR=6.8							
SCHQ				Lg		Lg	12 05 29.2	
	1.8nm,0.3s,baz=56,slow=9.3,SNR=9.0							
SCHQ	**Schefferville**	**9.88 131**		PN		**Pn**	**12 02 46.0 -0.3**	
SCHQ				SN		Sn	12 04 30.4	-6.7
SCHQ				LG		Lg	12 05 27.9	
SCHQ				Trac			12 05 36.9	
	comp=Z,80nm,1.5s							
YOSQ	**Ashton Mining**	**10.05 153**		PN		**Pn**	**12 02 49.3 +0.6**	
YOSQ				SN		**Sn**	**12 04 36.2 -5.1**	
YOSQ				LG		Lg	12 05 32.8	
YOSQ				Trac			12 05 38.4	
	comp=Z,27nm,0.6s							
MALO	**McAlpine Lake**	**12.05 180**		PN		**Pn**	**12 03 16.0 -0.1**	
MALO				SN		**Sn**	**12 05 26.2 -4.3**	
PKLO	**Pickle Lake**	**12.06 214**		PN		**Pn**	**12 03 17.7 +1.5**	
PKLO				SN		Sn	12 05 24.6	-5.9
GDLN	**Gardenia Lake,**	**12.31 282**		SN		Sn	12 05 28.4	-8.1
NANO	**Nakina Ontario**	**12.39 202**		PN		**Pn**	**12 03 20.6 0.0**	
NANO				SN		**Sn**	**12 05 35.5 -3.1**	
CB31	**Cambridge Bay**	**12.58 315**		PN		**Pn**	**12 03 24.2 +1.1**	
CB31				SN		**Sn**	**12 05 39.6 -3.5**	
CB31				LG		Lg	12 06 54.4	
CB31				Trac			12 07 09.5	
	comp=Z,11nm,0.4s							
RES	**Resolute Bay**	**13.79 343**		Pn		**Pn**	**12 03 38.9 -0.8**	
	0.3nm,0.3s,baz=154,slow=12,SNR=8.7							
RES				Sn		Sn	12 06 05.2	-7.4
	0.2nm,0.3s,baz=288,slow=19,SNR=5.6							
RES				Lg		Lg	12 07 28.8	
	0.3nm,0.3s,baz=48,slow=20,SNR=2.7							
RES	**Resolute Bay**	**13.79 343**		SN		Sn	12 06 02.5	-10
RES				LG		Lg	12 07 31.7	
RES				Trac			12 07 46.1	
	comp=Z,10nm,1.0s							
ULM	**Lac du Bonnet**	**14.80 224**		Pn		**Pn**	**12 03 52.7 -0.9**	
	0.3nm,0.3s,baz=21,slow=8.6,SNR=2.5							
YKW3	**Yellowknife Ar**	**16.12 287**		Trac			12 09 02.7	
	comp=Z,3.5nm,0.6s							
YKA	**Yellowknife Ar**	**16.13 287**		Pn		**Pn**	**12 04 09.8 -1.1**	
	0.1nm,0.3s,baz=73,slow=12,SNR=8.6							
YKA				Sn		Sn	12 06 59.9	-10
	0.1nm,0.3s,baz=68,slow=21,SNR=6.3							
YKA				Lg		Lg	12 08 47.0	
	0.1nm,0.3s,baz=75,slow=30,SNR=8.7							

*IDC **24** 12:01:51.1±0.9, 30°.84N×83°.70E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/28, mbtmp3.6/10, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/50, Error ellipse: s-maj=32.0km s-min=20.2km az=66.0*
*ISCJB **24** 12:01:52.1±0.6, 30°.96N±0°.09×83°.58E±0°.10, h11km, mb3.5/8, MS3.8/2, Error ellipse: s-maj=14.4km s-min=10.7km az=31.6*
*NDI **24** 12:02:48.6±1.6, 30°.71N×79°.10E, h10km, ML2.5*
ISC 24 12:01:53.7±0.7, 30°.97N±0°.10×83°.57E±0°.07, h11km, n19, σ1§28/16, mb3.5/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTH	**Pithoragarh**	**3.23 245**		*ex*		**Pg**	**12 02 55.2 -0.4**	
PTH				*eS*		**Sg**	**12 03 36.2 -1.2**	
LGTI	**Lohaghat**	**3.25 243**		*ex*		Pg	12 03 03.0	+7.0
LGTI				*ex*		Sg	12 03 48.2	+10
DDI	**Dehra Dun**	**4.80 264**		*eP*		**Pn**	**12 03 07.0 +1.0**	
DDI				*eS*		Pg	12 03 22.0	-3.6
NDI	**New Delhi**	**5.97 249**		*eP*		Pb	12 03 31.0	-6.8
AGRA	**Agra**	**6.17 234**		*eP*		Pb	12 03 45.3	+4.1
AGRA				*eS*		Sn	12 04 25.3	-10
AGRA				AML		AML	12 05 22.6	
	comp=N,89nm,0.4s							
AGRA				AML		AML	12 05 23.2	
	comp=E,85nm,0.5s							
LSA	**Lhasa**	**6.67 99**		P		**Pn**	**12 03 33.0 +0.9**	
KUDL	**Kundal**	**6.78 247**		*ex*		**Pn**	**12 03 35.6 +2.4**	
KUDL				*eP*		Pb	12 03 41.8	-10
KUDL				*ex*		x	12 04 58.2	
KUDL				AML		AML	12 05 41.9	
KUDL				AML		AML	12 05 43.5	
	comp=E,6.4nm,0.4s							
KUDL				AML		AML	12 05 43.5	
	comp=N,14nm,0.5s							
MKAR	**Makanchi Array**	**15.83 357**		Pn		**Pn**	**12 05 36.5 0.0**	
	comp=N,0.2nm,0.3s,baz=182,slow=11,SNR=15							
CMAR	**Chiang Mai Arr**	**18.69 128**		P		**Pn**	**12 06 13.2 +0.7**	
	comp=N,0.1nm,0.3s,baz=309,slow=12,SNR=9.8							
KURBB	**Kurchatov Arra**	**19.99 351**		P		**P**	**12 06 24.8 -1.3**	
	comp=N,3.8nm,0.8s,baz=174,slow=9.7,SNR=18							
KURBB				LR		LR	12 15 16.3	
	comp=N,112nm,19.9s,baz=165,slow=40							
ZALV	**Zalesovo Beam**	**22.98 2**		P		**P**	**12 06 58.0 -0.2**	
	comp=N,0.9nm,0.6s,baz=210,slow=8.6,SNR=5.2							
SONM	**Songino Array**	**24.25 40**		P		**P**	**12 07 11.1 +0.3**	
	comp=N,0.7nm,0.6s,baz=228,slow=9.9,SNR=8.0							
FINES	**FINESS Array B**	**47.87 327**		P		**P**	**12 10 32.1 +0.7**	
	comp=N,1.6nm,0.7s,baz=115,slow=7.3,SNR=4.0							
WRA	**Warramunga Arr**	**70.28 129**		P		**P**	**12 13 05.5 -1.8**	
	comp=N,0.5nm,0.6s,baz=323,slow=6.2,SNR=8.8							
ASAR	**Alice Springs**	**72.64 132**		P		**P**	**12 13 19.4 -2.2**	
	comp=N,0.2nm,0.8s,baz=314,slow=5.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.47 277**		P		**P**	**12 13 44.5 +0.4**	
	comp=N,0.4nm,0.8s,baz=56,slow=3.3,SNR=3.2							
ILAR	**Eielson Array**	**76.81 20**		P		**P**	**12 13 45.6 +0.4**	
	comp=N,0.5nm,0.8s,baz=301,slow=6.4,SNR=5.0							
CTA	**Charters Towers**	**78.72 122**		LR		LR	12 46 13.5	
	comp=N,141nm,20.2s,baz=52,slow=34							
YKA	**Yellowknife Ar**	**85.72 8**		P		**P**	**12 14 31.5 -0.9**	
	comp=N,0.2nm,0.5s,baz=332,slow=4.2,SNR=3.6							

*AUST **24** 12:24:07.7, 5°.66S×152°.12E, h35km*
*ISCJB **24** 12:24:13.0±0.7, 5°.46S±0°.08×151°.3E±0°.1, h57km, mb4.2/20, Error ellipse: s-maj=19.7km s-min=6.9km az=29.0*
*IDC **24** 12:24:16.4±3.9, 5°.55S×151°.33E, h75km±34km, mb3.8/16, mb1 4.0/17, mb1mx4.0/21, mbtmp3.8/17, MS3.0/1, Ms1 3.0/1, ms1mx2.3/37, Error ellipse: s-maj=29.2km s-min=16.4km az=106.0*
*NEIC **24** 12:24:17.2±1.9, 5°.52S×151°.31E, h82km±16km, mb4.5/4, Error ellipse: s-maj=18.7km s-min=9.0km az=104.0*
ISC 24 12:24:14.5±0.7, 5°.5S±0°.1×151°.4E±0°.1, h57km, n53, σ1§01/53, mb4.2/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.74 227**		P		**Pn**	**12 25 38.3 +1.0**	
	7.8nm,0.3s,baz=32,slow=1.3,SNR=25							
PMG				S		**Sn**	**12 26 40.6 -1.2**	
	11nm,0.3s,baz=99,slow=21,SNR=11							
PMG	**Port Moresby**	**5.74 227**		*ePn*		**Pn**	**12 25 38.4 +1.2**	
	28nm,0.6s							
PMG				S		**Sn**	**12 26 40.6 -1.2**	
PMG				*eSn*		Sn	12 26 44.0	+2.2
HNR	**Honiara**	**9.32 115**		LR		LR	12 29 32.4	
	comp=Z,99nm,21.2s,baz=31,slow=34							
KDU	**Kakadu**	**20.01 248**		P		**P**	**12 28 42.1 -0.7**	
	baz=21,SNR=30							
KDU				S		S	12 32 14.2	-11
	baz=21,SNR=4.5							
MTN	**Manton Dam**	**21.30 249**		P		**P**	**12 28 56.9 +0.2**	
	baz=22,SNR=10							
WRAB	**Tennant Creek**	**21.95 228**		*eP*		**P**	**12 29 02.9 -0.7**	
	13nm,0.8s							
WRA	**Warramunga Arr**	**21.96 228**		P		**P**	**12 29 02.9 -0.9**	
	6.7nm,0.5s,baz=50,slow=10,SNR=52							
WRA	**Warramunga Arr**	**21.96 228**		P		**P**	**12 29 02.9 -0.9**	
AS31	**Alice Springs**	**24.72 221**		*eP*		**P**	**12 29 30.9 +0.2**	
ASAR	**Alice Springs**	**24.72 221**		P		**P**	**12 29 30.6 -0.2**	
	6.6nm,0.8s,baz=51,slow=9.1,SNR=54							
ASAR	**Alice Springs**	**24.72 221**		P		**P**	**12 29 30.6 -0.2**	
STKA	**Stephens Creek**	**27.82 198**		P		**P**	**12 29 58.2 -0.3**	
	1.4nm,0.7s,baz=350,slow=19,SNR=3.8							
STKA	**Stephens Creek**	**27.82 198**		P		**P**	**12 29 58.2 -0.3**	
FITZ	**Fitzroy Crossi**	**28.12 241**		P		**P**	**12 30 00.5 -0.9**	
	5.0nm,0.4s,baz=52,slow=8.6,SNR=35							
FITZ	**Fitzroy Crossi**	**28.12 241**		*eP*		**P**	**12 30 00.5 -0.9**	
	5.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**28.12 241**		P		**P**	**12 30 00.5 -0.9**	
	baz=29,SNR=32							
MBWA	**Marble Bar**	**34.43 240**		*eP*		**P**	**12 30 56.0 -0.9**	
	2.9nm,0.4s							
MEEK	**Meekatharra**	**37.69 232**		P		**P**	**12 31 24.1 -0.7**	
	baz=38,SNR=11							
MORW	**Morawa**	**40.84 231**		P		**P**	**12 31 53.2 +2.2**	
	baz=41,SNR=8.8							
BLDU	**Balliduu**	**41.09 228**		P		**P**	**12 31 55.5 +2.6**	
	baz=42,SNR=7.2							
JNU	**Nakatsue**	**43.06 334**		P		**P**	**12 32 09.8 +0.7**	
	6.2nm,0.7s,baz=91,slow=2.6,SNR=6.6							
JNU	**Nakatsue**	**43.06 334**		P		**P**	**12 32 09.8 +0.7**	
MJAR	**Matsushiro Arr**	**43.60 345**		P		**P**	**12 32 12.4 -0.9**	
	0.8nm,0.8s,baz=174,slow=11,SNR=4.3							
MJAR	**Matsushiro Arr**	**43.60 345**		P		**P**	**12 32 12.4 -0.9**	
KSRS	**Korea Array**	**48.01 335**		P		**P**	**12 32 48.7 +0.7**	
	1.0nm,0.7s,baz=151,slow=7.9,SNR=3.5							
KSAR	**Wonju Array Be**	**48.02 335**		P		**P**	**12 32 48.7 +0.6**	
CMAR	**Chiang Mai Arr**	**56.93 296**		P		**P**	**12 33 55.0 +0.6**

PLCA	**Paso Flores**	**59.86**	**202**	P		P	12 34 21.8	-0.1	
	1.9nm,0.9s,baz=33,slow=4.1,SNR=4.5								
YKA	**Yellowknife Ar**	**67.54**	**332**	P		P	12 35 12.1	-0.1	
	0.3nm,0.8s,baz=108,slow=6.8,SNR=4.0								
YBH	**Yreka Blue Hor**	**71.00**	**309**	LR		LR	13 04 26.6		
	comp=Z,135nm,19.0s,baz=353,slow=34								
BRTR	**Keskin Array B**	**72.39**	**53**	P		P	12 35 42.3	-0.4	
	1.0nm,0.9s,baz=239,slow=4.8,SNR=2.8								

IDC 24 12:30:53.9±1.4,**2˚.64N×128˚.52E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/21,mbtmp3.8/5,MS2.7/1,Ms1 2.7/1, ms1mx1.8/43,Error ellipse: s-maj=145.0km s-min=18.5km az=70.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**5.29**	**326**	LR	LR	12 33 50.9	
	comp=Z,71nm,20.2s,baz=110,slow=34						
WRA	**Warramunga Arr**	**23.16**	**166**	P	P	12 36 02.4	+0.3
	3.0nm,0.6s,baz=345,slow=10.0,SNR=7.7						
ASAR	**Alice Springs**	**26.67**	**169**	P	P	12 36 34.3	-0.5
	0.3nm,0.5s,baz=359,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**36.50**	**161**	P	P	12 38 00.3	-0.8
	1.3nm,0.3s,baz=338,slow=8.8,SNR=11						
SONM	**Songino Array**	**48.91**	**340**	P	P	12 39 42.9	+1.1
	0.2nm,0.5s,baz=148,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	12 40 58.5	-0.3
	0.3nm,0.4s,baz=112,slow=8.4,SNR=8.2						

*BGS **24** 12:34:46.2±2.1,13˚.30N×45˚.09W,h10km,mb5.3*
*IDC **24** 12:34:52.0±0.4,14˚.49N×45˚.02W,h0km,mb4.5/27, mb1 4.7/27,mb1mx4.7/29,mbtmp4.5/27,MS4.6/30, Ms1 4.6/30,ms1mx4.5/33,Error ellipse: s-maj=13.3km s-min=10.6km az=124.0*
*MOS **24** 12:34:52.7±0.9,14˚.55N×45˚.07W,h10km,mb5.5/71, MS4.5/5,Error ellipse: s-maj=7.1km s-min=4.4km az=49.4*
*ISCJB **24** 12:34:53.9±0.2,14˚.53N±0˚.04×45˚.11W±0˚.02,h20km, mb5.1/188,MS4.6/43,Error ellipse: s-maj=5.8km s-min=2.4km az=171.8*
*BJI **24** 12:34:53.9,14˚.50N×45˚.10W,h10km,mB5.7/10,Ms5.3/9, Ms7 4.9/10*
*SZGRF **24** 12:34:53.8,13˚.03N×44˚.06W,h33km,mb5.4,MS4.3, Northern Mid-Atlantic Ridge*
*NEIC **24** 12:34:54.4±0.2,14˚.47N×45˚.07W,h10km,mb5.3/111, Error ellipse: s-maj=5.8km s-min=3.4km az=168.0*
*IGIL **24** 12:34:54.9,14˚.66N×45˚.08W,h10km,mb5.2*
*GCMT **24** 12:34:57.6±0.2,14˚.62N×44˚.95W,h12km,MW5.2, Moment Tensor Solution. s46,c57; s95,c175; Moment tensor: Scale 10¹⁶Nm; Mrr-9.49±.16; Mθθ0.87±.15; Mφφ8.62±.13; Mrθ1.62±.75; Mrφ0.22±.14; Mθφ-0.54±.48; Best double couple: Mo9.20000×10¹⁶ NP1:φ190.00000°, δ44.00000°,λ-77.00000°. NP2:φ353.00000°,δ47.00000°, λ-102.00000°. Principal axes: T 8.6400, Plg2.0000°, Azm91.0000°; N 1.1100, Plg9.0000°, Azm1.0000°; P -9.7500, Plg81.0000°, Azm191.0000°; Data Used: ll IU IC G CN.*

ISC 24 12:34:56.0±0.4,**14˚.50N**±0˚.06×**45˚.06W**±0˚.04,**h22**km±3km, **h22km:pP-P,n766,σ1⅑01/805,mb5.2/189,MS4.6/44, 187C-148D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**15.58**	**273**	*e*P	**Pn**	**12 38 32.4**	**-2.1**
FDF				*e*		12 41 29.7	
FDF				pmax	pmax		
	comp=Z,116nm,1.0s						
FDF	**Fort de France**	**15.58**	**273**	*e*Pn	**Pn**	**12 38 32.4**	**-2.1**
	comp=Z,116nm,1.0s						
FDF				*e*Sn	**Sn**	**12 41 29.7**	**+3.2**
MGG	**Marie-Galante**	**15.76**	**277**	*e*P	Sn	12 41 38.4	+7.6
DOG	**Dongo Capester**	**16.05**	**278**	*e*P	**Sn**	**12 41 37.3**	**-0.8**
TBG	**Guadaloupe-3**	**16.07**	**277**	*e*P	**Sn**	**12 41 35.0**	**-3.5**
SJG	**San Juan**	**20.56**	**283**	P	**P**	**12 39 33.4**	**+0.1**
	comp=Z,33nm,0.8s,baz=90,slow=14,SNR=4.4						
SJG	**San Juan**	**20.56**	**283**	P	**P**	**12 39 33.5**	**+0.1**
SJG				*e*P	Pn	12 39 34.2	-1.5
CELP	**Cerrillos**	**20.96**	**283**	*e*P	**P**	**12 39 37.8**	**+0.1**
CELP				*e*S	**S**	**12 43 33.3**	**+2.9**
MPR	**Mayaguez**	**21.50**	**283**	*e*pP	pP	12 39 51.0	+1.2
RCBR	**Riachuelo**	**22.14**	**155**	LR	LR	12 46 33.6	
	comp=Z,1μm,18.6s,baz=333,slow=32						
SDV	**Santo Domingo**	**25.65**	**260**	*e*P	**P**	**12 40 28.3**	**+3.7**
	comp=Z,0.5nm,1.1s						
BBTS	**Babate**	**27.60**	**86**	LR	LR	12 49 25.0	
	comp=Z,2μm,18.6s,baz=283,slow=32						
SAML	**Samuel**	**29.42**	**219**	*e*P	**P**	**12 40 58.9**	**+0.7**
	comp=Z,29nm,1.4s						
BDFB	**Brasilia**	**30.09**	**186**	P	**P**	**12 41 03.9**	**-0.2**
	comp=Z,41nm,0.8s,baz=4.0,slow=11,SNR=42						
BDFB				LR	LR	12 52 32.9	
	comp=Z,1μm,18.5s,baz=297,slow=35						
BDFB	**Brasilia**	**30.09**	**186**	P	**P**	**12 41 03.9**	**-0.2**
PMOZ	**Porto Moniz, M**	**31.22**	**49**	*e*P	**P**	**12 41 15.5**	**+1.4**
	comp=Z,206nm,1.4s						
PMOZ				*e*LR	LR	12 48 52.1	
	comp=Z,735nm,22.0s						
FUL	**Funchal**	**31.36**	**50**	*e*P	**P**	**12 41 13.6**	**-1.6**
	comp=Z,134nm,2.1s						
PMAR	**Madeira**	**31.38**	**50**	*e*P	**P**	**12 41 17.3**	**+1.7**
	comp=Z,119nm,1.4s						
SIV	**San Ignacio**	**34.18**	**208**	P	**P**	**12 41 40.4**	**+0.4**
	comp=Z,5.7nm,1.0s,baz=55,slow=9.3,SNR=20						
SIV	**San Ignacio**	**34.18**	**208**	P	**P**	**12 41 40.4**	**+0.4**
OTAV	**Otavalo**	**35.93**	**250**	*e*P	**P**	**12 41 56.8**	**+1.0**
	comp=Z,84nm,1.8s						
CAM4	**Nova Friburgo**	**36.71**	**176**	⇑*i*P	**P**	**12 42 01.9**	**0.0**
CAM4				*i*		12 42 03.3	
CAM4				*i*		12 42 07.8	
CAM4				*i*		12 42 11.4	
CAM4				*i*		12 42 15.2	
CAM4				*i*		12 42 19.9	
CAM4				*i*		12 42 33.4	
SPB	**Sao Paulo**	**37.92**	**184**	*e*P	**P**	**12 42 13.1**	**+1.1**
	comp=Z,126nm,1.3s						
JSC	**Jenkinsville**	**38.13**	**308**	*e*P	**P**	**12 42 13.3**	**-0.3**
JSC	**Jenkinsville**	**38.13**	**308**	*e*P	**P**	**12 42 13.3**	**-0.3**
LPAZ	**La Paz**	**38.15**	**218**	P	**P**	**12 42 14.2**	**-0.4**
	comp=Z,7.2nm,0.9s,baz=28,slow=9.2,SNR=15						
LPAZ				LR	LR	12 57 42.9	
	comp=Z,1μm,19.3s,baz=215,slow=36						
LPAZ	**La Paz**	**38.15**	**218**	*e*P	**P**	**12 42 15.4**	**+0.8**
	comp=Z,23nm,1.1s						
KMSC	**Kings Mountain**	**38.51**	**309**	⇓P	**P**	**12 42 16.7**	**-0.1**
	baz=38						
BLA	**Blacksburg**	**38.70**	**312**	*e*P	**P**	**12 42 19.7**	**+1.2**
BLA				pmax	pmax		
	comp=Z,25nm,0.9s						
BLA	**Blacksburg**	**38.70**	**312**	*e*P	**P**	**12 42 19.7**	**+1.2**
	comp=Z,25nm,0.9s						
ATAH	**Atahualpa**	**39.44**	**239**	P	**P**	**12 42 26.4**	**+1.1**
	comp=Z,12nm,0.8s,baz=41,slow=8.9,SNR=4.1						
ATAH	**Atahualpa**	**39.44**	**239**	P	**P**	**12 42 26.4**	**+1.1**
MORF	**Marmelete**	**39.49**	**48**	*e*P	**P**	**12 42 26.4**	**+1.3**
	comp=Z,78nm,1.8s						
MORF	**Marmelete**	**39.49**	**48**	*e*P	**P**	**12 42 24.6**	**-0.5**
MORF				*e*S	**S**	**12 48 27.5**	**+1.2**
GOGA	**Godfrey**	**39.54**	**305**	*e*P	**P**	**12 42 26.8**	**+1.3**
GOGA				pmax	pmax		
	comp=Z,13nm,0.9s						
GOGA	**Godfrey**	**39.54**	**305**	*e*P	**P**	**12 42 26.8**	**+1.3**
	comp=Z,13nm,0.9s						
LIS	**Lisbon**	**39.77**	**46**	*e*P	**P**	**12 42 26.7**	**-0.6**
LIS				AMb	AMB	12 42 37.3	
	comp=Z,144nm,1.6s						
LIS				*e*S	**S**	**12 48 31.1**	**+0.9**
LIS	**Lisbon**	**39.77**	**46**	*e*P	**P**	**12 42 26.7**	**-0.6**
	comp=Z,144nm,1.6s						
LIS				*e*S	**S**	**12 48 31.1**	**+0.9**
LIS	**Lisbon**	**39.77**	**46**	*e*P	**P**	**12 42 26.6**	**-0.6**
LIS				*e*S	**S**	**12 48 31.0**	**+0.9**
MESJ	**Messejana**	**40.03**	**48**	*e*P	**P**	**12 42 29.2**	**-0.3**
MESJ				AMb	AMB	12 42 34.1	
	comp=Z,57nm,2.2s						
MESJ				*e*S	**S**	**12 48 35.8**	**+1.6**
MESJ				*e*SS	**SnSn**	**12 51 33.7**	**-1.9**
MESJ	**Messejana**	**40.03**	**48**	*e*P	**P**	**12 42 29.2**	**-0.3**
	comp=Z,57nm,2.2s						
MESJ				*e*S	**S**	**12 48 35.8**	**+1.6**
MESJ				*e*SS	**SnSn**	**12 51 33.7**	**-1.9**
MESJ	**Messejana**	**40.03**	**48**	*e*P	**P**	**12 42 29.2**	**-0.3**
MESJ				*e*S	**S**	**12 48 35.8**	**+1.6**
PVAQ	**Vaqueiros**	**40.21**	**48**	*e*S	**S**	**12 48 40.8**	**+3.9**
PVAQ				*e*LR	LR	12 53 05.2	
	comp=Z,889nm,22.0s						
DBIC	**Dimbokro**	**40.22**	**97**	P	**P**	**12 42 30.4**	**-1.0**
	comp=Z,6.9nm,0.9s,baz=245,slow=7.8,SNR=3.9						
DBIC				LR	LR	12 55 29.7	
	comp=Z,1μm,21.9s,baz=243,slow=31						
DBIC	**Dimbokro**	**40.22**	**97**	P	**P**	**12 42 30.4**	**-1.0**
EVOP	**Sao Brissos**	**40.40**	**47**	*e*P	**P**	**12 42 32.7**	**+0.2**
EVOP				pmax	pmax		
	comp=Z,117nm,1.4s						
EVOP	**Sao Brissos**	**40.40**	**47**	*e*P	**P**	**12 42 32.7**	**+0.2**
	comp=Z,117nm,1.4s						
EVO	**Evora**	**40.48**	**47**	*e*P	**P**	**12 42 32.7**	**-0.5**
	comp=Z,117nm,1.4s						
EVO				*e*R			
	comp=Z,1μm,21.8s						
EVO	**Evora**	**40.48**	**47**	*e*P	**P**	**12 42 34.2**	**+1.0**
	comp=Z,62nm,1.7s						
TKL	**Tuckaleechee C**	**40.55**	**308**	P	**P**	**12 42 34.3**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=164,slow=12,SNR=3.8						
TKL	**Tuckaleechee C**	**40.55**	**308**	P	**P**	**12 42 34.3**	**+0.4**
PTOM	**Tomar**	**40.69**	**45**	*e*P	**P**	**12 42 35.7**	**+0.7**
	comp=Z,122nm,1.5s						
PMRV	**Marv??o**	**41.31**	**46**	*e*P	**P**	**12 42 40.9**	**+0.8**
	comp=Z,37nm,1.9s						
PMRV				*e*LR	LR	12 53 32.5	
	comp=Z,718nm,22.0s						
PCBR	**Castelo Branco**	**41.43**	**45**	*e*P	**P**	**12 42 41.8**	**+0.7**
	comp=Z,68nm,1.5s						
PVIS	**Viseu**	**41.55**	**44**	*e*P	**P**	**12 42 42.7**	**+0.6**
	comp=Z,54nm,1.5s						
MTE	**Manteigas**	**41.64**	**44**	*e*P	**P**	**12 42 43.7**	**+0.8**
	comp=Z,84nm,1.7s						
MTE				*e*S	S	12 49 08.4	+10
MTE				*e*LR	LR	12 53 47.7	
	comp=Z,1μm,18.0s						
MTE	**Manteigas**	**41.64**	**44**	*e*P	**P**	**12 42 43.3**	**+0.5**
	comp=Z,106nm,1.7s						
ACSO	**Alum Creek Sta**	**41.85**	**315**	*e*P	P	12 42 51.5	+7.0
	comp=Z,16nm,0.9s						
PGAV	**Gavieira, Arco**	**41.91**	**42**	*e*P	**P**	**12 42 45.8**	**+0.7**
	comp=Z,52nm,2.3s						
PGAV				*e*LR	LR	12 53 53.7	
	comp=Z,1μm,22.0s						
POLO	**Lamas de Olo**	**41.93**	**43**	*e*P	**P**	**12 42 46.3**	**+1.0**
	comp=Z,21nm,1.5s						
PVRL	**Vila Real**	**41.94**	**43**	*e*P	**P**	**12 42 46.3**	**+1.1**
	comp=Z,53nm,1.9s						
SWET	**Sewanee**	**42.06**	**307**	*e*P	**P**	**12 42 48.1**	**+1.8**
	comp=Z,13nm,0.9s						
SWET				*e*pP	**pP**	**12 42 53.2**	**0.0**
LRAL	**Lakeview Retre**	**42.26**	**303**	*e*P	**P**	**12 42 49.4**	**+1.5**
	comp=Z,12nm,0.9s						
LRAL				*e*pP	**pP**	**12 42 54.9**	**+0.2**
MVO	**Moncorvo**	**42.34**	**44**	*e*P	**P**	**12 42 49.3**	**+0.7**
	comp=Z,43nm,1.5s						
MVO				*e*LR	LR	12 53 47.7	
	comp=Z,951nm,20.0s						
SCHQ	**Schefferville**	**43.67**	**342**	P	**P**	**12 42 58.6**	**-0.4**
	comp=Z,7.7nm,0.8s,baz=127,slow=5.5,SNR=8.4						
SCHQ				LR	LR	12 58 40.1	
	comp=Z,370nm,19.0s,baz=77,slow=33						
SCHQ	**Schefferville**	**43.67**	**342**	*e*P	**P**	**12 42 59.8**	**+0.7**
	comp=Z,18nm,1.1s						
SCHQ				*e*pP	**pP**	**12 43 06.6**	**+0.7**
WVT	**Waverly**	**43.81**	**307**	*e*P	**P**	**12 43 01.0**	**+0.5**
WVT				*e**PP	**pP**	**12 43 07.0**	**-0.3**
WVT				pmax	pmax		
	comp=Z,13nm,0.8s						
WVT	**Waverly**	**43.81**	**307**	*e*P	**P**	**12 43 01.0**	**+0.5**
	comp=Z,13nm,0.8s						
WVT				*e*pP	**pP**	**12 43 07.0**	**-0.3**
ESDC	**Sonseca Array**	**43.82**	**47**	P	**P**	**12 42 59.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=245,slow=7.9,SNR=13						
ESDC				LR	LR	12 56 44.0	
	comp=Z,602nm,20.2s,baz=245,slow=30						
ESDC	**Sonseca Array**	**43.82**	**47**	P	**P**	**12 42 59.5**	**-1.0**
TOA0	**Torodi Ar. Sit**	**45.36**	**86**	*e*P	**P**	**12 43 12.9**	**-0.1**
TOA0				*e*pP	**pP**	**12 43 19.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**45.36**	**86**	P	**P**	**12 43 12.5**	**-0.6**
	comp=Z,7.2nm,1.0s,baz=279,slow=8.0,SNR=28						
TORD				LR	LR	12 59 42.8	
	comp=Z,1μm,20.7s,baz=270,slow=33						
TORD	**Torodi Ar. Bea**	**45.36**	**86**	P	**P**	**12 43 12.5**	**-0.6**
FVM	**French Village**	**46.36**	**309**	*e*P	**P**	**12 43 20.0**	**-0.7**
FVM				*e**PP	**pP**	**12 43 27.2**	**-0.4**
FVM				pmax	pmax		
	comp=Z,12nm,0.7s						
FVM	**French Village**	**46.36**	**309**	*e*P	**P**	**12 43 20.0**	**-0.7**
	comp=Z,12nm,0.7s						
FVM				*e*pP	**pP**	**12 43 27.2**	**-0.4**
SJPF	**Ste Jean**	**47.08**	**44**	*e*P	**P**	**12 43 27.3**	**+1.1**
	comp=Z,86nm,1.2s						
SJPF	**Ste Jean**	**47.08**	**44**	*e*P	**P**	**12 43 27.3**	**+1.1**
SJPF				pmax	pmax		
	comp=Z,86nm,1.2s						
SJPF	**Ste Jean**	**47.08**	**44**	*e*P	**P**	**12 43 27.3**	**+1.1**
	comp=Z,86nm,1.2s						
ETSF	**Etsaut**	**47.44**	**44**	*e*P	**P**	**12 43 30.7**	**+1.5**
	comp=Z,167nm,1.5s						
ETSF	**Etsaut**	**47.44**	**44**	*e*P	**P**	**12 43 30.7**	**+1.5**
ETSF				pmax	pmax		
	comp=Z,167nm,1.5s						
ETSF	**Etsaut**	**47.44**	**44**	*e*P	**P**	**12 43 30.7**	**+1.5**
	comp=Z,167nm,1.5s						
QUIF	**Quistinic**	**48.01**	**37**	*e*P	**P**	**12 43 34.0**	**+0.7**
	comp=Z,166nm,1.5s						
QUIF	**Quistinic**	**48.01**	**37**	*e*P	**P**	**12 43 34.0**	**+0.7**
QUIF				pmax	pmax		
	comp=Z,166nm,1.5s						
QUIF	**Quistinic**	**48.01**	**37**	*e*P	**P**	**12 43 34.0**	**+0.7**
	comp=Z,166nm,1.5s						
EPF	**Esparros**	**48.10**	**45**	*e*P	**P**	**12 43 35.8**	**+1.6**
	comp=Z,118nm,1.3s						
EPF	**Esparros**	**48.10**	**45**	*e*P	**P**	**12 43 35.8**	**+1.6**
EPF				pmax	pmax		
	comp=Z,119nm,1.3s						
EPF	**Esparros**	**48.10**	**45**	*e*P	**P**	**12 43 35.8**	**+1.6**
	comp=Z,118nm,1.3s						
ROSF	**Rostrenen**	**48.15**	**37**	*e*P	**P**	**12 43 35.1**	**+0.6**
	comp=Z,231nm,1.4s						
ROSF	**Rostrenen**	**48.15**	**37**	*e*P	**P**	**12 43 35.1**	**+0.6**
ROSF				pmax	pmax		
	comp=Z,231nm,1.4s						
ROSF	**Rostrenen**	**48.15**	**37**	*e*P	**P**	**12 43 35.1**	**+0.6**
	comp=Z,231nm,1.4s						
TAM	**Tamanrasset**	**48.44**	**72**	*e*P	**P**	**12 43 38.9**	**+1.6**
TAM				pmax	pmax		
	comp=Z,67nm,1.6s						
TAM	**Tamanrasset**	**48.44**	**72**	*e*P	**P**	**12 43 38.9**	**+1.6**
	comp=Z,67nm,1.6s						
SGMF	**Saint Gilles**	**48.53**	**37**	*e*P	**P**	**12 43 37.2**	**-0.2**
	comp=Z,170nm,1.3s						
SGMF	**Saint Gilles**	**48.53**	**37**	*e*P	**P**	**12 43 37.2**	**-0.2**
SGMF				pmax	pmax		
	comp=Z,170nm,1.3s						
SGMF	**Saint Gilles**	**48.53**	**37**	*e*P	**P**	**12 43 37.2**	**-0.2**
	comp=Z,170nm,1.3s						
MFF	**Saint Martin d**	**49.22**	**40**	*e*P	**P**	**12 43 43.6**	**+0.8**
	comp=Z,206nm,1.4s						
MFF	**Saint Martin d**	**49.22**	**40**	*e*P	**P**	**12 43 43.6**	**+0.8**
MFF				pmax	pmax		
	comp=Z,206nm,1.4s						
MFF	**Saint Martin d**	**49.22**	**40**	*e*P	**P**	**12 43 43.6**	**+0.8**
	comp=Z,206nm,1.4s						
MTLF	**Montolieu**	**49.49**	**45**	*e*P	**P**	**12 43 45.3**	**+0.4**
	comp=Z,80nm,1.4s						
MTLF	**Montolieu**	**49.49**	**45**	*e*P	**P**	**12 43 45.3**	**+0.4**
MTLF				pmax	pmax		
	comp=Z,80nm,1.4s						
MTLF	**Montolieu**	**49.49**	**45**	*e*P	**P**	**12 43 45.3**	**+0.4**
	comp=Z,80nm,1.4s						
GRR	**Gorron**	**49.59**	**38**	*e*P	**P**	**12 43 45.9**	**+0.4**
GRR	**Gorron**	**49.59**	**38**	*e*P	**P**	**12 43 45.9**	**+0.4**
GRR	**Gorron**	**49.59**	**38**	*e*P	**P**	**12 43 45.9**	**+0.4**
RJF	**Les Rejaudoux**	**49.75**	**42**	*e*P	**P**	**12 43 47.1**	**+0.3**
	comp=Z,56nm,1.3s						
RJF				*e*R			
	comp=Z,789nm,21.8s						
RJF	**Les Rejaudoux**	**49.75**	**42**	*e*P	**P**	**12 43 47.1**	**+0.3**
RJF				pmax	pmax		
	comp=Z,56nm,1.3s						
RJF	**Les Rejaudoux**	**49.75**	**42**	*e*P	**P**	**12 43 47.1**	**+0.3**
	comp=Z,56nm,1.3s						
CAF	**Calviac**	**49.97**	**43**	*e*P	**P**	**12 43 49.1**	**+0.6**
	comp=Z,105nm,1.4s						
CAF	**Calviac**	**49.97**	**43**	*e*P	**P**	**12 43 49.1**	**+0.6**
CAF				pmax	pmax		
	comp=Z,105nm,1.4s						
CAF	**Calviac**	**49.97**	**43**	*e*P	**P**	**12 43 49.1**	**+0.6**
	comp=Z,105nm,1.4s						
FLN	**La Foliniere**	**49.98**	**37**	*e*P	**P**	**12 43 48.9**	**+0.4**
	comp=Z,130nm,1.4s						
FLN				*e*R			
	comp=Z,371nm,19.2s						
FLN	**La Foliniere**	**49.98**	**37**	*e*P	**P**	**12 43 48.9**	**+0.4**
FLN				pmax	pmax		
	comp=Z,130nm,1.4s						
FLN	**La Foliniere**	**49.98**	**37**	*e*P	**P**	**12 43 48.9**	**+0.4**
	comp=Z,130nm,1.4s						
TUL1	**Tulsa**	**49.99**	**305**	⇓P	**P**	**12 43 49.2**	**+0.4**
	baz=50						
LDF	**La Druitiere**	**50.12**	**38**	*e*P	**P**	**12 43 50.0**	**+0.5**
	comp=Z,43nm,1.1s						
LDF	**La Druitiere**	**50.12**	**38**	*e*P	**P**	**12 43 50.0**	**+0.5**
LDF				pmax	pmax		
	comp=Z,43nm,1.0s						
LDF	**La Druitiere**	**50.12**	**38**	*e*P	**P**	**12 43 50.0**	**+0.5**
	comp=Z,43nm,1.0s						
MCH1	**Michaelchurch**	**50.20**	**33**	*e*P	**P**	**12 43 49.3**	**-0.8**
MCH1				AMB	AMB	12 43 55.9	
	comp=Z,56nm,2.5s						
MCH1	**Michaelchurch**	**50.20**	**33**	P	**P**	**12 43 49.3**	**-0.8**
MCH1				AMB	AMB	12 43 55.9	
	comp=Z,56nm,2.5s						
WME	**Myndd Eilian**	**50.31**	**31**	*e*P	**P**	**12 43 51.5**	**+0.6**
WME	**Myndd Eilian**	**50.31**	**31**	P	**P**	**12 43 51.5**	**+0.6**
SPMN	**St. Paul**	**50.49**	**317**	⇑P	**P**	**12 43 52.5**	**+0.1**
	baz=50						
HLM1	**Long Mynd**	**50.54**	**32**	*e*P	**P**	**12 43 51.8**	**-0.9**
HLM1				AMB	AMB	12 43 53.3	
	comp=Z,66nm,1.8s						
HLM1	**Long Mynd**	**50.54**	**32**	P	**P**	**12 43 51.8**	**-0.9**
HLM1				AMB	AMB	12 43 53.3	
	comp=Z,66nm,1.8s						
FOEL	**Foel Wylfa**	**50.58**	**32**	*e*P	**P**	**12 43 52.6**	**-0.4**
FOEL				AMB	AMB	12 43 56.4	
	comp=Z,57nm,1.2s						
FOEL	**Foel Wylfa**	**50.58**	**32**	P	**P**	**12 43 52.6**	**-0.4**
FOEL				AMB	AMB	12 43 56.4	
	comp=Z,57nm,1.2s						
TCF	**Toulx Ste Croi**	**50.58**	**41**	*e*P	**P**	**12 43 53.9**	**+0.8**
	comp=Z,145nm,1.4s						
TCF	**Toulx Ste Croi**	**50.58**	**41**	*e*P	**P**	**12 43 53.9**	**+0.8**
TCF				pmax	pmax		
	comp=Z,145nm,1.4s						
TCF	**Toulx Ste Croi**	**50.58**	**41**	*e*P	**P**	**12 43 53.9**	**+0.8**
	comp=Z,145nm,1.4s						
WHTX	**Lake Whitney**	**50.70**	**300**	⇓P	**P**	**12 43 53.8**	**-0.4**
	baz=51						
WOL	**Wolverton**	**50.79**	**34**	*e*P	**P**	**12 43 54.5**	**-0.1**
WOL				AMB	AMB	12 43 56.3	
	comp=Z,108nm,1.0s						
WOL	**Wolverton**	**50.79**	**34**	P	**P**	**12 43 54.5**	**-0.1**
WOL				AMB	AMB	12 43 56.3	
	comp=Z,108nm,1.0s						
LASF	**Ste Croix**	**50.86**	**44**	*e*P	**P**	**12 43 56.2**	**+0.9**
	comp=Z,201nm,1.7s						
LASF	**Ste Croix**	**50.86**	**44**	*e*P	**P**	**12 43 56.2**	**+0.9**
	comp=Z,201nm,1.7s						
CFAA	**Coronel Fontan**	**50.95**	**206**	P	**P**	**12 43 55.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=22,slow=7.4,SNR=10						
CFAA	**Coronel Fontan**	**50.95**	**206**	P	**P**	**12 43 55.3**	**-0.7**
BGF	**Bois d'Agland**	**51.09**	**41**	*e*P	**P**	**12 43 57.6**	**+0.7**
	comp=Z,92nm,1.4s						
BGF	**Bois d'Agland**	**51.09**	**41**	*e*P	**P**	**12 43 57.6**	**+0.7**
BGF				pmax	pmax		
	comp=Z,92nm,1.4s						
BGF	**Bois d'Agland**	**51.09**	**41**	*e*P	**P**	**12 43 57.6**	**+0.7**
	comp=Z,92nm,1.4s						
HYF	**Humbligny**	**51.24**	**40**	*e*P	**P**	**12 43 58.9**	**+0.9**
HYF	**Humbligny**	**51.24**	**40**	*e*P	**P**	**12 43 58.9**	**+0.9**
AVF	**Avril sur Loir**	**51.50**	**41**	*e*P	**P**	**12 44 00.5**	**+0.5**
	comp=Z,106nm,1.4s						
AVF	**Avril sur Loir**	**51.50**	**41**	*e*P	**P**	**12 44 00.5**	**+0.5**
AVF				pmax	pmax		
	comp=Z,106nm,1.4s						
AVF	**Avril sur Loir**	**51.50**	**41**	*e*P	**P**	**12 44 00.5**	**+0.5**
	comp=Z,106nm,1.4s						
KESW	**Keswick, Cumbr**	**51.57**	**30**	*e*P	**P**	**12 44 00.8**	**+0.5**
KESW				AMB	AMB	12 44 07.6	
	comp=Z,105nm,1.2s						
KESW	**Keswick, Cumbr**	**51.57**	**30**	P	**P**	**12 44 00.8**	**+0.5**
KESW				AMB	AMB	12 44 07.6	
	comp=Z,105nm,1.2s						
LHO	**Holmfirth**	**51.62**	**31**	*e*P	**P**	**12 44 01.6**	**+0.8**
LHO	**Holmfirth**	**51.62**	**31**	P	**P**	**12 44 01.6**	**+0.8**
KBI1	**Birley Grange**	**51.63**	**32**	*e*P	**P**	**12 44 00.3**	**-0.5**
KBI1	**Birley Grange**	**51.63**	**32**	P	**P**	**12 44 00.3**	**-0.5**
PGBU	**Glenifferbraes**	**51.64**	**28**	*e*P	**P**	**12 44 01.4**	**+0.6**
PGBU				AMB	AMB	12 44 07.6	
	comp=Z,148nm,1.9s						
PGBU	**Glenifferb

SFJD **Kangerlussuaq** 52.58 357 P P 12 44 07.8 +0.1
comp=Z,14nm,0.9s,baz=171,slow=8.2,SNR=8.5
SFJD **Kangerlussuaq** 52.58 357 *e*P P 12 44 08.1 +0.4
comp=Z,31nm,1.3s
SFJD **Kangerlussuaq** 52.58 357 *i* P P 12 44 07.9 +0.2
comp=Z,10nm,1.0s
532A **Rocksprings** 52.60 297 ⇑P P 12 44 08.1 -0.5
baz=53,SNR=10
ABTX **Abilene, Hawle** 52.62 300 ⇓P P 12 44 08.7 +0.1
baz=53
Y32A **R-V Farms, Ver** 52.62 302 ⇑P P 12 44 08.3 -0.3
baz=53
MDO **Dochfour** 52.67 26 *e*P P 12 44 08.0 -0.5
MDO **Dochfour** 52.67 26 P P 12 44 08.0 -0.5
KEST **Kesra** 52.89 56 P P 12 44 10.4 -0.3
comp=Z,4.4nm,0.9s,baz=233,slow=5.9,SNR=7.4
KEST LR LR 13 04 29.6
comp=Z,297nm,20.2s,baz=188,slow=34
KEST **Kesra** 52.89 56 *e*P P 12 44 11.7 +1.0
KEST *e*pP **pP** 12 44 17.4 -0.2
MBDF **Montbardon** 53.05 45 *e*P P 12 44 11.6 -0.1
comp=Z,110nm,1.6s
MBDF **Montbardon** 53.05 45 *e*P P 12 44 11.6 -0.1
MBDF pmax pmax
comp=Z,110nm,1.6s
MBDF **Montbardon** 53.05 45 *e*P P 12 44 11.6 -0.1
comp=Z,110nm,1.6s
SFTF **Sexfontaines** 53.09 40 *e*P P 12 44 12.1 +0.3
comp=Z,133nm,1.3s
SFTF **Sexfontaines** 53.09 40 *e*P P 12 44 12.1 +0.3
comp=Z,133nm,1.3s
Z31A **Sharp Cattle R** 53.12 301 ⇑P P 12 44 11.9 -0.4
baz=53,SNR=8.5
631A **Perdido Creek** 53.13 296 ⇑P P 12 44 12.5 +0.1
baz=53
X31A **McDonald Ranch** 53.15 303 ⇑P P 12 44 12.2 -0.3
baz=53
531A **Rocksprings** 53.16 297 ⇓P P 12 44 13.1 +0.5
baz=53
CABF **La Chapelle** 53.20 42 *e*P P 12 44 13.6 +0.9
comp=Z,30nm,0.9s
CABF **La Chapelle** 53.20 42 *e*P P 12 44 13.6 +0.9
CABF pmax pmax
comp=Z,30nm,0.9s
CABF **La Chapelle** 53.20 42 *e*P P 12 44 13.6 +0.9
comp=Z,30nm,0.9s
MEZF **Maizieres J'vi** 53.21 40 *e*P P 12 44 13.2 +0.6
comp=Z,119nm,1.1s
MEZF **Maizieres J'vi** 53.21 40 *e*P P 12 44 13.2 +0.6
comp=Z,119nm,1.1s
431A **Sonora** 53.25 298 ⇑P P 12 44 13.0 -0.3
baz=53,SNR=10
LPL **La Plagne** 53.27 44 *e*P P 12 44 14.8 +1.4
LPL **La Plagne** 53.27 44 *e*P P 12 44 14.8 +1.4
LPL **La Plagne** 53.27 44 *e*P P 12 44 14.8 +1.4
LPG **La Plagne** 53.27 44 *e*P P 12 44 14.9 +1.4
comp=Z,164nm,1.9s
LPG **La Plagne** 53.27 44 *e*P P 12 44 14.9 +1.4
LPG pmax pmax
comp=Z,164nm,1.9s
LPG **La Plagne** 53.27 44 *e*P P 12 44 14.9 +1.4
comp=Z,164nm,1.9s
Y31A **Rekieta Farm,** 53.30 302 ⇑P P 12 44 13.0 -0.6
baz=53,SNR=7.0
BAIF **Baives** 53.30 38 *e*P P 12 44 13.5 +0.2
comp=Z,70nm,1.2s
BAIF **Baives** 53.30 38 *e*P P 12 44 13.5 +0.2
BAIF pmax pmax
comp=Z,70nm,1.2s
BAIF **Baives** 53.30 38 *e*P P 12 44 13.5 +0.2
comp=Z,70nm,1.2s
SNF **Seneffe** 53.53 37 P P 12 44 16.0 +1.1
DOU **Dourbes** 53.55 38 P P 12 44 16.0 +0.9
comp=Z,20nm,2.1s
PAGF **Fort de Pagny** 53.65 40 *e*P P 12 44 16.1 +0.2
comp=Z,51nm,1.7s
PAGF **Fort de Pagny** 53.65 40 *e*P P 12 44 16.1 +0.2
comp=Z,51nm,1.7s
GIVF **Givet** 53.69 38 *e*P P 12 44 16.4 +0.3
comp=Z,102nm,1.3s
GIVF **Givet** 53.69 38 *e*P P 12 44 16.4 +0.3
GIVF pmax pmax
comp=Z,102nm,1.3s
GIVF **Givet** 53.69 38 *e*P P 12 44 16.4 +0.3
comp=Z,102nm,1.3s
330A **Mertzon** 53.80 298 ⇓P P 12 44 16.8 -0.6
baz=54,SNR=9.8
430A **Baggett Ranch,** 53.80 298 ⇑P P 12 44 16.6 -0.7
baz=54
HAU **Haudompre** 53.84 41 *e*P P 12 44 17.2 -0.1
comp=Z,67nm,1.5s
HAU *e*R
comp=Z,518nm,22.2s
HAU **Haudompre** 53.84 41 *e*P P 12 44 17.2 -0.1
HAU pmax pmax
comp=Z,67nm,1.5s
HAU **Haudompre** 53.84 41 *e*P P 12 44 17.2 -0.1
comp=Z,67nm,1.5s
530A **J-C Ranch, Com** 53.84 297 ⇓P P 12 44 17.1 -0.5
baz=54,SNR=10
X30A **Coker Ranch, T** 53.86 302 ⇓P P 12 44 16.8 -0.9
baz=54
SENIN **Lac Senin/Sane** 53.91 43 *e*P P 12 44 20.6 +2.5
comp=Z,96nm,2.1s
Z30A **Sanderson Ranc** 53.93 301 ⇓P P 12 44 17.7 -0.6
baz=54,SNR=8.6
HINF **Hinteralfeld** 54.09 41 *e*P P 12 44 19.2 0.0
comp=Z,69nm,1.4s
HINF **Hinteralfeld** 54.09 41 *e*P P 12 44 19.2 0.0
HINF pmax pmax
comp=Z,69nm,1.4s
HINF **Hinteralfeld** 54.09 41 *e*P P 12 44 19.2 0.0
comp=Z,69nm,1.4s
ULM **Lac du Bonnet** 54.30 322 P P 12 44 19.3 -1.3
comp=Z,3.4nm,0.6s,baz=106,slow=8.4,SNR=7.5
ULM LR LR 13 04 13.1
comp=Z,761nm,20.1s,baz=285,slow=32
ULM **Lac du Bonnet** 54.30 322 *e*P P 12 44 19.3 -1.3
comp=Z,98nm,2.8s
WLF **Walferdange** 54.31 39 P P 12 44 21.8 +1.1
429A **Davenport Ranc** 54.35 297 ⇓P P 12 44 20.7 -0.7
baz=54,SNR=6.4
229A **Bryant Ranch,** 54.38 299 ⇑P P 12 44 20.5 -1.1
baz=54
BRSD **Miller** 54.38 315 ⇓P P 12 44 21.2 -0.2
baz=54
Z29A **Hungry Hill Ra** 54.41 301 ⇑P P 12 44 21.1 -0.7
baz=54
Y29A **Porterfield Fa** 54.45 301 ⇑P P 12 44 21.9 -0.2
baz=54
129A **Stewart Farms,** 54.49 300 ⇑P P 12 44 21.6 -0.7
baz=54
329A **Wagon Wheel Ra** 54.49 298 ⇓P P 12 44 22.0 -0.3
baz=54
CDF **Champ du Feu** 54.56 40 *e*P P 12 44 22.7 0.0
comp=Z,56nm,1.4s
CDF **Champ du Feu** 54.56 40 *e*P P 12 44 22.7 0.0
CDF pmax pmax
comp=Z,56nm,1.4s
CDF **Champ du Feu** 54.56 40 *e*P P 12 44 22.7 0.0
comp=Z,56nm,1.4s
AMTX **Amarillo** 54.57 303 *e*P P 12 44 22.6 -0.4
comp=Z,32nm,1.4s
AMTX *e*pP **pP** 12 44 28.6 -1.4
AMTX **Amarillo** 54.57 303 ⇓P P 12 44 22.6 -0.4
baz=54
W29A **Amraillo** 54.58 303 ⇑P P 12 44 22.6 -0.4
baz=55
MEM **Membach** 54.58 37 P P 12 44 22.2 -0.4
comp=Z,26nm,1.4s
529A **Stev Forest Ra** 54.60 297 ⇓P P 12 44 22.5 -0.7
baz=55
TRQA **Tornquist** 54.63 196 *e*P P 12 44 22.1 -1.0
comp=Z,54nm,2.1s
Y28A **McKinney Farm,** 54.93 301 ⇑P P 12 44 25.6 0.0
baz=55
Z28A **Tucker Farm, M** 54.98 301 ⇓P P 12 44 24.8 -1.1
baz=55
528A **Cox Ranch, San** 55.09 297 ⇑P P 12 44 26.3 -0.6
baz=55
628A **Black Gap, Mar** 55.15 296 ⇓P P 12 44 26.9 -0.3
baz=55,SNR=12
328A **Wristen Ranch,** 55.19 298 ⇑P P 12 44 26.3 -1.1
baz=55
BFO **Black Forest** 55.20 41 *e*P P 12 44 27.3 +0.1
BFO *e**PP **pP** 12 44 33.2 -1.0
BFO pmax pmax
comp=Z,48nm,1.6s
BFO **Black Forest** 55.20 41 *e*P P 12 44 27.6 +0.4
comp=Z,143nm,2.7s
BFO **Black Forest** 55.20 41 *e*P P 12 44 27.3 +0.1
comp=Z,48nm,1.6s
BFO *e*pP **pP** 12 44 33.1 -1.0
T28A **Walsh** 55.22 305 ⇓P P 12 44 27.4 -0.2
baz=55
TUE **Stuetta** 55.29 43 *e*P P 12 44 29.2 +1.0
comp=Z,64nm,1.8s
MSTX **Muleshoe** 55.37 301 ⇑P P 12 44 28.4 -0.4
baz=55,SNR=7.4
627A **Terlingua Ranc** 55.59 296 ⇑P P 12 44 30.1 -0.4
baz=56,SNR=5.7
BUG **Bochum--Univer** 55.63 37 *e*P P 12 44 30.9 +0.7
comp=Z,106nm,1.7s
227A **Bennet, Jal** 55.64 299 ⇓P P 12 44 30.6 -0.2
baz=56
Z27A **Tatum** 55.68 301 ⇓P P 12 44 30.6 -0.4
baz=56,SNR=7.0
Y27A **Causey** 55.68 301 ⇑P P 12 44 30.6 -0.5
baz=56,SNR=8.3
W27A **Bowe Ranch, En** 55.72 303 ⇑P P 12 44 30.9 -0.4
baz=56
DAVOX **Davos/Dischmat** 55.73 43 P P 12 44 31.9 +0.6
comp=Z,6.5nm,0.7s,baz=251,slow=9.6,SNR=6.4
DAVOX LR LR 13 07 39.1
comp=Z,526nm,18.0s,baz=79,slow=35
DAVOX **Davos/Dischmat** 55.73 43 P P 12 44 31.9 +0.6
527A **Woodward Ranch** 55.81 297 ⇓P P 12 44 31.6 -0.4
baz=56,SNR=14
TXAR **Lajitas Array** 55.82 296 P P 12 44 32.0 -0.1
comp=Z,3.7nm,0.9s,baz=120,slow=8.4,SNR=17
TXAR PcP **PcP** 12 45 31.1 +0.2
comp=Z,2.0nm,0.8s,baz=106,slow=4.4,SNR=5.3
TXAR LR LR 13 06 17.3
comp=Z,370nm,21.8s,baz=355,slow=34
TXAR **Lajitas Array** 55.82 296 P P 12 44 32.0 -0.1
TXAR PcP **PcP** 12 45 31.1 +0.2
STU **Stuttgart** 55.88 40 *e*P P 12 44 32.2 +0.1
comp=Z,34nm,1.2s
TNS **Taunus Mts** 55.90 39 *e*P P 12 44 33.0 +0.8
TNS pmax pmax
comp=Z,59nm,1.8s
TNS **Taunus Mts** 55.90 39 *e*P P 12 44 33.0 +0.8
comp=Z,59nm,1.8s
S27A **Las Animas** 55.91 306 ⇑P P 12 44 32.5 -0.2
baz=56
R27A **Eads** 55.92 307 ⇑P P 12 44 32.5 -0.2
baz=56
FUORN **Ofenpass-Fuorn** 55.94 43 *e*P P 12 44 35.9 +3.1
comp=Z,121nm,2.3s
426A **McDonald Obser** 56.19 297 ⇑P P 12 44 34.5 -0.4
baz=56,SNR=20
CPRX **Cap Rock** 56.20 300 *e*P P 12 44 35.0 +0.2
comp=Z,17nm,1.1s
526A **Mary Lane Ranc** 56.22 297 ⇓P P 12 44 34.7 -0.3
baz=56,SNR=14
IBBN **Ibbenburen** 56.24 36 *e*P P 12 44 35.5 +1.0
comp=Z,311nm,2.3s
626A **Big Bend Ranch** 56.24 296 ⇓P P 12 44 34.7 -0.4
baz=56
X26A **CR and CF Fran** 56.28 302 ⇑P P 12 44 35.3 0.0
baz=56
Z26A **Caprock** 56.31 300 ⇓P P 12 44 35.3 -0.2
baz=56,SNR=11
S26A **Kim** 56.36 306 ⇑P P 12 44 35.8 0.0
baz=56
FETA **Feichten** 56.36 43⇑*i*P P 12 44 36.0 +0.4
comp=Z,28nm,1.5s
FETA **Feichten** 56.36 43⇑*i*P P 12 44 36.0 +0.4
comp=Z,28nm,1.5s
V26A **Tequesquite Ra** 56.39 303 ⇓P P 12 44 36.3 +0.2
baz=56
T26A **Comanche Natio** 56.40 305 ⇓P P 12 44 35.8 -0.4
baz=56,SNR=7.0
U26A **Atchley Ranch,** 56.42 304 ⇑P P 12 44 35.9 -0.5
baz=56,SNR=8.0
R26A **Arlington** 56.43 306 ⇑P P 12 44 36.2 -0.2
baz=56,SNR=8.6
P26A **Davis Ranch, A** 56.54 308 ⇑P P 12 44 37.5 +0.4
baz=56
GDL2 **Guadalupe Moun** 56.56 299 *e*P P 12 44 37.7 +0.4
GDL2 *e*pP **pP** 12 44 43.5 -0.8
Q26A **Hugo** 56.58 307 ⇑P P 12 44 37.6 +0.2
baz=57
O26A **Horse Wrangler** 56.62 309 ⇑P P 12 44 37.7 0.0
baz=57
MOTA **Moosalm** 56.69 43⇓*i*P P 12 44 37.0 -1.0
MOTA pmax pmax
comp=Z,19nm,1.0s
MOTA **Moosalm** 56.69 43⇓*i*P P 12 44 37.0 -1.0
comp=Z,19nm,1.0s
MOTA **Moosalm** 56.69 43⇓*i*P P 12 44 37.0 -1.0
comp=Z,19nm,1.0s
125A **Gardner Draw,** 56.84 300 ⇑P P 12 44 38.3 -1.0
baz=57
W25A **X Bar L Ranch,** 56.88 303 ⇑P P 12 44 39.5 0.0
baz=57
Z25A **Roswell** 56.93 300 ⇑P P 12 44 39.7 -0.2
baz=57
225A **Deer Hill, Car** 56.94 299 ⇑P P 12 44 39.9 -0.3
baz=57,SNR=12
U25A **Circle Dot Ran** 56.95 304 ⇓P P 12 44 40.0 -0.2
baz=57,SNR=11
Y25A **Mesa, Roswell** 56.95 301 ⇑P P 12 44 39.9 -0.2
baz=57
X25A **Clemmons Ranch** 56.98 302 ⇑P P 12 44 39.9 -0.4
baz=57
425A **Indio Mountain** 57.02 297 ⇓P P 12 44 40.8 +0.1
baz=57,SNR=18
FUR **Furstenfeldbru** 57.03 42 *e*P P 12 44 40.4 +0.1
FUR pmax pmax
comp=Z,142nm,1.9s
FUR **Furstenfeldbru** 57.03 42 *e*P P 12 44 40.4 +0.1
comp=Z,142nm,1.9s
325A **Bean Ranch, Si** 57.03 298 ⇓P P 12 44 40.8 0.0
baz=57,SNR=19
UBBA **Unterbreizbach** 57.03 38 *e*P P 12 44 40.5 +0.4
comp=Z,85nm,2.2s
T25A **Trinidad** 57.04 305 ⇑P P 12 44 40.7 -0.1
baz=57
R25A **Fountain Ranch** 57.06 306 ⇓P P 12 44 40.3 -0.6
baz=57
V25A **Rancho No Teng** 57.06 303 ⇑P P 12 44 40.5 -0.5
baz=57
S25A **Robets Cordova** 57.12 306 ⇑P P 12 44 41.2 -0.1
baz=57
Q25A **Bedland, Calha** 57.14 307 ⇑P P 12 44 41.2 -0.3
baz=57
MNTX **Cornudas Mount** 57.40 298 *e*P P 12 44 43.0 -0.1
comp=Z,8.1nm,1.1s
MNTX *e*pP **pP** 12 44 48.0 -2.2
MNTX **Cornudas Mount** 57.40 298 ⇓P P 12 44 42.9 -0.3
baz=57,SNR=17
GRF **Grafenberg Arr** 57.43 40 *e*P P 12 44 43.1 0.0
GRF pmax pmax
comp=Z,30nm,1.5s
GRF **Grafenberg Arr** 57.43 40 *e*P P 12 44 43.1 0.0
comp=Z,30nm,1.5s
GRF *e*L L 13 04 02.8
comp=Z,281nm,21.9s
K25A **Mack Ranch, Ha** 57.45 311 ⇓P P 12 44 43.5 0.0
baz=57
ABTA **Abfaltersbach** 57.47 44⇓*i*P P 12 44 43.8 +0.3
comp=Z,36nm,1.4s
ABTA **Abfaltersbach** 57.47 44⇓*i*P P 12 44 43.8 +0.3
comp=Z,36nm,1.4s
324A **Moseley Ranch,** 57.47 298 ⇓P P 12 44 43.6 -0.3
baz=57,SNR=14
Z24A **Sheppen Canyo** 57.47 300 ⇓P P 12 44 43.8 -0.1
baz=57,SNR=7.4
124A **Stringfield Ra** 57.51 300 ⇑P P 12 44 43.9 -0.3
baz=58,SNR=6.9
224A **Cornudas Mount** 57.53 299 ⇑P P 12 44 44.4 +0.1
baz=58,SNR=17
Y24A **Capitan** 57.57 301 ⇑P P 12 44 44.9 +0.3
baz=58,SNR=5.7
X24A **Lazy V/L Ranch,** 57.62 302 ⇑P P 12 44 44.6 -0.3
baz=58
W24A **Lazy 6 Ranch,** 57.65 303 ⇓P P 12 44 45.2 +0.1
baz=58
NRDL **Niedersach Rie** 57.65 36 *e*P P 12 44 45.6 +1.2
comp=Z,111nm,1.8s
MOX **Moxa** 57.95 39 *e*P P 12 44 47.1 +0.4
MOX pmax pmax
comp=Z,48nm,2.0s
MOX **Moxa** 57.95 39 *e*P P 12 44 47.1 +0.4
comp=Z,48nm,2.0s
M24A **Cheyenne** 57.95 310 ⇑P P 12 44 47.3 +0.2
baz=58
ROTZ **Rotzenmuhle** 58.06 40 *e*P P 12 44 47.8 +0.3
comp=Z,24nm,1.8s
Y23A **Lovelace Mesa,** 58.09 301 ⇓P P 12 44 48.3 +0.1
baz=58,SNR=14
Z23A **Rita Site, Whi** 58.19 300 ⇓P P 12 44 49.8 +0.9
baz=58
SUMG **Summit** 58.19 2 *e*P P 12 44 48.6 +0.1
SUMG **Summit** 58.19 2 *e*P P 12 44 48.6 +0.1
SUMG **Summit** 58.19 2 *i* P P 12 44 48.8 +0.3
comp=Z,24nm,0.9s
MYKA **Terra Mystica** 58.20 44⇑*i*P P 12 44 48.8 +0.3
comp=Z,42nm,1.1s
MYKA **Terra Mystica** 58.20 44⇑*i*P P 12 44 48.8 +0.3
comp=Z,42nm,1.1s
BSEG **Bad Segeberg** 58.26 35 *e*P P 12 44 49.6 +0.8
BSEG pmax pmax
comp=Z,362nm,2.2s
BSEG **Bad Segeberg** 58.26 35 *e*P P 12 44 49.6 +0.8
comp=Z,362nm,2.2s
R23A **Moffat** 58.27 306 ⇑P P 12 44 49.9 +0.4
baz=58
ISCO **Idaho Springs** 58.31 308 *e*P P 12 44 50.7 +0.9
ISCO *e**PP **pP** 12 44 57.5 +0.7
ISCO pmax pmax
comp=Z,67nm,2.1s
ISCO **Idaho Springs** 58.31 308 *e*P P 12 44 50.7 +0.9
comp=Z,67nm,2.1s
ISCO *e*pP **pP** 12 44 57.5 +0.7
ISCO **Idaho Springs** 58.31 308 ⇑P P 12 44 50.1 +0.4
baz=58
WET **Wettzell** 58.31 41 *e*P P 12 44 49.2 -0.1
WET pmax pmax
comp=Z,62nm,2.1s
WET **Wettzell** 58.31 41 *e*P P 12 44 49.2 -0.1
comp=Z,62nm,2.1s
JAVS **Javornik** 58.32 45 *i* P P 12 44 56.7 +7.2
T23A **Casias Ranch,** 58.32 305 ⇓P P 12 44 50.5 +0.6
baz=58
V23A **Ortiz Mt. (NFS** 58.32 303 ⇑P P 12 44 50.9 +1.0
baz=58
NKC **Novy Kostel** 58.34 40⇑*i*P P 12 44 50.0 +0.5
NKC *e* 12 44 55.5
NKC **Novy Kostel** 58.34 40⇑*i*P P 12 44 50.0 +0.5
NKC *e*pP **pP** 12 44 55.5 -1.0
Q23A **Hartsel** 58.36 307 ⇑P P 12 44 50.9 +0.7
baz=58
U23A **El Rito** 58.38 304 ⇓P P 12 44 51.7 +1.4
baz=58,SNR=9.5
TANN **Tannenbergstha** 58.40 39 *e*P P 12 44 50.4 +0.5
comp=Z,74nm,2.2s
P23A **Jefferson** 58.42 307 ⇑P P 12 44 51.2 +0.5
baz=58
ANMO **Albuquerque** 58.48 302 *e*P P 12 44 53.8 +2.8
comp=Z,11nm,1.5s
ANMO *e*pP **pP** 12 45 02.1 +4.0
MUD **Monsted U'grnd** 58.59 32 *i* P P 12 44 50.4 -0.6
comp=Z,21nm,1.0s
O23A **Lake Granby, G** 58.59 308 ⇑P P 12 44 51.8 0.0
baz=59
D24A **Glendive** 58.69 317 ⇓P P 12 44 52.0 0.0
baz=59
KHC **Kasperske Hory** 58.76 41 *e*P P 12 44 52.4 0.0
KHC *e**PP **pP** 12 44 58.1 -1.4
KHC pmax pmax
comp=Z,13nm,1.0s
KHC **Kasperske Hory** 58.76 41 *e*P P 12 44 52.4 0.0
comp=Z,13nm,1.0s
KHC *e*pP **pP** 12 44 58.1 -1.4
KHC **Kasperske Hory** 58.76 41⇑*i*P P 12 44 52.3 -0.1
KHC *e*pP **pP** 12 44 58.0 -1.4
KHC AMS AMS 13 03 20.0
comp=Z,300nm,11.8s
GERES **GERESS Array B** 58.76 41 P P 12 44 52.0 -0.6
comp=Z,1.1nm,0.7s,baz=261,slow=6.6,SNR=7.2
GERES LR LR 13 05 43.7
comp=Z,292nm,21.4s,baz=107,slow=32
GERES **GERESS Array B** 58.76 41 P P 12 44 52.0 -0.6
J23A **Dilts Ranch, B** 58.80 312 ⇑P P 12 44 52.4 -0.5
baz=59
122A **Conniff Cattle** 58.81 300 ⇓P P 12 44 54.0 +0.7
baz=59
VISS **Visnje** 58.83 45 *i* P P 12 44 53.5 +0.5
Y22A **Socorro** 58.84 301 ⇓P P 12 44 53.6 +0.1
baz=59
DGMT **Dagmar** 58.91 318 *e*P P 12 44 53.6 0.0
comp=Z,4.6nm,0.7s
DGMT **Dagmar** 58.91 318 ⇑P P 12 44 53.0 -0.5
baz=59
V22A **San Miguel Ran** 58.92 303 ⇑P P 12 44 54.9 +0.8
baz=59,SNR=9.0
CLL **Collm** 58.98 38⇓*i*P P 12 44 52.2 -1.7
CLL *i* 12 44 59.9
CLL pmax pmax
comp=Z,121nm,2.4s
CLL **Collm** 58.98 38 *e*P P 12 44 54.3 +0.4
comp=Z,124nm,2.4s
R22A **Saguache, Gunn** 59.01 306 ⇑P P 12 44 55.2 +0.5
baz=59
T22A **Edith** 59.01 305 ⇓P P 12 44 55.3 +0.6
baz=59,SNR=8.4
LAZ **Ladron** 59.01 302 *e*P P 12 44 55.7 +1.1
comp=Z,3.4nm,0.9s
G23A **Biddle** 59.01 314 ⇓P P 12 44 54.6 +0.3
baz=59
S22A **4UR Ranch, Cre** 59.02 305 ⇑P P 12 44 55.3 +0.6
baz=59,SNR=5.8
BOJS **Bojanci** 59.05 45 *i* P P 12 44 54.9 +0.4
O22A **Kremmling** 59.06 308 ⇓P P 12 44 55.0 0.0
baz=59
N22A **Wattenberg Ran** 59.08 309 ⇓P P 12 44 55.5 +0.4
baz=59
F23A **Volborg** 59.12 315 ⇓P P 12 44 56.4 +1.3
baz=59
P22A **Eagle** 59.16 308 ⇓P P 12 44 56.5 +0.8
baz=59
Q22A **Crested Butte,** 59.19 307 ⇑P P 12 44 56.1 +0.2
baz=59
E23A **Ismay** 59.21 316 ⇓P P 12 44 56.2 +0.6
baz=59
M22A **Cedar Creek Ra** 59.26 310 ⇓P P 12 44 56.2 -0.1
baz=59
SMCO **Snowmass** 59.28 307 *e*P P 12 44 57.0 +0.4
comp=Z,7.5nm,1.0s
D23A **Lindsay** 59.28 317 ⇑P P 12 44 55.9 -0.2
baz=59
FFC **Flin Flon** 59.38 326 *e*P P 12 44 56.1 -0.5
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC **Flin Flon** 59.38 326 *e*P P 12 44 56.1 -0.5
comp=Z,5.5nm,1.0s
K22A **Casper** 59.39 311 ⇑P P 12 44 56.5 -0.6
baz=59
Z21A **St. Cloud Mine** 59.40 300 ⇓P P 12 44 57.6 +0.3
baz=59
C23A **Lambert** 59.41 317 ⇑P P 12 44 57.2 +0.2
baz=59
B23A **Brockton** 59.43 318 ⇓P P 12 44 57.1 0.0
baz=59
Y21A **Point of Rocks** 59.43 301 ⇑P P 12 44 58.1 +0.4
baz=59
221A **Mesquite Ranch** 59.45 299 ⇑P P 12 44 58.2 +0.6
baz=59
121A **Cookes Peak, D** 59.47 299 ⇑P P 12 44 58.7 +0.9
baz=59,SNR=6.1
J22A **Midwest** 59.47 312 ⇑P P 12 44 57.6 0.0
baz=59
W21A **San Fidel** 59.47 302 ⇓P P 12 44 57.9 +0.1
baz=59
V21A **Milan** 59.51 303 ⇓P P 12 44 58.1 +0.1
baz=60
T21A **Navajo Lake** 59.51 305 ⇑P P 12 44 58.4 +0.3
baz=60
X21A **Alamocita Cree** 59.55 302 ⇑P P 12 44 58.5 0.0
baz=60,SNR=15
I22A **9 Mile Ranch,** 59.55 313 ⇓P P 12 44 57.2 -0.9
baz=60,SNR=5.9
U21A **Nageezi** 59.57 304 ⇑P P 12 44 58.0 -0.5
baz=60,SNR=9.0
H22A **Clearmont** 59.58 313 ⇑P P 12 44 58.2 -0.1
baz=60
PRU **Pruhonice** 59.58 40 *e*P P 12 44 59.2 +1.2
PRU MLR MLR
comp=Z,300nm,14.8s
PRU **Pruhonice** 59.58 40⇑*e*P P 12 44 59.2 +1.2

PRU AMS AMS 13 07 10.0
comp=Z,300nm,14.8s
E22A Miles City 59.63 316 ⇑P P 12 44 58.7 +0.2
baz=60
R21A Cimarron 59.64 306 ⇑P P 12 44 59.4 +0.4
baz=60
G22A Birney 59.64 314 ⇓P P 12 44 56.5 -2.2
baz=60
P21A Newcastle 59.68 307 ⇓P P 12 44 59.3 +0.1
baz=60
Q21A Lamborn Mesa, 59.71 307 ⇓P P 12 44 58.3 -1.0
baz=60
F22A Rosebud 59.72 315 ⇑P P 12 44 58.4 -0.8
baz=60
PVCC Panska Ves 59.73 40 ⇑AMS AMS 13 14 50.0
comp=Z,300nm,14.6s
S21A Coal Bank Pass 59.77 305 ⇓P P 12 44 59.4 -0.6
baz=60,SNR=5.6
PLCA Paso Flores 59.82 202 P P 12 44 59.8 0.0
comp=Z,9.5nm,1.0s,baz=26,slow=7.9,SNR=16
PLCA LR LR 13 09 56.2
comp=Z,585nm,19.8s,baz=109,slow=35
C22A Vida 59.85 317 ⇑P P 12 44 58.7 -1.3
baz=60
M21A Separation Pea 59.86 310 ⇓P P 12 45 00.3 -0.1
baz=60
L21A Rawlins 59.91 310 ⇓P P 12 45 00.1 -0.7
baz=60
D22A Cohagen 59.93 316 ⇑P P 12 45 00.8 +0.2
baz=60
CONA Conrad Observa 59.95 43⇑*i*P P 12 45 01.0 +0.2
comp=Z,34nm,1.6s
CONA Conrad Observa 59.95 43⇑*i*P P 12 45 01.0 +0.2
comp=Z,34nm,1.6s
TREC Trest 60.01 41 ⇑AMS AMS 13 10 50.0
comp=Z,400nm,18.8s
Y20A Horse Springs, 60.01 301 ⇑P P 12 45 01.7 0.0
baz=60,SNR=6.2
H21A Big Horn, Sher 60.07 313 ⇓P P 12 45 00.8 -0.9
baz=60
320A Kipp Ranch, An 60.07 298 ⇑P P 12 45 02.5 +0.5
baz=60
220A Playas Peak, P 60.08 299 ⇑P P 12 45 02.2 +0.2
baz=60,SNR=13
I21A Big Trails, Te 60.12 312 ⇑P P 12 45 00.7 -1.3
baz=60,SNR=8.5
X20A Quemado 60.14 302 ⇓P P 12 45 02.3 -0.1
baz=60
A22A Carney Farms, 60.14 318 ⇑P P 12 45 01.8 -0.2
baz=60
Z20A Nine Sixteen R 60.16 300 ⇑P P 12 45 02.9 +0.3
baz=60,SNR=6.4
W20A Ramah 60.17 302 ⇓P P 12 45 03.1 +0.4
baz=60
V20A Brimhall 60.18 303 ⇑P P 12 45 02.8 +0.1
baz=60
120A U Bar Ranch, L 60.18 299 ⇑P P 12 45 03.2 +0.5
baz=60,SNR=8.5
S20A Disappointment 60.23 305 ⇑P P 12 45 03.9 +0.8
baz=60,SNR=12
U20A Newcomb 60.26 304 ⇓P P 12 45 02.9 -0.3
baz=60
R20A Redvale 60.28 306 ⇓P P 12 45 03.8 +0.5
baz=60,SNR=8.1
Q20A Ridgley Place, 60.28 307 ⇓P P 12 45 04.0 +0.7
baz=60
G21A Lodge Grass 60.28 314 ⇓P P 12 45 02.6 -0.5
baz=60
MVCO Mesa Verde 60.30 305 ⇑P P 12 45 03.9 +0.4
baz=60
O20A White River Ci 60.35 308 ⇓P P 12 45 03.7 -0.1
baz=60
P20A De Beque 60.40 307 ⇑P P 12 45 04.8 +0.7
baz=60
PV01 Paradox Valley 60.42 306 *e*P P 12 45 05.0 +0.7
comp=Z,1μm,1.3s
N20A Spence Gulch, 60.44 309 ⇓P P 12 45 04.3 -0.1
baz=60
M20A Sweetwater, Wa 60.46 310 ⇓P P 12 45 04.4 -0.1
baz=60
J20A Shoshoni 60.62 312 ⇑P P 12 45 05.5 0.0
baz=61
UPC Upice 60.62 40 *e*P P 12 45 06.0 +0.8
UPC *e* 12 45 10.3
UPC Upice 60.62 40⇑*e*P P 12 45 06.0 +0.8
UPC *e*pP pP 12 45 10.3 -1.9
L20A Wamsutter 60.63 310 ⇑P P 12 45 06.0 +0.3
baz=61
C21A Desert Coulee 60.67 317 ⇓P P 12 45 05.8 +0.2
baz=61
K20A Yellowstone Ra 60.72 311 ⇑P P 12 45 05.8 -0.4
baz=61
319A Douglas 60.72 298 ⇑P P 12 45 06.9 +0.6
baz=61
VRAC Vranov 60.72 41 LR LR 13 09 32.4
comp=Z,394nm,18.4s,baz=185,slow=34
VRAC Vranov 60.72 41⇑*i*P P 12 45 04.6 -1.3
H20A Greybull 60.72 313 ⇑P P 12 45 05.6 -0.5
baz=61
DPC Dobruska-Polom 60.78 40⇑*i*P P 12 45 06.7 +0.4
DPC *e* 12 45 11.7
DPC MLR MLR
comp=Z,400nm,17.9s
DPC Dobruska-Polom 60.78 40 *e*P P 12 45 06.9 +0.6
DPC Dobruska-Polom 60.78 40⇑*i*P P 12 45 06.7 +0.4
DPC *e*pP pP 12 45 11.7 -1.7
DPC AMS AMS 13 08 10.0
comp=Z,400nm,17.9s
A21A Bergtoll Ranch 60.79 318 ⇓P P 12 45 06.3 -0.2
baz=61
P19A Cripple Cowboy 60.87 307 ⇑P P 12 45 06.9 -0.5
baz=61,SNR=7.6
KSP Ksiaz 60.87 40 *e*P P 12 45 08.6 +1.7
KSP Ksiaz 60.87 40 *e*P P 12 45 07.7 +0.8
KSP Ksiaz 60.87 40 *e*P P 12 45 08.5 +1.7
G20A Bridger 60.98 314 ⇑P P 12 45 07.2 -0.7
baz=61,SNR=8.2
F20A Billings 61.03 315 ⇑P P 12 45 08.1 -0.1
baz=61
Q19A Hogan Spring (61.03 307 ⇓P P 12 45 08.2 -0.2
baz=61
O19A Miners Draw (B 61.04 308 ⇑P P 12 45 08.2 -0.2
baz=61
K19A Absolon Red Bu 61.10 311 ⇓P P 12 45 08.8 0.0
baz=61
E20A Meyer Farm, Mu 61.13 315 ⇑P P 12 45 09.0 +0.2
baz=61
N19A John Jarvie Ra 61.14 309 ⇑P P 12 45 08.5 -0.6
baz=61
W18A Petrified Fore 61.18 302 ⇓P P 12 45 09.8 +0.3
baz=61
D20A Manuel Ranch, 61.23 316 ⇓P P 12 45 09.7 +0.2
baz=61
C20A Veseth Ranch, 61.25 317 ⇓P P 12 45 10.0 +0.4
baz=61
J19A Crowheart 61.31 312 ⇑P P 12 45 09.6 -0.6
baz=61
X18A Snowflake 61.34 302 ⇓P P 12 45 10.9 +0.3
baz=61,SNR=5.3
I19A Meeteetse 61.37 312 ⇓P P 12 45 09.8 -0.8
baz=61,SNR=5.6
NB2 NORSAR Subarra 61.38 27 P P 12 45 10.7 +0.5
baz=246,slow=6.5
NB2 NORSAR Subarra 61.38 27 P P 12 45 10.7 +0.5
comp=Z,64nm,1.4s,baz=246,slow=6.5
NOA NORSAR Array B 61.38 27 P P 12 45 10.2 0.0
comp=Z,7.0nm,0.8s,baz=243,slow=6.8,SNR=22
NOA LR LR 13 06 08.9
comp=Z,231nm,21.1s,baz=235,slow=31
NOA NORSAR Array B 61.38 27 P P 12 45 10.2 0.0
B20A Solberg Farm, 61.40 318 ⇑P P 12 45 10.2 -0.4
baz=61
L19A Farson 61.40 310 ⇓P P 12 45 10.6 -0.3
baz=61
A20A Cobblestone Ra 61.42 318 ⇑P P 12 45 10.7 0.0
baz=61
MORC Moravsky Berou 61.42 41 *e*P P 12 45 10.8 +0.1
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 61.42 41 *e*P P 12 45 10.8 +0.1
comp=Z,4.7nm,0.9s
MORC Moravsky Berou 61.42 41⇑*i*P P 12 45 11.1 +0.4
H19A Powell 61.45 313 ⇓P P 12 45 11.1 +0.1
baz=61
PKSM Moragy 61.51 45 ⇑P P 12 45 12.0 +0.7
PKSM Moragy 61.51 45⇑*i*P P 12 45 12.0 +0.7
S18A Hurst Farm, Bl 61.52 305 ⇑P P 12 45 12.0 +0.2
baz=62
N18A Larsen Ranch, 61.52 309 ⇓P P 12 45 11.1 -0.6
baz=62
E19A Rath Farm, Rou 61.57 315 ⇓P P 12 45 11.8 -0.1
baz=62
F19A Roth Farm, Mol 61.59 314 ⇑P P 12 45 11.5 -0.5
baz=62
BW06 Boulder Array 61.62 311 *e*P P 12 45 11.9 -0.5
comp=Z,15nm,1.4s
BW06 Boulder Array 61.62 311 ⇓P P 12 45 11.9 -0.5
baz=62
PDAR Pinedale Array 61.62 311 P P 12 45 11.4 -1.0
comp=Z,1.3nm,1.0s,baz=109,slow=8.6,SNR=8.8
PDAR LR LR 13 08 47.8
comp=Z,596nm,21.7s,baz=120,slow=33
PDAR Pinedale Array 61.62 311 P P 12 45 11.4 -1.0
RLMT Red Lodge 61.70 314 *e*P P 12 45 13.0 +0.1
comp=Z,12nm,1.3s
RLMT Red Lodge 61.70 314 ⇑P P 12 45 12.5 -0.4
baz=62
O18A Roosevelt 61.71 308 ⇓P P 12 45 13.3 +0.4
baz=62
D19A Cripps Ranch, 61.74 316 ⇑P P 12 45 12.4 -0.6
baz=62
OKC Ostrava-Krasne 61.82 41⇑*i*P P 12 45 14.2 +0.9
OKC *e* 12 45 19.3
OKC MLR MLR
comp=Z,500nm,24.2s
OKC Ostrava-Krasne 61.82 41⇑*i*P P 12 45 14.2 +0.9
OKC *e*pP pP 12 45 19.3 -1.1
OKC AMS AMS 13 10 50.0
comp=Z,500nm,24.2s
M18A Lyman 61.86 309 ⇑P P 12 45 13.5 -0.5
baz=62
L18A Fontenelle, Gr 61.88 310 ⇑P P 12 45 13.5 -0.7
baz=62
I18A Diamond G Ranc 61.91 312 ⇓P P 12 45 13.9 -0.5
baz=62
H18A Shoshone NF, C 61.92 313 ⇑P P 12 45 13.6 -0.8
baz=62
G18A Lazy EL Ranch, 61.94 314 ⇑P P 12 45 13.5 -0.9
baz=62
C19A Slack Wire Ran 61.95 317 ⇑P P 12 45 12.6 -1.8
baz=62
A19A Klindworth Far 61.96 318 ⇓P P 12 45 13.8 -0.6
baz=62
K18A Toltan Ranch, 61.96 311 ⇓P P 12 45 14.4 -0.3
baz=62
TUC Tucson 62.00 299 *e*P P 12 45 15.4 +0.4
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 62.00 299 *e*P P 12 45 15.4 +0.4
comp=Z,9.6nm,1.1s
B19A Brinkman Farms 62.00 317 ⇓P P 12 45 14.7 0.0
baz=62
J18A Kendall Valley 62.01 311 ⇓P P 12 45 14.9 -0.1
baz=62
VYHS Vyhne 62.02 43 *e*P P 12 45 14.7 0.0
VYHS pmax pmax
comp=Z,40nm,2.3s
VYHS Vyhne 62.02 43 *e*P P 12 45 14.7 0.0
SRU San Rafael 62.02 307 *e*P P 12 45 15.8 +0.7
SRU pmax pmax
comp=Z,94nm,2.4s
SRU San Rafael 62.02 307 *e*P P 12 45 15.8 +0.7
comp=Z,94nm,2.4s
SRU San Rafael 62.02 307 ⇓P P 12 45 14.9 -0.3
baz=62
F18A Big Timber 62.13 314 ⇑P P 12 45 16.1 +0.5
baz=62
HFS Hagfors 62.17 29 LR LR 13 06 08.7
comp=Z,317nm,20.6s,baz=249,slow=30
P17A Butcher Ranch, 62.21 307 ⇓P P 12 45 16.7 +0.4
baz=62
O17A Robinson Place 62.26 308 ⇓P P 12 45 16.7 -0.1
baz=62
M17A Scullys Gap (B 62.31 309 ⇓P P 12 45 16.6 -0.5
baz=62
E18A Harlowton 62.35 315 ⇑P P 12 45 16.6 -0.5
baz=62
D18A Linhart Farms, 62.37 316 ⇓P P 12 45 17.1 -0.1
baz=62
LKWY Lake 62.43 313 *e*P P 12 45 21.1 +3.2
LKWY pmax pmax
comp=Z,64nm,2.3s
LKWY Lake 62.43 313 *e*P P 12 45 21.1 +3.2
comp=Z,64nm,2.3s
EGMT Eagleton 62.47 317 *e*P P 12 45 19.0 +1.2
comp=Z,101nm,2.5s
EGMT Eagleton 62.47 317 ⇑P P 12 45 17.6 -0.2
baz=62
LOHW Long Hollow 62.47 312 *e*P P 12 45 17.5 -0.6
comp=Z,8.9nm,1.2s
I17A Pilgrim Ck. 62.48 312 ⇓P P 12 45 18.5 +0.3
baz=62
Q16A Castle Valley 62.51 306 ⇑P P 12 45 18.3 -0.1
baz=62
L17A Cokeville 62.52 310 ⇑P P 12 45 18.4 -0.1
baz=62
J17A Brown Place, J 62.52 312 ⇓P P 12 45 18.0 -0.4
baz=62
WUAZ Wupatki 62.53 303 *e*P P 12 45 19.4 +0.9
comp=Z,6.9nm,0.8s
WUAZ Wupatki 62.53 303 ⇑P P 12 45 18.7 +0.1
baz=62,SNR=7.6
B18A Beardsley Farm 62.54 317 ⇓P P 12 45 19.0 +0.8
baz=62
X16A Lo Mia Camp, P 62.57 301 ⇑P P 12 45 18.8 -0.1
baz=62
FLWY Flagg Ranch 62.59 312 *e*P P 12 45 18.8 -0.1
comp=Z,20nm,1.2s
K17A Gardner Place, 62.62 311 ⇑P P 12 45 18.8 -0.2
baz=63
DAU Daniels Canyon 62.67 308 *e*P P 12 45 20.2 +0.6
DAU Daniels Canyon 62.67 308 *e*P P 12 45 20.2 +0.6
TPAW Teton Pass 62.71 312 *e*P P 12 45 19.6 -0.2
comp=Z,1.7nm,0.6s
IMW Indian Meadow 62.74 312 *e*P P 12 45 19.7 -0.3
comp=Z,10nm,1.0s
G17A Pierce Place, 62.76 314 ⇑P P 12 45 20.5 +0.6
baz=63
F17A Fitzpatrick Pl 62.78 314 ⇑P P 12 45 20.4 +0.4
baz=63
JLU Jordanelle 62.83 308 *e*P P 12 45 22.4 +1.8
comp=Z,113nm,2.5s
O16A Springville 62.85 308 ⇑P P 12 45 20.9 +0.3
baz=63
YMR Madison River 62.85 313 *e*P P 12 45 21.0 +0.4
comp=Z,15nm,1.0s
L16A Fish Haven 62.93 310 ⇑P P 12 45 20.9 -0.3
baz=63
OJC Ojcow 62.94 41 *e*P P 12 45 21.8 +1.0
OJC Ojcow 62.94 41 *e*P P 12 45 21.8 +1.0
OJC Ojcow 62.94 41 *e*P P 12 45 21.0 +0.2
D17A Six Diamond Ra 62.96 316 ⇑P P 12 45 20.7 -0.5
baz=63
RRI2 Red Ridge 62.96 311 *e*P P 12 45 20.9 -0.5
comp=Z,14nm,0.9s
E17A Martinsdale 62.99 315 ⇓P P 12 45 20.5 -0.9
baz=63
M16A Huntsville 63.02 309 ⇓P P 12 45 21.1 -0.6
baz=63
H16A Russell Place, 63.05 313 ⇑P P 12 45 22.1 +0.1
baz=63
C17A Wharram Farm, 63.08 316 ⇑P P 12 45 22.1 +0.2
baz=63
I16A Newdale 63.13 312 ⇑P P 12 45 22.6 +0.2
baz=63
J16A Bone 63.17 311 ⇓P P 12 45 22.7 0.0
baz=63
B17A L&G Farms, Che 63.20 317 ⇑P P 12 45 22.4 -0.2
baz=63
A17A Triple J Farms 63.23 318 ⇓P P 12 45 22.5 -0.4
baz=63
MSU Marysvale 63.28 306 *e*P P 12 45 24.6 +1.0
MSU Marysvale 63.28 306 *e*P P 12 45 24.6 +1.0
U15A North Rim 63.30 304 ⇑P P 12 45 24.2 +0.4
baz=63,SNR=6.8
MVU Marysvale 63.30 306 *e*P P 12 45 24.9 +1.1
comp=Z,5.3nm,1.0s
P15A Leamington 63.41 307 ⇓P P 12 45 24.1 -0.2
baz=63
BOZ Bozeman (W) 63.42 314 *e*P P 12 45 25.5 +1.2
BOZ Bozeman (W) 63.42 314 *e*P P 12 45 25.5 +1.2
BOZ Bozeman (W) 63.42 314 ⇓P P 12 45 23.2 -1.1
baz=63
BZS Buzias 63.49 46 ⇑P P 12 45 25.5 +1.0
BZS Buzias 63.49 46⇑*i*P P 12 45 25.5 +1.0
G16A Moss Hill, Enn 63.50 313 ⇓P P 12 45 24.8 0.0
baz=64
E16A East Helena 63.56 315 ⇓P P 12 45 25.2 +0.1
baz=64
L15A Malad City 63.63 310 ⇓P P 12 45 25.0 -0.8
baz=64,SNR=8.9
M15A Larsen Ranch, 63.64 309 ⇓P P 12 45 25.1 -0.7
baz=64,SNR=13
C16A Fuhringer Ranc 63.76 316 ⇑P P 12 45 26.2 -0.3
baz=64
J15A Blackfoot 63.78 311 ⇓P P 12 45 26.1 -0.5
baz=64
DAG Danmarks Havn 63.78 7⇓*i*P P 12 45 26.0 +0.1
comp=Z,153nm,1.0s
K15A Arbon 63.79 311 ⇓P P 12 45 26.8 0.0
baz=64
CRVS Cervenica-Dubn 63.80 42 *e*P P 12 45 27.5 +1.0
CRVS pmax pmax
comp=Z,66nm,2.2s
CRVS Cervenica-Dubn 63.80 42 *e*P P 12 45 27.5 +1.0
Z14A Wintersburg 63.81 300 ⇑P P 12 45 26.7 -0.2
baz=64
B16A M & M Farms, S 63.82 317 ⇑P P 12 45 26.9 +0.2
baz=64
DUG Dugway 63.85 308 *e*P P 12 45 27.6 +0.4
DUG pmax pmax
comp=Z,25nm,1.8s
DUG Dugway 63.85 308 *e*P P 12 45 27.6 +0.4
comp=Z,25nm,1.8s
DUG Dugway 63.85 308 ⇓P P 12 45 26.8 -0.4
baz=64
G15A Dillon 63.97 313 ⇓P P 12 45 27.4 -0.6
baz=64,SNR=7.2
F15A Butte 64.04 314 ⇓P P 12 45 28.0 -0.4
baz=64
DLMT Dillon 64.07 314 *e*P P 12 45 28.6 +0.1
comp=Z,50nm,2.1s
CCUT Cedar City 64.18 305 *e*P P 12 45 30.2 +0.7
comp=Z,166nm,3.0s
D15A Lincoln 64.19 315 ⇑P P 12 45 29.2 -0.1
baz=64
ARUT Antelope Range 64.25 305 *e*P P 12 45 31.0 +1.1
ARUT pmax pmax
comp=Z,9.0nm,1.0s
ARUT Antelope Range 64.25 305 *e*P P 12 45 31.0 +1.1
comp=Z,9.4nm,1.0s
K14A Jones Ranch, D 64.26 310 ⇓P P 12 45 29.7 -0.1
baz=64
L14A Malta 64.27 310 ⇑P P 12 45 29.8 -0.2
baz=64
UZH Uzhgorod 64.31 43⇓*i*P P 12 45 30.3 +0.5
UZH *i* 12 45 35.3
UZH *e* 12 46 03.3
KOLS Kolonicke sedl 64.33 42 *e*P P 12 45 29.9 -0.1
KOLS pmax pmax
comp=Z,27nm,1.8s
KOLS Kolonicke sedl 64.33 42 *e*P P 12 45 29.9 -0.1
C15A Salmond Ranch, 64.33 316 ⇓P P 12 45 29.6 -0.7
baz=64,SNR=7.4
B15A Bradely Ranch, 64.37 317 ⇑P P 12 45 29.6 -0.8
baz=64,SNR=7.2
VTS Vitosha 64.37 50 ⇑P P 12 45 29.5 -1.1
VTS Vitosha 64.37 50⇑*i*P P 12 45 29.5 -1.1
TRPA Tarpa 64.41 43⇓*i*P P 12 45 30.2 -0.3
H14A Leadore 64.55 313 ⇓P P 12 45 32.1 +0.4
baz=64
I14A Mackay 64.56 312 ⇓P P 12 45 31.8 0.0
baz=64
A15A Johnson Ranch, 64.56 318 ⇓P P 12 45 31.6 0.0
baz=64
W13A Hualapai Mount 64.58 302 ⇓P P 12 45 32.7 +0.5
baz=64
F14A Wisdom 64.65 314 ⇓P P 12 45 32.4 0.0
baz=65
CHMT Chamberlain Mo 64.68 315 *e*P P 12 45 34.0 +1.4
comp=Z,6.3nm,1.5s
KWP Kalwaria Pacla 64.70 42 *e*P P 12 45 34.8 +2.4
KWP Kalwaria Pacla 64.70 42 *e*P P 12 45 33.8 +1.3
KWP pmax pmax
comp=Z,41nm,1.2s
KWP Kalwaria Pacla 64.70 42 *e*P P 12 45 33.8 +1.3
comp=Z,41nm,1.2s
KWP Kalwaria Pacla 64.70 42⇑*i*P P 12 45 33.0 +0.6
KWP Kalwaria Pacla 64.70 42 *e*P P 12 45 34.8 +2.4
PDMCI Parker Dam,Lak 64.80 301 ⇑P P 12 45 33.5 +0.2
baz=65
D14A Greenough 64.87 315 ⇓P P 12 45 33.4 -0.3
baz=65
SLMT Seeley Lake 64.87 316 *e*P P 12 45 33.6 -0.2
A14A Double T Ranch 65.01 317 ⇑P P 12 45 34.5 -0.1
baz=65
I13A Wildhorse Cree 65.03 312 ⇑P P 12 45 34.9 -0.1
baz=65
J13A Cove Ranch, Pi 65.04 311 ⇓P P 12 45 34.4 -0.6
baz=65
Y12C Blythe 65.13 301 ⇓P P 12 45 36.4 +1.0
baz=65
H13A Challis 65.18 313 ⇓P P 12 45 36.0 +0.2
baz=65
G13A Cobalt 65.20 313 ⇑P P 12 45 36.0 0.0
baz=65
HLID Hailey 65.23 311 *e*P P 12 45 36.1 0.0
comp=Z,8.5nm,1.4s
HLID Hailey 65.23 311 ⇓P P 12 45 36.2 0.0
baz=65
SWMT Swartz Lake 65.24 316 *e*P P 12 45 36.0 -0.1
E13A Victor 65.27 315 ⇑P P 12 45 36.6 +0.3
baz=65
F13A Darby 65.32 314 ⇑P P 12 45 37.0 +0.3
baz=65
JTMT Jette 65.45 316 *e*P P 12 45 37.2 -0.3
D13A Huson 65.52 315 ⇑P P 12 45 38.6 +0.7
baz=66
LVV L'vov 65.58 42 *e*P P 12 45 44.3 +6.2
ARR Arges 65.58 47⇑*i*P P 12 45 38.7 +0.4
IRM Iron Mountain 65.64 301 ⇓P P 12 45 39.1 +0.3
baz=66
C13A Hot Springs 65.64 316 ⇓P P 12 45 38.5 -0.2
baz=66
BSMT Bassoo Peak 65.80 316 *e*P P 12 45 39.8 -0.1
VOIR 65.88 47 ⇑P P 12 45 40.2 0.0
VOIR 65.88 47⇑*i*P P 12 45 40.2 0.0
R11A Troy Canyon, C 65.95 306 ⇑P P 12 45 40.9 0.0
baz=66,SNR=8.1
APE Apeiranthos 66.00 56⇑*i*P P 12 45 45.5 +4.4
GMRC Granite Mounta 66.04 302 ⇑P P 12 45 41.4 -0.2
baz=66,SNR=5.7
RES Resolute Bay 66.06 347 *e*P P 12 45 41.1 +0.4
comp=Z,12nm,1.2s
BUR08 Bucovina Ar. S 66.14 44 *e*P P 12 45 43.2 +1.3
TUQ Turquoise Moun 66.25 303 ⇓P P 12 45 43.4 +0.6
baz=66
MFID Camas Ranch 66.25 311 *e*P P 12 45 42.9 +0.2
comp=Z,60nm,2.2s
MFID Camas Ranch 66.25 311 ⇓P P 12 45 43.1 +0.5
baz=66
BELC Belle Mtn. Jos 66.35 301 ⇑P P 12 45 44.1 +0.6
baz=66
B12A Libby 66.39 317 ⇑P P 12 45 44.0 +0.6
baz=66
A12A Yaak River Ran 66.47 317 ⇓P P 12 45 44.0 0.0
baz=66,SNR=15
HEC Hector,Ludlow 66.59 302 ⇑P P 12 45 46.5 +1.5
baz=66
EFI East Falkland 66.86 189 *e*P P 12 45 46.9 +0.9
GSC Goldstone 66.97 302 *e*P P 12 45 48.4 +1.0
GSC pmax pmax
comp=Z,29nm,1.7s
GSC Goldstone 66.97 302 *e*P P 12 45 48.4 +1.0
comp=Z,29nm,1.7s
GSC Goldstone 66.97 302 ⇑P P 12 45 48.1 +0.6
baz=67
FURC Furnace Creek, 66.98 304 ⇑P P 12 45 48.1 +0.8
baz=67
VRI Vrincioaia 67.08 46 ⇓P P 12 45 48.1 +0.3
VRI Vrincioaia 67.08 46⇓*i*P P 12 45 48.1 +0.3
GRAC Grapevine Rang 67.38 304 ⇓P P 12 45 50.6 +0.7
baz=67
NEW Newport 67.40 316 *e*P P 12 45 49.4 -0.4
comp=Z,19nm,1.1s
NEW Newport 67.40 316 ⇓P P 12 45 49.4 -0.4
baz=67,SNR=10
MPMC Manual Prospec 67.50 303 ⇓P P 12 45 51.6 +0.7
baz=68
BFSC Mount Baldy Ra 67.71 301 ⇑P P 12 45 52.6 +0.4
baz=68

YKA	**Yellowknife Ar**	**67.83**	**332**	P		**P**	**12 45 50.9**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=101,slow=7.2,SNR=60							
YKA	**Yellowknife Ar**	**67.83**	**332**	P		**P**	**12 45 50.9**	**-1.3**
YKW3	**Yellowknife Ar**	**67.84**	**332**	*e*P		**P**	**12 45 51.1**	**-1.2**
	comp=Z,0.1nm,0.9s							
EDW2	**Edwards Air Fo**	**67.96**	**302**	⇓P		**P**	**12 45 53.4**	**-0.3**
	baz=68							
NVAR	**Mina Array Bea**	**68.08**	**306**	P		**P**	**12 45 53.5**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=90,slow=5.7,SNR=7.5							
NVAR				LR		LR	13 16 23.6	
	comp=Z,310nm,18.7s,baz=261,slow=37							
NVAR	**Mina Array Bea**	**68.08**	**306**	P		**P**	**12 45 53.5**	**-1.1**
ISA	**Isabella**	**68.32**	**303**	*e*P		**P**	**12 45 57.3**	**+1.4**
ISA				pmax		pmax		
	comp=Z,15nm,1.3s							
ISA	**Isabella**	**68.32**	**303**	*e*P		**P**	**12 45 57.3**	**+1.4**
	comp=Z,15nm,1.3s							
ISA	**Isabella**	**68.32**	**303**	⇓P		**P**	**12 45 56.4**	**+0.5**
	baz=68							
FINES	**FINESS Array B**	**68.37**	**29**	P		**P**	**12 45 55.2**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=270,slow=5.7,SNR=6.3							
FINES				LR		LR	13 11 31.2	
	comp=Z,325nm,19.4s,baz=160,slow=32							
FINES	**FINESS Array B**	**68.37**	**29**	P		**P**	**12 45 55.2**	**-0.3**
ALE	**Alert**	**68.41**	**358**	P		**P**	**12 45 55.0**	**-0.5**
	comp=Z,191nm,0.8s,SNR=19							
AKASG	**Malin Array Be**	**68.97**	**41**	P		**P**	**12 45 59.1**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=264,slow=6.1,SNR=11							
AKASG				LR		LR	13 13 59.1	
	comp=Z,213nm,19.1s,baz=295,slow=34							
AKASG	**Malin Array Be**	**68.97**	**41**	P		**P**	**12 45 59.1**	**-0.5**
AKASG	**Malin Array Be**	**68.97**	**41**	P		**P**	**12 45 59.1**	**-0.5**
MOD	**Modoc**	**69.53**	**310**	*e*P		**P**	**12 46 04.4**	**+0.9**
ARCES	**ARCESS Array B**	**69.75**	**21**	P		**P**	**12 46 03.1**	**-0.9**
	comp=Z,8.3nm,0.8s,baz=272,slow=7.2,SNR=7.9							
ARCES				LR		LR	13 09 57.5	
	comp=Z,301nm,20.3s,baz=79,slow=30							
ARCES	**ARCESS Array B**	**69.75**	**21**	P		**P**	**12 46 03.1**	**-0.9**
KBS	**Kingsbay**	**69.75**	**10**	*e*P		**P**	**12 46 04.9**	**+0.9**
KBS				*e**PP		**pP**	**12 46 12.5**	**+1.4**
KBS				pmax		pmax		
	comp=Z,53nm,1.0s							
KBS	**Kingsbay**	**69.75**	**10**	*e*P		**P**	**12 46 04.8**	**+0.9**
	comp=Z,53nm,1.0s							
KBS				*e*pP		**pP**	**12 46 12.5**	**+1.4**
KHMM	**Horse Mountain**	**72.16**	**309**	*e*P		**P**	**12 46 20.8**	**+1.3**
	comp=Z,62nm,1.6s							
BRTR	**Keskin Array B**	**72.26**	**53**	P		**P**	**12 46 19.3**	**-0.7**
	comp=Z,7.8nm,0.8s,baz=265,slow=4.3,SNR=28							
BRTR				LR		LR	13 17 01.7	
	comp=Z,223nm,18.4s,baz=78,slow=35							
BRTR	**Keskin Array B**	**72.26**	**53**	P		**P**	**12 46 19.3**	**-0.7**
APA	**Apatity**	**72.30**	**23**⇑	*e*P		**P**	**12 46 20.6**	**+1.1**
OBN	**Obninsk**	**73.46**	**36**⇑	*e*P		**P**	**12 46 26.9**	**+0.3**
OBN				*e*S		**S**	**12 55 51.5**	**-3.3**
OBN				*e*SS		**SS**	**13 00 44.2**	**+7.1**
OBN				pmax		pmax		
	comp=Z,71nm,2.5s							
OBN				MLR		MLR		
	comp=Z,300nm,18.0s							
TMCR	**Tamitsa**	**74.06**	**27**	*e*P		**P**	**12 46 31.8**	**+1.8**
TMCR				pmax		pmax		
	comp=Z,44nm,0.5s							
EIL	**Elat**	**74.41**	**63**	LR		LR	13 17 52.6	
	comp=Z,745nm,22.0s,baz=274,slow=35							
ANN	**Anapa**	**74.64**	**47**	*e*P		**P**	**12 46 31.8**	**-2.0**
ANN				pmax		pmax		
	comp=Z,43nm,1.0s							
KLMR	**Klimovskoe**	**74.83**	**30**	*e*P		**P**	**12 46 32.0**	**-2.5**
KLMR				pmax		pmax		
	comp=Z,35nm,1.4s							
VSR	**Storozhevoye**	**75.25**	**40**	*e*P		**P**	**12 46 36.9**	**-0.2**
INK	**Inuvik**	**76.08**	**337**	*e*P		**P**	**12 46 40.9**	**-0.7**
MALT	**Malatya**	**76.11**	**54**	*e*P		**P**	**12 46 43.3**	**+0.8**
MALT				pmax		pmax		
	comp=Z,25nm,1.2s							
MALT	**Malatya**	**76.11**	**54**	*e*P		**P**	**12 46 43.3**	**+0.8**
	comp=Z,25nm,1.2s							
MALT	**Malatya**	**76.11**	**54**⇑	*i*P		**P**	**12 46 41.1**	**-1.4**
VRHR	**Novokhopersk**	**76.80**	**40**	*e*P		**P**	**12 46 46.7**	**+0.7**
VRHR				pmax		pmax		
	comp=N,8.0nm,0.8s							
VRHR				pmax		pmax		
	comp=E,9.0nm,0.8s							
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SKAG	**Skagway**	**77.79**	**329**	*e*P		**P**	**12 46 52.0**	**+0.6**
	comp=Z,58nm,1.5s							
LSZ	**Lusaka**	**78.21**	**109**	*e*P		**P**	**12 46 55.9**	**+1.3**
	comp=Z,39nm,1.4s							
LSZ				*e*pP		**pP**	**12 47 02.0**	**+0.1**
KIV	**Kislovodsk**	**78.49**	**47**	*e*P		P	12 46 51.5	-4.2
KIV				pmax		pmax		
	comp=Z,13nm,1.1s							
DAWY	**Dawson**	**78.98**	**333**	*e*P		**P**	**12 46 57.8**	**-0.2**
ZEI	**Tsey**	**79.56**	**48**	*e*P		**P**	**12 47 03.7**	**+1.9**
ZEI				pmax		pmax		
	comp=Z,24nm,1.8s							
BOSA	**Boshof**	**80.31**	**123**	P		**P**	**12 47 04.4**	**-1.5**
	comp=Z,7.0nm,1.1s,baz=270,slow=4.6,SNR=5.0							
BOSA				LR		LR	13 19 08.5	
	comp=Z,237nm,18.0s,baz=291,slow=33							
BOSA	**Boshof**	**80.31**	**123**	*e*P		**P**	**12 47 06.4**	**+0.5**
ILAR	**Eielson Array**	**81.97**	**335**	P		**P**	**12 47 13.8**	**-0.1**
	comp=Z,12nm,0.9s,baz=70,slow=4.7,SNR=76							
ILAR				LR		LR	13 20 33.2	
	comp=Z,198nm,19.0s,baz=83,slow=33							
ILAR	**Eielson Array**	**81.97**	**335**	P		**P**	**12 47 13.8**	**-0.1**
COLA	**College**	**82.34**	**335**	*e*P		**P**	**12 47 16.1**	**+0.3**
COLA				pmax		pmax		
	comp=Z,17nm,1.0s							
COLA	**College**	**82.34**	**335**	*e*P		**P**	**12 47 16.1**	**+0.3**
	comp=Z,17nm,1.0s							
COLD	**Coldfoot**	**82.50**	**338**	*e*P		**P**	**12 47 17.5**	**+0.8**
KMBO	**Kilima Mbogo**	**82.83**	**93**	*e*P		**P**	**12 47 22.0**	**+2.3**
	comp=Z,28nm,1.6s							
SOKR	**Solikamsk**	**83.52**	**30***c*	*i*P		P	12 47 28.2	+6.2
SOKR				pmax		pmax		
	comp=Z,20nm,1.4s							
TRF	**Thorofare Moun**	**83.81**	**334**	*e*P		**P**	**12 47 23.1**	**-0.6**
	comp=Z,9.0nm,0.8s							
ARU	**Arti**	**85.41**	**33***d*	*i*P		**P**	**12 47 31.5**	**-0.2**
ARU							12 50 49.5	
ARU				S		S	12 57 53.0	-8.4
ARU				pmax		pmax		
	comp=Z,21nm,1.7s							
ARU	**Arti**	**85.41**	**33**	*e*P		**P**	**12 47 32.0**	**+0.3**
	comp=Z,40nm,1.8s							
ABKAR	**Akbulak array**	**88.64**	**39**	*e*P		**P**	**12 47 47.6**	**0.0**
	comp=Z,2.5nm,0.6s							
VNA3	**Neumayer Olymp**	**88.85**	**169**	*e*P		**P**	**12 47 48.1**	**+0.2**
VNA3	**Neumayer Olymp**	**88.85**	**169**	*es*P		sP	12 47 54.5	-3.4
VNA2	**Neumayer--Watz**	**89.02**	**168**	*e*P		**P**	**12 47 48.2**	**-0.5**
VNA2	**Neumayer--Watz**	**89.02**	**168**	*es*P		sP	12 47 55.3	-3.4
TNA	**Tin City**	**89.57**	**340**	*e*P		**P**	**12 47 52.6**	**+1.1**
	comp=Z,128nm,2.7s							
SNAA	**Sanae**	**90.52**	**168**	*e*P		P	12 48 01.4	+5.7
BVAR	**Borovoye Array**	**93.05**	**33**	LR		LR	13 27 28.0	
	comp=Z,305nm,20.4s,baz=127,slow=34							
BILL	**Bilibino**	**94.63**	**349**⇑	*e*P		**P**	**12 48 13.8**	**-1.1**
BILL				*e*S		**SKSac**	**12 58 49.7**	**+0.9**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BILL				MLR		MLR		
	comp=Z,200nm,22.0s							
BILL	**Bilibino**	**94.63**	**349**	*e*P		**P**	**12 48 14.9**	**0.0**
	comp=Z,18nm,1.5s							
WSAR	**Wadi Sarin**	**96.50**	**64**	LR		LR	13 34 30.5	
	comp=Z,435nm,18.7s,baz=258,slow=37							
KURBB	**Kurchatov Arra**	**98.60**	**32**	LR		LR	13 33 59.7	
	comp=Z,235nm,19.5s,baz=295,slow=36							
ZALV	**Zalesovo Beam**	**99.58**	**27**	PP		PP	12 52 39.2	-1.6
ZALV				LR		LR	13 31 34.4	
	comp=Z,212nm,20.1s,baz=260,slow=34							
ZALV	**Zalesovo Beam**	**99.58**	**27**	PP		PP	12 52 39.2	-1.6
PPT2	**Papeete2**	**107.84**	**256**	*e*LR		LR	13 25 00.6	
	comp=Z,863nm,31.0s							
TBI	**Tubuai**	**108.63**	**250**	*e*LR		LR	13 25 16.2	
	comp=Z,259nm,32.5s							
VNDA	**Vanda**	**115.51**	**186**	PKP		**PKPdf**	**12 53 35.0**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=322,slow=21,SNR=7.2							
VNDA	**Vanda**	**115.51**	**186**	PKP		**PKPdf**	**12 53 35.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**120.82**	**21**	*e*PKP		**PKPdf**	**12 53 44.8**	**-2.2**
HHC				PP		**PP**	**12 55 15.3**	**+1.1**
HHC				PKS		**PKSdf**	**12 57 20.1**	**-3.7**
HHC				SKS		**SKSdf**	**13 00 55.5**	**-2.6**
HHC				SKKS		**SKKSac**	**13 02 07.6**	**-6.5**
HHC				AMB		AMB		
	comp=Z,110nm,9.1s							
HHC				LR		LR		
	comp=N,200nm,20.2s							
HHC				LR		LR		
	comp=E,160nm,20.7s							
HHC				LR		LR		
	comp=Z,180nm,20.1s							
MDJ	**Mudanjiang**	**120.97**	**4**	PKP		**PKPdf**	**12 53 46.5**	**-0.5**
MDJ				AMB		AMB		
	comp=Z,110nm,5.3s							
LZH	**Lanzhou**	**121.73**	**29**	*e*PKP		**PKPdf**	**12 53 49.8**	**+0.8**
LZH				sPKP			12 53 54.3	
LZH				*e*PP		**PP**	**12 55 24.3**	**+3.5**
LZH				SKKS			13 02 14.3	
LZH				*e*SS		**SS**	**13 11 54.8**	**-0.9**
LZH				AMB		AMB		
	comp=Z,180nm,8.6s							
LZH				LR		LR		
	comp=N,160nm,18.0s							
LZH				LR		LR		
	comp=E,170nm,18.1s							
LZH				LR		LR		
	comp=Z,200nm,20.0s							
BJI	**Beijing**	**123.00**	**17**	PKP		**PKPdf**	**12 53 50.4**	**-0.6**
BJI				SS		SS	13 12 17.6	+6.8
BJI				LR		LR		
	comp=N,250nm,21.3s							
BJI				LR		LR		
	comp=E,190nm,15.6s							
BJI				LR		LR		
	comp=Z,150nm,29.5s							
CD2	**Chengdu**	**125.81**	**33**	PKP		**PKPdf**	**12 53 56.8**	**0.0**
CD2				PP		**PP**	**12 55 51.8**	**+3.6**
CD2				PKS		**PKSdf**	**12 57 32.0**	**-1.6**
CD2				SKS		**SKSdf**	**13 01 06.1**	**-1.6**
CD2				SKKS		**SKKSac**	**13 02 42.6**	**-3.9**
CD2				SS		**SS**	**13 12 47.3**	**0.0**
CD2				LR		LR		
	comp=N,210nm,7.1s							
CD2				LR		LR		
	comp=Z,310nm,11.3s							
MJAR	**Matsushiro Arr**	**129.15**	**357**	PKP		**PKPdf**	**12 54 02.1**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=312,slow=1.9,SNR=5.7							
MJAR	**Matsushiro Arr**	**129.15**	**357**	PKP		**PKPdf**	**12 54 02.1**	**-0.8**
KMI	**Kunming**	**129.64**	**39**	PKP		**PKPdf**	**12 54 05.0**	**+0.5**
KMI				sPKP			12 54 09.8	
KMI				PP		**PP**	**12 56 17.5**	**+3.6**
KMI				SS		SS	13 13 33.9	-1.8
KMI				AMB		AMB		
	comp=Z,120nm,5.7s							
KMI				LR		LR		
	comp=N,200nm,19.2s							
KMI				LR		LR		
	comp=E,92nm,18.2s							
KMI				LR		LR		
	comp=Z,170nm,20.5s							
GYA	**Guiyang**	**130.88**	**34**	Pdif		**Pdif**	**12 50 55.8**	**-1.8**
GYA				PKP		**PKiKP**	**12 54 10.3**	**+2.8**
GYA				PP		**PP**	**12 56 24.3**	**+2.7**
GYA				PKS		**PKSdf**	**12 57 41.3**	**-2.1**
GYA				SKKS			13 03 15.4	
GYA				SS		**SS**	**13 13 50.8**	**+0.4**
GYA				AMB		AMB		
	comp=Z,130nm,7.6s							
GYA				LR		LR		
	comp=N,140nm,20.8s							
GYA				LR		LR		
	comp=E,120nm,21.4s							
GYA				LR		LR		
	comp=Z,130nm,21.8s							
NJ2	**Nanjing**	**131.22**	**18**	*e*PKP		**PKPdf**	**12 54 04.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**131.72**	**48**	PKP		**PKPdf**	**12 54 07.4**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=286,slow=3.7,SNR=7.9							
CMAR	**Chiang Mai Arr**	**131.72**	**48**	PKP		**PKPdf**	**12 54 07.4**	**-0.9**
DZM	**Mont Dzumac**	**149.20**	**251**	PKPbc		**PKPbc**	**12 54 44.1**	**+0.3**
	comp=Z,15nm,0.7s,baz=120,slow=11,SNR=6.7							
DZM	**Mont Dzumac**	**149.20**	**251**	*e*LR		LR	13 44 05.9	
	comp=Z,275nm,27.2s							
DZM	**Mont Dzumac**	**149.20**	**251**	PKPbc		**PKPbc**	**12 54 44.1**	**+0.3**
STKA	**Stephens Creek**	**161.66**	**198**	PKP		**PKPdf**	**12 54 55.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=170,slow=6.1,SNR=4.6							
STKA	**Stephens Creek**	**161.66**	**198**	PKP		**PKPdf**	**12 54 55.2**	**-0.7**
ASAR	**Alice Springs**	**170.82**	**174**	PKP		**PKPdf**	**12 55 00.9**	**-2.4**
	comp=Z,1.3nm,1.1s,baz=80,slow=1.5,SNR=5.6							
ASAR				PKPab		**PKPab**	**12 56 19.2**	**-2.1**
	comp=Z,1.7nm,1.0s,baz=181,slow=4.2,SNR=8.9							
ASAR				PP		**PP**	**13 00 14.7**	**+4.4**
	comp=Z,0.3nm,0.6s,baz=179,slow=7.5,SNR=4.1							
ASAR	**Alice Springs**	**170.82**	**174**	PKP		**PKPdf**	**12 55 00.9**	**-2.4**
ASAR				PKPab		**PKPab**	**12 56 19.2**	**-2.1**
ASAR				PP		**PP**	**13 00 14.7**	**+4.4**
WRA	**Warramunga Arr**	**174.55**	**174**	PKP		**PKPdf**	**12 55 02.8**	**-2.2**
	comp=Z,1.7nm,1.2s,baz=250,slow=0.9,SNR=4.6							
WRA				PKPab		**PKPab**	**12 56 35.4**	**-2.5**
	comp=Z,1.4nm,0.9s,baz=192,slow=3.3,SNR=7.5							
WRA	**Warramunga Arr**	**174.55**	**174**	PKP		**PKPdf**	**12 55 02.8**	**-2.2**
WRA				PKPab		**PKPab**	**12 56 35.4**	**-2.5**

***IDC 24** 12:54:06.1±6.8, 0°52S×132°27E, h0km, mb3.2/2,*
mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML3.1/1, Error
ellipse: s-maj=439.7km s-min=26.3km az=74.0, Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**174**	P	P	12 58 32.9	-1.1
	0.1nm,0.3s,baz=354,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**23.06**	**176**	P	P	12 59 14.2	+0.8
	0.8nm,0.8s,baz=354,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**64.20**	**324**	P	P	13 04 42.8	-0.1
	0.4nm,0.9s,baz=103,slow=5.2,SNR=2.6						

*AUST **24** 13:08:29.8±5.4, 8°84S×117°99E, h132km, Error ellipse:*
s-maj=2.1km s-min=1.2km az=281.0

IDC 24 13:10:08.6±6.4, 7°42S×128°25E, h102km±61km, mb3.5/6,
mb1 3.7/9, mb1mx3.5/21, mbtmp3.6/9, Error ellipse:
s-maj=86.7km s-min=24.5km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.09**	**152**	P	Pn	13 11 40.4	+4.2
	baz=14,SNR=67						
KDU	**Kakadu**	**6.69**	**142**	P	Pn	13 11 48.1	+3.9
	baz=15,SNR=66						
SWI	**Sorong**	**7.17**	**25**	P	Pn	13 11 58.7	+7.8
	baz=15,SNR=4.5						
PCI	**Palu**	**10.59**	**307**	S	P	13 12 24.6	
	baz=8.1,SNR=5.2						
FITZ	**Fitzroy Crossi**	**10.92**	**193**	P	Pn	13 12 41.0	-0.9
	1.5nm,0.3s,baz=33,slow=11,SNR=13						
FITZ				S	Sn	13 14 34.4	-7.7
	3.5nm,0.3s,baz=311,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**13.78**	**155**	P	Pn	13 13 18.8	-0.9
	0.7nm,0.3s,baz=322,slow=14,SNR=5.0						
WRA				S	Sn	13 15 41.2	-10
	3.4nm,0.3s,baz=328,slow=22,SNR=15						
ASAR	**Alice Springs**	**17.04**	**162**	P	P	13 14 02.5	+1.6
	0.5nm,0.3s,baz=340,slow=10,SNR=44						
ASAR				S	Sn	13 16 58.5	-12
	0.3nm,0.3s,baz=338,slow=20,SNR=6.2						
CMAR	**Chiang Mai Arr**	**38.69**	**312**	P	P	13 17 24.0	+1.2
	0.7nm,0.6s,baz=131,slow=6.2,SNR=5.3						
SONM	**Songino Array**	**58.31**	**343**	P	P	13 19 54.3	+1.4
	0.2nm,0.4s,baz=161,slow=7.5,SNR=5.6						
SONM				PcP	PcP	13 20 42.4	-0.5
	0.2nm,0.6s,baz=132,slow=2.1,SNR=2.1						
MKAR	**Makanchi Array**	**67.64**	**328**	P	P	13 20 53.2	-1.3
	0.3nm,0.3s,baz=112,slow=8.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**71.20**	**335**	P	P	13 21 14.8	-1.5
	1.0nm,0.6s,baz=115,slow=6.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.97**	**329**	P	P	13 21 21.1	+0.2
	1.2nm,0.5s,baz=130,slow=5.0,SNR=11						
BVAR	**Borovoye Array**	**77.50**	**328**	P	P	13 21 52.9	0.0
	0.5nm,0.5s,baz=138,slow=6.9,SNR=5.0						
LPAZ	**La Paz**	**151.41**	**146**	PKPbc	PKPbc	13 29 52.4	+0.1
	0.8nm,0.4s,baz=88,slow=3.0,SNR=6.2						

*NNC **24** 13:21:26.9±4.1, 50°37N×73°23E, h0km, mb3.2, mpv2.9,*
Error ellipse: s-maj=53.0km s-min=12.9km az=29.0

*IDC **24** 13:21:29.8±1.4, 50°99N×73°82E, h0km, mb3.3/1,*
mb1 3.1/5, mb1mx3.0/30, mbtmp2.9/5, ML2.7/4, MS3.6/1,
Ms1 3.8/1, ms1mx2.5/35, Error ellipse: s-maj=32.9km
s-min=10.3km az=29.0

ISC 24 13:21:31.9±1.2, 51°1N±0°1×73°92E±0°08, h10km, n13,
σ1°86/17, 6C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.43**	**313**	⇑Pn	**Pn**	**13 22 10.3**	**-1.3**
	2.5nm,0.3s						
VOSK				⇓Sn	**Sb**	**13 22 43.9**	**-1.7**
	10nm,0.6s						
BVA0	**Borovoye Array**	**2.90**	**313**	⇓Pn	**Pn**	**13 22 18.5**	**+0.5**
	0.6nm,0.5s						
BVA0				⇑Sn	**Sb**	**13 23 00.7**	**+1.6**
	2.6nm,0.6s						
BVAR	**Borovoye Array**	**2.90**	**313**	Pn	**Pn**	**13 22 17.7**	**-0.3**
	2.3nm,0.3s,baz=127,slow=16,SNR=31						
BVAR				Sn	**Sb**	**13 22 57.7**	**-1.4**
	3.3nm,0.3s,baz=120,slow=27,SNR=7.4						
BVAR				Rg	Rg	13 23 30.1	
	1.5nm,0.5s,baz=127,slow=33,SNR=1.6						
KURBB	**Kurchatov Arra**	**2.96**	**98**	Pn	**Pn**	**13 22 19.2**	**+0.3**
	0.2nm,0.3s,baz=279,slow=13,SNR=19						
KURBB				Lg	Lg	13 23 04.5	
	0.6nm,0.3s,baz=326,slow=39,SNR=11						
BRVK	**Borovoye**	**2.97**	**312**	⇓Pn	**Pn**	**13 22 20.5**	**+1.5**
	4.4nm,0.5s						
BRVK				⇓Sn	**Sb**	**13 23 00.8**	**-0.3**
	18nm,0.6s						
KURK	**Kurchatov**	**3.00**	**96**	⇑Pn	**Pn**	**13 22 19.8**	**+0.3**
	3.9nm,0.9s						
KURK				⇑Sn	**Sg**	**13 23 05.5**	**-2.7**
	10nm,0.5s						
MK31	**Makanchi Array**	**7.00**	**125**	⇓Pg	**Pb**	**13 23 34.1**	**+0.5**
	0.2nm,0.3s,baz=317,slow=13,SNR=5.8						
MK31				⇑Lg	Lg	13 25 10.6	
	1.8nm,0.6s,baz=313,slow=24,SNR=4.7						
MKAR	**Makanchi Array**	**7.00**	**125**	Pn	**Pn**	**13 23 12.5**	**-2.0**
	0.1nm,0.3s,baz=310,slow=11,SNR=5.8						
MKAR				Pg	Pb	13 23 22.1	-12
	0.1nm,0.3s,baz=299,slow=14,SNR=4.8						
MKAR				Sn	**Sn**	**13 24 36.7**	**+2.5**
	0.2nm,0.3s,baz=313,slow=20,SNR=4.4						
MKAR				Lg	Lg	13 25 07.6	
	0.3nm,0.3s,baz=300,slow=26,SNR=4.7						
ZALV	**Zalesovo Beam**	**7.23**	**63**	Pn	**Pn**	**13 23 16.9**	**-0.6**
	0.1nm,0.3s,baz=231,slow=12,SNR=4.2						
ZALV				Sn	**Sn**	**13 24 43.7**	**+4.1**
	0.2nm,0.3s,baz=243,slow=22,SNR=3.7						
TKM2	**Tokmak 2**	**8.28**	**171**	⇑Lg	Lg	13 25 33.5	
	6.0nm,0.9s						
AAK	**Ala-Archa**	**8.49**	**177**	Lg	Lg	13 25 50.5	
	0.3nm,0.3s,baz=187,slow=20,SNR=6.6						
CMAR	**Chiang Mai Arr**	**38.15**	**139**	LR	LR	13 47 04.8	
	comp=Z,101nm,21.6s,baz=78,slow=40						
ILAR	**Eielson Array**	**60.20**	**19**	P	**P**	**13 31 38.7**	**-0.7**
	0.2nm,0.5s,baz=325,slow=4.9,SNR=4.3						

*ISCJB **24** 13:33:25.3±0.5, 39°11N±0°03×29°03E±0°03, h4km±6km,*
Error ellipse: s-maj=5.3km s-min=3.4km az=176.8
*ISK **24** 13:33:25.2, 39°10N×29°02E, h9km, MD2.7*
*DDA **24** 13:33:25.1, 39°11N×29°03E, h7km, MD2.9*
*CSEM **24** 13:33:25.5±0.1, 39°12N×29°02E, h5km, MD2.9*

ISC 24 13:33:25.7±0.9, 39°12N±0°02×29°02E±0°02, h11km±8km,
n38, σ0°83/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**13 33 31.0**	**+0.1**
DEMI				*i* S	**Sg**	**13 33 34.6**	**+0.3**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**13 33 31.0**	**+0.1**
DEMI				*i* S	**Sg**	**13 33 34.6**	**+0.3**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**13 33 32.4**	**-0.4**
GDZ				*i* S	**Sg**	**13 33 37.5**	**-0.1**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**13 33 32.4**	**-0.4**
GDZ				*i* S	**Sg**	**13 33 37.5**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**13 33 37.8**	**-0.4**
DURS				*i* S	**Sg**	**13 33 46.5**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**13 33 37.8**	**-0.4**
DURS				*i* S	**Sg**	**13 33 46.5**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**13 33 38.3**	**-0.3**
KULA				*e*SG	**Sg**	**13 33 47.0**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**13 33 38.3**	**-0.3**
KULA				*e*Sg	**Sg**	**13 33 47.0**	**-0.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**13 33 41.7**	**0.0**
KHAL				*i* S	**Sg**	**13 33 52.3**	**-0.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**13 33 41.7**	**0.0**
KHAL				*i* S	**Sg**	**13 33 52.3**	**-0.3**
ALT	**Altintas**	**0.85**	**94**	*e*PG	**Pb**	**13 33 42.5**	**0.0**
ALT				*e*SG	**Sg**	**13 33 53.5**	**+0.3**
ALT	**Altintas**	**0.85**	**94**	*e*Pg	**Pb**	**13

SKJI	**Sukabumi**	**0.78**	**14**	P		**Pn**	**14 03 14.2**	**-1.7**
SKJI				S		**Sn**	**14 03 25.7**	**-0.9**
DBJI	**Dramaga**	**1.26**	**18**	P		**Pn**	**14 03 22.6**	**+0.1**
DBJI				S		**Sn**	**14 03 39.4**	**+1.1**
CGJI	**Cibinong**	**1.32**	**330**	P		**Pn**	**14 03 23.8**	**+0.5**
CBJI	**Citeko**	**1.42**	**20**	P		**Pn**	**14 03 22.0**	**-2.6**
CBJI				S		**Sn**	**14 03 39.7**	**-2.5**
CISI	**Cisompet, Garu**	**1.45**	**82**	P		**Pn**	**14 03 24.3**	**-0.8**
LEM	**Lembang**	**1.55**	**53**	P		**Pn**	**14 03 27.4**	**+0.7**
	baz=1.6,SNR=404							
LEM	**Lembang**	**1.55**	**53**	P		**Pn**	**14 03 27.3**	**+0.7**
LEM				S		**Sn**	**14 03 49.1**	**+3.4**
TNG	**Tangerang**	**1.61**	**10**	P		**Pn**	**14 03 28.3**	**+1.1**
TNG				S		Sn	14 03 53.8	+7.0
SBJI	**Serang**	**1.65**	**352**	P		**Pn**	**14 03 28.9**	**+1.1**
CLJI	**Cilicap**	**2.63**	**89**	P		**Pn**	**14 03 43.7**	**+2.5**
BLSI	**Bandar Lampung**	**2.63**	**335**	P		**Pn**	**14 03 42.1**	**+0.9**
XMI	**Christmas Isla**	**2.75**	**194**	P		**Pn**	**14 03 43.5**	**+0.6**
	baz=2.7,SNR=25							
XMI				S		**Sn**	**14 04 13.5**	**-1.4**
	baz=2.7,SNR=7.8							
XMIS	**Christmas Isla**	**2.79**	**195**	P		**Pn**	**14 03 43.6**	**+0.2**
	baz=2.7,SNR=111							
XMIS				S		**Sn**	**14 04 13.7**	**-2.1**
	baz=2.7,SNR=8.6							
TGJI	**Tegal**	**2.88**	**72**	P		**Pn**	**14 03 46.5**	**+1.9**
KASI	**Kota Agung**	**2.90**	**320**	P		**Pn**	**14 03 46.8**	**+1.9**
KASI				S		**Sn**	**14 04 22.0**	**+3.4**
BJII	**Banjamegara**	**3.34**	**83**	P		**Pn**	**14 03 53.2**	**+2.1**
LWLI	**Liwa**	**3.56**	**320**	P		**Pn**	**14 03 56.8**	**+2.6**
LWLI				S		**Sn**	**14 04 38.3**	**+3.2**
SMRI	**Semarang**	**4.10**	**80**	P		**Pn**	**14 04 04.1**	**+2.6**
UGM	**Wanagama**	**4.12**	**92**	P		**Pn**	**14 04 02.1**	**+0.4**
	baz=4.1,SNR=9.9							
UGM				S		**Sn**	**14 04 46.3**	**-2.5**
	baz=4.1,SNR=5.3							
PCJI	**Pacitan**	**4.79**	**95**	P		**Pn**	**14 04 11.4**	**+0.6**
TPI	**Tanjungpandan**	**5.14**	**15**	P		**Pn**	**14 04 16.6**	**+0.9**
	55nm,0.7s,655nm0.4nm							
SJI	**Sawahan**	**5.35**	**90**	P		**Pn**	**14 04 20.4**	**+1.7**
	82nm,0.5s,4μm1.0nm							
PWJI	**Pagerwojo**	**5.39**	**93**	P		**Pn**	**14 04 19.7**	**+0.5**
KSI	**Kapahiang**	**5.55**	**317**	P		**Pn**	**14 04 22.2**	**+0.8**
	125nm,0.7s,0.7nm							
PPBI	**Pangkal Pinang**	**5.57**	**358**	P		**Pn**	**14 04 24.5**	**+2.9**
KRKI	**Karangkates**	**6.04**	**94**	P		Pn	14 04 40.5	+12
SRBI	**Singaraja**	**8.77**	**93**	P		**Pn**	**14 05 07.9**	**+2.4**
KHKI	**Kahang-Kahang**	**9.17**	**94**	P		**Pn**	**14 05 12.2**	**+1.2**
SBUM	**Sibu**	**11.71**	**30**	P		**Pn**	**14 05 47.5**	**+1.7**
GSI	**Gunungsitoli**	**12.57**	**315**	P		**Pn**	**14 05 55.2**	**-2.3**
	baz=13,SNR=12							
GSI	**Gunungsitoli**	**12.57**	**315**	P		Pn	14 05 53.4	-4.1
WSI	**Waingapu**	**13.90**	**99**	P		Pn	14 06 12.1	-3.6
	baz=14,SNR=3.8							
PCI	**Palu**	**15.06**	**64**	P		P	14 06 44.0	+8.4
	baz=15,SNR=5.5							
PCI				S		Sn	14 09 06.3	-11
	baz=15,SNR=206							
GIRL	**Giralia**	**16.62**	**154**	P		**P**	**14 06 52.4**	**-0.5**
	baz=17,SNR=3.9							
KKM	**Kota Kinabalu**	**16.87**	**36**	P		**P**	**14 06 56.7**	**+0.9**
	baz=17,SNR=4.1							
FITZ	**Fitzroy Crossi**	**21.39**	**121**	P		**P**	**14 07 47.2**	**+2.2**
	3.7nm,0.8s,baz=287,slow=9.2,SNR=8.0							
FITZ	**Fitzroy Crossi**	**21.39**	**121**	P		**P**	**14 07 47.7**	**+2.6**
	baz=21,SNR=4.8							
MEEK	**Meekatharra**	**22.08**	**150**	P		P	14 08 03.4	+11
	baz=22,SNR=5.6							
MEEK				S		**S**	**14 11 53.4**	**0.0**
	baz=22,SNR=4.9							
KDU	**Kakadu**	**26.14**	**103**	P		**P**	**14 08 31.2**	**-0.1**
	baz=26,SNR=5.1							
CMAR	**Chiang Mai Arr**	**27.07**	**344**	P		**P**	**14 08 37.0**	**-2.5**
	2.9nm,0.6s,baz=180,slow=8.5,SNR=24							
CMAR				PcP		**PcP**	**14 12 01.8**	**+1.8**
	0.5nm,0.7s,baz=214,slow=3.5,SNR=4.1							
CMAR				LR		LR	14 20 27.5	
	comp=Z,83nm,19.5s,baz=180,slow=40							
WRA	**Warramunga Arr**	**29.68**	**117**	P		**P**	**14 09 04.0**	**+1.1**
	0.8nm,0.4s,baz=292,slow=11,SNR=21							
WRA				PcP		**PcP**	**14 12 07.3**	**+0.8**
	0.6nm,0.6s,baz=307,slow=2.3,SNR=4.9							
ASAR	**Alice Springs**	**30.77**	**124**	P		**P**	**14 09 14.2**	**+1.6**
	0.5nm,0.4s,baz=302,slow=8.4,SNR=29							
ASAR				PcP		**PcP**	**14 12 10.9**	**+1.6**
	0.8nm,1.0s,baz=292,slow=1.3,SNR=5.6							
COEN	**Coen**	**36.64**	**103**	P		**P**	**14 10 03.9**	**+0.3**
	baz=37,SNR=5.9							
TAPN	**Taplejung**	**39.31**	**333**	*eP*		**P**	**14 10 24.1**	**-2.1**
	6.5nm,0.5s							
RAMN	**Ramite**	**39.47**	**332**	*eP*		**P**	**14 10 26.3**	**-1.3**
	8.3nm,0.4s							
PMG	**Port Moresby**	**40.35**	**95**	P		**P**	**14 10 34.8**	**0.0**
	6.6nm,0.5s,baz=259,slow=3.8,SNR=6.4							
QLP	**Quilpie**	**40.51**	**122**	P		**P**	**14 10 39.1**	**+3.1**
	baz=40,SNR=4.0							
STKA	**Stephens Creek**	**40.61**	**131**	P		**P**	**14 10 38.9**	**+2.2**
	8.3nm,0.7s,baz=304,slow=8.1,SNR=15							
STKA	**Stephens Creek**	**40.61**	**131**	P		**P**	**14 10 39.3**	**+2.6**
	baz=41,SNR=14							
GUN	**Gumba**	**40.62**	**332**	*eP*		**P**	**14 10 35.5**	**-1.7**
	9.6nm,0.4s							
GKN	**Gorkha**	**41.30**	**330**	*eP*		**P**	**14 10 40.6**	**-2.0**
	9.3nm,0.3s							
NJ2	**Nanjing**	**41.35**	**16**	*eP*		**P**	**14 10 40.9**	**-1.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KOLN	**Koldanda**	**41.63**	**329**	*eP*		**P**	**14 10 43.8**	**-1.5**
	comp=Z,18nm,0.5s							
DANN	**Dangsing**	**42.02**	**330**	*eP*		**P**	**14 10 46.8**	**-1.8**
	comp=Z,15nm,0.5s							
PYUN	**Piuthan**	**42.21**	**329**	*eP*		**P**	**14 10 48.7**	**-1.4**
	comp=Z,9.7nm,0.5s							
GTA	**Gaotai**	**47.33**	**353**	*eP*		**P**	**14 11 28.8**	**-1.7**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**	**53.25**	**32**	P		P	14 12 11.4	-3.8
	comp=Z,0.9nm,0.5s,baz=218,slow=8.6,SNR=6.0							
SONM	**Songino Array**	**55.36**	**0**	P		**P**	**14 12 29.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=179,slow=8.9,SNR=20							
SONM				PcP		**PcP**	**14 13 30.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=186,slow=4.1,SNR=10							
WSAR	**Wadi Sarin**	**55.92**	**305**	P		**P**	**14 12 37.2**	**+2.3**
	comp=Z,4.5nm,0.6s,baz=138,slow=6.4,SNR=9.4							
USRK	**Ussuriysk Arra**	**56.68**	**22**	P		**P**	**14 12 37.8**	**-2.1**
	comp=Z,1.8nm,0.5s,baz=200,slow=8.0,SNR=6.4							
MKAR	**Makanchi Array**	**58.39**	**341**	P		**P**	**14 12 49.8**	**-2.2**
	comp=Z,1.3nm,0.5s,baz=152,slow=7.9,SNR=25							
ZALV	**Zalesovo Beam**	**64.12**	**346**	P		**P**	**14 13 28.0**	**-2.5**
	comp=Z,1.0nm,0.4s,baz=160,slow=5.6,SNR=7.5							
RPZ	**Rata Peaks**	**66.44**	**134**	LR		LR	14 39 35.7	
	comp=Z,243nm,19.3s,baz=198,slow=33							
PETK	**Petropavlovsk-**	**74.56**	**29**	P		**P**	**14 14 33.2**	**-1.9**
	comp=Z,4.3nm,0.9s,baz=202,slow=3.3,SNR=5.5							
BRTR	**Keskin Array B**	**81.87**	**312**	P		**P**	**14 15 16.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=137,slow=7.6,SNR=7.3							
AKASG	**Malin Array Be**	**87.90**	**322**	P		**P**	**14 15 46.0**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=88,slow=5.2,SNR=5.9							
KOLS	**Kolonicke sedl**	**91.93**	**319**	*eP*		P	14 16 08.3	+3.5
FINES	**FINESS Array B**	**92.14**	**332**	P		**P**	**14 16 06.3**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=104,slow=8.0,SNR=5.5							
ARCES	**ARCESS Array B**	**94.03**	**340**	P		**P**	**14 16 15.0**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=350,slow=6.2,SNR=4.7							
VYHS	**Vyhne**	**94.12**	**318**	*eP*		**P**	**14 16 16.1**	**+1.2**
VYHS				*e*			14 16 30.8	
YKA	**Yellowknife Ar**	**117.79**	**20**	PKP		**PKPdf**	**14 21 42.2**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=336,slow=2.2,SNR=6.4							
TXAR	**Lajitas Array**	**144.54**	**49**	PKP		PKPbc	14 22 32.5	+0.4
	comp=Z,0.8nm,0.7s,baz=247,slow=2.4,SNR=8.0							

IDC 24 14:18:16.9±3.6, 5.67°S×150.93°E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.1/17, mbtmp3.1/2, MS3.8/1, Ms1 3.7/1, ms1mx2.8/7, Error ellipse: s-maj=141.2km s-min=48.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**227**	P		P	P	14 23 07.3	0.0
	0.4nm,0.5s,baz=54,slow=10,SNR=5.2								
ASAR	**Alice Springs**	**24.26**	**221**	P		P	P	14 23 36.4	+0.4
	0.3nm,0.6s,baz=55,slow=9.7,SNR=8.4								
STKA	**Stephens Creek**	**27.49**	**197**	LR		LR	LR	14 34 38.5	
	comp=Z,179nm,18.3s,baz=207,slow=36								
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc		PKPbc	PKPbc	14 38 06.5	-1.0
	0.5nm,0.4s,baz=94,slow=2.3,SNR=8.0								

*ISCJB **24** 14:35:05.8±0.5, 37.74°N±0.03°×27.36°E±0.05, h13km±4km, Error ellipse: s-maj=6.7km s-min=4.3km az=159.4*
*ISK **24** 14:35:05.1, 37.80°N×27.54°E, h5km, MD2.7*
*DDA **24** 14:35:05.4, 37.75°N×27.38°E, h7km, MD2.8*
*CSEM **24** 14:35:05.7±0.3, 37.77°N×27.38°E, h10km, MD2.8, Error ellipse: s-maj=7.5km s-min=4.8km az=72.0*

ISC 24 14:35:05.7±0.9, 37.77°N±0.03°×27.37°E±0.03, h11km±7km, n28, σ0.969/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcami?**	**0.13**	**236**	*i* P		**Pg**		**14 35 08.5**	**-0.4**
GCAM				*i* S		**Sg**		**14 35 11.2**	**+0.1**
GCAM	**G?zelcami?**	**0.13**	**236**	*i* P		**Pg**		**14 35 08.5**	**-0.4**
GCAM				*i* S		**Sg**		**14 35 11.2**	**+0.1**
AYDN	**Tasoluk**	**0.42**	**105**	*i* P		**Pg**		**14 35 14.1**	**0.0**
AYDN				*i* S		**Sg**		**14 35 20.1**	**+0.4**
AYDN	**Tasoluk**	**0.42**	**105**	*i* P		**Pg**		**14 35 14.1**	**0.0**
AYDN				*i* S		**Sg**		**14 35 20.1**	**+0.4**
MLSB	**Milas**	**0.58**	**146**	*e*PG		**Pg**		**14 35 16.8**	**-0.2**
MLSB				*e*SG		**Sg**		**14 35 25.3**	**+0.7**
MLSB	**Milas**	**0.58**	**146**	*e*Pg		**Pg**		**14 35 16.8**	**-0.2**
MLSB				*e*Sg		**Sg**		**14 35 25.3**	**+0.7**
IZM	**Izmir**	**0.63**	**352**	*e*PG		**Pg**		**14 35 17.8**	**-0.2**
IZM				*e*SG		**Sb**		**14 35 28.4**	**+0.8**
IZM	**Izmir**	**0.63**	**352**	*e*Pg		**Pg**		**14 35 17.8**	**-0.2**
IZM				*e*Sg		**Sb**		**14 35 28.4**	**+0.8**
BLCB	**Balcova**	**0.66**	**337**	*e*PG		**Pb**		**14 35 20.0**	**+0.7**
BLCB				*e*SG		**Sn**		**14 35 31.1**	**-0.4**
BLCB	**Balcova**	**0.66**	**337**	*e*Pg		**Pb**		**14 35 20.0**	**+0.7**
BLCB				*e*Sg		**Sn**		**14 35 31.1**	**-0.4**
BDRM	**Kayabasi**	**0.71**	**175**	*i* P		**Pg**		**14 35 18.7**	**-0.8**
BDRM				*i* S		**Sg**		**14 35 28.2**	**-0.5**
BDRM	**Kayabasi**	**0.71**	**175**	*i* P		**Pg**		**14 35 18.7**	**-0.8**
BDRM				*i* S		**Sg**		**14 35 28.2**	**-0.5**
BODT	**Bodrum**	**0.71**	**184**	*e*PG		**Pb**		**14 35 20.9**	**+0.7**
BODT	**Bodrum**	**0.71**	**184**	*e*Pg		**Pb**		**14 35 20.9**	**+0.7**
YER	**Yerkesik**	**0.97**	**131**	*e*PG		**Pg**		**14 35 23.8**	**-0.6**
YER	**Yerkesik**	**0.97**	**131**	*e*Pg		**Pg**		**14 35 23.8**	**-0.6**
AKS	**Akhisar**	**1.16**	**17**	*e*PN		**Pb**		**14 35 27.5**	**-0.3**
AKS	**Akhisar**	**1.16**	**17**	*e*Pn		**Pb**		**14 35 27.5**	**-0.3**
KULA	**Kula-Manisa**	**1.26**	**54**	*e*PN		**Pn**		**14 35 28.6**	**-0.8**
KULA	**Kula-Manisa**	**1.26**	**54**	*e*Pn		**Pn**		**14 35 28.6**	**-0.8**
DENT	**Denizli**	**1.32**	**90**	*e*PN		**Pn**		**14 35 28.3**	**-1.9**
DENT	**Denizli**	**1.32**	**90**	*e*Pn		**Pn**		**14 35 28.3**	**-1.9**
DNZL	**Cakiroluk**	**1.33**	**93**	*i* P		**Pb**		**14 35 30.8**	**-0.1**
DNZL				*i* S		**Sg**		**14 35 49.3**	**+0.6**
DNZL	**Cakiroluk**	**1.33**	**93**	*i* P		**Pb**		**14 35 30.8**	**-0.1**
DNZL				*i* S		**Sg**		**14 35 49.3**	**+0.6**
FETY	**Fethiye**	**1.78**	**129**	*e*PN		**Pn**		**14 35 37.2**	**+0.7**
FETY	**Fethiye**	**1.78**	**129**	*e*Pn		**Pn**		**14 35 37.2**	**+0.7**
KHL	**Karahalli**	**1.79**	**71**	*e*PN		**Pn**		**14 35 37.0**	**+0.4**
KHL	**Karahalli**	**1.79**	**71**	*e*Pn		**Pn**		**14 35 37.0**	**+0.4**

IDC 24 14:37:31.1±1.4, 0.19°N×97.52°E, h0km, mb4.0/7, mb1 4.0/9, mb1mx3.8/27, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=47.9km s-min=18.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.95**	**28**	Pn		Pn	Pn	14 38 18.4	-1.0
	2.6nm,0.3s,baz=175,slow=9.0,SNR=11								
CMAR	**Chiang Mai Arr**	**18.21**	**4**	P		Pn		14 41 43.8	-1.7
	0.3nm,0.3s,baz=193,slow=11,SNR=21								
WRA	**Warramunga Arr**	**41.24**	**121**	P		P		14 45 17.6	-0.6
	0.6nm,0.5s,baz=302,slow=9.0,SNR=12								
ASAR	**Alice Springs**	**42.54**	**126**	P		P		14 45 29.1	+0.2
	0.9nm,0.6s,baz=298,slow=8.1,SNR=34								
SONM	**Songino Array**	**48.08**	**8**	P		P		14 46 12.7	+0.1
	1.4nm,0.7s,baz=188,slow=9.6,SNR=12								
SONM				PcP		PcP		14 47 40.6	+0.1
	0.4nm,0.7s,baz=216,slow=4.2,SNR=2.4								
MKAR	**Makanchi Array**	**48.29**	**346**	P		P		14 46 14.7	+0.5
	1.2nm,0.7s,baz=156,slow=7.7,SNR=20								
ZALV	**Zalesovo Beam**	**54.60**	**351**	P		P		14 47 01.2	-0.1
	2.8nm,0.5s,baz=182,slow=5.8,SNR=18								
BVAR	**Borovoye Array**	**57.30**	**341**	P		P		14 47 20.5	-0.2
	1.1nm,0.7s,baz=151,slow=10,SNR=5.0								
AKTO	**Aktyubinsk**	**60.27**	**332**	P		P		14 47 40.8	-0.6
	0.4nm,0.3s,baz=90,slow=4.0,SNR=3.2								

IDC 24 14:42:17.6±2.1, 0.17°N×97.55E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/25, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=64.5km s-min=20.8km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.95**	**28**	Pn		Pn	Pn	14 43 04.6	-1.3
	1.3nm,0.3s,baz=266,slow=14,SNR=3.8								
CMAR	**Chiang Mai Arr**	**18.22**	**4**	P		Pn		14 46 31.9	-0.3
	0.1nm,0.3s,baz=191,slow=11,SNR=5.6								
WRA	**Warramunga Arr**	**41.20**	**121**	P		P		14 50 04.5	0.0
	0.4nm,0.9s,baz=75,slow=26,SNR=3.8								
ASAR	**Alice Springs**	**42.50**	**126**	P		P		14 50 14.8	-0.3
	0.4nm,0.8s,baz=299,slow=7.8,SNR=7.6								
SONM	**Songino Array**	**48.07**	**8**	P		P		14 50 59.2	0.0
	0.2nm,0.5s,baz=198,slow=9.1,SNR=3.2								
MKAR	**Makanchi Array**	**48.32**	**346**	P		P		14 51 01.0	+0.1
	0.2nm,0.6s,baz=165,slow=8.4,SNR=4.2								
ZALV	**Zalesovo Beam**	**54.62**	**351**	P		P		14 51 47.6	-0.3
	0.6nm,0.4s,baz=178,slow=5.7,SNR=4.9								

IDC 24 14:47:38.5±2.3, 5.30°S×145.79E, h0km, mb3.1/3, mb1 3.4/5, mb1mx3.2/19, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=54.7km s-min=28.2km az=91.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.30**	**162**	Pn		Pn	Pn	14 48 45.5	+0.3
	1.2nm,0.3s,baz=0.0,slow=12,SNR=9.0								
PMG				Sn		Sn	Sn	14 49 30.5	-5.5
	1.1nm,0.3s,baz=200,slow=20,SNR=4.8								
WRA	**Warramunga Arr**	**18.33**	**216**	P		P	P	14 51 54.9	+0.3
	0.1nm,0.3s,baz=38,slow=11,SNR=12								
ASAR	**Alice Springs**	**21.55**	**211**	P		P	P	14 52 28.2	-1.4
	0.1nm,0.3s,baz=34,slow=12,SNR=5.3								
FITZ	**Fitzroy Crossi**	**23.44**	**235**	P		P	P	14 52 49.8	+0.2
	1.2nm,0.7s,baz=63,slow=11,SNR=2.8								
MKAR	**Makanchi Array**	**76.20**	**321**	P		P	P	14 59 29.0	+0.2
	0.1nm,0.4s,baz=96,slow=7.4,SNR=2.3								

IDC 24 15:01:09.2±2.0, 2.98°N×126.55E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/21, mbtmp3.1/3, Error ellipse: s-maj=169.8km s-min=25.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**162**	P		P	P	15 06 26.2	+0.1
	0.4nm,0.5s,baz=340,slow=11,SNR=8.1								
ASAR	**Alice Springs**	**27.44**	**165**	P		P	P	15 06 57.2	+0.2
	0.2nm,0.8s,baz=350,slow=7.6,SNR=6.3								
MKAR	**Makanchi Array**	**58.07**	**326**	P		P	P	15 11 03.9	-0.4
	0.1nm,0.6s,baz=123,slow=8.7,SNR=2.6								

*IDC **24** 15:39:21.0±5.2, 23.45°S×68.17W, h0km, mb4.4/1, mb1 3.7/2, mb1mx3.5/17, mbtmp3.7/2, ML2.8/1, Error ellipse: s-maj=152.7km s-min=54.7km az=67.0*
*ISCJB **24** 15:39:33.0±0.9, 22.83°S±0.06°×68.67W±0.06°, h115km±7km, mb4.0/1, Error ellipse: s-maj=10.4km s-min=9.0km az=152.0*
*GUC **24** 15:39:33.9±0.7, 22.95°S×68.78°W, h95km±4km, ML3.8*

ISC 24 15:39:33.7±1.1, 22.85°S±0.07°×68.67W±0.06°, h101km±8km, n12, σ1.975/15, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.32**	**316**	*e*P		Pn		15 39 43.9	-4.9
LVC				*i* S		**Sn**		**15 39 55.3**	**-4.8**
LVC				AML		AML		15 39 56.3	
	comp=N,3μm,0.2s								
SPCH	**San Pedro de A**	**0.44**	**98**	↑*i*P		**Pn**		**15 39 50.4**	**+0.9**
SPCH				*i* S		**Sn**		**15 40 02.8**	**+1.4**
SPCH				AML		AML		15 40 03.2	
	comp=E,5μm,0.4s								
PB04	**Plate Boundary**	**0.95**	**307**	↑*i*P		Pn		15 39 59.8	+6.2
PB04				*i* S		Sn		15 40 19.0	+10
PB04				AML		AML		15 40 25.8	
	comp=N,2μm,0.1s								
PB09	**Plate Boundary**	**1.17**	**333**	↑*i*P		**Pn**		**15 39 57.5**	**+1.2**
PB09				*i* S		**Sn**		**15 40 15.2**	**+1.9**
PB09				AML		AML		15 40 16.4	
	comp=N,8μm,0.8s								
MACH	**Maria Elena**	**1.20**	**303**	↑*i*P		**Pn**		**15 39 56.8**	**+0.3**
MACH				*i* S		**Sn**		**15 40 14.5**	**+0.6**
CEN1	**Los Morros**	**1.51**	**249**	↑*i*P		Pn		15 40 03.5	+3.3
CEN1				*e*S		Sn		15 40 23.8	+3.5
CEN1				AML		AML		15 40 30.6	
	comp=E,505nm,0.9s								
PB07	**Plate Boundary**	**1.58**	**315**	↑*i*P		**Pn**		**15 40 01.7**	**+0.5**
PB07				*i* S		**Sn**		**15 40 22.4**	**+0.3**
PB07				AML		AML		15 40 24.0	
	comp=E,4μm,0.4s								
MECH	**Mejillones**	**1.66**	**261**	↑*i*P		**Pn**		**15 40 02.4**	**+0.5**
MECH				*e*S		**Sn**		**15 40 23.3**	**-0.1**
ANCH	**Antofagasta**	**1.80**	**242**	*e*P		Pn		15 40 04.6	+0.9
ANCH				*i* S		**Sn**		**15 40 26.4**	**-0.2**
LPAZ	**La Paz**	**6.54**	**5**	Pn		**Pn**		**15 41 07.1**	**-0.8**
	comp=E,0.1nm,0.3s,baz=223,slow=8.8,SNR=2.4								
TORD	**Torodi Ar. Bea**	**77.60**	**70**	P		**P**		**15 51 18.4**	**-0.9**
	comp=E,1.8nm,0.6s,baz=256,slow=5.4,SNR=19								
MKAR	**Makanchi Array**	**146.58**	**37**	PKPbc		**PKPbc**		**15 59 04.2**	**+0.8**
	comp=E,0.5nm,0.8s,baz=312,slow=2.8,SNR=4.1								

IDC 24 15:41:01.4±6.8, 8.76°S×119.18E, h84km±42km, mb3.5/2, mb1 3.5/5, mb1mx3.2/23, mbtmp3.3/5, MS3.4/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=162.6km s-min=27.0km az=73.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.77**	**9**	P		Pn		15 41 57.3	+0.1
	1.1nm,0.3s,baz=94,slow=17,SNR=5.6								
FITZ	**Fitzroy Crossi**	**11.21**	**147**	P		Pn		15 43 38.2	-0.4
	0.0nm,0.3s,baz=264,slow=17,SNR=2.7								
FITZ				S		Sn		15 45 43.3	+1.2
	0.1nm,0.3s,baz=344,slow=11,SNR=3.2								
WRA	**Warramunga Arr**	**18.40**	**129**	P		P		15 45 09.2	-0.7
	0.2nm,0.3s,baz=303,slow=12,SNR=10.0								
WRA				S		S		15 48 27.9	-7.5
	0.2nm,0.3s,baz=290,slow=22,SNR=9.1								
ASAR	**Alice Springs**	**20.45**	**138**	P		P		15 45 33.0	+0.7
	1.3nm,0.4s,baz=314,slow=8.9,SNR=47								
STKA	**Stephens Creek**	**31.02**	**141**	P		P		15 47 11.1	-0.1
	1.0nm,0.3s,baz=318,slow=7.2,SNR=7.2								
STKA				LR		LR		16 01 16.3	
	comp=Z,71nm,20.1s,baz=204,slow=39								

*ISCJB **24** 15:42:26.0±0.8, 6.87°N±0.06°×73.00°W±0.07°, h171km±8km, mb3.0/1, Error ellipse: s-maj=13.9km s-min=6.9km az=40.1*
*FUNV **24** 15:42:25.9, 6.72°N×73.21°W, h163km, MW3.7*
*IDC **24** 15:42:28.3±6.5, 6.76°N×73.22°W, h172km±36km, mb3.0/1, mb1 3.3/2, mb1mx2.9/22, mbtmp3.1/2, Error ellipse: s-maj=168.8km s-min=36.0km az=97.0*

ISC 24 15:42:26.7±1.0, 6.84°N±0.06°×73.01°W±0.07°, h166km±9km, n14, σ0.998/22, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**34

IKLH	**Kolahrood**	**3.76**	**354**	*e*		Pb		15 46 10.9	-4.6
	comp=Z,1μm,0.1s								
IKLH				*e*Pn		**Pn**		**15 46 07.5**	**+0.3**
UMR	**Umm Al-Rimmam**	**3.80**	**271**	*e*P		**Pn**		**15 46 08.8**	**+1.4**
UMR				AML		AML		15 46 58.7	
	comp=Z,207nm,0.4s								
UMR	**Umm Al-Rimmam**	**3.80**	**271**	*e*P		**Pn**		**15 46 08.8**	**+1.4**
KBD	**Kabd**	**3.84**	**265**	*e*P		**Pn**		**15 46 09.7**	**+1.7**
KBD				AML		AML		15 46 57.1	
	comp=Z,59nm,0.3s								
KBD	**Kabd**	**3.84**	**265**	*e*P		**Pn**		**15 46 09.7**	**+1.7**
RDF	**Al-Radifah**	**4.01**	**262**	*e*P		**Pn**		**15 46 11.9**	**+1.7**
RDF				AML		AML		15 47 00.9	
	comp=Z,66nm,0.3s								
RDF	**Al-Radifah**	**4.01**	**262**	*e*P		**Pn**		**15 46 11.9**	**+1.7**
KRBR	**Kerman**	**4.09**	**83**	*e*Pn		**Pn**		**15 46 13.2**	**+1.4**
KRBR				AML		AML		15 47 33.5	
	comp=E,124nm,0.3s								
KRBR				AML		AML		15 47 36.1	
	comp=N,128nm,0.9s								
KRBR	**Kerman**	**4.09**	**83**	*e*Pn		**Pn**		**15 46 13.2**	**+1.4**
MIB	**Mutribah**	**4.13**	**274**	*e*P		**Pn**		**15 46 12.8**	**+0.9**
MIB	**Mutribah**	**4.13**	**274**	*e*P		**Pn**		**15 46 12.8**	**+0.9**
BNDS	**Bandar-Abbas**	**4.20**	**120**	*e*Pn		**Pn**		**15 46 13.7**	**+0.6**
BNDS				AML		AML		15 47 25.8	
	comp=E,74nm,0.7s								
BNDS	**Bandar-Abbas**	**4.20**	**120**	*e*Pn		**Pn**		**15 46 13.7**	**+0.6**
NAY	**Al-Naaiem**	**4.23**	**267**	*e*P		**Pn**		**15 46 15.3**	**+1.9**
NAY				AML		AML		15 47 08.6	
	comp=Z,65nm,0.9s								
NAY	**Al-Naaiem**	**4.23**	**267**	*e*P		**Pn**		**15 46 15.3**	**+1.9**
KHMZ	**Khomeyn**	**4.53**	**337**	*e*Pn		**Pn**		**15 46 17.0**	**-0.7**
KHMZ	**Khomeyn**	**4.53**	**337**	*e*Pn		**Pn**		**15 46 17.0**	**-0.7**
ISFB	**Sefidab**	**4.77**	**2**	*e*Pn		**Pn**		**15 46 20.3**	**-0.6**
ISFB	**Sefidab**	**4.77**	**2**	*e*Pn		**Pn**		**15 46 20.3**	**-0.6**
BANOM	**Banah**	**5.21**	**133**	⇓P		**Pn**		**15 46 27.7**	**+0.8**
BANOM	**Banah**	**5.21**	**133**	P		**Pn**		**15 46 27.7**	**+0.8**
	SNR=202								
IVRN	**Varamin**	**5.42**	**357**	*e*Pn		**Pn**		**15 46 30.0**	**+0.2**
IVRN				*e*				15 46 33.7	
	comp=Z,2μm,0.1s								
IVRN	**Varamin**	**5.42**	**357**	*e*Pn		**Pn**		**15 46 30.0**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.57**	**144**	P		**Pn**		**15 46 33.3**	**+1.6**
	SNR=9.7								
NAZ				ml				15 46 37.2	
	SNR=5.4								
NAZ	**Nazwa, Dubai**	**5.57**	**144**	P		**Pn**		**15 46 33.3**	**+1.6**
	SNR=9.7								
ASUD	**Al Ashush, Dub**	**5.71**	**149**	P		**Pn**		**15 46 35.4**	**+1.7**
	SNR=50								
ASUD	**Al Ashush, Dub**	**5.71**	**149**	P		**Pn**		**15 46 35.4**	**+1.7**
	SNR=50								
FAQ	**Al Faqa, Dubai**	**5.74**	**146**	P		**Pn**		**15 46 35.4**	**+1.4**
	SNR=18								
ILAS	**Lasjerd**	**5.84**	**7**	*e*Pn		**Pn**		**15 46 36.3**	**+0.5**
ILAS				*e*				15 48 14.4	
	comp=Z,214nm,0.4s								
ILAS	**Lasjerd**	**5.84**	**7**	*e*Pn		**Pn**		**15 46 36.3**	**+0.5**
HATD	**Hatta, Dubai**	**5.95**	**142**	P		**Pn**		**15 46 38.9**	**+1.9**
	SNR=19								
HATD				ml				15 46 43.7	
	SNR=6.0								
HATD				ml				15 46 48.6	
	SNR=7.1								
IDMV	**Damavand**	**5.99**	**360**	*e*Pn		**Pn**		**15 46 38.1**	**+0.3**
IDMV				*e*				15 46 40.6	
	comp=Z,857nm,0.1s								
IDMV	**Damavand**	**5.99**	**360**	*e*Pn		**Pn**		**15 46 38.1**	**+0.3**
ASHO	**Ashiyiah**	**6.02**	**143**	P		**Pn**		**15 46 38.9**	**+0.9**
	SNR=25								
ASHO				ml				15 46 40.6	
	SNR=7.2								
ASHO				ml				15 46 48.0	
	SNR=8.3								
ASHO				⇓S		**Sn**		**15 47 46.2**	**-0.9**
IFIR	**Firoozkooh**	**6.08**	**5**	*e*Pn		**Pn**		**15 46 39.5**	**+0.4**
IFIR				*e*				15 46 45.6	
	comp=Z,614nm,0.1s								
IFIR	**Firoozkooh**	**6.08**	**5**	*e*Pn		**Pn**		**15 46 39.5**	**+0.4**
IRAZ	**Razeghan**	**6.09**	**343**	*e*Pn		**Pn**		**15 46 39.1**	**-0.1**
IRAZ				*e*				15 48 09.5	
	comp=Z,365nm,0.3s								
IRAZ	**Razeghan**	**6.09**	**343**	*e*Pn		**Pn**		**15 46 39.1**	**-0.1**
IPRN	**Peran**	**6.66**	**2**	*e*Pn		**Pn**		**15 46 47.1**	**+0.3**
IPRN				*e*				15 46 51.6	
	comp=Z,795nm,0.2s								
IPRN	**Peran**	**6.66**	**2**	*e*Pn		**Pn**		**15 46 47.1**	**+0.3**
ARQ	**Araqi**	**7.38**	**146**	P		**Pn**		**15 46 57.4**	**+0.8**
	SNR=15								
ARQ				ml				15 47 25.6	
	SNR=5.2								
BSY	**Bisya**	**8.21**	**145**	⇑P		**Pn**		**15 47 08.7**	**+0.6**
WSAR	**Wadi Sarin**	**8.62**	**135**	Pn		**Pn**		**15 47 13.7**	**+0.1**
	comp=Z,4.1nm,0.3s,baz=322,slow=9.2,SNR=35								
WSAR				Sn		**Sn**		**15 48 46.6**	**-4.3**
	comp=Z,1.6nm,0.3s,baz=153,slow=23,SNR=4.5								
WSAR				LR		LR		15 50 41.4	
	comp=Z,68nm,20.9s,baz=133,slow=39								
WBK	**Wadi Bani Khal**	**9.29**	**137**	P		**Pn**		**15 47 22.5**	**-0.4**
	SNR=10.0								
WBK				ml				15 47 22.6	
	SNR=4.1								
ASF	**Jabal al Asfar**	**13.29**	**285**	Pn		**Pn**		**15 48 17.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=198,slow=19,SNR=4.0								
ASF				LR		LR		15 54 45.5	
	comp=Z,118nm,19.2s,baz=171,slow=44								
MMAI	**Mount Meron Ar**	**14.66**	**288**	Pn		**Pn**		**15 48 37.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=98,slow=18,SNR=2.4								
EIL	**Elat**	**14.90**	**275**	Pn		**Pn**		**15 48 39.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=67,slow=15,SNR=1.8								
EIL				LR		LR		15 54 52.4	
	comp=Z,81nm,18.4s,baz=346,slow=39								
KIV	**Kislovodsk**	**16.19**	**335**	*e*P		**P**		**15 49 00.1**	**+0.4**
KIV				pmax		pmax			
	comp=Z,15nm,1.1s								
KIV				MLR		MLR			
	comp=Z,28nm,12.0s								
KIV	**Kislovodsk**	**16.19**	**335**	*e*P		**P**		**15 49 00.1**	**+0.4**
	comp=Z,28nm,12.0s								
BRTR	**Keskin Array B**	**18.21**	**309**	P		**Pn**		**15 49 21.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=27								
BRTR	**Keskin Array B**	**18.21**	**309**	*i* P		**Pn**		**15 49 23.6**	**+1.8**
	comp=Z,7.0nm,0.8s								
AKTK	**Aktyubinsk**	**21.32**	**10**	P		**P**		**15 49 54.7**	**-1.0**
	comp=Z,3.0nm,0.8s								
AKTO	**Aktyubinsk**	**21.32**	**10**	P		**P**		**15 49 54.7**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=193,slow=11,SNR=12								
AKTO	**Aktyubinsk**	**21.32**	**10**	P		**P**		**15 49 54.7**	**-1.0**
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**22.24**	**48**	P		**P**		**15 50 07.0**	**+1.2**
	comp=Z,5.2nm,0.9s,baz=219,slow=9.5,SNR=14								
AAK	**Ala-Archa**	**22.24**	**48**	*ce*P		**P**		**15 50 07.7**	**+1.8**
AAK				pmax		pmax			
	comp=Z,15nm,0.8s								
AAK	**Ala-Archa**	**22.24**	**48**	*e*P		**P**		**15 50 07.7**	**+1.8**
	comp=Z,15nm,0.8s								
VRHR	**Novokhopersk**	**22.89**	**343**	*e*P		**P**		**15 50 14.2**	**+1.8**
VRHR				pmax		pmax			
	comp=N,4.0nm,0.4s								
VRHR				pmax		pmax			
	comp=E,5.0nm,0.4s								
VRHR				pmax		pmax			
	comp=Z,7.0nm,0.4s								
VRHR	**Novokhopersk**	**22.89**	**343**	*e*P		**P**		**15 50 14.2**	**+1.8**
VORD	**Divnogorie**	**23.43**	**339**	*e*P		**P**		**15 50 18.8**	**+0.9**
VORD	**Divnogorie**	**23.43**	**339**	*e*P		**P**		**15 50 18.8**	**+0.9**
VSR	**Storozhevoye**	**23.68**	**340**	*e*P		**P**		**15 50 20.2**	**-0.3**
VSR	**Storozhevoye**	**23.68**	**340**	*e*P		**P**		**15 50 20.2**	**-0.3**
BRVK	**Borovoye**	**27.01**	**25**	*de*P		**P**		**15 50 51.2**	**+0.4**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
BRVK	**Borovoye**	**27.01**	**25**	*e*P		**P**		**15 50 51.2**	**+0.4**
	comp=Z,3.0nm,1.2s								
BVAR	**Borovoye Array**	**27.02**	**25**	P		**P**		**15 50 51.1**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=214,slow=7.9,SNR=19								
BVAR				PcP		**PcP**		**15 54 11.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=210,slow=2.6,SNR=4.4								
BVAR	**Borovoye Array**	**27.02**	**25**	P		**P**		**15 50 51.1**	**+0.2**
BVAR								15 54 11.0	
BVAR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	**27.02**	**25**	P		**P**		**15 50 51.1**	**+0.2**
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	**27.02**	**25**	PcP		**PcP**		**15 54 11.0**	**-1.1**
AKASG	**Malin Array Be**	**27.20**	**327**	*ce*P		**P**		**15 50 53.9**	**+1.4**
AKASG	**Malin Array Be**	**27.20**	**327**	*e*P		**P**		**15 50 53.9**	**+1.4**
KURBB	**Kurchatov Arra**	**28.92**	**36**	P		**P**		**15 51 07.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=236,slow=9.0,SNR=6.6								
KURK	**Kurchatov**	**29.02**	**36**	*de*P		**P**		**15 51 08.0**	**-0.8**
KURK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
KURK	**Kurchatov**	**29.02**	**36**	*e*P		**P**		**15 51 08.0**	**-0.8**
	comp=Z,2.0nm,1.4s								
MKAR	**Makanchi Array**	**29.08**	**45**	P		**P**		**15 51 09.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=250,slow=6.7,SNR=10								
MKAR	**Makanchi Array**	**29.08**	**45**	P		**P**		**15 51 09.2**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**29.08**	**45**	P		**P**		**15 51 09.2**	**-0.2**
	comp=Z,1.0nm,0.7s								
KLMR	**Klimovskoe**	**32.39**	**349**	*e*P		P		15 51 36.2	-2.2
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KLMR	**Klimovskoe**	**32.39**	**349**	*e*P		P		15 51 36.2	-2.2
	comp=Z,10.0nm,1.0s								
ZALV	**Zalesovo Beam**	**33.99**	**35**	P		**P**		**15 51 51.8**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=242,slow=6.4,SNR=9.9								
ZALV	**Zalesovo Beam**	**33.99**	**35**	P		**P**		**15 51 51.8**	**-0.7**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**33.99**	**35**	P		**P**		**15 51 51.8**	**-0.7**
	comp=Z,2.0nm,0.7s								
JOF	**Joensuu**	**35.97**	**344**	*e*P		P		15 52 07.5	-1.9
JOF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
JOF	**Joensuu**	**35.97**	**344**	*ep*		P		15 52 07.5	-1.9
	comp=Z,3.1nm,0.6s								
JOF	**Joensuu**	**35.97**	**344**	*e*P		P		15 52 07.5	-1.9
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**36.21**	**339**	P		**P**		**15 52 10.2**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=142,slow=12,SNR=9.7								
FINES	**FINESS Array B**	**36.21**	**339**	P		**P**		**15 52 10.2**	**-1.4**
	comp=Z,1.0nm,0.5s								
CLL	**Collm**	**36.22**	**318**	*e*P		P		15 52 08.0	-3.8
KAF	**Kangasniemi**	**36.66**	**340**	*e*P		P		15 52 12.2	-3.1
KAF	**Kangasniemi**	**36.66**	**340**	*ep*		P		15 52 12.2	-3.1
KEV	**Kevo**	**42.70**	**347**	*e*P		P		15 53 01.5	-4.0
KEV				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KEV	**Kevo**	**42.70**	**347**	*ep*		P		15 53 01.5	-4.0
	comp=Z,6.5nm,0.8s								
ARCES	**ARCESS Array B**	**42.81**	**347**	P		**P**		**15 53 05.8**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=145,slow=9.1,SNR=8.0								
ARCES	**ARCESS Array B**	**42.81**	**347**	P		**P**		**15 53 05.8**	**-0.6**
	comp=Z,4.0nm,0.9s								
ZAK	**Zakamensk**	**43.40**	**47**	*e*P		**P**		**15 53 11.6**	**0.0**
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.5s								
ZAK	**Zakamensk**	**43.40**	**47**	*e*P		**P**		**15 53 11.6**	**0.0**
	comp=Z,1.0nm,1.5s								
CMAR	**Chiang Mai Arr**	**43.96**	**94**	P		**P**		**15 53 15.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=284,slow=8.9,SNR=10								
CMAR	**Chiang Mai Arr**	**43.96**	**94**	P		**P**		**15 53 15.5**	**-0.9**
	comp=Z,1.0nm,0.7s								
SONM	**Songino Array**	**45.16**	**51**	P		**P**		**15 53 25.3**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=262,slow=11,SNR=9.3								
SONM	**Songino Array**	**45.16**	**51**	P		**P**		**15 53 25.3**	**-0.5**
	comp=Z,1.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**49.30**	**262**	P		**P**		**15 53 57.5**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=56,slow=7.4,SNR=18								
KSRS	**Korea Array**	**62.17**	**61**	P		**P**		**15 55 29.2**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=285,slow=7.1,SNR=6.7								
KSRS	**Korea Array**	**62.17**	**61**	P		**P**		**15 55 29.3**	**-1.2**
	comp=Z,2.0nm,0.5s								
ILAR	**Eielson Array**	**84.81**	**8**	P		**P**		**15 57 42.1**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=192,slow=12,SNR=5.3								
ILAR	**Eielson Array**	**84.81**	**8**	P		**P**		**15 57 42.1**	**-1.1**
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**87.64**	**354**	P		**P**		**15 57 56.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=12,slow=5.3,SNR=14								
YKA	**Yellowknife Ar**	**87.64**	**354**	P		**P**		**15 57 56.6**	**-0.5**
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**94.73**	**114**	P		P		15 58 28.1	-2.7
	comp=Z,0.2nm,0.8s,baz=298,slow=4.9,SNR=4.1								
ASAR	**Alice Springs**	**94.73**	**114**	P		P		15 58 28.1	-2.7

MEX 24 15:48:41.3±0.6, 16.95N×99.45W, h31km±19km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.40**	**258**	*i* P		Pb	15 48 49.1	-1.2
ACX				*i* S		Sb	15 48 56.0	-0.5
CAIG	**El Cayaco**	**0.79**	**277**	*e*P		Pn	15 48 53.9	-2.3
CAIG				*i* S		Sb	15 49 04.3	-2.7
PNIG	**Pinotepa**	**1.39**	**114**	*e*P		Pn	15 49 03.2	-1.3
PNIG				*i* S		Sn	15 49 18.9	-2.9
ARIG	**Puente Sto Nin**	**1.57**	**327**	*e*P		Pn	15 49 05.9	-1.2
ARIG				*i* S		Sn	15 49 23.4	-3.1
UTMO	**Huajuapan**	**1.80**	**61**	*i* P		Pn	15 49 08.5	-2.0
UTMO				*i* S		Sn	15 49 29.4	-3.0
YAIG	**Yautepec**	**1.93**	**11**	*i* P		Pn	15 49 09.5	-2.7
YAIG				*i* S		Sn	15 49 33.5	-2.2
ZIIG	**Zihuatanejo**	**2.03**	**289**	*i* P		Pn	15 49 11.9	-1.5
ZIIG				*i* S		Sn	15 49 35.1	-2.5
PPM	**Popocatepetl**	**2.24**	**20**	*i* P		Pn	15 49 13.6	-3.4
PPM				*i* S		Sn	15 49 42.0	-2.1

IDC 24 16:03:27.0±2.0, 3.83N×126.18E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=191.9km s-min=24.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.95**	**162**	P		P	16 08 50.8	-1.5
	0.5nm,0.8s,baz=340,slow=10,SNR=7.7							
ASAR	**Alice Springs**	**28.35**	**165**	P		P	16 09 24.6	+1.7
	0.1nm,0.5s,baz=344,slow=11,SNR=4.1							
STKA	**Stephens Creek**	**38.42**	**159**	P		P	16 10 50.3	-0.2
	0.8nm,0.7s,baz=315,slow=10.0,SNR=2.3							
MKAR	**Makanchi Array**	**57.16**	**325**	P		P	16 13 15.8	0.0
	0.1nm,0.5s,baz=123,slow=8.3,SNR=3.4							

*ISCJB **24** 16:14:47.4±0.4, 67.15N±0.02×20.74E±0.07, h0km, Error ellipse: s-maj=3.9km s-min=3.5km az=27.0*
*NAO **24** 16:14:48.9±1.3, 67.16N×20.84E, ML2.4*
*CSEM **24** 16:14:48.5±0.2, 67.16N×20.65E, h2km, ML2.3, Error ellipse: s-maj=3.6km s-min=3.2km az=94.0, Mining explosion.*
*UPP **24** 16:14:48.7, 67.17N×20.65E, h1km, ML2.3, Suspected Mining explosion.*
*IDC **24** 16:14:49.9±0.9, 67.14N×20.94E, h0km, mb1 2.9/4, mb1mx2.8/28, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=14.6km s-min=7.4km az=117.0*
*HEL **24** 16:14:49.4±0.1, 67.17N×20.68E, h0km, ML2.3, ML2.3(UPP), Explosion*
*BER **24** 16:14:51.5±3.5, 67.18N×20.67E, h0km, ML2.8, ML2.4(NAO), Suspected explosion*

ISC 24 16:14:48.1±0.7, 67.16N±0.02×20.68E±0.02, h0km, n49, σ0s97/82, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**59**	*i* P		**Pg**	**16 15 00.1**	**+0.6**
MASU				*i* S		**Sg**	**16 15 08.1**	**+1.1**
MASU	**Masugnsbyn**	**0.59**	**59**	P		**Pg**	**16 15 00.0**	**+0.6**
MASU				S		**Sg**	**16 15 08.1**	**+1.1**
ERTU	**Ertsjaerv**	**0.85**	**135**	*i* P		**Pg**	**16 15 04.7**	**+0.3**
ERTU	**Ertsjaerv**	**0.85**	**135**	P		**Pg**	**16 15 04.7**	**+0.3**
SALU	**Saltoluokta**	**0.87**	**286**	*i* P		**Pg**	**16 15 05.0**	**+0.1**
SALU				*i* S		**Sg**	**16 15 16.6**	**+0.4**
SALU	**Saltoluokta**	**0.87**	**286**	P		**Pg**	**16 15 04.9**	**+0.1**
SALU				S		**Sg**	**16 15 16.5**	**+0.4**
NIKU	**Nikkaluokta**	**0.95**	**319**	*e*P		**Pg**	**16 15 06.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.95**	**319**	P		**Pg**	**16 15 06.1**	**-0.2**
HARU	**Harads**	**1.01**	**173**	*e*P		**Pg**	**16 15 07.8**	**+0.3**
HARU	**Harads**	**1.01**	**173**	P		**Pg**	**16 15 07.7**	**+0.3**
LANU	**Lannavaara**	**1.02**	**29**	*e*P		**Pg**	**16 15 07.0**	**-0.7**
	baz=210							
LANU				*e*SB		**Sg**	**16 15 21.3**	**+0.4**
LANU	**Lannavaara**	**1.02**	**29**	P		**Pg**	**16 15 07.5**	**-0.2**
LANU				Sb		**Sg**	**16 15 21.3**	**+0.4**
HEF	**Hetta**	**1.69**	**41**	*e*P		**Pn**	**16 15 19.1**	**+0.2**
	baz=225							
HEF				MSG		**Sb**	**16 15 41.6**	**-0.2**
	comp=Z,25nm,0.4s							
HEF				*e*SG		**Sb**	**16 15 41.6**	**-0.2**
HEF	**Hetta**	**1.69**	**41**	P		**Pn**	**16 15 19.0**	**+0.2**
HEF				Sg		**Sb**	**16 15 41.6**	**-0.2**
SJUU	**Sjulsmark**	**1.70**	**167**	*e*P		**Pb**	**16 15 19.8**	**-0.4**
SJUU	**Sjulsmark**	**1.70**	**167**	P		**Pb**	**16 15 19.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*P		**Pb**	**16 15 22.4**	**-0.4**
KIF				*e*SG		**Sg**	**16 15 48.0**	**+0.4**
KIF				MSG			16 15 48.0	
	comp=Z,42nm,0.4s							
KIF	**Kilpisjarvi**	**1.85**	**1**	P		**Pb**	**16 15 22.4**	**-0.4**
KIF				Sg		**Sg**	**16 15 48.0**	**+0.4**
	comp=Z,42nm,0.4s							
KTK1	**Kautokeino**	**2.09**	**26**	*e*P		**Pb**	**16 15 26.2**	**-0.7**
KTK1				AML		AML	16 15 54.9	
	comp=Z,120nm,0.3s							
KTK1	**Kautokeino**	**2.09**	**26**	*e*P		**Pb**	**16 15 26.2**	**-0.7**
	SNR=50							
RNF	**Rovaniemi**	**2.17**	**102**	*e*PB		**Pb**	**16 15 27.2**	**-1.1**
RNF				*e*SG		**Sb**	**16 15 56.8**	**+1.1**
SGF	**Sodankyl**	**2.28**	**80**	*e*P		**Pn**	**16 15 28.5**	**+1.5**
SGF				*e*SG		**Sb**	**16 15 59.6**	**+0.7**
SGF	**Sodankyl**	**2.28**	**80**	P		**Pn**	**16 15 28.5**	**+1.5**
OUL	**Oulu**	**2.97**	**132**	*e*SG		**Sb**	**16 16 20.4**	**+1.7**
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn		**Pn**	**16 15 37.4**	**+0.8**
	baz=210,slow=14							
ARA0				Sn		**Sn**	**16 16 13.3**	**+0.3**
	baz=214,slow=22							
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn		**Pn**	**16 15 37.4**	**+0.8**
	baz=210,slow=14							
ARA0				Sn		**Sn**	**16 16 13.3**	**+0.3**
	baz=214,slow=22							
ARA0	**ARCESS Array S**	**2.98**	**35**	*e*P		**Pn**	**16 15 37.0**	**+0.4**
	baz=212							
ARA0				MSG		**Sb**	**16 16 18.3**	**-0.6**
	comp=Z,6.7nm,0.3s							
ARA0				*e*SB		**Sb**	**16 16 18.3**	**-0.6**
ARA0	**ARCESS Array S**	**2.98**	**35**	P		**Pn**	**16 15 37.0**	**+0.4**
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn		**Pn**	**16 15 37.4**	**+0.8**
	baz=210,slow=14,SNR=50							
ARA0				Sn		**Sn**	**16 16 13.3**	**+0.3**
	baz=214,slow=22,SNR=50							
ARCES	**ARCESS Array B**	**2.98**	**35**	Pn		**Pn**	**16 15 37.9**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=213,slow=13,SNR=49							
ARCES				Sn		**Sn**	**16 16 14.8**	**+1.8**
	comp=Z,3.6nm,0.3s,baz=213,slow=24,SNR=11							
VRF	**Varrio**	**3.49**	**76**	*e*P		**Pn**	**16 15 44.5**	**+0.9**
VRF	**Varrio**	**3.49**	**76**	P		**Pn**	**16 15 44.4**	**+0.9**
KEV	**Kevo**	**3.50**	**39**	*e*P		**Pn**	**16 15 44.6**	**+1.0**
	baz=224							
KEV				MSG		**Sg**	**16 16 40.2**	**-0.1**
	comp=Z,12nm,0.4s							
KEV				*e*SG		**Sg**	**16 16 40.2**	**-0.1**
KEV	**Kevo**	**3.50**	**39**	P		**Pn**	**16 15 44.6**	**+1.0**
KEV				Sg		**Sg**	**16 16 40.2**	**-0.1**
MSF	**Maaselka**	**3.57**	**107**	*e*SG		**Sg**	**16 16 39.8**	**-2.9**
KU6	**Riekki**	**3.85**	**103**	*e*P		**Pn**	**16 15 49.8**	**+1.3**
	baz=287							
KU6				*e*SG		**Sg**	**16 16 50.1**	**-1.4**
KU6				MSG			16 16 50.1	
	comp=Z,5.1nm,0.4s							
KU6	**Riekki**	**3.85**	**103**	P		**Pn**	**16 15 49.8**	**+1.3**
KU6				Sg		**Sg**	**16 16 50.1**	**-1.4**
	comp=Z,5.1nm,0.4s							
APA0	**Apatity Array**	**4.77**	**79**	Pn		**Pn**	**16 16 02.3**	**+1.1**
	baz=284,slow=11							
APA0				Sn		**Sn**	**16 16 56.7**	**-0.4**
	baz=273,slow=28							
APA0				Lg		Lg	16 17 17.3	
	baz=260,slow=28							
APA0	**Apatity Array**	**4.77**	**79**	Pn		**Pn**

TOO	**Toolangi**	**29.82**	**217**	P	**P**	**16**	**58**	**49.2 +1.1**
	baz=30,SNR=10							
ARPS	**Mount Arapiles**	**31.54**	**222**	P	**P**	**16**	**59**	**04.3 +1.3**
	baz=32,SNR=6.7							
WRA	**Warramunga Arr**	**31.98**	**256**	P	**P**	**16**	**59**	**05.1 -2.1**
	1.2nm,0.7s,baz=87,slow=9.3,SNR=22							
WRA				PcP	**PcP**	**17**	**01**	**49.3 -0.1**
	0.9nm,0.9s,baz=72,slow=3.2,SNR=5.5							
WRA				S	**S**	**17**	**03**	**55.9 -0.4**
	0.9nm,0.8s,baz=81,slow=14,SNR=5.4							
ASAR	**Alice Springs**	**32.80**	**249**	P	**P**	**16**	**59**	**12.4 -1.8**
	4.5nm,0.6s,baz=82,slow=8.8,SNR=133							
ASAR				PcP	**PcP**	**17**	**01**	**52.0 +0.4**
	1.2nm,0.7s,baz=77,slow=2.3,SNR=11							
ASAR				S	**S**	**17**	**04**	**09.7 +0.8**
	0.4nm,0.7s,baz=83,slow=15,SNR=5.5							
BBOO	**Buckleboo**	**33.63**	**232**	P	**P**	**16**	**59**	**21.6 +0.4**
	baz=34,SNR=51							
FORT	**Forrest**	**39.38**	**239**	P	**P**	**17**	**00**	**09.4 -0.1**
	baz=40,SNR=17							
FITZ	**Fitzroy Crossi**	**40.19**	**260**	P	**P**	**17**	**00**	**15.9 -0.3**
	baz=40,SNR=6.7							
MEEK	**Meekatharra**	**46.91**	**247**	P	**P**	**17**	**01**	**09.0 -0.4**
	baz=47,SNR=7.8							
KLBR	**Kellerberrin**	**48.20**	**241**	P	**P**	**17**	**01**	**18.4 -0.8**
	baz=48,SNR=5.5							
MORW	**Morawa**	**49.38**	**244**	P	**P**	**17**	**01**	**27.6 -0.6**
	baz=49,SNR=7.4							
VNDA	**Vanda**	**62.68**	**181**	P	**P**	**17**	**03**	**02.1 +1.1**
	2.6nm,0.6s,baz=359,slow=6.0,SNR=15							
PETK	**Petropavlovsk-**	**68.27**	**354**	P	**P**	**17**	**03**	**36.4 -0.4**
	5.6nm,0.8s,baz=153,slow=9.7,SNR=3.6							
CMAR	**Chiang Mai Arr**	**75.22**	**294**	P	**P**	**17**	**04**	**19.3 +0.6**
	1.4nm,0.7s,baz=131,slow=4.8,SNR=12							
SONM	**Songino Array**	**82.77**	**324**	P	**P**	**17**	**04**	**58.5 -0.5**
	2.2nm,0.8s,baz=148,slow=7.8,SNR=17							
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**17**	**05**	**15.7 -2.0**
	1.0nm,0.5s,baz=238,slow=5.1,SNR=17							
VNA3	**Neumayer Olymp**	**94.03**	**181**	*e*P	**P**	**17**	**05**	**52.2 +0.1**
VNA2	**Neumayer--Watz**	**94.30**	**182**	*e*P	**P**	**17**	**05**	**53.9 +0.6**
	baz=190,slow=5.5							
MKAR	**Makanchi Array**	**97.49**	**316**	P	Pdif	17	06	08.0 -0.2
	1.4nm,0.7s,baz=97,slow=6.0,SNR=23							
YKA	**Yellowknife Ar**	**97.62**	**27**	P	Pdif	17	06	06.6 -1.7
	0.9nm,0.9s,baz=256,slow=4.6,SNR=12							
ZALV	**Zalesovo Beam**	**97.67**	**324**	P	Pdif	17	06	07.3 -1.4
	0.8nm,0.5s,baz=112,slow=4.4,SNR=5.9							
ARCES	**ARCESS Array B**	**120.49**	**345**	PKP	**PKPdf**	**17**	**11**	**23.3 -0.2**
	4.7nm,0.5s,baz=79,slow=2.2,SNR=43							
FINES	**FINESS Array B**	**125.98**	**338**	PKP	**PKPdf**	**17**	**11**	**34.4 +0.2**
	1.4nm,0.6s,baz=29,slow=4.4,SNR=9.4							
NB2	**NORSAR Subarra**	**130.86**	**345**	PKPdf	**PKPdf**	**17**	**11**	**44.0 +0.4**
	comp=Z,0.3nm,0.4s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.86**	**345**	PKP	**PKPdf**	**17**	**11**	**43.9 +0.3**
	comp=Z,1.0nm,0.7s,baz=37,slow=2.0,SNR=5.4							
AKASG	**Malin Array Be**	**131.01**	**326**	PKP	**PKPdf**	**17**	**11**	**45.0 +0.9**
	comp=Z,0.6nm,0.4s,baz=54,slow=2.9,SNR=3.0							
BRTR	**Keskin Array B**	**132.79**	**311**	PKP	**PKPdf**	**17**	**11**	**48.7 +0.6**
	comp=Z,0.4nm,0.4s,baz=338,slow=3.1,SNR=2.9							
GERES	**GERESS Array B**	**139.91**	**333**	PKP	**PKPdf**	**17**	**12**	**03.0 +2.1**
	comp=Z,0.3nm,0.3s,baz=357,slow=2.7,SNR=3.6							
KEST	**Kesra**	**151.49**	**321**	PKPbc	**PKPbc**	**17**	**12**	**28.0 +0.7**
	comp=Z,1.7nm,0.5s,baz=122,slow=2.0,SNR=13							
TORD	**Torodi Ar. Bea**	**166.10**	**264**	PKP	**PKPdf**	**17**	**12**	**38.5 +0.2**
	comp=Z,0.9nm,0.8s,baz=346,slow=1.0,SNR=5.6							
TORD				PKPab	**PKPab**	**17**	**13**	**40.8 0.0**
	comp=Z,1.4nm,0.8s,baz=102,slow=4.4,SNR=7.2							

*TIR **24** 16:55:11.8, 40.°88N×16.°03E, h30km, ML3.3*
*ISCJB **24** 16:55:12.4±1.1, 41.°94N±0.°07×15.°81E±0.°05, h15km±15km, Error ellipse: s-maj=12.7km s-min=4.6km az=23.4*
*ROM **24** 16:55:12.8±0.2, 41.°88N×15.°77E, h19km±2km, Ml2.8/5, Error ellipse: s-maj=4.2km s-min=1.4km az=33.0*
*CSEM **24** 16:55:12.8, 41.°88N×15.°77E, h19km, After ROM*
ISC 24 16:55:13.2±1.0, 41.°87N±0.°05×15.°76E±0.°03, h18km±3km, n30, σ0.°48/45, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.11**	**185**	*i* PG	**Pg**	**16 55 17.2**	**+0.1**
SGRT	**San Giovanni R**	**0.11**	**185**	Pg	**Pg**	**16 55 17.2**	**+0.1**
SGRT				Sg	**Sg**	**16 55 20.3**	**+0.6**
	3µm,0.2s						
SGRT	**San Giovanni R**	**0.11**	**185**	Pg	**Pg**	**16 55 17.2**	**+0.1**
SGRT				Sg	**Sg**	**16 55 20.3**	**+0.6**
	3µm,0.2s						
MSAG	**Monte S. Angel**	**0.19**	**143**	Pg	**Pb**	**16 55 17.9**	**+0.1**
MSAG				Sg	**Sg**	**16 55 21.8**	**+0.4**
	1µm,0.3s						
MSAG	**Monte S. Angel**	**0.19**	**143**	Pg	**Pb**	**16 55 17.9**	**+0.1**
MSAG				Sg	**Sg**	**16 55 21.8**	**+0.4**
	1µm,0.3s						
FG2	**Serracapriola**	**0.45**	**262**	Pg	**Pg**	**16 55 22.0**	**-0.4**
FG2				Sg	**Sg**	**16 55 28.6**	**+0.1**
	746nm,0.2s						
FG2	**Serracapriola**	**0.45**	**262**	Pg	**Pg**	**16 55 22.0**	**-0.4**
FG2				Sg	**Sg**	**16 55 28.6**	**+0.1**
	746nm,0.2s						
MELA	**Melanico ??? S**	**0.50**	**251**	Pg	**Pg**	**16 55 22.9**	**-0.3**
MELA				Sg	**Sb**	**16 55 30.9**	**+0.6**
	617nm,0.2s						
MELA	**Melanico ??? S**	**0.50**	**251**	Pg	**Pg**	**16 55 22.9**	**-0.3**
MELA				Sg	**Sb**	**16 55 30.9**	**+0.6**
	617nm,0.2s						
FG5	**Orsara di Pugl**	**0.69**	**212**	Pg	**Pg**	**16 55 26.9**	**+0.1**
FG5	**Orsara di Pugl**	**0.69**	**212**	Pg	**Pg**	**16 55 26.9**	**+0.1**
FRES	**Fresagrandinar**	**0.82**	**278**	Pg	**Pb**	**16 55 28.6**	**-0.3**
FRES	**Fresagrandinar**	**0.82**	**278**	Pg	**Pb**	**16 55 28.6**	**-0.3**
MRVN	**Minervino Murg**	**0.87**	**158**	Pg	**Pb**	**16 55 28.5**	**-1.3**
MRVN				Sg	**Sb**	**16 55 40.8**	**-0.3**
MRVN	**Minervino Murg**	**0.87**	**158**	Pg	**Pb**	**16 55 28.5**	**-1.3**
MRVN				Sg	**Sb**	**16 55 40.8**	**-0.3**
PTRJ	**Pietraroja**	**1.05**	**242**	Pg	**Pb**	**16 55 32.5**	**-0.4**
PTRJ	**Pietraroja**	**1.05**	**242**	Pg	**Pb**	**16 55 32.5**	**-0.4**
ACER	**Acerenza**	**1.09**	**173**	Pg	**Pb**	**16 55 33.3**	**-0.2**
ACER				Sg	**Sg**	**16 55 49.1**	**+0.6**
ACER	**Acerenza**	**1.09**	**173**	Pg	**Pb**	**16 55 33.3**	**-0.2**
ACER				Sg	**Sg**	**16 55 49.1**	**+0.6**
AMUR	**Altamura**	**1.15**	**146**	Pg	**Pn**	**16 55 34.2**	**-0.2**
AMUR				Sg	**Sb**	**16 55 49.3**	**+0.2**
AMUR	**Altamura**	**1.15**	**146**	Pg	**Pn**	**16 55 34.2**	**-0.2**
AMUR				Sg	**Sb**	**16 55 49.3**	**+0.2**
LPEL	**Lama dei Pelig**	**1.19**	**279**	Pg	**Pn**	**16 55 35.1**	**+0.1**
	118nm,0.2s						
LPEL	**Lama dei Pelig**	**1.19**	**279**	Pg	**Pn**	**16 55 35.1**	**+0.1**
	118nm,0.2s						
SDI	**San Donato**	**1.46**	**264**	Pg	**Pb**	**16 55 39.8**	**-0.1**
	14nm,0.2s						
SDI	**San Donato**	**1.46**	**264**	Pg	**Pb**	**16 55 39.8**	**-0.1**
	14nm,0.2s						
NRCA	**Norcia**	**2.19**	**297**	Pg	**Pn**	**16 55 48.8**	**+0.1**
	148nm,1.6s						
NRCA	**Norcia**	**2.19**	**297**	Pg	**Pn**	**16 55 48.8**	**+0.1**
	148nm,1.6s						
PUK	**Puka**	**3.09**	**85**	*i* PN	**Pn**	**16 56 00.5**	**-0.6**
PUK				*i* SN	**Sn**	**16 56 37.2**	**-0.4**
TIR	**Tirane**	**3.12**	**98**	*i* P	**Pn**	**16 56 01.5**	**0.0**
BCI	**Bajram Curri**	**3.25**	**80**	*e*P	**Pn**	**16 56 04.6**	**+1.4**

KRSC 24 17:23:19.3±1.7, 52.°90N×168.°30E, h21km±20km, ML3.9, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.69**	**330**	*e*P	Pn	17 24 01.5	+0.3
BKI				*e*S	Sn	17 24 32.3	-0.7
MKZ	**Mys Kozlova**	**4.24**	**296**	*e*P	Pn	17 24 24.9	+2.4
MKZ				*e*S	Sn	17 25 12.5	+1.2
KBTR	**Krutoberegovo**	**4.60**	**318**	*e*P	Pn	17 24 28.2	+0.7
SPN	**Mys Shipunski**	**5.00**	**276**	P	Pn	17 24 35.9	+2.8
SPN				S	Sn	17 25 31.2	+1.0
TUMR	**Tumrok**	**5.36**	**300**	P	Pn	17 24 42.0	+3.9
ZLN	**Zelenaya**	**5.37**	**309**	P	Pn	17 24 42.6	+4.3
BZGR	**Bezymyannyi-Gr**	**5.38**	**307**	P	Pn	17 24 42.6	+4.2
KMNR	**Kamenistaya**	**5.52**	**304**	P	Pn	17 24 44.4	+4.1
KLY	**Klyuchi**	**5.61**	**311**	S	Sn	17 25 48.2	+3.2
SDLR	**Sedlovina**	**5.69**	**278**	*e*P	Pn	17 24 46.1	+3.5
UGLR	**Uglovaya**	**5.72**	**277**	*e*P	Pn	17 24 46.8	+3.7
KRER	**Koryakskii**	**5.77**	**278**	P	Pn	17 24 45.9	+2.0
AVH	**Avacha**	**5.78**	**277**	*e*P	Pn	17 24 47.6	+3.8
PET	**Petropavlovsk**	**5.83**	**275**	P	Pn	17 24 48.3	+3.9
KOK	**Koryaka**	**5.84**	**278**	P	Pn	17 24 48.2	+3.5
RUS	**Russkaya**	**5.97**	**269**	P	Pn	17 24 49.5	+3.1
MTVR	**Mutnovka**	**6.17**	**270**	*e*P	Pn	17 24 52.4	+3.1
MTVR				*e*S	Sn	17 26 00.4	+1.2
GNL	**Ganaly**	**6.26**	**281**	*e*P	Pn	17 24 54.7	+4.2
ASAK	**Asacha**	**6.35**	**269**	*e*P	Pn	17 24 55.6	+3.9
ASAK				S	Sn	17 26 05.2	+1.5

*BJI **24** 17:28:35.6, 25.°47N×141.°32E, h185km, mB4.9/26, mb4.8/43*
*MOS **24** 17:28:37.6±1.0, 25.°50N×140.°89E, h187km, mb4.6/59, Error ellipse: s-maj=9.7km s-min=5.3km az=101.0*
*NEIC **24** 17:28:37.7±0.2, 25.°52N×141.°01E, mb4.7/90, Error ellipse: s-maj=6.2km s-min=4.9km az=146.0*
NEIC Recorded [1 JMA] in the Chichijima-retto and Haha-jima-retto.
*IDC **24** 17:28:37.2±0.5, 25.°53N×140.°97E, h170km±4km, mb4.2/38, mb1 4.4/40, mb1mx4.4/42, mbtmp4.2/40, Error ellipse: s-maj=9.6km s-min=5.8km az=100.0*
*ISCJB **24** 17:28:38.0±0.5, 25.°68N±0.°03×140.°91E±0.°02, h173km±3km, mb4.5/137, Error ellipse: s-maj=4.7km s-min=3.5km az=177.9*
*JMA **24** 17:28:39.6±0.4, 25.°73N×140.°38E, h48km, M5.5*
JMA Felt I J1.
ISC 24 17:28:38.6±0.3, 25.°56N±0.°03×141.°05E±0.°04, h181km±2km, h181km:pP-P, n590, σ1945/677, mb4.6/146, 153C-139D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.48**	**43**	⇑P	**Pn**	**17 29 09.5**	**-0.8**
JHHJ				S	**Sn**	**17 29 31.7**	**-3.3**
CBIJ	**Chichi jima**	**1.84**	**33**	P	**Pn**	**17 29 13.6**	**-0.5**
	3µm,0.3s,baz=214,slow=3.5,SNR=1656						
CBIJ				S	**Sn**	**17 29 39.2**	**-2.4**
	2µm,0.3s,baz=261,slow=21,SNR=60						
CBIJ	**Chichi jima**	**1.84**	**33**	P	**Pn**	**17 29 13.6**	**-0.5**
CBIJ				S	**Sn**	**17 29 39.2**	**-2.4**
CBIJ	**Chichi jima**	**1.84**	**33**	⇑P	**Pn**	**17 29 13.4**	**-0.6**
JHJ2	**Mitsune**	**7.61**	**352**	P	**Pn**	**17 30 26.9**	**+0.3**
JHJ2				*e*S	**Sn**	**17 31 50.1**	**-2.1**
JHJ	**Hachijo jima 2**	**7.62**	**352**	P	**Pn**	**17 30 27.0**	**+0.2**
	52nm,0.3s,baz=80,slow=16,SNR=17						
JHJ				S	**Sn**	**17 31 48.7**	**-3.8**
	66nm,0.3s,baz=62,slow=22,SNR=4.9						
JKO	**Kozu shima**	**8.76**	**350**	P	**Pn**	**17 30 42.1**	**+0.3**
BSO1	**Boso 1**	**9.07**	**360**	P	**Pn**	**17 30 44.3**	**-1.0**
BSO1				*e*S	**Sn**	**17 32 21.1**	**-5.2**
BSO3	**Boso 3**	**9.23**	**357**	P	**Pn**	**17 30 45.9**	**-1.8**
BSO3				*e*S	**Sn**	**17 32 26.2**	**-4.3**
BSO4	**Boso 4**	**9.42**	**356**	P	**Pn**	**17 30 49.2**	**-1.2**
BSO4				*e*S	**Sn**	**17 32 30.2**	**-5.2**
HMMJ	**Hamamatsu 2**	**9.71**	**344**	P	**Pn**	**17 30 55.2**	**+1.0**
JOD2	**Odawara 2**	**9.82**	**351**	P	**Pn**	**17 30 55.9**	**+0.1**
JOD2				S	**Sn**	**17 32 43.5**	**-1.6**
JNY	**Yasuok**	**10.15**	**345**	P	**Pn**	**17 31 00.1**	**0.0**
JHU	**Hanno**	**10.38**	**352**	P	**Pn**	**17 31 01.0**	**-1.9**
JHU				*e*S	Sn	17 32 52.0	-6.3
JRY	**Ryogami san**	**10.59**	**350**	P	**Pn**	**17 31 04.5**	**-1.3**
JRY				*e*S	**Sn**	**17 32 58.4**	**-5.1**
JYT	**Yasato**	**10.66**	**356**	P	**Pn**	**17 31 04.1**	**-2.6**
JYT				*e*S	Sn	17 32 58.3	-6.9
JAG	**Ashikaga**	**10.92**	**353**	P	Pn	17 31 06.8	-3.2
JAG				*e*S	Sn	17 33 02.7	-8.7
JHO	**Hitachi**	**11.03**	**358**	P	**Pn**	**17 31 08.6**	**-2.8**
MJAR	**Matsushiro Arr**	**11.22**	**348**	P	**Pn**	**17 31 11.9**	**-1.9**
	1.4nm,0.3s,baz=152,slow=8.4,SNR=17						
MJAR				S	**Sn**	**17 33 14.4**	**-4.1**
	2.4nm,0.3s,baz=156,slow=16,SNR=4.7						
MJAR	**Matsushiro Arr**	**11.22**	**348**	P	**Pn**	**17 31 11.9**	**-1.9**
MJAR				S	**Sn**	**17 33 14.4**	**-4.1**
MAJO	**Matsushiro**	**11.22**	**348**	*e*P	**Pn**	**17 31 12.5**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,14nm,0.5s						
MAJO	**Matsushiro**	**11.22**	**348**	*e*Pn	**Pn**	**17 31 12.5**	**-1.4**
	comp=Z,14nm,0.5s						
MAT	**Matsushiro**	**11.22**	**348**	P	**Pn**	**17 31 12.0**	**-1.9**
MAT				S	Sn	17 33 12.2	-6.4
MAT	**Matsushiro**	**11.22**	**348**	P	**Pn**	**17 31 13.3**	**-0.6**
JOW	**Kunigami**	**11.54**	**279**	P	**Pn**	**17 31 20.1**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=135,slow=7.9,SNR=4.2						
JNU	**Kunigami**	**11.54**	**279**	P	**Pn**	**17 31 20.1**	**+1.9**
JNU	**Nakatsue**	**11.64**	**313**	P	**P**	**17 31 23.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=111,slow=4.7,SNR=12						
JNU	**Nakatsue**	**11.64**	**313**	*e*Pn	**P**	**17 31 23.7**	**-1.6**
	comp=Z,16nm,0.6s						
GUMO	**Guam**	**12.43**	**162**	P	Pn	17 31 32.4	+2.8
	comp=Z,14nm,0.3s,baz=183,slow=3.7,SNR=14						
GUMO	**Guam**	**12.43**	**162**	*e*P	**Pn**	**17 31 31.9**	**+2.2**
	comp=Z,103nm,0.7s						
GUMO				P	Pn	17 31 32.4	+2.8
KSRS	**Korea Array**	**16.29**	**320**	P	**Pn**	**17 32 19.1**	**+1.9**
	comp=Z,3.4nm,0.3s,baz=135,slow=11,SNR=101						
KSAR	**Wonju Array Be**	**16.30**	**320**	P	**Pn**	**17 32 19.1**	**+1.7**
INCN	**Inchon**	**17.08**	**318**	*e*P	**Pn**	**17 32 26.5**	**-0.2**
	comp=Z,67nm,0.8s						
TATO	**Taipei**	**17.70**	**272**	*e*P	**Pn**	**17 32 34.2**	**0.0**
	comp=Z,55nm,0.8s						
NACB	**Ninganchiao**	**17.71**	**270**	*e*P	**Pn**	**17 32 34.1**	**-0.2**
	comp=Z,40nm,0.8s						
YHNB	**Yeheng**	**17.84**	**271**	*e*P	**Pn**	**17 32 36.1**	**+0.2**
	comp=Z,42nm,0.6s						
YULB	**Yu-li**	**18.11**	**267**	*e*P	**Pn**	**17 32 38.8**	**-0.2**
	comp=Z,68nm,1.1s						
SSE	**Sheshan**	**18.33**	**292**	P	**Pn**	**17 32 41.5**	**0.0**
SSE				pmax	pmax		
	comp=Z,39nm,0.8s						
SSE				pmax	pmax		
	comp=Z,23nm,3.5s						
SSLB	**Suanglung**	**18.35**	**269**	*e*P	**Pn**	**17 32 41.5**	**-0.3**
	comp=Z,54nm,0.8s						
ASAJ	**Asahikawa**	**18.56**	**4**	P	**Pn**	**17 32 44.4**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=205,slow=7.9,SNR=30						
ASAJ	**Asahikawa**	**18.56**	**4**	*e*P	**Pn**	**17 32 43.6**	**-0.4**
	comp=Z,13nm,0.6s						
ASAJ				P	**Pn**	**17 32 44.4**	**+0.4**
TPUB	**Ta-pu**	**18.73**	**267**	*e*P	**Pn**	**17 32 46.1**	**-0.1**
	comp=Z,43nm,0.7s						
USRK	**Ussuriysk Arra**	**20.00**	**341**	P	**P**	**17 32 57.0**	**-0.2**
	comp=Z,7.7nm,0.6s,baz=156,slow=8.3,SNR=14						
NJ2	**Nanjing**	**20.48**	**294**	*e*P	**P**	**17 33 03.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**21.40**	**3**	⇓*e*P	**P**	**17 33 13.8**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**21.40**	**3**	*e*P	**P**	**17 33 12.0**	**0.0**
	comp=Z,17nm,0.6s						
CN2	**Changchun**	**22.20**	**329**	*e*P	**P**	**17 33 20.9**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HABR	**Khabarovsk**	**23.36**	**350**	*e*P	**P**	**17 33 29.1**	**-1.5**
HABR				*e**PP	**pP**	**17 34 02.9**	**-1.5**
HABR				*e**SP	**sP**	**17 34 25.6**	**-1.4**
HABR						17 37 09.2	
HABR				*e*S	**S**	**17 37 30.0**	**+0.3**
HABR				*e**SS	**sS**	**17 38 32.1**	**+1.1**
HABR				*e*		17 44 17.0	
HABR				pmax	pmax		
	comp=E,108nm,2.9s						
HABR				pmax	pmax		
	comp=N,53nm,2.3s						
HABR				pmax	pmax		
	comp=Z,61nm,1.8s						
HABR				MLR	MLR		
	comp=Z,51nm,20.0s						
WHN	**Wuhan**	**24.05**	**288**	P	**P**	**17 33 40.0**	**+2.8**
WHN				pmax	pmax		
	comp=Z,140nm,0.8s						
KLR	**Kul'dur**	**24.72**	**345**	*e*P	**P**	**17 33 41.8**	**-1.3**
KLR				*e*		17 34 21.2	
KLR				*e*		17 34 40.0	
BJT	**Baijiatuau**	**25.30**	**311**	P	**P**	**17 33 49.6**	**+1.2**
	comp=Z,18nm,0.5s						
BJI	**Beijing**	**25.30**	**311**	P	**P**	**17 33 49.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,21nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,4.3s						
ENH	**Enshi**	**28.23**	**287**	*e*P	**P**	**17 34 14.8**	**+0.1**
	comp=Z,12nm,0.6s						
HHC	**Hu-ho-hao-te**	**28.83**	**309**	*e*P	**P**	**17 34 20.6**	**+0.5**
HHC				pP	**pP**	**17 34 59.3**	**+2.0**
HHC				sP	**sP**	**17 35 21.0**	**+2.8**
HHC				PP	**PnPn**	**17 35 22.3**	**+1.2**
HHC				PcP	**PcP**	**17 37 25.3**	**+0.3**
HHC				S	**S**	**17 38 54.9**	**-1.8**
HHC				sS	**sS**	**17 40 03.4**	**+0.6**
HHC				SS	**SnSn**	**17 40 39.6**	**-1.5**
HHC				ScP	**ScP**	**17 40 47.8**	**-1.6**
HHC				PcS	**PcS**	**17 41 06.9**	**-1.0**
HHC				ScS	**ScS**	**17 44 40.0**	**-3.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
XAN	**Xi'an**	**29.04**	**295**	P	**P**	**17 34 22.4**	**+0.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PETK	**Petropavlovsk-**	**30.23**	**20**	P	**P**	**17 34 33.2**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=238,slow=8.3,SNR=2.4						
PETK	**Petropavlovsk-**	**30.23**	**20**	P	**P**	**17 34 33.2**	**+1.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PETK	**Petropavlovsk-**	**30.23**	**20**	P	**P**	**17 34 33.2**	**+1.1**
KKM	**Kota Kinabalu**	**30.67**	**235**	*e*P	**P**	**17 34 37.4**	**+0.9**
	comp=Z,6.2nm,0.8s						
GYA	**Guiyang**	**30.86**	**279**	⇓*i*P	**P**	**17 34 39.5**	**+1.3**
GYA				pP	**pP**	**17 35 18.0**	**+2.4**
GYA				sP	sP	17 35 39.8	+3.4
GYA				PP	**PnPn**	**17 35 48.6**	**+1.6**
GYA				PcP	**PcP**	**17 37 31.3**	**+0.7**
GYA				S	**S**	**17 39 27.6**	**-1.2**
GYA				ScP	**ScP**	**17 40 55.9**	**-0.4**
GYA				ScS	**ScS**	**17 44 51.0**	**-2.7**
GYA				pmax	pmax		
	comp=Z,60nm,0.7s						
CD2	**Chengdu**	**33.18**	**288**	P	**P**	**17 34 59.0**	**+0.8**
CD2				pP	**pP**	**17 35 37.9**	**+2.0**
CD2				sP	**sP**	**17 35 59.3**	**+2.6**
CD2				PP	**PP**	**17 36 17.1**	**+0.1**
CD2				S	**S**	**17 40 03.1**	**-1.4**
CD2				sS	**sS**	**17 41 11.6**	**+0.5**
CD2				SS	**SnSn**	**17 42 18.5**	**-8.4**
CD2				pmax	pmax		
	comp=Z,60nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,7.3s						
LZH	**Lanzhou**	**33.45**	**297**	⇑P	**P**	**17 35 01.5**	**+0.8**
LZH				pP	**pP**	**17 35 41.3**	**+2.9**
LZH				sP	sP	17 36 03.5	+4.3
LZH				PP	**PP**	**17 36 20.4**	**+0.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,56nm,4.7s						
KMI	**Kunming**	**34.55**	**278**	P	**P**	**17 35 12.3**	**+2.0**
KMI				pP	**pP**	**17 35 45.8**	**-2.4**
KMI				S	**S**	**17 40 24.6**	**-1.4**
KMI				pmax	pmax		
	comp=Z,59nm,0.9s						
KMI				pmax	pmax		
	comp=Z,110nm,3.8s						
KMI				LR	LR		
	comp=N,86nm,15.6s						
KMI				LR	LR		
	comp=E,120nm,19.9s						
KMI				LR	LR		
	comp=Z,89nm,16.2s						
ULN	**Ulaanbaatar**	**34.77**	**319**	*e*P	**P**	**17 35 11.8**	**0.0**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**35.15**	**318**	P	**P**	**17 35 14.8**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=130,slow=8.7,SNR=28						
SONM				PP	**PnPn**	**17 36 44.0**	**+4.6**
	comp=Z,2.2nm,0.9s,baz=122,slow=11,SNR=6.6						
SONM				PcP	**PcP**	**17 37 42.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=124,slow=2.7,SNR=4.4						
SONM	**Songino Array**	**35.15**	**318**	P	**P**	**17 35 14.8**	**-0.3**
SONM				PP	**PnPn**	**17 36 44.0**	**+4.6**
SONM				PcP	**PcP**	**17 37 42.2**	**-0.1**
PMG	**Port Moresby**	**35.26**	**170**	P	**P**	**17 35 15.1**	**-1.0**
	comp=Z,8.6nm,0.5s,baz=74,slow=3.2,SNR=11						
PMG	**Port Moresby**	**35.26**	**170**	*e*P	**P**	**17 35 13.9**	**-2.2**
	comp=Z,8.9nm,0.8s						
FX1	**Attu Island--F**	**36.40**	**33**	*e*P	**P**	**17 35 27.4**	**+2.0**
GTA	**Gaotai**	**37.10**	**302**	*e*P	**P**	**17 35 32.1**	**+0.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	**Yakutsk**	**37.26**	**351**	*e*P	**P**	**17 35 31.8

WMQ pmax pmax
comp=Z,6.0nm,1.0s
TAPN Taplejung 47.48 285 *e*P **P 17 36 57.2 +1.3**
comp=Z,27nm,0.7s
UNV Unalaska Valle 47.79 39 P **P 17 36 57.2 -0.2**
comp=Z,14nm,0.6s
ODAN Odare 47.86 284 *e*P **P 17 36 59.9 +1.2**
comp=Z,26nm,0.4s
RAMN Ramite 48.53 284 *e*P **P 17 37 04.9 +1.0**
GAMB Gambell 48.95 26 *e*P **P 17 37 07.4 +1.2**
comp=Z,5.4nm,0.8s
GUN Gumba 48.98 286 *e*P **P 17 37 08.9 +1.5**
comp=Z,54nm,0.3s
AS31 Alice Springs 49.42 189 *e*P **P 17 37 09.0 -1.3**
ASAR Alice Springs 49.42 189 P **P 17 37 09.1 -1.1**
comp=Z,0.9nm,0.4s,baz=2.5,slow=4.7,SNR=30
ASAR pP **pP 17 37 46.7 -3.8**
comp=Z,1.3nm,0.8s,baz=13,slow=12,SNR=3.8
ASAR PcP **PcP 17 38 31.4 +1.6**
comp=Z,0.6nm,0.6s,baz=16,slow=5.6,SNR=4.2
ASAR S **S 17 44 01.7 -1.8**
comp=Z,0.4nm,0.6s,baz=19,slow=20,SNR=5.2
ASAR Alice Springs 49.42 189 P **P 17 37 09.1 -1.1**
ASAR pP **pP 17 37 46.7 -3.8**
ASAR PcP **PcP 17 38 31.4 +1.6**
ASAR S **S 17 44 01.7 -1.8**
PKI Pulchoki 49.45 285 *e*P **P 17 37 11.7 +0.7**
comp=Z,9.0nm,0.3s
PKIN Phulchoki 49.46 285 *e*P **P 17 37 12.1 +1.1**
comp=Z,6.9nm,0.3s
KKN Kakani 49.52 286 *e*P **P 17 37 12.4 +1.0**
DMN Daman 49.71 285 *e*P **P 17 37 13.8 +1.0**
ZAA0 Zalesovo Array 50.00 320 *e*P **P 17 37 12.9 -1.3**
ZAA0 *e*pP **pP 17 37 55.1 +0.5**
ZAA0 *e*PcP **PcP 17 38 29.7 -1.8**
ZALV Zalesovo Beam 50.00 320 P **P 17 37 13.3 -0.9**
comp=Z,3.5nm,0.5s,baz=98,slow=7.0,SNR=16
ZALV PcP **PcP 17 38 30.2 -1.2**
comp=Z,1.5nm,0.5s,baz=92,slow=3.8,SNR=4.5
ZALV Zalesovo Beam 50.00 320 P **P 17 37 13.3 -0.9**
ZALV 17 38 30.3
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 50.00 320 P **P 17 37 13.3 -0.9**
ZALV PcP **PcP 17 38 30.2 -1.2**
GKN Gorkha 50.04 286 *e*P **P 17 37 16.3 +1.1**
comp=Z,25nm,0.4s
MK31 Makanchi Array 50.68 311 *e*P **P 17 37 19.3 -0.3**
MK31 Makanchi Array 50.68 311 *e*P **P 17 37 19.3 -0.3**
MKAR Makanchi Array 50.68 311 P **P 17 37 19.5 -0.1**
comp=Z,1.9nm,0.4s,baz=91,slow=9.6,SNR=55
MKAR Makanchi Array 50.68 311 P **P 17 37 19.5 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 50.68 311 P **P 17 37 19.5 -0.1**
DANN Dangsing 50.73 287 *e*P **P 17 37 22.0 +1.4**
comp=Z,120nm,0.6s
MBWA Marble Bar 50.84 206 *e*P **P 17 37 19.8 -1.1**
comp=Z,18nm,1.2s
KOLN Koldanda 50.99 286 *e*P **P 17 37 23.4 +1.0**
comp=Z,31nm,0.7s
TNA Tin City 51.21 25 *e*P **P 17 37 26.0 +2.9**
comp=Z,17nm,0.9s
PYUN Piuthan 51.45 287 *e*P **P 17 37 27.0 +1.2**
comp=Z,93nm,0.5s
KURK Kurchatov 53.35 315 *e*P **P 17 37 38.0 -1.1**
KURK *e**PP **pP 17 38 21.1 +1.2**
KURK pmax pmax
comp=Z,14nm,1.2s
KURK Kurchatov 53.35 315 *e*P **P 17 37 38.0 -1.1**
comp=Z,14nm,1.2s
KURK *e*pP **pP 17 38 21.1 +1.2**
DZM Mont Dzumac 53.37 150 P **P 17 37 40.4 +0.8**
comp=Z,11nm,0.9s,baz=345,slow=16,SNR=5.1
DZM Mont Dzumac 53.37 150 P **P 17 37 40.4 +0.8**
TKM2 Tokmak 2 55.48 306 *i* P **P 17 37 55.7 +0.8**
TKM2 Tokmak 2 55.48 306 P **P 17 37 55.8 +0.8**
SNR=7.9
KSH Kashi 55.50 302 P P 17 37 58.8 +3.8
KSH pP pP 17 38 42.4 +6.2
KSH PcP **PcP 17 38 54.8 +2.0**
KSH sP sP 17 39 02.8 +6.7
KSH PP PP 17 40 07.9 +7.1
KSH ScP **ScP 17 42 33.8 -0.7**
KSH PcS **PcS 17 42 53.6 +0.3**
KSH S **S 17 45 29.0 +2.8**
KSH sS sS 17 46 44.3 +6.5
KSH ScS **ScS 17 47 24.4 -1.7**
KSH SS **SS 17 49 17.5 +3.9**
KSH pmax pmax
comp=Z,6.0nm,0.5s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=N,250nm,10.5s
KSH LR LR
comp=E,140nm,8.3s
KSH LR LR
comp=Z,250nm,6.6s
KZA Kyzart 55.80 305 P **P 17 37 58.8 +1.4**
SNR=5.6
KBK Karagaybulak 55.97 306 P **P 17 37 59.1 +0.7**
SNR=5.8
KDAK Kodiak Island 56.20 36 P **P 17 37 59.0 -0.5**
comp=Z,15nm,0.6s,baz=281,slow=8.4,SNR=29
KDAK Kodiak Island 56.20 36 P **P 17 37 59.0 -0.5**
AAK Ala-Archa 56.31 306 *i* P **P 17 38 01.0 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 56.31 306 *e*P **P 17 38 00.3 -0.4**
comp=Z,8.9nm,0.6s
AAK Ala-Archa 56.31 306 P **P 17 38 01.2 +0.5**
SNR=5.0
EKS2 Erkin-Say 56.83 306 *e*P **P 17 38 02.6 -1.8**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 56.83 306 *e*P **P 17 38 02.6 -1.8**
comp=Z,1.9nm,0.8s
AML Almayashu 56.95 305 P **P 17 38 06.7 +1.1**
SNR=6.0
STKA Stephens Creek 57.11 179 P **P 17 38 05.2 -1.0**
comp=Z,1.4nm,0.3s,baz=357,slow=7.1,SNR=3.5
STKA Stephens Creek 57.11 179 *e*P **P 17 38 04.7 -1.5**
TRF Thorofare Moun 57.93 30 *e*P **P 17 38 12.4 +0.6**
comp=Z,17nm,0.9s
HYB Hyderabad 58.27 275 *i* P **P 17 38 15.0 +0.3**
PMR Palmer 58.28 32 *e*P **P 17 38 14.8 +0.9**
PMR pmax pmax
comp=Z,30nm,0.8s
PMR Palmer 58.28 32 *e*P **P 17 38 14.8 +0.9**
comp=Z,30nm,0.8s
COLD Coldfoot 58.49 25 *e*P **P 17 38 17.2 +1.8**
comp=Z,19nm,1.0s
BVA0 Borovoye Array 58.49 318 P **P 17 38 14.7 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 58.56 318 *ce*P **P 17 38 15.8 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BRVK Borovoye 58.56 318 *e*P **P 17 38 15.1 -1.0**
comp=Z,3.0nm,0.5s
SML Sawmill 58.67 32 *e*P **P 17 38 17.7 +0.9**
SML pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 58.67 32 *e*P **P 17 38 17.7 +0.9**
comp=Z,9.5nm,0.8s
COLA College 59.15 28 *e*P **P 17 38 21.0 +1.1**
COLA pmax pmax
comp=Z,8.0nm,0.6s
COLA College 59.15 28 *e*P **P 17 38 21.0 +1.1**
comp=Z,8.4nm,0.6s
KK31 Karatay Array 59.17 306 *e*P **P 17 38 20.4 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 59.17 306 *e*P **P 17 38 20.3 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 59.17 306 *e*P **P 17 38 20.3 -0.2**
comp=Z,2.6nm,0.4s
ILAR Eielson Array 59.55 28 P **P 17 38 22.9 +0.2**
comp=Z,4.6nm,0.4s,baz=248,slow=5.8,SNR=62
ILAR PcP **PcP 17 39 06.9 -1.2**
comp=Z,3.6nm,0.8s,baz=260,slow=5.3,SNR=7.0
ILAR Eielson Array 59.55 28 P **P 17 38 22.9 +0.2**

ILAR PcP **PcP 17 39 06.9 -1.2**
PAX Paxson 60.07 30 *e*P **P 17 38 27.4 +1.0**
PAX *e**PP **PcP 17 39 10.2 -0.2**
PAX pmax pmax
comp=Z,25nm,1.2s
PAX Paxson 60.07 30 *e*P **P 17 38 27.4 +1.0**
comp=Z,25nm,1.2s
PAX *e*pP **PcP 17 39 10.2 -0.2**
BMRM Bremner River 60.44 33 *e*P **P 17 38 30.1 +1.2**
comp=Z,17nm,0.5s
DOT Dot Lake 60.72 30 *e*P **P 17 38 31.5 +0.8**
comp=Z,4.2nm,0.7s
MENT Mentasta 60.87 30 *e*P **P 17 38 33.3 +1.5**
KBL Kabul 61.80 297 *e*P **P 17 38 38.8 +0.1**
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 61.80 297 *e*P **P 17 38 38.8 +0.1**
comp=Z,11nm,0.6s
NWAO Narrogin (SRO) 62.42 203 *e*P **P 17 38 42.2 -0.2**
comp=Z,4.3nm,0.7s
DAWY Dawson 62.79 29 *e*P **P 17 38 45.9 +1.4**
INK Inuvik 64.85 24 P **P 17 38 58.6 +0.8**
comp=Z,6.3nm,0.4s,baz=303,slow=7.1,SNR=69
INK Inuvik 64.85 24 *e*P **P 17 38 58.1 +0.3**
comp=Z,11nm,0.6s
ARU Arti 65.02 323 *c i*P **P 17 38 59.1 0.0**
ARU 17 41 22.3
ARU S **S 17 47 28.0 +1.6**
ARU SS **SS 17 51 39.6 -1.8**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 65.02 323 *e*P **P 17 38 57.4 -1.7**
comp=Z,2.8nm,0.4s
AB31 Akbulak array 65.44 315 *i* P **P 17 39 00.9 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 65.44 315 *e*P **P 17 39 00.8 -1.2**
comp=Z,2.2nm,0.5s
DLBC Dease Lake 68.05 35 P **P 17 39 19.8 +1.4**
comp=Z,3.4nm,0.5s,baz=302,slow=2.1,SNR=7.2
DLBC Dease Lake 68.05 35 P **P 17 39 19.8 +1.4**
TAU Tasmania Unive 68.37 175 P **P 17 39 20.2 -0.1**
TAU pmax pmax
comp=Z,27nm,1.4s
TAU Tasmania Unive 68.37 175 P **P 17 39 20.2 -0.1**
comp=Z,27nm,1.4s
SPITS Spitsbergen Ar 71.71 350 P **P 17 39 40.6 +0.2**
comp=Z,1.5nm,0.5s,baz=76,slow=3.5,SNR=5.7
SPITS Spitsbergen Ar 71.71 350 P **P 17 39 40.6 +0.2**
RES Resolute Bay 73.79 13 P **P 17 39 53.1 +0.5**
comp=Z,16nm,0.8s,baz=326,slow=5.9,SNR=58
RES Resolute Bay 73.79 13 *e*P **P 17 39 52.6 +0.1**
comp=Z,1.5nm,0.8s
YKW3 Yellowknife Ar 73.94 28 *i*/P **P 17 39 53.9 +0.3**
comp=Z,0.2nm,0.8s
YKA Yellowknife Ar 73.97 28 P **P 17 39 54.4 +0.6**
comp=Z,13nm,0.6s,baz=294,slow=5.8,SNR=248
YKA Yellowknife Ar 73.97 28 P **P 17 39 54.5 +0.6**
ARCES ARCESS Array B 74.66 341 P **P 17 39 57.1 -0.6**
comp=Z,6.3nm,0.9s,baz=75,slow=7.9,SNR=13
ARCES ARCESS Array B 74.66 341 P **P 17 39 57.1 -0.6**
JOF Joensuu 76.00 334 *e*P **P 17 40 04.2 -1.3**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 76.00 334 *ep* **P 17 40 04.2 -1.3**
comp=Z,2.8nm,0.5s
OBN Obninsk 77.21 325/*e*P **P 17 40 10.7 -1.6**
OBN *eS* **S 17 49 49.2 +2.6**
OBN pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 77.82 50 P **P 17 40 17.7 +1.6**
comp=Z,1.9nm,0.5s,baz=178,slow=2.5,SNR=3.8
YBH Yreka Blue Hor 77.82 50 P **P 17 40 17.7 +1.6**
KBZ Khabaz 78.31 313 P **P 17 40 18.6 -0.1**
comp=Z,5.2nm,0.8s,baz=153,slow=3.1,SNR=9.5
KBZ Khabaz 78.31 313 P **P 17 40 18.6 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 78.31 313 P **P 17 40 18.6 -0.1**
KAF Kangasniemi 78.41 334 *e*P **P 17 40 17.0 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 78.41 334 *ep* **P 17 40 17.0 -1.9**
comp=Z,4.0nm,0.5s
NEW Newport 78.73 42 P **P 17 40 21.4 +0.4**
comp=Z,10.0nm,0.8s,baz=294,slow=2.7,SNR=14
NEW Newport 78.73 42 P **P 17 40 21.4 +0.4**
NEW Newport 78.73 42 ↑P **P 17 40 22.4 +1.5**
baz=79,SNR=9.2
FINES FINESS Array B 78.87 334 P **P 17 40 20.2 -1.2**
comp=Z,5.1nm,0.3s,baz=68,slow=5.0,SNR=106
FINES FINESS Array B 78.87 334 P **P 17 40 20.2 -1.2**
A12A Yaak River Ran 79.31 41 ↓P **P 17 40 26.0 +1.9**
baz=79,SNR=8.1
B12A Libby 79.56 41 ↓P **P 17 40 27.4 +2.0**
baz=79
C12B Naegeli Ranch, 79.97 42 ↓P **P 17 40 29.6 +1.9**
baz=80
BMO Blue Mountains 80.10 45 *e*P **P 17 40 29.8 +1.2**
comp=Z,12nm,1.0s
B13A Whitefish 80.26 41 ↓P **P 17 40 31.1 +1.8**
baz=80,SNR=11
WALA Waterton Lakes 80.27 40 *e*P **P 17 40 31.0 +1.6**
comp=Z,0.8nm,1.1s
WALA *e*pP **pP 17 41 11.6 -1.9**
BSMT Bassoo Peak 80.31 41 *e*P **P 17 40 31.3 +1.6**
comp=Z,13nm,1.2s
BLMT Blacktail Moun 80.49 41 *e*P **P 17 40 32.4 +1.7**
comp=Z,10nm,0.8s
C13A Hot Springs 80.52 42 ↓P **P 17 40 32.1 +1.4**
baz=80,SNR=18
A14A Double T Ranch 80.60 40 ↓P **P 17 40 32.9 +1.7**
baz=80,SNR=14
D13A Huson 80.86 42 ↓P **P 17 40 33.3 +0.8**
baz=81,SNR=7.7
CMB Columbia Colle 80.97 52 *e*P **P 17 40 34.0 +0.8**
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 80.97 52 *e*P **P 17 40 34.0 +0.8**
comp=Z,13nm,1.1s
B14A Marquette Ranc 80.97 41 ↑P **P 17 40 34.9 +1.8**
baz=81,SNR=15
A15A Jonn Ranch, 81.00 40 ↓P **P 17 40 34.5 +1.3**
baz=81,SNR=13
MSO Missoula 81.30 42 ↑P **P 17 40 36.0 +1.1**
baz=81
E13A Victor 81.33 43 ↓P **P 17 40 36.0 +0.9**
baz=81
SLMT Seeley Lake 81.37 42 *e*P **P 17 40 36.3 +0.9**
comp=Z,23nm,1.0s
B15A Bradely Ranch, 81.41 40 ↓P **P 17 40 36.7 +1.3**
baz=81,SNR=23
D14A Greenough 81.44 42 ↓P **P 17 40 36.4 +0.8**
baz=81
F13A Darby 81.55 43 ↓P **P 17 40 36.8 +0.6**
baz=81,SNR=11
C15A Salmond Ranch, 81.65 41 ↓P **P 17 40 38.1 +1.4**
baz=82,SNR=19
A16A West Butte Ran 81.67 39 ↑P **P 17 40 37.9 +1.1**
baz=82,SNR=38
MFID Camas Ranch 81.70 46 *e*P **P 17 40 38.5 +1.5**
comp=Z,20nm,0.9s
MFID Camas Ranch 81.70 46 ↑P **P 17 40 38.6 +1.5**
baz=82,SNR=13
H12A Diamond D Ranc 81.80 44 ↓P **P 17 40 38.8 +1.2**
baz=82,SNR=12
B16A M & M Farms, S 81.86 40 ↑P **P 17 40 38.9 +1.1**
baz=82,SNR=27
G13A Cobalt 81.94 44 ↓P **P 17 40 39.2 +0.9**
baz=82,SNR=17
D15A Lincoln 82.05 41 ↓P **P 17 40 39.7 +0.9**
baz=82
SUMG Summit 82.13 360 *i* P **P 17 40 39.2 +0.1**
comp=Z,5.2nm,0.9s
F14A Wisdom 82.13 43 ↑P **P 17 40 40.2 +0.9**
baz=82
C16A Fuhringer Ranc 82.14 41 ↓P **P 17 40 40.5 +1.3**
baz=82,SNR=22
H13A Challis 82.17 44 ↑P **P 17 40 40.8 +1.3**
baz=82,SNR=19
A17A Triple J Farms 82.18 39 ↑P **P 17 40 40.6 +1.2**
baz=82,SNR=14
NVAR Mina Array Bea 82.27 51 P **P 17 40 41.3 +1.0**
comp=Z,5.7nm,0.7s,baz=290,slow=5.3,SNR=47
NVAR Mina Array Bea 82.27 51 P **P 17 40 41.3 +1.0**
E15A Deer Lodge 82.28 42 ↑P **P 17 40 41.3 +1.2**
baz=82,SNR=16

NV11 Mina Array Sit 82.38 51 *e*P **P 17 40 41.4 +0.7**
B17A L&G Farms, Che 82.45 40 ↓P **P 17 40 42.2 +1.4**
baz=82,SNR=61
HLID Hailey 82.54 45 *e*P **P 17 40 42.9 +1.4**
comp=Z,6.9nm,0.7s
HLID Hailey 82.54 45 ↑P **P 17 40 43.3 +1.8**
baz=82,SNR=15
I13A Wildhorse Cree 82.57 45 ↓P **P 17 40 43.2 +1.6**
baz=82,SNR=19
D16A Dana Ranch, Ca 82.64 41 ↓P **P 17 40 43.1 +1.3**
baz=82,SNR=9.4
F15A Butte 82.65 43 ↑P **P 17 40 43.5 +1.4**
baz=82,SNR=32
A18A Metzger Ranch, 82.68 39 ↓P **P 17 40 43.3 +1.4**
baz=82
LRM Limekiln Ridge 82.69 43 *e*P **P 17 40 43.6 +1.3**
comp=Z,174nm,0.7s
H14A Leadore 82.70 44 ↑P **P 17 40 43.6 +1.3**
baz=83,SNR=7.9
PKM Peak Mountain 82.73 55 ↑P **P 17 40 44.3 +1.6**
baz=83
J13A Cove Ranch, Pi 82.77 45 ↑P **P 17 40 44.3 +1.6**
baz=83,SNR=12
C17A Wharram Farm, 82.80 40 ↑P **P 17 40 43.5 +0.8**
baz=83,SNR=13
E16A East Helena 82.81 42 ↓P **P 17 40 44.1 +1.3**
baz=83,SNR=17
DLMT Dillon 82.82 43 *e*P **P 17 40 43.6 +0.7**
comp=Z,9.1nm,0.8s
MCMT McKenzie Canyo 82.93 44 *e*P **P 17 40 44.6 +1.1**
comp=Z,1.5nm,0.6s
I14A Mackay 82.98 45 ↑P **P 17 40 45.7 +1.9**
baz=83,SNR=22
G15A Dillon 82.98 43 ↑P **P 17 40 45.1 +1.3**
baz=83,SNR=10
B18A Beardsley Farm 82.99 39 ↑P **P 17 40 44.8 +1.2**
baz=83,SNR=16
D17A Six Diamond Ra 83.09 41 ↑P **P 17 40 45.3 +1.1**
baz=83,SNR=28
H15A Lima 83.16 44 ↓P **P 17 40 45.9 +1.2**
baz=83
EGMT Eagleton 83.19 40 *e*P **P 17 40 45.8 +1.2**
comp=Z,34nm,1.0s
EGMT Eagleton 83.19 40 ↓P **P 17 40 45.8 +1.2**
baz=83,SNR=13
F16A Kennard Place, 83.21 42 ↓P **P 17 40 45.9 +1.1**
baz=83
AKASG Malin Array Be 83.25 324 P **P 17 40 43.2 -1.5**
comp=Z,1.0nm,0.3s,baz=53,slow=5.0,SNR=13
AKASG Malin Array Be 83.25 324 P **P 17 40 43.2 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 83.25 324 P **P 17 40 43.2 -1.5**
AK01 Malin Array Si 83.26 324 *e*P **P 17 40 43.3 -1.5**
BOZ Bozeman (W) 83.28 42 *e*P **P 17 40 45.9 +0.7**
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 83.28 42 *e*P **P 17 40 45.9 +0.7**
comp=Z,6.6nm,0.8s
BOZ Bozeman (W) 83.28 42 ↑P **P 17 40 46.6 +1.4**
baz=83,SNR=8.2
AK02 Malin Array Si 83.28 323 *e*P **P 17 40 42.9 -2.0**
A19A Klindworth Far 83.30 39 ↓P **P 17 40 46.3 +1.2**
baz=83,SNR=22
ELK Elko 83.32 48 *e*P **P 17 40 47.0 +1.3**
E17A Martinsdale 83.33 41 ↑P **P 17 40 47.0 +1.5**
baz=83,SNR=15
G16A Moss Hill, Enn 83.38 43 ↓P **P 17 40 47.0 +1.3**
baz=83,SNR=15
ISA Isabella 83.38 54 ↓P **P 17 40 46.3 +0.5**
baz=83
B19A Brinkman Farms 83.43 39 ↑P **P 17 40 47.2 +1.4**
baz=83,SNR=19
I15A Monteview 83.56 44 ↑P **P 17 40 48.6 +1.9**
baz=83
FFC Flin Flon 83.58 31 *e*P **P 17 40 47.0 +0.6**
FFC pmax pmax
comp=Z,30nm,0.7s
FFC Flin Flon 83.58 31 *e*P **P 17 40 47.0 +0.6**
comp=Z,30nm,0.7s
D18A Linhart Farms, 83.58 40 ↓P **P 17 40 48.2 +1.6**
baz=83,SNR=7.5
MALT Malatya 83.71 309 *e*P **P 17 40 47.4 -0.1**
MALT pmax pmax
comp=Z,2.0nm,0.8s
MALT Malatya 83.71 309 *e*P **P 17 40 47.4 -0.1**
comp=Z,2.3nm,0.8s
F17A Fitzpatrick Pl 83.73 42 ↑P **P 17 40 49.0 +1.5**
baz=84,SNR=13
C19A Slack Wire Ran 83.75 40 ↓P **P 17 40 48.8 +1.4**
baz=84,SNR=24
A20A Cobblestone Ra 83.78 38 ↓P **P 17 40 48.7 +1.1**
baz=84,SNR=12
QLMT Earthquake Lak 83.80 43 *e*P **P 17 40 49.9 +1.9**
comp=Z,3.4nm,0.8s
K14A Jones Ranch, D 83.83 46 ↑P **P 17 40 50.1 +2.1**
baz=84,SNR=8.1
E18A Harlowton 83.84 41 ↑P **P 17 40 49.8 +1.8**
baz=84,SNR=35
J15A Blackfoot 83.88 45 ↓P **P 17 40 50.6 +2.3**
baz=84,SNR=22
MPMC Manual Prospec 83.92 53 ↓P **P 17 40 49.7 +1.0**
baz=84
B20A Solberg Farm, 83.96 39 ↓P **P 17 40 49.5 +1.0**
baz=84,SNR=16
G17A Pierce Place, 83.98 42 ↑P **P 17 40 50.7 +1.9**
baz=84
H16A Russell Place, 83.98 43 ↓P **P 17 40 50.9 +2.0**
baz=84,SNR=15
L14A Malta 84.03 46 ↓P **P 17 40 50.9 +1.8**
baz=84,SNR=7.4
LRMC Laurel Mountai 84.04 54 ↓P **P 17 40 50.4 +1.2**
baz=84,SNR=5.6
EDW2 Edwards Air Fo 84.09 54 ↑P **P 17 40 50.1 +0.6**
baz=84,SNR=6.9
D19A Cripps Ranch, 84.14 40 ↑P **P 17 40 50.9 +1.4**
baz=84,SNR=33
YMR Madison River 84.17 43 *e*P **P 17 40 51.6 +1.7**
comp=Z,46nm,0.8s
FURC Furnace Creek, 84.18 52 ↑P **P 17 40 51.0 +1.2**
baz=84
R11A Troy Canyon, C 84.21 50 ↑P **P 17 40 51.6 +1.4**
baz=84,SNR=23
I16A Newdale 84.25 44 ↓P **P 17 40 52.4 +2.2**
baz=84,SNR=14
A21A Bergtoll Ranch 84.28 38 ↓P **P 17 40 51.4 +1.3**
baz=84,SNR=35
F18A Big Timber 84.30 41 ↓P **P 17 40 51.8 +1.5**
baz=84,SNR=16
YNR Norris Junctio 84.32 43 *e*P **P 17 40 53.4 +2.7**
comp=Z,46nm,1.4s
C20A Veseth Ranch, 84.36 39 ↓P **P 17 40 52.0 +1.5**
baz=84,SNR=23
HFS Hagfors 84.43 336 P **P 17 40 48.4 -2.1**
comp=Z,3.5nm,0.4s,baz=101,slow=3.0,SNR=30
HFS Hagfors 84.43 336 P **P 17 40 48.5 -2.1**
J16A Bone 84.47 44 ↓P **P 17 40 53.2 +1.9**
baz=84,SNR=15
H17A Grant Village 84.55 43 ↓P **P 17 40 54.9 +3.1**
baz=84,SNR=22
E19A Rath Farm, Rou 84.56 41 ↑P **P 17 40 53.1 +1.5**
baz=84,SNR=14
DCID1 Drake Creek 84.58 44 *e*P **P 17 40 53.5 +1.6**
comp=Z,36nm,1.2s
IMW Indian Meadow 84.58 44 *e*P **P 17 40 53.9 +1.9**
comp=Z,26nm,0.7s
L15A Malad City 84.60 46 ↓P **P 17 40 53.4 +1.4**
baz=84,SNR=9.3
D20A Manuel Ranch, 84.61 40 ↑P **P 17 40 53.4 +1.6**
baz=84,SNR=18
RRI2 Red Ridge 84.61 44 *e*P **P 17 40 53.9 +1.7**
comp=Z,29nm,0.8s
BFSC Mount Baldy Ra 84.62 55 ↑P **P 17 40 53.2 +1.0**
baz=84
FLWY Flagg Ranch 84.63 43 *e*P **P 17 40 54.3 +2.1**
comp=Z,48nm,0.9s
NB2 NORSAR Subarra 84.65 338 P **P 17 40 49.7 -2.0**
comp=Z,2.6nm,0.4s,baz=56,slow=5.1
NOA NORSAR Array B 84.65 338 P **P 17 40 49.7 -2.0**
comp=Z,4.4nm,0.6s,baz=45,slow=4.8,SNR=26
NOA NORSAR Array B 84.65 338 P **P 17 40 49.7 -2.0**
G18A Lazy EL Ranch, 84.70 42 ↑P **P 17 40 53.5 +1.1**
baz=84
K16A Soda Springs 84.70 45 ↓P **P 17 40 54.6 +2.1**
baz=85,SNR=15
GSC Goldstone 84.76 53 ↑P **P 17 40 54.1 +1.3**
baz=85
TPAW Teton Pass 84.78 44 *e*P **P 17 40 54.7 +1.7**

	comp=Z,16nm,0.8s								
F19A	**Roth Farm, Mol**	84.79	41	⇓P		P	17 40 53.8	+1.0	
	baz=85,SNR=8.9								
I17A	**Pilgrim Ck.**	84.79	44	⇑P		P	17 40 55.4	+2.4	
	baz=85,SNR=15								
C21A	**Desert Coulee**	84.81	39	⇓P		P	17 40 54.0	+1.2	
	baz=85,SNR=8.4								
M15A	**Larsen Ranch,**	84.83	46	⇑P		P	17 40 53.9	+0.8	
	baz=85								
A22A	**Carney Farms,**	84.84	37	⇑P		P	17 40 53.5	+0.6	
	baz=85,SNR=13								
SHOC	**Shoshone**	84.86	53	⇑P		P	17 40 54.4	+1.2	
	baz=85								
E20A	**Meyer Farm, Mu**	84.93	40	⇓P		P	17 40 54.6	+1.2	
	baz=85,SNR=5.4								
LOHW	**Long Hollow**	84.93	44	*e*P		P	17 40 55.3	+1.6	
	comp=Z,20nm,1.1s								
H18A	**Shoshone NF, C**	84.97	43	⇓P		P	17 40 55.6	+1.7	
	baz=85,SNR=21								
RLMT	**Red Lodge**	84.98	42	⇓*i*P		P	17 40 55.5	+1.6	
	comp=Z,28nm,0.6s								
RLMT	**Red Lodge**	84.98	42	⇓P		P	17 40 55.8	+1.9	
	baz=85,SNR=40								
J17A	**Brown Place, J**	84.99	44	⇑P		P	17 40 55.6	+1.6	
	baz=85,SNR=7.3								
AHID	**Auburn Hatcher**	85.05	45	*e*P		P	17 40 55.6	+1.3	
	comp=Z,16nm,0.9s								
B22A	**Reddig Ranch S**	85.17	38	⇑P		P	17 40 55.3	+0.7	
	baz=85,SNR=8.9								
DUG	**Dugway**	85.21	48	*e*P		P	17 40 55.9	+0.8	
DUG				pmax		pmax			
	comp=Z,19nm,0.7s								
DUG	**Dugway**	85.21	48	*e*P		P	17 40 55.9	+0.8	
	comp=Z,19nm,0.7s								
DUG	**Dugway**	85.21	48	⇑P		P	17 40 56.4	+1.3	
	baz=85,SNR=25								
L16A	**Fish Haven**	85.21	45	⇑P		P	17 40 56.7	+1.6	
	baz=85,SNR=8.4								
MURC	**Murrieta**	85.25	55	⇓P		P	17 40 56.2	+1.0	
	baz=85								
D21A	**La Casta Ranch**	85.28	40	⇑P		P	17 40 56.2	+1.1	
	baz=85								
F20A	**Billings**	85.29	41	⇑P		P	17 40 56.1	+0.8	
	baz=85								
HEC	**Hector,Ludlow**	85.32	54	⇑P		P	17 40 56.7	+1.1	
	baz=85,SNR=20								
TUQ	**Turquoise Moun**	85.33	53	⇑P		P	17 40 56.9	+1.2	
	baz=85,SNR=18								
I18A	**Diamond G Ranc**	85.38	43	⇑P		P	17 40 57.5	+1.6	
	baz=85,SNR=6.7								
H19A	**Powell**	85.38	42	⇓P		P	17 40 57.7	+1.9	
	baz=85,SNR=12								
J18A	**Kendall Valley**	85.50	44	⇓P		P	17 40 58.1	+1.5	
	baz=85,SNR=55								
L17A	**Cokeville**	85.53	45	⇑P		P	17 40 57.7	+1.0	
	baz=85								
C22A	**Vida**	85.54	39	⇓P		P	17 40 57.2	+0.8	
	baz=85								
G20A	**Bridger**	85.56	42	⇑P		P	17 40 57.4	+0.8	
	baz=85,SNR=13								
B23A	**Brockton**	85.64	38	⇓P		P	17 40 57.8	+1.0	
	baz=86,SNR=11								
D22A	**Cohagen**	85.70	39	⇑P		P	17 40 58.1	+0.9	
	baz=86,SNR=6.8								
I19A	**Meeteetse**	85.71	43	⇑P		P	17 40 59.2	+1.6	
	baz=86,SNR=12								
N16A	**Rees Ranch, Co**	85.78	46	⇓P		P	17 40 59.1	+1.2	
	baz=86								
K18A	**Toltan Ranch,**	85.78	44	⇓P		P	17 40 59.3	+1.4	
	baz=86								
PFO	**Pinyon Flat Ob**	85.80	55	*e*P		P	17 40 59.0	+0.9	
	comp=Z,18nm,0.8s								
PFO	**Pinyon Flat Ob**	85.80	55	⇑P		P	17 40 59.0	+0.9	
	baz=86,SNR=8.1								
GMRC	**Granite Mounta**	85.83	53	⇓P		P	17 40 59.2	+1.0	
	baz=86,SNR=14								
P15A	**Leamington**	85.88	48	⇑P		P	17 40 59.5	+1.1	
	baz=86,SNR=7.2								
C23A	**Lambert**	85.90	38	⇑P		P	17 40 59.2	+1.0	
	baz=86,SNR=8.5								
A24A	**Westby**	85.92	37	⇓P		P	17 40 59.0	+0.8	
	baz=86								
BELC	**Belle Mtn. Jos**	85.95	54	⇑P		P	17 40 59.7	+0.8	
	baz=86,SNR=9.1								
ARUT	**Antelope Range**	85.96	50	*e*P		P	17 41 00.0	+1.2	
ARUT				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ARUT	**Antelope Range**	85.96	50	*e*P		P	17 41 00.0	+1.2	
	comp=Z,9.0nm,1.0s								
M17A	**Scullys Gap (B**	85.98	46	⇓P		P	17 40 59.9	+0.9	
	baz=86,SNR=6.2								
BW06	**Boulder Array**	86.02	44	⇑P		P	17 40 59.7	+0.6	
	baz=86,SNR=9.2								
PDAR	**Pinedale Array**	86.02	44	P		P	17 41 00.1	+0.9	
	comp=Z,6.6nm,0.8s,baz=261,slow=2.6,SNR=53								
PDAR	**Pinedale Array**	86.02	44	P		P	17 41 00.1	+0.9	
O16A	**Springville**	86.08	47	⇓P		P	17 41 00.5	+1.1	
	baz=86								
J19A	**Crowheart**	86.08	44	⇑P		P	17 41 00.8	+1.5	
	baz=86,SNR=18								
H20A	**Greybull**	86.08	42	⇓P		P	17 41 00.5	+1.3	
	baz=86,SNR=5.6								
N17A	**Moffit Pass**	86.14	46	⇑P		P	17 41 00.9	+1.1	
	baz=86								
L18A	**Fontenelle, Gr**	86.16	45	⇓P		P	17 41 00.9	+1.1	
	baz=86								
G21A	**Lodge Grass**	86.16	41	⇓P		P	17 41 00.5	+1.0	
	baz=86,SNR=6.2								
MONP	**Monument Peak**	86.16	55	⇓P		P	17 41 01.0	+1.0	
	baz=86,SNR=6.1								
D23A	**Lindsay**	86.24	39	⇑P		P	17 41 01.2	+1.4	
	baz=86,SNR=6.9								
I20A	**Worland**	86.29	43	⇑P		P	17 41 01.7	+1.5	
	baz=86,SNR=13								
BRTR	**Keskin Array B**	86.29	312	P		P	17 40 59.4	-1.0	
	comp=Z,0.7nm,0.6s,baz=60,slow=4.9,SNR=3.8								
BRTR	**Keskin Array B**	86.29	312	P		P	17 40 59.4	-1.0	
M18A	**Lyman**	86.39	45	⇓P		P	17 41 01.8	+0.9	
	baz=86								
F22A	**Rosebud**	86.41	40	⇑P		P	17 41 01.4	+0.7	
	baz=86								
K19A	**Absolon Red Bu**	86.44	44	⇓P		P	17 41 01.5	+0.5	
	baz=86,SNR=14								
MSU	**Marysvale**	86.47	49	*e*P		P	17 41 02.7	+1.3	
MSU				pmax		pmax			
	comp=Z,10.0nm,1.2s								
MSU	**Marysvale**	86.47	49	*e*P		P	17 41 02.7	+1.3	
	comp=Z,9.7nm,1.2s								
L19A	**Farson**	86.50	45	⇑P		P	17 41 02.6	+1.2	
	baz=86,SNR=8.0								
IRM	**Iron Mountain**	86.50	54	⇓P		P	17 41 02.7	+1.3	
	baz=86,SNR=11								
DVTC	**Desert V Tower**	86.51	55	⇑P		P	17 41 02.4	+1.0	
	baz=86								
BC3	**Big Chuckawall**	86.52	54	⇑P		P	17 41 02.7	+1.2	
	baz=86								
E23A	**Ismay**	86.56	39	⇑P		P	17 41 02.8	+1.4	
	baz=86								
H21A	**Big Horn, Sher**	86.58	42	⇑P		P	17 41 03.0	+1.3	
	baz=86								
O17A	**Robinson Place**	86.59	47	⇑P		P	17 41 03.1	+1.1	
	baz=86								
SWSC	**Sam W. Stewart**	86.60	55	⇑P		P	17 41 02.7	+0.9	
	baz=86								
J20A	**Shoshoni**	86.63	43	⇑P		P	17 41 03.0	+1.0	
	baz=86,SNR=7.5								
G22A	**Birney**	86.70	41	⇑P		P	17 41 03.1	+0.9	
	baz=86								
D24A	**Glendive**	86.77	38	⇓P		P	17 41 03.6	+1.1	
	baz=87								
K20A	**Yellowstone Ra**	86.84	44	⇑P		P	17 41 03.7	+0.6	
	baz=87,SNR=12								
I21A	**Big Trails, Te**	86.87	42	⇑P		P	17 41 04.2	+1.0	
	baz=87,SNR=16								
N18A	**Larsen Ranch,**	86.88	46	⇓P		P	17 41 04.0	+0.7	
	baz=87								
F23A	**Volborg**	86.94	40	⇓P		P	17 41 04.2	+0.9	
	baz=87								
Q16A	**Castle Valley**	86.95	48	⇑P		P	17 41 04.8	+1.1	
	baz=87								
P17A	**Butcher Ranch,**	86.95	47	⇓P		P	17 41 04.6	+1.0	
	baz=87,SNR=5.1								
W13A	**Hualapai Mount**	86.96	52	⇑P		P	17 41 04.9	+1.1	
	baz=87								
J21A	**Lysite**	87.03	43	⇓P		P	17 41 05.0	+1.1	
	baz=87,SNR=6.8								
O18A	**Roosevelt**	87.03	46	⇑P		P	17 41 05.5	+1.6	
	baz=87								
Y12C	**Blythe**	87.15	54	⇑P		P	17 41 05.7	+1.2	
	baz=87								
PDMCI	**Parker Dam,Lak**	87.16	53	⇓P		P	17 41 05.9	+1.4	
	baz=87								
L20A	**Wamsutter**	87.19	44	⇑P		P	17 41 05.7	+0.9	
	baz=87								
P18A	**Preston Nutter**	87.20	47	⇑P		P	17 41 06.7	+1.7	
	baz=87,SNR=9.2								
G23A	**Biddle**	87.24	40	⇓P		P	17 41 05.8	+1.0	
	baz=87								
N19A	**John Jarvie Ra**	87.24	46	⇓P		P	17 41 06.0	+1.0	
	baz=87								
GLA	**Glamis**	87.26	55	⇓P		P	17 41 06.5	+1.4	
	baz=87,SNR=6.2								
SRU	**San Rafael**	87.28	48	⇓P		P	17 41 06.2	+1.0	
	baz=87								
SFJD	**Kangerlussuaq**	87.32	5	P		P	17 41 03.3	-1.3	
	comp=Z,7.2nm,0.7s,baz=348,slow=3.3,SNR=5.0								
SFJD	**Kangerlussuaq**	87.32	5	P		P	17 41 03.3	-1.3	
SFJD	**Kangerlussuaq**	87.32	5	*i*P		P	17 41 04.0	-0.5	
	comp=Z,5.6nm,0.8s								
U15A	**North Rim**	87.43	51	⇓P		P	17 41 07.5	+1.3	
	baz=87,SNR=13								
K21A	**Alcova**	87.53	43	⇑P		P	17 41 07.2	+0.9	
	baz=87,SNR=10								
J22A	**Midwest**	87.58	42	⇑P		P	17 41 07.3	+0.8	
	baz=87,SNR=9.0								
L21A	**Rawlins**	87.82	44	⇑P		P	17 41 08.4	+0.6	
	baz=88								
N20A	**Spence Gulch,**	87.86	45	⇓P		P	17 41 09.2	+1.2	
	baz=88,SNR=7.1								
KOLS	**Kolonicke sedl**	87.95	325	*e*P		P	17 41 09.7	+1.7	
KOLS	**Kolonicke sedl**	87.95	325	*e*P		P	17 41 09.7	+1.7	
H24A	**Dirks Ranch, A**	87.99	40	⇓P		P	17 41 08.9	+0.5	
	baz=88								
FRB	**Frobisher Bay**	88.00	13	P		P	17 41 07.4	-0.4	
	comp=Z,1.2nm,0.3s,baz=349,slow=6.3,SNR=6.7								
FRB	**Frobisher Bay**	88.00	13	P		P	17 41 07.4	-0.4	
M21A	**Separation Pea**	88.02	44	⇓P		P	17 41 09.7	+0.9	
	baz=88,SNR=5.6								
P19A	**Cripple Cowboy**	88.03	47	⇓P		P	17 41 09.9	+1.1	
	baz=88,SNR=17								
J23A	**Dilts Ranch, B**	88.15	42	⇓P		P	17 41 10.0	+0.8	
	baz=88								
Y14A	**Wickenburg**	88.16	53	⇑P		P	17 41 10.4	+1.0	
	baz=88								
113A	**Mohawk Valley,**	88.18	54	⇓P		P	17 41 10.5	+1.2	
	baz=88								
O20A	**White River Ci**	88.25	46	⇓P		P	17 41 10.7	+0.9	
	baz=88								
CRVS	**Cervenica-Dubn**	88.39	325	*e*P		P	17 41 09.6	-0.4	
CRVS				pmax		pmax			
	comp=Z,6.0nm,1.4s								
CRVS	**Cervenica-Dubn**	88.39	325	*e*P		P	17 41 09.6	-0.4	
Z14A	**Wintersburg**	88.49	54	⇑P		P	17 41 12.1	+1.3	
	baz=88								
P20A	**De Beque**	88.49	46	⇑P		P	17 41 11.8	+0.9	
	baz=88								
WUAZ	**Wupatki**	88.53	51	*e*P		P	17 41 12.3	+1.2	
	comp=Z,8.3nm,1.0s								
WUAZ	**Wupatki**	88.53	51	⇑P		P	17 41 12.7	+1.5	
	baz=88								
M22A	**Cedar Creek Ra**	88.61	44	⇓P		P	17 41 13.4	+1.8	
	baz=88								
RSSD	**Black Hills**	88.65	41	*e*P		P	17 41 11.8	+0.2	
RSSD				pmax		pmax			
	comp=Z,3.0nm,0.4s								
RSSD	**Black Hills**	88.65	41	*e*P		P	17 41 11.8	+0.2	
	comp=Z,2.8nm,0.4s								
J24A	**Dixon Ranch, L**	88.73	42	⇑P		P	17 41 12.7	+0.8	
	baz=89								
L23A	**Garrett**	88.78	43	⇑P		P	17 41 12.5	+0.2	
	baz=89								
Q20A	**Ridgley Place,**	88.84	47	⇑P		P	17 41 13.6	+1.0	
	baz=89,SNR=9.2								
N22A	**Wattenberg Ran**	89.03	45	⇑P		P	17 41 14.9	+1.3	
	baz=89								
X16A	**Lo Mia Camp, P**	89.04	52	⇑P		P	17 41 15.1	+1.4	
	baz=89								
R20A	**Redvale**	89.20	48	⇓P		P	17 41 15.6	+1.3	
	baz=89								
214A	**Organ Pipe Nat**	89.28	55	⇓P		P	17 41 16.1	+1.5	
	baz=89								
ULM	**Lac du Bonnet**	89.29	33	P		P	17 41 14.0	-0.2	
	comp=Z,2.8nm,0.5s,baz=284,slow=4.2,SNR=5.0								
ULM	**Lac du Bonnet**	89.29	33	P		P	17 41 14.0	-0.2	
L24A	**Wheatland**	89.29	43	⇓P		P	17 41 16.2	+1.6	
	baz=89								
N23A	**Red Feather La**	89.30	44	⇓P		P	17 41 16.4	+1.6	
	baz=89,SNR=9.6								
O22A	**Kremmling**	89.33	45	⇑P		P	17 41 16.1	+1.1	
	baz=89,SNR=10								
Q21A	**Lamborn Mesa,**	89.38	47	⇓P		P	17 41 16.4	+1.2	
	baz=89								
S20A	**Disappointment**	89.40	48	⇑P		P	17 41 16.4	+1.1	
	baz=89								
P22A	**Eagle**	89.50	46	⇑P		P	17 41 17.2	+1.5	
	baz=89,SNR=14								
SMCO	**Snowmass**	89.59	46	*e*P		P	17 41 17.3	+1.0	
	comp=Z,4.2nm,0.7s								
K25A	**Mack Ranch, Ha**	89.61	42	⇓P		P	17 41 17.7	+1.6	
	baz=89								
MVCO	**Mesa Verde**	89.64	48	⇓P		P	17 41 17.7	+1.3	
	baz=90								
R21A	**Cimarron**	89.65	47	⇓P		P	17 41 17.9	+1.5	
	baz=90,SNR=8.4								
M24A	**Cheyenne**	89.68	43	⇑P		P	17 41 18.2	+1.7	
	baz=90,SNR=7.1								
O23A	**Lake Granby, G**	89.70	45	⇑P		P	17 41 18.2	+1.4	
	baz=90,SNR=13								
Q22A	**Crested Butte,**	89.80	46	⇑P		P	17 41 18.7	+1.5	
	baz=90,SNR=17								
MORC	**Moravsky Berou**	89.81	327	*e*P		P	17 41 15.2	-1.5	
MORC	**Moravsky Berou**	89.81	327	*e*P		P	17 41 15.2	-1.5	
L25A	**Engebretsen Ra**	89.82	42	⇓P		P	17 41 18.6	+1.5	
	baz=90								
PSZ	**Piszkesteto**	89.82	325	*e*P		P	17 41 15.7	-1.1	
PSZ				pmax		pmax			
	comp=Z,2.0nm,0.6s								
PSZ	**Piszkesteto**	89.82	325	*e*P		P	17 41 15.7	-1.1	
	comp=Z,1.5nm,0.6s								
S21A	**Coal Bank Pass**	89.87	48	⇓P		P	17 41 18.9	+1.3	
	baz=90,SNR=5.0								
K26A	**Motz Farm, Whi**	89.98	42	⇑P		P	17 41 19.6	+1.9	
	baz=90								
VYHS	**Vyhne**	90.00	326	*e*P		P	17 41 17.3	-0.3	
VYHS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
VYHS	**Vyhne**	90.00	326	*e*P		P	17 41 17.3	-0.3	
X18A	**Snowflake**	90.04	51	⇑P		P	17 41 19.7	+1.4	
	baz=90								
U20A	**Newcomb**	90.07	49	⇑P		P	17 41 19.6	+1.3	
	baz=90								
ISCO	**Idaho Springs**	90.12	45	*e*P		P	17 41 19.8	+1.1	
ISCO				pmax		pmax			
	comp=Z,2.0nm,0.4s								
ISCO	**Idaho Springs**	90.12	45	*e*P		P	17 41 19.8	+1.1	
	comp=Z,2.0nm,0.4s								
ISCO	**Idaho Springs**	90.12	45	⇑P		P	17 41 20.1	+1.4	
	baz=90,SNR=8.0								
P23A	**Jefferson**	90.22	45	⇑P		P	17 41 21.0	+1.8	
	baz=90,SNR=5.5								
R22A	**Saguache, Gunn**	90.25	47	⇑P		P	17 41 21.1	+1.7	
	baz=90,SNR=5.8								
O24A	**Longmont**	90.29	45	⇓P		P	17 41 20.9	+1.6	
	baz=90								
V20A	**Brimhall**	90.41	50	⇓P		P	17 41 21.2	+1.2	
	baz=90								
L26A	**Underwood Farm**	90.42	42	⇑P		P	17 41 21.2	+1.4	
	baz=90								
S22A	**4UR Ranch, Cre**	90.47	47	⇓P		P	17 41 21.8	+1.5	
	baz=90,SNR=5.3								
Q23A	**Hasel**	90.48	46	⇓P		P	17 41 21.7	+1.3	
	baz=90,SNR=8.2								
K27A	**Flueckinger Fa**	90.54	41	⇑P		P	17 41 21.0	+0.7	
	baz=90								
U21A	**Nageezi**	90.62	49	⇑P		P	17 41 22.2	+1.2	
	baz=90								
P24A	**Kohler Place,**	90.73	45	⇓P		P	17 41 23.0	+1.6	
	baz=91								
W20A	**Ramah**	90.74	50	⇓P		P	17 41 22.8	+1.2	
	baz=91								
T22A	**Edith**	90.82	48	⇑P		P	17 41 23.3	+1.4	
	baz=91								
R23A	**Moffat**	90.88	46	⇑P		P	17 41 24.0	+1.7	
	baz=91,SNR=9.7								
Q24A	**Divide**	90.89	46	⇓P		P	17 41 23.4	+1.1	
	baz=91,SNR=6.2								
U22A	**Llaves**	91.20	48	⇓P		P	17 41 25.3	+1.6	
	baz=91								
R24A	**Sanders Place,**	91.33	46	⇑P		P	17 41 25.9	+1.7	
	baz=91,SNR=24								
W21A	**San Fidel**	91.34	50	⇓P		P	17 41 26.1	+1.8	
	baz=91								
V22A	**San Miguel Ran**	91.41	49	⇓P		P	17 41 25.9	+1.2	
	baz=91								
Y20A	**Horse Springs,**	91.48	51	⇓P		P	17 41 26.7	+1.7	
	baz=91,SNR=16								
Q25A	**Bedland, Calha**	91.50	45	⇓P		P	17 41 26.1	+1.1	
	baz=91								
S24A	**Houchin Ranch,**	91.59	47	⇑P		P	17 41 27.2	+1.6	
	baz=91,SNR=13								
X21A	**Alamocita Cree**	91.60	50	⇓P		P	17 41 27.1	+1.5	
	baz=92,SNR=8.8								
U23A	**El Rito**	91.67	48	⇑P		P	17 41 27.4	+1.6	
	baz=92								
Z20A	**Nine Sixteen R**	91.75	52	⇑P		P	17 41 27.8	+1.6	
	baz=92,SNR=14								
R25A	**Fountain Ranch**	91.91	46	⇑P		P	17 41 28.4	+1.5	
	baz=92								
Y21A	**Point of Rocks**	91.92	51	⇓P		P	17 41 28.7	+1.6	
	baz=92,SNR=6.8								
T24A	**Torres, Weston**	92.02	47	⇑P		P	17 41 29.2	+1.7	
	baz=92,SNR=8.2								
120A	**U Bar Ranch, L**	92.02	52	⇓P		P	17 41 29.0	+1.5	
	baz=92,SNR=6.4								
LAZ	**Ladron**	92.08	50	*e*P		P	17 41 28.9	+1.1	
	comp=Z,2.3nm,1.1s								
S25A	**Robets Cordova**	92.09	46	⇑P		P	17 41 28.5	+0.8	
	baz=92,SNR=6.3								
X22A	**Bernardo**	92.11	50	⇑P		P	17 41 29.1	+1.3	
	baz=92								
KHC	**Kasperske Hory**	92.15	329	*e*P		P	17 41 25.9	-1.7	
KHC				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KHC	**Kasperske Hory**	92.15	329	*e*P		P	17 41 25.9	-1.7	
	comp=Z,2.5nm,0.7s								
319A	**Douglas**	92.17	54	⇓P		P	17 41 29.6	+1.5	
	baz=92								
U24A	**Moreno Valley**	92.24	48	⇑P		P	17 41 30.3	+1.7	
	baz=92,SNR=5.9								
ANMO	**Albuquerque**	92.25	49	P		P	17 41 29.8	+1.3	
	comp=Z,7.6nm,0.9s,baz=282,slow=3.3,SNR=13								
ANMO	**Albuquerque**	92.25	49	P		P	17 41 29.8	+1.3	
GERES	**GERESS Array B**	92.29	328	P		P	17 41 27.0	-1.3	
	comp=Z,0.8nm,0.4s,baz=38,slow=6.8,SNR=6.7								
GERES	**GERESS Array B**	92.29	328	P		P	17 41 27.0	-1.3	
Z21A	**St. Cloud Mine**	92.30	51	⇑P		P	17 41 30.8	+2.0	
	baz=92								
W23A	**Werner Place,**	92.34	49	⇓P		P	17 41 30.2	+1.2	
	baz=92,SNR=5.8								
T25A	**Trinidad**	92.40	47	⇓P		P	17 41 30.6	+1.3	
	baz=92,SNR=7.5								
220A	**Playas Peak, P**	92.43	53	⇑P		P	17 41 30.8	+1.4	
	baz=92,SNR=7.3								
BNM	**Barren Site**	92.57	50	*e*P		P	17 41 31.4	+1.3	
	comp=Z,3.0nm,1.0s								
V24A	**Rampart Ranch,**	92.62	48	⇓P		P	17 41 31.8	+1.5	
	baz=92								
121A	**Cookes Peak, D**	92.63	52	⇑P		P	17 41 32.0	+1.7	
	baz=92								
S26A	**Kim**	92.74	46	⇓P		P	17 41 31.3	+0.6	
	baz=93,SNR=6.3								
W24A	**Lazy 6 Ranch,**	92.82	49	⇓P		P	17 41 32.6	+1.5	
	baz=93,SNR=11								
Z22A	**Elephant Butte**	92.82	51	⇑P		P	17 41 32.6	+1.4	
	baz=93,SNR=6.1								
U25A	**Circle Dot Ran**	92.82	47	⇑P		P	17 41 32.3	+1.1	
	baz=93,SNR=20								
T26A	**Comanche Natio**	92.92	46	⇓P		P	17 41 32.4	+0.9	
	baz=93,SNR=19								
EYMN	**Ely**	92.97	32	*e*P		P	17 41 31.2	-0.1	
	comp=Z,4.3nm,0.6s								
V25A	**Rancho No Teng**	93.00	48	⇓P		P	17 41 33.3	+1.3	
	baz=93,SNR=8.0								
S27A	**Las Animas**	93.07	46	⇓P		P	17 41 33.0	+0.8	
	baz=93								
Y23A	**Lovelace Mesa,**	93.09	50	⇓P		P	17 41 33.4	+1.0	
	baz=93								
X24A	**Lazy VL Ranch,**	93.16	49	⇑P		P	17 41 33.8	+1.0	
	baz=93								
U26A	**Atchley Ranch,**	93.27	47	⇓P		P	17 41 34.5	+1.4	
	baz=93,SNR=7.6								
W25A	**X Bar L Ranch,**	93.46	48	⇑P		P	17 41 35.0	+1.0	
	baz=93,SNR=6.9								
Y24A	**Capitan**	93.52	50	⇑P		P	17 41 35.2	+0.8	
	baz=93								
T27A	**Campo**	93.55	46	⇑P		P	17 41 35.3	+0.9	
	baz=93,SNR=6.2								
V26A	**Tequesquite Ra**	93.58	47	⇑P		P

comp=Z,1.9nm,0.7s,baz=230,slow=5.1,SNR=4.6
PLCA pPKPbc **pPKPbc** **17 48 52.5 -1.5**
comp=Z,1.7nm,0.8s,baz=284,slow=4.5,SNR=2.5
PLCA Paso Flores 149.72 128 PKPbc **PKPbc** **17 48 07.3 +0.2**
PLCA PKPab **PKPab** **17 48 12.0 -1.0**
PLCA pPKPbc **pPKPbc** **17 48 52.5 -1.5**
LPAZ La Paz 151.28 77 PKPbc **PKPbc** **17 48 12.3 +0.2**
comp=Z,13nm,0.7s,baz=336,slow=2.1,SNR=39
LPAZ PKPab **PKPab** **17 48 20.6 -0.2**
comp=Z,2.8nm,0.6s,baz=12,slow=19,SNR=4.8
LPAZ La Paz 151.28 77 *e*PKPbc **PKPbc** **17 48 12.2 0.0**
LPAZ PKPab **PKPab** **17 48 20.6 -0.2**
SAML Samuel 151.66 59 *e*PKPbc **PKPbc** **17 48 11.2 -1.1**

CSEM ***24*** *17:40:55.9±0.5, 79.°31N×3.°16E, h10km, ML3.7, Error ellipse: s-maj=23.3km s-min=6.5km az=2.0*
IDC ***24*** *17:40:57.3±1.2, 79.°61N×3.°91E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/31, mbtmp3.8/9, ML3.9/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/40, Error ellipse: s-maj=27.0km s-min=16.3km az=26.0*
NAO ***24*** *17:41:00.3±3.5, 79.°52N×5.°41E, ML3.7*
BER ***24*** *17:41:00.3±3.8, 80.°09N×6.°44E, h18km±149km, MD2.2, ML2.9, ML3.7(NAO)*

ISC 24 17:40:59.7±1.2, 79.°4N±0.°1×4.°97E±0.°07, h10km, n34, σ1°26/35, mb3.8/4, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.41**	**107**	Pg		**Pn**	**17 41 24.7**	**-0.6**
KBS				Lg		Lg	17 41 43.7	
KBS	**Kingsbay**	**1.41**	**107**	⇑*i*P		**Pn**	**17 41 24.8**	**-0.4**
KBS				*e*S		**Sg**	**17 41 43.6**	**-1.3**
KBS				AML		AML	17 41 52.2	
	comp=Z,320nm,0.4s							
KBS	**Kingsbay**	**1.41**	**107**	⇑*i*P		**Pn**	**17 41 24.9**	**-0.4**
	SNR=56							
KBS				*e*S		**Sg**	**17 41 43.6**	**-1.3**
	comp=Z,320nm,0.4s,SNR=62							
KBS				Lg		Lg	17 41 43.7	
SPA0	**Spitsbergen Ar**	**2.55**	**114**	Pn		**Pn**	**17 41 41.5**	**+0.5**
	baz=333,slow=12							
SPA0				Sn		**Sn**	**17 42 12.5**	**+0.5**
	baz=326,slow=18							
SPA0	**Spitsbergen Ar**	**2.55**	**114**	Pn		**Pn**	**17 41 41.5**	**+0.5**
	baz=333,slow=12							
SPA0				Sn		**Sn**	**17 42 12.5**	**+0.5**
	baz=326,slow=18							
SPA0	**Spitsbergen Ar**	**2.55**	**114**	Pn		**Pn**	**17 41 41.5**	**+0.5**
	baz=333,slow=12,SNR=724							
SPA0				Sn		**Sn**	**17 42 12.5**	**+0.5**
	baz=326,slow=16,SNR=7.2							
SPITS	**Spitsbergen Ar**	**2.55**	**114**	Pn		**Pn**	**17 41 41.5**	**+0.5**
	baz=329,slow=11,SNR=1443							
SPITS				Sn		**Sn**	**17 42 13.7**	**+1.7**
	baz=324,slow=19,SNR=5.0							
HSP	**Hornsund**	**3.25**	**133**	*e*P		**Pn**	**17 41 50.7**	**+0.1**
HSP				*e*S		**Sn**	**17 42 28.2**	**-1.0**
HOPEN	**Hopen**	**5.08**	**115**	*e*P		**Pn**	**17 42 16.0**	**+0.3**
HOPEN	**Hopen**	**5.08**	**115**	*e*P		**Pn**	**17 42 16.0**	**+0.3**
	⇑							
DAG	**Danmarks Havn**	**5.53**	**253**	⇑*i*P		Pn	17 42 14.8	-7.0
DAG				*i* S		Sn	17 43 11.2	-14
BJO	**Bjornoya**	**5.87**	**140**	*e*P		**Pn**	**17 42 28.3**	**+1.8**
BJO				*e*S		**Sn**	**17 43 32.2**	**-1.5**
BJO				AML		AML	17 43 39.0	
	comp=Z,22nm,0.3s							
SCO	**Scoresbysund**	**11.19**	**232**	*i* S		Sn	17 45 31.8	-12
	comp=Z,2.4nm,0.4s,SNR=51							
ARA0	**ARCESS Array S**	**11.23**	**141**	Pn		**Pn**	**17 43 40.1**	**+0.2**
	baz=348,slow=12							
ARA0				Sn		Sn	17 45 38.5	-6.7
	baz=355,slow=18							
ARA0	**ARCESS Array S**	**11.23**	**141**	P		**Pn**	**17 43 40.1**	**+0.2**
	baz=348,slow=12							
ARA0				S		Sn	17 45 38.5	-6.7
	baz=355,slow=18							
ARA0	**ARCESS Array S**	**11.23**	**141**	P		**Pn**	**17 43 40.1**	**+0.2**
	baz=348,slow=12,SNR=57							
ARCES	**ARCESS Array B**	**11.23**	**141**	Pn		**Pn**	**17 43 40.9**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=348,slow=12,SNR=18							
ARCES				Sn		**Sn**	**17 45 42.0**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=358,slow=20,SNR=4.1							
SUMG	**Summit**	**12.16**	**259**	*i* P		Pn	17 43 44.6	-8.4
SUMG				*i*			17 43 46.5	
SUMG	**Summit**	**12.16**	**259**	*e*P		Pn	17 43 44.7	-8.3
	SNR=51							
NOA	**NORSAR Array B**	**18.57**	**170**	P		**Pn**	**17 45 17.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=351,slow=12,SNR=3.0							
NOA				LR		LR	17 51 10.5	
	comp=Z,32nm,19.4s,baz=315,slow=33							
FIA0	**FINESS Array S**	**19.14**	**148**	P		**Pn**	**17 45 25.1**	**+1.8**
	baz=344,slow=10							
FIA0	**FINESS Array S**	**19.14**	**148**	P		**Pn**	**17 45 25.1**	**+1.8**
	baz=344,slow=10							
FINES	**FINESS Array B**	**19.14**	**148**	P		**Pn**	**17 45 25.4**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=356,slow=11,SNR=7.5							
FINES				LR		LR	17 52 33.8	
	comp=Z,34nm,19.6s,baz=309,slow=36							
SFJD	**Kangerlussuaq**	**19.14**	**262**	P		P	17 45 14.6	-7.9
	comp=Z,1.8nm,0.3s,baz=15,slow=15,SNR=7.8							
SFJD				LR		LR	17 53 55.5	
	comp=Z,41nm,19.1s,baz=53,slow=41							
SFJD	**Kangerlussuaq**	**19.14**	**262**	*i* P		P	17 45 14.9	-7.5
SFJD	**Kangerlussuaq**	**19.14**	**262**	*e*P		P	17 45 15.0	-7.5
	SNR=52							
HFS	**Hagfors**	**19.57**	**167**	P		**P**	**17 45 28.2**	**+1.0**
	slow=5.9							
HFS	**Hagfors**	**19.57**	**167**	P		**Pn**	**17 45 29.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=349,slow=1.5,SNR=4.5							
HFS	**Hagfors**	**19.57**	**167**	P		**P**	**17 45 28.2**	**+1.0**
	slow=5.9							
FRB	**Frobisher Bay**	**25.37**	**276**	P		**P**	**17 46 23.6**	**-2.7**
	comp=Z,1.9nm,0.7s,baz=22,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**42.10**	**91**	P		**P**	**17 48 52.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=343,slow=7.0,SNR=5.4							
ULM	**Lac du Bonnet**	**43.01**	**292**	LR		LR	18 06 07.8	
	comp=Z,78nm,18.7s,baz=342,slow=35							
TORD	**Torodi Ar. Bea**	**66.30**	**183**	P		**P**	**17 51 47.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=356,slow=5.4,SNR=7.1							
CMAR	**Chiang Mai Arr**	**72.72**	**83**	P		**P**	**17 52 27.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=9.9,slow=7.3,SNR=3.7							

IGQ 24 17:41:10.2, 0.°42S×77.°51W, h14km±175km, Mb4.1, Ms3.9, 16C-26D, Error ellipse: s-maj=1.8km s-min=0.8km az=3.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAV4	**Lava4-Reventad**	**0.35**	**340**	⇓P		Pg	17 41 17.4	-0.4
CHAR	**Charly**	**0.37**	**335**	⇓P		Pg	17 41 18.1	-0.3
CONE	**Cono NE Rev Vo**	**0.38**	**340**	⇓P		Pg	17 41 18.0	-0.3
ANTI	**Antisana**	**0.65**	**268**	⇓P		Pg	17 41 23.2	-0.5
CAYR	**Refugio Cayamb**	**0.66**	**311**	⇓P		Pg	17 41 23.2	-0.8
CAYA	**Cayambe**	**0.69**	**316**	⇓P		Pg	17 41 23.5	-0.9
COV1	**Cotopaxi Volc**	**0.86**	**254**	⇓S		Sn	17 41 42.6	+0.8
COV1	**Cotopaxi Volc**	**0.86**	**254**	⇓P		Pn	17 41 29.4	+0.6
TAMB	**Tambo**	**0.90**	**253**	⇓P		Pb	17 41 28.2	-0.1
VC1	**Cotopaxi 1**	**0.92**	**256**	⇓P		Pb	17 41 28.4	-0.2
BTAM	**Cotopaxi Volca**	**0.92**	**254**	⇓S		Sb	17 41 41.0	-0.3
BTAM	**Cotopaxi Volca**	**0.92**	**254**	⇓P		Pb	17 41 28.6	-0.1
BVC2	**Cotopaxi Volca**	**0.93**	**256**	⇓S		Sg	17 41 42.1	+0.4
BVC2	**Cotopaxi Volca**	**0.93**	**256**	⇓P		Pb	17 41 28.9	0.0
PITA	**Cotopaxi Volc**	**0.93**	**262**	⇓P		Pb	17 41 28.4	-0.4
BREF	**Cotopaxi Volca**	**0.96**	**255**	⇓P		Pb	17 41 29.4	-0.1
MOV1	**Cotopaxi Vol s**	**0.97**	**253**	⇓P		Pb	17 41 29.4	-0.3
NAS2	**Nasa**	**0.98**	**257**	⇑S		Sg	17 41 43.3	0.0
NAS2	**Nasa**	**0.98**	**257**	⇑P		Pb	17 41 29.8	+0.1
BMOR	**Cotopaxi Volca**	**0.99**	**252**	⇓S		Sb	17 41 42.8	-0.7
BMOR	**Cotopaxi Volca**	**0.99**	**252**	⇓P		Pb	17 41 29.7	-0.3
CAMI	**Rancho Maria**	**1.02**	**256**	⇑P		Pg	17 41 30.7	0.0
PISA	**Pisayambo**	**1.08**	**234**	⇑P		Pb	17 41 31.1	-0.2
GGP	**Refugio Guagua**	**1.11**	**283**	⇑P		Pn	17 41 32.1	0.0
JUA2	**San Juan 2**	**1.11**	**281**	⇓S		Sb	17 41 46.4	-0.3
JUA2	**San Juan 2**	**1.11**	**281**	⇓P		Pb	17 41 31.7	-0.2
COTA	**Cotacachi**	**1.12**	**312**	⇑S		Sg	17 41 47.3	-0.3
COTA	**Cotacachi**	**1.12**	**312**	⇑P		Pn	17 41 32.2	0.0
TERV	**Terraza Guagua**	**1.12**	**283**	⇓S		Sg	17 41 47.7	0.0
TERV	**Terraza Guagua**	**1.12**	**283**	⇓P		Pb	17 41 32.1	0.0
PINO	**Pino**	**1.13**	**284**	⇑P		Pb	17 41 31.9	-0.4
OTAV	**Otavalo**	**1.15**	**305**	⇓P		Pb	17 41 31.9	-0.6
BRUN	**Tungurahua Vol**	**1.34**	**222**	S		Sb	17 41 53.4	+0.5
BRUN	**Tungurahua Vol**	**1.34**	**222**	P		Pb	17 41 35.5	-0.1
RUN5	**Runtun**	**1.34**	**223**	S		Sb	17 41 53.4	+0.4
RUN5	**Runtun**	**1.34**	**223**	P		Pb	17 41 35.8	+0.2
BULB	**Ulba Tungurahu**	**1.35**	**222**	⇑S		Sn	17 41 53.0	-0.2
BULB	**Ulba Tungurahu**	**1.35**	**222**	⇑P		Pb	17 41 35.7	-0.1
ULBA	**Ulba**	**1.36**	**221**	P		Pb	17 41 35.6	-0.3
ULBA	**Ulba**	**1.36**	**221**	S		Sb	17 41 53.5	0.0
JUI6	**Juive**	**1.38**	**224**	S		Sn	17 41 53.7	-0.1
JUI6	**Juive**	**1.38**	**224**	P		Pb	17 41 36.1	-0.1
RETU	**Refugio**	**1.38**	**222**	⇓S		Sb	17 41 54.9	+0.3
RETU	**Refugio**	**1.38**	**222**	⇓P		Pb	17 41 36.5	-0.1
BBIL	**Ulba Tungurahu**	**1.41**	**224**	P		Pb	17 41 36.7	-0.1
BBIL	**Ulba Tungurahu**	**1.41**	**224**	S		Sn	17 41 54.6	-0.1
PAT1	**Patacocha**	**1.42**	**221**	⇑S		Sb	17 41 55.7	+0.2
PAT1	**Patacocha**	**1.42**	**221**	⇑P		Pb	17 41 37.0	-0.2
ARRY	**Arrayan**	**1.43**	**221**	⇑S		Sn	17 41 55.4	+0.2
ARRY	**Arrayan**	**1.43**	**221**	⇑P		Pb	17 41 36.8	-0.4
BMAS	**Trigal station**	**1.44**	**222**	⇑S		Sb	17 41 56.0	0.0
BMAS	**Trigal station**	**1.44**	**222**	⇑P		Pb	17 41 37.1	-0.3
LITE	**Lita**	**1.49**	**325**	S		Sn	17 41 56.4	+0.2
LITE	**Lita**	**1.49**	**325**	P		Pn	17 41 37.2	+0.4
IGUA	**Igualata**	**1.55**	**227**	P		Pb	17 41 39.8	+0.3
RIOE	**Riobamba**	**1.73**	**220**	P		Pg	17 41 43.6	-0.4
GOLV	**Golondrinas**	**1.74**	**291**	P		Pb	17 41 42.4	+0.3
MACE	**Macas**	**1.94**	**201**	P		Pb	17 41 45.2	-0.6

IDC ***24*** *17:56:14.3±2.2, 0.°31S×132.°83E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=102.0km s-min=24.7km az=75.0*
DJA ***24*** *17:56:18.3±1.3, 0.°S±8.°×13.°3E±.°, h10km, M4.3/6, mb4.5/2, mB4.6/1, MLv4.1/6, Mw(mB)3.8/1*
AUST ***24*** *17:56:38.0±11.0, 2.°60S×135.°80E, h0km, Error ellipse: s-maj=2.7km s-min=1.1km az=239.0*

ISC 24 17:56:19.6±1.4, 0.°47S±0.°08×132.°61E±0.°09, h33km, n15, σ2°68/15, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**1.41**	**254**	P		**Pb**	**17 56 43.7**	**-1.6**
SWI				S		**Sb**	**17 57 03.4**	**+0.5**
FAKI	**Fak Fak**	**2.46**	**188**	P		**Pb**	**17 57 00.4**	**-2.8**
FAKI				S		**Sb**	**17 57 34.2**	**+1.1**
MSAI	**Masohi**	**4.66**	**232**	P		Pn	17 57 30.5	+2.8
BNDI	**Bandanaira**	**4.85**	**214**	P		**Pn**	**17 57 32.7**	**+2.4**
TLE	**Tual**	**5.13**	**179**	P		Pn	17 57 37.8	+3.6
	baz=4.3,SNR=22							
TLE				S		**Sn**	**17 58 37.5**	**+5.1**
	baz=4.3,SNR=6.9							
TLE	**Tual**	**5.13**	**179**	P		Pn	17 57 37.3	+3.1
	77nm,1.0s,0.3nm							
AAI	**Ambon**	**5.45**	**234**	P		Pn	17 57 42.5	+3.9
KDU	**Kakadu**	**12.14**	**181**	P		**Pn**	**17 59 10.8**	**+0.5**
	baz=11,SNR=22							
MTN	**Manton Dam**	**12.38**	**187**	P		**Pn**	**17 59 14.6**	**+1.0**
	baz=11,SNR=32							
FITZ	**Fitzroy Crossi**	**18.81**	**201**	P		**Pn**	**18 00 38.0**	**+0.7**
	0.2nm,0.3s,baz=19,slow=14,SNR=3.3							
FITZ				S		**Sn**	**18 04 00.9**	**-6.1**
	0.1nm,0.3s,baz=188,slow=18,SNR=3.0							
WRA	**Warramunga Arr**	**19.43**	**175**	P		**Pn**	**18 00 44.8**	**+0.1**
	0.3nm,0.3s,baz=353,slow=12,SNR=26							
WRA				S		**S**	**18 04 20.1**	**-1.2**
	0.1nm,0.3s,baz=4.1,slow=24,SNR=4.8							
QIS	**Mount Isa**	**21.10**	**162**	P		P	18 00 53.3	-8.2
	baz=18,SNR=20							
ASAR	**Alice Springs**	**23.09**	**177**	P		**P**	**18 01 24.1**	**+1.4**
	2.1nm,0.4s,baz=355,slow=11,SNR=78							
ASAR				S		Sn	18 05 51.5	+1.6
	0.2nm,0.6s,baz=358,slow=26,SNR=4.5							
STKA	**Stephens Creek**	**32.37**	**166**	P		**P**	**18 02 45.3**	**-0.9**
	0.8nm,0.6s,baz=337,slow=7.7,SNR=2.9							
MKAR	**Makanchi Array**	**64.36**	**324**	P		**P**	**18 06 52.1**	**-0.2**
	0.4nm,0.7s,baz=119,slow=7.9,SNR=5.4							

IDC ***24*** *18:12:49.4±0.5, 15.°14S×173.°68W, h0km, mb4.6/14, mb1 4.8/14, mb1mx4.6/23, mbtmp4.6/14, MS4.0/24, Ms1 4.0/24, ms1mx3.9/36, Error ellipse: s-maj=23.1km s-min=14.0km az=135.0*
NEIC ***24*** *18:12:50.0±8.6, 15.°17S×173.°71W, h5km±52km, mb4.8/26, Error ellipse: s-maj=12.8km s-min=8.1km az=138.0*
ISCJB ***24*** *18:12:52.6±0.2, 15.°23S±0.°06×173.°73W±0.°05, h30km, mb4.7/44, MS4.1/26, Error ellipse: s-maj=9.9km s-min=4.4km az=142.4*
AUST ***24*** *18:12:56.1±0.0, 15.°20S×172.°97W, h80km, Error ellipse: s-maj=1.6km s-min=1.3km az=299.0*
GCMT ***24*** *18:13:00.8±0.3, 14.°91S×173.°52W, h12km, MW5.2, Moment Tensor Solution. s14,c15; s77,c93; Moment tensor: Scale 10^16 Nm; Mrr-0.71±.10; Mθθ 1.35±.13; Mϕϕ-0.64±.10; Mrθ-6.96±.27; Mθϕ 0.26±.08; Mϕr 1.66±.22; Best double couple: M0 7.30000×10^16 NP1:ϕ227.00000°, δ7.00000°, λ-146.00000°. NP2:ϕ104.00000°, δ86.00000°, λ-85.00000°. Principal axes: T 7.4500, Plg41.0000°, Azm188.0000°; N -0.4200, Plg5.0000°, Azm283.0000°; P -7.0400, Plg48.0000°, Azm19.0000°; Data Used: IU II G IC CN.*

ISC 24 18:12:54.0±0.4, 15.°26S±0.°08×173.°58W±0.°07, h30km, n366, σ0°87/362, mb4.8/44, MS4.2/27, 111C-132D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**53**	Pn		Pn	18 13 24.8	-3.8
	533nm,0.3s,baz=151,slow=0.9,SNR=477							
AFI				Sn		Sn	18 13 44.7	-10
	1μm,0.3s,baz=70,slow=24,SNR=22							
AFI				LR		LR	18 14 08.5	
	comp=Z,3μm,19.8s,baz=274,slow=36							
AFI	**Afiamalu**	**2.20**	**53**	*e*Pn		Pn	18 13 24.3	-4.2
AFI				*e*Sn		Sn	18 13 43.1	-12
AFI				Sn		Sb	18 13 44.7	-16
NIUE	**Niue**	**5.16**	**138**	P		**Pn**	**18 14 08.9**	**-0.3**
	baz=4.8,SNR=70							
DZM	**Mont Dzumac**	**20.09**	**247**	LR		LR	18 22 47.5	
	comp=Z,127nm,19.9s,baz=258,slow=30							
DZM	**Mont Dzumac**	**20.09**	**247**	*e*P		Pn	18 17 32.9	+5.5
	129nm,1.2s							
DZM				*e*LR		LR	18 22 38.0	
	1μm,26.4s							
PPT2	**Papeete2**	**23.14**	**99**	*e*LR		LR	18 23 13.5	
	120nm,24.8s							
TBI	**Tubuai**	**24.12**	**113**	*e*LR		LR	18 23 51.6	
	226nm,28.8s							
URZ	**Urewera**	**24.34**	**198**	P		**P**	**18 18 09.1**	**-0.1**
	7.2nm,0.3s,baz=311,slow=1.8,SNR=10.0							
URZ				LR		LR	18 26 30.5	
	comp=Z,510nm,18.1s,baz=38,slow=34							
URZ	**Urewera**	**24.34**	**198**	P		**P**	**18 18 09.1**	**-0.1**
HNR	**Honiara**	**26.48**	**280**	P		**P**	**18 18 27.8**	**-1.0**
	20nm,0.4s,baz=349,slow=22,SNR=7.7							
HNR	**Honiara**	**26.48**	**280**	P		**P**	**18 18 27.9**	**-1.0**
SNZO	**South Karori**	**27.88**	**199**	P		**P**	**18 18 41.1**	**0.0**
	37nm,0.8s							
RPZ	**Rata Peaks**	**31.25**	**202**	P		**P**	**18 19 11.4**	**+0.4**
	4.5nm,0.5s,baz=15,slow=5.5,SNR=3.9							
RPZ				LR		LR	18 28 49.7	
	comp=Z,98nm,20.5s,baz=4.5,slow=31							
RPZ	**Rata Peaks**	**31.25**	**202**	P		**P**	**18 19 11.4**	**+0.4**
ARMA	**Armidale**	**35.27**	**239**	P		**P**	**18 19 46.2**	**-0.1**
	baz=36,SNR=7.1							
CTA	**Charters Tower**	**38.51**	**257**	P		**P**	**18 20 12.9**	**-1.0**
	6.9nm,0.8s,baz=5.1,slow=5.9,SNR=3.6							
CTA				LR		LR	18 31 10.8	
	comp=Z,82nm,21.0s,baz=322,slow=29							
CTA	**Charters Tower**	**38.51**	**257**	P		**P**	**18 20 12.9**	**-1.0**
CTAO	**Charters Tower**	**38.51**	**257**	*e*P		P	18 20 10.8	-3.1
	68nm,1.6s							
CNB	**Canberra Magne**	**38.70**	**232**	P		**P**	**18 20 15.1**	**-0.3**
	baz=39,SNR=12							
CMSA	**Cobar Meteorol**	**40.48**	**239**	P		**P**	**18 20 30.4**	**+0.2**
	baz=41,SNR=6.3							
COEN	**Coen**	**41.82**	**266**	P		**P**	**18 20 42.6**	**+1.2**
	baz=42,SNR=4.2							
TOO	**Toolangi**	**42.42**	**231**	P		**P**	**18 20 45.7**	**-0.4**
	baz=43,SNR=6.1							
TAU	**Tasmania Unive**	**43.30**	**222**	P		**P**	**18 20 52.4**	**-0.7**
	18nm,1.0s							
STKA	**Stephens Creek**	**43.96**	**240**	P		**P**	**18 20 58.4**	**-0.2**
	5.4nm,0.8s,baz=88,slow=9.4,SNR=12							
STKA				LR		LR	18 36 26.7	
	comp=Z,171nm,18.5s,baz=25,slow=32							
STKA	**Stephens Creek**	**43.96**	**240**	*e*P		**P**	**18 20 58.2**	**-0.4**
	2.3nm,1.2s							
STKA	**Stephens Creek**	**43.96**	**240**	P		P	18 20 58.3	-0.2
	baz=44,SNR=5.6							
BBOO	**Buckleboo**	**48.73**	**240**	P		P	18 21 35.1	-1.0
	baz=49,SNR=14							
WRAB	**Tennant Creek**	**49.70**	**257**	*e*P		**P**	**18 21 42.2**	**-1.4**
	6.9nm,0.7s							
WRA	**Warramunga Arr**	**49.71**	**257**	P		**P**	**18 21 42.3**	**-1.4**
	3.7nm,0.3s,baz=97,slow=5.9,SNR=193							
WRA	**Warramunga Arr**	**49.71**	**257**	P		**P**	**18 21 42.3**	**-1.4**
AS31	**Alice Springs**	**49.99**	**252**	*e*P		**P**	**18 21 44.5**	**-1.4**
ASAR	**Alice Springs**	**49.99**	**252**	P		**P**	**18 21 44.8**	**-1.1**
	19nm,0.6s,baz=87,slow=7.7,SNR=293							
ASAR				LR		LR	18 41 01.6	
	comp=Z,273nm,19.5s,baz=90,slow=34							
ASAR	**Alice Springs**	**49.99**	**252**	P		**P**	**18 21 44.8**	**-1.1**
GUMO	**Guam**	**50.11**	**303**	LR		LR	18 37 20.9	
	comp=Z,84nm,20.5s,baz=14,slow=29							
KDU	**Kakadu**	**52.31**	**266**	P		**P**	**18 22 04.0**	**+0.7**
	baz=53,SNR=5.3							
MTN	**Manton Dam**	**53.57**	**265**	P		P	18 22 00.9	-12
	baz=54,SNR=4.9							
FITZ	**Fitzroy Crossi**	**58.07**	**258**	P		**P**	**18 22 46.3**	**+1.4**
	baz=59,SNR=3.9							
MBWA	**Marble Bar**	**63.23**	**254**	*e*P		**P**	**18 23 18.3**	**-1.8**
SBA	**Scott Base**	**63.38**	**185**	*e*P		**P**	**18 23 22.4**	**+2.4**
	5.8nm,0.8s							
VNDA	**Vanda**	**63.50**	**186**	P		**P**	**18 23 22.8**	**+1.9**
	5.6nm,0.8s,baz=6.7,slow=6.3,SNR=30							
VNDA	**Vanda**	**63.50**	**186**	*e*P		**P**	**18 23 22.3**	**+1.4**
	4.7nm,0.9s							
MEEK	**Meekatharra**	**63.71**	**248**	P		**P**	**18 23 22.5**	**-0.7**
	baz=64,SNR=3.2							
NWAO	**Narrogin (SRO)**	**64.54**	**241**	LR		LR	18 49 26.9	
	comp=Z,165nm,19.4s,baz=47,slow=34							
PCI	**Palu**	**67.19**	**276**	P		P	18 23 49.2	+3.4
	baz=68,SNR=6.6							
MJAR	**Matsushiro Ant**	**68.72**	**320**	LR		LR	18 46 52.0	
	comp=Z,155nm,21.8s,baz=115,slow=30							
PETK	**Petropavlovsk-**	**72.44**	**342**	P		**P**	**18 24 17.1**	**-0.2**
	4.9nm,0.7s,baz=129,slow=7.8,SNR=7.5							
PETK				LR		LR	18 55 32.3	
	comp=Z,61nm,18.1s,baz=45,slow=35							
PETK	**Petropavlovsk-**	**72.44**	**342**	P		**P**	**18 24 17.1**	**-0.2**
BFSC	**Mount Baldy Ra**	**72.45**	**46**	⇑P		**P**	**18 24 18.2**	**+0.3**
	baz=73							
EDW2	**Edwards Air Fo**	**72.57**	**45**	⇓P		**P**	**18 24 19.2**	**+0.6**
	baz=73							
ISA	**Isabella**	**72.67**	**44**	P		**P**	**18 24 18.2**	**-1.0**
	8.2nm,1.0s							
ISA	**Isabella**	**72.67**	**44**	⇓P		**P**	**18 24 19.4**	**+0.2**
	baz=73							
CMB	**Columbia Colle**	**72.77**	**41**	*e*P		**P**	**18 24 20.1**	**+0.4**
	16nm,1.5s							
LPIG	**La Paz**	**73.11**	**59**	LR		LR	18 47 27.7	
	comp=Z,12nm,21.5s,baz=216,slow=28							
BELC	**Belle Mtn. Jos**	**73.48**	**47**	⇓P		**P**	**18 24 24.5**	**+0.4**
	baz=74							
MPMC	**Manual Prospec**	**73.56**	**45**	⇑P		**P**	**18 24 24.6**	**+0.1**
	baz=74							
GLA	**Glamis**	**73.83**	**48**	⇑P		**P**	**18 24 26.3**	**+0.3**
	baz=74							
GMRC	**Granite Mounta**	**74.13**	**46**	⇓P		**P**	**18 24 28.1**	**+0.3**
	baz=74							
GRAC	**Grapevine Rang**	**74.15**	**44**	⇑P		**P**	**18 24 28.4**	**+0.5**
	baz=74							
IRM	**Iron Mountain**	**74.17**	**47**	⇓P		**P**	**18 24 28.1**	**+0.2**
	baz=74							
FURC	**Furnace Creek,**	**74.21**	**44**	⇓P		**P**	**18 24 28.4**	**+0.4**
	baz=74							
TUQ	**Turquoise Moun**	**74.29**	**46**	⇓P		**P**	**18 24 28.9**	**+0.1**
	baz=74							
NVAR	**M

	baz=80								
G12A	**Big Creek, Yel**	79.93	38	⇑P		P	18 25 00.3	-0.1	
	baz=80								
I13A	**Wildhorse Cree**	80.00	39	⇑P		P	18 25 01.1	+0.3	
	baz=80								
Y22A	**Socorro**	80.03	51	⇓P		P	18 25 01.9	+0.8	
	baz=80								
J14A	**Carey**	80.05	40	⇑P		P	18 25 01.4	+0.4	
	baz=80								
L15A	**Malad City**	80.08	42	⇓P		P	18 25 01.7	+0.5	
	baz=80								
324A	**Moseley Ranch,**	80.10	54	⇑P		P	18 25 02.3	+0.8	
	baz=80								
425A	**Indio Mountain**	80.21	54	⇓P		P	18 25 02.9	+0.7	
	baz=80,SNR=7.3								
X22A	**Bernardo**	80.24	50	⇑P		P	18 25 03.0	+0.7	
	baz=80								
O17A	**Robinson Place**	80.25	44	⇓P		P	18 25 02.7	+0.5	
	baz=80								
H13A	**Challis**	80.26	39	⇑P		P	18 25 02.7	+0.5	
	baz=80								
MNTX	**Cornudas Mount**	80.28	53	⇓P		P	18 25 02.4	+0.1	
	baz=80								
F12A	**Elk City**	80.32	37	⇑P		P	18 25 02.2	-0.1	
	baz=80								
224A	**Cornudas Mount**	80.33	53	⇓P		P	18 25 03.4	+0.6	
	baz=80,SNR=6.6								
V21A	**Milan**	80.36	49	⇑P		P	18 25 03.7	+0.8	
	baz=80								
626A	**Big Bend Ranch**	80.39	56	⇑P		P	18 25 03.0	-0.1	
	baz=81								
I14A	**Mackay**	80.41	39	⇑P		P	18 25 03.2	+0.3	
	baz=81								
325A	**Bean Ranch, Si**	80.47	54	⇑P		P	18 25 03.8	+0.3	
	baz=81,SNR=7.2								
PV10	**Paradox Valley**	80.54	46	*e*P		P	18 25 03.8	0.0	
	85nm,0.7s								
G13A	**Cobalt**	80.56	38	⇑P		P	18 25 04.1	+0.4	
	baz=81								
U21A	**Nageezi**	80.62	48	⇓P		P	18 25 05.2	+0.9	
	baz=81								
526A	**Mary Lane Ranc**	80.63	55	⇑P		P	18 25 05.3	+0.9	
	baz=81,SNR=5.9								
124A	**Stringfield Ra**	80.64	52	⇓P		P	18 25 04.3	-0.2	
	baz=81								
Q19A	**Hogan Spring (**	80.65	45	⇓P		P	18 25 05.1	+0.8	
	baz=81								
TXAR	**Lajitas Array**	80.68	56	P		P	18 25 04.9	+0.3	
	1.5nm,0.9s,baz=212,slow=4.4,SNR=12								
TXAR				LR		LR	18 54 22.3		
	comp=Z,113nm,19.2s,baz=285,slow=31								
TXAR	**Lajitas Array**	80.68	56	P		P	18 25 04.9	+0.3	
NEW	**Newport**	80.69	34	⇑P		P	18 25 04.3	+0.1	
	baz=81								
TNA	**Tin City**	80.69	2	*e*P		P	18 25 05.2	+1.5	
	5.0nm,0.7s								
L16A	**Fish Haven**	80.70	42	⇓P		P	18 25 04.9	+0.3	
	baz=81								
Y23A	**Lovelace Mesa,**	80.71	51	⇓P		P	18 25 04.8	0.0	
	baz=81								
S20A	**Disappointment**	80.76	47	⇓P		P	18 25 05.6	+0.6	
	baz=81,SNR=6.6								
J15A	**Blackfoot**	80.77	40	⇓P		P	18 25 05.4	+0.6	
	baz=81,SNR=6.9								
H14A	**Leadore**	80.83	39	⇓P		P	18 25 05.5	+0.3	
	baz=81								
ANMO	**Albuquerque**	80.84	50	*e*P		P	18 25 06.2	+0.7	
CN2	**Changchun**	80.86	320	*e*P		P	18 25 06.1	+1.0	
F13A	**Darby**	80.88	38	⇓P		P	18 25 05.4	+0.1	
	baz=81								
225A	**Deer Hill, Car**	80.88	53	⇓P		P	18 25 06.9	+1.1	
	baz=81,SNR=5.5								
R20A	**Redvale**	80.91	46	⇑P		P	18 25 06.4	+0.6	
	baz=81								
426A	**McDonald Obser**	80.92	55	⇓P		P	18 25 06.1	0.0	
	baz=81								
C11A	**Tepee Creek (N**	80.92	35	⇑P		P	18 25 05.8	+0.4	
	baz=81								
M17A	**Scullys Gap (B**	80.92	43	⇑P		P	18 25 06.0	+0.2	
	baz=81								
V22A	**San Miguel Ran**	80.93	49	⇓P		P	18 25 06.6	+0.6	
	baz=81								
627A	**Terlingua Ranc**	80.95	56	⇑P		P	18 25 06.6	+0.5	
	baz=81								
T21A	**Navajo Lake**	80.96	48	⇓P		P	18 25 06.8	+0.7	
	baz=81								
Z24A	**Sheeppen Canyo**	80.97	52	⇓P		P	18 25 07.2	+1.0	
	baz=81								
D12A	**Red Ives Fores**	80.98	36	⇓P		P	18 25 05.9	+0.1	
	baz=81								
K16A	**Soda Springs**	81.01	41	⇓P		P	18 25 06.7	+0.5	
	baz=81								
S21A	**Coal Bank Pass**	81.08	47	⇓P		P	18 25 07.5	+0.6	
	baz=81,SNR=6.6								
L17A	**Cokeville**	81.10	42	⇑P		P	18 25 06.9	+0.2	
	baz=81								
G14A	**Jackson**	81.10	38	⇓P		P	18 25 07.0	+0.4	
	baz=81								
W23A	**Werner Place,**	81.16	50	⇑P		P	18 25 08.1	+0.9	
	baz=81								
P19A	**Cripple Cowboy**	81.17	45	⇓P		P	18 25 07.9	+0.8	
	baz=81								
Y24A	**Capitan**	81.17	51	⇓P		P	18 25 08.0	+0.7	
	baz=81,SNR=6.2								
U22A	**Llaves**	81.18	49	⇑P		P	18 25 08.0	+0.7	
	baz=81								
J16A	**Bone**	81.22	41	⇑P		P	18 25 08.2	+0.9	
	baz=81								
326A	**Caldwell Ranch**	81.22	54	⇓P		P	18 25 08.4	+0.9	
	baz=81								
125A	**Gardner Draw,**	81.24	53	⇑P		P	18 25 08.6	+1.0	
	baz=81								
MCMT	**McKenzie Canyo**	81.25	39	*e*P		P	18 25 07.7	+0.2	
	2.6nm,1.2s								
H15A	**Lima**	81.27	39	⇓P		P	18 25 08.3	+0.8	
	baz=82								
E13A	**Victor**	81.32	37	⇓P		P	18 25 08.1	+0.5	
	baz=82								
Q20A	**Ridgley Place,**	81.32	46	⇓P		P	18 25 08.6	+0.6	
	baz=82								
628A	**Black Gap, Mar**	81.36	56	⇑P		P	18 25 09.4	+1.2	
	baz=82								
O19A	**Miners Draw (B**	81.38	44	⇓P		P	18 25 08.7	+0.5	
	baz=82								
V23A	**Ortiz Mt. (NFS**	81.39	49	⇑P		P	18 25 09.2	+0.8	
	baz=82								
K17A	**Gardner Place,**	81.39	41	⇓P		P	18 25 08.7	+0.5	
	baz=82								
RRI2	**Red Ridge**	81.44	41	*e*P		P	18 25 07.5	-1.1	
	8.4nm,0.9s								
Z25A	**Roswell**	81.45	52	⇓P		P	18 25 09.7	+1.0	
	baz=82								
F14A	**Wisdom**	81.46	38	⇑P		P	18 25 08.8	+0.3	
	baz=82								
427A	**Hayter Ranch,**	81.49	55	⇓P		P	18 25 10.1	+1.2	
	baz=82								
P20A	**De Beque**	81.51	45	⇓P		P	18 25 09.5	+0.6	
	baz=82								
D13A	**Huson**	81.52	36	⇑P		P	18 25 08.8	+0.1	
	baz=82								
L18A	**Fontenelle, Gr**	81.56	42	⇓P		P	18 25 09.9	+0.7	
	baz=82								
R21A	**Cimarron**	81.57	47	⇑P		P	18 25 10.2	+0.8	
	baz=82,SNR=5.5								
I16A	**Newdale**	81.60	40	⇓P		P	18 25 10.0	+0.7	
	baz=82								
N19A	**John Jarvie Ra**	81.63	44	⇑P		P	18 25 09.8	+0.3	
	baz=82								
G15A	**Dillon**	81.65	39	⇑P		P	18 25 10.1	+0.6	
	baz=82								
MSO	**Missoula**	81.67	37	⇓P		P	18 25 10.1	+0.6	
	baz=82								
528A	**Cox Ranch, San**	81.70	56	⇓P		P	18 25 11.4	+1.4	
	baz=82								
E14A	**Clinton**	81.71	37	⇓P		P	18 25 09.8	0.0	
	baz=82								
Y25A	**Mesa, Roswell**	81.73	52	⇓P		P	18 25 11.1	+1.0	
	baz=82								
W24A	**Lazy 6 Ranch,**	81.73	50	⇑P		P	18 25 10.8	+0.6	
	baz=82								
TPAW	**Teton Pass**	81.74	41	P		P	18 25 08.8	-1.3	
	22nm,1.4s								
S22A	**4UR Ranch, Cre**	81.80	47	⇓P		P	18 25 11.2	+0.6	
	baz=82,SNR=6.4								
J17A	**Brown Place, J**	81.83	41	⇓P		P	18 25 11.1	+0.5	
	baz=82								
K18A	**Toltan Ranch,**	81.90	42	⇑P		P	18 25 11.4	+0.5	
	baz=82								
M19A	**Rock Springs**	81.93	43	⇓P		P	18 25 11.5	+0.4	
	baz=82								
F15A	**Butte**	82.00	38	⇑P		P	18 25 11.9	+0.5	
	baz=82								
428A	**Kincaid Ranch,**	82.00	55	⇑P		P	18 25 13.2	+1.6	
	baz=82								
Z26A	**Caprock**	82.01	52	⇓P		P	18 25 12.6	+1.1	
	baz=82,SNR=6.4								
V24A	**Rampart Ranch,**	82.05	50	⇓P		P	18 25 12.9	+1.0	
	baz=82								
D14A	**Greenough**	82.06	37	⇓P		P	18 25 11.9	+0.3	
	baz=82								
R22A	**Saguache, Gunn**	82.07	47	⇑P		P	18 25 13.1	+1.0	
	baz=82								
L19A	**Farson**	82.08	43	⇓P		P	18 25 12.3	+0.4	
	baz=82								
G16A	**Moss Hill, Enn**	82.09	39	⇓P		P	18 25 12.2	+0.3	
	baz=82								
529A	**Stev Forest Ra**	82.14	56	⇑P		P	18 25 12.5	+0.2	
	baz=82								
328A	**Wristen Ranch,**	82.16	55	⇑P		P	18 25 12.5	+0.1	
	baz=82								
H16A	**Russell Place,**	82.17	40	⇓P		P	18 25 13.0	+0.7	
	baz=82,SNR=8.4								
I17A	**Pilgrim Ck.**	82.19	41	⇓P		P	18 25 13.2	+0.7	
	baz=82								
J18A	**Kendall Valley**	82.19	41	⇓P		P	18 25 12.7	+0.2	
	baz=82,SNR=10								
FLWY	**Flagg Ranch**	82.20	40	*e*P		P	18 25 12.2	-0.3	
	7.2nm,0.9s								
N20A	**Spence Gulch,**	82.21	44	⇓P		P	18 25 13.2	+0.5	
	baz=82								
Q22A	**Crested Butte,**	82.24	46	⇑P		P	18 25 13.3	+0.4	
	baz=82,SNR=5.9								
BW06	**Boulder Array**	82.28	42	⇑P		P	18 25 13.0	+0.1	
	baz=82								
PDAR	**Pinedale Array**	82.28	42	P		P	18 25 12.8	-0.2	
	2.3nm,0.7s,baz=212,slow=2.3,SNR=17								
PDAR				LR		LR	18 54 57.2		
	comp=Z,124nm,19.2s,baz=243,slow=31								
PDAR	**Pinedale Array**	82.28	42	P		P	18 25 12.8	-0.2	
SMCO	**Snowmass**	82.34	46	P		P	18 25 14.1	+0.5	
	4.2nm,0.9s								
ILAR	**Eielson Array**	82.34	11	P		P	18 25 11.5	-1.0	
	2.2nm,0.5s,baz=224,slow=8.7,SNR=1.2								
ILAR	**Eielson Array**	82.34	11	P		P	18 25 11.5	-1.0	
Y26A	**Elida**	82.39	52	⇓P		P	18 25 14.5	+0.9	
	baz=83								
BOZ	**Bozeman (W)**	82.41	39	*e*P		P	18 25 13.3	-0.1	
	17nm,1.9s								
BOZ	**Bozeman (W)**	82.41	39	⇓P		P	18 25 14.4	+0.9	
	baz=83								
W25A	**X Bar L Ranch,**	82.44	51	⇓P		P	18 25 14.7	+0.8	
	baz=83								
F16A	**Kennard Place,**	82.49	39	⇑P		P	18 25 14.2	+0.4	
	baz=83								
I18A	**Diamond G Ranc**	82.56	41	⇓P		P	18 25 14.7	+0.3	
	baz=83								
M20A	**Sweetwater, Wa**	82.57	44	⇑P		P	18 25 14.7	+0.2	
	baz=83								
V25A	**Rancho No Teng**	82.58	50	⇓P		P	18 25 15.5	+0.8	
	baz=83								
429A	**Davenport Ranc**	82.59	56	⇓P		P	18 25 15.5	+0.8	
	baz=83								
D15A	**Lincoln**	82.61	37	⇓P		P	18 25 14.7	+0.2	
	baz=83								
Z27A	**Tatum**	82.61	53	⇓P		P	18 25 15.6	+0.8	
	baz=83								
X26A	**CR and CF Fran**	82.66	51	⇓P		P	18 25 16.2	+1.2	
	baz=83								
P22A	**Eagle**	82.67	46	⇓P		P	18 25 15.8	+0.7	
	baz=83								
L20A	**Wamsutter**	82.71	43	⇓P		P	18 25 15.5	+0.3	
	baz=83								
R23A	**Moffat**	82.71	47	⇑P		P	18 25 15.9	+0.5	
	baz=83								
K19A	**Absolon Red Bu**	82.76	42	⇑P		P	18 25 15.7	+0.3	
	baz=83								
T24A	**Torres, Weston**	82.78	49	⇓P		P	18 25 16.2	+0.4	
	baz=83								
G17A	**Pierce Place,**	82.79	39	⇓P		P	18 25 15.5	0.0	
	baz=83								
J19A	**Rowdeart**	82.84	42	⇓P		P	18 25 16.0	+0.2	
	baz=83,SNR=6.5								
329A	**Wagon Wheel Ra**	82.86	55	⇑P		P	18 25 17.2	+1.1	
	baz=83								
530A	**J-C Ranch, Com**	82.86	56	⇑P		P	18 25 17.0	+1.0	
	baz=83								
B14A	**Marquette Ranc**	82.88	36	⇓P		P	18 25 16.0	+0.2	
	baz=83								
Y27A	**Causey**	82.88	52	⇓P		P	18 25 16.4	+0.3	
	baz=83								
WALA	**Waterton Lakes**	82.90	35	P		P	18 25 14.1	-1.8	
	0.1nm,0.9s								
S24A	**Houchin Ranch,**	82.91	48	⇑P		P	18 25 16.7	+0.2	
	baz=83								
C15A	**Salmond Ranch,**	82.94	36	⇑P		P	18 25 16.2	0.0	
	baz=83								
U25A	**Circle Dot Ran**	82.97	49	⇓P		P	18 25 17.7	+1.1	
	baz=83								
K20A	**Yellowstone Ra**	83.01	42	⇑P		P	18 25 16.7	0.0	
	baz=83								
O22A	**Kremmling**	83.07	45	⇑P		P	18 25 17.9	+0.6	
	baz=83								
A14A	**Double T Ranch**	83.12	35	⇓P		P	18 25 17.5	+0.5	
	baz=83								
F17A	**Fitzpatrick Pl**	83.13	39	⇑P		P	18 25 17.9	+0.7	
	baz=83								
H18A	**Shoshone NF, C**	83.14	40	⇓P		P	18 25 17.9	+0.6	
	baz=83								
M21A	**Separation Pea**	83.17	44	⇓P		P	18 25 17.9	+0.3	
	baz=83								
D16A	**Dana Ranch, Ca**	83.17	37	⇓P		P	18 25 18.0	+0.7	
	baz=83								
V26A	**Tequesquite Ra**	83.18	50	⇑P		P	18 25 18.4	+0.7	
	baz=83								
631A	**Perdido Creek**	83.20	57	⇓P		P	18 25 18.6	+0.9	
	baz=83								
MSTX	**Muleshoe**	83.21	52	⇓P		P	18 25 17.9	+0.1	
	baz=83								
R24A	**Sanders Place,**	83.24	48	⇑P		P	18 25 18.5	+0.5	
	baz=83								
I19A	**Meeteetse**	83.25	41	⇑P		P	18 25 17.9	0.0	
	baz=83								
B15A	**Bradely Ranch,**	83.25	36	⇑P		P	18 25 17.3	-0.4	
	baz=83								
E17A	**Martinsdale**	83.29	38	⇑P		P	18 25 17.9	-0.1	
	baz=84								
DAWY	**Dawson**	83.33	14	*e*P		P	18 25 17.5	-0.1	
N22A	**Wattenberg Ran**	83.42	45	⇓P		P	18 25 19.4	+0.4	
	baz=84								
W27A	**Bowe Ranch, En**	83.42	51	⇓P		P	18 25 19.5	+0.5	
	baz=84								
C16A	**Fuhringer Ranc**	83.45	37	⇑P		P	18 25 18.9	+0.2	
	baz=84								
U26A	**Atchley Ranch,**	83.46	50	⇑P		P	18 25 20.0	+0.8	
	baz=84								
330A	**Hertzon**	83.46	55	⇑P		P	18 25 19.2	+0.1	
	baz=84								
S25A	**Robets Cordova**	83.48	48	⇓P		P	18 25 20.0	+0.8	
	baz=84								
531A	**Rocksprings**	83.50	56	⇓P		P	18 25 19.9	+0.5	
	baz=84								
J20A	**Shoshoni**	83.50	42	⇑P		P	18 25 19.6	+0.4	
	baz=84,SNR=5.1								
A15A	**Johnson Ranch,**	83.51	35	⇓P		P	18 25 19.2	+0.2	
	baz=84								
G18A	**Lazy EL Ranch,**	83.51	40	⇑P		P	18 25 19.7	+0.5	
	baz=84								
O23A	**Lake Granby, G**	83.53	45	⇓P		P	18 25 20.0	+0.4	
	baz=84								
H19A	**Powell**	83.56	40	⇓P		P	18 25 19.6	+0.2	
	baz=84,SNR=5.4								
M22A	**Cedar Creek Ra**	83.59	44	⇓P		P	18 25 20.0	+0.2	
	baz=84								
RLMT	**Red Lodge**	83.60	40	*e*P		P	18 25 19.8	0.0	
	6.6nm,1.2s								
RLMT	**Red Lodge**	83.60	40	⇑P		P	18 25 19.7	0.0	
	baz=84								
F18A	**Big Timber**	83.70	39	⇓P		P	18 25 20.5	+0.4	
	baz=84								
K21A	**Alcova**	83.71	43	⇑P		P	18 25 20.1	-0.3	
	baz=84								
D17A	**Six Diamond Ra**	83.74	38	⇓P		P	18 25 20.6	+0.3	
	baz=84								
Z29A	**Hungry Hill Ra**	83.75	53	⇓P		P	18 25 20.8	+0.2	
	baz=84								
I20A	**Worland**	83.75	41	⇑P		P	18 25 20.5	0.0	
	baz=84								
R25A	**Fountain Ranch**	83.79	48	⇓P		P	18 25 21.5	+0.7	
	baz=84								
B16A	**M & M Farms, S**	83.79	36	⇓P		P	18 25 20.7	+0.2	
	baz=84								
N23A	**Red Feather La**	83.81	45	⇑P		P	18 25 21.3	+0.3	
	baz=84								
T26A	**Comanche Natio**	83.89	49	⇓P		P	18 25 21.7	+0.3	
	baz=84								
E18A	**Harlowton**	83.91	38	⇓P		P	18 25 21.7	+0.6	
	baz=84								
J21A	**Lysite**	83.91	42	⇓P		P	18 25 21.6	+0.2	
	baz=84								
C17A	**Wharram Farm,**	83.94	37	⇓P		P	18 25 21.3	+0.1	
	baz=84								
CMIG	**Matias Romero**	84.00	71	LR		LR	18 52 25.2		
	comp=Z,124nm,20.9s,baz=223,slow=28								
532A	**Rocksprings**	84.00	57	⇓P		P	18 25 23.2	+1.3	
	baz=84								
A16A	**West Butte Ran**	84.13	36	⇓P		P	18 25 22.9	+0.7	
	baz=84								
Q25A	**Bedland, Calha**	84.14	47	⇑P		P	18 25 23.4	+0.7	
	baz=84								
F19A	**Roth Farm, Mol**	84.15	39	⇑P		P	18 25 22.8	+0.4	
	baz=84								
S26A	**Kim**	84.16	49	⇑P		P	18 25 23.2	+0.5	
	baz=84								
K22A	**Casper**	84.20	43	⇑P		P	18 25 23.2	+0.4	
	baz=84								
Z30A	**Sanderson Ranc**	84.21	53	⇓P		P	18 25 23.5	+0.6	
	baz=84								
I21A	**Big Trails, Te**	84.23	42	⇓P		P	18 25 23.4	+0.5	
	baz=84								
231A	**Bronte**	84.34	55	⇑P		P	18 25 24.4	+0.8	
	baz=84								
BILL	**Bilibino**	84.34	353	*e*P		P	18 25 22.6	-0.1	
	4.2nm,1.0s								
T27A	**Campo**	84.48	49	⇓P		P	18 25 24.7	+0.5	
	baz=85								
J22A	**Midwest**	84.57	42	⇓P		P	18 25 24.9	+0.3	
	baz=85								
332A	**Millersview**	84.59	56	⇑P		P	18 25 25.8	+0.9	
	baz=85								
A17A	**Triple J Farms**	84.64	36	⇓P		P	18 25 24.9	+0.1	
	baz=85								
O25A	**Wiggins**	84.73	46	⇑P		P	18 25 26.0	+0.6	
	baz=85								
I22A	**9 Mile Ranch,**	84.78	42	⇑P		P	18 25 25.7	+0.1	
	baz=85								
232A	**Coleman**	84.85	55	⇓P		P	18 25 26.7	+0.5	
	baz=85								
Z31A	**Sharp Cattle R**	84.98	54	⇑P		P	18 25 27.1	+0.3	
	baz=85								
C19A	**Slack Wire Ran**	85.00	38	⇓P		P	18 25 26.9	+0.3	
	baz=85								
D20A	**Manuel Ranch,**	85.23	39	⇑P		P	18 25 27.7	0.0	
	baz=85								
BJI	**Beijing**	85.24	314	P		P	18 25 27.6	-0.3	
BJI				S		S	18 36 05.8	+10	
BJI				pmax		pmax			
	comp=Z,7.0nm,0.9s								
BJI				LR		LR			
	comp=Z,61nm,25.0s								
B19A	**Brinkman Farms**	85.41	37	⇑P		P	18 25 28.5	0.0	
	baz=86								
Z32A	**Haskell**	85.50	54	⇓P		P	18 25 30.3	+1.0	
	baz=86								
C20A	**Veseth Ranch,**	85.60	38	⇑P		P	18 25 29.9	+0.4	
	baz=86								
A19A	**Klindworth Far**	85.75	37	⇓P		P	18 25 30.4	+0.1	
	baz=86								
Y32A	**R-V Farms, Ver**	85.78	53	⇑P		P	18 25 31.8	+1.1	
	baz=86								
A20A	**Cobblestone Ra**	86.20	37	⇑P		P	18 25 32.5	0.0	
	baz=86								
H24A	**Dirks Ranch, A**	86.41	42	⇓P		P	18 25 33.7	0.0	
	baz=87								
GYA	**Guiyang**	87.82	298	P		P	18 25 41.3	+0.3	
GYA				PP		PP	18 29 08.8	+1.5	
GYA				SKS		SKSac	18 36 07.6	0.0	
GYA				S		S	18 36 22.0	-0.2	
GYA				SS		SS	18 42 12.3	+2.3	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,90nm,5.4s								
GYA				LR		LR			
	comp=N,440nm,20.5s								
GYA				LR		LR			
	comp=E,320nm,21.0s								
GYA				LR		LR			
	comp=Z,430nm,21.2s								
MAW	**Mawson**	87.87	199	LR		LR	19 00 02.3		
	comp=Z,343nm,18.8s,baz=186,slow=32								
INK	**Inuvik**	88.17	14	P		P	18 25 40.3	-1.2	
	comp=Z,2.8nm,1.1s								
HHC	**Hu-ho-hao-te**	88.80	313	*e*P		P	18 25 43.3	-2.0	
HHC				PP		PP	18 29 14.5	-0.3	
HHC				SKS		SKSac	18 36 10.3	-2.5	
HHC				S		S	18 36 27.8	-3.1	
HHC				SS		SS	18 42 23.3	-0.4	
HHC				pmax		pmax			
	comp=Z,16nm,0.5s								
HHC				pmax		pmax			
	comp=Z,150nm,6.8s								
HHC				LR		LR			
	comp=N,190nm,17.5s								
HHC				LR		LR			
	comp=E,170nm,17.4s								
HHC				LR		LR			
	comp=Z,100nm,17.6s								
YKA	**Yellowknife Ar**	90.04	23	P		P	18 25 50.0	-0.3	
	comp=Z,0.9nm,0.7s,baz=240,slow=4.6,SNR=20								
YKA	**Yellowknife Ar**	90.04	23	P		P	18 25 50.0	-0.3	
KMI	**Kunming**	90.81	296	P		P	18 25 55.5	+0.3	
KMI				pP		PcP	18 25 59.1	+2.9	
KMI				sP		sP	18 26 00.3	-8.0	
KMI				S		ScS	18 36 53.5	-0.2	
KMI				SS		SS	18 42 55.8	+2.2	
KMI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KMI				pm

comp=Z,25nm,3.4s
KSH LR LR
comp=N,82nm,5.5s
KSH LR LR
comp=E,85nm,7.2s
KSH LR LR
comp=Z,160nm,6.7s
ARCES ARCESS Array B 124.44 352 PKP **PKPdf 18 31 48.5 -1.1**
comp=Z,5.1nm,0.8s,baz=331,slow=1.5,SNR=7.7
ARCES ARCESS Array B 124.44 352 PKP **PKPdf 18 31 48.5 -1.1**
FINES FINESS Array B 131.76 347 PKP **PKPdf 18 32 04.2 +0.5**
comp=Z,3.5nm,1.0s,baz=69,slow=7.6,SNR=3.5
FINES FINESS Array B 131.76 347 PKP **PKPdf 18 32 04.2 +0.5**
NOA NORSAR Array B 134.15 357 PKP **PKPdf 18 32 07.7 -0.7**
comp=Z,0.7nm,0.7s,baz=82,slow=5.0,SNR=3.6
NOA NORSAR Array B 134.15 357 PKP **PKPdf 18 32 07.7 -0.7**
AKASG Malin Array Be 140.14 337 PKP **PKPdf 18 32 19.2 -0.4**
comp=Z,0.9nm,0.6s,baz=35,slow=3.4,SNR=3.6
AKASG Malin Array Be 140.14 337 PKP **PKPdf 18 32 19.2 -0.4**
KOLS Kolonicke sedl 143.99 342 *e*PKP **PKPdf 18 32 26.0 -0.6**
CRVS Cervenica-Dubn 144.25 343 *e*PKP **PKPab 18 32 23.8 -1.1**
TRPA Tarpa 144.62 341 ⇑*iP* **PKPab 18 32 26.4 +0.2**
VYHS Vyhne 145.31 345 *e*PKP **PKPbc 18 32 29.0 +0.3**
VYHS *e* 18 32 42.6
TIRR Tirgusor 145.43 332 ⇓*iP* **PKPdf 18 32 26.0 -3.2**
DOPR Dopca 145.49 336 ⇑*iP* **PKPdf 18 32 30.6 +1.3**
PSZ Piszkesteto 145.58 344 ⇓*iP* **PKPab 18 32 30.6 +0.7**
MLR Muntele Rosu 145.66 335 ⇑*iP* **PKPdf 18 32 30.6 +0.8**
KHC Kasperske Hory 145.71 352 *e*PKPdf **PKPdf 18 32 29.6 0.0**
KHC Kasperske Hory 145.71 352 *e*PKP **PKPdf 18 32 29.0 -0.6**
ISR Istrita 145.72 334 ⇑*iP* **PKPdf 18 32 29.2 -0.6**
DRGR 145.75 340 ⇑*iP* **PKPdf 18 32 29.9 +0.1**
BR131 Keskin Array S 145.94 321 *e*PKPdf **PKPdf 18 32 31.0 +0.6**
BRTR Keskin Array B 145.94 321 PKPbc **PKPbc 18 32 31.3 +0.2**
comp=Z,5.7nm,0.7s,baz=100,slow=2.6,SNR=37
BRTR Keskin Array B 145.94 321 PKPbc **PKPbc 18 32 31.3 +0.2**
GERES GERESS Array B 145.97 351 PKPbc **PKPbc 18 32 31.0 +0.1**
comp=Z,1.6nm,0.7s,baz=2.9,slow=2.7,SNR=9.5
GERES GERESS Array B 145.97 351 PKPbc **PKPbc 18 32 31.0 +0.1**
VOIR 146.06 336 ⇑*iP* **PKPdf 18 32 32.3 +1.9**
CSNA Conrad Observa 146.50 348 ⇑*i*PKPab **PKPdf 18 32 31.8 +0.8**
comp=Z,8.6nm,1.1s
BFO Black Forest 146.98 358 *e*PKPdf **PKPbc 18 32 33.9 +0.1**
BZS Buzias 147.14 340 ⇑*iP* **PKPdf 18 32 33.1 +1.0**
WTTA Wattenberg 147.79 353 ⇑*i*pPKPbc **PKPbc 18 32 36.4 +0.2**
comp=Z,5.5nm,0.5s
TORD Torodi Ar. Bea 174.96 114 PKP **PKPdf 18 33 01.1 -0.9**
comp=Z,2.2nm,1.3s,baz=351,slow=1.9,SNR=3.9
TORD PKPab **PKPab 18 34 36.1 -0.8**
comp=Z,0.6nm,0.9s,baz=271,slow=5.0,SNR=2.9
TORD Torodi Ar. Bea 174.96 114 PKP **PKPdf 18 33 01.1 -0.9**
TORD PKPab **PKPab 18 34 36.1 -0.8**

*CSEM **24** 18:15:53.1, 41.06N×33.93E, h10km, MD2.6, After ISK*
ISK 24 18:15:53.1, 41.06N×33.93E, h10km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOS	**Tosya**	**0.08**	**110**	P*g*	P*g*	18 15 56.0	+0.4
TOS				S*g*	S*g*	18 15 57.5	+0.2
TOS	**Tosya**	**0.08**	**110**	*i* P*g*	P*g*	18 15 56.0	+0.5
TOS				*i* S*g*	S*g*	18 15 57.5	+0.2
CANT	**Cankiri**	**0.51**	**207**	*e*P*g*	P*b*	18 16 03.8	-0.5
CANT				*e*S*g*	S*g*	18 16 10.8	+0.7
BYBT	**Boyabat**	**0.75**	**57**	*e*P*g*	P*b*	18 16 08.1	-0.2
BYBT				*e*S*g*	S*b*	18 16 18.1	-0.5
BYBT	**Boyabat**	**0.75**	**57**	*e*P*g*	P*b*	18 16 08.1	-0.2
BYBT				*e*S*g*	S*b*	18 16 18.1	-0.5
SAFT	**Safranbolu**	**0.95**	**281**	*e*P*g*	P*b*	18 16 11.9	+0.2
SAFT	**Safranbolu**	**0.95**	**281**	*e*P*g*	P*b*	18 16 12.0	+0.2
CORM	**Corum**	**1.03**	**149**	*e*P*g*	P*g*	18 16 12.9	-0.3
CORM	**Corum**	**1.03**	**149**	*e*P*g*	P*g*	18 16 12.9	-0.2
DIKM	**Dikmen**	**1.16**	**59**	*e*P*n*	P*g*	18 16 15.9	+0.5
DIKM	**Dikmen**	**1.16**	**59**	*e*P*n*	P*g*	18 16 15.9	+0.5
KVT	**Kavak**	**1.60**	**89**	*e*P*n*	P*b*	18 16 22.3	-0.6
KVT	**Kavak**	**1.60**	**89**	*e*P*n*	P*b*	18 16 22.3	-0.6
KAMT	**Kaman**	**1.70**	**186**	*e*P*n*	P*n*	18 16 23.3	+0.4
KAMT	**Kaman**	**1.70**	**186**	*e*P*n*	P*n*	18 16 23.3	+0.3
AFSR	**Af˙ar-Bala (A**	**1.74**	**202**	*e*P*n*	P*n*	18 16 24.4	+0.9
AFSR	**Af˙ar-Bala (A**	**1.74**	**202**	*e*P*n*	P*n*	18 16 24.4	+0.9

*IDC **24** 18:38:10.6±2.2, 41.17N×73.54E, h0km, mb3.2/1, mb1 3.2/5, mb1mx3.1/30, mbtmp3.1/5, ML3.0/4, Error ellipse: s-maj=30.1km s-min=19.0km az=127.0*
*KNET **24** 18:38:10.5±0.5, 41.23N×73.46E, h0km, ml3.0, Error ellipse: s-maj=3.8km s-min=3.1km az=94.0*
*NNC **24** 18:38:12.5±6.0, 41.12N×72.96E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=61.3km s-min=18.9km az=2.0*
ISC 24 18:38:08.7±2.6, 41.1N±0.1×73.38E±0.06, h0km±14km, n23, σ1§28/25, 12C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.03**	**13**	P	P*g*	**18 38 27.9**	**-0.6**
AML	68nm,0.2s,SNR=261			⇓S	S*b*	**18 38 42.4**	**-1.5**
	820nm,0.5s						
UCH	**Uchtor**	**1.39**	**37**	⇑P	P*b*	**18 38 35.5**	**-0.3**
UCH	25nm,0.5s,SNR=13			⇑S	S*n*	**18 38 54.3**	**-0.7**
	67nm,0.3s						
EKS2	**Erkin-Say**	**1.56**	**11**	⇓P	P*n*	**18 38 37.3**	**-0.6**
	25nm,0.2s,SNR=49						
KZA	**Kyzart**	**1.69**	**55**	⇑P	P*n*	**18 38 40.3**	**+0.4**
KZA	51nm,0.4s,SNR=28			⇓S	S*g*	**18 39 04.4**	**+1.2**
	90nm,0.4s						
AAK	**Ala-Archa**	**1.72**	**29**	P*g*	P*g*	**18 38 40.8**	**-0.8**
AAK	18nm,0.3s,baz=195,slow=5.3,SNR=119			Lg	Lg	18 39 03.4	
	26nm,0.3s,baz=319,slow=23,SNR=16						
KBK	**Karagaybulak**	**1.93**	**37**	⇓P	P*g*	**18 38 44.9**	**-0.7**
KBK	42nm,0.3s,SNR=32			⇓S	S*g*	**18 39 11.4**	**+0.8**
	134nm,0.3s						
CHMS	**Chumysh**	**2.13**	**28**	⇓P	P*g*	**18 38 48.4**	**-1.2**
	69nm,0.5s,SNR=66						
USP	**Ospenovka**	**2.29**	**21**	⇓P	P*b*	**18 38 50.7**	**-0.3**
	70nm,0.4s,SNR=108						
TKM2	**Tokmak 2**	**2.44**	**42**	⇑Pn	P*b*	**18 38 53.2**	**-0.4**
TKM2	36nm,0.5s			⇓Sn	S*g*	**18 39 28.5**	**+1.5**
	99nm,0.6s						
TKM2	**Tokmak 2**	**2.44**	**42**	⇑P	P*b*	**18 38 53.1**	**-0.4**
	61nm,0.4s,SNR=175						
KK31	**Karatay Array**	**2.91**	**314**	Pn	P*n*	**18 38 57.2**	**+1.0**
	6.0nm,0.3s,baz=125,slow=12,SNR=349						
KK31				⇑Sn	S*b*	**18 39 38.8**	**+1.4**
	11nm,0.3s,baz=129,slow=27,SNR=4.6						
KNDC	**Almaty**	**3.39**	**51**	⇑Pn	P*g*	**18 39 11.7**	**-1.9**
	25nm,0.6s						
KNDC				⇓Sn	S*g*	**18 39 59.5**	**+2.0**
	205nm,1.3s						
MK31	**Makanchi Array**	**8.56**	**46**	⇑Pn	Pb	18 40 26.8	
	0.8nm,0.6s,baz=221,slow=13,SNR=8.2						
MK31				⇑Lg	Lg	18 42 46.1	
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**8.56**	**46**	Pn	P*n*	**18 40 16.4**	**+2.5**
	0.1nm,0.3s,baz=228,slow=13,SNR=7.8						
MKAR				Lg	Lg	18 42 39.7	
	0.1nm,0.3s,baz=231,slow=23,SNR=3.7						
KURBB	**Kurchatov Arra**	**10.15**	**19**	Pn	P*n*	**18 40 36.2**	**+0.7**
	0.1nm,0.3s,baz=210,slow=13,SNR=3.8						
KURBB				Lg	Lg	18 43 30.4	
	0.1nm,0.3s,baz=175,slow=26,SNR=9.5						
KURBB	**Kurchatov Arra**	**10.15**	**19**	⇑Lg	Lg	18 43 35.7	
	2.9nm,0.8s						
KURK	**Kurchatov**	**10.26**	**19**	⇓Lg	Lg	18 43 37.7	
	29nm,1.3s						
VOSK	**Vostochnaya**	**11.71**	**353**	⇑Pn	Pn	18 41 03.0	+6.0
	2.2nm,1.2s						
VOSK				⇓Lg	Lg	18 44 23.3	
	5.9nm,0.8s						
BVAR	**Borovoye Array**	**12.07**	**351**	Pn	P*n*	**18 41 03.2**	**+1.3**
	0.1nm,0.3s,baz=168,slow=15,SNR=3.0						
BVAR				Lg	Lg	18 44 32.8	
	0.1nm,0.3s,baz=174,slow=28,SNR=5.1						
ZRNK	**Zerenda**	**12.20**	**347**	⇑Pn	Pn	18 41 07.3	+3.8
	2.6nm,1.4s						
ZRNK				⇓Lg	Lg	18 44 39.0	
	6.8nm,1.1s						
AB31	**Akbulak array**	**12.47**	**315**	⇓Pn	P*n*	**18 41 05.2**	**-2.1**
	0.7nm,0.6s,baz=120,slow=14,SNR=19						
ZALV	**Zalesovo Beam**	**14.95**	**27**	Pn	P*n*	**18 41 41.8**	**+0.7**
	0.1nm,0.3s,baz=249,slow=12,SNR=2.9						
YKA	**Yellowknife Ar**	**76.53**	**4**	P	P	**18 50 00.0**	**-0.1**
	0.1nm,0.5s,baz=349,slow=5.9,SNR=4.2						

IDC 24 18:57:28.3±0.9, 33.56N×82.32E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/30, mbtmp3.6/12, ML3.4/2, Error ellipse: s-maj=29.8km s-min=16.6km az=56.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.22**	**360**	Pn	P*n*	19 00 36.0	-1.3
	0.1nm,0.3s,baz=177,slow=13,SNR=13						
KURBB	**Kurchatov Arra**	**17.28**	**352**	P	P*n*	19 01 31.0	+0.2
	0.1nm,0.3s,baz=169,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**20.46**	**4**	P	P	19 02 07.4	+0.1
	0.5nm,0.4s,baz=198,slow=7.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**21.15**	**131**	P	P	19 02 15.6	+0.5
	4.1nm,0.9s,baz=310,slow=10,SNR=31						
BVAR	**Borovoye Array**	**21.25**	**340**	P	P	19 02 17.0	+1.1
	1.0nm,0.7s,baz=130,slow=6.0,SNR=5.6						
SONM	**Songino Array**	**23.04**	**45**	P	P	19 02 35.3	+0.1
	0.6nm,0.9s,baz=254,slow=9.1,SNR=5.1						
AKTO	**Aktyubinsk**	**24.54**	**321**	P	P	19 02 49.6	+0.1
	1.1nm,0.7s,baz=137,slow=6.2,SNR=6.2						
FINES	**FINESS Array B**	**45.13**	**326**	P	P	19 05 46.7	+0.6
	2.4nm,1.0s,baz=117,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**72.73**	**129**	P	P	19 08 58.4	-0.1
	1.2nm,0.8s,baz=327,slow=5.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**75.12**	**276**	P	P	19 09 12.3	-0.4
	0.6nm,0.6s,baz=40,slow=4.7,SNR=7.9						
ASAR	**Alice Springs**	**75.16**	**132**	P	P	19 09 12.9	+0.3
	0.6nm,0.7s,baz=316,slow=5.6,SNR=6.0						
YKA	**Yellowknife Ar**	**83.31**	**8**	P	P	19 09 55.3	-1.4
	0.2nm,0.4s,baz=338,slow=5.3,SNR=4.2						

IDC 24 18:59:54.0±1.9, 8.00S×125.15E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=105.7km s-min=27.6km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.05**	**177**	Pn	P*n*	19 02 19.9	+0.1
	0.2nm,0.3s,baz=7.0,slow=13,SNR=8.3						
FITZ				Sn	Sn	19 04 07.5	-5.9
	0.2nm,0.3s,baz=116,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**14.84**	**144**	Pn	P*n*	19 03 24.5	-0.8
	0.1nm,0.3s,baz=318,slow=13,SNR=10						
WRA				Sn	Sn	19 06 05.9	-4.7
	0.2nm,0.3s,baz=324,slow=26,SNR=5.6						
ASAR	**Alice Springs**	**17.69**	**153**	P	P*n*	19 04 02.0	-0.1
	0.1nm,0.3s,baz=322,slow=10.0,SNR=8.4						
ASAR				S	Sn	19 07 14.5	-5.5
	0.1nm,0.3s,baz=325,slow=22,SNR=4.5						
MKAR	**Makanchi Array**	**66.53**	**329**	P	P	19 10 45.9	+0.1
	0.3nm,0.6s,baz=120,slow=7.4,SNR=4.6						

MAN 24 19:06:11, 10.31N×125.03E, h18km, mb4.3, ML3.1, MS2.9, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.24**	**223**	*e*P	P*b*	19 06 18.9	+2.2
MSLP				*e*S	S*b*	19 06 25.8	+5.3
OCLP	**Ormoc**	**0.84**	**331**	*e*P	P*g*	19 06 27.6	+0.1
OCLP				*e*S	S*n*	19 06 40.5	+0.6
PLP	**Palo**	**0.85**	**357**	⇓*i*P	P*b*	19 06 25.9	-1.4
PLP				*i* S	S*b*	19 06 38.0	-0.3
LLP	**Lapu-Lapu**	**1.04**	**270**	*e*P	P*g*	19 06 32.8	+1.5
LLP				*e*S	S*g*	19 06 50.0	+5.0
TBP	**Tagbilaran**	**1.30**	**242**	*e*P	P*b*	19 06 35.2	+0.3
TBP				*i* S	S*g*	19 06 58.8	+5.6
CNP	**Catarman**	**2.21**	**351**	*e*P	P*n*	19 06 48.2	+1.3
CNP				*e*S	S*b*	19 07 17.9	+0.2

IDC 24 19:51:29.1±2.4, 22.58N×93.62E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=145.5km s-min=24.0km az=58.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.46**	**128**	Pn	P*n*	19 53 06.3	+0.8
	0.1nm,0.3s,baz=309,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**25.84**	**342**	P	P	19 57 02.2	+0.1
	0.5nm,0.5s,baz=147,slow=10,SNR=13						
WRA	**Warramunga Arr**	**58.02**	**134**	P	P	20 01 23.8	-0.2
	0.1nm,0.5s,baz=320,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**60.39**	**137**	P	P	20 01 40.3	-0.1
	0.2nm,0.4s,baz=311,slow=7.2,SNR=4.1						

MAN 24 20:14:48, 10.06N×125.61E, h81km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.75**	**276**	*e*P	P*n*	20 15 05.1	+0.8
MSLP				*e*S	S*n*	20 15 19.2	+2.9
BESP	**Borongan**	**1.54**	**354**	*e*P	P*n*	20 15 14.3	+0.3
BESP				*e*S	S*n*	20 15 35.8	+2.2
LLP	**Lapu-Lapu**	**1.64**	**279**	*e*P	P*n*	20 15 16.5	+1.3
LLP				*e*S	S*n*	20 15 38.2	+2.4
TBP	**Tagbilaran**	**1.76**	**258**	⇑*e*P	P*n*	20 15 17.5	+0.7
TBP				*e*S	S*n*	20 15 41.3	+2.6
BUKP	**Musuan**	**2.23**	**194**	*e*P	P*n*	20 15 23.3	+0.2
BUKP				*e*S	S*n*	20 15 51.6	+1.7
PAGZ	**Pagadian**	**3.11**	**225**	*e*P	P*n*	20 15 36.4	+1.5

IDC 24 20:17:33.6±1.2, 9.62N×57.92E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=37.7km s-min=27.4km az=44.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.46**	**25**	P	P	20 25 29.9	-0.5
	0.2nm,0.6s,baz=206,slow=9.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**49.17**	**21**	P	P	20 26 22.9	-0.3
	0.6nm,0.5s,baz=234,slow=8.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**55.14**	**279**	P	P	20 27 08.1	-0.3
	0.8nm,1.0s,baz=89,slow=6.6,SNR=5.3						
FINES	**FINESS Array B**	**56.76**	**342**	P	P	20 27 18.8	-0.3
	1.9nm,0.8s,baz=174,slow=7.0,SNR=2.3						
ARCES	**ARCESS Array B**	**63.37**	**348**	P	P	20 28 05.0	+0.6
	1.8nm,0.9s,baz=155,slow=4.9,SNR=3.3						
WRA	**Warramunga Arr**	**80.70**	**112**	P	P	20 29 49.5	+0.2
	0.2nm,0.4s,baz=294,slow=4.6,SNR=5.5						
ASAR	**Alice Springs**	**81.22**	**116**	P	P	20 29 51.9	-0.1
	0.3nm,0.9s,baz=288,slow=5.1,SNR=4.2						

MEX 24 20:33:02.8±0.7, 17.67N×100.98W, h69km±12km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.47**	**263**	*i* P	P*n*	20 33 13.3	-1.9
ZIIG				*i* S	S*n*	20 33 22.9	-1.5
ARIG	**Puente Sto Nin**	**0.86**	**45**	*i* P	P*n*	20 33 18.7	-0.9
ARIG				*i* S	S*n*	20 33 29.8	-2.2
CAIG	**El Cayaco**	**0.92**	**132**	*e*P	P*n*	20 33 19.2	-1.1
CAIG				*i* S	S*n*	20 33 31.4	-1.8
PNIG	**Pinotepa**	**3.01**	**114**	*i* P	P*n*	20 33 47.1	-1.1
PNIG				*i* S	S*n*	20 34 21.3	-1.9

*ISCJB **24** 20:43:42.3±0.3, 57.70N±0.02×10.65E±0.05, h0km, Error ellipse: s-maj=3.9km s-min=3.3km az=144.4*
*NAO **24** 20:43:43.6±1.1, 57.69N×10.25E, ML2.0*
*HEL **24** 20:43:43.7±0.3, 57.53N×10.63E, h0km, ML3.0, ML2.7(UPP), Explosion*
*CSEM **24** 20:43:43.2±0.2, 57.60N×10.63E, h2km, ML2.7, Error ellipse: s-maj=4.4km s-min=4.1km az=56.0, Mining explosion.*
*UPP **24** 20:43:43.3, 57.53N×10.66E, h0km, ML2.7, Suspected Mining explosion.*
*BER **24** 20:43:45.2±2.0, 57.64N×10.88E, h15km, MD2.5, ML1.8*
ISC 24 20:43:42.3±0.7, 57.61N±0.02×10.64E±0.03, h0km, n68, σ1§29/88, Denmark

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.68**	**51**	*i* P	P*b*	**20 43 57.0**	**+0.1**
TJOU				*i* S	S*g*	**20 44 05.9**	**+1.9**
TJOU	**Tjoern**	**0.68**	**51**	P	P*b*	**20 43 57.0**	**+0.1**
TJOU				S	S*g*	**20 44 05.9**	**+1.9**
BORU	**Boraas**	**1.15**	**88**	*e*P	P*g*	**20 44 04.8**	**+0.5**
BORU	**Boraas**	**1.15**	**88**	P	P*g*	**20 44 04.8**	**+0.5**
VANU	**Vaenersborg**	**1.17**	**40**	*e*P	P*b*	**20 44 06.1**	**+0.8**
VANU	**Vaenersborg**	**1.17**	**40**	P	P*b*	**20 44 06.0**	**+0.8**
FABU	**Falkenberg**	**1.29**	**118**	*e*P	P*g*	**20 44 06.5**	**-0.4**
FABU	**Falkenberg**	**1.29**	**118**	P	P*g*	**20 44 06.5**	**-0.4**
HOMB	**Homborsund**	**1.31**	**301**	*e*P	P*g*	**20 44 07.8**	**+0.4**
HOMB				*e*S	S*g*	**20 44 25.2**	**+0.8**
HOMB				AML	AML	20 44 27.0	
	comp=Z,18nm,0.3s						
HOMB	**Homborsund**	**1.31**	**301**	*e*P	P*g*	**20 44 07.8**	**+0.4**
	SNR=55						
HOMB				*e*S	S*g*	**20 44 25.2**	**+0.8**
	comp=Z,18nm,0.3s,SNR=55						
MUD	**Monsted U'grnd**	**1.41**	**215**	*e*P	P*n*	**20 44 09.9**	**+0.8**
MUD				*e*S	S*n*	**20 44 28.9**	**+0.5**
MUD	**Monsted U'grnd**	**1.41**	**215**	*i* P	P*n*	**20 44 08.9**	**-0.2**
MUD				*e*S	S*n*	**20 44 28.9**	**+0.5**
MUD	**Monsted U'grnd**	**1.41**	**215**	*i* Pg	P*b*	**20 44 10.1**	**+0.7**
MUD				*e*S	S*n*	**20 44 28.9**	**+0.5**
	comp=Z,4.8nm,0.1s,SNR=66						
GID	**Gilleleje**	**1.71**	**150**	*i* P	P*g*	**20 44 15.8**	**+0.7**
	SNR=66						
GID				*e*S	S*g*	**20 44 39.5**	**+2.2**
	SNR=66						
GNOU	**Gnosjoe**	**1.72**	**100**	*e*P	P*n*	**20 44 14.2**	**+0.8**
GNOU	**Gnosjoe**	**1.72**	**100**	P	P*n*	**20 44 14.2**	**+0.8**
FKPU	**Falk**	**1.74**	**70**	P	P*b*	**20 44 15.0**	**0.0**
NASU	**Vaermlandsnaes**	**1.89**	**45**	*e*P	P*b*	**20 44 17.4**	**-0.2**
NASU	**Vaermlandsnaes**	**1.89**	**45**	P	P*b*	**20 44 17.3**	**-0.2**
SNART	**Snartemo**	**1.96**	**293**	*e*P	P*n*	**20 44 17.3**	**+0.5**
SNART				AML	AML	20 44 46.1	
	comp=Z,13nm,0.3s						
BJUU	**Bjuv**	**2.02**	**139**	*e*P	P*n*	**20 44 17.4**	**-0.1**
BJUU	**Bjuv**	**2.02**	**139**	P	P*n*	**20 44 17.5**	**-0.1**
DEL	**Delary**	**2.11**	**122**	*e*P	P*n*	**20 44 19.4**	**+0.7**
DEL	**Delary**	**2.11**	**122**	P	P*n*	**20 44 19.5**	**+0.7**
KONO	**Kongsberg**	**2.11**	**346**	*e*P	P*n*	**20 44 18.9**	**+0.1**
KONO	**Kongsberg**	**2.11**	**346**	*e*P	P*n*	**20 44 18.9**	**+0.1**
	SNR=55						
COP	**Copenhagen**	**2.17**	**152**	*i* Pg	P*b*	**20 44 22.1**	**-0.3**
	SNR=90						
COP				*i* S	S*b*	**20 44 51.0**	**+1.2**
	SNR=49						
VXJU	**Vaexsjoe**	**2.44**	**105**	*e*P	P*n*	**20 44 23.9**	**+0.6**
VXJU	**Vaexsjoe**	**2.44**	**105**	P	P*n*	**20 44 23.9**	**+0.6**
LLD	**Lille Linde**	**2.45**	**158**	*i* P	P*b*	**20 44 26.5**	**-0.6**
LLD				*e*S	S*b*	**20 44 57.7**	**-0.1**
LLD	**Lille Linde**	**2.45**	**158**	*i* P	P*b*	**20 44 26.5**	**-0.6**
LLD				*e*S	S*b*	**20 44 57.7**	**-0.1**
EKSU	**Eksjoe**	**2.51**	**89**	*e*P	P*n*	**20 44 26.2**	**+1.9**
EKSU	**Eksjoe**	**2.51**	**89**	P	P*n*	**20 44 26.2**	**+1.9**
ASKU	**Askersund**	**2.56**	**58**	*e*P	P*n*	**20 44 26.9**	**+1.8**
ASKU	**Askersund**	**2.56**	**58**	P	P*n*	**20 44 26.8**	**+1.8**
LNKU	**Linkoeping**	**2.67**	**75**	*e*P	P*n*	**20 44 28.4**	**+1.9**
LNKU	**Linkoeping**	**2.67**	**75**	P	P*n*	**20 44 28.4**	**+1.9**
BLS5	**Blasjo**	**2.85**	**311**	*e*P	P*n*	**20 44 29.6**	**+0.7**
BLS5	**Blasjo**	**2.85**	**311**	*e*P	P*n*	**20 44 29.6**	**+0.7**
	SNR=55						
HFS	**Hagfors**	**2.98**	**31**	Pn	P*n*	**20 44 31.7**	**+0.9**
	baz=218,slow=16						
HFS				Pg	P*b*	**20 44 37.4**	**+1.1**
	baz=210,slow=16						
HFS				Lg	Lg	20 45 17.1	
	baz=204,slow=37						
HFS	**Hagfors**	**2.98**	**31**	Pn	P*n*	**20 44 31.7**	**+0.9**
	baz=218,slow=14,SNR=113						
HFS				Lg	Lg	20 45 17.1	
	baz=204,slow=30,SNR=5.3						
ODD1	**Odda**	**3.11**	**320**	*e*P	P*n*	**20 44 33.7**	**+1.1**
ODD1				*e*S	S*n*	**20 45 10.3**	**-0.1**
ODD1				AML	AML	20 45 11.0	
	comp=Z,6.7nm,0.2s						
ODD1	**Odda**	**3.11**	**320**	*e*P	P*n*	**20 44 33.7**	**+1.1**
	SNR=55						
ODD1				*e*S	S*n*	**20 45 10.3**	**-0.1**
	comp=Z,6.7nm,0.2s,SNR=55						
NB2	**NORSAR Subarra**	**3.45**	**5**	Pn	P*n*	**20 44 37.7**	**+0.4**
	baz=186,slow=14						
NB2				Sn	S*n*	**20 45 16.2**	**-2.6**
	baz=195,slow=37						
NB2				Lg	Lg	20 45 32.6	
	baz=168,slow=37						
NB2	**NORSAR Subarra**	**3.45**	**5**	Pn	P*n*	**20 44 37.7**	**+0.4**
	baz=186,slow=14,SNR=1.6						
NB2				Sn	S*n*	**20 45 16.2**	**-2.6**
	baz=195,slow=28,SNR=3.2						
NB2				Lg	Lg	20 45 32.7	
	baz=168,slow=35,SNR=3.3						
BSD	**Bornholm Skovb**	**3.46**	**135**	*i* P	P*n*	**20 44 36.7**	**-0.5**
BSD	**Bornholm Skovb**	**3.46**	**135**	*i* P	P*n*	**20 44 36.8**	**-0.5**
	SNR=49			

*ISK **24** 21:33:46.5, 37.°35N×38.°36E, h2km, MD2.9*
*ISCJB **24** 21:33:47.1±1.0, 37.°34N±0.°05×38.°36E±0.°04, h3km±9km, Error ellipse: s-maj=8.9km s-min=5.7km az=165.0*
*CSEM **24** 21:33:47.1±0.3, 37.°33N×38.°37E, h2km, MD2.9, Error ellipse: s-maj=8.7km s-min=4.5km az=153.0*
*DDA **24** 21:33:48.2, 37.°36N×38.°24E, h5km, MD2.8*

ISC 24 21:33:47.2±1.1, 37°34.N±0.°04×38°35.E±0.°03, h6km±10km, n22, σ0 s55/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.14**	**343**	*i* P	**Pg**	**21 33 49.9**	**-0.1**
ATAB				*i* S	**Sg**	**21 33 52.1**	**+0.1**
ATAB	**Bozova**	**0.14**	**343**	*i* P	**Pg**	**21 33 49.9**	**-0.1**
ATAB				*i* S	**Sg**	**21 33 52.1**	**+0.1**
URFA	**Urfa**	**0.39**	**75**	*e*PG	**Sg**	**21 33 54.9**	**+0.1**
URFA				*e*SG	**Sg**	**21 34 00.6**	**+0.6**
URFA	**Urfa**	**0.39**	**75**	*e*Pg	**Pg**	**21 33 54.9**	**+0.1**
URFA				*e*Sg	**Sg**	**21 34 00.6**	**+0.6**
GAZ	**Gaziantep**	**0.92**	**260**	*e*PG	**Pb**	**21 34 05.4**	**-0.2**
GAZ	**Gaziantep**	**0.92**	**260**	*e*Pg	**Pb**	**21 34 05.4**	**-0.2**
MALT	**Malatya**	**0.98**	**4**	*e*PG	**Pg**	**21 34 05.8**	**-0.2**
MALT				*e*SG	**Sb**	**21 34 20.1**	**+0.3**
MALT	**Malatya**	**0.98**	**4**	*e*Pg	**Pg**	**21 34 05.8**	**-0.2**
MALT				*e*Sg	**Sb**	**21 34 20.1**	**+0.3**
MYA	**Malatya**	**0.99**	**4**	*e*PG	**Pg**	**21 34 06.0**	**-0.2**
MYA	**Malatya**	**0.99**	**4**	*e*Pg	**Pg**	**21 34 06.0**	**-0.2**
KUZU	**Kuzuini**	**1.16**	**241**	*i* P	**Pg**	**21 34 09.6**	**+0.1**
KUZU				*i* S	**Sb**	**21 34 25.6**	**+0.5**
KUZU	**Kuzuini**	**1.16**	**241**	*i* P	**Pg**	**21 34 09.6**	**+0.1**
KUZU				*i* S	**Sb**	**21 34 25.6**	**+0.5**
KMRS	**Kahramanmaras**	**1.16**	**279**	*e*PN	**Pg**	**21 34 09.4**	**-0.1**
KMRS	**Kahramanmaras**	**1.16**	**279**	*e*Pn	**Pg**	**21 34 09.4**	**-0.1**
DIY	**Diyarbakir**	**1.59**	**69**	*e*PN	**Pb**	**21 34 16.8**	**-0.3**
DIY	**Diyarbakir**	**1.59**	**69**	*e*Pn	**Pb**	**21 34 16.8**	**-0.3**
KOZT	**Kozan**	**2.01**	**275**	*e*PN	**Pb**	**21 34 23.4**	**-0.8**
KOZT	**Kozan**	**2.01**	**275**	*e*Pn	**Pb**	**21 34 23.4**	**-0.8**
ERZN	**Erzincan**	**2.49**	**25**	*e*PN	**Pn**	**21 34 29.7**	**+1.3**
EZC	**Erzincan**	**2.54**	**18**	*e*Pn	**Pn**	**21 34 29.7**	**+0.6**
BTMT	**Batman**	**2.63**	**70**	*e*PN	**Pn**	**21 34 29.1**	**-1.2**
BTMT	**Batman**	**2.63**	**70**	*e*Pn	**Pn**	**21 34 29.1**	**-1.2**

IDC 24 21:39:38.6±0.9, 35.°20S×106.°64W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, MS3.9/8, Ms1 3.9/8, ms1mx3.7/21, Error ellipse: s-maj=31.3km s-min=27.0km az=77.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.37**	**343**		LR	LR	21 44 05.5	
	comp=Z,609nm,19.1s,baz=81,slow=32							
RKT	**Rikitea**	**27.41**	**288**	*e*LR	LR	21 52 19.5	
	271nm,38.5s							
PLCA	**Paso Flores**	**28.85**	**112**	P	P	21 45 39.3	+0.4
	1.7nm,0.7s,baz=290,slow=10,SNR=5.8							
CFAA	**Coronel Fontan**	**32.13**	**95**	LR	LR	21 55 50.3	
	comp=Z,30nm,21.8s,baz=246,slow=30							
USHA	**Ushuaia**	**32.83**	**139**	LR	LR	21 56 32.0	
	comp=Z,461nm,19.6s,baz=212,slow=31							
NNA	**Nana**	**35.53**	**57**	LR	LR	21 57 13.6	
	comp=Z,376nm,21.9s,baz=317,slow=30							
TBI	**Tubuai**	**38.90**	**276**	*e*LQ	LQ	21 55 53.3	
	438nm,33.5s							
TBI				*e*LR	LR	21 57 43.0	
	137nm,26.2s							
LPAZ	**La Paz**	**39.16**	**71**	LR	LR	21 58 29.4	
	comp=Z,83nm,21.3s,baz=228,slow=29							
SIV	**San Ignacio**	**44.89**	**77**	P	P	21 47 54.2	-1.0
	1.7nm,0.6s,baz=271,slow=9.1,SNR=6.2							
ROSC	**El Rosal**	**50.10**	**44**	LR	LR	22 05 35.0	
	comp=Z,114nm,21.4s,baz=7.3,slow=31							
QSPA	**South Pole Qui**	**55.01**	**180**	P	P	21 49 12.3	+0.7
	1.6nm,0.8s,baz=41,slow=3.5,SNR=6.8							
TXAR	**Lajitas Array**	**64.25**	**3**	P	P	21 50 15.3	-0.3
	0.2nm,0.5s,baz=168,slow=4.6,SNR=3.5							
NVAR	**Mina Array Bea**	**74.05**	**350**	P	P	21 51 16.8	+0.4
	0.7nm,0.7s,baz=172,slow=7.1,SNR=3.9							
DZM	**Mont Dzumac**	**75.21**	**253**	*e*LR	LR	22 14 17.5	
	130nm,23.9s							
STKA	**Stephens Creek**	**87.52**	**232**	LR	LR	22 24 37.1	
	comp=Z,170nm,19.3s,baz=205,slow=31							
CTA	**Charters Tower**	**91.75**	**244**	LR	LR	22 27 17.0	
	comp=Z,80nm,18.3s,baz=52,slow=31							
YKA	**Yellowknife Ar**	**97.56**	**356**	P	Pdif	21 53 15.6	+1.6
	0.1nm,0.4s,baz=158,slow=3.9,SNR=3.7							
EIL	**Elat**	**147.26**	**89**	PKPbc	PKPdf	21 59 22.6	+0.7
	1.8nm,0.6s,baz=20,slow=13,SNR=2.4							
BRTR	**Keskin Array B**	**148.33**	**70**	PKPbc	PKPbc	21 59 27.0	0.0
	0.7nm,1.0s,baz=199,slow=4.0,SNR=2.7							
CMAR	**Chiang Mai Arr**	**151.85**	**240**	PKPbc	PKPbc	21 59 34.5	-1.5
	0.3nm,0.5s,baz=222,slow=1.2,SNR=3.4							
CMAR				PKPab	PKPab	21 59 43.7	-1.2
	1.0nm,0.9s,baz=202,slow=2.4,SNR=5.4							

GUC 24 21:40:08.9±1.3, 23.°18S×69.°83W, h56km±14km, ML4.0, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**0.40**	**238**	⇑*i* P	Pn	21 40 20.8	+1.1
CEN1				*i* S	Sn	21 40 30.0	+2.5
MECH	**Mejillones**	**0.57**	**277**	*e*P	Pn	21 40 21.8	+0.5
MECH				*e*S	Sn	21 40 30.9	+0.4
ANCH	**Antofagasta**	**0.73**	**227**	⇑*i* P	Pn	21 40 23.3	0.0
ANCH				*i* S	Sn	21 40 34.4	+0.6
ANCH				AML	AML	21 40 35.7	
	comp=E,12μm,0.1s						
PB04	**Plate Boundary**	**0.96**	**19**	⇑*i* P	Pn	21 40 25.9	-0.4
PB04				*i* S	Sn	21 40 38.8	-0.3
PB04				AML	AML	21 40 42.3	
	comp=N,5μm,0.1s						
MACH	**Maria Elena**	**0.98**	**4**	⇑*i* P	Pn	21 40 27.5	+0.6
MACH				*i* S	Sn	21 40 41.4	+1.2
PB07	**Plate Boundary**	**1.45**	**358**	⇑*i* P	Pn	21 40 33.7	+0.6
PB07				*i* S	Sn	21 40 52.6	+1.4
PB07				AML	AML	21 40 58.4	
	comp=E,2μm,0.7s						
PB09	**Plate Boundary**	**1.48**	**22**	⇑*i* P	Pn	21 40 35.5	+2.0
PB09				*i* S	Sn	21 40 54.4	+2.4
PB09				AML	AML	21 40 59.0	
	comp=N,8μm,0.4s						
SPCH	**San Pedro de A**	**1.53**	**80**	*e*P	Pn	21 40 38.1	+3.9
SPCH				*e*S	Sn	21 40 58.5	+5.2
SPCH				AML	AML	21 41 09.5	
	comp=E,4μm,0.3s						

*ISCJB **24** 21:40:35.4±2.0, 47.°91N±0.°03×121.°70W±0.°06, h6km±14km, Error ellipse: s-maj=6.9km s-min=4.5km az=153.3*
*PGC **24** 21:40:36.6±0.0, 47.°83N×121.°68W, h29km, ML2.3/5, 54km Ene of Seattle, Wa Washington*
*PNSN **24** 21:40:37.2, 47.°92N×121.°68W, h14km, MD2.5, Fault plane solution: NP1:ϕs30.00000°, δ40.00000°, NP2: ϕs235.00000°, δ53.00000°, Principal axes: T Plg76.0000°, Azm197.0000°; P Plg7.0000°, Azm314.0000°;*
*NEIC **24** 21:40:37.2, 47.°92N×121.°68W, h14km, MD2.5(SEA), After SEA.*
NEIC Felt [II] at Gold Bar, Index and Sultan. Also felt at Baring, Bothell, Monroe and Startup.

ISC 24 21:40:36.4±3.6, 47.°90N±0.°04×121.°77W±0.°04, h13km±27km, n11, σ0 s73/22, 4D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LON	**Longmire**	**1.15**	**182**	*e*P	**Pb**	**21 40 57.4**	**-0.7**
LON				*e*S	**Sb**	**21 41 12.5**	**-0.4**
VDB	**Vedder Mountai**	**1.15**	**349**	⇓P	**Pn**	**21 40 57.8**	**-0.5**
VDB				⇑S	**Sb**	**21 41 13.2**	**+0.1**
VGZ	**Gonzales**	**1.17**	**297**	⇓P	**Pn**	**21 40 58.0**	**-0.4**
VGZ				⇑S	**Sb**	**21 41 13.5**	**+0.1**
SNB	**Saturna Island**	**1.29**	**314**	⇓P	**Pn**	**21 41 00.1**	**0.0**
SNB				⇑S	**Sb**	**21 41 16.9**	**0.0**
PGC	**Sidney**	**1.36**	**304**	*e*Pn	**Pn**	**21 41 01.1**	**+0.1**
PGC				*e*S	**Sn**	**21 41 18.4**	**-0.5**
PGC	**Sidney**	**1.36**	**304**	⇑P	**Pn**	**21 41 00.8**	**-0.2**
PGC				⇓S	**Sn**	**21 41 18.6**	**-0.2**
HNB	**Haney**	**1.48**	**339**	⇑P	**Pn**	**21 41 03.0**	**+0.3**
HNB				⇑S	**Sn**	**21 41 21.9**	**-0.1**
HOPB	**Hope**	**1.51**	**9**	⇑P	**Pn**	**21 41 03.2**	**+0.1**
HOPB				⇑S	**Sn**	**21 41 22.2**	**-0.5**
NLWA	**Neilton Lookou**	**1.51**	**251**	*e*Pn	**Pb**	**21 41 04.8**	**+0.6**
NLWA				*e*Sn	**Sb**	**21 41 24.3**	**+1.0**
HAWA	**Hanford**	**2.14**	**134**	*e*Pn	**Pn**	**21 41 12.1**	**+0.3**
HAWA				*e*Sn	**Sn**	**21 41 38.8**	**+0.6**
NEW	**Newport**	**3.13**	**82**	*e*Pn	**Pn**	**21 41 24.1**	**-1.4**
NEW				*e*Sg	**Sb**	**21 42 12.1**	**+2.0**

*MOS **24** 21:53:52.8±1.1, 52.°84N×107.°09E, h15km, mb4.6/1, Error ellipse: s-maj=13.5km s-min=7.4km az=60.4*
*IDC **24** 21:53:52.4±1.4, 52.°83N×107.°01E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.3/29, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=30.2km s-min=17.4km az=90.0*
*BYKL **24** 21:53:54.2±0.2, 52.°86N×106.°95E, h13km±3km*

ISC 24 21:53:54.3±1.0, 52.°84N±0.°02×106.°99E±0.°02, h13km±7km, n54, σ1 s68/99, mb3.5/4, 8C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRHB	**Zarechye**	**0.30**	**161**	⇑*i* Pg	**Pg**	**21 54 00.8**	**+0.3**
ZRHB				Pmax		21 54 01.1	
	8μm,0.2s						
ZRHB				*e*Sg	**Sg**	**21 54 06.0**	**+1.3**
ZRHB				Smax		21 54 08.8	
	11μm,0.3s						
TRG	**Tyrgan**	**0.40**	**258**	⇑*i* PG	**Pg**	**21 54 01.9**	**-0.3**
TRG				*e*		21 54 07.7	
TRG				pmax	pmax		
	comp=Z,458nm,0.1s						
TRG				smax	smax		
	comp=N,3μm,0.1s						
TRG	**Tyrgan**	**0.40**	**258**	⇑*i* Pg	**Pg**	**21 54 01.9**	**-0.3**
TRG				Pmax		21 54 03.0	
	comp=N,477nm,0.1s						
TRG				*e*Sg	**Sb**	**21 54 07.8**	**-1.5**
TRG				Smax		21 54 09.6	
	comp=N,3μm,0.1s						
FFNB	**Fofonovo**	**0.81**	**190**	⇑*i* Pg	**Pg**	**21 54 09.1**	**-0.8**
FFNB				Pmax		21 54 09.9	
	comp=N,1μm,0.2s						
FFNB				*e*Sg	**Sg**	**21 54 19.9**	**-0.6**
FFNB				Smax		21 54 21.4	
	comp=N,4μm,0.1s						
KAB	**Kabansk**	**0.82**	**195**	⇑*i* PG	**Pg**	**21 54 09.4**	**-0.7**
KAB				*e*		21 54 20.9	
KAB				pmax	pmax		
	comp=Z,810nm,0.2s						
KAB				smax	smax		
	comp=E,8μm,0.3s						
KAB	**Kabansk**	**0.82**	**195**	*e*Pg	**Pg**	**21 54 09.5**	**-0.7**
KAB				Pmax		21 54 09.8	
	comp=E,816nm,0.2s						
KAB				*e*Sg	**Sg**	**21 54 20.6**	**-0.2**
KAB				Smax		21 54 20.9	
	comp=E,7μm,0.2s						
OGRR	**Ongureny**	**0.88**	**24**	*e*PG	**Pg**	**21 54 10.6**	**-0.7**
OGRR				*e*		21 54 22.7	
OGRR				pmax	pmax		
	comp=Z,403nm,0.5s						
OGRR				smax	smax		
	comp=E,3μm,0.8s						
OGRR	**Ongureny**	**0.88**	**24**	*e*Pg	**Pg**	**21 54 10.6**	**-0.7**
OGRR				Pmax		21 54 13.4	
	comp=E,195nm,0.1s						
OGRR				*e*Sg	**Sg**	**21 54 22.6**	**-0.3**
OGRR				Smax		21 54 23.9	
	comp=E,2μm,0.2s						
MXMB	**Maximikha**	**1.14**	**68**	*e*Pg	**Pb**	**21 54 15.5**	**-0.4**
MXMB				Pmax		21 54 17.6	
	comp=E,155nm,0.1s						
MXMB				*e*Sg	**Sn**	**21 54 31.7**	**+0.2**
MXMB				Smax		21 54 34.3	
	comp=E,3μm,0.3s						
HRMR	**Khuramsha**	**1.22**	**181**	⇑*i* Pg	**Pn**	**21 54 16.3**	**-0.7**
HRMR				Pmax		21 54 16.7	
	comp=E,2μm,0.2s						
HRMR				*e*Pb	**Pg**	**21 54 18.2**	**+0.6**
HRMR				*e*Sg	**Sb**	**21 54 32.4**	**-0.4**
HRMR				Smax		21 54 34.1	
	comp=E,12μm,0.3s						
LSTR	**Listvyanka**	**1.64**	**234**	*e*PN	**Pb**	**21 54 23.9**	**-0.5**
LSTR				*e*		21 54 45.0	
LSTR				pmax	pmax		
	comp=Z,322nm,0.2s						
LSTR				smax	smax		
	comp=N,1μm,0.4s						
LSTR	**Listvyanka**	**1.64**	**234**	⇑*i* Pg	**Pn**	**21 54 23.0**	**+0.1**
	comp=N,95nm,0.7s						
LSTR				⇑*i* Pg	**Pn**	**21 54 23.0**	**+0.1**
	comp=N,115nm,0.7s						
LSTR				⇓*i* Pg	**Pn**	**21 54 23.0**	**+0.1**
	comp=N,105nm,0.7s						
LSTR				*e*Pb	**Pb**	**21 54 23.9**	**-0.5**
LSTR				max		21 54 24.7	
	comp=N,321nm,0.2s						
LSTR				*e*Sg	**Sb**	**21 54 44.8**	**-0.3**
LSTR				Smax		21 54 47.1	
	comp=N,1μm,0.3s						
LSTR				*e*		21 54 56.2	
IRK	**Irkutsk**	**1.77**	**251**	*e*PN	**Pb**	**21 54 25.9**	**-0.6**
IRK				*e*		21 54 49.1	
IRK				pmax	pmax		
	comp=Z,304nm,0.2s						
IRK				smax	smax		
	comp=N,4μm,0.3s						
IRK	**Irkutsk**	**1.77**	**251**	*e*Pg	**Pb**	**21 54 25.9**	**-0.6**
IRK				Pmax		21 54 26.9	
	comp=N,308nm,0.2s						
IRK				*e*Sg	**Sb**	**21 54 48.8**	**+0.2**
IRK				Smax		21 54 50.5	
	comp=N,4μm,0.3s						
SYVR	**Suvo**	**1.98**	**64**	*e*PN	**Pn**	**21 54 27.9**	**+0.3**
SYVR				*e*		21 54 30.2	
SYVR				*e*		21 54 55.3	
SYVR				pmax	pmax		
	comp=Z,123nm,0.3s						
SYVR				smax	smax		
	comp=E,394nm,0.3s						
SYVR	**Suvo**	**1.98**	**64**	*e*Pn	**Pn**	**21 54 28.1**	**+0.5**
SYVR				*e*Pg	**Pb**	**21 54 30.1**	**-0.2**
SYVR				Pmax		21 54 37.5	
	comp=E,124nm,0.3s						
SYVR				*e*Sg	**Sg**	**21 54 56.9**	**-1.2**
SYVR				Smax		21 54 57.4	
	comp=E,386nm,0.3s						
TLY	**Talaya**	**2.36**	**242**	*e*PN	**Pn**	**21 54 32.7**	**0.0**
TLY				*e*		21 54 35.7	
TLY				*e*		21 55 06.2	
TLY				pmax	pmax		
	comp=Z,70nm,0.1s						
TLY				smax	smax		
	comp=E,566nm,0.5s						
TLY	**Talaya**	**2.36**	**242**	*e*Pn	**Pn**	**21 54 32.8**	**0.0**
TLY				*e*Pg	**Pb**	**21 54 36.1**	**-0.6**
TLY				Pmax		21 54 38.7	
	comp=E,69nm,0.2s						
TLY				*e*Sn	**Sn**	**21 55 01.5**	**-0.1**
TLY				*e*Sg	**Sb**	**21 55 06.2**	**+0.5**
TLY				Smax		21 55 07.5	
	comp=E,569nm,0.4s						
ARS	**Arshan**	**2.95**	**254**	*e*PN	**Pn**	**21 54 42.0**	**+1.1**
ARS				*e*		21 54 48.2	
ARS				*e*		21 55 24.8	
ARS				pmax	pmax		
	comp=Z,182nm,0.3s						
ARS				smax	smax		
	comp=E,2μm,0.5s						
ARS	**Arshan**	**2.95**	**254**	*e*Pn	**Pn**	**21 54 41.4**	**+0.5**
ARS				*e*Pg	**Pb**	**21 54 45.8**	**-0.9**
ARS				*e*PgPg	**PnPn**	**21 54 48.2**	**+0.2**
ARS				max		21 54 49.7	
	comp=E,253nm,0.5s						
ARS				*e*Sn	**Sn**	**21 55 14.2**	**-1.9**
ARS				*e*Sg	**Sb**	**21 55 23.6**	**+1.0**
ARS				Smax		21 55 29.6	
	comp=E,2μm,0.5s						
YLYR	**Ulyunkhan**	**3.20**	**49**	*e*PN	**Pb**	**21 54 51.2**	**+0.2**
YLYR				*e*		21 55 31.6	
YLYR				pmax	pmax		
	comp=Z,15nm,0.1s						
YLYR				smax	smax		
	comp=E,251nm,0.6s						
YLYR	**Ulyunkhan**	**3.20**	**49**	*e*Pn	**Pn**	**21 54 45.4**	**+1.0**
	comp=E,14nm,0.1s						
YLYR				max		21 54 56.6	
YLYR				*e*Sg	**Sb**	**21 55 32.9**	**+2.9**
YLYR				Smax		21 55 38.0	
	comp=E,252nm,0.5s						
NIZ	**Nizh Angarsk**	**3.30**	**26**	*e*PN	**Pn**	**21 54 46.9**	**+1.3**
NIZ				*e*		21 54 53.1	
NIZ				*e*S	**Sn**	**21 55 24.7**	**0.0**
NIZ				*e*		21 55 35.3	
NIZ				pmax	pmax		
	comp=Z,108nm,0.9s						
NIZ				smax	smax		
	comp=N,448nm,0.8s						
NIZ	**Nizh Angarsk**	**3.30**	**26**	⇓*i* Pn	**Pn**	**21 54 47.0**	**+1.3**
NIZ				*e*Pg	**Pb**	**21 54 53.0**	**+0.4**
NIZ				Pmax		21 54 55.1	
	comp=N,86nm,0.4s						
NIZ				*e*Sg	**Sb**	**21 55 35.7**	**+3.0**
NIZ				Smax		21 55 39.1	
	comp=N,452nm,0.2s						
ZAK	**Zakamensk**	**3.38**	**225**	*e*PN	**Pn**	**21 54 47.4**	**+0.6**
ZAK				*e*S	**Sb**	**21 55 38.1**	**+3.0**
ZAK				smax	smax		
	comp=E,197nm,0.6s						
ZAK	**Zakamensk**	**3.38**	**225**	*e*Pn	**Pn**	**21 54 47.6**	**+0.8**
ZAK				*e*Pg	**Pb**	**21 54 54.5**	**+0.4**
ZAK				Pmax		21 54 57.8	
	comp=E,29nm,0.3s						
ZAK				*e*Sg	**Sb**	**21 55 38.5**	**+3.4**
ZAK				Smax		21 55 42.6	
	comp=E,153nm,0.4s						
MOY	**Mondy**	**3.87**	**255**	*e*PN	**Pb**	**21 55 03.5**	**+1.1**
MOY				*e*		21 55 50.9	
MOY				pmax	pmax		
	comp=Z,74nm,0.4s						
MOY				smax	smax		
	comp=N,412nm,0.6s						
MOY	**Mondy**	**3.87**	**255**	*e*Pn	**Pn**	**21 54 55.9**	**+2.3**
MOY				*e*		21 55 04.4	
MOY				max		21 55 05.0	
	comp=N,75nm,0.4s						
MOY				*e*		21 55 42.0	
MOY				*e*Sg	**Sb**	**21 55 51.9**	**+2.7**
MOY				Smax		21 55 55.3	
	comp=N,413nm,0.7s						
KMO	**Kumora**	**3.92**	**37**	*e*PN	**Pn**	**21 54 53.3**	**-0.9**
KMO				*e*		21 55 02.7	
KMO				*e*S	**Sn**	**21 55 38.1**	**-2.0**
KMO				*e*		21 55 52.2	
KMO				pmax	pmax		
	comp=Z,41nm,0.3s						
KMO				smax	smax		
	comp=E,428nm,1.2s						
KMO	**Kumora**	**3.92**	**37**	*e*Pn	**Pn**	**21 54 55.1**	**+0.9**
KMO				*e*Pg	**Pb**	**21 55 04.6**	**+1.3**
KMO				Pmax		21 55 08.9	
	comp=E,41nm,0.3s						
KMO				*e*Sg	**Sb**	**21 55 55.1**	**+4.5**
KMO				Smax		21 56 03.9	
	comp=E,428nm,1.1s						
CIT	**Chita**	**4.10**	**99**	*e*Sg	**Sg**	**21 56 01.6**	**-4.2**
CIT				Smax		21 56 06.8	
	comp=E,288nm,0.2s						
YOA	**Uoyan**	**4.30**	**38**	*e*Pn	**Pn**	**21 54 59.2**	**-0.2**
YOA				max		21 55 19.9	
	comp=E,56nm,0.2s						
YOA				*e*Sg	**Sg**	**21 56 08.3**	**-4.0**
YOA				Smax		21 56 39.5	
	comp=E,740nm,1.5s						
ORL	**Orlik**	**4.38**	**269**	*e*PN	**Pn**	**21 55 01.9**	**+1.3**
ORL				*e*		21 55 12.6	
ORL				*e*		21 56 09.4	
ORL				pmax	pmax		
	comp=Z,17nm,0.5s						
ORL				smax	smax		
	comp=N,279nm,1.3s						
ORL	**Orlik**	**4.38**	**269**	*e*Pn	**Pn**	**21 55 02.2**	**+1.6**
ORL				max		21 55 16.3	
	comp=N,16nm,0.5s						
ORL				*e*Sn	**Sn**	**21 55 51.9**	**+0.4**
ORL				*e*Sg	**Sb**	**21 56 08.5**	**+4.6**
ORL				Smax		21 56 16.4	
	comp=N,280nm,0.8s						
KPC	**Khapcheranga**	**4.62**	**131**	*e*PN	**Pn**	**21 55 02.6**	**-1.2**
KPC				*e*		21 55 16.0	
KPC				*e*S	**Sn**	**21 55 57.0**	**-0.3**
KPC				*e*		21 56 17.6	
KPC				pmax	pmax		
	comp=Z,36nm,0.7s						
KPC				smax	smax		
	comp=E,32nm,1.2s						
KPC	**Khapcheranga**	**4.62**	**131**	*e*Pn	**Pn**	**21 55 02.7**	**-1.1**
KPC				*e*Pg	**Pb**	**21 55 17.6**	**+2.5**
KPC				*e*		21 55 19.6	
KPC				max		21 55 19.8	
	comp=E,39nm,0.5s						
KPC				*e*Sn	**Sn**	**21 55 57.1**	**-0.3**
KPC				*e*Sg	**Sg**	**21 56 17.4**	**-5.0**
KPC				Smax		21 56 22.7	
	comp=E,302nm,0.9s						
UKT	**Uakit**	**4.72**	**53**	*e*PN	**Pb**	**21 55 19.0**	**+2.2**
UKT				*e*		21 56 18.6	
UKT				pmax	pmax		
	comp=Z,17nm,0.9s						
UKT				smax	smax		
	comp=N,112nm,0.9s						
UKT	**Uakit**	**4.72**	**53**	*e*Pn	**Pn**	**21 55 06.4**	**+1.2**
UKT				*e*Pg	**Pb**	**21 55 19.1**	**+2.2**
UKT				Pmax		21 55 27.3	
	comp=N,18nm,1.0s						
UKT				*e*Sg	**Sg**	**21 56 20.0**	**-5.6**
UKT				Smax		21 56 28.0	
	comp=N,113nm,1.2s						
ULN	**Ulaanbaatar**	**4.98**	**180**	*e*Pn	**Pn**	**21 55 09.5**	**+0.6**
ULN				*e*Pg	**Pb**	**21 55 23.6**	**+2.2**
ULN				*e*Sg	Sb	21 56 28.3	+7.0
SONM	**Songino Array**	**5.03**	**185**	Pn	**Pn**	**21 55 09.9**	**+0.4**
	comp=N,2.7nm,0.3s,baz=359,slow=16,SNR=145						
SONM				Pg	**Pb**	**21 55 25.2**	**+3.1**
	comp=N,5.7nm,0.3s,baz=0.3,slow=17,SNR=31						
SONM				Sn	**Sn**	**21 56 06.7**	**-0.8**
	comp=N,6.0nm,0.3s,baz=347,slow=16,SNR=5.7						
SONM				Lg	Lg	21 56 29.9	
	comp=N,35nm,0.3s,baz=3.3,slow=28,SNR=42						
BOD	**Bodaibo**	**6.39**	**36**	*e*PN	**Pn**	**21 55 26.4**	**-1.7**
BOD				*e*		21 55 46.9	
BOD				*e*S	**Sn**	**21 56 39.5**	**-1.4**
BOD				*e*		21 57 10.8	
BOD				pmax	pmax		
	comp=Z,13nm,1.0s						
BOD				smax	smax		
	comp=E,87nm,1.3s						
BOD	**Bodaibo**	**6.39**	**36**	*e*Pn	**Pn**	**21 55 28.9**	**+0.8**
BOD				max		21 55 55.1	
	comp=E,9.0nm,0.5s						
BOD				*e*Sg	Sg	21 57 10.5	-8.8
BOD				Smax		21 57 29.6	
	comp=E,87nm,1.5s						
TUP	**Tupik**	**7.87**	**73**	*e*PN	**Pn**	**21 55 47.7**	**-0.7**
TUP				*e*		21 56 13.8	
TUP				*e*		21 57 55.9	
TUP				pmax	pmax		
	comp=Z,3.

comp=N,0.1nm,0.4s,baz=332,slow=6.6,SNR=3.6
TORD Torodi Ar. Bea 88.64 290 P P 22 06 47.5 +0.2
comp=N,0.3nm,0.6s,baz=20,slow=4.7,SNR=3.2

IDC 24 22:08:13.9±2.6, 3°54S×136°48E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=93.3km s-min=31.0km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.44**	**187**	Pn		P		22 12 08.2	-0.9
	0.5nm,0.3s,baz=9.1,slow=12,SNR=30								
ASAR	**Alice Springs**	**20.16**	**187**	P		P		22 12 49.2	-0.9
	1.3nm,0.4s,baz=19,slow=12,SNR=20								
HNR	**Honiara**	**24.03**	**105**	LR		LR		22 22 27.0	
	comp=Z,51nm,20.1s,baz=86,slow=36								
PETK	**Petropavlovsk-**	**59.20**	**15**	LR		LR		22 43 54.2	
	comp=Z,48nm,18.8s,baz=112,slow=36								
MKAR	**Makanchi Array**	**69.10**	**323**	P		P		22 19 22.1	+0.1
	0.2nm,0.4s,baz=103,slow=8.0,SNR=5.0								

*ISCJB **24** 22:09:19.3±0.5, 24°.79N±0°.03×122°.47E±0°.02, h9km±4km, Error ellipse: s-maj=5.1km s-min=2.8km az=12.9*
*TAP **24** 22:09:20.6, 24°.81N×122°.36E, h16km, ML3.4, C*
*JMA **24** 22:09:21.2±0.2, 24°.99N×122°.82E, h0km, M2.7*

ISC 24 22:09:18.9±1.1, 24°78N±0°04×122°50E±0°02, h7km±10km, n40, σ0°87/70, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.51**	**296**	*i* P			**Pg**	**22 09 29.2**	**+0.4**
	baz=301								
TWB1				*i* S			**Sg**	**22 09 34.9**	**-0.6**
	baz=301								
YOJ	**Yonaguni jima**	**0.57**	**124**	P			**Pb**	**22 09 32.3**	**+1.1**
YOJ				S			**Sb**	**22 09 40.0**	**+0.6**
TWC	**Suao**	**0.61**	**254**	*i* P			**Pg**	**22 09 30.4**	**-0.3**
	baz=254								
TWC				*e*S			**Sg**	**22 09 37.6**	**-1.1**
	baz=254								
ILA	**Ilan**	**0.68**	**269**	*e*P			**Pg**	**22 09 32.4**	**+0.4**
	baz=265								
ILA				*e*S			**Sg**	**22 09 40.5**	**-0.3**
	baz=265								
NWF	**Wu-fen Shan**	**0.71**	**294**	P			**Pg**	**22 09 33.3**	**+0.7**
	baz=296								
NWF				S			**Sg**	**22 09 41.9**	**0.0**
	baz=296								
TWE	**Neicheng**	**0.76**	**265**	⇑*i* P			**Pg**	**22 09 33.1**	**-0.3**
	baz=262								
TWE				S			**Sg**	**22 09 42.8**	**-0.5**
	baz=262								
ENA	**Nanau**	**0.77**	**243**	*e*P			**Pg**	**22 09 33.8**	**+0.1**
	baz=242								
ENA				*e*S			**Sg**	**22 09 43.9**	**+0.1**
	baz=242								
ENTT	**Nioudou**	**0.86**	**261**	*e*P			**Pg**	**22 09 35.4**	**+0.1**
	baz=265								
ENTT				*e*S			**Sg**	**22 09 46.1**	**-0.4**
	baz=265								
TAP1	**Taipei**	**0.92**	**286**	*e*P			**Pg**	**22 09 36.8**	**+0.3**
	baz=286								
PCYT	**Pengchaiyu**	**0.93**	**336**	*e*P			**Pb**	**22 09 37.9**	**+0.6**
	baz=342								
TWY	**Chenhua**	**0.95**	**301**	P			**Pg**	**22 09 37.6**	**+0.5**
	baz=304								
TWY				S			**Sg**	**22 09 49.0**	**-0.4**
	baz=304								
TWS1	**Kuangyinshan**	**1.03**	**288**	*e*P			**Pg**	**22 09 38.8**	**+0.1**
	baz=288								
TWS1				S			**Sg**	**22 09 51.2**	**-0.8**
	baz=288								
NSK	**Sanguang**	**1.04**	**264**	P			**Pg**	**22 09 38.3**	**-0.6**
	baz=271								
NSK				S			**Sg**	**22 09 51.2**	**-1.2**
	baz=271								
NNS	**Nan Shan**	**1.08**	**252**	P			**Pg**	**22 09 39.3**	**-0.3**
	baz=236								
NNS				*e*S			**Sg**	**22 09 53.1**	**-0.5**
	baz=236								
TWD	**Chiawan**	**1.08**	**230**	P			**Pg**	**22 09 39.7**	**+0.1**
	baz=231								
TWD				*e*S			**Sg**	**22 09 53.8**	**+0.2**
	baz=231								
IRIF	**Iriomote-Funau**	**1.21**	**111**	P			**Pg**	**22 09 41.5**	**-0.6**
WHF	**Hehuan Shan**	**1.29**	**241**	P			**Pn**	**22 09 43.3**	**-0.4**
	baz=236								
WHF				*e*S			**Sg**	**22 09 59.0**	**-1.4**
	baz=236								
TWT	**Tachien**	**1.31**	**247**	*e*P			**Pn**	**22 09 43.1**	**-0.7**
	baz=242								
TWT				*e*S			**Sg**	**22 10 00.6**	**-0.5**
	baz=242								
NSTT	**Nanjuang**	**1.37**	**264**	*e*P			**Pn**	**22 09 44.1**	**-0.3**
	baz=261								
NSTT				*e*S			**Sb**	**22 10 01.2**	**-1.4**
	baz=261								
ESL	**Shilin**	**1.37**	**225**	*e*P			**Pn**	**22 09 44.5**	**0.0**
	baz=203								
ESL				*e*S			**Sb**	**22 10 02.4**	**-0.2**
	baz=203								
HATJ	**Hateruma jima**	**1.40**	**121**	*e*S			**Sb**	**22 10 03.6**	**+0.3**
JKRS	**Kuro-shima**	**1.48**	**111**	P			**Pn**	**22 09 45.9**	**-0.1**
JKRS				*e*S			**Sn**	**22 10 04.3**	**-1.3**
JIJ	**Ishigaki jima**	**1.56**	**105**	P			**Pn**	**22 09 47.4**	**+0.4**
JIJ				*e*S			**Sn**	**22 10 05.7**	**-1.7**
NSY	**Sanyi**	**1.62**	**257**	*e*P			**Pb**	**22 09 49.6**	**+0.5**
	baz=272								
TWQ1	**Liyutan**	**1.63**	**255**	*e*P			**Pb**	**22 09 49.5**	**+0.3**
	baz=252								
TWQ1				*e*S			**Sn**	**22 10 08.6**	**-0.6**
	baz=252								
EHY	**Hungye**	**1.66**	**220**	*e*P			**Pn**	**22 09 49.6**	**+1.1**
	baz=216								
EHY				*e*S			**Sn**	**22 10 09.7**	**-0.4**
	baz=216								
SMLT	**Sun Moon Lake**	**1.71**	**239**	*e*P			**Pn**	**22 09 50.2**	**+0.9**
	baz=241								
SMLT				*e*S			**Sn**	**22 10 09.8**	**-1.6**
	baz=241								
TYC	**Yuchr**	**1.73**	**240**	*e*P			**Pn**	**22 09 50.4**	**+1.0**
	baz=236								
TYC				*e*S			**Sn**	**22 10 10.9**	**-0.9**
	baz=236								
TCU	**Taichung**	**1.78**	**249**	*e*P			**Pn**	**22 09 50.1**	**+0.1**
	baz=246								
TWF1	**Yuli**	**1.80**	**218**	*e*P			**Pn**	**22 09 49.4**	**-0.9**
	baz=214								
TWF1				*e*S			**Sn**	**22 10 12.1**	**-1.3**
	baz=214								
ALS	**Alishan**	**2.00**	**231**	*e*P			**Pn**	**22 09 54.0**	**+0.7**
	baz=211								
CHN5	**Tsauling**	**2.04**	**235**	*e*P			**Pn**	**22 09 55.1**	**+1.4**
	baz=215								
CHN5				*e*S			**Sb**	**22 10 21.9**	**0.0**
	baz=215								
ELDTW	**Lidau**	**2.09**	**221**	*e*P			**Pn**	**22 09 54.0**	**-0.4**
	baz=204								
ELDTW				*e*S			**Sn**	**22 10 20.1**	**-0.6**
	baz=204								
CHN4	**Tsaushan**	**2.25**	**231**	*e*P			**Pn**	**22 09 58.8**	**+2.3**
	baz=212								
CHN4				*e*S			**Sn**	**22 10 24.9**	**+0.4**
	baz=212								
WTP	**Ta-pu**	**2.30**	**229**	*e*P			**Pn**	**22 09 58.5**	**+1.2**
	baz=210								
WTP				*e*S			**Sn**	**22 10 26.8**	**+0.8**
	baz=210								
TWK	**Hsinying**	**2.38**	**231**	*e*P			**Pn**	**22 10 00.1**	**+1.7**
	baz=212								
CHN1	**Nanshi**	**2.40**	**229**	*e*P			**Pn**	**22 09 59.7**	**+1.0**
	baz=212								
CHN1				*e*S			**Sn**	**22 10 29.7**	**+1.3**
	baz=212								
SGST	**Jiashian**	**2.44**	**226**	*e*P			**Pn**	**22 09 58.2**	**-0.9**
	baz=207								
SSD	**Sandimen**	**2.65**	**220**	*e*P			**Pn**	**22 10 04.0**	**+1.9**
	baz=207								
SSD				*e*S			**Sn**	**22 10 35.0**	**+0.5**
	baz=207								
EAST	**Anshuo**	**2.83**	**213**	*e*P			**Pn**	**22 10 05.5**	**+1.0**
	baz=209								

IDC 24 22:26:14.9±2.8, 13°10S×167°34E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=118.1km s-min=44.7km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.12**	**227**	P		P		22 32 26.8	+0.2
	1.1nm,0.4s,baz=52,slow=10,SNR=7.7								
WRA	**Warramunga Arr**	**32.32**	**253**	P		P		22 32 46.3	+0.2
	0.1nm,0.4s,baz=85,slow=9.9,SNR=4.7								
ASAR	**Alice Springs**	**33.35**	**247**	P		P		22 32 54.8	-0.3
	0.6nm,0.5s,baz=77,slow=9.2,SNR=13								
ARCES	**ARCESS Array B**	**118.70**	**346**	PKP		PKPdf		22 45 04.2	-0.3
	2.9nm,0.9s,baz=64,slow=4.1,SNR=3.3								

*ISCJB **24** 22:29:56.3±0.4, 22°.18S±0°.04×68°.80W±0°.06, h115km±4km, mb4.0/9, Error ellipse: s-maj=9.0km s-min=6.4km az=167.4*
*GUC **24** 22:29:56.9±0.6, 22°.18S×68°.85W, h106km±3km, ML4.6*
*NEIC **24** 22:29:56.9, 22°.18S×68°.85W, h106km, mb4.2/4, After GUC.*
*IDC **24** 22:29:57.5±0.6, 22°.18S×68°.60W, h106km±4km, mb3.9/10, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, Error ellipse: s-maj=17.9km s-min=15.3km az=76.0*

ISC 24 22:29:57.4±0.4, 22°.10S±0°.04×68°.76W±0°.05, h107km±3km, n59, σ1°24/90, mb4.3/9, 9C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.54**	**304**	⇑*i* P			**Pn**	**22 30 14.3**	**-0.1**
PB09				*i* S			**Sn**	**22 30 27.2**	**0.0**
PB09				AML		AML		22 30 28.0	
	comp=E,56μm,0.6s								
PB04	**Plate Boundary**	**0.69**	**256**	⇑*i* P			Pn	22 30 20.9	+5.6
PB04				*i* S			Sn	22 30 39.3	+10
PB04				AML		AML		22 30 41.2	
	comp=E,11μm,0.5s								
MACH	**Maria Elena**	**0.93**	**264**	⇑*i* P			**Pn**	**22 30 17.0**	**-0.9**
MACH				*i* S			**Sn**	**22 30 32.4**	**-0.9**
MACH	**Maria Elena**	**0.93**	**264**	⇑*i* P			**Pn**	**22 30 17.0**	**-0.9**
MACH				*i* S			**Sn**	**22 30 32.4**	**-0.9**
SPCH	**San Pedro de A**	**0.95**	**147**	*e*P			**Pn**	**22 30 18.2**	**0.0**
SPCH				*i* S			**Sn**	**22 30 34.1**	**+0.2**
SPCH	**San Pedro de A**	**0.95**	**147**	*e*P			**Pn**	**22 30 18.2**	**0.0**
SPCH				*i* S			**Sn**	**22 30 34.1**	**+0.2**
SPCH				AML		AML		22 30 34.7	
	comp=E,14μm,0.6s								
PB07	**Plate Boundary**	**1.11**	**290**	⇑*i* P			**Pn**	**22 30 19.4**	**-0.3**
PB07				*i* S			**Sn**	**22 30 35.9**	**-0.7**
PB07				AML		AML		22 30 36.6	
	comp=E,21μm,0.2s								
CEN1	**Los Morros**	**1.84**	**226**	*e*P			**Pn**	**22 30 29.8**	**+1.4**
CEN1				*i* S			**Sn**	**22 30 55.1**	**+3.1**
CEN1	**Los Morros**	**1.84**	**226**	*e*P			**Pn**	**22 30 29.8**	**+1.4**
CEN1				*i* S			**Sn**	**22 30 55.1**	**+3.1**
MECH	**Mejillones**	**1.85**	**237**	⇑*i* P			**Pn**	**22 30 27.3**	**-1.0**
MECH				*i* S			**Sn**	**22 30 49.8**	**-2.1**
MECH	**Mejillones**	**1.85**	**237**	⇑*i* P			**Pn**	**22 30 27.3**	**-1.0**
MECH				*i* S			**Sn**	**22 30 49.8**	**-2.1**
MECH				AML		AML		22 31 10.6	
	comp=N,4μm,0.3s								
HMBC	**Humberstone**	**2.10**	**330**	⇑*i* P			**Pn**	**22 30 31.3**	**-0.4**
HMBC				*i* S			**Sn**	**22 30 58.0**	**+0.2**
HMBC	**Humberstone**	**2.10**	**330**	⇑*i* P			**Pn**	**22 30 31.3**	**-0.4**
HMBC				*i* S			**Sn**	**22 30 58.0**	**+0.2**
HMBC				AML		AML		22 30 59.3	
	comp=E,3μm,0.2s								
ANCH	**Antofagasta**	**2.19**	**224**	*e*P			**Pn**	**22 30 31.1**	**-1.5**
ANCH				*e*S			**Sn**	**22 30 57.9**	**-1.7**
ANCH	**Antofagasta**	**2.19**	**224**	*e*P			**Pn**	**22 30 31.1**	**-1.5**
ANCH				*e*S			**Sn**	**22 30 57.9**	**-1.7**
LPAZ	**La Paz**	**5.81**	**6**	P			**Pn**	**22 31 23.9**	**+2.0**
	comp=E,4.1nm,0.3s,baz=219,slow=5.8,SNR=55								
LPAZ	**La Paz**	**5.81**	**6**	P			**Pn**	**22 31 23.9**	**+2.0**
ARE	**Arequipa**	**6.17**	**335**	*e*P			Pn	22 31 33.0	+6.6
ARE				*e*S			**Sn**	**22 32 31.0**	**-4.8**
CFAA	**Coronel Fontan**	**9.47**	**177**	P			**Pn**	**22 32 09.6**	**-1.3**
	comp=E,0.2nm,0.3s,baz=6.8,slow=12,SNR=11								
CFAA				S			Sn	22 33 44.9	-11
	comp=E,0.1nm,0.3s,baz=236,slow=18,SNR=2.8								
CFAA	**Coronel Fontan**	**9.47**	**177**	P			**Pn**	**22 32 09.6**	**-1.3**
CFAA				S			Sn	22 33 44.9	-11
SIV	**San Ignacio**	**9.48**	**51**	P			**Pn**	**22 32 08.4**	**-2.6**
	comp=E,3.3nm,0.3s,baz=248,slow=12,SNR=143								
SIV	**San Ignacio**	**9.48**	**51**	P			**Pn**	**22 32 08.4**	**-2.6**
TRQA	**Tornquist**	**16.94**	**161**	*e*Pn			**Pn**	**22 33 45.9**	**-1.9**
	comp=E,15nm,1.3s								
PLCA	**Paso Flores**	**18.64**	**184**	P			**P**	**22 34 05.5**	**-1.1**
	comp=E,0.3nm,0.3s,baz=7.7,slow=11,SNR=8.0								
PLCA	**Paso Flores**	**18.64**	**184**	*e*P			**P**	**22 34 05.6**	**-1.1**
	comp=E,3.6nm,0.6s								
BDFB	**Brasilia**	**20.65**	**75**	P			**P**	**22 34 27.1**	**-1.6**
	comp=E,6.0nm,0.5s,baz=239,slow=14,SNR=15								
BDFB	**Brasilia**	**20.65**	**75**	P			**P**	**22 34 27.1**	**-1.6**
USHA	**Ushuaia**	**32.68**	**180**	P			**P**	**22 36 18.4**	**-0.8**
	comp=E,8.3nm,0.8s,baz=351,slow=9.8,SNR=2.4								
USHA	**Ushuaia**	**32.68**	**180**	P			**P**	**22 36 18.4**	**-0.8**
TXAR	**Lajitas Array**	**61.20**	**325**	P			**P**	**22 40 02.2**	**+1.2**
	comp=E,0.1nm,0.3s,baz=140,slow=8.2,SNR=4.0								
TXAR				sP			**sP**	**22 40 40.0**	**+0.9**
	comp=E,0.3nm,0.5s,baz=143,slow=9.1,SNR=2.7								
TXAR	**Lajitas Array**	**61.20**	**325**	P			**P**	**22 40 02.2**	**+1.2**
TXAR				sP			**sP**	**22 40 40.0**	**+0.9**
DBIC	**Dimbokro**	**68.78**	**73**	P			**P**	**22 40 50.4**	**0.0**
	comp=E,4.7nm,0.7s,baz=218,slow=7.4,SNR=18								
DBIC	**Dimbokro**	**68.78**	**73**	*e*P			**P**	**22 40 50.2**	**-0.2**
	comp=E,3.4nm,0.6s								
PDAR	**Pinedale Array**	**74.70**	**330**	P			**P**	**22 41 26.1**	**+0.6**
	comp=E,0.5nm,0.5s,baz=124,slow=7.4,SNR=5.3								
PDAR	**Pinedale Array**	**74.70**	**330**	P			**P**	**22 41 26.1**	**+0.6**
ULM	**Lac du Bonnet**	**75.93**	**342**	P			**P**	**22 41 32.5**	**+0.4**
	comp=E,2.8nm,0.5s,baz=158,slow=3.5,SNR=5.4								
ULM	**Lac du Bonnet**	**75.93**	**342**	P			**P**	**22 41 32.5**	**+0.4**
NVAR	**Mina Array Bea**	**76.05**	**322**	P			**P**	**22 41 34.2**	**+0.9**
	comp=E,0.2nm,0.3s,baz=145,slow=8.3,SNR=2.6								
NVAR	**Mina Array Bea**	**76.05**	**322**	P			**P**	**22 41 34.2**	**+0.9**
TOA0	**Torodi Ar. Sit**	**77.43**	**70**	*e*P			**P**	**22 41 40.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.43**	**70**	P			**P**	**22 41 41.0**	**-0.3**
	comp=E,2.6nm,0.3s,baz=254,slow=5.2,SNR=32								
TORD				pP			**pP**	**22 42 07.6**	**-1.1**
	comp=E,2.7nm,0.7s,baz=250,slow=5.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**77.43**	**70**	P			**P**	**22 41 41.0**	**-0.3**
TORD				pP			**pP**	**22 42 07.6**	**-1.1**
BOSA	**Boshof**	**83.04**	**118**	P			**P**	**22 42 11.4**	**0.0**
	comp=E,1.4nm,0.8s,baz=225,slow=13,SNR=2.9								
BOSA	**Boshof**	**83.04**	**118**	*e*P			**P**	**22 42 11.5**	**0.0**
	comp=E,21nm,1.7s								
YKA	**Yellowknife Ar**	**91.80**	**341**	P			**P**	**22 42 53.5**	**+0.9**
	comp=E,1.0nm,0.6s,baz=134,slow=4.6,SNR=24								
YKA				pP			**pP**	**22 43 21.4**	**+0.7**
	comp=E,1.5nm,0.7s,baz=135,slow=4.6,SNR=13								
YKA				sP			**sP**	**22 43 32.5**	**+0.5**
	comp=E,0.7nm,0.6s,baz=135,slow=4.6,SNR=4.7								
YKA	**Yellowknife Ar**	**91.80**	**341**	P			**P**	**22 42 53.5**	**+0.9**
YKA				pP			**pP**	**22 43 21.4**	**+0.7**
YKA				sP			**sP**	**22 43 32.5**	**+0.5**
ASAR	**Alice Springs**	**129.44**	**207**	PKP			**PKPdf**	**22 48 54.7**	**+0.5**
	comp=E,1.0nm,0.9s,baz=177,slow=2.6,SNR=7.7								
ASAR				pPKP			**pPKPdf**	**22 49 23.1**	**-0.4**
	comp=E,0.8nm,0.8s,baz=149,slow=2.0,SNR=4.6								
ASAR	**Alice Springs**	**129.44**	**207**	PKP			**PKPdf**	**22 48 54.7**	**+0.5**
ASAR				pPKP			**pPKPdf**	**22 49 23.1**	**-0.4**
WRA	**Warramunga Arr**	**132.50**	**210**	PKP			**PKPdf**	**22 49 00.6**	**+0.5**
	comp=E,0.7nm,0.7s,baz=159,slow=1.8,SNR=10.0								
WRA				pPKP			**pPKPdf**	**22 49 28.9**	**-0.5**
	comp=E,0.4nm,0.5s,baz=159,slow=1.7,SNR=3.0								
WRA	**Warramunga Arr**	**132.50**	**210**	PKP			**PKPdf**	**22 49 00.6**	**+0.5**
WRA				pPKP			**pPKPdf**	**22 49 28.9**	**-0.5**
KURK	**Kurchatov**	**141.75**	**34**	PKP			**PKPdf**	**22 49 16.7**	**+0.6**
KURBB	**Kurchatov Arra**	**141.76**	**34**	PKP			**PKPdf**	**22 49 16.7**	**+0.6**
	comp=E,0.2nm,0.7s,baz=300,slow=3.6,SNR=4.2								
ZALV	**Zalesovo Beam**	**142.44**	**26**	PKP			**PKPdf**	**22 49 17.5**	**+0.3**
	comp=E,0.9nm,0.6s,baz=294,slow=4.7,SNR=4.9								
ZALV				pPKP			**pPKPdf**	**22 49 46.6**	**+0.1**
	comp=E,0.6nm,0.4s,baz=251,slow=2.6,SNR=2.8								
ZALV	**Zalesovo Beam**	**142.44**	**26**	PKP			**PKPdf**	**22 49 17.5**	**+0.3**
ZALV				pPKP			**pPKPdf**	**22 49 46.6**	**+0.1**
MKAR	**Makanchi Array**	**146.04**	**37**	PKPbc			**PKPdf**	**22 49 24.2**	**+0.4**
	comp=E,1.2nm,0.8s,baz=312,slow=3.4,SNR=7.8								
MKAR				pPKPbc		pPKPbc		22 49 53.3	-0.4
	comp=E,1.3nm,0.7s,baz=302,slow=2.3,SNR=3.6								
MKAR	**Makanchi Array**	**146.04**	**37**	PKPbc			**PKPdf**	**22 49 24.2**	**+0.4**
MKAR				pPKPbc		pPKPbc		22 49 53.3	-0.4
USRK	**Ussuriysk Arra**	**152.08**	**327**	PKPbc			**PKPbc**	**22 49 40.7**	**+0.6**
	comp=E,1.4nm,0.7s,baz=48,slow=2.9,SNR=4.8								
SONM	**Songino Array**	**154.03**	**7**	PKP			**PKPdf**	**22 49 37.6**	**+1.2**
	comp=E,0.3nm,0.7s,baz=259,slow=2.3,SNR=2.7								
SONM				PKPbc			**PKiKP**	**22 49 45.6**	**+1.0**
	comp=E,0.1nm,0.4s,baz=288,slow=2.6,SNR=4.3								
SONM				PKPab			**PKPab**	**22 49 58.4**	**+0.1**
	comp=E,0.2nm,0.6s,baz=318,slow=1.9,SNR=2.1								
SONM	**Songino Array**	**154.03**	**7**	PKP			**PKPdf**	**22 49 37.6**	**+1.2**
SONM				PKPbc			**PKiKP**	**22 49 45.6**	**+1.0**
SONM				PKPab			**PKPab**	**22 49 58.4**	**+0.1**

IDC 24 22:31:17.9±3.4, 28°38S×64°31E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.7/3, Error ellipse: s-maj=102.5km s-min=47.6km az=52.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**57.36**	**40**	P		P		22 41 08.1	-0.1
	0.6nm,0.6s,baz=227,slow=6.1,SNR=4.3								
ASAR	**Alice Springs**	**61.93**	**103**	P		P		22 41 39.9	0.0
	0.9nm,0.8s,baz=252,slow=6.4,SNR=8.1								
WRA	**Warramunga Arr**	**63.67**	**99**	P		P		22 41 51.4	-0.1
	0.4nm,0.9s,baz=248,slow=6.0,SNR=3.4								
YKA	**Yellowknife Ar**	**145.88**	**359**	PKPbc		PKPdf		22 50 57.7	-0.3
	0.1nm,0.3s,baz=343,slow=3.2,SNR=4.4								

IDC 24 22:54:23.8±1.9, 4°25N×127°16E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=150.6km s-min=24.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.05**	**164**	P		P		22 59 49.2	-0.8
	1.5nm,0.8s,baz=344,slow=11,SNR=14								
ASAR	**Alice Springs**	**28.51**	**167**	P		P		23 00 21.0	-0.2
	0.1nm,0.4s,baz=350,slow=8.0,SNR=2.5								
STKA	**Stephens Creek**	**38.46**	**160**	P		P		23 01 48.7	+1.1
	0.3nm,0.4s,baz=338,slow=11,SNR=3.0								
MKAR	**Makanchi Array**	**57.38**	**325**	P		P		23 04 14.0	-0.1
	0.2nm,0.4s,baz=119,slow=6.6,SNR=7.0								

*ISK **24** 22:57:42.2, 37°.65N×38°.74E, h21km, MD2.6*
*DDA **24** 22:57:43.0, 37°.67N×38°.74E, h7km, MD2.8*
*ISCJB **24** 22:57:43.4±0.6, 37°.67N±0°.03×38°.72E±0°.04, h9km±5km, Error ellipse: s-maj=5.5km s-min=5.0km az=34.7*
*CSEM **24** 22:57:43.4±0.3, 37°.66N×38°.72E, h12km, MD2.6, Error ellipse: s-maj=7.0km s-min=6.3km az=86.0*

ISC 24 22:57:43.2±1.0, 37°65N±0°03×38°73E±0°03, h16km±7km, n21, σ0°43/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.22**	**160**	*e*PG			**Pg**	**22 57 48.0**	**-0.4**
URFA				*e*SG			**Sg**	**22 57 52.2**	**+0.4**
URFA	**Urfa**	**0.22**	**160**	*e*Pg			**Pg**	**22 57 48.0**	**-0.4**
URFA				*e*Sg			**Sg**	**22 57 52.2**	**+0.4**
ATAB	**Bozova**	**0.39**	**243**	*i* P			**Pg**	**22 57 51.4**	**+0.3**
ATAB				*i* S			**Sg**	**22 57 56.8**	**+0.2**
ATAB	**Bozova**	**0.39**	**243**	*i* P			**Pg**	**22 57 51.4**	**+0.3**
ATAB				*i* S			**Sg**	**22 57 56.8**	**+0.2**
MALT	**Malatya**	**0.70**	**340**	*e*PG			**Pg**	**22 57 57.0**	**0.0**
MALT				*e*SG			**Sb**	**22 58 07.1**	**+0.4**
MALT	**Malatya**	**0.70**	**340**	*e*Pg			**Pg**	**22 57 57.0**	**0.0**
MALT				*e*Sg			**Sb**	**22 58 07.1**	**+0.4**
MYA	**Malataya**	**0.72**	**341**	*e*PG			**Pg**	**22 57 56.5**	**-0.8**
MYA	**Malataya**	**0.72**	**341**	*e*Pg			**Pg**	**22 57 56.5**	**-0.8**
AKCD	**Akcadag**	**0.91**	**316**	*i* P			**Pn**	**22 58 01.4**	**0.0**
AKCD				*i* S			**Sb**	**22 58 12.3**	**-0.2**
AKCD	**Akcadag**	**0.91**	**316**	*i* P			**Pn**	**22 58 01.4**	**0.0**
AKCD				*i* S			**Sb**	**22 58 12.3**	**-0.2**
GZT	**Gaziantep**	**0.97**	**253**	*i* P			**Pn**	**22 58 02.9**	**+0.6**
GZT				*i* S			**Sn**	**22 58 16.7**	**+0.9**
DIYA	**Diyarbakir**	**1.14**	**76**	*i* P			**Pg**	**22 58 05.2**	**0.0**
DIYA				*i* S			**Sn**	**22 58 19.9**	**+0.1**

ISC 24 23:28:28.4±0.1,5°22S±0.03×151°87E±0.03, h49km, h49km:pP-P,n1549,σ1329/1633, mb5.6/249, MS5.4/230, 328C-232D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**228**	P	**Pn**	**23 30 00.5**	**+2.3**
	64nm,0.3s,baz=38,slow=12,SNR=179						
PMG				S	**Sn**	**23 31 10.5**	**+2.1**
	325nm,0.3s,baz=130,slow=16,SNR=14						
PMG	**Port Moresby**	**6.25**	**228**	P	**Pn**	**23 30 00.5**	**+2.3**
PMG				S	**Sn**	**23 31 10.5**	**+2.1**
PMG	**Port Moresby**	**6.25**	**228**	P	**Pn**	**23 30 00.3**	**+2.1**
	2µm,1.0s,47µm17nn						
PMG				S	**Sn**	**23 31 11.7**	**+3.3**
	2µm,1.0s,47µm17nn						
HNR	**Honiara**	**9.04**	**118**	P	**Pn**	**23 30 38.4**	**+2.1**
	19nm,0.3s,baz=300,slow=20,SNR=7.2						
HNR				S	**Sn**	**23 32 16.9**	**+0.1**
	1.2nm,0.3s,baz=188,slow=16,SNR=1.6						
HNR				LR	LR	23 33 18.2	
	comp=Z,6µm,21.5s,baz=153,slow=32						
HNR	**Honiara**	**9.04**	**118**	*e*Pn	**Pn**	**23 30 38.0**	**+1.6**
HNR				*e*Sn	**Sn**	**23 32 15.4**	**-1.4**
JAY	**Jayapura**	**11.46**	**283**	P	Pn	23 31 14.0	+4.5
	baz=12,SNR=12						
JAY	**Jayapura**	**11.46**	**283**	P	Pn	23 31 14.7	+5.2
	289nm,1.4s,7µm						
COEN	**Coen**	**12.20**	**224**	*e*Pn	**Pn**	**23 31 20.6**	**+1.0**
COEN				*e*Sn	**Sn**	**23 33 33.6**	**-0.6**
COEN	**Coen**	**12.20**	**224**	P	**Pn**	**23 31 22.3**	**+2.7**
	baz=12,SNR=5.8						
SMPI	**Sarmi**	**13.52**	**283**	P	P	23 31 41.9	-3.6
	427nm,1.1s,14µm						
PATS	**Pohnpei**	**13.59**	**28**	P	**Pn**	**23 31 37.5**	**-1.2**
	baz=14,SNR=12						
CTA	**Charters Tower**	**15.76**	**200**	P	**P**	**23 32 08.6**	**-1.8**
	0.5nm,0.3s,baz=32,slow=14,SNR=9.8						
CTA				S	**S**	**23 35 09.0**	**-4.5**
	0.5nm,0.3s,baz=143,slow=20,SNR=1.5						
CTA				LR	LR	23 37 33.8	
	comp=Z,15µm,21.2s,baz=25,slow=34						
CTA	**Charters Tower**	**15.76**	**200**	P	**P**	**23 32 08.6**	**-1.8**
CTA				S	**S**	**23 35 09.0**	**-4.5**
CTAO	**Charters Tower**	**15.76**	**200**	⇓*e*P	**Pn**	**23 32 07.4**	**+0.2**
CTAO				*e*S	**S**	**23 35 09.1**	**-4.5**
CTAO				pmax	pmax		
	comp=Z,1µm,2.5s						
CTAO	**Charters Tower**	**15.76**	**200**	⇓*e*Pn	**Pn**	**23 32 07.4**	**+0.2**
	comp=Z,1µm,2.5s						
CTAO				*e*S	**S**	**23 35 09.1**	**-4.4**
BAKI	**Biak**	**16.23**	**284**	P	**P**	**23 32 15.9**	**+0.2**
	comp=Z,621nm,1.5s,comp=Z,13µm						
TLE	**Tual**	**19.05**	**268**	P	**Pn**	**23 32 51.0**	**+3.0**
	baz=19,SNR=7.5						
TLE	**Tual**	**19.05**	**268**	P	**Pn**	**23 32 49.0**	**+1.0**
	comp=Z,318nm,1.4s,comp=Z,9µm						
QIS	**Mount Isa**	**19.35**	**217**	P	**Pn**	**23 32 52.3**	**+0.8**
	baz=20,SNR=70						
FAKI	**Fak Fak**	**19.70**	**276**	P	**Pn**	**23 32 56.1**	**+0.4**
	comp=Z,198nm,1.2s,comp=Z,5µm						
GUMO	**Guam**	**19.94**	**340**	P	**Pn**	**23 32 59.5**	**+1.1**
	comp=Z,29nm,0.3s,baz=167,slow=10,SNR=63						
GUMO				S	**Sn**	**23 36 42.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=1.7						
GUMO				LR	LR	23 39 35.3	
	comp=Z,2µm,19.8s,baz=341,slow=34						
GUMO	**Guam**	**19.94**	**340**	⇑*e*P	**Pn**	**23 32 59.4**	**+1.0**
	comp=Z,2µm,1.2s						
GUMO				S	**S**	**23 36 37.1**	**-1.1**
EIDS	**Eidsvold**	**20.05**	**182**	⇓*e*P	Pn	23 32 58.4	-1.3
	comp=Z,613nm,1.5s						
EIDS				*e*S	**S**	**23 36 41.0**	**+0.6**
EIDS	**Eidsvold**	**20.05**	**182**	P	Pn	23 32 59.1	-0.6
	baz=20,SNR=15						
EIDS				S	Sn	23 36 48.3	+3.7
	baz=20,SNR=5.5						
KDU	**Kakadu**	**20.53**	**248**	P	Pn	23 33 03.8	-1.7
	baz=21,SNR=74						
KDU				S	**S**	**23 36 48.1**	**-2.0**
	baz=21,SNR=8.6						
KWAJ	**Kwajalein Atol**	**20.99**	**48**	*e*P	**P**	**23 33 07.4**	**-0.4**
KWAJ				S	**S**	**23 36 59.6**	**+0.6**
KWAJ				pmax	pmax		
	comp=Z,363nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.99**	**48**	*e*P	**P**	**23 33 07.4**	**-0.4**
	comp=Z,363nm,0.9s						
KWAJ				S	**S**	**23 36 59.6**	**+0.6**
SWI	**Sorong**	**21.02**	**281**	P	P	23 33 12.9	+4.7
	baz=21,SNR=13						
SWI	**Sorong**	**21.02**	**281**	P	**P**	**23 33 10.1**	**+1.8**
	comp=Z,405nm,1.2s,comp=Z,6µm						
RMQ	**Roma**	**21.36**	**188**	P	**P**	**23 33 13.2**	**+1.5**
	baz=22,SNR=102						
PALU	**Palau**	**21.38**	**306**	P	**P**	**23 33 14.7**	**+2.7**
	baz=22,SNR=12						
MTN	**Manton Dam**	**21.82**	**248**	P	**P**	**23 33 17.2**	**+0.4**
	baz=22,SNR=283						
MTN				S	**S**	**23 37 11.9**	**-3.6**
	baz=22,SNR=13						
BNDI	**Bandanaira**	**21.90**	**271**	P	P	23 33 27.0	+9.4
DZM	**Mont Dzumac**	**21.90**	**141**	P	**P**	**23 33 18.6**	**+1.0**
	comp=Z,37nm,0.6s,baz=325,slow=12,SNR=18						
DZM				S	**S**	**23 37 18.3**	**+1.2**
	comp=Z,10nm,0.8s,baz=315,slow=19,SNR=2.3						
DZM				LR	LR	23 40 38.2	
	comp=Z,17µm,21.4s,baz=317,slow=33						
DZM	**Mont Dzumac**	**21.90**	**141**	*e*P	**P**	**23 33 19.4**	**+1.7**
	comp=Z,190nm,1.1s						
DZM				*e*S	**S**	**23 37 13.3**	**-3.8**
	comp=Z,17µm,25.2s						
DZM				*e*LR	LR	23 38 36.9	
	comp=Z,26µm,23.8s						
DZM	**Mont Dzumac**	**21.90**	**141**	*e*P	**P**	**23 33 19.9**	**+2.2**
	comp=Z,82nm,0.8s						
DZM				S	**S**	**23 37 18.3**	**+1.2**
TARA	**Tarawa**	**22.02**	**73**	*e*P	**P**	**23 33 18.9**	**0.0**
	comp=Z,1µm,1.3s						
TARA				LR	LR		
	comp=Z,8µm,21.0s						
QLP	**Quilpie**	**22.46**	**198**	P	**P**	**23 33 24.4**	**+0.9**
	baz=23,SNR=57						
WRAB	**Tennant Creek**	**22.46**	**228**	*e*P	**P**	**23 33 24.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,344nm,0.7s						
WRAB				MLR	MLR		
	comp=Z,6µm,21.0s						
WRAB	**Tennant Creek**	**22.46**	**228**	*e*P	**P**	**23 33 24.0**	**+0.4**
	comp=Z,344nm,0.7s						
WRAB				LR	LR		
	comp=Z,6µm,21.0s						
WRAB	**Tennant Creek**	**22.46**	**228**	P	**P**	**23 33 24.0**	**+0.4**
	comp=Z,2µm,1.4s						
WRA	**Warramunga Arr**	**22.48**	**228**	P	**P**	**23 33 24.0**	**+0.2**
	comp=Z,106nm,0.7s,baz=52,slow=10,SNR=202						
WRA				PcP	**PcP**	**23 37 16.8**	**0.0**
	comp=Z,34nm,1.0s,baz=42,slow=2.0,SNR=7.9						
WRA				S	**S**	**23 37 26.0**	**-1.4**
	comp=Z,13nm,0.4s,baz=56,slow=18,SNR=10.0						
WRA				ScP	**ScP**	**23 40 48.4**	**-2.1**
	comp=Z,47nm,1.2s,baz=48,slow=2.8,SNR=12						
WRA				LR	LR	23 42 26.2	
	comp=Z,6µm,19.3s,baz=55,slow=37						
WRA				PKiKP	**PKiKP**	**23 45 01.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=318,slow=1.1,SNR=5.6						
WRA	**Warramunga Arr**	**22.48**	**228**	P	**P**	**23 33 24.0**	**+0.2**
WRA				PcP	**PcP**	**23 37 16.8**	**0.0**
WRA				S	**S**	**23 37 26.0**	**-1.4**
WRA				ScP	**ScP**	**23 40 48.4**	**-2.1**
WRA				PKiKP	**PKiKP**	**23 45 01.2**	**-1.2**
MSAI	**Masohi**	**22.95**	**274**	P	**P**	**23 33 27.9**	**-0.9**
	comp=Z,24nm,1.0s						
AAI	**Ambon**	**23.65**	**273**	P	**P**	**23 33 35.3**	**-0.3**
	comp=Z,134nm,1.4s,comp=Z,6µm						
LBMI	**Labuha**	**24.75**	**280**	P	**P**	**23 33 48.2**	**+2.5**
	comp=Z,768nm,1.5s,comp=Z,11µm						
NLAI	**Namlea**	**24.78**	**274**	P	**P**	**23 33 45.1**	**-0.8**
	comp=Z,69nm,1.6s,comp=Z,2µm						
ARMA	**Armidale**	**25.07**	**180**	*e*P	**P**	**23 33 50.6**	**+2.1**
	comp=Z,115nm,1.3s						
ARMA	**Armidale**	**25.07**	**180**	P	**P**	**23 33 50.9**	**+2.5**
	baz=25,SNR=9.2						
ARMA				S	**S**	**23 38 12.2**	**+2.6**
	baz=25,SNR=4.5						
TNTI	**Ternate**	**25.19**	**283**	P	**P**	**23 33 50.7**	**+1.1**
	comp=Z,485nm,1.3s,comp=Z,6µm						
AS31	**Alice Springs**	**25.22**	**222**	*e*P	**P**	**23 33 50.0**	**+0.2**
AS31				*e*PcP	**PcP**	**23 37 22.9**	**+0.2**
AS31				*e*S	**S**	**23 38 15.4**	**+3.3**
ASAR	**Alice Springs**	**25.22**	**222**	P	**P**	**23 33 50.5**	**+0.6**
	comp=Z,156nm,0.8s,baz=54,slow=8.7,SNR=161						
ASAR				PcP	**PcP**	**23 37 22.8**	**+0.1**
	comp=Z,13nm,0.9s,baz=40,slow=3.0,SNR=5.5						
ASAR				S	**S**	**23 38 12.9**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=38,slow=16,SNR=3.0						
ASAR				ScP	**ScP**	**23 40 56.7**	**-1.3**
	comp=Z,14nm,0.9s,baz=52,slow=3.2,SNR=11						
ASAR				LR	LR	23 43 58.3	
	comp=Z,5µm,21.5s,baz=58,slow=37						
ASAR				P3KPbc		00 06 44.1	
	comp=Z,0.4nm,0.7s,baz=216,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**25.22**	**222**	P	**P**	**23 33 50.5**	**+0.6**
ASAR				PcP	**PcP**	**23 37 22.8**	**+0.1**
ASAR				S	**S**	**23 38 12.9**	**+0.8**
ASAR				ScP	**ScP**	**23 40 56.7**	**-1.3**
ASAR				*e*		00 06 44.1	
CMSA	**Cobar Meteorol**	**26.82**	**192**	P	**P**	**23 34 04.5**	**+0.4**
	baz=27,SNR=63						
MNI	**Manado**	**27.80**	**283**	P	**P**	**23 34 13.9**	**+0.7**
	comp=Z,245nm,1.0s						
STKA	**Stephens Creek**	**28.21**	**199**	P	**P**	**23 34 17.6**	**+0.9**
	comp=Z,27nm,0.9s,baz=7.3,slow=8.1,SNR=37						
STKA				S	**S**	**23 38 55.2**	**-4.0**
	comp=Z,3.7nm,0.7s,baz=225,slow=19,SNR=1.2						
STKA				ScP	**ScP**	**23 41 08.1**	**+1.5**
	comp=Z,16nm,1.1s,baz=18,slow=3.2,SNR=4.5						
STKA				LR	LR	23 45 55.9	
	comp=Z,7µm,18.9s,baz=286,slow=37						
STKA	**Stephens Creek**	**28.21**	**199**	*e*P	**P**	**23 34 17.6**	**+0.9**
	comp=Z,11nm,0.9s						
STKA				S	**S**	**23 38 55.2**	**-4.0**
STKA				ScP	**ScP**	**23 41 08.1**	**+1.5**
STKA	**Stephens Creek**	**28.21**	**199**	P	**P**	**23 34 17.4**	**+0.7**
	baz=28,SNR=31						
MATI	**Mati**	**28.27**	**295**	*e*P	**P**	**23 34 17.1**	**-0.3**
WAKE	**Wake Island**	**28.37**	**30**	PFAKE		23 34 30.0	+12
WAKE				LR	LR		
	comp=Z,6µm,21.0s						
KMSI	**Cibinong**	**28.44**	**281**	P	**P**	**23 34 20.4**	**+1.5**
	comp=Z,477nm,1.3s,comp=Z,7µm						
MSVF	**Nonsavu**	**28.46**	**118**	*e*P	**P**	**23 34 18.9**	**-0.2**
MSVF				pmax	pmax		
	comp=Z,120nm,1.6s						
MSVF				MLR	MLR		
	comp=Z,5µm,22.0s						
MSVF	**Nonsavu**	**28.46**	**118**	*e*P	**P**	**23 34 18.9**	**-0.2**
	comp=Z,120nm,1.6s						
MSVF				LR	LR		
	comp=Z,5µm,22.0s						
FITZ	**Fitzroy Crossi**	**28.65**	**241**	S	**S**	**23 39 01.7**	**-4.6**
	comp=Z,21nm,0.9s,baz=350,slow=17,SNR=2.8						
FITZ				LR	LR	23 47 14.8	
	comp=Z,7µm,19.4s,baz=68,slow=39						
FITZ	**Fitzroy Crossi**	**28.65**	**241**	*e*P	**P**	**23 34 21.1**	**+0.4**
	comp=Z,227nm,1.0s						
FITZ				S	**S**	**23 39 01.7**	**-4.6**
FITZ	**Fitzroy Crossi**	**28.65**	**241**	P	**P**	**23 34 20.9**	**+0.2**
	baz=29,SNR=329						
DAV	**Davao City (W)**	**28.94**	**295**	P	**P**	**23 34 23.6**	**+0.3**
	comp=Z,199nm,0.4s,baz=194,slow=2.1,SNR=6.4						
DAV				LR	LR	23 45 32.5	
	comp=Z,4µm,18.4s,baz=265,slow=35						
DAV	**Davao City (W)**	**28.94**	**295**	*e*P	**P**	**23 34 23.4**	**0.0**
DAV				*e*PcP	**PcP**	**23 37 32.2**	**+0.6**
DAV	**Davao City (W)**	**28.94**	**295**	P	P	23 34 27.3	+4.0
	SNR=5.9						
BBSI	**Bau Bau**	**29.17**	**268**	P	**P**	**23 34 27.4**	**+2.0**
	comp=Z,87nm,1.2s,comp=Z,2µm						
LUWI	**Luwuk**	**29.34**	**277**	P	**P**	**23 34 28.2**	**+1.3**
	comp=Z,148nm,2.0s,comp=Z,2µm						
MMRI	**Maumere**	**29.60**	**262**	P	**P**	**23 34 28.7**	**-0.6**
	comp=Z,225nm,1.3s,comp=Z,3µm						
CNB	**Canberra Magne**	**30.04**	**184**	P	P	23 34 45.2	+12
	baz=30,SNR=5.5						
CAN	**Canberra**	**30.07**	**185**	PFAKE		23 34 40.0	+6.8
CAN				LR	LR		
	comp=Z,3µm,19.0s						
MRSI	**Marisa**	**30.42**	**280**	P	**P**	**23 34 36.5**	**0.0**
	comp=Z,72nm,0.7s,comp=Z,858nm						
MSLP	**Maasin**	**30.93**	**300**	*e*P	**P**	**23 34 42.3**	**+1.4**
BBOO	**Buckleboo**	**31.16**	**206**	*e*P	**P**	**23 34 42.7**	**-0.2**
	comp=Z,780nm,0.9s						
BBOO	**Buckleboo**	**31.16**	**206**	P	**P**	**23 34 43.2**	**+0.4**
	baz=31,SNR=71						
BBOO				S	**S**	**23 39 42.7**	**-2.8**
	baz=31,SNR=9.8						
PAGZ	**Pagadian**	**31.24**	**294**	*e*P	**P**	**23 34 45.7**	**+2.0**
OCLP	**Ormoc**	**31.58**	**301**	*e*P	**P**	**23 34 47.2**	**+0.5**
WSI	**Waingapu**	**31.61**	**260**	P	**P**	**23 34 47.4**	**+0.5**
	comp=Z,1µm,0.9s,comp=Z,19µm						
BKSI	**Bulukumba**	**31.61**	**268**	P	**P**	**23 34 47.2**	**+0.2**
	comp=Z,22nm,1.2s,comp=Z,783nm						
KAPI	**Kappang**	**31.99**	**269**	P	**P**	**23 34 49.8**	**-0.6**
	comp=Z,26nm,0.9s,baz=76,slow=5.4,SNR=16						
KAPI				PcP	**PcP**	**23 37 39.4**	**-0.2**
	comp=Z,46nm,1.0s,baz=154,slow=3.5,SNR=6.9						
KAPI				ScP	**ScP**	**23 41 18.3**	**-1.0**
	comp=Z,5.4nm,0.6s,baz=144,slow=3.3,SNR=3.7						
KAPI	**Kappang**	**31.99**	**269**	*e*P	**P**	**23 34 49.2**	**-1.2**
	comp=Z,86nm,1.4s						
KAPI				PcP	**PcP**	**23 37 39.4**	**-0.2**
KAPI				ScP	**ScP**	**23 41 18.3**	**-1.0**
KAPI				LR	LR		
	comp=Z,2µm,22.0s						
KAPI	**Kappang**	**31.99**	**269**	P	**P**	**23 34 49.6**	**-0.7**
	SNR=13						
KAPI				mb		23 34 54.0	
	SNR=22						
KAPI	**Kappang**	**31.99**	**269**	P	**P**	**23 34 49.1**	**-1.2**
	comp=Z,41nm,1.1s,comp=Z,922nm						
SPSI	**Sidrap Palu**	**32.02**	**271**	P	**P**	**23 34 50.5**	**-0.1**
	comp=Z,23nm,1.0s,comp=Z,932nm						
TTSI	**Tana Toraja**	**32.04**	**273**	P	**P**	**23 34 51.7**	**+1.0**
	comp=Z,28nm,1.2s,comp=Z,1µm						
PCI	**Palu**	**32.26**	**277**	P	P	23 34 44.4	-8.4
	baz=32,SNR=12						
PCI				S	S	23 40 09.2	+6.1
	baz=32,SNR=37						
ARPS	**Mount Arapiles**	**32.72**	**195**	P	**P**	**23 34 57.6**	**+1.2**
	baz=33,SNR=121						
ARPS				S	**S**	**23 40 10.2**	**+0.5**
	baz=33,SNR=5.1						
GUIM	**Jordan**	**33.13**	**298**	*e*P	**P**	**23 35 01.5**	**+1.2**
RCP	**Roxas**	**33.43**	**300**	⇑*e*P	**P**	**23 35 04.2**	**+1.4**
CBIJ	**Chichi jima**	**33.46**	**344**	P	**P**	**23 35 03.2**	**+0.2**
	comp=Z,140nm,0.6s,baz=317,slow=14,SNR=7.9						
CBIJ	**Chichi jima**	**33.46**	**344**	P	**P**	**23 35 03.2**	**+0.2**
FORT	**Forrest**	**33.88**	**219**	*e*P	**P**	**23 35 06.6**	**0.0**
	comp=Z,133nm,0.7s						
FORT	**Forrest**	**33.88**	**219**	P	**P**	**23 35 06.8**	**+0.2**
	baz=34,SNR=21						
OTRP	**Odiongan**	**34.43**	**301**	*e*P	**P**	**23 35 12.2**	**+0.6**
CUYO	**Cuyo Island**	**34.61**	**298**	*e*P	**P**	**23 35 13.9**	**+0.7**
MYLDM	**Lahad Datu**	**34.89**	**287**	P	**P**	**23 35 18.1**	**+2.5**
MYLDM	**Lahad Datu**	**34.89**	**287**	P	**P**	**23 35 18.1**	**+2.5**
	comp=Z,145nm,1.7s,comp=Z,11µm						
SMKI	**Samarinda**	**34.93**	**277**	P	**P**	**23 35 18.4**	**+2.4**
	comp=Z,99nm,0.8s,comp=Z,7µm						
MBWA	**Marble Bar**	**34.96**	**240**	*e*P	**P**	**23 35 15.9**	**-0.2**
	comp=Z,250nm,1.3s						
MBWA				*e*S	**S**	**23 40 45.8**	**+1.1**
MBWA				LR	LR		
	comp=Z,7µm,19.0s						
MBWA	**Marble Bar**	**34.96**	**240**	P	**P**	**23 35 16.5**	**+0.4**
	SNR=19						
MBWA				mb		23 35 18.3	
	SNR=32						
TSM	**Tawau**	**35.25**	**285**	P	**P**	**23 35 19.6**	**+0.9**
OUZ	**Omahuta**	**35.97**	**149**	*e*P	P	23 35 27.7	+3.2
	comp=Z,54nm,1.3s						
KHKI	**Kahang-Kahang**	**36.13**	**263**	P	**P**	**23 35 25.1**	**-1.1**
	comp=Z,96nm,1.1s,comp=Z,942nm						
TGY	**Tagaytay City**	**36.20**	**302**	P	**P**	**23 35 28.7**	**+1.9**
	comp=Z,286nm,0.5s,baz=207,slow=8.5,SNR=12						
TGY	**Tagaytay City**	**36.20**	**302**	P	**P**	**23 35 28.7**	**+1.9**
SDKM	**Sandakan**	**36.26**	**287**	P	**P**	**23 35 28.0**	**+0.6**
SRBI	**Singaraja**	**36.51**	**263**	P	**P**	**23 35 29.2**	**-0.3**
	comp=Z,44nm,1.0s,comp=Z,1µm						
BALP	**Baler**	**36.51**	**305**	*e*P	**P**	**23 35 29.6**	**+0.2**
PALP	**Palanan**	**36.56**	**308**	*e*P	**P**	**23 35 31.1**	**+1.3**
IGBI	**Denpasar**	**36.61**	**262**	P	**P**	**23 35 29.8**	**-0.5**
	comp=Z,66nm,0.4s,comp=Z,27µm						
BATP	**Bataraza**	**36.71**	**292**	*e*P	**P**	**23 35 32.9**	**+1.7**
AFI	**Afiamalu**	**36.83**	**106**	P	**P**	**23 35 32.1**	**-0.1**
	comp=Z,41nm,0.9s,baz=320,slow=17,SNR=7.1						
AFI				LR	LR	23 48 03.8	
	comp=Z,2µm,21.4s,baz=291,slow=32						
AFI	**Afiamalu**	**36.83**	**106**	*e*P	**P**	**23 35 32.3**	**+0.1**
	comp=Z,68nm,1.0s						
BBKI	**Banjar Baru**	**36.96**	**271**	P	**P**	**23 35 34.3**	**+1.0**
	comp=Z,69nm,0.8s,comp=Z,3µm						
CAUP	**Cauayan**	**36.97**	**307**	*e*P	**P**	**23 35 34.0**	**+0.7**
NBBI	**Negara**	**37.11**	**263**	P	**P**	**23 35 31.4**	**-3.2**
	comp=Z,91nm,1.1s						
RAO	**Raoul Island**	**37.25**	**133**	PFAKE		23 35 50.0	+14
RAO				LR	LR		
	comp=Z,4µm,20.0s						
MOO	**Moorlands**	**37.30**	**186**	P	P	23 35 44.7	+8.9
	baz=38,SNR=9.5						
KKM	**Kota Kinabalu**	**37.31**	**287**	*e*P	**P**	**23 35 37.8**	**+1.4**
	comp=Z,53nm,1.0s						
KKM				LR	LR		
	comp=Z,2µm,19.0s						
KKM	**Kota Kinabalu**	**37.31**	**287**	P	**P**	**23 35 37.3**	**+0.8**
	baz=38,SNR=8.6						
KKM	**Kota Kinabalu**	**37.31**	**287**	P	**P**	**23 35 37.7**	**+1.3**
KKM	**Kota Kinabalu**	**37.31**	**287**	P	**P**	**23 35 36.8**	**+0.4**
	comp=Z,69nm,1.6s,comp=Z,1µm						
BYJI	**Banyuwangi**	**37.36**	**263**	P	**P**	**23 35 37.0**	**+0.3**
	comp=Z,246nm,1.5s						
KMMI	**Kalianget**	**37.72**	**265**	P	**P**	**23 35 41.8**	**+2.0**
	comp=Z,32nm,1.6s						
TAU	**Tasmania Unive**	**37.75**	**185**	*e*P	**P**	**23 35 41.4**	**+1.8**
TAU				*e**PP	**pP**	**23 35 48.3**	**-4.2**
TAU				pmax	pmax		
	comp=Z,101nm,1.2s						
TAU				MLR	MLR		
	comp=Z,6µm,22.0s						
TAU	**Tasmania Unive**	**37.75**	**185**	*e*P	**P**	**23 35 41.4**	**+1.8**
	comp=Z,101nm,1.2s						
TAU				*e*pP	**pP**	**23 35 48.3**	**-4.2**
TAU				LR	LR		
	comp=Z,6µm,22.0s						
SCZP	**Santa Cruz**	**37.90**	**304**	*e*P	P	23 35 36.5	-4.7
BLJI	**Banyuglugur**	**38.10**	**264**	P	**P**	**23 35 41.9**	**-1.1**
	comp=Z,43nm,1.0s,comp=Z,3µm						
BOLP	**Bolinao**	**38.21**	**305**	*e*P	**P**	**23 35 43.0**	**-0.8**
MEEK	**Meekatharra**	**38.21**	**233**	P	**P**	**23 35 44.0**	**+0.2**
	baz=38,SNR=102						
MEEK				S	**S**	**23 41 33.4**	**-0.9**
	baz=38,SNR=9.0						
GMJI	**Gumukmas**	**38.27**	**263**	P	**P**	**23 35 46.3**	**+1.9**
	comp=Z,46nm,0.7s						
BWJI	**Bawean**	**39.03**	**267**	P	**P**	**23 35 51.5**	**+0.7**
	comp=Z,40nm,1.0s						
JOW	**Kunigami**	**39.20**	**326**	P	**P**	**23 35 53.7**	**+1.7**
	comp=Z,358nm,0.6s,baz=146,slow=8.9,SNR=89						
JOW	**Kunigami**	**39.20**	**326**	*e*P	**P**	**23 35 53.5**	**+1.5**
	comp=Z,148nm,0.6s						
KRKI	**Karangkates**	**39.24**	**264**	P	**P**	**23 35 53.0**	**+0.4**
	comp=Z,166nm,0.7s,comp=Z,22µm						
BTM	**Bintulu**	**39.64**	**281**	P	**P**	**23 35 57.7**	**+1.8**
JHJ	**Hachijo jima 2**	**39.81**	**344**	P	**P**	**23 35 56.9**	**-0.1**
	comp=Z,108nm,0.6s,baz=233,slow=24,SNR=4.3						
JHJ				LR	LR	23 49 38.6	
	comp=Z,3µm,21.7s,baz=212,slow=32						
PWJI	**Pagerwojo**	**39.88**	**264**	P	**P**	**23 35 57.6**	**-0.3**
	comp=Z,96nm,1.1s						
SJI	**Sawahan**	**39.91**	**264**	P	**P**	**23 35 59.1**	**+0.9**
	comp=Z,73nm,1.1s,comp=Z,4µm						
URZ	**Urewera**	**40.10**	**149**	P	**P**	**23 36 00.9**	**+1.6**
	comp=Z,3.6nm,0.4s,baz=280,slow=6.1,SNR=4.4						
URZ				PcP	**PcP**	**23 38 01.7**	**-1.5**
	comp=Z,22nm,0.9s,baz=309,slow=2.7,SNR=3.7						
URZ				LR	LR	23 50 24.7	
	comp=Z,5µm,19.4s,baz=138,slow=33						
URZ	**Urewera**	**40.10**	**149**	*e*P	P	23 36 06.3	+6.9
	comp=Z,71nm,1.3s						
URZ				PcP	**PcP**	**23 38 01.7**	**-1.5**
PBKI	**Pangkalan Bun**	**40.17**	**272**	P	**P**	**23 36 01.6**	**+1.3**
	comp=Z,243nm,1.2s,comp=Z,6µm						
GIRL	**Giralia**	**40.25**	**241**	P	**P**	**23 36 02.0**	**+1.2**
	baz=40,SNR=13						
SBUM	**Sibu**	**40.33**	**280**	P	**P**	**23 36 03.4**	**+1.8**
SBUM	**Sibu**	**40.33**	**280**	P	**P**	**23 36 03.6**	**+2.0**
	comp=Z,44nm,1.6s,comp=Z,983nm						
PCJI	**Pacitan**	**40.51**	**264**	P	**P**	**23 36 04.1**	**+1.0**
	comp=Z,206nm,1.3s						
STKI	**Sintang**	**40.68**	**276**	P	**P**	**23 36 06.3**	**+1.8**
	comp=Z,70nm,1.0s						
TWG	**Pinlang**	**41.02**	**314**	*e*P	**P**	**23 36 09.3**	**+2.2**
	comp=Z,127nm,0.6s						
UGM	**Wanagama**	**41.15**	**264**	P	**P**	**23 36 10.5**	**+2.1**
	baz=41,SNR=7.6						
UGM	**Wanagama**	**41.15**	**264**	P	**P**	**23 36 09.2**	**+0.8**
	comp=Z,190nm,1.7s						
**YUL

comp=Z,50nm,0.7s
MAJO MLR MLR
comp=Z,3µm,20.0s
MAJO Matsushiro 43.47 344 *e*P **P 23 36 25.6 -1.3**
comp=Z,50nm,0.7s
MAJO LR LR
comp=Z,3µm,20.0s
MAT Matsushiro 43.47 344 P **P 23 36 27.5 +0.6**
MAT S **S 23 42 50.0 -2.0**
RKGY Rocky Gully 43.54 223 P **P 23 36 28.5 +0.9**
baz=44,SNR=7.3
CISI Cisompet, Garu 43.83 265 P **P 23 36 27.2 -3.0**
comp=Z,330nm,1.1s,comp=Z,4µm
JOHN Johnston Islan 43.95 59 PFAKE 23 36 40.0 +9.0
JOHN LR LR
comp=Z,4.0nm,19.0s
LEM Lembang 44.02 266 P **P 23 36 32.6 +0.7**
baz=44,SNR=4.2
LEM Lembang 44.02 266 P **P 23 36 29.5 -2.4**
comp=Z,143nm,0.9s,comp=Z,2µm
QZH Quanzhou 44.12 314⇑*i*P P 23 36 35.0 +2.8
QZH PP **PcP 23 38 18.3 +1.5**
QZH S **S 23 43 05.1 +3.3**
QZH sS sS 23 43 23.3 -0.6
QZH SS **SS 23 46 15.3 -5.6**
QZH pmax pmax
comp=Z,350nm,0.6s
QZH pmax pmax
comp=Z,2µm,3.2s
QZH LR LR
comp=N,5µm,20.3s
QZH LR LR
comp=E,4µm,16.5s
QZH LR LR
comp=Z,7µm,21.4s
TPI Tanjungpandan 44.17 271 P **P 23 36 33.8 +0.9**
comp=Z,86nm,1.1s,comp=Z,1µmcomp=Z,40µm
CBJI Citeko 44.79 266 P **P 23 36 36.8 -1.0**
comp=Z,267nm,1.0s,comp=Z,15µm
DBJI Dramaga 44.89 266 P **P 23 36 41.1 +2.4**
comp=Z,89nm,0.9s,comp=Z,21µm
SKJI Sukabumi 45.08 265 P **P 23 36 38.7 -1.4**
comp=Z,248nm,0.8s,comp=Z,3µm
PPBI Pangkal Pinang 45.73 272 P **P 23 36 46.3 +1.0**
comp=Z,36nm,1.2s,comp=Z,8µm
CGJI Cibinong 45.94 266 P **P 23 36 45.8 -1.1**
comp=Z,176nm,1.1s,comp=Z,2µm
XMIS Christmas Isla 46.05 261 P **P 23 36 48.8 +1.0**
baz=46,SNR=4.1
SSE Sheshan 46.51 323 ⇑P **P 23 36 52.0 +0.9**
SSE pP **pP 23 37 05.8 +1.5**
SSE sP **sP 23 37 10.9 +0.9**
SSE PP **PP 23 38 40.5 -0.6**
SSE S **S 23 43 37.5 +1.4**
SSE sS **sS 23 44 01.6 +3.3**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,540nm,6.7s
SSE LR LR
comp=N,2µm,20.5s
SSE LR LR
comp=E,2µm,20.4s
SSE LR LR
comp=Z,4µm,21.0s
GZH Guangzhou 46.98 308 P P 23 36 57.8 +2.9
GZH S S 23 43 48.6 +5.5
GZH LR LR
comp=N,2µm,22.2s
GZH LR LR
comp=E,2µm,22.6s
KASI Kota Agung 47.16 267 P **P 23 36 54.6 -1.9**
comp=E,146nm,1.2s,comp=E,1µm
LWLI Liwa 47.61 268 P **P 23 36 59.0 -1.2**
comp=E,172nm,0.9s
ERM Erimo 47.67 351 *e*P P 23 37 03.0 +3.0
ERM pmax pmax
comp=Z,57nm,1.1s
ERM MLR MLR
comp=Z,3µm,20.0s
ERM Erimo 47.67 351 *e*P P 23 37 03.0 +3.0
comp=Z,57nm,1.1s
ERM LR LR
comp=Z,3µm,20.0s
ERM Erimo 47.67 351 P **P 23 37 02.1 +2.1**
comp=Z,340nm,0.6s,SNR=5.2
QIZ Qiongzhong 47.89 301 P **P 23 37 02.6 +0.5**
QIZ sP **sP 23 37 20.1 -1.0**
QIZ S **S 23 43 58.8 +2.6**
QIZ pmax pmax
comp=Z,59nm,1.2s
QIZ LR LR
comp=N,2µm,21.2s
QIZ LR LR
comp=E,870nm,32.1s
QIZ LR LR
comp=Z,4µm,28.1s
QIZ Qiongzhong 47.89 301 *e*P **P 23 37 03.7 +1.7**
comp=Z,38nm,0.8s
QIZ *e*PcP **PcP 23 38 30.4 +0.2**
QIZ LR LR
comp=Z,3µm,21.0s
KSRS Korea Array 47.96 334 P **P 23 37 02.6 +0.3**
comp=Z,21nm,0.6s,baz=156,slow=8.3,SNR=37
KSRS LR LR 23 55 34.6
comp=Z,1µm,21.0s,baz=150,slow=34
KSAR Wonju Array Be 47.97 334 P **P 23 37 02.6 +0.2**
MYKOM Kota Tinggi 48.47 277 P **P 23 37 07.8 +1.2**
MYKOM Kota Tinggi 48.47 277 P **P 23 37 07.7 +1.0**
comp=Z,70nm,1.6s,comp=Z,1µm
INCN Inchon 48.56 333 *e*P **P 23 37 08.4 +1.5**
INCN LR LR
comp=Z,3µm,22.0s
NJ2 Nanjing 48.59 322 *e*P **P 23 37 08.3 +1.0**
NJ2 pP **pP 23 37 20.9 +0.3**
NJ2 sP **sP 23 37 25.4 -0.9**
NJ2 PP **PP 23 39 00.9 +0.3**
NJ2 S **S 23 44 04.5 -1.2**
NJ2 pmax pmax
comp=Z,70nm,1.0s
NJ2 pmax pmax
comp=Z,660nm,11.0s
NJ2 LR LR
comp=N,4µm,21.0s
NJ2 LR LR
comp=E,3µm,20.4s
NJ2 LR LR
comp=Z,5µm,20.1s
KGM Kluang 49.03 277 P **P 23 37 11.6 +0.6**
YUK Yuzh-Kuril'sk 49.33 354*c i*P P 23 37 06.5 -6.1
YUK *i* 23 38 31.2
YUK *i* 23 39 02.7
YUK *i* PPP PPP 23 40 00.9
YUK *i* S S 23 44 07.1 -8.5
YUK *i* 23 46 56.7
YUK *i* SS **SS 23 47 43.5 -4.5**
YUK *i* SSS SSS 23 48 59.0
YUK pmax pmax
comp=Z,223nm,7.4s
YUK MLR MLR
comp=N,1µm,18.0s
YUK MLR MLR
comp=Z,1µm,18.0s
YUK MLR MLR
comp=E,297nm,18.0s
RAR Rarotonga 49.46 113 P **P 23 37 15.7 +1.5**
comp=E,45nm,1.1s,baz=270,slow=7.1,SNR=5.3
RAR Rarotonga 49.46 113 *e*P **P 23 37 16.0 +1.9**
RGRI Rengat 49.70 274 P **P 23 37 17.0 +1.0**
comp=E,215nm,0.4s,comp=E,81µm
ASAJ Asahikawa 49.81 351 P **P 23 37 16.7 +0.3**
comp=E,56nm,0.7s,baz=203,slow=9.4,SNR=33
ASAJ LR LR 23 54 32.8
comp=E,2µm,21.9s,baz=46,slow=31
ASAJ Asahikawa 49.81 351 *e*P **P 23 37 16.6 +0.2**
comp=E,24nm,0.8s
KRJI Kerinci 50.39 272 P **P 23 37 21.3 -0.1**
comp=E,198nm,0.8s
WHN Wuhan 50.52 317⇓*i*P **P 23 37 24.3 +2.3**
WHN pP **pP 23 37 35.6 +0.2**
WHN sP **sP 23 37 43.3 +2.2**
WHN S **S 23 44 33.4 +0.6**
WHN LR LR
comp=N,5µm,19.4s
WHN LR LR
comp=E,6µm,18.5s
WHN LR LR
comp=Z,9µm,21.5s
FRIM Kepong 50.89 278 P **P 23 37 25.5 +0.4**
BKNI Bangkinang 51.06 275 P **P 23 37 26.4 0.0**
comp=Z,179nm,1.0s
XMAS Kiritimati 51.14 83 PFAKE 23 37 40.0 +13
XMAS LR LR
comp=Z,4µm,19.0s
VLA Vladivostok 51.41 341 *e*P **P 23 37 30.2 +1.8**
VLA pmax pmax
comp=Z,20nm,0.8s
IPM Ipoh 51.69 280 *e*P **P 23 37 31.2 +0.2**
comp=Z,84nm,0.9s
IPM Ipoh 51.69 280 P **P 23 37 31.7 +0.6**
IPM Ipoh 51.69 280 P **P 23 37 31.3 +0.2**
comp=Z,101nm,1.0s,comp=Z,1µm
DL2 Dalian 52.06 330 ⇑P **P 23 37 34.8 +1.4**
DL2 pP **pP 23 37 47.9 +1.1**
DL2 S **S 23 44 57.3 +3.5**
DL2 pmax pmax
comp=Z,40nm,0.7s
DL2 pmax pmax
comp=Z,300nm,5.7s
DL2 LR LR
comp=N,950nm,21.3s
DL2 LR LR
comp=E,890nm,21.5s
DL2 LR LR
comp=Z,2µm,26.6s
KULM Kulim 52.20 281 *e*P **P 23 37 34.9 0.0**
comp=Z,100nm,1.0s
KULM LR LR
comp=Z,1µm,21.0s
KULM Kulim 52.20 281 P **P 23 37 34.9 0.0**
KULM Kulim 52.20 281 P **P 23 37 35.0 0.0**
comp=Z,105nm,1.1s
USRK Ussuriysk Arra 52.35 342 P **P 23 37 35.2 -0.2**
comp=Z,34nm,0.6s,baz=176,slow=8.2,SNR=60
USRK LR LR 00 00 19.3
comp=Z,1µm,18.6s,baz=124,slow=36
CHBT CHBT 52.36 290 P **P 23 37 36.2 +0.2**
MNSI Mandailing Nat 52.56 275 P **P 23 37 36.7 -0.9**
comp=Z,154nm,1.0s
YSS Yuzh-Sakhalins 52.57 352 *e*P P 23 37 40.4 +3.4
YSS *e**PP pP 23 37 54.8 +4.4
YSS *e*S S 23 45 10.0 +10
YSS *e*SSS SSS 23 50 18.0
YSS Yuzh-Sakhalins 52.57 352 *e*P **P 23 37 36.8 -0.2**
comp=Z,29nm,0.9s
YSS LR LR
comp=Z,578nm,20.0s
SNY Shenyang 53.46 334 ⇑P **P 23 37 44.3 +0.7**
SNY PP **PP 23 39 43.9 -0.7**
SNY S **S 23 45 15.1 +2.4**
SNY pmax pmax
comp=Z,510nm,6.3s
SNY LR LR
comp=N,1µm,18.9s
SNY LR LR
comp=E,970nm,22.8s
SNY LR LR
comp=Z,2µm,26.7s
PSI Prapat 53.49 277 P **P 23 37 43.8 -0.7**
comp=Z,18nm,0.4s,baz=95,slow=9.8,SNR=31
PSI LR LR 00 02 47.1
comp=Z,829nm,20.6s,baz=124,slow=38
PSI Prapat 53.49 277 P **P 23 37 43.8 -0.7**
PSI Prapat 53.49 277 P **P 23 37 43.2 -1.4**
baz=54,SNR=25
PSI Prapat 53.49 277 P **P 23 37 43.9 -0.7**
comp=Z,72nm,1.4s,comp=Z,1µm
MDJ Mudanjiang 53.49 340 P **P 23 37 43.8 0.0**
MDJ pP **pP 23 37 54.9 -2.4**
MDJ sP **sP 23 37 59.4 -3.6**
MDJ PcP **PcP 23 38 49.9 -0.4**
MDJ PP **PP 23 39 42.6 -2.3**
MDJ ScP **ScP 23 42 44.6 +0.4**
MDJ PcS **PcS 23 42 49.8 +0.6**
MDJ S **S 23 45 18.3 +5.2**
MDJ sS **sS 23 45 35.9 +0.2**
MDJ pmax pmax
comp=Z,22nm,0.9s
MDJ pmax pmax
comp=Z,410nm,8.2s
MDJ LR LR
comp=N,2µm,22.8s
MDJ LR LR
comp=E,570nm,25.5s
MDJ LR LR
comp=Z,3µm,22.0s
MDJ Mudanjiang 53.49 340 *e*P **P 23 37 43.2 -0.7**
comp=Z,13nm,0.7s
MDJ LR LR
comp=Z,2µm,22.0s
ENH Enshi 53.77 314⇑*e*P **P 23 37 46.3 +0.2**
comp=Z,422nm,1.6s
ENH *e*PcP **PcP 23 38 52.2 +0.5**
ENH LR LR
comp=Z,2µm,22.0s
GYA Guiyang 53.91 308⇑*i*P **P 23 37 48.3 +0.8**
GYA pP **pP 23 38 03.0 +2.0**
GYA sP **sP 23 38 08.8 +2.2**
GYA PcP **PcP 23 38 55.3 +2.8**
GYA PP PP 23 39 54.0 +4.8
GYA ScP **ScP 23 42 47.5 +0.8**
GYA S **S 23 45 20.0 +0.3**
GYA sS **sS 23 45 42.1 -0.2**
GYA SS **SS 23 49 02.9 +1.2**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,210nm,5.2s
GYA LR LR
comp=N,4µm,20.3s
GYA LR LR
comp=E,2µm,21.5s
GYA LR LR
comp=Z,6µm,21.8s
TSI Tuntungan 53.95 278 P **P 23 37 47.2 -0.5**
comp=Z,197nm,1.2s
CN2 Changchun 54.31 337 *e*P **P 23 37 49.5 -0.3**
CN2 *e*pP **pP 23 38 02.3 -1.0**
CN2 *e*sP **sP 23 38 07.4 -1.6**
CN2 *e*S **S 23 45 22.9 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,24.0s
CN2 LR LR
comp=E,800nm,24.0s
CN2 LR LR
comp=Z,2µm,24.0s
GSI Gunungsitoli 54.62 275 P **P 23 37 52.1 -0.5**
baz=55,SNR=15
GSI Gunungsitoli 54.62 275 P **P 23 37 51.8 -0.8**
comp=Z,175nm,1.4s,comp=Z,2µm
COCO West Island 54.76 259 *i* P P 23 37 56.4 +2.8
COCO West Island 54.76 259 PFAKE 23 38 00.0 +6.4
COCO LR LR
comp=Z,2µm,21.0s
PHET Kaeng Krachan 54.93 290 P **P 23 37 56.4 +1.6**
comp=Z,280nm,1.1s,comp=Z,3µm
HABR Khabarovsk 55.46 346 *e*P **P 23 37 56.6 -1.4**
HABR *e**PP **pP 23 38 10.3 -1.3**
HABR *e*S **S 23 45 37.8 -1.6**
HABR *e**SS **sS 23 46 01.1 -1.0**
HABR *e* 23 47 41.0
HABR *e*SS **SS 23 49 23.9 -1.1**
HABR pmax pmax
comp=E,63nm,2.8s
HABR pmax pmax
comp=Z,210nm,2.8s
HABR pmax pmax
comp=N,45nm,2.8s
HABR MLR MLR
comp=Z,1µm,21.0s
BJT Baijiatuau 55.72 327 PFAKE 23 38 10.0 +10
BJT LR LR
comp=Z,4µm,21.0s
BJI Beijing 55.73 327 P **P 23 38 00.0 -0.2**
BJI pP **pP 23 38 13.8 +0.1**
BJI sP **sP 23 38 19.3 -0.1**
BJI PP **PP 23 40 08.3 +3.2**
BJI S **S 23 45 43.1 -0.3**
BJI SS **SS 23 49 30.3 +0.7**
BJI pmax pmax
comp=Z,24nm,2.8s
BJI pmax pmax
comp=Z,650nm,4.2s
BJI LR LR
comp=N,2µm,23.1s
BJI LR LR
comp=E,2µm,23.1s
BJI LR LR
comp=Z,4µm,28.0s
SRDT SRDT 55.80 291 P **P 23 38 02.5 +1.4**
comp=Z,238nm,1.2s,comp=Z,3µm
LHMI Lhok Sumawe 55.82 280 P **P 23 38 01.5 +0.2**
comp=Z,422nm,1.0s,comp=Z,3µm
OPA Opana 55.90 60 *e*P **P 23 38 03.2 +1.5**
OPA Opana 55.90 60 *e*P **P 23 38 03.2 +1.5**
XAN Xi'an 56.29 317 P **P 23 38 04.5 +0.1**
XAN S **S 23 45 47.1 -4.0**
XAN SS SS 23 49 45.6 +6.9
XAN pmax pmax
comp=Z,15nm,0.8s
XAN pmax pmax
comp=Z,150nm,7.5s
XAN LR LR
comp=N,2µm,22.4s
XAN LR LR
comp=E,630nm,20.7s
XAN LR LR
comp=Z,890nm,24.3s
TIY Taiyuan 56.29 323 *e*P **P 23 38 04.3 0.0**
TIY sP **sP 23 38 22.3 -1.2**
TIY S **S 23 45 52.3 +1.2**
TIY sS **sS 23 46 13.5 -0.3**
TIY pmax pmax
comp=Z,500nm,4.9s
TIY LR LR
comp=N,3µm,21.3s
TIY LR LR
comp=E,1µm,20.2s
TIY LR LR
comp=Z,4µm,23.2s
KMI Kunming 56.45 305 P **P 23 38 07.6 +1.7**
KMI pP **pP 23 38 20.3 +0.8**
KMI sP **sP 23 38 25.4 +0.3**
KMI PP **PP 23 40 11.8 -0.3**
KMI S **S 23 45 49.6 -4.4**
KMI pmax pmax
comp=Z,89nm,1.0s
KMI pmax pmax
comp=Z,660nm,6.8s
KMI LR LR
comp=N,830nm,22.3s
KMI LR LR
comp=E,1µm,20.9s
KMI LR LR
comp=Z,2µm,22.3s
KLR Kul'dur 56.99 344 *e*P P 23 38 03.7 -5.3
KLR pmax pmax
comp=Z,85nm,1.8s
KLR MLR MLR
comp=Z,2µm,13.0s
CM31 Chiang Mai Arr 57.22 296⇑*e*P **P 23 38 12.7 +1.5**
comp=Z,83nm,1.0s
CMAR Chiang Mai Arr 57.22 296 P **P 23 38 12.2 +1.1**
comp=Z,46nm,0.9s,baz=114,slow=5.1,SNR=163
CMAR LR LR 00 02 36.7
comp=Z,1µm,20.9s,baz=296,slow=36
CMAR PKP2bc 00 08 13.6
comp=Z,12nm,0.9s,baz=285,slow=3.2,SNR=24
CMAR Chiang Mai Arr 57.22 296 P **P 23 38 12.2 +1.1**
CMAR ⇑*e* 00 08 13.6
CMMT Chiang Mai 57.33 296 P **P 23 38 13.6 +1.6**
comp=Z,94nm,1.4s,comp=Z,2µm
CHTO Chiang Mai 57.33 296 *e*P **P 23 38 13.0 +1.0**
CHTO *e* 23 39 06.0
CHTO pmax pmax
comp=Z,172nm,1.4s
CHTO MLR MLR
comp=Z,923nm,19.0s
CHTO Chiang Mai 57.33 296 *e*P **P 23 38 13.0 +1.0**
comp=Z,172nm,1.4s
CHTO *e*PcP **PcP 23 39 06.0 +0.3**
CHTO LR LR
comp=Z,923nm,19.0s
BSI Banda Aceh 57.48 280 P **P 23 38 11.1 -2.0**
comp=Z,121nm,1.4s,comp=Z,1µm
PET Petropavlovsk 58.31 5 *e*P **P 23 38 18.1 0.0**
PET *e*S S 23 46 09.3 -7.5
PET pmax pmax
comp=Z,57nm,1.2s
PET pmax pmax
comp=Z,700nm,14.3s
PET MLR MLR
comp=Z,1µm,19.0s
PET MLR MLR
comp=Z,2µm,13.0s
PET Petropavlovsk 58.31 5 PFAKE 23 38 30.0 +12
PET LR LR
comp=Z,2µm,22.0s
CD2 Chengdu 58.31 311⇑*i*P P 23 38 21.9 +3.2
CD2 pP pP 23 38 35.3 +3.0
CD2 sP sP 23 38 40.8 +2.9
CD2 PP PP 23 40 33.1 +4.8
CD2 PcS **PcS 23 43 12.3 +1.2**
CD2 S **S 23 46 15.8 -2.0**
CD2 sS sS 23 46 40.2 +1.4
CD2 SS **SS 23 50 13.6 +3.0**
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,810nm,7.5s
CD2 LR LR
comp=N,3µm,20.8s
CD2 LR LR
comp=Z,4µm,19.6s
PEA0B Petropavlovsk- 58.32 4 *e*P **P 23 38 18.6 +0.4**
PEA0B *e*PcP **PcP 23 39 09.1 +0.3**
PETK Petropavlovsk- 58.32 4 P **P 23 38 18.1 -0.1**
comp=Z,10nm,0.6s,baz=169,slow=8.4,SNR=12
PETK LR LR 23 59 50.9
comp=Z,2µm,21.2s,baz=191,slow=32
PETK Petropavlovsk- 58.32 4 P **P 23 38 18.1 -0.1**
PETK pmax pmax
comp=Z,11nm,0.6s
PETK MLR MLR
comp=Z,2µm,21.3s
PETK Petropavlovsk- 58.32 4 P **P 23 38 18.1 -0.1**
PPT Papeete 58.48 107 P **P 23 38 22.4 +2.3**
comp=Z,50nm,0.6s,baz=0.4,slow=10,SNR=8.8
PPT LR LR 23 57 33.7
comp=Z,1µm,20.3s,baz=232,slow=30
PPT Papeete 58.48 107 P **P 23 38 22.4 +2.3**
PPT2 Papeete2 58.49 107 *e*P **P 23 38 22.5 +2.3**
comp=Z,174nm,1.4s
PPT2 *e*S **S 23 46 18.0 -2.6**
comp=Z,1µm,24.5s
PPT2 *e*SS SS 23 50 05.8 -8.0
comp=Z,1µm,29.0s
PPT2 *e*LR LR 23 55 32.9
comp=Z,2µm,24.0s
PPT2 Papeete2 58.49 107 *e*P'P' 00 08 12.8
comp=Z,75nm,1.4s
PAE Paea 58.49 107 *e*P **P 23 38 22.0 +1.9**
comp=Z,36nm,1.3s
PAE Paea 58.49 107 *e*P **P 23 38 22.0 +1.9**
comp=Z,36nm,1.3s
TIAR Tiarei 58.70 107 *e*P **P 23 38 23.9 +2.3**
comp=Z,467nm,1.2s
TIAR Tiarei 58.70 107 *e*P **P 23 38 23.9 +2.3**
comp=Z,467nm,1.2s
TVO Taravao 58.81 108 *e*P **P 23 38 24.8 +2.4**
comp=Z,382nm,1.4s
TVO Taravao 58.81 108 *e*P'P' 00 08 10.7
comp=Z,188nm,1.2s
TVO Taravao 58.81 108 *e*P **P 23 38 24.8 +2.4**
comp=Z,382nm,1.4s
TVO *e*P'P' 00 08 10.7
HHC Hu-ho-hao-te 58.85 325 *e*P **P 23 38 23.3 +1.0**
HHC sP **sP 23 38 42.1 +0.5**
HHC PcP **PcP 23 39 11.6 +0.2**
HHC PP **PP 23 40 35.0 +2.0**
HHC ScP **ScP 23 43 06.3 -1.8**
HHC PcS **PcS 23 43 11.8 -1.4**
HHC S **S 23 46 25.3 +0.7**

HHC sS **sS** **23 46 46.5 -1.0**
HHC ScS **ScS** **23 48 05.8 -2.5**
HHC SS **SS** **23 50 20.8 +1.9**
HHC pmax pmax
comp=Z,58nm,0.8s
HHC pmax pmax
comp=Z,590nm,6.1s
HHC LR LR
comp=N,2µm,16.1s
HHC LR LR
comp=E,2µm,16.6s
HHC LR LR
comp=Z,3µm,16.3s
TBI **Tubuai** **59.23 114** *e*P **P** **23 38 26.8 +1.6**
comp=Z,374nm,1.3s
TBI *e*S **S** **23 46 28.7 -1.2**
comp=Z,2µm,27.8s
TBI *e*SS **SS** **23 50 31.3 +6.1**
comp=Z,662nm,30.8s
TBI *e*LQ LQ 23 53 23.4
comp=Z,6µm,35.8s
TBI *e*LR LR 23 55 52.4
comp=Z,5µm,30.2s,baz=283
TBI **Tubuai** **59.23 114** *e*P **P** **23 38 26.8 +1.6**
comp=Z,374nm,1.3s
TBI *e*S **S** **23 46 28.7 -1.2**
TBI *e*SS **SS** **23 50 31.3 +6.1**
TBI *e*LQ LQ 23 53 23.4
BTO **Baotou** **59.59 324** *e*P **P** **23 38 28.5 +1.1**
PMOR **Pomariorio Ree** **59.93 104** *e*P **P** **23 38 32.1 +2.0**
comp=Z,682nm,1.3s
PMOR **Pomariorio Ree** **59.93 104** *e*P **P** **23 38 32.1 +2.0**
comp=Z,682nm,1.3s
MEH **Mehetia** **59.94 108** *e*P **P** **23 38 32.1 +1.9**
comp=Z,379nm,1.1s
MEH **Mehetia** **59.94 108** *e*P **P** **23 38 32.1 +1.9**
comp=Z,379nm,1.1s
FX1 **Attu Island--F** **60.63 15** LR LR 23 59 52.1
comp=Z,3µm,22.0s,baz=233,slow=31
FX1 **Attu Island--F** **60.63 15** *e*P **P** **23 38 34.6 +0.4**
LZH **Lanzhou** **60.89 316** ⇑P **P** **23 38 37.8 +1.3**
LZH pP **pP** **23 38 50.8 +0.6**
LZH sP **sP** **23 38 55.9 +0.1**
LZH PP **PP** **23 40 52.0 +0.8**
LZH S **S** **23 46 51.3 +0.2**
LZH sS **sS** **23 47 14.3 +0.2**
LZH SS **SS** **23 50 54.0 +2.8**
LZH pmax pmax
comp=Z,180nm,1.5s
LZH pmax pmax
comp=Z,470nm,6.6s
LZH LR LR
comp=N,880nm,15.0s
LZH LR LR
comp=E,2µm,16.1s
LZH LR LR
comp=Z,3µm,18.0s
HIA **Hailar** **61.04 337** *e*P **P** **23 38 37.1 0.0**
comp=Z,26nm,0.6s
HIA LR LR
comp=Z,2µm,21.0s
DRV **Dumont d'Urvil** **61.89 185** P P 23 38 36.0 -6.5
DRV **Dumont d'Urvil** **61.89 185** PP PP 23 40 55.0 -4.1
DRV S S 23 46 48.0 -14
DRV SS **SS** **23 51 07.0 +1.8**
DRV L L 23 54 00.0
DRV R 23 59 00.0
IMP **Imphal** **63.71 301** *e*P **P** **23 38 53.0 -2.5**
GTA **Gaotai** **65.34 318** P **P** **23 39 07.0 +1.1**
GTA pP **pP** **23 39 20.3 +0.6**
GTA sP **sP** **23 39 25.3 0.0**
GTA S **S** **23 47 46.3 -0.2**
GTA sS **sS** **23 48 07.3 -2.4**
GTA SS **SS** **23 52 01.8 +1.3**
GTA pmax pmax
comp=Z,30nm,0.9s
GTA pmax pmax
comp=Z,600nm,7.4s
GTA LR LR
comp=N,890nm,20.9s
GTA LR LR
comp=E,1µm,19.2s
GTA LR LR
comp=Z,2µm,20.4s
CLNS **Chul'man** **65.65 344** *e*P **P** **23 39 06.5 -0.9**
CLNS *e**PP pP 23 39 13.5 -7.8
CLNS *e* 23 39 26.0
CLNS *e*PPP PPP 23 43 04.8
CLNS *e*S **S** **23 47 52.4 +2.9**
CLNS *e*SS **SS** **23 52 03.3 -1.2**
CLNS pmax pmax
comp=Z,9.0nm,1.0s
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax smax
comp=N,489nm,12.3s
CLNS smax smax
comp=E,178nm,11.1s
CLNS MLR MLR
comp=Z,570nm,16.0s
CLNS MLR MLR
comp=E,296nm,15.0s
CLNS MLR MLR
comp=Z,703nm,15.0s
SHL **Shillong** **65.72 301** *i*P **P** **23 39 10.0 +1.3**
SHL *ex* x 23 48 12.0
AGT **Agartala** **65.74 299** *i*x **P** **23 39 11.0 +2.4**
ULN **Ulaanbaatar** **65.86 329**⇑ *e*P **P** **23 39 09.9 +0.7**
comp=Z,37nm,0.5s
ULN PP **PP** **23 41 34.0 -0.7**
ULN LR LR
comp=Z,2µm,20.0s
ULN **Ulaanbaatar** **65.86 329** P **P** **23 39 10.6 +1.4**
SNR=21
ULN **Ulaanbaatar** **65.86 329** P **P** **23 39 10.1 +0.9**
comp=Z,54nm,0.6s,comp=Z,1µm
SONM **Songino Array** **66.19 328** P **P** **23 39 12.0 +0.8**
comp=Z,92nm,0.5s,baz=148,slow=4.7,SNR=187
SONM LR LR 00 06 38.4
comp=Z,2µm,20.5s,baz=127,slow=35
SONM PKP2bc 00 07 48.8
comp=Z,1.1nm,0.8s,baz=316,slow=3.2,SNR=9.1
SONM **Songino Array** **66.19 328** P **P** **23 39 12.0 +0.8**
SONM ⇑*e* 00 07 48.8
CASY **Casey** **67.35 197** *e*P **P** **23 39 18.6 +0.5**
comp=Z,91nm,1.3s
CASY LR LR
comp=Z,4µm,20.0s
LSA **Lhasa** **67.71 305** P **P** **23 39 23.5 +1.8**
LSA pP **pP** **23 39 30.9 -4.7**
LSA S S 23 48 27.4 +11
LSA LR LR
comp=Z,750nm,28.0s
LSA **Lhasa** **67.71 305**⇑ *e*P **P** **23 39 22.8 +1.1**
LSA pmax pmax
comp=Z,99nm,0.8s
LSA MLR MLR
comp=Z,941nm,22.0s
LSA **Lhasa** **67.71 305**⇑ *e*P **P** **23 39 22.8 +1.1**
comp=Z,99nm,0.8s
LSA LR LR
comp=Z,941nm,22.0s
CAL **Calcutta** **67.92 297** *ex* **P** **23 39 23.5 +1.0**
SEY **Seymchan** **67.96 0***ce*P **P** **23 39 21.0 -0.9**
YAK **Yakutsk** **69.20 349** *e*P **P** **23 39 29.1 -0.6**
YAK *e**PP **pP** **23 39 46.9 +3.3**
YAK *e* 23 39 51.8
YAK *e* 23 42 02.4
YAK *e*PPP PPP 23 43 39.1
YAK *e*S **S** **23 48 28.4 -3.4**
YAK *e**SS sS 23 48 59.9 +4.7
YAK *e* 23 49 23.4
YAK *e*SS **SS** **23 53 04.3 +5.1**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=Z,130nm,3.5s
YAK pmax pmax
comp=N,180nm,5.0s
YAK pmax pmax
comp=E,27nm,3.1s
YAK smax smax
comp=N,745nm,7.2s
YAK smax smax
comp=E,130nm,6.7s
YAK **Yakutsk** **69.20 349** PFAKE 23 39 40.0 +10
YAK LR LR
comp=Z,1µm,22.0s
ZAK **Zakamensk** **69.37 329** *e*P **P** **23 39 31.4 +0.3**
TAPN **Taplejung** **69.83 301** *e*P **P** **23 39 35.1 +0.4**
comp=Z,148nm,0.8s
ODAN **Odare** **69.96 301** *e*P **P** **23 39 35.6 +0.2**
comp=Z,170nm,0.7s
TLY **Talaya** **69.98 330***c* *i*P **P** **23 39 35.1 +0.3**
TLY *e* 23 42 09.0
TLY *e*PPP PPP 23 43 50.3
TLY *e*S **S** **23 48 43.2 +1.8**
TLY *e* 23 49 04.8
TLY *e* 23 49 30.5
TLY pmax pmax
comp=Z,24nm,0.9s
TLY MLR MLR
comp=Z,1µm,19.0s
TLY **Talaya** **69.98 330**⇑ *e*P **P** **23 39 35.1 +0.3**
comp=Z,22nm,0.8s
TLY *e*PP **PP** **23 42 10.4 +0.3**
TLY LR LR
comp=Z,1µm,19.0s
TLY **Talaya** **69.98 330** P **P** **23 39 35.4 +0.6**
SNR=16
TLY **Talaya** **69.98 330** P **P** **23 39 35.0 +0.3**
comp=Z,151nm,1.3s,SNR=9.8
IRK **Irkutsk** **70.02 331** *e*P **P** **23 39 34.0 -1.0**
IRK *e* 23 39 52.8
IRK pmax pmax
comp=Z,62nm,0.7s
RAMN **Ramite** **70.66 301** *e*P **P** **23 39 39.9 +0.2**
comp=Z,44nm,0.6s
MOY **Mondy** **71.30 329** *e*P **P** **23 39 43.6 +0.7**
MOY pmax pmax
comp=Z,92nm,1.4s
GUN **Gumba** **71.55 302** *e*P **P** **23 39 45.4 +0.2**
comp=Z,247nm,0.6s
PKI **Pulchoki** **71.85 301** *e*P **P** **23 39 47.0 0.0**
PKIN **Phulchoki** **71.86 301** *e*P **P** **23 39 47.0 0.0**
comp=Z,63nm,0.8s
SDPT **Sand Point** **72.00 26** *e*P **P** **23 39 46.4 -0.4**
comp=Z,283nm,1.5s
KKN **Kakani** **72.02 301** *e*P **P** **23 39 48.1 +0.2**
comp=Z,120nm,0.6s
DMN **Daman** **72.12 301** *e*P **P** **23 39 49.0 +0.4**
VNDA **Vanda** **72.45 178** P **P** **23 39 50.1 +0.8**
comp=Z,21nm,1.1s,baz=335,slow=6.7,SNR=56
VNDA **Vanda** **72.45 178** *e*P **P** **23 39 50.0 +0.8**
comp=Z,56nm,1.3s
VNDA *e* 23 40 00.7
RKT **Rikitea** **72.49 112** *e*P **P** **23 39 52.4 +1.9**
comp=Z,77nm,1.1s
RKT *e*S **S** **23 49 10.8 -0.7**
comp=Z,1µm,25.5s
RKT *e*SS **SS** **23 53 48.1 -3.0**
comp=Z,846nm,34.5s
RKT *e*LQ LQ 23 58 53.0
comp=Z,3µm,37.0s
RKT *e*LR LR 00 02 00.4
comp=Z,4µm,29.2s,baz=274
RKT **Rikitea** **72.49 112** *e*P **P** **23 39 52.4 +1.9**
comp=Z,77nm,1.1s
RKT *e*S **S** **23 49 10.8 -0.7**
RKT *e*SS **SS** **23 53 48.1 -3.0**
RKT *e*LQ LQ 23 58 53.0
SBA **Scott Base** **73.01 177** *e*P **P** **23 39 54.2 +1.6**
SBA pmax pmax
comp=Z,97nm,1.5s
SBA MLR MLR
comp=Z,1µm,22.0s
SBA **Scott Base** **73.01 177** *e*P **P** **23 39 54.2 +1.6**
comp=Z,97nm,1.5s
SBA LR LR
comp=Z,1µm,22.0s
MIR **Mirnyy** **73.20 201** *i*P pP 23 40 07.0 -0.9
KOLN **Koldanda** **73.45 301** *e*P **P** **23 39 56.4 0.0**
comp=Z,184nm,0.7s
DANN **Dangsing** **73.47 301** *e*P **P** **23 39 56.4 -0.2**
comp=Z,138nm,0.6s
CHGN **Chignik** **73.51 26** *e*P **P** **23 39 55.0 -0.7**
BILL **Bilibino** **73.79 6**⇑ *e*P **P** **23 39 57.9 +0.6**
BILL *e* 23 42 37.6
BILL *i*S **SKiKP** **23 49 22.7 +0.3**
BILL pmax pmax
comp=Z,31nm,1.2s
BILL **Bilibino** **73.79 6** *e*P **P** **23 39 57.2 -0.1**
comp=Z,12nm,0.5s
BILL *e*PP **PP** **23 42 42.4 -0.1**
BILL LR LR
comp=Z,991nm,22.0s
GAMB **Gambell** **74.04 16** *e*P **P** **23 39 58.6 -0.1**
comp=Z,25nm,1.1s
PYUN **Piuthan** **74.06 301** *e*P **P** **23 39 59.5 -0.4**
comp=Z,439nm,0.9s
WMQ **Urumqi** **75.42 318** P **P** **23 40 08.0 +0.7**
WMQ pP **pP** **23 40 22.0 +0.6**
WMQ PP **PP** **23 42 59.3 +2.4**
WMQ S **S** **23 49 42.8 -1.1**
WMQ sS **sS** **23 50 04.0 -3.6**
WMQ SKS **SKSac** **23 50 07.3 -5.9**
WMQ ScS **SKKSac** **23 50 13.9 +0.3**
WMQ pmax pmax
comp=Z,63nm,1.4s
WMQ pmax pmax
comp=Z,340nm,5.0s
WMQ LR LR
comp=N,1µm,20.0s
WMQ LR LR
comp=E,690nm,25.0s
WMQ LR LR
comp=Z,2µm,26.0s
HYB **Hyderabad** **75.75 289** *i*P **P** **23 40 12.0 +2.3**
TRD **Trivandrum** **75.93 280**⇑ *e*P **P** **23 40 10.4 -0.3**
TNA **Tin City** **76.45 16** *e*P **P** **23 40 13.5 +0.9**
comp=Z,20nm,1.2s
KDAK **Kodiak Island** **76.97 27** *e*P **P** **23 40 16.1 +0.5**
comp=Z,76nm,1.1s
KDAK *e*PP **PP** **23 43 09.6 +0.2**
KDAK **Kodiak Island** **76.97 27** P **P** **23 40 15.5 -0.1**
comp=Z,421nm,1.1s,SNR=6.2
TIXI **Tiksi** **78.19 353** *e*P **P** **23 40 20.8 -1.4**
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI **Tiksi** **78.19 353** *e*P **P** **23 40 20.6 -1.6**
comp=Z,10nm,0.5s
TIXI LR LR
comp=Z,1µm,20.0s
AGRA **Agra** **78.20 299** *e*P **P** **23 40 22.4 -0.8**
DDI **Dehra Dun** **78.78 302** *e*P **P** **23 40 26.0 -0.4**
DGAR **Diego Garcia** **78.87 263** *e*P **P** **23 40 26.7 -0.5**
DGAR *e* 23 40 35.5
DGAR pmax pmax
comp=Z,513nm,1.4s
DGAR MLR MLR
comp=Z,1µm,20.0s
DGAR **Diego Garcia** **78.87 263** *e*P **P** **23 40 26.7 -0.5**
comp=Z,513nm,1.4s
DGAR *e*PcP **PcP** **23 40 35.5 -0.3**
DGAR LR LR
comp=Z,1µm,20.0s
DGAR **Diego Garcia** **78.87 263** P **P** **23 40 27.4 +0.2**
SNR=7.5
KAAM **Kaadhehdhoo** **78.97 272** P **P** **23 40 29.1 +1.4**
baz=79,SNR=5.6
KAAM **Kaadhehdhoo** **78.97 272** P **P** **23 40 29.0 +1.3**
comp=Z,102nm,1.3s
NDI **New Delhi** **79.14 300** *ex* P 23 40 25.0 -3.4
AYAN **Aya Nagar** **79.17 300** *e*P **P** **23 40 26.5 -2.1**
AYAN AMb AMB 23 40 28.0
comp=Z,80nm,1.2s
BHGR **Bahadurgarh** **79.38 300** *ex* P 23 40 25.6 -4.0
BHGR AMb AMB 23 40 27.9
comp=Z,146nm,0.0s
SEW **Seward** **79.56 26** *e*P **P** **23 40 29.9 -0.1**
comp=Z,147nm,1.1s
KUDL **Kundal** **79.65 300** *e*P **P** **23 40 30.1 -1.1**
KUDL AMb AMB 23 40 31.6
comp=Z,58nm,1.2s
KKR **Kurukshetra** **79.74 302** *e*P **P** **23 40 31.7 0.0**
KKR AMb AMB 23 40 32.9
comp=Z,122nm,0.6s
KAD **Karad** **79.85 289** *i*P **P** **23 40 31.8 -0.7**
RC01 **Rabbit Creek A** **79.94 25** *e*P **P** **23 40 31.9 -0.1**
comp=Z,150nm,1.2s
MK31 **Makanchi Array** **80.03 319***ce*P **P** **23 40 32.1 -0.8**
MK31 pmax pmax
comp=Z,20nm,0.5s
MK31 **Makanchi Array** **80.03 319**⇑ *i*P **P** **23 40 32.9 0.0**
MK31 *e*PP **PP** **23 43 38.1 +2.7**
MKAR **Makanchi Array** **80.03 319** P **P** **23 40 32.5 -0.4**
comp=Z,20nm,0.5s,baz=104,slow=6.1,SNR=174
MKAR PKKPbc **PKKPbc** **23 59 17.1 -2.4**
comp=Z,1.3nm,0.9s,baz=293,slow=2.3,SNR=7.6
MKAR PKPPKP **P'P'df** **00 07 21.7 +0.6**
comp=Z,2.4nm,1.1s,baz=298,slow=2.6,SNR=12
MKAR LR LR 00 14 29.1
comp=Z,1µm,20.7s,baz=98,slow=34
MKAR **Makanchi Array** **80.03 319** P **P** **23 40 32.5 -0.4**
MKAR pmax pmax
comp=Z,20nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** **80.03 319** P **P** **23 40 32.5 -0.4**
MKAR PKKPbc **PKKPbc** **23 59 17.1 -2.4**
MKAR P'P' 00 07 21.7
KHET **Khetri** **80.23 300** *e*P **P** **23 40 33.7 -0.7**
KHET AMb AMB 23 40 34.4
comp=Z,80nm,1.2s
POO **Poona** **80.35 290**⇑ *i*P P 23 40 32.0 -3.2
comp=Z,95nm,1.2s
PMR **Palmer** **80.45 25** *e*P **P** **23 40 34.2 -0.5**
PMR pmax pmax
comp=Z,97nm,1.2s
PMR **Palmer** **80.45 25** *e*P **P** **23 40 34.2 -0.5**
comp=Z,97nm,1.2s
SML **Sawmill** **80.89 25** *e*P **P** **23 40 37.5 +0.4**
SML pmax pmax
comp=Z,34nm,1.1s
SML **Sawmill** **80.89 25** *e*P **P** **23 40 37.5 +0.4**
comp=Z,34nm,1.1s
TRF **Thorofare Moun** **80.94 23** *e*P **P** **23 40 36.5 -1.1**
comp=Z,25nm,0.6s
AJM **Ajmer** **80.95 298** *i*P **P** **23 40 37.0 -1.3**
ZAA0 **Zalesovo Array** **80.99 327** *e*P **P** **23 40 36.5 -1.2**
ZALV **Zalesovo Beam** **80.99 327** P **P** **23 40 36.8 -1.0**
comp=Z,67nm,0.5s,baz=107,slow=5.4,SNR=111
ZALV PKKPbc **PKKPbc** **23 59 15.6 -2.0**
comp=Z,1.7nm,0.8s,baz=300,slow=3.2,SNR=7.2
ZALV PKPPKP **P'P'df** **00 07 18.1 -0.6**
comp=Z,2.9nm,1.1s,baz=284,slow=5.8,SNR=4.0
ZALV LR LR 00 15 42.4
comp=Z,2µm,19.6s,baz=124,slow=35
ZALV **Zalesovo Beam** **80.99 327** P **P** **23 40 36.8 -1.0**
ZALV 23 59 15.6
ZALV pmax pmax
comp=Z,67nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,2µm,19.6s
ZALV **Zalesovo Beam** **80.99 327** P **P** **23 40 36.8 -1.0**
ZALV PKKPbc **PKKPbc** **23 59 15.6 -2.0**
ZALV P'P' 00 07 18.1
DIV **Divide** **81.65 26** *e*P **P** **23 40 41.8 +0.5**
comp=Z,75nm,1.2s
BMRM **Bremner River** **82.09 26** *e*P **P** **23 40 43.6 +0.1**
comp=Z,117nm,1.3s
NVS **Novosibirsk** **82.17 327**⇑ *i*P **P** **23 40 42.8 -1.2**
NVS *e**PP **pP** **23 41 02.6 +4.3**
NVS *e*S **S** **23 50 49.6 -5.7**
NVS pmax pmax
comp=Z,64nm,1.5s
NVS pmax pmax
comp=N,23nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,40nm,2.3s
NVS pmax pmax
comp=N,10.0nm,1.9s
NVS smax smax
comp=E,127nm,3.5s
KSH **Kashi** **82.50 311**⇑ *i*P **P** **23 40 48.4 +2.1**
KSH pP **pP** **23 41 00.3 -0.3**
KSH sP **sP** **23 41 06.6 +0.6**
KSH PP **PP** **23 44 00.0 +3.9**
KSH S **S** **23 51 00.0 +0.3**
KSH sS **sS** **23 51 24.3 +0.7**
KSH SS **SS** **23 56 28.3 +6.4**
KSH pmax pmax
comp=Z,48nm,1.1s
KSH pmax pmax
comp=Z,570nm,5.0s
KSH LR LR
comp=N,2µm,23.6s
KSH LR LR
comp=E,680nm,17.6s
KSH LR LR
comp=Z,1µm,22.4s
COLA **College** **82.58 22** *e*P **P** **23 40 44.6 -1.3**
COLA pmax pmax
comp=Z,51nm,0.6s
COLA MLR MLR
comp=Z,1µm,20.0s
COLA **College** **82.58 22** *e*P **P** **23 40 44.6 -1.3**
comp=Z,51nm,0.6s
COLA LR LR
comp=Z,1µm,20.0s
PAX **Paxson** **82.61 24** *e*P **P** **23 40 45.6 -0.7**
PAX pmax pmax
comp=Z,7.0nm,0.6s
PAX **Paxson** **82.61 24** *e*P **P** **23 40 45.5 -0.7**
comp=Z,6.6nm,0.6s
ILAR **Eielson Array** **82.89 22** P **P** **23 40 46.6 -1.0**
comp=Z,42nm,0.6s,baz=249,slow=4.8,SNR=78
ILAR PP **PP** **23 43 58.5 -0.1**
comp=Z,0.9nm,0.8s,baz=243,slow=6.0,SNR=2.1
ILAR PKiKP **PKiKP** **23 46 06.1 -0.6**
comp=Z,1.1nm,0.6s,baz=260,slow=2.8,SNR=6.6
ILAR PKKPbc **PKKPbc** **23 59 10.4 -3.3**
comp=Z,0.5nm,0.7s,baz=45,slow=1.4,SNR=6.3
ILAR LR LR 00 15 38.4
comp=Z,1µm,20.2s,baz=265,slow=34
ILAR **Eielson Array** **82.89 22** P **P** **23 40 46.6 -1.0**
ILAR PP **PP** **23 43 58.5 -0.1**
ILAR PKiKP **PKiKP** **23 46 06.1 -0.6**
ILAR PKKPbc **PKKPbc** **23 59 10.4 -3.3**
ULHL **Ulahol** **82.93 314** P **P** **23 40 49.3 +0.7**
SNR=37
COLD **Coldfoot** **82.96 19** *e*P **P** **23 40 47.5 -0.3**
comp=Z,9.2nm,0.7s
NIL **Nilore** **83.45 305** PFAKE 23 41 00.0 +8.8
NIL LR LR
comp=Z,24nm,20.0s
DOT **Dot Lake** **83.48 24** *e*P **P** **23 40 50.2 -0.5**
comp=Z,24nm,0.6s
DOT *e*PP **PP** **23 44 02.4 -1.1**
KURK **Kurchatov** **83.53 322**⇑ *i*P **P** **23 40 50.7 -0.5**
KURK 23 44 04.3
KURK pmax pmax
comp=Z,45nm,0.8s
KURK MLR MLR
comp=Z,2µm,22.0s
KURK **Kurchatov** **83.53 322**⇑ *i*P **P** **23 40 50.7 -0.5**
comp=Z,45nm,0.8s
KURK *e*PP **PP** **23 44 01.2 -2.8**
KURK PP PP 23 44 04.2 +0.2
KURK PKiKP **PKiKP** **23 46 06.6 -1.5**
KURK PKKPbc **PKKPbc** **23 59 09.9 -1.7**
KURK P'P' 00 07 14.7
KURK LR LR
comp=Z,2µm,22.0s
KURK **Kurchatov** **83.53 322** P **P** **23 40 51.1 0.0**
SNR=25
KURK **Kurchatov** **83.53 322** P **P** **23 40 50.9 -0.2**
comp=Z,321nm,0.7s,SNR=75
TKM2 **Tokmak 2** **83.55 314** *i*P **P** **23 40 52.0 +0.3**
TKM2 **Tokmak 2** **83.55 314** PFAKE 23 41 00.0 +8.2
TKM2 LR LR
comp=Z,1µm,22.0s
TKM2 **Tokmak 2** **83.55 314** P **P** **23 40 52.0 +0.3**
SNR=86
KURBB **Kurchatov Arra** **83.56 322** P **P** **23 40 50.6 -0.7**
comp=Z,35nm,0.7s,baz=112,slow=4.1,SNR=163
KURBB PP **PP** **23 44 04.2 -0.1**
comp=Z,0.4nm,0.3s,baz=103,slow=7.4,SNR=4.5
KURBB PKiKP **PKiKP** **23 46 06.6 -1.5**
comp=Z,1.4nm,0.6s,baz=112,slow=1.3,SNR=4.6
KURBB PKKPbc **PKKPbc** **23 59 09.9 -1.6**

comp=Z,1.6nm,0.8s,baz=290,slow=3.0,SNR=9.9
KURBB PKPPKP **P'P'df** **00 07 14.7 +0.3**
comp=Z,3.4nm,1.1s,baz=288,slow=2.9,SNR=9.0
KZA Kyzart **83.61 313** P **P** **23 40 53.7 +1.3**
SNR=123
PNL Peninsula **83.95 28** *e*P **P** **23 40 53.2 +0.1**
comp=Z,80nm,1.0s
KBK Karagaybulak **83.96 314** P **P** **23 40 54.4 +0.6**
SNR=34
CHMS Chumysh **84.17 314** P **P** **23 40 54.7 0.0**
SNR=24
UCH Uchtor **84.18 313** P **P** **23 40 56.5 +1.2**
SNR=13
FRU Bishkek **84.23 314** *i* P **P** **23 40 54.5 -0.5**
FRU *i* 23 41 08.0
FRU *e* 23 51 12.0
FRU pmax pmax
comp=Z,250nm,2.0s
FRU MLR MLR
comp=N,700nm,22.0s
AAK Ala-Archa **84.28 314** P **P** **23 40 55.9 +0.5**
comp=N,34nm,0.7s,baz=114,slow=4.6,SNR=87
AAK PKKPbc **PKKPbc** **23 59 07.3 -2.4**
comp=N,0.5nm,0.6s,baz=284,slow=5.2,SNR=3.9
AAK Ala-Archa **84.28 314** P **P** **23 40 55.9 +0.5**
AAK pmax pmax
comp=Z,35nm,0.7s
AAK pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa **84.28 314** *e*P **P** **23 40 55.7 +0.3**
comp=Z,39nm,0.7s
AAK PKKPbc **PKKPbc** **23 59 07.3 -2.4**
AAK LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa **84.28 314** P **P** **23 40 56.3 +0.8**
SNR=39
AAK Ala-Archa **84.28 314** P **P** **23 40 56.2 +0.8**
SNR=56
AAK Ala-Archa **84.28 314** P **P** **23 40 56.0 +0.6**
comp=Z,353nm,0.6s,SNR=66
USP Ospenovka **84.41 314** P **P** **23 40 56.3 +0.4**
SNR=51
QSPA South Pole Qui **84.74 180** PKKPbc PKKPbc 23 59 06.1 -3.6
comp=Z,3.7nm,0.8s,baz=188,slow=1.6,SNR=13
QSPA South Pole Qui **84.74 180** PKKPbc PKKPbc 23 59 06.2 -3.6
QSPA LR LR
comp=Z,1µm,20.0s
AML Almayashu **84.75 313** P **P** **23 40 59.5 +1.4**
SNR=7.4
EKS2 Erkin-Say **84.80 314** *e*P **P** **23 40 58.2 +0.2**
EKS2 pmax pmax
comp=Z,71nm,0.8s
EKS2 MLR MLR
comp=Z,2µm,21.0s
EKS2 Erkin-Say **84.80 314** *e*P **P** **23 40 58.2 +0.2**
comp=Z,71nm,0.8s
EKS2 LR LR
comp=Z,2µm,21.0s
EKS2 Erkin-Say **84.80 314** P **P** **23 40 59.0 +1.0**
SNR=78
MAW Mawson **84.83 203** P **P** **23 40 58.2 +0.7**
comp=Z,61nm,0.9s,baz=75,slow=7.7,SNR=16
MAW PKKPbc **PKKPbc** **23 59 05.3 -3.5**
comp=Z,6.3nm,0.6s,baz=243,slow=2.3,SNR=4.7
MAW LR LR 00 17 43.4
comp=Z,2µm,19.4s,baz=88,slow=35
MAW Mawson **84.83 203** *e*P **P** **23 40 57.7 +0.3**
comp=Z,38nm,1.4s
MAW PKKPbc **PKKPbc** **23 59 05.3 -3.5**
MAW Mawson **84.83 203** P **P** **23 40 58.4 +1.0**
baz=85,SNR=6.8
EGAK Eagle **85.11 23** *e*P **P** **23 40 58.8 0.0**
comp=Z,23nm,0.6s
DAWY Dawson **85.55 24** *e*P **P** **23 41 01.5 +0.4**
WRAK Wrangell Islan **86.52 33** *e*P **P** **23 41 06.9 +0.9**
comp=Z,212nm,1.5s
WRAK LR LR
comp=Z,4µm,22.0s
KBL Kabul **87.04 305** *e*P **P** **23 41 07.5 -1.8**
KBL Kabul **87.04 305** *e*P **P** **23 41 07.5 -1.8**
KBL Kabul **87.04 305** P **P** **23 41 08.0 -1.3**
baz=87,SNR=6.0
KK31 Karatay Array **87.24 314** *ce*P **P** **23 41 09.0 -0.9**
KK31 pmax pmax
comp=Z,91nm,1.2s
KKAR Karatay Array **87.24 314** *e*P **P** **23 41 09.4 -0.5**
KKAR *e* 23 41 21.0
KKAR pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array **87.24 314** *e*P **P** **23 41 09.4 -0.5**
comp=Z,15nm,0.6s
KKAR *e* 23 41 21.0
DLBC Dease Lake **88.22 31** *e*P **P** **23 41 14.8 +0.5**
BVAR Borovoye Array **89.02 323** P **P** **23 41 16.8 -1.3**
comp=Z,40nm,0.7s,baz=106,slow=5.4,SNR=71
BVAR PP **PP** **23 44 48.3 -0.1**
comp=Z,2.9nm,0.9s,baz=61,slow=9.0,SNR=3.2
BVAR PKiKP **PKiKP** **23 46 16.7 -0.3**
comp=Z,0.9nm,0.5s,baz=173,slow=2.4,SNR=8.6
BVAR PKKPbc **PKKPbc** **23 58 57.4 -1.1**
comp=Z,0.6nm,0.7s,baz=288,slow=2.3,SNR=5.2
BVAR LR LR 00 23 35.6
comp=Z,1µm,19.0s,baz=91,slow=37
BVAR Borovoye Array **89.02 323** P **P** **23 41 16.8 -1.3**
BVAR 23 44 48.3
BVAR pmax pmax
comp=Z,41nm,0.7s
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR MLR MLR
comp=Z,1µm,19.0s
BVAR Borovoye Array **89.02 323** P **P** **23 41 16.8 -1.3**
BVAR PP **PP** **23 44 48.3 -0.1**
BVAR PKiKP **PKiKP** **23 46 16.8 -0.3**
BVAR PKKPbc **PKKPbc** **23 58 57.4 -1.1**
BRVK Borovoye **89.09 323** *ce*P **P** **23 41 17.3 -1.1**
BRVK pmax pmax
comp=Z,34nm,0.8s
BRVK Borovoye **89.09 323** *e*P **P** **23 41 17.0 -1.4**
comp=Z,26nm,0.7s
BRVK *e*PP **PP** **23 44 49.1 +0.1**
BRVK LR LR
comp=Z,2µm,20.0s
BRVK Borovoye **89.09 323** P **P** **23 41 17.4 -1.0**
SNR=14
KRMB Red Mountain **89.11 48** *e*P **P** **23 41 19.9 +1.0**
comp=Z,65nm,1.1s
KCPM Cahto Peak **89.11 50** *e*P **P** **23 41 19.2 +0.3**
comp=Z,63nm,1.3s
KHMM Horse Mountain **89.15 49** *e*P **P** **23 41 19.5 +0.3**
comp=Z,33nm,0.8s
INK Inuvik **89.18 21** *e*P **P** **23 41 18.1 -0.3**
comp=Z,35nm,1.2s
RNO Roman Nose **89.55 46** P **P** **23 41 22.3 +1.4**
OOW Octopus West **89.75 42** P **P** **23 41 23.5 +1.8**
NLWA Neilton Lookou **89.92 43** *e*P **P** **23 41 23.2 +0.7**
comp=Z,87nm,1.2s
NLWA LR LR
comp=Z,2µm,22.0s
HUMO Hull Mountain **89.95 47** *e*P **P** **23 41 23.5 +0.8**
comp=Z,98nm,1.0s
WDC Whiskeytown Da **90.01 49** *e*P **P** **23 41 23.4 +0.4**
WDC pmax pmax
comp=Z,11nm,0.6s
WDC Whiskeytown Da **90.01 49** *e*P **P** **23 41 23.4 +0.4**
comp=Z,11nm,0.6s
E03A Lebam **90.02 43** P **P** **23 41 23.8 +0.9**
YBH Yreka Blue Hor **90.02 48** P **P** **23 41 24.0 +0.9**
comp=Z,48nm,1.1s,baz=186,slow=2.4,SNR=26
YBH Yreka Blue Hor **90.02 48** *e*P **P** **23 41 24.2 +1.0**
comp=Z,109nm,1.3s
PGC Sidney **90.37 41** *e*P **P** **23 41 24.7 +0.2**
comp=Z,1.3nm,0.7s
BROR Big Rock Looko **90.51 46** P **P** **23 41 25.8 +0.5**
IRO Indian Ridge **90.62 46** P **P** **23 41 26.5 +0.5**
LVP Lakeview Peak **90.75 44** P **P** **23 41 27.1 +0.7**
FRIS Frissel Point **90.76 46** P **P** **23 41 27.4 +0.8**
TDL Tradedollar La **90.92 44** P **P** **23 41 28.0 +0.7**
LON Longmire **91.24 43** *e*P **P** **23 41 28.5 -0.2**
LON pmax pmax
comp=Z,9.0nm,0.7s
LON Longmire **91.24 43** *e*P **P** **23 41 28.5 -0.2**
comp=Z,9.4nm,0.7s

VFP Flag Point **91.33 45** P **P** **23 41 29.8 +0.5**
CMB Columbia Colle **91.40 52** *e*P **P** **23 41 30.0 +0.4**
CMB *e* 23 45 06.0
CMB pmax pmax
comp=Z,88nm,1.5s
CMB Columbia Colle **91.40 52** *e*P **P** **23 41 30.0 +0.4**
comp=Z,88nm,1.5s
CMB *e*PP **PP** **23 45 06.0 -1.8**
SMMC Simmler **91.46 55** ⇓P **P** **23 41 31.9 +2.0**
baz=92
PKM Peak Mountain **91.57 55** ⇓P **P** **23 41 32.2 +1.6**
baz=92
SBC Santa Barbara **91.61 56** ⇓P **P** **23 41 32.3 +1.7**
baz=92
BSC Santa Cruz Isl **91.64 56** ⇑P **P** **23 41 32.0 +1.2**
baz=92
MOD Modoc **91.83 48** *e*P **P** **23 41 32.4 +0.8**
comp=Z,164nm,1.1s
VIPM Ingram Point **91.84 46** P **P** **23 41 32.3 +0.6**
VIPM Ingram Point **91.84 46** P **P** **23 41 32.3 +0.6**
WCN Washoe City **92.01 51** *e*P **P** **23 41 33.0 +0.4**
WCN *e* 23 45 08.2
WCN pmax pmax
comp=Z,52nm,1.1s
WCN Washoe City **92.01 51** *e*P **P** **23 41 33.0 +0.4**
comp=Z,52nm,1.1s
WCN *e*PP **PP** **23 45 08.2 -4.5**
BLG Laguna Peak **92.12 56** ⇓P **P** **23 41 34.2 +1.2**
baz=92
RCTC Rector, Farmer **92.16 54** ⇑P **P** **23 41 34.0 +1.0**
baz=92
VES Vestal, Richgr **92.25 54** ⇓P **P** **23 41 34.2 +0.7**
baz=92
ETW Entiat **92.33 43** P **P** **23 41 34.0 +0.2**
ARVC Arvin **92.40 55** ⇑P **P** **23 41 35.4 +1.2**
baz=92
OSI Osito Adit **92.44 56** ⇓P **P** **23 41 35.7 +1.2**
baz=92
SCI San Clemente I **92.46 57** ⇓P **P** **23 41 35.8 +1.2**
baz=92
MLAC Mammoth Lakes **92.59 53** ⇑P **P** **23 41 36.3 +0.9**
baz=93
WTV Waterville **92.59 43** P **P** **23 41 35.4 +0.5**
CIS Catalina Islan **92.61 57** ⇑P **P** **23 41 36.6 +1.3**
baz=93
FMP Fort Macarthur **92.73 57** ⇑P **P** **23 41 36.8 +1.0**
baz=93
ISA Isabella **92.73 55** *e*P **P**
ISA pmax pmax
comp=Z,66nm,1.5s
ISA Isabella **92.73 55** *e*P **P** **23 41 36.6 +0.7**
comp=Z,66nm,1.5s
ISA Isabella **92.73 55** ⇓P **P** **23 41 36.5 +0.7**
baz=93
DECC Green Verdugo **92.74 56** ⇓P **P** **23 41 37.1 +1.2**
baz=93
HAWA Hanford **92.77 44** *e*P **P** **23 41 36.4 +0.7**
comp=Z,75nm,1.3s
HAWA LR LR
comp=Z,2µm,22.0s
PASC Pasadena Art C **92.85 56** *e*P **P** **23 41 36.6 +0.3**
comp=Z,110nm,1.3s
MWC Mount Wilson **92.96 56** *e*P **P** **23 41 36.6 -0.5**
MWC pmax pmax
comp=Z,157nm,1.4s
MWC Mount Wilson **92.96 56** *e*P **P** **23 41 36.6 -0.5**
comp=Z,157nm,1.4s
SYO Syowa Base **92.97 200** ⇓*i*X **P** **23 41 34.2 -1.9**
SYO Syowa Base **92.97 200** ⇓*e*PcP **PcP** **23 41 37.4 +0.7**
TIN Tinemaha **93.03 53** ⇑P **P** **23 41 38.7 +1.4**
baz=93
EDW2 Edwards Air Fo **93.06 55** ⇑P **P** **23 41 38.8 +1.4**
baz=93
NVAR Mina Array Bea **93.07 52** P **P** **23 41 38.5 +0.9**
comp=Z,39nm,0.8s,baz=255,slow=6.5,SNR=152
NVAR PP **PP** **23 45 17.4 -3.8**
comp=Z,0.8nm,0.5s,baz=249,slow=7.6,SNR=3.3
NVAR LR LR 00 15 38.3
comp=Z,2µm,21.9s,baz=99,slow=30
NVAR Mina Array Bea **93.07 52** P **P** **23 41 38.5 +0.9**
NVAR PP **PP** **23 45 17.4 -3.8**
G08A Pilot Rock **93.09 45** P **P** **23 41 37.8 +0.5**
CWC Cottonwood Cre **93.10 54** ⇑P **P** **23 41 38.8 +1.1**
baz=93
BFSC Mount Baldy Ra **93.29 56** ⇓P **P** **23 41 39.1 +0.6**
baz=93,SNR=11
LRMC Laurel Mountai **93.35 55** ⇓P **P** **23 41 40.3 +1.5**
baz=93
DAC Darwin (Calif) **93.48 54** *e*P **P** **23 41 40.4 +0.9**
DAC pmax pmax
comp=Z,125nm,1.4s
DAC MLR MLR
comp=Z,3µm,22.0s
DAC Darwin (Calif) **93.48 54** *e*P **P** **23 41 40.4 +0.9**
comp=Z,125nm,1.4s
DAC LR LR
comp=Z,3µm,22.0s
MPMC Manual Prospec **93.55 54** ⇑P **P** **23 41 41.1 +1.3**
baz=94
MURC Murrieta **93.63 57** ⇑P **P** **23 41 40.9 +0.9**
baz=94,SNR=5.1
109C Camp Elliot, M **93.66 57** ⇓P **P** **23 41 41.5 +1.5**
baz=94
GRAC Grapevine Rang **93.71 53** ⇓P **P** **23 41 41.0 +0.7**
baz=94
RRX Edison Barstow **93.88 55** ⇑P **P** **23 41 42.0 +1.0**
baz=94
TPH Tonopah **93.90 52** PFAKE 23 41 50.0 +8.7
TPH LR LR
comp=Z,2µm,20.0s
BBRC Big Bear Solar **93.90 56** ⇓P **P** **23 41 42.4 +0.9**
baz=94
BAR Barrett **94.01 58** *e*P **P** **23 41 41.9 +0.1**
comp=Z,76nm,1.6s
BMN Battle Mountai **94.04 50** *e*P **P** **23 41 42.5 +0.6**
BMN pmax pmax
comp=Z,72nm,1.5s
BMN MLR MLR
comp=Z,2µm,20.0s
BMN Battle Mountai **94.04 50** *e*P **P** **23 41 42.5 +0.6**
comp=Z,72nm,1.5s
BMN LR LR
comp=Z,2µm,20.0s
GSC Goldstone **94.06 55** *e*P **P** **23 41 43.1 +1.1**
GSC pmax pmax
comp=Z,57nm,1.2s
GSC Goldstone **94.06 55** *e*P **P** **23 41 43.0 +1.1**
comp=Z,57nm,1.2s
GSC Goldstone **94.06 55** ⇑P **P** **23 41 43.3 +1.2**
baz=94
FURC Furnace Creek, **94.09 54** ⇑P **P** **23 41 43.5 +1.6**
baz=94
BMO Blue Mountains **94.23 45** *e*P **P** **23 41 42.3 -0.2**
BMO *e* 23 41 54.0
BMO *e* 23 45 29.9
BMO pmax pmax
comp=Z,71nm,1.3s
BMO MLR MLR
comp=Z,2µm,22.0s
BMO Blue Mountains **94.23 45** *e*P **P** **23 41 42.3 -0.2**
comp=Z,88nm,1.3s
BMO *e* 23 41 54.0
BMO *e*PP **PP** **23 45 29.9 +0.1**
BMO LR LR
comp=Z,2µm,22.0s
MONP Monument Peak **94.23 57** ⇓P **P** **23 41 44.3 +1.3**
baz=94,SNR=16
PFO Pinyon Flat Ob **94.25 57** *e*P **P** **23 41 43.6 +0.7**
comp=Z,40nm,1.3s
PFO LR LR
comp=Z,2µm,21.0s
PFO Pinyon Flat Ob **94.25 57** P **P** **23 41 44.9 +1.9**
comp=Z,119nm,1.1s,SNR=7.5
PFO Pinyon Flat Ob **94.25 57** ⇑P **P** **23 41 43.8 +0.9**
baz=94,SNR=11
HEC Hector,Ludlow **94.42 56** ⇑P **P** **23 41 44.6 +1.0**
baz=94,SNR=12
DVTC Desert V Tower **94.49 58** ⇓P **P** **23 41 45.5 +1.4**
baz=94,SNR=6.5
SHOC Shoshone **94.52 54** ⇓P **P** **23 41 45.0 +1.0**
baz=94,SNR=12
NEW Newport **94.53 42** *e*P **P** **23 41 44.1 +0.3**
comp=Z,61nm,1.2s
NEW LR LR
comp=Z,2µm,21.0s
NEW Newport **94.53 42** ⇑P **P** **23 41 43.9 +0.1**
baz=94,SNR=39

BELC Belle Mtn. Jos **94.65 56** ⇓P **P** **23 41 45.9 +1.1**
baz=95,SNR=10
SWSC Sam W. Stewart **94.76 57** ⇑P **P** **23 41 45.9 +0.8**
baz=95,SNR=7.5
TUQ Turquoise Moun **94.79 55** ⇑P **P** **23 41 46.2 +0.8**
baz=95,SNR=11
GMRC Granite Mounta **94.97 56** ⇓P **P** **23 41 47.4 +1.1**
baz=95,SNR=28
WSAR Wadi Sarin **95.00 293** P **P** **23 41 45.5 -1.0**
comp=Z,9.7nm,0.7s,baz=118,slow=4.5,SNR=6.3
WSAR PKKP **PKKPbc** **23 58 40.5 -1.5**
comp=Z,4.5nm,0.8s,baz=241,slow=2.7,SNR=3.8
WSAR Wadi Sarin **95.00 293** P **P** **23 41 45.5 -1.0**
WSAR PKKP **PKKPbc** **23 58 40.5 -1.5**
SVE Sverdlovsk **95.01 327** ⇓*e*P **P** **23 41 43.6 -2.1**
SVE *e* 23 45 40.6
SVE *e*S **SKSac** **23 52 12.2 -5.0**
SVE *e*SSS SSS 00 03 02.2
SVE pmax pmax
comp=Z,23nm,1.4s
SVE MLR MLR
comp=Z,3µm,22.0s
SVE MLR MLR
comp=E,2µm,20.0s
BC3 Big Chuckawall **95.09 57** ⇓P **P** **23 41 48.4 +1.6**
baz=95,SNR=13
C11A Tepee Creek (N **95.09 43** ⇑P **P** **23 41 46.9 +0.5**
baz=95
AB31 Akbulak array **95.17 319** *ce*P **P** **23 41 44.0 -2.6**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array **95.17 319** *e*P **P** **23 41 44.5 -2.1**
comp=Z,2.6nm,0.5s
ABKAR *e*PP **PP** **23 45 37.2 +0.2**
R11A Troy Canyon, C **95.20 52** ⇓P **P** **23 41 47.9 +0.7**
baz=95,SNR=40
MFID Camas Ranch **95.22 47** *e*P **P** **23 41 47.2 +0.1**
comp=Z,80nm,1.5s
MFID Camas Ranch **95.22 47** ⇓P **P** **23 41 47.7 +0.5**
baz=95,SNR=20
IRM Iron Mountain **95.36 56** ⇑P **P** **23 41 49.4 +1.5**
baz=95,SNR=35
LDFC Landfair **95.44 55** *e*P **P** **23 41 50.0 +1.7**
comp=Z,268nm,1.5s
E12A Beaver Dam Sad **95.51 44** ⇓P **P** **23 41 48.3 -0.1**
baz=96,SNR=21
A12A Yaak River Ran **95.53 41** ⇓P **P** **23 41 49.4 +1.0**
baz=96,SNR=8.7
B12A Libby **95.56 42** ⇑P **P** **23 41 49.4 +0.9**
baz=96
ELK Elko **95.56 50** *e*P **P** **23 41 49.6 +0.6**
comp=Z,50nm,1.6s
ELK *e*PP **PP** **23 45 41.0 +0.4**
GLA Glamis **95.58 57** *e*P **P** **23 41 49.7 +0.8**
GLA pmax pmax
comp=Z,109nm,1.5s
GLA Glamis **95.58 57** *e*P **P** **23 41 49.7 +0.8**
comp=Z,109nm,1.5s
GLA Glamis **95.58 57** ⇑P **P** **23 41 50.8 +1.8**
baz=96,SNR=8.3
C12B Naegeli Ranch, **95.61 43** ⇓P **P** **23 41 49.3 +0.5**
baz=96,SNR=7.7
G12A Big Creek, Yel **95.64 45** ⇑P **P** **23 41 49.1 -0.1**
baz=96,SNR=40
D12A Red Ives Fores **95.68 43** ⇓P **P** **23 41 49.5 +0.3**
baz=96
F12A Elk City **95.71 45** ⇓P **P** **23 41 49.1 -0.3**
baz=96,SNR=21
I12A Atlanta **95.74 47** ⇓P **P** **23 41 49.9 +0.2**
baz=96,SNR=17
NEE2 Needles Airpor **95.83 56** ⇑P **P** **23 41 51.5 +1.5**
baz=96
Y12C Blythe **95.86 57** ⇓P **P** **23 41 51.7 +1.5**
baz=96,SNR=6.7
MSEY Mahe Island **95.92 265** PFAKE 23 42 00.0 +9.1
MSEY LR LR
comp=Z,783nm,21.0s
H12A Diamond D Ranc **95.96 46** ⇑P **P** **23 41 50.9 +0.3**
baz=96,SNR=12
BSMT Bassoo Peak **96.08 43** *e*P **P** **23 41 51.2 +0.1**
comp=Z,31nm,1.2s
ARU Arti **96.14 326** *c i*P **P** **23 41 48.5 -2.4**
ARU 23 45 41.4
ARU S **SKSac** **23 52 20.3 -2.9**
ARU SP **SP** **23 54 28.7 +3.5**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU MLR MLR
comp=Z,4µm,23.0s
ARU Arti **96.14 326** PFAKE 23 42 00.0 +9.1
ARU LR LR
comp=Z,4µm,22.0s
ARU Arti **96.14 326** P **P** **23 41 48.8 -2.1**
comp=Z,82nm,0.6s,SNR=6.3
PDMCI Parker Dam,Lak **96.20 56** ⇑P **P** **23 41 53.0 +1.3**
baz=96,SNR=7.4
C13A Hot Springs **96.22 43** ⇓P **P** **23 41 52.6 +1.1**
baz=96,SNR=6.8
YKW3 Yellowknife Ar **96.22 28** *e*P **P** **23 41 50.7 -0.4**
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar **96.23 28** P **P** **23 41 51.0 -0.1**
comp=Z,7.0nm,0.7s,baz=271,slow=4.7,SNR=111
YKA PKiKP **PKiKP** **23 46 29.3 +0.2**
comp=Z,2.4nm,0.7s,baz=269,slow=1.5,SNR=17
YKA PKKP **PKKPbc** **23 58 36.6 -3.4**
comp=Z,0.7nm,0.7s,baz=88,slow=2.8,SNR=14
YKA PKPPKP **P'P'df** **00 06 47.7 -2.4**
comp=Z,0.1nm,0.3s,baz=99,slow=3.2,SNR=3.8
YKA Yellowknife Ar **96.23 28** P **P** **23 41 51.0 -0.1**
YKA PKiKP **PKiKP** **23 46 29.3 +0.2**
YKA PKKP **PKKPbc** **23 58 36.6 -3.4**
YKA P'P' 00 06 47.7
HOQ Hoqain **96.23 293** P **P** **23 41 51.4 -0.7**
SNR=5.2
HLID Hailey **96.26 47** *e*P **P** **23 41 52.7 +0.7**
comp=Z,50nm,1.4s
HLID LR LR
comp=Z,1µm,21.0s
HLID Hailey **96.26 47** ⇑P **P** **23 41 52.2 +0.2**
baz=96,SNR=22
D13A Huson **96.29 43** ⇓P **P** **23 41 51.3 -0.6**
baz=96,SNR=5.2
B13A Whitefish **96.30 42** ⇓P **P** **23 41 52.3 +0.4**
baz=96,SNR=48
A13A Flathead Natio **96.34 41** ⇓P **P** **23 41 53.1 +0.9**
baz=96
F13A Darby **96.36 45** ⇓P **P** **23 41 52.1 -0.2**
baz=96,SNR=51
H13A Challis **96.39 46** ⇑P **P** **23 41 52.8 +0.3**
baz=96,SNR=30
G13A Cobalt **96.42 45** ⇓P **P** **23 41 52.4 -0.2**
baz=96,SNR=25
JTMT Jette **96.42 43** *e*P **P** **23 41 52.5 -0.1**
comp=Z,8.9nm,1.2s
J13A Cove Ranch, Pi **96.43 47** ⇓P **P** **23 41 53.5 +0.7**
baz=96
W13A Hualapai Mount **96.44 55** ⇓P **P** **23 41 54.4 +1.3**
baz=96,SNR=15
AKTO Aktyubinsk **96.45 320** P **P** **23 41 50.5 -1.9**
comp=Z,3.7nm,0.6s,baz=100,slow=7.2,SNR=16
AKTO PKiKP **PKiKP** **23 46 29.8 -0.1**
comp=Z,2.0nm,0.6s,baz=68,slow=5.4,SNR=3.1
AKTO LR LR 00 25 10.7
comp=Z,2µm,20.9s,baz=87,slow=35
AKTO Aktyubinsk **96.45 320** P **P** **23 41 50.5 -1.9**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO MLR MLR
comp=Z,2µm,20.9s
AKTO Aktyubinsk **96.45 320** P **P** **23 41 50.5 -1.9**
AKTO PKiKP **PKiKP** **23 46 29.8 -0.1**
113A Mohawk Valley, **96.46 58** ⇓P **P** **23 41 54.4 +1.5**
baz=96
E13A Victor **96.47 44** ⇓P **P** **23 41 52.0 -0.7**
baz=96
I13A Wildhorse Cree **96.48 47** ⇑P **P** **23 41 53.4 +0.4**
baz=96,SNR=33
YBMT Yellow Bay **96.60 43** *e*P **P** **23 41 53.0 -0.4**
comp=Z,7.4nm,1.1s
SWMT Swartz Lake **96.61 43** *e*P **P** **23 41 53.1 -0.3**
comp=Z,15nm,1.4s
MSO Missoula **96.64 44** PFAKE 23 42 00.0 +6.5
MSO LR LR
comp=Z,1µm,22.0s
MSO Missoula **96.64 44** ⇓P **P** **23 41 53.4 -0.1**

	baz=97									
WALA	**Waterton Lakes**	96.68	41	*e*P		P	23 41 54.6	+0.9		
	comp=Z,2.6nm,1.2s									
C14A	**Swan Lake**	96.78	43	⇑P		P	23 41 53.9	-0.3		
	baz=97									
J14A	**Carey**	96.91	47	⇑P		P	23 41 54.4	-0.5		
	baz=97									
CCUT	**Cedar City**	96.93	53	*e*P		P	23 41 55.9	+0.6		
	comp=Z,42nm,1.3s									
D14A	**Greenough**	96.94	43	⇓P		P	23 41 54.4	-0.5		
	baz=97,SNR=7.3									
SLMT	**Seeley Lake**	96.95	43	*e*P		P	23 41 54.4	-0.6		
	comp=Z,10.0nm,1.2s									
I14A	**Mackay**	96.96	47	⇑P		P	23 41 56.0	+0.8		
	baz=97,SNR=14									
G14A	**Jackson**	96.96	45	⇓P		P	23 41 55.2	0.0		
	baz=97,SNR=14									
A14A	**Double T Ranch**	97.00	41	⇑P		P	23 41 55.8	+0.6		
	baz=97,SNR=24									
H14A	**Leadore**	97.03	46	⇑P		Pdif	23 41 56.1	+0.6		
	baz=97,SNR=14									
F14A	**Wisdom**	97.03	45	⇑P		Pdif	23 41 55.4	-0.1		
	baz=97									
L14A	**Malta**	97.10	48	⇓P		Pdif	23 41 56.5	+0.6		
	baz=97,SNR=18									
B14A	**Marquette Ranc**	97.10	42	⇓P		Pdif	23 41 56.0	+0.2		
	baz=97,SNR=11									
CHMT	**Chamberlain Mo**	97.11	44	*e*P		P	23 41 55.2	-0.6		
	comp=Z,28nm,1.6s									
Y14A	**Wickenburg**	97.13	57	⇓P		Pdif	23 41 57.3	+1.2		
	baz=97									
K14A	**Jones Ranch, D**	97.15	48	⇑P		Pdif	23 41 56.7	+0.6		
	baz=97,SNR=6.8									
Z14A	**Wintersburg**	97.17	57	⇓P		Pdif	23 41 57.4	+1.2		
	baz=97									
214A	**Organ Pipe Nat**	97.24	59	⇓P		Pdif	23 41 58.0	+1.4		
	baz=97									
MCMT	**McKenzie Canyo**	97.40	46	*e*P		Pdif	23 41 57.7	+0.4		
	comp=Z,7.8nm,1.1s									
DUG	**Dugway**	97.40	50	*e*P		Pdif	23 41 57.6	+0.3		
DUG				pmax		pmax				
	comp=Z,13nm,1.1s									
DUG				MLR		MLR				
	comp=Z,2μm,21.0s									
DUG	**Dugway**	97.40	50	*e*P		Pdif	23 41 57.6	+0.4		
DUG	comp=Z,12nm,1.1s									
				LR		LR				
	comp=Z,2μm,21.0s									
DUG	**Dugway**	97.40	50	⇑P		Pdif	23 41 57.6	+0.3		
	baz=97,SNR=7.6									
HVU	**Hansel Valley**	97.44	49	*e*P		Pdif	23 41 57.6	+0.2		
HVU				pmax		pmax				
	comp=Z,27nm,0.9s									
HVU	**Hansel Valley**	97.44	49	*e*P		Pdif	23 41 57.6	+0.1		
	comp=Z,27nm,0.9s									
A15A	**Johnson Ranch,**	97.45	41	⇓P		Pdif	23 41 57.5	+0.3		
	baz=97,SNR=34									
E15A	**Deer Lodge**	97.54	44	⇑P		Pdif	23 41 57.8	+0.1		
	baz=98,SNR=19									
H15A	**Lima**	97.54	46	⇑P		Pdif	23 41 58.4	+0.6		
	baz=98,SNR=7.1									
C15A	**Salmond Ranch,**	97.55	43	⇑P		Pdif	23 41 57.6	-0.1		
	baz=98,SNR=28									
B15A	**Bradely Ranch,**	97.57	42	⇓P		Pdif	23 41 57.6	-0.2		
	baz=98,SNR=9.4									
DLMT	**Dillon**	97.57	45	*e*P		Pdif	23 41 58.3	+0.4		
	comp=Z,14nm,1.1s									
D15A	**Lincoln**	97.61	43	⇑P		Pdif	23 41 58.0	-0.1		
	baz=98,SNR=11									
K15A	**Arbon**	97.63	48	⇓P		Pdif	23 41 58.7	+0.5		
	baz=98,SNR=20									
N15A	**Stansbury Isla**	97.63	50	⇑P		Pdif	23 41 58.8	+0.6		
	baz=98									
F15A	**Butte**	97.64	45	⇓P		Pdif	23 41 58.4	+0.1		
	baz=98,SNR=10									
G15A	**Dillon**	97.65	45	⇑P		Pdif	23 41 58.8	+0.5		
	baz=98,SNR=14									
I15A	**Monteview**	97.66	46	⇓P		Pdif	23 41 58.7	+0.4		
	baz=98									
O15A	**The Old Anders**	97.66	50	⇑P		Pdif	23 41 59.0	+0.5		
	baz=98									
LRM	**Limekiln Ridge**	97.67	45	*e*P		Pdif	23 41 58.1	-0.3		
	comp=Z,71nm,1.1s									
M15A	**Larsen Ranch,**	97.69	49	⇓P		Pdif	23 41 59.0	+0.5		
	baz=98,SNR=15									
J15A	**Blackfoot**	97.70	47	⇑P		Pdif	23 41 59.6	+1.1		
	baz=98,SNR=6.8									
L15A	**Malad City**	97.73	48	⇑P		Pdif	23 41 59.0	+0.3		
	baz=98,SNR=13									
U15A	**North Rim**	97.77	54	⇓P		Pdif	23 42 00.4	+1.3		
	baz=98,SNR=22									
P15A	**Leamington**	97.81	51	⇑P		Pdif	23 41 59.5	+0.4		
	baz=98,SNR=8.1									
MVU	**Marysvale**	97.85	52		PFAKE		23 42 10.0	+11		
MVU					LR	LR				
	comp=Z,3μm,22.0s									
MSU	**Marysvale**	97.88	52	*e*P		Pdif	23 41 59.8	+0.3		
MSU				pmax		pmax				
	comp=Z,13nm,1.2s									
MSU	**Marysvale**	97.88	52	*e*P		Pdif	23 41 59.8	+0.3		
	comp=Z,13nm,1.2s									
C16A	**Fuhringer Ranc**	98.13	43	⇑P		Pdif	23 42 00.3	0.0		
	baz=98,SNR=13									
G16A	**Moss Hill, Enn**	98.13	45	⇓P		Pdif	23 42 00.7	+0.2		
	baz=98,SNR=12									
B16A	**M & M Farms, S**	98.14	42	⇓P		Pdif	23 42 00.1	-0.2		
	baz=98									
A16A	**West Butte Ran**	98.20	41	⇑P		Pdif	23 42 00.7	+0.1		
	baz=98									
E16A	**East Helena**	98.20	44	⇑P		Pdif	23 42 00.7	+0.1		
	baz=98,SNR=9.8									
BOZ	**Bozeman (W)**	98.25	45	*e*P		Pdif	23 42 00.7	-0.2		
BOZ				pmax		pmax				
	comp=Z,30nm,0.3s									
BOZ				MLR		MLR				
	comp=Z,1μm,22.0s									
BOZ	**Bozeman (W)**	98.25	45	*e*P		Pdif	23 42 00.7	-0.2		
BOZ	comp=Z,30nm,0.3s									
				LR		LR				
	comp=Z,1μm,22.0s									
BOZ	**Bozeman (W)**	98.25	45	⇑Pdif		Pdif	23 42 01.6	+0.7		
	baz=98									
F16A	**Kennard Place,**	98.25	45	⇓Pdif		Pdif	23 42 01.6	+0.7		
	baz=98									
D16A	**Dana Ranch, Ca**	98.28	43	⇓Pdif		Pdif	23 42 01.7	+0.7		
	baz=98									
P16A	**Fountain Green**	98.28	51	⇑Pdif		Pdif	23 42 01.7	+0.5		
	baz=98									
J16A	**Bone**	98.30	47	⇑Pdif		Pdif	23 42 02.0	+0.8		
	baz=98									
M16A	**Huntsville**	98.30	49	⇓Pdif		Pdif	23 42 01.4	+0.1		
	baz=98									
K16A	**Soda Springs**	98.32	48	⇓Pdif		Pdif	23 42 02.3	+0.9		
	baz=98									
HWUT	**Hardware Ranch**	98.35	49	*e*P		Pdif	23 42 01.4	-0.1		
HWUT	comp=Z,6.3nm,0.8s									
				LR		LR				
	comp=Z,1μm,21.0s									
I16A	**Newdale**	98.38	47	⇓Pdif		Pdif	23 42 02.4	+0.8		
	baz=98									
O16A	**Springville**	98.40	50	⇓Pdif		Pdif	23 42 02.1	+0.4		
	baz=98									
QLMT	**Earthquake Lak**	98.41	46	*e*P		Pdif	23 42 02.7	+1.0		
	comp=Z,2.3nm,1.0s									
X16A	**Lo Mia Camp, P**	98.44	56	⇓Pdif		Pdif	23 42 03.1	+1.0		
	baz=98									
JLU	**Jordanelle**	98.44	50	*e*P		Pdif	23 42 02.5	+0.5		
	comp=Z,17nm,1.2s									
L16A	**Fish Haven**	98.44	48	⇓Pdif		Pdif	23 42 01.8	-0.1		
	baz=98									
N16A	**Rees Ranch, Co**	98.45	50	⇑Pdif		Pdif	23 42 02.2	+0.2		
	baz=98									
WUAZ	**Wupatki**	98.50	55	*e*P		Pdif	23 42 02.5	+0.2		
WUAZ	comp=Z,55nm,1.5s									
				LR		LR				
	comp=Z,2μm,22.0s									
WUAZ	**Wupatki**	98.50	55	⇑Pdif		Pdif	23 42 03.8	+1.5		
	baz=98									
RRI2	**Red Ridge**	98.51	47	*e*P		Pdif	23 42 03.1	+0.8		
	comp=Z,25nm,0.9s									
H16A	**Russell Place,**	98.54	46	⇑Pdif		Pdif	23 42 03.5	+1.2		
	baz=98									
DAU	**Daniels Canyon**	98.59	50	*e*P		Pdif	23 42 03.1	+0.3		
DAU				pmax		pmax				
	comp=Z,7.0nm,0.7s									
DAU	**Daniels Canyon**	98.59	50	*e*P		Pdif	23 42 03.1	+0.3		
	comp=Z,7.1nm,0.7s									
DCID1	**Drake Creek**	98.60	47	*e*P		Pdif	23 42 03.6	+1.0		
	comp=Z,6.3nm,0.7s									
TMUT	**Trail Mountain**	98.64	51	*e*P		Pdif	23 42 04.6	+1.6		
	comp=Z,27nm,0.8s									
Q16A	**Castle Valley**	98.67	52	⇑Pdif		Pdif	23 42 03.8	+0.8		
	baz=99									
AHID	**Auburn Hatcher**	98.68	48		PFAKE		23 42 10.0	+7.0		
AHID					LR	LR				
	comp=Z,2μm,22.0s									
YMR	**Madison River**	98.74	46	*e*P		Pdif	23 42 03.6	+0.4		
	comp=Z,23nm,0.9s									
B17A	**L&G Farms, Che**	98.75	42	⇓Pdif		Pdif	23 42 02.9	0.0		
	baz=99									
E17A	**Martinsdale**	98.77	44	⇑Pdif		Pdif	23 42 03.5	+0.2		
	baz=99									
TPAW	**Teton Pass**	98.78	47	*e*P		Pdif	23 42 03.9	+0.4		
	comp=Z,14nm,0.9s									
IMW	**Indian Meadow**	98.78	47	*e*P		Pdif	23 42 04.0	+0.5		
	comp=Z,3.9nm,0.5s									
A17A	**Triple J Farms**	98.79	41	⇑Pdif		Pdif	23 42 03.7	+0.6		
	baz=99									
C17A	**Wharram Farm,**	98.80	43	⇑Pdif		Pdif	23 42 03.7	+0.4		
	baz=99									
K17A	**Gardner Place,**	98.81	48	⇓Pdif		Pdif	23 42 03.9	+0.3		
	baz=99									
L17A	**Cokeville**	98.86	48	⇓Pdif		Pdif	23 42 03.7	-0.1		
	baz=99									
D17A	**Six Diamond Ra**	98.86	43	⇑Pdif		Pdif	23 42 03.9	+0.3		
	baz=99									
G17A	**Pierce Place,**	98.88	45	⇓Pdif		Pdif	23 42 04.7	+1.0		
	baz=99									
N17A	**Moffit Pass**	98.91	50	⇓Pdif		Pdif	23 42 04.3	+0.2		
	baz=99									
MOOW	**Moose Ponds**	98.92	47	*e*P		Pdif	23 42 04.7	+0.6		
	comp=Z,12nm,1.0s									
SNOW	**Snow King Moun**	98.92	47	*e*P		Pdif	23 42 04.1	0.0		
SNOW	comp=Z,12nm,1.0s			*e*			23 42 15.3			
F17A	**Fitzpatrick Pl**	98.92	44	⇑Pdif		Pdif	23 42 04.6	+0.7		
	baz=99									
YNR	**Norris Junctio**	98.94	46	*e*P		Pdif	23 42 05.5	+1.4		
	comp=Z,42nm,1.4s									
FLWY	**Flagg Ranch**	98.94	46	*e*P		Pdif	23 42 04.7	+0.6		
	comp=Z,20nm,1.1s									
J17A	**Brown Place, J**	98.95	47	⇑Pdif		Pdif	23 42 04.8	+0.6		
	baz=99									
TUC	**Tucson**	98.97	58	*e*P		Pdif	23 42 05.2	+0.9		
TUC				pmax		pmax				
	comp=Z,6.0nm,1.0s									
TUC				MLR		MLR				
	comp=Z,1μm,22.0s									
TUC	**Tucson**	98.97	58	*e*P		Pdif	23 42 05.2	+0.9		
	comp=Z,1.4nm,1.0s									
TUC				LR		LR				
	comp=Z,1μm,22.0s									
O17A	**Robeson Place**	98.99	50	⇓Pdif		Pdif	23 42 05.1	+0.7		
	baz=99									
P17A	**Butcher Ranch,**	99.00	51	⇓Pdif		**Pdif**	**23 42 05.2**	**+0.8**		
	baz=99									
M17A	**Scullys Gap (B**	99.02	49	⇓Pdif		**Pdif**	**23 42 04.5**	**-0.1**		
	baz=99									
H17A	**Grant Village**	99.03	46	⇑Pdif		**Pdif**	**23 42 06.0**	**+1.4**		
	baz=99									
LOHW	**Long Hollow**	99.03	47	*e*P		**Pdif**	**23 42 04.1**	**-0.4**		
	comp=Z,8.3nm,0.9s									
I17A	**Pilgrim Ck.**	99.04	46	⇑Pdif		**Pdif**	**23 42 05.5**	**+0.9**		
	baz=99									
LKWY	**Lake**	99.15	46		PFAKE		23 42 20.0	+15		
LKWY					LR	LR				
	comp=Z,3μm,20.0s									
SRU	**San Rafael**	99.17	51	*e*P		**Pdif**	**23 42 05.0**	**-0.2**		
SRU				pmax		pmax				
	comp=Z,10.0nm,0.9s									
SRU	**San Rafael**	99.17	51	*e*P		**Pdif**	**23 42 05.0**	**-0.2**		
	comp=Z,9.8nm,0.9s									
SRU	**San Rafael**	99.17	51	⇑Pdif		**Pdif**	**23 42 05.6**	**+0.4**		
	baz=99									
A18A	**Metzger Ranch,**	99.36	41	⇓Pdif		**Pdif**	**23 42 06.0**	**+0.4**		
	baz=99									
P18A	**Preston Nutter**	99.38	51	⇓Pdif		**Pdif**	**23 42 06.8**	**+0.5**		
	baz=99									
E18A	**Harlowton**	99.42	44	⇑Pdif		**Pdif**	**23 42 06.7**	**+0.7**		
	baz=99									
B18A	**Beardsley Farm**	99.43	42	⇓Pdif		**Pdif**	**23 42 06.4**	**+0.4**		
	baz=99									
EGMT	**Eagleton**	99.46	42	*e*P		**Pdif**	**23 42 06.2**	**+0.1**		
EGMT	comp=Z,63nm,1.6s									
				LR		LR				
	comp=Z,1μm,20.0s									
EGMT	**Eagleton**	99.46	42	⇓Pdif		**Pdif**	**23 42 06.6**	**+0.5**		
	baz=99									
J18A	**Kendall Valley**	99.46	47	⇑Pdif		**Pdif**	**23 42 06.8**	**+0.3**		
	baz=99									
K18A	**Toro Ranch,**	99.46	48	⇑Pdif		**Pdif**	**23 42 06.9**	**+0.4**		
	baz=99									
D18A	**Linhart Farms,**	99.47	43	⇓Pdif		**Pdif**	**23 42 06.7**	**+0.5**		
	baz=99									
M18A	**Lyman**	99.47	49	⇓Pdif		**Pdif**	**23 42 06.4**	**-0.2**		
	baz=100									
L18A	**Fontenelle, Gr**	99.48	49	⇓Pdif		**Pdif**	**23 42 06.9**	**+0.3**		
	baz=100									
O18A	**Roosevelt**	99.55	50	⇑Pdif		**Pdif**	**23 42 07.1**	**+0.2**		
	baz=100									
F18A	**Big Timber**	99.58	44	⇓Pdif		**Pdif**	**23 42 07.7**	**+0.9**		
	baz=100									
I18A	**Diamond G Ranc**	99.59	47	⇓Pdif		**Pdif**	**23 42 07.7**	**+0.7**		
	baz=100									
S18A	**Hurst Farm, Bl**	99.60	53	⇓Pdif		**Pdif**	**23 42 08.0**	**+0.7**		
	baz=100									
NVL	**N'lazarevskaya**	99.65	192	*e*P		**Pdif**	**23 42 07.1**	**+0.7**		
NVL				*e*PPP		PPP	23 48 21.1			
NVL				*e*S		**SKSac**	**23 52 43.2**	**+2.5**		
NVL				pmax		pmax				
	comp=Z,5.0nm,0.6s									
NVL				MLR		MLR				
	comp=Z,1μm,18.0s									
H18A	**Shoshone NF, C**	99.67	46	⇓Pdif		**Pdif**	**23 42 08.2**	**+0.8**		
	baz=100									
X18A	**Snowflake**	99.67	56	⇓Pdif		**Pdif**	**23 42 09.3**	**+1.8**		
	baz=100									
G18A	**Lazy EL Ranch,**	99.71	45	⇓Pdif		**Pdif**	**23 42 08.2**	**+0.7**		
	baz=100									
N18A	**Larsen Ranch,**	99.78	49	⇓Pdif		**Pdif**	**23 42 07.8**	**-0.1**		
	baz=100									
BW06	**Boulder Array**	99.81	48		PFAKE		23 42 20.0	+12		
BW06					LR	LR				
	comp=Z,2μm,21.0s									
BW06	**Boulder Array**	99.81	48	⇓Pdif		**Pdif**	**23 42 08.0**	**-0.1**		
	baz=100									
PDAR	**Pinedale Array**	99.81	48	P		**Pdif**	**23 42 07.8**	**-0.2**		
	comp=Z,16nm,0.8s,baz=248,slow=2.4,SNR=97									
PDAR				PP		**PP**	**23 46 12.2**	**-0.9**		
	comp=Z,3.6nm,1.0s,baz=251,slow=4.1,SNR=6.5									
PDAR				PKKPbc		**PKKPbc**	**23 58 28.4**	**-1.3**		
	comp=Z,0.5nm,0.5s,baz=113,slow=6.0,SNR=6.0									
PDAR				LR		LR	00 20 17.1			
	comp=Z,2μm,21.8s,baz=272,slow=31									
PDAR	**Pinedale Array**	99.81	48	P		**Pdif**	**23 42 07.8**	**-0.2**		
PDAR				PP		**PP**	**23 46 12.2**	**-0.9**		
PDAR				PKKPbc		**PKKPbc**	**23 58 28.4**	**-1.3**		
W18A	**Petrified Fore**	99.84	55	⇑Pdif		**Pdif**	**23 42 10.0**	**+1.7**		
	baz=100									
RLMT	**Red Lodge**	99.93	45	*e*Pdif		**Pdif**	**23 42 08.3**	**-0.2**		
RLMT	comp=Z,11nm,1.1s									
				LR		LR				
	comp=Z,2μm,22.0s									
RLMT	**Red Lodge**	99.93	45	⇑Pdif		**Pdif**	**23 42 09.6**	**+1.1**		
	baz=100									
C19A	**Slack Wire Ran**	99.95	43	⇓Pdif		**Pdif**	**23 42 09.1**	**+0.8**		
	baz=100									
B19A	**Brinkman Farms**	99.98	42	⇑Pdif		**Pdif**	**23 42 08.8**	**+0.4**		
	baz=100									
L19A	**Farson**	99.99	48	⇓Pdif		**Pdif**	**23 42 09.1**	**+0.3**		
	baz=100									
A19A	**Klindworth Far**	100.08	41	⇑Pdif		**Pdif**	**23 42 09.5**	**+0.7**		
	baz=100									
D19A	**Cripps Ranch,**	100.10	43	⇑Pdif		**Pdif**	**23 42 09.6**	**+0.6**		
	baz=100									
F19A	**Roth Farm, Mol**	100.12	44	⇑Pdif		**Pdif**	**23 42 10.1**	**+1.0**		
	baz=100									
H19A	**Powell**	100.15	46	⇓Pdif		**Pdif**	**23 42 10.3**	**+1.0**		
	baz=100									
Q19A	**Hogan Spring (**	100.15	52	⇓Pdif		**Pdif**	**23 42 09.9**	**+0.4**		
	baz=100									
M19A	**Rock Springs**	100.16	49	⇑Pdif		**Pdif**	**23 42 09.7**	**+0.1**		
	baz=100									
N19A	**John Jarvie Ra**	100.16	50	⇓Pdif		**Pdif**	**23 42 09.4**	**-0.1**		
	baz=100									
J19A	**Crowheart**	100.17	47	⇓Pdif		**Pdif**	**23 42 09.9**	**+0.3**		
	baz=100									
I19A	**Meeteetse**	100.17	46	⇓Pdif		**Pdif**	**23 42 10.4**	**+0.8**		
	baz=100									
E19A	**Rath Farm, Rou**	100.20	44	⇑Pdif		**Pdif**	**23 42 10.5**	**+1.0**		
	baz=100									
O19A	**Miners Draw (B**	100.22	50	⇑Pdif		**Pdif**	**23 42 10.0**	**+0.1**		
	baz=100									
319A	**Douglas**	100.25	59	⇑Pdif		**Pdif**	**23 42 09.6**	**-0.5**		
	baz=100									
K19A	**Absolon Red Bu**	100.33	48	⇓Pdif		**Pdif**	**23 42 10.2**	**-0.1**		
	baz=100									
P19A	**Cripple Cowboy**	100.35	51	⇑Pdif		**Pdif**	**23 42 11.1**	**+0.6**		
	baz=100									
PV04	**Paradox Valley**	100.45	52	*e*Pdif		**Pdif**	**23 42 11.7**	**+0.8**		
B20A	**Solberg Farm,**	100.59	42	⇓Pdif		**Pdif**	**23 42 11.6**	**+0.5**		
	baz=101									
D20A	**Manuel Ranch,**	100.61	43	⇑Pdif		**Pdif**	**23 42 11.9**	**+0.6**		
	baz=101									
A20A	**Cobblestone Ra**	100.62	41	⇓Pdif		**Pdif**	**23 42 12.0**	**+0.7**		
	baz=101									
E20A	**Meyer Farm, Mu**	100.65	44	⇑Pdif		**Pdif**	**23 42 12.2**	**+0.7**		
	baz=101									
C20A	**Veseth Ranch,**	100.66	43	⇑Pdif		**Pdif**	**23 42 12.1**	**+0.7**		
	baz=101									
G20A	**Bridger**	100.67	45	⇑Pdif		**Pdif**	**23 42 12.4**	**+0.8**		
	baz=101									
F20A	**Billings**	100.68	45	⇓Pdif		**Pdif**	**23 42 12.4**	**+0.8**		
	baz=101									
K20A	**Yellowstone Ra**	100.72	48	⇓Pdif		**Pdif**	**23 42 11.8**	**-0.2**		
	baz=101									
PV01	**Paradox Valley**	100.72	52	*e*Pdif		**Pdif**	**23 42 13.2**	**+1.0**		
L20A	**Wamsutter**	100.75	48	⇑Pdif		**Pdif**	**23 42 12.4**	**+0.2**		
	baz=101									
120A	**U Bar Ranch, L**	100.79	58	⇑Pdif		**Pdif**	**23 42 12.7**	**+0.2**		
	baz=101									
I20A	**Worland**	100.80	46	⇓Pdif		**Pdif**	**23 42 12.6**	**+0.3**		
	baz=101									
MVCO	**Mesa Verde**	100.80	53	*e*Pdif		**Pdif**	**23 42 13.2**	**+0.6**		
MVCO	comp=Z,41nm,1.3s									
				LR		LR				
	comp=Z,1μm,20.0s									
MVCO	**Mesa Verde**	100.80	53	⇓Pdif		**Pdif**	**23 42 13.8**	**+1.2**		
	baz=101									
U20A	**Newcomb**	100.81	54	⇑Pdif		**Pdif**	**23 42 13.6**	**+1.1**		
	baz=101									
P20A	**De Beque**	100.81	51	⇑Pdif		**Pdif**	**23 42 13.3**	**+0.8**		
	baz=101									
Z20A	**Nine Sixteen R**	100.81	57	⇓Pdif		**Pdif**	**23 42 13.9**	**+1.2**		
	baz=101									
W20A	**Ramah**	100.86	55	⇑Pdif		**Pdif**	**23 42 14.7**	**+1.8**		
	baz=101									
N20A	**Spence Gulch,**	100.86	50	⇓Pdif		**Pdif**	**23 42 13.1**	**+0.3**		
	baz=101									
H20A	**Greybull**	100.86	46	⇓Pdif		**Pdif**	**23 42 12.8**	**+0.3**		
	baz=101									
J20A	**Shoshoni**	100.87	47	⇓Pdif		**Pdif**	**23 42 13.1**	**+0.5**		
	baz=101									
V20A	**Brimhall**	100.87	55	⇑Pdif		**Pdif**	**23 42 14.5**	**+1.6**		
	baz=101									
R20A	**Redvale**	100.87	52	⇓Pdif		**Pdif**	**23 42 13.5**	**+0.6**		
	baz=101									
X20A	**Quemado**	100.87	56	⇑Pdif		**Pdif**	**23 42 13.8**	**+0.9**		
	baz=101									
M20A	**Sweetwater, Wa**	100.89	49	⇓Pdif		**Pdif**	**23 42 13.5**	**+0.6**		
	baz=101									
220A	**Playas Peak, P**	100.89	59	⇓Pdif		**Pdif**	**23 42 15.1**	**+2.1**		
	baz=101									
320A	**Kipp Ranch, An**	100.89	59	⇑Pdif		**Pdif**	**23 42 15.2**	**+2.3**		
	baz=101									
S20A	**Disappointment**	100.89	53	⇑Pdif		**Pdif**	**23 42 14.0**	**+1.0**		
	baz=101									
O20A	**White River Ci**	100.90	50	⇓Pdif		**Pdif**	**23 42 13.7**	**+0.8**		
	baz=101									
Q20A	**Ridgley Place,**	100.91	51	⇓Pdif		**Pdif**	**23 42 13.8**	**+0.9**		
	baz=101									
Y20A	**Horse Springs,**	100.98	57	⇑Pdif		**Pdif**	**23 42 15.4**	**+2.0**		
	baz=101									
RES

U22A **Llaves** 102.15 54 ⇑Pdiff Pdif 23 42 20.3 +1.7
baz=102
Y22A **Socorro** 102.16 57 ⇓Pdiff Pdif 23 42 19.7 +1.1
baz=102
E22A **Miles City** 102.16 44 ⇑Pdiff Pdif 23 42 18.7 +0.6
baz=102
L22A **Ellis Ranch, M** 102.16 48 ⇑Pdiff Pdif 23 42 19.2 +0.7
baz=102
Z22A **Elephant Butte** 102.18 57 ⇑Pdiff Pdif 23 42 18.9 +0.2
baz=102
O22A **Kremmling** 102.20 50 ⇑Pdiff Pdif 23 42 19.1 +0.3
baz=102
N22A **Wattenberg Ran** 102.23 50 ⇓Pdiff Pdif 23 42 19.5 +0.7
baz=102
BNM **Barren Site** 102.43 56 *e*Pdif Pdif 23 42 21.0 +1.1
comp=Z,4.1nm,1.0s
ANMO **Albuquerque** 102.54 56 PFAKE 23 42 30.0 +10
ANMO LR LR
comp=Z,751nm,22.0s
C23A **Lambert** 102.54 42 ⇓Pdiff Pdif 23 42 20.7 +0.9
baz=102
D23A **Lindsay** 102.59 43 ⇑Pdiff Pdif 23 42 21.3 +1.2
baz=103
E23A **Ismay** 102.59 44 ⇓Pdiff Pdif 23 42 20.8 +0.7
baz=103
B23A **Brockton** 102.60 42 ⇓Pdiff Pdif 23 42 20.9 +0.9
baz=103
F23A **Volborg** 102.60 44 ⇓Pdiff Pdif 23 42 20.8 +0.7
baz=103
N23A **Red Feather La** 102.61 49 ⇓Pdiff Pdif 23 42 21.4 +0.8
baz=103
A23A **Redstone** 102.62 41 ⇓Pdiff Pdif 23 42 20.5 +0.4
baz=103
G23A **Biddle** 102.66 45 ⇑Pdiff Pdif 23 42 21.1 +0.6
baz=103
O23A **Lake Granby, G** 102.68 50 ⇓Pdiff Pdif 23 42 21.7 +0.8
baz=103
U23A **El Rito** 102.69 54 ⇓Pdiff Pdif 23 42 22.6 +1.6
baz=103
L23A **Garrett** 102.70 48 ⇑Pdiff Pdif 23 42 20.9 0.0
baz=103
J23A **Dilts Ranch, B** 102.71 47 ⇑Pdiff Pdif 23 42 21.3 +0.5
baz=103
K23A **Bowen Ranch, D** 102.71 47 ⇑Pdiff Pdif 23 42 21.1 +0.3
baz=103
H23A **Clabaugh Cattl** 102.71 46 ⇓Pdiff Pdif 23 42 21.0 +0.3
baz=103
I23A **Meade Ranch, G** 102.72 46 ⇑Pdiff Pdif 23 42 21.1 +0.3
baz=103
M23A **Laramie** 102.73 49 ⇓Pdiff Pdif 23 42 21.7 +0.7
baz=103
X23A **Hourglass Bar** 102.77 56 ⇓Pdiff Pdif 23 42 23.1 +1.8
baz=103
T23A **Casias Ranch,** 102.78 53 ⇓Pdiff Pdif 23 42 22.9 +1.5
baz=103
W23A **Werner Place,** 102.78 55 ⇑Pdiff Pdif 23 42 23.2 +1.9
baz=103
123A **Bell Site, Whi** 102.79 58 ⇑Pdiff Pdif 23 42 23.1 +1.7
baz=103
Z23A **Rita Site, Whi** 102.79 57 ⇓Pdiff Pdif 23 42 23.2 +1.8
baz=103
P23A **Jefferson** 102.79 51 ⇑Pdiff Pdif 23 42 22.7 +1.2
baz=103
R23A **Moffat** 102.88 52 ⇓Pdiff Pdif 23 42 23.2 +1.3
baz=103
Y23A **Lovelace Mesa,** 102.91 57 ⇑Pdiff Pdif 23 42 23.3 +1.3
baz=103
ISCO **Idaho Springs** 102.94 51 *e*P Pdif 23 42 22.9 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO MLR MLR
comp=Z,2µm,22.0s
ISCO **Idaho Springs** 102.94 51 *e*Pdif Pdif 23 42 22.9 +0.8
comp=Z,4.1nm,0.9s
ISCO LR LR
comp=Z,2µm,22.0s
ISCO **Idaho Springs** 102.94 51 ⇓Pdiff Pdif 23 42 23.2 +1.1
baz=103
C24A **Savage** 103.08 43 ⇓Pdiff Pdif 23 42 23.0 +0.8
baz=103
DGMT **Dagmar** 103.12 42 PFAKE 23 42 30.0 +7.6
DGMT LR LR
comp=Z,1µm,21.0s
DGMT **Dagmar** 103.12 42 ⇓Pdiff Pdif 23 42 23.0 +0.6
baz=103
A24A **Westby** 103.19 41 ⇓Pdiff Pdif 23 42 23.2 +0.5
baz=103
D24A **Glendive** 103.20 43 ⇑Pdiff Pdif 23 42 23.8 +1.1
baz=103
F24A **Ekalaka** 103.26 44 ⇓Pdiff Pdif 23 42 23.5 +0.4
baz=103
E24A **Baker** 103.27 44 ⇓Pdiff Pdif 23 42 23.8 +0.7
baz=103
L24A **Wheatland** 103.28 48 ⇓Pdiff Pdif 23 42 24.1 +0.8
baz=103
H24A **Dirks Ranch, A** 103.30 45 ⇑Pdiff Pdif 23 42 23.6 +0.3
baz=103
K24A **Anderson Ranch** 103.30 47 ⇑Pdiff Pdif 23 42 23.9 +0.4
baz=103
O24A **Longmont** 103.33 50 ⇑Pdiff Pdif 23 42 24.6 +0.9
baz=103
G24A **Alzada** 103.33 45 ⇑Pdiff Pdif 23 42 23.9 +0.4
baz=103
I24A **Kuemmerle Ranc** 103.33 46 ⇓Pdiff Pdif 23 42 23.8 +0.3
baz=103
Q24A **Divide** 103.36 51 ⇓Pdiff Pdif 23 42 24.1 +0.1
baz=103
J24A **Dixon Ranch, L** 103.36 47 ⇓Pdiff Pdif 23 42 24.0 +0.3
baz=103
W24A **Lazy 6 Ranch,** 103.38 55 ⇑Pdiff Pdif 23 42 25.4 +1.3
baz=103
S24A **Houchin Ranch,** 103.40 53 ⇑Pdiff Pdif 23 42 25.3 +1.1
baz=103
M24A **Cheyenne** 103.41 49 ⇓Pdiff Pdif 23 42 24.8 +0.8
baz=103
N24A **Carr** 103.42 49 ⇑Pdiff Pdif 23 42 24.9 +0.8
baz=103
Y24A **Capitan** 103.42 57 ⇑Pdiff Pdif 23 42 25.2 +1.0
baz=103
224A **Cornudas Mount** 103.43 58 ⇑Pdiff Pdif 23 42 26.1 +1.8
baz=103
R24A **Sanders Place,** 103.44 52 ⇓Pdiff Pdif 23 42 25.3 +1.1
baz=103
124A **Stringfield Ra** 103.47 58 ⇓Pdiff Pdif 23 42 25.9 +1.4
baz=104
V24A **Rampart Ranch,** 103.47 55 ⇓Pdiff Pdif 23 42 26.4 +2.0
baz=103
324A **Moseley Ranch,** 103.49 59 ⇓Pdiff Pdif 23 42 24.7 +0.1
baz=104
FFC **Flin Flon** 103.55 35 *e*P Pdif 23 42 23.4 -0.6
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC MLR MLR
comp=Z,1µm,20.0s
FFC **Flin Flon** 103.55 35 *e*Pdif Pdif 23 42 23.4 -0.6
comp=Z,6.0nm,1.1s
FFC LR LR
comp=Z,1µm,20.0s
T24A **Torres, Weston** 103.56 53 ⇑Pdiff Pdif 23 42 26.8 +1.9
baz=104
KBS **Kingsbay** 103.65 353 PFAKE 23 42 30.0 +6.0
KBS LR LR
comp=Z,858nm,20.0s
325A **Bean Ranch, Si** 103.93 59 ⇑Pdiff Pdif 23 42 26.9 +0.3
baz=104
L25A **Engebretsen Ra** 103.98 48 ⇓Pdiff Pdif 23 42 27.8 +1.3
baz=104
M25A **Palm-Egli Farm** 103.99 49 ⇑Pdiff Pdif 23 42 27.5 +1.0
baz=104
V25A **Rancho No Teng** 103.99 55 ⇑Pdiff Pdif 23 42 28.9 +2.1
baz=104
K25A **Mack Ranch, Ha** 104.01 48 ⇑Pdiff Pdif 23 42 27.4 +0.8
baz=104
S25A **Robets Cordova** 104.01 53 ⇑Pdiff Pdif 23 42 27.9 +1.1
baz=104
Y25A **Mesa, Roswell** 104.04 56 ⇓Pdiff Pdif 23 42 27.2 +0.3
baz=104
Z25A **Roswell** 104.06 57 ⇑Pdiff Pdif 23 42 28.5 +1.5
baz=104
O25A **Wiggins** 104.06 50 ⇑Pdiff Pdif 23 42 27.9 +1.0
baz=104
Q25A **Bedland, Calha** 104.06 51 ⇓Pdiff Pdif 23 42 28.1 +1.1
baz=104
T25A **Trinidad** 104.07 53 ⇑Pdiff Pdif 23 42 28.6 +1.5
baz=104
P25A **Willow Gulch B** 104.07 51 ⇑Pdiff Pdif 23 42 28.1 +1.1
baz=104
R25A **Fountain Ranch** 104.09 52 ⇑Pdiff Pdif 23 42 28.6 +1.5
baz=104
U25A **Circle Dot Ran** 104.12 54 ⇓Pdiff Pdif 23 42 28.6 +1.3
baz=104
W25A **X Bar L Ranch,** 104.16 55 ⇑Pdiff Pdif 23 42 28.9 +1.4
baz=104
K26A **Motz Farm, Whi** 104.51 47 ⇑Pdiff Pdif 23 42 29.5 +0.8
baz=104
Q26A **Hugo** 104.63 51 ⇓Pdiff Pdif 23 42 30.5 +1.1
baz=105
L26A **Underwood Farm** 104.65 48 ⇑Pdiff Pdif 23 42 30.3 +0.8
baz=105
U26A **Atchley Ranch,** 104.66 54 ⇓Pdiff Pdif 23 42 31.5 +1.8
baz=105
O26A **Horse Wrangler** 104.66 50 ⇓Pdiff Pdif 23 42 30.5 +0.9
baz=105
M26A **McRoberts Ranc** 104.67 49 ⇑Pdiff Pdif 23 42 30.7 +1.2
baz=105
V26A **Tequesquite Ra** 104.67 55 ⇓Pdiff Pdif 23 42 31.2 +1.5
baz=105
N26A **Koester Ranch,** 104.67 49 ⇓Pdiff Pdif 23 42 30.2 +0.6
baz=105
Z26A **Caprock** 104.67 57 ⇑Pdiff Pdif 23 42 30.8 +1.1
baz=105
126A **Clayton Basin,** 104.68 58 ⇑Pdiff Pdif 23 42 30.8 +1.0
baz=105
P26A **Davis Ranch, A** 104.70 51 ⇓Pdiff Pdif 23 42 30.8 +1.0
baz=105
T26A **Comanche Natio** 104.72 53 ⇑Pdiff Pdif 23 42 31.0 +1.1
baz=105
626A **Big Bend Ranch** 104.73 61 ⇑Pdiff Pdif 23 42 31.1 +1.1
baz=105
R26A **Arlington** 104.74 52 ⇑Pdiff Pdif 23 42 30.9 +1.0
baz=105
S26A **Kim** 104.78 53 ⇓Pdiff Pdif 23 42 30.5 +0.3
baz=105
LVZ **Lovozero** 104.83 340 PFAKE 23 42 40.0 +10
LVZ LR LR
comp=Z,944nm,22.0s
TMCR **Tamitsa** 104.92 335 *e*P Pdif 23 42 30.0 +0.1
TMCR pmax pmax
comp=Z,7.0nm,0.5s
TXAR **Lajitas Array** 105.14 61 Pdiff Pdif 23 42 34.6 +2.7
comp=Z,0.7nm,0.8s,baz=264,slow=3.3,SNR=6.2
TXAR PKiKP **PKiKP** 23 46 46.4 +0.1
comp=Z,1.7nm,0.8s,baz=295,slow=1.6,SNR=12
TXAR PKKPab **PKKPab** 23 58 27.7 -2.7
comp=Z,3.2nm,0.8s,baz=120,slow=5.3,SNR=8.8
TXAR **Lajitas Array** 105.14 61 Pdif Pdif 23 42 34.6 +2.7
TXAR PKiKP **PKiKP** 23 46 46.4 +0.1
TXAR PKKPab **PKKPab** 23 58 27.7 -2.7
527A **Woodward Ranch** 105.16 60 ⇓PKiKP **PKiKP** 23 46 45.9 -0.4
baz=105
S27A **Las Animas** 105.22 52 ⇓PKiKP **PKiKP** 23 46 46.8 +0.6
baz=105
127A **Arkansas Junct** 105.23 58 ⇑PKiKP **PKiKP** 23 46 46.7 +0.4
baz=105
R27A **Eads** 105.25 52 ⇑PKiKP **PKiKP** 23 46 47.0 +0.7
baz=105
427A **Hayter Ranch,** 105.30 60 ⇑PKiKP **PKiKP** 23 46 47.0 +0.5
baz=105
Z27A **Tatum** 105.31 57 ⇑PKiKP **PKiKP** 23 46 47.2 +0.7
baz=105
Y27A **Causey** 105.31 56 ⇓PKiKP **PKiKP** 23 46 47.3 +0.8
baz=105
KLMR **Klimovskoe** 105.32 332 *e*P Pdif 23 42 27.6 -4.1
KLMR SS SS 00 01 53.6 +7.9
KLMR pmax pmax
comp=Z,5.0nm,0.6s
KLMR MLR MLR
comp=Z,2µm,21.0s
627A **Terlingua Ranc** 105.38 61 ⇓PKiKP **PKiKP** 23 46 47.3 +0.6
baz=105
T27A **Campo** 105.42 53 ⇑PKiKP **PKiKP** 23 46 47.0 +0.4
baz=105
OGNE **Ogallala** 105.56 49 PFAKE 23 47 00.0
OGNE LR LR
comp=Z,1µm,22.0s
OGNE **Ogallala** 105.56 49 ⇑PKiKP **PKiKP** 23 46 47.2 +0.5
baz=106
MSTX **Muleshoe** 105.63 56 ⇓PKiKP **PKiKP** 23 46 47.6 +0.5
baz=106
328A **Wristen Ranch,** 105.78 59 ⇓PKiKP **PKiKP** 23 46 48.0 +0.7
baz=106
628A **Black Gap, Mar** 105.81 61 ⇓PKiKP **PKiKP** 23 46 48.3 +0.9
baz=106
528A **Fox Ranch, San** 105.87 60 ⇑PKiKP **PKiKP** 23 46 48.3 +0.7
baz=106
T28A **Walsh** 105.90 53 ⇓PKiKP **PKiKP** 23 46 48.3 +0.8
baz=106
228A **UT Block 9, Go** 105.92 58 ⇑PKiKP **PKiKP** 23 46 48.6 +1.0
baz=106
428A **Kincaid Ranch,** 105.92 60 ⇓PKiKP **PKiKP** 23 46 48.7 +1.0
baz=106
128A **Castleberry Fa** 105.97 58 ⇓PKiKP **PKiKP** 23 46 48.4 +0.7
baz=106
GNI **Garni** 106.43 310 PFAKE 23 47 00.0
GNI LR LR
comp=Z,530nm,22.0s
KEV **Kevo** 106.43 343 PFAKE 23 47 00.0
KEV LR LR
comp=Z,995nm,20.0s
KEV **Kevo** 106.43 343 *e*p PKiKP 23 46 50.2 +2.9
comp=Z,1.0nm,0.4s
AMTX **Amarillo** 106.46 55 PFAKE 23 47 00.0
AMTX LR LR
comp=Z,1µm,22.0s
W29A **Amraillo** 106.46 55 ⇓PKiKP **PKiKP** 23 46 49.4 +0.9
baz=106
329A **Wagon Wheel Ra** 106.48 59 ⇓PKiKP **PKiKP** 23 46 48.9 +0.3
baz=106
Z29A **Hungry Hill Ra** 106.58 57 ⇑PKiKP **PKiKP** 23 46 48.9 +0.1
baz=107
429A **Davenport Ranc** 106.61 60 ⇓PKiKP **PKiKP** 23 46 49.3 +0.4
baz=107
ARCES **ARCESS Array B** 106.99 343 Pdiff Pdif 23 42 39.2 +0.1
comp=Z,5.7nm,1.0s,baz=359,slow=4.5,SNR=3.7
ARCES PKiKP **PKiKP** 23 46 48.3 -0.1
comp=Z,6.5nm,0.7s,baz=126,slow=2.2,SNR=23
ARCES PKKPbc **PKKPbc** 23 58 08.1 -0.8
comp=Z,5.1nm,1.0s,baz=222,slow=2.4,SNR=3.6
ARCES **ARCESS Array B** 106.99 343 Pdif Pdif 23 42 39.2 +0.1
ARCES PKiKP **PKiKP** 23 46 48.3 -0.1
ARCES PKKPbc **PKKPbc** 23 58 08.1 -0.8
Z30A **Sanderson Ranc** 107.06 57 ⇓PKiKP **PKiKP** 23 46 50.0 +0.3
baz=107
530A **J-C Ranch, Com** 107.12 60 ⇑PKiKP **PKiKP** 23 46 50.5 +0.7
baz=107
430A **Baggett Ranch,** 107.16 60 ⇓PKiKP **PKiKP** 23 46 50.6 +0.7
baz=107
330A **Mertzon** 107.17 59 ⇓PKiKP **PKiKP** 23 46 50.3 +0.4
baz=107
KIV **Kislovodsk** 107.39 314 *i*P Pdif 23 42 35.3 -6.2
KIV *e* 23 53 15.7
KIV *e*PS **PS** 23 56 28.1 -3.8
KIV *e*SS SS 00 02 11.5 -3.6
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,942nm,20.0s
KIV **Kislovodsk** 107.39 314 PFAKE 23 47 00.0
KIV LR LR
comp=Z,1µm,20.0s
531A **Rocksprings** 107.80 60 ⇑PKiKP **PKiKP** 23 46 51.6 +0.5
baz=108
331A **San Angelo** 107.81 59 ⇓PKiKP **PKiKP** 23 46 51.4 +0.3
baz=108
631A **Perdido Creek** 107.83 61 ⇑PKiKP **PKiKP** 23 46 51.8 +0.6
baz=108
231A **Bronte** 107.86 58 ⇓PKiKP **PKiKP** 23 46 51.4 +0.2
baz=108
Z31A **Sharp Cattle R** 107.87 57 ⇓PKiKP **PKiKP** 23 46 51.6 +0.4
baz=108
X31A **McDonald Ranch** 107.88 55 ⇑PKiKP **PKiKP** 23 46 51.8 +0.7
baz=108
ULM **Lac du Bonnet** 108.15 39 PKiKP **PKiKP** 23 46 50.6 -0.4
comp=Z,6.6nm,0.7s,baz=302,slow=2.5,SNR=11
ULM **Lac du Bonnet** 108.15 39 PKiKP **PKiKP** 23 46 50.6 -0.4
JOF **Joensuu** 108.18 335 *e*P Pdif 23 42 43.5 -1.0
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF **Joensuu** 108.18 335 *e*p Pdif 23 42 43.5 -1.0
comp=Z,1.3nm,0.4s
JOF **Joensuu** 108.18 335 *e*p PKiKP 23 46 51.0 +0.3
comp=Z,2.3nm,0.5s
DAG **Danmarks Havn** 108.31 358 *i*P PKKPbc 23 58 00.0 -4.8
comp=Z,23nm,1.0s
532A **Rocksprings** 108.36 60 ⇓PKiKP **PKiKP** 23 46 52.3 +0.1
baz=108
ABTX **Abilene, Hawle** 108.36 57 ⇑PKiKP **PKiKP** 23 46 52.5 +0.5
baz=108
Y32A **R-V Farms, Ver** 108.39 56 ⇓PKiKP **PKiKP** 23 46 52.5 +0.5
baz=108
332A **Millersview** 108.39 59 ⇓PKiKP **PKiKP** 23 46 52.6 +0.4
baz=108
432A **Menard** 108.39 59 ⇑PKiKP **PKiKP** 23 46 52.4 +0.2
baz=108
732A **Laxson Ranch,** 108.41 62 ⇑PKiKP **PKiKP** 23 46 52.7 +0.5
baz=108
Z32A **Haskell** 108.43 57 ⇑PKiKP **PKiKP** 23 46 52.9 +0.8
baz=108
632A **Uvalde** 108.51 61 ⇑PKiKP **PKiKP** 23 46 53.1 +0.7
baz=108
OBN **Obninsk** 108.57 327 PFAKE 23 47 00.0
OBN LR LR
comp=Z,2µm,21.0s
AGMN **Agassiz Nation** 108.62 41 *e*PKiKP **PKiKP** 23 46 51.5 -0.6
AGMN LR LR
comp=Z,1µm,22.0s
WMOK **Wichita Mounta** 108.84 55 *e*PKiKP **PKiKP** 23 46 53.2 +0.3
WMOK LR LR
comp=Z,824nm,22.0s
ECSD **EROS Data Cent** 109.09 46 *e*PKiKP **PKiKP** 23 46 52.9 -0.1
ECSD LR LR
comp=Z,915nm,20.0s
KSU1 **Kansas State U** 109.94 50 PFAKE 23 47 10.0
KSU1 LR LR
comp=Z,2µm,22.0s
WHTX **Lake Whitney** 110.27 58 ⇓PKiKP **PKiKP** 23 46 56.2 +0.6
baz=110
KVTX **Kingsville** 110.33 63 PFAKE 23 47 10.0
KVTX LR LR
comp=Z,2µm,22.0s
KAF **Kangasniemi** 110.61 336 *e*PKiKP **PKiKP** 23 46 54.0 -1.3
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF **Kangasniemi** 110.61 336 *e*p Pdif 23 42 55.7 +0.4
comp=Z,2.0nm,0.5s
KAF **Kangasniemi** 110.61 336 *e*p PKiKP 23 46 54.0 -1.3
comp=Z,4.6nm,0.7s
ANN **Anapa** 110.90 316 *i* PKiKP **PKiKP** 23 46 55.1 -1.3
ANN pmax pmax
comp=Z,124nm,5.5s
FIA1 **FINESS Array S** 111.05 335 *e*PKiKP **PKiKP** 23 46 55.9 -0.3
FINES **FINESS Array B** 111.05 335 Pdiff Pdif 23 42 56.9 -0.4
comp=Z,1.4nm,0.5s,baz=71,slow=3.9,SNR=15
FINES PKiKP **PKiKP** 23 46 56.1 0.0
comp=Z,4.4nm,0.5s,baz=84,slow=3.3,SNR=19
FINES **FINESS Array B** 111.05 335 Pdif Pdif 23 42 56.9 -0.4
FINES PKiKP **PKiKP** 23 46 56.1 0.0
TUL1 **Tulsa** 111.10 54 ⇑PKiKP **PKiKP** 23 46 57.5 +0.4
baz=111
SPMN **St. Paul** 111.41 43 ⇓PKiKP **PKiKP** 23 46 58.1 +0.8
baz=111
EYMN **Ely** 111.53 40 PFAKE 23 47 10.0
EYMN LR LR
comp=Z,2µm,21.0s
MALT **Malatya** 111.56 309 ⇓PKiKP **PKiKP** 23 46 58.6 +0.6
MALT **Malatya** 111.56 309 *e*PKiKP **PKiKP** 23 46 58.1 +0.1
MALT LR LR
comp=Z,890nm,21.0s
MALT **Malatya** 111.56 309 ⇓*i*P **PKiKP** 23 46 58.6 +0.6
SCIA **State Center** 111.92 47 PFAKE 23 47 10.0
SCIA LR LR
comp=Z,2µm,22.0s
SUMG **Summit** 112.42 3 *i* P **PKKPab** 23 57 57.7 -0.2
comp=Z,5.0nm,1.0s
SUMG *e* 23 58 08.0
NATX **Nacogdoches** 112.66 58 PFAKE 23 47 10.0
NATX LR LR
comp=Z,1µm,19.0s
MIAR **Mount Ida** 113.12 55 PFAKE 23 47 10.0
MIAR LR LR
comp=Z,2µm,22.0s
IZAR **Zarasai** 113.73 330 *e*P **PKiKP** 23 47 04.9 +3.4
ASF **Jabal al Asfar** 113.86 303 PKiKP **PKiKP** 23 47 02.6 0.0
comp=Z,1.5nm,0.4s,baz=140,slow=0.6,SNR=4.3
ASF **Jabal al Asfar** 113.86 303 PKiKP **PKiKP** 23 47 02.6 0.0
ISAL **Salakas** 113.88 330 *e*P **PKiKP** 23 47 04.8 +3.1
IGN **Ignalina** 113.93 329 *e*P **PKiKP** 23 47 04.6 +2.8
UALR **University of** 114.08 54 *e*PKiKP **PKiKP** 23 47 02.9 +0.1
AKASG **Malin Array Be** 114.29 324 PKiKP PKPdf 23 47 01.9 -0.7
comp=Z,5.2nm,0.3s,baz=60,slow=2.5,SNR=18
AKASG PKKPbc **PKKPbc** 23 57 43.2 -1.2
comp=Z,0.3nm,0.4s,baz=238,slow=4.6,SNR=4.9
AKASG **Malin Array Be** 114.29 324 *i* PKiKP PKPdf 23 47 02.0 -0.7
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG **Malin Array Be** 114.29 324 PKiKP PKPdf 23 47 01.9 -0.7
AKASG PKKPbc **PKKPbc** 23 57 43.2 -1.2
KIEV **Kiev** 114.30 324 *e*PKiKP PKPdf 23 47 01.4 -1.3
KIEV *e* 23 47 58.6
KIEV MLR MLR
comp=Z,2µm,22.0s
KIEV **Kiev** 114.30 324 *e*PKiKP PKPdf 23 47 01.4 -1.3
KIEV *e*PP **PP** 23 47 58.6 +0.1
KIEV LR LR
comp=Z,2µm,22.0s
AK02 **Malin Array Si** 114.32 324 *e*PKiKP PKPdf 23 47 02.0 -0.8
KMBO **Kilima Mbogo** 114.39 266 *e*PKiKP **PKiKP** 23 47 04.1 -0.2
KMBO LR LR
comp=Z,488nm,21.0s
BR131 **Keskin Array S** 114.89 311 *e*PKiKP **PKiKP** 23 47 03.8 -0.6
BRTR **Keskin Array B** 114.89 311 PKP PKPdf 23 47 03.6 -0.7
comp=Z,5.1nm,0.6s,baz=124,slow=2.0,SNR=39
BRTR PKKPbc **PKKPbc** 23 57 41.5 -0.8
comp=Z,1.4nm,0.8s,baz=230,slow=2.8,SNR=6.5
BRTR **Keskin Array B** 114.89 311 PKP PKPdf 23 47 03.6 -0.7
BRTR PKKPbc **PKKPbc** 23 57 41.5 -0.8
MMAI **Mount Meron Ar** 114.96 304 PKP PKPdf 23 47 04.5 -0.1
comp=Z,9.7nm,0.9s,baz=73,slow=9.7,SNR=7.7
MMAI **Mount Meron Ar** 114.96 304 PKP PKPdf 23 47 04.5 -0.1
EIL **Elat** 115.91 300 PKP **PKPdf** 23 47 06.5 +0.1
comp=Z,12nm,0.7s,baz=160,slow=3.3,SNR=16
EIL **Elat** 115.91 300 PKP **PKPdf** 23 47 06.5 +0.1
KIS **Kishinev** 115.95 320 *e*PP PP 23 48 12.0 +1.7
KIS LRM MLR 00 38 40.0
comp=Z,1µm,20.0s
VBMS **Vicksburg** 116.05 57 PFAKE 23 47 20.0 +13
VBMS LR LR
comp=Z,1µm,20.0s
SUW **Suwalki** 116.13 329 *e*PKP **PKPdf** 23 47 06.0 -0.2
SUW **Suwalki** 116.13 329 *e*PKiKP **PKPdf** 23 47 05.7 -0.4
SUW **Suwalki** 116.13 329 *e*PKPdf **PKPdf** 23 47 05.7 -0.4
SUW **Suwalki** 116.13 329 *e*PKP **PKPdf** 23 47 05.9 -0.2
CSS **Prodhromos** 116.25 306 *e*PKPdf **PKPdf** 23 47 06.5 -0.5
CSS LR LR
comp=Z,665nm,22.0s
SFJD **Kangerlussuaq** 116.41 10 *e*PKPdf **PKPdf** 23 47 05.4 -0.8
SFJD LR LR
comp=Z,912nm,20.0s
OLIL **Olney** 116.50 49 *e*PKPdf **PKPdf** 23 47 07.8 +0.5
OXF **Oxford** 116.50 54 PFAKE 23 47 20.0 +13
OXF LR LR
comp=Z,1µm,22.0s
TLCR 116.62 318 ⇑PKiKP **PKPdf** 23 47 07.7 +0.4
TLCR 116.62 318 ⇑*i*P **PKPdf** 23 47 07.7 +0.4
SFIN **Scholer Farm** 116.78 47 ⇓PKiKP **PKiKP** 23 47 08.1 +0.3
baz=117
NB2 **NORSAR Subarra** 116.99 340 PKPdf **PKPdf** 23 47 06.7 -0.9
comp=Z,0.9nm,0.7s,baz=59,slow=2.6
NOA **NORSAR Array B** 116.99 340 PKP **PKPdf** 23 47 07.0 -0.6
comp=Z,7.0nm,0.8s,baz=48,slow=1.9,SNR=26
NOA PKKPab **PKKPab** 23 57 38.4 +1.0
comp=Z,1.5nm,1.1s,baz=220,slow=4.6,SNR=2.5
NOA **NORSAR Array B** 116.99 340 PKP **PKPdf** 23 47 07.0 -0.6
NOA PKKPab **PKKPab** 23 57 38.4 +1.0
GLMI **Grayling** 117.05 42 PFAKE 23 47 20.0 +12
GLMI LR LR
comp=Z,1µm,22.0s
CFR **Carcaliu** 117.07 319 ⇑PKiKP **PKPdf** 23 47 07.8 -0.4
CFR **Carcaliu** 117.07 319 ⇑*i*P **PKPdf** 23 47 07.8 -0.4
GHRR 117.21 320 ⇑*i*P **PKPdf** 23 47 09.5 +1.1
MANR **Mangalia** 117.25 317 ⇓*i*P **PKPdf** 23 47 09.1 +0.5
PRAR **RASCA** 117.44 322 ⇓*i*P **PKPdf** 23 47 08.9 0.0
PLAL **Pickwick Lake** 117.46 53 PFAKE 23 47 20.0 +11
PLAL LR LR
comp=Z,631nm,20.0s
TESR 117.52 320 ⇓*i*P **PKPdf** 23 47 09.0 -0.1
BLO **Bloomington** 117.55 48 *e*PKiKP **PKPdf** 23 47 09.9 +0.5
BLO **Bloomington** 117.55 48 *e*PKPdf **PKPdf** 23 47 09.9 +0.5
LVV **L'vov** 117.68 325 *e*PKiKP **PKPdf** 23 47 08.5 -0.8
VRI **Vrincioaia** 117.72 320 ⇑PKiKP **PKPdf** 23 47 09.1 -0.4

VRI Vrincioaia 117.72 320 ⇑ iP PKPdf 23 47 09.1 -0.4
ISP Isparta 117.74 310 PFAKE 23 47 20.0 +10
ISP LR LR
comp=Z,532nm,22.0s
PLOR Plostina 117.78 320 ⇓ PKIKP PKPdf 23 47 09.2 -0.4
PLOR Plostina 117.78 320 ⇓ iP PKPdf 23 47 09.2 -0.4
PGOR Pogoanele 117.93 319 ⇓ iP PKPdf 23 47 10.6 +0.8
BUR08 Bucovina Ar. S 117.95 322 ePKPdf PKPdf 23 47 10.1 +0.1
BURAR Bucovina Array 117.95 322 ⇓ iP PKPdf 23 47 11.3 +1.3
WCI Wyandotte Cave 118.00 49 ePKIKP PKPdf 23 47 10.2 -0.1
WCI Wyandotte Cave 118.00 49 ePKPdf PKPdf 23 47 10.2 -0.1
PRD Provadia 118.28 317 iP PKPdf 23 47 11.5 +0.9
MLR Muntele Rosu 118.38 320 PKP PKPdf 23 47 10.3 -0.6
comp=Z,0.9nm,0.3s,baz=227,slow=1.1,SNR=15
MLR Muntele Rosu 118.38 320 PKP PKPdf 23 47 10.3 -0.6
MLR Muntele Rosu 118.38 320 ⇓ iP PKPdf 23 47 10.7 -0.2
SECR 118.48 319 ⇑ iP PKPdf 23 47 11.4 +0.4
KWP Kalwaria Pacla 118.53 325 ePKP PKPdf 23 47 10.9 0.0
KWP e 23 47 14.0
KWP Kalwaria Pacla 118.53 325 ⇑ PKIKP PKPdf 23 47 11.3 +0.4
KWP Kalwaria Pacla 118.53 325 ePKPdf PKPdf 23 47 10.5 -0.4
KWP LR LR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 118.53 325 ⇑ iP PKPdf 23 47 11.3 +0.4
KWP Kalwaria Pacla 118.53 325 ePKP PKPdf 23 47 10.9 0.0
KWP e 23 47 14.0
DOPR Dopca 118.54 320 ⇑ iP PKPdf 23 47 10.3 -0.8
KONO Kongsberg 118.55 339 ePKIKP PKPdf 23 47 11.2 +0.6
KONO MLR MLR
comp=Z,912nm,20.0s
KONO Kongsberg 118.55 339 ePKPdf PKPdf 23 47 11.2 +0.6
KONO LR LR
comp=Z,912nm,20.0s
AAM Ann Arbor 118.61 44 ePKIKP PKPdf 23 47 11.2 -0.1
AAM MLR MLR
comp=Z,2μm,22.0s
AAM Ann Arbor 118.61 44 ePKPdf PKPdf 23 47 11.2 -0.1
AAM LR LR
comp=Z,2μm,22.0s
BOSA Boshof 118.63 234 PKP PKPdf 23 47 11.8 -0.1
comp=Z,9.2nm,0.6s,baz=46,slow=1.8,SNR=18
BOSA PKKPbc PKKPbc 23 57 28.2 -0.6
comp=Z,11nm,0.9s,baz=271,slow=3.0,SNR=5.3
BOSA Boshof 118.63 234 PKP PKPdf 23 47 11.8 -0.1
BOSA ePKPdf PKiKP 23 47 12.0 +0.1
BOSA PKKPbc PKKPbc 23 57 28.2 -0.6
LRAL Lakeview Retre 118.79 55 ePKPdf PKPdf 23 47 11.9 0.0
LRAL LR LR
comp=Z,925nm,21.0s
VOIR 118.97 320 ⇑ PKIKP PKPdf 23 47 11.5 -0.5
VOIR 118.97 320 ⇑ iP PKPdf 23 47 11.5 -0.5
KOLS Kolonicke sedl 119.11 324 ePKIKP PKPdf 23 47 12.5 +0.4
KOLS Kolonicke sedl 119.11 324 ePKP PKPdf 23 47 12.5 +0.4
BRAL Brewton 119.19 57 PFAKE 23 47 20.0 +7.3
BRAL LR LR
comp=Z,1μm,20.0s
UZH Uzhgorod 119.25 324 ⇓ iPKIKP PKPdf 23 47 11.8 -0.5
UZH e 23 47 20.6
UZH i 23 47 24.0
ARR Arges 119.27 320 ⇑ iP PKPdf 23 47 12.3 -0.2
TRPA Tarpa 119.34 324 ⇑ iP PKPdf 23 47 11.7 -0.8
TRPA Tarpa 119.34 324 ⇓ ePKPdf PKPdf 23 47 12.3 -0.2
HUMR Humele 119.39 319 ⇑ iP PKPdf 23 47 12.4 -0.3
CRVS Cervenica-Dubn 119.60 325 ePKIKP PKPdf 23 47 13.0 0.0
CRVS Cervenica-Dubn 119.60 325 ePKP PKPdf 23 47 13.0 0.0
PVL Pavlikeni 119.68 317 iP PKPdf 23 47 15.7 +2.4
LBTB Lobatse 119.77 237 PKP PKPdf 23 47 14.2 0.0
comp=Z,10nm,0.5s,baz=161,slow=2.1,SNR=38
LBTB PKKPbc PKKPbc 23 57 24.1 -0.3
comp=Z,8.1nm,0.9s,baz=308,slow=7.4,SNR=5.6
LBTB Lobatse 119.77 237 PKP PKPdf 23 47 14.2 0.0
LBTB PKKPbc PKKPbc 23 57 24.1 -0.3
TEIG Tepich 119.78 70 PFAKE 23 47 20.0 +5.9
TEIG LR LR
comp=Z,894nm,22.0s
LOT Lotru 119.79 320 ⇑ iP PKPdf 23 47 13.1 -0.5
ACSO Alum Creek Sta 119.81 46 ePKPdf PKPdf 23 47 13.4 -0.3
ACSO LR LR
comp=Z,971nm,20.0s
DRGR 119.85 322 ⇓ PKIKP PKPdf 23 47 13.5 -0.1
DRGR 119.85 322 ⇓ iP PKPdf 23 47 13.5 -0.1
OJC Ojcow 119.86 327 ePKIKP PKPdf 23 47 13.4 -0.1
OJC Ojcow 119.86 327 ePKP PKPdf 23 47 13.4 -0.1
DIM Dimitrovgrad 119.99 316 iP PKPdf 23 47 13.8 -0.1
NIE Niedzica 119.99 326 ePKIKP PKPdf 23 47 14.3 +0.5
NIE Niedzica 119.99 326 ePKP PKPdf 23 47 14.3 +0.5
PLCA Paso Flores 120.00 144 PKP PKPdf 23 47 14.6 +0.4
comp=Z,7.3nm,1.0s,baz=186,slow=4.6,SNR=11
PLCA PKKPbc PKKPbc 23 57 22.9 -1.1
comp=Z,3.3nm,0.5s,baz=36,slow=3.7,SNR=19
PLCA Paso Flores 120.00 144 PKP PKPdf 23 47 14.6 +0.4
PLCA PKKPbc PKKPbc 23 57 22.9 -1.1
SUR Sutherland 120.35 228 PKP PKPdf 23 47 16.5 +1.3
comp=Z,4.8nm,0.6s,baz=237,slow=17,SNR=3.1
SUR PKKPab PKKPab 23 57 23.7 -0.4
comp=Z,10nm,0.8s,baz=260,slow=6.1,SNR=3.0
SUR Sutherland 120.35 228 ePKPdf PKPdf 23 47 16.2 +1.0
SUR PKP PKPdf 23 47 16.5 +1.3
SUR PKKPab PKKPab 23 57 23.7 -0.4
SUR LR LR
comp=Z,1μm,19.0s
TZTN Tazewell 120.58 50 ePKPdf PKPdf 23 47 15.5 +0.2
LSZ Lusaka 120.62 249 PKP PKPdf 23 47 16.2 +0.2
comp=Z,12nm,0.5s,baz=76,slow=3.4
LSZ PKKPab PKKPab 23 57 22.6 -0.2
comp=Z,2.1nm,0.6s,baz=270,slow=2.0,SNR=5.8
LSZ Lusaka 120.62 249 PKP PKPdf 23 47 16.2 +0.2
LSZ ePKPdf PKiKP 23 47 16.4 +0.3
LSZ PKKPab PKKPab 23 57 22.6 -0.2
LSZ LR LR
comp=Z,1μm,22.0s
LSZ Lusaka 120.62 249 P PKPdf 23 47 17.2 +1.2
SNR=9.8
TKL Tuckaleechee C 120.67 51 ePKPdf PKPdf 23 47 15.3 -0.2
MPEP Malo Peshtene 120.69 318 iP PKPdf 23 47 15.8 +0.6
PGB Panagyurishte 120.73 317 iP PKPdf 23 47 14.6 -0.8
MBAR Mbarara 120.92 266 PFAKE 23 47 30.0 +13
MBAR LR LR
comp=Z,581nm,21.0s
OKC Ostrava-Krasne 120.97 327 i PKIKP PKPdf 23 47 15.7 +0.1
OKC MLR MLR
comp=Z,1μm,17.8s
OKC Ostrava-Krasne 120.97 327 i PKPdf PKPdf 23 47 15.7 +0.1
OKC ex x 23 47 18.7
OKC AMS AMS 00 39 40.0
comp=Z,1μm,17.8s
PSZ Piszkesteto 120.99 324 ⇓ PKIKP PKPdf 23 47 15.8 0.0
PSZ Piszkesteto 120.99 324 ePKPdf PKPdf 23 47 15.3 -0.5
PSZ LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 120.99 324 ⇓ iP PKPdf 23 47 15.8 0.0
PSZ Piszkesteto 120.99 324 ⇑ ePKPdf PKPdf 23 47 15.5 -0.3
BZS Buzias 121.06 321 ⇑ PKIKP PKPdf 23 47 15.8 -0.1
BZS Buzias 121.06 321 ⇑ iP PKPdf 23 47 15.8 -0.1
ERPA Erie 121.20 43 PFAKE 23 47 30.0 +14
ERPA LR LR
comp=Z,1μm,21.0s
VYHS Vyhne 121.30 325 ePKIKP PKPdf 23 47 16.2 -0.1
VYHS e 23 48 48.2
VYHS Vyhne 121.30 325 ePKP PKPdf 23 47 16.2 -0.1
VYHS ePP PP 23 48 48.2 +1.1
MORC Moravsky Berou 121.33 327 ⇓ PKIKP PKPdf 23 47 16.8 +0.5
MORC Moravsky Berou 121.33 327 ePKPdf PKPdf 23 47 16.5 +0.2
MORC Moravsky Berou 121.33 327 ⇓ iP PKPdf 23 47 16.8 +0.5
VTS Vitosha 121.36 318 ⇓ PKIKP PKPdf 23 47 16.9 +0.1
VTS Vitosha 121.36 318 ⇓ iP PKPdf 23 47 16.9 +0.1
VTS Vitosha 121.36 318 i P PKPdf 23 47 16.7 -0.1
KSP Ksiaz 121.39 329 ePKP PKPdf 23 47 16.6 +0.3
KSP Ksiaz 121.39 329 ePKIKP PKPdf 23 47 16.6 +0.3
KSP e 23 48 49.0
KSP MLR MLR
comp=Z,4μm,23.7s
KSP Ksiaz 121.39 329 ePKP PKPdf 23 47 16.6 +0.3
GOGA Godfrey 121.56 54 ePKIKP PKPdf 23 47 17.7 +0.5
GOGA MLR MLR
comp=Z,1μm,22.0s
GOGA Godfrey 121.56 54 ePKPdf PKPdf 23 47 17.7 +0.5
GOGA LR LR
comp=Z,1μm,22.0s
SCHQ Schefferville 121.56 25 PKP PKPdf 23 47 16.7 +0.1
comp=Z,18nm,0.9s,baz=360,slow=2.3,SNR=21
SCHQ Schefferville 121.56 25 ePKPdf PKPdf 23 47 16.6 0.0
DPC Dobruska-Polom 121.66 328 i PKIKP PKPdf 23 47 17.2 +0.2
DPC e 23 48 51.3
DPC e 23 58 42.1
DPC MLR MLR
comp=Z,2μm,25.2s
DPC Dobruska-Polom 121.66 328 i PKPdf PKPdf 23 47 17.2 +0.2
DPC ex x 23 47 20.3
DPC ePP PP 23 48 51.3 +1.8
DPC ePS PS 23 58 42.1 -1.6
DPC ex x 00 06 20.2
DPC AMS AMS 00 39 20.0
comp=Z,2μm,25.2s
BUD Budapest 121.72 324 ⇑ ePKPdf PKPdf 23 47 16.6 -0.5
UPC Upice 121.73 328 i PKIKP PKPdf 23 47 17.1 +0.1
UPC Upice 121.73 328 i PKPdf PKPdf 23 47 17.1 +0.1
UPC ex x 23 47 20.7
KKB Krupnik 121.74 317 i P PKPdf 23 47 16.8 -0.5
TIGA Tifton 121.98 56 ⇓ PKiKP PKiKP 23 47 18.4 +0.1
baz=122
VRAC Vranov 122.10 327 PKP PKPdf 23 47 17.6 -0.2
comp=Z,8.9nm,0.9s,baz=72,slow=1.8,SNR=11
VRAC Vranov 122.10 327 PKP PKPdf 23 47 17.6 -0.2
VRAC Vranov 122.10 327 ⇓ iP PKPdf 23 47 18.0 +0.2
BSEG Bad Segeberg 122.28 334 ePKIKP PKPdf 23 47 18.4 +0.5
BSEG Bad Segeberg 122.28 334 ePKPdf PKPdf 23 47 18.4 +0.5
PVCC Panska Ves 122.46 329 i PKIKP PKPdf 23 47 18.8 +0.4
PVCC MLR MLR
comp=Z,2μm,21.8s
PVCC Panska Ves 122.46 329 i PKPdf PKPdf 23 47 18.8 +0.4
PVCC ex x 23 47 22.2
PVCC AMS AMS 00 37 40.0
comp=Z,2μm,21.8s
BRG Berggiesshubel 122.57 330 ePKP PKPdf 23 47 18.6 0.0
comp=Z,47nm,1.3s
BRG i 23 47 22.0
comp=Z,15nm,0.8s
BRG epPKP pPKPdf 23 47 33.1 -0.5
comp=Z,10nm,1.0s
BRG PP PP 23 49 17.0 +21
BRG Berggiesshubel 122.57 330 ePKIKP PKPdf 23 47 18.6 0.0
BRG e 23 47 33.1
BRG pmax pmax
comp=Z,47nm,1.3s
BRG pmax pmax
comp=Z,15nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG MLR MLR
comp=N,769nm,17.1s
BRG MLR MLR
comp=E,851nm,19.3s
BRG MLR MLR
comp=Z,1μm,18.6s
BRG Berggiesshubel 122.57 330 ePKPdf PKPdf 23 47 18.9 +0.3
PKSM Moragy 122.59 323 ⇓ PKIKP PKPdf 23 47 19.0 +0.2
PKSM Moragy 122.59 323 ⇓ iP PKPdf 23 47 19.0 +0.2
PKSM Moragy 122.59 323 ⇓ ePKPdf PKPdf 23 47 18.6 -0.2
TREC Trest 122.71 328 i PKIKP PKPdf 23 47 19.0 0.0
TREC MLR MLR
comp=Z,2μm,22.2s
TREC Trest 122.71 328 i PKPdf PKPdf 23 47 19.0 0.0
TREC ex x 23 47 22.1
TREC AMS AMS 00 41 20.0
comp=Z,2μm,22.2s
KMSC Kings Mountain 122.73 51 ⇓ PKiKP PKiKP 23 47 19.8 +0.2
baz=123
BLA Blacksburg 122.73 49 PFAKE 23 47 30.0 +11
BLA LR LR
comp=Z,2μm,22.0s
CLL Collm 122.76 331 ⇑ iPKIKP PKPdf 23 47 18.8 -0.2
CLL e 23 47 32.0
CLL pmax pmax
comp=Z,22nm,0.7s
CLL MLR MLR
comp=Z,1μm,21.4s
CLL Collm 122.76 331 ePKPdf PKPdf 23 47 19.1 +0.1
CLL Collm 122.76 331 ⇑ iPKPdf PKPdf 23 47 18.8 -0.2
comp=Z,22nm,0.7s
CLL e 23 47 22.0
CLL epPKPdf pPKPdf 23 47 32.0 -1.9
CLL ePP PP 23 48 57.0 +0.2
CLL ePPP PPP 23 51 36.0
CLL ePS PS 23 58 48.0 -5.3
CLL ePPS PPS 00 00 19.0
CLL eSS SS 00 05 36.0 +0.4
CLL e 00 06 30.0
CLL eSSS SSS 00 10 06.0
CLL eSSSS 00 14 00.0
CLL Lm MLR 00 43 00.0
comp=Z,1μm,21.4s
PRU Pruhonice 122.80 329 i PKIKP PKPdf 23 47 19.1 0.0
PRU e 23 48 57.0
PRU e 23 58 52.6
PRU MLR MLR
comp=Z,2μm,19.8s
PRU Pruhonice 122.80 329 i PKPdf PKPdf 23 47 19.1 0.0
PRU ex x 23 47 22.3
PRU ePP PP 23 48 57.0 -0.1
PRU ePS PS 23 58 52.6 -1.0
PRU ex x 00 06 30.7
PRU AMS AMS 00 42 50.0
comp=Z,2μm,19.8s
PRA Prague 122.80 329 PKPdf PKPdf 23 47 17.0 -2.1
PRA AMS AMS 00 42 00.0
IDI Anoyia 122.82 309 ePKPdf PKPdf 23 47 19.1 -0.5
SOP Sopron 123.03 325 ⇑ ePKPdf PKPdf 23 47 19.3 -0.3
JSC Jenkinsville 123.06 52 ePKIKP PKPdf 23 47 20.4 +0.3
JSC Jenkinsville 123.06 52 ePKPdf PKPdf 23 47 20.4 +0.3
SSPA Standing Stone 123.25 44 ePKPdf PKPdf 23 47 20.3 0.0
CONA Conrad Observa 123.28 326 i P PKPdf 23 47 19.9 -0.3
CONA Conrad Observa 123.28 326 i PKiKP PKPdf 23 47 19.9 -0.3
comp=Z,14nm,0.6s,SNR=7.4
JTS JuntasAbangare 123.53 81 PKP PKPdf 23 47 21.6 +0.1
comp=Z,11nm,0.7s,baz=300,slow=8.1
JTS JuntasAbangare 123.53 81 PKP PKPdf 23 47 21.6 +0.1
JTS ePKPdf PKiKP 23 47 21.8 0.0
JTS ePP PP 23 49 03.7 -0.1
JTS LR LR
comp=Z,2μm,22.0s
LONY Lake Ozonia 123.59 38 ePKPdf PKPdf 23 47 20.6 -0.2
LONY LR LR
comp=Z,1μm,19.0s
TANN Tannenbergstha 123.59 330 ePKPdf PKPdf 23 47 20.8 +0.1
CLZ Clausthal 123.67 332 ePKIKP PKPdf 23 47 21.4 +0.6
CLZ Clausthal 123.67 332 ePKPdf PKPdf 23 47 21.4 +0.6
NKC Novy Kostel 123.71 330 i PKIKP PKPdf 23 47 21.2 +0.3
NKC Novy Kostel 123.71 330 i PKPdf PKPdf 23 47 21.2 +0.3
NKC ex x 23 47 23.9
KHC Kasperske Hory 123.81 328 i PKIKP PKPdf 23 47 21.1 0.0
KHC e 23 47 34.5
KHC MLR MLR
comp=Z,2μm,22.1s
KHC Kasperske Hory 123.81 328 ePKPdf PKPdf 23 47 21.1 0.0
KHC Kasperske Hory 123.81 328 i PKPdf PKPdf 23 47 21.1 0.0
KHC ex x 23 47 24.1
KHC epPKP pPKPdf 23 47 34.5 -1.6
KHC ex x 00 06 45.0
KHC AMS AMS 00 42 00.0
comp=Z,2μm,22.1s
BINY Binghamton 123.85 42 PFAKE 23 47 30.0 +8.6
BINY LR LR
comp=Z,2μm,21.0s
ARSA Arzberg 123.85 326 ⇑ iP PKPdf 23 47 20.6 -0.7
ARSA Arzberg 123.85 326 ⇑ iPKPdf PKPdf 23 47 20.5 -0.7
comp=Z,14nm,1.2s
MOX Moxa 123.86 331 ePKIKP PKPdf 23 47 21.2 +0.1
MOX Moxa 123.86 331 ePKPdf PKPdf 23 47 21.2 +0.1
GERES GERESS Array B 123.92 328 PKP PKPdf 23 47 21.2 -0.2
comp=Z,16nm,0.5s,baz=90,slow=2.0,SNR=136
GERES GERESS Array B 123.92 328 PKP PKPdf 23 47 21.2 -0.2
FRNY Flat Rock 124.09 38 ePKPdf PKPdf 23 47 21.2 -0.5
ROTZ Rotzenmuhle 124.13 330 ePKPdf PKPdf 23 47 21.8 +0.1
NCB Newcomb 124.14 39 ePKPdf PKPdf 23 47 22.1 +0.2
NCB LR LR
comp=Z,1μm,20.0s
TIR Tirane 124.14 317 PFAKE 23 47 30.0 +8.1
TIR LR LR
comp=Z,2μm,20.0s
WET Wettzell 124.17 329 ePKIKP PKPdf 23 47 21.9 +0.1
WET Wettzell 124.17 329 ePKPdf PKPdf 23 47 21.9 +0.1
MOA Molln 124.21 327 ⇑ iP PKPdf 23 47 21.2 -0.7
MOA Molln 124.21 327 ⇑ iPKPdf PKPdf 23 47 21.2 -0.7
comp=Z,8.5nm,0.7s,SNR=12
NHSC New Hope 124.28 53 PFAKE 23 47 30.0 +7.6
NHSC LR LR
comp=Z,1μm,22.0s
PERS Pernice 124.43 325 i PKPdf PKPdf 23 47 21.7 -0.7
PERS i PKPbc PKiKP 23 47 25.5 +2.8
JSRW J. Sargeant Re 124.44 47 ePKPdf PKPdf 23 47 22.9 +0.3
SOKA Soboth 124.45 325 ⇑ iP PKPdf 23 47 22.1 -0.4
SOKA Soboth 124.45 325 ⇑ iPKPdf PKPdf 23 47 22.1 -0.4
comp=Z,26nm,1.2s
SDMD Soldier's Deli 124.49 45 ePKPdf PKPdf 23 47 23.2 +0.5
IBBN Ibbenburen 124.52 334 ePKPdf PKPdf 23 47 22.7 +0.4
CBN Corbin 124.60 46 ePKPdf PKPdf 23 47 22.9 0.0
CBN LR LR
comp=Z,1μm,21.0s
GRF Grafenberg Arr 124.67 330 ePKIKP PKPdf 23 47 22.6 -0.1
GRF Grafenberg Arr 124.67 330 ePKPdf PKPdf 23 47 22.6 -0.1
GRF Grafenberg Arr 124.67 330 eL L 00 44 13.0
comp=Z,974nm,21.2s
MDV Middlebury 124.77 38 ePKPdf PKPdf 23 47 22.8 -0.2
ACCN Adirondack Com 124.78 39 ePKPdf PKPdf 23 47 22.9 -0.2
BOJS Bojanci 124.98 324 i PKPdf PKPdf 23 47 23.5 +0.1
BOJS i PKPbc PKiKP 23 47 26.9 +3.2
MOZS Mozjanca 125.00 325 i PKPdf PKPdf 23 47 23.1 -0.4
VISS Visnje 125.05 324 i PKPdf PKPdf 23 47 23.6 0.0
VISS i PKPbc PKiKP 23 47 27.2 +3.2
RJOB Jochberg 125.07 327 ePKPdf PKPdf 23 47 23.4 -0.5
KBA Koelnbreinsper 125.17 326 ⇑ iPKIKP PKPdf 23 47 23.1 -0.9
KBA Koelnbreinsper 125.17 326 ⇑ iP PKPdf 23 47 23.1 -0.9
KBA Koelnbreinsper 125.17 326 ⇑ iPKPdf PKPdf 23 47 23.0 -0.9
comp=Z,12nm,0.7s,SNR=13
WTSB Winterswijk 125.18 334 ePKPdf PKPdf 23 47 23.8 +0.2
MYKA Terra Mystica 125.26 326 ⇑ iP PKPdf 23 47 23.2 -0.9
MYKA Terra Mystica 125.26 326 ⇑ iPKPdf PKPdf 23 47 23.2 -0.9
comp=Z,9.6nm,0.8s
CNNC Cliffs of the 125.35 50 ePKPdf PKPdf 23 47 25.0 +0.6
CNNC LR LR
comp=Z,1μm,20.0s
BUG Bochum--Univer 125.35 334 ePKPdf PKPdf 23 47 24.0 +0.1
LBNH Lisbon 125.42 38 PFAKE 23 47 30.0 +5.7
LBNH LR LR
comp=Z,2μm,20.0s
JAVS Javornik 125.45 325 i PKPdf PKPdf 23 47 23.2 -1.2
JAVS i PKPbc PKiKP 23 47 27.4 +2.6
VOY Vojsko 125.47 325 ePKPdf PKPdf 23 47 23.7 -0.8
VOY ePKPbc PKiKP 23 47 27.4 +2.6
HNH Hanover 125.48 38 ePKPdf PKPdf 23 47 25.4 +1.0
FUR Furstenfeldbru 125.61 328 ePKIKP PKPdf 23 47 24.4 -0.2
FUR Furstenfeldbru 125.61 328 ePKPdf PKPdf 23 47 24.4 -0.2
TNS Taunus Mts 125.66 332 ePKIKP PKPdf 23 47 25.0 +0.3
TNS Taunus Mts 125.66 332 ePKPdf PKPdf 23 47 25.0 +0.3
ABTA Abfaltersbach 125.82 326 ⇑ iP PKPdf 23 47 24.4 -0.7
ABTA Abfaltersbach 125.82 326 ⇑ iPKPdf PKPdf 23 47 24.4 -0.7
comp=Z,47nm,1.3s,SNR=12
TOD Tromm 125.91 331 PKIKP PKPdf 23 47 25.2 +0.1
TOD Tromm 125.91 331 PKP PKPdf 23 47 25.2 +0.1
WATA Walderalm 125.97 328 ⇓ PKIKP PKPdf 23 47 24.9 -0.5
WATA Walderalm 125.97 328 ⇓ iP PKPdf 23 47 24.9 -0.5
WATA Walderalm 125.97 328 ⇓ iPKPdf PKPdf 23 47 24.9 -0.5
comp=Z,16nm,0.5s,SNR=15
WTTA Wattenberg 125.98 327 i PKIKP PKPdf 23 47 25.3 -0.3
WTTA Wattenberg 125.98 327 i P PKPdf 23 47 25.2 -0.3
WTTA Wattenberg 125.98 327 i PKiKP PKPdf 23 47 25.2 -0.3
comp=Z,52nm,1.0s,SNR=48
QUA2 Belchertown 126.17 40 ePKPdf PKPdf 23 47 26.2 +0.4
ESK Eskdalemuir 126.19 343 PFAKE 23 47 40.0 +15
ESK LR LR
comp=Z,1μm,19.0s
MOTA Moosalm 126.22 328 ⇑ iPKIKP PKPdf 23 47 25.5 -0.5
MOTA Moosalm 126.22 328 ⇑ iP PKPdf 23 47 25.4 -0.5
MOTA Moosalm 126.22 328 ⇑ iPKPdf PKPdf 23 47 25.5 -0.5
comp=Z,28nm,0.7s,SNR=16
STU Stuttgart 126.28 330 ePKIKP PKPdf 23 47 25.7 -0.1
STU Stuttgart 126.28 330 ePKPdf PKPdf 23 47 25.8 -0.1
STU Stuttgart 126.28 330 ePKPdf PKPdf 23 47 25.7 -0.1
RETA Reutte 126.31 328 ⇑ iP PKPdf 23 47 25.5 -0.5
RETA Reutte 126.31 328 ⇑ iPKPdf PKPdf 23 47 25.5 -0.5
comp=Z,21nm,1.2s,SNR=16
ABH Altenburg 126.32 332 PKP PKPdf 23 47 26.3 +0.4
HGN Heimansgroeve 126.42 334 ePKPdf PKPdf 23 47 26.1 +0.1
MEM Membach 126.50 334 PKP PKPdf 23 47 26.4 +0.2
BEBN Eben Emael 126.51 334 PKP PKPdf 23 47 26.3 +0.1
FETA Feichten 126.62 328 i P PKPdf 23 47 26.7 0.0
FETA Feichten 126.62 328 i PKiKP PKPdf 23 47 26.7 0.0
comp=Z,46nm,1.3s,SNR=12
RUP Ruppelstein 126.67 332 PKIKP PKPdf 23 47 26.6 0.0
RUP Ruppelstein 126.67 332 PKP PKPdf 23 47 26.6 0.0
TRQA Tornquist 126.69 147 ePKPdf PKPdf 23 47 27.1 +0.1
TRQA ePP PP 23 49 24.4 +1.2
TRQA LR LR
comp=Z,831nm,19.0s
LANF Langenberg 126.81 331 PKIKP PKPdf 23 47 27.1 +0.2
LANF Langenberg 126.81 331 PKP PKPdf 23 47 27.1 +0.2
LANF Langenberg 126.81 331 PKP PKPdf 23 47 27.1 +0.2
BRYW Bryant College 126.88 40 ePKPdf PKPdf 23 47 27.3 +0.1
DAVA Damuels 126.90 328 i P PKPdf 23 47 27.2 -0.1
DAVA Damuels 126.90 328 i PKiKP PKPdf 23 47 27.2 -0.1
comp=Z,22nm,0.7s,SNR=8.0
SPAK Spaichingen-Ko 126.92 330 PKP PKPdf 23 47 26.8 -0.4
BCLA Clavier 126.95 334 PKP PKPdf 23 47 27.1 +0.1
BFO Black Forest 127.00 330 ePKIKP PKPdf 23 47 27.0 -0.3
BFO Black Forest 127.00 330 ePKPdf PKPdf 23 47 27.0 -0.3
BFO Black Forest 127.00 330 ePKPdf PKPdf 23 47 26.9 -0.3
BFO LR LR
comp=Z,1μm,21.0s
WLF Walferdange 127.11 333 PKP PKPdf 23 47 28.2 +0.8
WLF Walferdange 127.11 333 ePKIKP PKPdf 23 47 28.4 +1.0
WLF e 23 49 23.8
WLF MLR MLR
comp=Z,2μm,20.0s
WLF Walferdange 127.11 333 ePKPdf PKPdf 23 47 28.2 +0.8
WLF Walferdange 127.11 333 ePKPdf PKPdf 23 47 28.4 +1.0
WLF ePP PP 23 49 23.8 -2.0
WLF LR LR
comp=Z,2μm,20.0s
DAVOX Davos/Dischmat 127.22 328 PKP PKPdf 23 47 28.1 +0.2
comp=Z,23nm,0.3s,baz=204,slow=1.0
DAVOX Davos/Dischmat 127.22 328 PKP PKPdf 23 47 28.1 +0.2
TIP Timpagrande 127.25 316 ePKPdf PKPdf 23 47 28.4 +0.4
TIP LR LR
comp=Z,1μm,22.0s
SENF Seneffe 127.33 335 PKP PKPdf 23 47 27.6 -0.1
GIVF Givet 127.39 334 ⇑ iPKIKP PKPdf 23 47 28.1 +0.2
comp=Z,116nm,1.2s
GIVF Givet 127.39 334 ⇑ iPKIKP PKPdf 23 47 28.1 +0.2
GIVF Givet 127.39 334 ⇑ iPKPdf PKPdf 23 47 28.1 +0.2
CDF Champ du Feu 127.46 331 ⇑ iPKIKP PKPdf 23 47 27.8 -0.4
comp=Z,58nm,1.2s
CDF Champ du Feu 127.46 331 ⇑ iPKIKP PKPdf 23 47 27.8 -0.4
CDF Champ du Feu 127.46 331 ⇑ iPKPdf PKPdf 23 47 27.8 -0.4
FELD Feldberg im Sc 127.47 330 PKP PKPdf 23 47 27.9 -0.4
CUC Castrocucco 127.50 318 PFAKE 23 47 40.0 +12
CUC LR LR
comp=Z,1μm,19.0s
DOU Dourbes 127.50 334 PKP PKPdf 23 47 28.9 +0.8
ECH Echery 127.65 331 ePKIKP PKPdf 23 47 28.3 -0.2
ECH MLR MLR
comp=Z,938nm,21.0s
ECH Echery 127.65 331 ePKPdf PKPdf 23 47 28.3 -0.2
ECH LR LR
comp=Z,938nm,21.0s
ECH Echery 127.65 331 PKP PKPdf 23 47 27.9 -0.6
BAIF Baives 127.69 334 ⇑ iPKIKP PKPdf 23 47 28.7 +0.3
comp=Z,44nm,1.1s
BAIF Baives 127.69 334 ⇑ iPKIKP PKPdf 23 47 28.7 +0.3
BAIF Baives 127.69 334 ⇑ iPKPdf PKPdf 23 47 28.7 +0.3
TUE Stuetta 127.70 328 ePKPdf PKPdf 23 47 29.4 +0.5
TUE LR LR
comp=Z,2μm,22.0s
AQU L'Aquila 127.83 322 PFAKE 23 47 40.0 +11
AQU LR LR
comp=Z,1μm,20.0s
MOF Molkenrain 127.91 330 PKIKP PKPdf 23 47 28.3 -0.8
MOF Molkenrain 127.91 330 PKP PKPdf 23 47 28.3 -0.8
MOF Molkenrain 127.91 330 PKP PKPdf 23 47 28.3 -0.8
BBS Basel-Blauen 127.99 330 PKIKP PKPdf 23 47 28.7 -0.5
BBS Basel-Blauen 127.99 330 PKP PKPdf 23 47 28.7 -0.5
HINF Hinteralfeld 128.07 331 ⇑ iPKIKP PKPdf 23 47 29.1 -0.2
comp=Z,101nm,1.2s
HINF Hinteralfeld 128.07 331 ⇑ iPKIKP PKPdf 23 47 29.1 -0.2
HINF Hinteralfeld 128.07 331 ⇑ iPKPdf PKPdf 23 47 29.1 -0.2
PAGF Fort de Pagny 128.10 332 ⇑ iPKIKP PKPdf 23 47 29.5 +0.2
comp=Z,3.7nm,0.5s
PAGF Fort de Pagny 128.10 332 ⇑ iPKPdf PKPdf 23 47 29.5 +0.2
HAU Haudompre 128.19 331 ⇑ iPKIKP PKPdf 23 47 29.5 0.0

	comp=Z,32nm,0.5s								
HAU				*e*R					
	comp=Z,1µm,22.8s								
HAU	**Haudompre**	**128.19**	**331**	⇑*i*PKIKP	**PKPdf**	**23 47 29.5**	**0.0**		
HAU	**Haudompre**	**128.19**	**331**	⇑*i*PKPdf	**PKPdf**	**23 47 29.5**	**0.0**		
THEF	**They Montfort**	**128.21**	**331**	PKIKP	**PKPdf**	**23 47 29.5**	**0.0**		
THEF	**They Montfort**	**128.21**	**331**	PKP	**PKPdf**	**23 47 29.5**	**0.0**		
THEF	**They Montfort**	**128.21**	**331**	PKP	**PKPdf**	**23 47 29.5**	**0.0**		
LOMF	**Lomont**	**128.41**	**330**	PKIKP	**PKPdf**	**23 47 30.0**	**0.0**		
LOMF	**Lomont**	**128.41**	**330**	PKP	**PKPdf**	**23 47 30.0**	**0.0**		
LOMF	**Lomont**	**128.41**	**330**	PKP	**PKPdf**	**23 47 30.0**	**0.0**		
MEZF	**Maizieres J'vi**	**128.45**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 30.3**	**+0.4**		
	comp=Z,37nm,0.5s								
MEZF	**Maizieres J'vi**	**128.45**	**332**	⇑*i*PKPdf	**PKPdf**	**23 47 30.3**	**+0.4**		
VLC	**Villacollemand**	**128.58**	**325**	PFAKE		23 47 40.0	+10		
VLC				LR	LR				
	comp=Z,2µm,22.0s								
BCIP	**Isla Barro Col**	**128.59**	**82**	PFAKE		23 47 40.0	+8.8		
BCIP				LR	LR				
	comp=Z,519nm,20.0s								
NNA	**Nana**	**128.63**	**110**	*e*PKPdf	**PKPdf**	**23 47 31.8**	**+0.5**		
NNA				LR	LR				
	comp=Z,421nm,20.0s								
SFTF	**Sexfontaines**	**128.67**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 30.5**	**+0.1**		
	comp=Z,21nm,0.4s								
SFTF	**Sexfontaines**	**128.67**	**332**	⇑*i*PKPdf	**PKPdf**	**23 47 30.5**	**+0.1**		
TSUM	**Tsumeb**	**128.88**	**240**	PKP	**PKPdf**	**23 47 31.9**	**+0.1**		
	comp=Z,35nm,1.1s,baz=118,slow=2.4,SNR=8.7								
TSUM	**Tsumeb**	**128.88**	**240**	*e*PKPdf	**PKPdf**	**23 47 31.7**	**-0.1**		
TSUM				PKP	**PKPdf**	**23 47 31.9**	**+0.1**		
TSUM				LR	LR				
	comp=Z,834nm,21.0s								
CABF	**La Chapelle**	**129.28**	**330**	⇑*i*PKIKP	**PKPdf**	**23 47 32.0**	**+0.3**		
	comp=Z,28nm,0.6s								
CABF	**La Chapelle**	**129.28**	**330**	⇑*i*PKIKP	**PKPdf**	**23 47 32.0**	**+0.3**		
CABF	**La Chapelle**	**129.28**	**330**	⇑*i*PKPdf	**PKPdf**	**23 47 32.0**	**+0.3**		
OTAV	**Otavalo**	**129.51**	**94**	*e*PKPdf	**PKPdf**	**23 47 34.0**	**+0.4**		
OTAV				LR	LR				
	comp=Z,508nm,21.0s								
LPL	**La Plagne**	**129.70**	**329**	⇑*i*PKIKP	**PKPdf**	**23 47 32.7**	**0.0**		
	comp=Z,21nm,0.4s								
LPL	**La Plagne**	**129.70**	**329**	⇑*i*PKIKP	**PKPdf**	**23 47 32.7**	**0.0**		
LPL	**La Plagne**	**129.70**	**329**	⇑*i*PKPdf	**PKPdf**	**23 47 32.7**	**0.0**		
LPG	**La Plagne**	**129.71**	**328**	⇑*i*PKIKP	**PKPdf**	**23 47 32.8**	**0.0**		
	comp=Z,24nm,0.5s								
LPG	**La Plagne**	**129.71**	**328**	⇑*i*PKIKP	**PKPdf**	**23 47 32.8**	**0.0**		
LPG	**La Plagne**	**129.71**	**328**	⇑*i*PKPdf	**PKPdf**	**23 47 32.8**	**0.0**		
LOR	**Lormes**	**129.90**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 32.8**	**0.0**		
	comp=Z,135nm,1.4s								
LOR				*e*R					
	comp=Z,1µm,21.2s								
LOR	**Lormes**	**129.90**	**332**	*i*PKPdf	**PKPdf**	**23 47 32.8**	**0.0**		
BNI	**Bardonecchia**	**130.04**	**328**	*e*PKIKP	**PKPdf**	**23 47 33.8**	**+0.5**		
BNI				MLR	MLR				
	comp=Z,3µm,22.0s								
BNI	**Bardonecchia**	**130.04**	**328**	*e*PKPdf	**PKPdf**	**23 47 33.8**	**+0.5**		
BNI				LR	LR				
	comp=Z,3µm,22.0s								
MTDJ	**Mount Denham**	**130.09**	**71**	PFAKE		23 47 40.0	+6.0		
MTDJ				LR	LR				
	comp=Z,753nm,21.0s								
SSF	**Saint Saulge**	**130.21**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 33.5**	**+0.1**		
	comp=Z,110nm,1.3s								
SSF	**Saint Saulge**	**130.21**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 33.5**	**+0.1**		
SSF	**Saint Saulge**	**130.21**	**332**	⇑*i*PKPdf	**PKPdf**	**23 47 33.5**	**+0.1**		
SAOF	**Saorge**	**130.27**	**327**	PKIKP	**PKPdf**	**23 47 33.7**	**+0.1**		
SAOF	**Saorge**	**130.27**	**327**	PKP	**PKPdf**	**23 47 33.7**	**+0.1**		
SAOF	**Saorge**	**130.27**	**327**	PKP	**PKPdf**	**23 47 33.7**	**+0.1**		
SMF	**Signal de Mont**	**130.36**	**331**	⇑*i*PKIKP	**PKPdf**	**23 47 33.5**	**-0.2**		
	comp=Z,26nm,0.5s								
SMF	**Signal de Mont**	**130.36**	**331**	⇑*i*PKIKP	**PKPdf**	**23 47 33.5**	**-0.2**		
SMF	**Signal de Mont**	**130.36**	**331**	⇑*i*PKPdf	**PKPdf**	**23 47 33.5**	**-0.2**		
PGF	**Pioggiola**	**130.36**	**324**	*e*PKIKP	**PKPdf**	**23 47 33.7**	**-0.2**		
	comp=Z,71nm,0.6s								
PGF	**Pioggiola**	**130.36**	**324**	*e*PKIKP	**PKPdf**	**23 47 33.7**	**-0.2**		
PGF	**Pioggiola**	**130.36**	**324**	*e*PKPdf	**PKPdf**	**23 47 33.7**	**-0.2**		
WDD	**Wield Dalam**	**130.36**	**314**	PFAKE		23 47 40.0	+6.0		
WDD				LR	LR				
	comp=Z,376nm,20.0s								
SBF	**Sospel**	**130.42**	**326**	*e*PKIKP	**PKPdf**	**23 47 33.7**	**-0.2**		
	comp=Z,41nm,0.8s								
SBF	**Sospel**	**130.42**	**326**	*e*PKIKP	**PKPdf**	**23 47 33.7**	**-0.2**		
SBF	**Sospel**	**130.42**	**326**	*e*PKPdf	**PKPdf**	**23 47 33.7**	**-0.2**		
HYF	**Humbligny**	**130.46**	**333**	*e*PKIKP	**PKPdf**	**23 47 34.4**	**+0.6**		
HYF	**Humbligny**	**130.46**	**333**	*e*PKPdf	**PKPdf**	**23 47 34.4**	**+0.6**		
AVF	**Avril sur Loir**	**130.48**	**332**	*e*PKIKP	**PKPdf**	**23 47 33.8**	**-0.1**		
	comp=Z,7.7nm,0.5s								
AVF	**Avril sur Loir**	**130.48**	**332**	*e*PKIKP	**PKPdf**	**23 47 33.8**	**-0.1**		
AVF	**Avril sur Loir**	**130.48**	**332**	*e*PKPdf	**PKPdf**	**23 47 33.8**	**-0.1**		
ORIF	**Oris-en-Rattie**	**130.55**	**328**	⇑*i*PKIKP	**PKPdf**	**23 47 34.0**	**-0.2**		
	comp=Z,36nm,0.7s								
ORIF				*e*R					
	comp=Z,3µm,21.5s								
ORIF	**Oris-en-Rattie**	**130.55**	**328**	⇑*i*PKIKP	**PKPdf**	**23 47 34.0**	**-0.2**		
ORIF	**Oris-en-Rattie**	**130.55**	**328**	⇑*i*PKPdf	**PKPdf**	**23 47 34.0**	**-0.2**		
LDF	**La Druitiere**	**130.64**	**336**	*e*PKIKP	**PKPdf**	**23 47 33.9**	**-0.2**		
	comp=Z,21nm,0.6s								
LDF	**La Druitiere**	**130.64**	**336**	*e*PKIKP	**PKPdf**	**23 47 33.9**	**-0.2**		
LDF	**La Druitiere**	**130.64**	**336**	*e*PKPdf	**PKPdf**	**23 47 33.9**	**-0.2**		
FLN	**La Foliniere**	**130.65**	**336**	⇑*i*PKIKP	**PKPdf**	**23 47 34.0**	**-0.1**		
	comp=Z,32nm,0.5s								
FLN				*e*R					
	comp=Z,2µm,23.0s								
FLN	**La Foliniere**	**130.65**	**336**	⇑*i*PKIKP	**PKPdf**	**23 47 34.0**	**-0.1**		
FLN	**La Foliniere**	**130.65**	**336**	⇑*i*PKPdf	**PKPdf**	**23 47 34.0**	**-0.1**		
BGF	**Bois d'Agland**	**130.89**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 34.8**	**+0.1**		
	comp=Z,57nm,0.9s								
BGF	**Bois d'Agland**	**130.89**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 34.8**	**+0.1**		
BGF	**Bois d'Agland**	**130.89**	**332**	⇑*i*PKPdf	**PKPdf**	**23 47 34.8**	**+0.1**		
PLDF	**La Plantade**	**130.95**	**331**	PKIKP	**PKPdf**	**23 47 35.2**	**+0.3**		
PLDF	**La Plantade**	**130.95**	**331**	PKP	**PKPdf**	**23 47 35.2**	**+0.3**		
PLDF	**La Plantade**	**130.95**	**331**	PKP	**PKPdf**	**23 47 35.2**	**+0.3**		
SSB	**Saint Sauveur**	**130.99**	**330**	*e*PKIKP	**PKPdf**	**23 47 35.4**	**+0.5**		
SSB				MLR	MLR				
	comp=Z,1µm,20.0s								
SSB	**Saint Sauveur**	**130.99**	**330**	*e*PKPdf	**PKPdf**	**23 47 35.4**	**+0.5**		
SSB				LR	LR				
	comp=Z,942nm,20.0s								
FRF	**La Foret Royal**	**131.05**	**327**	*e*PKIKP	**PKPdf**	**23 47 34.9**	**-0.2**		
	comp=Z,52nm,0.9s								
FRF	**La Foret Royal**	**131.05**	**327**	*e*PKIKP	**PKPdf**	**23 47 34.9**	**-0.2**		
FRF	**La Foret Royal**	**131.05**	**327**	*e*PKPdf	**PKPdf**	**23 47 34.9**	**-0.2**		
GRR	**Gorron**	**131.10**	**336**	⇑*i*PKIKP	**PKPdf**	**23 47 35.0**	**0.0**		
	comp=Z,96nm,1.2s								
GRR	**Gorron**	**131.10**	**336**	⇑*i*PKIKP	**PKPdf**	**23 47 35.0**	**0.0**		
GRR	**Gorron**	**131.10**	**336**	⇑*i*PKPdf	**PKPdf**	**23 47 35.0**	**0.0**		
AGO	**Saint Agoulin**	**131.12**	**331**	PKP	**PKPdf**	**23 47 35.3**	**+0.1**		
AGO	**Saint Agoulin**	**131.12**	**331**	PKP	**PKPdf**	**23 47 35.3**	**+0.1**		
VIVF	**Saint-Julien-l**	**131.22**	**329**	⇑*i*PKIKP	**PKPdf**	**23 47 35.4**	**0.0**		
	comp=Z,62nm,1.2s								
VIVF	**Saint-Julien-l**	**131.22**	**329**	⇑*i*PKIKP	**PKPdf**	**23 47 35.4**	**0.0**		
VIVF	**Saint-Julien-l**	**131.22**	**329**	⇑*i*PKPdf	**PKPdf**	**23 47 35.4**	**0.0**		
LMR	**La Mourre**	**131.27**	**327**	*e*PKIKP	**PKPdf**	**23 47 35.4**	**-0.1**		
	comp=Z,22nm,0.6s								
LMR	**La Mourre**	**131.27**	**327**	*e*PKIKP	**PKPdf**	**23 47 35.4**	**-0.1**		
LMR	**La Mourre**	**131.27**	**327**	*e*PKPdf	**PKPdf**	**23 47 35.4**	**-0.1**		
SMRF	**Simiane la Rot**	**131.35**	**328**	*e*PKIKP	**PKPdf**	**23 47 35.9**	**+0.2**		
	comp=Z,94nm,1.3s								
SMRF	**Simiane la Rot**	**131.35**	**328**	*e*PKPdf	**PKPdf**	**23 47 35.9**	**+0.2**		
TCF	**Toulx Ste Croi**	**131.39**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 35.7**	**0.0**		
	comp=Z,84nm,1.1s								
TCF	**Toulx Ste Croi**	**131.39**	**332**	⇑*i*PKIKP	**PKPdf**	**23 47 35.7**	**0.0**		
TCF	**Toulx Ste Croi**	**131.39**	**332**	⇑*i*PKPdf	**PKPdf**	**23 47 35.7**	**0.0**		
PYM	**Petit Puy Mans**	**131.40**	**331**	PKIKP	**PKPdf**	**23 47 36.3**	**+0.5**		
PYM	**Petit Puy Mans**	**131.40**	**331**	PKP	**PKPdf**	**23 47 36.3**	**+0.5**		
PYM	**Petit Puy Mans**	**131.40**	**331**	PKP	**PKPdf**	**23 47 36.3**	**+0.5**		
LVC	**Limon Verde**	**131.47**	**126**	PFAKE		23 47 50.0	+13		
LVC				LR	LR				
	comp=Z,25nm,19.0s								
LBL	**Lubilhac**	**131.66**	**330**	PKIKP	**PKPdf**	**23 47 37.4**	**+1.1**		
LBL	**Lubilhac**	**131.66**	**330**	PKP	**PKPdf**	**23 47 37.4**	**+1.1**		
LBL	**Lubilhac**	**131.66**	**330**	PKP	**PKPdf**	**23 47 37.4**	**+1.1**		
SGMF	**Saint Gilles**	**131.88**	**337**	⇑*i*PKIKP	**PKPdf**	**23 47 36.4**	**-0.1**		
	comp=Z,32nm,0.6s								
SGMF	**Saint Gilles**	**131.88**	**337**	⇑*i*PKIKP	**PKPdf**	**23 47 36.4**	**-0.1**		
SGMF	**Saint Gilles**	**131.88**	**337**	⇑*i*PKPdf	**PKPdf**	**23 47 36.4**	**-0.1**		
VSL	**Villasalto**	**131.95**	**321**	PFAKE		23 47 50.0	+13		
VSL				LR	LR				
	comp=Z,1µm,20.0s								
GTBY	**Guantanamo Bay**	**132.06**	**68**	PFAKE		23 47 50.0	+12		
GTBY				LR	LR				
	comp=Z,683nm,20.0s								
ROSF	**Rostrenen**	**132.09**	**338**	*e*PKIKP	**PKPdf**	**23 47 36.7**	**-0.2**		
	comp=Z,12nm,0.6s								
ROSF	**Rostrenen**	**132.09**	**338**	*e*PKIKP	**PKPdf**	**23 47 36.7**	**-0.2**		
ROSF	**Rostrenen**	**132.09**	**338**	*e*PKPdf	**PKPdf**	**23 47 36.7**	**-0.2**		
LASF	**Ste Croix**	**132.18**	**329**	⇑*i*PKIKP	**PKPdf**	**23 47 37.3**	**+0.1**		
	comp=Z,36nm,0.7s								
LASF	**Ste Croix**	**132.18**	**329**	⇑*i*PKPdf	**PKPdf**	**23 47 37.3**	**+0.1**		
MFF	**Saint Martin d**	**132.21**	**334**	⇑*i*PKIKP	**PKPdf**	**23 47 37.0**	**-0.1**		
	comp=Z,72nm,1.2s								
MFF	**Saint Martin d**	**132.21**	**334**	⇑*i*PKIKP	**PKPdf**	**23 47 37.0**	**-0.1**		
MFF	**Saint Martin d**	**132.21**	**334**	⇑*i*PKPdf	**PKPdf**	**23 47 37.0**	**-0.1**		
QUIF	**Quistinic**	**132.39**	**337**	*e*PKIKP	**PKPdf**	**23 47 38.4**	**+1.0**		
	comp=Z,21nm,0.7s								
QUIF	**Quistinic**	**132.39**	**337**	*e*PKIKP	**PKPdf**	**23 47 38.4**	**+1.0**		
QUIF	**Quistinic**	**132.39**	**337**	*e*PKPdf	**PKPdf**	**23 47 38.4**	**+1.0**		
RJF	**Les Rejaudoux**	**132.44**	**332**	*e*PKIKP	**PKPdf**	**23 47 38.5**	**+0.8**		
RJF				*e*R					
	comp=Z,1µm,21.2s								
RJF	**Les Rejaudoux**	**132.44**	**332**	*e*PKIKP	**PKPdf**	**23 47 38.5**	**+0.8**		
RJF	**Les Rejaudoux**	**132.44**	**332**	*e*PKPdf	**PKPdf**	**23 47 38.5**	**+0.8**		
CAF	**Calviac**	**132.46**	**331**	⇑*i*PKIKP	**PKPdf**	**23 47 38.1**	**+0.4**		
	comp=Z,35nm,1.2s								
CAF	**Calviac**	**132.46**	**331**	⇑*i*PKIKP	**PKPdf**	**23 47 38.1**	**+0.4**		
CAF	**Calviac**	**132.46**	**331**	⇑*i*PKPdf	**PKPdf**	**23 47 38.1**	**+0.4**		
LFF	**La Frestale**	**133.08**	**332**	*e*PKIKP	**PKPdf**	**23 47 39.7**	**+0.9**		
	comp=Z,14nm,0.5s								
LFF	**La Frestale**	**133.08**	**332**	*e*PKIKP	**PKPdf**	**23 47 39.7**	**+0.9**		
LFF	**La Frestale**	**133.08**	**332**	*e*PKPdf	**PKPdf**	**23 47 39.7**	**+0.9**		
MTLF	**Montolieu**	**133.54**	**329**	*e*PKIKP	**PKPdf**	**23 47 39.6**	**-0.2**		
	comp=Z,36nm,1.2s								
MTLF	**Montolieu**	**133.54**	**329**	*e*PKIKP	**PKPdf**	**23 47 39.6**	**-0.2**		
MTLF	**Montolieu**	**133.54**	**329**	*e*PKPdf	**PKPdf**	**23 47 39.6**	**-0.2**		
ROSC	**El Rosal**	**133.99**	**88**	PKP	**PKPdf**	**23 47 42.0**	**0.0**		
	comp=Z,23nm,0.7s,baz=294,slow=1.1,SNR=18								
ROSC	**El Rosal**	**133.99**	**88**	PKP	**PKPdf**	**23 47 42.0**	**0.0**		
ROSC				*e*PKPdf	**PKiKP**	**23 47 42.6**	**-0.6**		
KEST	**Kesra**	**134.07**	**316**	PKP	**PKPdf**	**23 47 40.7**	**-0.4**		
	comp=Z,11nm,0.9s,baz=277,slow=2.2,SNR=15								
KEST	**Kesra**	**134.07**	**316**	PKP	**PKPdf**	**23 47 40.7**	**-0.4**		
KEST				*e*PKPdf	**PKiKP**	**23 47 41.0**	**-1.4**		
EPF	**Esparros**	**134.70**	**331**	*e*PKIKP	**PKPdf**	**23 47 41.9**	**-0.1**		
	comp=Z,7.7nm,0.4s								
EPF	**Esparros**	**134.70**	**331**	*e*PKIKP	**PKPdf**	**23 47 41.9**	**-0.1**		
EPF	**Esparros**	**134.70**	**331**	*e*PKPdf	**PKPdf**	**23 47 41.9**	**-0.1**		
LPAZ	**La Paz**	**135.03**	**119**	PKhKP	PKPpre	23 47 33.9			
	comp=Z,2.3nm,0.8s,baz=263,slow=3.3,SNR=7.4								
LPAZ				PKP	**PKiKP**	**23 47 44.5**	**-1.0**		
	comp=Z,19nm,0.8s,baz=321,slow=1.4,SNR=35								
LPAZ				SKP		23 51 14.2			
	comp=Z,7.8nm,1.1s,baz=180,slow=2.0,SNR=8.0								
LPAZ	**La Paz**	**135.03**	**119**	*e*PKPpre	PKPpre	23 47 33.6			
LPAZ				PKPpre	PKPpre	23 47 33.9			
LPAZ				PKP	**PKiKP**	**23 47 44.5**	**-1.0**		
LPAZ				*e*PKPdf	**PKPdf**	**23 47 45.1**	**+1.1**		
LPAZ				SKP		23 51 14.2			
LPAZ				*e*SKPbc	**SKPab**	**23 51 14.3**	**-0.4**		
LPAZ				*e*SKPab	**SKiKP**	**23 51 18.0**	**+0.2**		
ETSF	**Etsaut**	**135.24**	**331**	*e*PKIKP	**PKPdf**	**23 47 42.7**	**-0.4**		
	comp=Z,48nm,0.8s								
ETSF	**Etsaut**	**135.24**	**331**	*e*PKIKP	**PKPdf**	**23 47 42.7**	**-0.4**		
ETSF	**Etsaut**	**135.24**	**331**	*e*PKPdf	**PKPdf**	**23 47 42.7**	**-0.4**		
GRTK	**Grand Turk**	**135.33**	**65**	PFAKE		23 47 50.0	+6.3		
GRTK				LR	LR				
	comp=Z,606nm,20.0s								
SJPF	**Ste Jean**	**135.39**	**332**	*e*PKIKP	**PKPdf**	**23 47 43.2**	**-0.1**		
	comp=Z,14nm,0.4s								
SJPF	**Ste Jean**	**135.39**	**332**	*e*PKIKP	**PKPdf**	**23 47 43.2**	**-0.1**		
SJPF	**Ste Jean**	**135.39**	**332**	*e*PKPdf	**PKPdf**	**23 47 43.2**	**-0.1**		
SDDR	**Presa de Saban**	**135.78**	**68**	PFAKE		23 48 00.0	+15		
SDDR				LR	LR				
	comp=Z,816nm,20.0s								
BBSR	**BB Station**	**136.47**	**47**	PFAKE		23 48 00.0	+14		
BBSR				LR	LR				
	comp=Z,2µm,20.0s								
SDV	**Santo Domingo**	**137.68**	**83**	*e*PKPdf	**PKPdf**	**23 47 49.1**	**+0.6**		
SDV				LR	LR				
	comp=Z,1.0nm,20.0s								
PBRG	**Braganca**	**138.88**	**336**	*e*PKPdf	PKPdf	23 47 44.4	-5.4		
ESDC	**Sonseca Array**	**139.35**	**331**	PKhKP	PKPpre	23 47 41.6			
	comp=Z,0.7nm,0.5s,baz=27,slow=2.8,SNR=5.8								
ESDC				PP	**PP**	**23 50 43.1**	**-1.0**		
	comp=Z,2.5nm,0.8s,baz=28,slow=6.4,SNR=8.2								
ESDC	**Sonseca Array**	**139.35**	**331**	PKPpre	PKPpre	23 47 41.6			
ESDC				PP	**PP**	**23 50 43.1**	**-1.0**		
PGAV	**Gavieira, Arco**	**139.35**	**337**	*e*PKPdf	**PKPdf**	**23 47 49.0**	**-1.7**		
PGAV				*e*LR	LR	00 38 12.8			
	comp=Z,756nm,20.0s								
MVO	**Moncorvo**	**139.53**	**335**	*e*PKPdf	PKPdf	23 47 44.8	-6.2		
MVO				*e*LR	LR	00 38 56.2			
	comp=Z,573nm,22.0s								
PAB	**San Pablo**	**139.64**	**331**	PFAKE		23 48 00.0	+8.7		
PAB				LR	LR				
	comp=Z,870nm,21.0s								
POLO	**Lamas de Olo**	**139.67**	**336**	*e*PKPdf	**PKPdf**	**23 47 48.3**	**-3.0**		
PVRL	**Vila Real**	**139.72**	**336**	*e*PKPdf	**PKPdf**	**23 47 48.1**	**-3.2**		
LRS	**Lares**	**140.04**	**68**	*e*PKPdf	**PKPdf**	**23 47 52.9**	**+0.4**		
PVIS	**Viseu**	**140.26**	**336**	*e*PKPdf	**PKPdf**	**23 47 47.3**	**-5.1**		
CELP	**Cerrillos**	**140.34**	**68**	*e*PKPpre	PKPpre	23 47 45.5			
CELP				*e*PKPdf	**PKiKP**	**23 47 54.4**	**-1.2**		
MTE	**Manteigas**	**140.38**	**335**	*e*PKPdf	**PKPdf**	**23 47 47.7**	**-4.9**		
MTE	**Manteigas**	**140.38**	**335**	*e*PP	PP	23 50 49.7	-0.6		
MTE				*e*LR	LR	00 35 03.2			
	comp=Z,966nm,22.0s								
MTE	**Manteigas**	**140.38**	**335**	*e*PKPdf	**PKPdf**	**23 47 52.5**	**-0.1**		
MTE				LR	LR				
	comp=Z,1µm,22.0s								
SJG	**San Juan**	**140.72**	**68**	PKP	**PKPdf**	**23 47 53.9**	**+0.3**		
	comp=Z,71nm,0.8s,baz=90,slow=2.7,SNR=18								
SJG	**San Juan**	**140.72**	**68**	*e*PKPdf	**PKPdf**	**23 47 54.0**	**+0.3**		
SJG				LR	LR				
	comp=Z,583nm,20.0s								
PCBR	**Castelo Branco**	**140.82**	**335**	*e*PKPdf	**PKPdf**	**23 47 54.2**	**+0.9**		
PMRV	**Marv??o**	**141.12**	**334**	*e*PKPdf	PKPdf	23 47 48.6	-5.3		
PMRV				*e*LR	LR	00 42 27.7			
	comp=Z,868nm,22.0s								
SIV	**San Ignacio**	**141.18**	**123**	PKP	**PKPdf**	**23 47 54.5**	**-0.2**		
	comp=Z,16nm,0.8s,baz=243,slow=3.6								
SIV	**San Ignacio**	**141.18**	**123**	PKP	**PKPdf**	**23 47 54.5**	**-0.2**		
PTOM	**Tomar**	**141.40**	**335**	*e*PKPdf	**PKPdf**	**23 47 50.7**	**-3.7**		
PMTG	**Montargil**	**141.78**	**335**	*e*PKPdf	**PKPdf**	**23 47 51.8**	**-3.3**		
PBAR	**Barrancos**	**141.99**	**333**	*e*PKPdf	**PKPdf**	**23 47 54.0**	**-1.5**		
EVO	**Evora**	**142.14**	**334**	*e*PKIKP	**PKPdf**	**23 47 51.7**	**-4.0**		
	comp=Z,54nm,1.1s								
EVO				*e*R					
	comp=Z,1µm,22.5s								
EVO	**Evora**	**142.14**	**334**	*e*PKPdf	**PKPdf**	**23 47 52.9**	**-2.8**		
EVOP	**Sao Brissos**	**142.19**	**334**	*e*PKIKP	**PKPdf**	**23 47 51.7**	**-4.1**		
EVOP	**Sao Brissos**	**142.19**	**334**	*e*PKPdf	**PKPdf**	**23 47 51.7**	**-4.1**		
PMAFR	**Mafra**	**142.32**	**336**	*e*PKPdf	**PKPdf**	**23 47 53.8**	**-2.3**		
SAML	**Samuel**	**142.33**	**112**	*e*PKPpre	PKPpre	23 47 52.3			
SAML				*e*PKPdf	**PKPdf**	**23 47 57.3**	**+0.6**		
SAML				LR	LR				
	comp=Z,503nm,20.0s								
LIS	**Lisbon**	**142.47**	**335**	*e*PP	PP	23 51 04.0	+1.1		
LIS				AMS	AMS	00 59 23.0			
	comp=E,2µm,22.0s								
LIS	**Lisbon**	**142.47**	**335**	*e*PP	PP	23 51 04.0	+1.2		
PBEJ	**Beja**	**142.49**	**333**	*e*PKPdf	**PKPdf**	**23 47 54.1**	**-2.3**		
PLML	**Palmela**	**142.50**	**335**	*e*PKPdf	**PKPdf**	**23 47 54.9**	**-1.5**		
PNCL	**Nicolau / Gran**	**142.71**	**334**	*e*PKPdf	**PKPdf**	**23 47 55.2**	**-1.5**		
PVAQ	**Vaqueiros**	**142.93**	**333**	*e*PKPdf	**PKPdf**	**23 47 56.1**	**-1.1**		
PVAQ	**Vaqueiros**	**142.93**	**333**	*e*PP	PP	23 51 05.5	-0.3		
PVAQ				*e*LR	LR	00 41 39.2			
	comp=E,916nm,20.0s								
TAM	**Tamanrasset**	**143.11**	**302**	*e*PKIKP	PKPbc	23 47 54.8	-0.3		
TAM				MLR	MLR				
	comp=Z,469nm,19.0s								
TAM	**Tamanrasset**	**143.11**	**302**	*e*PKPdf	PKPbc	23 47 54.8	-0.2		
TAM				LR	LR				
	comp=Z,469nm,19.0s								
PBDV	**Barranco-do-Ve**	**143.16**	**333**	*e*PKPdf	**PKPdf**	**23 47 56.6**	**-1.0**		
PTEO	**Sao Teotonio**	**143.27**	**334**	*e*PKPdf	**PKPdf**	**23 47 58.5**	**+0.8**		
MORF	**Marmelete**	**143.44**	**333**	*e*PKPdf	**PKPdf**	**23 47 59.3**	**+1.2**		
ANWB	**Willy Bob**	**144.85**	**67**	*e*PKPdf	**PKPab**	**23 47 59.5**	**-0.6**		
ANWB				LR	LR				
	comp=Z,908nm,19.0s								
MDT	**Midelt**	**144.85**	**324**	PKP	**PKPdf**	**23 48 00.1**	**-0.8**		
	comp=Z,16nm,0.4s,baz=4.8,slow=2.3,SNR=14								
MDT	**Midelt**	**144.85**	**324**	PKP	**PKPdf**	**23 48 00.1**	**-0.8**		
RTC	**Rabat Centre**	**145.22**	**328**	*e*PKP	**PKPdf**	**23 48 01.4**	**+0.1**		
RTC				LR	LR				
	comp=Z,496nm,20.0s								
LZG	**Guadaloupe-1**	**145.26**	**69**	*e*P	**PKPdf**	**23 48 02.0**	**+0.2**		
HMG	**Houelmont**	**145.37**	**69**	*e*P	**PKPab**	**23 48 02.3**	**+0.2**		
SCG	**Saint Claude**	**145.38**	**69**	*e*P	**PKPab**	**23 48 02.2**	**0.0**		
PHG	**Guadaloupe-2**	**145.42**	**69**	*e*P	**PKPab**	**23 48 02.7**	**+0.3**		
BCG	**Bois Riant Cap**	**145.42**	**69**	*e*P	**PKPab**	**23 48 02.4**	**+0.1**		
DOG	**Dongo Capester**	**145.44**	**69**	*e*P	**PKPab**	**23 48 02.5**	**+0.2**		
SEG	**Port Louis**	**145.45**	**69**	*e

BBRC				⇓S		Sb	23 43 58.3	+0.1	
	baz=1.4								
GMRC	**Granite Mounta**	**1.50**	**3**	⇑P		Pn	23 43 40.8	-0.7	
	baz=1.5,SNR=225								
GMRC				⇓S		Sn	23 44 01.0	-0.2	
	baz=1.5								
HEC	**Hector,Ludlow**	**1.62**	**343**	⇓Pb		Pb	23 43 44.4	+0.1	
	baz=1.6								
HEC				⇑Sb		Sg	23 44 06.0	-0.4	
	baz=1.6								
PDMCI	**Parker Dam,Lak**	**1.69**	**52**	⇓Pb		Pb	23 43 45.4	-0.1	
	baz=1.7								
PDMCI				⇑Sb		Sb	23 44 07.0	+0.1	
	baz=1.7								
PBX	**Punta Banda**	**1.73**	**208**	*e*P		Pn	23 43 44.7	+0.1	
PBX				*e*S		Sn	23 44 07.3	+0.5	
PBX				⇑*e*			23 44 17.1		
	comp=N,221nm,0.7s								
113A	**Mohawk Valley,**	**1.75**	**106**	⇑Pb		Pb	23 43 46.7	+0.2	
	baz=1.7,SNR=21								
113A				⇑Sb		Sg	23 44 09.6	-0.8	
	baz=1.7								
NEE2	**Needles Airpor**	**1.76**	**32**	⇑Sb		Sb	23 44 09.4	+0.5	
	baz=1.7								
ECNX	**Esteban Cantu**	**1.77**	**204**	*e*P		Pb	23 43 45.1	-1.7	
ECNX				*e*P		Pn	23 43 42.6	-2.4	
ECNX				*e*S		Sn	23 44 03.7	-3.9	
ECNX				*e*S		Sb	23 44 08.2	-0.8	
BFSC	**Mount Baldy Ra**	**1.85**	**302**	⇑S		Sn	23 44 10.4	+0.5	
	baz=1.8								
LDFC	**Landfair**	**1.88**	**16**	*e*Pn		Pg	23 43 49.8	-0.5	
LDFC				*e*Sn		Sb	23 44 11.7	-0.6	
MWC	**Mount Wilson**	**2.14**	**297**	*e*Pn		Pn	23 43 51.8	+1.6	
MWC				*e*S		Sb	23 44 20.7	+0.8	
TUQ	**Turquoise Moun**	**2.16**	**356**	⇓Sb		Sb	23 44 22.0	+1.6	
	baz=2.1								
GSC	**Goldstone**	**2.20**	**337**	*e*Pn		Pn	23 43 52.1	+1.1	
GSC				*e*S		Sg	23 44 24.4	-0.6	
PASC	**Pasadena Art C**	**2.21**	**294**	*e*Pn		Pn	23 43 52.2	+1.1	
PASC				*e*Pg		Pg	23 43 57.5	+0.8	
PASC				*e*S		Sb	23 44 22.4	+0.6	
CIS	**Catalina Islan**	**2.22**	**274**	⇑Sb		Sg	23 44 24.2	-1.4	
	baz=2.2								
SPX	**San Pedro Mart**	**2.24**	**174**	*e*PN		Pn	23 43 51.3	-0.5	
SPX				*e*S		Sn	23 44 21.5	+1.9	
DECC	**Green Verdugo**	**2.35**	**295**	⇓Sb		Sb	23 44 27.7	+1.7	
	baz=2.4								
Z14A	**Wintersburg**	**2.35**	**87**	⇓Sb		Sb	23 44 27.8	+1.8	
	baz=2.3								
W13A	**Hualapai Mount**	**2.39**	**40**	⇓Sb		Sb	23 44 28.2	+1.0	
	baz=2.4								
Y14A	**Wickenburg**	**2.39**	**73**	⇑Sb		Sb	23 44 28.5	+1.5	
	baz=2.4								
EDW2	**Edwards Air Fo**	**2.45**	**311**	⇓Sb		Sb	23 44 30.1	+1.4	
	baz=2.4								
LRMC	**Laurel Mountai**	**2.71**	**324**	⇑Sb		Sb	23 44 38.5	+2.0	
	baz=2.7								
OSI	**Osito Adit**	**2.80**	**299**	⇑Sb		Sb	23 44 41.8	+2.8	
	baz=2.8								
MPMC	**Manual Prospec**	**3.12**	**333**	⇑Sb		Sb	23 44 50.6	+2.3	
	baz=3.1								
ISA	**Isabella**	**3.27**	**317**	*e*Pn		Pb	23 44 10.0	-2.5	
ISA				*e*S		Sg	23 44 57.2	-2.1	
TUC	**Tucson**	**4.30**	**102**	*e*Pn		Pn	23 44 21.4	+1.6	
TUC				*e*Pg		Pg	23 44 36.6	0.0	
TUC				*e*Sn		Sn	23 45 12.1	+2.0	

ATH ***24*** *23:48:31.9,38°41.N×21°.97E,h16km,MD3.5/32,ML3.2*
THE ***24*** *23:48:32.9,38°.42N×21°.96E,h5km,ML3.3/22, Error ellipse: s-maj=0.7km s-min=0.4km az=256.0*
ISCJB ***24*** *23:48:32.3±0.3,38°.42N±0°.01×21°.96E±0°.02,h9km±1km, mb3.4/9, Error ellipse: s-maj=2.2km s-min=1.9km az=11.0*
SOF ***24*** *23:48:32.9,38°.28N×22°.65E,h10km,MD2.7*
CSEM ***24*** *23:48:32.3±0.1,38°.41N×21°.93E,h5km,ML3.4, Error ellipse: s-maj=2.3km s-min=1.8km az=89.0*
IDC ***24*** *23:48:38.0±2.4,38°.51N×21°.94E,h49km±25km,mb3.2/10, mb1 3.3/13,mb1mx3.3/29,mbtmp3.2/13,ML2.7/3, Error ellipse: s-maj=24.7km s-min=16.2km az=154.0*

ISC 24 23:48:32.7±0.7, 38°.42N±0°.01×21°.96E±0°.01, h7km±4km, n149, σ0s84/257, mb3.5/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**276**	P	**Pg**	**23 48 33.5**	**-0.6**
EFP				S	**Sg**	**23 48 34.6**	**-0.6**
EFP	**Efpalio**	**0.04**	**276**	*e*PB	**Pg**	**23 48 33.5**	**-0.6**
EFP	**Efpalio**	**0.04**	**276**	P	**Pg**	**23 48 33.5**	**-0.6**
EFP				S	**Sg**	**23 48 34.6**	**-0.6**
TRIZ	**Trizonia**	**0.11**	**123**	P	**Pg**	**23 48 35.2**	**+0.2**
TRIZ				S	**Sg**	**23 48 37.2**	**+0.6**
TRIZ	**Trizonia**	**0.11**	**123**	*e*PB	**Pg**	**23 48 35.2**	**+0.2**
TRIZ				*e*SB	**Sg**	**23 48 37.6**	**+1.0**
TRIZ	**Trizonia**	**0.11**	**123**	P	**Pg**	**23 48 35.2**	**+0.2**
TRIZ				S	**Sg**	**23 48 37.2**	**+0.6**
TRIZ				*e*Sb	Sb	23 48 37.6	
PSA1	**Psathopyrgos**	**0.11**	**212**	*e*PB	**Pg**	**23 48 34.9**	**-0.2**
PSA1				*e*SB	**Sg**	**23 48 37.1**	**+0.3**
KALE	**Kalithea**	**0.14**	**102**	*e*PB	**Pg**	**23 48 36.0**	**+0.3**
KALE				*e*SB	**Sg**	**23 48 38.9**	**+1.1**
KALE	**Kalithea**	**0.14**	**102**	*e*Pb	**Pg**	**23 48 36.0**	**+0.3**
KALE				S	**Sg**	**23 48 38.6**	**+0.8**
KALE				*e*Sb		23 48 38.9	
LAKA	**Lakka**	**0.18**	**175**	P	**Pg**	**23 48 36.2**	**-0.1**
LAKA				S	**Sg**	**23 48 39.1**	**+0.3**
LAKA	**Lakka**	**0.18**	**175**	*e*PB	**Pg**	**23 48 36.3**	**-0.1**
LAKA				*e*SB	**Sg**	**23 48 38.8**	**0.0**
LAKA	**Lakka**	**0.18**	**175**	*e*Pb	**Pg**	**23 48 36.3**	**-0.1**
LAKA				*e*Sb	**Sg**	**23 48 38.8**	**0.0**
LAKA				S		23 48 39.1	
UPR	**University Cam**	**0.19**	**225**	P	**Pg**	**23 48 36.3**	**-0.2**
UPR				S	**Sg**	**23 48 39.8**	**+0.6**
UPR	**University Cam**	**0.19**	**225**	*e*PB	**Pg**	**23 48 36.3**	**-0.2**
UPR				*e*SB	**Sg**	**23 48 39.7**	**+0.6**
UPR	**University Cam**	**0.19**	**225**	P	**Pg**	**23 48 36.3**	**-0.2**
UPR				S	**Sg**	**23 48 39.7**	**+0.6**
DSF	**Desfina**	**0.45**	**91**	P	**Pg**	**23 48 40.7**	**-0.6**
DSF				S	**Sb**	**23 48 48.7**	**-1.1**
DSF	**Desfina**	**0.45**	**91**	P	**Pg**	**23 48 40.7**	**-0.6**
DSF				S	**Sg**	**23 48 47.8**	**+0.6**
EVR	**Evrytania**	**0.51**	**347**	P	**Pg**	**23 48 42.1**	**-0.4**
EVR				S	**Sb**	**23 48 51.0**	**-0.7**
EVR	**Evrytania**	**0.51**	**347**	*e*PN	**Pg**	**23 48 42.1**	**-0.4**
EVR				*e*SN	**Sg**	**23 48 50.2**	**+1.1**
EVR	**Evrytania**	**0.51**	**347**	*e*Pn	**Pg**	**23 48 42.1**	**-0.4**
EVR				S	**Sg**	**23 48 49.9**	**+0.8**
EVR				*e*Sn	**Sg**	**23 48 50.2**	**+1.1**
RLS	**Riolos of Patr**	**0.53**	**227**	P	**Pg**	**23 48 42.4**	**-0.5**
RLS				S	**Sg**	**23 48 50.6**	**+0.7**
RLS	**Riolos of Patr**	**0.53**	**227**	*e*PN	**Pg**	**23 48 42.4**	**-0.5**
RLS				*e*SN	**Sg**	**23 48 50.4**	**+0.5**
RLS	**Riolos of Patr**	**0.53**	**227**	P	**Pg**	**23 48 42.3**	**-0.6**
RLS				S	**Sg**	**23 48 50.1**	**+0.2**
RLS				*e*Sn	**Sg**	**23 48 50.4**	**+0.5**
GUR	**Goura**	**0.57**	**148**	P	**Pg**	**23 48 43.3**	**-0.4**
GUR				S	**Sg**	**23 48 51.7**	**+0.5**
GUR	**Goura**	**0.57**	**148**	*e*PN	**Pg**	**23 48 42.9**	**-0.8**
GUR				*e*SN	**Sg**	**23 48 51.6**	**+0.4**
GUR	**Goura**	**0.57**	**148**	*e*Pn	**Pg**	**23 48 42.9**	**-0.8**
GUR	**Goura**	**0.57**	**148**	P	**Pg**	**23 48 43.3**	**-0.4**
GUR				S	**Sg**	**23 48 51.6**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.60**	**13**	P	**Pg**	**23 48 44.5**	**+0.2**
MAKR				S	**Sb**	**23 48 54.1**	**-0.3**
AXAR	**Agios Charalam**	**0.65**	**58**	P	**Pg**	**23 48 44.8**	**-0.3**
AXAR				S	**Sg**	**23 48 54.7**	**+1.1**
AGG	**Agios Georgios**	**0.67**	**26**	P	**Pg**	**23 48 44.9**	**-0.6**
AGG				S	**Sb**	**23 48 55.6**	**-0.5**
AGG	**Agios Georgios**	**0.67**	**26**	*e*PB	**Pg**	**23 48 44.7**	**-0.8**
AGG				*e*SN	**Sg**	**23 48 55.1**	**+0.9**
AGG	**Agios Georgios**	**0.67**	**26**	*e*Pb	**Pg**	**23 48 44.7**	**-0.8**
AGG				*e*Sn	**Sg**	**23 48 55.1**	**+0.9**
AGG				S	**Sb**	**23 48 55.6**	**-0.5**
LKR	**Lokris**	**0.85**	**74**	P	**Pg**	**23 48 47.9**	**-1.0**
LKR				S	**Sb**	**23 49 00.9**	**-0.4**
LKR	**Lokris**	**0.85**	**74**	*e*PN	**Pg**	**23 48 48.3**	**-0.6**
LKR				*e*SN	**Sb**	**23 49 00.8**	**-0.5**
ATAL	**Atalanti**	**0.88**	**72**	P	**Pg**	**23 48 49.1**	**-0.4**
ATAL				S	**Sb**	**23 49 02.0**	**-0.1**
LTK	**Loutraki**	**0.89**	**116**	P	**Pg**	**23 48 49.7**	**0.0**
LTK				S	**Sb**	**23 49 02.9**	**+0.4**
LTK	**Loutraki**	**0.89**	**116**	*e*PN	**Pg**	**23 48 49.7**	**0.0**
LTK				*e*SN	**Sg**	**23 49 01.7**	**+0.5**
LTK	**Loutraki**	**0.89**	**116**	P	**Pg**	**23 48 49.7**	**0.0**
LTK				*e*Sn	**Sg**	**23 49 01.7**	**+0.5**
LTK				S	**Sb**	**23 49 02.5**	**0.0**
AMT	**Artemida-Makis**	**0.91**	**193**	P	**Pg**	**23 48 49.5**	**-0.6**
AMT				S	**Sb**	**23 49 03.3**	**+0.2**
AMT	**Artemida-Makis**	**0.91**	**193**	*e*PN	**Pg**	**23 48 49.5**	**-0.6**
AMT				*e*SN	**Sb**	**23 49 02.8**	**-0.3**
AMT	**Artemida-Makis**	**0.91**	**193**	P	**Pg**	**23 48 49.5**	**-0.6**
AMT				S	**Sb**	**23 49 02.9**	**-0.2**
KFL	**Anninata**	**0.97**	**252**	P	**Pg**	**23 48 50.5**	**-0.8**
KFL				S	**Sb**	**23 49 05.7**	**+0.8**
KFL	**Anninata**	**0.97**	**252**	P	**Pg**	**23 48 50.2**	**-1.1**
KFL				S	**Sb**	**23 49 05.7**	**+0.8**
LKD2	**Lefkada island**	**1.08**	**290**	P	**Pg**	**23 48 52.9**	**-0.6**
LKD2				S	**Sn**	**23 49 10.3**	**+0.7**
LKD2	**Lefkada island**	**1.08**	**290**	*e*PN	**Pg**	**23 48 52.4**	**-1.1**
LKD2				*e*SN	**Sg**	**23 49 07.3**	**-0.2**
LKD2	**Lefkada island**	**1.08**	**290**	*e*Pn	**Pg**	**23 48 52.4**	**-1.1**
LKD2	**Lefkada island**	**1.08**	**290**	P	**Pg**	**23 48 52.9**	**-0.6**
LKD2				*e*Sn	**Sg**	**23 49 07.3**	**-0.2**
LKD2				S	**Sn**	**23 49 10.3**	**+0.7**
VLX	**Vlachokerasia**	**1.10**	**162**	P	**Pg**	**23 48 52.6**	**-1.2**
VLX				S	**Sn**	**23 49 10.0**	**-0.1**
VLX	**Vlachokerasia**	**1.10**	**162**	*e*PB	**Pg**	**23 48 51.1**	**-2.7**
VLX	**Vlachokerasia**	**1.10**	**162**	*e*Pb	**Pg**	**23 48 51.1**	**-2.7**
VLX	**Vlachokerasia**	**1.10**	**162**	P	**Pg**	**23 48 52.7**	**-1.1**
VLX				S	**Sn**	**23 49 09.8**	**-0.3**
VLS	**Valsamata**	**1.10**	**258**	P	**Pg**	**23 48 52.8**	**-1.1**
VLS				S	**Sn**	**23 49 09.8**	**-0.4**
VLS	**Valsamata**	**1.10**	**258**	*e*PB	**Pg**	**23 48 52.0**	**-1.9**
VLS				*e*SN	**Sn**	**23 49 09.7**	**-0.4**
VLS	**Valsamata**	**1.10**	**258**	*e*Pb	**Pg**	**23 48 52.0**	**-1.9**
VLS				*e*Sn	**Sn**	**23 49 09.7**	**-0.4**
THL	**Klokotos Trika**	**1.14**	**2**	P	**Pg**	**23 48 53.9**	**-0.7**
THL				S	**Sn**	**23 49 10.9**	**-0.1**
THL	**Klokotos Trika**	**1.14**	**2**	*e*PN	**Pg**	**23 48 53.7**	**-0.9**
THL				*e*SN	**Sn**	**23 49 10.5**	**-0.5**
THL	**Klokotos Trika**	**1.14**	**2**	P	**Pg**	**23 48 53.9**	**-0.7**
THL				*e*Sn	**Sn**	**23 49 10.5**	**-0.5**
THL				S	**Sn**	**23 49 10.9**	**-0.1**
ITM	**Ithomi**	**1.24**	**181**	P	**Pb**	**23 48 55.1**	**-1.3**
ITM				S	**Sn**	**23 49 14.5**	**+1.0**
ITM	**Ithomi**	**1.24**	**181**	*e*PN	**Pb**	**23 48 54.4**	**-2.0**
ITM				*e*SN	**Sn**	**23 49 13.1**	**-0.4**
ITM	**Ithomi**	**1.24**	**181**	*e*Pn	**Pb**	**23 48 54.4**	**-2.0**
ITM	**Ithomi**	**1.24**	**181**	P	**Pb**	**23 48 55.1**	**-1.3**
ITM				S	**Sb**	**23 49 12.6**	**0.0**
ITM				*e*Sn	**Sn**	**23 49 13.1**	**-0.4**
MRKA	**Markates**	**1.31**	**77**	P	**Pn**	**23 48 56.8**	**-0.6**
MRKA				S	**Sn**	**23 49 15.8**	**+0.7**
MRKA	**Markates**	**1.31**	**77**	P	**Pn**	**23 48 56.8**	**-0.6**
MRKA				S	**Sn**	**23 49 15.8**	**+0.7**
NEO	**Neokhori**	**1.32**	**48**	*e*PN	**Pn**	**23 48 57.2**	**-0.4**
NEO				*e*SN	**Sb**	**23 49 14.9**	**-0.2**
NEO	**Neokhori**	**1.32**	**48**	*e*Pn	**Pn**	**23 48 57.2**	**-0.4**
NEO				*e*Sn	**Sb**	**23 49 14.9**	**-0.2**
XOR	**Xorichti**	**1.35**	**45**	P	**Pn**	**23 48 57.5**	**-0.4**
XOR				S	**Sb**	**23 49 15.8**	**+0.1**
XOR	**Xorichti**	**1.35**	**45**	P	**Pn**	**23 48 57.5**	**-0.4**
XOR				S	**Sb**	**23 49 15.8**	**+0.1**
DID	**Didima**	**1.36**	**132**	P	**Pn**	**23 48 58.1**	**-0.1**
DID				S	**Sg**	**23 49 17.6**	**+1.2**
DID	**Didima**	**1.36**	**132**	*e*PN	**Pn**	**23 48 58.0**	**-0.1**
DID				*e*SN	**Sg**	**23 49 17.2**	**+0.8**
DID	**Didima**	**1.36**	**132**	P	**Pn**	**23 48 58.3**	**+0.2**
DID				*e*Sn	**Sg**	**23 49 17.2**	**+0.8**
NAIG	**Nisos Aigina**	**1.38**	**118**	*e*PN	**Pn**	**23 48 57.5**	**-0.8**
ATH	**Athens Observa**	**1.46**	**107**	P	**Pn**	**23 48 59.3**	**-0.1**
ATH				S	**Sn**	**23 49 18.6**	**-0.1**
ATH	**Athens Observa**	**1.46**	**107**	*e*PN	**Pn**	**23 48 59.2**	**-0.1**
ATH				*e*SN	**Sn**	**23 49 18.5**	**-0.1**
ATH	**Athens Observa**	**1.46**	**107**	P	**Pn**	**23 48 59.3**	**-0.1**
ATH				S	**Sn**	**23 49 18.6**	**-0.1**
JAN	**Janina**	**1.50**	**325**	P	**Pn**	**23 49 00.6**	**+0.5**
JAN				S	**Sg**	**23 49 21.5**	**+0.5**
JAN	**Janina**	**1.50**	**325**	*e*PN	**Pb**	**23 49 00.8**	**-0.2**
JAN				*e*SN	**Sg**	**23 49 21.8**	**+0.8**
JAN	**Janina**	**1.50**	**325**	P	**Pn**	**23 49 00.6**	**+0.5**
JAN				S	**Sg**	**23 49 21.5**	**+0.5**
JAN				*e*Sn	**Sg**	**23 49 21.8**	**+0.8**
PYL	**PYLOS**	**1.53**	**187**	P	**Pn**	**23 49 00.3**	**-0.2**
PYL				S	**Sb**	**23 49 21.3**	**+0.2**
PYL	**PYLOS**	**1.53**	**187**	*e*PN	**Pn**	**23 49 00.2**	**-0.2**
PYL	**PYLOS**	**1.53**	**187**	P	**Pn**	**23 49 00.3**	**-0.2**
PYL				S	**Sb**	**23 49 21.3**	**+0.2**
PTL	**Penteli**	**1.55**	**103**	P	**Pn**	**23 49 00.6**	**-0.1**
PTL				S	**Sn**	**23 49 21.2**	**+0.2**
PTL	**Penteli**	**1.55**	**103**	*e*PN	**Pn**	**23 49 00.6**	**-0.1**
PTL				*e*SN	**Sn**	**23 49 20.2**	**-0.8**
PTL	**Penteli**	**1.55**	**103**	P	**Pn**	**23 49 00.6**	**-0.1**
PTL				*e*Sn	**Sn**	**23 49 20.2**	**-0.8**
PTL				S	**Sn**	**23 49 21.2**	**+0.2**
AOS	**Alonnisos**	**1.68**	**63**	P	**Pn**	**23 49 01.0**	**-1.4**
AOS				S	**Sn**	**23 49 23.4**	**-0.8**
AOS	**Alonnisos**	**1.68**	**63**	*e*PB	**Pn**	**23 49 01.2**	**-1.2**
AOS	**Alonnisos**	**1.68**	**63**	P	**Pn**	**23 49 01.0**	**-1.4**
AOS				S	**Sn**	**23 49 23.4**	**-0.8**
DYR	**Agios Nikonas**	**1.68**	**170**	P	**Pn**	**23 49 03.0**	**+0.4**
DYR				S	**Sb**	**23 49 24.9**	**-0.5**
DYR	**Agios Nikonas**	**1.68**	**170**	*e*PN	**Pn**	**23 49 02.6**	**0.0**
DYR				*e*SN	**Sb**	**23 49 25.7**	**+0.3**
DYR	**Agios Nikonas**	**1.68**	**170**	S	**Sb**	**23 49 24.8**	**-0.5**
DYR				*e*Sn	**Sb**	**23 49 25.7**	**+0.3**
LIT	**Litokhoron**	**1.73**	**14**	P	**Pn**	**23 49 03.0**	**-0.2**
LIT				S	**Sn**	**23 49 25.8**	**+0.3**
LIT	**Litokhoron**	**1.73**	**14**	*e*PN	**Pn**	**23 49 02.8**	**-0.4**
LIT				*e*SN	**Sb**	**23 49 26.5**	**-0.1**
LIT	**Litokhoron**	**1.73**	**14**	P	**Pn**	**23 49 03.0**	**-0.2**
LIT				S	**Sn**	**23 49 25.8**	**+0.3**
LIT				*e*Sn	**Sb**	**23 49 26.5**	**-0.1**
VLI	**Veliai**	**1.87**	**155**	P	**Pn**	**23 49 05.3**	**+0.2**
VLI				S	**Sn**	**23 49 29.6**	**+0.6**
VLI	**Veliai**	**1.87**	**155**	*e*PN	**Pn**	**23 49 05.2**	**+0.2**
VLI				*e*SN	**Sn**	**23 49 29.6**	**+0.6**
KZN	**Kozani**	**1.89**	**356**	P	**Pn**	**23 49 05.3**	**-0.1**
KZN				S	**Sb**	**23 49 30.7**	**-0.6**
KZN	**Kozani**	**1.89**	**356**	*e*PN	**Pn**	**23 49 06.2**	**+0.8**
KZN	**Kozani**	**1.89**	**356**	P	**Pn**	**23 49 05.3**	**-0.1**
KZN	**Kozani**	**1.89**	**356**	*e*Pn	**Pn**	**23 49 06.2**	**+0.8**
KZN				S	**Sb**	**23 49 30.7**	**-0.6**
KEK	**Kerkira**	**2.12**	**308**	*e*PN	**Pn**	**23 49 09.8**	**+1.3**
KEK	**Kerkira**	**2.12**	**308**	*e*Pn	**Pn**	**23 49 09.8**	**+1.3**
PLG	**Polygyros**	**2.26**	**30**	P	**Pn**	**23 49 10.6**	**0.0**
PLG	**Polygyros**	**2.26**	**30**	*e*PN	**Pn**	**23 49 09.8**	**-0.8**
PLG	**Polygyros**	**2.26**	**30**	*e*Pn	**Pn**	**23 49 09.8**	**-0.8**
PLG	**Polygyros**	**2.26**	**30**	P	**Pn**	**23 49 10.6**	**0.0**
KYTH	**Kithira**	**2.30**	**158**	P	**Pn**	**23 49 12.3**	**+1.2**
KYTH	**Kithira**	**2.30**	**158**	*e*PN	**Pn**	**23 49 12.4**	**+1.3**
KYTH	**Kithira**	**2.30**	**158**	P	**Pn**	**23 49 12.3**	**+1.2**
SOH	**Sokhos**	**2.63**	**24**	P	**Pn**	**23 49 15.8**	**+0.2**
SOH				S	**Sn**	**23 49 48.7**	**+1.0**
SOH	**Sokhos**	**2.63**	**24**	*e*PN	**Pn**	**23 49 15.5**	**-0.1**
SOH				*e*SN	**Sn**	**23 49 48.2**	**+0.5**
SOH	**Sokhos**	**2.63**	**24**	*e*Pn	**Pn**	**23 49 15.5**	**-0.1**
SOH	**Sokhos**	**2.63**	**24**	P	**Pn**	**23 49 15.8**	**+0.2**
SOH				*e*Sn	**Sn**	**23 49 48.2**	**+0.5**
SOH				S	**Sn**	**23 49 48.7**	**+1.0**
KNT	**Kendrikon**	**2.83**	**15**	P	**Pn**	**23 49 18.5**	**+0.2**
KNT				S	**Sn**	**23 49 52.9**	**+0.2**
KNT	**Kendrikon**	**2.83**	**15**	P	**Pn**	**23 49 18.5**	**+0.2**
KNT				S	**Sn**	**23 49 52.9**	**+0.2**
LIA	**Limnos Island**	**2.91**	**59**	*e*PN	**Pn**	**23 49 19.4**	**+0.1**
LIA	**Limnos Island**	**2.91**	**59**	*e*Pn	**Pn**	**23 49 19.4**	**+0.1**
APE	**Apeiranthos**	**3.14**	**114**	*e*PN	**Pn**	**23 49 22.5**	**-0.1**
APE	**Apeiranthos**	**3.14**	**114**	*e*Pn	**Pn**	**23 49 22.5**	**-0.1**
CHOS	**Chios island**	**3.22**	**89**	*e*PN	**Pn**	**23 49 23.6**	**-0.1**
CHOS	**Chios island**	**3.22**	**89**	*e*Pn	**Pn**	**23 49 23.6**	**-0.1**
NVR	**Nevrokopi**	**3.27**	**26**	*e*PN	**Pn**	**23 49 24.7**	**+0.3**
NVR	**Nevrokopi**	**3.27**	**26**	*e*Pn	**Pn**	**23 49 24.7**	**+0.3**
MMB	**Musomiste**	**3.44**	**23**	*i* P	**Pn**	**23 49 27.1**	**+0.3**
MMB				*i* S	**Sn**	**23 50 08.7**	**+0.9**
MMB	**Musomiste**	**3.44**	**23**	*i* P	**Pn**	**23 49 27.1**	**+0.3**
MMB				*i* S	**Sn**	**23 50 08.7**	**+0.9**
PRK	**Paraskevi**	**3.47**	**75**	*e*PN	**Pn**	**23 49 27.1**	**+0.1**
PRK	**Paraskevi**	**3.47**	**75**	*e*Pn	**Pn**	**23 49 27.1**	**+0.1**
VAM	**Vamos**	**3.50**	**149**	*e*PN	**Pn**	**23 49 29.0**	**+1.4**
VAM	**Vamos**	**3.50**	**149**	*e*Pn	**Pn**	**23 49 29.0**	**+1.4**
KKB	**Krupnik**	**3.55**	**14**	*i* P	**Pn**	**23 49 30.6**	**+2.4**
KKB				*i* S	**Sn**	**23 50 12.2**	**+1.8**
KKB	**Krupnik**	**3.55**	**14**	*i* P	**Pn**	**23 49 30.6**	**+2.4**
KKB				*i* S	**Sn**	**23 50 12.2**	**+1.8**
RZN	**Rozhen**	**3.89**	**32**	*i* S	**Sb**	**23 50 24.7**	**-4.3**
RZN				*i* P	**Pn**	**23 49 36.2**	**+3.2**
IDI	**Anoyia**	**3.91**	**142**	*e*PN	**Pn**	**23 49 33.9**	**+0.7**
IDI	**Anoyia**	**3.91**	**142**	*e*Pn	**Pn**	**23 49 33.9**	**+0.7**
NPS	**Neapolis**	**4.30**	**136**	*e*Pn	**Pn**	**23 49 38.8**	**+0.2**
NPS	**Neapolis**	**4.30**	**136**	*e*Pn	**Pn**	**23 49 38.8**	**+0.2**
LAST	**Lasithi**	**4.31**	**138**	*e*PN	**Pn**	**23 49 39.1**	**+0.4**
LAST	**Lasithi**	**4.31**	**138**	*e*Pn	**Pn**	**23 49 39.1**	**+0.4**
MLR	**Muntele Rosu**	**7.66**	**22**	P	**Pn**	**23 50 26.3**	**+1.6**
	0.0nm,0.3s,baz=189,slow=13,SNR=1.9						
BRTR	**Keskin Array B**	**9.18**	**78**	P	**Pn**	**23 50 47.4**	**+1.8**
	0.2nm,0.3s,baz=260,slow=13,SNR=7.1						
KEST	**Kesra**	**10.43**	**259**	P	**Pn**	**23 51 05.5**	**+2.8**
	0.1nm,0.3s,baz=117,slow=6.8,SNR=3.8						
ESDC	**Sonseca Array**	**20.15**	**282**	P	**P**	**23 53 07.1**	**-0.5**
	0.2nm,0.3s,baz=73,slow=11,SNR=3.8						
HFS	**Hagfors**	**22.36**	**349**	P	**P**	**23 53 30.2**	**-0.8**
	1.4nm,0.7s,baz=146,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**23.19**	**5**	P	**P**	**23 53 39.8**	**+0.1**
	1.6nm,0.9s,baz=185,slow=9.2,SNR=2.3						
NOA	**NORSAR Array B**	**23.62**	**347**	P	**P**	**23 53 43.5**	**-0.6**
	0.6nm,0.6s,baz=157,slow=8.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**30.94**	**221**	P	**P**	**23 54 51.1**	**+0.7**
	0.4nm,0.5s,baz=32,slow=8.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**41.17**	**54**	P	**P**	**23 56 16.9**	**-0.6**
	0.7nm,0.7s,baz=282,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**44.21**	**59**	P	**P**	**23 56 41.8**	**-0.5**
	0.4nm,0.4s,baz=275,slow=7.8,SNR=20						
ZALV	**Zalesovo Beam**	**44.68**	**48**	P	**P**	**23 56 45.1**	**-0.8**
	0.8nm,0.5s,baz=272,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**59.43**	**51**	P	**P**	**23 58 35.3**	**-0.7**
	0.1nm,0.4s,baz=277,slow=5.8,SNR=2.7						
YKA	**Yellowknife Ar**	**73.54**	**341**	P	**P**	**00 00 04.9**	**-0.9**
	0.1nm,0.6s,baz=54,slow=5.4,SNR=2.4						

IDC 24 23:50:37.5±2.9, 10°.64S×123°.88E, h58km±32km, mb3.4/5, mb1 3.6/9, mb1mx3.5/22, mbtmp3.5/9, ML3.7/3, Error ellipse: s-maj=60.7km s-min=18.8km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.93**	**323**	P	Pn	23 52 16.1	-0.3
	1.2nm,0.3

DPC	**Dobruska-Polom**	**1.15 172**	*e*Pg		**Pg**	**00 04 02.8**	**0.0**
	baz=355							
DPC				Sg	**Sg**	**00 04 18.1**	**+0.4**
PVCC	**Panska Ves**	**1.36 225**	*e*PG		**Pg**	**00 04 06.3**	**-0.5**
PVCC				eSG	**Sb**	**00 04 26.0**	**+1.1**
	comp=Z,923nm,0.3s							
PVCC	**Panska Ves**	**1.36 225**	*e*Pn		**Pg**	**00 04 06.4**	**-0.4**
	baz=43							
PVCC				Sg	**Sb**	**00 04 26.0**	**+1.1**
	923nm,0.3s							
BRG	**Berggiesshubel**	**1.48 246**	PN		**Pn**	**00 04 07.3**	**-1.4**
BRG			PG		**Pb**	**00 04 09.1**	**-0.1**
BRG			SG		**Sg**	**00 04 29.3**	**+0.9**
	550nm,0.5s							
BRG	**Berggiesshubel**	**1.48 246**	*e*Pn		**Pn**	**00 04 07.5**	**-1.2**
	SNR=3.7							
BRG			*e*Pg		**Pb**	**00 04 09.0**	**-0.1**
	SNR=107							
BRG			eSg		**Sg**	**00 04 29.5**	**+1.1**
BRG	**Berggiesshubel**	**1.48 246**	Pn		**Pn**	**00 04 07.5**	**-1.2**
	SNR=3.7							
KRLC	**Kraliky**	**1.48 162**	*e*PG		**Pn**	**00 04 08.3**	**-0.4**
KRLC			eSG		**Sg**	**00 04 28.3**	**-0.1**
KRLC	**Kraliky**	**1.48 162**	Pg		**Pn**	**00 04 08.3**	**-0.4**
KRLC			Sg		**Sg**	**00 04 28.3**	**-0.1**
RUE	**Ruedersdorf**	**1.74 306**	*e*Pn		Pn	00 04 10.0	-2.2
	SNR=3.7							
RUE			eSg		**Sn**	**00 04 35.4**	**+0.4**
RUE	**Ruedersdorf**	**1.74 306**	Pn		Pn	00 04 10.0	-2.2
	SNR=3.7							
RUE			Sg		**Sn**	**00 04 35.4**	**+0.4**
PRA	**Prague**	**1.77 217**	PG		**Pn**	**00 04 12.0**	**-0.6**
PRA			SG		**Sg**	**00 04 39.0**	**+1.6**
PRU	**Pruhonice**	**1.79 214**	*e*Pn		**Pn**	**00 04 12.3**	**-0.7**
	SNR=25							
PRU			eSg		**Sg**	**00 04 39.3**	**+0.9**
PRU	**Pruhonice**	**1.79 214**	*e*PN		**Pn**	**00 04 12.3**	**-0.7**
PRU			*e*PG		**Pn**	**00 04 14.3**	**+1.3**
PRU			eSG		**Sb**	**00 04 38.6**	**+1.1**
	comp=Z,259nm,0.5s							
PRU	**Pruhonice**	**1.79 214**	Pn		**Pn**	**00 04 12.3**	**-0.7**
	SNR=25							
PRU	**Pruhonice**	**1.79 214**	Pg		**Pn**	**00 04 14.3**	**+1.3**
PRU			Sg		**Sg**	**00 04 39.3**	**+0.9**
FBE	**Freiberg**	**1.81 253**	*e*Pn		**Pn**	**00 04 12.0**	**-1.2**
	SNR=2.4							
FBE			*e*Pg		**Pb**	**00 04 14.6**	**-0.2**
	SNR=56							
FBE			eSg		**Sb**	**00 04 38.8**	**+0.9**
FBE	**Freiberg**	**1.81 253**	Pn		**Pn**	**00 04 12.0**	**-1.2**
	SNR=2.4							
GKP	**Gorka Klasztor**	**1.92 21**	*e*Pn		**Pn**	**00 04 13.5**	**-1.2**
GKP			*e*Pg		**Pg**	**00 04 19.6**	**+2.0**
GKP			eSn		**Sn**	**00 04 39.3**	**-0.3**
GKP			eSg		**Sb**	**00 04 42.1**	**+1.0**
GKP	**Gorka Klasztor**	**1.92 21**	*e*Pn		**Pn**	**00 04 13.5**	**-1.2**
GKP	**Gorka Klasztor**	**1.92 21**	*e*Pn		**Pn**	**00 04 13.4**	**-1.2**
GKP			*e*Pg		**Pg**	**00 04 19.5**	**+2.0**
GKP			eSn		**Sn**	**00 04 39.2**	**-0.3**
GKP			eSg		**Sb**	**00 04 42.1**	**+1.0**
CLL	**Collm**	**1.94 266**	*e*Pn		**Pn**	**00 04 13.3**	**-1.7**
	SNR=44							
CLL			*e*Pg		**Pb**	**00 04 16.7**	**-0.3**
	SNR=2.5							
CLL			eSg		**Sb**	**00 04 42.7**	**+1.0**
CLL	**Collm**	**1.94 266**	*i* Pn		**Pn**	**00 04 13.3**	**-1.7**
CLL			*e*Pg		**Pb**	**00 04 16.0**	**-1.0**
CLL			*i*			00 04 19.6		
CLL			*i* Sg		**Sb**	**00 04 42.4**	**+0.7**
	comp=Z,199nm,0.6s							
CLL	**Collm**	**1.94 266**	Pn		**Pn**	**00 04 13.3**	**-1.7**
	SNR=44							
RAC	**Raciborz**	**1.94 136**	*e*Pg		**Pb**	**00 04 17.0**	**0.0**
RAC			eSg		**Sg**	**00 04 43.4**	**+0.3**
MORC	**Moravsky Berou**	**1.95 151**	*e*Pn		**Pn**	**00 04 14.3**	**-0.8**
	SNR=68							
MORC			eSg		**Sb**	**00 04 43.3**	**+1.3**
MORC	**Moravsky Berou**	**1.95 151**	⇑*i*P		**Pn**	**00 04 14.5**	**-0.7**
MORC	**Moravsky Berou**	**1.95 151**	⇑*i*P		**Pn**	**00 04 14.5**	**-0.7**
MORC			Sg		**Sb**	**00 04 43.3**	**+1.3**
OKC	**Ostrava-Krasne**	**2.11 141**	*e*Pn		**Pn**	**00 04 15.8**	**-1.5**
	SNR=4.0							
OKC			*e*Pg		**Pb**	**00 04 20.5**	**+0.6**
	SNR=8.2							
OKC			eSg		**Sb**	**00 04 47.7**	**+1.1**
OKC	**Ostrava-Krasne**	**2.11 141**	*e*PN		**Pn**	**00 04 15.6**	**-1.7**
OKC			*e*PG		**Pb**	**00 04 20.4**	**+0.6**
OKC			eSG		**Sb**	**00 04 47.1**	**+0.5**
	comp=Z,221nm,0.5s							
OKC	**Ostrava-Krasne**	**2.11 141**	Pn		**Pn**	**00 04 15.8**	**-1.5**
	SNR=4.0							
OKC	**Ostrava-Krasne**	**2.11 141**	Pg		**Pb**	**00 04 20.5**	**+0.6**
	SNR=8.2							
OKC			Sg		**Sb**	**00 04 47.7**	**+1.1**
VRAC	**Vranov**	**2.21 171**	Pn		**Pn**	**00 04 18.7**	**+0.1**
	comp=Z,7.0nm,0.3s,baz=344,slow=13,SNR=63							
VRAC			Sn		**Sn**	**00 04 46.3**	**-0.4**
	comp=Z,7.4nm,0.3s,baz=326,slow=22,SNR=5.4							
VRAC			Lg		Lg	00 04 52.2		
	comp=Z,41nm,0.3s,baz=274,slow=21,SNR=15							
VRAC	**Vranov**	**2.21 171**	⇑*i*P		**Pn**	**00 04 18.6**	**-0.1**
VRAC	**Vranov**	**2.21 171**	*e*Pn		**Pn**	**00 04 18.1**	**-0.6**
	baz=353							
VRAC	**Vranov**	**2.21 171**	⇑*i*P		**Pn**	**00 04 18.6**	**-0.1**
VRAC			eSg		**Sb**	**00 04 51.0**	**+1.6**
	comp=Z,183nm,0.5s,baz=353							
TREC	**Trest**	**2.23 190**	*e*PN		**Pn**	**00 04 19.0**	**0.0**
TREC			*e*PG		**Pb**	**00 04 22.3**	**+0.4**
TREC	**Trest**	**2.23 190**	Pn		**Pn**	**00 04 19.0**	**0.0**
KRUC	**Moravsky**	**2.44 175**	*e*Pn		**Pn**	**00 04 21.3**	**-0.5**
	baz=356							
KRUC			eSg		**Sb**	**00 04 58.1**	**+2.1**
	comp=Z,107nm,0.5s,baz=356							
SCHF	**Schoenfels**	**2.46 252**	*e*Pn		**Pn**	**00 04 21.5**	**-0.7**
	SNR=5.8							
SCHF			*e*Pg		**Pb**	**00 04 26.7**	**+0.8**
	SNR=4.2							
SCHF			eSg		**Sg**	**00 04 59.7**	**-0.1**
SCHF	**Schoenfels**	**2.46 252**	Pn		**Pn**	**00 04 21.5**	**-0.7**
	SNR=5.8							
HKWD	**Heukewalde**	**2.49 256**	*e*Pn		**Pn**	**00 04 21.7**	**-0.9**
	SNR=5.3							
HKWD			eSg		**Sb**	**00 05 00.2**	**+2.6**
HKWD	**Heukewalde**	**2.49 256**	Pn		**Pn**	**00 04 21.7**	**-0.9**
	SNR=5.3							
HKWD			Sg		**Sb**	**00 05 00.2**	**+2.6**
TANN	**Tannenbergstha**	**2.53 246**	*e*Pn		**Pn**	**00 04 22.5**	**-0.7**
	SNR=18							
TANN			*e*Pg		**Pb**	**00 04 29.0**	**+1.9**
	SNR=5.2							
TANN			eSg		**Sg**	**00 05 02.7**	**+0.6**
TANN	**Tannenbergstha**	**2.53 246**	Pn		**Pn**	**00 04 22.5**	**-0.7**
	SNR=18							
TANN	**Tannenbergstha**	**2.53 246**	Pg		**Pb**	**00 04 29.0**	**+1.9**
	SNR=5.2							
TANN			Sg		**Sg**	**00 05 02.7**	**+0.6**
MULD	**Muldenberg**	**2.57 247**	*e*Pn		**Pn**	**00 04 23.2**	**-0.5**
	SNR=7.3							
MULD			*e*Pg		**Pb**	**00 04 29.5**	**+1.8**
	SNR=6.3							
MULD			eSg		**Sg**	**00 05 03.2**	**0.0**
MULD	**Muldenberg**	**2.57 247**	Pn		**Pn**	**00 04 23.2**	**-0.5**
	SNR=7.3							
WERD	**Werda**	**2.61 248**	*e*Pn		**Pn**	**00 04 23.6**	**-0.6**
	SNR=4.4							
WERD			*e*Pg		**Pb**	**00 04 29.9**	**+1.6**
	SNR=6.5							
WERD			eSg		**Sb**	**00 05 03.4**	**+2.4**
WERD	**Werda**	**2.61 248**	Pn		**Pn**	**00 04 23.6**	**-0.6**
	SNR=4.4							
NKC	**Novy Kostel**	**2.62 243**	*e*Pn		**Pn**	**00 04 24.1**	**-0.3**
	SNR=25							
NKC	**Novy Kostel**	**2.62 243**	*e*PN		**Pn**	**00 04 23.9**	**-0.5**
NKC			*e*PG		**Pb**	**00 04 30.0**	**+1.3**
NKC			eSG		**Sg**	**00 05 05.5**	**+0.4**
	comp=Z,395nm,0.6s							
NKC	**Novy Kostel**	**2.62 243**	Pn		**Pn**	**00 04 23.9**	**-0.5**
GUNZ	**Gunzen**	**2.63 246**	*e*Pn		**Pn**	**00 04 23.8**	**-0.7**
	SNR=6.1							
GUNZ			*e*Pg		**Pg**	**00 04 31.4**	**+0.2**
	SNR=7.0							
GUNZ			eSg		**Sg**	**00 05 04.9**	**-0.3**
GUNZ	**Gunzen**	**2.63 246**	Pn		**Pn**	**00 04 23.8**	**-0.7**
	SNR=6.1							
WERN	**Wernitzgruen**	**2.64 244**	*e*Pn		**Pn**	**00 04 24.0**	**-0.6**
	SNR=16							
WERN			*e*Pg		**Pb**	**00 04 30.9**	**+2.0**
	SNR=3.8							
WERN			*e*Sn		**Sn**	**00 04 53.7**	**-3.6**
WERN			eSg		**Sg**	**00 05 06.0**	**+0.5**
WERN	**Wernitzgruen**	**2.64 244**	Pn		**Pn**	**00 04 24.0**	**-0.6**
	SNR=16							
OJC	**Ojcow**	**2.67 117**	*e*Pn		Pn	00 04 22.2	-2.9
	SNR=5.2							
OJC			*e*Pg		**Pb**	**00 04 29.9**	**+0.4**
	SNR=13							
OJC			eSg		**Sg**	**00 05 07.0**	**+0.4**
OJC	**Ojcow**	**2.67 117**	Pn		Pn	00 04 22.2	-2.9
	SNR=5.2							
OJC	**Ojcow**	**2.67 117**	Pn		Pn	00 04 22.5	-2.6
OJC			*e*Pg		**Pb**	**00 04 29.9**	**+0.4**
OJC			eSg		**Sb**	**00 05 05.1**	**+2.3**
PLN	**Plauen**	**2.68 250**	*e*Pn		**Pn**	**00 04 24.4**	**-0.8**
	SNR=14							
PLN			*e*Pg		**Pb**	**00 04 32.1**	**+2.5**
	SNR=3.2							
PLN			eSg		**Sg**	**00 05 06.8**	**0.0**
PLN	**Plauen**	**2.68 250**	Pn		**Pn**	**00 04 24.4**	**-0.8**
	SNR=14							
ROHR	**Rohrbach**	**2.70 244**	*e*Pn		**Pn**	**00 04 25.0**	**-0.4**
	SNR=6.4							
ROHR			*e*Pg		**Pb**	**00 04 32.4**	**+2.4**
	SNR=3.7							
ROHR			eSg		**Sg**	**00 05 07.9**	**+0.5**
ROHR	**Rohrbach**	**2.70 244**	Pn		**Pn**	**00 04 25.0**	**-0.4**
	SNR=6.4							
NEUB	**Neuenburg**	**2.72 266**	*e*Pg		**Pb**	**00 04 31.8**	**+1.6**
	SNR=14							
NEUB			eSg		**Sg**	**00 05 08.5**	**+0.5**
NEUB	**Neuenburg**	**2.72 266**	Pg		**Pb**	**00 04 31.8**	**+1.6**
	SNR=14							
NEUB			Sg		**Sg**	**00 05 08.5**	**+0.5**
TRIB	**Obertriebel**	**2.75 247**	*e*Pn		**Pn**	**00 04 25.3**	**-0.8**
	SNR=5.1							
TRIB			eSg		**Sg**	**00 05 09.6**	**+0.6**
TRIB	**Obertriebel**	**2.75 247**	Pn		**Pn**	**00 04 25.3**	**-0.8**
	SNR=5.1							
TRIB			Sg		**Sg**	**00 05 09.6**	**+0.6**
TAUT	**Tautenburg**	**2.80 261**	*e*Pn		**Pn**	**00 04 25.5**	**-1.2**
	SNR=4.0							
TAUT			*e*Pg		**Pb**	**00 04 33.5**	**+1.9**
	SNR=7.3							
TAUT			eSg		**Sg**	**00 05 10.1**	**-0.5**
TAUT	**Tautenburg**	**2.80 261**	Pn		**Pn**	**00 04 25.5**	**-1.2**
	SNR=4.0							
KHC	**Kasperske Hory**	**2.85 215**	*e*Pn		**Pn**	**00 04 27.1**	**-0.5**
	SNR=20							
KHC			eSg		**Sg**	**00 05 12.3**	**-0.2**
KHC	**Kasperske Hory**	**2.85 215**	*e*PN		**Pn**	**00 04 26.9**	**-0.7**
KHC			*e*PG		**Pb**	**00 04 33.5**	**+0.9**
KHC			eSN		**Sn**	**00 05 02.1**	**-0.6**
KHC			eSG		**Sg**	**00 05 11.8**	**-0.7**
	comp=Z,88nm,0.4s							
KHC	**Kasperske Hory**	**2.85 215**	Pn		**Pn**	**00 04 27.1**	**-0.5**
	SNR=20							
KHC	**Kasperske Hory**	**2.85 215**	Pg		**Pb**	**00 04 33.5**	**+0.9**
KHC			Sn		**Sn**	**00 05 02.1**	**-0.6**
KHC			Sg		**Sg**	**00 05 12.3**	**-0.2**
WIMM	**Wimmelburg**	**2.86 272**	Sg		**Sb**	**00 05 11.5**	**+3.3**
MOX	**Moxa**	**2.94 255**	*e*Pn		**Pn**	**00 04 27.7**	**-1.1**
	SNR=6.9							
MOX			*e*Pg		**Pb**	**00 04 36.2**	**+2.1**
	SNR=6.8							
MOX			eSg		**Sg**	**00 05 15.3**	**0.0**
MOX	**Moxa**	**2.94 255**	Pn		**Pn**	**00 04 27.7**	**-1.1**
	SNR=6.9							
BEL	**Belsk**	**2.95 81**	*e*Pg		Pg	00 04 44.8	+7.5
BEL	**Belsk**	**2.95 81**	*e*Pg		Pg	00 04 44.8	+7.5
ROTZ	**Rotzenmuhle**	**3.01 237**	*e*Pn		**Pn**	**00 04 29.5**	**-0.2**
	SNR=24							
ROTZ			*e*Pg		**Pb**	**00 04 36.9**	**+1.7**
	SNR=1.6							
ROTZ			eSg		**Sg**	**00 05 17.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.01 237**	Pn		**Pn**	**00 04 29.5**	**-0.2**
	SNR=24							
GEC2	**GERESS Array S**	**3.06 211**	*e*Pn		**Pn**	**00 04 30.2**	**-0.3**
	SNR=36							
GEC2	**GERESS Array S**	**3.06 211**	Pn		**Pn**	**00 04 30.2**	**-0.3**
	SNR=36							
GERES	**GERESS Array B**	**3.06 211**	Pn		**Pn**	**00 04 30.1**	**-0.3**
	comp=Z,6.5nm,0.3s,baz=30,slow=12,SNR=200							
GERES			Sn		**Sn**	**00 05 08.5**	**+0.8**
	comp=Z,9.2nm,0.3s,baz=35,slow=28,SNR=7.0							
GERES			Lg		Lg	00 05 18.7		
	comp=Z,27nm,0.3s,baz=36,slow=27,SNR=12							
SMOL	**Smolenice**	**3.10 163**	*e*		**Pg**	**00 04 39.8**	**-0.4**
SMOL	**Smolenice**	**3.10 163**	*e*SG		**Sg**	**00 05 22.2**	**+1.8**
SMOL	**Smolenice**	**3.10 163**	eSG		**Sg**	**00 05 22.2**	**+1.8**
LIKS	**Likavka**	**3.12 140**	*e*		**Pg**	**00 04 42.3**	**+1.8**
LIKS	**Likavka**	**3.12 140**	*e*SG		**Sg**	**00 05 23.8**	**+3.0**
LIKS	**Likavka**	**3.12 140**	eSG		**Sg**	**00 05 23.8**	**+3.0**
WET	**Wettzell**	**3.12 222**	*e*Pn		**Pn**	**00 04 30.8**	**-0.4**
	SNR=24							
WET	**Wettzell**	**3.12 222**	Pn		**Pn**	**00 04 30.8**	**-0.4**
	SNR=24							
SCHD	**Schmiedefeld**	**3.22 255**	*e*Pn		**Pn**	**00 04 31.7**	**-1.0**
	SNR=5.7							
SCHD			eSg		**Sg**	**00 05 23.8**	**-0.5**
SCHD	**Schmiedefeld**	**3.22 255**	Pn		**Pn**	**00 04 31.7**	**-1.0**
	SNR=5.7							
SCHD			Sg		**Sg**	**00 05 23.8**	**-0.5**
NIE	**Niedzica**	**3.40 126**	*e*P		**Pb**	**00 04 44.4**	**+2.4**
NIE			eS		**Sg**	**00 05 29.1**	**-1.0**
ASSE	**Asse, Remlinge**	**3.42 283**	eSG		**Sb**	**00 05 28.0**	**+3.8**
ASSE	**Asse, Remlinge**	**3.42 283**	Sg		**Sb**	**00 05 28.0**	**+3.8**
VYHS	**Vyhne**	**3.48 148**	*e*PN		**Pn**	**00 04 35.6**	**-0.6**
VYHS			*e*			00 04 48.3		
VYHS	**Vyhne**	**3.48 148**	eSG		**Sg**	**00 05 33.3**	**+0.7**
VYHS	**Vyhne**	**3.48 148**	eSg		**Sg**	**00 05 33.3**	**+0.7**
CONA	**Conrad Observa**	**3.57 182**	⇑*i*Pn		**Pn**	**00 04 37.1**	**-0.3**
	SNR=9.9							
CONA			⇓*i*Sg		**Sg**	**00 05 35.1**	**-0.2**
	comp=Z,105nm,0.4s							
CONA	**Conrad Observa**	**3.57 182**	Pn		**Pn**	**00 04 37.1**	**-0.3**
	SNR=9.9							
CONA			Sg		**Sg**	**00 05 35.1**	**-0.2**
	comp=Z,105nm,0.4s							
CLZ	**Clausthal**	**3.58 278**	*e*Pn		**Pn**	**00 04 36.5**	**-1.0**
	SNR=11							
CLZ			*e*Pg		**Pb**	**00 04 47.1**	**+2.3**
	SNR=3.1							
CLZ	**Clausthal**	**3.58 278**	Pn		**Pn**	**00 04 36.5**	**-1.0**
	SNR=11							
GRA1	**Grafenberg Arr**	**3.58 242**	Pn		**Pn**	**00 04 37.5**	**-0.1**
	SNR=12							
GRF	**Grafenberg Arr**	**3.58 242**	*e*Pn		**Pn**	**00 04 37.5**	**-0.1**
	SNR=12							
BSD	**Bornholm Skovb**	**3.70 350**	*i* P		Pn	00 04 35.5	-3.6
BSD			*i* S		Sn	00 05 16.1	-7.3
BSD	**Bornholm Skovb**	**3.70 350**	*i* P		Pn	00 04 35.5	-3.6
BSD			*i* S		Sn	00 05 16.1	-7.3
SOP	**Sopron**	**3.82 175**	⇑*e*		**Pn**	**00 04 40.9**	**+0.1**
SOP			eSn		**Sg**	**00 05 42.8**	**-0.7**
MOA	**Molln**	**3.83 199**	⇑*i*Pn		**Pn**	**00 04 41.0**	**0.0**
	SNR=17							
MOA			⇑*i*Sg		**Sg**	**00 05 43.3**	**-0.5**
	comp=Z,154nm,0.6s							
MOA	**Molln**	**3.83 199**	Pn		**Pn**	**00 04 41.0**	**0.0**
	SNR=17							
MOA			Sg		**Sg**	**00 05 43.3**	**-0.5**
	comp=Z,154nm,0.6s							
NRDL	**Niedersach Rie**	**3.83 288**	*e*Pn		**Pn**	**00 04 40.2**	**-0.7**
	SNR=4.1							
NRDL	**Niedersach Rie**	**3.83 288**	Pn		**Pn**	**00 04 40.2**	**-0.7**
	SNR=4.1							
UBBA	**Unterbreizbach**	**3.89 262**	*e*Pn		**Pn**	**00 04 40.9**	**-0.8**
	SNR=2.5							
UBBA	**Unterbreizbach**	**3.89 262**	Pn		**Pn**	**00 04 40.9**	**-0.8**
	SNR=2.5							
ARSA	**Arzberg**	**4.26 185**	⇓*i*Pn		**Pn**	**00 04 46.7**	**-0.2**
	SNR=20							
ARSA			⇑*i*Sg		**Sg**	**00 05 56.2**	**-1.3**
	comp=Z,123nm,0.8s							
ARSA	**Arzberg**	**4.26 185**	Pn		**Pn**	**00 04 46.7**	**-0.2**
	SNR=20							
ARSA			Sg		**Sg**	**00 05 56.2**	**-1.3**
	comp=Z,123nm,0.8s							
BSEG	**Bad Segeberg**	**4.28 307**	*e*Pn		Pn	00 04 44.1	-3.0
	SNR=12							
BSEG	**Bad Segeberg**	**4.28 307**	Pn		Pn	00 04 44.1	-3.0
	SNR=12							
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*PN		**Pn**	**00 04 47.3**	**-0.4**
CRVS			*e*			00 05 04.4		
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*Pn		**Pn**	**00 04 47.3**	**-0.4**
CRVS			eSg		**Sg**	**00 05 59.8**	**+0.4**
RJOB	**Jochberg**	**4.32 211**	*e*Pn		**Pn**	**00 04 48.1**	**+0.3**
	SNR=7.4							
RJOB			*e*Pg		**Pg**	**00 05 02.7**	**-0.9**
	SNR=2.3							
RJOB	**Jochberg**	**4.32 211**	Pn		**Pn**	**00 04 48.1**	**+0.3**
	SNR=7.4							
PSZ	**Piszkesteto**	**4.34 144**	⇓*i*P		**Pn**	**00 04 48.3**	**+0.2**
PSZ	**Piszkesteto**	**4.34 144**	⇓*e*P		**Pn**	**00 04 48.4**	**+0.3**
PSZ	**Piszkesteto**	**4.34 144**	⇓*e*		**Pn**	**00 04 48.4**	**+0.3**
BUD	**Budapest**	**4.44 153**	⇑*e*		**Pb**	**00 05 02.3**	**+2.7**
BUD			*e*Sn		Sg	00 06 13.7	+10
LLD	**Lille Linde**	**4.49 331**	*i* P		Pn	00 04 44.8	-5.2
LLD			*i* S		Sn	00 05 36.6	-6.3
LLD	**Lille Linde**	**4.49 331**	*e*P		Pn	00 04 44.8	-5.2
LLD			*i* S		Sn	00 05 36.6	-6.3
FUR	**Furstenfeldbru**	**4.55 225**	*e*Pn		**Pn**	**00 04 51.0**	**0.0**
	SNR=6.7							
FUR	**Furstenfeldbru**	**4.55 225**	Pn		**Pn**	**00 04 51.0**	**0.0**
	SNR=6.7							
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pn		**Pn**	**00 04 50.1**	**-1.6**
KWP			*e*Pg		**Pg**	**00 05 09.3**	**+0.2**
KWP			*e*Sb		**Sb**	**00 06 02.0**	**+3.3**
KWP			eSg		**Sg**	**00 06 10.6**	**+1.7**
KWP	**Kalwaria Pacla**	**4.61 111**	⇑*i*P		**Pn**	**00 04 50.4**	**-1.3**
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pn		**Pn**	**00 04 50.1**	**-1.6**
KWP	**Kalwaria Pacla**	**4.61 111**	⇑*i*P		**Pn**	**00 04 50.4**	**-1.3**
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pg		**Pg**	**00 05 09.4**	**+0.2**
KWP			*e*Sb		**Sb**	**00 06 02.0**	**+3.3**
KWP			eSg		**Sg**	**00 06 10.6**	**+1.7**
KWP	**Kalwaria Pacla**	**4.61 111**	*e*Pn		**Pn**	**00 04 50.1**	**-1.6**
KWP			*e*Pg		**Pg**	**00 05 09.3**	**+0.2**
KWP			*e*Sb		**Sb**	**00 06 01.9**	**+3.3**
KWP			eSg		**Sg**	**00 06 10.5**	**+1.7**
KOLS	**Kolonicke sedl**	**4.72 120**	*e*PN		**Pn**	**00 04 52.0**	**-1.3**
KOLS			*e*			00 05 13.4		
KOLS	**Kolonicke sedl**	**4.72 120**	*e*Pn		**Pn**	**00 04 52.0**	**-1.3**
KOLS			eSg		**Sg**	**00 06 10.1**	**-2.4**
KBA	**Koelnbreinsper**	**4.76 203**	⇓*i*Pn		**Pn**	**00 04 54.5**	**+0.5**
	SNR=29							
KBA			⇑*i*Sg		**Sg**	**00 06 14.8**	**+1.0**
	comp=Z,97nm,0.6s							
KBA	**Koelnbreinsper**	**4.76 203**	Pn		**Pn**	**00 04 54.5**	**+0.5**
	SNR=29							
KBA			Sg		**Sg**	**00 06 14.8**	**+1.0**
	comp=Z,97nm,0.6s							
BLEU	**Blekinge**	**4.83 358**	P		Pn	00 04 51.5	-3.1
SOKA	**Soboth**	**4.86 189**	⇑*i*Pn		**Pn**	**00 04 55.8**	**+0.5**
SOKA	**Soboth**	**4.86 189**	Pn		**Pn**	**00 04 55.8**	**+0.5**
TNS	**Taunus Mts**	**5.00 258**	*e*Pn		**Pn**	**00 04 56.2**	**-0.9**
	SNR=7.4							
TNS	**Taunus Mts**	**5.00 258**	Pn		**Pn**	**00 04 56.2**	**-0.9**
	SNR=7.4							
TOD	**Tromm**	**5.01 251**	P		**Pn**	**00 04 57.7**	**+0.5**
GROS	**Grobnik**	**5.05 185**	*i* Pn		**Pn**	**00 04 58.3**	**+0.6**
GROS	**Grobnik**	**5.05 185**	Pn		**Pn**	**00 04 58.3**	**+0.6**
OBKA	**Obir**	**5.08 192**	⇑*i*Pn		**Pn**	**00 04 57.4**	**-0.9**
OBKA			⇓*i*Sg		**Sg**	**00 06 25.2**	**+1.1**
	comp=Z,81nm,0.8s							
OBKA	**Obir**	**5.08 192**	Pn		**Pn**	**00 04 57.4**	**-0.9**
OBKA			Sg		**Sg**	**00 06 25.2**	**+1.1**
	comp=Z,81nm,0.8s							
WATA	**Walderalm**	**5.09 217**	⇑*i*Pn		**Pn**	**00 04 58.7**	**+0.3**
	SNR=14							
WATA			⇓*i*Sn		**Sn**	**00 05 56.4**	**-1.6**
WATA	**Walderalm**	**5.09 217**	Pn		**Pn**	**00 04 58.7**	**+0.3**
	SNR=14							
WATA			Sn		**Sn**	**00 05 56.4**	**-1.6**
DEL	**Delary**	**5.16 346**	P		Pn	00 04 55.8	-3.4
DEL			S		Sn	00 05 52.0	-7.4
STU	**Stuttgart**	**5.20 241**	*e*Pn		**Pn**	**00 04 58.3**	**-1.5**
	SNR=1.5							
STU	**Stuttgart**	**5.20 241**	Pn		**Pn**	**00 04 58.3**	**-1.5**
	SNR=1.5							
MOTA	**Moosalm**	**5.27 220**	⇑*i*Pn		**Pn**	**00 05 00.7**	**-0.2**
	SNR=6.7							
MOTA			⇓*i*Sg		**Sg**	**00 06 30.9**	**+0.9**
	comp=Z,82nm,0.9s							
MOTA	**Moosalm

comp=Z,48nm,0.8s
BURAR Bucovina Array 7.09 120 ⇓*i*P **Pn 00 05 26.9 +1.1**
BURAR Bucovina Array 7.09 120 ⇓*i*P **Pn 00 05 26.9 +1.1**
HAU Haudompre 7.21 245 *e*Pn Pn 00 05 23.8 -3.6
HAU *e*Sg Sg 00 07 25.3 -6.8
comp=Z,112nm,1.1s
GIVF Givet 7.27 263 *e*P **Pn 00 05 29.0 +0.8**
GIVF *e*Sg Sg 00 07 27.0 -7.2
comp=Z,47nm,1.0s
GIVF Givet 7.27 263 *e*P **Pn 00 05 29.0 +0.8**
PAGF Fort de Pagny 7.29 250 *e*Pn Pn 00 05 24.6 -3.9
PAGF *e*Sg Sg 00 07 28.3 -6.5
comp=Z,17nm,1.0s
DOU Dourbes 7.42 264 PN **Pn 00 05 30.3 +0.1**
DOU Dourbes 7.42 264 Pn **Pn 00 05 30.3 +0.1**
BAIF Baives 7.67 264 *e*Pn Pn 00 05 28.9 -4.7
BAIF *e*Sg Sg 00 07 39.5 -7.3
comp=Z,42nm,1.0s
MEZF Maizieres J'vi 7.71 252 *e*Pn Pn 00 05 30.1 -4.2
MEZF Maizieres J'vi 7.71 252 *e*P **Pn 00 05 35.4 +1.1**
baz=57
MEZF *e*Sg Sg 00 07 41.4 -6.9
comp=Z,46nm,1.0s
MEZF Maizieres J'vi 7.71 252 *e*P **Pn 00 05 35.4 +1.1**
baz=57
MICGM Minsk 7.73 62 *e*P **Sg 00 07 48.0 -0.8**
SFTF Sexfontaines 7.86 250 *e*Sg Sg 00 07 45.7 -7.3
comp=Z,52nm,1.0s
CABF La Chapelle 8.18 237 *e*Sg Sg 00 07 56.1 -7.2
comp=Z,47nm,0.8s
AKASG Malin Array Be 8.31 90 Pn Pn 00 05 39.3 -3.1
comp=Z,1.3nm,0.3s,baz=280,slow=12,SNR=9.0
AKASG Sn **Sn 00 07 12.2 -4.7**
comp=Z,1.2nm,0.3s,baz=270,slow=23,SNR=4.2
AKASG Lg Lg 00 08 14.5
comp=Z,0.8nm,0.3s,baz=279,slow=29,SNR=3.4
ARR Arges 8.35 134 ⇓*i*P Pn 00 05 52.7 +10
LPG La Plagne 8.62 230 *e*P **Pn 00 05 47.4 +0.4**
LPG *e*Sg Sg 00 08 11.0 -6.4
comp=Z,77nm,1.3s
LPG La Plagne 8.62 230 *e*P **Pn 00 05 47.4 +0.4**
HFS Hagfors 8.77 352 Pn Pn 00 05 45.8 -2.9
comp=Z,0.1nm,0.3s,baz=81,slow=21,SNR=3.0
HFS Sn Sn 00 07 23.6 -4.5
comp=Z,0.1nm,0.3s,baz=169,slow=27,SNR=2.3
HFS Lg Lg 00 08 23.2
comp=Z,0.3nm,0.3s,baz=182,slow=26,SNR=3.1
LOR Lormes 9.02 247 *e*Pn Pn 00 05 49.1 -3.2
baz=69
LOR *e*Sg Sn 00 08 21.6 +47
comp=Z,43nm,1.2s
LOR Lormes 9.02 247 *e*Pn Pn 00 05 49.1 -3.2
baz=69
LOR *e*Sg Sg 00 08 21.6
comp=Z,22nm,1.2s
SSF Saint Saulge 9.34 247 *e*Pn Pn 00 05 53.3 -3.2
SSF *e*Sg Sg 00 08 31.3
comp=Z,19nm,1.0s
SSF Saint Saulge 9.34 247 *e*Pn Pn 00 05 53.3 -3.2
SMF Signal de Mont 9.38 244 *e*Sg Sg 00 08 33.3
comp=Z,24nm,0.9s
SBF Sospel 9.60 221 *e*P **Pn 00 06 00.4 +0.2**
SBF Sospel 9.60 221 *e*P **Pn 00 06 00.4 +0.2**
NOA NORSAR Array B 9.95 346 Pn Pn 00 06 00.7 -4.2
comp=Z,0.1nm,0.3s,baz=61,slow=22,SNR=2.8
NOA Sn Sn 00 07 46.1 -11
comp=Z,0.1nm,0.3s,baz=59,slow=14,SNR=2.8
NOA Lg Lg 00 08 54.7
comp=Z,0.2nm,0.3s,baz=351,slow=9.3,SNR=3.8
BGF Bois d'Agland 9.99 246 *e*Sg Sg 00 08 51.6
comp=Z,25nm,0.8s
SMRF Simiane la Rot 10.32 227 *e*Pn Pn 00 06 05.6 -4.4
FINES FINESS Array B 11.39 25 Pn Pn 00 06 21.0 -3.5
comp=Z,0.3nm,0.3s,baz=198,slow=12,SNR=8.0
FINES Sn Sn 00 08 19.5 -13
comp=Z,0.2nm,0.3s,baz=156,slow=37,SNR=4.0
FINES Lg Lg 00 09 49.1
comp=Z,0.1nm,0.3s,baz=206,slow=21,SNR=5.2
KAF Kangasniemi 12.01 24 *e*p Pn 00 06 29.7 -3.4
comp=Z,2.2nm,0.8s
EKA Eskdalemuir Ar 12.10 296 Pn Pn 00 06 28.8 -5.5
baz=100,slow=14,SNR=4.3
JOF Joensuu 14.07 30 *e*p Pn 00 06 58.8 -2.3
comp=Z,0.4nm,0.4s
JOF Joensuu 14.07 30 *e*P Pn 00 06 58.8 -2.3
comp=Z,0.4nm,0.4s
ESDC Sonseca Array 18.27 238 LR LR 00 15 13.1
comp=Z,139nm,20.0s,baz=5.0,slow=38
ARCES ARCESS Array B 18.65 10 Pn P 00 07 54.5 -5.2
comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=4.9
KURBB Kurchatov Array 18.20 66 P **P 00 11 00.1 -1.7**
comp=Z,0.5nm,0.6s,baz=296,slow=8.6,SNR=6.7
AAK Ala-Archa 39.79 79 P **P 00 11 15.3 -0.1**
comp=Z,1.2nm,0.8s,baz=324,slow=5.8,SNR=5.6
TORD Torodi Ar. Bea 39.97 202 P **P 00 11 16.4 -0.6**
comp=Z,0.7nm,0.8s,baz=4.4,slow=7.5,SNR=4.7
ZALV Zalesovo Beam 40.22 59 P **P 00 11 17.5 -1.2**
comp=Z,0.2nm,0.3s,baz=316,slow=10,SNR=4.5
MKAR Makanchi Array 42.24 69 P **P 00 11 34.2 -1.2**
comp=Z,0.3nm,0.8s,baz=297,slow=8.0,SNR=3.8
SONM Songino Array 54.94 55 P **P 00 13 12.7 -0.6**
comp=Z,0.2nm,0.7s,baz=291,slow=10,SNR=3.7
YKA Yellowknife Ar 59.87 336 P **P 00 13 46.4 -1.2**
comp=Z,0.8nm,0.7s,baz=29,slow=6.6,SNR=19
PDAR Pinedale Array 74.95 322 P **P 00 15 22.9 -0.9**
comp=Z,0.4nm,0.6s,baz=50,slow=5.1,SNR=4.6

*DJA **25** 00:08:14.7±1.0,0°S±6°×13°3E±°, h8km±8km, M4.4/8, mb4.5/6, mB5.1/3, MLv4.3/8, Mw(mB)4.5/3*
*IDC **25** 00:08:16.0±1.4,0.53S×132.98E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, ML3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/31, Error ellipse: s-maj=79.0km s-min=17.4km az=76.0*
*ISCJB **25** 00:08:17.4±0.7,0.47S±0.06×133.22E±0.04, h32km, mb3.9/5, Error ellipse: s-maj=9.3km s-min=5.5km az=164.0*
ISC 25 00:08:19.9±1.0,0.49S±0.09×133.20E±0.06, h32km, n15, σ1s73/20, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.97**	**259**	P	**Pn**	**00 08 49.9**	**-1.2**
SWI				S	**Sn**	**00 09 14.6**	**-0.1**
FAKI	**Fak Fak**	**2.59**	**201**	P	**Pn**	**00 08 57.2**	**-2.5**
FAKI				S	**Sn**	**00 09 31.8**	**+1.7**
BAKI	**Biak**	**2.99**	**103**	P	Pn	00 09 01.4	-3.8
BAKI				S	**Sn**	**00 09 41.0**	**+1.0**
MSAI	**Masohi**	**5.12**	**236**	P	**Pn**	**00 09 32.5**	**-2.0**
	19nm,1.1s,2μm0.1nm						
MSAI				S	**Sn**	**00 10 34.4**	**+1.9**
	19nm,1.1s,2μm0.1nm						
BNDI	**Bandanaira**	**5.18**	**219**	P	**Pn**	**00 09 33.3**	**-2.0**
	127nm,1.1s,2μm0.7nm						
BNDI				S	**Sn**	**00 10 35.5**	**+1.5**
	127nm,1.1s,2μm0.7nm						
LBMI	**Labuha**	**5.70**	**269**	P	Pn	00 09 38.2	-4.2
	34nm,1.2s,0.1nm						
AAI	**Ambon**	**5.92**	**238**	P	**Pn**	**00 09 43.4**	**-2.1**
	60nm,1.0s,0.4nm						
AAI				S	**Sn**	**00 10 54.6**	**+2.3**
	60nm,1.0s,0.4nm						
NLAI	**Namlea**	**6.67**	**246**	P	**Pn**	**00 09 53.5**	**-2.3**
	22nm,1.0s,876nm0.1nm						
NLAI				S	**Sn**	**00 11 13.7**	**+2.8**
	22nm,1.0s,876nm0.1nm						
FITZ	**Fitzroy Crossi**	**19.01**	**203**	P	**P**	**00 12 38.5**	**-0.7**
	0.1nm,0.3s,baz=37,slow=10,SNR=2.6						
FITZ				LR	LR	00 20 37.8	
	comp=Z,270nm,18.8s,baz=179,slow=39						
WRA	**Warramunga Ar**	**19.36**	**177**	P	**P**	**00 12 43.5**	**+0.4**
	0.2nm,0.3s,baz=354,slow=12,SNR=25						
ASAR	**Alice Springs**	**23.05**	**178**	P	**P**	**00 13 22.8**	**+0.1**
	6.4nm,0.9s,baz=3.0,slow=10,SNR=33						
STKA	**Stephens Creek**	**32.21**	**167**	P	**P**	**00 14 45.8**	**+0.5**
	3.3nm,0.9s,baz=348,slow=6.9,SNR=8.3						
MKAR	**Makanchi Array**	**64.72**	**324**	P	**P**	**00 18 56.0**	**+0.9**
	0.5nm,0.8s,baz=125,slow=7.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**67.31**	**331**	P	**P**	**00 19 11.5**	**-0.1**
	0.4nm,0.6s,baz=105,slow=9.1,SNR=2.9						
BVAR	**Borovoye Array**	**74.38**	**326**	P	**P**	**00 19 55.2**	**+0.6**
	1.3nm,0.8s,baz=118,slow=5.7,SNR=9.2						

*IDC **25** 00:12:18.6±2.6,8.66S×112.37E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=150.1km s-min=18.9km az=53.0*
*ISCJB **25** 00:12:28.3±0.6,8.73S±0.10×112.45E±0.04, h93km±6km, mb3.6/6, Error ellipse: s-maj=16.3km s-min=5.7km az=8.4*
*DJA **25** 00:12:28.8±0.8,9°S±5°×11°2E±°, h36km±8km, M4.4/14, mb5.0/1, MLv4.1/14*
ISC 25 00:12:28.8±1.1,8.82S±0.10×112.44E±0.04, h77km±10km, n21, σ1s62/27, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**0.65**	**1**	P	**Pn**	**00 12 43.1**	**-0.6**
KRKI				S	**Sn**	**00 12 54.5**	**-0.2**
PWJI	**Pagerwojo**	**1.01**	**321**	P	**Pn**	**00 12 47.7**	**-0.1**
PWJI				S	**Sn**	**00 13 01.5**	**-0.4**
GMJI	**Gumukmas**	**1.13**	**62**	P	**Pn**	**00 12 47.7**	**-1.5**
SJI	**Sawahan**	**1.26**	**328**	P	**Pn**	**00 12 51.4**	**+0.3**
SJI				S	**Sn**	**00 13 08.8**	**+1.1**
PCJI	**Pacitan**	**1.39**	**296**	P	**Pn**	**00 12 52.4**	**-0.2**
PCJI				S	**Sn**	**00 13 10.9**	**+0.3**
BLJI	**Banyuglugur**	**1.56**	**47**	P	**Pn**	**00 12 54.8**	**0.0**
NGJI	**Ngawi**	**1.73**	**326**	S	**Sn**	**00 13 24.0**	**+5.4**
BYJI	**Banyuwangi**	**1.99**	**73**	P	**Pn**	**00 13 01.8**	**+1.4**
BYJI				S	**Sn**	**00 13 27.4**	**+2.9**
UGM	**Wanagama**	**2.10**	**295**	P	**Pn**	**00 13 02.1**	**+0.1**
UGM				S	**Sn**	**00 13 28.3**	**+1.0**
NBBI	**Negara**	**2.20**	**79**	P	Pn	00 13 07.5	+4.2
KMMI	**Kalianget**	**2.31**	**41**	P	**Pn**	**00 13 04.6**	**-0.3**
IGBI	**Denpasar**	**2.67**	**90**	P	**Pn**	**00 13 10.2**	**+0.5**
SRBI	**Singaraja**	**2.84**	**75**	P	**Pn**	**00 13 12.4**	**+0.5**
BWJI	**Bawean**	**2.95**	**4**	P	**Pn**	**00 13 14.5**	**+1.0**
CISI	**Cisompet, Garu**	**4.75**	**285**	P	**Pn**	**00 13 39.3**	**+1.3**
CISI				S	**Sn**	**00 14 33.2**	**+1.4**
WRA	**Warramunga Arr**	**23.89**	**120**	P	**P**	**00 17 35.6**	**-0.1**
	2.1nm,0.7s,baz=297,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**25.30**	**128**	P	**P**	**00 17 47.0**	**-1.4**
	0.3nm,0.3s,baz=304,slow=9.1,SNR=4.6						
STKA	**Stephens Creek**	**35.48**	**134**	P	**P**	**00 19 19.4**	**+1.2**
	1.8nm,0.5s,baz=315,slow=12,SNR=11						
SONM	**Songino Array**	**56.65**	**355**	P	**P**	**00 22 03.3**	**-0.9**
	0.3nm,0.6s,baz=178,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**61.54**	**337**	P	**P**	**00 22 36.5**	**-1.4**
	0.4nm,0.5s,baz=148,slow=7.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**66.75**	**343**	P	**P**	**00 23 09.8**	**-2.0**
	0.6nm,0.5s,baz=156,slow=5.2,SNR=3.5						

*IDC **25** 01:04:37.8±0.8,35.57N×143.17E, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.8/28, mbtmp3.7/13, ML3.6/3, Error ellipse: s-maj=21.7km s-min=18.0km az=111.0*
*JMA **25** 01:04:41.6±0.2,35.73N×143.00E, h57km, M3.8*
*ISCJB **25** 01:04:43.9±0.6,35.70N±0.05×142.85E±0.05, h59km, mb3.6/10, Error ellipse: s-maj=6.9km s-min=5.6km az=1.7*
ISC 25 01:04:45.6±0.8,35.66N±0.06×142.86E±0.07, h59km, n24, σ1s73/27, mb3.5/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.63**	**272**	P	**Pn**	**01 05 10.3**	**-1.7**
CHOJ				S	**Sn**	**01 05 31.7**	**-0.2**
BSO1	**Boso 1**	**1.84**	**237**	P	**Pn**	**01 05 12.4**	**-2.0**
BSO1				*e*S	**Sn**	**01 05 36.5**	**+0.2**
BSO2	**Boso 2**	**1.94**	**243**	S	**Sn**	**01 05 40.1**	**+0.9**
JHO	**Hitachi**	**2.08**	**298**	S	**Sn**	**01 05 40.6**	**-2.4**
BSO3	**Boso 3**	**2.10**	**247**	P	**Pn**	**01 05 17.1**	**-1.1**
BSO4	**Boso 4**	**2.17**	**253**	S	**Sn**	**01 05 46.4**	**+1.5**
JYT	**Yasato**	**2.23**	**285**	S	**Sn**	**01 05 45.0**	**-1.7**
JFK	**Kawauchi**	**2.33**	**317**	S	**Sn**	**01 05 45.7**	**-3.6**
JFT	**Otama**	**2.75**	**313**	S	**Sn**	**01 05 57.2**	**-2.1**
JAG	**Ashikaga**	**2.86**	**286**	S	**Sn**	**01 06 00.8**	**-1.3**
JHJ	**Hachijo jima 2**	**3.59**	**226**	Pn	**Pn**	**01 05 36.1**	**-2.6**
	16nm,0.3s,baz=247,slow=22,SNR=4.6						
JHJ				Sn	**Sn**	**01 06 16.7**	**-3.2**
	92nm,0.3s,baz=57,slow=22,SNR=9.6						
MJAR	**Matsushiro Arr**	**3.87**	**285**	Pn	**Pn**	**01 05 42.5**	**-0.1**
	5.0nm,0.3s,baz=174,slow=4.8,SNR=18						
MAT	**Matsushiro**	**3.87**	**285**	P	**Pn**	**01 05 41.0**	**-1.6**
MAT				S	**Sn**	**01 06 27.4**	**+0.6**
ASAJ	**Asahikawa**	**8.45**	**359**	Pn	Pn	01 06 40.8	-4.5
	0.6nm,0.3s,baz=160,slow=10,SNR=3.0						
SONM	**Songino Array**	**29.52**	**306**	P	**P**	**01 10 46.9**	**+2.4**
	0.5nm,0.8s,baz=108,slow=7.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**43.70**	**313**	P	**P**	**01 12 46.0**	**+1.5**
	1.0nm,0.6s,baz=90,slow=7.4,SNR=5.0						
MKAR	**Makanchi Array**	**45.84**	**303**	P	**P**	**01 13 03.5**	**+1.7**
	0.5nm,0.7s,baz=91,slow=7.8,SNR=5.9						
ILAR	**Eielson Array**	**50.04**	**32**	P	**P**	**01 13 33.4**	**-0.5**
	0.5nm,0.8s,baz=244,slow=5.9,SNR=3.5						
WRA	**Warramunga Arr**	**55.88**	**190**	P	**P**	**01 14 16.6**	**-0.8**
	1.0nm,0.7s,baz=8.1,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.61**	**190**	P	**P**	**01 14 43.2**	**-0.2**
	0.2nm,0.4s,baz=16,slow=9.5,SNR=5.8						
YKA	**Yellowknife Ar**	**64.41**	**30**	P	**P**	**01 15 14.9**	**-0.3**
	0.4nm,0.7s,baz=300,slow=6.6,SNR=7.2						
FINES	**FINESS Array B**	**70.57**	**333**	P	**P**	**01 15 55.1**	**+1.0**
	0.8nm,0.6s,baz=38,slow=7.0,SNR=2.9						
PDAR	**Pinedale Array**	**77.79**	**46**	P	**P**	**01 16 37.2**	**+0.3**
	0.3nm,0.6s,baz=256,slow=1.5,SNR=2.9						
TXAR	**Lajitas Array**	**90.02**	**53**	P	**P**	**01 17 39.1**	**-0.1**
	0.2nm,0.7s,baz=339,slow=3.1,SNR=3.5						

*NIED **25** 01:23:00,38.30N×141.90E,h41km,Mw4.1 Best double couple: Mo1.48000×10^15 NP1:φs186.00000°,δ71.00000°, λ99.00000°. NP2:φs186.00000°,δ21.00000°,λ66.00000°.*
*MOS **25** 01:23:13.5±0.9,38.30N×141.98E, h54km, mb4.3/25, Error ellipse: s-maj=10.6km s-min=6.5km az=91.2*
*ISCJB **25** 01:23:13.6±0.6,38.29N±0.03×141.92E±0.06, h53km±4km, mb4.1/38, MS4.0/1, Error ellipse: s-maj=9.0km s-min=4.5km az=24.1*
*JMA **25** 01:23:14.2±0.1,38.28N×141.91E, h46km±1km, M3.9*
JMA Felt I J1.
*IDC **25** 01:23:15.2±2.3,38.29N×141.87E, h50km±20km, mb3.8/24, mb1 3.9/27, mb1mx3.9/35, mbtmp3.8/27, ML3.6/3, MS3.1/5, Ms1 3.1/5, ms1mx2.9/44, Error ellipse: s-maj=15.4km s-min=12.6km az=123.0*
*NEIC **25** 01:23:15.7±0.7,38.28N×141.88E, h56km±6km, mb4.3/11, Error ellipse: s-maj=6.8km s-min=5.3km az=132.0*
ISC 25 01:23:15.3±0.8,38.30N±0.04×141.89E±0.06, h52km±6km, n111, σ0s82/126, mb4.1/38, 2C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.45**	**290**	⇓P	**Pn**	**01 23 24.9**	**-1.2**
JIO				S	**Sn**	**01 23 32.3**	**-1.5**
OFUJ	**Ofunato**	**0.80**	**347**	⇓P	**Pn**	**01 23 29.4**	**-0.9**
OFUJ				S	**Sn**	**01 23 40.1**	**-1.2**
JMK	**Ichinoseki**	**0.84**	**321**	⇓P	**Pn**	**01 23 30.3**	**-0.5**
JMK				S	**Sn**	**01 23 41.7**	**-0.5**
JOU	**Okura**	**0.97**	**274**	⇓P	**Pn**	**01 23 32.0**	**-0.6**
JOU				S	**Sn**	**01 23 45.0**	**-0.4**
JMM	**Marumori**	**0.97**	**244**	P	**Pn**	**01 23 31.0**	**-1.6**
JMM				S	**Sn**	**01 23 43.7**	**-1.7**
JFK	**Kawauchi**	**1.23**	**221**	P	**Pn**	**01 23 34.4**	**-1.8**
JFK				S	**Sn**	**01 23 49.8**	**-2.0**
JOM	**Ohasama**	**1.26**	**338**	⇓P	**Pn**	**01 23 36.2**	**-0.3**
JYK	**Kaneyama**	**1.35**	**298**	⇓P	**Pn**	**01 23 37.3**	**-0.4**
JYS	**Shirataka**	**1.44**	**267**	P	**Pn**	**01 23 38.5**	**-0.5**
JFT	**Otama**	**1.46**	**238**	P	**Pn**	**01 23 38.6**	**-0.6**
JRG	**Rokugo**	**1.47**	**318**	⇓P	**Pn**	**01 23 39.3**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**3.39**	**240**	*e*P	**Pn**	**01 24 08.2**	**+2.5**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.42**	**240**	P	**Pn**	**01 24 06.7**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=64,slow=10,SNR=24						
MJAR				LR	LR	01 25 38.2	
	comp=Z,252nm,19.3s,baz=40,slow=42						
MJAR	**Matsushiro Arr**	**3.42**	**240**	P	**Pn**	**01 24 06.7**	**+0.6**
MAJO	**Matsushiro**	**3.42**	**240**	*e*P	**Pn**	**01 24 06.8**	**+0.7**
MAJO	**Matsushiro**	**3.42**	**240**	*e*Pn	**Pn**	**01 24 06.8**	**+0.7**
MAT	**Matsushiro**	**3.42**	**240**	P	**Pn**	**01 24 05.5**	**+0.6**
MAT				*e*S	**Sn**	**01 24 45.5**	**+0.1**
ERM	**Erimo**	**3.83**	**14**	*e*P	**Pn**	**01 24 11.3**	**-0.4**
ASAJ	**Asahikawa**	**5.83**	**5**	P	**Pn**	**01 24 38.7**	**-0.4**
	comp=Z,4.1nm,0.3s,baz=218,slow=12,SNR=14						
ASAJ				S	**Sn**	**01 25 43.6**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=71,slow=17,SNR=4.0						
ASAJ				LR	LR	01 26 57.3	
	comp=Z,138nm,20.5s,baz=66,slow=38						
ASAJ	**Asahikawa**	**5.83**	**5**	P	**Pn**	**01 24 38.7**	**-0.4**
ASAJ				S	**Sn**	**01 25 43.6**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.46**	**26**	*i* P	**Pn**	**01 24 45.5**	**-2.2**
YUK				*i* S	Sn	01 25 53.1	-6.9
YUK				pmax	pmax		
	comp=N,35nm,0.1s						
YUK				pmax	pmax		
	comp=E,47nm,0.1s						
YUK				pmax	pmax		
	comp=Z,90nm,0.3s						
YUK				smax	smax		
	comp=E,130nm,0.6s						
YUK				smax	smax		
	comp=N,180nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.67**	**4**	*e*P	**Pn**	**01 25 20.5**	**+2.5**
USRK	**Ussuriysk Arra**	**9.49**	**311**	P	**Pn**	**01 25 30.6**	**+1.3**
	comp=N,1.2nm,0.3s,baz=122,slow=14,SNR=11						
USRK				LR	LR	01 29 00.3	
	comp=N,156nm,20.6s,baz=238,slow=36						
JNU	**Nakatsue**	**10.34**	**243**	LR	LR	01 30 00.7	
	comp=N,133nm,20.2s,baz=141,slow=39						
KSRS	**Korea Array**	**11.08**	**270**	LR	LR	01 29 56.6	
	comp=N,52nm,19.7s,baz=45,slow=36						
HABR	**Khabarovsk**	**11.31**	**336**	P	**Pn**	**01 25 54.5**	**+0.4**
HABR				*e*S	**Sn**	**01 28 00.5**	**+1.6**
HABR				pmax	pmax		
	comp=Z,48nm,2.3s						
HABR				pmax	pmax		
	comp=N,26nm,1.8s						
HABR				pmax	pmax		
	comp=E,76nm,2.3s						
HABR				MLR	MLR		
	comp=Z,141nm,20.0s						
SEY	**Seymchan**	**25.48**	**11**	*ce*P	**P**	**01 28 38.1**	**-0.1**
SONM	**Songino Array**	**27.42**	**302**	P	**P**	**01 28 56.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=119,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**27.42**	**302**	P	**P**	**01 28 56.6**	**+0.5**
ENH	**Enshi**	**27.84**	**263**	*e*P	**P**	**01 28 59.3**	**-0.6**
	comp=Z,9.4nm,0.6s						
ZAK	**Zakamensk**	**29.80**	**306**	*e*P	**P**	**01 29 17.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**32.70**	**17**	*e*P	**P**	**01 29 42.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	**Tiksi**	**34.08**	**353**	*ce*P	**P**	**01 29 54.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI				MLR	MLR		
	comp=Z,280nm,21.0s						
ZAA0	**Zalesovo Array**	**41.35**	**311**	*e*P	**P**	**01 30 56.0**	**+0.1**
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**01 30 55.6**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=82,slow=7.6,SNR=11						
ZALV				PcP	**PcP**	**01 32 52.7**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=68,slow=4.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**01 30 55.6**	**-0.3**
ZALV						01 32 52.7	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**01 30 55.6**	**-0.3**
ZALV				PcP	**PcP**	**01 32 52.7**	**-0.6**
MK31	**Makanchi Array**	**43.78**	**301**	*e*P	**P**	**01 31 15.7**	**0.0**
MK31	**Makanchi Array**	**43.78**	**301**	*e*P	**P**	**01 31 15.7**	**0.0**
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**01 31 15.8**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=87,slow=10,SNR=20						
MKAR	**Makanchi Array**	**43.78**	**301**	*e*P	**P**	**01 31 15.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**01 31 15.8**	**+0.1**
KURK	**Kurchatov**	**45.46**	**307**	*e*P	**P**	**01 31 28.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**45.46**	**307**	*e*P	**P**	**01 31 28.7**	**-0.3**
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**45.53**	**307**	P	**P**	**01 31 29.4**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=82,slow=8.3,SNR=20						
KDAK	**Kodiak Island**	**45.91**	**43**	P	**P**	**01 31 32.9**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=347,slow=22,SNR=2.5						
KDAK	**Kodiak Island**	**45.91**	**43**	P	**P**	**01 31 32.9**	**+0.6**
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**01 31 51.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=270,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**01 31 51.0**	**+0.7**
TKM2	**Tokmak 2**	**49.37**	**298**	*e*P	**P**	**01 32 00.1**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TKM2	**Tokmak 2**	**49.37**	**298**	*e*P	**P**	**01 32 00.1**	**+0.3**
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**50.01**	**312**	P	**P**	**01 32 04.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=73,slow=8.1,SNR=6.3						
BVAR				PcP	**PcP**	**01 33 23.8**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=71,slow=3.0,SNR=6.1						
BVAR	**Borovoye Array**	**50.01**	**312**	P	**P**	**01 32 04.2**	**0.0**
BVAR						01 33 23.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.01**	**312**	P	**P**	**01 32 04.2**	**0.0**
BVAR				PcP	**PcP**	**01 33 23.8**	**+0.4**
BRVK	**Borovoye**	**50.06**	**312**	*e*P	**P**	**01 32 05.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**50.06**	**312**	*e*P	**P**	**01 32 05.2**	**+0.6**
	comp=Z,2.3nm,0.8s						
AAK	**Ala-Archa**	**50.23**	**298**	P	**P**	**01 32 06.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=159,slow=2.3,SNR=3.4						
AAK	**Ala-Archa**	**50.23**	**298**	P	**P**	**01 32 06.3

comp=Z,13nm,1.1s
KBZ Khabaz 70.37 311 P **P** 01 34 24.4 +0.9
comp=Z,2.1nm,0.8s,baz=242,slow=21,SNR=3.3
KBZ Khabaz 70.37 311 P **P** 01 34 24.4 +0.9
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.37 311 P **P** 01 34 24.4 +0.9
NB2 NORSAR Subarra 73.17 337 P **P** 01 34 40.0 -0.1
comp=Z,4.1nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 73.17 337 P **P** 01 34 40.3 +0.2
comp=Z,3.0nm,0.7s,baz=39,slow=5.9,SNR=12
NOA NORSAR Array B 73.17 337 P **P** 01 34 40.3 +0.2
AKASG Malin Array Be 73.53 322 P **P** 01 34 41.3 -1.0
comp=Z,1.4nm,0.5s,baz=45,slow=5.5,SNR=9.4
AKASG Malin Array Be 73.53 322 *eP* **P** 01 34 42.2 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.53 322 P **P** 01 34 41.3 -1.0
BW06 Boulder Array 76.51 46 *eP* **P** 01 35 00.7 +0.6
comp=Z,0.9nm,0.5s
BW06 *epP* **pP** 01 35 14.8 0.0
PDAR Pinedale Array 76.51 46 P **P** 01 35 00.6 +0.6
comp=Z,0.8nm,0.6s,baz=249,slow=1.9,SNR=8.9
PDAR Pinedale Array 76.51 46 P **P** 01 35 00.6 +0.6
BUR08 Bucovina Ar. S 77.54 322 *eP* **P** 01 35 06.0 +0.4
BRTR Keskin Array B 78.30 312 P **P** 01 35 09.8 -0.1
comp=Z,0.4nm,0.4s,baz=129,slow=4.1,SNR=4.5
BRTR Keskin Array B 78.30 312 P **P** 01 35 09.8 -0.1
CLL Collm 80.19 330 *eP* **P** 01 35 20.0 +0.2
CLL Collm 80.19 330 *eP* **P** 01 35 20.0 +0.2
GERES GERESS Array B 81.83 328 P **P** 01 35 28.5 -0.3
comp=Z,0.4nm,0.6s,baz=56,slow=5.0,SNR=4.0
GERES GERESS Array B 81.83 328 P **P** 01 35 28.5 -0.3
DAVOX Davos/Dischmat 85.04 329 P **P** 01 35 45.9 +0.5
comp=Z,2.4nm,0.9s,baz=252,slow=2.8,SNR=3.4
DAVOX Davos/Dischmat 85.04 329 P **P** 01 35 45.9 +0.5
TXAR Lajitas Array 89.05 53 P **P** 01 36 05.5 +0.4
comp=Z,0.4nm,0.7s,baz=282,slow=2.3,SNR=6.5
TXAR Lajitas Array 89.05 53 P **P** 01 36 05.5 +0.4
VNA2 Neumayer--Watz 143.64 196 *e*PKPdf PKPbc 01 42 40.4 -0.3
baz=46,slow=4.0
LPAZ La Paz 145.72 59 PKPbc **PKPbc** 01 42 49.3 -0.2
comp=Z,1.2nm,0.7s,baz=45,slow=3.6,SNR=7.1
LPAZ La Paz 145.72 59 PKPbc **PKPbc** 01 42 49.3 -0.2

IDC 25 01:37:48.8±1.2, 4°23N×126°.83E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=91.4km s-min=17.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.22**	**183**	P			P	01 42 47.2	+0.1
	2.2nm,0.8s,baz=240,slow=21,SNR=2.5								
WRA	**Warramunga Arr**	**25.13**	**163**	P			P	01 43 14.7	-1.1
	0.8nm,0.4s,baz=343,slow=10,SNR=23								
ASAR	**Alice Springs**	**28.57**	**166**	P			P	01 43 47.7	+1.0
	0.3nm,0.5s,baz=341,slow=6.7,SNR=5.1								
STKA	**Stephens Creek**	**38.56**	**160**	P			P	01 45 13.5	0.0
	1.4nm,0.4s,baz=323,slow=7.5,SNR=9.0								
SONM	**Songino Array**	**46.86**	**341**	P			P	01 46 20.8	-0.1
	0.5nm,0.6s,baz=157,slow=8.6,SNR=5.1								
MKAR	**Makanchi Array**	**57.20**	**325**	P			P	01 47 36.8	-1.1
	0.5nm,0.5s,baz=118,slow=7.5,SNR=13								
AKTO	**Aktyubinsk**	**73.33**	**322**	P			P	01 49 24.1	+1.6
	0.7nm,0.6s,baz=78,slow=8.4,SNR=2.6								

---

*ISCJB **25** 01:42:08.6±0.2, 10°.98N±0°.02×62°.33W±0°.02, h102km±1km, mb4.4/70, Error ellipse: s-maj=3.4km s-min=2.4km az=38.6*
*BJI **25** 01:42:09.8, 11°.24N×62°.70W, h108km, mB5.1/4*
*IDC **25** 01:42:10.9±0.5, 11°.01N×62°.41W, h102km±4km, mb4.0/31, mb1 4.1/33, mb1mx4.1/36, mbtmp4.0/33, MS3.2/2, Ms1 3.2/2, ms1mx2.9/34, Error ellipse: s-maj=9.8km s-min=8.5km az=87.0*
*TRN **25** 01:42:10.6, 10°.95N×62°.12W, h111km, MD4.0*
*FUNV **25** 01:42:11.6, 10°.82N×62°.24W, h83km, MW4.4*
*NEIC **25** 01:42:12.0, 10°.79N×62°.26W, h82km, mb4.6/43, MD4.0(TRN), MW4.3(CAR), After CAR.*
NEIC Felt at Puerto La Cruz. Felt [II] at Mucurapo and Port-of-Spain, Trinidad. Also felt at Arima, Chaguanas, Diego Martin and Saint Joseph. Felt at Saint David and Saint George's, Grenada.

ISC 25 01:42:10.1±0.4, 10°.94N±0°.03×62°.32W±0°.03, h100km±3km, h99km:pP-P, n474, σ1§25/557, mb4.4/70, 145C-119D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**161**	⇓*iP*			**Pn**	**01 42 23.1**	**-1.6**
GUIV				*eS*			**Sn**	**01 42 32.1**	**-3.5**
GUIV	**Guiria**	**0.31**	**161**	⇓*iP*			**Pn**	**01 42 23.1**	**-1.6**
GUIV				*eS*			**Sn**	**01 42 32.1**	**-3.5**
CRUV	**Carupano**	**0.94**	**254**	⇓*iP*			**Pn**	**01 42 30.0**	**+0.2**
CRUV				*eS*			**Sn**	**01 42 44.0**	**-0.6**
CRUV	**Carupano**	**0.94**	**254**	⇓*iP*			**Pn**	**01 42 30.0**	**+0.2**
CRUV				*eS*			**Sn**	**01 42 44.0**	**-0.6**
TRN	**Trinidad (W)**	**0.95**	**108**	⇓*iP*			**Pn**	**01 42 29.0**	**-0.9**
TRN				*eS*			**Sn**	**01 42 43.6**	**-1.3**
TRN	**Trinidad (W)**	**0.95**	**108**	⇓*iP*			**Pn**	**01 42 29.0**	**-0.9**
TRN				*eS*			**Sn**	**01 42 43.6**	**-1.3**
TRN	**Trinidad (W)**	**0.95**	**108**	⇓*iP*			**Pn**	**01 42 29.0**	**-0.9**
ALNG	**Atlantic LNG**	**0.98**	**140**	*eP*			**Pn**	**01 42 30.8**	**+0.4**
ALNG				*eS*			**Sn**	**01 42 46.0**	**+0.6**
ALNG	**Atlantic LNG**	**0.98**	**140**	*eP*			**Pn**	**01 42 30.8**	**+0.4**
ALNG				*eS*			**Sn**	**01 42 46.0**	**+0.6**
GUNV	**Guanoco**	**0.99**	**218**	⇑*iP*			**Pn**	**01 42 30.8**	**+0.4**
GUNV				*eS*			**Sn**	**01 42 42.5**	**-3.1**
GUNV	**Guanoco**	**0.99**	**218**	⇑*iP*			**Pn**	**01 42 30.8**	**+0.4**
GUNV				*eS*			**Sn**	**01 42 42.5**	**-3.1**
BUAY	**Buenos Aires**	**1.04**	**143**	*eP*			**Pn**	**01 42 31.6**	**+0.6**
BUAY	**Buenos Aires**	**1.04**	**143**	*eP*			**Pn**	**01 42 31.6**	**+0.6**
TPP	**Pointe-a-Pierr**	**1.06**	**126**	⇑*iP*			**Pn**	**01 42 30.7**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.06**	**126**	⇑*iP*			**Pn**	**01 42 30.7**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.06**	**126**	⇑*iP*			**Pn**	**01 42 30.7**	**-0.5**
SIPA	**Siparia**	**1.13**	**135**	*eP*			**Pn**	**01 42 31.7**	**-0.3**
SIPA	**Siparia**	**1.13**	**135**	*eP*			**Pn**	**01 42 31.7**	**-0.3**
TBH	**Brigand Hill**	**1.32**	**110**	⇑*iP*			**Pn**	**01 42 33.3**	**-0.8**
TBH				*eS*			**Sn**	**01 42 49.2**	**-3.1**
TBH	**Brigand Hill**	**1.32**	**110**	⇑*iP*			**Pn**	**01 42 33.3**	**-0.8**
TBH				*eS*			**Sn**	**01 42 49.2**	**-3.1**
TBH	**Brigand Hill**	**1.32**	**110**	⇑*iP*			**Pn**	**01 42 33.3**	**-0.8**
GRGR	**Grenville**	**1.35**	**29**	*e*Pn			**Pn**	**01 42 33.4**	**-1.2**
GRGR				*e*Sn			**Sn**	**01 42 51.1**	**-1.9**
GRW	**Mount Saint Ca**	**1.37**	**28**	⇑*iP*			**Pn**	**01 42 34.9**	**0.0**
GRW	**Mount Saint Ca**	**1.37**	**28**	⇑*iP*			**Pn**	**01 42 34.9**	**0.0**
GRW	**Mount Saint Ca**	**1.37**	**28**	⇑*iP*			**Pn**	**01 42 34.9**	**0.0**
GRHS	**Sauteurs**	**1.44**	**28**	*eP*			**Pn**	**01 42 35.5**	**-0.1**
GRHS				*eS*			**Sn**	**01 42 54.0**	**-0.9**
GRHS	**Sauteurs**	**1.44**	**28**	*eP*			**Pn**	**01 42 35.5**	**-0.1**
GRHS				*eS*			**Sn**	**01 42 54.0**	**-0.9**
GRSS	**Sisters**	**1.52**	**27**	*eP*			**Pn**	**01 42 36.8**	**+0.3**
GRSS	**Sisters**	**1.52**	**27**	*eP*			**Pn**	**01 42 36.8**	**+0.3**
GRIC	**Isle de Caille**	**1.52**	**28**	*eP*			**Pn**	**01 42 36.4**	**-0.2**
GRIC				*eS*			**Sn**	**01 42 56.5**	**-0.2**
TPR	**Prospect**	**1.54**	**81**	⇑*eP*			**Pn**	**01 42 36.0**	**-0.8**
TPR				*eS*			**Sn**	**01 42 54.2**	**-2.9**
TPR	**Prospect**	**1.54**	**81**	⇑*eP*			**Pn**	**01 42 36.0**	**-0.8**
TPR				*eS*			**Sn**	**01 42 54.2**	**-2.9**
TPR	**Prospect**	**1.54**	**81**	⇑*eP*			**Pn**	**01 42 36.0**	**-0.8**
BOT	**Bacolet**	**1.59**	**82**	*eP*			**Pn**	**01 42 36.6**	**-0.9**
BOT				*eS*			**Sn**	**01 42 55.7**	**-2.6**
BOT	**Bacolet**	**1.59**	**82**	⇑*eP*			**Pn**	**01 42 36.6**	**-0.9**
BOT				*eS*			**Sn**	**01 42 55.7**	**-2.6**
BOT	**Bacolet**	**1.59**	**82**	⇑*eP*			**Pn**	**01 42 36.6**	**-0.9**
TOSP	**Speyside**	**1.79**	**78**	*eP*			**Pn**	**01 42 37.8**	**-2.1**
TOSP				*eS*			**Sn**	**01 42 59.0**	**-3.7**
ORIV	**Oritupano**	**2.15**	**210**	⇑*iP*			**Pn**	**01 42 44.7**	**+0.1**
ORIV	**Oritupano**	**2.15**	**210**	⇑*iP*			**Pn**	**01 42 44.7**	**+0.1**
ORIV				*eS*			**Sn**	**01 43 08.4**	**-2.6**
PCRV	**Puerto La Cruz**	**2.40**	**252**	⇑*iP*			**Pn**	**01 42 49.1**	**+1.2**
FCV	**Fort Charlotte**	**2.44**	**26**	*eP*			**Pn**	**01 42 49.2**	**+0.8**
FCV				*eS*			**Sn**	**01 43 16.4**	**-1.4**
FCV	**Fort Charlotte**	**2.44**	**26**	*eP*			**Pn**	**01 42 49.2**	**+0.8**
FCV				*eS*			**Sn**	**01 43 16.4**	**-1.4**
SVB	**Belmont**	**2.54**	**24**	*eP*			**Pn**	**01 42 49.2**	**-0.6**
SVB				*eS*			**Sn**	**01 43 17.9**	**-2.3**
SVB	**Belmont**	**2.54**	**24**	*eP*			**Pn**	**01 42 49.2**	**-0.6**
SVB				*eS*			**Sn**	**01 43 17.9**	**-2.3**
SVV	**Soufriere Volc**	**2.60**	**25**	*eS*			**Sn**	**01 43 19.6**	**-2.0**
BHS	**Barnard House**	**2.62**	**26**	*eP*			**Pn**	**01 42 51.8**	**+1.0**
BHS				*eS*			**Sn**	**01 43 19.0**	**-3.0**
BHS	**Barnard House**	**2.62**	**26**	*eP*			**Pn**	**01 42 51.8**	**+1.0**
BHS				*eS*			**Sn**	**01 43 19.0**	**-3.0**
RIOV	**Rio Grande**	**2.90**	**170**	*eP*			**Pn**	**01 42 53.4**	**-1.1**
RIOV	**Rio Grande**	**2.90**	**170**	⇑*eP*			**Pn**	**01 42 53.3**	**-1.3**
MCLT	**Moule a Chique**	**3.06**	**26**	*eP*			**Pn**	**01 42 56.8**	**+0.1**
MCLT	**Moule a Chique**	**3.06**	**26**	*eP*			**Pn**	**01 42 56.8**	**+0.1**
MCLT				*eS*			**Sn**	**01 43 30.4**	**-2.3**
SLB	**Belfond**	**3.13**	**23**	*eP*			**Pn**	**01 42 58.4**	**+0.7**
SLB	**Belfond**	**3.13**	**23**	*eP*			**Pn**	**01 42 58.4**	**+0.7**
SLB				*eS*			**Sn**	**01 43 32.3**	**-2.0**
PRGV	**PARIAGUAN**	**3.15**	**227**	⇑*eP*			**Pn**	**01 42 57.7**	**-0.2**
GURV	**El Guri**	**3.25**	**193**	⇑*iP*			**Pn**	**01 42 58.1**	**-1.2**
GURV				*eS*			**Sn**	**01 43 32.1**	**-5.0**
GURV	**El Guri**	**3.25**	**193**	⇑*iP*			**Pn**	**01 42 58.1**	**-1.2**
GURV				*eS*			**Sn**	**01 43 32.1**	**-5.0**
BBGH	**Gun Hill**	**3.48**	**51**	*e*Pn			**Pn**	**01 43 02.5**	**+0.2**
CUPV	**Cœpira**	**3.52**	**256**	⇑*iP*			**Pn**	**01 43 04.1**	**+1.2**
CUPV				*eS*			**Sn**	**01 43 41.8**	**-1.9**
CUPV	**Cœpira**	**3.52**	**256**	⇑*iP*			**Pn**	**01 43 04.1**	**+1.2**
CUPV				*eS*			**Sn**	**01 43 41.8**	**-1.9**
BBSP	**Saint Philip**	**3.53**	**52**	*eS*			**Sn**	**01 43 39.1**	**-4.8**
ORCV	**Isla La Orchil**	**3.89**	**283**	⇑*eP*			**Pn**	**01 43 08.9**	**+1.0**
BIRV	**Birongo**	**3.91**	**264**	*eP*			**Pn**	**01 43 10.2**	**+2.1**
BIRV				*eS*			**Sn**	**01 43 52.0**	**-1.0**
BIRV	**Birongo**	**3.91**	**264**	*eP*			**Pn**	**01 43 10.2**	**+2.1**
BIRV				*eS*			**Sn**	**01 43 52.0**	**-1.0**
FDF	**Fort de France**	**3.94**	**17**	*e*Pn			**Pn**	**01 43 08.0**	**-0.6**
FDF	**Fort de France**	**3.94**	**17**	⇑*iP*			**Pn**	**01 43 08.2**	**-0.3**
MERV	**Las Mercedes**	**4.26**	**247**	*eP*			**Pn**	**01 43 12.7**	**-0.2**
MERV				*eS*			**Sn**	**01 43 58.9**	**-2.6**
MERV	**Las Mercedes**	**4.26**	**247**	⇑*eP*			**Pn**	**01 43 12.6**	**-0.2**
MERV				*eS*			**Sn**	**01 43 58.9**	**-2.6**
DSHT	**Scott's Head**	**4.34**	**12**	*eP*			**Pn**	**01 43 14.0**	**0.0**
DSHT	**Scott's Head**	**4.34**	**12**	*eP*			**Pn**	**01 43 14.0**	**0.0**
DSHT				*eS*			**Sn**	**01 43 59.9**	**-3.6**
DFBT	**Forest Bistro**	**4.37**	**12**	*eP*			**Pn**	**01 43 14.2**	**-0.2**
DFBT	**Forest Bistro**	**4.37**	**12**	*eP*			**Pn**	**01 43 14.2**	**-0.2**
DFBT				*eS*			**Sn**	**01 44 00.9**	**-3.4**
DPMT	**Pointe Michel**	**4.39**	**12**	*eS*			**Sn**	**01 44 02.6**	**-2.1**
DSTT	**Stowe**	**4.39**	**13**	*eP*			**Pn**	**01 43 14.6**	**0.0**
DSTT	**Stowe**	**4.39**	**13**	*eP*			**Pn**	**01 43 14.6**	**0.0**
DSTT				*eS*			**Sn**	**01 44 01.1**	**-3.6**
DBCT	**Belle View Cho**	**4.41**	**12**	*eP*			**Pn**	**01 43 15.1**	**+0.2**
DBCT	**Belle View Cho**	**4.41**	**12**	*eP*			**Pn**	**01 43 15.1**	**+0.2**
FUNV	**FUNVISIS**	**4.43**	**264**	*eP*			**Pn**	**01 43 16.7**	**+1.5**
MDN	**Morne-Daniel**	**4.44**	**12**	*eP*			**Pn**	**01 43 15.3**	**0.0**
MDN	**Morne-Daniel**	**4.44**	**12**	*eP*			**Pn**	**01 43 15.3**	**0.0**
MDN				*eS*			**Sn**	**01 44 03.7**	**-2.6**
TBG	**Guadaloupe-3**	**4.92**	**8**	*eP*			**Pn**	**01 43 21.7**	**-0.2**
MGG	**Marie-Galante**	**5.04**	**11**	*eP*			**Pn**	**01 43 24.2**	**+0.8**
HMG	**Houelmont**	**5.05**	**7**	⇑*iP*			**Pn**	**01 43 23.8**	**+0.3**
PHG	**Guadaloupe-2**	**5.08**	**7**	*eP*			**Pn**	**01 43 24.6**	**+0.5**
SCG	**Saint Claude**	**5.09**	**7**	*eP*			**Pn**	**01 43 23.6**	**-0.6**
DOG	**Dongo Capester**	**5.11**	**8**	*eP*			**Pn**	**01 43 24.7**	**+0.4**
LUEV	**Luepa**	**5.14**	**170**	⇑*eP*			Pn	01 43 21.6	-3.4
BCG	**Bois Riant Cap**	**5.16**	**8**	*eP*			**Pn**	**01 43 25.6**	**+0.6**
LZG	**Guadaloupe-1**	**5.19**	**6**	*eP*			**Pn**	**01 43 25.7**	**+0.2**
TURV	**Turiamo**	**5.44**	**265**	*eP*			**Pn**	**01 43 29.2**	**+0.3**
TURV	**Turiamo**	**5.44**	**265**	*eP*			**Pn**	**01 43 29.1**	**+0.3**
SEG	**Port Louis**	**5.49**	**8**	*eP*			**Pn**	**01 43 30.3**	**+0.9**
BAUV	**El Baul**	**5.97**	**251**	⇑*eP*			**Pn**	**01 43 35.1**	**-0.9**
BAUV				*eS*			**Sn**	**01 44 38.7**	**-4.5**
MAPV	**Macapo**	**6.13**	**260**	⇑*eP*			**Pn**	**01 43 38.3**	**0.0**
JACV	**Jacura**	**6.39**	**272**	*eP*			**Pn**	**01 43 43.6**	**+1.8**
JACV	**Jacura**	**6.39**	**272**	*eP*			**Pn**	**01 43 43.6**	**+1.8**
ANWB	**Willy Bob**	**6.71**	**4**	*e*Pn			**Pn**	**01 43 47.7**	**+1.7**
	162nm,0.9s								
TEPV	**Terepaima**	**6.83**	**262**	*eP*			**Pn**	**01 43 47.4**	**-0.3**
TEPV	**Terepaima**	**6.83**	**262**	*eP*			**Pn**	**01 43 47.5**	**-0.3**
SANV	**Sanarito**	**7.24**	**259**	*eP*			**Pn**	**01 43 52.8**	**-0.7**
SANV	**Sanarito**	**7.24**	**259**	*eP*			**Pn**	**01 43 52.8**	**-0.7**
SIQV	**Siquisique**	**7.36**	**268**	*eP*			**Pn**	**01 43 55.3**	**+0.3**
SIQV	**Siquisique**	**7.36**	**268**	*eP*			**Pn**	**01 43 55.3**	**+0.3**
MONV	**Montecano**	**7.56**	**278**	*eP*			**Pn**	**01 43 58.2**	**+0.4**
MONV	**Montecano**	**7.56**	**278**	*eP*			**Pn**	**01 43 58.2**	**+0.4**
CURV	**Curarigua**	**7.57**	**264**	*eP*			**Pn**	**01 43 58.1**	**+0.3**
CURV	**Curarigua**	**7.57**	**264**	*eP*			**Pn**	**01 43 58.1**	**+0.3**
PAYV	**Puerto Ayacuch**	**7.61**	**224**	*eP*			**Pn**	**01 43 56.9**	**-1.5**
STVI	**Saint Thomas**	**7.79**	**341**	*e*Pn			**Pn**	**01 44 02.0**	**+1.2**
SJG	**San Juan**	**8.03**	**333**	P			**Pn**	**01 44 04.4**	**+0.3**
	1.6nm,0.3s,baz=271,slow=20,SNR=4.7								
SJG				S			**Sn**	**01 45 28.1**	**-5.1**
	19nm,0.3s,baz=270,slow=14,SNR=12								
SJG				LR			LR	01 47 20.3	
	comp=Z,95nm,20.3s,baz=90,slow=39								
SJG	**San Juan**	**8.03**	**333**	P			**Pn**	**01 44 04.4**	**+0.3**
SJG				S			**Sn**	**01 45 28.1**	**-5.1**
ELOV	**Elorza**	**8.08**	**242**	*eP*			**Pn**	**01 44 03.7**	**-1.1**
ELOV	**Elorza**	**8.08**	**242**	⇑*eP*			**Pn**	**01 44 03.7**	**-1.1**
DABV	**Dabajuro**	**8.16**	**271**	*eP*			**Pn**	**01 44 05.9**	**0.0**
CELP	**Cerrillos**	**8.20**	**330**	*e*Pn			**Pn**	**01 44 06.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**8.41**	**327**	*e*Pn			**Pn**	**01 44 11.1**	**+1.8**
LSP	**Las Mesas**	**8.54**	**328**	*e*Pn			**Pn**	**01 44 12.2**	**+0.2**
SOCV	**Socops**	**8.82**	**253**	*eP*			**Pn**	**01 44 13.4**	**-1.4**
SOCV	**Socops**	**8.82**	**253**	⇑*eP*			**Pn**	**01 44 13.2**	**-1.7**
VIGV	**El Vigia**	**9.15**	**258**	*eP*			**Pn**	**01 44 19.2**	**-0.2**
VIRV	**Villa del Rosa**	**9.92**	**268**	*eP*			**Pn**	**01 44 28.9**	**-0.9**
VIRV	**Villa del Rosa**	**9.92**	**268**	*eP*			**Pn**	**01 44 28.9**	**-0.9**
CAPV	**Capacho**	**10.32**	**254**	⇑*eP*			**Pn**	**01 44 33.2**	**-2.2**
CAPV	**Capacho**	**10.32**	**254**	*eP*			**Pn**	**01 44 33.1**	**-2.4**
SDDR	**Presa de Saban**	**11.78**	**314**	*e*Pn			Pn	01 44 58.6	+3.6
	36nm,0.7s								
ROSC	**El Rosal**	**13.34**	**244**	P			**Pn**	**01 45 17.0**	**+1.1**
	2.4nm,0.3s,baz=75,slow=16,SNR=4.4								
ROSC				S			**Sn**	**01 47 41.2**	**-1.7**
	0.7nm,0.3s,baz=71,slow=23,SNR=2.6								
ROSC	**El Rosal**	**13.34**	**244**	*e*Pn			**Pn**	**01 45 17.9**	**+2.0**
ROSC				S			**Sn**	**01 47 41.2**	**-1.7**
OTAV	**Otavalo**	**19.23**	**237**	*eP*			**Pn**	**01 46 28.5**	**-0.7**
	3.6nm,0.6s								
SAML	**Samuel**	**19.78**	**183**	*eP*			**P**	**01 46 32.9**	**+0.3**
	0.2nm,0.7s								
SAML				*eS*			**S**	**01 50 06.6**	**-3.6**
JTS	**JuntasAbangare**	**22.25**	**270**	P			**P**	**01 46 59.8**	**+0.7**
	1.8nm,0.5s,baz=107,slow=23,SNR=2.3								
JTS	**JuntasAbangare**	**22.25**	**270**	P			**P**	**01 46 59.8**	**+0.7**
ATAH	**Atahualpa**	**24.05**	**222**	P			**P**	**01 47 19.5**	**+2.8**
	7.5s,baz=360,slow=4.6,SNR=8.4								
ATAH	**Atahualpa**	**24.05**	**222**	P			**P**	**01 47 19.5**	**+2.8**
TEIG	**Tepich**	**26.61**	**293**	P			**P**	**01 47 40.9**	**+1.5**
	3.7nm,0.4s,baz=175,slow=7.8,SNR=7.0								
TEIG	**Tepich**	**26.61**	**293**	*eP*			**P**	**01 47 40.3**	**+0.8**
SIV	**San Ignacio**	**26.79**	**177**	P			**P**	**01 47 42.2**	**+1.2**
	12nm,0.7s,baz=17,slow=9.1,SNR=53								
SIV				pP			**pP**	**01 48 05.6**	**+2.5**
	6.6nm,0.8s,baz=23,slow=9.8,SNR=6.6								
SIV	**San Ignacio**	**26.79**	**177**	P			**P**	**01 47 42.2**	**+1.2**
SIV				pP			**pP**	**01 48 05.6**	**+2.5**
NNA	**Nana**	**26.96**	**213**	P			**P**	**01 47 43.8**	**+1.2**
	3.0nm,0.3s,baz=356,slow=9.1,SNR=3.3								
NNA	**Nana**	**26.96**	**213**	*eP*			**P**	**01 47 43.9**	**+1.2**
	12nm,0.8s								
LPAZ	**La Paz**	**27.66**	**192**	P			**P**	**01 47 51.1**	**+1.6**
	3.1nm,0.8s,baz=359,slow=9.3,SNR=12								
LPAZ	**La Paz**	**27.66**	**192**	*eP*			**P**	**01 47 50.9**	**+1.5**
	4.8nm,1.0s								
BDFB	**Brasilia**	**29.97**	**152**	P			**P**	**01 48 10.9**	**+1.4**
	4.8nm,0.6s,baz=317,slow=11,SNR=9.3								
BDFB	**Brasilia**	**29.97**	**152**	P			**P**	**01 48 10.8**	**+1.4**
TKL	**Tuckaleechee C**	**31.37**	**325**	P			**P**	**01 48 22.2**	**+0.7**
	1.8nm,0.6s,baz=212,slow=9.9,SNR=4.5								
TKL	**Tuckaleechee C**	**31.37**	**325**	P			**P**	**01 48 22.2**	**+0.7**
WVT	**Waverly**	**34.08**	**322**	*eP*			**P**	**01 48 45.2**	**+0.1**
	4.2nm,0.6s								
WVT				*epP*			**pP**	**01 49 06.8**	**-0.9**
OLIL	**Olney**	**35.98**	**325**	*eP*			**P**	**01 49 01.7**	**+0.2**
	12nm,0.6s								
OLIL				*e*				01 49 24.2	
NATX	**Nacogdoches**	**36.33**	**310**	*eP*			**P**	**01 49 05.5**	**+1.0**
	24nm,0.5s								
HKT	**Hockley**	**36.45**	**306**	*eP*			**P**	**01 49 05.7**	**+0.2**
	6.8nm,0.8s								
WHTX	**Lake Whitney**	**38.57**	**308**	⇓P			**P**	**01 49 23.1**	**-0.3**
	baz=39,SNR=10								
TUL1	**Tulsa**	**39.18**	**315**	⇑P			**P**	**01 49 28.0**	**-0.4**
	baz=39								
732A	**Laxson Ranch,**	**39.37**	**302**	⇑P			**P**	**01 49 30.0**	**-0.1**
	baz=40								
632A	**Uvalde**	**39.47**	**303**	⇓P			**P**	**01 49 30.8**	**-0.2**
	baz=40								
532A	**Rocksprings**	**39.78**	**304**	⇑P			**P**	**01 49 33.7**	**+0.1**
	baz=40,SNR=8.0								
JCT	**Junction City**	**39.83**	**305**	⇑P			**P**	**01 49 33.6**	**-0.3**
	baz=40								
432A	**Menard**	**39.96**	**305**	⇑P			**P**	**01 49 34.7**	**-0.3**
	baz=40,SNR=9.1								
631A	**Perdido Creek**	**40.09**	**303**	⇑P			**P**	**01 49 35.8**	**-0.3**
	baz=40								
332A	**Millersview**	**40.11**	**306**	⇑P			**P**	**01 49 35.8**	**-0.4**
	baz=40,SNR=12								
531A	**Rocksprings**	**40.32**	**304**	⇓P			**P**	**01 49 37.7**	**-0.3**
	baz=40,SNR=5.4								
ABTX	**Abilene, Hawle**	**40.51**	**308**	⇑P			**P**	**01 49 39.0**	**-0.5**
	baz=41,SNR=8.4								
431A	**Sonora**	**40.55**	**305**	⇓P			**P**	**01 49 39.6**	**-0.3**
	baz=41,SNR=9.1								
331A	**San Angelo**	**40.63**	**306**	⇓P			**P**	**01 49 40.2**	**-0.3**
	baz=41								
Z32A	**Haskell**	**40.66**	**309**	⇑P			**P**	**01 49 40.2**	**-0.6**
	baz=41,SNR=5.2								
WMOK	**Wichita Mounta**	**40.76**	**311**	*eP*			**P**	**01 49 40.1**	**-1.4**
	4.6nm,0.7s								
231A	**Bronte**	**40.77**	**307**	⇑P			**P**	**01 49 41.0**	**-0.7**
	baz=41,SNR=6.6								
Y32A	**R-V Farms, Ver**	**40.93**	**310**	⇓P			**P**	**01 49 42.2**	**-0.7**
	baz=41								
530A	**J-C Ranch, Com**	**40.96**	**304**	⇑P			**P**	**01 49 43.1**	**-0.2**
	baz=41								
430A	**Baggett Ranch,**	**41.09**	**305**	⇓P			**P**	**01 49 44.1**	**-0.3**
	baz=41								
Z31A	**Sharp Cattle R**	**41.18**	**309**	⇑P			**P**	**01 49 44.3**	**-0.7**

baz=46
W24A **Lazy 6 Ranch,** 45.93 309 ⇓P P 01 50 24.1 +0.8
baz=46,SNR=8.3
Y23A **Lovelace Mesa,** 45.99 307 ⇑P P 01 50 24.5 +0.6
baz=46,SNR=20
V24A **Rampart Ranch,** 46.01 310 ⇑P P 01 50 23.3 -0.7
baz=46
Q26A **Hugo** 46.02 314 ⇑P P 01 50 23.5 -0.4
baz=46
S25A **Robets Cordova** 46.14 312 ⇑P P 01 50 24.5 -0.4
baz=46,SNR=6.2
W23A **Werner Place,** 46.48 309 ⇓P P 01 50 28.2 +0.5
baz=47
Z22A **Elephant Butte** 46.49 306 ⇑P P 01 50 28.4 +0.7
baz=47
LPM **Los Pinos Moun** 46.57 307 *e*P P 01 50 29.2 +0.8
LPM *e*pP pP 01 50 54.2 +2.3
ANMO **Albuquerque** 46.64 308 *e*P P 01 50 29.2 +0.3
6.6nm,1.2s
ANMO *e*pP pP 01 50 53.6 +1.1
S24A **Houchin Ranch,** 46.70 312 ⇓P P 01 50 29.4 0.0
baz=47,SNR=5.0
V23A **Ortiz Mt. (NFS** 46.71 309 ⇑P P 01 50 30.5 +1.0
baz=47,SNR=7.1
121A **Cookes Peak, D** 46.94 305 ⇓P P 01 50 32.3 +1.0
baz=47,SNR=5.6
LAZ **Ladron** 46.99 307 *e*P P 01 50 32.0 +0.3
3.6nm,1.1s
LAZ *e* 01 50 57.2
Z21A **St. Cloud Mine** 47.07 306 ⇓P P 01 50 33.4 +1.1
baz=47,SNR=7.7
320A **Kipp Ranch, An** 47.22 303 ⇑P P 01 50 33.5 0.0
baz=47
Y21A **Point of Rocks** 47.29 306 ⇑P P 01 50 35.2 +1.1
baz=47,SNR=9.4
V22A **San Miguel Ran** 47.32 309 ⇑P P 01 50 35.2 +1.0
baz=48,SNR=10
R23A **Moffat** 47.36 312 ⇑P P 01 50 34.2 -0.3
baz=48
220A **Playas Peak, P** 47.37 303 ⇓P P 01 50 34.8 +0.3
baz=48
U22A **Llaves** 47.44 310 ⇑P P 01 50 35.3 +0.1
baz=48
X21A **Alamocita Cree** 47.51 307 ⇑P P 01 50 36.5 +0.7
baz=48,SNR=6.7
T22A **Edith** 47.70 311 ⇓P P 01 50 37.0 -0.2
baz=48
Z20A **Nine Sixteen R** 47.76 305 ⇑P P 01 50 38.0 +0.4
baz=48
Y20A **Horse Springs,** 47.81 306 ⇓P P 01 50 38.7 +0.5
baz=48
ISCO **Idaho Springs** 47.86 315 *e*P P 01 50 38.1 -0.3
2.4nm,0.8s
ISCO **Idaho Springs** 47.86 315 ⇓P P 01 50 38.0 -0.5
baz=48
S22A **4UR Ranch, Cre** 47.92 312 ⇑P P 01 50 38.8 -0.1
baz=48,SNR=5.8
ULM **Lac du Bonnet** 47.93 331 P P 01 50 36.8 -1.6
3.6nm,0.3s,baz=130,slow=8.2,SNR=8.6
ULM **Lac du Bonnet** 47.93 331 P P 01 50 36.8 -1.6
K25A **Mack Ranch, Ha** 47.95 319 ⇓P P 01 50 38.0 -0.9
baz=48
U21A **Nageezi** 48.07 310 ⇓P P 01 50 40.3 +0.3
baz=48,SNR=6.3
X20A **Quemado** 48.10 307 ⇑P P 01 50 40.4 +0.1
baz=48
PHWY **Pilot Hill** 48.40 316 *e*P P 01 50 40.8 -1.8
8.5nm,0.8s
Q22A **Crested Butte,** 48.40 313 ⇑P P 01 50 42.1 -0.6
baz=49
SMCO **Snowmass** 48.57 313 *e*P P 01 50 43.5 -0.5
49nm,2.6s
P22A **Eagle** 48.58 314 ⇓P P 01 50 43.2 -0.7
baz=49
S21A **Coal Bank Pass** 48.60 311 ⇓P P 01 50 43.6 -0.6
baz=49
O22A **Kremmling** 48.66 315 ⇓P P 01 50 43.6 -1.0
baz=49
R21A **Cimarron** 48.68 312 ⇑P P 01 50 43.9 -0.8
baz=49
TRQA **Tornquist** 48.74 180 *e*P P 01 50 44.4 -0.4
2.1nm,0.8s
RSSD **Black Hills** 48.79 320 *e*P P 01 50 43.9 -1.5
1.0nm,0.6s
N22A **Wattenberg Ran** 48.86 315 ⇓P P 01 50 45.5 -0.6
baz=49
L23A **Garrett** 48.92 317 ⇑P P 01 50 45.8 -0.7
baz=49
M22A **Cedar Creek Ra** 49.21 316 ⇑P P 01 50 48.6 -0.2
baz=49
PV01 **Paradox Valley** 49.34 311 *e*P P 01 50 49.9 +0.1
756nm,0.7s
H24A **Dirks Ranch, A** 49.42 321 ⇑P P 01 50 49.1 -1.0
baz=50
K22A **Casper** 49.70 318 ⇑P P 01 50 51.8 -0.5
baz=50
J22A **Midwest** 50.01 319 ⇓P P 01 50 53.4 -1.2
baz=50
K21A **Alcova** 50.18 317 ⇑P P 01 50 55.5 -0.5
baz=50,SNR=8.8
I22A **9 Mile Ranch,** 50.23 319 ⇑P P 01 50 55.7 -0.5
baz=50
M20A **Sweetwater, Wa** 50.34 316 ⇓P P 01 50 56.6 -0.7
baz=50
O19A **Miners Draw (B** 50.53 314 ⇑P P 01 50 57.9 -0.8
baz=51
J21A **Lysite** 50.62 318 ⇓P P 01 50 59.0 -0.3
baz=51
WUAZ **Wupatki** 50.64 307 ⇓P P 01 50 59.6 +0.1
baz=51
L20A **Wamsutter** 50.65 316 ⇑P P 01 50 58.9 -0.7
baz=51
I21A **Big Trails, Te** 50.72 319 ⇑P P 01 50 58.9 -1.1
baz=51
N19A **John Jarvie Ra** 50.79 314 ⇓P P 01 50 59.8 -0.8
baz=51
K20A **Yellowstone Ra** 50.92 317 ⇑P P 01 50 00.6 -0.9
baz=51,SNR=7.2
F22A **Rosebud** 50.98 321 ⇓P P 01 51 01.0 -0.7
baz=51
D23A **Lindsay** 51.04 323 ⇓P P 01 51 02.4 +0.3
baz=51
J20A **Shoshoni** 51.04 318 ⇓P P 01 51 01.7 -0.7
baz=51,SNR=8.1
E22A **Miles City** 51.11 322 ⇓P P 01 51 02.5 -0.2
baz=51
SRU **San Rafael** 51.12 312 *e*P P 01 51 03.2 +0.1
5.2nm,0.7s
SRU **San Rafael** 51.12 312 ⇓P P 01 51 02.7 -0.4
baz=51,SNR=5.7
DGMT **Dagmar** 51.14 325 *e*P P 01 51 03.6 +0.8
21nm,1.0s
DGMT **Dagmar** 51.14 325 ⇓P P 01 51 03.0 +0.1
baz=51
I20A **Worland** 51.33 318 ⇓P P 01 51 03.6 -0.8
baz=52
K19A **Absolon Red Bu** 51.33 317 ⇓P P 01 51 03.2 -1.4
baz=52,SNR=5.8
L19A **Farson** 51.38 316 ⇑P P 01 51 04.2 -0.8
baz=52,SNR=8.8
P17A **Butcher Ranch,** 51.40 312 ⇓P P 01 51 05.0 -0.1
baz=52
H20A **Greybull** 51.48 319 ⇑P P 01 51 04.2 -1.3
baz=52,SNR=7.2
D22A **Cohagen** 51.60 323 ⇑P P 01 51 06.2 -0.1
baz=52
U15A **North Rim** 51.61 308 ⇓P P 01 51 06.7 -0.2
baz=52
M18A **Lyman** 51.62 315 ⇑P P 01 51 06.0 -0.8
baz=52
O17A **Robinson Place** 51.65 313 ⇓P P 01 51 06.8 -0.2
baz=52
J19A **Crowheart** 51.65 317 ⇓P P 01 51 06.1 -0.9
baz=52,SNR=6.7
C22A **Vida** 51.72 324 ⇑P P 01 51 07.4 +0.1
baz=52
PDAR **Pinedale Array** 51.78 317 P P 01 51 06.9 -1.1
5.5nm,0.8s,baz=118,slow=9.9,SNR=49
PDAR pP pP 01 51 33.0 +0.9
2.3nm,0.8s,baz=117,slow=10,SNR=4.8
PDAR ScP ScP 01 56 05.7 -2.1
0.4nm,0.6s,baz=125,slow=4.7,SNR=3.4
PDAR **Pinedale Array** 51.78 317 P P 01 51 06.9 -1.1
PDAR pP pP 01 51 33.0 +0.9
PDAR ScP ScP 01 56 05.7 -2.1
BW06 **Boulder Array** 51.78 317 *e*P P 01 51 06.8 -1.2
5.5nm,0.8s
BW06 **Boulder Array** 51.78 317 ⇑P P 01 51 06.9 -1.2
baz=52,SNR=8.9
I19A **Meeteetse** 51.93 318 ⇓P P 01 51 08.1 -0.9
baz=52
G20A **Bridger** 51.94 320 ⇓P P 01 51 07.9 -1.1
baz=52
PLCA **Paso Flores** 51.98 188 P P 01 51 09.4 +0.3
5.7nm,0.9s,baz=359,slow=6.8,SNR=11
PLCA **Paso Flores** 51.98 188 *e*P P 01 51 09.6 +0.4
8.3nm,1.0s
N17A **Moffit Pass** 51.98 314 ⇑P P 01 51 08.6 -0.9
baz=52
M17A **Scullys Gap (B** 52.05 315 ⇑P P 01 51 09.5 -0.5
baz=52
K18A **Toltan Ranch,** 52.06 316 ⇑P P 01 51 09.8 -0.3
baz=52
B22A **Reddig Ranch S** 52.07 324 ⇓P P 01 51 10.1 +0.3
baz=52
DAU **Daniels Canyon** 52.09 313 *e*P P 01 51 11.7 +1.2
F20A **Billings** 52.16 321 ⇓P P 01 51 10.1 -0.5
baz=52
J18A **Kendall Valley** 52.27 317 ⇓P P 01 51 11.2 -0.4
baz=52
JLU **Jordanelle** 52.30 313 *e*P P 01 51 12.5 +0.6
6.0nm,1.3s
I18A **Diamond G Ranc** 52.33 318 ⇑P P 01 51 11.5 -0.6
baz=52,SNR=11
E20A **Meyer Farm, Mu** 52.47 321 ⇓P P 01 51 12.4 -0.4
baz=53
C21A **Desert Coulee** 52.47 323 ⇑P P 01 51 12.8 0.0
baz=53
RLMT **Red Lodge** 52.56 319 *e*P P 01 51 13.3 -0.4
52nm,2.5s
RLMT **Red Lodge** 52.56 319 ⇑P P 01 51 12.8 -0.9
baz=53
H18A **Shoshone NF, C** 52.63 319 ⇑P P 01 51 13.3 -1.0
baz=53
M16A **Huntsville** 52.67 314 ⇓P P 01 51 13.7 -0.9
baz=53
K17A **Gardner Place,** 52.70 316 ⇓P P 01 51 13.8 -1.0
baz=53
HWUT **Hardware Ranch** 52.73 314 *e*P P 01 51 14.2 -0.8
4.6nm,0.8s
D20A **Manuel Ranch,** 52.74 322 ⇓P P 01 51 14.5 -0.3
baz=53
L16A **Fish Haven** 52.78 315 ⇑P P 01 51 14.7 -0.7
baz=53
J17A **Brown Place, J** 52.80 317 ⇑P P 01 51 15.0 -0.5
baz=53
LOHW **Long Hollow** 52.82 317 *e*P P 01 51 14.7 -1.0
2.7nm,0.8s
E19A **Rath Farm, Rou** 52.85 321 ⇓P P 01 51 15.1 -0.5
baz=53
SNOW **Snow King Moun** 52.86 317 *e*P P 01 51 16.4 +0.4
4.1nm,0.8s
A21A **Bergtoll Ranch** 52.95 325 ⇓P P 01 51 16.4 +0.1
baz=53,SNR=5.2
C20A **Veseth Ranch,** 52.95 323 ⇓P P 01 51 15.8 -0.6
baz=53
MOOW **Moose Ponds** 52.97 317 *e*P P 01 51 16.0 -0.8
1.0nm,0.9s
TPAW **Teton Pass** 53.01 317 *e*P P 01 51 16.4 -0.7
DUG **Dugway** 53.14 312 *e*P P 01 51 17.2 -0.8
4.1nm,0.7s
DUG **Dugway** 53.14 312 ⇓P P 01 51 17.5 -0.5
baz=53,SNR=6.3
IMW **Indian Meadow** 53.16 317 *e*P P 01 51 17.8 -0.4
46nm,2.8s
F18A **Big Timber** 53.19 320 ⇓P P 01 51 17.6 -0.5
baz=53,SNR=7.2
K16A **Soda Springs** 53.19 316 ⇓P P 01 51 17.9 -0.5
baz=53
D19A **Cripps Ranch,** 53.23 322 ⇓P P 01 51 18.1 -0.3
baz=53
M15A **Larsen Ranch,** 53.30 314 ⇓P P 01 51 17.9 -1.2
baz=54,SNR=5.1
B20A **Solberg Farm,** 53.31 324 ⇓P P 01 51 19.2 +0.3
baz=54,SNR=6.7
J16A **Bone** 53.37 316 ⇓P P 01 51 18.4 -1.3
baz=54
L15A **Malad City** 53.44 315 ⇑P P 01 51 19.4 -0.8
baz=54,SNR=12
A20A **Cobblestone Ra** 53.47 324 ⇓P P 01 51 20.0 -0.2
baz=54
I16A **Newdale** 53.51 317 ⇑P P 01 51 20.3 -0.4
baz=54,SNR=11
C19A **Slack Wire Ran** 53.59 322 ⇓P P 01 51 20.5 -0.5
baz=54
H16A **Russell Place,** 53.67 318 ⇑P P 01 51 21.7 -0.2
baz=54,SNR=5.0
FFC **Flin Flon** 53.69 333 *e*P P 01 51 19.3 -2.2
1.8nm,0.7s
F17A **Fitzpatrick Pl** 53.78 320 ⇑P P 01 51 21.9 -0.7
baz=54
K15A **Arbon** 53.78 315 ⇑P P 01 51 21.9 -0.7
baz=54
A19A **Klindworth Far** 53.97 324 ⇑P P 01 51 23.8 0.0
baz=54,SNR=6.3
J15A **Blackfoot** 53.97 316 ⇑P P 01 51 23.1 -0.9
baz=54
L14A **Malta** 54.05 314 ⇑P P 01 51 23.7 -0.9
baz=54
EGMT **Eagleton** 54.14 322 *e*P P 01 51 24.9 -0.2
8.5nm,1.0s
EGMT **Eagleton** 54.14 322 ⇑P P 01 51 24.4 -0.7
baz=54
K14A **Jones Ranch, D** 54.18 315 ⇑P P 01 51 24.9 -0.6
baz=54,SNR=9.2
G16A **Moss Hill, Enn** 54.24 319 ⇑P P 01 51 25.1 -0.9
baz=54
BOZ **Bozeman (W)** 54.30 319 *e*P P 01 51 25.1 -1.2
4.1nm,1.4s
BOZ **Bozeman (W)** 54.30 319 ⇑P P 01 51 25.7 -0.7
baz=54
B18A **Beardsley Farm** 54.33 323 ⇑P P 01 51 26.1 -0.3
baz=54
D17A **Six Diamond Ra** 54.33 321 ⇑P P 01 51 26.1 -0.4
baz=54
H15A **Lima** 54.56 318 ⇓P P 01 51 28.1 -0.3
baz=55
C17A **Wharram Farm,** 54.58 322 ⇑P P 01 51 27.7 -0.5
baz=55
R11A **Troy Canyon, C** 54.66 309 ⇓P P 01 51 28.4 -0.7
baz=55
G15A **Dillon** 54.67 318 ⇓P P 01 51 28.4 -0.6
baz=55
J14A **Carey** 54.68 316 ⇓P P 01 51 28.8 -0.4
baz=55
E16A **East Helena** 54.69 320 ⇓P P 01 51 28.5 -0.6
baz=55
D16A **Dana Ranch, Ca** 54.81 321 ⇓P P 01 51 29.7 -0.3
baz=55
I14A **Mackay** 54.85 317 ⇑P P 01 51 30.0 -0.5
baz=55
H14A **Leadore** 55.04 317 ⇑P P 01 51 30.5 -1.3
baz=55
A17A **Triple J Farms** 55.12 323 ⇓P P 01 51 31.5 -0.7
C16A **Fuhringer Ranc** 55.25 321 ⇓P P 01 51 32.6 -0.6
baz=55
I13A **Wildhorse Cree** 55.30 316 ⇑P P 01 51 33.2 -0.5
baz=56,SNR=7.8
HLID **Hailey** 55.38 316 *e*P P 01 51 33.4 -0.8
4.1nm,0.8s
HLID **Hailey** 55.38 316 ⇑P P 01 51 33.6 -0.7
baz=56,SNR=7.6
D15A **Lincoln** 55.42 320 ⇓P P 01 51 33.9 -0.6
baz=56
B16A **M & M Farms, S** 55.49 322 ⇓P P 01 51 34.0 -0.7
baz=56
H13A **Challis** 55.62 317 ⇑P P 01 51 35.0 -0.8
baz=56
C15A **Salmond Ranch,** 55.77 321 ⇑P P 01 51 36.0 -0.8
baz=56
I12A **Atlanta** 55.95 316 ⇓P P 01 51 37.6 -0.7
baz=56
B15A **Bradely Ranch,** 55.96 322 ⇑P P 01 51 37.6 -0.6
baz=56
H12A **Diamond D Ranc** 56.01 317 ⇑P P 01 51 37.9 -0.9
baz=56
D14A **Greenough** 56.06 320 ⇓P P 01 51 38.2 -0.8
baz=56
F13A **Darby** 56.10 318 ⇓P P 01 51 38.7 -0.6
baz=56
MFID **Camas Ranch** 56.30 315 ⇓P P 01 51 39.9 -0.8
baz=56
A15A **Johnson Ranch,** 56.34 322 ⇓P P 01 51 40.2 -0.7
baz=56,SNR=7.4
C14A **Swan Lake** 56.47 321 ⇓P P 01 51 41.2 -0.6
baz=57
BLG **Laguna Peak** 56.48 304 ⇓P P 01 51 41.4 -0.7
baz=57
D13A **Huson** 56.66 320 ⇓P P 01 51 42.6 -0.6
baz=57
F12A **Elk City** 56.70 318 ⇑P P 01 51 42.7 -0.8
baz=57
NVAR **Mina Array Bea** 56.75 309 P P 01 51 44.4 +0.3
0.4nm,0.6s,baz=106,slow=5.4,SNR=4.1
NVAR pP pP 01 52 09.1 +0.6
0.8nm,0.6s,baz=100,slow=7.1,SNR=3.2
NVAR **Mina Array Bea** 56.75 309 P P 01 51 44.4 +0.3
NVAR pP pP 01 52 09.1 +0.6
A14A **Double T Ranch** 56.75 322 ⇓P P 01 51 43.3 -0.5
baz=57
DBIC **Dimbokro** 56.88 89 P P 01 51 45.4 +0.2
5.0nm,0.9s,baz=287,slow=5.9,SNR=6.6
DBIC **Dimbokro** 56.88 89 *e*P P 01 51 45.1 0.0
5.7nm,0.9s
C13A **Hot Springs** 56.95 320 ⇓P P 01 51 44.1 -1.1
baz=57
MDT **Midelt** 57.08 58 P P 01 51 47.9 +1.5
3.6nm,0.8s,baz=271,slow=6.0,SNR=9.7
MDT **Midelt** 57.08 58 P P 01 51 47.9 +1.5
E12A **Beaver Dam Sad** 57.13 319 ⇑P P 01 51 45.6 -1.0
baz=57
B13A **Whitefish** 57.15 321 ⇓P P 01 51 45.5 -1.1
baz=57
D12A **Red Ives Fores** 57.22 319 ⇑P P 01 51 46.2 -0.9
baz=57
A13A **Flathead Natio** 57.34 322 ⇑P P 01 51 47.1 -0.8
baz=58
C11A **Tepee Creek (N** 58.07 320 ⇑P P 01 51 52.3 -0.7
baz=58
A12A **Yaak River Ran** 58.09 321 ⇑P P 01 51 52.9 -0.3
baz=58
NEW **Newport** 58.76 320 *e*P P 01 51 56.4 -1.4
4.0nm,0.8s
NEW **Newport** 58.76 320 ⇓P P 01 51 56.9 -0.9
baz=59
ESDC **Sonseca Array** 58.83 50 P P 01 52 00.3 +1.8
2.7nm,0.9s,baz=255,slow=7.4,SNR=10
ESDC pP pP 01 52 24.4 +1.4
1.1nm,0.7s,baz=262,slow=7.1,SNR=3.6
ESDC **Sonseca Array** 58.83 50 P P 01 52 00.3 +1.8
ESDC pP pP 01 52 24.4 +1.4
TOA0 **Torodi Ar. Sit** 62.50 81 *e*P P 01 52 23.6 -0.1
TORD **Torodi Ar. Bea** 62.50 81 P P 01 52 23.9 +0.2
2.2nm,0.6s,baz=288,slow=6.4,SNR=60
TORD **Torodi Ar. Bea** 62.50 81 P P 01 52 23.9 +0.2
YKA **Yellowknife Ar** 63.51 336 P P 01 52 27.8 -1.7
1.0nm,0.5s,baz=110,slow=7.5,SNR=15
YKA **Yellowknife Ar** 63.51 336 P P 01 52 27.8 -1.7
EKA **Eskdalemuir Ar** 63.74 33 P P 01 52 31.5 +0.3
1.9nm,0.8s,baz=264,slow=6.9,SNR=3.9
EKA **Eskdalemuir Ar** 63.74 33 P P 01 52 31.5 +0.3
TAM **Tamanrasset** 65.52 70 *e*P P 01 52 45.2 +1.6
4.5nm,1.0s
KEST **Kesra** 68.84 56 P P 01 53 06.2 +1.9
2.2nm,0.9s,baz=248,slow=7.3,SNR=2.9
KEST **Kesra** 68.84 56 P P 01 53 06.2 +1.9
NB2 **NORSAR Subarra** 72.53 29 P P 01 53 27.3 +1.2
comp=Z,0.7nm,0.6s,baz=262,slow=6.5
NOA **NORSAR Array B** 72.53 29 P P 01 53 27.6 +1.5
comp=Z,1.1nm,0.7s,baz=262,slow=6.1,SNR=5.3
NOA pP pP 01 53 51.6 +0.1
comp=Z,1.5nm,0.8s,baz=262,slow=6.0,SNR=3.6
NOA LR LR 02 23 13.8
comp=Z,23nm,18.7s,baz=270,slow=34
NOA **NORSAR Array B** 72.53 29 P P 01 53 27.6 +1.5
NOA pP pP 01 53 51.6 +0.1
GERES **GERESS Array B** 72.65 42 P P 01 53 27.5 +0.4
comp=Z,0.3nm,0.5s,baz=262,slow=2.7,SNR=5.3
GERES pP pP 01 53 52.2 -0.3
comp=Z,0.7nm,0.8s,baz=282,slow=7.6,SNR=3.1
GERES **GERESS Array B** 72.65 42 P P 01 53 27.5 +0.4
GERES pP pP 01 53 52.2 -0.3
HFS **Hagfors** 73.62 30 P P 01 53 33.6 +1.2
comp=Z,2.6nm,0.6s,baz=241,slow=2.7,SNR=11
HFS **Hagfors** 73.62 30 P P 01 53 33.6 +1.2
SPITS **Spitsbergen Ar** 77.04 12 P P 01 53 51.9 +0.1
comp=Z,1.1nm,0.4s,baz=174,slow=4.1,SNR=12
SPITS **Spitsbergen Ar** 77.04 12 P P 01 53 51.9 +0.1
ILAR **Eielson Array** 77.86 334 P P 01 53 55.8 -0.7
comp=Z,0.5nm,0.5s,baz=94,slow=5.0,SNR=9.2
ILAR **Eielson Array** 77.86 334 P P 01 53 55.8 -0.7
ARCES **ARCESS Array B** 79.07 21 P P 01 54 03.7 +0.6
comp=Z,3.2nm,0.7s,baz=291,slow=5.2,SNR=8.9
ARCES **ARCESS Array B** 79.07 21 P P 01 54 03.7 +0.6
FINES **FINESS Array B** 79.71 29 P P 01 54 07.3 +0.6
comp=Z,1.6nm,0.4s,baz=276,slow=4.0,SNR=23
FINES pP pP 01 54 33.4 +0.9
comp=Z,3.3nm,0.8s,baz=318,slow=2.6,SNR=3.6
FINES **FINESS Array B** 79.71 29 P P 01 54 07.3 +0.6
FINES pP pP 01 54 33.4 +0.9
BUR08 **Bucovina Ar. S** 80.35 43 *e*P P 01 54 10.2 -0.5
KDAK **Kodiak Island** 80.97 327 P P 01 54 13.6 +0.1
comp=Z,5.6nm,1.0s,baz=158,slow=20,SNR=3.8
KDAK **Kodiak Island** 80.97 327 P P 01 54 13.6 +0.1
JOF **Joensuu** 82.00 27 *e*p P 01 54 19.3 +0.4
comp=Z,1.2nm,0.6s
TSUM **Tsumeb** 84.20 111 *e*P P 01 54 32.0 +0.7
comp=Z,12nm,1.0s
BR131 **Keskin Array S** 87.63 50 *e*P P 01 54 48.4 +0.6
comp=Z,1.6nm,0.7s
BRTR **Keskin Array B** 87.63 50 P P 01 54 48.7 +0.9
comp=Z,2.3nm,0.7s,baz=251,slow=4.2,SNR=16
BRTR **Keskin Array B** 87.63 50 P P 01 54 48.7 +0.9
SNAA **Sanae** 91.21 164 *e*P P 01 55 04.8 +1.1
comp=Z,3.5nm,0.8s
MALT **Malatya** 91.58 51 *e*P P 01 55 06.9 +0.6
comp=Z,3.4nm,0.9s
BOSA **Boshof** 93.06 118 P P 01 55 14.2 +0.9
comp=Z,4.5nm,1.0s,baz=268,slow=4.1,SNR=5.4
BOSA **Boshof** 93.06 118 *e*P P 01 55 13.8 +0.5
comp=Z,7.8nm,1.0s
LSZ **Lusaka** 93.32 105 *e*P P 01 55 16.0 +1.3
comp=Z,9.5nm,1.4s
KSH **Kashi** 116.59 35 *e*PKP PKPdf 02 00 42.8 -0.3
KSH sPKP 02 01 21.8
KSH *e*PP PP 02 01 56.4 +5.5
KSH PKS PKSdf 02 04 18.8 -1.1
KSH SKS SKSdf 02 07 44.5 -2.0
KSH SKKS SKKSac 02 08 38.6 -4.8
KSH SS SS 02 17 49.8 +1.2
KSH AMB AMB
comp=Z,96nm,4.3s
KSH LR LR
comp=N,68nm,7.1s
KSH LR LR
comp=E,57nm,5.6s
KSH LR LR
comp=Z,180nm,5.5s
SONM **Songino Array** 120.63 9 PKP PKPdf 02 00 49.5 -1.2
comp=Z,0.2nm,0.3s,baz=352,slow=2.2,SNR=4.6
SONM **Songino Array** 120.63 9 PKP PKPdf 02 00 49.5 -1.2
GTA **Gaotai** 127.22 17 *e*PKP PKPdf 02 01 05.0 +1.5
GTA sPKP 02 01 45.8
GTA PP PP 02 03 01.6 -0.8
HHC **Hu-ho-hao-te** 128.16 6 *e*PKP PKPdf 02 01 04.8 -0.5
HHC sPKP 02 01 42.5
HHC PP PP 02 03 12.0 +3.6
HHC PKS PKSdf 02 04 40.3 -1.6
HHC SKS SKSdf 02 08 05.8 -2.4
HHC SKKS SKKSac 02 09 54.6 -3.3
HHC SS SS 02 20 14.8 +0.6
HHC AMB AMB
comp=Z,160nm,9.8s
HHC LR LR
comp=N,110nm,14.3s
HHC LR LR
comp=E,150nm,11.2s
HHC LR LR
comp=Z,100nm,13.9s
LZH **Lanzhou** 131.44 15 *e*PKP PKPdf 02 01 07.8 -3.9
LZH sPKP sPKPdf 02 01 46.1 -3.4
LZH LR LR
comp=N,110nm,18.1s
LZH LR LR
comp=E,120nm,17.9s
LZH LR LR
comp=Z,160nm,20.2s
CD2 **Chengdu** 136.29 17 PKP PKPdf 02 01 19.3 -1.5
GYA **Guiyang** 141.31 16 *e*PKP PKPdf 02 01 28.0 -2.2
GYA sPKP 02 02 08.6
GYA PP PP 02 04 34.0 +2.3

GYA				AMB	AMB		
	comp=Z,70nm,7.8s						
CMAR	**Chiang Mai Arr**	**145.43**	**32**	PKPbc	**PKPab**	**02 01 38.5**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=306,slow=5.2,SNR=5.1						
CMAR	**Chiang Mai Air**	**145.43**	**32**	PKPbc	**PKPab**	**02 01 38.5**	**+0.7**
STKA	**Stephens Creek**	**149.64**	**223**	PKPbc	**PKPbc**	**02 01 49.2**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=195,slow=1.9,SNR=3.2						
STKA	**Stephens Creek**	**149.64**	**223**	PKPbc	**PKPbc**	**02 01 49.2**	**+0.5**
WRA	**Warramunga Arr**	**161.63**	**239**	PKP	**PKPdf**	**02 01 59.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=34,slow=0.6,SNR=5.6						
WRA				PKPab	**PKPab**	**02 02 44.1**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=104,slow=4.7,SNR=7.2						
WRA	**Warramunga Arr**	**161.63**	**239**	PKP	**PKPdf**	**02 01 59.2**	**-1.1**
WRA				PKPab	**PKPab**	**02 02 44.1**	**-1.6**

*IDC **25** 02:03:13.0±1.3, 12.°80N×123.°86E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, Error ellipse: s-maj=124.4km s-min=14.3km az=68.0*
*MAN **25** 02:03:24, 13.°13N×124.°22E, h100km, mb4.2, ML3.1, MS2.8*

ISC 25 02:03:24.8±0.8, 13.°02N±0.°07×124.°2E±0.°1, h100km, n13, σ1s51/16, mb3.8/9, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.57**	**359**	*e*P	**Pn**	**02 03 42.1**	**+0.9**
PVCP				*e*S	**Sn**	**02 03 54.3**	**+0.9**
CNP	**Catarman**	**0.70**	**136**	*e*P	**Pn**	**02 03 43.4**	**+1.2**
CNP				*e*S	**Sn**	**02 03 57.9**	**+2.5**
PLP	**Palo**	**2.01**	**157**	*i*P	**Pn**	**02 03 58.5**	**+0.9**
PLP				*i* S	**Sn**	**02 04 24.1**	**+1.6**
RCP	**Roxas**	**2.01**	**224**	*e*P	**Pn**	**02 03 59.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**30.96**	**177**	P	**P**	**02 09 30.1**	**-2.5**
	1.7nm,0.8s,baz=0.0,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**34.25**	**163**	P	**P**	**02 09 59.1**	**-2.4**
	0.3nm,0.3s,baz=344,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**37.68**	**165**	P	**P**	**02 10 29.6**	**-1.1**
	1.2nm,0.6s,baz=356,slow=8.9,SNR=18						
SONM	**Songino Array**	**37.75**	**340**	P	**P**	**02 10 31.7**	**+0.7**
	0.3nm,0.4s,baz=153,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**47.66**	**160**	P	**P**	**02 11 50.6**	**-0.6**
	1.5nm,0.7s,baz=296,slow=9.6,SNR=4.8						
MKAR	**Makanchi Array**	**48.60**	**322**	P	**P**	**02 11 58.9**	**+0.5**
	0.8nm,0.8s,baz=116,slow=8.0,SNR=9.8						
ZALV	**Zalesovo Beam**	**51.24**	**331**	P	**P**	**02 12 18.2**	**0.0**
	0.2nm,0.3s,baz=124,slow=7.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**52.65**	**325**	P	**P**	**02 12 28.7**	**0.0**
	0.6nm,0.5s,baz=123,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**58.24**	**325**	P	**P**	**02 13 08.7**	**0.0**
	0.4nm,0.5s,baz=134,slow=6.4,SNR=4.8						

*ISCJB **25** 02:10:09.3±0.3, 3.°60N±0.°04×126.°56E±0.°10, h10km, mb4.5/36, MS3.5/2, Error ellipse: s-maj=14.6km s-min=5.0km az=164.3*
*IDC **25** 02:10:09.5±0.6, 3.°55N×126.°46E, h0km, mb4.4/17, mb1 4.4/17, mb1mx4.3/28, mbtmp4.4/17, MS3.5/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=36.2km s-min=12.0km az=75.0*
*NEIC **25** 02:10:14.7±0.2, 3.°57N×126.°59E, h35km, mb4.6/20, Error ellipse: s-maj=9.7km s-min=4.2km az=70.0*
*DJA **25** 02:10:23.4±1.7, 3.°1N±9.°1×12.°8E±1.°4, h135km±11km, M4.5/5, mb4.4/4, mB4.9/2, MLv4.5/5, Mw(mB)4.2/2*
*MAN **25** 02:10:47, 5.°62N×125.°70E, h72km, mb4.5, ML3.3, MS3.2*

ISC 25 02:10:11.6±0.5, 3.°61N±0.°06×126.°62E±0.°10, h10km, n73, σ0s65/48, mb4.6/36, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.79**	**220**	P	Pg	02 11 13.2	+8.1
TNTI	**Ternate**	**2.92**	**165**	P	Pn	02 11 02.1	+4.0
TNTI				S	**Sn**	**02 11 34.5**	**+1.3**
CTBH	**Cotabato--PC H**	**4.29**	**327**	*i*P	Pn	02 11 24.1	+7.1
LBMI	**Labuha**	**4.31**	**168**	P	**Pg**	**02 11 35.5**	**+1.3**
BUKP	**Musuan**	**4.51**	**340**	*e*P	Pn	02 11 25.1	+5.0
BUKP				*e*S	Sn	02 11 52.9	-20
PAGZ	**Pagadian**	**5.30**	**323**	*e*P	Pn	02 11 36.4	+5.5
PAGZ				*e*S	Sn	02 12 14.3	-18
MRSI	**Marisa**	**5.61**	**236**	P	Pb	02 11 55.7	+6.0
	61nm,0.6s,0.2nm						
LUWI	**Luwuk**	**6.01**	**220**	P	**Pb**	**02 11 56.1**	**-0.4**
	122nm,1.0s,2µm0.4nm						
NLAI	**Namlea**	**6.82**	**176**	P	Pn	02 11 56.6	+4.9
	21nm,0.8s,1µm0.2nm						
NLAI				S	**Sn**	**02 13 08.7**	**-0.8**
	21nm,0.8s,1µm0.2nm						
TTSI	**Tana Toraja**	**9.48**	**226**	P	Pn	02 12 39.1	+11
KKM	**Kota Kinabalu**	**10.64**	**284**	*e*Pn	**Pn**	**02 12 44.8**	**+0.5**
SBUM	**Sibu**	**14.42**	**266**	P	P	02 13 50.9	+8.0
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**02 15 01.2**	**-0.6**
	3.6nm,0.8s,baz=1.1,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**02 15 01.1**	**-0.6**
WRAB	**Tennant Creek**	**24.60**	**162**	*e*P	**P**	**02 15 30.8**	**-1.3**
	30nm,0.8s						
WRA	**Warramunga Arr**	**24.60**	**162**	P	**P**	**02 15 30.9**	**-1.3**
	22nm,0.7s,baz=344,slow=10,SNR=133						
WRA	**Warramunga Arr**	**24.60**	**162**	P	**P**	**02 15 30.9**	**-1.3**
AS31	**Alice Springs**	**28.02**	**166**	*e*P	**P**	**02 16 02.7**	**-0.4**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**02 16 02.3**	**-0.8**
	1.4nm,0.5s,baz=344,slow=8.2,SNR=13						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**02 16 02.3**	**-0.8**
JNU	**Nakatsue**	**29.63**	**7**	P	P	02 16 16.4	-0.8
	12nm,1.0s,baz=121,slow=6.0,SNR=2.5						
JNU	**Nakatsue**	**29.63**	**7**	P	P	02 16 16.4	-0.8
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P	P	02 16 28.6	-0.9
	4.8nm,0.9s						
ENH	**Enshi**	**31.08**	**330**	*e*P	**P**	**02 16 29.6**	**-0.5**
KSAR	**Wonju Array Be**	**33.69**	**2**	P	**P**	**02 16 52.8**	**-0.1**
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**02 16 52.8**	**-0.2**
	4.2nm,0.7s,baz=184,slow=10.0,SNR=9.6						
KSRS				LR	LR	02 30 00.6	
	comp=Z,88nm,18.1s,baz=346,slow=35						
FORT	**Forrest**	**34.22**	**178**	*e*P	**P**	**02 16 56.8**	**-0.8**
	7.8nm,0.7s						
BJT	**Baijiatuau**	**37.46**	**347**	*e*P	**P**	**02 17 25.1**	**-0.2**
	20nm,0.7s						
STKA	**Stephens Creek**	**38.06**	**159**	P	**P**	**02 17 29.8**	**-0.6**
	8.1nm,0.6s,baz=330,slow=9.2,SNR=25						
STKA	**Stephens Creek**	**38.06**	**159**	P	**P**	**02 17 29.8**	**-0.6**
USRK	**Ussuriysk Arra**	**40.70**	**6**	P	**P**	**02 17 53.1**	**+0.8**
	2.3nm,0.7s,baz=190,slow=7.8,SNR=10						
LSA	**Lhasa**	**42.43**	**312**	*e*P	**P**	**02 18 08.2**	**+0.8**
	7.3nm,0.6s						
ASAJ	**Asahikawa**	**42.74**	**17**	P	**P**	**02 18 09.4**	**+0.3**
	7.3nm,0.7s,baz=207,slow=12,SNR=4.5						
ASAJ	**Asahikawa**	**42.74**	**17**	P	**P**	**02 18 09.4**	**+0.3**
HIA	**Hailar**	**45.87**	**354**	*e*P	**P**	**02 18 34.3**	**+0.3**
	9.7nm,0.8s						
ULN	**Ulaanbaatar**	**47.20**	**342**	*e*P	**P**	**02 18 44.9**	**+0.2**
	4.5nm,0.9s						
SONM	**Songino Array**	**47.38**	**342**	P	**P**	**02 18 46.2**	**+0.1**
	1.0nm,0.5s,baz=160,slow=7.0,SNR=9.6						
SONM				PcP	**PcP**	**02 20 16.4**	**-0.3**
	0.8nm,0.7s,baz=167,slow=3.0,SNR=4.1						
SONM	**Songino Array**	**47.38**	**342**	P	**P**	**02 18 46.2**	**+0.1**
SONM				PcP	**PcP**	**02 20 16.4**	**-0.3**
MK31	**Makanchi Array**	**57.59**	**325**	*e*P	P	**02 22 01.1**	**-0.6**
MKAR	**Makanchi Array**	**57.59**	**325**	P	P	02 20 00.9	-0.8
	3.3nm,0.6s,baz=124,slow=8.6,SNR=50						
MKAR	**Makanchi Array**	**57.59**	**325**	P	P	02 20 00.9	-0.8
YAK	**Yakutsk**	**58.33**	**2**	*e*P	**P**	**02 20 07.0**	**+0.4**
	24nm,0.8s						
TKM2	**Tokmak 2**	**59.76**	**319**	*e*P	**P**	**02 20 16.9**	**-0.2**
	3.5nm,0.8s						
AAK	**Ala-Archa**	**60.37**	**318**	*e*P	**P**	**02 20 21.8**	**+0.5**
	6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	P	02 20 21.4	-1.2
	0.8nm,0.4s,baz=132,slow=8.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	P	02 20 21.4	-1.2
EKS2	**Erkin-Say**	**60.86**	**318**	*e*P	**P**	**02 20 24.6**	**+0.1**
	3.6nm,0.8s						
RPZ	**Rata Peaks**	**61.73**	**145**	P	**P**	**02 20 30.1**	**-0.2**
	7.7nm,0.8s,baz=223,slow=1.6,SNR=3.8						
RPZ	**Rata Peaks**	**61.73**	**145**	P	**P**	**02 20 30.1**	**-0.2**
KURK	**Kurchatov**	**61.78**	**328**	*e*P	P	02 20 29.8	-0.7
	11nm,0.6s						
KKAR	**Karatay Array**	**63.24**	**317**	*e*P	**P**	**02 20 39.9**	**-0.5**
	2.5nm,0.8s						
BVAR	**Borovoye Array**	**67.36**	**327**	P	P	02 21 06.3	-0.7
	5.0nm,0.9s,baz=120,slow=8.7,SNR=18						
BVAR	**Borovoye Array**	**67.36**	**327**	P	P	02 21 06.3	-0.7
BRVK	**Borovoye**	**67.43**	**327**	*e*P	**P**	**02 21 07.0**	**-0.3**
	6.7nm,0.9s						
TIXI	**Tiksi**	**67.96**	**1**	*e*P	P	02 21 09.6	-0.7
	1.5nm,0.3s						
ABKAR	**Akbulak array**	**72.17**	**321**	*e*P	P	02 21 35.6	-1.0
	3.1nm,0.9s						
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**02 21 44.9**	**-0.7**
	2.1nm,0.6s,baz=96,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**02 21 44.9**	**-0.7**
ARU	**Arti**	**74.98**	**328**	*e*P	P	02 21 51.8	-1.2
	3.1nm,0.6s						
VNDA	**Vanda**	**83.32**	**173**	*e*P	**P**	**02 22 38.9**	**+0.7**
	1.6nm,0.8s						
MALT	**Malatya**	**86.36**	**308**	*e*P	P	02 22 52.6	-1.9
	4.0nm,1.2s						
BR131	**Keskin Array S**	**90.01**	**310**	*e*P	**P**	**02 23 12.1**	**+0.1**
	2.3nm,0.9s						
BRTR	**Keskin Array B**	**90.01**	**310**	P	P	02 23 10.5	-1.4
	1.2nm,0.9s,baz=116,slow=5.6,SNR=5.6						
BRTR	**Keskin Array B**	**90.01**	**310**	P	P	02 23 10.5	-1.4
ARCES	**ARCESS Array B**	**90.52**	**340**	P	P	02 23 12.2	-1.3
	2.2nm,0.7s,baz=85,slow=6.7,SNR=10						
ARCES	**ARCESS Array B**	**90.52**	**340**	P	P	02 23 12.2	-1.3
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**02 23 19.3**	**-0.6**
	1.7nm,0.8s,baz=146,slow=3.7,SNR=2.9						
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**02 23 19.3**	**-0.6**
BUR08	**Bucovina Ar. S**	**95.02**	**318**	*e*P	P	02 23 34.1	-0.7
NOA	**NORSAR Array B**	**98.84**	**334**	LR	LR	03 12 22.5	
	comp=Z,15nm,19.2s,baz=125,slow=38						
TOA0	**Torodi Ar. Sit**	**122.85**	**288**	*e*PKPdf	**PKPdf**	**02 29 08.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP	**PKPdf**	**02 29 08.9**	**-0.2**
	0.6nm,0.9s,baz=85,slow=2.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP	**PKPdf**	**02 29 08.9**	**-0.2**

*IDC **25** 02:16:04.0±6.2, 51.°62N×179.°08W, h22km±41km, mb3.5/8, mb1 3.9/10, mb1mx3.5/31, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=29.0km s-min=10.9km az=2.0*
*ISCJB **25** 02:16:04.1±0.8, 51.8N±0.°1×179.°24W±0.°06, h44km, mb3.5/9, Error ellipse: s-maj=19.5km s-min=5.2km az=0.9*
*NEIC **25** 02:16:04.2, 51.°69N×179.°18W, h10km, mb3.8/3, ML3.9(AEIC), After AEIC.*

ISC 25 02:16:06.1±1.0, 51.°7N±0.°2×179.°22W±0.°06, h44km, n24, σ1s38/27, mb3.5/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**3.13**	**76**	P	**Pn**	**02 16 52.0**	**-1.0**
ATKA	**Atka Island**	**3.14**	**80**	P	**Pn**	**02 16 51.7**	**-1.4**
ATKA				S	**Sn**	**02 17 28.8**	**-0.4**
KOKL	**Mount Kliuchef**	**3.15**	**77**	P	**Pn**	**02 16 52.4**	**-0.9**
KOKV	**Korovin Volcan**	**3.18**	**77**	P	**Pn**	**02 16 52.9**	**-0.8**
KOKV				S	**Sn**	**02 17 30.6**	**+0.2**
KOFP	**Korovin Flat P**	**3.21**	**78**	P	**Pn**	**02 16 53.5**	**-0.5**
KOFP				S	**Sn**	**02 17 32.2**	**+1.2**
KOSE	**Korovin Southe**	**3.25**	**77**	P	**Pn**	**02 16 53.4**	**-1.2**
FX1	**Attu Island--F**	**4.81**	**287**	Pn	**Pn**	**02 17 15.2**	**-0.8**
	2.4nm,0.3s,baz=272,slow=17,SNR=15						
FX1				Sn	**Sn**	**02 18 09.5**	**-0.9**
	3.0nm,0.3s,baz=227,slow=15,SNR=4.1						
OKSP	**Okmok Steeple**	**6.84**	**73**	P	**Pn**	**02 17 42.3**	**-1.6**
OKTU	**Okmok Mt. Tuli**	**7.01**	**72**	P	**Pn**	**02 17 44.6**	**-1.6**
SPIA	**Saint Paul Isl**	**7.55**	**40**	P	**Pn**	**02 17 52.5**	**-1.0**
UNV	**Unalaska Valle**	**7.99**	**70**	P	**Pn**	**02 17 57.8**	**-1.7**
KDAK	**Kodiak Island**	**16.45**	**58**	Pn	**Pn**	**02 19 50.5**	**-3.0**
	4.0nm,0.3s,baz=348,slow=14,SNR=8.5						
COLA	**College**	**20.79**	**39**	*e*P	Pn	02 20 45.3	-0.7
	3.4nm,0.7s						
PAX	**Paxson**	**21.11**	**45**	*e*P	**P**	**02 20 48.3**	**+1.5**
	5.2nm,0.8s						
ILAR	**Eielson Array**	**21.13**	**39**	P	**P**	**02 20 47.9**	**+1.1**
	0.7nm,0.8s,baz=235,slow=8.1,SNR=7.7						
DAWY	**Dawson**	**24.02**	**44**	*e*P	**P**	**02 21 17.5**	**+0.9**
INK	**Inuvik**	**27.32**	**35**	P	**P**	**02 21 48.7**	**+2.5**
	0.8nm,0.7s,baz=256,slow=20,SNR=4.9						
INK	**Inuvik**	**27.32**	**35**	*e*P	**P**	**02 21 48.8**	**+2.5**
	1.0nm,0.7s						
YKA	**Yellowknife Ar**	**35.17**	**47**	P	**P**	**02 22 54.7**	**-0.6**
	0.5nm,0.7s,baz=282,slow=8.3,SNR=8.1						
NVAR	**Mina Array Bea**	**43.77**	**83**	P	**P**	**02 24 08.4**	**+1.0**
	0.3nm,0.6s,baz=294,slow=7.3,SNR=4.8						
PDAR	**Pinedale Array**	**46.45**	**72**	P	**P**	**02 24 28.4**	**-0.3**
	0.2nm,0.4s,baz=331,slow=1.9,SNR=3.7						
ARCES	**ARCESS Array B**	**57.65**	**350**	P	**P**	**02 25 52.1**	**+0.6**
	2.4nm,0.9s,baz=20,slow=8.0,SNR=2.9						
TXAR	**Lajitas Array**	**58.86**	**81**	P	**P**	**02 26 00.8**	**+0.5**
	0.4nm,0.5s,baz=302,slow=4.8,SNR=12						
WRA	**Warramunga Arr**	**82.09**	**223**	P	**P**	**02 28 22.1**	**+0.3**
	0.5nm,0.8s,baz=30,slow=5.9,SNR=3.1						

*ISK **25** 02:19:37.0, 34.°86N×40.°51E, h25km, MD3.9*
*NSSC **25** 02:19:37.8±1.5, 35.°04N×40.°60E, h6km±10km, ML2.6*
*CSEM **25** 02:19:38.2±0.7, 35.°05N×40.°54E, h5km, ML2.6, Error ellipse: s-maj=14.9km s-min=7.3km az=141.0*

ISC 25 02:19:38.3±2.7, 35.°0N±0.°1×40.°57E±0.°08, h10km±11km, n30, σ0s76/43, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.79**	**5**	*e*P	**Pg**	**02 19 53.5**	**-0.1**
MZRK				*e*S	**Sg**	**02 20 04.0**	**+0.2**
MZRK				AML	AML	02 20 12.8	
	comp=Z,133nm,0.4s						
MZRK	**Al-Mazaregh**	**0.79**	**5**	*e*P	**Pg**	**02 19 53.5**	**-0.1**
	SNR=75						
MZRK				*e*S	**Sg**	**02 20 04.0**	**+0.2**
	comp=Z,133nm,0.4s,SNR=59						
SFNV	**Sufian**	**1.42**	**345**	*e*P	**Pn**	**02 20 03.5**	**-0.8**
SFNV				*e*S	**Sb**	**02 20 21.9**	**-1.4**
SFNV				AML	AML	02 20 27.7	
	comp=Z,251nm,0.5s						
SFNV	**Sufian**	**1.42**	**345**	*e*P	**Pn**	**02 20 03.5**	**-0.8**
	SNR=57						
SFNV				*e*S	**Sb**	**02 20 21.9**	**-1.4**
	comp=Z,251nm,0.5s,SNR=49						
JHLN	**Al Jahlan**	**1.85**	**291**	*e*P	**Pn**	**02 20 10.2**	**+0.1**
JHLN				*e*S	**Sb**	**02 20 34.7**	**-0.7**
JHLN	**Al Jahlan**	**1.85**	**291**	*e*P	**Pn**	**02 20 10.2**	**+0.1**
	SNR=45						
JHLN				*e*S	**Sb**	**02 20 34.7**	**-0.7**
	SNR=40						
KBSD	**Kabsdagh**	**1.96**	**359**	*e*P	**Pn**	**02 20 10.9**	**-0.7**
KBSD				*e*S	**Sn**	**02 20 36.5**	**+0.3**
KBSD				AML	AML	02 20 39.3	
	comp=Z,84nm,0.3s						
KBSD	**Kabsdagh**	**1.96**	**359**	*e*P	**Pn**	**02 20 10.9**	**-0.7**
	SNR=45						
KBSD				*e*S	**Sn**	**02 20 36.5**	**+0.3**
	comp=Z,84nm,0.3s,SNR=40						
MARD	**Mardin**	**2.27**	**4**	*i* P	**Pn**	**02 20 15.3**	**-0.8**
MARD				*i* S	**Sn**	**02 20 44.2**	**0.0**
URFA	**Urfa**	**2.78**	**330**	*e*PN	**Pn**	**02 20 23.0**	**0.0**
URFA				*e*SN	**Sn**	**02 20 56.9**	**+0.3**
URFA	**Urfa**	**2.78**	**330**	*e*Pn	**Pn**	**02 20 23.0**	**0.0**
URFA				*e*Sn	**Sn**	**02 20 56.9**	**+0.3**
DIY	**Diyarbakir**	**2.86**	**355**	*e*PN	**Pn**	**02 20 25.1**	**+1.0**
DIY	**Diyarbakir**	**2.86**	**355**	*e*Pn	**Pn**	**02 20 25.1**	**+1.0**
BEST	**Besiri**	**2.90**	**11**	*i* P	**Pn**	**02 20 24.3**	**-0.3**
BEST				*i* S	**Sn**	**02 20 59.5**	**-0.1**
BTMT	**Batman**	**3.23**	**13**	*e*PN	**Pn**	**02 20 29.0**	**-0.2**
BTMT	**Batman**	**3.23**	**13**	*e*Pn	**Pn**	**02 20 29.0**	**-0.2**
GAZ	**Gaziantep**	**3.45**	**309**	*e*PN	**Pn**	**02 20 31.8**	**-0.4**
GAZ	**Gaziantep**	**3.45**	**309**	*e*Pn	**Pn**	**02 20 31.8**	**-0.4**
MALT	**Malatya**	**3.69**	**333**	*e*PN	**Pn**	**02 20 36.5**	**+1.1**
MALT	**Malatya**	**3.69**	**333**	*e*Pn	**Pn**	**02 20 36.6**	**+1.1**
MYA	**Malataya**	**3.70**	**333**	*e*PN	**Pn**	**02 20 37.0**	**+1.3**
MYA	**Malataya**	**3.70**	**333**	*e*Pn	**Pn**	**02 20 37.0**	**+1.3**
KMRS	**Kahramanmaras**	**3.85**	**311**	*e*PN	**Pn**	**02 20 37.9**	**+0.3**
KMRS	**Kahramanmaras**	**3.85**	**311**	*e*Pn	**Pn**	**02 20 37.9**	**+0.3**
AKCD	**Akcadag**	**3.88**	**328**	*i* P	**Pn**	**02 20 37.9**	**-0.3**
AKCD				*i* S	**Sb**	**02 21 35.5**	**+1.5**
AKCD	**Akcadag**	**3.88**	**328**	*i* P	**Pn**	**02 20 37.9**	**-0.3**
VRTB	**Varto-Mus**	**4.17**	**10**	*e*PN	**Pn**	**02 20 43.6**	**+1.4**
VRTB	**Varto-Mus**	**4.17**	**10**	*e*Pn	**Pn**	**02 20 43.6**	**+1.4**
KOZT	**Kozan**	**4.54**	**304**	*e*PN	**Pn**	**02 20 47.3**	**+0.2**
KOZT	**Kozan**	**4.54**	**304**	*e*Pn	**Pn**	**02 20 47.3**	**+0.2**

*ISCJB **25** 02:20:04.0±0.6, 24.°79N±0.°04×122.°42E±0.°02, h3km±5km, Error ellipse: s-maj=7.4km s-min=3.2km az=12.2*
*JMA **25** 02:20:04.8±0.4, 24.°80N×122.°45E, h6km, M2.6*
*TAP **25** 02:20:05.0, 24.°79N×122.°31E, h6km, ML3.1, D*

ISC 25 02:20:04.1±1.1, 24.°79N±0.°04×122.°41E±0.°02, h7km±10km, n23, σ0s47/34, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.44**	**299**	P	**Pg**	**02 20 12.9**	**+0.2**
	baz=307						
TWB1				S	**Sg**	**02 20 18.6**	**+0.1**
	baz=307						
TWC	**Suao**	**0.55**	**250**	P	**Pg**	**02 20 14.4**	**-0.2**
	baz=246						
YOJ	**Yonaguni jima**	**0.64**	**121**	P	**Pg**	**02 20 16.6**	**+0.2**
YOJ				S	**Sg**	**02 20 24.9**	**+0.2**
NWF	**Wu-fen Shan**	**0.64**	**296**	P	**Pb**	**02 20 17.4**	**-0.3**
	baz=300						
NWF				*e*S	**Sb**	**02 20 26.1**	**-0.7**
	baz=300						
TWE	**Neicheng**	**0.68**	**264**	P	**Pg**	**02 20 17.3**	**0.0**
	baz=263						
TWE				S	**Sg**	**02 20 26.6**	**+0.4**
	baz=263						
ENA	**Nanau**	**0.71**	**239**	P	**Pg**	**02 20 18.2**	**+0.4**
	baz=235						
ENTT	**Nioudou**	**0.79**	**259**	P	**Pb**	**02 20 19.8**	**-0.3**
	baz=257						
ENTT				*e*S	**Sg**	**02 20 30.0**	**+0.5**
	baz=257						
TWY	**Chenhua**	**0.88**	**303**	*e*P	**Pb**	**02 20 21.8**	**+0.1**
	baz=307						
TWY				S	**Sb**	**02 20 33.3**	**-0.4**
	baz=307						
PCYT	**Pengchaiyu**	**0.89**	**340**	*e*P	**Pb**	**02 20 22.4**	**+0.5**
	baz=345						
NSK	**Sanguang**	**0.97**	**263**	P	**Pg**	**02 20 22.7**	**0.0**
	baz=262						
NSK				*e*S	**Sg**	**02 20 34.0**	**-1.3**
	baz=262						
NNS	**Nan Shan**	**1.01**	**250**	*e*P	**Pg**	**02 20 23.6**	**0.0**
	baz=247						
NNS				*e*S	**Sg**	**02 20 37.0**	**+0.3**
	baz=247						
TWD	**Chiawan**	**1.03**	**227**	*e*P	**Pb**	**02 20 24.2**	**-0.1**
	baz=222						
WHF	**Hehuan Shan**	**1.23**	**239**	*i* P	**Pg**	**02 20 27.6**	**-0.2**
	baz=235						
WHF				*e*S	**Sb**	**02 20 44.1**	**-0.1**
	baz=235						
IRIF	**Iriomote-Funau**	**1.28**	**111**	P	**Pb**	**02 20 28.7**	**+0.1**
IRIF				S	**Sg**	**02 20 44.7**	**-0.7**
NSTT	**Nanjuang**	**1.29**	**263**	*e*P	**Pn**	**02 20 28.5**	**-0.1**
	baz=262						
NSTT				*e*S	**Sg**	**02 20 45.6**	**-0.2**
	baz=262						
HATJ	**Hateruma jima**	**1.47**	**120**	*e*S	**Sn**	**02 20 50.6**	**+0.2**
JKRS	**Kuro-shima**	**1.56**	**111**	*e*S	**Sn**	**02 20 52.9**	**+0.3**
TWQ1	**Liyutan**	**1.56**	**254**	*e*P	**Pn**	**02 20 32.9**	**+0.6**
	baz=252						
JIJ	**Ishigaki jima**	**1.63**	**105**	P	**Pn**	**02 20 32.7**	**-0.6**
SMLT	**Sun Moon Lake**	**1.65**	**237**	*e*P	**Pb**	**02 20 34.8**	**-0.2**
	baz=234						
TYC	**Yuchr**	**1.67**	**238**	*e*P	**Pb**	**02 20 34.9**	**-0.3**
	baz=236						
ALS	**Alishan**	**1.95**	**229**	*e*P	**Pb**	**02 20 40.1**	**-0.1**
	baz=227						
CHN5	**Tsauling**	**1.98**	**233**	*e*P	**Pn**	**02 20 39.3**	**+1.1**
	baz=231						

MEX 25 02:39:34.7±1.0, 16.°57N×94.°21W, h119km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.83**	**309**	*e*P	Pn	02 39 53.6	-1.4
CMIG				*i* S	Sn	02 40 08.9	-1.5
TGIG		**1.06**	**79**	*i* P	Pn	02 39 56.1	-1.2
TGIG				*i* S	Sn	02 40 12.7	-1.8
HUIG	**Huatulco**	**1.99**	**247**	*e*P	Pn	02 40 05.7	-2.4
HUIG				*

BUKP Musuan 2.06 212 *e*P **Pn** **03 13 37.5 -1.3**
OCLP Ormoc 2.06 313 *e*P **Pn** **03 13 38.9 +0.1**
BESP Borongan 2.07 340 *e*P **Pn** **03 13 37.3 -1.6**
LLP Lapu-Lapu 2.25 287||*e*P **Pn** **03 13 41.0 -0.4**
LLP *i* S **Sn** **03 14 10.5 +2.1**
TBP Tagbilaran 2.26 271 *e*P **Pn** **03 13 40.9 -0.6**
TBP *e*S **Sn** **03 14 08.6 +0.2**
DAV Davao City (W) 2.62 192 P **Pn** **03 13 46.1 -0.3**
123nm,0.3s,baz=26,slow=3.2,SNR=3.8
DAV LR LR 03 15 01.7
comp=Z,1µm,21.2s,baz=318,slow=44
DAV Davao City (W) 2.62 192 *e*Pn **Pn** **03 13 45.3 -1.0**
DAV Davao City (W) 2.62 192 P Pn 03 13 52.8 +6.4
DMPH Davao City--Mi 2.62 194||*i*P **Pn** **03 13 45.2 -1.2**
MATI Mati 2.68 178 *e*P **Pn** **03 13 47.1 -0.1**
CTBH Cotabato--PC H 3.06 218||*i*P **Pn** **03 13 51.1 -1.1**
CNP Catarman 3.20 333 *e*P **Pn** **03 13 52.9 -1.3**
GUIM Jordan 3.64 286 *e*P **Pn** **03 14 00.3 +0.2**
RCP Roxas 3.85 300||*i*P **Pn** **03 14 03.5 +0.4**
PVCP Virac 4.39 334 *e*P **Pn** **03 14 10.2 -0.2**
CUYO Cuyo Island 5.19 284 *e*P **Pn** **03 14 23.3 +2.0**
TGY Tagaytay City 6.76 311 P **Pn** **03 14 45.2 +2.4**
49nm,0.3s,baz=303,slow=20,SNR=4.2
TGY Tagaytay City 6.76 311 P **Pn** **03 14 45.2 +2.4**
MYLDM Lahad Datu 8.79 240 P Pn 03 15 21.3 +11
42nm,1.2s
MRSI Marisa 10.02 205 P Pn 03 15 39.4 +12
26nm,0.8s
KKM Kota Kinabalu 10.47 251 *e*Pn Pn 03 15 30.2 -3.4
LUWI Luwuk 11.13 198 P Pn 03 15 55.3 +13
NLAI Namlea 12.83 176 P P 03 16 17.0 +3.6
AAI Ambon 13.40 171 S Sn 03 18 30.5 -10
baz=7.5,SNR=4.4
TTSI Tana Toraja 14.10 207 P **P** **03 16 26.4 -1.0**
22nm,0.7s,1µm
SPSI Sidrap Palu 14.94 205 P **P** **03 16 38.0 +1.2**
18nm,1.0s
SBUM Sibu 15.58 244 P **P** **03 16 46.2 +2.2**
39nm,1.1s
KAPI Kappang 15.90 204 P **P** **03 16 45.2 -2.2**
1.2nm,0.3s,baz=264,slow=9.9,SNR=5.2
KAPI LR LR 03 22 57.3
comp=Z,118nm,19.7s,baz=208,slow=37
KAPI Kappang 15.90 204 *e*Pn **P** **03 16 45.2 -2.2**
14nm,1.1s
KAPI Kappang 15.90 204 P **P** **03 16 46.1 -1.4**
15nm,1.2s
BKSI Bulukumba 16.03 202 P P 03 16 52.6 +3.6
9.5nm,0.8s
KBKI Kotabaru 16.26 218 P P 03 17 01.1 +10
27nm,0.9s,2µm
JOW Kunigami 17.21 6 P **P** **03 17 05.0 +3.1**
1.3nm,0.3s,baz=243,slow=12,SNR=4.4
JOW Kunigami 17.21 6 P **P** **03 17 05.0 +3.1**
QIZ Qiongzhong 18.33 302 P **P** **03 17 13.3 -1.1**
QIZ S **S** **03 20 37.6 -1.6**
QIZ pmax pmax
comp=Z,46nm,2.1s
QIZ LR LR
comp=Z,230nm,17.1s
KMMI Kalianget 20.55 217 P Pn 03 17 46.6 +5.2
comp=Z,24nm,0.8s
MTN Manton Dam 22.88 167 P **P** **03 18 02.1 -1.2**
baz=17,SNR=4.5
CBIJ Chichi jima 23.04 39 P **P** **03 18 03.0 -1.8**
comp=Z,47nm,0.5s,baz=296,slow=19,SNR=5.7
CBIJ LR LR 03 26 13.5
comp=Z,108nm,18.9s,baz=133,slow=34
CBIJ Chichi jima 23.04 39 P **P** **03 18 03.0 -1.8**
KDU Kakadu 23.06 164 P **P** **03 18 02.9 -2.2**
baz=17,SNR=5.9
MYKOM Kota Tinggi 23.50 252 P P 03 18 12.8 +3.5
comp=Z,19nm,0.6s
BJII Banjamegara 23.51 225 P pP 03 18 20.9 -5.6
WHN Wuhan 23.53 334 P **P** **03 18 10.5 +1.2**
JNU Nakatsue 23.77 10 P **P** **03 18 11.2 -0.4**
comp=Z,8.7nm,0.9s,baz=93,slow=6.1,SNR=2.5
JNU Nakatsue 23.77 10 P **P** **03 18 11.2 -0.4**
GYA Guiyang 24.90 315 P **P** **03 18 22.0 +0.1**
GYA pP **pP** **03 18 38.8 -1.3**
GYA sP **sP** **03 18 48.3 -1.1**
GYA PP **PnPn** **03 19 01.0 +1.8**
GYA S **S** **03 22 36.5 -3.2**
GYA sS sS 03 23 06.5 -4.6
GYA ScP **ScP** **03 25 27.6 -0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,4.7s
GYA LR LR
comp=N,450nm,15.3s
GYA LR LR
comp=E,380nm,17.5s
GYA LR LR
comp=Z,440nm,15.8s
IPM Ipoh 25.45 260 *e*P **P** **03 18 28.9 +2.0**
comp=Z,20nm,1.0s
IPM Ipoh 25.45 260 P P 03 18 31.1 +4.1
comp=Z,23nm,1.0s
FITZ Fitzroy Crossi 27.57 181 P **P** **03 18 45.5 -0.5**
comp=Z,11nm,0.8s,baz=14,slow=8.1,SNR=16
FITZ Fitzroy Crossi 27.57 181 *e*P **P** **03 18 44.9 -1.0**
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 27.57 181 P **P** **03 18 45.4 -0.5**
baz=22,SNR=9.1
KSAR Wonju Array Be 27.72 3 P **P** **03 18 48.0 +0.9**
KSRS Korea Array 27.73 3 P **P** **03 18 48.0 +0.8**
comp=Z,3.2nm,0.8s,baz=178,slow=11,SNR=8.6
KSRS LR LR 03 28 52.2
comp=Z,32nm,22.0s,baz=185,slow=34
CMAR Chiang Mai Arr 27.77 291 P **P** **03 18 48.9 +1.0**
comp=Z,1.1nm,0.4s,baz=98,slow=8.0,SNR=5.3
CMAR LR LR 03 30 55.4
comp=Z,77nm,19.4s,baz=130,slow=38
CMAR Chiang Mai Arr 27.77 291 P **P** **03 18 48.9 +1.0**
PMG Port Moresby 28.20 132 P **P** **03 18 50.5 -1.2**
comp=Z,5.4nm,0.4s,baz=326,slow=9.3,SNR=2.5
PMG Port Moresby 28.20 132 *e*P **P** **03 18 50.0 -1.7**
comp=Z,9.1nm,0.7s
MJAR Matsushiro Arr 28.93 20 P **P** **03 18 56.7 -1.2**
comp=Z,1.3nm,0.6s,baz=200,slow=10,SNR=5.2
MJAR Matsushiro Arr 28.93 20 P **P** **03 18 56.7 -1.2**
GSI Gunungsitoli 29.60 255 S **S** **03 23 48.5 -5.4**
baz=28,SNR=21
CD2 Chengdu 29.70 319 P **P** **03 19 06.3 +1.5**
CD2 pP **pP** **03 19 23.6 +0.4**
CD2 sP **sP** **03 19 32.8 +0.3**
CD2 PP **PnPn** **03 20 05.4 +1.8**
CD2 S **S** **03 23 55.4 +0.2**
CD2 sS **sS** **03 24 25.8 -1.1**
CD2 SS **SnSn** **03 25 34.8 +2.5**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,100nm,6.5s
CD2 LR LR
comp=N,270nm,5.9s
CD2 LR LR
comp=Z,240nm,6.5s
WRAB Tennant Creek 30.48 165 *e*P **P** **03 19 09.2 -2.5**
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 30.48 165 *e*P **P** **03 19 09.2 -2.5**
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 30.49 165 P **P** **03 19 10.0 -1.9**
comp=Z,1.5nm,0.7s,baz=346,slow=8.1,SNR=21
WRA PcP **PcP** **03 22 09.5 0.0**
comp=Z,0.8nm,0.6s,baz=342,slow=2.7,SNR=5.0
WRA Warramunga Arr 30.49 165 P **P** **03 19 10.0 -1.9**
WRA PcP **PcP** **03 22 09.5 0.0**
MBWA Marble Bar 31.25 192 *e*P **P** **03 19 18.9 +0.4**
comp=Z,6.9nm,0.6s
BJI Beijing 31.55 345 P **P** **03 19 21.1 +0.2**
BJI pP **pP** **03 19 37.1 -2.3**
BJI sP **sP** **03 19 46.5 -2.1**
BJI pmax pmax
comp=Z,16nm,0.9s
LZH Lanzhou 33.22 326 *e*P P 03 19 32.5 -3.4
LZH pP pP 03 19 50.6 -3.8
LZH sP sP 03 19 59.8 -3.8
LZH PP **PnPn** **03 20 46.0 -2.7**
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,53nm,5.1s
LZH LR LR
comp=N,400nm,13.2s
LZH LR LR
comp=E,410nm,13.6s
LZH LR LR
comp=Z,500nm,17.5s
HHC Hu-ho-hao-te 33.66 340 *e*P **P** **03 19 42.0 +2.5**
HHC pP **pP** **03 19 59.8 +1.7**
HHC sP **sP** **03 20 09.1 +1.8**
HHC S **S** **03 24 59.1 +2.2**
HHC sS **sS** **03 25 30.1 +1.3**
HHC SS **SnSn** **03 27 06.3 -2.0**
HHC ScS **ScS** **03 29 56.4 -0.9**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,96nm,6.5s
HHC LR LR
comp=N,160nm,12.3s
HHC LR LR
comp=E,130nm,13.2s
HHC LR LR
comp=Z,110nm,14.7s
ASAR Alice Springs 33.96 167 P **P** **03 19 42.8 +0.5**
comp=Z,1.2nm,0.3s,baz=344,slow=7.1,SNR=28
ASAR PcP **PcP** **03 22 19.2 +0.2**
comp=Z,1.5nm,0.7s,baz=339,slow=1.9,SNR=7.2
ASAR Alice Springs 33.96 167 P **P** **03 19 42.8 +0.5**
ASAR PcP **PcP** **03 22 19.2 +0.2**
CN2 Changchun 34.03 359 *e*P **P** **03 19 42.3 -0.3**
CN2 *e*sP **sP** **03 20 09.5 -0.9**
CN2 *e*S **S** **03 25 00.8 -1.5**
CN2 *e*SS **SnSn** **03 27 15.6 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 34.80 7 P **P** **03 19 50.1 +0.9**
comp=Z,4.8nm,0.6s,baz=195,slow=7.7,SNR=13
MDJ Mudanjiang 34.97 4 P **P** **03 19 51.6 +0.9**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,120nm,4.1s
CTAO Charters Tower 35.56 146 *e*P **P** **03 19 56.6 +0.5**
CTAO pmax pmax
comp=Z,12nm,1.1s
CTAO Charters Tower 35.56 146 *e*P **P** **03 19 56.6 +0.5**
comp=Z,12nm,1.1s
SHL Shillong 36.15 300 *e*P **P** **03 20 00.0 -1.3**
MEEK Meekatharra 36.80 191 P **P** **03 20 06.7 +0.1**
baz=31,SNR=11
GTA Gaotai 37.83 326 *e*P **P** **03 20 15.8 +0.5**
GTA pP **pP** **03 20 33.6 -0.5**
GTA sP **sP** **03 20 43.6 +0.4**
GTA S **S** **03 26 01.5 +0.7**
GTA sS **sS** **03 26 31.9 -1.2**
GTA SS **SnSn** **03 28 40.8 -8.2**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,130nm,3.8s
GTA LR LR
comp=N,85nm,13.3s
GTA LR LR
comp=E,98nm,15.2s
GTA LR LR
comp=Z,100nm,16.6s
HABR Khabarovsk 39.42 9 *e*P **P** **03 20 26.8 -1.5**
HABR *e**PP **pP** **03 20 45.4 -1.8**
HABR *e* 03 21 58.5
HABR *e* 03 26 22.5
HABR *i* 03 29 43.5
HABR pmax pmax
comp=N,35nm,2.0s
HABR pmax pmax
comp=E,55nm,2.7s
HABR pmax pmax
comp=Z,50nm,2.0s
HABR MLR MLR
comp=Z,44nm,17.0s
MORW Morawa 39.70 194 P **P** **03 20 31.1 +0.3**
baz=34,SNR=7.3
FORT Forrest 40.23 177 *e*P **P** **03 20 35.1 0.0**
comp=Z,50nm,0.7s
FORT Forrest 40.23 177 P **P** **03 20 35.2 0.0**
baz=34,SNR=33
TAPN Taplejung 40.27 301 *e*P **P** **03 20 36.0 0.0**
comp=Z,24nm,0.9s
KMBL Kambalda 40.98 186 P **P** **03 20 41.4 0.0**
baz=35,SNR=6.7
RAMN Ramite 41.09 300 *e*P **P** **03 20 42.4 -0.3**
comp=Z,9.2nm,0.6s
ULN Ulaanbaatar 41.37 341 *e*P **P** **03 20 44.7 +0.1**
comp=Z,7.3nm,1.2s
ULN Ulaanbaatar 41.37 341 P P 03 20 48.4 +3.8
SONM Songino Array 41.56 340 P **P** **03 20 45.3 -0.9**
comp=Z,0.5nm,0.4s,baz=155,slow=9.1,SNR=6.0
SONM PcP **PcP** **03 22 42.4 +0.3**
comp=Z,1.0nm,0.7s,baz=161,slow=4.1,SNR=5.3
SONM Songino Array 41.56 340 P **P** **03 20 45.3 -0.9**
SONM PcP **PcP** **03 22 42.4 +0.3**
KLBR Kellerberrin 41.78 191 P **P** **03 20 47.2 -0.8**
baz=36,SNR=4.3
GUN Gumba 41.98 301 *e*P **P** **03 20 50.0 -0.2**
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 43.18 191 P **P** **03 20 59.9 +0.7**
comp=Z,13nm,0.6s,baz=8.1,slow=5.6,SNR=9.8
NWAO Narrogin (SRO) 43.18 191 P **P** **03 20 59.9 +0.7**
BBOO Buckleboo 43.26 168 *e*P **P** **03 20 59.5 -0.5**
BBOO Buckleboo 43.26 168 P **P** **03 20 59.5 -0.5**
baz=38,SNR=23
STKA Stephens Creek 43.85 161 P **P** **03 21 03.6 -1.1**
comp=Z,2.4nm,0.4s,baz=329,slow=8.3,SNR=5.9
STKA Stephens Creek 43.85 161 P **P** **03 21 03.6 -1.1**
STKA Stephens Creek 43.85 161 P **P** **03 21 04.0 -0.6**
baz=38,SNR=4.5
KOLN Kolanda 43.88 300 *e*P **P** **03 21 05.1 -0.2**
comp=Z,7.1nm,0.5s
DANN Dangsing 43.90 301 *e*P **P** **03 21 04.9 -0.7**
comp=Z,11nm,0.5s
PYUN Piuthan 44.49 300 *e*P **P** **03 21 10.2 0.0**
comp=Z,36nm,0.9s
RKGY Rocky Gully 44.86 191 P **P** **03 21 14.2 +1.5**
baz=39,SNR=6.7
CLNS Chul'man 47.09 359 *e*P **P** **03 21 29.8 -0.2**
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.8s
WMQ Urumqi 47.64 322 *e*P **P** **03 21 36.1 +1.5**
WMQ pmax pmax
comp=Z,3.0nm,1.6s
ARPS Mount Arapiles 48.47 163 P **P** **03 21 40.9 +0.1**
baz=43,SNR=4.9
PETK Petropavlovsk- 50.25 24 P **P** **03 21 55.3 +1.0**
comp=Z,3.5nm,0.5s,baz=174,slow=4.6,SNR=6.1
PETK Petropavlovsk- 50.25 24 P **P** **03 21 55.3 +1.0**
PETK pmax pmax
comp=Z,4.0nm,0.5s
PETK Petropavlovsk- 50.25 24 P **P** **03 21 55.3 +1.0**
DZM Mont Dzumac 50.55 129 P **P** **03 21 57.5 +0.4**
comp=Z,8.7nm,0.6s,baz=285,slow=22,SNR=5.0
DZM Mont Dzumac 50.55 129 P **P** **03 21 57.5 +0.4**
YAK Yakutsk 52.35 2 *e*P P 03 22 05.2 -4.6
YAK pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 52.35 2 *e*P **P** **03 22 09.8 +0.1**
comp=Z,16nm,0.5s
MK31 Makanchi Array 52.45 323*ce*P **P** **03 22 10.0 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 52.45 323 *e*P **P** **03 22 10.2 -0.7**
MKAR Makanchi Array 52.45 323 P **P** **03 22 10.4 -0.5**
comp=Z,3.9nm,0.6s,baz=122,slow=8.1,SNR=59
MKAR PcP **PcP** **03 23 20.7 +0.1**
comp=Z,1.9nm,0.8s,baz=115,slow=4.5,SNR=2.7
MKAR Makanchi Array 52.45 323 P **P** **03 22 10.4 -0.5**
MKAR 03 23 20.7
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 52.45 323 *e*P **P** **03 22 10.4 -0.5**
MKAR PcP **PcP** **03 23 20.7 +0.1**
KSH Kashi 53.56 312 *e*P **P** **03 22 21.0 +1.7**
KSH *e*pP **pP** **03 22 40.3 +1.2**
KSH sP **sP** **03 22 49.1 +1.1**
KSH *e*PcP **PcP** **03 23 25.6 +0.5**
KSH *e*PP **PP** **03 24 23.6 +3.0**
KSH ScP **ScP** **03 27 15.8 -0.3**
KSH PcS **PcS** **03 27 24.0 -0.3**
KSH S **S** **03 29 46.8 0.0**
KSH sS **sS** **03 30 19.9 -0.6**
KSH pmax pmax
comp=Z,45nm,5.2s
KSH LR LR
comp=N,130nm,4.9s
KSH LR LR
comp=E,75nm,5.8s
KSH LR LR
comp=Z,160nm,5.9s
ZAA0 Zalesovo Array 55.12 332 *e*P **P** **03 22 28.4 -1.7**
ZALV Zalesovo Beam 55.12 332 P **P** **03 22 28.9 -1.1**
comp=Z,2.6nm,0.6s,baz=108,slow=6.2,SNR=13
ZALV PcP **PcP** **03 23 29.5 -1.0**
comp=Z,0.8nm,0.5s,baz=127,slow=3.8,SNR=2.1
ZALV Zalesovo Beam 55.12 332 P **P** **03 22 29.0 -1.1**
ZALV 03 23 29.5
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 55.12 332 P **P** **03 22 28.9 -1.1**
ZALV PcP **PcP** **03 23 29.5 -1.0**
EKS2 Erkin-Say 56.19 315 *e*P **P** **03 22 38.5 +0.3**
EKS2 pmax pmax
comp=Z,9.0nm,1.5s
EKS2 Erkin-Say 56.19 315 *e*P **P** **03 22 38.5 +0.3**
comp=Z,9.4nm,1.5s
SEY Seymchan 56.45 14*ce*P **P** **03 22 40.0 +0.5**
KURK Kurchatov 56.51 326 P **P** **03 22 39.3 -0.9**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 56.51 326 *e*P **P** **03 22 39.5 -0.7**
comp=Z,5.2nm,0.8s
KBL Kabul 57.59 305 *e*P **P** **03 22 48.3 -0.1**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 57.59 305 *e*P **P** **03 22 48.3 -0.1**
comp=Z,6.9nm,0.8s
MSVF Nonsavu 58.03 118 *e*P **P** **03 22 53.2 +1.8**
MSVF pmax pmax
comp=Z,14nm,0.9s
MSVF Nonsavu 58.03 118 *e*P **P** **03 22 53.2 +1.8**
comp=Z,14nm,0.9s
KK31 Karatay Array 58.60 315*ce*P **P** **03 22 54.6 -0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 58.60 315 *e*P **P** **03 22 54.8 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 58.60 315 *e*P **P** **03 22 54.8 -0.3**
comp=Z,2.9nm,0.6s
VOSK Vostochnaya 61.66 325 P **P** **03 23 14.2 -1.6**
VOSK pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 61.98 1*d*/*i*P **P** **03 23 17.5 0.0**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 61.98 1 *e*P **P** **03 23 17.3 -0.2**
comp=Z,14nm,0.9s
BVAR Borovoye Array 62.11 326 P **P** **03 23 18.8 0.0**
comp=Z,3.5nm,0.8s,baz=123,slow=11,SNR=12
BVAR Borovoye Array 62.11 326 P **P** **03 23 18.8 0.0**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 62.11 326 P **P** **03 23 18.8 0.0**
BRVK Borovoye 62.18 326 *e*P **P** **03 23 19.0 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 62.18 326 *e*P **P** **03 23 19.0 -0.2**
comp=Z,7.2nm,1.1s
ZRNK Zerenda 62.86 325 *i* P **P** **03 23 22.7 -1.0**
ZRNK pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 64.03 16||*i*P **P** **03 23 31.9 +0.7**
BILL *e* 03 24 04.5
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL Bilibino 64.03 16 *e*P **P** **03 23 31.4 +0.2**
comp=Z,9.5nm,0.8s
RPZ Rata Peaks 66.93 146 P **P** **03 23 50.7 +0.4**
comp=Z,4.8nm,0.5s,baz=22,slow=17,SNR=4.0
RPZ Rata Peaks 66.93 146 P **P** **03 23 50.7 +0.4**
AB31 Akbulak array 67.27 319*ce*P **P** **03 23 51.5 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 67.27 319 *e*P **P** **03 23 51.8 -0.6**
ARU Arti 69.68 327*c i*P **P** **03 24 06.2 -1.1**
ARU 03 26 38.9
ARU S **S** **03 33 09.9 +0.2**
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU Arti 69.68 327 *e*P **P** **03 24 05.1 -2.2**
comp=Z,8.0nm,0.5s
KDAK Kodiak Island 77.25 33 P **P** **03 24 52.1 +0.5**
comp=Z,5.0nm,0.6s,baz=168,slow=23,SNR=8.0
KDAK Kodiak Island 77.25 33 P **P** **03 24 52.1 +0.5**
ZEI Tsey 77.85 312 *e*P **P** **03 24 54.9 -0.7**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 78.54 313 P **P** **03 24 58.8 -0.3**
comp=Z,2.2nm,0.9s,baz=283,slow=8.5,SNR=3.7
KBZ Khabaz 78.54 313 P **P** **03 24 58.8 -0.3**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 78.54 313 P **P** **03 24 58.8 -0.3**
COLD Coldfoot 78.71 23 *e*P **P** **03 25 01.5 +1.9**
comp=Z,14nm,1.4s
KLMR Klimovskoe 80.01 330 *e*P **P** **03 25 05.4 -1.3**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
ILAR Eielson Array 80.05 26 P **P** **03 25 06.1 -0.9**
comp=Z,1.7nm,0.7s,baz=238,slow=5.1,SNR=27
ILAR Eielson Array 80.05 26 P **P** **03 25 06.1 -0.9**
JOF Joensuu 83.69 333 *e*P **P** **03 25 25.9 -0.1**
JOF pmax pmax
comp=Z,4.0nm,0.5s
KEV Kevo 84.17 340 *e*P **P** **03 25 27.5 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 84.17 340 *e*p **P** **03 25 27.5 -0.9**
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 84.74 340 P **P** **03 25 31.2 -0.1**
comp=Z,3.1nm,0.5s,baz=85,slow=6.5,SNR=34
ARCES ARCESS Array B 84.74 340 P **P** **03 25 31.2 -0.1**
INK Inuvik 84.91 22 *e*P **P** **03 25 33.0 +0.9**
comp=Z,13nm,1.4s
BR131 Keskin Array S 85.83 309 *e*P **P** **03 25 36.9 -0.7**
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 85.83 309 P **P** **03 25 36.9 -0.7**
comp=Z,1.2nm,0.7s,baz=93,slow=3.5,SNR=7.9
BRTR Keskin Array B 85.83 309 P **P** **03 25 36.9 -0.7**
KAF Kangasniemi 86.12 332 *e*P **P** **03 25 36.5 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.5s
FIA1 FINESS Array S 86.38 332 *e*P **P** **03 25 38.7 -0.8**
FINES FINESS Array B 86.38 332 P **P** **03 25 39.2 -0.3**
comp=Z,3.5nm,0.4s,baz=73,slow=4.7,SNR=46
FINES FINESS Array B 86.38 332 P **P** **03 25 39.2 -0.3**
AKASG Malin Array Be 86.97 321 P **P** **03 25 42.0 -0.7**
comp=Z,0.7nm,0.4s,baz=60,slow=5.3,SNR=4.8
AKASG Malin Array Be 86.97 321 P **P** **03 25 42.0 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 86.97 321 P **P** **03 25 42.0 -0.7**
VNDA Vanda 89.33 173 P **P** **03 25 53.4 +0.2**
comp=Z,1.0nm,0.5s,baz=298,slow=4.2,SNR=5.2
VNDA Vanda 89.33 173 *e*P **P** **03 25 53.2 0.0**
comp=Z,2.2nm,0.9s
UZH Uzhgorod 91.84 320 *e*P P 03 26 10.5 +4.9
RES Resolute Bay 92.13 10 *e*P **P** **03 26 06.7 +0.4**
comp=Z,1.9nm,0.7s
CRVS Cervenica-Dubn 92.29 320 *e*P **P** **03 26 07.4 -0.3**
CRVS pmax pmax
comp=Z,2.0nm,0.8s
CRVS Cervenica-Dubn 92.29 320 *e*P **P** **03 26 07.4 -0.3**
NB2 NORSAR Subarra 93.26 334 P P **03 26 10.5 -1.4**
comp=Z,0.9nm,0.6s,baz=65,slow=4.6
NOA NORSAR Array B 93.26 334 P **P** **03 26 10.7 -1.2**

comp=Z,1.6nm,0.7s,baz=66,slow=4.6,SNR=5.9
NOA NORSAR Array B 93.26 334 P **P** **03 26 10.7 -1.2**
VYHS Vyhne 94.07 320 *e*P P 03 26 19.1 +3.2
VYHS *e* 03 26 32.8
VYHS Vyhne 94.07 320 *e*pP pP 03 26 19.1 +3.2
VYHS *e*pP pP 03 26 32.8 -4.5
YKW3 Yellowknife Ar 94.33 24 *e*P **P** **03 26 17.1 +0.3**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 94.37 24 P **P** **03 26 17.5 +0.6**
comp=Z,2.3nm,0.7s,baz=302,slow=4.6,SNR=66
YKA Yellowknife Ar 94.37 24 P **P** **03 26 17.6 +0.6**
GERES GERESS Array B 97.11 322 P Pdif 03 26 29.8 -0.1
comp=Z,0.7nm,0.8s,baz=68,slow=4.6,SNR=5.4
GERES GERESS Array B 97.11 322 P Pdif 03 26 29.8 -0.1
TXAR Lajitas Array 118.32 49 PKP **PKPdf** **03 31 46.2 +0.9**
comp=Z,0.1nm,0.5s,baz=41,slow=1.8,SNR=4.4
TXAR Lajitas Array 118.32 49 PKP **PKPdf** **03 31 46.2 +0.9**
TORD Torodi Ar. Bea 120.39 291 PKP **PKPdf** **03 31 49.0 -0.4**
comp=Z,0.6nm,0.6s,baz=53,slow=2.2,SNR=10
TORD Torodi Ar. Bea 120.39 291 PKP **PKPdf** **03 31 49.0 -0.4**
DBIC Dimbokro 128.57 287 PKP **PKPdf** **03 32 06.0 +0.8**
comp=Z,0.9nm,0.3s,baz=23,slow=7.9,SNR=3.0
DBIC Dimbokro 128.57 287 PKP **PKPdf** **03 32 06.0 +0.8**
PLCA Paso Flores 145.68 157 PKPbc **PKPab** **03 32 37.0 +0.2**
comp=Z,4.8nm,0.8s,baz=215,slow=4.1,SNR=14
PLCA Paso Flores 145.68 157 PKPbc **PKPab** **03 32 37.0 +0.2**

*ISCJB **25** 03:13:06.0±0.4, 11.98S±0.06×166.03E±0.06, h30km, mb4.5/26,MS4.1/10, Error ellipse: s-maj=9.7km s-min=7.7km az=42.6*
*NEIC **25** 03:13:09.2±2.2, 11.97S×166.17E, h48km±18km, mb4.7/14, Error ellipse: s-maj=14.3km s-min=8.9km az=91.0*
*IDC **25** 03:13:09.3±3.2, 11.98S×166.08E, h42km±26km, mb4.1/17, mb1 4.2/20, mb1mx4.1/26, mbtmp4.2/20, ML4.3/3, MS4.1/10, Ms1 4.1/10, ms1mx3.7/36, Error ellipse: s-maj=21.3km s-min=13.7km az=73.0*

ISC 25 03:13:07.5±0.4, 12.01S±0.06×166.10E±0.07, h30km, n82, σ1s23/82, mb4.6/26, MS4.1/10, Santa Cruz Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara 6.56 292**		P	**Pn**	**03 14 42.7**	**+0.6**
	48nm,0.3s,baz=141,slow=9.4,SNR=6.6					
HNR			S	**Sn**	**03 15 54.8**	**-1.2**
	19nm,0.3s,baz=185,slow=23,SNR=6.3					
HNR	**Honiara 6.56 292**		P	**Pn**	**03 14 42.7**	**+0.6**
HNR			S	**Sn**	**03 15 54.8**	**-1.2**
DZM	**Mont Dzumac 10.02 178**		P	**Pn**	**03 15 31.5**	**+1.9**
	3.0nm,0.3s,baz=26,slow=18,SNR=10.0					
DZM			S	**Sn**	**03 17 17.9**	**-3.0**
	0.7nm,0.3s,baz=332,slow=24,SNR=2.8					
DZM	**Mont Dzumac 10.02 178**		*e*Pn	**Pn**	**03 15 30.2**	**+0.7**
	12nm,0.3s					
DZM			*e*LR	LR	03 17 48.5	
	573nm,23.4s					
DZM	**Mont Dzumac 10.02 178**		*e*Pn	**Pn**	**03 15 31.0**	**+1.5**
DZM			S	**Sn**	**03 17 17.9**	**-3.0**
MSVF	**Nonsavu 12.88 118**		*e*Pn	**P**	**03 16 18.4**	**-0.8**
	68nm,1.4s					
PMG	**Port Moresby 18.79 276**		P	**Pn**	**03 17 26.6**	**+1.3**
	0.8nm,0.3s,baz=130,slow=5.1,SNR=3.6					
PMG	**Port Moresby 18.79 276**		*e*P	**Pn**	**03 17 25.9**	**+0.6**
	27nm,1.1s					
CTA	**Charters Tower 20.68 245**		P	Pn	03 17 46.9	-0.9
	12nm,0.9s,baz=69,slow=6.5,SNR=5.5					
CTA			LR	LR	03 24 43.9	
	comp=Z,400nm,19.9s,baz=54,slow=34					
CTA	**Charters Tower 20.68 245**		P	Pn	03 17 46.9	-0.9
CTAO	**Charters Tower 20.68 245**		*e*P	**P**	**03 17 45.8**	**+0.5**
	37nm,1.3s					
AFI	**Afiamalu 21.64 97**		LR	LR	03 25 26.1	
	comp=Z,633nm,18.1s,baz=261,slow=34					
COEN	**Coen 22.42 263**		*e*P	**P**	**03 18 06.4**	**+2.3**
ARMA	**Armidale 22.71 214**		*e*P	**P**	**03 18 09.2**	**+2.1**
	27nm,0.9s					
STKA	**Stephens Creek 30.00 225**		P	**P**	**03 19 14.2**	**+0.5**
	2.7nm,0.8s,baz=35,slow=11,SNR=5.4					
STKA			LR	LR	03 30 40.6	
	comp=Z,426nm,20.0s,baz=35,slow=35					
STKA	**Stephens Creek 30.00 225**		P	**P**	**03 19 14.2**	**+0.5**
WRAB	**Tennant Creek 31.48 251**		*e*P	**P**	**03 19 26.2**	**-0.8**
	5.8nm,0.8s					
WRA	**Warramunga Arr 31.49 251**		P	**P**	**03 19 26.4**	**-0.7**
	1.6nm,0.8s,baz=83,slow=8.8,SNR=10					
WRA			PcP	**PcP**	**03 22 20.2**	**+0.4**
	2.2nm,0.9s,baz=65,slow=3.0,SNR=5.6					
WRA	**Warramunga Arr 31.49 251**		P	**P**	**03 19 26.4**	**-0.7**
WRA			PcP	**PcP**	**03 22 20.2**	**+0.4**
RPZ	**Rata Peaks 31.89 173**		P	**P**	**03 19 31.0**	**+0.8**
	18nm,0.7s,baz=34,slow=2.4,SNR=12					
RPZ	**Rata Peaks 31.89 173**		*e*P	**P**	**03 19 30.5**	**+0.3**
	20nm,0.8s					
AS31	**Alice Springs 32.68 245**		*e*P	**P**	**03 19 38.6**	**+1.1**
ASAR	**Alice Springs 32.69 245**		P	**P**	**03 19 36.8**	**-0.7**
	2.2nm,0.9s,baz=68,slow=9.7,SNR=30					
ASAR	**Alice Springs 32.69 245**		P	**P**	**03 19 36.8**	**-0.7**
FITZ	**Fitzroy Crossi 39.48 256**		LR	LR	03 36 39.3	
	comp=Z,277nm,18.3s,baz=108,slow=36					
PPT	**Papeete 43.14 103**		LR	LR	03 37 25.0	
	comp=Z,376nm,18.6s,baz=16,slow=34					
PPT2	**Papeete2 43.14 103**		*e*S	**S**	**03 27 32.9**	**+2.3**
	131nm,24.3s					
PPT2			*e*LR	LR	03 33 02.1	
	227nm,22.2s,baz=278					
TBI	**Tubuai 43.66 111**		*e*S	**S**	**03 27 42.3**	**+4.3**
	102nm,29.0s					
TBI			*e*LR	LR	03 33 16.5	
	162nm,22.2s					
MBWA	**Marble Bar 45.23 252**		*e*P	**P**	**03 21 22.9**	**+0.4**
	10nm,1.0s					
KAPI	**Kappang 46.31 275**		P	**P**	**03 21 31.6**	**+0.5**
	2.6nm,0.3s,baz=203,slow=11,SNR=3.5					
KAPI			LR	LR	03 39 50.6	
	comp=Z,152nm,19.2s,baz=94,slow=35					
KAPI	**Kappang 46.31 275**		*e*P	**P**	**03 21 31.3**	**+0.2**
	5.7nm,0.7s					
NWAO	**Narrogin (SRO) 49.22 237**		P	**P**	**03 21 53.5**	**+0.1**
	5.7nm,0.8s,baz=197,slow=7.2,SNR=2.2					
NWAO			LR	LR	03 42 38.7	
	comp=Z,357nm,18.7s,baz=45,slow=36					
NWAO	**Narrogin (SRO) 49.22 237**		P	**P**	**03 21 53.5**	**+0.1**
KKM	**Kota Kinabalu 52.75 287**		*e*P	**P**	**03 22 20.1**	**-0.2**
	8.5nm,0.5s					
MJAR	**Matsushiro Arr 54.98 333**		P	**P**	**03 22 34.6**	**-1.4**
	0.8nm,0.5s,baz=20,slow=1.4,SNR=4.8					
MJAR	**Matsushiro Arr 54.98 333**		P	**P**	**03 22 34.6**	**-1.4**
JNU	**Nakatsue 56.06 324**		P	**P**	**03 22 44.0**	**0.0**
	10.0nm,0.8s,baz=315,slow=9.2,SNR=3.3					
JNU	**Nakatsue 56.06 324**		P	**P**	**03 22 44.0**	**0.0**
RKT	**Rikitea 56.94 110**		*e*LR	LR	03 39 26.8	
	203nm,24.8s					
KSRS	**Korea Array 60.86 326**		P	**P**	**03 23 17.8**	**+0.5**
	2.1nm,0.7s,baz=140,slow=7.4,SNR=6.2					
KSAR	**Wonju Array Be 60.87 326**		P	**P**	**03 23 17.8**	**+0.4**
USRK	**Ussuriysk Arra 63.95 333**		P	**P**	**03 23 38.5**	**+0.7**
	1.8nm,0.8s,baz=116,slow=4.4,SNR=4.3					
PETK	**Petropavlovsk-**	**65.25 354**	LR	LR	03 50 50.7	
	comp=Z,62nm,19.5s,baz=341,slow=35					
VNDA	**Vanda 65.55 181**		P	**P**	**03 23 47.9**	**+0.1**
	2.0nm,0.7s,baz=351,slow=7.2,SNR=9.5					
VNDA	**Vanda 65.55 181**		*e*P	**P**	**03 23 47.6**	**-0.2**
	16nm,1.5s					
SBA	**Scott Base 65.84 180**		*e*P	**P**	**03 23 50.4**	**+0.6**
	11nm,0.9s					
CMAR	**Chiang Mai Arr 72.81 294**		P	**P**	**03 24 35.0**	**+1.1**
	0.8nm,0.3s,baz=124,slow=4.9,SNR=4.5					
CMAR			LR	LR	03 54 09.3	
	comp=Z,40nm,18.2s,baz=340,slow=34					
CMAR	**Chiang Mai Arr 72.81 294**		P	**P**	**03 24 35.0**	**+1.1**
QSPA	**South Pole Qui 78.00 180**		*e*P	**P**	**03 25 02.0**	**-1.0**
	11nm,1.1s					
ULN	**Ulaanbaatar 79.28 324**		*e*P	**P**	**03 25 11.0**	**+0.7**
	17nm,1.2s					
SONM	**Songino Array 79.64 324**		P	**P**	**03 25 12.7**	**+0.4**
	2.5nm,0.6s,baz=135,slow=5.0,SNR=22					
SONM	**Songino Array 79.64 324**		P	**P**	**03 25 12.7**	**+0.4**
ILAR	**Eielson Array 84.31 18**		P	**P**	**03 25 37.6**	**+1.4**
	0.8nm,0.8s,baz=227,slow=5.8,SNR=4.2					
ILAR	**Eielson Array 84.31 18**		P	**P**	**03 25 37.6**	**+1.4**
NVAR	**Mina Array Bea 86.38 50**		P	**P**	**03 25 46.9**	**-0.6**
	0.5nm,0.8s,baz=248,slow=3.8,SNR=3.3					
NVAR	**Mina Array Bea 86.38 50**		P	**P**	**03 25 46.9**	**-0.6**
INK	**Inuvik 90.69 19**		*e*P	**P**	**03 26 05.0**	**-1.9**
	2.1nm,0.9s					
MK31	**Makanchi Array 94.45 317**		*e*P	**P**	**03 26 24.7**	**-0.2**
MKAR	**Makanchi Array 94.45 317**		P	**P**	**03 26 24.9**	**0.0**
	9.1nm,0.7s,baz=94,slow=6.4,SNR=72					
MKAR	**Makanchi Array 94.45 317**		P	**P**	**03 26 24.9**	**0.0**
ZALV	**Zalesovo Beam 94.53 324**		P	**P**	**03 26 24.0**	**-1.0**
	2.9nm,0.8s,baz=114,slow=3.6,SNR=11					
ZALV	**Zalesovo Beam 94.53 324**		P	**P**	**03 26 24.0**	**-1.0**
TXAR	**Lajitas Array 95.98 61**		LR	LR	04 03 21.5	
	comp=Z,145nm,18.7s,baz=0.0,slow=31					
KURK	**Kurchatov 97.59 320**		*e*P	**P**	**03 26 37.7**	**-1.3**
	1.4nm,0.6s					
BVAR	**Borovoye Array 102.92 322**		P	**Pdif**	**03 27 02.5**	**-0.2**
	0.4nm,0.5s,baz=113,slow=6.7,SNR=2.6					
BVAR	**Borovoye Array 102.92 322**		P	**Pdif**	**03 27 02.5**	**-0.2**
ARCES	**ARCESS Array B 117.34 345**		PKP	**PKPdf**	**03 31 47.8**	**-1.8**
	4.0nm,1.0s,baz=54,slow=6.2,SNR=5.0					
ARCES	**ARCESS Array B 117.34 345**		PKP	**PKPdf**	**03 31 47.8**	**-1.8**
KBZ	**Khabaz 122.06 314**		PKP	**PKPdf**	**03 31 58.9**	**-0.4**
	1.6nm,0.9s,baz=196,slow=23,SNR=2.2					
KBZ	**Khabaz 122.06 314**		PKP	**PKPdf**	**03 31 58.9**	**-0.4**
FINES	**FINESS Array B 122.79 338**		PKP	**PKPdf**	**03 31 59.1**	**-1.2**
	1.1nm,0.8s,baz=248,slow=2.1,SNR=3.5					
FINES	**FINESS Array B 122.79 338**		PKP	**PKPdf**	**03 31 59.1**	**-1.2**
BOSA	**Boshof 124.65 222**		PKP	**PKPdf**	**03 32 04.3**	**-0.8**
	1.8nm,0.6s,baz=315,slow=1.5,SNR=5.5					
BOSA	**Boshof 124.65 222**		PKP	**PKPdf**	**03 32 04.3**	**-0.8**
NOA	**NORSAR Array B 127.71 345**		PKP	**PKPdf**	**03 32 09.1**	**-0.7**
	0.8nm,0.8s,baz=38,slow=5.6,SNR=2.5					
NOA	**NORSAR Array B 127.71 345**		PKP	**PKPdf**	**03 32 09.1**	**-0.7**
BUR08	**Bucovina Ar. S 131.74 325**		*e*PKPdf	**PKPdf**	**03 32 17.3**	**-0.6**
KEST	**Kesra 148.38 322**		PKPbc	**PKPbc**	**03 32 51.9**	**+0.2**
	2.2nm,1.0s,baz=219,slow=19,SNR=3.5					
KEST	**Kesra 148.38 322**		PKPbc	**PKPbc**	**03 32 51.9**	**+0.2**
TOA0	**Tordi Ar. Sit 164.73 276**		*e*PKPdf	**PKPdf**	**03 33 07.6**	**-2.0**
TORD	**Tordi Ar. Bea 164.73 276**		PKP	**PKPdf**	**03 33 07.1**	**-2.5**
	1.3nm,1.0s,baz=35,slow=1.4,SNR=5.1					
TORD			PKPab	**PKPab**	**03 34 05.6**	**+0.3**
	0.6nm,0.8s,baz=105,slow=4.5,SNR=2.5					
TORD	**Tordi Ar. Bea 164.73 276**		PKP	**PKPdf**	**03 33 07.1**	**-2.5**
TORD			PKPab	**PKPab**	**03 34 05.6**	**+0.3**

IDC 25 03:21:52.8±4.4, 12.08S×165.97E, h53km±34km, mb3.7/6, mb1 3.9/8, mb1mx3.6/22, mbtmp3.9/8, ML4.2/2, Error ellipse: s-maj=40.5km s-min=19.3km az=57.0, Santa Cruz Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara 6.48 293**		P	Pn	03 23 25.5	-0.1
	19nm,0.3s,baz=132,slow=11,SNR=2.1					
HNR			S	Sn	03 24 38.1	-0.1
	10nm,0.3s,baz=248,slow=18,SNR=2.4					
DZM	**Mont Dzumac 9.95 177**		P	Pn	03 24 13.8	+0.5
	0.7nm,0.3s,baz=315,slow=21,SNR=3.4					
WRA	**Warramunga Arr 31.35 251**		P	P	03 28 09.3	+0.6
	0.9nm,1.1s,baz=83,slow=9.1,SNR=4.7					
ASAR	**Alice Springs 32.54 245**		P	P	03 28 18.9	-0.2
	0.6nm,0.6s,baz=69,slow=9.3,SNR=10					
VNDA	**Vanda 65.47 181**		P	P	03 32 30.2	+0.3
	0.4nm,0.6s,baz=342,slow=9.4,SNR=3.1					
QSPA	**South Pole Qui 77.93 180**		P	P	03 33 44.6	-0.6
	3.4nm,1.1s,baz=293,slow=4.7,SNR=7.1					
SONM	**Songino Array 79.62 324**		P	P	03 33 55.4	+0.7
	0.7nm,0.7s,baz=140,slow=5.0,SNR=5.7					
MKAR	**Makanchi Array 94.42 317**		P	P	03 35 07.3	+0.1
	1.7nm,0.6s,baz=94,slow=6.6,SNR=26					
ARCES	**ARCESS Array B 117.38 345**		PKP	PKPdf	03 40 31.1	-0.9
	0.8nm,0.6s,baz=42,slow=4.1,SNR=3.5					

*IDC **25** 03:30:26.4±1.1, 3.84N×126.69E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, Error ellipse: s-maj=103.9km s-min=15.0km az=70.0*
*ISCJB **25** 03:30:29.5±0.5, 3.87N±0.08×126.7E±0.2, h36km, mb4.2/16, Error ellipse: s-maj=23.9km s-min=7.9km az=158.8*
*NEIC **25** 03:30:31.3±0.3, 3.89N×126.82E, h35km, mb4.4/9, Error ellipse: s-maj=17.9km s-min=5.9km az=70.0*

ISC 25 03:30:31.5±0.7, 3.9N±0.1×126.8E±0.2, h36km, n34, σ0s76/33, mb4.2/16, 1C, Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H 4.17 323**		*i*P	Pn	03 31 41.8	+9.1
KKM	**Kota Kinabalu 10.75 282**		*e*Pn	**Pn**	**03 33 02.9**	**-0.2**
SSLB	**Suanglung 20.58 345**		*e*P	**P**	**03 35 05.3**	**-2.1**
	35nm,1.1s					
TATO	**Taipei 21.59 347**		*e*P	**P**	**03 35 17.2**	**-1.0**
	71nm,1.1s					
FITZ	**Fitzroy Crossi 21.87 183**		P	**P**	**03 35 20.4**	**-0.9**
	2.8nm,0.4s,baz=162,slow=20,SNR=19					
FITZ	**Fitzroy Crossi 21.87 183**		P	**P**	**03 35 20.4**	**-0.9**
WRAB	**Tennant Creek 24.80 163**		*e*P	**P**	**03 35 49.9**	**-0.5**
	14nm,0.8s					
WRA	**Warramunga Arr 24.81 163**		P	**P**	**03 35 49.9**	**-0.5**
	10nm,0.8s,baz=339,slow=10,SNR=38					
WRA	**Warramunga Arr 24.81 163**		P	**P**	**03 35 49.9**	**-0.5**
ASAR	**Alice Springs 28.24 166**		P	**P**	**03 36 21.4**	**0.0**
	0.4nm,0.5s,baz=350,slow=7.1,SNR=8.8					
ASAR	**Alice Springs 28.24 166**		P	**P**	**03 36 21.4**	**0.0**
FORT	**Forrest 34.48 178**		*e*P	**P**	**03 37 16.4**	**+0.2**
	7.0nm,0.7s					
BBOO	**Buckleboo 37.53 167**		*e*P	**P**	**03 37 42.5**	**+0.3**
STKA	**Stephens Creek 38.25 159**		P	**P**	**03 37 48.4**	**+0.1**
	6.1nm,0.6s,baz=329,slow=8.3,SNR=23					
STKA	**Stephens Creek 38.25 159**		P	**P**	**03 37 48.4**	**+0.1**
ULN	**Ulaanbaatar 47.00 342**		*e*P	**P**	**03 38 59.5**	**+0.2**
	1.0nm,0.6s					
SONM	**Songino Array 47.18 341**		P	**P**	**03 39 01.2**	**+0.5**
	0.5nm,0.8s,baz=154,slow=8.5,SNR=5.2					
SONM	**Songino Array 47.18 341**		P	**P**	**03 39 01.2**	**+0.5**
MK31	**Makanchi Array 57.47 325**		*e*P	**P**	**03 40 16.1**	**-0.9**
MKAR	**Makanchi Array 57.47 325**		P	**P**	**03 40 16.7**	**-0.3**
	0.9nm,0.6s,baz=123,slow=8.4,SNR=14					
MKAR	**Makanchi Array 57.47 325**		P	**P**	**03 40 16.7**	**-0.3**
ZALV	**Zalesovo Beam 60.48 333**		P	**P**	**03 40 37.0**	**-0.7**
	0.6nm,0.4s,baz=127,slow=8.7,SNR=3.2					
ZALV	**Zalesovo Beam 60.48 333**		P	**P**	**03 40 37.0**	**-0.7**
KURK	**Kurchatov 61.65 327**		*e*P	**P**	**03 40 45.4**	**-0.3**
	1.9nm,0.7s					
KKAR	**Karatay Array 63.16 317**		*e*P	**P**	**03 40 56.5**	**+0.5**
	1.3nm,0.8s					
BVAR	**Borovoye Array 67.23 327**		P	**P**	**03 41 23.4**	**+1.3**
	0.9nm,0.6s,baz=148,slow=8.7,SNR=4.1					
BVAR	**Borovoye Array 67.23 327**		P	**P**	**03 41 23.4**	**+1.3**
BRVK	**Borovoye 67.30 327**		*e*P	**P**	**03 41 23.8**	**+1.2**
	3.1nm,1.0s					
ABKAR	**Akbulak array 72.07 321**		*e*P	**P**	**03 41 52.3**	**+0.2**
VNDA	**Vanda 83.56 173**		*e*P	**P**	**03 42 55.2**	**-0.2**
	1.0nm,0.5s					
BUR08	**Bucovina Ar. S 94.94 318**		*e*P	**P**	**03 43 51.0**	**+0.6**
TOA0	**Tordi Ar. Sit 122.93 288**		*e*PKPdf	**PKPdf**	**03 49 25.4**	**+0.4**
TORD	**Tordi Ar. Bea 122.93 288**		PKP	**PKPdf**	**03 49 25.7**	**+0.6**
	0.3nm,0.7s,baz=100,slow=1.4,SNR=6.0					
TORD	**Tordi Ar. Bea 122.93 288**		PKP	**PKPdf**	**03 49 25.7**	**+0.6**

*IDC **25** 03:31:57.8±1.1, 3.88N×126.81E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/24, mbtmp4.1/8, Error ellipse: s-maj=104.3km s-min=15.1km az=70.0*
*ISCJB **25** 03:32:01.1±0.5, 3.85N±0.09×126.7E±0.2, h36km, mb4.2/15, Error ellipse: s-maj=27.7km s-min=8.1km az=157.2*
*NEIC **25** 03:32:02.8±0.3, 3.88N×126.84E, h35km, mb4.3/7, Error ellipse: s-maj=21.4km s-min=6.3km az=68.0*

ISC 25 03:32:03.0±0.6, 3.9N±0.1×126.9E±0.2, h36km, n32, σ0s69/32, mb4.2/15, Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi 21.88 183**		P	**P**	**03 36 52.8**	**-0.1**
	4.2nm,0.4s,baz=12,slow=9.5,SNR=17					
FITZ	**Fitzroy Crossi 21.88 183**		P	**P**	**03 36 52.8**	**-0.1**
COEN	**Coen 24.01 138**		*e*P	**P**	**03 37 15.3**	**+0.6**
PMG	**Port Moresby 24.16 123**		*e*P	**P**	**03 37 14.9**	**-1.2**
	4.2nm,0.5s					
WRAB	**Tennant Creek 24.79 163**		*e*P	**P**	**03 37 21.1**	**-0.6**
	24nm,1.3s					
WRA	**Warramunga Arr 24.80 163**		P	**P**	**03 37 21.3**	**-0.5**
	9.5nm,0.7s,baz=343,slow=10,SNR=17					
WRA	**Warramunga Arr 24.80 163**		P	**P**	**03 37 21.3**	**-0.5**
AS31	**Alice Springs 28.23 166**		*e*P	**P**	**03 37 53.2**	**+0.3**
ASAR	**Alice Springs 28.23 166**		P	**P**	**03 37 52.5**	**-0.4**
	0.3nm,0.3s,baz=258,slow=34,SNR=4.1					
ASAR	**Alice Springs 28.23 166**		P	**P**	**03 37 52.5**	**-0.4**
FORT	**Forrest 34.49 178**		*e*P	**P**	**03 38 47.1**	**-0.6**
	6.4nm,0.5s					
BBOO	**Buckleboo 37.52 167**		*e*P	**P**	**03 39 13.7**	**0.0**
STKA	**Stephens Creek 38.23 160**		P	**P**	**03 39 20.2**	**+0.5**
	5.4nm,0.6s,baz=334,slow=8.5,SNR=13					
STKA	**Stephens Creek 38.23 160**		P	**P**	**03 39 20.2**	**+0.5**
ARMA	**Armidale 41.53 147**		*e*P	**P**	**03 39 49.3**	**+2.0**
	3.7nm,0.8s					
ULN	**Ulaanbaatar 47.01 342**		*e*P	**P**	**03 40 31.5**	**+0.6**
	1.3nm,0.7s					
SONM	**Songino Array 47.19 341**		P	**P**	**03 40 32.9**	**+0.6**
	0.6nm,0.7s,baz=158,slow=8.1,SNR=4.6					
SONM	**Songino Array 47.19 341**		P	**P**	**03 40 33.0**	**+0.6**
MK31	**Makanchi Array 57.50 325**		*e*P	**P**	**03 41 48.3**	**-0.4**
MKAR	**Makanchi Array 57.50 325**		P	**P**	**03 41 48.4**	**-0.3**
	0.9nm,0.4s,baz=117,slow=7.6,SNR=12					
MKAR	**Makanchi Array 57.50 325**		P	**P**	**03 41 48.4**	**-0.3**
ZALV	**Zalesovo Beam 60.51 333**		P	**P**	**03 42 08.6**	**-0.8**
	0.8nm,0.4s,baz=132,slow=6.4,SNR=4.4					
ZALV	**Zalesovo Beam 60.51 333**		P	**P**	**03 42 08.6**	**-0.8**
KURK	**Kurchatov 61.68 327**		*e*P	**P**	**03 42 16.9**	**-0.5**
	3.3nm,0.9s					
BVAR	**Borovoye Array 67.26 327**		P	**P**	**03 42 54.5**	**+0.6**
	0.6nm,0.4s,baz=126,slow=7.3,SNR=3.6					
BVAR	**Borovoye Array 67.26 327**		P	**P**	**03 42 54.5**	**+0.6**
ABKAR	**Akbulak array 72.11 321**		*e*P	**P**	**03 43 23.6**	**-0.3**
COLD	**Coldfoot 83.70 23**		*e*P	**P**	**03 44 27.6**	**-0.3**
	1.5nm,0.6s					
TORD	**Tordi Ar. Bea 122.99 288**		PKP	**PKPdf**	**03 50 57.1**	**+0.4**
	0.3nm,0.7s,baz=84,slow=1.4,SNR=8.0					
TORD	**Tordi Ar. Bea 122.99 288**		PKP	**PKPdf**	**03 50 57.1**	**+0.4**
TRQA	**Tornquist 145.04 168**		*e*PKPdf	**PKPab**	**03 51 35.5**	**-1.0**
LPAZ	**La Paz 160.80 131**		*e*PKPdf	**PKPdf**	**03 52 00.6**	**-0.6**

IDC 25 03:40:20.6±1.9, 0.83S×133.04E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=81.2km s-min=23.1km az=75.0, Irian Jaya region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi 18.64 203**		P	P	03 44 40.0	-0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=7.1					
WRA	**Warramunga Arr 19.04 176**		P	P	03 44 44.1	-0.3
	0.3nm,0.3s,baz=355,slow=11,SNR=19					
ASAR	**Alice Springs 22.72 178**		P	P	03 45 25.1	+0.8
	1.7nm,0.4s,baz=355,slow=11,SNR=29					
STKA	**Stephens Creek 31.92 166**		P	P	03 46 47.4	-0.7
	0.8nm,0.3s,baz=348,slow=8.5,SNR=5.4					
MKAR	**Makanchi Array 64.90 324**		P	P	03 51 01.9	0.0
	0.1nm,0.5s,baz=107,slow=7.7,SNR=2.7					

*ISCJB **25** 03:49:58.7±0.6, 81.17N±0.08×4.9W±0.4, h10km, mb3.6/11, MS3.5/12, Error ellipse: s-maj=11.3km s-min=8.1km az=161.4*
*IDC **25** 03:49:58.9±0.8, 81.34N×4.14W, h0km, mb3.6/12, mb1 3.8/14, mb1mx3.6/30, mbtmp3.7/14, ML3.3/2, MS3.6/16, Ms1 3.6/16, ms1mx3.3/45, Error ellipse: s-maj=22.9km s-min=14.6km az=31.0*

ISC 25 03:50:00.1±0.7, 81.12N±0.09×3.79W±0.06, h10km, n24, σ2s33/19, mb3.7/11, MS3.6/12, North of Svalbard

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar 4.66 119**		Pn	**Pn**	**03 51 09.5**	**-0.8**
	baz=304,slow=1.8,SNR=189					
SPITS			Sn	**Sn**	**03 52 01.9**	**-2.4**
	baz=353,slow=12,SNR=3.3					
SPITS			LR	LR	03 53 02.2	
	comp=Z,885nm,18.1s,baz=320,slow=38					
DAG	**Danmarks Havn 5.20 221**		*i* P	**Pn**	**03 51 18.2**	**+0.5**
DAG			*i* S	**Sn**	**03 52 16.5**	**-1.1**
SUMG	**Summit 11.35 241**		*i* P	**Pn**	**03 52 40.0**	**-2.3**
SUMG			*i* S	Sn	03 54 40.1	-8.9
ARCES	**ARCESS Array B 13.49 132**		Pn	**Pn**	**03 53 12.9**	**+1.7**
	0.1nm,0.3s,baz=350,slow=14,SNR=4.9					
ARCES			Sn	**Sn**	**03 55 36.6**	**-4.4**
	0.1nm,0.3s,baz=21,slow=10,SNR=2.3					
ARCES			LR	LR	03 58 03.7	
	comp=Z,207nm,19.0s,baz=358,slow=35					
RES	**Resolute Bay 17.91 300**		P	Pn	03 54 01.2	-7.5
	0

comp=E,300nm,0.6s
INCN Inchon 2.65 75 *e*Pn **Pn** **04 15 32.0 -0.4**
INCN *e*Pg **Pb** **04 15 38.8 +1.6**
INCN *e*Sg **Sg** **04 16 16.5 +1.7**
KSAR Wonju Array Be 3.62 79 Pn **Pn** **04 15 45.6 -0.1**
KSAR Pg **Pg** **04 15 57.6 -1.4**
KSAR Lg Lg 04 16 47.1
KSRS Korea Array 3.66 79 Pn **Pn** **04 15 45.6 -0.5**
comp=E,12nm,0.3s,baz=260,slow=13,SNR=83
KSRS Pg Pb 04 15 57.7 +3.4
comp=E,37nm,0.3s,baz=256,slow=17,SNR=57
KSRS Lg Lg 04 16 47.1
comp=E,95nm,0.3s,baz=255,slow=31,SNR=9.0
TIA Tai'an 5.10 265 Pg **Pb** **04 16 18.0 -0.9**
TIA Sg **Sb** **04 17 21.9 +1.7**
NJ2 Nanjing 6.09 219 *e*Pg **Pb** **04 16 37.8 +2.0**
NJ2 Sg **Sb** **04 17 53.3 +4.6**
NJ2 smax smax
comp=N,130nm,1.0s
NJ2 smax smax
comp=E,120nm,0.6s
NJ2 SMZ
comp=E,70nm,0.8s
BJT Baijiatuan 6.50 301 *e*Pn **Pn** **04 16 23.1 -2.1**
JNU Nakatsue 7.17 119 Pn **Pn** **04 16 32.2 -2.4**
comp=E,2.7nm,0.3s,baz=258,slow=3.0,SNR=11
JNU Lg Lg 04 18 31.8
comp=E,1.2nm,0.3s,baz=13,slow=8.6,SNR=4.2
JNU Nakatsue 7.17 119 Pn **Pn** **04 16 32.2 -2.4**
JNU Lg Lg 04 18 31.8
MDJ Mudanjiang 9.06 29 Pn **Pn** **04 17 02.2 +1.8**
MDJ *e*Lg Lg 04 19 40.9
WHN Wuhan 9.82 233 P **Pn** **04 17 11.8 +0.9**
WHN S **Sn** **04 19 00.8 -0.4**
WHN LR LR
comp=Z,520nm,10.7s
USRK Ussuriysk Arra 9.82 39 Lg Lg 04 20 07.2
comp=Z,0.8nm,0.3s,baz=228,slow=24,SNR=6.2
LZH Lanzhou 15.76 273 *e*P **Pn** **04 18 29.8 -2.0**
LZH pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 16.65 317 Pn **Pn** **04 18 43.1 0.0**
comp=Z,0.0nm,0.3s,baz=130,slow=12,SNR=5.1
SONM Songino Array 16.65 317 Pn **Pn** **04 18 43.1 0.0**
GTA Gaotai 18.73 285 *e*P **P** **04 19 08.3 -0.2**
GTA pP **pP** **04 19 12.1 +0.8**
GTA sP **sP** **04 19 14.9 +2.3**
GTA pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 31.89 301 *e*P **P** **04 21 14.3 -0.7**
MKAR Makanchi Array 31.89 301 P **P** **04 21 13.7 -1.3**
comp=Z,0.7nm,0.8s,baz=94,slow=10,SNR=7.5
MKAR Makanchi Array 31.89 301 P **P** **04 21 13.7 -1.3**
KURK Kurchatov 34.62 308 *e*P **P** **04 21 37.7 -1.0**
comp=Z,2.5nm,0.7s
KURBB Kurchatov Arra 34.67 308 P **P** **04 21 38.8 -0.3**
comp=Z,3.7nm,0.6s,baz=94,slow=9.7,SNR=10
TKM2 Tokmak 2 36.78 295 *e*P **P** **04 21 56.6 -1.1**
comp=Z,4.2nm,0.6s
AAK Ala-Archa 37.62 294 P **P** **04 22 03.9 -0.8**
comp=Z,1.6nm,0.5s,baz=77,slow=5.8,SNR=6.0
AAK Ala-Archa 37.62 294 *e*P **P** **04 22 03.5 -1.3**
comp=Z,8.6nm,0.6s
BVAR Borovoye Array 39.88 311 P **P** **04 22 22.5 -0.8**
comp=Z,0.8nm,0.5s,baz=97,slow=9.7,SNR=5.9
BVAR Borovoye Array 39.88 311 P **P** **04 22 22.5 -0.8**
BRVK Borovoye 39.94 311 *e*P **P** **04 22 21.9 -1.9**
comp=Z,1.5nm,0.5s
KKAR Karatay Array 40.45 296 *e*P **P** **04 22 27.1 -1.1**
comp=Z,1.9nm,0.7s
ABKAR Akbulak array 46.69 306 *e*P **P** **04 23 17.0 -1.3**
comp=Z,0.6nm,0.6s
ILAR Eielson Array 57.23 31 P **P** **04 24 38.2 +1.6**
comp=Z,0.2nm,0.7s,baz=299,slow=7.1,SNR=3.0
ILAR Eielson Array 57.23 31 P **P** **04 24 38.2 +1.6**
INK Inuvik 60.86 24 *e*P **P** **04 25 02.1 +0.4**
comp=Z,1.0nm,0.6s
ASAR Alice Springs 61.01 169 P **P** **04 25 01.4 -1.9**
comp=Z,0.7nm,0.8s,baz=350,slow=4.7,SNR=2.9
ASAR Alice Springs 61.01 169 P **P** **04 25 01.4 -1.9**
FINES FINESS Array B 61.67 327 P **P** **04 25 06.1 -1.2**
comp=Z,1.2nm,0.6s,baz=62,slow=5.4,SNR=4.9
FINES FINESS Array B 61.67 327 P **P** **04 25 06.1 -1.2**
AKASG Malin Array Be 64.93 316 P **P** **04 25 27.6 -1.5**
comp=Z,0.6nm,0.5s,baz=59,slow=6.1,SNR=3.5
AKASG Malin Array Be 64.93 316 P **P** **04 25 27.6 -1.5**
RES Resolute Bay 65.89 10 *e*P **P** **04 25 35.1 +0.2**
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 67.50 303 P **P** **04 25 44.2 -1.8**
comp=Z,1.4nm,1.0s,baz=65,slow=4.4,SNR=4.9
BRTR Keskin Array B 67.50 303 P **P** **04 25 44.2 -1.8**
NOA NORSAR Array B 68.02 331 P **P** **04 25 50.1 +1.3**
comp=Z,0.7nm,0.8s,baz=54,slow=6.1,SNR=3.9
NOA NORSAR Array B 68.02 331 P **P** **04 25 50.1 +1.3**
YKA Yellowknife Ar 70.63 25 P **P** **04 26 04.5 -0.3**
comp=Z,0.8nm,0.9s,baz=313,slow=5.9,SNR=9.5
YKA Yellowknife Ar 70.63 25 P **P** **04 26 04.5 -0.3**

*IDC **25** 04:17:19.5±0.8, 3.°81N×126.°69E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/24, mbtmp4.1/12, Error ellipse: s-maj=60.1km s-min=13.9km az=68.0*
*ISCJB **25** 04:17:24.0±0.6, 3.°7N±0.°1×126.°6E±0.°3, h45km, mb4.3/20, Error ellipse: s-maj=39.4km s-min=7.7km az=156.6*
*NEIC **25** 04:17:24.6±0.3, 3.°80N×126.°76E, h35km, mb4.4/7, Error ellipse: s-maj=24.2km s-min=5.4km az=67.0*
ISC 25 04:17:25.7±0.7, 3.°8N±0.°1×126.°7E±0.°3, h45km, n41, σ0s62/44, mb4.3/20, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.21**	**325**	*i*P	Pn	04 18 32.7	+5.3
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**04 22 12.8**	**-0.9**
	2.9nm,0.6s,baz=11,slow=10,SNR=20						
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**04 22 12.8**	**-0.9**
WRAB	**Tennant Creek**	**24.73**	**163**	*e*P	**P**	**04 22 42.6**	**-0.5**
	12nm,0.8s						
WRA	**Warramunga Arr**	**24.74**	**163**	P	**P**	**04 22 42.7**	**-0.4**
	8.4nm,0.7s,baz=343,slow=11,SNR=56						
WRA	**Warramunga Arr**	**24.74**	**163**	P	**P**	**04 22 42.7**	**-0.4**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**04 23 13.9**	**-0.2**
	0.6nm,0.6s,baz=345,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**04 23 13.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**04 23 37.6**	**-0.2**
	0.7nm,0.3s,baz=126,slow=9.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**04 23 37.6**	**-0.2**
ENH	**Enshi**	**30.97**	**330**	*e*P	**P**	**04 23 38.3**	**-0.7**
	8.6nm,0.9s						
FORT	**Forrest**	**34.39**	**178**	*e*P	**P**	**04 24 08.7**	**0.0**
	11nm,0.9s						
BBOO	**Buckleboo**	**37.45**	**167**	*e*P	**P**	**04 24 35.2**	**+0.3**
STKA	**Stephens Creek**	**38.18**	**159**	P	**P**	**04 24 41.9**	**+0.8**
	3.3nm,0.6s,baz=334,slow=8.8,SNR=12						
STKA	**Stephens Creek**	**38.18**	**159**	P	**P**	**04 24 41.9**	**+0.8**
ARMA	**Armidale**	**41.52**	**147**	*e*P	**P**	**04 25 09.5**	**+0.5**
	3.1nm,0.5s						
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**04 25 54.5**	**-0.1**
	0.6nm,0.5s,baz=160,slow=8.4,SNR=6.9						
SONM				PcP	**PcP**	**04 27 25.3**	**+0.1**
	0.7nm,0.7s,baz=165,slow=4.6,SNR=4.3						
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**04 25 54.5**	**-0.1**
SONM				PcP	**PcP**	**04 27 25.3**	**+0.1**
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**04 27 10.6**	**+0.1**
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**04 27 10.3**	**-0.1**
	1.4nm,0.5s,baz=118,slow=8.1,SNR=32						
MKAR				PcP	**PcP**	**04 28 04.4**	**+0.7**
	0.6nm,0.6s,baz=124,slow=3.6,SNR=3.7						
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**04 27 10.3**	**-0.1**
MKAR				PcP	**PcP**	**04 28 04.4**	**+0.7**
TKM2	**Tokmak 2**	**59.69**	**319**	*e*P	**P**	**04 27 26.2**	**+0.1**
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**60.53**	**333**	P	**P**	**04 27 30.6**	**-0.8**
	1.0nm,0.4s,baz=120,slow=7.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**60.53**	**333**	P	**P**	**04 27 30.6**	**-0.8**
EKS2	**Erkin-Say**	**60.80**	**318**	*e*P	**P**	**04 27 34.8**	**+1.3**
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	**P**	**04 27 39.0**	**-0.1**
	130nm,0.3s,baz=127,slow=6.8,SNR=7.4						
KURK	**Kurchatov**	**61.69**	**327**	P	**P**	**04 27 39.0**	**-0.1**
KKAR	**Karatay Array**	**63.18**	**317**	*e*P	**P**	**04 27 50.5**	**+1.1**
BVAR	**Borovoye Array**	**67.27**	**327**	P	**P**	**04 28 16.5**	**+0.9**
	0.6nm,0.4s,baz=134,slow=8.4,SNR=4.1						
BVAR	**Borovoye Array**	**67.27**	**327**	P	**P**	**04 28 16.5**	**+0.9**
ABKAR	**Akbulak array**	**72.10**	**321**	*e*P	**P**	**04 28 45.6**	**+0.2**
	1.0nm,0.6s						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**04 30 20.2**	**-0.6**
	0.6nm,0.8s,baz=94,slow=3.7,SNR=3.8						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**04 30 20.2**	**-0.6**
ARCES	**ARCESS Array B**	**90.39**	**340**	P	**P**	**04 30 21.7**	**-0.3**
	2.0nm,0.7s,baz=79,slow=6.3,SNR=7.8						
ARCES	**ARCESS Array B**	**90.39**	**340**	P	**P**	**04 30 21.7**	**-0.3**
FINES	**FINESS Array B**	**91.78**	**332**	P	**P**	**04 30 28.8**	**+0.2**
	2.3nm,0.9s,baz=90,slow=4.2,SNR=4.1						
FINES	**FINESS Array B**	**91.78**	**332**	P	**P**	**04 30 28.8**	**+0.2**
TOA0	**Torodi Ar. Sit**	**122.88**	**288**	*e*PKPdf	**PKPdf**	**04 36 18.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**04 36 18.8**	**+0.7**
	0.5nm,0.6s,baz=73,slow=1.8,SNR=14						
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**04 36 18.8**	**+0.7**
JCT	**Junction City**	**124.05**	**49**	*e*PKPdf	**PKPdf**	**04 36 18.6**	**-1.4**

IDC 25 04:25:34.5±18.0, 23.°31S×179.°27W, h367km±140km, mb3.0/4, mb1 3.4/4, mb1mx3.1/18, mbtmp3.0/4, Error ellipse: s-maj=480.8km s-min=41.8km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.79**	**260**	P	P	04 32 57.8	-0.1
	0.3nm,0.3s,baz=96,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**43.12**	**265**	P	P	04 33 00.1	-0.2
	0.2nm,0.3s,baz=103,slow=8.1,SNR=9.2						
NVAR	**Mina Array Bea**	**83.86**	**44**	P	P	04 37 24.5	+0.4
	0.5nm,0.7s,baz=217,slow=8.5,SNR=4.3						
PDAR	**Pinedale Array**	**91.80**	**44**	P	P	04 38 00.9	-0.8
	0.1nm,0.4s,baz=227,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**112.25**	**313**	PKiKP	PKiKP	04 43 25.8	-1.1
	0.1nm,0.5s,baz=83,slow=1.8,SNR=2.7						
ARCES	**ARCESS Array B**	**131.44**	**349**	PKP	PKPdf	04 44 03.9	+0.9
	2.3nm,0.9s,baz=25,slow=3.2,SNR=6.0						
NOA	**NORSAR Array B**	**141.60**	**352**	PKP	PKPdf	04 44 21.3	-0.7
	1.9nm,0.8s,baz=16,slow=5.0,SNR=5.9						
HFS	**Hagfors**	**142.09**	**349**	PKP	PKPdf	04 44 22.7	-0.1
	baz=29,slow=3.3						

IDC 25 04:38:45.2±1.9, 3.°13N×126.°21E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=179.9km s-min=23.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.28**	**161**	P	P	04 44 04.6	+0.1
	2.9nm,0.8s,baz=340,slow=10,SNR=16						
ASAR	**Alice Springs**	**27.67**	**165**	P	P	04 44 35.8	+0.7
	0.3nm,0.3s,baz=337,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**37.76**	**158**	P	P	04 46 02.4	-0.8
	1.1nm,0.7s,baz=345,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**57.75**	**326**	P	P	04 48 37.9	-0.3
	0.1nm,0.6s,baz=125,slow=7.2,SNR=2.5						

MEX 25 04:47:56.2±0.6, 15.°65N×93.°36W, h89km±21km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.14**	**12**	*e*P	Pn	04 48 16.4	-1.2
TGIG				*i* S	Sn	04 48 32.3	-1.4
THIG		**1.29**	**125**	*i* P	Pn	04 48 18.5	-0.8
THIG				*i* S	Sn	04 48 35.3	-1.4
CCIG	**Comitan**	**1.34**	**62**	*e*P	Pn	04 48 19.0	-1.1
CCIG				*i* S	Sn	04 48 35.9	-2.2
CMIG	**Matias Romero**	**2.04**	**315**	*e*P	Pn	04 48 27.6	-1.3
CMIG				*i* S	Sn	04 48 51.4	-2.5
HUIG	**Huatulco**	**2.65**	**273**	*i* P	Pn	04 48 33.9	-3.1

GUC 25 04:49:03.4±0.6, 32.°48S×71.°73W, h24km±6km, MD3.7, ML2.4, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.26**	**104**	⇓*i* P	Pb	04 49 09.9	0.0
PACH				*i* S	Sb	04 49 14.5	+0.3
IHA	**Instituto Hidr**	**0.55**	**172**	*e*P	Pb	04 49 14.2	-0.3
IHA				*i* S	Sb	04 49 22.3	+0.2
CHNG	**Los Chungos**	**0.62**	**18**	⇓*i* P	Pb	04 49 15.1	-0.6
CHNG				*i* S	Sb	04 49 23.9	-0.1
CHNG				AML	AML	04 49 24.6	
	comp=E,181nm,0.3s						
PTCH	**Petorca**	**0.71**	**73**	⇑*i* P	Pb	04 49 16.9	-0.3
PTCH				*i* S	Sb	04 49 26.7	+0.1
PTCH				AML	AML	04 49 30.5	
	comp=N,224nm,0.2s						
CLCH	**Cerro Calan**	**1.36**	**133**	⇑*i* P	Pn	04 49 27.1	+0.1
CLCH				*i* S	Sn	04 49 44.5	+0.2
CLCH				AML	AML	04 49 46.5	
	comp=N,107nm,0.4s						
ANTU	**Antumapu**	**1.43**	**140**	*e*P	Pn	04 49 28.0	+0.1
ANTU				*i* S	Sb	04 49 46.7	-0.6
ANTU				AML	AML	04 49 52.8	
	comp=N,104nm,0.3s						
FCH	**Farellones**	**1.48**	**125**	⇓*i* P	Pb	04 49 35.6	+5.0
FCH				*i* S	Sb	04 49 56.2	+6.8
FCH				AML	AML	04 50 00.3	
	comp=E,107nm,0.2s						
LNV	**Longovilo**	**1.50**	**170**	*e*P	Pn	04 49 28.8	0.0
LMEL	**Las Melosas**	**1.87**	**137**	⇑*i* P	Pn	04 49 35.2	+1.1
LMEL				*i* S	Sb	04 49 59.5	-0.9
LMEL				AML	AML	04 50 05.4	
	comp=N,97nm,0.1s						
CACH	**El Canelo**	**1.89**	**150**	*e*P	Pb	04 49 36.5	-0.9
CACH				*i* S	Sb	04 50 00.9	+0.1

IDC 25 04:49:55.2±2.7, 3.°12S×131.°16E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=138.4km s-min=26.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.84**	**200**	Pn	Pn	04 53 38.4	-1.3
	0.1nm,0.3s,baz=18,slow=13,SNR=4.3						
FITZ				Sn	Sn	04 56 25.2	-11
	0.1nm,0.3s,baz=256,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**17.00**	**170**	P	Pn	04 53 53.0	-1.7
	0.1nm,0.3s,baz=356,slow=13,SNR=6.6						
WRA				S	Sn	04 56 53.2	-11
	0.1nm,0.3s,baz=0.0,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**20.59**	**173**	P	Pn	04 54 37.2	-1.1
	1.4nm,0.4s,baz=352,slow=10,SNR=21						
MKAR	**Makanchi Array**	**65.68**	**325**	P	P	05 00 41.5	0.0
	0.3nm,0.7s,baz=119,slow=7.7,SNR=3.9						

*VIE **25** 04:50:09.4±0.8, 44.°92N×14.°73E, h8km, mb2.0/1, ML2.2/1, Error ellipse: s-maj=5.2km s-min=3.1km az=0.0 53 km SSE of Rijeka*
*CSEM **25** 04:50:09.9±0.4, 44.°94N×14.°80E, h10km, MD2.5, Error ellipse: s-maj=6.4km s-min=5.5km az=57.0*
ISC 25 04:50:10.2±1.2, 44.°94N±0.°03×14.°75E±0.°04, h4km±11km, n19, σ0s57/32, 3C-1D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.38**	**167**	*i* Pg	**Pg**	**04 50 17.2**	**-0.4**
NVLJ				Sg	**Sg**	**04 50 23.4**	**+0.8**
GBRS	**Gornja Briga**	**0.59**	**4**	*i* Pg	**Pg**	**04 50 21.0**	**-0.7**
KNDS	**Knezji Dol**	**0.65**	**336**	*i* Sg	**Sb**	**04 50 33.0**	**-0.5**
BOJS	**Bojanci**	**0.67**	**32**	*i* Pg	**Pg**	**04 50 22.3**	**-0.8**
BOJS				*i* Sg	**Sg**	**04 50 32.6**	**+0.8**
BOJS							
	comp=Z,7.0nm,0.2s						
BOJS	**Bojanci**	**0.67**	**32**	*i* Pg	**Pg**	**04 50 22.3**	**-0.8**
BOJS				*e*Sg	**Sg**	**04 50 32.6**	**+0.8**
SKDS	**Skadanscina**	**0.80**	**320**	*i* Pg	**Pg**	**04 50 24.9**	**-0.6**
SKDS				*i* Sg	**Sg**	**04 50 36.6**	**+0.7**
SKDS							
	comp=Z,8.0nm,0.1s						
SKDS	**Skadanscina**	**0.80**	**320**	*i* Pg	**Pg**	**04 50 24.9**	**-0.6**
SKDS				*i* Sg	**Sg**	**04 50 36.6**	**+0.7**
CEY	**Cerknica**	**0.83**	**344**	*i* Pg	**Pg**	**04 50 26.2**	**0.0**
CEY	**Cerknica**	**0.83**	**344**	*i* Pg	**Pg**	**04 50 26.2**	**0.0**
VISS	**Visnje**	**0.87**	**4**	*i* Pg	**Pg**	**04 50 26.4**	**-0.5**
VISS							
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.87**	**4**	*i* Pg	**Pg**	**04 50 26.4**	**-0.5**
VOJS	**Vojsko**	**1.25**	**331**	*i* Pg	**Pg**	**04 50 34.0**	**-0.2**
VOJS				*i* Sg	**Sn**	**04 50 52.2**	**+0.3**
VOJS							
	comp=Z,3.0nm,0.1s						
VOJS	**Vojsko**	**1.25**	**331**	*i* Pg	**Pg**	**04 50 34.0**	**-0.2**
VOJS				*i* Sg	**Sn**	**04 50 52.2**	**+0.3**
SABO	**M.te Sabotino**	**1.32**	**323**	*e*Pg	**Pn**	**04 50 34.9**	**-0.5**
SABO				*e*Sg	**Sn**	**04 50 54.0**	**+0.5**
SABO	**M.te Sabotino**	**1.32**	**323**	*e*P	**Pn**	**04 50 34.9**	**-0.5**
SABO				*e*Sg	**Sn**	**04 50 54.0**	**+0.5**
OBKA	**Obir**	**1.58**	**355**	⇑*i* Pg	**Pb**	**04 50 40.0**	**0.0**
OBKA				⇓*i* Sg	**Sg**	**04 51 01.8**	**+0.9**
	comp=Z,4.2nm,0.4s						
OBKA	**Obir**	**1.58**	**355**	⇑*i* Pg	**Pb**	**04 50 40.0**	**0.0**
OBKA				*i* Sg	**Sg**	**04 51 01.8**	**+0.9**
VINO	**Villanova**	**1.67**	**323**	⇑*e*Pg	**Pn**	**04 50 40.3**	**0.0**
VINO				*e*Sg	**Sg**	**04 51 04.0**	**0.0**
VINO	**Villanova**	**1.67**	**323**	*e*P	**Pn**	**04 50 40.3**	**0.0**
VINO				*e*Sg	**Sg**	**04 51 04.0**	**0.0**

JMA 25 05:00:55.2±0.2, 43.°46N×147.°50E, h55km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.28**	**266**	P	Pn	05 01 17.3	+0.5
NEM2				*e*S	Sn	05 01 33.5	+0.5
JRA	**Rausu**	**1.79**	**286**	P	Pn	05 01 24.2	+0.5
JRA				*e*S	Sn	05 01 45.7	+0.4
JNK	**Nakash**	**2.03**	**274**	P	Pn	05 01 27.3	+0.4
JNK				*e*S	Sn	05 01 51.2	+0.1
JAK	**Akkeshi**	**2.10**	**258**	P	Pn	05 01 28.5	+0.6
JAK				*e*S	Sn	05 01 53.1	+0.2
JTKR	**Abashiri--Toko**	**2.65**	**282**	P	Pn	05 01 36.5	+1.0
JTKR				*e*S	Sn	05 02 07.4	+1.0
JAR	**Ashorobuto**	**2.73**	**268**	P	Pn	05 01 37.5	+1.0
JAR				*e*S	Sn	05 02 09.5	+1.3
JOB	**Onbets**	**2.74**	**260**	P	Pn	05 01 37.4	+0.8
JOB				*e*S	Sn	05 02 09.3	+0.8
JMP	**Maruseppu**	**3.05**	**282**	P	Pn	05 01 42.2	+1.2
JCH	**Churui**	**3.15**	**256**	P	Pn	05 01 42.9	+0.6
JCH				*e*S	Sn	05 02 18.1	-0.5
JKK2	**Kamakawa 2**	**3.47**	**278**	P	Pn	05 01 48.2	+1.5
JFR	**Furan**	**3.59**	**267**	P	Pn	05 01 49.9	+1.5
JFR				*e*S	Sn	05 02 30.4	+0.8
JNBK	**Urakawa-nobuka**	**3.68**	**253**	P	Pn	05 01 49.9	+0.3
JNBK				*e*S	Sn	05 02 30.9	-0.8

*ISK **25** 05:01:28.7, 38.°63N×27.°19E, h19km, MD2.7*
*DDA **25** 05:01:29.0, 38.°64N×27.°21E, h13km, MD2.7*
*ISCJB **25** 05:01:29.5±0.6, 38.°64N±0.°03×27.°19E±0.°05, h12km±4km, Error ellipse: s-maj=6.0km s-min=4.2km az=11.1*
*CSEM **25** 05:01:29.4±0.2, 38.°64N×27.°18E, h15km, MD2.7, Error ellipse: s-maj=4.0km s-min=2.6km az=101.0*
ISC 25 05:01:29.1±0.9, 38.°63N±0.°02×27.°20E±0.°03, h17km±7km, n24, σ0s31/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.24**	**168**	PG	**Pb**	**05 01 34.9**	**-0.1**
IZM				*e*SG	**Sg**	**05 01 38.4**	**+0.2**
IZM	**Izmir**	**0.24**	**168**	*i* Pg	**Pb**	**05 01 34.9**	**-0.1**
IZM				*e*Sg	**Sg**	**05 01 38.4**	**+0.2**
BLCB	**Balcova**	**0.27**	**207**	*e*PG	**Pg**	**05 01 35.1**	**0.0**
BLCB				*e*SG	**Sb**	**05 01 40.1**	**+0.2**
BLCB	**Balcova**	**0.27**	**207**	*e*Pg	**Pg**	**05 01 35.1**	**0.0**
BLCB				*e*Sg	**Sb**	**05 01 40.1**	**+0.2**
AKHS	**Akhisar**	**0.54**	**62**	*i* P	**Pg**	**05 01 39.8**	**-0.1**
AKHS				*i* S	**Sb**	**05 01 48.1**	**+0.4**
AKHS	**Akhisar**	**0.54**	**62**	*i* P	**Pg**	**05 01 39.8**	**-0.1**
AKHS				*i* S	**Sb**	**05 01 48.1**	**+0.4**
AKS	**Akhisar**	**0.54**	**62**	*e*PG	**Pg**	**05 01 39.7**	**-0.2**
AKS				*e*SG	**Sb**	**05 01 48.4**	**+0.7**
AKS	**Akhisar**	**0.54**	**62**	*e*Pg	**Pg**	**05 01 39.7**	**-0.2**
AKS				*e*Sg	**Sb**	**05 01 48.4**	**+0.7**
AYVA	**Ayvalik**	**0.79**	**330**	*i* P	Pn	**05 01 45.1**	**-0.3**
AYVA				*i* S	**Sg**	**05 01 55.0**	**+0.1**
AYVA	**Ayvalik**	**0.79**	**330**	*i* P	Pn	**05 01 45.1**	**-0.3**
AYVA				*i* S	**Sg**	**05 01 55.0**	**+0.1**
GCAM	**G?zelcaml?**	**0.93**	**178**	*i* P	**Pg**	**05 01 47.1**	**0.0**
GCAM				*i* S	**Sb**	**05 01 59.0**	**+0.2**
GCAM	**G?zelcaml?**	**0.93**	**178**	*i* P	**Pg**	**05 01 47.1**	**0.0**
GCAM				*i* S	**Sb**	**05 01 59.0**	**+0.2**
AYDN	**Tasoluk**	**1.10**	**151**	*i* P	**Pg**	**05 01 50.7**	**+0.2**
AYDN				*i* S	**Sn**	**05 02 04.7**	**0.0**
AYDN	**Tasoluk**	**1.10**	**151**	*i* P	**Pg**	**05 01 50.7**	**+0.2**
AYDN				*i* S	**Sn**	**05 02 04.7**	**0.0**
BALY	**Balya**	**1.16**	**16**	*i* P	**Pb**	**05 01 50.7**	**0.0**
BALY				*i* S	**Sn**	**05 02 06.0**	**0.0**
BALY	**Balya**	**1.16**	**16**	*i* P	**Pb**	**05 01 50.7**	**0.0**
BALY				*i* S	**Sn**	**05 02 06.0**	**0.0**
DEMI	**Demirci**	**1.25**	**70**	*i* P	**Pg**	**05 01 53.2**	**-0.1**
DEMI				*i* S	**Sn**	**05 02 09.1**	**+0.6**
DEMI	**Demirci**	**1.25**	**70**	*i* P	**Pg**	**05 01 53.2**	**-0.1**
DEMI				*i* S	**Sn**	**05 02 09.1**	**+0.6**
DURS	**Dursunbey**	**1.39**	**45**	*i* P	Pn	**05 01 53.4**	**-0.4**
DURS	**Dursunbey**	**1.39**	**45**	*i* P	Pn	**05 01 53.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**15**	*e*PN	Pn	**05 01 54.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.47**	**15**	*e*Pn	Pn	**05 01 54.7**	**-0.1**
**

BOSA				LR	LR	05 19 25.3		
	comp=Z,169nm,20.4s,baz=108,slow=37							
BOSA	**Boshof**	**26.19**	**188**	P	**P**	**05 09 00.3**	**+3.6**
TOA0	**Torodi Ar. Sit**	**31.71**	**300**	*e*P	**P**	**05 09 45.8**	**0.0**
TORD	**Torodi Ar. Bea**	**31.71**	**300**	P	**P**	**05 09 45.9**	**0.0**
	2.9nm,0.8s,baz=110,slow=8.6,SNR=25							
TORD	**Torodi Ar. Bea**	**31.71**	**300**	P	**P**	**05 09 45.9**	**0.0**
BR131	**Keskin Array S**	**42.28**	**5**	*e*P	**P**	**05 11 14.6**	**-0.9**
	2.7nm,0.9s							
BRTR	**Keskin Array B**	**42.28**	**5**	P	**P**	**05 11 16.1**	**+0.6**
	2.0nm,0.8s,baz=178,slow=9.6,SNR=14							
BRTR	**Keskin Array B**	**42.28**	**5**	P	**P**	**05 11 16.1**	**+0.6**
KEST	**Kesra**	**42.52**	**336**	P	**P**	**05 11 17.5**	**0.0**
	1.8nm,0.9s,baz=50,slow=7.9,SNR=3.3							
KEST	**Kesra**	**42.52**	**336**	P	**P**	**05 11 17.5**	**0.0**
KBZ	**Khabaz**	**47.66**	**13**	LR	LR	05 31 20.1		
	comp=Z,38nm,21.6s,baz=347,slow=35							
ESDC	**Sonseca Array**	**52.06**	**327**	P	**P**	**05 12 31.4**	**-0.4**
	0.2nm,0.3s,baz=126,slow=7.5,SNR=5.4							
ESDC	**Sonseca Array**	**52.06**	**327**	P	**P**	**05 12 31.4**	**-0.4**
GERES	**GERESS Array B**	**53.03**	**347**	P	**P**	**05 12 38.3**	**-0.6**
	1.4nm,0.7s,baz=159,slow=7.9,SNR=14							
GERES	**GERESS Array B**	**53.03**	**347**	P	**P**	**05 12 38.3**	**-0.6**
AKASG	**Malin Array Be**	**53.09**	**360**	P	**P**	**05 12 38.5**	**-0.6**
	0.5nm,0.4s,baz=188,slow=7.4,SNR=3.9							
AKASG	**Malin Array Be**	**53.09**	**360**	P	**P**	**05 12 38.5**	**-0.6**
KHC	**Kasperske Hory**	**53.33**	**347**	*e*P	**P**	**05 12 40.0**	**-1.0**
KKAR	**Karatay Array**	**58.57**	**34**	*e*P	**P**	**05 13 18.4**	**-0.3**
AAK	**Ala-Archa**	**60.60**	**37**	LR	LR	05 41 41.7		
	comp=Z,31nm,20.3s,baz=19,slow=38							
FINES	**FINESS Array B**	**63.91**	**358**	P	**P**	**05 13 54.1**	**-0.3**
	1.6nm,0.7s,baz=132,slow=9.5,SNR=4.6							
FINES	**FINESS Array B**	**63.91**	**358**	P	**P**	**05 13 54.1**	**-0.3**
NB2	**NORSAR Subarra**	**65.01**	**350**	P	**P**	**05 14 01.5**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=163,slow=6.5							
NOA	**NORSAR Array B**	**65.01**	**350**	P	**P**	**05 14 02.0**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=162,slow=6.2,SNR=5.4							
NOA	**NORSAR Array B**	**65.01**	**350**	P	**P**	**05 14 02.0**	**+0.3**
MK31	**Makanchi Array**	**67.52**	**36**	*e*P	**P**	**05 14 18.3**	**+0.1**
MKAR	**Makanchi Array**	**67.52**	**36**	P	**P**	**05 14 18.5**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=241,slow=5.8,SNR=25							
MKAR	**Makanchi Array**	**67.52**	**36**	P	**P**	**05 14 18.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**71.42**	**70**	P	**P**	**05 14 43.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=261,slow=7.3,SNR=7.2							
CMAR	**Chiang Mai Arr**	**71.42**	**70**	P	**P**	**05 14 43.8**	**+1.1**
ARCES	**ARCESS Array B**	**72.03**	**359**	P	**P**	**05 14 45.3**	**-0.1**
	comp=Z,6.9nm,1.0s,baz=151,slow=3.9,SNR=5.2							
ARCES	**ARCESS Array B**	**72.03**	**359**	P	**P**	**05 14 45.3**	**-0.1**
ZALV	**Zalesovo Beam**	**72.56**	**31**	P	**P**	**05 14 47.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=226,slow=5.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**72.56**	**31**	P	**P**	**05 14 48.0**	**-0.9**
BDFB	**Brasilia**	**77.27**	**255**	P	**P**	**05 15 19.0**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=112,slow=6.8,SNR=5.1							
BDFB	**Brasilia**	**77.27**	**255**	P	**P**	**05 15 19.0**	**+2.0**
PDAR	**Pinedale Array**	**125.87**	**323**	PKP	**PKPdf**	**05 22 24.2**	**-0.2**
	comp=Z,0.6nm,1.1s,baz=124,slow=4.5,SNR=2.7							
PDAR	**Pinedale Array**	**125.87**	**323**	PKP	**PKPdf**	**05 22 24.2**	**-0.2**
NVAR	**Mina Array Bea**	**133.76**	**325**	PKP	**PKPdf**	**05 22 42.5**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=70,slow=1.1,SNR=3.2							
NVAR	**Mina Array Bea**	**133.76**	**325**	PKP	**PKPdf**	**05 22 42.5**	**+3.0**

MEX 25 05:11:54.8±0.6, 16.08N×93.51W, h126km±49km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGIG		**0.79**	**28**	*i* P		Pn	05 12 14.5	-1.0
TGIG				*i* S		Sn	05 12 29.1	-2.1
CCIG	**Comitan**	**1.34**	**81**	*e*P		Pn	05 12 19.3	-1.8
CCIG				*e*S		Sn	05 12 39.5	-1.5
CMIG	**Matias Romero**	**1.65**	**308**	*e*P		Pn	05 12 23.2	-1.2
CMIG				*i* S		Sn	05 12 45.2	-1.8

IDC 25 05:15:05.2±4.5, 30.30S×138.25E, h0km, mb1 3.0/3, mb1mx3.0/15, mbtmp2.8/3, ML2.8/3, Error ellipse: s-maj=113.9km s-min=17.0km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.27**	**120**	Pn		Pn	05 15 58.1	+0.3
	0.8nm,0.3s,baz=298,slow=14,SNR=8.4							
STKA				Sn		Sn	05 16 39.4	+1.9
	1.4nm,0.3s,baz=229,slow=20,SNR=4.1							
STKA				Lg		Lg	05 16 48.5	
	1.9nm,0.3s,baz=206,slow=24,SNR=6.1							
ASAR	**Alice Springs**	**7.66**	**329**	Pn		Pn	05 16 58.4	+0.3
	0.1nm,0.3s,baz=155,slow=11,SNR=4.6							
ASAR				Sn		Sn	05 18 25.8	+0.1
	0.1nm,0.3s,baz=155,slow=21,SNR=3.4							
WRA	**Warramunga Arr**	**10.90**	**340**	Pn		Pn	05 17 42.4	-0.2
	0.1nm,0.3s,baz=156,slow=14,SNR=5.0							

IDC 25 05:19:47.9±0.8, 22.82S×174.74W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/22, mbtmp4.2/10, Error ellipse: s-maj=32.6km s-min=20.6km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.30**	**18**	Pn		Pn	05 21 57.1	-6.4
	1.1nm,0.3s,baz=216,slow=17,SNR=2.3							
AFI				Sn		Sn	05 23 35.4	-14
	1.6nm,0.3s,baz=215,slow=19,SNR=3.2							
RAR	**Rarotonga**	**13.97**	**86**	Pn		Pn	05 22 57.6	-10
	6.3nm,0.3s,baz=270,slow=7.3,SNR=8.7							
CTA	**Charters Tower**	**36.34**	**267**	P		P	05 26 53.9	0.0
	6.2nm,0.4s,baz=88,slow=11,SNR=10							
ASAR	**Alice Springs**	**46.98**	**258**	P		P	05 28 20.9	-0.3
	3.3nm,0.7s,baz=95,slow=8.0,SNR=28							
WRA	**Warramunga Arr**	**47.32**	**263**	P		P	05 28 22.6	-1.1
	3.9nm,0.6s,baz=96,slow=8.5,SNR=82							
FITZ	**Fitzroy Crossi**	**55.74**	**263**	P		P	05 29 27.1	+0.2
	0.9nm,0.5s,baz=80,slow=11,SNR=7.7							
QSPA	**South Pole Qui**	**67.26**	**180**	P		P	05 30 44.6	+0.4
	1.0nm,1.0s,baz=30,slow=2.0,SNR=4.3							
MJAR	**Matsushiro Arr**	**73.88**	**322**	P		P	05 31 25.5	+0.7
	2.1nm,0.6s,baz=176,slow=6.1,SNR=6.6							
NVAR	**Mina Array Bea**	**80.68**	**42**	P		P	05 32 03.0	-0.2
	1.2nm,0.8s,baz=221,slow=7.8,SNR=6.6							
TXAR	**Lajitas Array**	**85.79**	**56**	P		P	05 32 29.5	-0.2
	1.0nm,0.9s,baz=206,slow=8.2,SNR=8.3							
ILAR	**Eielson Array**	**89.93**	**12**	P		P	05 32 48.0	-0.6
	0.7nm,0.9s,baz=201,slow=6.8,SNR=5.1							
CMAR	**Chiang Mai Arr**	**93.73**	**288**	P		P	05 33 07.0	-0.2
	0.6nm,0.3s,baz=108,slow=2.9,SNR=3.6							
AKASG	**Malin Array Be**	**146.49**	**332**	PKPbc		PKPdf	05 39 29.8	+0.3
	1.2nm,0.5s,baz=39,slow=4.6,SNR=5.7							
BRTR	**Keskin Array B**	**150.64**	**312**	PKPbc		PKPbc	05 39 42.0	-0.4
	0.6nm,0.7s,baz=145,slow=4.5,SNR=3.6							
BRTR				PKPab		PKPab	05 39 49.6	+0.5
	0.5nm,0.6s,baz=3.6,slow=3.6,SNR=3.9							

*ISCJB **25** 05:50:54.7±0.5, 33.24N±0.03×115.73W±0.04, h1km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=175.2*
*ECX **25** 05:50:55.8±0.7, 33.29N×115.71W, h15km, MD3.0, ML3.2*
*NEIC **25** 05:50:55.8, 33.29N×115.72W, h5km, ML3.0(PAS), After PAS.*
NEIC Felt at Bombay Beach and in the Salton Sea area.

ISC 25 05:50:54.7±1.0, 33.25N±0.03×115.73W±0.03, h12km±9km, n26, σ1ŝ19/36, 2C-7D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.17**	**28**	⇓*i* P		**Pg**	**05 50 58.4**	**-0.1**
COK	**Cook Ranch**	**0.40**	**179**	⇓*i* P		**Pb**	**05 51 04.4**	**+0.4**
CRR	**Carrizo Plain**	**0.42**	**208**	⇓*i* P		**Pb**	**05 51 04.4**	**+0.4**
HAY	**Hayfield**	**0.45**	**5**	⇓*i* P		**Pg**	**05 51 03.4**	**-0.2**
SGL	**Mount Signal**	**0.60**	**179**	⇓*i* P		**Pb**	**05 51 07.5**	**+0.3**
YUH	**Yuha Desert**	**0.62**	**195**	⇓*i* P		**Pg**	**05 51 07.5**	**+0.6**
PFO	**Pinyon Flat Ob**	**0.70**	**301**	*e*Pg		**Pg**	**05 51 08.3**	**0.0**
PFO				*e*Sg		**Sg**	**05 51 17.7**	**+0.2**
GLA	**Glamis**	**0.79**	**105**	*e*Pg		**Pg**	**05 51 09.7**	**-0.2**
GLA				*e*Sg		**Sg**	**05 51 20.7**	**+0.4**
GLA	**Glamis**	**0.79**	**105**	⇑*i* P		**Pg**	**05 51 09.4**	**-0.5**
BAR	**Barrett**	**0.97**	**234**	*e*Pg		**Pg**	**05 51 13.4**	**-0.1**
BAR				*e*Sg		**Sg**	**05 51 26.2**	**0.0**
CBX	**Cerro Bola**	**1.22**	**220**	⇓*e*P		**Pn**	**05 51 17.4**	**-0.3**
CBX				*e*S		**Sb**	**05 51 34.2**	**+0.6**
RDX	**Rancho Dawling**	**1.33**	**188**	*e*P		**Pn**	**05 51 18.9**	**-0.5**
RDX				*e*S		**Sb**	**05 51 37.4**	**+0.6**
RDX				*e*			05 51 46.5	
	comp=E,358nm,0.4s							
PBX	**Punta Banda**	**1.73**	**209**	*e*P		**Pn**	**05 51 25.3**	**+0.7**
PBX				*e*S		**Sb**	**05 51 48.4**	**+0.5**
PBX				⇑*e*			05 52 00.9	
	comp=N,165nm,0.7s							
ECNX	**Esteban Cantu**	**1.75**	**205**	*e*P		**Pb**	**05 51 26.2**	**-0.7**
ECNX				*e*P		**Pn**	**05 51 23.1**	**-1.9**
ECNX				*e*S		**Sn**	**05 51 44.8**	**-2.5**
ECNX				*e*S		**Sb**	**05 51 49.5**	**+0.6**
LDFC	**Landfair**	**1.89**	**16**	*e*Pn		**Pb**	**05 51 30.2**	**+1.0**
MWC	**Mount Wilson**	**2.17**	**297**	*e*Pn		**Pn**	**05 51 32.2**	**+1.5**
MWC				*e*Sn		**Sb**	**05 52 02.0**	**+1.2**
SPX	**San Pedro Mart**	**2.21**	**174**	*e*PN		**Pn**	**05 51 33.5**	**+2.0**
PASC	**Pasadena Art C**	**2.24**	**295**	*e*Pn		**Pb**	**05 51 34.0**	**-1.1**
PASC				*e*Sn		**Sn**	**05 52 01.5**	**+2.2**
OSI	**Osito Adit**	**2.83**	**299**	*e*Pn		**Pb**	**05 51 44.6**	**-0.6**
ISA	**Isabella**	**3.30**	**317**	*e*Pn		**Pb**	**05 51 53.7**	**+0.5**
DAC	**Darwin (Calif)**	**3.38**	**334**	*e*Pn		**Pb**	**05 51 52.5**	**-2.2**
RRI2	**Red Ridge**	**10.65**	**18**	*e*Pn		Pn	05 53 31.0	+3.6
	comp=N,13nm,0.4s							
DCID1	**Drake Creek**	**10.92**	**18**	*e*Pn		**Pn**	**05 53 32.4**	**+1.4**
	comp=N,46nm,0.7s							
MOOW	**Moose Ponds**	**11.18**	**19**	*e*Pn		**Pn**	**05 53 31.9**	**-2.7**
	comp=N,2.8nm,0.3s							
IMW	**Indian Meadow**	**11.27**	**18**	*e*Pn		**Pn**	**05 53 34.9**	**-0.9**
	comp=N,10nm,0.3s							
FLWY	**Flagg Ranch**	**11.50**	**18**	*e*Pn		**Pn**	**05 53 38.0**	**-0.9**
	comp=N,2.0nm,0.5s							

IDC 25 06:02:16.6±1.4, 18.85N×145.56E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/25, mbtmp3.8/4, MS4.0/2, Ms1 4.0/2, ms1mx2.7/52, Error ellipse: s-maj=68.7km s-min=28.9km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.78**	**340**	LR		LR	06 06 50.3	
	comp=Z,1μm,21.0s,baz=34,slow=31							
JOW	**Kunigami**	**17.79**	**300**	LR		LR	06 11 24.9	
	comp=Z,454nm,20.8s,baz=249,slow=31							
WRA	**Warramunga Arr**	**40.09**	**197**	P		P	06 09 53.9	-0.2
	0.5nm,0.3s,baz=12,slow=8.4,SNR=27							
BVAR	**Borovoye Array**	**66.28**	**320**	P		P	06 13 08.1	+1.4
	0.2nm,0.4s,baz=89,slow=6.2,SNR=3.7							
YKA	**Yellowknife Ar**	**77.92**	**28**	P		P	06 14 16.2	0.0
	0.2nm,0.6s,baz=293,slow=5.4,SNR=5.2							
NOA	**NORSAR Array B**	**92.39**	**340**	P		P	06 15 27.2	-1.9
	0.6nm,0.7s,baz=48,slow=4.8,SNR=2.7							

*IDC **25** 06:05:13.8±1.9, 31.71S×68.71W, h101km±9km, mb3.7/1, mb1 3.6/2, mb1mx3.2/16, mbtmp3.5/2, Error ellipse: s-maj=52.5km s-min=41.9km az=110.0*
*ISCJB **25** 06:05:14.8±0.8, 31.62S±0.05×68.67W±0.06, h108km±7km, mb3.8/1, Error ellipse: s-maj=10.2km s-min=7.4km az=137.1*
*GUC **25** 06:05:15.8±0.5, 31.61S×68.98W, h145km±19km, MD3.5, ML3.7*

ISC 25 06:05:14.7±0.9, 31.58S±0.06×68.66W±0.06, h108km±7km, n15, σ0.82/22, 3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.36**	**93**	P		**Pn**	**06 05 30.4**	**-0.2**
	21nm,0.3s,baz=276,slow=6.4,SNR=2362							
CFAA				S		**Sn**	**06 05 42.5**	**+0.1**
	75nm,0.3s,baz=163,slow=19,SNR=331							
PTCH	**Petorca**	**2.05**	**250**	*e*P		**Pn**	**06 05 49.3**	**+1.0**
PTCH				*i* S		**Sn**	**06 06 14.0**	**+0.1**
PTCH				AML		AML	06 06 16.9	
	comp=E,1μm,0.2s							
PEL	**Peldehue**	**2.32**	**227**	*e*P		**Pn**	**06 05 51.8**	**+0.1**
PEL				*i* S		**Sn**	**06 06 20.0**	**-0.1**
PEL				AML		AML	06 06 23.2	
	comp=N,377nm,0.4s							
TLL	**Tololo Astrono**	**2.33**	**307**	*e*P		**Pn**	**06 05 53.0**	**+1.0**
TLL				*i* S		**Sn**	**06 06 21.6**	**+0.9**
TLL				AML		AML	06 06 27.4	
	comp=N,608nm,0.5s							
CLCH	**Cerro Calan**	**2.41**	**221**	⇓*i* P		**Pn**	**06 05 54.0**	**+1.1**
CLCH				AML		AML	06 06 30.2	
	comp=E,250nm,0.6s							
ROCH	**El Roble**	**2.43**	**235**	*e*P		**Pn**	**06 05 53.2**	**-0.1**
ROCH				*e*S		**Sn**	**06 06 22.3**	**-0.7**
ROCH				AML		AML	06 06 28.0	
	comp=N,256nm,0.4s							
CHNG	**Los Chungos**	**2.44**	**262**	⇓*i* P		**Pn**	**06 05 53.0**	**-0.3**
CHNG				*i* S		**Sn**	**06 06 20.9**	**-1.9**
CHNG				AML		AML	06 06 30.5	
	comp=N,325nm,0.5s							
ANTU	**Antumapu**	**2.59**	**220**	*i* S		**Sn**	**06 06 26.6**	**+0.2**
CHCH	**Chadas Angostu**	**2.88**	**215**	⇓*i* P		**Pn**	**06 06 00.0**	**+0.9**
CACH	**El Canelo**	**3.01**	**212**	*i* P		**Pn**	**06 06 02.0**	**+1.1**
LPAZ	**La Paz**	**15.24**	**2**	P		**P**	**06 08 46.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=183,slow=7.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**80.69**	**68**	P		**P**	**06 17 16.6**	**+0.4**
	comp=N,0.8nm,0.6s,baz=264,slow=5.7,SNR=12							
WRA	**Warramunga Arr**	**124.22**	**206**	PKP		**PKPdf**	**06 24 00.4**	**-1.0**
	comp=N,0.3nm,0.3s,baz=151,slow=1.9,SNR=12							
ZALV	**Zalesovo Beam**	**150.66**	**33**	PKPbc		**PKPbc**	**06 24 53.8**	**+0.2**
	comp=N,1.2nm,0.5s,baz=318,slow=2.0,SNR=6.3							
MKAR	**Makanchi Array**	**153.03**	**47**	PKPbc		**PKPbc**	**06 24 59.5**	**+0.2**
	comp=N,0.3nm,0.8s,baz=25,slow=1.1,SNR=3.6							
MKAR				PKPab		**PKPab**	**06 25 11.1**	**-0.1**
	comp=N,0.4nm,0.6s,baz=297,slow=2.8,SNR=5.2							

*NIED **25** 06:26:00, 36.10N×140.00E, h50km, Mw4.0 Best double couple: Mo1.22000×10^15 NP1:φs44.00000°, δ76.00000°, λ78.00000°. NP2:φs265.00000°, δ18.00000°, λ130.00000°.*
*NEIC **25** 06:26:06.2±1.3, 36.03N×140.76E, h10km, mb4.3/4, Error ellipse: s-maj=25.6km s-min=6.7km az=127.0*
NEIC Recorded [3 JMA] in Ibaraki; [2 JMA] in Chiba, Saitama and Tochigi; [1 JMA] in Fukushima, Gumma, Kanagawa and Tokyo.
*ISCJB **25** 06:26:15.1±0.4, 35.98N±0.03×139.96E±0.04, h56km±3km, mb4.0/22, Error ellipse: s-maj=6.1km s-min=4.7km az=20.9*
*JMA **25** 06:26:16.1±0.1, 36.02N×139.95E, h44km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs42.00000°, δ72.00000°, λ85.00000°. NP2:φs237.00000°, δ19.00000°, λ104.00000°. Principal axes: T Plg63.0000°, Azm305.0000°; N Plg4.0000°, Azm44.0000°; P Plg27.0000°, Azm136.0000°;*
JMA Felt III J1.
*IDC **25** 06:26:17.6±1.3, 35.89N×139.93E, h62km±12km, mb3.6/18, mb1 3.8/22, mb1mx3.7/33, mbtmp3.7/22, MS3.0/3, Ms1 3.0/3, ms1mx2.6/40 Error ellipse: s-maj=15.6km s-min=6.8km az=66.0*

ISC 25 06:26:15.9±0.9, 35.98N±0.04×139.96E±0.04, h45km±8km, n49, σ0.80/55, mb4.0/22, 1C-8D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.31**	**38**	⇑P		**Pn**	**06 26 24.6**	**-0.2**
JYT				S		**Sn**	**06 26 30.5**	**-0.5**
JAG	**Ashikaga**	**0.60**	**317**	⇓P		**Pn**	**06 26 28.0**	**-0.3**
JAG				S		**Sn**	**06 26 36.4**	**-0.7**
JRY	**Ryogami san**	**0.86**	**273**	⇓P		**Pn**	**06 26 31.5**	**-0.2**
JRY				*e*S		**Sn**	**06 26 42.3**	**-0.8**
JKT	**Katashina**	**0.97**	**324**	⇓P		**Pn**	**06 26 32.9**	**-0.4**
JKT				*e*S		**Sn**	**06 26 45.8**	**-0.2**
JOD2	**Odawara 2**	**1.01**	**225**	P		**Pn**	**06 26 34.1**	**+0.4**
JOD2				S		**Sn**	**06 26 47.4**	**+0.7**
JYN	**Shimodi**	**1.25**	**248**	P		**Pn**	**06 26 38.0**	**+1.0**
BSO3	**Boso 3**	**1.26**	**159**	⇓P		**Pn**	**06 26 37.4**	**+0.6**
JFY	**Yanaizu**	**1.44**	**352**	⇓P		**Pn**	**06 26 39.9**	**+0.3**
JFY				*e*S		**Sn**	**06 26 57.7**	**+0.4**
JHK	**Hiroka**	**1.48**	**329**	⇓P		**Pn**	**06 26 40.3**	**+0.3**
MJAR	**Matsushiro Arr**	**1.52**	**292**	P		**Pn**	**06 26 40.9**	**+0.2**
	42nm,0.3s,baz=95,slow=14,SNR=212							
MJAR				S		**Sn**	**06 27 01.8**	**+2.4**
	40nm,0.3s,baz=99,slow=20,SNR=12							
MAJO	**Matsushiro**	**1.52**	**292**	*e*Pn		**Pn**	**06 26 41.3**	**+0.6**
MAT	**Matsushiro**	**1.52**	**292**	P		**Pn**	**06 26 41.4**	**+0.7**
MAT				S		**Sn**	**06 26 58.3**	**-1.1**
JFT	**Otama**	**1.56**	**11**	⇓P		**Pn**	**06 26 41.6**	**+0.3**
JFK	**Kawauchi**	**1.57**	**28**	⇓P		**Pn**	**06 26 41.3**	**0.0**
JFK				*e*S		**Sn**	**06 26 59.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.86**	**183**	P		**Pn**	**06 26 59.3**	**+0.3**
	132nm,0.3s,baz=232,slow=19,SNR=28							
JHJ				S		**Sn**	**06 27 31.8**	**-0.4**
	212nm,0.3s,baz=79,slow=22,SNR=14							
JHJ				LR		LR	06 27 39.8	
	comp=Z,394nm,20.4s,baz=282,slow=30							
ERM	**Erimo**	**6.52**	**21**	*e*Pn		Pn	06 27 37.6	-12
JNU	**Nakatsue**	**8.02**	**252**	Pn		**Pn**	**06 28 11.1**	**+1.3**
ASAJ	**Asahikawa**	**8.37**	**13**	P		**Pn**	**06 28 16.2**	**+1.6**
	0.8nm,0.3s,baz=197,slow=14,SNR=3.7							
ASAJ				LR		LR	06 32 18.5	
	comp=Z,56nm,18.5s,baz=319,slow=43							
ASAJ	**Asahikawa**	**8.37**	**13**	Pn		Pn	06 28 05.4	-9.3
KSRS	**Korea Array**	**9.78**	**282**	P		**Pn**	**06 28 34.9**	**+1.0**
	0.3nm,0.3s,baz=97,slow=15,SNR=2.7							
KSRS				LR		LR	06 32 03.8	
	comp=Z,91nm,21.2s,baz=345,slow=35							
USRK	**Ussuriysk Arra**	**10.22**	**326**	P		Pn	06 28 44.3	+4.4
	0.2nm,0.3s,baz=128,slow=13,SNR=9.6							
YSS	**Yuzh-Sakhalins**	**11.16**	**10**	Pn		Pn	06 28 43.8	-9.0
TATO	**Taipei**	**19.30**	**240**	P		**P**	**06 30 38.0**	**+1.0**
YHNB	**Yeheng**	**19.57**	**240**	P		**P**	**06 30 41.0**	**+0.9**
NACB	**Ninganchiao**	**19.74**	**238**	P		**P**	**06 30 42.0**	**+0.2**
SONM	**Songino Array**	**27.43**	**306**	P		**P**	**06 31 57.2**	**-0.2**
	0.7nm,0.6s,baz=101,slow=8.0,SNR=4.4							
ZAA0	**Zalesovo Array**	**41.77**	**313**	*e*P		**P**	**06 33 60.0**	**-0.6**
ZALV	**Zalesovo Beam**	**41.77**	**313**	P		**P**	**06 34 00.3**	**-0.2**
	5.8nm,0.6s,baz=84,slow=6.2,SNR=28							
MKAR	**Makanchi Array**	**43.69**	**303**	P		**P**	**06 34 15.6**	**-0.7**
	0.9nm,0.6s,baz=64,slow=9.8,SNR=9.6							
KURK	**Kurchatov**	**45.67**	**309**	*e*P		**P**	**06 34 30.8**	**-1.1**
	5.8nm,0.6s							
KDAK	**Kodiak Island**	**48.66**	**41**	P		**P**	**06 34 56.2**	**+1.1**
	6.0nm,0.7s,baz=333,slow=15,SNR=5.6							
TKM2	**Tokmak 2**	**49.10**	**299**	*e*P		**P**	**06 34 58.0**	**-1.0**
	2.7nm,0.6s							
BVAR	**Borovoye Array**	**50.42**	**313**	P		**P**	**06 35 07.9**	**-0.8**
	0.6nm,0.4s,baz=99,slow=9.2,SNR=5.4							
ILAR	**Eielson Array**	**51.01**	**32**	P		**P**	**06 35 14.0**	**+1.1**
	0.8nm,0.8s,baz=264,slow=6.3,SNR=5.8							
KKAR	**Karatay Array**	**52.64**	**300**	*e*P		**P**	**06 35 24.8**	**-0.6**
	0.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**55.47**	**197**	P		**P**	**06 35 46.9**	**+0.8**
	1.4nm,0.5s,baz=11,slow=10,SNR=8.9							
INK	**Inuvik**	**55.85**	**27**	P		**P**	**06 35 49.1**	**+0.8**
	0.7nm,0.6s,baz=295,slow=4.6,SNR=7.1							
WRA	**Warramunga Arr**	**55.87**	**186**	P		**P**	**06 35 48.2**	**-0.8**
	0.7nm,0.4s,baz=1.1,slow=7.6,SNR=19							
ABKAR	**Akbulak array**	**57.72**	**310**	*e*P		**P**	**06 36 00.9**	**-1.0**
	0.9nm,0.5s							
ASAR	**Alice Springs**	**59.60**	**186**	P		**P**	**06 36 15.6**	**+0.4**
	0.4nm,0.5s,baz=6.7,slow=7.7,SNR=4.3							
ARCES	**ARCESS Array B**	**64.57**	**339**	P		**P**	**06 36 47.2**	**-0.8**
	6.5nm,1.1s,baz=50,slow=7.5,SNR=4.5							
YKA	**Yellowknife Ar**	**65.30**	**30**	P		**P**	**06 36 52.8**	**0.0**
	0.3nm,0.8s,baz=302,slow=6.7,SNR=6.4							
FINES	**FINESS Array B**	**69.19**	**332**	P		**P**	**06 37 17.0**	**-0.4**
	2.1nm,0.8s,baz=60,slow=8.2,SNR=5.0							
AKASG	**Malin Array Be**	**74.41**	**322**	P		**P**	**06 37 48.0**	**-0.9**
	0.7nm,0.4s,baz=48,slow=6.4,SNR=3.9							
NB2	**NORSAR Subarra**	**74.70**	**337**	P		**P**	**06 37 49.8**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**

2µm,1.2s,SNR=40
RAR Rarotonga 12.23 111 Pn Pn 06 34 23.9 -3.2
25nm,0.3s,baz=270,slow=6.7,SNR=33
RAR Sn Sn 06 36 32.4 -10
7.0nm,0.3s,baz=90,slow=15,SNR=3.9
RAR LR LR 06 38 07.7
comp=Z,1µm,18.7s,baz=270,slow=32
RAR Rarotonga 12.23 111 ePn Pn 06 34 23.3 -3.8
RAR eSn Sn 06 36 31.4 -11
RAR Sn Sn 06 36 32.4 -10
DZM Mont Dzumac 20.93 253 P **P** **06 36 12.3 -3.0**
28nm,1.0s,baz=80,slow=17,SNR=5.2
DZM Mont Dzumac 20.93 253 eS Sn 06 40 10.6 -3.2
900nm,23.9s
DZM eLR LR 06 41 29.6
4µm,24.6s
DZM Mont Dzumac 20.93 253 P **P** **06 36 12.3 -3.0**
PAE Paea 21.37 95 eP **P** **06 36 20.8 +0.8**
6.7nm,1.0s
PPT2 Papeete2 21.38 95 eP **P** **06 36 21.5 +1.3**
51nm,1.2s
PPT2 eLQ LQ 06 40 27.3
2µm,26.5s
PPT2 eLR LR 06 41 20.7
2µm,24.2s
PPT Papeete 21.38 95 P **P** **06 36 21.4 +1.3**
37nm,1.0s,baz=88,slow=21,SNR=4.5
PPT S S 06 40 00.3 -15
10.0nm,0.9s,baz=255,slow=20,SNR=2.2
PPT LR LR 06 42 00.4
comp=Z,1µm,18.8s,baz=281,slow=29
PPT Papeete 21.38 95 P **P** **06 36 21.4 +1.3**
PPT S S 06 40 00.3 -15
TIAR Tiarei 21.60 95 eP **P** **06 36 23.1 +0.6**
42nm,1.1s
TVO Taravao 21.68 95 eP **P** **06 36 24.4 +1.0**
28nm,1.0s
TBI Tubuai 22.00 110 eP **P** **06 36 27.6 +0.8**
178nm,1.4s
TBI eLQ LQ 06 40 31.9
2µm,28.8s
TBI eLR LR 06 41 30.6
3µm,26.5s,baz=286
OUZ Omahuta 22.18 213 eP **P** **06 36 29.6 +1.1**
196nm,1.2s
MEH Mehetia 22.81 96 eP **P** **06 36 35.2 -0.2**
32nm,0.9s
URZ Urewera 23.16 202 P **P** **06 36 41.9 +3.0**
44nm,0.3s,baz=15,slow=4.3,SNR=57
URZ S **S** **06 40 44.1 -4.0**
8.2nm,0.6s,baz=37,slow=20,SNR=4.7
URZ Urewera 23.16 202 eP **P** **06 36 38.8 -0.1**
362nm,1.0s
URZ S **S** **06 40 44.1 -4.0**
PMOR Pomariorio Ree 23.22 88 eP **P** **06 36 40.0 +0.3**
143nm,1.4s
TARA Tarawa 23.63 319 eP **P** **06 36 43.1 -0.5**
SNZO South Karori 26.72 203 P **P** **06 37 10.9 -0.6**
103nm,1.1s
KHZ Kahutara 28.12 203 eP **P** **06 37 24.1 0.0**
151nm,1.4s
HNR Honiara 28.35 282 LR LR 06 47 05.8
comp=Z,2µm,21.5s,baz=124,slow=33
RPZ Rata Peaks 30.19 205 P P 06 37 49.4 +7.0
107nm,1.0s,baz=359,slow=2.8,SNR=17
RPZ Rata Peaks 30.19 205 eP **P** **06 37 42.9 +0.5**
ODZ Otahua Downs 31.46 204 eP **P** **06 37 51.8 -1.8**
48nm,1.1s
RKT Rikitea 35.18 106 eP **P** **06 38 26.6 +0.2**
32nm,1.3s
RKT eLR LR 06 47 33.3
2µm,27.2s,baz=278
ARMA Armidale 35.70 241 eP **P** **06 38 29.6 -1.3**
14nm,0.9s
CTA Charters Tower 39.64 259 P **P** **06 39 02.7 -1.6**
13nm,0.8s,baz=98,slow=8.3,SNR=9.1
CTA LR LR 06 53 19.4
comp=Z,746nm,21.4s,baz=74,slow=33
CTA Charters Tower 39.64 259 P **P** **06 39 02.7 -1.6**
CTAO Charters Tower 39.64 259 eP **P** **06 39 04.4 +0.1**
CTAO pmax pmax
comp=Z,20nm,0.8s
CTAO Charters Tower 39.64 259 eP **P** **06 39 04.4 +0.1**
comp=Z,20nm,0.8s
PMG Port Moresby 40.45 276 P **P** **06 39 11.4 +0.4**
comp=Z,4.3nm,0.5s,baz=195,slow=11,SNR=4.2
PMG epP **pP** **06 39 19.1 -1.8**
PMG Port Moresby 40.45 276 P pP 06 39 21.7 +0.7
comp=Z,27nm,1.2s
STKA Stephens Creek 44.42 242 P **P** **06 39 43.2 +0.1**
comp=Z,19nm,0.9s,baz=85,slow=8.8,SNR=39
STKA LR LR 06 55 31.9
comp=Z,616nm,21.8s,baz=27,slow=32
STKA Stephens Creek 44.42 242 eP **P** **06 39 43.0 -0.2**
comp=Z,7.3nm,1.1s
BBOO Buckleboo 49.18 241 eP **P** **06 40 20.4 +0.1**
comp=Z,744nm,0.8s
WRAB Tennant Creek 50.81 258 eP **P** **06 40 31.5 -1.5**
WRAB pmax pmax
comp=Z,62nm,1.1s
WRAB Tennant Creek 50.81 258 eP **P** **06 40 31.5 -1.5**
comp=Z,62nm,1.1s
WRAB Tennant Creek 50.81 258 P **P** **06 40 31.4 -1.5**
comp=Z,275nm,1.0s,SNR=14
WRA Warramunga Arr 50.82 258 P **P** **06 40 31.8 -1.2**
comp=Z,37nm,1.0s,baz=97,slow=7.7,SNR=225
WRA LR LR 07 01 03.6
comp=Z,655nm,19.9s,baz=90,slow=35
WRA Warramunga Arr 50.82 258 P **P** **06 40 31.8 -1.2**
AS31 Alice Springs 50.92 253 eP **P** **06 40 33.0 -0.7**
ASAR Alice Springs 50.92 253 P **P** **06 40 33.1 -0.6**
comp=Z,29nm,0.7s,baz=89,slow=8.5,SNR=134
ASAR Alice Springs 50.92 253 P **P** **06 40 33.1 -0.6**
FORT Forrest 55.90 244 eP **P** **06 41 10.2 +0.1**
comp=Z,33nm,0.8s
FITZ Fitzroy Crossi 59.22 259 P **P** **06 41 33.9 +0.2**
comp=Z,3.3nm,0.6s,baz=93,slow=4.5,SNR=13
FITZ LR LR 07 05 16.5
comp=Z,457nm,20.7s,baz=131,slow=34
FITZ Fitzroy Crossi 59.22 259 P **P** **06 41 33.9 +0.2**
SBA Scott Base 61.69 185 eP **P** **06 41 51.0 +1.4**
SBA pmax pmax
comp=Z,31nm,1.0s
SBA Scott Base 61.69 185 eP **P** **06 41 51.0 +1.4**
comp=Z,31nm,1.0s
VNDA Vanda 61.85 186 P **P** **06 41 51.2 +0.6**
comp=Z,7.4nm,0.9s,baz=9.0,slow=6.8,SNR=34
VNDA Vanda 61.85 186 eP **P** **06 41 51.2 +0.6**
comp=Z,18nm,1.1s
VNDA epP **pP** **06 42 00.5 -0.6**
CBIJ Chichi jima 62.52 314 LR LR 07 02 25.4
comp=Z,1µm,21.2s,baz=102,slow=30
MBWA Marble Bar 64.22 254 eP **P** **06 42 07.2 -0.2**
comp=Z,38nm,0.9s
NWAO Narrogin (SRO) 65.00 241 eP **P** **06 42 13.8 +1.4**
comp=Z,40nm,1.2s
NWAO epP **pP** **06 42 22.3 -0.5**
KAPI Kappang 67.80 272 eP **P** **06 42 30.8 +0.4**
comp=Z,91nm,2.0s
KAPI epP **pP** **06 42 42.5 +1.5**
KAPI Kappang 67.80 272 P pP 06 42 42.3 +1.3
comp=Z,20nm,1.5s
MJAR Matsushiro Arr 71.11 319 P **P** **06 42 50.6 +0.1**
comp=Z,0.7nm,0.3s,baz=117,slow=4.2,SNR=3.8
MJAR LR LR 07 08 10.1
comp=Z,265nm,20.4s,baz=95,slow=31
MJAR Matsushiro Arr 71.11 319 P **P** **06 42 50.6 +0.1**
MAT Matsushiro 71.12 319 P **P** **06 42 50.9 +0.4**
MAT S **S** **06 52 05.0 0.0**
109C Camp Elliot, M 72.22 46 ⇑P **P** **06 42 58.1 +0.8**
baz=72
MWC Mount Wilson 72.34 45 eP **P** **06 42 58.7 +0.5**
MWC pmax pmax
comp=Z,28nm,1.1s
MWC Mount Wilson 72.34 45 eP **P** **06 42 58.7 +0.5**
comp=Z,28nm,1.1s
ARVC Arvin 72.36 43 ⇓P **P** **06 42 59.1 +1.1**
baz=73
MURC Murrieta 72.57 46 ⇓P **P** **06 43 00.2 +0.9**
baz=73
BFSC Mount Baldy Ra 72.62 45 ⇓P **P** **06 43 00.5 +0.8**
baz=73
VES Vestal, Richgr 72.62 43 ⇑P **P** **06 43 00.2 +0.7**
baz=73,SNR=7.9
MONP Monument Peak 72.70 47 ⇑P **P** **06 43 01.4 +1.0**
baz=73,SNR=8.2

EDW2 Edwards Air Fo 72.77 44 ⇓P **P** **06 43 01.5 +0.9**
baz=73,SNR=9.9
DVTC Desert V Tower 72.79 47 ⇑P **P** **06 43 01.8 +1.0**
baz=73,SNR=5.5
ISA Isabella 72.92 43 eP **P** **06 43 02.4 +1.0**
ISA pmax pmax
comp=Z,24nm,1.2s
ISA Isabella 72.92 43 eP **P** **06 43 02.4 +1.0**
comp=Z,24nm,1.2s
ISA Isabella 72.92 43 ⇓P **P** **06 43 02.5 +1.0**
baz=73,SNR=9.8
QSPA South Pole Qui 72.96 180 eP **P** **06 43 01.2 -0.1**
comp=Z,48nm,1.2s
QSPA epP **pP** **06 43 10.6 -1.3**
PFO Pinyon Flat Ob 73.08 46 eP **P** **06 43 03.1 +0.7**
comp=Z,28nm,1.2s
PFO Pinyon Flat Ob 73.08 46 ⇓P **P** **06 43 03.4 +0.9**
baz=73,SNR=5.8
BBRC Big Bear Solar 73.14 45 ⇑P **P** **06 43 03.9 +0.9**
baz=73
CMB Columbia Colle 73.14 40 eP **P** **06 43 03.8 +1.2**
CMB pmax pmax
comp=Z,16nm,1.1s
CMB Columbia Colle 73.14 40 eP **P** **06 43 03.8 +1.2**
comp=Z,16nm,1.1s
SWSC Sam W. Stewart 73.16 47 ⇑P **P** **06 43 03.7 +0.9**
baz=73
OHCM Honcut 73.29 39 eP **P** **06 43 04.8 +1.4**
OHCM epP **pP** **06 43 14.4 +0.4**
LRMC Laurel Mountai 73.32 44 ⇓P **P** **06 43 04.7 +0.8**
baz=74,SNR=9.3
RRX Edison Barstow 73.44 45 ⇑P **P** **06 43 05.3 +0.9**
baz=74
WDC Whiskeytown Da 73.47 37 eP **P** **06 43 05.8 +1.4**
WDC pmax pmax
comp=Z,24nm,1.3s
WDC Whiskeytown Da 73.47 37 eP **P** **06 43 05.8 +1.4**
comp=Z,24nm,1.3s
BELC Belle Mtn. Jos 73.62 46 ⇓P **P** **06 43 06.4 +0.8**
baz=74,SNR=9.5
CWC Cottonwood Cre 73.63 43 ⇓P **P** **06 43 06.8 +1.1**
baz=74
ASAJ Asahikawa 73.70 328 P **P** **06 43 05.7 0.0**
comp=Z,4.9nm,0.7s,baz=124,slow=3.6,SNR=3.4
ASAJ LR LR 07 12 31.5
comp=Z,163nm,19.8s,baz=181,slow=33
ASAJ Asahikawa 73.70 328 P **P** **06 43 05.7 0.0**
MPMC Manual Prospec 73.80 43 ⇑P **P** **06 43 07.7 +1.0**
baz=74,SNR=16
BC3 Big Chuckawall 73.80 46 ⇑P **P** **06 43 07.7 +1.1**
baz=74,SNR=9.5
GSC Goldstone 73.81 44 eP **P** **06 43 07.4 +0.8**
GSC e*PP **pP** **06 43 17.6 +0.3**
GSC pmax pmax
comp=Z,21nm,1.1s
GSC Goldstone 73.81 44 eP **P** **06 43 07.4 +0.8**
comp=Z,21nm,1.1s
GSC epP **pP** **06 43 17.6 +0.3**
GSC Goldstone 73.81 44 ⇑P **P** **06 43 07.5 +0.8**
baz=74,SNR=6.7
HEC Hector,Ludlow 73.86 45 ⇑P **P** **06 43 07.6 +0.6**
baz=74,SNR=13
MLAC Mammoth Lakes 73.86 41 ⇑P **P** **06 43 08.3 +1.1**
baz=74
MTUM Tungsten Hills 73.87 42 eP **P** **06 43 08.2 +1.1**
MTUM epP **pP** **06 43 18.6 +0.9**
TIN Tinemaha 73.90 42 ⇓P **P** **06 43 08.3 +1.1**
baz=74
GLA Glamis 73.90 47 eP **P** **06 43 08.4 +1.2**
GLA pmax pmax
comp=Z,49nm,1.4s
GLA Glamis 73.90 47 eP **P** **06 43 08.4 +1.2**
comp=Z,49nm,1.4s
GLA Glamis 73.90 47 ⇓P **P** **06 43 08.5 +1.2**
baz=74,SNR=5.9
YBH Yreka Blue Hor 74.13 36 P **P** **06 43 09.6 +1.2**
comp=Z,6.1nm,0.8s,baz=168,slow=2.5,SNR=17
YBH Yreka Blue Hor 74.13 36 P **P** **06 43 09.6 +1.2**
GMRC Granite Mounta 74.28 45 ⇓P **P** **06 43 10.2 +0.7**
baz=74,SNR=8.6
IRM Iron Mountain 74.29 46 ⇓P **P** **06 43 10.5 +1.1**
baz=74,SNR=13
WCN Washoe City 74.31 40 eP **P** **06 43 10.2 +0.6**
WCN pmax pmax
comp=Z,25nm,1.1s
WCN Washoe City 74.31 40 eP **P** **06 43 10.2 +0.6**
comp=Z,24nm,1.1s
GRAC Grapevine Rang 74.42 43 ⇑P **P** **06 43 11.4 +1.2**
baz=75
FURC Furnace Creek, 74.45 43 ⇓P **P** **06 43 11.0 +0.8**
baz=75,SNR=5.7
TUQ Turquoise Moun 74.48 45 ⇓P **P** **06 43 11.5 +0.9**
baz=75,SNR=5.2
Y12C Blythe 74.50 47 ⇑P **P** **06 43 11.8 +1.1**
baz=75,SNR=5.6
113A Mohawk Valley, 74.50 48 ⇑P **P** **06 43 11.5 +0.9**
baz=75,SNR=5.3
SHOC Shoshone 74.50 44 ⇑P **P** **06 43 11.7 +1.1**
baz=75
KKM Kota Kinabalu 74.56 281 eP **P** **06 43 11.8 +0.2**
comp=Z,31nm,1.0s
KKM epP **pP** **06 43 22.0 -0.2**
KKM Kota Kinabalu 74.56 281 P pP 06 43 23.3 +1.1
comp=Z,34nm,1.5s
HUMO Hull Mountain 74.57 35 eP **P** **06 43 11.3 +0.5**
PETK Petropavlovsk- 74.66 342 P **P** **06 43 11.3 +0.2**
comp=Z,4.8nm,0.7s,baz=151,slow=9.4,SNR=5.2
PETK LR LR 07 09 13.8
comp=Z,117nm,21.7s,baz=144,slow=30
PETK Petropavlovsk- 74.66 342 P **P** **06 43 11.3 +0.2**
PETK Petropavlovsk- 74.66 342 P **P** **06 43 11.3 +0.2**
NVAR Mina Array Bea 74.68 41 P **P** **06 43 12.8 +0.9**
comp=Z,4.0nm,0.6s,baz=229,slow=9.2,SNR=32
NVAR LR LR 07 09 04.2
comp=Z,481nm,19.7s,baz=84,slow=30
NVAR Mina Array Bea 74.68 41 P **P** **06 43 12.8 +0.9**
214A Organ Pipe Nat 74.75 49 ⇑P **P** **06 43 13.2 +1.0**
baz=75,SNR=7.0
NV11 Mina Array Sit 74.77 41 eP **P** **06 43 12.9 +0.6**
LDFC Landfair 74.83 45 eP **P** **06 43 13.4 +0.8**
comp=Z,35nm,1.0s
NEE2 Needles Airpor 74.99 46 ⇓P **P** **06 43 14.6 +1.1**
baz=75
PDMCI Parker Dam,Lak 75.06 46 ⇑P **P** **06 43 15.0 +1.1**
baz=75,SNR=5.2
Z14A Wintersburg 75.40 48 ⇓P **P** **06 43 17.0 +1.1**
baz=76,SNR=5.3
MOD Modoc 75.61 37 eP **P** **06 43 17.9 +0.9**
comp=Z,33nm,1.3s
YSS Yuzh-Sakhalins 75.63 330⇑ eP **pP** **06 43 28.3 +0.8**
YSS e 06 43 36.0
Y14A Wickenburg 75.66 47 ⇓P **P** **06 43 18.3 +0.9**
baz=76,SNR=6.4
W13A Hualapai Mount 75.67 46 ⇑P **P** **06 43 18.7 +1.0**
baz=76,SNR=6.6
KDAK Kodiak Island 76.31 11 P **P** **06 43 21.1 +0.7**
comp=Z,8.6nm,1.0s,baz=153,slow=6.8,SNR=3.7
KDAK Kodiak Island 76.31 11 P **P** **06 43 21.1 +0.7**
R11A Troy Canyon, C 76.36 42 ⇓P **P** **06 43 22.2 +0.8**
baz=77
TUC Tucson 76.41 50 eP **P** **06 43 22.7 +0.9**
TUC pmax pmax
comp=Z,18nm,0.9s
TUC Tucson 76.41 50 eP **P** **06 43 22.6 +0.9**
comp=Z,18nm,0.9s
BMN Battle Mountai 76.55 40 eP **P** **06 43 23.0 +0.6**
BMN pmax pmax
comp=Z,24nm,1.2s
BMN Battle Mountai 76.55 40 eP **P** **06 43 23.0 +0.6**
comp=Z,24nm,1.2s
X16A Lo Mia Camp, P 77.02 48 ⇑P **P** **06 43 26.6 +1.4**
baz=77,SNR=19
319A Douglas 77.05 51 ⇓P **P** **06 43 26.9 +1.4**
baz=77,SNR=16
SBUM Sibu 77.19 277 P P 06 43 35.6 +9.2
comp=Z,18nm,1.0s,comp=Z,681nm
CCUT Cedar City 77.37 44 eP **P** **06 43 28.6 +1.4**
comp=Z,20nm,1.2s
ARUT Antelope Range 77.44 44 eP **P** **06 43 28.5 +0.9**
ARUT pmax pmax
comp=Z,18nm,1.2s
ARUT Antelope Range 77.44 44 eP **P** **06 43 28.5 +0.9**
comp=Z,18nm,1.2s
U15A North Rim 77.48 45 ⇑P **P** **06 43 29.3 +1.4**
baz=78,SNR=12
320A Kipp Ranch, An 77.60 52 ⇑P **P** **06 43 30.1 +1.6**
baz=78,SNR=15

WUAZ Wupatki 77.63 47 eP **P** **06 43 29.8 +1.1**
comp=Z,16nm,1.3s
WUAZ Wupatki 77.63 47 ⇓P **P** **06 43 30.0 +1.3**
baz=78,SNR=5.5
220A Playas Peak, P 77.87 51 ⇓P **P** **06 43 31.5 +1.5**
baz=78,SNR=29
ELK Elko 77.95 41 eP **P** **06 43 31.1 +0.6**
120A U Bar Ranch, L 78.11 50 ⇓P **P** **06 43 32.8 +1.5**
baz=78,SNR=11
X18A Snowflake 78.13 48 ⇑P **P** **06 43 32.7 +1.2**
baz=78,SNR=6.9
KSRS Korea Array 78.33 315 P **P** **06 43 34.3 +2.1**
comp=Z,2.2nm,0.8s,baz=134,slow=3.6,SNR=6.3
KSRS LR LR 07 13 12.1
comp=Z,127nm,19.3s,baz=273,slow=32
KSAR Wonju Array Be 78.35 315 P **P** **06 43 34.3 +2.0**
Z20A Nine Sixteen R 78.41 50 ⇑P **P** **06 43 34.5 +1.4**
baz=79,SNR=16
221A Mesquite Ranch 78.48 51 ⇓P **P** **06 43 35.1 +1.7**
baz=79,SNR=6.1
W18A Petrified Fore 78.58 48 ⇓P **P** **06 43 35.3 +1.3**
baz=79
MVU Marysvale 78.65 44 eP **P** **06 43 35.8 +1.5**
comp=Z,21nm,1.1s
MSU Marysvale 78.67 44 eP **P** **06 43 36.0 +1.6**
MSU Marysvale 78.67 44 eP **P** **06 43 36.0 +1.6**
KSM Kuching 78.71 275 eP **P** **06 43 36.3 +1.4**
comp=Z,130nm,1.0s
KSM Kuching 78.71 275 P P 06 43 45.0 +10
comp=Z,142nm,1.1s,comp=Z,1µm
121A Cookes Peak, D 78.72 51 ⇓P **P** **06 43 36.3 +1.5**
baz=79,SNR=13
HAWA Hanford 78.89 34 eP **P** **06 43 35.9 +0.8**
comp=Z,44nm,1.7s
HAWA epP **pP** **06 43 46.2 +0.4**
Y20A Horse Springs, 78.95 49 ⇓P **P** **06 43 37.5 +1.4**
baz=79,SNR=24
222A Williams Famil 79.03 51 ⇑P **P** **06 43 37.6 +1.2**
baz=79
MFID Camas Ranch 79.15 38 ⇓P **P** **06 43 37.2 +0.4**
baz=79,SNR=6.2
BMO Blue Mountains 79.16 36 eP **P** **06 43 37.4 +0.6**
comp=Z,18nm,1.3s
BMO epP **pP** **06 43 47.4 0.0**
DUG Dugway 79.17 42 eP **P** **06 43 38.0 +1.0**
DUG e*PP **pP** **06 43 48.1 +0.4**
DUG pmax pmax
comp=Z,12nm,1.0s
DUG Dugway 79.17 42 eP **P** **06 43 38.0 +1.0**
comp=Z,12nm,1.0s
DUG epP **pP** **06 43 48.1 +0.4**
DUG Dugway 79.17 42 ⇑P **P** **06 43 37.7 +0.7**
baz=79
X20A Quemado 79.18 49 ⇓P **P** **06 43 38.8 +1.5**
baz=79,SNR=16
Z21A St. Cloud Mine 79.18 50 ⇓P **P** **06 43 39.2 +1.8**
baz=79,SNR=18
122A Conniff Cattle 79.39 51 ⇑P **P** **06 43 40.1 +1.7**
baz=80
W20A Ramah 79.46 48 ⇑P **P** **06 43 40.5 +1.6**
baz=80,SNR=14
223A Chaparral, Ant 79.49 52 ⇑P **P** **06 43 40.2 +1.2**
baz=80
Y21A Point of Rocks 79.51 50 ⇑P **P** **06 43 40.8 +1.6**
baz=80,SNR=7.7
USRK Ussuriysk Arra 79.55 323 P **P** **06 43 39.6 +0.8**
comp=Z,1.4nm,0.9s,baz=108,slow=6.3,SNR=3.6
USRK LR LR 07 12 56.0
comp=Z,214nm,21.3s,baz=113,slow=31
Q16A Castle Valley 79.56 44 ⇑P **P** **06 43 40.5 +1.3**
baz=80
P16A Fountain Green 79.60 43 ⇑P **P** **06 43 41.0 +1.5**
baz=80
X21A Alamocita Cree 79.64 49 ⇑P **P** **06 43 41.2 +1.4**
baz=80,SNR=10
Z22A Elephant Butte 79.68 51 ⇓P **P** **06 43 41.2 +1.3**
baz=80
TMUT Trail Mountain 79.73 43 eP **P** **06 43 41.4 +1.0**
comp=Z,28nm,1.1s
TMUT epP **pP** **06 43 52.3 +1.3**
I12A Atlanta 79.78 38 ⇓P **P** **06 43 41.2 +0.9**
baz=80,SNR=13
V20A Brimhall 79.82 48 ⇓P **P** **06 43 41.7 +1.0**
baz=80
MPU Maple Canyon 79.84 43 eP **P** **06 43 41.7 +1.0**
comp=Z,20nm,1.2s
MPU epP **pP** **06 43 52.1 +0.7**
123A Bell Site, Whi 79.91 51 ⇑P **P** **06 43 42.5 +1.3**
baz=80
L14A Malta 79.92 40 ⇑P **P** **06 43 42.0 +1.0**
baz=80
324A Moseley Ranch, 79.95 53 ⇑P **P** **06 43 42.2 +0.7**
baz=80,SNR=8.6
Y22A Socorro 80.00 50 ⇑P **P** **06 43 42.8 +1.1**
baz=80,SNR=12
O16A Springville 80.02 43 ⇓P **P** **06 43 42.8 +1.1**
baz=80
425A Indio Mountain 80.03 54 ⇑P **P** **06 43 43.2 +1.3**
baz=80,SNR=24
U20A Newcomb 80.06 47 ⇑P **P** **06 43 43.3 +1.3**
baz=80
W21A San Fidel 80.07 49 ⇓P **P** **06 43 43.6 +1.5**
baz=80,SNR=6.9
HVU Hansel Valley 80.07 41 eP **P** **06 43 42.2 +0.3**
HVU e*PP **pP** **06 43 53.2 +0.6**
HVU pmax pmax
comp=Z,53nm,1.9s
HVU Hansel Valley 80.07 41 eP **P** **06 43 42.1 +0.3**
comp=Z,53nm,1.9s
HVU epP **pP** **06 43 53.2 +0.6**
HLID Hailey 80.07 39 eP **P** **06 43 42.7 +0.8**
comp=Z,23nm,1.3s
HLID Hailey 80.07 39 ⇑P **P** **06 43 42.7 +0.8**
baz=80,SNR=13
SRU San Rafael 80.09 44 eP **P** **06 43 42.8 +0.7**
SRU e*PP **pP** **06 43 52.8 0.0**
SRU pmax pmax
comp=Z,33nm,1.5s
SRU San Rafael 80.09 44 eP **P** **06 43 42.8 +0.7**
comp=Z,33nm,1.5s
SRU epP **pP** **06 43 52.8 0.0**
SRU San Rafael 80.09 44 ⇑P **P** **06 43 42.9 +0.7**
baz=80
LAZ Ladron 80.09 49 eP **P** **06 43 43.1 +0.8**
comp=Z,23nm,1.7s
Y22D IRIS PASSCAL I 80.09 50 ⇓P **P** **06 43 43.8 +1.6**
baz=80
LENM Lemitar 80.10 50 eP **P** **06 43 43.6 +1.4**
M15A Larsen Ranch, 80.10 41 ⇑P **P** **06 43 42.7 +0.6**
baz=80
J13A Cove Ranch, Pi 80.12 39 ⇑P **P** **06 43 43.1 +1.0**
baz=80,SNR=9.7
P17A Butcher Ranch, 80.13 44 ⇓P **P** **06 43 43.4 +1.1**
baz=80,SNR=6.5
MNTX Cornudas Mount 80.14 53 eP **P** **06 43 43.1 +0.8**
comp=Z,23nm,1.3s
MNTX Cornudas Mount 80.14 53 ⇑P **P** **06 43 43.4 +1.0**
baz=80,SNR=22
626A Big Bend Ranch 80.15 55 ⇓P **P** **06 43 43.8 +1.3**
baz=80,SNR=18
224A Cornudas Mount 80.21 52 ⇑P **P** **06 43 44.2 +1.3**
baz=80,SNR=21
Z23A Rita Site, Whi 80.22 51 ⇓P **P** **06 43 44.0 +1.2**
baz=80,SNR=5.8
X22A Bernardo 80.23 49 ⇑P **P** **06 43 44.8 +1.9**
baz=80
K14A Jones Ranch, D 80.25 40 ⇑P **P** **06 43 43.5 +0.8**
baz=80,SNR=6.7
JLU Jordanelle 80.27 42 eP **P** **06 43 43.8 +0.7**
comp=Z,14nm,1.2s
JLU epP **pP** **06 43 54.2 +0.4**
DAU Daniels Canyon 80.29 42 eP **P** **06 43 44.2 +0.9**
DAU e*PP **pP** **06 43 54.6 +0.6**
DAU Daniels Canyon 80.29 42 eP **P** **06 43 44.2 +0.9**
DAU epP **pP** **06 43 54.6 +0.6**
325A Bean Ranch, Si 80.31 53 ⇓P **P** **06 43 44.2 +0.8**
baz=80,SNR=22
BNM Barren Site 80.34 50 eP **P** **06 43 44.6 +1.0**
comp=Z,26nm,1.4s
H12A Diamond D Ranc 80.38 38 ⇓P **P** **06 43 43.9 +0.3**
baz=81
526A Mary Lane Ranc 80.41 55 ⇑P **P** **06 43 45.1 +1.1**
baz=81,SNR=15
V21A Milan 80.41 48 ⇓P **P** **06 43 45.2 +1.3**
baz=81
LPM Los Pinos Moun 80.42 50 eP **P** **06 43 45.1 +1.2**
TXAR Lajitas Array 80.42 55 P **P** **06 43 45.2 +1.2**

comp=Z,9.4nm,1.0s,baz=219,slow=8.8,SNR=64
TXAR LR LR 07 11 44.2
comp=Z,216nm,18.7s,baz=90,slow=30
TXAR Lajitas Array 80.42 55 P **P 06 43 45.2 +1.2**
L15A Malad City 80.44 41 ⇓P **P 06 43 44.2 +0.4**
baz=81
G12A Big Creek, Yel 80.45 37 ⇓P **P 06 43 44.2 +0.4**
baz=81
I13A Wildhorse Cree 80.45 38 ⇓P **P 06 43 44.7 +0.7**
baz=81,SNR=5.4
J14A Carey 80.47 39 ⇑P **P 06 43 45.2 +1.1**
baz=81
MVCO Mesa Verde 80.49 46 *e*P **P 06 43 44.1 -0.3**
comp=Z,9.0nm,1.1s
MVCO *e*pP **pP 06 43 55.1 +0.1**
MVCO Mesa Verde 80.49 46 ⇓P **P 06 43 45.3 +0.9**
baz=81
HABR Khabarovsk 80.50 327 *e*P P 06 43 53.6 +10
HABR *e**SP sP 06 44 03.8 +5.4
HABR *e*PPP PPP 06 48 47.0
HABR pmax pmax
comp=E,52nm,2.0s
HABR pmax pmax
comp=Z,108nm,2.0s
HABR pmax pmax
comp=N,46nm,2.0s
HABR MLR MLR
comp=Z,46nm,16.0s
O17A Robinson Place 80.51 43 ⇑P **P 06 43 45.6 +1.2**
baz=81,SNR=9.3
M16A Huntsville 80.54 42 ⇑P **P 06 43 45.3 +0.9**
baz=81
124A Stringfield Ra 80.54 52 ⇑P **P 06 43 45.9 +1.2**
baz=81,SNR=12
W22A Albuquerque 80.61 49 ⇑P **P 06 43 46.6 +1.7**
baz=81
Y23A Lovelace Mesa, 80.66 50 ⇓P **P 06 43 46.2 +0.9**
baz=81,SNR=8.8
627A Terlingua Ranc 80.69 55 ⇓P **P 06 43 46.7 +1.2**
baz=81,SNR=27
U21A Nageezi 80.69 47 ⇓P **P 06 43 46.8 +1.3**
baz=81,SNR=15
426A McDonald Obser 80.72 54 ⇓P **P 06 43 46.8 +1.1**
baz=81,SNR=31
K15A Arbon 80.72 40 ⇑P **P 06 43 46.3 +1.0**
baz=81
DIV Divide 80.73 13 *e*pP pP 06 43 55.7 +0.1
HWUT Hardware Ranch 80.73 41 *e*pP pP 06 43 55.2 -1.0
H13A Challis 80.74 38 ⇓P **P 06 43 46.0 +0.6**
baz=81,SNR=7.7
225A Deer Hill, Car 80.75 52 ⇑P **P 06 43 47.1 +1.2**
baz=81,SNR=25
PV04 Paradox Valley 80.81 45 *e*P **P 06 43 47.0 +1.0**
PV04 *e*pP **pP 06 43 57.5 +0.8**
527A Woodward Ranch 80.81 55 ⇑P **P 06 43 47.0 +0.8**
baz=81,SNR=16
BMRM Bremner River 80.83 13 *e*pP pP 06 43 55.8 -0.3
ANMO Albuquerque 80.84 49 *e*P **P 06 43 46.7 +0.4**
comp=Z,12nm,1.1s
N17A Moffit Pass 80.85 42 ⇓P **P 06 43 46.9 +0.7**
baz=81
Q19A Hogan Spring (80.85 45 ⇓P **P 06 43 47.0 +0.9**
baz=81,SNR=11
I14A Mackay 80.85 39 ⇓P **P 06 43 47.0 +0.9**
baz=81
F12A Elk City 80.86 36 ⇓P **P 06 43 46.0 0.0**
baz=81,SNR=17
X23A Hourglass Bar 80.87 50 ⇑P **P 06 43 47.3 +0.9**
baz=81
S20A Disappointment 80.89 46 ⇓P **P 06 43 47.5 +1.0**
baz=81,SNR=7.9
Z24A Sheeppen Canyo 80.90 51 ⇓P **P 06 43 47.6 +1.0**
baz=81,SNR=8.9
PV01 Paradox Valley 80.90 46 *e*P **P 06 43 47.2 +0.7**
comp=Z,2µm,1.2s
V22A San Miguel Ran 80.98 48 ⇓P **P 06 43 47.7 +0.7**
baz=81
O18A Roosevelt 81.03 43 ⇓P **P 06 43 48.2 +1.2**
baz=81
L16A Fish Haven 81.04 41 ⇑P **P 06 43 47.8 +0.6**
baz=81
326A Caldwell Ranch 81.04 53 ⇑P **P 06 43 47.7 +0.4**
baz=81,SNR=5.5
T21A Navajo Lake 81.06 47 ⇑P **P 06 43 48.5 +1.1**
baz=81,SNR=5.8
G13A Cobalt 81.06 37 ⇑P **P 06 43 47.4 +0.3**
baz=81
R20A Redvale 81.06 46 ⇑P **P 06 43 48.0 +0.7**
baz=81
628A Black Gap, Mar 81.10 56 ⇑P **P 06 43 48.8 +1.3**
baz=81,SNR=14
Y24A Capitan 81.12 51 ⇑P **P 06 43 48.6 +0.9**
baz=81,SNR=22
125A Gardner Draw, 81.12 52 ⇑P **P 06 43 48.8 +1.1**
baz=81,SNR=10
GDL2 Guadalupe Moun 81.14 52 *e*P **P 06 43 49.2 +1.4**
W23A Werner Place, 81.17 49 ⇓P **P 06 43 49.2 +1.2**
baz=81,SNR=10
J15A Blackfoot 81.17 39 ⇑P **P 06 43 49.2 +1.4**
baz=81
S21A Coal Bank Pass 81.20 46 ⇑P **P 06 43 49.5 +1.3**
baz=81,SNR=16
U22A Llaves 81.24 48 ⇑P **P 06 43 49.3 +1.0**
baz=82
427A Hayter Ranch, 81.28 54 ⇓P **P 06 43 49.8 +1.2**
baz=82,SNR=20
H14A Leadore 81.29 38 ⇓P **P 06 43 49.2 +0.8**
baz=82,SNR=8.1
Z25A Roswell 81.36 51 ⇑P **P 06 43 50.0 +1.0**
baz=82,SNR=11
P19A Cripple Cowboy 81.38 44 ⇓P **P 06 43 49.7 +0.7**
baz=82
F13A Darby 81.40 37 ⇓P **P 06 43 49.4 +0.5**
baz=82,SNR=5.1
X24A Lazy VL Ranch, 81.41 50 ⇑P **P 06 43 49.9 +0.6**
baz=82
V23A Ortiz Mt. (NFS 81.42 49 ⇓P **P 06 43 50.6 +1.3**
baz=82,SNR=10
327A Balmorhea Ranc 81.44 54 ⇓P **P 06 43 50.2 +0.8**
baz=82
528A Cox Ranch, San 81.47 55 ⇓P **P 06 43 51.0 +1.4**
baz=82,SNR=19
I15A Monteview 81.47 39 ⇓P **P 06 43 50.5 +1.2**
baz=82
Q20A Ridgley Place, 81.50 45 ⇓P **P 06 43 50.7 +1.1**
baz=82,SNR=10.0
T22A Edith 81.51 47 ⇑P **P 06 43 50.9 +1.1**
baz=82,SNR=8.4
CLNB Carlsbad 81.53 53 *e*P **P 06 43 50.8 +0.9**
comp=Z,2.6nm,0.7s
D12A Red Ives Fores 81.56 35 ⇑P **P 06 43 49.8 +0.2**
baz=82
G14A Jackson 81.59 38 ⇓P **P 06 43 50.8 +0.8**
baz=82
M18A Lyman 81.59 42 ⇑P **P 06 43 50.6 +0.4**
baz=82
126A Clayton Basin, 81.60 52 ⇑P **P 06 43 50.9 +0.7**
baz=82,SNR=11
N18A Larsen Ranch, 81.61 43 ⇓P **P 06 43 50.5 +0.3**
baz=82
O19A Miners Draw (B 81.62 43 ⇑P **P 06 43 50.7 +0.4**
baz=82
Y25A Mesa, Roswell 81.66 51 ⇑P **P 06 43 51.3 +0.7**
baz=82,SNR=12
U23A El Rito 81.69 48 ⇓P **P 06 43 52.0 +1.2**
baz=82,SNR=12
P20A De Beque 81.71 44 ⇓P **P 06 43 51.5 +0.8**
baz=82,SNR=8.5
MCMT McKenzie Canyo 81.72 38 *e*P **P 06 43 50.8 +0.1**
comp=Z,2.6nm,1.0s
R21A Cimarron 81.72 46 ⇓P **P 06 43 52.1 +1.3**
baz=82,SNR=6.7
H15A Lima 81.72 38 ⇑P **P 06 43 51.5 +0.8**
baz=82,SNR=11
W24A Lazy 6 Ranch, 81.73 49 ⇑P **P 06 43 51.8 +0.8**
baz=82,SNR=8.2
428A Kincaid Ranch, 81.79 54 ⇓P **P 06 43 52.4 +1.2**
baz=82,SNR=9.0
E13A Victor 81.86 36 ⇑P **P 06 43 51.0 -0.3**
baz=82
227A Bennet, Jal 81.87 53 ⇑P **P 06 43 52.4 +0.8**
baz=82
L18A Fontenelle, Gr 81.87 42 ⇑P **P 06 43 52.3 +0.7**
baz=82
N19A John Jarvie Ra 81.89 43 ⇑P **P 06 43 52.1 +0.5**
baz=82
529A Stev Forest Ra 81.89 55 ⇑P **P 06 43 52.6 +0.8**
baz=82,SNR=13

Z26A Caprock 81.90 52 ⇓P **P 06 43 52.7 +0.9**
baz=82,SNR=28
S22A 4UR Ranch, Cre 81.91 47 ⇓P **P 06 43 53.3 +1.3**
baz=82,SNR=25
Q21A Lamborn Mesa, 81.93 45 ⇓P **P 06 43 53.0 +1.1**
baz=82,SNR=8.5
X25A Clemmons Ranch 81.96 50 ⇓P **P 06 43 52.9 +0.7**
baz=82
328A Wristen Ranch, 81.97 54 ⇑P **P 06 43 52.7 +0.6**
baz=82,SNR=11
I16A Newdale 82.01 39 ⇑P **P 06 43 53.4 +1.2**
baz=82
TRF Thorofare Moun 82.05 10 *e*P **P 06 43 51.1 -0.9**
comp=Z,126nm,2.1s
V24A Rampart Ranch, 82.06 49 ⇑P **P 06 43 53.6 +0.8**
baz=82,SNR=10
D13A Huson 82.08 36 ⇑P **P 06 43 52.2 -0.2**
baz=82
127A Arkansas Junct 82.11 52 ⇑P **P 06 43 53.2 +0.3**
baz=82,SNR=8.0
G15A Dillon 82.12 38 ⇓P **P 06 43 52.9 +0.1**
baz=82,SNR=9.7
O20A White River Ci 82.12 44 ⇓P **P 06 43 53.5 +0.5**
baz=82
T23A Casias Ranch, 82.13 48 ⇓P **P 06 43 54.2 +1.1**
baz=82,SNR=6.1
DLMT Dillon 82.16 38 *e*P **P 06 43 53.6 +0.7**
comp=Z,21nm,1.4s
R22A Saguache, Gunn 82.19 46 ⇑P **P 06 43 54.8 +1.3**
baz=82,SNR=10
M19A Rock Springs 82.22 42 ⇑P **P 06 43 53.9 +0.5**
baz=82
MSO Missoula 82.22 36 *e*P **P 06 43 53.2 +0.1**
comp=Z,17nm,1.5s
MSO *e*pP **pP 06 44 03.2 -0.7**
MSO Missoula 82.22 36 ⇓P **P 06 43 53.3 +0.1**
baz=82
K18A Toltan Ranch, 82.24 41 ⇓P **P 06 43 54.0 +0.5**
baz=82,SNR=9.1
B12A Libby 82.28 34 ⇑P **P 06 43 53.8 +0.5**
baz=82
NJ2 Nanjing 82.28 307 *e*P P 06 43 56.5 +2.9
NJ2 pmax pmax
comp=Z,20nm,0.6s
Y26A Elida 82.31 51 ⇓P **P 06 43 54.4 +0.4**
baz=82
BSMT Bassoo Peak 82.34 35 *e*P **P 06 43 53.7 -0.2**
P21A Newcastle 82.35 45 ⇓P **P 06 43 54.7 +0.6**
baz=83
429A Davenport Ranc 82.36 55 ⇓P **P 06 43 54.6 +0.4**
baz=83,SNR=26
C13A Hot Springs 82.36 35 ⇑P **P 06 43 53.9 0.0**
baz=83
Q22A Crested Butte, 82.39 46 ⇓P **P 06 43 55.4 +0.9**
baz=83,SNR=19
L19A Farson 82.40 42 ⇑P **P 06 43 54.8 +0.5**
baz=83,SNR=5.6
W25A X Bar L Ranch, 82.42 50 ⇓P **P 06 43 54.9 +0.3**
baz=83,SNR=6.5
228A UT Block 9, Go 82.45 53 ⇓P **P 06 43 55.2 +0.5**
baz=83
TNA Tin City 82.46 2 *e*P **P 06 43 55.3 +1.5**
comp=Z,20nm,1.0s
N20A Spence Gulch, 82.46 43 ⇓P **P 06 43 55.2 +0.5**
baz=83,SNR=15
PAX Paxson 82.46 12 *e*P **P 06 43 53.9 -0.1**
PAX pmax pmax
comp=Z,38nm,1.7s
PAX Paxson 82.46 12 *e*P **P 06 43 53.9 -0.1**
comp=Z,38nm,1.7s
S23A Nye Farm, Mont 82.47 47 ⇑P **P 06 43 55.8 +1.0**
baz=83
F15A Butte 82.49 37 ⇑P **P 06 43 54.9 +0.2**
baz=83
Z27A Tatum 82.50 52 ⇓P **P 06 43 55.4 +0.4**
baz=83,SNR=6.7
LRM Limekiln Ridge 82.50 37 *e*P **P 06 43 55.1 +0.2**
SMCO Snowmass 82.50 45 *e*P **P 06 43 56.0 +0.9**
comp=Z,49nm,1.5s
A12A Yaak River Ran 82.52 34 ⇓P **P 06 43 54.7 +0.1**
baz=83
G16A Moss Hill, Enn 82.56 38 ⇑P **P 06 43 55.4 +0.3**
baz=83,SNR=5.4
J18A Kendall Valley 82.56 41 ⇓P **P 06 43 55.7 +0.5**
baz=83
QLMT Earthquake Lak 82.56 39 *e*P **P 06 43 56.3 +1.2**
QLMT *e*pP **pP 06 44 06.8 +1.0**
SWMT Swartz Lake 82.58 35 *e*P **P 06 43 54.8 -0.2**
I17A Pilgrim Ck. 82.59 40 ⇑P **P 06 43 56.6 +1.3**
baz=83
V25A Rancho No Teng 82.59 49 ⇓P **P 06 43 56.2 +0.7**
baz=83,SNR=13
530A J-C Ranch, Com 82.60 55 ⇓P **P 06 43 55.9 +0.5**
baz=83,SNR=7.8
FLWY Flagg Ranch 82.60 40 *e*P **P 06 43 56.7 +1.4**
comp=Z,40nm,1.3s
X26A CR and CF Fran 82.60 51 ⇓P **P 06 43 55.9 +0.4**
baz=83,SNR=5.0
H16A Russell Place, 82.60 39 ⇓P **P 06 43 56.4 +1.1**
baz=83,SNR=18
D14A Greenough 82.61 36 ⇓P **P 06 43 54.6 -0.6**
baz=83
BW06 Boulder Array 82.61 41 *e*P **P 06 43 55.3 -0.2**
comp=Z,23nm,1.5s
BW06 Boulder Array 82.61 41 ⇓P **P 06 43 55.5 +0.1**
baz=83,SNR=7.4
PDAR Pinedale Array 82.61 41 P **P 06 43 55.4 -0.1**
comp=Z,3.2nm,0.8s,baz=213,slow=3.5,SNR=25
PDAR LR LR 07 16 29.8
comp=Z,227nm,18.7s,baz=255,slow=33
PDAR Pinedale Array 82.61 41 P **P 06 43 55.4 -0.1**
329A Wagon Wheel Ra 82.66 54 ⇑P **P 06 43 56.1 +0.4**
baz=83,SNR=12
CHMT Chamberlain Mo 82.66 36 *e*P **P 06 43 55.2 -0.3**
O21A Pagoda 82.68 44 ⇓P **P 06 43 56.4 +0.6**
baz=83
KLR Kul'dur 82.68 327 *e*P P 06 44 02.0 +6.7
KLR pmax pmax
comp=Z,50nm,1.6s
E15A Deer Lodge 82.73 37 ⇑P **P 06 43 55.9 0.0**
baz=83,SNR=6.4
128A Castleberry Fa 82.75 53 ⇑P **P 06 43 56.6 +0.4**
baz=83,SNR=14
YMR Jason River 82.75 39 *e*P **P 06 43 57.0 +0.9**
comp=Z,62nm,1.6s
Y27A Causey 82.79 51 ⇓P **P 06 43 56.8 +0.4**
baz=83,SNR=12
R23A Moffat 82.82 47 ⇑P **P 06 43 57.1 +0.4**
baz=83,SNR=8.6
B13A Whitefish 82.82 35 ⇓P **P 06 43 55.9 -0.3**
baz=83
M20A Sweetwater, Wa 82.84 43 ⇑P **P 06 43 57.2 +0.6**
baz=83
H17A Grant Village 82.84 39 ⇓P **P 06 43 58.3 +1.7**
baz=83
T24A Torres, Weston 82.84 48 ⇓P **P 06 43 57.8 +0.9**
baz=83,SNR=9.1
P22A Eagle 82.85 45 ⇑P **P 06 43 57.4 +0.7**
baz=83,SNR=8.0
W26A Owens Ranch, T 82.87 50 ⇑P **P 06 43 57.3 +0.4**
baz=83
BOZ Bozeman (W) 82.89 38 *e*P P 06 43 57.1 +0.4
BOZ pmax pmax
comp=Z,24nm,1.4s
BOZ Bozeman (W) 82.89 38 *e*P **P 06 43 57.1 +0.4**
comp=Z,24nm,1.4s
BOZ Bozeman (W) 82.89 38 ⇓P **P 06 43 57.3 +0.6**
baz=83,SNR=12
631A Perdido Creek 82.90 56 ⇑P **P 06 43 57.1 +0.2**
baz=83,SNR=19
N21A Black Mountain 82.91 44 ⇑P **P 06 43 57.5 +0.4**
baz=83,SNR=12
I18A Diamond G Ranc 82.94 40 ⇓P **P 06 43 57.5 +0.3**
baz=83
430A Baggett Ranch, 82.94 55 ⇓P **P 06 43 57.3 +0.1**
baz=83
F16A Kennard Place, 82.96 38 ⇓P **P 06 43 57.6 +0.6**
baz=83
229A Bryant Ranch, 82.99 54 ⇑P **P 06 43 58.1 +0.7**
baz=83
S24A Houchin Ranch, 82.99 47 ⇓P **P 06 43 59.1 +1.5**
baz=83,SNR=9.8
U25A Circle Dot Ran 82.99 49 ⇓P **P 06 43 58.1 +0.6**
baz=83,SNR=12
L20A Wamsutter 83.00 42 ⇑P **P 06 43 58.1 +0.6**
baz=83,SNR=8.7
LKWY Lake 83.04 39 *e*P **P 06 43 58.9 +1.2**
LKWY *e**PP **pP 06 44 10.2 +1.8**

LKWY pmax pmax
comp=Z,15nm,1.1s
LKWY Lake 83.04 39 *e*P **P 06 43 58.9 +1.2**
comp=Z,15nm,1.1s
LKWY *e*pP **pP 06 44 10.2 +1.8**
K19A Absolon Red Bu 83.09 41 ⇑P **P 06 43 57.2 -0.7**
baz=83,SNR=9.9
732A Laxson Ranch, 83.11 57 ⇓P **P 06 43 58.7 +0.7**
baz=83
Z28A Tucker Farm, M 83.11 52 ⇓P **P 06 43 58.4 +0.3**
baz=83,SNR=9.7
MSTX Muleshoe 83.11 51 ⇑P **P 06 43 58.7 +0.6**
baz=83,SNR=9.5
D15A Lincoln 83.14 36 ⇑P **P 06 43 58.1 +0.1**
baz=83,SNR=10
Q23A Hartsel 83.15 46 ⇑P **P 06 43 59.2 +0.7**
baz=83
X27A F and S Farms, 83.17 51 ⇓P **P 06 43 59.2 +0.9**
baz=83
V26A Tequesquite Ra 83.17 49 ⇑P **P 06 43 58.7 +0.3**
baz=83,SNR=7.2
A13A Flathead Natio 83.18 34 ⇑P **P 06 43 58.4 +0.4**
baz=83
J19A Crowheart 83.19 41 ⇓P **P 06 43 58.6 +0.2**
baz=83,SNR=6.5
129A Stewart Farms, 83.23 53 ⇓P **P 06 43 59.2 +0.5**
baz=83,SNR=6.2
531A Rocksprings 83.23 56 ⇓P **P 06 43 59.4 +0.7**
baz=83,SNR=19
G17A Pierce Place, 83.24 39 ⇑P **P 06 43 59.7 +1.2**
baz=84
330A Mertzon 83.25 54 ⇑P **P 06 43 59.0 +0.2**
baz=84
CN2 Changchun 83.26 320 *e*P P 06 44 08.5 +10
CN2 *e*pP pP 06 44 19.3 +10
CN2 SKS SKiKP 06 53 25.3 +37
CN2 *e*S **ScS 06 54 28.0 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,19.0s
CN2 LR LR
comp=E,500nm,19.0s
CN2 LR LR
comp=Z,300nm,20.0s
O22A Kremmling 83.27 45 ⇓P **P 06 43 59.8 +0.8**
baz=84,SNR=13
K20A Yellowstone Ra 83.33 42 ⇑P **P 06 43 59.2 +0.1**
baz=84,SNR=8.2
T25A Trinidad 83.33 48 ⇓P **P 06 43 60.0 +0.7**
baz=84
R24A Sanders Place, 83.34 47 ⇑P **P 06 44 00.2 +0.9**
baz=84,SNR=6.1
E16A East Helena 83.34 37 ⇑P **P 06 43 59.5 +0.5**
baz=84
DOT Dot Lake 83.35 12 *e*P **P 06 43 58.9 +0.3**
comp=Z,40nm,1.6s
DOT *e*pP **pP 06 44 09.4 +0.1**
P23A Jefferson 83.37 46 ⇑P **P 06 44 00.7 +1.1**
baz=84,SNR=6.5
W27A Bowe Ranch, En 83.38 50 ⇑P **P 06 43 59.8 +0.3**
baz=84,SNR=8.2
431A Sonora 83.39 55 ⇓P **P 06 43 59.5 -0.1**
baz=84
M21A Separation Pea 83.43 43 ⇑P **P 06 44 00.1 +0.3**
baz=84,SNR=14
B14A Marquette Ranc 83.47 35 ⇑P **P 06 43 59.3 -0.3**
baz=84
U26A Atchley Ranch, 83.47 49 ⇑P **P 06 44 00.3 +0.3**
baz=84,SNR=13
Y28A McKinney Farm, 83.48 52 ⇓P **P 06 44 00.4 +0.4**
baz=84
230A Sterling City 83.50 54 ⇑P **P 06 44 00.3 +0.2**
baz=84
C15A Salmond Ranch, 83.50 36 ⇓P **P 06 43 59.5 -0.3**
baz=84
H18A Shoshone NF, C 83.54 39 ⇓P **P 06 44 01.0 +0.7**
baz=84
S25A Robets Cordova 83.55 48 ⇑P **P 06 44 01.0 +0.6**
baz=84,SNR=8.7
632A Uvalde 83.57 57 ⇓P **P 06 44 01.2 +0.8**
baz=84
F17A Fitzpatrick Pl 83.60 38 ⇓P **P 06 44 01.1 +0.8**
baz=84,SNR=6.4
L21A Rawlins 83.61 43 ⇓P **P 06 44 00.6 +0.1**
baz=84,SNR=6.7
Z29A Hungry Hill Ra 83.61 53 ⇓P **P 06 44 01.0 +0.3**
baz=84,SNR=5.6
I19A Meeteetse 83.62 40 ⇑P **P 06 44 01.3 +0.7**
baz=84
N22A Wattenberg Ran 83.64 44 ⇑P **P 06 44 01.5 +0.6**
baz=84,SNR=11
Q24A Divide 83.65 46 ⇑P **P 06 44 01.8 +0.8**
baz=84,SNR=7.4
D16A Dana Ranch, Ca 83.69 37 ⇓P **P 06 44 01.0 +0.2**
baz=84,SNR=7.3
O23A Lake Granby, G 83.71 45 ⇑P **P 06 44 02.2 +0.9**
baz=84,SNR=7.5
532A Rocksprings 83.72 56 ⇓P **P 06 44 01.6 +0.3**
baz=84,SNR=8.4
ISCO Idaho Springs 83.72 45 *e*P **P 06 44 02.2 +0.8**
ISCO pmax pmax
comp=Z,11nm,1.3s
ISCO Idaho Springs 83.72 45 *e*P **P 06 44 02.2 +0.8**
comp=Z,11nm,1.3s
ISCO Idaho Springs 83.72 45 ⇑P **P 06 44 01.8 +0.4**
baz=84,SNR=5.4
A14A Double T Ranch 83.73 34 ⇓P **P 06 44 00.7 -0.2**
baz=84
E17A Martinsdale 83.78 38 ⇓P **P 06 44 01.7 +0.4**
baz=84
X28A Dimmitt 83.78 51 ⇑P **P 06 44 01.9 +0.4**
baz=84,SNR=6.9
331A San Angelo 83.79 55 ⇓P **P 06 44 01.7 +0.1**
baz=84
B15A Bradely Ranch, 83.83 35 ⇑P **P 06 44 01.6 +0.2**
baz=84
M22A Cedar Creek Ra 83.84 43 ⇑P **P 06 44 02.1 +0.3**
baz=84,SNR=6.4
ILAR Eielson Array 83.84 11 P **P 06 44 00.4 -0.6**
comp=Z,2.3nm,0.6s,baz=226,slow=6.1,SNR=45
ILAR LR LR 07 15 42.8
comp=Z,243nm,20.2s,baz=294,slow=32
ILAR Eielson Array 83.84 11 P **P 06 44 00.4 -0.6**
J20A Shoshoni 83.84 41 ⇓P **P 06 44 02.2 +0.6**
baz=84,SNR=5.6
R25A Fountain Ranch 83.88 47 ⇓P **P 06 44 02.5 +0.5**
baz=84
Y29A Porterfield Fa 83.90 52 ⇑P **P 06 44 02.5 +0.5**
baz=84,SNR=8.0
T26A Comanche Natio 83.93 48 ⇑P **P 06 44 02.2 -0.1**
baz=84
G18A Lazy EL Ranch, 83.94 39 ⇑P **P 06 44 02.6 +0.5**
baz=84,SNR=6.7
JCT Junction City 83.95 56 ⇑P **P 06 44 02.5 +0.1**
baz=84
H19A Powell 83.95 40 ⇓P **P 06 44 03.3 +1.1**
baz=84,SNR=10.0
C16A Fuhringer Ranc 84.00 36 ⇓P **P 06 44 02.2 -0.1**
baz=84,SNR=9.1
K21A Alcova 84.01 42 ⇑P **P 06 44 02.6 -0.1**
baz=84
RLMT Red Lodge 84.02 39 ⇓P **P 06 44 02.9 +0.3**
baz=84
N23A Red Feather La 84.02 44 ⇓P **P 06 44 03.5 +0.7**
baz=84
Z30A Sanderson Ranc 84.06 53 ⇑P **P 06 44 03.2 +0.2**
baz=84,SNR=8.5
W28A Vega 84.09 51 ⇓P **P 06 44 03.3 +0.2**
baz=84
432A Menard 84.11 55 ⇓P **P 06 44 03.2 0.0**
baz=84,SNR=5.0
A15A Johnson Ranch, 84.11 35 ⇓P **P 06 44 02.5 -0.4**
baz=84,SNR=11
I20A Worland 84.11 41 ⇓P **P 06 44 03.1 +0.1**
baz=84,SNR=8.9
X29A Tulia 84.12 51 ⇓P **P 06 44 03.6 +0.4**
baz=84,SNR=6.0
GCMT Greycliff 84.12 39 *e*P **P 06 44 03.6 +0.6**
comp=Z,2.4nm,1.1s
231A Bronte 84.13 54 ⇓P **P 06 44 03.3 0.0**
baz=84,SNR=9.2
F18A Big Timber 84.16 38 ⇓P **P 06 44 03.8 +0.7**
baz=84,SNR=5.7
S26A Kim 84.21 48 ⇓P **P 06 44 03.7 0.0**
baz=84,SNR=6.0

J21A	Lysite	84.24	41	⇓P		P		06 44 03.8	0.0	
	baz=84,SNR=9.0									
O24A	Longmont	84.24	45	⇓P		P		06 44 04.4	+0.6	
	baz=84									
L22A	Ellis Ranch, M	84.25	43	⇓P		P		06 44 04.3	+0.5	
	baz=84									
D17A	Six Diamond Ra	84.25	37	⇑P		P		06 44 04.1	+0.4	
	baz=84,SNR=10									
Q25A	Bedland, Calha	84.25	47	⇓P		P		06 44 03.8	-0.2	
	baz=84									
AMTX	Amarillo	84.32	51	*e*P		P		06 44 04.8	+0.6	
	comp=Z,33nm,1.0s									
AMTX	Amarillo	84.32	51	⇑P		P		06 44 04.5	+0.3	
	baz=84,SNR=10									
332A	Millersview	84.36	55	⇓P		P		06 44 04.6	+0.2	
	baz=85,SNR=8.1									
E18A	Harlowton	84.39	38	⇓P		P		06 44 04.9	+0.6	
	baz=85,SNR=7.2									
M23A	Laramie	84.44	44	⇑P		P		06 44 05.1	+0.3	
	baz=85									
W29A	Amraillo	84.45	51	⇓P		P		06 44 05.2	+0.3	
	baz=85,SNR=9.3									
H20A	Greybull	84.47	40	⇑P		P		06 44 05.1	+0.4	
	baz=85									
C17A	Wharram Farm,	84.47	37	⇑P		P		06 44 04.6	0.0	
	baz=85,SNR=22									
K22A	Casper	84.49	42	⇓P		P		06 44 05.2	+0.2	
	baz=85									
T27A	Campo	84.50	49	⇓P		P		06 44 05.1	-0.1	
	baz=85									
SEY	Seymchan	84.51	344	*ce*P		P		06 44 12.4	+8.0	
R26A	Arlington	84.53	47	⇑P		P		06 44 05.2	0.0	
	baz=85,SNR=6.3									
I21A	Big Trails, Te	84.57	41	⇓P		P		06 44 05.1	-0.3	
	baz=85,SNR=10									
P25A	Willow Gulch B	84.58	46	⇑P		P		06 44 06.2	+0.6	
	baz=85,SNR=6.5									
F19A	Roth Farm, Mol	84.59	39	⇑P		P		06 44 05.5	+0.1	
	baz=85,SNR=7.1									
S27A	Las Animas	84.65	48	⇓P		P		06 44 05.8	-0.1	
	baz=85									
N24A	Carr	84.70	45	⇓P		P		06 44 06.5	+0.3	
	baz=85									
G20A	Bridger	84.70	40	⇓P		P		06 44 06.0	+0.1	
	baz=85									
A16A	West Butte Ran	84.72	35	⇑P		P		06 44 06.0	0.0	
	baz=85									
DAWY	Dawson	84.72	14	*e*P		P		06 44 05.6	+0.1	
X30A	Coker Ranch, T	84.74	52	⇓P		P		06 44 06.5	+0.2	
	baz=85,SNR=5.9									
Q26A	Hugo	84.76	47	⇑P		P		06 44 06.9	+0.5	
	baz=85									
L23A	Garrett	84.76	43	⇓P		P		06 44 06.4	-0.1	
	baz=85,SNR=7.5									
D18A	Linhart Farms,	84.78	37	⇑P		P		06 44 07.3	+1.0	
	baz=85									
B17A	L&G Farms, Che	84.80	36	⇓P		P		06 44 06.3	0.0	
	baz=85									
QIZ	Qiongzhong	84.81	292	P		P		06 44 09.8	+2.9	
QIZ				sP		sP		06 44 23.3	+1.7	
QIZ				S		**SKKSac**		**06 54 37.8**	**+2.6**	
QIZ				pmax		pmax				
	comp=Z,28nm,1.4s									
QIZ				LR		LR				
	comp=Z,370nm,23.4s									
Z31A	Sharp Cattle R	84.83	53	⇑P		P		06 44 06.8	0.0	
	baz=85,SNR=8.8									
V29A	Stinnett	84.86	50	⇓P		P		06 44 06.7	-0.3	
	baz=85									
J22A	Midwest	84.89	42	⇓P		P		06 44 06.9	0.0	
	baz=85,SNR=7.7									
ABTX	Abilene, Hawle	84.93	54	⇓P		P		06 44 07.7	+0.4	
	baz=85,SNR=9.8									
MYKOM	Kota Tinggi	84.96	273	P		pP		06 44 18.8	+0.2	
	comp=Z,34nm,1.4s									
R27A	Eads	84.98	48	⇓P		P		06 44 07.5	0.0	
	baz=85									
E19A	Rath Farm, Rou	85.00	38	⇑P		P		06 44 07.9	+0.6	
	baz=85									
Y31A	Rekieta Farm,	85.00	52	⇓P		P		06 44 07.9	+0.3	
	baz=85,SNR=6.1									
I22A	9 Mile Ranch,	85.12	41	⇑P		P		06 44 08.7	+0.6	
	baz=85									
K23A	Bowen Ranch, D	85.12	43	⇓P		P		06 44 08.6	+0.4	
	baz=85									
H21A	Big Horn, Sher	85.13	40	⇓P		P		06 44 08.9	+0.8	
	baz=85									
P26A	Davis Ranch, A	85.17	46	⇓P		P		06 44 08.8	+0.3	
	baz=85									
A17A	Triple J Farms	85.21	35	⇑P		P		06 44 08.5	+0.1	
	baz=86,SNR=6.6									
EGMT	Eagleton	85.25	37	*e*P		P		06 44 09.2	+0.6	
	comp=Z,18nm,1.3s									
EGMT	Eagleton	85.25	37	⇓P		P		06 44 09.2	+0.6	
	baz=86									
D19A	Cripps Ranch,	85.31	38	⇓P		P		06 44 09.5	+0.6	
	baz=86,SNR=5.8									
Z32A	Haskell	85.33	53	⇓P		P		06 44 10.0	+0.8	
	baz=86,SNR=34									
KSCO	Kaye Shedlock'	85.42	47	⇓P		P		06 44 10.3	+0.6	
	baz=86									
B18A	Beardsley Farm	85.43	36	⇓P		P		06 44 10.1	+0.6	
	baz=86									
X31A	McDonald Ranch	85.49	52	⇓P		P		06 44 10.2	+0.1	
	baz=86									
C19A	Slack Wire Ran	85.50	37	⇓P		P		06 44 10.4	+0.6	
	baz=86,SNR=9.8									
COLD	Coldfoot	85.60	8	*e*P		P		06 44 11.1	+1.3	
	comp=Z,30nm,1.5s									
COLD				*ep*P		**pP**		**06 44 21.7**	**+1.1**	
K24A	Anderson Ranch	85.63	43	⇑P		P		06 44 10.6	-0.1	
	baz=86									
Y32A	R-V Farms, Ver	85.64	53	⇑P		P		06 44 11.2	+0.4	
	baz=86									
A18A	Metzger Ranch,	85.67	36	⇓P		P		06 44 11.0	+0.4	
	baz=86									
B19A	Brinkman Farms	85.94	36	⇓P		P		06 44 12.4	+0.4	
	baz=86,SNR=6.5									
C20A	Veseth Ranch,	86.10	37	⇑P		P		06 44 13.2	+0.4	
	baz=86									
I24A	Kuemmerle Ranc	86.28	42	⇑P		P		06 44 13.4	-0.5	
	baz=86									
A19A	Klindworth Far	86.30	36	⇑P		P		06 44 13.7	0.0	
	baz=86									
BILL	Bilibino	86.36	352	*e*P		P		06 44 23.2	+10	
BILL				*i*				06 44 31.5		
BILL				pmax		pmax				
	comp=Z,39nm,1.2s									
BILL	Bilibino	86.36	352	*e*P		P		06 44 13.6	0.0	
	comp=Z,48nm,1.3s									
D21A	La Casta Ranch	86.37	38	⇑P		P		06 44 14.2	+0.1	
	baz=87									
B20A	Solberg Farm,	86.46	37	⇓P		P		06 44 14.7	+0.2	
	baz=87									
MAW	Mawson	86.63	198	P		P		06 44 14.3	-0.7	
	comp=Z,16nm,0.9s,baz=130,slow=5.9,SNR=3.4									
MAW				LR		LR		07 18 04.0		
	comp=Z,318nm,21.0s,baz=135,slow=32									
MAW	Mawson	86.63	198	P		P		06 44 14.3	-0.7	
A20A	Cobblestone Ra	86.74	36	⇑P		P		06 44 15.8	-0.1	
	baz=87									
H24A	Dirks Ranch, A	86.74	41	⇑P		P		06 44 15.6	-0.5	
	baz=87									
RSSD	Black Hills	86.78	42	*e*P		P		06 44 15.6	-0.9	
RSSD				pmax		pmax				
	comp=Z,10.0nm,1.3s									
RSSD	Black Hills	86.78	42	*e*P		P		06 44 15.6	-0.9	
	comp=Z,9.6nm,1.3s									
PLCA	Paso Flores	87.36	132	P		P		06 44 20.1	+0.7	
	comp=Z,7.9nm,0.8s,baz=239,slow=4.8,SNR=22									
PLCA				LR		LR		07 15 36.6		
	comp=Z,415nm,21.4s,baz=198,slow=30									
PLCA	Paso Flores	87.36	132	*e*P		P		06 44 19.4	+0.1	
PLCA				*ep*P		**pP**		**06 44 30.8**	**+0.6**	
BJT	Baijiatuau	87.62	313	*e*P		P		06 44 19.9	-0.4	
BJI	Beijing	87.63	313	P		P		06 44 22.0	+1.7	
BJI				PP		**PP**		**06 47 48.0**	**+1.9**	
BJI				S		**S**		**06 55 03.5**	**+3.7**	
BJI				pmax		pmax				
	comp=Z,21nm,1.0s									
BJI				LR		LR				
	comp=N,120nm,19.4s									
BJI				LR		LR				
	comp=E,170nm,18.2s									
BJI				LR		LR				
	comp=Z,90nm,25.1s									
IPM	Ipoh	88.45	275	*e*P		P		06 44 24.9	0.0	
IPM	Ipoh	88.45	275	P		pP		06 44 36.2	+0.5	
	comp=Z,49nm,1.2s									
INK	Inuvik	89.58	13	P		P		06 44 28.2	-0.7	
	comp=Z,3.3nm,0.8s,baz=212,slow=4.7,SNR=16									
INK	Inuvik	89.58	13	*e*P		P		06 44 28.7	-0.2	
PSI	Prapat	89.96	273	P		P		06 44 32.6	+0.5	
	comp=Z,3.9nm,0.6s,baz=172,slow=12,SNR=5.8									
PSI	Prapat	89.96	273	P		P		06 44 32.6	+0.5	
PSI	Prapat	89.96	273	P		P		06 44 42.0	+10	
	comp=Z,40nm,1.2s									
GYA	Guiyang	90.05	298	P		P		06 44 35.0	+2.8	
GYA				pP		pP		06 44 45.3	+2.2	
GYA				sP		sP		06 44 50.5	+3.5	
GYA				PP		PP		06 48 12.0	+6.1	
GYA				SKS		**SKSac**		**06 55 01.3**	**+0.2**	
GYA				S		**ScS**		**06 55 25.3**	**-2.2**	
GYA				pmax		pmax				
	comp=Z,20nm,1.0s									
GYA				pmax		pmax				
	comp=Z,120nm,5.0s									
GYA				LR		LR				
	comp=N,650nm,18.3s									
GYA				LR		LR				
	comp=E,580nm,19.5s									
GYA				LR		LR				
	comp=Z,640nm,18.8s									
JTS	JuntasAbangare	90.16	79	*e*P		P		06 44 34.7	+1.8	
	comp=Z,94nm,1.2s									
JTS	JuntasAbangare	90.16	79	P		P		06 44 34.0	+1.1	
	comp=Z,309nm,1.1s,SNR=7.9									
CLNS	Chul'man	90.38	331	*e*P		P		06 44 32.5	-0.4	
CLNS				pmax		pmax				
	comp=Z,13nm,1.4s									
CLNS				pmax		pmax				
	comp=E,3.0nm,0.9s									
CLNS				pmax		pmax				
	comp=N,5.0nm,1.2s									
VNA3	Neumayer Olymp	91.05	174	*e*P		P		06 44 35.7	-0.3	
YKA	Yellowknife Ar	91.10	23	P		P		06 44 35.7	-0.4	
	comp=N,1.5nm,1.0s,baz=227,slow=4.7,SNR=14									
YKA	Yellowknife Ar	91.10	23	P		P		06 44 35.7	-0.4	
SNAA	Sanae	91.15	177	*e*P		P		06 44 35.6	-0.9	
SNAA				*ep*P		**pP**		**06 44 46.1**	**-1.2**	
HHC	Hu-ho-hao-te	91.18	312	*e*P		P		06 44 39.0	+1.8	
HHC				pP		**pP**		**06 44 49.0**	**+1.0**	
HHC				sP		**sP**		**06 44 53.5**	**+1.6**	
HHC				PP		PP		06 48 19.3	+4.7	
HHC				SKS		**SKSac**		**06 55 06.3**	**-0.7**	
HHC				S		**ScS**		**06 55 36.5**	**+0.2**	
HHC				sS		**sS**		**06 55 51.0**	**-0.2**	
HHC				SS		**SS**		**07 01 43.3**	**+4.7**	
HHC				pmax		pmax				
	comp=Z,12nm,0.5s									
HHC				pmax		pmax				
	comp=Z,210nm,6.1s									
HHC				LR		LR				
	comp=N,230nm,28.9s									
HHC				LR		LR				
	comp=E,530nm,27.9s									
HHC				LR		LR				
	comp=Z,160nm,20.2s									
YAK	Yakutsk	91.21	336	*e*P		P		06 44 45.6	+9.0	
YAK				pmax		pmax				
	comp=Z,26nm,0.9s									
SYO	Syowa Base	91.21	191	⇓*e*P		P		06 44 34.0	-2.7	
VNA2	Neumayer--Watz	91.56	175	*e*P		P		06 44 38.5	+0.2	
	baz=195,slow=3.9									
NVL	N'lazarevskaya	92.33	181	*e*P		pP		06 44 52.3	-0.4	
NVL				*e*S		**SKSac**		**06 55 12.5**	**+0.1**	
NVL				pmax		pmax				
	comp=Z,15nm,0.8s									
FFC	Flin Flon	92.76	33	*e*P		pP		06 44 54.0	-0.8	
FFC	Flin Flon	92.76	33	*ep*P		pP		06 44 54.0	-0.8	
KMI	Kunming	93.00	295	P		P		06 44 48.5	+2.4	
KMI				S		**S**		**06 55 51.8**	**+1.4**	
KMI				pmax		pmax				
	comp=Z,10.0nm,0.5s									
KMI				LR		LR				
	comp=Z,130nm,32.7s									
SRDT	SRDT	93.12	284	P		pP		06 44 59.7	+2.3	
	comp=Z,21nm,1.3s									
CD2	Chengdu	93.86	301	P		P		06 44 52.3	+2.6	
CD2				pP		pP		06 45 02.5	+1.9	
CD2				sP		sP		06 45 06.3	+1.8	
CD2				PP		PP		06 48 42.3	+6.4	
CD2				SKS		**SKSac**		**06 55 23.5**	**+1.2**	
CD2				S		**ScS**		**06 55 58.5**	**-0.4**	
CD2				sS		sS		06 56 15.5	0.0	
CD2				pmax		pmax				
	comp=Z,20nm,0.5s									
CD2				pmax		pmax				
	comp=Z,220nm,5.2s									
CD2				LR		LR				
	comp=N,260nm,5.9s									
CD2				LR		LR				
	comp=Z,190nm,8.9s									
CMAR	Chiang Mai Arr	94.45	288	P		P		06 44 53.6	+1.1	
	comp=Z,0.8nm,0.3s,baz=104,slow=2.9,SNR=6.4									
CMAR				LR		LR		07 22 20.7		
	comp=Z,166nm,20.1s,baz=112,slow=32									
CMAR	Chiang Mai Arr	94.45	288	P		P		06 44 53.6	+1.1	
CMMT	Chiang Mai	94.54	288	P		pP		06 45 04.9	+1.0	
	comp=Z,15nm,1.0s									
LZH	Lanzhou	95.33	306	*e*P		P		06 44 59.5	+3.0	
LZH				pP		pP		06 45 10.3	+3.0	
LZH				sP		sP		06 45 14.0	+2.8	
LZH				SKS		**SKSac**		**06 55 32.0**	**+1.8**	
LZH				*e*S		**ScS**		**06 56 10.5**	**-0.6**	
LZH				pmax		pmax				
	comp=Z,18nm,1.5s									
LZH				pmax		pmax				
	comp=Z,110nm,6.3s									
TIXI	Tiksi	97.00	344	*e*P		P		06 45 13.3	+10	
TIXI				pmax		pmax				
	comp=Z,5.0nm,1.6s									
TIXI				MLR		MLR				
	comp=Z,109nm,15.0s									
SONM	Songino Array	97.02	318	LR		LR		07 24 42.4		
	comp=Z,104nm,18.7s,baz=54,slow=33									
LPAZ	La Paz	97.94	110	LR		LR		07 19 21.7		
	comp=Z,220nm,20.3s,baz=76,slow=29									
ROSC	El Rosal	98.69	88	LR		LR		07 24 32.8		
	comp=Z,60nm,18.2s,baz=212,slow=32									
GTA	Gaotai	99.31	308	*e*P		**Pdif**		**06 45 17.5**	**+3.2**	
GTA				pmax		pmax				
	comp=Z,2.0nm,0.8s									
GTA				LR		LR				
	comp=E,140nm,18.5s									
GTA				LR		LR				
	comp=Z,200nm,19.5s									
ZALV	Zalesovo Beam	111.40	322	PKiKP		**PKiKP**		**06 50 04.8**	**-0.9**	
	comp=Z,1.0nm,0.5s,baz=107,slow=1.5,SNR=5.4									
ZALV	Zalesovo Beam	111.40	322	PKiKP				06 50 04.8		
ZALV	Zalesovo Beam	111.40	322	PKiKP		**PKiKP**		**06 50 04.8**	**-0.9**	
MKAR	Makanchi Array	112.99	314	PKiKP		**PKiKP**		**06 50 08.1**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=67,slow=0.8,SNR=15									
MKAR	Makanchi Array	112.99	314	PKiKP				06 50 08.1		
MKAR	Makanchi Array	112.99	314	PKiKP		**PKiKP**		**06 50 08.1**	**-0.9**	
KURK	Kurchatov	115.32	318	*e* PKiKP		PKPdf		06 50 23.1	+10	
KURK				pmax		pmax				
	comp=Z,5.0nm,1.2s									
KSH	Kashi	117.58	306	*e*PKP		**PKPdf**		**06 50 18.8**	**+0.6**	
KSH				sPKP				06 50 33.5		
KSH				PP		PP		06 51 39.0	+8.0	
KSH				PKS		**PKSdf**		**06 53 54.3**	**-0.7**	
KSH				SKS		**SKSdf**		**06 57 25.8**	**-2.2**	
KSH				SKKS		**SKKSac**		**06 58 27.8**	**-1.3**	
KSH				AMB		AMB				
	comp=Z,100nm,5.0s									
KSH				LR		LR				
	comp=N,110nm,5.9s									
KSH				LR		LR				
	comp=E,62nm,5.8s									
KSH				LR		LR				
	comp=Z,230nm,5.6s									
BRVK	Borovoye	120.11	322	*e*PKiKP		**PKPdf**		**06 50 21.8**	**-0.6**	
BRVK	Borovoye	120.11	322	*e*PKPdf		**PKPdf**		**06 50 21.8**	**-0.6**	
KBL	Kabul	123.20	300	*e*PKiKP		**PKPdf**		**06 50 29.2**	**-0.1**	
KBL	Kabul	123.20	300	*e*PKPdf		**PKPdf**		**06 50 29.2**	**-0.1**	
ARU	Arti	125.50	328	*i* PKiKP		PKPdf		06 50 43.0	+10	
ARU								06 52 33.3		
ARU								06 57 43.6		
ARU				SS		SS		07 09 19.9	-0.3	
ARCES	ARCESS Array B	126.46	352	PKP		**PKPdf**		**06 50 34.1**	**-0.1**	
	comp=Z,3.0nm,0.8s,baz=42,slow=2.0,SNR=11									
ARCES	ARCESS Array B	126.46	352	PKP		**PKPdf**		**06 50 34.1**	**-0.1**	
KLMR	Klimovskoe	130.84	340	*e*PKiKP		PKPdf		06 50 51.1	+8.4	
KLMR				pmax		pmax				
	comp=Z,18nm,1.4s									
BOSA	Boshof	131.60	200	PKP		**PKPdf**		**06 50 45.0**	**-0.5**	
	comp=Z,4.3nm,0.9s,baz=150,slow=8.1,SNR=5.1									
BOSA	Boshof	131.60	200	PKP		**PKPdf**		**06 50 45.0**	**-0.5**	
WSAR	Wadi Sarin	132.30	286	PKP		**PKPdf**		**06 50 45.2**	**-1.5**	
	comp=Z,1.2nm,0.4s,baz=45,slow=5.7,SNR=2.2									
WSAR	Wadi Sarin	132.30	286	PKP		**PKPdf**		**06 50 45.2**	**-1.5**	
FINES	FINESS Array B	133.88	348	PKhKP		PKPpre		06 50 44.6		
	comp=Z,2.7nm,0.8s,baz=114,slow=4.6,SNR=3.5									
FINES				PKP		**PKPdf**		**06 50 48.2**	**-0.2**	
	comp=Z,2.6nm,0.8s,baz=64,slow=3.2,SNR=4.7									
FINES	FINESS Array B	133.88	348	PKPpre		PKPpre		06 50 44.6		
FINES				PKP		**PKPdf**		**06 50 48.2**	**-0.2**	
NOA	NORSAR Array B	136.05	358	PKhKP		PKPpre		06 50 49.0		
	comp=Z,0.9nm,0.8s,baz=353,slow=1.9,SNR=2.8									
NOA				PKP		**PKiKP**		**06 50 53.1**	**-1.1**	
	comp=Z,1.2nm,1.0s,baz=8.7,slow=1.7,SNR=2.5									
NOA	NORSAR Array B	136.05	358	PKPpre		PKPpre		06 50 49.0		
NOA				PKP		**PKiKP**		**06 50 53.1**	**-1.1**	
OBN	Obninsk	136.21	337	*e*PKiKP		PKPdf		06 51 02.5	+10	
OBN				pmax		pmax				
	comp=Z,12nm,1.3s									
OBN				MLR		MLR				
	comp=Z,100nm,16.0s									
KIV	Kislovodsk	140.38	320	*i* PKiKP		PKPdf		06 51 13.3	+12	
KIV				pmax		pmax				
	comp=Z,9.0nm,1.0s									
KIV				MLR		MLR				
	comp=Z,120nm,21.0s									
AKASG	Malin Array Be	142.42	338	PKhKP		PKPpre		06 51 00.0		
	comp=Z,1.2nm,0.6s,baz=37,slow=3.8,SNR=4.7									
AKASG				PKP		**PKPdf**		**06 51 05.1**	**+0.6**	
	comp=Z,1.7nm,0.8s,baz=33,slow=3.4,SNR=3.4									
AKASG	Malin Array Be	142.42	338	PKHKP		PKPpre		06 51 00.0		
AKASG								06 51 05.1		
AKASG	Malin Array Be	142.42	338	PKPpre		PKPpre		06 51 00.0		
AKASG				PKP		**PKPdf**		**06 51 05.1**	**+0.6**	
BHD	Baghdad	143.60	303	*e*PKP		**PKPdf**		**06 51 06.7**	**-0.4**	
BHD				*e*PP		**PP**		**06 54 15.0**	**-4.5**	
BHD				*e*SKS		**SKSdf**		**06 58 17.0**	**+2.7**	
LVV	L'vov	144.89	342	*e*PKiKP		**PKPab**		**06 51 07.3**	**-0.7**	
LVV				*e*				06 51 17.9		
CLZ	Clausthal	145.28	357	*e*PKiKP		**PKPdf**		**06 51 09.6**	**+0.1**	
CLZ				*e*				06 51 20.3		
CLZ	Clausthal	145.28	357	*e*PKPbc		**PKPdf**		**06 51 09.6**	**+0.1**	
CLZ				*ep*PKPbc		pPKPbc		06 51 20.3	-0.1	
KWP	Kalwaria Pacla	145.44	343	*e*PKP		**PKPab**		**06 51 10.0**	**0.0**	
KWP				*e*				06 51 20.3		
KWP	Kalwaria Pacla	145.44	343	*e*PKiKP		**PKPab**		**06 51 10.0**	**0.0**	
KWP	Kalwaria Pacla	145.44	343	*e*PKPdf		**PKPab**		**06 51 10.0**	**0.0**	
KWP	Kalwaria Pacla	145.44	343	*e*PKP		**PKPab**		**06 51 10.0**	**0.0**	
KWP				*e*				06 51 20.3		
KIS	Kishinev	145.59	335	*e*PKiKP		**PKPab**		**06 51 10.0**	**-0.6**	
KIS				*e*				06 51 21.0		
KIS	Kishinev	145.59	335	*e*PKP		**PKPab**		**06 51 10.0**	**-0.6**	
OJC	Ojcow	145.62	347	*e*PKiKP		**PKPab**		**06 51 10.5**	**-0.1**	
OJC	Ojcow	145.62	347	*e*PKPdf		**PKPab**		**06 51 10.5**	**-0.1**	
OJC				*e*PKPab		PKiKP		06 51 19.8	+5.7	
CLL	Collm	145.64	354	⇑*i* PKP		**PKPab**		**06 51 10.0**	**-0.6**	
CLL				pmax		pmax				
	comp=Z,75nm,1.7s									
CLL	Collm	145.64	354	*e*PKPbc		**PKPab**		**06 51 10.3**	**-0.3**	
CLL				*ep*PKPbc		pPKPbc		06 51 20.9	-0.5	
CLL	Collm	145.64	354	⇑*i* PKPbc		**PKPab**		**06 51 10.0**	**-0.6**	
	comp=Z,75nm,1.7s									
CLL				*i* pPKPbc		pPKPbc		06 51 18.8	-2.6	
	comp=Z,43nm,1.3s									
CLL				*e*PP		PP		06 54 43.0	+13	
KSP	Ksiaz	145.69	351	*e*PKP		**PKPab**		**06 51 10.6**	**-0.3**	
KSP				*e*				06 51 21.0		
KSP	Ksiaz	145.69	351	*e*PKP2		**PKPab**		**06 51 10.8**	**-0.1**	
KSP	Ksiaz	145.69	351	*e*PKP		**PKPab**		**06 51 10.5**	**-0.3**	
KSP				*e*				06 51 21.2		
BUG	Bochum--Univer	145.73	1	*e*PKPbc		**PKPab**		**06 51 10.7**	**-0.2**	
BUG				*ep*PKPbc		pPKPbc		06 51 21.4	-0.3	
BRG	Berggiesshubel	145.97	353	*e*PKP		**PKPab**		**06 51 11.5**	**-0.4**	
	comp=Z,29nm,1.1s									
BRG				*i*				06 51 22.2		
	comp=Z,48nm,1.1s									
BRG	Berggiesshubel	145.97	353	*e*PKP2		**PKPab**		**06 51 11.5**	**-0.4**	
BRG				pmax		pmax				
	comp=Z,29nm,1.1s									
BRG				pmax		pmax				
	comp=Z,48nm,1.1s									
BRG	Berggiesshubel	145.97	353	*e*PKPbc		**PKPab**		**06 51 11.6**	**-0.4**	
BRG				*ep*PKPbc		pPKPbc		06 51 22.3	-0.1	
KMBO	Kilima Mbogo	145.98	241	*e*PKPdf		**PKPab**		**06 51 12.7**	**-0.7**	
MALT	Malatya	146.03	315	*e*PKP2		**PKPab**		**06 51 12.5**	**-0

TOD	Tromm	147.56	359	PKP		PKPbc	06 51 16.5	+0.4
KHC	Kasperske Hory	147.73	353	*e*PKP2		PKPbc	06 51 17.0	+0.5
KHC	Kasperske Hory	147.73	353	*e*PKPbc		PKPbc	06 51 16.8	+0.2
KHC	Kasperske Hory	147.73	353	*e*PKP		PKPbc	06 51 17.0	+0.5
KHC				*ep*PKP		pPKPdf	06 51 27.4	+2.5
KHC				*es*PKP			06 51 34.6	
SMOL	Smolenice	147.74	348	*e*PKP2		PKPab	06 51 18.2	-0.7
SMOL	Smolenice	147.74	348	*e*PKP		PKPab	06 51 18.2	-0.7
PSZ	Piszkesteto	147.75	345	*e*PKP2		PKPbc	06 51 16.7	0.0
PSZ	Piszkesteto	147.75	345	*e*PKPbc		PKPbc	06 51 16.7	0.0
PSZ	Piszkesteto	147.75	345	⇓*e*PKPdf		PKPab	06 51 17.4	-1.6
WET	Wettzell	147.79	354	*e*PKP2		PKPbc	06 51 17.2	+0.5
WET	Wettzell	147.79	354	*e*PKPbc		PKPbc	06 51 17.2	+0.5
WET				*ep*PKPbc		pPKPbc	06 51 28.0	+0.2
GEC2	GERESS Array S	148.00	353	*e*PKP2		PKPbc	06 51 17.7	+0.4
GEC2	GERESS Array S	148.00	353	*e*PKPbc		PKPbc	06 51 17.7	+0.4
GEC2				*ep*PKPbc		pPKPbc	06 51 28.6	+0.2
GERES	GERESS Array B	148.00	353	PKPbc		PKPbc	06 51 17.5	+0.1
	comp=Z,8.7nm,0.9s,baz=27,slow=2.4,SNR=24							
GERES	GERESS Array B	148.00	353	PKPbc		PKPbc	06 51 17.5	+0.1
LANF	Langenberg	148.20	0	PKP2		PKPbc	06 51 18.2	+0.4
LANF	Langenberg	148.20	0	PKP		PKPbc	06 51 18.2	+0.4
LANF	Langenberg	148.20	0	PKP		PKPbc	06 51 18.2	+0.4
BR131	Keskin Array S	148.33	321	*e*PKPbc		PKPbc	06 51 18.5	0.0
BRTR	Keskin Array B	148.33	321	PKPbc		PKPbc	06 51 18.6	0.0
	comp=Z,8.7nm,1.0s,baz=109,slow=2.2,SNR=28							
BRTR	Keskin Array B	148.33	321	PKPbc		PKPbc	06 51 18.6	0.0
BUD	Budapest	148.37	346	*e*PKPdf		PKPbc	06 51 18.5	+0.3
STU	Stuttgart	148.39	359	*ep*PKPbc		pPKPbc	06 51 29.6	+0.2
CONA	Conrad Observa	148.59	350	⇑*i*P		PKPbc	06 51 19.6	+0.7
CONA	Conrad Observa	148.59	350	⇑*i*PKiKP		PKPbc	06 51 19.6	+0.7
	comp=Z,55nm,1.8s							
SOP	Sopron	148.70	349	⇑*e*PKPdf		PKPbc	06 51 19.8	+0.7
BFO	Black Forest	148.85	360	*e*PKP2		PKPbc	06 51 20.0	+0.5
BFO	Black Forest	148.85	360	*e*PKPbc		PKPbc	06 51 20.0	+0.5
BFO				*e*PKPab		PKPab	06 51 23.5	+0.2
BFO				*ep*PKPbc		pPKPbc	06 51 30.9	+0.3
BFO	Black Forest	148.85	360	*e*PKPbc		PKPbc	06 51 19.3	-0.2
FUR	Furstenfeldbru	148.90	356	*e*PKP2		PKPbc	06 51 20.3	+0.7
FUR	Furstenfeldbru	148.90	356	*e*PKPbc		PKPbc	06 51 20.3	+0.7
FUR				*ep*PKPbc		pPKPbc	06 51 31.1	+0.4
MOA	Molln	148.90	352	⇑*i*P		PKPbc	06 51 20.1	+0.4
MOA	Molln	148.90	352	⇑*i*PKiKP		PKPbc	06 51 20.1	+0.4
	comp=Z,27nm,1.8s							
THEF	They Montfort	148.91	3	PKP2		PKPbc	06 51 19.6	0.0
THEF	They Montfort	148.91	3	PKP		PKPbc	06 51 19.6	0.0
THEF	They Montfort	148.91	3	PKP		PKPbc	06 51 19.6	0.0
ECH	Echery	148.95	1	*e*PKP2		PKPbc	06 51 19.4	-0.3
ECH	Echery	148.95	1	*e*PKPbc		PKPbc	06 51 19.4	-0.3
ECH	Echery	148.95	1	PKP		PKPbc	06 51 19.8	0.0
SPAK	Spaichingen-Ko	149.07	359	PKP		PKPbc	06 51 20.2	+0.1
RJOB	Jochberg	149.19	354	*e*PKPbc		PKPbc	06 51 20.8	+0.4
RJOB				*ep*PKPbc		pPKPbc	06 51 31.6	+0.1
FELD	Feldberg im Sc	149.30	0	PKP		PKPbc	06 51 21.0	+0.2
MOF	Molkenrain	149.32	1	PKP2		PKPbc	06 51 20.8	0.0
MOF	Molkenrain	149.32	1	PKP		PKPbc	06 51 20.8	0.0
MOF	Molkenrain	149.32	1	PKP		PKPbc	06 51 20.8	0.0
PKSM	Morągy	149.65	345	⇑*e*PKPdf		PKPbc	06 51 21.6	+0.1
BBS	Basel-Blauen	149.71	1	PKP2		PKPbc	06 51 22.1	+0.4
BBS	Basel-Blauen	149.71	1	PKP		PKPbc	06 51 22.1	+0.4
WTTA	Wattenberg	149.77	355	⇑*i*PKP2		PKPbc	06 51 22.4	+0.4
WTTA	Wattenberg	149.77	355	⇑*i*P		PKPbc	06 51 22.4	+0.4
WTTA	Wattenberg	149.77	355	⇑*i*PKiKP		PKPbc	06 51 22.4	+0.4
	comp=Z,46nm,1.3s							
LOMF	Lomont	149.81	2	PKP2		PKPbc	06 51 22.2	+0.2
LOMF	Lomont	149.81	2	PKP		PKPbc	06 51 22.2	+0.2
LOMF	Lomont	149.81	2	PKP		PKPbc	06 51 22.2	+0.2
BEHE	Becsehely	149.82	348	⇑*e*PKPdf		PKPbc	06 51 19.8	-2.1
DAVA	Damuels	149.85	357	⇑*i*P		PKPbc	06 51 22.7	+0.5
DAVA	Damuels	149.85	357	⇑*i*PKiKP		PKPbc	06 51 22.7	+0.5
	comp=Z,30nm,1.1s							
PERS	Pernice	149.96	350	*i* PKPbc		PKPbc	06 51 21.8	-0.5
PERS				*ep*PKPbc		pPKPbc	06 51 32.4	-1.0
FETA	Feichten	150.07	356	⇑*i*P		PKPbc	06 51 23.1	+0.4
FETA	Feichten	150.07	356	⇑*i*PKiKP		PKPbc	06 51 23.1	+0.4
	comp=Z,38nm,1.3s							
MYKA	Terra Mystica	150.18	352	⇑*i*P		PKPbc	06 51 22.4	-0.5
MYKA	Terra Mystica	150.18	352	⇑*i*PKPbc		PKPbc	06 51 22.4	-0.5
	comp=Z,21nm,1.3s							
ABTA	Abfaltersbach	150.20	354	⇑*i*P		PKPbc	06 51 22.7	-0.2
ABTA	Abfaltersbach	150.20	354	⇑*i*PKPbc		PKPbc	06 51 22.7	-0.2
	comp=Z,36nm,1.0s							
DAVOX	Davos/Dischmat	150.36	357	PKPbc		PKPbc	06 51 23.9	+0.4
	comp=Z,16nm,0.8s,baz=352,slow=5.1,SNR=18							
DAVOX	Davos/Dischmat	150.36	357	PKPbc		PKPbc	06 51 23.9	+0.4
LJU	Ljubljana	150.63	351	*i* PKPbc		PKPbc	06 51 24.0	+0.1
LJU				*ep*PKPbc		pPKPbc	06 51 34.6	-0.4
TUE	Stuetta	150.69	358	*e*PKPbc		PKPbc	06 51 24.9	+0.6
OG01	Vacheresse	150.83	2	PKP		PKPbc	06 51 25.1	+0.6
OG01	Vacheresse	150.83	2	PKP		PKPbc	06 51 25.1	+0.6
BOJS	Bojanci	151.04	349	*i* PKPbc		PKPbc	06 51 25.2	+0.3
BOJS				*ep*PKPbc		pPKPbc	06 51 35.7	-0.3
OG35	Corcelles	151.06	4	PKP		PKPbc	06 51 25.6	+0.6
RSL	Roselend	151.47	2	PKiKP		PKPbc	06 51 27.6	+1.5
RSL	Roselend	151.47	2	PKP		PKPbc	06 51 27.6	+1.5
RSL	Roselend	151.47	2	PKP		PKPbc	06 51 27.6	+1.5
SSB	Saint Sauveur	151.75	5	*e*PKiKP		PKPbc	06 51 26.5	-0.1
SSB	Saint Sauveur	151.75	5	*e*PKPbc		PKPbc	06 51 26.5	-0.1
SSB	Saint Sauveur	151.75	5	PKP		PKPbc	06 51 27.1	+0.5
BNI	Bardonecchia	152.10	2	*e*PKiKP		PKPbc	06 51 27.9	+0.4
BNI	Bardonecchia	152.10	2	*e*PKPbc		PKPbc	06 51 27.9	+0.4
POLO	Lamas de Olo	152.23	28	*e*PKPbc		PKPbc	06 51 28.1	+0.2
PBRG	Bragança	152.30	24	*e*PKPab		PKPab	06 51 38.5	+0.7
PVRL	Vila Real	152.35	26	*e*PKPbc		PKPbc	06 51 25.3	-2.8
MVO	Moncorvo	152.72	25	*e*PKPab		PKPab	06 51 39.6	-0.1
PMRV	Marv??o	154.00	28	*e*PKPbc		PKPbc	06 51 31.1	-0.6
MDT	Midelt	160.62	34	PKP		PKPdf	06 51 33.4	+1.1
	comp=Z,2.8nm,1.1s,baz=333,slow=4.5,SNR=3.8							
MDT	Midelt	160.62	34	PKP		PKPdf	06 51 33.4	+1.1
TORD	Torodi Ar. Bea	172.73	122	PKP		PKPdf	06 51 40.0	-1.9
	comp=Z,1.8nm,0.9s,baz=212,slow=2.6,SNR=9.7							
TORD				PKPab		PKPab	06 53 06.9	-0.8
	comp=Z,6.5nm,0.8s,baz=247,slow=2.4,SNR=22							
TORD				PP		PP	06 56 57.3	-1.7
	comp=Z,1.8nm,1.1s,baz=249,slow=2.0,SNR=3.8							
TORD	Torodi Ar. Bea	172.73	122	PKP		PKPdf	06 51 40.0	-1.9
TORD				PKPab		PKPab	06 53 06.9	-0.8
TORD				PP		PP	06 56 57.3	-1.7

IDC 25 06:32:36.9±1.7, 0.1°**4S×125.3**°**8E, h0**km**, mb3.4/3, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=139.8km s-min=22.8km az=67.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	17.85	179	P	P	06 36 47.6	0.0
	0.1nm,0.3s,baz=7.1,slow=8.1,SNR=1.8						
FITZ				LR	LR	06 43 09.6	
	comp=Z,41nm,19.2s,baz=16,slow=36						
WRA	Warramunga Arr	21.55	156	P	P	06 37 27.2	-0.8
	0.5nm,0.5s,baz=332,slow=11,SNR=4.1						
ASAR	Alice Springs	24.80	161	P	P	06 38 01.1	+0.2
	0.3nm,0.4s,baz=339,slow=9.4,SNR=3.7						
MKAR	Makanchi Array	60.00	327	P	P	06 42 45.3	-0.1
	0.6nm,0.4s,baz=125,slow=8.2,SNR=15						

CASC 25 06:55:20.4±2.1, 9.5°**8N×84.6**°**2W, h0**km**±5**km**, MD3.6, 3C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGA2	Cerro Gallo 2	0.46	20	⇑*e*P		06 55 30.8	-0.8
CGA2				*e*S		06 55 38.7	-0.5
QCR	Quepos	0.48	109	⇑*i*P		06 55 28.6	-1.0
QCR				*e*S		06 55 33.8	-2.0
LAJ	Bijagual	0.57	60	⇑*i*P		06 55 24.7	-6.9
SJS	Escuela Geolog	0.66	58	*e*P		06 55 34.6	-0.5
PTEN	Parque Tenorio	1.18	342	*i* P		06 55 43.1	-0.1
CUI	Cuipilapa	1.20	334	*i* P		06 55 43.3	-0.1
CUI				*i* S		06 56 00.4	+0.2
MESS	Mesas	1.28	334	*i* P		06 55 44.8	-0.3
MESS				*i* S		06 56 02.8	+0.1
LAPC	Finca la Perla	1.42	326	*i* P		06 55 46.5	-1.1
GB1A	Borinquen Arri	1.45	328	*i* P		06 55 47.4	-0.7
ACR	Cerro Adams	1.71	123	*e*P		06 55 47.9	-3.6
BRU2	Volcan	2.06	112	*e*P		06 55 56.3	-0.3
BRU2				*e*S		06 56 24.6	-0.7

IDC 25 07:00:22.0±1.4, 22.2°**82S×175.0**°**08W, h0**km**, mb4.3/7, mb1 4.5/8, mb1mx4.2/21, mbtmp4.3/8, ML2.6/1, Error ellipse: s-maj=72.5km s-min=18.4km az=151.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	9.39	20	Pn	Pn	07 02 36.6	-2.2
	3.5nm,0.3s,baz=163,slow=11,SNR=6.3						
AFI				Sn	Sn	07 04 13.7	-12
	4.3nm,0.3s,baz=195,slow=20,SNR=3.5						
RAR	Rarotonga	14.28	86	Pn	Pn	07 03 34.8	-11
	6.8nm,0.3s,baz=270,slow=3.9,SNR=12						
RAR				Sn	Sn	07 05 58.1	-27
	1.7nm,0.3s,baz=90,slow=19,SNR=6.4						
CTA	Charters Tower	36.03	267	P	P	07 07 26.4	+1.1
	5.2nm,0.4s,baz=92,slow=9.1,SNR=12						
STKA	Stephens Creek	39.32	247	P	P	07 07 52.3	-0.7
	1.0nm,0.5s,baz=25,slow=4.6,SNR=3.6						
ASAR	Alice Springs	46.68	258	P	P	07 08 52.5	-0.3
	1.4nm,0.7s,baz=89,slow=8.3,SNR=7.0						
WRA	Warramunga Arr	47.01	264	P	P	07 08 55.0	-0.4
	4.3nm,0.3s,baz=92,slow=8.4,SNR=74						
FITZ	Fitzroy Crossi	55.44	263	P	P	07 09 57.6	-1.1
	2.6nm,0.8s,baz=100,slow=6.1,SNR=3.2						
NVAR	Mina Array Bea	80.88	42	P	P	07 12 38.9	+0.5
	1.5nm,0.7s,baz=223,slow=7.7,SNR=13						
VNA3	Neumayer Olymp	85.64	175	*e*P	P	07 12 59.3	-2.9
TXAR	Lajitas Array	86.05	56	P	P	07 13 04.5	-0.6
	1.1nm,0.9s,baz=218,slow=7.7,SNR=7.8						
VNA2	Neumayer--Watz	86.11	176	*e*P	P	07 13 01.2	-3.4
	baz=186,slow=1.5						
ILAR	Eielson Array	89.99	12	P	P	07 13 23.4	+0.5
	1.1nm,1.0s,baz=214,slow=5.5,SNR=5.9						
MKAR	Makanchi Array	114.76	312	PKP	PKPdf	07 19 04.0	-0.5
	0.2nm,0.6s,baz=64,slow=1.3,SNR=3.0						
ARCES	ARCESS Array B	131.66	350	PKP	PKPdf	07 19 35.9	-0.3
	0.8nm,0.7s,baz=341,slow=2.6,SNR=3.6						
AKASG	Malin Array Be	146.34	332	PKPbc	PKPbc	07 20 04.3	-0.3
	0.8nm,0.5s,baz=43,slow=3.5,SNR=4.7						
BRTR	Keskin Array B	150.40	311	PKPbc	PKPbc	07 20 15.8	0.0
	1.2nm,0.7s,baz=123,slow=5.8,SNR=5.8						

IDC 25 07:01:37.8±4.7, 5.3°**8S×151.6**°**2E, h82**km**±41**km**, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, MS4.4/1, Ms1 4.4/1, ms1mx3.1/33, Error ellipse: s-maj=36.8km s-min=22.7km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.97	228	P	Pn	07 03 03.7	+0.1
	3.1nm,0.3s,baz=42,slow=11,SNR=11						
PMG				S	Sn	07 04 11.9	+1.3
	5.6nm,0.3s,baz=183,slow=20,SNR=5.9						
WRA	Warramunga Arr	22.19	228	P	P	07 06 27.2	-0.4
	4.5nm,0.7s,baz=53,slow=10.0,SNR=45						
ASAR	Alice Springs	24.94	221	P	P	07 06 53.5	-0.2
	5.3nm,0.7s,baz=55,slow=9.0,SNR=58						
STKA	Stephens Creek	27.99	198	P	P	07 07 21.1	+0.2
	1.4nm,1.1s,baz=26,slow=3.3,SNR=2.8						
FITZ	Fitzroy Crossi	28.36	241	P	P	07 07 23.9	-0.5
	3.3nm,0.7s,baz=69,slow=9.4,SNR=14						
AFI	Afiamalu	37.02	108	LR	LR	07 19 47.1	
	comp=Z,552nm,20.0s,baz=101,slow=29						
PPT2	Papeete2	58.67	107	*e*LR	LR	07 11 00.7	
	144nm,28.2s						
TBI	Tubuai	59.40	114	*e*LR	LR	07 10 37.2	
	129nm,26.8s						
SONM	Songino Array	66.19	328	P	P	07 12 18.0	+1.0
	1.1nm,0.5s,baz=141,slow=4.6,SNR=6.1						
MKAR	Makanchi Array	79.99	319	P	P	07 13 38.9	+0.5
	0.5nm,0.8s,baz=98,slow=5.0,SNR=5.3						
ZALV	Zalesovo Beam	80.98	327	P	P	07 13 42.2	-1.1
	0.4nm,0.4s,baz=111,slow=7.9,SNR=2.9						
ILAR	Eielson Array	83.13	22	P	P	07 13 53.5	-0.9
	0.5nm,0.6s,baz=250,slow=4.9,SNR=7.1						
NVAR	Mina Array Bea	93.36	52	P	P	07 14 45.2	+0.8
	0.5nm,0.6s,baz=256,slow=7.4,SNR=4.3						
YKA	Yellowknife Ar	96.48	28	P	P	07 14 57.7	-0.1
	0.1nm,0.6s,baz=275,slow=4.7,SNR=2.9						
TORD	Torodi Ar. Bea	149.36	287	PKPbc	PKPbc	07 21 18.5	+0.1
	2.2nm,0.5s,baz=84,slow=2.1,SNR=30						

*NEIC **25** 07:19:43.4, 38.7**5S×175.3**0**E, h213**km**, MG4.0(WEL), After WEL.*

WEL 25 07:19:42.0±0.3, 38.69**S×175.3**2**E, h224**km**±2**km**, ML3.9/17, 32C-9D, Error ellipse: s-maj=2.3km s-min=1.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	Taurewa	0.39	166	⇑PN	Pn	07 20 11.3	-0.4
TWVZ				SN	S	07 20 34.1	-1.0
TWVZ	Taurewa	0.39	166	Pn	Pn	07 20 11.3	-0.4
RATZ	Rangitukua	0.39	117	⇑PN	Pn	07 20 11.3	-0.4
RATZ	Rangitukua	0.39	117	Pn	Pn	07 20 11.3	-0.4
HIZ	Hauiti	0.40	296	PN	Pn	07 20 11.1	-0.6
HIZ				SN	S	07 20 34.6	-0.2
HIZ	Hauiti	0.40	296	Pn	Pn	07 20 10.8	-0.9
HIZ				Sn	S	07 20 34.5	-0.3
KATZ	Kakaramea	0.41	134	PN	Pn	07 20 11.5	-0.3
KATZ	Kakaramea	0.41	134	Pn	Pn	07 20 11.5	-0.3
WTVZ	West Tongariro	0.47	154	⇑PN	Pn	07 20 11.8	-0.2
WTVZ				SN	S	07 20 34.7	-0.9
WTVZ	West Tongariro	0.47	154	Pn	Pn	07 20 11.8	-0.2
KRVZ	Karewarewa	0.47	148	⇑PN	Pn	07 20 11.8	-0.2
KRVZ				SN	S	07 20 34.4	-1.2
KRVZ	Karewarewa	0.47	148	Pn	Pn	07 20 11.8	-0.2
NGZ	Ngauruhoe	0.53	156	PN	Pn	07 20 12.0	-0.2
NGZ				SN	S	07 20 35.0	-1.0
NGZ	Ngauruhoe	0.53	156	Pn	Pn	07 20 11.9	-0.3
WPVZ	Whakapapa	0.54	161	PN	Pn	07 20 12.0	-0.2
WPVZ	Whakapapa	0.54	161	Pn	Pn	07 20 12.1	-0.2
OTVZ	Oturere	0.54	150	PN	Pn	07 20 11.9	-0.3
OTVZ	Oturere	0.54	150	Pn	Pn	07 20 12.1	-0.2
FWVZ	Far West T-bar	0.59	162	PN	Pn	07 20 12.3	-0.2
FWVZ	Far West T-bar	0.59	162	Pn	Pn	07 20 12.3	-0.2
PKVZ	Pokaka	0.60	178	PN	Pn	07 20 12.1	-0.3
PKVZ	Pokaka	0.60	178	Pn	Pn	07 20 12.1	-0.2
DRZ	Dome Shelter	0.61	162	PN	Pn	07 20 12.7	0.0
DRZ	Dome Shelter	0.61	162	Pn	Pn	07 20 12.7	-0.1
VRZ	Vera Road	0.61	225	⇑PN	Pn	07 20 11.9	-0.4
VRZ	Vera Road	0.61	225	Pn	Pn	07 20 11.9	-0.4
TRVZ	Turoa	0.63	164	⇑PN	Pn	07 20 12.6	-0.1
TRVZ	Turoa	0.63	164	Pn	Pn	07 20 12.6	-0.1
TUVZ	Tukino	0.63	156	PN	Pn	07 20 12.6	0.0
TUVZ	Tukino	0.63	156	Pn	Pn	07 20 12.6	0.0
WNVZ	Wahianoa	0.67	161	PN	Pn	07 20 12.7	-0.1
WNVZ	Wahianoa	0.67	161	Pn	Pn	07 20 12.7	-0.1
MTVZ	Mangateitei	0.70	170	⇑PN	Pn	07 20 12.7	-0.1
MTVZ	Mangateitei	0.70	170	Pn	Pn	07 20 12.8	0.0
MOVZ	Moawhango	0.79	155	⇑PN	Pn	07 20 12.9	-0.4
MOVZ	Moawhango	0.79	155	Pn	Pn	07 20 12.9	-0.4
MOVZ				SN	S	07 20 35.3	-2.5
MHEZ	Mangahewa	0.87	243	PN	Pn	07 20 13.5	0.0
MHEZ	Mangahewa	0.87	243	Pn	Pn	07 20 13.5	0.0
RAEZ	Rainy Point	0.94	230	PN	Pn	07 20 13.8	-0.1
RAEZ	Rainy Point	0.94	230	Pn	Pn	07 20 13.7	-0.2
BHHZ	Black Hill Sta	0.98	144	⇑PN	Pn	07 20 14.0	-0.3
BHHZ	Black Hill Sta	0.98	144	Pn	Pn	07 20 14.0	-0.3
DREZ	Durham Road	1.00	240	PN	Pn	07 20 14.1	-0.2
DREZ	Durham Road	1.00	240	Pn	Pn	07 20 14.1	-0.2
BKZ	Black Stump Fm	1.03	118	⇑PN	Pn	07 20 14.2	-0.4
BKZ	Black Stump Fm	1.03	118	Pn	Pn	07 20 14.1	-0.4
TARZ	Mount Tarawera	1.04	77	Pn	Pn	07 20 14.5	-0.2
WAZ	Wanganui	1.09	194	⇑PN	Pn	07 20 15.0	+0.1
WAZ	Wanganui	1.09	194	Pn	Pn	07 20 15.0	+0.1
NEZ	North Egmont	1.11	238	⇓PN	Pn	07 20 15.1	0.0
NEZ	North Egmont	1.11	238	Pn	Pn	07 20 15.1	0.0
DFE	Dawson Falls	1.14	236	⇓PN	Pn	07 20 15.2	0.0
DFE	Dawson Falls	1.14	236	Pn	Pn	07 20 15.4	+0.1
PKE	Pukeiti	1.15	244	PN	Pn	07 20 15.1	-0.2
PKE	Pukeiti	1.15	244	Pn	Pn	07 20 15.2	-0.2
NMHZ	Naumai	1.23	110	PN	Pn	07 20 16.3	+0.4
NMHZ	Naumai	1.23	110	Pn	Pn	07 20 16.4	+0.5
NRZ	Ngariki Road	1.26	239	⇑PN	Pn	07 20 15.9	-0.1
NRZ	Ngariki Road	1.26	239	Pn	Pn	07 20 15.9	-0.1
NWEZ	Newall Road	1.27	242	PN	Pn	07 20 16.1	-0.1
NWEZ	Newall Road	1.27	242	Pn	Pn	07 20 16.1	-0.1
MCHZ	McNeill Hill	1.31	125	⇑PN	Pn	07 20 17.0	+0.6
MCHZ	McNeill Hill	1.31	125	Pn	Pn	07 20 17.0	+0.6
PNHZ	Pukenui	1.40	151	⇑PN	Pn	07 20 17.1	-0.1
PNHZ	Pukenui	1.40	151	Pn	Pn	07 20 17.1	-0.1
RAHZ	Arahi	1.40	100	PN	Pn	07 20 17.1	0.0
RAHZ	Arahi	1.40	100	Pn	Pn	07 20 17.1	0.0
TSZ	Takapari Road	1.45	160	⇑PN	Pn	07 20 17.5	-0.1
TSZ	Takapari Road	1.45	160	Pn	Pn	07 20 17.5	-0.1
URZ	Urewera	1.47	73	*e*Pn	Pn	07 20 16.0	-1.6
WPHZ	Waipukurau	1.62	148	⇑PN	Pn	07 20 18.9	0.0
WPHZ	Waipukurau	1.62	148	Pn	Pn	07 20 18.9	0.0
KAHZ	Kahuranaki	1.64	133	⇑PN	Pn	07 20 19.4	+0.3
KAHZ	Kahuranaki	1.64	133	Pn	Pn	07 20 19.4	+0.3
CKHZ	Cape Kidnapper	1.67	126	⇓PN	Pn	07 20 19.8	+0.4
CKHZ	Cape Kidnapper	1.67	126	Pn	Pn	07 20 19.8	+0.4
POWZ	Post Office Ro	1.73	169	PN	Pn	07 20 19.6	-0.3
POWZ	Post Office Ro	1.73	169	Pn	Pn	07 20 19.6	-0.3
DVHZ	Dannevirke	1.73	158	⇑PN	Pn	07 20 19.6	-0.3
DVHZ	Dannevirke	1.73	158	Pn	Pn	07 20 19.6	-0.3
MWZ	Matawai	1.77	79	Pn	Pn	07 20 19.0	-1.3
KNZ	Kokohu	1.87	101	⇓PN	Pn	07 20 20.7	-0.4
KNZ	Kokohu	1.87	101	Pn	Pn	07 20 20.6	-0.4
PRHZ	Porangahau	1.87	147	PN	Pn	07 20 21.0	-0.2
PRHZ	Porangahau	1.87	147	Pn	Pn	07 20 20.9	-0.3
MRZ	Mangatainoka R	1.98	174	⇑PN	Pn	07 20 21.5	-0.6
MRZ	Mangatainoka R	1.98	174	Pn	Pn	07 20 21.5	-0.6
PRGZ	Paritu Road	2.02	97	⇓PN	Pn	07 20 21.9	-0.6
PRGZ	Paritu Road	2.02	97	Pn	Pn	07 20 22.1	-0.5
MHGZ	Mahia Peninsul	2.07	104	PN	Pn	07 20 22.7	-0.4
MHGZ	Mahia Peninsul	2.07	104	Pn	Pn	07 20 22.8	-0.2
BFZ	Birch Farm	2.11	160	⇓PN	Pn	07 20 22.8	-0.6
BFZ	Birch Farm	2.11	160	Pn	Pn	07 20 22.8	-0.6
OGWZ	Otaki Gorge	2.13	183	⇑PN	Pn	07 20 23.2	-0.4
OGWZ	Otaki Gorge	2.13	183	Pn	Pn	07 20 23.2	-0.4
TIWZ	Tintock	2.13	168	⇑PN	Pn	07 20 23.0	-0.7
TIWZ	Tintock	2.13	168	Pn	Pn	07 20 23.0	-0.7
KIW	Kapiti Island	2.19	188	PN	Pn	07 20 23.4	-0.9
KIW	Kapiti Island	2.19	188	Pn	Pn

baz=27,SNR=15
DAV Davao City (W) 28.95 295 LR LR 07 37 55.1
comp=Z,80nm,20.6s,baz=100,slow=36
MILA Mila 31.68 184 P P 07 27 09.0 +18
baz=30,SNR=6.8
PCI Palu 32.24 277 P P 07 27 05.8 +9.2
baz=31,SNR=6.6
PCI S **S 07 32 10.2 +3.1**
baz=31,SNR=13
MEEK Meekatharra 38.12 233 P **P 07 27 45.8 -1.3**
baz=36,SNR=18
MORW Morawa 41.27 231 P **P 07 28 15.5 +2.3**
baz=39,SNR=5.1
KSRS Korea Array 48.04 334 LR LR 07 45 47.7
comp=Z,24nm,19.0s,baz=270,slow=31
PET Petropavlovsk 58.41 5 P **P 07 30 22.6 -0.3**
SONM Songino Array 66.25 328 P **P 07 31 16.5 +0.8**
1.4nm,0.7s,baz=152,slow=5.3,SNR=8.8
SONM Songino Array 66.25 328 P **P 07 31 16.5 +0.8**
MKAR Makanchi Array 80.08 319 P **P 07 32 37.2 -0.1**
1.3nm,1.0s,baz=108,slow=6.5,SNR=9.3
MKAR Makanchi Array 80.08 319 P **P 07 32 37.2 -0.1**
ZALV Zalesovo Beam 81.05 327 P **P 07 32 41.6 -0.6**
0.6nm,0.4s,baz=120,slow=5.8,SNR=6.0
ZALV Zalesovo Beam 81.05 327 P **P 07 32 41.6 -0.6**
ILAR Eielson Array 83.00 22 P **P 07 32 51.7 -0.6**
0.6nm,0.8s,baz=242,slow=5.3,SNR=8.6
ILAR Eielson Array 83.00 22 P **P 07 32 51.7 -0.6**
BVAR Borovoye Array 89.08 323 P **P 07 33 20.8 -1.6**
1.0nm,0.8s,baz=134,slow=8.5,SNR=5.5
BVAR Borovoye Array 89.08 323 P **P 07 33 20.8 -1.6**
INK Inuvik 89.28 21 P **P 07 33 24.1 +1.1**
0.5nm,0.8s,baz=156,slow=20,SNR=4.0
INK Inuvik 89.28 21 P **P 07 33 24.1 +1.1**
YBH Yreka Blue Hor 90.12 48 P **P 07 33 29.8 +2.1**
0.8nm,0.6s,baz=256,slow=4.2,SNR=2.0
YBH Yreka Blue Hor 90.12 48 P **P 07 33 29.8 +2.1**
NVAR Mina Array Bea 93.16 52 P **P 07 33 43.4 +1.3**
1.2nm,0.8s,baz=261,slow=7.5,SNR=8.8
NVAR Mina Array Bea 93.16 52 P **P 07 33 43.4 +1.3**
YKA Yellowknife Ar 96.33 28 P **P 07 33 55.6 -0.1**
0.1nm,0.6s,baz=272,slow=4.7,SNR=3.2
YKA Yellowknife Ar 96.33 28 P **P 07 33 55.6 -0.1**
PDAR Pinedale Array 99.91 48 P **Pdif 07 34 12.9 +0.3**
0.4nm,0.9s,baz=282,slow=2.7,SNR=4.3
PDAR Pinedale Array 99.91 48 P **Pdif 07 34 12.9 +0.3**
GERES GERESS Array B 123.99 328 PKP **PKPdf 07 39 26.1 +0.4**
0.3nm,0.3s,baz=14,slow=2.0,SNR=4.7
GERES GERESS Array B 123.99 328 PKP **PKPdf 07 39 26.1 +0.4**
TOAO Torodi Ar. Sit 149.54 287 *e*PKPbc **PKPbc 07 40 16.7 -0.9**
TORD Torodi Ar. Bea 149.54 287 PKPbc **PKPbc 07 40 17.0 -0.7**
6.3nm,0.7s,baz=74,slow=2.9,SNR=43
TORD Torodi Ar. Bea 149.54 287 PKPbc **PKPbc 07 40 17.0 -0.7**
BDFB Brasilia 151.37 137 PKPbc **PKPbc 07 40 20.4 -1.8**
1.4nm,0.5s,baz=217,slow=5.9,SNR=4.8
BDFB Brasilia 151.37 137 PKPbc **PKPbc 07 40 20.4 -1.8**

IDC 25 07:35:05.1±0.7, 60.64S×24.99W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, MS3.9/3, Ms1 3.9/3, ms1mx3.6/16, Error ellipse: s-maj=21.5km s-min=20.6km az=59.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**12.28**	**156**	*e*Pn	Pn	07 37 57.0	-4.0
VNA3	**Neumayer Olymp**	**12.28**	**156**	*e*Sn	Sn	07 40 00.6	-18
VNA2	**Neumayer--Watz**	**12.52**	**153**	*e*Pn	Pn	07 38 00.0	-4.2
baz=316,slow=16							
VNA2	**Neumayer--Watz**	**12.52**	**153**	*e*Sn	Sn	07 40 06.3	-18
baz=316,slow=16							
QSPA	**South Pole Qui**	**29.59**	**180**	P	P	07 41 10.6	-0.9
1.7nm,0.6s,baz=180,slow=2.8,SNR=18							
PLCA	**Paso Flores**	**34.13**	**285**	P	P	07 41 50.0	-1.4
1.0nm,0.7s,baz=135,slow=5.7,SNR=3.8							
PLCA				LR	LR	07 54 51.2	
comp=Z,182nm,20.4s,baz=151,slow=35							
CFAA	**Coronel Fontan**	**40.53**	**296**	P	P	07 42 45.2	-0.5
0.2nm,0.8s,baz=166,slow=7.5,SNR=6.0							
VNDA	**Vanda**	**42.02**	**182**	P	P	07 42 58.8	+1.4
2.2nm,0.8s,baz=183,slow=5.8,SNR=13							
BOSA	**Boshof**	**45.24**	**69**	P	P	07 43 31.4	-0.6
2.3nm,0.9s,baz=187,slow=8.1,SNR=2.9							
LBTB	**Lobatse**	**49.48**	**67**	P	P	07 43 56.2	-0.8
0.9nm,0.5s,baz=225,slow=5.7,SNR=3.8							
LPAZ	**La Paz**	**54.00**	**306**	P	P	07 44 32.0	+0.6
1.2nm,0.7s,baz=135,slow=6.0,SNR=5.6							
LPAZ				LR	LR	08 05 48.4	
comp=Z,59nm,20.5s,baz=165,slow=34							
TORD	**Torodi Ar. Bea**	**76.57**	**27**	P	P	07 46 57.8	+0.8
2.8nm,0.8s,baz=195,slow=6.1,SNR=17							
ASAR	**Alice Springs**	**94.25**	**161**	P	P	07 48 25.1	-1.0
0.6nm,0.8s,baz=165,slow=3.9,SNR=5.5							
ASAR				LR	LR	08 27 14.0	
comp=Z,106nm,18.8s,baz=102,slow=33							
PDAR	**Pinedale Array**	**123.67**	**298**	PKhKP	PKPpre	07 53 58.8	
0.9nm,1.0s,baz=120,slow=3.2,SNR=4.8							
FINES	**FINESS Array B**	**127.90**	**28**	PKP	PKPdf	07 54 10.7	-0.3
2.9nm,0.9s,baz=8.5,slow=3.9,SNR=4.4							
YKA	**Yellowknife Ar**	**140.28**	**313**	PKP	PKPdf	07 54 33.8	-0.4
0.2nm,0.6s,baz=130,slow=2.3,SNR=7.6							
SONM	**Songino Array**	**149.60**	**93**	PKPbc	PKPbc	07 54 54.9	-0.6
1.6nm,0.9s,baz=233,slow=3.2,SNR=7.6							
ILAR	**Eielson Array**	**153.87**	**304**	PKPbc	PKPbc	07 55 04.8	+0.3
0.5nm,0.7s,baz=122,slow=1.2,SNR=7.0							

*ISCJB **25** 07:51:22.0±0.4, 33.26N±0.02×115.73W±0.02, h9km±3km, Error ellipse: s-maj=2.7km s-min=2.4km az=155.3*
*ECX **25** 07:51:23.3±0.8, 33.28N×115.74W, h15km±4km, MD3.6, ML3.7*
*NEIC **25** 07:51:23.0, 33.29N×115.72W, h4km, MW3.6(PAS), After PAS.*
NEIC Felt at Palm Springs.

ISC 25 07:51:21.9±1.0, 33.24N±0.02×115.73W±0.02, h12km±9km, n60, σ0.896/79, 25C-30D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart**	**0.30**	**190**	⇓P	**Pb**	**07 51 29.7**	**+0.4**
baz=0.4,SNR=1000							
COK	**Cook Ranch**	**0.39**	**180**	⇓*i*P	**Pb**	**07 51 31.3**	**+0.6**
CRR	**Carrizo Plain**	**0.41**	**210**	⇓*i*P	**Pb**	**07 51 31.3**	**+0.3**
SNR	**Schaffner Ranc**	**0.45**	**147**	⇓*i*P	**Pb**	**07 51 32.3**	**+0.6**
HAY	**Hayfield**	**0.47**	**5**	⇓*i*P	**Pg**	**07 51 31.3**	**+0.1**
BC3	**Big Chuckawall**	**0.47**	**29**	P	**Pg**	**07 51 31.0**	**-0.2**
baz=0.4,SNR=280							
BC3				⇑S	**Sg**	**07 51 37.3**	**-0.4**
baz=0.4							
SGL	**Mount Signal**	**0.59**	**180**	⇓*i*P	**Pb**	**07 51 34.3**	**+0.2**
YUH	**Yuha Desert**	**0.61**	**195**	⇓*i*P	**Pb**	**07 51 35.3**	**+0.8**
COA	**Coachella**	**0.63**	**126**	⇑*i*P	**Pb**	**07 51 35.3**	**+0.4**
DVTC	**Desert V Tower**	**0.66**	**208**	⇑P	**Pb**	**07 51 35.8**	**+0.5**
baz=0.7,SNR=142							
DVTC				⇑S	**Sb**	**07 51 45.4**	**+0.9**
baz=0.7							
MONP	**Monument Peak**	**0.68**	**239**	P	**Pb**	**07 51 36.0**	**+0.3**
baz=0.7,SNR=479							
MONP				⇓S	**Sb**	**07 51 45.4**	**+0.2**
baz=0.7							
PFO	**Pinyon Flat Ob**	**0.71**	**302**	*e*Pg	**Pg**	**07 51 35.5**	**-0.2**
PFO				*e*Sg	**Sg**	**07 51 44.6**	**-0.4**
PFO	**Pinyon Flat Ob**	**0.71**	**302**	⇓P	**Pg**	**07 51 35.5**	**-0.2**
baz=0.7							
PFO				⇑S	**Sg**	**07 51 44.9**	**-0.1**
baz=0.7							
GLA	**Glamis**	**0.78**	**104**	*e*Pg	**Pg**	**07 51 37.3**	**+0.3**
GLA				*e*Sg	**Sb**	**07 51 49.1**	**+1.1**
GLA	**Glamis**	**0.78**	**104**	⇑*i*P	**Pg**	**07 51 37.3**	**+0.3**
GLA	**Glamis**	**0.78**	**104**	⇓P	**Pg**	**07 51 37.0**	**0.0**
baz=0.8							
GLA				⇓S	**Sb**	**07 51 48.4**	**+0.4**
baz=0.8							
BELC	**Belle Mtn. Jos**	**0.79**	**344**	⇑P	**Pg**	**07 51 36.9**	**-0.4**
baz=0.7,SNR=64							
BELC				⇑S	**Sg**	**07 51 46.9**	**-0.8**
baz=0.7							
BAR	**Barrett**	**0.97**	**235**	*e*Pg	**Pb**	**07 51 40.2**	**-0.4**
BAR				*e*Sg	**Sn**	**07 51 54.4**	**-0.6**
IRM	**Iron Mountain**	**1.04**	**28**	⇑P	**Pb**	**07 51 41.0**	**-0.8**
baz=1.0,SNR=379							
IRM				⇓S	**Sb**	**07 51 54.6**	**-0.8**
baz=1.0							
Y12C	**Blythe**	**1.13**	**63**	⇑P	**Pb**	**07 51 42.5**	**-0.9**
baz=1.1,SNR=146							
Y12C				⇑S	**Sb**	**07 51 57.7**	**-0.3**
baz=1.1							
109C	**Camp Elliot, M**	**1.21**	**254**	⇑P	**Pn**	**07 51 43.7**	**-0.8**
baz=1.2							
109C				⇓S	**Sb**	**07 51 60.0**	**-0.2**
baz=1.2							
CBX	**Cerro Bola**	**1.21**	**221**	⇓*e*P	**Pn**	**07 51 44.7**	**-0.1**
CBX				*e*S	**Sn**	**07 52 01.2**	**0.0**
MURC	**Murrieta**	**1.28**	**287**	⇓P	**Pn**	**07 51 44.2**	**-1.5**
baz=1.3							
MURC				⇑S	**Sb**	**07 52 01.5**	**-0.9**
baz=1.3							
RDX	**Rancho Dawling**	**1.32**	**188**	⇑*e*P	**Pn**	**07 51 46.0**	**-0.3**
RDX				*e*S	**Sn**	**07 52 04.6**	**+0.7**
RDX				⇑*e*		07 52 13.5	
comp=N,926nm,1.0s							
BBRC	**Big Bear Solar**	**1.42**	**316**	⇓P	**Pn**	**07 51 46.3**	**-1.5**
baz=1.4,SNR=35							
BBRC				⇑Sb	**Sn**	**07 52 05.5**	**-1.0**
baz=1.4							
GMRC	**Granite Mounta**	**1.54**	**2**	⇓Pb	**Pb**	**07 51 50.1**	**-0.3**
baz=1.5							
GMRC				⇓Sb	**Sn**	**07 52 09.7**	**+0.4**
baz=1.5							
HEC	**Hector,Ludlow**	**1.66**	**343**	⇓Sb	**Sb**	**07 52 13.1**	**-0.4**
baz=1.6							
PDMCI	**Parker Dam,Lak**	**1.69**	**51**	⇑S	**Sn**	**07 52 11.4**	**-1.5**
baz=1.7							
PBX	**Punta Banda**	**1.71**	**210**	⇑*e*P	**Pb**	**07 51 52.6**	**-0.7**
PBX				*e*S	**Sb**	**07 52 15.6**	**+0.8**
PBX				⇓*e*		07 52 29.8	
comp=N,832nm,1.2s							
113A	**Mohawk Valley,**	**1.72**	**105**	⇑P	**Pn**	**07 51 50.9**	**-0.7**
baz=1.7							
113A				⇓Sb	**Sg**	**07 52 16.9**	**-0.2**
baz=1.7							
ECNX	**Esteban Cantu**	**1.74**	**205**	⇓*e*P	**Pb**	**07 51 52.9**	**-1.0**
ECNX				⇑*e*P	**Pn**	**07 51 50.7**	**-1.3**
ECNX				*e*S	**Sn**	**07 52 11.6**	**-2.6**
NEE2	**Needles Airpor**	**1.78**	**31**	⇓Pb	**Pb**	**07 51 54.1**	**-0.4**
baz=1.7							
NEE2				⇓S	**Sn**	**07 52 13.0**	**-2.0**
baz=1.7							
BFSC	**Mount Baldy Ra**	**1.89**	**302**	⇓P	**Pn**	**07 51 53.2**	**-0.9**
baz=1.9							
BFSC				⇓Sb	**Sb**	**07 52 20.4**	**+0.4**
baz=1.9							
LDFC	**Landfair**	**1.91**	**16**	*e*Pn	**Pb**	**07 51 57.4**	**+0.7**
RRX	**Edison Barstow**	**1.95**	**328**	⇑Sb	**Sb**	**07 52 22.4**	**+0.9**
baz=1.9							
MWC	**Mount Wilson**	**2.17**	**297**	*e*Pn	**Pn**	**07 51 58.1**	**0.0**
MWC				*e*Sn	**Sb**	**07 52 29.1**	**+0.8**
FMP	**Fort Macarthur**	**2.19**	**283**	⇓Sb	**Sb**	**07 52 29.3**	**+0.7**
baz=2.2							
SPX	**San Pedro Mart**	**2.20**	**174**	*e*PN	**Pn**	**07 51 58.5**	**0.0**
SPX				⇑*e*		07 52 45.0	
comp=N,234nm,0.8s							
GSC	**Goldstone**	**2.24**	**337**	*e*Pn	**Pb**	**07 52 03.4**	**+1.0**
CIS	**Catalina Islan**	**2.24**	**275**	⇓Pb	**Pb**	**07 52 02.6**	**+0.2**
baz=2.3							
CIS				⇑Sb	**Sb**	**07 52 30.7**	**+0.6**
baz=2.3							
PASC	**Pasadena Art C**	**2.25**	**295**	*e*Pn	**Pb**	**07 52 02.2**	**-0.2**
PASC				*e*Sn	**Sb**	**07 52 31.2**	**+1.0**
Z14A	**Wintersburg**	**2.33**	**86**	⇓P	**Pn**	**07 51 59.2**	**-0.9**
baz=2.3							
EDW2	**Edwards Air Fo**	**2.49**	**312**	⇑P	**Pn**	**07 52 01.1**	**-1.2**
baz=2.5,SNR=11							
EDW2				⇓Sb	**Sb**	**07 52 38.4**	**+1.2**
baz=2.5							
214A	**Organ Pipe Nat**	**2.78**	**117**	⇑P	**Pn**	**07 52 05.3**	**-0.9**
baz=2.8							
OSI	**Osito Adit**	**2.84**	**300**	*e*Pn	**Pb**	**07 52 13.2**	**+0.7**
ISA	**Isabella**	**3.31**	**318**	*e*Pn	**Pn**	**07 52 15.3**	**+1.6**
DAC	**Darwin (Calif)**	**3.40**	**334**	*e*Pn	**Pb**	**07 52 24.4**	**+2.2**
WUAZ	**Wupatki**	**4.26**	**57**	*e*Pn	Pb	07 52 32.1	-4.7
TUC	**Tucson**	**4.27**	**101**	*e*Pn	**Pn**	**07 52 27.8**	**+1.0**
CCUT	**Cedar City**	**4.72**	**24**	*e*Pn	**Pn**	**07 52 35.3**	**+2.3**
ARUT	**Antelope Range**	**4.91**	**22**	*e*Pn	Pn	07 52 41.9	+6.3
MVU	**Marysvale**	**5.98**	**28**	*e*Pn	Pn	07 52 57.3	+6.9
MSU	**Marysvale**	**6.00**	**28**	*e*Pn	Pn	07 52 57.3	+6.6
CMB	**Columbia Colle**	**6.10**	**323**	*e*Pn	**Pn**	**07 52 54.0**	**+2.0**
MVCO	**Mesa Verde**	**7.12**	**54**	*e*Pn	Pn	07 53 11.0	+4.9
SRU	**San Rafael**	**7.21**	**34**	*e*Pn	Pn	07 53 11.3	+4.0
DUG	**Dugway**	**7.33**	**18**	*e*Pn	**Pn**	**07 53 10.6**	**+1.8**
PV04	**Paradox Valley**	**7.56**	**45**	*e*Pn	Pn	07 53 15.9	+3.8
PV01	**Paradox Valley**	**7.60**	**48**	*e*Pn	Pn	07 53 17.4	+4.7
comp=N,395nm,0.6s							
ANMO	**Albuquerque**	**7.88**	**75**	*e*Pn	**Pn**	**07 53 18.1**	**+1.7**

KRSC 25 07:53:31.4±0.4, 56.09N×164.29E, h23km±22km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.83**	**279**	*e*P	Pb	07 53 46.1	-1.1
KBTR				*e*S	Sb	07 53 56.7	-1.2
BKI	**Bering**	**1.30**	**132**	*i* P	Pn	07 53 53.9	-0.2
BKI				*i* S	Sn	07 54 10.5	-0.3
SMKR	**Semkarok**	**1.65**	**289**	*e*P	Pn	07 53 59.3	+0.3
SMKR				*e*S	Sn	07 54 20.0	+0.5
BDR	**Baidarnaya**	**1.78**	**287**	*e*P	Pn	07 54 01.6	+0.7
BDR				*e*S	Sn	07 54 23.8	+0.9
SRKR	**Sorokina**	**1.83**	**289**	*e*P	Pn	07 54 02.2	+0.7
SRKR				*e*S	Sn	07 54 24.0	+0.1
ZLN	**Zelenaya**	**1.96**	**269**	*e*P	Pb	07 54 05.0	-1.5
ZLN				*e*S	Sn	07 54 28.8	+1.6
CIRR	**Tsirk**	**1.98**	**272**	*e*P	Pn	07 54 05.2	+1.5
CIRR				*e*S	Sb	07 54 29.8	-1.6
LGNR	**Loginova**	**2.02**	**271**	*e*P	Pn	07 54 05.5	+1.1
LGNR				*e*S	Sn	07 54 29.9	+0.8
BZGR	**Bezymyannyi-Gr**	**2.02**	**267**	P	Pb	07 54 06.3	-1.3
BZGR				*e*S	Sb	07 54 31.9	-0.6
KLY	**Klyuchi**	**2.04**	**278**	*e*P	Pn	07 54 03.6	-0.7
KLY				*e*S	Sn	07 54 27.9	-1.2
KRSR	**Krestovskiy**	**2.09**	**275**	P	Pn	07 54 06.8	+1.7
KRSR				S	Sn	07 54 32.3	+1.8
MKZ	**Mys Kozlova**	**2.12**	**225**	*e*P	Pn	07 54 06.4	+1.0
MKZ				*e*S	Sn	07 54 31.2	+0.2
BZMR	**Bezymyannyi-We**	**2.13**	**268**	*e*P	Pn	07 54 07.6	+1.8
BZMR				*e*S	Sb	07 54 33.9	-1.8
BZMR	**Bezymyannaya**	**2.14**	**267**	P	Pn	07 54 07.6	+1.7
BZMR				*e*S	Sn	07 54 33.7	+1.9
KPT	**Kopyto**	**2.29**	**269**	P	Pn	07 54 09.6	+1.8
KPT				S	Sb	07 54 37.8	-2.2
KMNR	**Kamenistaya**	**2.31**	**263**	P	Pb	07 54 10.6	-1.8
KMNR				S	Sb	07 54 39.4	-1.1
KOZ	**Kozyrevsk**	**2.48**	**271**	S	Sb	07 54 43.4	-1.9
TUMR	**Tumrok**	**2.48**	**253**	*e*P	Pn	07 54 12.6	+2.1
TUMR				*e*S	Sn	07 54 41.8	+1.6
SRDR	**Sredinnyy**	**2.56**	**277**	*e*P	Pn	07 54 13.5	+1.9
SRDR				*e*S	Sn	07 54 43.3	+1.2
KII	**Karymskiy**	**3.46**	**236**	P	Pn	07 54 26.3	+2.4
KII				S	Sn	07 55 06.4	+2.1
SPN	**Mys Shipunski**	**3.89**	**221**	S	Sn	07 55 12.8	-1.9
SDLR	**Sedlovina**	**4.22**	**230**	P	Pn	07 54 36.4	+2.0
SMAR	**Somma**	**4.26**	**231**	P	Pn	07 54 37.4	+2.3
AVH	**Avacha**	**4.29**	**231**	P	Pn	07 54 38.1	+2.8
UGLR	**Uglovaya**	**4.29**	**230**	P	Pn	07 54 37.9	+2.5
GNL	**Ganaly**	**4.38**	**239**	P	Pn	07 54 39.4	+2.8
RUS	**Russkaya**	**4.99**	**225**	P	Pn	07 54 46.6	+1.8
MTVR	**Mutnovka**	**5.08**	**227**	P	Pn	07 54 49.2	+2.9
MTVR				S	Sn	07 55 45.1	+0.7
ASAK	**Asacha**	**5.28**	**228**	*e*P	Pn	07 54 52.2	+3.3

MEX 25 07:56:06.6±0.8, 16.93N×100.13W, h9km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**312**	*e*P	Pg	07 56 09.8	-0.5
CAIG				*i* S	Sg	07 56 12.8	-0.1
ACX	**Acapulco**	**0.27**	**103**	*e*P	Pg	07 56 10.5	-1.5
ACX				*i* S	Sg	07 56 14.3	-1.3
MEIG	**Mezcala**	**1.10**	**26**	*i* P	Pg	07 56 23.9	-4.1
MEIG				*i* S	Sg	07 56 38.2	-4.3
ARIG	**Puente Sto Nin**	**1.36**	**351**	*e*P	Pn	07 56 28.3	-3.5
ARIG				*i* S	Sb	07 56 45.7	-4.2
ZIIG	**Zihuatanejo**	**1.44**	**298**	*i* P	Pn	07 56 29.2	-3.7
ZIIG				*i* S	Sn	07 56 47.6	-4.4
PNIG	**Pinotepa**	**1.99**	**105**	*i* P	Pn	07 56 37.9	-2.6
PNIG				*i* S	Sn	07 57 01.0	-4.6
YAIG	**Yautepec**	**2.17**	**28**	*i* P	Pn	07 56 40.2	-3.0
YAIG				*i* S	Sn	07 57 05.3	-5.1
UTMO	**Huajuapan**	**2.40**	**68**	*i* P	Pn	07 56 43.0	-3.3
UTMO				*i* S	Sn	07 57 11.2	-4.8
PPM	**Popocatepetl**	**2.56**	**34**	*i* P	Pn	07 56 45.4	-3.6
PPM				*i* S	Sn	07 57 16.5	-4.2
VHO	**Vista Hermosa**	**3.25**	**87**	*i* P	Pn	07 56 54.7	-3.4

*DDA **25** 07:57:06.9, 38.68N×39.14E, h7km, MD3.0*
*CSEM **25** 07:57:06.1±0.5, 38.63N×39.22E, h20km, MD3.0, Error ellipse: s-maj=13.0km s-min=6.5km az=125.0*

ISK 25 07:57:07.1, 38.69N×39.11E, h18km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.21**	**206**	*e*P	Pg	07 57 11.5	-1.0
ELZG				*e*S	Sb	07 57 14.8	-1.3
ELZG	**Elazig**	**0.21**	**206**	*e*P	Pg	07 57 11.5	-1.0
ELZG				*e*S	Sb	07 57 14.8	-1.3
PTK	**Pertek**	**0.30**	**48**	*e*PG	Pg	07 57 13.7	-0.2
PTK				*e*SG	Sb	07 57 19.3	+0.2
PTK	**Pertek**	**0.30**	**48**	*e*Pg	Pg	07 57 13.7	-0.3
PTK				*e*Sg	Sb	07 57 19.3	+0.2
MALT	**Malatya**	**0.65**	**235**	*e*PG	Pg	07 57 20.7	+0.6
MALT				*e*SG	Sg	07 57 30.0	+1.0
MALT	**Malatya**	**0.65**	**235**	*e*Pg	Pg	07 57 20.7	+0.5
MALT				*e*Sg	Sg	07 57 30.0	+1.0
KEMA	**Kemaliye**	**0.75**	**321**	*e*P	Pb	07 57 21.6	-0.1
KEMA				*e*S	Sn	07 57 33.3	-0.6
KEMA	**Kemaliye**	**0.75**	**321**	*e*P	Pb	07 57 21.6	-0.2
KEMA				*e*S	Sn	07 57 33.3	-0.7
ILIC	**ilic-Erzincan**	**0.87**	**331**	*e*PG	Pb	07 57 24.0	+0.1
ILIC				*e*SG	Sn	07 57 37.0	+0.1
ILIC	**ilic-Erzincan**	**0.87**	**331**	*e*Pg	Pb	07 57 24.0	+0.1
ILIC				*e*Sg	Sn	07 57 37.0	0.0
AKCD	**Akcadag**	**1.01**	**247**	*e*P	Pb	07 57 25.6	-0.6
AKCD				*e*S	Sn	07 57 41.9	+1.5
AKCD	**Akcadag**	**1.01**	**247**	*e*P	Pb	07 57 25.7	-0.6
AKCD				*e*S	Sn	07 57 41.9	+1.5
ERZN	**Erzincan**	**1.01**	**28**	*e*PG	Pg	07 57 27.0	0.0
EZC	**Erzincan**	**1.08**	**10**	*e*Pg	Pb	07 57 27.0	-0.5

IDC 25 08:00:02.3±3.5, 28.35S×178.35W, h185km±32km, mb3.5/3, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=27.1km s-min=21.5km az=141.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.58**	**200**	P	Pn	08 02 29.5	+0.3
5.5nm,0.3s,baz=346,slow=4.2,SNR=42							
URZ				S	Sn	08 04 24.3	-2.6
5.9nm,0.3s,baz=28,slow=20,SNR=13							
AFI	**Afiamalu**	**15.62**	**24**	P	Pn	08 03 32.7	-0.2
4.5nm,0.3s,baz=207,slow=6.8,SNR=9.4							
AFI				S	S	08 06 18.1	-8.9
2.1nm,0.3s,baz=234,slow=22,SNR=3.5							
RPZ	**Rata Peaks**	**17.54**	**206**	P	P	08 03 54.7	+0.7
0.5nm,0.3s,baz=18,slow=6.4,SNR=2.3							
RPZ				S	S	08 06 55.8	-11
1.0nm,0.3s,baz=132,slow=22,SNR=14							
RPZ				LR	LR	08 10 35.1	
comp=Z,113nm,18.7s,baz=164,slow=36							
ASAR	**Alice Springs**	**42.95**	**265**	P	P	08 07 43.8	+0.6
0.8nm,0.6s,baz=95,slow=7.5,SNR=20							
WRA	**Warramunga Arr**	**43.75**	**270**	P	P	08 07 49.2	-0.4
0.8nm,0.4s,baz=109,slow=6.3,SNR=17							
WRA				pP	pP	08 08 34.8	+4.9
0.6nm,0.4s,baz=109,slow=6.7,SNR=3.5							
NVAR	**Mina Array Bea**	**86.95**	**43**	P	P	08 12 27.1	+0.5
1.4nm,0.7s,baz=225,slow=7.9,SNR=6.5							
MKAR	**Makanchi Array**	**116.22**	**311**	PKP	PKPdf	08 18 21.9	-1.4
0.2nm,0.5s,baz=97,slow=2.8,SNR=4.3							
ARCES	**ARCESS Array B**	**136.53**	**348**	PKP	PKPdf	08 19 01.9	+0.6
2.8nm,0.8s,baz=86,slow=1.6,SNR=4.2							
FINES	**FINESS Array B**	**143.12**	**341**	PKhKP	PKPpre	08 19 08.9	
0.4nm,0.5s,baz=46,slow=4.0,SNR=7.3							
NOA	**NORSAR Array B**	**146.69**	**352**	PKPbc	PKPdf	08 19 20.6	+1.0
1.5nm,0.6s,baz=16,slow=4.7,SNR=4.6							
AKASG	**Malin Array Be**	**149.48**	**325**	PKPbc	PKPbc	08 19 28.1	-1.0
2.7nm,0.5s,baz=357,slow=3.7,SNR=3.6							
BRTR	**Keskin Array B**	**151.31**	**302**	PKPbc	PKPbc	08 19 33.3	-0.8
0.8nm,0.5s,baz=357,slow=3.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**164.87**	**180**	PKP	PKPdf

STKA	**Stephens Creek**	**52.13 133**	P	**P**	**08 38 28.6**	**+1.8**
	0.5nm,0.4s,baz=297,slow=4.5,SNR=3.1						
STKA	**Stephens Creek**	**52.13 133**	P	**P**	**08 38 28.6**	**+1.8**
ZAA0	**Zalesovo Array**	**53.60 350**	*eP*	**P**	**08 38 35.1**	**-2.0**
ZALV	**Zalesovo Beam**	**53.60 350**	P	**P**	**08 38 35.6**	**-1.6**
	10.0nm,0.6s,baz=180,slow=5.9,SNR=41						
ZALV	**Zalesovo Beam**	**53.60 350**	P	**P**	**08 38 35.6**	**-1.6**
ABKAR	**Akbulak array**	**58.19 331**	*eP*	**P**	**08 39 08.3**	**-1.6**
	7.1nm,0.6s						
KBZ	**Khabaz**	**65.14 318**	P	**P**	**08 39 57.1**	**+0.5**
	2.1nm,0.7s,baz=109,slow=1.6,SNR=4.2						
KBZ	**Khabaz**	**65.14 318**	P	**P**	**08 39 57.1**	**+0.5**
BRTR	**Keskin Array B**	**70.36 312**	P	**P**	**08 40 28.8**	**-0.8**
	1.0nm,0.9s,baz=120,slow=7.2,SNR=4.2						
BRTR	**Keskin Array B**	**70.36 312**	P	**P**	**08 40 28.8**	**-0.8**
FINES	**FINESS Array B**	**80.64 332**	P	**P**	**08 41 25.7**	**-1.9**
	0.9nm,0.5s,baz=145,slow=8.5,SNR=2.8						
FINES	**FINESS Array B**	**80.64 332**	P	**P**	**08 41 25.7**	**-1.9**
ARCES	**ARCESS Array B**	**82.92 340**	P	**P**	**08 41 38.2**	**-1.2**
	6.0nm,1.1s,baz=101,slow=2.8,SNR=4.3						
ARCES	**ARCESS Array B**	**82.92 340**	P	**P**	**08 41 38.2**	**-1.2**

*IDC **25** 08:44:48.7±32.0, 4°.73S×103°.63E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=578.9km s-min=216.9km az=143.0*
*ISCJB **25** 08:44:56.7±1.0, 5°.62S±0°.07×103°.46E±0°.07, h47km, mb3.7/4, Error ellipse: s-maj=11.9km s-min=8.4km az=138.2*
*DJA **25** 08:45:00.5±1.9, 5°S±17°×10°4E±1°5, h39km±23km, M3.9/3, MLv3.9/3*

IDC 25 08:44:58.5±1.2, 5°.5S±0°.1×103°.52E±0°.09, h47km, n7, σ0s82/10, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**0.73**	**48**	P	**Pn**	**08 45 13.0**	**+0.3**
LWLI				S	**Sn**	**08 45 22.5**	**-0.5**
KASI	**Kota Agung**	**0.98**	**90**	P	**Pn**	**08 45 16.7**	**+0.9**
KASI				S	**Sn**	**08 45 29.4**	**+0.8**
MNAI	**Manna**	**1.28**	**334**	P	**Pn**	**08 45 20.8**	**+0.8**
MNAI				S	**Sn**	**08 45 35.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.97**	**122**	P	**P**	**08 50 17.1**	**-0.7**
	2.2nm,0.9s,baz=288,slow=9.6,SNR=2.7						
WRA	**Warramunga Arr**	**33.22**	**118**	P	**P**	**08 51 30.1**	**-1.3**
	0.4nm,0.3s,baz=296,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**34.37**	**125**	P	**P**	**08 51 40.9**	**-0.4**
	0.3nm,0.5s,baz=293,slow=7.6,SNR=5.4						
STKA	**Stephens Creek**	**44.21**	**131**	P	**P**	**08 53 03.3**	**+0.1**
	0.8nm,0.5s,baz=318,slow=9.4,SNR=5.0						

IDC 25 08:46:42.7±2.5, 18°.33S×175°.36W, h206km±31km, mb3.4/7, mb1 3.6/8, mb1mx3.3/23, mbtmp3.4/8, Error ellipse: s-maj=37.2km s-min=20.0km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.58**	**39**	P	Pn	08 48 04.9	0.0
	1.4nm,0.3s,baz=185,slow=21,SNR=3.7						
AFI				S	S	08 49 03.0	-6.5
	3.4nm,0.3s,baz=211,slow=18,SNR=5.1						
URZ	**Urewera**	**20.92**	**197**	P	P	08 51 09.4	0.0
	1.6nm,0.4s,baz=322,slow=4.6,SNR=6.7						
CTA	**Charters Tower**	**36.24**	**261**	P	P	08 53 26.1	-0.3
	3.8nm,0.9s,baz=97,slow=9.9,SNR=3.8						
STKA	**Stephens Creek**	**40.98**	**242**	P	P	08 54 05.4	-0.3
	1.2nm,0.9s,baz=94,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**47.41**	**259**	P	P	08 54 56.4	-0.4
	0.9nm,0.5s,baz=97,slow=7.1,SNR=24						
WRA				PcP	PcP	08 56 23.9	-0.1
	0.1nm,0.5s,baz=97,slow=5.0,SNR=3.0						
ASAR	**Alice Springs**	**47.47**	**254**	P	P	08 54 57.2	0.0
	8.1nm,0.6s,baz=90,slow=8.6,SNR=182						
FITZ	**Fitzroy Crossi**	**55.82**	**260**	P	P	08 55 59.3	+0.3
	0.8nm,0.5s,baz=114,slow=8.2,SNR=5.5						
ILAR	**Eielson Array**	**85.67**	**12**	P	P	08 58 57.5	-0.2
	0.3nm,0.7s,baz=216,slow=5.2,SNR=4.8						

*DHMR **25** 09:10:03.5±0.5, 14°.65N×51°.13E, h1km±29km, ML3.5*
*IDC **25** 09:10:10.5±1.1, 13°.23N×50°.96E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/28, mbtmp3.9/12, ML4.6/1, MS3.9/25, Ms1 3.9/25, ms1mx3.8/38, Error ellipse: s-maj=25.5km s-min=21.6km az=6.0*

ISC 25 09:10:12.9±0.9, 13°.5N±0°.2×50°.90E±0°.08, h12km, n33, σ2s11/13, mb4.0/11, MS3.8/23, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.04**	**297**	*i* P	Pn	09 10 40.2	-6.7
MUKL				*i* S	**Sn**	**09 11 08.3**	**-4.1**
MUKL				AML	AML	09 11 10.1	
	comp=N,440nm,0.4s						
BDHA	**Al Bayda'**	**5.20**	**275**	*i* P	Pn	09 11 27.7	-3.1
BDHA				*i* S	**Sn**	**09 12 33.8**	**+2.9**
BDHA				AML	AML	09 12 43.4	
	comp=E,64nm,0.5s						
LBOS		**5.50**	**274**	*i* P	Pn	09 11 32.1	-2.8
LBOS				*i* S	**Sn**	**09 12 41.5**	**+3.1**
ATD	**Arta Tunnel**	**8.12**	**257**	Pn	**Pn**	**09 12 08.8**	**-1.9**
	comp=E,7.3nm,0.3s,baz=76,slow=19,SNR=4.2						
ATD				LR	LR	09 14 31.6	
	comp=E,2μm,19.6s,baz=172,slow=32						
WSAR	**Wadi Sarin**	**12.11**	**36**	LR	LR	09 17 33.4	
	comp=E,1μm,20.7s,baz=219,slow=36						
EIL	**Elat**	**21.81**	**320**	LR	LR	09 23 58.7	
	comp=E,242nm,19.4s,baz=282,slow=38						
ASF	**Jabal al Asfar**	**22.55**	**328**	LR	LR	09 24 15.0	
	comp=E,218nm,19.5s,baz=228,slow=37						
MMAI	**Mount Meron Ar**	**24.00**	**326**	LR	LR	09 25 12.4	
	comp=E,196nm,18.3s,baz=120,slow=37						
GNI	**Garni**	**27.05**	**350**	LR	LR	09 28 32.8	
	comp=E,370nm,21.4s,baz=164,slow=40						
BRTR	**Keskin Array B**	**30.19**	**333**	LR	LR	09 29 27.8	
	comp=E,98nm,18.4s,baz=113,slow=38						
KBZ	**Khabaz**	**30.86**	**349**	P	P	09 16 33.1	+4.2
	comp=E,1.6nm,0.8s,baz=164,slow=4.6,SNR=5.3						
KBZ				LR	LR	09 31 20.5	
	comp=E,393nm,21.5s,baz=162,slow=41						
AAK	**Ala-Archa**	**35.44**	**31**	LR	LR	09 33 46.5	
	comp=E,256nm,21.0s,baz=203,slow=40						
AKTO	**Aktyubinsk**	**37.25**	**8**	P	P	09 17 27.8	+3.5
	comp=E,1.2nm,0.8s,baz=191,slow=7.9,SNR=4.9						
AKTO				LR	LR	09 36 16.4	
	comp=E,440nm,18.0s,baz=182,slow=42						
AKASG	**Malin Array Be**	**41.04**	**339**	P	**P**	**09 17 56.8**	**+0.8**
	comp=E,0.3nm,0.3s,baz=141,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**42.31**	**32**	P	**P**	**09 18 07.3**	**+0.7**
	comp=E,0.7nm,0.6s,baz=227,slow=7.7,SNR=12						
MKAR				LR	LR	09 38 09.6	
	comp=E,109nm,21.0s,baz=200,slow=40						
BVAR	**Borovoye Array**	**42.33**	**17**	P	**P**	**09 18 07.1**	**+0.5**
	comp=E,0.6nm,0.6s,baz=210,slow=7.7,SNR=3.9						
BVAR				LR	LR	09 38 31.2	
	comp=E,196nm,21.1s,baz=216,slow=40						
KURBB	**Kurchatov Arra**	**43.26**	**26**	LR	LR	09 39 13.8	
	comp=E,137nm,19.3s,baz=210,slow=40						
KEST	**Kesra**	**43.33**	**308**	LR	LR	09 40 09.5	
	comp=E,34nm,18.5s,baz=4.0,slow=41						
CMAR	**Chiang Mai Arr**	**46.34**	**77**	P	**P**	**09 18 38.2**	**-0.9**
	comp=E,4.8nm,0.9s,baz=274,slow=8.9,SNR=18						
CMAR				LR	LR	09 39 00.2	
	comp=E,33nm,20.3s,baz=260,slow=37						
GERES	**GERESS Array B**	**46.65**	**327**	LR	LR	09 39 14.4	
	comp=E,50nm,18.8s,baz=82,slow=37						
TORD	**Torodi Ar. Bea**	**47.81**	**276**	P	**P**	**09 18 50.7**	**-0.1**
	comp=E,1.3nm,0.9s,baz=86,slow=7.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**48.34**	**26**	P	**P**	**09 18 55.4**	**+1.2**
	comp=E,1.4nm,0.6s,baz=251,slow=9.0,SNR=5.5						
ZALV				LR	LR	09 42 15.5	
	comp=E,106nm,19.2s,baz=250,slow=40						
BOSA	**Boshof**	**48.70**	**210**	LR	LR	09 42 11.3	
	comp=E,160nm,18.1s,baz=34,slow=40						
FINES	**FINESS Array B**	**51.09**	**345**	LR	LR	09 44 22.8	
	comp=E,113nm,20.1s,baz=141,slow=40						
ESDC	**Sonseca Array**	**54.56**	**309**	LR	LR	09 41 13.2	
	comp=E,64nm,21.8s,baz=10.0,slow=34						
DBIC	**Dimbokro**	**55.22**	**269**	LR	LR	09 41 20.2	
	comp=E,72nm,21.8s,baz=95,slow=34						
NOA	**NORSAR Array B**	**55.42**	**338**	LR	LR	09 47 23.1	
	comp=E,50nm,20.0s,baz=90,slow=40						
SONM	**Songino Array**	**57.10**	**41**	P	**P**	**09 20 00.4**	**+1.1**
	comp=E,0.5nm,0.6s,baz=241,slow=7.9,SNR=5.1						
ARCES	**ARCESS Array B**	**58.21**	**350**	LR	LR	09 48 05.8	
	comp=E,169nm,20.6s,baz=7.9,slow=39						
MAW	**Mawson**	**81.39**	**175**	LR	LR	09 49 57.9	
	comp=E,250nm,18.8s,baz=34,slow=29						
WRA	**Warramunga Arr**	**88.53**	**111**	P	**P**	**09 23 04.6**	**-1.5**
	comp=E,0.8nm,0.8s,baz=296,slow=4.2,SNR=8.8						
PETK	**Petropavlovsk-**	**89.07**	**35**	LR	LR	10 06 46.7	
	comp=E,75nm,20.3s,baz=85,slow=38						
ASAR	**Alice Springs**	**89.09**	**114**	P	**P**	**09 23 08.6**	**-0.1**
	comp=E,0.7nm,0.8s,baz=289,slow=4.7,SNR=7.1						

*NIED **25** 09:17:00, 27°.50N×140°.70E, h5km, Mw3.6 Best double couple: M₀3.09000×10¹⁴ NP1:φ₁33.00000°, δ81.00000°, λ-64.00000°. NP2:φ₂141.00000°, δ27.00000°, λ-160.00000°.*

IDC 25 09:17:29.4±1.5, 27°.65N×140°.70E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/24, mbtmp3.3/4, Error ellipse: s-maj=32.4km s-min=22.2km az=57.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.43**	**112**	Pn	Pb	09 17 57.2	+0.2
	37nm,0.3s,baz=287,slow=19,SNR=15						
CBIJ				Sn	Sn	09 18 16.4	+0.2
	179nm,0.3s,baz=99,slow=23,SNR=24						
MJAR	**Matsushiro Arr**	**9.12**	**347**	Pn	Pn	09 19 42.5	+0.2
	baz=158,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**47.71**	**188**	P	P	09 26 07.8	-0.2
	0.5nm,0.7s,baz=8.2,slow=8.5,SNR=5.9						
ILAR	**Eielson Array**	**57.87**	**29**	P	P	09 27 22.0	-0.7
	0.4nm,0.8s,baz=260,slow=5.3,SNR=4.9						
YKA	**Yellowknife Ar**	**72.28**	**28**	P	P	09 28 56.8	+0.3
	0.5nm,0.9s,baz=279,slow=6.2,SNR=4.7						

MEX 25 09:44:54.8±0.4, 15°.76N×93°.79W, h92km±14km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.20**	**32**	*i* P	Pn	09 45 15.9	-1.1
TGIG				*i* S	Sn	09 45 32.0	-1.8
CCIG	**Comitan**	**1.67**	**72**	*eP*	Pn	09 45 21.1	-1.9
CCIG				*i* S	Sn	09 45 42.5	-2.0
THIG		**1.69**	**120**	*i* P	Pn	09 45 22.6	-0.5
THIG				*i* S	Sn	09 45 43.0	-1.6
CMIG	**Matias Romero**	**1.69**	**322**	*eP*	Pn	09 45 21.8	-1.4
CMIG				*i* S	Sn	09 45 43.3	-1.4

*ISCJB **25** 10:00:44.2±0.7, 64°.79N±0°.03×30°.7E±0°.1, h0km, Error ellipse: s-maj=8.1km s-min=3.9km az=173.4*
*HEL **25** 10:00:45.4±0.1, 64°.79N×30°.74E, h0km, ML1.7, Explosion*
*CSEM **25** 10:00:45.4, 64°.79N×30°.74E, h0km, ML1.7/1, Mining explosion. After HEL*
*IDC **25** 10:00:46.9±2.5, 64°.72N×30°.77E, h0km, mb1 3.0/3, mb1mx2.8/27, mbtmp2.9/3, ML3.2/2, Error ellipse: s-maj=37.3km s-min=8.7km az=101.0*

ISC 25 10:00:44.8±1.1, 64°.85N±0°.02×30°.86E±0°.06, h0km, n23, σ1s20/50, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.25**	**342**	*eP*	**Pg**	**10 01 08.8**	**+0.1**
KU6				*eSB*	**Sb**	**10 01 25.8**	**0.0**
KU6				MSG		10 01 25.8	
	comp=Z,4.4nm,0.2s						
KU6				*eRG*	Rg	10 01 35.0	
KU6	**Riekki**	**1.25**	**342**	P	**Pg**	**10 01 08.8**	**+0.1**
KU6				Sb	**Sb**	**10 01 25.8**	**0.0**
MSF	**Maaselka**	**1.31**	**325**	*eP*	**Pg**	**10 01 09.0**	**-0.9**
MSF				MSG	**Sg**	**10 01 27.1**	**+0.3**
	comp=Z,2.0nm,0.2s						
MSF				*eSB*	**Sg**	**10 01 27.1**	**+0.3**
MSF	**Maaselka**	**1.31**	**325**	P	**Pg**	**10 01 09.0**	**-0.9**
MSF				Sb	**Sg**	**10 01 27.1**	**+0.3**
JOF	**Joensuu**	**1.95**	**174**	*eP*	**Pn**	**10 01 18.5**	**-0.7**
JOF				*eS*	**Sn**	**10 01 43.3**	**-0.9**
JOF				MSG		10 01 43.3	
	comp=Z,4.1nm,0.4s						
JOF	**Joensuu**	**1.95**	**174**	P	**Pn**	**10 01 18.4**	**-0.7**
JOF				S	**Sn**	**10 01 43.3**	**-0.9**
OUL	**Oulu**	**2.12**	**279**	*ePB*	**Pn**	**10 01 22.1**	**+0.6**
OUL				MSG	**Sn**	**10 01 48.7**	**+0.2**
	comp=Z,2.1nm,0.1s						
OUL				*eSB*	**Sn**	**10 01 48.7**	**+0.2**
OUL	**Oulu**	**2.12**	**279**	Pb	**Pn**	**10 01 22.1**	**+0.6**
OUL				Sb	**Sn**	**10 01 48.7**	**+0.2**
RNF	**Rovaniemi**	**2.67**	**314**	*ePB*	**Pb**	**10 01 31.7**	**-1.7**
RNF				*eSB*	**Sb**	**10 02 05.8**	**-0.9**
RNF				MSG		10 02 05.8	
	comp=Z,4.1nm,0.2s						
RNF	**Rovaniemi**	**2.67**	**314**	Pb	**Pb**	**10 01 31.7**	**-1.7**
RNF				Sb	**Sb**	**10 02 05.8**	**-0.9**
VRF	**Varrio**	**2.96**	**351**	*eP*	**Pn**	**10 01 34.8**	**+1.9**
VRF				MSG	**Sb**	**10 02 16.8**	**+1.9**
	comp=Z,2.0nm,0.2s						
VRF				*eSG*	**Sb**	**10 02 16.8**	**+1.9**
VRF	**Varrio**	**2.96**	**351**	P	**Pn**	**10 01 34.8**	**+1.9**
VRF				Sg	**Sb**	**10 02 16.8**	**+1.9**
SUF	**Sumiainen**	**2.99**	**226**	*ePB*	**Pn**	**10 01 35.2**	**+1.7**
SUF				*eSB*	**Sn**	**10 02 12.3**	**+2.4**
SUF				MSG		10 02 12.3	
	comp=Z,3.7nm,0.4s						
SUF	**Sumiainen**	**2.99**	**226**	Pb	**Pn**	**10 01 35.1**	**+1.7**
SUF				Sb	**Sn**	**10 02 12.3**	**+2.4**
SGF	**Sodankyl**	**3.14**	**328**	*eP*	**Pn**	**10 01 36.2**	**+0.7**
SGF				MSG	**Sb**	**10 02 19.6**	**-0.7**
	comp=Z,2.9nm,0.2s						
SGF				*eSB*	**Sb**	**10 02 19.6**	**-0.7**
SGF	**Sodankyl**	**3.14**	**328**	P	**Pn**	**10 01 36.2**	**+0.7**
SGF				Sb	**Sb**	**10 02 19.5**	**-0.7**
KEF	**Keuruu**	**3.80**	**228**	*eP*	**Pn**	**10 01 46.0**	**+1.5**
KEF				*eSG*	**Sb**	**10 02 39.9**	**+0.7**
KEF				MSG		10 02 39.9	
	comp=Z,2.6nm,0.4s						
KEF	**Keuruu**	**3.80**	**228**	P	**Pn**	**10 01 46.0**	**+1.5**
KEF				Sg	**Sb**	**10 02 39.9**	**+0.7**
FIA0	**FINESS Array S**	**4.05**	**215**	*eP*	**Pn**	**10 01 47.9**	**0.0**
FIA0				MSG	**Sb**	**10 02 47.6**	**+1.3**
	comp=Z,3.7nm,0.5s						
FIA0				*eSG*	**Sb**	**10 02 47.6**	**+1.3**
FIA0	**FINESS Array S**	**4.05**	**215**	P	**Pn**	**10 01 47.9**	**0.0**
FIA0				Sg	**Sb**	**10 02 47.6**	**+1.3**
FINES	**FINESS Array B**	**4.05**	**215**	Pn	**Pn**	**10 01 48.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=38,slow=12,SNR=7.8						
FINES				Pg	**Pb**	**10 01 55.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=44,slow=13,SNR=7.9						
FINES				Lg	Lg	10 02 47.0	
	comp=Z,1.4nm,0.3s,baz=31,slow=28,SNR=16						
ARCES	**ARCESS Array B**	**5.14**	**339**	Pn	**Pn**	**10 02 03.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=155,slow=14,SNR=72						
ARCES				Sn	**Sn**	**10 03 02.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=156,slow=24,SNR=4.4						
ARCES				Lg	Lg	10 03 23.2	
	comp=Z,0.7nm,0.3s,baz=153,slow=29,SNR=8.7						
NOA	**NORSAR Array B**	**9.71**	**256**	Pn	**Pn**	**10 03 04.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=80,slow=13,SNR=2.9						

IDC 25 10:07:36.9±1.2, 6°.93S×129°.56E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=58.8km s-min=21.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.74**	**199**	Pn	Pn	10 10 26.5	+0.6
	0.1nm,0.3s,baz=32,slow=14,SNR=4.3						
FITZ				Sn	Sn	10 12 24.7	-13
	0.1nm,0.3s,baz=299,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**13.75**	**161**	Pn	Pn	10 10 52.0	-1.3
	0.2nm,0.3s,baz=330,slow=13,SNR=13						
WRA				Sn	Sn	10 13 14.5	-12
	0.1nm,0.3s,baz=337,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**17.16**	**166**	P	Pn	10 11 37.9	-0.5
	0.1nm,0.3s,baz=339,slow=10.0,SNR=4.8						
CTA	**Charters Tower**	**20.82**	**131**	P	P	10 12 20.7	+0.5
	3.6nm,0.8s,baz=331,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	10 18 38.0	+0.5
	0.5nm,0.5s,baz=116,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**71.32**	**334**	P	P	10 18 57.8	-0.5
	0.5nm,0.4s,baz=124,slow=7.8,SNR=2.7						

MEX 25 10:10:44.4±0.3, 13°.58N×93°.07W, h19km±16km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.54**	**30**	*eP*	Pn	10 11 07.5	-3.3
THIG				*i* S	Sn	10 11 25.9	-4.4
CCIG	**Comitan**	**2.84**	**18**	*eP*	Pn	10 11 26.1	-2.9
CCIG				*i* S	Sn	10 11 59.3	-3.5
TGIG		**3.18**	**359**	*eP*	Pn	10 11 31.4	-2.2
TGIG				*i* S	Sn	10 12 07.5	-3.7
CMIG	**Matias Romero**	**3.91**	**334**	*eP*	Pn	10 11 41.4	-2.1
CMIG				*i* S	Sn	10 12 25.6	-3.3

IDC 25 10:11:55.9±9.2, 11°.67S×165°.59E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=272.5km s-min=39.8km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.13**	**251**	P	P	10 18 17.4	+0.9
	0.6nm,0.9s,baz=83,slow=9.6,SNR=3.3						
WRA				LR	LR	10 30 06.5	
	comp=Z,62nm,19.5s,baz=195,slow=35						
ASAR	**Alice Springs**	**32.38**	**244**	P	P	10 18 26.7	-0.9
	0.4nm,0.6s,baz=68,slow=9.8,SNR=7.6						
GUMO	**Guam**	**32.44**	**320**	LR	LR	10 28 37.6	
	comp=Z,58nm,21.8s,baz=239,slow=31						
SONM	**Songino Array**	**79.08**	**324**	P	P	10 24 02.4	0.0
	0.4nm,0.8s,baz=141,slow=4.3,SNR=4.2						
MKAR	**Makanchi Array**	**93.87**	**317**	P	P	10 25 15.3	-0.1
	1.7nm,0.6s,baz=93,slow=6.6,SNR=11						

IDC 25 10:12:49.4±0.9, 6°.40S×102°.06W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.0/9, MS3.5/4, Ms1 3.5/4, ms1mx3.1/24, Error ellipse: s-maj=40.4km s-min=19.4km az=64.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**23.77**	**46**	LR	LR	10 24 36.4	
	comp=Z,100nm,18.6s,baz=237,slow=30						
CMIG	**Matias Romero**	**24.40**	**17**	LR	LR	10 25 16.2	
	comp=Z,130nm,19.5s,baz=9.5,slow=31						
TEIG	**Tepich**	**29.73**	**27**	LR	LR	10 28 45.6	
	comp=Z,64nm,20.8s,baz=330,slow=32						
LPAZ	**La Paz**	**34.63**	**109**	P	P	10 19 41.7	+0.2
	1.2nm,0.7s,baz=269,slow=10.0,SNR=4.6						
TXAR	**Lajitas Array**	**35.56**	**358**	P	P	10 19 49.6	+1.0
	0.9nm,1.0s,baz=184,slow=10.0,SNR=5.5						
SIV	**San Ignacio**	**41.24**	**107**	P	P	10 20 36.2	-0.4
	0.6nm,0.5s,baz=280,slow=8.7,SNR=4.7						
NVAR	**Mina Array Bea**	**47.09**	**343**	P	P	10 21 24.0	+0.6
	0.6nm,0.8s,baz=168,slow=7.2,SNR=4.3						
PDAR	**Pinedale Array**	**49.41**	**353**	P	P	10 21 41.1	-0.2
	1.1nm,0.7s,baz=167,slow=6.0,SNR=12						
ULM	**Lac du Bonnet**	**56.68**	**5**	P	P	10 22 33.4	-1.0
	1.8nm,0.5s,baz=204,slow=6.5,SNR=3.6						
SCHQ	**Schefferville**	**67.71**	**21**	LR	LR	10 51 32.2	
	comp=Z,69nm,20.3s,baz=20,slow=34						
YKA	**Yellowknife Ar**	**69.37**	**354**	P	P	10 23 58.1	-0.6
	1.5nm,0.7s,baz=162,slow=6.4,SNR=33						
ILAR	**Eielson Array**	**78.35**	**342**	P	P	10 24 51.6	+0.4
	3.7nm,0.8s,baz=149,slow=5.2,SNR=47						
QSPA	**South Pole Qui**	**83.67**	**180**	P	P	10 25 20.5	+0.6
	5.5nm,0.8s,baz=127,slow=1.5,SNR=22						
WRA	**Warramunga Arr**	**118.68**	**243**	PKP	PKPdf	10 31 38.9	-1.6
	0.4nm,1.0s,baz=101,slow=2.1,SNR=4.7						
MKAR	**Makanchi Array**	**139.59**	**355**	PKP	PKPdf	10 32 19.2	-0.1
	0.2nm,0.6s,baz=37,slow=2.5,SNR=4.1						

*ISK **25** 10:21:10.1, 37°.68N×38°.16E, h5km, MD2.6*
*CSEM **25** 10:21:10.8±0.3, 37°.69N×38°.11E, h15km, MD2.6, Error ellipse: s-maj=8.9km s-min=5.1km az=105.0*
*ISCJB **25** 10:21:11.1±0.6, 37°.71N±0°.03×38°.08E±0°.06, h8km, Error ellipse: s-maj=7.3km s-min=4.4km az=3.7*
*DDA **25** 10:21:11.6, 37°.69N×38°.10E, h7km, MD2.9*

ISC 25 10:21:11.2±1.1, 37°.70N±0°.03×38°.12E±0°.05, h8km, n15, σ0s56/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.27**	**148**	*i* P	**Pg**	**10 21 16.9**	**+0.3**
ATAB				*i* S	**Sb**	**10 21 22.4**	**-0.6**
ATAB	**Bozova**	**0.27**	**148**	*i* P	**Pg**	**10 21 16.9**	**+0.3**
ATAB				*i* S	**Sb**	**10 21 22.4**	**-0.6**
GZT	**Gaziantep**	**0.56**	**232**	*eP*	**Pg**	**10 21 21.9**	**-0.1**
AKCD	**Akcadag**	**0.62**	**346**	*i* P	**Pg**	**10 21 23.0**	**-0.2**
AKCD				*i* S	**Sb**	**10 21 33.6**	**+0.4**
AKCD	**Akcadag**	**0.62**	**346**	*i* P	**Pg**	**10 21 23.0**	**-0.2**
AKCD				*i* S	**

	baz=236							
ESF	**Shoufeng Towns**	**0.24**	**227**	*e*P	**Pn**	**10 32 03.4**	**-1.2**
	baz=237							
ESL	**Shilin**	**0.33**	**228**	⇓*i*P	**Pb**	**10 32 04.0**	**-1.1**
	baz=235							
TEGC	**Jichi Village**	**0.36**	**205**	*e*P	**Pb**	**10 32 05.3**	**-0.3**
	baz=192							
ENA	**Nanau**	**0.39**	**5**	*e*P	**Pb**	**10 32 05.5**	**-0.5**
	baz=16							
ENA				*e*S	**Sb**	**10 32 12.7**	**+0.7**
	baz=16							
WHF	**Hehuan Shan**	**0.41**	**285**	⇓*i*P	**Pb**	**10 32 05.8**	**-0.8**
	baz=286							
WHF				S	**Sb**	**10 32 12.3**	**-0.9**
	baz=286							
NNS	**Nan Shan**	**0.50**	**323**	⇑*i*P	**Pn**	**10 32 07.2**	**-1.1**
	baz=328							
NNS				S	**Sb**	**10 32 14.6**	**-0.5**
	baz=328							
TWT	**Tachien**	**0.53**	**294**	⇑*i*P	**Pn**	**10 32 07.8**	**-0.9**
	baz=294							
TWT				*i* S	**Sn**	**10 32 15.4**	**-1.3**
	baz=294							
TWC	**Suao**	**0.58**	**13**	P	**Pn**	**10 32 08.7**	**-0.6**
	baz=23							
TWC				S	**Sn**	**10 32 18.8**	**+1.0**
	baz=23							
ENTT	**Nioudou**	**0.61**	**348**	*i* P	**Pn**	**10 32 08.8**	**-0.9**
	baz=352							
ENTT				S	**Sn**	**10 32 18.4**	**-0.1**
	baz=352							
EHY	**Hungye**	**0.64**	**214**	⇓*i*P	Pn	10 32 07.4	-2.6
	baz=212							
TWE	**Neicheng**	**0.68**	**357**	P	**Pn**	**10 32 09.8**	**-0.8**
	baz=353							
TWE				*e*S	**Sn**	**10 32 20.8**	**+0.6**
	baz=353							
NSK	**Sanguang**	**0.71**	**334**	⇑*i*P	**Pn**	**10 32 10.3**	**-0.8**
	baz=337							
NSK				S	**Sn**	**10 32 20.0**	**-1.0**
	baz=337							
SMLT	**Sun Moon Lake**	**0.75**	**258**	⇓*e*P	**Pn**	**10 32 10.4**	**-1.3**
	baz=255							
SMLT				S	**Sn**	**10 32 20.2**	**-1.8**
	baz=255							
TWF1	**Yuli**	**0.78**	**209**	⇓*i*P	Pn	10 32 09.4	-2.6
	baz=216							
TYC	**Yuchr**	**0.79**	**260**	*i* P	**Pn**	**10 32 10.9**	**-1.1**
	baz=256							
TYC				S	**Sn**	**10 32 20.6**	**-2.1**
	baz=256							
NSTT	**Nanjuang**	**0.87**	**313**	*i* P	**Pn**	**10 32 13.5**	**+0.2**
	baz=315							
NSTT				S	**Sn**	**10 32 24.4**	**-0.5**
	baz=315							
TWQ1	**Liyutan**	**0.91**	**290**	⇑*i*P	**Pn**	**10 32 14.0**	**+0.3**
	baz=292							
TWQ1				S	**Sn**	**10 32 25.9**	**+0.2**
	baz=292							
NSY	**Sanyi**	**0.94**	**294**	*e*P	**Pn**	**10 32 14.5**	**+0.3**
	baz=295							
NSY				S	**Sn**	**10 32 27.7**	**+1.1**
	baz=295							
TCU	**Taichung**	**0.95**	**277**	*e*P	**Pn**	**10 32 14.8**	**+0.6**
	baz=278							
TCU				S	**Sn**	**10 32 27.8**	**+1.0**
	baz=278							
WNT	**Mingjian**	**0.95**	**261**	*e*P	**Pn**	**10 32 14.2**	**-0.1**
	baz=261							
WNT				*e*S	**Sn**	**10 32 27.1**	**+0.3**
	baz=261							
ALS	**Alishan**	**0.98**	**238**	⇓*i*P	**Pn**	**10 32 14.2**	**-0.7**
	baz=231							
CHKT	**Chengkung**	**0.98**	**198**	*e*P	Pn	10 32 12.7	-2.1
	baz=186							
TWB1	**Santiao Chiao**	**1.00**	**15**	*e*P	**Pn**	**10 32 15.6**	**+0.5**
	baz=28							
TWB1				*e*S	**Sn**	**10 32 30.3**	**+2.2**
	baz=28							
HSN	**Hsinchu**	**1.01**	**319**	*e*P	**Pn**	**10 32 16.0**	**+0.8**
	baz=323							
NWF	**Wu-fen Shan**	**1.03**	**4**	*e*P	**Pn**	**10 32 15.5**	**0.0**
	baz=354							
NWF				*e*S	**Sb**	**10 32 31.6**	**+1.8**
	baz=354							
CHN5	**Tsauling**	**1.04**	**245**	⇓*i*P	**Pn**	**10 32 15.3**	**-0.3**
	baz=235							
CHN5				S	**Sn**	**10 32 29.4**	**+0.3**
	baz=235							
NCU	**National Centr**	**1.04**	**333**	P	**Pn**	**10 32 15.7**	**+0.1**
	baz=335							
NCU				S	**Sn**	**10 32 30.8**	**+1.8**
	baz=335							
ELDTW	**Lidau**	**1.05**	**217**	*e*P	Pn	10 32 13.6	-2.2
	baz=209							
TWS1	**Kuangyinshan**	**1.09**	**346**	*e*P	**Pn**	**10 32 16.0**	**-0.2**
	baz=357							
TWS1				*e*S	**Sn**	**10 32 31.6**	**+1.3**
	baz=357							
WGK	**Gukeng**	**1.10**	**252**	*e*P	**Pn**	**10 32 16.6**	**+0.2**
	baz=252							
CHN4	**Tsaushan**	**1.23**	**236**	*e*P	**Pn**	**10 32 17.9**	**-0.3**
	baz=227							
CHN4				*e*S	**Sn**	**10 32 34.2**	**+0.5**
	baz=227							
CHN2	**Minshiung**	**1.23**	**246**	*e*P	**Pn**	**10 32 18.7**	**+0.5**
	baz=247							
CHN2				*e*S	**Sn**	**10 32 35.8**	**+2.0**
	baz=247							
TWY	**Chenhua**	**1.24**	**356**	*e*P	**Pn**	**10 32 17.7**	**-0.6**
	baz=345							
YOJ	**Yonaguni jima**	**1.27**	**70**	*e*P	Pn	10 32 16.4	-2.3
	baz=69							
YOJ	**Yonaguni jima**	**1.27**	**70**	P	**Pn**	**10 32 18.1**	**-0.6**
YOJ				*e*S	**Sn**	**10 32 34.3**	**-0.3**
WTP	**Ta-pu**	**1.27**	**232**	P	**Pn**	**10 32 18.5**	**-0.3**
	baz=232							
WTP				*e*S	**Sn**	**10 32 35.2**	**+0.4**
	baz=232							
CHY	**Chiayi**	**1.29**	**246**	*e*P	**Pn**	**10 32 19.5**	**+0.5**
	baz=245							
WTCT	**Ta-ch'eng**	**1.31**	**263**	*e*P	**Pn**	**10 32 19.4**	**0.0**
	baz=274							
WTCT				*e*S	**Sn**	**10 32 37.5**	**+1.8**
	baz=274							
TWG	**Pinlang**	**1.34**	**206**	*e*P	Pn	10 32 17.1	-2.7
	baz=193							
TWK	**Hsinying**	**1.35**	**236**	P	**Pn**	**10 32 20.0**	**0.0**
	baz=227							
TWK				*e*S	**Sn**	**10 32 38.4**	**+1.5**
	baz=227							
CHN1	**Nanshi**	**1.37**	**232**	P	**Pn**	**10 32 19.8**	**-0.4**
	baz=233							
CHN1				*e*S	**Sn**	**10 32 38.9**	**+1.6**
	baz=233							
SGST	**Jiashian**	**1.40**	**227**	P	**Pn**	**10 32 20.8**	**+0.3**
	baz=218							
SGST				*e*S	**Sn**	**10 32 38.9**	**+0.9**
	baz=218							
CHN8	**Yiju**	**1.53**	**244**	*e*P	**Pn**	**10 32 22.3**	**0.0**
	baz=243							
TWM1	**Shoushan**	**1.69**	**224**	*e*P	**Pn**	**10 32 26.1**	**+1.6**
	baz=234							
EAST	**Anshuo**	**1.83**	**206**	*e*P	**Pn**	**10 32 26.9**	**+0.5**
	baz=196							
IRIF	**Iriomote-Funau**	**1.87**	**81**	P	**Pn**	**10 32 27.0**	**0.0**
IRIF				*e*S	**Sn**	**10 32 49.3**	**-0.3**
HATJ	**Hateruma jima**	**1.92**	**89**	P	**Pn**	**10 32 27.4**	**-0.3**
HATJ				S	**Sn**	**10 32 50.5**	**-0.3**
SCZT	**Fangliau**	**1.94**	**211**	*e*P	**Pn**	**10 32 28.2**	**+0.4**
	baz=200							
PNG	**Penghu**	**2.02**	**257**	*e*P	**Pn**	**10 32 28.4**	**-0.7**
	baz=256							
WDGT	**Dungji**	**2.03**	**248**	*e*P	**Pn**	**10 32 28.4**	**-0.7**
	baz=247							
JKRS	**Kuro-shima**	**2.12**	**84**	P	**Pn**	**10 32 30.4**	**+0.1**
JKRS				*e*S	**Sn**	**10 32 55.5**	**-0.1**
JIJ	**Ishigaki jima**	**2.25**	**81**	P	**Pn**	**10 32 31.6**	**-0.6**
JIJ				*e*S	**Sn**	**10 32 57.3**	**-1.6**
JTJ	**Tarama**	**2.80**	**77**	P	**Pn**	**10 32 39.8**	**0.0**
JTJ				S	**Sn**	**10 33 12.4**	**-0.1**

IDC 25 10:34:12.3±8.8, 9°.59S×125°.35E, h86km±101km, mb2.9/1, mb1 3.1/4, mb1mx2.9/19, mbtmp2.9/4, ML3.0/3, Error ellipse: s-maj=63.9km s-min=50.1km az=25.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.46**	**178**	P	Pn	10 36 12.3	+0.1
	0.1nm,0.3s,baz=321,slow=8.1,SNR=7.9						
FITZ				S	Sn	10 37 46.0	-0.1
	0.4nm,0.3s,baz=107,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**13.46**	**141**	P	Pn	10 37 19.8	-0.1
	0.1nm,0.3s,baz=319,slow=13,SNR=6.0						
WRA				S	Sn	10 39 46.6	-1.4
	0.1nm,0.3s,baz=317,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**16.21**	**151**	P	P	10 37 56.9	+0.3
	0.1nm,0.3s,baz=318,slow=11,SNR=9.6						
MKAR	**Makanchi Array**	**67.99**	**330**	P	P	10 45 02.2	-0.1
	0.1nm,0.5s,baz=129,slow=6.8,SNR=3.5						

IDC 25 10:43:11.8±7.0, 30°.18N×68°.27E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.3/29, mbtmp3.4/4, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/51, Error ellipse: s-maj=304.7km s-min=68.0km az=129.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.39**	**20**	Pn	Pn	10 46 23.2	-0.1
	0.3nm,0.3s,baz=164,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**19.83**	**29**	P	P	10 47 43.3	-0.9
	0.0nm,0.3s,baz=208,slow=9.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**26.60**	**22**	P	P	10 48 53.5	+1.8
	0.8nm,0.5s,baz=225,slow=12,SNR=4.1						
HFS	**Hagfors**	**46.82**	**326**	LR	LR	11 15 42.0	
	comp=Z,69nm,19.1s,baz=69,slow=42						
YKA	**Yellowknife Ar**	**87.62**	**1**	P	P	10 56 01.1	-0.6
	0.1nm,0.7s,baz=349,slow=4.8,SNR=4.7						

JMA 25 10:46:09.0, 32°.54N×130°.95E, h12km, M3.5, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU2	**Izumi 2**	**0.12**	**273**	⇓P	Pg	10 46 12.1	0.0
JIU2				S	Sg	10 46 14.2	-0.1
JZO	**Okuchi**	**0.50**	**217**	⇓P	Pg	10 46 18.7	-0.1
JZO				S	Sg	10 46 25.1	-0.4
JTA	**Tamana**	**0.55**	**320**	⇑P	Pg	10 46 19.7	-0.1
JTSN	**Tsuno**	**0.55**	**122**	⇑P	Pg	10 46 19.9	+0.1
JTZ	**Takazaki**	**0.65**	**170**	⇑P	Pg	10 46 21.7	+0.1
JTZ				S	Sg	10 46 30.4	+0.2

*ISCJB **25** 10:46:52.6±0.5, 39°.15N±0°.03×29°.51E±0°.04, h10km±4km, Error ellipse: s-maj=5.4km s-min=5.1km az=153.7*
*ISK **25** 10:46:52.8, 39°.20N×29°.56E, h11km, MD2.6*
*CSEM **25** 10:46:52.6±0.1, 39°.15N×29°.52E, h8km, MD2.9, Error ellipse: s-maj=3.5km s-min=3.0km az=48.0*
*DDA **25** 10:46:53.4, 39°.10N×29°.44E, h7km, MD2.9*
ISC 25 10:46:52.5±0.8, 39°.15N±0°.03×29°.52E±0°.03, h10km±5km, n18, σ0s24/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.07**	**205**	*i* P	**Pg**	**10 46 54.9**	**+0.1**
GDZ				*i* S	**Sg**	**10 46 56.5**	**-0.1**
GDZ	**Gediz**	**0.07**	**205**	*i* P	**Pg**	**10 46 54.9**	**+0.1**
GDZ				*i* S	**Sg**	**10 46 56.5**	**-0.1**
TVSB	**Tavsanli**	**0.30**	**352**	*e*PG	**Pg**	**10 46 58.6**	**-0.1**
TVSB				*e*SG	**Sg**	**10 47 03.0**	**+0.2**
TVSB	**Tavsanli**	**0.30**	**352**	*e*Pg	**Pg**	**10 46 58.6**	**-0.1**
TVSB				*e*Sg	**Sg**	**10 47 03.0**	**+0.2**
ALT	**Altintas**	**0.47**	**101**	*e*PG	**Pg**	**10 47 01.9**	**+0.2**
ALT				*e*SG	**Sb**	**10 47 09.2**	**-0.7**
ALT	**Altintas**	**0.47**	**101**	*e*Pg	**Pg**	**10 47 01.9**	**+0.2**
ALT				*e*Sg	**Sb**	**10 47 09.2**	**-0.7**
DEMI	**Demirci**	**0.63**	**261**	*i* P	**Pg**	**10 47 04.6**	**-0.1**
DEMI				*i* S	**Sg**	**10 47 13.1**	**0.0**
DEMI	**Demirci**	**0.63**	**261**	*i* P	**Pg**	**10 47 04.6**	**-0.1**
DEMI				*i* S	**Sg**	**10 47 13.1**	**0.0**
KHAL	**Karahalli**	**0.78**	**181**	*i* P	**Pg**	**10 47 07.7**	**+0.2**
KHAL				*i* S	**Sg**	**10 47 17.9**	**+0.3**
KHAL	**Karahalli**	**0.78**	**181**	*i* P	**Pg**	**10 47 07.7**	**+0.2**
KHAL				*i* S	**Sg**	**10 47 17.9**	**+0.3**
DURS	**Dursunbey**	**0.93**	**300**	*i* P	**Pg**	**10 47 10.5**	**+0.2**
DURS				*i* S	**Sb**	**10 47 22.9**	**-0.1**
DURS	**Dursunbey**	**0.93**	**300**	*i* P	**Pg**	**10 47 10.5**	**+0.2**
DURS				*i* S	**Sb**	**10 47 22.9**	**-0.1**
GULT	**Gulveren**	**1.50**	**31**	*e*PN	**Pn**	**10 47 19.4**	**0.0**
GULT				*e*SN	**Sn**	**10 47 39.1**	**+0.1**
GULT	**Gulveren**	**1.50**	**31**	*e*Pn	**Pn**	**10 47 19.4**	**0.0**
GULT				*e*Sn	**Sn**	**10 47 39.1**	**+0.1**
ARMT	**Armutlu**	**1.50**	**341**	*e*PN	**Pb**	**10 47 20.7**	**+0.3**
ARMT				*e*SN	**Sn**	**10 47 39.1**	**0.0**
ARMT	**Armutlu**	**1.50**	**341**	*e*Pn	**Pb**	**10 47 20.7**	**+0.3**
ARMT				*e*Sn	**Sn**	**10 47 39.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.68**	**303**	*e*PN	**Pb**	**10 47 23.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.68**	**303**	*e*Pn	**Pb**	**10 47 23.4**	**0.0**

*CSEM **25** 10:51:10.4, 39°.45N×29°.78W, h10km, ML3.0, After PDA*
PDA 25 10:51:10.4±0.9, 39°.45N×29°.78W, h10km, MD3.5, ML3.0, Error ellipse: s-maj=19.4km s-min=6.4km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.17**	**134**	*e*P	Pb	10 51 27.9	-4.9
PCED				*e*S	Sb	10 51 41.1	-6.9
PCED				A	A	10 51 43.5	
	187nm,0.5s						
PCED	**Cedros**	**1.17**	**134**	*e*P	Pb	10 51 27.9	-4.9
PCED				*e*S	Sb	10 51 41.1	-6.9
CALA	**Caldeira**	**1.21**	**135**	*e*P	Pn	10 51 28.6	-4.9
CALA				*e*S	Sb	10 51 42.2	-7.0
CALA	**Caldeira**	**1.21**	**135**	*e*P	Pn	10 51 28.6	-4.9
CALA				*e*S	Sb	10 51 42.2	-7.0
HOR	**Horta**	**1.28**	**135**	*e*P	Pn	10 51 30.1	-4.3
HOR				*e*S	Sb	10 51 44.1	-7.1
HOR	**Horta**	**1.28**	**135**	*e*P	Pn	10 51 30.1	-4.3
HOR				*e*S	Sb	10 51 44.1	-7.1
ROSA	**Rosais**	**1.40**	**121**	*e*P	Pn	10 51 31.2	-4.9
ROSA				*e*S	Sn	10 51 47.0	-7.6
ROSA				A	A	10 51 55.7	
	54nm,0.7s						
ROSA	**Rosais**	**1.40**	**121**	*e*P	Pn	10 51 31.2	-4.9
ROSA				*e*S	Sn	10 51 47.0	-7.6
PCAN	**Candelaria**	**1.41**	**134**	*e*P	Pn	10 51 31.6	-4.6
PCAN				*e*S	Sn	10 51 47.6	-7.2
PCAN				A	A	10 51 53.7	
	181nm,0.5s						
PCAN	**Candelaria**	**1.41**	**134**	*e*P	Pn	10 51 31.6	-4.6
PCAN				*e*S	Sn	10 51 47.6	-7.2
PICO	**Pico**	**1.42**	**131**	*e*P	Pn	10 51 31.6	-4.7
PICO				*e*S	Sn	10 51 48.0	-7.1
PICO	**Pico**	**1.42**	**131**	*e*P	Pn	10 51 31.6	-4.7
PICO				*e*S	Sn	10 51 48.0	-7.1
PMAN	**Manadas**	**1.55**	**121**	*e*P	Pg	10 51 47.0	+6.8
PMAN				*e*S	Sg	10 52 05.4	+5.1
PMAN				A	A	10 52 06.6	
	58nm,0.3s						
PMAN	**Manadas**	**1.55**	**121**	*e*P	Pg	10 51 47.0	+6.8
PMAN				*e*S	Sg	10 52 05.4	+5.1

*CSEM **25** 10:53:04.6, 36°.37N×37°.59E, h7km, MD3.0, After DDA*
DDA 25 10:53:04.6, 36°.37N×37°.59E, h7km, MD3.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.58**	**314**	*i* P	Pg	10 53 15.4	-0.5
KUZU	**Kuzuini**	**0.58**	**314**	*i* P	Pg	10 53 15.4	-0.5
GZT	**Gaziantep**	**0.98**	**359**	*i* P	Pg	10 53 23.7	0.0
GZT				*i* S	Sn	10 53 39.2	-0.3
YAYL	**Yayladag**	**1.25**	**255**	*i* P	Pn	10 53 28.2	-0.5
YAYL				*i* S	Sn	10 53 46.4	+0.5
YAYL	**Yayladag**	**1.25**	**255**	*i* P	Pn	10 53 28.2	-0.5
YAYL				*i* S	Sn	10 53 46.4	+0.5
BHD	**Baghdad**	**6.38**	**117**	*i* Pn	Pn	10 54 39.0	-0.1
BHD				*i* Pb	Pg	10 55 07.0	+0.1
BHD				*i* Pg	Pg	10 55 07.0	+0.1
BHD				*i* Sn	Sn	10 55 53.6	+1.4
BHD				*i* Sb	Sb	10 56 18.4	+5.8
BHD				*i* Sg	Sg	10 56 35.6	+6.0

*CSEM **25** 11:01:03.6, 39°.43N×29°.80W, h5km, ML3.1, After PDA*
PDA 25 11:01:03.6±0.9, 39°.43N×29°.80W, h5km, MD3.5, ML3.1, Error ellipse: s-maj=15.6km s-min=6.2km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.17**	**133**	*e*P	Pg	11 01 21.5	-4.6
PCED				*e*S	Sg	11 01 35.0	-6.4
PCED				A	A	11 01 37.5	
	211nm,0.5s						
PCED	**Cedros**	**1.17**	**133**	*e*P	Pg	11 01 21.5	-4.6
PCED				*e*S	Sg	11 01 35.0	-6.4
CALA	**Caldeira**	**1.21**	**134**	*e*P	Pg	11 01 22.5	-4.4
CALA				*e*S	Sg	11 01 37.0	-5.6
CALA	**Caldeira**	**1.21**	**134**	*e*P	Pg	11 01 22.5	-4.4
CALA				*e*S	Sg	11 01 37.0	-5.6
HOR	**Horta**	**1.28**	**134**	*e*P	Pn	11 01 23.3	-4.9
HOR				*e*S	Sg	11 01 37.6	-7.3
HOR	**Horta**	**1.28**	**134**	*e*P	Pn	11 01 23.3	-4.9
HOR				*e*S	Sg	11 01 37.6	-7.3
ROSA	**Rosais**	**1.41**	**120**	*e*P	Pn	11 01 25.2	-4.7
ROSA				*e*S	Sb	11 01 41.1	-7.5
ROSA				A	A	11 01 54.5	
	76nm,0.6s						
ROSA	**Rosais**	**1.41**	**120**	*e*P	Pn	11 01 25.2	-4.7
ROSA				*e*S	Sb	11 01 41.1	-7.5
PCAN	**Candelaria**	**1.41**	**133**	*e*P	Pn	11 01 24.9	-5.1
PCAN				*e*S	Sb	11 01 41.2	-7.5
PCAN				A	A	11 01 47.7	
	162nm,0.9s						
PCAN	**Candelaria**	**1.41**	**133**	*e*P	Pn	11 01 24.9	-5.1
PCAN				*e*S	Sb	11 01 41.2	-7.5
PICO	**Pico**	**1.42**	**130**	*e*P	Pn	11 01 25.4	-4.8
PICO				*e*S	Sb	11 01 41.7	-7.4
PICO	**Pico**	**1.42**	**130**	*e*P	Pn	11 01 25.4	-4.8
PICO				*e*S	Sb	11 01 41.7	-7.4
PMAN	**Manadas**	**1.55**	**120**	*e*P	Pn	11 01 26.9	-5.0
PMAN				*e*S	Sn	11 01 44.5	-8.0
PMAN				A	A	11 01 47.0	
	43nm,0.5s						
PMAN	**Manadas**	**1.55**	**120**	*e*P	Pn	11 01 26.9	-5.0
PMAN				*e*S	Sn	11 01 44.5	-8.0

*CSEM **25** 11:03:11.2, 39°.27N×29°.92W, h5km, ML2.6, After PDA*
PDA 25 11:03:11.2±0.5, 39°.27N×29°.92W, h5km, MD3.5, ML2.6, Error ellipse: s-maj=13.0km s-min=4.7km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.15**	**123**	*e*P	Pg	11 03 28.8	-4.4
PCED				*e*S	Sg	11 03 42.2	-5.9
PCED				A	A	11 03 42.7	
	34nm,0.3s						
PCED	**Cedros**	**1.15**	**123**	*e*P	Pg	11 03 28.8	-4.4
PCED				*e*S	Sg	11 03 42.2	-5.9
CALA	**Caldeira**	**1.17**	**125**	*e*S	Sg	11 03 43.1	-6.0
CALA	**Caldeira**	**1.17**	**125**	*e*S	Sg	11 03 43.1	-6.0
HOR	**Horta**	**1.25**	**126**	*e*S	Sg	11 03 44.9	-6.5
HOR	**Horta**	**1.25**	**126**	*e*S	Sg	11 03 44.9	-6.5
PCAN	**Candelaria**	**1.38**	**125**	*e*P	Pn	11 03 32.2	-4.9
PCAN				*e*S	Sb	11 03 48.1	-7.4
PCAN				A	A	11 03 51.6	
	51nm,0.3s						
PCAN	**Candelaria**	**1.38**	**125**	*e*P	Pn	11 03 32.2	-4.9
PCAN				*e*S	Sb	11 03 48.1	-7.4
PICO	**Pico**	**1.40**	**123**	*e*P	Pn	11 03 32.7	-4.7
PICO				*e*S	Sb	11 03 48.4	-7.7
PICO	**Pico**	**1.40**	**123**	*e*P	Pn	11 03 32.7	-4.7
PICO				*e*S	Sb	11 03 48.4	-7.7
ROSA	**Rosais**	**1.42**	**112**	*e*S	Sb	11 03 48.9	-7.7
ROSA				A	A	11 03 50.1	
	21nm,0.2s						
ROSA	**Rosais**	**1.42**	**112**	*e*S	Sb	11 03 48.9	-7.7

*ISCJB **25** 11:05:07.3±3.6, 60°.5S±0°.1×2°.8W±°, h10km, mb4.1/3, Error ellipse: s-maj=90.1km s-min=18.7km az=175.7*
*IDC **25** 11:05:07.6±3.4, 60°.38S×27°.73W, h0km, mb4.1/3, mb1 4.0/3, mb1mx3.7/14, mbtmp4.1/3, Error ellipse: s-maj=90.6km s-min=78.6km az=23.0*
ISC 25 11:05:09.1±3.0, 60°.4S±0°.2×27°.7W±0°.5, h10km, n6, σ1s04/6, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**13.03**	**154**	*e*Pn	**Pn**	**11 08 13.7**	**-0.3**
VNA2	**Neumayer--Watz**	**13.34**	**150**	*e*Pn	**Pn**	**11 08 18.5**	**+0.4**
	baz=307,slow=16						
BOSA	**Boshof**	**47.42**	**72**	P	**P**	**11 13 42.5**	**-1.1**
	0.9nm,0.5s,baz=238,slow=7.9,SNR=3.7						
LSZ	**Lusaka**	**60.27**	**67**	P	**P**	**11 15 19.0**	**+1.3**
	1.6nm,0.5s,baz=225,slow=10.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**77.01**	**29**	P	**P**	**11 17 01.7**	**-0.1**
	0.8nm,0.5s,baz=197,slow=6.5,SNR=12						
SONM	**Songino Array**	**150.94**	**95**	PKPbc	**PKPbc**	**11 25 00.9**	**-0.1**
	0.2nm,0.5s,baz=212,slow=3.3,SNR=3.9						

IDC 25 11:11:32.2±1.2, 13°.12N×50°.97E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/25, mbtmp3.8/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/44, Error ellipse: s-maj=47.4km s-min=29.7km az=176.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**22.17**	**320**	LR	LR	11 25 40.5	
	comp=Z,48nm,18.0s,baz=72,slow=38						
MKAR	**Makanchi Array**	**42.64**	**32**	P	P	11 19 30.6	+0.1
	0.2nm,0.5s,baz=218,slow=9.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**46.37**	**77**	P	P	11 20 00.1	-0.6
	0.6nm,0.3s,baz=266,slow=11,SNR=5.8						
TORD	**Torodi Ar. Bea**	**47.92**	**276**	P	P	11 20 12.6	-0.3
	0.9nm,0.8s,baz=91,slow=8.7,SNR=5.8						
WRA	**Warramunga Arr**	**88.32**	**111**	P	P	11 24 26.4	0.0
	1.4nm,1.0s,baz=300,slow=3.8,SNR=5.9						
ASAR	**Alice Springs**	**88.86**	**114**	P	P	11 24 29.4	+0.3
	0.8nm,1.0s,baz=285,slow=6.0,SNR=7.2						

*IDC **25** 11:41:46.9±1.9, 0°.29S×132°.59E, h0km, mb4.0/3, mb1 4.3/5, mb1mx3.8/21, mbtmp4.1/5, ML4.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	5.57	233	P	Pn	11 43 12.9	+1.0
	90nm,0.9s,0.3nm						
AAI				S	Sn	11 44 18.7	+3.9
	90nm,0.9s,0.3nm						
KDU	Kakadu	12.30	181	P	Pn	11 44 42.9	-1.3
	baz=12,SNR=25						
KDU				S	Sn	11 46 58.0	-2.3
	baz=12,SNR=5.3						
MTN	Manton Dam	12.55	187	P	Pn	11 44 45.7	-1.8
	baz=12,SNR=84						
MTN				S	Sn	11 47 02.6	-3.7
	baz=12,SNR=5.5						
SPSI	Sidrap Palu	13.36	254	P	Pn	11 44 59.5	+0.7
FITZ	Fitzroy Crossi	18.98	201	P	P	11 46 08.8	-1.3
	0.6nm,0.3s,baz=22,slow=11,SNR=10						
FITZ				S	Sn	11 49 29.6	-13
	0.2nm,0.3s,baz=256,slow=19,SNR=3.2						
FITZ				LR	LR	11 53 09.6	
	comp=Z,52nm,18.1s,baz=42,slow=36						
FITZ	Fitzroy Crossi	18.98	201	P	P	11 46 08.7	-1.3
	baz=19,SNR=12						
WRA	Warramunga Arr	19.59	175	P	Pn	11 46 16.9	-1.3
	1.2nm,0.3s,baz=354,slow=12,SNR=69						
WRA				S	S	11 49 47.9	-8.4
	0.2nm,0.3s,baz=360,slow=22,SNR=5.2						
QIS	Mount Isa	21.25	162	P	P	11 46 38.9	+4.1
	baz=21,SNR=12						
ASAR	Alice Springs	23.25	177	P	P	11 46 56.1	+0.1
	4.3nm,0.5s,baz=359,slow=10,SNR=58						
ASAR				S	S	11 51 12.3	+6.1
	0.6nm,0.7s,baz=359,slow=25,SNR=4.4						
QLP	Quilpie	28.41	158	P	P	11 47 46.8	+3.9
	baz=28,SNR=3.9						
STKA	Stephens Creek	32.52	166	P	P	11 48 19.1	-0.1
	2.0nm,0.8s,baz=339,slow=11,SNR=5.8						
STKA	Stephens Creek	32.52	166	eP	P	11 48 19.5	+0.2
	baz=32,SNR=4.3						
MORW	Morawa	32.70	208	P	P	11 48 21.6	+0.7
	baz=33,SNR=5.3						
BLDU	Ballidu	33.73	205	P	P	11 48 30.5	+0.7
	baz=34,SNR=19						
KLBR	Kellerberrin	34.16	203	P	P	11 48 34.2	+0.7
	baz=34,SNR=7.3						
MKAR	Makanchi Array	64.24	324	P	P	11 52 23.8	+0.6
	1.0nm,0.7s,baz=120,slow=7.8,SNR=16						

*ISCJB **25** 12:02:33.9±0.6, 30°.38N±0°.05×141°.1E±0°.2, h91km, mb3.6/5, Error ellipse: s-maj=25.0km s-min=4.6km az=165.1*
*IDC **25** 12:02:33.5±1.9, 30°.09N×140°.17E, h107km±20km, mb3.3/5, mb1 3.5/7, mb1mx3.2/25, mbtmp3.3/7, Error ellipse: s-maj=36.9km s-min=13.8km az=72.0*
*JMA **25** 12:02:34.2±0.1, 30°.34N×141°.06E, h86km, M4.0*
ISC 25 12:02:35.9±1.1**, 30°.50N**±0°.07×**141°.3E**±0°.2**, h91**km**, n21, σ2.22**/25**, mb3.7**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.88	335	eS	Sn	12 03 54.4	+0.7
JHJ	Hachijo jima 2	2.90	334	S	Sn	12 03 54.2	0.0
	29nm,0.3s,baz=243,slow=18,SNR=6.4						
CBIJ	Chichi jima	3.48	167	P	Pn	12 03 25.9	-2.1
	24nm,0.3s,baz=136,slow=20,SNR=121						
CBIJ				S	Sn	12 04 06.1	-2.2
	14nm,0.3s,baz=288,slow=19,SNR=2.8						
CBIJ	Chichi jima	3.48	167	P	Pn	12 03 25.8	-2.2
JHHJ	Haha-jima-NKT	3.94	168	P	Pn	12 03 31.5	-2.6
BSO1	Boso 1	4.15	357	P	Pn	12 03 38.7	+2.3
BSO1				eS	Sn	12 04 27.7	+4.2
BSO3	Boso 3	4.34	352	P	Pn	12 03 43.0	+3.7
BSO3				eS	Sn	12 04 31.1	+2.6
JOD2	Odawara 2	5.09	339	P	Pn	12 03 51.5	+1.7
JHU	Hanno	5.59	343	P	Pn	12 03 57.9	+1.3
JYT	Yasato	5.78	351	P	Pn	12 04 00.1	+1.0
JYT				eS	Sn	12 05 03.4	-0.6
JRY	Ryogami san	5.85	341	P	Pn	12 04 01.0	+0.9
JRY				eS	Sn	12 05 06.3	+0.5
JAG	Ashikaga	6.10	346	P	Pn	12 04 04.0	+0.5
JAG				eS	Sn	12 05 09.2	-2.7
JHO	Hitachi	6.12	355	P	Pn	12 04 04.0	+0.2
JHO				eS	Sn	12 05 09.1	-3.2
MJAR	Matsushiro Arr	6.55	338	P	Pn	12 04 09.2	-0.4
	1.1nm,0.3s,baz=155,slow=9.6,SNR=11						
JFK	Kawauchi	6.86	357	P	Pn	12 04 13.9	+0.1
JFK				eS	Sn	12 05 26.1	-4.2
JMK	Ichinoseki	8.43	360	P	Pn	12 04 35.7	+0.5
JMK				eS	Sn	12 06 05.0	-3.6
MKAR	Makanchi Array	47.74	307	P	P	12 10 54.8	-8.8
	0.2nm,0.6s,baz=85,slow=9.1,SNR=3.7						
WRA	Warramunga Arr	50.60	188	P	P	12 11 17.7	-7.8
	0.6nm,0.6s,baz=3.3,slow=7.6,SNR=18						
ASAR	Alice Springs	54.32	188	P	P	12 11 45.1	-8.0
	0.3nm,0.4s,baz=5.3,slow=6.0,SNR=12						
FINES	FINESS Array B	74.56	333	P	P	12 13 59.8	-4.7
	1.0nm,0.4s,baz=66,slow=5.3,SNR=13						
NVAR	Mina Array Bea	79.04	52	P	P	12 14 31.9	+1.4
	0.4nm,0.5s,baz=297,slow=4.0,SNR=4.0						

*IDC **25** 12:04:29.8±1.5, 13°.12N×50°.96E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/25, mbtmp3.7/4, MS3.4/8, Ms1 3.4/8, ms1mx3.0/47, Error ellipse: s-maj=56.0km s-min=30.0km az=172.0*
*ISCJB **25** 12:04:31.3±1.1, 13°.3N±0°.3×50°.75E±0°.07, h21km, mb3.8/4, MS3.3/7, Error ellipse: s-maj=44.1km s-min=9.9km az=0.4*
ISC 25 12:04:32.9±1.2**, 13°.3N**±0°.4×**50°.73E**±0°.08**, h21**km**, n14, σ2.31**/9**, mb3.9**/4**, MS3.5**/7**, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	5.06	278	e	Pn	12 05 49.3	+1.5
	baz=90,slow=11						
BDHA				i P	Pn	12 05 49.4	+1.5
BDHA				AML	AML	12 05 55.8	
	comp=E,92nm,0.6s						
BDHA				i S	Sn	12 06 44.4	-1.5
LBOS		5.36	277	i P	Pn	12 05 53.3	+1.4
LBOS				i S	Sn	12 06 49.2	-4.0
WSAR	Wadi Sarin	12.41	36	LR	LR	12 11 54.6	
	comp=E,137nm,19.4s,baz=34,slow=36						
ASF	Jabal al Asfar	22.67	328	LR	LR	12 18 41.8	
	comp=E,20nm,20.7s,baz=57,slow=37						
GNI	Garni	27.27	350	LR	LR	12 22 55.1	
	comp=E,52nm,19.4s,baz=193,slow=40						
KBZ	Khabaz	31.07	349	LR	LR	12 25 40.9	
	comp=E,57nm,20.4s,baz=314,slow=41						
AKTO	Aktyubinsk	37.52	8	LR	LR	12 30 16.0	
	comp=E,74nm,18.7s,baz=334,slow=41						
MKAR	Makanchi Array	42.62	32	P	P	12 12 27.7	+0.1
	comp=E,0.2nm,0.5s,baz=217,slow=7.3,SNR=4.1						
CMAR	Chiang Mai Arr	46.56	77	P	P	12 12 58.8	-0.7
	comp=E,0.5nm,0.4s,baz=273,slow=9.5,SNR=5.9						
TORD	Torodi Ar. Bea	47.67	276	P	P	12 13 10.4	+2.1
	comp=E,1.7nm,1.1s,baz=86,slow=7.5,SNR=5.7						
MDT	Midelt	53.89	301	LR	LR	12 38 22.1	
	comp=E,55nm,19.3s,baz=21,slow=38						
NOA	NORSAR Array B	55.59	338	LR	LR	12 38 33.4	
	comp=E,58nm,18.8s,baz=265,slow=37						
ARCES	ARCESS Array B	58.43	350	LR	LR	12 42 41.0	
	comp=E,60nm,20.5s,baz=180,slow=39						
WRA	Warramunga Arr	88.60	111	P	P	12 17 23.7	-1.2
	comp=E,1.7nm,1.1s,baz=296,slow=3.4,SNR=5.4						

IDC 25 12:08:35.5±1.4**, 5°.39S**×**146°.89E, h222**km±17km**, mb3.4**/8**, mb1 3.5**/10**, mb1mx3.4**/19**, mbtmp3.4**/10**, Error ellipse: s-maj=30.8km s-min=9.4km az=109.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.00	176	P	Pn	12 09 39.2	+1.0
	1.3nm,0.3s,baz=344,slow=7.4,SNR=5.1						
PMG				S	S	12 10 26.8	-0.6
	9.3nm,0.3s,baz=245,slow=22,SNR=12						
WRA	Warramunga Arr	18.93	219	P	P	12 12 40.9	+0.8
	0.9nm,0.3s,baz=38,slow=11,SNR=39						
WRA				S	S	12 16 01.9	-1.5
	0.1nm,0.3s,baz=40,slow=19,SNR=4.1						
ASAR	Alice Springs	22.06	213	P	P	12 13 13.8	+1.1
	4.8nm,0.6s,baz=44,slow=7.4,SNR=81						
ASAR				S	S	12 17 00.8	+1.1
	0.7nm,0.9s,baz=39,slow=17,SNR=4.9						
FITZ	Fitzroy Crossi	24.30	237	P	P	12 13 33.3	+0.4
	3.7nm,0.5s,baz=55,slow=9.5,SNR=23						
STKA	Stephens Creek	26.81	190	P	P	12 13 56.4	+1.0
	1.6nm,1.2s,baz=9.5,slow=12,SNR=2.9						
KSRS	Korea Array	46.15	339	P	P	12 16 37.1	-0.8
	0.8nm,0.4s,baz=166,slow=9.8,SNR=3.4						
PETK	Petropavlovsk-	58.99	8	P	P	12 18 12.2	+0.5
	7.1nm,1.2s,baz=174,slow=7.6,SNR=4.5						
SONM	Songino Array	63.82	331	P	P	12 18 45.2	+0.9
	0.3nm,0.4s,baz=143,slow=8.3,SNR=3.0						
MKAR	Makanchi Array	76.96	320	P	P	12 20 02.9	-0.8
	0.1nm,0.4s,baz=90,slow=7.2,SNR=3.7						
ILAR	Eielson Array	84.97	23	P	P	12 20 44.0	-1.5
	1.0nm,0.8s,baz=246,slow=4.4,SNR=9.7						
TORD	Torodi Ar. Bea	144.83	285	PKP	PKPbc	12 27 46.5	-0.2
	0.1nm,0.4s,baz=62,slow=3.1,SNR=3.3						

IDC 25 12:10:21.4±1.9**, 57°.51S**×**146°.94E, h0**km**, mb4.1**/5**, mb1 4.3**/5**, mb1mx4.1**/12**, mbtmp4.1**/5**, MS3.8**/11**, Ms1 3.8**/11**, ms1mx3.7**/23**, Error ellipse: s-maj=157.6km s-min=26.3km az=77.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	20.46	58	LR	LR	12 20 58.9	
	comp=Z,239nm,18.8s,baz=26,slow=31						
VNDA	Vanda	20.75	171	P	P	12 15 03.2	+0.1
	3.0nm,1.1s,baz=340,slow=14,SNR=6.5						
VNDA				LR	LR	12 22 00.8	
	comp=Z,146nm,19.9s,baz=149,slow=34						
STKA	Stephens Creek	25.90	350	P	P	12 15 56.3	+1.5
	6.9nm,1.0s,baz=160,slow=12,SNR=8.6						
URZ	Urewera	27.57	59	LR	LR	12 26 44.9	
	comp=Z,187nm,18.1s,baz=200,slow=36						
NWAO	Narrogin (SRO)	31.82	308	LR	LR	12 26 30.7	
	comp=Z,187nm,21.4s,baz=82,slow=30						
QSPA	South Pole Qui	32.59	180	LR	LR	12 30 48.7	
	comp=Z,177nm,19.4s,baz=323,slow=38						
ASAR	Alice Springs	35.11	339	P	P	12 17 15.8	-0.5
	1.6nm,0.8s,baz=167,slow=11,SNR=14						
MAW	Mawson	36.97	219	LR	LR	12 30 48.3	
	comp=Z,188nm,18.5s,baz=116,slow=33						
CTA	Charters Tower	37.38	359	LR	LR	12 31 31.2	
	comp=Z,203nm,18.3s,baz=191,slow=34						
WRA	Warramunga Arr	38.66	341	P	P	12 17 45.1	-1.4
	4.7nm,0.8s,baz=167,slow=7.3,SNR=25						
FITZ	Fitzroy Crossi	42.42	329	P	P	12 18 18.2	+0.6
	3.1nm,0.9s,baz=189,slow=12,SNR=4.6						
HNR	Honiara	49.02	17	LR	LR	12 34 04.1	
	comp=Z,103nm,18.3s,baz=102,slow=29						
PPT	Papeete	61.16	77	LR	LR	12 42 11.5	
	comp=Z,96nm,19.0s,baz=164,slow=31						
GUMO	Guam	70.86	358	LR	LR	12 52 06.7	
	comp=Z,63nm,21.8s,baz=83,slow=35						
CMAR	Chiang Mai Arr	85.54	315	LR	LR	12 57 19.3	
	comp=Z,57nm,18.7s,baz=346,slow=33						

MEX 25 12:14:10.0±0.9**, 16°.62N**×**94°.34W, h117**km±14km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.70	312	i P	Pn	12 14 27.9	-1.1
CMIG				i S	Sn	12 14 41.3	-2.2
TGIG		1.18	82	eP	Pn	12 14 32.7	-1.0
TGIG				i S	Sn	12 14 49.9	-1.9
HUIG	Huatulco	1.89	244	eP	Pn	12 14 39.9	-2.1
HUIG				i S	Sn	12 15 05.5	-0.9
CCIG	Comitan	2.14	99	i P	Pn	12 14 44.5	-0.9
CCIG				i S	Sn	12 15 10.5	-1.9
VHO	Vista Hermosa	2.33	282	i P	Pn	12 14 46.8	-1.0
VHO				i S	Sn	12 15 15.6	-1.2

*ISCJB **25** 12:16:02.2±0.4, 43°.21N±0°.04×142°.11E±0°.06, h169km±3km, mb3.5/9, Error ellipse: s-maj=7.7km s-min=5.5km az=30.2*
*MOS **25** 12:16:02.7±1.0, 43°.25N×141°.94E, h174km, mb4.0/6, Error ellipse: s-maj=23.8km s-min=13.5km az=75.8*
*JMA **25** 12:16:03.2±0.1, 43°.21N×142°.16E, h165km±1km, M3.1*
*IDC **25** 12:16:03.3±0.8, 43°.29N×141°.93E, h160km±5km, mb3.3/8, mb1 3.4/10, mb1mx3.2/27, mbtmp3.3/10, MS3.8/1, Ms1 3.8/1, ms1mx2.5/24, Error ellipse: s-maj=20.9km s-min=15.9km az=114.0*
ISC 25 12:16:03.2±0.7**, 43°.21N**±0°.04×**142°.08E**±0°.05**, h164**km±5km**, n35, σ1.08**/49**, mb3.8**/9**, 1C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAB	Ashibetsu	0.31	19	P	Pn	12 16 25.5	+0.1
JAB				eS	Sn	12 16 42.7	+0.1
JFR	Furan	0.38	97	P	Pn	12 16 25.5	-0.2
JFR				eS	Sn	12 16 42.6	-0.2
JEW	Eniwo	0.59	232	P	Pn	12 16 27.1	+0.5
JEW				eS	Sn	12 16 45.1	+0.6
JHR	Hokuryu	0.59	334	P	Pn	12 16 27.3	+0.7
JHR				eS	Sn	12 16 45.7	+1.1
JKK2	Kamakawa 2	0.82	36	P	Pn	12 16 28.2	+0.2
JKK2				eS	Sn	12 16 46.8	-0.3
ASAJ	Asahikawa	0.98	22	P	Pn	12 16 29.3	+0.2
	22nm,0.3s,baz=233,slow=9.4,SNR=199						
ASAJ				S	Sn	12 16 48.5	-0.7
	7.5nm,0.3s,baz=17,slow=25,SNR=30						
JNBK	Urakawa-nobuka	1.05	152	P	Pn	12 16 30.9	+1.2
JNBK				eS	Sn	12 16 52.1	+2.0
JCH	Churui	1.11	122	P	Pn	12 16 29.2	-1.0
JCH				eS	Sn	12 16 49.2	-1.8
JAR	Ashorobuto	1.24	85	P	Pn	12 16 31.2	-0.1
JAR				eS	Sn	12 16 52.7	-0.2
JYG	Yagishiri	1.30	339	P	Pn	12 16 32.2	+0.3
JTKR	Abashiri--Toko	1.53	60	P	Pn	12 16 34.4	+0.3
JTKR				eS	Sn	12 16 57.9	0.0
JKB	Kayabe	1.53	211	P	Pn	12 16 34.3	+0.2
JKB				eS	Sn	12 16 57.8	-0.1
JSE	Soyaes	1.79	12	P	Pn	12 16 36.9	+0.2
JAK	Akkeshi	1.93	95	P	Pn	12 16 37.2	-1.1
JAK				eS	Sn	12 17 03.3	-2.1
JOT	Ohata	1.98	203	P	Pn	12 16 38.7	-0.3
JOT				eS	Sn	12 17 06.2	-0.4
JWK2	Keihoku	2.11	356	P	Pn	12 16 40.9	+0.5
JOSM	Okushiri--Mats	2.23	241	P	Pn	12 16 42.1	+0.3
JRA	Rausu	2.33	71	P	Pn	12 16 43.6	+0.7
YUK	Yuzh-Kuril'sk	2.87	72	i PN	Pn	12 16 52.2	+2.8
YUK				i S	Sn	12 17 28.7	+3.4
YUK				pmax	pmax		
	comp=N,7.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,10.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,26nm,0.2s						
YUK				smax	smax		
	comp=E,121nm,0.9s						
YUK				smax	smax		
	comp=N,76nm,0.9s						
YSS	Yuzh-Sakhalins	3.77	7	⇑ iPN	Pn	12 17 02.0	+1.2
YSS				eS	Sn	12 17 45.0	-0.8
YSS				pmax	pmax		
	comp=Z,80nm,0.6s						
YSS				smax	smax		
	comp=N,90nm,1.2s						
MJAR	Matsushiro Arr	7.29	205	P	Pn	12 17 47.3	+0.1
	comp=N,1.3nm,0.3s,baz=17,slow=13,SNR=15						
PETK	Petropavlovsk-	14.35	41	P	Pn	12 19 17.1	-1.5
	comp=N,0.2nm,0.3s,baz=210,slow=13,SNR=6.8						
PETK	Petropavlovsk-	14.35	41	P	Pn	12 19 17.1	-1.5
SONM	Songino Array	25.28	293	P	P	12 21 14.2	-0.1
	comp=N,1.4nm,0.6s,baz=86,slow=8.3,SNR=4.4						
ZAK	Zakamensk	27.27	299	eP	P	12 21 23.5	-8.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ZALV	Zalesovo Beam	38.37	307	P	P	12 23 07.8	-0.3
	comp=Z,0.7nm,0.4s,baz=95,slow=7.9,SNR=6.0						
ZALV	Zalesovo Beam	38.37	307	P	P	12 23 07.8	-0.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	41.54	296	P	P	12 23 34.1	-0.2
	comp=Z,2.1nm,0.6s,baz=82,slow=9.6,SNR=34						
MKAR				PcP	PcP	12 25 27.8	-0.6
	comp=Z,0.1nm,0.3s,baz=68,slow=4.4,SNR=3.4						
MKAR	Makanchi Array	41.54	296	P	P	12 23 34.1	-0.2
MKAR						12 25 27.8	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	44.09	36	P	P	12 23 55.9	+1.3
	comp=Z,0.2nm,0.6s,baz=286,slow=7.0,SNR=4.9						
HNR	Honiara	54.86	158	LR	LR	12 49 20.9	
	comp=Z,84nm,18.2s,baz=96,slow=36						
YKA	Yellowknife Ar	58.26	32	P	P	12 25 41.1	+1.1
	comp=Z,0.2nm,0.6s,baz=304,slow=6.7,SNR=4.5						
WRA	Warramunga Arr	63.24	188	P	P	12 26 15.0	+0.9
	comp=Z,0.1nm,0.6s,baz=2.5,slow=6.9,SNR=4.0						
FINES	FINESS Array B	63.62	331	P	P	12 26 15.2	-0.9
	comp=Z,1.6nm,0.5s,baz=48,slow=8.5,SNR=9.2						
HFS	Hagfors	68.69	335	P	P	12 26 47.5	-0.9
	comp=Z,1.1nm,0.3s,baz=25,slow=4.7,SNR=9.0						

*ISCJB **25** 12:20:28.8±0.5, 37°.18N±0°.03×30°.43E±0°.04, h108km±5km, Error ellipse: s-maj=5.6km s-min=4.8km az=168.4*
*DDA **25** 12:20:28.9, 37°.25N×30°.51E, h30km, MD3.2*
*ISK **25** 12:20:29.5, 37°.22N×30°.46E, h97km, MD3.1*
*CSEM **25** 12:20:30.4±0.2, 37°.23N×30°.44E, h94km±2km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.6km az=170.0*
*ATH **25** 12:20:39.8, 35°.54N×29°.95E, h32km, MD3.0/3*
*HLW **25** 12:20:40.1, 36°.29N×30°.56E, h23km±16km, Md0.0, Ml3.3*
ISC 25 12:20:29.6±1.2**, 37°.22N**±0°.04×**30°.43E**±0°.03**, h100**km±7km**, n71, σ0.92**/85**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCK	Bucak	0.27	28	ePG	Pn	12 20 43.9	-0.3
BCK				eSG	Sn	12 20 54.5	-0.6
BCK	Bucak	0.27	28	ePg	Pn	12 20 43.9	-0.3
BCK				eSg	Sn	12 20 54.5	-0.6
ANTB	Antalya	0.37	150	ePG	Pn	12 20 44.3	-0.2
ANTB				eSG	Sn	12 20 55.5	0.0
ANTB	Antalya	0.37	150	ePg	Pn	12 20 44.3	-0.2
ANTB				eSg	Sn	12 20 55.6	0.0
ISP	Isparta	0.61	7	ePG	Pn	12 20 45.6	-0.8
ISP				eSG	Sn	12 20 58.9	0.0
ISP	Isparta	0.61	7	ePg	Pn	12 20 45.6	-0.8
ISP				eSg	Sn	12 20 58.9	0.0
ELL	Elmali	0.63	222	ePG	Pn	12 20 46.9	+0.4
ELL	Elmali	0.63	222	ePg	Pn	12 20 46.9	+0.4
GOLH	Golhisar	0.69	272	i P	Pn	12 20 47.9	+0.9
GOLH				i S	Sn	12 21 01.6	+1.5
GOLH	Golhisar	0.69	272	i P	Pn	12 20 47.9	+0.9
GOLH				i S	Sn	12 21 01.6	+1.5
AKAS	Kas	1.18	214	i P	Pn	12 20 52.6	+0.4
AKAS				i S	Sn	12 21 10.6	+1.3
AKAS	Kas	1.18	214	i P	Pn	12 20 52.6	+0.4
AKAS				i S	Sn	12 21 10.6	+1.3
DNZL	Cakiroluk	1.19	294	i P	Pn	12 20 52.8	+0.4
DNZL				i S	Sn	12 21 10.5	+0.9
DNZL	Cakiroluk	1.19	294	i P	Pn	12 20 52.8	+0.4
DNZL				i S	Sn	12 21 10.5	+0.9
FETY	Fethiye	1.22	242	ePN	Pn	12 20 52.9	+0.3
FETY	Fethiye	1.22	242	ePn	Pn	12 20 52.9	+0.3
KSL	Kastellorizon	1.26	213	ePN	Pn	12 20 53.7	+0.7
KHL	Karahalli	1.31	327	ePN	Pn	12 20 54.4	+0.7
KHL	Karahalli	1.31	327	ePn	Pn	12 20 54.4	+0.7
SHUT	Suhut-Afyon	1.34	4	ePN	Pn	12 20 54.5	+0.5
SHUT	Suhut-Afyon	1.34	4	ePn	Pn	12 20 54.5	+0.5
KHAL	Karahalli	1.37	328	i P	Pn	12 20 54.6	+0.2
KHAL	Karahalli	1.37	328	i P	Pn	12 20 54.6	+0.2
TURN	Turunc	1.50	257	i P	Pn	12 21 00.5	+4.7
TURN				i S	Sn	12 21 22.7	+7.0
TURN	Turunc	1.50	257	i P	Pn	12 21 00.5	+4.7
TURN				i S	Sn	12 21 22.7	+7.0
KONT	Konya--Tatoy	1.70	64	ePN	Pn	12 20 59.1	+0.8
KONT	Konya--Tatoy	1.70	64	ePn	Pn	12 20 59.1	+0.8
YER	Yerkesik	1.71	268	ePN	Pn	12 20 59.7	+1.1
YER	Yerkesik	1.71	268	ePn	Pn	12 20 59.7	+1.1
GAZI	Gazipasa	1.81	122	i P	Pn	12 20 59.8	+0.1
GAZI				i S	Sn	12 21 24.5	+1.8
GAZI	Gazipasa	1.81	122	i P	Pn	12 20 59.8	+0.1
GAZI				i S	Sn	12 21 24.5	+1.8
LADK	Ladik-KONYA	1.82	57	ePN	Pn	12 20 59.8	-0.2
LADK	Ladik-KONYA	1.82	57	ePn	Pn	12 20 59.8	-0.2
ALT	Altintas	1.85	352	ePN	Pn	12 21 01.1	+0.8
ALT	Altintas	1.85	352	ePn	Pn	12 21 01.1	+0.8
KDHN	Kadinhani	1.86	45	i P	Pn	12 21 00.9	+0.4
KDHN	Kadinhani	1.86	45	i P	Pn	12 21 00.9	+0.4
KULA	Kula-Manisa	1.90	313	ePN	Pn	12 21 01.8	+0.8
KULA	Kula-Manisa	1.90	313	ePn	Pn	12 21 01.8	+0.8
KIZT	Kizilcal	2.02	34	ePN	Pn	12 21 03.0	+0.5
KIZT	Kizilcal	2.02	34	ePn	Pn	12 21 03.0	+0.5
ERMK	Ermenek	2.07	105	i P	Pn	12 21 04.6	+1.3
ERMK	Ermenek	2.07	105	i P	Pn	12 21 04.6	+1.3
AYDN	Tasoluk	2.08	283	i P	Pn	12 21 04.0	+0.8
AYDN				i S	Sn	12 21 28.3	-0.5
AYDN	Tasoluk	2.08	283	i P	Pn	12 21 04.0	+0.8
AYDN				i S	Sn	12 21 28.3	-0.5
ARG	Arkhangelos	2.10	242	ePB	Pn	12 21 08.0	+4.5
ARG				eSN	Sn	12 21 29.1	-0.3
ARG	Arkhangelos	2.10	242	ePb	Pn	12 21 08.0	+4.5
ARG				eSn	Sn	12 21 29.1	-0.3
TVSB	Tavsanli	2.35	341	ePN	Pn	12 21 07.7	+0.9
TVSB	Tavsanli	2.35	341	ePn	Pn	12 21 07.7	+0.9
BDRM	Kayabasi	2.39	267	i P	Pn	12 21 07.3	+0.1
BDRM				i S	Sn	12 21 34.3	-1.8
BDRM	Kayabasi	2.39	267	i P	Pn	12 21 07.3	+0.1
BDRM				i S	Sn	12 21 34.3	-1.8
BODT	Bodrum	2.50	267	ePN	Pn	12 21 10.1	+1.5
BODT	Bodrum	2.50	267	ePn	Pn	12 21 10.1	+1.5
SULT	Sultanhani-AKS	2.64	67	ePN	Pn	12 21 11.7	+1.1
SULT	Sultanhani-AKS	2.64	67	ePn	Pn	12 21 11.7	+1.1
AFSR	Af¯ar-Bala (A	3.04	42	ePN	Pn	12 21 16.2	+0.2
AFSR	Af¯ar-Bala (A	3.04	42	ePn	Pn	12 21 16.2	+0.2
KARP	Karpathos	3.12	239	ePN	Pn	12 21 17.4	+0.4
KARP	Karpathos	3.12	239	ePn	Pn	12 21 17.4	+0.4
HMAT	Matruh	6.70	205	S	Sn	12 23 11.6	-8.8
	baz=211						
HMAT	Matruh	6.70	205	S	Sn	12 23 11.6	-8.8
AMAG	Maghara	6.95	160	P	Pn	12 22 08.2	-0.7
	baz=157						
AMAG	Maghara	6.95	160	P	Pn	12 22 08.2	-0.7
KOT	Kottamia	7.37	170	P	Pn	12 22 12.7	-1.8
	baz=170						
KOT				S	Sn	12 23 24.0	-13
	baz=170						
KOT	Kottamia	7.37	170	P	Pn	12 22 12.7	-1.8
KOT				S	Sn	12 23 24.0	-13
HHAG	Hagoal	7.38	169	P	Pn	12 22 13.3	-1.3
	baz=168						
HHAG				AMP		12 23 00.0	
	comp=N,30µm,1.1s,logA/T=4.5,baz=168						
HHAG	Hagoal	7.38	169	P	Pn	12 22 13.4	-1.3
SUZ		7.63	164	P	Pn	12 22 17.0	-1.0
	baz=162						
SUZ		7.63	164	P	Pn	12 22 17.0	-1.0
GLL	Jalalah	7.70	172	P	Pn	12 22 17.6	-1.4
	baz=171						
GLL	Jalalah	7.70	172	P	Pn	12 22 17.6	-1.4

*BJI **25** 12:23:19.0, 40°.30N×19°.70E, h10km, mB4.8/8, mb4.9/7, Ms4.7/4, Ms7 4.3/5*
*IDC **25** 12:23:21.5±0.6, 40°.39N×19°.70E, h0km, mb4.0/18, mb1 4.2/23, mb1mx4.1/33, mbtmp4.1/23, ML4.4/5, MS3.3/7, Ms1 3.3/7, ms1mx2.9/56, Error ellipse: s-maj=15.1km s-min=11.3km az=66.0*
*SKO **25** 12:23:22.6, 40°.03N×19°.70E, h0km, M3.5, ML4.0*
*LDG **25** 12:23:23.6±0.1, 40°.37N×19°.59E, h10km, Ml4.3/9, Error ellipse: s-maj=3.3km s-min=2.0km az=28.0*
*TIR **25** 12:23:23.6, 40°.22N×19°.56E, h28km, ML4.4*
*MOS **25** 12:23:23.9±1.1, 40°.31N×19°.40E, h33km, mb4.3/20, Error ellipse: s-maj=5.9km s-min=3.5km az=91.7*
*ATH **25** 12:23:24.4, 40°.26N×19°.57E, h26km±1km, MD3.8/34, ML4.3*
*PDG **25** 12:23:24.4±0.9, 40°.36N×19°.66E, h18km±2km, ML3.9/9, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*
*PRU **25** 12:23:25.9, 40°.38N×19°.57E, h8km, M4.5*
*ROM **25** 12:23:25.9±0.2, 40°.25N×19°.65E, h31km±3km, Ml4.3/37, Error ellipse: s-maj=2.8km s-min=2.7km az=88.0*
*THE **25** 12:23:25.5, 40°.31N×19°.64E, h11km±1km, ML4.4/8, Error ellipse: s-maj=2.2km s-min=0.7km az=258.0*
*CSEM **25** 12:23:25.6±0.1, 40°.34N×19°.61E, h20km, MD3.7, Ms3.8, Error ellipse: s-maj=2.3km s-min=1.6km az=32.0*
*NEIC **25** 12:23:25.5, 40°.31N×19°.64E, h11km, mb4.5/5,*

ML4.3(THE), ML4.1(PDG), ML4.0(SKO), After THE.
NEIC Felt at Berat, Elbasan and Orikum.
*BEO **25** 12:23:26.0±0.7, 40°.23N×19°.51E, ML3.9/1*
*VIE **25** 12:23:27.9±0.3, 40°.66N×19°.52E, h10^{km}, mb3.8/11, Ms3.8/11, Error ellipse: s-maj=4.3km s-min=1.7km az=37.0*
*SOF **25** 12:23:32.8, 40°.73N×20°.48E, h2^{km}, MD3.7*
ISC 25 12:23:23.4±0.4**, 40°.29N**±0°.01×**19°.63E**±0°.02**, h14**^{km}±2^{km}**,**
n663, σ**1^{s}74**/800**, mb4.2**/32**, MS4.4**/5**, 29C-33D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.21**	**329**	*i* PG	**Pg**	**12 23 28.1**	**+0.1**
TPE	**Tepelena**	**0.29**	**89**	*i* PG	**Pg**	**12 23 30.1**	**+0.7**
TPE				*i* SG	**Sg**	**12 23 35.2**	**+1.7**
KEK	**Kerkira**	**0.59**	**168**	Pg	**Pb**	**12 23 36.4**	**+0.9**
KEK				Sg	**Sn**	**12 23 46.2**	**-0.6**
	9µm,0.4s						
KEK	**Kerkira**	**0.59**	**168**	P	**Pb**	**12 23 36.4**	**+0.9**
KEK				S	**Sn**	**12 23 46.4**	**-0.4**
KEK	**Kerkira**	**0.59**	**168**	P	**Pb**	**12 23 36.4**	**+0.9**
KEK				S	**Sn**	**12 23 46.4**	**-0.4**
KEK	**Kerkira**	**0.59**	**168**	*e*PN	**Pg**	**12 23 36.3**	**+1.3**
KEK	**Kerkira**	**0.59**	**168**	P	**Pb**	**12 23 36.4**	**+0.9**
KEK				S	**Sn**	**12 23 46.4**	**-0.4**
LSK	**Leskovik**	**0.75**	**101**	*i* PG	**Pb**	**12 23 38.1**	**-0.2**
LSK				*i* SG	**Sg**	**12 23 50.0**	**+2.0**
SCTE	**Santa Cesarea**	**0.92**	**257**	Pg	**Pn**	**12 23 42.8**	**+0.9**
SCTE				Sg	**Sn**	**12 23 56.9**	**+2.0**
	14µm,0.5s						
SCTE	**Santa Cesarea**	**0.92**	**257**	Pg	**Pn**	**12 23 42.8**	**+0.9**
SCTE				Sg	**Sn**	**12 23 56.9**	**+2.0**
	14µm,0.5s						
IGT	**Igoumenitsa**	**0.93**	**144**	P	**Pg**	**12 23 42.5**	**+1.1**
IGT				S	**Sn**	**12 23 57.4**	**+2.2**
IGT	**Igoumenitsa**	**0.93**	**144**	P	**Pg**	**12 23 42.5**	**+1.1**
IGT				S	**Sn**	**12 23 57.4**	**+2.2**
IGT	**Igoumenitsa**	**0.93**	**144**	P	**Pg**	**12 23 42.5**	**+1.1**
IGT				S	**Sn**	**12 23 57.4**	**+2.2**
IGT	**Igoumenitsa**	**0.93**	**144**	P	**Pg**	**12 23 42.5**	**+1.1**
IGT				S	**Sn**	**12 23 57.4**	**+2.2**
TIR	**Tirane**	**1.07**	**9**	*i* PG	**Pg**	**12 23 46.0**	**+2.0**
TIR				*i* SG	**Sg**	**12 24 01.9**	**+3.9**
TIR	**Tirane**	**1.07**	**9**	Pg	**Pg**	**12 23 46.1**	**+2.1**
TIR				Sg	**Sg**	**12 24 02.4**	**+4.4**
TIR	**Tirane**	**1.07**	**9**	P	**Pg**	**12 23 45.2**	**+1.2**
TIR				S	**Sg**	**12 24 00.9**	**+2.9**
TIR	**Tirane**	**1.07**	**9**	*e*P	**Pg**	**12 23 45.5**	**+1.5**
TIR				*e*		12 24 01.2	
TIR	**Tirane**	**1.07**	**9**	*e*Pg	**Pg**	**12 23 45.5**	**+1.5**
TIR				*e*Sg	**Sg**	**12 24 01.2**	**+3.2**
TIR	**Tirane**	**1.07**	**9**	*e*Pg	**Pg**	**12 23 46.3**	**+2.3**
TIR				*e*Sg	**Sg**	**12 24 03.6**	**+5.6**
TIR	**Tirane**	**1.07**	**9**	P	**Pg**	**12 23 45.2**	**+1.2**
TIR	**Tirane**	**1.07**	**9**	*e*Pg	**Pg**	**12 23 45.5**	**+1.5**
TIR	**Tirane**	**1.07**	**9**	*e*Pn	**Pg**	**12 23 46.0**	**+2.0**
TIR				S	**Sg**	**12 24 00.9**	**+2.9**
TIR				*e*Sg	**Sg**	**12 24 01.2**	**+3.2**
NEST	**Nestorio**	**1.09**	**83**	P	**Pb**	**12 23 44.9**	**+0.8**
NEST				S	**Sg**	**12 24 01.0**	**+2.4**
NEST	**Nestorio**	**1.09**	**83**	P	**Pb**	**12 23 44.9**	**+0.8**
NEST				S	**Sg**	**12 24 01.0**	**+2.4**
JAN	**Janina**	**1.13**	**124**	P	**Pg**	**12 23 46.5**	**+1.3**
JAN				S	**Sg**	**12 24 02.1**	**+2.2**
JAN	**Janina**	**1.13**	**124**	P	**Pg**	**12 23 46.5**	**+1.3**
JAN				S	**Sg**	**12 24 02.1**	**+2.2**
JAN	**Janina**	**1.13**	**124**	P	**Pg**	**12 23 46.5**	**+1.3**
JAN				S	**Sg**	**12 24 02.1**	**+2.2**
JAN	**Janina**	**1.13**	**124**	*e*PN	**Pb**	**12 23 46.0**	**+1.3**
JAN				*e*SN	**Sg**	**12 24 01.7**	**+1.8**
JAN	**Janina**	**1.13**	**124**	*e*Pn	**Pb**	**12 23 46.0**	**+1.3**
JAN	**Janina**	**1.13**	**124**	P	**Pg**	**12 23 46.5**	**+1.3**
JAN				*e*Sn	**Sg**	**12 24 01.7**	**+1.8**
JAN				S	**Sg**	**12 24 02.1**	**+2.2**
MEV	**Metsovon**	**1.32**	**112**	P	**Pg**	**12 23 49.9**	**+1.0**
MEV	**Metsovon**	**1.32**	**112**	P	**Pg**	**12 23 49.9**	**+1.0**
MEV	**Metsovon**	**1.32**	**112**	P	**Pg**	**12 23 49.9**	**+1.0**
FNA	**Florina**	**1.42**	**69**	P	**Pn**	**12 23 49.9**	**+1.1**
FNA				S	**Sg**	**12 24 10.3**	**+1.2**
FNA	**Florina**	**1.42**	**69**	P	**Pn**	**12 23 49.9**	**+1.1**
FNA				S	**Sg**	**12 24 10.3**	**+1.2**
FNA	**Florina**	**1.42**	**69**	P	**Pn**	**12 23 49.9**	**+1.1**
FNA				S	**Sg**	**12 24 10.3**	**+1.2**
FNA	**Florina**	**1.42**	**69**	P	**Pn**	**12 23 49.9**	**+1.1**
FNA				S	**Sg**	**12 24 10.3**	**+1.2**
BIA	**Bitola**	**1.48**	**60**	P	**Pb**	**12 23 51.3**	**+0.6**
BIA				S	**Sg**	**12 24 11.8**	**+0.8**
BIA	**Bitola**	**1.48**	**60**	Pn	**Pb**	**12 23 51.7**	**+1.1**
BIA				Sn	**Sg**	**12 24 12.9**	**+1.9**
BIA	**Bitola**	**1.48**	**60**	*e*Pn	**Pb**	**12 23 51.7**	**+1.1**
BIA				*e*Sn	**Sg**	**12 24 12.9**	**+1.9**
BIA	**Bitola**	**1.48**	**60**	P	**Pb**	**12 23 51.3**	**+0.6**
BIA	**Bitola**	**1.48**	**60**	*e*Pn	**Pb**	**12 23 51.7**	**+1.1**
BIA				S	**Sg**	**12 24 11.8**	**+0.8**
BIA				*e*Sn	**Sg**	**12 24 12.9**	**+1.9**
PHP	**Peshkopia**	**1.52**	**23**	*i* PN	**Pb**	**12 23 52.4**	**+1.0**
PHP				*i* SN	**Sg**	**12 24 12.6**	**+0.2**
PHP	**Peshkopia**	**1.52**	**23**	P	**Pb**	**12 23 52.1**	**+0.7**
PHP				S	**Sb**	**12 24 12.2**	**+1.7**
PHP	**Peshkopia**	**1.52**	**23**	P	**Pb**	**12 23 52.1**	**+0.7**
PHP				S	**Sb**	**12 24 12.2**	**+1.7**
KZN	**Kozani**	**1.63**	**89**	P	**Pb**	**12 23 53.7**	**+0.3**
KZN				S	**Sb**	**12 24 14.5**	**+0.7**
KZN	**Kozani**	**1.63**	**89**	*e*PN	**Pb**	**12 23 54.6**	**+1.2**
KZN				*e*SN	**Sg**	**12 24 16.6**	**+0.6**
KZN	**Kozani**	**1.63**	**89**	P	**Pb**	**12 23 53.7**	**+0.3**
KZN	**Kozani**	**1.63**	**89**	*e*Pn	**Pb**	**12 23 54.6**	**+1.2**
KZN				S	**Sb**	**12 24 14.5**	**+0.7**
KZN				*e*Sn	**Sg**	**12 24 16.6**	**+0.6**
ULC	**Ulcinj**	**1.70**	**350**	⇓*i*Pn	**Pn**	**12 23 53.4**	**+0.8**
ULC				*e*Sn	**Sb**	**12 24 16.1**	**+0.5**
ULC	**Ulcinj**	**1.70**	**350**	P	**Pn**	**12 23 53.3**	**+0.7**
ULC				S	**Sb**	**12 24 16.1**	**+0.5**
ULC	**Ulcinj**	**1.70**	**350**	P	**Pn**	**12 23 53.3**	**+0.7**
ULC				S	**Sb**	**12 24 16.1**	**+0.5**
ULC	**Ulcinj**	**1.70**	**350**	⇓*i*Pn	**Pn**	**12 23 53.4**	**+0.7**
ULC				*e*Sn	**Sb**	**12 24 16.1**	**+0.5**
LKD2	**Lefkada island**	**1.70**	**152**	P	**Pb**	**12 23 54.4**	**0.0**
LKD2	**Lefkada island**	**1.70**	**152**	*e*PB	**Pn**	**12 23 54.0**	**+1.4**
LKD2				*e*SN	**Sb**	**12 24 16.1**	**+0.5**
LKD2	**Lefkada island**	**1.70**	**152**	*e*Pn	**Pn**	**12 23 54.0**	**+1.4**
LKD2	**Lefkada island**	**1.70**	**152**	P	**Pb**	**12 23 54.4**	**0.0**
LKD2				*e*Sn	**Sb**	**12 24 16.1**	**+0.5**
PUK	**Puka**	**1.76**	**6**	*i* PN	**Pb**	**12 23 55.8**	**+0.3**
PUK				*i* SN	**Sb**	**12 24 18.6**	**+1.2**
THL	**Klokotos Trika**	**1.97**	**111**	P	**Pb**	**12 23 59.0**	**0.0**
THL				S	**Sb**	**12 24 23.7**	**+0.3**
THL	**Klokotos Trika**	**1.97**	**111**	*e*PB	**Pb**	**12 23 59.1**	**0.0**
THL	**Klokotos Trika**	**1.97**	**111**	P	**Pb**	**12 23 59.0**	**0.0**
THL				S	**Sb**	**12 24 23.7**	**+0.3**
BUM	**Brajici-Budva**	**2.08**	**345**	⇓*i*Pn	**Pn**	**12 23 58.9**	**+0.9**
BUM				*e*Sn	**Sb**	**12 24 25.6**	**-1.2**
BUM	**Brajici-Budva**	**2.08**	**345**	⇓*i*Pn	**Pn**	**12 23 58.9**	**+0.9**
BUM				*e*Sn	**Sb**	**12 24 25.6**	**-1.2**
BCI	**Bajram Curri**	**2.10**	**9**	*i* PN	**Pb**	**12 24 00.8**	**-0.5**
BCI				*i* SN	**Sn**	**12 24 23.6**	**-0.4**
TTG	**Podgorica**	**2.15**	**353**	⇓*i*Pn	**Pn**	**12 24 00.0**	**+1.2**
TTG				*e*Sn	**Sn**	**12 24 27.3**	**+1.9**
TTG	**Podgorica**	**2.15**	**353**	P	**Pn**	**12 24 00.0**	**+1.2**
TTG				S	**Sn**	**12 24 27.2**	**+1.9**
TTG	**Podgorica**	**2.15**	**353**	P	**Pn**	**12 23 60.0**	**+1.2**
TTG				S	**Sn**	**12 24 27.2**	**+1.9**
TTG	**Podgorica**	**2.15**	**353**	P	**Pn**	**12 24 00.0**	**+1.2**
TTG				S	**Sn**	**12 24 27.2**	**+1.9**
PDG	**Podgorica**	**2.15**	**353**	Pg	**Pn**	**12 24 00.0**	**+1.1**
	743nm,0.7s						
PDG	**Podgorica**	**2.15**	**353**	*e*Pn	**Pn**	**12 24 00.1**	**+1.1**
PDG				*e*Sn	**Sn**	**12 24 26.0**	**+0.6**
PDG	**Podgorica**	**2.15**	**353**	Pg	**Pn**	**12 24 00.0**	**+1.1**
	743nm,0.7s						
PDG				*e*Sn	**Sn**	**12 24 26.0**	**+0.6**
SKO	**Skopje**	**2.16**	**39**	P	**Pb**	**12 24 02.1**	**-0.2**
SKO	**Skopje**	**2.16**	**39**	*e*P	**Pb**	**12 24 02.2**	**-0.1**
SKO						12 24 32.0	
SKO	**Skopje**	**2.16**	**39**	*e*Pn	**Pb**	**12 24 02.2**	**-0.1**
SKO				Sn	**Sg**	**12 24 32.0**	**-0.9**
SKO				*e*Lg	Lg	12 24 32.3	
SKO	**Skopje**	**2.16**	**39**	*e*Pn	**Pb**	**12 24 02.2**	**-0.1**
SKO				*e*Sn	**Sg**	**12 24 32.0**	**-0.9**
SKO				*e*Lg	Lg	12 24 32.3	
	comp=E,784nm,0.8s						
SKO				*e*Lg	Lg	12 24 32.6	
	comp=N,632nm,0.5s						
SKO	**Skopje**	**2.16**	**39**	*e*Pn	**Pb**	**12 24 02.3**	**-0.1**
SKO				*e*Sn	**Sb**	**12 24 28.5**	**-0.5**
SKO	**Skopje**	**2.16**	**39**	*e*Pn	**Pb**	**12 24 01.7**	**-0.6**
SKO	**Skopje**	**2.16**	**39**	P	**Pb**	**12 24 02.1**	**-0.2**
SKO				*e*Sn	**Sb**	**12 24 28.5**	**-0.5**
SKO				*e*Lg	Lg	12 24 33.0	
	comp=N,632nm,0.5s						
EVR	**Evrytania**	**2.17**	**129**	P	**Pb**	**12 24 02.2**	**-0.3**
EVR	**Evrytania**	**2.17**	**129**	*e*PN	**Pn**	**12 24 01.5**	**+2.3**
EVR				*e*SN	**Sn**	**12 24 28.1**	**+2.2**
EVR	**Evrytania**	**2.17**	**129**	*e*Pb	**Pn**	**12 24 01.5**	**+2.3**
EVR	**Evrytania**	**2.17**	**129**	P	**Pb**	**12 24 02.2**	**-0.3**
EVR				*e*Sn	**Sn**	**12 24 28.1**	**+2.2**
LIT	**Litokhoron**	**2.20**	**94**	P	**Pn**	**12 24 01.9**	**+2.5**
LIT	**Litokhoron**	**2.20**	**94**	*e*PN	**Pn**	**12 24 02.0**	**+2.5**
LIT	**Litokhoron**	**2.20**	**94**	P	**Pn**	**12 24 01.9**	**+2.5**
GRG	**Griva**	**2.21**	**72**	P	**Pn**	**12 24 01.8**	**+2.1**
GRG	**Griva**	**2.21**	**72**	P	**Pn**	**12 24 01.8**	**+2.1**
VLS	**Valsamata**	**2.24**	**160**	P	**Pn**	**12 24 01.0**	**+1.0**
VLS	**Valsamata**	**2.24**	**160**	*e*PN	**Pn**	**12 24 01.9**	**+1.9**
VLS	**Valsamata**	**2.24**	**160**	P	**Pn**	**12 24 01.0**	**+1.0**
VLS	**Valsamata**	**2.24**	**160**	*e*Pn	**Pn**	**12 24 01.9**	**+1.9**
BAI	**Bari**	**2.25**	**292**	*e*Pn	**Pn**	**12 24 01.4**	**+1.3**
MATE	**Matera**	**2.26**	**280**	Pg	**Pn**	**12 24 01.6**	**+1.3**
	comp=N,2µm,0.4s						
MATE	**Matera**	**2.26**	**280**	Pg	**Pn**	**12 24 01.6**	**+1.3**
	comp=N,2µm,0.4s						
PVY	**Plav**	**2.31**	**6**	⇓*i*Pn	**Pn**	**12 24 02.8**	**+1.6**
PVY				*e*Sn	**Sn**	**12 24 31.1**	**+1.6**
PVY	**Plav**	**2.31**	**6**	⇓*i*Pn	**Pn**	**12 24 02.8**	**+1.6**
PVY				*e*Sn	**Sn**	**12 24 31.1**	**+1.6**
SG1	**Sgolgore (BA)**	**2.32**	**285**	*e*Pn	**Pn**	**12 24 02.2**	**+1.1**
HCY	**Herceg Novi**	**2.32**	**339**	⇓*i*Pn	**Pn**	**12 24 01.4**	**+0.3**
HCY				*e*Sn	**Sn**	**12 24 30.6**	**+1.2**
HCY	**Herceg Novi**	**2.32**	**339**	⇓*i*Pn	**Pn**	**12 24 01.4**	**+0.3**
HCY				*e*Sn	**Sn**	**12 24 30.6**	**+1.2**
KFL	**Anninata**	**2.36**	**157**	P	**Pn**	**12 24 02.9**	**+1.2**
KFL	**Anninata**	**2.36**	**157**	P	**Pn**	**12 24 02.9**	**+1.2**
AMUR	**Altamura**	**2.39**	**286**	Pg	**Pn**	**12 24 03.4**	**+1.3**
	comp=N,1µm,0.4s						
AMUR	**Altamura**	**2.39**	**286**	Pg	**Pn**	**12 24 03.4**	**+1.3**
	comp=N,1µm,0.4s						
AGG	**Agios Georgios**	**2.44**	**120**	P	**Pn**	**12 24 05.7**	**+2.9**
AGG				S	**Sb**	**12 24 36.0**	**-0.9**
AGG	**Agios Georgios**	**2.44**	**120**	*e*PN	**Pn**	**12 24 05.6**	**+2.8**
AGG	**Agios Georgios**	**2.44**	**120**	*e*Pb	**Pn**	**12 24 05.6**	**+2.8**
AGG				S	**Sb**	**12 24 36.0**	**-0.9**
CRAC	**Craco**	**2.45**	**273**	Pg	**Pn**	**12 24 05.1**	**+2.2**
	comp=N,5µm,0.8s						
CRAC	**Craco**	**2.45**	**273**	Pg	**Pn**	**12 24 05.1**	**+2.2**
	comp=N,5µm,0.8s						
ORI	**Oriolo Calabro**	**2.45**	**266**	Pn	**Pn**	**12 24 04.9**	**+1.9**
	comp=N,3µm,0.4s						
ORI	**Oriolo Calabro**	**2.45**	**266**	Pn	**Pn**	**12 24 04.9**	**+1.9**
	comp=N,3µm,0.4s						
VAY	**Valandovo**	**2.45**	**64**	P	**Pn**	**12 24 04.3**	**+1.3**
VAY	**Valandovo**	**2.45**	**64**	P	**Pn**	**12 24 04.6**	**+1.6**
VAY	**Valandovo**	**2.45**	**64**	Pn	**Pn**	**12 24 04.6**	**+1.6**
VAY	**Valandovo**	**2.45**	**64**	P	**Pn**	**12 24 04.2**	**+1.3**
VAY				S	**Sg**	**12 24 41.8**	**-0.5**
VAY	**Valandovo**	**2.45**	**64**	*e*Pn	**Pn**	**12 24 04.7**	**+1.6**
VAY	**Valandovo**	**2.45**	**64**	*e*Pn	**Pn**	**12 24 05.0**	**+2.0**
VAY	**Valandovo**	**2.45**	**64**	P	**Pn**	**12 24 04.6**	**+1.6**
MIGL	**Miglionico**	**2.46**	**278**	Pg	**Pn**	**12 24 04.8**	**+1.8**
MIGL	**Miglionico**	**2.46**	**278**	Pg	**Pn**	**12 24 04.8**	**+1.8**
TIP	**Timpagrande**	**2.48**	**244**	Pg	**Pn**	**12 24 05.0**	**+1.6**
TIP	**Timpagrande**	**2.48**	**244**	Pn	**Pn**	**12 24 03.4**	**0.0**
TIP	**Timpagrande**	**2.48**	**244**	Pn	**Pn**	**12 24 03.4**	**0.0**
TIP	**Timpagrande**	**2.48**	**244**	Pg	**Pn**	**12 24 05.0**	**+1.6**
EFP	**Efpalio**	**2.56**	**136**	P	**Pn**	**12 24 07.3**	**+2.8**
EFP				S	**Sb**	**12 24 39.4**	**-1.1**
EFP	**Efpalio**	**2.56**	**136**	*e*PN	**Pn**	**12 24 07.2**	**+2.8**
EFP	**Efpalio**	**2.56**	**136**	*e*Pb	**Pn**	**12 24 07.2**	**+2.8**
EFP				S	**Sb**	**12 24 39.4**	**-1.1**
NKY	**Niksic**	**2.56**	**349**	⇓*i*Pn	**Pn**	**12 24 05.2**	**+0.6**
NKY				*e*Sn	**Sn**	**12 24 36.6**	**+0.9**
NKY	**Niksic**	**2.56**	**349**	P	**Pn**	**12 24 05.5**	**+0.9**
NKY				S	**Sn**	**12 24 37.1**	**+1.4**
NKY	**Niksic**	**2.56**	**349**	P	**Pn**	**12 24 05.5**	**+0.9**
NKY				S	**Sn**	**12 24 37.1**	**+1.4**
NKY	**Niksic**	**2.56**	**349**	⇓*i*Pn	**Pn**	**12 24 05.2**	**+0.6**
NKY	**Niksic**	**2.56**	**349**	P	**Pn**	**12 24 05.5**	**+0.9**
NKY				*e*Sn	**Sn**	**12 24 36.6**	**+0.9**
NKY				S	**Sn**	**12 24 37.1**	**+1.4**
THE	**Thessaloniki**	**2.56**	**81**	P	**Pn**	**12 24 06.7**	**+2.2**
THE	**Thessaloniki**	**2.56**	**81**	P	**Pn**	**12 24 06.7**	**+2.2**
BEY	**Berane**	**2.58**	**4**	⇑*i*Pn	**Pn**	**12 24 06.4**	**+1.5**
BEY				*e*Sn	**Sn**	**12 24 37.9**	**+1.8**
IVA	**Berane**	**2.58**	**4**	⇑*i*Pn	**Pn**	**12 24 06.4**	**+1.5**
IVA				*e*Sn	**Sn**	**12 24 37.9**	**+1.8**
SERS	**Sersale**	**2.60**	**242**	Pn	**Pn**	**12 24 06.3**	**+1.2**
SERS	**Sersale**	**2.60**	**242**	Pn	**Pn**	**12 24 06.3**	**+1.2**
UPR	**University Cam**	**2.61**	**140**	*e*PN	**Pn**	**12 24 07.2**	**+2.1**
UPR	**University Cam**	**2.61**	**140**	*e*Pn	**Pn**	**12 24 07.2**	**+2.1**
PSA1	**Psathopyrgos**	**2.63**	**138**	*e*PN	**Pn**	**12 24 07.6**	**+2.3**
KNT	**Kendrikon**	**2.63**	**70**	P	**Pn**	**12 24 07.0**	**+1.6**
KNT	**Kendrikon**	**2.63**	**70**	P	**Pn**	**12 24 07.0**	**+1.6**
RLS	**Riolos of Patr**	**2.65**	**147**	P	**Pn**	**12 24 07.7**	**+2.1**
RLS	**Riolos of Patr**	**2.65**	**147**	*e*PN	**Pn**	**12 24 07.8**	**+2.1**
RLS	**Riolos of Patr**	**2.65**	**147**	*e*Pn	**Pn**	**12 24 07.8**	**+2.1**
HORT	**Hortiatis**	**2.66**	**82**	P	**Pn**	**12 24 07.6**	**+1.7**
HORT	**Hortiatis**	**2.66**	**82**	P	**Pn**	**12 24 07.6**	**+1.7**
CDT	**Castel del Mon**	**2.67**	**288**	*e*Pn	**Pn**	**12 24 07.1**	**+1.1**
TRIZ	**Trizonia**	**2.70**	**135**	P	**Pn**	**12 24 09.2**	**+2.9**
TRIZ	**Trizonia**	**2.70**	**135**	*e*PN	**Pn**	**12 24 09.0**	**+2.7**
TRIZ	**Trizonia**	**2.70**	**135**	*e*Pn	**Pn**	**12 24 09.0**	**+2.7**
KALE	**Kalithea**	**2.72**	**134**	P	**Pn**	**12 24 09.3**	**+2.6**
KALE	**Kalithea**	**2.72**	**134**	*e*PN	**Pn**	**12 24 09.0**	**+2.3**
KALE	**Kalithea**	**2.72**	**134**	*e*Pn	**Pn**	**12 24 09.0**	**+2.3**
KALE	**Kalithea**	**2.72**	**134**	P	**Pn**	**12 24 09.3**	**+2.6**
MRVN	**Minervino Murg**	**2.73**	**287**	Pn	**Pn**	**12 24 07.9**	**+1.1**
	comp=N,1µm,0.6s						
MRVN	**Minervino Murg**	**2.73**	**287**	Pn	**Pn**	**12 24 07.9**	**+1.1**
	comp=N,1µm,0.6s						
SCHR	**S. Chirico Rap**	**2.73**	**269**	Pn	**Pn**	**12 24 08.2**	**+1.4**
	comp=N,847nm,1.1s						
SCHR	**S. Chirico Rap**	**2.73**	**269**	Pn	**Pn**	**12 24 08.2**	**+1.4**
	comp=N,847nm,1.1s						
BRY	**Bratogost**	**2.73**	**343**	⇑*i*Pn	**Pn**	**12 24 07.5**	**+0.5**
BRY				*e*Sn	**Sn**	**12 24 40.9**	**+1.0**
BRY	**Bratogost**	**2.73**	**343**	⇑*i*Pn	**Pn**	**12 24 07.5**	**+0.5**
BRY				*e*Sn	**Sn**	**12 24 40.9**	**+1.0**
LAKA	**Lakka**	**2.74**	**138**	P	**Pn**	**12 24 09.4**	**+2.5**
LAKA	**Lakka**	**2.74**	**138**	*e*PN	**Pn**	**12 24 09.5**	**+2.5**
LAKA	**Lakka**	**2.74**	**138**	*e*Pn	**Pn**	**12 24 09.5**	**+2.5**
AXAR	**Agios Charalam**	**2.79**	**122**	P	**Pn**	**12 24 10.7**	**+3.0**
AXAR				S	**Sn**	**12 24 43.8**	**+2.7**
AXAR	**Agios Charalam**	**2.79**	**122**	P	**Pn**	**12 24 10.7**	**+3.0**
AXAR				S	**Sn**	**12 24 43.8**	**+2.7**
ACER	**Acerenza**	**2.86**	**281**	Pn	**Pn**	**12 24 10.2**	**+1.6**
	comp=N,4µm,0.4s						
ACER	**Acerenza**	**2.86**	**281**	Pn	**Pn**	**12 24 10.2**	**+1.6**
	comp=N,4µm,0.4s						
PALZ	**Palazzo San Ge**	**2.87**	**284**	Pn	**Pn**	**12 24 10.3**	**+1.6**
	comp=N,6µm,1.1s						
PALZ	**Palazzo San Ge**	**2.87**	**284**	Pn	**Pn**	**12 24 10.3**	**+1.6**
	comp=N,6µm,1.1s						
SOH	**Sokhos**	**2.88**	**78**	P	**Pn**	**12 24 10.9**	**+2.0**
SOH	**Sokhos**	**2.88**	**78**	*e*PN	**Pn**	**12 24 11.5**	**+2.6**
SOH	**Sokhos**	**2.88**	**78**	P	**Pn**	**12 24 10.9**	**+2.0**
SOH	**Sokhos**	**2.88**	**78**	*e*Pn	**Pn**	**12 24 11.5**	**+2.6**
SIRI	**Monte Sirino -**	**2.88**	**269**	Pn	**Pn**	**12 24 10.7**	**+1.7**
	comp=N,859nm,0.8s						
SIRI	**Monte Sirino -**	**2.88**	**269**	Pn	**Pn**	**12 24 10.7**	**+1.7**
	comp=N,859nm,0.8s						
XOR	**Xorichti**	**2.89**	**108**	P	**Pn**	**12 24 11.3**	**+2.3**
XOR	**Xorichti**	**2.89**	**108**	P	**Pn**	**12 24 11.3**	**+2.3**
PLG	**Polygyros**	**2.92**	**87**	P	**Pn**	**12 24 11.0**	**+1.6**
PLG	**Polygyros**	**2.92**	**87**	*e*PN	**Pn**	**12 24 11.4**	**+2.0**
PLG	**Polygyros**	**2.92**	**87**	P	**Pn**	**12 24 11.0**	**+1.6**
PLG	**Polygyros**	**2.92**	**87**	*e*Pn	**Pn**	**12 24 11.4**	**+2.0**
DSF	**Desfina**	**2.93**	**129**	P	**Pn**	**12 24 11.9**	**+2.4**
DSF	**Desfina**	**2.93**	**129**	P	**Pn**	**12 24 11.9**	**+2.4**
MCEL	**Monticello**	**2.93**	**272**	Pn	**Pn**	**12 24 11.3**	**+1.7**
	comp=N,881nm,0.7s						
MCEL	**Monticello**	**2.93**	**272**	Pn	**Pn**	**12 24 11.3**	**+1.7**
	comp=N,881nm,0.7s						
NEO	**Neokhori**	**2.94**	**108**	*e*PN	**Pn**	**12 24 12.6**	**+3.0**
NEO	**Neokhori**	**2.94**	**108**	*e*Pn	**Pn**	**12 24 12.6**	**+3.0**
CUC	**Castrocucco**	**2.94**	**265**	Pn	**Pn**	**12 24 12.3**	**+2.5**
	comp=N,527nm,0.6s						
CUC	**Castrocucco**	**2.94**	**265**	*e*Pn	**Pn**	**12 24 11.5**	**+1.8**
CUC	**Castrocucco**	**2.94**	**265**	*e*Pn	**Pn**	**12 24 11.5**	**+1.8**
STON	**Ston**	**2.96**	**331**	*e*Pn	**Pn**	**12 24 10.1**	**+0.2**
STON				Sn	**Sn**	**12 24 44.4**	**-0.7**
STON	**Ston**	**2.96**	**331**	*e*Pn	**Pn**	**12 24 10.1**	**+0.2**
STON				Sn	**Sn**	**12 24 44.4**	**-0.7**
UPM	**Unac-Piva**	**2.96**	**350**	⇑*i*Pn	**Pn**	**12 24 11.3**	**+1.2**
UPM				*e*Sn	**Sn**	**12 24 46.6**	**+1.1**
UPM	**Unac-Piva**	**2.96**	**350**	⇑*i*Pn	**Pn**	**12 24 11.3**	**+1.2**
UPM				*e*Sn	**Sn**	**12 24 46.6**	**+1.1**
SJES	**Sjenica**	**2.98**	**5**	*e*Pn	**Pn**	**12 24 12.3**	**+2.0**
SJES				*e*Sn	**Sn**	**12 24 45.5**	**-0.4**
SJES	**Sjenica**	**2.98**	**5**	*e*Pn	**Pn**	**12 24 12.3**	**+2.0**
SJES				*e*Sn	**Sn**	**12 24 45.5**	**-0.4**
BARS	**Barje**	**3.01**	**32**	*e*Pn	**Pn**	**12 24 12.7**	**+2.1**
BARS				*e*Sn	**Sn**	**12 24 46.9**	**+0.5**
BARS	**Barje**	**3.01**	**32**	*e*Pn	**Pn**	**12 24 12.7**	**+2.1**
BARS				*e*Sn	**Sn**	**12 24 46.9**	**+0.5**
PLE	**Pljevlja**	**3.04**	**357**	⇓*i*Pn	**Pn**	**12 24 13.1**	**+1.9**
PLE				*e*Sn	**Sn**	**12 24 49.4**	**+2.0**
PLE	**Pljevlja**	**3.04**	**357**	⇓*i*Pn	**Pn**	**12 24 13.1**	**+1.9**
PLE				*e*Sn	**Sn**	**12 24 49.4**	**+2.0**
ATAL	**Atalanti**	**3.07**	**120**	P	**Pn**	**12 24 14.2**	**+2.7**
ATAL	**Atalanti**	**3.07**	**120**	P	**Pn**	**12 24 14.2**	**+2.7**
LKR	**Lokris**	**3.08**	**121**	*e*PN	**Pn**	**12 24 14.2**	**+2.6**
LKR	**Lokris**	**3.08**	**121**	*e*Pn	**Pn**	**12 24 14.2**	**+2.6**
PLAC	**Placanica**	**3.09**	**234**	Pn	**Pn**	**12 24 12.7**	**+1.0**
	comp=N,364nm,0.5s						
PLAC	**Placanica**	**3.09**	**234**	Pn	**Pn**	**12 24 12.7**	**+1.0**
	comp=N,364nm,0.5s						
SRS	**Serrai**	**3.12**	**73**	P	**Pn**	**12 24 14.0**	**+1.8**
SRS	**Serrai**	**3.12**	**73**	P	**Pn**	**12 24 14.0**	**+1.8**
PAIG	**Paliouri**	**3.12**	**95**	P	**Pn**	**12 24 13.7**	**+1.5**
PAIG	**Paliouri**	**3.12**	**95**	P	**Pn**	**12 24 13.7**	**+1.5**
SELS	**Selova**	**3.13**	**20**	*e*Pn	**Pn**	**12 24 14.0**	**+1.7**
MS1	**Monte Sant'Ang**	**3.13**	**298**	*e*Pn	**Pn**	**12 24 13.5**	**+1.1**
MSAG	**Monte S. Angel**	**3.15**	**298**	Pn	**Pn**	**12 24 13.8**	**+1.1**
	comp=N,1µm,0.4s						
MSAG	**Monte S. Angel**	**3.15**	**298**	Pn	**Pn**	**12 24 13.8**	**+1.1**
	comp=N,1µm,0.4s						
GUR	**Goura**	**3.16**	**137**	P	**Pn**	**12 24 15.2**	**+2.4**
GUR	**Goura**	**3.16**	**137**	*e*PN	**Pn**	**12 24 15.4**	**+2.6**
GUR	**Goura**	**3.16**	**137**	*e*Pn	**Pn**	**12 24 15.4**	**+2.6**
MRLC	**Muro Lucano**	**3.19**	**280**	Pn	**Pn**	**12 24 14.9**	**+1.7**
	comp=N,690nm,0.7s						
MRLC	**Muro Lucano**	**3.19**	**280**	Pn	**Pn**	**12 24 14.9**	**+1.7**
	comp=N,690nm,0.7s						
AMT	**Artemida-Makis**	**3.20**	**149**	P	**Pn**	**12 24 15.7**	**+2.5**
AMT	**Artemida-Makis**	**3.20**	**149**	*e*PN	**Pn**	**12 24 15.6**	**+2.4**
AMT	**Artemida-Makis**	**3.20**	**149**	P	**Pn**	**12 24 15.7**	**+2.5**
BULG	**Bulgheria - Ca**	**3.27**	**268**	Pn	**Pn**	**12 24 16.1**	**+1.9**
	comp=N,849nm,0.7s						
BULG	**Bulgheria - Ca**	**3.27**	**268**	Pn	**Pn**	**12 24 16.1**	**+1.9**
	comp=N,849nm,0.7s						
SGRT	**San Giovanni R**	**3.29**	**298**	Pn	**Pn**	**12 24 15.7**	**+1.2**
	comp=N,914nm,0.8s						
SGRT	**San Giovanni R**	**3.29**	**298**	Pn	**Pn**	**12 24 15.7**	**+1.2**
	comp=N,914nm,0.8s						
CDRU	**Civita di Ruta**	**3.31**	**275**	Pn	**Pn**	**12 24 16.4**	**+1.5**
	comp=N,284nm,0.6s						
CDRU	**Civita di Ruta**	**3.31**	**275**	Pn	**Pn**	**12 24 16.4**	**+1.5**
	comp=N,284nm,0.6s						
CMPR	**Campora**	**3.31**	**272**	Pn	**Pn**	**12 24 17.1**	**+2.3**
	comp=N,280nm,0.4s						
CMPR	**Campora**	**3.31**	**272**	Pn	**Pn**	**12 24 17.1**	**+2.3**
	comp=N,280nm,0.4s						
MMB	**Musomiste**	**3.36**	**66**	*i* P	**Pn**	**12 24 17.8**	**+2.3**
MMB				*e*S	**Sn**	**12 24 50.8**	**-4.4**
MMB	**Musomiste**	**3.36**	**66**	*i* P	**Pn**	**12 24 17.8**	**+2.3**
NVR	**Nevrokopi**	**3.38**	**70**	P	**Pn**	**12 24 17.8**	**+2.1**
NVR	**Nevrokopi**	**3.38**	**70**	*e*PN	Pn	12 24 19.0	+3.3
NVR	**Nevrokopi**	**3.38**	**70**	P	**Pn**	**12 24 17.8**	**+2.1**
NVR	**Nevrokopi**	**3.38**	**70**	*e*Pn	Pn	12 24 19.0	+3.3
MCRV	**Calabrutti - M**	**3.44**	**280**	Pn	**Pn**	**12 24 17.9**	**+1.3**
	comp=N,413nm,0.4s						
MCRV	**Calabrutti - M**	**3.44**	**280**	Pn	**Pn**	**12 24 17.9**	**+1.3**
	comp=N,413nm,0.4s						
LTK	**Loutraki**	**3.44**	**130**	P	**Pn**	**12 24 18.3**	**+1.7**
LTK	**Loutraki**	**3.44**	**130**	*e*PN	**Pn**	**12 24 18.5**	**+1.9**
LTK	**Loutraki**	**3.44**	**130**	*e*Pn	**Pn**	**12 24 18.5**	**+1.9**
MRKA	**Markates**	**3.44**	**116**	P	**Pn**	**12 24 18.9**	**+2.3**
MRKA	**Markates**	**3.44**	**116**	P	**Pn**	**12 24 18.9**	**+2.3**
AOS	**Alonnisos**	**3.46**	**108**	P	**Pn**	**12 24 19.1**	**+2.3**
AOS	**Alonnisos**	**3.46**	**108**	*e*PN	**Pn**	**12 24 19.1**	**+2.3**
AOS	**Alonnisos**	**3.46**	**108**	P	**Pn**	**12 24 19.1**	**+2.3**
VTS	**Vitosha**	**3.54**	**48**	P	**Pn**	**12 24 20.2**	**+2.2**
VTS	**Vitosha**	**3.54**	**48**	⇑P	**Pn**	**12 24 20.7**	**+2.7**
VTS	**Vitosha**	**3.54**	**48**	⇑*i*P	**Pn**	**12 24 20.7**	**+2.7**
VTS	**Vitosha**	**3.54**	**48**	P	**Pn**	**12 24 20.3**	**+2.2**
VTS				Pg	**Pb**	**12 24 28.5**	**+2.7**
VTS				*e*S	**Sn**	**12 25 02.4**	**+2.7**
VTS	**Vitosha**	**3.54**	**48**	*e*Pn	**Pn**	**12 24 20.5**	**+2.5**
VTS	**Vitosha**	**3.54**	**48**	P	**Pn**	**12 24 20.2**	**+2.2**
VTS	**Vitosha**	**3.54**	**48**	*e*Pn	**Pn**	**12 24 20.5**	**+2.5**
VTS				*e*S	**Sn**	**12 25 02.4**	**+2.7**
MOCO	**Biccari - m.te**	**3.56**	**289**	Pn	**Pn**	**12 24 20.5**	**+2.2**
	comp=N,1µm,1.0s						
BBLS	**Lazići**	**3.58**	**357**	*e*Pn	**Pn**	**12 24 20.4**	**+1.9**
BBLS				*e*Sn	**Sn**	**12 25 01.9**	**+1.4**
BBLS	**Lazići**	**3.58**	**357**	*e*Pn	**Pn**	**12 24 20.4**	**+1.9**
BBLS				*e*Sn	**Sn**	**12 25 01.9**	**+1.4**
ITM	**Ithomi**	**3.59**	**149**	*e*PN	**Pn**	**12 24 21.0**	**+2.4**
ITM	**Ithomi**	**3.59**	**149**	*e*Pn	**Pn**	**12 24 21.0**	**+2.4**
VLX	**Vlachokerasia**	**3.62**	**143**	P	**Pn**	**12 24 22.1**	**+3.0**
VLX	**Vlachokerasia**	**3.62**	**143**	*e*PN	**Pn**	**12 24 21.8**	**+2.7**
VLX	**Vlachokerasia**	**3.62**	**143**	*e*Pn	**Pn**	**12 24 21.8**	**+2.7**
VLX	**Vlachokerasia**	**3.62**	**143**	P	**Pn**	**12 24 22.1**	**+3.0**
GRUS	**Gruza**	**3.68**	**12**	*e*Pn	**Pn**	**12 24 21.7**	**+1.8**
GRUS	**Gruza**	**3.68**	**12**	*e*Pn	**Pn**	**12 24 21.7**	**+1.8**
MELA	**Melanico ??? S**	**3.69**	**294**	Pn	**Pn**	**12 24 21.7**	**+1.7**
	comp=N,1µm,0.8s						
MELA	**Melanico ??? S**	**3.69**	**294**	Pn	**Pn**	**12 24 21.7**	**+1.7**
	comp=N,1µm,0.8s						
ZAPS	**Zavoj**	**3.73**	**36**	*e*Pn	**Pn**	**12 24 22.2**	**+1.6**
ZAPS				*e*Sn	**Sn**	**12 25 04.3**	**0.0**
ZAPS	**Zavoj**	**3.73**	**36**	*e*Pn	**Pn**	**12 24 22.2**	**+1.6**
ZAPS				*e*Sn	**Sn**	**12 25 04.3**	**0.0**
PYL	**PYLOS**	**3.77**	**153**	*e*PN	**Pn**	**12 24 23.3**	**+2.2**
PYL	**PYLOS**	**3.77**	**153**	*e*Pn	**Pn**	**12 24 23.3**	**+2.2**
KAVA	**Kavala**	**3.78**	**78**	P	**Pn**	**12 24 22.9**	**+1.7**
KAVA	**Kavala**	**3.78**	**78**	P	**Pn**	**12 24 22.9**	**+1.7**
DIVS	**Divibare**	**3.81**	**4**	P	**Pn**	**12 24 22.7**	**+0.9**
DIVS	**Divibare**	**3.81**	**4**	*e*Pn	**Pn**	**12 24 22.9**	**+1.1**
DIVS				*e*Sn	**Sn**	**12 25 05.5**	**-0.9**
DIVS	**Divibare**	**3.81**	**4**	*e*Pn	**Pn**	**12 24 22.9**	**+1.1**
DIVS				*e*Sn	**Sn**	**12 25 05.5**	**-0.9**
CIGN	**Sant'Elia a Pi**	**3.83**	**292**	Pn	**Pn**	**12 24 23.8**	**+1.9**
	comp=N,733nm,0.9s						
CIGN	**Sant'Elia a Pi**	**3.83**	**292**	Pn	**Pn**	**12 24 23.8**	**+1.9**
	comp=N,733nm,0.9s						
SACR	**S. Croce Del S**	**3.90**	**288**	Pn	**Pn**	**12 24 25.2**	**+2.3**
SACR	**S. Croce Del S**	**3.90**	**288**	Pn	**Pn**	**12 24 25.2**	**+2.3**
NAIG	**Nisos Aigina**	**3.93**	**129**	*e*PN	**Pn**	**12 24 25.0**	**+1.8**
NAIG	**Nisos Aigina**	**3.93**	**129**	*e*Pn	**Pn**	**12 24 25.0**	**+1.8**
ATH	**Athens Observa**	**3.93**	**125**	P	**Pn**	**12 24 25.3**	**+2.0**
ATH	**Athens Observa**	**3.93**	**125**	*e*PN	**Pn**	**12 24 25.5**	**+2.2**
ATH	**Athens Observa**	**3.93**	**125**	*e*Pn	**Pn**	**12 24 25.5**	**+2.2**
DID	**Didima**	**3.95**	**134**	P	**Pn**	**12 24 25.1**	**+1.4**
DID				S	**Sn**	**12 25 13.2**	**+3.4**
DID	**Didima**	**3.95**	**134**	*e*PN	**Pn**	**12 24 26.1**	**+2.4**
DID	**Didima**	**3.95**	**134**	P	**Pn**	**12 24 25.1**	**+1.4**
DID	**Didima**	**3.95**	**134**	*e*Pn	**Pn**	**12 24 26.1**	**+2.4**
DID				S	**Sn**	**12 25 13.2**	**+3.4**
TRUS	**Trudelj**	**3.97**	**8**	*e*Pn	**Pn**	**12 24 23.9**	**+0.1**
TRUS	**Trudelj**	**3.97**	**8**	*e*Pn	**Pn**	**12 24 23.9**	**+0.1**
PTL	**Penteli**	**3.98**	**123**	P	**Pn**	**12 24 26.0**	**+2.0**
PTL	**Penteli**	**3.98**	**123**	*e*PN	**Pn**	**12 24 25.9**	**+2.0**
PTL	**Penteli**	**3.98**	**123**	P	**Pn**	**12 24 26.0**	**+2.0**
BSSO	**Busso**	**4.02**	**290**	Pn	**Pn**	**12 24 26.9**	**+2.3**
	comp=N,933nm,1.3s						
BSSO	**Busso**	**4.02**	**290**	Pn	**Pn**	**12 24 26.9**	**+2.3**
	comp=N,933nm,1.3s						
PTRJ	**Pietraroja**	**4.02**	**287**	Pn	**Pn**	**12 24 26.8**	**+2.2**
	comp=N,2µm,1.0s						
PTRJ	**Pietraroja**	**4.02**	**287**	Pn	**Pn**	**12 24 26.8**	**+2.2**
	comp=N,2µm,1.0s						
PGB	**Panagyurishte**	**4.09**	**55**	P	**Pn**	**12 24 26.6**	**+1.1**
PGB				S	**Sn**	**12 25 12.8**	**-0.3**
PGB	**Panagyurishte**	**4.09**	**55**	P	**Pn**	**12 24 26.6**	**+1.1**
PGB				S	**Sn**	**12 25 12.8**	**-0.3**
RZN	**Rozhen**	**4.09**	**68**	P	**Pn**	**12 24 28.2**	**+2.5**

RZN					Sg		Sn	12 25 15.7	+2.3		
RZN	**Rozhen**	**4.09**	**68**		P		Pn	12 24 28.2	+2.5		
RZN					Sg		Sn	12 25 15.7	+2.3		
FRES	**Fresagrandinar**	**4.11**	**296**		Pn		Pn	12 24 27.9	+2.2		
FRES	**Fresagrandinar**	**4.11**	**296**		Pn		Pn	12 24 27.9	+2.2		
TRIV	**Trivento**	**4.12**	**293**		Pn		Pn	12 24 28.1	+2.2		
	comp=N,1µm,1.0s										
TRIV	**Trivento**	**4.12**	**293**		Pn		Pn	12 24 28.1	+2.2		
	comp=N,1µm,1.0s										
VAGA	**Valle Agricola**	**4.25**	**287**		Pn		Pn	12 24 29.9	+2.2		
	comp=N,600nm,0.9s										
VAGA	**Valle Agricola**	**4.25**	**287**		Pn		Pn	12 24 29.9	+2.2		
	comp=N,600nm,0.9s										
LIA	**Limnos Island**	**4.27**	**93**		*e*PN		Pn	12 24 31.0	+3.0		
LIA	**Limnos Island**	**4.27**	**93**		*e*Pn		Pn	12 24 31.0	+3.0		
MPEP	**Malo Peshtene**	**4.33**	**44**		P		Pn	12 24 32.3	+3.5		
MPEP					*e*S		Sg	12 25 38.5	-4.0		
VLI	**Veliai**	**4.41**	**143**		P		Pn	12 24 31.8	+1.9		
VLI	**Veliai**	**4.41**	**143**		P		Pn	12 24 31.8	+1.9		
LPEL	**Lama dei Pelig**	**4.47**	**295**		Pn		Pn	12 24 32.9	+2.1		
	comp=N,360nm,0.8s										
LPEL	**Lama dei Pelig**	**4.47**	**295**		Pn		Pn	12 24 32.9	+2.1		
	comp=N,360nm,0.8s										
KDZ	**Kurdzhali**	**4.58**	**71**		P		Pn	12 24 33.1	+0.8		
KDZ	**Kurdzhali**	**4.58**	**71**		P		Pn	12 24 33.1	+0.8		
INTR	**Introdacqua**	**4.65**	**294**		Pn		Pn	12 24 35.4	+2.1		
	comp=N,367nm,0.7s										
INTR	**Introdacqua**	**4.65**	**294**		Pn		Pn	12 24 35.4	+2.1		
	comp=N,367nm,0.7s										
VVLD	**Villa Vallelon**	**4.81**	**291**		Pn		Pn	12 24 37.7	+2.2		
	comp=N,374nm,0.9s										
VVLD	**Villa Vallelon**	**4.81**	**291**		Pn		Pn	12 24 37.7	+2.2		
	comp=N,374nm,0.9s										
KYTH	**Kithira**	**4.82**	**145**		P		Pn	12 24 38.3	+2.8		
KYTH	**Kithira**	**4.82**	**145**		*e*PN		Pn	12 24 38.4	+2.9		
KYTH	**Kithira**	**4.82**	**145**		P		Pn	12 24 38.3	+2.8		
VCEL	**Villa Celiera**	**4.84**	**298**		Pn		Pn	12 24 37.9	+2.0		
	comp=N,271nm,0.4s										
VCEL	**Villa Celiera**	**4.84**	**298**		Pn		Pn	12 24 37.9	+2.0		
	comp=N,271nm,0.4s										
FGSL	**Fruska Gora**	**4.86**	**1**		*e*Pn		Pn	12 24 36.4	+0.3		
FGSL					*e*Sn		Sn	12 25 30.3	-1.9		
FRGS	**Fruska Gora**	**4.87**	**1**		*e*Pn		Pn	12 24 36.4	+0.3		
FRGS					*e*Sn		Sn	12 25 30.3	-1.9		
ALN	**Alexandroupoli**	**4.92**	**81**		P		Pn	12 24 38.8	+2.0		
ALN	**Alexandroupoli**	**4.92**	**81**		*e*PN		Pn	12 24 39.9	+3.1		
ALN	**Alexandroupoli**	**4.92**	**81**		P		Pn	12 24 38.8	+2.0		
ALN	**Alexandroupoli**	**4.92**	**81**		*e*Pn		Pn	12 24 39.9	+3.1		
PTQR	**Pietraquaria**	**5.01**	**292**		Pn		Pn	12 24 41.1	+2.9		
	comp=N,51nm,0.8s										
PTQR	**Pietraquaria**	**5.01**	**292**		Pn		Pn	12 24 41.1	+2.9		
	comp=N,51nm,0.8s										
TERO	**Teramo**	**5.09**	**299**		Pn		Pn	12 24 41.1	+1.8		
	comp=N,152nm,0.4s										
TERO	**Teramo**	**5.09**	**299**		Pn		Pn	12 24 41.1	+1.8		
	comp=N,152nm,0.4s										
AQU	**L'Aquila**	**5.12**	**296**		*e*Pn		Pn	12 24 40.7	+1.0		
AQU	**L'Aquila**	**5.12**	**296**	⇑	*i*P		Pn	12 24 42.3	+2.6		
AQU	**L'Aquila**	**5.12**	**296**		*e*P		Pn	12 24 40.7	+1.0		
CAMP	**Campotosto**	**5.19**	**298**		Pn		Pn	12 24 42.7	+2.0		
	comp=N,34nm,0.7s										
CAMP	**Campotosto**	**5.19**	**298**		Pn		Pn	12 24 42.7	+2.0		
	comp=N,34nm,0.7s										
CERT	**Cerreto**	**5.29**	**290**		Pn		Pn	12 24 44.1	+2.1		
	comp=N,324nm,0.9s										
CERT	**Cerreto**	**5.29**	**290**		Pn		Pn	12 24 44.1	+2.1		
	comp=N,324nm,0.9s										
FIAM	**Fiamignano**	**5.29**	**294**		Pn		Pn	12 24 45.0	+2.9		
	comp=N,128nm,0.7s										
FIAM	**Fiamignano**	**5.29**	**294**		Pn		Pn	12 24 45.0	+2.9		
	comp=N,128nm,0.7s										
CHOS	**Chios island**	**5.33**	**109**		*e*PN		Pn	12 24 45.4	+2.8		
CHOS	**Chios island**	**5.33**	**109**		*e*Pn		Pn	12 24 45.4	+2.8		
NRCA	**Norcia**	**5.51**	**300**		Pn		Pn	12 24 47.3	+2.2		
NRCA	**Norcia**	**5.51**	**300**		Pn		Pn	12 24 47.3	+2.2		
BZS	**Buzias**	**5.52**	**15**	⇑	P		Pn	12 24 46.6	+1.5		
BZS	**Buzias**	**5.52**	**15**	⇑	*i*P		Pn	12 24 46.6	+1.5		
BZS	**Buzias**	**5.52**	**15**		*e*Pn		Pn	12 24 46.3	+1.2		
BZS					*e*Sn		Sn	12 25 46.4	-1.9		
BZS	**Buzias**	**5.52**	**15**		*e*Pn		Pn	12 24 46.3	+1.2		
BZS	**Buzias**	**5.52**	**15**	⇑	*i*P		Pn	12 24 46.6	+1.5		
BZS					*e*Sn		Sn	12 25 46.4	-1.9		
NVLJ	**Novalja**	**5.54**	**322**		*e*Pn		Pn	12 24 45.5	+0.2		
NVLJ					Sn		Sn	12 25 46.3	-2.4		
NVLJ	**Novalja**	**5.54**	**322**		*e*Pn		Pn	12 24 45.5	+0.2		
NVLJ					Sn		Sn	12 25 46.2	-2.4		
AOI	**Ancona**	**5.55**	**308**		Pn		Pn	12 24 46.2	+0.6		
	comp=N,115nm,1.0s										
AOI	**Ancona**	**5.55**	**308**		Pn		Pn	12 24 46.2	+0.6		
	comp=N,115nm,1.0s										
FDMO	**Fiordimonte**	**5.62**	**301**		Pn		Pn	12 24 48.2	+1.7		
	comp=N,111nm,0.8s										
FDMO	**Fiordimonte**	**5.62**	**301**		Pn		Pn	12 24 48.2	+1.7		
	comp=N,111nm,0.8s										
APE	**Apeiranthos**	**5.62**	**123**		*e*PN		Pn	12 24 49.4	+2.8		
APE	**Apeiranthos**	**5.62**	**123**		*e*Pn		Pn	12 24 49.4	+2.8		
CING	**Cingoli**	**5.71**	**305**		Pn		Pn	12 24 48.8	+1.0		
	comp=N,111nm,0.8s										
CING	**Cingoli**	**5.71**	**305**		Pn		Pn	12 24 48.8	+1.0		
	comp=N,111nm,0.8s										
SNTG	**Esanatoglia**	**5.81**	**303**		Pn		Pn	12 24 50.3	+1.1		
	comp=N,32nm,0.2s										
SNTG	**Esanatoglia**	**5.81**	**303**		Pn		Pn	12 24 50.3	+1.1		
	comp=N,32nm,0.2s										
ARVD	**Arcevia**	**5.93**	**305**		Pn		Pn	12 24 51.7	+0.9		
	comp=N,57nm,0.3s										
ARVD	**Arcevia**	**5.93**	**305**		Pn		Pn	12 24 51.7	+0.9		
	comp=N,57nm,0.3s										
PKSM	**Moragy**	**5.96**	**353**	⇑	P		Pn	12 24 53.0	+1.8		
PKSM	**Moragy**	**5.96**	**353**	⇑	*i*P		Pn	12 24 53.0	+1.8		
PKSM	**Moragy**	**5.96**	**353**		*e*Pn		Pn	12 24 51.8	+0.6		
PKSM	**Moragy**	**5.96**	**353**		*e*Pn		Pn	12 24 51.8	+0.6		
PKSM	**Moragy**	**5.96**	**353**		P		Pn	12 24 53.0	+1.8		
MURB	**Monte Urbino**	**6.09**	**302**		Pn		Pn	12 24 55.1	+2.1		
	comp=N,213nm,0.4s										
MURB	**Monte Urbino**	**6.09**	**302**		Pn		Pn	12 24 55.1	+2.1		
	comp=N,213nm,0.4s										
PIEI	**Pieia**	**6.21**	**304**		Pn		Pn	12 24 55.6	+1.0		
	comp=N,52nm,0.3s										
PIEI	**Pieia**	**6.21**	**304**		Pn		Pn	12 24 55.6	+1.0		
	comp=N,52nm,0.3s										
MGAB	**Montegabbione**	**6.22**	**297**		Pn		Pn	12 24 56.9	+2.2		
MGAB	**Montegabbione**	**6.22**	**297**		Pn		Pn	12 24 56.9	+2.2		
CRES	**Cresnjev**	**6.32**	**332**		*i*Pn		Pn	12 24 56.9	+0.8		
CRES					*i*Sn		Sn	12 26 04.5	-3.6		
CRES											
	comp=Z,39nm,0.4s										
GBRS	**Gornja Briga**	**6.32**	**328**		*i*Pn		Pn	12 24 57.3	+1.2		
PARC	**Parchiule**	**6.45**	**304**		Pn		Pn	12 24 59.6	+1.7		
	comp=Z,82nm,0.7s										
PARC	**Parchiule**	**6.45**	**304**		Pn		Pn	12 24 59.6	+1.7		
	comp=Z,82nm,0.7s										
RSM	**Repubblica di**	**6.46**	**307**		Pn		Pn	12 24 59.2	+1.1		
	comp=Z,1.0nm,0.3s										
RSM	**Repubblica di**	**6.46**	**307**		Pn		Pn	12 24 59.2	+1.1		
	comp=Z,1.0nm,0.3s										
VOIR		**6.50**	**36**	⇑	P		Pn	12 25 02.4	+3.7		
VOIR		**6.50**	**36**	⇑	*i*P		Pn	12 25 02.4	+3.7		
VOIR		**6.50**	**36**		P		Pn	12 25 02.4	+3.7		
IDI	**Anoyia**	**6.50**	**139**		*e*Pn		Pn	12 24 58.9	+0.2		
IDI	**Anoyia**	**6.50**	**139**		*e*PN		Pn	12 25 01.3	+2.6		
IDI	**Anoyia**	**6.50**	**139**		*e*Pn		Pn	12 25 01.3	+2.6		
VISS	**Visnje**	**6.53**	**329**		*i*Pn		Pn	12 24 59.6	+0.6		
CEY	**Cerknica**	**6.65**	**327**		*i*Pn		Pn	12 25 01.4	+0.8		
CEY					*i*Sn		Sn	12 26 13.6	-2.5		
CEY											
	comp=Z,56nm,0.3s										
SKDS	**Skadanscina**	**6.68**	**324**		*i*Pn		Pn	12 25 01.1	+0.1		
SKDS					*i*Sn		Sn	12 26 12.7	-4.2		
SKDS											
	comp=Z,49nm,0.3s										
SKDS	**Skadanscina**	**6.68**	**324**		*i*Pn		Pn	12 25 01.1	+0.1		
SFI	**Santa Sofia**	**6.82**	**304**		Pn		Pn	12 25 05.1	+2.1		
	comp=Z,61nm,0.9s										
SFI	**Santa Sofia**	**6.82**	**304**		Pn		Pn	12 25 05.1	+2.1		
	comp=Z,61nm,0.9s										
DRGR		**6.87**	**18**	⇑	P		Pn	12 25 04.8	+1.1		
DRGR		**6.87**	**18**	⇑	*i*P		Pn	12 25 04.8	+1.1		
DRGR		**6.87**	**18**		P		Pn	12 25 04.8	+1.1		
NPS	**Neapolis**	**6.90**	**135**		*e*PN		Pn	12 25 07.3	+3.2		
NPS	**Neapolis**	**6.90**	**135**		*e*Pn		Pn	12 25 07.3	+3.2		
TRI	**Trieste**	**6.91**	**323**		*e*P		Pn	12 25 04.3	+0.1		
TRI	**Trieste**	**6.91**	**323**		*e*Pn		Pn	12 25 04.2	+0.1		
TRI	**Trieste**	**6.91**	**323**		*e*P		Pn	12 25 04.3	+0.1		
JAVS	**Javornik**	**6.92**	**326**		*i*Pn		Pn	12 25 04.8	+0.3		
JAVS					*i*Sn		Sn	12 26 19.7	-3.4		
JAVS											
	comp=Z,41nm,0.3s										
JAVS	**Javornik**	**6.92**	**326**		*i*Pn		Pn	12 25 04.8	+0.3		
MLR	**Muntele Rosu**	**6.96**	**40**		Pn		Pn	12 25 09.9	+4.9		
	comp=Z,0.2nm,0.3s,baz=131,slow=20,SNR=2.7										
MLR	**Muntele Rosu**	**6.96**	**40**		Pn		Pn	12 25 09.9	+4.9		
MLR	**Muntele Rosu**	**6.96**	**40**	⇓	*i*P		Pn	12 25 08.1	+3.1		
MLR	**Muntele Rosu**	**6.96**	**40**	⇓	*i*P		Pn	12 25 08.1	+3.1		
ISR	**Istrita**	**7.01**	**44**	⇑	*i*P		Pn	12 25 09.9	+4.3		
ISR	**Istrita**	**7.01**	**44**	⇑	*i*P		Pn	12 25 09.9	+4.3		
VOJS	**Vojsko**	**7.11**	**326**		*i*Pn		Pn	12 25 07.3	+0.3		
VOJS					*i*Sn		Sn	12 26 23.7	-3.9		
VOJS											
	comp=Z,32nm,0.3s										
VOJS	**Vojsko**	**7.11**	**326**		*i*Pn		Pn	12 25 07.3	+0.3		
SOKA	**Soboth**	**7.21**	**334**	⇓	*i*Pn		Pn	12 25 08.5	+0.1		
SOKA				⇓	*i*Sn		Sn	12 26 27.1	-2.9		
SOKA	**Soboth**	**7.21**	**334**		Pn		Pn	12 25 08.5	+0.1		
SOKA					Sn		Sn	12 26 27.1	-2.9		
OBKA	**Obir**	**7.23**	**331**	⇓	*i*Pn		Pn	12 25 08.9	+0.2		
	SNR=18										
OBKA				⇓	*i*Sn		Sn	12 26 27.8	-2.8		
OBKA	**Obir**	**7.23**	**331**		Pn		Pn	12 25 08.9	+0.2		
	SNR=18										
OBKA					Sn		Sn	12 26 27.8	-2.8		
VRI	**Vrincioaia**	**7.61**	**41**	⇓	P		Pn	12 25 17.0	+3.1		
VRI	**Vrincioaia**	**7.61**	**41**	⇓	*i*P		Pn	12 25 17.0	+3.1		
VRI	**Vrincioaia**	**7.61**	**41**		P		Pn	12 25 17.0	+3.1		
PSZ	**Piszkesteto**	**7.63**	**1**	⇓	P		Pn	12 25 14.8	+0.7		
PSZ	**Piszkesteto**	**7.63**	**1**		*e*Pn		Pn	12 25 14.4	+0.3		
PSZ	**Piszkesteto**	**7.63**	**1**	⇓	*i*P		Pn	12 25 14.8	+0.7		
PSZ	**Piszkesteto**	**7.63**	**1**		*e*Pn		Pn	12 25 14.4	+0.3		
PSZ	**Piszkesteto**	**7.63**	**1**		P		Pn	12 25 14.8	+0.7		
MYKA	**Terra Mystica**	**7.69**	**327**	⇓	*i*Pn		Pn	12 25 14.5	-0.4		
MYKA				⇓	*i*Sn		Sn	12 26 39.7	-2.1		
MYKA	**Terra Mystica**	**7.69**	**327**		Pn		Pn	12 25 14.5	-0.4		
MYKA					Sn		Sn	12 26 39.7	-2.1		
KBA	**Koelnbreinsper**	**8.17**	**328**	⇑	*i*Pn		Pn	12 25 21.9	+0.3		
KBA				⇓	*i*Sn		Sn	12 26 51.2	-2.6		
KBA	**Koelnbreinsper**	**8.17**	**328**		Pn		Pn	12 25 21.9	+0.3		
KBA					Sn		Sn	12 26 51.2	-2.6		
VYHS	**Vyhne**	**8.22**	**356**		*e*P		Pn	12 25 23.6	+1.4		
VYHS					*e*			12 26 51.4			
VYHS	**Vyhne**	**8.22**	**356**		*e*PN		Pn	12 25 23.6	+1.4		
VYHS					*e*SN		Sn	12 26 51.4	-3.4		
VYHS	**Vyhne**	**8.22**	**356**		*e*P		Pn	12 25 23.6	+1.4		
PGF	**Pioggiola**	**8.30**	**289**		*e*P		Pn	12 25 25.6	+2.2		
PGF					*e*Sn		Sn	12 26 48.4	-8.6		
PGF											
	comp=Z,5.3nm,0.6s										
PGF	**Pioggiola**	**8.30**	**289**		*e*P		Pn	12 25 25.6	+2.2		
PGF					*e*			12 26 48.4			
PGF	**Pioggiola**	**8.30**	**289**		*e*P		Pn	12 25 25.6	+2.2		
PGF					*e*Sn		Sn	12 26 48.4	-8.6		
PGF	**Pioggiola**	**8.30**	**289**		*e*P		Pn	12 25 25.6	+2.2		
BUR08	**Bucovina Ar. S**	**8.37**	**27**		*e*Pn		Pn	12 25 27.3	+3.0		
BUR08	**Bucovina Ar. S**	**8.37**	**27**		*e*Pn		Pn	12 25 27.3	+3.0		
MOA	**Molln**	**8.48**	**335**	⇑	*i*Pn		Pn	12 25 25.8	0.0		
	SNR=9.0										
MOA				⇓	*i*Sn		Sn	12 26 58.7	-2.6		
MOA	**Molln**	**8.48**	**335**		Pn		Pn	12 25 25.8	0.0		
	SNR=9.0										
MOA					Sn		Sn	12 26 58.7	-2.6		
UZH	**Uzhgorod**	**8.55**	**12**		*e*P		Pn	12 25 29.0	+2.3		
UZH					*e*S		Sn	12 27 05.4	+2.5		
UZH					MLR		MLR				
	comp=N,500nm,11.5s										
UZH					MLR		MLR				
	comp=E,380nm,11.5s										
UZH					MLR		MLR				
	comp=Z,300nm,11.5s										
UZH	**Uzhgorod**	**8.55**	**12**		*e*P		Pn	12 25 29.0	+2.3		
CRVS	**Cervenica-Dubn**	**8.71**	**8**		*e*P		Pn	12 25 30.8	+2.0		
CRVS	**Cervenica-Dubn**	**8.71**	**8**		*e*PN		Pn	12 25 30.8	+2.0		
CRVS	**Cervenica-Dubn**	**8.71**	**8**		*e*P		Pn	12 25 30.8	+2.0		
KOLS	**Kolonicke sedl**	**8.84**	**11**		*e*P		Pn	12 25 32.7	+2.0		
KOLS	**Kolonicke sedl**	**8.84**	**11**		*e*PN		Pn	12 25 32.7	+2.0		
KOLS	**Kolonicke sedl**	**8.84**	**11**		*e*P		Pn	12 25 32.7	+2.0		
RJOB	**Jochberg**	**8.92**	**329**		*e*Pn		Pn	12 25 33.2	+1.4		
WTTA	**Wattenberg**	**9.05**	**323**	⇑	*i*Pn		Pn	12 25 33.7	-0.1		
	SNR=8.5										
WTTA				⇓	*i*Sn		Sn	12 27 13.3	-2.2		
WTTA	**Wattenberg**	**9.05**	**323**		Pn		Pn	12 25 33.7	-0.1		
	SNR=8.5										
WTTA					Sn		Sn	12 27 13.3	-2.2		
WATA	**Walderalm**	**9.13**	**323**	⇓	*i*Pn		Pn	12 25 35.0	+0.2		
	SNR=10										
WATA				⇓	*i*Sn		Sn	12 27 15.4	-2.0		
WATA	**Walderalm**	**9.13**	**323**		Pn		Pn	12 25 35.0	+0.2		
	SNR=10										
WATA					Sn		Sn	12 27 15.4	-2.0		
FUORN	**Ofenpass-Fuorn**	**9.29**	**316**		*e*Pn		Pn	12 25 37.9	+0.8		
FUORN	**Ofenpass-Fuorn**	**9.29**	**316**		*e*Pn		Pn	12 25 37.9	+0.8		
KEST	**Kesra**	**9.31**	**244**		LR		LR	12 29 07.1			
	comp=Z,46nm,18.3s,baz=296,slow=37										
FETA	**Feichten**	**9.32**	**319**	⇓	*i*Pn		Pn	12 25 38.4	+1.0		
FETA	**Feichten**	**9.32**	**319**		Pn		Pn	12 25 38.4	+1.0		
MOTA	**Moosalm**	**9.36**	**322**	⇓	*i*Pn		Pn	12 25 37.7	-0.2		
	SNR=28										
MOTA				⇑	*i*Sn		Sn	12 27 20.7	-2.3		
MOTA	**Moosalm**	**9.36**	**322**		Pn		Pn	12 25 37.7	-0.2		
	SNR=28										
MOTA					Sn		Sn	12 27 20.7	-2.3		
TREC	**Trest**	**9.47**	**343**		AMS		AMS	12 30 20.0			
	comp=Z,500nm,8.5s										
GEC2	**GERESS Array S**	**9.54**	**336**		*e*P		Pn	12 25 40.3	0.0		
GEC2	**GERESS Array S**	**9.54**	**336**		*e*Pn		Pn	12 25 40.3	0.0		
GEC2	**GERESS Array S**	**9.54**	**336**		*e*P		Pn	12 25 40.3	0.0		
GERES	**GERESS Array B**	**9.54**	**336**		Pn		Pn	12 25 40.0	-0.4		
	comp=Z,1.4nm,0.3s,baz=156,slow=13,SNR=34										
GERES					Sn		Sn	12 27 23.4	-3.9		
	comp=Z,1.9nm,0.3s,baz=156,slow=24,SNR=9.0										
GERES	**GERESS Array B**	**9.54**	**336**		Pn		Pn	12 25 40.0	-0.4		
GERES					Sn		Sn	12 27 23.4	-3.9		
GERES	**GERESS Array B**	**9.54**	**336**		P		Pn	12 25 40.0	-0.4		
	comp=Z,1.0nm,0.3s										
DAVOX	**Davos/Dischmat**	**9.60**	**316**		Pn		Pn	12 25 41.6	+0.3		
	comp=Z,1.7nm,0.3s,baz=135,slow=20,SNR=13										
DAVOX					LR		LR	12 30 04.2			
	comp=Z,127nm,20.8s,baz=256,slow=42										
DAVOX	**Davos/Dischmat**	**9.60**	**316**		Pn		Pn	12 25 41.6	+0.3		
DAVOX	**Davos/Dischmat**	**9.60**	**316**		P		Pn	12 25 41.6	+0.3		
	comp=Z,127nm,20.8s										
OKC	**Ostrava-Krasne**	**9.60**	**354**		AMS		AMS	12 31 20.0			
	comp=Z,500nm,11.1s										
KHC	**Kasperske Hory**	**9.83**	**336**		*e*P		Pn	12 25 44.1	-0.1		
KHC					*e*			12 27 29.3			
KHC	**Kasperske Hory**	**9.83**	**336**		*e*Pn		Pn	12 25 43.9	-0.3		
KHC	**Kasperske Hory**	**9.83**	**336**		*e*PN		Pn	12 25 44.1	-0.1		
KHC					*e*SN		Sn	12 27 29.3	-5.0		
KHC					AMS		AMS	12 30 20.0			
	comp=Z,900nm,10.5s										
KHC	**Kasperske Hory**	**9.83**	**336**		Pn		Pn	12 25 44.1	-0.1		
WET	**Wettzell**	**10.07**	**334**		*e*P		Pn	12 25 47.4	-0.1		
WET	**Wettzell**	**10.07**	**334**		*e*Pn		Pn	12 25 47.4	-0.1		
WET	**Wettzell**	**10.07**	**334**		*e*P		Pn	12 25 47.4	-0.1		
LMR	**La Mourre**	**10.26**	**292**		*e*P		Pn	12 25 53.1	+3.0		
LMR	**La Mourre**	**10.26**	**292**		*e*P		Pn	12 25 53.1	+3.0		
LMR	**La Mourre**	**10.26**	**292**		*e*P		Pn	12 25 53.1	+3.0		
LMR	**La Mourre**	**10.26**	**292**		*e*P		Pn	12 25 53.1	+3.0		
DPC	**Dobruska-Polom**	**10.32**	**348**		AMS		AMS	12 31 10.0			
	comp=Z,300nm,9.7s										
PRU	**Pruhonice**	**10.34**	**341**		*e*P		Pn	12 25 52.3	+1.1		
PRU	**Pruhonice**	**10.34**	**341**		*e*PN		Pn	12 25 52.3	+1.1		
PRU					AMS		AMS	12 30 50.0			
	comp=Z,600nm,13.5s										
PRU	**Pruhonice**	**10.34**	**341**		Pn		Pn	12 25 52.3	+1.1		
MBDF	**Montbardon**	**10.48**	**299**		*e*Sn		Sn	12 27 39.2	-11		
	comp=Z,7.9nm,0.4s										
BRTR	**Keskin Array B**	**10.76**	**89**		Pn		Pn	12 25 59.8	+2.6		
	comp=Z,0.1nm,0.3s,baz=259,slow=11,SNR=4.2										
BRTR	**Keskin Array B**	**10.76**	**89**		Pn		Pn	12 25 59.8	+2.6		
BRTR	**Keskin Array B**	**10.76**	**89**		P		Pn	12 25 59.8	+2.6		
LPG	**La Plagne**	**10.78**	**303**		*e*Pn		Pn	12 25 55.5	-2.1		
LPG					*e*Sn		Sn	12 27 43.0	-15		
	comp=Z,15nm,0.4s										
LPG	**La Plagne**	**10.78**	**303**		*e*P		Pn	12 25 55.5	-2.1		
LPG	**La Plagne**	**10.78**	**303**		*e*Pn		Pn	12 25 55.5	-2.1		
LPG					*e*Sn		Sn	12 27 43.0	-15		
LPL	**La Plagne**	**10.80**	**303**		*e*P		Pn	12 25 55.7	-2.1		
LPL					*e*Sn		Sn	12 27 42.7	-16		
	comp=Z,24nm,0.4s										
LPL	**La Plagne**	**10.80**	**303**		*e*Pn		Pn	12 25 55.7	-2.1		
LPL					*e*Sn		Sn	12 27 42.7	-16		
ROTZ	**Rotzenmuhle**	**10.83**	**334**		*e*Pn		Pn	12 25 57.1	-0.8		
PVCC	**Panska Ves**	**10.83**	**343**		AMS		AMS	12 31 10.0			
	comp=Z,400nm,10.0s										
SENIN	**Lac Senin/Sane**	**10.84**	**308**		*e*Pn		Pn	12 25 58.0	-0.2		
SENIN	**Lac Senin/Sane**	**10.84**	**308**		*e*Pn		Pn	12 25 58.0	-0.2		
SMRF	**Simiane la Rot**	**11.07**	**294**		*e*Pn		Pn	12 25 58.4	-2.9		
SMRF	**Simiane la Rot**	**11.07**	**294**		*e*Pn		Pn	12 25 58.4	-2.9		
GRA1	**Grafenberg Arr**	**11.12**	**330**		*e*P		Pn	12 26 02.1	+0.2		
GRF	**Grafenberg Arr**	**11.12**	**330**		*e*P		Pn	12 26 02.1	+0.2		
GRF	**Grafenberg Arr**	**11.12**	**330**		*e*Pn		Pn	12 26 02.1	+0.2		
ORIF	**Oris-en-Rattie**

ARU	**Arti**	**29.98**	**44**	*d*	iP		**P**		**12 29 31.2 +0.1**
ARU					S		**S**		**12 34 28.6 +0.3**
ARU					pmax		pmax		
	comp=Z,14nm,2.5s								
ARU	**Arti**	**29.98**	**44**	*e*	P		**P**		**12 29 31.0 -0.2**
	comp=Z,18nm,2.0s								
ARU	**Arti**	**29.98**	**44**	*i*	P		**P**		**12 29 31.2 +0.1**
	comp=Z,14nm,2.5s								
TORD	**Torodi Ar. Bea**	**31.30**	**215**		P		**P**		**12 29 44.1 +1.1**
	comp=Z,1.3nm,0.8s,baz=35,slow=8.1,SNR=9.5								
TORD	**Torodi Ar. Bea**	**31.30**	**215**		P		**P**		**12 29 44.1 +1.1**
TORD	**Torodi Ar. Bea**	**31.30**	**215**		P		**P**		**12 29 44.2 +1.1**
BRVK	**Borovoye**	**36.26**	**52**	*e*	P		**P**		**12 30 26.2 +0.3**
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**36.26**	**52**	*e*	P		**P**		**12 30 26.2 +0.3**
	comp=Z,3.4nm,0.7s								
BRVK	**Borovoye**	**36.26**	**52**	*e*	P		**P**		**12 30 26.2 +0.3**
	comp=Z,3.4nm,0.7s								
KKAR	**Karatay Array**	**37.62**	**69**	*e*	P		**P**		**12 30 37.4 -0.2**
KKAR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
KKAR	**Karatay Array**	**37.62**	**69**	*e*	P		**P**		**12 30 37.4 -0.2**
	comp=Z,2.9nm,0.6s								
KKAR	**Karatay Array**	**37.62**	**69**	*e*	P		**P**		**12 30 37.4 -0.2**
	comp=Z,2.9nm,0.6s								
DBIC	**Dimbokro**	**40.03**	**220**		P		**P**		**12 30 57.6 -0.4**
	comp=Z,3.0nm,0.7s,baz=13,slow=13,SNR=4.9								
DBIC	**Dimbokro**	**40.03**	**220**		P		**P**		**12 30 57.6 -0.4**
DBIC	**Dimbokro**	**40.03**	**220**		P		**P**		**12 30 57.6 -0.4**
	comp=Z,3.0nm,0.7s								
EKS2	**Erkin-Say**	**40.05**	**68**	*e*	P		**P**		**12 30 58.4 +0.2**
EKS2					pmax		pmax		
	comp=Z,10.0nm,0.9s								
EKS2	**Erkin-Say**	**40.05**	**68**	*e*	P		**P**		**12 30 58.4 +0.2**
	comp=Z,10nm,0.9s								
EKS2	**Erkin-Say**	**40.05**	**68**	*e*	P		**P**		**12 30 58.3 +0.1**
	comp=Z,10nm,0.9s								
AAK	**Ala-Archa**	**40.57**	**68**	*e*	P		**P**		**12 31 02.8 +0.3**
AAK					pmax		pmax		
	comp=Z,11nm,0.7s								
AAK	**Ala-Archa**	**40.57**	**68**	*e*	P		**P**		**12 31 02.8 +0.3**
	comp=Z,11nm,0.7s								
AAK	**Ala-Archa**	**40.57**	**68**	*e*	P		**P**		**12 31 02.8 +0.3**
	comp=Z,11nm,0.7s								
KURK	**Kurchatov**	**41.60**	**55**	*e*	P		**P**		**12 31 10.1 -0.6**
KURK					pmax		pmax		
	comp=Z,14nm,5.0s								
KURK	**Kurchatov**	**41.60**	**55**	*e*	P		**P**		**12 31 10.1 -0.6**
	comp=Z,14nm,5.0s								
KSH	**Kashi**	**42.59**	**72**		P		**P**		**12 31 17.8 -1.3**
KSH					pP		**pP**		**12 31 21.5 -2.0**
KSH					sP		**sP**		**12 31 24.3 -0.9**
KSH					PP		**PP**		**12 32 57.5 -0.2**
KSH					*e*PcP		**PcP**		**12 33 11.8 +0.6**
KSH					ScP		**ScP**		**12 37 00.5 -1.0**
KSH					PcS		**PcS**		**12 37 02.8 -0.6**
KSH					S		**S**		**12 37 36.8 -4.6**
KSH					SS		SS		12 40 38.8 -12
KSH					ScS		**ScS**		**12 41 16.5 -3.7**
KSH					pmax		pmax		
	comp=Z,66nm,4.9s								
KSH					LR		LR		
	comp=N,140nm,6.1s								
KSH					LR		LR		
	comp=E,140nm,4.7s								
KSH					LR		LR		
	comp=Z,170nm,10.0s								
NVS	**Novosibirsk**	**43.77**	**49**	*e*	P		**P**		**12 31 28.2 0.0**
NVS	**Novosibirsk**	**43.77**	**49**	*e*	P		**P**		**12 31 28.2 0.0**
MKAR	**Makanchi Array**	**44.81**	**60**		P		**P**		**12 31 36.6 -0.1**
	comp=Z,3.1nm,0.6s,baz=280,slow=6.9,SNR=45								
MKAR					LR		LR		12 52 09.6
	comp=Z,34nm,18.2s,baz=35,slow=39								
MKAR	**Makanchi Array**	**44.81**	**60**		P		**P**		**12 31 36.6 -0.1**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
MKAR					MLR		MLR		
	comp=Z,34nm,18.2s								
MKAR	**Makanchi Array**	**44.81**	**60**		P		**P**		**12 31 36.6 -0.1**
MKAR	**Makanchi Array**	**44.81**	**60**		P		**P**		**12 31 36.6 -0.1**
	comp=Z,34nm,18.2s								
ZALV	**Zalesovo Beam**	**44.82**	**50**		P		**P**		**12 31 36.7 +0.1**
	comp=Z,3.5nm,0.7s,baz=279,slow=8.7,SNR=16								
ZALV	**Zalesovo Beam**	**44.82**	**50**		P		**P**		**12 31 36.7 +0.1**
ZALV					pmax		pmax		
	comp=Z,4.0nm,0.7s								
ZALV	**Zalesovo Beam**	**44.82**	**50**		P		**P**		**12 31 36.7 +0.1**
ZALV	**Zalesovo Beam**	**44.82**	**50**		P		**P**		**12 31 36.7 +0.1**
	comp=Z,4.0nm,0.7s								
WMQ	**Urumqi**	**49.36**	**62**	*e*	P		**P**		**12 32 14.5 +2.2**
TLY	**Talaya**	**56.37**	**48**	*e*	P		**P**		**12 33 05.0 +1.1**
TLY					pmax		pmax		
	comp=Z,2.0nm,1.0s								
TLY	**Talaya**	**56.37**	**48**	*e*	P		**P**		**12 33 05.0 +1.1**
	comp=Z,2.0nm,1.0s								
SCHQ	**Schefferville**	**56.45**	**316**		P		**P**		**12 33 04.8 +0.4**
	comp=Z,3.9nm,0.7s,baz=69,slow=8.7,SNR=7.1								
SCHQ	**Schefferville**	**56.45**	**316**		P		**P**		**12 33 04.8 +0.4**
SCHQ	**Schefferville**	**56.45**	**316**		P		**P**		**12 33 04.8 +0.4**
SONM	**Songino Array**	**59.66**	**51**		P		**P**		**12 33 25.8 -1.4**
	comp=Z,0.4nm,0.7s,baz=281,slow=10,SNR=3.7								
SONM	**Songino Array**	**59.66**	**51**		P		**P**		**12 33 25.8 -1.4**
SONM	**Songino Array**	**59.66**	**51**		P		**P**		**12 33 25.8 -1.4**
YAK	**Yakutsk**	**63.61**	**30**	*e*	P		**P**		**12 33 53.2 -0.1**
YAK					pmax		pmax		
	comp=Z,4.0nm,0.4s								
YAK	**Yakutsk**	**63.61**	**30**	*e*	P		**P**		**12 33 53.2 -0.1**
	comp=Z,4.0nm,0.4s								
LZH	**Lanzhou**	**63.88**	**64**	*e*	P		**P**		**12 33 55.0 -0.8**
LZH					pP		**pP**		**12 33 58.3 -2.1**
LZH					sP		**sP**		**12 33 59.5 -2.6**
LZH					PP		**PP**		**12 36 16.3 +0.3**
LZH					pmax		pmax		
	comp=Z,19nm,1.4s								
LZH					pmax		pmax		
	comp=Z,56nm,8.3s								
LZH					LR		LR		
	comp=N,180nm,15.2s								
LZH					LR		LR		
	comp=E,200nm,15.6s								
LZH					LR		LR		
	comp=Z,230nm,18.3s								
HHC	**Hu-ho-hao-te**	**66.41**	**56**	*e*	P		**P**		**12 34 10.8 -1.3**
HHC					sP		**sP**		**12 34 18.0 -0.4**
HHC					PP		**PP**		**12 36 38.0 0.0**
HHC					PcS				12 38 44.5
HHC					S		**S**		**12 42 58.8 -3.0**
HHC					sS		sS		12 43 05.3 -4.1
HHC					ScS		**SKSac**		**12 44 03.5 -4.7**
HHC					SS		**SS**		**12 47 13.8 -4.0**
HHC					pmax		pmax		
	comp=Z,160nm,5.9s								
HHC					LR		LR		
	comp=N,170nm,14.6s								
HHC					LR		LR		
	comp=E,160nm,15.7s								
HHC					LR		LR		
	comp=Z,140nm,15.9s								
CD2	**Chengdu**	**66.64**	**69**		P		**P**		**12 34 14.5 +0.9**
CD2					pP		**pP**		**12 34 19.0 +0.8**
CD2					sP		**sP**		**12 34 21.5 +1.6**
CD2					PP		**PP**		**12 36 42.8 +2.7**
CD2					S		**S**		**12 43 03.0 -1.7**
CD2					sS		**sS**		**12 43 10.3 -2.0**
CD2					SS		**SS**		**12 47 21.0 -0.7**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,150nm,6.7s								
CD2					LR		LR		
	comp=N,170nm,8.9s								
CD2					LR		LR		
	comp=Z,190nm,8.9s								
BOSA	**Boshof**	**68.75**	**175**		P		**P**		**12 34 28.1 +1.3**
	comp=Z,2.6nm,0.5s,baz=326,slow=6.9,SNR=8.4								
BOSA	**Boshof**	**68.75**	**175**		P		**P**		**12 34 28.1 +1.3**
BOSA	**Boshof**	**68.75**	**175**		P		**P**		**12 34 28.1 +1.3**
	comp=Z,3.0nm,0.5s								
INK	**Inuvik**	**69.86**	**350**		P		**P**		**12 34 33.1 +0.1**
	comp=Z,0.6nm,0.7s,baz=16,slow=11,SNR=3.7								
INK	**Inuvik**	**69.86**	**350**		P		**P**		**12 34 33.1 +0.1**
INK	**Inuvik**	**69.86**	**350**		P		**P**		**12 34 33.2 +0.1**
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**71.17**	**339**		P		**P**		**12 34 42.0 +0.8**
	comp=Z,0.7nm,0.7s,baz=37,slow=5.3,SNR=14								
YKA	**Yellowknife Ar**	**71.17**	**339**		P		**P**		**12 34 42.0 +0.8**
YKA	**Yellowknife Ar**	**71.17**	**339**		P		**P**		**12 34 42.0 +0.8**
	comp=Z,1.0nm,0.7s								
GYA	**Guiyang**	**71.28**	**71**	*e*	P		**P**		**12 34 42.0 -0.6**
GYA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
CN2	**Changchun**	**72.94**	**47**	*e*	P		P		12 34 49.0 -3.2
ILAR	**Eielson Array**	**74.74**	**354**		P		**P**		**12 35 03.0 +0.7**
	comp=Z,0.2nm,0.5s,baz=357,slow=3.9,SNR=6.9								
ILAR	**Eielson Array**	**74.74**	**354**		P		**P**		**12 35 03.0 +0.7**
ILAR	**Eielson Array**	**74.74**	**354**		P		**P**		**12 35 03.0 +0.7**
NJ2	**Nanjing**	**76.34**	**60**	*e*	P		**P**		**12 35 11.3 -0.8**
QIZ	**Qiongzhong**	**78.10**	**75**		P		**P**		**12 35 21.8 -0.4**
QIZ					S		**S**		**12 45 15.8 -0.4**
QIZ					pmax		pmax		
	comp=Z,20nm,1.3s								
KSAR	**Wonju Array Be**	**78.50**	**50**		P		**P**		**12 35 23.6 -0.5**
KSAR	**Wonju Array Be**	**78.50**	**50**		P		**P**		**12 35 23.6 -0.5**
KSRS	**Korea Array**	**78.52**	**50**		P		**P**		**12 35 23.6 -0.6**
	comp=Z,2.0nm,0.7s,baz=316,slow=4.4,SNR=6.7								
KSRS	**Korea Array**	**78.52**	**50**		P		**P**		**12 35 23.6 -0.6**
	comp=Z,2.0nm,0.7s								
NEW	**Newport**	**83.86**	**333**		LR		LR		13 14 18.5
	comp=Z,85nm,19.8s,baz=70,slow=36								
TXAR	**Lajitas Array**	**93.02**	**313**		P		**P**		**12 36 38.4 +1.6**
	comp=Z,0.4nm,0.6s,baz=57,slow=4.6,SNR=5.5								
TXAR	**Lajitas Array**	**93.02**	**313**		P		**P**		**12 36 38.4 +1.6**
ASAR	**Alice Springs**	**123.05**	**94**		PKP		**PKPdf**		**12 42 18.1 -1.5**
	comp=Z,0.4nm,0.9s,baz=300,slow=1.5,SNR=3.6								
ASAR	**Alice Springs**	**123.05**	**94**		PKP		**PKPdf**		**12 42 18.1 -1.5**

CSEM ***25*** *12:27:17.9, 39.57N×19.79E, h44km, MD2.9, After ATH*
ATH ***25*** *12:27:17.9, 39.57N×19.79E, h44km±1km, MD2.9/5*

TIR 25 12:27:14.5, 40.29N×19.58E, h17km, ML4.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.60**	**164**	*e*P	Pg	12 27 25.5	-0.9
KEK				*e*S	Sg	12 27 31.3	-3.2
KEK	**Kerkira**	**0.60**	**164**	*e*P	Pg	12 27 25.5	-0.9
KEK				*e*S	Sg	12 27 31.3	-3.2
TIR	**Tirane**	**1.08**	**11**	*i* PG	Pb	12 27 34.0	-0.8
TIR				*i* SG	Sg	12 27 50.1	+0.6
JAN	**Janina**	**1.16**	**123**	*e*P	Pn	12 27 33.9	-2.2
JAN				*e*S	Sb	12 27 45.7	-5.4
JAN	**Janina**	**1.16**	**123**	*e*P	Pn	12 27 33.9	-2.2
JAN				*e*S	Sb	12 27 45.7	-5.4
PHP	**Peshkopia**	**1.54**	**25**	*i* PN	Pn	12 27 40.8	-0.4
PHP				*i* SN	Sg	12 28 03.6	-0.7
KZN	**Kozani**	**1.68**	**89**	*e*P	Pg	12 27 46.4	-0.5
KZN				*e*S	Sb	12 28 07.2	+1.3
KZN	**Kozani**	**1.68**	**89**	*e*P	Pg	12 27 46.4	-0.5
KZN				*e*S	Sb	12 28 07.2	+1.3
LKD2	**Lefkada island**	**1.72**	**151**	*e*P	Pn	12 27 37.2	-6.4
LKD2	**Lefkada island**	**1.72**	**151**	*e*P	Pn	12 27 37.2	-6.4
PUK	**Puka**	**1.77**	**8**	*i* PN	Pn	12 27 43.3	-1.1
PUK				*i* SN	Sb	12 28 07.7	-0.9
THL	**Klokotos Trika**	**2.01**	**110**	*e*P	Pn	12 27 46.4	-1.2
THL	**Klokotos Trika**	**2.01**	**110**	*e*P	Pn	12 27 46.4	-1.2
VLS	**Valsamata**	**2.25**	**159**	*e*P	Pn	12 27 44.1	-6.9
VLS	**Valsamata**	**2.25**	**159**	*e*P	Pn	12 27 44.1	-6.9
AGG	**Agios Georgios**	**2.47**	**120**	*e*P	Pn	12 27 51.2	-2.9
AGG	**Agios Georgios**	**2.47**	**120**	*e*P	Pn	12 27 51.2	-2.9

IDC 25 12:28:46.2±2.5, 0.43S×132.04E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=116.2km s-min=24.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.65**	**199**	P	Pn	12 33 06.8	+0.8
	0.1nm,0.3s,baz=43,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**19.52**	**174**	P	P	12 33 14.8	-0.6
	0.2nm,0.3s,baz=353,slow=11,SNR=16						
WRA				S	Sn	12 36 48.1	-8.3
	0.1nm,0.3s,baz=2.6,slow=21,SNR=3.5						
ASAR	**Alice Springs**	**23.17**	**176**	P	P	12 33 54.4	-0.2
	0.8nm,0.7s,baz=358,slow=14,SNR=24						
MKAR	**Makanchi Array**	**63.99**	**324**	P	P	12 39 21.6	0.0
	0.2nm,0.7s,baz=111,slow=7.8,SNR=3.2						

IDC ***25*** *12:43:15.3±0.7, 33.59N×82.32E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.8/30, mbtmp3.9/14, ML3.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/45, Error ellipse: s-maj=24.2km s-min=15.3km az=58.0*

ISCJB ***25*** *12:43:18.8±0.7, 33.65N±0.10×82.4E±0.1, h33km, mb3.8/11, MS3.1/1, Error ellipse: s-maj=19.6km s-min=11.3km az=148.7*

ISC 25 12:43:21.0±0.7, 33.71N±0.09×82.5E±0.1, h35km, n17, σ0s96/15, mb3.9/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**5.05**	**229**	*ex*	**Pn**	**12 44 35.0**	**+0.7**
AAK	**Ala-Archa**	**10.90**	**327**	Pn	**Pn**	**12 45 55.4**	**+0.8**
	0.1nm,0.3s,baz=229,slow=20,SNR=1.9						
AAK				LR	LR	12 50 22.3	
	comp=Z,69nm,18.9s,baz=296,slow=39						
MKAR	**Makanchi Array**	**13.07**	**359**	Pn	**Pn**	**12 46 22.7**	**-1.4**
	0.2nm,0.3s,baz=184,slow=13,SNR=14						
KURBB	**Kurchatov Arra**	**17.15**	**351**	LR	LR	12 54 55.5	
	comp=Z,42nm,21.3s,baz=215,slow=41						
ZALV	**Zalesovo Beam**	**20.30**	**4**	P	**P**	**12 47 54.7**	**+1.0**
	2.0nm,0.5s,baz=200,slow=9.1,SNR=15						
CMAR	**Chiang Mai Arr**	**21.14**	**132**	P	**P**	**12 48 03.8**	**+0.7**
	7.9nm,0.9s,baz=310,slow=11,SNR=49						
BVAR	**Borovoye Array**	**21.16**	**339**	P	**P**	**12 48 03.6**	**+0.7**
	1.3nm,0.7s,baz=150,slow=13,SNR=8.2						
SONM	**Songino Array**	**22.84**	**45**	P	**P**	**12 48 22.4**	**+1.3**
	1.6nm,0.9s,baz=234,slow=10,SNR=8.7						
AKTO	**Aktyubinsk**	**24.52**	**320**	P	**P**	**12 48 37.2**	**+0.2**
	1.9nm,0.7s,baz=139,slow=9.6,SNR=8.5						
KSRS	**Korea Array**	**36.87**	**71**	LR	LR	13 06 59.8	
	comp=Z,27nm,18.4s,baz=255,slow=38						
FINES	**FINESS Array B**	**45.09**	**326**	P	**P**	**12 51 33.6**	**+0.3**
	1.4nm,0.6s,baz=115,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**72.71**	**129**	P	**P**	**12 54 45.9**	**+0.3**
	2.3nm,0.9s,baz=326,slow=5.9,SNR=20						
ILAR	**Eielson Array**	**74.55**	**20**	P	**P**	**12 54 55.9**	**+0.1**
	0.6nm,0.9s,baz=285,slow=5.0,SNR=5.0						
ASAR	**Alice Springs**	**75.15**	**132**	P	**P**	**12 54 59.6**	**-0.2**
	0.9nm,0.7s,baz=317,slow=5.7,SNR=19						
TORD	**Torodi Ar. Bea**	**75.24**	**276**	P	**P**	**12 54 59.5**	**-1.1**
	0.6nm,0.5s,baz=48,slow=4.6,SNR=13						
BOSA	**Boshof**	**82.33**	**228**	P	**P**	**12 55 37.9**	**-1.4**
	2.1nm,0.8s,baz=70,slow=9.2,SNR=4.4						
YKA	**Yellowknife Ar**	**83.15**	**8**	P	**P**	**12 55 42.2**	**-0.8**
	0.5nm,0.5s,baz=340,slow=5.3,SNR=15						

AUST ***25*** *12:47:24.3±1.8, 15.72S×178.67W, h119km, Error ellipse: s-maj=2.5km s-min=1.3km az=335.0*

ISCJB ***25*** *12:47:37.3±0.5, 15.75S±0.2×177.18W±0.07, h400km, mb4.1/7, Error ellipse: s-maj=21.5km s-min=7.5km az=163.2*

IDC ***25*** *12:47:38.5±1.4, 15.82S×176.96W, h410km±24km, mb3.6/6, mb1 3.7/8, mb1mx3.3/23, mbtmp3.6/8, Error ellipse: s-maj=31.3km s-min=17.9km az=137.0*

ISC 25 12:47:38.1±0.7, 15.75S±0.2×177.10W±0.09, h400km, n23, σ0s88/23, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.43**	**72**	P	**Pn**	**12 49 04.0**	**-0.7**
	33nm,0.3s,baz=66,slow=1.7,SNR=74						
AFI				S	**S**	**12 50 14.8**	**-0.4**
	baz=326,slow=18,SNR=2.3						
NIUE	**Niue**	**7.65**	**118**	P	**P**	**12 49 30.4**	**+0.8**
	baz=9.0,SNR=3.9						
DZM	**Mont Dzumac**	**16.83**	**245**	P	**P**	**12 51 10.6**	**+0.1**
	0.9nm,0.3s,baz=89,slow=20,SNR=6.8						
URZ	**Urewera**	**23.10**	**192**	P	**P**	**12 52 08.9**	**-1.8**
	7.4nm,0.6s,baz=28,slow=4.4,SNR=9.1						
RMQ	**Roma**	**33.54**	**246**	P	**P**	**12 53 43.0**	**+0.4**
	baz=32,SNR=8.6						
MGCD	**Mangrove Creek**	**33.64**	**233**	P	**P**	**12 53 45.2**	**+1.9**
	baz=32,SNR=5.5						
CTA	**Charters Tower**	**35.12**	**257**	P	**P**	**12 53 55.8**	**-0.2**
	4.2nm,0.8s,baz=97,slow=15,SNR=3.1						
CNB	**Canberra Magne**	**35.81**	**231**	P	**P**	**12 54 02.1**	**+0.4**
	baz=35,SNR=22						
CMSA	**Cobar Meteorol**	**37.38**	**238**	P	**P**	**12 54 14.6**	**-0.2**
	baz=36,SNR=19						
QLP	**Quilpie**	**37.55**	**247**	P	**P**	**12 54 15.9**	**-0.3**
	baz=36,SNR=16						
TOO	**Toolangi**	**39.58**	**229**	P	**P**	**12 54 33.2**	**+0.4**
	baz=38,SNR=19						
STKA	**Stephens Creek**	**40.84**	**239**	P	P	**12 54 43.5**	**+0.4**
	10nm,0.8s,baz=92,slow=11,SNR=22						
STKA	**Stephens Creek**	**40.84**	**239**	P	**P**	**12 54 43.5**	**+0.4**
	baz=40,SNR=18						
BBOO	**Buckleboo**	**45.62**	**239**	P	**P**	**12 55 20.9**	**+0.1**
	baz=44,SNR=24						
WRA	**Warramunga Arr**	**46.32**	**257**	P	P	12 55 25.6	-0.7
	3.9nm,0.5s,baz=91,slow=6.2,SNR=102						
ASAR	**Alice Springs**	**46.65**	**252**	P	**P**	**12 55 28.9**	**+0.1**
	54nm,0.6s,baz=85,slow=7.7,SNR=1400						
ASAR				S	**S**	**13 01 45.6**	**-2.0**
	0.4nm,0.7s,baz=84,slow=14,SNR=5.1						
KDU	**Kakadu**	**48.90**	**267**	P	**P**	**12 55 46.2**	**+0.3**
	baz=47,SNR=5.5						
FORT	**Forrest**	**52.13**	**243**	P	**P**	**12 56 09.4**	**-0.1**
	baz=51,SNR=22						
FITZ	**Fitzroy Crossi**	**54.67**	**259**	P	**P**	**12 56 29.5**	**+1.5**
	2.2nm,0.5s,baz=55,slow=3.3,SNR=14						
FITZ	**Fitzroy Crossi**	**54.67**	**259**	P	P	12 56 32.9	+4.9
	baz=53,SNR=7.3						
MEEK	**Meekatharra**	**60.42**	**248**	P	**P**	**12 57 07.5**	**-0.1**
	baz=59,SNR=5.2						
KLBR	**Kellerberrin**	**60.97**	**242**	P	**P**	**12 57 11.2**	**+0.1**
	baz=60,SNR=7.0						
ILAR	**Eielson Array**	**83.42**	**13**	P	**P**	**12 59 21.7**	**+0.3**
	0.5nm,0.6s,baz=220,slow=5.4,SNR=12						

ISCJB ***25*** *12:55:35.7±0.6, 42.21N±0.07×138.54E±0.10, h244km±8km, mb3.2/6, Error ellipse: s-maj=13.3km s-min=10.0km az=140.3*

JMA ***25*** *12:55:37.1±0.4, 42.16N×138.61E, h243km±4km, M3.0*

IDC ***25*** *12:55:37.4±4.7, 42.51N×138.44E, h231km±14km, mb2.9/6, mb1 3.1/8, mb1mx3.0/26, mbtmp2.9/8, Error ellipse: s-maj=109.5km s-min=13.3km az=171.0*

ISC 25 12:55:36.2±1.0, 42.17N±0.08×138.50E±0.07, h237km±10km, n19, σ0s96/24, mb3.2/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSH	**Shimam**	**1.24**	**67**	P	**Pn**	**12 56 12.6**	**+1.4**
JKB	**Kayabe**	**1.91**	**98**	P	**Pn**	**12 56 17.5**	**+0.9**
JOT	**Ohata**	**2.06**	**112**	P	**Pn**	**12 56 18.7**	**+0.6**
JANG	**Nango**	**2.89**	**127**	P	**Pn**	**12 56 26.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**3.16**	**87**	P	**Pn**	**12 56 29.9**	**+0.3**
JNBK				*e*S	**S**	**12 57 11.1**	**-0.5**
JFR	**Furan**	**3.18**	**70**	P	**Pn**	**12 56 30.8**	**+1.0**
JFR				*e*S	**S**	**12 57 11.9**	**-0.1**
JOM	**Ohasama**	**3.43**	**141**	P	**Pn**	**12 56 32.9**	**+0.2**
JYK	**Kaneyama**	**3.54**	**156**	P	**Pn**	**12 56 35.3**	**+1.2**
JKK2	**Kamakawa 2**	**3.55**	**60**	P	**Pn**	**12 56 34.8**	**+0.8**
JKK2				*e*S	**S**	**12 57 19.6**	**-0.1**
ASAJ	**Asahikawa**	**3.57**	**56**	P	**Pn**	**12 56 35.0**	**+0.7**
	2.5nm,0.3s,baz=210,slow=4.2,SNR=17						
ASAJ				S	**S**	**12 57 17.6**	**-2.6**
	0.7nm,0.3s,baz=60,slow=20,SNR=2.9						
JCH	**Churui**	**3.63**	**81**	P	**Pn**	**12 56 35.0**	**+0.1**
JCH				*e*S	**S**	**12 57 19.4**	**-1.9**
JMK	**Ichinoseki**	**3.82**	**146**	P	**Pn**	**12 56 37.4**	**+0.1**
USRK	**Ussuriysk Arra**	**5.17**	**295**	P	**Pn**	**12 56 53.5**	**0.0**
	0.4nm,0.3s,baz=132,slow=10,SNR=6.3						
SONM	**Songino Array**	**23.29**	**295**	P	**P**	**13 00 22.7**	**-0.2**
	0.6nm,0.8s,baz=108,slow=9.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**36.90**	**308**	P	**P**	**13 02 21.4**	**-0.4**
	0.9nm,0.5s,baz=63,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**39.64**	**296**	P	**P**	**13 02 44.6**	**-0.3**
	0.6nm,0.5s,baz=82,slow=10,SNR=6.2						
ILAR	**Eielson Array**	**46.46**	**35**	P	**P**	**13 03 39.5**	**+0.5**
	0.7nm,0.7s,baz=278,slow=10.0,SNR=11						
YKA	**Yellowknife Ar**	**60.52**	**31**	P	**P**	**13 05 21.2**	**+0.3**
	0.1nm,0.5s,baz=307,slow=6.6,SNR=7.4						
PDAR	**Pinedale Array**	**75.64**	**45**	P	**P**	**13 06 55.6**	**+0.2**
	0.3nm,0.4s,baz=260,slow=1.6,SNR=3.7						

MEX 25 13:05:04.3±0.8, 16.71N×99.51W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.37**	**296**	*

256nm,0.3s,baz=277,slow=23,SNR=534
CBIJ S **S** **13 15 57.0 -5.5**
1µm,0.3s,baz=133,slow=22,SNR=40
CBIJ Chichi jima 4.02 137 P **Pn** **13 15 02.0 -2.4**
CBIJ S **S** **13 15 57.0 -5.5**
CBIJ Chichi jima 4.02 137 P **Pn** **13 15 01.9 -2.4**
CBIJ *e*S **S** **13 15 57.1 -5.5**
TTO1 TONANKAI O.B.S 4.05 332 P **Pn** **13 15 06.0 +1.8**
TTO1 X 13 15 07.5
JKO Kozu shima 4.11 0 P **Pn** **13 15 04.6 -0.5**
JKO *e*S **S** **13 16 00.2 -3.8**
JWZ Kozaga 4.50 321 P **Pn** **13 15 10.2 +1.3**
JIE Ise 4.76 335 P **Pn** **13 15 13.0 +1.4**
JIE S **S** **13 16 15.8 -0.1**
BSO1 Boso 1 4.84 19 P **Pn** **13 15 10.5 -1.3**
BSO1 *e*S **S** **13 16 12.5 -3.9**
JOD2 Odawara 2 5.18 360 P **Pn** **13 15 14.4 -1.6**
JOD2 *e*S **S** **13 16 19.3 -4.6**
JRY Ryogami san 5.94 358 P **Pn** **13 15 22.8 -1.3**
JRY *e*S S 13 16 32.5 -6.2
JTO Tosashimizu 6.06 299 P **Pn** **13 15 27.3 +1.9**
MJAR Matsushiro Arr 6.50 354 P **Pn** **13 15 28.6 -1.8**
17nm,0.3s,baz=180,slow=6.3,SNR=143
MJAR S **S** **13 16 44.8 -5.4**
7.2nm,0.3s,baz=146,slow=19,SNR=4.7
MJAR Matsushiro Arr 6.50 354 P **Pn** **13 15 28.6 -1.8**
MJAR S **S** **13 16 44.8 -5.4**
MAJO Matsushiro 6.50 354 *e*P **Pn** **13 15 28.6 -1.7**
MAJO pmax pmax
comp=Z,65nm,0.3s
MAJO Matsushiro 6.50 354 *e*P **Pn** **13 15 28.6 -1.7**
comp=Z,65nm,0.3s
MAT Matsushiro 6.50 354 P **Pn** **13 15 28.6 -1.7**
MAT S **S** **13 16 46.8 -3.4**
MAT Matsushiro 6.50 354 P **Pn** **13 15 28.8 -1.5**
MAT S **S** **13 16 46.7 -3.4**
JHS Saijyo 7.05 316 P **P** **13 15 38.4 +1.2**
JHS S **S** **13 17 04.0 +2.6**
JNU Nakatsue 7.64 296 P **P** **13 15 45.6 +1.7**
comp=Z,4.0nm,0.3s,baz=99,slow=5.9,SNR=42
JNU Nakatsue 7.64 296 *e*P **P** **13 15 45.4 +1.5**
comp=Z,24nm,0.8s
JNU P **P** **13 15 45.6 +1.7**
SAI Saigo 7.79 323 P **P** **13 15 46.2 +0.7**
JMZ Minamidaito 2 8.15 241 P **P** **13 15 49.5 -0.3**
JSJ Shimokoshiki 8.22 284 P **P** **13 15 51.9 +1.4**
JAM Amami Oshima 8.46 261 P **P** **13 15 54.8 +1.6**
JMK Ichinoseki 9.04 11 P **Pn** **13 15 57.9 -1.3**
JMK *e*S **S** **13 17 37.6 -5.6**
JTU Tsushima 9.33 301 P **P** **13 16 03.9 +1.1**
JOW Kunigami 10.05 254 P **Pn** **13 16 13.8 +2.5**
comp=Z,18nm,0.3s,baz=89,slow=9.6,SNR=52
JOW Kunigami 10.05 254 *e*P **Pn** **13 16 13.4 +2.1**
comp=Z,228nm,0.8s
JOW P **Pn** **13 16 13.8 +2.5**
JOW Kunigami 10.05 254 P **Pn** **13 16 13.5 +2.3**
JOT Ohata 11.40 7 P **P** **13 16 26.1 +0.4**
JKE Kume jima 2 11.48 254 P **Pn** **13 16 28.6 +0.8**
KSRS Korea Array 11.86 311 P **Pn** **13 16 31.8 -0.2**
comp=Z,5.6nm,0.3s,baz=125,slow=10.0,SNR=129
KSRS S **S** **13 18 41.8 +0.2**
baz=118,slow=20,SNR=5.8
KSRS ScP **ScP** **13 24 36.0 -1.6**
comp=Z,0.1nm,0.3s,baz=103,slow=1.6,SNR=4.1
KSAR Wonju Array Be 11.88 311 P **Pn** **13 16 31.8 -0.4**
KSAR S **S** **13 18 41.8 -0.2**
KSAR ScP **ScP** **13 24 36.0 -1.6**
JKB Kayabe 11.90 7 P **P** **13 16 31.2 0.0**
ERM Erimo 12.37 14⇑ *e*P **P** **13 16 36.9 +0.6**
NEM2 Nemuro 2 14.30 20 *e*S S 13 19 40.7 +10
ASAJ Asahikawa 14.30 10 P **P** **13 16 58.5 +1.0**
comp=Z,7.9nm,0.3s,baz=234,slow=10.0,SNR=18
ASAJ S **S** **13 19 33.0 +2.4**
comp=Z,0.7nm,0.3s,baz=329,slow=25,SNR=4.0
ASAJ Asahikawa 14.30 10 P **P** **13 16 58.5 +1.0**
ASAJ S **S** **13 19 33.0 +2.4**
JTKR Abashiri--Toko 14.40 14 P **P** **13 16 59.0 +0.5**
JTKR S S 13 19 39.4 +6.9
USRK Ussuriysk Arra 15.19 340 P **P** **13 17 07.0 -0.1**
comp=Z,1.5nm,0.3s,baz=152,slow=10,SNR=19
MDJ Mudanjiang 16.36 335 P **P** **13 17 19.8 +0.1**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,64nm,4.7s
YHNB Yeheng 16.63 255 *e*P **P** **13 17 21.4 -1.5**
comp=Z,44nm,0.6s
NACB Ninganchiao 16.64 254 *e*P **P** **13 17 21.3 -1.7**
comp=Z,91nm,0.5s
DL2 Dalian 16.87 306 P **P** **13 17 24.0 -1.2**
DL2 pmax pmax
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 17.10 9⇑ *e*P **P** **13 17 29.0 +1.4**
YSS Yuzh-Sakhalins 17.10 9 *e*P **P** **13 17 28.0 +0.4**
comp=Z,23nm,0.4s
SNY Shenyang 17.16 317 ⇑P **P** **13 17 28.0 -0.3**
SNY S S 13 20 17.5 -10
SNY pmax pmax
comp=Z,72nm,0.7s
SNY LR LR
comp=N,110nm,3.5s
SNY LR LR
comp=E,170nm,3.3s
SNY LR LR
comp=Z,100nm,4.4s
YULB Yu-li 17.22 252 *e*P **P** **13 17 28.4 -0.9**
comp=Z,67nm,0.6s
GUMO Guam 17.24 161 P **P** **13 17 30.6 +1.1**
comp=Z,18nm,0.3s,baz=208,slow=5.2,SNR=11
GUMO Guam 17.24 161 *e*P **P** **13 17 30.4 +0.9**
comp=Z,290nm,1.3s
GUMO P **P** **13 17 30.6 +1.1**
SSLB Suanglung 17.34 253 *e*P **P** **13 17 30.0 -0.5**
comp=Z,208nm,1.0s
NJ2 Nanjing 17.46 282 *e*P **P** **13 17 31.0 -0.6**
NJ2 pmax pmax
comp=Z,80nm,0.8s
CN2 Changchun 17.49 325 *e*P **P** **13 17 31.3 -0.5**
CN2 *es*P sP 13 19 08.3 -8.5
CN2 *e*S **S** **13 20 29.0 -4.4**
CN2 PcS **PcS** **13 25 28.0 +1.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
TWG Pinlang 17.67 250 *e*P **P** **13 17 32.8 -1.2**
comp=Z,189nm,0.6s
TPUB Ta-pu 17.82 252 *e*P **P** **13 17 34.9 -0.7**
comp=Z,68nm,0.6s
HABR Khabarovsk 18.64 352 *d i*P **P** **13 17 43.9 -0.1**
HABR *e*S **S** **13 20 55.8 +1.1**
HABR pmax pmax
comp=N,34nm,1.1s
HABR pmax pmax
comp=Z,72nm,1.1s
HABR pmax pmax
comp=E,8.0nm,1.1s
HABR MLR MLR
comp=Z,63nm,18.0s
KLR Kul'dur 19.94 346 *e*P **P** **13 17 52.9 -3.8**
KLR pmax pmax
comp=E,24nm,0.9s
KLR pmax pmax
comp=Z,40nm,0.9s
BJT Baijiatuan 21.18 304 *e*P **P** **13 18 06.7 -1.5**
comp=Z,31nm,0.5s
BJI Beijing 21.19 304 P **P** **13 18 06.8 -1.4**
BJI S **S** **13 21 36.0 -0.7**
BJI pmax pmax
comp=Z,59nm,1.2s
BJI pmax pmax
comp=Z,160nm,3.7s
WHN Wuhan 21.36 278 P **P** **13 18 10.0 +0.1**
HHC Hu-ho-hao-te 24.78 303 *e*P **P** **13 18 40.0 -0.8**
HHC sP sP 13 20 30.3 -6.3
HHC PcP **PcP** **13 22 06.8 +1.8**
HHC S **S** **13 22 33.0 -0.8**
HHC ScP **ScP** **13 25 03.3 -2.6**
HHC PcS **PcS** **13 25 45.5 -0.1**
HHC ScS **ScS** **13 28 54.8 +0.1**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.7s
HHC LR LR
comp=N,140nm,7.1s
HHC LR LR
comp=E,120nm,8.6s
HHC LR LR
comp=Z,150nm,9.6s
ENH Enshi 25.57 278 *e*P **P** **13 18 47.1 -0.8**
comp=Z,26nm,0.4s
XAN Xi'an 25.83 287 P **P** **13 18 49.5 -0.7**
XAN pmax pmax
comp=Z,28nm,0.8s
PETK Petropavlovsk- 26.74 25 P **P** **13 18 58.8 +0.9**
comp=Z,1.9nm,0.5s,baz=170,slow=2.1,SNR=19
PETK Petropavlovsk- 26.74 25 P **P** **13 18 58.8 +0.9**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 26.74 25 P **P** **13 18 58.8 +0.9**
CLNS Chul'man 28.56 344 *e*P **P** **13 19 14.0 +0.1**
CLNS *e* 13 20 24.4
CLNS *e* 13 22 13.4
CLNS *e*S **S** **13 23 36.5 +3.9**
CLNS pmax pmax
comp=Z,10.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS smax smax
comp=N,6.0nm,1.0s
CLNS smax smax
comp=E,8.0nm,0.9s
QIZ Qiongzhong 28.71 254 P **P** **13 19 15.5 -0.2**
QIZ sP **sP** **13 21 12.5 -0.4**
QIZ S **S** **13 23 36.5 +0.7**
QIZ pmax pmax
comp=Z,33nm,1.5s
GYA Guiyang 28.74 271⇑ *i*P **P** **13 19 15.0 -1.0**
GYA pP **pP** **13 20 27.8 +0.3**
GYA PP **PnPn** **13 20 33.0 +1.6**
GYA sP **sP** **13 21 14.3 +1.0**
GYA PcP **PcP** **13 22 15.5 +0.7**
GYA S **S** **13 23 35.5 -0.8**
GYA ScP **ScP** **13 25 17.8 -0.4**
GYA PcS **PcS** **13 25 57.0 -1.1**
GYA ScS **ScS** **13 29 11.5 -1.3**
GYA pmax pmax
comp=Z,20nm,0.9s
LZH Lanzhou 30.03 291 ⇓P **P** **13 19 25.5 -1.8**
LZH pP **pP** **13 20 37.5 -1.6**
LZH PP **PnPn** **13 20 50.8 +3.8**
LZH sP **sP** **13 21 26.5 +1.7**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,56nm,4.8s
ULN Ulaanbaatar 30.31 315 *e*P **P** **13 19 29.1 -0.4**
comp=Z,26nm,1.0s
ULN Ulaanbaatar 30.31 315 P **P** **13 19 29.4 -0.1**
comp=Z,25nm,1.2s
CD2 Chengdu 30.39 281 P **P** **13 19 30.0 -0.3**
CD2 pP **pP** **13 20 43.3 +1.1**
CD2 PP **PnPn** **13 20 52.0 +0.9**
CD2 sP **sP** **13 21 28.8 +0.9**
CD2 S **S** **13 24 00.5 -1.3**
CD2 sS **sS** **13 26 11.3 -2.8**
CD2 SS **SS** **13 26 25.0 -7.3**
CD2 pmax pmax
comp=Z,150nm,0.6s
CD2 pmax pmax
comp=Z,160nm,4.9s
SONM Songino Array 30.70 315 P **P** **13 19 32.9 0.0**
comp=Z,6.5nm,0.7s,baz=121,slow=7.5,SNR=55
SONM ScP **ScP** **13 25 23.8 -0.4**
comp=Z,0.6nm,0.6s,baz=106,slow=3.1,SNR=4.0
SONM Songino Array 30.70 315 P **P** **13 19 32.9 0.0**
SONM ScP **ScP** **13 25 23.8 -0.4**
KMI Kunming 32.51 270 P **P** **13 19 48.3 -0.6**
KMI S **S** **13 24 33.8 -1.1**
KMI pmax pmax
comp=Z,12nm,0.7s
YAK Yakutsk 32.56 352 *e*P **P** **13 19 47.8 -0.8**
YAK *e**PP **pP** **13 21 03.8 +2.7**
YAK *e* 13 21 11.6
YAK *e* 13 22 19.7
YAK *e*S **S** **13 24 34.4 0.0**
YAK *e*SS **SS** **13 27 17.8 +2.7**
YAK *e* 13 29 24.5
YAK pmax pmax
comp=Z,14nm,0.6s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,77nm,4.3s
YAK pmax pmax
comp=N,45nm,3.8s
YAK pmax pmax
comp=E,45nm,4.5s
YAK smax smax
comp=N,26nm,1.4s
YAK smax smax
comp=E,31nm,1.8s
YAK Yakutsk 32.56 352 *e*P **P** **13 19 47.5 -1.0**
comp=E,22nm,0.6s
GTA Gaotai 33.38 297⇑ *i*P **P** **13 19 56.0 -0.1**
GTA pP **pP** **13 21 11.3 +2.4**
GTA PP **PnPn** **13 21 26.3 +0.5**
GTA sP **sP** **13 21 51.3 -3.1**
GTA S **S** **13 24 45.3 -2.5**
GTA ScP **ScP** **13 25 35.3 +1.7**
GTA PcS **PcS** **13 26 14.5 +1.0**
GTA sS sS 13 26 54.3 -6.9
GTA SS **SS** **13 27 24.5 -7.9**
GTA pmax pmax
comp=Z,61nm,0.8s
GTA pmax pmax
comp=Z,58nm,4.8s
ZAK Zakamensk 33.59 317 *e*P **P** **13 19 57.5 -0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
FX1 Attu Island--F 33.73 38 P **P** **13 20 00.3 +1.6**
comp=Z,20nm,0.5s,baz=74,slow=1.3,SNR=17
FX1 Attu Island--F 33.73 38 *e*P **P** **13 19 60.0 +1.3**
TLY Talaya 33.93 320 *e*P **P** **13 19 59.5 -1.0**
TLY pmax pmax
comp=Z,8.0nm,0.8s
SEY Seymchan 33.98 11⇓ *e*P **P** **13 20 01.0 +0.3**
AAI Ambon 35.15 199 P **P** **13 20 11.6 +0.5**
MOY Mondy 35.43 318 *e*P **P** **13 20 13.6 +0.3**
SBUM Sibu 37.46 228 P **P** **13 20 27.8 -2.7**
comp=Z,21nm,0.5s,comp=Z,756nm
CMMT Chiang Mai 38.05 262 P **P** **13 20 36.2 +0.8**
comp=Z,55nm,0.8s,comp=Z,419nm
CHBT CHBT 38.10 251 P **P** **13 20 36.5 +0.7**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 38.21 262 P **P** **13 20 37.0 +0.3**
comp=Z,11nm,0.7s,baz=58,slow=6.4,SNR=101
CMAR ScP **ScP** **13 25 52.0 +0.5**
comp=Z,3.0nm,1.1s,baz=37,slow=3.0,SNR=10.0
CMAR Chiang Mai Arr 38.21 262 P **P** **13 20 37.0 +0.3**
CMAR ScP **ScP** **13 25 52.0 +0.5**
KSM Kuching 39.44 229 *e*P **P** **13 20 48.2 +1.4**
comp=Z,10nm,0.5s
KSM Kuching 39.44 229 P **P** **13 20 48.2 +1.4**
comp=Z,26nm,1.0s
SRDT SRDT 39.95 256 P **P** **13 20 51.2 +0.3**
comp=Z,33nm,1.1s,comp=Z,2µm
PMG Port Moresby 40.00 168 P **P** **13 20 51.1 -0.2**
comp=Z,5.5nm,0.3s,baz=264,slow=6.8,SNR=7.8
PMG Port Moresby 40.00 168 P **P** **13 20 51.1 -0.2**
BILL Bilibino 41.24 15 *e*P **P** **13 21 00.8 +0.2**
BILL *i* *PP **pP** **13 22 18.6 +2.2**
BILL pmax pmax
comp=Z,33nm,1.2s
BILL Bilibino 41.24 15 *e*P **P** **13 21 00.1 -0.6**
comp=Z,22nm,0.8s
LSA Lhasa 41.33 282 P **P** **13 21 03.0 +0.6**
LSA Lhasa 41.33 282 *e*P **P** **13 21 03.1 +0.6**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 41.33 282 *e*P **P** **13 21 03.1 +0.7**
comp=Z,6.7nm,0.6s
TIXI Tiksi 42.01 355⇓ *i*P **P** **13 21 06.1 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 42.01 355 *e*P **P** **13 21 06.1 -0.6**
comp=Z,4.4nm,0.4s
WMQ Urumqi 42.66 303 *e*P **P** **13 21 13.0 +0.6**
WMQ ScP **ScP** **13 26 11.0 +2.2**
WMQ PcS **PcS** **13 26 50.0 +1.1**
WMQ S **S** **13 27 05.8 +0.1**
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.0s
TAPN Taplejung 44.85 280 *e*P **P** **13 21 30.3 +0.2**
comp=Z,32nm,0.4s
ODAN Odare 45.26 279 *e*P **P** **13 21 33.3 +0.1**
comp=Z,86nm,0.8s
ZAA0 Zalesovo Array 45.47 318 *e*P **P** **13 21 32.6 -1.6**
ZALV Zalesovo Beam 45.47 318 P **P** **13 21 33.1 -1.1**
comp=Z,2.9nm,0.6s,baz=101,slow=7.7,SNR=14
ZALV PcP **PcP** **13 23 04.9 -0.5**
comp=Z,1.3nm,0.5s,baz=95,slow=5.1,SNR=4.9
ZALV ScP **ScP** **13 26 18.6 -1.5**
comp=Z,4.0nm,0.7s,baz=103,slow=3.9,SNR=12
ZALV Zalesovo Beam 45.47 318 P **P** **13 21 33.1 -1.1**
ZALV 13 23 04.9
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=N,4.0nm,0.7s
ZALV Zalesovo Beam 45.47 318 P **P** **13 21 33.1 -1.1**
ZALV PcP **PcP** **13 23 04.9 -0.5**
ZALV ScP **ScP** **13 26 18.6 -1.5**
RAMN Ramite 45.91 280 *e*P **P** **13 21 38.4 +0.1**
comp=N,117nm,0.6s
GUN Gumba 46.25 281 *e*P **P** **13 21 41.6 +0.6**
comp=N,147nm,0.5s
MK31 Makanchi Array 46.51 308 *e*P **P** **13 21 41.8 -0.5**
MK31 Makanchi Array 46.51 308 *e*P **P** **13 21 41.8 -0.5**
MK31 *e*ScP **ScP** **13 26 21.9 -2.6**
MKAR Makanchi Array 46.51 308 P **P** **13 21 42.0 -0.3**
comp=N,6.7nm,0.6s,baz=90,slow=8.3,SNR=59
MKAR ScP **ScP** **13 26 23.4 -1.2**
comp=N,2.6nm,0.7s,baz=82,slow=4.7,SNR=11
MKAR Makanchi Array 46.51 308 P **P** **13 21 42.0 -0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR pmax pmax
comp=N,3.0nm,0.7s
MKAR Makanchi Array 46.51 308 P **P** **13 21 42.0 -0.3**
MKAR ScP **ScP** **13 26 23.4 -1.2**
NVS Novosibirsk 46.53 319 *e*P **P** **13 21 41.3 -1.0**
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=E,11nm,1.3s
PSI Prapat 46.70 242 P **P** **13 21 44.0 -0.3**
comp=E,9.1nm,0.7s,baz=0.5,slow=6.6,SNR=7.4
PSI Prapat 46.70 242 P **P** **13 21 44.0 -0.3**
PSI Prapat 46.70 242 P **P** **13 21 45.2 +0.9**
comp=E,17nm,0.9s
PKI Pulchoki 46.75 281 *e*P **P** **13 21 44.7 -0.1**
comp=E,31nm,0.5s
PKIN Phulchoki 46.76 281 *e*P **P** **13 21 44.6 -0.2**
comp=E,20nm,0.5s
KKN Kakani 46.80 281 *e*P **P** **13 21 45.3 +0.2**
comp=E,78nm,0.8s
DMN Daman 46.99 281 *e*P **P** **13 21 46.7 +0.1**
comp=E,38nm,0.4s
DANN Dangsing 47.93 282 *e*P **P** **13 21 54.3 +0.5**
comp=E,141nm,0.5s
KOLN Koldanda 48.23 282 *e*P **P** **13 21 56.3 +0.4**
comp=E,111nm,0.7s
PYUN Piuthan 48.65 282 *e*P **P** **13 21 59.7 +0.6**
comp=E,357nm,0.4s
KURK Kurchatov 48.98 313 *ce*P **P** **13 21 59.9 -1.0**
KURK *i* *PP **PcP** **13 23 18.3 +0.2**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 48.98 313 *e*P **P** **13 21 59.9 -1.0**
comp=Z,11nm,0.7s
FITZ Fitzroy Crossi 49.61 197 *e*P **P** **13 22 06.2 +0.2**
comp=Z,18nm,0.8s
WRAB Tennant Creek 49.92 186 *e*P **P** **13 22 08.0 -0.3**
WRAB *e* 13 23 22.6
WRAB pmax pmax
comp=Z,28nm,0.8s
WRAB Tennant Creek 49.92 186 *e*P **P** **13 22 08.0 -0.3**
comp=Z,28nm,0.8s
WRAB *e*PcP **PcP** **13 23 22.6 +0.7**
WRA Warramunga Arr 49.93 186 P **P** **13 22 08.1 -0.3**
comp=Z,16nm,0.4s,baz=1.2,slow=7.7,SNR=392
WRA PcP **PcP** **13 23 22.6 +0.7**
comp=Z,4.4nm,0.8s,baz=358,slow=3.9,SNR=5.9
WRA S **S** **13 28 46.0 -2.2**
comp=Z,0.9nm,0.8s,baz=14,slow=16,SNR=5.9
WRA Warramunga Arr 49.93 186 P **P** **13 22 08.1 -0.3**
WRA PcP **PcP** **13 23 22.6 +0.7**
WRA S **S** **13 28 46.0 -2.2**
ULHL Ulahol 51.13 302 P **P** **13 22 17.6 +0.3**
SNR=22
TKM2 Tokmak 2 51.51 303 *e*P **P** **13 22 20.4 +0.3**
TKM2 pmax pmax
comp=Z,7.0nm,0.5s
TKM2 Tokmak 2 51.51 303 *e*P **P** **13 22 20.4 +0.3**
comp=Z,7.3nm,0.5s
TKM2 Tokmak 2 51.51 303 P **P** **13 22 20.6 +0.5**
SNR=18
KSH Kashi 51.75 299 P P 13 22 25.3 +3.5
KSH PcP **PcP** **13 23 31.5 +2.6**
KSH pP pP 13 23 49.5 +7.8
KSH PP PP 13 24 30.3 +6.2
KSH ScP **ScP** **13 26 46.8 -0.5**
KSH PcS **PcS** **13 27 27.8 +0.2**
KSH S **S** **13 29 14.0 +1.0**
KSH ScS **ScS** **13 31 28.3 -1.8**
KSH sS sS 13 31 44.5 +8.3
KSH SS **SS** **13 32 58.5 +3.1**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,110nm,4.4s
KSH LR LR
comp=N,180nm,9.8s
KSH LR LR
comp=E,120nm,5.9s
KSH LR LR
comp=Z,160nm,7.8s
KZA Kyzart 51.88 302 P **P** **13 22 24.1 +1.0**
SNR=16
KBK Karagaybulak 52.02 303 P **P** **13 22 24.1 +0.4**
SNR=11
AAK Ala-Archa 52.35 303 P **P** **13 22 26.2 0.0**
comp=Z,4.8nm,0.5s,baz=114,slow=5.3,SNR=22
AAK ScP **ScP** **13 26 48.9 -1.0**
comp=Z,2.4nm,0.8s,baz=71,slow=5.4,SNR=6.9
AAK Ala-Archa 52.35 303 P **P** **13 22 26.2 0.0**
AAK pmax pmax
comp=Z,5.0nm,0.5s
AAK pmax pmax
comp=N,2.0nm,0.8s
AAK Ala-Archa 52.35 303 P **P** **13 22 26.2 0.0**
AAK ScP **ScP** **13 26 48.9 -1.0**
AAK Ala-Archa 52.35 303 P **P** **13 22 26.3 +0.1**
SNR=12
AML Almayashu 53.02 302 P **P** **13 22 32.0 +0.8**
SNR=7.2
AS31 Alice Springs 53.66 186 *e*P **P** **13 22 35.3 -0.2**
ASAR Alice Springs 53.66 186 P **P** **13 22 35.5 -0.1**
comp=N,6.3nm,0.4s,baz=22,slow=10,SNR=302
ASAR PcP **PcP** **13 23 36.9 +0.8**
comp=N,2.1nm,0.9s,baz=6.7,slow=4.3,SNR=4.6
ASAR ScP **ScP** **13 26 55.0 -0.4**
comp=N,0.6nm,0.8s,baz=357,slow=5.6,SNR=3.5
ASAR S **S** **13 29 38.7 +0.2**
comp=N,0.9nm,0.9s,baz=18,slow=20,SNR=5.3
ASAR Alice Springs 53.66 186 P **P** **13 22 35.5 -0.1**
ASAR PcP **PcP** **13 23 36.9 +0.8**
ASAR ScP **ScP** **13 26 55.0 -0.4**
ASAR S **S** **13 29 38.7 +0.2**
KDAK Kodiak Island 53.67 38 P **P** **13 22 35.0 -0.1**
comp=N,13nm,0.7s,baz=316,slow=23,SNR=12

KDAK **Kodiak Island** 53.67 38 P P 13 22 35.0 -0.1
BVAR **Borovoye Array** 54.03 316 P P 13 22 37.6 -0.2
comp=N,4.1nm,0.5s,baz=96,slow=7.5,SNR=33
BVAR **Borovoye Array** 54.03 316 P P 13 22 37.6 -0.2
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR **Borovoye Array** 54.03 316 P P 13 22 37.6 -0.2
BRVK **Borovoye** 54.09 316 eP P 13 22 37.9 -0.4
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK **Borovoye** 54.09 316 eP P 13 22 37.9 -0.4
comp=Z,5.2nm,0.8s
KKAR **Karatay Array** 55.16 304 eP P 13 22 46.0 -0.1
KKAR pmax pmax
comp=Z,12nm,0.5s
KKAR **Karatay Array** 55.16 304 eP P 13 22 46.0 -0.1
comp=Z,12nm,0.5s
HYB **Hyderabad** 56.27 272 i P P 13 22 53.0 -1.2
ILAR **Eielson Array** 56.45 30 P P 13 22 54.1 -0.5
comp=Z,2.0nm,0.8s,baz=250,slow=4.5,SNR=21
ILAR pP pP 13 24 17.6 +1.3
comp=Z,0.6nm,0.6s,baz=267,slow=5.6,SNR=3.3
ILAR **Eielson Array** 56.45 30 P P 13 22 54.1 -0.5
ILAR pP pP 13 24 17.6 +1.3
BMRM **Bremner River** 57.64 34 eP P 13 23 03.9 +0.8
DOT **Dot Lake** 57.71 31 eP P 13 23 03.4 -0.1
comp=Z,3.8nm,0.7s
MENT **Mentasta** 57.91 32 eP P 13 23 05.9 +1.1
DZM **Mont Dzumac** 58.13 150 P P 13 23 08.1 +1.2
comp=Z,23nm,0.8s,baz=307,slow=18,SNR=14
DZM **Mont Dzumac** 58.13 150 P P 13 23 08.1 +1.2
KBL **Kabul** 58.30 294 eP P 13 23 08.0 -0.2
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL **Kabul** 58.30 294 eP P 13 23 08.0 -0.2
comp=Z,7.2nm,0.7s
POO **Poona** 59.88 275 ⇓ i P P 13 23 17.0 -1.9
comp=Z,5.0nm,1.0s
ARU **Arti** 60.42 321 c i P P 13 23 21.3 -0.6
ARU 13 25 39.8
ARU S S 13 31 08.2 +3.1
ARU SS SS 13 35 08.9 -1.4
ARU pmax pmax
comp=Z,9.0nm,0.8s
ABKAR **Akbulak array** 61.09 313 eP P 13 23 26.0 -0.5
comp=Z,7.0nm,0.5s
FORT **Forrest** 61.41 191 eP P 13 23 29.2 +0.4
comp=Z,31nm,0.6s
INK **Inuvik** 61.48 25 P P 13 23 28.6 -0.1
comp=Z,5.3nm,0.3s,baz=283,slow=5.7,SNR=65
INK **Inuvik** 61.48 25 P P 13 23 28.6 -0.1
STKA **Stephens Creek** 61.65 178 P P 13 23 30.5 +0.2
comp=Z,11nm,0.4s,baz=348,slow=7.0,SNR=51
STKA **Stephens Creek** 61.65 178 eP P 13 23 30.5 +0.2
comp=Z,2.6nm,0.6s
BBOO **Buckleboo** 62.60 183 eP P 13 23 36.7 +0.2
comp=Z,121nm,0.5s
AFI **Afiamalu** 64.42 126 P P 13 23 48.3 -0.4
comp=Z,18nm,0.8s,baz=203,slow=13,SNR=4.1
AFI **Afiamalu** 64.42 126 P P 13 23 48.3 -0.4
DLBC **Dease Lake** 65.36 35 P P 13 23 55.0 +0.9
comp=Z,3.0nm,0.9s,baz=329,slow=1.0,SNR=4.6
DLBC **Dease Lake** 65.36 35 P P 13 23 55.0 +0.9
NWAO **Narrogin (SRO)** 65.98 200 eP P 13 23 58.5 +0.3
comp=Z,20nm,0.8s
KEV **Kevo** 69.28 340 eP P 13 24 16.2 -1.9
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV **Kevo** 69.28 340 ep P 13 24 16.2 -1.9
comp=Z,4.7nm,0.7s
ARCES **ARCESS Array B** 69.84 340 P P 13 24 22.1 +0.5
comp=Z,3.5nm,0.5s,baz=74,slow=8.9,SNR=30
ARCES **ARCESS Array B** 69.84 340 P P 13 24 22.1 +0.5
YKA **Yellowknife Ar** 70.82 28 P P 13 24 27.0 -0.5
comp=Z,3.6nm,0.8s,baz=295,slow=5.9,SNR=63
YKA **Yellowknife Ar** 70.82 28 P P 13 24 27.0 -0.5
JOF **Joensuu** 71.22 333 eP P 13 24 28.7 -1.1
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF **Joensuu** 71.22 333 ep P 13 24 28.7 -1.1
comp=Z,2.4nm,0.3s
OBN **Obninsk** 72.55 324 eP P 13 24 37.7 0.0
OBN e*PP pP 13 26 08.2 +3.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
VSR **Storozhevoye** 72.93 320 eP P 13 24 38.9 -1.2
VORD **Divnogorie** 72.97 319 eP P 13 24 39.8 -0.5
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.9s
VORD pmax pmax
comp=Z,5.0nm,0.9s
KAF **Kangasniemi** 73.62 333 eP P 13 24 41.4 -2.4
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF **Kangasniemi** 73.62 333 ep P 13 24 41.4 -2.4
comp=Z,3.5nm,0.6s
KBZ **Khabaz** 74.01 311 P P 13 24 46.5 +0.1
comp=Z,5.4nm,0.8s,baz=52,slow=3.2,SNR=9.4
KBZ pP pP 13 26 12.8 -0.6
comp=Z,2.5nm,0.8s,baz=124,slow=3.6,SNR=2.5
KBZ **Khabaz** 74.01 311 P P 13 24 46.5 +0.1
KBZ *PP pP 13 26 12.8 -0.6
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ **Khabaz** 74.01 311 P P 13 24 46.5 +0.1
KBZ pP pP 13 26 12.8 -0.6
KIV **Kislovodsk** 74.05 312 eP P 13 24 45.8 -1.0
KIV pmax pmax
comp=Z,8.0nm,1.1s
FINES **FINESS Array B** 74.08 333 P P 13 24 46.2 -0.3
comp=Z,3.0nm,0.3s,baz=73,slow=5.3,SNR=31
FINES **FINESS Array B** 74.08 333 P P 13 24 46.2 -0.3
NEW **Newport** 76.53 42 P P 13 25 01.4 +0.7
comp=Z,4.7nm,0.8s,baz=323,slow=6.2,SNR=9.3
NEW **Newport** 76.53 42 P P 13 25 01.4 +0.7
NEW **Newport** 76.53 42 ⇓ P P 13 25 00.7 +0.1
baz=76
URZ **Urewera** 76.69 150 P P 13 25 00.9 -0.4
comp=Z,5.8nm,0.8s,baz=56,slow=3.6,SNR=9.5
URZ **Urewera** 76.69 150 P P 13 25 02.4 +1.1
B13A **Whitefish** 78.00 41 ⇑ P P 13 25 08.6 -0.1
baz=78
A14A **Double T Ranch** 78.27 40 ⇑ P P 13 25 10.6 +0.4
baz=78
C13A **Hot Springs** 78.30 41 ⇑ P P 13 25 11.0 +0.6
baz=78
AKASG **Malin Array Be** 78.62 322 P P 13 25 11.4 -0.5
comp=Z,1.4nm,0.3s,baz=52,slow=5.5,SNR=5.8
AKASG pP pP 13 26 39.6 -0.4
comp=Z,0.4nm,0.3s,baz=50,slow=8.6,SNR=1.8
AKASG **Malin Array Be** 78.62 322 P P 13 25 11.4 -0.5
AKASG *PP pP 13 26 39.6 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG **Malin Array Be** 78.62 322 P P 13 25 11.4 -0.5
AKASG pP pP 13 26 39.6 -0.4
AK01 **Malin Array Si** 78.63 322 eP P 13 25 11.1 -0.9
A15A **Johnson Ranch,** 78.65 40 ⇓ P P 13 25 12.2 -0.1
baz=78
B14A **Marquette Ranc** 78.68 40 ⇓ P P 13 25 13.1 +0.6
baz=78
D13A **Huson** 78.68 42 ⇑ P P 13 25 12.3 -0.2
baz=78
RPZ **Rata Peaks** 79.05 157 P P 13 25 14.0 -0.1
comp=Z,5.7nm,0.6s,baz=324,slow=5.8,SNR=4.0
RPZ **Rata Peaks** 79.05 157 P P 13 25 14.0 -0.1
B15A **Bradely Ranch,** 79.10 40 ⇓ P P 13 25 14.6 -0.1
baz=79
SLMT **Seeley Lake** 79.16 41 eP P 13 25 15.1 -0.1
comp=Z,3.0nm,0.5s
D14A **Greenough** 79.24 42 ⇑ P P 13 25 15.4 -0.1
baz=79
C15A **Salmond Ranch,** 79.37 41 ⇑ P P 13 25 16.2 0.0
baz=79
F13A **Darby** 79.45 43 ⇓ P P 13 25 16.4 -0.2
baz=79
CMB **Columbia Colle** 79.58 52 eP P 13 25 17.1 -0.3
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB **Columbia Colle** 79.58 52 eP P 13 25 17.1 -0.3
comp=Z,8.1nm,1.1s
A17A **Triple J Farms** 79.78 39 ⇓ P P 13 25 18.1 -0.2
baz=80
H12A **Diamond D Ranc** 79.80 44 ⇓ P P 13 25 18.2 -0.4
baz=80
MFID **Camas Ranch** 79.80 46 ⇓ P P 13 25 18.4 -0.2
baz=80
NB2 **NORSAR Subarra** 79.84 337 P P 13 25 17.8 -0.5
comp=Z,3.0nm,0.6s,baz=45,slow=5.6
NOA **NORSAR Array B** 79.84 337 P P 13 25 18.1 -0.3
comp=Z,3.5nm,0.8s,baz=44,slow=5.3,SNR=10
NOA pP pP 13 26 48.7 +2.0
comp=Z,1.5nm,0.7s,baz=45,slow=5.6,SNR=3.8
NOA **NORSAR Array B** 79.84 337 P P 13 25 18.1 -0.3
NOA pP pP 13 26 48.7 +2.0
C16A **Fuhringer Ranc** 79.84 40 ⇑ P P 13 25 18.6 -0.1
baz=80
G13A **Cobalt** 79.88 44 ⇑ P P 13 25 18.7 -0.3
baz=80
F14A **Wisdom** 80.00 43 ⇑ P P 13 25 19.4 -0.3
baz=80
E15A **Deer Lodge** 80.09 42 ⇓ P P 13 25 19.8 -0.3
baz=80
B17A **L&G Farms, Che** 80.09 40 ⇑ P P 13 25 20.0 +0.1
baz=80,SNR=6.9
H13A **Challis** 80.15 44 ⇓ P P 13 25 20.7 +0.2
baz=80,SNR=6.5
A18A **Metzger Ranch,** 80.26 39 ⇑ P P 13 25 20.9 +0.1
baz=80,SNR=7.3
D16A **Dana Ranch, Ca** 80.38 41 ⇓ P P 13 25 21.2 -0.4
baz=80
C17A **Wharram Farm,** 80.49 40 ⇑ P P 13 25 22.0 -0.1
baz=80
F15A **Butte** 80.50 42 ⇑ P P 13 25 22.7 +0.4
baz=80,SNR=8.5
LRM **Limekiln Ridge** 80.53 42 eP P 13 25 23.1 +0.5
comp=Z,64nm,1.0s
I13A **Wildhorse Cree** 80.58 45 ⇑ P P 13 25 22.6 -0.2
baz=80
HLID **Hailey** 80.59 45 ⇓ P P 13 25 23.2 +0.4
baz=80,SNR=5.2
B18A **Beardsley Farm** 80.60 39 ⇓ P P 13 25 22.8 +0.2
baz=80,SNR=10
FFC **Flin Flon** 80.63 31 eP P 13 25 21.6 -0.9
FFC pmax pmax
comp=Z,18nm,1.6s
FFC **Flin Flon** 80.63 31 eP P 13 25 21.6 -0.9
comp=Z,18nm,1.6s
NVAR **Mina Array Bea** 80.79 51 P P 13 25 24.8 +0.8
comp=Z,4.4nm,1.0s,baz=271,slow=5.2,SNR=15
NVAR **Mina Array Bea** 80.79 51 P P 13 25 24.8 +0.8
D17A **Six Diamond Ra** 80.80 40 ⇓ P P 13 25 24.0 +0.2
baz=81,SNR=6.1
EGMT **Eagleton** 80.82 39 eP P 13 25 23.9 0.0
comp=Z,8.2nm,0.9s
EGMT **Eagleton** 80.82 39 ⇓ P P 13 25 23.6 -0.2
baz=81
J13A **Cove Ranch, Pi** 80.83 45 ⇓ P P 13 25 24.7 +0.7
baz=81,SNR=5.1
A19A **Klindworth Far** 80.85 38 ⇓ P P 13 25 23.9 0.0
baz=81
G15A **Dillon** 80.88 43 ⇓ P P 13 25 24.3 0.0
baz=81
I14A **Mackay** 80.98 44 ⇑ P P 13 25 25.9 +1.0
baz=81,SNR=11
B19A **Brinkman Farms** 81.02 39 ⇓ P P 13 25 25.2 +0.4
baz=81
F16A **Kennard Place,** 81.04 42 ⇑ P P 13 25 25.5 +0.5
baz=81
H15A **Lima** 81.09 43 ⇓ P P 13 25 25.6 +0.1
baz=81
E17A **Martinsdale** 81.10 41 ⇓ P P 13 25 26.0 +0.6
baz=81
G16A **Moss Hill, Enn** 81.24 43 ⇓ P P 13 25 26.2 0.0
baz=81
A20A **Cobblestone Ra** 81.31 38 ⇓ P P 13 25 26.2 -0.1
baz=81
C19A **Slack Wire Ran** 81.38 39 ⇑ P P 13 25 27.1 +0.4
baz=81,SNR=7.2
B20A **Solberg Farm,** 81.52 38 ⇓ P P 13 25 27.3 -0.1
baz=81
F17A **Fitzpatrick Pl** 81.53 41 ⇓ P P 13 25 27.8 +0.2
baz=81
E18A **Harlowton** 81.57 41 ⇑ P P 13 25 28.1 +0.3
baz=81
A21A **Bergtoll Ranch** 81.78 37 ⇑ P P 13 25 28.7 0.0
baz=82
D19A **Cripps Ranch,** 81.80 40 ⇑ P P 13 25 29.3 +0.4
baz=82
G17A **Pierce Place,** 81.81 42 ⇑ P P 13 25 29.0 -0.1
baz=82
H16A **Russell Place,** 81.86 43 ⇑ P P 13 25 29.4 0.0
baz=82
J15A **Blackfoot** 81.89 44 ⇑ P P 13 25 29.6 +0.1
baz=82
C20A **Veseth Ranch,** 81.96 39 ⇑ P P 13 25 30.0 +0.3
baz=82,SNR=5.6
BRTR **Keskin Array B** 82.00 311 P P 13 25 30.3 +0.1
comp=Z,2.6nm,0.7s,baz=96,slow=4.2,SNR=11
BRTR pP pP 13 26 57.8 -1.3
comp=Z,1.1nm,0.8s,baz=72,slow=5.9,SNR=3.0
BRTR **Keskin Array B** 82.00 311 P P 13 25 30.3 +0.1
BRTR pP pP 13 26 57.8 -1.3
F18A **Big Timber** 82.06 41 ⇓ P P 13 25 30.2 -0.2
baz=82
ARVC **Arvin** 82.13 54 ⇑ P P 13 25 31.1 +0.4
baz=82
L14A **Malta** 82.15 46 ⇓ P P 13 25 31.1 +0.2
baz=82
D20A **Manuel Ranch,** 82.26 39 ⇑ P P 13 25 31.2 0.0
baz=82
E19A **Rath Farm, Rou** 82.27 40 ⇑ P P 13 25 31.3 0.0
baz=82
A22A **Carney Farms,** 82.31 37 ⇑ P P 13 25 31.0 -0.4
baz=82,SNR=7.1
C21A **Desert Coulee** 82.39 38 ⇑ P P 13 25 31.9 0.0
baz=82
H17A **Grant Village** 82.44 43 ⇓ P P 13 25 34.6 +2.1
baz=82,SNR=5.2
BLG **Laguna Peak** 82.49 55 ⇑ P P 13 25 33.0 +0.3
baz=82
F19A **Roth Farm, Mol** 82.53 41 ⇑ P P 13 25 32.3 -0.4
baz=82
MPMC **Manual Prospec** 82.58 53 ⇑ P P 13 25 33.0 -0.3
baz=82
E20A **Meyer Farm, Mu** 82.61 40 ⇑ P P 13 25 32.9 -0.1
baz=82
R11A **Troy Canyon, C** 82.65 50 ⇑ P P 13 25 33.9 +0.3
baz=82
L15A **Malad City** 82.70 45 ⇑ P P 13 25 33.5 -0.2
baz=82
I17A **Pilgrim Ck.** 82.71 43 ⇑ P P 13 25 34.4 +0.6
baz=82
K16A **Soda Springs** 82.72 44 ⇓ P P 13 25 34.1 +0.2
baz=82
RLMT **Red Lodge** 82.78 42 ⇓ P P 13 25 34.3 +0.2
baz=83,SNR=7.0
FURC **Furnace Creek,** 82.79 52 ⇑ P P 13 25 34.5 +0.5
baz=83
H18A **Shoshone NF, C** 82.81 42 ⇓ P P 13 25 34.5 +0.2
baz=83
EDW2 **Edwards Air Fo** 82.85 54 ⇑ P P 13 25 34.5 0.0
baz=83
C22A **Vida** 83.09 38 ⇑ P P 13 25 34.9 -0.5
baz=83
B23A **Brockton** 83.11 37 ⇓ P P 13 25 35.3 -0.2
baz=83
L16A **Fish Haven** 83.28 45 ⇓ P P 13 25 36.8 +0.1
baz=83
D22A **Cohagen** 83.29 39 ⇑ P P 13 25 36.5 0.0
baz=83,SNR=5.9
G20A **Bridger** 83.32 41 ⇓ P P 13 25 36.8 0.0
baz=83
CIS **Catalina Islan** 83.33 55 ⇑ P P 13 25 36.4 -0.5
baz=83
BFSC **Mount Baldy Ra** 83.42 54 ⇓ P P 13 25 37.4 -0.1
baz=83
C23A **Lambert** 83.42 38 ⇑ P P 13 25 36.7 -0.4
baz=83
HWUT **Hardware Ranch** 83.43 45 eP P 13 25 38.0 +0.5
comp=Z,7.4nm,0.9s
DUG **Dugway** 83.44 47 eP P 13 25 38.0 +0.5
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG **Dugway** 83.44 47 eP P 13 25 38.0 +0.5
comp=Z,10nm,1.2s
DUG **Dugway** 83.44 47 ⇓ P P 13 25 37.9 +0.4
baz=83
J18A **Kendall Valley** 83.45 43 ⇑ P P 13 25 37.2 -0.3
baz=83
GSC **Goldstone** 83.45 53 ⇑ P P 13 25 37.6 +0.1
baz=83
SHOC **Shoshone** 83.49 52 ⇓ P P 13 25 38.1 +0.4
baz=83
I19A **Meeteetse** 83.57 42 ⇑ P P 13 25 38.3 +0.2
baz=83
L17A **Cokeville** 83.57 45 ⇓ P P 13 25 37.8 -0.4
baz=83
D23A **Lindsay** 83.80 38 ⇑ P P 13 25 39.3 +0.2
baz=84
H20A **Greybull** 83.88 42 ⇑ P P 13 25 40.2 +0.6
baz=84
G21A **Lodge Grass** 83.89 41 ⇑ P P 13 25 39.6 +0.1
baz=84
BW06 **Boulder Array** 83.98 44 ⇓ P P 13 25 39.5 -0.7
baz=84
PDAR **Pinedale Array** 83.98 44 P P 13 25 40.2 -0.1
comp=Z,1.2nm,0.8s,baz=298,slow=3.0,SNR=9.8
PDAR **Pinedale Array** 83.98 44 P P 13 25 40.2 -0.1
J19A **Crowheart** 83.99 43 ⇑ P P 13 25 40.6 +0.4
baz=84
HEC **Hector,Ludlow** 84.03 53 ⇓ P P 13 25 40.7 +0.2
baz=84
MURC **Murrieta** 84.08 55 ⇓ P P 13 25 40.7 +0.1
baz=84
I20A **Worland** 84.12 42 ⇓ P P 13 25 40.9 0.0
baz=84
P15A **Leamington** 84.13 47 ⇓ P P 13 25 40.6 -0.3
baz=84
E23A **Ismay** 84.16 39 ⇑ P P 13 25 40.6 -0.2
baz=84
N17A **Moffit Pass** 84.26 46 ⇑ P P 13 25 41.5 -0.2
baz=84
O16A **Springville** 84.26 47 ⇓ P P 13 25 41.6 0.0
baz=84
H21A **Big Horn, Sher** 84.34 41 ⇑ P P 13 25 40.8 -1.1
baz=84
K19A **Absolon Red Bu** 84.37 43 ⇑ P P 13 25 41.3 -0.8
baz=84
G22A **Birney** 84.41 40 ⇑ P P 13 25 41.5 -0.7
baz=84
M18A **Lyman** 84.45 45 ⇑ P P 13 25 42.4 -0.2
baz=84
L19A **Farson** 84.49 44 ⇑ P P 13 25 42.7 -0.1
baz=84
J20A **Shoshoni** 84.51 42 ⇓ P P 13 25 42.8 0.0
baz=84
GMRC **Granite Mounta** 84.52 53 ⇓ P P 13 25 42.8 -0.1
baz=84
PFO **Pinyon Flat Ob** 84.60 54 eP P 13 25 43.4 0.0
comp=Z,7.2nm,1.0s
PFO **Pinyon Flat Ob** 84.60 54 ⇓ P P 13 25 43.6 +0.2
baz=84
I21A **Big Trails, Te** 84.69 42 ⇓ P P 13 25 43.3 -0.4
baz=84
BELC **Belle Mtn. Jos** 84.71 54 ⇓ P P 13 25 43.7 -0.2
baz=84
O17A **Robinson Place** 84.75 46 ⇑ P P 13 25 44.0 -0.1
baz=84
H22A **Clearmont** 84.75 41 ⇑ P P 13 25 43.6 -0.3
baz=84
G23A **Biddle** 84.92 40 ⇓ P P 13 25 44.7 +0.1
baz=85
N18A **Larsen Ranch,** 84.96 45 ⇑ P P 13 25 44.7 -0.4
baz=85
MONP **Monument Peak** 85.01 55 ⇓ P P 13 25 45.2 -0.3
baz=85
I22A **9 Mile Ranch,** 85.11 41 ⇓ P P 13 25 44.9 -0.7
baz=85
L20A **Wamsutter** 85.16 44 ⇑ P P 13 25 45.4 -0.7
baz=85
O18A **Roosevelt** 85.16 46 ⇓ P P 13 25 46.2 +0.1
baz=85
P17A **Butcher Ranch,** 85.16 47 ⇓ P P 13 25 46.2 +0.1
baz=85
Q16A **Castle Valley** 85.21 47 ⇑ P P 13 25 46.7 +0.3
baz=85
IRM **Iron Mountain** 85.21 53 ⇓ P P 13 25 46.3 0.0
baz=85
N19A **John Jarvie Ra** 85.31 45 ⇑ P P 13 25 46.3 -0.5
baz=85
VYHS **Vyhne** 85.32 325 eP P 13 25 56.7 +10
VYHS **Vyhne** 85.32 325 eP P 13 25 56.7 +10
J22A **Midwest** 85.40 42 ⇓ P P 13 25 47.0 -0.1
baz=85
SRU **San Rafael** 85.51 47 ⇑ P P 13 25 47.5 -0.3
baz=85
M20A **Sweetwater, Wa** 85.56 44 ⇓ P P 13 25 48.1 0.0
baz=85
W13A **Hualapai Mount** 85.57 52 ⇑ P P 13 25 48.3 +0.1
baz=85
H24A **Dirks Ranch, A** 85.67 40 ⇓ P P 13 25 48.1 -0.2
baz=85
O19A **Miners Draw (B** 85.69 45 ⇑ P P 13 25 48.1 -0.5
baz=86
L21A **Rawlins** 85.76 43 ⇑ P P 13 25 49.0 0.0
baz=86
K22A **Casper** 85.84 42 ⇓ P P 13 25 49.4 +0.1
baz=86
U15A **North Rim** 85.90 50 ⇑ P P 13 25 50.0 +0.1
baz=86
N20A **Spence Gulch,** 85.90 45 ⇑ P P 13 25 49.6 -0.1
baz=86
M21A **Separation Pea** 85.98 44 ⇑ P P 13 25 49.7 -0.4
baz=86
P19A **Cripple Cowboy** 86.17 46 ⇓ P P 13 25 50.9 -0.2
baz=86
M22A **Cedar Creek Ra** 86.56 43 ⇑ P P 13 25 53.1 +0.2
baz=86
L23A **Garrett** 86.65 42 ⇓ P P 13 25 53.3 0.0
baz=86
Q20A **Ridgley Place,** 87.00 46 ⇓ P P 13 25 55.2 +0.2
baz=87
WUAZ **Wupatki** 87.03 50 ⇓ P P 13 25 55.1 0.0
baz=87
M23A **Laramie** 87.04 43 ⇑ P P 13 25 55.0 -0.1
baz=87
N23A **Red Feather La** 87.26 43 ⇓ P P 13 25 56.3 +0.1
baz=87
O22A **Kremmling** 87.35 44 ⇑ P P 13 25 55.6 -1.1
baz=87
P22A **Eagle** 87.57 45 ⇓ P P 13 25 57.9 +0.2
baz=87
M24A **Cheyenne** 87.57 43 ⇓ P P 13 25 57.6 0.0
baz=87
R23A **Moffat** 89.00 46 ⇓ P P 13 26 04.4 -0.1
baz=89
R24A **Sanders Place,** 89.42 45 ⇑ P P 13 26 06.8 +0.5
baz=89
X20A **Quemado** 89.51 50 ⇓ P P 13 26 07.2 +0.3
baz=89
Y20A **Horse Springs,** 89.97 50 ⇑ P P 13 26 09.0 0.0
baz=90
R25A **Fountain Ranch** 89.98 45 ⇓ P P 13 26 09.0 +0.2
baz=90
X21A **Alamocita Cree** 90.04 49 ⇑ P P 13 26 09.5 +0.2
baz=90
T24A **Torres, Weston** 90.18 46 ⇓ P P 13 26 10.0 0.0
baz=90
Z20A **Nine Sixteen R** 90.30 51 ⇓ P P 13 26 11.1 +0.6
baz=90
Y21A **Point of Rocks** 90.37 50 ⇓ P P 13 26 11.1 +0.2
baz=90
T25A **Trinidad** 90.54 46 ⇑ P P 13 26 12.1 +0.6
baz=90
ANMO **Albuquerque** 90.60 48 P P 13 26 12.6 +0.7
comp=Z,2.1nm,0.9s,baz=312,slow=7.8,SNR=4.4
ANMO **Albuquerque** 90.60 48 P P 13 26 12.6 +0.7
120A **U Bar Ranch, L** 90.61 51 ⇓ P P 13 26 12.5 +0.6
baz=90
Z21A **St. Cloud Mine** 90.80 50 ⇑ P P 13 26 13.2 +0.4
baz=91
319A **Douglas** 90.86 53 ⇑ P P 13 26 13.4 +0.4
baz=91
V24A **Rampart Ranch,** 90.88 47 ⇑ P P 13 26 13.5 +0.3
baz=91
Y22A **Socorro** 90.89 49 ⇓ P P 13 26 13.5 +0.3
baz=91
U25A **Circle Dot Ran** 91.00 46 ⇓ P P 13 26 14.1 +0.4
baz=91
T26A **Comanche Natio** 91.02 45 ⇑ P P 13 26 13.6 -0.2
baz=91
220A **Playas Peak, P** 91.06 52 ⇓ P P 13 26 14.5 +0.6
baz=91
W24A **Lazy 6 Ranch,** 91.11 48 ⇓ P P 13 26 14.5 +0.2
baz=91
S27A **Las Animas** 91.12 44 ⇓ P P 13 26 14.4 +0.3
baz=91

121A	**Cookes Peak, D** baz=91	**91.19**	**51**	⇓P		**P**	**13 26 14.8**	**+0.2**
V25A	**Rancho No Teng** baz=91	**91.22**	**47**	⇓P		**P**	**13 26 15.0**	**+0.2**
Z22A	**Elephant Butte** baz=91	**91.30**	**50**	⇓P		**P**	**13 26 15.5**	**+0.4**
320A	**Kipp Ranch, An** baz=91	**91.40**	**52**	⇓P		**P**	**13 26 15.8**	**+0.2**
U26A	**Atchley Ranch,** baz=91	**91.42**	**46**	⇓P		**P**	**13 26 16.0**	**+0.3**
Y23A	**Lovelace Mesa,** baz=91	**91.49**	**49**	⇓P		**P**	**13 26 16.1**	**+0.1**
W25A	**X Bar L Ranch,** baz=92	**91.71**	**47**	⇑P		**P**	**13 26 17.1**	**+0.2**
Y25A	**Mesa, Roswell** baz=92	**92.38**	**48**	⇑P		**P**	**13 26 20.3**	**+0.3**
124A	**Stringfield Ra** baz=92	**92.64**	**50**	⇓P		**P**	**13 26 21.4**	**+0.1**
W27A	**Bowe Ranch, En** baz=92	**92.70**	**47**	⇑P		**P**	**13 26 21.7**	**+0.3**
Z25A	**Roswell** baz=93	**92.76**	**49**	⇓P		**P**	**13 26 22.1**	**+0.3**
224A	**Cornudas Mount** baz=93	**92.98**	**50**	⇓P		**P**	**13 26 23.2**	**+0.4**
125A	**Gardner Draw,** baz=93	**93.19**	**49**	⇓P		**P**	**13 26 23.7**	**-0.1**
Z26A	**Caprock** baz=93	**93.25**	**48**	⇓P		**P**	**13 26 23.9**	**-0.1**
MNTX	**Cornudas Mount** baz=93	**93.31**	**50**	⇑P		**P**	**13 26 24.2**	**+0.1**
324A	**Moseley Ranch,** baz=93	**93.40**	**51**	⇑P		**P**	**13 26 25.0**	**+0.3**
425A	**Indio Mountain** baz=94	**94.14**	**51**	⇓P		**P**	**13 26 28.3**	**+0.1**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.8s,baz=306,slow=3.3,SNR=10	**95.94**	**51**	P		**P**	**13 26 37.0**	**+0.7**
TXAR				pP		**pP**	**13 28 08.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=295,slow=3.9,SNR=6.5							
TXAR	**Lajitas Array**	**95.94**	**51**	P		**P**	**13 26 37.0**	**+0.7**
TXAR				pP		**pP**	**13 28 08.2**	**+0.9**
627A	**Terlingua Ranc** baz=96	**96.05**	**51**	⇓P		**P**	**13 26 37.0**	**+0.2**
QSPA	**South Pole Qui**	**119.83**	**180**	*e*PKPdf		**PKPdf**	**13 31 55.4**	**-0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=46,slow=2.0,SNR=6.5	**120.60**	**310**	PKP		**PKPdf**	**13 31 58.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**120.60**	**310**	PKP		**PKPdf**	**13 31 58.2**	**-0.8**
VNA2	**Neumayer--Watz** baz=47,slow=1.4	**135.10**	**195**	*e*PKPdf		**PKPdf**	**13 32 25.0**	**+0.1**
VNA3	**Neumayer Olymp**	**135.35**	**194**	*e*PKPdf		**PKPdf**	**13 32 24.8**	**-0.6**
SAML	**Samuel**	**150.41**	**49**	*e*PKPbc		**PKPbc**	**13 32 58.5**	**-0.5**
LPAZ	**La Paz** comp=Z,0.4nm,0.5s,baz=185,slow=1.7,SNR=3.9	**151.55**	**67**	PKP		**PKPdf**	**13 32 56.5**	**+0.8**
LPAZ				PKPbc		**PKiKP**	**13 33 03.1**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=336,slow=2.5,SNR=27							
LPAZ	**La Paz**	**151.55**	**67**	*e*PKPdf		**PKPdf**	**13 32 56.2**	**+0.4**
LPAZ				PKP		**PKPdf**	**13 32 56.5**	**+0.8**
LPAZ				*e*PKPbc		**PKiKP**	**13 33 02.6**	**0.0**
LPAZ				PKPbc		**PKiKP**	**13 33 03.1**	**+0.5**
PLCA	**Paso Flores** comp=Z,0.8nm,0.4s,baz=238,slow=2.9,SNR=3.7	**153.71**	**122**	PKPbc		**PKPbc**	**13 33 06.4**	**+0.7**
PLCA				PKPab		**PKPab**	**13 33 22.1**	**+1.7**
	comp=Z,2.8nm,0.7s,baz=234,slow=4.4,SNR=7.1							
PLCA	**Paso Flores**	**153.71**	**122**	PKPbc		**PKPbc**	**13 33 06.4**	**+0.7**
PLCA				PKPab		**PKPab**	**13 33 22.1**	**+1.7**

*IDC **25** 13:40:48.7±0.6,27.°12S×176.°32W,h0km,mb4.4/16, mb1 4.6/17,mb1mx4.6/21,mbtmp4.4/17,ML4.0/1,MS3.9/10, Ms1 3.9/10,ms1mx3.5/40,Error ellipse: s-maj=19.7km s-min=17.0km az=128.0*

*ISCJB **25** 13:40:51.7±0.4,27.°07S±0.°06×176.°28W±0.°08,h31km, mb4.5/20,MS3.9/9,Error ellipse: s-maj=10.4km s-min=8.3km az=40.8*

*AUST **25** 13:40:52.5,27.°18S×174.°79W,h100km*

*NEIC **25** 13:40:52.8±2.6,27.°09S×176.°30W,h26km±17km,mb4.9/5, Error ellipse: s-maj=13.5km s-min=8.7km az=109.0*

ISC 25 13:40:53.0±0.4,27.°12S±0.°07×176.°16W±0.°08,h31km, n101,σ1§22/86,mb4.5/20,MS3.9/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.63**	**216**	*e*P	**Pn**	**13 41 34.3**	**+0.9**
NIUE	**Niue** baz=9.3,SNR=17	**9.84**	**37**	P	Pn	13 43 06.7	-5.7
NIUE				S	Sn	13 44 46.1	-16
	baz=9.3,SNR=16						
MSVF	**Nonsavu**	**10.76**	**329**	P	**Pn**	**13 43 25.1**	**0.0**
OUZ	**Omahuta**	**11.92**	**225**	*e*P	Pn	13 43 46.4	+5.6
URZ	**Urewera** 0.8nm,0.3s,baz=180,slow=2.0,SNR=2.7	**12.47**	**205**	Pn	**Pn**	**13 43 46.8**	**-1.6**
URZ				Sn	Sn	13 45 52.2	-14
	3.1nm,0.3s,baz=195,slow=2.2,SNR=4.0						
URZ	**Urewera**	**12.47**	**205**	*e*P	**Pn**	**13 43 46.5**	**-1.8**
URZ				Sn	Sn	13 45 52.2	-14
AFI	**Afiamalu** 2.7nm,0.3s,baz=233,slow=14,SNR=5.1	**13.76**	**18**	Pn	**Pn**	**13 44 03.3**	**-2.9**
AFI				Sn	Sn	13 46 20.9	-17
	1.5nm,0.3s,baz=308,slow=19,SNR=2.4						
AFI	**Afiamalu**	**13.76**	**18**	*e*P	**Pn**	**13 44 05.8**	**-0.4**
AFI				Sn	Sn	13 46 20.9	-17
RAR	**Rarotonga** 8.2nm,0.3s,baz=270,slow=8.8,SNR=11	**16.06**	**72**	Pn	Pn	13 44 30.6	-6.1
RAR				Sn	Sn	13 47 13.8	-20
	3.0nm,0.3s,baz=90,slow=16,SNR=6.0						
RAR	**Rarotonga**	**16.06**	**72**	Pn	Pn	13 44 30.6	-6.1
RAR				Sn	Sn	13 47 13.8	-20
DZM	**Mont Dzumac** comp=Z,421nm,18.7s,baz=165,slow=32	**16.60**	**284**	eLR	LR	13 49 38.4	
DZM	**Mont Dzumac** 574nm,23.5s	**16.60**	**284**	eLR	LR	13 48 32.6	
KHZ	**Kahutara**	**17.43**	**206**	*e*P	Pn	13 44 48.4	-5.4
RPZ	**Rata Peaks** 0.3nm,0.3s,baz=80,slow=18,SNR=1.8	**19.53**	**209**	P	P	13 45 08.5	-9.4
RPZ				S	S	13 48 32.2	-25
	1.3nm,0.3s,baz=231,slow=17,SNR=4.0						
RPZ	**Rata Peaks**	**19.53**	**209**	P	P	13 45 08.6	-9.4
RPZ				S	S	13 48 32.2	-25
TBI	**Tubuai** 130nm,26.2s	**24.42**	**87**	*e*S	**S**	**13 50 23.9**	**-3.1**
TBI				*e*LR	LR	13 52 08.3	
	351nm,25.8s						
PPT2	**Papeete2** 378nm,25.2s	**26.30**	**74**	*e*LR	LR	13 52 57.9	
PPT	**Papeete** comp=Z,241nm,19.0s,baz=335,slow=31	**26.31**	**74**	LR	LR	13 54 19.5	
HNR	**Honiara** comp=Z,266nm,18.2s,baz=128,slow=32	**28.61**	**303**	LR	LR	13 55 49.5	
MGCD	**Mangrove Creek** baz=30,SNR=6.9	**28.87**	**250**	P	**P**	**13 46 51.0**	**+2.1**
CNB	**Canberra Magne** baz=32,SNR=6.1	**30.48**	**246**	P	**P**	**13 47 04.1**	**+0.8**
MILA	**Mila** baz=32,SNR=5.3	**30.87**	**243**	P	**P**	**13 47 08.5**	**+1.8**
CMSA	**Cobar Meteorol** baz=34,SNR=12	**33.44**	**253**	P	**P**	**13 47 30.1**	**+0.9**
TOO	**Toolangi** baz=35,SNR=11	**33.83**	**242**	P	**P**	**13 47 32.3**	**-0.3**
CTA	**Charters Tower** 20nm,0.5s,baz=99,slow=11,SNR=36	**35.05**	**273**	P	**P**	**13 47 43.6**	**+0.3**
CTA				LR	LR	14 00 20.9	
	comp=Z,255nm,18.6s,baz=47,slow=34						
CTA	**Charters Tower**	**35.05**	**273**	P	**P**	**13 47 43.6**	**+0.3**
CTAO	**Charters Tower**	**35.05**	**273**	*e*P	**P**	**13 47 43.5**	**+0.2**
QLP	**Quilpie** baz=36,SNR=4.4	**35.24**	**262**	P	**P**	**13 47 44.6**	**-0.3**
STKA	**Stephens Creek** 3.5nm,0.5s,baz=104,slow=11,SNR=25	**36.91**	**252**	P	**P**	**13 47 58.4**	**-0.7**
STKA				LR	LR	14 01 07.6	
	comp=Z,205nm,20.1s,baz=23,slow=33						
STKA	**Stephens Creek**	**36.91**	**252**	P	**P**	**13 47 58.4**	**-0.7**
STKA	**Stephens Creek** baz=38,SNR=30	**36.91**	**252**	P	**P**	**13 47 58.5**	**-0.5**
RKT	**Rikitea** 237nm,30.2s	**37.39**	**93**	*e*LR	LR	13 58 02.6	
BBOO	**Buckleboo** baz=43,SNR=6.6	**41.51**	**250**	P	**P**	**13 48 37.4**	**-0.1**
ASAR	**Alice Springs** 2.3nm,0.4s,baz=101,slow=7.0,SNR=125	**45.01**	**263**	P	**P**	**13 49 04.5**	**-1.5**
ASAR				LR	LR	14 06 07.4	
	comp=Z,142nm,19.4s,baz=62,slow=34						
ASAR	**Alice Springs**	**45.01**	**263**	P	**P**	**13 49 04.5**	**-1.5**
WRAB	**Tennant Creek**	**45.70**	**268**	*e*P	**P**	**13 49 09.5**	**-1.9**
WRA	**Warramunga Arr** 3.6nm,0.5s,baz=104,slow=8.2,SNR=64	**45.71**	**268**	P	**P**	**13 49 09.8**	**-1.7**
WRA	**Warramunga Arr**	**45.71**	**268**	P	**P**	**13 49 09.8**	**-1.7**
FORT	**Forrest** baz=50,SNR=17	**48.53**	**252**	P	**P**	**13 49 31.1**	**-2.2**
KDU	**Kakadu** baz=51,SNR=7.2	**50.06**	**276**	P	**P**	**13 49 43.5**	**-1.7**
MTN	**Manton Dam** baz=52,SNR=3.7	**51.18**	**275**	S	**S**	**13 57 09.5**	**-0.8**
SBA	**Scott Base** 89nm,2.0s	**51.42**	**185**	*e*P	**P**	**13 49 57.2**	**+2.6**
VNDA	**Vanda** 2.9nm,1.0s,baz=8.5,slow=7.3,SNR=12	**51.52**	**186**	P	**P**	**13 49 56.7**	**+1.4**
VNDA	**Vanda**	**51.52**	**186**	*e*P	**P**	**13 49 56.9**	**+1.6**
FITZ	**Fitzroy Crossi** 2.4nm,0.7s,baz=227,slow=4.9,SNR=8.3	**54.08**	**267**	P	**P**	**13 50 13.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**54.08**	**267**	P	**P**	**13 50 13.2**	**-1.9**
FITZ	**Fitzroy Crossi** baz=55,SNR=6.1	**54.08**	**267**	P	**P**	**13 50 14.0**	**-1.1**
GUMO	**Guam** comp=Z,117nm,19.2s,baz=147,slow=32	**55.39**	**312**	LR	LR	14 10 36.1	
MEEK	**Meekatharra** baz=59,SNR=6.6	**57.56**	**254**	P	**P**	**13 50 39.0**	**-1.0**
MORW	**Morawa** baz=60,SNR=3.4	**59.07**	**251**	P	**P**	**13 50 49.7**	**-0.8**
QSPA	**South Pole Qui** 13nm,0.8s,baz=41,slow=1.9,SNR=77	**62.98**	**180**	P	**P**	**13 51 17.3**	**+0.7**
QSPA	**South Pole Qui** 11nm,0.8s	**62.98**	**180**	*e*P	**P**	**13 51 17.0**	**+0.3**
KSM	**Kuching** 12nm,0.5s	**76.05**	**279**	*e*P	**P**	**13 52 37.5**	**-0.5**
KSM	**Kuching** baz=77,SNR=5.9	**76.05**	**279**	P	**P**	**13 52 38.0**	**0.0**
MJAR	**Matsushiro Arr** 3.9nm,0.7s,baz=167,slow=6.6,SNR=12	**76.52**	**324**	P	**P**	**13 52 40.8**	**+0.7**
MJAR	**Matsushiro Arr**	**76.52**	**324**	P	**P**	**13 52 40.8**	**+0.7**
FX1	**Attu Island--F** comp=Z,56nm,19.2s,baz=235,slow=31	**80.20**	**353**	LR	LR	14 22 16.9	
VNA3	**Neumayer Olymp**	**81.45**	**176**	*e*P	**P**	**13 53 06.1**	**-0.6**
VNA2	**Neumayer--Watz** baz=212,slow=3.7	**81.91**	**176**	*e*P	**P**	**13 53 09.1**	**0.0**
KSRS	**Korea Array** 2.3nm,0.8s,baz=144,slow=5.4,SNR=6.4	**82.94**	**318**	P	**P**	**13 53 15.0**	**+0.2**
KSAR	**Wonju Array Be**	**82.95**	**318**	P	**P**	**13 53 15.0**	**+0.1**
PETK	**Petropavlovsk-** 3.8nm,0.7s,baz=125,slow=8.4,SNR=6.4	**83.07**	**344**	P	**P**	**13 53 16.1**	**+0.9**
PETK	**Petropavlovsk-**	**83.07**	**344**	P	**P**	**13 53 16.1**	**+0.9**
YBH	**Yreka Blue Hor** comp=Z,57nm,20.3s,baz=147,slow=30	**84.45**	**37**	LR	LR	14 22 43.3	
NVAR	**Mina Array Bea** 1.7nm,1.0s,baz=221,slow=8.2,SNR=7.5	**84.73**	**42**	P	**P**	**13 53 25.9**	**+1.6**
NVAR	**Mina Array Bea**	**84.73**	**42**	P	**P**	**13 53 25.9**	**+1.6**
USRK	**Ussuriysk Arra** 2.2nm,0.8s,baz=104,slow=8.2,SNR=3.9	**85.35**	**325**	P	**P**	**13 53 28.6**	**+1.7**
TXAR	**Lajitas Array** 0.7nm,0.9s,baz=235,slow=4.4,SNR=4.6	**89.25**	**56**	P	**P**	**13 53 48.0**	**+1.7**
TXAR	**Lajitas Array**	**89.25**	**56**	P	**P**	**13 53 48.0**	**+1.7**
ENH	**Enshi** 2.6nm,0.4s	**91.11**	**304**	*e*P	**P**	**13 53 56.3**	**+1.3**
PDAR	**Pinedale Array** 0.6nm,0.8s,baz=195,slow=2.9,SNR=4.9	**92.64**	**43**	P	**P**	**13 54 01.9**	**-0.1**
PDAR	**Pinedale Array**	**92.64**	**43**	P	**P**	**13 54 01.9**	**-0.1**
CMAR	**Chiang Mai Arr** 2.8nm,0.8s,baz=136,slow=3.4,SNR=24	**93.87**	**289**	P	**P**	**13 54 09.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**93.87**	**289**	P	**P**	**13 54 09.8**	**+1.9**
CHTO	**Chiang Mai** 4.0nm,0.9s	**94.03**	**289**	*e*P	**P**	**13 54 10.7**	**+2.1**
ILAR	**Eielson Array** 0.9nm,0.8s,baz=220,slow=5.7,SNR=12	**94.38**	**12**	P	**P**	**13 54 09.6**	**+0.4**
ILAR	**Eielson Array**	**94.38**	**12**	P	**P**	**13 54 09.6**	**+0.4**
LPAZ	**La Paz** comp=Z,67nm,20.7s,baz=53,slow=30	**97.97**	**113**	LR	LR	14 30 15.6	
ZALV	**Zalesovo Beam** 1.1nm,0.6s,baz=166,slow=0.6,SNR=6.6	**116.63**	**319**	PKP	**PKPdf**	**13 59 33.1**	**-0.4**
ZALV	**Zalesovo Beam**	**116.63**	**319**	PKP	**PKPdf**	**13 59 33.1**	**-0.4**
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=60,slow=2.0,SNR=11	**116.87**	**311**	PKP	**PKPdf**	**13 59 33.2**	**-1.2**
MKAR	**Makanchi Array**	**116.87**	**311**	PKP	**PKPdf**	**13 59 33.2**	**-1.2**
BVAR	**Borovoye Array** 1.5nm,0.7s,baz=75,slow=1.7,SNR=10	**125.14**	**317**	PKP	**PKPdf**	**13 59 50.3**	**+0.3**
BVAR	**Borovoye Array**	**125.14**	**317**	PKP	**PKPdf**	**13 59 50.3**	**+0.3**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=63,slow=2.3,SNR=6.0	**133.01**	**315**	PKP	**PKPdf**	**14 00 05.6**	**+0.5**
AKTO	**Aktyubinsk**	**133.01**	**315**	PKP	**PKPdf**	**14 00 05.6**	**+0.5**
ARCES	**ARCESS Array B** 3.7nm,0.7s,baz=61,slow=1.8,SNR=11	**135.70**	**349**	PKP	**PKPdf**	**14 00 09.6**	**0.0**
ARCES	**ARCESS Array B**	**135.70**	**349**	PKP	**PKPdf**	**14 00 09.6**	**0.0**
FINES	**FINESS Array B** 1.9nm,0.7s,baz=46,slow=5.5,SNR=6.4	**142.56**	**343**	PKhKP	PKPpre	14 00 18.1	
FINES	**FINESS Array B**	**142.56**	**343**	PKPpre	PKPpre	14 00 18.1	
NB2	**NORSAR Subarra** comp=Z,3.2nm,0.7s,baz=9.8,slow=2.9	**145.72**	**354**	PKP	**PKPab**	**14 00 28.3**	**-0.3**
NOA	**NORSAR Array B** comp=Z,5.2nm,0.8s,baz=14,slow=4.5,SNR=16	**145.72**	**354**	PKPbc	**PKPab**	**14 00 28.6**	**0.0**
NOA	**NORSAR Array B**	**145.72**	**354**	PKPbc	**PKPab**	**14 00 28.6**	**0.0**
AKASG	**Malin Array Be** comp=Z,4.7nm,0.7s,baz=42,slow=3.2,SNR=11	**149.54**	**327**	PKPbc	**PKPbc**	**14 00 38.7**	**-0.3**
AKASG	**Malin Array Be**	**149.54**	**327**	PKPbc	**PKPbc**	**14 00 38.7**	**-0.3**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.9s,baz=191,slow=3.8,SNR=3.8	**152.27**	**305**	PKPbc	**PKPbc**	**14 00 45.8**	**-0.2**
BRTR				PKPab	**PKPab**	**14 00 53.9**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=113,slow=5.8,SNR=5.6						
BRTR	**Keskin Array B**	**152.27**	**305**	PKPbc	**PKPbc**	**14 00 45.8**	**-0.2**
BRTR				PKPab	**PKPab**	**14 00 53.9**	**-2.0**
EIL	**Elat** comp=Z,3.6nm,0.6s,baz=100,slow=6.1,SNR=5.1	**152.55**	**283**	PKPab	**PKPab**	**14 00 57.1**	**-0.1**
EIL	**Elat**	**152.55**	**283**	PKPab	**PKPab**	**14 00 57.1**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.8s,baz=345,slow=0.5,SNR=7.7	**165.96**	**171**	PKP	**PKPdf**	**14 00 55.3**	**-0.3**
TORD				PKPab	**PKPab**	**14 01 55.2**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=186,slow=4.2,SNR=21						
TORD	**Torodi Ar. Bea**	**165.96**	**171**	PKP	**PKPdf**	**14 00 55.3**	**-0.3**
TORD				PKPab	**PKPab**	**14 01 55.2**	**-0.2**

*ISCJB **25** 13:44:21.6±0.5,50.°59N±0.°04×73.°72E±0.°07,h10km, mb3.4/3,MS3.7/1,Error ellipse: s-maj=7.2km s-min=4.7km az=149.6*

*NNC **25** 13:44:22.5±0.4,50.°47N×73.°35E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=6.6km s-min=3.3km az=44.0*

*IDC **25** 13:44:23.2±0.7,50.°82N×73.°61E,h0km,mb3.3/3, mb1 3.5/8,mb1mx3.4/31,mbtmp3.4/8,ML3.4/5,MS3.7/1, Ms1 3.7/1,ms1mx2.3/41,Error ellipse: s-maj=13.7km s-min=8.3km az=56.0*

ISC 25 13:44:25.6±0.9,50.°66N±0.°06×73.°67E±0.°06,h10km,n18, σ1§44/14,mb3.5/3,12C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya** 11nm,0.6s	**2.66**	**322**	⇑Pn	**Pn**	**13 45 07.1**	**-1.4**
VOSK				⇓Sn	**Sn**	**13 45 41.5**	**+0.7**
	68nm,1.1s						
BVA0	**Borovoye Array** 0.4nm,0.3s,baz=142,slow=14,SNR=75	**3.12**	**321**	Pn	Pn	13 45 12.5	-2.3
BVA0				Sn	**Sn**	**13 45 53.1**	**+1.0**
	6.2nm,0.9s,baz=126,slow=27,SNR=11						
BVAR	**Borovoye Array** 4.1nm,0.3s,baz=111,slow=16,SNR=23	**3.12**	**321**	Pn	Pn	13 45 12.5	-2.3
BVAR				Lg	Lg	13 45 56.5	
	7.9nm,0.3s,baz=126,slow=32,SNR=19						
KURK	**Kurchatov** 8.5nm,0.6s	**3.15**	**87**	⇓Pn	**Pn**	**13 45 16.4**	**+1.2**
KURK				⇑Sn	**Sb**	**13 45 59.2**	**-0.9**
	58nm,0.8s						
BRVK	**Borovoye** 6.8nm,0.5s	**3.19**	**320**	⇑Pn	Pn	13 45 13.5	-2.3
BRVK				⇓Sn	**Sn**	**13 45 54.5**	**+0.7**
	70nm,0.6s						
ZRNK	**Zerenda** 4.2nm,0.3s	**3.69**	**310**	⇑Pn	Pn	13 45 20.6	-2.0
ZRNK				⇑Pg	Pb	13 45 28.3	-2.5
	4.2nm,0.3s						
ZRNK				⇑Lg	Lg	13 46 19.0	
	45nm,0.8s						
MK31	**Makanchi Array** 0.6nm,0.6s,baz=298,slow=12,SNR=19	**6.89**	**121**	Pn	**Pn**	**13 46 07.5**	**+0.9**
MK31				⇑Pg	Pb	13 46 29.4	+4.1
	1.0nm,0.5s,baz=293,slow=13,SNR=4.6						
MK31				Lg	Lg	13 48 01.1	
	8.4nm,0.8s,baz=312,slow=30,SNR=9.7						
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=294,slow=12,SNR=14	**6.89**	**121**	Pn	**Pn**	**13 46 07.3**	**+0.7**
MKAR				Lg	Lg	13 48 00.8	
	0.8nm,0.3s,baz=308,slow=29,SNR=9.8						
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=254,slow=14,SNR=8.9	**7.59**	**60**	Pn	Pn	13 46 14.4	-1.7
ZALV				Sn	**Sn**	**13 47 41.9**	**-0.2**
	0.4nm,0.3s,baz=253,slow=24,SNR=5.7						
TKM2	**Tokmak 2** 0.5nm,0.3s	**7.85**	**170**	⇑Pn	Pn	13 46 14.3	-5.6
TKM2				⇑Pg	**Pb**	**13 46 43.2**	**+1.4**
	2.7nm,0.8s						
TKM2				⇑Sn	**Sn**	**13 47 45.8**	**-3.2**
	2.0nm,0.6s						
TKM2				⇑Lg	Lg	13 48 28.7	
	14nm,0.9s						
KK31	**Karatay Array** 0.4nm,0.4s,baz=13,slow=13,SNR=4.2	**7.86**	**197**	⇓Pn	Pn	13 46 18.1	-1.8
KK31				⇓Lg	Lg	13 48 22.5	
	16nm,1.1s,baz=31,slow=34,SNR=4.6						
AAK	**Ala-Archa** 1.2nm,0.3s,baz=1.7,slow=1.6,SNR=15	**8.05**	**176**	Pn	**Pn**	**13 46 23.4**	**+0.8**
AAK				Sn	**Sn**	**13 47 54.3**	**+0.6**
	0.1nm,0.3s,baz=24,slow=20,SNR=3.2						
AAK				Lg	Lg	13 48 44.8	
	0.5nm,0.3s,baz=173,slow=23,SNR=5.2						
AB31	**Akbulak array** 0.3nm,0.3s,baz=82,slow=8.7,SNR=29	**8.96**	**266**	Pn	**Pn**	**13 46 33.5**	**-1.5**
AB31				⇑Lg	Lg	13 49 01.2	
	2.4nm,0.8s						
AKTO	**Aktyubinsk** 0.9nm,0.3s,baz=88,slow=12,SNR=14	**9.97**	**275**	Pn	Pn	13 46 45.7	-3.0
GERES	**GERESS Array B** comp=Z,100nm,18.1s,baz=275,slow=39	**37.86**	**291**	LR	LR	14 09 00.7	
ILAR	**Eielson Array** 0.4nm,0.5s,baz=330,slow=5.1,SNR=9.8	**60.69**	**19**	P	P	13 54 33.9	-2.6
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=354,slow=7.1,SNR=5.7	**67.00**	**4**	P	P	13 55 15.0	-3.0
TORD	**Torodi Ar. Bea** 0.1nm,0.5s,baz=31,slow=6.1,SNR=3.3	**68.52**	**265**	P	P	13 55 26.7	-1.6

GUC 25 13:51:18.6±0.9,30.°41S×71.°66W,h22km±7km,MD3.6, ML3.2,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.78**	**72**	⇓*i*P	Pb	13 51 33.4	-0.4
TLL				*i* S	Sb	13 51 44.4	+0.2
TLL				AML	AML	13 51 50.4	
	comp=N,622nm,0.6s						
CMCH	**Combarbala**	**0.95**	**143**	⇓*i*P	Pb	13 51 35.8	-0.7
CMCH				*i* S	Sb	13 51 48.8	0.0
CMCH				AML	AML	13 51 51.0	
	comp=N,4μm,0.3s						
CHNG	**Los Chungos**	**1.47**	**175**	*e*P	Pn	13 51 43.2	-0.6
CHNG				*i* S	Sn	13 52 00.7	-1.7
CHNG				AML	AML	13 52 07.8	
	comp=E,174nm,0.5s						
ROCH	**El Roble** comp=N,174nm,0.4s	**2.61**	**168**	AML	AML	13 52 40.8	
FCH	**Farellones**	**3.13**	**159**	*e*P	Pn	13 52 08.6	+1.5
FCH				*i* S	Sn	13 52 46.2	+2.1
FCH				AML	AML	13 52 57.7	
	comp=E,59nm,0.2s						
LMEL	**Las Melosas**	**3.64**	**161**	*e*P	Pn	13 52 15.8	+2.0
LMEL				*i* S	Sn	13 52 58.0	+1.7
LMEL				AML	AML	13 53 15.4	
	comp=E,46nm,0.3s						

IDC 25 13:51:33.0±0.9,1.°37N×101.°31W,h0km,mb4.1/8, mb1 4.4/8,mb1mx4.2/17,mbtmp4.1/8,MS3.6/6,Ms1 3.7/6, ms1mx3.3/31,Error ellipse: s-maj=45.2km s-min=20.3km az=61.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare** comp=Z,73nm,19.8s,baz=248,slow=29	**18.52**	**61**	LR	LR	14 00 32.8	
LPIG	**La Paz** comp=Z,9.7nm,18.5s,baz=227,slow=32	**24.21**	**340**	LR	LR	14 04 23.4	
ATAH	**Atahualpa** comp=Z,181nm,21.4s,baz=211,slow=31	**24.38**	**111**	LR	LR	14 04 00.5	
NNA	**Nana** comp=Z,137nm,21.6s,baz=314,slow=30	**27.70**	**119**	LR	LR	14 05 33.2	
TXAR	**Lajitas Array** 1.5nm,0.8s,baz=176,slow=12,SNR=14	**27.89**	**356**	P	P	13 57 25.7	+0.8
TXAR				PcP	PcP	14 00 41.1	+0.2
	0.1nm,0.5s,baz=174,slow=6.2,SNR=4.1						
TXAR				LR	LR	14 07 25.3	
	comp=Z,124nm,19.3s,baz=175,slow=34						
LPAZ	**La Paz** 1.2nm,0.7s,baz=300,slow=5.1,SNR=4.5	**37.16**	**120**	P	P	13 58 47.8	+0.9
LPAZ				LR	LR	14 11 49.4	
	comp=Z,111nm,20.3s,baz=41,slow=33						
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=145,slow=7.5,SNR=5.0	**40.03**	**339**	P	P	13 59 11.8	+1.6
NVAR				PcP	PcP	14 01 16.3	+1.0
	0.2nm,0.6s,baz=140,slow=4.7,SNR=3.0						
PDAR	**Pinedale Array** 3.0nm,0.8s,baz=155,slow=7.8,SNR=25	**41.87**	**351**	P	P	13 59 25.6	+0.4
PDAR				PcP	PcP	14 01 20.8	-0.4
	0.4nm,0.7s,baz=189,slow=5.2,SNR=3.2						
ULM	**Lac du Bonnet** 3.9nm,0.5s,baz=187,slow=7.8,SNR=5.9	**48.92**	**5**	P	P	14 00 19.4	-1.3
BDFB	**Brasilia** 6.7nm,1.2s,

LSA	**Lhasa**	**5.58**	**176**	P	**Pn**	**14 08 44.8**	**+2.2**
LSA				S	Sn	14 10 00.5	+14
LSA				LR	LR		
	comp=Z,460nm,8.2s						
LZH	**Lanzhou**	**10.68**	**82**	*e*P	**Pn**	**14 09 53.5**	**+1.3**
LZH				pP		14 09 56.8	
LZH				sP		14 09 58.0	
LZH				*e*PP	**PnPn**	**14 09 59.5**	**-0.3**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,45nm,4.2s						
LZH				LR	LR		
	comp=N,220nm,9.0s						
LZH				LR	LR		
	comp=E,240nm,8.6s						
LZH				LR	LR		
	comp=Z,310nm,11.2s						
MKAR	**Makanchi Array**	**13.14**	**334**	Pn	**Pn**	**14 10 25.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=16						
AAK	**Ala-Archa**	**14.61**	**305**	LR	LR	14 17 33.1	
	comp=Z,52nm,19.9s,baz=109,slow=42						
SONM	**Songino Array**	**17.11**	**38**	Pn	**P**	**14 11 19.6**	**+0.2**
	baz=227,slow=13,SNR=8.8						
KURBB	**Kurchatov Arra**	**17.70**	**334**	LR	LR	14 18 14.3	
	comp=Z,30nm,21.7s,baz=110,slow=37						
CMAR	**Chiang Mai Arr**	**18.27**	**154**	P	**P**	**14 11 29.0**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=328,slow=9.6,SNR=9.7						
ZALV	**Zalesovo Beam**	**19.11**	**349**	P	**Pn**	**14 11 42.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=171,slow=11,SNR=12						
ZALV				LR	LR	14 20 01.3	
	comp=Z,30nm,21.3s,baz=46,slow=40						
AKTO	**Aktyubinsk**	**28.09**	**313**	LR	LR	14 25 39.3	
	comp=Z,33nm,19.9s,baz=104,slow=39						
EIL	**Elat**	**46.89**	**280**	LR	LR	14 39 38.8	
	comp=Z,52nm,19.1s,baz=88,slow=41						
ILAR	**Eielson Array**	**70.61**	**23**	P	**P**	**14 18 33.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=300,slow=4.8,SNR=6.1						
ASAR	**Alice Springs**	**71.48**	**139**	P	**P**	**14 18 37.5**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=332,slow=6.1,SNR=11						
YKA	**Yellowknife Ar**	**80.44**	**12**	P	**P**	**14 19 28.6**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=327,slow=5.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**81.77**	**280**	P	**P**	**14 19 37.7**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=46,slow=5.4,SNR=3.7						

IDC 25 14:19:18.6±1.4, 6.60S×155.22E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/18, mbtmp3.7/8, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=47.9km s-min=23.6km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.98**	**212**			LR	LR	14 27 25.4	
	comp=Z,55nm,21.3s,baz=326,slow=30								
WRA	**Warramunga Arr**	**24.22**	**235**	P		P	P	14 24 37.3	-0.1
	1.0nm,0.6s,baz=59,slow=9.9,SNR=12								
WRA				PcP		PcP	PcP	14 28 18.1	0.0
	0.3nm,0.5s,baz=60,slow=2.5,SNR=5.5								
ASAR	**Alice Springs**	**26.60**	**228**	P		P	P	14 24 58.8	-0.2
	0.5nm,0.6s,baz=55,slow=9.3,SNR=14								
CMAR	**Chiang Mai Arr**	**60.82**	**295**	P		P	P	14 29 34.5	+1.2
	1.8nm,0.7s,baz=121,slow=5.2,SNR=14								
SONM	**Songino Array**	**69.13**	**327**	P		P	P	14 30 25.6	-1.3
	0.2nm,0.3s,baz=114,slow=7.0,SNR=3.4								
ILAR	**Eielson Array**	**82.93**	**21**	P		P	P	14 31 45.2	+0.1
	0.6nm,1.0s,baz=225,slow=7.5,SNR=3.6								
MKAR	**Makanchi Array**	**83.26**	**319**	P		P	P	14 31 47.0	-0.3
	0.3nm,0.8s,baz=103,slow=6.2,SNR=2.6								
ZALV	**Zalesovo Beam**	**83.98**	**326**	P		P	P	14 31 51.0	+0.2
	0.4nm,0.5s,baz=112,slow=7.7,SNR=2.0								
YKA	**Yellowknife Ar**	**95.89**	**28**	P		P	P	14 32 47.7	+0.7
	0.4nm,0.8s,baz=265,slow=4.7,SNR=7.8								
TORD	**Torodi Ar. Bea**	**153.14**	**286**	PKPbc		PKPbc	PKPbc	14 39 18.4	-1.1
	0.4nm,0.6s,baz=59,slow=2.0,SNR=4.7								

IDC 25 14:21:59.9±2.0, 5.64S×145.66E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.8/6/19, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=47.5km s-min=26.2km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**158**			Pn	Pn	14 23 03.1	+0.2
	5.4nm,0.3s,baz=346,slow=4.2,SNR=45								
PMG						Sn	Sn	14 23 47.5	-3.3
	4.5nm,0.3s,baz=253,slow=22,SNR=11								
WRA	**Warramunga Arr**	**17.98**	**217**	P		P	P	14 26 13.0	+0.8
	0.9nm,0.3s,baz=38,slow=11,SNR=44								
ASAR	**Alice Springs**	**21.20**	**211**	P		P	P	14 26 46.1	-1.2
	1.5nm,0.7s,baz=48,slow=8.1,SNR=23								
FITZ	**Fitzroy Crossi**	**23.15**	**236**	P		P	P	14 27 07.0	-1.1
	1.5nm,0.5s,baz=80,slow=10,SNR=8.6								
STKA	**Stephens Creek**	**26.38**	**188**	P		P	P	14 27 38.6	+0.5
	1.1nm,1.0s,baz=4.6,slow=13,SNR=3.9								
MKAR	**Makanchi Array**	**76.38**	**321**	P		P	P	14 33 51.7	+0.5
	0.1nm,0.6s,baz=132,slow=4.1,SNR=2.6								

GUC 25 14:23:32.8±0.8, 34.79S×71.64W, h2km±12km, MD3.7, ML3.0, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.60**	**180**	↑	*i*P		Pb	14 23 45.5	-0.6
TALC					*i* S		Sb	14 23 54.4	-0.7
TALC					AML	AML	AML	14 23 55.2	
	comp=N,6μm,0.1s								
LNV	**Longovilo**	**0.86**	**13**		*e*P		Pg	14 23 49.8	+0.6
LNV					*i* S		Sb	14 24 02.4	+0.1
CACH	**El Canelo**	**1.09**	**52**	↓	*i*P		Pg	14 23 53.9	0.0
CACH					*i* S		Sb	14 24 09.7	+0.3
CHCH	**Chadas Angostu**	**1.18**	**44**	↓	*i*P		Pg	14 23 55.4	-0.2
RCDM	**Rinconada Maip**	**1.47**	**28**	↑	*i*P		Pn	14 23 58.8	-1.5
RCDM					*i* S		Sb	14 24 19.2	-0.9
RCDM					AML	AML	AML	14 24 21.6	
	comp=N,278nm,0.1s								
ANTU	**Antumapu**	**1.48**	**35**		*i* S		Sb	14 24 20.1	-0.3
ANTU					AML	AML	AML	14 24 22.2	
	comp=N,350nm,0.3s								
LMEL	**Las Melosas**	**1.52**	**52**		*e*P		Pn	14 24 00.2	-1.0
LMEL					*i* S		Sn	14 24 21.4	-0.2
LMEL					AML	AML	AML	14 24 24.1	
	comp=N,300nm,0.1s								
CLCH	**Cerro Calan**	**1.67**	**34**	↑	*i*P		Pn	14 24 02.1	-1.0
CLCH					*i* S		Sb	14 24 25.8	0.0
CLCH					AML	AML	AML	14 24 28.9	
	comp=N,239nm,0.4s								
CLCH					AML	AML	AML	14 24 29.4	
	comp=N,298nm,0.4s								
PEL	**Peldehue**	**1.82**	**26**		*e*P		Pn	14 24 05.0	-0.2
PEL					*i* S		Sb	14 24 30.5	+0.2
PEL					AML	AML	AML	14 24 32.8	
	comp=N,418nm,0.3s								
FCH	**Farellones**	**1.84**	**38**	↓	*i*P		Pg	14 24 08.3	-0.3
FCH					*i* S		Sg	14 24 33.6	+0.9
FCH					AML	AML	AML	14 24 38.6	
	comp=N,205nm,0.2s								
ROCH	**El Roble**	**1.89**	**16**		AML	AML	AML	14 24 34.3	
	comp=N,183nm,0.3s								

IDC 25 14:25:36.8±2.0, 7.03S×127.75E, h0km, mb2.9/1, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=102.5km s-min=26.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.20**	**190**			Pn	Pn	14 28 19.5	+1.2
	0.3nm,0.3s,baz=20,slow=12,SNR=12								
FITZ						Sn	Sn	14 30 12.5	-12
	0.7nm,0.3s,baz=3.6,slow=19,SNR=6.4								
WRA	**Warramunga Arr**	**14.34**	**154**	P		Pn	Pn	14 29 00.3	-1.1
	0.4nm,0.3s,baz=324,slow=14,SNR=15								
WRA						Sn	Sn	14 31 25.2	-16
	0.8nm,0.3s,baz=333,slow=26,SNR=10								
ASAR	**Alice Springs**	**17.57**	**161**	P		P	Pn	14 29 42.9	-0.4
	0.4nm,0.3s,baz=338,slow=11,SNR=30								
ASAR						S	Sn	14 32 44.4	-15
	0.2nm,0.3s,baz=346,slow=26,SNR=6.8								
MKAR	**Makanchi Array**	**67.04**	**328**	P		P	P	14 36 31.9	0.0
	0.1nm,0.3s,baz=120,slow=8.5,SNR=2.7								

IDC 25 14:29:51.6±19.0, 41.50S×80.19E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, MS3.6/2, Ms1 3.5/2, ms1mx3.2/18, Error ellipse: s-maj=471.2km s-min=51.6km az=47.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**27.81**	**194**			LR	LR	14 44 05.8	
	comp=Z,101nm,18.9s,baz=124,slow=31								
BOSA	**Boshof**	**46.06**	**268**			LR	LR	14 53 30.3	
	comp=Z,92nm,20.5s,baz=176,slow=31								
ASAR	**Alice Springs**	**47.85**	**85**	P		P	P	14 38 31.1	-0.2
	0.3nm,0.6s,baz=228,slow=7.1,SNR=5.4								
WRA	**Warramunga Arr**	**50.38**	**82**	P		P	P	14 38 50.8	+0.1
	0.9nm,0.8s,baz=231,slow=7.8,SNR=6.3								
CMAR	**Chiang Mai Arr**	**62.13**	**20**	P		P	P	14 40 14.3	-0.2
	0.3nm,0.5s,baz=198,slow=7.6,SNR=6.9								

IDC 25 14:34:07.3±2.9, 14.49N×146.13E, h78km±25km, mb3.4/10, mb1 3.5/10, mb1mx3.4/26, mbtmp3.4/10, Error ellipse: s-maj=30.9km s-min=19.0km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.51**	**234**	P		Pn	Pn	14 34 33.7	+1.0
	85nm,0.3s,baz=42,slow=15,SNR=121								
GUMO				S		Sn	Sn	14 34 51.8	-0.2
	236nm,0.3s,baz=0.0,slow=20,SNR=50								
KSRS	**Korea Array**	**28.02**	**328**	P		P	P	14 39 51.4	+0.5
	1.6nm,0.9s,baz=144,slow=9.4,SNR=5.9								
WRA	**Warramunga Arr**	**36.13**	**199**	P		P	P	14 41 01.8	-0.2
	0.4nm,1.0s,baz=25,slow=10.0,SNR=2.8								
ASAR	**Alice Springs**	**39.76**	**198**	P		P	P	14 41 33.0	+0.5
	0.4nm,1.1s,baz=32,slow=7.1,SNR=4.1								
SONM	**Songino Array**	**46.72**	**324**	P		P	P	14 42 29.0	+0.5
	0.7nm,0.6s,baz=135,slow=8.0,SNR=5.4								
SONM				PcP		PcP	PcP	14 44 01.1	+0.2
	0.2nm,0.4s,baz=138,slow=5.4,SNR=2.5								
ZALV	**Zalesovo Beam**	**61.62**	**324**	P		P	P	14 44 16.0	-0.5
	0.5nm,0.4s,baz=95,slow=5.2,SNR=4.0								
MKAR	**Makanchi Array**	**61.70**	**316**	P		P	P	14 44 17.4	+0.1
	0.4nm,0.3s,baz=89,slow=8.6,SNR=14								
ILAR	**Eielson Array**	**67.24**	**25**	P		P	P	14 44 52.7	-0.4
	0.4nm,0.4s,baz=250,slow=5.8,SNR=22								
BVAR	**Borovoye Array**	**69.99**	**321**	P		P	P	14 45 10.6	+0.2
	1.1nm,0.3s,baz=99,slow=8.6,SNR=11								
YKA	**Yellowknife Ar**	**81.50**	**28**	P		P	P	14 46 15.8	0.0
	0.1nm,0.3s,baz=287,slow=5.1,SNR=5.1								
FINES	**FINESS Array B**	**90.86**	**335**	P		P	P	14 47 00.3	-1.6
	1.8nm,0.9s,baz=84,slow=5.9,SNR=6.4								

IDC 25 15:02:33.9±1.5, 12.73N×124.02E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/23, mbtmp3.1/4, Error ellipse: s-maj=162.9km s-min=20.9km az=68.0
ISCJB 25 15:02:36.1±1.0, 12.71N±0.04×123.61E±0.05, h14km±7km, mb3.2/4, Error ellipse: s-maj=9.2km s-min=5.7km az=147.7
MAN 25 15:02:36, 12.68N×123.57E, h8km, mb4.4, ML3.2, MS3.0
MAN INTENSITY II - MASBATE CITY; INTENSITY I - LEGASPI CITY.

ISC 25 15:02:36.7±1.9, 12.67N±0.04×123.56E±0.04, h14km±14km, n21, σ1°05/26, mb3.2/4, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.32**	**169**	↓	*e*P		Pb	15 02 43.1	-1.1
MMPH					*i* S		Sb	15 02 48.9	-0.3
AUQP	**San Andres**	**1.08**	**307**		*e*P		Pb	15 02 56.8	-0.4
CNP	**Catarman**	**1.09**	**98**		*e*P		Pb	15 02 56.2	-1.1
RCP	**Roxas**	**1.36**	**216**	↑	*e*P		Pn	15 03 00.4	-1.0
RCP					*i* S		Sg	15 03 21.6	+0.9
OTRP	**Odiongan**	**1.54**	**259**		*e*P		Pn	15 03 03.0	-0.7
GQP	**Guinayangan**	**1.64**	**319**	↓	*e*P		Pn	15 03 04.2	-0.9
GQP					*e*S		Sn	15 03 26.8	+0.8
BOAC	**Boac**	**1.85**	**295**		*e*P		Pb	15 03 09.4	-0.9
OCLP	**Ormoc**	**1.91**	**147**		*e*P		Pn	15 03 09.1	+0.2
PLP	**Palo**	**2.04**	**137**	↓	*e*P		Pn	15 03 10.5	-0.2
PLP					*i* S		Sg	15 03 43.2	+0.8
GUIM	**Jordan**	**2.25**	**205**		*e*P		Pn	15 03 14.3	+0.8
LLP	**Lapu-Lapu**	**2.37**	**170**		*e*P		Pn	15 03 15.5	+0.3
LLP					*e*S		Sn	15 03 45.8	+1.6
SJMP	**San Jose**	**2.40**	**265**		*e*P		Pn	15 03 15.9	+0.4
LQP	**Lukban**	**2.43**	**306**		*e*P		Pn	15 03 18.0	+1.7
MSLP	**Maasin**	**2.83**	**153**		*e*P		Pn	15 03 23.6	+2.1
TBP	**Tagbilaran**	**2.98**	**174**		*e*P		Pn	15 03 24.1	+0.5
CUYO	**Cuyo Island**	**3.08**	**234**		*e*P		Pn	15 03 25.1	+0.1
ENPP	**El Nido**	**4.30**	**251**		*e*P		Pn	15 03 42.1	+0.3
WRA	**Warramunga Arr**	**34.10**	**162**	P		P	P	15 09 19.0	-2.1
	0.3nm,0.7s,baz=347,slow=9.1,SNR=3.3								
ASAR	**Alice Springs**	**37.51**	**164**	P		P	P	15 09 49.9	-0.5
	0.3nm,0.8s,baz=339,slow=6.5,SNR=6.4								
SONM	**Songino Array**	**37.88**	**341**	P		P	P	15 09 54.3	+0.9
	0.2nm,0.6s,baz=147,slow=8.1,SNR=2.9								
MKAR	**Makanchi Array**	**48.52**	**323**	P		P	P	15 11 19.4	+0.1
	0.2nm,0.6s,baz=127,slow=6.8,SNR=3.4								

IDC 25 15:07:08.5±2.2, 16.40S×69.12W, h193km±6km, mb3.4/3, mb1 3.5/3, mb1mx3.2/20, mbtmp3.4/3, Error ellipse: s-maj=77.1km s-min=30.3km az=16.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.95**	**83**	P		P	Pn	15 07 37.7	-0.3
	120nm,0.3s,baz=273,slow=6.8,SNR=2196								
LPAZ						S	Sn	15 08 01.2	+0.5
	baz=75,slow=17,SNR=2.6								
BDFB	**Brasilia**	**20.30**	**91**	P		P	P	15 11 29.6	-0.3
	3.1nm,0.5s,baz=241,slow=8.0,SNR=5.0								
TORD	**Torodi Ar. Bea**	**75.88**	**72**	P		P	P	15 18 34.2	0.0
	2.2nm,0.6s,baz=260,slow=5.4,SNR=15								
YKA	**Yellowknife Ar**	**86.34**	**341**	P		P	P	15 19 28.4	+0.2
	0.2nm,0.6s,baz=132,slow=4.4,SNR=4.6								
SONM	**Songino Array**	**148.44**	**6**	PKPbc		PKPbc	PKPbc	15 26 31.9	-0.4
	0.4nm,0.4s,baz=355,slow=2.0,SNR=5.4								

MAN 25 15:48:46, 10.29N×125.16E, h196km, mb4.4, ML3.3, MS3.1
IDC 25 15:48:46.7±13.0, 10.08N×125.00E, h229km±120km, mb2.7/4, mb1 2.9/4, mb1mx2.8/23, mbtmp2.7/4, Error ellipse: s-maj=234.4km s-min=18.5km az=63.0

ISC 25 15:48:43.8±1.2, 10.3N±0.2×125.7E±0.3, h200km, n8, σ1°80/8, mb3.0/4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.80**	**258**		*e*P		Pn	15 49 13.9	+1.6
MSLP					*e*S		Sn	15 49 24.4	-10
PLP	**Palo**	**1.08**	**322**	↓	*e*P		Sn	15 49 36.4	-1.4
PLP					*i* S		S	15 49 38.9	
OCLP	**Ormoc**	**1.27**	**306**		*e*P		Pn	15 49 17.4	+1.8
OCLP					*e*S		Sn	15 49 23.9	-16
CNP	**Catarman**	**2.40**	**336**		*e*P		Pn	15 49 28.7	+2.1
WRA	**Warramunga Arr**	**31.25**	**164**	P		P	P	15 54 43.6	-1.3
	0.1nm,0.5s,baz=342,slow=8.3,SNR=4.7								
ASAR	**Alice Springs**	**34.71**	**167**	P		P	P	15 55 14.9	-0.1
	0.3nm,0.3s,baz=348,slow=7.3,SNR=26								
ASAR						PcP	PcP	15 57 43.2	-1.0
	0.1nm,0.4s,baz=336,slow=2.9,SNR=4.3								
STKA	**Stephens Creek**	**44.63**	**161**	P		P	P	15 56 37.0	+0.5
	0.3nm,0.3s,baz=347,slow=14,SNR=3.5								
MKAR	**Makanchi Array**	**51.63**	**323**	P		P	P	15 57 28.3	-1.7
	0.1nm,0.5s,baz=132,slow=6.4,SNR=3.2								

IDC 25 16:14:32.4±1.7, 48.90S×106.67E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, MS3.7/9, Ms1 3.7/9, ms1mx3.5/23, Error ellipse: s-maj=47.6km s-min=42.3km az=137.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.82**	**30**			LR	LR	16 23 49.2	
	comp=Z,176nm,21.5s,baz=27,slow=31								
MAW	**Mawson**	**28.77**	**213**			LR	LR	16 29 00.8	
	comp=Z,124nm,18.7s,baz=216,slow=30								
STKA	**Stephens Creek**	**31.22**	**70**	P		P	P	16 20 53.0	-0.4
	1.3nm,0.7s,baz=172,slow=6.6,SNR=3.7								
ASAR	**Alice Springs**	**33.09**	**50**	P		P	P	16 21 09.8	-0.1
	0.5nm,1.0s,baz=209,slow=9.3,SNR=12								
FITZ	**Fitzroy Crossi**	**34.36**	**33**			LR	LR	16 33 57.5	
	comp=Z,93nm,18.3s,baz=187,slow=34								
VNDA	**Vanda**	**35.38**	**162**			LR	LR	16 34 22.7	
	comp=Z,138nm,20.6s,baz=230,slow=34								
WRA	**Warramunga Arr**	**36.44**	**47**	P		P	P	16 21 39.0	+0.1
	1.7nm,0.9s,baz=210,slow=7.9,SNR=9.8								
CTA	**Charters Tower**	**42.73**	**62**			LR	LR	16 38 07.2	
	comp=Z,89nm,21.0s,baz=224,slow=33								
KAPI	**Kappang**	**45.13**	**19**			LR	LR	16 39 45.5	
	comp=Z,58nm,18.7s,baz=22,slow=34								
CMAR	**Chiang Mai Arr**	**67.41**	**352**	P		P	P	16 25 29.3	-0.2
	0.8nm,0.9s,baz=194,slow=5.7,SNR=5.7								
CMAR						LR	LR	16 52 08.4	
	comp=Z,37nm,18.2s,baz=337,slow=34								
PLCA	**Paso Flores**	**90.71**	**182**			LR	LR	17 05 39.8	
	comp=Z,130nm,19.7s,baz=329,slow=34								
CFAA	**Coronel Fontan**	**99.72**	**184**			LR	LR	17 15 37.1	
	comp=Z,22nm,21.8s,baz=125,slow=37								
NVAR	**Mina Array Bea**	**146.28**	**91**	PKPbc		PKPbc	PKPbc	16 34 14.4	-0.3
	0.8nm,0.7s,baz=222,slow=4.6,SNR=6.9								
TXAR	**Lajitas Array**	**149.71**	**119**	PKPbc		PKPbc	PKPbc	16 34 23.2	-0.8
	1.6nm,0.9s,baz=203,slow=5.0,SNR=13								
YKA	**Yellowknife Ar**	**153.61**	**44**	PKPab		PKPab	PKPab	16 34 44.3	-0.1
	0.6nm,0.9s,baz=267,slow=3.8,SNR=7.6								

GUC 25 16:16:37.6±0.8, 31.29S×68.62W, h139km±39km, MD3.3, ML3.5, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.04**	**273**		*e*P		Pn	16 17 13.2	+0.4
CMCH					*i* S		Sn	16 17 40.0	+0.3
TLL	**Tololo Astrono**	**2.19**	**300**	↓	*i*P		Pn	16 17 15.6	+0.9
TLL					*i* S		Sn	16 17 44.2	+1.0
TLL					AML	AML	AML	16 17 49.6	
	comp=N,462nm,0.5s								
FCH	**Farellones**	**2.47**	**214**		AML	AML	AML	16 18 48.7	
	comp=N,136nm,0.5s								
CHNG	**Los Chungos**	**2.53**	**256**		*e*P		Pn	16 17 19.4	+0.9
CHNG					*i* S		Sn	16 17 50.0	0.0
CHNG					AML	AML	AML	16 17 57.8	
	comp=E,119nm,0.6s								
PEL	**Peldehue**	**2.54**	**223**		*i* S		Sn	16 17 51.3	+0.7
PEL					AML	AML	AML	16 17 53.7	
	comp=E,214nm,0.4s								
RCDM	**Rinconada Maip**	**2.87**	**220**		*e*P		Pn	16 17 23.3	+0.4
RCDM					*i* S		Sn	16 17 58.9	+1.1
RCDM					AML	AML	AML	16 18 03.3	
	comp=N,148nm,0.1s								
LMEL	**Las Melosas**	**2.88**	**207**		*e*P		Pn	16 17 23.5	+0.3
LMEL					AML	AML	AML	16 18 10.7	
	comp=N,56nm,0.2s								

IDC 25 16:19:00.6±1.7, 12.17N×144.69E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=65.6km s-min=16.3km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.42**	**7**			Pn	Pb	16 19 28.0	0.0
	177nm,0.3s,baz=207,slow=6.8,SNR=160								
GUMO						Sn	Sn	16 19 47.0	0.0
	55nm,0.3s,baz=210,slow=20,SNR=7.5								
WRA	**Warramunga Arr**	**33.50**	**198**	P		P	P	16 25 41.6	-0.4
	0.8nm,0.6s,baz=20,slow=9.6,SNR=12								
ASAR	**Alice Springs**	**37.15**	**197**	P		P	P	16 26 13.5	+0.1
	0.3nm,0.6s,baz=20,slow=9.5,SNR=10								
SONM	**Songino Array**	**47.79**	**326**	P		P	P	16 27 40.3	+0.4
	0.2nm,0.7s,baz=128,slow=9.3,SNR=2.7								
MKAR	**Makanchi Array**	**62.39**	**317**	P		P	P	16 29 25.5	+0.2
	0.1nm,0.5s,baz=103,slow=6.1,SNR=2.5								
ZALV	**Zalesovo Beam**	**62.67**	**325**	P		P	P	16 29 26.3	-0.7
	0.3nm,0.4s,baz=103,slow=6.4,SNR=2.8								

ISCJB 25 17:00:43.2±0.6, 39.07N±0.05×110.13E±0.08, h10km, mb3.5/8, Error ellipse: s-maj=9.9km s-min=6.4km az=37.2
IDC 25 17:00:43.2±0.8, 39.02N×110.37E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/26, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=26.0km s-min=17.7km az=70.0

ISC 25 17:00:44.9±0.8, 39.08N±0.06×110.15E±0.07, h10km, n14, σ1°52/18, mb3.6/8, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**1.53**	**356**		*e*P		**Pb**	**17 01 13.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**2.08**	**31**		*e*Pg		**Pn**	**17 01 21.0**	**+1.1**
HHC					Sg		**Sg**	**17 01 52.3**	**+0.7**
HHC					smax	smax			
	comp=N,220nm,0.6s								
HHC					smax	smax			
	comp=E,230nm,0.5s								
XAN	**Xi'an**	**5.13**	**191**		P		**Pn**	**17 02 02.5**	**+0.7**
XAN					pmax	pmax			
	comp=Z,12nm,0.8s								
XAN					pmax

mb1 4.4/11,mb1mx4.2/20,mbtmp4.3/11,ML3.8/1,MS4.3/3, Ms1 4.3/3,ms1mx3.5/35,Error ellipse: s-maj=30.6km s-min=20.3km az=130.0

NOU ***25*** *17:27:22.1±1.0, 19.91S×168.71E, h30km,MD3.4,ML3.7*

ISCJB ***25*** *17:27:24.7±1.2,20.46S±0.09×168.87E±0.07, h36km±11km, mb4.3/13,MS4.4/3,Error ellipse: s-maj=16.0km s-min=9.0km az=149.9*

NEIC ***25*** *17:27:27.8±1.1,20.53S×168.78E,h50km±11km,mb4.5/3, Error ellipse: s-maj=14.3km s-min=8.2km az=161.0*

AUST ***25*** *17:27:33.0±15.0, 19.86S×168.84E, h95km±1km,Error ellipse: s-maj=5.3km s-min=2.1km az=311.0*

SZGRF ***25*** *17:27:42.3,20.01S×170.39E,h161km, Vanuatu Islands*

ISC 25 17:27:27.9±1.4,20.5S±0.1×168.84E±0.08,h52km±13km, n77,σ1§10/76,mb4.4/13,MS4.4/3,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.43**	**228**	*eP*	**Pn**	**17 28 04.6**	**-0.5**
BAYA				*eS*	**Sn**	**17 28 35.0**	**+1.4**
BAYA				AMP		17 28 38.6	
	comp=N,145nm,2.1s						
PLUM	**Mont Dore**	**2.68**	**229**	*eP*	**Pn**	**17 28 06.6**	**-1.9**
PLUM				*eS*	**Sn**	**17 28 40.4**	**+0.7**
DZM	**Mont Dzumac**	**2.70**	**235**	Pn	**Pn**	**17 28 06.5**	**-2.4**
	comp=N,14nm,0.3s,baz=92,slow=23,SNR=199						
DZM				Sn	**Sn**	**17 28 39.8**	**-0.7**
	comp=N,66nm,0.3s,baz=127,slow=20,SNR=6.5						
DZM	**Mont Dzumac**	**2.70**	**235**	*e*Pn	**Pn**	**17 28 07.0**	**-1.9**
	comp=N,57nm,0.2s						
DZM				*e*Sn	**Sn**	**17 28 39.1**	**-1.4**
	comp=N,754nm,0.3s						
DZM	**Mont Dzumac**	**2.70**	**235**	*eP*	**Pn**	**17 28 06.5**	**-2.4**
DZM				*eS*	**Sn**	**17 28 39.3**	**-1.2**
DZM				AMP		17 28 53.2	
	comp=Z,6μm,1.8s						
DZM	**Mont Dzumac**	**2.70**	**235**	Pn	**Pn**	**17 28 06.5**	**-2.4**
DZM				Sn	**Sn**	**17 28 39.8**	**-0.7**
LASL	**Noumea**	**2.72**	**231**	*eP*	**Pn**	**17 28 07.5**	**-1.6**
NORM	**Noumea**	**2.76**	**232**	*eP*	**Pn**	**17 28 07.8**	**-1.8**
NORM				*eS*	**Sn**	**17 28 41.5**	**-0.3**
NOUC	**Port Laguerre**	**2.83**	**236**	*eP*	**Pn**	**17 28 09.2**	**-1.4**
NOUC				*eS*	**Sn**	**17 28 44.6**	**+1.1**
NOUC				AMP		17 28 49.9	
	comp=Z,253nm,3.9s						
MSVF	**Nonsavu**	**9.14**	**74**	*eP*	**Pn**	**17 29 38.8**	**+1.4**
	comp=Z,70nm,1.3s						
ARMA	**Armidale**	**18.37**	**234**	P	Pn	17 31 47.4	+8.5
	baz=19,SNR=5.6						
URZ	**Urewera**	**19.06**	**160**	P	**Pn**	**17 31 46.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=350,slow=1.5,SNR=4.4						
URZ	**Urewera**	**19.06**	**160**	*eP*	**Pn**	**17 31 46.8**	**-0.2**
RMQ	**Roma**	**19.33**	**248**	P	**Pn**	**17 31 53.5**	**+3.0**
	baz=20,SNR=5.8						
CTA	**Charters Tower**	**21.18**	**267**	P	**P**	**17 32 09.3**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=127,slow=20,SNR=2.7						
CTA	**Charters Tower**	**21.18**	**267**	P	**P**	**17 32 09.3**	**+0.2**
CTAO	**Charters Tower**	**21.18**	**267**	P	**P**	**17 32 09.1**	**-0.1**
	comp=Z,22nm,1.2s						
QLP	**Quilpie**	**23.32**	**250**	P	**P**	**17 32 34.0**	**+2.4**
	baz=24,SNR=6.4						
CMSA	**Cobar Meteorol**	**23.45**	**237**	P	**P**	**17 32 34.8**	**+2.0**
	baz=24,SNR=9.1						
STKA	**Stephens Creek**	**26.85**	**240**	P	**P**	**17 33 04.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=53,slow=8.0,SNR=6.4						
STKA	**Stephens Creek**	**26.85**	**240**	*eP*	**P**	**17 33 03.0**	**-0.7**
MMPI	**Merauke**	**29.99**	**289**	S	S	17 38 47.8	+22
	baz=30,SNR=3.5						
WRAB	**Tennant Creek**	**32.33**	**265**	*eP*	**P**	**17 33 52.6**	**+0.1**
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**32.34**	**265**	P	**P**	**17 33 52.0**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=93,slow=8.4,SNR=19						
WRA	**Warramunga Arr**	**32.34**	**265**	P	**P**	**17 33 52.0**	**-0.5**
AS31	**Alice Springs**	**32.47**	**258**	*eP*	**P**	**17 33 53.9**	**+0.3**
ASAR	**Alice Springs**	**32.47**	**258**	P	**P**	**17 33 54.1**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=83,slow=8.5,SNR=54						
ASAR	**Alice Springs**	**32.47**	**258**	P	**P**	**17 33 54.1**	**+0.5**
KDU	**Kakadu**	**35.65**	**277**	P	P	17 34 17.4	-3.8
	baz=36,SNR=3.1						
MTN	**Manton Dam**	**36.85**	**276**	P	**P**	**17 34 31.8**	**+0.3**
	baz=37,SNR=7.0						
TBI	**Tubuai**	**38.69**	**102**	*e*LR	LR	17 45 19.4	
	comp=Z,188nm,23.5s						
PPT2	**Papeete2**	**39.34**	**93**	*e*LR	LR	17 45 34.9	
	comp=Z,284nm,22.2s						
FITZ	**Fitzroy Crossi**	**40.75**	**266**	P	**P**	**17 35 05.1**	**+0.9**
	baz=41,SNR=5.6						
MEEK	**Meekatharra**	**46.19**	**252**	P	**P**	**17 35 48.5**	**+0.6**
	baz=46,SNR=7.5						
PCI	**Palu**	**51.66**	**286**	P	**P**	**17 36 31.9**	**+1.9**
	baz=52,SNR=5.8						
ASAJ	**Asahikawa**	**68.68**	**340**	LR	LR	18 05 09.7	
	comp=Z,225nm,19.3s,baz=176,slow=33						
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**17 38 30.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=38,slow=2.6,SNR=10						
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**17 38 30.9**	**0.0**
USRK	**Ussuriysk Arra**	**72.71**	**333**	P	**P**	**17 38 50.3**	**+0.1**
	comp=Z,7.6nm,1.0s,baz=144,slow=2.6,SNR=6.7						
RPN	**Rapa Nui**	**73.92**	**113**	LR	LR	18 06 58.6	
	comp=Z,139nm,18.8s,baz=82,slow=32						
PETK	**Petropavlovsk-**	**73.97**	**353**	P	**P**	**17 38 57.6**	**+0.1**
	comp=Z,6.8nm,1.1s,baz=189,slow=8.0,SNR=3.5						
PETK	**Petropavlovsk-**	**73.97**	**353**	P	**P**	**17 38 57.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**78.69**	**295**	P	**P**	**17 39 25.9**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=130,slow=4.9,SNR=14						
CMAR	**Chiang Mai Arr**	**78.69**	**295**	P	**P**	**17 39 25.9**	**+0.8**
ULN	**Ulaanbaatar**	**87.68**	**324**	*eP*	**P**	**17 40 11.2**	**+0.3**
	comp=Z,9.7nm,1.4s						
YAK	**Yakutsk**	**87.99**	**343**	*eP*	**P**	**17 40 10.8**	**-1.1**
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**88.03**	**323**	P	**P**	**17 40 12.4**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=132,slow=3.6,SNR=13						
SONM	**Songino Array**	**88.03**	**323**	P	**P**	**17 40 12.4**	**-0.2**
VNA3	**Neumayer Olymp**	**88.46**	**180**	*eP*	**P**	**17 40 14.1**	**-0.1**
YBH	**Yreka Blue Hor**	**88.49**	**44**	LR	LR	18 11 22.3	
	comp=Z,146nm,19.0s,baz=227,slow=30						
VNA2	**Neumayer--Watz**	**88.74**	**181**	*eP*	**P**	**17 40 15.7**	**+0.1**
	baz=190,slow=6.2						
ILAR	**Eielson Array**	**91.58**	**17**	P	**P**	**17 40 27.7**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=206,slow=6.0,SNR=4.1						
ILAR	**Eielson Array**	**91.58**	**17**	P	**P**	**17 40 27.6**	**-1.0**
ARCES	**ARCESS Array B**	**126.22**	**345**	PKP	**PKPdf**	**17 46 23.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=64,slow=2.1,SNR=14						
ARCES	**ARCESS Array B**	**126.22**	**345**	PKP	**PKPdf**	**17 46 23.1**	**-0.9**
BRG	**Berggiesshubel**	**143.86**	**333**	*eP*	**PKPdf**	**17 46 55.7**	**-1.5**
	comp=Z,6.8nm,1.3s						
CLZ	**Clausthal**	**144.53**	**337**	*e*PKPbc	**PKPdf**	**17 46 57.5**	**-0.9**
TANN	**Tannenbergstha**	**144.83**	**334**	*e*PKPbc	**PKPdf**	**17 46 58.6**	**-0.4**
NKC	**Novy Kostel**	**144.97**	**333**	*e*PKP	**PKPdf**	**17 46 59.0**	**-0.2**
NKC				*ex*	x	17 47 05.7	
NKC				*ex*	x	17 47 39.7	
MOX	**Moxa**	**145.00**	**335**	*e*PKPbc	**PKPdf**	**17 46 59.0**	**-0.2**
IBBN	**Ibbenburen**	**145.05**	**340**	*e*PKPbc	**PKPdf**	**17 46 58.9**	**-0.3**
IBBN				*ep*PKPbc	pPKPbc	17 47 40.7	+26
KHC	**Kasperske Hory**	**145.29**	**331**	*e*PKPdf	**PKPdf**	**17 47 00.3**	**+0.4**
KHC	**Kasperske Hory**	**145.29**	**331**	*e*PKP	**PKPdf**	**17 47 00.1**	**+0.3**
KHC				*ex*	x	17 47 06.1	
KHC	**Kasperske Hory**	**145.29**	**331**	P	**PKPdf**	**17 47 00.0**	**+0.2**
ROTZ	**Rotzenmuhle**	**145.42**	**333**	*e*PKPbc	**PKPab**	**17 47 00.9**	**+0.7**
GEC2	**GERESS Array S**	**145.44**	**331**	*e*PKPbc	**PKPab**	**17 47 00.5**	**0.0**
GERES	**GERESS Array B**	**145.44**	**331**	PKPbc	**PKPbc**	**17 46 58.9**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=31,slow=3.6,SNR=14						
GERES	**GERESS Array B**	**145.44**	**331**	PKPbc	**PKPbc**	**17 46 58.9**	**-1.3**
UBBA	**Unterbreizbach**	**145.49**	**336**	*e*PKPbc	**PKPab**	**17 47 00.7**	**+0.4**
WET	**Wettzell**	**145.60**	**332**	*ep*PKPbc	pPKPbc	17 47 43.0	+27
GRF	**Grafenberg Arr**	**145.89**	**334**	*e*PKPbc	**PKPab**	**17 47 02.2**	**+0.2**
BUG	**Bochum--Univer**	**145.95**	**339**	*e*PKPbc	**PKPab**	**17 47 01.7**	**-0.4**
TNS	**Taunus Mts**	**146.55**	**337**	*e*PKPbc	**PKPab**	**17 47 04.0**	**-0.6**
WLF	**Walferdange**	**147.83**	**339**	*e*PKPbc	**PKPab**	**17 47 07.8**	**-1.7**
WLF	**Walferdange**	**147.83**	**339**	*e*PKPbc	**PKPbc**	**17 47 06.6**	**-0.4**
BFO	**Black Forest**	**148.14**	**335**	*e*PKPbc	**PKPbc**	**17 47 07.9**	**0.0**
BFO	**Black Forest**	**148.14**	**335**	*e*PKPbc	**PKPbc**	**17 47 07.7**	**-0.2**

IDC ***25*** *17:35:28.8±0.8,20.58S×169.20E,h0km, mb4.6/12, mb1 4.7/14,mb1mx4.6/20,mbtmp4.6/14,ML4.0/1,MS4.3/10, Ms1 4.3/10,ms1mx3.8/37,Error ellipse: s-maj=26.0km s-min=17.0km az=135.0*

SZGRF ***25*** *17:35:33.0,20.07S×170.15E,h21km, Vanuatu Islands*

ISCJB ***25*** *17:35:33.4±0.4,20.43S±0.06×168.90E±0.06,h31km, mb4.8/33,MS4.2/12,Error ellipse: s-maj=10.3km s-min=5.7km az=41.9*

NEIC ***25*** *17:35:36.6±1.2,20.68S×169.02E,h55km±11km, mb4.8/14,*

Error ellipse: s-maj=14.4km s-min=8.6km az=162.0

MOS ***25*** *17:35:36.2±1.1,20.44S×168.93E,h55km,mb4.9/18, MS4.1/6,Error ellipse: s-maj=13.5km s-min=10.3km az=10.0*

BJI ***25*** *17:35:43.6,20.06S×168.98E,h114km,mB5.0/12, mb4.8/18*

AUST ***25*** *17:35:59.5±1.7, 19.96S×170.60E,h473km,Error ellipse: s-maj=1.9km s-min=1.5km az=355.0*

ISC 25 17:35:34.7±0.4,20.59S±0.09×168.96E±0.07,h31km,n162, σ1§42/152,mb4.8/33,MS4.2/12,4C-3D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.48**	**231**	*eP*	**Pn**	**17 36 13.1**	**+0.1**
BAYA				*eS*	**Sn**	**17 36 43.3**	**+1.0**
DZM	**Mont Dzumac**	**2.77**	**237**	Pn	**Pn**	**17 36 16.3**	**-0.8**
	19nm,0.3s,baz=59,slow=16,SNR=173						
DZM				Sn	**Sn**	**17 36 47.6**	**-2.0**
	262nm,0.3s,baz=342,slow=22,SNR=15						
DZM	**Mont Dzumac**	**2.77**	**237**	*e*Pn	**Pn**	**17 36 16.1**	**-1.0**
	242nm,0.3s						
DZM				*e*Sn	**Sn**	**17 36 48.4**	**-1.2**
	528nm,0.2s						
DZM	**Mont Dzumac**	**2.77**	**237**	Pn	**Pn**	**17 36 16.3**	**-0.8**
DZM				Sn	**Sn**	**17 36 47.6**	**-2.0**
MSVF	**Nonsavu**	**9.05**	**73**	*eP*	**Pn**	**17 37 46.2**	**+2.9**
MSVF				pmax	pmax		
	comp=Z,74nm,1.1s						
MSVF	**Nonsavu**	**9.05**	**73**	*eP*	**Pn**	**17 37 46.2**	**+2.9**
	comp=Z,74nm,1.1s						
OUZ	**Omahuta**	**15.14**	**165**	P	**P**	**17 39 09.2**	**-1.9**
	comp=Z,12nm,0.8s						
URZ	**Urewera**	**18.97**	**160**	P	**P**	**17 39 50.2**	**-3.3**
	baz=342,slow=20,SNR=1.5						
URZ	**Urewera**	**18.97**	**160**	*eP*	**P**	**17 39 51.5**	**-2.0**
	comp=Z,34nm,1.1s						
RMQ	**Roma**	**19.42**	**249**	P	**Pn**	**17 40 03.4**	**+3.5**
	baz=21,SNR=8.0						
CTA	**Charters Tower**	**21.30**	**267**	P	**P**	**17 40 20.5**	**+1.6**
	comp=Z,22nm,0.9s,baz=94,slow=16,SNR=11						
CTA				LR	LR	17 47 43.9	
	comp=Z,491nm,19.0s,baz=88,slow=34						
CTA	**Charters Tower**	**21.30**	**267**	P	**P**	**17 40 20.5**	**+1.6**
CTAO	**Charters Tower**	**21.30**	**267**	*eP*	**P**	**17 40 20.8**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,26nm,1.0s						
CTAO	**Charters Tower**	**21.30**	**267**	*eP*	**P**	**17 40 20.8**	**+1.8**
	comp=Z,26nm,1.0s						
YNG	**Young**	**22.73**	**229**	P	**P**	**17 40 37.6**	**+3.3**
	baz=24,SNR=5.9						
RPZ	**Rata Peaks**	**23.13**	**176**	LR	LR	17 48 34.2	
	comp=Z,405nm,21.4s,baz=341,slow=34						
QLP	**Quilpie**	**23.41**	**250**	P	**P**	**17 40 42.6**	**+1.5**
	baz=25,SNR=17						
CMSA	**Cobar Meteorol**	**23.53**	**238**	P	**P**	**17 40 44.2**	**+1.9**
	baz=25,SNR=19						
PMG	**Port Moresby**	**23.78**	**295**	*eP*	**P**	**17 40 44.3**	**-0.5**
	comp=Z,32nm,1.0s						
MILA	**Mila**	**23.80**	**222**	P	**P**	**17 40 48.2**	**+3.3**
	baz=25,SNR=7.0						
COEN	**Coen**	**25.47**	**281**	*eP*	**P**	**17 41 01.6**	**+1.3**
	comp=Z,197nm,1.1s						
COEN	**Coen**	**25.47**	**281**	P	**P**	**17 41 01.7**	**+1.5**
	baz=27,SNR=4.3						
STKA	**Stephens Creek**	**26.92**	**240**	P	**P**	**17 41 14.9**	**+1.7**
	comp=Z,7.8nm,0.7s,baz=75,slow=9.1,SNR=21						
STKA				PcP	**PcP**	**17 44 35.5**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=34,slow=6.4,SNR=3.2						
STKA				LR	LR	17 51 59.5	
	comp=Z,497nm,18.3s,baz=262,slow=36						
STKA	**Stephens Creek**	**26.92**	**240**	P	**P**	**17 41 14.9**	**+1.7**
STKA				PcP	**PcP**	**17 44 35.5**	**+0.5**
STKA	**Stephens Creek**	**26.92**	**240**	P	**P**	**17 41 15.1**	**+1.7**
	baz=29,SNR=10.0						
ARPS	**Mount Arapiles**	**28.61**	**230**	P	**P**	**17 41 30.8**	**+2.5**
	baz=30,SNR=7.1						
WRAB	**Tennant Creek**	**32.44**	**265**	*eP*	**P**	**17 42 01.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**32.44**	**265**	*eP*	**P**	**17 42 01.6**	**-0.8**
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**17 42 01.5**	**-0.9**
	comp=Z,6.2nm,0.8s,baz=94,slow=8.4,SNR=38						
WRA				PcP	**PcP**	**17 44 49.1**	**-0.2**
	comp=Z,2.4nm,1.1s,baz=99,slow=2.7,SNR=5.9						
WRA				LR	LR	17 55 33.7	
	comp=Z,609nm,19.2s,baz=80,slow=37						
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**17 42 01.5**	**-0.9**
WRA				PcP	**PcP**	**17 44 49.1**	**-0.2**
AS31	**Alice Springs**	**32.57**	**258**	*eP*	**P**	**17 42 02.8**	**-0.7**
ASAR	**Alice Springs**	**32.57**	**258**	P	**P**	**17 42 03.3**	**-0.2**
	comp=Z,24nm,0.9s,baz=82,slow=8.9,SNR=126						
ASAR				PcP	**PcP**	**17 44 49.4**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=94,slow=2.9,SNR=6.3						
ASAR				LR	LR	17 55 52.7	
	comp=Z,754nm,18.1s,baz=89,slow=37						
ASAR	**Alice Springs**	**32.57**	**258**	P	**P**	**17 42 03.3**	**-0.2**
ASAR				PcP	**PcP**	**17 44 49.4**	**-0.2**
KDU	**Kakadu**	**35.77**	**277**	S	S	17 47 29.4	-37
	baz=37,SNR=5.2						
MTN	**Manton Dam**	**36.97**	**276**	P	**P**	**17 42 40.9**	**-0.6**
	baz=38,SNR=5.8						
TBI	**Tubuai**	**38.57**	**102**	*e*LR	LR	17 53 24.6	
	comp=Z,191nm,23.8s						
PPT2	**Papeete2**	**39.23**	**93**	*e*LR	LR	17 53 42.7	
	comp=Z,339nm,23.8s						
PPT	**Papeete**	**39.23**	**93**	LR	LR	17 54 50.2	
	comp=Z,282nm,18.2s,baz=169,slow=30						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	LR	LR	17 59 41.5	
	comp=Z,302nm,20.4s,baz=97,slow=35						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	*eP*	**P**	**17 43 13.9**	**-0.1**
	comp=Z,25nm,1.2s						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	P	**P**	**17 43 14.5**	**+0.5**
	baz=42,SNR=21						
MBWA	**Marble Bar**	**45.85**	**260**	*eP*	**P**	**17 43 54.4**	**+0.1**
MEEK	**Meekatharra**	**46.29**	**252**	P	**P**	**17 43 57.8**	**0.0**
	baz=48,SNR=9.6						
KLBR	**Kellerberrin**	**46.91**	**246**	P	**P**	**17 44 02.5**	**-0.1**
	baz=48,SNR=7.8						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	LR	LR	18 04 11.6	
	comp=Z,501nm,19.0s,baz=233,slow=36						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	*eP*	**P**	**17 44 06.2**	**+0.1**
KSM	**Kuching**	**61.42**	**284**	*eP*	**P**	**17 45 48.3**	**-0.2**
	comp=Z,15nm,0.9s						
KSM	**Kuching**	**61.42**	**284**	P	**P**	**17 45 48.9**	**+0.3**
	baz=63,SNR=9.2						
MJAR	**Matsushiro Arr**	**63.82**	**333**	P	**P**	17 46 02.4	-1.7
	comp=Z,5.9nm,0.8s,baz=172,slow=8.4,SNR=15						
MJAR	**Matsushiro Arr**	**63.82**	**333**	P	**P**	17 46 02.4	-1.7
KSRS	**Korea Array**	**69.47**	**326**	P	**P**	**17 46 40.0**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=142,slow=6.3,SNR=4.3						
KSAR	**Wonju Array Be**	**69.48**	**326**	P	**P**	**17 46 40.0**	**-0.2**
QIZ	**Qiongzhong**	**70.02**	**300**	P	P	17 46 41.5	-2.4
QIZ				S	S	17 55 45.0	-7.7
QIZ				pmax	pmax		
	comp=Z,31nm,1.5s						
YSS	**Yuzh-Sakhalins**	**71.26**	**341**	P	**P**	**17 46 51.8**	**+1.0**
USRK	**Ussuriysk Arra**	**72.81**	**333**	P	**P**	**17 47 00.1**	**0.0**
	comp=Z,12nm,0.9s,baz=144,slow=4.7,SNR=13						
FX1	**Attu Island--F**	**73.25**	**3**	LR	LR	18 13 02.6	
	comp=Z,164nm,21.1s,baz=74,slow=31						
PETK	**Petropavlovsk-**	**74.03**	**353**	P	**P**	**17 47 06.7**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=122,slow=5.2,SNR=4.4						
PETK	**Petropavlovsk-**	**74.03**	**353**	P	**P**	**17 47 06.7**	**-0.5**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PETK	**Petropavlovsk-**	**74.03**	**353**	P	**P**	**17 47 06.7**	**-0.5**
MDJ	**Mudanjiang**	**74.18**	**332**	*eP*	**P**	**17 47 07.9**	**-0.4**
	comp=Z,16nm,1.2s						
CN2	**Changchun**	**75.47**	**329**	*eP*	**P**	**17 47 15.5**	**-0.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**76.99**	**336**	*eP*	P	17 47 20.3	-3.9
KLR				pmax	pmax		
	comp=Z,56nm,1.8s						
MAW	**Mawson**	**77.09**	**202**	LR	LR	18 18 24.2	
	comp=Z,218nm,18.6s,baz=317,slow=33						
CM31	**Chiang Mai Arr**	**78.82**	**295**	*eP*	**P**	**17 47 36.5**	**+1.4**
	comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.82**	**295**	P	**P**	**17 47 36.4**	**+1.3**
	comp=Z,6.3nm,0.8s,baz=134,slow=4.3,SNR=43						
CMAR	**Chiang Mai Arr**	**78.82**	**295**	P	**P**	**17 47 36.4**	**+1.3**
CHTO	**Chiang Mai**	**78.97**	**295**	*eP*	**P**	**17 47 36.6**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**78.97**	**295**	*eP*	**P**	**17 47 36.6**	**+0.6**
	comp=Z,7.6nm,0.8s						
LZH	**Lanzhou**	**83.43**	**312**	*eP*	P	17 47 58.0	-1.5
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
SEY	**Seymchan**	**84.26**	**352**	*eP*	**P**	**17 48 01.6**	**-1.2**
CLNS	**Chul'man**	**85.53**	**337**	*eP*	**P**	**17 48 09.3**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,23nm,1.0s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**87.78**	**324**	*eP*	**P**	**17 48 20.4**	**-0.4**
	comp=N,21nm,1.4s						
SNAA	**Sanae**	**87.81**	**183**	*eP*	**P**	**17 48 19.9**	**-0.7**
	comp=N,16nm,1.4s						
GTA	**Gaotai**	**87.86**	**314**	*eP*	**P**	**17 48 21.8**	**+0.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,7.6s						
YAK	**Yakutsk**	**88.07**	**343**	*eP*	P	17 48 19.7	-1.9
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK	**Yakutsk**	**88.07**	**343**	*eP*	P	17 48 19.9	-1.7
	comp=Z,12nm,0.7s						
SONM	**Songino Array**	**88.14**	**323**	P	**P**	**17 48 22.1**	**-0.4**
	comp=Z,3.8nm,1.1s,baz=139,slow=4.7,SNR=18						
SONM	**Songino Array**	**88.14**	**323**	P	**P**	**17 48 22.1**	**-0.4**
BILL	**Bilibino**	**88.39**	**359**	*eP*	P	17 48 21.1	-1.9
BILL				*i* *PP	pP	17 48 44.1	+11
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s						
VNA3	**Neumayer Olymp**	**88.41**	**180**	*eP*	**P**	**17 48 23.5**	**+0.1**
VNA2	**Neumayer--Watz**	**88.70**	**181**	*eP*	**P**	**17 48 25.3**	**+0.6**
	baz=189,slow=5.0						
NVAR	**Mina Array Bea**	**89.89**	**49**	P	**P**	**17 48 30.1**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=231,slow=7.5,SNR=11						
NVAR	**Mina Array Bea**	**89.89**	**49**	P	**P**	**17 48 30.1**	**-1.0**
LSA	**Lhasa**	**90.01**	**302**	*eP*	**P**	**17 48 32.3**	**+0.1**
LSA	**Lhasa**	**90.01**	**302**	*eP*	**P**	**17 48 32.3**	**+0.1**
ZAK	**Zakamensk**	**91.23**	**324**	*eP*	**P**	**17 48 35.7**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**91.59**	**17**	P	P	17 48 34.9	-3.2
	comp=Z,1.4nm,0.7s,baz=236,slow=4.8,SNR=20						
ILAR	**Eielson Array**	**91.59**	**17**	P	**P**	17 48 34.9	-3.2
TLY	**Talaya**	**91.72**	**326**	*eP*	**P**	**17 48 38.2**	**-0.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,44nm,16.0s						
TIXI	**Tiksi**	**96.00**	**348**	*de*P	P	17 48 55.7	-2.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.3s						
TIXI				MLR	MLR		
	comp=Z,147nm,22.0s						
YKA	**Yellowknife Ar**	**101.98**	**27**	P	**Pdif**	**17 49 23.9**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=256,slow=4.1,SNR=4.7						
YKA	**Yellowknife Ar**	**101.98**	**27**	P	**Pdif**	**17 49 23.9**	**-1.2**
MKAR	**Makanchi Array**	**102.51**	**315**	P	**Pdif**	**17 49 27.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=98,slow=7.5,SNR=5.5						
MKAR	**Makanchi Array**	**102.51**	**315**	P	**Pdif**	**17 49 27.4**	**-0.5**
MKAR	**Makanchi Array**	**102.51**	**315**	P	**Pdif**	**17 49 27.4**	**-0.5**
AKTO	**Aktyubinsk**	**118.88**	**317**	PKP	**PKPdf**	**17 54 18.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=90,slow=7.1,SNR=4.4						
AKTO	**Aktyubinsk**	**118.88**	**317**	PKIKP	**PKPdf**	**17 54 18.6**	**-1.3**
A

	comp=E,386nm,0.4s						
PEL	**Peldehue**	**0.60**	**146**	↓ *i* P	Pg	17 36 59.1	+0.6
PEL				*i* S	Sb	17 37 08.0	-1.0
PEL				AML	AML	17 37 10.7	
	comp=N,393nm,0.4s						
CHNG	**Los Chungos**	**0.83**	**335**	↑ *i* P	Pg	17 37 03.0	+0.3
CHNG				*i* S	Sb	17 37 14.5	-0.8
CHNG				AML	AML	17 37 15.8	
	comp=E,315nm,0.5s						
RCDM	**Rinconada Maip**	**0.88**	**165**	↓ *i* P	Pg	17 37 03.6	0.0
RCDM				*i* S	Sg	17 37 15.9	+0.8
RCDM				AML	AML	17 37 21.8	
	comp=N,110nm,0.5s						
CLCH	**Cerro Calan**	**0.88**	**149**	↓ *i* P	Pg	17 37 04.0	+0.2
CLCH				*i* S	Sb	17 37 16.7	-0.3
CLCH				AML	AML	17 37 20.0	
	comp=E,142nm,0.6s						
FCH	**Farellones**	**0.96**	**136**	↑ *i* P	Pb	17 37 06.2	-0.1
FCH				*i* S	Sb	17 37 19.9	+0.2
FCH				AML	AML	17 37 29.0	
	comp=E,60nm,0.4s						
CHCH	**Chadas Ángostu**	**1.34**	**164**	↑ *i* P	Pn	17 37 11.5	-0.8
CHCH				*i* S	Sg	17 37 29.5	-0.5
LNV	**Longovilo**	**1.34**	**192**	*eP*	Pn	17 37 11.0	-1.3
LMEL	**Las Melosas**	**1.41**	**149**	↓ *i* P	Pn	17 37 12.9	-0.6
LMEL				*i* S	Sb	17 37 32.1	-0.3
LMEL				AML	AML	17 37 32.9	
	comp=N,139nm,0.3s						
CACH	**El Canelo**	**1.53**	**165**	↓ *i* P	Pn	17 37 15.2	+0.2
CACH				*i* S	Sg	17 37 36.5	+0.3

*IDC **25** 17:43:14.0±0.8, 55°.09N×166°.00E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/31, mbtmp3.6/11, ML3.3/2, Error ellipse: s-maj=25.1km s-min=13.8km az=23.0*
*MOS **25** 17:43:16.6±1.4, 54°.85N×166°.23E, h41km, mb4.2/3, Error ellipse: s-maj=14.4km s-min=11.9km az=40.8*
*ISCJB **25** 17:43:17.6±0.5, 54°.70N±0°.03×166°.04E±0°.05, h33km, mb3.6/9, Error ellipse: s-maj=4.8km s-min=4.1km az=171.4*
*KRSC **25** 17:43:18.0±0.9, 54°.70N×165°.84E, h10km±10km, ML4.1*

ISC 25 17:43:17.6±0.8, 54°.78N±0°.05×166°.25E±0°.05, h35km, n57, σ1§70/72, mb3.7/9, Kamondorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.46**	**340**	PN	**Pn**	**17 43 25.7**	**-1.9**
BKI				S	**Sn**	**17 43 32.3**	**-2.3**
BKI	**Bering**	**0.46**	**340**	*i* P	**Pn**	**17 43 25.7**	**-1.9**
BKI				*i* S	**Sn**	**17 43 32.3**	**-2.3**
KBTR	**Krutoberegovo**	**2.42**	**308**	PN	**Pn**	**17 43 54.4**	**-0.3**
KBTR				S	**Sn**	**17 44 21.0**	**-2.0**
KBTR	**Krutoberegovo**	**2.42**	**308**	P	**Pn**	**17 43 54.4**	**-0.3**
KBTR				*i* S	**Sn**	**17 44 21.0**	**-2.0**
MKZ	**Mys Kozlova**	**2.63**	**267**	PN	**Pn**	**17 43 57.4**	**-0.1**
MKZ				S	**Sn**	**17 44 26.2**	**-2.0**
MKZ	**Mys Kozlova**	**2.63**	**267**	*eP*	**Pn**	**17 43 57.4**	**-0.1**
MKZ				*i* S	**Sn**	**17 44 26.2**	**-2.0**
SMKR	**Semkarok**	**3.26**	**306**	P	Pn	17 44 08.9	+2.7
ZLN	**Zelenaya**	**3.35**	**294**	*eP*	Pn	17 44 09.1	+1.7
ZLN				*i* S	**Sn**	**17 44 46.2**	**+0.3**
BDR	**Baidarnaya**	**3.37**	**304**	*eP*	Pn	17 44 11.1	+3.3
BZGR	**Bezymyannyi-Gr**	**3.38**	**292**	*eP*	Pn	17 44 09.5	+1.6
BZGR				*i* S	**Sn**	**17 44 46.9**	**+0.1**
LGNR	**Loginova**	**3.43**	**295**	P	Pn	17 44 12.3	+3.6
LGNR				*i* S	**Sn**	**17 44 51.3**	**+3.1**
SRKR	**Sorokina**	**3.44**	**305**	P	Pn	17 44 12.3	+3.7
BZMR	**Bezymyannaya**	**3.49**	**292**	*eP*	**Pn**	**17 44 10.9**	**+1.5**
BZMR				*i* S	**Sn**	**17 44 49.5**	**0.0**
BZWR	**Bezymyannyi-We**	**3.49**	**292**	*eP*	**Pn**	**17 44 11.0**	**+1.5**
BZWR				*i* S	**Sn**	**17 44 49.0**	**-0.7**
KLY	**Klyuchi**	**3.53**	**298**	PN	**Pn**	**17 44 09.9**	**0.0**
KLY				S	**Sn**	**17 44 46.9**	**-3.5**
KLY	**Klyuchi**	**3.53**	**298**	P	**Pn**	**17 44 09.9**	**0.0**
KLY				*i* S	**Sn**	**17 44 46.9**	**-3.5**
KRSR	**Krestovskiy**	**3.54**	**296**	P	Pn	17 44 12.0	+1.9
KRSR				*i* S	**Sn**	**17 44 50.4**	**-0.4**
TUMR	**Tumrok**	**3.55**	**281**	*eP*	**Pn**	**17 44 10.9**	**+0.7**
TUMR				*i* S	**Sn**	**17 44 48.8**	**-2.2**
KMNR	**Kamenistaya**	**3.58**	**288**	*eP*	Pn	17 44 12.2	+1.6
KMNR				*i* S	**Sn**	**17 44 51.1**	**-0.6**
KPT	**Kopyto**	**3.64**	**292**	P	Pn	17 44 13.2	+1.7
KPT				*i* S	**Sn**	**17 44 52.5**	**-0.7**
KOZR	**Kozyr**	**3.84**	**292**	PN	Pn	17 44 16.5	+2.3
KOZR				S	**Sn**	**17 44 59.4**	**+1.3**
KOZ	**Kozyrevsk**	**3.85**	**292**	P	Pn	17 44 16.5	+2.2
KOZ				*i* S	**Sn**	**17 44 59.4**	**+1.0**
SRDR	**Sredinnyy**	**4.02**	**295**	*eP*	Pn	17 44 18.7	+2.1
SRDR				*i* S	**Sn**	**17 45 02.4**	**-0.1**
KII	**Karymskiy**	**4.04**	**262**	P	**Pn**	**17 44 18.2**	**+1.2**
KII				*i* S	**Sn**	**17 45 01.3**	**-1.8**
SPN	**Mys Shipunski**	**4.05**	**248**	PN	**Pn**	**17 44 16.8**	**-0.1**
SPN	**Mys Shipunski**	**4.05**	**248**	*eP*	**Pn**	**17 44 16.8**	**-0.1**
SPN				*i* S	**Sn**	**17 44 58.9**	**-4.1**
ESO	**Esso**	**4.46**	**288**	PN	**Pn**	**17 44 24.1**	**+1.4**
ESO	**Esso**	**4.46**	**288**	*eP*	**Pn**	**17 44 24.1**	**+1.4**
FX1	**Attu Island--F**	**4.51**	**112**	P	**Pn**	**17 44 25.6**	**+2.2**
	3.0nm,0.3s,baz=340,slow=21,SNR=9.6						
FX1				Sn	**Sn**	**17 45 12.2**	**-2.4**
	14nm,0.3s,baz=239,slow=18,SNR=7.7						
SDLR	**Sedlovina**	**4.59**	**254**	*eP*	**Pn**	**17 44 25.4**	**+0.8**
SDLR				*i* S	**Sn**	**17 45 14.0**	**-2.8**
SMAR	**Somma**	**4.65**	**254**	P	**Pn**	**17 44 26.3**	**+0.9**
SMAR				*i* S	**Sn**	**17 45 16.2**	**-2.0**
UGLR	**Uglovaya**	**4.66**	**253**	*eP*	**Pn**	**17 44 26.5**	**+1.1**
KRER	**Koryakskii**	**4.66**	**255**	*eP*	Pn	17 44 26.9	+1.3
KRER				*i* S	**Sn**	**17 45 16.3**	**-2.2**
AVH	**Avacha**	**4.68**	**254**	*eP*	Pn	17 44 27.3	+1.5
AVH				*i* S	**Sn**	**17 45 17.0**	**-1.8**
KOK	**Koryaka**	**4.73**	**255**	*eP*	**Pn**	**17 44 27.6**	**+1.2**
PET	**Petropavlovsk**	**4.82**	**252**	*ePN*	**Pn**	**17 44 28.3**	**+0.7**
PET	**Petropavlovsk**	**4.82**	**252**	*eP*	**Pn**	**17 44 28.5**	**+0.9**
PET				*i* S	**Sn**	**17 45 19.2**	**-3.0**
GNL	**Ganaly**	**4.99**	**261**	*eP*	Pn	17 44 31.4	+1.3
GNL				*i* S	**Sn**	**17 45 24.9**	**-1.7**
RUS	**Russkaya**	**5.17**	**246**	PN	**Pn**	**17 44 32.6**	**+0.2**
RUS	**Russkaya**	**5.17**	**246**	P	**Pn**	**17 44 32.6**	**+0.2**
RUS				*i* S	**Sn**	**17 45 28.2**	**-2.5**
PETK	**Petropavlovsk-**	**5.32**	**255**	Pn	Pn	17 44 36.1	+1.6
	2.5nm,0.3s,baz=87,slow=18,SNR=108						
PETK				Sn	**Sn**	**17 45 33.6**	**-0.9**
	2.7nm,0.3s,baz=86,slow=23,SNR=8.3						
PETK	**Petropavlovsk-**	**5.32**	**255**	PN	Pn	17 44 36.1	+1.6
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MTVR	**Mutnovka**	**5.32**	**248**	*eP*	**Pn**	**17 44 35.2**	**+0.6**
MTVR				*i* S	**Sn**	**17 45 31.6**	**-3.1**
GRL	**Gorelyy**	**5.35**	**249**	P	Pn	17 44 36.6	+1.7
GRL				*i* S	**Sn**	**17 45 33.6**	**-1.7**
ASAK	**Asacha**	**5.52**	**248**	*eP*	**Pn**	**17 44 38.5**	**+1.2**
ASAK				*i* S	**Sn**	**17 45 35.9**	**-3.6**
MIPR	**Malaya Ipel'ka**	**6.19**	**250**	P	Pn	17 44 48.0	+1.6
SONM	**Songino Array**	**37.03**	**285**	P	**P**	**17 50 24.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=50,slow=6.2,SNR=4.2						
YKA	**Yellowknife Ar**	**39.42**	**46**	P	**P**	**17 50 44.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=296,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**50.65**	**298**	P	**P**	**17 52 12.6**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=58,slow=6.2,SNR=4.5						
MKAR	**Makanchi Array**	**50.65**	**298**	P	**P**	**17 52 12.6**	**-0.4**
NVAR	**Mina Array Bea**	**51.77**	**75**	P	**P**	**17 52 23.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	**52.13**	**310**	P	**P**	**17 52 24.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=55,slow=5.8,SNR=6.2						
BVAR	**Borovoye Array**	**52.13**	**310**	P	**P**	**17 52 24.4**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**59.93**	**339**	P	**P**	**17 53 18.8**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=3.8,slow=8.4,SNR=3.3						
NOA	**NORSAR Array B**	**62.84**	**347**	P	**P**	**17 53 38.1**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=5.3,slow=5.2,SNR=4.5						
HFS	**Hagfors**	**63.37**	**345**	P	**P**	**17 53 41.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=72,slow=4.7,SNR=3.0						
ASAR	**Alice Springs**	**82.91**	**210**	P	**P**	**17 55 39.6**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=14,slow=5.2,SNR=7.0						

*UPP **25** 17:45:36.1, 55°.13N×10°.73E, h0km, ML2.2, Suspected Mining explosion.*

CSEM 25 17:45:29.9±0.4, 54°.74N×10°.25E, h1km, ML2.2, Error ellipse: s-maj=10.2km s-min=5.9km az=85.0, Suspected Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLD	**Lille Linde**	**1.28**	**62**	*i* P	Pg	17 45 54.5	+0.2
LLD	**Lille Linde**	**1.28**	**62**	*i* P	Pg	17 45 54.5	+0.2
LLD				*i* S	Sn	17 46 14.1	+1.4
COP	**Copenhagen**	**1.57**	**52**	*i* P	Pb	17 45 59.6	-0.1
COP	**Copenhagen**	**1.57**	**52**	*i* P	Pb	17 45 59.6	-0.1
MUD	**Monsted U'grnd**	**1.82**	**341**	*i* P	Pn	17 46 02.3	-0.2
MUD				*i* S	Sg	17 46 30.0	+1.6
BJUU	**Bjuv**	**2.07**	**49**	P	Pn	17 46 05.6	-0.3
FABU	**Falkenberg**	**2.66**	**31**	P	Pn	17 46 13.8	-0.1
DEL	**Delary**	**2.69**	**48**	P	Pn	17 46 14.1	-0.2
BSD	**Bornholm Skovb**	**2.72**	**80**	*i* P	Pn	17 46 13.5	-1.2
BSD				*eS*	Sb	17 46 55.1	+1.9
BSD	**Bornholm Skovb**	**2.72**	**80**	*i* P	Pn	17 46 13.5	-1.2
BORU	**Boraas**	**3.22**	**25**	P	Pn	17 46 21.4	-0.3
GNOU	**Gnosjoe**	**3.22**	**36**	P	Pn	17 46 22.1	+0.3
TJOU	**Tjoern**	**3.39**	**12**	P	Pn	17 46 23.5	-0.4
VXJU	**Vaexsjoe**	**3.43**	**49**	P	Pn	17 46 24.5	-0.1
BLEU	**Blekinge**	**3.53**	**61**	P	Pn	17 46 25.6	-0.3
VANU	**Vaenersborg**	**3.89**	**14**	P	Pn	17 46 30.6	-0.3
FKPU	**Falk**	**3.93**	**28**	P	Pn	17 46 31.9	+0.4
EKSU	**Eksjoe**	**4.00**	**43**	P	Pn	17 46 32.7	+0.3
OSKU	**Oskarshamn**	**4.10**	**51**	P	Pn	17 46 33.8	0.0
ASPU	**Aespoe**	**4.46**	**50**	P	Pn	17 46 38.8	+0.2

IDC 25 17:46:43.7±2.2, 3°.90N×126°.70E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=175.6km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	17 52 06.8	-1.4
	0.4nm,0.7s,baz=342,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**28.29**	**166**	P	P	17 52 40.4	+1.2
	0.2nm,0.8s,baz=345,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	17 56 34.1	-0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=3.5						

IDC 25 17:50:14.7±2.5, 9°.15S×153°.05E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=72.7km s-min=40.5km az=158.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.82**	**267**	Pn	Pn	17 51 41.5	-0.8
	0.5nm,0.3s,baz=45,slow=12,SNR=2.5						
PMG				Sn	Sn	17 52 52.8	+3.0
	0.5nm,0.3s,baz=26,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**21.02**	**237**	P	P	17 54 59.6	-0.7
	1.4nm,0.8s,baz=60,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**23.31**	**229**	P	P	17 55 24.8	+0.1
	0.2nm,0.7s,baz=62,slow=9.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**151.62**	**281**	PKPbc	PKPbc	18 10 12.3	+0.1
	0.3nm,1.1s,baz=67,slow=1.9,SNR=2.3						

IDC 25 17:59:42.0±1.7, 9°.94S×125°.19E, h0km, mb3.2/1, mb1 3.2/4, mb1mx3.1/18, mbtmp3.0/4, ML2.7/2, Error ellipse: s-maj=102.0km s-min=27.0km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.12**	**177**	Pn	Pn	18 01 41.6	+0.3
	0.1nm,0.3s,baz=349,slow=13,SNR=3.8						
FITZ				Sn	Sn	18 03 07.2	-6.7
	0.6nm,0.3s,baz=112,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**13.30**	**139**	Pn	Pn	18 02 51.8	-0.4
	baz=316,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**15.98**	**150**	Pn	Pn	18 03 28.4	-0.1
	0.0nm,0.3s,baz=319,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**68.21**	**330**	P	P	18 10 44.5	0.0
	0.1nm,0.6s,baz=140,slow=5.8,SNR=3.6						

IDC 25 18:02:13.9±2.1, 10°.47S×124°.67E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=213.4km s-min=33.0km az=54.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.64**	**173**	Sn	Sn	18 05 35.4	+1.4
	0.7nm,0.3s,baz=116,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**13.25**	**136**	Pn	Pn	18 05 22.6	-0.8
	0.1nm,0.3s,baz=315,slow=14,SNR=4.0						
WRA				Sn	Sn	18 07 42.9	-8.7
	0.2nm,0.3s,baz=291,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**15.80**	**147**	Pn	Pn	18 05 58.9	+0.9
	0.1nm,0.3s,baz=318,slow=12,SNR=4.1						
ASAR				Sn	Sn	18 08 45.0	-9.0
	0.0nm,0.3s,baz=128,slow=14,SNR=1.4						
MKAR	**Makanchi Array**	**68.41**	**330**	P	P	18 13 17.6	0.0
	0.3nm,0.5s,baz=142,slow=6.8,SNR=5.6						

*UPP **25** 18:07:12.7, 67°.07N×20°.93E, h0km, ML1.5, Mining explosion.*
*ISCJB **25** 18:07:13.3±0.4, 67°.05N±0°.03×20°.97E±0°.08, h0km, Error ellipse: s-maj=4.9km s-min=3.7km az=22.6*
*CSEM **25** 18:07:13.4±0.2, 67°.09N×20°.71E, h2km, ML1.5, Error ellipse: s-maj=4.5km s-min=3.6km az=106.0, Mining explosion.*
*HEL **25** 18:07:14.1±0.2, 67°.03N×20°.79E, h0km, ML1.5(UPP), Explosion*
*NAO **25** 18:07:14.1±1.8, 67°.06N×21°.07E, ML2.5*
*IDC **25** 18:07:16.9±1.0, 67°.22N×21°.27E, h0km, mb1 2.8/4, mb1mx2.7/28, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=19.7km s-min=7.8km az=113.0*
*BER **25** 18:07:17.0±3.5, 67°.02N×20°.98E, h0km, MD2.9, ML2.5(NAO), Suspected explosion*

ISC 25 18:07:13.4±0.8, 67°.05N±0°.02×20°.88E±0°.03, h0km, n43, σ1§39/59, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.72**	**133**	*i* P	**Pg**	**18 07 26.1**	**-1.1**
ERTU	**Ertsjaerv**	**0.72**	**133**	P	**Pg**	**18 07 26.1**	**-1.1**
HARU	**Harads**	**0.89**	**178**	*eP*	**Pg**	**18 07 30.0**	**-0.5**
HARU	**Harads**	**0.89**	**178**	P	**Pg**	**18 07 30.0**	**-0.5**
SALU	**Saltoluokta**	**0.98**	**291**	*eP*	**Pg**	**18 07 31.1**	**-1.0**
SALU	**Saltoluokta**	**0.98**	**291**	P	**Pg**	**18 07 31.1**	**-1.0**
NIKU	**Nikkaluokta**	**1.08**	**320**	*eP*	**Pg**	**18 07 32.9**	**-1.3**
NIKU	**Nikkaluokta**	**1.08**	**320**	P	**Pg**	**18 07 32.9**	**-1.3**
LANU	**Lannavaara**	**1.09**	**23**	*eP*	**Pg**	**18 07 33.9**	**-0.4**
LANU				*eS*	**Sg**	**18 07 48.7**	**+0.3**
LANU	**Lannavaara**	**1.09**	**23**	P	**Pg**	**18 07 33.8**	**-0.4**
LANU				S	**Sg**	**18 07 48.6**	**+0.3**
SJUU	**Sjulsmark**	**1.58**	**169**	*eP*	**Pn**	**18 07 42.0**	**-0.6**
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**18 07 42.0**	**-0.6**
HEF	**Hetta**	**1.73**	**37**	*eP*	**Pn**	**18 07 45.0**	**+0.4**
HEF				*eS*	**Sn**	**18 08 07.9**	**+0.6**
HEF	**Hetta**	**1.73**	**37**	P	**Pn**	**18 07 45.0**	**+0.4**
HEF				S	**Sn**	**18 08 07.9**	**+0.6**
LILU	**Lilltraesk**	**1.82**	**194**	*eP*	**Pn**	**18 07 45.8**	**-0.1**
LILU	**Lilltraesk**	**1.82**	**194**	P	**Pn**	**18 07 45.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.96**	**359**	*eP*	**Pb**	**18 07 50.1**	**+0.1**
KIF				*eS*	**Sb**	**18 08 16.8**	**+1.9**
KIF	**Kilpisjarvi**	**1.96**	**359**	P	**Pb**	**18 07 50.0**	**+0.1**
RNF	**Rovaniemi**	**2.08**	**100**	*eP*	**Pn**	**18 07 50.9**	**+1.5**
RNF				*eS*	**Sn**	**18 08 18.4**	**+2.4**
RNF	**Rovaniemi**	**2.08**	**100**	P	**Pn**	**18 07 50.9**	**+1.5**
RNF				S	**Sn**	**18 08 18.4**	**+2.4**
MOR8	**Moi Rana**	**2.72**	**254**	*eP*	**Pn**	**18 08 00.5**	**+2.2**
MOR8				*eSg*	**Sb**	**18 08 37.4**	**+0.7**
MOR8	**Moi Rana**	**2.72**	**254**	*eP*	**Pn**	**18 08 00.4**	**+2.2**
	SNR=50						
MOR8				*eSg*	**Sb**	**18 08 37.4**	**+0.7**
	SNR=90						
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn	**Pn**	**18 08 02.5**	**-0.1**
	baz=218,slow=14						
ARA0				Sn	**Sn**	**18 08 40.0**	**+0.6**
	baz=233,slow=28						
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn	**Pn**	**18 08 02.5**	**-0.1**
	baz=218,slow=14						
ARA0				Sn	**Sn**	**18 08 40.0**	**+0.6**
	baz=233,slow=28						
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn	**Pn**	**18 08 02.5**	**-0.1**
	baz=218,slow=13,SNR=50						
ARA0				Sn	**Sn**	**18 08 40.0**	**+0.6**
	baz=233,slow=23,SNR=50						
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn	**Pn**	**18 08 03.2**	**+0.7**
	0.3nm,0.3s,baz=218,slow=13,SNR=50						
ARCES				Sn	**Sn**	**18 08 35.2**	**-4.2**
	0.4nm,0.3s,baz=216,slow=16,SNR=5.1						
ARCES				Lg	Lg	18 08 45.5	
	0.9nm,0.3s,baz=215,slow=24,SNR=7.0						
FLOS	**Flostrand**	**3.07**	**260**	*eP*	**Pb**	**18 08 06.5**	**-2.4**
KONS	**Konsvik**	**3.12**	**263**	*eP*	**Pn**	**18 08 06.6**	**+2.8**
STOK	**Stokkvaagen**	**3.21**	**261**	*eP*	**Pn**	**18 08 06.6**	**+1.6**
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 08 25.1**	**-0.6**
	baz=267,slow=11						
APA0				Sn	**Sn**	**18 09 21.0**	**-0.1**
	baz=262,slow=18						
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 08 25.1**	**-0.6**
	baz=267,slow=11						
APA0				Sn	**Sn**	**18 09 21.0**	**-0.1**
	baz=262,slow=18						
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 08 25.1**	**-0.6**
	baz=267,slow=10,SNR=50						
APA0				Sn	**Sn**	**18 09 21.0**	**-0.1**
	baz=262,slow=18,SNR=50						
KEF	**Keuruu**	**5.20**	**159**	*eP*	**Pn**	**18 08 34.6**	**+2.3**
KEF				*eS*	**Sn**	**18 09 35.5**	**+2.6**
KEF	**Keuruu**	**5.20**	**159**	P	**Pn**	**18 08 34.6**	**+2.3**
KEF				S	**Sn**	**18 09 35.4**	**+2.6**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 08 45.4**	**+1.2**
	baz=346,slow=18						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 08 45.4**	**+1.2**
	baz=346,slow=18						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 08 45.4**	**+1.2**
	baz=346,slow=18,SNR=50						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	Pn	18 08 48.0	+3.8
	0.1nm,0.3s,baz=346,slow=13,SNR=8.9						
FINES				Sn	Sn	18 10 02.0	+7.7
	0.2nm,0.3s,baz=341,slow=20,SNR=1.8						
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn	**Pn**	**18 09 02.7**	**+0.6**
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn	**Pn**	**18 09 02.7**	**+0.6**
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn	**Pn**	**18 09 02.7**	**+0.6**
	SNR=50						
NOA	**NORSAR Array B**	**7.37**	**220**	Pn	Pn	18 09 06.7	+4.6
	0.1nm,0.3s,baz=260,slow=6.2,SNR=5.5						
NOA				Sn	**Sn**	**18 10 25.3**	**-1.0**
	0.1nm,0.3s,baz=289,slow=8.6,SNR=1.4						
HFS	**Hagfors**	**7.64**	**208**	Pn	Pn	18 09 11.6	+5.8
	0.0nm,0.3s,baz=15,slow=13,SNR=6.2						

*BJI **25** 18:27:26.5, 0°.67N×98°.65E, h29km, mB5.0/15, mb4.9/26, Ms4.6/9, Ms7 4.2/7*
*IDC **25** 18:27:30.9±1.9, 0°.71N×98°.53E, h50km±17km, mb4.4/29, mb1 4.5/30, mb1mx4.4/33, mbtmp4.4/30, ML5.0/1, MS3.7/8, Ms1 3.7/8, ms1mx3.3/45, Error ellipse: s-maj=15.3km s-min=9.5km az=59.0*
*AUST **25** 18:27:32.9±0.0, 0°.67N×98°.47E, h65km, Error ellipse: s-maj=0.9km s-min=0.5km az=235.0*
*DJA **25** 18:27:32.0±0.3, 0°.N±3°×9°.8E±°, h64km±4km, MS.1/34, mB5.5/18, mb5.3/34, MLv5.4/18, Mw(mB)5.0/18*
*MOS **25** 18:27:33.5±0.9, 0°.76N×98°.59E, h90km, mb4.9/57, Error ellipse: s-maj=11.5km s-min=5.1km az=111.2*
*SZGRF **25** 18:27:33.7, 1°.56N×97°.93E, h33km, mb4.9, Northern Sumatera, Indonesia*
*ISCJB **25** 18:27:34.4±0.2, 0°.72N±0°.03×98°.57E±0°.03, h100km, mb4.8/105, Error ellipse: s-maj=5.1km s-min=2.6km az=43.2*
*NEIC **25** 18:27:35.1±1.0, 0°.73N×98°.55E, h90km, 8km, mb5.0/38, Error ellipse: s-maj=9.4km s-min=4.7km az=53.0*

ISC 25 18:27:36.2±0.3, 0°.73N±0°.04×98°.63E±0°.05, h100km, n356, σ1§29/340, mb4.8/105, 21C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.95**	**86**	P	**Pn**	**18 27 54.8**	**-1.3**
GSI	**Gunungsitoli**	**1.20**	**298**	P	Pn	18 27 52.4	-6.4
	baz=1.1,SNR=1000						
GSI				S	Sn	18 28 07.4	-8.6
	baz=1.1,SNR=6.4						
GSI	**Gunungsitoli**	**1.20**	**298**	P	Pn	18 27 53.4	-5.4
PSI	**Prapat**	**2.08**	**8**	P	Pn	18 28 06.4	-3.6
	318nm,0.3s,baz=181,slow=5.5,SNR=856						
PSI				S	Sn	18 28 25.1	-11
	277nm,0.3s,baz=156,slow=

SBUM Sibu 13.69 83 P Pn 18 30 44.5 -1.7
SBUM Sibu 13.69 83 P P 18 30 49.2 -2.3
23nm,1.5s,350nm
SMRI Semarang 14.09 123 P Pn 18 30 51.3 -0.1
197nm,1.0s
UGM Wanagama 14.64 126 P Pn 18 30 55.1 -3.4
baz=15,SNR=17
UGM Wanagama 14.64 126 P Pn 18 30 55.3 -3.2
326nm,0.6s
BTM Bintulu 14.65 80 P P 18 31 00.8 -1.4
PCJI Pacitan 15.33 126 P Pn 18 31 02.6 -4.6
113nm,1.0s
PWJI Pagerwojo 15.75 124 P Pn 18 31 09.8 -2.7
68nm,0.7s,1µm
KMMI Kalianget 17.14 117 P P 18 31 29.7 -0.1
163nm,0.9s
CM31 Chiang Mai Arr 17.62 1 eP Pn 18 31 34.6 -0.9
13nm,0.8s
CMAR Chiang Mai Arr 17.62 1 P Pn 18 31 34.3 -1.1
1.8nm,0.3s,baz=192,slow=11,SNR=48
CMAR LR LR 18 38 05.2
comp=Z,105nm,18.2s,baz=180,slow=36
CMAR Chiang Mai Arr 17.62 1 P Pn 18 31 34.3 -1.1
CMMT Chiang Mai 17.97 1 P Pn 18 31 38.7 -1.0
13nm,0.8s,264nm
CHTO Chiang Mai 17.98 1 eP P 18 31 38.1 -0.8
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 17.98 1 eP P 18 31 38.1 -0.8
comp=Z,8.7nm,0.7s
KKM Kota Kinabalu 18.33 73 eP Pn 18 31 45.3 +1.2
comp=Z,42nm,0.8s
KKM Kota Kinabalu 18.33 73 P Pn 18 31 45.5 +1.4
baz=18,SNR=6.4
KKM Kota Kinabalu 18.33 73 P Pn 18 31 45.9 +1.8
KKM Kota Kinabalu 18.33 73 P Pn 18 31 45.4 +1.3
comp=Z,50nm,1.1s
SRBI Singaraja 18.71 118 P P 18 31 45.9 -1.1
comp=Z,116nm,0.8s,comp=Z,1µm
SDKM Sandakan 19.16 75 P Pn 18 31 54.6 +0.7
KDM Kudat 19.17 71 P Pn 18 31 54.7 +0.7
KHKI Kahang-Kahang 19.18 118 P Pn 18 31 55.1 +1.0
comp=Z,122nm,0.9s
TSM Tawau 19.55 79 P Pn 18 31 58.7 +0.3
MYLDM Lahad Datu 20.33 77 P Pn 18 32 08.2 +0.7
MYLDM Lahad Datu 20.33 77 P Pn 18 32 08.4 +0.9
comp=Z,38nm,1.1s
PCI Palu 21.27 94 P P 18 32 16.6 +1.9
baz=21,SNR=3.8
TTSI Tana Toraja 21.51 100 P P 18 32 26.3 +9.0
KAPI Kappang 21.86 105 P P 18 32 21.0 0.0
comp=Z,12nm,0.8s,baz=300,slow=7.2,SNR=5.9
KAPI Kappang 21.86 105 eP P 18 32 20.9 0.0
comp=Z,34nm,0.9s
KAPI Kappang 21.86 105 P P 18 32 21.4 +0.4
comp=Z,44nm,1.0s
TRD Trivandrum 22.93 290 ||ex x 18 35 45.5
MRSI Marisa 23.31 90 P P 18 32 40.4 +4.7
SHL Shillong 25.54 346 eP P 18 32 57.0 +1.1
SHL eS S 18 37 20.0 +3.6
HYB Hyderabad 25.79 311 i P P 18 32 56.0 -2.1
ODAN Odare 28.14 338 eP P 18 33 19.0 -0.3
comp=Z,20nm,0.5s
TAPN Taplejung 28.47 339 eP P 18 33 22.4 +0.1
comp=Z,68nm,0.9s
RAMN Ramite 28.52 337 eP P 18 33 23.0 +0.3
comp=Z,18nm,0.4s
PKI Pulchoki 29.55 336 eP P 18 33 31.6 -0.3
comp=Z,28nm,0.6s
PKIN Phulchoki 29.56 336 eP P 18 33 31.8 -0.1
comp=Z,8.3nm,0.5s
GUN Gumba 29.66 337 eP P 18 33 32.9 0.0
comp=Z,73nm,0.5s
LSA Lhasa 29.68 347 P P 18 33 33.0 -0.2
LSA Lhasa 29.68 347 eP P 18 33 33.0 -0.2
LSA pmax pmax
comp=Z,28nm,0.8s
LSA Lhasa 29.68 347 eP P 18 33 33.0 -0.2
comp=Z,28nm,0.8s
DMN Daman 29.71 335 eP P 18 33 33.0 -0.2
comp=Z,25nm,0.6s
KKN Kakani 29.80 336 eP P 18 33 33.7 -0.3
comp=Z,46nm,0.8s
MBWA Marble Bar 29.98 138 eP P 18 33 33.7 -1.7
POO Poona 30.08 307 ||i P P 18 33 34.0 -2.4
comp=Z,4.0nm,1.0s
KOLN Koldanda 30.50 333 eP P 18 33 40.3 +0.1
comp=Z,62nm,0.6s
DANN Dangsing 30.93 334 eP P 18 33 43.8 -0.3
comp=Z,39nm,0.6s
PYUN Piuthan 31.07 333 eP P 18 33 45.0 -0.1
comp=Z,43nm,0.7s
ENH Enshi 31.14 18 eP P 18 33 44.7 -0.9
comp=Z,11nm,0.4s
FITZ Fitzroy Crossi 32.50 126 P P 18 33 56.1 -1.5
comp=Z,5.3nm,0.8s,baz=284,slow=4.3,SNR=20
FITZ Fitzroy Crossi 32.50 126 P P 18 33 56.1 -1.5
FITZ Fitzroy Crossi 32.50 126 P P 18 33 56.4 -1.2
baz=33,SNR=10
AGRA Agra 33.00 325 eP P 18 34 01.0 -0.8
AGRA AMb AMB 18 34 05.1
comp=Z,52nm,0.2s
MEEK Meekatharra 33.34 146 P P 18 34 06.8 +2.0
baz=34,SNR=13
MORW Morawa 33.99 152 P P 18 34 13.2 +2.8
baz=34,SNR=12
AYAN Aya Nagar 34.41 325 eP P 18 34 12.7 -1.4
AYAN AMb AMB 18 34 13.8
comp=Z,17nm,0.8s
XAN Xi'an 34.51 15 P P 18 34 14.5 -0.4
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN LR LR
comp=N,100nm,14.5s
XAN LR LR
comp=E,79nm,19.1s
XAN LR LR
comp=Z,62nm,12.5s
KUDL Kundal 34.53 324 eP P 18 34 13.9 -1.2
KUDL AMb AMB 18 34 14.7
comp=Z,13nm,0.6s
TLE Tual 34.64 101 S S 18 40 03.8 +25
baz=35,SNR=6.0
KHET Khetri 34.88 323 eP P 18 34 16.8 -1.4
KHET AMb AMB 18 34 18.8
comp=Z,14nm,1.0s
MTN Manton Dam 34.95 114 P P 18 34 17.8 -1.1
baz=35,SNR=10
DDI Dehra Dun 35.33 328 eP P 18 34 21.8 -0.3
LZH Lanzhou 35.51 7 eP P 18 34 24.5 +0.9
LZH pP pP 18 34 28.8 -18
LZH pmax pmax
comp=Z,17nm,1.5s
KKR Kurukshetra 35.72 326 eP P 18 34 24.7 -0.6
KKR AMb AMB 18 34 27.4
comp=Z,106nm,0.4s
KLBR Kellerberrin 36.91 152 P P 18 34 37.9 +2.4
baz=37,SNR=13
NWAO Narrogin (SRO) 37.80 154 P P 18 34 44.5 +1.6
comp=Z,19nm,0.8s,baz=330,slow=8.3,SNR=8.6
NWAO LR LR 18 48 28.4
comp=Z,120nm,19.2s,baz=104,slow=33
NWAO Narrogin (SRO) 37.80 154 P P 18 34 45.2 +2.3
THN Thein Dam 38.22 328 eP P 18 34 44.9 -1.6
GTA Gaotai 38.51 1 ||P P 18 34 49.3 +0.3
GTA pP pP 18 34 58.5 -13
GTA sP sP 18 35 03.0 -20
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,97nm,5.2s
GTA LR LR
comp=N,89nm,19.0s
GTA LR LR
comp=E,150nm,19.9s
GTA LR LR
comp=Z,96nm,16.6s
RKGY Rocky Gully 39.13 156 P P 18 34 58.0 +3.9
baz=39,SNR=4.9
WRA Warramunga Arr 40.58 122 P P 18 35 05.2 -1.1
comp=Z,14nm,0.8s,baz=302,slow=9.1,SNR=90
WRA S S 18 41 03.5 -5.1
comp=Z,0.8nm,0.7s,baz=284,slow=15,SNR=4.9
WRA Warramunga Arr 40.58 122 P P 18 35 05.2 -1.1
WRA S S 18 41 03.5 -5.1
WRAB Tennant Creek 40.58 122 eP P 18 35 05.6 -0.7
WRAB pmax pmax
comp=Z,15nm,0.8s
WRAB Tennant Creek 40.58 122 eP P 18 35 05.6 -0.7
comp=Z,14nm,0.8s
ASAR Alice Springs 41.98 128 P P 18 35 17.0 -0.7
comp=Z,8.6nm,0.8s,baz=298,slow=7.8,SNR=177
ASAR ScP ScP 18 40 56.8 +3.9
comp=Z,0.7nm,0.7s,baz=308,slow=4.6,SNR=3.2
ASAR S S 18 41 26.9 -2.3
comp=Z,1.4nm,0.9s,baz=294,slow=15,SNR=9.3
ASAR Alice Springs 41.98 128 P P 18 35 17.0 -0.7
ASAR ScP ScP 18 40 56.8 +3.9
ASAR S S 18 41 26.9 -2.3
AS31 Alice Springs 41.98 128 eP P 18 35 16.9 -0.8
FORT Forrest 42.00 141 eP P 18 35 19.3 +1.6
comp=Z,44nm,0.6s
FORT Forrest 42.00 141 P P 18 35 19.8 +2.0
baz=42,SNR=26
BJT Baijiatuau 42.24 20 eP P 18 35 23.1 +3.5
comp=Z,17nm,0.6s
KBL Kabul 43.54 324 eP P 18 35 29.3 -1.1
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 43.54 324 eP P 18 35 29.3 -1.1
comp=Z,7.0nm,0.6s
KBL Kabul 43.54 324 P P 18 35 29.5 -0.8
baz=44,SNR=4.7
WMQ Urumqi 44.00 349 P P 18 35 34.8 +1.1
WMQ pmax pmax
comp=Z,28nm,1.0s
WMQ pmax pmax
comp=Z,130nm,6.0s
WMQ LR LR
comp=N,67nm,16.0s
WMQ LR LR
comp=E,83nm,25.0s
WMQ LR LR
comp=Z,66nm,23.0s
JNU Nakatsue 44.23 40 P P 18 35 36.1 +0.4
comp=Z,14nm,0.9s,baz=269,slow=3.4,SNR=5.1
JNU Nakatsue 44.23 40 P P 18 35 36.1 +0.4
QIS Mount Isa 45.33 120 P P 18 35 44.6 0.0
baz=46,SNR=4.7
KSAR Wonju Array Be 45.41 33 P P 18 35 45.9 +0.9
KSRS Korea Array 45.44 33 P P 18 35 45.9 +0.7
comp=Z,15nm,0.9s,baz=221,slow=8.2,SNR=33
KSRS LR LR 18 57 02.9
comp=Z,64nm,18.6s,baz=337,slow=39
ULHL Ulahol 45.98 337 P P 18 35 50.1 +0.5
SNR=35
KZA Kyzart 46.23 336 P P 18 35 52.6 +0.7
SNR=12
UCH Uchtor 46.66 335 P P 18 35 56.3 +1.0
SNR=5.2
TKM2 Tokmak 2 46.80 337 eP P 18 35 56.5 +0.4
TKM2 pmax pmax
comp=Z,35nm,0.7s
TKM2 Tokmak 2 46.80 337 eP P 18 35 56.5 +0.4
comp=Z,36nm,0.7s
TKM2 Tokmak 2 46.80 337 P P 18 35 56.8 +0.7
SNR=27
KBK Karagaybulak 46.84 336 P P 18 35 57.4 +1.1
SNR=40
AML Almayashu 46.93 335 P P 18 35 58.0 +0.7
SNR=44
AAK Ala-Archa 47.01 336 P P 18 35 58.4 +0.8
comp=Z,10nm,0.8s,baz=148,slow=6.2,SNR=30
AAK Ala-Archa 47.01 336 P P 18 35 58.4 +0.8
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 47.01 336 P P 18 35 58.4 +0.8
AAK Ala-Archa 47.01 336 P P 18 35 58.5 +0.8
SNR=13
FRU Bishkek 47.12 336 eP P 18 35 59.0 +0.7
CHMS Chumysh 47.20 336 P P 18 35 59.4 +0.4
SNR=20
EKS2 Erkin-Say 47.33 335 eP P 18 36 00.7 +0.7
EKS2 pmax pmax
comp=Z,24nm,0.8s
EKS2 Erkin-Say 47.33 335 eP P 18 36 00.7 +0.7
comp=Z,24nm,0.8s
EKS2 Erkin-Say 47.33 335 P P 18 36 00.9 +0.9
SNR=36
SONM Songino Array 47.40 7 P P 18 36 01.5 +1.0
comp=Z,9.2nm,0.4s,baz=189,slow=9.2,SNR=69
SONM ScP ScP 18 41 21.5 +6.8
comp=Z,0.6nm,0.9s,baz=191,slow=4.7,SNR=3.7
SONM Songino Array 47.40 7 P P 18 36 01.5 +1.0
SONM ScP ScP 18 41 21.5 +6.8
ULN Ulaanbaatar 47.52 8 eP P 18 36 02.3 +0.8
comp=Z,6.5nm,0.6s
USP Ospenovka 47.53 336 P P 18 36 02.2 +0.7
SNR=12
MK31 Makanchi Array 48.05 345 i P P 18 36 05.6 +0.1
MK31 pmax pmax
comp=Z,23nm,0.5s
MK31 Makanchi Array 48.05 345 eP P 18 36 05.4 0.0
MKAR Makanchi Array 48.05 345 P P 18 36 05.7 +0.2
comp=Z,29nm,0.5s,baz=157,slow=8.8,SNR=589
MKAR S S 18 42 59.6 +3.3
comp=Z,0.5nm,0.9s,baz=168,slow=15,SNR=3.3
MKAR LR LR 18 59 45.4
comp=Z,43nm,19.3s,baz=341,slow=40
MKAR Makanchi Array 48.05 345 P P 18 36 05.7 +0.2
MKAR S S 18 42 59.6 +3.3
MKAR pmax pmax
comp=Z,29nm,0.5s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,43nm,19.3s
MKAR Makanchi Array 48.05 345 P P 18 36 05.7 +0.2
MKAR S S 18 42 59.6 +3.3
BBOO Buckleboo 48.56 137 eP P 18 36 09.6 0.0
comp=Z,233nm,1.0s
BBOO Buckleboo 48.56 137 P P 18 36 10.1 +0.6
baz=49,SNR=30
CN2 Changchun 49.09 26 eP P 18 36 14.0 +0.6
CN2 pmax pmax
comp=Z,40nm,0.6s
KK31 Karatay Array 49.12 333 i P P 18 36 13.0 -0.7
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 49.12 333 eP P 18 36 13.4 -0.3
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 49.12 333 eP P 18 36 13.4 -0.3
comp=Z,7.1nm,0.7s
ZAK Zakamensk 49.63 4 eP P 18 36 18.2 +0.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s
MOY Mondy 50.79 2 eP P 18 36 27.5 +1.2
TLY Talaya 50.95 4 eP P 18 36 27.5 +0.2
TLY e 18 36 45.1
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,35nm,15.0s
CTA Charters Tower 51.02 117 P P 18 36 29.3 +0.9
comp=Z,5.0nm,0.7s,baz=315,slow=15,SNR=3.2
CTA Charters Tower 51.02 117 P P 18 36 29.3 +0.9
CTAO Charters Tower 51.02 117 eP P 18 36 28.2 -0.2
CTAO Charters Tower 51.02 117 eP P 18 36 28.1 -0.2
MJAR Matsushiro Arr 51.09 41 P P 18 36 28.5 -0.2
comp=Z,1.2nm,0.5s,baz=220,slow=7.9,SNR=7.3
MJAR LR LR 18 57 26.3
comp=Z,71nm,18.7s,baz=125,slow=35
MJAR Matsushiro Arr 51.09 41 P P 18 36 28.5 -0.2
IRK Irkutsk 51.55 4 eP P 18 36 32.7 +0.9
IRK pmax pmax
comp=Z,12nm,0.7s
MDJ Mudanjiang 51.60 28 eP P 18 36 34.2 +1.9
comp=Z,5.6nm,0.8s
QLP Quilpie 51.62 125 P P 18 36 33.7 +0.9
baz=52,SNR=26
HIA Hailar 51.64 18 eP P 18 36 34.3 +1.7
comp=Z,9.3nm,0.9s
STKA Stephens Creek 51.98 133 P P 18 36 36.1 +0.7
comp=Z,12nm,0.7s,baz=303,slow=7.5,SNR=41
STKA Stephens Creek 51.98 133 eP P 18 36 35.5 +0.1
STKA Stephens Creek 51.98 133 P P 18 36 36.1 +0.7
baz=52,SNR=28
USRK Ussurysk Arra 52.45 30 P P 18 36 39.6 +0.9
comp=Z,10nm,0.6s,baz=233,slow=5.1,SNR=31
KURK Kurchatov 52.62 344 d iP P 18 36 39.8 0.0
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 52.62 344 eP P 18 36 39.7 0.0
comp=Z,30nm,0.9s
OPO Ambohidratompo 54.04 246 P P 18 36 51.3 +0.4
comp=Z,1.4nm,0.5s,baz=293,slow=7.7,SNR=3.0
OPO Ambohidratompo 54.04 246 P P 18 36 51.3 +0.4
ZAA0 Zalesovo Array 54.26 350 eP P 18 36 51.2 -0.5
ZALV Zalesovo Beam 54.26 350 P P 18 36 51.7 0.0
comp=Z,15nm,0.4s,baz=179,slow=5.8,SNR=112
ZALV S S 18 44 27.7 +6.3
comp=Z,0.4nm,0.3s,baz=315,slow=15,SNR=5.0
ZALV Zalesovo Beam 54.26 350 P P 18 36 51.7 0.0
ZALV S S 18 44 27.7 +6.3
ZALV pmax pmax
comp=Z,15nm,0.4s
ZALV Zalesovo Beam 54.26 350 P P 18 36 51.7 0.0
ZALV S S 18 44 27.7 +6.3
CMSA Cobar Meteorol 54.90 130 P P 18 36 57.8 +1.1
baz=55,SNR=57
NVS Novosibirsk 55.39 349 eP P 18 36 59.3 -0.5
NVS eS S 18 44 37.5 +0.9
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS smax smax
comp=E,27nm,2.5s
KLR Kul'dur 56.05 26 eP P 18 37 02.7 -1.9
KLR e 18 37 23.8
KBD Kabd 56.14 305 eP P 18 37 04.9 -0.8
KBD AMb AMB 18 37 05.5
comp=Z,22nm,0.6s
RDF Al-Radifah 56.17 305 eP P 18 37 04.8 -1.1
RDF AMb AMB 18 37 06.2
comp=Z,79nm,1.1s
RAYN Ar Rayn 56.24 298 P P 18 37 06.0 -0.6
comp=Z,76nm,0.8s,SNR=5.5
NAY Al-Naaiem 56.53 305 eP P 18 37 07.4 -1.1
NAY AMb AMB 18 37 08.6
comp=Z,31nm,0.8s
MIB Mutribah 56.65 306 eP P 18 37 08.4 -0.9
MIB AMb AMB 18 37 09.7
comp=Z,68nm,1.0s
VOSK Vostochnaya 56.72 340 P P 18 37 08.6 -0.8
VOSK pmax pmax
comp=Z,13nm,0.4s
EIDS Eidsvold 56.91 121 P P 18 37 12.2 +1.0
baz=57,SNR=11
HABR Khabarovsk 56.98 28 eP P 18 37 09.1 -2.2
HABR e 18 38 03.7
HABR e 18 39 16.9
HABR eS S 18 45 03.0 +5.1
HABR e 18 45 16.0
HABR e*SS sS 18 45 20.8 -19
HABR eSS SS 18 48 54.4 +6.4
HABR pmax pmax
comp=Z,27nm,1.8s
HABR pmax pmax
comp=E,34nm,1.8s
HABR pmax pmax
comp=N,6.0nm,1.2s
HABR MLR MLR
comp=Z,41nm,18.0s
BVA0 Borovoye Array 57.17 340 P P 18 37 11.5 -1.0
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 57.23 340 d iP P 18 37 12.2 -0.8
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 57.23 340 eP P 18 37 11.7 -1.3
comp=Z,5.9nm,0.6s
ZRNK Zerenda 57.59 339 i P P 18 37 14.6 -0.9
ZRNK pmax pmax
comp=Z,3.0nm,0.3s
TOO Toolangi 57.62 137 P P 18 37 18.7 +2.7
baz=58,SNR=5.9
YNG Young 58.16 132 P P 18 37 21.6 +1.7
baz=58,SNR=5.8
AB31 Akbulak array 58.60 331 i P P 18 37 21.4 -1.2
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 58.60 331 eP P 18 37 21.6 -1.0
comp=Z,11nm,0.7s
ARMA Armidale 59.11 126 P P 18 37 29.1 +2.5
baz=59,SNR=7.5
BHD Baghdad 60.24 308 eP P 18 37 32.5 -1.7
BHD eS S 18 45 40.5 -0.2
GNI Garni 62.62 316 eP P 18 37 50.0 -0.4
comp=Z,9.2nm,0.8s
SVE Sverdlovsk 63.66 338 ||eP P 18 37 56.4 -0.2
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 64.17 337 d iP P 18 37 58.8 -1.2
ARU S S 18 46 36.7 +7.4
ARU SS SS 18 50 42.4 +2.0
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 64.17 337 eP P 18 37 59.0 -1.0
comp=Z,12nm,1.0s
ZEI Tsey 64.30 318 eP P 18 38 00.6 -0.8
ZEI pmax pmax
comp=Z,11nm,0.7s
KBZ Khabaz 65.36 319 P P 18 38 07.7 -0.3
comp=Z,9.8nm,0.8s,baz=120,slow=5.8,SNR=25
KBZ Khabaz 65.36 319 P P 18 38 07.7 -0.3
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 65.36 319 P P 18 38 07.7 -0.3
YAK Yakutsk 65.48 16 eP P 18 38 08.1 -0.2
YAK pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 65.48 16 eP P 18 38 08.0 -0.4
comp=Z,14nm,0.6s
KIV Kislovodsk 65.60 319 eP P 18 38 09.0 -0.6
KIV pmax pmax
comp=Z,17nm,1.0s
MALT Malatya 66.50 312 eP P 18 38 15.8 +0.2
MALT pmax pmax
comp=Z,10.0nm,1.0s
MALT Malatya 66.50 312 eP P 18 38 15.8 +0.2
comp=Z,9.9nm,1.0s
MALT Malatya 66.50 312 ||i P P 18 38 16.0 +0.4
EIL Elat 66.92 302 P P 18 38 18.6 +0.3
baz=67,SNR=7.5
BR131 Keskin Array S 70.48 312 eP P 18 38 38.9 -1.4
comp=Z,4.5nm,0.7s
BRTR Keskin Array B 70.48 312 P P 18 38 39.0 -1.4
comp=Z,5.5nm,0.7s,baz=132,slow=7.2,SNR=30
BRTR Keskin Array B 70.48 312 P P 18 38 39.0 -1.4
PETK Petropavlovsk- 71.34 33 P P 18 38 46.0 +0.9
comp=Z,2.2nm,0.9s,baz=253,slow=14,SNR=3.3
PETK LR LR 19 15 35.4
comp=Z,37nm,19.0s,baz=228,slow=40
PETK Petropavlovsk- 71.34 33 P P 18 38 46.0 +0.9
PETK pmax pmax
comp=Z,2.0nm,1.0s
PETK MLR MLR
comp=Z,37nm,19.0s
PETK Petropavlovsk- 71.34 33 P P 18 38 46.0 +0.9
TIXI Tiksi 73.40 10 ||eP P 18 38 56.9 -0.1
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 73.40 10 eP P 18 38 56.7 -0.3
comp=Z,8.9nm,0.8s
SEY Seymchan 73.64 23 ||eP P 18 38 59.2 +0.7
OBN Obninsk 73.77 328 c iP P 18 38 58.9 -0.5
OBN i 18 39 18.8
OBN pmax pmax
comp=Z,21nm,1.6s
KLMR Klimovskoe 74.79 334 eP P 18 39 03.5 -1.8
KLMR pmax pmax
comp=Z,24nm,1.6s
BOSA Boshof 75.79 240 P P 18 39 12.6 +0.7
comp=Z,0.9nm,0.5s,baz=162,slow=13,SNR=6.4
BOSA Boshof 75.79 240 P P 18 39 12.6 +0.7
AK02 Malin Array Si 76.50 322 eP P 18 39 13.7 -1.5
AKASG Malin Array Be 76.50 322 P P 18 39 14.1 -1.1
comp=Z,5.2nm,0.5s,baz=91,slow=5.2,SNR=25
AKASG PP PP 18 42 10.4 +2.0
comp=Z,1.1nm,0.7s,baz=111,slow=7.2,SNR=4.6
AKASG Malin Array Be 76.50 322 P P 18 39 14.1 -1.1
AKASG 18 42 10.4
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.7s

AKASG	**Malin Array Be**	**76.50**	**322**	P	**P**	**18**	**39**	**14.1 -1.1**
AKASG				PP	**PP**	**18**	**42**	**10.4 +2.0**
AK01	**Malin Array Si**	**76.50**	**322**	*eP*	**P**	**18**	**39**	**14.0 -1.3**
KIEV	**Kiev**	**76.51**	**322**	*eP*	**P**	**18**	**39**	**14.1 -1.2**
KIEV				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KIEV	**Kiev**	**76.51**	**322**	*eP*	**P**	**18**	**39**	**14.1 -1.2**
	comp=Z,9.0nm,0.9s							
TMCR	**Tamitsa**	**76.91**	**337**	*i* P	**P**	**18**	**39**	**16.5 -0.7**
TMCR				pmax	pmax			
	comp=Z,22nm,1.1s							
VRI	**Vrincioaia**	**76.93**	**317**	⇑*iP*	**P**	**18**	**39**	**18.1 +0.3**
VRI	**Vrincioaia**	**76.93**	**317**	⇑*iP*	**P**	**18**	**39**	**18.1 +0.3**
TESR		**77.13**	**318**	⇑*iP*	**P**	**18**	**39**	**19.0 +0.1**
MLR	**Muntele Rosu**	**77.39**	**317**	⇑*iP*	**P**	**18**	**39**	**20.9 +0.4**
RPZ	**Rata Peaks**	**77.86**	**135**	P	**P**	**18**	**39**	**24.3 +1.3**
	comp=Z,10nm,0.6s,baz=276,slow=3.0,SNR=8.9							
RPZ				LR	LR	19	11	59.0
	comp=Z,105nm,20.3s,baz=208,slow=34							
RPZ	**Rata Peaks**	**77.86**	**135**	P	**P**	**18**	**39**	**24.3 +1.3**
VOIR		**78.00**	**316**	⇑*iP*	**P**	**18**	**39**	**23.1 -0.7**
VOIR		**78.00**	**316**	⇑*iP*	**P**	**18**	**39**	**23.1 -0.7**
BUR08	**Bucovina Ar. S**	**78.34**	**319**	*eP*	**P**	**18**	**39**	**25.9 +0.2**
VTS	**Vitosha**	**78.79**	**313**	⇑*iP*	**P**	**18**	**39**	**27.8 -0.6**
VTS	**Vitosha**	**78.79**	**313**	⇑*iP*	**P**	**18**	**39**	**27.8 -0.6**
JOF	**Joensuu**	**79.18**	**335**	*eP*	**P**	**18**	**39**	**28.8 -1.0**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
JOF	**Joensuu**	**79.18**	**335**	*ep*	**P**	**18**	**39**	**28.8 -1.0**
	comp=Z,4.3nm,0.5s							
DRGR		**79.84**	**317**	⇑*iP*	**P**	**18**	**39**	**34.4 +0.5**
DRGR		**79.84**	**317**	⇑*iP*	**P**	**18**	**39**	**34.4 +0.5**
TRPA	**Tarpa**	**80.19**	**319**	⇑*iP*	**P**	**18**	**39**	**36.0 +0.4**
KWP	**Kalwaria Pacla**	**80.34**	**320**	*eP*	**P**	**18**	**39**	**36.7 +0.3**
KWP	**Kalwaria Pacla**	**80.34**	**320**	*eP*	**P**	**18**	**39**	**36.7 +0.3**
BZS	**Buzias**	**80.40**	**316**	⇑*iP*	**P**	**18**	**39**	**34.9 -1.9**
BZS	**Buzias**	**80.40**	**316**	⇑*iP*	**P**	**18**	**39**	**34.9 -1.9**
KOLS	**Kolonicke sedl**	**80.50**	**319**	*eP*	**P**	**18**	**39**	**38.1 +0.8**
KOLS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KOLS	**Kolonicke sedl**	**80.50**	**319**	*eP*	**P**	**18**	**39**	**38.1 +0.8**
SUW	**Suwalki**	**80.88**	**325**	*eP*	**P**	**18**	**39**	**38.7 -0.5**
SUW	**Suwalki**	**80.88**	**325**	*eP*	**P**	**18**	**39**	**38.8 -0.4**
SUW				pmax	pmax			
	comp=Z,48nm,1.1s							
SUW	**Suwalki**	**80.88**	**325**	*eP*	**P**	**18**	**39**	**38.8 -0.5**
	comp=Z,48nm,1.1s							
SUW	**Suwalki**	**80.88**	**325**	*eP*	**P**	**18**	**39**	**38.6 -0.5**
CRVS	**Cervenica-Dubn**	**81.02**	**319**	*eP*	P	18	39	43.9 +3.8
CRVS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**81.02**	**319**	*eP*	P	18	39	43.9 +3.8
FINES	**FINESS Array B**	**81.08**	**332**	P	**P**	**18**	**39**	**39.8 -0.2**
	comp=Z,9.2nm,0.5s,baz=102,slow=5.7,SNR=73							
FINES	**FINESS Array B**	**81.08**	**332**	P	**P**	**18**	**39**	**39.8 -0.2**
KAF	**Kangasniemi**	**81.15**	**333**	*eP*	**P**	**18**	**39**	**39.0 -1.4**
KAF				pmax	pmax			
	comp=Z,14nm,0.6s							
KAF	**Kangasniemi**	**81.15**	**333**	*ep*	**P**	**18**	**39**	**39.0 -1.4**
	comp=Z,14nm,0.6s							
PSZ	**Piszkesteto**	**81.91**	**318**	*eP*	**P**	**18**	**39**	**44.6 -0.3**
PSZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PSZ	**Piszkesteto**	**81.91**	**318**	*eP*	**P**	**18**	**39**	**44.6 -0.3**
	comp=Z,5.8nm,0.8s							
PSZ	**Piszkesteto**	**81.91**	**318**	⇑*iP*	**P**	**18**	**39**	**44.5 -0.3**
VYHS	**Vyhne**	**82.69**	**319**	*eP*	**P**	**18**	**39**	**49.0 +0.2**
VYHS				pmax	pmax			
	comp=Z,9.0nm,1.6s							
VYHS	**Vyhne**	**82.69**	**319**	*eP*	**P**	**18**	**39**	**49.0 +0.2**
OKC	**Ostrava-Krasne**	**83.30**	**320**	*eP*	**P**	**18**	**39**	**51.9 0.0**
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**18**	**39**	**52.6 +0.3**
	comp=Z,1.6nm,0.6s,baz=95,slow=4.5,SNR=5.6							
ARCES				LR	LR	19	22	36.2
	comp=Z,42nm,18.1s,baz=76,slow=40							
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**18**	**39**	**52.6 +0.3**
MORC	**Moravsky Berou**	**83.68**	**320**	⇑*iP*	**P**	**18**	**39**	**54.2 +0.2**
MORC	**Moravsky Berou**	**83.68**	**320**	⇑*iP*	**P**	**18**	**39**	**54.2 +0.2**
DPC	**Dobruska-Polom**	**84.52**	**320**	*eP*	**P**	**18**	**39**	**59.1 +0.9**
GERES	**GERESS Array B**	**86.11**	**319**	P	**P**	**18**	**40**	**05.4 -0.8**
	comp=Z,3.0nm,0.9s,baz=64,slow=3.1,SNR=11							
GERES	**GERESS Array B**	**86.11**	**319**	P	**P**	**18**	**40**	**05.4 -0.8**
KHC	**Kasperske Hory**	**86.20**	**319**	*eP*	**P**	**18**	**40**	**05.0 -1.6**
KHC	**Kasperske Hory**	**86.20**	**319**	*eP*	**P**	**18**	**40**	**05.2 -1.4**
KHC				*ep*	**pP**	**18**	**40**	**32.2 -0.6**
WET	**Wettzell**	**86.67**	**319**	*eP*	**P**	**18**	**40**	**09.1 +0.3**
WET				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WET	**Wettzell**	**86.67**	**319**	*eP*	**P**	**18**	**40**	**09.1 +0.3**
	comp=Z,6.0nm,0.9s							
ROTZ	**Rotzenmuhle**	**87.13**	**320**	*eP*	**P**	**18**	**40**	**11.9 +0.9**
	comp=Z,3.0nm,0.7s							
NB2	**NORSAR Subarra**	**88.11**	**331**	P	**P**	**18**	**40**	**14.9 -0.6**
	comp=Z,3.9nm,0.8s,baz=96,slow=4.6							
NOA	**NORSAR Array B**	**88.11**	**331**	P	**P**	**18**	**40**	**15.5 0.0**
	comp=Z,3.1nm,0.8s,baz=96,slow=4.7,SNR=8.4							
NOA				PP	**PP**	**18**	**43**	**41.0 -2.4**
	comp=Z,0.9nm,0.7s,baz=77,slow=8.0,SNR=3.9							
NOA	**NORSAR Array B**	**88.11**	**331**	P	**P**	**18**	**40**	**15.5 0.0**
NOA				PP	**PP**	**18**	**43**	**41.0 -2.4**
CLZ	**Clausthal**	**88.35**	**322**	*eP*	**P**	**18**	**40**	**17.5 +0.6**
CLZ				pmax	pmax			
	comp=Z,22nm,1.6s							
CLZ	**Clausthal**	**88.35**	**322**	*eP*	**P**	**18**	**40**	**17.5 +0.6**
	comp=Z,22nm,1.6s							
KEST	**Kesra**	**89.00**	**306**	P	**P**	**18**	**40**	**21.4 +1.0**
	comp=Z,1.4nm,0.8s,baz=292,slow=21,SNR=4.9							
KEST	**Kesra**	**89.00**	**306**	P	**P**	**18**	**40**	**21.4 +1.0**
TNS	**Taunus Mts**	**89.56**	**320**	*eP*	**P**	**18**	**40**	**23.4 +0.8**
TNS				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TNS	**Taunus Mts**	**89.56**	**320**	*eP*	**P**	**18**	**40**	**23.4 +0.8**
	comp=Z,8.0nm,0.8s							
CDF	**Champ du Feu**	**90.36**	**318**	*eP*	**P**	**18**	**40**	**26.1 -0.3**
	comp=Z,8.7nm,0.9s							
CDF	**Champ du Feu**	**90.36**	**318**	*eP*	**P**	**18**	**40**	**26.1 -0.3**
CDF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CDF	**Champ du Feu**	**90.36**	**318**	*eP*	**P**	**18**	**40**	**26.1 -0.3**
	comp=Z,8.7nm,0.9s							
QSPA	**South Pole Qui**	**90.67**	**180**	P	**P**	**18**	**40**	**29.4 +1.9**
	comp=Z,1.3nm,0.9s,baz=62,slow=5.7,SNR=7.6							
QSPA	**South Pole Qui**	**90.67**	**180**	P	**P**	**18**	**40**	**29.4 +1.9**
LPG	**La Plagne**	**90.81**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
	comp=Z,23nm,0.9s							
LPG	**La Plagne**	**90.81**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
LPG				pmax	pmax			
	comp=Z,23nm,0.9s							
LPG	**La Plagne**	**90.81**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
	comp=Z,23nm,0.9s							
LPL	**La Plagne**	**90.82**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
	comp=Z,16nm,0.8s							
LPL	**La Plagne**	**90.82**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
LPL				pmax	pmax			
	comp=Z,16nm,0.8s							
LPL	**La Plagne**	**90.82**	**315**	*eP*	**P**	**18**	**40**	**28.9 +0.1**
	comp=Z,16nm,0.8s							
HAU	**Haudompre**	**91.00**	**318**	*eP*	**P**	**18**	**40**	**29.1 -0.2**
	comp=Z,22nm,0.9s							
HAU	**Haudompre**	**91.00**	**318**	*eP*	**P**	**18**	**40**	**29.1 -0.2**
HAU				pmax	pmax			
	comp=Z,22nm,0.9s							
HAU	**Haudompre**	**91.00**	**318**	*eP*	**P**	**18**	**40**	**29.1 -0.2**
	comp=Z,22nm,0.9s							
CABF	**La Chapelle**	**91.23**	**316**	*eP*	**P**	**18**	**40**	**30.8 +0.3**
	comp=Z,7.9nm,0.6s							
CABF	**La Chapelle**	**91.23**	**316**	*eP*	**P**	**18**	**40**	**30.8 +0.3**
CABF				pmax	pmax			
	comp=Z,8.0nm,0.6s							
CABF	**La Chapelle**	**91.23**	**316**	*eP*	**P**	**18**	**40**	**30.8 +0.3**
	comp=Z,7.9nm,0.6s							
ORIF	**Oris-en-Rattie**	**91.44**	**315**	*eP*	**P**	**18**	**40**	**32.0 +0.5**
	comp=Z,12nm,0.9s							
ORIF	**Oris-en-Rattie**	**91.44**	**315**	*eP*	**P**	**18**	**40**	**32.0 +0.5**
ORIF				pmax	pmax			
	comp=Z,12nm,0.9s							
ORIF	**Oris-en-Rattie**	**91.44**	**315**	*eP*	**P**	**18**	**40**	**32.0 +0.5**
	comp=Z,12nm,0.9s							
SFTF	**Sexfontaines**	**91.86**	**318**	*eP*	**P**	**18**	**40**	**33.4 +0.1**
	comp=Z,26nm,0.7s							
SFTF	**Sexfontaines**	**91.86**	**318**	*eP*	**P**	**18**	**40**	**33.4 +0.1**
	comp=Z,26nm,0.7s							
BAIF	**Baives**	**92.29**	**320**	*eP*	**P**	**18**	**40**	**36.4 +1.2**
	comp=Z,12nm,0.7s							
BAIF	**Baives**	**92.29**	**320**	*eP*	**P**	**18**	**40**	**36.4 +1.2**
BAIF				pmax	pmax			
	comp=Z,12nm,0.7s							
BAIF	**Baives**	**92.29**	**320**	*eP*	**P**	**18**	**40**	**36.4 +1.2**
	comp=Z,12nm,0.7s							
LOR	**Lormes**	**92.72**	**317**	*eP*	**P**	**18**	**40**	**37.3 0.0**
	comp=Z,20nm,0.9s							
LOR	**Lormes**	**92.72**	**317**	*eP*	**P**	**18**	**40**	**37.3 0.0**
	comp=Z,20nm,0.9s							
SMF	**Signal de Mont**	**92.77**	**317**	*eP*	**P**	**18**	**40**	**37.5 0.0**
	comp=Z,17nm,0.8s							
SMF	**Signal de Mont**	**92.77**	**317**	*eP*	**P**	**18**	**40**	**37.5 0.0**
SMF				pmax	pmax			
	comp=Z,17nm,0.8s							
SMF	**Signal de Mont**	**92.77**	**317**	*eP*	**P**	**18**	**40**	**37.5 0.0**
	comp=Z,17nm,0.8s							
TORD	**Torodi Ar. Bea**	**96.59**	**283**	P	**P**	**18**	**40**	**55.6 0.0**
	comp=Z,0.2nm,0.5s,baz=98,slow=6.2,SNR=3.9							
TORD	**Torodi Ar. Bea**	**96.59**	**283**	P	**P**	**18**	**40**	**55.6 0.0**
ILAR	**Eielson Array**	**99.57**	**23**	PP	PP	18	45	12.7 +0.2
	comp=Z,0.7nm,0.8s,baz=288,slow=6.1,SNR=5.7							
ILAR	**Eielson Array**	**99.57**	**23**	PP	PP	18	45	12.7 +0.2
YKA	**Yellowknife Ar**	**112.16**	**16**	PP	PP	18	46	44.3 -0.7
	comp=Z,0.8nm,1.0s,baz=323,slow=6.7,SNR=7.7							
YKA	**Yellowknife Ar**	**112.16**	**16**	PP	PP	18	46	44.3 -0.7
TXAR	**Lajitas Array**	**143.29**	**34**	PKhKP	PKPpre	18	46	57.9
	comp=Z,0.2nm,0.5s,baz=212,slow=3.2,SNR=3.3							
TXAR	**Lajitas Array**	**143.29**	**34**	PKPpre	PKPpre	18	46	57.9
JCT	**Junction City**	**144.35**	**28**	*e*PKIKP	**PKPdf**	**18**	**47**	**01.2 -0.2**
JCT	**Junction City**	**144.35**	**28**	*e*PKPdf	**PKPdf**	**18**	**47**	**01.2 -0.2**

RSPR 25 18:28:17.1, 18.91N×67.30W, h20km±17km, 5C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.47**	**158**	⇓*eP*		Pb		18 28 24.7	-2.1
AGPR	**Aguadilla, PR**	**0.47**	**158**	*eS*		Sb		18 28 31.0	-2.4
CRPR	**Cabo Rojo, PR**	**0.92**	**169**	⇓*eP*		Pb		18 28 32.2	-2.1
CRPR	**Cabo Rojo, PR**	**0.92**	**169**	*eS*		Sb		18 28 42.8	-3.3
CRPR	**Cabo Rojo, PR**	**0.92**	**169**	⇑*eP*		Pb		18 28 32.1	-2.3
CRPR	**Cabo Rojo, PR**	**0.92**	**169**	*eS*		Sb		18 28 43.7	-2.4
OBIP	**Obispado Ponce**	**1.08**	**143**	⇑*eP*		Pn		18 28 34.4	-2.8
OBIP	**Obispado Ponce**	**1.08**	**143**	⇑*eP*		Pn		18 28 34.3	-2.9
OBIP	**Obispado Ponce**	**1.08**	**143**	*eS*		Sb		18 28 48.2	-2.7
MTP	**Monte Pirata**	**1.84**	**116**	⇑*eP*		Pn		18 28 45.4	-2.2
MTP	**Monte Pirata**	**1.84**	**116**	*eS*		Sn		18 29 07.3	-3.0
MTP	**Monte Pirata**	**1.84**	**116**	⇑*eP*		Pn		18 28 45.4	-2.2
MTP	**Monte Pirata**	**1.84**	**116**	*eS*		Sn		18 29 06.8	-3.6

KRSC 25 18:36:19.6±0.8, 55.31N×160.89E, h163km±33km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.43**	**267**	P		P	Pn	18 36 43.1	+0.9
TUMR				*i* S			Sn	18 37 00.9	+1.3
KMNR	**Kamenistaya**	**0.58**	**321**	*eP*		Pn	Pn	18 36 44.0	+1.1
KMNR				*eS*		Sn	Sn	18 37 02.2	+1.3
BZGR	**Bezymyannyi-Gr**	**0.64**	**350**	P		Pn	Pn	18 36 44.8	+1.6
BZMR	**Bezymyannaya**	**0.67**	**340**	P		Pn	Pn	18 36 44.2	+0.8
BZWR	**Bezymyannyi-We**	**0.69**	**341**	P		Pn	Pn	18 36 44.3	+0.7
ZLN	**Zelenaya**	**0.71**	**356**	P		Pn	Pn	18 36 44.9	+1.3
ZLN				*i* S			Sn	18 37 03.3	+1.1
KPT	**Kopyto**	**0.76**	**330**	P		Pn	Pn	18 36 44.2	+0.3
MKZ	**Mys Kozlova**	**0.90**	**147**	*eP*		Pn	Pn	18 36 46.0	+1.2
MKZ				*i* S			Sn	18 37 05.7	+1.7
KRSR	**Krestovskiy**	**0.93**	**349**	P		Pn	Pn	18 36 45.6	+0.5
KOZ	**Kozyrevsk**	**0.94**	**323**	P		Pn	Pn	18 36 45.7	+0.5
KOZ				*i* S			Sn	18 37 05.0	+0.1
KLY	**Klyuchi**	**1.01**	**352**	P		Pn	Pn	18 36 47.0	+1.4
SRDR	**Sredinnyy**	**1.21**	**327**	*eP*		Pn	Pn	18 36 47.5	+0.1
ESO	**Esso**	**1.39**	**297**	*eP*		Pn	Pn	18 36 49.3	+0.3
KBTR	**Krutoberegovo**	**1.41**	**50**	*eP*		Pn	Pn	18 36 49.9	+0.7
KBTR				*eS*		Sn	Sn	18 37 11.7	-0.4
SPN	**Mys Shipunski**	**2.27**	**193**	P		Pn	Pn	18 36 58.9	+0.2
SPN				*i* S			Sn	18 37 28.0	-0.8
SDLR	**Sedlovina**	**2.35**	**211**	*eP*		Pn	Pn	18 37 01.5	+1.8
GNL	**Ganaly**	**2.36**	**228**	P		Pn	Pn	18 37 01.3	+1.5
SMAR	**Somma**	**2.39**	**212**	P		Pn	Pn	18 37 01.9	+1.6
AVH	**Avacha**	**2.41**	**212**	P		Pn	Pn	18 37 02.3	+2.0
UGLR	**Uglovaya**	**2.43**	**211**	*eP*		Pn	Pn	18 37 02.6	+2.0
PET	**Petropavlovsk**	**2.64**	**211**	P		Pn	Pn	18 37 04.8	+1.8
BKI	**Bering**	**2.91**	**90**	*eP*		Pn	Pn	18 37 07.9	+1.6
BKI				*i* S			Sn	18 37 43.3	+0.8
RUS	**Russkaya**	**3.21**	**207**	P		Pn	Pn	18 37 10.7	+0.7
ASAK	**Asacha**	**3.43**	**212**	*eP*		Pn	Pn	18 37 14.1	+1.2

VIE 25 18:38:06.4±0.6, 44.14N×15.42E, h10km, mb2.3/3, ML2.4/4, 5C-2D, Error ellipse: s-maj=6.2km s-min=4.5km az=109.0 109 km NW of Split, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.58**	**317**	*i* Pg		Pg	Pg	18 38 15.1	-2.5
NVLJ				Sg		Sg	Sg	18 38 25.4	+0.1
BOJS	**Bojanci**	**1.37**	**355**	*i* Sn		Sg	Sg	18 38 51.1	+0.5
BOJS									
	comp=Z,25nm,0.3s								
VISS	**Visnje**	**1.71**	**346**	*i* Pn		Pn	Pn	18 38 36.5	+0.2
VISS				*i* Sn		Sg	Sg	18 39 01.7	+0.1
VISS									
	comp=Z,92nm,0.6s								
PDKS	**Podkum**	**1.94**	**351**	*i* Pn		Pn	Pn	18 38 40.3	+0.8
PDKS				*i* Sn		Sb	Sb	18 39 05.9	-0.5
STON	**Ston**	**2.09**	**127**	*e*Pn		Pn	Pn	18 38 38.9	-2.5
STON				Sn		Sn	Sn	18 39 07.8	+0.3
VOY	**Vojsko**	**2.18**	**331**	*e*Sn		Sg	Sg	18 39 15.1	-1.6
VOJS	**Vojsko**	**2.18**	**331**	*i* Pn		Pn	Pn	18 38 42.4	-0.5
MYKA	**Terra Mystica**	**2.79**	**334**	⇑*i*Pn		Pn	Pn	18 38 51.2	0.0
ARSA	**Arzberg**	**3.11**	**1**	⇑*i*Pn		Pn	Pn	18 38 55.6	0.0
ARSA				⇓*i*Sn		Sn	Sn	18 39 33.2	+0.3
MOA	**Molln**	**3.80**	**348**	⇑*i*Pn		Pn	Pn	18 39 04.6	-0.4
MOA				⇑*i*Sn		Sn	Sn	18 39 51.6	+1.8
CONA	**Conrad Observa**	**3.80**	**4**	⇓*i*Pn		Pn	Pn	18 39 05.3	+0.2
CONA				⇑*i*Sn		Sn	Sn	18 39 50.5	+0.5
VYHS	**Vyhne**	**4.96**	**27**	*e*PN		Pn	Pn	18 39 20.8	-0.1
VYHS				*e*SN		Sn	Sn	18 40 16.1	-2.2
CRVS	**Cervenica-Dubn**	**6.33**	**39**	*e*		Pn	Pn	18 39 31.6	-8.2

IDC 25 18:55:11.9±3.0, 4.01S×151.55E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=110.9km s-min=42.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**225**	P		P	P	19 00 19.8	+0.5
	0.9nm,0.4s,baz=51,slow=10,SNR=18								
ASAR	**Alice Springs**	**25.92**	**219**	P		P	P	19 00 45.4	-0.7
	0.2nm,0.4s,baz=54,slow=9.2,SNR=8.7								
FITZ	**Fitzroy Crossi**	**28.96**	**239**	P		P	P	19 01 14.0	+0.7
	0.4nm,0.4s,baz=48,slow=8.7,SNR=7.8								
TORD	**Torodi Ar. Bea**	**148.87**	**289**	PKPbc		PKPbc	PKPbc	19 15 01.8	-0.9
	0.2nm,0.4s,baz=79,slow=1.9,SNR=3.5								

*JMA **25** 18:55:48.3±0.8, 31.94N×139.12E, h255km, M3.1*
*IDC **25** 18:55:49.1±5.8, 31.82N×138.22E, h227km±128km, mb2.6/2, mb1 2.8/3, mb1mx2.5/25, mbtmp2.5/3, Error ellipse: s-maj=248.9km s-min=24.7km az=63.0*

ISC 25 18:55:48.9±1.4, 32.1N±0.1×139.1E±0.1, h250km, n11, σ2s15/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.14**	**30**	P		Pn	Pn	18 56 28.5	+3.8
	3.7nm,0.3s,baz=232,slow=19,SNR=3.1								
HMMJ	**Hamamatsu 2**	**2.95**	**337**	P		**Pn**	**Pn**	**18 56 43.0**	**+2.2**
BSO1	**Boso 1**	**2.97**	**31**	P		**Pn**	**Pn**	**18 56 42.8**	**+2.4**
JIE	**Ise**	**3.02**	**319**	P		**Pn**	**Pn**	**18 56 43.1**	**+1.6**
JKN2	**Miekihoku**	**3.17**	**312**	P		**Pn**	**Pn**	**18 56 44.3**	**+1.2**
JRY	**Ryogami san**	**3.88**	**358**	P		**Pn**	**Pn**	**18 56 54.2**	**+2.9**
JAG	**Ashikaga**	**4.29**	**4**	P		**Pn**	**Pn**	**18 56 57.3**	**+1.2**
JAG				S		S	S	18 57 46.3	-3.3
MJAR	**Matsushiro Arr**	**4.46**	**351**	P		**Pn**	**Pn**	**18 56 59.9**	**+1.8**
	0.4nm,0.3s,baz=174,slow=12,SNR=5.6								
JHO	**Hitachi**	**4.63**	**15**	P		**Pn**	**Pn**	**18 57 00.7**	**+0.6**
JHO				*e*S		**S**	**S**	**18 57 54.2**	**-2.7**
MKAR	**Makanchi Array**	**45.27**	**306**	P		**P**	**P**	**19 03 40.8**	**-1.0**
	0.1nm,0.5s,baz=88,slow=9.7,SNR=4.6								
WRA	**Warramunga Arr**	**51.98**	**186**	P		**P**	**P**	**19 04 32.2**	**-0.6**
	0.2nm,0.4s,baz=0.6,slow=7.5,SNR=8.0								

IDC 25 18:55:56.1±8.0, 31.57S×179.99E, h348km±91km, mb2.8/3, mb1 3.0/4, mb1mx2.9/18, mbtmp2.9/4, Error ellipse: s-maj=98.5km s-min=37.8km az=179.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.08**	**199**	P		P	Pn	18 57 40.7	+1.6
	1.1nm,0.3s,baz=334,slow=13,SNR=19								
URZ				S			S	18 59 00.8	-2.1
	2.8nm,0.3s,baz=281,slow=23,SNR=14								
STKA	**Stephens Creek**	**32.54**	**259**	P		P	P	19 01 57.5	+1.6
	1.7nm,1.0s,baz=100,slow=6.1,SNR=3.3								
ASAR	**Alice Springs**	**41.34**	**269**	P		P	P	19 03 08.2	-1.2
	0.4nm,0.9s,baz=112,slow=7.1,SNR=3.9								
WRA	**Warramunga Arr**	**42.44**	**275**	P		P	P	19 03 17.6	-0.6
	0.4nm,0.5s,baz=110,slow=8.1,SNR=7.4								
ARCES	**ARCESS Array B**	**139.35**	**347**	PKP		PKPdf	PKPdf	19 14 42.6	+1.4
	2.5nm,0.9s,baz=7.6,slow=2.7,SNR=3.5								
FINES	**FINESS Array B**	**145.62**	**338**	PKPbc		PKPdf	PKPdf	19 14 52.4	-0.1
	1.9nm,0.8s,baz=39,slow=5.3,SNR=7.9								

*IDC **25** 19:11:00.8±1.3, 20.08N×121.37E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, Error ellipse: s-maj=102.9km s-min=15.4km az=67.0*
*MAN **25** 19:11:10, 19.77N×120.83E, h67km, mb4.7, ML3.6, MS3.6*

ISC 25 19:11:05.9±0.9, 19.89N±0.08×121.2E±0.2, h34km, n12, σ1s36/12, mb3.7/8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.64**	**198**	⇑*iP*		**Pb**	**Pb**	**19 11 35.2**	**-0.3**
ABRA	**Dolores**	**2.27**	**191**	*eP*		**Pb**	**Pb**	**19 11 44.4**	**-1.9**
ABRA				*eS*		**Sn**	**Sn**	**19 12 07.4**	**-0.4**
CAUP	**Cauayan**	**2.99**	**168**	*eP*		**Pb**	**Pb**	**19 11 56.7**	**-1.9**
BALP	**Baler**	**4.14**	**174**	*eP*		Pb	Pb	19 12 12.7	-5.5
SONM	**Songino Array**	**30.35**	**340**	P		**P**	**P**	**19 17 13.8**	**-0.8**
	0.1nm,0.4s,baz=156,slow=11,SNR=3.0								
MKAR	**Makanchi Array**	**41.49**	**319**	P		**P**	**P**	**19 18 49.3**	**-0.5**
	0.5nm,0.6s,baz=117,slow=9.6,SNR=8.9								
WRA	**Warramunga Arr**	**41.63**	**161**	P		**P**	**P**	**19 18 50.7**	**-0.4**
	0.8nm,0.4s,baz=342,slow=9.2,SNR=7.6								
ZALV	**Zalesovo Beam**	**43.88**	**330**	P		**P**	**P**	**19 19 07.8**	**-1.2**

	6.2nm,0.8s,baz=140,slow=9.7,SNR=40								
TXAR					PcP	**PcP**	**19 45 24.7**	**+2.3**
	0.4nm,0.5s,baz=158,slow=6.5,SNR=3.4								
TXAR	**Lajitas Array**	**23.41**	**321**		P	**P**	**19 41 37.9**	**+0.9**
TXAR					PcP	**PcP**	**19 45 24.7**	**+2.3**
SWET	**Sewanee**	**23.42**	**2**	*eP*		**P**	**19 41 34.7**	**-2.3**
MIAR	**Mount Ida**	**23.50**	**346**	*eP*		**P**	**19 41 37.3**	**-0.4**
	7.2nm,0.6s								
TKL	**Tuckaleechee C**	**24.02**	**7**		P	**P**	**19 41 42.9**	**+0.3**
	3.7nm,0.4s,baz=178,slow=9.6,SNR=4.0								
TKL	**Tuckaleechee C**	**24.02**	**7**		P	**P**	**19 41 42.9**	**+0.3**
WMOK	**Wichita Mounta**	**25.30**	**337**	*eP*		**P**	**19 41 53.8**	**-0.4**
	17nm,0.9s								
SAML	**Samuel**	**31.36**	**130**	*eP*		**P**	**19 42 47.4**	**-1.1**
	2.3nm,0.7s								
ECSD	**EROS Data Cent**	**32.97**	**347**	*eP*		**P**	**19 43 00.6**	**-1.6**
	7.6nm,0.8s								
PDAR	**Pinedale Array**	**36.62**	**332**		P	**P**	**19 43 34.8**	**+0.7**
	1.2nm,0.6s,baz=127,slow=9.9,SNR=10.0								
PDAR	**Pinedale Array**	**36.62**	**332**		P	**P**	**19 43 34.8**	**+0.7**
HWUT	**Hardware Ranch**	**36.72**	**329**	*eP*		**P**	**19 43 35.1**	**+0.2**
	4.5nm,0.7s								
SIV	**San Ignacio**	**37.65**	**136**		P	**P**	**19 43 43.7**	**+0.9**
	10nm,0.6s,baz=322,slow=8.9,SNR=47								
SIV	**San Ignacio**	**37.65**	**136**		P	**P**	**19 43 43.7**	**+0.9**
TPAW	**Teton Pass**	**37.82**	**331**	*eP*		**P**	**19 43 44.6**	**+0.2**
	2.4nm,0.6s								
NVAR	**Mina Array Bea**	**38.53**	**319**		P	**P**	**19 43 51.6**	**+1.3**
	0.6nm,0.5s,baz=112,slow=12,SNR=3.2								
NVAR					PcP	**PcP**	**19 46 04.4**	**+2.0**
	1.1nm,0.7s,baz=99,slow=4.7,SNR=4.0								
NVAR	**Mina Array Bea**	**38.53**	**319**		P	**P**	**19 43 51.6**	**+1.3**
NVAR					PcP	**PcP**	**19 46 04.4**	**+2.0**
ULM	**Lac du Bonnet**	**39.11**	**351**		P	**P**	**19 43 52.7**	**-2.0**
	7.0nm,0.8s,baz=162,slow=8.8,SNR=7.0								
ULM	**Lac du Bonnet**	**39.11**	**351**		P	**P**	**19 43 52.7**	**-2.0**
MCMT	**McKenzie Canyo**	**39.73**	**331**	*eP*		**P**	**19 44 01.2**	**+0.9**
	1.2nm,0.8s								
LRM	**Limekiln Ridge**	**40.29**	**332**	*eP*		**P**	**19 44 05.8**	**+0.9**
	10nm,0.4s								
YKA	**Yellowknife Ar**	**54.43**	**345**		P	**P**	**19 45 53.1**	**-1.0**
	2.1nm,0.7s,baz=140,slow=7.4,SNR=58								
YKA					PcP	**PcP**	**19 46 57.0**	**-0.3**
	0.4nm,0.5s,baz=147,slow=4.2,SNR=6.3								
YKA	**Yellowknife Ar**	**54.43**	**345**		P	**P**	**19 45 53.1**	**-1.0**
YKA					PcP	**PcP**	**19 46 57.0**	**-0.3**
ILAR	**Eielson Array**	**66.86**	**336**		P	**P**	**19 47 18.5**	**-0.3**
	0.8nm,0.6s,baz=143,slow=4.7,SNR=12								
ILAR	**Eielson Array**	**66.86**	**336**		P	**P**	**19 47 18.5**	**-0.3**
SONM	**Songino Array**	**119.53**	**350**		PKP	**PKPdf**	**19 55 16.9**	**+0.1**
	0.6nm,0.6s,baz=351,slow=11.0,SNR=7.1								
SONM	**Songino Array**	**119.53**	**350**		PKP	**PKPdf**	**19 55 16.9**	**+0.1**
MKAR	**Makanchi Array**	**120.98**	**9**		PKP	**PKPdf**	**19 55 18.8**	**-0.8**
	0.1nm,0.3s,baz=332,slow=2.3,SNR=2.6								
MKAR	**Makanchi Array**	**120.98**	**9**		PKP	**PKPdf**	**19 55 18.8**	**-0.8**
KSRS	**Korea Array**	**121.11**	**328**		PKP	**PKPdf**	**19 55 21.4**	**+1.5**
	0.9nm,0.6s,baz=22,slow=2.8,SNR=3.8								
KSAR	**Wonju Array Be**	**121.14**	**328**		PKP	**PKPdf**	**19 55 21.4**	**+1.4**
ASAR	**Alice Springs**	**139.38**	**247**		PKhKP	PKPpre	19 55 50.9	
	0.2nm,0.7s,baz=124,slow=3.3,SNR=3.9								
ASAR					PKP	**PKiKP**	**19 55 55.8**	**-1.4**
	0.4nm,0.7s,baz=102,slow=1.9,SNR=7.1								
ASAR	**Alice Springs**	**139.38**	**247**		PKPpre	PKPpre	19 55 50.9	
ASAR					PKP	**PKiKP**	**19 55 55.9**	**-1.4**
WRA	**Warramunga Arr**	**139.46**	**253**		PKP	**PKPdf**	**19 55 56.7**	**+1.6**
	0.4nm,0.6s,baz=91,slow=2.6,SNR=3.5								
WRA	**Warramunga Arr**	**139.46**	**253**		PKP	**PKPdf**	**19 55 56.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**147.84**	**255**		PKPbc	**PKPab**	**19 56 13.9**	**-1.4**
	1.8nm,0.8s,baz=288,slow=3.2,SNR=3.1								
FITZ	**Fitzroy Crossi**	**147.84**	**255**		PKPbc	**PKPab**	**19 56 13.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**149.45**	**349**		PKP	**PKPdf**	**19 56 13.4**	**+0.9**
	1.8nm,0.6s,baz=317,slow=2.6,SNR=8.6								
CMAR					PKPbc	**PKiKP**	**19 56 17.8**	**-0.3**
	0.8nm,0.6s,baz=16,slow=7.6,SNR=5.4								
CMAR	**Chiang Mai Arr**	**149.45**	**349**		PKP	**PKPdf**	**19 56 13.4**	**+0.9**
CMAR					PKPbc	**PKiKP**	**19 56 17.8**	**-0.3**

*ISCJB **25** 19:50:12.4±0.7,36.50N±0.05×70.90E±0.09,h188km, mb3.4/1,Error ellipse: s-maj=11.2km s-min=5.4km az=153.2*

*IDC **25** 19:50:12.7±15.0,36.46N×70.92E,h188km±171km, mb3.1/1,mb1 2.9/4,mb1mx2.6/28,mbtmp2.9/4,ML3.0/1, Error ellipse: s-maj=127.9km s-min=79.5km az=130.0*

*NNC **25** 19:50:19.3±1.9,36.99N×70.86E,h190km±19km,mb2.8, mpv3.9,Error ellipse: s-maj=17.2km s-min=9.6km az=19.0*

ISC 25 19:50:13.0±1.0,36.59N±0.08×70.89E±0.10,h188km,n27, σ1°58/30,3C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.95**	**21**	P	**Pn**	**19 51 41.1**	**+1.4**
	SNR=91						
UCH	**Uchtor**	**6.29**	**25**	P	**Sn**	**19 52 54.4**	**-1.9**
	SNR=6.8						
KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**19 51 46.6**	**+0.3**
	SNR=9.3						
EKS2	**Erkin-Say**	**6.46**	**19**	P	**Pn**	**19 51 48.4**	**+2.1**
	SNR=28						
KK31	**Karatay Array**	**6.51**	**358**	P	**Pn**	**19 51 48.3**	**+1.6**
	1.5nm,0.3s,baz=181,slow=12,SNR=176						
KK31				S	**Sn**	**19 52 57.8**	**-3.1**
	16nm,0.5s,baz=184,slow=22,SNR=25						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**19 51 50.2**	**+1.5**
	SNR=14						
KBK	**Karagaybulak**	**6.82**	**26**	P	**Pn**	**19 51 52.9**	**+1.9**
	SNR=9.2						
CHMS	**Chumysh**	**7.06**	**24**	P	**Pn**	**19 51 55.4**	**+1.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**19 51 58.6**	**+1.4**
	11nm,0.6s						
TKM2				⇓S	**Sn**	**19 53 18.6**	**-1.0**
	4.2nm,0.8s						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**19 51 58.5**	**+1.4**
	SNR=6.6						
PYUN	**Piuthan**	**13.27**	**126**	*eP*	**Pn**	**19 53 12.3**	**-2.3**
	7.1nm,0.4s						
MK31	**Makanchi Array**	**13.27**	**36**	⇓P	**Pn**	**19 53 15.9**	**+1.7**
	0.3nm,0.6s,baz=227,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**19 53 15.0**	**+0.8**
	0.1nm,0.3s,baz=223,slow=7.8,SNR=7.3						
DANN	**Dangsing**	**13.61**	**123**	*eP*	**Pn**	**19 53 18.3**	**-0.6**
	5.2nm,0.4s						
KOLN	**Koldanda**	**13.89**	**126**	*eP*	**Pn**	**19 53 20.0**	**-2.3**
	3.1nm,0.3s						
AB31	**Akbulak array**	**14.96**	**331**	P	**P**	**19 53 36.2**	**+0.1**
	2.4nm,0.7s,baz=146,slow=12,SNR=28						
AB31				⇑S	**Sn**	**19 56 20.0**	**-2.2**
	0.3nm,0.4s						
DMN	**Daman**	**15.00**	**123**	*eP*	**Pn**	**19 53 35.7**	**-0.3**
	4.5nm,0.5s						
PKIN	**Phulchoki**	**15.22**	**122**	*eP*	**P**	**19 53 39.1**	**-0.3**
	4.2nm,0.4s						
GUN	**Gumba**	**15.34**	**120**	*eP*	**P**	**19 53 41.1**	**+0.2**
	3.8nm,0.3s						
VOSK	**Vostochnaya**	**16.13**	**0**	⇑P	**Pn**	**19 53 50.5**	**+1.1**
	1.7nm,1.1s						
ZRNK	**Zerenda**	**16.41**	**356**	⇑P	**Pn**	**19 53 53.8**	**+1.1**
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**Pn**	**19 53 53.5**	**+0.5**
	0.3nm,0.3s,baz=153,slow=9.7,SNR=5.2						
RAMN	**Ramite**	**16.44**	**121**	*eP*	**P**	**19 53 52.6**	**-0.3**
	8.4nm,0.5s						
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P	**Pn**	**19 53 57.6**	**+2.0**
	0.9nm,0.9s						
TAPN	**Taplejung**	**16.97**	**118**	*eP*	**Pn**	**19 54 02.1**	**+2.2**
	7.0nm,0.4s						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**19 54 30.4**	**+0.8**
	0.2nm,0.3s,baz=218,slow=11,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**20 00 37.1**	**-0.1**
	0.8nm,1.1s,baz=43,slow=5.3,SNR=4.6						

*NEIC **25** 19:57:47.0,45.36N×112.58W,h11km,ML2.5(BUT),After BUT.*

ISC 25 19:57:47.2±0.8,45.36N±0.01×112.58W±0.01,h11km±5km, n60,σ0°81/131,52C-48D,Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLMT	**Dillon**	**0.01**	**297**	*eP*g	**Pg**	**19 57 49.3**	**-0.1**
DLMT				*eS*g	**Sg**	**19 57 51.0**	**+0.1**
G15A	**Dillon**	**0.20**	**161**	P	**Pg**	**19 57 51.5**	**-0.2**
	baz=0.2,SNR=200						
G15A				⇓S	**Sg**	**19 57 54.5**	**-0.2**
	baz=0.2						
LRM	**Limekiln Ridge**	**0.47**	**11**	*eP*g	**Pg**	**19 57 56.2**	**-0.3**
F15A	**Butte**	**0.49**	**7**	P	**Pg**	**19 57 56.6**	**-0.2**
	baz=0.5,SNR=252						
F15A				⇑S	**Sg**	**19 58 03.1**	**-0.2**
	baz=0.5						
F15A				⇑S	**Sg**	**19 58 03.1**	**-0.2**
	baz=0.5						
MCMT	**McKenzie Canyo**	**0.56**	**200**	*eP*g	**Pg**	**19 57 57.9**	**-0.3**
MCMT				*eS*	**Sg**	**19 58 05.5**	**-0.1**
G16A	**Moss Hill, Enn**	**0.56**	**103**	P	**Pg**	**19 57 58.1**	**-0.2**
	baz=0.6,SNR=96						
G16A				⇓S	**Sg**	**19 58 05.3**	**-0.4**
	baz=0.6						
G16A				⇓S	**Sg**	**19 58 05.3**	**-0.4**
	baz=0.6						
G14A	**Jackson**	**0.63**	**260**	⇓P	**Pg**	**19 57 59.3**	**-0.1**
	baz=0.6						
G14A				⇓S	**Sg**	**19 58 07.4**	**-0.4**
	baz=0.6						
G14A				⇓S	**Sg**	**19 58 07.4**	**-0.4**
	baz=0.6						
F14A	**Wisdom**	**0.71**	**310**	⇓P	**Pg**	**19 58 01.0**	**-0.1**
	baz=0.7,SNR=40						
F14A				⇑S	**Sg**	**19 58 10.4**	**-0.1**
	baz=0.7						
F14A				⇑S	**Sg**	**19 58 10.4**	**-0.1**
	baz=0.7						
BOZ	**Bozeman (W)**	**0.73**	**66**	*eP*g	**Pg**	**19 58 00.4**	**-1.0**
BOZ	**Bozeman (W)**	**0.73**	**66**	⇑P	**Pg**	**19 58 00.6**	**-0.8**
	baz=0.7,SNR=265						
BOZ				⇑S	**Sg**	**19 58 10.4**	**-0.6**
	baz=0.7						
BOZ				⇑S	**Sg**	**19 58 10.4**	**-0.6**
	baz=0.7						
BOZ				⇑S	**Sg**	**19 58 10.4**	**-0.6**
	baz=0.7						
BOZ				⇑S	**Sg**	**19 58 10.4**	**-0.6**
	baz=0.7						
H15A	**Lima**	**0.74**	**183**	P	**Pg**	**19 58 01.1**	**-0.4**
	baz=0.7,SNR=14						
H15A				⇓S	**Sg**	**19 58 11.1**	**-0.1**
	baz=0.7						
H15A				⇓S	**Sg**	**19 58 11.1**	**-0.1**
	baz=0.7						
F16A	**Kennard Place,**	**0.80**	**57**	⇓P	**Pg**	**19 58 02.0**	**-0.6**
	baz=0.8,SNR=5.2						
F16A				⇓S	**Sg**	**19 58 12.7**	**-0.3**
	baz=0.8						
F16A				⇓S	**Sg**	**19 58 12.7**	**-0.3**
	baz=0.8						
H14A	**Leadore**	**0.93**	**217**	⇑P	**Pg**	**19 58 04.5**	**-0.6**
	baz=0.9,SNR=76						
H14A				⇓S	**Sg**	**19 58 17.0**	**-0.2**
	baz=0.9						
H14A				⇓S	**Sg**	**19 58 17.0**	**-0.2**
	baz=0.9						
QLMT	**Earthquake Lak**	**0.97**	**122**	*e*Pn	**Pg**	**19 58 05.2**	**-0.8**
QLMT				*eS*	**Sg**	**19 58 18.2**	**-0.5**
E15A	**Deer Lodge**	**1.07**	**358**	⇓P	**Pb**	**19 58 07.2**	**-0.6**
	baz=1.1,SNR=75						
E15A				⇑S	**Sb**	**19 58 21.4**	**-0.4**
	baz=1.1						
E15A				⇑S	**Sb**	**19 58 21.4**	**-0.4**
	baz=1.1						
H16A	**Russell Place,**	**1.15**	**124**	P	**Pb**	**19 58 08.7**	**-0.5**
	baz=1.1,SNR=40						
H16A				⇑S	**Sb**	**19 58 23.2**	**-1.0**
	baz=1.1						
H16A				⇑S	**Sb**	**19 58 23.2**	**-1.0**
	baz=1.1						
G13A	**Cobalt**	**1.20**	**258**	⇓P	**Pn**	**19 58 09.5**	**-0.4**
	baz=1.2,SNR=269						
G13A				⇓S	**Sb**	**19 58 24.5**	**-0.9**
	baz=1.2						
G13A				⇓S	**Sb**	**19 58 24.5**	**-0.9**
	baz=1.2						
F13A	**Darby**	**1.30**	**290**	P	**Pn**	**19 58 11.4**	**0.0**
	baz=1.3,SNR=42						
F13A				⇑S	**Sb**	**19 58 27.7**	**-0.8**
	baz=1.3						
F13A				⇑S	**Sb**	**19 58 27.7**	**-0.8**
	baz=1.3						
G17A	**Pierce Place,**	**1.30**	**91**	⇑P	**Pb**	**19 58 11.5**	**-0.2**
	baz=1.3						
G17A				⇓S	**Sb**	**19 58 28.2**	**-0.3**
	baz=1.3						
G17A				⇓S	**Sb**	**19 58 28.2**	**-0.3**
	baz=1.3						
E16A	**East Helena**	**1.33**	**28**	⇑P	**Pb**	**19 58 12.3**	**0.0**
	baz=1.3						
E16A				⇓S	**Sg**	**19 58 30.3**	**+0.1**
	baz=1.3						
E16A				⇓S	**Sg**	**19 58 30.3**	**+0.1**
	baz=1.3						
YMR	**Madison River**	**1.34**	**120**	*e*Pn	**Pb**	**19 58 12.2**	**-0.2**
I15A	**Monteview**	**1.36**	**177**	⇑P	**Pb**	**19 58 12.7**	**0.0**
	baz=1.4						
I15A				⇓S	**Sn**	**19 58 30.4**	**+0.1**
	baz=1.4						
I15A				⇓S	**Sn**	**19 58 30.4**	**+0.1**
	baz=1.4						
H13A	**Challis**	**1.43**	**237**	⇓P	**Pb**	**19 58 13.5**	**-0.3**
	baz=1.4,SNR=48						
H13A				⇑S	**Sb**	**19 58 32.3**	**+0.2**
	baz=1.4						
H13A				⇑S	**Sb**	**19 58 32.3**	**+0.2**
	baz=1.4						
F17A	**Fitzpatrick Pl**	**1.46**	**67**	⇓P	**Pb**	**19 58 13.9**	**-0.5**
	baz=1.5,SNR=53						
F17A				⇓S	**Sb**	**19 58 33.6**	**+0.6**
	baz=1.5						
F17A				⇓S	**Sb**	**19 58 33.6**	**+0.6**
	baz=1.5						
I14A	**Mackay**	**1.56**	**204**	⇓P	**Pn**	**19 58 15.4**	**+0.4**
	baz=1.6,SNR=69						
I14A				⇑S	**Sn**	**19 58 35.4**	**+0.1**
	baz=1.6						
I14A				⇑S	**Sn**	**19 58 35.4**	**+0.1**
	baz=1.6						
E13A	**Victor**	**1.56**	**315**	⇑Pb	**Pb**	**19 58 16.4**	**+0.3**
	baz=1.6,SNR=43						
E13A				⇑S	**Sb**	**19 58 36.3**	**+0.4**
	baz=1.6						
E13A				⇑S	**Sb**	**19 58 36.3**	**+0.4**
	baz=1.6						
CHMT	**Chamberlain Mo**	**1.62**	**344**	*e*Pn	**Pn**	**19 58 15.6**	**-0.4**
CHMT				*eS*n	**Sb**	**19 58 38.5**	**+0.6**
E17A	**Martinsdale**	**1.64**	**47**	⇓P	**Pn**	**19 58 16.0**	**0.0**
	baz=1.6,SNR=45						
I16A	**Newdale**	**1.68**	**152**	⇑Sb	**Sg**	**19 58 40.6**	**-0.5**
	baz=1.7						
D15A	**Lincoln**	**1.69**	**1**	P	**Pn**	**19 58 16.7**	**0.0**
	baz=1.7,SNR=82						
D15A				⇑Sb	**Sg**	**19 58 41.2**	**-0.2**
	baz=1.7						
D15A				⇑Sb	**Sg**	**19 58 41.2**	**-0.2**
	baz=1.7						
MSO	**Missoula**	**1.75**	**328**	*e*Pn	**Pb**	**19 58 19.2**	**-0.2**
MSO				*eS*n	**Sb**	**19 58 41.1**	**-0.2**
MSO	**Missoula**	**1.75**	**328**	⇑Pb	**Pb**	**19 58 19.6**	**+0.3**
	baz=1.7,SNR=18						
MSO				⇓Sb	**Sg**	**19 58 42.8**	**-0.6**
	baz=1.7						
MSO				⇓Sb	**Sg**	**19 58 42.8**	**-0.6**
	baz=1.7						
H12A	**Diamond D Ranc**	**1.80**	**244**	⇑Pb	**Pb**	**19 58 20.5**	**+0.2**
	baz=1.8,SNR=13						
H12A				⇑S	**Sn**	**19 58 42.1**	**+0.8**
	baz=1.8						
H12A				⇑S	**Sn**	**19 58 42.1**	**+0.8**
	baz=1.8						
I13A	**Wildhorse Cree**	**1.81**	**218**	⇑P	**Pn**	**19 58 18.8**	**+0.3**
	baz=1.8,SNR=20						
I13A				⇑Sb	**Sb**	**19 58 44.5**	**+1.3**
	baz=1.8						
I13A				⇑Sb	**Sb**	**19 58 44.5**	**+1.3**
	baz=1.8						
D16A	**Dana Ranch, Ca**	**1.82**	**23**	⇑P	**Pn**	**19 58 18.9**	**+0.4**
	baz=1.8,SNR=5.4						
D16A				⇑Sb	**Sg**	**19 58 45.2**	**-0.6**
	baz=1.8						
D16A				⇑Sb	**Sg**	**19 58 45.2**	**-0.6**
	baz=1.8						
D14A	**Greenough**	**1.84**	**340**	P	**Pn**	**19 58 18.7**	**-0.1**
	baz=1.8,SNR=29						
D14A				⇑Sb	**Sb**	**19 58 45.1**	**+1.1**
	baz=1.8						
D14A				⇑Sb	**Sb**	**19 58 45.1**	**+1.1**
	baz=1.8						
J15A	**Blackfoot**	**1.96**	**177**	⇑Sb	**Sb**	**19 58 48.7**	**+1.3**
	baz=2.0						
SLMT	**Seeley Lake**	**1.99**	**342**	*e*Pn	**Pn**	**19 58 20.4**	**-0.4**
MOOW	**Moose Ponds**	**2.08**	**140**	*e*Pn	**Pn**	**19 58 21.1**	**-1.0**
MOOW				*e*Pg	**Pb**	**19 58 24.1**	**-0.9**
MOOW				*eS*n	**Sn**	**19 58 47.6**	**-0.5**
F18A	**Big Timber**	**2.08**	**74**	⇓Pb	**Pb**	**19 58 25.4**	**+0.4**
	baz=2.1,SNR=15						
F18A				⇓Sb	**Sb**	**19 58 52.2**	**+1.2**
	baz=2.1						
F18A				⇓Sb	**Sb**	**19 58 52.2**	**+1.2**
	baz=2.1						
G18A	**Lazy EL Ranch,**	**2.13**	**90**	⇓Pb	**Pb**	**19 58 26.2**	**+0.3**
	baz=2.1,SNR=13						
G18A				⇑Sb	**Sb**	**19 58 53.5**	**+1.2**
	baz=2.1						
G18A				⇑Sb	**Sb**	**19 58 53.5**	**+1.2**
	baz=2.1						
D13A	**Huson**	**2.17**	**324**	⇓Sb	**Sg**	**19 58 55.4**	**-1.6**
	baz=2.2						
J16A	**Bone**	**2.20**	**161**	⇑Sb	**Sb**	**19 58 55.6**	**+1.3**
	baz=2.2						
RRI2	**Red Ridge**	**2.21**	**155**	Pn	**Pn**	**19 58 23.1**	**-0.8**
RRI2				*eP*g	**Pb**	**19 58 26.3**	**-0.9**
RRI2				*eS*n	**Sb**	**19 58 54.9**	**+0.3**
E18A	**Harlowton**	**2.22**	**56**	⇑Pb	**Pb**	**19 58 27.5**	**+0.2**
	baz=2.2,SNR=7.0						
E18A				⇑Sb	**Sb**	**19 58 56.0**	**+1.1**
	baz=2.2						
E18A				⇑Sb	**Sb**	**19 58 56.0**	**+1.1**
	baz=2.2						
HLID	**Hailey**	**2.22**	**217**	*e*Pn	**Pn**	**19 58 24.2**	**+0.1**
HLID	**Hailey**	**2.22**	**217**	⇓P	**Pn**	**19 58 24.6**	**+0.5**
	baz=2.2						
HLID				⇓Sb	**Sb**	**19 58 56.3**	**+1.2**
	baz=2.2						
HLID				⇓Sb	**Sb**	**19 58 56.3**	**+1.2**
	baz=2.2						
D17A	**Six Diamond Ra**	**2.23**	**36**	⇑Sb	**Sb**	**19 58 56.5**	**+1.4**
	baz=2.2						
J13A	**Cove Ranch, Pi**	**2.27**	**211**	⇓Sb	**Sb**	**19 58 57.6**	**+1.3**
	baz=2.3						
RLMT	**Red Lodge**	**2.35**	**95**	⇓Sb	**Sb**	**19 59 00.6**	**+1.7**
	baz=2.3						
SWMT	**Swartz Lake**	**2.36**	**336**	*e*Pn	**Pn**	**19 58 26.5**	**+0.5**
C15A	**Salmond Ranch,**	**2.42**	**360**	⇑Sb	**Sg**	**19 59 02.9**	**-2.0**
	baz=2.4						
C16A	**Fuhringer Ranc**	**2.51**	**13**	⇓Sb	**Sb**	**19 59 05.0**	**+1.8**
	baz=2.5						
C14A	**Swan Lake**	**2.54**	**342**	⇓Sb	**Sb**	**19 59 06.0**	**+1.9**
	baz=2.5						
F19A	**Roth Farm, Mol**	**2.60**	**78**	⇓Sb	**Sb**	**19 59 07.8**	**+1.9**
	baz=2.6						
D18A	**Linhart Farms,**	**2.67**	**45**	⇑Sb	**Sb**	**19 59 10.0**	**+2.3**
	baz=2.7						
K15A	**Arbon**	**2.67**	**179**	⇓Sb	**Sb**	**19 59 10.1**	**+2.1**
	baz=2.7						
J18A	**Kendall Valley**	**2.83**	**138**	⇑Sb	**Sb**	**19 59 14.2**	**+1.7**
	baz=2.8						
E19A	**Rath Farm, Rou**	**2.87**	**66**	⇓Sb	**Sb**	**19 59 15.7**	**+2.1**
	baz=2.9						
BMO	**Blue Mountains**	**3.38**	**263**	*e*Pn	**Pn**	**19 58 40.2**	**+0.3**

*ISCJB **25** 19:59:43.0±0.4,33.27N±0.01×115.73W±0.02,h8km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=27.7*

*ECX **25** 19:59:44.6±0.6,33.27N×115.75W,h15km,MD3.6,ML3.8*

*NEIC **25** 19:59:44.1,33.29N×115.72W,h6km,ML3.7(PAS),After PAS.*

NEIC Felt at Aliso Viejo, Bombay Beach, Cathedral City, Chula Vista, Corona, Fallbrook, Indio, La Quinta, Rancho Mirage, San Diego and San Jacinto.

ISC 25 19:59:42.9±1.0,33.26N±0.02×115.74W±0.02,h10km±9km, n53,σ0°99/83,17C-25D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart**	**0.32**	**188**	⇓P	**Pb**	**19 59 50.7**	**0.0**
	baz=0.4						
COK	**Cook Ranch**	**0.41**	**178**	⇓*i*P	**Pb**	**19 59 52.8**	**+0.6**
CRR	**Carrizo Plain**	**0.42**	**207**	⇓*i*P	**Pb**	**19 59 52.8**	**+0.5**
HAY	**Hayfield**	**0.45**	**6**	⇓*i*P	**Pb**	**19 59 52.8**	**-0.1**
BC3	**Big Chuckawall**	**0.46**	**32**	⇑P	**Pg**	**19 59 52.0**	**+0.1**
	baz=0.4						
BC3				⇑S	**Sg**	**19 59 58.2**	**+0.1**
	baz=0.4						
SGL	**Mount Signal**	**0.61**	**179**	⇓*i*P	**Pb**	**19 59 55.8**	**+0.2**
YUH	**Yuha Desert**	**0.63**	**194**	⇓*i*P	**Pb**	**19 59 56.8**	**+0.9**
COA	**Coachella**	**0.65**	**127**	⇑*i*P	**Pb**	**19 59 56.8**	**+0.4**
DVTC	**Desert V Tower**	**0.67**	**207**	⇓P	**Pg**	**19 59 56.7**	**+0.9**
	baz=0.7,SNR=21						
DVTC				⇑S	**Sb**	**20 00 06.7**	**+0.6**
	baz=0.7						
MONP	**Monument Peak**	**0.68**	**237**	⇓P	**Pb**	**19 59 57.1**	**+0.2**
	baz=0.7,SNR=303						
MONP				⇑S	**Sb**	**20 00 06.7**	**+0.3**
	baz=0.7						
PFO	**Pinyon Flat Ob**	**0.69**	**301**	*e*Pg	**Pg**	**19 59 56.5**	**+0.3**
PFO				*eS*g	**Sg**	**20 00 05.6**	**+0.3**
PFO	**Pinyon Flat Ob**

NEE2	**Needles Airpor** baz=1.7	**1.77**	**32**	⇓Sb		**Sb**	**20 00 37.5**	**-0.1**
BFSC	**Mount Baldy Ra** baz=1.9	**1.87**	**302**	⇑P		**Pn**	**20 00 14.1**	**-0.9**
ECBX	**El Chinero**	**1.88**	**162**	*e*P		**Pn**	**20 00 16.5**	**+1.6**
ECBX				*e*S		**Sb**	**20 00 40.9**	**+0.2**
LDFC	**Landfair**	**1.89**	**16**	*e*Pn		**Pg**	**20 00 18.3**	**-0.8**
RRX	**Edison Barstow** baz=1.9	**1.92**	**328**	⇑Sb		**Sg**	**20 00 43.6**	**-1.1**
MWC	**Mount Wilson**	**2.15**	**297**	*e*Pn		**Pn**	**20 00 20.3**	**+1.3**
MWC				*e*Sn		**Sn**	**20 00 47.0**	**+1.2**
GSC	**Goldstone**	**2.22**	**337**	*e*Pn		**Pg**	**20 00 24.4**	**-1.0**
GSC				*e*Sn		**Sb**	**20 00 50.9**	**+0.3**
SPX	**San Pedro Mart**	**2.22**	**174**	*e*PN		**Pn**	**20 00 19.9**	**-0.1**
PASC	**Pasadena Art C**	**2.23**	**295**	*e*Pn		**Pb**	**20 00 23.0**	**-0.2**
PASC				*e*Sn		**Sb**	**20 00 51.5**	**+0.7**
CIS	**Catalina Islan** baz=2.3	**2.23**	**274**	⇑Sb		**Sb**	**20 00 52.2**	**+1.2**
Z14A	**Wintersburg** baz=2.3	**2.34**	**87**	⇑Sb		**Sb**	**20 00 54.3**	**+0.1**
Y14A	**Wickenburg** baz=2.4	**2.38**	**73**	⇓Sb		**Sb**	**20 00 56.3**	**+0.9**
OSI	**Osito Adit**	**2.82**	**299**	*e*Pn		**Pn**	**20 00 27.3**	**-0.8**
OSI				*e*Pg		**Pg**	**20 00 38.2**	**+1.3**
ISA	**Isabella**	**3.29**	**317**	*e*Pn		**Pn**	**20 00 35.1**	**+0.6**
ISA				*e*Sg		**Sg**	**20 01 27.4**	**-1.2**
DAC	**Darwin (Calif)**	**3.37**	**334**	*e*Pn		**Pn**	**20 00 36.2**	**+0.5**
WUAZ	**Wupatki**	**4.26**	**57**	*e*Pn		**Pn**	**20 00 49.3**	**+1.4**
TUC	**Tucson**	**4.28**	**101**	*e*Pn		**Pn**	**20 00 47.9**	**-0.2**
TUC				*e*Pg		**Pg**	**20 01 04.3**	**-0.6**
CCUT	**Cedar City**	**4.70**	**24**	*e*Pn		**Pn**	**20 00 56.0**	**+1.9**
ARUT	**Antelope Range**	**4.89**	**22**	*e*Pn		**Pn**	**20 00 57.1**	**+0.5**
ARUT				*e*Pg		**Pg**	**20 01 14.6**	**-2.0**
NV11	**Mina Array Sit**	**5.52**	**340**	Pn		**Pn**	**20 01 07.1**	**+1.9**
NV11				*e*Pg		Pg	20 01 24.6	-4.0
MSU	**Marysvale**	**5.99**	**28**	*e*Pn		**Pn**	**20 01 14.8**	**+3.1**
MVCO	**Mesa Verde**	**7.12**	**54**	*e*Pg		**Pg**	**20 01 58.3**	**-0.9**
MVCO				*e*Sg		**Sg**	**20 03 33.1**	**+1.8**

ISCJB ***25*** *20:25:10.7±0.5, 62.00S±0.07×155.7E±0.3, h10km, mb4.4/10, MS4.5/17, Error ellipse: s-maj=18.9km s-min=9.4km az=2.5*

IDC ***25*** *20:25:11.3±0.6, 62.06S×155.40E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.4/12, mbtmp4.3/8, MS4.5/18, Ms1 4.5/18, ms1mx4.4/26, Error ellipse: s-maj=33.8km s-min=17.6km az=76.0*

NEIC ***25*** *20:25:12.6±0.5, 62.01S×155.61E, h10km, mb4.9/5, Error ellipse: s-maj=20.7km s-min=12.7km az=90.0*

GCMT ***25*** *20:25:17.7±0.2, 62.13S×154.82E, h14km±1km, MW5.2, Moment Tensor Solution. s59,c83; s77,c135; Moment tensor: Scale 10^16Nm; Mrr=0.59±.20; Mθθ 7.12±.20; Mφφ-6.53±.20; Mrθ-0.43±.33; Mθφ-5.64±.17; Mrφ 0.75±.37; Best double couple: Mo8.90000×10^16 NP1:φ=245.00000°, δ84.00000°, λ-180.00000°. NP2:φ=155.00000°, δ90.00000°, λ-6.00000°. Principal axes: T 9.1900, Plg4.0000°, Azm200.0000°; N -0.6000, Plg84.0000°, Azm334.0000°; P -8.6000, Plg4.0000°, Azm110.0000°; Data Used: ll IU IC G CN.*

ISC 25 20:25:12.4±0.5, 62.09S±0.08×155.6E±0.2, h10km, n81, σ1§26/59, mb4.5/10, MS4.4/17, 4C-10D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRV	**Dumont d'Urvil**	**8.16**	**229**	P	Pn	20 26 59.0	-12
DRV				R		20 28 00.0	
VNDA	**Vanda** 1.7nm,0.3s,baz=344,slow=13,SNR=111	**15.64**	**175**	Pn	Pn	20 28 46.4	-6.1
VNDA				LR	LR	20 34 11.8	
	comp=Z,4μm,19.6s,baz=356,slow=34						
VNDA	**Vanda**	**15.64**	**175**	Pn	Pn	20 28 46.4	-6.1
SBA	**Scott Base** 65nm,1.0s	**16.23**	**172**	*e*P	**Pn**	**20 28 56.2**	**-4.0**
ODZ	**Otahua Downs** 939nm,2.1s	**19.18**	**34**	*e*P	**P**	**20 29 35.0**	**-0.9**
RPZ	**Rata Peaks** 6.6nm,0.9s,baz=22,slow=16,SNR=2.2	**20.52**	**33**	P	**P**	**20 29 50.3**	**-0.3**
RPZ				LR	LR	20 36 36.5	
	comp=Z,2μm,18.1s,baz=201,slow=33						
RPZ	**Rata Peaks**	**20.52**	**33**	P	**P**	**20 29 50.2**	**-0.3**
URZ	**Urewera** comp=Z,934nm,18.2s,baz=328,slow=35	**27.27**	**39**	LR	LR	20 41 03.2	
QSPA	**South Pole Qui** 19nm,1.0s,baz=18,slow=3.7,SNR=29	**28.00**	**180**	P	**P**	**20 31 03.6**	**+0.3**
QSPA				LR	LR	20 41 40.5	
	comp=Z,1μm,21.3s,baz=16,slow=35						
QSPA	**South Pole Qui** 50nm,1.3s	**28.00**	**180**	*e*P	**P**	**20 31 03.5**	**+0.3**
STKA	**Stephens Creek** 2.7nm,0.9s,baz=174,slow=8.8,SNR=5.2	**31.55**	**337**	P	**P**	**20 31 35.0**	**+0.4**
STKA				LR	LR	20 42 59.2	
	comp=Z,406nm,20.5s,baz=160,slow=34						
STKA	**Stephens Creek**	**31.55**	**337**	P	**P**	**20 31 35.0**	**+0.4**
MAW	**Mawson** comp=Z,2μm,18.7s,baz=117,slow=36	**36.26**	**220**	LR	LR	20 47 08.0	
DZM	**Mont Dzumac** comp=Z,931nm,19.2s,baz=214,slow=31	**40.68**	**16**	LR	LR	20 46 07.5	
DZM	**Mont Dzumac** 203nm,28.0s	**40.68**	**16**	*e*S	**S**	**20 39 01.3**	**-1.5**
DZM				*e*LR	LR	20 44 00.6	
	2μm,25.6s						
ASAR	**Alice Springs** 1.9nm,0.8s,baz=162,slow=8.2,SNR=19	**41.14**	**329**	P	**P**	**20 32 56.5**	**-0.1**
ASAR				PcP	**PcP**	**20 34 55.0**	**-0.8**
	1.3nm,1.0s,baz=149,slow=3.8,SNR=4.5						
ASAR				LR	LR	20 47 40.8	
	comp=Z,476nm,19.2s,baz=161,slow=33						
ASAR	**Alice Springs**	**41.14**	**329**	P	**P**	**20 32 56.5**	**-0.1**
ASAR				PcP	**PcP**	**20 34 55.0**	**-0.8**
AS31	**Alice Springs**	**41.14**	**329**	*e*P	**P**	**20 32 55.9**	**-0.7**
CTA	**Charters Tower** comp=Z,645nm,19.8s,baz=179,slow=32	**42.46**	**347**	LR	LR	20 47 45.0	
WRA	**Warramunga Arr** 2.0nm,0.8s,baz=160,slow=7.0,SNR=6.6	**44.62**	**331**	P	**P**	**20 33 23.9**	**-0.9**
WRA				PcP	**PcP**	**20 35 06.2**	**-1.2**
	1.9nm,0.9s,baz=174,slow=3.0,SNR=3.0						
WRA				LR	LR	20 49 46.2	
	comp=Z,417nm,20.6s,baz=165,slow=33						
WRA	**Warramunga Arr**	**44.62**	**331**	P	**P**	**20 33 23.9**	**-0.9**
WRA				PcP	**PcP**	**20 35 06.2**	**-1.2**
SNAA	**Sanae** 15nm,1.2s	**45.69**	**189**	*e*P	**P**	**20 33 32.9**	**+0.1**
VNA3	**Neumayer Olymp**	**46.56**	**187**	*e*P	**P**	**20 33 39.9**	**+0.3**
VNA2	**Neumayer--Watz** baz=163,slow=5.3	**46.74**	**188**	*e*P	**P**	**20 33 41.3**	**+0.3**
VNA1	**Neumayer--Stat**	**47.06**	**187**	*e*P	P	20 33 39.1	-4.4
FITZ	**Fitzroy Crossi** comp=Z,395nm,18.2s,baz=166,slow=34	**48.68**	**321**	LR	LR	20 53 03.8	
FITZ	**Fitzroy Crossi** 12nm,1.2s	**48.68**	**321**	*e*P	**P**	**20 33 56.1**	**-0.5**
HNR	**Honiara** comp=Z,716nm,20.5s,baz=109,slow=30	**52.65**	**5**	LR	LR	20 51 47.6	
TBI	**Tubuai** 677nm,28.5s	**53.40**	**70**	*e*LQ	LQ	20 47 06.3	
TBI				*e*LR	LR	20 49 35.7	
	287nm,28.8s						
TBI				*e*T	T	21 31 39.0	
	58nm,0.4s						
AFI	**Afiamalu** comp=Z,464nm,18.2s,baz=112,slow=33	**53.44**	**41**	LR	LR	20 54 12.3	
PAE	**Paea** 3.5nm,0.3s	**58.35**	**66**	*e*T	T	21 37 48.8	
TVO	**Taravao** 24nm,0.4s	**58.39**	**67**	*e*T	T	21 37 51.7	
PPT2	**Papeete2** 424nm,27.5s	**58.42**	**66**	*e*LR	LR	20 52 07.0	
MEH	**Mehetia** 51nm,0.3s	**58.82**	**68**	*e*T	T	21 38 24.7	
RKT	**Rikitea** 9.5nm,0.3s	**60.21**	**83**	*e*T	T	21 40 14.1	
VAH	**Vaihoa** 94nm,0.3s	**61.35**	**67**	*e*T	T	21 41 33.5	
KAPI	**Kappang** comp=Z,289nm,20.1s,baz=177,slow=34	**62.83**	**319**	LR	LR	21 00 34.4	
PLCA	**Paso Flores** 1.9nm,0.7s,baz=228,slow=4.7,SNR=6.1	**70.98**	**145**	P	**P**	**20 36 29.9**	**-0.1**
PLCA	**Paso Flores**	**70.98**	**145**	P	**P**	**20 36 29.9**	**-0.1**
BOSA	**Boshof** 3.6nm,0.8s,baz=187,slow=7.9,SNR=5.7	**81.23**	**223**	P	**P**	**20 37 28.9**	**+0.4**
BOSA				LR	LR	21 09 20.4	
	comp=Z,262nm,18.9s,baz=266,slow=33						
BOSA	**Boshof**	**81.23**	**223**	P	**P**	**20 37 28.9**	**+0.4**
LBTB	**Lobatse** 4.4nm,0.7s,baz=180,slow=4.0,SNR=4.1	**84.46**	**224**	P	P	20 37 48.5	+3.2
LBTB	**Lobatse**	**84.46**	**224**	P	P	20 37 48.5	+3.2
CMAR	**Chiang Mai Arr** comp=Z,98nm,18.9s,baz=154,slow=36	**91.84**	**307**	LR	LR	21 20 47.0	
LPAZ	**La Paz** 1.2nm,0.7s,baz=167,slow=4.9,SNR=5.6	**94.62**	**138**	P	**P**	**20 38 35.5**	**+1.3**
LPAZ				LR	LR	21 13 28.4	
	comp=Z,106nm,20.9s,baz=268,slow=31						
LPAZ	**La Paz**	**94.62**	**138**	P	**P**	**20 38 35.5**	**+1.3**
MJAR	**Matsushiro Arr** comp=Z,71nm,18.1s,baz=200,slow=35	**99.29**	**346**	LR	LR	21 22 21.7	
MK31	**Makanchi Array**	**123.25**	**308**	*e*PKPdf	**PKPdf**	**20 44 07.4**	**-0.9**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=221,slow=2.9,SNR=4.1	**123.25**	**308**	PKP	**PKPdf**	**20 44 07.0**	**-1.3**
MKAR	**Makanchi Array**	**123.25**	**308**	PKP	**PKPdf**	**20 44 07.0**	**-1.3**
KKAR	**Karatay Array**	**124.84**	**297**	*e*PKPdf	**PKPdf**	**20 44 09.9**	**-1.5**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=147,slow=1.8,SNR=3.2	**127.67**	**213**	PKP	**PKPdf**	**20 44 17.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**127.67**	**213**	PKP	**PKPdf**	**20 44 17.4**	**-0.3**
PDAR	**Pinedale Array** 0.3nm,0.9s,baz=232,slow=4.1,SNR=3.1	**128.76**	**70**	PKP	**PKPdf**	**20 44 21.4**	**+2.1**
PDAR	**Pinedale Array**	**128.76**	**70**	PKP	**PKPdf**	**20 44 21.4**	**+2.1**
BVAR	**Borovoye Array** 0.2nm,0.4s,baz=250,slow=4.3,SNR=2.8	**132.81**	**305**	PKP	**PKPdf**	**20 44 26.8**	**+0.6**
BVAR	**Borovoye Array**	**132.81**	**305**	PKP	**PKPdf**	**20 44 26.8**	**+0.6**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=212,slow=5.0,SNR=3.3	**133.54**	**30**	PKP	**PKPdf**	**20 44 26.8**	**-0.4**
ILAR	**Eielson Array**	**133.54**	**30**	PKP	**PKPdf**	**20 44 26.8**	**-0.4**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=230,slow=3.2,SNR=8.1	**141.32**	**48**	PKhKP	PKPpre	20 44 39.3	
YKA	**Yellowknife Ar**	**141.32**	**48**	PKPpre	PKPpre	20 44 39.3	
KEST	**Kesra** 1.5nm,0.8s,baz=88,slow=4.3,SNR=3.0	**146.25**	**234**	PKPbc	**PKPab**	**20 44 54.0**	**+0.9**
KEST	**Kesra**	**146.25**	**234**	PKPbc	**PKPab**	**20 44 54.0**	**+0.9**
VRI	**Vrincioaia**	**146.89**	**265**	⇓*i*P	**PKPab**	**20 44 58.0**	**+2.7**
PLOR	**Plostina**	**146.92**	**265**	⇓*i*P	**PKPab**	**20 44 54.9**	**-0.5**
MLR	**Muntele Rosu**	**146.98**	**264**	⇓*i*P	**PKPbc**	**20 44 53.8**	**-0.5**
VOIR		**147.36**	**263**	⇑*i*P	**PKPab**	**20 44 56.8**	**-0.4**
TESR		**147.40**	**265**	⇑*i*P	**PKPdf**	**20 44 52.0**	**-0.8**
ARR	**Arges**	**147.50**	**262**	⇓*i*P	**PKPab**	**20 44 58.3**	**+0.5**
BZS	**Buzias**	**149.09**	**259**	⇓*i*P	**PKPbc**	**20 44 57.6**	**-2.1**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=357,slow=4.8,SNR=3.8	**149.15**	**273**	PKPbc	**PKPbc**	**20 44 58.6**	**-1.0**
AKASG	**Malin Array Be**	**149.15**	**273**	PKPbc	**PKPbc**	**20 44 58.6**	**-1.0**
DRGR		**149.45**	**262**	⇓*i*P	**PKPbc**	**20 45 00.9**	**+0.2**
TRPA	**Tarpa**	**150.50**	**264**	⇓*i*P	**PKPbc**	**20 45 03.6**	**+0.6**
PKSM	**Moragy**	**150.90**	**257**	⇑*i*P	**PKPab**	**20 45 12.2**	**+0.7**
KWP	**Kalwaria Pacla**	**151.48**	**266**	⇓*i*P	**PKPbc**	**20 45 06.8**	**+1.5**
RES	**Resolute Bay** 2.1nm,0.9s,baz=196,slow=1.2,SNR=5.6	**153.17**	**34**	PKPbc	**PKPbc**	**20 45 11.2**	**+2.8**
RES	**Resolute Bay**	**153.17**	**34**	PKPbc	**PKPbc**	**20 45 11.2**	**+2.8**

AUST ***25*** *20:39:43.2±1.2, 3.00S×142.04E, h92km, Error ellipse: s-maj=2.5km s-min=1.2km az=24.0*

ISCJB ***25*** *20:39:53.7±0.5, 4.08S±0.06×141.92E±0.09, h109km, mb3.9/13, Error ellipse: s-maj=12.3km s-min=8.4km az=165.7*

IDC ***25*** *20:39:55.1±0.7, 4.16S×142.07E, h113km±5km, mb3.7/14, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, Error ellipse: s-maj=16.3km s-min=9.4km az=87.0*

ISC 25 20:39:55.0±0.6, 4.13S±0.06×142.03E±0.09, h109km, n33, σ1§15/38, mb3.9/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura** baz=1.4,SNR=5.2	**2.08**	**320**	S	**Pn**	**20 40 29.4**	**+0.4**
PMG	**Port Moresby** 3.1nm,0.3s,baz=324,slow=8.7,SNR=14	**7.31**	**136**	P	**Pn**	**20 41 40.2**	**+1.1**
PMG				S	**Sn**	**20 42 58.1**	**-2.5**
	1.0nm,0.3s,baz=143,slow=21,SNR=3.7						
KDU	**Kakadu** baz=14,SNR=16	**12.71**	**227**	P	**Pn**	**20 42 50.1**	**-1.7**
MTN	**Manton Dam** baz=15,SNR=17	**13.82**	**231**	P	**Pn**	**20 43 05.4**	**-0.9**
QIS	**Mount Isa** baz=18,SNR=10	**16.50**	**188**	P	**P**	**20 43 41.0**	**+0.2**
WRA	**Warramunga Arr** 2.3nm,0.3s,baz=27,slow=12,SNR=48	**17.41**	**205**	P	**P**	**20 43 49.9**	**-0.9**
WRA				S	**S**	**20 47 06.2**	**-0.4**
	baz=20,slow=22,SNR=7.2						
PATS	**Pohnpei** baz=19,SNR=3.8	**19.57**	**56**	S	S	20 47 34.0	-16
ASAR	**Alice Springs** 12nm,0.7s,baz=31,slow=9.5,SNR=133	**20.95**	**201**	P	**P**	**20 44 29.1**	**-0.2**
ASAR				pP	**pP**	**20 44 51.9**	**+2.0**
	4.6nm,0.7s,baz=36,slow=10,SNR=3.4						
ASAR				sP	**sP**	**20 45 04.9**	**+1.4**
	20nm,0.8s,baz=28,slow=9.8,SNR=9.5						
ASAR				S	**S**	**20 48 16.0**	**-0.8**
	1.8nm,0.9s,baz=311,slow=38,SNR=4.6						
FITZ	**Fitzroy Crossi** 5.8nm,0.6s,baz=40,slow=11,SNR=29	**21.22**	**228**	P	**P**	**20 44 30.9**	**-1.3**
FITZ	**Fitzroy Crossi** baz=22,SNR=20	**21.22**	**228**	P	**P**	**20 44 31.9**	**-0.3**
KAPI	**Kappang** 2.8nm,0.5s,baz=66,slow=14,SNR=4.3	**22.22**	**267**	P	**P**	**20 44 42.7**	**-0.2**
QLP	**Quilpie** baz=24,SNR=4.9	**22.43**	**175**	P	**P**	**20 44 44.9**	**+0.1**
EIDS	**Eidsvold** baz=24,SNR=5.0	**22.84**	**158**	P	**P**	**20 44 50.9**	**+1.9**
RMQ	**Roma** baz=24,SNR=7.6	**23.15**	**165**	P	**P**	**20 44 53.5**	**+1.6**
CMSA	**Cobar Meteorol** baz=29,SNR=8.2	**27.48**	**173**	P	**P**	**20 45 32.4**	**+1.4**
STKA	**Stephens Creek** 2.1nm,0.8s,baz=13,slow=7.4,SNR=6.3	**27.61**	**181**	P	**P**	**20 45 30.9**	**-1.2**
STKA	**Stephens Creek** 29s,29.5nm,3.9	**27.61**	**181**	P	**P**	**20 45 32.4**	**+0.2**
LHI	**Lord Howe Isla** baz=33,SNR=3.2	**31.61**	**151**	S	S	20 51 38.9	+30
MEEK	**Meekatharra** baz=33,SNR=3.4	**31.66**	**223**	P	**P**	**20 46 08.8**	**+0.7**
MORW	**Morawa** baz=36,SNR=4.0	**34.97**	**222**	P	**P**	**20 46 37.5**	**+0.7**
KSRS	**Korea Array** 0.4nm,0.3s,baz=258,slow=5.1,SNR=3.7	**43.40**	**344**	P	**P**	**20 47 46.5**	**-0.3**
PSI	**Prapat** 4.5nm,0.8s,baz=108,slow=3.4,SNR=6.4	**43.62**	**278**	P	**P**	**20 47 47.9**	**-1.2**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=125,slow=6.6,SNR=4.3	**48.01**	**299**	P	**P**	**20 48 23.6**	**+0.2**
SONM	**Songino Array** 0.3nm,0.7s,baz=156,slow=7.7,SNR=3.4	**60.44**	**333**	P	**P**	**20 49 52.4**	**-0.8**
MKAR	**Makanchi Array** 2.1nm,0.8s,baz=111,slow=7.6,SNR=26	**72.94**	**322**	P	**P**	**20 51 13.2**	**+0.6**
MKAR				pP	**pP**	**20 51 42.4**	**+2.3**
	0.7nm,0.8s,baz=116,slow=8.2,SNR=3.4						
MKAR				sP	**sP**	**20 51 53.2**	**+1.3**
	1.1nm,1.0s,baz=101,slow=6.3,SNR=2.5						
VNDA	**Vanda** 0.8nm,0.6s,baz=307,slow=9.4,SNR=7.1	**74.10**	**176**	P	**P**	**20 51 18.4**	**-0.4**
ZALV	**Zalesovo Beam** 0.8nm,0.7s,baz=118,slow=6.1,SNR=5.2	**74.83**	**329**	P	**P**	**20 51 22.9**	**-0.4**
BVAR	**Borovoye Array** 1.4nm,0.7s,baz=113,slow=6.4,SNR=12	**82.37**	**325**	P	**P**	**20 52 05.3**	**+0.5**
ILAR	**Eielson Array** 1.0nm,0.7s,baz=264,slow=4.2,SNR=11	**85.76**	**24**	P	**P**	**20 52 20.1**	**-1.6**
ILAR				pP	**pP**	**20 52 49.1**	**-0.9**
	1.0nm,0.7s,baz=256,slow=4.6,SNR=5.1						
QSPA	**South Pole Qui** 8.4nm,1.1s,baz=333,slow=1.7,SNR=24	**85.83**	**180**	P	**P**	**20 52 22.9**	**+0.7**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=75,slow=1.9,SNR=3.1	**139.83**	**285**	PKhKP	PKPpre	20 59 02.6	
LPAZ	**La Paz** 2.9nm,0.6s,baz=269,slow=2.5,SNR=8.1	**143.93**	**125**	PKP	**PKPdf**	**20 59 18.6**	**-0.8**
DBIC	**Dimbokro** 4.1nm,0.6s,baz=90,slow=1.4,SNR=8.9	**146.94**	**276**	PKPbc	**PKPbc**	**20 59 26.3**	**+0.3**

NEIC ***25*** *20:42:06.7, 35.99N×117.30W, h1km, ML3.1(PAS), After PAS.*

ISC 25 20:42:06.2±1.1, 35.99N±0.02×117.29W±0.02, h4km±10km, n36, σ0§62/54, 14C-21D, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec** baz=0.2,SNR=1000	**0.18**	**294**	⇓P	**Pg**	**20 42 10.0**	**+0.2**
MPMC				⇓S	**Sg**	**20 42 11.9**	**-0.3**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.38**	**319**	*e*Pn	**Pg**	**20 42 13.5**	**-0.1**
FURC	**Furnace Creek,** baz=0.6,SNR=70	**0.59**	**36**	P	**Pg**	**20 42 18.2**	**+0.6**
FURC				⇑S	**Sg**	**20 42 25.9**	**+0.6**
	baz=0.6						
LRMC	**Laurel Mountai** baz=0.6,SNR=25	**0.60**	**213**	P	**Pg**	**20 42 17.9**	**+0.1**
LRMC				⇓S	**Sg**	**20 42 26.4**	**+0.7**
	baz=0.6						
CWC	**Cottonwood Cre** baz=0.8,SNR=23	**0.78**	**305**	⇓P	**Pg**	**20 42 21.5**	**+0.3**
CWC				⇓S	**Sg**	**20 42 32.0**	**+0.6**
	baz=0.8						
GSC	**Goldstone**	**0.79**	**150**	*e*Pn	**Pg**	**20 42 21.5**	**+0.2**
GSC	**Goldstone** baz=0.8,SNR=13	**0.79**	**150**	⇓P	**Pg**	**20 42 21.9**	**+0.6**
GSC				⇑S	**Sb**	**20 42 33.2**	**-0.4**
	baz=0.8						
SHOC	**Shoshone** baz=0.8,SNR=7.5	**0.82**	**96**	⇓P	**Pg**	**20 42 22.6**	**+0.6**
SHOC				⇓S	**Sb**	**20 42 34.4**	**-0.1**
	baz=0.8						
GRAC	**Grapevine Rang** baz=1.0	**1.01**	**356**	⇑P	**Pg**	**20 42 25.8**	**+0.2**
ISA	**Isabella**	**1.02**	**252**	*e*Pn	**Pg**	**20 42 25.2**	**-0.5**
ISA	**Isabella** baz=1.0,SNR=45	**1.02**	**252**	P	**Pg**	**20 42 25.7**	**0.0**
ISA				⇑S	**Sg**	**20 42 39.2**	**+0.3**
	baz=1.0						
RRX	**Edison Barstow** baz=1.1,SNR=9.3	**1.13**	**168**	⇓P	**Pb**	**20 42 28.1**	**-0.3**
RRX				⇓S	**Sn**	**20 42 45.1**	**+0.3**
	baz=1.1						
TUQ	**Turquoise Moun** baz=1.2,SNR=71	**1.24**	**116**	⇓P	**Pg**	**20 42 29.8**	**-0.2**
TUQ				⇑S	**Sn**	**20 42 48.0**	**+0.3**
	baz=1.2						
EDW2	**Edwards Air Fo** baz=1.2,SNR=182	**1.25**	**208**	⇑P	**Pg**	**20 42 29.6**	**-0.5**
EDW2				⇓S	**Sn**	**20 42 47.5**	**-0.2**
	baz=1.2						
TIN	**Tinemaha** baz=1.3	**1.31**	**325**	⇓P	**Pg**	**20 42 30.7**	**-0.6**
TIN				⇑S	**Sb**	**20 42 48.8**	**+0.2**
	baz=1.3						
HEC	**Hector,Ludlow** baz=1.4,SNR=60	**1.40**	**146**	⇓P	**Pn**	**20 42 32.2**	**-0.4**
HEC				⇑S	**Sn**	**20 42 52.2**	**+0.8**
	baz=1.4						
ARVC	**Arvin** baz=1.5	**1.52**	**236**	⇑P	**Pn**	**20 42 33.6**	**-0.6**
ARVC				⇑S	**Sg**	**20 42 55.0**	**-0.1**
	baz=1.5						
BBRC	**Big Bear Solar** baz=1.8	**1.75**	**170**	⇑Pg	Pg	**20 42 40.1**	**+0.4**
BBRC				⇑Sb	**Sg**	**20 43 03.3**	**+0.9**
	baz=1.8						
BFSC	**Mount Baldy Ra** baz=1.8	**1.77**	**190**	⇑Pb	**Pb**	**20 42 39.6**	**+0.3**
BFSC				⇑Sb	**Sg**	**20 43 03.5**	**+0.4**
	baz=1.8						
GMRC	**Granite Mounta** baz=1.8,SNR=54	**1.79**	**132**	P	**Pn**	**20 42 37.2**	**-0.9**
GMRC				⇓S	**Sn**	**20 43 02.0**	**+0.6**
	baz=1.8						
OSI	**Osito Adit**	**1.80**	**221**	*e*Pn	**Pb**	**20 42 39.8**	**-0.1**
OSI	**Osito Adit** baz=1.8	**1.80**	**221**	⇓Sb	**Sg**	**20 43 04.5**	**+0.3**
MWC	**Mount Wilson**	**1.87**	**200**	*e*Pn	**Pn**	**20 42 40.1**	**+0.9**
DECC	**Green Verdugo** baz=1.9	**1.93**	**207**	⇓Sb	**Sg**	**20 43 08.9**	**+0.6**
PASC	**Pasadena Art C**	**1.96**	**202**	*e*Pn	**Pn**	**20 42 40.5**	**+0.3**
LDFC	**Landfair**	**2.00**	**116**	*e*Pn	**Pn**	**20 42 39.8**	**-1.0**
MLAC	**Mammoth Lakes** baz=2.1	**2.06**	**323**	⇓Pb	**Pb**	**20 42 44.3**	**0.0**
BELC	**Belle Mtn. Jos** baz=2.3,SNR=16	**2.25**	**152**	P	**Pn**	**20 42 44.3**	**-0.1**
BELC				⇓Sb	**Sg**	**20 43 17.9**	**-0.5**
	baz=2.3						
SMMC	**Simmler** baz=2.3	**2.31**	**254**	⇓Sb	**Sg**	**20 43 19.0**	**-1.4**
MURC	**Murrieta** baz=2.4	**2.38**	**178**	⇓Sb	**Sg**	**20 43 22.4**	**-0.4**
PFO	**Pinyon Flat Ob**	**2.47**	**164**	*e*Pn	**Pn**	**20 42 47.3**	**-0.1**
PFO				*e*Pg	**Pg**	**20 42 53.2**	**-0.4**
NV11	**Mina Array Sit**	**2.54**	**344**	*e*Pn	**Pn**	**20 42 49.2**	**+0.8**
CMB	**Columbia Colle**	**3.21**	**310**	*e*Pg	**Pb**	**20 43 03.5**	**-0.4**
BAR	**Barrett**	**3.34**	**171**	*e*Pg	**Pb**	**20 43 07.2**	**+1.1**
CCUT	**Cedar City**	**3.52**	**63**	*e*Pg	**Pg**	**20 43 12.1**	**-1.5**
GLA	**Glamis**	**3.56**	**145**	*e*Pg	**Pg**	**20 43 13.1**	**-1.4**

IDC ***25*** *20:49:30.7±2.6, 43.25N×17.42E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.6/3, Error ellipse: s-maj=51.7km s-min=16.6km az=42.0*

ISCJB ***25*** *20:49:32.6±0.5, 43.38N±0.02×17.05E±0.02, h4km±3km, mb3.4/5, Error ellipse: s-maj=3.6km s-min=1.9km az=36.0*

PDG ***25*** *20:49:33.9±0.4, 43.35N×17.12E, h11km, ML3.4/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

CSEM ***25*** *20:49:34.6±0.1, 43.37N×17.08E, h10km, ML3.4/9, Ms3.7, Error ellipse: s-maj=3.7km s-min=2.4km az=34.0*

LDG ***25*** *20:49:34.1±0.1, 43.43N×17.17E, h10km, Ml3.6/8, Error ellipse: s-maj=3.2km s-

ULC				*e*Sn	**Sb**	**20 50 38.4**	**0.0**	
SISC	**Sisak**	**2.16**	**347**	Sn	**Sb**	**20 50 39.7**	**+0.5**	
SISC	**Sisak**	**2.16**	**347**	Sn	**Sb**	**20 50 39.7**	**+0.5**	
DIVS	**Divibare**	**2.24**	**70**	*e*Pn	**Pn**	**20 50 11.0**	**+0.6**	
DIVS				*e*Sn	**Sn**	**20 50 39.2**	**+1.0**	
DIVS	**Divibare**	**2.24**	**70**	*e*Pn	**Pn**	**20 50 11.0**	**+0.6**	
DIVS				*e*Sn	**Sn**	**20 50 39.2**	**+1.0**	
IVAS	**Ivanjica**	**2.25**	**84**	*e*Pn	**Pn**	**20 50 12.1**	**+1.5**	
IVAS				*e*Sn	**Sn**	**20 50 39.5**	**+1.0**	
IVAS	**Ivanjica**	**2.25**	**84**	*e*Pn	**Pn**	**20 50 12.1**	**+1.5**	
IVAS				*e*Sn	**Sn**	**20 50 39.5**	**+1.0**	
PVY	**Plav**	**2.26**	**109**	⇑*i*Pn	**Pn**	**20 50 12.6**	**+1.9**	
PVY				*e*Sn	**Sb**	**20 50 41.2**	**-0.9**	
BAI	**Bari**	**2.26**	**184**	*e*Pn	**Pn**	**20 50 11.5**	**+0.9**	
BAI				*e*Sn	**Sn**	**20 50 38.0**	**-0.5**	
CDT	**Castel del Mon**	**2.36**	**195**	*e*Pn	**Pn**	**20 50 14.1**	**+2.1**	
BOJS	**Bojanci**	**2.50**	**329**	*i* Pn	**Pb**	**20 50 16.8**	**-1.4**	
BOJS				*i* Sn	**Sb**	**20 50 48.4**	**-0.6**	
BOJS								
	comp=Z,124nm,0.5s							
BOJS	**Bojanci**	**2.50**	**329**	*e*Pn	**Pb**	**20 50 16.9**	**-1.3**	
BOJS				*e*Sn	**Sb**	**20 50 47.8**	**-1.2**	
BOJS	**Bojanci**	**2.50**	**329**	*e*Pn	**Pb**	**20 50 16.9**	**-1.3**	
BOJS				*e*Sn	**Sb**	**20 50 47.8**	**-1.2**	
SG1	**Sgolgore (BA)**	**2.54**	**187**	*e*Pn	**Pn**	**20 50 13.0**	**-1.5**	
SG1				*e*Sn	**Sn**	**20 50 45.4**	**-0.1**	
TRUS	**Trudelj**	**2.56**	**69**	*e*Pn	**Pn**	**20 50 16.6**	**+1.8**	
TRUS				*e*Sn	**Sn**	**20 50 48.1**	**+2.1**	
TRUS	**Trudelj**	**2.56**	**69**	*e*Pn	**Pn**	**20 50 16.6**	**+1.8**	
TRUS				*e*Sn	**Sn**	**20 50 48.1**	**+2.1**	
FGSL	**Fruska Gora**	**2.66**	**47**	*e*Pn	**Pn**	**20 50 17.6**	**+1.5**	
FRGS	**Fruska Gora**	**2.66**	**47**	*e*Pn	**Pn**	**20 50 17.6**	**+1.5**	
FRGS				*e*Sg	**Sg**	**20 50 56.8**	**-1.9**	
GRUS	**Gruza**	**2.70**	**78**	*e*Pn	**Pn**	**20 50 17.8**	**+1.2**	
GRUS				*e*Sn	**Sn**	**20 50 50.9**	**+1.6**	
GRUS	**Gruza**	**2.70**	**78**	*e*Pn	**Pn**	**20 50 17.8**	**+1.2**	
GRUS				*e*Sn	**Sn**	**20 50 50.9**	**+1.6**	
CRES	**Cresnjev**	**2.71**	**335**	*i* Pn	**Pn**	**20 50 19.3**	**+2.4**	
CRES				*i* Sn	**Sb**	**20 50 53.5**	**-1.6**	
CRES								
	comp=Z,92nm,0.3s							
CRES	**Cresnjev**	**2.71**	**335**	*i* Pn	**Pn**	**20 50 19.3**	**+2.4**	
CRES				*i* Sn	**Sb**	**20 50 53.5**	**-1.6**	
	comp=Z,92nm,0.3s							
GOLS	**Golise**	**2.84**	**339**	*i* Pn	**Pn**	**20 50 20.8**	**+2.2**	
GOLS				*e*Sn	**Sn**	**20 50 54.9**	**+2.1**	
GOLS								
	comp=Z,79nm,0.5s							
GOLS	**Golise**	**2.84**	**339**	*i* Pn	**Pn**	**20 50 20.8**	**+2.2**	
GOLS				*e*Sn	**Sn**	**20 50 54.9**	**+2.1**	
	comp=Z,79nm,0.5s							
LEGS	**Legarje**	**2.87**	**335**	*i* Pn	**Pn**	**20 50 21.3**	**+2.4**	
LEGS				*i* Sn	**Sn**	**20 50 55.7**	**+2.2**	
LEGS	**Legarje**	**2.87**	**335**	*i* Pn	**Pn**	**20 50 21.3**	**+2.4**	
LEGS				*i* Sn	**Sn**	**20 50 55.7**	**+2.2**	
AQU	**L'Aquila**	**2.88**	**251**	⇑*i*P	**Pb**	**20 50 22.7**	**-2.0**	
AQU	**L'Aquila**	**2.88**	**251**	⇑*i*P	**Pb**	**20 50 22.7**	**-2.0**	
TIR	**Tirane**	**2.89**	**133**	*e*Pn	**Pn**	**20 50 22.0**	**+2.7**	
TIR	**Tirane**	**2.89**	**133**	*e*Pn	**Pn**	**20 50 22.0**	**+2.7**	
VISS	**Visnje**	**2.91**	**328**	*i* Pn	Pn	20 50 22.6	+3.0	
VISS				*i* Sn	**Sb**	**20 50 59.4**	**-1.5**	
VISS								
	comp=Z,58nm,0.4s							
VISS	**Visnje**	**2.91**	**328**	*i* Pn	Pn	20 50 22.5	+3.0	
VISS				*i* Sn	**Sb**	**20 50 59.3**	**-1.5**	
	comp=Z,58nm,0.4s							
SELS	**Selova**	**2.96**	**91**	*e*Pn	**Pn**	**20 50 21.8**	**+1.5**	
SELS				*e*Sn	**Sn**	**20 50 56.7**	**+0.9**	
SELS	**Selova**	**2.96**	**91**	*e*Pn	**Pn**	**20 50 21.8**	**+1.5**	
SELS				*e*Sn	**Sn**	**20 50 56.7**	**+0.9**	
PKSM	**Moragy**	**3.06**	**21**	⇓*i*P	**Pn**	**20 50 21.8**	**+0.3**	
PKSM	**Moragy**	**3.06**	**21**	*e*Pn	**Pn**	**20 50 22.0**	**+0.5**	
PKSM				*e*Sn	**Sn**	**20 50 59.5**	**+1.4**	
PKSM	**Moragy**	**3.06**	**21**	*e*Pn	**Pn**	**20 50 22.0**	**+0.5**	
PKSM				*e*Sn	**Sn**	**20 50 59.5**	**+1.4**	
PKSM	**Moragy**	**3.06**	**21**	⇑*e*Pn	**Pn**	**20 50 21.8**	**+0.3**	
PKSM				*e*Sn	**Sg**	**20 51 12.0**	**+0.6**	
BEHE	**Becsehely**	**3.11**	**356**	⇑*e*Pn	**Pn**	**20 50 24.3**	**+2.0**	
BEHE	**Becsehely**	**3.11**	**356**	⇑*e*Pn	**Pn**	**20 50 24.3**	**+2.0**	
BEHE				*e*PKiKP	Sg	20 51 21.3	+8.2	
SVIS	**Svilajnac**	**3.13**	**72**	*e*Pn	**Pn**	**20 50 24.0**	**+1.4**	
KOGS	**Kog**	**3.13**	**350**	*i* Pn	**Pn**	**20 50 24.4**	**+1.8**	
KOGS				*i* Sn	**Sn**	**20 51 01.2**	**+1.1**	
KOGS								
	comp=Z,77nm,0.5s							
KOGS	**Kog**	**3.13**	**350**	*i* Pn	**Pn**	**20 50 24.4**	**+1.8**	
KOGS				*i* Sn	**Sn**	**20 51 01.2**	**+1.1**	
	comp=Z,77nm,0.5s							
GROS	**Grobnik**	**3.29**	**341**	*i* Pn	**Pn**	**20 50 26.6**	**+1.8**	
GROS	**Grobnik**	**3.29**	**341**	*i* Pn	**Pn**	**20 50 26.6**	**+1.8**	
PKS9	**Tamasi**	**3.33**	**15**	⇓*e*Pn	**Pn**	**20 50 26.3**	**+1.0**	
PKS9	**Tamasi**	**3.33**	**15**	⇓*e*Pn	**Pn**	**20 50 26.3**	**+1.0**	
PKS9				*e*PKiKP	Sg	20 51 26.4	+6.2	
PKS2	**Kecel**	**3.48**	**25**	⇓*e*Pn	**Pn**	**20 50 28.0**	**+0.7**	
PKS2	**Kecel**	**3.48**	**25**	⇓*e*Pn	**Pn**	**20 50 28.0**	**+0.7**	
VOY	**Vojsko**	**3.50**	**321**	*e*Sn	**Sn**	**20 51 13.3**	**+4.2**	
VOY	**Vojsko**	**3.50**	**321**	*e*Sn	**Sn**	**20 51 13.3**	**+4.2**	
VOJS	**Vojsko**	**3.50**	**321**	*i* Pn	**Pn**	**20 50 30.1**	**+2.4**	
VOJS								
	comp=Z,53nm,0.4s							
VOJS	**Vojsko**	**3.50**	**321**	*i* Pn	**Pn**	**20 50 30.1**	**+2.4**	
	comp=Z,53nm,0.4s							
BARS	**Barje**	**3.52**	**97**	*e*Pn	**Pn**	**20 50 30.4**	**+2.5**	
BARS				*e*Sn	**Sn**	**20 51 10.3**	**+0.7**	
BARS	**Barje**	**3.52**	**97**	*e*Pn	**Pn**	**20 50 30.4**	**+2.5**	
BARS				*e*Sn	**Sn**	**20 51 10.3**	**+0.7**	
SOKA	**Soboth**	**3.61**	**337**	⇑*i*Pn	**Pn**	**20 50 31.5**	**+2.3**	
SOKA				⇑*i*Sn	**Sn**	**20 51 13.8**	**+1.8**	
SOKA	**Soboth**	**3.61**	**337**	Pn	**Pn**	**20 50 31.5**	**+2.3**	
SOKA				Sn	**Sn**	**20 51 13.8**	**+1.8**	
PKS6	**Bocsa**	**3.69**	**28**	⇓*e*Pn	**Pg**	**20 50 44.2**	**+0.4**	
PKS6				*e*Sn	**Sg**	**20 51 33.4**	**+1.9**	
PKST	**T"s**	**3.95**	**10**	⇑*e*Pn	**Pn**	**20 50 34.8**	**+0.9**	
PKST	**T"s**	**3.95**	**10**	⇑*e*Pn	**Pn**	**20 50 34.8**	**+0.9**	
BZS	**Buzias**	**3.96**	**54**	⇓*i*P	**Pn**	**20 50 33.4**	**-0.5**	
BZS	**Buzias**	**3.96**	**54**	*e*Pn	**Pn**	**20 50 33.4**	**-0.2**	
BZS	**Buzias**	**3.96**	**54**	⇓*i*P	**Pn**	**20 50 33.4**	**-0.5**	
BZS	**Buzias**	**3.96**	**54**	*e*Pn	**Pn**	**20 50 33.7**	**-0.2**	
BZS				S	**Sn**	**20 51 19.0**	**-1.3**	
PKS7	**Kunszentmiklos**	**3.97**	**21**	⇓*e*Pn	**Pn**	**20 50 34.4**	**+0.4**	
PKS7	**Kunszentmiklos**	**3.97**	**21**	⇓*e*	**Pn**	**20 50 34.4**	**+0.4**	
ARSA	**Arzberg**	**4.03**	**345**	⇑*i*Pn	**Pn**	**20 50 37.1**	**+2.1**	
	SNR=111							
ARSA				⇑*i*Sn	**Sn**	**20 51 22.9**	**+0.6**	
ARSA	**Arzberg**	**4.03**	**345**	*e*Pn	**Pn**	**20 50 37.2**	**+2.1**	
ARSA	**Arzberg**	**4.03**	**345**	Pn	**Pn**	**20 50 37.1**	**+2.1**	
	SNR=111							
ARSA				Sn	**Sn**	**20 51 22.9**	**+0.6**	
ZAPS	**Zavoj**	**4.06**	**89**	*e*Pn	**Pn**	**20 50 37.7**	**+2.3**	
ZAPS				*e*Sn	**Sn**	**20 51 22.8**	**-0.2**	
MYKA	**Terra Mystica**	**4.07**	**325**	⇓*i*Pn	**Pn**	**20 50 37.6**	**+2.1**	
MYKA	**Terra Mystica**	**4.07**	**325**	Pn	**Pn**	**20 50 37.6**	**+2.1**	
CSKK	**Cs˘‡kako**	**4.08**	**11**	⇓*e*Pn	**Pb**	**20 50 46.0**	**+0.8**	
PKSG		**4.13**	**13**	⇓*e*Pn	**Pn**	**20 50 37.4**	**+1.1**	
PKSG				*e*Sn	**Sn**	**20 51 24.4**	**-0.2**	
PKSG		**4.13**	**13**	⇓*e*Pn	**Pn**	**20 50 37.4**	**+1.1**	
PKSG				*e*Sn	**Sn**	**20 51 24.4**	**-0.2**	
SOP	**Sopron**	**4.33**	**355**	⇓*e*Pn	**Pn**	**20 50 40.7**	**+1.6**	
SOP				*e*Sn	**Sn**	**20 51 30.9**	**+1.3**	
SOP	**Sopron**	**4.33**	**355**	⇓*e*Pn	**Pn**	**20 50 40.7**	**+1.6**	
SOP				*e*Sn	**Sn**	**20 51 30.9**	**+1.3**	
BUD	**Budapest**	**4.34**	**18**	⇓*e*Pn	**Pn**	**20 50 39.8**	**+0.6**	
BUD	**Budapest**	**4.34**	**18**	⇓*e*Pn	**Pn**	**20 50 39.8**	**+0.6**	
KBA	**Koelnbreinsper**	**4.55**	**326**	⇑*i*Pn	**Pn**	**20 50 44.3**	**+2.1**	
KBA				⇑*i*Sn	**Sn**	**20 51 37.9**	**+2.7**	
KBA	**Koelnbreinsper**	**4.55**	**326**	Pn	**Pn**	**20 50 44.3**	**+2.1**	
KBA				Sn	**Sn**	**20 51 37.9**	**+2.7**	
GZR	**Gura Zlata**	**4.57**	**62**	*e*Pn	**Pn**	**20 50 42.7**	**+0.3**	
GZR	**Gura Zlata**	**4.57**	**62**	*e*Pn	**Pn**	**20 50 42.7**	**+0.3**	
VTS	**Vitosha**	**4.57**	**98**	⇑*i*P	**Pn**	**20 50 44.2**	**+1.7**	
VTS	**Vitosha**	**4.57**	**98**	S	**Sn**	**20 51 36.3**	**+0.6**	
VTS	**Vitosha**	**4.57**	**98**	*e*Pn	**Pn**	**20 50 43.8**	**+1.3**	
VTS				*e*Sn	**Sn**	**20 51 36.1**	**+0.4**	
VTS	**Vitosha**	**4.57**	**98**	*e*Pn	**Pn**	**20 50 43.8**	**+1.3**	
VTS	**Vitosha**	**4.57**	**98**	⇑*i*P	**Pn**	**20 50 44.2**	**+1.7**	
VTS				*e*Sn	**Sn**	**20 51 36.1**	**+0.4**	
CONA	**Conrad Observa**	**4.64**	**350**	⇓*i*Pn	**Pn**	**20 50 44.7**	**+1.3**	
	SNR=35							
CONA				⇑*i*Sn	**Sn**	**20 51 38.6**	**+1.3**	
CONA	**Conrad Observa**	**4.64**	**350**	Pn	**Pn**	**20 50 44.7**	**+1.3**	
	SNR=35							
CONA				Sn	**Sn**	**20 51 38.6**	**+1.3**	
MOA	**Molln**	**4.89**	**337**	⇑*i*Pn	Pn	20 50 49.8	+3.0	
	SNR=68							
MOA				⇑*i*Sn	**Sn**	**20 51 45.9**	**+2.4**	
MOA	**Molln**	**4.89**	**337**	Pn	Pn	20 50 49.8	+3.0	
	SNR=68							
MOA				Sn	**Sn**	**20 51 45.9**	**+2.4**	
PSZ	**Piszkesteto**	**4.96**	**23**	⇓*i*P	**Pn**	**20 50 48.2**	**+0.4**	
PSZ	**Piszkesteto**	**4.96**	**23**	⇓*e*Pn	**Pn**	**20 50 48.3**	**+0.4**	
PSZ				*e*Sn	**Sn**	**20 51 42.7**	**-2.6**	
PSZ	**Piszkesteto**	**4.96**	**23**	⇓*e*Pn	**Pn**	**20 50 48.3**	**+0.4**	
PSZ				*e*Sn	**Sn**	**20 51 42.7**	**-2.6**	
SMOL	**Smolenice**	**5.15**	**3**	*e*PN	**Pn**	**20 50 51.8**	**+1.4**	
SMOL				*e*SN	**Sn**	**20 51 48.6**	**-1.2**	
SMOL	**Smolenice**	**5.15**	**3**	*e*Pn	**Pn**	**20 50 51.8**	**+1.4**	
SMOL				*e*Sn	**Sn**	**20 51 48.6**	**-1.2**	
DRGR		**5.26**	**47**	*e*Pn	**Pn**	**20 50 52.7**	**+0.8**	
DRGR		**5.26**	**47**	*e*Pn	**Pn**	**20 50 52.7**	**+0.8**	
VYHS	**Vyhne**	**5.27**	**13**	*e*PN	**Pn**	**20 50 53.0**	**+1.0**	
VYHS				*e*SN	**Sn**	**20 51 52.3**	**-0.5**	
VYHS	**Vyhne**	**5.27**	**13**	*e*Pn	**Pn**	**20 50 53.0**	**+1.0**	
VYHS				*e*Sn	**Sn**	**20 51 52.3**	**-0.5**	
RJOB	**Jochberg**	**5.30**	**327**	*e*Pn	**Pn**	**20 50 55.1**	**+2.7**	
WTTA	**Wattenberg**	**5.46**	**317**	⇓*i*Pn	**Pn**	**20 50 56.8**	**+2.0**	
WTTA				⇑*i*Sn	**Sn**	**20 52 01.6**	**+3.9**	
WTTA	**Wattenberg**	**5.46**	**317**	Pn	**Pn**	**20 50 56.8**	**+2.0**	
WATA	**Walderalm**	**5.54**	**318**	⇑*i*Pn	**Pn**	**20 50 58.3**	**+2.5**	
	SNR=8.4							
WATA				⇓*i*Sn	**Sn**	**20 52 02.8**	**+3.1**	
WATA	**Walderalm**	**5.54**	**318**	Pn	**Pn**	**20 50 58.3**	**+2.5**	
	SNR=8.4							
ARR	**Arges**	**5.78**	**67**	⇓*i*P	**Pn**	**20 51 01.1**	**+2.1**	
ARR	**Arges**	**5.78**	**67**	⇓*i*P	**Pn**	**20 51 01.1**	**+2.1**	
MOTA	**Moosalm**	**5.79**	**315**	*i* Pn	**Pn**	**20 51 02.0**	**+2.8**	
	SNR=12							
MOTA				⇑*i*Sn	**Sn**	**20 52 10.1**	**+4.4**	
MOTA	**Moosalm**	**5.79**	**315**	Pn	**Pn**	**20 51 02.0**	**+2.8**	
	SNR=12							
VRAC	**Vranov**	**5.95**	**357**	Pn	**Pn**	**20 51 03.2**	**+1.9**	
	comp=Z,0.6nm,0.3s,baz=185,slow=12,SNR=6.3							
VRAC				Sn	**Sn**	**20 52 09.1**	**-0.4**	
	comp=Z,1.2nm,0.3s,baz=299,slow=12,SNR=5.3							
VRAC	**Vranov**	**5.95**	**357**	⇓*i*P	**Pn**	**20 51 03.1**	**+1.8**	
VRAC	**Vranov**	**5.95**	**357**	⇓*i*P	**Pn**	**20 51 03.1**	**+1.8**	
VRAC				*e*Sn	**Sn**	**20 52 07.6**	**-1.9**	
VRAC				S	S	20 52 09.6		
GEC2	**GERESS Array S**	**5.96**	**338**	*e*Pn	**Pn**	**20 51 04.2**	**+2.7**	
GERES	**GERESS Array B**	**5.96**	**338**	Pn	**Pn**	**20 51 04.0**	**+2.6**	
	comp=Z,1.4nm,0.3s,baz=156,slow=14,SNR=49							
GERES				Sn	**Sn**	**20 52 10.7**	**+0.9**	
	comp=Z,4.2nm,0.3s,baz=151,slow=23,SNR=12							
PGF	**Pioggiola**	**5.98**	**265**	*e*Pn	**Pn**	**20 51 01.4**	**-0.4**	
PGF	**Pioggiola**	**5.98**	**265**	*e*Pn	**Pn**	**20 51 01.4**	**-0.4**	
DAVOX	**Davos/Dischmat**	**6.13**	**306**	Pn	**Pn**	**20 51 06.1**	**+2.2**	
	baz=117,slow=11							
DAVOX				Sn	**Sn**	**20 52 16.0**	**+1.9**	
	comp=Z,1.5nm,0.3s,baz=2.2,slow=21,SNR=3.2							
KHC	**Kasperske Hory**	**6.25**	**338**	*e*PN	**Pn**	**20 51 08.2**	**+2.7**	
KHC				*e*SN	**Sn**	**20 52 16.1**	**-0.8**	
KHC	**Kasperske Hory**	**6.25**	**338**	Pn	**Pn**	**20 51 08.2**	**+2.7**	
KHC				Sn	**Sn**	**20 52 16.1**	**-0.8**	
CRVS	**Cervenica-Dubn**	**6.32**	**27**	*e*PN	**Pn**	**20 51 08.3**	**+1.9**	
CRVS				*e*SN	**Sn**	**20 52 14.6**	**-4.0**	
CRVS	**Cervenica-Dubn**	**6.32**	**27**	*e*Pn	**Pn**	**20 51 08.3**	**+1.9**	
DAVA	**Damuels**	**6.40**	**310**	⇓*i*Pn	Pn	20 51 11.4	+3.7	
DAVA				⇑*i*Sn	**Sn**	**20 52 23.7**	**+2.8**	
DAVA	**Damuels**	**6.40**	**310**	Pn	Pn	20 51 11.4	+3.7	
MORC	**Moravsky Berou**	**6.42**	**3**	⇓*i*P	**Pn**	**20 51 09.9**	**+2.1**	
MORC	**Moravsky Berou**	**6.42**	**3**	*e*Pn	**Pn**	**20 51 09.6**	**+1.8**	
MORC	**Moravsky Berou**	**6.42**	**3**	⇓*i*P	**Pn**	**20 51 09.9**	**+2.1**	
MORC				S	**Sn**	**20 52 22.0**	**+0.9**	
WET	**Wettzell**	**6.47**	**335**	*e*Pn	**Pn**	**20 51 10.8**	**+2.4**	
KOLS	**Kolonicke sedl**	**6.64**	**31**	*e*PN	Pn	20 51 13.8	+3.1	
KOLS				*e*SN	**Sn**	**20 52 23.3**	**-3.1**	
KOLS				*e*SG	**Sg**	**20 53 07.1**	**+1.0**	
KOLS	**Kolonicke sedl**	**6.64**	**31**	*e*Pn	Pn	20 51 13.8	+3.1	
PRU	**Pruhonice**	**6.85**	**346**	*e*PN	**Pn**	**20 51 15.9**	**+2.3**	
PRU				*e*SN	**Sn**	**20 52 30.5**	**-1.0**	
PRU	**Pruhonice**	**6.85**	**346**	Pn	**Pn**	**20 51 15.9**	**+2.3**	
PRU				Sn	**Sn**	**20 52 30.5**	**-1.0**	
SBF	**Sospel**	**7.01**	**277**	*e*Pn	**Pn**	**20 51 14.7**	**-1.2**	
SBF				*e*Sn	Sn	20 52 30.4	-5.3	
	comp=Z,4.3nm,0.2s							
SBF	**Sospel**	**7.01**	**277**	*e*Pn	**Pn**	**20 51 14.7**	**-1.2**	
ROTZ	**Rotzenmuhle**	**7.22**	**334**	*e*Pn	**Pn**	**20 51 20.2**	**+1.4**	
MBDF	**Montbardon**	**7.54**	**284**	*e*Pn	**Pn**	**20 51 23.5**	**+0.2**	
MBDF				*e*Sn	Sn	20 52 43.0	-5.9	
	comp=Z,7.5nm,0.6s							
MBDF	**Montbardon**	**7.54**	**284**	*e*Pn	**Pn**	**20 51 23.5**	**+0.2**	
FRF	**La Foret Royal**	**7.58**	**275**	*e*Pn	**Pn**	**20 51 25.2**	**+1.5**	
FRF	**La Foret Royal**	**7.58**	**275**	*e*Pn	**Pn**	**20 51 25.2**	**+1.5**	
LPG	**La Plagne**	**7.69**	**290**	*e*Pn	**Pn**	**20 51 26.1**	**+0.7**	
LPG				*e*Sn	Sn	20 52 46.9	-5.7	
	comp=Z,9.7nm,0.5s							
LPG	**La Plagne**	**7.69**	**290**	*e*Pn	**Pn**	**20 51 26.1**	**+0.7**	
LMR	**La Mourre**	**7.70**	**273**	*e*Pn	**Pn**	**20 51 25.6**	**+0.3**	
LMR	**La Mourre**	**7.70**	**273**	*e*Pn	**Pn**	**20 51 25.6**	**+0.3**	
LPL	**La Plagne**	**7.70**	**290**	*e*Pn	**Pn**	**20 51 26.0**	**+0.4**	
LPL				*e*Sn	Sn	20 52 47.0	-5.9	
	comp=Z,7.0nm,0.4s							
LPL	**La Plagne**	**7.70**	**290**	*e*Pn	**Pn**	**20 51 26.0**	**+0.4**	
BRG	**Berggiesshubel**	**7.80**	**345**	SG	**Sb**	**20 53 15.9**	**-5.6**	
	comp=Z,7.5nm,0.9s							
BFO	**Black Forest**	**7.86**	**312**	*e*Pn	**Pn**	**20 51 28.6**	**+1.0**	
MOX	**Moxa**	**8.18**	**335**	*e*Pn	**Pn**	**20 51 34.6**	**+2.8**	
ORIF	**Oris-en-Rattie**	**8.20**	**285**	*e*Pn	**Pn**	**20 51 33.1**	**+0.9**	
ORIF				*e*Sn	Sn	20 52 58.7	-6.2	
	comp=Z,9.3nm,0.5s							
ORIF	**Oris-en-Rattie**	**8.20**	**285**	*e*Pn	**Pn**	**20 51 33.1**	**+0.9**	
CLL	**Collm**	**8.41**	**342**	*e*Pn	Pn	20 51 31.0	-4.0	
CLL				*e*Sn	Sn	20 52 59.0	-11	
CLL				*e*Sb	Sb	20 53 39.0	+0.2	
CLL				*e*Sg	**Sg**	**20 53 59.0**	**-3.9**	
HINF	**Hinteralfeld**	**8.43**	**305**	*e*Pn	**Pn**	**20 51 34.1**	**-1.3**	
HINF				*e*Sn	Sn	20 53 03.4	-7.1	
	comp=Z,8.4nm,0.6s							
HINF	**Hinteralfeld**	**8.43**	**305**	*e*Pn	**Pn**	**20 51 34.1**	**-1.3**	
CABF	**La Chapelle**	**8.43**	**296**	*e*Pn	**Pn**	**20 51 34.5**	**-0.9**	
CABF	**La Chapelle**	**8.43**	**296**	*e*Pn	**Pn**	**20 51 34.5**	**-0.9**	
CDF	**Champ du Feu**	**8.49**	**310**	*e*Sn	Sn	20 53 05.4	-6.6	
	comp=Z,6.7nm,0.7s							
HAU	**Haudompre**	**8.82**	**305**	*e*Sn	Sn	20 53 13.4	-6.7	
	comp=Z,3.8nm,0.4s							
SMF	**Signal de Mont**	**9.93**	**294**	*e*Pn	**Pn**	**20 51 55.3**	**-0.5**	
SMF	**Signal de Mont**	**9.93**	**294**	*e*Pn	**Pn**	**20 51 55.3**	**-0.5**	
LOR	**Lormes**	**10.09**	**297**	*e*Pn	**Pn**	**20 51 57.6**	**-0.4**	
	baz=120							
LOR	**Lormes**	**10.09**	**297**	*e*Pn	**Pn**	**20 51 57.6**	**-0.4**	
	baz=120							
HFS	**Hagfors**	**16.92**	**354**	Pn	**P**	**20 53 32.0**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=8.6							
FINES	**FINESS Array B**	**18.89**	**13**	P	**P**	**20 53 52.9**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=5.3							
ARCES	**ARCESS Array B**	**26.59**	**7**	P	**P**	**20 55 09.9**	**-1.2**	
	comp=Z,1.2nm,0.5s,baz=183,slow=9.5,SNR=17							
ZALV	**Zalesovo Beam**	**44.35**	**52**	P	P	20 57 40.1	-3.1	
	comp=Z,0.3nm,0.4s,baz=280,slow=8.6,SNR=3.2							
MKAR	**Makanchi Array**	**45.00**	**62**	P	**P**	**20 57 46.1**	**-2.5**	
	comp=Z,0.1nm,0.5s,baz=268,slow=8.1,SNR=4.9							
SONM	**Songino Array**	**59.24**	**52**	P	**P**	**20 59 33.2**	**-1.4**	
	comp=Z,0.2nm,0.7s,baz=289,slow=8.7,SNR=3.4							
CMAR	**Chiang Mai Arr**	**71.75**	**82**	P	**P**	**21 00 54.4**	**-1.5**	
	comp=Z,0.4nm,0.3s,baz=312,slow=7.2,SNR=3.8							

NIED ***25*** *21:15:00.39˚.70N×142˚.60E,h29km,Mw3.9 Best double couple: M₀6.87000×10¹⁴ NP1:φ₀250.00000°,δ73.00000°, λ148.00000°. NP2:φ₀350.00000°,δ59.00000°,λ20.00000°.*

JMA ***25*** *21:15:43.2±0.1,39˚.71N×142˚.65E,h31km±1km,M3.7*

ISCJB ***25*** *21:15:44.2±1.0,39˚.67N±0˚.04×142˚.60E±0˚.10,h46km±8km, mb3.6/9,MS4.0/2,Error ellipse: s-maj=12.6km s-min=6.3km az=4.6*

IDC ***25*** *21:15:48.9±2.7,39˚.58N×142˚.40E,h70km±23km,mb3.4/9, mb1 3.6/12,mb1mx3.4/27,mbtmp3.4/12,MS3.6/3, Ms1 3.7/3,ms1mx3.0/25,Error ellipse: s-maj=25.5km s-min=15.5km az=93.0*

ISC 25 21:15:44.6±2.7, 39.72N±0.05×142.6E±0.1, h32km±16km**, n26,σ1§11/33, mb3.5/9, 4C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.57**	**293**	P	**Pn**	**21 15 55.8**	**-0.8**
JTH				S	**Sn**	**21 16 05.0**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.58**	**256**	⇓P	**Pn**	**21 15 55.8**	**-0.9**
MIYJ				S	**Sb**	**21 16 04.5**	**0.0**
OFUJ	**Ofunato**	**0.93**	**227**	⇑P	**Pn**	**21 16 00.8**	**-0.7**
OFUJ				S	**Sn**	**21 16 13.5**	**-0.3**
JKZ	**Kuzumaki**	**0.98**	**286**	⇓P	**Pn**	**21 16 02.2**	**0.0**
JKZ				eS	**Sn**	**21 16 15.6**	**+0.6**
JOM	**Ohasama**	**1.00**	**256**	P	**Pn**	**21 16 02.7**	**+0.2**
JOM				S	**Sb**	**21 16 16.5**	**+0.2**
JANG	**Nango**	**1.03**	**310**	⇓P	**Pn**	**21 16 01.8**	**-1.1**
JMK	**Ichinoseki**	**1.28**	**234**	⇑P	**Pn**	**21 16 06.3**	**0.0**
JMK				*e*S	**Sb**	**21 16 23.1**	**-1.2**
JRG	**Rokugo**	**1.52**	**258**	⇑P	**Pn**	**21 16 10.8**	**+1.3**
JRG				S	**Sb**	**21 16 31.6**	**+0.7**
JAH	**Hinai**	**1.54**	**288**	⇓P	**Pn**	**21 16 10.8**	**+0.9**
JAH				S	**Sb**	**21 16 31.3**	**-0.5**
JTM	**Tenmabayashi**	**1.56**	**314**	⇓P	**Pn**	**21 16 10.1**	**0.0**
JTM				S	**Sn**

11nm,1.2s
PPT2 Papeete2 25.10 81 *e*P P 21 51 15.8 -4.1
60nm,1.1s
PPT2 *e*LQ LQ 21 56 11.6
4µm,22.8s
PPT2 *e*LR LR 21 57 09.3
8µm,22.0s,baz=248
PPT Papeete 25.11 81 LR LR 21 58 58.1
comp=Z,6µm,20.4s,baz=221,slow=31
TIAR Tiarei 25.32 81 *e*P P 21 51 17.6 -4.3
92nm,1.1s
TVO Taravao 25.34 82 *e*P P 21 51 17.4 -4.6
100nm,1.2s
HNR Honiara 27.30 297 LR LR 22 00 26.2
comp=Z,3µm,21.7s,baz=333,slow=32
CTAO Charters Tower 35.48 268 *e*P **P 21 52 52.1 +0.4**
CTAO *e* 21 55 20.4
CTAO pmax pmax
comp=Z,138nm,1.9s
CTAO Charters Tower 35.48 268 *e*P **P 21 52 52.1 +0.4**
comp=Z,138nm,1.9s
CTAO *e*PcP **PcP 21 55 20.4 +0.1**
RKT Rikitea 37.23 98 *e*LQ LQ 22 01 12.7
comp=Z,530nm,27.5s
RKT *e*LR LR 22 02 49.6
comp=Z,4µm,23.2s,baz=264
PMG Port Moresby 38.25 285 P **P 21 53 14.8 -0.4**
comp=Z,15nm,0.6s,baz=199,slow=6.5,SNR=6.2
PMG Port Moresby 38.25 285 *e*P **P 21 53 15.1 -0.1**
STKA Stephens Creek 38.52 248 P **P 21 53 17.2 -0.1**
comp=Z,3.1nm,0.5s,baz=91,slow=9.1,SNR=7.8
STKA LR LR 22 08 50.7
comp=Z,6µm,18.2s,baz=78,slow=36
STKA Stephens Creek 38.52 248 *e*P **P 21 53 17.9 +0.6**
AS31 Alice Springs 46.02 259 *e*P **P 21 54 17.2 -1.3**
ASAR Alice Springs 46.02 259 P **P 21 54 17.1 -1.4**
comp=Z,9.2nm,0.8s,baz=100,slow=7.3,SNR=34
ASAR S **S 22 01 00.2 +0.1**
comp=Z,0.6nm,0.6s,baz=97,slow=14,SNR=3.9
ASAR LR LR 22 13 41.4
comp=Z,7µm,18.2s,baz=105,slow=36
ASAR Alice Springs 46.02 259 P **P 21 54 17.1 -1.4**
ASAR S **S 22 01 00.2 +0.1**
WRAB Tennant Creek 46.41 265 *e*P **P 21 54 19.1 -2.5**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 46.41 265 *e*P **P 21 54 19.1 -2.5**
comp=Z,14nm,0.9s
WRAB Tennant Creek 46.41 265 P **P 21 54 19.0 -2.5**
comp=Z,88nm,0.7s,SNR=5.5
WRA Warramunga Arr 46.42 264 P **P 21 54 19.0 -2.6**
comp=Z,10.0nm,0.6s,baz=101,slow=8.3,SNR=29
WRA S **S 22 01 04.6 -1.3**
comp=Z,0.8nm,0.9s,baz=100,slow=15,SNR=3.3
WRA LR LR 22 13 42.2
comp=Z,5µm,19.0s,baz=95,slow=36
WRA Warramunga Arr 46.42 264 P **P 21 54 19.0 -2.6**
WRA S **S 22 01 04.6 -1.3**
KIP Kipapa 48.00 22⇓ *e*P **P 21 54 35.2 +1.5**
KIP pmax pmax
comp=Z,72nm,1.0s
FORT Forrest 50.13 249 *e*P **P 21 54 48.6 -1.5**
comp=Z,23nm,0.7s
GUMO Guam 53.52 310 LR LR 22 16 26.4
comp=Z,856nm,18.5s,baz=127,slow=34
FITZ Fitzroy Crossi 54.84 264 *e*P **P 21 55 25.2 +0.1**
comp=Z,7.9nm,0.8s
SBA Scott Base 54.87 184 *e*P **P 21 55 27.1 +2.7**
SBA pmax pmax
comp=Z,139nm,2.1s
SBA Scott Base 54.87 184 *e*P **P 21 55 27.1 +2.7**
comp=Z,138nm,2.1s
VNDA Vanda 54.97 186 P **P 21 55 26.2 +1.1**
comp=Z,2.4nm,0.9s,baz=355,slow=7.0,SNR=6.8
VNDA LR LR 22 14 39.1
comp=Z,1µm,19.4s,baz=18,slow=31
VNDA Vanda 54.97 186 *e*P **P 21 55 27.4 +2.3**
KAPI Kappang 64.78 276 LR LR 22 24 52.4
comp=Z,1µm,18.2s,baz=30,slow=36
CBIJ Chichi jima 64.87 319 LR LR 22 21 01.4
comp=Z,2µm,20.8s,baz=117,slow=33
QSPA South Pole Qui 66.40 180 P **P 21 56 43.9 +0.6**
comp=Z,5.1nm,0.9s,baz=37,slow=3.2,SNR=13
QSPA South Pole Qui 66.40 180 P **P 21 56 43.9 +0.6**
JHJ Hachijo jima 2 70.69 321 LR LR 22 24 08.1
comp=Z,391nm,19.1s,baz=92,slow=32
MJAR Matsushiro Arr 74.06 323 P **P 21 57 28.7 -1.6**
comp=Z,3.6nm,0.7s,baz=158,slow=6.1,SNR=13
MJAR LR LR 22 29 14.9
comp=Z,872nm,18.8s,baz=105,slow=35
MJAR Matsushiro Arr 74.06 323 P **P 21 57 28.7 -1.6**
KSM Kuching 76.03 278 *e*P **P 21 57 42.3 +0.2**
comp=Z,8.9nm,0.7s
YUK Yuzh-Kuril'sk 76.07 332 *i* P P 21 57 36.0 -5.6
YUK *i* S **S 22 07 19.7 -1.3**
YUK *i* SS **SS 22 12 17.9 +2.3**
YUK pmax pmax
comp=N,397nm,1.3s
YUK pmax pmax
comp=E,935nm,1.3s
YUK pmax pmax
comp=Z,1µm,1.5s
YUK pmax pmax
comp=Z,2µm,1.7s
YUK MLR MLR
comp=N,1µm,21.0s
YUK MLR MLR
comp=E,309nm,21.0s
JNU Nakatsue 76.09 316 LR LR 22 27 44.0
comp=E,944nm,19.5s,baz=92,slow=33
SSLB Suanglung 77.55 303 *e*P **P 21 57 49.0 -1.5**
comp=E,196nm,2.2s
ASAJ Asahikawa 77.56 331 LR LR 22 31 14.1
comp=E,1µm,19.5s,baz=174,slow=35
SKR Severo-Kuril's 78.14 342 P **P 21 57 51.2 -1.8**
SKR *e* 22 00 56.0
SKR *e*S **S 22 07 46.0 +2.9**
SKR *e* 22 08 18.0
SKR *e*PS **PnS 22 08 30.0 -0.6**
SKR pmax pmax
comp=Z,400nm,1.5s
SKR smax smax
comp=N,3µm,10.0s
SKR smax smax
comp=E,3µm,10.0s
SKR MLR MLR
comp=Z,3µm,20.0s
MAW Mawson 79.32 199 LR LR 22 32 56.8
comp=Z,3µm,18.9s,baz=117,slow=36
PET Petropavlovsk 79.59 345 *e*P **P 21 57 58.4 -2.6**
PET *e*S **S 22 08 00.3 +1.7**
PET *e*PPS PPS 22 08 57.4
PET pmax pmax
comp=Z,400nm,14.5s
PET MLR MLR
comp=Z,1µm,21.0s
PET MLR MLR
comp=Z,900nm,15.0s
YSS Yuzh-Sakhalins 79.72 332⇑ *e*P **P 21 58 03.0 +1.2**
YSS *e* 21 58 10.0
YSS *e* 21 58 17.3
YSS *e*S **S 22 08 03.0 +2.9**
YSS *e*PS PnS 22 08 39.0 -12
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,1µm,3.0s
YSS MLR MLR
comp=Z,800nm,16.0s
YSS MLR MLR
comp=E,800nm,18.0s
YSS Yuzh-Sakhalins 79.72 332 *e*P **P 21 58 01.6 -0.2**
comp=E,71nm,1.0s
PEA0B Petropavlovsk- 79.91 344 *e*P **P 21 58 03.2 +0.4**
PETK Petropavlovsk- 79.91 344 P **P 21 58 02.5 -0.2**
comp=E,25nm,1.0s,baz=133,slow=6.8,SNR=19
PETK LR LR 22 31 12.7
comp=E,803nm,19.8s,baz=164,slow=34
PETK Petropavlovsk- 79.91 344 P **P 21 58 02.5 -0.2**
PETK Petropavlovsk- 79.91 344 P **P 21 58 02.5 -0.2**
QZH Quanzhou 79.98 303 P **P 21 58 04.0 +0.2**
QZH LR LR
comp=N,3µm,24.0s
QZH LR LR
comp=E,2µm,19.0s
QZH LR LR
comp=Z,2µm,20.9s
PFO Pinyon Flat Ob 80.09 47 P **P 21 58 04.0 -0.4**
comp=Z,38nm,0.3s,SNR=6.5
CMB Columbia Colle 80.35 41 *e*P **P 21 58 06.2 +0.7**
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 80.35 41 *e*P **P 21 58 06.2 +0.7**
comp=Z,11nm,1.1s
BELC Belle Mtn. Jos 80.63 47⇑P **P 21 58 06.8 -0.5**
baz=81
KSRS Korea Array 80.72 318 P **P 21 58 08.1 +0.6**
comp=Z,3.4nm,0.7s,baz=136,slow=6.3,SNR=8.2
KSRS LR LR 22 30 17.3
comp=Z,1µm,19.7s,baz=139,slow=33
KSAR Wonju Array Be 80.73 318 P **P 21 58 08.1 +0.5**
WDC Whiskeytown Da 80.76 38 P **P 21 58 07.0 -0.6**
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 80.76 38 P **P 21 58 07.0 -0.6**
comp=Z,10nm,1.0s
MPMC Manual Prospec 80.91 44⇑P **P 21 58 08.8 0.0**
baz=81
HEC Hector,Ludlow 80.91 46⇓P **P 21 58 09.0 +0.3**
baz=81
IRM Iron Mountain 81.29 47⇑P **P 21 58 10.9 +0.3**
baz=82
SSE Sheshan 81.40 309⇑P **P 21 58 11.5 +0.3**
SSE PP **PP 22 01 15.5 -2.6**
SSE S **S 22 08 20.8 +2.3**
SSE sS **SKKSac 22 08 26.0 -3.2**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,350nm,9.7s
SSE LR LR
comp=N,370nm,18.7s
SSE LR LR
comp=E,240nm,18.7s
SSE LR LR
comp=Z,700nm,17.4s
YBH Yreka Blue Hor 81.44 37 *e*P **P 21 58 11.6 +0.2**
comp=Z,87nm,2.2s
TUQ Turquoise Moun 81.54 45⇑P **P 21 58 12.2 +0.2**
baz=82
LDFC Landfair 81.86 46 *e*P **P 21 58 13.7 -0.1**
NVAR Mina Array Bea 81.86 42 P **P 21 58 13.0 -0.9**
comp=Z,6.9nm,1.0s,baz=223,slow=7.7,SNR=8.5
NVAR LR LR 22 27 02.4
comp=Z,1µm,21.4s,baz=117,slow=30
NVAR Mina Array Bea 81.86 42 P **P 21 58 13.0 -0.9**
PDMCI Parker Dam,Lak 82.05 47⇑P **P 21 58 15.3 +0.7**
baz=82
Z14A Wintersburg 82.33 49⇓P **P 21 58 16.7 +0.6**
baz=83
Y14A Wickenburg 82.62 48⇑P **P 21 58 17.7 +0.1**
baz=83
W13A Hualapai Mount 82.69 47⇑P **P 21 58 18.0 -0.2**
baz=83
USRK Ussuriysk Arra 82.81 325 P **P 21 58 18.3 0.0**
comp=Z,30nm,1.0s,baz=142,slow=3.0,SNR=41
R11A Troy Canyon, C 83.50 43⇓P **P 21 58 21.7 -0.6**
baz=84
NJ2 Nanjing 83.59 309 *e*P **P 21 58 24.3 +1.7**
NJ2 pP **PcP 21 58 27.3 +0.6**
NJ2 sP sP 21 58 28.3 -15
NJ2 PP **PP 22 01 36.0 0.0**
NJ2 S **SKKSac 22 08 46.0 +0.4**
NJ2 sS **ScS 22 08 52.0 -1.7**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,230nm,8.7s
NJ2 LR LR
comp=N,4µm,20.7s
NJ2 LR LR
comp=E,2µm,14.6s
NJ2 LR LR
comp=Z,8µm,15.2s
319A Douglas 83.82 52⇓P **P 21 58 23.8 -0.2**
baz=84
X16A Lo Mia Camp, P 83.96 48⇑P **P 21 58 24.6 -0.1**
baz=84
SYO Syowa Base 84.10 192⇑ *e*pP pP 21 58 43.0 +3.0
QIZ Qiongzhong 84.15 294 P **P 21 58 25.8 0.0**
QIZ sP sP 21 58 31.0 -16
QIZ S **ScS 22 08 52.8 -6.1**
QIZ pmax pmax
comp=Z,440nm,6.9s
QIZ LR LR
comp=E,370nm,18.8s
QIZ LR LR
comp=Z,870nm,19.8s
HABR Khabarovsk 84.29 330 *ce*P **P 21 58 27.2 +1.4**
HABR *e**SP sP 21 58 36.4 -11
HABR *e* 22 01 38.5
HABR PPP PPP 22 03 31.9
HABR S **S 22 08 44.1 -3.0**
HABR *e*SSS SSS 22 17 48.2
HABR MLR MLR
comp=Z,503nm,22.0s
MDJ Mudanjiang 84.38 324 P **P 21 58 27.8 +1.5**
MDJ pP **PcP 21 58 31.0 +1.1**
MDJ sP sP 21 58 32.5 -15
MDJ PP **PP 22 01 42.5 +0.3**
MDJ S **ScS 22 08 54.5 -5.2**
MDJ sS SKKSac 22 09 00.3 +9.3
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ pmax pmax
comp=Z,560nm,5.9s
MDJ LR LR
comp=N,560nm,18.6s
MDJ LR LR
comp=E,690nm,18.4s
MDJ LR LR
comp=Z,940nm,20.1s
CCUT Cedar City 84.45 45 *e*P **P 21 58 27.8 +0.6**
comp=Z,13nm,1.1s
U15A North Rim 84.51 46⇓P **P 21 58 27.0 -0.6**
baz=85
ARUT Antelope Range 84.54 45 *e*P **P 21 58 28.4 +0.8**
ARUT pmax pmax
comp=Z,11nm,0.9s
ARUT Antelope Range 84.54 45 *e*P **P 21 58 28.4 +0.8**
comp=Z,11nm,0.9s
WUAZ Wupatki 84.61 48⇓P **P 21 58 27.4 -0.6**
baz=85
220A Playas Peak, P 84.64 52⇑P **P 21 58 27.8 -0.4**
baz=85
SNAA Sanae 84.77 178 *e*P **P 21 58 28.1 -0.1**
comp=Z,103nm,2.3s
VNA3 Neumayer Olymp 84.82 175 *e*P **P 21 58 28.1 -0.3**
ELK Elko 85.15 42 *e*P **P 21 58 30.3 -0.4**
Z20A Nine Sixteen R 85.24 51⇑P **P 21 58 31.1 0.0**
baz=86,SNR=5.1
VNA2 Neumayer--Watz 85.29 176 *e*P **P 21 58 30.7 0.0**
baz=166,slow=3.3
PLCA Paso Flores 85.50 133 P **P 21 58 32.7 +0.2**
comp=Z,3.5nm,0.9s,baz=219,slow=9.4,SNR=4.4
PLCA LR LR 22 31 58.3
comp=Z,576nm,18.2s,baz=231,slow=32
PLCA Paso Flores 85.50 133 *e*P **P 21 58 33.8 +1.3**
VNA1 Neumayer--Stat 85.50 176 *e*P **P 21 58 31.9 +0.2**
DL2 Dalian 85.54 316 P **P 21 58 30.5 -1.8**
DL2 S **S 22 08 58.8 -1.1**
DL2 pmax pmax
comp=Z,300nm,7.1s
DL2 LR LR
comp=N,400nm,17.1s
DL2 LR LR
comp=E,300nm,21.0s
DL2 LR LR
comp=Z,500nm,19.4s
MSU Marysvale 85.77 45 *e*P **P 21 58 34.0 +0.2**
MSU Marysvale 85.77 45 *e*P **P 21 58 34.0 +0.2**
Y20A Horse Springs, 85.81 50⇑P **P 21 58 34.5 +0.4**
baz=86,SNR=6.6
WHN Wuhan 86.09 306 P **P 21 58 35.3 +0.1**
WHN S **S 22 09 07.0 +1.4**
WHN pmax pmax
comp=Z,2µm,5.6s
WHN LR LR
comp=N,1µm,16.8s
WHN LR LR
comp=E,1µm,17.3s
WHN LR LR
comp=Z,3µm,20.3s
CN2 Changchun 86.15 322 *e*P **P 21 58 35.3 +0.1**
CN2 *e*PP **PP 22 01 57.8 +1.1**
CN2 SKS **SKSac 22 08 58.0 +1.3**
CN2 *e*S **S 22 09 08.0 +2.3**
CN2 *e*SS **SS 22 14 50.3 +4.3**
CN2 pmax pmax
comp=Z,40nm,1.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,700nm,18.0s
CN2 LR LR
comp=Z,1µm,19.0s
P15A Leamington 86.31 44⇓P **P 21 58 36.1 -0.2**
baz=87
Y21A Point of Rocks 86.36 50⇓P **P 21 58 36.9 +0.1**
baz=87,SNR=6.4
W20A Ramah 86.37 49⇑P **P 21 58 36.5 -0.3**
baz=87
KLR Kul'dur 86.38 329 *e*P P 21 58 32.7 -3.5
KLR *e*S **S 22 09 03.5 -4.2**
KLR pmax pmax
comp=Z,1µm,7.0s
Z22A Elephant Butte 86.47 51⇓P **P 21 58 36.6 -0.7**
baz=87
X21A Alamocita Cree 86.51 50⇓P **P 21 58 37.3 -0.2**
baz=87
324A Moseley Ranch, 86.63 54⇓P **P 21 58 37.7 -0.3**
baz=87
425A Indio Mountain 86.67 54⇓P **P 21 58 38.1 -0.2**
baz=87,SNR=8.8
626A Big Bend Ranch 86.70 56⇓P **P 21 58 37.8 -0.6**
baz=87,SNR=8.1
V20A Brimhall 86.75 49⇓P **P 21 58 38.6 0.0**
baz=87
Y22A Socorro 86.83 51⇑P **P 21 58 39.0 -0.1**
baz=87
TMUT Trail Mountain 86.83 45 *e*P **P 21 58 42.0 +2.9**
comp=Z,19nm,1.0s
LENM Lemitar 86.94 51 *e*P **P 21 58 41.8 +2.2**
LAZ Ladron 86.94 50 *e*P **P 21 58 39.8 +0.2**
comp=Z,6.7nm,1.2s
PSI Prapat 86.95 274 LR LR 22 38 39.5
comp=Z,649nm,20.9s,baz=264,slow=36
TXAR Lajitas Array 86.95 56 P **P 21 58 39.8 +0.2**
comp=Z,4.4nm,0.8s,baz=206,slow=7.7,SNR=20
TXAR LR LR 22 31 29.8
comp=Z,2µm,19.3s,baz=235,slow=32
TXAR Lajitas Array 86.95 56 P **P 21 58 39.8 +0.2**
W21A San Fidel 86.96 50⇑P **P 21 58 39.2 -0.5**
baz=87
526A Mary Lane Ranc 86.98 55⇑P **P 21 58 39.3 -0.5**
baz=87,SNR=9.1
BNM Barren Site 87.17 51 *e*P **P 21 58 41.0 +0.2**
comp=Z,12nm,1.2s
627A Terlingua Ranc 87.22 56⇑P **P 21 58 40.2 -0.8**
baz=88,SNR=9.1
P17A Butcher Ranch, 87.23 45⇓P **P 21 58 40.3 -0.5**
baz=88
LPM Los Pinos Moun 87.25 51 *e*P **P 21 58 43.6 +2.5**
124A Stringfield Ra 87.28 53⇑P **P 21 58 41.0 -0.3**
baz=88
426A McDonald Obser 87.33 55⇓P **P 21 58 41.1 -0.5**
baz=88
HLID Hailey 87.33 40⇑P **P 21 58 41.0 -0.2**
baz=88
J13A Cove Ranch, Pi 87.37 40⇑P **P 21 58 41.2 -0.2**
baz=88
527A Woodward Ranch 87.39 56⇓P **P 21 58 41.1 -0.7**
baz=88
Y23A Lovelace Mesa, 87.47 51⇑P **P 21 58 41.6 -0.6**
baz=88
O17A Robinson Place 87.64 44⇑P **P 21 58 42.2 -0.6**
baz=88
P18A Preston Nutter 87.64 45⇑P **P 21 58 42.2 -0.7**
baz=88
U21A Nageezi 87.64 48⇑P **P 21 58 42.7 -0.2**
baz=88
H12A Diamond D Ranc 87.66 39⇓P **P 21 58 42.1 -0.7**
baz=88
Z24A Sheeppen Canyo 87.66 52⇑P **P 21 58 42.5 -0.6**
baz=88
ANMO Albuquerque 87.70 50 *e*P **P 21 58 42.7 -0.6**
comp=Z,14nm,1.2s
X23A Hourglass Bar 87.71 51⇓P **P 21 58 42.8 -0.5**
baz=88
I13A Wildhorse Cree 87.71 39⇓P **P 21 58 42.2 -0.9**
baz=88
G12A Big Creek, Yel 87.74 38⇓P **P 21 58 42.5 -0.7**
baz=88
GDL2 Guadalupe Moun 87.83 53 *e*P **P 21 58 45.8 +2.0**
125A Gardner Draw, 87.84 53⇓P **P 21 58 42.8 -1.1**
baz=88
427A Hayter Ranch, 87.89 55⇑P **P 21 58 43.0 -1.1**
baz=88
S20A Disappointment 87.90 47⇑P **P 21 58 43.0 -1.2**
baz=88
HWUT Hardware Ranch 87.91 42 *e*P **P 21 58 46.9 +2.8**
comp=Z,66nm,2.8s
Q19A Hogan Spring (87.91 46⇓P **P 21 58 42.8 -1.3**
baz=88
Y24A Capitan 87.91 52⇓P **P 21 58 43.1 -1.1**
baz=88
H13A Challis 88.01 39⇑P **P 21 58 43.4 -1.0**
baz=88
528A Cox Ranch, San 88.02 56⇓P **P 21 58 43.3 -1.5**
baz=88
Z25A Roswell 88.11 52⇑P **P 21 58 44.6 -0.6**
baz=88
S21A Coal Bank Pass 88.20 47⇓P **P 21 58 44.6 -1.1**
baz=88
L16A Fish Haven 88.22 42⇑P **P 21 58 44.9 -0.7**
baz=88
529A Stev Forest Ra 88.43 56⇓P **P 21 58 45.2 -1.4**
baz=89
T22A Edith 88.46 48⇑P **P 21 58 46.2 -0.6**
baz=89
Q20A Ridgley Place, 88.55 46⇑P **P 21 58 46.9 -0.2**
baz=89
H14A Leadore 88.56 39⇑P **P 21 58 47.1 0.0**
baz=89
W24A Lazy 6 Ranch, 88.58 50⇓P **P 21 58 47.2 -0.2**
baz=89
Z26A Caprock 88.64 53⇑P **P 21 58 47.1 -0.6**
baz=89
R21A Cimarron 88.73 47⇓P **P 21 58 47.4 -0.7**
baz=89
X25A Clemmons Ranch 88.77 51⇑P **P 21 58 47.7 -0.6**
baz=89
S22A 4UR Ranch, Cre 88.89 48⇑P **P 21 58 48.0 -0.9**
baz=89
429A Davenport Ranc 88.92 56⇓P **P 21 58 48.2 -0.7**
baz=89
MCMT McKenzie Canyo 88.98 39 *e*P **P 21 58 50.4 +1.3**
E13A Victor 89.17 37⇑P **P 21 58 49.6 -0.2**
baz=90
SKAG Skagway 89.22 19 *e*P P 21 58 52.6 +3.1
comp=Z,27nm,1.0s
W25A X Bar L Ranch, 89.25 51⇓P **P 21 58 48.8 -1.7**
baz=90
329A Wagon Wheel Ra 89.26 55⇑P **P 21 58 49.7 -0.8**
baz=90
631A Perdido Creek 89.36 57⇑P **P 21 58 50.3 -0.7**
baz=90
X26A CR and CF Fran 89.39 52⇑P **P 21 58 51.0 -0.2**
baz=90
D13A Huson 89.40 37⇑P **P 21 58 50.8 0.0**
baz=90
Q22A Crested Butte, 89.42 47⇓P **P 21 58 50.3 -1.0**
baz=90
V25A Rancho No Teng 89.45 50⇑P **P 21 58 49.8 -1.7**
baz=90
MSO Missoula 89.53 37 *e*P **P 21 58 54.0 +2.5**
L19A Farson 89.56 43⇓P **P 21 58 51.0 -0.8**
baz=90
N20A Spence Gulch, 89.57 44⇓P **P 21 58 51.1 -0.9**
baz=90
IMW Indian Meadow 89.58 41 *e*P **P 21 58 51.9 -0.1**
comp=Z,5.4nm,0.6s
PAX Paxson 89.61 13 *e*P **P 21 58 54.0 +2.6**
PAX pmax pmax
comp=Z,22nm,1.3s
PAX Paxson 89.61 13 *e*P **P 21 58 54.0 +2.6**
comp=Z,22nm,1.3s
BJI Beijing 89.69 315 P **P 21 58 53.3 +1.1**

BJI PP **PP** **22 02 25.5 +0.4**
BJI SKS **SKSac** **22 09 22.8 +4.6**
BJI S **ScS** **22 09 44.8 +1.0**
BJI SS **SS** **22 15 41.3 +3.6**
BJI pmax pmax
comp=Z,20nm,2.5s
BJI pmax pmax
comp=Z,620nm,6.9s
BJI LR LR
comp=N,430nm,24.2s
BJI LR LR
comp=E,420nm,19.5s
BJI LR LR
comp=Z,450nm,26.5s
J18A Kendall Valley **89.75 42** ⇓P **P** **21 58 51.1 -1.7**
baz=90
PDAR Pinedale Array **89.79 42** P **P**
comp=Z,2.1nm,0.9s,baz=203,slow=3.2,SNR=10.0
PDAR LR LR 22 31 11.2
comp=Z,828nm,21.6s,baz=235,slow=30
PDAR Pinedale Array **89.79 42** P **P** **21 58 52.0 -1.0**
R23A Moffat **89.80 48** ⇑P **P** **21 58 51.6 -1.5**
baz=90
H16A Russell Place, **89.85 40** ⇓P **P** **21 58 52.2 -0.9**
baz=90
MSTX Muleshoe **89.86 53** ⇑P **P** **21 58 52.1 -1.2**
baz=90
A12A Yaak River Ran **89.87 35** ⇓P **P** **21 58 52.3 -0.6**
baz=90
D14A Greenough **89.92 37** ⇓P **P** **21 58 52.2 -1.1**
baz=90
S24A Houchin Ranch, **89.94 48** ⇓P **P** **21 58 53.5 -0.3**
baz=90
CHMT Chamberlain Mo **89.97 37** *e*P **P** **21 58 54.6 +1.0**
comp=Z,1.5nm,1.0s
SEY Seymchan **89.97 346**⇑ *e*P **P** **21 58 52.8 -0.1**
N21A Black Mountain **90.01 45** ⇓P **P** **21 58 53.0 -1.0**
baz=90
632A Uvalde **90.01 58** ⇑P **P** **21 58 53.7 -0.3**
baz=90
V26A Tequesquite Ra **90.02 51** ⇑P **P** **21 58 53.5 -0.5**
baz=90
GYA Guiyang **90.12 299**⇑ *i*P **P** **21 58 55.5 +0.8**
GYA PP **PP** **22 02 31.3 +2.3**
GYA SKS **SKSac** **22 09 25.8 +4.2**
GYA S **ScS** **22 09 47.5 -0.8**
GYA SS **SS** **22 15 49.0 +4.3**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA LR LR
comp=N,680nm,20.3s
GYA LR LR
comp=E,560nm,21.5s
GYA LR LR
comp=Z,610nm,20.8s
DLBC Dease Lake **90.13 22** *e*P **P** **21 58 54.3 +0.4**
L20A Wamsutter **90.14 43** ⇓P **P** **21 58 53.6 -1.0**
baz=90
I18A Diamond G Ranc **90.14 41** ⇓P **P** **21 58 54.4 -0.2**
baz=90
BOZ Bozeman (W) **90.16 39** *e*P **P** **21 58 54.2 -0.3**
BOZ pmax pmax
comp=Z,7.0nm,0.6s
BOZ Bozeman (W) **90.16 39** *e*P **P** **21 58 54.2 -0.3**
comp=Z,6.6nm,0.6s
BOZ Bozeman (W) **90.16 39** ⇓P **P** **21 58 54.2 -0.3**
baz=90
W27A Bowe Ranch, En **90.18 52** ⇓P **P** **21 58 54.7 0.0**
baz=90
532A Rocksprings **90.21 57** ⇑P **P** **21 58 54.0 -1.0**
baz=90
T25A Trinidad **90.24 49** ⇓P **P** **21 58 54.1 -1.1**
baz=90
Z29A Hungry Hill Ra **90.30 54** ⇑P **P** **21 58 55.1 -0.3**
baz=91
R24A Sanders Place, **90.31 48** ⇓P **P** **21 58 55.0 -0.5**
baz=91
O22A Kremmling **90.33 46** ⇓P **P** **21 58 54.7 -0.9**
baz=91
U26A Atchley Ranch, **90.34 50** ⇓P **P** **21 58 55.0 -0.6**
baz=91
D15A Lincoln **90.45 38** ⇑P **P** **21 58 55.9 +0.1**
baz=91
S25A Robets Cordova **90.48 49** ⇓P **P** **21 58 55.7 -0.6**
baz=91
DOT Dot Lake **90.51 14** *e*P **P** **21 58 55.7 +0.2**
comp=Z,15nm,1.0s
E16A East Helena **90.63 38** ⇓P **P** **21 58 56.4 -0.3**
baz=91
432A Menard **90.63 56** ⇑P **P** **21 58 56.8 -0.1**
baz=91
Q24A Divide **90.65 47** ⇑P **P** **21 58 56.7 -0.5**
baz=91
N22A Wattenberg Ran **90.72 45** ⇑P **P** **21 58 56.7 -0.7**
baz=91
231A Bronte **90.72 55** ⇓P **P** **21 58 56.9 -0.4**
baz=91
L21A Rawlins **90.73 44** ⇑P **P** **21 58 56.7 -0.6**
baz=91
Z30A Sanderson Ranc **90.74 54** ⇓P **P** **21 58 57.1 -0.3**
baz=91
O23A Lake Granby, G **90.77 46** ⇑P **P** **21 58 57.4 -0.3**
baz=91
B14A Marquette Ranc **90.80 36** ⇑P **P** **21 58 57.1 -0.2**
baz=91
C15A Salmond Ranch, **90.82 37** ⇓P **P** **21 58 57.4 -0.1**
baz=91
I19A Meeteetse **90.83 41** ⇓P **P** **21 58 57.8 +0.1**
baz=91
COLA College **90.85 11** *e*P **P** **21 58 56.2 -0.8**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College **90.85 11** *e*P **P** **21 58 56.2 -0.8**
comp=Z,7.4nm,0.9s
F17A Fitzpatrick Pl **90.86 39** ⇓P **P** **21 58 58.1 +0.3**
baz=91
332A Millersview **90.90 56** ⇓P **P** **21 58 57.5 -0.7**
baz=91
ILAR Eielson Array **90.94 12** P **P** **21 58 56.8 -0.7**
comp=Z,3.9nm,1.0s,baz=220,slow=5.4,SNR=12
ILAR Eielson Array **90.94 12** P **P** **21 58 56.8 -0.7**
M22A Cedar Creek Ra **90.94 45** ⇑P **P** **21 58 57.7 -0.7**
baz=91
D16A Dana Ranch, Ca **90.99 38** ⇑P **P** **21 58 57.3 -1.0**
baz=91
J20A Shoshoni **91.02 42** ⇓P **P** **21 58 58.2 -0.4**
baz=91
E17A Martinsdale **91.06 39** ⇓P **P** **21 58 58.2 -0.5**
baz=91
A14A Double T Ranch **91.08 36** ⇑P **P** **21 58 58.2 -0.5**
baz=91
S26A Kim **91.13 49** ⇑P **P** **21 58 58.7 -0.5**
baz=91
B15A Bradely Ranch, **91.16 37** ⇓P **P** **21 58 58.8 -0.2**
baz=91
H19A Powell **91.17 41** ⇓P **P** **21 58 59.1 -0.1**
baz=92
G18A Lazy EL Ranch, **91.18 40** ⇓P **P** **21 58 58.4 -0.9**
baz=92
RLMT Red Lodge **91.25 40** *e*P **P** **21 58 59.4 -0.2**
RLMT Red Lodge **91.25 40** ⇑P **P** **21 58 58.7 -0.9**
baz=92
C16A Fuhringer Ranc **91.31 37** ⇓P **P** **21 58 59.1 -0.6**
baz=92
F18A Big Timber **91.41 40** ⇓P **P** **21 59 00.1 -0.2**
baz=92
A15A Johnson Ranch, **91.45 36** ⇑P **P** **21 59 00.3 -0.1**
baz=92
CFAA Coronel Fontan **91.46 125** LR LR 22 35 30.0
comp=Z,119nm,18.2s,baz=103,slow=32
R26A Arlington **91.48 49** ⇓P **P** **21 59 00.3 -0.5**
baz=92
Z31A Sharp Cattle R **91.49 54** ⇑P **P** **21 59 00.4 -0.4**
baz=92
D17A Six Diamond Ra **91.54 38** ⇓P **P** **21 59 00.2 -0.7**
baz=92
S27A Las Animas **91.56 49** ⇑P **P** **21 59 00.2 -1.0**
baz=92
P25A Willow Gulch B **91.58 47** ⇑P **P** **21 59 00.0 -1.3**
baz=92
E18A Harlowton **91.66 39** ⇑P **P** **21 59 01.0 -0.4**
baz=92
Y31A Rekieta Farm, **91.70 54** ⇑P **P** **21 59 01.5 -0.2**
baz=92
Q26A Hugo **91.73 48** ⇓P **P** **21 59 01.3 -0.6**
baz=92
I21A Big Trails, Te **91.75 42** ⇑P **P** **21 59 01.2 -0.8**
baz=92

C17A Wharram Farm, **91.77 38** ⇓P **P** **21 59 00.9 -1.0**
baz=92
XAN Xi'an **91.79 306** P **P** **21 59 02.5 +0.3**
XAN SKS **SKSac** **22 09 34.3 +3.6**
XAN S ScS 22 10 09.3 +7.5
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,83nm,7.6s
XAN LR LR
comp=N,310nm,17.8s
XAN LR LR
comp=E,310nm,20.2s
XAN LR LR
comp=Z,310nm,21.5s
T28A Walsh **91.84 50** ⇑P **P** **21 59 00.9 -1.5**
baz=92
F19A Roth Farm, Mol **91.84 40** ⇓P **P** **21 59 01.7 -0.5**
baz=92
L23A Garrett **91.88 44** ⇑P **P** **21 59 02.0 -0.7**
baz=92
R27A Eads **91.92 49** ⇓P **P** **21 59 01.8 -1.0**
baz=92
DAWY Dawson **91.92 15** *e*P **P** **21 59 02.0 -0.1**
Z32A Haskell **91.98 54** ⇓P **P** **21 59 02.3 -0.7**
baz=92
X31A McDonald Ranch **92.21 53** ⇑P **P** **21 59 03.3 -0.9**
baz=92
E19A Rath Farm, Rou **92.26 39** ⇓P **P** **21 59 03.2 -0.9**
baz=92
I22A 9 Mile Ranch, **92.29 43** ⇑P **P** **21 59 03.7 -0.8**
baz=93
Y32A R-V Farms, Ver **92.32 54** ⇓P **P** **21 59 03.8 -0.9**
baz=93
H21A Big Horn, Sher **92.33 42** ⇓P **P** **21 59 05.2 +0.6**
baz=93
BILL Bilibino **92.42 353**⇓ *i*P **P** **21 59 04.7 +0.4**
BILL *i* S **SKSac** **22 09 36.2 +3.6**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL Bilibino **92.42 353** *e*P **P** **21 59 04.4 +0.1**
comp=Z,8.5nm,1.0s
A17A Triple J Farms **92.53 37** ⇑P **P** **21 59 05.6 +0.3**
baz=93
D19A Cripps Ranch, **92.58 39** ⇑P **P** **21 59 05.8 +0.2**
baz=93
E20A Meyer Farm, Mu **92.66 40** ⇓P **P** **21 59 06.0 0.0**
baz=93
H22A Clearmont **92.73 42** ⇓P **P** **21 59 05.2 -1.2**
baz=93
KMI Kunming **92.73 296** P **P** **21 59 08.0 +1.0**
KMI pP pP 21 59 18.5 -3.9
KMI PP **PP** **22 02 48.3 -1.6**
KMI SKS **SKSac** **22 09 39.8 +3.0**
KMI S **ScS** **22 10 08.8 -1.5**
KMI SS **SS** **22 16 20.8 -1.9**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,340nm,5.7s
KMI LR LR
comp=N,260nm,15.3s
KMI LR LR
comp=E,510nm,19.0s
KMI LR LR
comp=Z,640nm,19.6s
B18A Beardsley Farm **92.74 38** ⇑P **P** **21 59 06.8 +0.5**
baz=93
C19A Slack Wire Ran **92.79 38** ⇓P **P** **21 59 06.6 0.0**
baz=93
F21A Absaloka Mine, **92.90 41** ⇑P **P** **21 59 07.9 +0.8**
baz=93
WHTX Lake Whitney **92.92 56** ⇑P **P** **21 59 07.8 +0.3**
baz=93
D20A Manuel Ranch, **92.97 39** ⇓P **P** **21 59 07.6 +0.3**
baz=93
A18A Metzger Ranch, **92.99 37** ⇓P **P** **21 59 07.5 +0.1**
baz=93
G22A Birney **93.09 41** ⇓P **P** **21 59 08.8 +0.8**
baz=93
HHC Hu-ho-hao-te **93.14 313** *e*P **P** **21 59 07.5 -0.8**
HHC sP sP 21 59 14.3 -15
HHC PP **PP** **22 02 48.5 -4.0**
HHC SKS **SKSac** **22 09 40.5 +2.5**
HHC S **ScS** **22 10 12.5 -0.2**
HHC sS sS 22 10 24.0 -13
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,400nm,8.8s
HHC LR LR
comp=N,470nm,18.1s
HHC LR LR
comp=E,710nm,19.4s
HHC LR LR
comp=Z,870nm,23.1s
J24A Dixon Ranch, L **93.15 44** ⇑P **P** **21 59 08.6 +0.2**
baz=93
CM31 Chiang Mai Arr **93.23 289** *e*P **P** **21 59 09.1 -0.1**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr **93.23 289** P **P** **21 59 10.2 +1.1**
comp=Z,9.3nm,0.9s,baz=137,slow=2.8,SNR=43
CMAR LR LR 22 41 14.6
comp=Z,366nm,18.6s,baz=305,slow=36
CMAR Chiang Mai Arr **93.23 289** P **P** **21 59 10.2 +1.1**
B19A Brinkman Farms **93.24 38** ⇓P **P** **21 59 09.0 +0.4**
baz=94
K25A Mack Ranch, Ha **93.30 45** ⇑P **P** **21 59 09.5 +0.4**
baz=94
C20A Veseth Ranch, **93.38 39** ⇓P **P** **21 59 09.6 +0.4**
baz=94
F22A Rosebud **93.40 41** ⇑P **P** **21 59 09.8 +0.5**
baz=94
I24A Kuemmerle Ranc **93.43 43** ⇑P **P** **21 59 09.8 +0.1**
baz=94
A19A Klindworth Far **93.61 37** ⇓P **P** **21 59 10.5 +0.3**
baz=94
D21A La Casta Ranch **93.62 40** ⇑P **P** **21 59 10.5 +0.1**
baz=94
G23A Biddle **93.63 42** ⇓P **P** **21 59 10.4 -0.1**
baz=94
H24A Dirks Ranch, A **93.92 43** ⇑P **P** **21 59 10.6 -1.2**
baz=94
RSSD Black Hills **93.93 43** *e*P **P** **21 59 10.9 -1.2**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills **93.93 43** *e*P **P** **21 59 10.9 -1.2**
comp=Z,9.6nm,0.9s
A20A Cobblestone Ra **94.04 38** ⇑P **P** **21 59 12.6 +0.4**
baz=94
BTO Baotou **94.05 313** *e*P **P** **21 59 12.5 -0.1**
E23A Ismay **94.33 41** ⇓P **P** **21 59 14.2 +0.6**
baz=95
CD2 Chengdu **94.34 302** P **P** **21 59 16.0 +1.9**
CD2 pP PcP 21 59 21.0 +6.6
CD2 sP sP 21 59 23.0 -12
CD2 PP **PP** **22 03 05.5 +3.4**
CD2 SKS **SKSac** **22 09 49.5 +4.6**
CD2 S **ScS** **22 10 24.5 +1.4**
CD2 sS S 22 10 32.3 +10
CD2 SS SS 22 16 50.0 +4.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,360nm,8.8s
CD2 LR LR
comp=N,820nm,20.2s
CD2 LR LR
comp=Z,820nm,17.8s
K27A Flueckinger Fa **94.40 45** ⇑P **P** **21 59 14.3 +0.2**
baz=95
A21A Bergtoll Ranch **94.66 38** ⇓P **P** **21 59 15.6 +0.5**
baz=95
D23A Lindsay **94.73 40** ⇓P **P** **21 59 15.7 +0.2**
baz=95
C23A Lambert **95.06 40** ⇑P **P** **21 59 17.0 +0.1**
baz=95
LVC Linron Verde **95.22 117** *e*P **P** **21 59 20.4 +1.7**
D24A Glendive **95.22 41** ⇓P **P** **21 59 17.6 -0.1**
baz=96
YAK Yakutsk **95.88 337** *e*P **P** **21 59 17.4 -2.8**
YAK *e* 22 03 10.8
YAK *e*PPP PPP 22 05 20.6
YAK *e**SS S 22 10 27.2 -6.5
YAK *e*SS **SS** **22 16 58.6 -6.9**
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK pmax pmax
comp=Z,112nm,4.7s
YAK pmax pmax
comp=N,49nm,5.2s
YAK pmax pmax
comp=E,24nm,1.7s
LZH Lanzhou **96.43 306** *e*P P 21 59 25.8 +2.2
LZH pP PcP 21 59 29.0 +5.2
LZH sP sP 21 59 30.3 -15
LZH *e*PP **PP** **22 03 22.0 +3.6**
LZH SKS **SKSac** **22 10 00.5 +4.4**
LZH *e*S **ScS** **22 10 42.0 +1.4**
LZH sS S 22 10 50.0 +10
LZH SS **SS** **22 17 18.5 +3.6**
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,150nm,8.3s
LZH LR LR
comp=N,810nm,17.8s
LZH LR LR
comp=E,840nm,18.3s
LZH LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar **98.48 24** P **P** **21 59 30.1 -1.9**
comp=Z,0.9nm,0.9s,baz=236,slow=4.3,SNR=12
YKA Yellowknife Ar **98.48 24** P **P** **21 59 30.1 -1.9**
ECSD EROS Data Cent **98.54 46** *e*P Pdif 21 59 33.5 +0.7
comp=Z,6.3nm,1.0s
LPAZ La Paz **98.82 112** LR LR 22 36 15.6
comp=Z,767nm,19.0s,baz=166,slow=31
ULN Ulaanbaatar **99.19 318** *e*P **Pdif** **21 59 35.4 -0.3**
SONM Songino Array **99.58 318** P **Pdif** **21 59 37.8 +0.4**
comp=Z,0.7nm,0.7s,baz=138,slow=3.0,SNR=6.7
SONM LR LR 22 40 44.5
comp=Z,492nm,21.3s,baz=112,slow=33
SONM Songino Array **99.58 318** P **Pdif** **21 59 37.8 +0.4**
GTA Gaotai **100.67 308** *e*P **Pdif** **21 59 43.8 +1.3**
GTA pP pP 21 59 48.3 -10
GTA sP sP 21 59 50.5 -13
GTA PP **PP** **22 03 52.3 +1.6**
GTA SKS **SKSac** **22 10 21.0 +3.8**
GTA S SKKSac 22 11 17.0 +25
GTA sS sS 22 11 24.5 -18
GTA SS **SS** **22 18 18.3 +4.1**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,350nm,19.9s
GTA LR LR
comp=E,480nm,20.4s
GTA LR LR
comp=Z,720nm,19.9s
TLY Talaya **102.74 321** *e*P **Pdif** **21 59 55.8 +4.5**
TLY *e*S SKKSac 22 11 21.5 +15
TLY *e* 22 13 17.8
TLY *e*SS **SS** **22 18 41.6 -0.5**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,821nm,20.0s
WMQ Urumqi **110.66 310** *e*Pdif **Pdif** **22 00 28.8 +2.1**
WMQ PKP **PKiKP** **22 04 28.0 +1.3**
WMQ PP **PP** **22 05 07.0 +2.7**
WMQ PKS **PKSdf** **22 08 01.5 -1.8**
WMQ SKS **SKSdf** **22 11 38.5 +4.1**
WMQ S SKKSac 22 12 41.0 +39
WMQ AMB AMB
comp=Z,41nm,15.0s
WMQ LR LR
comp=N,210nm,20.0s
WMQ LR LR
comp=E,610nm,23.0s
WMQ LR LR
comp=Z,810nm,24.0s
ZALV Zalesovo Beam **114.34 320** PKP PKPdf 22 04 31.9 -1.4
comp=Z,0.9nm,0.5s,baz=1.4,slow=0.7,SNR=5.7
ZALV Zalesovo Beam **114.34 320** PKIKP PKPdf 22 04 31.9 -1.4
ZALV Zalesovo Beam **114.34 320** PKP PKPdf 22 04 31.9 -1.4
MKAR Makanchi Array **114.96 312** PKP PKPdf 22 04 32.4 -2.4
comp=Z,0.8nm,0.8s,baz=82,slow=3.4,SNR=8.6
MKAR Makanchi Array **114.96 312** PKIKP PKPdf 22 04 32.4 -2.4
MKAR Makanchi Array **114.96 312** PKP PKPdf 22 04 32.4 -2.4
KURK Kurchatov **117.81 316**⇑ *i*PKIKP **PKPdf** **22 04 39.6 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov **117.81 316** *e*PKPdf **PKPdf** **22 04 39.4 -0.7**
KSH Kashi **118.49 303** *e*PKP **PKPdf** **22 04 42.0 +0.1**
KSH *e*PP PP 22 06 04.8 +5.0
KSH PKS **PKSdf** **22 08 17.3 -1.4**
KSH SKS **SKSdf** **22 11 53.3 +3.6**
KSH SKKS **SKKSac** **22 12 56.8 +1.5**
KSH SS SS 22 22 19.5 +6.0
KSH AMB AMB
comp=Z,100nm,10.1s
KSH LR LR
comp=N,85nm,7.4s
KSH LR LR
comp=E,160nm,6.5s
KSH LR LR
comp=Z,500nm,19.3s
AAK Ala-Archa **119.97 307**⇓ *i*PKIKP **PKPdf** **22 04 43.0 -1.8**
AAK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array **122.92 319** PKP **PKPdf** **22 04 49.0 -0.8**
comp=Z,3.3nm,0.8s,baz=96,slow=3.0,SNR=12
BVAR Borovoye Array **122.92 319** PKIKP **PKPdf** **22 04 49.0 -0.8**
BVAR Borovoye Array **122.92 319** PKP **PKPdf** **22 04 49.0 -0.8**
KKAR Karatay Array **122.93 307** *e*PKIKP **PKPdf** **22 04 49.7 -0.6**
KKAR Karatay Array **122.93 307** *e*PKPdf **PKPdf** **22 04 49.7 -0.6**
BRVK Borovoye **122.98 319**⇓ *i*PKIKP **PKPdf** **22 04 49.9 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul **123.31 297** *e*PKIKP **PKPdf** **22 04 51.4 -0.1**
KBL Kabul **123.31 297** *e*PKPdf **PKPdf** **22 04 51.4 -0.1**
BOSA Boshof **124.25 202** PKP **PKPdf** **22 04 54.1 +0.7**
comp=Z,7.8nm,1.1s,baz=30,slow=3.7,SNR=4.7
BOSA Boshof **124.25 202** PKP **PKPdf** **22 04 54.1 +0.7**
DAG Danmarks Havn **125.66 6** *i* P **PKPdf** **22 04 55.2 +0.7**
DAG
comp=Z,2μm,22.0s
SUMG Summit **125.69 15** *e*PKIKP **PKPdf** **22 04 55.8 +0.6**
SUMG Summit **125.69 15** *e*PKPdf **PKPdf** **22 04 55.8 +0.6**
SUMG Summit **125.69 15** *i* P **PKPdf** **22 04 56.5 +1.3**
comp=Z,7.1nm,1.1s
SUMG
comp=Z,2μm,19.0s
SVE Sverdlovsk **127.85 325** *i* PKIKP **PKPdf** **22 04 59.0 -0.2**
SVE pmax pmax
comp=Z,11nm,1.2s
ARU Arti **129.06 325** *i* PKIKP **PKPdf** **22 05 01.7 +0.3**
ARU 22 07 09.8
ARU MLR MLR
comp=Z,1μm,23.0s
ARU Arti **129.06 325** *e*PKPdf **PKPdf** **22 05 01.8 +0.3**
ABKAR Akbulak array **129.89 315** *e*PKPdf **PKPdf** **22 05 04.2 +0.9**
ARCES ARCESS Array B **132.43 350** PKP **PKPdf** **22 05 06.2 -1.3**
comp=Z,4.3nm,1.0s,baz=256,slow=1.2,SNR=6.0
ARCES ARCESS Array B **132.43 350** PKP **PKPdf** **22 05 06.2 -1.3**
KLMR Klimovskoe **135.66 336** *e*PKIKP **PKPdf** **22 05 15.5 +1.7**
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR MLR MLR
comp=Z,912nm,23.0s
FINES FINESS Array B **139.43 344** PKP **PKPdf** **22 05 19.4 -1.3**
comp=Z,3.1nm,0.8s,baz=45,slow=6.2,SNR=6.8
FINES FINESS Array B **139.43 344** PKP **PKPdf** **22 05 19.4 -1.3**
KMBO Kilima Mbogo **139.64 237** *e*PKPdf **PKPdf** **22 05 24.0 +1.0**
MAK Makhachkala **139.67 309** *i* PKIKP **PKPdf** **22 05 20.6 -1.1**
MAK pmax pmax
comp=Z,88nm,0.7s
NB2 NORSAR Subarra **142.37 355** PKP **PKPdf** **22 05 22.6 -3.5**
comp=Z,1.0nm,0.8s,baz=16,slow=3.5
NOA NORSAR Array B **142.37 355** PKhKP PKPpre 22 05 22.9
comp=Z,1.5nm,0.9s,baz=13,slow=4.1,SNR=5.3
NOA NORSAR Array B **142.37 355** PKPpre PKPpre 22 05 22.9
KBZ Khabaz **142.66 312** PKP **PKPdf** **22 05 24.9 -2.2**
comp=Z,1.8nm,1.0s,baz=88,slow=2.8,SNR=4.0
KBZ Khabaz **142.66 312** PKIKP **PKPdf** **22 05 24.9 -2.2**
KBZ Khabaz **142.66 312** PKP **PKPdf** **22 05 24.9 -2.2**

KIV	**Kislovodsk**	**142.73 312**	*i* PKIKP	**PKPdf**	**22 05 28.3**	**+0.9**	
KIV			pmax	pmax			
	comp=Z,7.0nm,1.1s						
KIV			MLR	MLR			
	comp=Z,701nm,22.0s						
BHD	**Baghdad**	**143.74 294**	*e*PKP	**PKPdf**	**22 05 29.4**	**+0.1**	
BHD			*e*PP	PP	22 08 31.7	-11	
BHD			*e*SKS	**SKSdf**	**22 12 29.5**	**-5.1**	
BHD			*e*SS	**SS**	**22 27 25.5**	**+3.2**	
DESE	**Dese**	**144.21 256**	*e*P	**PKPab**	**22 05 27.7**	**-1.3**	
MICGM	**Minsk**	**144.57 336**	*e*P	PKPab	22 05 23.0	-5.7	
MNK	**Minsk**	**144.58 336**	PKHKP	PKPpre	22 05 23.0		
NACGM	**Naroch**	**144.65 338**	*e*P	**PKPab**	**22 05 27.0**	**-2.0**	
SOC	**Sochi**	**144.87 313**	*e*PKHKP	PKPpre	22 05 22.0		
SOC			*i*		22 05 33.4		
SOC			MLR	MLR			
	comp=Z,1μm,22.0s						
ANN	**Anapa**	**145.84 316**	*i* PKP2	**PKPab**	**22 05 33.5**	**-0.2**	
ANN			pmax	pmax			
	comp=Z,278nm,2.6s						
SUW	**Suwalki**	**146.57 340**	*e*PKP	**PKPbc**	**22 05 33.7**	**-1.5**	
SUW	**Suwalki**	**146.57 340**	*e*PKP2	**PKPab**	**22 05 35.1**	**-1.1**	
SUW	**Suwalki**	**146.57 340**	*e*PKPdf	**PKPab**	**22 05 35.0**	**-1.1**	
SUW	**Suwalki**	**146.57 340**	*e*PKP	**PKPbc**	**22 05 33.6**	**-1.5**	
AKASG	**Malin Array Be**	**146.85 331**	PKPbc	**PKPbc**	**22 05 35.5**	**-0.6**	
	comp=Z,24nm,0.9s,baz=39,slow=3.5,SNR=18						
AKASG	**Malin Array Be**	**146.85 331**	PKP2	**PKPbc**	**22 05 35.5**	**-0.6**	
AKASG	**Malin Array Be**	**146.85 331**	PKPbc	**PKPbc**	**22 05 35.5**	**-0.6**	
AK01	**Malin Array Si**	**146.86 331**	*e*PKPdf	**PKPbc**	**22 05 35.0**	**-1.0**	
KIEV	**Kiev**	**146.86 331**	*e*PKP2	**PKPbc**	**22 05 35.2**	**-0.8**	
KIEV	**Kiev**	**146.86 331**	*e*PKPdf	**PKPbc**	**22 05 35.2**	**-0.8**	
AK02	**Malin Array Si**	**146.89 331**	*e*PKPdf	**PKPbc**	**22 05 35.2**	**-0.9**	
MUD	**Monsted U'grnd**	**147.07 355**	*i* P	**PKPab**	**22 05 36.6**	**-1.5**	
	comp=Z,33nm,1.0s						
MUD							
	comp=Z,990nm,20.0s						
COP	**Copenhagen**	**147.49 352**	*i* P	**PKPab**	**22 05 37.9**	**-1.8**	
COP							
	comp=Z,370nm,18.0s						
MALT	**Malatya**	**147.57 305**	*e*PKP2	**PKPab**	**22 05 39.8**	**-1.1**	
MALT	**Malatya**	**147.57 305**	*e*PKP	**PKPab**	**22 05 39.8**	**-1.1**	
BSD	**Bornholm Skovb**	**147.64 349**	*i* P	**PKPbc**	**22 05 37.8**	**-0.3**	
	comp=Z,27nm,1.0s						
BSD							
	comp=Z,490nm,22.0s						
SIM	**Simferopol'**	**147.83 319**	*i* PKP2	**PKPab**	**22 05 39.8**	**-1.7**	
SIM			pmax	pmax			
	comp=Z,190nm,14.0s						
BEL	**Belsk**	**149.19 340**	*e*PKP	**PKPbc**	**22 05 42.5**	**+0.2**	
BEL	**Belsk**	**149.19 340**	*e*PKP	**PKPbc**	**22 05 42.4**	**+0.2**	
BSEG	**Bad Segeberg**	**149.46 353**	*e*PKP2	**PKPbc**	**22 05 43.2**	**+0.4**	
BSEG	**Bad Segeberg**	**149.46 353**	*e*PKPbc	**PKPbc**	**22 05 43.2**	**+0.4**	
KIS	**Kishinev**	**149.59 326**	*e*PKP	**PKPbc**	**22 05 42.0**	**-1.4**	
KIS			LRM	MLR	23 17 04.0		
	comp=Z,700nm,22.0s						
LVV	**L'vov**	**149.71 334**	*e*PKP2	**PKPbc**	**22 05 43.0**	**-0.6**	
LVV			MLR	MLR			
	comp=N,400nm,22.0s						
LVV			MLR	MLR			
	comp=E,300nm,22.0s						
LVV			MLR	MLR			
	comp=Z,800nm,22.0s						
RUE	**Ruedersdorf**	**150.36 348**	*e*PKPbc	**PKPbc**	**22 05 45.5**	**+0.5**	
KWP	**Kalwaria Pacla**	**150.38 336**	*e*PKP	**PKPbc**	**22 05 45.7**	**+0.4**	
KWP	**Kalwaria Pacla**	**150.38 336**	*e*PKIKP	**PKPbc**	**22 05 41.9**	**-3.3**	
KWP	**Kalwaria Pacla**	**150.38 336**	*e*PKPdf	**PKPbc**	**22 05 41.9**	**-3.3**	
KWP	**Kalwaria Pacla**	**150.38 336**	⇓*i*P	**PKPbc**	**22 05 45.5**	**+0.3**	
KWP	**Kalwaria Pacla**	**150.38 336**	*e*PKP	**PKPbc**	**22 05 45.6**	**+0.4**	
BR131	**Keskin Array S**	**150.58 310**	*e*PKPdf	**PKPdf**	**22 05 41.8**	**+1.1**	
BRTR	**Keskin Array B**	**150.58 310**	PKPbc	**PKPbc**	**22 05 45.7**	**-0.5**	
	comp=Z,6.4nm,1.0s,baz=113,slow=2.0,SNR=18						
BRTR	**Keskin Array B**	**150.58 310**	PKPbc	**PKPbc**	**22 05 45.7**	**-0.5**	
BUR08	**Bucovina Ar. S**	**150.89 330**	*e*PKPbc	**PKPbc**	**22 05 47.0**	**+0.4**	
NRDL	**Niedersach Rie**	**150.90 353**	*e*PKPbc	**PKPbc**	**22 05 46.2**	**0.0**	
BURAR	**Bucovina Array**	**150.90 330**	⇑*i*P	**PKPbc**	**22 05 46.5**	**-0.1**	
OJC	**Ojcow**	**150.90 339**	*e*PKIKP	**PKPdf**	**22 05 42.6**	**+1.9**	
OJC	**Ojcow**	**150.90 339**	*e*PKPdf	**PKPdf**	**22 05 42.6**	**+1.9**	
OJC			*e*PKPbc	**PKiKP**	**22 05 46.3**	**-0.7**	
TESR		**151.02 327**	⇓*i*P	**PKPdf**	**22 05 40.1**	**-0.9**	
KOLS	**Kolonicke sedl**	**151.11 335**	*e*PKIKP	**PKPbc**	**22 05 47.4**	**+0.4**	
KOLS	**Kolonicke sedl**	**151.11 335**	*e*PKP	**PKPbc**	**22 05 47.4**	**+0.4**	
CFR	**Carcaliu**	**151.14 324**	⇓PKIKP	**PKPbc**	**22 05 47.7**	**+0.6**	
CFR	**Carcaliu**	**151.14 324**	⇓*i*P	**PKPbc**	**22 05 47.7**	**+0.6**	
UZH	**Uzhgorod**	**151.35 335**	*e*PKIKP	**PKPbc**	**22 05 44.0**	**-3.5**	
UZH			*e*		22 05 54.4		
UZH			*e*		22 12 40.8		
UZH			MLR	MLR			
	comp=N,400nm,19.0s						
UZH			MLR	MLR			
	comp=E,770nm,19.0s						
UZH			MLR	MLR			
	comp=Z,340nm,19.0s						
KSP	**Ksiaz**	**151.35 344**	*e*PKP	**PKPbc**	**22 05 48.2**	**+0.8**	
KSP	**Ksiaz**	**151.35 344**	*e*PKIKP	**PKPbc**	**22 05 48.1**	**+0.7**	
KSP			MLR	MLR			
	comp=Z,1μm,20.6s						
KSP	**Ksiaz**	**151.35 344**	*e*PKP	**PKPbc**	**22 05 48.2**	**+0.8**	
NIE	**Niedzica**	**151.42 338**	*e*PKIKP	**PKPbc**	**22 05 48.5**	**+0.8**	
NIE	**Niedzica**	**151.42 338**	*e*PKP	**PKPbc**	**22 05 48.5**	**+0.8**	
VRI	**Vrincioaia**	**151.42 326**	⇓PKIKP	**PKPbc**	**22 05 46.2**	**-1.6**	
VRI	**Vrincioaia**	**151.42 326**	⇓*i*P	**PKPbc**	**22 05 47.2**	**-1.6**	
CRVS	**Cervenica-Dubn**	**151.44 336**	*e*PKIKP	**PKPbc**	**22 05 48.1**	**+0.4**	
CRVS			*e*		22 06 01.7		
CRVS	**Cervenica-Dubn**	**151.44 336**	*e*PKP	**PKPbc**	**22 05 48.1**	**+0.4**	
CRVS			*e*		22 06 01.7		
PLOR	**Plostina**	**151.47 326**	⇑PKIKP	**PKPbc**	**22 05 49.3**	**+1.4**	
PLOR	**Plostina**	**151.47 326**	⇑*i*P	**PKPbc**	**22 05 49.3**	**+1.4**	
CLZ	**Clausthal**	**151.51 352**	*e*PKIKP	**PKPbc**	**22 05 47.9**	**+0.1**	
CLZ	**Clausthal**	**151.51 352**	*e*PKPbc	**PKPbc**	**22 05 47.9**	**+0.1**	
CLL	**Collm**	**151.63 349**	⇑*i*PKIKP	**PKPbc**	**22 05 45.1**	**-2.9**	
CLL			*i*		22 06 01.8		
CLL			pmax	pmax			
	comp=Z,18nm,0.8s						
CLL			MLR	MLR			
	comp=Z,500nm,18.0s						
CLL	**Collm**	**151.63 349**	*e*PKPbc	**PKPbc**	**22 05 48.4**	**+0.4**	
CLL	**Collm**	**151.63 349**	*i* (PKPdf)	**PKPbc**	**22 05 45.1**	**-2.9**	
CLL			⇑*i*PKPbc	**PKiKP**	**22 05 48.2**	**-0.3**	
	comp=Z,18nm,0.8s						
CLL			*i*		22 05 50.4		
	comp=Z,27nm,0.9s						
CLL			*i* PKPab	**PKPab**	**22 05 57.9**	**+1.1**	
	comp=Z,13nm,0.8s						
CLL			*i*		22 06 01.8		
CLL			*e*PP		22 09 54.0		
CLL			*e*SKKSac	SKKSac	22 16 24.0	+10	
CLL			*e*		22 17 05.2		
CLL			*e*PSKS		22 19 53.0		
CLL			*e*SKKSdf	SKKSdf	22 21 26.0	-7.9	
CLL			*e*PPS	PPS	22 22 22.0		
CLL			*e*PPS		22 22 47.0		
CLL			*e*		22 25 10.0		
CLL			*e*SS	**SS**	**22 28 52.0**	**+3.9**	
CLL			*e*PSPS		22 30 02.0		
CLL			*e*SSS	SSS	22 34 30.0		
CLL			*e*SSSS		22 38 24.0		
CLL			*e*		22 42 36.0		
CLL			LmV		23 27 00.0		
	comp=Z,500nm,18.0s						
TRPA	**Tarpa**	**151.65 334**	⇑*i*P	**PKPbc**	**22 05 48.3**	**+0.1**	
UPC	**Upice**	**151.73 344**	*e*PKIKP	**PKPbc**	**22 05 49.2**	**+0.9**	
UPC			*e*		22 06 01.5		
UPC	**Upice**	**151.73 344**	⇑*e*PKP	**PKPbc**	**22 05 49.2**	**+0.9**	
UPC			*e*pPKP	**pPKPdf**	**22 06 01.5**	**+3.5**	
OKC	**Ostrava-Krasne**	**151.75 341**	*e*PKIKP	**PKPbc**	**22 05 49.0**	**+0.6**	
OKC			MLR	MLR			
	comp=Z,600nm,19.6s						
OKC	**Ostrava-Krasne**	**151.75 341**	⇑*e*PKP	**PKPbc**	**22 05 49.0**	**+0.6**	
OKC			AMS	AMS	23 19 00.0		
	comp=Z,600nm,19.6s						
DPC	**Dobruska-Polom**	**151.80 344**	*e*PKIKP	**PKPbc**	**22 05 49.2**	**+0.7**	
DPC			MLR	MLR			
	comp=Z,900nm,20.8s						
DPC	**Dobruska-Polom**	**151.80 344**	⇑*e*PKP	**PKPbc**	**22 05 49.2**	**+0.7**	
DPC			AMS	AMS	23 19 20.0		
	comp=Z,900nm,20.8s						
BRG	**Berggiesshubel**	**151.86 347**	*e*PKP	**PKPbc**	**22 05 49.0**	**+0.4**	
	comp=Z,19nm,0.9s						
BRG			PP	**PP**	**22 09 26.0**	**-2.8**	
BRG			SS	SS	22 28 55.0	+4.3	
BRG							
	comp=N,395nm,16.2s						
BRG							
	comp=E,237nm,14.7s						
BRG							
	comp=Z,617nm,15.7s						
BRG	**Berggiesshubel**	**151.86 347**	*e*PKIKP	**PKPbc**	**22 05 49.0**	**+0.4**	
BRG					22 09 26.0		
BRG			SS	SS	22 28 55.0	+4.3	
BRG			pmax	pmax			
	comp=Z,19nm,0.9s						
BRG			MLR	MLR			
	comp=N,395nm,16.2s						
BRG			MLR	MLR			
	comp=E,237nm,14.7s						
BRG			MLR	MLR			
	comp=Z,617nm,15.7s						
BRG	**Berggiesshubel**	**151.86 347**	*e*PKPbc	**PKPbc**	**22 05 48.9**	**+0.4**	
FBE	**Freiberg**	**151.93 348**	*e*PKPbc	**PKPbc**	**22 05 49.4**	**+0.7**	
NEUB	**Neuenburg**	**151.93 350**	*e*PKPbc	**PKPbc**	**22 05 49.1**	**+0.4**	
MORC	**Moravsky Berou**	**151.98 342**	⇑PKIKP	**PKPbc**	**22 05 48.2**	**-0.8**	
MORC	**Moravsky Berou**	**151.98 342**	*e*PKPbc	**PKPbc**	**22 05 49.3**	**+0.3**	
MORC	**Moravsky Berou**	**151.98 342**	⇑*i*P	**PKPbc**	**22 05 48.2**	**-0.8**	
PVCC	**Panska Ves**	**152.05 346**	*e*PKIKP	**PKPbc**	**22 05 49.9**	**+0.9**	
PVCC			MLR	MLR			
	comp=Z,700nm,21.0s						
PVCC	**Panska Ves**	**152.05 346**	⇑*e*PKP	**PKPbc**	**22 05 49.9**	**+0.9**	
PVCC			AMS	AMS	23 15 40.0		
	comp=Z,700nm,21.0s						
MLR	**Muntele Rosu**	**152.08 326**	⇓*i*P	**PKPbc**	**22 05 48.6**	**-0.9**	
CSS	**Prodhromos**	**152.46 301**	*e*PKPbc	**PKPbc**	**22 05 51.7**	**+1.2**	
MOX	**Moxa**	**152.50 350**	*e*PKIKP	**PKPbc**	**22 05 50.1**	**0.0**	
MOX			MLR	MLR			
	comp=Z,1μm,20.5s						
MOX	**Moxa**	**152.50 350**	*e*PKPbc	**PKPbc**	**22 05 50.1**	**0.0**	
MOX			*e*L	L	23 18 21.8		
	comp=Z,1μm,20.5s						
PRU	**Pruhonice**	**152.56 346**	*e*PKIKP	**PKPbc**	**22 05 50.5**	**+0.3**	
PRU			*e*		22 06 05.0		
PRU			MLR	MLR			
	comp=Z,1μm,19.6s						
PRU	**Pruhonice**	**152.56 346**	⇑*e*PKP	**PKPbc**	**22 05 50.5**	**+0.3**	
PRU			*e*pPKP	**pPKPdf**	**22 06 05.0**	**+5.8**	
PRU			AMS	AMS	23 21 40.0		
	comp=Z,1μm,19.6s						
VOIR		**152.56 327**	⇓PKIKP	**PKPbc**	**22 05 49.9**	**-0.6**	
VOIR		**152.56 327**	⇓*i*P	**PKPbc**	**22 05 49.9**	**-0.6**	
DRGR		**152.64 332**	⇓PKIKP	**PKPbc**	**22 05 49.6**	**-1.0**	
DRGR		**152.64 332**	⇓*i*P	**PKPbc**	**22 05 49.6**	**-1.0**	
VRAC	**Vranov**	**152.67 342**	⇓*i*P	**PKPbc**	**22 05 51.5**	**+1.0**	
VYHS	**Vyhne**	**152.71 339**	*e*PKIKP	**PKPbc**	**22 05 49.1**	**-1.5**	
VYHS	**Vyhne**	**152.71 339**	*e*PKP	**PKPbc**	**22 05 49.1**	**-1.5**	
VYHS			*e*		22 06 10.4		
NKC	**Novy Kostel**	**152.76 349**	*e*PKIKP	**PKPbc**	**22 05 49.0**	**-1.7**	
NKC	**Novy Kostel**	**152.76 349**	⇑*e*PKP	**PKPbc**	**22 05 49.0**	**-1.7**	
ARR	**Arges**	**152.82 328**	⇑*i*P	**PKPdf**	**22 05 44.6**	**+0.8**	
TREC	**Trest**	**152.98 344**	AMS	AMS	23 19 40.0		
	comp=Z,1μm,18.9s						
MEM	**Membach**	**153.09 358**	PKP	**PKPbc**	**22 05 53.9**	**+2.6**	
SMOL	**Smolenice**	**153.15 341**	*e*PKP	**PKPab**	**22 06 06.5**	**+3.2**	
GRF	**Grafenberg Arr**	**153.49 350**	*e*L	L	23 21 20.9		
	comp=Z,1μm,19.6s						
KHC	**Kasperske Hory**	**153.58 346**	*e*PKIKP	**PKPdf**	**22 05 46.5**	**+1.7**	
KHC			*e*		22 05 52.2		
KHC			*e*		22 06 06.0		
KHC			MLR	MLR			
	comp=Z,1μm,20.7s						
KHC	**Kasperske Hory**	**153.58 346**	*e*PKPdf	**PKPdf**	**22 05 45.6**	**+0.8**	
KHC	**Kasperske Hory**	**153.58 346**	*e*PKPDF	**PKPdf**	**22 05 46.5**	**+1.7**	
KHC			⇑*e*PKP	**PKiKP**	**22 05 52.2**	**-0.4**	
KHC			*e*PKPAB	**PKPab**	**22 06 06.0**	**+0.9**	
KHC			*e*sPKP		22 06 18.0		
KHC			AMS	AMS	23 22 30.0		
	comp=Z,1μm,20.7s						
GERES	**GERESS Array B**	**153.83 346**	PKPbc	**PKPbc**	**22 05 52.7**	**-0.5**	
	comp=Z,3.3nm,1.0s,baz=197,slow=1.4,SNR=8.4						
GERES	**GERESS Array B**	**153.83 346**	PKPbc	**PKPbc**	**22 05 52.7**	**-0.5**	
WLF	**Walferdange**	**154.03 357**	PKP	**PKPbc**	**22 05 53.0**	**-0.4**	
WLF	**Walferdange**	**154.03 357**	*e*PKP2	**PKPab**	**22 06 08.3**	**+1.3**	
WLF	**Walferdange**	**154.03 357**	*e*PKPab	**PKPab**	**22 06 08.2**	**+1.3**	
BZS	**Buzias**	**154.03 332**	⇑PKIKP	**PKPdf**	**22 05 45.8**	**+0.3**	
BZS	**Buzias**	**154.03 332**	⇑*i*P	**PKPdf**	**22 05 45.8**	**+0.3**	
CONA	**Conrad Observa**	**154.13 342**	⇑*i*PKiKP	**PKiKP**	**22 05 54.2**	**+0.3**	
	comp=Z,7.1nm,1.0s						
CONA			⇑*i*pPKPbc	**pPKPbc**	**22 06 10.2**	**+0.5**	
	comp=Z,14nm,1.0s						
BFO	**Black Forest**	**155.20 354**	*e*PKP2	**PKPab**	**22 06 11.2**	**-0.8**	
BFO	**Black Forest**	**155.20 354**	*e*PKPab	**PKPab**	**22 06 11.2**	**-0.8**	
ECH	**Echery**	**155.42 356**	*e*PKP2	**PKPab**	**22 06 12.4**	**-0.5**	
ECH	**Echery**	**155.42 356**	*e*PKPab	**PKPab**	**22 06 12.4**	**-0.5**	
ESDC	**Sonseca Array**	**162.56 22**	PKP	**PKPdf**	**22 05 56.4**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=319,slow=3.7,SNR=5.6						
ESDC	**Sonseca Array**	**162.56 22**	PKP	**PKPdf**	**22 05 56.4**	**+0.3**	
TORD	**Torodi Ar. Bea**	**169.22 166**	PKP	**PKPdf**	**22 05 60.0**	**-2.1**	
	comp=Z,2.4nm,1.1s,baz=246,slow=1.0,SNR=6.9						
TORD			PKPab	**PKPab**	**22 07 14.8**	**+0.8**	
	comp=Z,1.9nm,0.9s,baz=188,slow=3.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**169.22 166**	PKP	**PKPdf**	**22 05 60.0**	**-2.1**	
TORD			PKPab	**PKPab**	**22 07 14.8**	**+0.8**	
TAM	**Tamanrasset**	**178.62 230**	*e*PKIKP	**PKPdf**	**22 06 06.1**	**+0.8**	
TAM	**Tamanrasset**	**178.62 230**	*e*PKPdf	**PKPdf**	**22 06 06.1**	**+0.8**	

*ISK **25** 21:57:09.7,37.°79N×33.°83E,h5km,MD2.6*
*CSEM **25** 21:57:10.3±0.2,37.°81N×33.°83E,h5km,MD2.6,Error ellipse: s-maj=5.7km s-min=4.4km az=41.0*

DDA 25 21:57:10.5,37.77N×33.88E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BSTP	**Nigde**	**0.26**	**46**	*i* P	Pg	21 57 15.1		-0.7
BSTP				*i* S	Sg	21 57 20.8		+1.4
SULT	**Sultanhani-AKS**	**0.51**	**327**	*e*PG	Pg	21 57 19.1		-1.5
SULT				*e*SG	Sg	21 57 26.9		-0.5
SULT	**Sultanhani-AKS**	**0.51**	**327**	*e*Pg	Pg	21 57 19.1		-1.5
SULT				*e*Sg	Sg	21 57 26.9		-0.5
NIG	**Nigde**	**0.67**	**59**	*e*PG	Pg	21 57 23.7		-0.1
NIG				*e*SG	Sg	21 57 33.8		+0.9
NIG	**Nigde**	**0.67**	**59**	*e*Pg	Pg	21 57 23.7		-0.1
NIG				*e*Sg	Sb	21 57 33.8		-0.9
GULE	**Gulek**	**0.86**	**124**	*i* P	Pg	21 57 27.5		+0.1
GULE				*i* S	Sb	21 57 40.4		+0.4
GULE	**Gulek**	**0.86**	**124**	*i* P	Pg	21 57 27.5		+0.1
GULE				*i* S	Sb	21 57 40.4		+0.4
MERS	**Mersin**	**1.04**	**150**	*e*PG	Pn	21 57 31.5		0.0
MERS				*e*SG	Sn	21 57 45.8		-0.5
MERS	**Mersin**	**1.04**	**150**	*e*Pg	Pn	21 57 31.5		0.0
MERS				*e*Sg	Sn	21 57 45.8		-0.6
LADK	**Ladik-KONYA**	**1.27**	**290**	*e*PN	Pn	21 57 33.4		-1.4
LADK	**Ladik-KONYA**	**1.27**	**290**	*e*Pn	Pn	21 57 33.4		-1.4
ERMK	**Ermenek**	**1.36**	**215**	*i* P	Pn	21 57 36.2		0.0
ERMK				*i* S	Sg	21 57 56.3		+1.5
ERMK	**Ermenek**	**1.36**	**215**	*i* P	Pn	21 57 36.2		0.0
ERMK				*i* S	Sg	21 57 56.3		+1.5
KOZT	**Kozan**	**1.58**	**100**	*e*PN	Pb	21 57 40.2		+0.2
KOZT	**Kozan**	**1.58**	**100**	*e*Pn	Pb	21 57 40.2		+0.2

KRSC 25 22:07:59.9±0.5,55.°06N×162.°21E,h20km±20km,ML3.7,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKZ	**Mys Kozlova**	**0.58**	**209**	*i* P	Pb	22 08 11.3		0.0
MKZ				*e*S	Sb	22 08 19.5		+0.5
KBTR	**Krutoberegovo**	**1.20**	**16**	*e*P	Pb	22 08 22.1		+0.1
KBTR				*e*S	Sn	22 08 38.0		+0.7
TUMR	**Tumrok**	**1.21**	**282**	*e*P	Pb	22 08 22.2		0.0
TUMR				*e*S	Sn	22 08 39.2		+1.6
BZGR	**Bezymyannyi-Gr**	**1.23**	**316**	*i* P	Pn	22 08 22.3		+0.2
BZGR				*e*S	Sn	22 08 39.2		+0.9
ZLN	**Zelenaya**	**1.25**	**321**	*i* P	Pb	22 08 23.0		+0.1
ZLN				*e*S	Sn	22 08 39.8		+1.1
BZMR	**Bezymyannaya**	**1.31**	**313**	*e*P	Pb	22 08 23.8		-0.3
BZMR				S	Sb	22 08 40.9		+0.2
KMNR	**Kamenistaya**	**1.32**	**303**	*e*P	Pb	22 08 24.1		-0.1
KMNR				*e*S	Sb	22 08 41.6		+0.8
BZWR	**Bezymyannyi-We**	**1.33**	**314**	*e*P	Pn	22 08 23.8		+0.2
BZWR				S	Sn	22 08 40.8		-0.1
LGNR	**Loginova**	**1.34**	**321**	*e*P	Pb	22 08 24.9		+0.2
LGNR				*e*S	Sb	22 08 42.4		+0.7
CIRR	**Tsirk**	**1.34**	**322**	*e*P	Pn	22 08 24.1		+0.4
CIRR				*e*S	Sb	22 08 42.5		+1.0
KRSR	**Krestovskiy**	**1.49**	**322**	*e*P	Pn	22 08 25.6		0.0
KRSR				S	Sn	22 08 43.7		-0.9

KLY	**Klyuchi**	**1.54 326**	*e*P	Pn	22 08 24.9	-1.2	
KLY			*e*S	Sn	22 08 43.6	-1.8	
KOZ	**Kozyrevsk**	**1.66 308**	S	Sn	22 08 48.8	+0.1	
SRDR	**Sredinnyy**	**1.89 313**	*e*P	Pn	22 08 32.0	+0.9	
KII	**Karymskiy**	**1.91 239**	*e*P	Pn	22 08 31.4	0.0	
KII			*e*S	Sn	22 08 55.0	+0.1	
BKI	**Bering**	**2.17 85**	*e*P	Pn	22 08 33.2	-1.5	
BKI			*e*S	Sn	22 08 57.5	-3.4	
ESO	**Esso**	**2.18 295**	P	Pn	22 08 36.5	+1.5	
SDLR	**Sedlovina**	**2.65 229**	*e*P	Pn	22 08 42.3	+0.7	
SDLR			*e*S	Sn	22 09 13.8	+0.6	
KRER	**Koryakskii**	**2.69 231**	*e*P	Pn	22 08 43.7	+1.4	
KRER			*e*S	Sn	22 09 15.7	+1.3	
SMAR	**Somma**	**2.69 229**	*e*P	Pn	22 08 43.3	+0.9	
SMAR			*e*S	Sn	22 09 15.2	+0.6	
AVH	**Avacha**	**2.72 230**	*e*P	Pn	22 08 44.1	+1.6	
AVH			*e*S	Sn	22 09 16.9	+2.0	
UGLR	**Uglovaya**	**2.72 228**	*e*P	Pn	22 08 43.6	+1.0	
UGLR			*e*S	Sn	22 09 15.5	+0.5	
KOK	**Koryaka**	**2.75 231**	*e*P	Pn	22 08 45.0	+2.1	
GNL	**Ganaly**	**2.85 243**	*e*P	Pn	22 08 45.4	+1.1	
GNL			*e*S	Sn	22 09 18.7	+0.6	
PET	**Petropavlovsk**	**2.93 227**	P	Pn	22 08 46.3	+1.1	
PET			*e*S	Sn	22 09 19.5	-0.2	
RUS	**Russkaya**	**3.43 221**	P	Pn	22 08 52.8	+0.7	
RUS			*e*S	Sn	22 09 32.5	+0.4	
MTVR	**Mutnovka**	**3.52 224**	*e*P	Pn	22 08 54.5	+0.9	
MTVR			*e*S	Sn	22 09 35.3	+0.6	
APC	**Apacha**	**3.67 236**	P	Pn	22 08 58.1	+2.7	
APC			S	Sn	22 09 41.2	+3.1	
ASAK	**Asacha**	**3.71 225**	*e*P	Pn	22 08 57.9	+1.8	
ASAK			*e*S	Sn	22 09 40.7	+1.5	
MIPR	**Malaya Ipel'ka**	**4.28 232**	P	Pn	22 09 05.8	+2.0	

*IDC **25** 22:12:45.2±0.6,12.°71N×125.°12E,h0km,mb4.2/20, mb1 4.3/21,mb1mx4.2/29,mbtmp4.2/21,ML3.7/1,Error ellipse: s-maj=25.2km s-min=12.0km az=70.0*
*MAN **25** 22:12:49,12.°86N×125.°28E,h55km,mb4.9,ML3.9,MS4.0*
*ISCJB **25** 22:12:51.6±0.8,12.°76N±0.°04×125.°20E±0.°06,h63km±6km, mb4.4/35,Error ellipse: s-maj=10.8km s-min=5.2km az=158.4*
*NEIC **25** 22:12:54.1±1.5,12.°72N×125.°17E,h69km±13km,mb4.6/12, Error ellipse: s-maj=11.7km s-min=5.4km az=72.0*
ISC 25 22:12:52.7±1.5,12.°77N±0.°05×125.°23E±0.°08,h57km±14km, n95,σ1°02/107,mb4.4/35,3C-4D,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLP	**Palo**	**1.61**	**189**	⇓*e*P	Pn	**22**	**13 17.4**	**-1.4**
PLP				*e*S	Sn	**22**	**13 39.2**	**+0.7**
MMPH	**Masbate**	**1.62**	**256**	⇑*e*P	Pn	**22**	**13 17.1**	**-1.7**
MMPH				*i* S	Sn	**22**	**13 39.4**	**+0.8**
OCLP	**Ormoc**	**1.81**	**200**	*e*P	Pn	**22**	**13 22.5**	**+1.0**
AUQP	**San Andres**	**2.55**	**283**	*e*P	Pn	**22**	**13 33.1**	**+1.5**
MSLP	**Maasin**	**2.64**	**188**	*e*P	Pn	**22**	**13 33.5**	**+0.7**
RCP	**Roxas**	**2.71**	**244**	⇓*e*P	Pn	**22**	**13 33.0**	**-0.8**
RCP				*i* S	Sn	**22**	**14 09.6**	**+4.3**
LLP	**

KBL	Kabul	55.10	303	*e*P		P	22 22 19.1	-0.4
	4.3nm,0.7s							
KKAR	Karatay Array	55.79	314	*e*P		P	22 22 24.1	+0.1
TIXI	Tiksi	58.89	1	P		P	22 22 45.6	+0.3
	2.4nm,0.8s							
BVAR	Borovoye Array	59.05	325	P		P	22 22 47.0	+0.3
	3.6nm,0.8s,baz=125,slow=9.3,SNR=22							
BVAR	Borovoye Array	59.05	325	P		P	22 22 47.0	+0.3
BRVK	Borovoye	59.12	325	*e*P		P	22 22 47.8	+0.5
ABKAR	Akbulak array	64.33	319	*e*P		P	22 23 22.1	-0.3
	3.5nm,0.8s							
AKTO	Aktyubinsk	65.77	320	P		P	22 23 31.9	+0.2
	1.6nm,0.7s,baz=92,slow=6.9,SNR=7.0							
AKTO	Aktyubinsk	65.77	320	P		P	22 23 31.9	+0.2
ARU	Arti	66.59	326	*e*P		P	22 23 36.8	0.0
	6.7nm,0.6s							
RPZ	Rata Peaks	70.02	146	P		P	22 23 59.6	+1.2
	4.2nm,0.6s,baz=323,slow=4.2,SNR=6.5							
RPZ	Rata Peaks	70.02	146	P		P	22 23 59.6	+1.2
RDF	Al-Radifah	73.25	297	*e*P		P	22 24 17.6	-0.6
RDF				AMb		AMB	22 24 21.3	
	comp=Z,39nm,1.4s							
MIB	Mutribah	73.35	298	*e*P		P	22 24 18.2	-0.6
MIB				AMb		AMB	22 24 19.5	
	comp=Z,28nm,0.7s							
NAY	Al-Naaiem	73.49	297	*e*P		P	22 24 18.9	-0.7
NAY				AMb		AMB	22 24 20.2	
	comp=Z,11nm,1.1s							
KBZ	Khabaz	75.78	312	P		P	22 24 33.0	+0.4
	comp=Z,2.0nm,0.9s,baz=228,slow=13,SNR=5.8							
KBZ	Khabaz	75.78	312	P		P	22 24 33.0	+0.4
KIV	Kislovodsk	75.92	312	*e*P		P	22 24 33.2	-0.3
	comp=Z,11nm,1.1s							
ARCES	ARCESS Array B	81.51	339	P		P	22 25 04.5	+0.8
	comp=Z,4.0nm,0.8s,baz=86,slow=6.2,SNR=7.5							
ARCES	ARCESS Array B	81.51	339	P		P	22 25 04.5	+0.8
BRTR	Keskin Array B	83.17	309	P		P	22 25 12.8	-0.3
	comp=Z,1.0nm,0.6s,baz=89,slow=3.6,SNR=6.6							
BRTR	Keskin Array B	83.17	309	P		P	22 25 12.8	-0.3
FINES	FINESS Array B	83.22	331	P		P	22 25 12.9	+0.2
	comp=Z,1.2nm,0.8s,baz=60,slow=4.6,SNR=5.3							
FINES	FINESS Array B	83.22	331	P		P	22 25 12.9	+0.3
AKASG	Malin Array Be	84.00	321	P		P	22 25 16.2	-0.6
	comp=Z,1.0nm,0.5s,baz=66,slow=4.6,SNR=6.5							
AKASG	Malin Array Be	84.00	321	P		P	22 25 16.2	-0.6
BUR08	Bucovina Ar. S	87.31	318	*e*P		P	22 25 32.9	-0.7
YKA	Yellowknife Ar	91.90	24	P		P	22 25 55.7	+1.1
	comp=Z,0.1nm,0.5s,baz=297,slow=4.6,SNR=3.5							
YKA	Yellowknife Ar	91.90	24	P		P	22 25 55.7	+1.1

*ISCJB **25** 22:14:56.5±0.6,38.13N±0.03×39.19E±0.03,h3km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=6.1*
*ISK **25** 22:14:56.1,38.13N×39.17E,h3km,MD3.1*
*DDA **25** 22:14:56.4,38.11N×39.20E,h7km,MD3.3*
*CSEM **25** 22:14:56.7±0.2,38.14N×39.21E,h2km,MD3.3,Error ellipse: s-maj=4.5km s-min=3.9km az=170.0*
ISC 25 22:14:56.7±1.1,**38.13N**±0.03×**39.22E**±0.02,**h8**km±10km, **n39,**σ0**89/50,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.41	334	*i* P	Pg	22 15 04.7	0.0
ELZG				*i* S	Sb	22 15 11.3	-1.4
ELZG	Elazig	0.41	334	*i* P	Pg	22 15 04.7	0.0
ELZG				*i* S	Sb	22 15 11.3	-1.4
MALT	Malatya	0.65	287	*e*PG	Pg	22 15 08.9	-0.3
MALT	Malatya	0.65	287	*e*Pg	Pg	22 15 08.9	-0.3
MYA	Malataya	0.65	288	*e*PG	Pg	22 15 08.8	-0.5
MYA				*e*SG	Sg	22 15 18.0	+0.2
MYA	Malataya	0.65	288	*e*Pg	Pg	22 15 08.8	-0.5
MYA				*e*Sg	Sg	22 15 18.0	+0.2
DIYA	Diyarbakir	0.74	106	*i* P	Pg	22 15 11.0	0.0
DIYA	Diyarbakir	0.74	106	*i* P	Pg	22 15 11.0	0.0
URFA	Urfa	0.76	204	*e*PG	Pg	22 15 11.1	-0.2
URFA				*e*SG	Sb	22 15 22.2	-0.4
URFA	Urfa	0.76	204	*e*Pg	Pg	22 15 11.1	-0.2
URFA				*e*Sg	Sb	22 15 22.2	-0.4
PTK	Pertek	0.77	10	*e*PG	Pg	22 15 11.8	+0.2
PTK	Pertek	0.77	10	*e*Pg	Pg	22 15 11.8	+0.2
DIY	Diyarbakir	0.83	106	*e*PG	Pb	22 15 13.3	0.0
DIY	Diyarbakir	0.83	106	*e*Pg	Pb	22 15 13.4	0.0
ATAB	Bozova	0.98	228	*i* P	Pg	22 15 15.1	-0.5
ATAB				*i* S	Sb	22 15 29.0	-0.1
ATAB	Bozova	0.98	228	*i* P	Pg	22 15 15.1	-0.5
ATAB				*i* S	Sb	22 15 29.0	-0.1
AKCD	Akcadag	1.03	280	*i* P	Pg	22 15 15.5	-1.0
AKCD				*i* S	Sn	22 15 34.4	+2.2
AKCD	Akcadag	1.03	280	*i* P	Pg	22 15 15.5	-1.0
DARE	Darende-Malaty	1.38	307	*e*PN	Pg	22 15 22.7	-0.4
DARE	Darende-Malaty	1.38	307	*e*Pn	Pg	22 15 22.7	-0.4
ILIC	ilic-Erzincan	1.41	339	*e*PN	Pb	22 15 23.3	0.0
ILIC	ilic-Erzincan	1.41	339	*e*Pn	Pb	22 15 23.3	0.0
MARD	Mardin	1.48	123	*i* P	Pn	22 15 24.1	+0.3
MARD				*i* S	Sn	22 15 44.3	+0.9
ERZN	Erzincan	1.51	15	*e*PN	Pb	22 15 24.9	0.0
EZC	Erzincan	1.62	4	*e*Pn	Pn	22 15 24.9	-0.8
BEST	Besiri	1.64	98	*i* P	Pn	22 15 26.4	+0.5
BEST				*i* S	Sg	22 15 49.6	+0.1
BTMT	Batman	1.79	87	*e*PN	Pn	22 15 28.1	+0.1
BTMT	Batman	1.79	87	*e*Pn	Pn	22 15 28.1	+0.1
GAZ	Gaziantep	1.86	240	*e*PN	Pn	22 15 29.7	+0.9
GAZ	Gaziantep	1.86	240	*e*Pn	Pn	22 15 29.7	+0.9
KMRS	Kahramanmaras	1.94	252	*e*PN	Pn	22 15 30.8	+0.9
KMRS	Kahramanmaras	1.94	252	*e*Pn	Pn	22 15 30.8	+0.9
VRTB	Varto-Mus	2.03	59	*e*PN	Pn	22 15 33.1	+1.8
VRTB	Varto-Mus	2.03	59	*e*Pn	Pn	22 15 33.2	+1.8
SARI	SarD1z-Kayseri	2.05	286	*e*PN	Pb	22 15 34.2	-0.1
SARI	SarD1z-Kayseri	2.05	286	*e*Pn	Pb	22 15 34.2	-0.1
KOZT	Kozan	2.76	257	*e*PN	Pn	22 15 42.3	+1.1
KOZT	Kozan	2.76	257	*e*Pn	Pn	22 15 42.3	+1.1
BHD	Baghdad	6.42	138	*e*Pn	Pn	22 16 28.0	-3.4
BHD				*e*Sn	Sn	22 17 41.7	-3.1

*ISK **25** 22:27:50.6,37.83N×29.11E,h4km,MD2.6*
*DDA **25** 22:27:50.5,37.83N×29.09E,h7km,MD2.8*
*ISCJB **25** 22:27:51.2±0.7,37.82N±0.04×29.10E±0.08,h5km±10km, Error ellipse: s-maj=10.9km s-min=5.4km az=21.0*
*CSEM **25** 22:27:51.2±0.2,37.82N×29.13E,h4km±2km,MD2.8,Error ellipse: s-maj=6.0km s-min=3.0km az=119.0*
ISC 25 22:27:50.8±1.1,**37.84N**±0.04×**29.11E**±0.06,**h6**km±12km, **n12,**σ0**39/19,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.10	216	*e*Pg	Pg	22 27 53.1	0.0
DNZL	Cakiroluk	0.15	198	*i* P	Pg	22 27 53.9	-0.1
DNZL				*i* S	Sg	22 27 56.3	+0.1
KHL	Karahalli	0.59	34	*e*PG	Pg	22 28 02.8	+0.6
KHL				*e*SG	Sb	22 28 11.6	-0.5
KHL	Karahalli	0.59	34	*e*Pg	Pg	22 28 02.8	+0.6
KHL				*e*Sg	Sb	22 28 11.6	-0.5
KULA	Kula-Manisa	0.76	333	*e*PG	Pb	22 28 06.2	-0.3
KULA				*e*SG	Sb	22 28 17.3	+0.1
KULA	Kula-Manisa	0.76	333	*e*Pg	Pb	22 28 06.2	-0.3
KULA				*e*Sg	Sb	22 28 17.3	+0.1
YER	Yerkesik	0.96	223	*e*PG	Pb	22 28 09.8	-0.1
YER				*e*SG	Sb	22 28 23.1	+0.3
YER	Yerkesik	0.96	223	*e*Pg	Pb	22 28 09.8	-0.1
YER				*e*Sg	Sb	22 28 23.1	+0.3
SHUT	Suhut-Afyon	1.34	57	*e*PN	Pg	22 28 16.9	+0.3
SHUT	Suhut-Afyon	1.34	57	*e*Pn	Pg	22 28 16.9	+0.3
TVSB	Tavsanli	1.63	10	*e*PN	Pb	22 28 20.9	-0.4
TVSB	Tavsanli	1.63	10	*e*Pn	Pb	22 28 21.0	-0.4

*IDC **25** 22:28:37.3±1.3,34.08N×141.74E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/25,mbtmp3.6/6,ML3.3/1,Error ellipse: s-maj=29.1km s-min=23.5km az=93.0*
*JMA **25** 22:28:39.2±0.5,34.11N×141.74E,h27km±3km,M3.5*
ISC 25 22:28:38.7±3.5,**34.07N**±0.06×**141.65E**±0.09,**h9**km±23km, **n17,**σ0**62/22,mb3.7/5,Off east of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.81	317	P	Pb	22 28 54.6	0.0
BSO3	Boso 3	1.20	308	P	Pn	22 29 01.2	-0.1
BSO4	Boso 4	1.43	311	P	Pn	22 29 04.8	+0.2
CHOJ	Chosi	1.76	338	P	Pn	22 29 08.6	-0.7
JHJ2	Mitsune	1.80	239	P	Pb	22 29 11.7	-0.1
				*e*S	Sb	22 29 34.0	-0.5
JHJ	Hachijo jima 2	1.82	239	Pn	Pb	22 29 11.8	-0.3
	56nm,0.3s,baz=47,slow=23,SNR=25						
JHJ				Sn	Sn	22 29 33.6	+0.2
	60nm,0.3s,baz=75,slow=21,SNR=5.8						
JOD2	Odawara 2	2.43	300	P	Pn	22 29 18.1	-0.4
JOD2				*e*S	Sn	22 29 49.1	+0.8
JYN	Shimob	2.93	300	P	Pn	22 29 25.8	+0.3
JAG	Ashikaga	2.96	323	P	Pn	22 29 26.0	+0.1
JRY	Ryogami san	2.98	312	P	Pn	22 29 27.1	+1.0
MJAR	Matsushiro Arr	3.75	312	Pn	Pn	22 29 37.2	+0.6
	2.5nm,0.3s,baz=148,slow=11,SNR=17						
MJAR				Sn	Sn	22 30 19.8	-1.1
	1.2nm,0.3s,baz=162,slow=17,SNR=4.4						
MAT	Matsushiro	3.75	312	P	Pn	22 29 37.9	+1.2
MAT				S	Sn	22 30 20.0	-0.9
SONM	Songino Array	29.69	308	P	P	22 34 45.3	+0.4
	1.0nm,0.7s,baz=102,slow=8.5,SNR=12						
ZALV	Zalesovo Beam	44.10	315	P	P	22 36 46.8	-0.1
	0.9nm,0.7s,baz=102,slow=6.2,SNR=4.0						
MKAR	Makanchi Array	45.91	305	P	P	22 37 01.3	-0.2
	0.5nm,0.6s,baz=87,slow=9.8,SNR=8.4						
ILAR	Eielson Array	51.91	31	P	P	22 37 47.5	+0.2
	0.4nm,0.9s,baz=256,slow=6.8,SNR=3.4						
WRA	Warramunga Arr	54.16	188	P	P	22 38 04.2	-0.1
	0.4nm,0.3s,baz=5.3,slow=7.5,SNR=11						

*ISCJB **25** 22:38:15.9±0.8,23.92S±0.06×66.77W±0.09,h199km±9km, mb3.7/8,Error ellipse: s-maj=13.2km s-min=9.5km az=12.8*
*IDC **25** 22:38:16.8±1.9,23.89S×66.65W,h192km±17km,mb3.6/8, mb1 3.7/11,mb1mx3.6/19,mbtmp3.6/11,Error ellipse: s-maj=18.8km s-min=14.2km az=90.0*
*GUC **25** 22:38:18.1±0.6,23.79S×67.23W,h230km,ML4.7*
ISC 25 22:38:18.3±1.5,**23.78S**±0.09×**66.9W**±0.2,**h214**km±18km, **n27,**σ1**16/26,mb3.8/8,7C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.17	302	i P	Pn	22 39 26.8	+27
LVC				*i* S	S	22 39 59.2	+27
PB06	Plate Boundary	2.67	293	i P	Pn	22 39 05.2	+0.1
PB06				*i* S	S	22 39 40.2	-1.1
PB06				AML	AML	22 39 41.4	
	comp=N,1μm,0.4s						
PB04	Plate Boundary	2.81	302	i P	Pn	22 39 12.2	+5.7
PB04				*i* S	S	22 39 53.5	+10
PB04				AML	AML	22 39 56.2	
	comp=N,757nm,0.5s						
PB09	Plate Boundary	2.92	312	i P	Pn	22 39 08.8	+0.8
PB09				*i* S	S	22 39 47.3	+0.8
PB09				AML	AML	22 39 50.5	
	comp=E,2μm,0.5s						
CEN1	Los Morros	3.04	277	*e*P	Pn	22 39 11.2	+2.0
CEN1				*i* S	S	22 39 50.6	+1.9
CEN1				AML	AML	22 39 54.7	
	comp=N,356nm,0.4s						
MACH	Maria Elena	3.06	301	*i* S	S	22 39 48.5	-0.9
ANCH	Antofagasta	3.20	271	i P	Pn	22 39 10.6	-0.4
ANCH				*i* S	S	22 39 49.8	-2.2
ANCH				AML	AML	22 39 52.4	
	comp=E,776nm,0.1s						
MECH	Mejillones	3.31	281	i P	Pn	22 39 12.4	+0.1
MECH				*i* S	S	22 39 53.4	-0.9
MECH				AML	AML	22 39 57.4	
	comp=N,1μm,0.3s						
PB07	Plate Boundary	3.42	306	i P	Pn	22 39 13.8	0.0
PB07				AML	AML	22 39 57.3	
	comp=E,932nm,0.3s						
PB01	Plate Boundary	3.62	318	i P	Pn	22 39 16.4	+0.3
PB01				*i* S	S	22 40 00.4	-0.7
PB01				AML	AML	22 40 01.4	
	comp=N,444nm,0.4s						
LPAZ	La Paz	7.54	351	P	Pn	22 40 07.6	+1.3
	comp=N,1.3nm,0.3s,baz=170,slow=8.8,SNR=23						
LPAZ				S	S	22 41 32.3	0.0
	comp=N,0.1nm,0.3s,baz=225,slow=17,SNR=3.9						
CFAA	Coronel Fontan	7.88	188	P	Pn	22 40 05.9	-4.1
	comp=N,0.2nm,0.3s,baz=21,slow=8.7,SNR=14						
CFAA				S	S	22 41 27.7	-12
	comp=N,1.1nm,0.3s,baz=200,slow=15,SNR=19						
SIV	San Ignacio	9.50	36	P	Pn	22 40 28.9	-2.2
	comp=N,1.4nm,0.3s,baz=241,slow=9.1,SNR=20						
PLCA	Paso Flores	17.18	189	P	Pn	22 42 08.7	+2.7
	comp=N,0.2nm,0.3s,baz=360,slow=11,SNR=4.0						
BDFB	Brasilia	19.54	69	P	P	22 42 29.0	-1.1
	comp=N,1.4nm,0.3s,baz=236,slow=12,SNR=40						
TXAR	Lajitas Array	63.55	324	P	P	22 48 28.8	+2.5
	comp=N,0.3nm,0.5s,baz=155,slow=6.4,SNR=4.3						
QSPA	South Pole Qui	66.42	180	P	P	22 48 45.2	+0.9
	comp=N,1.0nm,0.5s,baz=112,slow=2.1,SNR=21						
DBIC	Dimbokro	67.66	72	P	P	22 48 51.9	-0.9
	comp=N,1.5nm,0.5s,baz=255,slow=14,SNR=6.7						
TORD	Torodi Ar. Bea	76.42	69	P	P	22 49 44.3	-0.5
	comp=N,1.2nm,0.4s,baz=258,slow=6.0,SNR=61						
PDAR	Pinedale Array	77.00	329	P	P	22 49 49.5	+1.8
	comp=N,0.2nm,0.4s,baz=127,slow=6.0,SNR=4.5						
SCHQ	Schefferville	78.29	0	P	P	22 49 55.2	+1.0
	comp=N,1.3nm,0.9s,baz=186,slow=9.2,SNR=2.9						
BOSA	Boshof	80.77	117	P	P	22 50 07.5	-1.0
	comp=N,1.0nm,0.5s,baz=257,slow=4.3,SNR=3.9						
YKA	Yellowknife Ar	93.35	340	P	P	22 51 12.7	+1.6
	comp=N,1.1nm,0.4s,baz=137,slow=4.5,SNR=6.0						
WRA	Warramunga Arr	131.85	207	PKP	PKPdf	22 57 07.6	+0.8
	comp=N,0.2nm,0.3s,baz=151,slow=1.9,SNR=9.6						
ZALV	Zalesovo Beam	143.17	28	PKP	PKPdf	22 57 25.6	-0.9
	comp=N,0.3nm,0.3s,baz=328,slow=5.1,SNR=2.8						
MKAR	Makanchi Array	146.31	39	PKPbc	PKPab	22 57 34.0	-1.0
	comp=N,0.5nm,0.5s,baz=304,slow=2.8,SNR=12						
CMAR	Chiang Mai Arr	165.79	109	PKPab	PKPab	22 58 58.5	-0.3
	comp=N,0.6nm,0.3s,baz=276,slow=4.4,SNR=3.3						

IDC 25 22:54:57.2±2.5,**17.72S**×**177.24W,h284**km±34km, **mb3.4/5,mb1 3.6/6,mb1mx3.3**/20,**mbtmp3.4**/6,**Error ellipse: s-maj=123.9km s-min=16.5km az=144.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.48	55	P	Pn	22 56 32.1	0.0
	4.1nm,0.3s,baz=204,slow=20,SNR=2.9						
STKA	Stephens Creek	39.69	241	P	P	23 02 02.3	-0.2
	2.4nm,0.4s,baz=83,slow=11,SNR=17						
WRA	Warramunga Arr	45.76	259	P	P	23 02 51.0	-0.1
	0.6nm,0.5s,baz=99,slow=6.0,SNR=13						
ASAR	Alice Springs	45.91	254	P	P	23 02 52.1	-0.2
	4.3nm,0.6s,baz=89,slow=8.5,SNR=63						
ILAR	Eielson Array	85.46	13	P	P	23 07 02.5	-0.1
	0.3nm,0.4s,baz=227,slow=5.7,SNR=7.8						
YKA	Yellowknife Ar	93.70	24	P	P	23 07 41.0	-0.2
	0.1nm,0.4s,baz=243,slow=4.3,SNR=4.4						
GERES	GERESS Array B	147.71	346	PKPbc	PKPbc	23 14 07.9	-0.5
	0.6nm,0.7s,baz=29,slow=2.2,SNR=6.0						

*ISCJB **25** 22:57:14.6±0.5,42.01N±0.02×24.18E±0.03,h9km±5km, Error ellipse: s-maj=4.1km s-min=3.9km az=149.6*
*CSEM **25** 22:57:14.7±0.2,42.01N×24.16E,h2km,ML1.8,Error ellipse: s-maj=3.3km s-min=2.9km az=162.0*
*THE **25** 22:57:14.6,42.01N×24.12E,h7km±2km,ML2.2/2,Error ellipse: s-maj=2.9km s-min=1.1km az=79.0*
*SOF **25** 22:57:14.0,42.01N×24.15E,h16km,MD2.5*
*BEO **25** 22:57:17.0±0.8,42.10N×24.17E,h0km,ML1.8/4*
ISC 25 22:57:14.8±1.0,**42.01N**±0.02×**24.15E**±0.02,**h10**km±10km, **n35,**σ0**74/62,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	Plovdiv	0.42	77	P	Pg	22 57 23.3	+0.2
PLD				S	Sg	22 57 29.5	+0.9
PLD	Plovdiv	0.42	77	*i* P	Pg	22 57 23.5	+0.4
PLD	Plovdiv	0.42	77	*e*Pg	Pg	22 57 23.4	+0.4
PLD				*e*Sg	Sg	22 57 29.7	+1.1
PLD	Plovdiv	0.42	77	P	Pg	22 57 23.3	+0.2
PLD				S	Sg	22 57 29.5	+0.9
MMB	Musomiste	0.53	217	P	Pg	22 57 25.7	+0.6
MMB				S	Sg	22 57 32.9	+0.8
MMB	Musomiste	0.53	217	P	Pg	22 57 25.7	+0.6
MMB				S	Sg	22 57 32.9	+0.8
RZN	Rozhen	0.53	127	*i* P	Pg	22 57 24.9	-0.3
RZN				S	Sg	22 57 32.2	-0.1
RZN	Rozhen	0.53	127	*i* P	Pg	22 57 24.9	-0.3
				S	Sg	22 57 32.2	-0.1
PGB	Panagyurishte	0.54	1	P	Pg	22 57 24.6	-0.6
PGB				S	Sg	22 57 31.8	-0.5
PGB	Panagyurishte	0.54	1	P	Pg	22 57 24.6	-0.6
PGB				S	Sg	22 57 31.8	-0.5
NVR	Nevrokopi	0.70	198	P	Pg	22 57 28.2	-0.1
NVR				S	Sg	22 57 37.3	-0.1
NVR	Nevrokopi	0.70	198	P	Pg	22 57 28.2	-0.1
NVR				S	Sg	22 57 37.3	-0.1
KKB	Krupnik	0.81	260	*i* P	Pg	22 57 29.7	-0.7
KKB				S	Sg	22 57 39.9	-1.1
KKB	Krupnik	0.81	260	*i* P	Pg	22 57 29.7	-0.7
KKB				S	Sg	22 57 39.9	-1.1
VTS	Vitosha	0.91	310	P	Pg	22 57 31.8	-0.5
VTS				S	Sg	22 57 43.6	-0.5
VTS	Vitosha	0.91	310	*i* P	Pg	22 57 31.7	-0.5
VTS				S	Sg	22 57 43.8	-0.3
VTS	Vitosha	0.91	310	*e*Pg	Pg	22 57 31.8	-0.5
VTS				*e*Sg	Sg	22 57 43.6	-0.5
VTS	Vitosha	0.91	310	P	Pg	22 57 31.8	-0.5
VTS				S	Sg	22 57 43.6	-0.5
SRS	Serrai	0.99	205	P	Pg	22 57 34.0	+0.2
SRS				S	Sg	22 57 47.0	+0.3
SRS	Serrai	0.99	205	P	Pg	22 57 34.0	+0.2
SRS				S	Sg	22 57 47.0	+0.3
KDZ	Kurdzhali	1.01	111	*i* P	Pg	22 57 32.9	-1.4
KDZ				*e*S	Sg	22 57 45.4	-2.1
KDZ	Kurdzhali	1.01	111	*i* P	Pg	22 57 32.9	-1.4
KDZ				*e*S	Sg	22 57 45.4	-2.1
DIM	Dimitrovgrad	1.03	88	P	Pg	22 57 34.6	0.0
DIM	Dimitrovgrad	1.03	88	P	Pg	22 57 34.6	0.0
KAVA	Kavala	1.05	165	P	Pg	22 57 34.0	-1.0
KAVA				S	Sb	22 57 49.0	-1.0
KAVA	Kavala	1.05	165	P	Pg	22 57 34.0	-1.0
KAVA				S	Sb	22 57 49.0	0.0
KNT	Kendrikon	1.27	228	P	Pn	22 57 38.3	-0.3
KNT				S	Sb	22 57 55.0	-0.2
KNT	Kendrikon	1.27	228	P	Pn	22 57 38.3	-0.3
KNT				S	Sb	22 57 55.0	-0.2
MPEP	Malo Peshtene	1.38	347	P	Pg	22 57 41.1	-0.1
ZAPS	Zavoj	1.68	319	*e*Pn	Pg	22 57 47.4	+0.3
ZAPS				*e*Sn	Sg	22 58 09.5	+0.5
BARS	Barje	1.91	296	*e*Pn	Pg	22 57 50.9	-0.4
BARS				*e*Sn	Sb	22 58 14.8	+1.2
ILIC	ilic-Erzincan	11.24	98	*e*PN	Pn	22 59 55.9	+0.3
ILIC	ilic-Erzincan	11.24	98	*e*Pn	Pn	22 59 55.9	+0.3
BAYT	Ayd¨–ntepe-Bay	12.16	92	*e*PN	Pn	23 00 09.2	+1.0
BAYT	Ayd¨–ntepe-Bay	12.16	92	*e*Pn	Pn	23 00 09.2	+1.0

*ISK **25** 22:59:31.7,38.44N×39.40E,h5km,MD3.2*
*ISCJB **25** 22:59:32.6±0.6,38.41N±0.03×39.44E±0.03,h3km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=9.3*
*DDA **25** 22:59:32.1,38.45N×39.46E,h7km,ML3.5*
*CSEM **25** 22:59:32.8±0.2,38.40N×39.41E,h2km,ML3.5,Error ellipse: s-maj=5.1km s-min=3.8km az=179.0*
ISC 25 22:59:33.1±1.1,**38.42N**±0.03×**39.43E**±0.02,**h7**km±12km, **n40,**σ0**87/51,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.36	282	*i* P	Pg	22 59 39.8	-0.4
ELZG				*i* S	Sg	22 59 45.7	+0.8
ELZG	Elazig	0.36	282	*i* P	Pg	22 59 39.8	-0.4
ELZG				*i* S	Sg	22 59 45.7	+0.8
PTK	Pertek	0.47	356	*e*PG	Pg	22 59 41.8	-0.5
PTK				*e*SG	Sg	22 59 49.5	+1.0
PTK	Pertek	0.47	356	*e*Pg	Pg	22 59 41.8	-0.5
PTK				*e*Sg	Sg	22 59 49.5	+1.0
DIYA	Diyarbakir	0.74	132	*i* P	Pg	22 59 46.8	-0.5
DIYA				*i* S	Sg	22 59 56.9	-0.1
DIYA	Diyarbakir	0.74	132	*i* P	Pg	22 59 46.8	-0.5
DIYA				*i* S	Sg	22 59 56.9	-0.1
MALT	Malatya	0.80	262	*e*PG	Pg	22 59 47.4	-1.1
MALT				*e*SG	Sb	22 59 60.0	-0.4
MALT	Malatya	0.80	262	*e*Pg	Pg	22 59 47.4	-1.1
MALT				*e*Sg	Sb	23 00 00.0	-0.4
MYA	Malataya	0.80	263	*e*PG	Pg	22 59 47.4	-1.1
MYA				*e*SG	Sb	22 59 59.8	-0.6
MYA	Malataya	0.80	263	*e*Pg	Pg	22 59 47.4	-1.1
MYA				*e*Sg	Sb	22 59 59.8	-0.6
DIY	Diyarbakir	0.82	130	*e*PG	Pg	22 59 48.5	-0.4
DIY	Diyarbakir	0.82	130	*e*Pg	Pg	22 59 48.5	-0.4
URFA	Urfa	1.09	206	*e*PN	Pg	22 59 54.0	-0.1
URFA	Urfa	1.09	206	*e*Pn	Pg	22 59 54.0	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**59**	P	**P**	**23 08 39.6**	**-0.2**
	5.3nm,0.3s,baz=337,slow=22,SNR=6.1						
AFI				S	**S**	**23 10 17.1**	**+3.3**
	0.8nm,0.3s,baz=49,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**23 09 53.0**	**+1.8**
	0.4nm,0.3s,baz=89,slow=18,SNR=3.9						
RAR	**Rarotonga**	**17.96**	**104**	P	**P**	**23 10 20.8**	**-0.2**
	1.1nm,0.3s,baz=270,slow=9.7,SNR=3.8						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**23 12 08.2**	**+1.6**
	baz=30,SNR=4.2						
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	**23 12 37.5**	**+1.3**
	baz=33,SNR=9.9						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**23 12 51.2**	**+0.7**
	baz=35,SNR=9.0						
COEN	**Coen**	**37.01**	**270**	P	**P**	**23 13 08.0**	**+1.4**
	baz=38,SNR=8.3						
TOO	**Toolangi**	**37.09**	**231**	P	**P**	**23 13 08.3**	**+1.2**
	baz=37,SNR=6.3						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**23 13 19.7**	**+0.7**
	12nm,0.8s,baz=89,slow=7.1,SNR=18						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**23 13 20.0**	**+1.0**
	baz=39,SNR=7.8						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**23 13 54.4**	**-2.3**
	baz=44,SNR=6.5						
WRA	**Warramunga Arr**	**44.53**	**260**	P	**P**	**23 14 05.9**	**-0.4**
	1.8nm,0.3s,baz=96,slow=8.3,SNR=87						
WRA				PcP	**PcP**	**23 15 36.1**	**-0.7**
	0.6nm,0.5s,baz=90,slow=3.2,SNR=4.5						
WRA				S	**S**	**23 19 56.6**	**-4.1**
	1.0nm,0.9s,baz=97,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 14 07.8**	**+0.3**
	16nm,0.7s,baz=86,slow=8.6,SNR=158						
ASAR				PcP	**PcP**	**23 15 36.4**	**-1.0**
	1.1nm,0.5s,baz=95,slow=4.1,SNR=6.1						
ASAR				S	**S**	**23 20 00.6**	**-2.3**
	1.9nm,0.9s,baz=88,slow=15,SNR=13						
KDU	**Kakadu**	**47.46**	**269**	P	**P**	**23 14 28.6**	**+0.2**
	baz=48,SNR=4.0						
TLE	**Tual**	**49.11**	**278**	S	S	23 21 13.9	+10
	baz=50,SNR=3.6						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P	**P**	**23 15 08.6**	**+0.3**
	0.5nm,0.3s,baz=104,slow=4.2,SNR=4.9						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P	**P**	**23 15 08.8**	**+0.5**
	baz=53,SNR=4.7						
MEEK	**Meekatharra**	**58.34**	**249**	P	**P**	**23 15 47.8**	**+2.1**
	baz=59,SNR=4.1						
WSI	**Waingapu**	**59.77**	**269**	P	P	23 16 07.0	+12
	baz=60,SNR=4.1						
PCI	**Palu**	**62.81**	**278**	P	**P**	**23 16 17.4**	**+2.2**
	baz=64,SNR=4.5						
MJAR	**Matsushiro Arr**	**67.84**	**323**	P	**P**	**23 16 46.2**	**0.0**
	0.6nm,0.3s,baz=162,slow=6.5,SNR=4.3						
UGM	**Wanagama**	**69.55**	**268**	P	**P**	**23 16 56.9**	**0.0**
	baz=70,SNR=3.8						
PETK	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**23 17 20.3**	**+0.5**
	2.0nm,0.4s,baz=147,slow=8.6,SNR=3.8						
YBH	**Yreka Blue Hor**	**78.58**	**39**	P	**P**	**23 17 48.2**	**+0.8**
	2.1nm,0.6s,baz=198,slow=3.9,SNR=5.8						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**23 17 52.3**	**-0.1**
	2.5nm,0.9s,baz=228,slow=8.1,SNR=7.9						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**23 18 22.4**	**-1.2**
	1.2nm,0.5s,baz=221,slow=5.0,SNR=39						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**23 18 26.1**	**+0.7**
	4.5nm,1.0s,baz=224,slow=6.2,SNR=23						
ANMO	**Albuquerque**	**86.17**	**52**	P	**P**	**23 18 25.6**	**-0.3**
	2.2nm,1.0s,baz=270,slow=3.7,SNR=5.0						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**23 18 30.9**	**-0.7**
	1.7nm,0.9s,baz=198,slow=3.2,SNR=11						
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P	**P**	**23 18 38.5**	**+0.3**
	0.8nm,0.3s,baz=120,slow=3.3,SNR=8.2						
SONM	**Songino Array**	**93.48**	**319**	P	**P**	**23 18 59.5**	**+0.1**
	0.3nm,0.8s,baz=117,slow=5.0,SNR=3.3						
YKA	**Yellowknife Ar**	**94.37**	**25**	P	**P**	**23 19 01.8**	**-1.0**
	0.3nm,0.4s,baz=238,slow=4.5,SNR=8.5						
MKAR	**Makanchi Array**	**109.06**	**314**	PKiKP	**PKiKP**	**23 24 07.8**	**-1.6**
	0.3nm,0.5s,baz=118,slow=1.3,SNR=6.1						
BVAR	**Borovoye Array**	**116.78**	**321**	PKP	**PKPdf**	**23 24 22.9**	**-0.9**
	0.7nm,0.4s,baz=48,slow=2.1,SNR=7.1						
AKTO	**Aktyubinsk**	**124.80**	**319**	PKP	**PKPdf**	**23 24 38.8**	**-0.6**
	0.7nm,0.4s,baz=72,slow=3.2,SNR=3.1						
ARCES	**ARCESS Array B**	**126.29**	**350**	PKP	**PKPdf**	**23 24 40.6**	**-1.0**
	1.7nm,0.8s,baz=4.7,slow=0.9,SNR=8.0						
FINES	**FINESS Array B**	**133.16**	**344**	PKP	**PKPdf**	**23 24 53.5**	**-1.3**
	0.8nm,0.6s,baz=5.0,slow=4.4,SNR=5.5						
KWP	**Kalwaria Pacla**	**144.03**	**336**	⇑*i*P	PKPbc	23 25 13.9	-0.6
BURAR	**Bucovina Array**	**144.56**	**332**	⇑*i*P	**PKPab**	**23 25 17.0**	**0.0**
OJC	**Ojcow**	**144.57**	**340**	*e*PKP	**PKPdf**	**23 25 15.9**	**0.0**
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	**PKPdf**	**23 25 16.0**	**-0.7**
	3.4nm,0.9s,baz=128,slow=5.4,SNR=13						
NIE	**Niedzica**	**145.08**	**338**	*e*PKP	**PKPbc**	**23 25 18.0**	**+0.2**
ASF	**Jabal al Asfar**	**145.09**	**301**	PKPbc	**PKPbc**	**23 25 18.1**	**-0.4**
	1.9nm,0.7s,baz=24,slow=4.4,SNR=4.6						
TRPA	**Tarpa**	**145.30**	**335**	⇑*i*P	**PKPbc**	**23 25 18.1**	**-0.3**
CLZ	**Clausthal**	**145.41**	**350**	*e*PKPbc	**PKPbc**	**23 25 18.6**	**-0.1**
OKC	**Ostrava-Krasne**	**145.44**	**341**	*e*PKP	**PKPbc**	**23 25 19.2**	**+0.4**
CLL	**Collm**	**145.44**	**347**	*e*PKPbc	**PKPbc**	**23 25 18.3**	**-0.4**
CLL	**Collm**	**145.44**	**347**	⇑*i*PKP	**PKPbc**	**23 25 18.3**	**-0.4**
	comp=Z,16nm,0.9s						
UPC	**Upice**	**145.46**	**344**	*e*PKP	**PKPbc**	**23 25 18.4**	**-0.4**
DPC	**Dobruska-Polom**	**145.52**	**343**	*e*PKP	**PKPbc**	**23 25 19.2**	**+0.2**
BRG	**Berggiesshubel**	**145.64**	**346**	*e*PKP	**PKPbc**	**23 25 18.8**	**-0.5**
	comp=Z,14nm,1.2s						
BRG	**Berggiesshubel**	**145.64**	**346**	*e*PKPbc	**PKPbc**	**23 25 19.0**	**-0.3**
MORC	**Moravsky Berou**	**145.68**	**341**	⇑*i*P	**PKPbc**	**23 25 19.9**	**+0.4**
MLR	**Muntele Rosu**	**145.78**	**329**	⇑*i*P	**PKPbc**	**23 25 20.0**	**-0.1**
PVCC	**Panska Ves**	**145.81**	**345**	*e*PKP	**PKPbc**	**23 25 20.1**	**+0.3**
MMAI	**Mount Meron Ar**	**146.06**	**303**	PKPbc	**PKPbc**	**23 25 21.2**	**0.0**
	comp=Z,2.1nm,0.4s,baz=70,slow=4.8,SNR=7.8						
VOIR		**146.25**	**330**	⇑*i*P	**PKPbc**	**23 25 21.8**	**+0.5**
DRGR		**146.29**	**333**	⇓*i*P	**PKPbc**	**23 25 21.3**	**-0.1**
PRU	**Pruhonice**	**146.31**	**345**	*e*PKP	**PKPbc**	**23 25 21.1**	**-0.1**
TANN	**Tannenbergstha**	**146.39**	**347**	*e*PKPbc	**PKPbc**	**23 25 21.2**	**-0.3**
PSZ	**Piszkesteto**	**146.49**	**337**	⇑*i*P	**PKPbc**	**23 25 22.3**	**+0.4**
ARR	**Arges**	**146.50**	**330**	⇑*i*P	**PKPbc**	**23 25 23.1**	**+1.1**
TREC	**Trest**	**146.70**	**343**	*e*PKP	**PKPbc**	**23 25 22.5**	**+0.2**
ROTZ	**Rotzenmuhle**	**147.06**	**347**	*e*PKPbc	**PKPbc**	**23 25 23.1**	**-0.2**
GRF	**Grafenberg Arr**	**147.33**	**348**	*e*PKPbc	**PKPbc**	**23 25 23.9**	**-0.1**
KHC	**Kasperske Hory**	**147.35**	**345**	*e*PKP	**PKPbc**	**23 25 24.0**	**-0.1**
KHC				*ex*	x	23 25 27.8	
GEC2	**GERESS Array S**	**147.58**	**345**	*e*PKPbc	**PKPbc**	**23 25 24.4**	**-0.4**
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKPbc**	**23 25 24.0**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=24,slow=3.1,SNR=26						
BZS	**Buzias**	**147.69**	**333**	⇑*i*P	**PKPbc**	**23 25 24.4**	**-0.6**
CONA	**Conrad Observa**	**147.83**	**342**	⇑*i*PKPbc	**PKPbc**	**23 25 25.6**	**+0.2**
	comp=Z,13nm,1.3s						
WLF	**Walferdange**	**148.09**	**354**	*e*PKPbc	**PKPbc**	**23 25 26.3**	**+0.4**
STU	**Stuttgart**	**148.58**	**350**	*e*PKPbc	**PKPbc**	**23 25 26.9**	**-0.2**
BFO	**Black Forest**	**149.14**	**351**	*e*PKPbc	**PKPbc**	**23 25 28.0**	**-0.5**
WTTA	**Wattenberg**	**149.55**	**346**	⇑*i*PKPbc	**PKPbc**	**23 25 29.0**	**-0.8**
	comp=Z,16nm,1.1s						
ABTA	**Abfaltersbach**	**149.83**	**345**	⇑*i*PKPbc	**PKPbc**	**23 25 28.3**	**-2.0**
	comp=Z,6.3nm,0.8s						
FETA	**Feichten**	**149.98**	**347**	⇑*i*PKPbc	**PKPbc**	**23 25 30.0**	**-0.8**
	comp=Z,9.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**175.27**	**182**	PKP	**PKPdf**	**23 25 47.3**	**-2.4**
	comp=Z,0.7nm,0.9s,baz=216,slow=1.9,SNR=3.8						
TORD				PKPab	**PKPab**	**23 27 29.4**	**-0.6**
	comp=Z,0.7nm,1.1s,baz=194,slow=3.0,SNR=3.1						

ISC 25 23:12:55.2±1.7,34°.5N±0°.1×70°.4E±0°.2,h42km,n6,σ1ŝ35/9, 1C-1D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.44**	**118**	P	**Pn**	**23 13 17.4**	**-1.5**
CEP				S	**Sn**	**23 13 38.0**	**+1.3**
THW	**Thamme Wali**	**2.06**	**146**	P	**Pn**	**23 13 28.1**	**+0.8**
CHCP	**Chirah Chowk**	**2.54**	**109**	P	**Pn**	**23 13 34.5**	**+0.6**
THN	**Thein Dam**	**4.91**	**114**	*e*P	**Pn**	**23 14 06.5**	**0.0**
THN				*e*S	**Sn**	**23 15 01.0**	**-1.1**
KK31	**Karatay Array**	**8.57**	**1**	P	**Pn**	**23 14 57.6**	**+0.8**
	0.5nm,0.5s,baz=179,slow=12,SNR=27						
KK31				⇑S	**Sn**	**23 16 32.9**	**+0.8**
	1.2nm,0.4s,baz=186,slow=22						
AB31	**Akbulak array**	**16.63**	**335**	⇓P	**Pn**	**23 16 43.3**	**-1.8**
	0.2nm,0.3s,baz=153,slow=15,SNR=14						

*IDC **25** 23:15:31.1±0.8,3°.49N×126°.75E,h0km,mb4.0/13, mb1 4.2/13,mb1mx4.0/25,mbtmp4.0/13,MS3.5/1, Ms1 3.5/1,ms1mx2.8/41,Error ellipse: s-maj=50.9km s-min=13.2km az=70.0*

*ISCJB **25** 23:15:35.6±0.5,3°.48N±0°.09×126°.8E±0°.2,h48km, mb4.0/19,MS3.3/1,Error ellipse: s-maj=27.6km s-min=7.8km az=159.2*

*NEIC **25** 23:15:36.1±0.3,3°.51N×126°.82E,h35km,mb4.2/7,Error ellipse: s-maj=21.5km s-min=5.7km az=69.0*

ISC 25 23:15:37.6±0.7,3°.5N±0°.1×126°.9E±0°.2,h48km,n39, σ0ŝ81/38,mb4.0/19,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.55**	**325**	*e*P	**Pn**	**23 16 45.7**	**+1.8**
GUMO	**Guam**	**20.41**	**59**	LR	LR	23 26 24.5	
	comp=Z,137nm,20.7s,baz=222,slow=32						
FITZ	**Fitzroy Crossi**	**21.48**	**183**	P	**P**	**23 20 22.2**	**-0.1**
	4.1nm,0.9s,baz=359,slow=8.1,SNR=8.2						
FITZ	**Fitzroy Crossi**	**21.48**	**183**	*e*P	**P**	**23 20 23.2**	**+0.9**
	5.1nm,0.9s						
WRAB	**Tennant Creek**	**24.40**	**163**	*e*P	**P**	**23 20 51.5**	**-0.1**
	13nm,0.8s						
WRA	**Warramunga Arr**	**24.40**	**163**	P	**P**	**23 20 51.6**	**-0.1**
	10nm,0.7s,baz=342,slow=10,SNR=40						
WRA	**Warramunga Arr**	**24.40**	**163**	P	**P**	**23 20 51.6**	**-0.1**
AS31	**Alice Springs**	**27.84**	**166**	*e*P	**P**	**23 21 22.1**	**-0.5**
ASAR	**Alice Springs**	**27.84**	**166**	P	**P**	**23 21 22.8**	**+0.1**
	2.0nm,0.7s,baz=344,slow=8.0,SNR=18						
ASAR	**Alice Springs**	**27.84**	**166**	P	**P**	**23 21 22.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.13**	**301**	P	**P**	**23 21 52.1**	**+0.1**
	1.1nm,0.4s,baz=112,slow=7.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**31.13**	**301**	P	**P**	**23 21 52.1**	**+0.1**
CHTO	**Chiang Mai**	**31.28**	**301**	P	**P**	**23 21 52.1**	**-1.2**
KSAR	**Wonju Array Be**	**33.81**	**1**	P	**P**	**23 22 15.9**	**+0.8**
KSRS	**Korea Array**	**33.83**	**1**	P	**P**	**23 22 16.0**	**+0.7**
	0.7nm,0.6s,baz=175,slow=8.3,SNR=3.1						
STKA	**Stephens Creek**	**37.84**	**159**	P	**P**	**23 22 50.6**	**+0.8**
	6.6nm,0.9s,baz=326,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**37.84**	**159**	*e*P	**P**	**23 22 49.9**	**+0.1**
	1.2nm,0.8s						
ULN	**Ulaanbaatar**	**47.40**	**342**	*e*P	**P**	**23 24 06.5**	**-0.8**
	1.5nm,0.4s						
SONM	**Songino Array**	**47.58**	**341**	P	**P**	**23 24 08.7**	**0.0**
	0.5nm,0.7s,baz=147,slow=8.1,SNR=5.1						
SONM	**Songino Array**	**47.58**	**341**	P	**P**	**23 24 08.7**	**0.0**
MK31	**Makanchi Array**	**57.85**	**325**	*e*P	**P**	**23 25 23.5**	**-0.9**
MKAR	**Makanchi Array**	**57.85**	**325**	P	**P**	**23 25 24.2**	**-0.2**
	0.7nm,0.7s,baz=118,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**57.85**	**325**	P	**P**	**23 25 24.2**	**-0.2**
AAK	**Ala-Archa**	**60.64**	**318**	P	**P**	**23 25 46.1**	**+2.0**
	0.5nm,0.7s,baz=124,slow=3.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.88**	**333**	P	**P**	**23 25 43.9**	**-1.3**
	0.3nm,0.4s,baz=142,slow=7.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**60.88**	**333**	P	**P**	**23 25 43.9**	**-1.3**
KURK	**Kurchatov**	**62.03**	**328**	*e*P	**P**	**23 25 52.6**	**-0.4**
	2.0nm,0.6s						
KKAR	**Karaul Array**	**63.52**	**317**	*e*P	**P**	**23 26 01.8**	**-1.3**
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**67.61**	**327**	P	**P**	**23 26 28.8**	**-0.6**
	2.1nm,0.9s,baz=134,slow=8.4,SNR=9.6						
BVAR	**Borovoye Array**	**67.61**	**327**	P	**P**	**23 26 28.8**	**-0.6**
BRVK	**Borovoye**	**67.68**	**327**	*e*P	**P**	**23 26 29.2**	**-0.6**
	2.4nm,0.8s						
AKTO	**Aktyubinsk**	**73.95**	**322**	P	**P**	**23 27 06.8**	**-1.1**
	0.9nm,0.6s,baz=114,slow=9.2,SNR=4.1						
AKTO	**Aktyubinsk**	**73.95**	**322**	P	**P**	**23 27 06.8**	**-1.1**
VNDA	**Vanda**	**83.16**	**173**	P	**P**	**23 27 58.0**	**0.0**
	0.7nm,0.6s,baz=319,slow=7.4,SNR=3.8						
VNDA	**Vanda**	**83.16**	**173**	P	**P**	**23 27 58.0**	**0.0**
BRTR	**Keskin Array B**	**90.30**	**310**	P	**P**	**23 28 33.5**	**-0.3**
	1.0nm,0.9s,baz=107,slow=6.6,SNR=4.5						
BRTR	**Keskin Array B**	**90.30**	**310**	P	**P**	**23 28 33.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.14**	**288**	PKP	**PKPdf**	**23 34 30.5**	**+0.5**
	0.3nm,0.9s,baz=28,slow=1.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.14**	**288**	PKP	**PKPdf**	**23 34 30.5**	**+0.5**

IDC 25 23:33:16.5±7.5,31°.39S×179°.88E,h455km±93km,mb3.1/4, mb1 3.3/4,mb1mx3.1/18,mbtmp3.1/4,Error ellipse: s-maj=96.6km s-min=34.2km az=5.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.22**	**198**	P	**P**	**23 35 04.6**	**+1.1**
	31nm,0.3s,baz=359,slow=2.7,SNR=73						
URZ				S		23 36 29.9	-1.4
	4.3nm,0.3s,baz=70,slow=20,SNR=10						
STKA	**Stephens Creek**	**32.49**	**259**	P	P	23 39 09.7	+1.5
	1.3nm,0.8s,baz=107,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**41.26**	**269**	P	P	23 40 20.6	-0.2
	0.7nm,0.5s,baz=105,slow=7.7,SNR=7.5						
WRA	**Warramunga Arr**	**42.34**	**274**	P	P	23 40 28.7	-0.7
	1.5nm,0.5s,baz=111,slow=8.0,SNR=30						
FITZ	**Fitzroy Crossi**	**50.55**	**272**	P	P	23 41 31.7	-0.3
	1.8nm,0.7s,baz=111,slow=8.2,SNR=4.3						
FINES	**FINESS Array B**	**145.41**	**338**	PKPbc	PKPdf	23 52 01.1	+0.1
	1.1nm,0.4s,baz=40,slow=3.7,SNR=16						

*ISCJB **26** 00:01:19.9±0.9,23°.61S±0°.06×179°.94W±0°.08, h520km±10km,mb4.7/34,Error ellipse: s-maj=12.1km s-min=9.1km az=6.9*

*BJI **26** 00:01:20.9,23°.12S×179°.77W,h510km,mB4.9/12, mb4.8/16*

*IDC **26** 00:01:20.4±2.0,23°.36S×179°.90W,h522km±20km,mb3.8/8, mb1 4.0/8,mb1mx3.6/19,mbtmp3.8/8,Error ellipse: s-maj=18.1km s-min=15.9km az=164.0*

*NEIC **26** 00:01:20.6±0.7,23°.52S×179°.81W,h533km±8km,mb4.9/18, Error ellipse: s-maj=10.5km s-min=7.9km az=107.0*

*MOS **26** 00:01:22.3±2.7,23°.43S×179°.64E,h517km,mb4.8/8,Error ellipse: s-maj=14.9km s-min=13.0km az=143.4*

ISC 26 00:01:19.7±0.5,23°.66S±0°.06×179°.84W±0°.08, h511km±3km,h511km:pP-P,n98,σ1ŝ85/134,mb4.7/34, 4C-7D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.22**	**341**	*e*P	**P**	**00 02 58.4**	**-0.5**
MSVF	**Nonsavu**	**6.22**	**341**	*e*P	**P**	**00 02 58.4**	**-0.5**
AFI	**Afiamalu**	**12.34**	**40**	*e*P	**P**	**00 04 03.0**	**+0.9**
NORM	**Noumea**	**12.68**	**274**	*e*P	**P**	**00 04 06.1**	**+0.5**
URZ	**Urewera**	**14.78**	**189**	*e*P	**P**	**00 04 27.4**	**+0.1**
SNZO	**South Karori**	**18.18**	**193**	*e*P	**P**	**00 05 01.3**	**+0.4**
	145nm,1.4s						
KHZ	**Kahutara**	**19.50**	**195**	*e*P	**P**	**00 05 14.0**	**+1.0**
	56nm,1.6s						
RPZ	**Rata Peaks**	**21.36**	**198**	*e*P	**P**	**00 05 30.7**	**+0.8**
	217nm,2.8s						
WHZ	**Wether Hill Ro**	**24.29**	**201**	*e*P	**P**	**00 05 55.9**	**-0.1**
ARMA	**Armidale**	**26.24**	**249**	*e*P	**P**	**00 06 15.7**	**+1.9**
	21nm,0.9s						
EIDS	**Eidsvold**	**26.49**	**260**	*e*P	**P**	**00 06 16.8**	**+0.9**
	46nm,1.2s						
CAN	**Canberra**	**29.39**	**240**	*e*P	**P**	**00 06 42.5**	**+1.3**
CAN				pmax	pmax		
	comp=Z,16nm,0.8s						
CAN	**Canberra**	**29.39**	**240**	*e*P	**P**	**00 06 42.5**	**+1.3**
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**31.62**	**270**	*e*P	**P**	**00 07 01.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,71nm,0.7s						
CTAO	**Charters Tower**	**31.62**	**270**	*e*P	**P**	**00 07 01.1**	**+0.5**
	comp=Z,71nm,0.7s						
TAU	**Tasmania Unive**	**33.20**	**227**	*e*P	**P**	**00 07 14.5**	**+0.8**
TAU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TAU	**Tasmania Unive**	**33.20**	**227**	*e*P	**P**	**00 07 14.5**	**+0.8**
	comp=Z,8.1nm,0.7s						
PMG	**Port Moresby**	**34.56**	**289**	P	**P**	**00 07 24.7**	**-0.8**
	comp=Z,42nm,0.7s,baz=106,slow=4.8,SNR=14						
PMG	**Port Moresby**	**34.56**	**289**	*e*P	**P**	**00 07 24.6**	**-0.8**
	comp=Z,47nm,0.8s						
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**00 07 29.5**	**+1.0**
	comp=Z,18nm,0.6s,baz=91,slow=9.5,SNR=58						
STKA	**Stephens Creek**	**34.95**	**248**	*e*P	**P**	**00 07 29.6**	**+1.0**
	comp=Z,3.9nm,0.7s						
COEN	**Coen**	**36.22**	**279**	*e*P	**P**	**00 07 39.5**	**+0.2**
	comp=Z,205nm,1.5s						
BBOO	**Buckleboo**	**39.67**	**247**	*e*P	**P**	**00 08 07.2**	**-0.1**
	comp=Z,330nm,0.8s						
AS31	**Alice Springs**	**42.22**	**260**	*e*P	**P**	**00 08 27.3**	**-0.5**
ASAR	**Alice Springs**	**42.22**	**260**	P	**P**	**00 08 27.6**	**-0.2**
	comp=Z,33nm,0.8s,baz=95,slow=8.0,SNR=217						
ASAR				ScP	**ScP**	**00 13 12.4**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=99,slow=4.9,SNR=6.7						
ASAR				S	**S**	**00 14 08.9**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=100,slow=15,SNR=4.6						
ASAR	**Alice Springs**	**42.22**	**260**	P	**P**	**00 08 27.6**	**-0.2**
ASAR				ScP	**ScP**	**00 13 12.4**	**+0.4**
ASAR				S	**S**	**00 14 08.9**	**-2.0**
WRAB	**Tennant Creek**	**42.56**	**266**	*e*P	**P**	**00 08 30.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s						
WRAB	**Tennant Creek**	**42.56**	**266**	*e*P	**P**	**00 08 30.0**	**-0.5**
	comp=Z,35nm,0.8s						
WRA	**Warramunga Arr**	**42.57**	**266**	P	**P**	**00 08 29.4**	**-1.1**
	comp=Z,11nm,0.4s,baz=89,slow=5.9,SNR=398						
WRA				ScP	**ScP**	**00 13 13.5**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=101,slow=3.4,SNR=5.3						
WRA				S	**S**	**00 14 10.4**	**-5.6**
	comp=Z,0.7nm,0.8s,baz=98,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**42.57**	**266**	P	**P**	**00 08 29.4**	**-1.1**
WRA				ScP	**ScP**	**00 13 13.5**	**+0.1**
WRA				S	**S**	**00 14 10.4**	**-5.6**
FORT	**Forrest**	**46.53**	**249**	*e*P	**P**	**00 09 00.5**	**-0.5**
	comp=Z,83nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.99**	**265**	*e*P	**P**	**00 09 33.9**	**-0.4**
	comp=Z,26nm,0.8s						
SBA	**Scott Base**	**54.62**	**183**	*e*P	P	00 10 03.0	+3.8
SBA				pmax	pmax		
	comp=Z,11nm,1.1s						
SBA	**Scott Base**	**54.62**	**183**	*e*P	P	00 10 03.0	+3.8
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**54.63**	**185**	P	**P**	**00 10 01.4**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=350,slow=6.3,SNR=11						
VNDA	**Vanda**	**54.63**	**185**	*e*P	**P**	**00 10 01.6**	**+2.3**
NWAO	**Narrogin (SRO)**	**55.47**	**245**	*e*P	**P**	**00 10 05.5**	**-0.4**
MBWA	**Marble Bar**	**55.56**	**260**	*e*P	**P**	**00 10 05.9**	**-0.9**
	comp=Z,17nm,0.8s						
CASY	**Casey**	**60.39**	**206**	P	**P**	**00 10 38.7**	**0.0**
QSPA	**South Pole Qui**	**66.42**	**180**	*e*P	**P**	**00 11 18.9**	**+1.3**
	comp=Z,18nm,1.3s						
NACB	**Ninganchiao**	**74.08**	**306**	P	**P**	**00 12 02.0**	**-1.6**
SSLB	**Suanglung**	**74.34**	**305**	P	**P**	**00 12 02.2**	**-2.9**
	comp=Z,29nm,0.3s						
YHNB	**Yeheng**	**74.53**	**306**	*e*P	**P**	**00 12 05.8**	**-0.5**
YSS	**Yuzh-Sakhalins**	**77.98**	**335**	*e*P	**P**	**00 12 27.5**	**+2.9**
YSS				pmax	pmax		
	comp=Z,80nm,2.5s						
KSRS	**Korea Array**	**78.16**	**320**	P	**P**	**00 12 24.1**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=138,slow=5.8,SNR=5.1						
KSAR	**Wonju Array Be**	**78.17**	**320**	P	**P**	**00 12 24.1**	**-1.8**
PETK	**Petropavlovsk-**	**78.90**	**346**	P	**P**	**00 12 27.8**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=106,slow=11,SNR=3.8						
PETK	**Petropavlovsk-**	**78.90**	**346**	P	**P**	**00 12 27.8**	**-1.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PETK	**Petropavlovsk-**	**78.90**	**346**	P	**P**	**00

CRVS	**Cervenica-Dubn**	**149.72 332**	*e*PKP	**PKPbc**	**00 20 10.4**	**-1.0**
NIE	**Niedzica**	**149.81 333**	*e*PX	**PKPbc**	**00 20 10.8**	**-0.9**
KSP	**Ksiaz**	**150.12 339**	*e*PKHKP	**PKPbc**	**00 20 11.0**	**-1.3**
DRGR		**150.67 327**	⇓*i*P	**PKPbc**	**00 20 12.0**	**-1.8**
CLL	**Collm**	**150.67 343**	⇓*i*PKIKP	**PKPbc**	**00 20 11.8**	**-1.7**
CLL			*i*		00 20 20.7	
CLL			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CLL			pmax	pmax		
	comp=Z,4.0nm,1.2s					
CLL	**Collm**	**150.67 343**	⇓*i*PKPbc	**PKPbc**	**00 20 11.8**	**-1.7**
	comp=Z,7.0nm,0.8s					
CLL			⇑*i*PKPab	**PKPab**	**00 20 20.7**	**-2.0**
	comp=Z,4.0nm,1.2s					
BRG	**Berggiesshubel**	**150.81 342**	*e*PKP	**PKPbc**	**00 20 12.3**	**-1.6**
	comp=Z,6.4nm,0.8s					
BRG	**Berggiesshubel**	**150.81 342**	*e*PKIKP	**PKPbc**	**00 20 12.3**	**-1.6**
BRG			pmax	pmax		
	comp=Z,6.0nm,0.8s					
VYHS	**Vyhne**	**151.14 334**	*e*PKIKP	**PKPbc**	**00 20 12.2**	**-2.5**
VYHS			*e*		00 20 23.4	
VYHS	**Vyhne**	**151.14 334**	*e*PKP	**PKPbc**	**00 20 12.2**	**-2.5**
VYHS			*e*		00 20 23.4	
BZS	**Buzias**	**152.03 327**	⇓*i*P	**PKPbc**	**00 20 14.6**	**-2.2**
GERES	**GERESS Array B**	**152.68 340**	PKPbc	**PKPbc**	**00 20 15.8**	**-2.5**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.2,SNR=3.9					
GERES			PKPab	**PKPab**	**00 20 29.7**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=81,slow=8.2,SNR=2.1					
GERES	**GERESS Array B**	**152.68 340**	PKPbc	**PKPbc**	**00 20 15.8**	**-2.5**
GERES			PKPab	**PKPab**	**00 20 29.7**	**-1.7**
TORD	**Torodi Ar. Bea**	**169.44 188**	PKP	**PKPdf**	**00 20 26.9**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=28,slow=0.8,SNR=3.3					
TORD			PKPab	**PKPab**	**00 21 45.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=172,slow=4.0,SNR=10.0					
TORD	**Torodi Ar. Bea**	**169.44 188**	PKP	**PKPdf**	**00 20 26.9**	**-2.1**
TORD			PKPab	**PKPab**	**00 21 45.3**	**+0.1**

*DJA **26** 00:57:17.1±1.3,2°N±15°×12°8E±°, h228km±6km, M4.4/10, mB4.6/2, mb4.1/10, MLv4.5/6, Mw(mB)3.8/2*
*IDC **26** 00:57:18.5±5.7,2°46N×128°59E, h282km±62km, mb3.3/9, mb1 3.5/10, mb1mx3.3/23, mbtmp3.3/10, Error ellipse: s-maj=40.9km s-min=12.0km az=65.0*
ISC 26 00:57:13.0±3.0,2°6N±0°3×128°6E±0°2, h200km, n21, σ2§8§08/15, mb3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.16 214**		P	**Pn**	**00 57 55.9**	**+2.7**
LBMI	**Labuha**	**3.37 199**		P	**Pn**	**00 58 08.1**	**+1.1**
MNI	**Manado**	**3.90 253**		P	**Pn**	**00 58 14.5**	**+1.0**
MSAI	**Masohi**	**5.89 177**		P	**Pn**	**00 58 40.0**	**+1.1**
	15nm,0.9s						
FAKI	**Fak Fak**	**6.58 146**		P	**Pn**	**00 58 50.5**	**+2.7**
	54nm,0.9s,0.2nm						
LUWI	**Luwuk**	**6.82 238**		P	**Pn**	**00 58 50.2**	**-0.7**
	104nm,0.7s,1μm0.5nm						
MRSI	**Marisa**	**6.95 253**		P	**Pn**	**00 58 52.7**	**+0.1**
	44nm,0.8s,674nm1.3nm						
TTSI	**Tana Toraja**	**10.38 238**		P	**Pn**	**00 59 37.0**	**-0.2**
	53nm,0.7s						
SPSI	**Sidrap Palu**	**10.94 234**		P	**Pn**	**00 59 46.9**	**+2.5**
KAPI	**Kappang**	**11.60 229**		P	**Pn**	**00 59 55.7**	**+2.9**
	1.4nm,0.3s,baz=46,slow=13,SNR=6.7						
SBUM	**Sibu**	**16.34 270**		P	**P**	**01 00 52.2**	**+1.4**
	14nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.75 188**		P	**P**	**01 01 36.5**	**-2.0**
	1.6nm,0.6s,baz=29,slow=12,SNR=7.4						
WRA	**Warramunga Arr**	**23.08 166**		P	**P**	**01 01 59.0**	**-2.2**
	6.8nm,0.8s,baz=346,slow=10,SNR=24						
CGJI	**Cibinong**	**24.60 248**		P	**P**	**01 02 13.4**	**-1.6**
	16nm,1.1s						
ASAR	**Alice Springs**	**26.60 169**		P	**P**	**01 02 30.6**	**-2.3**
	1.9nm,0.5s,baz=356,slow=8.0,SNR=30						
CMAR	**Chiang Mai Arr**	**33.04 301**		P	P	01 03 29.5	-0.3
	0.9nm,0.4s,baz=115,slow=7.2,SNR=4.8						
KSRS	**Korea Array**	**34.72 359**		P	P	01 03 42.9	-1.0
	1.0nm,0.5s,baz=176,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**36.43 161**		P	P	01 03 56.3	-2.3
	2.5nm,0.6s,baz=336,slow=7.9,SNR=7.9						
SONM	**Songino Array**	**48.98 340**		P	P	01 05 38.4	-1.0
	0.2nm,0.4s,baz=145,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**59.55 325**		P	P	01 06 53.7	-1.8
	0.9nm,0.4s,baz=118,slow=7.9,SNR=28						
ZALV	**Zalesovo Beam**	**62.45 333**		P	P	01 07 11.5	-3.3
	0.6nm,0.4s,baz=127,slow=7.7,SNR=3.7						

*IDC **26** 01:06:41.8±11.0,26°72S×177°71W, h120km±93km, mb3.8/8, mb1 4.1/8, mb1mx3.9/17, mbtmp3.8/8, Error ellipse: s-maj=37.2km s-min=29.1km az=142.0*
*ISCJB **26** 01:06:44.5±0.6,26°93S±0°07×177°9W±0°1, h150km, mb3.8/9, Error ellipse: s-maj=18.9km s-min=8.8km az=170.9*
*NEIC **26** 01:06:45.3±0.9,26°95S×177°68W, h158km±8km, mb4.3/3, Error ellipse: s-maj=14.5km s-min=12.3km az=87.0*
ISC 26 01:06:44.8±0.6,26°90S±0°08×177°7W±0°2, h150km, n45, σ1§9§00/50, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.35 185**		*e*Pn	**Pn**	**01 07 24.3**	**+0.2**
RAO				*e*Sn	**Sn**	**01 07 52.6**	**-1.8**
MSVF	**Nonsavu**	**9.94 336**		*e*Pn	**Pn**	**01 09 05.3**	**+1.2**
	29nm,0.9s						
STKA	**Stephens Creek**	**35.67 252**		PcP	**PcP**	**01 15 55.4**	**+1.6**
	1.0nm,0.7s,baz=90,slow=2.0,SNR=3.6						
ASAR	**Alice Springs**	**43.68 263**		P	**P**	**01 14 34.9**	**-0.2**
	1.0nm,0.5s,baz=91,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**43.68 263**		P	**P**	**01 14 34.9**	**-0.2**
WRAB	**Tennant Creek**	**44.35 268**		*e*P	**P**	**01 14 40.1**	**-0.2**
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**44.35 268**		P	**P**	**01 14 40.0**	**-0.4**
	0.4nm,0.3s,baz=103,slow=6.0,SNR=9.3						
WRA	**Warramunga Arr**	**44.35 268**		P	**P**	**01 14 40.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.73 267**		P	**P**	**01 15 44.4**	**0.0**
	3.1nm,0.9s,baz=293,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**52.73 267**		*e*P	**P**	**01 15 44.4**	**0.0**
	4.8nm,1.1s						
MJAR	**Matsushiro Arr**	**75.54 325**		P	**P**	**01 18 11.5**	**-1.3**
	3.4nm,0.7s,baz=163,slow=5.8,SNR=6.7						
MJAR	**Matsushiro Arr**	**75.54 325**		P	**P**	**01 18 11.5**	**-1.3**
VNA3	**Neumayer Olymp**	**81.77 176**		*e*P	**P**	**01 18 48.5**	**+2.1**
KSRS	**Korea Array**	**81.88 319**		P	**P**	**01 18 47.5**	**+0.2**
	2.9nm,0.6s,baz=133,slow=6.3,SNR=8.6						
KSAR	**Wonju Array Be**	**81.89 319**		P	**P**	**01 18 47.5**	**+0.1**
VNA2	**Neumayer--Watz**	**82.21 177**		*e*P	P	01 18 51.3	+2.7
	baz=195,slow=2.8						
VNA1	**Neumayer--Stat**	**82.43 176**		*e*P	P	01 18 53.3	+3.5
USRK	**Ussuriysk Arra**	**84.40 326**		P	**P**	**01 19 01.2**	**+1.1**
	1.9nm,0.8s,baz=104,slow=8.2,SNR=4.1						
NVAR	**Mina Array Bea**	**85.49 43**		P	**P**	**01 19 06.8**	**+0.8**
	0.4nm,0.6s,baz=225,slow=8.7,SNR=3.4						
NVAR	**Mina Array Bea**	**85.49 43**		P	**P**	**01 19 06.8**	**+0.8**
PDAR	**Pinedale Array**	**93.41 43**		P	**P**	**01 19 43.2**	**-0.1**
	0.3nm,0.7s,baz=254,slow=3.3,SNR=3.2						
PDAR	**Pinedale Array**	**93.41 43**		P	**P**	**01 19 43.2**	**-0.1**
MKAR	**Makanchi Array**	**115.71 311**		PKP	**PKPdf**	**01 25 07.7**	**-1.4**
	0.2nm,0.7s,baz=84,slow=1.4,SNR=3.8						
MKAR	**Makanchi Array**	**115.71 311**		PKP	**PKPdf**	**01 25 07.7**	**-1.4**
AKTO	**Aktyubinsk**	**131.89 315**		PKP	**PKPdf**	**01 25 39.8**	**-0.2**
	0.6nm,0.6s,baz=54,slow=4.3,SNR=3.8						
AKTO	**Aktyubinsk**	**131.89 315**		PKP	**PKPdf**	**01 25 39.8**	**-0.2**
FINES	**FINESS Array B**	**141.94 342**		PKhKP	PKPpre	01 25 52.6	
	1.0nm,0.6s,baz=32,slow=5.0,SNR=7.0						
FINES				PKP	**PKPdf**	**01 25 57.0**	**-1.1**
	1.2nm,0.8s,baz=58,slow=3.4,SNR=4.7						
FINES	**FINESS Array B**	**141.94 342**		PKPpre	PKPpre	01 25 52.6	
FINES				PKP	**PKPdf**	**01 25 57.0**	**-1.1**
NB2	**NORSAR Subarra**	**145.34 352**		PKP	**PKPab**	**01 26 03.7**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=19,slow=3.8						
NOA	**NORSAR Array B**	**145.34 352**		PKPbc	PKPbc	**01 26 03.2**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=17,slow=2.6,SNR=10						
NOA	**NORSAR Array B**	**145.34 352**		PKPbc	**PKPbc**	**01 26 03.2**	**-1.1**
HFS	**Hagfors**	**145.87 350**		PKPbc	**PKPbc**	**01 26 04.9**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=72,slow=4.8,SNR=18						
HFS	**Hagfors**	**145.87 350**		PKPbc	**PKPbc**	**01 26 04.9**	**-1.0**
AKASG	**Malin Array Be**	**148.62 326**		PKPbc	**PKPbc**	**01 26 13.1**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=44,slow=4.0,SNR=11						
AKASG	**Malin Array Be**	**148.62 326**		PKPbc	**PKPbc**	**01 26 13.1**	**-0.7**
ASF	**Jabal al Asfar**	**149.54 288**		PKPab	**PKPab**	**01 26 23.2**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=63,slow=4.5,SNR=6.6						
ASF	**Jabal al Asfar**	**149.54 288**		PKPab	**PKPab**	**01 26 23.2**	**+0.8**
MMAI	**Mount Meron Ar**	**150.77 290**		PKPbc	**PKPbc**	**01 26 20.8**	**+1.1**
	comp=Z,5.1nm,0.5s,baz=75,slow=7.0,SNR=14						
MMAI				PKPab	**PKPab**	**01 26 28.5**	**+1.1**
	comp=Z,4.1nm,0.7s,baz=94,slow=5.9,SNR=4.2						
MMAI	**Mount Meron Ar**	**150.77 290**		PKPbc	**PKPbc**	**01 26 20.8**	**+1.1**
MMAI				PKPab	**PKPab**	**01 26 28.5**	**+1.1**
BRTR	**Keskin Array B**	**151.02 304**		PKPbc	**PKPbc**	**01 26 19.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=136,slow=4.3,SNR=9.2						
BRTR				PKPab	**PKPab**	**01 26 27.9**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=97,slow=4.5,SNR=11						
BRTR	**Keskin Array B**	**151.02 304**		PKPbc	**PKPbc**	**01 26 19.6**	**-0.6**
BRTR				PKPab	**PKPab**	**01 26 27.9**	**-0.3**
EKA	**Eskdalemuir Ar**	**151.31 7**		PKPbc	**PKPbc**	**01 26 19.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=338,slow=1.8,SNR=4.1						
EKA	**Eskdalemuir Ar**	**151.31 7**		PKPbc	**PKPbc**	**01 26 19.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**166.31 177**		PKP	**PKPdf**	**01 26 32.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=62,slow=1.4,SNR=5.8						
TORD				PKPab	**PKPab**	**01 27 36.4**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=188,slow=3.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**166.31 177**		PKP	**PKPdf**	**01 26 32.4**	**-0.4**
TORD				PKPab	**PKPab**	**01 27 36.4**	**+1.8**

*ISCJB **26** 01:14:50.7±0.5, 37°84N±0°03×72°62E±0°08, h119km, mb3.5/5, Error ellipse: s-maj=9.6km s-min=4.0km az=165.1*
*IDC **26** 01:14:52.6±5.0, 37°91N×72°58E, h111km±45km, mb3.3/5, mb1 3.5/10, mb1mx3.2/31, mbtmp3.4/10, Error ellipse: s-maj=38.2km s-min=23.2km az=30.0*
*NNC **26** 01:14:58.8±3.6, 38°45N×72°53E, h158km±31km, mb3.1, mpv3.8, Error ellipse: s-maj=39.9km s-min=15.0km az=25.0*
ISC 26 01:14:52.0±0.7, 37°96N±0°06×72°69E±0°08, h119km, n39, σ2§11/41, mb3.6/5, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.00 58**		Pn	**Pn**	**01 15 37.5**	**-0.8**
KSH				Sn	**Sn**	**01 16 10.5**	**-3.5**
KSH				smax	smax		
	comp=N,310nm,0.3s						
KSH				smax	smax		
	comp=E,230nm,0.4s						
AML	**Almayashu**	**4.23 10**		P	**Pn**	**01 15 56.9**	**+1.9**
	SNR=145						
UCH	**Uchtor**	**4.48 18**		P	**Pn**	**01 16 00.9**	**+2.6**
	SNR=6.0						
KZA	**Kyzart**	**4.55 25**		P	**Pn**	**01 16 01.4**	**+2.1**
	SNR=8.2						
EKS2	**Erkin-Say**	**4.77 10**		P	**Pn**	**01 16 04.4**	**+2.5**
	SNR=33						
AAK	**Ala-Archa**	**4.87 16**		P	**Pn**	**01 16 06.0**	**+2.8**
	comp=E,9.3nm,0.3s,baz=185,slow=9.6,SNR=161						
AAK				S	**Sn**	**01 17 00.9**	**+2.3**
	comp=E,5.2nm,0.3s,baz=317,slow=20,SNR=27						
AAK	**Ala-Archa**	**4.87 16**		P	**Pn**	**01 16 06.1**	**+2.8**
	SNR=39						
KBK	**Karagaybulak**	**5.00 19**		P	Pn	01 16 08.6	+3.6
	SNR=10						
ULHL	**Ulahol**	**5.07 31**		P	**Pn**	**01 16 08.3**	**+2.2**
	SNR=15						
CHMS	**Chumysh**	**5.27 17**		P	**Pn**	**01 16 11.2**	**+2.7**
	SNR=11						
KK31	**Karatay Array**	**5.40 343**		P	**Pn**	**01 16 11.2**	**+0.9**
	comp=E,9.5nm,0.2s,baz=150,slow=10,SNR=695						
KK31				⇓S	**Sn**	**01 17 08.1**	**-3.2**
	comp=E,10nm,0.3s,baz=146,slow=16,SNR=13						
TKM2	**Tokmak 2**	**5.42 23**		⇑P	**Pn**	**01 16 12.8**	**+2.0**
	comp=E,2.5nm,0.5s						
THN	**Thein Dam**	**6.04 155**		*e*P	**Pn**	**01 16 20.0**	**+1.0**
THN				*e*S	**Sn**	**01 17 24.1**	**-2.8**
SMLA	**Simla**	**7.75 150**		*i*P	**Pn**	**01 16 43.3**	**+1.2**
SMLA				*i*P	**Pn**	**01 16 43.3**	**+1.2**
SMLA				*i*S	Sn	01 18 02.6	-5.7
SMLA				⇓AML	AML	01 18 08.1	
	comp=N,2μm,0.2s						
SMLA				AML	AML	01 18 08.9	
	comp=E,1μm,0.2s						
KHET	**Khetri**	**10.20 164**		*e*S	Sn	01 19 00.8	-6.9
KHET				AML	AML	01 19 07.0	
	comp=N,7.8nm,0.0s						
KHET				AML	AML	01 19 07.9	
	comp=E,6.4nm,0.2s						
KUDL	**Kundal**	**10.29 161**		*e*P	**Pn**	**01 17 15.4**	**-1.0**
KUDL				*e*S	Sn	01 19 02.1	-7.9
KUDL				AML	AML	01 19 05.0	
	comp=E,12nm,0.3s						
KUDL				AML	AML	01 19 06.1	
	comp=N,10nm,0.4s						
SONA	**Sohna**	**10.36 158**		*e*P	**Pn**	**01 17 16.7**	**-0.6**
SONA				*e*S	Sn	01 19 02.5	-9.0
SONA				AML	AML	01 19 10.5	
	comp=E,31nm,0.2s						
SONA				AML	AML	01 19 12.6	
	comp=N,19nm,0.1s						
MK31	**Makanchi Array**	**11.32 36**		⇑P	**Pn**	**01 17 31.2**	**+1.2**
	comp=N,1.1nm,0.9s,baz=214,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**11.32 36**		P	**Pn**	**01 17 31.9**	**+1.8**
	comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=8.6						
AGRA	**Agra**	**11.58 156**		*e*S	Sn	01 19 32.7	-8.4
AGRA				AML	AML	01 19 39.3	
	comp=N,70nm,0.3s						
AGRA				AML	AML	01 19 40.5	
	comp=E,67nm,0.3s						
PYUN	**Piuthan**	**13.08 136**		*e*P	Pn	01 17 50.7	-2.8
	comp=E,12nm,0.3s						
DANN	**Dangsing**	**13.32 133**		*e*P	**Pn**	**01 17 54.4**	**-2.4**
	comp=E,9.3nm,0.3s						
KOLN	**Koldanda**	**13.67 135**		*e*P	**Pn**	**01 17 59.2**	**-2.0**
	comp=E,5.8nm,0.3s						
AB31	**Akbulak array**	**14.56 325**		⇑P	**Pn**	**01 18 10.0**	**-2.1**
	comp=E,3.6nm,0.5s,baz=138,slow=12,SNR=150						
AB31				⇑S	Sn	01 20 45.4	-7.5
	comp=E,2.1nm,0.5s,baz=148,slow=22,SNR=11						
VOSK	**Vostochnaya**	**14.81 356**		⇑P	**Pn**	**01 18 14.5**	**-0.8**
	comp=E,5.1nm,1.5s						
PKI	**Pulchoki**	**14.88 130**		*e*P	**Pn**	**01 18 14.8**	**-1.8**
BVA0	**Borovoye Array**	**15.15 355**		P	**Pn**	**01 18 19.6**	**+0.1**
	comp=E,0.4nm,0.6s,baz=171,slow=16,SNR=8.3						
BVAR	**Borovoye Array**	**15.15 355**		P	**Pn**	**01 18 19.7**	**+0.2**
	comp=E,0.5nm,0.3s,baz=165,slow=13,SNR=8.1						
BVAR				S	**Sn**	**01 21 00.9**	**-6.1**
	comp=E,0.2nm,0.3s,baz=168,slow=20,SNR=3.2						
ZRNK	**Zerenda**	**15.21 351**		⇑P	**Pn**	**01 18 20.8**	**+0.5**
	comp=E,11nm,0.8s						
RAMN	**Ramite**	**16.05 129**		*e*P	**Pn**	**01 18 29.5**	**-1.7**
AKTO	**Aktyubinsk**	**16.28 325**		P	**P**	**01 18 33.9**	**-0.5**
	comp=E,1.3nm,0.3s,baz=124,slow=13,SNR=27						
AKTO				S	Sn	01 21 22.7	-11
	comp=E,0.1nm,0.3s,baz=168,slow=18,SNR=5.4						
AKTO	**Aktyubinsk**	**16.28 325**		⇓P	**P**	**01 18 33.5**	**-0.8**
	comp=E,0.6nm,0.5s						
ODAN	**Odare**	**16.61 128**		*e*P	**Pn**	**01 18 37.5**	**-0.5**
ZALV	**Zalesovo Beam**	**18.03 24**		P	**Pn**	**01 18 55.3**	**+0.6**
	comp=E,0.3nm,0.3s,baz=224,slow=11,SNR=12						
FINES	**FINESS Array B**	**37.05 325**		P	**P**	**01 21 51.5**	**+1.4**
	comp=E,0.7nm,0.5s,baz=115,slow=9.0,SNR=5.2						
ARCES	**ARCESS Array B**	**40.33 337**		P	**P**	**01 22 18.7**	**+1.4**
	comp=E,2.1nm,0.8s,baz=110,slow=9.2,SNR=5.9						
NOA	**NORSAR Array B**	**44.04 322**		P	**P**	**01 22 49.0**	**+1.4**
	comp=E,1.2nm,0.9s,baz=64,slow=15,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.10 269**		P	**P**	**01 25 33.4**	**+0.4**
	comp=E,0.1nm,0.3s,baz=49,slow=6.1,SNR=9.5						
WRA	**Warramunga Arr**	**81.64 123**		P	**P**	**01 26 58.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=308,slow=5.2,SNR=3.1						

IDC 26 01:20:21.1±0.9, 6°92N×125°67E, h62km±10km, mb3.2/5, mb1 3.4/5, mb1mx3.2/24, mbtmp3.2/5, Error ellipse: s-maj=64.3km s-min=19.3km az=77.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.17 330**		P	Pn	01 20 31.7	+1.1
	272nm,0.3s,baz=245,slow=3.2,SNR=24						
DAV				S	Sn	01 20 39.4	+1.9
	1μm,0.3s,baz=18,slow=20,SNR=147						
FITZ	**Fitzroy Crossi**	**24.86 180**		P	P	01 25 37.8	-0.3
	2.1nm,0.7s,baz=2.0,slow=7.9,SNR=7.9						
WRA	**Warramunga Arr**	**28.02 162**		P	P	01 26 05.5	-1.1
	0.1nm,0.3s,baz=344,slow=9.7,SNR=3.9						
ASAR	**Alice Springs**	**31.45 165**		P	P	01 26 38.1	+1.2
	0.2nm,0.4s,baz=339,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**54.35 325**		P	P	01 29 41.4	-0.2
	0.2nm,0.7s,baz=117,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**82.70 26**		P	P	01 32 38.0	+0.1
	0.4nm,0.6s,baz=249,slow=5.3,SNR=5.3						

IDC 26 01:26:46.2±2.0, 6°60S×153°88E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=68.4km s-min=21.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.21 247**		Pn	Pn	01 28 34.1	+1.1
	1.2nm,0.3s,baz=2.0,slow=7.4,SNR=3.6						
PMG				Sn	Sn	01 29 50.8	-4.9
	0.9nm,0.3s,baz=128,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**23.14 233**		P	P	01 31 54.7	+0.3
	1.0nm,0.9s,baz=58,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**25.62 226**		P	P	01 32 17.8	+0.2
	0.8nm,0.7s,baz=57,slow=9.3,SNR=7.9						
FITZ	**Fitzroy Crossi**	**29.81 245**		P	P	01 32 54.2	-0.9
	1.8nm,0.8s,baz=46,slow=5.9,SNR=5.1						
SONM	**Songino Array**	**68.41 328**		P	P	01 37 51.7	+1.7
	0.2nm,0.4s,baz=101,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**82.38 319**		P	P	01 39 08.8	-1.4
	0.3nm,0.7s,baz=96,slow=4.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**83.24 326**		P	P	01 39 13.3	-1.1
	0.3nm,0.4s,baz=103,slow=4.6,SNR=2.5						
ILAR	**Eielson Array**	**83.42 22**		P	P	01 39 15.4	+0.2
	0.2nm,0.6s,baz=242,slow=4.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**151.85 286**		PKPbc	PKPbc	01 46 44.1	-0.1
	0.7nm,0.7s,baz=74,slow=2.3,SNR=8.5						
TORD				PKPab	PKPab	01 46 53.5	+0.3
	0.6nm,0.8s,baz=78,slow=3.7,SNR=5.0						

MAN 26 01:39:32, 11°12N×125°68E, h29km, mb4.2, ML3.0, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.53 334**		*e*P	Pn	01 39 43.5	-0.1
MSLP	**Maasin**	**1.27 219**		*e*P	Pb	01 39 54.7	-0.6
CNP	**Catarman**	**1.70 324**		*e*P	Pb	01 40 01.3	-1.3

*IDC **26** 01:40:52.5±0.6, 23°62S×175°70W, h0km, mb4.5/19, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, MS4.3/16, Ms1 4.3/16, ms1mx4.0/37, Error ellipse: s-maj=21.0km s-min=16.7km az=142.0*
*ISCJB **26** 01:40:58.0±1.7, 23°93S±0°05×175°71W±0°08, h53km±14km, mb4.8/46, MS4.4/19, Error ellipse: s-maj=11.7km s-min=7.9km az=173.2*
*BJI **26** 01:40:59.0, 23°41S×175°28W, h57km, mB5.4/19, mb5.1/23, Ms5.1/12, Ms7 4.9/13*
*MOS **26** 01:40:59.0±1.1, 23°80S×175°74W, h60km, mb5.0/18, MS4.3/6, Error ellipse: s-maj=13.2km s-min=11.3km az=105.2*
*NEIC **26** 01:41:00.1±1.3, 23°88S×175°68W, h60km±11km, mb4.8/20, Error ellipse: s-maj=10.1km s-min=8.7km az=104.0*
ISC 26 01:41:00.4±0.5, 23°92S±0°06×175°66W±0°08, h60km±3km, n168, σ1§29/180, mb4.8/45, 8C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.68 200**		Pn	**Pn**	**01 42 23.2**	**+1.0**
MSVF	**Nonsavu**	**8.52 315**		*e*P	**Pn**	**01 43 01.4**	**+0.3**
MSVF						01 44 35.8	
MSVF	**Nonsavu**	**8.52 315**		*e*Pn	**Pn**	**01 43 01.4**	**+0.3**
MSVF				Sn	**Sn**	**01 44 35.8**	**0.0**
RAR	**Rarotonga**	**14.92 83**		LR	LR	01 49 17.4	
	comp=Z,984nm,19.1s,baz=271,slow=34						
RAR	**Rarotonga**	**14.92 83**		*e*Pn	Pn	01 44 15.6	-12
URZ	**Urewera**	**15.57 202**		*e*Pn	**Pn**	**01 44 35.1**	**-1.0**
	15nm,1.1s						
URZ				*e*Sn	**Sn**	**01 47 23.8**	**-3.8**
DZM	**Mont Dzumac**	**16.59 273**		LR	LR	01 49 51.0	
	comp=Z,599nm,21.2s,baz=136,slow=33						
DZM	**Mont Dzumac**	**16.59 273**		*e*LR	LR	01 48 44.8	
	996nm,23.6s						

KSRS LR LR 02 24 56.3
comp=Z,154nm,18.4s,baz=172,slow=33
KSAR Wonju Array Be 80.89 318 P P 01 53 07.9 -0.1
YBH Yreka Blue Hor 81.64 37 P P 01 53 13.3 +1.3
comp=Z,2.6nm,0.9s,baz=206,slow=8.1,SNR=4.2
YBH Yreka Blue Hor 81.64 37 P P 01 53 13.3 +1.3
NVAR Mina Array Bea 82.06 42 P P 01 53 14.2 -0.2
comp=Z,4.2nm,1.0s,baz=222,slow=8.5,SNR=11
NVAR Mina Array Bea 82.06 42 P P 01 53 14.2 -0.2
USRK Ussuriysk Arra 82.99 325 P P 01 53 19.4 +0.5
comp=Z,16nm,1.0s,baz=124,slow=3.2,SNR=21
NJ2 Nanjing 83.72 309 *e*P **P 01 53 24.3 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
HABR Khabarovsk 84.48 330 *e*P **P 01 53 24.7 -1.6**
HABR *e**SP sP 01 53 39.2 -11
HABR *e* 01 56 39.5
HABR *i* 01 58 38.7
HABR *e*S **SKSac 02 03 44.8 +0.1**
HABR *e*SS **SS 02 09 19.8 -0.5**
HABR *e*SSS SSS 02 12 49.2
HABR pmax pmax
comp=N,25nm,2.3s
HABR pmax pmax
comp=Z,99nm,2.3s
HABR pmax pmax
comp=E,34nm,1.2s
HABR MLR MLR
comp=Z,71nm,17.0s
SNAA Sanae 84.54 178 *e*P **P 01 53 26.6 0.0**
comp=Z,3.8nm,0.7s
MDJ Mudanjiang 84.55 324 *e*P **P 01 53 27.9 +1.1**
comp=Z,25nm,1.1s
VNA3 Neumayer Olymp 84.59 175 *e*PcP **P 01 53 28.5 +1.7**
VNA3 Neumayer Olymp 84.59 175 *e*pP pP 01 53 41.9 -1.9
CCUT Cedar City 84.64 45 *e*P **P 01 53 27.8 0.0**
comp=Z,56nm,2.5s
VNA2 Neumayer--Watz 85.06 176 *e*PcP **P 01 53 30.0 +0.9**
VNA2 Neumayer--Watz 85.06 176 *e*pP pP 01 53 44.6 -1.5
VNA2 Neumayer--Watz 85.06 176 *e*sP sP 01 53 50.0 -2.7
VNA2 Neumayer--Watz 85.06 176 *e*SKKPbc SKKPbc 02 15 06.5 -0.4
VNA1 Neumayer--Stat 85.27 176 *e*PcP **PcP 01 53 35.0 +1.8**
VNA1 Neumayer--Stat 85.27 176 *e*pP pP 01 53 45.8 -1.3
PLCA Paso Flores 85.36 133 LR LR 02 23 50.4
comp=Z,127nm,19.7s,baz=70,slow=90
CN2 Changchun 86.32 322 *e*P **P 01 53 36.3 +0.7**
CN2 *e*pP **pP 01 53 53.3 +0.6**
CN2 *e*S **S 02 04 06.5 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 86.56 329 *e*P **P 01 53 34.2 -2.5**
KLR pmax pmax
comp=Z,38nm,1.4s
PSI Prapat 86.94 274 LR LR 02 31 41.5
comp=Z,145nm,18.4s,baz=212,slow=35
MNTX Cornudas Mount 86.99 53 *e*P **P 01 53 39.0 -0.3**
comp=Z,4.9nm,1.1s
TXAR Lajitas Array 87.10 56 P P **01 53 39.5 -0.4**
comp=Z,2.3nm,0.9s,baz=212,slow=6.8,SNR=18
TXAR LR LR 02 26 22.4
comp=Z,168nm,18.6s,baz=270,slow=31
TXAR Lajitas Array 87.10 56 P P **01 53 39.5 -0.4**
LAZ Ladron 87.11 50 *e*P **P 01 53 39.5 -0.5**
comp=Z,1.9nm,1.2s
SRU San Rafael 87.36 45 *e*P **P 01 53 40.4 -0.7**
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael 87.36 45 *e*P **P 01 53 40.4 -0.7**
comp=Z,4.5nm,1.0s
ANMO Albuquerque 87.88 50 *e*P **P 01 53 43.4 -0.3**
comp=Z,4.3nm,1.1s
GDL2 Guadalupe Moun 87.99 53 *e*P **P 01 53 44.3 +0.1**
ENH Enshi 89.74 303 *e*P **P 01 53 52.4 +0.1**
comp=Z,45nm,1.4s
PDAR Pinedale Array 89.98 42 P **P 01 53 51.5 -2.0**
comp=Z,1.0nm,1.0s,baz=177,slow=3.0,SNR=5.6
PDAR LR LR 02 32 27.7
comp=Z,100nm,18.1s,baz=85,slow=34
PDAR Pinedale Array 89.98 42 P **P 01 53 51.5 -2.0**
SEY Seymchan 90.19 346↑ *e*P **P 01 53 52.9 -0.7**
GYA Guiyang 90.21 299 *e*P **P 01 53 55.8 +1.1**
GYA pP **pP 01 54 13.3 +1.5**
GYA sP **sP 01 54 19.0 +0.6**
GYA PP **PP 01 57 33.3 +3.8**
GYA SKS **SKSac 02 04 19.8 -1.2**
GYA S **S 02 04 43.3 -0.9**
GYA sS **sS 02 05 12.0 -1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.8s
ILAR Eielson Array 91.17 12 P **P 01 53 56.2 -1.9**
comp=Z,2.8nm,1.1s,baz=210,slow=6.3,SNR=6.6
ILAR Eielson Array 91.17 12 P **P 01 53 56.2 -1.9**
XAN Xi'an 91.91 306 P **P 01 54 03.8 +1.4**
XAN pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 92.66 353 P **P 01 54 05.0 +0.1**
BILL pmax pmax
comp=Z,11nm,2.5s
BILL MLR MLR
comp=Z,100nm,15.0s
KMI Kunming 92.81 296 P **P 01 54 08.5 +1.5**
KMI pmax pmax
comp=Z,15nm,0.5s
HHC Hu-ho-hao-te 93.28 313 *e*P **P 01 54 08.3 -0.3**
HHC pP **pP 01 54 26.5 +0.8**
HHC sP **sP 01 54 33.3 +1.0**
HHC PP **PP 01 57 57.3 +3.9**
HHC SKS **SKSac 02 04 37.0 -0.7**
HHC S **S 02 05 09.8 -1.4**
HHC sS **sS 02 05 39.3 -1.1**
HHC SS **SS 02 11 32.0 +3.1**
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,150nm,5.9s
HHC LR LR
comp=N,100nm,12.2s
HHC LR LR
comp=E,230nm,19.1s
HHC LR LR
comp=Z,150nm,17.4s
CMAR Chiang Mai Arr 93.28 289 P **P 01 54 10.6 +1.6**
comp=Z,7.2nm,0.8s,baz=132,slow=3.4,SNR=35
CMAR Chiang Mai Arr 93.28 289 P **P 01 54 10.6 +1.6**
CHTO Chiang Mai 93.42 289 *e*P **P 01 54 10.0 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 93.42 289 *e*P **P 01 54 10.0 +0.4**
comp=Z,8.6nm,0.9s
RSSD Black Hills 94.12 43 *e*P **P 01 54 11.0 -1.6**
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 94.12 43 *e*P **P 01 54 11.0 -1.6**
comp=Z,2.7nm,0.9s
CD2 Chengdu 94.44 302 P **P 01 54 15.0 +0.9**
CD2 pP **pP 01 54 31.5 +0.2**
CD2 sP **sP 01 54 38.0 +0.1**
CD2 PP **PP 01 58 06.0 +3.4**
CD2 SKS **SKSac 02 04 43.8 -0.6**
CD2 S **S 02 05 20.3 -1.4**
CD2 sS **sS 02 05 48.5 -2.5**
CD2 SS **SS 02 11 48.5 +2.8**
CD2 pmax pmax
comp=Z,90nm,5.9s
CD2 LR LR
comp=N,290nm,5.4s
CD2 LR LR
comp=Z,260nm,13.7s
LZH Lanzhou 96.55 306 *e*P **P 01 54 24.0 +0.2**
LZH pP **pP 01 54 41.3 +0.4**
LZH sP **sP 01 54 48.0 +0.5**
LZH *e*PP **PP 01 58 22.3 +3.3**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,63nm,8.2s
LZH LR LR
comp=N,180nm,16.0s
LZH LR LR
comp=E,190nm,17.8s
LZH LR LR
comp=Z,230nm,19.5s
YKA Yellowknife Ar 98.71 24 P **P 01 54 31.3 -1.3**
comp=Z,0.2nm,0.7s,baz=236,slow=4.4,SNR=3.7
YKA Yellowknife Ar 98.71 24 P **P 01 54 31.3 -1.3**
LPAZ La Paz 98.76 112 LR LR 02 30 26.2
comp=Z,101nm,18.1s,baz=299,slow=30
SONM Songino Array 99.74 318 P **Pdif 01 54 38.1 +0.3**
comp=Z,0.4nm,0.7s,baz=111,slow=3.2,SNR=3.6
SONM Songino Array 99.74 318 P **Pdif 01 54 38.1 +0.3**
GTA Gaotai 100.80 308 *e*P **Pdif 01 54 46.0 +3.3**
GTA pP pP 01 55 00.5 +0.5
GTA sP sP 01 55 09.3 +2.8
GTA pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 110.79 310 *e*PKP **PKiKP 01 59 24.8 -1.7**
WMQ LR LR
comp=N,51nm,21.0s
WMQ LR LR
comp=E,58nm,23.0s
WMQ LR LR
comp=Z,87nm,21.0s
MKAR Makanchi Array 115.10 312 PKP **PKPdf 01 59 34.2 -0.4**
comp=Z,0.3nm,0.7s,baz=96,slow=2.2,SNR=3.8
MKAR Makanchi Array 115.10 312 PKIKP **PKPdf 01 59 34.2 -0.4**
MKAR Makanchi Array 115.10 312 PKP **PKPdf 01 59 34.2 -0.4**
KSH Kashi 118.59 303 *e*PKP **PKPdf 01 59 44.5 +2.8**
KSH *es*PKP 02 00 00.8
KSH *e*PP PP 02 01 10.5 +10
KSH PKS **PKSdf 02 03 21.3 +2.8**
KSH AMB AMB
comp=Z,110nm,5.1s
KSH LR LR
comp=N,79nm,4.3s
KSH LR LR
comp=E,110nm,5.3s
KSH LR LR
comp=Z,170nm,5.7s
BRVK Borovoye 123.14 319↑ *i*PKIKP **PKPdf 01 59 50.0 +0.2**
OBN Obninsk 140.78 331↑ *i*PKIKP **PKPdf 02 00 19.7 -3.2**
OBN *e* 02 00 36.2
OBN pmax pmax
comp=Z,6.0nm,0.8s
KOPT Kop Dagi 145.66 307 *i* P **PKPab 02 00 34.3 +1.1**
MARD Mardin 146.13 302 *i* P **PKPab 02 00 34.9 0.0**
SUW Suwalki 146.79 340 *e*PKP **PKPbc 02 00 35.4 0.0**
SUW Suwalki 146.79 340 *e*PKP **PKPbc 02 00 35.3 0.0**
AKASG Malin Array Be 147.04 331 PKPbc **PKPbc 02 00 35.7 -0.4**
comp=Z,5.0nm,0.7s,baz=41,slow=3.5,SNR=12
AKASG Malin Array Be 147.04 331 PKP2 **PKPbc 02 00 35.7 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 147.04 331 PKPbc **PKPbc 02 00 35.7 -0.4**
KIEV Kiev 147.06 331 *e*PKP2 **PKPdf 02 00 34.3 +0.3**
KIEV Kiev 147.06 331 *e*PKPdf **PKPdf 02 00 34.3 +0.3**
MALT Malatya 147.69 304 *e*PKP2 **PKPbc 02 00 39.3 +0.8**
MALT Malatya 147.69 304 *e*PKPbc **PKPbc 02 00 39.3 +0.8**
MALT Malatya 147.69 304↑ *i*P **PKPab 02 00 40.2 -0.7**
GZT Gaziantep 148.61 303 *e*P PKPdf 02 00 32.0 -5.2
GKP Gorka Klasztor 149.11 345 *e*PKP **PKPbc 02 00 42.2 +0.7**
GKP Gorka Klasztor 149.11 345 *e*PKP **PKPbc 02 00 42.2 +0.7**
BEL Belsk 149.40 340 *e*PKP **PKPbc 02 00 42.9 +0.5**
BEL Belsk 149.40 340 *e*PKP **PKPbc 02 00 42.8 +0.5**
LVV L'vov 149.91 334 *e*PKP2 **PKPbc 02 00 44.0 +0.4**
YAYL Yayladag 150.09 301 *e*P **PKPdf 02 00 39.7 +0.1**
KWP Kalwaria Pacla 150.58 335 *e*PKP **PKPbc 02 00 45.5 +0.2**
KWP Kalwaria Pacla 150.58 335 *e*PKIKP **PKPbc 02 00 45.5 +0.2**
KWP Kalwaria Pacla 150.58 335 *e*PKPbc **PKPbc 02 00 45.5 +0.2**
KWP Kalwaria Pacla 150.58 335↑ *i*P **PKPbc 02 00 46.2 +0.9**
KWP Kalwaria Pacla 150.58 335 *e*PKP **PKPbc 02 00 45.5 +0.2**
BR131 Keskin Array S 150.71 310 *e*PKPbc **PKPbc 02 00 45.7 -0.3**
BRTR Keskin Array B 150.71 310 PKPbc **PKPbc 02 00 45.9 -0.2**
comp=Z,3.9nm,0.9s,baz=120,slow=2.6,SNR=18
BRTR Keskin Array B 150.71 310 PKPbc **PKPbc 02 00 45.9 -0.2**
GULE Gulek 150.75 304 *i* P **PKPbc 02 00 47.1 +0.8**
BUR08 Bucovina Ar. S 151.08 330 *e*PKPbc **PKPbc 02 00 47.6 +0.9**
BURAR Bucovina Array 151.09 330↑ *i*P **PKPbc 02 00 47.9 +1.2**
OJC Ojcow 151.12 339 *e*PKIKP **PKPbc 02 00 46.8 +0.3**
OJC Ojcow 151.12 339 *e*PKPbc **PKPbc 02 00 46.8 +0.3**
OJC Ojcow 151.12 339 *e*PKP **PKPbc 02 00 46.6 +0.1**
OJC *e* 02 00 58.7
KOLS Kolonicke sedl 151.31 335 *e*PKIKP **PKPbc 02 00 47.6 +0.6**
KOLS *e* 02 01 01.0
KOLS Kolonicke sedl 151.31 335 *e*PKP **PKPbc 02 00 47.6 +0.6**
KOLS *e* 02 01 01.0
UZH Uzhgorod 151.55 335 *e*PKIKP **PKPbc 02 00 48.0 +0.5**
UZH *e* 02 00 53.6
UZH *i* 02 01 02.8
KSP Ksiaz 151.57 344 *e*PKIKP **PKPbc 02 00 48.1 +0.6**
KSP Ksiaz 151.57 344 *e*PKIKP **PKPbc 02 00 48.1 +0.6**
NIE Niedzica 151.63 338 *e*PKIKP **PKPbc 02 00 48.9 +1.2**
NIE Niedzica 151.63 338 *e*PKP **PKPbc 02 00 48.9 +1.2**
CRVS Cervenica-Dubn 151.65 336 *e*PKIKP **PKPbc 02 00 46.6 -1.2**
CRVS Cervenica-Dubn 151.65 336 *e*PKP **PKPbc 02 00 46.6 -1.2**
CLL Collm 151.85 348 *i* PKIKP **PKPbc 02 00 48.4 +0.3**
CLL *i* 02 01 01.4
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 151.85 348 *i* PKPbc **PKPbc 02 00 48.4 +0.3**
comp=Z,13nm,0.9s
CLL *i* (pPKPbc) 02 01 01.4
comp=Z,20nm,1.2s
DPC Dobruska-Polom 152.01 344 *e*PKIKP **PKPbc 02 00 49.6 +1.0**
DPC Dobruska-Polom 152.01 344 *e*PKPbc **PKPbc 02 00 49.6 +1.0**
BRG Berggiesshubel 152.08 347 *i* PKP **PKPbc 02 00 49.0 +0.3**
comp=Z,8.7nm,0.8s
BRG *e* 02 01 02.0
comp=Z,20nm,1.5s
BRG Berggiesshubel 152.08 347 *i* PKIKP **PKPbc 02 00 49.0 +0.3**
BRG *e* 02 01 02.0
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 152.20 341 *e*PKIKP **PKPbc 02 00 49.5 +0.4**
MORC Moravsky Berou 152.20 341 *e*PKPbc **PKPbc 02 00 49.5 +0.4**
MLR Muntele Rosu 152.26 326↓ *i*P **PKPbc 02 00 49.4 0.0**
DRGR 152.83 332↑ *i*P **PKPbc 02 00 51.2 +0.6**
VYHS Vyhne 152.92 339 *e*PKIKP **PKPbc 02 00 50.5 -0.2**
VYHS *e* 02 01 02.7
VYHS Vyhne 152.92 339 *e*PKP **PKPbc 02 00 50.4 -0.2**
VYHS *e* 02 01 02.7
ARR Arges 153.00 327↑ *i*P **PKPbc 02 00 52.5 +1.5**
TORD Torodi Ar. Bea 169.00 166 PKP **PKPdf 02 01 00.8 -0.6**
comp=Z,0.9nm,1.1s,baz=180,slow=1.4,SNR=3.4
TORD PKPab **PKPab 02 02 12.5 -0.1**
comp=Z,0.7nm,1.0s,baz=193,slow=4.1,SNR=2.5
TORD Torodi Ar. Bea 169.00 166 PKP **PKPdf 02 01 00.8 -0.6**
TORD PKPab **PKPab 02 02 12.5 -0.1**

IDC 26 01:54:07.7±2.4, 7°50S×121°22E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/14, Error ellipse: s-maj=293.3km s-min=29.3km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.74**	**136**	P	Pn	01 58 16.0	-0.3
	0.1nm,0.3s,baz=308,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**20.17**	**144**	P	P	01 58 44.1	+0.3
	0.3nm,0.3s,baz=326,slow=13,SNR=5.4						
MJAR	**Matsushiro Arr**	**46.62**	**19**	LR	LR	02 24 14.0	
	comp=Z,100nm,18.1s,baz=150,slow=39						
MKAR	**Makanchi Array**	**64.16**	**331**	P	P	02 04 44.1	0.0
	0.1nm,0.4s,baz=140,slow=6.3,SNR=4.0						

*IDC **26** 01:59:11.4±1.0, 32°.25N×142°.02E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.4/6, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/30, Error ellipse: s-maj=34.6km s-min=20.3km az=89.0*
*JMA **26** 01:59:12.6±0.6, 32°.24N×142°.13E, h46km, M3.7*
*ISCJB **26** 01:59:14.6±0.8, 32°.31N±0°.09×142°.0E±0°.2, h39km, mb3.5/5, MS3.7/1, Error ellipse: s-maj=22.7km s-min=7.8km az=152.8*

ISC 26 01:59:16.8±1.1, 32°.3N±0°.1×142°.1E±0°.2, h39km, n13, σ0°95/15, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.49**	**339**	P	**Pn**	**01 59 53.4**	**-0.9**
BSO3	**Boso 3**	**2.79**	**333**	P	**Pn**	**01 59 57.6**	**-1.1**
BSO4	**Boso 4**	**3.02**	**332**	P	**Pn**	**02 00 01.9**	**-0.1**
JHO	**Hitachi**	**4.45**	**344**	P	**Pn**	**02 00 20.0**	**-1.7**
JRY	**Ryogami san**	**4.52**	**325**	P	**Pn**	**02 00 22.2**	**-0.5**
JRY				*e*S	**Sn**	**02 01 15.5**	**+1.5**
JAG	**Ashikaga**	**4.62**	**333**	P	**Pn**	**02 00 23.8**	**-0.3**
JAG				*e*S	**Sn**	**02 01 15.8**	**-0.7**
MJAR	**Matsushiro Arr**	**5.27**	**324**	Pn	**Pn**	**02 00 32.8**	**-0.3**
	1.0nm,0.3s,baz=149,slow=12,SNR=4.4						
MJAR					Sn	**02 01 32.8**	**+0.2**
	0.4nm,0.3s,baz=146,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**47.20**	**306**	P	**P**	**02 07 45.5**	**-0.1**
	0.5nm,0.8s,baz=87,slow=9.7,SNR=6.1						
CTA	**Charters Tower**	**52.27**	**175**	LR	LR	02 29 03.1	
	comp=Z,73nm,18.9s,baz=230,slow=34						
WRA	**Warramunga Arr**	**52.50**	**189**	P	**P**	**02 08 25.1**	**-1.0**
	0.6nm,0.6s,baz=6.5,slow=7.6,SNR=10.0						
ILAR	**Eielson Array**	**53.22**	**30**	P	**P**	**02 08 31.4**	**+0.4**
	0.3nm,0.6s,baz=256,slow=5.4,SNR=3.5						
ASAR	**Alice Springs**	**56.23**	**189**	P	**P**	**02 08 53.2**	**+0.1**
	0.2nm,0.4s,baz=12,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**67.62**	**29**	P	**P**	**02 10 10.4**	**+1.2**
	0.2nm,0.6s,baz=302,slow=6.9,SNR=6.3						

*LJU **26** 01:59:32.9, 46°.33N×13°.21E, h10km, ML2.0*
*CSEM **26** 01:59:33.7±0.1, 46°.31N×13°.24E, h10km, ML2.9/13, Error ellipse: s-maj=1.8km s-min=1.5km az=13.0*
*ISCJB **26** 01:59:33.4±0.2, 46°.31N±0°.02×13°.23E±0°.02, h11km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=19.3*
*ROM **26** 01:59:33.4±0.1, 46°.32N×13°.25E, h8km±1km, Md2.8/7, Ml2.6/10, Error ellipse: s-maj=1.7km s-min=1.3km az=142.0*
*LDG **26** 01:59:33.3±0.1, 46°.32N×13°.30E, h5km, Ml2.4/4, Error ellipse: s-maj=5.6km s-min=2.2km az=21.0*
*VIE **26** 01:59:33.3±0.1, 46°.30N×13°.24E, h11km±1km, mb1.9/13, ML2.7/17, Error ellipse: s-maj=1.1km s-min=0.6km az=18.0 8 km ENE of Gemona*
*PRU **26** 01:59:35.0, 46°.33N×13°.34E, h0km*

ISC 26 01:59:33.2±0.5, 46°.31N±0°.01×13°.23E±0°.01, h12km±2km, n138, σ1°915/196, 33C-44D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VINO	**Villanova**	**0.07**	**146**	↓ *i* Pg	**Pg**	**01 59 35.8**	**0.0**
VINO				*i* Sg	**Sg**	**01 59 37.0**	**-0.6**
VINO	**Villanova**	**0.07**	**146**	Pg	**Pg**	**01 59 35.7**	**0.0**
VINO				Sg	**Sg**	**01 59 37.0**	**-0.6**
	5μm,0.1s						
VINO	**Villanova**	**0.07**	**146**	↓ *i* Pg	**Pg**	**01 59 35.8**	**0.0**
VINO				*i* Sg	**Sg**	**01 59 37.0**	**-0.6**
GEPF	**Gemona**	**0.07**	**239**	*e*Pg	**Pg**	**01 59 36.0**	**+0.3**
GEPF				*e*Sg	**Sg**	**01 59 37.6**	**+0.1**
BAD	**Bernadia**	**0.08**	**172**	↓ *i* Pg	**Pg**	**01 59 35.9**	**+0.1**
BAD				*i* Sg	**Sg**	**01 59 37.3**	**-0.5**
BAD	**Bernadia**	**0.08**	**172**	↓ *i* Pg	**Pg**	**01 59 35.9**	**+0.1**
BAD				*i* Sg	**Sg**	**01 59 37.3**	**-0.5**
BUA	**Buia**	**0.12**	**218**	Pg	**Pg**	**01 59 36.8**	**+0.5**
BUA	**Buia**	**0.12**	**218**	Pg	**Pg**	**01 59 36.8**	**+0.5**
PTCC	**Patocco-Chiusa**	**0.13**	**43**	Pg	**Pg**	**01 59 36.7**	**+0.2**
PTCC				Sg	**Sg**	**01 59 38.7**	**-0.2**
	810nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.13**	**43**	*e*Pg	**Pg**	**01 59 36.7**	**+0.2**
PTCC				*e*Sg	**Sg**	**01 59 38.7**	**-0.2**
MPRI	**Monte Prat**	**0.18**	**247**	↓ *e*Pg	**Pg**	**01 59 37.9**	**+0.6**
MPRI				*e*Sg	**Sg**	**01 59 41.4**	**+1.3**
MPRI	**Monte Prat**	**0.18**	**247**	↓ *e*Pg	**Pg**	**01 59 37.9**	**+0.6**
MPRI				*e*Sg	**Sg**	**01 59 41.4**	**+1.3**
FUSE	**Fusea**	**0.19**	**303**↑	*e*Pg	**Pg**	**01 59 38.0**	**+0.6**
FUSE				*e*Sg	**Sg**	**01 59 41.4**	**+1.0**
FUSE	**Fusea**	**0.19**	**303**↑	*e*Pg	**Pg**	**01 59 38.0**	**+0.6**
FUSE				*e*Sg	**Sg**	**01 59 41.3**	**+1.0**
ROBS	**Robic**	**0.21**	**109**	*i* Pg	**Pg**	**01 59 37.8**	**+0.1**
ROBS							
	comp=Z,110nm,0.1s						
ROBS	**Robic**	**0.21**	**109**	*i* Pg	**Pg**	**01 59 37.8**	**+0.1**
COLI	**Coloredo**	**0.21**	**150**	↓ *i* Pg	**Pg**	**01 59 38.3**	**+0.6**
COLI				*i* Sg	**Sg**	**01 59 41.8**	**+1.1**
COLI	**Coloredo**	**0.21**	**150**	↓ *i* Pg	**Pg**	**01 59 38.3**	**+0.6**
COLI				*i* Sg	**Sg**	**01 59 41.8**	**+1.1**
PLRO	**Paularo**	**0.24**	**347**	↓ *e*Pg	**Pg**	**01 59 39.1**	**+0.7**
PLRO				*e*Sg	**Sg**	**01 59 43.5**	**+1.5**
PLRO	**Paularo**	**0.24**	**347**	↓ *e*Pg	**Pg**	**01 59 39.1**	**+0.7**
PLRO				*e*Sg	**Sg**	**01 59 43.5**	**+1.5**
LSR	**Lussari**	**0.27**	**52**	↓ *e*Pg	**Pg**	**01 59 39.1**	**+0.3**
LSR				*e*Sg	**Sb**	**01 59 43.6**	**-1.0**
LSR	**Lussari**	**0.27**	**52**	↓ *e*Pg	**Pg**	**01 59 39.1**	**+0.3**
LSR				*e*Sg	**Sb**	**01 59 43.6**	**-1.0**
ZOU	**Zoufplan**	**0.30**	**324**	↓ *e*Pg	**Pb**	**01 59 40.3**	**-0.3**
ZOU				*e*Sg	**Sb**	**01 59 45.4**	**-0.2**
ACOM	**Acomizza, Ital**	**0.31**	**40**	↓ *e*Pg	**Pb**	**01 59 40.0**	**-0.7**
ACOM				*e*Sg	**Sb**	**01 59 45.1**	**-0.7**
ACOM	**Acomizza, Ital**	**0.31**	**40**	Pg	**Pb**	**01 59 40.1**	**-0.7**
ACOM				Sg	**Sb**	**01 59 45.3**	**-0.5**
	comp=Z,1μm,0.3s						
ACOM	**Acomizza, Ital**	**0.31**	**40**	↓ *e*Pg	**Pb**	**01 59 40.0**	**-0.7**
ACOM				*e*Sg	**Sb**	**01 59 45.4**	**-0.4**
DRE	**Drenchia**	**0.32**	**115**	↓ *e*Pg	**Pg**	**01 59 40.0**	**+0.3**
DRE				*e*Sg	**Sb**	**01 59 45.4**	**-0.7**
DRE	**Drenchia**	**0.32**	**115**	↓ *e*Pg	**Pg**	**01 59 40.0**	**+0.3**
DRE				*e*Sg	**Sb**	**01 59 45.3**	**-0.7**
CADS	**Cadrg**	**0.36**	**103**	*i* Pg	**Pg**	**01 59 40.6**	**+0.1**
CADS							
	comp=Z,88nm,0.2s						
CADS	**Cadrg**	**0.36**	**103**	*i* Pg	**Pg**	**01 59 40.6**	**+0.1**
TLI	**Talmassons**	**0.40**	**193**	↓ *i* Pg	**Pb**	**01 59 41.7**	**-0.4**
TLI	**Talmassons**	**0.40**	**193**	↓ *i* Pg	**Pb**	**01 59 41.7**	**-0.4**
FVI	**Forni Avoltri**	**0.42**	**313**	Pg	**Pb**	**01 59 42.3**	**-0.3**
FVI				Sg	**Sb**	**01 59 48.9**	**-0.1**
	comp=Z,176nm,0.2s						
FVI	**Forni Avoltri**	**0.42**	**313**	*e*Pg	**Pb**	**01 59 42.3**	**-0.3**
FVI				Sg	**Sb**	**01 59 48.9**	**-0.1**
	comp=Z,176nm,0.2s						
SABO	**M.te Sabotino**	**0.42**	**142**	↓ *e*Pg	**Pb**	**01 59 42.1**	**-0.4**
SABO				*e*Sg	**Sb**	**01 59 49.2**	**+0.4**
SABO	**M.te Sabotino**	**0.42**	**142**	Pg	**Pb**	**01 59 42.2**	**-0.4**
SABO				Sg	**Sb**	**01 59 49.5**	**+0.6**
	comp=Z,391nm,0.3s						
SABO	**M.te Sabotino**	**0.42**	**142**	↓ *e*Pg	**Pb**	**01 59 42.1**	**-0.4**
SABO				*e*Sg	**Sb**	**01 59 49.2**	**+0.4**
MYKA	**Terra Mystica**	**0.43**	**42**	↓ *i* Pg	**Pb**	**01 59 42.3**	**-0.4**
MYKA				↑ *i* Sg	**Sb**	**01 59 48.6**	**-0.5**
	comp=Z,138nm,0.3s						
MYKA	**Terra Mystica**	**0.43**	**42**	↓ *i* Pg	**Pb**	**01 59 42.3**	**-0.4**
MYKA				Sg	**Sb**	**01 59 48.6**	**-0.5**
	comp=Z,138nm,0.3s						
CSMI	**Casera Mimoias**	**0.45**	**297**	↓ *e*Pg	**Pg**	**01 59 42.6**	**+0.6**
CSMI	**Casera Mimoias**	**0.45**	**297**	↓ *e*Pg	**Pg**	**01 59 42.6**	**+0.6**
MLNI	**Malnisio**	**0.46**	**250**	↓ *e*Pg	**Pb**	**01 59 43.1**	**-0.1**
MLNI	**Malnisio**	**0.46**	**250**	↓ *e*Pg	**Pb**	**01 59 43.1**	**-0.1**
GORS	**Gorjuse**	**0.53**	**89**	*i* Pg	**Pg**	**01 59 43.6**	**0.0**
GORS							
	comp=Z,22nm,0.1s						
GORS	**Gorjuse**	**0.53**	**89**	*i* Pg	**Pg**	**01 59 43.6**	**0.0**
VOJS	**Vojsko**	**0.54**	**121**	*i* Pg	**Pg**	**01 59 43.6**	**0.0**
VOJS							
	comp=Z,51nm,0.2s						
VOJS	**Vojsko**	**0.54**	**121**	*i* Pg	**Pg**	**01 59 43.6**	**0.0**
VOY	**Vojsko**	**0.54**	**121**	*e*Sg	**Sb**	**01 59 52.1**	**-0.3**
VOY	**Vojsko**	**0.54**	**121**	*e*Sg	**Sb**	**01 59 52.1**	**-0.3**
CIMO	**Cimolais**	**0.55**	**270**	↑ *e*Pg	**Pg**	**01 59 44.1**	**+0.2**
CIMO	**Cimolais**	**0.55**	**270**	↑ *e*Pg	**Pg**	**01 59 44.1**	**+0.2**
POLC	**Polcenigo**	**0.58**	**241**	↑ *e*Pg	**Pb**	**01 59 45.4**	**+0.2**
CAE	**Caneva**	**0.63**	**241**	*e*Pg	**Pg**	**01 59 45.9**	**+0.5**
CAE	**Caneva**	**0.63**	**241**	*e*Pg	**Pg**	**01 59 45.9**	**+0.5**
ABTA	**Abfaltersbach**	**0.66**	**312**	↓ *e*Pg	**Pg**	**01 59 46.4**	**+0.4**
ABTA	SNR=18						
	comp=Z,14nm,0.1s						
ABTA	**Abfaltersbach**	**0.66**	**312**	↓ *e*Pg	**Pg**	**01 59 46.4**	**+0.4**
ABTA				Sg	**Sb**	**01 59 56.0**	**+0.2**
	comp=Z,14nm,0.1s						
TRI	**Trieste**	**0.71**	**148**	↑ *e*Pg	**Pg**	**01 59 46.4**	**-0.5**
TRI	**Trieste**	**0.71**	**148**	Pg	**Pg**	**01 59 46.4**	**-0.5**
TRI

AGOR Agordo 0.82 268⇑*e*Pg Pn 01 59 50.5 0.0
AGOR Agordo 0.82 268 Pg Pn 01 59 50.6 0.0
comp=Z,45nm,0.3s
AGOR Agordo 0.82 268⇑*e*Pg Pn 01 59 50.5 0.0
OBKA Obir 0.94 77⇑*i*Pg Pb 01 59 51.3 0.0
OBKA ⇑*i*Sg Sb 02 00 04.7 +1.0
comp=Z,32nm,0.3s
OBKA Obir 0.94 77⇑*i*Pg Pb 01 59 51.3 0.0
OBKA Sg Sb 02 00 04.7 +1.0
comp=Z,32nm,0.3s
RISI Rein 1.02 309⇓*e*Pg Pb 01 59 53.3 +0.5
RISI Rein 1.02 309⇓*e*Pg Pb 01 59 53.3 +0.5
CGRP Cima Grappa 1.08 247 Pg Pb 01 59 54.6 +0.7
comp=Z,140nm,0.4s
CGRP Cima Grappa 1.08 247 Pg Pb 01 59 54.6 +0.7
comp=Z,140nm,0.4s
CTI Castel Tesino 1.13 257 Pg Pn 01 59 56.3 +1.4
comp=Z,217nm,0.2s
CTI Castel Tesino 1.13 257 Pg Pn 01 59 56.3 +1.4
comp=Z,217nm,0.2s
KOSI Kohlern 1.29 277⇑*e*Pg Pg 01 59 59.0 +1.0
KOSI Kohlern 1.29 277⇑*e*Pg Pg 01 59 59.0 +1.0
SOKA Soboth 1.30 73⇑*i*Pg Pg 01 59 57.9 -0.3
SOKA ⇑*i*Sg Sn 02 00 15.9 +1.4
comp=Z,8.3nm,0.4s
SOKA Soboth 1.30 73⇑*i*Pg Pg 01 59 57.9 -0.3
SOKA Sg Sn 02 00 15.9 +1.4
comp=Z,8.3nm,0.4s
GBRS Gornja Briga 1.35 125 *e*Pg Pg 01 59 59.6 +0.4
PANI Panarotta 1.36 260⇑*e*Pg Pg 02 00 00.6 +1.3
PANI Panarotta 1.36 260⇑*e*Pg Pg 02 00 00.6 +1.3
ABSI Aberstueckl 1.38 288⇓*e*Pg Pg 02 00 00.2 +0.5
ABSI Aberstueckl 1.38 288⇓*e*Pg Pg 02 00 00.2 +0.5
WTTA Wattenberg 1.45 312⇑*i*Pn Pg 01 59 59.8 +0.4
WTTA ⇑*i*Pg Pg 02 00 01.6 +0.5
WTTA ⇓*i*Sn Sg 02 00 20.3 +0.4
WTTA Wattenberg 1.45 312⇑*i*Pn Pn 01 59 59.8 +0.4
DDS Dosso del Somm 1.48 254 *e*Pg Pg 02 00 02.3 +0.6
DDS *e*Sg Sg 02 00 22.3 +1.4
DDS Dosso del Somm 1.48 254 *e*Pg Pg 02 00 02.3 +0.6
DDS *e*Sg Sg 02 00 22.3 +1.4
WATA Walderalm 1.53 313⇓*e*Pg Pg 02 00 03.0 +0.5
SNR=8.3
WATA Walderalm 1.53 313⇓*e*Pg Pg 02 00 03.0 +0.5
BOJS Bojanci 1.63 119 *i* Pg Pg 02 00 03.9 -0.5
BOJS Bojanci 1.63 119 *i* Pg Pg 02 00 03.9 -0.5
MOA Molln 1.69 24⇑*e*Pg Pg 02 00 06.3 +0.6
SNR=18
MOA ⇑*i*Sg Sg 02 00 29.5 +1.8
comp=Z,20nm,0.5s
MOA Molln 1.69 24⇑*e*Pg Pg 02 00 06.3 +0.6
MOA Sg Sg 02 00 29.5 +1.8
comp=Z,20nm,0.5s
MOTA Moosalm 1.79 306⇓*e*Pg Pg 02 00 08.4 +0.9
SNR=16
MOTA ⇓*i*Sg Sg 02 00 33.2 +2.5
comp=Z,14nm,0.3s
MOTA Moosalm 1.79 306⇓*e*Pg Pg 02 00 08.4 +0.9
MOTA Sg Sg 02 00 33.2 +2.5
comp=Z,14nm,0.3s
ARSA Arzberg 1.84 58⇑*i*Pn Pn 02 00 05.0 +0.5
ARSA Arzberg 1.84 58⇑*i*Pn Pn 02 00 05.0 +0.5
FETA Feichten 1.86 293⇑*e*Pg Pg 02 00 09.6 +0.7
SNR=9.4
FETA ⇓*i*Sg Sg 02 00 35.5 +2.4
comp=Z,6.4nm,0.4s
FETA Feichten 1.86 293⇑*e*Pg Pg 02 00 09.6 +0.7
FETA Sg Sg 02 00 35.5 +2.4
comp=Z,6.4nm,0.4s
MOSI Grossmontoni 1.88 280⇑*e*Pg Pg 02 00 09.3 +0.1
RETA Reutte 2.06 306⇓*e*Pn Pn 02 00 08.6 +0.9
SNR=11
RETA ⇓*i*Pg Pg 02 00 13.0 +0.3
RETA ⇓*i*Sg Sg 02 00 42.3 +3.0
comp=Z,26nm,0.4s
RETA Reutte 2.06 306 Pn Pn 02 00 08.6 +0.9
SNR=11
RETA Reutte 2.06 306 Pg Pg 02 00 13.0 +0.3
RETA Sg Sg 02 00 42.3 +3.0
comp=Z,26nm,0.4s
NVLJ Novalja 2.10 146 *e*Pn Pb 02 00 10.0 -1.1
NVLJ Sn Sb 02 00 37.1 +0.1
NVLJ Novalja 2.10 146 *e*Pn Pb 02 00 09.9 -1.1
NVLJ Sn Sb 02 00 37.1 +0.1
KHC Kasperske Hory 2.83 5 *e*PN Pn 02 00 20.9 +2.7
KHC *e*PG Pg 02 00 28.0 +0.6
KHC *e*SG Sg 02 01 04.6 +0.5
comp=Z,7.1nm,0.6s
KHC Kasperske Hory 2.83 5 Pn Pn 02 00 20.9 +2.7
PRU Pruhonice 3.78 13 *e*SG Sg 02 01 35.0 +0.4
comp=Z,3.3nm,0.4s
PRU Pruhonice 3.78 13 Sg Sg 02 01 35.0 +0.4
comp=Z,3.3nm,0.4s
PVCC Panska Ves 4.31 11 *e*SG Sg 02 01 51.6 0.0
comp=Z,17nm,0.5s
PVCC Panska Ves 4.31 11 Sg Sg 02 01 51.6 0.0
comp=Z,17nm,0.5s
MORC Moravsky Berou 4.52 38⇑*i*P Pb 02 00 50.1 -2.2
DPC Dobruska-Polom 4.54 26 *e*SG Sg 02 01 57.3 -1.5
DPC Dobruska-Polom 4.54 26 Sg Sg 02 01 57.3 -1.5
CDF Champ du Feu 4.56 300 *e*Pn Pn 02 00 41.4 -0.6
CDF Champ du Feu 4.56 300 *e*P Pn 02 00 44.5 +2.5
CDF Champ du Feu 4.56 300 *e*Pg Pg 02 00 58.4 -2.0
CDF *e*Sn Sn 02 01 31.9 -3.0
CDF *e*Sg Sg 02 01 57.4 -2.0
comp=Z,0.5nm,0.2s
CDF Champ du Feu 4.56 300 *e*Pn Pn 02 00 41.4 -0.6
CDF Champ du Feu 4.56 300 *e*P Pn 02 00 44.5 +2.5
CDF Champ du Feu 4.56 300 *e*Pg Pg 02 00 58.4 -2.0
CDF *e*Sn Sn 02 01 31.9 -3.0
CDF *e*Sg Sg 02 01 57.4 -2.0
comp=Z,0.2nm,0.2s
BRG Berggiesshubel 4.59 6 SG Sg 02 02 00.6 +0.2
comp=Z,1.5nm,0.6s
LPG La Plagne 4.59 262 *e*P Pn 02 00 45.9 +3.2
LPG *e*Sn Sn 02 01 33.7 -2.3
comp=Z,1.6nm,0.5s
LPG La Plagne 4.59 262 *e*P Pn 02 00 45.9 +3.2
LPG *e*Sn Sn 02 01 33.7 -2.3
comp=Z,0.8nm,0.5s
LPL La Plagne 4.60 262 *e*P Pn 02 00 46.0 +3.3
LPL La Plagne 4.60 262 *e*P Pn 02 00 46.0 +3.3
HINF Hinteralfeld 4.61 291 *e*Pn Pn 02 00 42.2 -0.4
HINF Hinteralfeld 4.61 291 *e*P Pn 02 00 46.2 +3.6
HINF Hinteralfeld 4.61 291 *e*Pg Pg 02 00 59.5 -1.9
HINF *e*Sn Sn 02 01 33.6 -2.5
comp=Z,2.1nm,0.3s
HINF Hinteralfeld 4.61 291 *e*Pn Pn 02 00 42.2 -0.4
HINF Hinteralfeld 4.61 291 *e*P Pn 02 00 46.2 +3.6
HINF Hinteralfeld 4.61 291 *e*Pg Pg 02 00 59.5 -1.9
HINF *e*Sn Sn 02 01 33.6 -2.5
comp=Z,1.0nm,0.3s
STON Ston 4.69 136 *e*Pn Pn 02 00 46.0 +2.3
STON Ston 4.69 136 *e*Pn Pn 02 00 46.0 +2.3
MBDF Montbardon 4.81 253 *e*Pn Pn 02 00 45.7 +0.2
MBDF Montbardon 4.81 253 *e*Pn Pn 02 00 45.7 +0.2
HAU Haudompre 4.99 292 *e*Pn Pn 02 00 47.3 -0.5
HAU *e*Sn Sn 02 01 42.3 -3.1
comp=Z,3.0nm,0.4s
HAU Haudompre 4.99 292 *e*Pn Pn 02 00 47.3 -0.5
HAU *e*Sn Sn 02 01 42.3 -3.1
comp=Z,1.5nm,0.4s
PAGF Fort de Pagny 5.56 297 *e*P Pn 02 00 59.9 +4.2
PAGF Fort de Pagny 5.56 297 *e*Pg Pg 02 01 16.9 -2.8
LASF Ste Croix 6.99 255 *e*P Pn 02 01 20.4 +5.1

IDC 26 02:02:33.2±2.5,**27°58N**×**53°81E,h0**km,**mb3.3**/5,
mb1 3.4/5,**mb1mx3.3**/26,**mbtmp3.3**/5,**Error ellipse:**
s-maj=63.2km s-min=30.8km az=157.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**20.65**	**311**	P	Pn	02 07 15.9	-0.9
	0.6nm,0.7s,baz=139,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**29.46**	**42**	P	P	02 08 39.2	+0.4
	0.2nm,0.6s,baz=230,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**38.60**	**339**	P	P	02 09 56.5	-1.3
	0.7nm,0.7s,baz=132,slow=9.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**50.57**	**264**	P	P	02 11 33.8	-0.2
	0.2nm,0.5s,baz=66,slow=7.8,SNR=6.6						
YKA	**Yellowknife Ar**	**89.76**	**355**	P	P	02 15 33.3	0.0
	0.1nm,0.4s,baz=3.8,slow=5.0,SNR=4.6						

DJA ***26*** *02:08:23.6*±*1.8,9°N*×*21°×12°9E*±*°,h15*km±*30*km*,M5.7/9,*
mB6.0/9,mb5.8/9,Mw(mB)5.6/9
IDC ***26*** *02:09:36.6*±*0.5,3°68N*×*126°49E,h0*km*,mb4.3/24,*
mb1 4.4/25,mb1mx4.4/30,mbtmp4.4/25,ML4.9/1,MS3.5/4,
Ms1 3.5/4,ms1mx2.8/46,Error ellipse: s-maj=25.3km
s-min=11.8km az=72.0
BJI ***26*** *02:09:38.2,3°80N*×*127°00E,h35*km*,mB4.9/8,mb4.7/14,*
Ms4.8/2,Ms7 4.6/2
MOS ***26*** *02:09:38.4*±*1.4,3°72N*×*126°64E,h24*km*,mb4.7/28,Error*
ellipse: s-maj=17.3km s-min=7.0km az=110.9
ISCJB ***26*** *02:09:41.8*±*0.3,3°72N*±*0°03*×*126°61E*±*0°07,h53*km*,*
mb4.6/53,MS3.7/4,Error ellipse: s-maj=9.6km
s-min=4.7km az=170.8
NEIC ***26*** *02:09:42.7*±*1.3,3°75N*×*126°59E,h44*km±*12*km*,mb4.7/12,*
Error ellipse: s-maj=14.5km s-min=6.4km az=79.0
ISC 26 02:09:43.8±0.4,**3.73N**±0°05×**126°67E**±0°09,**h53**km,**n124,**
σ1s60/122,mb4.5/52,MS3.6/4,3C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.92**	**219**	P	Pn	02 10 26.9	-0.8
TNTI	**Ternate**	**3.02**	**167**	P	Pn	02 10 27.5	-1.6
	237nm,1.0s,3μm						
DAV	**Davao City (W)**	**3.49**	**342**	*e*Pn	Pn	02 10 33.3	-2.3
	121nm,0.3s,baz=117,slow=18,SNR=3.8						
DAV	**Davao City (W)**	**3.49**	**342**	*e*Pn	Pn	02 10 32.8	-2.9
DAV				*e*Sn	Sn	02 11 16.8	+1.0
KMSI	**Cibinong**	**4.13**	**221**	P	Pn	02 10 48.8	+4.5
	495nm,1.0s,8μm						
BUKP	**Musuan**	**4.42**	**339**	*e*P	Pn	02 10 46.9	-1.5
PAGZ	**Pagadian**	**5.24**	**322**	*e*P	Pn	02 10 57.7	-1.9
MRSI	**Marisa**	**5.72**	**236**	P	Pn	02 11 06.3	+0.1
	203nm,1.0s,2μm						
LUWI	**Luwuk**	**6.13**	**220**	P	Pn	02 11 16.2	+4.3
	418nm,1.1s,4μm						
MSAI	**Masohi**	**7.38**	**162**	P	Pn	02 11 21.0	-8.0
	46nm,0.4s,3μm						
KDI	**Kendari**	**8.64**	**208**	P	Pn	02 11 50.6	+4.3
	25nm,1.2s,603nm						
SPSI	**Sidrap Palu**	**10.29**	**222**	P	Pn	02 12 15.0	+6.1
KAPI	**Kappang**	**11.10**	**219**	Pn	Pn	02 12 20.4	+0.5
	3.6nm,0.3s,baz=68,slow=16,SNR=2.4						
KAPI				LR	LR	02 17 03.7	
	comp=Z,187nm,18.1s,baz=71,slow=41						
KAPI	**Kappang**	**11.10**	**219**	Pn	Pn	02 12 20.4	+0.5
KSM	**Kuching**	**16.50**	**263**	*e*P	P	02 13 36.0	+2.3
	8.0nm,0.6s						
GUMO	**Guam**	**20.46**	**60**	LR	LR	02 20 02.7	
	comp=Z,91nm,20.1s,baz=275,slow=30						
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P	P	02 14 29.3	-1.3
	4.1nm,0.6s,baz=2.5,slow=11,SNR=9.9						
FITZ	**Fitzroy Crossi**	**21.72**	**183**	*e*P	P	02 14 30.1	-0.5
QIZ	**Qiongzhong**	**22.40**	**314**	P	P	02 14 36.5	-1.5
QIZ				pP	pP	02 14 44.5	-5.6
QIZ				S	S	02 18 41.5	+0.7
QIZ				sS	Sn	02 18 57.0	+0.8
QIZ				pmax	pmax		
	comp=Z,21nm,1.6s						
JOW	**Kunigami**	**23.02**	**4**	P	P	02 14 44.7	+0.2
	comp=Z,12nm,0.8s,baz=170,slow=8.6,SNR=2.9						
JOW	**Kunigami**	**23.02**	**4**	P	P	02 14 44.7	+0.2
WRAB	**Tennant Creek**	**24.70**	**162**	*e*P	P	02 14 58.9	-1.1
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s						
WRAB	**Tennant Creek**	**24.70**	**162**	*e*P	P	02 14 58.9	-1.1
	comp=Z,43nm,0.9s						
WRA	**Warramunga Arr**	**24.70**	**163**	P	P	02 14 59.1	-1.0
	comp=Z,30nm,0.8s,baz=342,slow=10,SNR=50						
WRA				S	S	02 19 13.3	-5.2
	comp=Z,0.9nm,0.8s,baz=15,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**24.70**	**163**	P	P	02 14 59.1	-1.0
WRA				S	S	02 19 13.3	-5.2
AS31	**Alice Springs**	**28.13**	**166**	*e*P	P	02 15 31.5	+0.5
ASAR	**Alice Springs**	**28.13**	**166**	P	P	02 15 29.9	-1.0
	comp=Z,1.1nm,0.7s,baz=345,slow=7.2,SNR=11						
ASAR				PcP	PcP	02 18 47.0	+2.6
	comp=Z,1.2nm,0.8s,baz=344,slow=2.2,SNR=4.2						
ASAR	**Alice Springs**	**28.13**	**166**	P	P	02 15 29.9	-1.0
ASAR				PcP	PcP	02 18 47.0	+2.6
WHN	**Wuhan**	**29.10**	**338**	P	P	02 15 39.0	-0.5
JNU	**Nakatsue**	**29.51**	**7**	*e*P	P	02 15 41.9	-1.3
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	P	02 15 53.8	-1.1
	comp=Z,1.3nm,0.3s,baz=120,slow=8.5,SNR=3.5						
CMAR				LR	LR	02 30 31.6	
	comp=Z,75nm,18.6s,baz=115,slow=41						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	P	02 15 53.8	-1.1
CHTO	**Chiang Mai**	**30.97**	**301**	*e*P	P	02 15 58.7	+2.4
CHTO	**Chiang Mai**	**30.97**	**301**	*e*P	P	02 15 58.7	+2.4
KSAR	**Wonju Array Be**	**33.57**	**2**	P	P	02 16 18.9	+0.2
KSRS	**Korea Array**	**33.59**	**2**	P	P	02 16 18.9	+0.1
	comp=Z,3.1nm,0.8s,baz=174,slow=11,SNR=9.6						
FORT	**Fort Test**	**34.34**	**178**	*e*P	P	02 16 26.3	+0.8
	comp=Z,21nm,0.9s						
XAN	**Xi'an**	**34.39**	**333**	P	P	02 16 23.5	-2.5
XAN				pP	pP	02 16 31.0	-8.7
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BJT	**Baijiatuan**	**37.35**	**347**	*e*P	P	02 16 51.6	+0.4
	comp=Z,20nm,0.6s						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	02 16 58.0	0.0
	comp=Z,6.0nm,0.7s,baz=337,slow=8.4,SNR=9.7						
STKA	**Stephens Creek**	**38.15**	**159**	*e*P	P	02 16 58.1	0.0
	comp=Z,2.4nm,0.6s						
LZH	**Lanzhou**	**38.48**	**330**	*e*P	P	02 17 03.8	+2.8
LZH				pP	pP	02 17 08.5	-6.2
LZH				sP	sP	02 17 11.0	-10
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
SHL	**Shillong**	**39.83**	**306**	*e*P	P	02 17 12.0	-0.5
USRK	**Ussuriysk Arra**	**40.58**	**6**	P	P	02 17 18.6	+0.5
	comp=Z,3.0nm,0.9s,baz=192,slow=8.6,SNR=6.0						
HIA	**Hailar**	**45.76**	**354**	*e*P	P	02 17 59.6	-0.3
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**46.58**	**125**	P	P	02 18 08.3	+1.4
	comp=Z,16nm,1.0s,baz=322,slow=16,SNR=2.4						
DZM	**Mont Dzumac**	**46.58**	**125**	P	P	02 18 08.3	+1.4
ULN	**Ulaanbaatar**	**47.10**	**342**	*e*P	P	02 18 09.3	-1.4
	comp=Z,5.2nm,0.9s						
SONM	**Songino Array**	**47.28**	**341**	P	P	02 18 11.3	-0.7
	comp=Z,1.1nm,0.6s,baz=143,slow=7.8,SNR=8.0						
SONM				PcP	PcP	02 19 42.7	+0.2
	comp=Z,0.7nm,0.8s,baz=156,slow=3.9,SNR=3.0						
SONM	**Songino Array**	**47.28**	**341**	P	P	02 18 11.3	-0.7
SONM				PcP	PcP	02 19 42.7	+0.2
ZAK	**Zakamensk**	**50.51**	**341**	*e*P	P	02 18 45.0	+8.3
ZAK				*e*		03 20 00.4	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TLY	**Talaya**	**51.51**	**342**	*e*P	P	02 18 42.9	-1.2
TLY				*e*		02 19 51.8	
TLY				*e*		02 20 39.3	
TLY				*e*S	S	02 26 11.6	+11
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MOY	**Mondy**	**52.36**	**340**	*e*P	P	02 18 51.8	+1.3
PETK	**Petropavlovsk-**	**55.45**	**22**	P	P	02 19 12.9	0.0
	comp=Z,6.7nm,0.8s,baz=197,slow=4.4,SNR=8.9						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	P	02 19 12.9	0.0
PETK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	P	02 19 12.9	0.0
PET	**Petropavlovsk**	**55.75**	**23**	*e*P	P	02 19 15.9	+0.9
PET				pmax	pmax		
	comp=Z,19nm,1.7s						
MK31	**Makanchi Array**	**57.52**	**325**	*e*P	P	02 19 25.6	-2.2
MK31	**Makanchi Array**	**57.52**	**325**	*e*P	P	02 19 25.6	-2.2
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	02 19 26.0	-1.8
	comp=Z,1.4nm,0.5s,baz=118,slow=7.3,SNR=19						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	02 19 26.0	-1.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	02 19 26.0	-1.8
YAK	**Yakutsk**	**58.21**	**2**	*e*P	P	02 19 32.4	+0.1
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.8s						
AAK	**Ala-Archa**	**60.32**	**318**	P	P	02 19 48.3	+0.9
	comp=N,0.0nm,0.8s,baz=114,slow=12,SNR=3.8						
AAK	**Ala-Archa**	**60.32**	**318**	*e*P	P	02 19 49.2	+1.8
AAK	**Ala-Archa**	**60.32**	**318**	*e*P	P	02 19 49.2	+1.8
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	02 19 49.4	+0.8
	comp=N,0.6nm,0.4s,baz=121,slow=8.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	02 19 49.4	+0.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	02 19 49.4	+0.8
KURBB	**Kurchatov Arra**	**61.71**	**327**	P	P	02 19 57.2	+0.7
	comp=Z,53nm,0.3s,baz=129,slow=6.2,SNR=2.0						
KURK	**Kurchatov**	**61.71**	**328**	P	P	02 19 57.2	+0.7
KURK				pmax	pmax		
	comp=Z,53nm,0.3s						
KURK	**Kurchatov**	**61.71**	**328**	*e*P	P	02 19 56.2	-0.2
	comp=Z,13nm,0.8s						
NVS	**Novosibirsk**	**61.85**	**333**	*e*P	P	02 19 57.5	+0.2
NVS				pmax	pmax		
	comp=Z,13nm,1.9s						
SEY	**Seymchan**	**62.05**	**13**⇑*e*P		P	02 20 00.5	+2.0
KKAR	**Karatay Array**	**63.19**	**317**	*e*P	P	02 20 05.5	-1.1
KKAR	**Karatay Array**	**63.19**	**317**	*e*P	P	02 20 05.5	-1.1
BVAR	**Borovoye Array**	**67.29**	**327**	P	P	02 20 33.2	+0.3
	comp=Z,2.0nm,0.7s,baz=126,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**67.29**	**327**	P	P	02 20 33.2	+0.3
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**67.29**	**327**	P	P	02 20 33.2	+0.3
BRVK	**Borovoye**	**67.36**	**327**⇑*e*P		P	02 20 33.5	+0.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	**Tiksi**	**67.84**	**1**⇓*e*P		P	02 20 35.2	-0.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BILL	**Bilibino**	**69.57**	**15**	P	P	02 20 48.0	+1.1
BILL						02 21 11.0	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s						
ABKAR	**Akbulak array**	**72.11**	**321**	*e*P	P	02 21 00.5	-2.2
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.62**	**322**	P	P	02 21 10.8	-0.7
	comp=Z,2.4nm,0.7s,baz=104,slow=6.3,SNR=12						
AKTO	**Aktyubinsk**	**73.62**	**322**	P	P	02 21 10.9	-0.7
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**73.62**	**322**	P	P	02 21 10.8	-0.7
SVE	**Sverdlovsk**	**73.93**	**328**	*e*P	P	02 21 11.7	-1.6
SVE				pmax	pmax		
	comp=Z,11nm,1.1s						
ARU	**Arti**	**74.91**	**328**	*d i*P	P	02 21 19.9	+1.0
ARU				S	S	02 30 55.7	+3.6
ARU				SS	SS	02 35 38.1	-3.1
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**74.91**	**328**	*e*P	P	02 21 19.4	+0.5
	comp=Z,2.9nm,0.6s						
KDAK	**Kodiak Island**	**81.92**	**32**	P	P	02 21 58.3	+0.8
	comp=Z,23nm,0.9s,baz=315,slow=5.7,SNR=3.2						
KDAK	**Kodiak Island**	**81.92**	**32**	P	P	02 21 58.3	+0.8
ZEI	**Tsey**	**82.17**	**312**	*e*P	P	02 22 05.5	+5.9
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ATD	**Arta Tunnel**	**83.22**	**281**	LR	LR	02 52 40.5	
	comp=Z,47nm,21.1s,baz=93,slow=31						
COLD	**Coldfoot**	**83.92**	**23**	*e*P	P	02 22 07.4	-0.4
	comp=Z,9.7nm,1.1s						
ILAR	**Eielson Array**	**85.13**	**25**	P	P	02 22 15.8	+1.9
	comp=Z,1.8nm,0.9s,baz=254,slow=5.9,SNR=12						
ILAR	**Eielson Array**	**85.13**	**25**	P	P	02 22 15.8	+1.9
KLMR	**Klimovskoe**	**85.38**	**331**	*e*P	P	02 22 13.5	-1.7
KLMR				pmax	pmax		
	comp=Z,24nm,1.3s						
TMCR	**Tamitsa**	**86.07**	**334**	*e*P	P	02 22 20.7	+2.1
TMCR				pmax	pmax		
	comp=Z,16nm,1.1s						
OBN	**Obninsk**	**87.03**	**325**⇑*e*P		P	02 22 25.5	+2.1
OBN				pmax	pmax		
	comp=Z,25nm,2.5s						
ASF	**Jabal al Asfar**	**87.85**	**302**	P	P	02 22 29.3	+1.3
	comp=Z,1.2nm,0.4s,baz=86,slow=2.9,SNR=3.4						
ASF	**Jabal al Asfar**	**87.85**	**302**	P	P	02 22 29.3	+1.3
BRTR	**Keskin Array B**	**89.98**	**310**	P	P	02 22 36.0	-2.0
	comp=Z,0.8nm,0.9s,baz=104,slow=5.2,SNR=4.2						
BRTR	**Keskin Array B**	**89.98**	**310**	P	P	02 22 36.0	-2.0
ARCES	**ARCESS Array B**	**90.43**	**340**	P	P	02 22 37.9	-1.3
	comp=Z,6.2nm,1.0s,baz=43,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**90.43**	**340**	P	P	02 22 37.9	-1.3
FINES	**FINESS Array B**	**91.81**	**332**	P	P	02 22 47.0	+1.2
	comp=Z,1.0nm,0.7s,baz=50,slow=4.3,SNR=4.5						
FINES	**FINESS Array B**	**91.81**	**332**	P	P	02 22 47.0	+1.2
AKASG	**Malin Array Be**	**91.86**	**321**	P	P	02 22 44.5	-1.8
	comp=Z,0.5nm,0.4s,baz=73,slow=5.0,SNR=4.0						
AKASG	**Malin Array Be**	**91.86**	**321**	P	P	02 22 44.5	-1.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**91.86**	**321**	P	P	02 22 44.5	-1.8
KOLS	**Kolonicke sedl**	**96.61**	**320**	*e*P	P	02 23 10.7	+2.6
KOLS				pmax	pmax		
	comp=Z,19nm,1.9s						
KOLS	**Kolonicke sedl**	**96.61**	**320**	*e*P	P	02 23 10.7	+2.6
UZH	**Uzhgorod**	**96.67**	**320**	*e*P	P	02 23 12.4	+4.1
CRVS	**Cervenica-Dubn**	**97.14**	**320**	*e*P	Pdif	02 23 15.5	+4.9
CRVS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CRVS	**Cervenica-Dubn**	**97.14**	**320**	*e*P	Pdif	02 23 15.5	+4.9
NB2	**NORSAR Subarra**	**98.76**	**334**	P	P	02 23 14.5	-3.1
	comp=Z,3.0nm,1.2s,baz=68,slow=4.8						
NOA	**NORSAR Array B**	**98.76**	**334**	P	P	02 23 15.3	-2.3
	comp=Z,0.8nm,0.8s,baz=66,slow=4.7,SNR=3.4						
NOA	**NORSAR Array B**	**98.76**	**334**	P	P	02 23 15.3	-2.3
YKA	**Yellowknife Ar**	**99.52**	**24**	P	Pdif	02 23 20.7	-0.2
	comp=Z,0.4nm,0.8s,baz=297,slow=4.3,SNR=6.4						
YKA	**Yellowknife Ar**	**99.52**	**24**	P	Pdif	02 23 20.7	-0.2
TXAR	**Lajitas Array**	**121.65**	**52**	PKP	PKPdf	02 28 33.4	+0.8

2.3nm,1.0s,baz=36,slow=7.4,SNR=4.2
ASF Jabal al Asfar 77.83 300 LR LR 03 02 57.6
comp=Z,25nm,20.0s,baz=162,slow=37

*IDC **26** 02:36:54.6±3.6,36°.19N×71°.54E,h86km±32km,mb3.5/14, mb1 3.6/18,mb1mx3.5/32,mbtmp3.5/18,Error ellipse: s-maj=21.8km s-min=15.1km az=3.0*
*ISCJB **26** 02:36:56.8±0.3,36°.37N±0°.03×71°.68E±0°.06,h114km, mb3.6/13,Error ellipse: s-maj=7.4km s-min=3.3km az=157.7*
*NNC **26** 02:37:02.0±4.6,36°.83N×71°.08E,h108km±56km,mb3.5, mpv4.5,Error ellipse: s-maj=50.2km s-min=26.4km az=50.0*

ISC 26 02:36:57.4±0.5,36°.31N±0°.07,71°.59E±0°.07,h114km,n57, σ1°.88/65,mb3.6/13,6C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.49**	**174**	⇓P	**Pn**	**02 37 39.7**	**+2.7**
CEP				S	**Sn**	**02 38 12.0**	**+4.6**
CHCP	**Chirah Chowk**	**2.98**	**152**	⇑P	**Pn**	02 37 47.1	+3.8
THW	**Thamme Wali**	**3.51**	**178**	P	**Pn**	**02 37 52.2**	**+1.9**
SARP	**Sargodha**	**4.47**	**168**	P	**Pn**	**02 38 05.0**	**+1.9**
THN	**Thein Dam**	**5.16**	**137**	*e*P	**Pn**	**02 38 14.5**	**+2.1**
THN				*e*S	**Sn**	**02 39 12.3**	**+1.6**
DLH	**Dalhousie**	**5.22**	**135**	*e*P	**Pn**	**02 38 14.0**	**+0.6**
DLH				*e*S	**Sn**	**02 39 13.0**	**+0.5**
AML	**Almayashu**	**6.04**	**15**	P	**Pn**	**02 38 24.0**	**-0.7**
	SNR=140						
UCH	**Uchtor**	**6.33**	**20**	P	**Sn**	**02 39 39.5**	**-0.3**
	SNR=5.8						
KZA	**Kyzart**	**6.43**	**25**	P	**Pn**	**02 38 30.2**	**+0.3**
	SNR=14						
SDNR	**Sundarnagar**	**6.56**	**135**	*e*P	**Pn**	**02 38 33.0**	**+1.6**
SDNR				*e*S	**Sn**	**02 39 43.0**	**-1.8**
EKS2	**Erkin-Say**	**6.57**	**14**	P	**Pn**	**02 38 31.1**	**-0.4**
	SNR=40						
AAK	**Ala-Archa**	**6.71**	**19**	P	**Pn**	**02 38 33.6**	**+0.2**
	5.7nm,0.3s,baz=180,slow=11,SNR=64						
AAK				S	**Sn**	**02 39 46.9**	**-1.6**
	2.1nm,0.3s,baz=314,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.71**	**19**	P	**Pn**	**02 38 33.4**	**-0.1**
	SNR=27						
KK31	**Karatay Array**	**6.84**	**353**	⇓P	**Pn**	**02 38 32.6**	**-2.5**
	27nm,0.4s,baz=175,slow=12,SNR=378						
KK31				⇑S	Sn	02 39 43.3	-8.1
	5.1nm,0.3s,baz=187,slow=25,SNR=5.0						
KBK	**Karagaybulak**	**6.85**	**21**	P	**Pn**	**02 38 35.8**	**+0.3**
	SNR=9.9						
SMLA	**Simla**	**6.95**	**136**	*i* P	**Pn**	**02 38 38.4**	**+1.7**
SMLA				*i* S	**Sn**	**02 39 52.6**	**-1.6**
SMLA				⇓AML	AML	02 39 55.8	
	comp=E,995nm,0.3s						
SMLA				⇓AML	AML	02 39 57.3	
	comp=N,2μm,0.3s						
CHMS	**Chumysh**	**7.12**	**19**	P	**Pn**	**02 38 38.8**	**-0.1**
	SNR=8.5						
TKM2	**Tokmak 2**	**7.29**	**24**	⇓P	**Pn**	**02 38 41.5**	**0.0**
	comp=N,13nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**24**	P	**Pn**	**02 38 41.8**	**+0.4**
	SNR=23						
KHET	**Khetri**	**8.95**	**155**	*e*P	**Pn**	**02 39 03.9**	**+0.1**
KHET				*e*S	**Sn**	**02 40 38.9**	**-4.1**
KHET				AML	AML	02 40 43.9	
	comp=E,29nm,0.4s						
KHET				AML	AML	02 40 44.1	
	comp=N,23nm,0.3s						
KUDL	**Kundal**	**9.13**	**152**	*e*P	**Pn**	**02 39 05.8**	**-0.4**
KUDL				*e*S	**Sn**	**02 40 42.0**	**-5.2**
KUDL				AML	AML	02 40 48.1	
	comp=E,15nm,0.3s						
KUDL				AML	AML	02 40 49.4	
	comp=N,10nm,0.3s						
SONA	**Sohna**	**9.28**	**148**	*e*P	**Pn**	**02 39 09.9**	**+1.7**
SONA				*e*S	**Sn**	**02 40 46.8**	**-4.0**
SONA				AML	AML	02 40 49.7	
	comp=N,12nm,0.2s						
SONA				AML	AML	02 40 50.4	
	comp=E,28nm,0.3s						
AGRA	**Agra**	**10.54**	**147**	*e*S	**Sn**	**02 41 16.0**	**-5.4**
AGRA				AML	AML	02 41 22.5	
	comp=N,47nm,0.4s						
AGRA				AML	AML	02 41 22.6	
	comp=E,53nm,0.3s						
PYUN	**Piuthan**	**12.65**	**127**	*e*P	**Pn**	**02 39 52.3**	**-1.2**
	comp=E,46nm,0.4s						
PYUN				*e*S	Sn	02 42 05.3	-7.5
DANN	**Dangsing**	**12.99**	**124**	*e*P	**Pn**	**02 39 56.9**	**-1.1**
	comp=E,26nm,0.3s						
MKAR	**Makanchi Array**	**13.18**	**34**	P	**Pn**	**02 40 00.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=9.6						
KOLN	**Koldanda**	**13.27**	**127**	*e*P	**Pn**	**02 40 00.8**	**-0.7**
	comp=E,22nm,0.4s						
DMN	**Daman**	**14.37**	**123**	*e*P	**Pn**	**02 40 15.8**	**0.0**
	comp=E,17nm,0.3s						
KKN	**Kakani**	**14.38**	**122**	*e*P	**Pn**	**02 40 15.4**	**-0.4**
PKIN	**Phulchoki**	**14.59**	**123**	*e*P	**Pn**	**02 40 18.3**	**-0.3**
	comp=E,16nm,0.3s						
PKI	**Pulchoki**	**14.60**	**123**	*e*P	**Pn**	**02 40 18.4**	**-0.4**
GUN	**Gumba**	**14.71**	**121**	*e*P	**Pn**	**02 40 19.0**	**-1.2**
	comp=E,14nm,0.4s						
AB31	**Akbulak array**	**15.48**	**330**	P	**Pn**	**02 40 24.9**	**-4.5**
	comp=E,1.7nm,0.2s,baz=138,slow=13,SNR=211						
AB31				⇓S	Sn	02 43 07.2	-13
	comp=E,1.1nm,0.5s,baz=157,slow=24,SNR=3.0						
RAMN	**Ramite**	**15.81**	**122**	*e*P	**Pn**	**02 40 32.9**	**-1.0**
TAPN	**Taplejung**	**16.34**	**119**	*e*P	**Pn**	**02 40 39.9**	**-0.6**
	comp=E,15nm,0.3s						
ODAN	**Odare**	**16.41**	**121**	*e*P	**Pn**	**02 40 40.5**	**-0.8**
	comp=E,17nm,0.6s						
VOSK	**Vostochnaya**	**16.42**	**359**	⇑P	**Pn**	**02 40 37.3**	**-3.7**
	comp=E,3.2nm,0.9s						
BVA0	**Borovoye Array**	**16.74**	**357**	⇑P	**Pn**	**02 40 44.3**	**-0.5**
	comp=E,0.4nm,0.8s,baz=163,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**16.74**	**357**	P	**Pn**	**02 40 43.7**	**-1.2**
	comp=E,0.4nm,0.3s,baz=159,slow=13,SNR=11						
ZRNK	**Zerenda**	**16.74**	**355**	⇑P	**Pn**	**02 40 44.1**	**-0.8**
	comp=E,1.7nm,0.6s						
AKTO	**Aktyubinsk**	**17.18**	**329**	P	**P**	**02 40 49.8**	**-0.3**
	comp=E,1.7nm,0.3s,baz=140,slow=12,SNR=17						
AKTO	**Aktyubinsk**	**17.18**	**329**	⇑P	**P**	**02 40 48.7**	**-1.4**
	comp=E,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**19.90**	**23**	P	**P**	**02 41 20.1**	**+0.4**
	comp=E,5.5nm,0.4s,baz=213,slow=9.6,SNR=30						
GNI	**Garni**	**21.40**	**288**	P	**P**	**02 41 35.5**	**-0.7**
	comp=E,4.1nm,0.6s,baz=40,slow=7.9,SNR=2.9						
KBZ	**Khabaz**	**23.11**	**298**	P	**P**	**02 41 55.0**	**+1.7**
	comp=E,0.3nm,0.4s,baz=114,slow=12,SNR=2.5						
SONM	**Songino Array**	**28.06**	**55**	P	**P**	**02 42 39.2**	**+1.1**
	comp=E,0.2nm,0.5s,baz=272,slow=9.4,SNR=2.6						
AKASG	**Malin Array Be**	**33.43**	**309**	P	**P**	**02 43 26.4**	**+1.2**
	comp=E,0.3nm,0.3s,baz=80,slow=7.7,SNR=3.0						
FINES	**FINESS Array B**	**37.91**	**326**	P	**P**	**02 44 04.2**	**+1.0**
	comp=E,0.8nm,0.3s,baz=124,slow=8.7,SNR=17						
ARCES	**ARCESS Array B**	**41.50**	**338**	P	**P**	**02 44 33.8**	**+0.9**
	comp=E,3.6nm,0.9s,baz=116,slow=7.9,SNR=8.0						
NB2	**NORSAR Subarra**	**44.82**	**323**	P	**P**	**02 44 59.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.82**	**323**	P	**P**	**02 45 00.1**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=97,slow=7.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**66.19**	**269**	P	**P**	**02 47 31.4**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.9,SNR=13						
INK	**Inuvik**	**74.02**	**9**	P	**P**	**02 48 21.4**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=353,slow=8.1,SNR=3.4						
BOSA	**Boshof**	**77.91**	**221**	P	**P**	**02 48 43.7**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=90,slow=7.1,SNR=4.5						
YKA	**Yellowknife Ar**	**81.42**	**3**	P	**P**	**02 49 02.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=348,slow=5.1,SNR=9.6						
WRA	**Warramunga Arr**	**81.49**	**122**	P	**P**	**02 49 03.3**	**+1.1**
	comp=Z,1.1nm,1.2s,baz=325,slow=4.9,SNR=4.7						
ASAR	**Alice Springs**	**83.76**	**125**	P	**P**	**02 49 13.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=310,slow=4.8,SNR=3.5						

IDC 26 02:38:10.9±4.7,23°.30S×177°.68W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/19,mbtmp3.9/3,Error ellipse: s-maj=223.4km s-min=45.7km az=154.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.61**	**268**	P	P	02 44 54.6	+1.4
	4.8nm,0.9s,baz=97,slow=8.1,SNR=2.4						

ASAR	**Alice Springs**	**44.23**	**259**	P	P	02 46 22.2	-0.1
	0.6nm,0.7s,baz=84,slow=8.9,SNR=6.1						
WRA	**Warramunga Arr**	**44.57**	**265**	P	P	02 46 23.4	-1.7
	1.0nm,0.6s,baz=103,slow=8.0,SNR=7.5						
AKASG	**Malin Array Be**	**145.58**	**329**	PKPbc	PKPdf	02 57 49.6	-1.3
	1.0nm,0.4s,baz=43,slow=4.1,SNR=5.7						
BRTR	**Keskin Array B**	**148.88**	**309**	PKPbc	PKPbc	02 58 01.2	+0.1
	0.4nm,0.7s,baz=45,slow=2.2,SNR=2.9						

IDC 26 03:01:32.5±9.0,21°.93N×142°.85E,h336km±92km,mb2.9/5, mb1 3.1/5,mb1mx2.8/26,mbtmp2.9/5,Error ellipse: s-maj=53.4km s-min=22.2km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.14**	**323**	P	P	03 05 42.5	-0.2
	1.4nm,0.5s,baz=146,slow=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**42.44**	**192**	P	P	03 08 55.5	-0.1
	0.5nm,0.5s,baz=15,slow=8.9,SNR=5.1						
MKAR	**Makanchi Array**	**54.31**	**313**	P	P	03 10 25.1	0.0
	0.3nm,0.6s,baz=91,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	P	03 12 45.4	+0.2
	0.2nm,0.5s,baz=289,slow=5.4,SNR=4.8						
FINES	**FINESS Array B**	**82.83**	**334**	P	P	03 13 19.3	-0.3
	2.4nm,0.9s,baz=62,slow=6.1,SNR=5.7						

*IDC **26** 03:05:02.8±0.6,1°.53N×101°.10W,h0km,mb4.2/11, mb1 4.4/11,mb1mx4.3/19,mbtmp4.2/11,MS3.9/24, Ms1 3.9/24,ms1mx3.8/38,Error ellipse: s-maj=28.4km s-min=16.4km az=61.0*
*ISCJB **26** 03:05:03.9±0.6,1°.59N±0°.08×100°.93W±0°.09,h10km, mb4.5/31,MS3.9/22,Error ellipse: s-maj=16.2km s-min=8.4km az=141.1*
*NEIC **26** 03:05:04.2±0.5,1°.40N×101°.18W,h10km,mb4.5/21,Error ellipse: s-maj=13.2km s-min=7.4km az=55.0*

ISC 26 03:05:04.3±0.6,1°.5N±0°.1×101°.2W±0°.1,h10km,n298, σ0°.95/286,mb4.5/31,MS4.0/22,110C-102D,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**16.67**	**21**	LR	LR	03 13 58.8	
	comp=Z,182nm,19.0s,baz=7.0,slow=32						
JTS	**JuntasAbangare**	**18.31**	**61**	LR	LR	03 14 14.8	
	comp=Z,316nm,20.6s,baz=87,slow=30						
JTS	**JuntasAbangare**	**18.31**	**61**	*e*Pn	**P**	**03 09 20.0**	**+1.2**
	32nm,1.4s						
TEIG	**Tepich**	**22.46**	**33**	LR	LR	03 17 37.0	
	comp=Z,95nm,20.1s,baz=240,slow=34						
OTAV	**Otavalo**	**22.73**	**93**	*e*P	**P**	**03 10 08.6**	**+1.3**
	14nm,1.1s						
LPIG	**La Paz**	**24.16**	**339**	LR	LR	03 17 42.1	
	comp=Z,57nm,19.9s,baz=221,slow=31						
ATAH	**Atahualpa**	**24.27**	**111**	LR	LR	03 17 29.1	
	comp=Z,692nm,21.1s,baz=280,slow=31						
ROSC	**El Rosal**	**26.98**	**82**	LR	LR	03 19 47.9	
	comp=Z,145nm,19.0s,baz=19,slow=33						
732A	**Laxson Ranch,**	**27.10**	**2**	⇑P	**P**	**03 10 48.4**	**+0.9**
	baz=27						
NNA	**Nana**	**27.61**	**120**	LR	LR	03 19 10.9	
	comp=Z,502nm,19.6s,baz=314,slow=31						
631A	**Perdido Creek**	**27.76**	**1**	⇑P	**P**	**03 10 54.2**	**+0.8**
	baz=28						
TXAR	**Lajitas Array**	**27.78**	**355**	P	**P**	**03 10 55.1**	**+1.4**
	1.1nm,0.8s,baz=178,slow=11,SNR=16						
TXAR				PcP	**PcP**	**03 14 10.4**	**+0.2**
	0.5nm,0.7s,baz=186,slow=5.6,SNR=7.0						
TXAR				LR	LR	03 20 54.8	
	comp=Z,446nm,20.6s,baz=180,slow=34						
TXAR	**Lajitas Array**	**27.78**	**355**	P	**P**	**03 10 55.1**	**+1.4**
TXAR				PcP	**PcP**	**03 14 10.4**	**+0.2**
627A	**Terlingua Ranc**	**27.88**	**356**	⇓P	**P**	**03 10 55.7**	**+1.1**
	baz=28						
628A	**Black Gap, Mar**	**27.88**	**357**	⇓P	**P**	**03 10 55.8**	**+1.2**
	baz=28						
632A	**Uvalde**	**27.88**	**3**	⇓P	**P**	**03 10 55.5**	**+0.9**
	baz=28						
626A	**Big Bend Ranch**	**28.04**	**354**	⇓P	**P**	**03 10 57.1**	**+1.1**
	baz=28						
532A	**Rocksprings**	**28.50**	**2**	⇑P	**P**	**03 11 00.8**	**+0.8**
	baz=29						
531A	**Rocksprings**	**28.51**	**1**	⇓P	**P**	**03 11 00.8**	**+0.6**
	baz=29						
526A	**Mary Lane Ranc**	**28.54**	**355**	⇑P	**P**	**03 11 01.8**	**+1.3**
	baz=29						
528A	**Cox Ranch, San**	**28.55**	**357**	⇑P	**P**	**03 11 01.5**	**+1.0**
	baz=29						
527A	**Woodward Ranch**	**28.59**	**356**	⇑P	**P**	**03 11 01.9**	**+0.9**
	baz=29						
JCT	**Junction City**	**28.85**	**2**	*e*P	**P**	**03 11 03.0**	**-0.1**
	3.9nm,0.7s						
429A	**Davenport Ranc**	**28.98**	**359**	⇑P	**P**	**03 11 04.6**	**+0.3**
	baz=29						
431A	**Sonora**	**29.03**	**1**	⇑P	**P**	**03 11 05.4**	**+0.6**
	baz=29						
428A	**Kincaid Ranch,**	**29.10**	**357**	⇑P	**P**	**03 11 06.3**	**+0.9**
	baz=29						
426A	**McDonald Obser**	**29.14**	**355**	⇓P	**P**	**03 11 06.7**	**+0.8**
	baz=29						
427A	**Hayter Ranch,**	**29.27**	**356**	⇑P	**P**	**03 11 07.9**	**+1.0**
	baz=30						
425A	**Indio Mountain**	**29.35**	**353**	⇑P	**P**	**03 11 08.6**	**+0.9**
	baz=30,SNR=5.6						
RPN	**Rapa Nui**	**29.53**	**195**	LR	LR	03 19 59.5	
	comp=Z,272nm,19.6s,baz=334,slow=30						
330A	**Mertzon**	**29.75**	**360**	⇑P	**P**	**03 11 11.7**	**+0.6**
	baz=30						
328A	**Wristen Ranch,**	**29.76**	**357**	⇓P	**P**	**03 11 11.9**	**+0.7**
	baz=30						
329A	**Wagon Wheel Ra**	**29.84**	**359**	⇑P	**P**	**03 11 12.7**	**+0.8**
	baz=30						
325A	**Bean Ranch, Si**	**29.93**	**353**	⇓P	**P**	**03 11 13.6**	**+0.7**
	baz=30,SNR=5.2						
324A	**Moseley Ranch,**	**30.06**	**353**	⇓P	**P**	**03 11 14.8**	**+0.8**
	baz=30						
231A	**Bronte**	**30.28**	**1**	⇓P	**P**	**03 11 16.5**	**+0.6**
	baz=30						
MNTX	**Cornudas Mount**	**30.30**	**353**	⇑P	**P**	**03 11 16.9**	**+0.9**
	baz=31						
320A	**Kipp Ranch, An**	**30.49**	**347**	⇓P	**P**	**03 11 19.4**	**+1.6**
	baz=31						
WHTX	**Lake Whitney**	**30.53**	**6**	⇓P	**P**	**03 11 18.4**	**+0.5**
	baz=31						
220A	**Playas Peak, P**	**31.03**	**348**	⇓P	**P**	**03 11 24.0**	**+1.4**
	baz=31						
125A	**Gardner Draw,**	**31.17**	**354**	⇓P	**P**	**03 11 24.2**	**+0.4**
	baz=31						
124A	**Stringfield Ra**	**31.30**	**353**	⇑P	**P**	**03 11 26.2**	**+1.1**
	baz=32						
121A	**Cookes Peak, D**	**31.50**	**349**	⇑P	**P**	**03 11 28.3**	**+1.6**
	baz=32						
Z29A	**Hungry Hill Ra**	**31.60**	**359**	⇑P	**P**	**03 11 27.5**	**0.0**
	baz=32						
Z30A	**Sanderson Ranc**	**31.62**	**0**	⇓P	**P**	**03 11 28.1**	**+0.5**
	baz=32,SNR=7.2						
Z28A	**Tucker Farm, M**	**31.64**	**358**	⇓P	**P**	**03 11 28.3**	**+0.4**
	baz=32						
Z31A	**Sharp Cattle R**	**31.67**	**2**	⇑P	**P**	**03 11 28.0**	**0.0**
	baz=32						
120A	**U Bar Ranch, L**	**31.68**	**348**	⇑P	**P**	**03 11 29.2**	**+0.9**
	baz=32						
Z32A	**Haskell**	**31.68**	**3**	⇓P	**P**	**03 11 27.9**	**-0.2**
	baz=32						
Z27A	**Tatum**	**31.71**	**357**	⇑P	**P**	**03 11 29.1**	**+0.6**
	baz=32						
Z26A	**Caprock**	**31.72**	**355**	⇓P	**P**	**03 11 29.2**	**+0.6**
	baz=32						
Z25A	**Roswell**	**31.79**	**354**	⇓P	**P**	**03 11 30.1**	**+0.9**
	baz=32						
Z24A	**Sheeppen Canyo**	**31.91**	**353**	⇓P	**P**	**03 11 31.1**	**+0.8**
	baz=32						
TUC	**Tucson**	**31.96**	**344**	*e*P	**P**	**03 11 31.0**	**+0.3**
	45nm,2.6s						
Z22A	**Elephant Butte**	**32.06**	**351**	⇑P	**P**	**03 11 32.9**	**+1.2**
	baz=32						
Y29A	**Porterfield Fa**	**32.20**	**359**	⇑P	**P**	**03 11 33.2**	**+0.5**
	baz=32						
Z20A	**Nine Sixteen R**	**32.22**	**348**	⇓P	**P**	**03 11 34.4**	**+1.4**
	baz=32,SNR=7.5						
Z21A	**St. Cloud Mine**	**32.23**	**350**	⇓P	**P**	**03 11 34.3**	**+1.1**
	baz=32						
214A	**Organ Pipe Nat**	**32.23**	**341**	⇑P	**P**	**03 11 34.6**	**+1.6**
	baz=32						
Y28A	**McKinney Farm,**	**32.26**	**358**	⇓P	**P**	**03 11 33.9**	**+0.6**
	baz=32						
Y27A	**Causey**	**32.27**	**357**	⇓P	**P**	**03 11 33.9**	**+0.5**
	baz=32						
Y31A	**Rekieta Farm,**	**32.30**	**1**	⇓P	**P**	**03 11 33.9**	**+0.3**
	baz=33						
MSTX	**Muleshoe**	**32.34**	**357**	⇑P	**P**	**03 11 34.7**	**+0.7**
	baz=33						
Y32A	**R-V Farms, Ver**	**32.38**	**3**	⇑P	**P**	**03 11 34.5**	**+0.3**
	baz=33						
Y25A	**Mesa, Roswell**	**32.43**	**354**	⇑P	**P**	**03 11 35.6**	**+0.7**
	baz=33						
X28A	**Dimmitt**	**32.86**	**358**	⇓P	**P**	**03 11 39.6**	**+1.0**
	baz=33						
BNM	**Barren Site**	**32.88**	**352**	*e*P	**P**	**03 11 40.2**	**+1.3**
	2.9nm,1.2s						
X26A	**CR and CF Fran**	**32.98**	**356**	⇑P	**P**	**03 11 40.5**	**+0.9**
	baz=33						
X31A	**McDonald Ranch**	**32.98**	**2**	⇑P	**P**	**03 11 40.1**	**+0.6**
	baz=33,SNR=5.6						
LAZ	**Ladron**	**33.21**	**351**	*e*P	**P**	**03 11 40.6**	**-1.1**
	4.2nm,1.4s						
AMTX	**Amarillo**	**33.22**	**359**	⇓P	**P**	**03 11 43.0**	**+1.3**
	baz=34						
X23A	**Hourglass Bar**	**33.25**	**352**	⇓P	**P**	**03 11 43.7**	**+1.6**
	baz=34						
113A	**Mohawk Valley,**	**33.29**	**340**	⇑P	**P**	**03 11 44.3**	**+2.1**
	baz=34						
X21A	**Alamocita Cree**	**33.36**	**350**	⇑P	**P**	**03 11 44.9**	**+1.8**
	baz=34						
W27A	**Bowe Ranch, En**	**33.44**	**357**	⇓P	**P**	**03 11 44.3**	**+0.7**
	baz=34						
X20A	**Quemado**	**33.58**	**349**	⇓P	**P**	**03 11 46.9**	**+1.8**
	baz=34						
MIAR	**Mount Ida**	**33.63**	**11**	*e*P	**P**	**03 11 45.5**	**+0.3**
	8.6nm,0.9s						
ANMO	**Albuquerque**	**33.64**	**352**	LR	LR	03 24 24.0	
	comp=Z,654nm,19.2s,baz=355,slow=34						
ANMO	**Albuquerque**	**33.64**	**352**	*e*P	**P**	**03 11 46.3**	**+0.8**
	6.9nm,1.3s						
W25A	**X Bar L Ranch,**	**33.69**	**355**	⇓P	**P**	**03 11 46.7**	**+0.9**
	baz=34						
W24A	**Lazy 6 Ranch,**	**33.77**	**354**	⇑P	**P**	**03 11 47.6**	**+0.9**
	baz=34						
W23A	**Werner Place,**	**33.81**	**353**	⇑P	**P**	**03 11 48.2**	**+1.2**
	baz=34						
V28A	**Channing**	**34.09**	**358**	⇑P	**P**	**03 11 49.9**	**+0.6**
	baz=34						
X16A	**Lo Mia Camp, P**	**34.13**	**345**	⇓P	**P**	**03 11 51.5**	**+1.8**
	baz=34						
W20A	**Ramah**	**34.15**	**349**	⇑P	**P**	**03 11 51.1**	**+1.2**
	baz=34						
V26A	**Tequesquite Ra**	**34.21**	**356**	⇑P	**P**	**03 11 51.1**	**+0.7**
	baz=34						
V24A	**Rampart Ranch,**	**34.27**	**354**	⇓P	**P**	**03 11 52.0**	**+0.9**
	baz=34						
V25A	**Rancho No Teng**	**34.32**	**355**	⇓P	**P**	**03 11 52.4**	**+1.1**
	baz=35						
TUL1	**Tulsa**	**34.60**	**8**	⇑P	**P**	**03 11 53.9**	**+0.4**
	baz=35,SNR=5.3						
V22A	**San Miguel Ran**	**34.66**	**352**	⇑P	**P**	**03 11 55.7**	**+1.3**
	baz=35						
V20A	**Brimhall**	**34.80**	**350**	⇑P	**P**	**03 11 57.1**	**+1.5**
	baz=35						
U22A	**Llaves**	**35.10**	**352**	⇑P	**P**	**03 11 59.7**	**+1.4**
	baz=35						
WUAZ	**Wupatki**	**35.16**	**345**	⇑P	**P**	**03 12 00.2**	**+1.6**
	baz=35						
U21A	**Nageezi**	**35.27**	**351**	⇑P	**P**	**03 12 00.9**	**+1.3**
	baz=36						
T24A	**Torres, Weston**	**35.58**	**355**	⇓P	**P**	**03 12 03.6**	**+1.2**
	baz=36						
T25A	**Trinidad**	**35.59**	**356**	⇑P	**P**	**03 12 03.3**	**+0.9**
	baz=36						
T23A	**Casias Ranch,**	**35.65**	**353**	⇓P	**P**	**03 12 04.3**	**+1.4**
	baz=36						
T22A	**Edith**	**35.74**	**352**	⇓P	**P**	**03 12 04.9**	**+1.3**
	baz=36						
T21A	**Navajo Lake**	**35.81**	**351**	⇓P	**P**	**03 12 05.5**	**+1.2**
	baz=36						
S27A	**Las Animas**	**36.04**	**358**	⇑P	**P**	**03 12 07.4**	**+1.2**
	baz=36						
S25A	**Robets Cordova**	**36.11**	**356**	⇓P	**P**	**03 12 07.8**	**+1.0**
	baz=36						
S24A	**Houchin Ranch,**	**36.16**	**355**	⇓P	**P**	**03 12 08.4**	**+1.0**
	baz=36						
MVCO	**Mesa Verde**	**36.18**	**350**	*e*P	**P**	**03 12 08.3**	**+0.9**
	47nm,2.1s						
MVCO	**Mesa Verde**	**36.18**	**350**	⇓P	**P**	**03 12 08.9**	**+1.5**
	baz=36						
S22A	**4UR Ranch, Cre**	**36.45**	**352**	⇑P	**P**	**03 12 10.7**	**+0.9**
	baz=37,SNR=5.7						
UTMT	**University of**	**36.49**	**17**	*e*P	P	03 12 13.2	+3.5
	112nm,0.4s						
R27A	**Eads**	**36.64**	**358**	⇑P	**P**	**03 12 11.8**	**+0.6**
	baz=37						
R26A	**Arlington**	**36.69**	**357**	⇑P	**P**	**03 12 12.4**	**+0.8**
	baz=37						
R24A	**Sanders Place,**	**36.73**	**355**	⇑P	**P**	**03 12 12.7**	**+0.6**
	baz=37						
R23A	**Moffat**	**36.77**	**354**	⇑P	**P**	**03 12 13.6**	**+1.1**
	baz=37						
R22A	**Saguache, Gunn**	**36.91**	**353**	⇑P	**P**	**03 12 14.8**	**+1.0**
	baz=37,S

baz=40
DUG **Dugway** 39.95 346 *e*P P 03 12 41.0 +1.9
23nm,1.7s
DUG **Dugway** 39.95 346 ⇓P P 03 12 40.1 +1.0
baz=40
NVAR **Mina Array Bea** 39.98 339 P P 03 12 40.5 +1.0
0.7nm,0.7s,baz=151,slow=8.2,SNR=4.7
NVAR **Mina Array Bea** 39.98 339 P P 03 12 40.5 +1.0
M23A **Laramie** 40.00 355 ⇓P P 03 12 40.3 +0.7
baz=40
JLU **Jordanelle** 40.03 348 *e*P P 03 12 41.4 +1.5
N18A **Larsen Ranch,** 40.05 350 ⇓P P 03 12 41.0 +1.0
baz=40
N17A **Moffit Pass** 40.23 349 ⇓P P 03 12 43.2 +1.6
baz=40
N16A **Rees Ranch, Co** 40.30 348 ⇑P P 03 12 43.7 +1.6
baz=41
HDIL **Hopedale** 40.34 14 *e*P P 03 12 42.4 +0.2
17nm,0.8s
L22A **Ellis Ranch, M** 40.63 354 ⇑P P 03 12 45.9 +1.1
baz=41
L23A **Garrett** 40.64 355 ⇑P P 03 12 45.8 +0.9
baz=41
SFIN **Scholer Farm** 40.75 17 ⇑P P 03 12 45.2 -0.4
baz=41
M16A **Huntsville** 40.75 348 ⇓P P 03 12 47.3 +1.5
baz=41
HWUT **Hardware Ranch** 41.02 348 *e*P P 03 12 49.0 +1.0
39nm,1.8s
RKT **Rikitea** 41.03 231 *e*T T 03 56 22.2
3.8nm,0.3s
L18A **Fontenelle, Gr** 41.03 350 ⇑P P 03 12 49.0 +0.9
baz=41
L19A **Farson** 41.09 351 ⇓P P 03 12 49.3 +0.7
baz=41
K23A **Bowen Ranch, D** 41.27 355 ⇓P P 03 12 50.5 +0.5
baz=42
K21A **Alcova** 41.32 353 ⇓P P 03 12 51.3 +0.9
baz=42
L17A **Cokeville** 41.35 349 ⇓P P 03 12 51.7 +0.9
baz=42
K20A **Yellowstone Ra** 41.48 352 ⇑P P 03 12 52.8 +1.0
baz=42
L15A **Malad City** 41.57 347 ⇓P P 03 12 53.6 +1.0
baz=42
K19A **Absolon Red Bu** 41.72 351 ⇓P P 03 12 54.5 +0.8
baz=42
K18A **Toltan Ranch,** 41.73 350 ⇑P P 03 12 54.8 +0.9
baz=42
BW06 **Boulder Array** 41.77 351 ⇑P P 03 12 54.7 +0.5
baz=42,SNR=7.9
PDAR **Pinedale Array** 41.77 351 P P 03 12 54.8 +0.6
3.0nm,0.7s,baz=152,slow=7.9,SNR=30
PDAR PcP PcP 03 14 49.9 -0.6
0.6nm,0.7s,baz=156,slow=4.6,SNR=3.8
PDAR LR LR 03 28 34.2
comp=Z,175nm,20.2s,baz=347,slow=34
PDAR **Pinedale Array** 41.77 351 P P 03 12 54.8 +0.6
PDAR PcP PcP 03 14 49.9 -0.6
L14A **Malta** 41.79 346 ⇑P P 03 12 55.4 +1.1
baz=42,SNR=7.4
K17A **Gardner Place,** 41.99 349 ⇓P P 03 12 57.1 +1.1
baz=42
J22A **Midwest** 42.00 354 ⇑P P 03 12 56.9 +0.9
baz=42
J21A **Lysite** 42.04 353 ⇓P P 03 12 57.5 +1.1
baz=42
ECSD **EROS Data Cent** 42.24 5 *e*P P 03 12 57.5 -0.3
43nm,2.0s
J18A **Kendall Valley** 42.28 350 ⇑P P 03 12 58.7 +0.4
baz=42
I22A **9 Mile Ranch,** 42.48 354 ⇑P P 03 13 00.5 +0.6
baz=43
I21A **Big Trails, Te** 42.48 353 ⇑P P 03 13 00.8 +0.9
baz=43
RSSD **Black Hills** 42.52 357 *e*P P 03 13 01.1 +0.9
J17A **Brown Place, J** 42.55 350 ⇓P P 03 13 01.4 +0.9
baz=43
REDW **Red Top Meadow** 42.57 350 *e*P P 03 13 01.8 +1.1
J16A **Bone** 42.63 349 ⇓P P 03 13 02.2 +1.0
baz=43
RRI2 **Red Ridge** 42.64 349 *e*P P 03 13 02.4 +1.0
TPAW **Teton Pass** 42.71 349 *e*P P 03 13 02.9 +1.0
I20A **Worland** 42.72 353 ⇑P P 03 13 02.5 +0.7
baz=43
I18A **Diamond G Ranc** 42.72 351 ⇑P P 03 13 02.8 +0.8
baz=43
LOHW **Long Hollow** 42.77 350 *e*P P 03 13 02.8 +0.5
J15A **Blackfoot** 42.92 348 ⇑P P 03 13 04.4 +1.0
baz=43
I19A **Meeteetse** 42.92 352 ⇑P P 03 13 04.4 +0.8
baz=43
MOOW **Moose Ponds** 42.93 350 *e*P P 03 13 03.9 +0.3
I17A **Pilgrim Ck.** 43.06 350 ⇓P P 03 13 05.8 +1.1
baz=43
H24A **Dirks Ranch, A** 43.17 356 ⇓P P 03 13 06.3 +0.9
baz=43
I16A **Newdale** 43.19 349 ⇓P P 03 13 06.7 +1.1
baz=44
SIV **San Ignacio** 43.23 115 P P 03 13 06.1 -0.2
0.9nm,0.7s,baz=279,slow=14,SNR=4.4
SIV **San Ignacio** 43.23 115 P P 03 13 06.1 -0.2
H20A **Greybull** 43.23 353 ⇓P P 03 13 06.6 +0.7
baz=44
FLWY **Flagg Ranch** 43.24 350 *e*P P 03 13 07.0 +0.8
J13A **Cove Ranch, Pi** 43.31 346 ⇑P P 03 13 07.6 +1.1
baz=44
HLID **Hailey** 43.52 346 *e*P P 03 13 09.5 +1.1
HLID **Hailey** 43.52 346 ⇓P P 03 13 09.2 +0.9
baz=44,SNR=5.4
H19A **Powell** 43.55 352 ⇑P P 03 13 09.3 +0.8
baz=44
I14A **Mackay** 43.64 347 ⇓P P 03 13 10.9 +1.6
baz=44
H18A **Shoshone NF, C** 43.65 351 ⇑P P 03 13 10.6 +1.1
baz=44
I13A **Wildhorse Cree** 43.78 346 ⇓P P 03 13 11.7 +1.2
baz=44,SNR=9.4
I12A **Atlanta** 43.91 345 ⇓P P 03 13 12.9 +1.4
baz=44
H16A **Russell Place,** 43.94 350 ⇑P P 03 13 12.6 +0.9
baz=44
H15A **Lima** 44.13 348 ⇑P P 03 13 14.5 +1.2
baz=44,SNR=7.3
SPMN **St. Paul** 44.16 8 ⇓P P 03 13 13.1 -0.1
baz=44
F24A **Ekalaka** 44.26 357 ⇓P P 03 13 14.6 +0.4
baz=44
G18A **Lazy EL Ranch,** 44.26 351 ⇓P P 03 13 14.7 +0.4
baz=44
H14A **Leadore** 44.28 347 ⇓P P 03 13 15.6 +1.1
baz=44,SNR=8.7
MCMT **McKenzie Canyo** 44.37 348 *e*P P 03 13 16.3 +1.0
6.1nm,1.3s
H13A **Challis** 44.43 347 ⇑P P 03 13 16.9 +1.3
baz=45,SNR=9.5
YBH **Yreka Blue Hor** 44.51 337 LR LR 03 28 33.3
comp=Z,128nm,20.4s,baz=154,slow=32
F20A **Billings** 44.55 353 ⇓P P 03 13 17.1 +0.6
baz=45
H12A **Diamond D Ranc** 44.55 346 ⇑P P 03 13 17.6 +1.0
baz=45,SNR=9.0
G15A **Dillon** 44.62 349 ⇓P P 03 13 18.1 +0.9
baz=45
F19A **Roth Farm, Mol** 44.70 352 ⇑P P 03 13 18.5 +0.8
baz=45
F18A **Big Timber** 44.86 352 ⇓P P 03 13 19.6 +0.6
baz=45,SNR=5.7
G13A **Cobalt** 44.92 347 ⇑P P 03 13 20.5 +0.9
baz=45,SNR=7.5
E22A **Miles City** 44.95 355 ⇓P P 03 13 19.7 +0.1
baz=45
G12A **Big Creek, Yel** 45.21 346 ⇑P P 03 13 22.6 +0.7
baz=46
E20A **Meyer Farm, Mu** 45.24 353 ⇓P P 03 13 22.3 +0.4
baz=46,SNR=5.7
E19A **Rath Farm, Rou** 45.28 353 ⇓P P 03 13 23.3 +1.0
baz=46
CFAA **Coronel Fontan** 45.37 139 LR LR 03 28 44.4
comp=Z,21nm,19.2s,baz=278,slow=31
D24A **Glendive** 45.52 357 ⇓P P 03 13 25.0 +0.9
baz=46
F13A **Darby** 45.60 347 ⇑P P 03 13 25.7 +0.8
baz=46
D21A **La Casta Ranch** 45.67 354 ⇑P P 03 13 25.9 +0.6
baz=46
F12A **Elk City** 45.79 346 ⇓P P 03 13 26.7 +0.3
baz=46
E16A **East Helena** 45.79 350 ⇑P P 03 13 26.9 +0.5
baz=46
D20A **Manuel Ranch,** 45.82 353 ⇑P P 03 13 27.1 +0.6
baz=46
E15A **Deer Lodge** 45.86 349 ⇓P P 03 13 27.4 +0.4
baz=46
C24A **Savage** 45.94 357 ⇑P P 03 13 28.2 +0.8
baz=46
D19A **Cripps Ranch,** 45.98 353 ⇑P P 03 13 28.4 +0.6
baz=46,SNR=7.3
D18A **Linhart Farms,** 46.13 352 ⇓P P 03 13 29.7 +0.7
baz=46
E13A **Victor** 46.19 348 ⇓P P 03 13 29.9 +0.4
baz=46
D17A **Six Diamond Ra** 46.22 351 ⇓P P 03 13 30.1 +0.3
baz=46,SNR=6.1
C22A **Vida** 46.25 356 ⇓P P 03 13 30.7 +0.9
baz=46
C23A **Lambert** 46.25 356 ⇓P P 03 13 30.2 +0.3
baz=46
C20A **Veseth Ranch,** 46.41 354 ⇑P P 03 13 32.3 +1.1
baz=47
D15A **Lincoln** 46.43 349 ⇓P P 03 13 31.8 +0.4
baz=47
C21A **Desert Coulee** 46.43 354 ⇑P P 03 13 31.7 +0.4
baz=47
E12A **Beaver Dam Sad** 46.48 346 ⇓P P 03 13 32.4 +0.5
baz=47
MSO **Missoula** 46.51 348 ⇑P P 03 13 32.7 +0.7
baz=47
C19A **Slack Wire Ran** 46.56 353 ⇑P P 03 13 33.0 +0.6
baz=47
D14A **Greenough** 46.66 348 ⇑P P 03 13 33.8 +0.5
baz=47
C17A **Wharram Farm,** 46.70 351 ⇑P P 03 13 34.1 +0.6
baz=47
SLMT **Seeley Lake** 46.81 348 *e*P P 03 13 34.3 -0.2
3.9nm,1.0s
DGMT **Dagmar** 46.86 357 ⇑P P 03 13 34.8 +0.1
baz=47
D13A **Huson** 46.87 348 ⇑P P 03 13 35.3 +0.5
baz=47
EGMT **Eagleton** 46.94 352 ⇓P P 03 13 35.8 +0.5
baz=47
C16A **Fhringer Ranc** 47.03 350 ⇑P P 03 13 36.7 +0.7
baz=47
B18A **Beardsley Farm** 47.30 352 ⇑P P 03 13 39.0 +0.9
baz=48
B17A **L&G Farms, Che** 47.35 351 ⇑P P 03 13 39.2 +0.7
baz=48
C14A **Swan Lake** 47.37 348 ⇓P P 03 13 39.6 +0.9
baz=48
A22A **Carney Farms,** 47.49 356 ⇑P P 03 13 40.4 +0.8
baz=48
A19A **Klindworth Far** 47.70 353 ⇑P P 03 13 41.5 +0.3
baz=48
A18A **Metzger Ranch,** 47.83 352 ⇓P P 03 13 42.8 +0.6
baz=48
B14A **Marquette Ranc** 47.84 349 ⇓P P 03 13 43.3 +0.9
baz=48
A17A **Triple J Farms** 47.97 352 ⇑P P 03 13 43.8 +0.5
baz=48
C11A **Tepee Creek (N** 47.98 346 ⇑P P 03 13 44.2 +0.8
baz=48
B13A **Whitefish** 48.09 348 ⇑P P 03 13 44.9 +0.7
baz=48,SNR=7.0
A15A **Johnson Ranch,** 48.34 350 ⇑P P 03 13 46.9 +0.7
baz=49,SNR=6.4
A14A **Double T Ranch** 48.45 349 ⇓P P 03 13 47.4 +0.3
baz=49
NEW **Newport** 48.59 346 LR LR 03 31 22.1
comp=Z,99nm,19.2s,baz=183,slow=32
NEW **Newport** 48.59 346 ⇓P P 03 13 48.7 +0.7
baz=49
ULM **Lac du Bonnet** 48.78 4 P P 03 13 48.4 -1.1
4.1nm,0.6s,baz=183,slow=7.3,SNR=8.1
ULM LR LR 03 34 13.7
comp=Z,79nm,18.4s,baz=339,slow=36
ULM **Lac du Bonnet** 48.78 4 P P 03 13 48.4 -1.1
PLCA **Paso Flores** 50.43 150 LR LR 03 31 06.0
comp=Z,296nm,18.1s,baz=14,slow=31
PPT2 **Papeete2** 51.33 246 *e*LR LR 03 28 53.6
156nm,25.5s
TBI **Tubuai** 53.08 239 *e*LR LR 03 29 41.1
112nm,26.5s
BDFB **Brasilia** 55.19 110 P P 03 14 37.5 -0.5
4.6nm,1.0s,baz=288,slow=3.2,SNR=6.4
BDFB LR LR 03 36 42.8
comp=Z,414nm,19.5s,baz=30,slow=34
BDFB **Brasilia** 55.19 110 P P 03 14 37.5 -0.5
BBB **Bella Bella** 55.32 340 LR LR 03 35 30.9
comp=Z,135nm,18.9s,baz=162,slow=33
SCHQ **Schefferville** 60.07 22 P P 03 15 10.3 -1.2
4.1nm,1.0s,baz=240,slow=6.9,SNR=4.2
SCHQ **Schefferville** 60.07 22 P P 03 15 10.3 -1.2
DLBC **Dease Lake** 61.15 343 LR LR 03 41 28.9
comp=Z,154nm,18.5s,baz=189,slow=36
YKA **Yellowknife Ar** 61.68 353 P P 03 15 21.6 -0.6
2.7nm,0.9s,baz=161,slow=6.6,SNR=34
YKA **Yellowknife Ar** 61.68 353 P P 03 15 21.6 -0.6
ILAR **Eielson Array** 71.19 341 P P 03 16 22.8 -0.4
3.4nm,0.7s,baz=147,slow=5.3,SNR=48
ILAR LR LR 03 50 38.3
comp=Z,116nm,19.0s,baz=147,slow=38
ILAR **Eielson Array** 71.19 341 P P 03 16 22.8 -0.4
AFI **Afiamalu** 71.59 255 LR LR 03 38 38.2
comp=Z,126nm,20.1s,baz=157,slow=28
URZ **Urewera** 84.44 232 P P 03 17 38.9 +1.4
2.7nm,0.5s,baz=112,slow=5.4,SNR=4.6
URZ **Urewera** 84.44 232 P P 03 17 38.9 +1.4
DBIC **Dimbokro** 96.07 83 LR LR 03 58 53.5
comp=Z,62nm,21.1s,baz=225,slow=34
NOA **NORSAR Array B** 99.34 27 LR LR 04 01 28.5
comp=Z,45nm,18.1s,baz=0.0,slow=34
BRTR **Keskin Array B** 121.77 40 PKP PKPdf 03 23 57.9 -1.4
1.8nm,1.1s,baz=340,slow=4.3,SNR=3.4
BRTR **Keskin Array B** 121.77 40 PKP PKPdf 03 23 57.9 -1.4
ASAR **Alice Springs** 122.37 243 PKP PKPdf 03 24 00.0 -0.8
1.0nm,0.8s,baz=122,slow=1.6,SNR=7.7
ASAR **Alice Springs** 122.37 243 PKP PKPdf 03 24 00.0 -0.8
WRA **Warramunga Arr** 122.80 247 PKP PKPdf 03 24 00.5 -1.2
0.2nm,0.3s,baz=90,slow=2.0,SNR=11
WRA **Warramunga Arr** 122.80 247 PKP PKPdf 03 24 00.5 -1.2
ZALV **Zalesovo Beam** 124.52 356 PKP PKPdf 03 24 02.9 -1.1
0.4nm,0.4s,baz=342,slow=3.3,SNR=3.6
ZALV **Zalesovo Beam** 124.52 356 PKP PKPdf 03 24 02.9 -1.1
MKAR **Makanchi Array** 131.81 357 PKP PKPdf 03 24 17.4 -0.8
0.3nm,0.6s,baz=20,slow=3.4,SNR=4.8
MKAR **Makanchi Array** 131.81 357 PKP PKPdf 03 24 17.4 -0.8
CMAR **Chiang Mai Arr** 152.00 316 PKP PKPdf 03 24 54.9 +0.6
1.3nm,0.5s,baz=5.7,slow=1.8,SNR=4.3
CMAR PKPbc PKiKP 03 25 02.2 +1.0
1.4nm,0.4s,baz=337,slow=1.3,SNR=6.1
CMAR PKPab PKPab 03 25 09.0 -1.1
1.3nm,0.3s,baz=359,slow=2.4,SNR=5.7
CMAR **Chiang Mai Arr** 152.00 316 PKP PKPdf 03 24 55.0 +0.6
CMAR PKPbc PKiKP 03 25 02.2 +1.0
CMAR PKPab PKPab 03 25 09.0 -1.1

IDC 26 03:22:50.6±4.6,22.25S×172.80E,h57km±41km,mb3.7/9, mb1 3.9/11,mb1mx3.8/20,mbtmp3.8/11,ML3.5/2, MS3.7/6,Ms1 3.7/6,ms1mx3.3/37,Error ellipse: s-maj=28.6km s-min=25.3km az=72.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	5.90	270	P		Pn	03 24 14.7	-0.8
	1.1nm,0.3s,baz=102,slow=14,SNR=7.0							
URZ	**Urewera**	16.39	168	P		Pn	03 26 37.2	+0.4
	0.2nm,0.3s,baz=333,slow=8.1,SNR=12							
URZ				LR		LR	03 31 31.3	
	comp=Z,279nm,19.6s,baz=4.2,slow=32							
RPZ	**Rata Peaks**	21.46	183	P		P	03 27 35.1	+0.9
	6.1nm,0.8s,baz=330,slow=14,SNR=2.1							
RPZ				LR		LR	03 34 57.0	
	comp=Z,219nm,20.3s,baz=207,slow=34							
CTA	**Charters Tower**	24.84	270	LR		LR	03 36 50.8	
	comp=Z,120nm,18.2s,baz=232,slow=34							
STKA	**Stephens Creek**	29.31	244	P		P	03 28 47.7	-0.2
	4.1nm,1.0s,baz=98,slow=14,SNR=3.8							
ASAR	**Alice Springs**	35.77	260	P		P	03 29 44.5	0.0
	0.4nm,0.5s,baz=93,slow=8.4,SNR=4.6							
WRA	**Warramunga Arr**	35.90	266	P		P	03 29 44.7	-0.8
	0.8nm,0.9s,baz=105,slow=8.6,SNR=3.4							
FITZ	**Fitzroy Crossi**	44.33	266	LR		LR	03 49 52.8	
	comp=Z,74nm,18.9s,baz=277,slow=37							
GUMO	**Guam**	44.93	320	LR		LR	03 47 12.8	
	comp=Z,97nm,21.4s,baz=105,slow=32							
USRK	**Ussuriysk Arra**	75.94	331	P		P	03 34 33.2	+2.0
	1.4nm,0.7s,baz=129,slow=6.2,SNR=3.0							
USRK				LR		LR	04 03 44.4	
	comp=Z,74nm,19.1s,baz=359,slow=32							
PETK	**Petropavlovsk-**	76.18	351	P		P	03 34 32.9	+0.6
	4.3nm,0.9s,baz=148,slow=8.7,SNR=4.6							
DIB	**Dawson Inlet,**	88.78	29	T		T	05 14 08.3	
	SNR=1782							
SONM	**Songino Array**	91.62	322	P		P	03 35 50.9	-0.6
	1.0nm,0.8s,baz=119,slow=3.0,SNR=6.3							
ILAR	**Eielson Array**	92.14	16	P		P	03 35 51.6	-1.7
	1.0nm,1.1s,baz=228,slow=6.8,SNR=4.0							
PDAR	**Pinedale Array**	96.24	46	P		P	03 36 12.1	-0.9
	0.2nm,0.6s,baz=232,slow=4.4,SNR=2.4							
GERES	**GERESS Array B**	148.69	333	PKPbc		PKPbc	03 42 30.3	-1.2
	0.7nm,0.8s,baz=45,slow=2.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	167.61	225	PKPab		PKPab	03 43 56.8	-0.5
	0.5nm,0.8s,baz=119,slow=4.8,SNR=4.2							

*ISCJB **26** 03:25:19.9±0.3,33.28N±0.01×115.70W±0.02,h6km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=42.6*
*NEIC **26** 03:25:21.2,33.29N×115.72W,h7km,MW3.9(PAS),After PAS.*
NEIC Felt [II] at Blythe and Salton City. Also felt at Desert Center, Desert Hot Springs, Fallbrook, Indian Wells, Indio, Mecca, Niland, Palm Desert, Palm Springs and San Diego. Felt at Cibola, Ehrenberg and San Luis, Arizona.
*ECX **26** 03:25:22.1±0.7,33.29N×115.74W,h15km,MD4.0,ML4.1*
*IDC **26** 03:25:26.9±2.3,33.46N×115.05W,h0km,mb1 3.8/5, mb1mx3.5/28,mbtmp3.4/5,ML3.4/5,Error ellipse: s-maj=37.6km s-min=12.1km az=44.0*

ISC 26 03:25:20.8±1.0,33.28N±0.02×115.71W±0.01,h9km±8km, n79,σ1s31/135,27C-32D,Southern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SWSC	**Sam W. Stewart**	0.35	193	⇓P		Pg	03 25 28.6	+1.0
	baz=0.4,SNR=1000							
HAY	**Hayfield**	0.43	3	⇓*i*P		Pg	03 25 29.3	+0.2
BC3	**Big Chuckawall**	0.43	29	⇑P		Pg	03 25 29.9	+0.7
	baz=0.4,SNR=1000							
BC3				⇑S		Sg	03 25 36.1	+1.3
	baz=0.4							
COK	**Cook Ranch**	0.43	182	⇓*i*P		Pb	03 25 30.3	-0.2
CRR	**Carrizo Plain**	0.45	209	⇓*i*P		Pg	03 25 30.3	+0.8
SNR	**Schaffner Ranc**	0.47	151	⇑*i*P		Pb	03 25 31.3	0.0
SGL	**Mount Signal**	0.63	181	⇓*i*P		Pg	03 25 33.4	+0.4
COA	**Coachella**	0.64	130	⇑*i*P		Pb	03 25 34.4	+0.2
YUH	**Yuha Desert**	0.66	196	⇓*i*P		Pg	03 25 33.4	-0.1
RUN	**Ruthven**	0.69	116	⇑*i*P		Pg	03 25 34.4	+0.4
DVTC	**Desert V Tower**	0.70	208	⇓P		Pg	03 25 34.7	+0.4
	baz=0.7,SNR=165							
DVTC				⇑S		Sg	03 25 44.4	+0.9
	baz=0.7							
PFO	**Pinyon Flat Ob**	0.71	298	*e*P		Pg	03 25 34.2	-0.1
PFO				*e*S		Sg	03 25 43.5	-0.2
PFO	**Pinyon Flat Ob**	0.71	298	⇑P		Pg	03 25 34.3	-0.1
	baz=0.7							
PFO				⇓S		Sg	03 25 44.2	+0.6
	baz=0.7							
MONP	**Monument Peak**	0.71	237	P		Pg	03 25 35.0	+0.4
	baz=0.7,SNR=529							
MONP				⇑S		Sg	03 25 44.5	+0.6
	baz=0.7							
RMX	**La Rumorosa**	0.74	205	⇓*e*P		Pg	03 25 35.3	+0.2
RMX				*e*S		Sg	03 25 45.9	+1.1
BELC	**Belle Mtn. Jos**	0.76	341	⇑P		Pg	03 25 35.6	+0.2
	baz=0.7							
BELC				⇓S		Sg	03 25 45.6	+0.3
	baz=0.7							
GLA	**Glamis**	0.77	107	*e*P		Pg	03 25 35.8	+0.2
GLA				*e*S		Sb	03 25 48.0	+1.0
GLA	**Glamis**	0.77	107	⇑*i*P		Pg	03 25 35.4	-0.3
GLA	**Glamis**	0.77	107	⇓P		Pg	03 25 35.9	+0.2
	baz=0.8							
GLA				⇑S		Sg	03 25 46.8	+1.1
	baz=0.8							
CPBX	**Cerro Prieto**	0.92	158	*e*P		Pg	03 25 38.6	0.0
CPBX				⇓*e*			03 26 14.1	
	comp=E,12μm,0.8s							
IRM	**Iron Mountain**	0.99	28	⇑P		Pg	03 25 39.4	-0.4
	baz=1.0,SNR=754							
IRM				⇑S		Sg	03 25 53.0	+0.2
	baz=1.0							
BAR	**Barrett**	1.01	234	*e*P		Pg	03 25 39.3	-0.8
BAR				*e*S		Sg	03 25 53.5	+0.2
Y12C	**Blythe**	1.09	64	⇑P		Pg	03 25 40.8	-1.0
	baz=1.1,SNR=414							
Y12C				⇓S		Sg	03 25 55.9	-0.1
	baz=1.1							
109C	**Camp Elliot, M**	1.24	252	⇑P		Pb	03 25 42.7	-1.7
	baz=1.2,SNR=162							
109C				⇑S		Sg	03 25 58.9	-1.6
	baz=1.2							
CBX	**Cerro Bola**	1.26	220	⇓*e*P		Pn	03 25 43.6	-1.1
CBX				*e*S		Sb	03 26 00.2	-0.9
MURC	**Murrieta**	1.29	285	P		Pn	03 25 43.2	-1.8
	baz=1.3,SNR=124							
MURC				⇑Sb		Sb	03 26 01.6	-0.4
	baz=1.3							
EMX	**El Mayor**	1.35	163	*e*P		Pn	03 25 42.5	-3.2
EMX				*e*S		Sb	03 26 00.7	-2.8
EMX				⇓*e*			03 26 12.0	
	comp=N,2μm,1.0s							
RDX	**Rancho Dawling**	1.36	188	⇓*e*P		Pn	03 25 44.8	-1.4
RDX				*e*S		Sb	03 26 03.1	-1.1
BBRC	**Big Bear Solar**	1.41	314	⇑P		Pn	03 25 45.1	-1.7
	baz=1.4,SNR=94							
BBRC				⇑Sb		Sb	03 26 05.3	-0.3
	baz=1.4							
GMRC	**Granite Mounta**	1.50	1	⇓Pb		Pn	03 25 48.4	+0.4
	baz=1.5,SNR=657							
GMRC				⇑Sb		Sb	03 26 08.7	+0.6
	baz=1.5							
PDMCI	**Parker Dam,Lak**	1.65	52	⇓Sb		Sb	03 26 12.8	+0.4
	baz=1.7							
113A	**Mohawk Valley,**	1.71	107	⇑P		Pn	03 25 49.0	-1.8
	baz=1.7							
113A				⇓S		Sn	03 26 10.6	-2.1
	baz=1.7							
NEE2	**Needles Airpor**	1.74	31	⇓Sb		Sb	03 26 15.8	+1.0
	baz=1.7							
PBX	**Punta Banda**	1.76	210	⇑*e*P		Pn	03 25 51.5	0.0
PBX				*e*S		Sn	03 26 14.5	+0.4
ECNX	**Esteban Cantu**	1.79	205	*e*P		Pb	03 25 51.8	-1.9
ECNX				⇑*e*P		Pn	03 25 49.7	-2.2
ECNX				*e*S		Sn	03 26 15.1	+0.3
LDFC	**Landfair**	1.86	15	*e*Pn		Pn	03 25 54.1	+1.1
LDFC				*e*Pg		Pg	03 25 57.4	+1.0
LDFC				*e*Sg		Sg	03 26 20.5	-0.1
BFSC	**Mount Baldy Ra**	1.89	301	⇑P		Pn	03 25 51.9	-1.4
	baz=1.9,SNR=20							
ECBX	**El Chinero**	1.89	163	⇓*e*P		Pn	03 25 54.1	+0.9
MWC	**Mount Wilson**	2.17	296	*e*Pn		Pn	03 25 57.1	-0.2
MWC				*e*Pg		Pg	03 26 02.1	-0.3
MWC				*e*Sg		Sb	03 26 28.8	+1.2
FMP	**Fort Macarthur**	2.21	282	⇓Sb		Sb	03 26 28.3	0.0
	baz=2.2							
GSC	**Goldstone**	2.21	336	*e*Pn		Pn	03 25 58.6	+0.8
GSC				*e*Pg		Pg	03 26 03.5	+0.3
GSC				*e*Sg		Sg	03 26 31.5	-0.3
SPX	**San Pedro Mart**	2.24	175	*e*P		Pn	03 25 57.8	-0.6
PASC	**Pasadena Art C**	2.25	294	*e*Pn		Pn	03 25 58.0	-0.2
PASC				*e*Pg		Pg	03 26 04.0	+0.1
PASC				*e*Sg		Sb	03 26 30.8	+1.2
CIS	**Catalina Islan**	2.26	274	⇑Sb		Sb	03 26 30.1	+0.2
	baz=2.3							
Z14A	**Wintersburg**	2.31	87	⇓P		Pn	03 25 57.9	-1.2
	baz=2.3							
Z14A				⇓Sb		Sb	03 26 32.1	+0.8
	baz=2.3							
Y14A	**Wickenburg**	2.35	73	⇓P		Pn	03 25 58.4	-1.2
	baz=2.4,SNR=49							
Y14A				⇓Sb		Sb	03 26 33.9	+1.4
	baz=2.4							
W13A	**Hualapai Mount**	2.36	39	⇓P		Pn	03 26 00.0	+0.1
	baz=2.4,SNR=30							
W13A				⇓Sb		Sb	03 26 33.0	+0.1
	baz=2.4							
DECC	**Green Verdugo**	2.39	295	⇓Sb		Sb	03 26 33.3	-0.3

	baz=2.4								
EDW2	**Edwards Air Fo**	**2.48**	**311**	⇓P		**Pn**	**03 25 59.8**	**-1.6**
	baz=2.5								
EDW2				⇑Sb		**Sb**	**03 26 36.9**	**+0.7**
	baz=2.5								
214A	**Organ Pipe Nat**	**2.78**	**118**	⇓P		**Pn**	**03 26 03.8**	**-1.7**
	baz=2.8								
MPMC	**Manual Prospec**	**3.14**	**333**	⇑P		**Pn**	**03 26 09.2**	**-1.4**
	baz=3.1								
ISA	**Isabella**	**3.30**	**317**	*e*Pn		**Pn**	**03 26 13.2**	**+0.5**
ISA				*e*Pg		**Pg**	**03 26 25.2**	**+1.2**
ISA				*e*Sg		**Sg**	**03 27 07.7**	**+1.0**
DAC	**Darwin (Calif)**	**3.37**	**333**	*e*Pn		**Pn**	**03 26 14.2**	**+0.4**
DAC				*e*Pg		**Pg**	**03 26 26.0**	**+0.7**
DAC				*e*Sn		**Sn**	**03 26 54.1**	**+0.1**
GVA	**Apache Junctio**	**3.46**	**87**	Pn		**Pn**	**03 26 15.7**	**+0.8**
X16A	**Lo Mia Camp, P**	**3.73**	**71**	⇓P		**Pn**	**03 26 18.6**	**-0.1**
	baz=3.7,SNR=49								
WUAZ	**Wupatki**	**4.22**	**57**	*e*Pn		**Pn**	**03 26 26.5**	**+1.1**
WUAZ				Pg		**Pg**	**03 26 42.0**	**+0.4**
WUAZ				*e*Sg		**Sg**	**03 27 34.3**	**-2.0**
TUC	**Tucson**	**4.26**	**102**	*e*Pn		**Pn**	**03 26 26.7**	**+0.8**
TUC				*e*Pg		**Pg**	**03 26 42.7**	**+0.4**
TUC				*e*Sg		**Sg**	**03 27 38.3**	**+0.8**
CCUT	**Cedar City**	**4.67**	**24**	*e*Pn		**Pn**	**03 26 33.8**	**+2.0**
CCUT				*e*Pg		**Pg**	**03 26 49.7**	**-0.5**
CCUT				*e*S		**Sg**	**03 27 49.9**	**-0.8**
ARUT	**Antelope Range**	**4.86**	**22**	*e*Pn		**Pn**	**03 26 37.1**	**+2.8**
ARUT				*e*Pg		**Pg**	**03 26 52.4**	**-1.5**
ARUT				*e*Sg		**Sg**	**03 27 56.7**	**-0.2**
NVAR	**Mina Array Bea**	**5.55**	**338**	Pn		Pb	03 26 52.0	-6.1
	comp=N,0.6nm,0.3s,baz=161,slow=14,SNR=7.2								
NVAR				Pg		**Pg**	**03 27 04.5**	**-2.6**
	comp=N,2.5nm,0.3s,baz=160,slow=17,SNR=17								
NVAR				Lg		Lg	03 28 19.1		
	baz=146,slow=28,SNR=2.8								
NVAR	**Mina Array Bea**	**5.55**	**338**	Pn		Pb	03 26 52.0	-6.1	
NVAR				Pg		**Pg**	**03 27 04.5**	**-2.6**	
NVAR				Lg		Lg	03 28 19.1		
MVU	**Marysvale**	**5.93**	**28**	*e*Pn		**Pn**	**03 26 50.3**	**+1.2**	
	comp=N,33nm,0.7s								
MVU				*e*Pg		**Pg**	**03 27 14.7**	**+0.3**	
MVU				*e*Sg		**Sg**	**03 28 30.8**	**-0.5**	
MSU	**Marysvale**	**5.95**	**28**	*e*Pn		**Pn**	**03 26 52.0**	**+2.7**	
	comp=N,32nm,0.6s								
MSU				*e*Pg		**Pg**	**03 27 15.1**	**+0.3**	
MSU				S		**Sg**	**03 28 31.3**	**-0.7**	
MVCO	**Mesa Verde**	**7.08**	**54**	*e*Pn		**Pn**	**03 27 06.1**	**+1.3**	
	comp=N,37nm,0.6s								
MVCO				Pg		**Pg**	**03 27 37.2**	**+0.8**	
MVCO				*e*Sg		**Sg**	**03 29 03.9**	**-4.2**	
SRU	**San Rafael**	**7.17**	**34**	*e*Pn		Pn	03 27 10.4	+4.5	
	comp=N,16nm,0.6s								
SRU				*e*Sg		**Sg**	**03 29 08.6**	**-2.2**	
PV04	**Paradox Valley**	**7.52**	**45**	*e*Pn		**Pn**	**03 27 11.5**	**+0.7**	
PV04				*e*Sg		**Sg**	**03 29 20.4**	**-1.7**	
PV01	**Paradox Valley**	**7.56**	**48**	*e*Pn		**Pn**	**03 27 11.4**	**+0.1**	
	comp=N,2µm,0.7s								
PV01				*e*Pg		Pg	03 27 40.2	-5.3	
PV01				*e*Sg		**Sg**	**03 29 20.5**	**-2.9**	
BNM	**Barren Site**	**7.61**	**81**	*e*Pn		**Pn**	**03 27 12.3**	**+0.1**	
	comp=N,5.7nm,0.6s								
BNM				*e*Sg		**Sg**	**03 29 21.2**	**-4.0**	
ANMO	**Albuquerque**	**7.85**	**75**	Pn		**Pn**	**03 27 15.8**	**+0.5**	
	comp=N,0.1nm,0.3s,baz=274,slow=14,SNR=2.2								
ANMO				Pg		**Pg**	**03 27 48.3**	**-2.7**	
	comp=N,0.5nm,0.3s,baz=260,slow=16,SNR=9.8								
ANMO				Lg		Lg	03 29 21.4		
	comp=N,0.1nm,0.3s,baz=202,slow=19,SNR=2.3								
ANMO	**Albuquerque**	**7.85**	**75**	Pn		**Pn**	**03 27 15.8**	**+0.5**	
ANMO				Pg		**Pg**	**03 27 48.3**	**-2.7**	
ANMO				Lg		Lg	03 29 21.4		
MNTX	**Cornudas Mount**	**8.86**	**97**	*e*Pn		**Pn**	**03 27 30.2**	**+1.1**	
	comp=N,1.7nm,0.4s								
MNTX				Sn		**Sn**	**03 29 10.3**	**+1.2**	
SMCO	**Snowmass**	**9.18**	**48**	*e*Pn		**Pn**	**03 27 36.5**	**+2.6**	
	comp=N,6.1nm,0.7s								
GDL2	**Guadalupe Moun**	**9.62**	**93**	*e*Pn		**Pn**	**03 27 41.0**	**+1.5**	
	comp=N,4.6nm,0.4s								
PDAR	**Pinedale Array**	**10.64**	**25**	Pn		Pn	03 27 58.7	+5.1	
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=13								
PDAR				Lg		Lg	03 31 06.9		
	comp=N,0.0nm,0.3s,baz=208,slow=25,SNR=3.8								
PDAR	**Pinedale Array**	**10.64**	**25**	Pn		Pn	03 27 58.7	+5.1	
PDAR				Lg		Lg	03 31 06.9		
TXAR	**Lajitas Array**	**11.02**	**108**	Pn		**Pn**	**03 28 01.1**	**+2.3**	
	comp=N,0.1nm,0.3s,baz=289,slow=13,SNR=16								
TXAR				Lg		Lg	03 31 15.6		
	comp=N,0.1nm,0.3s,baz=281,slow=28,SNR=6.3								
TXAR	**Lajitas Array**	**11.02**	**108**	Pn		**Pn**	**03 28 01.1**	**+2.3**	
TXAR				Lg		Lg	03 31 15.7		
NEW	**Newport**	**15.01**	**356**	Pn		**P**	**03 29 00.3**	**+1.8**	
	comp=N,0.1nm,0.3s,baz=176,slow=19,SNR=3.2								
NEW	**Newport**	**15.01**	**356**	Pn		**P**	**03 29 00.3**	**+1.8**	

IDC 26 03:33:45.7±4.7, 1°49S×90°40W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.4/4, Error ellipse: s-maj=176.3km s-min=27.4km az=98.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.30**	**214**	P	P	03 40 07.7	0.0
	24nm,0.8s,baz=63,slow=9.0,SNR=3.4						
TXAR	**Lajitas Array**	**33.18**	**339**	P	P	03 40 23.5	-0.9
	0.3nm,0.8s,baz=164,slow=10,SNR=3.8						
PDAR	**Pinedale Array**	**47.32**	**341**	P	P	03 42 21.9	+0.4
	0.4nm,0.9s,baz=154,slow=9.1,SNR=3.0						
NVAR	**Mina Array Bea**	**47.32**	**330**	P	P	03 42 21.6	0.0
	0.3nm,0.3s,baz=141,slow=10,SNR=2.9						
YKA	**Yellowknife Ar**	**66.39**	**348**	P	P	03 44 36.2	-0.1
	0.3nm,0.9s,baz=148,slow=6.1,SNR=3.5						

IDC 26 03:35:03.9±1.5, 2°06S×139°70E, h0km, mb3.2/4, mb1 3.6/6, mb1mx3.5/19, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=47.7km s-min=21.2km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.41**	**135**	Pn	Pn	03 37 34.1	-0.4
	1.6nm,0.3s,baz=311,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**18.53**	**196**	P	P	03 39 22.0	-0.2
	0.2nm,0.3s,baz=15,slow=11,SNR=6.9						
FITZ	**Fitzroy Crossi**	**21.09**	**220**	P	P	03 39 51.0	+1.0
	0.9nm,0.7s,baz=24,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**22.20**	**194**	P	P	03 40 01.6	-0.4
	0.6nm,0.5s,baz=23,slow=9.9,SNR=8.8						
SONM	**Songino Array**	**57.56**	**334**	P	P	03 44 57.0	+1.4
	0.4nm,0.7s,baz=142,slow=5.4,SNR=3.0						
MKAR	**Makanchi Array**	**69.88**	**322**	P	P	03 46 15.3	-1.5
	0.3nm,1.0s,baz=100,slow=6.4,SNR=2.3						

*ISK **26** 03:41:07.9, 37.80N×29.04E, h15km, MD2.6*
*ISCJB **26** 03:41:08.3±0.7, 37.82N±0.06°-28.98E±0.09, h11km±9km, Error ellipse: s-maj=14.0km s-min=6.1km az=38.5*
*DDA **26** 03:41:08.9, 37.81N×29.05E, h7km, MD2.6*
*CSEM **26** 03:41:08.2±0.2, 37.78N×29.04E, h12km, MD2.6, Error ellipse: s-maj=9.8km s-min=3.6km az=122.0*

ISC 26 03:41:08.5±1.2, 37.79N±0.05×29.05E±0.07, h14km±7km, n12, σ0°51/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.04**	**194**	*e*PG	**Pg**	**03 41 10.8**	**-0.3**
DENT	**Denizli**	**0.04**	**194**	*e*Pg	**Pg**	**03 41 10.8**	**-0.3**
DNZL	**Cakiroluk**	**0.10**	**180**	*i* P	**Pg**	**03 41 11.8**	**0.0**
DNZL				*i* S	**Sg**	**03 41 14.1**	**0.0**
DNZL	**Cakiroluk**	**0.10**	**180**	*i* P	**Pg**	**03 41 11.8**	**0.0**
DNZL				*i* S	**Sg**	**03 41 14.1**	**0.0**
KHL	**Karahalli**	**0.65**	**35**	*e*PG	**Pg**	**03 41 20.7**	**-0.5**
KHL				*e*SG	**Sb**	**03 41 31.1**	**+0.5**
KHL	**Karahalli**	**0.65**	**35**	*e*Pg	**Pg**	**03 41 20.7**	**-0.5**
KHL				*e*Sg	**Sb**	**03 41 31.1**	**+0.5**
KHAL	**Karahalli**	**0.68**	**31**	*e*P	**Pg**	**03 41 21.5**	**-0.2**
KHAL				*i* S	**Sb**	**03 41 31.5**	**+0.1**
KHAL	**Karahalli**	**0.68**	**31**	*e*P	**Pg**	**03 41 21.5**	**-0.2**
KHAL				*i* S	**Sb**	**03 41 31.5**	**+0.1**
KULA	**Kula-Manisa**	**0.78**	**337**	*e*PG	**Pg**	**03 41 23.5**	**-0.2**
KULA	**Kula-Manisa**	**0.78**	**337**	*e*Pg	**Pg**	**03 41 23.5**	**-0.2**
YER	**Yerkesik**	**0.90**	**223**	*e*PG	**Pg**	**03 41 25.0**	**-0.8**
YER				*e*SG	**Sb**	**03 41 38.5**	**+0.9**
YER	**Yerkesik**	**0.90**	**223**	*e*Pg	**Pg**	**03 41 25.0**	**-0.8**
YER				*e*Sg	**Sb**	**03 41 38.5**	**+0.9**

IDC 26 03:41:31.5±1.9, 21°59N×143°09E, h301km±17km, mb3.2/11, mb1 3.4/14, mb1mx3.3/30, mbtmp3.3/14, Error ellipse: s-maj=20.8km s-min=13.2km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.54**	**352**	P	Pn	03 42 56.1	+0.8
	14nm,0.3s,baz=258,slow=14,SNR=6.0						
CBIJ				S	S	03 44 01.9	-0.9
	8.2nm,0.3s,baz=127,slow=20,SNR=4.3						
JHJ	**Hachijo jima 2**	**11.85**	**346**	P	Pn	03 44 12.1	0.0
	8.4nm,0.3s,baz=151,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	P	03 44 54.1	+0.3
	0.8nm,0.3s,baz=165,slow=5.3,SNR=5.9						
KSRS	**Korea Array**	**20.55**	**324**	P	P	03 45 48.7	+1.0
	0.6nm,0.4s,baz=150,slow=7.8,SNR=3.3						
SONM	**Songino Array**	**39.36**	**321**	P	P	03 48 32.8	+0.2
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**42.16**	**192**	P	P	03 48 55.1	-0.2
	0.4nm,0.4s,baz=21,slow=7.7,SNR=8.2						
FITZ	**Fitzroy Crossi**	**42.99**	**205**	P	P	03 49 01.7	-0.3
	1.9nm,1.1s,baz=9.5,slow=6.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.24**	**322**	PcP	PcP	03 51 25.5	-1.2
	0.9nm,0.5s,baz=135,slow=4.5,SNR=3.1						
MKAR	**Makanchi Array**	**54.70**	**313**	P	P	03 50 30.1	0.0
	0.2nm,0.3s,baz=97,slow=6.2,SNR=5.4						
MKAR				PcP	PcP	03 51 28.1	-0.7
	0.2nm,0.4s,baz=81,slow=3.8,SNR=4.1						
ILAR	**Eielson Array**	**62.17**	**27**	P	P	03 51 20.4	-0.7
	0.6nm,0.6s,baz=261,slow=5.4,SNR=7.0						
BVAR	**Borovoye Array**	**62.69**	**320**	P	P	03 51 24.6	-0.1
	2.2nm,0.3s,baz=102,slow=8.0,SNR=18						
YKA	**Yellowknife Ar**	**76.59**	**28**	P	P	03 52 48.9	+0.2
	0.7nm,0.5s,baz=292,slow=5.6,SNR=18						
ARCES	**ARCESS Array B**	**78.99**	**341**	P	P	03 53 01.8	-0.1
	3.0nm,0.9s,baz=68,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**83.24**	**334**	P	P	03 53 23.0	-1.2
	0.8nm,0.3s,baz=63,slow=6.4,SNR=11						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	P	03 53 26.5	+1.2
	0.4nm,0.4s,baz=282,slow=4.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.74**	**309**	PKP	PKPdf	04 00 03.6	-0.3
	0.4nm,1.0s,baz=64,slow=6.6,SNR=3						
PLCA	**Paso Flores**	**145.75**	**132**	PKPbc	PKPdf	04 00 34.9	+0.4
	0.6nm,0.5s,baz=247,slow=2.3,SNR=3.5						

IDC 26 04:00:26.7±10.0, 19°34S×178°29W, h523km±120km, mb3.0/4, mb1 3.4/4, mb1mx3.0/19, mbtmp3.0/4, Error ellipse: s-maj=132.3km s-min=41.3km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.50**	**261**	P	P	04 07 51.6	-0.2
	1.5nm,0.4s,baz=92,slow=5.7,SNR=33						
ASAR	**Alice Springs**	**44.53**	**256**	P	P	04 07 51.8	-0.1
	2.0nm,0.7s,baz=91,slow=8.2,SNR=18						
TXAR	**Lajitas Array**	**86.66**	**57**	P	P	04 12 15.2	0.0
	0.3nm,0.6s,baz=205,slow=7.4,SNR=4.2						
ILAR	**Eielson Array**	**87.25**	**13**	P	P	04 12 16.9	0.0
	0.4nm,0.6s,baz=217,slow=6.0,SNR=6.3						
BRTR	**Keskin Array B**	**145.85**	**313**	PKPbc	PKPbc	04 19 07.2	-0.7
	0.5nm,0.6s,baz=126,slow=3.8,SNR=3.1						
GERES	**GERESS Array B**	**149.01**	**345**	PKPbc	PKPbc	04 19 15.1	-0.7
	0.1nm,0.3s,baz=29,slow=3.0,SNR=4.3						

SKHL 26 04:11:37.1±1.0, 53°08N×122°09E, h10km±7km, mb3.7/5, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**1.85**	**318**	*e*Pn	Pb	04 12 10.8	-0.3
TUP				*e*Pg	Pg	04 12 12.1	-0.6
TUP				AMB	AMB	04 12 12.7	
	16nm,0.4s						
TUP				*e*Sn	Sb	04 12 35.5	+1.2
TUP				*e*Sg	Sg	04 12 36.8	+0.1
TUP				A	A	04 12 40.3	
	47nm,0.5s						
ZEA	**Zeya**	**3.16**	**76**	*e*Pg	Pb	04 12 34.5	+1.2
ZEA				AMB	AMB	04 12 37.2	
	11nm,0.2s						
ZEA				*e*rx	rx	04 12 38.9	
ZEA				*e*Sg	Sg	04 13 17.0	-1.5
ZEA				A	A	04 13 21.2	
	49nm,0.7s						
ZEA				A	A	04 13 21.2	
	31nm,0.7s						
KROS	**Kirovskiy**	**3.20**	**63**	*e*Pn	Pn	04 12 25.8	-1.6
KROS				*e*Pg	Pb	04 12 35.0	+1.0
KROS				AMB	AMB	04 12 38.1	
	9.0nm,0.3s						
KROS				*e*Sn	Sn	04 13 04.1	-1.5
KROS				*e*Sg	Sg	04 13 17.0	-2.9
KROS				A	A	04 13 20.5	
	25nm,0.4s						
KROS				A	A	04 13 20.5	
	8.0nm,0.4s						
YASR	**Yasnyy**	**3.55**	**84**	*e*Pn	Pn	04 12 31.4	-0.8
YASR				*e*Pg	Pb	04 12 40.6	+0.6
YASR				AMB	AMB	04 12 44.1	
	4.0nm,0.4s						
YASR				*e*Sg	Sg	04 13 27.5	-3.6
YASR				A	A	04 13 35.4	
	17nm,0.5s						
BMKR	**Bomnak**	**4.32**	**65**	*e*Pn	Pn	04 12 40.9	-1.8
BMKR				*e*Pg	Pb	04 12 54.3	+1.3
BMKR				*e*Sg	Sg	04 13 52.0	-3.6
BMKR				A	A	04 13 58.3	
	19nm,0.5s						
CRS	**Chara**	**4.42**	**332**	*e*Pn	Pn	04 12 46.4	+2.2
CRS				*e*Pg	Pb	04 12 56.2	+1.4
CRS				AMB	AMB	04 12 57.7	
	16nm,0.7s						
CRS				*e*Sg	Sg	04 13 55.6	-3.3
CRS				A	A	04 14 12.6	
	23nm,1.2s						
EKMR	**Ekimchan**	**6.55**	**86**	*e*Sg	Sg	04 15 01.5	-5.7
EKMR				A	A	04 15 17.0	
	5.0nm,0.6s						

*ISCJB **26** 04:11:51.8±0.7, 27.45±0.1×73.2E±0.1, h10km, mb4.2/14, MS3.7/6, Error ellipse: s-maj=19.8km s-min=13.2km az=21.6*
*IDC **26** 04:11:52.2±0.8, 27.34S×73.19E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/23, mbtmp4.2/9, MS3.7/6, Ms1 3.7/6, ms1mx3.3/39, Error ellipse: s-maj=28.7km s-min=22.9km az=67.0*
*NEIC **26** 04:11:53.4±0.4, 27.39S×73.14E, h10km, mb4.5/6, Error ellipse: s-maj=13.8km s-min=9.6km az=203.0*

ISC 26 04:11:53.7±0.8, 27.4S±0.2×73.2E±0.1, h10km, n36, σ0°51/31, mb4.3/14, MS3.7/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**17.02**	**288**	*e*Pn	**Pn**	**04 15 51.6**	**-0.5**
MSEY	**Mahe Island**	**28.17**	**320**	P	**P**	**04 17 46.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**38.31**	**109**	LR	LR	04 30 14.2	
	comp=Z,86nm,20.5s,baz=61,slow=29						
PSI	**Prapat**	**38.95**	**44**	LR	LR	04 31 06.0	
	comp=Z,90nm,19.4s,baz=247,slow=30						
MAW	**Mawson**	**40.74**	**186**	LR	LR	04 31 48.0	
	comp=Z,166nm,18.2s,baz=294,slow=29						
BOSA	**Boshof**	**42.09**	**257**	LR	LR	04 32 41.7	
	comp=Z,99nm,20.2s,baz=168,slow=30						
CMAR	**Chiang Mai Arr**	**51.97**	**32**	P	**P**	**04 21 03.8**	**+0.5**
	2.4nm,0.6s,baz=215,slow=8.0,SNR=13						
CMAR				LR	LR	04 39 34.6	
	comp=Z,64nm,18.2s,baz=38,slow=32						
CMAR	**Chiang Mai Arr**	**51.97**	**32**	P	**P**	**04 21 03.8**	**+0.5**
CHTO	**Chiang Mai**	**52.28**	**31**	*e*P	**P**	**04 21 05.6**	**+0.1**
	5.6nm,1.0s						
ASAR	**Alice Springs**	**54.49**	**101**	P	**P**	**04 21 21.7**	**-0.2**
	1.5nm,0.9s,baz=253,slow=6.3,SNR=9.3						
ASAR	**Alice Springs**	**54.49**	**101**	P	**P**	**04 21 21.7**	**-0.2**
WRA	**Warramunga Arr**	**56.07**	**97**	P	**P**	**04 21 33.0**	**-0.4**
	2.0nm,0.7s,baz=253,slow=7.4,SNR=9.1						
WRA	**Warramunga Arr**	**56.07**	**97**	P	**P**	**04 21 33.0**	**-0.4**
WRAB	**Tennant Creek**	**56.08**	**97**	*e*P	**P**	**04 21 33.3**	**-0.1**
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**62.77**	**180**	P	**P**	**04 22 19.6**	**+0.6**
	3.8nm,0.9s,baz=322,slow=1.0,SNR=9.1						
QSPA	**South Pole Qui**	**62.77**	**180**	*e*P	**P**	**04 22 18.7**	**-0.4**
	4.2nm,0.8s						
KKAR	**Karatay Array**	**70.17**	**358**	*e*P	**P**	**04 23 06.9**	**+0.5**
	0.8nm,0.6s						
MK31	**Makanchi Array**	**74.28**	**7**	*e*P	**P**	**04 23 30.0**	**-0.9**
MKAR	**Makanchi Array**	**74.28**	**7**	P	**P**	**04 23 30.5**	**-0.4**
	4.7nm,0.8s,baz=190,slow=6.5,SNR=54						
MKAR	**Makanchi Array**	**74.28**	**7**	P	**P**	**04 23 30.5**	**-0.4**
BRTR	**Keskin Array B**	**76.23**	**330**	P	**P**	**04 23 43.0**	**+0.5**
	0.9nm,0.9s,baz=137,slow=4.2,SNR=4.4						
BRTR	**Keskin Array B**	**76.23**	**330**	P	**P**	**04 23 43.0**	**+0.5**
KURK	**Kurchatov**	**77.89**	**4**	*e*P	**P**	**04 23 50.4**	**-0.9**
	5.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**80.09**	**290**	P	**P**	**04 24 04.7**	**+0.4**
	0.6nm,0.7s,baz=101,slow=4.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**80.09**	**290**	P	**P**	**04 24 04.7**	**+0.4**
SONM	**Songino Array**	**80.61**	**22**	P	**P**	**04 24 06.5**	**0.0**
	2.3nm,0.9s,baz=197,slow=6.3,SNR=8.0						
SONM	**Songino Array**	**80.61**	**22**	P	**P**	**04 24 06.5**	**0.0**
ULN	**Ulaanbaatar**	**80.86**	**22**	*e*P	**P**	**04 24 08.1**	**+0.3**
	5.1nm,0.9s						
ZAA0	**Zalesovo Array**	**81.61**	**7**	*e*P	**P**	**04 24 10.1**	**-1.3**
ZALV	**Zalesovo Beam**	**81.61**	**7**	P	**P**	**04 24 11.2**	**-0.3**
	3.4nm,0.7s,baz=198,slow=4.7,SNR=13						
ZALV	**Zalesovo Beam**	**81.61**	**7**	P	**P**	**04 24 11.2**	**-0.3**
KSRS	**Korea Array**	**82.45**	**41**	LR	LR	04 58 18.7	
	comp=Z,44nm,18.2s,baz=207,slow=34						
YKA	**Yellowknife Ar**	**144.50**	**6**	PKP	**PKPab**	**04 31 27.7**	**-0.3**
	1.2nm,0.9s,baz=339,slow=3.8,SNR=16						
YKA	**Yellowknife Ar**	**144.50**	**6**	PKP	**PKPab**	**04 31 27.8**	**-0.3**
TXAR	**Lajitas Array**	**176.58**	**306**	PKP	**PKPdf**	**04 32 05.0**	**+0.1**
	0.8nm,1.1s,baz=151,slow=2.9,SNR=3.6						
TXAR	**Lajitas Array**	**176.58**	**306**	PKP	**PKPdf**	**04 32 05.0**	**+0.1**

IDC 26 04:21:12.8±1.6, 4°54N×125°03E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=112.2km s-min=21.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.50**	**178**	P	P	04 26 15.0	+0.8
	1.2nm,0.2s,baz=3.7,slow=9.7,SNR=24						
WRA	**Warramunga Arr**	**25.99**	**160**	P	P	04 26 48.2	+0.6
	1.1nm,0.5s,baz=336,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**29.34**	**163**	P	P	04 27 17.6	0.0
	0.6nm,0.4s,baz=339,slow=6.9,SNR=8.3						
STKA	**Stephens Creek**	**39.50**	**158**	P	P	04 28 43.9	-1.5
	0.9nm,0.3s,baz=340,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**55.93**	**326**	P	P	04 30 52.8	0.0
	0.4nm,0.3s,baz=124,slow=7.7,SNR=16						

IDC 26 04:28:49.4±2.9, 5°02S×138°97E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=87.0km s-min=29.6km az=92.0, Near south coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.50**	**197**	Pn	Pn	04 32 27.5	-2.1
	0.3nm,0.3s,baz=19,slow=12,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.41**	**224**	P	P	04 33 06.5	+0.2
	0.1nm,0.3s,baz=42,slow=6.1,SNR=4.8						
ASAR	**Alice Springs**	**19.17**	**194**	P	P	04 33 14.9	+0.2
	0.5nm,0.3s,baz=24,slow=8.8,SNR=28						
MKAR	**Makanchi Array**	**71.77**	**323**	P	P	04 40 13.9	+0.1
	0.3nm,0.7s,baz=119,slow=8.4,SNR=3.0						

*ISCJB **26** 04:44:09.5±0.4, 22.41N±0.03×85.81E±0.04, h10km, mb3.8/9, Error ellipse: s-maj=6.0km s-min=4.0km az=26.9*
*IDC **26** 04:44:09.4±1.0, 22.36N×85.85E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/26, mbtmp3.7/7, Error ellipse: s-maj=36.4km s-min=20.3km az=60.0*
*DMN **26** 04:44:11.0±0.6, 22.18N×85.96E, h10km, Ml5.1/4, Error ellipse: s-maj=14.4km s-min=9.7km az=138.0*
*NEIC **26** 04:44:11.7±0.9, 22.40N×85.90E, h10km, mb4.1/3, Error ellipse: s-maj=12.0km s-min=10.8km az=97.0*
NEIC Five people injured and buildings damaged at Chaibasa. Felt at Bahalda, Itwari, Jamshedpur, Kharsawan, Rajnagar and Saraikela.
*NDI **26** 04:44:13.0±17.0, 22.49N×85.77E, h10km, ML4.2, mb4.1(NEIC)*

**ISC 26 04:44:11.0±0.6, 22.41N±0.04×85.87E±0.05, h10km

NDI				*e*S	Sn	04 48 17.0	-10	
AJM	**Ajmer**	**11.00 294**		*e*P	**Pn**	**04 46 47.9**	**-0.6**	
AJM				*e*S	Sn	04 48 40.7	-11	
AJM				AML	AML	04 49 57.5		
	comp=N,67nm,0.5s							
AJM				AML	AML	04 49 58.5		
	comp=E,62nm,0.5s							
POO	**Poona**	**11.91 253**		*e*S	Sn	04 49 04.8	-9.3	
POO				AML	AML	04 50 24.9		
	comp=N,82nm,0.4s							
POO				AML	AML	04 50 36.0		
	comp=E,41nm,0.9s							
KAD	**Karad**	**12.11 247**		*i* x	Sn	04 49 30.0	+11	
CHTO	**Chiang Mai**	**12.75 104**		Pn	**Pn**	**04 47 14.1**	**+1.7**	
KBL	**Kabul**	**19.07 313**		*e*P	P	04 48 28.3	-5.5	
	comp=E,4.1nm,0.4s							
AAK	**Ala-Archa**	**22.29 337**		*e*P	**P**	**04 49 10.6**	**+2.0**	
	comp=E,30nm,1.1s							
EKS2	**Erkin-Say**	**22.57 336**		*e*P	**P**	**04 49 13.9**	**+2.3**	
	comp=E,2.4nm,0.5s							
MK31	**Makanchi Array**	**24.50 354**		*e*P	**P**	**04 49 30.4**	**0.0**	
MKAR	**Makanchi Array**	**24.50 354**		P	**P**	**04 49 30.5**	**+0.1**	
	comp=E,0.4nm,0.5s,baz=177,slow=9.8,SNR=7.0							
SONM	**Songino Array**	**30.23 28**		P	**P**	**04 50 23.1**	**+1.2**	
	comp=E,0.3nm,0.4s,baz=220,slow=9.3,SNR=2.8							
ZALV	**Zalesovo Beam**	**31.50 359**		P	**P**	**04 50 32.3**	**-0.5**	
	comp=E,0.4nm,0.3s,baz=183,slow=9.8,SNR=3.9							
FINES	**FINESS Array B**	**56.21 330**		P	**P**	**04 53 51.4**	**+0.5**	
	comp=E,1.2nm,0.4s,baz=113,slow=7.5,SNR=12							
WRA	**Warramunga Array**	**63.34 128**		P	**P**	**04 54 40.5**	**-0.2**	
	comp=E,0.9nm,0.6s,baz=322,slow=6.6,SNR=3.4							
ASAR	**Alice Springs**	**65.41 131**		P	**P**	**04 54 54.0**	**-0.2**	
	comp=E,1.2nm,0.6s,baz=308,slow=4.5,SNR=9.3							
TORD	**Torodi Ar. Bea**	**79.80 280**		P	**P**	**04 56 20.2**	**+0.1**	
	comp=E,0.1nm,0.5s,baz=91,slow=5.4,SNR=3.9							

*IDC **26** 04:45:50.2±5.7, 4°.95N×126°.11E, h39km±50km, mb3.9/13, mb1 4.0/13, mb1mx3.9/22, mbtmp3.9/13, MS3.2/2, Ms1 3.2/2, ms1mx2.1/36, Error ellipse: s-maj=37.4km s-min=14.3km az=74.0*

*ISCJB **26** 04:45:51.9±1.1, 4°.97N±0°.05×126°.1E±0°.1, h74km±10km, mb3.9/15, Error ellipse: s-maj=20.1km s-min=8.6km az=175.3*

*NEIC **26** 04:45:51.9±2.1, 4°.97N×126°.17E, h58km±19km, mb4.1/4, Error ellipse: s-maj=19.6km s-min=6.9km az=66.0*

ISC 26 04:45:52.3±1.3, 4°.96N±0°.06×126°.0E±0°.1, h59km±11km, n46, σ1§02/51, mb4.0/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.00**	**8**	*e*P	**Pn**	**04 46 25.7**	**+1.9**
MATI				*e*S	**Sn**	**04 46 44.5**	**-3.2**
DAV	**Davao City (W)**	**2.14**	**349**	Pn	**Pn**	**04 46 27.9**	**+2.1**
	43nm,0.3s,baz=91,slow=6.3,SNR=2.6						
BUKP	**Musuan**	**3.05**	**342**	*e*P	Pn	04 46 42.6	+4.4
PAGZ	**Pagadian**	**3.87**	**318**	*e*P	**Pn**	**04 46 47.6**	**-1.7**
KAPI	**Kappang**	**11.70**	**212**	Pn	Pn	04 48 40.1	+3.5
	0.8nm,0.3s,baz=24,slow=15,SNR=6.1						
KAPI	**Kappang**	**11.70**	**212**	*e*Pn	**Pn**	**04 48 37.7**	**+1.1**
	3.9nm,0.4s						
GUMO	**Guam**	**20.50**	**64**	LR	LR	04 57 11.8	
	comp=Z,54nm,20.9s,baz=285,slow=33						
FITZ	**Fitzroy Crossi**	**22.91**	**181**	P	**P**	**04 50 51.1**	**-0.4**
	5.3nm,0.9s,baz=4.7,slow=9.7,SNR=17						
FITZ	**Fitzroy Crossi**	**22.91**	**181**	*e*P	**P**	**04 50 52.5**	**+1.1**
	4.6nm,0.8s						
WRAB	**Tennant Creek**	**26.06**	**162**	*e*P	**P**	**04 51 19.4**	**-1.0**
	8.9nm,1.1s						
WRA	**Warramunga Arr**	**26.07**	**162**	P	**P**	**04 51 20.4**	**-0.1**
	1.3nm,0.4s,baz=341,slow=10,SNR=12						
WRA	**Warramunga Arr**	**26.07**	**162**	P		**04 51 20.4**	**-0.1**
ASAR	**Alice Springs**	**29.48**	**165**	P	**P**	**04 51 49.5**	**-1.4**
	0.7nm,0.7s,baz=343,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**29.48**	**165**	P	**P**	**04 51 49.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**29.62**	**299**	P	**P**	**04 51 52.8**	**+0.4**
	1.2nm,0.3s,baz=111,slow=7.1,SNR=2.5						
CMAR				PcP	**PcP**	**04 54 57.5**	**+1.5**
	1.4nm,0.3s,baz=140,slow=1.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**29.62**	**299**	P	**P**	**04 51 52.8**	**+0.4**
CMAR				PcP	**PcP**	**04 54 57.5**	**+1.5**
CHTO	**Chiang Mai**	**29.77**	**300**	P	**P**	**04 51 54.5**	**+0.9**
KSAR	**Wonju Array Be**	**32.38**	**3**	P	**P**	**04 52 16.2**	**-0.1**
KSRS	**Korea Array**	**32.40**	**3**	P	**P**	**04 52 16.2**	**-0.2**
	2.0nm,0.8s,baz=195,slow=8.0,SNR=4.7						
NWAO	**Narrogin (SRO)**	**38.58**	**192**	P	**P**	**04 53 10.0**	**+0.4**
USRK	**Ussuriysk Arra**	**39.44**	**7**	P	**P**	**04 53 16.6**	**-0.1**
	5.3nm,0.8s,baz=199,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**39.53**	**159**	P	**P**	**04 53 16.7**	**-0.8**
	3.5nm,0.7s,baz=357,slow=8.8,SNR=7.0						
STKA				PcP	**PcP**	**04 55 24.6**	**+0.4**
	1.6nm,0.5s,baz=334,slow=0.2,SNR=4.8						
STKA				LR	LR	05 09 12.8	
	comp=Z,47nm,18.8s,baz=169,slow=36						
STKA	**Stephens Creek**	**39.53**	**159**	*e*P	**P**	**04 53 15.7**	**-1.9**
	0.7nm,0.7s						
STKA				PcP	**PcP**	**04 55 24.6**	**+0.4**
ULN	**Ulaanbaatar**	**45.73**	**342**	*e*P	**P**	**04 54 07.3**	**-0.6**
SONM	**Songino Array**	**45.91**	**342**	PcP	**PcP**	**04 55 46.4**	**+0.9**
	1.5nm,0.8s,baz=165,slow=4.1,SNR=7.5						
SONM	**Songino Array**	**45.91**	**342**	PcP	**PcP**	**04 55 46.4**	**+0.9**
MK31	**Makanchi Array**	**56.13**	**325**	*e*P	**P**	**04 55 26.4**	**+0.5**
MK31				*e*PcP	**PcP**	**04 56 23.3**	**+0.1**
MKAR	**Makanchi Array**	**56.13**	**325**	P	**P**	**04 55 26.6**	**+0.7**
	1.1nm,0.6s,baz=118,slow=7.3,SNR=11						
MKAR				PcP	**PcP**	**04 56 23.7**	**+0.5**
	1.9nm,0.8s,baz=123,slow=3.7,SNR=9.8						
MKAR	**Makanchi Array**	**56.13**	**325**	P	**P**	**04 55 26.6**	**+0.7**
MKAR				PcP	**PcP**	**04 56 23.7**	**+0.5**
ZALV	**Zalesovo Beam**	**59.17**	**333**	P	**P**	**04 55 46.4**	**-0.6**
	0.7nm,0.4s,baz=116,slow=6.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**59.17**	**333**	P	**P**	**04 55 46.4**	**-0.6**
KURK	**Kurchatov**	**60.32**	**327**	*e*P	**P**	**04 55 54.9**	**0.0**
	2.0nm,0.8s						
BRTR	**Keskin Array B**	**88.67**	**310**	P	**P**	**04 58 39.7**	**0.0**
	0.7nm,0.8s,baz=114,slow=3.6,SNR=3.9						
BRTR	**Keskin Array B**	**88.67**	**310**	P	**P**	**04 58 39.7**	**0.0**
ARCES	**ARCESS Array B**	**89.05**	**340**	P	**P**	**04 58 40.8**	**+0.1**
	2.8nm,0.8s,baz=80,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	**89.05**	**340**	P	**P**	**04 58 40.8**	**+0.1**
FINES	**FINESS Array B**	**90.41**	**332**	P	**P**	**04 58 48.2**	**+1.1**
	0.4nm,0.4s,baz=67,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**90.41**	**332**	P	**P**	**04 58 48.2**	**+1.1**
YKA	**Yellowknife Ar**	**98.69**	**24**	P	**P**	**04 59 24.7**	**-0.3**
	0.1nm,0.7s,baz=301,slow=5.3,SNR=4.6						
YKA	**Yellowknife Ar**	**98.69**	**24**	P	**P**	**04 59 24.8**	**-0.3**
TXAR	**Lajitas Array**	**121.42**	**51**	PKP	**PKPdf**	**05 04 38.8**	**-1.1**
	0.2nm,0.6s,baz=217,slow=1.3,SNR=3.7						
TXAR	**Lajitas Array**	**121.42**	**51**	PKP	**PKPdf**	**05 04 38.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**121.83**	**289**	PKP	**PKPdf**	**05 04 41.0**	**+0.1**
	0.8nm,0.8s,baz=14,slow=1.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**121.83**	**289**	PKP	**PKPdf**	**05 04 41.0**	**+0.1**
PLCA	**Paso Flores**	**141.40**	**160**	PKP	**PKPdf**	**05 05 16.7**	**-0.5**
	0.5nm,0.3s,baz=346,slow=1.0,SNR=4.6						
PLCA	**Paso Flores**	**141.40**	**160**	PKP	**PKPdf**	**05 05 16.7**	**-0.5**

TAP 26 04:54:26.4, 21°.89N×121°.03E, h18km, ML3.6, 3C-2D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.12**	**273**	⇑*i*P	Pg	04 54 31.6	+1.3
	baz=274						
TSEB				S	Sg	04 54 35.3	+2.4
	baz=274						
TWK1	**Hengchun**	**0.22**	**283**	⇑*i*P	Pg	04 54 32.2	+0.6
	baz=290						
TWK1				*i* S	Sg	04 54 36.3	+1.1
	baz=290						
TAW	**Tawu**	**0.48**	**345**	⇓*i*P	Pb	04 54 37.0	+0.7
	baz=344						
TAW				*i* S	Sb	04 54 44.0	+1.1
	baz=344						
LAY	**Lan-yu**	**0.50**	**73**	*i* P	Pb	04 54 36.9	+0.2
	baz=75						
LAY				*e*S	Sb	04 54 44.3	+0.6
	baz=75						
EAST	**Anshuo**	**0.52**	**341**	⇓*i*P	Pb	04 54 37.6	+0.7
	baz=350						
EAST				S	Sb	04 54 45.1	+0.9
	baz=350						
SCZT	**Fangliau**	**0.61**	**321**	⇑*i*P	Pn	04 54 39.4	-0.7
	baz=322						
SCZT				S	Sg	04 54 48.1	+1.4
	baz=322						
ECL	**Taimali**	**0.70**	**354**	P	Pb	04 54 39.6	-0.5
	baz=2.0						
ECL				*e*S	Sb	04 54 49.2	-0.2
	baz=2.0						
TWP	**Hsiaoliuchiu**	**0.77**	**306**	*e*P	Pn	04 54 43.9	+1.6
	baz=307						
TTN	**Taitung**	**0.86**	**7**	*e*P	Pb	04 54 42.9	+0.1
	baz=5.0						
TTN				*e*S	Sg	04 54 54.8	+0.2
	baz=5.0						
TWG	**Pinlang**	**0.92**	**2**	*e*P	Pb	04 54 42.4	-1.5
	baz=1.0						
TWG				*e*S	Sn	04 54 57.1	-0.2
	baz=1.0						
TWM1	**Shoushan**	**1.08**	**329**	*e*P	Pg	04 54 47.8	+0.3
	baz=339						
TWM1				*e*S	Sg	04 55 07.3	+5.6
	baz=339						
CHKT	**Chengkung**	**1.24**	**14**	*e*P	Pn	04 54 47.8	-1.0
	baz=11						
CHKT				*e*S	Sb	04 55 03.7	-1.1
	baz=11						
SGST	**Jiashian**	**1.25**	**341**	*e*P	Pg	04 54 50.4	-0.3
	baz=340						
SGST				*e*S	Sg	04 55 07.6	+0.5
	baz=340						
ELDTW	**Lidau**	**1.29**	**359**	*e*P	Pn	04 54 47.9	-1.7
	baz=9.0						
CHN1	**Nanshi**	**1.37**	**340**	P	Pb	04 54 51.9	+0.4
	baz=339						
CHN1				*e*S	Sg	04 55 10.4	-0.3
	baz=339						
WTP	**Ta-pu**	**1.40**	**344**	*e*P	Pb	04 54 52.3	+0.3
	baz=344						
WTP				*e*S	Sg	04 55 10.9	-0.9
	baz=344						
TWF1	**Yuli**	**1.47**	**10**	*e*P	Pn	04 54 51.6	-0.5
	baz=9.0						
CHN4	**Tsaushan**	**1.51**	**344**	*e*P	Pb	04 54 54.0	+0.2
	baz=343						
CHN4				*e*S	Sg	04 55 14.8	-0.3
	baz=343						
ALS	**Alishan**	**1.62**	**353**	*e*P	Pb	04 54 55.7	-0.4
	baz=359						
ALS				*e*S	Sb	04 55 16.1	-0.6
	baz=359						
EHY	**Hungye**	**1.63**	**9**	*e*P	Pb	04 54 55.4	-0.5
	baz=9.0						
CHN5	**Tsauling**	**1.73**	**349**	*e*P	Pb	04 54 56.8	-0.9
	baz=351						
ESL	**Shilin**	**1.95**	**11**	*e*P	Pb	04 55 00.4	-0.9
	baz=11						
SMLT	**Sun Moon Lake**	**1.98**	**357**	*e*P	Pb	04 55 00.9	-1.2
	baz=12						
TYC	**Yuchr**	**2.01**	**355**	P	Pb	04 55 01.2	-1.1
	baz=357						
TWD	**Chiawan**	**2.24**	**13**	*e*P	Pn	04 55 03.7	+1.2
	baz=9.0						
TWD				*e*S	Sn	04 55 31.1	+1.4
	baz=9.0						
WHF	**Hehuan Shan**	**2.25**	**5**	*e*P	Pn	04 55 04.2	+0.9
	baz=14						
WHF				*e*S	Sn	04 55 31.3	+0.3
	baz=14						
TWT	**Tachien**	**2.35**	**3**	*e*P	Pn	04 55 04.7	-0.4
	baz=6.0						
TWT				*e*S	Sn	04 55 34.2	+1.3
	baz=6.0						
TWQ1	**Liyutan**	**2.45**	**354**	*e*P	Pn	04 55 06.8	+1.2
	baz=340						
TWQ1				*e*S	Sn	04 55 37.4	+2.3
	baz=340						
NNS	**Nan Shan**	**2.55**	**7**	*e*P	Pn	04 55 05.8	-1.3
	baz=19						
ENA	**Nanau**	**2.60**	**14**	*e*P	Pn	04 55 09.1	+1.5
	baz=15						
NSK	**Sanguang**	**2.79**	**6**	*e*P	Pn	04 55 11.1	+0.9
	baz=27						
TWC	**Suao**	**2.81**	**15**	*e*P	Pn	04 55 11.6	+1.3
TWC				*e*S	Sn	04 55 44.3	+0.6

*NEIC **26** 05:12:33.4, 33°.29N×115°.72W, h7km, ML3.0(PAS), After PAS.*

*ECX **26** 05:12:33.1±0.6, 33°.29N×115°.73W, h9km, MD3.0, ML3.2*

ISC 26 05:12:32.6±1.1, 33°.25N±0°.02×115°.74W±0°.03, h8km±10km, n20, σ1§42/32, 3C-3D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.17**	**30**	⇓*i*P	**Pg**	**05 12 35.2**	**-1.1**
CRR	**Carrizo Plain**	**0.41**	**208**	⇓*i*P	**Pg**	**05 12 41.2**	**+0.6**
HAY	**Hayfield**	**0.46**	**6**	⇓*i*P	**Pg**	**05 12 41.2**	**-0.4**
SGL	**Mount Signal**	**0.60**	**179**	*e*P	**Pg**	**05 12 44.2**	**0.0**
YUH	**Yuha Desert**	**0.62**	**194**	*e*P	**Pg**	**05 12 45.2**	**+0.6**
COA	**Coachella**	**0.65**	**126**	⇑*i*P	**Pg**	**05 12 45.2**	**+0.1**
PFO	**Pinyon Flat Ob**	**0.70**	**301**	*e*Pg	**Pg**	**05 12 45.8**	**-0.3**
PFO				*e*Sg	**Sg**	**05 12 55.1**	**0.0**
GLA	**Glamis**	**0.79**	**104**	*e*Pg	**Pg**	**05 12 47.2**	**-0.6**
GLA				*e*Sg	**Sb**	**05 12 59.9**	**+0.3**
BAR	**Barrett**	**0.97**	**234**	*e*Pg	**Pg**	**05 12 51.3**	**+0.1**
BAR				*e*Sg	**Sg**	**05 13 03.9**	**+0.2**
CBX	**Cerro Bola**	**1.21**	**220**	*e*P	**Pn**	**05 12 55.0**	**-1.0**
CBX				*e*S	**Sb**	**05 13 11.1**	**-0.8**
RDX	**Rancho Dawling**	**1.33**	**187**	*e*S	**Sb**	**05 13 14.8**	**-0.4**
RDX				⇑*e*		05 13 16.9	
	comp=N,132nm,0.3s						
RDX				*e*		05 13 23.7	
	comp=E,638nm,0.8s						
PBX	**Punta Banda**	**1.72**	**209**	*e*PN	**Pn**	**05 13 03.1**	**+0.3**
PBX				*e*S	**Sn**	**05 13 25.8**	**+0.8**
ECNX	**Esteban Cantu**	**1.75**	**205**	*e*PN	**Pn**	**05 13 03.9**	**+0.6**
ECNX				*e*S	**Sn**	**05 13 22.3**	**-3.5**
ECNX				*e*S	**Sb**	**05 13 26.8**	**-0.3**
LDFC	**Landfair**	**1.90**	**16**	*e*Pn	**Pg**	**05 13 08.7**	**-0.3**
LDFC				*e*Sn	**Sg**	**05 13 37.7**	**+4.1**
MWC	**Mount Wilson**	**2.16**	**297**	*e*Pn	**Pn**	**05 13 10.2**	**+1.1**
MWC				*e*Sn	**Sb**	**05 13 39.2**	**+0.1**
SPX	**San Pedro Mart**	**2.21**	**174**	*e*PN	**Pn**	**05 13 10.8**	**+0.9**
SPX				*e*		05 13 59.2	
	comp=N,68nm,1.3s						
SPX				⇑*e*		05 13 59.7	
	comp=E,67nm,1.0s						
GSC	**Goldstone**	**2.23**	**337**	*e*Pn	**Pn**	**05 13 09.8**	**-0.2**
GSC				*e*Sn	**Sg**	**05 13 42.7**	**-1.5**
PASC	**Pasadena Art C**	**2.23**	**295**	*e*Pn	**Pn**	**05 13 11.2**	**+1.3**
PASC				*e*Sn	**Sb**	**05 13 41.5**	**+0.4**
ISA	**Isabella**	**3.30**	**318**	*e*Pg	**Pg**	**05 13 35.4**	**-0.4**
ISA				*e*Sn	**Sb**	**05 14 14.9**	**+3.1**
DAC	**Darwin (Calif)**	**3.38**	**334**	Pn	Pn	05 13 29.1	+3.1
DAC				*e*Sn	**Sg**	**05 14 18.9**	**-2.4**

IDC 26 05:21:37.1±1.0, 27°.52S×73°.08E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, MS3.6/3, Ms1 3.6/3, ms1mx3.1/29, Error ellipse: s-maj=31.7km s-min=25.4km az=77.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.59**	**186**	LR	LR	05 41 54.1	
	comp=Z,88nm,19.8s,baz=176,slow=30						
BOSA	**Boshof**	**41.99**	**257**	LR	LR	05 43 12.7	
	comp=Z,78nm,19.6s,baz=164,slow=31						
CMAR	**Chiang Mai Arr**	**52.12**	**32**	P	P	05 30 49.9	+0.5
	2.7nm,0.9s,baz=215,slow=7.4,SNR=14						
CMAR				LR	LR	05 47 55.3	
	comp=Z,42nn,19.9s,baz=167,slow=30						
ASAR	**Alice Springs**	**54.52**	**101**	P	P	05 31 07.3	+0.1
	0.5nm,0.6s,baz=248,slow=6.3,SNR=5.7						
WRA	**Warramunga Arr**	**56.11**	**96**	P	P	05 31 18.8	+0.1
	1.4nm,0.8s,baz=254,slow=7.1,SNR=6.7						
QSPA	**South Pole Qui**	**62.62**	**180**	P	P	05 32 02.8	-0.3
	2.4nm,1.0s,baz=310,slow=5.2,SNR=6.2						
MKAR	**Makanchi Array**	**74.43**	**7**	P	P	05 33 16.2	-0.6
	2.9nm,0.9s,baz=186,slow=6.2,SNR=25						
TORD	**Torodi Ar. Bea**	**80.08**	**290**	P	P	05 33 50.3	+1.1
	0.7nm,0.9s,baz=106,slow=2.6,SNR=4.1						
SONM	**Songino Array**	**80.77**	**22**	P	P	05 33 52.6	+0.3
	1.2nm,0.9s,baz=183,slow=7.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**81.76**	**7**	P	P	05 33 56.8	-0.5
	0.6nm,0.4s,baz=197,slow=4.6,SNR=5.9						
YKA	**Yellowknife Ar**	**144.65**	**6**	PKP	PKPab	05 41 13.6	-0.1
	0.3nm,0.8s,baz=342,slow=3.5,SNR=6.3						

*BJI **26** 06:14:18.0, 27°.45S×72°.36E, h10km, mB5.8/52, mb5.1/45, Ms5.7/61, Ms7 5.5/56*

*IDC **26** 06:14:20.5±0.4, 27°.42S×73°.31E, h0km, mb4.8/30, mb1 4.9/30, mb1mx4.8/33, mbtmp4.8/30, MS5.2/34, Ms1 5.2/34, ms1mx5.1/41, Error ellipse: s-maj=13.7km s-min=11.3km az=6.0*

*MOS **26** 06:14:21.2±1.2, 27°.32S×73°.38E, h10km, mb5.7/37, MS5.3/33, Error ellipse: s-maj=10.5km s-min=5.9km az=104.0*

*ISCJB **26** 06:14:21.3±0.2, 27°.44S±0°.04×73°.32E±0°.04, h14km, mb5.2/126, MS5.3/183, Error ellipse: s-maj=6.4km s-min=4.8km az=174.6*

*NEIC **26** 06:14:22.1±0.2, 27°.46S×73°.30E, h10km, mb5.4/37, MS5.4/120, MW5.6, Error ellipse: s-maj=6.9km s-min=5.6km az=189.0*

*TEH **26** 06:14:23.0, 27°.52S×73°.31E, h10km, ML5.8*

*GCMT **26** 06:14:24.5±0.1, 27°.40S×73°.27E, h12km, MW5.7, Moment Tensor Solution. s92,c145; s77,c86; Moment tensor: Scale 10^{17}Nm; M_{rr}-3.44±.03; $M_{\theta\theta}$2.57±.03; $M_{\phi\phi}$0.87±.04; $M_{r\theta}$-0.93±.10; $M_{\theta\phi}$-1.60±.03; $M_{\phi r}$1.20±.11; Best double couple: $M_0$3.80000×10^{17} NP1:ϕ_s293.00000°, δ35.00000°, λ-104.00000°. NP2:ϕ_s129.00000°, δ57.00000°, λ-81.00000°. Principal axes: T 3.8100, Plg11.0000°, Azm213.0000°; N -0.0200, Plg8.0000°, Azm304.0000°; P -3.8000, Plg76.0000°, Azm69.0000°; Data Used: II IU IC G CN. Surface waves: sta=110, comp=229, per= 50.*

*DJA **26** 06:14:31.4±1.7, 28°.5S±5°.7°.3E±°, h84km±17km, M5.4/39, mB5.8/25, mb5.0/39, Mw(mB)5.4/25*

*NEIC **26** 06:14:34.4±0.0, 27°.55S×72°.72E, h10km, Moment Tensor Solution. s150 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.40; $M_{\theta\theta}$2.38; $M_{\phi\phi}$ 1.02; $M_{r\theta}$-1.49; $M_{\theta\phi}$-1.62; $M_{\phi r}$0.28; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s115.00000°, δ57.00000°, λ-99.00000°. NP2:ϕ_s313.00000°, δ35.00000°, λ-74.00000°. Principal axes: T 3.7300, Plg11.0000°, Azm211.0000°; N 0.0300, Plg8.0000°, Azm120.0000°; P -3.7600, Plg75.0000°, Azm353.0000°;*

ISC 26 06:14:23.2±0.3, 27°.53S±0°.04×73°.22E±0°.05, h16km±1km, h15km: pP-P, n739, σ1§45/757, mb5.3/125, MS5.4/184, 102C-108D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**16.07**	**293**	*e*Pn	**Pn**	**06 18 10.2**	**+1.5**
DGAR	**Diego Garcia**	**20.03**	**358**	*e*P	**P**	**06 18 55.4**	**-0.1**
DGAR				pmax	pmax		
	comp=Z,3μm,1.8s						
DGAR	**Diego Garcia**	**20.03**	**358**	*e*P	**P**	**06 18 55.4**	**-0.1**
	comp=Z,3μm,1.8s						
DGAR				*e*S	PcP	06 23 22.9	+11
DGAR				*e*ScP	**ScP**	**06 26 44.8**	**-2.3**
DGAR	**Diego Garcia**	**20.03**	**358**	P	**Pn**	**06 18 57.5**	**+0.1**
	SNR=30						
DGAR	**Diego Garcia**	**20.03**	**358**	Pn	**Pn**	**06 18 57.6**	**+0.3**
	comp=Z,4μm,1.6s,SNR=19						
PAF	**Port-aux-Franc**	**21.91**	**185**	PFAKE		06 19 30.0	+14
PAF				LR	LR		
	comp=Z,18μm,19.0s						
ABPO	**Ambohimpanom**	**25.30**	**284**	*e*P	**P**	**06 19 49.4**	**0.0**
ABPO				pmax	pmax		
	comp=Z,141nm,1.8s						
ABPO				MLR	MLR		
	comp=Z,3μm,20.0s						
ABPO	**Ambohimpanom**	**25.30**	**284**	*e*P	**P**	**06 19 49.4**	**0.0**
	comp=Z,141nm,1.8s						
ABPO				LR	LR		
	comp=Z,3μm,20.0s						
OPO	**Ambohidratompo**	**25.52**	**285**	P	**P**	**06 19 52.4**	**+1.1**
	comp=Z,27nm,1.0s,baz=113,slow=9.0,SNR=27						
OPO				LR	LR	06 27 07.6	
	comp=Z,4μm,21.7s,baz=116,slow=30						
OPO	**Ambohidratompo**	**25.52**	**285**	P	**P**	**06 19 52.4**	**+1.1**
COCO	**West Island**	**26.88**	**60**	PFAKE		06 20 10.0	+6.5
COCO				LR	LR		
	comp=Z,8μm,21.0s						
MSEY	**Mahe Island**	**28.33**	**320**	*e*P	**P**	**06 20 17.3**	**+0.7**
	comp=Z,171nm,1.6s						
MSEY				LR	LR		
	comp=Z,1μm,20.0s						
MSEY	**Mahe Island**	**28.33**	**320**	P	**P**	**06 20 18.4**	**+1.8**
	SNR=6.3						
XMIS	**Christmas Isla**	**34.89**	**67**	*e*P	**P**	**06 21 14.2**	**-0.1**
	comp=Z,315nm,1.1s						
GSI	**Gunungsitoli**	**37.03**	**43**	P	**P**	**06 21 34.4**	**+1.9**
	comp=Z,51nm,2.5s						
MNSI	**Mandailing Nat**	**37.89**	**46**	P	**P**	**06 21 41.7**	**+1.9**
	comp=Z,34nm,1.3s,comp=Z,1μm						
NWAO	**Narrogin (SRO)**	**38.20**	**109**	PFAKE		06 21 50.0	+7.7
NWAO				LR	LR		
	comp=Z,2μm,19.0s						
LEM	**Lembang**	**38.57**	**64**	P	**P**	**06 21 47.3**	**+1.5**
	comp=Z,56nm,2.0s,comp=Z,2μm						
PSI	**Prapat**	**39.03**	**43**	P	**P**	**06 21 48.4**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=194,slow=22,SNR=9.5						
PSI	**Prapat**	**39.03**	**43**	P	**P**	**06 21 50.5**	**+1.0**
	comp=Z,22nm,3.5s,comp=Z,1μm						
MSNA	**Messina**	**39.36**	**268**	*e*P	P	06 21 49.0	-3.2
MSNA				AMB	AMB	06 21 54.4	
	comp=Z,40nm,2.6s						
MSNA

comp=Z,3µm,20.0s
KMBO Kilima Mbogo 43.32 301 *e*P **P 06 22 25.1 +0.1**
comp=Z,194nm,1.9s
KMBO LR LR
comp=Z,1µm,22.0s
KMBO Kilima Mbogo 43.32 301 P **P 06 22 25.5 +0.5**
SNR=34
KMBO Kilima Mbogo 43.32 301 *e*P **P 06 22 25.1 +0.1**
KMBO Kilima Mbogo 43.32 301 *e*P **P 06 22 26.1 +1.1**
LSZ Lusaka 43.44 277 *e*P **P 06 22 24.8 -1.0**
comp=Z,126nm,1.9s
LSZ *e*S **S 06 28 59.8 +5.8**
LSZ LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 43.44 277 P **P 06 22 26.0 +0.1**
SNR=12
LSZ Lusaka 43.44 277 *e*P **P 06 22 25.5 -0.4**
LSZ Lusaka 43.44 277 *e*P **P 06 22 25.6 -0.4**
SRBI Singaraja 44.13 72 P **P 06 22 31.3 0.0**
KAD Karad 44.59 1 *i*P **P 06 22 35.1 +0.3**
HYB Hyderabad 44.98 7 *i*P **P 06 22 38.0 0.0**
HYB *e*S **S 06 29 16.0 +0.1**
CASY Casey 45.07 160 PFAKE 06 22 50.0 +12
CASY LR LR
comp=Z,3µm,19.0s
SUR Sutherland 45.29 251 P **P 06 22 41.9 +1.2**
comp=Z,19nm,1.1s,baz=113,slow=7.8,SNR=9.5
SUR Sutherland 45.29 251 P **P 06 22 41.9 +1.2**
SUR LR LR
comp=Z,7µm,21.0s
SUR Sutherland 45.29 251 P **P 06 22 42.7 +2.0**
comp=Z,138nm,1.4s,SNR=5.7
SUR Sutherland 45.29 251 *e*P **P 06 22 42.6 +2.0**
SUR AMB AMB 06 22 45.0
comp=Z,48nm,3.1s
SUR Sutherland 45.29 251 *e*P **P 06 22 43.0 +2.3**
SUR AMB AMB 06 22 45.0
comp=Z,48nm,3.1s
KSM Kuching 45.86 57 PFAKE 06 23 00.0 +15
KSM LR LR
comp=Z,6µm,20.0s
CVNA Calvinia 46.31 252 *e*P **P 06 22 49.4 +0.8**
CVNA AMB AMB 06 22 51.3
comp=Z,57nm,2.3s
CVNA Calvinia 46.31 252 *e*P **P 06 22 48.5 -0.1**
CVNA AMB AMB 06 22 51.2
comp=Z,57nm,2.3s
CER Ceres 46.42 249 *e*P **P 06 22 50.5 +1.2**
CER AMB AMB 06 22 51.3
comp=Z,14nm,2.2s
SBUM Sibu 47.94 58 P **P 06 23 01.2 -0.1**
comp=Z,15nm,1.8s,comp=Z,999nm
ABTO Aybut 48.62 334 P **P 06 23 08.0 +1.5**
SNR=9.0
MBAR Mbarara 48.72 296 *e*P **P 06 23 06.7 -0.9**
NGP Nagpur 48.73 7 *i*P **P 06 23 06.3 -0.9**
NGP *i*S **S 06 30 07.5 -1.9**
FITZ Fitzroy Crossi 48.92 91 P **P 06 23 08.7 -0.2**
comp=Z,8.4nm,0.9s,baz=239,slow=7.7,SNR=11
FITZ LR LR 06 42 17.8
comp=Z,2µm,19.3s,baz=273,slow=34
FITZ Fitzroy Crossi 48.92 91 *e*P **P 06 23 08.5 -0.4**
comp=Z,32nm,1.3s
KAPI Kappang 49.57 72 P **P 06 23 11.9 -1.9**
comp=Z,8.9nm,0.3s,baz=157,slow=19,SNR=9.1
KAPI LR LR 06 40 13.0
comp=Z,1µm,21.1s,baz=234,slow=31
KAPI Kappang 49.57 72 *e*P **P 06 23 12.7 -1.1**
KAPI Kappang 49.57 72 P **P 06 23 12.9 -0.9**
SNR=7.9
KAPI Kappang 49.57 72 P **P 06 23 12.5 -1.4**
comp=Z,20nm,1.1s,comp=Z,727nm
MMRI Maumere 49.88 77 P **P 06 23 15.8 -0.4**
comp=Z,94nm,0.9s,comp=Z,1µm
TTSI Tana Toraja 50.69 70 P **P 06 23 22.9 +0.6**
comp=Z,33nm,1.0s,comp=Z,2µm
TSUM Tsumeb 51.39 267 *e*P **P 06 23 28.4 +0.6**
CAL Calcutta 51.88 18 *e*P **P 06 23 30.3 -0.7**
CAL *e*S **S 06 30 54.5 +1.4**
CM31 Chiang Mai Arr 52.07 31 *e*P **P 06 23 31.9 -0.7**
comp=Z,24nm,0.9s
CM31 *e*PcP **PcP 06 24 45.9 +1.3**
CMAR Chiang Mai Arr 52.08 31 P **P 06 23 31.9 -0.7**
comp=Z,13nm,0.8s,baz=214,slow=7.8,SNR=28
CMAR LR LR 06 42 33.3
comp=Z,3µm,19.5s,baz=212,slow=33
CMAR Chiang Mai Arr 52.08 31 P **P 06 23 31.9 -0.7**
BSY Bisya 52.33 341 P **P 06 23 34.8 +0.4**
SNR=12
CHTO Chiang Mai 52.38 31 *e*P **P 06 23 34.1 -0.8**
CHTO *e* 06 24 47.2
CHTO pmax pmax
comp=Z,317nm,2.5s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 52.38 31 *e*P **P 06 23 34.1 -0.8**
comp=Z,317nm,2.5s
CHTO *e*PcP **PcP 06 24 47.2 +1.5**
CHTO LR LR
comp=Z,2µm,21.0s
CHTO Chiang Mai 52.38 31 P **P 06 23 34.4 -0.5**
SNR=28
CHTO Chiang Mai 52.38 31 P **P 06 23 34.3 -0.5**
comp=Z,40nm,1.8s,comp=Z,1µm
CMMT Chiang Mai 52.38 31 P **P 06 23 34.3 -0.6**
comp=Z,36nm,1.7s,comp=Z,928nm
SMDO Samad 52.39 342 P **P 06 23 36.1 +1.2**
SNR=5.7
ARQ Araqi 53.08 341 P **P 06 23 41.1 +1.1**
SNR=6.2
HOQ Hoqain 53.09 342 P **P 06 23 41.1 +1.1**
SNR=7.4
KKM Kota Kinabalu 53.29 58 PFAKE 06 23 50.0 +8.2
KKM LR LR
comp=Z,4µm,19.0s
ASAR Alice Springs 54.40 100 P **P 06 23 49.1 -0.7**
comp=Z,9.9nm,0.8s,baz=251,slow=6.5,SNR=74
ASAR PcP **PcP 06 24 53.2 -0.4**
comp=Z,4.5nm,0.7s,baz=242,slow=2.9,SNR=9.0
ASAR LR LR 06 43 40.4
comp=Z,1µm,19.6s,baz=270,slow=32
ASAR Alice Springs 54.40 100 P **P 06 23 49.1 -0.7**
ASAR PcP **PcP 06 24 53.2 -0.4**
AS31 Alice Springs 54.40 100 *e*P **P 06 23 48.9 -1.0**
AGRA Agra 54.64 5 *e*P **P 06 23 51.7 +0.5**
AGRA AMb AMB 06 23 54.0
comp=Z,48nm,0.3s
NVL N'lazarevskaya 54.91 201 *e*P P 06 23 57.6 +4.8
NVL *e* 06 25 57.9
NVL *e*S **S 06 31 29.2 -4.2**
NVL *e*SS **SS 06 35 22.0 +5.6**
NVL pmax pmax
comp=Z,55nm,1.1s
NVL MLR MLR
comp=Z,2µm,16.0s
KHET Khetri 55.35 3 *e*P **P 06 23 56.4 0.0**
KHET AMb AMB 06 23 59.8
comp=Z,60nm,1.4s
KUDL Kundal 55.45 4 *e*P **P 06 23 56.6 -0.5**
KUDL AMb AMB 06 24 01.3
comp=Z,60nm,1.8s
SONA Sohna 55.59 4 *e*P **P 06 23 58.2 +0.1**
SONA AMb AMB 06 24 01.9
comp=Z,82nm,1.6s
SHL Shillong 55.77 20 *e*P **P 06 24 00.0 +0.3**
AYAN Aya Nagar 55.82 4 *e*P **P 06 23 58.4 -1.4**
AYAN AMb AMB 06 24 02.0
comp=Z,32nm,1.0s
DRV Dumont d'Urvil 55.86 154 P P 06 23 48.0 -12
DRV S S 06 31 34.0 -12
DRV L L 06 38 00.0
DRV R 06 40 00.0
BISR Bishrakh 55.93 4 *ex* P 06 23 53.7 -6.9
BISR AMb AMB 06 23 56.6
comp=Z,130nm,0.7s
WRA Warramunga Arr 55.99 96 P **P 06 24 00.7 -0.7**
comp=Z,16nm,0.8s,baz=253,slow=7.3,SNR=63
WRA PcP **PcP 06 24 59.1 -0.7**
comp=Z,6.2nm,0.9s,baz=253,slow=2.3,SNR=7.0
WRA LR LR 06 45 20.9
comp=Z,4µm,20.2s,baz=280,slow=33
WRA Warramunga Arr 55.99 96 P **P 06 24 00.7 -0.7**
WRA PcP **PcP 06 24 59.1 -0.7**
WRAB Tennant Creek 56.00 96 *e*P **P 06 24 00.0 -1.4**
WRAB *e* 06 24 59.3
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB MLR MLR
comp=Z,3µm,20.0s
WRAB Tennant Creek 56.00 96 *e*P **P 06 23 60.0 -1.4**
comp=Z,16nm,0.8s
WRAB *e*PcP **PcP 06 24 59.2 -0.5**
WRAB LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 56.00 96 P **P 06 24 01.5 +0.1**
comp=Z,130nm,0.9s,SNR=11
BHGR Bahadurgarh 56.02 4 *e*P **P 06 23 59.2 -1.9**
BHGR AMb AMB 06 24 00.9
comp=Z,275nm,0.2s
KKR Kurukshetra 57.28 4 *e*P **P 06 24 10.3 +0.2**
RAYN Ar Rayn 57.38 330 P **P 06 24 10.8 -0.2**
comp=Z,238nm,1.1s,SNR=12
QIZ Qiongzhong 58.32 42 P **P 06 24 19.8 +2.1**
QIZ pP **pP 06 24 22.5 -0.3**
QIZ S **S 06 32 22.8 +3.1**
QIZ sS **sS 06 32 31.8 +3.7**
QIZ LR LR
comp=N,2µm,20.2s
QIZ LR LR
comp=E,960nm,19.7s
QIZ LR LR
comp=Z,4µm,20.4s
QIZ Qiongzhong 58.32 42 PFAKE 06 24 30.0 +12
QIZ LR LR
comp=Z,514nm,19.0s
LBMI Labuha 58.44 72 P **P 06 24 18.6 -0.1**
comp=Z,59nm,0.8s,comp=Z,1µm
STKA Stephens Creek 58.66 112 P **P 06 24 19.4 -0.7**
comp=Z,8.5nm,0.8s,baz=283,slow=5.8,SNR=9.3
STKA LR LR 06 47 53.7
comp=Z,2µm,18.3s,baz=244,slow=34
STKA Stephens Creek 58.66 112 P **P 06 24 19.4 -0.7**
LSA Lhasa 59.44 18 PFAKE 06 24 40.0 +14
LSA LR LR
comp=Z,3µm,19.0s
KMI Kunming 59.58 31 P **P 06 24 27.3 +0.7**
KMI sP **sP 06 24 31.8 -1.8**
KMI PP **PP 06 26 37.5 -1.0**
KMI S **S 06 32 37.3 +1.0**
KMI SS **SS 06 36 33.5 +1.1**
KMI pmax pmax
comp=Z,31nm,1.6s
KMI pmax pmax
comp=Z,630nm,4.3s
KMI LR LR
comp=N,2µm,23.4s
KMI LR LR
comp=E,3µm,22.7s
KMI LR LR
comp=Z,4µm,23.4s
SNAA Sanae 59.74 201 *e*P **P 06 24 26.8 -0.1**
comp=Z,75nm,1.8s
SNAA Sanae 59.74 201 *e*P **P 06 24 27.1 +0.2**
SNAA Sanae 59.74 201 *e*P **P 06 24 27.8 +0.8**
ISRV Sarvestan 59.78 340 *e*P **P 06 24 27.3 -0.7**
IBAF Bafgh 61.16 343 *e*P **P 06 24 35.5 -1.7**
DAV Davao City (W) 61.19 64 PFAKE 06 24 50.0 +12
DAV LR LR
comp=Z,2µm,20.0s
VNA2 Neumayer--Watz 61.19 202 *e*pP pP 06 24 39.7 -2.2
baz=76,slow=5.0
RDF Al-Radifah 61.29 334 *e*P **P 06 24 38.2 +0.3**
RDF AMb AMB 06 24 41.5
comp=Z,151nm,2.1s
KBD Kabd 61.46 335 *e*P **P 06 24 38.9 -0.2**
KBD AMb AMB 06 24 41.9
comp=Z,83nm,2.0s
VNA1 Neumayer--Stat 61.48 202 *e*pP pP 06 24 42.0 -1.8
NAY Al-Naaiem 61.70 334 *e*P **P 06 24 40.2 -0.5**
NAY AMb AMB 06 24 43.3
comp=Z,50nm,1.6s
KBL Kabul 61.86 356 *e*P **P 06 24 41.4 -0.5**
KBL *e* 06 25 23.8
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 61.86 356 *e*P **P 06 24 41.4 -0.5**
comp=Z,14nm,0.9s
KBL *e*PcP **PcP 06 25 23.8 +1.0**
VNA3 Neumayer Olymp 61.92 201 *e*pP pP 06 24 44.4 -2.4
GYA Guiyang 62.58 34 *i*P **P 06 24 45.5 -1.3**
GYA PP PP 06 27 11.0 +6.1
GYA ScP **ScP 06 29 29.5 +2.2**
GYA S **S 06 33 15.0 +0.7**
GYA SKS **ScS 06 34 39.5 +0.6**
GYA SS **SS 06 37 23.5 +4.3**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.2s
GYA LR LR
comp=N,2µm,18.9s
GYA LR LR
comp=E,730nm,18.5s
GYA LR LR
comp=Z,2µm,17.7s
QSPA South Pole Qui 62.60 180 P **P 06 24 46.2 -0.3**
comp=Z,35nm,0.9s,baz=280,slow=3.5,SNR=30
QSPA LR LR 06 49 06.2
comp=Z,2µm,19.9s,baz=111,slow=33
QSPA South Pole Qui 62.60 180 *e*P **P 06 24 46.4 -0.1**
comp=Z,41nm,1.0s
QSPA *e*PcP **PcP 06 25 22.7 -2.7**
VNDA Vanda 63.04 166 P **P 06 24 49.1 0.0**
comp=Z,14nm,1.1s,baz=286,slow=7.3,SNR=17
VNDA LR LR 06 49 07.0
comp=Z,2µm,18.0s,baz=251,slow=33
VNDA Vanda 63.04 166 P **P 06 24 49.1 0.0**
comp=Z,5.9nm,1.0s
IZEF Zefreh 63.29 340 *e*P **P 06 24 49.2 -2.4**
IPIR Pirpir 63.54 339 *e*P **P 06 24 52.6 -0.7**
CAN Canberra 63.70 118 PFAKE 06 25 10.0 +16
CAN LR LR
comp=Z,680nm,21.0s
IKLH Kolahrood 63.91 340 *e*P **P 06 24 55.5 -0.2**
SBA Scott Base 64.04 166 *e*P **P 06 24 57.1 +1.5**
SBA *e* 06 25 30.9
SBA pmax pmax
comp=Z,171nm,2.4s
SBA MLR MLR
comp=Z,1µm,20.0s
SBA Scott Base 64.04 166 *e*P **P 06 24 57.1 +1.5**
comp=Z,171nm,2.4s
SBA *e*PcP **PcP 06 25 30.9 +0.1**
SBA LR LR
comp=Z,1µm,20.0s
IMOG Moghan 64.64 348 *e*P **P 06 24 58.6 -1.8**
IMYA Miami 64.73 348 *e*P **P 06 24 59.8 -1.0**
ISRO Mashad 64.81 348 *e*P **P 06 24 59.8 -1.5**
CD2 Chengdu 65.02 29 P **P 06 25 02.5 -0.2**
CD2 pP **pP 06 25 07.3 -0.6**
CD2 sP **sP 06 25 09.5 -0.3**
CD2 PP **PP 06 27 28.3 +2.2**
CD2 S **S 06 33 41.8 -2.5**
CD2 sS **sS 06 33 51.8 -1.0**
CD2 SS **SS 06 37 58.0 +1.0**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,410nm,4.5s
CD2 LR LR
comp=N,2µm,20.2s
CD2 LR LR
comp=Z,2µm,26.2s
IANJ Anjilo 65.26 343 *e*P **P 06 25 03.2 -1.2**
IVRN Varamin 65.43 341 *e*P P 06 24 57.6 -7.7
ILAS Lasjerd 65.44 342 *e*P **P 06 25 05.6 0.0**
IKRD Kardeh 65.45 347 *e*P **P 06 25 03.8 -1.8**
ISHM Shahmirzad 65.75 342 *e*P **P 06 25 06.6 -1.0**
ISFR Sfrayin 65.82 347 *e*P **P 06 25 07.2 -0.8**
IDMV Damavand 65.88 341 *e*P **P 06 25 07.6 -0.9**
IKIA Kiasar 66.02 343 *e*P **P 06 25 09.7 +0.4**
IKOM Komasi 66.03 337 *e*P **P 06 25 09.2 -0.1**
IR3 Iran Long-Peri 66.08 340 *e*P **P 06 25 07.6 -1.9**
IALA Alasht 66.14 342 *e*P **P 06 25 08.8 -1.3**
IGLO Ghaloghah 66.26 343 *e*P **P 06 25 10.8 0.0**
ISHV Shirvan 66.34 347 *e*P **P 06 25 10.0 -1.3**
IRAZ Razeghan 66.35 339 *e*P P 06 25 08.2 -3.2
BHD Baghdad 66.38 334 *e*P **P 06 25 12.0 +0.6**
BHD *e*PP **PP 06 27 38.3 +0.4**
BHD *e*PcP **PP 06 27 40.0 +2.1**
BHD *e*S **S 06 34 02.8 +2.1**
BHD *e*SS **SS 06 38 21.6 +3.6**
CTA Charters Tower 66.39 101 P **P 06 25 11.8 0.0**
comp=Z,14nm,0.8s,baz=273,slow=8.5,SNR=9.0
CTA Charters Tower 66.39 101 P **P 06 25 11.8 0.0**
CTAO Charters Tower 66.39 101 PFAKE 06 25 20.0 +8.1
CTAO LR LR
comp=Z,2µm,22.0s
IPRN Peran 66.42 342 *e*P **P 06 25 12.8 +1.1**
IGHG Ghaleghazi 66.50 336 *e*P **P 06 25 11.8 -0.6**
ABKT Ailbek 66.64 347 P **P 06 25 13.4 +0.4**
comp=Z,69nm,1.4s,SNR=9.8
KSH Kashi 66.75 2 P P 06 25 10.0 -3.8
KSH pP pP 06 25 15.0 -3.9
KSH sP sP 06 25 17.3 -3.5
KSH *e*PcP **PcP 06 25 38.5 -4.1**
KSH *e*PP **PP 06 27 38.3 -3.0**
KSH PcS 06 29 42.3
KSH S S 06 33 53.3 -12
KSH sS sS 06 34 07.3 -6.5
KSH ScS SKSac 06 35 02.8 -7.2
KSH SS **SS 06 38 18.3 -5.6**
KSH pmax pmax
comp=Z,330nm,2.7s
KSH LR LR
comp=N,3µm,20.2s
KSH LR LR
comp=E,1µm,15.9s
KSH LR LR
comp=Z,5µm,21.8s
ENH Enshi 67.12 34 PFAKE 06 25 30.0 +14
ENH LR LR
comp=Z,395nm,19.0s
ARMA Armidale 67.31 113 *e*P **P 06 25 18.0 +0.3**
comp=Z,16nm,0.9s
EIL Elat 67.65 324 LR LR 06 51 17.4
comp=Z,2µm,18.6s,baz=106,slow=33
QZH Quanzhou 68.07 44 P P 06 25 25.3 +3.0
QZH S **S 06 34 24.5 +3.1**
QZH SS **SS 06 38 48.5 +4.0**
QZH LR LR
comp=N,4µm,17.7s
QZH LR LR
comp=E,1µm,11.6s
QZH LR LR
comp=Z,3µm,21.0s
ASF Jabal al Asfar 68.71 327 LR LR 06 52 35.7
comp=Z,2µm,18.3s,baz=352,slow=33
KZA Kyzart 69.29 2 P **P 06 25 29.4 -0.6**
SNR=15
AML Almayashu 69.32 0 P **P 06 25 29.5 -0.7**
SNR=16
ULHL Ulahol 69.49 2 P **P 06 25 30.2 -0.8**
SNR=30
LZH Lanzhou 69.56 26 ⇑P **P 06 25 32.5 +1.0**
LZH pP **pP 06 25 35.5 -1.2**
LZH sP **sP 06 25 37.0 -1.6**
LZH PP **PP 06 28 08.5 +2.8**
LZH S **S 06 34 42.0 +3.0**
LZH sS **sS 06 34 47.5 0.0**
LZH SS **SS 06 39 10.3 +2.9**
LZH pmax pmax
comp=Z,58nm,1.2s
LZH pmax pmax
comp=Z,540nm,7.6s
LZH LR LR
comp=N,3µm,18.5s
LZH LR LR
comp=E,1µm,15.4s
LZH LR LR
comp=Z,4µm,19.0s
YHNB Yeheng 69.63 46 PFAKE 06 25 40.0 +7.9
YHNB LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 69.83 1 P **P 06 25 32.9 -0.2**
comp=Z,6.3nm,1.0s,baz=175,slow=7.5,SNR=26
AAK LR LR 06 53 58.9
comp=Z,3µm,19.2s,baz=172,slow=34
AAK Ala-Archa 69.83 1 *e*P **P 06 25 32.7 -0.3**
AAK pmax pmax
comp=Z,676nm,2.0s
AAK Ala-Archa 69.83 1 *e*P **P 06 25 32.7 -0.3**
comp=Z,676nm,2.0s
AAK Ala-Archa 69.83 1 P **P 06 25 33.1 +0.1**
SNR=30
AAK Ala-Archa 69.83 1 P **P 06 25 32.3 -0.7**
SNR=13
AAK Ala-Archa 69.83 1 P **P 06 25 32.3 -0.7**
comp=Z,104nm,2.3s,SNR=12
EKS2 Erkin-Say 69.85 0 *e*P **P 06 25 32.9 -0.2**
EKS2 pmax pmax
comp=Z,179nm,2.0s
EKS2 Erkin-Say 69.85 0 *e*P **P 06 25 32.9 -0.2**
comp=Z,179nm,2.0s
EKS2 Erkin-Say 69.85 0 P **P 06 25 33.0 -0.2**
SNR=14
WHN Wuhan 69.85 37 P **P 06 25 33.5 +0.3**
WHN S **S 06 34 42.3 0.0**
WHN LR LR
comp=N,2µm,16.7s
WHN LR LR
comp=E,3µm,14.3s
WHN LR LR
comp=Z,5µm,18.0s
TATO Taipei 69.92 46 PFAKE 06 25 40.0 +6.2
TATO LR LR
comp=Z,2µm,20.0s
XAN Xi'an 69.97 31 P **P 06 25 32.8 -1.1**
XAN pP **pP 06 25 35.8 -3.3**
XAN sP **sP 06 25 38.0 -3.0**
XAN PP **PP 06 28 06.8 -2.4**
XAN S **S 06 34 39.8 -3.8**
XAN ScS **SKSac 06 35 28.5 -6.0**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,78nm,4.1s
XAN LR LR
comp=N,1µm,18.1s
XAN LR LR
comp=E,920nm,21.2s
XAN LR LR
comp=Z,900nm,20.0s
FRU Bishkek 70.03 1 *e*P **P 06 25 34.0 -0.1**
FRU *e* 06 34 46.0
FRU *e* 06 39 17.0
FRU pmax pmax
comp=Z,340nm,2.5s
FRU pmax pmax
comp=Z,800nm,3.8s
MMAI Mount Meron Ar 70.12 327 LR LR 06 53 30.4
comp=Z,1µm,18.1s,baz=140,slow=34
TKM2 Tokmak 2 70.14 2 *e*P **P 06 25 34.2 -0.8**
TKM2 pmax pmax
comp=Z,216nm,1.9s
TKM2 MLR MLR
comp=Z,4µm,21.0s
TKM2 Tokmak 2 70.14 2 *e*P **P 06 25 34.2 -0.8**
comp=Z,216nm,1.9s
TKM2 LR LR
comp=Z,4µm,21.0s
TKM2 Tokmak 2 70.14 2 P **P 06 25 34.4 -0.6**
SNR=12
KK31 Karatay Array 70.33 358 *i*P **P 06 25 35.1 -0.8**
KK31 pmax pmax
comp=Z,46nm,1.2s
KKAR Karatay Array 70.33 358 *e*P **P 06 25 34.8 -1.2**
KKAR pmax pmax
comp=Z,30nm,1.1s
KKAR Karatay Array 70.33 358 *e*P **P 06 25 34.8 -1.2**
comp=Z,30nm,1.1s
AAA Alma-Ata 70.54 3 *e*P **P 06 25 36.6 -0.7**
AAA *e*S **S 06 34 47.1 -2.9**
AAA pmax pmax
comp=Z,800nm,4.3s
AAA smax smax
comp=N,500nm,14.4s
IMRD Marand 70.75 337 *e*P **P 06 25 38.2 -0.6**
GTA Gaotai 71.07 22 *e*P **P 06 25 40.3 -0.4**
GTA pP **pP 06 25 45.3 -0.6**
GTA sP **sP 06 25 47.8 0.0**
GTA PP **PP 06 28 19.3 +0.6**
GTA S **S 06 34 53.8 -2.7**
GTA SS **SS 06 39 26.8 -3.8**

GTA pmax pmax
comp=Z,26nm,1.8s
GTA pmax pmax
comp=Z,660nm,4.3s
GTA LR LR
comp=N,2μm,20.9s
GTA LR LR
comp=E,2μm,18.5s
GTA LR LR
comp=Z,2μm,23.8s
PMG Port Moresby 71.52 91 PFAKE 06 26 00.0 +16
PMG LR LR
comp=Z,2μm,20.0s
PMG Port Moresby 71.52 91 P **P** **06 25 42.7 -1.1**
comp=Z,33nm,1.0s
WMQ Urumqi 72.24 11 P **P** **06 25 48.0 +0.5**
WMQ pP **pP** **06 25 51.8 -0.9**
WMQ PP **PP** **06 28 29.8 +1.3**
WMQ S **S** **06 35 07.0 -2.6**
WMQ SKS **SKSac** **06 35 47.8 -3.4**
WMQ ScS **SKKSac** **06 35 51.3 0.0**
WMQ SS **SS** **06 39 51.0 +2.8**
WMQ pmax pmax
comp=Z,39nm,2.0s
WMQ pmax pmax
comp=Z,700nm,4.4s
WMQ LR LR
comp=N,3μm,22.0s
WMQ LR LR
comp=E,1μm,18.0s
WMQ LR LR
comp=Z,3μm,27.0s
GNI Garni 72.36 337 LR LR 06 54 39.6
comp=Z,844nm,19.1s,baz=140,slow=34
GNI Garni 72.36 337 P **P** **06 25 50.1 +1.6**
SNR=5.7
CSS Prodhromos 72.70 327 *e*P **P** **06 25 50.8 +0.3**
comp=Z,165nm,1.8s
CSS LR LR
comp=Z,2μm,21.0s
MALT Malatya 73.16 332 *e*P **P** **06 25 53.5 +0.3**
MALT pmax pmax
comp=Z,8.0nm,0.9s
MALT MLR MLR
comp=Z,3μm,20.0s
MALT Malatya 73.16 332 *e*P **P** **06 25 53.5 +0.3**
comp=Z,7.7nm,0.9s
MALT LR LR
comp=Z,3μm,20.0s
MALT Malatya 73.16 332⇑ *i*P **P** **06 25 55.2 +2.0**
SHEL Horse Pasture 73.19 261 PFAKE 06 26 10.0 +16
SHEL LR LR
comp=Z,3μm,20.0s
DGRG David-gareji 73.32 338 P P 06 25 50.8 -3.1
NJ2 Nanjing 73.48 39 *e*P **P** **06 25 54.0 -1.0**
NJ2 pP **pP** **06 26 00.0 -0.2**
NJ2 sP **sP** **06 26 01.3 -0.8**
NJ2 PP **PP** **06 28 40.5 +1.3**
NJ2 S **SKiKP** **06 35 28.0 +2.6**
NJ2 sS **sS** **06 35 34.0 +1.4**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,9.4s
NJ2 LR LR
comp=N,7μm,22.2s
NJ2 LR LR
comp=E,2μm,22.7s
NJ2 LR LR
comp=Z,3μm,21.4s
TBLG Delisi 73.78 338 *e*P **P** **06 25 54.9 -1.7**
TBLG Delisi 73.78 338 P **P** **06 25 54.9 -1.7**
AKH Akhalkalaki 73.92 337 P **P** **06 25 58.0 +0.3**
MAK Makhachkala 74.03 341 *e*P **P** **06 25 56.1 -1.9**
MAK *e* 06 26 11.9
MAK *e* 06 28 41.3
MAK *e*PPP PPP 06 30 29.9
MAK *e*S **SKiKP** **06 35 26.2 +0.3**
MAK *e* 06 36 01.4
MAK *e*SS **SS** **06 40 19.5 +4.0**
MAK *e*SSS SSS 06 43 24.2
MAK pmax pmax
comp=Z,185nm,1.6s
SSE Sheshan 74.12 41 P **P** **06 25 59.3 +0.5**
SSE sP **sP** **06 26 04.0 -1.9**
SSE S **S** **06 35 34.0 +2.7**
SSE SS **SS** **06 40 20.5 +3.4**
SSE pmax pmax
comp=Z,26nm,0.7s
SSE pmax pmax
comp=Z,160nm,4.1s
SSE LR LR
comp=N,2μm,20.4s
SSE LR LR
comp=E,1μm,20.4s
SSE LR LR
comp=Z,3μm,20.4s
GOR Gori 74.22 338 P **P** **06 26 00.3 +1.0**
MK31 Makanchi Array 74.43 6 *i*P **P** **06 25 57.4 -2.9**
MK31 pmax pmax
comp=Z,45nm,1.0s
MK31 Makanchi Array 74.43 6 *e*P **P** **06 25 57.7 -2.7**
MKAR Makanchi Array 74.43 6 P **P** **06 25 58.1 -2.2**
comp=Z,28nm,0.8s,baz=190,slow=5.5,SNR=65
MKAR LR LR 06 57 28.2
comp=Z,3μm,20.0s,baz=182,slow=35
MKAR Makanchi Array 74.43 6 P **P** **06 25 58.1 -2.2**
MKAR Makanchi Array 74.43 6 P **P** **06 25 58.1 -2.2**
TIY Taiyuan 74.60 31 *e*P **P** **06 26 02.3 +0.7**
TIY pP **pP** **06 26 07.0 +0.2**
TIY S **S** **06 35 35.8 -0.9**
TIY SKS **SKSac** **06 36 04.5 -4.8**
TIY pmax pmax
comp=Z,330nm,4.4s
TIY LR LR
comp=N,2μm,17.2s
TIY LR LR
comp=E,2μm,17.6s
TIY LR LR
comp=Z,2μm,16.6s
ONI Oni 74.98 338 P **P** **06 26 03.4 -0.3**
ZEI Tsey 74.99 338 *e*P **P** **06 26 04.2 +0.3**
ZEI pmax pmax
comp=Z,42nm,2.0s
BTO Baotou 75.92 28 *e*P **P** **06 26 08.8 -0.4**
KBZ Khabaz 76.17 338 P **P** **06 26 09.8 -0.6**
comp=Z,6.0nm,1.0s,baz=155,slow=5.7,SNR=9.0
KBZ LR LR 06 57 25.1
comp=Z,2μm,20.7s,baz=151,slow=34
KBZ Khabaz 76.17 338 P **P** **06 26 09.8 -0.6**
KBZ Khabaz 76.17 338 P **P** **06 26 09.8 -0.6**
ISP Isparta 76.35 326 PFAKE 06 26 20.0 +8.3
ISP LR LR
comp=Z,889nm,19.0s
BR131 Keskin Array S 76.40 330 *e*P **P** **06 26 12.4 +0.5**
comp=Z,14nm,0.8s
BRTR Keskin Array B 76.40 330 P **P** **06 26 10.8 -1.2**
comp=Z,14nm,0.8s,baz=149,slow=7.0,SNR=45
BRTR LR LR 06 59 09.0
comp=Z,810nm,18.1s,baz=121,slow=35
BRTR Keskin Array B 76.40 330 P **P** **06 26 10.8 -1.2**
KIV Kislovodsk 76.45 338 *e*P **P** **06 26 11.7 -0.4**
KIV *e*S **S** **06 35 58.3 +1.4**
KIV *e*SS **SS** **06 40 51.6 -0.8**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 76.45 338 PFAKE 06 26 20.0 +7.9
KIV LR LR
comp=Z,1μm,21.0s
KIV Kislovodsk 76.45 338 P **P** **06 26 13.1 +1.0**
SNR=5.7
KIV Kislovodsk 76.45 338 P **P** **06 26 13.6 +1.5**
comp=Z,135nm,1.3s,SNR=5.2
HHC Hu-ho-hao-te 76.78 29 *e*P **P** **06 26 14.8 +0.8**
HHC pP **pP** **06 26 19.5 +0.2**
HHC sP **sP** **06 26 21.8 +0.6**
HHC PP **PP** **06 29 09.5 +2.3**
HHC S **S** **06 36 01.5 +0.8**
HHC sS **sS** **06 36 09.3 0.0**
HHC SKS **SKSac** **06 36 21.5 -3.9**
HHC SS **SS** **06 41 01.3 +3.8**
HHC pmax pmax
comp=Z,29nm,1.3s
HHC pmax pmax
comp=Z,220nm,7.8s

HHC LR LR
comp=N,2μm,20.2s
HHC LR LR
comp=E,1μm,20.2s
HHC LR LR
comp=Z,1μm,18.2s
AB31 Akbulak array 77.36 351 *i*P **P** **06 26 15.2 -1.7**
ABKAR Akbulak array 77.36 351 *e*P **P** **06 26 15.9 -1.0**
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 77.95 3 LR LR 06 59 17.7
comp=Z,3μm,19.9s,baz=190,slow=35
KURK Kurchatov 78.05 4*c i*P **P** **06 26 19.3 -1.5**
KURK pmax pmax
comp=Z,112nm,2.5s
KURK Kurchatov 78.05 4 *e*P **P** **06 26 19.2 -1.5**
comp=Z,57nm,1.3s
KURK Kurchatov 78.05 4 P **P** **06 26 20.3 -0.5**
SNR=27
KURK Kurchatov 78.05 4 P **P** **06 26 19.8 -0.9**
comp=Z,175nm,1.1s,SNR=11
BJT Baijiatuan 78.19 32 PFAKE 06 26 30.0 +8.2
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 78.21 32 P **P** **06 26 22.5 +0.6**
BJI PP **PP** **06 29 23.0 +3.9**
BJI S **S** **06 36 15.3 -0.7**
BJI pmax pmax
comp=Z,25nm,1.6s
BJI pmax pmax
comp=Z,410nm,4.0s
BJI LR LR
comp=N,1μm,19.6s
BJI LR LR
comp=E,1μm,20.6s
BJI LR LR
comp=Z,2μm,31.4s
AKTO Aktyubinsk 78.78 350 P **P** **06 26 23.5 -1.3**
comp=Z,6.4nm,0.8s,baz=186,slow=3.2,SNR=20
AKTO Aktyubinsk 78.78 350 *i*P P 06 26 21.4 -3.4
AKTO pmax pmax
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 78.78 350 P **P** **06 26 23.5 -1.3**
ANN Anapa 79.05 335 *e*P **P** **06 26 25.2 -1.2**
ANN *e*S **S** **06 36 23.2 -1.5**
ANN pmax pmax
comp=Z,111nm,1.1s
VOSK Vostochnaya 79.94 359 P **P** **06 26 31.5 +0.4**
VOSK pmax pmax
comp=Z,13nm,1.5s
TOA0 Torodi Ar. Sit 80.20 290 *e*P **P** **06 26 32.3 -1.1**
TORD Torodi Ar. Bea 80.20 290 P **P** **06 26 32.8 -0.6**
comp=Z,8.7nm,1.0s,baz=123,slow=1.9,SNR=28
TORD LR LR 07 04 21.4
comp=Z,966nm,18.6s,baz=130,slow=37
TORD Torodi Ar. Bea 80.20 290 P **P** **06 26 32.8 -0.6**
ZRNK Zerenda 80.23 357 *i*P **P** **06 26 33.2 +0.6**
ZRNK pmax pmax
comp=Z,8.0nm,1.2s
BVA0 Borovoye Array 80.25 358 *i*P **P** **06 26 31.5 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.5s
BVAR Borovoye Array 80.25 358 P **P** **06 26 31.6 -1.2**
comp=Z,7.2nm,0.8s,baz=163,slow=6.6,SNR=18
BVAR LR LR 06 59 53.2
comp=Z,2μm,21.5s,baz=174,slow=34
BVAR Borovoye Array 80.25 358 P **P** **06 26 31.6 -1.2**
BVAR Borovoye Array 80.25 358 P **P** **06 26 31.6 -1.2**
SNZO South Karori 80.26 131 PFAKE 06 26 40.0 +6.7
SNZO LR LR
comp=Z,556nm,21.0s
BRVK Borovoye 80.29 358⇑ *e*P **P** **06 26 31.7 -1.3**
BRVK pmax pmax
comp=Z,64nm,2.5s
BRVK Borovoye 80.29 358 *e*P **P** **06 26 31.7 -1.3**
comp=Z,16nm,1.0s
BRVK LR LR
comp=Z,2μm,22.0s
BRVK Borovoye 80.29 358 P **P** **06 26 32.7 -0.3**
SNR=12
BRVK Borovoye 80.29 358 P **P** **06 26 31.7 -1.3**
comp=Z,89nm,1.0s,SNR=5.7
SIM Simferopol' 80.47 333 *e*P **P** **06 26 33.3 -0.8**
SIM *i*S **S** **06 36 42.0 +2.2**
SIM *e*PS PnS 06 37 47.0 +21
SIM pmax pmax
comp=Z,22nm,5.3s
SIM MLR MLR
comp=Z,467nm,17.4s
GUMO Guam 80.53 69 PFAKE 06 26 50.0 +15
GUMO LR LR
comp=Z,852nm,22.0s
SONM Songino Array 80.74 22 P **P** **06 26 34.5 -1.1**
comp=Z,16nm,0.9s,baz=202,slow=5.0,SNR=24
SONM PP **PP** **06 29 43.1 +3.0**
comp=Z,1.1nm,1.0s,baz=187,slow=10,SNR=3.6
SONM LR LR 07 03 32.2
comp=Z,2μm,18.9s,baz=195,slow=37
SONM Songino Array 80.74 22 P **P** **06 26 34.5 -1.1**
SONM PP **PP** **06 29 43.1 +3.0**
ULN Ulaanbaatar 80.98 22 *e*P **P** **06 26 36.2 -0.9**
comp=Z,37nm,1.0s
ULN LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 80.98 22 P **P** **06 26 36.1 -0.9**
SNR=20
ULN Ulaanbaatar 80.98 22 P **P** **06 26 35.3 -1.7**
ZAA0 Zalesovo Array 81.76 7 *e*P **P** **06 26 38.6 -2.1**
ZALV Zalesovo Beam 81.76 7 P **P** **06 26 38.5 -2.3**
comp=Z,23nm,0.8s,baz=198,slow=4.2,SNR=32
ZALV LR LR 07 01 17.0
comp=Z,2μm,21.1s,baz=196,slow=34
ZALV Zalesovo Beam 81.76 7 P **P** **06 26 38.5 -2.3**
ZALV Zalesovo Beam 81.76 7 P **P** **06 26 38.5 -2.3**
KDZ Kurdzhali 81.80 326 *i*P **P** **06 26 41.2 -0.1**
INCN Inchon 81.81 40 PFAKE 06 26 50.0 +8.5
INCN LR LR
comp=Z,3μm,20.0s
JMB Yambol 81.84 327 *i*P **P** **06 26 42.2 +0.7**
PRD Provadia 82.02 328 *i*P **P** **06 26 42.2 -0.2**
PSN Preselentsi 82.02 329 *i*P **P** **06 26 41.2 -1.2**
ZAK Zakamensk 82.02 19 *e*P **P** **06 26 40.6 -1.8**
ZAK pmax pmax
comp=Z,9.0nm,1.9s
RZN Rozhen 82.18 326 *i*P **P** **06 26 43.8 +0.2**
PMSA Palmer Station 82.19 197 LR LR 06 56 49.2
comp=Z,1μm,19.5s,baz=322,slow=31
TAM Tamanrasset 82.30 301 *e*P **P** **06 26 45.0 +0.4**
TAM pmax pmax
comp=Z,164nm,2.5s
TAM MLR MLR
comp=Z,582nm,20.0s
TAM Tamanrasset 82.30 301 *e*P **P** **06 26 45.0 +0.4**
comp=Z,164nm,2.5s
TAM LR LR
comp=Z,582nm,20.0s
NVS Novosibirsk 82.49 6 *e*P **P** **06 26 42.9 -1.6**
NVS *e*S **S** **06 36 58.2 -2.0**
NVS pmax pmax
comp=Z,238nm,2.5s
NVS pmax pmax
comp=N,75nm,2.2s
NVS pmax pmax
comp=Z,55nm,2.8s
NVS pmax pmax
comp=E,69nm,3.0s
NVS smax smax
comp=N,36nm,2.8s
PLD Plovdiv 82.50 326 *i*P **P** **06 26 44.6 -0.3**
KSAR Wonju Array Be 82.51 41 P **P** **06 26 43.8 -1.4**
TIRR Tirgusor 82.52 329 ⇓P **P** **06 26 46.0 +1.0**
TIRR Tirgusor 82.52 329 ⇓*i*P **P** **06 26 46.0 +1.0**
KSRS Korea Array 82.54 41 P **P** **06 26 43.8 -1.5**
comp=N,5.2nm,0.8s,baz=224,slow=5.2,SNR=11
KSRS LR LR 07 01 42.5
comp=N,3μm,20.4s,baz=223,slow=34
MOY Mondy 82.56 17 *e*P **P** **06 26 45.5 +0.3**
MOY pmax pmax
comp=Z,105nm,3.1s
DBIC Dimbokro 82.58 281 P **P** **06 26 46.2 +0.1**
comp=Z,14nm,1.1s,baz=154,slow=5.2,SNR=6.0
DBIC LR LR 07 01 49.0
comp=Z,1μm,18.6s,baz=101,slow=34
DBIC Dimbokro 82.58 281 P **P** **06 26 46.2 +0.1**
MMB Musomiste 82.61 325 *i*P **P** **06 26 45.6 0.0**
SZH Strazhica 82.76 327 *i*P **P** **06 26 43.8 -2.5**
DZM Mont Dzumac 82.80 111 *e*LR LR 06 52 40.9
comp=Z,2μm,22.2s
HNR Honiara 82.83 97 PFAKE 06 27 00.0 +13
HNR LR LR
comp=Z,1μm,20.0s
PGB Panagyurishte 83.09 326 *i*P **P** **06 26 46.4 -1.7**
KKB Krupnik 83.14 325 *i*P **P** **06 26 46.4 -1.9**
CFR Carcaliu 83.20 330 ⇓P **P** **06 26 49.5 +1.0**
CFR Carcaliu 83.20 330 ⇓*i*P **P** **06 26 49.5 +1.0**
SNY Shenyang 83.23 35 ⇓P **P** **06 26 48.0 -0.7**
SNY S **S** **06 37 07.0 -1.4**
SNY pmax pmax
comp=Z,270nm,4.5s
SNY LR LR
comp=N,780nm,24.0s
SNY LR LR
comp=E,770nm,28.2s
SNY LR LR
comp=Z,2μm,26.7s
TLY Talaya 83.29 19*d i*P **P** **06 26 47.2 -1.6**
TLY *e* 06 29 56.9
TLY *e*S **S** **06 37 06.3 -2.3**
TLY *e*PS **PnS** **06 37 56.8 -4.4**
TLY *e*PPS PPS 06 38 17.3
TLY pmax pmax
comp=Z,15nm,2.5s
TLY MLR MLR
comp=Z,2μm,21.0s
TLY Talaya 83.29 19 *e*P **P** **06 26 48.5 -0.3**
comp=Z,72nm,2.1s
TLY LR LR
comp=Z,3μm,21.0s
TLY Talaya 83.29 19 P **P** **06 26 50.2 +1.4**
SNR=10
TLY Talaya 83.29 19 P **P** **06 26 50.7 +1.9**
comp=Z,43nm,1.5s,SNR=6.6
VTS Vitosha 83.61 325 ⇓P **P** **06 26 51.1 +0.2**
VTS Vitosha 83.61 325 ⇓*i*P **P** **06 26 51.1 +0.2**
VTS Vitosha 83.61 325 *i*P **P** **06 26 48.5 -2.4**
VORD Divnogorie 83.70 339 *e*P **P** **06 26 50.4 -0.5**
VORD pmax pmax
comp=N,30nm,1.3s
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=E,5.0nm,0.6s
ISR Istrita 83.88 329 ⇓P **P** **06 26 52.8 +0.7**
ISR Istrita 83.88 329 ⇓*i*P **P** **06 26 52.8 +0.7**
WDD Wield Dalam 83.88 316 PFAKE 06 27 00.0 +7.8
WDD LR LR
comp=Z,900nm,22.0s
MPEP Malo Peshtene 83.90 326 *i*P **P** **06 26 51.6 -0.6**
VSR Storozhevoye 83.96 339 *e*P **P** **06 26 52.6 +0.4**
IRK Irkutsk 83.97 19 *e*P **P** **06 26 52.1 -0.2**
IRK pmax pmax
comp=Z,85nm,2.4s
KIS Kishinev 84.32 331 *e*P **P** **06 26 53.0 -1.2**
KIS Kishinev 84.32 331 *e*P **P** **06 26 53.0 -1.2**
KIS LRM MLR 07 01 48.0
comp=Z,900nm,16.0s
VRI Vrincioaia 84.36 329 ⇓P **P** **06 26 55.0 +0.5**
VRI Vrincioaia 84.36 329 ⇓*i*P **P** **06 26 55.0 +0.5**
PLOR Plostina 84.39 329 ⇑P **P** **06 26 54.9 +0.3**
PLOR Plostina 84.39 329 ⇑*i*P **P** **06 26 54.9 +0.3**
MLR Muntele Rosu 84.44 329 ⇓*i*P **P** **06 26 55.3 +0.3**
TIR Tirane 84.47 323 PFAKE 06 27 10.0 +15
TIR LR LR
comp=Z,991nm,20.0s
ARU Arti 84.55 352*d i*P **P** **06 26 54.8 -0.3**
ARU 06 30 08.2
ARU S **S** **06 37 17.9 -3.2**
ARU SS **SS** **06 42 52.2 -0.7**
ARU pmax pmax
comp=Z,129nm,2.5s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 84.55 352 *e*P **P** **06 26 54.8 -0.3**
comp=Z,280nm,2.0s
ARU LR LR
comp=Z,1μm,22.0s
ARU Arti 84.55 352 P **P** **06 26 55.5 +0.4**
comp=Z,189nm,2.1s,SNR=8.5
SVE Sverdlovsk 84.70 353 *e*P **P** **06 26 55.6 -0.3**
SVE *e* 06 30 16.8
SVE *e*S **S** **06 37 18.5 -4.0**
SVE pmax pmax
comp=Z,106nm,2.2s
SVE MLR MLR
comp=Z,2μm,19.0s
TIP Timpagrande 84.72 319 PFAKE 06 27 10.0 +13
TIP LR LR
comp=Z,431nm,20.0s
VOIR 84.81 328 ⇑P **P** **06 26 57.3 +0.5**
VOIR 84.81 328 ⇑*i*P **P** **06 26 57.3 +0.5**
ARR Arges 84.95 328 ⇑*i*P **P** **06 26 58.3 +0.8**
CN2 Changchun 85.60 35 *e*P **P** **06 27 03.0 +2.3**
CN2 *es*P **sP** **06 27 10.0 +2.1**
CN2 *e*S **SKKSac** **06 37 34.0 +1.8**
CN2 SS **SS** **06 43 14.5 +5.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,20.0s
CN2 LR LR
comp=E,1μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
CBIJ Chichi jima 85.65 57 LR LR 07 01 09.6
comp=Z,737nm,20.0s,baz=240,slow=33
CUC Castrocucco 85.80 320 PFAKE 06 27 10.0 +8.1
CUC LR LR
comp=Z,409nm,20.0s
BURAR Bucovina Array 86.36 330 ⇓*i*P **P** **06 27 05.0 +0.4**
BUR08 Bucovina Ar. S 86.39 330 *e*P **P** **06 27 04.8 +0.1**
BZS Buzias 86.58 327 ⇑P **P** **06 27 05.6 +0.1**
BZS Buzias 86.58 327 ⇑*i*P **P** **06 27 05.6 +0.1**
CIT Chita 86.75 24 *e*P **P** **06 27 07.2 +0.9**
CIT pmax pmax
comp=Z,198nm,2.6s
DRGR 86.91 328 ⇑P **P** **06 27 07.1 -0.1**
DRGR 86.91 328 ⇑*i*P **P** **06 27 07.1 -0.1**
HIA Hailar 86.97 28 PFAKE 06 27 20.0 +13
HIA LR LR
comp=Z,2μm,22.0s
AK02 Malin Array Si 87.03 334 *e*P **P** **06 27 05.9 -1.6**
AK01 Malin Array Si 87.05 334 *e*P **P** **06 27 08.4 +0.7**
AKASG Malin Array Be 87.06 334 P **P** **06 27 06.6 -1.1**
comp=Z,12nm,0.9s,baz=136,slow=4.6,SNR=23
AKASG Malin Array Be 87.06 334 P **P** **06 27 06.6 -1.1**
AKASG Malin Array Be 87.06 334 P **P** **06 27 06.6 -1.1**
KIEV Kiev 87.06 334 *e*P **P** **06 27 06.4 -1.3**
KIEV pmax pmax
comp=Z,23nm,1.0s
KIEV MLR MLR
comp=Z,797nm,20.0s
KIEV Kiev 87.06 334 *e*P **P** **06 27 06.4 -1.3**
comp=Z,23nm,1.0s
KIEV LR LR
comp=Z,797nm,20.0s
KEST Kesra 87.09 313 P **P** **06 27 08.9 +0.6**
comp=Z,5.2nm,1.1s,baz=184,slow=4.3,SNR=5.4
KEST LR LR 07 06 57.2
comp=Z,463nm,18.4s,baz=66,slow=36
KEST Kesra 87.09 313 P **P** **06 27 08.9 +0.6**
TRPA Tarpa 87.96 329 ⇓*i*P **P** **06 27 12.1 0.0**
TRPA Tarpa 87.96 329⇑ *e*P **P** **06 27 13.2 +1.1**
OBN Obninsk 88.11 340*o i*P **P** **06 27 13.3 +0.7**
OBN *e* 06 37 56.5
OBN *e*PS **PS** **06 39 01.8 +1.1**
OBN *e*SSS SSS 06 47 24.4
OBN pmax pmax
comp=Z,93nm,1.7s
OBN MLR MLR
comp=Z,900nm,20.0s
OBN Obninsk 88.11 340 PFAKE 06 27 20.0 +7.4
OBN LR LR
comp=Z,967nm,21.0s
OBN Obninsk 88.11 340 P **P** **06 27 14.5 +1.9**
comp=Z,198nm,1.5s,SNR=6.8
MAJO Matsushiro 88.30 47 PFAKE 06 27 20.0 +5.9
MAJO LR LR
comp=Z,2μm,20.0s
MJAR Matsushiro Arr 88.30 47 P **P** **06 27 13.6 -0.5**
comp=Z,0.7nm,0.3s,baz=232,slow=5.9,SNR=5.1

MJAR LR LR 07 04 58.8
comp=Z,1μm,21.2s,baz=260,slow=34
MJAR Matsushiro Arr 88.30 47 P **P 06 27 13.6 -0.5**
MDJ Mudanjiang 88.32 37 PFAKE 06 27 20.0 +6.1
MDJ LR LR
comp=Z,1μm,19.0s
UZH Uzhgorod 88.44 329⇑*iP* **P 06 27 13.2 -1.2**
UZH *e* 06 37 38.6
UZH *e*S **S 06 37 54.2 -5.0**
UZH *e* 06 39 05.0
PKSM Moragy 88.48 326⇓*iP* **P 06 27 14.6 0.0**
PKSM Moragy 88.48 326⇓*iP* **P 06 27 14.6 0.0**
PKSM Moragy 88.48 326⇑*eP* **P 06 27 15.4 +0.8**
LVV L'vov 88.53 331 *eP* **P 06 27 15.2 +0.4**
KOLS Kolonicke sedl 88.67 329 *eP* **P 06 27 16.9 +1.4**
KOLS pmax pmax
comp=Z,46nm,1.8s
KOLS Kolonicke sedl 88.67 329 *eP* **P 06 27 16.9 +1.4**
KOLS *e*PP **PP 06 30 48.8 +4.2**
AQU L'Aquila 88.72 320 PFAKE 06 27 30.0 +14
AQU LR LR
comp=Z,532nm,21.0s
KWP Kalwaria Pacla 88.98 330 *eP* **P 06 27 18.2 +1.2**
KWP Kalwaria Pacla 88.98 330 *eP* **P 06 27 15.8 -1.1**
KWP *e* 06 30 49.5
KWP pmax pmax
comp=Z,44nm,1.1s
KWP MLR MLR
comp=Z,705nm,20.0s
KWP Kalwaria Pacla 88.98 330 *eP* **P 06 27 15.8 -1.1**
comp=Z,44nm,1.1s
KWP *e*PP **PP 06 30 49.5 +2.4**
KWP LR LR
comp=Z,705nm,20.0s
KWP Kalwaria Pacla 88.98 330⇓*iP* **P 06 27 17.3 +0.4**
KWP Kalwaria Pacla 88.98 330 *eP* **P 06 27 18.1 +1.2**
CRVS Cervenica-Dubn 89.02 329 *eP* **P 06 27 18.5 +1.3**
CRVS pmax pmax
comp=Z,111nm,2.4s
CRVS Cervenica-Dubn 89.02 329 *eP* **P 06 27 18.4 +1.3**
CRVS *e*PP **PP 06 30 50.0 +2.6**
PSZ Piszkesteto 89.05 327 PFAKE 06 27 30.0 +13
PSZ LR LR
comp=Z,662nm,20.0s
PSZ Piszkesteto 89.05 327⇑*eP* **P 06 27 17.3 -0.1**
BUD Budapest 89.17 327⇑*eP* **P 06 27 18.4 +0.6**
USRK Ussuriysk Arra 89.34 38 LR LR 07 06 21.7
comp=Z,μm,20.2s,baz=216,slow=35
BEHE Becsehely 89.60 325⇑*eP* **P 06 27 21.2 +1.3**
NIE Niedzica 89.91 329 *eP* **P 06 27 21.5 +0.2**
NIE Niedzica 89.91 329 *eP* **P 06 27 21.5 +0.2**
VYHS Vyhne 89.96 327 *eP* **P 06 27 22.8 +1.2**
VYHS pmax pmax
comp=Z,76nm,2.3s
VYHS Vyhne 89.96 327 *eP* **P 06 27 22.8 +1.2**
EFI East Falkland 90.29 208 PFAKE 06 27 30.0 +6.8
EFI LR LR
comp=Z,1μm,19.0s
SOP Sopron 90.53 326⇑*eP* **P 06 27 26.0 +1.8**
MICGM Minsk 90.54 335 *e* **P 06 27 26.0 +1.9**
MNK Minsk 90.56 335 *eP* **P 06 27 26.0 +1.9**
SOKA Soboth 90.64 324⇓*iPcP* **PcP 06 27 27.1 +1.1**
comp=Z,11nm,1.3s
OJC Ojcow 90.71 329 *eP* **P 06 27 24.5 -0.5**
OJC Ojcow 90.71 329 *eP* **P 06 27 24.5 -0.5**
ARSA Arzberg 90.76 325⇓*iP* **P 06 27 25.8 +0.5**
comp=Z,17nm,1.4s
ARSA Arzberg 90.76 325⇓*iP* **P 06 27 25.8 +0.5**
comp=Z,17nm,1.4s
CONA Conrad Observa 91.04 326⇑*iP* **P 06 27 25.4 -1.3**
comp=Z,15nm,2.0s
CONA Conrad Observa 91.04 326⇑*iP* **P 06 27 25.4 -1.3**
comp=Z,15nm,2.0s
OKC Ostrava-Krasne 91.22 328 *eP* **P 06 27 28.5 +1.2**
OKC MLR MLR
comp=Z,500nm,18.4s
OKC Ostrava-Krasne 91.22 328 *eP* **P 06 27 28.5 +1.2**
OKC AMS AMS 07 08 50.0
comp=Z,500nm,18.4s
VLC Villacollemand 91.57 320 PFAKE 06 27 40.0 +11
VLC LR LR
comp=Z,578nm,19.0s
MOA Molln 91.80 325⇑*iP* **P 06 27 30.3 +0.2**
comp=Z,6.9nm,1.2s
MOA Molln 91.80 325⇑*iP* **P 06 27 30.3 +0.2**
comp=Z,6.9nm,1.2s
SUW Suwalki 91.98 333 *eP* **P 06 27 31.8 +1.0**
SUW Suwalki 91.98 333 *eP* **P 06 27 31.7 +1.0**
ABTA Abfaltersbach 92.01 323⇑*iP* **P 06 27 33.5 +2.3**
comp=Z,25nm,1.9s
ABTA Abfaltersbach 92.01 323⇑*iPcP* **P 06 27 33.5 +2.3**
comp=Z,25nm,1.9s
TREC Trest 92.13 326 *eP* **P 06 27 32.8 +1.1**
TREC MLR MLR
comp=Z,600nm,20.3s
TREC Trest 92.13 326 *eP* **P 06 27 32.8 +1.1**
TREC AMS AMS 07 08 20.0
comp=Z,600nm,20.3s
KLMR Klimovskoe 92.25 344 *eP* **P 06 27 29.5 -2.4**
KLMR pmax pmax
comp=Z,58nm,1.5s
KLMR MLR MLR
comp=Z,1μm,21.0s
DPC Dobruska-Polom 92.43 328 *eP* **P 06 27 34.6 +1.6**
DPC MLR MLR
comp=Z,700nm,19.9s
DPC Dobruska-Polom 92.43 328 *eP* **P 06 27 34.6 +1.6**
DPC AMS AMS 07 19 50.0
comp=Z,700nm,19.9s
KLR Kul'dur 92.49 34 *eP* P 06 27 28.8 -4.5
KLR pmax pmax
comp=Z,170nm,2.6s
GERES GERESS Array B 92.73 325 P **P 06 27 34.2 -0.4**
comp=Z,0.2nm,0.2s,baz=141,slow=8.6,SNR=3.6
GERES GERESS Array B 92.73 325 P **P 06 27 34.2 -0.4**
KSP Ksiaz 92.77 328 *eP* **P 06 27 36.0 +1.5**
KSP Ksiaz 92.77 328⇑*eP* **P 06 27 35.9 +1.4**
KSP MLR MLR
comp=Z,2μm,20.1s
KSP Ksiaz 92.77 328 *eP* **P 06 27 36.0 +1.5**
KHC Kasperske Hory 92.98 325 *eP* **P 06 27 36.0 +0.4**
KHC MLR MLR
comp=Z,500nm,18.9s
KHC Kasperske Hory 92.98 325 *eP* **P 06 27 36.0 +0.4**
KHC AMS AMS 07 12 30.0
comp=Z,500nm,18.9s
PRU Pruhonice 93.05 326 AMS AMS 07 19 20.0
comp=Z,500nm,19.6s
TUE Stuetta 93.56 322 PFAKE 06 27 50.0 +11
TUE LR LR
comp=Z,528nm,20.0s
HABR Khabarovsk 93.69 36 P **P 06 27 36.9 -1.9**
HABR *e**SP **sP 06 27 41.5 -4.5**
HABR *e* 06 31 20.2
HABR *e*PPP PPP 06 33 20.2
HABR *e**SS **SKSac 06 38 16.7 +4.2**
HABR *e* 06 38 45.4
HABR *e*PS **PS 06 39 58.7 -4.3**
HABR *e*SS **SS 06 45 01.2 -4.8**
HABR *e*SSS SSS 06 48 41.5
HABR pmax pmax
comp=E,118nm,2.3s
HABR pmax pmax
comp=N,57nm,2.3s
HABR pmax pmax
comp=Z,122nm,2.8s
HABR MLR MLR
comp=Z,2μm,22.0s
BNI Bardonecchia 94.23 319 PFAKE 06 27 50.0 +8.4
BNI LR LR
comp=Z,624nm,19.0s
NKC Novy Kostel 94.24 326 *eP* **P 06 27 41.2 -0.2**
NKC Novy Kostel 94.24 326 *eP* **P 06 27 41.2 -0.2**
ERM Erimo 94.57 45 PFAKE 06 27 50.0 +7.0
ERM LR LR
comp=Z,1μm,19.0s
CLL Collm 94.65 327 *eP* **P 06 27 43.0 -0.2**
CLL *e*S **S 06 38 52.0 -3.4**
CLL MLR MLR
comp=Z,600nm,20.3s
CLL Collm 94.65 327 *eP* **P 06 27 43.0 -0.2**
CLL *e*PP **PP 06 31 30.0 -1.8**
CLL *e*S **S 06 38 52.0 -3.4**
CLL *e*PS **PS 06 40 16.0 +2.5**
CLL *e* 06 40 34.0
CLL *e*PPS PPS 06 41 01.0
CLL *e*SS **SS 06 45 13.0 -6.6**
CLL *e*SSS SSS 06 49 00.0
CLL *e*SSSS 06 52 54.0
CLL LV 07 10 00.0
comp=Z,600nm,20.3s
CLL LmH 07 21 00.0
comp=N,600nm,18.9s
CLL LmH 07 21 00.0
comp=E,100nm,20.4s
MDT Midelt 95.19 304 LR LR 07 10 38.3
comp=E,973nm,19.7s,baz=95,slow=36
BFO Black Forest 95.22 323 PFAKE 06 28 00.0 +14
BFO LR LR
comp=Z,427nm,19.0s
ASAJ Asahikawa 95.38 43 LR LR 07 11 22.4
comp=Z,832nm,18.4s,baz=253,slow=36
SSB Saint Sauveur 95.60 319 PFAKE 06 28 00.0 +12
SSB LR LR
comp=Z,608nm,19.0s
ECH Echery 95.79 322 PFAKE 06 28 00.0 +11
ECH LR LR
comp=Z,472nm,20.0s
YSS Yuzh-Sakhalins 97.03 40 *eP* **P 06 27 53.2 -0.9**
YSS pmax pmax
comp=Z,39nm,1.7s
YSS Yuzh-Sakhalins 97.03 40 PFAKE 06 28 00.0 +5.8
YSS LR LR
comp=Z,673nm,22.0s
WLF Walferdange 97.16 323 PFAKE 06 28 10.0 +15
WLF LR LR
comp=Z,637nm,19.0s
RTC Rabat Centre 97.39 304 PFAKE 06 28 10.0 +14
RTC LR LR
comp=Z,999nm,22.0s
ESDC Sonseca Array 98.07 311 P Pdif 06 28 00.6 +1.5
comp=Z,0.3nm,0.3s,baz=108,slow=3.2,SNR=5.5
ESDC LR LR 07 11 36.7
comp=Z,309nm,20.2s,baz=150,slow=35
ESDC Sonseca Array 98.07 311 P Pdif 06 28 00.6 +1.5
PAB San Pablo 98.27 310 PFAKE 06 28 10.0 +10
PAB LR LR
comp=Z,427nm,20.0s
TARA Tarawa 99.23 93 PFAKE 06 28 20.0 +15
TARA LR LR
comp=Z,1μm,19.0s
APA Apatity 99.37 346⇑*eP* Pdif 06 28 16.0 +12
LVZ Lovozero 99.37 346 PFAKE 06 28 20.0 +16
LVZ LR LR
comp=Z,1μm,22.0s
YAK Yakutsk 100.03 24 PFAKE 06 28 20.0 +13
YAK LR LR
comp=Z,1μm,20.0s
MTE Manteigas 100.83 310 PFAKE 06 28 20.0 +8.6
MTE LR LR
comp=Z,442nm,19.0s
KONO Kongsberg 101.29 332 PFAKE 06 28 20.0 +7.2
KONO LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 102.42 215 PFAKE 06 28 30.0 +11
TRQA LR LR
comp=Z,2μm,21.0s
KEV Kevo 102.54 345 PFAKE 06 28 30.0 +12
KEV LR LR
comp=Z,1μm,19.0s
SACV Santiago Islan 102.71 280 PFAKE 06 28 30.0 +10
SACV LR LR
comp=Z,675nm,19.0s
SPB Sao Paulo 103.43 234 PFAKE 06 28 40.0 +17
SPB LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 104.06 256 PFAKE 06 28 40.0 +14
RCBR LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 106.11 16 PFAKE 06 33 00.0
TIXI LR LR
comp=Z,2μm,19.0s
PET Petropavlovsk 108.89 40 PFAKE 06 33 00.0
PET LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 111.63 349 PFAKE 06 33 10.0
KBS LR LR
comp=Z,1μm,20.0s
CMLA Cha da Macela 112.79 302 PFAKE 06 33 10.0
CMLA LR LR
comp=Z,1μm,19.0s
TBI Tubuai 114.76 137 *eP*S PS 06 43 40.6 +0.7
comp=Z,180nm,28.0s
TBI *e*SS SS 06 50 00.3 +6.0
comp=Z,286nm,32.5s
TBI *e*LR LR 07 07 34.1
comp=Z,1μm,32.8s
BILL Bilibino 116.35 25 PFAKE 06 33 20.0 +15
BILL LR LR
comp=Z,1μm,21.0s
LVC Limon Verde 118.16 220 PFAKE 06 33 20.0 +9.5
LVC LR LR
comp=Z,46nm,20.0s
PPT2 Papeete2 118.91 132 *eP*S PS 06 44 13.5 -4.4
comp=Z,112nm,27.0s
PPT2 *e*LR LR 07 09 28.9
comp=Z,2μm,27.5s
LPAZ La Paz 122.54 225 PKP **PKPdf 06 33 19.6 +0.1**
comp=Z,3.3nm,0.9s,baz=92,slow=5.2,SNR=9.3
LPAZ La Paz 122.54 225 PKP **PKPdf 06 33 19.6 +0.1**
RKT Rikitea 122.75 149 *e*LR LR 07 11 18.4
comp=Z,778nm,32.2s
RKT Rikitea 122.75 149 *e*T T 08 48 13.0
SAML Samuel 124.35 236 PFAKE 06 33 30.0 +7.7
SAML LR LR
comp=Z,1μm,19.0s
SFJD Kangerlussuaq 128.11 335 PFAKE 06 33 40.0 +12
SFJD LR LR
comp=Z,940nm,19.0s
NNA Nana 131.15 220 PFAKE 06 33 50.0 +15
NNA LR LR
comp=Z,908nm,21.0s
RES Resolute Bay 132.40 356 PKP **PKPdf 06 33 36.9 +1.1**
comp=Z,2.9nm,0.8s,baz=20,slow=2.9,SNR=15
RES Resolute Bay 132.40 356 PKP **PKPdf 06 33 36.9 +1.1**
BBGH Gun Hill 133.74 262 PFAKE 06 33 50.0 +10
BBGH LR LR
comp=Z,1μm,19.0s
COLA College 134.56 23 PFAKE 06 33 50.0 +10
COLA LR LR
comp=Z,1μm,20.0s
ILAR Eielson Array 134.96 23 PKP **PKPdf 06 33 41.1 +0.2**
comp=Z,2.3nm,1.0s,baz=284,slow=2.9,SNR=11
ILAR PP **PP 06 36 19.2 +3.6**
comp=Z,0.8nm,0.9s,baz=338,slow=5.1,SNR=4.7
ILAR Eielson Array 134.96 23 PKP **PKPdf 06 33 41.1 +0.2**
ILAR PP **PP 06 36 19.2 +3.6**
GRGR Grenville 135.13 259 PFAKE 06 33 50.0 +7.3
GRGR LR LR
comp=Z,534nm,22.0s
FDF Fort de France 135.81 263 PFAKE 06 34 00.0 +16
FDF LR LR
comp=Z,503nm,21.0s
INK Inuvik 136.20 14 PKP **PKPdf 06 33 44.1 +1.1**
comp=Z,3.3nm,0.8s,baz=255,slow=2.3,SNR=8.8
INK Inuvik 136.20 14 PKP **PKPdf 06 33 44.1 +1.1**
FRB Frobisher Bay 136.22 337 PKP **PKPdf 06 33 43.3 +0.1**
comp=Z,1.9nm,1.0s,baz=274,slow=9.6,SNR=4.3
FRB Frobisher Bay 136.22 337 PKP **PKPdf 06 33 43.3 +0.1**
ANWB Willy Bob 137.51 266 PFAKE 06 34 00.0 +13
ANWB LR LR
comp=Z,977nm,22.0s
SCHQ Schefferville 140.26 324 PKP **PKPdf 06 33 51.6 +0.7**
comp=Z,4.9nm,0.9s,baz=116,slow=0.8,SNR=3.9
SCHQ Schefferville 140.26 324 PKP **PKPdf 06 33 51.6 +0.7**
SJG San Juan 141.54 265 PFAKE 06 34 10.0 +16
SJG LR LR
comp=Z,959nm,22.0s
OTAV Otavalo 141.58 230 *e*PKPdf **PKPdf 06 33 51.4 -3.8**
OTAV LR LR
comp=Z,1μm,19.0s
ROSC El Rosal 141.75 240 PKP **PKPdf 06 33 55.0 -0.4**
comp=Z,7.9nm,0.9s,baz=103,slow=5.0,SNR=8.2
ROSC El Rosal 141.75 240 PKPdf **PKPdf 06 33 54.9 -0.4**
BBSR BB Station 143.39 288 PFAKE 06 34 10.0 +13
BBSR LR LR
comp=Z,510nm,21.0s
YKW3 Yellowknife Ar 144.59 6 *e*PKPdf **PKPab 06 33 55.1 -1.8**
YKA Yellowknife Ar 144.66 6 PKP **PKPab 06 33 55.9 -1.2**
comp=Z,5.8nm,0.9s,baz=339,slow=3.6,SNR=40
YKA PP **PP 06 37 14.7 -0.2**
comp=Z,1.1nm,1.0s,baz=347,slow=5.6,SNR=4.0
YKA Yellowknife Ar 144.66 6 PKP **PKPab 06 33 56.0 -1.2**
YKA PP **PP 06 37 14.7 -0.2**
DLBC Dease Lake 145.11 21 PKP **PKPbc 06 33 57.8 -1.3**
comp=Z,23nm,0.9s,baz=319,slow=3.1,SNR=13
DLBC Dease Lake 145.11 21 PKP **PKPbc 06 33 57.8 -1.3**
DLBC *e*PKPdf **PKPab 06 33 58.7 -0.4**
WRAK Wrangell Islan 145.84 25 PFAKE 06 34 10.0 +8.3
WRAK LR LR
comp=Z,1μm,19.0s
WVL Waterville 145.86 310 *e*PKPbc **PKPab 06 34 02.4 +0.2**
SDDR Presa de Saban 146.39 263 *e*PKPdf **PKPdf 06 34 03.5 +0.7**
SDDR *e*PKPbc **PKPab 06 34 05.9 +0.9**
SDDR LR LR
comp=Z,850nm,21.0s
GRTK Grand Turk 147.09 267 PFAKE 06 34 20.0 +12
GRTK LR LR
comp=Z,705nm,19.0s
LBNH Lisbon 147.51 310 *e*PKIKP **PKPdf 06 34 03.6 -0.3**
LBNH MLR MLR
comp=Z,928nm,20.0s
LBNH Lisbon 147.51 310 *e*PKPdf **PKPdf 06 34 03.6 -0.3**
LBNH LR LR
comp=Z,928nm,20.0s
PAYG Puerto Ayora 147.78 212 *e*PKPdf **PKPdf 06 34 06.1 +0.7**
PAYG LR LR
comp=Z,1μm,19.0s
FRNY Flat Rock 148.41 312 *e*PKPdf **PKPdf 06 34 06.1 +0.7**
FRNY *e*PKPbc **PKiKP 06 34 09.9 -0.6**
BCIP Isla Barro Col 148.69 239 PFAKE 06 34 20.0 +5.9
BCIP LR LR
comp=Z,875nm,22.0s
ACCN Adirondack Com 148.98 309 *e*PKPbc **PKPbc 06 34 11.5 +1.1**
LONY Lake Ozonia 149.15 312 *e*PKPdf **PKPdf 06 34 06.3 -0.3**
LONY LR LR
comp=Z,744nm,20.0s
NCB Newcomb 149.15 311 *e*PKPbc **PKPbc 06 34 11.7 +0.9**
NCB LR LR
comp=Z,930nm,20.0s
TRY Troy 149.19 308 *e*PKPdf **PKPdf 06 34 07.9 +1.2**
GTBY Guantanamo Bay 150.09 262 PFAKE 06 34 20.0 +0.3
GTBY LR LR
comp=Z,761nm,20.0s
BBB Bella Bella 150.65 27 PKPbc **PKPbc 06 34 13.6 -0.5**
comp=Z,13nm,0.9s,baz=247,slow=6.4,SNR=5.7
BBB Bella Bella 150.65 27 PKPbc **PKPbc 06 34 13.6 -0.5**
BINY Binghamton 150.99 308 PFAKE 06 34 20.0 -2.9
BINY LR LR
comp=Z,831nm,20.0s
MTDJ Mount Denham 151.56 257 PFAKE 06 34 20.0 +2.5
MTDJ LR LR
comp=Z,965nm,20.0s
FFC Flin Flon 152.61 354 *e*PKIKP **PKPdf 06 34 09.6 -2.0**
FFC *e* 06 34 28.0
FFC MLR MLR
comp=Z,953nm,21.0s
FFC Flin Flon 152.61 354 *e*PKPdf **PKPdf 06 34 09.6 -2.0**
FFC *e*PKPbc **PKPbc 06 34 18.3 -0.3**
FFC *e*PKPab **PKPab 06 34 28.0 -1.1**
FFC LR LR
comp=Z,953nm,21.0s
SSPA Standing Stone 152.87 306 *e*PKPdf **PKPdf 06 34 11.5 -0.9**
SSPA *e*PKPbc **PKiKP 06 34 20.2 +0.4**
CBN Corbin 153.21 301 PFAKE 06 34 20.0 -0.4
CBN LR LR
comp=Z,826nm,20.0s
JTS JuntasAbangare 153.23 234 PFAKE 06 34 20.0 -1.2
JTS LR LR
comp=Z,1μm,21.0s
ERPA Erie 153.77 311 PFAKE 06 34 20.0 -1.6
ERPA LR LR
comp=Z,875nm,21.0s
CNNC Cliffs of the 154.23 295 PFAKE 06 34 30.0 -6.7
CNNC LR LR
comp=Z,804nm,20.0s
GLMI Grayling 155.27 320 PFAKE 06 34 30.0 -11
GLMI LR LR
comp=Z,1μm,22.0s
BLA Blacksburg 155.80 300 PFAKE 06 34 30.0 +13
BLA LR LR
comp=Z,983nm,21.0s
ULM Lac du Bonnet 155.83 343 PKPab **PKPab 06 34 42.8 -0.1**
comp=Z,5.8nm,0.9s,baz=9.7,slow=4.7,SNR=5.0
ULM Lac du Bonnet 155.83 343 PKPab **PKPab 06 34 42.8 -0.1**
NLWA Neilton Lookou 156.08 29 PFAKE 06 34 30.0 +13
NLWA LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 156.09 314 PFAKE 06 34 30.0 +13
AAM LR LR
comp=Z,1μm,21.0s
EYMN Ely 156.39 334 PFAKE 06 34 30.0 +13
EYMN LR LR
comp=Z,1μm,22.0s
NHSC New Hope 156.40 290 PFAKE 06 34 30.0 +12
NHSC LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 156.61 309 *e*PKPab **PKPab 06 34 47.2 +0.5**
ACSO LR LR
comp=Z,792nm,21.0s
AGMN Agassiz Nation 157.60 341 *e*PKPab **PKPab 06 34 51.0 +0.4**
AGMN LR LR
comp=Z,794nm,20.0s
NEW Newport 157.79 19 PKP **PKPdf 06 34 18.8 -0.2**
comp=Z,2.2nm,1.0s,baz=33,slow=1.7,SNR=4.6
NEW PKPab **PKPab 06 34 51.5 0.0**
comp=Z,3.2nm,1.0s,baz=297,slow=6.0,SNR=5.1
NEW Newport 157.79 19 PKP **PKPdf 06 34 18.8 -0.2**
NEW *e*PKPdf **PKPdf 06 34 19.6 +0.6**
NEW PKPab **PKPab 06 34 51.5 0.0**
NEW *e*PKPab PKPab 06 34 52.1 +0.6
NEW LR LR
comp=Z,1μm,19.0s
NEW Newport 157.79 19⇑P **PKPdf 06 34 18.7 -0.2**
baz=158
A17A Triple J Farms 158.41 7⇓P **PKPdf 06 34 19.3 -0.4**
baz=158
A22A Carney Farms, 158.56 358⇓P **PKPdf 06 34 19.1 -0.8**
baz=158
A21A Bergtoll Ranch 158.58 0⇑P **PKPdf 06 34 19.0 -0.8**
baz=158
HAWA Hanford 158.65 25 PFAKE 06 34 30.0 +10
HAWA LR LR
comp=Z,808nm,21.0s
A20A Cobblestone Ra 158.67 2⇓P **PKPdf 06 34 18.5 -1.5**
baz=159
DGMT Dagmar 159.00 355 PFAKE 06 34 30.0 +10
DGMT LR LR
comp=Z,1μm,21.0s
SWMT Swartz Lake 159.27 14 *e*PKPdf **PKPdf 06 34 20.4 -0.4**
SWMT *e*PKPab **PKPab 06 34 58.1 +0.1**
EGMT Eagleton 159.41 6 *e*PKPdf **PKPdf 06 34 18.8 -2.1**
EGMT *e*PKPab **PKPab 06 34 58.5 0.0**
EGMT LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 159.41 6⇓P **PKPdf 06 34 19.5 -1.4**
baz=159
C17A Wharram Farm, 159.69 8⇓P **PKPdf 06 34 20.5 -0.8**
baz=160
C21A Desert Coulee 159.74 1⇑P **PKPdf 06 34 20.7 -0.5**
baz=160
C19A Slack Wire Ran 159.76 4⇓P **PKPdf 06 34 21.0 -0.3**
baz=160
D14A Greenough 159.78 13⇓P **PKPdf 06 34 20.9 -0.6**
baz=160
MSO Missoula 159.93 14 PFAKE 06 34 30.0 +8.4
MSO LR LR
comp=Z,933nm,22.0s
MSO Missoula 159.93 14⇓P **PKPdf 06 34 20.1 -1.5**
baz=160
D16A Dana Ranch, Ca 160.18 10⇓P **PKPdf 06 34 21.3 -0.6**
baz=160
D19A Cripps Ranch, 160.34 4⇓P **PKPdf 06 34 20.3 -1.7**
baz=160
D22A Cohagen 160.41 359⇓P **PKPdf 06 34 22.3 +0.2**
baz=160
D20A Manuel Ranch, 160.45 3⇑P **PKPdf 06 34 21.6 -0.5**
baz=160
HDIL Hopedale 160.59 316 PFAKE 06 34 30.0 +7.6
HDIL LR LR
comp=Z,879nm,21.0s
YBH Yreka Blue Hor 160.75 39 PKPab **PKPab 06 35 04.0 -0.6**
comp=Z,2.5nm,0.9s,baz=70,slow=6.4,SNR=2.9
YBH Yreka Blue Hor 160.75 39 PKPab **PKPab 06 35 04.0 -0.6**

BMO	**Blue Mountains**	**160.77**	**23**	PFAKE			06 34 30.0	+7.4
BMO				LR	LR			
	comp=Z,706nm,20.0s							
BOZ	**Bozeman (W)**	**161.51**	**11**	*e*PKIKP	**PKPdf**		**06 34 24.4**	**+1.0**
BOZ				MLR	MLR			
	comp=Z,964nm,21.0s							
BOZ	**Bozeman (W)**	**161.51**	**11**	*e*PKPdf	**PKPdf**		**06 34 24.4**	**+1.0**
BOZ				LR	LR			
	comp=Z,964nm,21.0s							
BOZ	**Bozeman (W)**	**161.51**	**11**	⇓P	**PKPdf**		**06 34 23.0**	**-0.5**
	baz=161							
G14A	**Jackson**	**161.54**	**15**	⇑P	**PKPab**		**06 35 06.8**	**-1.3**
	baz=161							
TEIG	**Tepich**	**161.59**	**251**	PFAKE			06 34 30.0	+6.0
TEIG				LR	LR			
	comp=Z,724nm,21.0s							
DLMT	**Dillon**	**161.61**	**13**	*e*PKPdf	**PKPdf**		**06 34 23.6**	**0.0**
DLMT				*e*PKPab	**PKPab**		**06 35 08.7**	**+0.4**
F24A	**Ekalaka**	**161.63**	**355**	⇑P	**PKPab**		**06 35 07.2**	**-1.1**
	baz=162							
F19A	**Roth Farm, Mol**	**161.63**	**5**	⇑P	**PKPab**		**06 35 06.4**	**-1.9**
	baz=162							
G15A	**Dillon**	**161.82**	**13**	⇓P	**PKPdf**		**06 34 23.1**	**-0.7**
	baz=162							
G15A				⇑P	**PKPab**		**06 35 08.0**	**-1.3**
	baz=162							
G15A				⇑P	**PKPab**		**06 35 08.0**	**-1.3**
	baz=162							
G15A				⇑P	**PKPab**		**06 35 08.0**	**-1.3**
	baz=162							
H12A	**Diamond D Ranc**	**161.83**	**19**	⇑P	**PKPab**		**06 35 08.5**	**-0.9**
	baz=162							
SCIA	**State Center**	**161.87**	**326**	PFAKE			06 34 30.0	+6.3
SCIA				LR	LR			
	comp=Z,1μm,21.0s							
ECSD	**EROS Data Cent**	**161.87**	**336**	*e*PKPdf	**PKPdf**		**06 34 23.8**	**+0.1**
ECSD				*e*PKPab	**PKPab**		**06 35 10.5**	**+1.1**
ECSD				LR	LR			
	comp=Z,1μm,21.0s							
H13A	**Challis**	**161.98**	**17**	⇓P	**PKPab**		**06 35 08.8**	**-1.2**
	baz=162							
LRAL	**Lakeview Retre**	**162.06**	**293**	PFAKE			06 34 30.0	+5.8
LRAL				LR	LR			
	comp=Z,1μm,20.0s							
H14A	**Leadore**	**162.15**	**15**	⇑P	**PKPab**		**06 35 09.8**	**-0.9**
	baz=162							
H15A	**Lima**	**162.31**	**14**	⇓P	**PKPab**		**06 35 10.2**	**-1.2**
	baz=162							
G23A	**Biddle**	**162.33**	**357**	⇑P	**PKPab**		**06 35 10.4**	**-0.9**
	baz=162							
RLMT	**Red Lodge**	**162.34**	**6**	PFAKE			06 34 30.0	+5.6
RLMT				LR	LR			
	comp=Z,1μm,22.0s							
PLAL	**Pickwick Lake**	**162.38**	**300**	PFAKE			06 34 40.0	+16
PLAL				LR	LR			
	comp=Z,922nm,22.0s							
I12A	**Atlanta**	**162.43**	**20**	⇑P	**PKPab**		**06 35 10.8**	**-1.2**
	baz=162							
BRAL	**Brewton**	**162.45**	**286**	PFAKE			06 34 40.0	+15
BRAL				LR	LR			
	comp=Z,1μm,21.0s							
H16A	**Russell Place,**	**162.50**	**11**	⇓P	**PKPdf**		**06 34 23.7**	**-0.8**
	baz=162							
H24A	**Dirks Ranch, A**	**162.73**	**355**	⇑P	**PKPdf**		**06 34 23.4**	**-1.2**
	baz=163							
LKWY	**Lake**	**162.76**	**9**	PFAKE			06 34 40.0	+15
LKWY				LR	LR			
	comp=Z,3μm,20.0s							
HLID	**Hailey**	**162.86**	**19**	*e*PKPdf	**PKPdf**		**06 34 24.3**	**-0.6**
HLID				*e*PKPab	**PKPab**		**06 35 12.4**	**-1.5**
HLID				*e*PP	**PP**		**06 39 01.2**	**+3.3**
HLID				LR	LR			
	comp=Z,991nm,22.0s							
HLID	**Hailey**	**162.86**	**19**	⇑P	**PKPdf**		**06 34 24.6**	**-0.3**
	baz=163							
J13A	**Cove Ranch, Pi**	**163.08**	**19**	⇑P	**PKPdf**		**06 34 24.6**	**-0.4**
	baz=163							
I17A	**Pilgrim Ck.**	**163.37**	**10**	⇓P	**PKPdf**		**06 34 24.7**	**-0.7**
	baz=163							
J15A	**Blackfoot**	**163.52**	**15**	⇑P	**PKPab**		**06 35 15.7**	**-1.1**
	baz=163							
OXF	**Oxford**	**163.57**	**299**	PFAKE			06 34 40.0	+14
OXF				LR	LR			
	comp=Z,874nm,21.0s							
TPAW	**Teton Pass**	**163.72**	**11**	*e*PKPdf	**PKPdf**		**06 34 25.3**	**-0.6**
TPAW				*e*PKPab	**PKPab**		**06 35 19.0**	**+1.2**
I21A	**Big Trails, Te**	**163.75**	**1**	⇑P	**PKPdf**		**06 34 25.4**	**-0.3**
	baz=164							
RRI2	**Red Ridge**	**163.80**	**12**	*e*PKPdf	**PKPdf**		**06 34 25.2**	**-0.7**
RRI2				*e*PKPab	**PKPab**		**06 35 17.6**	**-0.5**
J16A	**Bone**	**163.81**	**13**	⇓P	**PKPdf**		**06 34 25.5**	**-0.3**
	baz=164							
J18A	**Kendall Valley**	**164.14**	**9**	⇑P	**PKPdf**		**06 34 25.7**	**-0.4**
	baz=164							
J19A	**Crowheart**	**164.20**	**6**	⇑P	**PKPab**		**06 35 19.0**	**-0.7**
	baz=164							
K16A	**Soda Springs**	**164.24**	**13**	⇓P	**PKPdf**		**06 34 25.8**	**-0.5**
	baz=164							
AHID	**Auburn Hatcher**	**164.40**	**12**	PFAKE			06 34 40.0	+14
AHID				LR	LR			
	comp=Z,968nm,21.0s							
BGNE	**Belgrade**	**164.45**	**335**	⇓P	**PKPdf**		**06 34 25.9**	**-0.3**
	baz=164							
BMN	**Battle Mountai**	**164.51**	**31**	PFAKE			06 34 40.0	+14
BMN				LR	LR			
	comp=Z,1μm,22.0s							
BW06	**Boulder Array**	**164.63**	**8**	PFAKE			06 34 40.0	+13
BW06				LR	LR			
	comp=Z,1μm,22.0s							
BW06	**Boulder Array**	**164.63**	**8**	⇑P	**PKPdf**		**06 34 25.0**	**-1.6**
	baz=164							
BW06				⇓P	**PKPab**		**06 35 21.1**	**-0.6**
	baz=164							
BW06				⇓P	**PKPab**		**06 35 21.1**	**-0.6**
	baz=164							
BW06				⇓P	**PKPab**		**06 35 21.1**	**-0.6**
	baz=164							
BW06				⇓P	**PKPab**		**06 35 21.1**	**-0.6**
	baz=164							
BW06				⇓P	**PKPab**		**06 35 21.1**	**-0.6**
	baz=164							
PDAR	**Pinedale Array**	**164.63**	**8**	PKP	**PKPdf**		**06 34 25.4**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=207,slow=1.0,SNR=11							
PDAR				PKPab	**PKPab**		**06 35 21.2**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=339,slow=2.2,SNR=2.4							
PDAR	**Pinedale Array**	**164.63**	**8**	PKP	**PKPdf**		**06 34 25.4**	**-1.3**
PDAR				PKPab	**PKPab**		**06 35 21.2**	**-0.6**
K19A	**Absolon Red Bu**	**164.65**	**6**	⇓P	**PKPab**		**06 35 21.6**	**-0.2**
	baz=164							
L15A	**Malad City**	**164.85**	**16**	⇑P	**PKPab**		**06 35 21.5**	**-1.2**
	baz=165							
K20A	**Yellowstone Ra**	**164.86**	**4**	⇓P	**PKPab**		**06 35 21.2**	**-1.4**
	baz=165							
VBMS	**Vicksburg**	**165.14**	**292**	PFAKE			06 34 40.0	+13
VBMS				LR	LR			
	comp=Z,1μm,22.0s							
L19A	**Farson**	**165.31**	**8**	⇓P	**PKPab**		**06 35 23.4**	**-1.3**
	baz=165							
L18A	**Fontenelle, Gr**	**165.40**	**10**	⇑P	**PKPab**		**06 35 24.2**	**-0.9**
	baz=165							
HWUT	**Hardware Ranch**	**165.42**	**14**	PFAKE			06 34 40.0	+13
HWUT				LR	LR			
	comp=Z,1μm,20.0s							
NVAR	**Mina Array Bea**	**165.47**	**39**	PKP	**PKPdf**		**06 34 28.6**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=238,slow=1.8,SNR=7.0							
NVAR				PKPab	**PKPab**		**06 35 24.6**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=285,slow=6.0,SNR=8.6							
NVAR	**Mina Array Bea**	**165.47**	**39**	PKP	**PKPdf**		**06 34 28.6**	**+1.2**
NVAR				PKPab	**PKPab**		**06 35 24.6**	**-1.0**
KSU1	**Kansas State U**	**165.68**	**326**	PFAKE			06 34 40.0	+13
KSU1				LR	LR			
	comp=Z,1μm,19.0s							
M16A	**Huntsville**	**165.69**	**15**	⇑P	**PKPab**		**06 35 25.1**	**-1.3**
	baz=166							
UALR	**University of**	**165.69**	**304**	*e*PKPdf	**PKPdf**		**06 34 27.0**	**-0.4**
TCUT	**Toone Canyon**	**165.93**	**15**	*e*PKPdf	**PKPdf**		**06 34 28.2**	**+0.4**
OGNE	**Ogallala**	**166.06**	**345**	*e*PKPdf	**PKPdf**		**06 34 26.7**	**-1.0**
OGNE				*e*PKPab	**PKPab**		**06 35 27.5**	**-0.4**
OGNE				LR	LR			
	comp=Z,1μm,21.0s							
N17A	**Moffit Pass**	**166.21**	**13**	⇑P	**PKPab**		**06 35 27.8**	**-1.0**
	baz=166							
TPH	**Tonopah**	**166.32**	**37**	PFAKE			06 34 40.0	+12
TPH				LR	LR			
	comp=Z,897nm,22.0s							
DUG	**Dugway**	**166.42**	**20**	PFAKE			06 34 40.0	+12
DUG				LR	LR			
	comp=Z,1μm,22.0s							
N19A	**John Jarvie Ra**	**166.53**	**8**	⇑P	**PKPab**		**06 35 29.6**	**-0.5**
	baz=166							
N20A	**Spence Gulch,**	**166.68**	**5**	⇑P	**PKPdf**		**06 34 27.8**	**-0.6**
	baz=167							
MIAR	**Mount Ida**	**166.70**	**305**	*e*PKIKP	**PKPdf**		**06 34 27.7**	**-0.5**
MIAR				MLR	MLR			
	comp=Z,870nm,20.0s							
MIAR	**Mount Ida**	**166.70**	**305**	*e*PKPdf	**PKPdf**		**06 34 27.7**	**-0.5**
MIAR				LR	LR			
	comp=Z,870nm,20.0s							
N22A	**Wattenberg Ran**	**166.76**	**359**	⇓P	**PKPdf**		**06 34 28.1**	**-0.4**
	baz=167							
N21A	**Black Mountain**	**166.79**	**2**	⇓P	**PKPdf**		**06 34 27.8**	**-0.6**
	baz=167							
R11A	**Troy Canyon, C**	**166.93**	**32**	⇓P	**PKPdf**		**06 34 29.1**	**+0.6**
	baz=167							
O17A	**Robinson Place**	**166.95**	**14**	⇓P	**PKPdf**		**06 34 28.7**	**+0.2**
	baz=167							
O18A	**Roosevelt**	**167.02**	**11**	⇑P	**PKPab**		**06 35 31.6**	**-0.7**
	baz=167							
DAC	**Darwin (Calif)**	**167.35**	**44**	PFAKE			06 34 40.0	+11
DAC				LR	LR			
	comp=Z,923nm,20.0s							
TUL1	**Tulsa**	**167.47**	**315**	⇓P	**PKPdf**		**06 34 28.3**	**-0.5**
	baz=168							
BLG	**Laguna Peak**	**167.58**	**55**	⇓P	**PKPdf**		**06 34 28.9**	**-0.1**
	baz=168							
P17A	**Butcher Ranch,**	**167.65**	**14**	⇑P	**PKPab**		**06 35 34.0**	**-1.1**
	baz=168							
ISCO	**Idaho Springs**	**167.73**	**356**	PFAKE			06 34 40.0	+11
ISCO				LR	LR			
	comp=Z,919nm,21.0s							
P21A	**Newcastle**	**168.03**	**2**	⇓P	**PKPab**		**06 35 37.2**	**+0.5**
	baz=168							
KSCO	**Kaye Shedlock'**	**168.04**	**344**	⇑P	**PKPdf**		**06 34 29.2**	**0.0**
	baz=168							
SRU	**San Rafael**	**168.04**	**14**	⇑P	**PKPdf**		**06 34 28.9**	**-0.5**
	baz=168							
MVU	**Marysvale**	**168.15**	**21**	PFAKE			06 34 40.0	+10
MVU				LR	LR			
	comp=Z,1μm,21.0s							
MSU	**Marysvale**	**168.16**	**21**	*e*PKIKP	**PKPdf**		**06 34 31.5**	**+2.0**
MSU	**Marysvale**	**168.16**	**21**	*e*PKPdf	**PKPdf**		**06 34 31.4**	**+2.0**
Q26A	**Hugo**	**168.32**	**347**	⇑P	**PKPdf**		**06 34 29.7**	**+0.2**
	baz=168							
Q19A	**Hogan Spring (**	**168.42**	**10**	⇑P	**PKPdf**		**06 34 29.4**	**-0.1**
	baz=168							
Q22A	**Crested Butte,**	**168.70**	**1**	⇓P	**PKPab**		**06 35 38.9**	**-1.0**
	baz=169							
R27A	**Eads**	**168.77**	**344**	⇓P	**PKPdf**		**06 34 30.1**	**+0.3**
	baz=169							
R26A	**Arlington**	**168.90**	**346**	⇑P	**PKPdf**		**06 34 29.1**	**-0.7**
	baz=169							
R21A	**Cimarron**	**169.18**	**3**	⇑P	**PKPab**		**06 35 41.4**	**-0.5**
	baz=169							
R20A	**Redvale**	**169.29**	**7**	⇓P	**PKPdf**		**06 34 30.4**	**+0.2**
	baz=169							
R22A	**Saguache, Gunn**	**169.34**	**360**	⇓P	**PKPdf**		**06 34 30.1**	**-0.3**
	baz=169							
R23A	**Moffat**	**169.34**	**356**	⇓P	**PKPdf**		**06 34 30.5**	**+0.2**
	baz=169							
S27A	**Las Animas**	**169.36**	**343**	⇓P	**PKPdf**		**06 34 30.0**	**-0.2**
	baz=169							
GMRC	**Granite Mounta**	**169.52**	**44**	⇑P	**PKPdf**		**06 34 30.5**	**+0.2**
	baz=169							
S18A	**Hurst Farm, Bl**	**169.52**	**14**	⇓P	**PKPab**		**06 35 41.9**	**-1.5**
	baz=169							
S26A	**Kim**	**169.56**	**345**	⇑P	**PKPdf**		**06 34 30.6**	**+0.3**
	baz=170							
S20A	**Disappointment**	**169.65**	**7**	⇓P	**PKPab**		**06 35 43.2**	**-0.8**
	baz=170							
PFO	**Pinyon Flat Ob**	**169.70**	**52**	PFAKE			06 34 40.0	+10
PFO				LR	LR			
	comp=Z,1μm,21.0s							
S25A	**Robets Cordova**	**169.71**	**350**	⇑P	**PKPdf**		**06 34 32.3**	**+1.8**
	baz=170							
S22A	**4UR Ranch, Cre**	**169.82**	**0**	⇓P	**PKPdf**		**06 34 30.5**	**-0.2**
	baz=170							
S21A	**Coal Bank Pass**	**169.87**	**5**	⇓P	**PKPdf**		**06 34 30.9**	**+0.2**
	baz=170							
T27A	**Campo**	**169.90**	**341**	⇑P	**PKPdf**		**06 34 29.8**	**-0.7**
	baz=170							
T26A	**Comanche Natio**	**170.02**	**345**	⇓P	**PKPdf**		**06 34 30.4**	**-0.2**
	baz=170							
WMOK	**Wichita Mounta**	**170.07**	**318**	*e*PKIKP	**PKPdf**		**06 34 31.6**	**+1.0**
WMOK				MLR	MLR			
	comp=Z,1μm,21.0s							
WMOK	**Wichita Mounta**	**170.07**	**318**	*e*PKPdf	**PKPdf**		**06 34 31.6**	**+1.0**
WMOK				*e*SKPdf	**SKPdf**		**06 37 58.4**	**-2.7**
WMOK				LR	LR			
	comp=Z,1μm,21.0s							
T25A	**Trinidad**	**170.22**	**349**	⇓P	**PKPdf**		**06 34 30.4**	**-0.4**
	baz=170							
MVCO	**Mesa Verde**	**170.24**	**8**	PFAKE			06 34 40.0	+9.2
MVCO				LR	LR			
	comp=Z,978nm,21.0s							
T22A	**Edith**	**170.55**	**1**	⇑P	**PKPdf**		**06 34 31.5**	**+0.5**
	baz=170							
WHTX	**Lake Whitney**	**170.76**	**301**	⇓P	**PKPdf**		**06 34 30.7**	**-0.3**
	baz=171							
U26A	**Atchley Ranch,**	**170.80**	**344**	⇑P	**PKPab**		**06 35 48.4**	**-0.7**
	baz=171							
X31A	**McDonald Ranch**	**170.83**	**322**	⇓P	**PKPdf**		**06 34 30.3**	**-0.6**
	baz=171							
U25A	**Circle Dot Ran**	**170.93**	**348**	⇓P	**PKPdf**		**06 34 31.2**	**0.0**
	baz=171							
U21A	**Nageezi**	**171.10**	**5**	⇑P	**PKPdf**		**06 34 30.6**	**-0.7**
	baz=171							
WUAZ	**Wupatki**	**171.13**	**25**	PFAKE			06 34 40.0	+8.7
WUAZ				LR	LR			
	comp=Z,723nm,20.0s							
U23A	**El Rito**	**171.22**	**357**	⇓P	**PKPdf**		**06 34 31.8**	**+0.4**
	baz=171							
Z32A	**Haskell**	**171.47**	**314**	⇓P	**PKPdf**		**06 34 31.3**	**0.0**
	baz=172							
AMTX	**Amarillo**	**171.47**	**330**	PFAKE			06 34 40.0	+8.6
AMTX				LR	LR			
	comp=Z,1μm,20.0s							
AMTX	**Amarillo**	**171.47**	**330**	⇓P	**PKPdf**		**06 34 31.4**	**+0.1**
	baz=171							
V22A	**San Miguel Ran**	**171.65**	**1**	⇓P	**PKPdf**		**06 34 31.8**	**+0.2**
	baz=172							
Y14A	**Wickenburg**	**171.67**	**38**	⇓P	**PKPdf**		**06 34 31.3**	**-0.1**
	baz=172							
V24A	**Rampart Ranch,**	**171.73**	**351**	⇑P	**PKPdf**		**06 34 32.0**	**+0.4**
	baz=172							
V23A	**Ortiz Mt. (NFS**	**171.80**	**357**	⇑P	**PKPdf**		**06 34 32.7**	**+1.1**
	baz=172							
W27A	**Bowe Ranch, En**	**171.85**	**338**	⇓P	**PKPdf**		**06 34 31.8**	**+0.2**
	baz=172							
Z31A	**Sharp Cattle R**	**171.87**	**317**	⇑P	**PKPdf**		**06 34 31.6**	**+0.1**
	baz=172							
X16A	**Lo Mia Camp, P**	**172.06**	**29**	⇓P	**PKPdf**		**06 34 32.3**	**+0.5**
	baz=172							
X16A				⇓P	**PKPab**		**06 35 54.2**	**-0.6**
	baz=172							
X16A				⇓P	**PKPab**		**06 35 54.2**	**-0.6**
	baz=172							
X16A				⇓P	**PKPab**		**06 35 54.2**	**-0.6**
	baz=172							
KVTX	**Kingsville**	**172.11**	**272**	PFAKE			06 34 40.0	+8.3
KVTX				LR	LR			
	comp=Z,966nm,20.0s							
W24A	**Lazy 6 Ranch,**	**172.26**	**352**	⇑P	**PKPdf**		**06 34 31.5**	**-0.3**
	baz=172							
Y29A	**Porterfield Fa**	**172.31**	**326**	⇑P	**PKPdf**		**06 34 31.8**	**0.0**
	baz=172							
Z30A	**Sanderson Ranc**	**172.47**	**321**	⇑P	**PKPdf**		**06 34 31.6**	**-0.2**
	baz=172							
Y28A	**McKinney Farm,**	**172.54**	**330**	⇓P	**PKPdf**		**06 34 31.6**	**-0.3**
	baz=172							
ANMO	**Albuquerque**	**172.61**	**358**	PKP	**PKPdf**		**06 34 31.8**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=164,slow=2.7,SNR=7.6							
ANMO				PKPab	**PKPab**		**06 35 58.1**	**+1.0**
	comp=Z,1.9nm,1.1s,baz=6.4,slow=2.0,SNR=4.2							
ANMO				PP	**PP**		**06 39 49.3**	**+1.8**
	comp=Z,1.5nm,0.9s,baz=6.2,slow=2.6,SNR=12							
ANMO	**Albuquerque**	**172.61**	**358**	PKP	**PKPdf**		**06 34 31.8**	**-0.2**
ANMO				PKPab	**PKPab**		**06 35 58.1**	**+1.0**
ANMO				PP	**PP**		**06 39 49.3**	**+1.8**
ANMO				LR	LR			
	comp=Z,1μm,22.0s							
Z29A	**Hungry Hill Ra**	**172.81**	**324**	⇓P	**PKPdf**		**06 34 31.9**	**-0.1**
	baz=173							
X20A	**Quemado**	**172.86**	**11**	⇑P	**PKPab**		**06 35 57.7**	**-0.6**
	baz=173							
231A	**Bronte**	**172.87**	**310**	⇑P	**PKPdf**		**06 34 31.5**	**-0.5**
	baz=173							
Y27A	**Causey**	**172.95**	**335**	⇓P	**PKPdf**		**06 34 32.2**	**+0.1**
	baz=173							
LAZ	**Ladron**	**173.15**	**2**	*e*PKPdf	**PKPdf**		**06 34 31.7**	**-0.6**
LAZ				*e*PKPab	**PKPab**		**06 35 58.1**	**-1.5**
214A	**Organ Pipe Nat**	**173.15**	**48**	⇑P	**PKPdf**		**06 34 32.5**	**+0.4**
	baz=173							
331A	**San Angelo**	**173.30**	**306**	⇑P	**PKPdf**		**06 34 32.0**	**-0.2**
	baz=173							
532A	**Rocksprings**	**173.44**	**295**	⇓P	**PKPdf**		**06 34 32.8**	**+0.5**
	baz=174							
Y24A	**Capitan**	**173.52**	**350**	⇑P	**PKPdf**		**06 34 33.2**	**+0.7**
	baz=173							
632A	**Uvalde**	**173.54**	**289**	⇓P	**PKPdf**		**06 34 32.5**	**+0.1**
	baz=174							
Y23A	**Lovelace Mesa,**	**173.59**	**355**	⇓P	**PKPdf**		**06 34 32.1**	**-0.3**
	baz=174							
Y22A	**Socorro**	**173.62**	**1**	⇑P	**PKPdf**		**06 34 32.9**	**+0.4**
	baz=174							
128A	**Castleberry Fa**	**173.71**	**325**	⇑P	**PKPdf**		**06 34 33.3**	**+0.9**
	baz=174							
431A	**Sonora**	**173.75**	**302**	⇑P	**PKPdf**		**06 34 32.6**	**+0.2**
	baz=174							
330A	**Mertzon**	**173.77**	**310**	⇓P	**PKPdf**		**06 34 32.2**	**-0.2**
	baz=174							
Z26A	**Caprock**	**173.79**	**338**	⇑P	**PKPdf**		**06 34 32.9**	**+0.4**
	baz=174							
531A	**Rocksprings**	**173.94**	**297**	⇓P	**PKPdf**		**06 34 32.3**	**-0.2**
	baz=174							
Z25A	**Roswell**	**174.00**	**343**	⇓P	**PKPab**		**06 36 02.3**	**-1.0**
	baz=174							
TUC	**Tucson**	**174.11**	**35**	*e*PKIKP	**PKPdf**		**06 34 32.8**	**+0.3**
TUC				MLR	MLR			
	comp=Z,807nm,22.0s							
TUC	**Tucson**	**174.11**	**35**	*e*PKPdf	**PKPdf**		**06 34 32.8**	**+0.3**
TUC				LR	LR			
	comp=Z,807nm,22.0s							
430A	**Baggett Ranch,**	**174.17**	**305**	⇑P	**PKPdf**		**06 34 32.3**	**-0.3**
	baz=174							
Z20A	**Nine Sixteen R**	**174.22**	**15**	⇑P	**PKPdf**		**06 34 32.8**	**+0.2**
	baz=174							
631A	**Perdido Creek**	**174.22**	**290**	⇑P	**PKPdf**		**06 34 32.7**	**+0.2**
	baz=174							
329A	**Wagon Wheel Ra**	**174.25**	**314**	⇑P	**PKPdf**		**06 34 31.5**	**-1.1**
	baz=174							
Z22A	**Elephant Butte**	**174.29**	**2**	⇑P	**PKPdf**		**06 34 32.2**	**-0.5**
	baz=174							
530A	**J-C Ranch, Com**	**174.56**	**300**	⇓P	**PKPdf**		**06 34 32.9**	**+0.2**
	baz=175							
125A	**Gardner Draw,**	**174.57**	**341**	⇑P	**PKPdf**		**06 34 32.7**	**0.0**
	baz=174							
124A	**Stringfield Ra**	**174.72**	**348**	⇑P	**PKPdf**		**06 34 33.3**	**+0.4**
	baz=175							
429A	**Davenport Ranc**	**174.73**	**307**	⇓P	**PKPdf**		**06 34 32.6**	**-0.1**
	baz=175							
120A	**U Bar Ranch, L**	**174.75**	**17**	⇑P	**PKPdf**		**06 34 33.3**	**+0.5**
	baz=175							
GDL2	**Guadalupe Moun**	**174.90**	**336**	*e*PKPdf	**PKPdf**		**06 34 33.4**	**+0.5**
GDL2				*e*PKPab	**PKPab**		**06 36 07.3**	**0.0**
121A	**Cookes Peak, D**	**174.94**	**10**	⇓P	**PKPdf**		**06 34 32.9**	**0.0**
	baz=175							
428A	**Kincaid Ranch,**	**175.21**	**313**	⇑P	**PKPdf**		**06 34 33.0**	**+0.1**
	baz=175							
529A	**Stev Forest Ra**	**175.24**	**304**	⇓P	**PKPdf**		**06 34 32.4**	**-0.5**
	baz=175							
220A	**Playas Peak, P**	**175.39**	**19**	⇑P	**PKPdf**		**06 34 33.3**	**+0.3**
	baz=175							
427A	**Hayter Ranch,**	**175.57**	**319**	⇓P	**PKPdf**		**06 34 32.9**	**-0.1**
	baz=176							
319A	**Douglas**	**175.59**	**29**	⇓P	**PKPdf**		**06 34 33.8**	**+0.7**
	baz=176							
528A	**Cox Ranch, San**	**175.63**	**308**	⇓P	**PKPdf**		**06 34 32.9**	**-0.1**
	baz=176							
MNTX	**Cornudas Mount**	**175.67**	**344**	*e*PKPdf	**PKPdf**		**06 34 31.6**	**-1.3**
MNTX				*e*PP	**PP**		**06 40 01.9**	**-0.4**
MNTX				LR	LR			
	comp=Z,1μm,22.0s							
MNTX	**Cornudas Mount**	**175.67**	**344**	⇓P	**PKPdf**		**06 34 32.9**	**0.0**
	baz=176							
325A	**Bean Ranch, Si**	**175.86**	**338**	⇓P	**PKPdf**		**06 34 32.7**	**-0.5**
	baz=176							
320A	**Kipp Ranch, An**	**175.92**	**21**	⇑P	**PKPdf**		**06 34 33.0**	**-0.2**
	baz=176							
324A	**Moseley Ranch,**	**175.94**	**344**	⇓P	**PKPdf**		**06 34 32.8**	**-0.3**
	baz=176							
426A	**McDonald Obser**	**176.06**	**323**	⇓P	**PKPdf**		**06 34 33.3**	**0.0**
	baz=176							
628A	**Black Gap, Mar**	**176.06**	**300**	⇓P	**PKPab**		**06 36 11.0**	**-1.7**
	baz=176							
527A	**Woodward Ranch**	**176.19**	**314**	⇓P	**PKPdf**		**06 34 33.1**	**-0.2**
	baz=176							
425A	**Indio Mountain**	**176.40**	**335**	⇓P	**PKPdf**		**06 34 32.9**	**-0.3**
	baz=176							
627A	**Terlingua Ranc**	**176.45**	**303**	⇓P	**PKPdf**		**06 34 33.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**18.45**	**35**	P	Pn	06 48 04.5	-0.9
	0.1nm,0.3s,baz=224,slow=9.3,SNR=5.5						
INK	**Inuvik**	**24.83**	**33**	P	P	06 49 11.8	-0.3
	0.6nm,0.4s,baz=247,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**31.89**	**48**	P	P	06 50 15.7	+0.6
	0.1nm,0.4s,baz=275,slow=8.7,SNR=5.4						
YKA				PcP	PcP	06 53 04.9	-0.6
	0.2nm,0.7s,baz=285,slow=2.9,SNR=4.5						
PDAR	**Pinedale Array**	**42.04**	**77**	P	P	06 51 42.0	0.0
	0.5nm,0.7s,baz=323,slow=3.2,SNR=4.8						
TXAR	**Lajitas Array**	**54.29**	**86**	P	P	06 53 16.5	-0.1
	0.3nm,0.7s,baz=294,slow=5.4,SNR=4.0						

IDC 26 06:53:32.1±5.3, 18°.87N×145°.47E, h316km±54km, mb3.0/8, mb1 3.2/9, mb1mx3.0/26, mbtmp3.0/9, Error ellipse: s-maj=28.8km s-min=14.9km az=91.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.73**	**342**	P	P	06 57 28.8	+0.3
	0.9nm,0.3s,baz=159,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**40.09**	**196**	P	P	07 00 37.6	-0.3
	0.4nm,0.7s,baz=17,slow=8.0,SNR=4.7						
SONM	**Songino Array**	**42.87**	**321**	P	P	07 00 59.8	-0.4
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	**43.76**	**195**	P	P	07 01 07.3	-0.1
	0.1nm,0.3s,baz=12,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**58.18**	**314**	P	P	07 02 53.6	-0.2
	0.5nm,0.6s,baz=90,slow=7.7,SNR=7.3						
ILAR	**Eielson Array**	**63.59**	**26**	P	P	07 03 27.9	-1.5
	0.4nm,0.7s,baz=251,slow=5.5,SNR=5.8						
BVAR	**Borovoye Array**	**66.20**	**320**	P	P	07 03 46.6	+0.1
	1.4nm,0.5s,baz=96,slow=7.2,SNR=9.6						
YKA	**Yellowknife Ar**	**77.34**	**28**	P	P	07 04 56.3	+1.0
	0.3nm,0.5s,baz=289,slow=5.6,SNR=13						
FINES	**FINESS Array B**	**86.64**	**335**	P	P	07 05 40.0	-0.1
	0.6nm,0.4s,baz=70,slow=5.3,SNR=8.7						

IDC 26 07:03:30.9±8.5, 20°.19S×68°.95W, h116km±60km, mb3.1/2, mb1 3.3/3, mb1mx3.0/18, mbtmp3.0/3, MS2.8/1, Ms1 2.9/1, ms1mx2.9/5, Error ellipse: s-maj=72.1km s-min=51.6km az=36.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.95**	**11**	P	Pn	07 04 30.3	-0.3
	0.7nm,0.3s,baz=192,slow=6.0,SNR=16						
LPAZ				S	Sn	07 05 16.9	+0.1
	0.0nm,0.3s,baz=76,slow=12,SNR=2.8						
LPAZ				LR	LR	07 05 58.8	
	comp=Z,139nm,21.4s,baz=159,slow=37						
TORD	**Torodi Ar. Bea**	**76.95**	**71**	P	P	07 15 11.2	0.0
	0.2nm,0.7s,baz=255,slow=5.7,SNR=3.4						
YKA	**Yellowknife Ar**	**89.94**	**341**	P	P	07 16 16.4	-0.1
	0.3nm,0.7s,baz=130,slow=4.8,SNR=8.3						

IDC 26 07:20:40.2±1.6, 7°.03S×155°.52E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML2.9/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/29, Error ellipse: s-maj=54.6km s-min=23.1km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.60**	**253**	Pn	Pn	07 22 47.2	+1.1
	0.7nm,0.3s,baz=50,slow=18,SNR=2.4						
CTA	**Charters Tower**	**15.79**	**214**	LR	LR	07 29 14.0	
	comp=Z,110nm,18.0s,baz=225,slow=32						
WRA	**Warramunga Arr**	**24.23**	**236**	P	P	07 25 59.4	+0.3
	6.7nm,1.0s,baz=61,slow=9.5,SNR=19						
WRA				LR	LR	07 34 59.1	
	comp=Z,72nm,18.8s,baz=275,slow=36						
ASAR	**Alice Springs**	**26.54**	**229**	P	P	07 26 19.8	-0.2
	1.0nm,0.9s,baz=60,slow=8.5,SNR=7.4						
NWAO	**Narrogin (SRO)**	**43.86**	**229**	LR	LR	07 44 59.3	
	comp=Z,196nm,21.5s,baz=6.7,slow=33						
CMAR	**Chiang Mai Arr**	**61.26**	**295**	P	P	07 30 57.9	0.0
	1.2nm,0.3s,baz=120,slow=5.5,SNR=5.3						
SONM	**Songino Array**	**69.64**	**327**	P	P	07 31 52.5	+0.8
	0.7nm,0.7s,baz=143,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**83.21**	**21**	P	P	07 33 08.1	-0.1
	0.4nm,0.8s,baz=242,slow=5.3,SNR=8.5						
MKAR	**Makanchi Array**	**83.77**	**319**	P	P	07 33 10.2	-1.3
	0.5nm,0.7s,baz=102,slow=5.1,SNR=6.0						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	P	07 34 10.6	+1.0
	0.2nm,0.7s,baz=264,slow=4.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**153.53**	**285**	PKPbc	PKPbc	07 40 41.3	-0.7
	0.1nm,0.3s,baz=97,slow=2.2,SNR=3.5						

GUC 26 08:00:45.0±0.8, 33°.05S×69°.70W, h149km±7km, MD3.6, ML3.5, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.78**	**244**	⇑*i*P	Pn	08 01 08.1	+0.1
CLCH				*i* S	Sn	08 01 25.2	-0.4
CLCH				AML	AML	08 01 26.8	
	comp=E,646nm,0.5s						
SJCH	**San Jose de Ma**	**0.80**	**223**	*e*P	Pn	08 01 07.0	-1.2
SJCH				*e*S	Sn	08 01 25.9	0.0
FSR	**Peldehue**	**0.81**	**238**	⇑*i*P	Pn	08 01 08.4	+0.1
FSR				*i* S	Sn	08 01 25.9	0.0
PEL	**Peldehue**	**0.83**	**263**	⇓*i*P	Pn	08 01 08.3	-0.1
PEL				*i* S	Sn	08 01 26.2	0.0
PEL				AML	AML	08 01 27.4	
	comp=N,2μm,0.4s						
JACH	**Jahuel**	**0.84**	**296**	*e*P	Pn	08 01 08.2	-0.2
STL	**Santa Lucia**	**0.88**	**244**	⇑*i*P	Pn	08 01 08.7	0.0
STL				*i* S	Sn	08 01 26.5	-0.3
LMEL	**Las Melosas**	**0.90**	**208**	⇑*i*P	Pn	08 01 08.7	-0.3
LMEL				*i* S	Sn	08 01 30.2	+2.8
ANTU	**Antumapu**	**0.94**	**236**	⇑*i*P	Pn	08 01 09.3	+0.1
ANTU				*i* S	Sn	08 01 27.6	0.0
ANTU				AML	AML	08 01 28.2	
	comp=N,265nm,0.4s						
ROCH	**El Roble**	**1.10**	**274**	⇑*i*P	Pn	08 01 11.1	+0.2
ROCH				*i* S	Sn	08 01 30.9	+0.3
ROCH				AML	AML	08 01 32.7	
	comp=N,1μm,0.4s						
CHCH	**Chadas Angostu**	**1.19**	**222**	⇓*i*P	Pn	08 01 11.8	+0.4
TACH	**Talagante**	**1.20**	**240**	*e*P	Pn	08 01 11.7	+0.3
CACH	**El Canelo**	**1.30**	**215**	⇑*i*P	Pn	08 01 13.2	+0.6
PTCH	**Petorca**	**1.30**	**307**	*e*P	Pn	08 01 12.9	+0.4
PTCH				*i* S	Sn	08 01 33.9	+0.4
PTCH				AML	AML	08 01 36.0	
	comp=N,912nm,0.3s						
LNV	**Longovilo**	**1.69**	**237**	*i* P	Pn	08 01 16.3	-0.2
CMCH	**Combarbala**	**2.17**	**329**	*e*P	Pn	08 01 22.4	+0.1
CMCH				*i* S	Sn	08 01 50.5	-0.3
CMCH				AML	AML	08 01 52.0	
	comp=E,866nm,0.4s						
TLL	**Tololo Astrono**	**3.02**	**342**	*e*P	Pn	08 01 33.7	+0.7
TLL				*e*S	Sn	08 02 09.5	-0.6
TLL				AML	AML	08 02 11.2	
	comp=N,82nm,0.4s						

IDC 26 08:12:47.7±6.6, 17°.81S×178°.64W, h618km±77km, mb3.3/4, mb1 3.5/4, mb1mx3.0/19, mbtmp3.3/4, Error ellipse: s-maj=96.3km s-min=35.1km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.48**	**241**	P	P	08 19 19.1	+0.1
	1.7nm,0.5s,baz=76,slow=8.3,SNR=5.4						
WRA	**Warramunga Arr**	**44.43**	**259**	P	P	08 20 05.7	-0.2
	2.1nm,0.5s,baz=95,slow=7.3,SNR=35						
WRA				PcP	PcP	08 21 35.0	-0.6
	0.2nm,0.5s,baz=93,slow=3.4,SNR=1.6						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	08 20 07.2	0.0
	9.6nm,0.6s,baz=87,slow=8.6,SNR=209						
ASAR				PcP	PcP	08 21 35.9	-0.3
	0.7nm,0.5s,baz=102,slow=3.8,SNR=6.4						
TXAR	**Lajitas Array**	**86.13**	**58**	P	P	08 24 25.1	0.0
	0.5nm,0.7s,baz=219,slow=5.4,SNR=9.3						
VNA3	**Neumayer Olymp**	**90.86**	**176**	*e*P	P	08 24 44.6	-1.7
VNA2	**Neumayer--Watz**	**91.29**	**177**	*e*P	P	08 24 46.6	-1.6
	baz=190,slow=3.3						
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc	PKPbc	08 31 23.2	-0.3
	0.7nm,0.5s,baz=20,slow=3.2,SNR=4.5						

*ISCJB **26** 08:18:46.8±0.4, 46°.63N±0°.04×146°.17E±0°.10, h352km, mb3.6/16, Error ellipse: s-maj=10.0km s-min=4.9km az=24.8*
*MOS **26** 08:18:48.1±0.9, 46°.80N×145°.98E, h367km, mb4.0/7, Error ellipse: s-maj=18.9km s-min=12.2km az=75.9*
*IDC **26** 08:18:49.2±1.2, 46°.78N×146°.08E, h359km±13km, mb3.3/12, mb1 3.5/18, mb1mx3.4/29, mbtmp3.3/18, Error ellipse: s-maj=17.0km s-min=10.9km az=153.0*
*JMA **26** 08:18:49.3±0.5, 46°.23N×146°.33E, h371km, M3.9*
ISC 26 08:18:47.5±0.5, 46°.51N±0°.07×146°.12E±0°.08, h352km, n46, σ1°76/51, mb3.6/16, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.66**	**196**	P	**Pn**	**08 19 45.7**	**+1.6**
JSE	**Soyaes**	**2.92**	**239**	P	**Pn**	**08 19 49.1**	**+2.8**
JTKR	**Abashiri--Toko**	**2.98**	**212**	P	**Pn**	**08 19 49.4**	**+2.6**
NEM2	**Nemuro 2**	**3.15**	**185**	P	**Pn**	**08 19 48.3**	**-0.1**
NEM2				*e*S	**S**	**08 20 35.9**	**-1.6**
JWK2	**Keihoku**	**3.18**	**249**	P	Pn	08 19 52.0	+3.4
ASAJ	**Asahikawa**	**3.45**	**227**	P	Pn	08 19 54.5	+3.3
	4.6nm,0.3s,baz=35,slow=6.1,SNR=35						
JKK2	**Kamakawa 2**	**3.55**	**223**	P	**Pn**	**08 19 54.5**	**+2.3**
JAR	**Ashorobuto**	**3.62**	**208**	P	**Pn**	**08 19 55.0**	**+2.1**
JAK	**Akkeshi**	**3.65**	**197**	P	**Pn**	**08 19 53.7**	**+0.5**
JAK				*e*S	**S**	**08 20 45.0**	**-1.1**
JHR	**Hokuryu**	**4.16**	**230**	P	**Pn**	**08 20 01.3**	**+3.0**
JFR	**Furan**	**4.18**	**218**	P	**Pn**	**08 20 01.3**	**+2.8**
JCH	**Churui**	**4.36**	**208**	P	**Pn**	**08 20 01.0**	**+0.6**
JCH				*e*S	**S**	**08 20 57.2**	**-2.0**
JNBK	**Urakawa-nobuka**	**4.87**	**211**	P	**Pn**	**08 20 06.3**	**+0.5**
JNBK				*e*S	**S**	**08 21 07.0**	**-2.0**
JEW	**Eniwo**	**4.95**	**224**	P	**Pn**	**08 20 09.6**	**+2.9**
JOT	**Ohata**	**6.29**	**217**	P	**Pn**	**08 20 22.1**	**+0.3**
JOT				*e*S	**S**	**08 21 34.7**	**-3.6**
JANG	**Nango**	**6.99**	**210**	P	**Pn**	**08 20 30.1**	**+0.3**
JANG				*e*S	**S**	**08 21 48.6**	**-4.4**
JMK	**Ichinoseki**	**8.37**	**207**	P	**P**	**08 20 47.9**	**-0.8**
PETK	**Petropavlovsk-**	**9.98**	**44**	P	**Pn**	**08 21 04.3**	**-0.7**
	0.4nm,0.3s,baz=209,slow=9.0,SNR=11						
PETK	**Petropavlovsk-**	**9.98**	**44**	PN	**Pn**	**08 21 04.3**	**-0.7**
KLR	**Kul'dur**	**10.03**	**291**	*e*PN	**Pn**	**08 21 04.9**	**-0.8**
USRK	**Ussuriysk Arra**	**10.20**	**262**	P	**P**	**08 21 10.0**	**+1.0**
	1.4nm,0.3s,baz=64,slow=12,SNR=20						
MAT	**Matsushiro**	**11.58**	**214**	P	**P**	**08 21 27.4**	**+3.0**
MJAR	**Matsushiro Arr**	**11.58**	**213**	P	P	08 21 27.9	+3.5
	1.4nm,0.3s,baz=17,slow=11,SNR=19						
KSRS	**Korea Array**	**16.24**	**243**	P	**Pn**	**08 22 18.1**	**-0.5**
	0.2nm,0.3s,baz=47,slow=10,SNR=3.4						
FX1	**Attu Island--F**	**18.55**	**60**	P	**P**	**08 22 42.0**	**+2.1**
	2.3nm,0.3s,baz=143,slow=7.2,SNR=4.8						
SONM	**Songino Array**	**26.83**	**287**	P	**P**	**08 23 58.4**	**+1.5**
	0.3nm,0.4s,baz=71,slow=11,SNR=4.4						
ILAR	**Eielson Array**	**39.73**	**38**	P	**P**	**08 25 45.6**	**-1.0**
	1.8nm,0.4s,baz=257,slow=6.0,SNR=49						
MKAR	**Makchi Array**	**42.71**	**295**	P	**P**	**08 26 11.5**	**+0.5**
	0.1nm,0.3s,baz=75,slow=10,SNR=1.8						
MKAR				PcP	**PcP**	**08 27 56.3**	**+1.1**
	0.2nm,0.5s,baz=71,slow=4.6,SNR=3.5						
MKAR				ScP	**ScP**	**08 31 11.9**	**+0.2**
	0.1nm,0.5s,baz=46,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**42.71**	**295**	P	**P**	**08 26 11.5**	**+0.5**
MKAR						08 27 56.3	
YKA	**Yellowknife Ar**	**53.93**	**35**	P	**P**	**08 27 34.5**	**-0.8**
	0.7nm,0.6s,baz=303,slow=7.1,SNR=25						
KEV	**Kevo**	**55.88**	**338**	*e*P	**P**	**08 27 47.4**	**-1.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**55.88**	**338**	*e*p	**P**	**08 27 47.4**	**-1.6**
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**56.41**	**339**	P	**P**	**08 27 51.9**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=40,slow=13,SNR=8.3						
JOF	**Joensuu**	**59.31**	**331**	*e*P	**P**	**08 28 11.5**	**-1.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**59.31**	**331**	*e*p	**P**	**08 28 11.5**	**-1.4**
	comp=Z,1.8nm,0.5s						
KAF	**Kangasniemi**	**61.52**	**332**	*e*P	**P**	**08 28 25.5**	**-2.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**61.52**	**332**	*e*p	**P**	**08 28 25.5**	**-2.2**
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**62.09**	**332**	P	**P**	**08 28 30.4**	**-1.0**
	comp=Z,4.1nm,0.5s,baz=37,slow=7.6,SNR=28						
NVAR	**Mina Array Bea**	**66.74**	**58**	P	**P**	**08 29 02.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=301,slow=5.9,SNR=3.6						
NB2	**NORSAR Subarra**	**66.77**	**338**	P	**P**	**08 29 00.2**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**66.77**	**338**	P	**P**	**08 29 00.7**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=31,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**66.99**	**192**	P	**P**	**08 29 05.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=5.8,slow=6.4,SNR=2.9						
PDAR	**Pinedale Array**	**68.69**	**50**	P	**P**	**08 29 14.5**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=35,slow=1.3,SNR=17						
ULM	**Lac du Bonnet**	**69.74**	**37**	P	**P**	**08 29 19.2**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=288,slow=6.5,SNR=3.6						
GERES	**GERESS Array B**	**76.40**	**330**	P	**Pn**	**08 29 57.5**	**-1.3**
	comp=Z,0.3nm,0.2s,baz=63,slow=4.5,SNR=3.9						
TXAR	**Lajitas Array**	**81.72**	**56**	P	**P**	**08 30 28.8**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=297,slow=4.0,SNR=9.3						

*ISCJB **26** 08:34:03.0±0.5, 45°.00S±0°.05×167°.64E±0°.08, h107km±4km, mb3.8/4, Error ellipse: s-maj=11.2km s-min=5.9km az=37.9*
*NEIC **26** 08:34:04.2, 45°.06S×167°.42E, h97km, ML4.7(WEL), After WEL.*
*WEL **26** 08:34:04.2±0.2, 45°.06S×167°.42E, h97km±1km, ML4.7/18, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*IDC **26** 08:34:06.2±2.2, 44°.77S×167°.79E, h125km±21km, mb3.3/3, mb1 3.5/5, mb1mx3.3/15, mbtmp3.3/5, Error ellipse: s-maj=23.5km s-min=20.6km az=38.0*
ISC 26 08:34:04.0±0.7, 45°.05S±0°.05×167°.55E±0°.06, h106km±5km, n90, σ1°27/98, mb3.8/4, 11C-8D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**36**	⇑PN	**Sn**	**08 34 20.1**	**0.0**
MSZ				SN	**Sn**	**08 34 31.4**	**-0.7**
MSZ	**Milford Sound**	**0.46**	**36**	⇑Pn	**Pn**	**08 34 20.1**	**0.0**
MSZ				Sn	**Sn**	**08 34 31.4**	**-0.7**
DCZ	**Deep Cove**	**0.51**	**213**	PN	**Pn**	**08 34 19.0**	**-1.4**
DCZ				SN	**Sn**	**08 34 30.4**	**-2.3**
DCZ	**Deep Cove**	**0.51**	**213**	Pn	**Pn**	**08 34 19.0**	**-1.4**
MLZ	**Mavora Lakes**	**0.53**	**124**	⇑PN	**Pn**	**08 34 20.3**	**-0.3**
MLZ				SN	**Sn**	**08 34 31.8**	**-1.3**
MLZ	**Mavora Lakes**	**0.53**	**124**	⇑Pn	**Pn**	**08 34 20.3**	**-0.3**
MLZ				Sn	**Sn**	**08 34 31.8**	**-1.3**
WHZ	**Wether Hill Ro**	**0.89**	**162**	⇓PN	**Pn**	**08 34 23.3**	**-0.4**
WHZ	**Wether Hill Ro**	**0.89**	**162**	⇓Pn	**Pn**	**08 34 23.3**	**-0.4**
WKZ	**Wanaka**	**1.06**	**79**	⇑PN	**Pn**	**08 34 26.3**	**+0.8**
WKZ	**Wanaka**	**1.06**	**79**	⇑Pn	**Pn**	**08 34 26.3**	**+0.8**
EAZ	**Earnscleugh**	**1.26**	**99**	⇓PN	**Pn**	**08 34 28.3**	**+0.7**
EAZ	**Earnscleugh**	**1.26**	**99**	⇓Pn	**Pn**	**08 34 28.3**	**+0.7**
PYZ	**Puysegur Point**	**1.27**	**208**	PN	**Pn**	**08 34 27.2**	**-0.6**
PYZ	**Puysegur Point**	**1.27**	**208**	Pn	**Pn**	**08 34 27.2**	**-0.6**
JCZ	**Jackson Bay**	**1.30**	**42**	⇑PN	**Pn**	**08 34 28.5**	**+0.2**
JCZ	**Jackson Bay**	**1.30**	**42**	⇑Pn	**Pn**	**08 34 28.5**	**+0.2**
TUZ	**Tuapeka**	**1.72**	**123**	⇓PN	**Pn**	**08 34 33.6**	**+0.4**
TUZ	**Tuapeka**	**1.72**	**123**	⇓Pn	**Pn**	**08 34 33.6**	**+0.4**
APZ	**The Paps**	**1.81**	**170**	PN	**Pn**	**08 34 33.7**	**-0.7**
APZ	**The Paps**	**1.81**	**170**	Pn	**Pn**	**08 34 33.7**	**-0.7**
SYZ	**Scrubby Hill**	**1.86**	**144**	⇓PN	**Pn**	**08 34 34.9**	**0.0**
SYZ	**Scrubby Hill**	**1.86**	**144**	⇓Pn	**Pn**	**08 34 34.9**	**0.0**
LBZ	**Lake Benmore**	**1.99**	**72**	PN	**Pn**	**08 34 36.2**	**-0.4**
LBZ	**Lake Benmore**	**1.99**	**72**	Pn	**Pn**	**08 34 36.2**	**-0.4**
FOZ	**Fox Glacier**	**2.13**	**47**	⇑PN	**Pn**	**08 34 39.0**	**+0.6**
FOZ	**Fox Glacier**	**2.13**	**47**	Pn	**Pn**	**08 34 39.0**	**+0.6**
ODZ	**Otahua Downs**	**2.19**	**91**	⇑PN	**Pn**	**08 34 39.2**	**0.0**
ODZ	**Otahua Downs**	**2.19**	**91**	⇑Pn	**Pn**	**08 34 39.2**	**0.0**
RPZ	**Rata Peaks**	**2.84**	**63**	P	**Pn**	**08 34 46.7**	**-1.0**
	16nm,0.3s,baz=230,slow=5.4,SNR=110						
RPZ				S	**Sn**	**08 35 19.4**	**-2.1**
	228nm,0.3s,baz=332,slow=22,SNR=61						
RPZ	**Rata Peaks**	**2.84**	**63**	PN	**Pn**	**08 34 46.7**	**-1.0**
RPZ	**Rata Peaks**	**2.84**	**63**	Pn	**Pn**	**08 34 46.7**	**-1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**3.03**	**50**	PN	**Pn**	**08 34 48.9**	**-1.2**
WVZ	**Waitaha Valley**	**3.03**	**50**	Pn	**Pn**	**08 34 48.9**	**-1.2**
MQZ	**McQueen's Vall**	**3.90**	**72**	*e*PN	**Pn**	**08 35 00.8**	**-1.0**
MQZ	**McQueen's Vall**	**3.90**	**72**	*e*Pn	**Pn**	**08 35 00.8**	**-1.0**
LTZ	**Lake Taylor**	**4.09**	**58**	PN	**Pn**	**08 35 02.8**	**-1.7**
LTZ	**Lake Taylor**	**4.09**	**58**	Pn	**Pn**	**08 35 02.8**	**-1.7**
DSZ	**Denniston Nort**	**4.53**	**45**	PN	**Pn**	**08 35 09.1**	**-1.2**
DSZ	**Denniston Nort**	**4.53**	**45**	Pn	**Pn**	**08 35 09.1**	**-1.2**
KHZ	**Kahutara**	**5.07**	**61**	PN	**Pn**	**08 35 16.4**	**-1.3**
KHZ	**Kahutara**	**5.07**	**61**	Pn	**Pn**	**08 35 16.4**	**-1.3**
THZ	**Tophouse**	**5.10**	**52**	PN	**Pn**	**08 35 16.2**	**-1.9**
THZ	**Tophouse**	**5.10**	**52**	Pn	**Pn**	**08 35 16.2**	**-1.9**
QRZ	**Quartz Range**	**5.58**	**43**	PN	**Pn**	**08 35 23.4**	**-1.2**
QRZ	**Quartz Range**	**5.58**	**43**	Pn	**Pn**	**08 35 23.4**	**-1.2**
NNZ	**Nelson**	**5.73**	**50**	*e*PN	**Pn**	**08 35 25.2**	**-1.4**
NNZ	**Nelson**	**5.73**	**50**	*e*Pn	**Pn**	**08 35 25.2**	**-1.4**
TCW	**Tory Channel**	**6.24**	**54**	*e*PN	**Pn**	**08 35 34.9**	**+1.4**
TCW	**Tory Channel**	**6.24**	**54**	*e*Pn	**Pn**	**08 35 34.9**	**+1.4**
CAW	**Cannon Point**	**6.77**	**57**	*e*PN	**Pn**	**08 35 38.3**	**-2.4**
CAW	**Cannon Point**	**6.77**	**57**	*e*Pn	**Pn**	**08 35 38.3**	**-2.4**
KIW	**Kapiti Island**	**6.83**	**55**	*e*PN	**Pn**	**08 35 40.2**	**-1.3**
KIW	**Kapiti Island**	**6.83**	**55**	*e*Pn	**Pn**	**08 35 40.2**	**-1.3**
OGWZ	**Otaki Gorge**	**7.01**	**56**	*e*PN	**Pn**	**08 35 41.7**	**-2.2**
OGWZ	**Otaki Gorge**	**7.01**	**56**	*e*Pn	**Pn**	**08 35 41.7**	**-2.2**
MRZ	**Mangatainoka R**	**7.35**	**56**	*e*PN	**Pn**	**08 35 46.0**	**-2.6**
MRZ	**Mangatainoka R**	**7.35**	**56**	*e*Pn	**Pn**	**08 35 46.0**	**-2.6**
NWEZ	**Newall Road**	**7.43**	**41**	*e*PN	**Pn**	**08 35 49.0**	**-0.7**
NWEZ	**Newall Road**	**7.43**	**41**	*e*Pn	**Pn**	**08 35 49.0**	**-0.7**
NEZ	**North Egmont**	**7.54**	**42**	*e*PN	**Pn**	**08 35 51.0**	**-0.3**
NEZ	**North Egmont**	**7.54**	**42**	*e*Pn	**Pn**	**08 35 51.0**	**-0.3**
WAZ	**Wanganui**	**7.63**	**49**	*e*PN	**Pn**	**08 35 52.2**	**-0.2**
WAZ	**Wanganui**	**7.63**	**49**	*e*Pn	**Pn**	**08 35 52.2**	**-0.2**
TSZ	**Takapari Road**	**7.96**	**54**	*e*PN	**Pn**	**08 35 54.3**	**-2.5**
TSZ	**Takapari Road**	**7.96**	**54**	*e*Pn	**Pn**	**08 35 54.3**	**-2.5**
HIZ	**Hauiti**	**8.51**	**42**	*e*PN	**Pn**	**08 36 03.0**	**-1.2**
HIZ	**Hauiti**	**8.51**	**42**	*e*Pn	**Pn**	**08 36 03.0**	**-1.2**
WTAZ	**Waiatarua**	**9.69**	**36**	*e*PN	**Pn**	**08 36 21.3**	**+1.0**
WTAZ	**Waiatarua**	**9.69**	**36**	*e*Pn	**Pn**	**08 36 21.3**	**+1.0**
MKAZ	**Moumakai**	**9.79**	**39**	*e*PN	**Pn**	**08 36 22.9**	**+1.3**
MKAZ	**Moumakai**	**9.79**	**39**	*e*Pn	**Pn**	**08 36 22.9**	**+1.3**
URZ	**Urewera**	**9.85**	**50**	P	**Pn**	**08 36 20.0**	**-2.5**
	0.2nm,0.3s,baz=263,slow=19,SNR=4.7						
URZ				S	Sn	08 38 01.8	-9.4
	0.7nm,0.3s,baz=48,slow=16,SNR=4.4						
WCZ	**Waipu Caves**	**10.46**	**32**	PN	**Pn**	**08 36 31.5**	**+0.7**
WCZ	**Waipu Caves**	**10.46**	**32**	Pn	**Pn**	**08 36 31.5**	**+0.7**
OUZ	**Omahuta**	**10.85**	**27**	PN	**Pn**	**08 36 37.5**	**+1.4**
OUZ	**Omahuta**	**10.85**	**27**	Pn	**Pn**	**08 36 37.5**	**+1.4**
ASAR	**Alice Springs**	**34.65**	**297**	P	**P**	**08 40 44.4**	**+1.1**
	0.4nm,0.5s,baz=132,slow=6.6,SNR=11						
ASAR				PcP	**PcP**	**08 43 13.3**	**-1.9**
	0.5nm,0.7s,baz=128,slow=4.0,SNR=4.9						
WRA	**Warramunga Arr**	**37.15**	**301**	P	**P**	**08 41 04.5**	**0.0**

*ISCJB **26** 10:00:29.4±0.1,23°.07S±0°.04×175°.11W±0°.04,h43km, mb5.1/126,MS4.9/40,Error ellipse: s-maj=6.5km s-min=3.9km az=151.2*
*NEIC **26** 10:00:30.9±0.2,23°.06S×175°.17W,mb5.2/80,Error ellipse: s-maj=7.1km s-min=4.4km az=147.0*
*BJI **26** 10:00:35.6,22°.11S×175°.75W,h52km,mB5.6/35, mb5.3/37,Ms5.3/36,Ms7 4.9/36*
ISC 26 10:00:31.4±0.3,23°.03S±0°.05×175°.07W±0°.05,h49km±1km, h49km:pP-P,n614,σ1s35/758,mb5.2/125,MS4.9/40, 143C-123D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.71**	**202**	*e*Pn		**Pn**	**10 02 04.6**	**-2.7**
	609nm,0.7s							
RAO				*e*Sn		**Sn**	**10 03 22.8**	**+0.5**
MSVF	**Nonsavu**	**8.33**	**308**	*e*P		**Pn**	**10 02 30.2**	**+0.5**
MSVF	**Nonsavu**	**8.33**	**308**	*e*Pn		**Pn**	**10 02 30.2**	**+0.5**
MSVF	**Nonsavu**	**8.33**	**308**	Pn		**Pn**	**10 02 32.0**	**+2.3**
	633nm,1.3s,SNR=14							
AFI	**Afiamalu**	**9.59**	**20**	Pn		Pn	10 02 38.2	-8.7
	18nm,0.3s,baz=286,slow=1.0,SNR=29							
AFI				Sn		Sn	10 04 14.1	-19
	4.2nm,0.3s,baz=14,slow=20,SNR=2.7							
AFI				T		T	10 12 31.5	
	3.7nm,0.3s,baz=120,slow=20,SNR=4.3							
AFI	**Afiamalu**	**9.59**	**20**	Pn		Pn	10 02 38.2	-8.7
RAR	**Rarotonga**	**14.29**	**86**	Pn		Pn	10 03 39.4	-12
	9.7nm,0.3s,baz=270,slow=7.3,SNR=21							
RAR				Sn		Sn	10 06 04.4	-24
	6.9nm,0.3s,baz=90,slow=24,SNR=5.8							
RAR				LR		LR	10 08 24.6	
	comp=Z,4μm,19.7s,baz=299,slow=33							
URZ	**Urewera**	**16.59**	**202**	Pn		**Pn**	**10 04 19.9**	**-0.7**
	1.1nm,0.3s,baz=9.0,slow=2.8,SNR=13							
URZ				Sn		Sn	10 07 10.1	-14
	1.7nm,0.3s,baz=168,slow=23,SNR=6.4							
URZ	**Urewera**	**16.59**	**202**	*e*Pn		**Pn**	**10 04 19.7**	**-0.9**
	18nm,0.7s							
URZ				Sn		Sn	10 07 10.1	-14
URZ				*e*Sn		S	10 07 14.8	-18
DZM	**Mont Dzumac**	**17.11**	**270**	P		**P**	**10 04 32.2**	**+3.8**
	0.7nm,0.3s,baz=93,slow=15,SNR=13							
DZM	**Mont Dzumac**	**17.11**	**270**	*e*P		**P**	**10 04 32.4**	**+4.1**
	166nm,1.1s							
DZM				*e*LR		LR	10 08 38.3	
	3μm,25.6s							
DZM	**Mont Dzumac**	**17.11**	**270**	*e*Pn		**P**	**10 04 32.4**	**+4.1**
	71nm,0.9s							
SNZO	**South Karori**	**20.15**	**203**	*e*P		**P**	**10 05 01.0**	**-0.4**
	96nm,1.1s							
TBI	**Tubuai**	**23.53**	**96**	*e*P		**P**	**10 05 33.8**	**-3.5**
	260nm,1.2s							
TBI				*e*LQ		LQ	10 10 00.1	
	2μm,27.8s							
TBI				*e*LR		LR	10 10 48.2	
	3μm,30.5s,baz=267							
TBI	**Tubuai**	**23.53**	**96**	*e*P		**P**	**10 05 33.8**	**-3.5**
TBI				*e*LQ		LQ	10 10 00.1	
RPZ	**Rata Peaks**	**23.60**	**206**	P		P	10 05 43.1	+5.4
	11nm,0.7s,baz=54,slow=16,SNR=5.8							
RPZ	**Rata Peaks**	**23.60**	**206**	P		P	10 05 43.1	+5.4
PAE	**Paea**	**24.47**	**82**	*e*P		**P**	**10 05 42.9**	**-3.0**
	13nm,1.2s							
PAE	**Paea**	**24.47**	**82**	*e*P		**P**	**10 05 42.9**	**-3.0**
PAE	**Paea**	**24.47**	**82**	*e*P		**P**	**10 05 42.9**	**-3.0**
PPT2	**Papeete2**	**24.49**	**82**	*e*P		**P**	**10 05 42.4**	**-3.8**
	48nm,1.2s							
PPT2				*e*LQ		LQ	10 10 31.2	
	3μm,27.5s							
PPT2				*e*LR		LR	10 11 11.1	
	4μm,26.8s,baz=256							
PPT	**Papeete**	**24.50**	**82**	P		**P**	**10 05 45.7**	**-0.5**
	24nm,0.8s,baz=306,slow=6.2,SNR=5.3							
PPT				LR		LR	10 12 56.1	
	comp=Z,2μm,20.5s,baz=259,slow=31							
PPT				T		T	10 31 38.4	
	6.2nm,0.5s,baz=221,slow=22,SNR=6.4							
PPT	**Papeete**	**24.50**	**82**	P		**P**	**10 05 45.7**	**-0.5**
PPT				TT			10 31 38.4	
TIAR	**Tiarei**	**24.71**	**82**	*e*P		**P**	**10 05 44.4**	**-3.8**
	138nm,1.2s							
TIAR	**Tiarei**	**24.71**	**82**	*e*P		**P**	**10 05 44.4**	**-3.8**
TVO	**Taravao**	**24.73**	**83**	*e*P		**P**	**10 05 45.6**	**-2.8**
	140nm,1.2s							
TVO	**Taravao**	**24.73**	**83**	*e*P		**P**	**10 05 45.6**	**-2.8**
TVO	**Taravao**	**24.73**	**83**	*e*P		**P**	**10 05 45.6**	**-2.8**
MEH	**Mehetia**	**25.79**	**84**	*e*P		**P**	**10 05 55.6**	**-2.4**
	73nm,1.3s							
MEH	**Mehetia**	**25.79**	**84**	*e*P		**P**	**10 05 55.6**	**-2.4**
PMOR	**Pomariorio Ree**	**26.87**	**78**	*e*P		**P**	**10 06 05.0**	**-2.6**
	100nm,1.2s							
PMOR	**Pomariorio Ree**	**26.87**	**78**	*e*P		**P**	**10 06 05.0**	**-2.6**
TARA	**Tarawa**	**26.91**	**333**	*e*P		**P**	**10 06 05.9**	**-2.2**
	143nm,1.1s							
VAH	**Vaihoa**	**27.02**	**78**	*e*P		**P**	**10 06 06.4**	**-2.7**
	74nm,1.2s							
VAH	**Vaihoa**	**27.02**	**78**	*e*P		**P**	**10 06 06.4**	**-2.7**
HNR	**Honiara**	**27.48**	**295**	LR		LR	10 14 38.0	
	comp=Z,975nm,21.2s,baz=308,slow=31							
EIDS	**Eidsvold**	**30.92**	**259**	*e*P		**P**	**10 06 43.5**	**-0.1**
CTAO	**Charters Tower**	**36.02**	**267**	*e*P		**P**	**10 07 27.5**	**-0.6**
CTAO	**Charters Tower**	**36.02**	**267**	*e*P		**P**	**10 07 27.5**	**-0.6**
RKT	**Rikitea**	**36.80**	**98**	*e*LR		LR	10 16 54.8	
	2μm,30.2s,baz=264							
PMG	**Port Moresby**	**38.59**	**284**	P		**P**	**10 07 48.6**	**-1.2**
	163nm,1.1s,baz=122,slow=4.5,SNR=20							
PMG	**Port Moresby**	**38.59**	**284**	*e*P		**P**	**10 07 49.0**	**-0.9**
	159nm,1.0s							
PMG	**Port Moresby**	**38.59**	**284**	P		**P**	**10 07 48.9**	**-0.9**
	157nm,1.1s							
STKA	**Stephens Creek**	**39.24**	**247**	P		**P**	**10 07 54.0**	**-1.2**
	6.3nm,0.8s,baz=79,slow=10,SNR=11							
STKA				LR		LR	10 22 40.0	
	comp=Z,2μm,20.4s,baz=72,slow=34							
STKA	**Stephens Creek**	**39.24**	**247**	*e*P		**P**	**10 07 54.2**	**-1.0**
	1.7nm,1.0s							
STKA				*e*pP		**pP**	**10 08 07.2**	**-1.1**
AS31	**Alice Springs**	**46.65**	**259**	*e*P		**P**	**10 08 53.9**	**-1.4**
AS31				*e*pP		**pP**	**10 09 07.2**	**-1.4**
ASAR	**Alice Springs**	**46.65**	**259**	P		**P**	**10 08 53.6**	**-1.7**
	31nm,1.0s,baz=91,slow=8.0,SNR=121							
ASAR				LR		LR	10 27 39.5	
	comp=Z,2μm,19.9s,baz=100,slow=35							
ASAR	**Alice Springs**	**46.65**	**259**	P		**P**	**10 08 53.6**	**-1.7**
WRAB	**Tennant Creek**	**46.99**	**264**	*e*P		**P**	**10 08 55.7**	**-2.2**
WRAB				*e**PP		**pP**	**10 09 09.0**	**-2.3**
WRAB				pmax	pmax			
	comp=Z,51nm,1.0s							
WRAB	**Tennant Creek**	**46.99**	**264**	*e*P		**P**	**10 08 55.7**	**-2.2**
	comp=Z,51nm,1.0s							
WRAB				*e*pP		**pP**	**10 09 09.0**	**-2.3**
WRAB				*e*ScP		**ScP**	**10 14 15.7**	**-3.9**
WRAB	**Tennant Creek**	**46.99**	**264**	P		**P**	**10 08 56.0**	**-1.9**
	comp=Z,253nm,1.1s,SNR=16							
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**10 08 55.8**	**-2.2**
	comp=Z,33nm,1.0s,baz=96,slow=8.5,SNR=122							
WRA				LR		LR	10 27 28.0	
	comp=Z,1μm,21.5s,baz=100,slow=35							
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**10 08 55.8**	**-2.2**
FORT	**Forrest**	**50.85**	**248**	*e*P		**P**	**10 09 26.6**	**-0.8**
	comp=Z,41nm,1.0s							
DRV	**Dumont d'Urvil**	**51.93**	**201**	S		S	10 16 43.0	-11
DRV				SS		SKiKP	10 21 20.0	+24
DRV				R			10 26 00.0	
GUMO	**Guam**	**53.51**	**309**	P		**P**	**10 09 45.1**	**-2.0**
	comp=Z,143nm,1.1s,baz=183,slow=5.2,SNR=5.0							
GUMO	**Guam**	**53.51**	**309**	P		**P**	**10 09 45.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**55.42**	**263**	P		**P**	**10 09 60.0**	**-1.2**
	comp=Z,43nm,1.1s,baz=116,slow=8.8							
FITZ				LR		LR	10 33 08.5	
	comp=Z,1μm,19.7s,baz=104,slow=36							
FITZ	**Fitzroy Crossi**	**55.42**	**263**	P		**P**	**10 09 60.0**	**-1.2**
SBA	**Scott Base**	**55.56**	**185**	*e*P		P	10 10 04.8	+3.6
SBA				*e**PP		pP	10 10 17.1	+2.2
SBA				pmax	pmax			
	comp=Z,46nm,1.6s							
SBA	**Scott Base**	**55.56**	**185**	*e*P		P	10 10 04.8	+3.6
	comp=Z,46nm,1.6s							
SBA				*e*pP		pP	10 10 17.1	+2.2
VNDA	**Vanda**	**55.66**	**186**	P		**P**	**10 10 03.4**	**+1.4**
	comp=Z,4.8nm,0.9s,baz=11,slow=6.1,SNR=17							
VNDA				LR		LR	10 30 34.3	
	comp=Z,482nm,19.5s,baz=355,slow=32							
VNDA	**Vanda**	**55.66**	**186**	*e*P		**P**	**10 10 04.5**	**+2.4**
	comp=Z,8.2nm,1.1s							
VNDA				*e*pP		**pP**	**10 10 17.0**	**+1.4**
SWI	**Sorong**	**56.53**	**285**	P		**P**	**10 10 08.7**	**-0.4**
	comp=Z,106nm,1.1s,comp=Z,1μm							
AAI	**Ambon**	**58.06**	**280**	P		**P**	**10 10 19.8**	**-0.1**
	comp=Z,49nm,0.9s							
NLAI	**Namlea**	**59.24**	**280**	P		**P**	**10 10 27.7**	**-0.4**
	comp=Z,52nm,1.1s,comp=Z,1μm							
MBWA	**Marble Bar**	**59.98**	**258**	*e*P		**P**	**10 10 32.3**	**-0.9**
	comp=Z,31nm,1.1s							
MBWA				*e*pP		**pP**	**10 10 44.4**	**-2.6**
LBMI	**Labuha**	**59.99**	**283**	P		**P**	**10 10 33.2**	**-0.1**
	comp=Z,74nm,1.1s							
WSI	**Waingapu**	**63.00**	**271**	P		**P**	**10 10 55.6**	**+2.0**
KAPI	**Kappang**	**65.23**	**275**	P		**P**	**10 11 07.6**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=214,slow=5.3,SNR=3.9							
KAPI	**Kappang**	**65.23**	**275**	*e*P		**P**	**10 11 06.5**	**-1.7**
	comp=Z,23nm,1.2s							
KAPI				*e*pP		**pP**	**10 11 18.8**	**-3.4**
KAPI				*e*sP		**sP**	**10 11 24.8**	**-3.0**
KAPI	**Kappang**	**65.23**	**275**	P		pP	10 11 19.2	-3.0
QSPA	**South Pole Qui**	**67.05**	**180**	P		**P**	**10 11 19.8**	**+0.5**
	comp=Z,15nm,1.1s,baz=28,slow=2.7,SNR=15							
QSPA	**South Pole Qui**	**67.05**	**180**	*e*P		**P**	**10 11 20.1**	**+0.8**
	comp=Z,44nm,1.1s							
QSPA				*e*pP		**pP**	**10 11 33.4**	**+0.1**
MJAR	**Matsushiro Arr**	**73.86**	**322**	P		**P**	**10 12 00.2**	**-0.8**
	comp=Z,5.3nm,0.9s,baz=164,slow=6.1,SNR=7.2							
MJAR	**Matsushiro Arr**	**73.86**	**322**	P		**P**	**10 12 00.2**	**-0.8**
MAT	**Matsushiro**	**73.86**	**322**	P		**P**	**10 11 59.7**	**-1.3**
MAT				*e*S		**SKiKP**	**10 21 24.8**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**75.74**	**332**	*e*P		**P**	**10 12 10.7**	**-0.9**
YUK							10 15 02.2	
YUK				*e*S		**S**	**10 21 48.0**	**-1.5**
YUK				SS		**SS**	**10 26 36.6**	**-6.1**
YUK				*i* SSS		SSS	10 30 03.1	
KSM	**Kuching**	**76.45**	**277**	*e*P		**P**	**10 12 16.7**	**+0.3**
	comp=Z,25nm,1.0s							
KSM				*e*pP		**pP**	**10 12 29.5**	**-1.2**
KSM	**Kuching**	**76.45**	**277**	P		**P**	**10 12 16.8**	**+0.3**
ASAJ	**Asahikawa**	**77.25**	**330**	P		**P**	**10 12 21.5**	**+1.3**
	comp=Z,64nm,1.1s,baz=217,slow=13,SNR=9.7							
ASAJ	**Asahikawa**	**77.25**	**330**	*e*P		**P**	**10 12 22.2**	**+2.0**
	comp=Z,39nm,1.2s							
TPUB	**Ta-pu**	**77.63**	**302**	*e*P		**P**	**10 12 22.2**	**-0.6**
	comp=Z,81nm,1.1s							
SSLB	**Suanglung**	**77.63**	**303**	*e*P		**P**	**10 12 19.9**	**-2.9**
	comp=Z,34nm,1.2s							
PASC	**Pasadena Art C**	**78.47**	**45**	*e*P		**P**	**10 12 27.9**	**+0.6**
	comp=Z,18nm,1.1s							
PASC				*e*pP		**pP**	**10 12 40.6**	**-0.9**
MWC	**Mount Wilson**	**78.59**	**45**	*e*P		**P**	**10 12 29.3**	**+1.2**
MWC				*e**PP		**pP**	**10 12 41.5**	**-0.9**
MWC				pmax	pmax			
	comp=Z,27nm,1.0s							
MWC	**Mount Wilson**	**78.59**	**45**	*e*P		**P**	**10 12 29.3**	**+1.2**
	comp=Z,27nm,1.0s							
MWC				*e*pP		**pP**	**10 12 41.5**	**-0.9**
ARVC	**Arvin**	**78.65**	**44**	P		**P**	**10 12 28.3**	**+0.1**
	baz=79							
MURC	**Murrieta**	**78.77**	**46**	P		**P**	**10 12 28.8**	**-0.2**
	baz=79							
BFSC	**Mount Baldy Ra**	**78.86**	**45**	P		**P**	**10 12 29.6**	**+0.1**
	baz=79							
MONP	**Monument Peak**	**78.87**	**47**	P		**P**	**10 12 29.4**	**-0.3**
	baz=79							
VES	**Vestal, Richgr**	**78.93**	**43**	P		**P**	**10 12 30.2**	**+0.5**
	baz=79							
EDW2	**Edwards Air Fo**	**79.03**	**45**	P		**P**	**10 12 30.7**	**+0.3**
	baz=79,SNR=7.4							
PET	**Petropavlovsk**	**79.11**	**344**	*e*P		P	10 12 39.7	+9.5
PET				*e*S		**S**	**10 22 30.3**	**+4.6**
PET				*e*PS		**PnS**	**10 23 16.8**	**+2.4**
ISA	**Isabella**	**79.21**	**44**	*e*P		**P**	**10 12 32.1**	**+0.7**
ISA				*e**PP		**pP**	**10 12 45.0**	**-0.6**
ISA				pmax	pmax			
	comp=Z,13nm,1.1s							
ISA	**Isabella**	**79.21**	**44**	*e*P		**P**	**10 12 32.1**	**+0.7**
	comp=Z,13nm,1.1s							
ISA				*e*pP		**pP**	**10 12 45.0**	**-0.6**
ISA	**Isabella**	**79.21**	**44**	P		**P**	**10 12 31.9**	**+0.6**
	baz=80,SNR=6.3							
PFO	**Pinyon Flat Ob**	**79.27**	**46**	*e*P		**P**	**10 12 33.4**	**+1.5**
	comp=Z,14nm,1.2s							
PFO				*e*pP		**pP**	**10 12 44.8**	**-1.3**
PFO	**Pinyon Flat Ob**	**79.27**	**46**	P		**P**	**10 12 31.6**	**-0.2**
	baz=80							
SWSC	**Sam W. Stewart**	**79.32**	**47**	P		**P**	**10 12 32.0**	**+0.1**
	baz=80							
BBRC	**Big Bear Solar**	**79.36**	**46**	P		**P**	**10 12 32.7**	**+0.3**
	baz=80							
YSS	**Yuzh-Sakhalins**	**79.38**	**332**	*e*P		**P**	**10 12 33.0**	**+1.1**
YSS				*e*			10 12 46.2	
YSS				pmax	pmax			
	comp=Z,70nm,1.1s							
YSS				pmax	pmax			
	comp=E,70nm,1.0s							
YSS	**Yuzh-Sakhalins**	**79.38**	**332**	*e*P		**P**	**10 12 33.2**	**+1.4**
	comp=E,89nm,1.1s							
YSS				*e*pP		**pP**	**10 12 45.7**	**-0.5**
PEA0B	**Petropavlovsk-**	**79.43**	**344**	*e*P		**P**	**10 12 32.4**	**+0.4**
PETK	**Petropavlovsk-**	**79.43**	**344**	P		**P**	**10 12 32.1**	**+0.1**
	comp=E,26nm,1.0s,baz=120,slow=8.7,SNR=22							
PETK	**Petropavlovsk-**	**79.43**	**344**	P		**P**	**10 12 32.1**	**+0.1**
PETK	**Petropavlovsk-**	**79.43**	**344**	P		**P**	**10 12 32.1**	**+0.1**
CMB	**Columbia Colle**	**79.52**	**41**	*e*P		**P**	**10 12 33.6**	**+0.6**
CMB				*e**PP		**pP**	**10 12 46.5**	**-0.8**
CMB				pmax	pmax			
	comp=Z,30nm,1.1s							
CMB	**Columbia Colle**	**79.52**	**41**	*e*P		**P**	**10 12 33.6**	**+0.6**
	comp=Z,30nm,1.1s							
CMB				*e*pP		**pP**	**10 12 46.5**	**-0.8**
LRMC	**Laurel Mountai**	**79.59**	**44**	P		**P**	**10 12 33.7**	**+0.1**
	baz=80							
BELC	**Belle Mtn. Jos**	**79.81**	**46**	P		**P**	**10 12 34.9**	**+0.1**
	baz=80							
WDC	**Whiskeytown Da**	**79.93**	**38**	*e*P		**P**	**10 12 36.1**	**+1.0**
WDC				*e**PP		**pP**	**10 12 48.9**	**-0.5**
WDC				pmax	pmax			
	comp=Z,11nm,1.0s							
WDC	**Whiskeytown Da**	**79.93**	**38**	*e*P		**P**	**10 12 36.1**	**+1.0**
	comp=Z,11nm,1.0s							
WDC				*e*pP		**pP**	**10 12 48.9**	**-0.5**
BC3	**Big Chuckawall**	**79.97**	**47**	P		**P**	**10 12 35.4**	**-0.2**
	baz=80							
GLA	**Glamis**	**80.04**	**48**	*e*P		**P**	**10 12 37.6**	**+1.7**
GLA				*e**PP		**pP**	**10 12 50.0**	**-0.2**
GLA				pmax	pmax			
	comp=Z,44nm,1.2s							
GLA	**Glamis**	**80.04**	**48**	*e*P		**P**	**10 12 37.6**	**+1.7**
	comp=Z,44nm,1.2s							
GLA				*e*pP		**pP**	**10 12 50.0**	**-0.2**
GLA	**Glamis**	**80.04**	**48**	P		**P**	**10 12 36.1**	**+0.2**
	baz=80							
GSC	**Goldstone**	**80.06**	**45**	*e*P		**P**	**10 12 36.6**	**+0.6**
GSC				*e**PP		**pP**	**10 12 49.0**	**-1.3**
GSC				pmax	pmax			
	comp=Z,23nm,1.1s							
GSC	**Goldstone**	**80.06**	**45**	*e*P		**P**	**10 12 36.6**	**+0.6**
	comp=Z,23nm,1.1s							
GSC				*e*pP		**pP**	**10 12 49.0**	**-1.3**
GSC	**Goldstone**	**80.06**	**45**	P		**P**	**10 12 36.3**	**+0.2**
	baz=80,SNR=6.5							
MPMC	**Manual Prospec**	**80.08**	**44**	P		**P**	**10 12 37.0**	**+0.8**
	baz=80,SNR=16							
HEC	**Hector,Ludlow**	**80.09**	**46**	P		**P**	**10 12 36.1**	**0.0**
	baz=80							
MAW	**Mawson**	**80.10**	**199**	P		**P**	**10 12 37.3**	**+1.7**
	comp=Z,19nm,1.0s,baz=144,slow=4.3,SNR=5.8							
MAW				LR		LR	10 48 31.8	
	comp=Z,738nm,18.9s,baz=115,slow=36							
MAW	**Mawson**	**80.10**	**199**	P		**P**	**10 12 37.3**	**+1.7**
IRM	**Iron Mountain**	**80.47**	**47**	P		**P**	**10 12 38.2**	**0.0**
	baz=81							
GMRC	**Granite Mounta**	**80.50**	**46**	P		**P**	**10 12 38.5**	**0.0**
	baz=81							
KSRS	**Korea Array**	**80.58**	**317**	P		**P**	**10 12 39.9**	**+1.3**
	comp=Z,14nm,1.0s,baz=139,slow=5.9,SNR=22							
KSRS				LR		LR	10 44 12.2	
	comp=Z,210nm,19.3s,baz=145,slow=33							
KSAR	**Wonju Array Be**	**80.60**	**317**	P		**P**	**10 12 39.9**	**+1.2**
113A	**Mohawk Valley,**	**80.61**	**49**	P		**P**	**10 12 39.1**	**+0.3**
	baz=81							
YBH	**Yreka Blue Hor**	**80.61**	**37**	P		**P**	**10 12 39.5**	**+0.6**
	comp=Z,7.3nm,1.0s,baz=142,slow=3.0,SNR=9.8							
YBH				LR		LR	10 40 22.5	
	comp=Z,576nm,21.4s,baz=260,slow=30							
YBH	**Yreka Blue Hor**	**80.61**	**37**	*e*P		**P**	**10 12 39.6**	**+0.8**
	comp=Z,30nm,1.1s							
YBH				*e*pP		**pP**	**10 12 52.5**	**-0.7**
Y12C	**Blythe**	**80.66**	**47**	P		**P**	**10 12 39.5**	**+0.4**
	baz=81							
WCN	**Washoe City**	**80.71**	**40**	*e*P		**P**	**10 12 40.6**	**+1.0**
WCN				*e**PP		**pP**	**10 12 53.0**	**-0.8**
WCN				pmax	pmax			
	comp=Z,30nm,1.1s							
WCN	**Washoe City**	**80.71**	**40**	*e*P		**P**	**10 12 40.5**	**+1.0**
	comp=Z,30nm,1.1s							
WCN				*e*pP		**pP**	**10 12 53.0**	**-0.8**
TUQ	**Turquoise Moun**	**80.72**	**45**	P		**P**	**10 12 39.9**	**+0.3**
	baz=81							
GRAC	**Grapevine Rang**	**80.73**	**43**	P		**P**	**10 12 40.9**	**+1.3**
	baz=81,SNR=5.8							
FURC	**Furnace Creek,**	**80.73**	**44**	P		**P**	**10 12 39.7**	**+0.3**
	baz=81							
NVAR	**Mina Array Bea**	**81.04**	**42**	P		**P**	**10 12 41.9**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=223,slow=8.2,SNR=18							
NVAR	**Mina Array Bea**	**81.04**	**42**	P		**P**	**10 12 41.9**	**+0.5**
HUMO	**Hull Mountain**	**81.06**	**36**	*e*P		**P**	**10 12 42.7**	**+1.5**
	comp=Z,23nm,1.2s							
HUMO				*e*pP		**pP**	**10 12 55.1**	**-0.4**
NV11	**Mina Array Sit**	**81.13**	**42**	*e*P		**P**	**10 12 42.2**	**+0.5**
NV11				*e*pP		**pP**	**10 12 55.5**	**-0.6**
PDMCI	**Parker Dam,Lak**	**81.23**	**47**	P		**P**	**10 12 42.9**	**+0.7**
	baz=82							
SSE	**Sheshan**	**81.39**	**309**	P		**P**	**10 12 42.8**	**-0.3**
SSE				pP		**pP**	**10 12 59.5**	**+2.1**
SSE				S		**S**	**10 22 50.8**	**+0.2**
SSE				pmax	pmax			
	comp=Z,35nm,0.6s							
SSE				pmax	pmax			
	comp=Z,120nm,10.0s							
SSE				LR	LR			
	comp=N,260nm,25.8s							
SSE				LR	LR			
	comp=E,350nm,25.7s							
SSE				LR	LR			
	comp=Z,340nm,15.4s							
Z14A	**Wintersburg**	**81.51**	**48**	P		**P**	**10 12 44.4**	**+0.7**
	baz=82							
Y14A	**Wickenburg**	**81.80**	**48**	P		**P**	**10 12 45.9**	**+0.6**
	baz=82,SNR=5.6							
W13A	**Hualapai Mount**	**81.87**	**47**	P		**P**	**10 12 46.5**	**+0.7**
	baz=82,SNR=7.0							
VLA	**Vladivostok**	**81.92**	**324**	*e*P		**P**	**10 12 46.0**	**+0.4**
VLA				pmax	pmax			
	comp=Z,48nm,1.0s							
MOD	**Modoc**	**82.07**	**38**	*e*P		**P**	**10 12 47.5**	**+0.9**
	comp=Z,7.1nm,1.2s							
MOD				*e*pP		**pP**	**10 12 59.8**	**-1.2**
TUC	**Tucson**	**82.44**	**50**	*e*P		**P**	**10 12 49.6**	**+0.9**
TUC				*e**PP		**pP**	**10 13 02.3**	**-0.8**
TUC				pmax	pmax			
	comp=Z,15nm,1.0s							
TUC	**Tucson**	**82.44**	**50**	*e*P		**P**	**10 12 49.5**	**+0.9**
	comp=Z,15nm,1.0s							
TUC				*e*pP		**pP**	**10 13 02.3**	**-0.8**
MYKOM	**Kota Tinggi**	**82.49**	**275**	P		**P**	**10 12 50.5**	**+1.2**
USRK	**Ussuriysk Arra**	**82.58**	**325**	P		**P**	**10 12 50.6**	**+1.6**
	comp=Z,46nm,1.0s,baz=130,slow=2.7,SNR=67							
R11A	**Troy Canyon, C**	**82.67**	**43**	P		**P**	**10 12 50.4**	**+0.5**
	baz=83							
BMN	**Battle Mountai**	**82.94**	**41**	*e*P		**P**	**10 12 52.9**	**+1.7**
BMN				*e**PP		**pP**	**10 13 04.4**	**-1.2**
BMN				pmax	pmax			
	comp=Z,16nm,1.3s							
BMN	**Battle Mountai**	**82.94**	**41**	*e*P		**P**	**10 12 52.9**	**+1.7**
	comp=Z,16nm,1.3s							
BMN				*e*pP		**pP**	**10 13 04.4**	**-1.2**
319A	**Douglas**	**83.01**	**52**	P		**P**	**10 12 52.3**	**+0.5**
	baz=83,SNR=6.1							
KGM	**Kluang**	**83.07**	**275**	P		**P**	**10 12 53.4**	**+1.0**
X16A	**Lo Mia Camp, P**	**83.14**	**48**	P		**P**	**10 12 53.1**	**+0.7**
	baz=83,SNR=9.2							
320A	**Kipp Ranch, An**	**83.54**	**52**	P		**P**	**10 12 55.1**	**+0.6**
	baz=84							
BMW	**Boistfort Moun**	**83.56**	**33**	P		**P**	**10 12 55.6**	**+1.5**
BMW	**Boistfort Moun**	**83.56**	**33**	P		**P**	**10 12 55.5**	**+1.5**
NJ2	**Nanjing**	**83.58**	**309**	*e*P		**P**	**10 12 56.0**	**+1.5**
NJ2				pmax	pmax			

MVU	**Marysvale**	**84.92**	**45**	P		**P**		**10 13 03.0**	**+1.6**
	comp=Z,111nm,0.9s								
MVU				*ep*P		**pP**		**10 13 15.6**	**-0.3**
PGC	**Sidney**	**84.94**	**31**	*e*P		**P**		**10 13 02.1**	**+1.2**
	comp=Z,1.1nm,1.0s								
PGC				*ep*P		**pP**		**10 13 14.9**	**-0.5**
MSU	**Marysvale**	**84.94**	**45**	*e*P		**P**		**10 13 03.2**	**+1.6**
MSU				*e**PP		**pP**		**10 13 16.2**	**+0.2**
MSU				pmax		pmax			
	comp=Z,42nm,1.2s								
MSU	**Marysvale**	**84.94**	**45**	*e*P		**P**		**10 13 03.2**	**+1.6**
	comp=Z,42nm,1.2s								
MSU				*ep*P		**pP**		**10 13 16.2**	**+0.2**
222A	**Williams Famil**	**84.97**	**52**	⇓P		**P**		**10 13 02.2**	**+0.4**
	baz=85								
Y20A	**Horse Springs,**	**85.00**	**50**	⇑P		**P**		**10 13 02.7**	**+0.7**
	baz=85,SNR=8.8								
Z21A	**St. Cloud Mine**	**85.19**	**51**	⇑P		**P**		**10 13 03.6**	**+0.7**
	baz=86,SNR=5.6								
X20A	**Quenado**	**85.25**	**49**	⇑P		**P**		**10 13 03.9**	**+0.8**
	baz=86,SNR=11								
122A	**Conniff Cattle**	**85.35**	**52**	⇓P		**P**		**10 13 04.2**	**+0.5**
	baz=86								
BBB	**Bella Bella**	**85.37**	**27**	LR		LR		10 42 39.7	
	comp=Z,237nm,20.0s,baz=86,slow=30								
SNAA	**Sanae**	**85.40**	**178**	*e*P		**P**		**10 13 03.2**	**0.0**
	comp=Z,21nm,1.1s								
SNAA				*ep*P		**pP**		**10 13 16.3**	**-1.3**
VNA3	**Neumayer Olymp**	**85.43**	**175**	*e*P		**P**		**10 13 03.5**	**+0.2**
VNA3	**Neumayer Olymp**	**85.43**	**175**	*ep*P		pP		10 13 17.2	-0.5
P15A	**Leamington**	**85.48**	**44**	⇓P		**P**		**10 13 04.8**	**+0.6**
	baz=86								
DUG	**Dugway**	**85.50**	**43**	*e*P		**P**		**10 13 04.7**	**+0.5**
DUG				*e**PP		**pP**		**10 13 17.2**	**-1.4**
DUG				pmax		pmax			
	comp=Z,7.0nm,1.2s								
DUG	**Dugway**	**85.50**	**43**	*e*P		**P**		**10 13 04.7**	**+0.5**
	comp=Z,7.5nm,1.2s								
DUG				*ep*P		**pP**		**10 13 17.2**	**-1.4**
DUG	**Dugway**	**85.50**	**43**	⇓P		**P**		**10 13 04.6**	**+0.5**
	baz=86								
Y21A	**Point of Rocks**	**85.55**	**50**	⇑P		**P**		**10 13 05.7**	**+0.9**
	baz=86,SNR=11								
W20A	**Ramah**	**85.55**	**49**	⇓P		**P**		**10 13 05.2**	**+0.5**
	baz=86,SNR=16								
PLCA	**Paso Flores**	**85.56**	**132**	P		**P**		**10 13 05.3**	**+0.6**
	comp=Z,7.2nm,1.1s,baz=246,slow=7.5,SNR=8.2								
PLCA				LR		LR		10 43 30.1	
	comp=Z,339nm,18.5s,baz=238,slow=30								
PLCA	**Paso Flores**	**85.56**	**132**	P		**P**		**10 13 05.3**	**+0.6**
MFID	**Camas Ranch**	**85.59**	**39**	*e*P		**P**		**10 13 04.8**	**+0.3**
	comp=Z,24nm,1.1s								
MFID				*ep*P		**pP**		**10 13 17.5**	**-1.5**
MFID	**Camas Ranch**	**85.59**	**39**	⇑P		**P**		**10 13 05.1**	**+0.6**
	baz=86,SNR=7.0								
BMO	**Blue Mountains**	**85.63**	**37**	*e*P		**P**		**10 13 04.7**	**0.0**
	comp=Z,15nm,1.3s								
BMO				*ep*P		**pP**		**10 13 17.4**	**-1.7**
Z22A	**Elephant Butte**	**85.67**	**51**	⇓P		**P**		**10 13 05.5**	**+0.3**
	baz=86,SNR=8.3								
X21A	**Alamocita Cree**	**85.70**	**50**	⇓P		**P**		**10 13 05.8**	**+0.3**
	baz=86,SNR=6.5								
ETW	**Entiat**	**85.78**	**34**	P		**P**		**10 13 05.9**	**+0.5**
324A	**Moseley Ranch,**	**85.83**	**53**	⇑P		**P**		**10 13 06.0**	**0.0**
	baz=86,SNR=7.5								
425A	**Indio Mountain**	**85.87**	**54**	⇓P		**P**		**10 13 06.2**	**0.0**
	baz=86,SNR=9.3								
SNY	**Shenyang**	**85.89**	**319**	⇓P		**P**		**10 13 08.8**	**+2.9**
SNY				pmax		pmax			
	comp=Z,180nm,8.3s								
SNY				LR		LR			
	comp=N,290nm,13.2s								
SNY				LR		LR			
	comp=E,300nm,13.2s								
SNY				LR		LR			
	comp=Z,350nm,17.4s								
VNA2	**Neumayer--Watz**	**85.90**	**176**	*e*P		**P**		**10 13 06.3**	**+0.7**
	baz=175,slow=3.2								
VNA2	**Neumayer--Watz**	**85.90**	**176**	*ep*P		pP		10 13 20.0	0.0
	baz=175,slow=3.2								
VNA2	**Neumayer--Watz**	**85.90**	**176**	*es*P		sP		10 13 26.3	+0.8
	baz=175,slow=3.2								
626A	**Big Bend Ranch**	**85.91**	**56**	⇑P		**P**		**10 13 06.6**	**+0.2**
	baz=86,SNR=12								
CN2	**Changchun**	**85.96**	**321**	*e*P		**P**		**10 13 08.0**	**+1.8**
CN2				*ep*P		**pP**		**10 13 25.0**	**+4.4**
CN2				*es*P		sP		10 13 31.8	+5.7
CN2				*e*S		**SKKSac**		**10 23 35.5**	**+0.2**
CN2				pmax		pmax			
	comp=Z,40nm,0.9s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,500nm,19.0s								
CN2				LR		LR			
	comp=E,300nm,19.0s								
CN2				LR		LR			
	comp=Z,400nm,21.0s								
TMUT	**Trail Mountain**	**86.01**	**44**	*e*P		**P**		**10 13 08.3**	**+1.4**
	comp=Z,9.6nm,1.1s								
TMUT				*ep*P		**pP**		**10 13 20.5**	**-0.9**
Y22A	**Socorro**	**86.01**	**51**	⇓P		**P**		**10 13 07.2**	**+0.3**
	baz=86,SNR=7.9								
MNTX	**Cornudas Mount**	**86.03**	**53**	*e*P		**P**		**10 13 06.0**	**-0.9**
	comp=Z,16nm,1.1s								
MNTX				*ep*P		**pP**		**10 13 20.4**	**-0.9**
MNTX	**Cornudas Mount**	**86.03**	**53**	⇑P		**P**		**10 13 06.6**	**-0.2**
	baz=86,SNR=11								
KLR	**Kul'dur**	**86.09**	**328**	*e*P		P		10 13 02.8	-3.9
VNA1	**Neumayer--Stat**	**86.11**	**176**	*e*P		**P**		**10 13 08.4**	**+1.8**
VNA1	**Neumayer--Stat**	**86.11**	**176**	*ep*P		pP		10 13 21.0	0.0
224A	**Cornudas Mount**	**86.11**	**53**	⇑P		**P**		**10 13 07.6**	**+0.1**
	baz=86								
LENM	**Lemitar**	**86.13**	**50**	*e*P		**P**		**10 13 09.2**	**+1.7**
	comp=Z,6.3nm,1.1s								
LENM				*ep*P		**pP**		**10 13 21.1**	**-0.8**
WHN	**Wuhan**	**86.13**	**305**	P		**P**		**10 13 08.8**	**+1.5**
WHN				S		**S**		**10 23 37.0**	**-1.3**
WHN				LR		LR			
	comp=Z,1μm,20.6s								
LAZ	**Ladron**	**86.13**	**50**	*e*P		**P**		**10 13 08.8**	**+1.3**
	comp=Z,12nm,1.2s								
LAZ				*ep*P		**pP**		**10 13 21.4**	**-0.6**
IPM	**Ipoh**	**86.14**	**276**	*e*P		**P**		**10 13 08.7**	**+0.8**
	comp=Z,66nm,1.1s								
IPM				*ep*P		**pP**		**10 13 21.5**	**-0.8**
IPM	**Ipoh**	**86.14**	**276**	P		**P**		**10 13 09.2**	**+1.3**
TXAR	**Lajitas Array**	**86.16**	**56**	P		**P**		**10 13 07.9**	**+0.3**
	comp=Z,8.2nm,1.1s,baz=208,slow=4.1,SNR=27								
TXAR				LR		LR		10 46 08.2	
	comp=Z,345nm,18.6s,baz=210,slow=32								
TXAR	**Lajitas Array**	**86.16**	**56**	P		**P**		**10 13 07.9**	**+0.3**
325A	**Bean Ranch, Si**	**86.17**	**54**	⇑P		**P**		**10 13 07.3**	**-0.5**
	baz=86,SNR=7.4								
526A	**Mary Lane Ranc**	**86.19**	**55**	⇓P		**P**		**10 13 07.8**	**-0.1**
	baz=86,SNR=14								
Z23A	**Rita Site, Whi**	**86.19**	**52**	⇑P		**P**		**10 13 08.0**	**+0.2**
	baz=86								
I12A	**Atlanta**	**86.22**	**39**	⇑P		**P**		**10 13 08.1**	**+0.3**
	baz=86								
SRU	**San Rafael**	**86.35**	**45**	*e*P		**P**		**10 13 08.8**	**+0.3**
SRU				*e**PP		**pP**		**10 13 21.6**	**-1.3**
SRU				pmax		pmax			
	comp=Z,31nm,1.1s								
SRU	**San Rafael**	**86.35**	**45**	*e*P		**P**		**10 13 08.8**	**+0.3**
	comp=Z,31nm,1.1s								
SRU				*ep*P		**pP**		**10 13 21.6**	**-1.3**
SRU	**San Rafael**	**86.35**	**45**	⇑P		**P**		**10 13 08.4**	**-0.1**
	baz=87,SNR=6.0								
BNM	**Barren Site**	**86.36**	**51**	*e*P		**P**		**10 13 09.8**	**+1.0**
	comp=Z,14nm,1.2s								
BNM				*ep*P		**pP**		**10 13 22.2**	**-0.9**
P17A	**Butcher Ranch,**	**86.41**	**44**	⇑P		**P**		**10 13 08.5**	**-0.3**
	baz=87,SNR=5.8								
627A	**Terlingua Ranc**	**86.43**	**56**	⇑P		**P**		**10 13 08.9**	**-0.1**
	baz=87,SNR=13								
LPM	**Los Pinos Moun**	**86.44**	**50**	*e*P		**P**		**10 13 09.8**	**+0.7**
	comp=Z,7.8nm,1.3s								
LPM				*ep*P		**pP**		**10 13 23.1**	**-0.5**
M15A	**Larsen Ranch,**	**86.45**	**42**	⇓P		**P**		**10 13 09.2**	**+0.3**
	baz=87								
124A	**Stringfield Ra**	**86.48**	**52**	⇓P		**P**		**10 13 09.2**	**-0.1**
	baz=87								
HLID	**Hailey**	**86.50**	**39**	*e*P		**P**		**10 13 09.6**	**+0.5**
	comp=Z,6.6nm,1.0s								
HLID				*ep*P		**pP**		**10 13 22.2**	**-1.4**

HLID	**Hailey**	**86.50**	**39**	⇑P		**P**		**10 13 08.8**	**-0.3**
	baz=87								
V21A	**Milan**	**86.51**	**49**	⇑P		**P**		**10 13 09.3**	**-0.1**
	baz=87								
426A	**McDonald Obser**	**86.53**	**55**	⇑P		**P**		**10 13 09.3**	**-0.3**
	baz=87								
J13A	**Cove Ranch, Pi**	**86.54**	**40**	⇓P		**P**		**10 13 09.2**	**0.0**
	baz=87								
527A	**Woodward Ranch**	**86.59**	**55**	⇑P		**P**		**10 13 09.6**	**-0.2**
	baz=87,SNR=7.2								
Y23A	**Lovelace Mesa,**	**86.66**	**51**	⇓P		**P**		**10 13 10.1**	**0.0**
	baz=87								
KULM	**Kulim**	**86.81**	**277**	*e*P		**P**		**10 13 12.6**	**+1.5**
	comp=Z,42nm,1.2s								
KULM				*ep*P		**pP**		**10 13 24.7**	**-0.8**
O17A	**Robinson Place**	**86.81**	**44**	⇓P		**P**		**10 13 11.0**	**+0.2**
	baz=87,SNR=10.0								
P18A	**Preston Nutter**	**86.81**	**44**	⇓P		**P**		**10 13 10.7**	**-0.3**
	baz=87								
U21A	**Nageezi**	**86.82**	**48**	⇓P		**P**		**10 13 11.2**	**+0.2**
	baz=87,SNR=7.2								
628A	**Black Gap, Mar**	**86.83**	**56**	⇑P		**P**		**10 13 10.7**	**-0.2**
	baz=87								
H12A	**Diamond D Ranc**	**86.83**	**38**	⇑P		**P**		**10 13 10.0**	**-0.7**
	baz=87								
Z24A	**Sheeppen Canyo**	**86.86**	**52**	⇓P		**P**		**10 13 10.7**	**-0.5**
	baz=87								
M16A	**Huntsville**	**86.88**	**42**	⇑P		**P**		**10 13 11.0**	**-0.1**
	baz=87								
ANMO	**Albuquerque**	**86.89**	**50**	*e*P		**P**		**10 13 11.6**	**+0.4**
	comp=Z,22nm,1.2s								
ANMO				*ep*P		**pP**		**10 13 25.0**	**-0.7**
G12A	**Big Creek, Yel**	**86.91**	**38**	⇓P		**P**		**10 13 10.8**	**-0.3**
	baz=87								
GDL2	**Guadalupe Moun**	**87.03**	**53**	*e*P		**P**		**10 13 12.7**	**+0.8**
	comp=Z,41nm,1.1s								
GDL2				*ep*P		**pP**		**10 13 25.8**	**-0.5**
125A	**Gardner Draw,**	**87.04**	**53**	⇑P		**P**		**10 13 11.2**	**-0.8**
	baz=87								
S20A	**Disappointment**	**87.08**	**47**	⇑P		**P**		**10 13 11.7**	**-0.5**
	baz=87								
Q19A	**Hogan Spring (**	**87.09**	**45**	⇑P		**P**		**10 13 11.8**	**-0.2**
	baz=87								
427A	**Hayter Ranch,**	**87.09**	**55**	⇑P		**P**		**10 13 12.3**	**+0.1**
	baz=87,SNR=13								
Y24A	**Capitan**	**87.10**	**51**	⇓P		**P**		**10 13 12.6**	**+0.3**
	baz=87,SNR=13								
PV01	**Paradox Valley**	**87.10**	**46**	*e*P		**P**		**10 13 13.6**	**+1.4**
	comp=Z,779nm,1.1s								
N17A	**Moffit Pass**	**87.17**	**43**	⇑P		**P**		**10 13 12.1**	**-0.4**
	baz=88								
H13A	**Challis**	**87.18**	**39**	⇓P		**P**		**10 13 12.5**	**+0.1**
	baz=88								
W23A	**Werner Place,**	**87.22**	**50**	⇑P		**P**		**10 13 12.5**	**-0.3**
	baz=88								
528A	**Cox Ranch, San**	**87.22**	**56**	⇑P		**P**		**10 13 12.8**	**-0.1**
	baz=88,SNR=8.4								
R20A	**Redvale**	**87.26**	**46**	⇑P		**P**		**10 13 13.2**	**+0.2**
	baz=88								
Z25A	**Roswell**	**87.30**	**52**	⇑P		**P**		**10 13 13.5**	**+0.3**
	baz=88,SNR=6.9								
U22A	**Llaves**	**87.35**	**49**	⇓P		**P**		**10 13 13.9**	**+0.4**
	baz=88								
S21A	**Coal Bank Pass**	**87.38**	**47**	⇑P		**P**		**10 13 13.8**	**+0.1**
	baz=88								
PSI	**Prapat**	**87.41**	**274**	P		**P**		**10 13 14.1**	**-0.1**
	comp=Z,43nm,1.0s,baz=183,slow=5.8,SNR=27								
PSI	**Prapat**	**87.41**	**274**	P		**P**		**10 13 14.1**	**-0.1**
V23A	**Ortiz Mt. (NFS**	**87.49**	**49**	⇓P		**P**		**10 13 14.7**	**+0.5**
	baz=88								
126A	**Clayton Basin,**	**87.50**	**53**	⇓P		**P**		**10 13 14.7**	**+0.6**
	baz=88								
428A	**Kincaid Ranch,**	**87.57**	**55**	⇑P		**P**		**10 13 14.4**	**-0.1**
	baz=88								
P19A	**Cripple Cowboy**	**87.64**	**45**	⇑P		**P**		**10 13 14.3**	**-0.5**
	baz=88								
Y25A	**Mesa, Roswell**	**87.64**	**52**	⇑P		**P**		**10 13 14.6**	**-0.2**
	baz=88,SNR=9.8								
T22A	**Edith**	**87.64**	**48**	⇑P		**P**		**10 13 14.2**	**-0.7**
	baz=88								
Q20A	**Ridgley Place,**	**87.72**	**46**	⇑P		**P**		**10 13 14.5**	**-0.7**
	baz=88								
H14A	**Leadore**	**87.73**	**39**	⇓P		**P**		**10 13 14.8**	**-0.3**
	baz=88								
227A	**Bennet, Jal**	**87.73**	**54**	⇓P		**P**		**10 13 14.2**	**-1.0**
	baz=88								
K16A	**Soda Springs**	**87.76**	**41**	⇑P		**P**		**10 13 14.8**	**-0.4**
	baz=88								
W24A	**Lazy 6 Ranch,**	**87.77**	**50**	⇑P		**P**		**10 13 14.9**	**-0.6**
	baz=88								
U23A	**El Rito**	**87.78**	**49**	⇓P		**P**		**10 13 15.0**	**-0.6**
	baz=88								
328A	**Wristen Ranch,**	**87.79**	**55**	⇓P		**P**		**10 13 14.7**	**-0.8**
	baz=88								
CPRX	**Cap Rock**	**87.80**	**53**	*e*P		**P**		**10 13 16.6**	**+1.0**
	comp=Z,7.3nm,0.9s								
CPRX				*ep*P		**pP**		**10 13 29.7**	**-0.4**
Z26A	**Caprock**	**87.83**	**52**	⇓P		**P**		**10 13 15.3**	**-0.4**
	baz=88,SNR=6.1								
NEW	**Newport**	**87.86**	**35**	LR		LR		10 49 19.3	
	comp=Z,564nm,18.6s,baz=232,slow=33								
NEW	**Newport**	**87.86**	**35**	*e*P		**P**		**10 13 15.4**	**0.0**
	comp=Z,7.8nm,1.0s								
NEW				*ep*P		**pP**		**10 13 28.4**	**-1.5**
NEW	**Newport**	**87.86**	**35**	⇑P		**P**		**10 13 15.3**	**-0.1**
	baz=88								
F13A	**Darby**	**87.87**	**38**	⇑P		**P**		**10 13 15.6**	**0.0**
	baz=88								
O19A	**Miners Draw (B**	**87.90**	**44**	⇓P		**P**		**10 13 15.8**	**-0.1**
	baz=88								
R21A	**Cimarron**	**87.91**	**47**	⇓P		**P**		**10 13 15.5**	**-0.7**
	baz=88								
M18A	**Lyman**	**87.92**	**43**	⇓P		**P**		**10 13 15.7**	**-0.4**
	baz=88								
N18A	**Larsen Ranch,**	**87.92**	**44**	⇑P		**P**		**10 13 15.9**	**-0.1**
	baz=88,SNR=5.1								
127A	**Arkansas Junct**	**88.00**	**53**	⇑P		**P**		**10 13 16.2**	**-0.3**
	baz=88								
D12A	**Red Ives Fores**	**88.06**	**36**	⇓P		**P**		**10 13 16.1**	**-0.3**
	baz=88								
S22A	**4UR Ranch, Cre**	**88.07**	**47**	⇑P		**P**		**10 13 16.6**	**-0.4**
	baz=88,SNR=5.4								
V24A	**Rampart Ranch,**	**88.12**	**50**	⇓P		**P**		**10 13 16.8**	**-0.4**
	baz=88								
429A	**Davenport Ranc**	**88.12**	**56**	⇑P		**P**		**10 13 16.6**	**-0.5**
	baz=88,SNR=13								
N19A	**John Jarvie Ra**	**88.19**	**44**	⇓P		**P**		**10 13 17.3**	**0.0**
	baz=88								
RRI2	**Red Ridge**	**88.21**	**41**	*e*P		**P**		**10 13 17.4**	**-0.1**
	comp=Z,6.2nm,1.3s								
RRI2				*ep*P		**pP**		**10 13 30.8**	**-1.2**
228A	**UT Block 9, Go**	**88.30**	**54**	⇑P		**P**		**10 13 18.0**	**0.0**
	baz=89								
E13A	**Victor**	**88.34**	**37**	⇓P		**P**		**10 13 18.0**	**+0.2**
	baz=89								
R22A	**Saguache, Gunn**	**88.37**	**47**	⇑P		**P**		**10 13 18.0**	**-0.4**
	baz=89								
O20A	**White River Ci**	**88.38**	**45**	⇑P		**P**		**10 13 17.8**	**-0.5**
	baz=89								
C12B	**Nangeli Ranch,**	**88.39**	**36**	⇓P		**P**		**10 13 18.2**	**+0.2**
	baz=89,SNR=6.0								
Z27A	**Tatum**	**88.42**	**53**	⇓P		**P**		**10 13 18.3**	**-0.2**
	baz=89								
W25A	**X Bar L Ranch,**	**88.44**	**51**	⇓P		**P**		**10 13 18.8**	**+0.2**
	baz=89,SNR=5.1								
329A	**Wagon Wheel Ra**	**88.46**	**55**	⇑P		**P**		**10 13 18.2**	**-0.5**
	baz=89								
TPAW	**Teton Pass**	**88.51**	**41**	*e*P		**P**		**10 13 19.3**	**+0.4**
	comp=Z,7.8nm,1.1s								
TPAW				*ep*P		**pP**		**10 13 31.8**	**-1.6**
G15A	**Dillon**	**88.56**	**39**	⇑P		**P**		**10 13 18.6**	**-0.4**
	baz=89								
631A	**Perdido Creek**	**88.57**	**57**	⇑P		**P**		**10 13 18.5**	**-0.7**
	baz=89								
D13A	**Huson**	**88.57**	**37**	⇓P		**P**		**10 13 18.8**	**-0.1**
	baz=89								
P21A	**Newcastle**	**88.58**	**46**	⇑P		**P**		**10 13 18.9**	**-0.4**
	baz=89								
X26A	**CR and CF Fran**	**88.58**	**51**	⇑P		**P**		**10 13 18.7**	**-0.6**
	baz=89								
J17A	**Brown Place, J**	**88.59**	**41**	⇑P		**P**		**10 13 19.6**	**+0.4**
	baz=89								
Q22A	**Crested Butte,**	**88.59**	**46**	⇓P		**P**		**10 13 19.4**	**0.0**
	baz=89								
K18A	**Toltan Ranch,**	**88.59**	**42**	⇑P		**P**		**10 13 19.3**	**+0.1**
	baz=89,SNR=7.8								
MSO	**Missoula**	**88.70**	**37**	*e*P		**P**		**10 13 19.2**	**-0.3**
	comp=Z,3.6nm,1.1s								
MSO				*ep*P		**pP**		**10 13 31.4**	**-2.6**
MSO	**Missoula**	**88.70**	**37**	⇑P		**P**		**10 13 19.7**	**+0.2**
	baz=89								
E14A	**Clinton**	**88.71**	**37**	⇑P		**P**		**10 13 19.9**	**+0.3**
	baz=89								
SMCO	**Snowmass**	**88.72**	**46**	*e*P		**P**		**10 13 21.2**	**+1.0**
	comp=Z,14nm,1.0s								
SMCO				*ep*P		**pP**		**10 13 33.7**	**-0.9**
L19A	**Farson**	**88.73**	**43**	⇑P		**P**		**10 13 19.6**	**-0.3**
	baz=89								
Y27A	**Causey**	**88.73**	**52**	⇓P		**P**		**10 13 20.0**	**0.0**
	baz=89								
732A	**Laxson Ranch,**	**88.73**	**58**	⇑P		**P**		**10 13 20.2**	**+0.3**
	baz=89								
N20A	**Spence Gulch,**	**88.74**	**44**	⇓P		**P**		**10 13 20.0**	**0.0**
	baz=89,SNR=9.4								
IMW	**Indian Meadow**	**88.75**	**41**	*e*P		**P**		**10 13 20.8**	**+0.7**
	comp=Z,5.0nm,1.0s								
IMW				*ep*P		**pP**		**10 13 33.0**	**-1.6**
B12A	**Libby**	**88.79**	**35**	⇑P		**P**		**10 13 20.1**	**+0.2**
	baz=89								
C13A	**Hot Springs**	**88.86**	**36**	⇓P		**P**		**10 13 20.7**	**+0.6**
	baz=89								
J18A	**Kendall Valley**	**88.92**	**42**	⇑P		**P**		**10 13 20.9**	**+0.1**
	baz=89,SNR=7.9								
531A	**Rocksprings**	**88.94**	**57**	⇑P		**P**		**10 13 21.0**	**0.0**
	baz=89								
PDAR	**Pinedale Array**	**88.96**	**42**	P		**P**		**10 13 20.1**	**-0.9**
	comp=Z,2.6nm,1.1s,baz=209,slow=2.7,SNR=10								
PDAR	**Pinedale Array**	**88.96**	**42**	P		**P**		**10 13 20.1**	**-0.9**
R23A	**Moffat**	**88.98**	**47**	⇑P		**P**		**10 13 20.6**	**-0.6**
	baz=89								
QLMT	**Earthquake Lak**	**88.98**	**40**	*e*P		**P**		**10 13 23.3**	**+2.3**
	comp=Z,0.9nm,1.0s								
QLMT				*ep*P		**pP**		**10 13 34.6**	**-0.9**
A12A	**Yaak River Ran**	**89.04**	**35**	⇓P		**P**		**10 13 20.8**	**-0.1**
	baz=89								
U25A	**Circle Dot Ran**	**89.06**	**50**	⇑P		**P**		**10 13 21.9**	**+0.3**
	baz=89,SNR=5.7								
P22A	**Eagle**	**89.07**	**46**	⇑P		**P**		**10 13 21.1**	**-0.5**
	baz=89								
D14A	**Greenough**	**89.09**	**37**	⇓P		**P**		**10 13 20.8**	**-0.5**
	baz=89								
S24A	**Houchin Ranch,**	**89.12**	**48**	⇓P		**P**		**10 13 21.8**	**-0.2**
	baz=89,SNR=5.7								
CHMT	**Chamberlain Mo**	**89.13**	**37**	*e*P		**P**		**10 13 22.0**	**+0.3**
	comp=Z,7.5nm,1.2s								
CHMT				*ep*P		**pP**		**10 13 34.5**	**-1.7**
N21A	**Black Mountain**	**89.18**	**45**	⇓P		**P**		**10 13 21.7**	**-0.4**
	baz=90								
SLMT	**Seeley Lake**	**89.19**	**37**	*e*P		**P**		**10 13 23.4**	**+1.5**
	comp=Z,4.9nm,1.2s								
SLMT				*ep*P		**pP**		**10 13 34.5**	**-1.9**
E15A	**Deer Lodge**	**89.19**	**38**	⇑P		**P**		**10 13 22.0**	**+0.2**
	baz=90								
MENT	**Mentasta**	**89.20**	**14**	*e*P		**P**		**10 13 22.3**	**+0.9**
MENT				*ep*P		**pP**		**10 13 34.8**	**-1.1**
V26A	**Tequesquite Ra**	**89.21**	**50**	⇑P		**P**		**10 13 22.0**	**-0.2**
	baz=90								
632A	**Uvalde**	**89.23**	**57**	⇑P		**P**		**10 13 22.3**	**0.0**
	baz=90								
BOZ	**Bozeman (W)**	**89.33**	**39**	*e*P		**P**		**10 13 23.1**	**+0.6**
BOZ				*e**PP		**pP**		**10 13 35.5**	**-1.5**
BOZ				pmax		pmax			
	comp=Z,6.0nm,1.3s								
BOZ	**Bozeman (W)**	**89.33**	**39**	*e*P		**P**		**10 13 23.1**	**+0.6**
	comp=Z,6.3nm,1.3s								
BOZ				*ep*P		**pP**		**10 13 35.5**	**-1.5**
BOZ	**Bozeman (W)**	**89.33**	**39**	⇑P		**P**		**10 13 22.4**	**-0.1**
	baz=90,SNR=6.0								
532A	**Rocksprings**	**89.42**	**57**	⇑P		**P**		**10 13 22.9**	**-0.3**
	baz=90								
T25A	**Trinidad**	**89.43**	**49**	⇑P		**P**		**10 13 23.6**	**+0.3**
	baz=90								
SEY	**Seymchan**	**89.47**	**346**	⇑*i*P		**P**		**10 13 22.7**	**+0.2**
R24A	**Sanders Place,**	**89.49**	**48**	⇓P		**P**		**10 13 23.6**	**+0.1**
	baz

GYA LR LR
comp=N,620nm,20.4s
GYA LR LR
comp=E,530nm,21.0s
GYA LR LR
comp=Z,560nm,20.3s
N23A Red Feather La 90.27 45 ⇑P **P 10 13 27.5 +0.3**
baz=91
S26A Kim 90.31 49 ⇑P **P 10 13 26.9 -0.4**
baz=91
B15A Bradely Ranch, 90.33 36 ⇑P **P 10 13 27.1 0.0**
baz=91
H19A Powell 90.34 41 ⇓P **P 10 13 27.0 -0.3**
baz=91
G18A Lazy EL Ranch, 90.35 40 ⇓P **P 10 13 27.0 -0.3**
baz=91,SNR=5.5
RLMT Red Lodge 90.42 40 ⇑P **P 10 13 27.9 +0.1**
baz=91
C16A Fuhringer Ranc 90.48 37 ⇓P **P 10 13 27.6 -0.2**
baz=91,SNR=5.9
L22A Ellis Ranch, M 90.54 44 ⇓P **P 10 13 28.9 +0.5**
baz=91
GCMT Greycliff 90.55 40 *e*P **P 10 13 29.4 +1.2**
comp=Z,4.9nm,1.2s
GCMT *ep*P **pP 10 13 42.1 -0.7**
F18A Big Timber 90.58 39 ⇑P **P 10 13 28.6 +0.3**
baz=91,SNR=5.7
A15A Johnson Ranch, 90.62 36 ⇓P **P 10 13 28.4 0.0**
baz=91,SNR=6.5
R26A Arlington 90.66 48 ⇓P **P 10 13 28.4 -0.5**
baz=91,SNR=5.8
D17A Six Diamond Ra 90.71 38 ⇑P **P 10 13 29.1 +0.1**
baz=91,SNR=14
E18A Harlowton 90.83 39 ⇓P **P 10 13 29.6 +0.1**
baz=91,SNR=5.4
Y31A Rekieta Farm, 90.89 53 ⇓P **P 10 13 30.1 +0.1**
baz=91
I21A Big Trails, Te 90.92 42 ⇑P **P 10 13 30.4 +0.4**
baz=91
C17A Wharram Farm, 90.94 38 ⇑P **P 10 13 30.1 +0.2**
baz=91,SNR=16
F19A Roth Farm, Mol 91.01 40 ⇑P **P 10 13 30.2 -0.1**
baz=91,SNR=5.9
L23A Garrett 91.05 44 ⇑P **P 10 13 30.9 +0.1**
baz=91
R27A Eads 91.10 49 ⇑P **P 10 13 30.9 0.0**
baz=91
DAWY Dawson 91.16 15 *e*P **P 10 13 31.9 +1.4**
DAWY *ep*P **pP 10 13 44.4 -0.6**
Z32A Haskell 91.18 54 ⇑P **P 10 13 31.1 -0.2**
baz=91
D18A Linhart Farms, 91.24 38 ⇑P **P 10 13 31.8 +0.4**
baz=92
B17A L&G Farms, Che 91.28 37 ⇓P **P 10 13 31.8 +0.4**
baz=92
EGAK Eagle 91.37 14 *e*P **P 10 13 32.2 +0.9**
comp=Z,30nm,1.3s
EGAK *ep*P **pP 10 13 44.8 -1.1**
CFAA Coronel Fontan 91.42 125 LR LR 10 45 16.9
comp=Z,59nm,19.6s,baz=172,slow=29
E19A Rath Farm, Rou 91.43 39 ⇑P **P 10 13 32.1 -0.1**
baz=92
Y32A R-V Farms, Ver 91.52 54 ⇓P **P 10 13 33.0 +0.1**
baz=92
A17A Triple J Farms 91.70 36 ⇓P **P 10 13 33.4 0.0**
baz=92,SNR=5.4
EGMT Eagleton 91.72 38 *e*P **P 10 13 33.8 +0.3**
comp=Z,12nm,1.4s
EGMT *ep*P **pP 10 13 46.8 -1.2**
EGMT Eagleton 91.72 38 ⇑P **P 10 13 33.1 -0.4**
baz=92,SNR=5.2
D19A Cripps Ranch, 91.75 39 ⇑P **P 10 13 33.7 +0.1**
baz=92
XAN Xi'an 91.82 306 P **P 10 13 35.3 +1.0**
XAN pP **pP 10 13 51.8 +3.0**
XAN sP **sP 10 13 56.8 +2.5**
XAN SKS **SKSac 10 24 03.5 +0.3**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN pmax pmax
comp=Z,26nm,5.3s
XAN LR LR
comp=N,440nm,23.4s
XAN LR LR
comp=E,110nm,21.6s
XAN LR LR
comp=Z,120nm,24.3s
BILL Bilibino 91.84 353 ⇓*e*P **P 10 13 34.0 +0.5**
BILL *e**PP **pP 10 13 46.7 -1.3**
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL MLR MLR
comp=Z,400nm,18.0s
BILL Bilibino 91.84 353 *e*P **P 10 13 34.0 +0.5**
comp=Z,9.0nm,1.3s
BILL *ep*P **pP 10 13 46.6 -1.3**
B18A Beardsley Farm 91.91 37 ⇓P **P 10 13 33.8 -0.5**
baz=92,SNR=6.0
C19A Slack Wire Ran 91.96 38 ⇑P **P 10 13 34.6 0.0**
baz=92,SNR=10
D20A Manuel Ranch, 92.14 39 ⇑P **P 10 13 35.8 +0.3**
baz=92,SNR=5.3
A18A Metzger Ranch, 92.16 37 ⇓P **P 10 13 35.2 -0.2**
baz=92,SNR=5.5
B19A Brinkman Farms 92.41 38 ⇑P **P 10 13 36.3 -0.4**
baz=93,SNR=6.7
C20A Veseth Ranch, 92.55 39 ⇑P **P 10 13 36.8 -0.5**
baz=93,SNR=6.7
F22A Rosebud 92.57 41 ⇑P **P 10 13 37.1 -0.4**
baz=93,SNR=5.6
A19A Klindworth Far 92.78 37 ⇓P **P 10 13 37.9 -0.4**
baz=93,SNR=5.6
NNA Nana 92.79 104 LR LR 10 46 18.9
comp=Z,719nm,19.0s,baz=328,slow=30
D21A La Casta Ranch 92.79 39 ⇓P **P 10 13 38.5 0.0**
baz=93,SNR=6.0
G23A Biddle 92.80 42 ⇓P **P 10 13 38.4 -0.2**
baz=93
KMI Kunming 92.91 296 P **P 10 13 41.5 +1.7**
KMI pP **pP 10 13 54.0 -0.3**
KMI sP **sP 10 14 00.5 +0.8**
KMI PP **PP 10 17 26.3 +3.2**
KMI S **S 10 24 39.8 -2.5**
KMI pmax pmax
comp=Z,27nm,1.0s
KMI pmax pmax
comp=Z,170nm,3.9s
KMI LR LR
comp=N,220nm,14.8s
KMI LR LR
comp=E,250nm,14.8s
KMI LR LR
comp=Z,260nm,18.4s
B20A Solberg Farm, 92.92 38 ⇓P **P 10 13 38.6 -0.4**
baz=93,SNR=6.2
HHC Hu-ho-hao-te 93.06 313 *e*P **P 10 13 39.0 -0.9**
HHC pP **pP 10 13 57.5 +3.0**
HHC sP **sP 10 14 04.5 +4.6**
HHC PP **PP 10 17 27.0 +3.2**
HHC SKS **SKSac 10 24 07.5 -2.5**
HHC S **S 10 24 40.0 -2.7**
HHC pmax pmax
comp=Z,26nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.4s
HHC LR LR
comp=N,340nm,17.1s
HHC LR LR
comp=E,360nm,15.0s
HHC LR LR
comp=Z,410nm,17.1s
E22A Miles City 93.09 40 ⇓P **P 10 13 39.2 -0.6**
baz=93,SNR=5.4
H24A Dirks Ranch, A 93.09 42 ⇓P **P 10 13 39.4 -0.6**
baz=93,SNR=5.9
RSSD Black Hills 93.11 43 *e*P **P 10 13 40.9 +0.7**
RSSD *e**PP **pP 10 13 53.1 -1.6**
RSSD pmax pmax
comp=Z,18nm,1.0s
RSSD Black Hills 93.11 43 *e*P **P 10 13 40.9 +0.7**
comp=Z,18nm,1.0s
RSSD *ep*P **pP 10 13 53.1 -1.6**
C21A Desert Coulee 93.13 39 ⇑P **P 10 13 40.3 +0.3**
baz=93
A20A Cobblestone Ra 93.21 38 ⇓P **P 10 13 40.3 0.0**
baz=94,SNR=5.5
D22A Cohagen 93.31 40 ⇑P **P 10 13 41.0 +0.2**
baz=94
B21A Ellsworth Farm 93.48 38 ⇓P **P 10 13 41.7 +0.1**
baz=94
CM31 Chiang Mai Arr 93.51 288 P **P 10 13 42.9 +0.5**
comp=Z,3.3nm,0.4s
CMAR Chiang Mai Arr 93.51 288 P **P 10 13 44.0 +1.7**
comp=Z,18nm,1.1s,baz=123,slow=3.0,SNR=59
CMAR Chiang Mai Arr 93.51 288 P **P 10 13 44.0 +1.7**
CHTO Chiang Mai 93.65 289 *e*P **P 10 13 45.1 +2.1**
CHTO *e**PP **pP 10 13 57.4 -0.1**
CHTO pmax pmax
comp=Z,23nm,1.1s
CHTO Chiang Mai 93.65 289 *e*P **P 10 13 45.1 +2.1**
comp=Z,23nm,1.1s
CHTO *ep*P **pP 10 13 57.4 -0.1**
A21A Bergtoll Ranch 93.83 38 ⇓P **P 10 13 43.4 +0.2**
baz=94
D23A Lindsay 93.90 40 ⇓P **P 10 13 43.8 +0.2**
baz=94
B22A Reddig Ranch S 94.00 39 ⇑P **P 10 13 44.0 0.0**
baz=94,SNR=5.9
JTS JuntasAbangare 94.06 81 *e*P **P 10 13 46.4 +1.4**
comp=Z,19nm,1.4s
JTS *ep*P **pP 10 13 58.9 -0.7**
C23A Lambert 94.22 39 ⇑P **P 10 13 45.6 +0.5**
baz=94,SNR=6.2
D24A Glendive 94.39 40 ⇑P **P 10 13 46.4 +0.6**
baz=95,SNR=6.7
CD2 Chengdu 94.44 302 P **P 10 13 47.0 +0.6**
CD2 pP **pP 10 14 03.3 +2.3**
CD2 sP **sP 10 14 09.8 +3.4**
CD2 PP **PP 10 17 37.5 +2.8**
CD2 SKS **SKSac 10 24 15.5 -2.3**
CD2 S **S 10 24 51.3 -3.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,5.3s
CD2 LR LR
comp=N,330nm,7.7s
CD2 LR LR
comp=Z,360nm,20.2s
B23A Brockton 94.67 39 ⇓P **P 10 13 47.7 +0.6**
baz=95,SNR=5.3
DGMT Dagmar 95.13 39 *e*P **P 10 13 49.7 +0.5**
comp=Z,48nm,1.0s
DGMT *ep*P **pP 10 14 02.9 -0.8**
DGMT Dagmar 95.13 39 ⇑P **P 10 13 49.7 +0.5**
baz=95,SNR=5.2
INK Inuvik 96.01 14 P **P 10 13 52.3 -0.3**
comp=Z,2.3nm,0.9s,baz=208,slow=5.6,SNR=7.3
INK Inuvik 96.01 14 *e*P **P 10 13 53.0 +0.4**
comp=Z,11nm,1.2s
INK *ep*P **pP 10 14 05.7 -1.4**
LZH Lanzhou 96.46 306 *e*P **P 10 13 56.0 +0.3**
LZH pP **pP 10 14 13.0 +2.8**
LZH sP **sP 10 14 19.8 +4.1**
LZH *e*PP **PP 10 17 52.5 +2.0**
LZH SKS **SKSac 10 24 24.0 -4.6**
LZH *e*S **S 10 25 08.3 -4.4**
LZH pmax pmax
comp=Z,21nm,1.5s
LZH pmax pmax
comp=Z,97nm,6.8s
LZH LR LR
comp=N,440nm,18.5s
LZH LR LR
comp=E,500nm,19.0s
LZH LR LR
comp=Z,520nm,20.0s
YKA Yellowknife Ar 97.68 24 P **P 10 13 60.0 -0.3**
comp=Z,1.7nm,0.9s,baz=236,slow=4.3,SNR=33
YKA PP PP 10 18 04.2 +5.3
comp=Z,1.1nm,1.2s,baz=238,slow=8.2,SNR=4.0
YKA Yellowknife Ar 97.68 24 P **P 10 14 00.0 -0.3**
YKA PP PP 10 18 04.2 +5.3
YKW3 Yellowknife Ar 97.72 24 *e*P Pdif 10 14 01.2 +0.7
comp=Z,0.1nm,1.3s
YKW3 *ep*P pP 10 14 13.3 -1.8
ECSD EROS Data Cent 97.72 46 *e*P **P 10 14 00.1 -0.9**
comp=Z,13nm,1.2s
ECSD *ep*P **pP 10 14 14.4 -1.2**
LPAZ La Paz 98.59 112 LR LR 10 51 50.5
comp=Z,154nm,18.6s,baz=186,slow=31
SONM Songino Array 99.45 318 PP PP 10 18 08.3 -4.7
comp=Z,1.8nm,1.1s,baz=124,slow=7.4,SNR=4.9
SONM Songino Array 99.45 318 PP PP 10 18 08.3 -4.7
GTA Gaotai 100.68 308 *e*P **Pdif 10 14 16.0 +1.5**
GTA pP pP 10 14 31.3 +2.2
GTA sP sP 10 14 38.5 +3.9
GTA SKS **SKSac 10 24 48.5 -1.1**
GTA S SKKSac 10 25 45.5 +21
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,250nm,16.6s
GTA LR LR
comp=E,250nm,19.5s
GTA LR LR
comp=Z,310nm,20.4s
WMQ Urumqi 110.64 310 *e*Pdif **Pdif 10 14 59.0 +0.4**
WMQ PKP **PKiKP 10 18 58.0 -0.6**
WMQ PP **PP 10 19 39.3 +3.3**
WMQ PKS **PKSdf 10 22 33.5 -1.7**
WMQ S **Sdif 10 27 08.5 -2.3**
WMQ LR LR
comp=N,310nm,26.0s
WMQ LR LR
comp=E,210nm,25.0s
WMQ LR LR
comp=Z,240nm,22.0s
ZALV Zalesovo Beam 114.17 320 PKP PKPdf 10 19 04.8 -0.1
comp=Z,1.0nm,0.3s,baz=235,slow=5.1,SNR=5.6
ZALV Zalesovo Beam 114.17 320 PKiKP PKPdf 10 19 04.8 -0.1
ZALV Zalesovo Beam 114.17 320 PKP PKPdf 10 19 04.8 -0.1
MKAR Makanchi Array 114.91 312 PKP PKPdf 10 19 05.2 -1.5
comp=Z,1.0nm,0.7s,baz=66,slow=1.9,SNR=11
MKAR PKKPbc PKKPab 10 29 56.2 +8.3
comp=Z,1.1nm,1.1s,baz=316,slow=3.3,SNR=4.3
MKAR Makanchi Array 114.91 312 PKiKP PKPdf 10 19 05.2 -1.4
MKAR Makanchi Array 114.91 312 PKP PKPdf 10 19 05.2 -1.5
MKAR PKKPbc PKKPab 10 29 56.2 +8.3
KSH Kashi 118.56 304 *e*PKP **PKPdf 10 19 18.5 +4.5**
KSH *es*PKP 10 19 32.5
KSH PKS **PKSdf 10 22 53.0 +2.2**
KSH SKS **SKSdf 10 26 25.5 +3.3**
KSH AMB AMB
comp=Z,86nm,4.5s
KSH LR LR
comp=N,77nm,6.1s
KSH LR LR
comp=E,98nm,5.3s
KSH LR LR
comp=Z,120nm,9.3s
BRVK Borovoye 122.82 319 *i* PKiKP **PKPdf 10 19 21.7 +0.1**
BRVK pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 124.93 15 *e*PKiKP **PKPdf 10 19 27.7 +2.1**
SUMG *e* 10 19 38.8
SUMG Summit 124.93 15 *e*PKPdf **PKPdf 10 19 27.7 +2.1**
SUMG *ep*PKPdf **pPKPdf 10 19 38.8 -1.8**
BOSA Boshof 125.05 202 *e*PKPdf **PKPdf 10 19 28.4 +1.4**
BOSA *ep*PKPdf **pPKPdf 10 19 41.0 -1.0**
ARU Arti 128.82 325 *i* PKiKP **PKPdf 10 19 33.3 +0.3**
ARU 10 21 37.4
ARU 10 26 32.2
ABKAR Akbulak array 129.79 316 *e*PKPdf **PKPdf 10 19 36.2 +1.1**
ABKAR *ep*PKPdf **pPKPdf 10 19 48.8 -1.3**
KLMR Klimovskoe 135.27 337 *e*PKiKP **PKPdf 10 19 42.1 -2.9**
KLMR pmax pmax
comp=Z,17nm,1.2s
LSZ Lusaka 135.65 213 *e*PKPdf **PKPdf 10 19 45.5 -1.8**
LSZ *ep*PKPdf **pPKPdf 10 20 01.5 -0.8**
JOF Joensuu 136.35 343 *ep* 10 30 20.2
comp=Z,1.2nm,0.4s
FINES FINESS Array B 138.94 345 PKP **PKPdf 10 19 53.3 +1.5**
comp=Z,3.0nm,0.9s,baz=56,slow=4.8,SNR=4.9
FINES FINESS Array B 138.94 345 PKP **PKPdf 10 19 53.3 +1.5**
MAK Makhachkala 139.66 310 *e*PKiKP **PKPdf 10 19 51.4 -2.3**
MAK *e* 10 22 45.2
MAK *e*PPP PPP 10 25 50.3
MAK pmax pmax
comp=Z,12nm,0.2s
OBN Obninsk 140.27 332 *i* PKiKP **PKPdf 10 19 52.0 -2.4**
OBN *e* 10 20 07.3
OBN *e* 10 22 53.4
KIV Kislovodsk 142.66 313 *i* PKiKP **PKPdf 10 20 01.6 +2.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,303nm,20.0s
SUW Suwalki 146.14 341 *e*PKP **PKPab 10 20 06.3 -0.2**
SUW *e* 10 20 19.6
SUW Suwalki 146.14 341 *e*PKP2 **PKPab 10 20 06.6 +0.1**
SUW Suwalki 146.14 341 *e*PKPbc **PKPab 10 20 06.6 +0.1**
SUW *ep*PKPdf **pPKPdf 10 20 19.0 -0.7**
SUW Suwalki 146.14 341 *e*PKP **PKPab 10 20 06.2 -0.2**
SUW *e* 10 20 19.5
AKASG Malin Array Be 146.53 332 PKPbc **PKPbc 10 20 06.8 -0.2**
comp=Z,18nm,0.9s,baz=41,slow=4.1,SNR=23
AKASG Malin Array Be 146.53 332 PKP2 **PKPbc 10 20 06.8 -0.2**
AKASG Malin Array Be 146.53 332 PKPbc **PKPbc 10 20 06.8 -0.2**
AK01 Malin Array Si 146.54 332 *e*PKPdf **PKPdf 10 20 05.9 +0.4**
AK01 *e*PKPbc **PKPbc 10 20 06.9 -0.2**
AK01 *e*PKPab **PKPab 10 20 08.7 +0.5**
AK01 *ep*PKPdf **pPKPdf 10 20 19.4 -1.1**
KIEV Kiev 146.54 332 *e*PKP2 **PKPbc 10 20 06.4 -0.7**
KIEV Kiev 146.54 332 *e*PKPbc **PKPbc 10 20 06.4 -0.7**
KIEV *ep*PKPdf **pPKPdf 10 20 19.4 -1.1**
AK02 Malin Array Si 146.57 332 *e*PKPbc **PKPbc 10 20 06.8 -0.4**
AK02 *ep*PKPdf **pPKPdf 10 20 19.7 -0.9**
EKA Eskdalemuir Ar 147.18 9 PKPbc **PKPdf 10 20 07.5 +1.0**
comp=Z,4.1nm,0.8s,baz=343,slow=1.7,SNR=4.4
EKA Eskdalemuir Ar 147.18 9 PKPbc **PKPdf 10 20 07.5 +1.0**
MALT Malatya 147.62 306 *e*PKiKP **PKPdf 10 20 08.4 +0.4**
MALT *e* 10 20 11.7
MALT Malatya 147.62 306 *e*PKPdf **PKPdf 10 20 08.4 +0.4**
MALT *e*PKPbc **PKiKP 10 20 11.7 -1.1**
MALT Malatya 147.62 306 ⇑*i*P **PKPab 10 20 12.6 -0.4**
SIM Simferopol' 147.68 320 *de*PKP2 **PKPbc 10 20 11.5 +1.0**
SIM pmax pmax
comp=Z,32nm,0.9s
BEL Belsk 148.75 341 *e*PKP **PKPbc 10 20 14.1 +1.0**
BEL *e* 10 20 27.3
BEL Belsk 148.75 341 *e*PKP **PKPbc 10 20 14.0 +1.0**
BEL *e* 10 20 27.3
BSEG Bad Segeberg 148.87 354 *e*PKP2 **PKPbc 10 20 13.6 +0.3**
BSEG Bad Segeberg 148.87 354 *e*PKPbc **PKPbc 10 20 13.6 +0.3**
BSEG *ep*PKPbc **pPKPbc 10 20 25.9 -2.3**
KIS Kishinev 149.33 327 *e*PKP2 PKPab 10 20 26.0 +6.6
KIS Kishinev 149.33 327 *e*PKP PKPab 10 20 26.0 +6.6
KIS LRM MLR 11 31 16.0
comp=Z,400nm,24.0s
LVV L'vov 149.34 335 *e*PKiKP **PKPbc 10 20 13.0 -1.6**
KWP Kalwaria Pacla 149.99 337 *e*PKP **PKPbc 10 20 17.2 +0.9**
KWP Kalwaria Pacla 149.99 337 *e*PKP **PKPbc 10 20 17.1 +0.9**
NRDL Niedersach Rie 150.32 354 *e*PKP **PKPbc 10 20 17.0 +0.2**
NRDL *ep*PKPbc **pPKPbc 10 20 29.5 -2.2**
OJC Ojcow 150.47 340 *e*PKiKP **PKPbc 10 20 17.5 +0.1**
OJC Ojcow 150.47 340 *e*PKPbc **PKPbc 10 20 17.5 +0.1**
OJC *e*PKPab **PKPab 10 20 24.1 +0.1**
OJC *ep*PKPdf **pPKPdf 10 20 30.6 +3.6**
OJC *e*SS SS 10 42 57.3 -11
OJC L L 11 27 27.5
comp=Z,400nm,22.4s
BR131 Keskin Array S 150.55 311 *e*PKPdf **PKPdf 10 20 13.3 +0.6**
BR131 *e*PKPbc **PKPbc 10 20 18.4 +0.3**
BR131 *e*PKPab **PKPab 10 20 24.6 -0.3**
BRTR Keskin Array B 150.55 311 PKPbc **PKPbc 10 20 18.4 +0.3**
comp=Z,8.3nm,0.9s,baz=132,slow=2.5,SNR=29
BRTR Keskin Array B 150.55 311 PKPbc **PKPbc 10 20 18.4 +0.3**
BUR08 Bucovina Ar. S 150.57 332 *e*PKPdf **PKPdf 10 20 12.1 -0.3**
BUR08 *e*PKPbc **PKiKP 10 20 18.9 +0.3**
BUR08 *e*PKPab **PKPab 10 20 25.2 +0.6**
IBBN Ibbenburen 150.69 356 *ep*PKPbc pPKPbc 10 20 30.9 -1.8
KOLS Kolonicke sedl 150.73 336 *e*PKiKP **PKPbc 10 20 18.6 +0.6**
KOLS *e* 10 20 32.4
KOLS Kolonicke sedl 150.73 336 *e*PKP **PKPbc 10 20 18.6 +0.6**
KOLS *e* 10 20 32.4
KOLS *e* 10 53 50.0
TESR 150.74 328 ⇓*i*P **PKPbc 10 20 18.6 +0.5**
KSP Ksiaz 150.86 345 *e*PKP **PKPbc 10 20 18.9 +0.6**
KSP *e* 10 20 31.8
KSP Ksiaz 150.86 345 *e*PKiKP **PKPbc 10 20 18.7 +0.5**
KSP *e* 10 20 31.6
KSP Ksiaz 150.86 345 *e*PKP **PKPbc 10 20 18.8 +0.6**
KSP *e* 10 20 31.7
CFR Carcaliu 150.91 325 ⇓PKiKP **PKPbc 10 20 18.9 +0.4**
CFR Carcaliu 150.91 325 ⇓*i*P **PKPbc 10 20 18.9 +0.4**
CLZ Clausthal 150.93 353 *e*PKiKP **PKPbc 10 20 18.6 +0.2**
CLZ *e* 10 20 31.4
CLZ Clausthal 150.93 353 *e*PKPbc **PKPbc 10 20 18.6 +0.2**
CLZ *ep*PKPbc **pPKPbc 10 20 31.4 -2.0**
UZH Uzhgorod 150.97 336 *e*PKiKP **PKPbc 10 20 19.6 +1.0**
UZH *i* 10 20 26.6
UZH *i* 10 20 32.4
NIE Niedzica 151.00 339 *e*PKiKP **PKPbc 10 20 19.7 +1.0**
NIE Niedzica 151.00 339 *e*PKPbc **PKPbc 10 20 19.7 +1.0**
CRVS Cervenica-Dubn 151.05 337 *e*PKiKP **PKPbc 10 20 19.0 +0.2**
CRVS *e* 10 20 28.0
CRVS Cervenica-Dubn 151.05 337 *e*PKP **PKPbc 10 20 19.0 +0.2**
CRVS *e* 10 20 28.0
CLL Collm 151.09 350 *i* PKiKP **PKPbc 10 20 18.9 +0.2**
CLL *e* 10 20 26.0
CLL *i* 10 20 32.0
CLL pmax pmax
comp=Z,20nm,1.0s
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 151.09 350 *e*PKPbc **PKPbc 10 20 19.0 +0.2**
CLL *ep*PKPbc **pPKPbc 10 20 31.8 -1.9**
CLL Collm 151.09 350 *i* PKPbc **PKPbc 10 20 18.9 +0.2**
comp=Z,20nm,1.0s
CLL *e*PKPab **PKPab 10 20 26.0 -0.4**
comp=Z,14nm,1.0s
CLL *i* pPKPbc **pPKPbc 10 20 32.0 -1.7**
comp=Z,44nm,1.1s
CLL *ep*PKPab **pPKPab 10 20 39.0 -2.1**
CLL LmV 11 36 00.0
comp=Z,300nm,18.9s
VRI Vrincioaia 151.16 327 ⇑PKiKP **PKPbc 10 20 20.1 +0.9**
VRI Vrincioaia 151.16 327 ⇑*i*P **PKPbc 10 20 20.0 +0.9**
PLOR Plostina 151.21 328 ⇓PKiKP **PKPbc 10 20 20.2 +0.9**
PLOR Plostina 151.21 328 ⇓*i*P **PKPbc 10 20 20.2 +0.9**
UPC Upice 151.24 345 *e*PKiKP **PKPbc 10 20 20.5 +1.3**
UPC *e* 10 20 33.2
UPC Upice 151.24 345 ⇑*e*PKP **PKPbc 10 20 20.5 +1.3**
UPC *ep*PKP **pPKPdf 10 20 33.2 +5.0**
UPC *ex* x 10 20 40.9
OKC Ostrava-Krasne 151.30 342 *e*PKiKP **PKPbc 10 20 16.4 -2.9**
OKC Ostrava-Krasne 151.30 342 *e*PKPDF **PKPbc 10 20 16.4 -2.9**
DPC Dobruska-Polom 151.31 345 *e*PKiKP **PKPbc 10 20 20.3 +0.9**
DPC MLR MLR
comp=Z,400nm,15.0s
DPC Dobruska-Polom 151.31 345 ⇑*e*PKP **PKPbc 10 20 20.3 +0.9**
DPC *ep*PKP pPKPdf 10 20 41.6 +13
DPC AMS AMS 11 27 10.0
comp=Z,400nm,15.0s
BRG Berggiesshubel 151.34 348 *e*PKP **PKPbc 10 20 19.5 +0.1**
comp=Z,15nm,1.1s
BRG *e* 10 20 32.3
comp=Z,28nm,1.1s
BRG Berggiesshubel 151.34 348 *e*PKiKP **PKPbc 10 20 19.5 +0.1**
BRG *e* 10 20 32.3
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,28nm,1.1s
BRG pmax pmax
BRG Berggiesshubel 151.34 348 *e*PKPbc **PKPbc 10 20 19.6 +0.3**
BRG *ep*PKPbc **pPKPbc 10 20 32.4 -1.9**
MORC Moravsky Berou 151.52 343 ⇓PKiKP **PKPbc 10 20 21.3 +1.4**
MORC Moravsky Berou 151.52 343 *e*PKPbc **PKPbc 10 20 20.7 +0.8**
MORC Moravsky Berou 151.52 343 ⇓*i*P **PKPbc 10 20 21.3 +1.4**
PVCC Panska Ves 151.54 347 *e*PKiKP **PKPbc 10 20 19.8 0.0**
PVCC *e* 10 20 33.7
PVCC MLR MLR
comp=Z,400nm,20.2s
PVCC Panska Ves 151.54 347 ⇑*e*PKP **PKPbc 10 20 19.8 0.0**
PVCC *ep*PKP **pPKPdf 10 20 33.7 +5.0**
PVCC AMS AMS 11 28 30.0
comp=Z,400nm,20.2s
BUG Bochum--Univer 151.58 357 *ep*PKPbc pPKPbc 10 20 32.7 -2.1
ISR Istrita 151.78 327 ⇑PKiKP **PKPbc 10 20 22.5 +1.9**
ISR Istrita 151.78 327 ⇑*i*P **PKPbc 10 20 22.5 +1.9**
MOX Moxa 151.95 351 *e*PKiKP **PKPbc 10 20 20.9 +0.1**

MOX				*e*		10 20 33.6	
MOX	**Moxa**	**151.95**	**351**	*e*PKPbc	**PKPbc**	**10 20 20.9**	**+0.1**
MOX				*ep*PKPbc	**pPKPbc**	**10 20 33.6**	**-2.1**
MOX				*e*L	L	11 35 35.0	
	comp=Z,378nm,18.9s						
TANN	**Tannenbergstha**	**152.04**	**350**	*e*PKPbc	**PKPbc**	**10 20 21.2**	**+0.1**
PRU	**Pruhonice**	**152.06**	**347**	*e*PKIKP	**PKPbc**	**10 20 20.4**	**-0.6**
PRU				*e*		10 20 33.4	
PRU				MLR	MLR		
	comp=Z,400nm,17.3s						
PRU	**Pruhonice**	**152.06**	**347**⇑	*e*PKP	**PKPbc**	**10 20 20.4**	**-0.6**
PRU				*e*PKPAB	**PKPab**	**10 20 33.4**	**+2.9**
PRU				AMS	AMS	11 28 30.0	
	comp=Z,400nm,17.3s						
VRAC	**Vranov**	**152.20**	**344**⇓	*i*P	**PKPbc**	**10 20 23.2**	**+1.8**
NKC	**Novy Kostel**	**152.22**	**350**	*e*PKIKP	**PKPbc**	**10 20 22.6**	**+1.2**
NKC				*e*		10 20 32.0	
NKC	**Novy Kostel**	**152.22**	**350**⇑	*e*PKP	**PKPbc**	**10 20 22.6**	**+1.2**
NKC				*e*PKPAB	**PKPab**	**10 20 32.0**	**+0.8**
VOIR		**152.29**	**329**⇑	PKIKP	**PKPbc**	**10 20 22.9**	**+1.1**
VOIR		**152.29**	**329**⇑	*i*P	**PKPbc**	**10 20 22.9**	**+1.1**
VYHS	**Vyhne**	**152.29**	**340**	*e*PKIKP	**PKPbc**	**10 20 21.7**	**+0.1**
VYHS				*e*		10 20 33.2	
VYHS	**Vyhne**	**152.29**	**340**	*e*PKP	**PKPbc**	**10 20 21.7**	**+0.1**
VYHS				*e*		10 20 33.2	
VYHS				*e*		10 20 45.6	
VYHS				*e*		10 54 01.5	
PSZ	**Piszkesteto**	**152.44**	**338**	*e*PKIKP	**PKPdf**	**10 20 15.6**	**+0.4**
PSZ				*e*		10 20 22.9	
PSZ				*e*		10 20 32.5	
PSZ	**Piszkesteto**	**152.44**	**338**	*e*PKPdf	**PKPdf**	**10 20 15.6**	**+0.4**
PSZ				*e*PKPbc	**PKiKP**	**10 20 22.9**	**+0.6**
PSZ				*e*PKPab	**PKPab**	**10 20 32.5**	**+0.1**
PSZ	**Piszkesteto**	**152.44**	**338**⇑	*i*P	**PKPbc**	**10 20 21.0**	**-1.1**
TREC	**Trest**	**152.49**	**345**	AMS	AMS	11 31 00.0	
	comp=Z,400nm,21.2s						
ARR	**Arges**	**152.54**	**329**⇓	*i*P	**PKPbc**	**10 20 23.7**	**+1.3**
ROTZ	**Rotzenmuhle**	**152.71**	**350**	*ep*PKPbc	**PKPab**	**10 20 35.3**	**+2.0**
GRF	**Grafenberg Arr**	**152.93**	**351**	*e*L	L	11 30 31.3	
	comp=Z,269nm,20.7s						
KHC	**Kasperske Hory**	**153.07**	**347**	*e*PKIKP	**PKPdf**	**10 20 17.4**	**+1.4**
KHC				*e*		10 20 23.9	
KHC	**Kasperske Hory**	**153.07**	**347**	*e*PKPdf	**PKPdf**	**10 20 17.4**	**+1.4**
KHC				*e*PKPbc	**PKiKP**	**10 20 23.9**	**+0.4**
KHC	**Kasperske Hory**	**153.07**	**347**⇑	*e*PKP	**PKPbc**	**10 20 23.5**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**10 20 35.1**	**+0.2**
KHC				*ep*PKP	pPKPdf	10 20 47.0	+16
KHC				AMS	AMS	11 31 30.0	
	comp=Z,500nm,17.5s						
GEC2	**GERESS Array S**	**153.31**	**347**	*e*PKIKP	**PKPbc**	**10 20 24.2**	**+0.2**
GEC2				*e*		10 20 36.6	
GEC2	**GERESS Array S**	**153.31**	**347**	*e*PKPbc	**PKPbc**	**10 20 24.1**	**+0.1**
GEC2				*ep*PKPbc	**PKPab**	**10 20 36.6**	**+0.6**
GERES	**GERESS Array B**	**153.31**	**347**	PKPbc	**PKPbc**	**10 20 24.3**	**+0.2**
	comp=Z,0.4nm,0.2s,baz=61,slow=3.3,SNR=5.0						
GERES	**GERESS Array B**	**153.31**	**347**	PKPbc	**PKPbc**	**10 20 24.3**	**+0.2**
BZS	**Buzias**	**153.69**	**333**⇑	*i*P	**PKPbc**	**10 20 29.6**	**+4.8**
BFO	**Black Forest**	**154.61**	**355**	*e*PKIKP	**PKPbc**	**10 20 26.6**	**-0.1**
BFO	**Black Forest**	**154.61**	**355**	*e*PKPbc	**PKPbc**	**10 20 26.6**	**-0.1**
BFO				*ep*PKPab	**pPKPab**	**10 20 54.2**	**-1.8**
SOKA	**Soboth**	**155.04**	**343**⇑	*i*PKPab	**PKPab**	**10 20 43.3**	**-0.1**
	comp=Z,25nm,1.2s						
PERS	**Pernice**	**155.05**	**343**	*i* PKPdf	**PKPab**	**10 20 43.8**	**+0.4**
PERS				*i*		10 20 56.9	
VTS	**Vitosha**	**155.27**	**326**⇓	*i*P	PKPab	10 20 38.8	-5.8
VISS	**Visnje**	**155.90**	**343**	*i* PKPdf	**PKPab**	**10 20 47.1**	**+0.1**
VISS				*i*		10 21 00.1	
JAVS	**Javornik**	**156.01**	**344**	*i* PKPdf	**PKPab**	**10 20 43.4**	**-4.2**
JAVS				*i*		10 21 00.8	
TORD	**Torodi Ar. Bea**	**169.70**	**162**	PKP	**PKPdf**	**10 20 33.3**	**-1.0**
	comp=Z,1.9nm,1.1s,baz=354,slow=0.9,SNR=5.2						
TORD				PKPab	**PKPab**	**10 21 49.6**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=154,slow=0.8,SNR=2.6						
TORD				PP	PP	10 25 42.7	+6.1
	comp=Z,1.2nm,1.1s,baz=184,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**169.70**	**162**	PKP	**PKPdf**	**10 20 33.3**	**-1.0**
TORD				PKPab	**PKPab**	**10 21 49.6**	**+1.6**
TORD				PP	PP	10 25 42.7	+6.1

*ISCJB **26** 10:07:28.9±0.5,39.97N±0.03×41.37E±0.03,h4km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=142.9*
*CSEM **26** 10:07:28.0±0.3,39.94N×41.40E,h0km±2km,MD2.9,Error ellipse: s-maj=6.4km s-min=4.3km az=136.0*
*DDA **26** 10:07:28.4,39.95N×41.41E,h18km,MD2.9*
*ISK **26** 10:07:28.0,39.93N×41.36E,h4km,MD3.1*

ISC 26 10:07:28.8±1.0,39.97N±0.03×41.41E±0.03,h4km±9km, n34,σ0s78/49,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.07**	**207**	*i* P		**Pg**	**10 07 29.7**	**-0.8**
ERZM				*e*S		**Sg**	**10 07 33.8**	**+2.2**
ERZM	**Erzurum**	**0.07**	**207**	*i* P		**Pg**	**10 07 29.7**	**-0.8**
EZM	**Erzurum**	**0.07**	**209**	PG		**Pg**	**10 07 29.1**	**-1.4**
HOMI	**Horasan**	**0.39**	**79**	*i* P		**Pg**	**10 07 36.0**	**-0.3**
HOMI				*i* S		**Sb**	**10 07 44.0**	**-0.9**
KOPT	**Kop Dagi**	**0.70**	**274**	*i* P		**Pg**	**10 07 42.3**	**0.0**
KOPT				*i* S		**Sb**	**10 07 53.4**	**-0.5**
KOPT	**Kop Dagi**	**0.70**	**274**	*i* P		**Pg**	**10 07 42.3**	**0.0**
KOPT				*i* S		**Sb**	**10 07 53.4**	**-0.5**
DDEM	**Demirkent**	**0.96**	**16**	*i* P		**Pg**	**10 07 47.4**	**+0.2**
DDEM				*i* S		**Sn**	**10 08 02.9**	**-0.5**
DDEM	**Demirkent**	**0.96**	**16**	*i* P		**Pg**	**10 07 47.4**	**+0.2**
BAYT	**Ayd¯-ntepe-Bay**	**1.06**	**294**	*e*PG		**Pg**	**10 07 48.6**	**-0.5**
BAYT				*e*SG		**Sb**	**10 08 04.1**	**0.0**
BAYT	**Ayd¯-ntepe-Bay**	**1.06**	**294**	*e*Pg		**Pg**	**10 07 48.6**	**-0.5**
DAGI	**Agillar**	**1.17**	**19**	*i* P		**Pg**	**10 07 51.2**	**-0.1**
DAGI				*i* S		**Sg**	**10 08 06.7**	**+0.2**
ARTV	**Artvin**	**1.28**	**18**	*i* P		**Pn**	**10 07 52.5**	**-1.2**
ARTV				*i* S		**Sn**	**10 08 11.4**	**0.0**
ARTV	**Artvin**	**1.28**	**18**	*i* P		**Pn**	**10 07 52.5**	**-1.2**
ARTV				*i* S		**Sn**	**10 08 11.4**	**0.0**
AGRB	**Hanur-Agry**	**1.28**	**107**	*e*PN		**Pn**	**10 07 53.5**	**-0.2**
AGRB				*e*SN		**Sn**	**10 08 12.4**	**+0.9**
AGRB	**Hanur-Agry**	**1.28**	**107**	*e*Pn		**Pn**	**10 07 53.5**	**-0.2**
AGRB				*e*Sn		**Sn**	**10 08 12.4**	**+0.9**
ERZN	**Erzincan**	**1.35**	**254**	*e*PN		**Pn**	**10 07 53.6**	**-1.1**
ERZN				*e*SN		**Sg**	**10 08 12.6**	**+0.3**
DBOC	**Borcka**	**1.39**	**8**	*i* P		**Pn**	**10 07 54.1**	**-1.0**
DBOC				*i* S		**Sb**	**10 08 13.6**	**+0.1**
DBOC	**Borcka**	**1.39**	**8**	*i* P		**Pn**	**10 07 54.1**	**-1.0**
DBOC				*i* S		**Sb**	**10 08 13.6**	**+0.1**
BCA	**Borcka**	**1.48**	**6**	*e*PN		**Pn**	**10 07 56.3**	**-0.1**
BCA	**Borcka**	**1.48**	**6**	*e*Pn		**Pn**	**10 07 56.3**	**-0.1**
GUMT	**Gumushane**	**1.56**	**289**	*e*PN		**Pn**	**10 07 57.0**	**-0.4**
GUMT	**Gumushane**	**1.56**	**289**	*e*Pn		**Pn**	**10 07 57.0**	**-0.4**
EZC	**Erzincan**	**1.60**	**263**	*e*Pn		Pn	10 07 53.6	-4.4
KELT	**Kelkit**	**1.66**	**277**	*i* P		**Pn**	**10 07 58.9**	**-0.1**
KELT	**Kelkit**	**1.66**	**277**	*i* P		**Pn**	**10 07 58.9**	**-0.1**
PTK	**Pertek**	**1.90**	**236**	*e*PN		**Pn**	**10 08 02.2**	**0.0**
PTK	**Pertek**	**1.90**	**236**	*e*Pn		**Pn**	**10 08 02.2**	**0.0**
BEST	**Besiri**	**2.08**	**183**	*i* P		**Pb**	**10 08 07.5**	**+0.3**
BEST				*i* S		**Sb**	**10 08 32.4**	**-1.0**
ILIC	**ilic-Erzincan**	**2.25**	**258**	*e*PN		**Pn**	**10 08 06.2**	**-0.8**
ILIC	**ilic-Erzincan**	**2.25**	**258**	*e*Pn		**Pn**	**10 08 06.2**	**-0.8**
ESPY	**Espiye-Giresun**	**2.25**	**296**	*e*PN		**Pn**	**10 08 07.2**	**+0.3**
ESPY	**Espiye-Giresun**	**2.25**	**296**	*e*Pn		**Pn**	**10 08 07.2**	**+0.3**
AKCD	**Akcadag**	**3.19**	**239**	*i* P		**Pn**	**10 08 19.4**	**-0.4**
AKCD				*i* S		**Pn**	**10 08 22.3**	**+2.5**
AKCD	**Akcadag**	**3.19**	**239**	*i* P		**Pn**	**10 08 19.4**	**-0.4**

IDC 26 10:11:13.7±2.3,0.74S×133.12E,h0km,mb3.5/2, mb1 3.7/4,mb1mx3.5/21,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=93.0km s-min=24.5km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.75**	**203**	P		P	10 15 34.5	+0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**19.12**	**176**	P		P	10 15 38.6	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.80**	**178**	P		P	10 16 18.1	-0.2
	0.5nm,0.6s,baz=357,slow=10,SNR=14							
MKAR	**Makanchi Array**	**64.88**	**324**	P		P	10 21 54.8	0.0
	0.8nm,0.8s,baz=131,slow=5.9,SNR=1.8							

IDC 26 10:18:32.8±2.5,21.93N×143.47E,h197km±22km, mb3.5/14,mb1 3.6/16,mb1mx3.5/31,mbtmp3.5/16, MS3.0/2,Ms1 3.0/2,ms1mx2.8/39,Error ellipse: s-maj=17.3km s-min=10.3km az=93.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.28**	**347**	P		Pn	10 19 50.5	-0.2
	14nm,0.3s,baz=298,slow=21,SNR=5.3							
CBIJ				S		Sn	10 20 48.9	-3.3
	18nm,0.3s,baz=308,slow=23,SNR=7.3							
CBIJ				LR		LR	10 20 56.5	
	comp=Z,221nm,20.5s,baz=297,slow=27							
MJAR	**Matsushiro Arr**	**15.27**	**344**	P		Pn	10 21 58.5	+0.1
	0.7nm,0.3s,baz=149,slow=5.5,SNR=8.1							
KSRS	**Korea Array**	**20.49**	**322**	P		P	10 22 57.4	+1.8
	1.0nm,0.5s,baz=142,slow=9.5,SNR=3.8							
KSRS				LR		LR	10 29 39.4	
	comp=Z,31nm,18.1s,baz=145,slow=32							
SONM	**Songino Array**	**39.33**	**320**	P		P	10 25 43.3	+0.3
	0.3nm,0.4s,baz=143,slow=7.7,SNR=5.2							
CMAR	**Chiang Mai Arr**	**41.82**	**274**	P		P	10 26 04.9	+1.3
	0.9nm,0.4s,baz=89,slow=6.5,SNR=3.8							
WRA	**Warramunga Arr**	**42.56**	**193**	P		P	10 26 08.7	-0.7
	1.2nm,0.3s,baz=17,slow=9.3,SNR=39							
WRA				PcP		PcP	10 27 58.5	+0.4
	0.5nm,0.6s,baz=2.8,slow=3.2,SNR=5.3							
FITZ	**Fitzroy Crossi**	**43.44**	**205**	P		P	10 26 16.0	-0.4
	1.4nm,0.7s,baz=70,slow=8.7,SNR=8.7							
ASAR	**Alice Springs**	**46.26**	**192**	P		P	10 26 38.0	-0.7
	0.4nm,0.3s,baz=8.4,slow=6.2,SNR=18							
ZALV	**Zalesovo Beam**	**54.20**	**322**	P		P	10 27 37.0	-0.8
	0.8nm,0.4s,baz=101,slow=7.4,SNR=3.4							
MKAR	**Makanchi Array**	**54.74**	**313**	P		P	10 27 41.8	-0.1
	0.8nm,0.5s,baz=94,slow=7.8,SNR=14							
MKAR				PcP		PcP	10 28 41.0	-0.9
	0.6nm,0.4s,baz=77,slow=3.7,SNR=8.5							
ILAR	**Eielson Array**	**61.72**	**27**	P		P	10 28 29.3	-0.6
	0.8nm,0.6s,baz=263,slow=5.3,SNR=16							
BVAR	**Borovoye Array**	**62.67**	**319**	P		P	10 28 36.2	-0.3
	4.9nm,0.3s,baz=96,slow=7.5,SNR=29							
INK	**Inuvik**	**67.25**	**24**	P		P	10 29 05.7	0.0
	0.7nm,0.6s,baz=252,slow=7.8,SNR=7.3							
YKA	**Yellowknife Ar**	**76.13**	**28**	P		P	10 29 59.0	+0.4
	0.7nm,0.5s,baz=292,slow=5.8,SNR=24							
ARCES	**ARCESS Array B**	**78.79**	**342**	P		P	10 30 13.2	-0.1
	3.8nm,0.8s,baz=76,slow=8.2,SNR=10							
FINES	**FINESS Array B**	**83.09**	**335**	P		P	10 30 34.7	-1.4
	1.6nm,0.4s,baz=64,slow=4.9,SNR=14							
VNA2	**Neumayer--Watz**	**128.12**	**192**	*e*P		PKPdf	10 37 15.9	+1.2
	baz=133,slow=1.7							
TORD	**Torodi Ar. Bea**	**128.80**	**309**	PKP		PKPdf	10 37 17.2	-0.4
	0.4nm,0.4s,baz=7.5,slow=1.9,SNR=15							
PLCA	**Paso Flores**	**145.71**	**131**	PKPbc		PKPab	10 37 49.6	+0.2
	2.2nm,0.5s,baz=214,slow=7.6,SNR=7.9							
LPAZ	**La Paz**	**149.66**	**85**	PKPbc		PKPbc	10 38 01.6	+0.9
	2.2nm,0.6s,baz=272,slow=2.4,SNR=9.6							

VIE 26 10:18:60.0±0.3,49.43N×15.09E,h0km,mb1.3/1,ML1.9/2, 1C-1D,Error ellipse: s-maj=3.1km s-min=1.2km az=9.0 55 km N of Litschau Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**1.59**	**161**⇑	*i*Pg		Pg	10 19 30.7	+0.1
CONA				⇓*i*Sg		Sg	10 19 52.7	+1.3
	6.3nm,0.5s							

*NEIC **26** 10:30:04.0,39.41N×111.09W,h3km,ML2.6(SLC),After SLC.*

ISC 26 10:30:04.3±1.0,39.41N±0.02×111.10W±0.02,h4km±9km, n64,σ1s12/98,31C-25D,Utah

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.14**	**218**	*e*Pg		**Pg**	**10 30 07.8**	**+0.6**
TMUT				*e*Sg		**Sg**	**10 30 11.2**	**+2.1**
P17A	**Butcher Ranch,**	**0.29**	**76**	P		**Pg**	**10 30 09.4**	**-0.5**
	baz=0.3,SNR=660							
P17A				⇑S		**Sg**	**10 30 14.0**	**+0.2**
	baz=0.3							
P16A	**Fountain Green**	**0.48**	**295**	⇑P		**Pg**	**10 30 14.2**	**+0.6**
	baz=0.5,SNR=20							
P16A				⇑S		**Sg**	**10 30 18.9**	**-0.9**
	baz=0.5							
SRU	**San Rafael**	**0.54**	**123**	*e*Pg		**Pg**	**10 30 14.3**	**-0.4**
SRU				*e*Sg		**Sg**	**10 30 22.2**	**+0.6**
SRU	**San Rafael**	**0.54**	**123**	P		**Pg**	**10 30 14.3**	**-0.4**
	baz=0.5,SNR=141							
SRU				⇑S		**Sg**	**10 30 21.9**	**+0.2**
	baz=0.5							
P18A	**Preston Nutter**	**0.70**	**71**	⇓P		**Pg**	**10 30 17.3**	**-0.5**
	baz=0.7							
P18A				⇓S		**Sg**	**10 30 26.9**	**+0.1**
	baz=0.7							
MPU	**Maple Canyon**	**0.73**	**326**	*e*Pg		**Pg**	**10 30 18.3**	**-0.2**
MPU				*e*Sg		**Sg**	**10 30 28.8**	**+0.8**
O17A	**Robinson Place**	**0.84**	**19**	⇑P		**Pg**	**10 30 20.0**	**-0.4**
	baz=0.8,SNR=104							
O17A				⇑S		**Sg**	**10 30 31.3**	**0.0**
	baz=0.8							
P15A	**Leamington**	**0.93**	**281**	⇑P		**Pg**	**10 30 21.9**	**-0.2**
	baz=0.9,SNR=25							
P15A				⇓S		**Sb**	**10 30 35.0**	**-0.8**
	baz=0.9							
DAU	**Daniels Canyon**	**1.01**	**353**	*e*Pg		**Pg**	**10 30 23.1**	**-0.7**
DAU				*e*Sg		**Sg**	**10 30 36.0**	**-1.0**
O18A	**Roosevelt**	**1.20**	**44**	⇓P		**Pb**	**10 30 26.7**	**-1.1**
	baz=1.2							
MSU	**Marysvale**	**1.22**	**224**	*e*Pg		**Pn**	**10 30 26.3**	**-2.2**
JLU	**Jordanelle**	**1.23**	**347**	*e*Pg		**Pn**	**10 30 27.3**	**-1.2**
MVU	**Marysvale**	**1.25**	**224**	*e*Pg		**Pn**	**10 30 27.6**	**-1.1**
O15A	**The Old Anders**	**1.37**	**310**	⇓P		**Pb**	**10 30 30.1**	**-0.5**
	baz=1.4,SNR=11							
CTU	**Camp Tracy**	**1.38**	**339**	*e*Pn		**Pb**	**10 30 30.4**	**-0.4**
CTU				*e*Sg		**Sn**	**10 30 48.2**	**-1.1**
Q19A	**Hogan Spring (**	**1.50**	**107**	⇓P		**Pb**	**10 30 32.2**	**-0.5**
	baz=1.5							
Q19A				⇑S		**Sg**	**10 30 52.5**	**0.0**
	baz=1.5							
N16A	**Rees Ranch, Co**	**1.50**	**350**	⇑P		**Pn**	**10 30 31.6**	**-0.7**
	baz=1.5							
DUG	**Dugway**	**1.54**	**301**	*e*Pn		**Pn**	**10 30 32.0**	**-0.7**
DUG				*e*Sn		**Sg**	**10 30 54.5**	**+0.8**
DUG	**Dugway**	**1.54**	**301**	⇓P		**Pn**	**10 30 32.2**	**-0.4**
	baz=1.5							
DUG				⇓S		**Sg**	**10 30 53.9**	**+0.1**
	baz=1.5							
N17A	**Moffit Pass**	**1.55**	**8**	P		**Pb**	**10 30 32.7**	**-1.1**
	baz=1.5,SNR=57							
P19A	**Cripple Cowboy**	**1.66**	**81**	⇓Pb		**Pb**	**10 30 34.8**	**-0.8**
	baz=1.6,SNR=22							
O19A	**Miners Draw (B**	**1.76**	**59**	Pb		**Pb**	**10 30 36.6**	**-0.8**
	baz=1.7,SNR=19							
N15A	**Stansbury Isla**	**1.84**	**324**	⇑P		**Pn**	**10 30 36.3**	**-0.5**
	baz=1.8							
N18A	**Larsen Ranch,**	**1.91**	**34**	⇓P		**Pb**	**10 30 38.2**	**-1.7**
	baz=1.9,SNR=29							
S18A	**Hurst Farm, BI**	**1.92**	**153**	⇓P		**Pb**	**10 30 39.1**	**-0.9**
	baz=1.9,SNR=69							
S18A				⇓S		**Sb**	**10 31 04.4**	**0.0**
	baz=1.9							
M16A	**Huntsville**	**1.95**	**348**	⇑P		**Pn**	**10 30 38.5**	**+0.2**
	baz=1.9							
PV04	**Paradox Valley**	**1.99**	**120**	*e*Pn		**Pb**	**10 30 40.5**	**-0.7**
PV04				*e*Sn		**Sb**	**10 31 06.3**	**0.0**
M17A	**Scullys Gap (B**	**2.09**	**9**	⇑Pb		**Pb**	**10 30 42.3**	**-0.7**
	baz=2.1							
M17A				⇑Sg		**Sg**	**10 31 11.8**	**+0.2**
	baz=2.1							
N19A	**John Jarvie Ra**	**2.09**	**44**	⇓Pb		**Pb**	**10 30 41.5**	**-1.4**
	baz=2.1							
N19A				⇑Sb		**Sg**	**10 31 10.5**	**-1.1**
	baz=2.1							
M18A	**Lyman**	**2.17**	**21**	⇓Pb		**Pb**	**10 30 43.7**	**-0.5**
	baz=2.2							
M18A				⇑Sb		**Sb**	**10 31 12.3**	**+0.7**
	baz=2.2							
Q20A	**Ridgley Place,**	**2.23**	**101**	⇑P		**Pb**	**10 30 43.1**	**-2.1**
	baz=2.2							
Q20A				⇑Sb		**Sg**	**10 31 14.6**	**-1.3**
	baz=2.2							
HWUT	**Hardware Ranch**	**2.23**	**351**	*e*Pn		**Pb**	**10 30 43.4**	**-1.8**
HWUT				*e*Sg		**Sg**	**10 31 18.0**	**+2.0**
M15A	**Larsen Ranch,**	**2.30**	**334**	⇑P		**Pn**	**10 30 43.0**	**-0.1**
	baz=2.3,SNR=11							
O20A	**White River Ci**	**2.32**	**71**	⇑Pb		**Pb**	**10 30 45.9**	**-0.9**
	baz=2.3							
O20A				⇑Sb		**Sg**	**10 31 17.1**	**-1.8**
	baz=2.3							
PV01	**Paradox Valley**	**2.35**	**122**	*e*Pn		**Pb**	**10 30 45.5**	**-1.9**
PV01				*e*Sg		**Sg**	**10 31 19.5**	**-0.4**
ARUT	**Antelope Range**	**2.44**	**229**	*e*Pn		**Pn**	**10 30 45.6**	**+0.5**
ARUT				*e*Sn		**Sn**	**10 31 16.0**	**+0.5**
R20A	**Redvale**	**2.45**	**119**	⇓P		**Pn**	**10 30 46.3**	**+1.0**
	baz=2.4							
R20A				⇑Sb		**Sg**	**10 31 21.0**	**-2.0**
	baz=2.4							
CCUT	**Cedar City**	**2.56**	**225**	*e*Pn		**Pn**	**10 30 46.4**	**-0.5**
CCUT				*e*Sn		**Sn**	**10 31 19.7**	**+1.1**
M19A	**Rock Springs**	**2.57**	**35**	⇑Sb		**Sb**	**10 31 24.3**	**+1.2**
	baz=2.6							
N20A	**Spence Gulch,**	**2.60**	**56**	⇓Pb		**Pb**	**10 30 51.2**	**-0.4**
	baz=2.6							
N20A				⇓Sb		**Sb**	**10 31 25.4**	**+1.4**
	baz=2.6							
L18A	**Fontenelle, Gr**	**2.64**	**17**	⇑Sb		**Sb**	**10 31 26.6**	**+1.4**
	baz=2.6							
S20A	**Disappointment**	**2.66**	**125**	⇓P		**Pn**	**10 30 49.1**	**+0.9**
	baz=2.7							
S20A				⇑Sb		**Sb**	**10 31 27.2**	**+1.4**
	baz=2.7							
HVU	**Hansel Valley**	**2.69**	**332**	*e*Pn		**Pn**	**10 30 48.8**	**+0.3**
HVU				*e*Sn		**Sn**	**10 31 22.4**	**+0.7**
Q21A	**Lamborn Mesa,**	**2.80**	**101**	⇑P		**Pn**	**10 30 50.6**	**+0.5**
	baz=2.8							
Q21A				⇓Sb		**Sb**	**10 31 29.8**	**+0.1**
	baz=2.8							
O21A	**Pagoda**	**2.91**	**73**	⇓Sb		**Sb**	**10 31 34.4**	**+1.5**
	baz=2.9							
R21A	**Cimarron**	**2.96**	**109**	⇓Sb		**Sb**	**10 31 35.9**	**+1.6**
	baz=2.9							
MVCO	**Mesa Verde**	**3.00**	**136**	*e*Pn		**Pn**	**10 30 53.8**	**+1.0**
MVCO				*e*Sg		**Sg**	**10 31 41.4**	**+0.7**
MVCO	**Mesa Verde**	**3.00**	**136**	⇓Sb		**Sg**	**10 31 38.1**	**-2.6**
	baz=3.0							
M20A	**Sweetwater, Wa**	**3.05**	**46**	⇑Sb		**Sb**	**10 31 37.9**	**+1.0**
	baz=3.0							
N21A	**Black Mountain**	**3.06**	**63**	⇑Sb		**Sb**	**10 31 39.0**	**+1.7**
	baz=3.0							
U15A	**North Rim**	**3.12**	**198**	⇑Sb		**Sg**	**10 31 42.8**	**-1.7**
	baz=3.1							
S21A	**Coal Bank Pass**	**3.12**	**123**	⇓P		**Pn**	**10 30 55.5**	**+0.9**
	baz=3.1							
S21A				⇑Sb		**Sb**	**10 31 40.2**	**+1.1**
	baz=3.1							
SMCO	**Snowmass**	**3.21**	**93**	*e*Pn		**Pn**	**10 30 57.4**	**+1.5**
SMCO				*e*Sg		**Sb**	**10 31 43.2**	**+1.5**
Q22A	**Crested Butte,**	**3.30**	**98**	⇓Sb		**Sb**	**10 31 46.0**	**+1.7**
	baz=3.3							
P22A	**Eagle**	**3.36**	**85**	⇓Sb		**Sb**	**10 31 47.2**	**+1.2**
	baz=3.3							
R22A	**Saguache, Gunn**	**3.59**	**108**	⇑Sb		**Sb**	**10 31 55.7**	**+3.1**
	baz=3.6							
M21A	**Separation Pea**	**3.60**	**51**	⇑Sb		**Sb**	**10 31 53.5**	**+0.8**
	baz=3.6							
WUAZ	**Wupatki**	**3.89**	**183**	*e*Pn		**Pn**	**10 31 04.4**	**-0.6**
WUAZ				*e*Sg		**Sg**	**10 32 10.0**	**+0.8**
RRI2	**Red Ridge**	**3.94**	**358**	*e*Pn		**Pn**	**10 31 06.6**	**+0.8**
LOHW	**Long Hollow**	**4.22**	**5**	*e*

DZM	**Mont Dzumac**	**40.59**	**147**	P		**P**		**10 38 17.4**	**+0.3**
PETK	**Petropavlovsk-**	**42.23**	**12**	LR		LR		10 52 08.1	
	comp=Z,237nm,21.9s,baz=194,slow=31								
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P		**P**		**10 38 43.9**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=86,slow=6.4,SNR=8.9								
CMAR				LR		LR		10 55 38.8	
	comp=Z,277nm,20.4s,baz=108,slow=34								
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P		**P**		**10 38 43.9**	**+0.8**
STKA	**Stephens Creek**	**43.91**	**183**	P		**P**		**10 38 42.9**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=340,slow=6.8,SNR=4.7								
STKA				LR		LR		10 57 03.4	
	comp=Z,272nm,19.3s,baz=13,slow=36								
STKA	**Stephens Creek**	**43.91**	**183**	P		**P**		**10 38 42.6**	**-1.2**
SONM	**Songino Array**	**47.35**	**326**	P		**P**		**10 39 11.3**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=135,slow=6.7,SNR=12								
SONM				PcP		**PcP**		**10 40 41.4**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=150,slow=3.7,SNR=4.7								
SONM	**Songino Array**	**47.35**	**326**	P		**P**		**10 39 11.3**	**+0.2**
SONM				PcP		**PcP**		**10 40 41.4**	**-0.3**
ZAK	**Zakamensk**	**50.49**	**327**	*e*P		**P**		**10 39 32.6**	**-2.5**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
YAK	**Yakutsk**	**50.78**	**351**	*e*P		P		10 39 46.8	+10
YAK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
SEY	**Seymchan**	**50.98**	**5**	*e*P		**P**		**10 39 40.1**	**+1.7**
TLY	**Talaya**	**51.05**	**329**	*e*P		P		10 39 30.3	-8.8
TLY				pmax		pmax			
	comp=Z,4.0nm,1.1s								
MOY	**Mondy**	**52.40**	**328**	*e*P		**P**		**10 39 51.6**	**+2.2**
BILL	**Bilibino**	**57.64**	**10**	P		P		10 40 32.0	+5.2
BILL				MLR		MLR			
	comp=Z,100nm,15.0s								
MK31	**Makanchi Array**	**61.87**	**317**	*e*P		**P**		**10 40 56.3**	**0.0**
MK31	**Makanchi Array**	**61.87**	**317**	*e*P		**P**		**10 40 56.3**	**0.0**
MKAR	**Makanchi Array**	**61.87**	**317**	P		**P**		**10 40 56.6**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=95,slow=8.3,SNR=18								
MKAR	**Makanchi Array**	**61.87**	**317**	P		**P**		**10 40 56.6**	**+0.3**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**61.87**	**317**	P		**P**		**10 40 56.6**	**+0.3**
ZALV	**Zalesovo Beam**	**62.22**	**325**	P		**P**		**10 40 58.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=111,slow=7.6,SNR=5.2								
ZALV				PcP		**PcP**		**10 41 36.9**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=133,slow=3.1,SNR=5.6								
ZALV	**Zalesovo Beam**	**62.22**	**325**	P		**P**		**10 40 58.2**	**-0.3**
ZALV								10 41 36.9	
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ZALV	**Zalesovo Beam**	**62.22**	**325**	P		**P**		**10 40 58.2**	**-0.3**
ZALV				PcP		**PcP**		**10 41 36.9**	**-1.4**
NVS	**Novosibirsk**	**63.38**	**326**	*e*P		**P**		**10 41 06.0**	**-0.2**
KURK	**Kurchatov**	**65.06**	**320**	*e*P		**P**		**10 41 17.1**	**-0.2**
KURK				pmax		pmax			
	comp=Z,17nm,0.9s								
KURK	**Kurchatov**	**65.06**	**320**	*e*P		**P**		**10 41 17.1**	**-0.2**
	comp=Z,17nm,0.9s								
AAK	**Ala-Archa**	**66.74**	**311**	*e*P		**P**		**10 41 27.7**	**-0.8**
AAK				pmax		pmax			
	comp=Z,10.0nm,1.2s								
KKAR	**Karatay Array**	**69.69**	**312**	*e*P		**P**		**10 41 46.7**	**-0.1**
KKAR	**Karatay Array**	**69.69**	**312**	*e*P		**P**		**10 41 46.7**	**-0.1**
ILAR	**Eielson Array**	**70.16**	**25**	P		**P**		**10 41 47.7**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=252,slow=5.8,SNR=37								
ILAR	**Eielson Array**	**70.16**	**25**	P		**P**		**10 41 47.7**	**-1.6**
BVA0	**Borovoye Array**	**70.45**	**322**	*i* P		**P**		**10 41 50.5**	**-0.8**
BVA0				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BVAR	**Borovoye Array**	**70.45**	**322**	P		**P**		**10 41 51.2**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=107,slow=7.5,SNR=33								
BVAR	**Borovoye Array**	**70.45**	**322**	P		**P**		**10 41 51.2**	**-0.1**
BVAR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
BVAR	**Borovoye Array**	**70.45**	**322**	P		**P**		**10 41 51.2**	**-0.1**
BRVK	**Borovoye**	**70.52**	**322**	*e*P		**P**		**10 41 51.8**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,9.0nm,0.6s								
BRVK	**Borovoye**	**70.52**	**322**	*e*P		**P**		**10 41 51.8**	**+0.1**
	comp=Z,8.9nm,0.6s								
PPT	**Papeete**	**71.97**	**113**	LR		LR		11 07 44.1	
	comp=Z,181nm,21.2s,baz=171,slow=31								
INK	**Inuvik**	**75.95**	**22**	*e*P		**P**		**10 42 23.2**	**-0.2**
	comp=Z,7.3nm,1.0s								
SVE	**Sverdlovsk**	**76.22**	**326**	*e*P		**P**		**10 42 25.5**	**+0.3**
SVE				pmax		pmax			
	comp=Z,13nm,1.2s								
AB31	**Akbulak array**	**76.96**	**318**	*ce*P		**P**		**10 42 28.9**	**-0.6**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.4s								
ABKAR	**Akbulak array**	**76.96**	**318**	*e*P		**P**		**10 42 29.1**	**-0.4**
	comp=Z,4.9nm,0.7s								
ARU	**Arti**	**77.38**	**325**	*d* iP		**P**		**10 42 31.3**	**-0.5**
ARU								10 45 22.9	
ARU				S		**S**		**10 52 20.3**	**-0.2**
ARU				SS		**SS**		**10 57 15.0**	**-3.9**
ARU				pmax		pmax			
	comp=Z,14nm,1.2s								
AKTO	**Aktyubinsk**	**78.12**	**319**	*i* P		**P**		**10 42 34.9**	**-1.1**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YBH	**Yreka Blue Hor**	**84.42**	**49**	P		**P**		**10 43 10.9**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=226,slow=1.0,SNR=12								
YBH	**Yreka Blue Hor**	**84.42**	**49**	P		**P**		**10 43 10.9**	**+1.1**
YKW3	**Yellowknife Ar**	**84.44**	**27**	*e*P		**P**		**10 43 09.2**	**-0.1**
	comp=Z,0.3nm,1.2s								
YKA	**Yellowknife Ar**	**84.46**	**27**	P		**P**		**10 43 09.3**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=286,slow=4.9,SNR=49								
YKA	**Yellowknife Ar**	**84.46**	**27**	P		**P**		**10 43 09.3**	**-0.1**
RES	**Resolute Bay**	**86.07**	**13**	P		**P**		**10 43 17.8**	**+0.6**
	comp=Z,6.8nm,0.9s,baz=318,slow=5.2,SNR=19								
RES	**Resolute Bay**	**86.07**	**13**	P		**P**		**10 43 17.8**	**+0.6**
NEW	**Newport**	**86.82**	**41**	P		**P**		**10 43 22.3**	**+0.7**
	comp=Z,9.0nm,0.9s,baz=268,slow=3.5,SNR=13								
NEW	**Newport**	**86.82**	**41**	*e*P		**P**		**10 43 22.2**	**+0.7**
	comp=Z,19nm,1.0s								
BMO	**Blue Mountains**	**87.56**	**45**	*e*P		**P**		**10 43 25.7**	**+0.4**
BMO				pmax		pmax			
	comp=Z,21nm,1.5s								
BMO	**Blue Mountains**	**87.56**	**45**	*e*P		**P**		**10 43 25.7**	**+0.4**
	comp=Z,21nm,1.5s								
ARCES	**ARCESS Array B**	**88.10**	**342**	P		**P**		**10 43 27.0**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=80,slow=6.7,SNR=5.3								
ARCES	**ARCESS Array B**	**88.10**	**342**	P		**P**		**10 43 27.0**	**-0.2**
BSMT	**Bassoo Peak**	**88.44**	**41**	*e*P		**P**		**10 43 30.8**	**+1.3**
	comp=Z,28nm,1.3s								
NVAR	**Mina Array Bea**	**88.45**	**51**	P		**P**		**10 43 31.0**	**+1.2**
	comp=Z,6.6nm,0.7s,baz=269,slow=5.2,SNR=14								
NVAR	**Mina Array Bea**	**88.45**	**51**	P		**P**		**10 43 31.0**	**+1.2**
MFID	**Camas Ranch**	**88.97**	**46**	*e*P		**P**		**10 43 31.7**	**-0.3**
	comp=Z,33nm,1.5s								
JOF	**Joensuu**	**89.16**	**335**	*e*P		**P**		**10 43 30.4**	**-1.9**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.7s								
JOF	**Joensuu**	**89.16**	**335**	*ep*		**P**		**10 43 30.4**	**-1.9**
	comp=Z,3.2nm,0.7s								
KBZ	**Khabaz**	**89.49**	**315**	LR		LR		11 24 35.4	
	comp=Z,366nm,21.3s,baz=39,slow=36								
VSR	**Storozhevoye**	**89.63**	**323**	*e*P		**P**		**10 43 32.6**	**-2.1**
OBN	**Obninsk**	**89.75**	**327**	P		**P**		**10 43 34.1**	**-1.1**
OBN				*e*				10 43 42.0	
OBN				pmax		pmax			
	comp=Z,25nm,1.0s								
HLID	**Hailey**	**89.92**	**45**	*e*P		**P**		**10 43 37.8**	**+1.3**
	comp=Z,7.0nm,1.3s								
ELK	**Elko**	**90.13**	**48**	*e*P		**P**		**10 43 39.1**	**+1.4**
VNDA	**Vanda**	**90.17**	**176**	LR		LR		11 24 48.9	
	comp=Z,196nm,18.4s,baz=334,slow=36								
QLMT	**Earthquake Lak**	**91.57**	**44**	*e*P		**P**		**10 43 45.9**	**+1.7**
	comp=Z,2.2nm,1.3s								
KAF	**Kangasniemi**	**91.59**	**335**	*e*P		**P**		**10 43 42.8**	**-0.8**
KAF				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**91.59**	**335**	*ep*		**P**		**10 43 42.8**	**-0.8**
	comp=Z,3.3nm,0.8s								
FINES	**FINESS Array B**	**92.02**	**335**	P		**P**		**10 43 43.9**	**-1.7**
	comp=Z,4.6nm,0.7s,baz=62,slow=4.1,SNR=12								
FINES	**FINESS Array B**	**92.02**	**335**	P		**P**		**10 43 43.9**	**-1.7**
GCMT	**Greycliff**	**92.42**	**42**	*e*P		**P**		**10 43 47.9**	**-0.2**
	comp=Z,1.9nm,0.8s								
JLU	**Jordanelle**	**92.92**	**48**	*e*P		**P**		**10 43 51.2**	**+0.6**
	comp=Z,3.4nm,1.1s								
RLMT	**Red Lodge**	**92.92**	**43**	*e*P		**P**		**10 43 52.2**	**+1.8**
	comp=Z,3.8nm,0.8s								
FFC	**Flin Flon**	**93.42**	**32**	*i* P		**P**		**10 43 53.2**	**+0.9**
PDAR	**Pinedale Array**	**93.54**	**45**	P		**P**		**10 43 53.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=272,slow=8.0,SNR=3.6								
PDAR				LR		LR		11 17 59.1	
	comp=Z,274nm,20.2s,baz=239,slow=30								
PDAR	**Pinedale Array**	**93.54**	**45**	P		**P**		**10 43 53.8**	**+0.4**
MAW	**Mawson**	**97.84**	**202**	LR		LR		11 27 33.7	
	comp=Z,194nm,19.1s,baz=224,slow=35								
TORD	**Torodi Ar. Bea**	**134.88**	**303**	PKP		**PKPdf**		**10 49 56.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=52,slow=0.9,SNR=4.8								
TORD	**Torodi Ar. Bea**	**134.88**	**303**	PKP		**PKPdf**		**10 49 56.8**	**-0.1**
DBIC	**Dimbokro**	**143.76**	**300**	PKP		PKPbc		10 50 10.9	+0.3
	comp=Z,2.7nm,0.5s,baz=89,slow=7.7,SNR=4.3								
DBIC	**Dimbokro**	**143.76**	**300**	PKP		PKPbc		10 50 10.9	+0.3
CFAA	**Coronel Fontan**	**144.64**	**128**	PKP		**PKPab**		**10 50 13.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=198,slow=5.3,SNR=5.1								
CFAA	**Coronel Fontan**	**144.64**	**128**	PKP		**PKPab**		**10 50 13.2**	**+0.4**
SAML	**Samuel**	**153.12**	**86**	*e*PKPdf		**PKPdf**		**10 50 28.8**	**+0.5**
SAML				*e*PKPbc		**PKiKP**		**10 50 36.1**	**+0.4**
SAML				*e*PKPab		**PKPab**		**10 50 47.8**	**+0.6**

*BJI **26** 10:41:18.0,20°.21N×122°.64E,h5km,mB4.5/5,mb4.3/10, Ms4.0/2,Ms7 3.8/2*
*DJA **26** 10:41:31.6±0.6,21°.1N±6°×12°.4E±1°.1,h10km,M5.1/18, mB5.8/9,mb5.1/18,MLv4.9/1,Mw(mB)5.3/9*
*ISCJB **26** 10:41:36.9±0.3,20°.83N±0°.02×121°.89E±0°.04, h107km±4km,mb4.5/35,Error ellipse: s-maj=5.8km s-min=3.6km az=7.9*
*NEIC **26** 10:41:37.9±0.7,20°.84N×121°.95E,h102km±7km,mb4.4/9, Error ellipse: s-maj=11.8km s-min=6.7km az=75.0*
NEIC Felt [III PIVS] at Basco.
*JMA **26** 10:41:38.8±0.4,20°.94N×121°.92E,h141km,M3.9*
*IDC **26** 10:41:40.9±2.1,20°.82N×121°.92E,h130km±20km, mb3.9/16,mb1 4.1/19,mb1mx3.9/30,mbtmp4.0/19,Error ellipse: s-maj=17.5km s-min=9.4km az=76.0*
*MAN **26** 10:41:41,20°.59N×121°.74E,h73km,mb5.2,ML4.1,MS4.3*
MAN INTENSITY III - BASCO BATANES.

ISC 26 10:41:38.5±0.8,20°.84N±0°.04×121°.85E±0°.05,h107km±8km, n100,σ1°32/110,mb4.4/35,2C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.10**	**340**	*e*Pn			**Pn**	**10 42 10.8**	**-1.8**
TWG				*e*Sn			**Sn**	**10 42 36.9**	**-1.9**
YULB	**Yu-li**	**2.59**	**349**	*e*Pn			**Pn**	**10 42 17.5**	**-1.6**
YULB				*e*Sn			**Sn**	**10 42 49.0**	**-1.2**
TPUB	**Ta-pu**	**2.70**	**335**	*e*Pn			**Pn**	**10 42 19.4**	**-1.1**
TPUB				*e*Sn			**Sn**	**10 42 52.3**	**-0.4**
PIP	**Pasuquin**	**2.76**	**205**	||*i*P		**Pn**	**10 42 19.5**	**-1.7**
SSLB	**Suanglung**	**3.05**	**344**	*e*Pn			**Pn**	**10 42 24.1**	**-1.0**
SSLB				*e*Sn			**Sn**	**10 43 00.8**	**-0.3**
SIPP	**Brgy, Tapao**	**3.19**	**205**	||*e*P		Sn	10 42 51.6	-13
NACB	**Ninganchiao**	**3.33**	**356**	*e*Pn			**Pn**	**10 42 28.0**	**-0.8**
NACB				*e*Sn			**Sn**	**10 43 05.7**	**-1.9**
ABRA	**Dolores**	**3.35**	**199**	*e*P			**Pn**	**10 42 28.6**	**-0.5**
HATJ	**Hateruma jima**	**3.68**	**29**	P			**Pn**	**10 42 33.6**	**+0.2**
HATJ				*e*S			**Sn**	**10 43 15.4**	**-0.6**
YOJ	**Yonaguni jima**	**3.76**	**16**	P			**Pn**	**10 42 34.8**	**+0.2**
YOJ				*e*S			**Sn**	**10 43 18.6**	**+0.6**
PALP	**Palanan**	**3.80**	**172**	||*i*P		**Pn**	**10 42 34.6**	**-0.5**
YHNB	**Yeheng**	**3.84**	**354**	*e*Pn			**Pn**	**10 42 34.1**	**-1.6**
YHNB				*e*Sn			**Sn**	**10 43 20.1**	**+0.1**
CAUP	**Cauayan**	**3.88**	**180**	*e*P			**Pn**	**10 42 37.1**	**+1.0**
IRIF	**Iriomote-Funau**	**3.89**	**26**	P			**Pn**	**10 42 36.7**	**+0.4**
IRIF				*e*S			**Sn**	**10 43 20.7**	**-0.3**
JKRS	**Kuro-shima**	**3.93**	**30**	P			**Pn**	**10 42 37.3**	**+0.5**
JKRS				*e*S			**Sn**	**10 43 22.0**	**0.0**
JIJ	**Ishigaki jima**	**4.10**	**31**	P			**Pn**	**10 42 38.8**	**-0.3**
JIJ				*e*S			**Sn**	**10 43 24.7**	**-1.4**
TATO	**Taipei**	**4.13**	**355**	*e*Pn			**Pn**	**10 42 40.2**	**+0.7**
TATO				*e*Sn			**Sn**	**10 43 27.1**	**+0.2**
BCPH	**Baguio City Da**	**4.59**	**195**	||*i*P		Pn	10 42 40.2	-5.8
JTJ	**Tarama**	**4.61**	**34**	P			**Pn**	**10 42 46.2**	**+0.2**
JTJ				*e*S			**Sn**	**10 43 38.5**	**+0.1**
BOLP	**Bolinao**	**4.80**	**203**	*e*P			**Pn**	**10 42 50.4**	**+1.8**
QZH	**Quanzhou**	**5.07**	**324**	||*i*Pn		**Pn**	**10 42 51.5**	**-0.7**
BALP	**Baler**	**5.08**	**183**	*e*P			**Pn**	**10 42 51.9**	**-0.5**
JOGS	**Gusukube**	**5.10**	**39**	P			**Pn**	**10 42 53.1**	**+0.5**
JOGS				*e*S			**Sn**	**10 43 51.9**	**+1.6**
TGY	**Tagaytay City**	**6.76**	**188**	P			**Pn**	**10 43 17.3**	**+2.1**
	21nm,0.3s,baz=277,slow=8.8,SNR=5.8								
TGY	**Tagaytay City**	**6.76**	**188**	P			**Pn**	**10 43 17.3**	**+2.1**
JKE	**Kume jima 2**	**7.09**	**39**	P			**Pn**	**10 43 18.5**	**-1.2**
JAGN	**Aguni-jima**	**7.56**	**40**	P			**Pn**	**10 43 25.4**	**-0.6**
JIH	**Iheya**	**8.33**	**41**	P			**Pn**	**10 43 35.7**	**-0.7**
JOW	**Kunigami**	**8.38**	**43**	*e*Pn			**Pn**	**10 43 36.6**	**-0.5**
JOW				*e*Sn			**Sn**	**10 45 09.1**	**-0.9**
JOW	**Kunigami**	**8.38**	**43**	P			**Pn**	**10 43 36.9**	**-0.2**
JOW				*e*S			**Sn**	**10 45 08.0**	**-2.0**
JTK	**Tokunoshima**	**9.47**	**42**	P			**Pn**	**10 43 50.6**	**-1.4**
WHN	**Wuhan**	**11.79**	**327**	P			**Pn**	**10 44 22.0**	**-1.2**
ENH	**Enshi**	**14.57**	**313**	*e*Pn			**Pn**	**10 45 00.8**	**+1.2**
	17nm,0.9s								
JNU	**Nakatsue**	**14.63**	**31**	P		P		**10 45 03.2**	**-0.5**
	0.2nm,0.3s,baz=155,slow=5.2,SNR=5.5								
JNU	**Nakatsue**	**14.63**	**31**	P		**P**		**10 45 03.2**	**-0.5**
KSAR	**Wonju Array Be**	**17.36**	**16**	P		**Pn**		**10 45 35.2**	**+1.3**
KSRS	**Korea Array**	**17.38**	**16**	P		**Pn**		**10 45 35.2**	**+1.0**
	0.6nm,0.3s,baz=198,slow=11,SNR=18								
MNI	**Manado**	**19.50**	**171**	P		**P**		**10 45 55.3**	**-2.1**
	124nm,0.8s								
MRSI	**Marisa**	**20.24**	**180**	P		**P**		**10 46 06.1**	**+0.7**
	59nm,0.8s								
KMSI	**Cibinong**	**20.25**	**174**	P		**P**		**10 46 05.1**	**-0.4**
	145nm,0.9s,5μm								
SBUM	**Sibu**	**20.55**	**208**	P		Pn		10 46 13.8	+1.9
MJAR	**Matsushiro Arr**	**21.18**	**39**	P		**P**		**10 46 16.4**	**+1.0**
	2.2nm,0.9s,baz=225,slow=9.7,SNR=5.5								
MJAR	**Matsushiro Arr**	**21.18**	**39**	P		**P**		**10 46 16.4**	**+1.0**
SMKI	**Samarinda**	**21.64**	**193**	P		**P**		**10 46 22.6**	**+2.2**
	70nm,0.9s,5μm								
CMAR	**Chiang Mai Arr**	**21.70**	**268**	P		**P**		**10 46 22.6**	**+1.5**
	1.7nm,0.7s,baz=70,slow=8.7,SNR=13								
CMAR	**Chiang Mai Arr**	**21.70**	**268**	P		**P**		**10 46 22.6**	**+1.5**
LUWI	**Luwuk**	**21.77**	**178**	P		**P**		**10 46 19.5**	**-2.2**
	122nm,1.2s,1μm								
LZH	**Lanzhou**	**21.88**	**318**	*e*P		**P**		**10 46 22.3**	**-0.7**
LZH				pP		pP		10 46 27.0	-16
LZH				sP		sP		10 46 29.5	-27
LZH				pmax		pmax			
	comp=Z,20nm,1.3s								
LZH				pmax		pmax			
	comp=Z,52nm,5.8s								
LZH				LR		LR			
	comp=N,170nm,14.2s								
LZH				LR		LR			
	comp=E,170nm,15.0s								
LZH				LR		LR			
	comp=Z,200nm,17.8s								
LBMI	**Labuha**	**22.05**	**165**	P		P		10 46 19.8	-4.9
	comp=Z,61nm,1.2s,comp=Z,2μm								
KSM	**Kuching**	**22.30**	**212**	*e*P		P		10 46 35.0	+7.6
	comp=Z,7.0nm,0.7s								
KSM	**Kuching**	**22.30**	**212**	P		P		10 46 34.3	+6.9
	comp=Z,12nm,0.7s								
TTSI	**Tana Toraja**	**23.82**	**185**	P		**P**		**10 46 46.1**	**+4.3**
	comp=Z,37nm,0.7s								
NLAI	**Namlea**	**24.48**	**167**	P		**P**		**10 46 46.8**	**-1.0**
	comp=Z,143nm,0.6s,comp=Z,1μm								
SPSI	**Sidrap Palu**	**24.73**	**185**	P		**P**		**10 46 51.1**	**+1.0**
	comp=Z,23nm,0.8s								
USRK	**Ussuriysk Arra**	**24.78**	**18**	P		**P**		**10 46 51.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=209,slow=8.8,SNR=4.7								
MSAI	**Masohi**	**25.02**	**163**	P		**P**		**10 46 52.8**	**+0.1**
	comp=Z,16nm,0.8s,comp=Z,1μm								
BBKI	**Banjar Baru**	**25.11**	**197**	P		**P**		**10 46 55.5**	**+1.9**
AAI	**Ambon**	**25.16**	**165**	P		**P**		**10 46 53.1**	**-0.9**
	comp=Z,53nm,0.6s								
KAPI	**Kappang**	**25.77**	**185**	P		**P**		**10 47 01.5**	**+1.9**
	comp=Z,18nm,0.5s,baz=324,slow=3.4,SNR=14								
KAPI	**Kappang**	**25.77**	**185**	*e*P		**P**		**10 47 02.0**	**+2.4**
	comp=Z,24nm,0.7s								
KAPI	**Kappang**	**25.77**	**185**	P		**P**		**10 47 02.3**	**+2.8**
	comp=Z,35nm,0.8s								
BKSI	**Bulukumba**	**26.05**	**184**	P		**P**		**10 47 06.0**	**+3.9**
	comp=Z,9.9nm,0.8s								
BKNI	**Bangkinang**	**28.80**	**228**	P		pP		10 47 46.6	-3.6
ULN	**Ulaanbaatar**	**29.49**	**340**	P		**P**		**10 47 34.3**	**+1.6**
SONM	**Songino Array**	**29.68**	**339**	P		**P**		**10 47 33.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=156,slow=9.7,SNR=8.0								
SONM	**Songino Array**	**29.68**	**339**	P		**P**		**10 47 33.9**	**-0.4**
TPTI		**29.70**	**237**	P		pP		10 48 00.8	+2.5
	comp=Z,42nm,1.1s,comp=Z,10μm								
FITZ	**Fitzroy Crossi**	**38.88**	**174**	*e*P		**P**		**10 48 51.5**	**-2.1**
	comp=Z,2.5nm,0.4s								
PMG	**Port Moresby**	**39.02**	**138**	P		P		**10 48 54.4**	**-0.6**
	comp=Z,18nm,0.8s,baz=189,slow=16,SNR=5.4								
PMG	**Port Moresby**	**39.02**	**138**	P		**P**		**10 48 54.4**	**-0.6**
MK31	**Makanchi Array**	**41.20**	**318**	*e*P		**P**		**10 49 13.7**	**+1.0**
MKAR	**Makanchi Array**	**41.20**	**318**	P		**P**		**10 49 13.4**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=112,slow=9.3,SNR=23								
MKAR	**Makanchi Array**	**41.20**	**318**	P		**P**		**10 49 13.4**	**+0.8**
WRAB	**Tennant Creek**	**42.33**	**162**	*e*P		**P**		**10 49 20.0**	**-2.1**
	comp=Z,8.1nm,0.7s								
WRA	**Warramunga Arr**	**42.33**	**162**	P		**P**		**10 49 19.9**	**-2.2**
	comp=Z,7.6nm,0.5s,baz=344,slow=9.1,SNR=140								
WRA				S		S		10 55 27.5	-7.9
	comp=Z,2.0nm,0.9s,baz=344,slow=14,SNR=7.7								
WRA	**Warramunga Arr**	**42.33**	**162**	P		**P**		**10 49 19.9**	**-2.2**
WRA				S		S		10 55 27.5	-7.9
ZAA0	**Zalesovo Array**	**43.39**	**329**	*e*P		**P**		**10 49 30.5**	**+0.3**
ZALV	**Zalesovo Beam**	**43.39**	**329**	P		**P**		**10 49 30.3**	**0.0**
	comp=Z,2.9nm,0.5s,baz=111,slow=6.5,SNR=15								
ZALV	**Zalesovo Beam**	**43.39**	**329**	P		**P**		**10 49 30.3**	**0.0**
KURK	**Kurchatov**	**45.07**	**322**	*e*P		**P**		**10 49 44.4**	**+0.8**
	comp=Z,3.4nm,0.7s								
AS31	**Alice Springs**	**45.77**	**164**	*e*P		**P**		**10 49 48.5**	**-1.0**
ASAR	**Alice Springs**	**45.77**	**164**	P		**P**		**10 49 48.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=346,slow=7.6,SNR=12								
ASAR				ScP		**ScP**		**10 55 06.9**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=333,slow=2.7,SNR=4.5								
ASAR	**Alice Springs**	**45.77**	**164**	P		**P**		**10 49 48.5**	**-1.0**
ASAR				ScP		**ScP**		**10 55 06.9**	**-1.9**
CTA	**Charters Tower**	**47.17**	**148**	P		P		**10 50 00.6**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=333,slow=9.9,SNR=5.8								
CTA	**Charters Tower**	**47.17**	**148**	P		**P**		**10 50 00.6**	**+0.1**
BRVK	**Borovoye**	**50.73**	**322**	*e*P		**P**		**10 50 27.9**	**+0.6**
	comp=Z,3.5nm,0.7s								
TIXI	**Tiksi**	**50.99**	**3**	*e*P		**P**		**10 50 27.8**	**-1.1**
	comp=Z,22nm,2.0s								
BBOO	**Buckleboo**	**55.05**	**165**	*e*P		**P**		**10 50 58.3**	**-1.0**
	comp=Z,339nm,0.8s								
STKA	**Stephens Creek**	**55.73**	**160**	P		**P**		**10 51 03.2**	**-0.8**
	comp=Z,11nm,0.7s,baz=332,slow=7.6,SNR=25								
STKA	**Stephens Creek**	**55.73**	**160**	P		**P**		**10 51 03.2**	**-0.8**
AB31	**Akbulak array**	**56.24**	**316**	*e*P		**P**		**10 51 08.8**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=85,slow=8.3,SNR=29								
ABKAR	**Akbulak array**	**56.24**	**316**	*e*P		**P**		**10 51 09.0**	**+1.4**
	comp=Z,1.7nm,0.5s								
DZM	**Mont Dzumac**	**60.94**	**132**	P		**P**		**10 51 40.9**	**+0.2**
	comp=Z,2.3nm,0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.15**	**263**	P	**Pn**	**11 04 04.0**	**+0.2**
SWI				S	**Sn**	**11 04 28.8**	**-0.7**
FAKI	**Fak Fak**	**2.58**	**206**	P	**Pn**	**11 04 11.1**	**+1.5**
FAKI				S	Sb	11 04 58.9	+12
TLE	**Tual**	**5.05**	**187**	P	**Pn**	**11 04 43.7**	**0.0**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=43,slow=14,SNR=12	**18.99**	**203**	P	**Pn**	**11 07 50.0**	**-0.1**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=355,slow=11,SNR=20	**19.25**	**177**	P	**P**	**11 07 51.8**	**-0.4**
ASAR	**Alice Springs** 2.2nm,0.5s,baz=359,slow=12,SNR=38	**22.94**	**179**	P	**P**	**11 08 31.5**	**-0.4**
STKA	**Stephens Creek** 0.8nm,0.5s,baz=331,slow=11,SNR=4.1	**32.06**	**167**	P	**P**	**11 09 53.8**	**-0.5**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=113,slow=7.0,SNR=3.7	**64.92**	**324**	P	**P**	**11 14 07.6**	**+0.8**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=245,slow=4.8,SNR=5.5	**86.15**	**25**	P	**P**	**11 16 07.8**	**-0.2**

*UPP **26** 11:07:38.3, 57.54N × 10.60E, h0km, ML2.8, Suspected Mining explosion.*
*CSEM **26** 11:07:38.6±0.2, 57.62N × 10.60E, h2km, ML2.8, Error ellipse: s-maj=4.7km s-min=4.1km az=21.0, Suspected Mining explosion.*
*ISCJB **26** 11:07:38.3±0.4, 57.70N±0.03 × 10.58E±0.05, h0km, Error ellipse: s-maj=5.1km s-min=4.0km az=17.2*
*NAO **26** 11:07:39.1±1.1, 57.70N × 10.31E, ML1.8*
*BER **26** 11:07:41.0±2.2, 57.54N × 10.61E, h15km, MD2.0, ML1.8, ML1.8(NAO)*
*IDC **26** 11:07:42.1±2.0, 57.78N × 10.54E, h0km, mb1 3.2/4, mb1mx3.0/29, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=16.9km s-min=15.2km az=84.0*

ISC 26 11:07:38.1±0.8, **57.63N**±0.04×**10.60E**±0.03, **h0**km, **n42**, σ1°**38**/59, **Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJOU	**Tjoern**	**0.68**	**53**	P	**Pg**	**11 07 52.3**	**+1.1**
TJOU				S	**Sg**	**11 08 01.7**	**+1.7**
BORU	**Boraas**	**1.17**	**89**	P	**Pg**	**11 08 00.1**	**-0.3**
VANU	**Vaenersborg**	**1.17**	**41**	P	**Pb**	**11 08 01.4**	**+0.3**
HOMB	**Homborsund**	**1.29**	**301**	*e*P	**Pg**	**11 08 03.2**	**+0.4**
HOMB				*e*S	**Sg**	**11 08 20.2**	**+0.7**
HOMB	comp=Z,18nm,0.2s			AML	AML	11 08 21.8	
HOMB	**Homborsund** SNR=55	**1.29**	**301**	*e*P	**Pg**	**11 08 03.2**	**+0.4**
HOMB				*e*S	**Sg**	**11 08 20.2**	**+0.7**
FABU	comp=Z,18nm,0.2s,SNR=55 **Falkenberg**	**1.31**	**118**	P	**Pg**	**11 08 01.8**	**-1.4**
MUD	**Monsted U'grnd**	**1.41**	**214**	*i* P	**Pn**	**11 08 04.0**	**-1.0**
MUD	**Monsted U'grnd**	**1.41**	**214**	*i* P	**Pn**	**11 08 04.0**	**-1.0**
STRU	**Stroemstad**	**1.44**	**12**	P	**Pb**	**11 08 06.4**	**+0.6**
GNOU	**Gnosjoe**	**1.74**	**100**	P	**Pn**	**11 08 09.5**	**0.0**
FKPU	**Falk**	**1.75**	**71**	P	**Pn**	**11 08 10.3**	**+0.6**
NASU	**Vaermlandsnaes**	**1.89**	**45**	P	**Pn**	**11 08 12.6**	**+1.0**
SNART	**Snartemo**	**1.94**	**293**	*e*P	**Pn**	**11 08 11.9**	**-0.4**
SNART				*e*S	**Sn**	**11 08 37.6**	**+0.2**
SNART	comp=Z,15nm,0.4s			AML	AML	11 08 41.3	
FINU	**Finntorp**	**2.04**	**28**	P	**Pn**	**11 08 14.7**	**+1.1**
DEL	**Delary**	**2.13**	**122**	P	**Pn**	**11 08 15.4**	**+0.5**
LLD	**Lille Linde**	**2.47**	**158**	*i* P	**Pn**	**11 08 21.8**	**+2.3**
LLD				*i* S	**Sb**	**11 08 56.0**	**+1.8**
LLD	**Lille Linde**	**2.47**	**158**	*i* P	**Pn**	**11 08 21.8**	**+2.3**
BLS5	**Blasjo**	**2.82**	**311**	*e*P	**Pn**	**11 08 24.3**	**-0.2**
BLS5	**Blasjo** SNR=55	**2.82**	**311**	*e*P	**Pn**	**11 08 24.3**	**-0.2**
HFS	**Hagfors** baz=218,slow=16	**2.98**	**31**	Pn	**Pn**	**11 08 27.6**	**+0.9**
HFS				Pg	**Pb**	**11 08 32.4**	**+0.3**
HFS	baz=207,slow=16			Sn	**Sn**	**11 09 00.6**	**-2.5**
HFS	baz=210,slow=28			Lg	Lg	11 09 11.3	
HFS	baz=200,slow=28 **Hagfors** comp=Z,0.4nm,0.3s,baz=210,slow=14,SNR=24	**2.98**	**31**	Pn	**Pn**	**11 08 27.5**	**+0.9**
HFS				Pg	**Pb**	**11 08 32.5**	**+0.5**
HFS	comp=Z,0.9nm,0.3s,baz=204,slow=16,SNR=18			Sn	**Sn**	**11 09 02.1**	**-1.0**
HFS	comp=Z,0.9nm,0.3s,baz=206,slow=26,SNR=6.4			Lg	Lg	11 09 12.1	
HFS	comp=Z,1.9nm,0.3s,baz=204,slow=27,SNR=11 **Hagfors** baz=218,slow=16	**2.98**	**31**	Pn	**Pn**	**11 08 27.6**	**+0.9**
HFS				Pg	**Pb**	**11 08 32.4**	**+0.3**
HFS	baz=207,slow=16			Sn	**Sn**	**11 09 00.6**	**-2.5**
HFS	baz=210,slow=28 **Hagfors** baz=218,slow=14,SNR=55	**2.98**	**31**	Pn	**Pn**	**11 08 27.6**	**+0.9**
HFS	**Hagfors** baz=207,slow=16,SNR=91	**2.98**	**31**	Pg	**Pb**	**11 08 32.4**	**+0.3**
HFS	baz=210,slow=26,SNR=55			Sn	**Sn**	**11 09 00.6**	**-2.5**
HFS	baz=200,slow=26,SNR=5.9			Lg	Lg	11 09 11.3	
ODD1	**Odda**	**3.09**	**320**	*e*P	**Pn**	**11 08 29.1**	**+0.9**
ODD1	**Odda** SNR=55	**3.09**	**320**	*e*P	**Pn**	**11 08 29.0**	**+0.9**
NB2	**NORSAR Subarra** baz=187,slow=14	**3.44**	**5**	Pn	**Pn**	**11 08 32.3**	**-0.6**
NB2				Pg	**Pb**	**11 08 40.2**	**+0.4**
NB2	baz=192,slow=28			Sn	**Sn**	**11 09 13.2**	**-1.2**
NB2	**NORSAR Subarra** baz=187,slow=14	**3.44**	**5**	Pn	**Pn**	**11 08 32.3**	**-0.6**
NB2	**NORSAR Subarra** SNR=90	**3.44**	**5**	Pg	**Pb**	**11 08 40.2**	**+0.4**
NB2	baz=192,slow=26,SNR=55			Sn	**Sn**	**11 09 13.2**	**-1.2**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.3s,baz=181,slow=12,SNR=20	**3.44**	**5**	Pn	**Pn**	**11 08 33.1**	**+0.2**
NOA	comp=Z,0.7nm,0.3s,baz=42,slow=25,SNR=4.5			Sn	**Sn**	**11 09 11.7**	**-2.7**
NOA	comp=Z,1.1nm,0.3s,baz=214,slow=9.6,SNR=4.1			Lg	Lg	11 09 26.3	
BSD	**Bornholm Skovb**	**3.48**	**135**	*i* P	Pb	11 08 38.2	-2.3
BSD				*i* S	**Sb**	**11 09 23.2**	**-0.1**
BSD	**Bornholm Skovb**	**3.48**	**135**	*e*P	Pb	11 08 38.2	-2.3
EGD	**Espegrend**	**3.84**	**316**	*e*P	**Pn**	**11 08 38.1**	**-0.3**
ASK	**Askoy**	**4.00**	**318**	*e*P	**Pn**	**11 08 40.4**	**-0.1**
FIA0	**FINESS Array S** baz=245,slow=12	**8.74**	**58**	Pn	**Pn**	**11 09 46.0**	**+0.4**
FIA0	baz=254,slow=28			Sn	**Sn**	**11 11 20.3**	**-4.3**
FIA0	**FINESS Array S** baz=245,slow=12	**8.74**	**58**	Pn	**Pn**	**11 09 46.0**	**+0.4**
FIA0	baz=254,slow=28			Sn	**Sn**	**11 11 20.3**	**-4.3**
FIA0	**FINESS Array S** baz=245,slow=12,SNR=55	**8.74**	**58**	Pn	**Pn**	**11 09 46.0**	**+0.4**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=14	**8.74**	**58**	Pn	**Pn**	**11 09 46.0**	**+0.4**
FINES	comp=Z,0.2nm,0.3s,baz=254,slow=24,SNR=2.9			Sn	**Sn**	**11 11 22.5**	**-2.1**
FINES	comp=Z,0.3nm,0.3s,baz=253,slow=29,SNR=3.4			Lg	Lg	11 12 12.2	
ARA0	**ARCESS Array S** baz=214,slow=14	**13.60**	**23**	Pn	Pn	11 10 49.0	-3.0
ARA0	**ARCESS Array S** baz=214,slow=14	**13.60**	**23**	P	Pn	11 10 49.0	-3.0
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=208,slow=14,SNR=8.3	**13.60**	**23**	Pn	Pn	11 10 49.0	-3.1

*BJI **26** 11:23:05.1, 2.29S × 139.27E, h10km, mB4.9/16, mb4.7/25, Ms4.7/13, Ms7 4.2/13*
*IDC **26** 11:23:07.9±0.7, 1.96S × 139.05E, h0km, mb4.2/9, mb1 4.5/12, mb1mx4.3/21, mbtmp4.3/12, ML4.7/2, MS4.0/14, Ms1 4.0/14, ms1mx3.7/30, Error ellipse: s-maj=24.0km s-min=12.2km az=82.0*
*ISCJB **26** 11:23:10.7±0.3, 2.06S±0.04 × 139.11E±0.04, h29km, mb4.7/23, MS4.1/18, Error ellipse: s-maj=6.3km s-min=4.9km az=135.3*
*DJA **26** 11:23:10.3±1.1, 2.2S±9 × 13.9E±, h9km±7km, M4.8/6, mb4.5/5, mB5.0/2, MLv4.8/6, Mw(mB)4.3/2*
*NEIC **26** 11:23:13.3±0.3, 2.00S × 139.02E, h35km, mb4.8/10, Error ellipse: s-maj=10.3km s-min=5.9km az=72.0*

ISC 26 11:23:12.2±0.3, **2.05S**±0.04×**139.07E**±0.05, **h29**km, **n82**, σ2°**45**/101, **mb4.7**/25, **MS4.1**/18, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.36**	**279**	P	**Pb**	**11 23 20.5**	**0.0**
JAY	**Jayapura**	**1.70**	**106**	P	**Pn**	**11 23 39.0**	**-1.0**
JAY				S	**Sn**	**11 23 59.3**	**-1.5**
WAMI	**Wamena**	**1.86**	**191**	P	Pb	11 23 50.1	+4.5
BAKI	**Biak**	**3.08**	**286**	P	**Pn**	**11 24 00.2**	**+1.3**
FAKI	**Fak Fak** 69nm,0.7s,0.2nm	**6.87**	**263**	P	**Pn**	**11 24 53.3**	**+2.2**
TLE	**Tual** 68nm,1.6s,0.3nm	**7.25**	**240**	P	Pn	11 25 00.6	+4.3
MSAI	**Masohi** 7.7nm,0.8s,516nm	**10.21**	**263**	P	Pn	11 25 40.5	+3.6
PMG	**Port Moresby** 0.9nm,0.3s,baz=281,slow=16,SNR=3.4	**10.87**	**133**	Pn	**Pn**	**11 25 47.7**	**+1.7**
PMG	**Port Moresby**	**10.87**	**133**	Pn	**Pn**	**11 25 47.7**	**+1.7**
LUWI	**Luwuk**	**16.32**	**273**	P	P	11 27 12.5	+10
KDI	**Kendari**	**16.53**	**263**	P	**Pn**	**11 27 03.1**	**+0.9**
GUMO	**Guam** comp=Z,462nm,19.4s,baz=270,slow=36	**16.57**	**20**	LR	LR	11 32 53.1	
WRAB	**Tennant Creek** 25nm,0.6s	**18.36**	**194**	*e*P	**P**	**11 27 24.7**	**-0.1**
WRA	**Warramunga Arr** 2.1nm,0.3s,baz=18,slow=12,SNR=90	**18.38**	**194**	P	**P**	**11 27 24.7**	**-0.2**
WRA	0.4nm,0.3s,baz=7.0,slow=23,SNR=4.6			S	**Sn**	**11 30 43.9**	**-5.7**
WRA	**Warramunga Arr**	**18.38**	**194**	P	**P**	**11 27 24.7**	**-0.2**
WRA				S	**Sn**	**11 30 43.9**	**-5.7**
CTA	**Charters Tower** 1.9nm,0.3s,baz=344,slow=9.4,SNR=13	**19.26**	**159**	P	**Pn**	**11 27 36.1**	**+0.4**
CTA	**Charters Tower**	**19.26**	**159**	P	**Pn**	**11 27 36.1**	**+0.4**
CTAO	**Charters Tower** 16nm,0.8s	**19.26**	**159**	*e*P	**Pn**	**11 27 36.1**	**+0.4**
KAPI	**Kappang** comp=Z,151nm,19.1s,baz=94,slow=40	**19.50**	**261**	LR	LR	11 36 06.8	
KAPI	**Kappang**	**19.50**	**261**	*e*P	**P**	**11 27 37.3**	**0.0**
FITZ	**Fitzroy Crossi** 3.5nm,0.7s,baz=40,slow=12,SNR=10	**20.69**	**219**	P	**P**	**11 27 50.5**	**+0.3**
FITZ	5.4nm,0.9s,baz=142,slow=7.9,SNR=3.3			S	**S**	**11 31 35.7**	**-4.3**
FITZ	**Fitzroy Crossi**	**20.69**	**219**	*e*P	**P**	**11 27 51.2**	**+1.0**
FITZ				S	**S**	**11 31 35.7**	**-4.3**
AS31	**Alice Springs**	**22.06**	**193**	*e*P	**P**	**11 28 05.6**	**+0.7**
ASAR	**Alice Springs** 12nm,0.6s,baz=23,slow=10,SNR=220	**22.07**	**193**	P	**P**	**11 28 05.8**	**+0.8**
ASAR	2.6nm,0.9s,baz=15,slow=23,SNR=5.2			S	**S**	**11 32 10.7**	**+3.8**
ASAR	comp=Z,219nm,20.5s,baz=15,slow=38			LR	LR	11 37 18.2	
ASAR	**Alice Springs**	**22.07**	**193**	P	**P**	**11 28 05.8**	**+0.8**
ASAR				S	**S**	**11 32 10.7**	**+3.8**
EIDS	**Eidsvold**	**25.92**	**154**	*e*P	**P**	**11 28 42.9**	**+0.8**
CBIJ	**Chichi jima** comp=Z,276nm,21.3s,baz=286,slow=30	**29.13**	**6**	LR	LR	11 37 48.7	
FORT	**Forrest** 32nm,0.9s	**30.42**	**199**	*e*P	**P**	**11 29 23.3**	**+1.1**
BBOO	**Buckleboo** 3km,2.5s	**30.73**	**185**	*e*P	**P**	**11 29 25.9**	**+0.9**
DZM	**Mont Dzumac** 9.9nm,0.9s,baz=266,slow=22,SNR=5.6	**33.23**	**129**	P	**P**	**11 29 47.3**	**+0.2**
DZM	**Mont Dzumac** 285nm,23.0s	**33.23**	**129**	*e*LR	LR	11 38 35.9	
DZM	**Mont Dzumac**	**33.23**	**129**	P	**P**	**11 29 47.3**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,78nm,18.0s,baz=130,slow=34	**38.40**	**359**	LR	LR	11 44 29.9	
IPM	**Ipoh** 8.0nm,0.6s	**38.56**	**280**	*e*P	**P**	**11 30 32.3**	**-0.6**
NJ2	**Nanjing**	**38.96**	**332**	*e*P	**P**	**11 30 35.5**	**-0.4**
GYA	**Guiyang**	**42.21**	**314**	*e*P	**P**	**11 31 04.0**	**+1.0**
GYA				PP	**PP**	**11 32 45.0**	**+3.8**
GYA				ScP	**ScP**	**11 36 48.5**	**+2.8**
GYA				S	**S**	**11 37 23.3**	**+1.5**
GYA				SS	**SS**	**11 40 25.5**	**-5.1**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
GYA	comp=Z,110nm,4.9s			pmax	pmax		
GYA	comp=N,520nm,16.4s			LR	LR		
GYA	comp=E,430nm,17.0s			LR	LR		
GYA	comp=Z,460nm,16.8s			LR	LR		
KMI	**Kunming**	**44.37**	**310**	P	**P**	**11 31 22.5**	**+1.9**
KMI				pP	**pP**	**11 31 25.3**	**-4.0**
KMI				sP	sP	11 31 26.3	-6.5
KMI				S	**S**	**11 37 56.5**	**+2.8**
KMI				SS	**SS**	**11 41 06.8**	**-6.4**
KMI	comp=Z,5.0nm,1.2s			pmax	pmax		
KMI	comp=N,96nm,19.9s			LR	LR		
KMI	comp=E,120nm,21.5s			LR	LR		
CMAR	**Chiang Mai Arr** comp=E,3.4nm,0.6s,baz=120,slow=6.6,SNR=19	**44.42**	**299**	P	**P**	**11 31 20.8**	**-0.1**
CMAR				LR	LR	11 52 54.1	
CMAR	comp=E,74nm,18.3s,baz=120,slow=40 **Chiang Mai Arr**	**44.42**	**299**	P	**P**	**11 31 20.8**	**-0.1**
CHTO	**Chiang Mai** comp=E,71nm,3.0s	**44.56**	**300**	*e*P	**P**	**11 31 22.2**	**+0.2**
USRK	**Ussuriysk Arra** comp=E,165nm,20.6s,baz=286,slow=31	**46.48**	**353**	LR	LR	11 47 15.7	
CN2	**Changchun**	**47.25**	**347**	*e*P	**P**	**11 31 45.5**	**+2.7**
CN2				*es*P	**sP**	**11 31 52.5**	**-2.5**
CN2				*e*S	**S**	**11 38 38.5**	**+4.4**
CN2	comp=Z,10.0nm,0.6s			pmax	pmax		
CN2	comp=Z,200nm,3.0s			pmax	pmax		
CN2	comp=N,200nm,13.0s			LR	LR		
CN2	comp=E,200nm,13.0s			LR	LR		
CN2	comp=Z,200nm,14.0s			LR	LR		
HHC	**Hu-ho-hao-te**	**49.51**	**333**	*e*P	**P**	**11 32 00.3**	**-0.1**
HHC				pP	**pP**	**11 32 06.3**	**-2.9**
HHC				sP	**sP**	**11 32 08.8**	**-3.9**
HHC				PP	**PP**	**11 33 56.8**	**+1.9**
HHC				S	**S**	**11 39 09.0**	**+2.6**
HHC				sS	**sS**	**11 39 16.0**	**-4.9**
HHC				ScS	**ScS**	**11 41 50.0**	**-0.4**
HHC				SS	**SS**	**11 42 36.5**	**-2.3**
HHC	comp=Z,19nm,0.5s			pmax	pmax		
HHC	comp=Z,120nm,7.9s			pmax	pmax		
HHC	comp=N,210nm,14.9s			LR	LR		
HHC	comp=E,200nm,15.1s			LR	LR		
HHC	comp=Z,160nm,18.0s			LR	LR		
AFI	**Afiamalu** comp=Z,183nm,18.4s,baz=251,slow=35	**49.97**	**106**	LR	LR	11 52 07.7	
LZH	**Lanzhou**	**50.17**	**323**	*e*P	**P**	**11 32 06.0**	**+0.4**
LZH				pP	**pP**	**11 32 09.3**	**-5.1**
LZH				sP	sP	11 32 10.8	-7.1
LZH				*e*PP	**PP**	**11 34 04.5**	**+3.4**
LZH	comp=Z,22nm,1.2s			pmax	pmax		
LZH	comp=Z,73nm,5.7s			pmax	pmax		
LZH	comp=N,380nm,14.5s			LR	LR		
LZH	comp=E,500nm,15.0s			LR	LR		
LZH	comp=Z,530nm,18.2s			LR	LR		
GTA	**Gaotai**	**54.76**	**323**	*e*P	**P**	**11 32 39.8**	**+0.3**
GTA				pP	**pP**	**11 32 43.5**	**-4.9**
GTA				sP	sP	11 32 45.5	-6.3
GTA				PP	**PP**	**11 34 45.5**	**+3.1**
GTA				S	**S**	**11 40 21.0**	**+2.5**
GTA				sS	**sS**	**11 40 28.5**	**-4.6**
GTA	comp=Z,4.0nm,0.5s			pmax	pmax		
GTA	comp=Z,110nm,7.1s			pmax	pmax		
GTA	comp=N,92nm,14.7s			LR	LR		
GTA	comp=E,130nm,17.1s			LR	LR		
GTA	comp=Z,90nm,19.0s			LR	LR		
ULN	**Ulaanbaatar** 2.3nm,6.3nm,0.9s	**57.02**	**335**	*e*P	**P**	**11 32 55.2**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,0.9nm,0.6s,baz=167,slow=7.0,SNR=3.8	**57.14**	**13**	P	**P**	**11 32 58.7**	**+2.6**
PETK				LR	LR	11 52 58.7	
PETK	comp=Z,140nm,20.2s,baz=15,slow=31 **Petropavlovsk-**	**57.14**	**13**	P	**P**	**11 32 58.7**	**+2.6**
SONM	**Songino Array** comp=Z,1.0nm,0.7s,baz=154,slow=7.7,SNR=8.2	**57.28**	**334**	P	**P**	**11 32 57.0**	**-0.4**
SONM				LR	LR	11 58 45.9	
SONM	comp=Z,151nm,19.8s,baz=223,slow=37 **Songino Array**	**57.28**	**334**	P	**P**	**11 32 57.0**	**-0.4**
WMQ	**Urumqi**	**64.72**	**321**	*e*P	**P**	**11 33 48.8**	**+0.9**
WMQ	comp=Z,7.0nm,1.1s			pmax	pmax		
MK31	**Makanchi Array**	**69.49**	**322**	*e*P	**P**	**11 34 18.3**	**+0.2**
MKAR	**Makanchi Array** comp=Z,3.3nm,0.8s,baz=112,slow=7.9,SNR=35	**69.49**	**322**	P	**P**	**11 34 18.4**	**+0.2**
MKAR	**Makanchi Array**	**69.49**	**322**	P	**P**	**11 34 18.4**	**+0.2**
KSH	**Kashi**	**70.89**	**313**	*e*P	**P**	**11 34 29.5**	**+2.5**
KSH				pP	**pP**	**11 34 34.0**	**-2.2**
KSH				*es*P	**sP**	**11 34 36.8**	**-2.8**
KSH				PcP	**PcP**	**11 34 50.3**	**+2.8**
KSH				PP	PP	11 37 09.8	+5.4
KSH				S	**S**	**11 43 43.0**	**+2.1**
KSH				sS	**sS**	**11 43 51.0**	**-4.9**
KSH				SKS	**SKSac**	**11 44 26.5**	**-1.3**
KSH				ScS	**ScS**	**11 44 29.0**	**-0.3**
KSH				SS	**SS**	**11 48 18.8**	**+4.8**
KSH	comp=Z,120nm,5.2s			pmax	pmax		
KSH	comp=N,90nm,6.9s			LR	LR		
KSH	comp=E,120nm,5.3s			LR	LR		
KSH	comp=E,180nm,5.5s			LR	LR		
ZAA0	**Zalesovo Array**	**71.55**	**330**	*e*P	**P**	**11 34 29.4**	**-1.0**
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.7s,baz=106,slow=6.4,SNR=8.8	**71.55**	**330**	P	**P**	**11 34 29.6**	**-0.8**
ZALV	**Zalesovo Beam**	**71.55**	**330**	P	**P**	**11 34 29.6**	**-0.8**
PPT	**Papeete** comp=Z,66nm,21.0s,baz=255,slow=32	**71.61**	**108**	LR	LR	12 01 19.5	
PPT2	**Papeete2** comp=Z,127nm,25.8s	**71.62**	**108**	*e*LR	LR	11 56 27.2	
TBI	**Tubuai** comp=Z,105nm,30.0s	**72.19**	**114**	*e*LR	LR	11 56 42.3	
KURK	**Kurchatov** comp=Z,42nm,2.2s	**73.38**	**325**	*e*P	**P**	**11 34 41.4**	**-0.1**
TIXI	**Tiksi** comp=Z,62nm,3.0s	**73.87**	**357**	*e*P	**P**	**11 34 43.8**	**-0.1**
VNDA	**Vanda** comp=Z,2.4nm,0.6s,baz=324,slow=6.1,SNR=23	**76.40**	**175**	P	**P**	**11 34 59.3**	**+0.8**
VNDA	comp=Z,206nm,18.1s,baz=329,slow=36			LR	LR	12 09 04.9	
VNDA	**Vanda**	**76.40**	**175**	*e*P	**P**	**11 34 59.4**	**+0.9**
BRVK	**Borovoye** comp=Z,4.9nm,0.8s	**79.05**	**325**	*e*P	**P**	**11 35 14.0**	**+0.3**
MAW	**Mawson** comp=Z,170nm,18.8s,baz=50,slow=35	**82.87**	**202**	LR	LR	12 11 03.4	
MID	**Middleton Isla**	**83.96**	**30**	*e*P	P	11 35 43.4	+4.0
ILAR	**Eielson Array** comp=Z,1.4nm,0.8s,baz=247,slow=3.2,SNR=14	**85.09**	**24**	P	**P**	**11 35 43.4**	**-1.7**
ILAR	comp=Z,186nm,18.1s,baz=200,slow=34			LR	LR	12 11 46.6	
ILAR	**Eielson Array**	**85.09**	**24**	P	**P**	**11 35 43.4**	**-1.7**
QSPA	**South Pole Qui** comp=Z,56nm,2.2s	**87.89**	**180**	*e*P	**P**	**11 35 59.4**	**+0.4**
DIB	**Dawson Inlet,** SNR=173	**90.70**	**37**	T	T	13 16 17.4	
BW06	**Boulder Array**	**106.99**	**46**	*e*Pdif	**Pdif**	**11 37 28.4**	**+2.1**
SRU	**San Rafael**	**107.06**	**50**	*e*PKPdf	**PKiKP**	**11 41 35.2**	**-0.9**
PAB	**San Pablo**	**130.01**	**323**	*e*PKPdf	**PKPdf**	**11 42 19.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**136.41**	**287**	PKP	**PKPdf**	**11 42 33.9**	**+1.6**
TORD	comp=Z,1.1nm,0.7s,baz=72,slow=1.9,SNR=7.4 **Torodi Ar. Bea**	**136.41**	**287**	PKP	**PKPdf**	**11 42 33.9**	**+1.6**
DBIC	**Dimbokro** comp=Z,6.6nm,0.7s,baz=92,slow=3.3,SNR=11	**143.75**	**278**	PKP	PKPbc	11 42 43.5	+0.3
DBIC	**Dimbokro**	**143.75**	**278**	PKP	PKPbc	11 42 43.5	+0.3
LPAZ	**La Paz** comp=Z,1.7nm,0.6s,baz=294,slow=1.5,SNR=5.5	**147.54**	**125**	PKPbc	**PKPab**	**11 42 56.9**	**-0.7**
LPAZ	**La Paz**	**147.54**	**125**	*e*PKPdf	**PKPbc**	**11 42 56.5**	**+1.0**
LPAZ				PKPbc	**PKPab**	**11 42 56.9**	**-0.7**

*ISCJB **26** 11:28:10.1±0.8, 6.94N±0.10 × 72.92W±0.09, h175km±8km, mb3.4/3, Error ellipse: s-maj=18.9km s-min=9.9km az=142.1*
*IDC **26** 11:28:11.0±4.2, 6.73N × 73.20W, h169km±31km, mb3.1/3, mb1 3.5/4, mb1mx3.2/22, mbtmp3.2/4, Error ellipse: s-maj=78.5km s-min=32.6km az=84.0*
*FUNV **26** 11:28:11.8, 6.93N × 73.08W, h166km, MW3.6*

ISC 26 11:28:09.7±0.9, **6.84N**±0.08×**72.97W**±0.09, **h165**km±9km, **n17**, σ1°**64**/23, **mb3.2**/3, **8C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**33**	*i*P	**Pn**	**11 28 39.2**	**+1.3**
CAPV				*e*S	**Sn**	**11 28 59.6**	**-0.2**
ROSC	**El Rosal** 44nm,0.3s,baz=299,slow=4.0,SNR=116	**2.39**	**214**	P	**Pn**	**11 28 51.1**	**+0.5**
ROSC	39nm,0.3s,baz=76,slow=21,SNR=6.5			S	**Sn**	**11 29 19.7**	**-2.6**
SOCV	**Socops**	**2.54**	**55**	*e*P	**Pn**	**11 28 53.9**	**+1.7**
SOCV				*e*S	**Sn**	**11 29 25.5**	**+0.5**
ELOV	**Elorza**	**3.47**	**87**	*e*P	**Pn**	**11 29 05.0**	**+1.5**
QARV	**Quebrada Arrib**	**4.13**	**36**	*e*P	**Pn**	**11 29 13.0**	**+0.9**
QARV				*e*S	**Sn**	**11 29 58.0**	**-2.9**
SANV	**Sanarito**	**4.31**	**52**	*e*P	**Pn**	**11 29 15.3**	**+0.8**
SANV				*e*S	**Sn**	**11 30 02.8**	**-2.4**
CURV	**Curarigua**	**4.34**	**43**	*i*P	**Pn**	**11 29 15.8**	**+1.0**
CURV				*e*S	**Sn**	**11 30 02.3**	**-3.4**
DABV	**Dabajuro**	**4.67**	**29**	*e*P	**Pn**	**11 29 19.9**	**+0.8**
TEPV	**Terepaima**	**4.86**	**50**	*e*P	**Pn**	**11 29 22.5**	**+0.9**
SIQV	**Siquisique**	**4.91**	**39**	*e*P	**Pn**	**11 29 22.9**	**+0.6**
BAUV	**El Baul**	**5.32**	**67**	*e*S	**Sn**	**11 30 26.1**	**-2.4**
MAPV	**Macapo**	**5.37**	**56**	*e*P	**Pn**	**11 29 28.9**	**+0.6**
MONV	**Montecano**	**5.88**	**30**	*e*P	**Pn**	**11 29 35.2**	**+0.1**
MONV				*e*S	Sn	11 30 35.5	-6.5
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=128,slow=9.5,SNR=4.3	**36.56**	**312**	P	**P**	**11 35 00.8**	**+0.9**
PDAR	**Pinedale Array** 0.3nm,0.4s,baz=116,slow=10,SNR=4.2	**48.15**	**324**	P	**P**	**11 36 33.0**	**-0.4**
YKA	**Yellowknife Ar** 0.7nm,0.5s,baz=134,slow=6.7,SNR=35	**63.30**	**340**	P	**P**	**11 38 21.3**	**+0.7**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=112,slow=2.2,SNR=2.7	**150.47**	**241**	PKPbc	**PKPbc**	**11 47 42.7**	**-0.1**

IDC 26 11:40:14.2±1.8, **6.77S** × **154.97E**, **h0**km, **mb3.6**/4, **mb1 3.9**/5, **mb1mx3.6**/19, **mbtmp3.7**/5, **ML3.3**/1, **Error ellipse: s-maj=62.2km s-min=26.5km az=132.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.1nm,0.3s,baz=354,slow=3.8,SNR=7.1	**8.17**	**251**	Pn	Pn	11 42 12.5	-1.6
PMG	3.4nm,0

ellipse: s-maj=166.6km s-min=28.3km az=88.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23 200**		P	P	11 49 35.0	-0.8
	0.4nm,0.3s,baz=22,slow=10,SNR=15						
ASAR	**Alice Springs**	**22.85 197**		P	P	11 50 15.1	+0.1
	0.7nm,0.6s,baz=22,slow=11,SNR=20						
MKAR	**Makanchi Array**	**70.55 321**		P	P	11 56 27.2	+0.3
	0.1nm,0.5s,baz=114,slow=8.1,SNR=2.7						

IDC 26 12:13:10.5±2.9, 28°.88S×179°.65W, h439km±28km, mb3.3/5, mb1 3.4/6, mb1mx3.2/18, mbtmp3.3/6, Error ellipse: s-maj=26.6km s-min=17.2km az=14.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.74 195**		P	P	12 15 15.8	-8.9
	19nm,0.3s,baz=339,slow=2.6,SNR=88						
URZ				S	S	12 17 05.7	-10
	5.8nm,0.3s,baz=70,slow=23,SNR=16						
DZM	**Mont Dzumac**	**14.27 295**		P	P	12 16 13.9	-0.3
	0.2nm,0.3s,baz=131,slow=20,SNR=2.5						
RPZ	**Rata Peaks**	**16.58 204**		P	P	12 16 33.6	-4.9
	0.8nm,0.3s,baz=301,slow=3.2,SNR=8.6						
AFI	**Afiamalu**	**16.59 28**		P	P	12 16 34.0	-5.0
	2.0nm,0.3s,baz=37,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**33.45 255**		P	P	12 19 11.6	+0.2
	1.1nm,0.3s,baz=91,slow=15,SNR=8.4						
ASAR	**Alice Springs**	**41.77 266**		P	P	12 20 19.6	-0.4
	1.1nm,0.5s,baz=98,slow=6.5,SNR=32						
WRA	**Warramunga Arr**	**42.62 271**		P	P	12 20 26.6	-0.2
	1.5nm,0.4s,baz=109,slow=8.0,SNR=12						
WRA				S	S	12 26 17.3	+0.5
	0.8nm,1.0s,baz=112,slow=13,SNR=4.0						
FITZ	**Fitzroy Crossi**	**50.93 269**		P	P	12 21 30.0	-0.1
	1.6nm,0.9s,baz=114,slow=4.6,SNR=4.1						
QSPA	**South Pole Qui**	**61.23 180**		P	P	12 22 41.3	+0.1
	1.2nm,0.6s,baz=132,slow=15						
VNA3	**Neumayer Olymp**	**79.91 177**	*e*P		P	12 24 31.6	-0.4
VNA2	**Neumayer--Watz**	**80.33 177**	*e*P		P	12 24 34.1	-0.1
	baz=190,slow=7.0						
MKAR	**Makanchi Array**	**115.69 311**		PKP	PKPdf	12 31 01.0	-0.7
	0.1nm,0.5s,baz=60,slow=2.0,SNR=2.4						
ARCES	**ARCESS Array B**	**136.80 347**		PKP	PKPdf	12 31 42.5	+1.4
	1.9nm,0.9s,baz=0.0,slow=1.2,SNR=3.6						
FINES	**FINESS Array B**	**143.22 340**		PKP	PKPab	12 31 50.4	-0.1
	3.2nm,0.4s,baz=53,slow=4.2,SNR=22						
NOA	**NORSAR Array B**	**147.02 350**		PKPbc	PKPbc	12 32 02.2	-0.1
	3.1nm,0.8s,baz=17,slow=4.3,SNR=7.2						
AKASG	**Malin Array Be**	**149.22 323**		PKPbc	PKPbc	12 32 08.1	-0.1
	2.9nm,0.5s,baz=49,slow=3.2,SNR=8.5						
BRTR	**Keskin Array B**	**150.60 300**		PKPbc	PKPbc	12 32 11.8	-0.3
	0.8nm,0.5s,baz=134,slow=3.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**164.30 185**		PKPab	PKPab	12 33 19.4	-0.7
	0.6nm,0.6s,baz=173,slow=3.7,SNR=8.6						

*ISCJB **26** 12:19:21.8±0.7, 32°.48N±0°.05×105°.23E±0°.07, h11km, mb3.2/3, Error ellipse: s-maj=10.4km s-min=5.8km az=38.0*
*IDC **26** 12:19:23.8±1.5, 32°.10N×104°.41E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/26, mbtmp3.1/4, Error ellipse: s-maj=92.5km s-min=26.4km az=59.0*
*BJI **26** 12:19:23.3, 32°.55N×105°.25E, h18km, ML3.4/10*
ISC 26 12:19:24.0±0.9, 32°.46N±0°.05×105°.29E±0°.06, h11km, n7, σ1°57/12, mb3.3/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.03 221**		Pg	**Pb**	**12 20 00.5**	**-0.4**
CD2				Sg	**Sg**	**12 20 28.3**	**-0.9**
CD2				smax	smax		
	comp=N,960nm,0.6s						
CD2				smax	smax		
	comp=E,400nm,0.7s						
XAN	**Xi'an**	**3.42 62**		Pn	**Pn**	**12 20 15.3**	**-2.1**
XAN				Pg	Pb	12 20 20.5	-4.2
XAN				Sn	**Sn**	**12 20 58.0**	**0.0**
XAN				Sg	**Sb**	**12 21 05.8**	**-0.5**
XAN				smax	smax		
	comp=N,65nm,0.6s						
XAN				smax	smax		
	comp=E,30nm,0.7s						
LZH	**Lanzhou**	**3.81 342**	*e*Pg		**Pb**	**12 20 31.5**	**+0.2**
LZH				Sn	**Sn**	**12 21 06.3**	**-1.3**
LZH				Sg	**Sb**	**12 21 18.5**	**+1.0**
LZH				smax	smax		
	comp=N,110nm,1.0s						
LZH				smax	smax		
	comp=E,190nm,1.0s						
SONM	**Songino Array**	**15.38 3**		Pn	**P**	**12 23 07.5**	**+1.8**
	baz=198,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**22.66 316**		P	**P**	**12 24 24.0**	**-1.3**
	comp=E,0.4nm,0.7s,baz=116,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**59.06 148**		P	**P**	**12 29 26.9**	**+2.6**
	comp=E,0.1nm,0.4s,baz=339,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**62.15 150**		P	**P**	**12 29 46.8**	**+1.5**
	comp=E,0.2nm,0.7s,baz=329,slow=6.3,SNR=4.2						

IDC 26 13:17:30.5±1.2, 3°.27N×127°.28E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=71.7km s-min=15.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.30 184**		P	P	13 22 19.3	+0.4
	1.3nm,0.4s,baz=7.0,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**24.09 164**		P	P	13 22 47.9	-0.1
	1.9nm,0.4s,baz=337,slow=11,SNR=45						
ASAR	**Alice Springs**	**27.54 167**		P	P	13 23 19.2	0.0
	0.4nm,0.3s,baz=342,slow=8.5,SNR=37						
CMAR	**Chiang Mai Arr**	**31.58 301**		P	P	13 23 55.1	0.0
	0.4nm,0.4s,baz=120,slow=6.4,SNR=4.4						
STKA	**Stephens Creek**	**37.51 160**		P	P	13 24 46.0	-0.3
	2.2nm,0.7s,baz=326,slow=11,SNR=6.6						
SONM	**Songino Array**	**47.91 341**		P	P	13 26 11.5	+0.8
	0.2nm,0.4s,baz=162,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.25 325**		P	P	13 27 26.6	-0.3
	0.8nm,0.6s,baz=123,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**61.25 333**		P	P	13 27 46.9	-0.5
	0.9nm,0.5s,baz=125,slow=7.4,SNR=5.6						

*ISCJB **26** 13:29:57.8±0.3, 43°.95N±0°.03×107°.48E±0°.06, h10km, mb3.9/13, MS3.3/8, Error ellipse: s-maj=6.1km s-min=3.8km az=157.8*
*IDC **26** 13:29:58.3±0.7, 44°.00N×107°.48E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.8/28, mbtmp3.7/14, ML3.5/4, MS3.4/9, Ms1 3.4/9, ms1mx3.0/44, Error ellipse: s-maj=20.3km s-min=13.5km az=65.0*
*BJI **26** 13:29:59.0, 43°.96N×107°.39E, h10km, mB4.7/7, mb4.4/11, ML4.6/10, Ms4.2/12, Ms7 3.8/10*
*MOS **26** 13:29:59.9±1.5, 44°.09N×107°.54E, h25km, mb4.2/10, Error ellipse: s-maj=19.9km s-min=8.6km az=116.5*
ISC 26 13:29:59.4±0.5, 43°.97N±0°.04×107°.37E±0°.04, h10km, n44, σ1°81/55, mb4.0/13, MS3.4/8, 2C, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.89 149**	*e*Pn		**Pn**	**13 30 59.8**	**+0.4**
BTO				Pg	**Pg**	**13 31 11.5**	**-2.5**
BTO				Sn	**Sn**	**13 31 45.0**	**-0.2**
BTO				Sg	**Sg**	**13 32 00.5**	**-3.9**
BTO				smax	smax		
	comp=N,120nm,0.6s						
BTO				smax	smax		
	comp=E,140nm,0.4s						
SONM	**Songino Array**	**3.93 350**		Pn	**Pn**	**13 30 59.3**	**-0.6**
	comp=E,8.6nm,0.3s,baz=169,slow=15,SNR=344						
SONM				Pg	**Pb**	**13 31 07.4**	**-1.4**
	comp=E,72nm,0.3s,baz=171,slow=19,SNR=60						
SONM				Sn	**Sn**	**13 31 47.0**	**+0.9**
	comp=E,54nm,0.3s,baz=171,slow=22,SNR=12						
SONM				Lg	Lg	13 31 59.8	
	comp=E,96nm,0.3s,baz=168,slow=30,SNR=13						
SONM				LR	LR	13 32 47.0	
	comp=E,362nm,19.4s,baz=173,slow=43						
HHC	**Hu-ho-hao-te**	**4.40 134**	*e*Pn		**Pn**	**13 31 05.5**	**-0.8**
HHC				Pg	**Pb**	**13 31 19.0**	**+2.2**
HHC				Sn	**Sn**	**13 31 55.3**	**-2.4**
HHC				Sg	**Sb**	**13 32 13.8**	**+3.8**
HHC				smax	smax		
	comp=N,990nm,0.4s						
HHC				smax	smax		
	comp=E,2μm,0.3s						
ZAK	**Zakamensk**	**7.00 338**	*e*P		**Pn**	**13 31 41.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,67nm,1.3s						
GTA	**Gaotai**	**7.26 234**		Pn	**Pn**	**13 31 46.5**	**+0.9**
GTA				Pg	Pb	13 32 11.0	+5.5
GTA				Sn	**Sn**	**13 33 08.3**	**+0.2**
GTA				Sg	**Sg**	**13 33 46.3**	**-6.0**
GTA				smax	smax		
	comp=N,160nm,0.9s						
GTA				smax	smax		
	comp=E,140nm,0.9s						
GTA				LR	LR		
	comp=N,750nm,8.8s						
GTA				LR	LR		
	comp=E,670nm,10.0s						
GTA				LR	LR		
	comp=Z,850nm,10.4s						
BJI	**Beijing**	**7.64 118**		Pg	Pg	13 32 21.0	-4.6
BJI				Sg	**Sg**	**13 34 00.0**	**-4.5**
BJI				smax	smax		
	comp=N,300nm,0.7s						
BJI				smax	smax		
	comp=E,130nm,0.6s						
BJI				LR	LR		
	comp=N,2μm,10.5s						
BJI				LR	LR		
	comp=E,1μm,10.8s						
TLY	**Talaya**	**8.11 343**	*i* P		**Pn**	**13 31 56.7**	**-0.5**
LZH	**Lanzhou**	**8.32 200**	*e*P		**Pn**	**13 32 00.3**	**+0.1**
LZH				pP	pP	13 32 02.3	
LZH				PP	**PnPn**	**13 32 06.5**	**-1.3**
LZH			*e*S		**Sn**	**13 33 35.3**	**+1.0**
LZH				SS	**SnSn**	**13 33 48.5**	**+2.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,4.1s						
LZH				smax	smax		
	comp=N,110nm,1.0s						
LZH				smax	smax		
	comp=E,250nm,1.0s						
LZH				LR	LR		
	comp=N,860nm,10.1s						
LZH				LR	LR		
	comp=E,2μm,12.0s						
LZH				LR	LR		
	comp=Z,2μm,12.6s						
MOY	**Mondy**	**8.81 333**	*e*P		**Pn**	**13 32 07.1**	**+0.2**
MOY				pmax	pmax		
	comp=Z,30nm,0.6s						
XAN	**Xi'an**	**9.99 173**		P	**Pn**	**13 32 25.0**	**+2.0**
XAN				S	**Sn**	**13 34 15.8**	**+0.7**
XAN				LR	LR		
	comp=N,150nm,7.3s						
XAN				LR	LR		
	comp=E,130nm,9.4s						
XAN				LR	LR		
	comp=Z,56nm,6.5s						
KSRS	**Korea Array**	**16.87 106**		Pn	**Pn**	**13 33 53.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=292,slow=11,SNR=7.4						
USRK	**Ussuriysk Arra**	**17.69 81**		P	**P**	**13 34 07.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=279,slow=7.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**17.79 312**		P	**P**	**13 34 08.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=133,slow=6.3,SNR=2.4						
ZALV				Lg	Lg	13 39 16.7	
	comp=Z,0.1nm,0.3s,baz=116,slow=17,SNR=5.7						
ZALV				LR	LR	13 41 32.6	
	comp=Z,54nm,18.2s,baz=81,slow=39						
ZALV	**Zalesovo Beam**	**17.79 312**		P	**P**	**13 34 08.8**	**+1.2**
ZALV				MLR	MLR		
	comp=Z,54nm,18.2s						
MKAR	**Makanchi Array**	**17.82 288**		P	**P**	**13 34 08.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=85,slow=15,SNR=7.3						
MKAR				Lg	Lg	13 39 20.1	
	comp=Z,0.0nm,0.3s,baz=85,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**17.82 288**		P	**P**	**13 34 09.0**	**+0.8**
KURK	**Kurchatov**	**20.53 299**	*e*P		Pn	13 34 39.7	-0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURBB	**Kurchatov Arra**	**20.57 299**		P	Pn	13 34 39.6	-0.8
	comp=Z,2.1nm,0.5s,baz=290,slow=11,SNR=14						
KURBB				LR	LR	13 42 26.5	
	comp=Z,70nm,19.6s,baz=75,slow=36						
TAPN	**Taplejung**	**22.93 230**	*e*P		**P**	**13 35 04.1**	**+0.2**
ODAN	**Odare**	**23.49 230**	*e*P		**P**	**13 35 10.2**	**+0.6**
	comp=Z,25nm,0.9s						
GUN	**Gumba**	**23.55 234**	*e*P		**P**	**13 35 10.2**	**-0.1**
RAMN	**Ramite**	**23.86 231**	*e*P		**P**	**13 35 13.4**	**+0.2**
	comp=Z,18nm,0.6s						
AAK	**Ala-Archa**	**23.88 278**		P	**P**	**13 35 14.5**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=95,slow=6.4,SNR=16						
AAK				LR	LR	13 44 11.1	
	comp=Z,59nm,19.8s,baz=59,slow=36						
AAK	**Ala-Archa**	**23.88 278**	*c i*P		**P**	**13 35 14.6**	**+1.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KKN	**Kakani**	**23.99 235**	*e*P		**P**	**13 35 14.7**	**+0.3**
DMN	**Daman**	**24.23 235**	*e*P		**P**	**13 35 16.7**	**+0.1**
	comp=Z,12nm,0.7s						
DANN	**Dangsing**	**24.50 238**	*e*P		**P**	**13 35 19.7**	**+0.5**
KOLN	**Koldanda**	**25.01 238**	*e*P		**P**	**13 35 24.3**	**+0.6**
	comp=Z,12nm,0.5s						
PYUN	**Piuthan**	**25.15 239**	*e*P		**P**	**13 35 25.6**	**+0.6**
	comp=Z,24nm,0.7s						
BVAR	**Borovoye Array**	**25.87 304**		P	**P**	**13 35 31.0**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=118,slow=8.6,SNR=9.8						
BVAR				LR	LR	13 46 13.6	
	comp=Z,129nm,19.8s,baz=260,slow=38						
BVAR	**Borovoye Array**	**25.87 304**		P	**P**	**13 35 31.0**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,129nm,19.8s						
BRVK	**Borovoye**	**25.94 304**	*e*P		**P**	**13 35 34.3**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**26.40 198**		P	**P**	**13 35 38.3**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=2.2,slow=8.5,SNR=5.1						
ARU	**Arti**	**32.92 310**	*c i*P		**P**	**13 36 35.5**	**+1.9**
ARU						13 37 38.4	
ARU				S	**S**	**13 41 47.6**	**-3.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PETK	**Petropavlovsk-**	**33.92 56**		LR	LR	13 52 29.7	
	comp=Z,31nm,18.2s,baz=74,slow=40						
GUMO	**Guam**	**44.07 122**		LR	LR	13 57 48.1	
	comp=Z,50nm,20.1s,baz=105,slow=38						
KIV	**Kislovodsk**	**45.45 294**	*e*P		**P**	**13 38 18.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,32nm,16.0s						
FINES	**FINESS Array B**	**48.76 321**		P	**P**	**13 38 44.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=66,slow=8.4,SNR=7.9						
FINES				LR	LR	14 01 48.4	
	comp=Z,60nm,18.1s,baz=179,slow=39						
NOA	**NORSAR Array B**	**55.48 324**		P	**P**	**13 39 33.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=59,slow=7.0,SNR=3.4						
NOA				LR	LR	14 04 56.0	
	comp=Z,50nm,18.4s,baz=350,slow=38						
ILAR	**Eielson Array**	**57.24 29**		P	**P**	**13 39 47.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=292,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	**68.23 153**		P	**P**	**13 41 00.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=344,slow=6.9,SNR=5.4						
YKA	**Yellowknife Ar**	**68.69 19**		P	**P**	**13 41 03.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=332,slow=6.2,SNR=14						
ASAR	**Alice Springs**	**71.57 154**		P	**P**	**13 41 20.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=345,slow=6.0,SNR=24						
PDAR	**Pinedale Array**	**87.54 26**		P	**P**	**13 42 47.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=331,slow=7.2,SNR=5.6						

*IDC **26** 13:47:32.1±2.6, 4°.67S×103°.63E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=124.9km s-min=19.3km az=57.0*
*DJA **26** 13:47:59.7±1.2, 5°.5S×103°.10°4E±1°, h165km±16km, M4.2/6, mb5.2/1, mB5.8/1, MLv3.6/6, Mw(mB)5.3/1*
ISC 26 13:48:00.8±2.3, 5°.5S±0°.4×104°.0E±0°.4, h150km, n11, σ0°61/4, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.44 14**		P	**Pn**	**13 48 22.4**	**+0.4**
KASI	**Kota Agung**	**0.55 98**		P	Pn	13 48 23.9	+1.6
MNAI	**Manna**	**1.47 317**		P	**Pn**	**13 48 29.8**	**-0.2**
CGJI	**Cibinong**	**2.08 124**		P	**Pn**	**13 48 37.1**	**+0.2**
DBJI	**Dramaga**	**2.99 112**		P	**Pn**	**13 48 47.7**	**-0.4**
WRA	**Warramunga Arr**	**32.87 119**		P	P	13 54 13.0	-7.7
	0.2nm,0.2s,baz=301,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**34.05 125**		P	P	13 54 24.9	-6.1
	0.7nm,0.4s,baz=298,slow=7.5,SNR=30						
ASAR				PcP	PcP	13 56 57.0	-8.3
	0.2nm,0.5s,baz=311,slow=2.7,SNR=4.1						
STKA	**Stephens Creek**	**43.93 131**		P	P	13 55 48.0	-4.9
	2.9nm,0.9s,baz=333,slow=2.3,SNR=4.0						
SONM	**Songino Array**	**53.10 2**		P	P	13 56 46.1	-17
	0.5nm,0.7s,baz=165,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**55.45 342**		P	P	13 57 03.1	-17
	0.1nm,0.3s,baz=153,slow=9.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**61.32 347**		P	P	13 57 43.3	-17
	0.5nm,0.3s,baz=150,slow=6.5,SNR=2.7						

*CSEM **26** 13:53:49.9, 37°.36N×24°.64W, h10km, ML3.4, After PDA*
PDA 26 13:53:49.9±1.4, 37°.36N×24°.64W, h10km, MD4.0, ML3.4, Error ellipse: s-maj=9.1km s-min=3.5km az=81.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49 225**	*i* P		Pg	13 53 58.2	-1.3
PSMN				*e*S	Sg	13 54 04.7	-1.3
PSMN				A	A	13 54 09.9	
	374nm,0.4s						
PSMA	**Santa Maria**	**0.53 228**	*e*P		Pg	13 53 58.6	-1.7
PSMA				*e*S	Sg	13 54 05.2	-2.1
PSMA				A	A	13 54 10.2	
	294nm,0.4s						
GRON	**Grota Negra**	**0.82 300**	*e*P		Pg	13 54 01.4	-4.5
GRON				*e*S	Sg	13 54 09.7	-7.0
GRON				A	A	13 54 10.6	
	324nm,0.3s						
PDA	**Ponta Delgada**	**0.91 296**	*e*P		Pg	13 54 03.6	-3.8
PDA				*e*S	Sg	13 54 14.4	-4.8
PDA				A	A	13 54 15.1	
	765nm,0.2s						
PDA	**Ponta Delgada**	**0.91 296**	*e*P		Pg	13 54 03.6	-3.8
PDA				*e*S	Sg	13 54 14.4	-4.8
PSET	**Sete Cidades**	**0.98 299**	*e*P		Pg	13 54 04.7	-4.2
PSET				*e*S	Sg	13 54 16.5	-5.2
PSET	**Sete Cidades**	**0.98 299**	*e*P		Pg	13 54 04.7	-4.2
PSET				*e*S	Sg	13 54 16.5	-5.2
ADH	**Angra Heroismo**	**2.43 303**	*e*P		Pn	13 54 25.4	-4.2
ADH				*e*S	Sn	13 54 51.3	-8.1
ADH				A	A	13 54 57.2	
	107nm,0.4s						
ADH	**Angra Heroismo**	**2.43 303**	*e*P		Pn	13 54 25.4	-4.2
ADH				*e*S	Sn	13 54 51.3	-8.1
PMAN	**Manadas**	**3.01 296**	*e*P		Pn	13 54 32.9	-4.8
PMAN				*e*S	Sn	13 55 05.3	-8.5
PMAN				A	A	13 55 08.1	
	49nm,0.3s						
PMAN	**Manadas**	**3.01 296**	*e*P		Pn	13 54 32.9	-4.8
PMAN				*e*S	Sn	13 55 05.3	-8.5
ROSA	**Rosais**	**3.16 297**	*e*P		Pn	13 54 35.7	-4.0
ROSA				*e*S	Sn	13 55 09.5	-7.9
PICO	**Pico**	**3.21 292**	*e*P		Pn	13 54 36.7	-3.8
PICO				*e*S	Sn	13 55 10.4	-8.4
PICO	**Pico**	**3.21 292**	*e*P		Pn	13 54 36.7	-3.8
PICO				*e*S	Sn	13 55 10.4	-8.4
PCAN	**Candelaria**	**3.24 291**	*e*P		Pn	13 54 36.5	-4.3
PCAN				*e*S	Sn	13 55 11.6	-7.9
PCAN				A	A	13 55 15.8	
	47nm,0.2s						
PCAN	**Candelaria**	**3.24 291**	*e*P		Pn	13 54 36.5	-4.3
PCAN				*e*S	Sn	13 55 11.6	-7.9
CALA	**Caldeira**	**3.44 292**	*e*P		Pn	13 54 39.5	-4.2
CALA				*e*S	Sn	13 55 17.0	-7.6
CALA	**Caldeira**	**3.44 292**	*e*P		Pn	13 54 39.5	-4.2
CALA				*e*S	Sn	13 55 17.0	-7.6
PCED	**Cedros**	**3.46 293**	*e*S		Sn	13 55 17.0	-7.8
PCED				A	A	13 55 19.9	
	40nm,0.3s						
PCED	**Cedros**	**3.46 293**	*e*S		Sn	13 55 17.0	-7.8

*IDC **26** 14:22:51.1±4.4, 36°.36N×70°.94E, h110km±37km, mb3.4/9, mb1 3.5/13, mb1mx3.3/30, mbtmp3.3/13, Error ellipse: s-maj=29.1km s-min=21.2km az=26.0*
*NNC **26** 14:22:54.4±3.4, 37°.06N×70°.31E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=34.4km s-min=26.5km az=41.0*
ISC 26 14:22:52.2±1.3, 36°.6N±0°.1×70°.5E±0°.1, h100km, n35, σ1°56/24, mb3.6/8, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**6.04 131**		*e*P	Sn	14 25 19.0	-8.3
KK31	**Karatay Array**	**6.48 360**		P	**Pn**	**14 24 27.4**	**+2.4**
	6.4nm,0.3s,baz=191,slow=14,SNR=97						
KK31				⇑S	**Sn**	**14 25 36.1**	**-1.3**
	9.5nm,0.6s,baz=184,slow=17,SNR=11						
AAK	**Ala-Archa**	**6.74 26**		P	**Pn**	**14 24 30.2**	**+1.6**
	1.8nm,0.3s,baz=186,slow=7.7,SNR=20						
AAK				S	**Sn**	**14 25 43.8**	**-0.1**
	1.4nm,0.3s,baz=309,slow=24,SNR=10						
TKM2	**Tokmak 2**	**7.40 30**		⇑P	**Pn**	**14 24 39.0**	**+1.3**
	2.7nm,0.5s						
MK31	**Makanchi Array**	**13.42 37**		⇑P	**P**	**14 26 03.2**	**-1.1**
	0.4nm,0.5s,baz=204,slow=9.7,SNR=10						
MKAR	**Makanchi Array**	**13.42 37**		P	**Pn**	**14 25 58.5**	**+0.1**
	0.1nm,0.3s,baz=218,slow=14,SNR=4.8						
PYUN	**Piuthan**	**13.51 125**		*e*P	Pn	14 25 54.1	-5.9
DANN	**Dangsing**	**13.86 123**		*e*P	Pn	14 25 58.7	-6.0
KOLN	**Koldanda**	**14.13 125**		*e*P	Pn	14 26 02.2	-5.9
AB31	**Akbulak array**	**14.80 332**		P	**P**	**14 26 18.4**	**-1.2**
	1.5nm,0.4s,baz=145,slow=12,SNR=79						
AB31				⇑S	**Sn**	**14 28 57.3**	**-2.1**
	1.5nm,0.5s,baz=153,slow=23,SNR=6.1						
DMN	**Daman**	**15.25 122**		*e*P	Pn	14 26 16.7	-5.7
	12nm,0.4s						
KKN	**Kakani**	**15.25 121**		*e*P	Pn	14 26 16.5	-5.9
	24nm,0.7s						
PKIN	**Phulchoki**	**15.47 121**		*e*P	Pn	14 26 20.1	-5.0
PKI	**Pulchoki**	**15.48 121**		*e*P	Pn	14 26 19.9	-5.4
GUN

comp=Z,0.4nm,0.5s,baz=351,slow=5.4,SNR=12

WRA	**Warramunga Arr**	**82.37**	**122**	P	P	14 34 58.8	-4.5
	comp=Z,0.3nm,0.9s,baz=325,slow=4.9,SNR=4.8						
ASAR	**Alice Springs**	**84.62**	**125**	P	P	14 35 10.4	-4.4
	comp=Z,0.1nm,0.5s,baz=313,slow=5.3,SNR=5.3						

IDC ***26*** *15:30:26.7±2.8, 0.°28S×132.°95E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=136.0km s-min=28.9km az=74.0*

ISCJB ***26*** *15:30:31.1±1.2, 0.°44S±0.°10×132.°02E±0.°07, h31km, mb3.4/2, Error ellipse: s-maj=14.0km s-min=10.3km az=177.5*

DJA ***26*** *15:30:31.0±1.2, 1.°3S±8.°3×13.°2E±.°, h10km, M3.9/4, mb3.9/1, MLv3.8/4*

ISC 26 15:30:33.3±1.5, 0.°5S±0.°1×132.°01E±0.°09, h31km, n10, σ1°82/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.84**	**243**	P	Pn	15 30 45.0	-4.1
SWI				S	**Sb**	**15 30 57.3**	**-3.2**
FAKI	**Fak Fak**	**2.44**	**174**	P	**Pn**	**15 31 10.2**	**-0.8**
MSAI	**Masohi**	**4.20**	**227**	P	**Pn**	**15 31 36.7**	**+1.5**
MSAI				S	**Sn**	**15 32 26.1**	**+2.9**
LBMI	**Labuha**	**4.51**	**268**	P	**Pn**	**15 31 39.1**	**-0.5**
BNDI	**Bandanaira**	**4.53**	**208**	P	**Pn**	**15 31 40.5**	**+0.6**
AAI	**Ambon**	**4.97**	**230**	P	**Pn**	**15 31 46.4**	**+0.5**
TLE	**Tual**	**5.17**	**172**	P	**Pn**	**15 31 49.4**	**+0.7**
WRA	**Warramunga Arr**	**19.48**	**173**	P	**P**	**15 34 57.1**	**-0.8**
	0.1nm,0.3s,baz=355,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.12**	**176**	P	**P**	**15 35 35.5**	**-1.5**
	2.5nm,0.9s,baz=1.1,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**64.01**	**324**	P	**P**	**15 41 04.9**	**+0.9**
	0.1nm,0.4s,baz=116,slow=6.7,SNR=1.7						

IDC ***26*** *15:50:52.7±1.2, 3.°54S×100.°64E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/25, mbtmp4.2/14, ML3.8/2, MS3.8/7, Ms1 3.8/7, ms1mx3.3/38, Error ellipse: s-maj=37.5km s-min=13.2km az=51.0*

ISCJB ***26*** *15:50:54.4±0.6, 3.°64S±0.°06×100.°51E±0.°07, h29km, mb4.3/30, MS4.0/12, Error ellipse: s-maj=12.8km s-min=5.4km az=140.1*

BJI ***26*** *15:50:56.0, 3.°87S×100.°76E, h55km, mB4.9/11, mb4.6/20, Ms4.7/11, Ms7 4.3/12*

NEIC ***26*** *15:50:57.5±0.6, 3.°51S×100.°68E, h35km, mb4.3/9, Error ellipse: s-maj=18.9km s-min=8.1km az=53.0*

DJA ***26*** *15:50:57.2±1.0, 4.°3S±7.°×10.°1E±1.°2, h20km, M4.5/7, mb4.5/5, mB4.7/3, MLv4.6/7, Mw(mB)4.0/3*

ISC 26 15:50:57.5±0.7, 3.°54S±0.°07×100.°59E±0.°09, h29km, n73, σ1°88/82, mb4.4/30, MS4.0/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.68**	**31**	P	**Pb**	**15 51 25.6**	**-2.3**
MNAI	**Manna**	**2.50**	**109**	P	**Pn**	**15 51 35.7**	**-0.6**
PDSI	**Padang**	**2.61**	**357**	P	**Pn**	**15 51 37.0**	**-0.9**
LWLI	**Liwa**	**3.76**	**113**	P	**Pn**	**15 51 53.8**	**+0.1**
BKNI	**Bangkinang**	**3.87**	**7**	P	Pb	15 51 59.8	-5.3
KASI	**Kota Agung**	**4.37**	**117**	P	**Pn**	**15 52 01.5**	**-0.5**
MNSI	**Mandailing Nat**	**4.42**	**347**	P	**Pn**	**15 52 04.0**	**+1.2**
CGJI	**Cibinong**	**5.93**	**121**	P	**Pn**	**15 52 21.1**	**-2.4**
	45nm,0.8s,709nm						
MYKOM	**Kota Tinggi**	**6.22**	**32**	P	**Pn**	**15 52 27.2**	**-0.2**
	20nm,1.1s,297nm						
PSI	**Prapat**	**6.51**	**345**	Pn	**Pn**	**15 52 28.9**	**-2.7**
	1.5nm,0.3s,baz=90,slow=18,SNR=5.1						
PSI	**Prapat**	**6.51**	**345**	Pn	**Pn**	**15 52 28.9**	**-2.7**
PSI	**Prapat**	**6.51**	**345**	P	Pb	15 52 42.5	-7.8
LEM	**Lembang**	**7.72**	**115**	P	**Pn**	**15 52 50.5**	**+2.2**
	48nm,0.9s						
IPM	**Ipoh**	**7.98**	**3**	*e*Pn	**Pn**	**15 52 52.0**	**+0.3**
IPM	**Ipoh**	**7.98**	**3**	P	Pn	15 52 55.3	+3.7
	13nm,0.8s						
CISI	**Cisompet, Garu**	**8.22**	**119**	P	**Pn**	**15 52 53.5**	**-1.6**
KAPI	**Kappang**	**19.16**	**95**	P	**P**	**15 55 18.0**	**-1.0**
	0.4nm,0.3s,baz=263,slow=8.3,SNR=6.7						
KAPI	**Kappang**	**19.16**	**95**	*e*P	**P**	**15 55 15.7**	**-3.3**
	14nm,0.9s						
CM31	**Chiang Mai Arr**	**21.92**	**356**	*e*P	**P**	**15 55 48.8**	**+0.1**
	3.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.92**	**356**	P	**P**	**15 55 46.4**	**-2.4**
	3.7nm,0.7s,baz=188,slow=8.8,SNR=33						
CMAR				LR	LR	16 04 05.4	
	comp=Z,125nm,22.0s,baz=180,slow=36						
CMAR	**Chiang Mai Arr**	**21.92**	**356**	P	**P**	**15 55 46.4**	**-2.4**
CHTO	**Chiang Mai**	**22.27**	**356**	*e*P	**P**	**15 55 52.4**	**-0.2**
	1.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.48**	**122**	P	**P**	**15 56 52.8**	**+2.3**
	3.1nm,0.9s,baz=272,slow=4.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**28.48**	**122**	P	**P**	**15 56 52.8**	**+2.3**
GYA	**Guiyang**	**30.39**	**11**	*e*P	**P**	**15 57 08.8**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**34.39**	**5**	P	**P**	**15 57 44.0**	**+1.7**
CD2				pP	**pP**	**15 57 55.3**	**+4.4**
CD2				sP	sP	15 58 00.3	+5.9
CD2				PP	**PP**	**15 59 01.3**	**+0.7**
CD2				S	**S**	**16 03 09.5**	**+0.9**
CD2				sS	sS	16 03 28.3	+5.6
CD2				SS	**SnSn**	**16 05 23.0**	**+2.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,5.3s						
CD2				LR	LR		
	comp=N,390nm,16.6s						
CD2				LR	LR		
	comp=Z,270nm,11.9s						
WRA	**Warramunga Arr**	**36.72**	**119**	P	**P**	**15 58 01.1**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=303,slow=8.8,SNR=32						
WRA	**Warramunga Arr**	**36.72**	**119**	P	**P**	**15 58 01.1**	**-1.5**
AS31	**Alice Springs**	**37.88**	**125**	*e*P	**P**	**15 58 10.7**	**-1.7**
ASAR	**Alice Springs**	**37.88**	**125**	P	**P**	**15 58 11.3**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=299,slow=7.5,SNR=22						
ASAR				S	**S**	**16 04 04.6**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=290,slow=14,SNR=4.9						
ASAR	**Alice Springs**	**37.88**	**125**	P	**P**	**15 58 11.3**	**-1.1**
ASAR				S	**S**	**16 04 04.6**	**+2.3**
XAN	**Xi'an**	**38.19**	**11**	P	**P**	**15 58 13.5**	**-1.3**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NJ2	**Nanjing**	**39.42**	**25**	*e*P	**P**	**15 58 24.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				LR	LR		
	comp=N,590nm,19.5s						
NJ2				LR	LR		
	comp=E,1μm,23.5s						
NJ2				LR	LR		
	comp=Z,310nm,12.6s						
LZH	**Lanzhou**	**39.54**	**4**	*e*P	**P**	**15 58 27.5**	**+1.3**
LZH				sP	sP	15 58 44.5	+6.2
LZH				*e*PP	**PnPn**	**16 00 03.5**	**+3.1**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,50nm,5.2s						
LZH				LR	LR		
	comp=N,380nm,13.6s						
LZH				LR	LR		
	comp=E,400nm,13.0s						
LZH				LR	LR		
	comp=Z,460nm,17.8s						
GTA	**Gaotai**	**42.74**	**359**	*e*P	**P**	**15 58 52.5**	**0.0**
GTA				pP	**pP**	**15 59 03.5**	**+2.3**
GTA				sP	**sP**	**15 59 08.8**	**+4.1**
GTA				PP	**PP**	**16 00 35.3**	**+3.3**
GTA				S	**S**	**16 05 13.8**	**-0.8**
GTA				sS	sS	16 05 34.0	+5.1
GTA				SS	**SS**	**16 08 20.5**	**-5.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,120nm,6.7s						
GTA				LR	LR		
	comp=N,87nm,18.5s						
GTA				LR	LR		
	comp=E,140nm,15.7s						
GTA				LR	LR		
	comp=Z,160nm,17.1s						

STKA	**Stephens Creek**	**47.70**	**131**	P	P	15 59 38.3	+6.5
	comp=Z,2.8nm,0.8s,baz=335,slow=8.0,SNR=4.6						
STKA	**Stephens Creek**	**47.70**	**131**	P	P	15 59 38.3	+6.5
KSAR	**Wonju Array Be**	**48.02**	**29**	P	**P**	**15 59 32.8**	**-1.4**
KSRS	**Korea Array**	**48.05**	**29**	P	**P**	**15 59 32.8**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=233,slow=10,SNR=5.6						
KSRS				LR	LR	16 21 14.9	
	comp=Z,71nm,18.5s,baz=220,slow=38						
KSH	**Kashi**	**48.47**	**335**	P	**P**	**15 59 39.0**	**+1.2**
KSH				pP	**pP**	**15 59 50.5**	**+3.9**
KSH				sP	sP	15 59 55.5	+5.5
KSH				PcP	**PcP**	**16 01 03.5**	**-0.2**
KSH				PP	**PP**	**16 01 31.5**	**+0.8**
KSH				*e*ScP	**ScP**	**16 04 52.5**	**-4.1**
KSH				PcS	**PcS**	**16 04 58.8**	**-1.0**
KSH				S	**S**	**16 06 37.3**	**+0.2**
KSH				sS	sS	16 06 57.5	+5.9
KSH				SS	SS	16 10 00.3	-7.1
KSH				pmax	pmax		
	comp=Z,27nm,2.8s						
KSH				LR	LR		
	comp=N,81nm,4.8s						
KSH				LR	LR		
	comp=E,68nm,7.3s						
KSH				LR	LR		
	comp=Z,200nm,5.3s						
WMQ	**Urumqi**	**48.55**	**348**	*e*P	**P**	**15 59 38.8**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WMQ				LR	LR		
	comp=N,25nm,21.0s						
WMQ				LR	LR		
	comp=E,94nm,19.0s						
WMQ				LR	LR		
	comp=Z,45nm,19.0s						
SONM	**Songino Array**	**51.41**	**5**	P	**P**	**16 00 00.3**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=185,slow=8.9,SNR=53						
SONM	**Songino Array**	**51.41**	**5**	P	**P**	**16 00 00.3**	**+0.3**
TKM2	**Tokmak 2**	**51.47**	**337**	*e*P	**P**	**15 59 58.6**	**-2.0**
	comp=Z,3.5nm,0.7s						
ULN	**Ulaanbaatar**	**51.50**	**6**	*e*P	**P**	**15 59 58.9**	**-1.9**
	comp=Z,3.2nm,0.8s						
EKS2	**Erkin-Say**	**52.00**	**335**	*e*P	**P**	**16 00 03.6**	**-0.8**
	comp=Z,4.4nm,0.8s						
CN2	**Changchun**	**52.16**	**23**	*e*P	**P**	**16 00 07.0**	**+1.5**
MK31	**Makanchi Array**	**52.66**	**344**	*e*P	**P**	**16 00 08.5**	**-0.7**
MKAR	**Makanchi Array**	**52.66**	**344**	P	**P**	**16 00 08.9**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=148,slow=8.1,SNR=44						
MKAR				LR	LR	16 27 35.0	
	comp=Z,49nm,20.4s,baz=174,slow=42						
MKAR	**Makanchi Array**	**52.66**	**344**	P	**P**	**16 00 08.9**	**-0.3**
MJAR	**Matsushiro Arr**	**53.10**	**38**	P	**P**	**16 00 11.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=243,slow=7.1,SNR=2.9						
MJAR	**Matsushiro Arr**	**53.10**	**38**	P	**P**	**16 00 11.6**	**-1.1**
USRK	**Ussuriysk Arra**	**55.24**	**27**	P	**P**	**16 00 27.4**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=234,slow=7.9,SNR=6.6						
KURK	**Kurchatov**	**57.24**	**344**	*e*P	**P**	**16 00 41.5**	**-0.7**
	comp=Z,4.7nm,1.1s						
ZAA0	**Zalesovo Array**	**58.78**	**349**	*e*P	**P**	**16 00 50.4**	**-2.5**
ZALV	**Zalesovo Beam**	**58.78**	**349**	P	**P**	**16 00 52.2**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=188,slow=4.2,SNR=18						
ZALV	**Zalesovo Beam**	**58.78**	**349**	P	**P**	**16 00 52.2**	**-0.7**
ASAJ	**Asahikawa**	**60.55**	**34**	P	**P**	**16 01 05.1**	**-0.2**
	comp=Z,12nm,0.9s,baz=187,slow=8.1,SNR=4.7						
ASAJ	**Asahikawa**	**60.55**	**34**	P	**P**	**16 01 05.1**	**-0.2**
BRVK	**Borovoye**	**61.89**	**340**	*e*P	**P**	**16 01 12.4**	**-1.8**
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**63.27**	**331**	*e*P	**P**	**16 01 22.2**	**-1.3**
	comp=Z,2.4nm,0.6s						
BRTR	**Keskin Array B**	**74.79**	**313**	P	**P**	**16 02 34.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=129,slow=5.3,SNR=2.6						
BRTR	**Keskin Array B**	**74.79**	**313**	P	**P**	**16 02 34.6**	**-0.8**
BOSA	**Boshof**	**75.44**	**241**	LR	LR	16 28 31.2	
	comp=Z,79nm,21.6s,baz=166,slow=30						
AKASG	**Malin Array Be**	**81.06**	**322**	P	**P**	**16 03 10.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=106,slow=20,SNR=1.8						
AKASG	**Malin Array Be**	**81.06**	**322**	P	**P**	**16 03 10.2**	**+0.4**
KOLS	**Kolonicke sedl**	**85.00**	**320**	*e*P	**P**	**16 03 31.4**	**+1.1**
CRVS	**Cervenica-Dubn**	**85.52**	**319**	*e*P	**P**	**16 03 30.1**	**-2.8**
FINES	**FINESS Array B**	**85.74**	**332**	LR	LR	16 48 53.9	
	comp=Z,67nm,19.2s,baz=120,slow=41						
HFS	**Hagfors**	**91.49**	**330**	LR	LR	16 50 18.0	
	comp=Z,90nm,19.0s,baz=245,slow=39						
NOA	**NORSAR Array B**	**92.77**	**331**	LR	LR	16 48 35.7	
	comp=Z,41nm,16.6s,baz=265,slow=37						
TXAR	**Lajitas Array**	**145.53**	**39**	PKPbc	**PKPab**	**16 10 34.4**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=290,slow=1.0,SNR=45						
TXAR	**Lajitas Array**	**145.53**	**39**	PKPbc	**PKPab**	**16 10 34.4**	**+0.1**

CSEM ***26*** *15:57:17.5, 31.°98N×3.°13W, h16km, MD3.7, After CNRM*

CNRM 26 15:57:17.5, 31.°98N×3.°13W, h16km, MD3.7, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFT	**Errachidia**	**1.04**	**273**	*i* P	Pb	15 57 35.0	-2.4
ZFT				*i* S	Sb	15 57 50.0	-1.0
CZD	**Col de Zad**	**1.93**	**304**	*i* P	Pn	15 57 47.0	-3.0
CZD				*i* S	Sn	15 58 09.0	-5.2
KIB	**El Ksiba**	**2.54**	**284**	*i* P	Pn	15 57 57.0	-1.1
KIB				*i* S	Sn	15 58 27.0	-1.8
TZC	**Tazercounte**	**2.86**	**274**	*e*P	Pn	15 58 00.0	-2.7
TZC				*i* S	Sn	15 58 34.0	-3.0
ZAI	**Zaio**	**3.00**	**6**	*e*P	Pn	15 58 04.0	-0.5
ZAI				*i* S	Sn	15 58 36.0	-4.2
TOU	**Touzarine**	**3.02**	**350**	*e*P	Pn	15 58 05.0	+0.2
TOU				*i* S	Sn	15 58 38.0	-2.8

IDC 26 16:15:21.9±1.4, 17.°07S×69.°21W, h177km±8km, mb3.8/7, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=24.3km s-min=17.7km az=22.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.29**	**53**	P	Pn	16 15 52.1	-0.5
	407nm,0.3s,baz=251,slow=7.0,SNR=5372						
LPAZ				S	Sn	16 16 16.2	+0.1
	33nm,0.3s,baz=36,slow=10,SNR=6.6						
SIV	**San Ignacio**	**7.87**	**83**	P	Pn	16 17 13.6	-0.1
	9.6nm,0.3s,baz=279,slow=13,SNR=73						
SIV				S	Sn	16 18 39.6	-2.5
	0.9nm,0.3s,baz=352,slow=15,SNR=7.5						
BDFB	**Brasilia**	**20.39**	**89**	P	P	16 19 47.0	+1.6
	5.0nm,0.5s,baz=260,slow=12,SNR=7.5						
PLCA	**Paso Flores**	**23.61**	**183**	P	P	16 20 16.5	-0.3
	2.2nm,1.0s,baz=352,slow=10,SNR=4.2						
DBIC	**Dimbokro**	**67.81**	**75**	P	P	16 26 01.3	0.0
	6.8nm,0.6s,baz=228,slow=6.7,SNR=13						
PDAR	**Pinedale Array**	**70.16**	**330**	P	P	16 26 15.7	+0.1
	0.3nm,0.5s,baz=130,slow=10.0,SNR=2.4						
ULM	**Lac du Bonnet**	**71.03**	**342**	P	P	16 26 19.4	-0.8
	4.2nm,0.5s,baz=153,slow=6.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**76.17**	**71**	P	P	16 26 50.9	-0.2
	6.0nm,0.7s,baz=254,slow=5.3,SNR=38						
YKA	**Yellowknife Ar**	**86.93**	**341**	P	P	16 27 46.3	-0.1
	0.9nm,0.5s,baz=134,slow=5.0,SNR=25						
ASAR	**Alice Springs**	**133.65**	**210**	PKP	PKPdf	16 34 17.3	-1.0
	0.2nm,0.8s,baz=135,slow=2.9,SNR=4.0						
WRA	**Warramunga Arr**	**136.56**	**213**	PKP	PKPdf	16 34 23.1	-0.6
	0.3nm,0.6s,baz=137,slow=1.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**138.03**	**23**	PKP	PKPdf	16 34 26.0	+0.7
	0.7nm,0.4s,baz=301,slow=4.1,SNR=6.0						
MKAR	**Makanchi Array**	**142.14**	**32**	PKhKP	PKPpre	16 34 28.8	
	0.5nm,0.8s,baz=271,slow=3.1,SNR=4.4						
SONM	**Songino Array**	**149.10**	**6**	PKPbc	PKPbc	16 34 49.9	+0.5
	2.2nm,0.6s,baz=310,slow=1.7,SNR=33						

WEL 26 16:17:05.8±0.1, 37.°82S×176.°68E, h5km, ML3.6/12, 11C-2D, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.10**	**257**	↑PG	Pg	16 17 08.0	+0.2
OPRZ				SG	Sg	16 17 09.9	+0.6
MARZ	**Manawahe**	**0.16**	**181**	↑PG	Pg	16 17 09.5	+0.3
MARZ				SG	Sg	16 17 12.6	+1.3
EDRZ	**Edgecumbe**	**0.29**	**170**	↑PG	Pg	16 17 11.8	+0.3
LIRZ	**Lichensteins R**	**0.29**	**232**	↓PG	Pg	16 17 12.1	+0.6
TGRZ	**Tauranga**	**0.34**	**286**	↑PG	Pg	16 17 12.9	+0.4
MKRZ	**Makatiti**	**0.36**	**208**	↑PG	Pg	16 17 13.7	+0.9
OMRZ	**Omania**	**0.37**	**220**	↓PG	Pg	16 17 13.5	+0.4
KARZ	**Kaharoa**	**0.40**	**240**	PG	Pg	16 17 13.9	+0.4
TARZ	**Mount Tarawera**	**0.43**	**198**	↑PG	Pg	16 17 15.0	+0.7
WIZ	**White Island**	**0.50**	**54**	PG	Pg	16 17 15.9	+0.5
UTU	**Utuhina**	**0.52**	**227**	PG	Pg	16 17 16.7	+0.8
RRRZ	**Republican Roa**	**0.53**	**194**	↑PG	Pg	16 17 16.3	+0.2
URZ	**Urewera**	**0.55**	**142**	↑PG	Pg	16 17 16.6	+0.1
MYRZ	**Mayor Island**	**0.64**	**327**	↑P*	Pg	16 17 18.5	+0.3
HRRZ	**Handcock Road**	**0.65**	**209**	P*	Pg	16 17 18.9	+0.5
PRRZ	**Plateau Road**	**0.71**	**198**	P*	Pg	16 17 19.5	0.0
ALRZ	**Allen Road**	**0.78**	**199**	P*	Pg	16 17 21.0	+0.1
MWZ	**Matawai**	**0.84**	**128**	↑P*	Pg	16 17 22.0	-0.1
TOZ	**Tahuroa Road**	**0.94**	**275**	↑P*	Pg	16 17 22.7	-1.0
RAHZ	**Arahi**	**1.14**	**164**	*e*P*	Pg	16 17 26.9	-0.8
PUZ	**Puketiti**	**1.27**	**102**	P*	Pg	16 17 29.9	-0.3
KUZ	**Kuaotunu**	**1.32**	**324**	P*	Pn	16 17 27.7	-3.1
MXZ	**Matakaoa Point**	**1.32**	**79**	*e*P*	Pn	16 17 30.0	-0.8
BKZ	**Black Stump Fm**	**1.35**	**186**	*e*P*	Pn	16 17 29.5	-1.9
CNGZ	**Carnagh Statio**	**1.38**	**119**	PN	Pg	16 17 32.2	0.0
MKAZ	**Moumakai**	**1.40**	**300**	*e*PN	Pn	16 17 29.2	-2.7
KNZ	**Kokohu**	**1.43**	**147**	PN	Pn	16 17 32.4	0.0
PRGZ	**Paritu Road**	**1.45**	**140**	*e*PN	Pg	16 17 33.6	-0.1
HIZ	**Hauiti**	**1.59**	**244**	PN	Pn	16 17 32.7	-2.0
MHGZ	**Mahia Peninsul**	**1.64**	**144**	*e*PN	Pn	16 17 35.9	+0.6
BHHZ	**Black Hill Sta**	**1.73**	**196**	*e*P*		16 17 37.2	+0.5
KAHZ	**Kahuranaki**	**1.98**	**176**	PN	Pn	16 17 40.5	+0.5
RVAZ	**Riverhead Bore**	**1.98**	**301**	*e*PN	Pn	16 17 40.4	+0.5
PXZ	**Pawanui**	**2.21**	**176**	PN	Pn	16 17 42.7	-0.5
TSZ	**Takapari Road**	**2.30**	**194**	*e*PN	Pn	16 17 44.4	0.0
WCZ	**Waipu Caves**	**2.65**	**314**	PN	Pn	16 17 47.2	-2.0

IDC 26 17:15:06.8±1.3, 19.°23N×146.°35E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=51.2km s-min=22.7km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.67**	**197**	P	P	17 22 49.6	+0.5
	0.1nm,0.4s,baz=17,slow=8.3,SNR=5.5						
FITZ	**Fitzroy Crossi**	**42.31**	**210**	P	P	17 23 02.9	+0.4
	2.2nm,1.0s,baz=50,slow=8.3,SNR=6.4						
ASAR	**Alice Springs**	**44.33**	**196**	P	P	17 23 17.2	-1.6
	0.3nm,0.9s,baz=21,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**58.54**	**314**	P	P	17 25 04.6	-0.5
	0.3nm,0.7s,baz=87,slow=8.6,SNR=5.0						
KURBB	**Kurchatov Arra**	**61.34**	**318**	P	P	17 25 24.9	+0.6
	55nm,0.3s,baz=95,slow=7.4,SNR=2.2						
YKA	**Yellowknife Ar**	**77.23**	**28**	P	P	17 27 02.5	0.0
	0.2nm,0.6s,baz=286,slow=5.5,SNR=6.4						

ISCJB ***26*** *17:15:37.4±0.7, 39.°86N±0.°02×21.°59E±0.°05, h9km±5km, Error ellipse: s-maj=6.2km s-min=3.3km az=165.7*

THE ***26*** *17:15:37.8, 39.°88N×21.°60E, h15km±1km, ML2.2/6, Error ellipse: s-maj=1.0km s-min=0.3km az=17.0*

ATH ***26*** *17:15:37.0, 39.°86N×21.°56E, h20km, MD3.2/7*

CSEM ***26*** *17:15:37.5±0.2, 39.°88N×21.°59E, h15km, ML2.2/6, Error ellipse: s-maj=4.6km s-min=2.7km az=73.0*

ISC 26 17:15:37.7±0.9, 39.°87N±0.°02×21.°60E±0.°03, h16km±8km, n32, σ0°52/55, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEV	**Metsovon**	**0.30**	**254**	P	**Pg**	**17 15 44.2**	**+0.1**
MEV	**Metsovon**	**0.30**	**254**	P	**Pg**	**17 15 44.2**	**+0.1**
THL	**Klokotos Trika**	**0.44**	**133**	P	**Pg**	**17 15 46.1**	**-0.5**
THL	**Klokotos Trika**	**0.44**	**133**	*e*PB	**Pg**	**17 15 46.2**	**-0.4**
THL				*e*SB	**Sb**	**17 15 53.3**	**-0.2**
THL	**Klokotos Trika**	**0.44**	**133**	*e*Pb	**Pg**	**17 15 46.2**	**-0.4**
THL				*e*Sb	**Sb**	**17 15 53.3**	**-0.2**
KZN	**Kozani**	**0.46**	**17**	P	**Pg**	**17 15 46.8**	**-0.1**
KZN				S	**Sb**	**17 15 53.5**	**-0.6**
KZN	**Kozani**	**0.46**	**17**	*e*PB	**Pg**	**17 15 46.8**	**-0.1**
KZN				*e*SB	**Sb**	**17 15 54.0**	**-0.1**
KZN	**Kozani**	**0.46**	**17**	P	**Pg**	**17 15 46.8**	**-0.1**
KZN				S	**Sb**	**17 15 53.5**	**-0.6**
KZN				*e*Sb	**Sb**	**17 15 54.0**	**-0.1**
NEST	**Nestorio**	**0.69**	**322**	P	**Pg**	**17 15 50.5**	**-0.8**
NEST				S	**Sb**	**17 16 01.2**	**+0.4**
NEST	**Nestorio**	**0.69**	**322**	P	**Pg**	**17 15 50.5**	**-0.8**
NEST				S	**Sb**	**17 16 01.2**	**+0.4**
LIT	**Litokhoron**	**0.72**	**71**	P	**Pg**	**17 15 51.5**	**-0.3**
LIT				S	**Sb**	**17 16 02.0**	**+0.3**
LIT	**Litokhoron**	**0.72**	**71**	P	**Pg**	**17 15 51.5**	**-0.3**
LIT				S	**Sb**	**17 16 02.0**	**+0.3**
FNA	**Florina**	**0.93**	**350**	P	**Pb**	**17

ISC 26 17:35:14.2±0.9, 5.78S±0.04×81.41W±0.04, h8km±5km, n1103, σ1925/1071, mb5.5/246, MS5.5/180, 202C-196D,
Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.29**	**114**	Pn	**Pn**	**17 36 09.4**	**+3.0**
	9.2nm,0.3s,baz=296,slow=12,SNR=73						
ATAH				LR	LR	17 36 51.3	
	comp=Z,31μm,18.4s,baz=294,slow=29						
ATAH				Lg	Lg	17 37 03.1	
	336nm,0.3s,baz=248,slow=21,SNR=9.0						
ATAH	**Atahualpa**	**3.29**	**114**	Pn	**Pn**	**17 36 09.4**	**+3.0**
ATAH				Lg	Lg	17 37 03.1	
OTAV	**Otavalo**	**6.67**	**26**	*e*P	**Pn**	**17 36 50.0**	**-2.9**
	265nm,0.8s						
NNA	**Nana**	**7.64**	**144**	Pn	**Pn**	**17 37 08.8**	**+2.8**
	5.5nm,0.3s,baz=314,slow=11,SNR=23						
NNA				Sn	**Sn**	**17 38 30.1**	**-2.9**
	baz=307,slow=20,SNR=2.7						
NNA				LR	LR	17 39 51.8	
	comp=Z,30μm,19.4s,baz=127,slow=36						
NNA	**Nana**	**7.64**	**144**	*e*P	**Pn**	**17 37 07.3**	**+1.2**
	701nm,1.1s						
NNA				Pn	**Pn**	**17 37 08.8**	**+2.8**
NNA				Sn	**Sn**	**17 38 30.1**	**-2.9**
NNA	**Nana**	**7.64**	**144**	Pn	Pn	17 37 09.5	+3.5
	861nm,0.8s,SNR=7.8						
PAYG	**Puerto Ayora**	**10.21**	**299**	*e*P	**Pn**	**17 37 39.7**	**-1.5**
	132nm,0.6s						
ARE	**Arequipa**	**14.40**	**138**	*e*P	**P**	**17 38 43.0**	**-2.8**
ARE	**Arequipa**	**14.40**	**138**	*e*P	**P**	**17 38 43.0**	**-2.8**
BCIP	**Isla Barro Col**	**14.93**	**6**	P	Pn	17 38 42.1	-3.6
	1μm,2.1s						
JTS	**JuntasAbangare**	**16.35**	**348**	Pn	**P**	**17 39 05.9**	**-1.3**
	0.2nm,0.3s,baz=300,slow=7.6,SNR=16						
JTS				Sn	**Sn**	**17 42 10.8**	**+4.8**
	0.2nm,0.3s,baz=201,slow=14,SNR=1.6						
JTS				LR	LR	17 44 15.3	
	comp=Z,19μm,18.6s,baz=173,slow=34						
JTS	**JuntasAbangare**	**16.35**	**348**	*e*P	**Pn**	**17 39 05.1**	**+0.8**
	736nm,1.6s						
JTS				Pn	**P**	**17 39 05.9**	**-1.3**
JTS				Sn	**Sn**	**17 42 10.8**	**+4.8**
JTS	**JuntasAbangare**	**16.35**	**348**	P	**P**	**17 39 08.5**	**+1.3**
	1μm,1.5s,SNR=37						
LPAZ	**La Paz**	**16.69**	**130**	Pn	**Pn**	**17 39 10.4**	**+1.2**
	0.8nm,0.3s,baz=312,slow=11,SNR=58						
LPAZ				LR	LR	17 45 48.1	
	comp=Z,27μm,18.7s,baz=110,slow=38						
LPAZ	**La Paz**	**16.69**	**130**	*e*P	**Pn**	**17 39 09.5**	**+0.2**
	17nm,0.4s						
LPAZ				Pn	**Pn**	**17 39 10.4**	**+1.2**
MNMC	**Minimini**	**17.57**	**140**	⇑P	**Pn**	**17 39 20.5**	**+0.6**
PSGC	**Pisagua**	**17.59**	**142**	*e*P	**P**	**17 39 21.2**	**+0.2**
SDV	**Santo Domingo**	**18.10**	**36**	P	**Pn**	**17 39 26.3**	**-0.2**
	1.0nm,1.1s						
SAML	**Samuel**	**18.35**	**101**	*e*Pn	**Pn**	**17 39 25.3**	**-4.0**
	6.0nm,1.0s						
LVC	**Limon Verde**	**20.64**	**145**	PFAKE		17 40 10.0	+13
LVC				LR	LR		
	comp=Z,2μm,19.0s						
SIV	**San Ignacio**	**22.38**	**119**	P	**P**	**17 40 13.8**	**+0.6**
	comp=Z,84nm,0.9s,baz=309,slow=10,SNR=72						
SIV				S	**S**	**17 44 23.6**	**+4.0**
	comp=Z,17nm,1.1s,baz=246,slow=20,SNR=1.6						
SIV				LR	LR	17 50 06.2	
	comp=Z,22μm,18.9s,slow=40						
SIV	**San Ignacio**	**22.38**	**119**	P	**P**	**17 40 13.8**	**+0.6**
SIV				S	**S**	**17 44 23.6**	**+4.0**
PCJ	**Portland Cotta**	**23.74**	**10**	*i* P	**P**	**17 40 29.1**	**+2.0**
MCJ	**Malvern**	**23.84**	**9**	*i* P	**P**	**17 40 29.3**	**+1.1**
HOJ	**Hope**	**24.07**	**11**	*i* P	**P**	**17 40 32.4**	**+2.1**
STH	**Stony Hill**	**24.13**	**11**	*i* P	**P**	**17 40 32.6**	**+1.7**
GWJ	**Greenwich**	**24.15**	**11**	*i* P	**P**	**17 40 32.8**	**+1.6**
MTDJ	**Mount Denham**	**24.16**	**9**	*e*P	**P**	**17 40 32.2**	**+1.0**
	comp=Z,254nm,1.0s						
MTDJ				LR	LR		
	comp=Z,6μm,21.0s						
LMGC	**Las Mercedes**	**26.04**	**9**	*e*P	**P**	**17 40 50.5**	**+2.4**
	baz=192						
LMGC				*e*S	**S**	**17 45 20.3**	**+0.8**
	comp=N,38nm,1.9s						
LMGC				*e*			
	comp=E,38nm,1.3s						
RCC	**Rio Carpintero**	**26.22**	**12**	*e*P	**P**	**17 40 49.3**	**-0.5**
	baz=168						
RCC				*e*S	**S**	**17 45 21.8**	**-0.5**
	comp=N,5μm,19.0s						
RCC				*e*			
	comp=E,6μm,17.8s						
GTBY	**Guantanamo Bay**	**26.28**	**13**	*e*P	**P**	**17 40 51.6**	**+1.3**
	comp=E,195nm,1.4s						
GTBY				LR	LR		
	comp=Z,7μm,19.0s						
CMIG	**Matias Romero**	**26.34**	**330**	P	**P**	**17 40 51.5**	**+0.6**
	comp=Z,7.1nm,0.8s,baz=125,slow=7.2,SNR=6.2						
CMIG				LR	LR	17 49 12.9	
	comp=Z,6μm,18.1s,baz=142,slow=32						
CMIG	**Matias Romero**	**26.34**	**330**	P	**P**	**17 40 51.5**	**+0.6**
GRGR	**Grenville**	**26.51**	**48**	PFAKE		17 41 00.0	+7.5
GRGR				LR	LR		
	comp=Z,9μm,20.0s						
SDDR	**Presa de Saban**	**26.55**	**22**	*e*P	**P**	**17 40 53.6**	**+0.8**
	comp=Z,279nm,1.6s						
TEIG	**Tepich**	**26.71**	**346**	P	**P**	**17 40 55.5**	**+1.3**
	comp=Z,5.1nm,0.2s,baz=228,slow=9.1,SNR=2.1						
TEIG				LR	LR	17 50 48.2	
	comp=Z,11μm,18.6s,baz=266,slow=35						
TEIG	**Tepich**	**26.71**	**346**	P	**P**	**17 40 55.5**	**+1.3**
TOSP	**Speyside**	**26.82**	**51**	*e*P	**P**	**17 40 54.2**	**-1.1**
CRPR	**Cabo Rojo, PR**	**27.53**	**31**	*e*P	**P**	**17 41 00.9**	**-0.7**
	comp=Z,130nm,1.6s						
LSP	**Las Mesas**	**27.68**	**30**	*e*P	**P**	**17 41 03.6**	**+0.6**
MGV	**Manicaragua**	**27.75**	**3**	*e*P	**P**	**17 41 02.8**	**-0.7**
OBIP	**Obispado Ponce**	**27.82**	**31**	*e*P	**P**	**17 41 04.4**	**+0.2**
	comp=Z,282nm,1.2s						
CELP	**Cerrillos**	**27.86**	**31**	*e*P	**P**	**17 41 04.9**	**+0.3**
LRS	**Lares**	**27.90**	**31**	*e*P	**P**	**17 41 05.1**	**+0.1**
SJG	**San Juan**	**28.11**	**32**	P	**P**	**17 41 05.8**	**-1.0**
	comp=Z,157nm,0.9s,baz=229,slow=3.8,SNR=31						
SJG	**San Juan**	**28.11**	**32**	*e*P	**P**	**17 41 06.7**	**-0.1**
	comp=Z,222nm,0.8s						
CBYP	**Canovanas**	**28.40**	**32**	*e*P	**P**	**17 41 09.3**	**-0.2**
	comp=Z,650nm,1.4s						
MTP	**Monte Pirata**	**28.42**	**33**	*e*P	**P**	**17 41 09.7**	**+0.1**
	comp=Z,134nm,1.0s						
SOR	**Soroa**	**28.44**	**357**	*e*P	P	17 41 03.7	-5.9
CFAA	**Coronel Fontan**	**28.50**	**156**	P	**P**	**17 41 12.5**	**+2.2**
	comp=Z,3.6nm,1.1s,baz=331,slow=8.2,SNR=9.4						
CFAA				LR	LR	17 51 43.6	
	comp=Z,2μm,18.0s,baz=91,slow=34						
CFAA	**Coronel Fontan**	**28.50**	**156**	P	**P**	**17 41 12.5**	**+2.2**
FDF	**Fort de France**	**28.62**	**44**	PFAKE		17 41 20.0	+8.6
FDF				LR	LR		
	comp=Z,11μm,20.0s						
BBGH	**Gun Hill**	**28.71**	**49**	PFAKE		17 41 20.0	+7.7
BBGH				LR	LR		
	comp=Z,19μm,19.0s						
GRTK	**Grand Turk**	**28.93**	**20**	PFAKE		17 41 30.0	+16
GRTK				LR	LR		
	comp=Z,6μm,21.0s						
STVI	**Saint Thomas**	**28.95**	**34**	*e*P	**P**	**17 41 14.7**	**+0.4**
	comp=Z,55nm,0.9s						
FCH	**Farellones**	**29.30**	**161**	*e*P	P	17 41 29.2	+11
ANWB	**Willy Bob**	**30.30**	**39**	*e*P	**P**	**17 41 25.0**	**-1.3**
	comp=Z,223nm,0.9s						
ANWB				LR	LR		
	comp=Z,6μm,19.0s						
RPN	**Rapa Nui**	**34.02**	**228**	LR	LR	17 51 55.9	
	comp=Z,7μm,20.5s,baz=47,slow=29						
BDFB	**Brasilia**	**34.20**	**109**	P	**P**	**17 42 01.3**	**+0.6**
	comp=Z,29nm,0.8s,baz=264,slow=10,SNR=30						
BDFB				PcP	**PcP**	**17 44 38.4**	**+0.7**
	comp=Z,9.3nm,0.7s,baz=292,slow=6.3,SNR=3.4						
BDFB				S	**S**	**17 47 29.2**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=225,slow=13,SNR=2.2						
BDFB	**Brasilia**	**34.20**	**109**	P	**P**	**17 42 01.3**	**+0.6**
BDFB				PcP	**PcP**	**17 44 38.4**	**+0.7**
BDFB				S	**S**	**17 47 29.2**	**+1.3**
PLCA	**Paso Flores**	**36.14**	**166**	P	**P**	**17 42 18.5**	**+1.4**
	comp=Z,19nm,0.9s,baz=335,slow=11,SNR=21						
PLCA				PcP	**PcP**	**17 44 44.2**	**+1.3**
	comp=Z,8.8nm,1.0s,baz=257,slow=3.1,SNR=2.6						
PLCA				LR	LR	17 54 37.9	
	comp=Z,7μm,18.8s,baz=104,slow=32						
PLCA	**Paso Flores**	**36.14**	**166**	*e*P	**P**	**17 42 17.9**	**+0.8**
	comp=Z,197nm,1.2s						
PLCA				PcP	**PcP**	**17 44 44.2**	**+1.3**
LPA	**La Plata**	**36.20**	**146**	*ce*P	**P**	**17 42 20.0**	**+2.5**
LPA				SP	S	17 48 05.0	+7.1
LPA				PSP	PSP	17 48 12.0	
LPA				SS	**SnSn**	**17 50 22.0**	**-1.9**
LPA							
	comp=Z,29μm,19.0s						
TRQA	**Tornquist**	**36.67**	**154**	*e*P	**P**	**17 42 21.7**	**+0.1**
	comp=Z,107nm,1.2s						
KVTX	**Kingsville**	**36.76**	**335**	PFAKE		17 42 30.0	+7.6
KVTX				LR	LR		
	comp=Z,4μm,20.0s						
BRAL	**Brewton**	**36.98**	**352**	PFAKE		17 42 40.0	+16
BRAL				LR	LR		
	comp=Z,3μm,19.0s						
TIGA	**Tifton**	**37.06**	**357**	⇑P	**P**	**17 42 24.4**	**-0.6**
	baz=37						
SPB	**Sao Paulo**	**37.18**	**122**	*e*P	**P**	**17 42 25.4**	**-0.7**
	comp=Z,84nm,0.8s						
SPB				LR	LR		
	comp=Z,10μm,22.0s						
HKT	**Hockley**	**38.12**	**340**	*e*P	**P**	**17 42 34.2**	**+0.4**
HKT				pmax	pmax		
	comp=Z,115nm,1.4s						
HKT	**Hockley**	**38.12**	**340**	*e*P	**P**	**17 42 34.2**	**+0.4**
	comp=Z,115nm,1.4s						
732A	**Laxson Ranch,**	**38.69**	**333**	⇑P	**P**	**17 42 38.2**	**-0.5**
	baz=39						
NHSC	**New Hope**	**38.69**	**2**	PFAKE		17 42 50.0	+11
NHSC				LR	LR		
	comp=Z,8μm,22.0s						
VBMS	**Vicksburg**	**38.77**	**348**	*e*P	**P**	**17 42 38.4**	**-0.9**
	comp=Z,176nm,1.2s						
VBMS				LR	LR		
	comp=Z,2μm,20.0s						
LRAL	**Lakeview Retre**	**38.96**	**353**	*e*P	**P**	**17 42 40.0**	**-1.0**
	comp=Z,46nm,1.3s						
LRAL				LR	LR		
	comp=Z,2μm,20.0s						
632A	**Uvalde**	**39.27**	**334**	⇓P	**P**	**17 42 42.6**	**-1.1**
	baz=39,SNR=25						
632A				⇑S	**S**	**17 48 44.3**	**-0.5**
	baz=39						
632A				⇑S	**S**	**17 48 44.3**	**-0.5**
	baz=39						
632A				⇑S	**S**	**17 48 44.3**	**-0.5**
	baz=39						
631A	**Perdido Creek**	**39.54**	**333**	⇑P	**P**	**17 42 44.7**	**-1.1**
	baz=40,SNR=25						
631A				⇑S	**S**	**17 48 47.8**	**-1.0**
	baz=40						
631A				⇑S	**S**	**17 48 47.8**	**-1.0**
	baz=40						
631A				⇑S	**S**	**17 48 47.8**	**-1.0**
	baz=40						
JSC	**Jenkinsville**	**39.84**	**0**	*e*P	**P**	**17 42 47.4**	**-0.9**
JSC	**Jenkinsville**	**39.84**	**0**	*e*P	**P**	**17 42 47.4**	**-0.9**
532A	**Rocksprings**	**39.86**	**335**	⇓P	**P**	**17 42 48.5**	**-0.1**
	baz=40,SNR=36						
531A	**Rocksprings**	**40.17**	**334**	⇑P	**P**	**17 42 50.9**	**-0.3**
	baz=40						
432A	**Menard**	**40.47**	**335**	⇓P	**P**	**17 42 53.3**	**-0.3**
	baz=41,SNR=12						
530A	**J-C Ranch, Com**	**40.51**	**333**	⇑P	**P**	**17 42 53.7**	**-0.3**
	baz=41,SNR=17						
WHTX	**Lake Whitney**	**40.55**	**339**	⇑P	**P**	**17 42 53.7**	**-0.5**
	baz=41						
431A	**Sonora**	**40.65**	**334**	⇑P	**P**	**17 42 55.1**	**0.0**
	baz=41,SNR=12						
628A	**Black Gap, Mar**	**40.68**	**331**	⇑P	**P**	**17 42 55.4**	**0.0**
	baz=41,SNR=18						
KMSC	**Kings Mountain**	**40.70**	**0**	⇑P	**P**	**17 42 55.0**	**-0.4**
	baz=41,SNR=12						
OXF	**Oxford**	**40.78**	**350**	*e*P	**P**	**17 42 55.1**	**-0.9**
OXF				pmax	pmax		
	comp=Z,140nm,1.2s						
OXF				MLR	MLR		
	comp=Z,3μm,22.0s						
OXF	**Oxford**	**40.78**	**350**	*e*P	**P**	**17 42 55.1**	**-0.9**
	comp=Z,140nm,1.2s						
OXF				LR	LR		
	comp=Z,3μm,22.0s						
332A	**Millersview**	**40.89**	**336**	⇑P	**P**	**17 42 56.3**	**-0.7**
	baz=41						
529A	**Stev Forest Ra**	**40.90**	**332**	⇓P	**P**	**17 42 56.6**	**-0.6**
	baz=41,SNR=31						
627A	**Terlingua Ranc**	**40.90**	**330**	⇓P	**P**	**17 42 56.7**	**-0.6**
	baz=41,SNR=8.9						
CNNC	**Cliffs of the**	**40.93**	**4**	PFAKE		17 43 10.0	+13
CNNC				LR	LR		
	comp=Z,5μm,19.0s						
LPIG	**La Paz**	**40.94**	**318**	P	**P**	**17 42 59.6**	**+2.1**
	comp=Z,5.6nm,0.3s,baz=203,slow=3.6,SNR=4.4						
LPIG	**La Paz**	**40.94**	**318**	P	**P**	**17 42 59.6**	**+2.1**
TXAR	**Lajitas Array**	**40.94**	**330**	P	**P**	**17 42 57.6**	**0.0**
	comp=Z,6.7nm,1.1s,baz=150,slow=8.1,SNR=16						
TXAR				PcP	**PcP**	**17 44 58.8**	**+0.7**
	comp=Z,4.5nm,1.1s,baz=123,slow=4.6,SNR=3.6						
TXAR				LR	LR	17 58 45.8	
	comp=Z,4μm,18.7s,baz=150,slow=35						
TXAR	**Lajitas Array**	**40.94**	**330**	P	**P**	**17 42 57.6**	**0.0**
TXAR				PcP	**PcP**	**17 44 58.8**	**+0.7**
CAM4	**Nova Friburgo**	**40.96**	**118**	*i* P	**P**	**17 42 58.1**	**0.0**
CAM4				*i*		17 43 05.5	
CAM4				*i*		17 43 08.5	
CAM4				*i*		17 43 20.1	
CAM4				*i*		17 43 24.6	
CAM4				*i*		17 43 29.1	
CAM4				*i*		17 43 40.6	
SWET	**Sewanee**	**41.00**	**354**	*e*P	**P**	**17 42 56.7**	**-1.2**
	comp=Z,31nm,1.0s						
430A	**Baggett Ranch,**	**41.01**	**334**	⇓P	**P**	**17 42 56.5**	**-1.6**
	baz=41,SNR=12						
331A	**San Angelo**	**41.11**	**335**	⇓P	**P**	**17 42 58.0**	**-0.9**
	baz=41						
CPCT	**Cooper Cave**	**41.11**	**356**	*e*P	**P**	**17 42 57.3**	**-1.5**
BBSR	**BB Station**	**41.14**	**22**	PFAKE		17 43 10.0	+11
BBSR				LR	LR		
	comp=Z,3μm,19.0s						
429A	**Davenport Ranc**	**41.17**	**333**	⇑P	**P**	**17 42 58.4**	**-1.0**
	baz=41,SNR=14						
528A	**Cox Ranch, San**	**41.20**	**331**	⇑P	**P**	**17 42 59.5**	**-0.2**
	baz=41,SNR=21						
TKL	**Tuckaleechee C**	**41.27**	**357**	P	**P**	**17 42 59.3**	**-0.8**
	comp=Z,22nm,0.9s,baz=164,slow=11,SNR=9.5						
TKL	**Tuckaleechee C**	**41.27**	**357**	*e*P	**P**	**17 42 58.2**	**-1.9**
TKL				P	**P**	**17 42 59.3**	**-0.8**
626A	**Big Bend Ranch**	**41.36**	**329**	⇓P	**P**	**17 43 00.4**	**-0.7**
	baz=42,SNR=28						
330A	**Mertzon**	**41.51**	**334**	⇓P	**P**	**17 43 01.7**	**-0.5**
	baz=42						
527A	**Woodward Ranch**	**41.58**	**330**	⇑P	**P**	**17 43 02.3**	**-0.6**
	baz=42,SNR=26						
231A	**Bronte**	**41.61**	**335**	⇓P	**P**	**17 43 02.2**	**-0.7**
	baz=42						
428A	**Kincaid Ranch,**	**41.62**	**332**	⇑P	**P**	**17 43 02.4**	**-0.8**
	baz=42,SNR=16						
UALR	**University of**	**41.63**	**346**	*e*P	**P**	**17 43 02.8**	**-0.2**
	comp=Z,167nm,1.4s						
MIAR	**Mount Ida**	**41.72**	**345**	*e*P	**P**	**17 43 01.5**	**-2.3**
MIAR				pmax	pmax		
	comp=Z,203nm,1.7s						
MIAR				MLR	MLR		
	comp=Z,2μm,19.0s						
MIAR	**Mount Ida**	**41.72**	**345**	*e*P	**P**	**17 43 01.4**	**-2.3**
	comp=Z,203nm,1.7s						
MIAR				LR	LR		
	comp=Z,2μm,19.0s						
526A	**Mary Lane Ranc**	**41.75**	**330**	⇓P	**P**	**17 43 03.6**	**-0.7**
	baz=42,SNR=21						
230A	**Sterling City**	**41.90**	**335**	⇓P	**P**	**17 43 04.6**	**-0.8**
	baz=42,SNR=5.5						
329A	**Wagon Wheel Ra**	**41.94**	**333**	⇓P	**P**	**17 43 05.0**	**-0.7**
	baz=42,SNR=41						
ABTX	**Abilene, Hawle**	**41.94**	**337**	⇑P	**P**	**17 43 04.8**	**-0.8**
	baz=42,SNR=8.6						
427A	**Hayter Ranch,**	**42.06**	**331**	⇓P	**P**	**17 43 06.5**	**-0.2**
	baz=42,SNR=18						
WVT	**Waverly**	**42.12**	**352**	*e*P	**P**	**17 43 05.0**	**-2.0**
WVT				pmax	pmax		
	comp=Z,68nm,1.4s						
WVT	**Waverly**	**42.12**	**352**	*e*P	**P**	**17 43 05.0**	**-2.0**
	comp=Z,68nm,1.4s						
TZTN	**Tazewell**	**42.15**	**357**	*e*P	**P**	**17 43 05.0**	**-2.3**
426A	**McDonald Obser**	**42.22**	**330**	⇓P	**P**	**17 43 07.4**	**-0.8**
	baz=42,SNR=29						
328A	**Wristen Ranch,**	**42.23**	**332**	⇑P	**P**	**17 43 07.5**	**-0.6**
	baz=42,SNR=23						
229A	**Bryant Ranch,**	**42.27**	**334**	⇓P	**P**	**17 43 07.3**	**-1.2**
	baz=42						
Z32A	**Haskell**	**42.48**	**337**	⇑P	**P**	**17 43 09.2**	**-0.9**
	baz=43,SNR=11						
327A	**Balmorhea Ranc**	**42.53**	**332**	⇓P	**P**	**17 43 09.4**	**-1.2**
	baz=43						
326A	**Caldwell Ranch**	**42.72**	**331**	⇑P	**P**	**17 43 11.2**	**-0.9**
	baz=43,SNR=22						
228A	**UT Block 9, Go**	**42.75**	**333**	⇓P	**P**	**17 43 11.2**	**-1.1**
	baz=43,SNR=11						
Z31A	**Sharp Cattle R**	**42.75**	**337**	⇑P	**P**	**17 43 11.4**	**-0.9**
	baz=43,SNR=16						
BLA	**Blacksburg**	**42.77**	**1**	PFAKE		17 43 20.0	+7.6
BLA				LR	LR		
	comp=Z,6μm,19.0s						
425A	**Indio Mountain**	**42.79**	**330**	⇑P	**P**	**17 43 12.0**	**-0.7**
	baz=43,SNR=45						
129A	**Stewart Farms,**	**42.86**	**334**	⇑P	**P**	**17 43 12.4**	**-0.9**
	baz=43						
PARMO	**Parma**	**42.94**	**350**	*e*P	**P**	**17 43 13.1**	**-0.6**
227A	**Bennet, Jal**	**42.98**	**332**	⇓P	**P**	**17 43 13.3**	**-0.9**
	baz=43,SNR=5.8						
Y32A	**R-V Farms, Ver**	**43.09**	**338**	⇑P	**P**	**17 43 14.0**	**-1.0**
	baz=43,SNR=14						
Z30A	**Sanderson Ranc**	**43.12**	**336**	⇑P	**P**	**17 43 13.9**	**-1.4**
	baz=43,SNR=16						
128A	**Castleberry Fa**	**43.13**	**334**	⇓P	**P**	**17 43 14.6**	**-0.8**
	baz=43,SNR=12						
325A	**Bean Ranch, Si**	**43.25**	**330**	⇓P	**P**	**17 43 15.5**	**-1.1**
	baz=43						
Z29A	**Hungry Hill Ra**	**43.34**	**335**	⇓P	**P**	**17 43 16.0**	**-1.1**
	baz=44,SNR=7.8						
Y31A	**Rekieta Farm,**	**43.36**	**337**	⇑P	**P**	**17 43 15.8**	**-1.4**
	baz=44,SNR=19						
JSRW	**J. Sargeant Re**	**43.37**	**4**	*e*P	**P**	**17 43 15.7**	**-1.4**
WMOK	**Wichita Mounta**	**43.50**	**339**	*e*P	**P**	**17 43 17.9**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,52nm,1.0s						
WMOK	**Wichita Mounta**	**43.50**	**339**	*e*P	**P**	**17 43 17.9**	**-0.5**
	comp=Z,52nm,1.0s						
Y30A	**Stafford Cattl**	**43.54**	**336**	⇓P	**P**	**17 43 17.4**	**-1.3**
	baz=44,SNR=8.3						
127A	**Arkansas Junct**	**43.56**	**333**	⇓P	**P**	**17 43 18.1**	**-0.9**
	baz=44,SNR=6.0						
324A	**Moseley Ranch,**	**43.57**	**330**	⇑P	**P**	**17 43 18.3**	**-0.8**
	baz=44,SNR=24						
TUL1	**Tulsa**	**43.61**	**343**	⇑P	**P**	**17 43 18.4**	**-0.8**
	baz=44						
GDL2	**Guadalupe Moun**	**43.64**	**331**	*e*P	**P**	**17 43 20.2**	**+0.7**
	comp=Z,32nm,1.1s						
Z28A	**Tucker Farm, M**	**43.65**	**334**	⇑P	**P**	**17 43 18.8**	**-0.8**
	baz=44						
MNTX	**Cornudas Mount**	**43.72**	**330**	*e*P	**P**	**17 43 19.9**	**-0.3**
	comp=Z,35nm,1.1s						
MNTX	**Cornudas Mount**	**43.72**	**330**	⇑P	**P**	**17 43 19.3**	**-0.9**
	baz=44,SNR=27						
225A	**Deer Hill, Car**	**43.78**	**331**	⇓P	**P**	**17 43 20.2**	**-0.6**
	baz=44,SNR=7.5						
Y29A	**Porterfield Fa**	**43.84**	**335**	⇓P	**P**	**17 43 20.0**	**-1.1**
	baz=44						
126A	**Clayton Basin,**	**43.84**	**332**	⇑P	**P**	**17 43 20.0**	**-1.2**
	baz=44,SNR=9.0						
X31A	**McDonald Ranch**	**43.85**	**338**	⇓P	**P**	**17 43 20.0**	**-1.1**
	baz=44,SNR=16						
SIUC	**Southern Illin**	**43.88**	**351**	*e*P	**P**	**17 43 20.5**	**-0.7**
	comp=Z,184nm,1.3s						
USIN	**University of**	**43.91**	**353**	P	**P**	**17 43 22.3**	**+0.9**
	comp=Z,118nm,1.2s						
CBN	**Corbin**	**43.92**	**5**	PFAKE		17 43 30.0	+8.5
CBN				LR	LR		
	comp=Z,3μm,21.0s						
WCI	**Wyandotte Cave**	**44.02**	**354**	*e*P	**P**	**17 43 19.9**	**-2.5**
WCI				pmax	pmax		
	comp=Z,56nm,1.1s						
WCI	**Wyandotte Cave**	**44.02**	**354**	*e*P	**P**	**17 43 19.9**	**-2.5**
	comp=Z,56nm,1.1s						
X30A	**Coker Ranch, T**	**44.03**	**337**	⇑P	**P**	**17 43 21.2**	**-1.4**
	baz=44,SNR=17						
Z27A	**Tatum**	**44.04**	**333**	⇑P	**P**	**17 43 22.1**	**-0.7**
	baz=44,SNR=21						
224A	**Cornudas Mount**	**44.10**	**330**	⇑P	**P**	**17 43 22.8**	**-0.6**
	baz=44,SNR=8.3						
Y28A	**McKinney Farm,**	**44.12**	**335**	⇓P	**P**	**17 43 22.4**	**-1.0**
	baz=44,SNR=8.0						
125A	**Gardner Draw,**	**44.15**	**331**	⇓P	**P**	**17 43 23.0**	**-0.7**
	baz=44,SNR=20						
FVM	**French Village**	**44.34**	**350**	*e*P	**P**	**17 43 24.2**	**-0.7**
FVM				pmax	pmax		
	comp=Z,123nm,1.4s						
FVM	**French Village**	**44.34**	**350**	*e*P	**P**	**17 43 24.2**	**-0.7**
	comp=Z,123nm,1.4s						
Z26A	**Caprock**	**44.35**	**333**	⇓P	**P**	**17 43 24.9**	**-0.3**
	baz=44,SNR=39						
X29A	**Tulia**	**44.36**	**336**	⇑P	**P**	**17 43 24.1**	**-1.2**
	baz=44,SNR=7.6						
MSTX	**Muleshoe**	**44.40**	**334**	⇓P	**P**	**17 43 24.6**	**-1.1**
	baz=45,SNR=24						
124A	**Stringfield Ra**	**44.57**	**331**	⇓P	**P**	**17 43 26.8**	**-0.4**
	baz=45,SNR=30						
X28A	**Dimmitt**	**44.63**	**335**	⇑P	**P**	**17 43 26.8**	**-0.7**
	baz=45						
Z25A	**Roswell**	**44.69**	**332**	⇓P	**P**	**17 43

ACSO	**Alum Creek Sta**	45.80	358	*eP*		**P**	17 43 34.5	-2.1		
	comp=Z,95nm,1.1s									
ACSO				LR		LR				
	comp=Z,6µm,20.0s									
Y23A	**Lovelace Mesa,**	45.86	331	⇓P		**P**	17 43 36.6	-0.8		
	baz=46,SNR=29									
120A	**U Bar Ranch, L**	46.07	328	⇓P		**P**	17 43 39.3	+0.2		
	baz=46,SNR=9.6									
X24A	**Lazy VL Ranch,**	46.09	332	⇑P		**P**	17 43 38.9	-0.3		
	baz=46									
W25A	**X Bar L Ranch,**	46.19	334	⇓P		**P**	17 43 39.1	-0.8		
	baz=46,SNR=15									
SSPA	**Standing Stone**	46.30	4	P		**P**	17 43 39.3	-1.1		
	comp=Z,57nm,1.4s									
Y22A	**Socorro**	46.31	330	⇑P		**P**	17 43 40.7	-0.2		
	baz=46,SNR=20									
BNM	**Barren Site**	46.32	331	*eP*		**P**	17 43 41.6	+0.5		
	comp=Z,44nm,1.4s									
V26A	**Tequesquite Ra**	46.39	335	⇓P		**P**	17 43 40.7	-0.7		
	baz=47,SNR=28									
LPM	**Los Pinos Moun**	46.45	331	*eP*		**P**	17 43 42.6	+0.6		
	comp=Z,9.6nm,0.9s									
X23A	**Hourglass Bar**	46.46	332	⇓P		**P**	17 43 41.8	-0.3		
	baz=47									
Z20A	**Nine Sixteen R**	46.49	328	⇓P		**P**	17 43 42.5	+0.1		
	baz=47,SNR=40									
W24A	**Lazy 6 Ranch,**	46.61	333	⇓P		**P**	17 43 42.8	-0.5		
	baz=47,SNR=10									
HDIL	**Hopedale**	46.67	352	*eP*		**P**	17 43 41.8	-1.6		
	comp=Z,162nm,1.4s									
HDIL				LR		LR				
	comp=Z,3µm,19.0s									
Y21A	**Point of Rocks**	46.72	330	⇑P		**P**	17 43 44.1	-0.2		
	baz=47,SNR=13									
LAZ	**Ladron**	46.77	330	*eP*		**P**	17 43 44.5	0.0		
	comp=Z,22nm,1.0s									
V25A	**Rancho No Teng**	46.78	334	⇑P		**P**	17 43 43.6	-1.1		
	baz=47,SNR=46									
X22A	**Bernardo**	46.79	331	⇓P		**P**	17 43 44.7	+0.1		
	baz=47									
KSU1	**Kansas State U**	46.82	344	*eP*		**P**	17 43 43.7	-0.9		
	comp=Z,240nm,1.0s									
KSU1				LR		LR				
	comp=Z,2µm,19.0s									
T28A	**Walsh**	46.85	337	⇑P		**P**	17 43 44.6	-0.5		
	baz=47									
U26A	**Atchley Ranch,**	46.88	335	⇓P		**P**	17 43 44.2	-1.1		
	baz=47,SNR=20									
ANMO	**Albuquerque**	46.88	332	*eP*		**P**	17 43 45.3	-0.1		
	comp=Z,73nm,1.0s									
ANMO				LR		LR				
	comp=Z,3µm,20.0s									
W23A	**Werner Place,**	46.91	332	⇓P		**P**	17 43 45.6	0.0		
	baz=47,SNR=25									
V24A	**Rampart Ranch,**	46.98	333	⇑P		**P**	17 43 46.0	-0.2		
	baz=47,SNR=8.7									
Y20A	**Horse Springs,**	47.00	329	⇑P		**P**	17 43 46.6	+0.2		
	baz=47,SNR=16									
T27A	**Campo**	47.04	337	⇑P		**P**	17 43 45.3	-1.2		
	baz=47,SNR=14									
TUC	**Tucson**	47.08	325	*eP*		**P**	17 43 46.7	-0.1		
TUC				pmax		pmax				
	comp=Z,12nm,0.8s									
TUC	**Tucson**	47.08	325	*eP*		**P**	17 43 46.7	-0.1		
	comp=Z,12nm,0.8s									
X21A	**Alamocita Cree**	47.12	330	⇓P		**P**	17 43 47.2	-0.2		
	baz=47,SNR=21									
U25A	**Circle Dot Ran**	47.17	335	⇑P		**P**	17 43 46.8	-0.8		
	baz=47,SNR=21									
W22A	**Albuquerque**	47.18	331	⇑P		**P**	17 43 47.2	-0.6		
	baz=47									
V23A	**Ortiz Mt. (NFS**	47.41	332	⇓P		**P**	17 43 48.9	-0.6		
	baz=48,SNR=6.4									
T26A	**Comanche Natio**	47.49	336	⇓P		**P**	17 43 49.7	-0.4		
	baz=48,SNR=12									
U24A	**Moreno Valley**	47.55	334	⇑P		**P**	17 43 50.5	-0.3		
	baz=48									
X20A	**Quemado**	47.56	329	⇑P		**P**	17 43 51.0	+0.2		
	baz=48									
W21A	**San Fidel**	47.59	331	⇓P		**P**	17 43 51.6	+0.6		
	baz=48,SNR=12									
S27A	**Las Animas**	47.65	337	⇑P		**P**	17 43 51.0	-0.2		
	baz=48,SNR=6.1									
ERPA	**Erie**	47.68	1	*eP*		**P**	17 43 50.4	-0.8		
	comp=Z,133nm,1.6s									
ERPA				LR		LR				
	comp=Z,5µm,20.0s									
T25A	**Trinidad**	47.79	335	⇑P		**P**	17 43 51.4	-1.1		
	baz=48,SNR=19									
S26A	**Kim**	47.82	336	⇓P		**P**	17 43 51.6	-1.0		
	baz=48,SNR=25									
AAM	**Ann Arbor**	47.89	358	*eP*		**P**	17 43 51.1	-1.8		
AAM				pmax		pmax				
	comp=Z,165nm,1.4s									
AAM				MLR		MLR				
	comp=Z,8µm,21.0s									
AAM	**Ann Arbor**	47.89	358	*eP*		**P**	17 43 51.1	-1.8		
	comp=Z,165nm,1.4s									
AAM				LR		LR				
	comp=Z,8µm,21.0s									
U23A	**El Rito**	47.89	333	⇓P		**P**	17 43 52.6	-0.7		
	baz=48									
214A	**Organ Pipe Nat**	47.99	323	⇓P		**P**	17 43 53.4	-0.5		
	baz=48,SNR=9.2									
BINY	**Binghamton**	48.00	5	*eP*		**P**	17 43 52.7	-1.0		
	comp=Z,83nm,1.2s									
BINY				LR		LR				
	comp=Z,3µm,19.0s									
T24A	**Torres, Weston**	48.01	334	⇓P		**P**	17 43 53.2	-1.1		
	baz=48,SNR=9.6									
W20A	**Ramah**	48.02	330	⇑P		**P**	17 43 53.9	-0.4		
	baz=48,SNR=15									
R27A	**Eads**	48.13	337	⇑P		**P**	17 43 54.0	-1.0		
	baz=48,SNR=16									
V21A	**Milan**	48.14	331	⇑P		**P**	17 43 54.7	-0.5		
	baz=48,SNR=13									
U22A	**Llaves**	48.24	332	⇑P		**P**	17 43 55.5	-0.5		
	baz=48									
S25A	**Robets Cordova**	48.25	335	⇓P		**P**	17 43 55.3	-0.7		
	baz=48,SNR=17									
X18A	**Snowflake**	48.30	328	⇓P		**P**	17 43 56.8	+0.3		
	baz=48,SNR=11									
R26A	**Arlington**	48.40	337	⇓P		**P**	17 43 55.9	-1.1		
	baz=49,SNR=29									
T23A	**Casias Ranch,**	48.41	334	⇓P		**P**	17 43 56.8	-0.5		
	baz=49,SNR=7.0									
V20A	**Brimhall**	48.54	330	⇑P		**P**	17 43 57.1	-1.2		
	baz=49									
S24A	**Houchin Ranch,**	48.56	335	⇑P		**P**	17 43 57.9	-0.6		
	baz=49,SNR=7.5									
R25A	**Fountain Ranch**	48.60	336	⇑P		**P**	17 43 57.7	-0.9		
	baz=49,SNR=8.6									
W18A	**Petrified Fore**	48.64	329	⇑P		**P**	17 43 59.2	+0.1		
	baz=49,SNR=6.9									
U21A	**Nageezi**	48.65	332	⇓P		**P**	17 43 58.9	-0.3		
	baz=49,SNR=9.6									
SCIA	**State Center**	48.66	348	*eP*		**P**	17 43 57.5	-1.3		
	comp=Z,354nm,1.4s									
SCIA				LR		LR				
	comp=Z,2µm,20.0s									
KSCO	**Kaye Shedlock'**	48.70	338	⇑P		**P**	17 43 59.1	-0.3		
	baz=49									
T22A	**Edith**	48.78	333	⇓P		**P**	17 43 59.9	-0.3		
	baz=49,SNR=20									
TRY	**Troy**	48.79	8	*eP*		**P**	17 43 59.3	-0.5		
	comp=Z,253nm,1.3s									
HRV	**Adam Dziewonsk**	48.88	10	P		**P**	17 44 01.5	+1.0		
HRV				pmax		pmax				
	comp=Z,249nm,1.9s									
HRV	**Adam Dziewonsk**	48.88	10	P		**P**	17 44 01.5	+1.0		
	comp=Z,249nm,1.9s									
Q26A	**Hugo**	48.97	337	⇑P		**P**	17 44 01.1	-0.4		
	baz=49									
R24A	**Sanders Place,**	49.01	335	⇓P		**P**	17 44 01.4	-0.5		
	baz=49,SNR=9.0									
X16A	**Lo Mia Camp, P**	49.01	327	⇑P		**P**	17 44 01.8	-0.1		
	baz=49,SNR=9.7									
U20A	**Newcomb**	49.02	331	⇓P		**P**	17 44 01.8	-0.2		
	baz=49,SNR=16									
T21A	**Navajo Lake**	49.05	332	⇑P		**P**	17 44 01.3	-0.9		
	baz=49,SNR=9.2									
Z14A	**Wintersburg**	49.08	325	⇓P		**P**	17 44 02.8	+0.5		
	baz=49,SNR=6.4									
113A	**Mohawk Valley,**	49.13	323	⇓P		**P**	17 44 03.3	+0.6		
	baz=49,SNR=8.6									
Q25A	**Bedland, Calha**	49.24	336	⇑P		**P**	17 44 03.2	-0.5		
	baz=49									
R23A	**Moffat**	49.28	335	⇑P		**P**	17 44 03.1	-0.9		
	baz=50,SNR=12									
S22A	**4UR Ranch, Cre**	49.35	333	⇑P		**P**	17 44 04.5	-0.1		
	baz=50									
BGNE	**Belgrade**	49.40	343	⇓P		**P**	17 44 04.3	-0.3		
	baz=50									
ACCN	**Adirondack Com**	49.43	7	*eP*		**P**	17 44 03.4	-1.4		
	comp=Z,173nm,1.7s									
P26A	**Davis Ranch, A**	49.45	338	⇑P		**P**	17 44 04.9	-0.3		
	baz=50									
Y14A	**Wickenburg**	49.53	325	⇑P		**P**	17 44 06.4	+0.7		
	baz=50,SNR=11									
Q24A	**Divide**	49.65	336	⇑P		**P**	17 44 06.2	-0.6		
	baz=50,SNR=11									
EFI	**East Falkland**	49.68	161	*i* P		**P**	17 44 06.8	+0.3		
EFI	**East Falkland**	49.68	161	PFAKE			17 44 20.0	+14		
EFI				LR		LR				
	comp=Z,7µm,19.0s									
MVCO	**Mesa Verde**	49.68	332	*eP*		**P**	17 44 07.2	+0.2		
	comp=Z,42nm,0.9s									
MVCO				LR		LR				
	comp=Z,3µm,19.0s									
MVCO	**Mesa Verde**	49.68	332	⇑P		**P**	17 44 06.7	-0.3		
	baz=50									
O27A	**Beecher Island**	49.69	339	⇑P		**P**	17 44 06.8	-0.1		
	baz=50									
R22A	**Saguache, Gunn**	49.72	334	⇓P		**P**	17 44 07.0	-0.4		
	baz=50									
S21A	**Coal Bank Pass**	49.72	332	⇓P		**P**	17 44 06.7	-0.7		
	baz=50									
P25A	**Willow Gulch B**	49.73	337	⇓P		**P**	17 44 07.3	0.0		
	baz=50									
WUAZ	**Wupatki**	49.81	328	*eP*		**P**	17 44 09.0	+1.1		
	comp=Z,75nm,0.9s									
WUAZ	**Wupatki**	49.81	328	⇑P		**P**	17 44 08.1	+0.2		
	baz=50,SNR=5.5									
Q23A	**Hartsel**	49.88	335	⇓P		**P**	17 44 07.4	-1.2		
	baz=50,SNR=7.4									
HNH	**Hanover**	49.94	9	*eP*		**P**	17 44 08.4	-0.1		
	comp=Z,266nm,1.5s									
NCB	**Newcomb**	49.94	7	PFAKE			17 44 20.0	+11		
NCB				LR		LR				
	comp=Z,3µm,19.0s									
GLA	**Glamis**	49.97	323	*eP*		**P**	17 44 09.4	+0.3		
GLA				pmax		pmax				
	comp=Z,76nm,1.4s									
GLA	**Glamis**	49.97	323	*eP*		**P**	17 44 09.4	+0.3		
	comp=Z,76nm,1.4s									
GLA	**Glamis**	49.97	323	⇑P		**P**	17 44 09.0	-0.1		
	baz=50									
P24A	**Kohler Place,**	50.02	336	⇑P		**P**	17 44 09.6	+0.1		
	baz=50									
O26A	**Horse Wrangler**	50.04	338	⇑P		**P**	17 44 09.2	-0.3		
	baz=50									
S20A	**Disappointment**	50.12	332	⇑P		**P**	17 44 10.1	-0.3		
	baz=50,SNR=13									
R21A	**Cimarron**	50.18	333	⇑P		**P**	17 44 10.3	-0.6		
	baz=50,SNR=16									
OGNE	**Ogallala**	50.20	340	P		**P**	17 44 10.5	-0.2		
OGNE				LR		LR				
	comp=Z,4µm,20.0s									
OGNE	**Ogallala**	50.20	340	⇓P		**P**	17 44 11.1	+0.4		
	baz=50									
N27A	**Anderson Farm,**	50.25	339	⇓P		**P**	17 44 10.9	-0.3		
	baz=50									
Y12C	**Blythe**	50.28	324	⇑P		**P**	17 44 12.2	+0.9		
	baz=50,SNR=8.2									
P23A	**Jefferson**	50.28	335	⇓P		**P**	17 44 11.3	-0.4		
	baz=50,SNR=48									
Q22A	**Crested Butte,**	50.31	334	⇓P		**P**	17 44 11.5	-0.3		
	baz=50,SNR=13									
SADO	**Sadowa**	50.36	2	P		**P**	17 44 09.0	-2.7		
	comp=Z,5.9nm,0.7s,baz=211,slow=7.2,SNR=5.9									
SADO				PcP		**PcP**	17 45 29.8	-0.5		
	comp=Z,6.1nm,0.6s,baz=254,slow=4.1,SNR=1.9									
SADO	**Sadowa**	50.36	2	P		**P**	17 44 09.0	-2.7		
SADO				PcP		**PcP**	17 45 29.8	-0.5		
R20A	**Redvale**	50.41	332	⇓P		**P**	17 44 12.5	-0.1		
	baz=51,SNR=13									
PDMCI	**Parker Dam,Lak**	50.44	325	⇑P		**P**	17 44 12.0	-0.5		
	baz=51									
GLMI	**Grayling**	50.45	357	PFAKE			17 44 20.0	+7.5		
GLMI				LR		LR				
	comp=Z,11µm,20.0s									
PV01	**Paradox Valley**	50.46	332	*eP*		**P**	17 44 12.6	-0.4		
	comp=Z,3µm,1.1s									
DVTC	**Desert V Tower**	50.48	322	⇑P		**P**	17 44 12.8	-0.2		
	baz=51									
SWSC	**Sam W. Stewart**	50.48	322	⇑P		**P**	17 44 12.6	-0.3		
	baz=51									
LBNH	**Lisbon**	50.52	9	P		**P**	17 44 12.6	-0.4		
LBNH				pmax		pmax				
	comp=Z,272nm,2.0s									
LBNH				MLR		MLR				
	comp=Z,3µm,21.0s									
LBNH	**Lisbon**	50.52	9	P		**P**	17 44 12.6	-0.4		
	comp=Z,272nm,2.0s									
LBNH				LR		LR				
	comp=Z,3µm,21.0s									
LONY	**Lake Ozonia**	50.54	6	*eP*		**P**	17 44 11.2	-2.0		
	comp=Z,95nm,1.5s									
LONY				LR		LR				
	comp=Z,2µm,22.0s									
ISCO	**Idaho Springs**	50.55	336	*eP*		**P**	17 44 13.0	-0.7		
ISCO				pmax		pmax				
	comp=Z,59nm,1.0s									
ISCO				MLR		MLR				
	comp=Z,3µm,19.0s									
ISCO	**Idaho Springs**	50.55	336	*eP*		**P**	17 44 13.0	-0.7		
	comp=Z,59nm,1.0s									
ISCO				LR		LR				
	comp=Z,3µm,19.0s									
ISCO	**Idaho Springs**	50.55	336	⇑P		**P**	17 44 12.9	-0.7		
	baz=51,SNR=21									
SMCO	**Snowmass**	50.60	334	*eP*		**P**	17 44 13.4	-0.8		
	comp=Z,98nm,1.4s									
O24A	**Longmont**	50.61	337	⇓P		**P**	17 44 13.3	-0.6		
	baz=51,SNR=6.8									
BC3	**Big Chuckawall**	50.76	323	⇑P		**P**	17 44 16.0	+0.9		
	baz=51,SNR=19									
S18A	**Hurst Farm, Bl**	50.78	331	⇑P		**P**	17 44 15.0	-0.4		
	baz=51,SNR=17									
PV04	**Paradox Valley**	50.82	332	*eP*		**P**	17 44 16.2	+0.6		
M27A	**Reverse DX Ran**	50.84	340	⇓P		**P**	17 44 15.9	+0.3		
	baz=51									
BAR	**Barrett**	50.84	321	*eP*		**P**	17 44 16.9	+1.2		
	comp=Z,32nm,1.1s									
P22A	**Eagle**	50.85	335	⇑P		**P**	17 44 15.1	-0.8		
	baz=51,SNR=8.6									
FRNY	**Flat Rock**	50.87	7	*eP*		**P**	17 44 12.7	-2.9		
	comp=Z,110nm,1.7s									
W13A	**Hualapai Mount**	50.87	325	⇑P		**P**	17 44 16.2	+0.1		
	baz=51,SNR=7.1									
IRM	**Iron Mountain**	50.93	324	⇓P		**P**	17 44 15.8	-0.6		
	baz=51									
U15A	**North Rim**	50.98	328	⇑P		**P**	17 44 16.5	-0.5		
	baz=51,SNR=9.3									
Q20A	**Ridgley Place,**	51.00	333	⇓P		**P**	17 44 16.7	-0.2		
	baz=51									
O23A	**Lake Granby, G**	51.02	336	⇑P		**P**	17 44 16.3	-0.9		
	baz=51,SNR=19									
M26A	**McRoberts Ranc**	51.05	339	⇑P		**P**	17 44 17.0	-0.2		
	baz=51									
P21A	**Newcastle**	51.09	334	⇑P		**P**	17 44 17.5	-0.2		
	baz=51,SNR=8.6									
N24A	**Carr**	51.14	337	⇓P		**P**	17 44 18.2	+0.2		
	baz=51									
ECSD	**EROS Data Cent**	51.16	346	*eP*		**P**	17 44 15.9	-2.0		
	comp=Z,85nm,1.2s									
ECSD				LR		LR				
	comp=Z,2µm,19.0s									
WVL	**Waterville**	51.22	11	*eP*		**P**	17 44 18.1	-0.1		
	comp=Z,508nm,1.6s									
O22A	**Kremmling**	51.24	335	⇑P		**P**	17 44 18.1	-0.8		
	baz=51,SNR=13									
L27A	**T5 Ranch, Ells**	51.31	340	⇑P		**P**	17 44 19.5	+0.4		
	baz=52									
BELC	**Belle Mtn. Jos**	51.33	323	⇓P		**P**	17 44 19.4	-0.1		
	baz=52									
PFO	**Pinyon Flat Ob**	51.34	322	PFAKE			17 44 30.0	+10		
PFO				LR		LR				
	comp=Z,3µm,20.0s									
Q19A	**Hogan Spring (**	51.44	332	⇓P		**P**	17 44 19.9	-0.3		
	baz=52,SNR=7.8									
L26A	**Underwood Farm**	51.53	339	⇓P		**P**	17 44 21.0	+0.2		
	baz=52									
N23A	**Red Feather La**	51.61	336	⇑P		**P**	17 44 21.2	-0.4		
	baz=52									
M24A	**Cheyenne**	51.67	338	⇑P		**P**	17 44 21.9	0.0		
	baz=52									
GMRC	**Granite Mounta**	51.67	324	⇓P		**P**	17 44 22.9	+0.9		
	baz=52,SNR=12									
N22A	**Wattenberg Ran**	51.74	336	⇑P		**P**	17 44 22.4	-0.2		
	baz=52									
PHWY	**Pilot Hill**	51.77	337	*eP*		**P**	17 44 22.2	-0.6		
	comp=Z,34nm,1.1s									
SPMN	**St. Paul**	51.79	350	⇑P		**P**	17 44 21.4	-1.1		
	baz=52,SNR=6.6									
MURC	**Murrieta**	51.79	322	⇓P		**P**	17 44 21.7	-1.1		
	baz=52									
K27A	**Flueckinger Fa**	51.83	341	⇓P		**P**	17 44 23.0	0.0		
	baz=52									
P19A	**Cripple Cowboy**	51.86	333	⇑P		**P**	17 44 22.9	-0.6		
	baz=52,SNR=5.5									
O20A	**White River Ci**	51.94	334	⇓P		**P**	17 44 23.8	-0.2		
	baz=52									
M23A	**Laramie**	52.01	337	⇓P		**P**	17 44 23.6	-1.0		
	baz=52,SNR=5.1									
HEC	**Hector,Ludlow**	52.10	323	⇓P		**P**	17 44 25.9	+0.7		
	baz=52,SNR=14									
COWI	**Conover**	52.10	353	*eP*		P	17 44 21.6	-3.2		
	comp=Z,42nm,1.3s									
N21A	**Black Mountain**	52.15	335	⇓P		**P**	17 44 24.8	-0.8		
	baz=52,SNR=8.9									
K26A	**Motz Farm, Whi**	52.15	340	⇓P		**P**	17 44 25.7	+0.3		
	baz=52									
L24A	**Wheatland**	52.20	338	⇓P		**P**	17 44 26.1	+0.3		
	baz=52									
TUQ	**Turquoise Moun**	52.28	324	⇓P		**P**	17 44 26.5	0.0		
	baz=52									
M22A	**Cedar Creek Ra**	52.30	336	⇑P		**P**	17 44 26.6	-0.2		
	baz=52									
K25A	**Mack Ranch, Ha**	52.31	339	⇓P		**P**	17 44 26.8	+0.2		
	baz=52									
CCUT	**Cedar City**	52.39	328	*eP*		**P**	17 44 27.8	+0.4		
	comp=Z,62nm,1.2s									
CIS	**Catalina Islan**	52.41	321	⇑P		**P**	17 44 27.3	-0.1		
	baz=53									
BRSD	**Miller**	52.43	344	⇓P		**P**	17 44 27.0	-0.3		
	baz=53									
P18A	**Preston Nutter**	52.44	332	⇓P		**P**	17 44 27.9	+0.1		
	baz=53									
O19A	**Miners Draw (B**	52.46	333	⇑P		**P**	17 44 27.2	-0.7		
	baz=53,SNR=5.8									
BFSC	**Mount Baldy Ra**	52.50	322	⇑P		**P**	17 44 28.8	+0.6		
	baz=53,SNR=5.6									
MSU	**Marysvale**	52.50	330	*eP*		**P**	17 44 28.6	+0.4		
MSU				pmax		pmax				
	comp=Z,41nm,1.1s									
MSU	**Marysvale**	52.50	330	*eP*		**P**	17 44 28.6	+0.4		
	comp=Z,41nm,1.1s									
MVU	**Marysvale**	52.52	330	PFAKE			17 44 40.0	+12		
MVU				LR		LR				
	comp=Z,6µm,19.0s									
P17A	**Butcher Ranch,**	52.55	331	⇓P		**P**	17 44 28.0	-0.5		
	baz=53,SNR=9.4									
L23A	**Garrett**	52.56	337	⇓P		**P**	17 44 28.8	+0.2		
	baz=53									
ARUT	**Antelope Range**	52.61	328	*eP*		**P**	17 44 29.9	+0.9		
ARUT				pmax		pmax				
	comp=Z,67nm,1.1s									
ARUT	**Antelope Range**	52.61	328	*eP*		**P**	17 44 29.9	+0.9		
	comp=Z,67nm,1.1s									
GSC	**Goldstone**	52.71	323	*eP*		**P**	17 44 29.7	+0.1		
GSC				pmax		pmax				
	comp=Z,59nm,1.2s									
GSC	**Goldstone**	52.71	323	*eP*		**P**	17 44 29.7	+0.1		
	comp=Z,59nm,1.2s									
GSC	**Goldstone**	52.71	323	⇓P		**P**	17 44 30.3	+0.7		
	baz=53,SNR=8.2									
MWC	**Mount Wilson**	52.73	322	*eP*		**P**	17 44 30.2	+0.2		
MWC				pmax		pmax				
	comp=Z,65nm,1.3s									
MWC	**Mount Wilson**	52.73	322	*eP*		**P**	17 44 30.2	+0.2		
	comp=Z,65nm,1.3s									
K24A	**Anderson Ranch**	52.75	338	⇑P		**P**	17 44 30.4	+0.5		
	baz=53									
L22A	**Ellis Ranch, M**	52.77	337	⇑P		**P**	17 44 30.3	+0.2		
	baz=53									
M21A	**Separation Pea**	52.79	336	⇓P		**P**	17 44 30.3

DUG	Dugway	54.11	330	⇓P		P	17 44 40.2	+0.3
	baz=54,SNR=7.0							
R11A	Troy Canyon, C	54.16	327	⇓P		P	17 44 40.9	+0.5
	baz=54,SNR=19							
L18A	Fontenelle, Gr	54.18	334	⇓P		P	17 44 40.3	-0.2
	baz=54							
GRAC	Grapevine Rang	54.21	325	⇑P		P	17 44 40.3	-0.3
	baz=54							
EYMN	Ely	54.23	352	eP		P	17 44 38.3	-2.1
EYMN	comp=Z,122nm,1.2s							
	comp=Z,4μm,19.0s			LR		LR		
CWC	Cottonwood Cre	54.24	324	⇓P		P	17 44 40.4	-0.5
	baz=54							
J21A	Lysite	54.28	337	⇑P		P	17 44 40.5	-0.7
	baz=54,SNR=17							
RKT	Rikitea	54.33	246	eP		P	17 44 40.0	-1.7
RKT	comp=Z,149nm,1.2s							
	comp=Z,3μm,26.5s			eS		S	17 52 22.9	+2.6
RKT				eLQ		LQ	17 58 08.7	
RKT	comp=Z,1μm,30.2s			eLR		LR	18 00 28.8	
	comp=Z,6μm,27.0s,baz=76							
RKT	Rikitea	54.33	246	eP		P	17 44 40.0	-1.7
RKT				eS		S	17 52 22.9	+2.6
RKT				pmax		pmax		
	comp=Z,149nm,1.2s							
RKT	Rikitea	54.33	246	eP		P	17 44 40.0	-1.7
RKT	comp=Z,149nm,1.2s							
RKT				eS		S	17 52 22.9	+2.6
RKT				eLQ		LQ	17 58 08.7	
I22A	9 Mile Ranch,	54.38	338	⇑P		P	17 44 41.6	-0.2
	baz=54							
K19A	Absolon Red Bu	54.41	335	⇑P		P	17 44 41.5	-0.7
	baz=55,SNR=22							
H24A	Dirks Ranch, A	54.42	340	⇓P		P	17 44 41.3	-0.7
	baz=55,SNR=7.6							
J20A	Shoshoni	54.54	336	⇑P		P	17 44 42.6	-0.4
	baz=55							
I21A	Big Trails, Te	54.61	337	⇓P		P	17 44 42.4	-1.1
	baz=55,SNR=25							
SMMC	Simmler	54.65	321	⇑P		P	17 44 43.4	-0.4
	baz=55							
PDAR	Pinedale Array	54.66	335	P		P	17 44 43.5	-0.5
	comp=Z,9.1nm,0.9s,baz=132,slow=8.5,SNR=47							
PDAR				LR		LR	18 07 59.6	
	comp=Z,3μm,19.5s,baz=141,slow=36							
PDAR				PKPPKP		P'P'df	18 15 08.7	+15
	comp=Z,2.1nm,1.1s,baz=270,slow=0.4,SNR=6.4							
PDAR	Pinedale Array	54.66	335	P		P	17 44 43.5	-0.5
PDAR				P'P'			18 15 08.7	
BW06	Boulder Array	54.66	335	PFAKE			17 45 00.0	+16
BW06				LR		LR		
	comp=Z,4μm,20.0s							
BW06	Boulder Array	54.66	335	⇓P		P	17 44 43.7	-0.4
	baz=55							
L17A	Cokeville	54.69	333	⇑P		P	17 44 43.6	-0.6
	baz=55,SNR=12							
K18A	Toltan Ranch,	54.76	334	⇑P		P	17 44 44.2	-0.6
	baz=55,SNR=26							
J19A	Crowheart	54.86	336	⇑P		P	17 44 44.7	-0.7
	baz=55,SNR=16							
TPH	Tonopah	54.87	326	PFAKE			17 45 00.0	+14
TPH				LR		LR		
	comp=Z,3μm,20.0s							
G24A	Alzada	54.89	340	⇓P		P	17 44 45.2	-0.2
	baz=55							
M15A	Larsen Ranch,	54.91	332	⇓P		P	17 44 46.3	+0.5
	baz=55							
I20A	Worland	55.06	337	⇓P		P	17 44 46.1	-0.6
	baz=55,SNR=7.7							
G23A	Biddle	55.11	339	⇓P		P	17 44 46.7	-0.3
	baz=55							
H21A	Big Horn, Sher	55.21	338	⇑P		P	17 44 47.3	-0.6
	baz=55							
J18A	Kendall Valley	55.22	335	⇑P		P	17 44 47.2	-0.8
	baz=55,SNR=12							
K17A	Gardner Place,	55.24	334	⇓P		P	17 44 48.0	-0.2
	baz=55,SNR=6.4							
L15A	Malad City	55.31	332	⇑P		P	17 44 48.3	-0.3
	baz=56,SNR=14							
HVU	Hansel Valley	55.31	332	eP		P	17 44 46.8	-1.9
HVU				pmax		pmax		
	comp=Z,45nm,1.1s							
HVU	Hansel Valley	55.31	332	eP		P	17 44 46.8	-1.9
	comp=Z,45nm,1.1s							
AGMN	Agassiz Nation	55.32	348	eP		P	17 44 46.8	-1.6
	comp=Z,100nm,0.9s							
AGMN				LR		LR		
	comp=Z,2μm,19.0s							
AHID	Auburn Hatcher	55.33	334	PFAKE			17 45 00.0	+11
AHID				LR		LR		
	comp=Z,3μm,21.0s							
F24A	Ekalaka	55.35	341	⇑P		P	17 44 48.0	-0.8
	baz=56,SNR=9.8							
G22A	Birney	55.44	339	⇓P		P	17 44 48.4	-1.0
	baz=56,SNR=9.5							
H20A	Greybull	55.46	337	⇓P		P	17 44 49.0	-0.6
	baz=56,SNR=5.9							
I19A	Meeteetse	55.47	336	⇑P		P	17 44 49.7	-0.1
	baz=56,SNR=9.0							
I18A	Diamond G Ranc	55.53	335	⇓P		P	17 44 49.5	-0.9
	baz=56,SNR=10							
K16A	Soda Springs	55.60	333	⇑P		P	17 44 50.6	-0.1
	baz=56,SNR=8.5							
J17A	Brown Place, J	55.64	334	⇑P		P	17 44 50.7	-0.3
	baz=56,SNR=22							
REDW	Red Top Meadow	55.70	334	eP		P	17 44 52.2	+0.7
	comp=Z,1.4nm,1.6s							
NVAR	Mina Array Bea	55.73	325	P		P	17 44 52.7	+0.9
	comp=Z,12nm,0.9s,baz=144,slow=6.7,SNR=22							
NVAR				PcP		PcP	17 45 51.0	-0.1
	comp=Z,4.1nm,0.8s,baz=198,slow=4.7,SNR=0.9							
NVAR				PKPPKP		P'P'df	18 15 15.0	+22
	comp=Z,0.4nm,0.3s,baz=343,slow=1.5,SNR=4.2							
NVAR	Mina Array Bea	55.73	325	P		P	17 44 52.7	+0.9
NVAR				PcP		PcP	17 45 51.0	-0.1
NVAR				P'P'			18 15 15.0	
L14A	Malta	55.73	332	⇑P		P	17 44 51.0	-0.7
	baz=56,SNR=5.7							
ELK	Elko	55.74	329	eP		P	17 44 51.1	-0.7
SNOW	Snow King Moun	55.74	334	P		P	17 44 53.7	+1.9
	comp=Z,82nm,1.3s							
MDND	Maddock	55.75	345	⇓P		P	17 44 51.5	0.0
	baz=56							
G21A	Lodge Grass	55.78	338	⇑P		P	17 44 51.6	-0.3
	baz=56							
LOHW	Long Hollow	55.79	335	eP		P	17 44 50.5	-1.7
	comp=Z,30nm,1.1s							
TPAW	Teton Pass	55.84	334	eP		P	17 44 52.4	-0.2
	comp=Z,94nm,1.0s							
RRI2	Red Ridge	55.89	334	eP		P	17 44 52.6	-0.4
	comp=Z,96nm,0.9s							
K15A	Arbon	55.91	333	⇓P		P	17 44 52.5	-0.4
	baz=56							
F22A	Rosebud	55.91	339	⇑P		P	17 44 52.3	-0.4
	baz=56							
E24A	Baker	55.94	341	⇑P		P	17 44 52.7	-0.3
	baz=56							
J16A	Bone	55.96	334	⇓P		P	17 44 52.7	-0.6
	baz=56,SNR=18							
MOOW	Moose Ponds	55.96	335	eP		P	17 44 52.3	-1.1
	comp=Z,40nm,1.3s							
H19A	Powell	56.00	337	⇓P		P	17 44 53.2	-0.3
	baz=56							
DCID1	Drake Creek	56.03	334	eP		P	17 44 54.3	+0.5
	comp=Z,80nm,1.0s							
K14A	Jones Ranch, D	56.10	332	⇑P		P	17 44 53.2	-1.0
	baz=56,SNR=12							
G20A	Bridger	56.16	337	⇓P		P	17 44 53.6	-1.0
	baz=56,SNR=9.7							
IMW	Indian Meadow	56.17	335	eP		P	17 44 54.7	-0.2
	comp=Z,47nm,1.1s							
FLWY	Flagg Ranch	56.22	335	eP		P	17 44 55.1	-0.1
	comp=Z,65nm,1.4s							
F21A	Absaloka Mine,	56.26	339	⇑P		P	17 44 54.9	-0.3
	baz=56							
H18A	Shoshone NF, C	56.27	336	⇓P		P	17 44 55.3	-0.3
	baz=56,SNR=11							
E22A	Miles City	56.38	340	⇑P		P	17 44 56.2	+0.1
	baz=57							
I16A	Newdale	56.38	334	⇑P		P	17 44 55.8	-0.6
	baz=57,SNR=10							
H17A	Grant Village	56.42	335	⇑P		P	17 44 56.9	+0.3
	baz=57,SNR=7.9							
J15A	Blackfoot	56.42	333	⇑P		P	17 44 56.3	-0.3
	baz=57,SNR=7.5							
D24A	Glendive	56.44	341	⇓P		P	17 44 55.7	-0.8
	baz=57,SNR=14							
LKWY	Lake	56.48	335	eP		P	17 44 57.1	0.0
LKWY				pmax		pmax		
	comp=Z,30nm,1.0s							
LKWY				MLR		MLR		
	comp=Z,4μm,20.0s							
LKWY	Lake	56.48	335	eP		P	17 44 57.0	0.0
LKWY	comp=Z,30nm,1.0s							
	comp=Z,4μm,20.0s			LR		LR		
RLMT	Red Lodge	56.48	337	eP		P	17 44 56.0	-1.1
	comp=Z,30nm,1.1s							
RLMT				LR		LR		
	comp=Z,3μm,19.0s							
RLMT	Red Lodge	56.48	337	⇑P		P	17 44 56.4	-0.7
	baz=57							
BMN	Battle Mountai	56.54	328	eP		P	17 44 57.5	0.0
BMN				pmax		pmax		
	comp=Z,49nm,1.4s							
BMN				MLR		MLR		
	comp=Z,5μm,20.0s							
BMN	Battle Mountai	56.54	328	eP		P	17 44 57.5	0.0
BMN	comp=Z,49nm,1.4s							
	comp=Z,5μm,20.0s			LR		LR		
YFT	Old Faithful	56.57	335	eP		P	17 44 59.1	+1.3
	comp=Z,50nm,1.0s							
F20A	Billings	56.62	338	⇓P		P	17 44 57.4	-0.5
	baz=57							
CMB	Columbia Colle	56.67	324	P		P	17 44 58.5	+0.2
CMB				pmax		pmax		
	comp=Z,43nm,1.3s							
CMB	Columbia Colle	56.67	324	P		P	17 44 58.5	+0.2
	comp=Z,43nm,1.3s							
G18A	Lazy EL Ranch,	56.76	337	⇓P		P	17 44 58.2	-0.8
	baz=57,SNR=17							
YMR	Madison River	56.80	335	eP		P	17 45 00.1	+0.8
	comp=Z,130nm,1.4s							
C24A	Savage	56.83	342	⇑P		P	17 44 59.8	+0.5
	baz=57							
J14A	Carey	56.86	332	⇓P		P	17 44 59.5	-0.2
	baz=57,SNR=24							
I15A	Monteview	56.92	334	⇑P		P	17 45 00.2	+0.1
	baz=57							
H16A	Russell Place,	56.95	335	⇑P		P	17 44 59.9	-0.4
	baz=57,SNR=20							
F19A	Roth Farm, Mol	56.97	337	⇓P		P	17 44 59.5	-0.8
	baz=57,SNR=19							
D22A	Cohagen	57.07	340	⇑P		P	17 45 00.4	-0.6
	baz=57,SNR=17							
QLMT	Earthquake Lak	57.13	335	eP		P	17 45 01.6	0.0
	comp=Z,9.8nm,1.2s							
ULM	Lac du Bonnet	57.19	349	P		P	17 45 00.6	-1.1
	comp=Z,14nm,0.8s,baz=164,slow=7.8,SNR=20							
ULM	Lac du Bonnet	57.19	349	P		P	17 45 00.6	-1.1
GCMT	Greycliff	57.20	337	eP		P	17 45 00.9	-1.1
	comp=Z,80nm,1.1s							
E20A	Meyer Farm, Mu	57.21	338	⇑P		P	17 45 01.2	-0.8
	baz=57,SNR=16							
J13A	Cove Ranch, Pi	57.22	332	⇓P		P	17 45 01.8	-0.5
	baz=57,SNR=22							
G17A	Pierce Place,	57.24	336	⇓P		P	17 45 02.3	0.0
	baz=57,SNR=9.4							
D21A	La Casita Ranch	57.28	339	⇓P		P	17 45 02.1	-0.4
	baz=58,SNR=7.0							
I14A	Mackay	57.30	333	⇓P		P	17 45 02.6	-0.2
	baz=58,SNR=11							
F18A	Big Timber	57.31	337	⇑P		P	17 45 02.2	-0.5
	baz=58,SNR=46							
C23A	Lambert	57.31	341	⇓P		P	17 45 01.9	-0.8
	baz=58,SNR=9.2							
E19A	Rath Farm, Rou	57.42	338	⇓P		P	17 45 03.0	-0.5
	baz=58,SNR=26							
HLID	Hailey	57.46	332	eP		P	17 45 03.7	-0.3
	comp=Z,79nm,0.9s							
HLID				LR		LR		
	comp=Z,2μm,19.0s							
HLID	Hailey	57.46	332	⇑P		P	17 45 03.9	0.0
	baz=58,SNR=31							
H15A	Lima	57.48	334	⇓P		P	17 45 04.1	0.0
	baz=58,SNR=27							
C22A	Vida	57.49	341	⇑P		P	17 45 03.4	-0.6
	baz=58,SNR=8.2							
I13A	Wildhorse Cree	57.59	332	⇑P		P	17 45 04.9	-0.1
	baz=58,SNR=32							
DGMT	Dagmar	57.60	342	eP		P	17 45 03.2	-1.5
DGMT	comp=Z,82nm,1.2s							
	comp=Z,2μm,20.0s			LR		LR		
DGMT	Dagmar	57.60	342	⇓P		P	17 45 04.1	-0.6
	baz=58							
G16A	Moss Hill, Enn	57.61	335	⇓P		P	17 45 04.4	-0.6
	baz=58,SNR=13							
F17A	Fitzpatrick Pl	57.68	336	⇑P		P	17 45 05.1	-0.4
	baz=58,SNR=19							
D20A	Manuel Ranch,	57.71	339	⇓P		P	17 45 05.2	-0.4
	baz=58,SNR=9.7							
MCMT	McKenzie Canyo	57.73	334	eP		P	17 45 05.8	-0.2
	comp=Z,19nm,0.9s							
H14A	Leadore	57.80	333	⇓P		P	17 45 06.2	-0.2
	baz=58,SNR=32							
B23A	Brockton	57.84	342	⇓P		P	17 45 06.2	-0.2
	baz=58,SNR=9.1							
G15A	Dillon	57.85	334	⇑P		P	17 45 06.7	0.0
	baz=58,SNR=16							
BOZ	Bozeman (W)	57.87	335	PFAKE			17 45 20.0	+13
BOZ				LR		LR		
	comp=Z,2μm,21.0s							
BOZ	Bozeman (W)	57.87	335	⇓P		P	17 45 06.3	-0.5
	baz=58							
E18A	Harlowton	57.93	337	⇓P		P	17 45 06.5	-0.7
	baz=58,SNR=11							
A24A	Westby	57.94	343	⇑P		P	17 45 06.8	-0.3
	baz=58,SNR=6.6							
C21A	Desert Coulee	57.97	340	⇓P		P	17 45 06.5	-0.9
	baz=58,SNR=14							
F16A	Kennard Place,	57.98	335	⇑P		P	17 45 07.5	0.0
	baz=58,SNR=8.8							
B22A	Reddig Ranch S	58.02	341	⇓P		P	17 45 07.5	-0.1
	baz=58							
MFID	Camas Ranch	58.02	331	eP		P	17 45 08.0	+0.2
	comp=Z,81nm,1.0s							
MFID	Camas Ranch	58.02	331	⇑P		P	17 45 07.6	-0.2
	baz=58,SNR=27							
D19A	Cripps Ranch,	58.04	338	⇓P		P	17 45 07.0	-0.8
	baz=58,SNR=14							
DLMT	Dillon	58.05	335	eP		P	17 45 06.4	-1.6
	comp=Z,106nm,1.2s							
H13A	Challis	58.16	333	⇑P		P	17 45 08.5	-0.3
	baz=58,SNR=24							
C20A	Veseth Ranch,	58.19	339	⇑P		P	17 45 08.4	-0.4
	baz=58							
E17A	Martinsdale	58.22	336	⇓P		P	17 45 08.9	-0.3
	baz=58,SNR=20							
A23A	Redstone	58.24	342	⇓P		P	17 45 08.9	-0.2
	baz=58							
G14A	Jackson	58.33	334	⇑P		P	17 45 10.0	-0.1
	baz=58,SNR=7.1							
LRM	Limekiln Ridge	58.35	335	eP		P	17 45 09.2	-1.1
	comp=Z,315nm,1.0s							
F15A	Butte	58.39	335	⇓P		P	17 45 10.2	-0.3
	baz=59,SNR=12							
D18A	Linhart Farms,	58.41	338	⇑P		P	17 45 10.5	0.0
	baz=59							
H12A	Diamond D Ranc	58.42	332	⇓P		P	17 45 10.7	0.0
	baz=59,SNR=34							
B21A	Ellsworth Farm	58.46	340	⇓P		P	17 45 10.9	+0.1
	baz=59							
G13A	Cobalt	58.55	333	⇑P		P	17 45 11.7	+0.1
	baz=59,SNR=18							
C19A	Slack Wire Ran	58.58	338	⇓P		P	17 45 11.0	-0.6
	baz=59,SNR=18							
A22A	Carney Farms,	58.59	341	⇓P		P	17 45 11.3	-0.4
	baz=59							
E16A	East Helena	58.60	336	⇓P		P	17 45 11.6	-0.3
	baz=59,SNR=16							
D17A	Six Diamond Ra	58.72	337	⇑P		P	17 45 12.3	-0.3
	baz=59,SNR=29							
F14A	Wisdom	58.74	334	⇑P		P	17 45 12.7	-0.2
	baz=59,SNR=11							
HRY	Holter Researc	58.81	336	eP		P	17 45 13.2	-0.1
	comp=Z,46nm,0.9s							
B20A	Solberg Farm,	58.81	340	⇓P		P	17 45 12.6	-0.6
	baz=59,SNR=8.7							
E15A	Deer Lodge	58.91	335	⇓P		P	17 45 13.6	-0.5
	baz=59							
A21A	Bergtoll Ranch	58.92	341	⇑P		P	17 45 13.2	-0.7
	baz=59,SNR=13							
D16A	Dana Ranch, Ca	58.96	336	⇑P		P	17 45 13.8	-0.6
	baz=59,SNR=23							
EGMT	Eagleton	59.09	338	eP		P	17 45 14.8	-0.4
	comp=Z,95nm,1.0s							
EGMT				LR		LR		
	comp=Z,2μm,20.0s							
EGMT	Eagleton	59.09	338	⇑P		P	17 45 14.3	-0.9
	baz=59							
F13A	Darby	59.14	334	⇓P		P	17 45 15.3	-0.3
	baz=59,SNR=31							
C17A	Wharram Farm,	59.14	337	⇓P		P	17 45 14.6	-1.0
	baz=59,SNR=22							
B19A	Brinkman Farms	59.15	339	⇑P		P	17 45 14.7	-0.8
	baz=59,SNR=17							
A20A	Cobblestone Ra	59.16	340	⇓P		P	17 45 15.0	-0.6
	baz=59							
MOD	Modoc	59.23	327	eP		P	17 45 16.0	-0.3
	comp=Z,102nm,1.0s							
E14A	Clinton	59.27	335	⇓P		P	17 45 15.8	-0.7
	baz=59,SNR=18							
D15A	Lincoln	59.36	336	⇓P		P	17 45 16.5	-0.6
	baz=60							
B18A	Beardsley Farm	59.40	338	⇑P		P	17 45 17.1	-0.2
	baz=60,SNR=13							
A19A	Kilndworth Far	59.48	339	⇑P		P	17 45 17.4	-0.5
	baz=60,SNR=19							
F12A	Elk City	59.52	333	⇑P		P	17 45 18.5	+0.2
	baz=60,SNR=29							
CHMT	Chamberlain Mo	59.56	335	eP		P	17 45 18.4	-0.2
	comp=Z,20nm,1.2s							
E13A	Victor	59.58	334	⇓P		P	17 45 18.3	-0.4
	baz=60,SNR=12							
WDC	Whiskeytown Da	59.60	324	eP		P	17 45 16.6	-2.1
WDC				pmax		pmax		
	comp=Z,26nm,1.0s							
WDC	Whiskeytown Da	59.60	324	eP		P	17 45 16.6	-2.1
	comp=Z,26nm,1.0s							
KIPM	Iron Peak	59.66	323	eP		P	17 45 20.9	+1.5
	comp=Z,61nm,1.1s							
C16A	Fuhringer Ranc	59.66	337	⇓P		P	17 45 18.9	-0.2
	baz=60,SNR=22							
B17A	L&G Farms, Che	59.70	338	⇑P		P	17 45 18.8	-0.6
	baz=60,SNR=5.3							
MSO	Missoula	59.78	335	eP		P	17 45 19.7	-0.3
	comp=Z,84nm,1.0s							
MSO	Missoula	59.78	335	⇑P		P	17 45 19.7	-0.3
	baz=60							
D14A	Greenough	59.80	335	⇓P		P	17 45 19.9	-0.2
	baz=60,SNR=11							
BMO	Blue Mountains	59.80	331	eP		P	17 45 18.9	-1.3
BMO	comp=Z,18nm,1.2s							
	comp=Z,2μm,20.0s			LR		LR		
A18A	Metzger Ranch,	59.87	339	⇓P		P	17 45 19.9	-0.5
	baz=60							
SLMT	Seeley Lake	59.92	335	eP		P	17 45 20.8	-0.2
	comp=Z,32nm,0.9s							
C15A	Salmond Ranch,	59.98	336	⇑P		P	17 45 21.3	-0.1
	baz=60,SNR=22							
B16A	M & M Farms, S	60.15	337	⇑P		P	17 45 22.0	-0.4
	baz=60,SNR=16							
PMSA	Palmer Station	60.18	172	PFAKE			17 45 30.0	+7.7
PMSA				LR		LR		
	comp=Z,5μm,19.0s							
A17A	Triple J Farms	60.20	338	⇓P		P	17 45 22.2	-0.6
	baz=60,SNR=9.4							
D13A	Huson	60.21	335	⇑P		P	17 45 22.3	-0.6
	baz=60,SNR=16							
HOG	Hogback Mounta	60.23	326	P		P	17 45 23.8	+0.5
SWMT	Swartz Lake	60.34	335	eP		P	17 45 24.0	+0.2
	comp=Z,32nm,1.0s							
B15A	Bradely Ranch,	60.40	337	⇓P		P	17 45 23.7	-0.5
	baz=61,SNR=19							
YBH	Yreka Blue Hor	60.45	325	P		P	17 45 24.1	-0.5
	comp=Z,20nm,1.2s,baz=168,slow=4.4,SNR=13							
YBH	Yreka Blue Hor	60.45	325	eP		P	17 45 22.4	-2.3
	comp=Z,30nm,1.0s							
KHMM	Horse Mountain	60.48	324	eP		P	17 45 25.6	+0.6
	comp=Z,73nm,1.0s							
A16A	West Butte Ran	60.54	338	⇑P		P	17 45 24.9	-0.3
	baz=61							
YBMT	Yellow Bay	60.62	335	eP		P	17 45 26.2	+0.4
	comp=Z,74nm,0.9s							
JTMT	Jette	60.65	335	eP		P	17 45 26.4	+0.5
	comp=Z,38nm,1.0s							
C13A	Hot Springs	60.72	335	⇓P		P	17 45 26.1	-0.3
	baz=61							
B14A	Marquette Ranc	60.72	336	⇓P		P	17 45 26.3	-0.2
	baz=61,SNR=82							
SACV	Santiago Islan	60.87	69	PFAKE			17 45 40.0	+12
SACV				LR		LR		
	comp=Z,5μm,20.0s							
BLMT	Blacktail Moun	60.89	335	eP		P	17 45 28.1	+0.4
	comp=Z,64nm,1.0s							
BSMT	Bassoo Peak	60.94	335	eP		P	17 45 27.4	-0.6
	comp=Z,65nm,1.0s							
KRMB	Red Mountain	61.00	325	eP		P	17 45 28.4	0.0
	comp=Z,98nm,1.3s							
A15A	Johnson Ranch,	61.00	337	⇑P		P	17 45 27.5	-0.8
	baz=61,SNR=11							
C12B	Naegeli Ranch,	61.12	334	⇓P		P	17 45 29.1	0.0
	baz=61,SNR=12							
HUMO	Hull Mountain	61.16	326	P		P	17 45 31.9	+2.5
	comp=Z,17nm,1.0s							
VIPM	Ingram Point	61.20	329	P		P	17 45 30.4	+0.6
VIPM	Ingram Point	61.20	329	P		P	17 45 30.4	+0.6
B13A	Whitefish	61.22	335	⇓P		P	17 45 29.8	+0.1
	baz=61							
A14A	Double T Ranch	61.27	337	⇑P		P	17 45 29.7	-0.4
	baz=61,SNR=19							
WALA	Waterton Lakes	61.53	336	eP		P	17 45 31.2	-0.8
	comp=Z,2.8nm,0.9s							
SCHQ	Schefferville	61.60	10	P		P	17 45 30.7	-1.4
	comp=Z,6.5nm,0.9s,baz=236,slow=8.9,SNR=8.6							
SCHQ				LR		LR	18 11 18.4	
	comp=Z,3μm,19.7s,baz=197,slow=35							
SCHQ	Schefferville	61.60	10	eP		P	17 45 29.2	-3.0
	comp=Z,287nm,2.0s							
B12A	Libby	61.76	335	⇑P		P	17 45 33.3	0.0
	baz=62							
FRIS	Frissel Point	61.77	328	P		P	17 45 33.7	0.0
HAWA	Hanford	61.99	331	eP		P	17 45 33.7	-1.2
	comp=Z,23nm,1.0s							
HAWA				LR		LR		
	comp=Z,4μm,19.0s							
BROR	Big Rock Looko	61.99	328	P		P	17 45 34.5	-0.4
KEBM	Edson Butte	62.11	325	eP		P	17 45 36.4	+0.5
	comp=Z,122nm,1.1s							
A12A	Yaak River Ran	62.15	335	⇑P		P	17 45 36.2	+0.2
	baz=62							
NEW	Newport	62.26	334	P		P	17 45 36.4	-0.4
	comp=Z,11nm

PMOR Pomariorio Ree 65.83 256 *e*P P 17 45 59.2 -1.6
comp=Z,360nm,1.3s
MEH Mehetia 66.05 253 *e*P P 17 46 00.4 -1.8
comp=Z,154nm,1.2s
MEH Mehetia 66.05 253 *e*P P 17 46 00.4 -1.8
comp=Z,154nm,1.2s
TVO Taravao 67.17 253 *e*P P 17 46 07.9 -1.6
comp=Z,229nm,1.4s
TVO Taravao 67.17 253 *e*P P 17 46 07.9 -1.6
TVO pmax pmax
comp=Z,229nm,1.4s
TVO Taravao 67.17 253 *e*P P 17 46 07.9 -1.6
comp=Z,229nm,1.4s
TIAR Tiarei 67.26 253 *e*P P 17 46 08.2 -1.7
comp=Z,84nm,1.1s
TIAR Tiarei 67.26 253 *e*P P 17 46 08.2 -1.7
comp=Z,84nm,1.1s
PPT Papeete 67.48 253 P P 17 46 13.5 +2.1
comp=Z,6.5nm,0.4s,baz=61,slow=18,SNR=6.9
PPT LR LR 18 07 41.5
comp=Z,2µm,18.6s,baz=35,slow=29
PPT Papeete 67.48 253 P P 17 46 13.5 +2.1
PPT2 Papeete2 67.48 253 *e*P P 17 46 10.0 -1.4
comp=Z,127nm,1.4s
PPT2 *e*S S 17 55 07.5 -1.0
comp=Z,5µm,26.0s
PPT2 *e*LR LR 18 06 34.9
comp=Z,6µm,27.2s,baz=95
PAE Paea 67.48 253 *e*P P 17 46 09.8 -1.5
comp=Z,37nm,1.3s
PAE Paea 67.48 253 *e*P P 17 46 09.8 -1.5
PAE pmax pmax
comp=Z,37nm,1.3s
PAE Paea 67.48 253 *e*P P 17 46 09.8 -1.5
comp=Z,37nm,1.3s
CMLA Cha da Macela 67.59 45 PFAKE 17 46 20.0 +8.4
CMLA LR LR
comp=Z,2µm,20.0s
TBI Tubuai 67.59 247 *e*P P 17 46 10.5 -1.4
comp=Z,307nm,1.4s
TBI *e*S S 17 55 08.9 -0.6
comp=Z,5µm,29.2s
TBI *e*LR LR 18 06 29.7
comp=Z,3µm,28.2s,baz=83
TBI Tubuai 67.59 247 *e*P P 17 46 10.5 -1.4
comp=Z,307nm,1.4s
TBI *e*S S 17 55 08.9 -0.6
PMOZ Porto Moniz, M 71.91 53 *e*S S 17 56 07.8 +7.6
PMOZ *e*LQ LQ 18 10 29.1
PMOZ *e*LR LR 18 15 23.9
comp=Z,2µm,18.0s
YKA Yellowknife Ar 72.66 345 P P 17 46 40.6 -1.5
comp=Z,3.0nm,0.8s,baz=138,slow=5.9,SNR=31
YKA Yellowknife Ar 72.66 345 P P 17 46 40.6 -1.5
YKW3 Yellowknife Ar 72.72 345 *e*P P 17 46 41.0 -1.5
comp=Z,0.4nm,1.2s
SHEL Horse Pasture 74.67 105 PFAKE 17 47 10.0 +15
SHEL LR LR
comp=Z,7µm,19.0s
DLBC Dease Lake 74.87 336 *e*P P 17 46 55.8 +0.4
SFJD Kangerlussuaq 75.88 12 P P 17 46 59.7 -1.2
comp=Z,11nm,0.9s,baz=203,slow=10,SNR=5.4
SFJD LR LR 18 19 51.7
comp=Z,2µm,21.4s,baz=212,slow=35
SFJD Kangerlussuaq 75.88 12 *e*P P 17 46 59.4 -1.4
comp=Z,33nm,1.1s
SFJD Kangerlussuaq 75.88 12 *i* P P 17 46 59.4 -1.4
comp=Z,13nm,1.2s
SFJD
comp=Z,1µm,19.0s
LIC Lamto 77.17 82 ||*i*P P 17 47 09.7 +0.4
comp=Z,232nm,1.6s,baz=261
LIC *e*R
comp=Z,11µm,17.8s
LIC Lamto 77.17 82 ||*i*P P 17 47 09.7 +0.4
comp=Z,232nm,1.6s
DBIC Dimbokro 77.39 82 P P 17 47 10.6 0.0
comp=Z,35nm,0.9s,baz=240,slow=6.0,SNR=27
DBIC LR LR 18 20 00.3
comp=Z,5µm,19.1s,baz=195,slow=35
DBIC Dimbokro 77.39 82 *e*P P 17 47 11.1 +0.6
comp=Z,172nm,1.5s
VNA3 Neumayer Olymp 78.73 162 *e*P P 17 47 18.1 +1.2
VNA1 Neumayer--Stat 79.02 161 *e*P P 17 47 20.1 +1.6
VNA1 Neumayer--Stat 79.02 161 *e*PcP PcP 17 47 27.8 +0.8
VNA2 Neumayer--Watz 79.37 161 *e*P P 17 47 21.6 +1.2
VNA2 Neumayer--Watz 79.37 161 *e*PcP PcP 17 47 29.1 +0.6
VNA2 Neumayer--Watz 79.37 161 *e*sSKSac ScS 17 57 45.1 +1.5
LIS Lisbon 79.93 49 *e*P P 17 47 23.1 -0.9
LIS *e*S S 17 57 27.5 -0.7
LIS AMS AMS 18 20 58.4
comp=Z,3µm,20.2s
LIS Lisbon 79.93 49 *e*P P 17 47 23.1 -0.9
LIS *e*S S 17 57 27.5 -0.7
LIS A A 18 20 58.4
comp=Z,3µm,20.2s
MORF Marmelete 79.93 51 *e*P P 17 47 25.5 +1.3
comp=Z,126nm,1.2s
PTEO Sao Teotonio 79.94 50 *e*P P 17 47 25.6 +1.5
comp=Z,102nm,1.5s
PNCL Nicolau / Gran 80.24 50 *e*P P 17 47 26.5 +0.8
comp=Z,60nm,1.5s
MESJ Messejana 80.40 50 *e*P P 17 47 25.6 -1.0
MESJ *e*S S 17 57 32.8 -0.4
MESJ AMS AMS 18 20 48.8
comp=Z,2µm,20.5s
MESJ Messejana 80.40 50 *e*P P 17 47 25.6 -1.0
MESJ *e*S S 17 57 32.8 -0.4
MESJ A A 18 20 48.8
comp=Z,2µm,20.5s
PBDV Barranco-do-Ve 80.47 51 *e*P P 17 47 28.6 +1.5
comp=Z,72nm,2.0s
RTC Rabat Centre 80.53 54 PFAKE 17 47 40.0 +13
RTC LR LR
comp=Z,3µm,20.0s
EVOP Sao Brissos 80.65 50 *e*P P 17 47 26.7 -1.2
EVOP pmax pmax
comp=Z,147nm,1.3s
EVOP Sao Brissos 80.65 50 *e*P P 17 47 26.7 -1.2
comp=Z,147nm,1.3s
PVAQ Vaqueiros 80.68 51 *e*P P 17 47 29.4 +1.3
comp=Z,57nm,1.7s
PVAQ *e*S S 17 57 38.5 +2.3
PVAQ *e*LR LR 18 14 19.9
comp=Z,2µm,18.0s
PMTG Montargil 80.72 49 *e*P P 17 47 28.2 -0.1
comp=Z,81nm,1.5s
EVO Evora 80.74 50 *e*P P 17 47 26.7 -1.7
comp=Z,147nm,1.3s
EVO *e*R
comp=Z,4µm,20.0s
EVO Evora 80.74 50 *e*P P 17 47 29.0 +0.6
comp=Z,43nm,1.4s
RES Resolute Bay 80.75 356 P P 17 47 26.4 -1.2
comp=Z,3.7nm,0.9s,baz=176,slow=8.0,SNR=8.6
RES LR LR 18 26 58.6
comp=Z,3µm,18.1s,baz=64,slow=39
RES Resolute Bay 80.75 356 *e*P P 17 47 25.9 -1.8
comp=Z,19nm,1.0s
SNAA Sanae 80.95 162 *e*P P 17 47 29.8 +0.8
SNAA Sanae 80.95 162 *e*PcP PcP 17 47 37.5 +2.0
SNAA Sanae 80.95 162 *e*P P 17 47 28.4 -0.6
comp=Z,96nm,1.0s
PVIS Viseu 81.39 47 *e*P P 17 47 31.0 -1.0
comp=Z,73nm,1.3s
PMRV Marv??o 81.44 49 *e*P P 17 47 34.2 +2.0
comp=Z,26nm,1.4s
PMRV *e*S S 17 57 50.4 +6.4
PMRV *e*LQ LQ 18 09 26.5
PMRV *e*LR LR 18 14 57.7
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 81.45 46 *e*P P 17 47 33.2 +0.9
comp=Z,65nm,1.9s
PGAV *e*S S 17 57 51.5 +7.2
PGAV *e*LQ LQ 18 11 26.8
PGAV *e*LR LR 18 13 26.1
comp=Z,2µm,22.0s
PCBR Castelo Branco 81.48 48 *e*P P 17 47 33.3 +1.0
comp=Z,44nm,1.6s
MTE Manteigas 81.57 48 *e*P P 17 47 33.3 +0.4
comp=Z,45nm,1.2s
MTE *e*LQ LQ 18 09 19.4
MTE *e*LR LR 18 14 29.6
comp=Z,2µm,16.0s
MTE Manteigas 81.57 48 *e*P P 17 47 32.6 -0.3
comp=Z,20nm,0.8s
MTE LR LR
comp=Z,2µm,19.0s
POLO Lamas de Olo 81.64 47 *e*P P 17 47 32.7 -0.6
comp=Z,32nm,1.5s
PVRL Vila Real 81.67 47 *e*P P 17 47 34.1 +0.7
comp=Z,48nm,1.5s
DAWY Dawson 81.83 338 *e*P P 17 47 32.0 -1.7
MDT Midelt 82.10 56 P P 17 47 36.9 +0.9
comp=Z,13nm,1.0s,baz=288,slow=4.3,SNR=9.5
MDT Midelt 82.10 56 P P 17 47 36.9 +0.9
MVO Moncorvo 82.14 47 *e*P P 17 47 36.2 +0.3
comp=Z,76nm,1.4s
MVO *e*S S 17 57 49.6 -1.8
MVO *e*LQ LQ 18 09 46.1
MVO *e*LR LR 18 14 50.1
comp=Z,2µm,18.0s
INK Inuvik 82.28 343 LR LR 18 27 05.6
comp=Z,4µm,21.5s,baz=124,slow=38
INK Inuvik 82.28 343 *e*P P 17 47 35.2 -0.7
comp=Z,51nm,1.2s
PBRG Braganca 82.52 47 *e*P P 17 47 38.1 +0.3
comp=Z,93nm,1.6s
SUMG Summit 82.88 12 *e*P P 17 47 38.6 -0.9
SUMG pmax pmax
comp=Z,458nm,2.2s
SUMG Summit 82.88 12 *e*P P 17 47 38.6 -0.9
comp=Z,458nm,2.2s
SUMG Summit 82.88 12 *i* P P 17 47 39.2 -0.3
comp=Z,24nm,1.1s
SUMG
comp=Z,3µm,19.0s
VAL Valentia 83.09 36 ||*i*S ScS 17 58 15.5 +1.0
DOT Dot Lake 83.42 336 *e*P P 17 47 41.5 -0.5
comp=Z,12nm,1.1s
PAX Paxson 83.69 336 *e*P P 17 47 42.7 -0.8
PAX pmax pmax
comp=Z,44nm,1.2s
PAX Paxson 83.69 336 *e*P P 17 47 42.7 -0.8
comp=Z,44nm,1.2s
PAB San Pablo 83.75 49 *e*P P 17 47 44.1 -0.2
PAB pmax pmax
comp=Z,70nm,1.3s
PAB MLR MLR
comp=Z,3µm,19.0s
PAB San Pablo 83.75 49 *e*P P 17 47 44.0 -0.2
comp=Z,70nm,1.3s
PAB LR LR
comp=Z,3µm,19.0s
ESDC Sonseca Array 84.07 49 P P 17 47 45.9 0.0
comp=Z,14nm,0.7s,baz=266,slow=4.5,SNR=9.5
ESDC LR LR 18 23 07.0
comp=Z,2µm,18.9s,baz=250,slow=34
ESDC Sonseca Array 84.07 49 P P 17 47 45.9 0.0
ESLA Sonseca Array 84.07 49 *e*P P 17 47 45.5 -0.4
comp=Z,42nm,1.4s
TOA0 Torodi Ar. Sit 84.62 76 *e*P P 17 47 48.8 -0.4
TORD Torodi Ar. Bea 84.62 76 P P 17 47 49.0 -0.1
comp=Z,16nm,1.1s,baz=289,slow=5.0,SNR=26
TORD LR LR 18 26 37.2
comp=Z,10µm,18.0s,baz=245,slow=36
TORD Torodi Ar. Bea 84.62 76 P P 17 47 49.0 -0.1
KDAK Kodiak Island 84.97 329 LR LR 18 24 08.9
comp=Z,1µm,18.3s,baz=102,slow=35
ILAR Eielson Array 85.03 337 P P 17 47 49.2 -0.9
comp=Z,2.4nm,0.8s,baz=150,slow=3.6,SNR=19
ILAR PP PP 17 51 09.0 +1.9
comp=Z,2.1nm,1.0s,baz=115,slow=5.9,SNR=4.2
ILAR LR LR 18 26 40.7
comp=Z,3µm,18.5s,baz=120,slow=36
ILAR Eielson Array 85.03 337 P P 17 47 49.2 -0.9
ILAR PP PP 17 51 09.0 +1.9
COLA College 85.45 337 PFAKE 17 48 00.0 +7.9
COLA LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 85.66 161 ||*i*P P 17 48 04.6 +11
NVL *i* S S 17 58 20.2 -5.3
NVL pmax pmax
comp=Z,35nm,0.9s
NVL MLR MLR
comp=Z,3µm,18.0s
QUIF Quistinic 86.42 41 *e*P P 17 47 55.5 -1.9
comp=Z,146nm,1.4s
QUIF Quistinic 86.42 41 *e*P P 17 47 55.5 -1.9
QUIF pmax pmax
comp=Z,146nm,1.4s
QUIF Quistinic 86.42 41 *e*P P 17 47 55.5 -1.9
comp=Z,146nm,1.4s
ROSF Rostrenen 86.45 41 *e*P P 17 47 56.6 -0.9
comp=Z,261nm,1.6s
ROSF Rostrenen 86.45 41 *e*P P 17 47 56.6 -0.9
ROSF pmax pmax
comp=Z,261nm,1.6s
ROSF Rostrenen 86.45 41 *e*P P 17 47 56.6 -0.9
comp=Z,261nm,1.6s
SJPF Ste Jean 86.78 46 *e*P P 17 47 58.4 -0.9
comp=Z,54nm,1.2s
SJPF Ste Jean 86.78 46 *e*P P 17 47 58.4 -0.9
SJPF pmax pmax
comp=Z,54nm,1.2s
SJPF Ste Jean 86.78 46 *e*P P 17 47 58.4 -0.9
comp=Z,54nm,1.2s
SGMF Saint Gilles 86.89 41 *e*P P 17 47 58.3 -1.4
comp=Z,192nm,1.7s
SGMF Saint Gilles 86.89 41 *e*P P 17 47 58.3 -1.4
SGMF pmax pmax
comp=Z,192nm,1.7s
SGMF Saint Gilles 86.89 41 *e*P P 17 47 58.3 -1.4
comp=Z,192nm,1.7s
ETSF Etsaut 87.22 47 *e*P P 17 48 00.5 -1.1
comp=Z,37nm,1.3s
ETSF Etsaut 87.22 47 *e*P P 17 48 00.5 -1.1
ETSF pmax pmax
comp=Z,37nm,1.3s
ETSF Etsaut 87.22 47 *e*P P 17 48 00.5 -1.1
comp=Z,37nm,1.3s
COLD Coldfoot 87.25 339 *e*P P 17 48 00.9 -0.1
comp=Z,27nm,1.1s
EPF Esparros 87.90 47 *e*P P 17 48 03.5 -1.3
comp=Z,81nm,1.5s
EPF Esparros 87.90 47 *e*P P 17 48 03.5 -1.3
EPF pmax pmax
comp=Z,81nm,1.5s
EPF Esparros 87.90 47 *e*P P 17 48 03.5 -1.3
comp=Z,81nm,1.5s
GRR Gorron 88.03 41 *e*P P 17 48 03.7 -1.5
comp=Z,79nm,1.3s
GRR Gorron 88.03 41 *e*P P 17 48 03.7 -1.5
GRR pmax pmax
comp=Z,79nm,1.3s
GRR Gorron 88.03 41 *e*P P 17 48 03.7 -1.5
comp=Z,79nm,1.3s
ESK Eskdalemuir 88.04 34 *i* P P 17 48 05.0 -0.1
ESK Eskdalemuir 88.04 34 PFAKE 17 48 20.0 +15
ESK LR LR
comp=Z,2µm,19.0s
MFF Saint Martin d 88.18 43 *e*P P 17 48 04.6 -1.3
comp=Z,76nm,1.2s
MFF Saint Martin d 88.18 43 *e*P P 17 48 04.6 -1.3
MFF pmax pmax
comp=Z,76nm,1.3s
MFF Saint Martin d 88.18 43 *e*P P 17 48 04.6 -1.3
comp=Z,76nm,1.3s
FLN La Foliniere 88.35 41 *e*P P 17 48 05.3 -1.4
comp=Z,149nm,1.4s
FLN *e*R
comp=Z,2µm,19.2s
FLN La Foliniere 88.35 41 *e*P P 17 48 05.3 -1.4
FLN pmax pmax
comp=Z,149nm,1.4s
FLN La Foliniere 88.35 41 *e*P P 17 48 05.3 -1.4
comp=Z,149nm,1.4s
LFF La Frestale 88.50 45 *e*P P 17 48 05.8 -1.7
comp=Z,109nm,1.3s
LFF La Frestale 88.50 45 *e*P P 17 48 05.8 -1.7
LFF pmax pmax
comp=Z,109nm,1.3s
LFF La Frestale 88.50 45 *e*P P 17 48 05.8 -1.7
comp=Z,109nm,1.3s
LDF La Druitiere 88.55 41 *e*P P 17 48 06.4 -1.2
comp=Z,49nm,1.1s
LDF La Druitiere 88.55 41 *e*P P 17 48 06.4 -1.2
LDF pmax pmax
comp=Z,49nm,1.0s
LDF La Druitiere 88.55 41 *e*P P 17 48 06.4 -1.2
comp=Z,49nm,1.0s
ALE Alert 88.60 2 P P 17 48 06.0 -1.2
comp=Z,197nm,1.3s,SNR=6.5
SBA Scott Base 88.89 191 PFAKE 17 48 20.0 +11
SBA LR LR
comp=Z,2µm,19.0s
AFI Afiamalu 88.98 256 P P 17 48 12.6 +2.1
comp=Z,54nm,1.0s,baz=264,slow=6.6,SNR=7.1
AFI LR LR 18 22 41.0
comp=Z,1µm,18.1s,baz=95,slow=32
AFI Afiamalu 88.98 256 *e*P P 17 48 12.5 +2.1
comp=Z,314nm,1.3s
RJF Les Rejaudoux 89.11 44 *e*P P 17 48 08.7 -1.7
comp=Z,68nm,1.3s
RJF *e*R
comp=Z,2µm,20.8s
RJF Les Rejaudoux 89.11 44 *e*P P 17 48 08.7 -1.7
RJF pmax pmax
comp=Z,68nm,1.3s
RJF Les Rejaudoux 89.11 44 *e*P P 17 48 08.7 -1.7
comp=Z,68nm,1.3s
MTLF Montolieu 89.30 46 *e*P P 17 48 09.5 -1.8
comp=Z,48nm,1.3s
MTLF Montolieu 89.30 46 *e*P P 17 48 09.5 -1.8
MTLF pmax pmax
comp=Z,49nm,1.3s
MTLF Montolieu 89.30 46 *e*P P 17 48 09.5 -1.8
comp=Z,48nm,1.3s
TAM Tamanrasset 89.39 67 *e*P P 17 48 12.7 +0.3
TAM pmax pmax
comp=Z,29nm,1.3s
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 89.39 67 *e*P P 17 48 12.7 +0.3
comp=Z,29nm,1.3s
TAM LR LR
comp=Z,2µm,19.0s
CAF Calviac 89.43 45 *e*P P 17 48 10.3 -1.6
comp=Z,51nm,1.2s
CAF Calviac 89.43 45 *e*P P 17 48 10.3 -1.6
CAF pmax pmax
comp=Z,51nm,1.3s
CAF Calviac 89.43 45 *e*P P 17 48 10.3 -1.6
comp=Z,51nm,1.3s
DAG Danmarks Havn 89.56 12 *i* P P 17 48 11.3 -0.5
comp=Z,258nm,1.1s
DAG
comp=Z,3µm,18.0s
TCF Toulx Ste Croi 89.74 44 *e*P P 17 48 11.7 -1.6
comp=Z,37nm,1.1s
TCF Toulx Ste Croi 89.74 44 *e*P P 17 48 11.7 -1.6
TCF pmax pmax
comp=Z,37nm,1.1s
TCF Toulx Ste Croi 89.74 44 *e*P P 17 48 11.7 -1.6
comp=Z,37nm,1.1s
VNDA Vanda 89.99 191 P P 17 48 15.5 +1.6
comp=Z,2.8nm,0.8s,baz=130,slow=3.6,SNR=11
VNDA LR LR 18 23 02.2
comp=Z,1µm,18.0s,baz=130,slow=32
VNDA Vanda 89.99 191 *e*P P 17 48 14.9 +1.1
comp=Z,38nm,1.5s
HYF Humbligny 90.17 43 *e*P P 17 48 14.0 -1.3
HYF Humbligny 90.17 43 *e*P P 17 48 14.0 -1.3
PYM Petit Puy Mans 90.21 44 *e*P P 17 48 15.7 +0.1
PYM Petit Puy Mans 90.21 44 *e*P P 17 48 15.7 +0.1
PYM Petit Puy Mans 90.21 44 *e*P P 17 48 15.7 +0.1
BGF Bois d'Agland 90.21 43 *e*P P 17 48 14.0 -1.5
comp=Z,76nm,1.0s
BGF Bois d'Agland 90.21 43 *e*P P 17 48 14.0 -1.5
BGF pmax pmax
comp=Z,76nm,1.0s
BGF Bois d'Agland 90.21 43 *e*P P 17 48 14.0 -1.5
comp=Z,76nm,1.0s
LBL Lubilhac 90.30 45 *e*P P 17 48 17.1 +1.0
LBL Lubilhac 90.30 45 *e*P P 17 48 17.1 +1.0
LBL Lubilhac 90.30 45 *e*P P 17 48 17.1 +1.0
AGO Saint Agoulin 90.33 44 *e*P P 17 48 15.5 -0.6
AGO Saint Agoulin 90.33 44 *e*P P 17 48 15.5 -0.6
LASF Ste Croix 90.58 46 *e*P P 17 48 16.2 -1.1
comp=Z,86nm,1.5s
LASF Ste Croix 90.58 46 *e*P P 17 48 16.2 -1.1
comp=Z,86nm,1.5s
AVF Avril sur Loir 90.59 43 *e*P P 17 48 15.3 -1.9
comp=Z,61nm,1.4s
AVF Avril sur Loir 90.59 43 *e*P P 17 48 15.3 -1.9
AVF pmax pmax
comp=Z,61nm,1.4s
AVF Avril sur Loir 90.59 43 *e*P P 17 48 15.3 -1.9
comp=Z,61nm,1.4s
PLDF La Plantade 90.66 44 *e*P P 17 48 19.6 +1.9
PLDF La Plantade 90.66 44 *e*P P 17 48 19.6 +1.9
PLDF La Plantade 90.66 44 *e*P P 17 48 19.6 +1.9
SSF Saint Saulge 90.73 43 *e*P P 17 48 15.9 -2.0
comp=Z,38nm,1.3s
SSF Saint Saulge 90.73 43 *e*P P 17 48 15.9 -2.0
SSF pmax pmax
comp=Z,38nm,1.3s
SSF Saint Saulge 90.73 43 *e*P P 17 48 15.9 -2.0
comp=Z,38nm,1.3s
SMF Signal de Mont 90.90 43 *e*P P 17 48 17.0 -1.7
comp=Z,88nm,1.3s
SMF Signal de Mont 90.90 43 *e*P P 17 48 17.0 -1.7
SMF pmax pmax
comp=Z,88nm,1.3s
SMF Signal de Mont 90.90 43 *e*P P 17 48 17.0 -1.7
comp=Z,88nm,1.3s
LOR Lormes 90.99 43 *e*P P 17 48 17.4 -1.7
comp=Z,87nm,1.6s
LOR *e*R
comp=Z,2µm,19.0s
LOR Lormes 90.99 43 *e*P P 17 48 17.4 -1.7
comp=Z,87nm,1.6s
SSB Saint Sauveur 91.22 45 PFAKE 17 48 30.0 +10
SSB LR LR
comp=Z,3µm,19.0s
VIVF Saint-Julien-l 91.26 45 *e*P P 17 48 19.3 -1.2
comp=Z,50nm,1.2s
VIVF Saint-Julien-l 91.26 45 *e*P P 17 48 19.3 -1.2
VIVF pmax pmax
comp=Z,50nm,1.2s
VIVF Saint-Julien-l 91.26 45 *e*P P 17 48 19.3 -1.2
comp=Z,50nm,1.2s
BAIF Baives 91.57 40 *e*P P 17 48 20.8 -0.9
comp=Z,118nm,1.7s
BAIF Baives 91.57 40 *e*P P 17 48 20.8 -0.9
BAIF pmax pmax
comp=Z,118nm,1.7s
BAIF Baives 91.57 40 *e*P P 17 48 20.8 -0.9
comp=Z,118nm,1.7s
SMRF Simiane la Rot 91.80 46 *e*P P 17 48 22.1 -0.9
comp=Z,69nm,1.4s
SMRF Simiane la Rot 91.80 46 *e*P P 17 48 22.1 -0.9
comp=Z,69nm,1.4s
SFTF Sexfontaines 91.90 42 *e*P P 17 48 21.9 -1.4
comp=Z,111nm,1.5s
SFTF Sexfontaines 91.90 42 *e*P P 17 48 21.9 -1.4
comp=Z,111nm,1.5s
MEZF Maizieres J'vi 91.94 42 *e*P P 17 48 22.1 -1.4
comp=Z,63nm,1.2s
MEZF Maizieres J'vi 91.94 42 *e*P P 17 48 22.1 -1.4
comp=Z,63nm,1.2s
GIVF Givet 91.97 40 *e*P P 17 48 22.7 -0.9
comp=Z,226nm,1.6s
GIVF Givet 91.97 40 *e*P P 17 48 22.7 -0.9
GIVF pmax pmax
comp=Z,226nm,1.6s
GIVF Givet 91.97 40 *e*P P 17 48 22.7 -0.9
comp=Z,226nm,1.6s
ORIF Oris-en-Rattie 92.12 45 *e*P P 17 48 23.7 -0.8
comp=Z,79nm,1.5s
ORIF *e*R
comp=Z,3µm,19.2s
ORIF Oris-en-Rattie 92.12 45 *e*P P 17 48 23.7 -0.8
ORIF pmax pmax
comp=Z,79nm,1.5s
ORIF Oris-en-Rattie 92.12 45 *e*P P 17 48 23.7 -0.8
comp=Z,79nm,1.5s
PAGF Fort de Pagny 92.39 42 *e*P P 17 48 24.4 -1.2
comp=Z,46nm,1.4s
PAGF Fort de Pagny 92.39 42 *e*P P 17 48 24.4 -1.2
comp=Z,46nm,1.4s
LMR La Mourre 92.41 47 *e*P P 17 48 24.3 -1.4
comp=Z,127nm,1.7s
LMR La Mourre 92.41 47 *e*P P 17 48 24.3 -1.4
LMR pmax pmax
comp=Z,127nm,1.7s
LMR La Mourre 92.41 47 *e*P P 17 48 24.3 -1.4
comp=Z,127nm,1.7s
CABF La Chapelle 92.44 44 *e*P P 17 48 24.7 -1.2
comp=Z,139nm,1.5s

CABF	**La Chapelle**	**92.44**	**44**	*e*P		**P**	**17 48 24.7**	**-1.2**
CABF				pmax		pmax		
	comp=Z,139nm,1.5s							
CABF	**La Chapelle**	**92.44**	**44**	*e*P		**P**	**17 48 24.7**	**-1.2**
	comp=Z,139nm,1.5s							
FRF	**La Foret Royal**	**92.53**	**47**	*e*P		**P**	**17 48 24.9**	**-1.4**
	comp=Z,124nm,1.5s							
FRF	**La Foret Royal**	**92.53**	**47**	*e*P		**P**	**17 48 24.9**	**-1.4**
FRF				pmax		pmax		
	comp=Z,124nm,1.5s							
FRF	**La Foret Royal**	**92.53**	**47**	*e*P		**P**	**17 48 24.9**	**-1.4**
	comp=Z,124nm,1.5s							
BNI	**Bardonecchia**	**92.69**	**45**	PFAKE			17 48 40.0	+13
BNI				LR		LR		
	comp=Z,3μm,20.0s							
MBDF	**Montbardon**	**92.73**	**46**	*e*P		**P**	**17 48 25.9**	**-1.5**
	comp=Z,24nm,1.1s							
MBDF	**Montbardon**	**92.73**	**46**	*e*P		**P**	**17 48 25.9**	**-1.5**
MBDF				pmax		pmax		
	comp=Z,24nm,1.1s							
MBDF	**Montbardon**	**92.73**	**46**	*e*P		**P**	**17 48 25.9**	**-1.5**
	comp=Z,24nm,1.1s							
HAU	**Haudompre**	**92.75**	**42**	*e*P		**P**	**17 48 25.8**	**-1.5**
	comp=Z,63nm,1.5s							
HAU				*e*R				
	comp=Z,2μm,18.0s							
HAU	**Haudompre**	**92.75**	**42**	*e*P		**P**	**17 48 25.8**	**-1.5**
HAU				pmax		pmax		
	comp=Z,63nm,1.5s							
HAU	**Haudompre**	**92.75**	**42**	*e*P		**P**	**17 48 25.8**	**-1.5**
	comp=Z,63nm,1.5s							
LPL	**La Plagne**	**92.78**	**45**	*e*P		**P**	**17 48 26.9**	**-0.8**
	comp=Z,66nm,1.5s							
LPL	**La Plagne**	**92.78**	**45**	*e*P		**P**	**17 48 26.9**	**-0.8**
LPL				pmax		pmax		
	comp=Z,66nm,1.5s							
LPL	**La Plagne**	**92.78**	**45**	*e*P		**P**	**17 48 26.9**	**-0.8**
	comp=Z,66nm,1.5s							
WLF	**Walferdange**	**92.78**	**41**	PFAKE			17 48 40.0	+13
WLF				LR		LR		
	comp=Z,2μm,20.0s							
LPG	**La Plagne**	**92.79**	**45**	*e*P		**P**	**17 48 27.1**	**-0.7**
	comp=Z,62nm,1.4s							
LPG	**La Plagne**	**92.79**	**45**	*e*P		**P**	**17 48 27.1**	**-0.7**
LPG				pmax		pmax		
	comp=Z,62nm,1.4s							
LPG	**La Plagne**	**92.79**	**45**	*e*P		**P**	**17 48 27.1**	**-0.7**
	comp=Z,62nm,1.4s							
RAO	**Raoul Island**	**92.86**	**240**	PFAKE			17 48 40.0	+12
RAO				LR		LR		
	comp=Z,2μm,21.0s							
HINF	**Hinteralfeld**	**93.07**	**42**	*e*P		**P**	**17 48 27.1**	**-1.7**
	comp=Z,106nm,1.9s							
HINF	**Hinteralfeld**	**93.07**	**42**	*e*P		**P**	**17 48 27.1**	**-1.7**
HINF				pmax		pmax		
	comp=Z,106nm,1.9s							
HINF	**Hinteralfeld**	**93.07**	**42**	*e*P		**P**	**17 48 27.1**	**-1.7**
	comp=Z,106nm,1.9s							
SBF	**Sospel**	**93.13**	**46**	*e*P		**P**	**17 48 27.4**	**-1.8**
	comp=Z,42nm,1.1s							
SBF	**Sospel**	**93.13**	**46**	*e*P		**P**	**17 48 27.4**	**-1.8**
SBF				pmax		pmax		
	comp=Z,42nm,1.1s							
SBF	**Sospel**	**93.13**	**46**	*e*P		**P**	**17 48 27.4**	**-1.8**
	comp=Z,42nm,1.1s							
ECH	**Echery**	**93.31**	**42**	*e*P		**P**	**17 48 29.1**	**-0.8**
ECH				pmax		pmax		
	comp=Z,35nm,1.3s							
ECH				MLR		MLR		
	comp=Z,1μm,19.0s							
ECH	**Echery**	**93.31**	**42**	*e*P		**P**	**17 48 29.1**	**-0.8**
	comp=Z,35nm,1.3s							
ECH				LR		LR		
	comp=Z,1μm,19.0s							
ECH	**Echery**	**93.31**	**42**	*e*P		**P**	**17 48 31.2**	**+1.4**
RUP	**Ruppelstein**	**93.37**	**41**	*e*P		**P**	**17 48 29.7**	**-0.4**
RUP	**Ruppelstein**	**93.37**	**41**	*e*P		**P**	**17 48 29.7**	**-0.4**
CDF	**Champ du Feu**	**93.40**	**42**	*e*P		**P**	**17 48 28.9**	**-1.5**
	comp=Z,47nm,1.3s							
CDF	**Champ du Feu**	**93.40**	**42**	*e*P		**P**	**17 48 28.9**	**-1.5**
CDF				pmax		pmax		
	comp=Z,47nm,1.3s							
CDF	**Champ du Feu**	**93.40**	**42**	*e*P		**P**	**17 48 28.9**	**-1.5**
	comp=Z,47nm,1.3s							
TNA	**Tin City**	**93.77**	**335**	*e*P		**P**	**17 48 32.6**	**+1.2**
	comp=Z,6.8nm,1.2s							
FELD	**Feldberg im Sc**	**93.85**	**42**	*e*P		**P**	**17 48 31.2**	**-1.3**
KEST	**Kesra**	**93.95**	**55**	P		**P**	**17 48 31.6**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=286,slow=2.8,SNR=3.8							
KEST				LR		LR	18 31 02.7	
	comp=Z,753nm,19.4s,baz=99,slow=36							
KEST	**Kesra**	**93.95**	**55**	P		**P**	**17 48 31.6**	**-1.5**
BFO	**Black Forest**	**94.10**	**42**	PFAKE			17 48 40.0	+6.5
BFO				LR		LR		
	comp=Z,1μm,19.0s							
VSL	**Villasalto**	**94.24**	**51**	PFAKE			17 48 40.0	+5.7
VSL				LR		LR		
	comp=Z,1μm,21.0s							
TUE	**Stuetta**	**94.67**	**44**	*e*P		**P**	**17 48 36.0**	**-0.3**
	comp=Z,13nm,1.2s							
DAVA	**Damuels**	**95.08**	**43**⇑	*i*PcP		**P**	**17 48 38.2**	**+0.1**
	comp=Z,22nm,1.4s							
SYO	**Syowa Base**	**95.24**	**162**⇓	*e*P		**P**	**17 48 37.2**	**-1.1**
GAMB	**Gambell**	**95.27**	**334**	*e*P		**P**	**17 48 38.3**	**-0.1**
	comp=Z,12nm,1.1s							
VLC	**Villacollemand**	**95.27**	**46**	PFAKE			17 48 50.0	+11
VLC				LR		LR		
	comp=Z,2μm,20.0s							
URZ	**Urewera**	**95.41**	**231**	LR		LR	18 24 30.8	
	comp=Z,2μm,18.3s,baz=190,slow=31							
KONO	**Kongsberg**	**95.45**	**31**	PFAKE			17 48 50.0	+11
KONO				LR		LR		
	comp=Z,1μm,19.0s							
FETA	**Feichten**	**95.64**	**43**⇓	*i*PcP		**P**	**17 48 40.7**	**0.0**
	comp=Z,18nm,1.1s							
MOTA	**Moosalm**	**95.91**	**43**⇑	*i*PcP		**P**	**17 48 41.6**	**-0.4**
	comp=Z,11nm,0.9s							
GRF	**Grafenberg Arr**	**96.07**	**41**	*e*P		**P**	**17 48 42.7**	**+0.3**
GRF				pmax		pmax		
	comp=Z,8.0nm,1.2s							
GRF				MLR		MLR		
	comp=Z,2μm,20.9s							
GRF	**Grafenberg Arr**	**96.07**	**41**	*e*P		**P**	**17 48 42.7**	**+0.3**
	comp=Z,8.0nm,1.2s							
GRF				*e*L		L	18 29 37.9	
	comp=Z,2μm,20.9s							
WTTA	**Wattenberg**	**96.27**	**43**⇑	*i*PcP		**P**	**17 48 43.7**	**0.0**
	comp=Z,15nm,0.9s							
KBS	**Kingsbay**	**96.28**	**11**	*e*P		**P**	**17 48 42.3**	**-0.5**
KBS				pmax		pmax		
	comp=Z,45nm,2.7s							
KBS	**Kingsbay**	**96.28**	**11**	PFAKE			17 48 50.0	+7.2
KBS				LR		LR		
	comp=Z,2μm,21.0s							
NOA	**NORSAR Array B**	**96.29**	**29**	LR		LR	18 30 17.8	
	comp=Z,1μm,18.7s,baz=260,slow=34							
MOX	**Moxa**	**96.35**	**40**	*e*L		L	18 28 36.4	
	comp=Z,1μm,19.0s							
ABTA	**Abfaltersbach**	**96.86**	**44**⇑	*i*PcP		**P**	**17 48 46.2**	**0.0**
	comp=Z,12nm,1.2s							
SUR	**Sutherland**	**97.18**	**124**	PFAKE			17 49 00.0	+12
SUR				LR		LR		
	comp=Z,4μm,20.0s							
CLL	**Collm**	**97.23**	**39**	*e*P		Pdif	17 48 53.0	+5.3
CLL				*e*			17 59 27.0	
CLL				*e*S		S	18 00 03.0	-8.6
CLL				pmax		pmax		
	comp=Z,27nm,1.5s							
CLL				MLR		MLR		
	comp=Z,2μm,18.9s							
AQU	**L'Aquila**	**97.41**	**48**	PFAKE			17 49 00.0	+11
AQU				LR		LR		
	comp=Z,1μm,21.0s							
KHC	**Kasperske Hory**	**97.60**	**41**	*i* P		Pdif	17 48 50.6	+1.1
KHC				*e*			17 52 45.9	
KHC				*e*			18 01 46.0	
KHC				MLR		MLR		
	comp=Z,1μm,17.6s							
KHC	**Kasperske Hory**	**97.60**	**41**	*e*P		Pdif	17 48 50.6	+1.1
KHC				*ex*		x	17 49 38.5	
KHC				*e*PP		**PP**	**17 52 45.9**	**-1.1**
KHC				*ex*		x	17 59 34.9	
KHC				*ex*		x	18 01 46.0	
KHC				AMS		AMS	18 35 00.0	
	comp=Z,1μm,17.6s							
GERES	**GERESS Array B**	**97.68**	**42**	P		**P**	**17 48 49.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=238,slow=2.5,SNR=6.4							
GERES				LR		LR	18 32 01.7	
	comp=Z,1μm,18.2s,baz=270,slow=35							
GERES	**GERESS Array B**	**97.68**	**42**	P		**P**	**17 48 49.7**	**-0.2**
BRG	**Berggiesshubel**	**97.83**	**40**	*e*P		Pdif	17 49 00.8	+10
	comp=Z,13nm,1.2s							
BRG				PP		**PP**	**17 52 51.0**	**+2.4**
BRG				*e*			17 53 19.8	
	comp=Z,18nm,1.7s							
BRG				S		S	18 00 24.0	+7.2
BRG				SS		**SS**	**18 07 00.0**	**+2.4**
BRG								
	comp=N,626nm,16.4s							
BRG								
	comp=E,1μm,16.7s							
BRG								
	comp=Z,2μm,18.2s							
BRG	**Berggiesshubel**	**97.83**	**40**	*e*P		Pdif	17 49 00.8	+10
BRG							17 52 51.0	
BRG				SS		SS	18 07 00.0	+2.4
BRG				pmax		pmax		
	comp=Z,13nm,1.2s							
BRG				pmax		pmax		
	comp=Z,18nm,1.7s							
BRG				MLR		MLR		
	comp=N,626nm,16.4s							
BRG				MLR		MLR		
	comp=E,1μm,16.7s							
BRG				MLR		MLR		
	comp=Z,2μm,18.2s							
WDD	**Wield Dalam**	**98.16**	**55**	PFAKE			17 49 00.0	+7.8
WDD				LR		LR		
	comp=Z,2μm,20.0s							
PRU	**Pruhonice**	**98.22**	**40**	*e*PP		PP	17 52 52.9	+1.3
PRU				*e*SKS		**SKSac**	**17 59 34.1**	**+3.7**
PRU				*e*PS		**PS**	**18 01 43.5**	**-1.6**
PRU				*ex*		x	18 07 17.8	
PRU				AMS		AMS	18 30 10.0	
	comp=Z,2μm,19.1s							
PVCC	**Panska Ves**	**98.23**	**40**	*e*PS		PS	18 01 47.2	+2.0
PVCC				*ex*		x	18 07 18.4	
PVCC				AMS		AMS	18 34 40.0	
	comp=Z,2μm,17.9s							
MSVF	**Nonsavu**	**98.23**	**251**	PFAKE			17 49 00.0	+7.0
MSVF				LR		LR		
	comp=Z,2μm,21.0s							
RPZ	**Rata Peaks**	**98.54**	**224**	LR		LR	18 28 01.7	
	comp=Z,2μm,18.3s,baz=134,slow=32							
TREC	**Trest**	**98.85**	**41**	*e*SKS		**SKSac**	**17 59 39.2**	**+5.5**
TREC				*e*PS		**PS**	**18 01 50.5**	**-1.5**
TREC				AMS		AMS	18 30 30.0	
	comp=Z,2μm,22.9s							
CUC	**Castrocucco**	**99.22**	**51**	PFAKE			17 49 10.0	+13
CUC				LR		LR		
	comp=Z,886nm,20.0s							
DPC	**Dobruska-Polom**	**99.36**	**40**	*i* P		**Pdif**	**17 49 00.1**	**+2.8**
DPC				*e*			17 53 01.4	
DPC				*e*			18 01 54.9	
DPC				MLR		MLR		
	comp=Z,2μm,17.0s							
DPC	**Dobruska-Polom**	**99.36**	**40**	*e*PDIFF		**Pdif**	**17 49 00.1**	**+2.8**
DPC				*e*PP		**PP**	**17 53 01.4**	**+1.0**
DPC				*e*SKS		**SKSac**	**17 59 40.9**	**+4.7**
DPC				*e*PS		**PS**	**18 01 54.9**	**-2.6**
DPC				AMS		AMS	18 33 00.0	
	comp=Z,2μm,17.0s							
TIP	**Timpagrande**	**99.95**	**51**	PFAKE			17 49 10.0	+10
TIP				LR		LR		
	comp=Z,2μm,19.0s							
OKC	**Ostrava-Krasne**	**100.56**	**41**	*e*PP		PP	17 53 17.0	+7.6
OKC				*ex*		x	17 59 50.4	
OKC				*e*PS		**PS**	**18 02 14.7**	**+4.4**
OKC				*ex*		x	18 07 46.4	
OKC				AMS		AMS	18 33 20.0	
	comp=Z,1μm,18.2s							
VYHS	**Vyhne**	**101.09**	**42**	*e*P		**Pdif**	**17 49 05.3**	**+0.3**
VYHS				pmax		pmax		
	comp=Z,29nm,2.3s							
VYHS	**Vyhne**	**101.09**	**42**	PDIF		**Pdif**	**17 49 05.3**	**+0.3**
KEV	**Kevo**	**101.72**	**20**	PFAKE			17 49 20.0	+13
KEV				LR		LR		
	comp=Z,989nm,20.0s							
PSZ	**Piszkesteto**	**101.84**	**42**	PFAKE			17 49 20.0	+12
PSZ				LR		LR		
	comp=Z,1μm,21.0s							
TIR	**Tirane**	**102.26**	**49**	PFAKE			17 49 20.0	+10
TIR				LR		LR		
	comp=Z,1μm,19.0s							
KWP	**Kalwaria Pacla**	**103.52**	**40**	PFAKE			17 49 30.0	+14
KWP				LR		LR		
	comp=Z,1μm,21.0s							
BILL	**Bilibino**	**103.58**	**339**	P		**Pdif**	**17 49 19.0**	**+3.4**
BILL							17 53 33.0	
BILL				*e*			17 59 50.3	
BILL				*i*			18 01 05.7	
BILL				*i* SS		SS	18 08 30.8	+14
BILL				*i* SSS		SSS	18 12 08.3	
BILL				MLR		MLR		
	comp=Z,700nm,19.0s							
LVZ	**Lovozero**	**104.95**	**21**	PFAKE			17 49 30.0	+8.2
LVZ				LR		LR		
	comp=Z,1μm,20.0s							
LSZ	**Lusaka**	**107.21**	**108**	PFAKE			17 53 50.0	
LSZ				LR		LR		
	comp=Z,3μm,20.0s							
KIEV	**Kiev**	**107.46**	**39**	PFAKE			17 53 50.0	
KIEV				LR		LR		
	comp=Z,2μm,20.0s							
CASY	**Casey**	**107.60**	**185**	PFAKE			17 53 50.0	
CASY				LR		LR		
	comp=Z,3μm,19.0s							
DZM	**Mont Dzumac**	**108.09**	**245**	*e*PP		PP	17 53 59.3	-7.0
	comp=Z,264nm,25.2s							
DZM				*e*SKSac		SKSac	18 00 09.5	-8.5
	comp=Z,1μm,27.1s							
DZM				*e*SP		**SP**	**18 03 27.9**	**-1.2**
	comp=Z,838nm,24.5s							
DZM				*e*SS		**SS**	**18 09 24.8**	**+4.1**
	comp=Z,2μm,27.4s							
DZM				*e*LQ		LQ	18 21 09.7	
	comp=Z,842nm,31.4s							
DZM				*e*LR		LR	18 25 39.7	
	comp=Z,1μm,32.0s							
OBN	**Obninsk**	**110.49**	**33**	P		**Pdif**	**17 49 47.0**	**+0.4**
OBN							17 54 30.0	
OBN				PPP		PPP	17 56 42.0	
OBN				*i* PS		**PS**	**18 03 54.0**	**+1.2**
OBN				*e*SS		SS	18 10 02.4	+12
OBN				pmax		pmax		
	comp=Z,23nm,1.1s							
OBN				MLR		MLR		
	comp=Z,1μm,20.0s							
OBN	**Obninsk**	**110.49**	**33**	PFAKE			17 54 00.0	
OBN				LR		LR		
	comp=Z,1μm,21.0s							
ISP	**Isparta**	**110.82**	**52**	PFAKE			17 54 00.0	
ISP				LR		LR		
	comp=Z,867nm,19.0s							
SEY	**Seymchan**	**110.96**	**337**	*i* PKIKP		**PKiKP**	**17 53 46.7**	**-1.2**
TIXI	**Tiksi**	**111.53**	**350**	*i* PKIKP		**PKiKP**	**17 53 48.8**	**+0.1**
PET	**Petropavlovsk**	**112.31**	**326**	PFAKE			17 54 00.0	
PET				LR		LR		
	comp=Z,939nm,20.0s							
CSS	**Prodhromos**	**113.52**	**54**	PFAKE			17 54 00.0	
CSS				LR		LR		
	comp=Z,1μm,19.0s							
TAU	**Tasmania Unive**	**114.48**	**217**	PFAKE			17 54 10.0	+15
TAU				LR		LR		
	comp=Z,2μm,19.0s							
SOC	**Sochi**	**116.26**	**44**	*i* PKIKP		**PKPdf**	**17 53 56.7**	**-1.9**
SOC				*e*			17 55 06.5	
SOC				pmax		pmax		
	comp=Z,11nm,0.4s							
HNR	**Honiara**	**117.02**	**256**	PFAKE			17 54 10.0	+9.1
HNR				LR		LR		
	comp=Z,1μm,19.0s							
CAN	**Canberra**	**117.45**	**225**	PFAKE			17 54 10.0	+8.7
CAN				LR		LR		
	comp=Z,1μm,19.0s							
KIV	**Kislovodsk**	**118.16**	**43**	*i* P		**Pdif**	**17 50 18.3**	**-2.8**
KIV				*i*			17 54 02.5	
KIV				*e*			17 55 14.8	
KIV				*e*PPP		PPP	17 57 48.5	
KIV				*e*			18 00 57.4	
KIV				*e*PS		**PS**	**18 05 02.6**	**-1.2**
KIV				*e*SS		SS	18 11 34.5	+1.6
KIV				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,800nm,20.0s							
KIV	**Kislovodsk**	**118.16**	**43**	PFAKE			17 54 10.0	+7.6
KIV				LR		LR		
	comp=Z,861nm,19.0s							
KMBO	**Kilima Mbogo**	**118.37**	**94**	PFAKE			17 54 20.0	+16
KMBO				LR		LR		
	comp=Z,4μm,20.0s							
KBZ	**Khabaz**	**118.39**	**43**	PKP		**PKPdf**	**17 54 03.7**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=86,slow=17,SNR=2.2							
KBZ	**Khabaz**	**118.39**	**43**	PKIKP		**PKPdf**	**17 54 03.7**	**+1.1**
KBZ	**Khabaz**	**118.39**	**43**	PKP		**PKPdf**	**17 54 03.7**	**+1.1**
ONI	**Oni**	**119.17**	**44**	P		**PP**	**17 55 23.1**	**-1.2**
YAK	**Yakutsk**	**119.33**	**344**	*e*PKIKP		**PKPdf**	**17 54 05.2**	**+1.3**
YAK				pmax		pmax		
	comp=Z,17nm,1.3s							
AKH	**Akhalkalaki**	**119.61**	**45**	P		PP	17 55 12.1	-15
PAF	**Port-aux-Franc**	**119.79**	**159**	PFAKE			17 54 20.0	+15
PAF				LR		LR		
	comp=Z,3μm,21.0s							
TBLG	**Delisi**	**120.37**	**44**	P		**PP**	**17 55 31.0**	**-1.5**
ARU	**Arti**	**120.42**	**24**	*i* PKIKP		**PKPdf**	**17 54 05.7**	**-0.5**
ARU							17 55 34.6	
ARU							18 01 00.5	
ARU				SS		SS	18 11 55.2	-5.4
ARU				MLR		MLR		
	comp=Z,1μm,20.0s							
ARU	**Arti**	**120.42**	**24**	PFAKE			17 54 20.0	+14
ARU				LR		LR		
	comp=Z,2μm,21.0s							
DGRG	**David-gareji**	**120.92**	**45**	P		**PP**	**17 55 36.1**	**-0.2**
GNI	**Garni**	**120.94**	**46**	PFAKE			17 54 20.0	+12
GNI				LR		LR		
	comp=Z,497nm,20.0s							
MAK	**Makhachkala**	**121.78**	**42**	*e*PKIKP		**PKPdf**	**17 54 09.3**	**+0.1**
MAK				*e*			17 55 37.5	
MAK				*e*			18 01 09.0	
MAK				*e*SP		SP	18 05 32.8	-1.4
MAK				*e*SS		**SS**	**18 12 20.4**	**+1.2**
MAK				pmax		pmax		
	comp=Z,23nm,0.3s							
MAK				MLR		MLR		
	comp=Z,1μm,21.0s							
ABPO	**Ambohimpanom**	**123.74**	**117**	PFAKE			17 54 20.0	+6.1
ABPO				LR		LR		
	comp=Z,4μm,19.0s							
YSS	**Yuzh-Sakhalins**	**124.18**	**325**	*i* PKIKP		**PKPdf**	**17 54 13.6**	**-0.1**
STKA	**Stephens Creek**	**124.50**	**225**	PKP		**PKPdf**	**17 54 16.4**	**+1.6**
	comp=Z,7.2nm,1.1s,baz=358,slow=4.2,SNR=4.5							
STKA	**Stephens Creek**	**124.50**	**225**	PKP		**PKPdf**	**17 54 16.4**	**+1.6**
ABKAR	**Akbulak array**	**125.78**	**30**	*e*PKPdf		**PKPdf**	**17 54 16.5**	**-0.2**
CTAO	**Charters Tower**	**126.56**	**240**	PFAKE			17 54 30.0	+11
CTAO				LR		LR		
	comp=Z,1μm,20.0s							
HABR	**Khabarovsk**	**127.38**	**330**	*e*P		**Pdif**	**17 50 59.6**	**-2.3**
HABR				*e*			17 56 17.5	
HABR				*e*PPP		PPP	17 59 01.3	
HABR				*e*			18 01 26.7	
HABR				*e*			18 08 03.0	
HABR				*e*SS		SS	18 13 26.3	-2.6
HABR				*e*SSS		SSS	18 18 09.4	
HABR				pmax		pmax		
	comp=N,24nm,1.9s							
HABR				pmax		pmax		
	comp=E,46nm,1.9s							
HABR				pmax		pmax		
	comp=Z,44nm,1.9s							
HABR				MLR		MLR		
	comp=Z,697nm,21.0s							
BRVK	**Borovoye**	**127.48**	**21**⇑	*i*PKIKP		**PKPdf**	**17 54 18.9**	**-1.0**
BRVK	**Borovoye**	**127.48**	**21**	PFAKE			17 54 30.0	+10
BRVK				LR		LR		
	comp=Z,1μm,20.0s							
KLR	**Kul'dur**	**128.43**	**333**	*e*PKIKP		**PKPdf**	**17 54 25.2**	**+3.4**
KLR				pmax		pmax		
	comp=Z,33nm,1.4s							
PMG	**Port Moresby**	**129.30**	**253**	PFAKE			17 54 40.0	+16
PMG				LR		LR		
	comp=Z,1μm,21.0s							
NVS	**Novosibirsk**	**129.54**	**11**⇓	*i*PKIKP		**PKPdf**	**17 54 22.3**	**-1.4**
NVS				pmax		pmax		
	comp=Z,13nm,1.2s							
NVS				pmax		pmax		
	comp=N,3.0nm,1.7s							
NVS				pmax		pmax		
	comp=E,4.0nm,1.4s							
RER	**Riviere de l'E**	**130.17**	**124**	PFAKE			17 54 40.0	+14
RER				LR		LR		
	comp=Z,1μm,19.0s							
ZAA0	**Zalesovo Array**	**130.68**	**11**	*e*PKPdf		**PKPdf**	**17 54 24.9**	**-1.0**
ZALV	**Zalesovo Beam**	**130.68**	**11**	PKhKP		PKPpre	17 54 20.3	
	comp=Z,0.5nm,0.4s,baz=314,slow=37,SNR=3.1							
ZALV				PKP		**PKPdf**	**17 54 25.2**	**-0.7**
	comp=Z,9.3nm,1.0s,baz=336,slow=3.3,SNR=14							
ZALV	**Zalesovo Beam**	**130.68**	**11**	PKIKP		PKPdf	17 54 20.3	-5.6
ZALV							17 54 25.3	
ZALV	**Zalesovo Beam**	**130.68**	**11**	PKPpre		PKPpre	17 54 20.2	
ZALV				PKP		**PKPdf**	**17 54 25.2**	**-0.7**
USRK	**Ussuriysk Arra**	**131.82**	**328**	PKhKP		PKPpre	17 54 20.5	
	comp=Z,1.1nm,0.6s,baz=181,slow=30,SNR=1.8							
USRK				PKP		**PKPdf**	**17 54 28.9**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=236,slow=48,SNR=3.4							
KURK	**Kurchatov**	**132.20**	**17**	*e*PKIKP		**PKPdf**	**17 54 27.6**	**-1.3**
KURK	**Kurchatov**	**132.20**	**17**	*e*PKPdf		**PKPdf**	**17 54 28.4**	**-0.5**
KURK				LR		LR		
	comp=Z,1μm,22.0s							
MJAR	**Matsushiro Arr**	**132.57**	**316**	PKP		**PKPdf**	**17 54 29.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=37,slow=0.5,SNR=5.8							
MJAR	**Matsushiro Arr**	**132.57**	**316**	PKP		**PKPdf**	**17 54 29.4**	**-0.7**
MAJO	**Matsushiro**	**132.57**	**316**	PFAKE			17 54 40.0	+10
MAJO				LR		LR		
	comp=Z,1μm,21.0s							
MDJ	**Mudanjiang**	**132.77**	**330**	PKP		**PKPdf**	**17 54 30.3**	**+0.1**
MDJ				PP		**PP**	**17 56 54.3**	**+0.2**
MDJ				PKS		**PKSdf**	**17 58 06.5**	**0.0**
MDJ				SKS		**SKSdf**	**18 01 41.5**	**-0.5**
MDJ				SS		SS	18 14 42.8	+7.7
MDJ				LR		LR		
	comp=N,600nm,27.1s							
MDJ				LR		LR		
	comp=E,450nm,27.1s							
MDJ				LR		LR		
	comp=Z,830nm,31.6s							
MDJ	**Mudanjiang**	**132.77**	**330**	PFAKE			17 54 40.0	+10
MDJ				LR		LR		
	comp=Z,1μm,21.0s							
HIA	**Hailar**	**133.11**	**341**	PFAKE			17 54 40.0	+9.3
HIA				LR		LR		
	comp=Z,2μm,21.0s							
GUMO	**Guam**	**133.79**	**283**	PFAKE			17 54 40.0	+7.1
GUMO				LR		LR		
	comp=Z,1μm,21.0s				

comp=Z,700nm,19.0s
MSEY Mahe Island 135.72 103 PFAKE 17 54 50.0 +13
MSEY LR LR
comp=Z,2µm,22.0s
WRAB Tennant Creek 136.53 233 PFAKE 17 54 50.0 +12
WRAB LR LR
comp=Z,1µm,19.0s
WRA Warramunga Arr 136.53 233 PKP **PKPdf 17 54 37.2 -0.7**
comp=Z,8.3nm,1.1s,baz=117,slow=2.0,SNR=15
WRA SKPbc **SKPbc 17 58 11.5 +0.5**
comp=Z,3.8nm,1.1s,baz=115,slow=2.2,SNR=6.8
WRA Warramunga Arr 136.53 233 PKP **PKPdf 17 54 37.2 -0.7**
WRA SKPbc **SKPbc 17 58 11.5 +0.5**
MKAR Makanchi Array 136.79 16 PKhKP PKPpre 17 54 27.9
comp=Z,1.1nm,0.8s,baz=348,slow=1.9,SNR=12
MKAR PKP **PKPdf 17 54 36.6 -1.0**
comp=Z,2.9nm,0.9s,baz=20,slow=3.9,SNR=14
MKAR Makanchi Array 136.79 16 PKHKP PKPpre 17 54 28.0
MKAR 17 54 36.6
MKAR Makanchi Array 136.79 16 PKPpre PKPpre 17 54 27.9
MKAR PKP **PKPdf 17 54 36.6 -1.0**
EKS2 Erkin-Say 137.20 27 *e*PKIKP PKPdf 17 54 33.5 -5.2
EKS2 Erkin-Say 137.20 27 *e*PKPpre PKPpre 17 54 33.5
FRU Bishkek 137.44 26 *e*PKIKP **PKPdf 17 54 35.5 -3.5**
FRU *e* 17 57 26.0
ULN Ulaanbaatar 137.44 352 PKP **PKPdf 17 54 36.9 -2.1**
SONM Songino Array 137.56 352 PKhKP PKPpre 17 54 27.0
comp=Z,1.3nm,0.9s,baz=341,slow=2.0,SNR=8.2
SONM PKP **PKPdf 17 54 37.5 -1.7**
comp=Z,6.9nm,1.1s,baz=350,slow=3.3,SNR=13
SONM Songino Array 137.56 352 PKPpre PKPpre 17 54 27.0
SONM PKP **PKPdf 17 54 37.5 -1.7**
NWAO Narrogin (SRO) 137.63 204 PFAKE 17 54 50.0 +10
NWAO LR LR
comp=Z,967nm,20.0s
TKM2 Tokmak 2 137.79 25 PKIKP **PKPdf 17 54 39.7 -0.2**
TKM2 Tokmak 2 137.79 25 PKPdf **PKPdf 17 54 39.7 -0.2**
KSRS Korea Array 138.66 324 PKP **PKPdf 17 54 41.0 -0.3**
comp=Z,12nm,1.0s,baz=12,slow=1.8,SNR=16
KSAR Wonju Array Be 138.69 324 PKP **PKPdf 17 54 41.0 -0.4**
INCN Inchon 139.39 325 PFAKE 17 54 50.0 +7.3
INCN LR LR
comp=Z,1µm,21.0s
WMQ Urumqi 140.91 13 *e*PKP **PKPdf 17 54 44.8 -0.6**
WMQ PP **PP 17 57 48.5 +3.8**
WMQ SKS **SKSdf 18 01 55.5 -0.7**
WMQ SKKS **SKKSac 18 04 38.3 -1.7**
WMQ SS **SS 18 16 13.3 +1.9**
WMQ AMB AMB
comp=Z,630nm,10.0s
WMQ LR LR
comp=N,520nm,22.0s
WMQ LR LR
comp=E,880nm,21.0s
WMQ LR LR
comp=Z,740nm,21.0s
BJI Beijing 142.40 338 PKP **PKPdf 17 54 48.0 0.0**
BJI PKP **PKiKP 17 54 52.5 +1.5**
BJI PP PP 17 58 04.0 +10
BJI SS SS 18 16 32.8 +4.0
BJI AMB AMB
comp=Z,220nm,9.1s
BJI LR LR
comp=N,1µm,20.0s
BJI LR LR
comp=E,840nm,22.2s
BJI LR LR
comp=Z,1µm,20.1s
BJT Baijiatuau 142.42 338 PFAKE 17 55 00.0 +12
BJT LR LR
comp=Z,2µm,20.0s
HHC Hu-ho-hao-te 143.19 343 *e*PKP PKPbc 17 54 47.5 +1.1
HHC PP **PP 17 58 02.8 +4.1**
HHC PKS **PKSdf 17 58 23.8 -1.6**
HHC SKS **SKSdf 18 01 57.8 -2.2**
HHC SKKS **SKKSac 18 04 52.8 -0.6**
HHC SS **SS 18 16 43.5 +5.4**
HHC AMB AMB
comp=Z,280nm,6.3s
HHC LR LR
comp=N,950nm,22.3s
HHC LR LR
comp=E,560nm,17.7s
HHC LR LR
comp=Z,2µm,23.0s
BTO Baotou 143.84 345 *e*PKP PKPab 17 54 46.5 -1.2
FITZ Fitzroy Crossi 144.29 228 PKP PKPbc 17 54 50.4 +0.2
comp=Z,11nm,0.9s,baz=150,slow=2.7,SNR=16
FITZ Fitzroy Crossi 144.29 228 PKP PKPbc 17 54 50.4 +0.2
FITZ *e*PKPdf **PKPdf 17 54 52.5 +0.5**
JOW Kunigami 144.81 310 *e*PKPdf PKPbc 17 54 51.9 +0.2
MBWA Marble Bar 146.13 217 *e*PKPdf **PKPdf 17 54 55.3 +0.2**
MBWA LR LR
comp=Z,2µm,19.0s
GTA Gaotai 146.50 358 *e*PKPbc **PKPdf 17 54 55.0 -0.4**
GTA pPKP **PKiKP 17 55 01.8 +2.1**
GTA sPKP 17 55 04.0
GTA SKS **SKSdf 18 01 59.3 -5.7**
GTA SS **SS 18 17 13.0 -2.6**
GTA AMB AMB
comp=Z,670nm,10.4s
GTA LR LR
comp=N,370nm,24.2s
GTA LR LR
comp=E,450nm,18.1s
GTA LR LR
comp=Z,920nm,22.3s
BNDI Bandanaira 147.10 253 PKP **PKPab 17 55 00.3 -0.3**
NJ2 Nanjing 147.72 327 *e*PKPbc **PKPdf 17 54 57.0 -0.4**
NJ2 PKPab **PKPbc 17 55 01.0 +0.8**
NJ2 PP **PP 17 58 27.0 +1.1**
NJ2 AMB AMB
comp=Z,140nm,10.8s
NJ2 LR LR
comp=N,2µm,21.8s
NJ2 LR LR
comp=E,2µm,21.2s
NJ2 LR LR
comp=Z,500nm,13.8s
KKR Kurukshetra 148.38 38 *e*P **PKPdf 17 54 57.3 -1.3**
DDI Dehra Dun 148.86 36 *ex* **PKPbc 17 55 02.0 -1.3**
AAI Ambon 148.97 253 PKP **PKPbc 17 55 03.2 -0.8**
KHET Khetri 149.03 42 *e*P **PKPdf 17 55 00.5 +0.8**
BHGR Bahadurgarh 149.35 39 *e*P **PKPdf 17 54 59.2 -1.0**
KUDL Kundal 149.43 41 *e*P **PKPdf 17 54 59.6 -0.7**
LZH Lanzhou 149.45 352 *e*PKPbc **PKPdf 17 55 02.5 +2.1**
LZH pPKP **PKPbc 17 55 04.8 0.0**
LZH sPKP 17 55 06.0
LZH PP PP 17 58 44.0 +8.4
LZH SKS **SKSdf 18 02 07.5 -1.8**
LZH SKKS **SKKSac 18 05 28.5 -0.4**
LZH SS **SS 18 17 50.3 +1.3**
LZH AMB AMB
comp=Z,540nm,7.6s
LZH LR LR
comp=N,580nm,19.4s
LZH LR LR
comp=E,680nm,19.1s
LZH LR LR
comp=Z,710nm,20.3s
AYAN Aya Nagar 149.61 40 *e*P **PKPdf 17 54 58.3 -2.3**
SONA Sohna 149.74 40 *e*P **PKPdf 17 55 01.7 +0.9**
BISR Bishrakh 149.74 39 *e*P **PKPdf 17 54 59.8 -1.0**
LBMI Labuha 150.44 258 PKP **PKPab 17 55 11.7 -2.4**
DGAR Diego Garcia 150.82 116 *e*PKIKP **PKPbc 17 55 09.1 +0.6**
DGAR MLR MLR
comp=Z,2µm,20.0s
DGAR Diego Garcia 150.82 116 *e*PKPbc **PKPbc 17 55 09.1 +0.6**
DGAR LR LR
comp=Z,2µm,20.0s
TNTI Ternate 150.85 261 PKP **PKPab 17 55 19.3 +3.5**
AGRA Agra 150.99 40 *e*P **PKPdf 17 55 01.3 -1.5**
AGRA AMb AMB 17 55 18.8
comp=Z,60nm,0.5s
YHNB Yeheng 151.17 313 PFAKE 17 55 10.0 +0.9
YHNB LR LR
comp=Z,13µm,22.0s
WHN Wuhan 151.25 331 PKPbc **PKPbc 17 55 08.3 -0.7**
WHN PKPab **PKPab 17 55 16.8 0.0**
WHN LR LR
comp=Z,2µm,19.9s
SSLB Suanglung 152.01 312 *e*PKPbc **PKPbc 17 55 11.9 +0.9**
MMRI Maumere 152.41 239 PKP **PKPab 17 55 18.7 -3.5**
DAV Davao City (W) 153.15 274 PFAKE 17 55 20.0 -5.4
DAV LR LR
comp=Z,3µm,21.0s
PYUN Piuthan 153.31 32 *e*P **PKPdf 17 55 06.9 +0.3**
comp=Z,254nm,1.2s
MNI Manado 153.46 262 PKP **PKPbc 17 55 18.4 +3.9**
DANN Dangsing 153.51 30 *e*P **PKPdf 17 55 06.8 -0.1**
comp=Z,129nm,0.9s
ENH Enshi 153.56 338 *e*PKPdf **PKPdf 17 55 06.3 -0.3**
ENH LR LR
comp=Z,15µm,20.0s
KOLN Koldanda 153.90 31 *e*P **PKPdf 17 55 07.1 -0.3**
KMSI Cibinong 154.13 259 PKP PKPab 17 55 39.5 +10
CD2 Chengdu 154.53 350 PKPbc **PKPdf 17 55 07.0 -1.0**
CD2 PKPab **PKPab 17 55 32.0 +1.4**
CD2 PKS **PKSdf 17 58 40.0 -2.3**
CD2 PP **PP 17 59 08.3 +3.9**
CD2 SKS **SKSdf 18 02 10.5 -5.0**
CD2 SKKS **SKKSac 18 05 53.8 -2.7**
CD2 SS **SS 18 18 44.5 -0.3**
CD2 AMB AMB
comp=Z,570nm,8.3s
CD2 LR LR
comp=N,850nm,19.6s
CD2 LR LR
comp=Z,1µm,17.8s
KKN Kakani 154.72 29 *e*P **PKPdf 17 55 07.7 -0.9**
DMN Daman 154.78 29 *e*P **PKPdf 17 55 07.5 -1.2**
GUN Gumba 154.89 27 *e*P **PKPdf 17 55 07.9 -1.1**
LUWI Luwuk 154.92 255 PKP **PKPbc 17 55 19.4 +1.8**
LUWI PKP PKPab 17 55 41.6 +8.7
PKIN Phulchoki 154.95 29 *e*P **PKPdf 17 55 06.9 -2.0**
PKI Pulchoki 154.96 29 *e*P **PKPdf 17 55 07.9 -1.1**
LSA Lhasa 155.19 16 *e*PKIKP **PKPdf 17 55 09.6 +0.1**
LSA MLR MLR
comp=Z,1µm,19.0s
LSA Lhasa 155.19 16 *e*PKPdf **PKPdf 17 55 09.6 +0.1**
LSA LR LR
comp=Z,1µm,19.0s
BKSI Bulukumba 155.84 243 PKP **PKPab 17 55 39.0 +2.2**
RAMN Ramite 156.04 27 *e*P **PKPdf 17 55 08.5 -1.9**
comp=Z,56nm,1.0s
TAPN Taplejung 156.18 25 *e*P **PKPdf 17 55 08.2 -2.4**
KAPI Kappang 156.31 244 *e*PKPdf **PKPdf 17 55 10.6 -0.1**
KAPI LR LR
comp=Z,1µm,21.0s
KAPI Kappang 156.31 244 PKP PKPdf 17 55 20.1 +9.3
ODAN Odare 156.47 26 *e*P **PKPdf 17 55 08.0 -3.0**
HYB Hyderabad 157.25 58 *i* PKP **PKPdf 17 55 11.0 -0.9**
IGBI Denpasar 158.03 229 PKP PKPab 17 55 35.5 -11
GYA Guiyang 158.04 340 PKP **PKPdf 17 55 10.5 -2.3**
GYA PKPab **PKPab 17 55 45.8 -0.1**
GYA PKS **PKSdf 17 58 42.5 -4.2**
GYA PP **PP 17 59 26.0 +1.8**
GYA SKKS 18 06 11.5
GYA SS **SS 18 19 22.0 -1.1**
GYA AMB AMB
comp=Z,140nm,7.8s
GYA LR LR
comp=N,320nm,23.4s
GYA LR LR
comp=E,230nm,24.0s
GYA LR LR
comp=Z,260nm,22.3s
SRBI Singaraja 158.45 230 PKP PKPdf 17 55 26.5 +13
SHL Shillong 159.30 17 *e*P **PKPdf 17 55 13.0 -1.4**
MYLDM Lahad Datu 160.17 269 PKP PKPdf 17 55 30.1 +15
KBKI Kotabaru 160.26 243 PKP **PKPdf 17 55 18.3 +2.7**
KMI Kunming 160.36 349 PKP **PKPdf 17 55 14.5 -1.2**
CAL Calcutta 160.61 30 *e*P **PKPdf 17 55 14.5 -1.2**
CAL *ex* x 18 00 32.5
COCO West Island 162.06 174 PFAKE 17 55 30.0 +13
COCO LR LR
comp=Z,2µm,20.0s
QIZ Qiongzhong 162.86 321 PFAKE 17 55 30.0 +12
QIZ LR LR
comp=Z,4µm,19.0s
TGJI Tegal 163.62 220 PKP PKPdf 17 55 28.4 +9.4
LEM Lembang 164.57 216 PKP PKPdf 17 55 33.8 +14
CGJI Cibinong 165.80 210 PKP PKPdf 17 55 30.0 +9.1
SBUM Sibu 166.01 257 PKP PKPdf 17 55 33.3 +12
CHTO Chiang Mai 167.04 358 PFAKE 17 55 30.0 +8.3
CHTO LR LR
comp=Z,3µm,20.0s
CMAR Chiang Mai Arr 167.39 358 PKP **PKPdf 17 55 21.8 -0.2**
comp=Z,2.9nm,1.0s,baz=303,slow=1.8,SNR=13
CMAR PKPab **PKPab 17 56 25.4 -1.4**
comp=Z,3.6nm,0.9s,baz=344,slow=4.2,SNR=7.6
CMAR PP **PP 18 00 12.9 -0.4**
comp=Z,3.6nm,1.2s,baz=318,slow=6.6,SNR=4.4
CMAR Chiang Mai Arr 167.39 358 PKP **PKPdf 17 55 21.8 -0.2**
CMAR PKPab **PKPab 17 56 25.4 -1.4**
CMAR PP **PP 18 00 12.9 -0.4**
KSM Kuching 167.55 250 PKP PKPdf 17 55 28.8 +6.5
SRDT SRDT 171.47 357 PKP PKPdf 17 55 32.4 +7.9
CHBT CHBT 172.15 332 PKP PKPdf 17 55 34.2 +9.4
MYKOM Kota Tinggi 173.43 233 PKP PKPdf 17 55 34.8 +9.3
BKNI Bangkinang 174.06 204 PKP PKPdf 17 55 38.2 +12
BSI Banda Aceh 176.71 95 PKP PKPdf 17 55 33.4 +7.0
PSI Prapat 177.03 186 PKP **PKPdf 17 55 27.6 +1.0**
IPM Ipoh 177.25 242 PKP PKPdf 17 55 33.5 +7.0
KULM Kulim 177.89 257 *e*PKPdf **PKPdf 17 55 26.6 0.0**
KULM Kulim 177.89 257 PKP PKPdf 17 55 33.6 +7.0

*ISCJB **26** 18:16:25.7±1.7,25°.66S±0°.03×70°.51W±0°.07,h15km±12km, mb4.5/27,MS5.3/1,Error ellipse: s-maj=10.0km s-min=4.4km az=177.6*
*GUC **26** 18:16:27.9±0.8,25°.72S×70°.03W,h92km±22km,ML4.8*
*IDC **26** 18:16:30.5±0.5,25°.67S×70°.54W,h42km±3km,mb4.1/16, mb1 4.2/18,mb1mx4.1/24,mbtmp4.1/18,ML3.9/2,MS5.2/1, Ms1 5.2/1,ms1mx3.8/30,Error ellipse: s-maj=18.2km s-min=11.6km az=68.0*
*NEIC **26** 18:16:30.2±0.2,25°.70S×70°.45W,mb4.7/11,Error ellipse: s-maj=7.9km s-min=4.0km az=83.0*
NEIC Felt [III] at Chanaral, Copiapo, Diego de Almagro and El Salvador.

ISC 26 18:16:30.0±0.4,25°.68S±0°.04×70°.58W±0°.08,h41km±3km, h41km:pP-P,n347,σ1§24/383,mb4.5/27,126C-137D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.69**	**173**	↑	*i*P	**Pn**	**18 16 56.3**	**-0.6**
CPCH					*i* S	**Sn**	**18 17 17.4**	**+0.1**
CPCH	**Copiapo**	**1.69**	**173**	↑	*i*P	**Pn**	**18 16 56.3**	**-0.6**
CPCH					*i* S	**Sn**	**18 17 17.4**	**+0.1**
CPCH					AML	AML	18 17 21.7	
comp=E,38µm,0.1s								
ANCH	**Antofagasta**	**1.99**	**4**	↑	*i*P	**Pn**	**18 17 01.3**	**+0.2**
ANCH					*e*S	**Sn**	**18 17 26.3**	**+1.4**
ANCH	**Antofagasta**	**1.99**	**4**	↑	*i*P	**Pn**	**18 17 01.3**	**+0.2**
ANCH					*e*S	**Sn**	**18 17 26.3**	**+1.4**
ANCH					AML	AML	18 17 37.4	
comp=E,3µm,0.8s								
CEN1	**Los Morros**	**2.31**	**9**	↓	*i*P	Pn	18 17 02.4	-3.1
CEN1					*e*S	**Sn**	**18 17 29.2**	**-3.5**
CEN1	**Los Morros**	**2.31**	**9**	↓	*i*P	Pn	18 17 02.4	-3.1
CEN1					*e*S	**Sn**	**18 17 29.2**	**-3.5**
MECH	**Mejillones**	**2.57**	**3**		*e*P	**Pn**	**18 17 09.2**	**+0.2**
MECH	**Mejillones**	**2.57**	**3**		*e*P	**Pn**	**18 17 09.2**	**+0.2**
TLL	**Tololo Astrono**	**4.48**	**183**	↓	*i*P	**Pn**	**18 17 34.4**	**-1.1**
TLL					*e*S	**Sn**	**18 18 26.1**	**-0.4**
TLL	**Tololo Astrono**	**4.48**	**183**	↓	*i*P	**Pn**	**18 17 34.4**	**-1.1**
TLL					*e*S	**Sn**	**18 18 26.1**	**-0.4**
CFAA	**Coronel Fontan**	**6.25**	**161**		P	**Pn**	**18 18 00.2**	**+0.5**
comp=E,0.6nm,0.3s,baz=343,slow=13,SNR=29								
CFAA					S	**Sn**	**18 19 13.2**	**+3.3**
comp=E,1.1nm,0.3s,baz=223,slow=20,SNR=5.1								
CFAA	**Coronel Fontan**	**6.25**	**161**		P	**Pn**	**18 18 00.2**	**+0.5**
CFAA					S	**Sn**	**18 19 13.2**	**+3.3**
ARE	**Arequipa**	**9.21**	**355**		*e*P	**Pn**	**18 18 38.0**	**-2.6**
ARE					*e*S	**Sn**	**18 20 19.0**	**-4.1**
LPAZ	**La Paz**	**9.62**	**14**		P	**Pn**	**18 18 47.5**	**+1.1**
comp=E,1.1nm,0.3s,baz=180,slow=5.5,SNR=30								
LPAZ	**La Paz**	**9.62**	**14**		P	**Pn**	**18 18 47.5**	**+1.1**
SIV	**San Ignacio**	**13.10**	**44**		P	**Pn**	**18 19 31.5**	**-2.2**
comp=E,0.5nm,0.3s,baz=256,slow=10,SNR=7.7								
SIV					S	**Sn**	**18 21 59.8**	**+1.7**
comp=E,0.2nm,0.3s,baz=252,slow=17,SNR=3.5								
SIV	**San Ignacio**	**13.10**	**44**		P	**Pn**	**18 19 31.5**	**-2.2**
SIV					S	**Sn**	**18 21 59.8**	**+1.7**

TRQA Tornquist 14.33 152 *e*P **Pn 18 19 48.9 -1.3**
comp=E,10nm,0.8s
SAML Samuel 18.06 24 *e*P **Pn 18 20 38.6 +0.6**
comp=E,3.7nm,0.7s
BDFB Brasilia 23.32 69 P **P 18 21 33.9 -0.8**
comp=E,4.7nm,0.8s,baz=246,slow=12,SNR=4.7
BDFB pP **pP 18 21 45.8 +0.5**
comp=E,4.3nm,0.7s,baz=242,slow=9.0,SNR=3.7
BDFB sP **sP 18 21 51.0 +0.7**
comp=E,7.4nm,0.8s,baz=258,slow=13,SNR=4.2
BDFB Brasilia 23.32 69 P **P 18 21 33.9 -0.8**
BDFB pP **pP 18 21 45.8 +0.5**
BDFB sP **sP 18 21 51.0 +0.7**
USHA Ushuaia 29.16 177 P **P 18 22 26.8 -0.3**
comp=E,6.3nm,0.8s,baz=324,slow=22,SNR=1.8
USHA Ushuaia 29.16 177 P **P 18 22 26.8 -0.3**
CMIG Matias Romero 48.65 328 P **P 18 25 11.3 +1.2**
comp=E,3.7nm,0.7s,baz=74,slow=6.3,SNR=6.0
CMIG Matias Romero 48.65 328 P **P 18 25 11.3 +1.2**
732A Laxson Ranch, 61.03 330 ⇓P **P 18 26 40.3 +0.8**
baz=61,SNR=5.9
632A Uvalde 61.62 331 ⇓P **P 18 26 44.3 +0.8**
baz=62
631A Perdido Creek 61.88 330 ⇑P **P 18 26 45.8 +0.5**
baz=62
532A Rocksprings 62.20 331 ⇑P **P 18 26 48.4 +0.9**
baz=63,SNR=5.7
SWET Sewanee 62.28 346 *e*P **P 18 26 47.4 -0.5**
JCT Junction City 62.46 332 *e*P **P 18 26 49.6 +0.4**
comp=E,14nm,0.8s
531A Rocksprings 62.51 331 ⇑P **P 18 26 50.9 +1.4**
baz=63,SNR=5.8
432A Menard 62.80 332 ⇓P **P 18 26 52.2 +0.7**
baz=63,SNR=6.9
WHTX Lake Whitney 62.83 334 ⇓P **P 18 26 51.5 0.0**
baz=63
530A J-C Ranch, Com 62.85 330 ⇑P **P 18 26 53.0 +1.1**
baz=63,SNR=5.3
431A Sonora 62.98 331 ⇓P **P 18 26 53.4 +0.7**
baz=63
628A Black Gap, Mar 63.01 328 ⇓P **P 18 26 54.0 +1.2**
baz=63,SNR=6.1
627A Terlingua Ranc 63.22 328 ⇓P **P 18 26 55.4 +1.1**
baz=64
332A Millersview 63.22 332 ⇑P **P 18 26 55.0 +0.8**
baz=64
529A Stev Forest Ra 63.23 329 ⇓P **P 18 26 55.4 +1.0**
baz=64,SNR=9.7
TXAR Lajitas Array 63.25 328 P **P 18 26 55.4 +0.8**
comp=E,1.4nm,0.8s,baz=141,slow=8.1,SNR=10.0
TXAR Lajitas Array 63.25 328 P **P 18 26 55.4 +0.8**
430A Baggett Ranch, 63.35 331 ⇓P **P 18 26 56.1 +0.9**
baz=64
331A San Angelo 63.45 332 ⇓P **P 18 26 56.3 +0.6**
baz=64
429A Davenport Ranc 63.51 330 ⇑P **P 18 26 57.2 +1.0**
baz=64,SNR=7.1
528A Cox Ranch, San 63.53 329 ⇓P **P 18 26 57.4 +1.0**
baz=64
626A Big Bend Ranch 63.66 327 ⇑P **P 18 26 58.9 +1.7**
baz=64,SNR=16
330A Mertzon 63.85 331 ⇓P **P 18 26 59.2 +0.8**
baz=64
527A Woodward Ranch 63.90 328 ⇓P **P 18 26 59.9 +1.0**
baz=64
428A Kincaid Ranch, 63.95 329 ⇓P **P 18 27 00.8 +1.6**
baz=64
526A Mary Lane Ranc 64.06 328 ⇓P **P 18 27 01.1 +1.2**
baz=64,SNR=8.5
ABTX Abilene, Hawle 64.26 333 ⇓P **P 18 27 01.6 +0.6**
baz=65
329A Wagon Wheel Ra 64.28 330 ⇓P **P 18 27 01.9 +0.6**
baz=65,SNR=6.0
427A Hayter Ranch, 64.39 329 ⇑P **P 18 27 02.9 +0.9**
baz=65
426A McDonald Obser 64.53 328 ⇑P **P 18 27 04.4 +1.3**
baz=65
328A Wristen Ranch, 64.56 330 ⇓P **P 18 27 04.0 +0.9**
baz=65
229A Bryant Ranch, 64.61 331 ⇓P **P 18 27 04.4 +0.9**
baz=65
326A Caldwell Ranch 65.05 329 ⇑P **P 18 27 07.2 +0.9**
baz=65,SNR=5.4
Z31A Sharp Cattle R 65.07 333 ⇑P **P 18 27 06.7 +0.4**
baz=65,SNR=7.3
228A UT Block 9, Go 65.09 330 ⇓P **P 18 27 07.3 +0.8**
baz=65
425A Indio Mountain 65.09 328 ⇓P **P 18 27 07.7 +1.0**
baz=65
227A Bennet, Jal 65.31 330 ⇓P **P 18 27 09.1 +1.2**
baz=66
Y32A R-V Farms, Ver 65.38 334 ⇑P **P 18 27 09.1 +0.8**
baz=66
Z30A Sanderson Ranc 65.45 332 ⇑P **P 18 27 09.5 +0.7**
baz=66
128A Castleberry Fa 65.47 331 ⇑P **P 18 27 10.1 +1.1**
baz=66
325A Bean Ranch, Si 65.56 328 ⇑P **P 18 27 10.6 +0.8**
baz=66,SNR=6.3
Z29A Hungry Hill Ra 65.67 332 ⇑P **P 18 27 10.6 +0.3**
baz=66
Y31A Rekieta Farm, 65.67 333 ⇑P **P 18 27 11.0 +0.8**
baz=66
TUL1 Tulsa 65.73 338 ⇓P **P 18 27 10.8 +0.3**
baz=66
324A Moseley Ranch, 65.87 328 ⇓P **P 18 27 12.3 +0.7**
baz=66
Z28A Tucker Farm, M 65.99 331 ⇓P **P 18 27 12.8 +0.4**
baz=66
FVM French Village 66.01 343 *e*P **P 18 27 11.8 -0.4**
comp=E,14nm,1.1s
MNTX Cornudas Mount 66.03 328 *e*P **P 18 27 12.8 +0.3**
comp=E,3.4nm,0.8s
MNTX Cornudas Mount 66.03 328 ⇓P **P 18 27 12.9 +0.3**
baz=66,SNR=7.9
X31A McDonald Ranch 66.14 334 ⇑P **P 18 27 13.5 +0.3**
baz=66,SNR=6.0
126A Clayton Basin, 66.18 329 ⇓P **P 18 27 14.5 +0.9**
baz=66
X30A Coker Ranch, T 66.34 333 ⇓P **P 18 27 15.3 +0.8**
baz=67
Z27A Tatum 66.38 330 ⇑P **P 18 27 15.5 +0.6**
baz=67,SNR=6.5
125A Gardner Draw, 66.48 329 ⇓P **P 18 27 16.2 +0.6**
baz=67
Z26A Caprock 66.69 330 ⇑P **P 18 27 17.4 +0.6**
baz=67,SNR=10.0
X29A Tulia 66.69 332 ⇑P **P 18 27 17.4 +0.6**
baz=67
MSTX Muleshoe 66.74 331 ⇑P **P 18 27 17.9 +0.8**
baz=67
124A Stringfield Ra 66.89 328 ⇓P **P 18 27 19.4 +1.1**
baz=67
Z25A Roswell 67.03 329 ⇑P **P 18 27 20.1 +1.1**
baz=67
222A Williams Famil 67.20 327 ⇓P **P 18 27 21.9 +1.7**
baz=68
W29A Amraillo 67.25 333 ⇓P **P 18 27 20.8 +0.5**
baz=68
320A Kipp Ranch, An 67.31 325 ⇓P **P 18 27 22.6 +1.8**
baz=68
Z24A Sheeppen Canyo 67.37 329 ⇑P **P 18 27 22.1 +0.8**
baz=68,SNR=6.3
W28A Vega 67.60 332 ⇓P **P 18 27 22.8 +0.2**
baz=68
319A Douglas 67.73 325 ⇓P **P 18 27 25.2 +1.7**
baz=68
220A Playas Peak, P 67.76 326 ⇓P **P 18 27 25.7 +2.0**
baz=68
W27A Bowe Ranch, En 67.79 332 ⇓P **P 18 27 25.0 +1.2**
baz=68
121A Cookes Peak, D 67.89 327 ⇓P **P 18 27 26.3 +1.7**
baz=68
V28A Channing 68.03 333 ⇓P **P 18 27 26.3 +1.1**
baz=68
Z22A Elephant Butte 68.07 328 ⇑P **P 18 27 27.6 +2.0**
baz=68
W26A Owens Ranch, T 68.12 331 ⇑P **P 18 27 27.3 +1.4**
baz=68
Y23A Lovelace Mesa, 68.19 329 ⇑P **P 18 27 28.0 +1.6**
baz=68
W25A X Bar L Ranch, 68.53 331 ⇑P **P 18 27 29.5 +1.0**
baz=69
V26A Tequesquite Ra 68.73 331 ⇓P **P 18 27 30.1 +0.4**
baz=69,SNR=6.2
Z20A Nine Sixteen R 68.76 326 ⇓P **P 18 27 31.7 +1.8**
baz=69
X23A Hourglass Bar 68.79 329 ⇓P **P 18 27 31.6 +1.4**

baz=69,SNR=5.2
W24A Lazy 6 Ranch, 68.95 330 ⇑P P 18 27 32.2 +1.1
baz=69
V25A Rancho No Teng 69.12 331 ⇑P P 18 27 33.1 +0.9
baz=70,SNR=12
T28A Walsh 69.16 333 ⇓P P 18 27 32.9 +0.6
baz=70
ANMO Albuquerque 69.21 329 P P 18 27 33.5 +0.7
comp=E,2.4nm,0.6s,baz=142,slow=7.0,SNR=9.3
ANMO Albuquerque 69.21 329 P P 18 27 33.5 +0.8
U26A Atchley Ranch, 69.22 332 ⇓P P 18 27 33.5 +0.8
baz=70,SNR=6.3
Y20A Horse Springs, 69.29 327 ⇓P P 18 27 34.9 +1.6
baz=70,SNR=5.3
T27A Campo 69.36 333 ⇑P P 18 27 34.4 +0.8
baz=70,SNR=5.8
X21A Alamocita Cree 69.43 328 ⇑P P 18 27 36.1 +1.9
baz=70
U25A Circle Dot Ran 69.50 331 ⇑P P 18 27 35.4 +0.9
baz=70,SNR=7.5
T26A Comanche Natio 69.81 332 ⇑P P 18 27 37.5 +1.1
baz=70,SNR=6.1
214A Organ Pipe Nat 70.07 323 ⇑P P 18 27 40.0 +2.1
baz=70
T25A Trinidad 70.13 332 ⇓P P 18 27 39.8 +1.4
baz=70
S26A Kim 70.14 333 ⇑P P 18 27 39.3 +0.9
baz=70,SNR=9.2
U23A El Rito 70.23 330 ⇓P P 18 27 40.9 +1.8
baz=71
T24A Torres, Weston 70.35 331 ⇓P P 18 27 41.9 +2.0
baz=71
SADO Sadowa 70.54 354 P P 18 27 40.6 +0.2
comp=E,6.0nm,0.7s,baz=179,slow=5.1,SNR=8.2
SADO Sadowa 70.54 354 P P 18 27 40.6 +0.2
X18A Snowflake 70.56 326 ⇓P P 18 27 43.4 +2.3
baz=71
U22A Llaves 70.57 330 ⇑P P 18 27 43.4 +2.2
baz=71
S25A Robets Cordova 70.58 332 ⇓P P 18 27 42.4 +1.3
baz=71,SNR=7.9
R26A Arlington 70.71 333 ⇓P P 18 27 43.2 +1.4
baz=71
S24A Houchin Ranch, 70.89 331 ⇓P P 18 27 45.0 +1.9
baz=71,SNR=10
W18A Petrified Fore 70.92 327 ⇑P P 18 27 45.4 +2.1
baz=71
R25A Fountain Ranch 70.93 332 ⇑P P 18 27 44.3 +1.2
baz=71
KSCO Kaye Shedlock' 70.99 334 ⇓P P 18 27 44.8 +1.3
baz=71
T22A Edith 71.12 330 ⇑P P 18 27 46.7 +2.2
baz=72
X16A Lo Mia Camp, P 71.23 325 ⇓P P 18 27 47.7 +2.5
baz=72
R24A Sanders Place, 71.35 332 ⇓P P 18 27 47.2 +1.4
baz=72,SNR=5.7
U20A Newcomb 71.35 328 ⇓P P 18 27 47.7 +1.9
baz=72
T21A Navajo Lake 71.39 329 ⇓P P 18 27 47.8 +1.7
baz=72
DBIC Dimbokro 71.41 73 P P 18 27 46.2 -0.2
comp=E,2.7nm,0.7s,baz=175,slow=9.4,SNR=4.3
DBIC pP pP 18 27 58.1 -0.5
comp=E,5.2nm,1.0s,baz=106,slow=5.8,SNR=3.2
DBIC Dimbokro 71.41 73 P P 18 27 46.2 -0.2
DBIC pP pP 18 27 58.1 -0.5
BGNE Belgrade 71.47 338 ⇓P P 18 27 47.1 +0.8
baz=72
R23A Moffat 71.62 331 ⇓P P 18 27 48.8 +1.3
baz=72
S22A 4UR Ranch, Cre 71.69 330 ⇓P P 18 27 49.4 +1.4
baz=72
O27A Beecher Island 71.95 335 ⇓P P 18 27 50.3 +1.0
baz=72
Q24A Divide 71.98 332 ⇓P P 18 27 50.7 +1.0
baz=72,SNR=9.5
MVCO Mesa Verde 72.01 329 ⇑P P 18 27 51.5 +1.6
baz=72
P25A Willow Gulch B 72.04 333 ⇓P P 18 27 51.3 +1.4
baz=72
S21A Coal Bank Pass 72.06 330 ⇑P P 18 27 51.7 +1.5
baz=72,SNR=5.4
R22A Saguache, Gunn 72.06 331 ⇓P P 18 27 51.8 +1.6
baz=72
Y12C Blythe 72.36 323 ⇓P P 18 27 54.5 +2.8
baz=73
S20A Disappointment 72.45 329 ⇑P P 18 27 54.5 +2.0
baz=73
VNDA Vanda 72.48 190 P P 18 27 53.0 +1.1
comp=E,1.1nm,0.7s,baz=5.0,slow=3.2,SNR=4.3
VNDA Vanda 72.48 190 P P 18 27 53.0 +1.1
R21A Cimarron 72.53 330 ⇑P P 18 27 54.6 +1.7
baz=73,SNR=5.6
P23A Jefferson 72.61 332 ⇓P P 18 27 54.8 +1.3
baz=73
R20A Redvale 72.75 330 ⇑P P 18 27 56.2 +1.9
baz=73
BC3 Big Chuckawall 72.80 322 ⇑P P 18 27 56.6 +2.1
baz=73
ISCO Idaho Springs 72.88 332 ⇓P P 18 27 55.9 +0.9
baz=73,SNR=5.2
SMCO Snowmass 72.94 331 eP P 18 27 57.1 +1.5
comp=E,8.8nm,1.0s
IRM Iron Mountain 73.01 323 ⇓P P 18 27 57.6 +2.0
baz=73
ECSD EROS Data Cent 73.09 341 eP P 18 27 56.0 +0.1
comp=E,14nm,1.1s
S18A Hurst Farm, Bl 73.10 328 ⇓P P 18 27 58.2 +1.9
baz=74,SNR=5.5
P22A Eagle 73.19 332 ⇓P P 18 27 57.8 +1.0
baz=74
U15A North Rim 73.23 326 ⇑P P 18 27 59.5 +2.3
baz=74
Q20A Ridgley Place, 73.34 330 ⇓P P 18 27 58.8 +1.2
baz=74
O23A Lake Granby, G 73.35 332 ⇑P P 18 27 59.7 +1.9
baz=74
SPMN St. Paul 73.42 344 ⇓P P 18 27 57.2 -0.4
baz=74
P21A Newcastle 73.43 331 ⇓P P 18 27 59.8 +1.6
baz=74,SNR=5.1
O22A Kremmling 73.57 332 ⇑P P 18 28 00.4 +1.2
baz=74
N23A Red Feather La 73.93 333 ⇓P P 18 28 02.5 +1.3
baz=74
M24A Cheyenne 73.96 334 ⇓P P 18 28 02.9 +1.6
baz=74
N22A Wattenberg Ran 74.07 332 ⇑P P 18 28 03.8 +1.9
baz=74
HEC Hector,Ludlow 74.16 322 ⇓P P 18 28 04.8 +2.4
baz=74
P19A Cripple Cowboy 74.20 330 ⇑P P 18 28 04.4 +1.7
baz=75
O20A White River Ci 74.28 331 ⇑P P 18 28 04.6 +1.4
baz=75,SNR=5.4
M23A Laramie 74.32 333 ⇓P P 18 28 04.3 +0.9
baz=75
N21A Black Mountain 74.48 332 ⇓P P 18 28 05.9 +1.6
baz=75
M22A Cedar Creek Ra 74.63 333 ⇑P P 18 28 06.8 +1.6
baz=75
P18A Preston Nutter 74.77 329 ⇑P P 18 28 07.7 +1.6
baz=75,SNR=7.2
GSC Goldstone 74.77 322 ⇑P P 18 28 08.1 +2.1
baz=75
MSU Marysvale 74.80 327 eP P 18 28 07.1 +0.9
comp=E,6.5nm,0.8s
L23A Garrett 74.86 334 ⇓P P 18 28 07.4 +0.9
baz=75
P17A Butcher Ranch, 74.88 329 ⇑P P 18 28 07.9 +1.3
baz=75
N19A John Jarvie Ra 75.31 331 ⇓P P 18 28 10.3 +1.3
baz=76
K23A Bowen Ranch, D 75.37 334 ⇑P P 18 28 10.7 +1.4
baz=76
O17A Robinson Place 75.45 329 ⇑P P 18 28 11.8 +1.9
baz=76,SNR=7.0
J24A Dixon Ranch, L 75.48 335 ⇑P P 18 28 11.5 +1.6
baz=76
K22A Casper 75.64 333 ⇑P P 18 28 12.2 +1.3
baz=76
ARVC Arvin 75.78 321 ⇑P P 18 28 14.7 +3.1
baz=76
I24A Kuemmerle Ranc 75.92 335 ⇑P P 18 28 13.9 +1.5
baz=76
K21A Alcova 75.92 333 ⇑P P 18 28 14.0 +1.4
baz=76
ISA Isabella 75.96 321 ⇓P P 18 28 14.8 +2.0
baz=76
M18A Lyman 76.14 330 ⇓P P 18 28 14.8 +0.9
baz=76
CWC Cottonwood Cre 76.31 322 ⇑P P 18 28 17.5 +2.7
baz=77
O15A The Old Anders 76.33 328 ⇑P P 18 28 16.9 +2.0
baz=77
L19A Farson 76.37 331 ⇓P P 18 28 16.4 +1.2
baz=77
R11A Troy Canyon, C 76.39 325 ⇑P P 18 28 17.2 +2.0
baz=77
K20A Yellowstone Ra 76.39 332 ⇑P P 18 28 16.1 +1.0
baz=77
DUG Dugway 76.43 328 ⇓P P 18 28 17.6 +2.2
baz=77
L18A Fontenelle, Gr 76.52 331 ⇑P P 18 28 17.0 +1.0
baz=77
J21A Lysite 76.59 333 ⇑P P 18 28 17.7 +1.4
baz=77
H24A Dirks Ranch, A 76.65 336 ⇓P P 18 28 17.2 +0.7
baz=77
I22A 9 Mile Ranch, 76.66 334 ⇑P P 18 28 17.6 +1.0
baz=77
K19A Absolon Red Bu 76.74 332 ⇑P P 18 28 18.3 +1.1
baz=77
J20A Shoshoni 76.86 333 ⇑P P 18 28 19.6 +1.8
baz=77
I21A Big Trails, Te 76.92 334 ⇓P P 18 28 18.8 +0.7
baz=77,SNR=7.3
PDAR Pinedale Array 77.00 332 P P 18 28 19.2 +0.5
comp=E,1.0nm,0.8s,baz=116,slow=6.8,SNR=7.5
PDAR pP PcP 18 28 30.3 +0.8
comp=E,0.7nm,0.7s,baz=130,slow=6.6,SNR=4.0
PDAR Pinedale Array 77.00 332 P P 18 28 19.2 +0.5
PDAR pP PcP 18 28 30.3 +0.8
AGMN Agassiz Nation 77.05 343 eP P 18 28 18.7 +0.2
comp=E,7.7nm,1.0s
K18A Toltan Ranch, 77.10 331 ⇑P P 18 28 20.8 +1.6
baz=78
J19A Crowheart 77.19 332 ⇓P P 18 28 20.6 +1.0
baz=78,SNR=5.7
H22A Clearmont 77.20 335 ⇑P P 18 28 20.3 +0.7
baz=78
G23A Biddle 77.35 336 ⇓P P 18 28 21.7 +1.3
baz=78
I20A Worland 77.37 333 ⇓P P 18 28 21.4 +0.8
baz=78
H21A Big Horn, Sher 77.50 334 ⇓P P 18 28 22.1 +0.8
baz=78
F24A Ekalaka 77.55 336 ⇑P P 18 28 22.3 +0.8
baz=78
J18A Kendall Valley 77.56 332 ⇓P P 18 28 22.8 +1.0
baz=78,SNR=7.0
L15A Malad City 77.64 329 ⇓P P 18 28 23.5 +1.3
baz=78
G22A Birney 77.70 335 ⇓P P 18 28 23.1 +0.7
baz=78
MDND Maddock 77.70 340 ⇑P P 18 28 23.2 +1.0
baz=78
H20A Greybull 77.76 334 ⇓P P 18 28 23.8 +1.0
baz=78
I19A Meeteetse 77.80 333 ⇓P P 18 28 24.3 +1.3
baz=78,SNR=6.7
I18A Diamond G Ranc 77.87 332 ⇑P P 18 28 24.6 +1.1
baz=78,SNR=6.3
NVAR Mina Array Bea 77.88 324 P P 18 28 25.1 +1.4
comp=E,2.8nm,0.9s,baz=177,slow=4.5,SNR=5.7
NVAR Mina Array Bea 77.88 324 P P 18 28 25.1 +1.4
J17A Brown Place, J 77.98 331 ⇑P P 18 28 25.4 +1.4
baz=78
G21A Lodge Grass 78.06 334 ⇑P P 18 28 25.2 +0.8
baz=78
L14A Malta 78.06 329 ⇓P P 18 28 25.8 +1.3
baz=78
E24A Baker 78.12 337 ⇑P P 18 28 25.6 +1.0
baz=78
F22A Rosebud 78.16 335 ⇑P P 18 28 25.9 +1.0
baz=78
H19A Powell 78.31 333 ⇑P P 18 28 27.3 +1.4
baz=79
K14A Jones Ranch, D 78.43 329 ⇑P P 18 28 27.8 +1.2
baz=79
G20A Bridger 78.45 334 ⇓P P 18 28 27.2 +0.6
baz=79,SNR=11
F21A Absaloka Mine, 78.53 335 ⇑P P 18 28 28.1 +1.2
baz=79
H18A Shoshone NF, C 78.60 333 ⇑P P 18 28 28.5 +1.0
baz=79,SNR=11
E22A Miles City 78.61 336 ⇑P P 18 28 28.2 +0.9
baz=79
H17A Grant Village 78.75 332 ⇑P P 18 28 30.2 +1.8
baz=79
RLMT Red Lodge 78.80 333 ⇓P P 18 28 29.7 +1.1
baz=79,SNR=5.1
ULM Lac du Bonnet 78.85 344 P P 18 28 28.6 +0.2
comp=E,4.3nm,0.8s,baz=129,slow=6.0,SNR=4.0
ULM Lac du Bonnet 78.85 344 P P 18 28 28.6 +0.2
F20A Billings 78.91 334 ⇑P P 18 28 30.2 +1.2
baz=79
G18A Lazy EL Ranch, 79.08 333 ⇑P P 18 28 31.0 +0.9
baz=79,SNR=8.4
F19A Roth Farm, Mol 79.27 334 ⇓P P 18 28 31.8 +0.8
baz=80,SNR=5.3
H16A Russell Place, 79.28 332 ⇓P P 18 28 33.1 +1.8
baz=80
D22A Cohagen 79.29 336 ⇑P P 18 28 32.3 +1.3
baz=80
E20A Meyer Farm, Mu 79.48 335 ⇓P P 18 28 32.9 +0.7
baz=80,SNR=8.5
C23A Lambert 79.49 337 ⇓P P 18 28 33.4 +1.3
baz=80
D21A La Casta Ranch 79.52 336 ⇑P P 18 28 33.3 +1.0
baz=80
J13A Cove Ranch, Pi 79.56 329 ⇓P P 18 28 34.5 +1.8
baz=80
G17A Pierce Place, 79.57 332 ⇑P P 18 28 34.4 +1.7
baz=80
F18A Big Timber 79.62 333 ⇑P P 18 28 33.9 +1.0
baz=80,SNR=13
I14A Mackay 79.64 330 ⇑P P 18 28 34.9 +1.7
baz=80
E19A Rath Farm, Rou 79.70 334 ⇓P P 18 28 34.2 +0.9
baz=80,SNR=13
DGMT Dagmar 79.72 338 ⇑P P 18 28 34.5 +1.2
baz=80
HLID Hailey 79.79 329 ⇓P P 18 28 35.5 +1.4
baz=80,SNR=10
I13A Wildhorse Cree 79.93 330 ⇑P P 18 28 36.5 +1.7
baz=80,SNR=12
G16A Moss Hill, Enn 79.94 332 ⇑P P 18 28 35.8 +1.0
baz=80
D20A Manuel Ranch, 79.97 335 ⇑P P 18 28 36.1 +1.3
baz=80
F17A Fitzpatrick Pl 80.00 333 ⇑P P 18 28 36.3 +1.3
baz=80,SNR=5.1
A24A Westby 80.05 338 ⇓P P 18 28 35.9 +0.8
baz=80
MCMT McKenzie Canyo 80.08 331 eP P 18 28 37.0 +1.4
comp=E,3.2nm,0.8s
MCMT epP pP 18 28 49.3 +1.4
H14A Leadore 80.14 330 ⇓P P 18 28 37.4 +1.5
baz=80,SNR=5.1
G15A Dillon 80.19 331 ⇑P P 18 28 37.4 +1.3
baz=80,SNR=7.1
C21A Desert Coulee 80.20 336 ⇓P P 18 28 36.9 +1.0
baz=81
TORD Torodi Ar. Bea 80.20 70 P P 18 28 36.5 -0.1
comp=E,5.4nm,0.6s,baz=264,slow=5.2,SNR=52
TORD pP pP 18 28 49.6 +0.7
comp=E,6.9nm,0.7s,baz=251,slow=5.1,SNR=18
TORD sP sP 18 28 55.5 +2.0
comp=E,4.1nm,0.7s,baz=254,slow=4.8,SNR=6.4
TORD Torodi Ar. Bea 80.20 70 P P 18 28 36.5 -0.1
TORD pP pP 18 28 49.6 +0.7
TORD sP sP 18 28 55.5 +2.0
B22A Reddig Ranch S 80.20 337 ⇑P P 18 28 37.3 +1.3
baz=81
BOZ Bozeman (W) 80.20 332 ⇓P P 18 28 37.1 +1.0
baz=81
E18A Harlowton 80.24 334 ⇓P P 18 28 37.6 +1.3
baz=81
MFID Camas Ranch 80.34 328 ⇓P P 18 28 38.7 +1.8
baz=81
C20A Veseth Ranch, 80.44 335 ⇓P P 18 28 37.8 +0.6
baz=81
H13A Challis 80.50 330 ⇑P P 18 28 39.3 +1.5
baz=81,SNR=12
E17A Martinsdale 80.53 333 ⇑P P 18 28 39.1 +1.2
baz=81
LRM Limekiln Ridge 80.69 332 eP P 18 28 39.4 +0.5
comp=E,24nm,0.8s
D18A Linhart Farms, 80.71 334 ⇓P P 18 28 39.8 +1.0
baz=81
F15A Butte 80.72 332 ⇑P P 18 28 40.2 +1.2
baz=81
H12A Diamond D Ranc 80.76 330 ⇑P P 18 28 41.0 +1.8
baz=81
A22A Carney Farms, 80.76 337 ⇑P P 18 28 39.6 +0.7
baz=81,SNR=6.6
C19A Slack Wire Ran 80.85 335 ⇓P P 18 28 40.7 +1.2
baz=81
G13A Cobalt 80.89 330 ⇑P P 18 28 41.2 +1.4
baz=81,SNR=16
E16A East Helena 80.93 333 ⇑P P 18 28 41.1 +1.1
baz=81
D17A Six Diamond Ra 81.02 334 ⇑P P 18 28 41.4 +0.9
baz=81,SNR=11
B20A Solberg Farm, 81.05 336 ⇑P P 18 28 41.0 +0.5
baz=81
F14A Wisdom 81.08 331 ⇓P P 18 28 42.5 +1.7
baz=81
A21A Bergtoll Ranch 81.11 337 ⇑P P 18 28 41.3 +0.5
baz=82,SNR=5.2
E15A Deer Lodge 81.25 332 ⇓P P 18 28 43.3 +1.6
baz=82
D16A Dana Ranch, Ca 81.28 333 ⇓P P 18 28 43.3 +1.5
baz=82,SNR=8.9
A20A Cobblestone Ra 81.38 336 ⇑P P 18 28 43.0 +0.7
baz=82,SNR=9.0
B19A Brinkman Farms 81.41 335 ⇓P P 18 28 43.2 +0.8
baz=82
C17A Wharram Farm, 81.44 334 ⇓P P 18 28 43.1 +0.5
baz=82,SNR=6.9
F13A Darby 81.48 331 ⇓P P 18 28 44.1 +1.2
baz=82,SNR=14
E14A Clinton 81.60 332 ⇑P P 18 28 45.0 +1.4
baz=82
B18A Beardsley Farm 81.67 335 ⇑P P 18 28 44.6 +0.8
baz=82,SNR=13
D15A Lincoln 81.69 332 ⇓P P 18 28 45.3 +1.3
baz=82
A19A Klindworth Far 81.72 336 ⇑P P 18 28 44.8 +0.8
baz=82
F12A Elk City 81.86 330 ⇓P P 18 28 46.2 +1.3
baz=82
E13A Victor 81.92 331 ⇓P P 18 28 46.7 +1.4
baz=82,SNR=5.7
C16A Fuhringer Ranc 81.97 333 ⇑P P 18 28 46.5 +1.0
baz=82,SNR=5.0
B17A L&Q Farms, Che 81.99 334 ⇓P P 18 28 46.2 +0.7
baz=82
MSO Missoula 82.12 332 ⇑P P 18 28 47.5 +1.3
baz=82
D14A Greenough 82.13 332 ⇓P P 18 28 47.6 +1.3
baz=82
A18A Metzger Ranch, 82.13 335 ⇓P P 18 28 47.1 +0.9
baz=82
SLMT Seeley Lake 82.25 332 eP P 18 28 47.2 +0.2
comp=E,5.5nm,1.1s
C15A Salmond Ranch, 82.30 333 ⇑P P 18 28 48.3 +1.0
baz=83,SNR=14
B16A M & M Farms, S 82.45 334 ⇓P P 18 28 48.9 +1.0
baz=83
A17A Triple J Farms 82.48 335 ⇓P P 18 28 48.9 +0.9
baz=83
D13A Huson 82.55 331 ⇓P P 18 28 49.6 +1.2
baz=83,SNR=6.3
YBH Yreka Blue Hor 82.60 323 P P 18 28 48.7 -0.1
comp=E,1.4nm,0.6s,baz=82,slow=9.2,SNR=4.3
YBH Yreka Blue Hor 82.60 323 P P 18 28 48.7 -0.1
B15A Bradely Ranch, 82.71 333 ⇑P P 18 28 49.7 +0.4
baz=83,SNR=8.4
BOSA Boshof 82.84 118 P P 18 28 50.6 0.0
comp=E,1.9nm,0.9s,baz=230,slow=5.2,SNR=2.5
BOSA pP pP 18 29 02.8 -0.2
comp=E,6.5nm,0.9s,baz=251,slow=2.5,SNR=7.9
BOSA Boshof 82.84 118 P P 18 28 50.6 0.0
BOSA pP pP 18 29 02.8 -0.2
JTMT Jette 82.98 332 eP P 18 28 51.8 +1.1
comp=E,2.7nm,0.8s
B14A Marquette Ranc 83.04 333 ⇓P P 18 28 51.5 +0.4
baz=83
A15A Johnson Ranch, 83.31 334 ⇑P P 18 28 52.5 +0.2
baz=84
B13A Whitefish 83.55 332 ⇓P P 18 28 54.4 +0.9
baz=84
A14A Double T Ranch 83.58 333 ⇑P P 18 28 54.1 +0.3
baz=84,SNR=5.3
B12A Libby 84.09 332 ⇑P P 18 28 57.9 +1.6
baz=84
A12A Yaak River Ran 84.48 332 ⇓P P 18 28 59.5 +1.2
baz=85
NEW Newport 84.60 331 ⇑P P 18 29 00.1 +1.2
baz=85
LSZ Lusaka 91.14 107 LR LR 19 04 34.2
comp=E,1µm,19.7s,baz=120,slow=32
SFJD Kangerlussuaq 93.61 8 P P 18 29 40.2 -0.9
comp=E,3.0nm,0.7s,baz=355,slow=19,SNR=2.8
SFJD Kangerlussuaq 93.61 8 P P 18 29 40.2 -0.9
YKA Yellowknife Ar 94.61 341 P P 18 29 45.6 -0.3
comp=E,1.1nm,0.8s,baz=137,slow=4.6,SNR=20
YKA pP pP 18 29 58.2 -0.2
comp=E,0.4nm,0.7s,baz=135,slow=4.3,SNR=2.9
YKA Yellowknife Ar 94.61 341 P P 18 29 45.6 -0.3
YKA pP pP 18 29 58.2 -0.2
NACGM Naroch 114.74 39 eLR LR 18 31 52.0
ASAR Alice Springs 125.52 208 PKP PKPdf 18 35 26.7 -0.7
comp=E,0.9nm,0.8s,baz=170,slow=3.0,SNR=7.8
ASAR pPKP pPKPdf 18 35 39.5 -0.9
comp=E,0.5nm,0.7s,baz=116,slow=1.1,SNR=3.5
ASAR Alice Springs 125.52 208 PKP PKPdf 18 35 26.7 -0.7
ASAR pPKP pPKPdf 18 35 39.5 -0.9
WRA Warramunga Arr 128.59 210 PKP PKPdf 18 35 32.9 -0.5
comp=E,1.2nm,0.7s,baz=156,slow=1.6,SNR=16
WRA pPKP pPKPdf 18 35 45.5 -0.7
comp=E,1.6nm,0.8s,baz=155,slow=1.4,SNR=6.8
WRA Warramunga Arr 128.59 210 PKP PKPdf 18 35 32.9 -0.5
WRA pPKP pPKPdf 18 35 45.5 -0.7
ABKAR Akbulak array 135.21 45 eP PKPdf 18 35 45.7 +0.9
KURK Kurchatov 145.63 35 eP PKPab 18 36 04.2 -0.1
KURK epPKPdf pPKPdf 18 36 16.8 +0.3
EKS2 Erkin-Say 146.29 51 ePKPdf PKPab 18 36 06.4 -0.8
EKS2 Erkin-Say 146.29 51 P PKPab 18 36 06.8 -0.4
SNR=9.7
ZAA0 Zalesovo Array 146.37 26 eP PKPbc 18 36 05.2 -0.8
ZALV Zalesovo Beam 146.37 26 PKP PKPbc 18 36 05.1 -0.9
comp=E,13nm,0.8s,baz=309,slow=3.9,SNR=49
ZALV PKPbc PKPab 18 36 06.7 -0.3
comp=E,13nm,0.8s,baz=309,slow=4.0,SNR=50
ZALV pPKPbc pPKPbc 18 36 20.2 +1.4
comp=E,4.5nm,0.7s,baz=314,slow=4.0,SNR=7.1
ZALV Zalesovo Beam 146.37 26 PKP PKPbc 18 36 05.1 -0.9
ZALV PKPbc PKPab 18 36 06.7 -0.3
ZALV pPKPbc pPKPbc 18 36 20.2 +1.4
AML Almayashu 146.40 52 P PKPab 18 36 08.5 +0.5
SNR=14
AAK Ala-Archa 146.80 51 ePKPdf PKPbc 18 36 07.3 -0.6
AAK Ala-Archa 146.80 51 P PKPab 18 36 09.4 +0.1
SNR=13
CHMS Chumysh 146.86 50 P PKPab 18 36 09.0 -0.3
SNR=6.2
KBK Karagaybulak 147.11 50 P PKPab 18 36 10.4 -0.1
SNR=6.7
TKM2 Tokmak 2 147.47 49 ePKPdf PKPdf 18 36 07.4 +0.2
TKM2 Tokmak 2 147.47 49 P PKPab 18 36 11.1 -0.9
SNR=8.2
KZA Kyzart 147.51 51 P PKPab 18 36 11.8 -0.6
SNR=5.2
ULHL Ulahol 148.15 50 P PKPab 18 36 13.2 -1.5
SNR=9.7
MK31 Makanchi Array 149.87 39 ePKPbc PKPbc 18 36 15.6 -0.1
MKAR Makanchi Array 149.87 39 PKPbc PKPbc 18 36 15.8 +0.1
comp=E,5.3nm,0.7s,baz=320,slow=2.4,SNR=68
MKAR pPKPbc pPKPbc 18 36 28.4 -0.1
comp=E,1.8nm,0.8s,baz=336,slow=2.7,SNR=5.0
MKAR Makanchi Array 149.87 39 PKPbc PKPbc 18 36 15.8 +0.1
MKAR pPKPbc pPKPbc 18 36 28.4 -0.1
SONM Songino Array 157.76 5 PKP PKPdf 18 36 22.8 +0.7
comp=E,0.5nm,0.7s,baz=248,slow=0.3,SNR=6.1
SONM PKPab PKPab 18 36 55.5 +0.8
comp=E,0.6nm,0.7s,baz=334,slow=5.9,SNR=6.6
SONM Songino Array 157.76 5 PKP PKPdf 18 36 22.8 +0.7
SONM PKPab PKPab 18 36 55.5 +0.8
CMAR Chiang Mai Arr 167.92 124 PKP PKPdf 18 36 32.7 +0.1

comp=E,0.9nm,1.0s,baz=300,slow=2.8,SNR=4.4
CMAR Chiang Mai Arr 167.92 124 PKP **PKPdf 18 36 32.7 +0.1**

MOS ***26*** *18:43:45.8±1.3, 6°.77S×12°.68W, h10km, mb5.3/44, Error ellipse: s-maj=14.7km s-min=5.9km az=69.0*

IDC ***26*** *18:43:46.3±0.6, 7°.14S×12°.51W, h0km, mb4.3/18, mb1 4.3/18, mb1mx4.3/24, mbtmp4.3/18, MS4.6/22, Ms1 4.6/22, ms1mx4.4/39, Error ellipse: s-maj=20.1km s-min=15.2km az=149.0*

NEIC ***26*** *18:43:47.6±0.3, 6°.78S×12°.54W, h10km, mb5.2/48, Error ellipse: s-maj=11.1km s-min=7.1km az=130.0*

ISCJB ***26*** *18:43:47.3±0.3, 6°.77S±0°.05×12°.59W±0°.07, h19km, mb4.8/86, MS4.6/26, Error ellipse: s-maj=10.8km s-min=6.8km az=28.2*

GCMT ***26*** *18:43:51.4±0.1, 6°.90S×12°.57W, h14km, MW5.4, Moment Tensor Solution. s68,c107; s99,c186; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$-0.52±.02; $M_{\phi\phi}$0.67±.03; $M_{r\theta}$0.08±.05; $M_{\theta\phi}$1.28±.02; $M_{\phi r}$-0.01±.05; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s348.00000°,δ87.00000°, λ-178.00000°. NP2:ϕ_s257.00000°,δ88.00000°, λ-3.00000°. Principal axes: T 1.4800, Plg1.0000°, Azm303.0000°; N -0.1400, Plg86.0000°, Azm51.0000°; P -1.3500, Plg3.0000°, Azm212.0000°; Data Used: II IU IC CN G. Surface waves from 101 sta.*

SZGRF ***26*** *18:43:59.0, 6°.67S×12°.81W, h33km, mb4.9, MS4.7, Ascension Island region*

ISC 26 18:43:48.7±0.4, 7°.01S±0°.07×12°.42W±0°.07, h19km, n259, σ1^{s}79/239, mb5.0/86, MS4.7/27, 33C-6D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SHEL	**Horse Pasture**	**11.04**	**144**	*eP*	**Pn**		**18 46 24.0**	**-1.8**
SHEL				pmax	pmax			
	comp=Z,108nm,0.6s							
SHEL	**Horse Pasture**	**11.04**	**144**	*eP*	**Pn**		**18 46 24.0**	**-1.8**
	comp=Z,108nm,0.6s							
LIC	**Lamto**	**15.07**	**29**	*e*Pn	**Pn**		**18 47 19.1**	**-1.8**
	baz=220							
LIC				*e*R				
	comp=Z,1μm,22.5s							
LIC	**Lamto**	**15.07**	**29**	*e*Pn	**Pn**		**18 47 19.1**	**-1.8**
DBIC	**Dimbokro**	**15.54**	**29**	Pn	**Pn**		**18 47 25.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=190,slow=14,SNR=6.0							
DBIC				LR	LR		18 52 08.8	
	comp=Z,1μm,19.1s,baz=181,slow=32							
DBIC	**Dimbokro**	**15.54**	**29**	*e*P	**Pn**		**18 47 25.5**	**-1.5**
	comp=Z,23nm,0.9s							
BBTS	**Babate**	**21.91**	**349**	P	**P**		**18 48 45.4**	**+4.4**
	comp=Z,106nm,1.0s,baz=118,slow=1.9,SNR=9.3							
BBTS	**Babate**	**21.91**	**349**	P	**P**		**18 48 45.4**	**+4.4**
RCBR	**Riachuelo**	**23.36**	**272**	P	P		18 49 02.4	+6.0
	comp=Z,7.9nm,0.8s,baz=91,slow=9.1,SNR=4.4							
RCBR				LR	LR		18 55 08.9	
	comp=Z,3μm,20.1s,baz=86,slow=29							
RCBR	**Riachuelo**	**23.36**	**272**	P	**P**		**18 48 53.7**	**-2.7**
	comp=Z,28nm,1.1s							
TOA0	**Torodi Ar. Sit**	**24.45**	**35**	*e*P	**P**		**18 49 03.5**	**-3.1**
TORD	**Torodi Ar. Bea**	**24.45**	**35**	P	**P**		**18 49 03.5**	**-3.1**
	comp=Z,9.7nm,0.7s,baz=217,slow=10,SNR=21							
TORD				LR	LR		18 57 39.6	
	comp=Z,2μm,18.4s,baz=205,slow=34							
TORD	**Torodi Ar. Bea**	**24.45**	**35**	P	**P**		**18 49 03.5**	**-3.1**
BDFB	**Brasilia**	**35.89**	**253**	P	**P**		**18 50 47.1**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=60,slow=10,SNR=4.6							
BDFB	**Brasilia**	**35.89**	**253**	P	**P**		**18 50 47.1**	**-1.1**
LSZ	**Lusaka**	**40.62**	**105**	P	**P**		**18 51 27.7**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=52,slow=4.5,SNR=2.5							
LSZ	**Lusaka**	**40.62**	**105**	P	**P**		**18 51 27.7**	**-0.3**
BOSA	**Boshof**	**41.54**	**126**	P	**P**		**18 51 36.9**	**+1.4**
	comp=Z,6.7nm,0.9s,baz=281,slow=7.2,SNR=4.0							
BOSA				LR	LR		19 06 09.8	
	comp=Z,2μm,18.6s,baz=299,slow=32							
BOSA	**Boshof**	**41.54**	**126**	P	**P**		**18 51 36.9**	**+1.4**
MBAR	**Mbarara**	**43.51**	**83**	P	**P**		**18 51 52.4**	**+0.7**
	comp=Z,2.5nm,0.2s,baz=36,slow=22,SNR=5.4							
MBAR	**Mbarara**	**43.51**	**83**	P	**P**		**18 51 52.4**	**+0.7**
MORF	**Marmelete**	**44.22**	**4**	*e*P	P		18 52 00.8	+3.9
	comp=Z,42nm,2.1s							
PNCL	**Nicolau / Gran**	**45.03**	**4**	*e*P	**P**		**18 52 01.6**	**-1.6**
	comp=Z,30nm,2.1s							
EVOP	**Sao Brissos**	**45.48**	**5**	*e*P	**P**		**18 52 04.8**	**-2.0**
EVOP				pmax	pmax			
	comp=Z,29nm,1.1s							
EVOP	**Sao Brissos**	**45.48**	**5**	*e*P	**P**		**18 52 04.8**	**-2.0**
	comp=Z,29nm,1.1s							
EVO	**Evora**	**45.49**	**5**	*e*P	**P**		**18 52 04.8**	**-2.1**
	comp=Z,29nm,1.1s							
EVO				*e*R				
	comp=Z,445nm,18.0s							
EVO	**Evora**	**45.49**	**5**	*e*P	**P**		**18 52 05.5**	**-1.4**
	comp=Z,25nm,1.9s							
PMRV	**Marv??o**	**46.44**	**5**	*e*P	**P**		**18 52 14.4**	**0.0**
	comp=Z,20nm,1.1s							
ESDC	**Sonseca Array**	**47.10**	**9**	P	**P**		**18 52 22.5**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=195,slow=6.8,SNR=6.0							
ESDC				LR	LR		19 11 27.9	
	comp=Z,666nm,19.9s,baz=180,slow=35							
ESDC	**Sonseca Array**	**47.10**	**9**	P	**P**		**18 52 22.4**	**+2.8**
KEST	**Kesra**	**47.19**	**24**	P	**P**		**18 52 22.9**	**+2.5**
	comp=Z,4.1nm,0.7s,baz=138,slow=9.4,SNR=11							
KEST	**Kesra**	**47.19**	**24**	P	**P**		**18 52 20.4**	**0.0**
MTE	**Manteigas**	**47.39**	**5**	*e*P	**P**		**18 52 22.2**	**+0.4**
MTE	**Manteigas**	**47.39**	**5**	*e*P	**P**		**18 52 22.2**	**+0.4**
	comp=Z,34nm,1.0s							
MTE	**Manteigas**	**47.39**	**5**	P	**P**		**18 52 20.3**	**-1.5**
	comp=Z,24nm,1.0s							
POLO	**Lamas de Olo**	**48.33**	**5**	*e*P	**P**		**18 52 29.3**	**+0.1**
	comp=Z,13nm,1.6s							
SIV	**San Ignacio**	**48.40**	**255**	P	**P**		**18 52 32.8**	**+2.7**
	comp=Z,2.2nm,0.8s,baz=87,slow=12,SNR=4.2							
SIV	**San Ignacio**	**48.40**	**255**	P	**P**		**18 52 32.8**	**+2.7**
PGAV	**Gavieira, Arco**	**48.88**	**4**	*e*P	P		18 52 29.4	-4.0
	comp=Z,42nm,1.6s							
KMBO	**Kilima Mbogo**	**49.87**	**86**	*e*P	P		18 52 44.9	+3.3
	comp=Z,26nm,2.0s							
ETSF	**Etsaut**	**50.83**	**11**	*e*P	**P**		**18 52 47.1**	**-1.1**
	comp=Z,25nm,1.1s							
ETSF	**Etsaut**	**50.83**	**11**	*e*P	**P**		**18 52 47.1**	**-1.1**
ETSF				pmax	pmax			
	comp=Z,25nm,1.1s							
ETSF	**Etsaut**	**50.83**	**11**	*e*P	**P**		**18 52 47.1**	**-1.1**
	comp=Z,25nm,1.1s							
SJPF	**Ste Jean**	**50.91**	**11**	*e*P	**P**		**18 52 47.1**	**-1.6**
	comp=Z,48nm,1.4s							
SJPF	**Ste Jean**	**50.91**	**11**	*e*P	**P**		**18 52 47.1**	**-1.6**
SJPF				pmax	pmax			
	comp=Z,49nm,1.4s							
SJPF	**Ste Jean**	**50.91**	**11**	*e*P	**P**		**18 52 47.1**	**-1.6**
	comp=Z,48nm,1.4s							
EPF	**Esparros**	**51.14**	**12**	*e*P	**P**		**18 52 48.7**	**-1.8**
	comp=Z,39nm,1.3s							
EPF	**Esparros**	**51.14**	**12**	*e*P	**P**		**18 52 48.7**	**-1.8**
EPF				pmax	pmax			
	comp=Z,39nm,1.3s							
EPF	**Esparros**	**51.14**	**12**	*e*P	**P**		**18 52 48.7**	**-1.8**
	comp=Z,39nm,1.3s							
MTLF	**Montolieu**	**51.84**	**14**	*e*P	**P**		**18 52 54.2**	**-1.5**
	comp=Z,22nm,1.1s							
MTLF	**Montolieu**	**51.84**	**14**	*e*P	**P**		**18 52 54.2**	**-1.5**
MTLF				pmax	pmax			
	comp=Z,22nm,1.1s							
MTLF	**Montolieu**	**51.84**	**14**	*e*P	**P**		**18 52 54.2**	**-1.5**
	comp=Z,22nm,1.1s							
LASF	**Ste Croix**	**52.94**	**15**	*e*P	**P**		**18 53 02.7**	**-1.1**
	comp=Z,22nm,1.0s							
LASF	**Ste Croix**	**52.94**	**15**	*e*P	**P**		**18 53 02.7**	**-1.1**
	comp=Z,22nm,1.0s							
LFF	**La Frestale**	**53.05**	**12**	*e*P	**P**		**18 53 03.5**	**-1.1**
	comp=Z,44nm,1.0s							
LFF	**La Frestale**	**53.05**	**12**	*e*P	**P**		**18 53 03.5**	**-1.1**
LFF				pmax	pmax			
	comp=Z,44nm,1.0s							
LFF	**La Frestale**	**53.05**	**12**	*e*P	**P**		**18 53 03.5**	**-1.1**
	comp=Z,44nm,1.0s							
SMRF	**Simiane la Rot**	**53.30**	**16**	*e*P	**P**		**18 53 05.4**	**-1.1**
	comp=Z,58nm,1.4s							
SMRF	**Simiane la Rot**	**53.30**	**16**	*e*P	**P**		**18 53 05.4**	**-1.1**
	comp=Z,58nm,1.4s							
CAF	**Calviac**	**53.31**	**13**	*e*P	**P**		**18 53 05.2**	**-1.4**
	comp=Z,56nm,1.5s							
CAF	**Calviac**	**53.31**	**13**	*e*P	**P**		**18 53 05.2**	**-1.4**
CAF				pmax	pmax			
	comp=Z,56nm,1.5s							
CAF	**Calviac**	**53.31**	**13**	*e*P	**P**		**18 53 05.2**	**-1.4**
RJF	**Les Rejaudoux**	**53.56**	**12**	*e*P	**P**		**18 53 06.9**	**-1.5**
	comp=Z,44nm,1.1s							
RJF				*e*R				
	comp=Z,1μm,19.5s							
RJF	**Les Rejaudoux**	**53.56**	**12**	*e*P	**P**		**18 53 06.9**	**-1.5**
RJF				pmax	pmax			
	comp=Z,44nm,1.1s							
RJF	**Les Rejaudoux**	**53.56**	**12**	*e*P	**P**		**18 53 06.9**	**-1.5**
	comp=Z,44nm,1.1s							
VIVF	**Saint-Julien-l**	**53.87**	**15**	*e*P	**P**		**18 53 09.8**	**-0.9**
	comp=Z,22nm,1.2s							
VIVF	**Saint-Julien-l**	**53.87**	**15**	*e*P	**P**		**18 53 09.8**	**-0.9**
VIVF				pmax	pmax			
	comp=Z,22nm,1.2s							
VIVF	**Saint-Julien-l**	**53.87**	**15**	*e*P	**P**		**18 53 09.8**	**-0.9**
	comp=Z,22nm,1.2s							
ORIF	**Oris-en-Rattie**	**54.25**	**16**	*e*P	**P**		**18 53 13.0**	**-0.5**
	comp=Z,16nm,0.8s							
ORIF				*e*R				
	comp=Z,1μm,17.5s							
ORIF	**Oris-en-Rattie**	**54.25**	**16**	*e*P	**P**		**18 53 13.0**	**-0.5**
ORIF				pmax	pmax			
	comp=Z,16nm,0.8s							
ORIF	**Oris-en-Rattie**	**54.25**	**16**	*e*P	**P**		**18 53 13.0**	**-0.5**
	comp=Z,16nm,0.8s							
MBDF	**Montbardon**	**54.32**	**17**	*e*P	**P**		**18 53 13.0**	**-1.1**
	comp=Z,43nm,1.1s							
MBDF	**Montbardon**	**54.32**	**17**	*e*P	**P**		**18 53 13.0**	**-1.1**
MBDF				pmax	pmax			
	comp=Z,43nm,1.1s							
MBDF	**Montbardon**	**54.32**	**17**	*e*P	**P**		**18 53 13.0**	**-1.1**
	comp=Z,43nm,1.1s							
TRQA	**Tornquist**	**54.36**	**228**	*e*P	**P**		**18 53 15.2**	**+0.7**
	comp=Z,13nm,1.0s							
MFF	**Saint Martin d**	**54.48**	**10**	*e*P	**P**		**18 53 13.5**	**-1.6**
MFF	**Saint Martin d**	**54.48**	**10**	*e*P	**P**		**18 53 13.5**	**-1.6**
MFF	**Saint Martin d**	**54.48**	**10**	*e*P	**P**		**18 53 13.5**	**-1.6**
TCF	**Toulx Ste Croi**	**54.64**	**12**	*e*P	**P**		**18 53 15.4**	**-0.9**
	comp=Z,52nm,1.1s							
TCF	**Toulx Ste Croi**	**54.64**	**12**	*e*P	**P**		**18 53 15.4**	**-0.9**
TCF				pmax	pmax			
	comp=Z,53nm,1.1s							
TCF	**Toulx Ste Croi**	**54.64**	**12**	*e*P	**P**		**18 53 15.4**	**-0.9**
	comp=Z,52nm,1.1s							
LPG	**La Plagne**	**55.02**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
	comp=Z,38nm,1.0s							
LPG	**La Plagne**	**55.02**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
LPG				pmax	pmax			
	comp=Z,38nm,1.0s							
LPG	**La Plagne**	**55.02**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
	comp=Z,38nm,1.0s							
LPL	**La Plagne**	**55.03**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
	comp=Z,46nm,1.1s							
LPL	**La Plagne**	**55.03**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
LPL				pmax	pmax			
	comp=Z,46nm,1.1s							
LPL	**La Plagne**	**55.03**	**16**	*e*P	**P**		**18 53 19.0**	**-0.4**
	comp=Z,46nm,1.1s							
BGF	**Bois d'Agland**	**55.04**	**13**	*e*P	**P**		**18 53 18.0**	**-1.1**
	comp=Z,29nm,1.1s							
BGF	**Bois d'Agland**	**55.04**	**13**	*e*P	**P**		**18 53 18.0**	**-1.1**
BGF				pmax	pmax			
	comp=Z,29nm,1.1s							
BGF	**Bois d'Agland**	**55.04**	**13**	*e*P	**P**		**18 53 18.0**	**-1.1**
	comp=Z,29nm,1.1s							
LPAZ	**La Paz**	**55.19**	**255**	P	**P**		**18 53 20.2**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=212,slow=7.3,SNR=2.7							
LPAZ				LR	LR		19 16 20.8	
	comp=Z,486nm,18.9s,baz=262,slow=36							
LPAZ	**La Paz**	**55.19**	**255**	P	**P**		**18 53 20.2**	**-1.3**
SMF	**Signal de Mont**	**55.34**	**14**	*e*P	**P**		**18 53 20.0**	**-1.3**
	comp=Z,68nm,1.5s							
SMF	**Signal de Mont**	**55.34**	**14**	*e*P	**P**		**18 53 20.0**	**-1.3**
SMF				pmax	pmax			
	comp=Z,68nm,1.5s							
SMF	**Signal de Mont**	**55.34**	**14**	*e*P	**P**		**18 53 20.0**	**-1.3**
	comp=Z,68nm,1.5s							
AVF	**Avril sur Loir**	**55.37**	**13**	*e*P	**P**		**18 53 20.3**	**-1.2**
	comp=Z,16nm,1.0s							
AVF	**Avril sur Loir**	**55.37**	**13**	*e*P	**P**		**18 53 20.3**	**-1.2**
AVF				pmax	pmax			
	comp=Z,16nm,1.0s							
AVF	**Avril sur Loir**	**55.37**	**13**	*e*P	**P**		**18 53 20.3**	**-1.2**
	comp=Z,16nm,1.0s							
SSF	**Saint Saulge**	**55.66**	**13**	*e*P	**P**		**18 53 22.4**	**-1.2**
	comp=Z,22nm,0.9s							
SSF	**Saint Saulge**	**55.66**	**13**	*e*P	**P**		**18 53 22.4**	**-1.2**
SSF				pmax	pmax			
	comp=Z,22nm,0.9s							
SSF	**Saint Saulge**	**55.66**	**13**	*e*P	**P**		**18 53 22.4**	**-1.2**
	comp=Z,22nm,0.9s							
CABF	**La Chapelle**	**55.87**	**15**	*e*P	**P**		**18 53 23.8**	**-1.4**
	comp=Z,30nm,0.8s							
CABF	**La Chapelle**	**55.87**	**15**	*e*P	**P**		**18 53 23.8**	**-1.4**
CABF				pmax	pmax			
	comp=Z,30nm,0.8s							
CABF	**La Chapelle**	**55.87**	**15**	*e*P	**P**		**18 53 23.8**	**-1.4**
	comp=Z,30nm,0.8s							
LOR	**Lormes**	**55.94**	**13**	*e*P	**P**		**18 53 24.1**	**-1.5**
	comp=Z,30nm,1.1s							
LOR				*e*R				
	comp=Z,980nm,20.5s							
LOR	**Lormes**	**55.94**	**13**	*e*P	**P**		**18 53 24.1**	**-1.5**
	comp=Z,30nm,1.1s							
SFTF	**Sexfontaines**	**57.09**	**14**	*e*P	**P**		**18 53 32.4**	**-1.4**
	comp=Z,23nm,0.9s							
SFTF	**Sexfontaines**	**57.09**	**14**	*e*P	**P**		**18 53 32.4**	**-1.4**
	comp=Z,23nm,0.9s							
HAU	**Haudompre**	**57.23**	**15**	*e*P	**P**		**18 53 33.1**	**-1.7**
	comp=Z,27nm,1.0s							
HAU				*e*R				
	comp=Z,602nm,19.0s							
HAU	**Haudompre**	**57.23**	**15**	*e*P	**P**		**18 53 33.1**	**-1.7**
HAU				pmax	pmax			
	comp=Z,27nm,1.0s							
HAU	**Haudompre**	**57.23**	**15**	*e*P	**P**		**18 53 33.1**	**-1.7**
	comp=Z,27nm,1.0s							
MEZF	**Maizieres J'vi**	**57.37**	**14**	*e*P	**P**		**18 53 34.6**	**-1.1**
	comp=Z,28nm,0.9s							
MEZF	**Maizieres J'vi**	**57.37**	**14**	*e*P	**P**		**18 53 34.6**	**-1.1**
	comp=Z,28nm,0.9s							
CFAA	**Coronel Fontan**	**57.38**	**237**	P	**P**		**18 53 37.1**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=12,slow=6.4,SNR=5.7							
CFAA				LR	LR		19 14 35.8	
	comp=Z,115nm,21.0s,baz=78,slow=32							
CFAA	**Coronel Fontan**	**57.38**	**237**	P	**P**		**18 53 37.1**	**+0.9**
DAVA	**Damuels**	**57.56**	**18**⇑	*i*P	**P**		**18 53 39.6**	**+2.4**
	comp=Z,31nm,1.0s							
DAVA	**Damuels**	**57.56**	**18**⇑	*i*pP	**P**		**18 53 39.6**	**+2.4**
	comp=Z,31nm,1.0s							
PAGF	**Fort de Pagny**	**57.58**	**14**	*e*P	**P**		**18 53 36.1**	**-1.1**
	comp=Z,18nm,1.2s							
PAGF	**Fort de Pagny**	**57.58**	**14**	*e*P	**P**		**18 53 36.1**	**-1.1**
	comp=Z,18nm,1.2s							
FETA	**Feichten**	**57.59**	**19**⇑	*i*P	**P**		**18 53 40.0**	**+2.5**
	comp=Z,17nm,1.0s							
FETA	**Feichten**	**57.59**	**19**⇑	*i*pP	**P**		**18 53 40.0**	**+2.5**
	comp=Z,17nm,1.0s							
ECH	**Echery**	**57.63**	**15**	*e*P	**P**		**18 53 35.6**	**-2.0**
ECH	**Echery**	**57.63**	**15**	*e*P	**P**		**18 53 35.6**	**-2.0**
CDF	**Champ du Feu**	**57.84**	**15**	*e*P	**P**		**18 53 38.1**	**-1.1**
	comp=Z,25nm,1.1s							
CDF	**Champ du Feu**	**57.84**	**15**	*e*P	**P**		**18 53 38.1**	**-1.1**
CDF				pmax	pmax			
	comp=Z,25nm,1.1s							
CDF	**Champ du Feu**	**57.84**	**15**	*e*P	**P**		**18 53 38.1**	**-1.1**
	comp=Z,25nm,1.1s							
MOTA	**Moosalm**	**57.99**	**19**⇑	*i*P	**P**		**18 53 42.5**	**+2.1**
MOTA				pmax	pmax			
	comp=Z,24nm,1.2s							
MOTA	**Moosalm**	**57.99**	**19**⇑	*i*P	**P**		**18 53 42.5**	**+2.1**
	comp=Z,24nm,1.2s							
MOTA	**Moosalm**	**57.99**	**19**⇑	*i*pP	**P**		**18 53 42.4**	**+2.1**
	comp=Z,24nm,1.2s							
WTTA	**Wattenberg**	**58.09**	**19**⇑	*i*P	**P**		**18 53 40.7**	**-0.4**
WTTA				pmax	pmax			
	comp=Z,29nm,1.1s							
WTTA	**Wattenberg**	**58.09**	**19**⇑	*i*P	**P**		**18 53 40.6**	**-0.4**
	comp=Z,29nm,1.1s							
WTTA	**Wattenberg**	**58.09**	**19**⇑	*i*P	**P**		**18 53 40.6**	**-0.4**
	comp=Z,29nm,1.1s							
BAIF	**Baives**	**58.65**	**12**	*e*P	**P**		**18 53 43.7**	**-0.9**
	comp=Z,77nm,1.2s							
BAIF	**Baives**	**58.65**	**12**	*e*P	**P**		**18 53 43.7**	**-0.9**
BAIF				pmax	pmax			
	comp=Z,77nm,1.2s							
BAIF	**Baives**	**58.65**	**12**	*e*P	**P**		**18 53 43.7**	**-0.9**
	comp=Z,77nm,1.2s							
GIVF	**Givet**	**58.82**	**13**	*e*P	**P**		**18 53 44.9**	**-0.9**
	comp=Z,27nm,1.0s							
GIVF	**Givet**	**58.82**	**13**	*e*P	**P**		**18 53 44.9**	**-0.9**
GIVF				pmax	pmax			
	comp=Z,27nm,1.0s							
GIVF	**Givet**	**58.82**	**13**	*e*P	**P**		**18 53 44.9**	**-0.9**
	comp=Z,27nm,1.0s							
VTS	**Vitosha**	**59.07**	**30**⇑	P	**P**		**18 53 49.0**	**+1.1**
VTS	**Vitosha**	**59.07**	**30**⇑	*i*P	**P**		**18 53 49.0**	**+1.1**
GRF	**Grafenberg Arr**	**60.11**	**17**	*e*P	P		18 54 03.5	+8.7
GRF				pmax	pmax			
	comp=Z,11nm,1.0s							
GRF				MLR	MLR			
	comp=Z,500nm,19.6s							
GRF	**Grafenberg Arr**	**60.11**	**17**	*e*P	P		18 54 03.5	+8.7
	comp=Z,11nm,1.0s							
GRF				*e*L	L		19 18 09.3	
	comp=Z,532nm,19.6s							
GERES	**GERESS Array B**	**60.15**	**20**	P	**P**		**18 53 56.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=184,slow=9.0,SNR=7.9							
GERES				LR	LR		19 18 43.1	
	comp=Z,724nm,21.5s,baz=227,slow=35							
GERES	**GERESS Array B**	**60.15**	**20**	P	**P**		**18 53 56.6**	**+1.4**
BZS	**Buzias**	**60.60**	**27**⇑	P	**P**		**18 54 00.3**	**+2.1**
BZS	**Buzias**	**60.60**	**27**⇑	*i*P	**P**		**18 54 00.3**	**+2.1**
MOX	**Moxa**	**61.07**	**17**	*e*L	L		19 18 49.3	
	comp=Z,514nm,19.0s							
PLCA	**Paso Flores**	**61.50**	**227**	LR	LR		19 16 38.4	
	comp=Z,228nm,18.0s,baz=313,slow=32							
PSZ	**Piszkesteto**	**61.67**	**24**	P	**P**		**18 54 08.2**	**+2.7**
PSZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PSZ	**Piszkesteto**	**61.67**	**24**	P	**P**		**18 54 08.2**	**+2.7**
	comp=Z,6.0nm,0.8s							
PSZ	**Piszkesteto**	**61.67**	**24**⇑	*i*P	P		18 54 10.9	+5.4
VYHS	**Vyhne**	**61.71**	**23**	*e*P	P		18 54 10.1	+4.4
VYHS				pmax	pmax			
	comp=Z,37nm,2.8s							
VYHS	**Vyhne**	**61.71**	**23**	*e*P	P		18 54 10.1	+4.4
VYHS				*e*			18 54 20.8	
BRG	**Berggiesshubel**	**61.98**	**19**	*e*P	P		18 54 11.7	+4.2
	comp=Z,19nm,1.7s							
BRG								
	comp=N,479nm,16.4s							
BRG								
	comp=E,734nm,21.5s							
BRG								
	comp=Z,723nm,23.0s							
BRG	**Berggiesshubel**	**61.98**	**19**	*e*P	P		18 54 11.7	+4.2
BRG				pmax	pmax			
	comp=Z,19nm,1.7s							
BRG				MLR	MLR			
	comp=N,479nm,16.4s							
BRG				MLR	MLR			
	comp=E,734nm,21.5s							
BRG				MLR	MLR			
	comp=Z,723nm,23.0s							
DRGR		**61.98**	**27**	⇓P	**P**		**18 54 08.4**	**+0.7**
DRGR		**61.98**	**27**	⇓*i*P	**P**		**18 54 08.4**	**+0.7**
VOIR		**62.06**	**29**⇑	*i*P	**P**		**18 54 10.5**	**+2.3**
VOIR		**62.06**	**29**⇑	*i*P	**P**		**18 54 10.5**	**+2.3**
VOIR		**62.06**	**29**⇑	*i*P	**P**		**18 54 10.5**	**+2.3**
MORC	**Moravsky Berou**	**62.28**	**21**	⇓P	P		18 54 12.8	+3.3
MORC	**Moravsky Berou**	**62.28**	**21**	⇓*i*P	P		18 54 12.8	+3.3
MLR	**Muntele Rosu**	**62.53**	**29**⇑	*i*P	**P**		**18 54 10.7**	**-0.7**
ISR	**Istrita**	**62.56**	**30**	⇓P	**P**		**18 54 13.1**	**+1.6**
ISR	**Istrita**	**62.56**	**30**	⇓*i*P	**P**		**18 54 13.1**	**+1.6**
ROSC	**El Rosal**	**62.90**	**279**	P	**P**		**18 54 15.3**	**+0.5**
	comp=Z,4.2nm,0.4s,baz=304,slow=24,SNR=3.0							
ROSC				LR	LR		19 20 21.0	
	comp=Z,7.2nm,20.9s,baz=166,slow=35							
ROSC	**El Rosal**	**62.90**	**279**	P	**P**		**18 54 15.3**	**+0.5**
TRPA	**Tarpa**	**62.94**	**26**⇑	*i*P	**P**		**18 54 16.3**	**+2.4**
BRTR	**Keskin Array B**	**63.00**	**39**	P	**P**		**18 54 15.9**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=222,slow=3.3,SNR=5.3							
BRTR				LR	LR		19 19 44.1	
	comp=Z,544nm,21.1s,baz=30,slow=34							
BRTR	**Keskin Array B**	**63.00**	**39**	P	**P**		**18 54 15.9**	**+1.2**
PLOR	**Plostina**	**63.13**	**30**⇑	P	**P**		**18 54 16.3**	**+1.0**
PLOR	**Plostina**	**63.13**	**30**⇑	*i*P	**P**		**18 54 16.3**	**+1.0**
PLOR	**Plostina**	**63.13**	**30**⇑	*i*P	**P**		**18

MAW	**Mawson**	**77.97**	**158**	LR	LR	19 22 23.0		
	comp=Z,402nm,19.5s,baz=191,slow=30							
SADO	**Sadowa**	**78.79**	**318**	LR	LR	19 21 40.5		
	comp=Z,560nm,20.3s,baz=137,slow=29							
TKL	**Tuckaleechee C**	**79.16**	**308**	LR	LR	19 23 57.3		
	comp=Z,492nm,18.4s,baz=93,slow=30							
TEIG	**Tepich**	**79.27**	**292**	LR	LR	19 24 00.9		
	comp=Z,255nm,20.3s,baz=103,slow=30							
ARCES	**ARCESS Array B**	**80.68**	**13**	P	**P**	**18 56 01.0**	**+0.9**	
	comp=Z,4.2nm,0.8s,baz=294,slow=3.9,SNR=6.0							
ARCES	**ARCESS Array B**	**80.68**	**13**	P	**P**	**18 56 01.0**	**+0.9**	
KEV	**Kevo**	**81.19**	**13**	*e*P	P	18 56 08.3	+5.5	
KEV				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KEV	**Kevo**	**81.19**	**13**	*e*p	P	18 56 08.3	+5.5	
	comp=Z,5.9nm,0.7s							
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**18 56 14.1**	**+0.9**	
	comp=Z,6.8nm,1.1s,baz=235,slow=2.8,SNR=4.3							
QSPA	**South Pole Qui**	**83.11**	**180**	*e*P	**P**	**18 56 14.6**	**+1.4**	
	comp=Z,21nm,1.0s							
ABKAR	**Akbulak array**	**83.95**	**39**	P	**P**	**18 56 18.8**	**+1.2**	
	comp=Z,1.5nm,0.8s							
FVM	**French Village**	**84.91**	**309**	*e*P	**P**	**18 56 20.1**	**-2.7**	
FVM				pmax	pmax			
	comp=Z,19nm,1.2s							
FVM	**French Village**	**84.91**	**309**	*e*P	**P**	**18 56 20.1**	**-2.7**	
	comp=Z,19nm,1.2s							
ARU	**Arti**	**85.48**	**32***c i*P		**sP**	**18 56 35.1**	**+1.3**	
ARU				S	**SKKSac**	**19 06 57.2**	**+1.2**	
ARU				SS	**SS**	**19 12 36.6**	**+5.4**	
ARU				pmax	pmax			
	comp=Z,17nm,1.7s							
ARU	**Arti**	**85.48**	**32**	*e*P	**P**	**18 56 24.1**	**-1.0**	
	comp=Z,11nm,1.3s							
KKAR	**Karatay Array**	**89.61**	**47**	*e*P	**P**	**18 56 46.8**	**+1.4**	
KKAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KKAR	**Karatay Array**	**89.61**	**47**	*e*P	**P**	**18 56 46.8**	**+1.4**	
	comp=Z,4.4nm,1.0s							
ECSD	**EROS Data Cent**	**90.61**	**314**	*e*P	**P**	**18 56 48.1**	**-2.0**	
	comp=Z,17nm,1.4s							
ULM	**Lac du Bonnet**	**91.16**	**320**	LR	LR	19 35 17.8		
	comp=Z,433nm,18.3s,baz=112,slow=34							
AAK	**Ala-Archa**	**92.43**	**48**	P	**P**	**18 57 01.3**	**+2.6**	
	comp=Z,0.5nm,0.5s,baz=201,slow=5.3,SNR=2.9							
AAK	**Ala-Archa**	**92.43**	**48**	*e*P	**P**	**18 57 00.8**	**+2.0**	
AAK				pmax	pmax			
	comp=Z,25nm,1.3s							
AAK	**Ala-Archa**	**92.43**	**48**	*e*P	**P**	**18 57 00.8**	**+2.0**	
	comp=Z,25nm,1.3s							
KSH	**Kashi**	**93.17**	**51**	*e*P	**P**	**18 57 00.0**	**-2.2**	
KSH				pP	**PcP**	**18 57 05.0**	**+2.2**	
KSH				sP	**sP**	**18 57 07.8**	**-3.0**	
KSH				*e*PP	**PP**	**19 00 44.0**	**-1.8**	
KSH				SKS	**SKSac**	**19 07 32.3**	**-3.5**	
KSH				S	**SKKSac**	**19 07 59.5**	**+4.8**	
KSH				SS	**SS**	**19 14 19.5**	**-4.6**	
TXAR	**Lajitas Array**	**94.47**	**299**	P	P	18 57 17.1	+8.7	
	comp=Z,0.8nm,0.8s,baz=99,slow=7.7,SNR=5.2							
TXAR				LR	LR	19 35 34.5		
	comp=Z,67nm,21.6s,baz=160,slow=33							
TXAR	**Lajitas Array**	**94.47**	**299**	P	P	18 57 17.1	+8.7	
RES	**Resolute Bay**	**94.72**	**345**	*e*P	**P**	**18 57 08.0**	**-0.4**	
	comp=Z,9.3nm,0.8s							
VNDA	**Vanda**	**95.54**	**179**	LR	LR	19 35 29.8		
	comp=Z,344nm,18.3s,baz=72,slow=32							
KURBB	**Kurchatov Arra**	**95.97**	**40**	P	**P**	**18 57 14.7**	**+0.1**	
	comp=Z,61nm,0.3s,baz=233,slow=14,SNR=3.0							
KURK	**Kurchatov**	**96.03**	**40**	P	**P**	**18 57 14.7**	**-0.1**	
KURK	**Kurchatov**	**96.03**	**40**	P	**P**	**18 57 14.7**	**-0.1**	
PDAR	**Pinedale Array**	**99.95**	**312**	LR	LR	19 36 09.9		
	comp=Z,662nm,20.1s,baz=268,slow=31							
YKA	**Yellowknife Ar**	**101.81**	**332**	P	**Pdif**	**18 57 40.7**	**+0.3**	
	comp=Z,0.0nm,0.4s,baz=329,slow=3.6,SNR=3.3							
YKA	**Yellowknife Ar**	**101.81**	**332**	P	**Pdif**	**18 57 40.7**	**+0.3**	
WMQ	**Urumqi**	**102.11**	**47**	*e*P	**Pdif**	**18 57 43.8**	**+1.4**	
SONM	**Songino Array**	**114.33**	**40**	PKP	PKPdf	19 02 31.6	+4.1	
	comp=Z,0.3nm,0.9s,baz=281,slow=3.2,SNR=3.4							
SONM	**Songino Array**	**114.33**	**40**	PKP	PKPdf	19 02 31.6	+4.1	
CD2	**Chengdu**	**116.00**	**59**	PKP	**PKPdf**	**19 02 30.5**	**-0.7**	
CD2				PP	**PP**	**19 03 40.0**	**+4.5**	
CD2				PKS	**PKSdf**	**19 06 06.0**	**-2.0**	
CD2				SKS	**SKSdf**	**19 09 40.3**	**-2.4**	
CD2				SKKS	**SKKSac**	**19 10 31.8**	**-4.4**	
CD2				SS	**SS**	**19 19 38.3**	**+1.0**	
CD2				LR	LR			
	comp=Z,540nm,14.9s							
GYA	**Guiyang**	**119.10**	**64**	*e*Pdif	**Pdif**	**18 58 57.8**	**-0.6**	
GYA				PKP	**PKPdf**	**19 02 35.5**	**-1.8**	
GYA				PP	**PP**	**19 04 02.0**	**+4.7**	
GYA				PKS	**PKSdf**	**19 06 10.8**	**-3.5**	
GYA				SKKS		19 10 51.3		
GYA				SS	**SS**	**19 20 18.5**	**+0.5**	
GYA				LR	LR			
	comp=N,120nm,20.4s							
GYA				LR	LR			
	comp=E,110nm,22.0s							
GYA				LR	LR			
	comp=Z,120nm,21.3s							
HHC	**Hu-ho-hao-te**	**119.99**	**47**	*e*PKP	**PKPdf**	**19 02 38.0**	**-0.6**	
HHC				PP	**PP**	**19 04 02.0**	**-0.9**	
HHC				PKS	**PKSdf**	**19 06 15.0**	**-0.4**	
HHC				SKS	**SKSdf**	**19 09 50.5**	**+0.5**	
HHC				SKKS	**SKKSac**	**19 11 00.3**	**-2.1**	
HHC				SS	**SS**	**19 20 27.0**	**-1.4**	
HHC				LR	LR			
	comp=Z,280nm,11.0s							
CN2	**Changchun**	**128.07**	**38**	*e*PKP	**PKPdf**	**19 02 55.3**	**+1.4**	
ASAR	**Alice Springs**	**135.16**	**134**	PKhKP	PKPpre	19 02 58.2		
	comp=Z,0.2nm,0.8s,baz=217,slow=4.5,SNR=4.0							
ASAR				PKP	**PKPdf**	**19 03 07.0**	**-1.0**	
	comp=Z,0.6nm,0.8s,baz=224,slow=3.0,SNR=8.0							
ASAR	**Alice Springs**	**135.16**	**134**	PKPpre	PKPpre	19 02 58.2		
ASAR				PKP	**PKPdf**	**19 03 07.0**	**-1.0**	
WRA	**Warramunga Arr**	**137.73**	**130**	PKhKP	PKPpre	19 03 01.6		
	comp=Z,0.5nm,1.0s,baz=11,slow=36,SNR=2.7							
WRA				PKP	**PKPdf**	**19 03 12.8**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=239,slow=3.1,SNR=12							
WRA	**Warramunga Arr**	**137.73**	**130**	PKPpre	PKPpre	19 03 01.6		
WRA				PKP	**PKPdf**	**19 03 12.8**	**0.0**	

IDC 26 18:44:56.4±1.5, 25.00°N×98.31°E, h0km, mb3.1/3, mb1 3.1/4, mb1mx3.1/27, mbtmp3.1/4, ML3.5/1, Error ellipse: s-maj=52.2km s-min=18.3km az=84.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.53**	**175**	Pn	Pn	18 46 33.8	-0.1
	0.2nm,0.3s,baz=346,slow=12,SNR=11						
CMAR				Pg	Pg	18 46 56.6	-5.0
	0.2nm,0.3s,baz=348,slow=18,SNR=12						
CMAR				Lg	Lg	18 48 23.1	
	0.3nm,0.3s,baz=358,slow=29,SNR=6.1						
SONM	**Songino Array**	**23.68**	**14**	P	P	18 50 10.7	+1.0
	0.3nm,0.8s,baz=210,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**25.23**	**334**	P	P	18 50 22.9	-1.1
	0.1nm,0.5s,baz=138,slow=9.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**30.62**	**344**	P	P	18 51 12.0	-0.1
	0.1nm,0.3s,baz=153,slow=14,SNR=2.2						

IDC 26 18:46:46.3±36.0, 22.12°S×179.62°W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=663.4km s-min=150.2km az=89.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.74**	**246**	P	P	18 53 45.9	-1.1
	0.7nm,0.5s,baz=91,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**42.70**	**259**	P	P	18 54 45.1	-0.3
	0.6nm,0.8s,baz=90,slow=7.3,SNR=9.6						
WRA	**Warramunga Arr**	**42.91**	**264**	P	P	18 54 47.7	+0.7
	0.9nm,0.9s,baz=96,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**51.34**	**264**	P	P	18 55 52.9	0.0
	1.9nm,1.0s,baz=129,slow=11,SNR=2.2						

*CSEM **26** 18:52:34.9±0.3, 50.13°N×18.65°E, h1km, Error ellipse: s-maj=10.3km s-min=3.8km az=8.0*

PRU 26 18:52:37.9, 50.07°N×18.49°E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.32**	**224**	*e*PG	Pg	18 52 44.2	+0.1
OKC				*e*SG	Sg	18 52 47.8	-0.5
	comp=Z,5.6nm,0.6s						
OKC	**Ostrava-Krasne**	**0.32**	**224**	Pg	Pg	18 52 44.2	+0.1
OKC				Sg	Sg	18 52 47.8	-0.5
	5.6nm,0.6s						
MORC	**Moravsky Berou**	**0.68**	**245**	*e*Pg	Pg	18 52 50.4	-0.6
MORC				*e*Sg	Sg	18 52 59.3	-0.6
KRLC	**Kraliky**	**1.10**	**271**	*e*PG	Pg	18 52 58.4	-0.7
KRLC				*e*SG	Sg	18 53 13.2	-0.2
KRLC	**Kraliky**	**1.10**	**271**	Pg	Pg	18 52 58.4	-0.7
KRLC				Sg	Sg	18 53 13.2	-0.2
DPC	**Dobruska-Polom**	**1.42**	**282**	*e*PG	Pn	18 53 03.8	-1.3
DPC				*e*SG	Sg	18 53 23.2	-0.5
DPC	**Dobruska-Polom**	**1.42**	**282**	Pg	Pn	18 53 03.8	-1.3
DPC				Sg	Sg	18 53 23.2	-0.5

IDC 26 19:02:55.7±2.9, 21.29°S×68.70°W, h78km±26km, mb3.7/4, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, MS4.3/1, Ms1 4.3/1, ms1mx3.2/33, Error ellipse: s-maj=27.0km s-min=15.5km az=112.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.00**	**6**	P	Pn	19 04 13.7	+4.5
	2.5nm,0.3s,baz=181,slow=6.5,SNR=46						
LPAZ				S	Sn	19 05 03.1	-3.1
	0.7nm,0.3s,baz=136,slow=3.0,SNR=3.7						
SIV	**San Ignacio**	**8.95**	**55**	P	Pn	19 05 03.6	+1.4
	4.4nm,0.3s,baz=258,slow=12,SNR=47						
SIV				S	Sn	19 06 39.7	-1.8
	baz=312,slow=21,SNR=4.5						
CFAA	**Coronel Fontan**	**10.28**	**178**	P	Pn	19 05 20.2	-0.2
	0.1nm,0.3s,baz=353,slow=12,SNR=11						
CFAA				S	Sn	19 07 11.1	-2.8
	0.1nm,0.3s,baz=284,slow=18,SNR=3.3						
PLCA	**Paso Flores**	**19.45**	**184**	P	P	19 07 16.5	+0.4
	0.1nm,0.3s,baz=160,slow=16,SNR=2.0						
BDFB	**Brasilia**	**20.40**	**78**	P	P	19 07 28.0	+1.3
	6.8nm,0.5s,baz=268,slow=10,SNR=9.0						
CMIG	**Matias Romero**	**45.98**	**324**	P	P	19 11 11.2	-0.1
	1.0nm,0.4s,baz=20,slow=17,SNR=2.3						
CMIG				LR	LR	19 27 22.0	
	comp=Z,360nm,19.9s,baz=179,slow=32						
QSPA	**South Pole Qui**	**68.90**	**180**	P	P	19 13 52.9	+0.8
	baz=146,slow=3.0						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	P	19 14 40.4	-0.7
	0.5nm,0.4s,baz=251,slow=5.9,SNR=9.3						
YKA	**Yellowknife Ar**	**91.05**	**341**	P	P	19 15 50.2	-0.7
	0.5nm,0.7s,baz=136,slow=4.7,SNR=13						
ASAR	**Alice Springs**	**130.19**	**207**	PKP	PKPdf	19 21 56.6	-1.0
	0.2nm,0.7s,baz=143,slow=1.5,SNR=5.1						
WRA	**Warramunga Arr**	**133.23**	**210**	PKP	PKPdf	19 22 02.7	-0.7
	0.3nm,0.6s,baz=154,slow=1.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**141.68**	**25**	PKP	PKPdf	19 22 17.9	+0.1
	0.2nm,0.3s,baz=56,slow=0.5,SNR=1.8						
MKAR	**Makanchi Array**	**145.35**	**36**	PKPbc	PKPbc	19 22 24.2	-0.3
	0.5nm,0.7s,baz=317,slow=2.5,SNR=6.6						

*IDC **26** 19:13:35.3±0.5, 6.84°S×12.43°W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.4/34, mbtmp4.3/27, ML3.5/1, MS4.1/7, Ms1 4.1/7, ms1mx3.9/42, Error ellipse: s-maj=14.9km s-min=12.7km az=166.0*

*ISCJB **26** 19:13:36.5±0.3, 6.75°S±0.05°×12.40°W±0.05, h19km, mb4.6/54, MS4.1/6, Error ellipse: s-maj=8.6km s-min=6.2km az=42.0*

*NEIC **26** 19:13:36.4±0.3, 6.86°S×12.42°W, h10km, mb5.0/29, Error ellipse: s-maj=7.6km s-min=6.3km az=106.0*

*GCMT **26** 19:13:41.0±0.3, 6.90°S×12.56°W, h16km±1km, MW5.1, Moment Tensor Solution. s28,c34; s71,c100; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.85±.22; $M_{\theta\theta}$-1.98±.19; $M_{\phi\phi}$2.83±.23; $M_{r\theta}$0.75±.55; $M_{r\phi}$4.53±.17; $M_{\theta\phi}$0.79±.58; Best double couple: $M_0$5.20000×10^{16} NP1:ϕ_{s1}346.00000°, δ81.00000°, λ176.00000°. NP2:ϕ_{s2}76.00000°, δ86.00000°, λ9.00000°. Principal axes: T 5.7300, Plg9.0000°, Azm301.0000°; N -1.0100, Plg80.0000°, Azm99.0000°; P -4.7200, Plg4.0000°, Azm211.0000°; Data Used: IU II G IC CN.*

ISC 26 19:13:37.9±0.4, 6.84°S±0.07°×12.42°W±0.07°, h19km, n168, σ0.994/163, mb4.8/54, MS4.2/6, 20C-17D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**11.18**	**145**	*e*P	**Pn**	**19 16 14.8**	**-2.0**
	200nm,0.6s						
LIC	**Lanto**	**14.93**	**30**	*e*Pn	**Pn**	**19 17 08.3**	**+0.2**
	baz=214						
LIC				*e*R			
	1μm,22.9s						
LIC	**Lamto**	**14.93**	**30**	*e*Pn	**Pn**	**19 17 08.3**	**+0.2**
DBIC	**Dimbokro**	**15.40**	**30**	Pn	**Pn**	**19 17 13.3**	**-1.0**
	0.2nm,0.3s,baz=190,slow=13,SNR=13						
DBIC				LR	LR	19 21 44.8	
	comp=Z,863nm,20.6s,baz=198,slow=32						
DBIC	**Dimbokro**	**15.40**	**30**	*e*P	**Pn**	**19 17 12.9**	**-1.4**
	72nm,1.0s						
BBTS	**Babate**	**21.75**	**349**	P	**P**	**19 18 27.7**	**-0.7**
	30nm,0.8s,baz=165,slow=5.7,SNR=3.5						
BBTS	**Babate**	**21.75**	**349**	P	**P**	**19 18 27.7**	**-0.7**
RCBR	**Riachuelo**	**23.36**	**271**	P	**P**	**19 18 46.0**	**+0.5**
	6.7nm,0.9s,baz=78,slow=15,SNR=2.5						
RCBR				LR	LR	19 25 12.7	
	comp=Z,600nm,21.0s,baz=86,slow=30						
RCBR	**Riachuelo**	**23.36**	**271**	P	**P**	**19 18 46.0**	**+0.5**
TOAO	**Torodi Ar. Sit**	**24.31**	**35**	*e*P	**P**	**19 18 54.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**24.31**	**35**	P	**P**	**19 18 54.3**	**-0.2**
	26nm,1.0s,baz=216,slow=9.5,SNR=84						
TORD				LR	LR	19 27 36.8	
	comp=Z,467nm,18.9s,baz=205,slow=35						
TORD	**Torodi Ar. Bea**	**24.31**	**35**	P	**P**	**19 18 54.3**	**-0.2**
TSUM	**Tsumeb**	**31.64**	**116**	P	**P**	**19 20 01.0**	**+0.7**
	2.4nm,0.7s,baz=172,slow=18,SNR=3.8						
TSUM	**Tsumeb**	**31.64**	**116**	P	**P**	**19 20 01.0**	**+0.7**
TAM	**Tamanrasset**	**34.29**	**30**	*e*P	**P**	**19 20 23.9**	**+0.5**
	3.0nm,0.8s						
BDFB	**Brasilia**	**35.94**	**253**	P	**P**	**19 20 37.7**	**0.0**
	1.9nm,0.4s,baz=116,slow=7.9,SNR=3.9						
BDFB	**Brasilia**	**35.94**	**253**	P	**P**	**19 20 37.7**	**0.0**
SUR	**Sutherland**	**40.02**	**134**	P	**P**	**19 21 12.5**	**+0.5**
	2.6nm,0.7s,baz=272,slow=4.3,SNR=3.2						
SUR	**Sutherland**	**40.02**	**134**	P	**P**	**19 21 12.5**	**+0.5**
LBTB	**Lobatse**	**40.58**	**121**	P	**P**	**19 21 16.4**	**-0.3**
	11nm,1.1s,baz=288,slow=9.8,SNR=7.5						
LBTB	**Lobatse**	**40.58**	**121**	P	**P**	**19 21 16.4**	**-0.3**
LSZ	**Lusaka**	**40.67**	**105**	P	**P**	**19 21 18.3**	**+0.7**
	7.1nm,0.9s,baz=330,slow=8.5,SNR=11						
LSZ	**Lusaka**	**40.67**	**105**	*e*P	**P**	**19 21 17.7**	**+0.1**
	20nm,1.3s						
BOSA	**Boshof**	**41.64**	**126**	P	**P**	**19 21 25.1**	**-0.4**
	11nm,1.0s,baz=291,slow=7.5,SNR=10						
BOSA				LR	LR	19 34 52.5	
	comp=Z,439nm,21.2s,baz=345,slow=31						
BOSA	**Boshof**	**41.64**	**126**	P	**P**	**19 21 25.1**	**-0.4**
EVOP	**Sao Brissos**	**45.31**	**5**	*e*P	**P**	**19 21 54.1**	**-0.5**
	15nm,1.0s						
EVO	**Evora**	**45.33**	**5**	*e*P	**P**	**19 21 54.1**	**-0.6**
	15nm,1.0s						
EVO				*e*R			
	345nm,22.0s						
ESDC	**Sonseca Array**	**46.94**	**9**	P	**P**	**19 22 09.4**	**+1.9**
	0.7nm,0.7s,baz=186,slow=8.2,SNR=4.4						
ESDC				PP	**PP**	**19 23 58.4**	**+0.2**
	0.8nm,0.7s,baz=188,slow=9.1,SNR=5.4						
ESDC	**Sonseca Array**	**46.94**	**9**	P	**P**	**19 22 09.4**	**+1.9**
ESDC				PP	**PP**	**19 23 58.4**	**+0.2**
KEST	**Kesra**	**47.04**	**24**	P	**P**	**19 22 10.5**	**+2.1**
	4.9nm,0.8s,baz=165,slow=4.8,SNR=10						
KEST	**Kesra**	**47.04**	**24**	*e*P	**P**	**19 22 10.0**	**+1.6**
SIV	**San Ignacio**	**48.44**	**255**	P	**P**	**19 22 21.6**	**+2.0**
	0.9nm,0.5s,baz=131,slow=18,SNR=3.2						
SIV	**San Ignacio**	**48.44**	**255**	P	**P**	**19 22 21.6**	**+2.0**
KMBO	**Kilima Mbogo**	**49.85**	**86**	*e*P	**P**	**19 22 31.6**	**+0.9**
ETSF	**Etsaut**	**50.67**	**11**	*e*P	**P**	**19 22 35.9**	**-0.2**
	30nm,1.3s						
ETSF	**Etsaut**	**50.67**	**11**	*e*P	**P**	**19 22 35.9**	**-0.2**
	30nm,1.3s						
SJPF	**Ste Jean**	**50.75**	**11**	*e*P	**P**	**19 22 35.8**	**-0.9**
	36nm,1.2s						
SJPF	**Ste Jean**	**50.75**	**11**	*e*P	**P**	**19 22 35.8**	**-0.9**
	36nm,1.2s						
EPF	**Esparros**	**50.97**	**12**	*e*P	**P**	**19 22 38.8**	**+0.4**
	26nm,1.3s						
EPF	**Esparros**	**50.97**	**12**	*e*P	**P**	**19 22 38.8**	**+0.4**
	26nm,1.3s						
MTLF	**Montolieu**	**51.68**	**14**	*e*P	**P**	**19 22 42.9**	**-0.8**
	31nm,1.5s						
MTLF	**Montolieu**	**51.68**	**14**	*e*P	**P**	**19 22 42.9**	**-0.8**
	31nm,1.5s						
LASF	**Ste Croix**	**52.77**	**15**	*e*P	**P**	**19 22 52.8**	**+1.0**
LASF	**Ste Croix**	**52.77**	**15**	*e*P	**P**	**19 22 52.8**	**+1.0**
LFF	**La Frestale**	**52.89**	**12**	*e*P	**P**	**19 22 52.6**	**+0.1**
	81nm,1.6s						
LFF	**La Frestale**	**52.89**	**12**	*e*P	**P**	**19 22 52.6**	**+0.1**
	81nm,1.6s						
SMRF	**Simiane la Rot**	**53.13**	**16**	*e*P	**P**	**19 22 54.8**	**+0.3**
	67nm,1.5s						
SMRF	**Simiane la Rot**	**53.13**	**16**	*e*P	**P**	**19 22 54.8**	**+0.3**
	67nm,1.5s						
CAF	**Calviac**	**53.15**	**13**	*e*P	**P**	**19 22 54.6**	**0.0**
CAF	**Calviac**	**53.15**	**13**	*e*P	**P**	**19 22 54.6**	**0.0**
RJF	**Les Rejaudoux**	**53.40**	**12**	*e*P	**P**	**19 22 56.3**	**0.0**
	27nm,1.3s						
RJF	**Les Rejaudoux**	**53.40**	**12**	*e*P	**P**	**19 22 56.3**	**0.0**
	27nm,1.3s						
VIVF	**Saint-Julien-l**	**53.71**	**15**	*e*P	**P**	**19 22 58.9**	**+0.2**
	66nm,1.8s						
VIVF	**Saint-Julien-l**	**53.71**	**15**	*e*P	**P**	**19 22 58.9**	**+0.2**
	66nm,1.8s						
ORIF	**Oris-en-Rattie**	**54.09**	**16**	*e*P	**P**	**19 23 02.0**	**+0.5**
	21nm,1.2s						
ORIF	**Oris-en-Rattie**	**54.09**	**16**	*e*P	**P**	**19 23 02.0**	**+0.5**
	21nm,1.2s						
MBDF	**Montbardon**	**54.16**	**17**	*e*P	**P**	**19 23 02.5**	**+0.4**
	23nm,1.2s						
MBDF	**Montbardon**	**54.16**	**17**	*e*P	**P**	**19 23 02.5**	**+0.4**
	23nm,1.2s						
MFF	**Saint Martin d**	**54.32**	**10**	*e*P	**P**	**19 23 02.7**	**-0.3**
MFF	**Saint Martin d**	**54.32**	**10**	*e*P	**P**	**19 23 02.7**	**-0.3**
TCF	**Toulx Ste Croi**	**54.48**	**12**	*e*P	**P**	**19 23 04.6**	**+0.3**
	16nm,1.0s						
TCF	**Toulx Ste Croi**	**54.48**	**12**	*e*P	**P**	**19 23 04.6**	**+0.3**
	16nm,1.0s						
LPG	**La Plagne**	**54.86**	**16**	*e*P	**P**	**19 23 08.7**	**+1.3**
	50nm,1.5s						
LPG	**La Plagne**	**54.86**	**16**	*e*P	**P**	**19 23 08.7**	**+1.3**
	50nm,1.5s						
BGF	**Bois d'Agland**	**54.87**	**13**	*e*P	**P**	**19 23 07.1**	**0.0**
BGF	**Bois d'Agland**	**54.87**	**13**	*e*P	**P**	**19 23 07.1**	**0.0**
LPL	**La Plagne**	**54.88**	**16**	*e*P	**P**	**19 23 08.7**	**+1.3**
	19nm,1.1s						
LPL	**La Plagne**	**54.88**	**16**	*e*P	**P**	**19 23 08.7**	**+1.3**
	19nm,1.1s						
AVF	**Avril sur Loir**	**55.21**	**13**	*e*P	**P**	**19 23 09.9**	**+0.4**
AVF	**Avril sur Loir**	**55.21**	**13**	*e*P	**P**	**19 23 09.9**	**+0.4**
LPAZ	**La Paz**	**55.23**	**255**	P	**P**	**19 23 11.9**	**+1.0**
	0.9nm,0.8s,baz=237,slow=16,SNR=3.3						
LPAZ	**La Paz**	**55.23**	**255**	P	**P**	**19 23 11.9**	**+1.0**
SSF	**Saint Saulge**	**55.50**	**13**	*e*P	**P**	**19 23 11.7**	**+0.1**
SSF	**Saint Saulge**	**55.50**	**13**	*e*P	**P**	**19 23 11.7**	**+0.1**
CABF	**La Chapelle**	**55.71**	**15**	*e*P	**P**	**19 23 13.4**	**+0.2**
	71nm,1.5s						
CABF	**La Chapelle**	**55.71**	**15**	*e*P	**P**	**19 23 13.4**	**+0.2**
	71nm,1.5s						
LOR	**Lormes**	**55.77**	**13**	*e*P	**P**	**19 23 13.7**	**+0.1**
LOR	**Lormes**	**55.77**	**13**	*e*P	**P**	**19 23 13.7**	**+0.1**
SFTF	**Sexfontaines**	**56.93**	**14**	*e*P	**P**	**19 23 22.2**	**+0.4**
SFTF	**Sexfontaines**	**56.93**	**14**	*e*P	**P**	**19 23 22.2**	**+0.4**
HAU	**Haudompre**	**57.06**	**15**	*e*P	**P**	**19 23 22.9**	**+0.1**
HAU	**Haudompre**	**57.06**	**15**	*e*P	**P**	**19 23 22.9**	**+0.1**
PAGF	**Fort de Pagny**	**57.42**	**14**	*e*P	**P**	**19 23 25.3**	**+0.1**
PAGF	**Fort de Pagny**	**57.42**	**14**	*e*P	**P**	**19 23 25.3**	**+0.1**
FETA	**Feichten**	**57.43**	**19**↑*i*P		**P**	**19 23 25.7**	**+0.2**
	12nm,1.3s						
FETA	**Feichten**	**57.43**	**19**↑*i*P		**P**	**19 23 25.7**	**+0.2**
	12nm,1.3s						
CFAA	**Coronel Fontan**	**57.47**	**237**	P	**P**	**19 23 26.6**	**+0.6**
	0.7nm,0.9s,baz=109,slow=4.4,SNR=3.7						
CFAA				LR	LR	19 44 24.1	
	comp=Z,53nm,18.1s,baz=108,slow=32						
CFAA	**Coronel Fontan**	**57.47**	**237**	P	**P**	**19 23 26.6**	**+0.6**
CDF	**Champ du Feu**	**57.68**	**15**	*e*P	**P**	**19 23 27.3**	**+0.1**
**

comp=Z,2.1nm,0.5s
532A Rocksprings 91.22 300 ⇓P P 19 26 42.3 -0.1
baz=91
Y32A R-V Farms, Ver 91.32 304 ⇓P P 19 26 42.5 -0.3
baz=91
531A Rocksprings 91.78 300 ⇓P P 19 26 44.9 -0.2
baz=92
Z31A Sharp Cattle R 91.81 303 ⇑P P 19 26 44.7 -0.4
baz=92
X31A McDonald Ranch 91.83 304 ⇑P P 19 26 45.2 +0.1
baz=92
AAK Ala-Archa 92.32 48 *e*P P 19 26 49.8 +2.4
comp=Z,62nm,1.8s
430A Baggett Ranch, 92.44 301 ⇑P P 19 26 48.2 +0.1
baz=92
428A Kincaid Ranch, 93.67 300 ⇓P P 19 26 54.4 +0.6
baz=94
628A Black Gap, Mar 93.72 299 ⇑P P 19 26 54.4 +0.4
baz=94
Y27A Causey 94.38 303 ⇓P P 19 26 56.4 -0.6
baz=94
TXAR Lajitas Array 94.39 299 P P 19 26 57.2 0.0
comp=Z,0.4nm,0.5s,baz=125,slow=6.3,SNR=4.6
TXAR Lajitas Array 94.39 299 P P 19 26 57.2 0.0
RES Resolute Bay 94.56 345 P P 19 26 57.1 +0.4
comp=Z,1.3nm,0.8s,baz=157,slow=8.4,SNR=3.2
RES Resolute Bay 94.56 345 *e*P P 19 26 55.0 -1.7
comp=Z,4.0nm,0.8s
526A Mary Lane Ranc 94.82 300 ⇓P P 19 26 59.3 +0.1
baz=95
V26A Tequesquite Ra 95.05 305 ⇓P P 19 26 60.0 -0.1
baz=95
Y25A Mesa, Roswell 95.65 303 ⇑P P 19 27 03.0 +0.2
baz=96
425A Indio Mountain 95.65 300 ⇑P P 19 27 03.1 +0.2
baz=96
224A Cornudas Mount 96.21 301 ⇑P P 19 27 05.1 -0.4
baz=96
E24A Baker 96.21 316 ⇑P P 19 27 04.9 -0.1
baz=96

NIED ***26*** *19:19:00,27˚.50N×126˚.80E,h150km,Mw5.9 Best double couple: M0 7.58000×10^17 NP1:φs 12.00000°, δ73.00000°,λ-57.00000°. NP2:φs 126.00000°,δ37.00000°, λ-151.00000°.*

SZGRF ***26*** *19:19:41.0,26˚.93N×128˚.03E,h33km,mb6.2,MS5.1, Ryukyu Islands, Japan*

BJI ***26*** *19:19:51.2,27˚.01N×127˚.28E,h135km,mB6.0/52, mb5.8/59*

MOS ***26*** *19:19:53.5±0.9,27˚.45N×126˚.71E,h117km,mb5.8/120, MS4.9/20,Error ellipse: s-maj=6.1km s-min=3.6km az=112.4*

TEH ***26*** *19:19:57.0,27˚.43N×126˚.77E,h138km,ML6.0*

DJA ***26*** *19:19:57.8±1.0,27˚N±5˚×12˚7E±˚,h144km±9km,M5.7/72, mb5.7/72,mB5.0/58,MLv6.1/1,Mw(mB)5.6/58,Mwp5.9/1*

IDC ***26*** *19:19:58.6±0.4,27˚.43N×126˚.87E,h151km±3km,mb5.2/40, mb1 5.3/45,mb1mx5.3/46,mbtmp5.2/45,MS4.8/25, Ms1 4.8/25,ms1mx4.5/51,Error ellipse: s-maj=7.7km s-min=5.7km az=60.0*

JMA ***26*** *19:19:58.2±0.2,27˚.47N×126˚.81E,h139km,M5.6*

JMA Felt II J1.

ISCJB ***26*** *19:19:58.7±0.1,27˚.36N±0˚.01×126˚.59E±0˚.02,h161km, mb5.5/374,Error ellipse: s-maj=2.2km s-min=1.6km az=41.5*

BGS ***26*** *19:19:58.4±2.3,27˚.42N×126˚.70E,h160km,mb5.2*

NEIC ***26*** *19:19:59.6±0.1,27˚.42N×126˚.70E,mb5.6/223,MW5.9, MW5.8(USGS),MW5.9(NIED),Error ellipse: s-maj=3.3km s-min=3.1km az=147.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^18Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M0 1.00000×10^18 NP1:φs 131.00000°,δ49.00000°, λ-152.00000°. NP2:φs 22.00000°,δ69.00000°, λ-44.00000°. Principal axes: T 1.0600, Plg11.0000°, Azm80.0000°; N -0.1100, Plg41.0000°, Azm181.0000°; P -0.9500, Plg45.0000°, Azm338.0000°;*

NEIC Recorded [2 JMA] on Amami-oshima, Iheya-shima, Kume-jima, Okinawa, Okino-erabu-shima, Tokuno-shima, Tonaki-jima, Uke-jima, Yoro-jima and Yoron-jima; [1 JMA] on Aguni-jima, Ie-jima, Izena-shima, Kakeroma-jima and Kikaiga-shima.

GCMT ***26*** *19:20:00.6±0.1,27˚.32N×126˚.93E,h161km,MW5.9, Moment Tensor Solution. s109,c231; s69,c78; Moment tensor: Scale 10^17Nm; Mrr-3.79±.06; Mθθ-1.19±.06; Mφφ4.98±.07; Mrθ-2.48±.04; Mθφ-2.87±.06; Mφr-4.76±.05; Best double couple: M0 7.60000×10^17 NP1:φs 127.00000°, δ37.00000°,λ-149.00000°. NP2:φs 11.00000°,δ72.00000°, λ-57.00000°. Principal axes: T 7.4100, Plg20.0000°, Azm77.0000°; N 0.3100, Plg31.0000°, Azm180.0000°; P -7.7200, Plg52.0000°, Azm320.0000°; Data Used: II IU IC G CN. Surface waves: sta=123, comp=276, per= 50.*

ISC 26 19:19:58.6±0.1,**27˚.40N**±0˚.02×**126˚.82E**±0˚.02,**h152**km, **h152km:pP-P,n1597,**σ1**36/**1971**,mb5.6/**368**,212C-233D, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.89**	**155**	⇓P	**Pn**	**19 20 21.7**	**-1.0**
JAGN				S	**Sn**	**19 20 39.6**	**-1.4**
JKE	**Kume jima 2**	**1.07**	**182**	⇓P	**Pn**	**19 20 23.1**	**-1.1**
JKE				S	**Sn**	**19 20 42.1**	**-1.6**
JIH	**Iheya**	**1.08**	**110**	⇓P	**Pn**	**19 20 23.6**	**-0.6**
JIH				S	**Sn**	**19 20 41.7**	**-2.1**
JOW	**Kunigami**	**1.41**	**113**	P	**Pn**	**19 20 26.5**	**-0.9**
	13μm,0.3s,baz=304,slow=9.3,SNR=5082						
JOW				S	**Sn**	**19 20 46.8**	**-2.7**
	27μm,0.3s,baz=149,slow=18,SNR=39						
JOW	**Kunigami**	**1.41**	**113**	P	**Pn**	**19 20 26.5**	**-0.9**
JOW				S	**Sn**	**19 20 46.8**	**-2.7**
JOW	**Kunigami**	**1.41**	**113**	⇓P	**Pn**	**19 20 26.4**	**-0.9**
JOW				S	**Sn**	**19 20 47.2**	**-2.2**
JJT2	**Tamagusuku 2**	**1.51**	**146**	⇓P	**Pn**	**19 20 27.9**	**-0.5**
JJT2				*e*S	**Sn**	**19 20 50.3**	**-0.9**
JTK	**Tokunoshima**	**1.93**	**78**	⇑P	**Pn**	**19 20 31.8**	**-1.1**
JTK				S	**Sn**	**19 20 57.5**	**-1.9**
JAMN	**Amaminishikomi**	**2.25**	**68**	P	**Pn**	**19 20 35.6**	**-1.1**
JAMN				S	**Sn**	**19 21 04.6**	**-1.4**
JAM	**Amami Oshima**	**2.66**	**67**	⇑P	**Pn**	**19 20 40.5**	**-1.2**
JAM				S	**Sn**	**19 21 13.0**	**-2.0**
JMJ	**Miyako jima 2**	**2.92**	**208**	⇑P	**Pn**	**19 20 43.6**	**-1.4**
JMJ				S	**Sn**	**19 21 18.0**	**-3.0**
JOGS	**Gusukube**	**2.92**	**206**	P	**Pn**	**19 20 43.8**	**-1.3**
JOGS				*e*S	**Sn**	**19 21 19.0**	**-2.0**
JZK	**Kikaishima**	**2.93**	**71**	⇑P	**Pn**	**19 20 44.4**	**-0.7**
JZK				*e*S	**Sn**	**19 21 19.6**	**-1.5**
JTJ	**Tarama**	**3.35**	**215**	⇑P	**Pn**	**19 20 48.7**	**-1.8**
JTJ				*e*S	**Sn**	**19 21 26.7**	**-3.9**
JNN	**Nakanoshima**	**3.62**	**47**	⇑P	**Pn**	**19 20 53.4**	**-0.5**
JIJ	**Ishigaki jima**	**3.87**	**219**	⇑P	**Pn**	**19 20 54.6**	**-2.6**
JIJ				S	**Sn**	**19 21 38.1**	**-4.7**
JKRS	**Kuro-shima**	**4.05**	**219**	P	**Pn**	**19 20 57.0**	**-2.5**
JKRS				*e*S	**Sn**	**19 21 42.7**	**-4.1**
IRIF	**Iriomote-Funau**	**4.13**	**223**	⇑P	**Pn**	**19 20 58.1**	**-2.6**
IRIF				*e*S	**Sn**	**19 21 46.3**	**-2.6**
JMZ	**Minamidaito 2**	**4.24**	**111**	⇓P	**Pn**	**19 21 00.0**	**-2.0**
JMZ				*e*S	**Sn**	**19 21 45.4**	**-6.0**
JKC	**Kuchinoerabu**	**4.25**	**43**	⇑P	**Pn**	**19 21 01.9**	**-0.1**
HATJ	**Hateruma jima**	**4.30**	**220**	P	**Pn**	**19 21 00.4**	**-2.4**
HATJ				*e*S	**Sn**	**19 21 49.5**	**-3.4**
YOJ	**Yonaguni jima**	**4.51**	**230**	⇑P	**Pn**	**19 21 04.3**	**-1.3**
YOJ				*e*S	**Sn**	**19 21 56.8**	**-1.0**
JSJ	**Shimokoshiki**	**4.95**	**30**	P	**Pn**	**19 21 12.8**	**+1.5**
TATO	**Taipei**	**5.37**	**244**	*e*Pn	**Pn**	**19 21 17.6**	**+0.7**
	5μm,1.0s						
TATO	**Taipei**	**5.37**	**244**	P	**Pn**	**19 21 18.6**	**+1.7**
	SNR=44						
YHNB	**Yeheng**	**5.61**	**242**	*e*P	**Pn**	**19 21 20.5**	**+0.3**
	7μm,0.8s						
NACB	**Ninganchiao**	**5.71**	**237**	*e*Pn	**Pn**	**19 21 18.9**	**-2.5**
	3μm,0.9s						
SSE	**Sheshan**	**6.15**	**308**	P	**Pn**	**19 21 25.0**	**-2.2**
SSE				S	**Sn**	**19 22 34.8**	**-1.8**
SSE				smax	smax		
	comp=N,410nm,1.0s						
SSE				smax	smax		
	comp=E,470nm,1.0s						
SSE				LR	LR		
	comp=N,9μm,7.6s						
SSE				LR	LR		
	comp=E,10μm,7.6s						
SSE				LR	LR		
	comp=E,6μm,9.4s						
JIU2	**Izumi 2**	**6.18**	**33**	⇑P	**Pn**	**19 21 28.8**	**+1.1**
JUR	**Ureshino**	**6.28**	**25**	⇑P	**Pn**	**19 21 31.6**	**+2.6**
YULB	**Yu-li**	**6.40**	**233**	*e*P	Pn	19 21 26.4	-4.2
	comp=Z,1μm,0.3s						
SSLB	**Suanglung**	**6.41**	**237**	*e*P	**Pn**	**19 21 28.4**	**-2.4**
	comp=Z,3μm,0.5s						
JNU	**Nakatsue**	**6.69**	**31**	P	**Pn**	**19 21 35.5**	**+1.0**
	comp=Z,164nm,0.3s,baz=210,slow=5.2,SNR=581						
JNU				S	**Sn**	**19 22 53.2**	**+3.5**
	comp=Z,6.0nm,0.3s,baz=79,slow=7.4,SNR=1.7						
JNU				ScS	**ScS**	**19 35 04.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=288,slow=23,SNR=6.6						
JNU	**Nakatsue**	**6.69**	**31**	*e*P	**Pn**	**19 21 35.7**	**+1.2**
	comp=Z,2μm,0.8s						
JNU				S	**Sn**	**19 22 53.2**	**+3.5**
JNU				ScS	**ScS**	**19 35 04.0**	**+0.9**
TWG	**Pinlang**	**6.93**	**230**	*e*P	Pn	19 21 32.7	-4.9
	comp=Z,5μm,0.6s						
TPUB	**Ta-pu**	**6.93**	**235**	*e*P	**Pn**	**19 21 35.1**	**-2.7**
	comp=Z,2μm,0.6s						
JUS	**Usuki**	**7.07**	**36**	⇑P	**Pn**	**19 21 37.9**	**-1.6**
QZH	**Quanzhou**	**7.79**	**254**	⇑*i*P	**Pn**	**19 21 51.0**	**+1.8**
QZH				sP		19 22 21.8	
QZH				S	**Sn**	**19 23 16.5**	**+0.4**
QZH				LR	LR		
	comp=N,22μm,6.4s						
QZH				LR	LR		
	comp=E,9μm,5.2s						
QZH				LR	LR		
	comp=Z,16μm,10.4s						
NJ2	**Nanjing**	**8.33**	**306**	*e*P	**Pn**	**19 21 58.3**	**+2.0**
NJ2				S	**Sn**	**19 23 27.0**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,610nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,2μm,3.8s						
NJ2				LR	LR		
	comp=N,13μm,7.5s						
NJ2				LR	LR		
	comp=E,16μm,5.3s						
NJ2				LR	LR		
	comp=E,6μm,14.7s						
KSAR	**Wonju Array Be**	**10.05**	**5**	P	Pn	19 22 22.3	+3.2
KSAR				S	**S**	**19 24 16.1**	**+4.6**
KSAR				ScP	**ScP**	**19 31 32.8**	**-0.3**
KSAR				PKiKP	**PKiKP**	**19 36 13.8**	**-0.6**
INCN	**Inchon**	**10.05**	**359**	*e*P	**Pn**	**19 22 20.9**	**+1.8**
	comp=E,161nm,0.8s						
INCN				*e*ScP	**ScP**	**19 31 32.6**	**-0.5**
INCN	**Inchon**	**10.05**	**359**	P	Pn	19 22 22.6	+3.4
	SNR=12						
KSRS	**Korea Array**	**10.06**	**5**	P	Pn	19 22 22.3	+3.0
	comp=Z,3.9nm,0.3s,baz=178,slow=13,SNR=209						
KSRS				S	**S**	**19 24 16.1**	**+4.3**
	baz=243,slow=42,SNR=2.6						
KSRS				ScP	**ScP**	**19 31 32.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=1.7,SNR=16						
KSRS				PKiKP	**PKiKP**	**19 36 13.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=164,slow=1.7,SNR=6.0						
JWY	**Kouya**	**10.14**	**46**	P	**Pn**	**19 22 17.9**	**-2.6**
PIP	**Pasuquin**	**10.69**	**214**	⇑*e*P	**Pn**	**19 22 27.2**	**-0.5**
PALP	**Palanan**	**11.06**	**202**	⇑*e*P	**Pn**	**19 22 31.8**	**-0.9**
SIPP	**Brgy, Tapao**	**11.11**	**213**	⇑*e*P	Pn	19 22 35.8	+2.6
ABRA	**Dolores**	**11.23**	**211**	*e*P	**Pn**	**19 22 34.0**	**-0.8**
WHN	**Wuhan**	**11.36**	**289**	P	**Pn**	**19 22 38.3**	**+1.9**
WHN				S	**Sn**	**19 24 42.3**	**+0.3**
WHN				LR	LR		
	comp=N,34μm,6.6s						
WHN				LR	LR		
	comp=E,21μm,7.0s						
WHN				LR	LR		
	comp=Z,16μm,7.2s						
CAUP	**Cauayan**	**11.39**	**205**	*e*P	**Pn**	**19 22 37.4**	**+0.5**
JGM	**Miyama**	**11.81**	**43**	P	**Pn**	**19 22 39.7**	**-2.6**
JAO	**Obara**	**11.87**	**46**	P	**Pn**	**19 22 40.5**	**-2.6**
HMMJ	**Hamamatsu 2**	**11.93**	**49**	P	**Pn**	**19 22 41.4**	**-2.3**
JYZW	**Yoshizawa**	**12.02**	**48**	P	**Pn**	**19 22 42.4**	**-2.5**
TIA	**Tai'an**	**12.04**	**319**	P	**Pn**	**19 22 47.3**	**+2.0**
TIA				S	S	19 25 06.3	-8.3
TIA				pmax	pmax		
	comp=Z,8μm,4.3s						
TIA				LR	LR		
	comp=N,7μm,6.5s						
TIA				LR	LR		
	comp=E,9μm,4.5s						
TIA				LR	LR		
	comp=Z,3μm,3.6s						
DL2	**Dalian**	**12.27**	**341**	⇓P	**P**	**19 22 51.0**	**-3.1**
DL2				S	**Sn**	**19 25 08.5**	**+4.8**
DL2				ScS	**ScS**	**19 35 10.3**	**-1.8**
DL2				pmax	pmax		
	comp=Z,2μm,7.1s						
BCPH	**Baguio City Da**	**12.40**	**209**	⇑*i*P	**Pn**	**19 22 50.2**	**0.0**
HKC	**Hong Kong Obse**	**12.55**	**249**	⇑*i*P	**Pn**	**19 22 52.0**	**0.0**
JHJ	**Hachijo jima 2**	**12.56**	**60**	P	**P**	**19 22 55.2**	**-2.3**
	comp=Z,618nm,0.3s,baz=113,slow=2.9,SNR=79						
JHJ				S	**Sn**	**19 25 14.7**	**+3.7**
	comp=Z,15nm,0.3s,baz=84,slow=23,SNR=3.3						
BALP	**Baler**	**12.59**	**204**	*e*P	**Pn**	**19 22 53.7**	**+1.3**
GZH	**Guangzhou**	**12.93**	**254**	P	Pn	19 22 50.8	-6.0
GZH				LR	LR		
	comp=N,8μm,6.9s						
GZH				LR	LR		
	comp=E,4μm,6.6s						
JNG	**Nsakai**	**13.12**	**44**	P	**Pn**	**19 22 57.3**	**-1.9**
MAJO	**Matsushiro**	**13.27**	**44**	*e*P	**Pn**	**19 22 59.2**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,431nm,1.4s						
MAJO	**Matsushiro**	**13.27**	**44**	*e*P	**Pn**	**19 22 59.2**	**-1.9**
	comp=Z,431nm,1.4s						
MAT	**Matsushiro**	**13.27**	**44**	P	**Pn**	**19 22 58.3**	**-2.8**
MAT				S	**Sn**	**19 25 30.0**	**+2.0**
MAT	**Matsushiro**	**13.27**	**44**	P	**Pn**	**19 22 59.0**	**-2.1**
MJAR	**Matsushiro Arr**	**13.27**	**44**	P	**Pn**	**19 22 59.3**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=239,slow=13,SNR=104						
MJAR				S	**S**	**19 25 40.6**	**+0.8**
	baz=232,slow=6.2,SNR=2.4						
MJAR				LR	LR	19 28 15.7	
	comp=Z,1μm,20.7s,baz=230,slow=38						
MJAR				ScP	**ScP**	**19 31 38.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=3.6,SNR=5.8						
MJAR	**Matsushiro Arr**	**13.27**	**44**	P	**Pn**	**19 22 59.3**	**-1.9**
MJAR				S	**S**	**19 25 40.6**	**+0.8**
MJAR				ScP	**ScP**	**19 31 38.0**	**+0.2**
CBIJ	**Chichi jima**	**13.67**	**88**	P	**Pn**	**19 23 06.6**	**+0.3**
	comp=Z,28nm,0.3s,baz=251,slow=2.1,SNR=34						
CBIJ				S	**Sn**	**19 25 35.3**	**-2.4**
	comp=Z,12nm,0.3s,baz=324,slow=23,SNR=4.6						
CBIJ				LR	LR	19 27 36.7	
	comp=Z,10μm,21.1s,baz=300,slow=34						
CBIJ	**Chichi jima**	**13.67**	**88**	P	**Pn**	**19 23 06.6**	**+0.3**
CBIJ				S	**Sn**	**19 25 35.3**	**-2.4**
TGY	**Tagaytay City**	**14.33**	**204**	P	**P**	**19 23 16.4**	**-0.9**
	comp=Z,82nm,0.3s,baz=345,slow=2.6,SNR=61						
TGY				S	**Sn**	**19 25 49.9**	**-3.8**
	comp=Z,92nm,0.3s,baz=342,slow=21,SNR=3.1						
TGY	**Tagaytay City**	**14.33**	**204**	P	**P**	**19 23 16.4**	**-0.9**
TGY				S	**Sn**	**19 25 49.9**	**-3.8**
SNY	**Shenyang**	**14.63**	**350**	⇓P	**P**	**19 23 21.5**	**+1.1**
SNY				sP		19 24 00.5	
SNY				S	**Sn**	**19 26 03.5**	**+2.9**
SNY				pmax	pmax		
	comp=Z,240nm,1.2s						
SNY				pmax	pmax		
	comp=Z,5μm,5.3s						
SNY				LR	LR		
	comp=N,4μm,12.0s						
SNY				LR	LR		
	comp=E,3μm,10.2s						
SNY				LR	LR		
	comp=Z,6μm,11.0s						
JFY	**Yanaizu**	**14.74**	**44**	P	**Pn**	**19 23 19.2**	**-0.5**
BJT	**Baijiatuan**	**15.38**	**328**	*e*P	**P**	**19 23 29.7**	**+1.1**
	comp=Z,885nm,0.9s						
BJI	**Beijing**	**15.39**	**328**	P	**P**	**19 23 30.0**	**+1.2**
BJI				S	**S**	**19 26 24.5**	**+2.4**
BJI				ScP	**ScP**	**19 31 41.0**	**-0.3**
BJI				ScS	**ScS**	**19 35 18.0**	**-1.6**
BJI				pmax	pmax		
	comp=Z,720nm,0.8s						
BJI				pmax	pmax		
	comp=Z,11μm,6.8s						
ENH	**Enshi**	**15.46**	**285**	*e*P	**P**	**19 23 29.8**	**0.0**
	comp=Z,442nm,0.9s						
ENH				*e*S	**S**	**19 26 25.1**	**+1.6**
JMM	**Marumori**	**15.71**	**45**	P	**Pn**	**19 23 29.5**	**-2.0**
TIY	**Taiyuan**	**15.88**	**314**	*e*P	**P**	**19 23 36.5**	**+2.1**
TIY				sP	sP	19 24 11.5	-8.2
TIY				S	**Sn**	**19 26 29.5**	**-1.2**
TIY				pmax	pmax		
	comp=Z,12μm,3.9s						
TIY				LR	LR		
	comp=N,4μm,9.4s						
TIY				LR	LR		
	comp=E,2μm,7.1s						
TIY				LR	LR		
	comp=Z,4μm,10.5s						
VLA	**Vladivostok**	**16.21**	**13**	*e*P	**Pn**	**19 23 36.0**	**-1.6**
VLA				pmax	pmax		
	comp=Z,75nm,0.9s						
CN2	**Changchun**	**16.40**	**356**	⇓P	**P**	**19 23 42.5**	**+2.5**
CN2				*e*sP	**sP**	**19 24 21.5**	**-3.8**
CN2				*e*S	**S**	**19 26 39.3**	**-2.6**
CN2				pmax	pmax		
	comp=Z,5μm,13.0s						
CN2				LR	LR		
	comp=N,3μm,15.0s						
CN2				LR	LR		
	comp=E,4μm,15.0s						
CN2				LR	LR		
	comp=Z,3μm,14.0s						
OCLP	**Ormoc**	**16.40**	**188**	*e*P	P	19 23 44.4	+4.2
OCLP				*e*S	sP	19 24 24.6	-0.8
JIO	**Ouri**	**16.41**	**44**	P	**P**	**19 23 37.5**	**-2.7**
XAN	**Xi'an**	**16.74**	**298**	P	**Pn**	**19 23 45.3**	**+1.0**
XAN				sP	**sP**	**19 24 25.3**	**-3.9**
XAN				S	**Sn**	**19 26 50.5**	**-0.9**
XAN				ScP	**ScP**	**19 31 40.0**	**-4.1**
XAN				PcS	**PcS**	**19 31 56.3**	**-3.4**
XAN				pmax	pmax		
	comp=Z,130nm,0.8s						
XAN				pmax	pmax		
	comp=Z,2μm,6.7s						
JAH	**Hinai**	**17.13**	**38**	P	**P**	**19 23 47.2**	**-0.8**
GUIM	**Jordan**	**17.16**	**194**	*e*P	**Pn**	**19 23 52.2**	**+2.9**
LLP	**Lapu-Lapu**	**17.21**	**190**	*e*P	**Pn**	**19 23 52.6**	**+2.6**
USRK	**Ussuriysk Arra**	**17.27**	**13**	P	**Pn**	**19 23 49.9**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=199,slow=11,SNR=32						
USRK				PcP	**PcP**	**19 28 24.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=206,slow=1.7,SNR=4.5						
USRK				ScS	ScS	19 35 28.4	+3.7
	comp=Z,0.1nm,0.3s,baz=157,slow=25,SNR=4.4						
MSLP	**Maasin**	**17.28**	**187**	*e*P	**Pn**	**19 23 52.5**	**+1.8**
MDJ	**Mudanjiang**	**17.32**	**7**	P	**P**	**19 23 50.0**	**-0.1**
MDJ				sP	sP	19 24 30.3	-5.2
MDJ				S	**S**	**19 27 02.3**	**-0.4**
MDJ				PcP	**PcP**	**19 28 24.5**	**+0.3**
MDJ				ScP	**ScP**	**19 31 47.5**	**+2.5**
MDJ				PcS	**PcS**	**19 32 01.0**	**+0.7**
MDJ				ScS	**ScS**	**19 35 27.3**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,70nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,920nm,10.0s						
MDJ	**Mudanjiang**	**17.32**	**7**	*e*P	**Pn**	**19 23 51.0**	**0.0**
	comp=Z,180nm,1.1s						
MDJ				*e*ScP	**ScP**	**19 31 43.6**	**-1.4**
QIZ	**Qiongzhong**	**17.68**	**245**	P	**Pn**	**19 23 56.0**	**+0.5**
QIZ				sP	sP	19 24 32.8	-6.8
QIZ				S	**S**	**19 27 08.5**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,6μm,8.5s						
QIZ	**Qiongzhong**	**17.68**	**245**	*e*P	**Pn**	**19 23 54.9**	**-0.6**
	comp=Z,116nm,0.9s						
GYA	**Guiyang**	**18.00**	**272**	⇓*i*P	**Pn**	**19 23 59.5**	**0.0**
GYA				PP	pP	19 24 18.8	-5.3
GYA				sP	**sP**	**19 24 38.5**	**-4.8**
GYA				S	**S**	**19 27 10.3**	**-6.4**
GYA				SS	Sn	19 27 42.0	+20
GYA				PcP	**PcP**	**19 28 27.3**	**+1.4**
GYA				pmax	pmax		
	comp=Z,90nm,0.8s						
GYA				pmax	pmax		
	comp=Z,2μm,8.9s						
GYA				LR	LR		
	comp=N,2μm,13.8s						
GYA				LR	LR		
	comp=E,2μm,15.4s						
GYA				LR	LR		
	comp=Z,3μm,14.8s						
HHC	**Hu-ho-hao-te**	**18.39**	**321**	⇓*i*P	**Pn**	**19 24 02.3**	**-1.5**
HHC				sP	**sP**	**19 24 44.8**	**-2.7**
HHC				S	**S**	**19 27 20.8**	**-3.2**
HHC				PcP	**PcP**	**19 28 29.5**	**+3.3**
HHC				ScS	**ScS**	**19 35 30.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,870nm,1.5s						
HHC				pmax	pmax		
	comp=Z,8μm,4.1s						
HHC				LR	LR		
	comp=N,6μm,7.8s						
HHC				LR	LR		
	comp=E,6μm,7.8s						
HHC				LR	LR		
	comp=Z,4μm,8.3s						
CGP	**Cagayan de Oro**	**18.95**	**186**	*e*P	**Pn**	**19 24 08.8**	**-1.8**
BTO	**Baotou**	**19.12**	**318**	*e*P	**Pn**	**19 24 11.5**	**-1.0**
ERM	**Erimo**	**19.77**	**38**	*e*P	**P**	**19 24 14.8**	**-1.9**
ERM				pmax	pmax		
	comp=Z,68nm,0.8s						
ERM	**Erimo**	**19.77**	**38**	*e*P	**P**	**19 24 14.8**	**-1.9**
	comp=Z,68nm,0.8s						
CD2	**Chengdu**	**20.44**	**285**	⇓*i*P	**P**	**19 24 23.5**	**-0.6**
CD2				PP	**pP**	**19 24 51.5**	**+0.7**
CD2				sP	**sP**	**19 25 07.0**	**-3.0**
CD2				S	**S**	**19 27 58.8**	**-5.9**
CD2				pmax	pmax		
	comp=Z,490nm,1.1s						
CD2				pmax	pmax		
	comp=Z,3μm,6.3s						
CD2				LR	LR		
	comp=N,1μm,10.1s						
CD2				LR	LR		
	comp=Z,1μm,11.9s						
ASAJ	**Asahikawa**	**20.96**	**33**	P	**P**	**19 24 27.0**	**-2.5**
	comp=Z,20nm,0.6s,baz=185,slow=21,SNR=18						
ASAJ				PcP	**PcP**	**19 28 32.5**	**+1.8**
	comp=Z,35nm,0.7s,baz=190,slow=24,SNR=4.8						
ASAJ				ScS	ScS	19 35 42.7	+5.9
	comp=Z,21nm,1.1s,baz=342,slow=32,SNR=3.6						
ASAJ	**Asahikawa**	**20.96**	**33**	*e*P	**P**	**19 24 28.6**	**-0.8**
	comp=Z,53nm,1.0s						
ASAJ				PcP	**PcP**	**19 28 32.5**	**+1.8**
ASAJ				ScS	ScS	19 35 42.7	+5.9
LZH	**Lanzhou**	**21.34**	**300**	⇑P	**P**	**19 24 34.5**	**+0.7**
LZH				pP	**pP**	**19 25 00.3**	**-0.5**
LZH				PP	**pwP**	**19 25 03.3**	**+2.5**
LZH				sP	**sP**	**19 25 18.3**	**-1.6**
LZH				S	**S**	**19 28 17.5**	**-4.2**
LZH				pmax	pmax		
	comp=Z,1μm,1.1s						
LZH				pmax	pmax		
	comp=Z,5μm,5.4s						
LZH				LR	LR		
	comp=N,7μm,13.0s						
LZH				LR	LR		
	comp=E,5μm,12.0s				

GUMO **Guam** 21.75 126 P **P** 19 24 38.0 -0.1
comp=Z,585nm,0.8s,baz=242,slow=2.5,SNR=32
GUMO **Guam** 21.75 126 *e*P **P** 19 24 37.5 -0.6
comp=Z,8μm,1.8s
HABR **Khabarovsk** 21.99 15 *c*P **P** 19 24 41.0 +0.7
HABR *e**PP **pP** 19 25 03.0 -4.5
HABR *e**SP sP 19 25 20.7 -5.9
HABR *e* 19 28 30.5
HABR *e*S **S** 19 28 31.1 -1.1
HABR *e**SS **sS** 19 29 15.9 -4.2
HABR *e* 19 35 40.3
HABR MLR MLR
comp=Z,1μm,17.0s
KLR **Kul'dur** 22.12 9 *e*P P 19 24 36.5 -5.1
KLR *e* 19 24 57.6
KLR pmax pmax
comp=N,1μm,10.0s
KLR pmax pmax
comp=Z,2μm,10.0s
KDM **Kudat** 22.48 207 P **P** 19 24 45.5 +0.1
HIA **Hailar** 22.50 348 *e*P **P** 19 24 43.3 -2.0
comp=Z,112nm,0.9s
HIA *e*PcP **PcP** 19 28 34.6 +0.9
HIA *e*ScP **ScP** 19 31 57.0 -0.1
YUK **Yuzh-Kuril'sk** 22.59 38 *c i*P **P** 19 24 45.6 -0.6
YUK *i* *PP **pP** 19 25 10.7 -3.4
YUK *i* S **S** 19 28 43.1 +0.9
YUK *i* *SS **sS** 19 29 30.9 -1.3
YUK pmax pmax
comp=E,290nm,0.8s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,150nm,0.8s
YUK pmax pmax
comp=Z,4μm,2.0s
YSS **Yuzh-Sakhalins** 23.20 29⇑ *e*P **P** 19 24 51.2 -0.5
YSS *e* 19 25 28.0
YSS *e*S **S** 19 28 48.0 -3.9
YSS *e* 19 35 45.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,1μm,11.0s
YSS MLR MLR
comp=N,1μm,10.0s
YSS MLR MLR
comp=E,1μm,12.0s
YSS **Yuzh-Sakhalins** 23.20 29 *e*P **P** 19 24 49.7 -2.0
comp=E,700nm,1.0s
YSS *e*PcP **PcP** 19 28 35.8 +0.7
YSS *e*ScP **ScP** 19 31 58.9 0.0
MYLDM **Lahad Datu** 23.48 201 P **P** 19 24 57.4 +2.8
MYLDM **Lahad Datu** 23.48 201 P **P** 19 24 55.8 +1.2
comp=E,209nm,1.3s,comp=E,4μm
SDKM **Sandakan** 23.50 205 P **P** 19 24 56.0 +1.1
KKM **Kota Kinabalu** 23.52 207 P **P** 19 24 57.2 +2.2
TSM **Tawau** 24.52 202 P **P** 19 25 05.3 +1.3
GTA **Gaotai** 25.43 305 ⇓ P **P** 19 25 12.0 -0.3
GTA pP **pP** 19 25 43.0 -1.0
GTA sP sP 19 25 55.3 -6.3
GTA PP **PnPn** 19 25 59.5 +1.9
GTA PcP **PcP** 19 28 42.0 +1.7
GTA S **S** 19 29 29.5 +1.6
GTA sS **sS** 19 30 20.3 -3.6
GTA SS **SnSn** 19 30 45.5 +6.1
GTA ScP **ScP** 19 32 06.0 +0.5
GTA PcS **PcS** 19 32 21.3 +0.2
GTA ScS **ScS** 19 35 53.5 -1.2
GTA pmax pmax
comp=Z,2μm,10.0s
GTA LR LR
comp=N,4μm,15.2s
GTA LR LR
comp=E,4μm,10.9s
GTA LR LR
comp=Z,2μm,11.4s
ULN **Ulaanbaatar** 25.60 328 *e*P **P** 19 25 14.2 +0.4
comp=Z,1μm,1.0s
ULN **Ulaanbaatar** 25.60 328 P **P** 19 25 13.3 -0.5
SNR=565
ULN **Ulaanbaatar** 25.60 328 P **P** 19 25 12.9 -0.9
comp=Z,1μm,1.1s,comp=Z,14μm
SONM **Songino Array** 25.89 327 P **P** 19 25 16.0 -0.4
comp=Z,1μm,0.9s,baz=140,slow=7.7,SNR=647
SONM PcP **PcP** 19 28 42.8 +1.6
comp=Z,9.3nm,0.6s,baz=28,slow=3.0,SNR=11
SONM pPcP 19 29 24.4
comp=Z,7.6nm,1.0s,baz=77,slow=6.5,SNR=2.3
SONM ScP **ScP** 19 32 06.0 -0.6
comp=Z,15nm,0.9s,baz=153,slow=4.1,SNR=12
SONM LR LR 19 35 49.7
comp=Z,2μm,21.6s,baz=133,slow=37
SONM ScS **ScS** 19 35 57.6 +1.4
comp=Z,4.0nm,1.2s,baz=102,slow=6.7,SNR=5.2
SONM PKiKP **PKiKP** 19 36 20.5 -0.2
comp=Z,1.6nm,0.8s,baz=157,slow=1.7,SNR=5.3
SONM **Songino Array** 25.89 327 P **P** 19 25 15.9 -0.4
SONM PcP **PcP** 19 28 42.8 +1.6
SONM pPcP 19 29 24.4
SONM ScP **ScP** 19 32 06.0 -0.6
SONM ScS **ScS** 19 35 57.6 +1.4
SONM PKiKP **PKiKP** 19 36 20.5 -0.2
TNTI **Ternate** 26.48 179 P **P** 19 25 23.0 +1.2
CIT **Chita** 26.54 341 *e*P **P** 19 25 21.7 -0.3
CIT *e* 19 25 59.0
CIT *e* 19 28 44.0
CIT *e* 19 30 58.1
CIT *e* 19 35 58.7
CIT pmax pmax
comp=Z,513nm,2.5s
CMMT **Chiang Mai** 26.98 257 P **P** 19 25 26.0 -0.3
comp=Z,49nm,0.9s,comp=Z,2μm
CHTO **Chiang Mai** 26.98 257 *e*P **P** 19 25 26.2 -0.1
CHTO *e* 19 28 45.8
CHTO pmax pmax
comp=Z,108nm,1.3s
CHTO **Chiang Mai** 26.98 257 *e*P **P** 19 25 26.2 -0.1
comp=Z,108nm,1.3s
CHTO *e*PcP **PcP** 19 28 45.8 +1.6
CHTO *e*ScP **ScP** 19 32 10.6 +0.4
CHTO **Chiang Mai** 26.98 257 P **P** 19 25 26.7 +0.4
SNR=14
CHTO **Chiang Mai** 26.98 257 P **P** 19 25 27.1 +0.8
comp=Z,53nm,0.9s,comp=Z,2μm
CM31 **Chiang Mai Arr** 27.13 257 *e*P **P** 19 25 28.6 +1.0
comp=Z,54nm,1.0s
CM31 *e*PcP **PcP** 19 28 46.4 +1.9
CM31 *e*ScP **ScP** 19 32 10.8 +0.2
CMAR **Chiang Mai Arr** 27.13 257 P **P** 19 25 27.8 +0.2
comp=Z,12nm,0.7s,baz=58,slow=7.9,SNR=74
CMAR pP **pP** 19 26 02.2 +2.8
comp=Z,22nm,1.0s,baz=61,slow=8.3,SNR=4.2
CMAR PcP **PcP** 19 28 46.5 +2.0
comp=Z,21nm,0.8s,baz=37,slow=1.4,SNR=14
CMAR pPcP 19 29 28.1
comp=Z,12nm,1.0s,baz=59,slow=0.6,SNR=5.3
CMAR ScP **ScP** 19 32 11.8 +1.2
comp=Z,15nm,1.0s,baz=64,slow=0.4,SNR=17
CMAR ScS **ScS** 19 36 05.3 +3.0
comp=Z,1.7nm,1.0s,baz=236,slow=28,SNR=2.9
CMAR PKiKP **PKiKP** 19 36 22.1 +0.1
comp=Z,1.4nm,0.7s,baz=302,slow=0.8,SNR=7.3
CMAR **Chiang Mai Arr** 27.13 257 P **P** 19 25 27.8 +0.2
CMAR pP **pP** 19 26 02.2 +2.8
CMAR PcP **PcP** 19 28 46.5 +2.0
CMAR pPcP 19 29 28.1
CMAR ScP **ScP** 19 32 11.8 +1.2
CMAR ScS **ScS** 19 36 05.3 +3.0
CMAR PKiKP **PKiKP** 19 36 22.1 +0.1
CHBT **CHBT** 27.16 242 P **P** 19 25 29.8 +2.0
comp=Z,336nm,0.9s,comp=Z,4μm
MRSI **Marisa** 27.18 191 P **P** 19 25 25.9 -2.1
comp=Z,64nm,1.2s,comp=Z,1μm
BTM **Bintulu** 27.42 211 P **P** 19 25 30.3 +0.1
LBMI **Labuha** 27.89 179 P **P** 19 25 37.0 +2.7
comp=Z,71nm,0.9s,comp=Z,2μm
SBUM **Sibu** 28.48 212 P **P** 19 25 40.9 +1.3
SBUM **Sibu** 28.48 212 P **P** 19 25 40.7 +1.1
comp=Z,70nm,1.3s,comp=Z,1μm
SRDT **SRDT** 28.88 249 P **P** 19 25 44.0 +0.9
comp=Z,224nm,1.6s
ZAK **Zakamensk** 29.13 328⇑ *i*P **P** 19 25 44.4 -0.8
ZAK *e* 19 36 08.4
ZAK pmax pmax
comp=Z,42nm,1.2s
SMKI **Samarinda** 29.19 200 P **P** 19 25 47.5 +1.6
comp=Z,101nm,1.1s,comp=Z,2μm
PHET **Kaeng Krachan** 29.23 246 P **P** 19 25 48.0 +1.8
comp=Z,612nm,0.8s,comp=Z,5μm
CLNS **Chul'man** 29.45 358 *e*P **P** 19 25 45.6 -2.2
CLNS *e* 19 26 41.5
CLNS *e* 19 28 50.0
CLNS *e*S S 19 30 37.8 +7.2
CLNS *e*SS **SnSn** 19 32 11.8 -5.1
CLNS pmax pmax
comp=Z,7.0nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,1.2s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=N,30nm,1.2s
CLNS pmax pmax
comp=Z,16nm,1.2s
CLNS pmax pmax
comp=E,19nm,1.1s
CLNS smax smax
comp=E,456nm,14.8s
CLNS smax smax
comp=N,729nm,12.2s
CLNS MLR MLR
comp=Z,765nm,12.0s
CLNS MLR MLR
comp=E,1μm,13.0s
CLNS MLR MLR
comp=N,693nm,12.0s
TLY **Talaya** 29.88 331 *d i*P **P** 19 25 51.5 -0.1
TLY *e*PPP PPP 19 26 56.2
TLY *e* 19 28 50.0
TLY *e*S S 19 30 30.3 -7.1
TLY *e* 19 31 16.4
TLY *e* 19 32 16.7
TLY pmax pmax
comp=Z,238nm,1.1s
TLY MLR MLR
comp=Z,634nm,13.0s
TLY **Talaya** 29.88 331 *e*P **P** 19 25 52.0 +0.4
comp=Z,205nm,0.9s
TLY **Talaya** 29.88 331 P **P** 19 25 51.6 -0.1
SNR=97
TLY **Talaya** 29.88 331 P **P** 19 25 52.1 +0.4
comp=Z,1μm,0.8s,SNR=88
IRK **Irkutsk** 30.01 332⇑ *i*P **P** 19 25 52.4 -0.4
IRK *e* 19 26 27.9
IRK *e* 19 28 51.3
IRK pmax pmax
comp=Z,660nm,1.3s
KSM **Kuching** 30.26 214 *e*P **P** 19 25 56.0 +0.7
comp=Z,130nm,0.6s
KSM *e*PcP **PcP** 19 28 53.2 +0.9
KSM **Kuching** 30.26 214 P **P** 19 25 56.5 +1.2
KSM **Kuching** 30.26 214 P **P** 19 25 55.6 +0.3
comp=Z,227nm,0.7s,comp=Z,2μm
MSAI **Masohi** 30.64 176 P **P** 19 26 00.8 +2.2
comp=Z,14nm,0.7s,comp=Z,501nm
STKI **Sintang** 30.92 211 P **P** 19 26 01.7 +0.5
comp=Z,38nm,1.3s,comp=Z,1μm
AAI **Ambon** 30.94 177 P **P** 19 26 01.8 +0.5
comp=Z,61nm,0.8s,comp=Z,2μm
MOY **Mondy** 31.07 328 *e*P **P** 19 26 02.1 -0.1
MOY pmax pmax
comp=Z,289nm,1.2s
SHL **Shillong** 31.27 275 ⇓ *i*P **P** 19 26 05.0 +0.6
SHL *e*PCP **PcP** 19 28 55.0 -0.2
SHL *e*S **S** 19 30 59.0 -1.0
SHL *e*SCS **ScS** 19 36 22.0 0.0
LSA **Lhasa** 31.34 283 P **P** 19 26 05.5 +0.2
LSA S **S** 19 31 03.0 +1.3
LSA pmax pmax
comp=Z,880nm,1.0s
LSA pmax pmax
comp=Z,4μm,3.0s
LSA LR LR
comp=N,2μm,10.0s
LSA LR LR
comp=E,1μm,12.0s
LSA LR LR
comp=Z,3μm,12.0s
LSA **Lhasa** 31.34 283 *e*P **P** 19 26 04.8 -0.6
LSA *e* 19 28 57.5
LSA pmax pmax
comp=Z,26nm,0.6s
LSA **Lhasa** 31.34 283 *e*P **P** 19 26 04.8 -0.6
comp=Z,26nm,0.6s
LSA *e*PcP **PcP** 19 28 57.5 +1.9
SMPI **Sarmi** 31.39 157 P P 19 25 59.7 -5.5
comp=Z,154nm,1.1s
KTGM **Kuala Trenggan** 31.47 230 P **P** 19 26 07.1 +1.1
AGT **Agartala** 32.19 272 *i* P **P** 19 26 10.0 -2.3
AGT *i* x x 19 26 51.0
KBKI **Kotabaru** 32.21 200 P **P** 19 26 11.6 -0.8
comp=Z,24nm,1.4s,comp=Z,740nm
BBKI **Banjar Baru** 32.79 202 P **P** 19 26 17.8 +0.3
comp=Z,502nm,0.8s,comp=Z,4μm
KAPI **Kappang** 32.94 193 P **P** 19 26 16.9 -1.8
comp=Z,15nm,1.0s,baz=335,slow=1.7,SNR=8.0
KAPI PcP **PcP** 19 28 59.6 0.0
comp=Z,9.8nm,0.8s,baz=81,slow=20,SNR=5.0
KAPI ScP **ScP** 19 32 28.4 -1.1
comp=Z,8.2nm,0.4s,baz=184,slow=13,SNR=8.7
KAPI **Kappang** 32.94 193 *e*P **P** 19 26 17.0 -1.8
comp=Z,9.7nm,0.8s
KAPI PcP **PcP** 19 28 59.6 0.0
KAPI ScP **ScP** 19 32 28.4 -1.1
KAPI **Kappang** 32.94 193 P **P** 19 26 17.8 -1.0
comp=Z,16nm,0.9s
BBSI **Bau Bau** 32.95 188 P **P** 19 26 20.1 +1.2
comp=Z,67nm,0.9s,comp=Z,1μm
BKSI **Bulukumba** 33.17 192 P **P** 19 26 22.2 +1.4
comp=Z,15nm,1.1s
KULM **Kulim** 33.23 233 *e*P **P** 19 26 22.3 +1.0
comp=Z,188nm,0.6s
KULM *e*PcP **PcP** 19 29 01.4 +1.0
KULM **Kulim** 33.23 233 P **P** 19 26 22.9 +1.5
KULM **Kulim** 33.23 233 P **P** 19 26 21.8 +0.4
comp=Z,353nm,0.8s,comp=Z,4μm
PBKI **Pangkalan Bun** 33.31 208 P **P** 19 26 21.6 -0.4
comp=Z,83nm,1.0s,comp=Z,1μm
IPM **Ipoh** 33.53 232 *e*P **P** 19 26 24.4 +0.4
comp=Z,405nm,0.8s
IPM *e*PcP **PcP** 19 29 02.1 +0.8
IPM *e*S **S** 19 31 34.8 -0.3
IPM *e*ScP **ScP** 19 32 32.3 +0.6
IPM **Ipoh** 33.53 232 P **P** 19 26 25.1 +1.1
MYKOM **Kota Tinggi** 33.66 225 P **P** 19 26 27.1 +2.0
MYKOM **Kota Tinggi** 33.66 225 P **P** 19 26 25.9 +0.8
comp=Z,188nm,1.2s
KGM **Kluang** 33.82 226 P **P** 19 26 28.1 +1.6
FRIM **Kepong** 34.02 229 P **P** 19 26 29.8 +1.6
PEA0B **Petropavlovsk-** 34.38 33 *e*P **P** 19 26 30.2 -0.7
PETK **Petropavlovsk-** 34.38 33 P **P** 19 26 30.1 -0.8
comp=Z,5.2nm,0.7s,baz=213,slow=6.5,SNR=6.9
PETK PcP **PcP** 19 29 04.1 +1.0
comp=Z,17nm,0.8s,baz=188,slow=5.7,SNR=5.4
PETK ScP **ScP** 19 32 32.7 -1.3
comp=Z,24nm,0.9s,baz=197,slow=4.0,SNR=16
PETK ScS **ScS** 19 36 38.3 +1.5
comp=Z,4.8nm,1.0s,baz=203,slow=21,SNR=3.5
PETK LR LR 19 41 55.8
comp=Z,773nm,18.6s,baz=232,slow=38
PETK **Petropavlovsk-** 34.38 33 P **P** 19 26 30.1 -0.8
PETK 19 29 04.1
PETK 19 36 38.3
PETK **Petropavlovsk-** 34.38 33 P **P** 19 26 30.1 -0.8
PETK PcP **PcP** 19 29 04.1 +1.0
PETK ScP **ScP** 19 32 32.7 -1.3
PETK ScS **ScS** 19 36 38.3 +1.5
TAPN **Taplejung** 34.63 279 *e*P **P** 19 26 33.6 -0.2
comp=Z,93nm,0.7s
YAK **Yakutsk** 34.68 2 *e*P **P** 19 26 31.3 -2.0
YAK *e**SP sP 19 27 08.4 -15
YAK *e* 19 27 56.3
YAK *e* 19 29 02.2
YAK *e*S **S** 19 31 52.2 +0.7
YAK *e* 19 32 34.4
YAK *e* 19 36 33.3
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=Z,42nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,149nm,1.8s
YAK pmax pmax
comp=N,247nm,2.8s
YAK smax smax
comp=E,435nm,4.0s
YAK smax smax
comp=N,304nm,3.2s
YAK **Yakutsk** 34.68 2 *e*P **P** 19 26 31.7 -1.6
comp=N,134nm,0.7s
PET **Petropavlovsk** 34.80 34 *e*P **P** 19 26 33.5 -1.0
PET *e* 19 29 03.9
PET *e*S **S** 19 31 50.6 -3.0
PET *e* 19 36 34.5
PET pmax pmax
comp=Z,109nm,1.1s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,900nm,17.0s
PET **Petropavlovsk** 34.80 34 *e*P **P** 19 26 33.9 -0.6
comp=Z,153nm,1.3s
ODAN **Odare** 35.00 278 *e*P **P** 19 26 36.6 -0.2
comp=Z,375nm,0.8s
WMQ **Urumqi** 35.40 308 P **P** 19 26 39.5 -0.4
WMQ sP sP 19 27 22.5 -7.4
WMQ PP **PnPn** 19 28 05.3 +1.4
WMQ PcP **PcP** 19 29 07.8 +1.4
WMQ S **S** 19 32 02.5 -0.8
WMQ ScP **ScP** 19 32 37.0 -1.0
WMQ PcS **PcS** 19 32 53.8 +0.2
WMQ sS **sS** 19 32 57.5 -3.0
WMQ ScS **ScS** 19 36 39.8 -3.0
WMQ pmax pmax
comp=Z,490nm,1.3s
WMQ pmax pmax
comp=Z,2μm,4.0s
WMQ LR LR
comp=N,1μm,18.0s
WMQ LR LR
comp=E,1μm,19.0s
WMQ LR LR
comp=Z,1μm,25.0s
PPBI **Pangkal Pinang** 35.51 217 P **P** 19 26 42.0 +1.0
comp=Z,151nm,1.3s,comp=Z,2μm
RAMN **Ramite** 35.68 279 *e*P **P** 19 26 42.2 -0.4
comp=Z,121nm,0.8s
TSI **Tuntungan** 35.96 234 P **P** 19 26 46.1 +1.3
comp=Z,362nm,0.6s,comp=Z,5μm
LHMI **Lhok Sumawe** 35.98 238 P **P** 19 26 47.1 +2.1
comp=Z,516nm,1.1s,comp=Z,5μm
MMRI **Maumere** 36.10 188 P **P** 19 26 45.8 -0.1
GUN **Gumba** 36.15 281 *e*P **P** 19 26 46.3 -0.5
PSI **Prapat** 36.20 232 P **P** 19 26 47.7 +0.7
comp=Z,77nm,0.6s,baz=20,slow=7.3,SNR=117
PSI PcP **PcP** 19 29 10.2 +0.9
comp=Z,17nm,0.6s,baz=3.4,slow=5.3,SNR=5.9
PSI ScP **ScP** 19 32 41.6 +0.2
comp=Z,31nm,0.9s,baz=249,slow=2.3,SNR=10
PSI **Prapat** 36.20 232 P **P** 19 26 47.7 +0.7
PSI PcP **PcP** 19 29 10.2 +0.9
PSI ScP **ScP** 19 32 41.6 +0.2
PSI **Prapat** 36.20 232 P **P** 19 26 48.1 +1.1
comp=Z,222nm,1.3s,comp=Z,3μm
RGRI **Rengat** 36.27 224 P **P** 19 26 49.0 +1.6
comp=Z,369nm,1.0s
KMMI **Kalianget** 36.44 202 P **P** 19 26 50.4 +1.6
comp=Z,149nm,1.3s,comp=Z,2μm
BKNI **Bangkinang** 36.57 227 P **P** 19 26 51.1 +1.1
PKI **Pulchoki** 36.62 280 *e*P **P** 19 26 50.1 -0.6
PKIN **Phulchoki** 36.63 280 *e*P **P** 19 26 50.0 -0.7
comp=Z,56nm,0.5s
KKN **Kakani** 36.69 280 *e*P **P** 19 26 50.9 -0.3
DMN **Daman** 36.88 280 *e*P **P** 19 26 52.3 -0.5
comp=Z,278nm,1.0s
SRBI **Singaraja** 37.03 199 P **P** 19 26 52.6 -1.2
comp=Z,57nm,1.1s,comp=Z,856nm
BSI **Banda Aceh** 37.07 240 P **P** 19 26 53.2 -1.0
comp=Z,315nm,0.9s,comp=Z,3μm
KHKI **Kahang-Kahang** 37.18 199 P **P** 19 26 55.3 +0.2
comp=Z,72nm,0.8s,comp=Z,1μm
MNSI **Mandailing Nat** 37.19 229 P **P** 19 26 53.9 -1.3
comp=Z,352nm,0.7s,comp=Z,3μm
BLJI **Banyuglugur** 37.22 202 P **P** 19 26 55.1 -0.3
comp=Z,248nm,0.8s,comp=Z,3μm
BYJI **Banyuwangi** 37.41 201 P **P** 19 26 57.4 +0.4
comp=Z,332nm,1.4s
NBBI **Negara** 37.48 200 P **P** 19 26 56.1 -1.5
comp=Z,246nm,1.3s,comp=Z,3μm
SMRI **Semarang** 37.74 207 P **P** 19 26 59.3 -0.6
GMJI **Gumukmas** 37.76 202 P **P** 19 26 59.3 -0.7
comp=Z,98nm,0.9s
DANN **Dangsing** 37.93 282 *e*P **P** 19 27 01.9 +0.2
comp=Z,392nm,0.7s
KRKI **Karangkates** 37.99 204 P **P** 19 26 59.3 -2.6
comp=Z,224nm,1.5s,comp=Z,8μm
PWJI **Pagerwojo** 38.10 205 P **P** 19 27 00.8 -2.0
comp=Z,217nm,0.9s,comp=Z,2μm
TGJI **Tegal** 38.13 209 P **P** 19 27 03.6 +0.5
comp=Z,151nm,1.5s,comp=Z,3μm
KOLN **Koldanda** 38.16 281 *e*P **P** 19 27 03.4 -0.2
comp=Z,321nm,0.9s
GSI **Gunungsitoli** 38.20 232 P **P** 19 27 04.6 +0.9
comp=Z,288nm,0.8s,comp=Z,4μm
BJII **Banjamegara** 38.30 208 P **P** 19 27 05.1 +0.5
comp=Z,134nm,1.9s,comp=Z,3μm
UGM **Wanagama** 38.49 207 P **P** 19 27 07.5 +1.3
comp=Z,386nm,1.5s
PYUN **Piuthan** 38.64 282 *e*P **P** 19 27 07.6 0.0
comp=Z,678nm,1.0s
TNG **Tangerang** 38.66 213 P **P** 19 27 07.5 -0.1
comp=Z,832nm,1.0s,comp=Z,15μm
TNG **Tangerang** 38.66 213 P **P** 19 27 08.1 +0.6
comp=Z,1μm,1.0s,comp=Z,23μm
BLSI **Bandar Lampung** 38.68 216 P **P** 19 27 07.7 0.0
comp=Z,322nm,0.9s,comp=Z,4μm
LEM **Lembang** 38.77 211 P **P** 19 27 08.1 -0.6
comp=Z,465nm,0.9s,comp=Z,4μm
CBJI **Citeko** 38.78 213 P **P** 19 27 10.0 +1.5
comp=Z,1μm,1.1s,comp=Z,11μm
SBJI **Serang** 38.87 214 P **P** 19 27 09.0 -0.3
comp=Z,672nm,1.3s,comp=Z,8μm
CLJI **Cilicap** 38.94 209 P **P** 19 27 08.7 -1.1
comp=Z,147nm,1.9s,comp=Z,2μm
DBJI **Dramaga** 38.95 213 P **P** 19 27 09.6 -0.3
comp=Z,702nm,1.3s,comp=Z,8μm
LWLI **Liwa** 39.02 218 P **P** 19 27 11.3 +0.6
comp=Z,414nm,0.9s,comp=Z,4μm
MNAI **Manna** 39.09 220 P **P** 19 27 10.9 -0.3
KASI **Kota Agung** 39.21 217 P **P** 19 27 10.5 -1.6
comp=Z,290nm,0.9s,comp=Z,2μm
SEY **Seymchan** 39.28 18⇑ *i*P **P** 19 27 11.9 -0.3
CISI **Cisompet, Garu** 39.33 211 P **P** 19 27 11.3 -1.8
SKJI **Sukabumi** 39.43 213 P P 19 27 17.3 +3.4
comp=Z,202nm,0.8s,comp=Z,2μm
CGJI **Cibinong** 39.52 214 P **P** 19 27 12.6 -2.0
comp=Z,160nm,1.2s,comp=Z,1μm
MK31 **Makanchi Array** 39.82 311 *e*P **P** 19 27 16.6 -0.3
MK31 *e* 19 29 20.1
MK31 **Makanchi Array** 39.82 311 *e*P **P** 19 27 16.6 -0.3
MK31 *e*PcP **PcP** 19 29 20.1 +0.3
MK31 *e*ScP **ScP** 19 32 54.1 -0.4
MKAR **Makanchi Array** 39.82 311 P **P** 19 27 16.2 -0.7
comp=Z,246nm,0.7s,baz=94,slow=11,SNR=579
MKAR pP **pP** 19 27 52.7 +2.6
comp=Z,28nm,0.8s,baz=163,slow=13,SNR=2.3
MKAR PcP **PcP** 19 29 20.8 +0.9
comp=Z,45nm,0.7s,baz=70,slow=4.1,SNR=7.1
MKAR ScP **ScP** 19 32 54.1 -0.4
comp=Z,69nm,0.9s,baz=101,slow=3.7,SNR=28
MKAR ScS **ScS** 19 37 06.7 -1.1
comp=Z,1.8nm,1.0s,baz=120,slow=7.2,SNR=3.6
MKAR **Makanchi Array** 39.82 311 P **P** 19 27 16.2 -0.7
MKAR *PP **pP** 19 27 52.7 +2.6
MKAR 19 29 20.8
MKAR 19 37 06.7
MKAR **Makanchi Array** 39.82 311 P **P** 19 27 16.2 -0.7
MKAR pP **pP** 19 27 52.7 +2.6
MKAR PcP **PcP** 19 29 20.8 +0.9
MKAR ScP **ScP** 19 32 54.1 -0.4
MKAR ScS **ScS** 19 37 06.7 -1.1
ZAA0 **Zalesovo Array** 40.55 323 *e*P **P** 19 27 21.5 -1.3
ZAA0 *e*PcP **PcP** 19 29 21.7 -0.3

ZALV **Zalesovo Beam** 40.55 323 P **P** 19 27 22.1 -0.7
comp=Z,125nm,0.4s,baz=108,slow=8.0,SNR=582
ZALV pP **pP** 19 27 58.1 +2.0
comp=Z,81nm,0.8s,baz=114,slow=8.1,SNR=4.1
ZALV PcP **PcP** 19 29 22.0 0.0
comp=Z,67nm,0.9s,baz=122,slow=4.2,SNR=9.8
ZALV ScP **ScP** 19 32 56.1 -1.1
comp=Z,16nm,0.8s,baz=119,slow=3.6,SNR=9.7
ZALV Zalesovo Beam 40.55 323 P **P** 19 27 22.1 -0.7
ZALV *PP **pP** 19 27 58.1 +2.0
ZALV 19 29 22.0
ZALV Zalesovo Beam 40.55 323 P **P** 19 27 22.1 -0.7
ZALV pP **pP** 19 27 58.1 +2.0
ZALV PcP **PcP** 19 29 22.0 0.0
ZALV ScP **ScP** 19 32 56.1 -1.1
LGTI Lohaghat 40.80 284 *ex* P 19 27 28.6 +3.5
LGTI *ex* x 19 29 25.4
PTH Pithoragarh 40.81 284 *ex* P 19 27 20.5 -5.0
PTH *ex* x 19 29 26.5
VIS Vishakhapatnam 41.13 266 *i* P **P** 19 27 28.6 +0.7
VIS *i* x x 19 29 43.7
PMG Port Moresby 41.56 149 P **P** 19 27 31.2 -0.2
comp=Z,58nm,0.7s,baz=351,slow=9.2,SNR=22
PMG Port Moresby 41.56 149 *eP* **P** 19 27 31.6 +0.2
comp=Z,66nm,0.8s
PMG Port Moresby 41.56 149 P **P** 19 27 31.9 +0.5
comp=Z,128nm,1.6s,comp=Z,2µm
DDI Dehra Dun 42.55 286⇑ *i* P **P** 19 27 37.6 -1.9
DDI *ex* x 19 33 06.0
FX1 Attu Island--F 42.60 40 *eP* **P** 19 27 40.1 +0.7
KWAJ Kwajalein Atol 42.70 108 *eP* **P** 19 27 39.9 -0.8
KWAJ pmax pmax
comp=Z,173nm,1.1s
KWAJ Kwajalein Atol 42.70 108 *eP* **P** 19 27 39.9 -0.8
comp=Z,173nm,1.1s
KURK Kurchatov 43.11 316 *eP* **P** 19 27 43.0 -0.5
KURK *e* 19 29 26.8
KURK 19 29 31.8
KURK pmax pmax
comp=Z,567nm,1.0s
KURK Kurchatov 43.11 316 *eP* **P** 19 27 43.0 -0.5
comp=Z,567nm,1.0s
KURK *ep*P **pP** 19 28 17.9 +0.7
KURK *e* 19 29 26.8
KURK PcP **PcP** 19 29 31.8 +1.2
KURK Kurchatov 43.11 316 P **P** 19 27 43.2 -0.3
SNR=191
KURK Kurchatov 43.11 316 P **P** 19 27 43.0 -0.5
comp=Z,3µm,1.0s
KURBB Kurchatov Arra 43.14 316 P **P** 19 27 44.2 +0.4
KURBB PcP **PcP** 19 29 31.8 +1.1
comp=Z,69nm,0.3s,baz=111,slow=10,SNR=3.3
SMLA Simla 43.19 287 *i* P **P** 19 27 45.2 +0.7
SMLA AMb AMB 19 27 46.4
comp=Z,1µm,0.8s
SDNR Sundarnagar 43.31 288 *eP* **P** 19 27 46.0 +0.5
SDNR *ex* x 19 29 32.0
ULHL Ulahol 43.46 304 P **P** 19 27 47.4 +0.6
SNR=24
ULHL Ulahol 43.46 304 P **ScP** 19 33 10.2 +0.7
SNR=15
NDI New Delhi 43.55 284 *ex* P 19 27 44.0 -3.4
NDI *ex* x 19 37 03.0
KSH Kashi 43.59 300⇓ *i* P P 19 27 51.5 +3.8
KSH pP pP 19 28 23.5 +2.0
KSH sP sP 19 28 39.0 +0.4
KSH PP **PcP** **19 29 35.0 +2.4**
KSH ScP **ScP** **19 33 12.5 +2.6**
KSH PcS **PcS** **19 33 27.5 +1.8**
KSH S **S** **19 34 09.8 +4.1**
KSH sS sS 19 35 06.3 +1.9
KSH ScS **ScS** **19 37 32.3 +1.0**
KSH pmax pmax
comp=Z,66nm,1.0s
KSH pmax pmax
comp=Z,1µm,4.0s
KSH LR LR
comp=N,1µm,11.2s
KSH LR LR
comp=E,990nm,11.3s
KSH LR LR
comp=Z,1µm,11.6s
NGP Nagpur 43.78 273 *eP* **P** 19 27 48.0 -1.4
comp=Z,111nm,1.0s
NGP *ex* x 19 29 32.6
TKM2 Tokmak 2 43.98 304 *eP* **P** 19 27 51.4 +0.5
TKM2 *e* 19 29 34.3
TKM2 pmax pmax
comp=Z,126nm,0.8s
TKM2 Tokmak 2 43.98 304 *eP* **P** 19 27 51.4 +0.5
comp=Z,126nm,0.8s
TKM2 *ep*P **pP** **19 28 26.5 +1.8**
TKM2 *e*PcP **PcP** **19 29 34.3 +0.4**
TKM2 Tokmak 2 43.98 304 P **P** 19 27 51.0 +0.1
SNR=257
TKM2 Tokmak 2 43.98 304 P **ScP** 19 33 13.1 +1.5
SNR=7.1
DLH Dalhousie 44.02 289 *eP* **P** 19 27 50.0 -1.4
DLH *ex* x 19 29 33.0
COEN Coen 44.07 157 *eP* **P** 19 27 52.0 +0.4
comp=Z,1µm,1.4s
KZA Kyzart 44.19 303 P **P** 19 27 54.2 +1.3
SNR=75
TIXI Tiksi 44.30 1 *d* *i* P **P** 19 27 50.1 -2.7
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 44.30 1 *eP* **P** 19 27 50.4 -2.3
comp=Z,23nm,0.6s
TIXI *e*PcP **PcP** **19 29 32.2 -2.0**
TIXI *e*ScP **ScP** **19 33 10.4 -1.5**
KBK Karagaybulak 44.44 304 P **P** 19 27 55.5 +0.9
SNR=47
KBK Karagaybulak 44.44 304 P **ScP** 19 33 13.7 +0.4
SNR=8.1
CHMS Chumysh 44.60 304 P **P** 19 27 56.3 +0.6
SNR=71
CHMS Chumysh 44.60 304 P **ScP** 19 33 14.2 +0.3
SNR=15
FRU Bishkek 44.69 304⇓ *i* P **P** 19 27 55.6 -0.8
FRU *e* 19 29 34.0
FRU *e* 19 34 28.4
FRU pmax pmax
comp=Z,530nm,2.5s
FRU pmax pmax
comp=Z,1µm,4.0s
UCH Uchtor 44.74 303 P **P** 19 27 58.8 +1.5
SNR=40
UCH Uchtor 44.74 303 P **ScP** 19 33 17.4 +2.4
SNR=9.5
AAK Ala-Archa 44.77 304 P **P** 19 27 57.7 +0.5
comp=Z,19nm,0.4s,baz=102,slow=5.4,SNR=107
AAK pP **pP** 19 28 32.9 +1.8
comp=Z,17nm,0.8s,baz=276,slow=1.4,SNR=3.2
AAK PcP **PcP** **19 29 37.6 +1.0**
comp=Z,46nm,0.8s,baz=133,slow=2.6,SNR=8.0
AAK ScP **ScP** **19 33 15.2 +0.5**
comp=Z,35nm,1.0s,baz=138,slow=2.0,SNR=11
AAK PKP2ab 20 00 35.1
comp=Z,0.2nm,0.3s,baz=243,slow=5.5,SNR=4.3
AAK Ala-Archa 44.77 304 *eP* **P** **19 27 57.4 +0.2**
AAK *PP **pP** **19 28 32.9 +1.8**
AAK *e* 19 29 37.4
AAK 19 29 37.6
AAK pmax pmax
comp=Z,92nm,0.4s
AAK Ala-Archa 44.77 304 *eP* **P** 19 27 57.4 +0.2
comp=Z,92nm,0.4s
AAK pP **pP** **19 28 32.9 +1.8**
AAK *e*PcP **PcP** **19 29 37.4 +0.7**
AAK PcP **PcP** **19 29 37.6 +1.0**
AAK *e*ScP **ScP** **19 33 14.6 -0.1**
AAK ScP ScP 19 33 15.2 +0.5
AAK P'P'ab P'P'ab 20 00 35.1 -6.5
AAK Ala-Archa 44.77 304 P **P** 19 27 58.1 +0.9
SNR=14
AAK Ala-Archa 44.77 304 P **ScP** 19 33 14.9 +0.2
SNR=8.2
AAK Ala-Archa 44.77 304 P **P** 19 27 57.0 -0.2
comp=Z,282nm,0.6s,SNR=37
USP Ospenovka 44.80 305 P **P** 19 27 57.5 +0.2
SNR=51
USP Ospenovka 44.80 305 P **ScP** 19 33 11.8 -2.9
SNR=13
FITZ Fitzroy Crossi 45.25 182 P **P** 19 28 00.9 0.0
comp=Z,81nm,0.7s,baz=11,slow=7.1,SNR=196
FITZ pP **pP** **19 28 35.6 +0.8**
comp=Z,40nm,1.0s,baz=14,slow=8.9,SNR=2.9
FITZ PcP **PcP** **19 29 38.6 +0.4**
comp=Z,15nm,0.8s,baz=39,slow=12,SNR=2.3
FITZ ScP **ScP** **19 33 17.2 +0.6**
comp=Z,10nm,1.1s,baz=13,slow=5.3,SNR=4.5
FITZ Fitzroy Crossi 45.25 182 *eP* **P** 19 28 00.6 -0.3
comp=Z,79nm,0.7s
FITZ *ep*P **pP** **19 28 35.2 +0.3**
FITZ pP **pP** **19 28 35.6 +0.8**
FITZ PcP **PcP** **19 29 38.6 +0.4**
FITZ ScP **ScP** **19 33 17.2 +0.6**
EKS2 Erkin-Say 45.30 304 *eP* **P** 19 28 01.3 0.0
EKS2 pmax pmax
comp=Z,49nm,1.1s
EKS2 Erkin-Say 45.30 304 *eP* **P** 19 28 01.3 0.0
comp=Z,49nm,1.1s
EKS2 Erkin-Say 45.30 304 P **P** 19 28 01.6 +0.3
SNR=50
EKS2 Erkin-Say 45.30 304 P **ScP** 19 33 17.6 +0.7
SNR=14
AML Almayashu 45.35 303 P **P** 19 28 04.3 +2.3
SNR=9.6
AML Almayashu 45.35 303 P **ScP** 19 33 18.4 +0.9
SNR=22
HYB Hyderabad 45.48 268 *i* P **P** 19 28 01.0 -1.9
HYB *ep*P **pP** **19 28 38.0 +1.1**
HYB *e*PcP **PcP** **19 29 38.0 -1.3**
HYB *e*S **S** **19 34 32.0 -1.3**
AKL Akola 45.73 273 *eP* **P** 19 28 05.0 +0.2
AKL AMb AMB 19 28 09.3
comp=Z,164nm,1.2s
AKL *i* x x 19 33 34.4
AJM Ajmer 46.24 281 *i* P **P** 19 28 07.0 -1.8
AJM *i* x x 19 29 43.0
BILL Bilibino 46.97 19⇑ *eP* **P** 19 28 13.7 -0.1
BILL *i* 19 29 45.1
BILL *i* S **S** 19 34 50.2 -3.0
BILL *i* 19 37 51.2
BILL pmax pmax
comp=Z,13nm,1.2s
WRAB Tennant Creek 47.62 170 *eP* **P** 19 28 18.9 -0.5
WRAB *e**PP **pP** 19 28 54.7 +1.1
WRAB pmax pmax
comp=Z,75nm,1.0s
WRAB Tennant Creek 47.62 170 *eP* **P** 19 28 18.9 -0.5
comp=Z,75nm,1.0s
WRAB *ep*P **pP** **19 28 54.7 +1.1**
WRAB Tennant Creek 47.62 170 P **P** 19 28 19.5 +0.2
comp=Z,173nm,1.1s,SNR=12
WRA Warramunga Arr 47.63 170 P **P** 19 28 18.0 -1.4
comp=Z,12nm,0.4s,baz=353,slow=8.5,SNR=81
WRA pP **pP** **19 28 55.4 +1.7**
comp=Z,46nm,0.8s,baz=348,slow=8.4,SNR=8.6
WRA ScP **ScP** **19 33 25.7 -0.9**
comp=Z,14nm,1.1s,baz=348,slow=4.2,SNR=11
WRA ScS **ScS** **19 37 55.3 -2.1**
comp=Z,3.3nm,1.3s,baz=325,slow=4.6,SNR=4.9
WRA LR LR 19 47 39.8
comp=Z,1µm,19.6s,baz=295,slow=35
WRA PKPPKP **P'P'df** **19 59 31.5 +2.9**
comp=Z,1.3nm,1.0s,baz=242,slow=2.0,SNR=4.0
WRA PKP2ab 20 00 25.7
comp=Z,1.2nm,0.8s,baz=180,slow=3.3,SNR=5.3
WRA P4KPbc 20 05 59.6
comp=Z,0.4nm,0.5s,baz=355,slow=5.2,SNR=10
WRA Warramunga Arr 47.63 170 P **P** 19 28 18.0 -1.4
WRA pP **pP** **19 28 55.4 +1.7**
WRA ScP **ScP** **19 33 25.7 -0.9**
WRA ScS **ScS** **19 37 55.3 -2.1**
WRA P'P' 19 59 31.5
WRA P'P'ab **P'P'ab** **20 00 25.7 +0.9**
WRA *e* 20 05 59.6
KK31 Karatay Array 47.71 305 *ceP* **P** 19 28 19.8 -0.1
KK31 pmax pmax
comp=Z,316nm,1.6s
KKAR Karatay Array 47.71 305 *eP* **P** 19 28 20.0 +0.1
KKAR *e* 19 29 47.5
KKAR pmax pmax
comp=Z,36nm,0.6s
KKAR Karatay Array 47.71 305 *eP* **P** 19 28 20.0 +0.1
comp=Z,36nm,0.6s
KKAR *e*PcP **PcP** **19 29 47.5 +0.7**
KKAR *e*ScP **ScP** **19 33 26.6 -0.2**
BVA0 Borovoye Array 48.56 318 P **P** 19 28 26.2 -0.1
BVA0 pmax pmax
comp=Z,52nm,1.2s
BVAR Borovoye Array 48.56 318 P **P** 19 28 26.0 -0.3
comp=Z,123nm,0.8s,baz=100,slow=8.3,SNR=299
BVAR PcP **PcP** **19 29 49.9 +0.3**
comp=Z,49nm,0.7s,baz=112,slow=3.2,SNR=9.0
BVAR ScP **ScP** **19 33 30.6 +0.4**
comp=Z,6.4nm,0.7s,baz=113,slow=3.4,SNR=5.2
BVAR ScS **ScS** **19 38 00.5 -2.5**
comp=Z,2.9nm,1.0s,baz=111,slow=6.7,SNR=4.1
BVAR Borovoye Array 48.56 318 P **P** 19 28 26.0 -0.3
BVAR 19 29 49.9
BVAR 19 38 00.5
BVAR Borovoye Array 48.56 318 P **P** 19 28 26.0 -0.3
BVAR PcP **PcP** **19 29 49.9 +0.3**
BVAR ScP **ScP** **19 33 30.6 +0.4**
BVAR ScS **ScS** **19 38 00.5 -2.5**
BRVK Borovoye 48.63 318 *d* *i* P **P** 19 28 26.5 -0.3
BRVK pmax pmax
comp=Z,368nm,1.0s
BRVK Borovoye 48.63 318 *eP* **P** 19 28 26.2 -0.6
comp=Z,464nm,1.0s
BRVK Borovoye 48.63 318 P **P** 19 28 26.7 -0.1
SNR=133
BRVK Borovoye 48.63 318 P **P** 19 28 27.3 +0.5
comp=Z,2µm,1.0s
HNR Honiara 48.69 134 P **P** 19 28 26.8 -0.9
comp=Z,40nm,0.6s,baz=193,slow=5.0,SNR=4.3
HNR LR LR 19 48 19.0
comp=Z,948nm,18.9s,baz=195,slow=35
HNR Honiara 48.69 134 P **P** 19 28 26.8 -0.9
MBWA Marble Bar 48.76 189 *eP* **P** 19 28 27.8 -0.3
comp=Z,46nm,1.2s
MBWA *ep*P **pP** **19 29 03.4 +0.9**
MBWA *e*PcP **PcP** **19 29 50.3 -0.4**
MIDW Midway 48.99 75 *eP* **P** 19 28 30.5 +0.7
comp=Z,661nm,1.4s
POO Poona 49.27 271⇓ *i* P **P** 19 28 29.0 -3.2
KAD Karad 49.40 270 *i* P **P** 19 28 33.3 +0.1
KBL Kabul 49.48 293 *eP* **P** 19 28 34.0 +0.1
KBL *e**PP **pP** 19 29 10.0 +1.7
KBL *e* 19 29 54.1
KBL pmax pmax
comp=Z,67nm,0.8s
KBL Kabul 49.48 293 *eP* **P** 19 28 34.0 +0.1
comp=Z,67nm,0.8s
KBL *ep*P **pP** **19 29 10.0 +1.7**
KBL *e*PcP **PcP** **19 29 54.1 +0.5**
KBL *e*ScP **ScP** **19 33 35.3 +0.5**
CTA Charters Tower 50.82 156 P **P** 19 28 43.8 +0.1
comp=Z,24nm,0.8s,baz=336,slow=9.3,SNR=18
CTA pP **pP** **19 29 19.9 +1.5**
comp=Z,45nm,1.0s,baz=333,slow=8.8,SNR=6.6
CTA Charters Tower 50.82 156 P **P** 19 28 43.8 +0.1
CTA pP **pP** **19 29 19.9 +1.5**
CTAO Charters Tower 50.82 156 *eP* **P** 19 28 44.0 +0.3
CTAO *e**PP **pP** 19 29 19.7 +1.3
CTAO pmax pmax
comp=Z,138nm,1.4s
CTAO Charters Tower 50.82 156 *eP* **P** 19 28 44.0 +0.3
comp=Z,138nm,1.4s
CTAO *ep*P **pP** **19 29 19.7 +1.3**
TARA Tarawa 51.17 112 *eP* **P** 19 28 46.4 -0.1
comp=Z,634nm,1.3s
AS31 Alice Springs 51.23 172 *eP* **P** 19 28 46.8 +0.1
ASAR Alice Springs 51.23 172 P **P** 19 28 46.8 0.0
comp=Z,18nm,0.5s,baz=358,slow=11,SNR=224
ASAR pP **pP** **19 29 23.4 +1.9**
comp=Z,18nm,0.8s,baz=355,slow=8.3,SNR=4.7
ASAR PcP **PcP** **19 30 00.6 +0.8**
comp=Z,26nm,0.8s,baz=354,slow=4.6,SNR=8.6
ASAR pPcP 19 30 40.6
comp=Z,15nm,0.9s,baz=1.5,slow=4.2,SNR=4.3
ASAR ScP **ScP** **19 33 41.4 -0.6**
comp=Z,6.4nm,0.9s,baz=356,slow=4.6,SNR=6.0
ASAR ScS **ScS** **19 38 22.6 +0.8**
comp=Z,2.8nm,1.1s,baz=331,slow=3.7,SNR=4.2
ASAR PKPPKP **P'P'df** **19 59 28.2 +4.6**
comp=Z,1.9nm,0.8s,baz=131,slow=1.8,SNR=7.3
ASAR PKP2bc 19 59 44.0
comp=Z,1.6nm,0.8s,baz=179,slow=1.5,SNR=5.7
ASAR PKP2ab 20 00 12.1
comp=Z,1.4nm,1.0s,baz=179,slow=5.7,SNR=4.2
ASAR P4KPbc 20 06 15.7
comp=Z,2.5nm,0.7s,baz=356,slow=4.7,SNR=43
ASAR Alice Springs 51.23 172 P **P** **19 28 46.8 0.0**
ASAR pP **pP** **19 29 23.4 +1.9**
ASAR PcP **PcP** **19 30 00.6 +0.8**
ASAR pPcP 19 30 40.6
ASAR ScP **ScP** **19 33 41.4 -0.6**
ASAR ScS **ScS** **19 38 22.6 +0.8**
ASAR P'P' 19 59 28.2
ASAR ⇑*e* 19 59 44.0
ASAR P'P'ab **P'P'ab** **20 00 12.1 +2.7**
ASAR *e* 20 06 15.7
GAMB Gambell 53.22 29 *eP* **P** **19 29 01.2 +0.4**
comp=Z,84nm,1.4s
GAMB *e* 19 29 13.8
GAMB *e*PcP **PcP** **19 30 07.8 +1.1**
GAMB *e*ScP **ScP** **19 33 49.7 -0.3**
SVE Sverdlovsk 54.57 322 *c* *i* P **P** **19 29 10.8 0.0**
SVE *e* 19 31 23.6
SVE *e* 19 38 45.8
SVE pmax pmax
comp=Z,284nm,1.2s
ABKAR Akbulak array 54.93 313 *eP* **P** **19 29 13.1 -0.5**
comp=Z,56nm,0.5s
ABKAR *ep*P **pP** **19 29 49.7 +1.0**
TNA Tin City 55.17 27 *eP* **P** **19 29 16.7 +1.8**
comp=Z,90nm,1.3s
ARU Arti 55.70 321 *d* *i* P **P** **19 29 18.2 -0.7**
ARU *PP pP 19 29 48.9 -5.2
ARU 19 30 15.7
ARU *e* 19 31 23.7
ARU PPP PPP 19 32 41.4
ARU S **S** **19 36 54.7 +1.5**
ARU 19 38 47.8
ARU SS **SS** **19 40 45.4 +5.1**
ARU pmax pmax
comp=Z,265nm,1.2s
ARU Arti 55.70 321 *eP* **P** **19 29 17.4 -1.4**
comp=Z,200nm,1.1s
ARU Arti 55.70 321 P **P** **19 29 18.5 -0.4**
comp=Z,866nm,0.8s,SNR=68
IMYA Miami 56.37 297 *eP* **P** **19 29 25.1 +0.8**
SOKR Solikamsk 56.73 325 *d* *i* P **P** **19 29 25.9 -0.2**
SOKR pmax pmax
comp=Z,200nm,1.1s
SOKR MLR MLR
comp=Z,970nm,18.0s
ISRO Mashad 56.88 297 *eP* **P** **19 29 27.1 -0.7**
IMOG Moghan 57.02 297 *eP* **P** **19 29 30.1 +1.1**
IPAY Payeh 57.23 297 *eP* **P** **19 29 30.6 +0.3**
IDAH Dahanechah 57.34 293 *eP* **P** **19 29 31.6 +0.4**
IAKL Akhelmad 57.38 298 *eP* **P** **19 29 31.4 -0.1**
IMON Monand 57.39 293 *eP* **P** **19 29 31.9 +0.3**
EIDS Eidsvold 57.44 154 *eP* **P** **19 29 31.0 -0.5**
comp=Z,105nm,1.5s
IKRD Kardeh 57.54 298 *eP* P 19 29 28.6 -3.9
ABKT Ailbek 57.62 299 P **P** **19 29 33.2 +0.4**
comp=Z,553nm,1.0s,SNR=34
FORT Forrest 57.87 179 *eP* **P** **19 29 34.9 +0.5**
comp=Z,94nm,1.1s
ISFR Sfrayin 57.88 298 *eP* **P** **19 29 35.4 +0.4**
KAAM Kaadhehdhoo 58.09 252 P **P** **19 29 37.0 +0.7**
comp=Z,628nm,1.2s,comp=Z,7µm
IKOO Kooshah 58.12 293 *eP* **P** **19 29 36.1 -0.6**
ITEG Tejag 58.21 293 *eP* **P** **19 29 36.9 -0.3**
BBOO Buckleboo 60.52 171 *eP* **P** **19 29 52.4 -0.2**
comp=Z,1µm,1.4s
STKA Stephens Creek 60.61 166 P **P** **19 29 53.2 0.0**
comp=Z,20nm,0.4s,baz=343,slow=6.4,SNR=143
STKA pP **pP** **19 30 29.7 +0.7**
comp=Z,39nm,1.0s,baz=344,slow=6.7,SNR=5.1
STKA ScP **ScP** **19 34 23.5 +0.6**
comp=Z,4.0nm,0.9s,baz=13,slow=14,SNR=2.3
STKA LR LR 19 54 18.8
comp=Z,1µm,20.0s,baz=237,slow=34
STKA PKP2bc 19 59 22.6
comp=Z,7.0nm,1.0s,baz=317,slow=1.3,SNR=4.2
STKA Stephens Creek 60.61 166 *eP* **P** **19 29 53.1 -0.1**
comp=Z,4.7nm,0.5s
STKA *ep*P **pP** **19 30 28.1 -1.0**
STKA pP **pP** **19 30 29.7 +0.7**
STKA ScP **ScP** **19 34 23.5 +0.6**
STKA ⇑*e* 19 59 22.6
NWAO Narrogin (SRO) 60.69 189 P **P** **19 29 54.2 +0.5**
comp=Z,180nm,0.7s,baz=15,slow=7.3,SNR=113
NWAO Narrogin (SRO) 60.69 189 *eP* **P** **19 29 54.0 +0.3**
comp=Z,174nm,0.8s
NWAO Narrogin (SRO) 60.69 189 P **P** **19 29 55.1 +1.4**
SNR=14
WBK Wadi Bani Khal 61.01 282 P **P** **19 29 57.6 +1.3**
SNR=5.8
IBAF Bafgh 61.15 293 *eP* **P** **19 29 55.2 -2.1**
IKIA Kiasar 61.46 298 *eP* **P** **19 30 00.4 +1.0**
IANJ Anjilo 61.46 297 *eP* **P** **19 29 58.4 -1.0**
IBND Bandar-abas 61.55 288 *eP* **P** **19 29 58.3 -1.5**
SMDO Samad 61.66 283 P **P** **19 30 01.5 +0.8**
SNR=9.2
JMDO Jabal Madar 61.84 282 P **P** **19 30 02.4 +0.5**
SNR=7.9
ISHM Shahmirzad 61.87 298 *eP* **P** **19 30 02.3 +0.1**
ICHK Chekchek 61.92 294 *eP* **P** **19 30 00.8 -1.8**
IMEH Mehriz 61.99 293 *eP* **P** **19 30 00.6 -2.5**
HOQ Hoqain 62.12 284 P **P** **19 30 04.3 +0.6**
SNR=12
IALA Alasht 62.17 298 *eP* **P** **19 30 03.8 -0.5**
ARMA Armidale 62.19 156 *eP* **P** **19 30 04.7 +0.6**
comp=Z,28nm,0.6s
ILAS Lasjerd 62.24 297 *eP* **P** **19 30 04.2 -0.4**
KDAK Kodiak Island 62.33 37 *eP* **P** **19 30 04.3 -0.1**
comp=Z,198nm,0.8s
KDAK Kodiak Island 62.33 37 P **P** **19 30 05.3 +0.8**
comp=Z,2µm,0.8s,SNR=10
IFIR Firoozkooh 62.33 298 *eP* **P** **19 30 05.7 +0.4**
DZM Mont Dzumac 62.34 138 P **P** **19 30 05.8 +0.7**
comp=Z,41nm,0.5s,baz=264,slow=6.8,SNR=114
DZM pP **PcP** **19 30 42.9 -0.5**
comp=Z,34nm,1.1s,baz=268,slow=18,SNR=3.4
DZM LR LR 19 52 01.4
comp=Z,993nm,21.5s,baz=323,slow=31
DZM PKP2ab 19 59 21.1
comp=Z,14nm,1.1s,baz=139,slow=8.1,SNR=3.2
DZM Mont Dzumac 62.34 138 *eS* **S** **19 38 21.6 +1.8**
comp=Z,1µm,25.8s
DZM *e*LQ LQ 19 46 04.9
comp=Z,2µm,28.9s
DZM *e*LR LR 19 48 56.9
comp=Z,1µm,23.4s
DZM Mont Dzumac 62.34 138 *eP* **P** **19 30 05.2 0.0**
DZM Mont Dzumac 62.34 138 P **P** **19 30 05.8 +0.7**
DZM pP **PcP** **19 30 42.9 -0.5**
DZM P'P'ab **P'P'ab** **19 59 21.1 -3.5**
COLD Coldfoot 62.35 26 *eP* **P** **19 30 05.4 +0.9**
comp=Z,52nm,1.2s
BSY Bisya 62.50 283 P **P** **19 30 07.1 +0.8**
SNR=8.2
IPRN Peran 62.50 299 *eP* **P** **19 30 06.4 +0.2**
TRF Thorofare Moun 62.71 30 *eP* **P** **19 30 06.8 -0.4**
comp=Z,44nm,1.0s
HATD Hatta, Dubai 62.72 285 P **P** **19 30 08.1 +0.4**
SNR=6.9
ASHO Ashiyiah 62.83 285 P **P** **19 30 09.1 +0.6**
SNR=9.6
ARQ Araqi 62.88 284 P **P** **19 30 09.1 +0.2**
SNR=11
IDMV Damavand 62.92 298 *eP* **P** **19 30 07.9 -1.3**
DGAR Diego Garcia 62.94 245 *d* *i* P **P** **19 30 08.7 -0.5**
DGAR Diego Garcia 62.94 245 *eP* **P** **19 30 08.7 -0.5**
comp=Z,302nm,0.9s
DGAR Diego Garcia 62.94 245 P **P** **19 30 10.0 +0.8**
SNR=8.6
DGAR Diego Garcia 62.94 245 P **P** **19 30 09.8 +0.6**
comp=Z,2µm,0.7s,SNR=6.2
NAZ Nazwa, Dubai 63.07 286 P **P** **19 30 10.9 +0.9**
SNR=7.3
ISFB Sefidab 63.08 297 *eP* **P** **19 30 07.5 -2.6**
IVRN Varamin 63.31 297 *eP* **P** **19 30 10.0 -1.6**
IVRN *eP* **P** **19 30 09.7 -1.9**
IZEF Zefreh 63.42 295 *eP* **P** **19 30 11.3 -1.2**
PMR Palmer 63.50 32 *eP* **P** **19 30 12.4 +0.2**
PMR pmax pmax
comp=Z,259nm,1.5s

PMR Palmer 63.50 32 eP P 19 30 12.4 +0.2
comp=Z,259nm,1.5s
COLA College 63.58 28 eP P 19 30 13.3 +0.7
COLA pmax pmax
comp=Z,55nm,0.8s
COLA College 63.58 28 eP P 19 30 13.3 +0.7
comp=Z,55nm,0.8s
SEW Seward 63.58 34 eP P 19 30 12.7 0.0
comp=Z,204nm,1.0s
IR3 Iran Long-Peri 63.73 298 eP P 19 30 13.6 -0.7
IGAR Gharneh 63.80 295 eP P 19 30 14.6 -0.3
ISRV Sarvestan 63.82 291 eP P 19 30 15.0 -0.3
SML Sawmill 63.84 32 eP P 19 30 14.2 -0.3
SML pmax pmax
comp=Z,17nm,0.8s
SML Sawmill 63.84 32 eP P 19 30 14.2 -0.3
comp=Z,17nm,0.8s
IKLH Kolahrood 63.90 296 eP P 19 30 15.2 -0.5
ILAR Eielson Array 64.00 28 P P 19 30 14.4 -1.1
comp=Z,15nm,0.7s,baz=272,slow=3.9,SNR=126
ILAR PKPPKP P'P'df 19 59 05.2 -2.6
comp=Z,4.8nm,1.0s,baz=97,slow=1.5,SNR=15
ILAR PKP2bc 19 59 12.8
comp=Z,5.7nm,1.0s,baz=127,slow=2.8,SNR=10.0
ILAR Eielson Array 64.00 28 P P 19 30 14.4 -1.1
ILAR P'P' 19 59 05.2
ILAR ⇑e 19 59 12.8
IR5 Iran Long-Peri 64.16 298 eP P 19 30 16.3 -0.9
MAK Makhachkala 64.42 307 eP P 19 30 16.9 -1.6
MAK e*PP PcP 19 30 49.5 -2.1
MAK eS S 19 38 52.1 +7.2
MAK i 19 39 25.1
MAK e 19 39 56.1
MAK pmax pmax
comp=Z,40nm,0.6s
MAK MLR MLR
comp=Z,983nm,16.0s
IRAZ Razeghan 64.61 298 eP P 19 30 18.5 -1.7
IPIR Pirpir 64.64 295 eP P 19 30 21.4 +0.9
PAX Paxson 64.94 30 eP P 19 30 21.4 -0.3
PAX pmax pmax
comp=Z,97nm,1.0s
PAX Paxson 64.94 30 eP P 19 30 21.4 -0.3
comp=Z,97nm,1.0s
DIV Divide 65.18 32 eP P 19 30 23.3 +0.1
comp=Z,198nm,0.9s
TMCR Tamitsa 65.18 331 eP P 19 30 21.4 -1.6
TMCR pmax pmax
comp=Z,184nm,1.1s
KLMR Klimovskoe 65.19 327 eP P 19 30 20.1 -3.0
KLMR e*PP PcP 19 30 53.0 -1.4
KLMR e 19 32 46.5
KLMR pmax pmax
comp=Z,172nm,1.6s
DOT Dot Lake 65.43 29 eP P 19 30 23.9 -0.8
comp=Z,45nm,0.8s
ISRB Sarab 65.67 301 eP P 19 30 26.6 -0.4
LVZ Lovozero 65.73 335 eP P 19 30 25.7 -0.9
LVZ pmax pmax
comp=Z,24nm,1.2s
MENT Mentasta 65.73 30 eP P 19 30 27.1 +0.4
BMRM Bremner River 65.77 32 eP P 19 30 26.9 -0.1
comp=Z,143nm,1.0s
IHRS Heris 66.00 302 eP P 19 30 28.4 -0.7
IBST Bostanabad 66.29 301 eP P 19 30 29.4 -1.6
DGRG David-gareji 66.34 306 P P 19 30 31.5 +0.5
EGAK Eagle 66.41 28 eP P 19 30 30.6 -0.3
comp=Z,68nm,0.8s
IFTB Fath-abad 66.58 302 eP P 19 30 32.6 -0.2
ITBZ Tabriz 66.70 302 eP P 19 30 32.1 -1.4
TBLG Delisi 66.72 306 P P 19 30 33.3 -0.1
TBLG Delisi 66.72 306 P P 19 30 33.3 -0.1
IKOM Komasi 66.88 298 eP P 19 30 32.3 -2.4
IMRD Marand 66.89 303 eP P 19 30 34.3 -0.4
MSVF Nonsavu 66.92 126 eP P 19 30 36.2 +1.3
MSVF pmax pmax
comp=Z,201nm,1.3s
MSVF Nonsavu 66.92 126 eP P 19 30 36.2 +1.3
comp=Z,201nm,1.3s
MSVF Nonsavu 66.92 126 P P 19 30 36.0 +1.1
comp=Z,586nm,0.8s,SNR=12
IAZR Azarshahr 66.99 302 eP P 19 30 34.8 -0.6
ZEI Tsey 67.02 307 eP P 19 30 34.9 -0.6
ZEI pmax pmax
comp=Z,129nm,1.4s
RBK Rabkut 67.03 278 P P 19 30 35.3 -0.4
SNR=7.8
KZR Kazreti 67.05 306 P P 19 30 35.9 +0.4
ILIN Lien 67.08 299 eP P 19 30 35.2 -0.8
GOR Gori 67.10 307 P P 19 30 36.3 +0.5
GNI Garni 67.18 305 eP P 19 30 36.8 +0.3
comp=Z,220nm,1.5s
GNI Garni 67.18 305 P P 19 30 37.7 +1.3
SNR=26
IVIS Veis 67.29 298 eP P 19 30 35.6 -1.6
DAWY Dawson 67.33 28 eP P 19 30 36.9 0.0
ONI Oni 67.39 307 P P 19 30 37.8 +0.1
KBZ Khabaz 67.45 309 P P 19 30 37.6 -0.2
comp=Z,55nm,0.8s,baz=78,slow=4.9,SNR=71
KBZ pP pP 19 31 18.0 +3.7
comp=Z,55nm,0.8s,baz=59,slow=6.1,SNR=4.1
KBZ LR LR 20 03 29.2
comp=Z,678nm,21.1s,baz=255,slow=39
KBZ Khabaz 67.45 309 P P 19 30 37.6 -0.2
KBZ *PP pP 19 31 18.0 +3.7
KBZ Khabaz 67.45 309 P P 19 30 37.6 -0.2
KBZ pP pP 19 31 18.0 +3.7
KIV Kislovodsk 67.53 309d iP P 19 30 38.9 +0.4
KIV ePPP PPP 19 34 54.4
KIV eS S 19 39 26.6 +3.7
KIV pmax pmax
comp=Z,260nm,1.1s
KIV pmax pmax
comp=Z,270nm,3.2s
KIV MLR MLR
comp=Z,502nm,18.0s
KIV Kislovodsk 67.53 309 eP P 19 30 38.6 +0.1
comp=Z,592nm,1.5s
KIV Kislovodsk 67.53 309 P P 19 30 38.8 +0.3
SNR=76
KIV Kislovodsk 67.53 309 P P 19 30 38.6 +0.1
comp=Z,1μm,1.2s,SNR=44
IGHG Ghaleghazi 67.57 298 eP P 19 30 38.0 -1.1
IDHR Dehrash 67.60 298 eP P 19 30 38.4 -0.8
AKH Akhalkalaki 67.71 306 P P 19 30 40.1 +0.3
VORD Divnogorie 67.73 317 eP P 19 30 38.1 -1.4
VORD pmax pmax
comp=N,9.0nm,1.1s
VORD pmax pmax
comp=E,20nm,1.1s
VORD pmax pmax
comp=Z,40nm,1.1s
VORD pmax pmax
comp=N,30nm,1.3s
VORD pmax pmax
comp=E,30nm,1.3s
VORD pmax pmax
comp=Z,40nm,1.3s
VSR Storozhevoye 67.74 317 eP P 19 30 38.5 -1.1
VSR eS S 19 39 21.5 -3.4
KBS Kingsbay 67.86 349 eP P 19 30 40.6 +0.7
ABTO Aybut 67.88 279 P P 19 30 41.0 0.0
SNR=12
KEV Kevo 67.89 338 eP P 19 30 37.7 -2.4
KEV pmax pmax
comp=Z,18nm,0.8s
KEV Kevo 67.89 338 ep P 19 30 37.7 -2.4
comp=Z,18nm,0.8s
OBN Obninsk 68.13 322k iP P 19 30 41.0 -0.9
OBN e 19 31 06.5
OBN 19 33 10.0
OBN eS S 19 39 31.4 +2.0
OBN i 19 40 20.5
OBN pmax pmax
comp=Z,86nm,1.7s
OBN MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 68.13 322 eP P 19 30 41.2 -0.7
comp=Z,353nm,1.5s
OBN Obninsk 68.13 322 P P 19 30 41.0 -0.9
comp=Z,604nm,0.6s,SNR=5.8
INK Inuvik 68.31 23 P P 19 30 43.3 +0.5
comp=Z,115nm,1.0s,baz=293,slow=7.4,SNR=193
INK PKPPKP P'P'df 19 58 54.1 -6.2
comp=Z,2.0nm,0.9s,baz=160,slow=3.5,SNR=3.4
INK LR 20 02 07.5
comp=Z,357nm,21.4s,baz=124,slow=37
INK Inuvik 68.31 23 eP P 19 30 42.7 -0.1
comp=Z,249nm,1.3s
INK P'P' 19 58 54.1
JOF Joensuu 68.41 331 eP P 19 30 41.7 -1.8
JOF pmax pmax
comp=Z,35nm,0.8s
JOF Joensuu 68.41 331 ep P 19 30 41.7 -1.8
comp=Z,35nm,0.8s
ARCES ARCESS Array B 68.46 338 P P 19 30 42.3 -1.4
comp=Z,35nm,1.1s,baz=65,slow=6.3,SNR=76
ARCES PcP PcP 19 31 06.7 -1.3
comp=Z,15nm,0.6s,baz=82,slow=6.5,SNR=22
ARCES ScP 19 34 57.6
comp=Z,11nm,0.8s,baz=64,slow=5.5,SNR=6.7
ARCES ARCESS Array B 68.46 338 P P 19 30 42.3 -1.4
ARCES PcP PcP 19 31 06.7 -1.3
ARCES ScP 19 34 57.6
PNL Peninsula 68.61 33 eP P 19 30 46.1 +1.3
comp=Z,67nm,0.8s
HAKT HAKKARI 68.74 302 iP P 19 30 45.9 -0.4
ARTV Artvin 68.90 306 iP P 19 30 47.5 +0.2
DAGI Agillar 68.94 306 iP P 19 30 47.8 +0.4
DBOC Borcka 69.03 307 iP P 19 30 47.2 -0.6
BHD Baghdad 69.64 298 iP P 19 30 45.8 -5.8
BHD i PcP PcP 19 31 10.9 -2.7
BHD i pP pP 19 31 29.9 +1.5
BHD i sP sP 19 31 42.0 -2.7
BHD i S S 19 39 39.0 -8.9
SOC Sochi 69.69 309d iP P 19 30 51.3 -0.5
SOC e 19 31 12.1
SOC e*PP pP 19 31 30.1 +1.6
SOC eS S 19 39 52.7 +4.5
SOC pmax pmax
comp=Z,101nm,0.6s
SOC pmax pmax
comp=Z,843nm,1.9s
ERZM Erzurum 69.71 305 iP P 19 30 47.4 -5.0
PUL Pulkovo 69.89 328 ⇓iP P 19 30 52.4 -0.2
PUL pmax pmax
comp=Z,141nm,1.0s
ALE Alert 70.21 1 P P 19 30 54.3 0.0
comp=Z,168nm,1.0s,SNR=21
KOPT Kop Dagi 70.31 306 iP P 19 30 56.5 +0.5
SKAG Skagway 70.63 32 eP P 19 30 58.7 +1.5
comp=Z,148nm,0.9s
ANN Anapa 70.84 311 eP P 19 30 56.6 -2.1
ANN e*PP pP 19 31 36.8 +1.3
ANN eS S 19 40 03.6 +2.2
ANN pmax pmax
comp=Z,337nm,1.6s
KAF Kangasniemi 70.87 331 eP P 19 30 55.9 -2.7
KAF pmax pmax
comp=Z,33nm,0.7s
KAF Kangasniemi 70.87 331 ep P 19 30 55.9 -2.7
comp=Z,33nm,0.7s
KELT Kelkit 71.16 306 iP P 19 31 01.3 +0.2
FIA1 FINESS Array S 71.22 330 eP P 19 30 59.8 -0.9
FINES FINESS Array B 71.22 330 P P 19 30 59.7 -1.0
comp=Z,55nm,0.8s,baz=68,slow=5.7,SNR=109
FINES pP pP 19 31 40.8 +3.2
comp=Z,37nm,0.8s,baz=68,slow=7.0,SNR=4.5
FINES LR LR 20 04 04.2
comp=Z,882nm,19.4s,baz=76,slow=37
FINES FINESS Array B 71.22 330 P P 19 30 59.7 -1.0
FINES pP pP 19 31 40.8 +3.2
ELZG Elazig 71.93 304 iP P 19 31 06.5 +0.9
VSU Vasula 72.08 327d iP P 19 31 05.6 -0.3
VSU pmax pmax
comp=Z,169nm,1.0s
RAYN Ar Rayn 72.25 288 P P 19 31 07.0 -0.7
comp=Z,1μm,1.1s
AFI Afiamalu 72.31 117 P P 19 31 08.1 +0.1
comp=Z,17nm,0.4s,baz=295,slow=4.7,SNR=10
AFI Afiamalu 72.31 117 eP P 19 31 09.3 +1.3
comp=Z,219nm,1.4s
MALT Malatya 72.41 304 eP P 19 31 08.9 +0.5
MALT pmax pmax
comp=Z,320nm,1.5s
MALT Malatya 72.41 304 eP P 19 31 08.9 +0.5
comp=Z,320nm,1.5s
MALT Malatya 72.41 304 ⇓iP P 19 31 08.8 +0.4
ERBA Erbaa 72.75 307 iP P 19 31 11.0 +0.7
SIM Simferopol' 72.99 312d iP P 19 31 11.0 -0.6
SIM i 19 31 27.6
SIM e*PP pP 19 31 48.4 -0.2
SIM e 19 34 01.0
SIM ePPP PPP 19 35 42.0
SIM pmax pmax
comp=Z,44nm,0.8s
MICGM Minsk 73.07 323 e P 19 31 11.0 -0.8
MNK Minsk 73.09 323 eP P 19 31 11.0 -1.0
MNK e 19 31 23.0
MNK e 19 33 55.0
MNK pmax pmax
comp=Z,280nm,1.0s
WRAK Wrangell Islan 73.27 35 eP P 19 31 14.4 +1.4
comp=Z,39nm,0.9s
GZT Gaziantep 73.39 304 iP P 19 31 14.5 +0.2
IZAR Zarasai 73.42 325 eP P 19 31 13.9 +0.1
IZAR AMB AMB 19 31 15.3
comp=Z,42nm,1.2s
NACGM Naroch 73.49 324 eP P 19 31 12.0 -2.3
ISAL Salakas 73.56 324 eP P 19 31 14.8 +0.1
ISAL AMB AMB 19 31 16.1
comp=Z,38nm,1.3s
DLBC Dease Lake 73.56 32 P P 19 31 16.6 +1.7
comp=Z,53nm,0.9s,baz=298,slow=6.6,SNR=40
DLBC Dease Lake 73.56 32 eP P 19 31 16.5 +1.7
IIGN Ignalina 73.60 324 eP P 19 31 15.0 +0.1
IIGN AMB AMB 19 31 16.4
comp=Z,37nm,1.4s
AKASG Malin Array Be 73.83 319 P P 19 31 15.0 -1.3
comp=Z,14nm,0.5s,baz=56,slow=6.1,SNR=10.0
AKASG pP pP 19 31 55.4 +1.9
comp=Z,29nm,0.8s,baz=57,slow=6.2,SNR=5.1
AKASG LR LR 20 07 40.7
comp=Z,609nm,18.5s,baz=75,slow=39
AKASG Malin Array Be 73.83 319 P P 19 31 15.0 -1.3
AKASG *PP pP 19 31 55.4 +1.9
AKASG Malin Array Be 73.83 319 P P 19 31 15.0 -1.3
AKASG pP pP 19 31 55.4 +1.9
AK01 Malin Array Si 73.84 319 eP P 19 31 15.7 -0.7
KIEV Kiev 73.84 319 eP P 19 31 14.4 -2.0
KIEV e 19 31 54.9
KIEV pmax pmax
comp=Z,141nm,1.4s
KIEV Kiev 73.84 319 eP P 19 31 14.4 -2.0
comp=Z,141nm,1.4s
KIEV e 19 31 54.9
AK02 Malin Array Si 73.85 319 eP P 19 31 15.7 -0.8
CTKT Corum 74.16 308 iP P 19 31 17.4 -1.3
RES Resolute Bay 74.63 11 eP P 19 31 20.2 -0.3
comp=Z,134nm,0.9s
BALT Daday 74.79 309 iP P 19 31 21.8 -0.6
YAYL Yayladag 74.98 303 iP P 19 31 22.5 -1.0
BR131 Keskin Array S 75.32 307 eP P 19 31 24.8 -0.6
comp=Z,98nm,1.0s
BRTR Keskin Array B 75.33 307 P P 19 31 25.1 -0.3
comp=Z,82nm,1.0s,baz=105,slow=2.8,SNR=110
BRTR pP pP 19 32 05.7 +3.0
comp=Z,22nm,1.0s,baz=102,slow=3.8,SNR=2.1
BRTR PP PP 19 34 15.4 -0.4
comp=Z,20nm,1.1s,baz=95,slow=7.6,SNR=4.4
BRTR Keskin Array B 75.33 307 P P 19 31 25.1 -0.3
BRTR pP pP 19 32 05.7 +3.0
BRTR PP PP 19 34 15.4 -0.4
GULE Gulek 75.47 305 iP P 19 31 26.2 -0.1
KIS Kishinev 75.58 316 eP P 19 31 25.0 -1.5
KIS e*PP pP 19 32 05.0 +1.2
KIS e 19 34 26.0
KIS e 19 41 40.0
KIS MLR MLR
comp=Z,300nm,15.0s
KIS MLR MLR
comp=Z,300nm,17.0s
KIS Kishinev 75.58 316 eP P 19 31 25.0 -1.5
KIS epP pP 19 32 05.0 +1.2
MSEY Mahe Island 75.73 257 eP P 19 31 27.8 -0.1
comp=Z,354nm,1.1s
MSEY Mahe Island 75.73 257 P P 19 31 29.5 +1.5
SNR=13
MSEY Mahe Island 75.73 257 P P 19 31 29.9 +1.9
comp=Z,2μm,0.9s,SNR=13
BBAL Bala 75.76 307 iP P 19 31 27.7 -0.1
SUW Suwalki 75.77 324 iP P 19 31 26.7 -0.8
SUW epP pP 19 32 08.0 +3.3
SUW ePP PP 19 34 04.7 -14
SUW Suwalki 75.77 324 eP P 19 31 27.1 -0.3
SUW pmax pmax
comp=Z,203nm,0.9s
SUW Suwalki 75.77 324 eP P 19 31 27.1 -0.3
comp=Z,203nm,0.9s
SUW Suwalki 75.77 324 iP P 19 31 26.6 -0.8
SUW epP pP 19 32 08.0 +3.3
SUW ePP PP 19 34 04.7 -14
TLCR 76.34 314 P P 19 31 31.1 +0.2
LBOS 76.37 279 eP P 19 31 31.8 -0.1
XMAS Kiritimati 76.40 95 eP P 19 31 33.1 +1.4
comp=Z,300nm,1.2s
CFR Carcaliu 76.78 314 P P 19 31 33.1 -0.2
CFR Carcaliu 76.78 314 ⇓iP P 19 31 32.6 -0.7
KDHN Kadinhani 76.89 307 iP P 19 31 33.0 -1.2
TIRR Tirgusor 76.91 313 eP P 19 31 32.8 -1.3
TIRR pmax pmax
comp=Z,53nm,1.1s
TIRR Tirgusor 76.91 313 eP P 19 31 32.8 -1.3
comp=Z,53nm,1.1s
TIRR Tirgusor 76.91 313 ⇓iP P 19 31 33.6 -0.5
JMIC Jan Mayen 76.98 346 LR LR 20 06 24.2
comp=Z,216nm,20.7s,baz=61,slow=36
PRAR RASCA 77.02 317 ⇑iP P 19 31 34.3 -0.4
ERMK Ermenek 77.10 305 iP P 19 31 34.7 -0.9
TESR 77.14 316 ⇓iP P 19 31 34.7 -0.6
HFS Hagfors 77.20 332 LR LR 20 08 58.1
comp=Z,804nm,19.2s,baz=62,slow=38
LVV L'vov 77.22 320 eP P 19 31 34.4 -1.3
LVV e 19 32 14.0
LVV e 19 34 29.0
LVV MLR MLR
comp=N,300nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=Z,500nm,16.0s
VRI Vrincioaia 77.37 315 ⇑P P 19 31 36.5 -0.2
VRI Vrincioaia 77.37 315 ⇑iP P 19 31 36.5 -0.2
PSN Preselentsi 77.40 313 iP P 19 31 36.5 -0.3
PLOR Plostina 77.43 315 P P 19 31 37.1 +0.1
PLOR Plostina 77.43 315 ⇓iP P 19 31 36.9 -0.1
GRER 77.43 315 ⇓iP P 19 31 37.4 +0.4
CSS Prodhromos 77.49 303 P P 19 31 36.6 -0.9
CSS Prodhromos 77.49 303 eP P 19 31 37.2 -0.3
comp=Z,259nm,1.2s
BORA Eskisehir 77.50 308 iP P 19 31 35.7 -1.8
BUR08 Bucovina Ar. S 77.52 317 eP P 19 31 37.7 +0.2
BUR08 epP pP 19 32 17.4 +2.4
BURAR Bucovina Array 77.52 317 ⇑iP P 19 31 37.8 +0.2
PGOR Pogoanele 77.63 314 ⇑iP P 19 31 39.4 +1.3
TRBA At Turbah 77.64 279 eP P 19 31 39.8 +0.9
NB2 NORSAR Subarra 77.71 333 P P 19 31 37.0 -1.3
baz=54,slow=5.6
NB2 NORSAR Subarra 77.71 333 P P 19 31 37.0 -1.3
comp=Z,53nm,1.0s,baz=54,slow=5.6
NOA NORSAR Array B 77.71 333 P P 19 31 36.8 -1.5
comp=Z,42nm,0.8s,baz=53,slow=5.6,SNR=78
NOA pP pP 19 32 18.1 +2.4
comp=Z,19nm,0.8s,baz=54,slow=5.7,SNR=4.1
NOA LR LR 20 05 47.1
comp=Z,446nm,21.0s,baz=65,slow=35
NOA NORSAR Array B 77.71 333 P P 19 31 36.8 -1.5
NOA pP pP 19 32 18.1 +2.4
ISR Istrita 77.82 315 ⇑P P 19 31 39.7 +0.5
ISR Istrita 77.82 315 ⇑iP P 19 31 39.7 +0.5
YKW3 Yellowknife Ar 77.95 25 eP P 19 31 39.2 -0.2
comp=Z,3.6nm,0.9s
YKW3 epP pP 19 32 18.5 +1.6
NAO01 NORSAR Array S 77.95 333 eP P 19 31 38.2 -1.3
comp=Z,12nm,0.6s
YKA Yellowknife Ar 77.99 25 P P 19 31 39.5 -0.3
comp=Z,90nm,0.8s,baz=299,slow=5.5,SNR=558
YKA pP pP 19 32 19.4 +2.2
comp=Z,22nm,0.9s,baz=301,slow=5.5,SNR=2.6
YKA PKiKP PKiKP 19 37 16.4 +0.1
comp=Z,1.5nm,0.7s,baz=317,slow=1.5,SNR=9.9
YKA PKKP PKKPdf 19 50 25.2 -0.7
comp=Z,0.1nm,0.5s,baz=148,slow=2.5,SNR=3.4
YKA PKKPbc PKKPbc 19 50 37.4 -2.3
comp=Z,2.0nm,0.6s,baz=128,slow=2.4,SNR=36
YKA PKP2bc 19 58 34.4
comp=Z,0.4nm,0.9s,baz=102,slow=2.6,SNR=4.6
YKA PKPPKP P'P'df 19 58 41.0 -2.4
comp=Z,0.4nm,0.8s,baz=136,slow=2.3,SNR=3.7
YKA Yellowknife Ar 77.99 25 P P 19 31 39.5 -0.3
YKA pP pP 19 32 19.4 +2.2
YKA PKiKP PKiKP 19 37 16.4 +0.1
YKA PKKP PKKPdf 19 50 25.1 -0.7
YKA PKKPbc PKKPbc 19 50 37.4 -2.3
YKA ⇑e 19 58 34.4
YKA P'P' 19 58 41.0
MLR Muntele Rosu 78.03 315 ⇓iP P 19 31 39.9 -0.6
KWP Kalwaria Pacla 78.06 320 eP P 19 31 40.5 +0.1
KWP epP pP 19 32 20.6 +2.6
KWP LMZ LR 20 07 39.1
comp=Z,900nm,25.6s
KWP Kalwaria Pacla 78.06 320 eP P 19 31 40.6 +0.1
KWP e*PP pP 19 32 20.7 +2.8
KWP pmax pmax
comp=Z,143nm,1.0s
KWP Kalwaria Pacla 78.06 320 eP P 19 31 40.6 +0.2
comp=Z,143nm,1.0s
KWP epP pP 19 32 20.7 +2.8
KWP Kalwaria Pacla 78.06 320 ⇑iP P 19 31 40.2 -0.2
KWP Kalwaria Pacla 78.06 320 eP P 19 31 40.5 +0.2
KWP epP pP 19 32 20.5 +2.6
KWP LMZ LR 20 07 39.0
BEL Belsk 78.07 322 eP P 19 31 40.6 +0.3
BEL epP pP 19 32 22.2 +4.4
BEL Belsk 78.07 322 eP P 19 31 40.6 +0.3
BEL epP pP 19 32 22.2 +4.4
PRD Provadia 78.12 313 iP P 19 31 39.4 -1.4
SECR 78.16 315 ⇑iP P 19 31 41.1 +0.1
NEF NEVSHA 78.17 313 iP P 19 31 40.9 -0.2
SULR 78.20 314 ⇓iP P 19 31 39.0 -2.2
ISP Isparta 78.33 307 P P 19 31 41.0 -1.2
ISP Isparta 78.33 307 eP P 19 31 40.8 -1.4
ISP pmax pmax
comp=Z,245nm,1.4s
ISP Isparta 78.33 307 eP P 19 31 40.8 -1.4
comp=Z,244nm,1.4s
ISP Isparta 78.33 307 ⇑iP P 19 31 42.0 -0.2
BMR Baia Mare 78.53 318 P P 19 31 43.6 +0.6
BMR Baia Mare 78.53 318 ⇓iP P 19 31 43.3 +0.3
VOIR 78.62 315 P P 19 31 43.6 0.0
VOIR 78.62 315 ⇓iP P 19 31 42.8 -0.8
UZH Uzhgorod 78.78 319 ⇓iP P 19 31 44.3 0.0
UZH i 19 32 25.7
UZH eS S 19 41 26.0 -3.4
UZH e 19 41 37.5
UZH e 19 42 12.5
KORT Korkueli 78.81 306 iP P 19 31 43.8 -1.1
TRPA Tarpa 78.88 319 ⇓iP P 19 31 44.3 -0.5
TRPA Tarpa 78.88 319 ⇓eP P 19 31 45.0 +0.2
ARR Arges 78.91 315 ⇓iP P 19 31 45.3 +0.1
JMB Yambol 78.99 312 P P 19 31 45.8 +0.2
JMB Yambol 78.99 312 iP P 19 31 45.7 +0.2
SZH Strazhica 79.05 313 iP P 19 31 45.2 -0.7
HUMR Humele 79.08 315 ⇓iP P 19 31 45.2 -0.8
GKP Gorka Klasztor 79.22 325 eP P 19 31 46.6 -0.1
GKP epP pP 19 32 27.0 +2.8
GKP LMZ LR 20 08 54.8
comp=Z,900nm,21.3s
GKP Gorka Klasztor 79.22 325 eP P 19 31 46.5 -0.1
GKP epP pP 19 32 27.0 +2.8
GKP LMZ LR 20 08 54.8
ZIMR 79.24 314 P P 19 31 47.3 +0.4
GOLH Golhisar 79.27 306 iP P 19 31 46.2 -1.2
BSD Bornholm Skovb 79.39 327 ⇓iP P 19 31 47.0 -0.5
comp=Z,45nm,0.8s
BSD
comp=Z,1μm,17.0s
SART Tekirdag 79.39 310 iP P 19 31 48.6 +0.6
DRGR 79.42 317 P P 19 31 48.3 +0.4
DRGR 79.42 317 ⇑iP P 19 31 47.2 -0.7
OJC Ojcow 79.42 321 eP P 19 31 47.7 -0.1
OJC e 19 31 54.9

OJC *e* 19 41 47.0
OJC MLR MLR
comp=Z,800nm,19.6s
OJC Ojcow 79.42 321 *e*P **P** **19 31 47.7 -0.1**
OJC *e*PcP **PcP** **19 31 54.9 -0.5**
OJC *es*P **sP** **19 32 38.2 -3.3**
OJC *e*SKSac **SKSac** **19 41 47.0 -2.9**
OJC L L 20 09 02.5
comp=Z,800nm,19.6s
DNZL Cakiroluk 79.44 307 *i* P P 19 31 44.9 -3.4
BALY Balya 79.52 309 *i* P **P** **19 31 48.1 -0.5**
NIE Niedzica 79.53 320 *e*P **P** **19 31 48.9 +0.4**
NIE Niedzica 79.53 320 *e*P **P** **19 31 48.9 +0.4**
SUMG Summit 79.78 356 *e*P **P** **19 31 49.4 -0.4**
SUMG pmax pmax
comp=Z,205nm,0.9s
SUMG Summit 79.78 356 *e*P **P** **19 31 49.4 -0.4**
comp=Z,205nm,0.9s
SUMG Summit 79.78 356 *i* P **P** **19 31 50.4 +0.6**
comp=Z,136nm,0.8s
DIM Dimitrovgrad 79.87 312 *i* P **P** **19 31 50.6 +0.2**
ALN Alexandroupoli 80.06 311 P **P** **19 31 50.5 -0.9**
ALN Alexandroupoli 80.06 311 *e*P **P** **19 31 51.1 -0.3**
KDZ Kurdzhali 80.13 312 *i* P **P** **19 31 51.4 -0.4**
COP Copenhagen 80.25 328 *i* P **P** **19 31 52.5 +0.4**
comp=Z,34nm,0.9s
AYDN Tasoluk 80.28 307 *i* P **P** **19 31 53.4 +0.7**
RDO Rodhopi 80.29 311 P **P** **19 31 51.8 -0.8**
RDO Rodhopi 80.29 311 *e*P **P** **19 31 52.2 -0.4**
RAC Raciborz 80.37 322 *e*P **P** **19 31 53.5 +0.6**
PLD Plovdiv 80.39 312 P **P** **19 31 52.9 -0.3**
PLD Plovdiv 80.39 312 *i* P **P** **19 31 52.7 -0.5**
MPEP Malo Peshtene 80.42 314 *i* P **P** **19 31 52.9 -0.4**
RGN Rugen 80.47 327 *e*P **P** **19 31 53.8 +0.5**
comp=Z,214nm,1.3s
URZ Urewera 80.51 142 P **P** **19 31 52.6 -1.0**
comp=Z,25nm,1.3s,baz=348,slow=5.3,SNR=4.2
URZ PP **PP** **19 34 59.9 +0.4**
comp=Z,16nm,1.1s,baz=50,slow=4.6,SNR=3.2
URZ LR LR 20 04 45.7
comp=Z,519nm,18.2s,baz=320,slow=33
URZ Urewera 80.51 142 P **P** **19 31 52.6 -1.0**
URZ PP **PP** **19 34 59.9 +0.4**
PSZ Piszkesteto 80.53 319 *e*P **P** **19 31 53.2 -0.7**
PSZ pmax pmax
comp=Z,108nm,1.4s
PSZ Piszkesteto 80.53 319 *e*P **P** **19 31 53.2 -0.7**
comp=Z,108nm,1.4s
PSZ Piszkesteto 80.53 319⇑*i*P **P** **19 31 53.5 -0.4**
PSZ Piszkesteto 80.53 319⇓*e*P **P** **19 31 53.8 -0.1**
OKC Ostrava-Krasne 80.53 322 *e*P **P** **19 31 53.9 +0.2**
OKC *e* 19 35 01.9
OKC *e*S **sS** **19 42 54.5 +1.6**
OKC MLR MLR
comp=Z,700nm,15.3s
OKC Ostrava-Krasne 80.53 322 *e*P **P** **19 31 53.9 +0.2**
OKC *ex* x 19 32 09.4
OKC *e*PP **PP** **19 35 01.9 +3.2**
OKC *e*XS 19 42 54.5
OKC AMS AMS 20 14 30.0
comp=Z,700nm,15.3s
PGB Panagyurishte 80.53 313 *i* P **P** **19 31 53.8 -0.2**
RZN Rozhen 80.58 312 *i* P **P** **19 31 53.5 -0.9**
BZS Buzias 80.65 317 P **P** **19 31 54.5 0.0**
BZS Buzias 80.65 317⇑*i*P **P** **19 31 53.4 -1.1**
PRK Paraskevi 80.67 309 P **P** **19 31 54.2 -0.5**
PRK Paraskevi 80.67 309 *e*P **P** **19 31 54.1 -0.6**
ARG Arkhangelos 80.76 306 *e*P **P** **19 31 55.1 -0.1**
VYHS Vyhne 80.84 320 *e*P **P** **19 31 55.3 -0.2**
VYHS *e* 19 35 00.6
VYHS pmax pmax
comp=Z,65nm,1.4s
VYHS Vyhne 80.84 320 *e*P **P** **19 31 55.3 -0.2**
VYHS *e* 19 32 10.4
VYHS *e*PP **PP** **19 35 00.6 -0.7**
VYHS *e* 19 46 04.8
URLA Izmir 80.86 308 *i* P **P** **19 31 54.0 -1.8**
MORC Moravsky Berou 80.89 322 *e*P **P** **19 31 55.0 -0.8**
MORC pmax pmax
comp=Z,184nm,1.8s
MORC Moravsky Berou 80.89 322 *e*P **P** **19 31 55.0 -0.8**
comp=Z,184nm,1.8s
MORC Moravsky Berou 80.89 322⇑*i*P **P** **19 31 54.5 -1.3**
SIGR SIGRI 80.98 309 P **P** **19 31 55.6 -0.7**
KSP Ksiaz 81.00 323 *e*P **P** **19 31 56.3 +0.1**
KSP Ksiaz 81.00 323⇓*e*P **P** **19 31 56.0 -0.3**
KSP *e**PP **pP** **19 32 37.1 +3.1**
KSP Ksiaz 81.00 323 *e*P **P** **19 31 56.3 +0.1**
KAVA Kavala 81.04 312 P **P** **19 31 55.5 -1.1**
LIA Limnos Island 81.11 310 *e*P **P** **19 31 54.2 -2.8**
VTS Vitosha 81.13 313 P **P** **19 31 57.0 -0.3**
VTS Vitosha 81.13 313 ⇓P **P** **19 31 57.3 0.0**
VTS Vitosha 81.13 313⇓*i*P **P** **19 31 57.3 0.0**
VTS Vitosha 81.13 313 *i* P **P** **19 31 56.7 -0.6**
KRLC Kraliky 81.15 322 *e*P **P** **19 31 57.1 0.0**
CHOS Chios island 81.22 309 *e*P **P** **19 31 57.1 -0.7**
DPC Dobruska-Polom 81.25 323 *e*P **P** **19 31 58.1 +0.4**
DPC *e* 19 35 05.5
DPC *e* 19 43 04.4
DPC MLR MLR
comp=Z,900nm,19.8s
DPC Dobruska-Polom 81.25 323 *e*P **P** **19 31 58.1 +0.4**
DPC *e*PCP **PcP** **19 32 04.2 +0.8**
DPC *e*PP **PP** **19 35 05.5 +0.8**
DPC *e*XS 19 43 04.4
DPC AMS AMS 20 14 50.0
comp=Z,900nm,19.8s
NIS1 Nisyros Isl. 81.26 307 *e*P **P** **19 31 56.8 -1.1**
MUD Monsted U'grnd 81.27 330 *i* P **P** **19 31 58.0 +0.5**
comp=Z,35nm,0.9s
MMB Musomiste 81.28 312 *i* P **P** **19 31 57.2 -0.7**
NVR Nevrokopi 81.30 312 P **P** **19 31 57.3 -0.8**
NVR Nevrokopi 81.30 312 *e*P **P** **19 31 57.5 -0.6**
UPC Upice 81.33 323 *e*P **P** **19 31 58.7 +0.7**
UPC *e* 19 35 04.7
UPC Upice 81.33 323 *e*P **P** **19 31 58.7 +0.7**
UPC *e*PP **PP** **19 35 04.7 -0.6**
RUE Ruedersdorf 81.41 325 *e*P **P** **19 31 58.8 +0.5**
comp=Z,152nm,1.3s
RUE *e*PP **PP** **19 35 06.8 +1.0**
RUE Ruedersdorf 81.41 325 *e*P **P** **19 31 58.9 +0.5**
comp=Z,80nm,0.8s
KKB Krupnik 81.56 313 *i* P **P** **19 31 58.7 -0.7**
RPZ Rata Peaks 81.57 149 P **P** **19 31 59.1 0.0**
comp=Z,31nm,0.8s,baz=12,slow=5.7,SNR=8.7
RPZ LR LR 20 01 02.6
comp=Z,761nm,21.1s,baz=297,slow=30
RPZ Rata Peaks 81.57 149 *e*P **P** **19 31 58.7 -0.4**
comp=Z,50nm,1.0s
SRS Serrai 81.59 312 P **P** **19 31 58.6 -1.0**
VRAC Vranov 81.67 322 LR LR 20 11 03.2
comp=Z,824nm,21.3s,baz=57,slow=38
VRAC Vranov 81.67 322⇑*i*P **P** **19 31 58.8 -1.0**
PGC Sidney 81.74 39 *e*P **P** **19 32 01.3 +1.2**
comp=Z,2.4nm,0.9s
KARP Karpathos 81.76 306 *e*P **P** **19 32 00.3 -0.3**
SOH Sokhos 81.90 312 *e*P **P** **19 32 00.2 -1.0**
KNT Kendrikon 82.03 312 P **P** **19 32 00.8 -1.1**
PLG Polygyros 82.05 311 P **P** **19 32 01.0 -1.0**
PLG Polygyros 82.05 311 *e*P **P** **19 32 01.3 -0.7**
PVCC Panska Ves 82.09 323 *e*P **P** **19 32 02.4 +0.4**
PVCC *e* 19 35 12.8
PVCC MLR MLR
comp=Z,1μm,18.5s
PVCC Panska Ves 82.09 323 *e*P **P** **19 32 02.4 +0.4**
PVCC *e*PCP **PcP** **19 32 09.0 +2.0**
PVCC *e*PP **PP** **19 35 12.8 +1.3**
PVCC AMS AMS 20 15 30.0
comp=Z,1μm,18.5s
PAIG Paliouri 82.11 311 P **P** **19 32 01.3 -1.0**
PKSM Moragy 82.14 318 P **P** **19 32 02.4 +0.1**
PKSM Moragy 82.14 318⇓*i*P **P** **19 32 00.6 -1.7**
PKSM Moragy 82.14 318⇓*e*S **P** **19 32 02.1 -0.2**
MRIV Mauritius Mete 82.14 242 *e*P **P** **19 32 02.6 -0.1**
PKS9 Tamasi 82.16 319⇑*e*S **P** **19 32 02.1 -0.3**
VAY Valandovo 82.17 313 P **P** **19 32 01.2 -1.3**
NLWA Neilton Lookou 82.17 40 *e*P **P** **19 32 04.2 +1.7**
comp=Z,27nm,0.7s
NLWA *e*pP **pP** **19 32 43.0 +2.7**
BRG Berggiesshubel 82.23 324 *i* P **P** **19 32 02.9 +0.2**
comp=Z,69nm,1.4s
BRG *e*PP **PP** **19 35 11.4 -1.2**
comp=Z,21nm,1.4s
BRG S **pS** **19 42 56.0 +3.8**
BRG SS SS 19 48 31.0 +63
BRG
comp=N,617nm,18.9s
BRG
comp=E,878nm,16.0s
BRG
comp=Z,1μm,17.6s
BRG Berggiesshubel 82.23 324 *i* P **P** **19 32 02.9 +0.2**
BRG *e* 19 35 11.4
BRG S **pS** **19 42 56.0 +3.8**
BRG pmax pmax
comp=Z,69nm,1.5s
BRG pmax pmax
comp=Z,21nm,1.4s
BRG MLR MLR
comp=N,617nm,18.9s
BRG MLR MLR
comp=E,878nm,16.0s
BRG MLR MLR
comp=Z,1μm,17.6s
BRG Berggiesshubel 82.23 324 *e*P **P** **19 32 02.6 -0.1**
comp=Z,87nm,1.3s
BSEG Bad Segeberg 82.26 328 *e*P **P** **19 32 03.1 +0.3**
BSEG pmax pmax
comp=Z,257nm,1.4s
BSEG Bad Segeberg 82.26 328 *e*P **P** **19 32 03.1 +0.3**
comp=Z,257nm,1.4s
TREC Trest 82.28 322 *e*P **P** **19 32 03.2 +0.2**
TREC MLR MLR
comp=Z,1μm,18.1s
TREC Trest 82.28 322 *e*P **P** **19 32 03.2 +0.2**
TREC AMS AMS 20 11 00.0
comp=Z,1μm,18.1s
A05A Maple Falls 82.31 38 P **P** **19 32 04.1 +1.0**
AOS Alonnisos 82.34 310 P **P** **19 32 01.9 -1.6**
AOS Alonnisos 82.34 310 *e*P **P** **19 32 02.3 -1.2**
PRU Pruhonice 82.41 323 *e*P **P** **19 32 03.6 0.0**
PRU *e* 19 35 13.7
PRU *e*S **sS** **19 43 14.9 +2.3**
PRU MLR MLR
comp=Z,900nm,19.9s
PRU Pruhonice 82.41 323 *e*P **P** **19 32 03.6 0.0**
PRU *ex* x 19 32 13.8
PRU *ex* x 19 32 20.2
PRU *e*PP **PP** **19 35 13.7 -0.4**
PRU *e*XS 19 43 14.9
PRU AMS AMS 20 15 20.0
comp=Z,900nm,19.9s
DIVS Divibare 82.41 316 P **P** **19 32 03.0 -0.9**
PRA Prague 82.42 323 P **P** **19 32 04.0 +0.3**
PRA *ex* x 19 32 20.0
PRA PP **PP** **19 35 15.0 +0.8**
GRG Griva 82.46 312 P **P** **19 32 03.0 -1.1**
CLL Collm 82.47 325⇓*i*P **P** **19 32 03.6 -0.3**
CLL *e* 19 32 45.0
CLL *e*S **S** **19 42 06.0 -1.7**
CLL pmax pmax
comp=Z,69nm,1.1s
CLL Collm 82.47 325 *e*P **P** **19 32 03.8 -0.1**
comp=Z,70nm,1.1s
CLL *e*PP **PP** **19 35 15.2 +0.6**
CLL Collm 82.47 325⇓*i*P **P** **19 32 03.6 -0.3**
comp=Z,69nm,1.1s
CLL *e* 19 32 19.0
CLL *e*(pP) **pP** **19 32 45.0 +3.2**
CLL *es*P **sP** **19 32 59.0 +1.1**
CLL *i* PP **PP** **19 35 14.9 +0.3**
comp=Z,53nm,1.3s
CLL *e* 19 35 30.0
CLL *es*PP 19 36 03.0
CLL *e*S **S** **19 42 06.0 -1.7**
CLL *e*PS **PnS** **19 43 15.0 -2.4**
CLL *ep*PS 19 43 36.0
CLL *e*SS **SS** **19 47 36.0 +4.9**
CLL *e*(SSS) 19 50 42.0
CLL *e*SSSS 19 54 00.0
CLL LmH 20 09 00.0
comp=N,1μm,18.1s
CLL LmH 20 09 00.0
comp=E,900nm,19.4s
DESE Dese 82.50 279 *i* P pP 19 32 32.2 -11
FBE Freiberg 82.51 324 *e*P **P** **19 32 04.4 +0.3**
comp=Z,285nm,1.7s
FBE *e*PP **PP** **19 35 15.6 +0.7**
MRMA Marmari 82.54 309 P **P** **19 32 03.4 -1.2**
SOP Sopron 82.56 320⇓*e* **P** **19 32 04.7 +0.2**
XOR Xorichti 82.72 311 P **P** **19 32 03.7 -1.8**
NEO Neokhori 82.72 311 *e*P **P** **19 32 04.7 -0.8**
MRKA Markates 82.77 310 P **P** **19 32 03.4 -2.4**
CONA Conrad Observa 82.82 321 *i* P **P** **19 32 06.4 +0.5**
comp=Z,56nm,1.1s
CONA Conrad Observa 82.82 321 *i* P **P** **19 32 06.4 +0.5**
comp=Z,56nm,1.1s,SNR=25
LIT Litokhoron 82.82 311 P **P** **19 32 03.9 -2.1**
LIT Litokhoron 82.82 311 *e*P **P** **19 32 04.9 -1.1**
NPS Neapolis 83.01 306 *e*P **P** **19 32 05.9 -1.2**
BMW Boistfort Moun 83.03 41 P **P** **19 32 08.8 +1.8**
BMW Boistfort Moun 83.03 41 P **P** **19 32 08.8 +1.8**
ATH Athens Observa 83.04 309 *e*P **P** **19 32 04.8 -2.3**
BEHE Becsehely 83.09 319⇓*e*S **P** **19 32 07.1 -0.1**
IVA Berane 83.10 315⇓*i*P **P** **19 32 07.3 -0.2**
LAST Lasithi 83.16 306 P **P** **19 32 07.4 -0.5**
NEUB Neuenburg 83.16 325 *e*P **P** **19 32 07.7 +0.2**
comp=Z,345nm,1.5s
ATAL Atalanti 83.16 310 P **P** **19 32 05.6 -2.2**
PLE Pljevlja 83.19 315⇓*i*P **P** **19 32 07.9 0.0**
LKR Lokris 83.20 310 P **P** **19 32 05.8 -2.1**
LKR Lokris 83.20 310 *e*P **P** **19 32 06.6 -2.3**
KZN Kozani 83.20 312 P **P** **19 32 06.5 -1.5**
KZN Kozani 83.20 312 *e*P **P** **19 32 07.0 -1.0**
PVY Plav 83.21 315⇓*i*P **P** **19 32 07.5 -0.6**
FNA Florina 83.22 313 P **P** **19 32 06.7 -1.4**
NRDL Niedersach Rie 83.23 327 *e*P **P** **19 32 08.2 +0.5**
comp=Z,368nm,1.8s
BCI Bajram Curri 83.26 314 *e*PN **P** **19 32 09.4 +1.2**
TANN Tannenbergstha 83.27 324 *e*P **P** **19 32 08.1 0.0**
comp=Z,203nm,1.7s
TANN *e*PP **PP** **19 35 22.0 +0.8**
NAIG Nisos Aigina 83.30 309 *e*P **P** **19 32 07.0 -1.5**
WERD Werda 83.33 324 *e*P **P** **19 32 08.4 0.0**
comp=Z,177nm,1.6s
WERD *e*PP **PP** **19 35 22.0 +0.4**
D05A Enumclaw 83.36 40 P **P** **19 32 10.1 +1.5**
GUNZ Gunzen 83.36 324 *e*P **P** **19 32 08.8 +0.2**
comp=Z,289nm,1.6s
GUNZ *e*PP **PP** **19 35 22.8 +0.9**
PHP Peshkopia 83.37 314 *e*PN **P** **19 32 07.7 -1.1**
PHP Peshkopia 83.37 314 P **P** **19 32 08.1 -0.7**
AXAR Agios Charalam 83.37 310 P **P** **19 32 06.3 -2.6**
NKC Novy Kostel 83.38 324 *e*P **P** **19 32 09.0 +0.3**
NKC *e* 19 35 21.3
NKC Novy Kostel 83.38 324 *e*P **P** **19 32 09.0 +0.3**
NKC *e*PP **PP** **19 35 21.3 -0.8**
PLN Plauen 83.38 324 *e*P **P** **19 32 08.8 +0.1**
comp=Z,1μm,1.9s
WERN Wernitzgruen 83.39 324 *e*P **P** **19 32 09.0 +0.3**
comp=Z,222nm,1.5s
WERN *e*PP **PP** **19 35 22.9 +0.8**
ARSA Arzberg 83.39 320⇓*i*P **P** **19 32 08.3 -0.5**
comp=Z,41nm,1.9s
ARSA Arzberg 83.39 320⇓*i*P **P** **19 32 08.3 -0.5**
comp=Z,41nm,1.9s,SNR=12
THL Klokotos Trika 83.41 311 P **P** **19 32 06.0 -3.0**
THL Klokotos Trika 83.41 311 *e*P **P** **19 32 06.3 -2.7**
KHC Kasperske Hory 83.41 323 *e*P **P** **19 32 08.7 -0.2**
KHC *e* 19 35 22.7
KHC *e*S **S** **19 42 16.6 -0.8**
KHC *e* 19 43 29.0
KHC MLR MLR
comp=Z,1μm,20.5s
KHC Kasperske Hory 83.41 323 *e*P **P** **19 32 08.6 -0.2**
comp=Z,250nm,1.8s
KHC Kasperske Hory 83.41 323 *e*P **P** **19 32 08.7 -0.2**
KHC *ex* x 19 32 23.7
KHC *ep*P **pP** **19 32 44.0 -2.8**
KHC *ex* x 19 33 32.4
KHC *e*PP **PP** **19 35 22.7 +0.3**
KHC *e*S **S** **19 42 16.6 -0.8**
KHC *e*XS sS 19 43 29.0 +6.0
KHC AMS AMS 20 16 00.0
comp=Z,1μm,20.5s
AGG Agios Georgios 83.47 311 P **P** **19 32 06.9 -2.5**
AGG Agios Georgios 83.47 311 *e*P **P** **19 32 07.6 -1.8**
CLZ Clausthal 83.49 326 *e*P **P** **19 32 09.8 +0.6**
CLZ pmax pmax
comp=Z,366nm,1.3s
CLZ Clausthal 83.49 326 *e*P **P** **19 32 09.8 +0.6**
comp=Z,366nm,1.3s
GEC2 GERESS Array S 83.51 322 *e*P **P** **19 32 09.3 -0.1**
GEC2 pmax pmax
comp=Z,104nm,1.3s
GEC2 GERESS Array S 83.51 322 *e*P **P** **19 32 09.3 -0.1**
comp=Z,104nm,1.3s
GERES GERESS Array B 83.51 322 P **P** **19 32 08.8 -0.7**
comp=Z,23nm,0.7s,baz=49,slow=3.6,SNR=118
GERES PKiKP **PKiKP** **19 37 26.0 +0.5**
comp=Z,1.1nm,0.6s,baz=78,slow=0.8,SNR=5.1
GERES PKKPbc **PKKPbc** **19 50 27.1 -0.1**
comp=Z,1.1nm,0.7s,baz=230,slow=3.3,SNR=7.7
GERES LR LR 20 16 35.0
comp=Z,675nm,18.2s,baz=59,slow=41
GERES GERESS Array B 83.51 322 P **P** **19 32 08.8 -0.7**
GERES PKiKP **PKiKP** **19 37 26.0 +0.5**
GERES PKKPbc **PKKPbc** **19 50 27.1 -0.1**
IDI Anoyia 83.52 306 *e*P **P** **19 32 08.0 -1.7**
comp=Z,108nm,1.2s
LTK Loutraki 83.53 309 *e*P **P** **19 32 07.1 -2.6**
PUK Puka 83.53 314 *e*PN **P** **19 32 09.5 -0.2**
UPM Unac-Piva 83.55 316⇓*i*P **P** **19 32 09.4 -0.5**
MOX Moxa 83.57 325 *e*P **P** **19 32 09.2 -0.4**
MOX pmax pmax
comp=Z,220nm,1.7s
MOX MLR MLR
comp=Z,700nm,19.5s
MOX Moxa 83.57 325 *e*P **P** **19 32 09.2 -0.4**
comp=Z,220nm,1.7s
MOX *e*L L 20 10 54.7
comp=Z,735nm,19.5s
DID Didima 83.60 309 *e*P **P** **19 32 08.0 -2.1**
MAKR Makrakomi, Fth 83.61 311 P **P** **19 32 08.2 -1.9**
NEST Nestorio 83.62 312 P **P** **19 32 09.1 -1.1**
DSF Desfina 83.64 310 P **P** **19 32 07.4 -2.9**
RCS Mount Rainier- 83.68 40 P **P** **19 32 12.3 +1.7**
NKY Niksic 83.70 315⇓*i*P **P** **19 32 09.8 -0.8**
LON Longmire 83.70 40 *e*P **P** **19 32 11.3 +0.8**
LON pmax pmax
comp=Z,42nm,1.1s
LON Longmire 83.70 40 *e*P **P** **19 32 11.2 +0.8**
comp=Z,42nm,1.1s
TTG Podgorica 83.73 315 *e*P **P** **19 32 10.4 -0.2**
MOA Molln 83.76 321⇓*i*P **P** **19 32 10.4 -0.3**
comp=Z,74nm,2.0s
MOA Molln 83.76 321⇓*i*P **P** **19 32 10.4 -0.3**
comp=Z,74nm,2.0s,SNR=16
ROTZ Rotzenmuhle 83.78 324 *e*P **P** **19 32 11.2 +0.5**
comp=Z,292nm,1.5s
WET Wettzell 83.78 323 *e*P **P** **19 32 10.9 +0.2**
WET pmax pmax
comp=Z,196nm,1.7s
WET Wettzell 83.78 323 *e*P **P** **19 32 10.9 +0.2**
comp=Z,196nm,1.7s
GROS Grobnik 83.84 320 *i* P **P** **19 32 10.8 -0.3**
EVR Evrytania 83.87 311 P **P** **19 32 09.8 -1.7**
EVR Evrytania 83.87 311 *e*P **P** **19 32 10.5 -1.0**
WPW White Pass 83.88 40 P **P** **19 32 12.7 +1.3**
MPOR Mary's Peak 83.91 43 P **P** **19 32 13.7 +2.1**
KALE Kalithea 83.91 310 *e*P **P** **19 32 10.0 -1.7**
TIR Tirane 83.91 314 *e*PN **P** **19 32 11.0 -0.5**
TIR Tirane 83.91 314 *e*P **P** **19 32 11.4 -0.1**
TIR pmax pmax
comp=Z,636nm,1.5s
TIR Tirane 83.91 314 *e*P **P** **19 32 11.3 -0.1**
comp=Z,636nm,1.5s
BRY Bratogost 83.94 315⇓*i*P **P** **19 32 11.4 -0.4**
VAM Vamos 83.95 307 P **P** **19 32 11.9 +0.1**
VAM Vamos 83.95 307 *e*P **P** **19 32 12.0 +0.1**
TRIZ Trizonia 83.97 310 *e*P **P** **19 32 10.3 -1.5**
RER Riviere de l'E 83.98 243 *e*P **P** **19 32 12.9 +0.7**
comp=Z,218nm,1.2s
SOKA Soboth 83.99 320⇓*i*P **P** **19 32 10.8 -1.1**
comp=Z,73nm,1.8s
SOKA Soboth 83.99 320⇓*i*P **P** **19 32 10.8 -1.1**
comp=Z,73nm,1.8s
ULC Ulcinj 83.99 314 *e*P **P** **19 32 11.1 -0.8**
GUR Goura 84.00 310 P **P** **19 32 09.4 -2.8**
COR Corvallis 84.01 43 *e*P **P** **19 32 14.3 +2.3**
COR *e**PP **pP** **19 32 53.2 +3.3**
COR pmax pmax
comp=Z,110nm,0.8s
COR Corvallis 84.01 43 *e*P **P** **19 32 14.2 +2.3**
comp=Z,110nm,0.8s
COR *ep*P **pP** **19 32 53.2 +3.3**
BUM Brajici-Budva 84.03 315⇓*i*P **P** **19 32 11.8 -0.4**
EFP Efpalio 84.05 310 P **P** **19 32 10.5 -1.8**
EFP Efpalio 84.05 310 *e*P **P** **19 32 11.3 -1.0**
LAKA Lakka 84.10 310 *e*P **P** **19 32 11.4 -1.2**
JAN Janina 84.14 312 *e*P **P** **19 32 11.6 -1.1**
KARN Karanos 84.16 307 P **P** **19 32 11.8 -1.1**
VLI Veliai 84.20 308 *e*P **P** **19 32 10.6 -2.5**
HCY Herceg Novi 84.21 315⇓*i*P **P** **19 32 12.5 -0.5**
VLX Vlachokerasia 84.26 309 *e*P **P** **19 32 11.9 -1.6**
UBBA Unterbreizbach 84.29 325 *e*P **P** **19 32 13.5 +0.4**
comp=Z,312nm,1.7s
KEBM Edson Butte 84.30 44 *e*P **P** **19 32 15.5 +1.9**
comp=Z,148nm,1.0s
KEBM *ep*P **pP** **19 32 53.8 +2.2**
GVD Gavdhos 84.31 306 *e*P **P** **19 32 13.3 -0.4**
comp=Z,288nm,0.6s
FURI Furi 84.33 277 P P 19 32 17.0 +2.5
GRF Grafenberg Arr 84.34 324 *e*P **P** **19 32 14.0 +0.5**
GRF *e* 19 35 31.3
GRF pmax pmax
comp=Z,472nm,1.5s
GRF MLR MLR
comp=Z,600nm,21.1s
GRF Grafenberg Arr 84.34 324 *e*P **P** **19 32 14.0 +0.5**
comp=Z,472nm,1.5s
GRF *e*PP **PP** **19 35 31.3 +1.5**
GRF *e*L L 20 04 41.9
comp=Z,612nm,21.1s
KYTH Kithira 84.34 308 *e*P **P** **19 32 12.4 -1.5**
OBKA Obir 84.36 320⇓*i*P **P** **19 32 13.4 -0.4**
comp=Z,45nm,1.5s
OBKA Obir 84.36 320⇓*i*P **P** **19 32 13.4 -0.4**
comp=Z,45nm,1.5s,SNR=10
IBBN Ibbenburen 84.48 327 *e*P **P** **19 32 14.3 +0.2**
comp=Z,283nm,1.0s
BOJS Bojanci 84.51 319 *i* P **P** **19 32 14.7 +0.2**
BOJS *e*SKSac **sS** **19 43 35.4 +1.2**
RLS Riolos of Patr 84.54 310 P **P** **19 32 13.8 -0.9**
RLS Riolos of Patr 84.54 310 *e*P **P** **19 32 14.0 -0.7**
IGT Igoumenitsa 84.54 312 P **P** **19 32 12.0 -2.8**
VISS Visnje 84.59 319 *i* P **P** **19 32 14.4 -0.4**
VISS *e*SKSac **sS** **19 43 36.7 +1.7**
DYR Agios Nikonas 84.59 309 P **P** **19 32 13.1 -2.0**
DYR Agios Nikonas 84.59 309 *e*P **P** **19 32 14.0 -1.1**
AMT Artemida-Makis 84.64 310 P **P** **19 32 13.3 -2.0**
AMT Artemida-Makis 84.64 310 *e*P **P** **19 32 14.3 -1.0**
RJOB Jochberg 84.64 322 *e*P **P** **19 32 15.5 +0.4**
comp=Z,188nm,1.5s
ITM Ithomi 84.67 309 P **P** **19 32 14.0 -1.4**
ITM Ithomi 84.67 309 *e*P **P** **19 32 14.3 -1.1**
TRW Toppenish Ridg 84.68 40 P **P** **19 32 17.0 +1.6**
KBA Koelnbreinsper 84.71 321⇓*i*P **P** **19 32 15.1 -0.6**
KBA pmax pmax
comp=Z,35nm,0.8s
KBA Koelnbreinsper 84.71 321⇓*i*P **P** **19 32 15.1 -0.6**
comp=Z,35nm,0.8s
KBA Koelnbreinsper 84.71 321⇓*i*P **P** **19 32 15.1 -0.6**
comp=Z,35nm,0.8s,SNR=16
KEK Kerkira 84.80 312 P **P** **19 32 14.8 -1.2**
KEK Kerkira 84.80 312 *e*P **P** **19 32 15.5 -0.5**
MYKA Terra Mystica 84.80 320⇓*i*P **P** **19 32 14.9 -1.1**
comp=Z,66nm,1.9s
MYKA Terra Mystica 84.80 320⇓*i*P **P** **19 32 14.9 -1.1**
comp=Z,66nm,1.9s
FRIS Frissel Point 84.94 42 P **P** **19 32 18.4 +1.5**
PYL PYLOS 84.94 309 P **P** **19 32 14.3 -2.5**
PYL PYLOS 84.94 309 *e*P **P** **19 32 15.3 -1.5**
IRO Indian Ridge 84.96 43 P **P** **19 32 18.3 +1.3**
KFL Anninata 84.97 310 P **P** **19 32 15.7 -1.2**
JAVS Javornik 84.98 320 *i* P **P** **19 32 16.4 -0.5**
JAVS *e*SKSac **sS** **19 43 37.3 -1.8**
VOY Vojsko 85.00 320 *e*P **P** **19 32 16.2 -0.8**
VOY *e* 19 32 34.7
VOY *e* 19 33 00.3

VLS **Valsamata** 85.07 311 P P 19 32 15.8 -1.6
VLS **Valsamata** 85.07 311 *e*P P 19 32 16.3 -1.1
WTSB **Winterswijk** 85.16 327 *e*P P 19 32 17.2 -0.3
comp=Z,307nm,1.5s
HAWA **Hanford** 85.20 40 *e*P P 19 32 19.2 +1.3
comp=Z,200nm,1.5s
HAWA *e*pP **pP** 19 32 58.1 +2.1
FUR **Furstenfeldbru** 85.22 323 *e*P P 19 32 18.6 +0.6
FUR pmax pmax
comp=Z,520nm,1.3s
FUR **Furstenfeldbru** 85.22 323 *e*P P 19 32 18.6 +0.6
comp=Z,520nm,1.3s
BUG **Bochum--Univer** 85.26 327 *e*P P 19 32 18.1 +0.1
comp=Z,233nm,1.4s
HUMO **Hull Mountain** 85.30 44 *e*P P 19 32 19.9 +1.4
comp=Z,33nm,0.7s
ABTA **Abfaltersbach** 85.37 321 ⇓*i*P P 19 32 17.4 -1.5
comp=Z,71nm,0.9s
ABTA **Abfaltersbach** 85.37 321 ⇓*i*P P 19 32 17.4 -1.5
comp=Z,71nm,0.9s,SNR=34
NEW **Newport** 85.43 37 *e*P P 19 32 19.6 +0.6
comp=Z,64nm,0.9s
NEW *e*pP **pP** 19 32 58.7 +1.5
NEW **Newport** 85.43 37 ⇑P P 19 32 20.4 +1.3
baz=85
NEW ⇓S S 19 42 36.8 -0.7
baz=85
NEW ⇓S S 19 42 36.8 -0.7
baz=85
WATA **Walderalm** 85.54 322 ⇓*i*P P 19 32 19.3 -0.5
WATA pmax pmax
comp=Z,31nm,0.8s
WATA **Walderalm** 85.54 322 ⇓*i*P P 19 32 19.3 -0.5
comp=Z,31nm,0.8s
WATA **Walderalm** 85.54 322 ⇓*i*P P 19 32 19.3 -0.5
comp=Z,31nm,0.8s,SNR=14
WTTA **Wattenberg** 85.55 322 *i* P P 19 32 19.5 -0.3
WTTA pmax pmax
comp=Z,161nm,1.2s
WTTA **Wattenberg** 85.55 322 *i* P P 19 32 19.5 -0.3
comp=Z,161nm,1.2s
WTTA **Wattenberg** 85.55 322 *i* PcP P 19 32 19.5 -0.3
comp=Z,161nm,1.2s,SNR=61
TOD **Tromm** 85.64 325 *e*P P 19 32 20.4 +0.3
TOD **Tromm** 85.64 325 *e*P P 19 32 20.4 +0.3
VIPM **Ingram Point** 85.65 42 P P 19 32 21.6 +1.2
VIPM **Ingram Point** 85.65 42 P P 19 32 21.6 +1.2
KHMM **Horse Mountain** 85.76 46 *e*P P 19 32 21.1 +0.2
comp=Z,112nm,1.5s
MOTA **Moosalm** 85.80 322 ⇓*i*P P 19 32 20.3 -0.7
MOTA pmax pmax
comp=Z,58nm,1.0s
MOTA **Moosalm** 85.80 322 ⇓*i*P P 19 32 20.3 -0.7
comp=Z,58nm,1.0s
MOTA **Moosalm** 85.80 322 ⇓*i*P P 19 32 20.3 -0.7
comp=Z,58nm,1.0s,SNR=27
A12A **Yaak River Ran** 85.80 36 ⇓P P 19 32 22.5 +1.6
baz=86
SFJD **Kangerlussuaq** 85.88 359 *e*P P 19 32 19.9 -0.9
comp=Z,274nm,1.2s
SFJD **Kangerlussuaq** 85.88 359 ⇓*i*P P 19 32 20.3 -0.5
comp=Z,107nm,0.9s
RETA **Reutte** 85.90 322 ⇓*i*P P 19 32 20.8 -0.6
comp=Z,36nm,1.1s
RETA **Reutte** 85.90 322 ⇓*i*P P 19 32 20.8 -0.6
comp=Z,36nm,1.1s,SNR=12
YBH **Yreka Blue Hor** 85.93 45 *e*P P 19 32 23.1 +1.4
comp=Z,64nm,1.1s
YBH *e*pP **pP** 19 33 01.9 +2.0
STU **Stuttgart** 85.95 324 *e*P P 19 32 21.4 -0.1
STU pmax pmax
comp=Z,25nm,0.8s
STU **Stuttgart** 85.95 324 *e*P P 19 32 21.5 -0.1
comp=Z,182nm,1.5s
STU *e*PP **PP** 19 35 43.8 +0.9
STU **Stuttgart** 85.95 324 *e*P P 19 32 21.4 -0.1
comp=Z,25nm,0.8s
ABH **Alteburg** 86.11 326 *e*P P 19 32 21.1 -1.2
B12A **Libby** 86.12 36 ⇑P P 19 32 24.0 +1.5
baz=86
KTD **Kalmit** 86.19 325 *e*P P 19 32 23.2 +0.4
KTD **Kalmit** 86.19 325 *e*P P 19 32 23.2 +0.4
FETA **Feichten** 86.20 322 ⇓*i*P P 19 32 22.6 -0.4
comp=Z,86nm,1.2s
FETA **Feichten** 86.20 322 ⇓*i*PcP P 19 32 22.6 -0.4
comp=Z,86nm,1.2s,SNR=32
HGN **Heimansgroeve** 86.34 327 *e*P P 19 32 22.5 -0.9
comp=Z,381nm,2.2s
MEM **Membach** 86.41 327 P P 19 32 23.3 -0.4
comp=Z,31nm,2.0s
A13A **Flathead Natio** 86.44 35 ⇓P P 19 32 25.5 +1.4
baz=86
BEBN **Eben Emael** 86.45 327 P P 19 32 23.4 -0.4
RUP **Ruppelstein** 86.47 326 *e*P P 19 32 24.5 +0.4
RUP S SP 19 43 47.6 +0.1
RUP **Ruppelstein** 86.47 326 *e*P P 19 32 24.5 +0.4
RUP S SP 19 43 47.6 +0.1
DAVA **Damuels** 86.50 323 ⇑*i*P P 19 32 23.8 -0.7
comp=Z,73nm,1.0s
DAVA **Damuels** 86.50 323 ⇑*i*P P 19 32 23.8 -0.7
comp=Z,73nm,1.0s,SNR=20
ESY **Stoneypath** 86.53 334 *e*P P 19 32 23.3 -0.9
ESY **Stoneypath** 86.53 334 P P 19 32 23.3 -0.9
LANF **Langenberg** 86.54 325 *e*P P 19 32 25.2 +0.7
LANF **Langenberg** 86.54 325 *e*P P 19 32 25.2 +0.7
LANF **Langenberg** 86.54 325 *e*P P 19 32 25.2 +0.7
SPAK **Spaichingen-Ko** 86.58 324 *e*P P 19 32 24.7 -0.1
WALA **Waterton Lakes** 86.62 35 *e*P P 19 32 25.9 +0.8
comp=Z,4.8nm,1.4s
C12B **Naegeli Ranch,** 86.65 37 ⇑P P 19 32 26.6 +1.6
baz=86
WDC **Whiskeytown Da** 86.67 46 *e*P P 19 32 25.9 +0.6
WDC pmax pmax
comp=Z,46nm,0.9s
WDC **Whiskeytown Da** 86.67 46 *e*P P 19 32 25.9 +0.6
comp=Z,46nm,0.9s
BFO **Black Forest** 86.68 324 *e*P P 19 32 24.5 -0.6
BFO pmax pmax
comp=Z,147nm,1.6s
BFO **Black Forest** 86.68 324 *e*P P 19 32 24.6 -0.6
comp=Z,128nm,1.5s
BFO **Black Forest** 86.68 324 *e*P P 19 32 24.5 -0.6
comp=Z,147nm,1.6s
BFO **Black Forest** 86.68 324 P P 19 32 24.2 -1.0
comp=Z,270nm,1.7s,SNR=9.1
F10A **Beach Ranch, E** 86.74 39 P P 19 32 26.8 +1.2
B13A **Whitefish** 86.76 36 ⇑P P 19 32 27.5 +1.8
baz=87
DAVOX **Davos/Dischmat** 86.81 322 LR LR 20 14 27.1
comp=Z,844nm,21.2s,baz=48,slow=38
EBL **Broad Law** 86.81 334 *e*P P 19 32 23.8 -1.8
EBL **Broad Law** 86.81 334 P P 19 32 23.8 -1.8
BCLA **Clavier** 86.87 327 P P 19 32 25.6 -0.4
BSMT **Bassoo Peak** 86.92 36 *e*P P 19 32 27.4 +0.8
comp=Z,49nm,0.9s
A14A **Double T Ranch** 86.92 35 ⇓P P 19 32 28.0 +1.5
baz=87
WLF **Walferdange** 86.94 326 P P 19 32 25.8 -0.6
WLF **Walferdange** 86.94 326 *e*P P 19 32 26.1 -0.3
WLF pmax pmax
comp=Z,134nm,1.4s
WLF **Walferdange** 86.94 326 *e*P P 19 32 26.6 +0.2
comp=Z,63nm,1.0s
WLF *e*PP **PP** 19 35 52.1 +1.3
WLF **Walferdange** 86.94 326 *e*P P 19 32 26.1 -0.3
comp=Z,134nm,1.4s
EAB **Aberfoyle** 86.99 335 *e*P P 19 32 25.2 -1.2
EAB **Aberfoyle** 86.99 335 P P 19 32 25.2 -1.2
BLMT **Blacktail Moun** 87.05 36 *e*P P 19 32 27.9 +0.8
comp=Z,127nm,1.5s
D12A **Red Ives Fores** 87.12 37 ⇑P P 19 32 28.4 +1.0
baz=87
FELD **Feldberg im Sc** 87.13 324 *e*P P 19 32 27.1 -0.4
C13A **Hot Springs** 87.14 36 ⇓P P 19 32 29.0 +1.5
baz=87
LIBD **Limburg** 87.17 324 *e*P P 19 32 27.8 +0.3
LIBD **Limburg** 87.17 324 *e*P P 19 32 27.8 +0.3
CDF **Champ du Feu** 87.17 325 *e*P P 19 32 27.0 -0.6
comp=Z,170nm,1.2s
CDF **Champ du Feu** 87.17 325 *e*P P 19 32 27.0 -0.6
CDF pmax pmax
comp=Z,171nm,1.2s
CDF **Champ du Feu** 87.17 325 *e*P P 19 32 27.0 -0.6
comp=Z,170nm,1.2s
EKA **Eskdalemuir Ar** 87.17 334 LR LR 20 15 10.6
comp=Z,715nm,19.5s,baz=40,slow=38
ESK **Eskdalemuir** 87.20 334 *e*P P 19 32 26.2 -1.2
ESK AMB AMB 19 32 30.6
comp=Z,172nm,3.4s
ESK **Eskdalemuir** 87.20 334 P P 19 32 26.2 -1.2
ESK AMB AMB 19 32 30.6
comp=Z,172nm,3.4s
JTMT **Jette** 87.25 36 *e*P P 19 32 28.9 +0.8
comp=Z,62nm,1.2s
A15A **Johnson Ranch,** 87.27 35 ⇑P P 19 32 29.1 +1.0
baz=87
ECK **Cauldkaine Hil** 87.27 334 *e*P P 19 32 27.0 -0.8
ECK **Cauldkaine Hil** 87.27 334 P P 19 32 27.0 -0.8
TUE **Stuetta** 87.28 322 *e*P P 19 32 27.8 -0.6
comp=Z,185nm,1.4s
SNF **Seneffe** 87.31 327 P P 19 32 27.5 -0.5
GIVF **Givet** 87.31 327 *e*P P 19 32 27.4 -0.7
comp=Z,136nm,1.3s
GIVF **Givet** 87.31 327 *e*P P 19 32 27.4 -0.7
GIVF pmax pmax
comp=Z,136nm,1.3s
GIVF **Givet** 87.31 327 *e*P P 19 32 27.4 -0.7
comp=Z,136nm,1.3s
YBMT **Yellow Bay** 87.32 36 *e*P P 19 32 29.7 +1.3
comp=Z,20nm,0.9s
MOD **Modoc** 87.33 44 *e*P P 19 32 29.2 +0.6
comp=Z,69nm,0.9s
ECH **Echery** 87.36 324 *e*P P 19 32 26.7 -1.7
ECH pmax pmax
comp=Z,66nm,1.4s
ECH **Echery** 87.36 324 *e*P P 19 32 26.7 -1.7
comp=Z,66nm,1.4s
ECH **Echery** 87.36 324 *e*P P 19 32 28.2 -0.2
BMO **Blue Mountains** 87.37 40 *e*P P 19 32 28.9 +0.2
comp=Z,39nm,1.1s
B14A **Marquette Ranc** 87.39 35 ⇑P P 19 32 30.5 +1.7
baz=87
E12A **Beaver Dam Sad** 87.39 38 ⇓P P 19 32 29.9 +1.2
baz=87
AQU **L'Aquila** 87.40 317 *e*P P 19 32 29.0 +0.2
comp=Z,195nm,1.1s
AQU **L'Aquila** 87.40 317 ⇑*i*P P 19 32 28.7 -0.1
DOU **Dourbes** 87.43 327 P P 19 32 28.3 -0.3
C14A **Swan Lake** 87.52 36 ⇑P P 19 32 30.8 +1.5
baz=87
SWMT **Swartz Lake** 87.55 36 *e*P P 19 32 29.8 +0.3
comp=Z,40nm,0.9s
D13A **Huson** 87.57 37 ⇑P P 19 32 30.2 +0.6
baz=87
MOF **Molkenrain** 87.60 324 *e*P P 19 32 26.9 -2.8
MOF **Molkenrain** 87.60 324 *e*P P 19 32 26.9 -2.8
MOF **Molkenrain** 87.60 324 *e*P P 19 32 26.9 -2.8
BAIF **Baives** 87.64 327 *e*P P 19 32 29.1 -0.6
comp=Z,34nm,0.9s
BAIF **Baives** 87.64 327 *e*P P 19 32 29.1 -0.6
BAIF pmax pmax
comp=Z,34nm,0.9s
BAIF **Baives** 87.64 327 *e*P P 19 32 29.1 -0.6
comp=Z,34nm,0.9s
BBS **Basel-Blauen** 87.65 324 *e*P P 19 32 29.5 -0.4
BBS **Basel-Blauen** 87.65 324 *e*P P 19 32 29.5 -0.4
HINF **Hinteralfeld** 87.77 324 *e*P P 19 32 29.2 -1.2
comp=Z,66nm,1.1s
HINF **Hinteralfeld** 87.77 324 *e*P P 19 32 29.2 -1.2
HINF pmax pmax
comp=Z,66nm,1.1s
HINF **Hinteralfeld** 87.77 324 *e*P P 19 32 29.2 -1.2
comp=Z,66nm,1.1s
B15A **Bradely Ranch,** 87.79 35 ⇓P P 19 32 31.7 +1.1
baz=88
PAGF **Fort de Pagny** 87.88 325 *e*P P 19 32 30.3 -0.6
comp=Z,21nm,0.9s
PAGF **Fort de Pagny** 87.88 325 *e*P P 19 32 30.3 -0.6
comp=Z,21nm,0.9s
HAU **Haudompre** 87.91 325 *e*P P 19 32 30.0 -1.1
comp=Z,75nm,1.1s
HAU *e*R
comp=Z,774nm,17.2s
HAU **Haudompre** 87.91 325 *e*P P 19 32 30.0 -1.1
HAU pmax pmax
comp=Z,75nm,1.1s
HAU **Haudompre** 87.91 325 *e*P P 19 32 30.0 -1.1
comp=Z,75nm,1.1s
THEF **They Montfort** 87.95 325 *e*P P 19 32 30.8 -0.4
THEF **They Montfort** 87.95 325 *e*P P 19 32 30.8 -0.4
THEF **They Montfort** 87.95 325 *e*P P 19 32 30.8 -0.4
F12A **Elk City** 87.97 38 ⇑P P 19 32 32.3 +0.8
baz=88,SNR=109
SLMT **Seeley Lake** 87.99 36 *e*P P 19 32 31.9 +0.3
comp=Z,102nm,0.8s
MSO **Missoula** 88.01 37 *e*P P 19 32 32.1 +0.4
comp=Z,45nm,1.2s
MSO **Missoula** 88.01 37 ⇑P P 19 32 32.2 +0.5
baz=88,SNR=28
D14A **Greenough** 88.08 36 ⇑P P 19 32 32.8 +0.8
baz=88
LOMF **Lomont** 88.08 324 *e*P P 19 32 32.1 +0.1
LOMF **Lomont** 88.08 324 *e*P P 19 32 32.1 +0.1
LOMF **Lomont** 88.08 324 *e*P P 19 32 32.1 +0.1
FFC **Flin Flon** 88.10 26 *e*P P 19 32 31.6 -0.2
FFC pmax pmax
comp=Z,272nm,1.0s
FFC **Flin Flon** 88.10 26 *e*P P 19 32 31.6 -0.2
comp=Z,272nm,1.0s
FFC **Flin Flon** 88.10 26 P P 19 32 31.5 -0.2
comp=Z,2µm,0.9s
C15A **Salmond Ranch,** 88.11 36 ⇓P P 19 32 33.6 +1.4
baz=88,SNR=179
E13A **Victor** 88.12 37 ⇑P P 19 32 32.6 +0.4
baz=88
B16A **M & M Farms, S** 88.16 35 ⇓P P 19 32 33.3 +1.0
baz=88
MEZF **Maizieres J'vi** 88.25 326 *e*P P 19 32 32.2 -0.4
comp=Z,54nm,0.9s
MEZF **Maizieres J'vi** 88.25 326 *e*P P 19 32 32.2 -0.4
comp=Z,54nm,0.9s
A17A **Triple J Farms** 88.31 34 ⇓P P 19 32 34.1 +1.1
baz=88,SNR=89
CHMT **Chamberlain Mo** 88.32 36 *e*P P 19 32 33.9 +0.6
comp=Z,76nm,1.6s
FRB **Frobisher Bay** 88.35 7 P P 19 32 31.8 -0.9
comp=Z,92nm,0.8s,baz=344,slow=5.5,SNR=199
FRB LR LR 20 11 30.3
comp=Z,456nm,21.9s,baz=346,slow=35
FRB **Frobisher Bay** 88.35 7 P P 19 32 31.8 -0.9
SFTF **Sexfontaines** 88.45 325 *e*P P 19 32 32.8 -0.8
comp=Z,153nm,1.1s
SFTF **Sexfontaines** 88.45 325 *e*P P 19 32 32.8 -0.8
comp=Z,153nm,1.1s
F13A **Darby** 88.45 38 ⇑P P 19 32 34.1 +0.3
baz=88
E14A **Clinton** 88.51 37 ⇑P P 19 32 35.2 +1.1
baz=88,SNR=46
D15A **Lincoln** 88.63 36 ⇓P P 19 32 35.6 +1.0
baz=88,SNR=36
B17A **L&G Farms, Che** 88.69 34 ⇓P P 19 32 36.2 +1.4
baz=88
A18A **Metzger Ranch,** 88.75 33 ⇑P P 19 32 36.0 +1.0
baz=88
H12A **Diamond D Ranc** 88.94 39 ⇓P P 19 32 37.4 +1.2
baz=89,SNR=96
CABF **La Chapelle** 88.94 324 *e*P P 19 32 35.1 -0.9
comp=Z,29nm,0.9s
CABF **La Chapelle** 88.94 324 *e*P P 19 32 35.1 -0.9
CABF pmax pmax
comp=Z,29nm,0.9s
CABF **La Chapelle** 88.94 324 *e*P P 19 32 35.1 -0.9
comp=Z,29nm,0.9s
G13A **Cobalt** 88.95 38 ⇓P P 19 32 36.6 +0.4
baz=89
E15A **Deer Lodge** 88.96 37 ⇓P P 19 32 37.5 +1.3
baz=89
F14A **Wisdom** 88.96 37 ⇑P P 19 32 37.6 +1.3
baz=89,SNR=38
FOEL **Foel Wylfa** 88.98 332 *e*P P 19 32 34.5 -1.4
FOEL AMB AMB 19 32 41.2
comp=Z,115nm,3.1s
FOEL **Foel Wylfa** 88.98 332 P P 19 32 34.5 -1.4
FOEL AMB AMB 19 32 41.2
comp=Z,115nm,3.1s
MFID **Camas Ranch** 89.09 40 *e*P P 19 32 37.8 +0.9
comp=Z,182nm,1.6s
MFID *e*pP **pP** 19 33 16.4 +1.2
MFID **Camas Ranch** 89.09 40 ⇓P P 19 32 38.3 +1.5
baz=89,SNR=30
B18A **Beardsley Farm** 89.13 34 ⇓P P 19 32 38.1 +1.3
baz=89
D16A **Dana Ranch, Ca** 89.14 36 ⇑P P 19 32 38.3 +1.3
baz=89
C17A **Wharram Farm,** 89.15 35 ⇑P P 19 32 37.6 +0.6
baz=89
WCN **Washoe City** 89.16 45 *e*P P 19 32 38.3 +1.0
WCN pmax pmax
comp=Z,48nm,1.5s
WCN **Washoe City** 89.16 45 *e*P P 19 32 38.3 +1.0
comp=Z,48nm,1.5s
HRY **Holter Researc** 89.20 36 *e*P P 19 32 37.9 +0.6
comp=Z,102nm,0.7s
H13A **Challis** 89.27 39 ⇑P P 19 32 38.7 +1.0
baz=89,SNR=27
G14A **Jackson** 89.27 38 ⇑P P 19 32 38.1 +0.3
baz=89,SNR=6.6
A19A **Klindworth Far** 89.28 33 ⇓P P 19 32 38.8 +1.2
baz=89
LPL **La Plagne** 89.30 323 *e*P P 19 32 37.4 -0.5
comp=Z,37nm,0.8s
LPL **La Plagne** 89.30 323 *e*P P 19 32 37.4 -0.5
LPL pmax pmax
comp=Z,37nm,0.8s
LPL **La Plagne** 89.30 323 *e*P P 19 32 37.4 -0.5
comp=Z,37nm,0.8s
LPG **La Plagne** 89.31 323 *e*P P 19 32 37.5 -0.5
comp=Z,34nm,0.7s
LPG **La Plagne** 89.31 323 *e*P P 19 32 37.5 -0.5
LPG pmax pmax
comp=Z,34nm,0.7s
LPG **La Plagne** 89.31 323 *e*P P 19 32 37.5 -0.5
comp=Z,34nm,0.7s
EGMT **Eagleton** 89.39 34 *e*P P 19 32 38.7 +0.6
comp=Z,182nm,0.9s
EGMT **Eagleton** 89.39 34 ⇑P P 19 32 39.4 +1.3
baz=89
E16A **East Helena** 89.40 36 ⇑P P 19 32 39.7 +1.5
baz=89
F15A **Butte** 89.41 37 ⇑P P 19 32 39.8 +1.4
baz=89,SNR=64
LRM **Limekiln Ridge** 89.45 37 *e*P P 19 32 39.5 +0.8
comp=Z,855nm,1.3s
CMB **Columbia Colle** 89.49 47 *e*P P 19 32 39.6 +0.9
CMB pmax pmax
comp=Z,41nm,1.4s
CMB **Columbia Colle** 89.49 47 *e*P P 19 32 39.6 +0.9
comp=Z,41nm,1.4s
B19A **Brinkman Farms** 89.50 33 ⇑P P 19 32 39.7 +1.1
baz=89
D17A **Six Diamond Ra** 89.50 35 ⇑P P 19 32 40.0 +1.3
baz=89
MCH1 **Michaelchurch** 89.55 332 *e*P P 19 32 37.4 -1.3
MCH1 AMB AMB 19 32 40.7
comp=Z,135nm,2.9s
MCH1 **Michaelchurch** 89.55 332 P P 19 32 37.4 -1.3
MCH1 AMB AMB 19 32 40.7
comp=Z,135nm,2.9s
OPO **Ambohidratompo** 89.61 249 P P 19 32 39.5 -0.2
comp=Z,32nm,1.0s,baz=70,slow=3.5,SNR=23
OPO **Ambohidratompo** 89.61 249 P P 19 32 39.5 -0.2
BNI **Bardonecchia** 89.63 322 *e*P P 19 32 39.0 -0.3
BNI pmax pmax
comp=Z,24nm,1.0s
BNI **Bardonecchia** 89.63 322 *e*P P 19 32 39.0 -0.3
comp=Z,24nm,1.0s
DLMT **Dillon** 89.67 37 *e*P P 19 32 40.5 +1.0
comp=Z,237nm,1.3s
LOR **Lormes** 89.67 325 *e*P P 19 32 38.0 -1.3
comp=Z,48nm,1.2s
LOR *e*R
comp=Z,758nm,19.8s
LOR **Lormes** 89.67 325 *e*P P 19 32 38.0 -1.3
comp=Z,48nm,1.2s
A20A **Cobblestone Ra** 89.70 33 ⇓P P 19 32 40.6 +1.1
baz=90
H14A **Leadore** 89.72 38 ⇑P P 19 32 40.6 +0.7
baz=90,SNR=16
I13A **Wildhorse Cree** 89.75 39 ⇓P P 19 32 42.1 +2.0
baz=90,SNR=94
MBDF **Montbardon** 89.79 322 *e*P P 19 32 38.9 -1.2
comp=Z,25nm,0.8s
MBDF **Montbardon** 89.79 322 *e*P P 19 32 38.9 -1.2
MBDF pmax pmax
comp=Z,25nm,0.8s
MBDF **Montbardon** 89.79 322 *e*P P 19 32 38.9 -1.2
comp=Z,25nm,0.8s
ABPO **Ambohimpanom** 89.79 249 *e*P P 19 32 40.1 -0.4
ABPO pmax pmax
comp=Z,49nm,0.9s
ABPO **Ambohimpanom** 89.79 249 *e*P P 19 32 40.1 -0.4
comp=Z,49nm,0.9s
HLID **Hailey** 89.81 40 *e*P P 19 32 41.1 +0.9
comp=Z,121nm,1.4s
HLID *e*pP **pP** 19 33 20.0 +1.4
HLID **Hailey** 89.81 40 ⇑P P 19 32 42.2 +2.0
baz=90,SNR=57
SAOF **Saorge** 89.82 321 *e*P P 19 32 40.1 0.0
SAOF **Saorge** 89.82 321 *e*P P 19 32 40.1 0.0
SAOF **Saorge** 89.82 321 *e*P P 19 32 40.1 0.0
G15A **Dillon** 89.85 37 ⇑P P 19 32 41.9 +1.5
baz=90,SNR=121
E17A **Martinsdale** 89.87 36 ⇓P P 19 32 42.0 +1.5
baz=90,SNR=126
MCMT **McKenzie Canyo** 89.87 38 *e*P P 19 32 41.9 +1.2
comp=Z,8.8nm,0.8s
AUTN **L'Aution** 89.89 321 *e*P P 19 32 40.6 -0.1
AUTN **L'Aution** 89.89 321 *e*P P 19 32 40.6 -0.1
AUTN **L'Aution** 89.89 321 *e*P P 19 32 40.6 -0.1
PGF **Pioggiola** 89.90 319 *e*P P 19 32 40.3 -0.3
comp=Z,595nm,1.4s
PGF **Pioggiola** 89.90 319 *e*P P 19 32 40.3 -0.3
PGF pmax pmax
comp=Z,595nm,1.4s
PGF **Pioggiola** 89.90 319 *e*P P 19 32 40.3 -0.3
comp=Z,595nm,1.4s
F16A **Kennard Place,** 89.91 37 ⇑P P 19 32 41.8 +1.2
baz=90,SNR=18
D18A **Linhart Farms,** 89.92 35 ⇑P P 19 32 41.9 +1.3
baz=90,SNR=37
C19A **Slack Wire Ran** 89.94 34 ⇓P P 19 32 42.1 +1.5
baz=90,SNR=118
B20A **Solberg Farm,** 89.96 33 ⇓P P 19 32 41.8 +1.1
baz=90
SBF **Sospel** 89.97 321 *e*P P 19 32 39.9 -0.9
comp=Z,60nm,0.8s
SBF **Sospel** 89.97 321 *e*P P 19 32 39.9 -0.9
SBF pmax pmax
comp=Z,60nm,0.8s
SBF **Sospel** 89.97 321 *e*P P 19 32 39.9 -0.9
comp=Z,60nm,0.8s
TOUF **Mont Tournerai** 89.98 321 *e*P P 19 32 41.0 0.0
TOUF **Mont Tournerai** 89.98 321 *e*P P 19 32 41.0 0.0
TOUF **Mont Tournerai** 89.98 321 *e*P P 19 32 41.0 0.0
SSF **Saint Saulge** 89.98 325 *e*P P 19 32 39.6 -1.2
comp=Z,24nm,1.1s
SSF **Saint Saulge** 89.98 325 *e*P P 19 32 39.6 -1.2
SSF pmax pmax
comp=Z,24nm,1.1s
SSF **Saint Saulge** 89.98 325 *e*P P 19 32 39.6 -1.2
comp=Z,24nm,1.1s
BOZ **Bozeman (W)** 90.00 37 *e*P P 19 32 41.4 +0.3
BOZ pmax pmax
comp=Z,55nm,1.0s
BOZ **Bozeman (W)** 90.00 37 *e*P P 19 32 41.4 +0.3
comp=Z,55nm,1.0s
BOZ **Bozeman (W)** 90.00 37 ⇑P P 19 32 42.6 +1.6
baz=90
J13A **Cove Ranch, Pi** 90.04 40 ⇓P P 19 32 43.3 +2.0
baz=90,SNR=53
BMN **Battle Mountai** 90.07 43 *e*P P 19 32 43.1 +1.6
BMN pmax pmax
comp=Z,52nm,1.4s
BMN **Battle Mountai** 90.07 43 *e*P P 19 32 43.1 +1.6
comp=Z,52nm,1.4s
REVF **Revere** 90.08 321 *e*P P 19 32 41.0 -0.4
REVF **Revere** 90.08 321 *e*P P 19 32 41.0 -0.4
REVF **Revere** 90.08 321 *e*P P 19 32 41.0 -0.4
SMF **Signal de Mont** 90.09 325 *e*P P 19 32 40.2 -1.1
comp=Z,48nm,1.1s
SMF **Signal de Mont** 90.09 325 *e*P P 19 32 40.2 -1.1
SMF pmax pmax
comp=Z,48nm,1.0s
SMF **Signal de Mont** 90.09 325 *e*P P 19 32 40.2 -1.1
comp=Z,48nm,1.0s
A21A **Bergtoll Ranch** 90.10 32 ⇑P P 19 32 42.6 +1.2
baz=90
MVIF **Mont Vial** 90.11 321 *e*P P 19 32 41.6 0.0
MVIF **Mont Vial** 90.11 321 *e*P P 19 32 41.6 0.0
MVIF **Mont Vial** 90.11 321 *e*P P 19 32 41.6 0.0

I14A	**Mackay** baz=90,SNR=70	90.11	39	⇓P		P		19 32 43.6	+1.9
H15A	**Lima** baz=90,SNR=15	90.12	38	⇑P		P		19 32 42.9	+1.1
KMBO	**Kilima Mbogo** comp=Z,165nm,1.3s	90.13	269	eP		P		19 32 42.5	+0.2
KMBO	**Kilima Mbogo** SNR=46	90.13	269	P		P		19 32 43.5	+1.2
ORIF	**Oris-en-Rattie**	90.15	322	eP		P		19 32 40.8	-0.9
ORIF	comp=Z,1µm,22.2s			eR					
ORIF	**Oris-en-Rattie**	90.15	322	eP		P		19 32 40.8	-0.9
ORIF	**Oris-en-Rattie**	90.15	322	eP		P		19 32 40.8	-0.9
G16A	**Moss Hill, Enn** baz=90,SNR=63	90.18	37	⇓P		P		19 32 43.3	+1.3
AVF	**Avril sur Loir** comp=Z,94nm,1.5s	90.25	325	eP		P		19 32 40.9	-1.1
AVF	**Avril sur Loir**	90.25	325	eP		P		19 32 40.9	-1.1
AVF				pmax		pmax			
AVF	**Avril sur Loir** comp=Z,94nm,1.5s	90.25	325	eP		P		19 32 40.9	-1.1
HYF	**Humbligny**	90.28	326	eP		P		19 32 41.8	-0.4
HYF	**Humbligny**	90.28	326	eP		P		19 32 41.8	-0.4
E18A	**Harlowton** baz=90,SNR=110	90.29	35	⇑P		P		19 32 43.9	+1.6
F17A	**Fitzpatrick Pl** baz=90,SNR=54	90.34	36	⇓P		P		19 32 44.0	+1.4
D19A	**Cripps Ranch,** baz=90,SNR=33	90.41	34	⇓P		P		19 32 44.2	+1.4
B21A	**Ellsworth Farm** baz=90,SNR=13	90.45	33	⇓P		P		19 32 44.0	+1.0
C20A	**Veseth Ranch,** baz=90	90.47	34	⇓P		P		19 32 44.6	+1.5
A22A	**Carney Farms,** baz=90	90.58	32	⇑P		P		19 32 44.5	+0.9
HEX	**Exmoor**	90.58	331	eP		P		19 32 41.4	-2.1
HEX	**Exmoor**	90.58	331	P		P		19 32 41.4	-2.1
NVAR	**Mina Array Bea** comp=Z,12nm,0.7s,baz=288,slow=5.0,SNR=24	90.59	45	P		P		19 32 45.6	+1.5
NVAR	**Mina Array Bea**	90.59	45	P		P		19 32 45.6	+1.5
FRF	**La Foret Royal** comp=Z,143nm,1.7s	90.60	321	eP		P		19 32 42.6	-1.1
FRF	**La Foret Royal**	90.60	321	eP		P		19 32 42.6	-1.1
FRF				pmax		pmax			
FRF	**La Foret Royal** comp=Z,143nm,1.7s	90.60	321	eP		P		19 32 42.6	-1.1
I15A	**Monteview** baz=90,SNR=6.0	90.61	38	⇑P		P		19 32 45.5	+1.6
QLMT	**Earthquake Lak** comp=Z,9.3nm,0.9s	90.64	37	eP		P		19 32 46.0	+1.9
BGF	**Bois d'Agland**	90.66	325	eP		P		19 32 42.7	-1.2
BGF	**Bois d'Agland**	90.66	325	eP		P		19 32 42.7	-1.2
BGF	**Bois d'Agland**	90.66	325	eP		P		19 32 42.7	-1.2
NV11	**Mina Array Sit**	90.68	45	eP		P		19 32 45.5	+1.0
G17A	**Pierce Place,** baz=90,SNR=12	90.69	37	⇑P		P		19 32 46.0	+1.8
LDF	**La Druitiere** comp=Z,123nm,1.2s	90.71	328	eP		P		19 32 43.2	-0.9
LDF	**La Druitiere**	90.71	328	eP		P		19 32 43.2	-0.9
LDF				pmax		pmax			
LDF	**La Druitiere** comp=Z,123nm,1.2s	90.71	328	eP		P		19 32 43.2	-0.9
MLAC	**Mammoth Lakes** baz=91	90.72	46	⇑P		P		19 32 46.1	+1.4
FLN	**La Foliniere** comp=Z,40nm,0.9s	90.76	328	eP		P		19 32 43.2	-1.1
FLN	comp=Z,931nm,18.0s			eR					
FLN	**La Foliniere**	90.76	328	eP		P		19 32 43.2	-1.1
FLN				pmax		pmax			
FLN	**La Foliniere** comp=Z,40nm,0.9s	90.76	328	eP		P		19 32 43.2	-1.1
H16A	**Russell Place,** baz=91,SNR=71	90.82	37	⇑P		P		19 32 47.2	+2.2
LMR	**La Mourre** comp=Z,303nm,1.7s	90.82	321	eP		P		19 32 44.0	-0.7
LMR	**La Mourre**	90.82	321	eP		P		19 32 44.0	-0.7
LMR				pmax		pmax			
LMR	**La Mourre** comp=Z,303nm,1.7s	90.82	321	eP		P		19 32 44.0	-0.7
D20A	**Manuel Ranch,** baz=91	90.83	34	⇑P		P		19 32 46.3	+1.5
C21A	**Desert Coulee** baz=91	90.83	33	⇑P		P		19 32 45.8	+1.0
F18A	**Big Timber** baz=91	90.83	36	⇑P		P		19 32 46.4	+1.5
VIVF	**Saint-Julien-l** comp=Z,70nm,1.4s	90.84	323	eP		P		19 32 43.9	-0.9
VIVF	**Saint-Julien-l**	90.84	323	eP		P		19 32 43.9	-0.9
VIVF				pmax		pmax			
VIVF	**Saint-Julien-l** comp=Z,70nm,1.4s	90.84	323	eP		P		19 32 43.9	-0.9
AGO	**Saint Agoulin**	90.85	325	eP		P		19 32 44.7	-0.2
AGO	**Saint Agoulin**	90.85	325	eP		P		19 32 44.7	-0.2
SMRF	**Simiane la Rot** comp=Z,156nm,1.7s	90.93	322	eP		P		19 32 44.5	-0.8
SMRF	**Simiane la Rot** comp=Z,156nm,1.7s	90.93	322	eP		P		19 32 44.5	-0.8
E19A	**Rath Farm, Rou** baz=91,SNR=70	90.94	35	⇑P		P		19 32 46.6	+1.3
GCMT	**Greycliff** comp=Z,55nm,0.9s	90.94	36	eP		P		19 32 46.0	+0.6
YMR	**Madison River** comp=Z,123nm,1.0s	91.00	37	eP		P		19 32 47.2	+1.4
J15A	**Blackfoot** baz=91,SNR=14	91.02	39	⇓P		P		19 32 48.0	+2.1
B22A	**Reddig Ranch S** baz=91	91.03	32	⇑P		P		19 32 46.7	+1.0
ELK	**Elko**	91.08	42	eP		P		19 32 47.2	+0.9
A23A	**Redstone** baz=91,SNR=14	91.08	31	⇑P		P		19 32 47.0	+1.1
PYM	**Petit Puy Mans**	91.12	324	eP		P		19 32 46.0	-0.2
PYM	**Petit Puy Mans**	91.12	324	eP		P		19 32 46.0	-0.2
PYM	**Petit Puy Mans**	91.12	324	eP		P		19 32 46.0	-0.2
TCF	**Toulx Ste Croi** comp=Z,32nm,1.2s	91.17	325	eP		P		19 32 45.4	-0.9
TCF	**Toulx Ste Croi**	91.17	325	eP		P		19 32 45.4	-0.9
TCF				pmax		pmax			
TCF	**Toulx Ste Croi** comp=Z,32nm,1.2s	91.17	325	eP		P		19 32 45.4	-0.9
GRR	**Gorron** comp=Z,96nm,1.2s	91.20	328	eP		P		19 32 45.6	-0.8
GRR	**Gorron**	91.20	328	eP		P		19 32 45.6	-0.8
GRR				pmax		pmax			
GRR	**Gorron** comp=Z,96nm,1.2s	91.20	328	eP		P		19 32 45.6	-0.8
YFT	**Old Faithful** comp=Z,93nm,0.8s	91.21	37	eP		P		19 32 50.1	+3.3
RCTC	**Rector, Farmer** baz=91	91.23	48	⇑P		P		19 32 47.7	+1.0
I16A	**Newdale** baz=91,SNR=22	91.23	38	⇓P		P		19 32 49.2	+2.3
E20A	**Meyer Farm, Mu** baz=91	91.24	34	⇓P		P		19 32 48.2	+1.5
F19A	**Roth Farm, Mol** baz=91	91.27	35	⇓P		P		19 32 48.0	+1.1
SMMC	**Simmler** baz=91	91.30	49	⇑P		P		19 32 48.9	+1.7
G18A	**Lazy EL Ranch,** baz=91	91.31	36	⇑P		P		19 32 47.9	+0.7
LBL	**Lubilhac**	91.34	324	eP		P		19 32 46.8	-0.4
LBL	**Lubilhac**	91.34	324	eP		P		19 32 46.8	-0.4
LBL	**Lubilhac**	91.34	324	eP		P		19 32 46.8	-0.4
LKWY	**Lake**	91.37	37	eP		P		19 32 50.0	+2.4
LKWY				pmax		pmax			
LKWY	**Lake** comp=Z,131nm,0.9s	91.37	37	eP		P		19 32 50.0	+2.4
B23A	**Brockton** baz=91	91.38	32	⇓P		P		19 32 48.3	+1.1
H17A	**Grant Village** baz=91,SNR=80	91.39	37	⇑P		P		19 32 51.0	+3.3
D21A	**La Casta Ranch** baz=91	91.41	34	⇓P		P		19 32 48.7	+1.2
K15A	**Arbon** baz=91,SNR=10	91.43	39	⇓P		P		19 32 49.5	+1.7
L14A	**Malta** baz=91,SNR=20	91.44	40	⇓P		P		19 32 49.8	+2.0
TIN	**Tinemaha**	91.45	47	⇓P		P		19 32 49.7	+1.8
C22A	**Vida** baz=91	91.47	32	⇓P		P		19 32 48.7	+0.9
A24A	**Westby** baz=91	91.51	31	⇓P		P		19 32 48.9	+1.1
IMW	**Indian Meadow** comp=Z,59nm,0.9s	91.52	38	eP		P		19 32 49.9	+1.6
FLWY	**Flags Ranch** comp=Z,112nm,0.8s	91.53	37	eP		P		19 32 50.2	+1.9
VSL	**Villasalto** comp=Z,43nm,1.0s	91.55	317	eP		P		19 32 48.0	-0.2
J16A	**Bone** baz=91,SNR=34	91.56	39	⇓P		P		19 32 50.4	+2.0
DCID1	**Drake Creek** comp=Z,89nm,1.4s	91.58	38	eP		P		19 32 50.2	+1.7
RLMT	**Red Lodge** comp=Z,78nm,0.9s	91.59	36	eP		P		19 32 49.5	+1.0
RLMT	**Red Lodge** baz=91	91.59	36	⇓P		P		19 32 50.3	+1.7
VES	**Vestal, Richgr** baz=92	91.60	48	⇓P		P		19 32 49.0	+0.5
PKM	**Peak Mountain** baz=92	91.66	49	⇑P		P		19 32 50.6	+1.5
RRI2	**Red Ridge** comp=Z,36nm,0.8s	91.67	38	eP		P		19 32 50.2	+1.2
H18A	**Shoshone NF, C** baz=92,SNR=41	91.69	37	⇓P		P		19 32 50.4	+1.4
MOOW	**Moose Ponds** comp=Z,68nm,1.4s	91.72	38	eP		P		19 32 50.2	+1.0
E21A	**Keefer Ranch,** baz=92	91.74	34	⇓P		P		19 32 50.4	+1.4
DGMT	**Dagmar** comp=Z,401nm,1.4s	91.75	31	eP		P		19 32 49.6	+0.7
DGMT	**Dagmar** baz=92	91.75	31	⇓P		P		19 32 50.0	+1.1
D22A	**Cohagen** baz=92,SNR=25	91.75	33	⇑P		P		19 32 50.1	+1.0
C23A	**Lambert** baz=92,SNR=23	91.77	32	⇑P		P		19 32 50.3	+1.2
TPAW	**Teton Pass** comp=Z,42nm,0.5s	91.78	38	eP		P		19 32 51.4	+1.8
LASF	**Ste Croix** comp=Z,61nm,1.3s	91.80	323	eP		P		19 32 48.7	-0.6
LASF	**Ste Croix** comp=Z,61nm,1.3s	91.80	323	eP		P		19 32 48.7	-0.6
K16A	**Soda Springs** baz=92,SNR=20	91.86	39	⇑P		P		19 32 51.8	+2.0
HVU	**Hansel Valley**	91.87	40	eP		P		19 32 51.9	+2.1
HVU				pmax		pmax			
HVU	**Hansel Valley** comp=Z,36nm,0.7s	91.87	40	eP		P		19 32 51.9	+2.1
LOHW	**Long Hollow** comp=Z,18nm,0.8s	91.89	38	eP		P		19 32 51.0	+1.0
SNOW	**Snow King Moun** comp=Z,18nm,0.6s	91.91	38	eP		P		19 32 52.3	+2.2
CWC	**Cottonwood Cre** baz=92	91.91	47	⇓P		P		19 32 51.0	+0.9
REDW	**Red Top Meadow** comp=Z,0.2nm,0.9s	91.92	38	eP		P		19 32 52.0	+1.9
L15A	**Malad City** baz=92	91.95	40	⇑P		P		19 32 51.8	+1.6
J17A	**Brown Place, J** baz=92,SNR=22	92.00	38	⇑P		P		19 32 52.3	+1.8
SBC	**Santa Barbara** baz=92	92.00	49	⇑P		P		19 32 51.8	+1.5
GRAC	**Grapevine Rang** baz=92	92.03	46	⇓P		P		19 32 52.1	+1.6
H19A	**Powell** baz=92,SNR=32	92.05	36	⇑P		P		19 32 52.2	+1.6
G20A	**Bridger** baz=92	92.07	35	⇑P		P		19 32 51.4	+0.8
SGMF	**Saint Gilles** comp=Z,175nm,1.2s	92.09	329	eP		P		19 32 49.6	-0.9
SGMF	**Saint Gilles**	92.09	329	eP		P		19 32 49.6	-0.9
SGMF				pmax		pmax			
SGMF	**Saint Gilles** comp=Z,175nm,1.2s	92.09	329	eP		P		19 32 49.6	-0.9
ISA	**Isabella**	92.11	48	eP		P		19 32 51.4	+0.4
ISA				pmax		pmax			
ISA	**Isabella** comp=Z,34nm,1.5s	92.11	48	eP		P		19 32 51.4	+0.4
ISA	**Isabella** baz=92	92.11	48	⇑P		P		19 32 51.3	+0.4
MFF	**Saint Martin d** comp=Z,95nm,1.3s	92.12	327	eP		P		19 32 50.0	-0.7
MFF	**Saint Martin d**	92.12	327	eP		P		19 32 50.0	-0.7
MFF				pmax		pmax			
MFF	**Saint Martin d** comp=Z,95nm,1.3s	92.12	327	eP		P		19 32 50.0	-0.7
CAF	**Calviac** comp=Z,65nm,1.2s	92.17	324	eP		P		19 32 50.5	-0.5
CAF	**Calviac**	92.17	324	eP		P		19 32 50.5	-0.5
CAF				pmax		pmax			
CAF	**Calviac** comp=Z,65nm,1.2s	92.17	324	eP		P		19 32 50.5	-0.5
AHID	**Auburn Hatcher** comp=Z,20nm,0.8s	92.17	39	eP		P		19 32 52.8	+1.6
ARVC	**Arvin** baz=92	92.19	48	⇓P		P		19 32 52.0	+0.8
RJF	**Les Rejaudoux** comp=Z,76nm,1.3s	92.19	325	eP		P		19 32 50.5	-0.6
RJF	comp=Z,643nm,21.8s			eR					
RJF	**Les Rejaudoux**	92.19	325	eP		P		19 32 50.5	-0.6
RJF				pmax		pmax			
RJF	**Les Rejaudoux** comp=Z,76nm,1.3s	92.19	325	eP		P		19 32 50.5	-0.6
F21A	**Absaloka Mine,** baz=92	92.21	34	⇑P		P		19 32 52.2	+0.9
I18A	**Diamond G Ranc** baz=92,SNR=31	92.26	37	⇑P		P		19 32 53.3	+1.6
M15A	**Larsen Ranch,** baz=92	92.26	40	⇓P		P		19 32 53.2	+1.6
K17A	**Gardner Place,** baz=92,SNR=5.7	92.28	39	⇓P		P		19 32 52.6	+0.8
BSC	**Santa Cruz Isl** baz=92	92.31	50	⇑P		P		19 32 53.2	+1.3
C24A	**Savage** baz=92,SNR=5.5	92.32	32	⇓P		P		19 32 52.5	+0.9
DAC	**Darwin (Calif)** comp=Z,7.0nm,0.7s	92.32	47	eP		P		19 32 52.7	+0.6
DAC				pmax		pmax			
DAC	**Darwin (Calif)** comp=Z,6.8nm,0.7s	92.32	47	eP		P		19 32 52.7	+0.6
R11A	**Troy Canyon, C** baz=92,SNR=11	92.34	44	⇑P		P		19 32 53.5	+1.4
ROSF	**Rostrenen** comp=Z,175nm,1.1s	92.35	329	eP		P		19 32 51.1	-0.6
ROSF	**Rostrenen**	92.35	329	eP		P		19 32 51.1	-0.6
ROSF				pmax		pmax			
ROSF	**Rostrenen** comp=Z,175nm,1.1s	92.35	329	eP		P		19 32 51.1	-0.6
E22A	**Miles City** baz=92,SNR=6.2	92.36	33	⇓P		P		19 32 52.9	+1.0
PPT	**Papeete**	92.45	108	LR		LR		20 06 09.2	
PPT2	comp=Z,888nm,19.9s,baz=246,slow=30 **Papeete2** comp=Z,415nm,24.0s	92.46	108	eSS		SS		19 49 58.0	-1.5
PPT2	comp=Z,1µm,21.8s,baz=297			eLR		LR		20 02 58.4	
I19A	**Meeteetse** baz=92,SNR=16	92.47	37	⇓P		P		19 32 54.1	+1.4
J18A	**Kendall Valley** baz=92,SNR=57	92.47	38	⇓P		P		19 32 54.1	+1.4
L16A	**Fish Haven** baz=92,SNR=12	92.48	39	⇓P		P		19 32 54.3	+1.6
MPMC	**Manual Prospec** baz=92	92.52	47	⇓P		P		19 32 54.3	+1.3
OSI	**Osito Adit** baz=92	92.56	49	⇑P		P		19 32 54.4	+1.4
G21A	**Lodge Grass** baz=92	92.59	35	⇓P		P		19 32 53.8	+0.8
N15A	**Stansbury Isla** baz=92	92.59	41	⇑P		P		19 32 54.9	+1.8
QUIF	**Quistinic** comp=Z,39nm,0.9s	92.61	329	eP		P		19 32 52.1	-0.8
QUIF	**Quistinic**	92.61	329	eP		P		19 32 52.1	-0.8
QUIF				pmax		pmax			
QUIF	**Quistinic** comp=Z,39nm,0.9s	92.61	329	eP		P		19 32 52.1	-0.8
BLG	**Laguna Peak** baz=92	92.62	49	⇑P		P		19 32 54.4	+1.1
E23A	**Ismay** baz=92,SNR=5.2	92.64	33	⇓P		P		19 32 54.6	+1.5
D24A	**Glendive** baz=92	92.66	32	⇑P		P		19 32 54.6	+1.4
HWUT	**Hardware Ranch** comp=Z,91nm,1.2s	92.67	40	eP		P		19 32 54.7	+1.1
F22A	**Rosebud** baz=92	92.68	34	⇑P		P		19 32 54.4	+1.1
FURC	**Furnace Creek,** baz=92	92.68	46	⇑P		P		19 32 55.0	+1.6
H20A	**Greybull** baz=92,SNR=13	92.69	36	⇓P		P		19 32 54.6	+1.1
LRMC	**Laurel Mountai** baz=93,SNR=11	92.73	48	⇑P		P		19 32 54.9	+1.0
L17A	**Cokeville** baz=92	92.74	39	⇓P		P		19 32 55.2	+1.3
LFF	**La Frestale** comp=Z,86nm,1.4s	92.84	325	eP		P		19 32 53.4	-0.6
LFF	**La Frestale**	92.84	325	eP		P		19 32 53.4	-0.6
LFF				pmax		pmax			
LFF	**La Frestale** comp=Z,86nm,1.4s	92.84	325	eP		P		19 32 53.4	-0.6
K18A	**Toltan Ranch,** baz=93,SNR=8.6	92.84	38	⇓P		P		19 32 55.8	+1.4
DUG	**Dugway**	92.86	41	eP		P		19 32 56.4	+2.0
DUG				pmax		pmax			
DUG	**Dugway** comp=Z,28nm,0.8s	92.86	41	eP		P		19 32 56.4	+2.0
DUG	**Dugway** baz=93,SNR=5.3	92.86	41	⇑P		P		19 32 55.8	+1.4
EDW2	**Edwards Air Fo** baz=93	92.89	48	⇓P		P		19 32 56.0	+1.4
J19A	**Crowheart** baz=93	92.96	37	⇑P		P		19 32 56.2	+1.3
I20A	**Worland** baz=93,SNR=15	92.99	36	⇓P		P		19 32 56.7	+1.7
O15A	**The Old Anders** baz=93,SNR=5.5	93.01	41	⇓P		P		19 32 56.9	+1.8
BW06	**Boulder Array** baz=93	93.02	38	⇑P		P		19 32 56.2	+0.9
PDAR	**Pinedale Array** comp=Z,23nm,0.8s,baz=286,slow=0.4,SNR=149	93.02	38	P		P		19 32 55.4	+0.1
PDAR	comp=Z,3.4nm,0.9s,baz=132,slow=4.3,SNR=16			PKKPbc		PKKPbc		19 50 03.7	-0.5
PDAR	**Pinedale Array**	93.02	38	P		P		19 32 55.4	+0.1
PDAR				PKKPbc		PKKPbc		19 50 03.7	-0.5
DECC	**Green Verdugo** baz=93	93.04	49	⇓P		P		19 32 56.2	+1.0
G22A	**Birney** baz=93	93.05	34	⇓P		P		19 32 56.2	+1.0
E24A	**Baker** baz=93,SNR=9.8	93.07	33	⇑P		P		19 32 56.3	+1.2
H21A	**Big Horn, Sher** baz=93,SNR=10	93.08	35	⇓P		P		19 32 56.2	+0.8
MTLF	**Montolieu** comp=Z,91nm,1.7s	93.17	323	eP		P		19 32 54.7	-0.9
MTLF				pmax		pmax			
MTLF	**Montolieu** comp=Z,91nm,1.7s	93.17	323	eP		P		19 32 54.7	-0.9
M17A	**Scully's Gap (B** baz=93,SNR=18	93.27	39	⇑P		P		19 32 57.3	+0.9
L18A	**Fontenelle, Gr** baz=93,SNR=24	93.32	39	⇓P		P		19 32 58.0	+1.4
K19A	**Absolon Red Bu** baz=93	93.37	37	⇑P		P		19 32 56.9	+0.2
JLU	**Jordanelle** comp=Z,22nm,1.1s	93.39	40	eP		P		19 32 58.1	+1.1
SHOC	**Shoshone** baz=93	93.40	46	⇓P		P		19 32 58.1	+1.3
GSC	**Goldstone**	93.42	47	eP		P		19 32 58.4	+1.4
GSC				e*PP		pP		19 33 37.6	+2.1
GSC				pmax		pmax			
GSC	**Goldstone** comp=Z,75nm,1.4s	93.42	47	eP		P		19 32 58.4	+1.4
GSC	comp=Z,75nm,1.4s			epP		pP		19 33 37.6	+2.1
GSC	**Goldstone** baz=93,SNR=8.5	93.42	47	⇑P		P		19 32 58.3	+1.3
J20A	**Shoshoni** baz=93,SNR=13	93.42	37	⇑P		P		19 32 57.9	+0.9
H22A	**Clearmont** baz=93,SNR=9.7	93.46	35	⇑P		P		19 32 57.9	+0.8
CIS	**Catalina Islan** baz=93	93.48	50	⇓P		P		19 32 58.1	+0.9
BFSC	**Mount Baldy Ra** baz=93	93.49	49	⇓P		P		19 32 58.3	+0.9
G23A	**Biddle** baz=93	93.52	34	⇑P		P		19 32 58.2	+0.9
I21A	**Big Trails, Te** baz=93	93.52	36	⇓P		P		19 32 58.3	+0.9
F24A	**Ekalaka** baz=93,SNR=9.5	93.52	33	⇓P		P		19 32 58.2	+1.0
N17A	**Moffit Pass** baz=93,SNR=12	93.52	40	⇑P		P		19 32 58.8	+1.1
RRX	**Edison Barstow** baz=93	93.54	48	⇑P		P		19 32 58.9	+1.4
P15A	**Leamington** baz=93,SNR=19	93.58	42	⇓P		P		19 32 59.3	+1.6
L19A	**Farson** baz=93	93.58	38	⇑P		P		19 32 59.0	+1.2
M18A	**Lyman** baz=93,SNR=5.2	93.64	39	⇑P		P		19 32 59.3	+1.3
MPU	**Maple Canyon** comp=Z,272nm,2.2s	93.67	41	eP		P		19 32 59.5	+1.3
K20A	**Yellowstone Ra** baz=94	93.76	37	⇓P		P		19 32 59.1	+0.6
J21A	**Lysite** baz=94,SNR=27	93.76	36	⇑P		P		19 32 59.7	+1.1
KEST	**Kesra** comp=Z,6.6nm,1.1s,baz=236,slow=0.7,SNR=6.7	93.87	314	P		P		19 32 58.9	-0.2
KEST	**Kesra**	93.87	314	P		P		19 32 58.9	-0.2
I22A	**9 Mile Ranch,** baz=94,SNR=9.2	93.89	36	⇑P		P		19 33 00.2	+1.1
G24A	**Alzada** baz=94	93.91	33	⇑P		P		19 32 59.7	+0.6
TUQ	**Turquoise Moun** baz=94	93.91	47	⇑P		P		19 33 00.7	+1.4
P16A	**Fountain Green** baz=94	93.92	41	⇓P		P		19 33 01.1	+1.7
ULM	**Lac du Bonnet** comp=Z,69nm,0.8s,baz=323,slow=5.0,SNR=78	93.92	26	P		P		19 32 58.7	-0.2
ULM	comp=Z,8.6nm,1.0s,baz=150,slow=0.6,SNR=6.6			PKKP		PKKPbc		19 50 00.1	-1.7
ULM	**Lac du Bonnet**	93.92	26	P		P		19 32 58.7	-0.2
ULM				PKKP		PKKPbc		19 50 00.1	-1.7
H23A	**Clabaugh Cattl** baz=94	93.97	34	⇑P		P		19 33 00.1	+0.7
BBRC	**Big Bear Solar** baz=94	93.97	48	⇑P		P		19 33 00.6	+0.8
HEC	**Hector,Ludlow** baz=94,SNR=10	94.01	47	⇑P		P		19 33 00.9	+1.1
O17A	**Robinson Place** baz=94,SNR=15	94.07	40	⇑P		P		19 33 01.4	+1.3
M19A	**Rock Springs** baz=94	94.09	39	⇑P		P		19 33 01.0	+0.8
N18A	**Larsen Ranch,** baz=94	94.16	39	⇓P		P		19 33 01.2	+0.7
MURC	**Murrieta** baz=94	94.18	49	⇑P		P		19 33 01.3	+0.9
L20A	**Wamsutter** baz=94,SNR=6.0	94.20	38	⇓P		P		19 33 01.9	+1.2
H24A	**Dirks Ranch, A** baz=94	94.26	34	⇑P		P		19 33 01.1	+0.4
MDND	**Maddock** baz=94	94.27	29	⇓P		P		19 33 01.4	+0.8
DRV	**Dumont d'Urvil**	94.31	175	P		sP		19 33 58.0	+3.7
MSU	**Marysvale**	94.32	42	eP		P		19 33 03.3	+2.0
MSU				pmax		pmax			
MSU	**Marysvale** comp=Z,43nm,1.3s	94.32	42	eP		P		19 33 03.3	+2.0
K21A	**Alcova** baz=94	94.36	37	⇑P		P		19 33 02.2	+0.9
I23A	**Meade Ranch, G** baz=94	94.36	35	⇑P		P		19 33 01.9	+0.7
EPF	**Esparros** comp=Z,63nm,1.7s	94.38	324	eP		P		19 33 00.1	-1.1
EPF	**Esparros**	94.38	324	eP		P		19 33 00.1	-1.1
EPF				pmax		pmax			
EPF	**Esparros** comp=Z,63nm,1.7s	94.38	324	eP		P		19 33 00.1	-1.1

O18A Roosevelt 94.44 40 ⇓P P 19 33 03.3 +1.6
baz=94,SNR=5.4
GMRC Granite Mounta 94.48 47 ⇑P P 19 33 03.2 +1.2
baz=94,SNR=8.6
N19A John Jarvie Ra 94.49 39 ⇓P P 19 33 02.9 +1.0
baz=94
CMAH Djebel Manchou 94.54 315 P P 19 33 01.0 -1.1
P17A Butcher Ranch, 94.54 41 ⇑P P 19 33 03.5 +1.3
baz=94,SNR=9.4
M20A Sweetwater, Wa 94.64 38 ⇑P P 19 33 03.9 +1.2
baz=94,SNR=5.9
109C Camp Elliot, M 94.67 49 ⇑P P 19 33 03.7 +1.1
baz=94
PFO Pinyon Flat Ob 94.67 48 *e*P P 19 33 03.4 +0.6
comp=Z,102nm,1.5s
PFO Pinyon Flat Ob 94.67 48 ⇓P P 19 33 04.0 +1.2
comp=Z,160nm,1.1s,SNR=6.9
PFO Pinyon Flat Ob 94.67 48 ⇓P P 19 33 04.0 +1.2
baz=94
J23A Dilts Ranch, B 94.71 35 ⇓P P 19 33 03.4 +0.6
baz=94
ABSA Djebel Ababsia 94.73 315 P P 19 32 53.1 -10
P18A Preston Nutter 94.73 41 ⇓P P 19 33 04.3 +1.1
baz=94,SNR=40
K22A Casper 94.73 36 ⇑P P 19 33 03.4 +0.4
baz=94
BELC Belle Mtn. Jos 94.73 48 ⇓P P 19 33 04.0 +0.9
baz=95
CAEH 'Ain El Ouahch 94.80 316 P P 19 33 02.8 -0.4
I24A Kuemmerle Ranc 94.86 35 ⇑P P 19 33 03.8 +0.3
baz=95
SRU San Rafael 94.91 41 *e*P P 19 33 05.2 +1.3
SRU pmax pmax
comp=Z,631nm,1.0s
SRU San Rafael 94.91 41 *e*P P 19 33 05.2 +1.3
comp=Z,631nm,1.0s
SRU San Rafael 94.91 41 ⇓P P 19 33 05.0 +1.1
baz=95
O19A Miners Draw (B 94.92 39 ⇓P P 19 33 04.7 +0.8
baz=95
ETSF Etsaut 94.94 324 *e*P P 19 33 03.5 -0.3
comp=Z,29nm,1.1s
ETSF Etsaut 94.94 324 *e*P P 19 33 03.5 -0.3
ETSF pmax pmax
comp=Z,29nm,1.1s
ETSF Etsaut 94.94 324 *e*P P 19 33 03.5 -0.3
comp=Z,29nm,1.1s
RSSD Black Hills 94.97 34 P P 19 33 05.0 +0.9
RSSD pmax pmax
comp=Z,34nm,1.2s
RSSD Black Hills 94.97 34 P P 19 33 05.0 +0.9
comp=Z,34nm,1.2s
M21A Separation Pea 95.01 38 ⇑P P 19 33 05.2 +0.8
baz=95
N20A Spence Gulch, 95.04 39 ⇓P P 19 33 05.9 +1.4
baz=95
BAR Barrett 95.08 49 *e*P P 19 33 05.7 +1.1
comp=Z,85nm,1.8s
CKFL Kef-Lekhel 95.12 316 P P 19 33 04.1 -0.7
MONP Monument Peak 95.12 49 ⇑P P 19 33 06.1 +1.0
baz=95
K23A Bowen Ranch, D 95.13 36 ⇓P P 19 33 05.0 +0.2
baz=95
SJPF Ste Jean 95.13 325 *e*P P 19 33 04.4 -0.2
comp=Z,45nm,1.3s
SJPF Ste Jean 95.13 325 *e*P P 19 33 04.4 -0.2
SJPF pmax pmax
comp=Z,45nm,1.3s
SJPF Ste Jean 95.13 325 *e*P P 19 33 04.4 -0.2
comp=Z,45nm,1.3s
NEE2 Needles Airpor 95.16 47 ⇑P P 19 33 06.0 +1.1
baz=95
IRM Iron Mountain 95.19 47 ⇓P P 19 33 06.6 +1.5
baz=95
L22A Ellis Ranch, M 95.21 37 ⇓P P 19 33 06.6 +1.4
baz=95
J24A Dixon Ranch, L 95.22 35 ⇓P P 19 33 05.4 +0.2
baz=95
TBI Tubuai 95.22 113 *e*S S 19 44 08.4 +0.7
comp=Z,812nm,26.5s
TBI *e*LQ LQ 19 59 45.4
comp=Z,797nm,32.2s
TBI *e*LR LR 20 03 40.9
comp=Z,1μm,35.5s,baz=297
BC3 Big Chuckawall 95.30 48 ⇓P P 19 33 07.0 +1.3
baz=95,SNR=7.2
CASM Ain Smara 95.35 316 P P 19 33 04.8 -1.0
W13A Hualapai Mount 95.43 46 ⇓P P 19 33 07.5 +1.1
baz=95
P19A Cripple Cowboy 95.45 40 ⇑P P 19 33 07.5 +1.1
baz=95
DVTC Desert V Tower 95.48 49 ⇑P P 19 33 07.7 +1.2
baz=95
N21A Black Mountain 95.50 38 ⇑P P 19 33 07.7 +1.1
baz=95,SNR=7.0
SWSC Sam W. Stewart 95.51 49 ⇑P P 19 33 07.8 +1.3
baz=95
O20A White River Ci 95.53 39 ⇓P P 19 33 07.7 +0.9
baz=95
L23A Garrett 95.54 36 ⇓P P 19 33 07.1 +0.3
baz=95
M22A Cedar Creek Ra 95.56 37 ⇑P P 19 33 07.8 +0.9
baz=95
K24A Anderson Ranch 95.57 35 ⇓P P 19 33 06.9 +0.1
baz=95
U15A North Rim 95.59 44 ⇑P P 19 33 09.0 +1.8
baz=95,SNR=5.7
MBAR Mbarara 95.68 272 P P 19 33 07.6 -0.2
comp=Z,66nm,1.3s,SNR=5.6
Q19A Hogan Spring (95.74 41 ⇓P P 19 33 08.5 +0.9
baz=96,SNR=12
PDMCI Parker Dam,Lak 95.76 47 ⇓P P 19 33 08.8 +1.2
baz=96
Y12C Blythe 95.86 47 ⇑P P 19 33 09.3 +1.3
baz=96
P20A De Beque 95.88 40 ⇓P P 19 33 09.1 +0.8
baz=96
O21A Pagoda 95.91 39 ⇑P P 19 33 09.8 +1.2
baz=96
M23A Laramie 95.99 37 ⇓P P 19 33 09.7 +0.9
baz=96
L24A Wheatland 96.00 36 ⇑P P 19 33 09.8 +1.0
baz=96
N22A Wattenberg Ran 96.06 38 ⇑P P 19 33 10.4 +1.2
baz=96
SET Setif 96.07 316 P P 19 33 10.0 +0.9
GLA Glamis 96.09 48 *e*P P 19 33 10.5 +1.3
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA Glamis 96.09 48 *e*P P 19 33 10.4 +1.3
comp=Z,6.0nm,0.8s
GLA Glamis 96.09 48 ⇓P P 19 33 10.7 +1.5
baz=96
K25A Mack Ranch, Ha 96.14 35 ⇑P P 19 33 10.3 +0.9
baz=96
S18A Hurst Farm, Bl 96.16 42 ⇓P P 19 33 10.6 +0.8
baz=96
N23A Red Feather La 96.27 37 ⇓P P 19 33 11.4 +1.2
baz=96,SNR=5.8
Q20A Ridgley Place, 96.30 40 ⇓P P 19 33 11.3 +1.1
baz=96,SNR=9.8
P21A Newcastle 96.39 39 ⇑P P 19 33 12.0 +1.3
baz=96
K26A Motz Farm, Whi 96.42 35 ⇑P P 19 33 11.1 +0.5
baz=96
O22A Kremmling 96.45 38 ⇓P P 19 33 11.8 +0.7
baz=96
M24A Cheyenne 96.46 36 ⇑P P 19 33 12.1 +1.2
baz=96
PV01 Paradox Valley 96.70 41 *e*P P 19 33 13.3 +1.2
comp=Z,1μm,1.0s
Y14A Wickenburg 96.72 46 ⇑P P 19 33 13.6 +1.5
baz=97
P22A Eagle 96.73 39 ⇓P P 19 33 13.9 +1.7
baz=96,SNR=8.4
WUAZ Wupatki 96.74 44 ⇑P P 19 33 13.6 +1.3
baz=97
O23A Lake Granby, G 96.76 38 ⇓P P 19 33 13.6 +1.2
baz=97
R20A Redvale 96.77 41 ⇑P P 19 33 13.9 +1.4
baz=97,SNR=19
N24A Carr 96.89 37 ⇓P P 19 33 13.8 +0.9
baz=97
M25A Palm-Egli Farm 96.89 36 ⇑P P 19 33 14.0 +1.2
baz=97
K27A Flueckinger Fa 96.90 34 ⇓P P 19 33 13.2 +0.5
baz=97
SMCO Snowmass 96.90 39 *e*P P 19 33 14.4 +1.2
comp=Z,15nm,1.1s
L26A Underwood Farm 96.96 35 ⇑P P 19 33 14.2 +1.1
baz=97
S20A Disappointment 97.03 41 ⇑P Pdif 19 33 14.8 +1.1
baz=97
MIR Mirnyy 97.12 193 ⇑*i*P Pdif 19 33 13.5 +0.7
MIR pmax pmax
comp=Z,90nm,1.0s
Z14A Wintersburg 97.12 47 ⇑P P 19 33 15.0 +1.1
baz=97
R21A Cimarron 97.13 40 ⇑P P 19 33 15.4 +1.3
baz=97
Q22A Crested Butte, 97.15 39 ⇑P P 19 33 15.4 +1.1
baz=97
BRSD Miller 97.16 31 ⇓P P 19 33 15.3 +1.4
baz=97
ISCO Idaho Springs 97.22 38 ⇓P P 19 33 15.5 +0.9
baz=97
SCHQ Schefferville 97.26 8 P P 19 33 13.4 -0.6
comp=Z,36nm,1.0s,baz=0.4,slow=5.0,SNR=39
SCHQ LR LR 20 17 36.2
comp=Z,446nm,18.8s,baz=166,slow=36
SCHQ Schefferville 97.26 8 *e*P P 19 33 13.4 -0.6
comp=Z,58nm,1.1s
MVCO Mesa Verde 97.36 41 *e*P P 19 33 16.4 +1.2
comp=Z,9.3nm,1.1s
MVCO Mesa Verde 97.36 41 ⇑P P 19 33 16.1 +0.9
baz=97
P23A Jefferson 97.39 38 ⇓P P 19 33 16.3 +0.9
baz=97
X16A Lo Mia Camp, P 97.41 45 ⇑P P 19 33 16.8 +1.4
baz=97
S21A Coal Bank Pass 97.47 41 ⇓P P 19 33 16.9 +1.2
baz=97
EYMN Ely 97.47 25 *e*P P 19 33 15.2 +0.1
comp=Z,58nm,1.4s
R22A Saguache, Gunn 97.68 40 ⇓P P 19 33 18.3 +1.6
baz=98
O25A Wiggins 97.80 37 ⇑P P 19 33 17.5 +0.6
baz=98
U20A Newcomb 97.91 42 ⇓P P 19 33 18.1 +0.6
baz=98
S22A 4UR Ranch, Cre 97.97 40 ⇓P P 19 33 19.0 +1.0
baz=98
Q24A Divide 98.06 38 ⇑P P 19 33 18.7 +0.4
baz=98
T21A Navajo Lake 98.08 41 ⇑P P 19 33 19.3 +0.9
baz=98
214A Organ Pipe Nat 98.10 48 ⇓Pdif P 19 33 19.1 +0.8
baz=98
O26A Horse Wrangler 98.14 36 ⇑Pdif P 19 33 19.0 +0.6
baz=98
P25A Willow Gulch B 98.21 37 ⇑Pdif P 19 33 19.6 +0.7
baz=98
R23A Moffat 98.23 39 ⇓Pdif P 19 33 20.4 +1.3
baz=98
OGNE Ogallala 98.29 35 ⇑Pdif P 19 33 19.7 +0.6
baz=98
T22A Edith 98.43 41 ⇑Pdif P 19 33 20.9 +0.9
baz=98
R24A Sanders Place, 98.60 39 ⇓Pdif P 19 33 21.1 +0.5
baz=98
P26A Davis Ranch, A 98.61 37 ⇓Pdif P 19 33 21.2 +0.6
baz=98
W20A Ramah 98.77 43 ⇑Pdif P 19 33 22.0 +0.6
baz=99
ECSD EROS Data Cent 98.78 30 *e*P P 19 33 21.2 +0.2
comp=Z,132nm,2.1s
PBRG Braganca 98.86 327 *e*Pdif P 19 33 21.6 +0.1
S24A Houchin Ranch, 98.96 39 ⇓Pdif P 19 33 22.5 +0.1
baz=99
ESDC Sonseca Array 99.04 324 P P 19 33 21.6 -0.8
comp=Z,11nm,0.9s,baz=32,slow=4.4,SNR=36
ESDC PP PP 19 37 22.5 -3.1
comp=Z,6.5nm,1.0s,baz=47,slow=7.6,SNR=9.4
ESDC PKKP PKKPdf 19 49 49.0 -1.2
comp=Z,0.3nm,0.7s,baz=250,slow=3.0,SNR=4.1
ESDC LR LR 20 22 04.9
comp=Z,274nm,18.8s,baz=90,slow=38
ESDC Sonseca Array 99.04 324 P P 19 33 21.6 -0.8
ESDC PP PP 19 37 22.5 -3.1
ESDC PKKP PKKPdf 19 49 49.0 -1.2
ESLA Sonseca Array 99.04 324 *e*P P 19 33 21.8 -0.6
comp=Z,1.4nm,0.8s
R25A Fountain Ranch 99.12 38 ⇓Pdif P 19 33 23.2 +0.3
baz=99
SPMN St. Paul 99.21 27 ⇑Pdif P 19 33 23.1 +0.2
baz=99
PAB San Pablo 99.33 324 *e*P P 19 33 23.2 -0.5
PAB pmax pmax
comp=Z,7.0nm,1.0s
PAB San Pablo 99.33 324 *e*Pdif P 19 33 23.2 -0.5
comp=Z,6.8nm,1.0s
MVO Moncorvo 99.49 326 *e*Pdif P 19 33 24.1 -0.2
POLO Lamas de Olo 99.70 327 *e*Pdif P 19 33 25.3 0.0
Z20A Nine Sixteen R 100.06 45 ⇓Pdif P 19 33 28.3 +1.2
baz=100
W23A Werner Place, 100.15 42 ⇑Pdif P 19 33 28.7 +1.1
baz=100
PVIS Viseu 100.25 327 *e*Pdif P 19 33 27.5 -0.2
W24A Lazy 6 Ranch, 100.55 41 ⇓Pdif P 19 33 30.5 +1.1
baz=100
V25A Rancho No Teng 100.57 40 ⇓Pdif P 19 33 30.6 +1.1
baz=100
U26A Atchley Ranch, 100.67 39 ⇓Pdif P 19 33 31.0 +1.1
baz=100
121A Cookes Peak, D 100.95 45 ⇓Pdif P 19 33 32.1 +1.0
baz=101
Z22A Elephant Butte 100.97 44 ⇑Pdif P 19 33 31.7 +0.6
baz=101
PMRV Marv??o 100.99 326 *e*Pdif P 19 33 30.8 -0.2
Y23A Lovelace Mesa, 101.05 42 ⇓Pdif P 19 33 32.4 +0.8
baz=101
V26A Tequesquite Ra 101.07 40 ⇓Pdif P 19 33 32.0 +0.4
baz=101
W25A X Bar L Ranch, 101.10 41 ⇓Pdif P 19 33 32.4 +0.7
baz=101
222A Williams Famil 101.66 44 ⇓Pdif P 19 33 35.0 +0.7
baz=102
PMTG Montargil 101.68 326 *e*Pdif P 19 33 34.1 +0.1
X26A CR and CF Fran 101.94 41 ⇓Pdif P 19 33 36.3 +0.8
baz=102
EVO Evora 101.98 325 ⇑*i*P P 19 33 34.4 -1.0
EVO *e*R
comp=Z,526nm,21.2s
EVO Evora 101.98 325 *e*Pdif P 19 33 35.4 0.0
W27A Bowe Ranch, En 102.01 40 ⇓Pdif P 19 33 36.6 +0.8
baz=102
EVOP Sao Brissos 102.04 325 ⇑*i*P P 19 33 34.4 -1.2
EVOP pmax pmax
comp=Z,43nm,1.2s
EVOP Sao Brissos 102.04 325 ⇑*i*P P 19 33 34.4 -1.2
comp=Z,43nm,1.2s
PMAFR Mafra 102.29 326 *e*Pdif P 19 33 36.5 -0.3
PBEJ Beja 102.29 325 *e*Pdif P 19 33 37.8 +1.0
PNCL Nicolau / Gran 102.56 325 *e*Pdif P 19 33 38.9 +0.9
PVAQ Vaqueiros 102.69 324 *e*Pdif P 19 33 38.5 0.0
PBDV Barranco-do-Ve 102.92 324 *e*Pdif P 19 33 37.7 -1.9
MORF Marmelete 103.24 325 *e*Pdif P 19 33 42.2 +1.1
LSZ Lusaka 104.40 260 *e*Pdif P 19 33 46.2 -0.4
comp=Z,66nm,1.5s
Z32A Haskell 105.32 39 ⇓PKiKP PKiKP 19 38 04.1 +0.5
baz=105
428A Kincaid Ranch, 105.33 43 ⇑PKiKP PKiKP 19 38 03.9 +0.1
baz=105
528A Cox Ranch, San 105.67 43 ⇑PKiKP PKiKP 19 38 05.9 +1.4
baz=106
TXAR Lajitas Array 105.71 44 Pdif Pdif 19 33 53.5 +1.2
comp=Z,1.4nm,0.7s,baz=324,slow=6.2,SNR=7.9
TXAR PKiKP PKiKP 19 38 05.3 +0.8
comp=Z,2.1nm,0.7s,baz=241,slow=0.9,SNR=10
TXAR PKKPbc PKKPbc 19 49 28.2 0.0
comp=Z,1.3nm,0.7s,baz=151,slow=5.6,SNR=6.9
TXAR PKKPab PKKPab 19 49 45.9 -2.2
comp=Z,0.7nm,0.7s,baz=139,slow=9.9,SNR=4.1
TXAR Lajitas Array 105.71 44 Pdif Pdif 19 33 53.5 +1.2
TXAR PKiKP PKiKP 19 38 05.3 +0.8
TXAR PKKPbc PKKPbc 19 49 28.2 0.0
TXAR PKKPab PKKPab 19 49 45.9 -2.2
627A Terlingua Ranc 105.80 44 ⇓PKiKP PKiKP 19 38 05.0 +0.3
baz=106
MAW Mawson 105.86 201 Pdif Pdif 19 33 51.9 +0.2
comp=Z,3.8nm,0.6s,baz=301,slow=19,SNR=2.9
MAW Mawson 105.86 201 Pdif Pdif 19 33 51.9 +0.2
429A Davenport Ranc 105.88 42 ⇓PKiKP PKiKP 19 38 05.1 +0.4
baz=106
529A Stev Forest Ra 106.04 43 ⇓PKiKP PKiKP 19 38 05.4 +0.4
baz=106
628A Black Gap, Mar 106.08 44 ⇓PKiKP PKiKP 19 38 05.5 +0.4
baz=106
430A Baggett Ranch, 106.15 42 ⇑PKiKP PKiKP 19 38 05.6 +0.4
baz=106
331A San Angelo 106.25 41 ⇑PKiKP PKiKP 19 38 05.8 +0.4
baz=106
NCB Newcomb 106.40 16 *e*PKiKP PKiKP 19 38 05.6 +0.3
530A J-C Ranch, Com 106.55 42 ⇑PKiKP PKiKP 19 38 06.8 +0.9
baz=106
332A Millersview 106.59 40 ⇑PKiKP PKiKP 19 38 06.2 +0.2
baz=106
431A Sonora 106.60 41 ⇑PKiKP PKiKP 19 38 05.8 -0.3
baz=106
VNDA Vanda 106.77 173 Pdiff Pdif 19 33 56.2 +0.7
comp=Z,0.8nm,0.8s,baz=181,slow=3.7,SNR=3.0
VNDA PKiKP PKiKP 19 38 05.7 +0.9
comp=Z,0.8nm,0.7s,baz=7.3,slow=5.8,SNR=3.6
VNDA PP PP 19 38 21.9 -1.5
comp=Z,3.8nm,1.2s,baz=332,slow=5.6,SNR=4.4
VNDA PKKPbc PKKPbc 19 49 25.3 -1.1
comp=Z,5.0nm,1.0s,baz=182,slow=1.3,SNR=11
VNDA PKKP PKKPdf 19 49 40.2 +1.4
comp=Z,5.0nm,1.0s,baz=144,slow=5.2,SNR=7.5
VNDA Vanda 106.77 173 Pdif Pdif 19 33 56.2 +0.7
VNDA PKiKP PKiKP 19 38 05.7 +0.9
VNDA PP PP 19 38 21.9 -1.5
VNDA PKKPbc PKKPbc 19 49 25.3 -1.1
VNDA PKKP PKKPdf 19 49 40.2 +1.4
432A Menard 106.93 41 ⇓PKiKP PKiKP 19 38 06.4 -0.3
baz=107
RKT Rikitea 107.19 107 *e*LR LR 20 09 35.1
comp=Z,1μm,23.2s,baz=292
JCT Junction City 107.22 41 *e*PKiKP PKiKP 19 38 07.5 +0.3
532A Rocksprings 107.42 41 ⇑PKiKP PKiKP 19 38 08.0 +0.4
baz=107
631A Perdido Creek 107.54 42 ⇑PKiKP PKiKP 19 38 08.2 +0.4
baz=107
632A Uvalde 107.94 42 ⇑PKiKP PKiKP 19 38 08.3 -0.3
baz=108
732A Laxson Ranch, 108.40 42 ⇑PKiKP PKiKP 19 38 08.9 -0.5
baz=108
WVT Waverly 108.86 29 *e*PKiKP PKiKP 19 38 10.0 -0.1
LBTB Lobatse 110.46 252 *e*PKiKP PKiKP 19 38 13.3 -0.1
LBTB *e*PP PP 19 38 50.5 -1.0
LRAL Lakeview Retre 111.84 30 *e*PKiKP PKiKP 19 38 15.8 +0.1
BOSA Boshof 112.02 248 Pdiff Pdif 19 34 18.8 -1.4
comp=Z,2.3nm,0.9s,baz=292,slow=9.0,SNR=3.2
BOSA PKiKP PKiKP 19 38 16.9 +0.7
comp=Z,7.3nm,0.6s,baz=146,slow=1.5,SNR=27
BOSA Boshof 112.02 248 Pdif Pdif 19 34 18.8 -1.4
BOSA *e*PKiKP PKiKP 19 38 15.9 -0.3
BOSA PKiKP PKiKP 19 38 16.9 +0.7
KMSC Kings Mountain 112.34 25 ⇑PKiKP PKiKP 19 38 16.7 0.0
baz=112
TOA0 Torodi Ar. Sit 113.26 300 *e*PKiKP PKiKP 19 38 18.6 -0.3
TORD Torodi Ar. Bea 113.26 300 Pdiff Pdif 19 34 27.9 +2.0
comp=Z,0.1nm,0.4s,baz=168,slow=36,SNR=2.6
TORD PKiKP PKiKP 19 38 18.4 -0.5
comp=Z,13nm,0.6s,baz=31,slow=2.2,SNR=65
TORD PP PP 19 39 10.2 -0.7
comp=Z,2.9nm,0.8s,baz=63,slow=6.7,SNR=3.7
TORD PKKPbc PKKPbc 19 49 02.7 -1.0
comp=Z,0.9nm,0.4s,baz=252,slow=1.6,SNR=20
TORD PKKPab PKKPab 19 49 13.3 -0.4
comp=Z,1.4nm,0.9s,baz=262,slow=3.8,SNR=5.0
TORD Torodi Ar. Bea 113.26 300 Pdif Pdif 19 34 27.9 +2.0
TORD PKiKP PKiKP 19 38 18.4 -0.5
TORD PP PP 19 39 10.2 -0.7
TORD PKKPbc PKKPbc 19 49 02.7 -1.0
TORD PKKPab PKKPab 19 49 13.3 -0.4
TSUM Tsumeb 115.25 261 *e*PKPdf PKPdf 19 38 23.2 +0.5
QSPA South Pole Qui 117.18 180 *e*PKPdf PKPdf 19 38 24.1 -0.8
CMIG Matias Romero 120.07 47 PKP PKPdf 19 38 32.2 +0.3
comp=Z,15nm,0.7s,baz=279,slow=1.3,SNR=23
CMIG PKKPab PKKPab 19 48 42.8 -1.4
comp=Z,2.7nm,0.5s,baz=249,slow=5.6,SNR=6.4
CMIG Matias Romero 120.07 47 PKP PKPdf 19 38 32.2 +0.3
CMIG PKKPab PKKPab 19 48 42.8 -1.4
DBIC Dimbokro 122.30 299 PKP PKPdf 19 38 36.0 -0.4
comp=Z,34nm,0.6s,baz=46,slow=2.3,SNR=73
DBIC Dimbokro 122.30 299 *e*PKPdf PKPdf 19 38 35.6 -0.7
DBIC PKP PKPdf 19 38 36.0 -0.4
LIC Lamto 122.71 298 *e*PKIKP PKPdf 19 38 36.4 -0.7
comp=Z,158nm,0.9s
LIC Lamto 122.71 298 *e*PKPdf PKPdf 19 38 36.4 -0.7
MAIT Maitri 123.84 201 *e*P PKPdf 19 38 26.7 -11
BBTS Babate 125.12 315 PKP PKPdf 19 38 43.5 +1.9
BBTS Babate 125.12 315 PKP PKPdf 19 38 43.5 +1.9
SNAA Sanae 127.87 198 *e*PKPdf PKPdf 19 38 44.7 -0.6
VNA2 Neumayer--Watz 129.51 198 *e*P PKPdf 19 38 49.8 +1.4
baz=79,slow=0.8
VNA2 Neumayer--Watz 129.51 198 *e*P SKPab 19 41 56.6 +1.1
baz=96,slow=3.6
VNA1 Neumayer--Stat 129.90 198 *e*P SKPab 19 41 58.2 +1.0
VNA3 Neumayer Olymp 129.93 197 *e*P PKPdf 19 38 49.8 +0.6
VNA3 Neumayer Olymp 129.93 197 *e*P SKPab 19 41 57.8 +0.5
JTS JuntasAbangare 131.49 44 SKPab SKPbc 19 42 03.2 -2.0
comp=Z,13nm,0.9s,baz=313,slow=8.3,SNR=6.4
JTS SKPbc SKPab 19 42 06.9 +1.1
comp=Z,2.7nm,0.4s,baz=313,slow=10,SNR=4.6
JTS JuntasAbangare 131.49 44 SKPab SKPbc 19 42 03.1 -2.0
JTS SKPbc SKPab 19 42 06.9 +1.1
MTP Monte Pirata 133.21 16 *e*PKPdf PKPdf 19 38 58.0 +1.1
MTP *e*SKPbc SKPbc 19 42 10.8 -0.2
SDV Santo Domingo 140.16 28 *e*PKPpre PKPpre 19 39 03.1
SDV *e*SKPbc SKPbc 19 42 32.2 0.0
ROSC El Rosal 141.97 36 PKP PKPdf 19 39 11.8 -1.9
comp=Z,40nm,0.9s,baz=92,slow=6.5,SNR=19
ROSC SKPbc SKiKP 19 42 37.6 -1.1
comp=Z,6.5nm,0.3s,baz=270,slow=21,SNR=10
ROSC El Rosal 141.97 36 *e*PKPpre PKPpre 19 39 11.8
ROSC SKPbc SKiKP 19 42 37.6 -1.1
OTAV Otavalo 143.33 46 *e*PKPpre PKPpre 19 39 13.0
ATAH Atahualpa 148.72 55 PKP PKPdf 19 39 26.7 +1.4
comp=Z,128nm,1.0s,baz=313,slow=4.1,SNR=14
ATAH PKPbc PKiKP 19 39 30.6 +0.1
comp=Z,128nm,1.0s,baz=336,slow=2.3,SNR=56
ATAH Atahualpa 148.72 55 PKP PKPdf 19 39 26.6 +1.4
ATAH PKPbc PKiKP 19 39 30.6 +0.1
RCBR Riachuelo 152.97 319 PKP PKPdf 19 39 31.9 +0.6
comp=Z,16nm,0.9s,baz=339,slow=3.2,SNR=7.8
RCBR PKPbc PKiKP 19 39 39.4 +0.5
comp=Z,67nm,1.0s,baz=46,slow=2.8,SNR=20
RCBR PKPab PKPab 19 39 51.0 +0.6
comp=Z,60nm,1.0s,baz=46,slow=5.7,SNR=7.2
RCBR Riachuelo 152.97 319 *e*PKPdf PKPdf 19 39 31.6 +0.2
RCBR PKP PKPdf 19 39 31.9 +0.6
RCBR *e*PKPbc PKiKP 19 39 39.0 +0.1
RCBR PKPbc PKPab 19 39 39.4 -11
RCBR PKPab PKPab 19 39 51.0 +0.6
NNA Nana 153.03 60 PKP PKPdf 19 39 32.6 +1.2
comp=Z,22nm,0.8s,baz=9.1,slow=3.8,SNR=8.9
NNA PKPbc PKiKP 19 39 39.1 +0.1
comp=Z,107nm,0.8s,baz=317,slow=4.4,SNR=37
NNA Nana 153.03 60 *e*PKPdf PKPdf 19 39 32.3 +0.9
NNA PKP PKPdf 19 39 32.6 +1.2
NNA *e*PKPbc PKiKP 19 39 38.8 -0.1
NNA PKPbc PKPab 19 39 39.1 -12
SAML Samuel 159.35 29 *e*PKPdf PKPdf 19 39 39.7 +0.1
PLCA Paso Flores 160.45 137 PKP PKPdf 19 39 40.8 +0.6
comp=Z,7.6nm,1.0s,baz=26,slow=0.7,SNR=8.9
PLCA Paso Flores 160.45 137 PKP PKPdf 19 39 40.8 +0.6
LPAZ La Paz 162.27 54 PKP PKPdf 19 39 44.7 +1.2
comp=Z,18nm,1.1s,baz=8.5,slow=3.5,SNR=43
LPAZ PKPab PKPab 19 40 31.7 +0.4
comp=Z,9.9nm,0.7s,baz=322,slow=3.9,SNR=8.1
LPAZ La Paz 162.27 54 PKP PKPdf 19 39 44.7 +1.2
LPAZ *e*PKPdf PKPdf 19 39 44.8 +1.4
LPAZ PKPab PKPab 19 40 31.7 +0.4
CFAA Coronel Fontan 166.23 111 PKP PKPdf 19 39 46.2 +0.4
comp=Z,0.5nm,0.7s,baz=359,slow=0.5,SNR=8.2
CFAA PKPab PKPab 19 40 48.8 +1.0
comp=Z,1.0nm,1.1s,baz=284,slow=5.4,SNR=5.9
CFAA Coronel Fontan 166.23 111 PKP PKPdf 19 39 46.2 +0.4
CFAA PKPab PKPab 19 40 48.8 +1.0
SIV San Ignacio 166.49 34 PKP PKPdf 19 39 46.8 +0.3
comp=Z,17nm,0.7s,baz=113,slow=0.8,SNR=86
SIV PKPab PKPab 19 40 48.9 -0.1
comp=Z,21nm,0.7s,baz=318,slow=4.0,SNR=17
SIV PP PP 19 44 35.9 -0.2
comp=Z,18nm,1.0s,baz=350,slow=5.0,SNR=16
SIV San Ignacio 166.49 34 PKP PKPdf 19 39 46.8 +0.3
SIV PKPab PKPab 19 40 48.9 -0.1

SIV				PP	**PP**	19 44 35.9	-0.2
TRQA	**Tornquist**	**167.06 147**		*e*PKPdf	**PKPdf**	19 39 45.9	-0.4
BDFB	**Brasilia**	**167.35 337**		PKP	**PKPdf**	19 39 47.5	+0.3
	comp=Z,20nm,0.9s,baz=55,slow=0.3,SNR=25						
BDFB				PKPab	**PKPab**	19 40 51.5	-1.4
	comp=Z,14nm,1.0s,baz=17,slow=11,SNR=5.8						
BDFB	**Brasilia**	**167.35 337**		PKP	**PKPdf**	19 39 47.5	+0.3
BDFB				PKPab	**PKPab**	19 40 51.5	-1.4

IDC 26 19:22:33.0±16.0, 1°.04S×128°.25E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/21, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=256.4km s-min=102.9km az=147.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.15**	**188**	P	Pn	19 26 33.6	-0.7
	0.1nm,0.3s,baz=359,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**19.71**	**163**	P	P	19 27 03.1	-1.1
	0.1nm,0.3s,baz=342,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**23.15**	**167**	P	P	19 27 42.9	+1.6
	0.2nm,0.4s,baz=343,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**33.16**	**159**	P	P	19 29 10.7	-0.7
	1.1nm,0.7s,baz=333,slow=12,SNR=3.0						

*ISCJB **26** 19:42:54.1±0.3,50°.46N±0°.02×4°.47E±0°.02, h11km±2km, Error ellipse: s-maj=2.9km s-min=2.5km az=161.9*
*CSEM **26** 19:42:54.6±0.1,50°.57N×4°.55E, h10km, ML2.9/19, Error ellipse: s-maj=2.9km s-min=2.4km az=168.0*
*LDG **26** 19:42:55.3±0.1,50°.63N×4°.60E, h6km, Md3.3/3, Ml2.9/26, Error ellipse: s-maj=1.2km s-min=0.9km az=158.0*
*STR **26** 19:42:55.3±0.3,50°.59N×4°.67E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*UCC **26** 19:42:55.2±0.3,50°.63N×4°.57E, h7km, ML2.3, ML1.3, ML1.3*

ISC 26 19:42:54.6±1.0, 50°.65N±0°.02×4°.54E±0°.02, h18km±3km, n99, σ1°90/169, 3C-2D, Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCC	**Uccle**	**0.19**	**322**	⇑P	**Pb**	**19 42 59.6**	**+0.5**
UCC				S	**Sb**	19 43 02.2	+0.1
	comp=N,2μm,0.1s						
UCC	**Uccle**	**0.19**	**322**	P	**Pb**	19 42 59.6	+0.5
UCC				S	**Sb**	19 43 02.2	+0.1
	comp=N,2μm,0.1s						
BRQR	**Ronqui¨ere**	**0.21**	**258**	P	**Pg**	19 42 59.4	-0.2
BSKQ	**Steenkerk**	**0.29**	**270**	P	**Pg**	19 43 00.9	-0.1
BSKQ				S	**Sg**	19 43 05.7	+0.3
	comp=N,135nm,0.1s						
BGES	**Gesves**	**0.44**	**127**	P	**Pg**	19 43 03.1	-0.5
BGES				S	**Sg**	19 43 08.9	-0.7
	comp=N,133nm,0.2s						
BBOU	**Bougnies**	**0.46**	**236**	P	**Pg**	19 43 04.2	+0.3
BCLA	**Clavier**	**0.54**	**115**	⇓P	**Pg**	19 43 05.0	-0.4
BCLA				S	**Sg**	19 43 11.7	-1.0
	comp=Z,95nm,0.2s						
BCLA	**Clavier**	**0.54**	**115**	P	**Pg**	19 43 04.9	-0.4
BCLA				S	**Sg**	19 43 11.6	-1.0
	comp=Z,95nm,0.2s						
DOU	**Dourbes**	**0.56**	**176**	⇑P	**Pb**	19 43 05.8	0.0
DOU				S	**Sg**	19 43 12.9	-0.2
	comp=E,20nm,0.1s						
DOU	**Dourbes**	**0.56**	**176**	P	**Pb**	19 43 05.7	0.0
GIVF	**Givet**	**0.58**	**162**	*e*Pg	**Pb**	19 43 06.0	-0.1
	SNR=1.0						
GIVF				*e*Sg	**Sg**	19 43 12.9	-0.9
	comp=E,90nm,0.2s						
GIVF	**Givet**	**0.58**	**162**	*e*Pg	**Pb**	19 43 06.0	-0.1
	SNR=1.0						
BAIF	**Baives**	**0.63**	**200**	*e*Pg	**Pb**	19 43 07.0	0.0
	SNR=1.0						
BAIF				*e*Sg	**Sb**	19 43 14.9	-0.5
	comp=E,55nm,0.2s						
BAIF	**Baives**	**0.63**	**200**	*e*Pg	**Pb**	19 43 07.0	0.0
	SNR=1.0						
BSTI	**Sart Tilman**	**0.66**	**95**	P	**Pb**	19 43 07.0	-0.5
BMOL	**Mol**	**0.66**	**31**	P	**Pg**	19 43 08.3	+0.7
BLCH	**La Chartreuse**	**0.67**	**91**	P	**Pb**	19 43 07.2	-0.6
BEBN	**Eben Emael**	**0.74**	**78**	⇑P	**Pb**	19 43 08.4	-0.5
BEBN				S	**Sb**	19 43 18.9	+0.3
	comp=N,60nm,0.3s						
BEBN	**Eben Emael**	**0.74**	**78**	P	**Pb**	19 43 08.4	-0.5
BEBN				S	**Sb**	19 43 18.9	+0.3
	comp=N,60nm,0.3s						
HGN	**Heimansgroeve**	**0.89**	**82**	*e*Pg	**Pb**	19 43 11.4	-0.1
	comp=N,45nm,0.2s						
HGN				*e*Sg	**Sb**	19 43 22.1	-1.0
HGN	**Heimansgroeve**	**0.89**	**82**	*e*Pg	**Pb**	19 43 11.4	-0.1
	comp=N,45nm,0.2s						
HGN				*e*Sg	**Sb**	19 43 22.1	-1.0
MEM	**Membach**	**0.94**	**92**	⇓P	**Pb**	19 43 12.2	0.0
MEM				S	**Sg**	19 43 25.4	+0.3
	comp=N,20nm,0.2s						
MEM	**Membach**	**0.94**	**92**	P	**Pb**	19 43 12.2	0.0
MEM				S	**Sg**	19 43 25.4	+0.3
	comp=N,20nm,0.2s						
BZEV	**Zevekote**	**1.15**	**296**	P	**Pb**	19 43 17.2	+1.3
MENF	**Mencas**	**1.52**	**267**	P	**Pb**	19 43 23.7	+1.5
MENF				S	**Sg**	19 43 45.2	+1.5
MENF	**Mencas**	**1.52**	**267**	P	**Pb**	19 43 23.7	+1.5
MENF				S	**Sg**	19 43 45.2	+1.5
RUP	**Ruppelstein**	**1.88**	**119**	P	**Pn**	19 43 26.6	+0.8
RUP				S	**Sn**	19 43 50.3	+1.2
ABH	**Alteburg**	**2.08**	**111**	S	**Sn**	19 43 55.7	+1.7
MEZF	**Maizieres J'vi**	**2.18**	**171**	*e*Pn	**Pn**	19 43 30.1	+0.2
	baz=348,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.18**	**171**	*e*Pg	**Pb**	19 43 35.1	+1.7
	baz=347						
MEZF				*e*Sg	**Sb**	19 44 02.9	+2.9
	comp=N,27nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.18**	**171**	*e*Pn	**Pn**	19 43 30.1	+0.2
	baz=348,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.18**	**171**	*e*Pg	**Pb**	19 43 35.1	+1.7
	baz=347						
MEZF				*e*Sg	**Sb**	19 44 02.9	+2.9
	comp=N,14nm,0.4s,SNR=1.0						
PAGF	**Fort de Pagny**	**2.23**	**159**	*e*Pn	**Pn**	19 43 30.5	-0.2
PAGF	**Fort de Pagny**	**2.23**	**159**	*e*Pg	**Pb**	19 43 36.3	+1.9
	baz=340						
PAGF				*e*Sg	**Sb**	19 44 04.7	+3.0
	comp=N,4.2nm,0.2s						
PAGF	**Fort de Pagny**	**2.23**	**159**	*e*Pn	**Pn**	19 43 30.5	-0.2
PAGF	**Fort de Pagny**	**2.23**	**159**	*e*Pg	**Pb**	19 43 36.3	+1.9
	baz=340						
PAGF				*e*Sg	**Sb**	19 44 04.7	+3.0
	comp=N,2.1nm,0.2s						
SFTF	**Sexfontaines**	**2.47**	**172**	*e*Pn	**Pn**	19 43 34.1	+0.2
	baz=348						
SFTF	**Sexfontaines**	**2.47**	**172**	*e*Pg	**Pb**	19 43 40.4	+2.0
	baz=352						
SFTF				*e*Sg	**Sb**	19 44 11.9	+3.4
	comp=N,17nm,0.2s						
SFTF	**Sexfontaines**	**2.47**	**172**	*e*Pn	**Pn**	19 43 34.1	+0.2
	baz=348						
SFTF				*e*Sg	**Sb**	19 44 11.9	+3.4
	comp=N,8.7nm,0.2s						
THEF	**They Montfort**	**2.60**	**158**	P	**Pn**	19 43 36.5	+0.7
CDF	**Champ du Feu**	**2.86**	**140**	*e*Pn	**Pn**	19 43 39.0	-0.4
	SNR=1.0						
CDF	**Champ du Feu**	**2.86**	**140**	*e*Pg	**Pb**	19 43 47.8	+2.6
CDF				*e*Sn	**Sn**	19 44 11.8	-1.6
	SNR=1.0						
CDF				*e*Sg	**Sb**	19 44 23.3	+3.4
	comp=N,12nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.86**	**140**	*e*Pn	**Pn**	19 43 39.0	-0.4
	SNR=1.0						
CDF	**Champ du Feu**	**2.86**	**140**	*e*Pg	**Pb**	19 43 47.8	+2.6
CDF				*e*Sn	**Sn**	19 44 11.8	-1.6
	SNR=1.0						
CDF				*e*Sg	**Sb**	19 44 23.3	+3.4
	comp=N,6.1nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.90**	**155**	*e*Pn	**Pn**	19 43 39.8	-0.1
	SNR=1.0						
HAU	**Haudompre**	**2.90**	**155**	*e*Pg	**Pb**	19 43 48.2	+2.4
HAU				*e*Sn	**Sn**	19 44 11.3	-2.9
	SNR=1.0						
HAU				*e*Sg	**Sb**	19 44 24.8	+3.9
	comp=N,17nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.90**	**155**	*e*Pn	**Pn**	19 43 39.8	-0.1
	SNR=1.0						
HAU	**Haudompre**	**2.90**	**155**	*e*Pg	**Pb**	19 43 48.2	+2.4
HAU				*e*Sn	**Sn**	19 44 11.3	-2.9
	SNR=1.0						
HAU				*e*Sg	**Sb**	19 44 24.8	+3.9
	comp=N,8.7nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.22**	**151**	*e*Pn	**Pn**	19 43 44.0	-0.2
	SNR=1.0						
HINF	**Hinteralfeld**	**3.22**	**151**	*e*Pg	**Pb**	19 43 54.1	+2.9
HINF				*e*Sn	**Sn**	19 44 19.0	-3.1
	SNR=1.0						
HINF				*e*Sg	**Sb**	19 44 34.6	+4.6
	comp=N,11nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.22**	**151**	*e*Pn	**Pn**	19 43 44.0	-0.2
	SNR=1.0						
HINF	**Hinteralfeld**	**3.22**	**151**	*e*Pg	**Pb**	19 43 54.1	+2.9
HINF				*e*Sn	**Sn**	19 44 19.0	-3.1
	SNR=1.0						
HINF				*e*Sg	**Sb**	19 44 34.6	+4.6
	comp=N,5.4nm,0.4s,SNR=1.0						
MOF	**Molkenrain**	**3.28**	**148**	P	**Pn**	19 43 46.3	+1.2
MOF	**Molkenrain**	**3.28**	**148**	P	**Pn**	19 43 46.3	+1.2
LOR	**Lormes**	**3.42**	**188**	*e*Pn	**Pn**	19 43 47.4	+0.5
	baz=8.2,SNR=1.0						
LOR	**Lormes**	**3.42**	**188**	*e*Pg	**Pb**	19 43 57.1	+2.6
	baz=1.7						
LOR				*e*Sn	**Sn**	19 44 25.0	-1.9
LOR				*e*Sg	**Sg**	19 44 42.0	-2.2
	comp=N,8.1nm,0.2s,SNR=1.0						
LOR	**Lormes**	**3.42**	**188**	*e*Pg	**Pb**	19 43 57.1	+2.6
	baz=1.7						
LOR				*e*Sn	**Sn**	19 44 25.0	-1.9
LOR				*e*Sg	**Sg**	19 44 42.0	-2.2
	comp=N,4.1nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**3.66**	**191**	*e*Pn	**Pn**	19 43 51.0	+0.8
	SNR=1.0						
SSF				*e*Sn	**Sn**	19 44 30.7	-2.2
SSF				*e*Sg	**Sg**	19 44 49.7	-2.3
	comp=N,6.0nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**3.66**	**238**	*e*Pn	**Pn**	19 43 51.6	+1.3
	SNR=1.0						
LDF				*e*Sn	**Sn**	19 44 31.6	-1.4
LDF				*e*Sg	**Sg**	19 44 50.4	-1.8
	comp=N,6.8nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**3.66**	**238**	*e*Pn	**Pn**	19 43 51.6	+1.3
	SNR=1.0						
LDF				*e*Sn	**Sn**	19 44 31.6	-1.4
LDF				*e*Sg	**Sg**	19 44 50.4	-1.8
	comp=N,3.4nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**3.77**	**242**	*e*Sg	**Sg**	19 44 54.1	-1.4
	comp=N,7.6nm,0.2s						
FLN	**La Foliniere**	**3.77**	**242**	*e*Sg	**Sg**	19 44 54.1	-1.4
	comp=N,3.8nm,0.2s						
AVF	**Avril sur Loir**	**3.94**	**192**	*e*Pn	**Pn**	19 43 54.5	+0.4
	SNR=1.0						
AVF				*e*Sn	**Sn**	19 44 37.2	-2.7
	SNR=1.0						
AVF				*e*Sg	**Sg**	19 44 58.3	-2.8
	comp=N,3.5nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.94**	**192**	*e*Pn	**Pn**	19 43 54.5	+0.4
	SNR=1.0						
AVF				*e*Sn	**Sn**	19 44 37.2	-2.7
	SNR=1.0						
AVF				*e*Sg	**Sg**	19 44 58.3	-2.8
	comp=N,1.8nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.04**	**187**	*e*Pn	**Pn**	19 43 54.9	-0.5
SMF	**Signal de Mont**	**4.04**	**187**	*e*Pg	Pb	19 44 09.2	+4.1
SMF				*e*Sn	**Sn**	19 44 39.4	-2.8
	SNR=1.0						
SMF				*e*Sg	**Sg**	19 45 01.1	-3.0
	comp=N,6.9nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.04**	**187**	*e*Pn	**Pn**	19 43 54.9	-0.5
SMF	**Signal de Mont**	**4.04**	**187**	*e*Pg	Pb	19 44 09.2	+4.1
SMF				*e*Sn	**Sn**	19 44 39.4	-2.8
	SNR=1.0						
SMF				*e*Sg	**Sg**	19 45 01.1	-3.0
	comp=N,3.5nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**4.17**	**165**	*e*Pn	**Pn**	19 43 58.0	+0.6
	SNR=1.0						
CABF				*e*Sn	**Sn**	19 44 42.6	-3.1
	comp=N,3.0nm,0.3s,SNR=1.0						
CABF				*e*Sg	**Sg**	19 45 05.3	-3.2
	comp=N,2.9nm,0.3s						
CABF	**La Chapelle**	**4.17**	**165**	*e*Pn	**Pn**	19 43 58.0	+0.6
	SNR=1.0						
CABF				*e*Sn	**Sn**	19 44 42.6	-3.1
	comp=N,1.5nm,0.3s,SNR=1.0						
CABF				*e*Sg	**Sg**	19 45 05.3	-3.2
	comp=N,1.5nm,0.3s						
GRR	**Gorron**	**4.18**	**239**	*e*Pn	**Pn**	19 43 58.6	+1.2
	SNR=1.0						
GRR				*e*Sn	**Sn**	19 44 44.3	-1.5
	SNR=1.0						
GRR				*e*Sg	**Sg**	19 45 06.2	-2.6
	comp=N,5.9nm,0.2s,SNR=1.0						
GRR	**Gorron**	**4.18**	**239**	*e*Pn	**Pn**	19 43 58.6	+1.2
	SNR=1.0						
GRR				*e*Sn	**Sn**	19 44 44.3	-1.5
	SNR=1.0						
GRR				*e*Sg	**Sg**	19 45 06.2	-2.6
	comp=N,3.0nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**4.25**	**196**	*e*Pn	**Pn**	19 43 58.9	+0.5
	SNR=1.0						
BGF				*e*Sn	**Sn**	19 44 45.1	-2.3
	SNR=1.0						
BGF				*e*Sg	**Sg**	19 45 07.5	-3.4
	comp=N,26nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**4.25**	**196**	*e*Pn	**Pn**	19 43 58.9	+0.5
	SNR=1.0						
BGF				*e*Sn	**Sn**	19 44 45.1	-2.3
	SNR=1.0						
BGF				*e*Sg	**Sg**	19 45 07.5	-3.4
	comp=N,13nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.63**	**200**	*e*Sg	**Sg**	19 45 20.3	-2.9
	comp=N,2.3nm,0.2s						
TCF	**Toulx Ste Croi**	**4.63**	**200**	*e*Sg	**Sg**	19 45 20.3	-2.9
	comp=N,1.1nm,0.2s						
MFF	**Saint Martin d**	**5.11**	**219**	*e*Pn	**Pn**	19 44 11.0	+0.9
	SNR=1.0						
MFF				*e*Sn	**Sn**	19 45 06.7	-1.9
	comp=N,1.9nm,0.2s,SNR=1.0						
MFF				*e*Sg	**Sg**	19 45 35.3	-3.0
	comp=N,2.4nm,0.3s						
SGMF	**Saint Gilles**	**5.21**	**245**	*e*Pn	**Pn**	19 44 12.0	+0.4
	SNR=1.0						
SGMF				*e*Sn	**Sn**	19 45 08.7	-2.5
	comp=N,12nm,0.8s,SNR=1.0						
SGMF	**Saint Gilles**	**5.21**	**245**	*e*Pn	**Pn**	19 44 12.0	+0.4
	SNR=1.0						
SGMF				*e*Sn	**Sn**	19 45 08.7	-2.5
	comp=N,6.2nm,0.8s,SNR=1.0						
LPL	**La Plagne**	**5.34**	**163**	*e*P	**Pn**	19 44 16.7	+3.1
LPL	**La Plagne**	**5.34**	**163**	*e*P	**Pn**	19 44 16.7	+3.1
LPG	**La Plagne**	**5.37**	**163**	*e*P	**Pn**	19 44 16.1	+2.1
	SNR=1.0						
LPG	**La Plagne**	**5.37**	**163**	*e*P	**Pn**	19 44 16.1	+2.1
	SNR=1.0						
ROSF	**Rostrenen**	**5.59**	**249**	*e*Pn	**Pn**	19 44 17.4	+0.6
ROSF				*e*Sn	**Sn**	19 45 18.2	-2.4
	comp=N,1.1nm,0.2s						
ROSF	**Rostrenen**	**5.59**	**249**	*e*Pn	**Pn**	19 44 17.4	+0.6
RJF	**Les Rejaudoux**	**5.72**	**202**	*e*Pn	**Pn**	19 44 19.1	+0.5
	SNR=1.0						
RJF	**Les Rejaudoux**	**5.72**	**202**	*e*Pn	**Pn**	19 44 19.1	+0.5
	SNR=1.0						
QUIF	**Quistinic**	**5.74**	**244**	*e*Pn	**Pn**	19 44 19.0	+0.2
	SNR=1.0						
QUIF	**Quistinic**	**5.74**	**244**	*e*Pn	**Pn**	19 44 19.0	+0.2
	SNR=1.0						
VIVF	**Saint-Julien-l**	**5.80**	**179**	*e*Pn	**Pn**	19 44 19.5	-0.2
	SNR=1.0						
VIVF				*e*Sn	Sn	19 45 21.2	-4.5
	comp=N,1.7nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**5.80**	**179**	*e*Pn	**Pn**	19 44 19.5	-0.2
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**5.81**	**171**	*e*Pn	**Pn**	19 44 20.7	+0.8
	SNR=1.0						
ORIF				*e*Sn	**Sn**	19 45 22.3	-3.7
	comp=N,3.0nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**5.81**	**171**	*e*Pn	**Pn**	19 44 20.7	+0.8
	SNR=1.0						
CAF	**Calviac**	**5.97**	**197**	*e*Pn	**Pn**	19 44 22.2	+0.2
	SNR=1.0						
CAF	**Calviac**	**5.97**	**197**	*e*Pn	**Pn**	19 44 22.2	+0.2
	SNR=1.0						
LFF	**La Frestale**	**6.26**	**206**	*e*Pn	**Pn**	19 44 26.7	+0.7
LFF	**La Frestale**	**6.26**	**206**	*e*Pn	**Pn**	19 44 26.7	+0.7
LASF	**Ste Croix**	**6.59**	**184**	*e*Pn	**Pn**	19 44 31.1	+0.5
	SNR=1.0						

*ISCJB **26** 19:50:05.8±0.8,56°.54S±0°.10×25°.8W±0°.2, h33km, mb4.3/6, MS4.3/1, Error ellipse: s-maj=18.9km s-min=12.5km az=153.4*
*IDC **26** 19:50:09.2±6.8,56°.49S×25°.86W, h47km±65km, mb4.2/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.2/6, MS4.3/1, Ms1 4.4/1, ms1mx3.5/17, Error ellipse: s-maj=26.7km s-min=20.8km az=54.0*

ISC 26 19:50:07.4±0.7, 56°.5S±0°.1×25°.9W±0°.2, h33km, n15, σ0°91/14, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.29**	**161**	*e*Pn	**Pn**	**19 53 52.5**	**-0.8**
VNA2	**Neumayer--Watz**	**16.47**	**158**	*e*Pn	**Pn**	**19 53 55.2**	**-0.4**
	baz=328,slow=16						
SNAA	**Sanae**	**18.00**	**156**	*e*Pn	**Pn**	**19 54 14.1**	**-0.6**
PMSA	**Palmer Station**	**20.12**	**230**	P	Pn	19 54 40.2	+0.2
	9.3nm,0.6s,baz=26,slow=14,SNR=5.0						
QSPA	**South Pole Qui**	**33.70**	**180**	P	**P**	**19 56 45.6**	**+0.4**
	7.3nm,0.5s,baz=215,slow=2.3,SNR=80						
CFAA	**Coronel Fontan**	**38.40**	**292**	P	**P**	**19 57 24.9**	**-0.6**
	0.3nm,0.5s,baz=189,slow=7.9,SNR=3.4						
VNDA	**Vanda**	**46.11**	**182**	P	**P**	**19 58 28.2**	**+0.5**
	2.5nm,0.7s,baz=180,slow=6.2,SNR=16						
VNDA				LR	LR	20 17 53.3	
	comp=Z,353nm,18.4s,baz=344,slow=36						
LBTB	**Lobatse**	**48.49**	**72**	P	**P**	**19 58 48.0**	**+1.1**
	2.1nm,0.7s,baz=218,slow=10,SNR=4.2						
LPAZ	**La Paz**	**51.24**	**304**	P	**P**	**19 59 09.4**	**+1.0**
	9.1nm,0.5s,baz=139,slow=5.3,SNR=55						
TORD	**Torodi Ar. Bea**	**73.15**	**28**	P	**P**	**20 01 33.3**	**-1.1**
	1.0nm,0.7s,baz=195,slow=6.7,SNR=7.6						
BVAR	**Borovoye Array**	**134.45**	**57**	PKP	**PKPdf**	**20 09 21.9**	**+1.2**
	0.2nm,0.5s,baz=219,slow=1.8,SNR=2.7						
YKA	**Yellowknife Ar**	**137.01**	**317**	PKP	**PKPdf**	**20 09 24.7**	**-0.5**
	0.5nm,0.6s,baz=130,slow=2.3,SNR=8.4						
INK	**Inuvik**	**146.63**	**320**	PKPbc	**PKPbc**	**20 09 43.9**	**0.0**
SONM	**Songino Array**	**150.06**	**86**	PKPbc	**PKPbc**	**20 09 52.4**	**-1.3**
	1.0nm,0.6s,baz=215,slow=3.6,SNR=12						
ILAR	**Eielson Array**	**150.97**	**311**	PKPbc	**PKPbc**	**20 09 54.6**	**-0.5**
	2.2nm,0.8s,baz=134,slow=1.6,SNR=23						

*DDA **26** 19:56:43.0, 36°.28N×41°.30E, h28km, MD3.3*
*ISCJB **26** 19:56:44.7±1.2, 36°.24N±0°.04×41°.27E±0°.04, h15km±9km, Error ellipse: s-maj=7.5km s-min=4.2km az=157.3*
*ISK **26** 19:56:44.5, 36°.26N×41°.26E, h9km, MD3.6*
*NSSC **26** 19:56:44.4±1.8, 36°.30N×41°.33E, h20km±12km, ML2.8*
*CSEM **26** 19:56:44.9±0.4, 36°.32N×41°.26E, h2km, ML2.8, Error ellipse: s-maj=9.4km s-min=6.0km az=147.0*

ISC 26 19:56:42.9±1.4, 36°.28N±0°.04×41°.30E±0°.03, h2km±11km, n62, σ1°59/82, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.70**	**229**	*e*P	**Pb**	**19 56 58.5**	**+0.8**
MZRK	**Al-Mazaregh**	**0.70**	**229**	*e*P	**Pb**	**19 56 58.5**	**+0.8**
	SNR=93						
KBSD	**Kabsdagh**	**0.94**	**320**	*e*P	**Pg**	**19 57 01.2**	**+0.3**
KBSD				*e*S	**Sb**	**19 57 14.4**	**-0.5**
KBSD				AML	AML	19 57 29.8	
	comp=Z,300nm,0.6s						
KBSD	**Kabsdagh**	**0.94**	**320**	*e*P	**Pg**	**19 57 01.2**	**+0.3**
	SNR=92						
KBSD				*e*S	**Sb**	**19 57 14.4**	**-0.5**
	comp=Z,300nm,0.6s,SNR=92						
SFNV	**Sufian**	**0.97**	**278**	*e*P	**Pg**	**19 57 01.5**	**0.0**
SFNV				*e*S	**Sb**	**19 57 15.5**	**-0.2**
SFNV				AML	AML	19 57 21.9	
	comp=Z,427nm,0.3s						
SFNV	**Sufian**	**0.97**	**278**	*e*P	**Pg**	**19 57 01.5**	**0.0**
	SNR=92						
SFNV				*e*S	**Sb**	**19 57 15.5**	**-0.2**
	comp=Z,427nm,0.3s,SNR=92						
MARD	**Mardin**	**1.11**	**338**	*i* P	**Pg**	**19 57 04.2**	**0.0**
MARD				*i* S	**Sb**	**19 57 19.8**	**-0.1**
SIRN	**S¨¨rnak**	**1.50**	**36**	*i* P	**Pn**	**19 57 10.1**	**-0.9**
SIRN				*i* S	**Sg**	**19 57 31.6**	**+0.4**
SIRN	**S¨¨rnak**	**1.50**	**36**	*i* P	**Pn**	**19 57 10.0**	**-0.9**
BEST	**Besiri**	**1.61**	**359**	*i* P	**Pn**	**19 57 12.8**	**+0.5**
BEST				*i* S	**Sg**	**19 57 34.8**	**+0.3**
DIY	**Diyarbakir**	**1.83**	**332**	*e*PN	**Pn**	**19 57 16.0**	**+0.6**
DIY				*e*SN	**Sb**	**19 57 40.4**	**0.0**
DIY	**Diyarbakir**	**1.83**	**332**	*e*Pn	**Pn**	**19 57 16.0**	**+0.6**
DIY				*e*Sn	**Sb**	**19 57 40.4**	**0.0**
DIYA	**Diyarbakir**	**1.89**	**330**	*i* P	**Pn**	**19 57 16.9**	**+0.7**
DIYA				*i* S	**Sn**	**19 57 41.1**	**+0.4**
DIYA	**Diyarbakir**	**1.89**	**330**	*i* P	**Pn**	**19 57 16.9**	**+0.7**
DIYA				*i* S	**Sn**	**19 57 41.1**	**+0.4**
BTMT	**Batman**	**1.91**	**4**	*e*PN	**Pn**	**19 57 17.3**	**+0.8**
BTMT				*e*SN	**Sn**	**19 57 41.4**	**+0.2**

WRA	**Warramunga Arr**	**46.04**	**264**	P		P	20 48 08.4	-1.0
	1.1nm,0.6s,baz=101,slow=8.1,SNR=7.0							
USRK	**Ussuriysk Arra**	**82.46**	**325**	P		P	20 52 08.2	+0.4
	3.2nm,0.9s,baz=122,slow=7.2,SNR=4.8							
CMAR	**Chiang Mai Arr**	**92.81**	**289**	P		P	20 53 00.2	+1.6
	1.3nm,0.9s,baz=142,slow=2.6,SNR=8.3							
BRTR	**Keskin Array B**	**150.17**	**310**	PKPbc		PKPbc	20 59 35.1	-1.8
	0.8nm,0.8s,baz=147,slow=5.2,SNR=4.6							

ISCJB ***26*** *20:43:34.1±0.5,31˚.80N±0˚.04×140˚.19E±0˚.07, h134km±4km, mb3.8/26, Error ellipse: s-maj=10.7km s-min=6.0km az=162.4*

IDC ***26*** *20:43:34.8±0.8,31˚.69N×139˚.81E, h122km±5km, mb3.7/23, mb1 3.9/24, mb1mx3.9/29, mbtmp3.8/24, Error ellipse: s-maj=13.7km s-min=8.4km az=77.0*

JMA ***26*** *20:43:36.4±0.2,31˚.86N×140˚.14E, h123km±2km, M3.7*

ISC 26 20:43:35.3±0.9,31˚.77N±0˚.05×140˚.11E±0˚.08, h126km±7km, n46,σ1ᵖ36/57, mb4.0/26, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.37**	**350**	P	**Pn**	**20 44 01.8**	**+0.2**
JHJ2				*e*S	**Sn**	**20 44 21.4**	**-0.3**
JHJ	**Hachijo jima 2**	**1.38**	**349**	P	**Pn**	**20 44 02.0**	**+0.2**
	301nm,0.3s,baz=50,slon=22,SNR=46						
JHJ				S	**Sn**	**20 44 21.6**	**-0.3**
	156nm,0.3s,baz=66,slow=23,SNR=12						
JKO	**Kozu shima**	**2.55**	**342**	P	**Pn**	**20 44 16.8**	**+0.8**
TK02	**Tokai 2**	**2.94**	**318**	P	**Pn**	**20 44 21.5**	**+0.7**
TK02				*e*S	**Sn**	**20 44 57.9**	**+2.0**
BSO1	**Boso 1**	**2.97**	**14**	P	**Pn**	**20 44 20.8**	**-0.1**
JOD2	**Odawara 2**	**3.59**	**347**	P	**Pn**	**20 44 29.8**	**+0.2**
JOD2				*e*S	**Sn**	**20 45 12.2**	**+0.6**
JRY	**Ryogami san**	**4.36**	**347**	P	**Pn**	**20 44 39.8**	**0.0**
JRY				S	**Sn**	**20 45 28.0**	**-1.8**
JWY	**Kouya**	**4.51**	**304**	P	**Pn**	**20 44 42.5**	**+0.6**
CBIJ	**Chichi jima**	**4.99**	**158**	P	**Pn**	**20 44 47.3**	**-1.0**
	6.7nm,0.3s,baz=245,slow=14,SNR=3.7						
CBIJ				S	**Sn**	**20 45 44.7**	**-0.3**
	23nm,0.3s,baz=278,slow=23,SNR=6.2						
CBIJ	**Chichi jima**	**4.99**	**158**	P	**Pn**	**20 44 47.1**	**-1.2**
MJAR	**Matsushiro Arr**	**5.02**	**342**	P	**Pn**	**20 44 48.5**	**-0.1**
	0.9nm,0.3s,baz=155,slow=10,SNR=9.8						
MJAR				S	**Sn**	**20 45 43.5**	**-2.1**
	0.6nm,0.3s,baz=178,slow=12,SNR=2.7						
MAT	**Matsushiro**	**5.02**	**342**	P	**Pn**	**20 44 48.8**	**+0.2**
MAT				*e*S	**Sn**	**20 45 44.1**	**-1.6**
JTO	**Tosashimizu**	**6.28**	**282**	P	**Pn**	**20 45 07.2**	**+1.6**
JHS	**Saijyo**	**6.68**	**301**	P	**Pn**	**20 45 12.0**	**+1.1**
JNU	**Nakatsue**	**7.92**	**282**	P	**Pn**	**20 45 29.6**	**+1.9**
	0.5nm,0.3s,baz=89,slow=6,SNR=5.7						
KSRS	**Korea Array**	**11.53**	**303**	P	**Pn**	**20 46 18.1**	**+2.0**
	0.3nm,0.3s,baz=119,slow=14,SNR=13						
ASAJ	**Asahikawa**	**12.49**	**8**	P	**Pn**	**20 46 25.9**	**-2.6**
	0.3nm,0.3s,baz=216,slow=17,SNR=2.8						
PETK	**Petropavlovsk-**	**24.84**	**26**	P	**P**	**20 48 49.0**	**+3.2**
	4.3nm,1.0s,baz=191,slow=6.0,SNR=3.5						
SONM	**Songino Array**	**30.17**	**312**	P	**P**	**20 49 32.9**	**-0.7**
	0.3nm,0.4s,baz=127,slow=9.2,SNR=8.4						
SONM				PcP	**PcP**	**20 52 32.0**	**+0.4**
	0.2nm,0.3s,baz=103,slow=2.9,SNR=4.3						
SONM				ScP	**ScP**	**20 56 00.9**	**-1.4**
	0.5nm,0.8s,baz=158,slow=2.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**39.33**	**260**	P	**P**	**20 50 51.2**	**-1.2**
	0.7nm,0.5s,baz=44,slow=8.1,SNR=7.0						
ZALV	**Zalesovo Beam**	**44.83**	**316**	P	**P**	**20 51 35.3**	**-1.2**
	0.6nm,0.4s,baz=101,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**46.18**	**306**	P	**P**	**20 51 45.6**	**-1.8**
	1.8nm,0.4s,baz=86,slow=9.7,SNR=6.0						
MKAR				ScP	**ScP**	**20 57 01.4**	**-1.2**
	1.0nm,0.9s,baz=74,slow=4.8,SNR=6.3						
WRA	**Warramunga Arr**	**51.71**	**187**	P	**P**	**20 52 27.7**	**-1.9**
	0.7nm,0.4s,baz=3.1,slow=7.8,SNR=11						
KDAK	**Kodiak Island**	**51.80**	**39**	P	**P**	**20 52 31.1**	**+1.2**
	4.5nm,0.4s,baz=125,slow=18,SNR=16						
ILAR	**Eielson Array**	**54.55**	**30**	P	**P**	**20 52 50.4**	**+0.4**
	1.4nm,0.7s,baz=273,slow=5.9,SNR=18						
ASAR	**Alice Springs**	**55.44**	**187**	P	**P**	**20 52 56.5**	**-0.4**
	0.3nm,0.4s,baz=19,slow=11,SNR=8.5						
INK	**Inuvik**	**59.58**	**25**	P	**P**	**20 53 26.4**	**+1.2**
	2.1nm,0.5s,baz=298,slow=5.4,SNR=12						
STKA	**Stephens Creek**	**63.31**	**179**	P	**P**	**20 53 53.8**	**+3.1**
	0.8nm,0.6s,baz=335,slow=8.1,SNR=3.1						
ARCES	**ARCESS Array B**	**68.55**	**340**	P	**P**	**20 54 24.1**	**+0.3**
	2.4nm,0.8s,baz=53,slow=7.0,SNR=9.9						
YKA	**Yellowknife Ar**	**68.92**	**29**	P	**P**	**20 54 26.9**	**+0.7**
	0.8nm,0.6s,baz=294,slow=6.1,SNR=16						
JOF	**Joensuu**	**70.11**	**333**	*e*p	**P**	**20 54 31.8**	**-1.7**
	1.0nm,0.4s						
KAF	**Kangasniemi**	**72.50**	**333**	*e*p	**P**	**20 54 46.5**	**-1.4**
	1.3nm,0.6s						
FINES	**FINESS Array B**	**72.98**	**333**	P	**P**	**20 54 50.0**	**-0.8**
	1.3nm,0.4s,baz=62,slow=5.7,SNR=29						
KBZ	**Khabaz**	**73.54**	**311**	P	**P**	**20 54 54.0**	**-0.3**
	3.9nm,0.8s,baz=94,slow=3.6,SNR=11						
AKASG	**Malin Array Be**	**77.81**	**323**	P	**P**	**20 55 17.6**	**-0.9**
	1.6nm,0.5s,baz=52,slow=5.8,SNR=7.1						
HFS	**Hagfors**	**78.44**	**336**	P	**P**	**20 55 20.8**	**-1.0**
	2.2nm,0.8s,baz=61,slow=5.9,SNR=11						
NB2	**NORSAR Subarra**	**78.62**	**337**	P	**P**	**20 55 22.4**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**78.62**	**337**	P	**P**	**20 55 22.5**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=44,slow=5.5,SNR=6.0						
NVAR	**Mina Array Bea**	**79.05**	**52**	P	**P**	**20 55 28.2**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=283,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**81.53**	**312**	P	**P**	**20 55 38.8**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=110,slow=4.2,SNR=14						
MLR	**Muntele Rosu**	**82.70**	**320**	P	**P**	**20 55 44.6**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=243,slow=20,SNR=3.1						
GERES	**GERESS Array B**	**86.60**	**328**	P	**P**	**20 56 03.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=50,slow=5.2,SNR=3.2						
DAVOX	**Davos/Dischmat**	**89.86**	**328**	P	**P**	**20 56 18.7**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=133,slow=23,SNR=3.0						
TXAR	**Lajitas Array**	**94.20**	**52**	P	**P**	**20 56 42.2**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=294,slow=2.9,SNR=9.7						
TORD	**Torodi Ar. Bea**	**120.15**	**312**	PKP	**PKPdf**	**21 02 11.1**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=27,slow=1.8,SNR=4.7						
LPAZ	**La Paz**	**150.08**	**66**	PKPbc	**PKPbc**	**21 03 14.4**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=357,slow=6.1,SNR=5.6						

IDC 26 20:48:04.3±50.0,22˚.51S×173˚.96W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/20, mbtmp3.8/3, Error ellipse: s-maj=945.6km s-min=182.3km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.38**	**247**	P	P	20 55 43.8	-0.3
	0.8nm,0.6s,baz=99,slow=24,SNR=3.3						
ASAR	**Alice Springs**	**47.75**	**258**	P	P	20 56 44.4	+0.9
	0.4nm,0.5s,baz=98,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	**48.06**	**263**	P	P	20 56 44.9	-1.0
	1.4nm,0.6s,baz=102,slow=8.3,SNR=9.6						

IDC ***26*** *21:33:34.9±3.6,23˚.68S×69˚.91W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.6/16, mbtmp4.1/2, Error ellipse: s-maj=128.5km s-min=84.7km az=59.0*

ISCJB ***26*** *21:33:37.6±0.9,23˚.50S±0˚.06×70˚.4W±0˚.1, h39km±6km, mb4.1/2, Error ellipse: s-maj=20.5km s-min=9.5km az=9.2*

GUC ***26*** *21:33:38.1±0.5,23˚.45S×70˚.31W, h36km±4km, ML3.7*

ISC 26 21:33:38.4±1.0,23˚.46S±0˚.06×70˚.38W±0˚.10, h32km±7km, n8,σ0ᵖ75/12, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**0.18**	**69**	↓*i*P	**Pb**	**21 33 44.3**	**-0.4**
CEN1				*i* S	**Sn**	**21 33 49.0**	**-0.1**
CEN1				AML	AML	21 33 49.9	
	comp=N,10μm,0.5s						
ANCH	**Antofagasta**	**0.23**	**187**	↑*i*P	**Pb**	**21 33 45.1**	**0.0**
ANCH				*i* S	**Sb**	**21 33 50.0**	**+0.4**
ANCH				AML	AML	21 33 50.8	
	comp=N,14μm,0.4s						
MECH	**Mejillones**	**0.35**	**350**	↑*i*P	**Pb**	**21 33 46.3**	**-0.5**
MECH				*i* S	**Sn**	**21 33 53.0**	**-0.3**
MECH				AML	AML	21 33 53.2	
	comp=N,16μm,0.2s						
MACH	**Maria Elena**	**1.38**	**25**	↑*i*P	**Pn**	**21 34 02.2**	**+0.5**
MACH				*i* S	**Sn**	**21 34 20.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**79.29**	**71**	P	**P**	**21 45 40.9**	**-0.4**
	comp=N,0.8nm,0.5s,baz=257,slow=5.0,SNR=21						
BOSA	**Boshof**	**83.73**	**118**	P	**P**	**21 46 03.8**	**-1.0**

2009 MAR

	comp=N,1.9nm,1.0s,baz=243,slow=11,SNR=3.6							
AAK	**Ala-Archa**	**145.22**	**48**	PKPbc	**PKPab**	**21 53 13.9**	**+1.1**
	comp=N,1.1nm,0.7s,baz=229,slow=1.4,SNR=7.8							
MKAR	**Makanchi Array**	**148.01**	**37**	PKPbc	**PKPbc**	**21 53 20.6**	**+0.1**
	comp=N,0.6nm,0.7s,baz=320,slow=3.2,SNR=6.4							

NEIC ***26*** *21:35:59.8, 38˚.32S×178˚.32E, h50km, ML4.3(WEL), After WEL.*

NEIC Felt [IV] at Whataupoko and [III] at Mangapapa. Also felt at Gisborne, Matawhero, Te Hapara and Waipaoa.

WEL 26 21:36:00.1±0.2, 38˚.34S×178˚.19E, h41km±2km, ML4.2/18, 8C-9D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.15**	**175**	↑PN	Pn	21 36 06.9	-0.3
CNGZ				SN	Sn	21 36 13.7	+1.6
CNGZ	**Carnagh Statio**	**0.15**	**175**	↑Pn	Pn	21 36 06.9	-0.3
CNGZ				Sn	Sn	21 36 13.7	+1.6
PUZ	**Puketiti**	**0.27**	**11**	↓PN	Pn	21 36 07.4	-0.8
PUZ				SN	Sn	21 36 13.4	-0.4
PUZ	**Puketiti**	**0.27**	**11**	Pn	Pn	21 36 07.4	-0.8
MWZ	**Matawai**	**0.52**	**270**	↑PN	Pn	21 36 10.2	-1.1
MWZ				SN	Sn	21 36 17.7	-1.4
MWZ	**Matawai**	**0.52**	**270**	↑Pn	Pn	21 36 10.2	-1.1
PRGZ	**Paritu Road**	**0.63**	**202**	↓PN	Pn	21 36 12.6	-0.2
PRGZ	**Paritu Road**	**0.63**	**202**	Pn	Pn	21 36 12.5	-0.2
MXZ	**Matakaoa Point**	**0.78**	**7**	↑PN	Pn	21 36 15.1	+0.4
MXZ	**Matakaoa Point**	**0.78**	**7**	↑Pn	Pn	21 36 15.1	+0.4
MXZ				SN	Sn	21 36 27.6	+2.4
KNZ	**Kokohu**	**0.79**	**210**	↓PN	Pn	21 36 14.4	-0.4
KNZ	**Kokohu**	**0.79**	**210**	↓Pn	Pn	21 36 14.4	-0.4
MHGZ	**Mahia Peninsul**	**0.84**	**195**	↓PN	Pn	21 36 15.6	0.0
MHGZ	**Mahia Peninsul**	**0.84**	**195**	↓Pn	Pn	21 36 15.6	0.0
URZ	**Urewera**	**0.85**	**275**	↑PN	Pn	21 36 15.3	-0.4
URZ				SN	Sn	21 36 27.7	+0.7
URZ	**Urewera**	**0.85**	**275**	↑Pn	Pn	21 36 15.3	-0.4
RAHZ	**Arahi**	**1.04**	**236**	PN	Pn	21 36 18.0	-0.3
RAHZ	**Arahi**	**1.04**	**236**	Pn	Pn	21 36 17.9	-0.4
WIZ	**White Island**	**1.13**	**315**	PN	Pn	21 36 19.0	-0.5
WIZ	**White Island**	**1.13**	**315**	Pn	Pn	21 36 19.0	-0.5
EDRZ	**Edgecumbe**	**1.17**	**281**	Pn	Pn	21 36 20.4	+0.3
MARZ	**Manawahe**	**1.25**	**286**	PN	Pn	21 36 20.9	-0.2
MARZ	**Manawahe**	**1.25**	**286**	Pn	Pn	21 36 20.9	-0.2
RRRZ	**Republican Roa**	**1.32**	**269**	PN	Pn	21 36 22.7	+0.6
RRRZ	**Republican Roa**	**1.32**	**269**	Pn	Pn	21 36 22.7	+0.6
NMHZ	**Naumai**	**1.32**	**235**	PN	Pn	21 36 22.0	-0.2
NMHZ	**Naumai**	**1.32**	**235**	Pn	Pn	21 36 22.0	-0.2
TARZ	**Mount Tarawera**	**1.33**	**274**	PN	Pn	21 36 22.3	-0.1
TARZ	**Mount Tarawera**	**1.33**	**274**	Pn	Pn	21 36 22.3	-0.1
OPRZ	**Ohinepanea**	**1.38**	**290**	PN	Pn	21 36 22.1	-0.8
OPRZ	**Ohinepanea**	**1.38**	**290**	Pn	Pn	21 36 22.1	-0.8
PRRZ	**Plateau Road**	**1.42**	**263**	PN	Pn	21 36 23.6	+0.1
PRRZ	**Plateau Road**	**1.42**	**263**	Pn	Pn	21 36 23.6	+0.1
ALRZ	**Allen Road**	**1.47**	**261**	PN	Pn	21 36 24.1	-0.1
ALRZ	**Allen Road**	**1.47**	**261**	Pn	Pn	21 36 24.1	-0.1
HRRZ	**Handcock Road**	**1.50**	**267**	*e*PN	Pn	21 36 25.0	+0.4
HRRZ	**Handcock Road**	**1.50**	**267**	*e*Pn	Pn	21 36 25.1	+0.4
BKZ	**Black Stump Fm**	**1.56**	**238**	PN	Pn	21 36 25.3	-0.3
BKZ	**Black Stump Fm**	**1.56**	**238**	Pn	Pn	21 36 25.3	-0.3
CKHZ	**Cape Kidnapper**	**1.58**	**213**	↓PN	Pn	21 36 24.6	-1.0
CKHZ	**Cape Kidnapper**	**1.58**	**213**	Pn	Pn	21 36 24.6	-1.0
MCHZ	**McNeill Hill**	**1.60**	**226**	PN	Pn	21 36 25.7	-0.3
MCHZ	**McNeill Hill**	**1.60**	**226**	Pn	Pn	21 36 25.7	-0.3
TGRZ	**Tauranga**	**1.64**	**291**	PN	Pn	21 36 25.6	-0.9
TGRZ	**Tauranga**	**1.64**	**291**	Pn	Pn	21 36 25.6	-0.9
KAHZ	**Kahuranaki**	**1.78**	**215**	PN	Pn	21 36 27.1	-1.3
KAHZ	**Kahuranaki**	**1.78**	**215**	Pn	Pn	21 36 27.1	-1.3
MYRZ	**Mayor Island**	**1.87**	**304**	PN	Pn	21 36 28.7	-0.9
PXZ	**Pawanui**	**1.98**	**211**	Pn	Pn	21 36 28.9	-2.3
BHHZ	**Black Hill Sta**	**2.02**	**235**	↓PN	Pn	21 36 31.2	-0.6
BHHZ	**Black Hill Sta**	**2.02**	**235**	↓Pn	Pn	21 36 31.2	-0.6
KRVZ	**Karewarewa**	**2.13**	**248**	*e*PN	Pn	21 36 32.6	-0.9
KRVZ	**Karewarewa**	**2.13**	**248**	*e*Pn	Pn	21 36 32.6	-0.9
OTVZ	**Oturere**	**2.14**	**247**	PN	Pn	21 36 33.2	-0.4
OTVZ	**Oturere**	**2.14**	**247**	Pn	Pn	21 36 33.2	-0.4
WTVZ	**West Tongariro**	**2.18**	**248**	PN	Pn	21 36 34.1	0.0
WTVZ	**West Tongariro**	**2.18**	**248**	Pn	Pn	21 36 34.1	0.0
MOVZ	**Moawhango**	**2.18**	**240**	PN	Pn	21 36 33.5	-0.6
MOVZ	**Moawhango**	**2.18**	**240**	Pn	Pn	21 36 33.5	-0.5
TUVZ	**Tukino**	**2.19**	**244**	PN	Pn	21 36 34.4	+0.2
TUVZ	**Tukino**	**2.19**	**244**	Pn	Pn	21 36 34.4	+0.2
NGZ	**Ngauruhoe**	**2.19**	**247**	PN	Pn	21 36 34.4	+0.1
NGZ	**Ngauruhoe**	**2.19**	**247**	Pn	Pn	21 36 34.1	-0.1
WPHZ	**Waipukurau**	**2.20**	**218**	PN	Pn	21 36 32.4	-1.8
WPHZ	**Waipukurau**	**2.20**	**218**	Pn	Pn	21 36 32.4	-1.8
TOZ	**Tahuroa Road**	**2.21**	**285**	PN	Pn	21 36 33.5	-0.7
TOZ	**Tahuroa Road**	**2.21**	**285**	Pn	Pn	21 36 33.5	-0.7
PNHZ	**Pukenui**	**2.21**	**224**	PN	Pn	21 36 32.7	-1.6
PNHZ	**Pukenui**	**2.21**	**224**	Pn	Pn	21 36 32.8	-1.6
WPVZ	**Whakapapa**	**2.24**	**246**	PN	Pn	21 36 35.2	+0.3
WPVZ	**Whakapapa**	**2.24**	**246**	Pn	Pn	21 36 35.2	+0.3
WNVZ	**Wahianoa**	**2.25**	**243**	PN	Pn	21 36 35.3	+0.2
WNVZ	**Wahianoa**	**2.25**	**243**	Pn	Pn	21 36 35.2	0.0
TSZ	**Takapari Road**	**2.44**	**224**	PN	Pn	21 36 36.0	-2.0
TSZ	**Takapari Road**	**2.44**	**224**	Pn	Pn	21 36 35.5	-2.0
DVHZ	**Dannevirke**	**2.51**	**218**	PN	Pn	21 36 36.3	-2.2
DVHZ	**Dannevirke**	**2.51**	**218**	Pn	Pn	21 36 36.3	-2.2
KUZ	**Kuaotunu**	**2.52**	**308**	PN	Pn	21 36 37.8	-0.9
KUZ	**Kuaotunu**	**2.52**	**308**	Pn	Pn	21 36 37.8	-0.8
HIZ	**Hauiti**	**2.62**	**265**	PN	Pn	21 36 40.5	+0.5
HIZ	**Hauiti**	**2.62**	**265**	Pn	Pn	21 36 40.5	+0.5
MKAZ	**Moumakai**	**2.69**	**296**	PN	Pn	21 36 40.4	-0.6
MKAZ	**Moumakai**	**2.69**	**296**	Pn	Pn	21 36 40.4	-0.6
POWZ	**Post Office Ro**	**2.78**	**222**	PN	Pn	21 36 40.0	-2.1
POWZ	**Post Office Ro**	**2.78**	**222**	Pn	Pn	21 36 40.0	-2.1
VRZ	**Vera Road**	**2.80**	**253**	PN	Pn	21 36 43.0	+0.7
VRZ	**Vera Road**	**2.80**	**253**	Pn	Pn	21 36 43.0	+0.7
MRZ	**Mangatainoka R**	**3.08**	**220**	PN	Pn	21 36 43.2	-3.1
MRZ	**Mangatainoka R**	**3.08**	**220**	Pn	Pn	21 36 43.2	-3.1
RAEZ	**Rainy Point**	**3.11**	**251**	PN	Pn	21 36 48.0	+1.3
RAEZ	**Rainy Point**	**3.11**	**251**	Pn	Pn	21 36 48.0	+1.3
TMWZ	**Te Maipa**	**3.29**	**212**	PN	Pn	21 36 46.0	-3.2
TMWZ	**Te Maipa**	**3.29**	**212**	Pn	Pn	21 36 46.0	-3.2
HOWZ	**Holdsworth Sta**	**3.29**	**218**	PN	Pn	21 36 46.3	-2.9
HOWZ	**Holdsworth Sta**	**3.29**	**218**	Pn	Pn	21 36 46.3	-2.9
NEZ	**North Egmont**	**3.33**	**252**	PN	Pn	21 36 50.9	+1.1
NEZ	**North Egmont**	**3.33**	**252**	Pn	Pn	21 36 50.9	+1.1
OGWZ	**Otaki Gorge**	**3.40**	**222**	PN	Pn	21 36 47.7	-3.0
OGWZ	**Otaki Gorge**	**3.40**	**222**	Pn	Pn	21 36 47.7	-3.0
MTW	**Mount Morrison**	**3.50**	**215**	*e*PN	Pn	21 36 48.2	-3.8
MTW	**Mount Morrison**	**3.50**	**215**	*e*Pn	Pn	21 36 48.2	-3.8
KIW	**Kapiti Island**	**3.57**	**224**	PN	Pn	21 36 50.3	-2.7
KIW	**Kapiti Island**	**3.57**	**224**	Pn	Pn	21 36 50.3	-2.7
TRWZ	**Traveller**	**3.61**	**211**	PN	Pn	21 36 49.2	-4.4
TRWZ	**Traveller**	**3.61**	**211**	Pn	Pn	21 36 49.2	-4.4
CAW	**Cannon Point**	**3.67**	**220**	PN	Pn	21 36 50.8	-3.6
CAW	**Cannon Point**	**3.67**	**220**	Pn	Pn	21 36 50.8	-3.6
MSWZ	**Moikau Station**	**3.82**	**215**	PN	Pn	21 36 52.5	-3.9
MSWZ	**Moikau Station**	**3.82**	**215**	Pn	Pn	21 36 52.5	-3.9
SNZO	**South Karori**	**4.00**	**221**	PN	Pn	21 36 55.1	-3.7
SNZO	**South Karori**	**4.00**	**221**	Pn	Pn	21 36 55.1	-3.7
DUWZ	**D'Urville Isla**	**4.12**	**232**	PN	Pn	21 36 58.0	-2.5
DUWZ	**D'Urville Isla**	**4.12**	**232**	Pn	Pn	21 36 58.0	-2.5
TCW	**Tory Channel**	**4.16**	**225**	PN	Pn	21 36 57.8	-3.3
NNZ	**Nelson**	**4.69**	**231**	*e*PN	Pn	21 37 05.0	-3.3
NNZ	**Nelson**	**4.69**	**231**	*e*Pn	Pn	21 37 05.0	-3.3
THZ	**Tophouse**	**5.30**	**228**	PN	Pn	21 37 13.2	-3.7
THZ	**Tophouse**	**5.30**	**228**	Pn	Pn	21 37 13.2	-3.7
KHZ	**Kahutara**	**5.40**	**220**	PN	Pn	21 37 14.5	-3.7
KHZ	**Kahutara**	**5.40**	**220**	Pn	Pn	21 37 14.5	-3.7
DSZ	**Denniston Nort**	**5.97**	**233**	*e*PN	Pn	21 37 21.7	-4.3
DSZ	**Denniston Nort**	**5.97**	**233**	*e*Pn	Pn	21 37 21.7	-4.3
MQZ	**McQueen's Vall**	**6.80**	**216**	*e*PN	Pn	21 37 31.8	-5.5
MQZ	**McQueen's Vall**	**6.80**	**216**	*e*Pn	Pn	21 37 31.9	-5.5
LBZ	**Lake Benmore**	**8.53**	**222**	*e*PN	Pn	21 37 56.2	-4.8
LBZ	**Lake Benmore**	**8.53**	**222**	*e*Pn	Pn	21 37 56.2	-4.8
ODZ	**Otahua Downs**	**8.76**	**218**	*e*PN	Pn	21 37 57.8	-6.3
ODZ	**Otahua Downs**	**8.76**	**218**	*e*Pn	Pn	21 37 57.8	-6.3

IDC ***26*** *22:10:53.4±1.4, 60˚.51N×147˚.92W, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.2/28, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=27.0km s-min=13.8km az=118.0*

NEIC ***26*** *22:10:54.5, 60˚.56N×147˚.90W, h4km, ML3.0(AEIC), After AEIC.*

ISC 26 22:10:53.1±1.3, 60˚.52N±0˚.03×147˚.91W±0˚.02, h8km±9km, n45,σ1ᵖ14/57, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEW	**Seward**	**0.88**	**242**	P	**Pg**	**22 11 11.3**	**+1.5**
SEW				S	**Sb**	**22 11 23.7**	**+1.5**
VLZ	**Valdez**	**0.98**	**51**	P	**Pg**	**22 11 11.2**	**-0.7**
RC01	**Rabbit Creek A**	**1.06**	**303**	P	**Pg**	**22 11 13.6**	**+0.2**
RC01				S	**Sg**	**22 11 28.0**	**+0.9**
EYAK	**Cordova Ski Ar**	**1.07**	**88**	P	**Pg**	**22 11 13.7**	**+0.1**
EYAK				S	**Sb**	**22 11 29.4**	**+1.5**
SLKM	**Skilak Lake**	**1.14**	**270**	P	**Pg**	**22 11 15.5**	**+0.5**
DIV	**Divide**	**1.21**	**59**	P	**Pg**	**22 11 15.4**	**-0.9**
DIV				S	**Sg**	**22 11 31.2**	**-0.7**
PMR	**Palmer**	**1.23**	**332**	P	**Pg**	**22 11 15.3**	**-1.3**
SML	**Sawmill**	**1.31**	**351**	P	**Pg**	**22 11 17.1**	**-1.0**
SML				S	**Sg**	**22 11 34.3**	**-0.7**
SGAM	**Sherman Glacie**	**1.34**	**90**	P	**Pn**	**22 11 17.8**	**-0.2**
MID	**Middleton Isla**	**1.35**	**144**	P	**Pn**	**22 11 19.2**	**+1.0**
KLU	**Klutina**	**1.37**	**44**	P	**Pn**	**22 11 17.7**	**-0.9**
GOAT	**Goat Mountain**	**1.57**	**86**	P	**Pn**	**22 11 21.3**	**0.0**
RAGM	**Ragged Mountai**	**1.61**	**93**	P	**Pn**	**22 11 21.5**	**-0.2**
BRLK	**Bradley Lake**	**1.67**	**244**	P	**Pn**	**22 11 23.2**	**+0.6**
SUA	**Susitna One**	**1.67**	**306**	P	**Pn**	**22 11 22.6**	**-0.2**
SUA				S	**Sn**	**22 11 44.5**	**+0.1**
BMRM	**Bremner River**	**1.68**	**73**	P	**Pn**	**22 11 22.5**	**-0.3**
KAIM	**Kayak Island**	**1.84**	**107**	P	**Pn**	**22 11 24.7**	**-0.2**
SPU	**Mount Spurr**	**2.13**	**290**	P	**Pn**	**22 11 28.8**	**-0.2**
STLK	**Strandline Lak**	**2.15**	**299**	P	**Pn**	**22 11 29.3**

RCP	Roxas	4.32	296	⇑eP	Pn	23 45 38.1	+0.4
FITZ	Fitzroy Crossi	27.64	182	P	P	23 50 18.5	+0.3
	8.4nm,0.9s,baz=17,slow=9.8,SNR=16						
WRA	Warramunga Arr	30.39	166	P	P	23 50 42.0	-0.8
	0.1nm,0.3s,baz=342,slow=8.5,SNR=7.1						
ASAR	Alice Springs	33.89	168	P	P	23 51 13.1	-0.4
	0.3nm,0.3s,baz=353,slow=7.6,SNR=8.1						
SONM	Songino Array	41.71	339	P	P	23 52 20.0	+0.7
	0.4nm,0.5s,baz=157,slow=10,SNR=4.7						
NWAO	Narrogin (SRO)	43.34	192	P	P	23 52 33.0	+0.5
	3.4nm,0.4s,baz=22,slow=7.7,SNR=3.5						
STKA	Stephens Creek	43.72	162	P	P	23 52 36.2	+0.6
	0.9nm,0.4s,baz=346,slow=4.2,SNR=4.3						
PETK	Petropavlovsk-	49.98	24	P	P	23 53 22.4	-1.9
	4.1nm,1.0s,baz=212,slow=8.0,SNR=3.6						
MKAR	Makanchi Array	52.75	323	P	P	23 53 44.3	-0.9
	0.8nm,0.6s,baz=119,slow=8.2,SNR=16						
MKAR				PcP	PcP	23 54 54.4	0.0
	0.6nm,0.8s,baz=112,slow=4.9,SNR=2.9						
ZALV	Zalesovo Beam	55.34	331	P	P	23 54 02.6	-1.3
	0.3nm,0.3s,baz=118,slow=8.3,SNR=2.8						
BVAR	Borovoye Array	62.38	325	P	P	23 54 52.6	-0.3
	0.5nm,0.6s,baz=139,slow=7.0,SNR=4.3						
ARCES	ARCESS Array B	84.88	340	P	P	23 57 04.8	+0.3
	2.1nm,0.7s,baz=74,slow=6.7,SNR=7.4						
FINES	FINESS Array B	86.60	332	P	P	23 57 12.7	-0.4
	1.2nm,0.5s,baz=54,slow=7.1,SNR=16						
YKA	Yellowknife Ar	94.10	24	P	P	23 57 50.3	+2.0
	0.2nm,0.5s,baz=300,slow=4.3,SNR=5.4						

*ISCJB **26** 23:50:50.8±0.6,6.84N±0.06×72.99W±0.06,h173km±6km, mb3.5/4, Error ellipse: s-maj=11.3km s-min=7.4km az=136.5*

*FUNV **26** 23:50:51.2,6.77N×73.13W,h178km, MW3.6*

*IDC **26** 23:50:53.1±3.0,6.70N×73.20W,h179km±21km, mb3.3/4, mb1 3.5/5, mb1mx3.2/21, mbtmp3.4/5, Error ellipse: s-maj=71.8km s-min=24.3km az=95.0*

ISC 26 23:50:51.8±0.9, 6.84N±0.07×73.01W±0.07, h168km±8km, n27, σ0.95/31, mb3.6/4, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	1.23	34	⇑iP	Pn	23 51 20.8	+0.3
CAPV				eS	Sn	23 51 43.6	+1.1
ROSC	El Rosal	2.37	214	P	Pn	23 51 32.5	-0.2
	54nm,0.3s,baz=277,slow=2.9,SNR=150						
ROSC				S	Sn	23 52 03.0	-1.4
	35nm,0.3s,baz=81,slow=14,SNR=9.5						
SOCV	Socops	2.57	56	⇑iP	Pn	23 51 35.4	+0.7
SOCV				eS	Sn	23 52 07.1	-0.9
ELOV	Elorza	3.50	87	⇑eP	Pn	23 51 46.7	+0.5
ELOV				eS	Sn	23 52 27.9	-0.7
VIRV	Villa del Rosa	3.69	9	⇑eP	Pn	23 51 47.6	-1.0
VIRV				eS	Sn	23 52 30.6	-2.2
QARV	Quebrada Arrib	4.15	36	eP	Pn	23 51 55.5	+0.9
SANV	Sanarito	4.34	52	⇑eP	Pn	23 51 56.9	-0.1
CURV	Curarigua	4.36	44	⇑eP	Pn	23 51 57.1	-0.2
DABV	Dabajuro	4.68	30	eP	Pn	23 52 01.4	0.0
TEPV	Terepaima	4.89	50	⇑eP	Pn	23 52 03.9	-0.3
SIQV	Siquisique	4.93	40	⇑eP	Pn	23 52 04.5	-0.2
BAUV	El Baul	5.35	67	eP	Pn	23 52 08.8	-1.2
MAPV	Macapo	5.39	56	⇑iP	Pn	23 52 10.4	-0.3
IMOV	Isla Los Monje	5.86	21	eP	Pn	23 52 16.7	-0.2
MONV	Montecano	5.90	30	⇑eP	Pn	23 52 16.7	-0.7
TURV	Turiamo	6.24	55	eP	Pn	23 52 21.4	-0.5
MERV	Las Mercedes	7.06	70	eP	Pn	23 52 31.9	-0.9
BIRV	Birongo	7.58	61	eP	Pn	23 52 38.5	-1.1
CUPV	Cœpira	7.83	65	eP	Pn	23 52 41.5	-1.4
PCRV	Puerto La Cruz	8.92	68	eP	Pn	23 52 57.4	0.0
LPAZ	La Paz	23.48	168	pP	pP	23 56 19.6	+0.5
	0.9nm,0.7s,baz=349,slow=11,SNR=5.0						
ULM	Lac du Bonnet	47.30	340	P	P	23 59 08.4	+0.1
	1.6nm,0.4s,baz=108,slow=6.4,SNR=2.9						
SCHQ	Schefferville	48.11	5	P	P	23 59 16.0	+1.5
	0.6nm,0.5s,baz=219,slow=13,SNR=3.6						
PDAR	Pinedale Array	48.12	324	P	P	23 59 15.6	+0.5
	0.2nm,0.5s,baz=126,slow=10,SNR=3.9						
YKA	Yellowknife Ar	63.28	340	P	P	00 01 02.9	+0.6
	0.7nm,0.5s,baz=132,slow=6.8,SNR=17						
ASAR	Alice Springs	149.21	234	PKPbc	PKPbc	00 10 19.8	-1.6
	0.5nm,0.8s,baz=117,slow=3.2,SNR=4.2						
WRA	Warramunga Arr	150.44	241	PKPbc	PKPbc	00 10 23.9	-0.6
	0.2nm,0.5s,baz=107,slow=2.6,SNR=6.0						

IDC 26 23:59:06.2±3.5, 6.75S×146.14E, h143km±39km, mb3.2/3, mb1 3.3/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=45.2km s-min=36.3km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	2.83	159	P	Pn	23 59 51.7	+0.6
	9.8nm,0.3s,baz=4.5,slow=6.3,SNR=15						
PMG				S	Sn	00 00 26.0	+0.3
	19nm,0.3s,baz=170,slow=20,SNR=16						
WRA	Warramunga Arr	17.41	220	P	P	00 02 59.9	+0.3
	0.1nm,0.3s,baz=41,slow=11,SNR=5.0						
ASAR	Alice Springs	20.52	214	P	P	00 03 34.7	+1.3
	0.6nm,0.5s,baz=31,slow=13,SNR=7.2						
ASAR				pP	pP	00 03 57.5	-1.3
	1.3nm,0.8s,baz=45,slow=12,SNR=6.7						
FITZ	Fitzroy Crossi	22.95	239	P	P	00 03 57.1	-1.2
	0.5nm,0.3s,baz=55,slow=9.9,SNR=3.6						
CMAR	Chiang Mai Arr	52.85	299	P	P	00 08 07.6	0.0
	1.3nm,0.4s,baz=120,slow=5.3,SNR=3.8						
TORD	Torodi Ar. Bea	144.43	283	PKP	PKPab	00 18 25.0	-0.1
	0.3nm,0.7s,baz=86,slow=2.1,SNR=4.7						
DBIC	Dimbokro	151.19	272	PKPbc	PKPbc	00 18 43.8	0.0
	1.6nm,0.9s,baz=79,slow=5.2,SNR=3.9						

IDC 27 00:06:49.6±5.8, 20.69S×177.56W, h374km±57km, mb4.0/9, mb1 4.0/11, mb1mx3.7/24, mbtmp3.9/11, Error ellipse: s-maj=31.1km s-min=21.1km az=38.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.96	262	P	P	00 10 03.8	+0.9
	0.7nm,0.3s,baz=93,slow=19,SNR=5.6						
URZ	Urewera	18.11	194	P	P	00 10 35.7	-0.6
	1.3nm,0.3s,baz=34,slow=15,SNR=6.2						
RPZ	Rata Peaks	24.85	200	P	P	00 11 39.8	+0.1
	7.4nm,0.9s,baz=51,slow=14,SNR=2.5						
PMG	Port Moresby	35.78	283	P	P	00 13 15.2	+0.1
	32nm,0.8s,baz=101,slow=4.9,SNR=8.2						
STKA	Stephens Creek	38.08	244	P	P	00 13 34.6	+0.6
	2.9nm,0.6s,baz=66,slow=10,SNR=8.3						
ASAR	Alice Springs	44.87	257	P	P	00 14 28.6	-0.1
	27nm,0.7s,baz=96,slow=8.2,SNR=245						
WRA	Warramunga Arr	44.98	262	P	P	00 14 28.6	-0.9
	11nm,0.6s,baz=98,slow=7.6,SNR=117						
GUMO	Guam	50.23	310	P	P	00 15 09.0	-0.4
	109nm,1.0s,baz=202,slow=17,SNR=4.5						
FITZ	Fitzroy Crossi	53.41	262	P	P	00 15 32.3	-0.4
	4.3nm,0.9s,baz=118,slow=7.3,SNR=9.4						
TXAR	Lajitas Array	86.81	57	P	P	00 18 53.4	+0.3
	0.6nm,0.7s,baz=204,slow=5.5,SNR=6.5						
CMAR	Chiang Mai Arr	90.56	289	P	P	00 19 11.8	+1.2
	1.7nm,0.7s,baz=119,slow=2.5,SNR=8.5						
BRTR	Keskin Array B	147.26	312	PKPbc	PKPbc	00 25 48.9	-1.1
	0.5nm,0.6s,baz=130,slow=7.1,SNR=3.8						
GERES	GERESS Array B	150.49	345	PKPbc	PKPbc	00 25 57.0	-0.6
	0.3nm,0.6s,baz=19,slow=6.2,SNR=2.0						

IDC 27 00:11:21.7±48.0, 24.25S×179.86W, h518km±201km, mb3.3/4, mb1 3.4/5, mb1mx3.1/19, mbtmp3.3/5, Error ellipse: s-maj=610.1km s-min=100.8km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.79	277	P	P	00 14 08.9	+0.3
	0.8nm,0.3s,baz=101,slow=18,SNR=7.4						
STKA	Stephens Creek	34.71	249	P	P	00 17 27.7	-0.4
	0.8nm,0.5s,baz=78,slow=11,SNR=5.2						
ASAR	Alice Springs	42.11	261	P	P	00 18 28.1	-0.3
	0.7nm,0.3s,baz=93,slow=7.1,SNR=12						
WRA	Warramunga Arr	42.51	266	P	P	00 18 31.2	-0.3
	2.6nm,0.3s,baz=103,slow=8.1,SNR=34						
FITZ	Fitzroy Crossi	50.93	266	P	P	00 19 35.4	+0.2
	1.8nm,0.6s,baz=120,slow=8.2,SNR=8.2						

IDC 27 00:27:25.1±1.9, 0.89N×96.80E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/23, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=32.7km s-min=29.7km az=92.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	2.84	48	Pn	Pn	00 28 09.1	-2.8
	1.4nm,0.3s,baz=157,slow=14,SNR=4.8						
PSI				Pg	Pb	00 28 15.8	-1.1
	1.9nm,0.3s,baz=195,slow=16,SNR=11						
PSI				Sn	Sn	00 28 48.0	+1.0
	4.8nm,0.3s,baz=165,slow=16,SNR=3.8						
WRA	Warramunga Arr	42.21	121	P	P	00 35 20.1	0.0
	0.5nm,0.7s,baz=297,slow=9.4,SNR=2.8						
SONM	Songino Array	47.49	9	P	P	00 36 02.9	+0.9
	0.6nm,0.5s,baz=192,slow=9.2,SNR=6.1						
ZALV	Zalesovo Beam	53.80	351	P	P	00 36 48.5	-0.8
	1.3nm,0.7s,baz=172,slow=11,SNR=5.3						

*IDC **27** 00:32:13.8±2.3,41.68N×78.38E,h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/29, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=33.6km s-min=13.9km az=154.0*

*NNC **27** 00:32:17.6±1.9,41.48N×78.46E,h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.9km s-min=9.6km az=175.0*

ISC 27 00:32:15.8±1.0, 41.68N±0.07×78.38E±0.04, h10km, n23, σ1.62/16, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	Ulahol	1.69	290	P	Pn	00 32 45.3	-0.4
	SNR=164						
KNDC	Almaty	1.86	326	⇓P	Pn	00 32 48.1	+0.2
	53nm,0.3s						
KNDC				⇑S	Sg	00 33 12.1	-3.5
	426nm,0.4s						
KZA	Kyzart	2.37	281	P	Pn	00 32 58.1	+2.9
	SNR=121						
TKM2	Tokmak 2	2.41	302	⇓Pn	Pn	00 32 57.4	+1.9
	64nm,0.4s						
TKM2				⇑Sn	Sb	00 33 29.7	+0.4
	93nm,0.3s						
TKM2	Tokmak 2	2.41	302	P	Pn	00 32 57.4	+1.9
	SNR=263						
KBK	Karagaybulak	2.73	292	P	Pn	00 33 03.0	+3.0
	SNR=65						
UCH	Uchtor	2.94	282	P	Pb	00 33 07.6	-0.9
	SNR=11						
CHMS	Chumysh	3.00	297	P	Pn	00 33 05.9	+2.4
	SNR=12						
AAK	Ala-Archa	3.04	290	Pn	Pn	00 33 07.9	+3.7
	13nm,0.3s,baz=98,slow=8.6,SNR=115						
AAK				Lg	Lg	00 33 48.2	
	13nm,0.3s,baz=257,slow=20,SNR=20						
AAK	Ala-Archa	3.04	290	P	Pn	00 33 07.5	+3.4
	SNR=80						
USP	Ospenovka	3.28	300	P	Pn	00 33 11.0	+3.7
	SNR=9.5						
AML	Almayashu	3.53	279	P	Pb	00 33 18.1	-0.4
	SNR=11						
EKS2	Erkin-Say	3.56	288	P	Pb	00 33 18.9	-0.1
	SNR=23						
MK31	Makanchi Array	5.83	27	⇓Pn	Pn	00 33 43.2	+0.8
	0.5nm,0.2s,baz=204,slow=12,SNR=62						
MK31				⇓Pg	Pg	00 34 04.6	-2.9
	3.5nm,0.6s,baz=217,slow=15,SNR=8.9						
MK31				⇑Sn	Sn	00 34 48.8	-0.5
	3.5nm,0.5s						
MK31				⇓Lg	Lg	00 35 12.3	
	4.4nm,0.5s,baz=208,slow=29,SNR=6.1						
MKAR	Makanchi Array	5.83	27	Pn	Pn	00 33 43.3	+0.9
	0.9nm,0.3s,baz=204,slow=14,SNR=44						
MKAR				Sn	Sn	00 34 49.1	-0.2
	1.1nm,0.3s,baz=215,slow=20,SNR=3.5						
MKAR				Lg	Lg	00 35 10.9	
	1.8nm,0.3s,baz=209,slow=23,SNR=5.5						
KK31	Karatay Array	6.00	286	⇑Pg	Pb	00 34 04.5	+4.0
	1.7nm,0.4s,baz=94,slow=16,SNR=34						
KK31				⇑Lg	Lg	00 35 20.1	
	3.6nm,0.5s,baz=99,slow=26,SNR=9.3						
KURK	Kurchatov	9.04	1	⇓Lg	Lg	00 36 54.9	
	6.9nm,0.6s						
VOSK	Vostochnaya	12.13	338	⇑Lg	Lg	00 38 36.6	
	4.4nm,0.8s						
BVA0	Borovoye Array	12.57	337	⇑Lg	Lg	00 38 49.2	
	0.6nm,0.9s,baz=167,slow=23,SNR=5.2						
ZRNK	Zerenda	12.93	334	⇑Lg	Lg	00 38 59.6	
	4.2nm,0.8s						
ZALV	Zalesovo Beam	13.01	17	Pn	Pn	00 35 21.6	+1.0
	0.1nm,0.3s,baz=216,slow=8.9,SNR=2.7						
SONM	Songino Array	20.76	63	P	Pn	00 37 00.4	+1.2
	0.3nm,0.7s,baz=249,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	71.47	271	P	P	00 43 35.4	-1.4
	0.2nm,0.5s,baz=39,slow=5.2,SNR=5.4						

IDC 27 00:36:51.5±11.0, 61.69S×161.88E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.8/12, mbtmp3.6/3, ML3.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.7/18, Error ellipse: s-maj=509.3km s-min=42.2km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	15.91	180	Pn	Pn	00 40 36.2	-0.1
	0.2nm,0.3s,baz=350,slow=12,SNR=8.0						
VNDA				LR	LR	00 46 09.3	
	comp=Z,819nm,18.4s,baz=357,slow=35						
STKA	Stephens Creek	32.60	327	LR	LR	00 55 34.8	
	comp=Z,129nm,18.4s,baz=179,slow=34						
MAW	Mawson	38.43	218	LR	LR	00 59 06.9	
	comp=Z,306nm,18.1s,baz=113,slow=35						
NWAO	Narrogin (SRO)	40.46	294	LR	LR	00 55 59.8	
	comp=Z,212nm,20.0s,baz=13,slow=28						
ASAR	Alice Springs	42.53	320	P	P	00 44 47.4	-1.2
	0.4nm,0.8s,baz=166,slow=8.6,SNR=3.2						
WRA	Warramunga Arr	45.92	323	P	P	00 45 16.7	+1.0
	0.7nm,0.7s,baz=159,slow=7.2,SNR=3.9						
FITZ	Fitzroy Crossi	50.42	313	LR	LR	01 05 04.6	
	comp=Z,140nm,19.1s,baz=164,slow=34						
KAPI	Kappang	64.62	312	LR	LR	01 11 43.3	
	comp=Z,74nm,19.8s,baz=3.5,slow=32						
CMAR	Chiang Mai Arr	94.06	302	LR	LR	01 30 44.9	
	comp=Z,18nm,19.5s,baz=155,slow=34						

IDC 27 00:53:38.2±0.6, 26.56S×177.11W, h62km±4km, mb4.0/10, mb1 4.3/10, mb1mx4.0/20, mbtmp4.0/10, MS3.8/11, Ms1 3.9/11, ms1mx3.6/33, Error ellipse: s-maj=21.6km s-min=15.3km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	12.64	201	S	Sn	00 58 45.3	-8.9
	0.6nm,0.3s,baz=0.0,slow=19,SNR=5.4						
DZM	Mont Dzumac	15.64	283	P	P	00 57 21.2	+3.2
	0.2nm,0.3s,baz=53,slow=20,SNR=2.7						
DZM				LR	LR	01 02 20.4	
	comp=Z,187nm,18.5s,baz=38,slow=33						
DZM	Mont Dzumac	15.64	283	eLR	LR	01 01 05.7	
	714nm,25.9s						
RAR	Rarotonga	16.72	75	LR	LR	01 02 35.4	
	comp=Z,242nm,19.0s,baz=315,slow=32						
RPZ	Rata Peaks	19.63	206	LR	LR	01 05 09.5	
	comp=Z,206nm,21.6s,baz=270,slow=35						
TBI	Tubuai	25.25	89	eLR	LR	01 05 11.2	
	434nm,28.0s,baz=263						
TBI				eT	T	01 24 46.9	
	14nm,0.4s						
PAE	Paea	26.95	76	eT	T	01 26 55.0	
	5.1nm,0.3s						
PPT2	Papeete2	26.98	76	eLR	LR	01 05 54.3	
	514nm,26.8s,baz=238						
PPT	Papeete	26.99	76	LR	LR	01 06 59.2	
	comp=Z,133nm,19.3s,baz=213,slow=30						
TVO	Taravao	27.19	77	eT	T	01 27 14.0	
	8.8nm,0.3s						
TIAR	Tiarei	27.19	76	eT	T	01 27 13.7	
	13nm,0.3s						
MEH	Mehetia	28.19	78	eT	T	01 28 27.8	
	32nm,0.3s						
VAH	Vaihoa	29.68	74	eT	T	01 30 19.7	
	8.5nm,0.3s						
CTA	Charters Tower	34.17	273	P	P	01 00 19.4	+1.7
	10nm,1.1s,baz=77,slow=14,SNR=3.3						
CTA				LR	LR	01 11 14.4	
	comp=Z,180nm,21.1s,baz=50,slow=31						
STKA	Stephens Creek	36.27	252	LR	LR	01 13 30.0	
	comp=Z,216nm,18.7s,baz=28,slow=33						
RKT	Rikitea	38.27	94	eLR	LR	01 11 12.2	
	256nm,28.5s						
RKT				eT	T	01 41 02.0	
	3.7nm,0.4s						
TAOE	Nuku Hiva Isla	39.17	70	eT	T	01 42 11.3	
	79nm,0.2s						
ASAR	Alice Springs	44.24	263	P	P	01 01 41.5	-0.2
	2.1nm,0.8s,baz=110,slow=8.2,SNR=17						
ASAR				pP	pP	01 01 58.5	+1.0
	2.4nm,0.9s,baz=114,slow=7.4,SNR=5.8						
ASAR				LR	LR	01 17 33.4	
	comp=Z,170nm,20.4s,baz=189,slow=32						
WRA	Warramunga Arr	44.89	268	P	P	01 01 46.5	-0.4
	3.7nm,0.7s,baz=105,slow=7.9,SNR=18						
FITZ	Fitzroy Crossi	53.27	267	P	P	01 02 50.8	-0.1
	3.4nm,0.7s,baz=221,slow=4.6,SNR=8.7						
FITZ				LR	LR	01 22 34.0	
	comp=Z,78nm,19.2s,baz=190,slow=33						
QSPA	South Pole Qui	63.54	180	P	P	01 04 02.4	+0.4
	8.1nm,0.9s,baz=68,slow=2.4,SNR=22						
QSPA				pP	pP	01 04 18.3	-0.3
	12nm,0.9s,baz=54,slow=2.9,SNR=10						
SNAA	Sanae	81.96	178	eP	P	01 05 50.3	-0.6
SNAA	Sanae	81.96	178	eWP	pP	01 06 08.5	+0.4
VNA3	Neumayer Olymp	82.07	176	eP	P	01 05 50.8	-0.6
VNA3	Neumayer Olymp	82.07	176	eWP	pP	01 06 10.0	+1.3
PETK	Petropavlovsk-	82.31	345	LR	LR	01 37 53.6	
	comp=Z,94nm,18.6s,baz=262,slow=32						
VNA2	Neumayer--Watz	82.52	177	eP	P	01 05 53.6	-0.1
	baz=193,slow=5.8						
VNA2	Neumayer--Watz	82.52	177	eWP	pP	01 06 12.2	+1.2
	baz=193,slow=5.8						
YBH	Yreka Blue Hor	84.53	38	P	P	01 06 05.8	+1.3
	3.2nm,0.8s,baz=234,slow=8.7,SNR=5.3						
NVAR	Mina Array Bea	84.89	42	P	P	01 06 07.6	+1.1
	3.6nm,0.8s,baz=222,slow=8.1,SNR=12						
NVAR				pP	pP	01 06 24.9	+1.0
	2.9nm,0.9s,baz=218,slow=8.1,SNR=4.6						
TXAR	Lajitas Array	89.65	57	P	P	01 06 29.9	+0.3
	0.6nm,0.9s,baz=219,slow=9.6,SNR=6.1						
TXAR				pP	pP	01 06 47.8	+0.7
	0.6nm,0.9s,baz=200,slow=9.3,SNR=4.3						
PDAR	Pinedale Array	92.81	43	P	P	01 06 44.2	+0.1
	1.3nm,0.8s,baz=223,slow=3.2,SNR=10						
PDAR				LR	LR	01 43 27.1	
	comp=Z,91nm,18.9s,baz=143,slow=32						
CMAR	Chiang Mai Arr	92.89	289	P	P	01 06 47.1	+2.4
	0.6nm,0.4s,baz=59,slow=1.0,SNR=5.8						
ILAR	Eielson Array	94.02	12	P	P	01 06 47.3	-1.5
	0.3nm,0.8s,baz=235,slow=4.8,SNR=4.1						
LPAZ	La Paz	98.96	113	LR	LR	01 41 41.5	
	comp=Z,66nm,21.5s,baz=96,slow=29						
ZALV	Zalesovo Beam	115.66	320	PKP	PKPdf	01 12 11.3	-1.6
	0.5nm,0.5s,baz=262,slow=1.0,SNR=4.4						
MKAR	Makanchi Array	115.87	311	PKP	PKPdf	01 12 12.0	-1.6
	0.5nm,0.7s,baz=121,slow=2.1,SNR=7.1						
BVAR	Borovoye Array	124.16	318	PKP	PKPdf	01 12 28.8	-0.5
	1.5nm,0.7s,baz=80,slow=1.8,SNR=8.3						
BVAR				pPKP	pPKPdf	01 12 46.8	-0.6
	1.7nm,0.8s,baz=90,slow=6.1,SNR=4.7						
AKTO	Aktyubinsk	132.02	315	PKP	PKPdf	01 12 44.5	0.0
	0.9nm,0.7s,baz=90,slow=1.0,SNR=4.0						
FINES	FINESS Array B	141.78	342	PKP	PKPdf	01 13 00.9	-1.2
	1.1nm,0.8s,baz=54,slow=2.4,SNR=3.5						
NOA	NORSAR Array B	145.07	353	PKPbc	PKPbc	01 13 06.8	-0.7
	5.5nm,0.8s,baz=13,slow=2.4,SNR=12						
NOA				pPKPbc	pPKPbc	01 13 23.1	-2.5
	5.0nm,0.8s,baz=14,slow=2.5,SNR=6.4						
AKASG	Jabal Al Asfar	148.62	327	PKPbc	PKPbc	01 13 16.8	-1.1
	3.7nm,0.7s,baz=41,slow=3.6,SNR=10.0						
ASF	Jabal al Asfar	149.32	289	PKPbc	PKPbc	01 13 22.1	+0.2
	2.1nm,0.7s,baz=198,slow=1.4,SNR=4.7						
MMAI	Mount Meron Ar	151.14	291	PKPbc	PKPbc	01 13 24.8	+0.1
	1.6nm,0.4s,baz=91,slow=5.8,SNR=6.0						
BRTR	Keskin Array B	151.25	305	PKPbc	PKPbc	01 13 23.8	-1.1
	1.4nm,0.9s,baz=139,slow=4.4,SNR=8.2						
BRTR				PKPab	PKPab	01 13 32.6	-0.4
	1.7nm,0.6s,baz=111,slow=3.3,SNR=9.9						
TORD	Torodi Ar. Bea	166.61	175	PKP	PKPdf	01 13 36.1	-1.2
	0.5nm,0.8s,baz=223,slow=0.2,SNR=4.4						
TORD				PKPab	PKPab	01 14 38.5	-1.1
	1.4nm,0.8s,baz=197,slow=3.0,SNR=6.8						
TORD				pPKPab	pPKPab	01 14 57.3	+0.1
	1.8nm,1.0s,baz=156,slow=4.3,SNR=4.4						

IDC 27 00:54:37.1±6.5, 5.76S×146.89E, h172km±60km, mb3.6/2, mb1 3.7/4, mb1mx3.2/19, mbtmp3.6/4, Error ellipse: s-maj=76.9km s-min=47.1km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.64	176	P	Pn	00 55 34.0	+0.6
	5.7nm,0.3s,baz=333,slow=5.9,SNR=9.8						
PMG				S	Sn	00 56 17.6	+0.2
	8.1nm,0.3s,baz=356,slow=22,SNR=9.3						
WRA	Warramunga Arr	18.65	220	P	P	00 58 42.9	+0.9
	1.7nm,0.3s,baz=48,slow=12,

IDC ***27*** *01:27:08.2±3.6, 37.21N×72.26E, h138km±30km, mb3.3/8, mb1 3.4/13, mb1mx3.3/30, mbtmp3.3/13, Error ellipse: s-maj=26.4km s-min=19.2km az=176.0*

ISC 27 01:27:09.3±0.6, 37°22N±0.05×72°42E±0.08, h152km, n45, σ1s84/52, mb3.4/8, 2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.41**	**187**	P	**Pn**	**01 28 04.6**	**+2.5**
CEP				S	**Sn**	**01 28 45.0**	**+2.0**
CHCP	**Chirah Chowk**	**3.62**	**169**	P	Pn	01 28 09.1	+4.5
KSH	**Kashi**	**3.62**	**49**	Pn	**Pn**	**01 28 02.5**	**-2.2**
KSH				Sn	Sn	01 28 40.5	-7.2
KSH				smax	smax		
	comp=N,660nm,0.4s						
KSH				smax	smax		
	comp=E,710nm,0.4s						
THW	**Thamme Wali**	**4.45**	**187**	P	**Pn**	**01 28 17.5**	**+2.0**
AML	**Almayashu**	**5.01**	**11**	P	**Pn**	**01 28 22.9**	**-0.2**
	SNR=400						
UCH	**Uchtor**	**5.26**	**17**	P	**Pn**	**01 28 27.3**	**+0.8**
	SNR=13						
SARP	**Sargodha**	**5.29**	**178**	P	**Pn**	**01 28 28.9**	**+2.4**
KZA	**Kyzart**	**5.33**	**23**	P	**Pn**	**01 28 27.7**	**+0.4**
	SNR=33						
THN	**Thein Dam**	**5.49**	**149**	*e*P	**Pn**	**01 28 31.5**	**+2.3**
THN				*e*S	**Sn**	**01 29 35.0**	**+3.4**
EKS2	**Erkin-Say**	**5.54**	**10**	P	**Pn**	**01 28 30.1**	**+0.2**
	SNR=50						
AAK	**Ala-Archa**	**5.64**	**16**	P	**Pn**	**01 28 32.2**	**+1.0**
	comp=E,15nm,0.3s,baz=179,slow=6.3,SNR=233						
AAK				S	**Sn**	**01 29 33.4**	**-2.1**
	comp=E,3.3nm,0.3s,baz=338,slow=19,SNR=6.9						
AAK	**Ala-Archa**	**5.64**	**16**	P	**Pn**	**01 28 32.3**	**+1.0**
	SNR=50						
KBK	**Karagaybulak**	**5.77**	**19**	P	**Pn**	**01 28 35.2**	**+2.2**
	SNR=29						
ULHL	**Ulahol**	**5.82**	**29**	P	**Pn**	**01 28 34.5**	**+0.8**
	SNR=14						
CHMS	**Chumysh**	**6.05**	**16**	P	**Pn**	**01 28 37.2**	**+0.6**
	SNR=47						
TKM2	**Tokmak 2**	**6.20**	**22**	P	**Pn**	**01 28 39.4**	**+0.6**
	SNR=22						
USP	**Ospenovka**	**6.25**	**14**	P	**Pn**	**01 28 39.2**	**0.0**
	SNR=14						
SMLA	**Simla**	**7.23**	**146**	*i* P	**Pn**	**01 28 55.2**	**+2.7**
SMLA				*e*S	**Sn**	**01 30 13.0**	**-0.4**
SMLA				⇓AML	AML	01 30 18.8	
	comp=N,661nm,0.2s						
SMLA				⇓AML	AML	01 30 19.8	
	comp=E,825nm,0.3s						
DDI	**Dehra Dun**	**8.32**	**144**	*e*P	**Pn**	**01 29 08.5**	**+1.5**
KHET	**Khetri**	**9.55**	**162**	*e*P	**Pn**	**01 29 23.3**	**0.0**
KHET				*e*S	**Sn**	**01 31 04.8**	**-4.4**
KHET				AML	AML	01 31 07.8	
	comp=E,15nm,0.5s						
KHET				AML	AML	01 31 08.6	
	comp=N,15nm,0.3s						
AYAN	**Aya Nagar**	**9.56**	**154**	*e*P	**Pn**	**01 29 24.1**	**+0.7**
AYAN				*e*S	**Sn**	**01 31 06.4**	**-3.1**
KUDL	**Kundal**	**9.67**	**158**	*e*P	**Pn**	**01 29 24.8**	**-0.1**
KUDL				*e*S	**Sn**	**01 31 07.1**	**-5.0**
KUDL				AML	AML	01 31 10.9	
	comp=E,9.2nm,0.2s						
KUDL				AML	AML	01 31 11.2	
	comp=N,8.0nm,0.3s						
SONA	**Sohna**	**9.76**	**155**	*e*P	**Pn**	**01 29 26.7**	**+0.6**
SONA				*e*S	**Sn**	**01 31 09.4**	**-4.8**
SONA				AML	AML	01 31 13.7	
	comp=E,25nm,0.3s						
SONA				AML	AML	01 31 15.8	
	comp=N,16nm,0.3s						
MKAR	**Makanchi Array**	**12.05**	**34**	P	**Pn**	**01 29 56.6**	**+0.6**
	comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=7.5						
PYUN	**Piuthan**	**12.72**	**133**	*e*P	**Pn**	**01 30 05.4**	**+0.4**
	comp=N,24nm,0.3s						
DANN	**Dangsing**	**13.00**	**130**	*e*P	**Pn**	**01 30 09.8**	**+1.1**
	comp=N,19nm,0.3s						
KOLN	**Koldanda**	**13.32**	**132**	*e*P	**Pn**	**01 30 13.9**	**+1.2**
KURBB	**Kurchatov Array**	**14.10**	**16**	P	**P**	**01 30 25.7**	**+0.6**
	comp=N,4.8nm,0.3s,baz=210,slow=12,SNR=1.6						
DMN	**Daman**	**14.36**	**128**	*e*P	**Pn**	**01 30 26.8**	**+0.9**
PKIN	**Phulchoki**	**14.56**	**128**	*e*P	**P**	**01 30 30.8**	**0.0**
	comp=N,12nm,0.3s						
PKI	**Pulchoki**	**14.58**	**128**	*e*P	**P**	**01 30 30.7**	**-0.3**
GUN	**Gumba**	**14.65**	**125**	*e*P	**P**	**01 30 30.8**	**-1.0**
RAMN	**Ramite**	**15.77**	**126**	*e*P	**P**	**01 30 44.7**	**+0.6**
	comp=N,14nm,0.4s						
BVAR	**Borovoye Array**	**15.87**	**356**	P	**Pn**	**01 30 42.4**	**-1.7**
	comp=N,0.4nm,0.3s,baz=151,slow=12,SNR=8.4						
TAPN	**Taplejung**	**16.23**	**123**	*e*P	**P**	**01 30 51.9**	**+2.7**
	comp=N,7.1nm,0.3s						
AKTO	**Aktyubinsk**	**16.77**	**327**	P	**P**	**01 30 53.9**	**-0.8**
	comp=N,0.4nm,0.3s,baz=141,slow=16,SNR=8.3						
AKTO				S	S	01 33 47.9	-13
	comp=N,0.1nm,0.3s,baz=36,slow=19,SNR=5.5						
ZALV	**Zalesovo Beam**	**18.80**	**23**	P	**Pn**	**01 31 18.2**	**-0.9**
	comp=N,0.7nm,0.3s,baz=221,slow=11,SNR=17						
BRTR	**Keskin Array B**	**30.31**	**287**	P	**P**	**01 33 06.8**	**+0.5**
	comp=N,0.3nm,0.5s,baz=96,slow=8.8,SNR=3.9						
FINES	**FINESS Array B**	**37.53**	**325**	P	**P**	**01 34 08.2**	**-0.1**
	comp=N,0.4nm,0.4s,baz=114,slow=9.2,SNR=4.3						
ARCES	**ARCESS Array B**	**40.93**	**337**	P	**P**	**01 34 36.3**	**+0.1**
	comp=N,1.8nm,0.9s,baz=113,slow=8.3,SNR=5.4						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**01 35 04.7**	**-0.4**
	comp=N,0.6nm,0.7s,baz=99,slow=9.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**66.87**	**269**	P	**P**	**01 37 43.7**	**-1.5**
	comp=N,0.4nm,0.5s,baz=48,slow=5.6,SNR=17						
ILAR	**Eielson Array**	**73.78**	**16**	P	**P**	**01 38 26.9**	**+0.5**
	comp=N,0.4nm,0.7s,baz=283,slow=4.3,SNR=5.3						
YKA	**Yellowknife Ar**	**80.47**		P	**P**	**01 39 04.5**	**+0.8**
	comp=N,0.8nm,0.4s,baz=350,slow=5.5,SNR=22						
WRA	**Warramunga Arr**	**81.41**	**123**	P	**P**	**01 39 10.5**	**+1.2**
	comp=N,0.2nm,0.6s,baz=307,slow=8.2,SNR=3.2						

IDC 27 01:43:09.5±12.0, 24.54S×179.14E, h410km±116km, mb3.2/3, mb1 3.3/4, mb1mx3.1/18, mbtmp3.2/4, Error ellipse: s-maj=86.0km s-min=41.0km az=34.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.79**	**187**	P	P	01 46 08.4	+0.1
	1.3nm,0.3s,baz=64,slow=5.0,SNR=6.6						
URZ				S	S	01 48 33.5	-2.8
	0.3nm,0.3s,baz=0.0,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**33.76**	**249**	P	P	01 49 15.8	+0.9
	0.7nm,0.3s,baz=107,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**41.16**	**262**	P	P	01 50 15.8	-0.5
	0.5nm,0.4s,baz=100,slow=7.6,SNR=8.0						
WRA	**Warramunga Arr**	**41.59**	**267**	P	P	01 50 19.2	-0.5
	0.9nm,0.3s,baz=100,slow=6.9,SNR=32						
BRTR	**Keskin Array B**	**147.33**	**306**	PKPbc	PKPbc	02 02 05.5	-0.5
	0.5nm,0.7s,baz=86,slow=3.7,SNR=3.3						

WEL 27 01:56:29.9±0.2, 38.94S×178.53E, h39km±4km, ML4.3/19, 7C-6D, Error ellipse: s-maj=2.4km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRGZ	**Paritu Road**	**0.50**	**271**	⇓PN	Pn	01 56 40.1	-0.6
CNGZ	**Carnagh Station**	**0.52**	**331**	⇑PN	Pn	01 56 40.6	-0.2
CNGZ				SN	Sn	01 56 48.9	+0.4
MHGZ	**Mahia Peninsul**	**0.53**	**246**	⇓PN	Pn	01 56 41.1	0.0
KNZ	**Kokohu**	**0.67**	**262**	⇓PN	Pn	01 56 42.4	-0.5
PUZ	**Puketiti**	**0.89**	**346**	⇓PN	Pn	01 56 45.6	-0.3
PUZ				SN	Sn	01 56 56.6	-1.0
RAHZ	**Arahi**	**1.13**	**270**	⇑PN	Pn	01 56 48.9	-0.3
URZ	**Urewera**	**1.30**	**301**	⇑PN	Pn	01 56 50.9	-0.6
CKHZ	**Cape Kidnapper**	**1.34**	**237**	⇓PN	Pn	01 56 51.9	-0.1
NMHZ	**Naumai**	**1.35**	**263**	Pn	Pn	01 56 52.0	-0.3
MXZ	**Matakaoa Point**	**1.38**	**353**	⇑PN	Pn	01 56 53.2	+0.5
MCHZ	**McNeill Hill**	**1.51**	**250**	Pn	Pn	01 56 54.5	+0.1
KAHZ	**Kahuranaki**	**1.54**	**236**	PN	Pn	01 56 54.5	-0.4
BKZ	**Black Stump Fm**	**1.60**	**261**	PN	Pn	01 56 55.4	-0.4
EDRZ	**Edgecumbe**	**1.63**	**300**	PN	Pn	01 56 56.0	-0.1
RRRZ	**Republican Roa**	**1.69**	**290**	PN	Pn	01 56 56.1	-0.8
PXZ	**Pawanui**	**1.69**	**229**	⇓PN	Pn	01 56 56.1	-0.8
PRRZ	**Plateau Road**	**1.73**	**284**	PN	Pn	01 56 56.9	-0.5
TARZ	**Mount Tarawera**	**1.73**	**293**	PN	Pn	01 56 57.3	-0.3
MARZ	**Manawahe**	**1.74**	**302**	PN	Pn	01 56 57.2	-0.4
ALRZ	**Allen Road**	**1.75**	**282**	PN	Pn	01 56 57.4	-0.3
WIZ	**White Island**	**1.76**	**323**	PN	Pn	01 56 57.2	-0.6
HRRZ	**Handcock Road**	**1.84**	**286**	*e*PN	Pn	01 56 58.5	-0.5
OPRZ	**Ohinepanea**	**1.90**	**304**	PN	Pn	01 56 59.0	-0.7
LIRZ	**Lichensteins R**	**1.92**	**298**	PN	Pn	01 56 59.8	-0.3
WPHZ	**Waipukurau**	**1.97**	**234**	PN	Pn	01 56 60.0	-0.8
PRHZ	**Porangahau**	**1.98**	**227**	PN	Pn	01 56 59.7	-1.2
BHHZ	**Black Hill Sta**	**1.99**	**253**	PN	Pn	01 57 00.7	-0.5
KARZ	**Kaharoa**	**2.01**	**296**	PN	Pn	01 57 00.5	-0.9
PNHZ	**Pukenui**	**2.05**	**241**	PN	Pn	01 57 01.3	-0.6
RITZ	**Rihia Road**	**2.08**	**268**	PN	Pn	01 57 02.4	+0.1
TGRZ	**Tauranga**	**2.15**	**303**	PN	Pn	01 57 02.4	-0.8
RATZ	**Rangitukua**	**2.15**	**271**	PN	Pn	01 57 03.1	-0.2
WATZ	**Wairara**	**2.20**	**275**	PN	Pn	01 57 03.6	-0.3
MOVZ	**Moawhango**	**2.21**	**257**	PN	Pn	01 57 04.3	+0.2
KATZ	**Kakaramea**	**2.21**	**268**	PN	Pn	01 57 04.4	+0.2
OTVZ	**Otururere**	**2.24**	**263**	PN	Pn	01 57 04.9	+0.2
KRVZ	**Karewarewa**	**2.25**	**265**	PN	Pn	01 57 04.8	0.0
TUVZ	**Tukino**	**2.26**	**261**	PN	Pn	01 57 05.3	+0.3
TSZ	**Takapari Road**	**2.28**	**240**	PN	Pn	01 57 04.2	-0.9
NGZ	**Ngauruhoe**	**2.29**	**263**	PN	Pn	01 57 05.7	+0.3
WTVZ	**West Tongariro**	**2.30**	**265**	PN	Pn	01 57 05.7	+0.3
WNVZ	**Wahianoa**	**2.31**	**259**	⇑PN	Pn	01 57 05.9	+0.2
DRZ	**Dome Shelter**	**2.33**	**261**	PN	Pn	01 57 06.4	+0.3
WPVZ	**Whakapapa**	**2.34**	**262**	PN	Pn	01 57 06.2	+0.3
FWVZ	**Far West T-bar**	**2.34**	**261**	PN	Pn	01 57 06.2	+0.1
TRVZ	**Turoa**	**2.35**	**260**	PN	Pn	01 57 06.3	0.0
TWVZ	**Taurewa**	**2.41**	**266**	PN	Pn	01 57 06.9	-0.1
MTVZ	**Mangateitei**	**2.42**	**258**	PN	Pn	01 57 07.6	+0.6
MYRZ	**Mayor Island**	**2.45**	**312**	PN	Pn	01 57 06.5	-0.8
BFZ	**Birch Farm**	**2.48**	**225**	PN	Pn	01 57 05.9	-1.8
PKVZ	**Pokaka**	**2.50**	**261**	PN	Pn	01 57 08.5	+0.4
POWZ	**Post Office Ro**	**2.58**	**235**	PN	Pn	01 57 08.5	-0.7
TOZ	**Tahuroa Road**	**2.67**	**295**	PN	Pn	01 57 09.8	-0.5
TIWZ	**Tiltrock**	**2.74**	**227**	PN	Pn	01 57 10.2	-1.2
MRZ	**Mangatainoka R**	**2.85**	**232**	PN	Pn	01 57 11.5	-1.4
WAZ	**Wanganui**	**2.87**	**252**	PN	Pn	01 57 13.9	+0.8
VRZ	**Vera Road**	**2.94**	**265**	PN	Pn	01 57 14.6	+0.5
TMWZ	**Te Maipa**	**2.97**	**222**	*e*PN	Pn	01 57 11.9	-2.6
HOWZ	**Holdsworth Sta**	**3.04**	**229**	PN	Pn	01 57 13.9	-1.5
KUZ	**Kuaotunu**	**3.12**	**314**	PN	Pn	01 57 15.1	-1.3
OGWZ	**Otaki Gorge**	**3.20**	**233**	PN	Pn	01 57 16.1	-1.5
MTW	**Mount Morrison**	**3.21**	**225**	PN	Pn	01 57 15.3	-2.5
MKAZ	**Moumakai**	**3.22**	**303**	PN	Pn	01 57 17.4	-0.5
RAEZ	**Rainy Point**	**3.24**	**262**	PN	Pn	01 57 19.1	+1.0
MHEZ	**Mangahewa**	**3.28**	**266**	*e*PN	Pn	01 57 20.2	+1.5
TRWZ	**Traveller**	**3.29**	**221**	PN	Pn	01 57 16.0	-2.8
KIW	**Kapiti Island**	**3.38**	**234**	⇑PN	Pn	01 57 18.8	-1.4
CAW	**Cannon Point**	**3.43**	**230**	PN	Pn	01 57 18.9	-1.9
MSWZ	**Moikau Station**	**3.53**	**224**	PN	Pn	01 57 19.9	-2.3
PKE	**Pukeiti**	**3.54**	**264**	PN	Pn	01 57 23.1	+0.7
PLLZ	**Palliser**	**3.63**	**223**	PN	Pn	01 57 21.3	-2.4
NWEZ	**Newall Road**	**3.64**	**263**	PN	Pn	01 57 24.7	+1.0
SNZO	**South Karori**	**3.77**	**230**	PN	Pn	01 57 22.7	-2.7
TCW	**Tory Channel**	**3.98**	**234**	PN	Pn	01 57 26.0	-2.3
DUWZ	**D'Urville Isla**	**4.01**	**241**	PN	Pn	01 57 27.1	-1.7
TUWZ	**Tuamarina**	**4.31**	**233**	PN	Pn	01 57 30.2	-2.6
WCZ	**Waipu Caves**	**4.47**	**311**	PN	Pn	01 57 36.3	+1.2
BSWZ	**Blackbirch Sta**	**4.51**	**231**	PN	Pn	01 57 32.7	-2.9
NNZ	**Nelson**	**4.56**	**238**	PN	Pn	01 57 34.2	-2.1
QRZ	**Quartz Range**	**4.99**	**246**	PN	Pn	01 57 39.8	-2.4
THZ	**Tophouse**	**5.14**	**235**	⇑PN	Pn	01 57 41.3	-3.1
KHZ	**Kahutara**	**5.15**	**226**	*e*PN	Pn	01 57 40.3	-4.1
DSZ	**Denniston Nort**	**5.86**	**239**	*e*PN	Pn	01 57 51.2	-2.9
LTZ	**Lake Taylor**	**6.11**	**229**	*e*PN	Pn	01 57 54.0	-3.6
MQZ	**McQueen's Vall**	**6.50**	**221**	PN	Pn	01 57 58.9	-4.0
WVZ	**Waitaha Valley**	**7.20**	**232**	*e*PN	Pn	01 58 09.0	-3.5
LBZ	**Lake Benmore**	**8.29**	**226**	PN	Pn	01 58 24.2	-3.2
ODZ	**Otahua Downs**	**8.47**	**221**	*e*PN	Pn	01 58 26.0	-3.9
TUZ	**Tuapeka**	**9.61**	**220**	PN	Pn	01 58 43.4	-2.1

IDC 27 02:10:26.5±4.0, 19.61S×175.98W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=209.2km s-min=60.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.57**	**256**	P	P	02 18 56.6	0.0
	0.7nm,0.5s,baz=90,slow=8.4,SNR=8.2						
ASAR				PcP	PcP	02 20 29.1	-1.8
	0.2nm,0.3s,baz=78,slow=4.6,SNR=4.1						
WRA	**Warramunga Arr**	**46.61**	**261**	P	P	02 18 56.9	+0.1
	0.4nm,0.3s,baz=96,slow=7.4,SNR=5.2						
BRTR	**Keskin Array B**	**147.61**	**315**	PKPbc	PKPbc	02 30 13.4	0.0
	0.4nm,0.6s,baz=108,slow=4.7,SNR=3.3						

JMA ***27*** *02:14:44.3±0.1, 33.73N×137.37E, h391km, M3.3*
ISCJB ***27*** *02:14:47.5±0.7, 33.88N±0.09×137.6E±0.1, h363km±7km, mb2.8/3, Error ellipse: s-maj=17.6km s-min=11.1km az=136.4*
IDC ***27*** *02:14:47.4±1.4, 33.69N×137.17E, h335km±16km, mb2.6/3, mb1 2.9/5, mb1mx2.7/27, mbtmp2.7/5, Error ellipse: s-maj=34.0km s-min=20.5km az=76.0*

ISC 27 02:14:48.5±1.0, 33.9N±0.1×137.49E±0.10, h354km±8km, n20, σ1s31/27, mb3.0/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO5	**TONANKAI O.B.S**	**0.41**	**26**	P	**Pn**	**02 15 34.0**	**+1.2**
JIE	**Ise**	**0.83**	**308**	P	**Pn**	**02 15 34.3**	**+0.3**
HMMJ	**Hamamatsu 2**	**0.99**	**11**	P	**Pn**	**02 15 35.2**	**+0.6**
JKN2	**Miekihoku**	**1.07**	**290**	P	**Pn**	**02 15 34.6**	**-0.4**
JAO	**Obara**	**1.40**	**352**	P	**Pn**	**02 15 37.1**	**+0.6**
JNY	**Yasuok**	**1.51**	**12**	P	**Pn**	**02 15 37.8**	**+0.7**
JWZ	**Kozaga**	**1.52**	**257**	P	**Pn**	**02 15 36.1**	**-1.1**
JRY	**Ryogami san**	**2.42**	**28**	P	**Pn**	**02 15 44.5**	**+1.2**
JRY				*e*S	**S**	**02 16 28.8**	**+1.4**
BSO4	**Boso 4**	**2.60**	**64**	*e*S	**S**	**02 16 31.5**	**+1.8**
BSO3	**Boso 3**	**2.66**	**69**	P	**Pn**	**02 15 44.8**	**-0.1**
MAT	**Matsushiro**	**2.72**	**12**	P	**Pn**	**02 15 45.9**	**+0.2**
MAT				S	**S**	**02 16 31.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.72**	**12**	P	**Pn**	**02 15 46.0**	**+0.3**
	1.5nm,0.3s,baz=196,slow=10,SNR=11						
MJAR				S	**S**	**02 16 31.7**	**0.0**
	0.6nm,0.3s,baz=206,slow=16,SNR=4.1						
JAG	**Ashikaga**	**3.00**	**32**	P	**Pn**	**02 15 47.7**	**-0.4**
JAG				*e*S	**S**	**02 16 34.7**	**-1.5**
JYT	**Yasato**	**3.22**	**43**	P	**Pn**	**02 15 49.7**	**-0.4**
JYT				*e*S	**S**	**02 16 37.7**	**-2.0**
JHO	**Hitachi**	**3.71**	**42**	P	**Pn**	**02 15 54.5**	**-0.3**
JHO				*e*S	**S**	**02 16 46.2**	**-2.0**
JFK	**Kawauchi**	**4.44**	**37**	P	**Pn**	**02 16 02.2**	**0.0**
JFK				*e*S	**S**	**02 16 58.6**	**-3.2**
USRK	**Ussuriysk Arra**	**11.15**	**339**	P	**P**	**02 17 20.6**	**+0.3**
	0.4nm,0.3s,baz=152,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**43.17**	**304**	P	**P**	**02 22 15.0**	**-0.5**
	0.2nm,0.5s,baz=83,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**53.61**	**184**	P	**P**	**02 23 33.5**	**-1.0**
	0.2nm,0.2s,baz=0.4,slow=7.5,SNR=11						
YKA	**Yellowknife Ar**	**68.12**	**28**	P	**P**	**02 25 13.1**	**+2.3**
	0.3nm,1.0s,baz=280,slow=6.8,SNR=4.0						

IDC 27 02:27:39.1±1.2, 78.72S×157.94E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/10, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=38.0km s-min=16.7km az=124.0, Victoria Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**1.46**	**36**	Pg	Pn	02 28 05.0	-1.7
	11nm,0.3s,baz=209,slow=15,SNR=302						
VNDA				Lg	Lg	02 28 25.9	
	4.9nm,0.3s,baz=59,slow=4.2,SNR=8						
QSPA	**South Pole Qui**	**11.28**	**180**	Pn	Pn	02 30 20.2	-1.5
	0.0nm,0.3s,baz=348,slow=9.8,SNR=5.3						
ASAR	**Alice Springs**	**56.21**	**333**	P	P	02 37 20.7	+0.1
	0.2nm,0.3s,baz=163,slow=6.8,SNR=4.2						
WRA	**Warramunga Arr**	**59.86**	**334**	P	P	02 37 45.7	-0.5
	0.3nm,0.3s,baz=177,slow=5.5,SNR=4.0						
AKASG	**Malin Array Be**	**146.61**	**244**	PKPbc	PKPbc	02 47 20.4	-0.5
	0.3nm,0.4s,baz=162,slow=3.9,SNR=4.2						
ILAR	**Eielson Array**	**146.89**	**40**	PKPbc	PKPbc	02 47 20.9	-0.4
	0.7nm,0.8s,baz=216,slow=3.3,SNR=8.0						
YKA	**Yellowknife Ar**	**149.80**	**67**	PKPbc	PKPbc	02 47 29.0	0.0
	0.5nm,0.9s,baz=191,slow=3.2,SNR=6.2						

IDC 27 02:54:37.1±3.5, 17.12N×146.16E, h128km±28km, mb3.5/6, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, MS3.2/1, Ms1 3.2/1, ms1mx2.3/27, Error ellipse: s-maj=44.2km s-min=19.3km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.73**	**200**	P	Pn	02 55 33.5	+0.3
	35nm,0.3s,baz=331,slow=5.0,SNR=5.6						
GUMO				S	Sn	02 56 17.1	+0.4
	73nm,0.3s,baz=302,slow=22,SNR=11						
JOW	**Kunigami**	**19.17**	**303**	LR	LR	03 04 31.7	
	comp=Z,66nm,20.2s,baz=249,slow=31						
WRA	**Warramunga Arr**	**38.62**	**198**	P	P	03 01 48.0	-0.1
	3.4nm,0.8s,baz=21,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**42.27**	**197**	P	P	03 02 17.9	-0.2
	0.3nm,0.5s,baz=16,slow=6.6,SNR=6.3						
STKA	**Stephens Creek**	**48.91**	**185**	P	P	03 03 10.2	-0.1
	0.8nm,0.4s,baz=338,slow=11,SNR=4.0						
ZALV	**Zalesovo Beam**	**59.53**	**323**	P	P	03 04 26.2	-0.7
	0.3nm,0.4s,baz=131,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**59.87**	**315**	P	P	03 04 30.0	+0.6
	0.2nm,0.5s,baz=82,slow=11,SNR=2.8						
NVAR	**Mina Array Bea**	**83.77**	**52**	P	P	03 06 52.7	+0.1
	2.5nm,0.7s,baz=251,slow=7.7,SNR=3.9						

BJI ***27*** *02:58:34.3, 61.00N×138.40W, h5km, mB5.2/30, mb5.1/38, Ms5.2/31, Ms7 4.7/32*
IDC ***27*** *02:58:37.4±0.4, 61.04N×138.54W, h0km, mb4.6/29, mb1 4.8/36, mb1mx4.7/39, mbtmp4.6/36, ML4.2/7, MS4.3/35, Ms1 4.4/35, ms1mx4.3/45, Error ellipse: s-maj=10.4km s-min=6.8km az=35.0*
PGC ***27*** *02:58:39.0±3.7, 61.01N×138.41W, h1km, ML5.0/4, Mw4.9*
PGC 56km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada Felt (I-II) at Whitehorse and Haines Junction, Yt.
MOS ***27*** *02:58:38.7±0.8, 61.10N×138.64W, h17km, mb5.3/99, MS4.4/11, Error ellipse: s-maj=8.5km s-min=3.6km az=94.7*
ISCJB ***27*** *02:58:38.0±0.1, 61.08N±0.01×138.52W±0.02, h12km, mb5.0/261, MS4.5/54, Error ellipse: s-maj=2.3km s-min=1.2km az=35.7*
NEIC ***27*** *02:58:39.0, 61.01N×138.41W, h1km, mb5.1/182, ML5.1(AEIC), MW4.9(USGS), MW4.8(PGC), After PGC.*
NEIC Felt at Burwash Landing, Haines Junction, Marsh Lake and Whitehorse.
GCMT ***27*** *02:58:43.3±0.2, 61.07N×138.55W, h20km, MW5.0, Moment Tensor Solution. s49,c65; s75,c115; Moment tensor: Scale 10^{16}Nm; M_{rr}3.65±.17; $M_{\theta\theta}$-2.70±.11; $M_{\phi\phi}$-0.95±.12; $M_{r\theta}$-2.50±.20; $M_{r\phi}$1.65±.07; $M_{\theta\phi}$1.01±.22; Best double couple: M_o4.60000×10^{16} NP1:ϕ_s126.00000°, δ27.00000°, λ100.00000°. NP2:ϕ_s296.00000°, δ63.00000°, λ85.00000°. Principal axes: T 4.5500, Plg71.0000°, Azm195.0000°; N 0.0100, Plg4.0000°, Azm298.0000°; P -4.5600, Plg18.0000°, Azm29.0000°; Data Used: II IU IC G CN.*
SZGRF ***27*** *02:58:49.9, 62.03N×139.00W, h33km, mb5.3, MS4.4, Southern Yukon Territory, Canada*

ISC 27 02:58:38.9±0.5, 61.03N±0.03×138.42W±0.03, h10km±2km, h9km:pP-P, n1100, σ1s14/1135, mb5.1/260, MS4.4/54, 208C-213D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HYT	**Haines Junctio**	**0.49**	**114**	P	**Pg**	**02 58 47.6**	**-0.8**
HYT	**Haines Junctio**	**0.49**	**114**	⇑P	**Pg**	**02 58 47.7**	**-0.8**
PNL	**Peninsula**	**1.45**	**200**	P	**Pn**	**02 59 03.2**	**-2.0**
PNL				S	**Sg**	**02 59 21.8**	**-3.7**
BARN	**Barnard Glacie**	**1.58**	**273**	P	**Pn**	**02 59

PPLA **Purkeypile** 6.76 292 P Pn 03 00 18.3 +0.2
SPBG **Spurr Blockage** 6.76 278 P Pn 03 00 18.3 +0.1
BGL **Barrier Glacie** 6.77 278 P Pn 03 00 18.5 +0.2
MLY **Manley** 6.89 311 P Pn 03 00 18.9 -1.0
BM3 **Burnt Mountain** 6.96 340 P Pn 03 00 21.2 +0.4
DFR **Drift River** 6.99 273 P Pn 03 00 20.2 -1.2
OPT **Oil Point** 7.48 266 P Pn 03 00 26.9 -1.1
INK **Inuvik** 7.60 14 Pn Pn 03 00 29.0 -0.5
1.9nm,0.3s,baz=195,slow=15,SNR=96
INK Sn Sn 03 01 54.2 -1.4
7.4nm,0.3s,baz=202,slow=13,SNR=3.6
INK Lg Lg 03 02 35.9
16nm,0.3s,baz=328,slow=23,SNR=10
INK LR LR 03 04 07.7
comp=Z,3μm,19.0s,baz=195,slow=43
INK **Inuvik** 7.60 14 P Pn 03 00 29.4 -0.2
INK Sn Sn 03 01 54.2 -1.4
INK Lg Lg 03 02 35.9
INK **Inuvik** 7.60 14 ⇓Pn Pn 03 00 29.1 -0.5
INK ⇑Sg Sg 03 02 37.8 -4.7
AUP **Augustine Pinn** 7.66 264 P Pn 03 00 30.6 +0.1
AUP **Augustine Pinn** 7.66 264 P Pn 03 00 30.6 +0.1
AUW **Augustine West** 7.68 264 P Pn 03 00 31.2 +0.4
AUNW **Augustine NWes** 7.68 264 P Pn 03 00 30.9 +0.2
KDAK **Kodiak Island** 7.92 252 Pn Pn 03 00 32.6 -1.4
8.8nm,0.3s,baz=65,slow=9.7,SNR=118
KDAK Sn Sn 03 01 57.6 -6.0
0.9nm,0.3s,baz=205,slow=19,SNR=2.5
KDAK LR LR 03 03 56.5
comp=Z,4μm,18.4s,baz=157,slow=41
KDAK **Kodiak Island** 7.92 252 P Pn 03 00 32.8 -1.2
KDAK Sn Sn 03 01 57.6 -6.0
KDAK **Kodiak Island** 7.92 252 Pn Pn 03 00 32.0 -2.0
1μm,0.9s,SNR=32
RUBB **Prince Rupert** 8.01 143 Pn Pn 03 00 34.1 -1.2
RUBB Sg Sg 03 02 51.6 -4.2
RUBB **Prince Rupert** 8.01 143 ⇑Pn Pn 03 00 34.1 -1.2
RUBB ⇑Sg Sg 03 02 51.6 -4.2
FNBB **Fort Nelson** 8.02 99 Pn Pn 03 00 35.2 -0.3
FNBB Sn Sn 03 02 02.7 -3.5
FNBB Sg Sg 03 02 48.4 -7.7
FNBB **Fort Nelson** 8.02 99 ⇑Pn Pn 03 00 35.2 -0.3
FNBB ⇓Sn Sn 03 02 02.7 -3.5
FNBB ⇓Sg Sg 03 02 48.4 -7.7
COLD **Coldfoot** 8.06 325 P Pn 03 00 36.0 0.0
SVW2 **Sparrevohn** 8.32 278 *e*Pn Pn 03 00 38.7 -0.8
SVW2 *e*Sn Sn 03 02 17.2 +3.7
IM3 **Indian Mountai** 8.45 313 P Pn 03 00 40.2 -1.0
TT01 **Tatalina** 8.50 290 P Pn 03 00 40.6 -1.3
KAWH **Katmai** 8.69 259 P Pn 03 00 44.3 -0.3
KAKN **Katmai Knife C** 8.85 259 P Pn 03 00 46.3 -0.5
KABR **Katmai Barrier** 8.88 258 P Pn 03 00 46.8 -0.4
KABU **Katmai Buttres** 8.97 259 P Pn 03 00 48.3 -0.2
KELA **Mount Kelaz** 9.12 261 P Pn 03 00 49.8 -0.7
GALN **Gameti Lake** 10.20 63 ⇓Pn Pn 03 01 04.5 -0.6
GALN ⇓Sg Sn 03 03 58.9 +59
BBB **Bella Bella** 10.51 143 Pn Pn 03 01 09.2 -0.3
1.5nm,0.3s,baz=317,slow=22,SNR=8.5
BBB Lg Lg 03 04 05.5
0.4nm,0.3s,baz=200,slow=18,SNR=2.3
BBB LR LR 03 05 00.2
comp=Z,2μm,22.0s,baz=140,slow=36
BBB **Bella Bella** 10.51 143 Pn Pn 03 01 09.2 -0.3
BBB Lg Lg 03 04 05.5
CTLN **Castor Lake** 10.80 62 ⇑Pn Pn 03 01 13.2 -0.3
ILKN **Indian Lake** 11.16 63 ⇑Pn Pn 03 01 17.8 -0.5
YKW3 **Yellowknife Ar** 11.35 72 *e*Pn Pn 03 01 20.2 -0.7
0.6nm,0.6s
YKW3 *e*Lg Lg 03 04 36.7
YKW3 **Yellowknife Ar** 11.35 72 ⇓Pn Pn 03 01 20.5 -0.4
YKW3 ⇑Sg Lg 03 04 36.7
YKA **Yellowknife Ar** 11.36 72 Pn Pn 03 01 19.3 -1.7
2.7nm,0.3s,baz=229,slow=17,SNR=95
YKA Lg Lg 03 04 33.6
0.5nm,0.3s,baz=271,slow=28,SNR=5.2
YKA **Yellowknife Ar** 11.36 72 Pn Pn 03 01 19.3 -1.7
YKA Lg Lg 03 04 33.6
SDPT **Sand Point** 12.91 254 *e*Pn Pn 03 01 45.6 +3.4
JERN **Jeri Cho Mine,** 12.95 56 ⇑Pn Pn 03 01 40.5 -2.2
JERN ⇓Sn Sn 03 03 58.3 -8.4
TNA **Tin City** 13.93 302 *e*Pn P 03 02 01.6 -2.7
30nm,1.0s
TNA *e*Lg Lg 03 06 02.0
PGC **Sidney** 15.05 139 *e*Pn Pn 03 02 13.5 +2.1
10nm,1.1s
MBW **Mount Baker** 15.45 135 P Pn 03 02 18.7 +1.8
GAMB **Gambell** 15.56 295 *e*Pn Pn 03 02 17.7 -0.3
34nm,1.0s
NLWA **Neilton Lookou** 16.04 142 *e*Pn P 03 02 27.3 -0.6
250nm,1.4s
AKUT **Akutan** 16.12 257 *e*Pn Pn 03 02 26.8 +1.5
161nm,1.0s
UNV **Unalaska Valle** 16.64 257 *e*Pn P 03 02 33.9 -0.5
208nm,1.2s
ETW **Entiat** 17.00 134 P P 03 02 38.7 0.0
LON **Longmire** 17.25 138 *e*P P 03 02 42.2 +0.9
LON pmax pmax
comp=Z,106nm,1.3s
LON **Longmire** 17.25 138 *e*Pn P 03 02 42.2 +0.9
comp=Z,106nm,1.3s
WPW **White Pass** 17.38 138 P P 03 02 44.0 +1.2
RVW **Rose Valley** 17.49 141 P P 03 02 45.3 +1.4
NEW **Newport** 17.64 127 P P 03 02 46.0 +0.3
comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=36
NEW Lg Lg 03 07 55.1
comp=Z,0.0nm,0.3s,baz=256,slow=14,SNR=4.7
NEW LR LR 03 10 20.9
comp=Z,1μm,18.0s,baz=322,slow=40
NEW **Newport** 17.64 127 *e*Pn P 03 02 46.5 +0.9
comp=Z,241nm,1.8s
NEW Lg Lg 03 07 55.1
NEW **Newport** 17.64 127 ⇑P P 03 02 45.9 +0.3
baz=18,SNR=41
A12A **Yaak River Ran** 17.70 123 ⇓P P 03 02 46.1 -0.1
baz=18,SNR=8.3
OD2 **Odessa Site #2** 17.77 131 P P 03 02 47.9 +1.0
MTMW **Mount Mitchell** 17.77 140 P P 03 02 49.3 +2.3
TRW **Toppenish Ridg** 18.07 137 P P 03 02 51.9 +1.6
B12A **Libby** 18.09 124 ⇓P P 03 02 52.2 +1.7
baz=18,SNR=12
A13A **Flathead Natio** 18.21 121 ⇓P P 03 02 53.3 +1.4
baz=18
WALA **Waterton Lakes** 18.32 120 *e*P Pn 03 02 53.2 +0.2
comp=Z,4.2nm,1.2s
HAWA **Hanford** 18.33 135 *e*P P 03 02 53.8 +0.7
comp=Z,44nm,1.3s
C11A **Tepee Creek (N** 18.33 126 ⇓P P 03 02 54.7 +1.5
baz=18,SNR=28
REDWA **Red Mountain** 18.44 135 P P 03 02 55.7 +1.3
BLTW **Bickleton** 18.52 137 P Pn 03 02 57.0 +1.6
A14A **Double T Ranch** 18.59 119 ⇑P Pn 03 02 57.5 +1.1
baz=18,SNR=38
B13A **Whitefish** 18.62 122 ⇑P Pn 03 02 57.6 +0.9
baz=18,SNR=39
VFP **Flag Point** 18.64 140 P Pn 03 02 58.4 +1.5
C12B **Naegeli Ranch,** 18.74 125 ⇓P Pn 03 02 59.2 +1.1
baz=19,SNR=16
COR **Corvallis** 18.75 145 *e*P Pn 03 03 00.4 +2.2
COR pmax pmax
comp=Z,190nm,1.4s
COR **Corvallis** 18.75 145 *e*P Pn 03 03 00.4 +2.2
comp=Z,190nm,1.4s
A15A **Johnson Ranch,** 18.89 118 ⇓P Pn 03 02 59.9 0.0
baz=19,SNR=38
BSMT **Bassoo Peak** 18.91 124 *e*P Pn 03 03 00.3 +0.1
BLMT **Blacktail Moun** 18.95 123 *e*P Pn 03 03 01.8 +1.0
C13A **Hot Springs** 19.13 124 ⇓P Pn 03 03 03.3 +0.5
baz=19,SNR=14
B14A **Marquette Ranc** 19.13 120 ⇓P Pn 03 03 03.0 +0.1
baz=19,SNR=28
JTMT **Jette** 19.19 123 *e*P Pn 03 03 04.0 +0.4
YBMT **Yellow Bay** 19.21 122 *e*P Pn 03 03 04.1 +0.2
comp=Z,65nm,1.1s
D12A **Red Ives Fores** 19.32 126 ⇑P Pn 03 03 05.9 +0.8
baz=19
C14A **Swan Lake** 19.40 122 ⇑P Pn 03 03 05.9 -0.1
baz=19
A16A **West Butte Ran** 19.40 116 ⇑P P 03 03 05.0 0.0
baz=19
B15A **Bradely Ranch,** 19.47 119 ⇓P P 03 03 06.4 +0.7
baz=19,SNR=30
SWMT **Swartz Lake** 19.50 123 *e*P Pn 03 03 07.4 +0.1
D13A **Huson** 19.65 124 ⇓P Pn 03 03 09.1 0.0
baz=20,SNR=37
B16A **M & M Farms, S** 19.76 118 ⇑P P 03 03 09.3 +0.4
baz=20
E12A **Beaver Dam Sad** 19.76 127 ⇓P Pn 03 03 10.0 -0.5
baz=20
A17A **Triple J Farms** 19.80 115 ⇓P P 03 03 09.9 +0.7
baz=20,SNR=25
C15A **Salmond Ranch,** 19.87 120 ⇑P Pn 03 03 11.4 -0.3
baz=20,SNR=78
SLMT **Seeley Lake** 19.92 123 *e*P Pn 03 03 12.0 -0.3
D14A **Greenough** 20.04 123 ⇑P Pn 03 03 13.2 -0.6
baz=20,SNR=52
KEBM **Edson Butte** 20.07 149 *e*Pn Pn 03 03 21.9 +7.9
comp=Z,123nm,1.2s
MSO **Missoula** 20.07 124 *e*P P 03 03 13.2 +1.0
comp=Z,275nm,1.8s
MSO **Missoula** 20.07 124 ⇑P P 03 03 13.3 +1.0
baz=20,SNR=47
FFC **Flin Flon** 20.17 92 *e*P P 03 03 14.3 +1.1
FFC pmax pmax
comp=Z,46nm,1.0s
FFC **Flin Flon** 20.17 92 *e*P P 03 03 14.2 +1.1
comp=Z,46nm,1.0s
FFC **Flin Flon** 20.17 92 Pn Pn 03 03 15.7 +0.7
comp=Z,248nm,1.0s,SNR=8.4
A18A **Metzger Ranch,** 20.19 114 ⇑P P 03 03 14.5 +0.9
baz=20,SNR=7.4
C16A **Fuhringer Ranc** 20.21 119 ⇓P P 03 03 14.6 +0.8
baz=20
B17A **L&G Farms, Che** 20.24 117 ⇑P P 03 03 14.9 +0.8
baz=20,SNR=47
CHMT **Chamberlain Mo** 20.28 123 *e*P P 03 03 15.7 +1.0
E13A **Victor** 20.29 125 ⇓P P 03 03 15.5 +0.9
baz=20,SNR=35
F12A **Elk City** 20.43 128 ⇓P P 03 03 16.9 +0.7
baz=20,SNR=69
BMO **Blue Mountains** 20.44 133 *e*P Pn 03 03 18.0 -0.5
comp=Z,75nm,1.5s
D15A **Limoln** 20.48 121 ⇑P P 03 03 17.8 +1.0
baz=20,SNR=33
E14A **Clinton** 20.59 124 ⇑P P 03 03 18.8 +0.8
baz=20,SNR=89
B18A **Beardsley Farm** 20.61 115 ⇓P P 03 03 18.8 +0.6
baz=20,SNR=16
RES **Resolute Bay** 20.63 31 P P 03 03 18.9 +1.0
comp=Z,16nm,0.9s,baz=242,slow=12,SNR=22
RES Lg Lg 03 09 19.8
comp=Z,24nm,1.2s,baz=332,slow=24,SNR=4.5
RES **Resolute Bay** 20.63 31 *e*P P 03 03 19.0 +1.0
comp=Z,84nm,1.2s
RES Lg Lg 03 09 19.8
HUMO **Hull Mountain** 20.68 146 *e*P Pn 03 03 21.0 -0.2
comp=Z,68nm,1.2s
A19A **Klindworth Far** 20.68 112 ⇓P P 03 03 19.3 +0.5
baz=21,SNR=26
C17A **Wharram Farm,** 20.76 118 ⇑P P 03 03 20.5 +0.7
baz=21,SNR=61
F13A **Darby** 20.77 126 ⇓P P 03 03 20.8 +0.9
baz=21,SNR=110
D16A **Dana Ranch, Ca** 20.90 120 ⇑P P 03 03 22.3 +1.0
baz=21,SNR=42
EGMT **Eagleton** 20.90 116 *e*P P 03 03 21.9 +0.6
comp=Z,420nm,1.7s
EGMT **Eagleton** 20.90 116 ⇓P P 03 03 22.0 +0.8
baz=21,SNR=52
E15A **Deer Lodge** 20.93 123 ⇓P P 03 03 22.4 +0.8
baz=21,SNR=84
G12A **Big Creek, Yel** 20.93 129 ⇑P P 03 03 22.9 +1.1
baz=21
B19A **Brinkman Farms** 20.94 114 ⇑P P 03 03 22.4 +0.8
baz=21,SNR=36
HRY **Holter Researc** 21.03 121 *e*P P 03 03 23.8 +1.0
A20A **Cobblestone Ra** 21.08 111 ⇑P P 03 03 23.8 +0.6
baz=21,SNR=19
F14A **Wisdom** 21.13 125 ⇓P P 03 03 24.4 +0.5
baz=21,SNR=33
D17A **Six Diamond Ra** 21.17 118 ⇑P P 03 03 24.3 +0.1
baz=21,SNR=43
E16A **East Helena** 21.24 121 ⇑P P 03 03 25.7 +0.8
baz=21,SNR=192
B20A **Solberg Farm,** 21.36 112 ⇑P P 03 03 26.6 +0.4
baz=21
G13A **Cobalt** 21.38 127 ⇑P P 03 03 27.7 +1.1
baz=21,SNR=48
C19A **Slack Wire Ran** 21.43 115 ⇓P P 03 03 27.9 +0.9
baz=21,SNR=53
KRMB **Red Mountain** 21.44 149 *e*P P 03 03 33.2 +6.0
comp=Z,229nm,2.4s
F15A **Butte** 21.46 123 ⇑P P 03 03 28.2 +0.8
baz=21,SNR=62
A21A **Bergtoll Ranch** 21.46 110 ⇓P P 03 03 27.8 +0.6
baz=21,SNR=19
LRM **Limekiln Ridge** 21.49 123 *e*P P 03 03 28.9 +1.1
D18A **Linhart Farms,** 21.52 117 ⇓P P 03 03 28.8 +0.9
baz=21,SNR=22
YBH **Yreka Blue Hor** 21.56 147 P P 03 03 29.7 +1.4
comp=Z,12nm,1.1s,baz=4.7,slow=6.4,SNR=7.3
YBH LR LR 03 10 53.0
comp=Z,1μm,19.5s,baz=328,slow=34
YBH **Yreka Blue Hor** 21.56 147 *e*P P 03 03 30.0 +1.7
comp=Z,34nm,1.2s
G14A **Jackson** 21.56 126 ⇑P P 03 03 29.2 +0.6
baz=22,SNR=38
H12A **Diamond D Ranc** 21.60 129 ⇓P P 03 03 29.8 +0.9
baz=22,SNR=18
E17A **Martinsdale** 21.64 120 ⇓P P 03 03 30.2 +0.8
baz=22,SNR=139
DLMT **Dillon** 21.81 124 *e*P P 03 03 32.2 +1.1
comp=Z,64nm,1.1s
H13A **Challis** 21.82 128 ⇑P P 03 03 32.6 +1.4
baz=22,SNR=213
B21A **Ellsworth Farm** 21.83 111 ⇓P P 03 03 31.5 +0.4
baz=22
F16A **Kennard Place,** 21.86 122 ⇓P P 03 03 32.4 +0.8
baz=22,SNR=15
C20A **Veseth Ranch,** 21.91 114 ⇓P P 03 03 33.0 +0.9
baz=22,SNR=43
A22A **Carney Farms,** 21.92 109 ⇓P P 03 03 33.0 +0.8
baz=22,SNR=18
D19A **Cripps Ranch,** 21.94 116 ⇓P P 03 03 33.5 +1.0
baz=22,SNR=44
E18A **Harlowton** 21.96 118 ⇑P P 03 03 33.5 +0.9
baz=22,SNR=41
BOZ **Bozeman (W)** 21.97 122 *e*P P 03 03 33.9 +1.1
BOZ pmax pmax
comp=Z,64nm,1.1s
BOZ **Bozeman (W)** 21.97 122 *e*P P 03 03 33.9 +1.1
comp=Z,64nm,1.1s
BOZ **Bozeman (W)** 21.97 122 ⇑P P 03 03 33.9 +1.1
baz=22,SNR=60
G15A **Dillon** 22.01 124 ⇓P P 03 03 33.9 +0.5
baz=22
MOD **Modoc** 22.09 142 *e*P P 03 03 35.9 +1.8
comp=Z,103nm,1.4s
KHMM **Horse Mountain** 22.10 149 *e*P P 03 03 39.0 +4.8
comp=Z,88nm,1.5s
H14A **Leadore** 22.12 127 ⇑P P 03 03 35.4 +0.9
baz=22,SNR=59
I12A **Atlanta** 22.14 131 ⇑P P 03 03 35.8 +1.0
baz=22,SNR=44
MCMT **McKenzie Canyo** 22.15 125 *e*P P 03 03 35.3 +0.5
comp=Z,57nm,1.2s
F17A **Fitzpatrick Pl** 22.16 120 ⇓P P 03 03 35.8 +0.9
baz=22,SNR=54
MFID **Camas Ranch** 22.22 132 *e*P P 03 03 36.8 +1.3
comp=Z,37nm,1.1s
MFID **Camas Ranch** 22.22 132 ⇓P P 03 03 36.0 +0.5
baz=22,SNR=18
C21A **Desert Coulee** 22.23 112 ⇓P P 03 03 35.9 +0.3
baz=22,SNR=25
G16A **Moss Hill, Enn** 22.24 123 ⇑P P 03 03 36.1 +0.4
baz=22,SNR=45
D20A **Manuel Ranch,** 22.32 115 ⇓P P 03 03 37.6 +1.1
baz=22,SNR=70
B22A **Reddig Ranch S** 22.39 110 ⇑P P 03 03 37.8 +0.6
baz=22
H15A **Lima** 22.40 125 ⇓P P 03 03 37.9 +0.4
baz=22,SNR=36
I13A **Wildhorse Cree** 22.42 129 ⇑P P 03 03 38.4 +0.7
baz=22,SNR=68
A23A **Redstone** 22.43 107 ⇓P P 03 03 38.1 +0.5
baz=22
E19A **Rath Farm, Rou** 22.53 117 ⇓P P 03 03 39.6 +0.8
baz=22,SNR=29
F18A **Big Timber** 22.56 119 ⇑P P 03 03 40.5 +1.3
baz=22,SNR=50
G17A **Pierce Place,** 22.60 121 ⇓P P 03 03 40.6 +1.0
baz=22,SNR=17
HLID **Hailey** 22.61 130 *e*P P 03 03 40.7 +1.0
comp=Z,68nm,1.1s
HLID **Hailey** 22.61 130 ⇑P P 03 03 40.8 +1.1
baz=22,SNR=75
I14A **Mackay** 22.66 128 ⇓P P 03 03 41.6 +1.3
baz=23,SNR=15
GCMT **Greycliff** 22.67 119 *e*P P 03 03 41.8 +1.4
comp=Z,58nm,1.1s
WDC **Whiskeytown Da** 22.68 147 *e*P P 03 03 41.3 +1.0
WDC pmax pmax
comp=Z,102nm,1.3s
WDC **Whiskeytown Da** 22.68 147 *e*P P 03 03 41.3 +1.0
comp=Z,102nm,1.3s
QLMT **Earthquake Lak** 22.71 123 *e*P P 03 03 42.3 +1.4
B23A **Brockton** 22.73 108 ⇓P P 03 03 41.6 +0.7
baz=23,SNR=17
E20A **Meyer Farm, Mu** 22.78 116 ⇑P P 03 03 42.4 +1.0
baz=23,SNR=36
J13A **Cove Ranch, Pi** 22.84 130 ⇓P P 03 03 43.2 +1.0
baz=23,SNR=28
C22A **Vida** 22.84 111 ⇑P P 03 03 42.9 +0.9
baz=23,SNR=18
D21A **La Casta Ranch** 22.85 113 ⇓P P 03 03 43.6 +1.4
baz=23,SNR=13
A24A **Westby** 22.86 106 ⇓P P 03 03 43.0 +0.8
baz=23,SNR=8.3
H16A **Russell Place,** 22.89 123 ⇑P P 03 03 43.6 +0.8
baz=23,SNR=23
F19A **Roth Farm, Mol** 22.93 118 ⇓P P 03 03 43.8 +0.7
baz=23,SNR=30
I15A **Monteview** 22.98 126 ⇓P P 03 03 44.5 +0.8
baz=23,SNR=17
YMR **Madison River** 23.04 123 *e*P P 03 03 45.3 +1.1
comp=Z,279nm,1.7s
DGMT **Dagmar** 23.09 107 *e*P P 03 03 46.6 +2.0
comp=Z,299nm,1.5s
DGMT **Dagmar** 23.09 107 ⇑P P 03 03 45.4 +0.8
baz=23
G18A **Lazy EL Ranch,** 23.10 120 ⇓P P 03 03 45.3 +0.5
baz=23,SNR=17
C23A **Lambert** 23.12 110 ⇑P P 03 03 45.7 +0.8
baz=23,SNR=32
D22A **Cohagen** 23.15 112 ⇓P P 03 03 46.2 +1.0
baz=23,SNR=23
J14A **Carey** 23.15 129 ⇓P P 03 03 46.3 +0.9
baz=23
E21A **Keefer Ranch,** 23.21 114 ⇑P P 03 03 46.8 +0.9
baz=23,SNR=6.1
F20A **Billings** 23.32 117 ⇑P P 03 03 47.9 +1.0
baz=23
LKWY **Lake** 23.36 122 *e*P P 03 03 50.0 +2.5
LKWY pmax pmax
comp=Z,107nm,1.4s
LKWY **Lake** 23.36 122 *e*P P 03 03 50.0 +2.5
comp=Z,107nm,1.4s
RLMT **Red Lodge** 23.38 120 *e*P P 03 03 48.8 +1.0
comp=Z,75nm,1.0s
RLMT **Red Lodge** 23.38 120 ⇑P P 03 03 49.1 +1.4
baz=23,SNR=75
H17A **Grant Village** 23.42 123 ⇑P P 03 03 50.0 +1.8
baz=23,SNR=32
I16A **Newdale** 23.48 125 ⇑P P 03 03 50.3 +1.6
baz=23,SNR=76
J15A **Blackfoot** 23.51 127 ⇑P P 03 03 50.2 +1.3
baz=23,SNR=18
H18A **Shoshone NF, C** 23.57 121 ⇓P P 03 03 50.4 +0.8
baz=24,SNR=22
D23A **Lindsay** 23.58 111 ⇑P P 03 03 50.3 +0.8
baz=24
FLWY **Flagg Ranch** 23.63 123 *e*P P 03 03 52.4 +2.2
comp=Z,79nm,1.2s
C24A **Savage** 23.67 109 ⇑P P 03 03 51.9 +1.5
baz=24,SNR=18
IMW **Indian Meadow** 23.68 124 *e*P P 03 03 52.7 +1.9
comp=Z,88nm,1.0s
F21A **Absaloka Mine,** 23.75 116 ⇑P P 03 03 51.9 +0.7
baz=24
G20A **Bridger** 23.75 118 ⇑P P 03 03 52.0 +0.7
baz=24,SNR=18
E22A **Miles City** 23.80 113 ⇓P P 03 03 52.6 +1.0
baz=24,SNR=18
I17A **Pilgrim Ck.** 23.81 123 ⇑P P 03 03 53.8 +1.8
baz=24,SNR=68
DCID1 **Drake Creek** 23.84 125 *e*P P 03 03 54.6 +2.4
comp=Z,208nm,1.0s
H19A **Powell** 23.86 120 ⇓P P 03 03 53.9 +1.6
baz=24,SNR=65
MOOW **Moose Ponds** 23.89 124 *e*P P 03 03 54.2 +1.5
comp=Z,58nm,1.1s
J16A **Bone** 23.93 126 ⇑P P 03 03 54.6 +1.4
baz=24,SNR=27
K14A **Jones Ranch, D** 23.95 129 ⇑P P 03 03 54.4 +1.2
baz=24
RRI2 **Red Ridge** 23.99 125 *e*P P 03 03 55.3 +1.5
comp=Z,526nm,2.5s
BILL **Bilibino** 24.00 310 *c i*P P 03 03 52.7 -0.6
BILL pmax pmax
comp=Z,33nm,1.3s
BILL MLR MLR
comp=Z,500nm,13.0s
BILL **Bilibino** 24.00 310 *e*P P 03 03 53.2 -0.1
comp=Z,62nm,1.4s
TPAW **Teton Pass** 24.02 124 *e*P P 03 03 56.4 +2.4
comp=Z,118nm,1.4s
D24A **Glendive** 24.02 110 ⇓P P 03 03 55.3 +1.6
baz=24,SNR=24
E23A **Ismay** 24.04 112 ⇑P P 03 03 55.2 +1.2
baz=24
LOHW **Long Hollow** 24.06 124 *e*P P 03 03 56.1 +1.8
comp=Z,78nm,1.4s
K15A **Arbon** 24.08 128 ⇑P P 03 03 55.8 +1.3
baz=24
SNOW **Snow King Moun** 24.12 124 *e*P P 03 03 57.6 +2.6
comp=Z,57nm,1.1s
OHCM **Honcut** 24.13 146 *e*P P 03 03 55.0 +0.3
F22A **Rosebud** 24.16 114 ⇑P P 03 03 56.1 +1.0
baz=24,SNR=20
REDW **Red Top Meadow** 24.16 124 *e*P P 03 03 58.5 +3.2
comp=Z,1.0nm,1.4s
G21A **Lodge Grass** 24.18 117 ⇑P P 03 03 55.9 +0.6
baz=24
J17A **Brown Place, J** 24.22 124 ⇓P P 03 03 57.5 +1.7
baz=24,SNR=43
I18A **Diamond G Ranc** 24.30 122 ⇑P P 03 03 58.1 +1.5
baz=24,SNR=34
K16A **Soda Springs** 24.32 126 ⇑P P 03 03 57.8 +1.1
baz=24
L14A **Malta** 24.37 130 ⇑P P 03 03 58.1 +1.0
baz=24,SNR=23
I19A **Meeteetse** 24.37 121 ⇑P P 03 03 58.2 +1.0
baz=24,SNR=72
BMN **Battle Mountai** 24.39 138 *e*P P 03 03 59.6 +2.3
BMN pmax pmax
comp=Z,21nm,1.0s
BMN **Battle Mountai** 24.39 138 *e*P P 03 03 59.6 +2.3
comp=Z,21nm,1.0s
H20A **Greybull** 24.43 119 ⇓P P 03 03 58.4 +0.8
baz=24,SNR=29
E24A **Baker** 24.44 111 ⇑P P 03 03 58.9 +1.3
baz=24
G22A **Birney** 24.59 115 ⇓P P 03 03 59.8 +0.8
baz=24,SNR=18
J18A **Kendall Valley** 24.63 123 ⇓P P 03 04 00.8 +1.3
baz=24,SNR=42
WCN **Washoe City** 24.64 143 *e*P P 03 04 00.8 +1.1
WCN pmax pmax
comp=Z,37nm,1.4s
WCN **Washoe City** 24.64 143 *e*P P 03 04 00.8 +1.1
comp=Z,37nm,1.4s
K17A **Gardner Place,** 24.65 125 ⇓P P 03 04 00.8 +1.1
baz=25,SNR=10
L15A **Malad City** 24.71 129 ⇓P P 03 04 01.3 +1.1
baz=25,SNR=20
H21A **Big Horn, Sher** 24.72 117 ⇑P P 03 04 01.2 +0.9
baz=25,SNR=12
HVU **Hansel Valley** 24.76 129 *e*P P 03 04 02.7 +2.0
HVU pmax pmax
comp=Z,83nm,1.3s
HVU **Hansel Valley** 24.76 129 *e*P P 03 04 02.7 +2.0
comp=Z,83nm,1.3s
ELK **Elko** 24.77 134 *e*P P 03 04 02.5 +1.6
I20A **Worland** 24.80 120 ⇓P P 03 04 02.1 +1.1
baz=25,SNR=27
F24A **Ekalaka** 24.92 112 ⇑P P 03 04 03.2 +1.2
baz=25,SNR=44
J19A **Crowheart** 24.98 122 ⇑P P 03 04 04.0 +1.4
baz=25,SNR=28
G23A **Biddle** 25.00 114 ⇓P P 03 04 03.7 +1.0
baz=25,SNR=23

H22A **Clearmont** 25.05 116 ⇑P P 03 04 04.3 +1.1
baz=25
L16A **Fish Haven** 25.07 127 ⇓P P 03 04 04.4 +0.9
baz=25,SNR=11
K18A **Toltan Ranch,** 25.10 124 ⇓P P 03 04 05.1 +1.3
baz=25,SNR=21
M15A **Larsen Ranch,** 25.16 129 ⇓P P 03 04 05.0 +0.8
baz=25
BW06 **Boulder Array** 25.18 123 *e*P P 03 04 05.6 +1.0
comp=Z,82nm,1.1s
BW06 **Boulder Array** 25.18 123 ⇑P P 03 04 05.6 +1.0
baz=25,SNR=58
PDAR **Pinedale Array** 25.18 123 P P 03 04 05.3 +0.7
comp=Z,34nm,1.0s,baz=328,slow=5.3,SNR=51
PDAR PcP PcP 03 07 38.2 +0.2
comp=Z,2.6nm,1.1s,baz=286,slow=4.6,SNR=2.4
PDAR **Pinedale Array** 25.18 123 P P 03 04 05.3 +0.7
PDAR PcP PcP 03 07 38.1 +0.2
L17A **Cokeville** 25.22 126 ⇓P P 03 04 05.5 +0.7
baz=25
I21A **Big Trails, Te** 25.27 119 ⇑P P 03 04 06.1 +0.8
baz=25,SNR=39
J20A **Shoshoni** 25.31 120 ⇑P P 03 04 06.7 +1.1
baz=25,SNR=65
G24A **Alzada** 25.33 113 ⇓P P 03 04 06.2 +0.4
baz=25,SNR=24
K19A **Absolon Red Bu** 25.43 122 ⇑P P 03 04 07.5 +0.7
baz=25,SNR=35
H23A **Clabaugh Cattl** 25.49 115 ⇑P P 03 04 07.7 +0.5
baz=25
I22A **9 Mile Ranch,** 25.55 118 ⇑P P 03 04 08.9 +1.1
baz=26,SNR=27
J21A **Lysite** 25.58 120 ⇓P P 03 04 09.0 +0.8
baz=26,SNR=35
M16A **Huntsville** 25.60 128 ⇓P P 03 04 09.1 +0.8
baz=26
CMB **Columbia Colle** 25.64 146 *e*P P 03 04 09.3 +0.7
CMB pmax pmax
comp=Z,36nm,1.4s
CMB **Columbia Colle** 25.64 146 *e*P P 03 04 09.3 +0.7
comp=Z,36nm,1.4s
MDND **Maddock** 25.69 103 ⇓P P 03 04 09.8 +0.9
baz=26
L18A **Fontenelle, Gr** 25.70 125 ⇑P P 03 04 09.8 +0.6
baz=26,SNR=20
H24A **Dirks Ranch, A** 25.72 114 ⇑P P 03 04 10.0 +0.7
baz=26,SNR=51
K20A **Yellowstone Ra** 25.77 122 ⇑P P 03 04 10.2 +0.4
baz=26,SNR=41
L19A **Farson** 25.82 124 ⇑P P 03 04 10.7 +0.4
baz=26,SNR=20
M17A **Scullys Gap (B** 25.83 127 ⇑P P 03 04 11.0 +0.5
baz=26
ULM **Lac du Bonnet** 25.84 95 P P 03 04 11.7 +1.5
comp=Z,16nm,1.1s,baz=302,slow=11,SNR=7.7
ULM LR LR 03 14 44.5
comp=Z,1µm,18.1s,baz=322,slow=37
ULM **Lac du Bonnet** 25.84 95 *e*P P 03 04 13.3 +3.1
comp=Z,28nm,1.3s
NVAR **Mina Array Bea** 25.88 142 P P 03 04 12.4 +1.6
comp=Z,12nm,0.9s,baz=323,slow=8.2,SNR=45
NVAR PcP PcP 03 07 40.8 +1.1
comp=Z,0.7nm,0.7s,baz=319,slow=2.5,SNR=2.3
NVAR LR LR 03 13 58.5
comp=Z,1µm,19.0s,baz=232,slow=36
NVAR **Mina Array Bea** 25.88 142 P P 03 04 12.4 +1.6
NVAR PcP PcP 03 07 40.8 +1.1
NV11 **Mina Array Sit** 25.92 142 *e*P P 03 04 12.2 +1.0
J22A **Midwest** 25.94 118 ⇑P P 03 04 11.9 +0.6
baz=26,SNR=41
N16A **Rees Ranch, Co** 26.04 128 ⇓P P 03 04 13.1 +0.8
baz=26
M18A **Lyman** 26.11 126 ⇓P P 03 04 14.1 +1.1
baz=26
DUG **Dugway** 26.13 131 *e*P P 03 04 15.0 +2.0
DUG pmax pmax
comp=Z,19nm,1.0s
DUG **Dugway** 26.13 131 *e*P P 03 04 15.0 +2.0
comp=Z,19nm,1.0s
DUG **Dugway** 26.13 131 ⇓P P 03 04 13.8 +0.8
baz=26,SNR=16
N17A **Moffit Pass** 26.22 127 ⇓P P 03 04 14.8 +0.7
baz=26
K21A **Alcova** 26.25 120 ⇑P P 03 04 14.7 +0.6
baz=26,SNR=26
L20A **Wamsutter** 26.31 123 ⇓P P 03 04 15.1 +0.3
baz=26,SNR=19
J23A **Dilts Ranch, B** 26.35 117 ⇑P P 03 04 15.6 +0.6
baz=26
I24A **Kuemmerle Ranc** 26.39 115 ⇑P P 03 04 15.8 +0.4
baz=26,SNR=6.9
M19A **Rock Springs** 26.40 124 ⇑P P 03 04 15.9 +0.2
baz=26,SNR=8.0
RSSD **Black Hills** 26.44 114 *e*P P 03 04 17.4 +1.4
RSSD pmax pmax
comp=Z,77nm,1.2s
RSSD **Black Hills** 26.44 114 *e*P P 03 04 17.4 +1.4
comp=Z,77nm,1.2s
DAU **Daniels Canyon** 26.52 129 *e*P P 03 04 25.9 +9.1
DAU **Daniels Canyon** 26.52 129 *e*P P 03 04 25.9 +9.1
K22A **Casper** 26.54 119 ⇑P P 03 04 17.4 +0.6
baz=26,SNR=26
N18A **Larsen Ranch,** 26.65 126 ⇑P P 03 04 17.9 +0.1
baz=27,SNR=9.7
L21A **Rawlins** 26.75 121 ⇓P P 03 04 19.1 +0.3
baz=27,SNR=22
J24A **Dixon Ranch, L** 26.80 116 ⇓P P 03 04 20.0 +0.9
baz=27,SNR=8.2
M20A **Sweetwater, Wa** 26.81 123 ⇑P P 03 04 20.2 +0.9
baz=27,SNR=21
R11A **Troy Canyon, C** 26.81 137 ⇓P P 03 04 20.0 +0.7
baz=27,SNR=16
K23A **Bowen Ranch, D** 26.84 118 ⇓P P 03 04 20.2 +0.7
baz=27,SNR=7.0
P15A **Leamington** 26.87 131 ⇑P P 03 04 20.3 +0.5
baz=27
O17A **Robinson Place** 26.90 128 ⇑P P 03 04 21.0 +0.9
baz=27,SNR=8.8
N19A **John Jarvie Ra** 26.91 125 ⇑P P 03 04 20.6 +0.4
baz=27,SNR=6.9
FX1 **Attu Island--F** 27.05 275 P P 03 04 18.8 -2.2
comp=Z,15nm,0.6s,baz=346,slow=4.2,SNR=4.7
FX1 LR LR 03 16 44.5
comp=Z,598nm,18.7s,baz=308,slow=40
FX1 **Attu Island--F** 27.05 275 *e*P P 03 04 20.0 -1.1
M21A **Separation Pea** 27.05 122 ⇓P P 03 04 22.1 +0.6
baz=27,SNR=21
P16A **Fountain Green** 27.07 130 ⇑P P 03 04 22.4 +0.9
baz=27
L22A **Ellis Ranch, M** 27.09 120 ⇓P P 03 04 23.3 +1.5
baz=27,SNR=32
O18A **Roosevelt** 27.12 127 ⇑P P 03 04 23.0 +1.0
baz=27
AGMN **Agassiz Nation** 27.17 98 *e*P P 03 04 23.1 +0.9
comp=Z,18nm,0.9s
TIN **Tinemaha** 27.17 143 ⇑P P 03 04 23.6 +1.1
baz=27
L23A **Garrett** 27.33 119 ⇑P P 03 04 24.5 +0.5
baz=27
N20A **Spence Gulch,** 27.33 124 ⇑P P 03 04 25.4 +1.4
baz=27,SNR=9.8
O19A **Miners Draw (B** 27.44 126 ⇑P P 03 04 25.6 +0.7
baz=27
GRAC **Grapevine Rang** 27.48 141 ⇑P P 03 04 26.3 +1.2
baz=27
TMUT **Trail Mountain** 27.51 130 *e*P P 03 04 31.4 +5.8
P17A **Butcher Ranch,** 27.53 129 ⇓P P 03 04 26.9 +1.2
baz=28
M22A **Cedar Creek Ra** 27.54 121 ⇑P P 03 04 26.6 +0.7
baz=28,SNR=27
RCTC **Rector, Farmer** 27.58 145 ⇑P P 03 04 26.9 +1.0
baz=28
P18A **Preston Nutter** 27.58 128 ⇓P P 03 04 27.4 +1.0
baz=28,SNR=28
N21A **Black Mountain** 27.70 123 ⇓P P 03 04 28.1 +0.8
baz=28,SNR=17
K25A **Mack Ranch, Ha** 27.72 116 ⇑P P 03 04 27.9 +0.5
baz=28
L24A **Wheatland** 27.72 118 ⇓P P 03 04 27.9 +0.6
baz=28
CWC **Cottonwood Cre** 27.79 143 ⇓P P 03 04 29.2 +1.2
baz=28
MSU **Marysvale** 27.84 132 *e*P P 03 04 30.5 +2.0
MSU **Marysvale** 27.84 132 *e*P P 03 04 30.5 +2.0
M23A **Laramie** 27.85 120 ⇓P P 03 04 29.8 +1.1
baz=28
Q16A **Castle Valley** 27.85 130 ⇑P P 03 04 29.7 +1.1
baz=28,SNR=7.1

SRU **San Rafael** 27.93 129 *e*P P 03 04 31.1 +1.8
SRU pmax pmax
comp=Z,426nm,0.9s
SRU **San Rafael** 27.93 129 *e*P P 03 04 31.1 +1.8
comp=Z,426nm,0.9s
SRU **San Rafael** 27.93 129 ⇓P P 03 04 30.2 +1.0
baz=28,SNR=9.1
O20A **White River Ci** 27.93 125 ⇓P P 03 04 30.0 +0.6
baz=28,SNR=7.7
K26A **Motz Farm, Whi** 27.95 115 ⇑P P 03 04 29.9 +0.6
baz=28
ARUT **Antelope Range** 28.04 135 *e*P P 03 04 31.0 +0.7
ARUT pmax pmax
comp=Z,21nm,1.2s
ARUT **Antelope Range** 28.04 135 *e*P P 03 04 31.0 +0.7
comp=Z,21nm,1.2s
L25A **Engebretsen Ra** 28.05 117 ⇓P P 03 04 30.8 +0.6
baz=28
VES **Vestal, Richgr** 28.06 145 ⇑P P 03 04 30.9 +0.7
baz=28
P19A **Cripple Cowboy** 28.07 126 ⇑P P 03 04 31.5 +0.9
baz=28
DAC **Darwin (Calif)** 28.08 142 *e*P P 03 04 31.9 +1.2
DAC pmax pmax
comp=Z,33nm,1.5s
DAC **Darwin (Calif)** 28.08 142 *e*P P 03 04 31.9 +1.2
comp=Z,33nm,1.5s
N22A **Wattenberg Ran** 28.10 121 ⇑P P 03 04 31.9 +1.0
baz=28
PHWY **Pilot Hill** 28.10 120 *e*P P 03 04 32.2 +1.3
comp=Z,51nm,1.2s
O21A **Pagoda** 28.18 123 ⇑P P 03 04 32.5 +0.9
baz=28
ALE **Alert** 28.20 16 P P 03 04 32.8 +1.7
comp=Z,61nm,1.0s,SNR=9.6
M24A **Cheyenne** 28.23 118 ⇑P P 03 04 33.0 +1.0
baz=28,SNR=6.0
N23A **Red Feather La** 28.23 121 ⇓P P 03 04 33.1 +1.0
baz=28
CCUT **Cedar City** 28.28 135 *e*P P 03 04 33.0 +0.5
comp=Z,22nm,1.6s
MPMC **Manual Prospec** 28.31 142 ⇓P P 03 04 33.6 +0.8
baz=28
K27A **Flueckinger Fa** 28.37 114 ⇑P P 03 04 34.0 +0.9
baz=28
ISA **Isabella** 28.40 144 *e*P P 03 04 34.8 +1.4
ISA pmax pmax
comp=Z,22nm,1.4s
ISA **Isabella** 28.40 144 *e*P P 03 04 34.8 +1.4
comp=Z,22nm,1.4s
ISA **Isabella** 28.40 144 ⇓P P 03 04 33.7 +0.3
baz=28
P20A **De Beque** 28.42 126 ⇑P P 03 04 33.8 +0.2
baz=28
M25A **Palm-Egli Farm** 28.59 118 ⇑P P 03 04 36.1 +0.9
baz=28
O22A **Kremmling** 28.60 122 ⇑P P 03 04 36.5 +1.1
baz=28,SNR=13
N24A **Carr** 28.74 119 ⇑P P 03 04 37.8 +1.3
baz=29
P21A **Newcastle** 28.77 124 ⇓P P 03 04 38.1 +1.2
baz=29
O23A **Lake Granby, G** 28.82 121 ⇑P P 03 04 38.5 +1.2
baz=29,SNR=11
SHOC **Shoshone** 28.83 141 ⇑P P 03 04 38.2 +1.1
baz=29
Q20A **Ridgley Place,** 28.92 126 ⇑P P 03 04 38.3 +0.2
baz=29,SNR=11
P22A **Eagle** 28.99 123 ⇓P P 03 04 39.7 +0.9
baz=29
GSC **Goldstone** 29.22 142 *e*P P 03 04 42.6 +1.9
GSC pmax pmax
comp=Z,25nm,1.3s
GSC **Goldstone** 29.22 142 *e*P P 03 04 42.6 +1.9
comp=Z,25nm,1.3s
GSC **Goldstone** 29.22 142 ⇑P P 03 04 41.6 +0.9
baz=29
SMCO **Snowmass** 29.26 124 *e*P P 03 04 42.5 +1.1
comp=Z,33nm,1.4s
EDW2 **Edwards Air Fo** 29.27 144 ⇓P P 03 04 41.9 +0.8
baz=29
ISCO **Idaho Springs** 29.29 121 *e*P P 03 04 44.0 +2.5
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO **Idaho Springs** 29.29 121 *e*P P 03 04 44.0 +2.5
comp=Z,8.9nm,0.9s
ISCO **Idaho Springs** 29.29 121 ⇓P P 03 04 41.7 +0.2
baz=29
Q21A **Lamborn Mesa,** 29.31 125 ⇑P P 03 04 42.1 +0.5
baz=29
S18A **Hurst Farm, Bl** 29.37 130 ⇓P P 03 04 42.5 +0.3
baz=29
EYMN **Ely** 29.52 95 *e*P P 03 04 43.9 +0.7
comp=Z,20nm,0.9s
PV01 **Paradox Valley** 29.53 127 *e*P P 03 04 44.6 +1.0
comp=Z,3µm,1.4s
Q22A **Crested Butte,** 29.55 124 ⇓P P 03 04 45.0 +1.1
baz=30
P23A **Jefferson** 29.55 122 ⇓P P 03 04 45.1 +1.2
baz=30
U15A **North Rim** 29.66 134 ⇓P P 03 04 46.0 +1.2
baz=30
R21A **Cimarron** 29.72 126 ⇑P P 03 04 45.8 +0.5
baz=30,SNR=24
HEC **Hector,Ludlow** 29.80 142 ⇓P P 03 04 47.3 +1.4
baz=30
S20A **Disappointment** 29.87 127 ⇓P P 03 04 47.3 +0.6
baz=30,SNR=6.9
O26A **Horse Wrangler** 29.89 118 ⇑P P 03 04 47.4 +0.7
baz=30
LDFC **Landfair** 29.95 139 *e*P P 03 04 46.2 -1.0
comp=Z,20nm,1.3s
BFSC **Mount Baldy Ra** 29.96 144 ⇑P P 03 04 48.5 +1.2
baz=30,SNR=5.3
GMRC **Granite Mounta** 30.05 141 ⇑P P 03 04 49.4 +1.3
baz=30
ECSD **EROS Data Cent** 30.14 106 *e*P P 03 04 49.5 +0.8
comp=Z,36nm,1.2s
R22A **Saguache, Gunn** 30.16 125 ⇑P P 03 04 50.7 +1.5
baz=30
Q24A **Divide** 30.19 122 ⇑P P 03 04 50.9 +1.4
baz=30
S21A **Coal Bank Pass** 30.24 127 ⇓P P 03 04 51.0 +1.0
baz=30,SNR=16
W13A **Hualapai Mount** 30.33 138 ⇓P P 03 04 51.7 +1.1
baz=30
MVCO **Mesa Verde** 30.36 128 *e*P P 03 04 51.9 +1.0
comp=Z,7.6nm,1.0s
P26A **Davis Ranch, A** 30.45 119 ⇓P P 03 04 52.4 +0.8
baz=30
S22A **4UR Ranch, Cre** 30.55 125 ⇑P P 03 04 53.6 +0.9
baz=30,SNR=12
R23A **Moffat** 30.57 123 ⇑P P 03 04 54.1 +1.2
baz=30
BELC **Belle Mtn. Jos** 30.67 142 ⇓P P 03 04 54.5 +0.9
baz=31
IRM **Iron Mountain** 30.79 140 ⇓P P 03 04 56.0 +1.5
baz=31
WUAZ **Wupatki** 30.80 134 *e*P P 03 04 56.2 +1.4
comp=Z,20nm,1.3s
WUAZ **Wupatki** 30.80 134 ⇓P P 03 04 55.7 +1.0
baz=31
R24A **Sanders Place,** 30.83 122 ⇓P P 03 04 55.6 +0.6
baz=31
SPMN **St. Paul** 30.83 100 ⇓P P 03 04 55.3 +0.5
baz=31,SNR=6.4
PFO **Pinyon Flat Ob** 30.90 143 ⇓P P 03 04 56.5 +0.9
baz=31
Q26A **Hugo** 30.90 120 ⇓P P 03 04 56.2 +0.6
baz=31
T21A **Navajo Lake** 30.92 127 ⇑P P 03 04 57.0 +1.1
baz=31
SEY **Seymchan** 31.15 304 ⇓*i*P P 03 04 57.3 -0.1
T22A **Edith** 31.15 126 ⇑P P 03 04 59.4 +1.5
baz=31,SNR=9.8
BGNE **Belgrade** 31.24 110 ⇑P P 03 04 58.9 +0.4
baz=31
S24A **Houchin Ranch,** 31.29 123 ⇓P P 03 05 00.2 +1.0
baz=31
Y12C **Blythe** 31.36 140 ⇑P P 03 05 01.1 +1.6
baz=31
U21A **Nageezi** 31.37 128 ⇑P P 03 05 00.7 +0.9
baz=31
MONP **Monument Peak** 31.58 143 ⇑P P 03 05 02.7 +1.0
baz=32
S25A **Robets Cordova** 31.59 122 ⇓P P 03 05 02.6 +0.8
baz=32
V20A **Brimhall** 31.61 129 ⇓P P 03 05 03.0 +1.1
baz=32,SNR=8.0
Y14A **Wickenburg** 31.68 137 ⇑P P 03 05 03.9 +1.5
baz=32
U22A **Llaves** 31.72 127 ⇑P P 03 05 04.1 +1.1
baz=32
W18A **Petrified Fore** 31.75 132 ⇑P P 03 05 04.4 +1.3
baz=32
X16A **Lo Mia Camp, P** 31.77 135 ⇓P P 03 05 04.7 +1.3
baz=32
T24A **Torres, Weston** 31.84 124 ⇑P P 03 05 05.2 +1.1
baz=32
V21A **Milan** 31.92 128 ⇑P P 03 05 06.4 +1.6
baz=32,SNR=6.8
S26A **Kim** 32.02 121 ⇓P P 03 05 06.6 +1.1
baz=32
U23A **El Rito** 32.03 126 ⇓P P 03 05 07.1 +1.5
baz=32,SNR=13
W20A **Ramah** 32.20 130 ⇓P P 03 05 08.1 +0.9
baz=32,SNR=7.6
X18A **Snowflake** 32.20 132 ⇓P P 03 05 08.6 +1.5
baz=32,SNR=13
Z14A **Wintersburg** 32.23 138 ⇓P P 03 05 08.8 +1.7
baz=32
T26A **Comanche Natio** 32.35 122 ⇑P P 03 05 09.6 +1.2
baz=32
113A **Mohawk Valley,** 32.51 139 ⇑P P 03 05 11.1 +1.5
baz=32
W21A **San Fidel** 32.53 129 ⇓P P 03 05 11.0 +1.0
baz=32,SNR=7.1
V23A **Ortiz Mt. (NFS** 32.54 126 ⇓P P 03 05 11.9 +1.7
baz=32,SNR=19
U25A **Circle Dot Ran** 32.68 123 ⇑P P 03 05 13.0 +1.7
baz=33
X20A **Quemado** 32.72 130 ⇑P P 03 05 13.0 +1.3
baz=33
T27A **Campo** 32.81 121 ⇑P P 03 05 14.1 +1.7
baz=33
V24A **Rampart Ranch,** 32.92 125 ⇓P P 03 05 15.3 +1.8
baz=33,SNR=14
U26A **Atchley Ranch,** 32.96 122 ⇓P P 03 05 14.9 +1.2
baz=33
W23A **Werner Place,** 33.06 127 ⇑P P 03 05 16.7 +2.0
baz=33,SNR=8.3
X21A **Alamocita Cree** 33.07 129 ⇓P P 03 05 16.4 +1.6
baz=33,SNR=18
V25A **Rancho No Teng** 33.08 124 ⇓P P 03 05 16.5 +1.7
baz=33
ANMO **Albuquerque** 33.13 127 *e*P P 03 05 17.4 +2.1
comp=Z,26nm,1.4s
W24A **Lazy 6 Ranch,** 33.31 126 ⇑P P 03 05 18.6 +1.7
baz=33,SNR=12
Y20A **Horse Springs,** 33.33 131 ⇑P P 03 05 19.0 +1.9
baz=33,SNR=7.0
LAZ **Ladron** 33.35 129 *e*P P 03 05 19.1 +1.9
comp=Z,12nm,1.3s
V26A **Tequesquite Ra** 33.45 123 ⇑P P 03 05 19.7 +1.6
baz=33,SNR=5.3
Y21A **Point of Rocks** 33.50 130 ⇑P P 03 05 20.4 +1.9
baz=33,SNR=12
214A **Organ Pipe Nat** 33.56 138 ⇓P P 03 05 20.7 +1.8
baz=34
LPM **Los Pinos Moun** 33.63 128 *e*P P 03 05 21.7 +2.1
W25A **X Bar L Ranch,** 33.68 124 ⇑P P 03 05 21.5 +1.5
baz=34
BNM **Barren Site** 33.77 128 *e*P P 03 05 22.2 +1.3
comp=Z,14nm,1.2s
KSU1 **Kansas State U** 33.80 111 *e*P P 03 05 22.3 +1.5
comp=Z,32nm,1.0s
Y22A **Socorro** 33.83 129 ⇓P P 03 05 22.9 +1.6
baz=34,SNR=5.4
PET **Petropavlovsk** 33.91 285 *e*P P 03 05 21.5 -0.1
PET *e*S S 03 10 41.9 -3.8
PET MLR MLR
comp=Z,500nm,19.0s
PET MLR MLR
comp=Z,700nm,15.0s
TUC **Tucson** 33.91 135 *e*P P 03 05 23.7 +1.7
TUC pmax pmax
comp=Z,23nm,1.2s
TUC **Tucson** 33.91 135 *e*P P 03 05 23.7 +1.7
comp=Z,23nm,1.2s
Z20A **Nine Sixteen R** 33.96 132 ⇑P P 03 05 24.2 +1.8
baz=34,SNR=7.5
Z21A **St. Cloud Mine** 34.12 130 ⇓P P 03 05 25.3 +1.3
baz=34
V28A **Channing** 34.14 121 ⇑P P 03 05 25.0 +1.1
baz=34
Y23A **Lovelace Mesa,** 34.18 128 ⇑P P 03 05 26.0 +1.5
baz=34,SNR=9.3
PETK **Petropavlovsk-** 34.30 286 P P 03 05 24.5 -0.5
comp=Z,12nm,0.6s,baz=78,slow=10,SNR=18
PETK LR LR 03 20 23.6
comp=Z,192nm,19.5s,baz=197,slow=38
PETK **Petropavlovsk-** 34.30 286 P P 03 05 24.5 -0.5
PETK **Petropavlovsk-** 34.30 286 P P 03 05 24.5 -0.5
Y24A **Capitan** 34.43 127 ⇓P P 03 05 28.4 +1.9
baz=34,SNR=12
120A **U Bar Ranch, L** 34.46 132 ⇓P P 03 05 28.4 +1.7
baz=34
Y25A **Mesa, Roswell** 34.72 126 ⇓P P 03 05 30.7 +1.7
baz=35
121A **Cookes Peak, D** 34.78 131 ⇓P P 03 05 31.4 +1.9
baz=35,SNR=8.0
TIXI **Tiksi** 34.80 326 *e*P P 03 05 28.8 -0.3
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI **Tiksi** 34.80 326 *e*P P 03 05 29.5 +0.4
comp=Z,5.2nm,0.8s
122A **Conniff Cattle** 34.92 130 ⇓P P 03 05 32.2 +1.5
baz=35
Z24A **Sheeppen Canyo** 34.98 127 ⇓P P 03 05 33.0 +1.6
baz=35,SNR=11
Y26A **Elida** 35.07 125 ⇓P P 03 05 33.3 +1.3
baz=35,SNR=11
220A **Playas Peak, P** 35.08 132 ⇑P P 03 05 33.8 +1.7
baz=35,SNR=16
GLMI **Grayling** 35.09 92 *e*P P 03 05 33.4 +1.5
comp=Z,39nm,0.8s
X28A **Dimmitt** 35.21 122 ⇓P P 03 05 34.7 +1.5
baz=35
Z25A **Roswell** 35.28 126 ⇓P P 03 05 35.3 +1.5
baz=35,SNR=15
319A **Douglas** 35.29 134 ⇓P P 03 05 35.4 +1.5
baz=35
Y27A **Causey** 35.37 124 ⇓P P 03 05 35.9 +1.3
baz=35
222A **Williams Famil** 35.41 130 ⇑P P 03 05 36.5 +1.5
baz=35
MSTX **Muleshoe** 35.45 123 ⇓P P 03 05 36.4 +1.2
baz=35
124A **Stringfield Ra** 35.51 128 ⇓P P 03 05 37.3 +1.4
baz=35,SNR=16
Z26A **Caprock** 35.58 125 ⇓P P 03 05 37.4 +1.1
baz=36,SNR=16
320A **Kipp Ranch, An** 35.59 133 ⇑P P 03 05 38.2 +1.7
baz=36
Y28A **McKinney Farm,** 35.72 123 ⇑P P 03 05 38.6 +1.0
baz=36
X30A **Coker Ranch, T** 35.82 121 ⇓P P 03 05 39.4 +1.0
baz=36
Z27A **Tatum** 35.84 124 ⇓P P 03 05 39.8 +1.2
baz=36,SNR=20
125A **Gardner Draw,** 35.85 127 ⇓P P 03 05 40.2 +1.5
baz=36,SNR=14
SFJD **Kangerlussuaq** 35.85 42 *e*P P 03 05 37.9 -0.3
comp=Z,33nm,1.4s
SFJD **Kangerlussuaq** 35.85 42 *i*P P 03 05 43.9 +5.7
comp=Z,7.1nm,1.0s
Y29A **Porterfield Fa** 36.00 122 ⇑P P 03 05 41.2 +1.3
baz=36
224A **Cornudas Mount** 36.03 128 ⇓P P 03 05 41.8 +1.5
baz=36,SNR=10
HDIL **Hopedale** 36.05 102 *e*P P 03 05 41.3 +1.0
comp=Z,112nm,1.2s
126A **Clayton Basin,** 36.11 126 ⇑P P 03 05 42.0 +1.1
baz=36
SUMG **Summit** 36.15 30 *e*P P 03 05 43.4 +2.2
SUMG pmax pmax
comp=Z,79nm,1.8s
SUMG **Summit** 36.15 30 *e*P P 03 05 43.4 +2.2
comp=Z,79nm,1.8s
SUMG **Summit** 36.15 30 *i*P P 03 05 42.7 +1.5
comp=Z,8.6nm,1.0s
225A **Deer Hill, Car** 36.27 127 ⇓P P 03 05 44.2 +1.8
baz=36,SNR=8.1
Y30A **Stafford Cattl** 36.30 121 ⇑P P 03 05 43.7 +1.2
baz=36
127A **Arkansas Junct** 36.35 125 ⇑P P 03 05 43.4 +0.4

baz=36
GDL2 **Guadalupe Moun** 36.37 127 *e*P P 03 05 45.1 +1.9
MNTX **Cornudas Mount** 36.42 128 *e*P P 03 05 45.4 +1.9
comp=Z,31nm,1.6s
MNTX **Cornudas Mount** 36.42 128 ⇑P P 03 05 44.4 +0.9
baz=36
WMOK **Wichita Mounta** 36.46 118 *e*P P 03 05 45.0 +1.2
WMOK pmax pmax
comp=Z,29nm,1.1s
WMOK **Wichita Mounta** 36.46 118 *e*P P 03 05 45.0 +1.2
comp=Z,29nm,1.1s
Z29A **Hungry Hill Ra** 36.50 123 ⇓P P 03 05 45.3 +1.0
baz=36,SNR=15
324A **Moseley Ranch,** 36.61 129 ⇑P P 03 05 46.7 +1.4
baz=37,SNR=5.9
Z30A **Sanderson Ranc** 36.72 122 ⇓P P 03 05 46.5 +0.4
baz=37
SCHQ **Schefferville** 36.73 67 P P 03 05 46.7 +0.8
comp=Z,5.6nm,0.9s,baz=320,slow=7.8,SNR=8.6
SCHQ LR LR 03 21 27.8
comp=Z,1μm,18.6s,baz=134,slow=37
SCHQ **Schefferville** 36.73 67 *e*P P 03 05 48.2 +2.3
comp=Z,162nm,2.8s
128A **Castleberry Fa** 36.74 124 ⇑P P 03 05 46.8 +0.5
baz=37
TUL1 **Tulsa** 36.79 113 ⇓P P 03 05 46.9 +0.3
baz=37,SNR=12
Y32A **R-V Farms, Ver** 36.81 119 ⇑P P 03 05 47.7 +0.9
baz=37
325A **Bean Ranch, Si** 36.87 128 ⇑P P 03 05 48.6 +1.1
baz=37,SNR=8.9
Z31A **Sharp Cattle R** 37.10 121 ⇓P P 03 05 49.6 +0.3
baz=37
SLM **Saint Louis** 37.12 105 *e*P P 03 05 50.3 +1.0
SLM pmax pmax
comp=Z,66nm,1.3s
SLM **Saint Louis** 37.12 105 *e*P P 03 05 50.3 +1.0
comp=Z,66nm,1.3s
228A **UT Block 9, Go** 37.14 125 ⇑P P 03 05 50.3 +0.6
baz=37
SFIN **Scholer Farm** 37.24 100 ⇑P P 03 05 50.9 +0.5
baz=37,SNR=6.5
326A **Caldwell Ranch** 37.30 127 ⇓P P 03 05 51.9 +0.8
baz=37
425A **Indio Mountain** 37.39 129 ⇓P P 03 05 53.7 +1.9
baz=37,SNR=24
Z32A **Haskell** 37.39 120 ⇑P P 03 05 52.0 +0.3
baz=37,SNR=17
DAG **Danmarks Havn** 37.41 19 *i*P P 03 05 53.0 +1.6
comp=Z,67nm,1.1s
328A **Wristen Ranch,** 37.71 125 ⇑P P 03 05 55.0 +0.5
baz=38
426A **McDonald Obser** 37.86 128 ⇓P P 03 05 57.0 +1.0
baz=38,SNR=12
ABTX **Abilene, Hawle** 37.91 121 ⇓P P 03 05 56.6 +0.4
baz=38
230A **Sterling City** 37.94 123 ⇑P P 03 05 57.1 +0.6
baz=38,SNR=11
329A **Wagon Wheel Ra** 37.94 124 ⇑P P 03 05 57.1 +0.6
baz=38,SNR=13
427A **Hayter Ranch,** 37.94 127 ⇑P P 03 05 57.3 +0.8
baz=38
OLIL **Olney** 38.05 102 *e*P P 03 05 57.5 +0.3
comp=Z,67nm,1.1s
231A **Bronte** 38.23 122 ⇓P P 03 05 59.4 +0.6
baz=38
428A **Kincaid Ranch,** 38.34 126 ⇑P P 03 06 01.2 +1.4
baz=38,SNR=9.6
330A **Mertzon** 38.34 123 ⇑P P 03 06 00.3 +0.5
baz=38
526A **Mary Lane Ranc** 38.38 128 ⇑P P 03 06 01.7 +1.5
baz=38,SNR=20
527A **Woodward Ranch** 38.49 127 ⇓P P 03 06 02.3 +1.1
baz=38,SNR=15
331A **San Angelo** 38.73 123 ⇓P P 03 06 03.8 +0.7
baz=39
429A **Davenport Ranc** 38.74 125 ⇓P P 03 06 03.4 +0.3
baz=39,SNR=14
528A **Cox Ranch, San** 38.80 126 ⇑P P 03 06 04.8 +1.1
baz=39,SNR=19
626A **Big Bend Ranch** 38.82 128 ⇑P P 03 06 05.2 +1.3
baz=39,SNR=18
430A **Baggett Ranch,** 38.86 124 ⇓P P 03 06 04.8 +0.6
baz=39
USIN **University of** 38.87 103 *e*P P 03 06 04.8 +0.7
comp=Z,40nm,1.0s
332A **Millersview** 38.95 122 ⇓P P 03 06 05.4 +0.5
baz=39,SNR=18
529A **Stev Forest Ra** 39.05 126 ⇓P P 03 06 06.6 +0.8
baz=39,SNR=9.2
KBS **Kingsbay** 39.18 9 *e*P P 03 06 07.0 +0.7
627A **Terlingua Ranc** 39.19 128 ⇓P P 03 06 08.3 +1.3
baz=39
TXAR **Lajitas Array** 39.19 128 P P 03 06 08.4 +1.4
comp=Z,6.1nm,0.9s,baz=328,slow=7.3,SNR=47
TXAR LR LR 03 23 46.7
comp=Z,397nm,20.0s,baz=185,slow=38
TXAR **Lajitas Array** 39.19 128 P P 03 06 08.4 +1.4
431A **Sonora** 39.21 123 ⇓P P 03 06 07.6 +0.5
baz=39
UALR **University of** 39.29 111 *e*P P 03 06 07.9 +0.2
comp=Z,43nm,1.1s
ACSO **Alum Creek Sta** 39.34 96 *e*P P 03 06 09.2 +1.1
comp=Z,44nm,1.0s
ERPA **Erie** 39.35 91 *e*P P 03 06 09.2 +1.0
comp=Z,28nm,0.9s
628A **Black Gap, Mar** 39.36 127 ⇓P P 03 06 09.9 +1.6
baz=39,SNR=38
432A **Menard** 39.37 122 ⇑P P 03 06 09.0 +0.6
baz=39
GNAR **Gosnell** 39.38 107 *e*P P 03 06 09.3 +0.9
comp=Z,1μm,1.2s
530A **J-C Ranch, Com** 39.38 125 ⇓P P 03 06 09.6 +1.0
baz=39
WHTX **Lake Whitney** 39.38 119 ⇓P P 03 06 08.8 +0.3
baz=39,SNR=5.9
UTMT **University of** 39.61 105 *e*P P 03 06 11.6 +1.2
comp=Z,124nm,1.1s
ALLY **Alegheny Colle** 39.63 92 *e*P P 03 06 11.9 +1.4
comp=Z,54nm,1.0s
531A **Rocksprings** 39.69 124 ⇑P P 03 06 11.8 +0.8
baz=40,SNR=12
JCT **Junction City** 39.71 123 *e*P P 03 06 12.1 +0.8
JCT pmax pmax
comp=Z,21nm,1.0s
JCT **Junction City** 39.71 123 *e*P P 03 06 12.1 +0.8
comp=Z,21nm,1.0s
532A **Rocksprings** 39.98 123 ⇑P P 03 06 14.0 +0.5
baz=40,SNR=25
LONY **Lake Ozonia** 40.12 84 *e*P P 03 06 14.5 0.0
comp=Z,13nm,1.2s
WVT **Waverly** 40.27 105 *e*P P 03 06 16.0 +0.2
WVT pmax pmax
comp=Z,25nm,1.0s
WVT **Waverly** 40.27 105 *e*P P 03 06 16.0 +0.2
comp=Z,25nm,1.0s
YAK **Yakutsk** 40.30 313 *e*P P 03 06 16.4 +0.7
YAK pmax pmax
comp=Z,17nm,1.0s
631A **Perdido Creek** 40.34 124 ⇓P P 03 06 16.9 +0.5
baz=40,SNR=18
632A **Uvalde** 40.58 123 ⇓P P 03 06 19.3 +0.9
baz=40
NCB **Newcomb** 40.77 85 *e*P P 03 06 20.8 +0.9
comp=Z,28nm,1.3s
OXF **Oxford** 40.86 108 *e*P P 03 06 21.4 +0.7
OXF pmax pmax
comp=Z,240nm,1.1s
OXF **Oxford** 40.86 108 *e*P P 03 06 21.4 +0.7
comp=Z,240nm,1.1s
732A **Laxson Ranch,** 41.19 124 ⇑P P 03 06 24.2 +0.7
baz=41
BINY **Binghamton** 41.24 88 *e*P P 03 06 24.5 +0.7
comp=Z,47nm,1.3s
NRS **Narsarsuaq** 41.27 47 *i*P P 03 06 28.6 +4.8
comp=Z,2.4nm,1.0s
ACCN **Adirondack Com** 41.47 85 *e*P P 03 06 26.1 +0.4
comp=Z,28nm,1.3s
SSPA **Standing Stone** 41.50 91 *e*P P 03 06 30.3 +4.4
comp=Z,35nm,1.3s
HKT **Hockley** 41.84 118 *e*P P 03 06 30.3 +1.6
HKT **Hockley** 41.84 118 *e*P P 03 06 30.3 +1.6
KIP **Kipapa** 41.88 208 *e*P P 03 06 29.7 +0.6
KIP pmax pmax
comp=Z,117nm,1.2s
SWET **Sewanee** 41.91 104 *e*P P 03 06 30.0 +0.6
comp=Z,41nm,1.3s
TZTN **Tazewell** 41.97 100 *e*P P 03 06 31.0 +1.2
comp=Z,78nm,1.1s
VBMS **Vicksburg** 42.26 111 *e*P P 03 06 34.0 +1.8
CPCT **Cooper Cave** 42.39 102 *e*P P 03 06 34.0 +0.8
TKL **Tuckaleechee C** 42.58 101 *e*P P 03 06 35.9 +1.1
MVL **Millersville** 42.74 90 *e*P P 03 06 41.0 +4.9
comp=Z,50nm,1.5s
JSRW **J. Sargeant Re** 43.80 94 *e*P P 03 06 45.4 +0.9
DRLN **Deer Lake** 44.74 67 *e*P P 03 06 54.5 +2.5
comp=Z,40nm,1.2s
JSC **Jenkinsville** 44.90 100 *e*P P 03 06 55.1 +1.7
JSC **Jenkinsville** 44.90 100 *e*P P 03 06 55.1 +1.7
YSS **Yuzh-Sakhalins** 45.49 290⇑ *e*P P 03 06 59.0 +1.0
YSS *e* 03 07 02.0
YSS MLR MLR
comp=Z,400nm,15.0s
YSS **Yuzh-Sakhalins** 45.49 290 *e*P P 03 06 58.3 +0.3
CLNS **Chul'man** 45.69 310 *e*P P 03 06 57.6 -1.9
CLNS *e**PP pP 03 07 06.8 +4.3
CLNS *e* 03 08 37.7
CLNS *e*S S 03 13 36.7 -5.4
CLNS pmax pmax
comp=Z,48nm,1.0s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,29nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.5s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS smax smax
comp=N,84nm,11.5s
CLNS smax smax
comp=E,65nm,14.4s
CLNS MLR MLR
comp=Z,177nm,13.0s
CLNS MLR MLR
comp=E,242nm,14.0s
CLNS MLR MLR
comp=N,172nm,14.0s
HABR **Khabarovsk** 47.81 296 P P 03 07 13.4 -2.7
HABR *e**SP sP 03 07 18.0 -2.3
HABR *e*PPP PPP 03 09 50.8
HABR *e*S **S** **03 14 10.3 -2.1**
HABR *e**SS sS 03 14 15.5 -2.0
HABR *e* 03 17 07.1
HABR *e*SS **SS** **03 17 40.3 0.0**
HABR *e*SSS SSS 03 18 44.1
HABR pmax pmax
comp=Z,60nm,2.3s
HABR pmax pmax
comp=E,25nm,1.0s
HABR pmax pmax
comp=N,10.0nm,1.0s
HABR MLR MLR
comp=Z,402nm,20.0s
KLR **Kul'dur** 48.66 299 *e*P P 03 07 19.2 -3.5
KLR pmax pmax
comp=Z,70nm,2.0s
KLR MLR MLR
comp=E,600nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
KEV **Kevo** 49.09 7 *e*P P 03 07 24.9 -0.8
KEV pmax pmax
comp=Z,14nm,0.9s
KEV **Kevo** 49.09 7 *e*P P 03 07 26.4 +0.7
comp=Z,52nm,1.1s
KEV **Kevo** 49.09 7 *e*p P 03 07 24.9 -0.8
comp=Z,14nm,0.9s
ARCES **ARCESS Array B** 49.22 7 P P 03 07 26.9 +0.2
comp=Z,5.9nm,0.8s,baz=21,slow=7.0,SNR=12
ARCES LR LR 03 26 44.4
comp=Z,220nm,21.4s,baz=81,slow=34
ARCES **ARCESS Array B** 49.22 7 P P 03 07 26.9 +0.2
LVZ **Lovozero** 51.27 3 *e*P P 03 07 42.3 0.0
LVZ pmax pmax
comp=Z,99nm,1.7s
LVZ **Lovozero** 51.27 3 *e*P P 03 07 43.0 +0.7
comp=Z,83nm,1.4s
USRK **Ussuriysk Arra** 52.45 295 P P 03 07 50.8 -0.6
comp=Z,3.1nm,0.8s,baz=38,slow=8.8,SNR=5.0
USRK LR LR 03 31 12.1
comp=Z,204nm,19.6s,baz=219,slow=37
MDJ **Mudanjiang** 53.18 297 P P 03 07 56.0 -0.7
MDJ PP **PP** 03 09 55.5 -0.8
MDJ ScP **ScP** 03 13 04.0 +2.1
MDJ S **S** 03 15 26.5 -0.7
MDJ ScS **ScS** 03 17 47.3 +1.3
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,130nm,5.5s
MDJ LR LR
comp=N,280nm,17.8s
MDJ LR LR
comp=E,340nm,18.8s
MDJ LR LR
comp=Z,520nm,16.2s
HIA **Hailar** 53.52 307 *e*P P 03 07 59.2 -0.1
comp=Z,87nm,1.2s
TEIG **Tepich** 53.61 116 P P 03 08 00.2 0.0
comp=Z,22nm,1.0s,baz=270,slow=19,SNR=2.6
TEIG **Tepich** 53.61 116 P P 03 08 00.2 0.0
CMIG **Matias Romero** 53.65 125 P P 03 08 00.9 +0.4
comp=Z,9.4nm,1.0s,baz=341,slow=7.2,SNR=4.0
CMIG **Matias Romero** 53.65 125 P P 03 08 00.9 +0.4
TMCR **Tamitsa** 55.09 2 *e*P P 03 08 10.4 0.0
TMCR pmax pmax
comp=Z,22nm,1.1s
CN2 **Changchun** 55.61 299 *e*P P 03 08 14.3 -0.1
CN2 *e*pP pP 03 08 18.8 +1.3
CN2 *e*sP sP 03 08 21.3 +2.6
CN2 *e*S S 03 15 58.5 -1.5
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,500nm,17.0s
MAJO **Matsushiro** 55.73 285 *e*P P 03 08 15.0 -0.4
MAJO pmax pmax
comp=Z,45nm,1.0s
MAJO **Matsushiro** 55.73 285 *e*P P 03 08 15.0 -0.4
comp=Z,45nm,1.0s
MAT **Matsushiro** 55.73 285 P P 03 08 15.2 -0.2
MAT *e*S S 03 15 47.6 -14
MJAR **Matsushiro Arr** 55.73 285 P P 03 08 15.8 +0.3
comp=Z,27nm,1.2s,baz=9.9,slow=6.0,SNR=22
MJAR LR LR 03 33 11.8
comp=Z,147nm,18.9s,baz=65,slow=37
MJAR **Matsushiro Arr** 55.73 285 P P 03 08 15.8 +0.3
NB2 **NORSAR Subarra** 56.04 17 P P 03 08 17.3 0.0
comp=Z,0.7nm,0.8s,baz=344,slow=7.4
NOA **NORSAR Array B** 56.04 17 P P 03 08 17.8 +0.5
comp=Z,8.2nm,0.9s,baz=344,slow=7.1,SNR=16
NOA LR LR 03 33 00.0
comp=Z,273nm,18.2s,baz=320,slow=37
NOA **NORSAR Array B** 56.04 17 P P 03 08 17.8 +0.5
JOF **Joensuu** 56.13 6 *e*P P 03 08 16.8 -1.0
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF **Joensuu** 56.13 6 *e*p P 03 08 16.8 -1.0
comp=Z,6.4nm,0.5s
NAO01 **NORSAR Array S** 56.18 18 *e*P P 03 08 19.1 +0.8
comp=Z,14nm,1.0s
KAF **Kangasniemi** 56.63 9 *e*P P 03 08 21.8 +0.4
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF **Kangasniemi** 56.63 9 *e*p P 03 08 21.8 +0.4
comp=Z,3.0nm,0.6s
TLY **Talaya** 57.21 319 *e*P P 03 08 26.1 +0.3
TLY *e*S S 03 16 08.1 -13
TLY *e* 03 18 06.2
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,327nm,19.0s
FIA1 **FINESS Array S** 57.27 9 *e*P P 03 08 26.2 +0.2
FINES **FINESS Array B** 57.27 9 P P 03 08 26.1 +0.1
comp=Z,14nm,1.0s,baz=15,slow=7.9,SNR=15
FINES LR LR 03 35 51.3
comp=Z,252nm,18.4s,baz=314,slow=39
FINES **FINESS Array B** 57.27 9 P P 03 08 26.1 +0.1
MOY **Mondy** 58.06 321 *e*P P 03 08 33.0 +1.2
MOY pmax pmax
comp=Z,20nm,2.2s
KLMR **Klimovskoe** 58.43 1 *e*P P 03 08 33.1 -1.1
KLMR pmax pmax
comp=Z,67nm,1.5s
ZAK **Zakamensk** 58.45 319 *e*P P 03 08 30.2 -4.4
ZAK *e* 03 09 24.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ESK **Eskdalemuir** 58.72 28 *e*P P 03 08 37.4 +1.2
ESK pmax pmax
comp=Z,18nm,0.8s
ESK **Eskdalemuir** 58.72 28 *e*P P 03 08 37.4 +1.2
comp=Z,18nm,0.8s
SOKR **Solikamsk** 59.16 351 ⇓ *i*P P 03 08 39.6 +0.4
SOKR pmax pmax
comp=Z,20nm,1.0s
ULN **Ulaanbaatar** 59.36 315 *e*P P 03 08 41.5 +0.5
comp=Z,5.6nm,0.8s
KSRS **Korea Array** 59.72 293 P P 03 08 43.2 -0.2
comp=Z,12nm,0.8s,baz=29,slow=6.2,SNR=26
KSRS LR LR 03 35 14.8
comp=Z,190nm,18.8s,baz=60,slow=37
KSAR **Wonju Array Be** 59.75 293 P P 03 08 43.2 -0.4
NVS **Novosibirsk** 59.86 334 *e*P P 03 08 43.0 -1.1
VSU **Vasula** 60.28 9 ⇓ *i*P P 03 08 47.1 +0.2
VSU pmax pmax
comp=Z,29nm,1.0s
ZAA0 **Zalesovo Array** 60.34 332 *e*P P 03 08 45.3 -2.1
ZALV **Zalesovo Beam** 60.34 332 P P 03 08 45.8 -1.6
comp=Z,1.8nm,0.6s,baz=15,slow=6.2,SNR=9.1
ZALV LR LR 03 37 29.7
comp=Z,271nm,19.3s,baz=152,slow=39
ZALV **Zalesovo Beam** 60.34 332 P P 03 08 45.8 -1.6
ZALV **Zalesovo Beam** 60.34 332 P P 03 08 45.8 -1.6
DL2 **Dalian** 61.27 299 P P 03 08 54.8 +0.8
DL2 *e*S S 03 17 14.5 +0.7
DL2 pmax pmax
comp=Z,20nm,0.9s
DL2 LR LR
comp=N,170nm,15.3s
DL2 LR LR
comp=E,170nm,18.8s
DL2 LR LR
comp=Z,220nm,17.5s
SVE **Sverdlovsk** 61.53 348⇑ *e*P P 03 08 56.1 +0.6
SVE pmax pmax
comp=Z,32nm,1.3s
JNU **Nakatsue** 61.96 288 P P 03 08 58.9 +0.1
comp=Z,12nm,0.9s,baz=5.2,slow=11,SNR=3.0
JNU **Nakatsue** 61.96 288 P P 03 08 58.9 +0.1
ARU **Arti** 62.12 349 *d i*P P 03 08 59.8 +0.3
ARU 03 11 14.8
ARU S S 03 17 26.6 +2.5
ARU SS SS 03 21 26.6 +0.9
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU **Arti** 62.12 349 *e*P P 03 08 59.2 -0.3
comp=Z,17nm,1.1s
ARU **Arti** 62.12 349 P P 03 08 59.6 +0.1
comp=Z,83nm,1.0s,SNR=5.3
BJI **Beijing** 62.59 304 P P 03 09 03.3 +0.5
BJI S S 03 17 30.3 -0.1
BJI pmax pmax
comp=Z,18nm,1.5s
BJI LR LR
comp=N,310nm,15.9s
BJI LR LR
comp=E,400nm,14.8s
BJI LR LR
comp=Z,160nm,23.1s
BSEG **Bad Segeberg** 62.72 20 *e*P P 03 09 04.5 +1.0
BSEG pmax pmax
comp=Z,78nm,1.4s
BSEG **Bad Segeberg** 62.72 20 *e*P P 03 09 04.5 +1.0
comp=Z,78nm,1.4s
HHC **Hu-ho-hao-te** 63.72 307 *e*P P 03 09 09.0 -1.5
HHC pP **pP** 03 09 14.8 +1.2
HHC sP sP 03 09 17.3 +2.5
HHC PP **PP** 03 11 31.3 +1.2
HHC S S 03 17 42.0 -2.9
HHC ScS **SKKSac** 03 18 59.0 -4.9
HHC SS **SS** 03 21 49.3 -2.4
HHC pmax pmax
comp=Z,29nm,0.5s
HHC pmax pmax
comp=Z,420nm,5.6s
HHC LR LR
comp=N,1μm,19.5s
HHC LR LR
comp=E,1μm,20.9s
HHC LR LR
comp=Z,720nm,15.9s
IBBN **Ibbenburen** 63.83 22 *e*P P 03 09 11.9 +1.1
comp=Z,61nm,1.5s
WTSB **Winterswijk** 63.97 23 *e*P P 03 09 13.7 +1.9
comp=Z,71nm,1.6s
BRVK **Borovoye** 63.98 341 *c i*P P 03 09 10.8 -1.1
BRVK pmax pmax
comp=Z,15nm,2.5s
BRVK **Borovoye** 63.98 341 *e*P P 03 09 11.3 -0.6
comp=Z,4.6nm,0.8s
NRDL **Niedersach Rie** 64.07 21 *e*P P 03 09 13.1 +0.8
comp=Z,37nm,1.5s
OBN **Obninsk** 64.13 3 *e*P P 03 09 12.8 0.0
OBN *e* 03 11 34.5
OBN pmax pmax
comp=Z,45nm,1.0s
OBN MLR MLR
comp=Z,200nm,20.0s
OBN **Obninsk** 64.13 3 *e*P P 03 09 13.2 +0.4
comp=Z,77nm,1.4s
MNK **Minsk** 64.30 9 *e*P P 03 09 09.0 -4.9
MICGM **Minsk** 64.30 9 *e* P 03 09 09.0 -4.9
SUW **Suwalki** 64.38 12 *e*P P 03 09 14.6 +0.2
SUW **Suwalki** 64.38 12 *e*P P 03 09 14.5 +0.1
SUW pmax pmax
comp=Z,36nm,0.9s
SUW **Suwalki** 64.38 12 *e*P P 03 09 14.5 +0.1
comp=Z,36nm,0.9s
SUW **Suwalki** 64.38 12 *e*P P 03 09 14.6 +0.2
GKP **Gorka Klasztor** 64.41 16 *e*P P 03 09 16.1 +1.5
GKP **Gorka Klasztor** 64.41 16 *e*P P 03 09 16.1 +1.5
BUG **Bochum--Univer** 64.56 23 *e*P P 03 09 16.2 +0.5
comp=Z,18nm,0.8s
KURK **Kurchatov** 64.71 335 *e*P P 03 09 15.9 -0.8
KURK pmax pmax
comp=Z,17nm,2.5s
KURK **Kurchatov** 64.71 335 *e*P P 03 09 15.4 -1.3
comp=Z,14nm,1.4s
CLZ **Clausthal** 64.74 21 *e*P P 03 09 18.1 +1.2
CLZ pmax pmax
comp=Z,34nm,1.0s
CLZ **Clausthal** 64.74 21 *e*P P 03 09 18.1 +1.2
comp=Z,34nm,1.0s
SNF **Seneffe** 64.85 25 E P 03 09 19.9 +2.3
BEBN **Eben Emael** 64.86 24 P P 03 09 18.6 +0.9
HGN **Heimansgroeve** 64.94 24 *e*P P 03 09 19.4 +1.2
comp=Z,37nm,1.1s
MEM **Membach** 65.11 24 P P 03 09 20.5 +1.3
comp=Z,26nm,1.2s
BCLA **Clavier** 65.15 25 P P 03 09 20.1 +0.6
comp=Z,22nm,2.8s
ROSF **Rostrenen** 65.15 31 *e*P P 03 09 20.4 +0.9
comp=Z,138nm,1.5s
ROSF **Rostrenen** 65.15 31 *e*P P 03 09 20.4 +0.9
ROSF pmax pmax
comp=Z,138nm,1.5s
ROSF **Rostrenen** 65.15 31 *e*P P 03 09 20.4 +0.9
comp=Z,138nm,1.5s
BAIF **Baives** 65.26 26 *e*P P 03 09 20.9 +0.6
comp=Z,35nm,0.9s
BAIF **Baives** 65.26 26 *e*P P 03 09 20.9 +0.6
BAIF pmax pmax
comp=Z,35nm,0.9s
BAIF **Baives** 65.26 26 *e*P P 03 09 20.9 +0.6
comp=Z,35nm,0.9s
DOU **Dourbes** 65.31 25 P P 03 09 21.1 +0.6
GIVF **Givet** 65.35 25 *e*P P 03 09 21.5 +0.7
comp=Z,34nm,0.9s
GIVF **Givet** 65.35 25 *e*P P 03 09 21.5 +0.7
GIVF pmax pmax
comp=Z,34nm,0.9s

GIVF	**Givet**	65.35	25	*e*P	P	03 09 21.5	+0.7
	comp=Z,34nm,0.9s						
SGMF	**Saint Gilles**	65.40	31	*e*P	P	03 09 21.1	-0.1
	comp=Z,60nm,1.0s						
SGMF	**Saint Gilles**	65.40	31	*e*P	P	03 09 21.1	-0.1
SGMF				pmax	pmax		
	comp=Z,60nm,1.0s						
SGMF	**Saint Gilles**	65.40	31	*e*P	P	03 09 21.1	-0.1
	comp=Z,60nm,1.0s						
FLN	**La Foliniere**	65.43	29	*e*P	P	03 09 21.7	+0.3
	comp=Z,74nm,1.1s						
FLN				*e*R			
	comp=Z,424nm,18.0s						
FLN	**La Foliniere**	65.43	29	*e*P	P	03 09 21.7	+0.3
FLN				pmax	pmax		
	comp=Z,74nm,1.1s						
FLN	**La Foliniere**	65.43	29	*e*P	P	03 09 21.7	+0.3
	comp=Z,74nm,1.1s						
QUIF	**Quistinic**	65.56	31	*e*P	P	03 09 22.8	+0.6
	comp=Z,84nm,1.2s						
QUIF	**Quistinic**	65.56	31	*e*P	P	03 09 22.8	+0.6
QUIF				pmax	pmax		
	comp=Z,84nm,1.2s						
QUIF	**Quistinic**	65.56	31	*e*P	P	03 09 22.8	+0.6
	comp=Z,84nm,1.2s						
LDF	**La Druitiere**	65.68	29	*e*P	P	03 09 23.3	+0.3
	comp=Z,84nm,1.2s						
LDF	**La Druitiere**	65.68	29	*e*P	P	03 09 23.3	+0.3
LDF				pmax	pmax		
	comp=Z,84nm,1.2s						
LDF	**La Druitiere**	65.68	29	*e*P	P	03 09 23.3	+0.3
	comp=Z,84nm,1.2s						
GRR	**Gorron**	65.69	30	*e*P	P	03 09 23.7	+0.6
	comp=Z,76nm,1.2s						
GRR	**Gorron**	65.69	30	*e*P	P	03 09 23.7	+0.6
GRR				pmax	pmax		
	comp=Z,76nm,1.2s						
GRR	**Gorron**	65.69	30	*e*P	P	03 09 23.7	+0.6
	comp=Z,76nm,1.2s						
CLL	**Collm**	65.69	19	*i* P	P	03 09 23.5	+0.5
CLL				*i*		03 09 27.2	
CLL				*e*		03 09 54.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	65.69	19	*e*P	P	03 09 23.3	+0.3
	comp=Z,18nm,1.2s						
CLL	**Collm**	65.69	19	*i* P	P	03 09 23.5	+0.5
	comp=Z,6.0nm,0.9s						
CLL				*i* (pP)	pP	03 09 27.2	+1.0
	comp=Z,18nm,1.2s						
CLL				*e*PcP	PcP	03 09 54.0	-0.3
CLL				*e*SS	SS	03 22 34.0	+12
WLF	**Walferdange**	66.03	24	P	P	03 09 27.0	+1.7
WLF	**Walferdange**	66.03	24	*e*P	P	03 09 26.7	+1.4
WLF				pmax	pmax		
	comp=Z,16nm,1.1s						
WLF	**Walferdange**	66.03	24	*e*P	P	03 09 26.5	+1.2
	comp=Z,18nm,1.2s						
WLF	**Walferdange**	66.03	24	*e*P	P	03 09 26.7	+1.4
	comp=Z,16nm,1.1s						
MOX	**Moxa**	66.11	20	*e*P	P	03 09 26.4	+0.7
MOX				pmax	pmax		
	comp=Z,22nm,1.0s						
MOX	**Moxa**	66.11	20	*e*P	P	03 09 26.4	+0.7
	comp=Z,22nm,1.0s						
MOX				*e*L	L	03 43 56.9	
	comp=Z,198nm,18.0s						
BRG	**Berggiesshubel**	66.26	19	*e*P	P	03 09 27.2	+0.5
	comp=Z,8.4nm,1.0s						
BRG				*e*		03 09 30.9	
	comp=Z,36nm,1.6s						
BRG							
	comp=N,307nm,17.2s						
BRG							
	comp=E,207nm,16.6s						
BRG							
	comp=Z,418nm,15.8s						
BRG	**Berggiesshubel**	66.26	19	*e*P	P	03 09 27.2	+0.5
BRG				*e*		03 09 30.9	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,37nm,1.6s						
BRG				MLR	MLR		
	comp=N,307nm,17.2s						
BRG				MLR	MLR		
	comp=E,207nm,16.6s						
BRG				MLR	MLR		
	comp=Z,418nm,15.8s						
BRG	**Berggiesshubel**	66.26	19	*e*P	P	03 09 27.3	+0.5
	comp=Z,36nm,1.6s						
TANN	**Tannenbergstha**	66.47	20	*e*P	P	03 09 28.8	+0.7
	comp=Z,16nm,1.2s						
NKC	**Novy Kostel**	66.64	20	*e*P	P	03 09 30.3	+1.1
NKC	**Novy Kostel**	66.64	20	*e*P	P	03 09 30.3	+1.1
KSP	**Ksiaz**	66.65	17	*e*P	P	03 09 30.4	+1.2
KSP	**Ksiaz**	66.65	17	*e*P	P	03 09 29.8	+0.6
KSP				*e*'PP	pP	03 09 33.2	+0.9
KSP	**Ksiaz**	66.65	17	*e*P	P	03 09 30.4	+1.2
PVCC	**Panska Ves**	66.70	18	*e*P	P	03 09 30.7	+1.2
PVCC				*e*		03 09 33.4	
PVCC	**Panska Ves**	66.70	18	*e*P	P	03 09 30.7	+1.2
PVCC				*ep*P	pP	03 09 33.4	+0.8
MEZF	**Maizieres J'vi**	66.92	25	*e*P	P	03 09 31.5	+0.6
	comp=Z,64nm,1.3s						
MEZF	**Maizieres J'vi**	66.92	25	*e*P	P	03 09 31.5	+0.6
	comp=Z,64nm,1.3s						
UPC	**Upice**	66.93	17	*e*P	P	03 09 32.1	+1.1
UPC				*e*		03 09 34.7	
UPC	**Upice**	66.93	17	*e*P	P	03 09 32.1	+1.1
UPC				*ep*P	pP	03 09 34.7	+0.5
GRF	**Grafenberg Arr**	66.96	21	*e*P	P	03 09 32.2	+1.0
GRF				pmax	pmax		
	comp=Z,31nm,1.1s						
GRF				MLR	MLR		
	comp=Z,300nm,19.2s						
GRF	**Grafenberg Arr**	66.96	21	*e*P	P	03 09 32.2	+1.0
	comp=Z,31nm,1.1s						
GRF				*e*L	L	03 39 39.3	
	comp=Z,253nm,19.2s						
PAGF	**Fort de Pagny**	67.00	25	*e*P	P	03 09 32.3	+0.8
	comp=Z,17nm,1.1s						
PAGF	**Fort de Pagny**	67.00	25	*e*P	P	03 09 32.3	+0.8
	comp=Z,17nm,1.1s						
ROTZ	**Rotzenmuhle**	67.05	20	*e*P	P	03 09 32.7	+0.9
	comp=Z,14nm,1.3s						
DPC	**Dobruska-Polom**	67.13	17	*e*P	P	03 09 32.9	+0.6
DPC				*e*		03 09 37.0	
DPC	**Dobruska-Polom**	67.13	17	*e*P	P	03 09 33.6	+1.3
DPC	**Dobruska-Polom**	67.13	17	*e*P	P	03 09 32.9	+0.6
DPC				*ep*P	pP	03 09 37.0	+1.5
SFTF	**Sexfontaines**	67.19	26	*e*P	P	03 09 33.2	+0.5
	comp=Z,52nm,1.2s						
SFTF	**Sexfontaines**	67.19	26	*e*P	P	03 09 33.2	+0.5
	comp=Z,52nm,1.2s						
PRU	**Pruhonice**	67.22	19	*e*P	P	03 09 33.8	+1.0
PRU				*e*		03 09 36.7	
PRU	**Pruhonice**	67.22	19	*e*P	P	03 09 33.8	+1.0
PRU				*ep*P	pP	03 09 36.7	+0.7
THEF	**They Montfort**	67.37	25	*e*P	P	03 09 35.1	+1.2
CDF	**Champ du Feu**	67.45	24	*e*P	P	03 09 35.1	+0.6
	comp=Z,41nm,1.1s						
CDF	**Champ du Feu**	67.45	24	*e*P	P	03 09 35.1	+0.6
CDF				pmax	pmax		
	comp=Z,41nm,1.1s						
CDF	**Champ du Feu**	67.45	24	*e*P	P	03 09 35.1	+0.6
	comp=Z,41nm,1.1s						
STU	**Stuttgart**	67.48	23	*e*P	P	03 09 35.2	+0.7
	comp=Z,20nm,1.3s						
MFF	**Saint Martin d**	67.53	30	*e*P	P	03 09 35.7	+0.8
	comp=Z,72nm,1.2s						
MFF	**Saint Martin d**	67.53	30	*e*P	P	03 09 35.7	+0.8
MFF				pmax	pmax		
	comp=Z,72nm,1.2s						
MFF	**Saint Martin d**	67.53	30	*e*P	P	03 09 35.7	+0.8
	comp=Z,72nm,1.2s						
MK31	**Makanchi Array**	67.60	331	*ce*P	P	03 09 34.4	-0.9
MK31	**Makanchi Array**	67.60	331	*e*P	P	03 09 34.7	-0.7
MKAR	**Makanchi Array**	67.60	331	P	P	03 09 34.3	-1.1
	comp=Z,3.6nm,1.0s,baz=44,slow=5.4,SNR=10						
MKAR				LR	LR	03 42 02.4	
	comp=Z,233nm,20.4s,baz=354,slow=39						
MKAR	**Makanchi Array**	67.60	331	P	P	03 09 34.3	-1.1
MKAR	**Makanchi Array**	67.60	331	P	P	03 09 34.3	-1.1
ECH	**Echery**	67.62	24	*e*P	P	03 09 36.5	+1.1
ECH				pmax	pmax		
	comp=Z,19nm,1.1s						
ECH	**Echery**	67.62	24	*e*P	P	03 09 36.5	+1.1
	comp=Z,19nm,1.1s						
ECH	**Echery**	67.62	24	*e*P	P	03 09 36.6	+1.1
HAU	**Haudompre**	67.66	25	*e*P	P	03 09 36.1	+0.4
	comp=Z,44nm,1.0s						
HAU				*e*R			
	comp=Z,341nm,17.5s						
HAU	**Haudompre**	67.66	25	*e*P	P	03 09 36.1	+0.4
HAU				pmax	pmax		
	comp=Z,44nm,1.0s						
HAU	**Haudompre**	67.66	25	*e*P	P	03 09 36.1	+0.4
	comp=Z,44nm,1.0s						
BFO	**Black Forest**	67.74	23	*e*P	P	03 09 37.3	+1.1
BFO				pmax	pmax		
	comp=Z,15nm,1.1s						
BFO	**Black Forest**	67.74	23	*e*P	P	03 09 36.9	+0.7
	comp=Z,23nm,1.2s						
BFO	**Black Forest**	67.74	23	*e*P	P	03 09 37.3	+1.1
	comp=Z,14nm,1.1s						
WET	**Wettzell**	67.77	20	*e*P	P	03 09 37.3	+0.9
WET				pmax	pmax		
	comp=Z,19nm,1.2s						
WET	**Wettzell**	67.77	20	*e*P	P	03 09 37.3	+0.9
	comp=Z,19nm,1.2s						
LOR	**Lormes**	67.83	27	*e*P	P	03 09 37.2	+0.4
	comp=Z,57nm,1.2s						
LOR				*e*R			
	comp=Z,708nm,18.0s						
LOR	**Lormes**	67.83	27	*e*P	P	03 09 37.2	+0.4
	comp=Z,57nm,1.2s						
MORC	**Moravsky Berou**	67.86	17	*e*P	P	03 09 36.4	-0.5
MORC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MORC	**Moravsky Berou**	67.86	17	*e*P	P	03 09 36.4	-0.5
	comp=Z,8.3nm,1.1s						
MORC	**Moravsky Berou**	67.86	17	⇓*i*P	P	03 09 36.5	-0.5
KHC	**Kasperske Hory**	67.90	19	*e*P	P	03 09 38.2	+1.0
KHC				*e*		03 09 42.0	
KHC	**Kasperske Hory**	67.90	19	*e*P	P	03 09 38.6	+1.4
	comp=Z,14nm,1.0s						
KHC	**Kasperske Hory**	67.90	19	*e*P	P	03 09 38.2	+1.0
KHC				*ep*P	pP	03 09 42.0	+1.7
KHC				*ex*	x	03 10 32.0	
HINF	**Hinteralfeld**	67.94	24	*e*P	P	03 09 37.8	+0.3
	comp=Z,28nm,1.0s						
HINF	**Hinteralfeld**	67.94	24	*e*P	P	03 09 37.8	+0.3
HINF				pmax	pmax		
	comp=Z,28nm,1.0s						
HINF	**Hinteralfeld**	67.94	24	*e*P	P	03 09 37.8	+0.3
	comp=Z,28nm,1.0s						
SSF	**Saint Saulge**	67.95	27	*e*P	P	03 09 38.1	+0.6
	comp=Z,71nm,1.1s						
SSF	**Saint Saulge**	67.95	27	*e*P	P	03 09 38.1	+0.6
SSF				pmax	pmax		
	comp=Z,71nm,1.1s						
SSF	**Saint Saulge**	67.95	27	*e*P	P	03 09 38.1	+0.6
	comp=Z,71nm,1.1s						
MOF	**Molkenrain**	67.96	24	*e*P	P	03 09 38.8	+1.1
TREC	**Trest**	68.04	18	*e*P	P	03 09 38.4	+0.4
TREC	**Trest**	68.04	18	*e*P	P	03 09 38.4	+0.4
VSR	**Storozhevoye**	68.09	2	*e*P	P	03 09 36.5	-1.8
AVF	**Avril sur Loir**	68.17	27	*e*P	P	03 09 39.2	+0.3
AVF	**Avril sur Loir**	68.17	27	*e*P	P	03 09 39.2	+0.3
AVF	**Avril sur Loir**	68.17	27	*e*P	P	03 09 39.2	+0.3
AKASG	**Malin Array Be**	68.18	8	P	P	03 09 38.1	-0.8
	comp=Z,6.5nm,0.8s,baz=351,slow=6.0,SNR=17						
AKASG				LR	LR	03 41 56.2	
	comp=Z,247nm,19.1s,baz=330,slow=38						
AKASG	**Malin Array Be**	68.18	8	P	P	03 09 38.1	-0.8
AKASG	**Malin Array Be**	68.18	8	P	P	03 09 38.1	-0.8
KIEV	**Kiev**	68.19	8	*e*P	P	03 09 38.9	0.0
KIEV				pmax	pmax		
	comp=Z,40nm,1.3s						
KIEV	**Kiev**	68.19	8	*e*P	P	03 09 38.9	0.0
	comp=Z,40nm,1.3s						
VRAC	**Vranov**	68.19	17	⇑*i*P	P	03 09 39.7	+0.7
AK01	**Malin Array Si**	68.19	8	*e*P	P	03 09 39.0	+0.1
GEC2	**GERESS Array S**	68.19	19	*e*P	P	03 09 40.0	+0.9
GEC2				pmax	pmax		
	comp=Z,13nm,1.3s						
GEC2	**GERESS Array S**	68.19	19	*e*P	P	03 09 40.0	+0.9
	comp=Z,13nm,1.3s						
GERES	**GERESS Array B**	68.19	19	P	P	03 09 39.4	+0.2
	comp=Z,3.1nm,0.9s,baz=343,slow=2.8,SNR=13						
GERES				LR	LR	03 41 40.2	
	comp=Z,198nm,20.3s,baz=98,slow=38						
GERES	**GERESS Array B**	68.19	19	P	P	03 09 39.4	+0.2
AK02	**Malin Array Si**	68.22	8	*e*P	P	03 09 38.8	-0.3
BGF	**Bois d'Agland**	68.28	28	*e*P	P	03 09 39.8	+0.2
	comp=Z,55nm,0.9s						
BGF	**Bois d'Agland**	68.28	28	*e*P	P	03 09 39.8	+0.2
BGF				pmax	pmax		
	comp=Z,55nm,0.9s						
BGF	**Bois d'Agland**	68.28	28	*e*P	P	03 09 39.8	+0.2
	comp=Z,55nm,0.9s						
LOMF	**Lomont**	68.38	25	*e*P	P	03 09 39.7	-0.6
TCF	**Toulx Ste Croi**	68.39	28	*e*P	P	03 09 40.6	+0.3
	comp=Z,43nm,0.9s						
TCF	**Toulx Ste Croi**	68.39	28	*e*P	P	03 09 40.6	+0.3
TCF				pmax	pmax		
	comp=Z,43nm,0.9s						
TCF	**Toulx Ste Croi**	68.39	28	*e*P	P	03 09 40.6	+0.3
	comp=Z,43nm,0.9s						
SMF	**Signal de Mont**	68.42	27	*e*P	P	03 09 40.6	+0.1
	comp=Z,45nm,1.2s						
SMF	**Signal de Mont**	68.42	27	*e*P	P	03 09 40.6	+0.1
SMF				pmax	pmax		
	comp=Z,45nm,1.2s						
SMF	**Signal de Mont**	68.42	27	*e*P	P	03 09 40.6	+0.1
	comp=Z,45nm,1.2s						
FUR	**Furstenfeldbru**	68.44	21	*e*P	P	03 09 41.6	+1.0
FUR				pmax	pmax		
	comp=Z,18nm,0.9s						
FUR	**Furstenfeldbru**	68.44	21	*e*P	P	03 09 41.6	+1.0
	comp=Z,18nm,0.9s						
JOW	**Kunigami**	68.47	286	P	P	03 09 40.9	-0.2
	comp=Z,22nm,0.8s,baz=71,slow=8.9,SNR=7.7						
JOW	**Kunigami**	68.47	286	*e*P	P	03 09 38.5	-2.6
	comp=Z,8.8nm,0.8s						
NIE	**Niedzica**	68.58	15	*e*P	P	03 09 42.5	+1.0
NIE	**Niedzica**	68.58	15	*e*P	P	03 09 42.5	+1.0
LVV	**L'vov**	68.61	12	*e*P	P	03 09 44.6	+3.0
LVV				MLR	MLR		
	comp=E,60nm,16.0s						
LVV				MLR	MLR		
	comp=Z,200nm,16.0s						
LVV				MLR	MLR		
	comp=N,200nm,15.0s						
KWP	**Kalwaria Pacla**	68.65	13	*e*P	P	03 09 47.1	+5.2
KWP	**Kalwaria Pacla**	68.65	13	*e*P	P	03 09 47.1	+5.2
AGO	**Saint Agoulin**	68.82	28	*e*P	P	03 09 44.4	+1.4
AGO	**Saint Agoulin**	68.82	28	*e*P	P	03 09 44.4	+1.4
CABF	**La Chapelle**	68.93	25	*e*P	P	03 09 44.5	+0.7
	comp=N,86nm,1.2s						
CABF	**La Chapelle**	68.93	25	*e*P	P	03 09 44.5	+0.7
CABF				pmax	pmax		
	comp=Z,87nm,1.2s						
CABF	**La Chapelle**	68.93	25	*e*P	P	03 09 44.5	+0.7
	comp=Z,86nm,1.2s						
WMQ	**Urumqi**	69.00	326	*e*P	P	03 09 46.8	+2.6
WMQ				pmax	pmax		
	comp=Z,210nm,5.0s						
WMQ				LR	LR		
	comp=N,290nm,19.0s						
WMQ				LR	LR		
	comp=E,110nm,21.0s						
WMQ				LR	LR		
	comp=Z,230nm,19.0s						
PLDF	**La Plantade**	69.01	27	*e*P	P	03 09 45.8	+1.6
PLDF	**La Plantade**	69.01	27	*e*P	P	03 09 45.8	+1.6
PLDF	**La Plantade**	69.01	27	*e*P	P	03 09 45.8	+1.6
AB31	**Akbulak array**	69.08	347	*ce*P	P	03 09 44.3	-0.2
AB31				pmax	pmax		
	comp=Z,15nm,0.9s						
ABKAR	**Akbulak array**	69.08	347	*e*P	P	03 09 43.8	-0.7
	comp=Z,13nm,0.9s						
RJOB	**Joinberg**	69.12	20	*e*P	P	03 09 45.5	+0.6
	comp=Z,14nm,1.5s						
RJF	**Les Rejaudoux**	69.15	29	*e*P	P	03 09 45.1	+0.1
	comp=Z,26nm,1.1s						
RJF				*e*R			
	comp=Z,464nm,17.2s						
RJF	**Les Rejaudoux**	69.15	29	*e*P	P	03 09 45.1	+0.1
RJF				pmax	pmax		
	comp=Z,26nm,1.1s						
RJF	**Les Rejaudoux**	69.15	29	*e*P	P	03 09 45.1	+0.1
	comp=Z,26nm,1.1s						
GTA	**Gaotai**	69.28	315	*e*P	P	03 09 46.0	-0.1
GTA				pP	pP	03 09 50.0	+0.7
GTA				sP	sP	03 09 53.0	+2.6
GTA				PP	PP	03 12 20.0	+1.4
GTA				S	S	03 18 49.5	-2.8
GTA				SS	SS	03 23 16.5	-1.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,190nm,5.2s						
GTA				LR	LR		
	comp=N,280nm,14.7s						
GTA				LR	LR		
	comp=E,340nm,16.6s						
GTA				LR	LR		
	comp=Z,360nm,14.7s						
WATA	**Walderalm**	69.30	21	⇓*i*P	P	03 09 47.1	+1.0
WATA				pmax	pmax		
	comp=Z,23nm,1.3s						
WATA	**Walderalm**	69.30	21	⇓*i*P	P	03 09 47.1	+1.0
	comp=Z,23nm,1.3s						
WATA	**Walderalm**	69.30	21	⇓*i*sP	P	03 09 47.1	+1.0
	comp=Z,23nm,1.3s						
VYHS	**Vyhne**	69.30	16	*e*P	P	03 09 46.4	+0.5
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VYHS	**Vyhne**	69.30	16	*e*P	P	03 09 46.4	+0.5
LFF	**La Frestale**	69.31	30	*e*P	P	03 09 46.7	+0.7
	comp=Z,88nm,1.3s						
LFF	**La Frestale**	69.31	30	*e*P	P	03 09 46.7	+0.7
LFF				pmax	pmax		
	comp=Z,88nm,1.3s						
LFF	**La Frestale**	69.31	30	*e*P	P	03 09 46.7	+0.7
	comp=Z,88nm,1.3s						
WTTA	**Wattenberg**	69.38	21	⇑*i*P	P	03 09 47.7	+1.1
WTTA				pmax	pmax		
	comp=Z,34nm,1.1s						
WTTA	**Wattenberg**	69.38	21	⇑*i*P	P	03 09 47.7	+1.1
	comp=Z,34nm,1.1s						
WTTA	**Wattenberg**	69.38	21	⇑*i*sP	P	03 09 47.7	+1.1
	comp=Z,34nm,1.1s,SNR=9.6						
SENIN	**Lac Senin/Sane**	69.42	25	*e*P	P	03 09 48.8	+1.9
CONA	**Conrad Observa**	69.42	18	⇑*i*P	P	03 09 47.7	+0.9
	comp=Z,20nm,1.2s						
CONA	**Conrad Observa**	69.42	18	⇑*i*sP	P	03 09 47.7	+0.9
	comp=Z,20nm,1.2s,SNR=10						
UZH	**Uzhgorod**	69.59	14	⇓*e*P	P	03 09 46.0	-1.7
UZH				*i*		03 09 47.8	
LBL	**Lubilhac**	69.62	28	*e*P	P	03 09 50.4	+2.4
LBL	**Lubilhac**	69.62	28	*e*P	P	03 09 50.4	+2.4
LBL	**Lubilhac**	69.62	28	*e*P	P	03 09 50.4	+2.4
CAF	**Calviac**	69.64	29	*e*P	P	03 09 48.5	+0.4
	comp=Z,45nm,1.0s						
CAF	**Calviac**	69.64	29	*e*P	P	03 09 48.5	+0.4
CAF				pmax	pmax		
	comp=Z,45nm,1.0s						
CAF	**Calviac**	69.64	29	*e*P	P	03 09 48.5	+0.4
	comp=Z,45nm,1.0s						
PGAV	**Gavieira, Arco**	69.65	37	*e*P	P	03 09 49.4	+1.1
	comp=Z,51nm,1.3s						
TUE	**Stuetta**	69.72	23	*e*P	P	03 09 50.4	+1.6
	comp=Z,14nm,1.1s						
KBA	**Koelnbreinsper**	69.85	20	⇑*i*P	P	03 09 50.5	+1.0
KBA				pmax	pmax		
	comp=Z,32nm,1.0s						
KBA	**Koelnbreinsper**	69.85	20	⇑*i*P	P	03 09 50.5	+1.0
	comp=Z,32nm,1.0s						
KBA	**Koelnbreinsper**	69.85	20	⇑*i*sP	P	03 09 50.5	+1.0
	comp=Z,32nm,1.0s,SNR=17						
PSZ	**Piszkesteto**	70.00	15	*e*P	P	03 09 51.4	+1.1
PSZ				pmax	pmax		
	comp=Z,26nm,1.4s						
PSZ	**Piszkesteto**	70.00	15	*e*P	P	03 09 51.4	+1.1
	comp=Z,26nm,1.4s						
PSZ	**Piszkesteto**	70.00	15	⇓*i*P	P	03 09 51.3	+1.0
TARA	**Tarawa**	70.00	233	*e*P	P	03 09 49.6	-1.0
ARSA	**Arzberg**	70.03	19	⇓*i*P	P	03 09 51.5	+1.1
	comp=Z,10nm,1.2s						
ARSA	**Arzberg**	70.03	19	⇓*i*sP	P	03 09 51.5	+1.1
	comp=Z,10nm,1.2s						
LPL	**La Plagne**	70.11	25	*e*P	P	03 09 52.5	+1.3
	comp=Z,30nm,1.1s						
LPL	**La Plagne**	70.11	25	*e*P	P	03 09 52.5	+1.3
LPL				pmax	pmax		
	comp=Z,30nm,1.1s						
LPL	**La Plagne**	70.11	25	*e*P	P	03 09 52.5	+1.3
	comp=Z,30nm,1.1s						
TRPA	**Tarpa**	70.11	13	⇑*i*P	P	03 09 50.3	-0.6
LPG	**La Plagne**	70.13	25	*e*P	P	03 09 52.8	+1.4
	comp=Z,57nm,1.2s						
LPG	**La Plagne**	70.13	25	*e*P	P	03 09 52.8	+1.4
LPG				pmax	pmax		
	comp=Z,57nm,1.2s						
LPG	**La Plagne**	70.13	25	*e*P	P	03 09 52.8	+1.4
	comp=Z,57nm,1.2s						
VIVF	**Saint-Julien-l**	70.30	27	*e*P	P	03 09 52.6	+0.4
	comp=Z,52nm,1.4s						
VIVF	**Saint-Julien-l**	70.30	27	*e*P	P	03 09 52.6	+0.4
VIVF				pmax	pmax		
	comp=Z,52nm,1.4s						
VIVF	**Saint-Julien-l**	70.30	27	*e*P	P	03 09 52.6	+0.4
	comp=Z,52nm,1.4s						
MYKA	**Terra Mystica**	70.33	20	⇑*i*P	P	03 09 52.7	+0.3
	comp=Z,11nm,1.1s						
MYKA	**Terra Mystica**	70.33	20	⇑*i*sP	P	03 09 52.7	+0.3
	comp=Z,11nm,1.1s						
PVRL	**Vila Real**	70.44	37	*e*P	P	03 09 54.3	+1.2
	comp=Z,27nm,1.1s						
ORIF	**Oris-en-Rattie**	70.50	26	*e*P	P	03 09 54.1	+0.6
	comp=Z,25nm,0.9s						
ORIF				*e*R			
	comp=Z,372nm,18.0s						
ORIF	**Oris-en-Rattie**	70.50	26	*e*P	P	03 09 54.1	+0.6
ORIF				pmax	pmax		
	comp=Z,25nm,0.9s						
ORIF	**Oris-en-Rattie**	70.50	26	*e*P	P	03 09 54.1	+0.6
	comp=Z,25nm,0.9s						
SOKA	**Soboth**	70.51	19	⇑*i*P	P	03 09 54.0	+0.5
	comp=Z,14nm,1.2s						
SOKA	**Soboth**	70.51	19	⇑*i*sP	P	03 09 54.0	+0.5
	comp=Z,14nm,1.2s						
SJPF	**Ste Jean**	70.53	32	*e*P	P	03 09 53.9	+0.3
SJPF	**Ste Jean**	70.53	32	*e*P	P	03 09 53.9	+0.3
SJPF	**Ste Jean**	70.53	32	*e*P	P	03 09 53.9	+0.3
BNI	**Bardonecchia**	70.54	25	*e*P	P	03 09 55.

BUR08	**Bucovina Ar. S**	**70.87**	**12**	*e*P		**P**	**03 09 56.5 +0.8**
BURAR	**Bucovina Array**	**70.90**	**12**	⇓*i*P		**P**	**03 09 56.2 +0.3**
ETSF	**Etsaut**	**70.90**	**31**	*e*P		**P**	**03 09 57.1 +1.2**
	comp=Z,31nm,0.9s						
ETSF	**Etsaut**	**70.90**	**31**	*e*P		**P**	**03 09 57.1 +1.2**
ETSF				pmax	pmax		
	comp=Z,31nm,0.9s						
ETSF	**Etsaut**	**70.90**	**31**	*e*P		**P**	**03 09 57.1 +1.2**
	comp=Z,31nm,0.9s						
PVIS	**Viseu**	**70.91**	**38**	*e*P		**P**	**03 09 57.1 +1.2**
	comp=Z,26nm,1.2s						
KOGS	**Kog**	**70.93**	**18**	*i* P		**P**	**03 09 56.1 +0.2**
EPF	**Esparros**	**71.01**	**31**	*e*P		**P**	**03 09 56.6 +0.1**
	comp=Z,18nm,1.1s						
EPF	**Esparros**	**71.01**	**31**	*e*P		**P**	**03 09 56.6 +0.1**
EPF				pmax	pmax		
	comp=Z,18nm,1.1s						
EPF	**Esparros**	**71.01**	**31**	*e*P		**P**	**03 09 56.6 +0.1**
	comp=Z,18nm,1.1s						
MTLF	**Montolieu**	**71.17**	**29**	*e*P		**P**	**03 09 57.9 +0.5**
	comp=Z,47nm,1.4s						
MTLF	**Montolieu**	**71.17**	**29**	*e*P		**P**	**03 09 57.9 +0.5**
MTLF				pmax	pmax		
	comp=Z,47nm,1.4s						
MTLF	**Montolieu**	**71.17**	**29**	*e*P		**P**	**03 09 57.9 +0.5**
	comp=Z,47nm,1.4s						
MTE	**Manteigas**	**71.30**	**38**	*e*P		**P**	**03 09 59.5 +1.1**
	comp=Z,39nm,1.8s						
MTE	**Manteigas**	**71.30**	**38**	*e*P		**P**	**03 09 59.3 +0.9**
SMRF	**Simiane la Rot**	**71.33**	**27**	*e*P		**P**	**03 09 59.7 +1.2**
	comp=Z,228nm,1.8s						
SMRF	**Simiane la Rot**	**71.33**	**27**	*e*P		**P**	**03 09 59.7 +1.2**
	comp=Z,228nm,1.8s						
DRGR		**71.45**	**14**	⇓P		**P**	**03 09 59.6 +0.4**
DRGR		**71.45**	**14**	⇓*i*P		**P**	**03 09 59.6 +0.4**
WHN	**Wuhan**	**71.50**	**300**	⇑P		**P**	03 10 08.3 +8.7
WHN				S		**S**	**03 19 18.8 +0.7**
WHN				LR	LR		
	comp=Z,610nm,13.1s						
PKSM	**Moragy**	**71.51**	**17**	⇓P		**P**	**03 09 59.9 +0.5**
PKSM	**Moragy**	**71.51**	**17**	⇓*i*P		**P**	**03 09 59.9 +0.5**
GUMO	**Guam**	**71.78**	**265**	LR	LR		03 42 21.5
	comp=Z,124nm,19.1s,baz=97,slow=37						
PCBR	**Castelo Branco**	**71.84**	**38**	*e*P		**P**	**03 10 02.3 +0.8**
	comp=Z,29nm,1.6s						
SBF	**Sospel**	**71.84**	**25**	*e*P		**P**	**03 10 02.1 +0.6**
	comp=Z,108nm,1.2s						
SBF	**Sospel**	**71.84**	**25**	*e*P		**P**	**03 10 02.1 +0.6**
SBF				pmax	pmax		
	comp=Z,108nm,1.2s						
SBF	**Sospel**	**71.84**	**25**	*e*P		**P**	**03 10 02.1 +0.6**
	comp=Z,108nm,1.2s						
FRF	**La Foret Royal**	**71.96**	**26**	*e*P		**P**	**03 10 02.9 +0.7**
	comp=Z,90nm,1.4s						
FRF	**La Foret Royal**	**71.96**	**26**	*e*P		**P**	**03 10 02.9 +0.7**
FRF				pmax	pmax		
	comp=Z,91nm,1.4s						
FRF	**La Foret Royal**	**71.96**	**26**	*e*P		**P**	**03 10 02.9 +0.7**
	comp=Z,90nm,1.4s						
LMR	**La Mourre**	**72.15**	**26**	*e*P		**P**	**03 10 04.1 +0.8**
	comp=Z,81nm,1.3s						
LMR	**La Mourre**	**72.15**	**26**	*e*P		**P**	**03 10 04.1 +0.8**
LMR				pmax	pmax		
	comp=Z,81nm,1.3s						
LMR	**La Mourre**	**72.15**	**26**	*e*P		**P**	**03 10 04.1 +0.8**
	comp=Z,81nm,1.3s						
PMTG	**Montargil**	**72.32**	**39**	*e*P		**P**	**03 10 05.1 +0.7**
	comp=Z,21nm,1.2s						
BZS	**Buzias**	**72.48**	**15**	⇓P		**P**	**03 10 05.6 +0.3**
BZS	**Buzias**	**72.48**	**15**	⇓*i*P		**P**	**03 10 05.6 +0.3**
GHRR		**72.65**	**10**	⇑*i*P		**P**	**03 10 06.6 +0.4**
PESTR	**Estremoz**	**72.70**	**38**	*e*P		**P**	**03 10 07.3 +0.6**
	comp=Z,18nm,1.6s						
TKM2	**Tokmak 2**	**72.77**	**335**	*e*P		**P**	**03 10 07.1 -0.2**
TKM2				pmax	pmax		
	comp=Z,14nm,1.3s						
TKM2	**Tokmak 2**	**72.77**	**335**	*e*P		**P**	**03 10 07.1 -0.2**
	comp=Z,14nm,1.3s						
VRI	**Vrincioaia**	**72.78**	**11**	⇓P		**P**	**03 10 07.2 +0.1**
VRI	**Vrincioaia**	**72.78**	**11**	⇓*i*P		**P**	**03 10 07.2 +0.1**
PLOR	**Plostina**	**72.79**	**11**	⇓P		**P**	**03 10 08.1 +1.0**
PLOR	**Plostina**	**72.79**	**11**	⇓*i*P		**P**	**03 10 08.1 +1.0**
EVOP	**Sao Brissos**	**72.85**	**39**	⇑*i*P		**P**	**03 10 07.7 +0.2**
EVOP				pmax	pmax		
	comp=Z,43nm,0.9s						
EVOP	**Sao Brissos**	**72.85**	**39**	⇑*i*P		**P**	**03 10 07.7 +0.2**
	comp=Z,43nm,0.9s						
EVO	**Evora**	**72.88**	**39**	⇑*i*P		**P**	**03 10 07.7 0.0**
	comp=Z,43nm,0.9s						
EVO				*e*R			
	comp=Z,755nm,19.0s						
EVO	**Evora**	**72.88**	**39**	*e*P		**P**	**03 10 08.4 +0.7**
	comp=Z,25nm,1.7s						
ESDC	**Sonseca Array**	**73.01**	**35**	P		**P**	**03 10 09.3 +0.8**
	comp=Z,13nm,0.9s,baz=334,slow=5.7,SNR=57						
ESDC				LR	LR		03 42 45.4
	comp=Z,281nm,18.3s,baz=330,slow=36						
ESDC	**Sonseca Array**	**73.01**	**35**	P		**P**	**03 10 09.3 +0.8**
ESLA	**Sonseca Array**	**73.01**	**35**	*e*P		**P**	**03 10 09.5 +0.9**
	comp=Z,8.1nm,1.1s						
PAB	**San Pablo**	**73.02**	**36**	*e*P		**P**	**03 10 09.7 +1.0**
PAB				pmax	pmax		
	comp=Z,17nm,1.3s						
PAB	**San Pablo**	**73.02**	**36**	*e*P		**P**	**03 10 09.7 +1.0**
	comp=Z,17nm,1.3s						
VOIR		**73.04**	**12**	⇑P		**P**	**03 10 08.9 +0.2**
VOIR		**73.04**	**12**	⇑*i*P		**P**	**03 10 08.9 +0.2**
ARR	**Arges**	**73.07**	**12**	⇓*i*P		**P**	**03 10 09.7 +0.8**
MLR	**Muntele Rosu**	**73.08**	**11**	⇑*i*P		**P**	**03 10 10.1 +1.1**
PNCL	**Nicolau / Gran**	**73.11**	**39**	*e*P		**P**	**03 10 10.3 +1.2**
	comp=Z,46nm,1.7s						
AAK	**Ala-Archa**	**73.27**	**335**	*e*P		**P**	**03 10 10.1 -0.2**
AAK	**Ala-Archa**	**73.27**	**335**	*e*P		**P**	**03 10 10.1 -0.2**
EKS2	**Erkin-Say**	**73.39**	**336**	*e*P		**P**	**03 10 10.6 -0.3**
EKS2				pmax	pmax		
	comp=Z,22nm,1.1s						
EKS2	**Erkin-Say**	**73.39**	**336**	*e*P		**P**	**03 10 10.6 -0.3**
	comp=Z,22nm,1.1s						
PBEJ	**Beja**	**73.39**	**39**	*e*P		**P**	**03 10 11.3 +0.5**
	comp=Z,20nm,1.6s						
KK31	**Karatay Array**	**73.58**	**338**	*ce*P		**P**	**03 10 11.5 -0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**73.58**	**338**	*e*P		**P**	**03 10 11.4 -0.5**
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KKAR	**Karatay Array**	**73.58**	**338**	*e*P		**P**	**03 10 11.4 -0.5**
	comp=Z,10nm,1.1s						
CFR	**Carcaliu**	**73.59**	**10**	⇓P		**P**	**03 10 11.7 -0.1**
CFR	**Carcaliu**	**73.59**	**10**	⇓*i*P		**P**	**03 10 11.7 -0.1**
TLCR		**73.63**	**9**	⇓P		**P**	**03 10 11.9 -0.2**
TLCR		**73.63**	**9**	⇓*i*P		**P**	**03 10 11.9 -0.2**
ENH	**Enshi**	**73.76**	**303**	*e*P		**P**	**03 10 12.7 -0.4**
	comp=Z,5.3nm,0.5s						
MORF	**Marmelete**	**73.81**	**40**	*e*P		**P**	**03 10 14.3 +1.0**
	comp=Z,51nm,1.7s						
PVAQ	**Vaqueiros**	**74.01**	**39**	*e*P		**P**	**03 10 15.8 +1.4**
	comp=Z,32nm,1.2s						
PBDV	**Barranco-do-Ve**	**74.09**	**39**	*e*P		**P**	**03 10 16.0 +1.1**
	comp=Z,59nm,1.4s						
ANN	**Anapa**	**74.47**	**3**	*e*P		P	03 10 08.0 -9.0
ANN				pmax	pmax		
	comp=Z,62nm,1.4s						
KIV	**Kislovodsk**	**75.37**	**359**	*e*P		**P**	**03 10 21.5 -0.8**
KIV				*e*			03 10 34.9
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s						
KIV	**Kislovodsk**	**75.37**	**359**	*e*P		**P**	**03 10 22.1 -0.2**
	comp=Z,11nm,0.9s						
CD2	**Chengdu**	**75.45**	**308**	P		**P**	**03 10 23.3 +0.3**
CD2				pP		**pP**	**03 10 28.0 +1.9**
CD2				sP		sP	03 10 30.3 +3.0
CD2				PP		**PP**	**03 13 13.5 +2.1**
CD2				S		**S**	**03 20 00.5 -2.5**
CD2				sS		**sS**	**03 20 08.0 -0.2**
CD2				SS		**SS**	**03 24 52.0 -0.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.3s						
CD2				LR	LR		
	comp=N,580nm,16.1s						
CD2				LR	LR		
	comp=Z,410nm,12.3s						

KBZ	**Khabaz**	**75.59**	**359**	P		**P**	**03 10 23.8 +0.4**
	comp=Z,4.7nm,0.9s,baz=341,slow=3.9,SNR=7.4						
KBZ				LR	LR		03 52 31.9
	comp=Z,133nm,18.1s,baz=271,slow=43						
KBZ	**Khabaz**	**75.59**	**359**	P		**P**	**03 10 23.8 +0.4**
KBZ	**Khabaz**	**75.59**	**359**	P		**P**	**03 10 23.8 +0.4**
VTS	**Vitosha**	**75.65**	**14**	⇓P		**P**	**03 10 23.7 -0.3**
VTS	**Vitosha**	**75.65**	**14**	⇓*i*P		**P**	**03 10 23.7 -0.3**
OTAV	**Otavalo**	**75.68**	**117**	*e*P		P	03 10 19.7 -5.2
	comp=Z,6.8nm,0.9s						
KSH	**Kashi**	**75.95**	**333**	P		**P**	**03 10 28.5 +2.7**
KSH				*e*PP	PP		03 13 22.5 +7.1
KSH				S		**S**	**03 20 11.0 +2.6**
KSH				SKS		**SKSac**	**03 20 35.3 -1.0**
KSH				ScS		**ScS**	**03 20 42.0 +1.9**
KSH				SS		SS	03 25 08.3 +8.8
KSH				LR	LR		
	comp=N,140nm,5.0s						
KSH				LR	LR		
	comp=E,110nm,7.6s						
KSH				LR	LR		
	comp=Z,330nm,13.1s						
MAK	**Makhachkala**	**76.25**	**356**	*e*P		P	03 10 36.2 +9.0
MAK				*e*			03 13 20.9
MAK				pmax	pmax		
	comp=Z,97nm,1.0s						
ZEI	**Tsey**	**76.54**	**358**	*e*P		**P**	**03 10 28.3 -0.9**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TIP	**Timpagrande**	**78.10**	**19**	*e*P		**P**	**03 10 38.7 +0.9**
	comp=Z,22nm,1.2s						
GYA	**Guiyang**	**78.28**	**304**	P		**P**	**03 10 38.8 -0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,60nm,5.0s						
PPT	**Papeete**	**78.84**	**191**	LR	LR		03 38 49.4
	comp=Z,356nm,19.2s,baz=13,slow=31						
PPT2	**Papeete2**	**78.86**	**191**	*e*LR	LR		03 35 09.1
	comp=Z,337nm,22.5s,baz=5.9						
GNI	**Garni**	**79.14**	**358**	*e*P		**P**	**03 10 42.2 -1.5**
	comp=Z,11nm,1.1s						
AFI	**Afiamalu**	**79.27**	**213**	LR	LR		03 38 49.5
	comp=Z,228nm,20.4s,baz=27,slow=30						
BR131	**Keskin Array S**	**79.39**	**6**	*e*P		**P**	**03 10 44.7 -0.3**
	comp=Z,2.1nm,0.8s						
BRTR	**Keskin Array B**	**79.39**	**6**	P		**P**	**03 10 45.2 +0.3**
	comp=Z,4.1nm,1.1s,baz=29,slow=2.8,SNR=11						
BRTR				LR	LR		03 48 30.6
	comp=Z,71nm,19.8s,baz=154,slow=38						
BRTR	**Keskin Array B**	**79.39**	**6**	P		**P**	**03 10 45.2 +0.3**
KEST	**Kesra**	**80.05**	**26**	P		**P**	**03 10 49.4 +0.9**
	comp=Z,3.4nm,1.0s,baz=43,slow=20,SNR=6.0						
KEST				LR	LR		03 46 38.6
	comp=Z,106nm,18.7s,baz=262,slow=36						
KEST	**Kesra**	**80.05**	**26**	*e*P		**P**	**03 10 49.5 +0.9**
MALT	**Malatya**	**80.97**	**3**	*e*P		**P**	**03 10 51.4 -2.1**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MALT	**Malatya**	**80.97**	**3**	*e*P		**P**	**03 10 51.4 -2.1**
	comp=Z,7.0nm,1.1s						
MALT	**Malatya**	**80.97**	**3**	⇓*i*P		**P**	**03 10 54.7 +1.2**
KMI	**Kunming**	**81.03**	**306**	P		**P**	**03 10 55.8 +1.7**
KMI				S		**S**	**03 21 03.5 +0.1**
KMI				SS		**SS**	**03 26 16.0 -0.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,4.6s						
KMI				LR	LR		
	comp=N,330nm,13.5s						
KMI				LR	LR		
	comp=E,550nm,15.3s						
KMI				LR	LR		
	comp=Z,170nm,13.1s						
KBL	**Kabul**	**82.16**	**337**	*e*P		**P**	**03 10 59.0 -1.0**
KBL				pmax	pmax		
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**82.16**	**337**	*e*P		**P**	**03 10 59.0 -1.0**
	comp=Z,12nm,1.1s						
ATAH	**Atahualpa**	**82.32**	**120**	P		**P**	**03 11 02.2 +1.1**
	comp=Z,8.7nm,0.8s,baz=34,slow=4.3,SNR=8.1						
ATAH	**Atahualpa**	**82.32**	**120**	P		**P**	**03 11 02.2 +1.1**
GVD	**Gavdhos**	**83.41**	**14**	*e*P		**P**	**03 11 06.9 +0.8**
	comp=Z,334nm,0.7s						
QIZ	**Qiongzhong**	**83.54**	**298**	P		**P**	**03 11 08.0 +1.0**
QIZ				S		**S**	**03 21 30.0 +1.2**
QIZ				pmax	pmax		
	comp=Z,140nm,4.0s						
QIZ				LR	LR		
	comp=Z,260nm,15.7s						
RKT	**Rikitea**	**83.89**	**177**	*e*LR	LR		03 37 28.2
	comp=Z,449nm,27.2s						
TAPN	**Taplejung**	**84.31**	**320**	*e*P		**P**	**03 11 11.2 -0.1**
	comp=Z,80nm,1.2s						
GUN	**Gumba**	**84.36**	**322**	*e*P		**P**	**03 11 11.3 -0.3**
	comp=Z,62nm,1.2s						
TBI	**Tubuai**	**84.55**	**190**	*e*LR	LR		03 37 45.7
	comp=Z,275nm,24.0s,baz=1.5						
DANN	**Dangsing**	**84.57**	**324**	*e*P		**P**	**03 11 12.5 -0.1**
	comp=Z,63nm,1.0s						
KKN	**Kakani**	**84.65**	**322**	*e*P		**P**	**03 11 12.5 -0.4**
PKI	**Putchoki**	**84.82**	**322**	*e*P		**P**	**03 11 13.4 -0.5**
	comp=Z,33nm,0.9s						
DMN	**Daman**	**84.87**	**322**	*e*P		**P**	**03 11 13.9 -0.2**
ODAN	**Odare**	**84.87**	**320**	*e*P		**P**	**03 11 13.9 -0.1**
PYUN	**Piuthan**	**85.03**	**324**	*e*P		**P**	**03 11 14.2 -0.6**
	comp=Z,100nm,1.0s						
RAMN	**Ramite**	**85.03**	**321**	*e*P		**P**	**03 11 14.3 -0.6**
	comp=Z,50nm,1.0s						
HNR	**Honiara**	**85.07**	**241**	LR	LR		03 47 40.5
	comp=Z,165nm,18.6s,baz=352,slow=35						
KOLN	**Koldanda**	**85.16**	**323**	*e*P		**P**	**03 11 14.8 -0.7**
	comp=Z,32nm,0.9s						
NNA	**Nana**	**87.33**	**121**	*e*P		**P**	**03 11 25.6 -0.4**
CHTO	**Chiang Mai**	**88.21**	**307**	*e*P		**P**	**03 11 29.5 -0.7**
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**88.21**	**307**	*e*P		**P**	**03 11 29.5 -0.7**
	comp=Z,15nm,0.9s						
CM31	**Chiang Mai Arr**	**88.53**	**307**	*e*P		**P**	**03 11 32.0 +0.3**
	comp=Z,31nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.53**	**307**	P		**P**	**03 11 31.4 -0.3**
	comp=Z,36nm,0.8s,baz=0.7,slow=5.6,SNR=145						
CMAR				LR	LR		03 54 41.9
	comp=Z,189nm,18.0s,baz=202,slow=38						
CMAR	**Chiang Mai Arr**	**88.53**	**307**	P		**P**	**03 11 31.4 -0.3**
SAML	**Samuel**	**90.71**	**107**	*e*P		**P**	**03 11 40.9 -0.9**
	comp=Z,28nm,1.3s						
TAM	**Tamanrasset**	**91.53**	**33**	*e*P		**P**	**03 11 46.0 +0.1**
TAM	**Tamanrasset**	**91.53**	**33**	*e*P		**P**	**03 11 46.0 +0.1**
KKM	**Kota Kinabalu**	**92.12**	**286**	*e*P		**P**	**03 11 48.8 +0.3**
	comp=Z,25nm,0.9s						
DZM	**Mont Dzumac**	**93.91**	**230**	LR	LR		03 54 43.1
	comp=Z,187nm,18.2s,baz=27,slow=36						
DZM	**Mont Dzumac**	**93.91**	**230**	*e*LR	LR		03 42 09.7
	comp=Z,167nm,21.5s						
LPAZ	**La Paz**	**94.92**	**115**	LR	LR		03 57 03.2
	comp=Z,132nm,21.8s,baz=339,slow=37						
TORD	**Torodi Ar. Bea**	**99.58**	**39**	P		**Pdif**	**03 12 23.8 +1.3**
	comp=Z,0.9nm,1.2s,baz=343,slow=4.5,SNR=2.6						
TORD				LR	LR		03 56 02.0
	comp=Z,268nm,18.0s,baz=330,slow=35						
TORD	**Torodi Ar. Bea**	**99.58**	**39**	P		**Pdif**	**03 12 23.8 +1.3**
ASAR	**Alice Springs**	**109.30**	**256**	PKiKP		**PKiKP**	**03 17 07.5 -1.4**
	comp=Z,0.3nm,0.3s,baz=98,slow=2.3,SNR=4.4						
ASAR	**Alice Springs**	**109.30**	**256**	PKiKP		**PKiKP**	**03 17 07.5 -1.4**
VNDA	**Vanda**	**143.05**	**198**	PKP		PKPbc	03 18 08.3 +0.4
	comp=Z,1.3nm,0.9s,baz=73,slow=1.5,SNR=4.4						
VNDA	**Vanda**	**143.05**	**198**	PKP		PKPbc	03 18 08.3 +0.4
BOSA	**Boshof**	**145.79**	**26**	PKPbc		**PKPdf**	**03 18 16.9 -0.5**
	comp=Z,6.8nm,0.9s,baz=9.3,slow=2.9,SNR=12						
BOSA	**Boshof**	**145.79**	**26**	*e*PKPbc		**PKPdf**	**03 18 17.4 +0.1**

*IDC **27** 03:08:25.0±0.9, 5°.49N×77°.47W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, ML2.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=38.7km s-min=17.1km az=44.0*

FUNV 27 03:08:28.8, 7°.49N×73°.25W, h146km, MW2.9, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.00**	**68**	⇑*i*P	Pn	03 08 52.7	-0.7
CAPV				*e*S	Sn	03 09 10.6	-1.6
SOCV	**Socops**	**2.50**	**71**	*e*P	Pn	03 09 08.7	-1.1
SOCV				*e*S	Sn	03 09 38.4	-2.9
ROSC	**El Rosal**	**2.83**	**202**	Pn	Pn	03 09 16.1	+1.8
	3.2nm,0.3s,baz=94,slow=19,SNR=4.1						
ROSC				Sn	Sn	03 09 50.8	+1.3
	6.2nm,0.3s,baz=75,slow=23,SNR=7.0						
VIRV	**Villa del Rosa**	**3.11**	**15**	*e*P	Pn	03 09 16.2	-1.3
VIRV				*e*S	Sn	03 09 50.9	-4.2
ELOV	**Elorza**	**3.77**	**97**	⇑*e*P	Pn	03 09 24.4	-1.6
CURV	**Curarigua**	**4.11**	**52**	*e*P	Pn	03 09 29.1	-1.3
SANV	**Sanarito**	**4.18**	**61**	⇑*e*P	Pn	03 09 30.0	-1.5
DABV	**Dabajuro**	**4.28**	**37**	*e*P	Pn	03 09 31.6	-1.1
SIQV	**Siquisique**	**4.63**	**47**	*e*P	Pn	03 09 35.4	-2.0
TEPV	**Terepaima**	**4.71**	**58**	*e*P	Pn	03 09 36.2	-2.1
MAPV	**Macapo**	**5.28**	**63**	*e*P	Pn	03 09 44.3	-1.6
BAUV	**El Baul**	**5.35**	**74**	⇓*e*P	Pn	03 09 44.1	-2.8
MONV	**Montecano**	**5.49**	**36**	*e*P	Pn	03 09 47.2	-1.6
TURV	**Turiamo**	**6.10**	**61**	*e*P	Pn	03 09 55.3	-1.5
JTS	**JuntasAbangare**	**11.89**	**284**	LR	LR	03 13 43.9	
	comp=Z,150nm,18.1s,baz=300,slow=36						
SIV	**San Ignacio**	**26.26**	**153**	P	P	03 14 06.2	+15
	0.7nm,0.7s,baz=311,slow=11,SNR=4.1						
BDFB	**Brasilia**	**33.96**	**133**	P	pP	03 15 29.6	-0.4
	1.9nm,0.7s,baz=358,slow=8.3,SNR=3.0						
TXAR	**Lajitas Array**	**35.93**	**311**	P	P	03 15 14.4	-1.0
	0.4nm,0.8s,baz=141,slow=8.1,SNR=4.3						
PDAR	**Pinedale Array**	**47.47**	**324**	P	P	03 16 56.4	+7.1
	0.8nm,0.9s,baz=98,slow=9.1,SNR=3.8						
SCHQ	**Schefferville**	**47.49**	**5**	P	pP	03 17 19.9	-2.0
	18nm,1.3s,baz=219,slow=8.0,SNR=3.8						
NVAR	**Mina Array Bea**	**50.93**	**314**	P	P	03 17 17.6	+2.0
	0.5nm,0.6s,baz=126,slow=4.9,SNR=4.6						
YKA	**Yellowknife Ar**	**62.60**	**340**	P	P	03 18 53.7	+17
	0.8nm,0.8s,baz=131,slow=7.1,SNR=13						
TORD	**Torodi Ar. Bea**	**73.73**	**79**	P	pP	03 20 27.3	+4.1
	0.5nm,0.7s,baz=284,slow=6.8,SNR=8.5						
ASAR	**Alice Springs**	**149.39**	**235**	PKP	PKPbc	03 28 02.7	+1.2
	2.0nm,0.9s,baz=128,slow=4.6,SNR=14						
WRA	**Warramunga Arr**	**150.54**	**242**	PKPbc	PKPbc	03 28 06.2	+1.9
	1.3nm,0.8s,baz=103,slow=3.1,SNR=9.1						

IDC 27 03:34:44.2±3.5, 3°.96S×138°.70E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=113.4km s-min=30.0km az=91.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.44**	**195**	Pn	Pn	03 38 37.8	+1.2
	0.7nm,0.3s,baz=18,slow=12,SNR=5.9						
WRA				Sn	Sn	03 41 31.7	-8.2
	0.3nm,0.3s,baz=14,slow=23,SNR=3.5						
FITZ	**Fitzroy Crossi**	**19.00**	**221**	P	P	03 39 06.7	-0.9
	0.1nm,0.3s,baz=31,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**20.13**	**193**	P	P	03 39 20.2	+0.1
	3.0nm,0.4s,baz=19,slow=11,SNR=53						
ASAR				S	S	03 42 51.1	-16
	1.0nm,0.7s,baz=15,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**70.77**	**323**	P	P	03 46 02.6	+0.1
	0.6nm,0.8s,baz=127,slow=8.8,SNR=5.2						

*IDC **27** 03:39:10.2±0.9, 3°.59N×128°.72E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/24, mbtmp3.9/10, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/41, Error ellipse: s-maj=37.6km s-min=15.1km az=77.0*

*NEIC **27** 03:39:13.6±3.7, 3°.58N×128°.70E, h24km±27km, mb4.6/10, Error ellipse: s-maj=12.8km s-min=6.5km az=60.0*

*ISCJB **27** 03:39:14.3±0.5, 3°.56N±0°.06×128°.59E±0°.09, h45km, mb4.2/19, MS3.5/1, Error ellipse: s-maj=13.9km s-min=8.3km az=160.1*

ISC 27 03:39:16.1±0.7, 3°.53N±0°.09×128°.6E±0°.1, h45km, n36, σ0s83/34, mb4.2/19, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**10.22**	**280**	P	Pn	03 41 53.1	+13
KAPI	**Kappang**	**12.27**	**226**	Pn	**Pn**	**03 42 08.8**	**+0.4**
	1.3nm,0.3s,baz=204,slow=9.6,SNR=4.5						
KAPI	**Kappang**	**12.27**	**226**	Pn	**Pn**	**03 42 08.8**	**+0.4**
KKM	**Kota Kinabalu**	**12.61**	**282**	*e*Pn	**Pn**	**03 42 12.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.70**	**188**	P	P	**03 44 01.9**	**-1.5**
	2.0nm,0.8s,baz=356,slow=7.7,SNR=3.2						
FITZ	**Fitzroy Crossi**	**21.70**	**188**	P	P	**03 44 01.9**	**-1.5**
PMG	**Port Moresby**	**22.51**	**125**	*e*P	P	**03 44 11.3**	**-0.8**
	40nm,1.3s						
WRAB	**Tennant Creek**	**23.99**	**167**	*e*P	P	**03 44 27.1**	**+0.4**
	27nm,1.3s						
WRA	**Warramunga Arr**	**23.99**	**167**	P	P	**03 44 27.4**	**

Ms1 3.5/3,ms1mx3.0/36,Error ellipse: s-maj=32.7km s-min=9.6km az=71.0
*ISCJB **27** 04:38:05.3±0.3,3°50'N±0".03×126°66'E±0".05,h53km, mb4.4/35,MS3.3/2,Error ellipse: s-maj=7.5km s-min=4.2km az=176.8*
*NEIC **27** 04:38:05.3±0.2,3°39'N×126°50'E,h35km,mb4.6/20,Error ellipse: s-maj=13.8km s-min=5.2km az=71.0*
*DJA **27** 04:38:10.3±1.1,3°N±8°×12°6E±°,h10km,M4.6/7,mb4.8/5, mB5.2/3,MLv4.5/7,Mw(mB)4.6/3*

ISC 27 04:38:07.4±0.4,3°45N±0°05×126°51E±0°10,h53km,n90, σ1°93°/82,mb4.5/32,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.60**	**220**	P	Pn	04 38 48.1	+1.0
MNI				S	Sn	04 39 20.2	+2.6
TNTI	**Ternate**	**2.80**	**162**	P	**Pn**	**04 38 49.2**	**-0.6**
TNTI				S	**Sn**	**04 39 24.2**	**+1.9**
DAV	**Davao City (W)**	**3.71**	**346**	Pn	**Pn**	**04 39 02.7**	**+0.4**
	96nm,0.3s,baz=214,slow=2.2,SNR=2.5						
DAV				Sn	Sn	04 39 54.2	+9.4
	102nm,0.3s,baz=280,slow=15,SNR=3.2						
DAV				LR	LR	04 40 45.0	
	comp=Z,565nm,18.9s,baz=127,slow=45						
DAV	**Davao City (W)**	**3.71**	**346**	Pn	**Pn**	**04 39 02.8**	**+0.4**
DAV				Sn	Sn	04 39 54.2	+9.4
KMSI	**Cibinong**	**3.82**	**222**	P	Pn	04 39 08.0	+4.2
LBMI	**Labuha**	**4.18**	**166**	P	**Pn**	**04 39 08.1**	**-0.7**
CTBH	**Cotabato--PC H**	**4.37**	**329**	*i* P	Pn	04 39 13.2	+1.9
MRSI	**Marisa**	**5.44**	**237**	P	Pn	04 39 27.4	+1.4
	128nm,0.6s,2μm0.5nm						
MRSI				S	**Sn**	**04 40 28.4**	**+1.0**
	128nm,0.6s,2μm0.5nm						
LUWI	**Luwuk**	**5.82**	**220**	P	Pn	04 39 34.2	+2.9
	180nm,1.1s,2μm0.8nm						
KDI	**Kendari**	**8.33**	**208**	P	Pn	04 40 07.5	+1.9
	33nm,1.0s,0.1nm						
TTSI	**Tana Toraja**	**9.30**	**226**	P	Pn	04 40 24.4	+5.5
	43nm,1.1s,2μm						
SPSI	**Sidrap Palu**	**9.98**	**223**	P	Pn	04 40 32.2	+3.9
KAPI	**Kappang**	**10.79**	**219**	Pn	Pn	04 40 41.5	+2.2
	baz=50,slow=16,SNR=2.3						
KAPI	**Kappang**	**10.79**	**219**	Pn	Pn	04 40 41.5	+2.2
GUMO	**Guam**	**20.74**	**60**	LR	LR	04 50 59.0	
	comp=Z,76nm,18.0s,baz=188,slow=38						
SSLB	**Suanglung**	**20.92**	**346**	*e*P	**P**	**04 42 44.8**	**-1.0**
	13nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.44**	**182**	P	**P**	**04 42 50.1**	**-1.2**
	4.2nm,0.5s,baz=25,slow=10.0,SNR=8.1						
FITZ	**Fitzroy Crossi**	**21.44**	**182**	*e*P	**P**	**04 42 49.8**	**-1.5**
	20nm,1.3s						
WRAB	**Tennant Creek**	**24.48**	**162**	*e*P	**P**	**04 43 20.0**	**-1.8**
	29nm,1.1s						
WRA	**Warramunga Arr**	**24.49**	**162**	P	**P**	**04 43 20.1**	**-1.7**
	8.0nm,0.6s,baz=342,slow=9.8,SNR=21						
WRA				PcP	**PcP**	**04 46 59.9**	**+0.4**
	0.6nm,0.5s,baz=332,slow=2.2,SNR=4.8						
WRA				S	**S**	**04 47 41.5**	**+2.8**
	0.2nm,0.3s,baz=326,slow=17,SNR=4.5						
WRA	**Warramunga Arr**	**24.49**	**162**	P	**P**	**04 43 20.1**	**-1.7**
WRA				PcP	**PcP**	**04 46 59.9**	**+0.4**
WRA				S	**S**	**04 47 41.5**	**+2.8**
MBWA	**Marble Bar**	**25.35**	**195**	*e*P	**P**	**04 43 29.9**	**+0.2**
	9.8nm,0.8s						
CBIJ	**Chichi jima**	**27.88**	**31**	LR	LR	04 53 21.0	
	comp=Z,130nm,21.4s,baz=21,slow=33						
AS31	**Alice Springs**	**27.90**	**165**	*e*P	**P**	**04 43 51.5**	**-1.2**
ASAR	**Alice Springs**	**27.90**	**165**	P	**P**	**04 43 51.4**	**-1.3**
	1.4nm,0.7s,baz=352,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**04 47 08.5**	**+1.1**
	0.7nm,0.5s,baz=324,slow=1.8,SNR=4.3						
ASAR				S	S	04 48 43.2	+10
	0.1nm,0.2s,baz=206,slow=33,SNR=3.7						
ASAR	**Alice Springs**	**27.90**	**165**	P	**P**	**04 43 51.4**	**-1.3**
ASAR				PcP	**PcP**	**04 47 08.5**	**+1.1**
ASAR				S	S	04 48 43.2	+10
CMAR	**Chiang Mai Arr**	**30.82**	**301**	P	P	04 44 20.1	+1.5
	5.1nm,1.0s,baz=119,slow=7.7,SNR=12						
CMAR	**Chiang Mai Arr**	**30.82**	**301**	P	P	04 44 20.1	+1.5
CHTO	**Chiang Mai**	**30.98**	**302**	*e*P	**P**	**04 44 20.7**	**+0.7**
	4.7nm,0.9s						
KSAR	**Wonju Array Be**	**33.85**	**2**	P	**P**	**04 44 44.6**	**-0.2**
KSRS	**Korea Array**	**33.86**	**2**	P	**P**	**04 44 44.6**	**-0.3**
	2.1nm,0.7s,baz=182,slow=9.8,SNR=7.7						
FORT	**Forrest**	**34.07**	**178**	*e*P	**P**	**04 44 45.6**	**-1.3**
	12nm,0.8s						
BBOO	**Buckleboo**	**37.18**	**167**	*e*P	**P**	**04 45 12.8**	**-0.8**
EIDS	**Eidsvold**	**37.27**	**142**	*e*P	**P**	**04 45 13.1**	**-1.3**
	5.5nm,0.7s						
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**04 45 18.9**	**-1.1**
	2.4nm,0.4s,baz=0.2,slow=8.5,SNR=11						
STKA				PcP	**PcP**	**04 47 36.3**	**+1.2**
	1.4nm,0.6s,baz=330,slow=4.2,SNR=3.3						
STKA	**Stephens Creek**	**37.95**	**159**	P	**P**	**04 45 18.9**	**-1.1**
STKA				PcP	**PcP**	**04 47 36.3**	**+1.2**
ARMA	**Armidale**	**41.36**	**146**	*e*P	**P**	**04 45 48.3**	**-0.2**
	5.5nm,0.7s						
TAPN	**Taplejung**	**44.01**	**307**	*e*P	**P**	**04 46 10.4**	**0.0**
	5.7nm,0.6s						
ODAN	**Odare**	**44.05**	**306**	*e*P	**P**	**04 46 10.7**	**0.0**
RAMN	**Ramite**	**44.73**	**306**	*e*P	**P**	**04 46 15.5**	**-0.6**
GUN	**Gumba**	**45.71**	**306**	*e*P	**P**	**04 46 23.9**	**-0.1**
	12nm,0.4s						
DMN	**Daman**	**46.21**	**306**	*e*P	**P**	**04 46 27.4**	**-0.4**
ULN	**Ulaanbaatar**	**47.31**	**342**	*e*P	**P**	**04 46 35.1**	**-0.9**
	1.8nm,0.6s						
SONM	**Songino Array**	**47.49**	**342**	P	**P**	**04 46 36.8**	**-0.5**
	1.2nm,0.6s						
SONM	**Songino Array**	**47.49**	**342**	P	**P**	**04 46 36.8**	**-0.5**
KOLN	**Koldanda**	**47.50**	**305**	*e*P	**P**	**04 46 37.5**	**-0.4**
	15nm,0.5s						
DANN	**Dangsing**	**47.60**	**306**	*e*P	**P**	**04 46 38.3**	**-0.4**
	20nm,0.5s						
PYUN	**Piuthan**	**48.13**	**305**	*e*P	**P**	**04 46 42.9**	**+0.2**
	28nm,0.9s						
MK31	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**04 47 51.8**	**-0.6**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**04 47 52.4**	**0.0**
	3.0nm,0.6s,baz=120,slow=8.0,SNR=37						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**04 47 52.4**	**0.0**
TKM2	**Tokmak 2**	**59.81**	**319**	*e*P	**P**	**04 48 07.6**	**0.0**
	7.3nm,1.3s						
AAK	**Ala-Archa**	**60.41**	**318**	*e*P	**P**	**04 48 12.4**	**+0.7**
	56nm,1.6s						
ZAA0	**Zalesovo Array**	**60.73**	**333**	*e*P	**P**	**04 48 12.4**	**-1.1**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**04 48 12.7**	**-0.8**
	1.3nm,0.5s,baz=145,slow=3.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**04 48 12.7**	**-0.8**
KURK	**Kurchatov**	**61.86**	**328**	*e*P	**P**	**04 48 20.6**	**-0.6**
	9.4nm,0.7s						
KKAR	**Karatay Array**	**63.28**	**317**	*e*P	**P**	**04 48 31.2**	**+0.3**
	3.9nm,1.0s						
BVAR	**Borovoye Array**	**67.43**	**327**	P	**P**	**04 48 57.5**	**0.0**
	6.2nm,0.8s,baz=123,slow=7.3,SNR=26						
BVAR	**Borovoye Array**	**67.43**	**327**	P	**P**	**04 48 57.5**	**0.0**
BRVK	**Borovoye**	**67.50**	**327**	*e*P	**P**	**04 48 57.5**	**-0.4**
	11nm,0.9s						
ABKAR	**Akbulak array**	**72.23**	**321**	*e*P	**P**	**04 49 25.9**	**-1.1**
	2.5nm,0.7s						
AKTO	**Aktyubinsk**	**73.74**	**322**	P	**P**	**04 49 36.0**	**0.0**
	3.2nm,0.6s,baz=116,slow=4.1,SNR=13						
AKTO	**Aktyubinsk**	**73.74**	**322**	P	**P**	**04 49 36.0**	**0.0**
KDAK	**Kodiak Island**	**82.24**	**32**	P	**P**	**04 50 23.6**	**+0.8**
	7.8nm,1.0s,baz=301,slow=5.9,SNR=5.3						
KDAK	**Kodiak Island**	**82.24**	**32**	P	**P**	**04 50 23.6**	**+0.8**
COLD	**Coldfoot**	**84.23**	**23**	*e*P	P	04 50 34.9	+1.9
	17nm,1.3s						
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**04 50 39.6**	**+0.5**
	0.2nm,0.4s,baz=258,slow=4.5,SNR=4.3						
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**04 50 39.6**	**+0.5**
KMBO	**Kilima Mbogo**	**89.33**	**269**	*e*P	P	04 51 00.2	+0.9
	3.3nm,1.2s						
BR131	**Keskin Array S**	**90.03**	**310**	*e*P	**P**	**04 51 01.8**	**-0.1**
	2.4nm,1.0s						
BRTR	**Keskin Array B**	**90.03**	**310**	P	**P**	**04 51 01.3**	**-0.6**
	2.0nm,0.9s,baz=106,slow=4.4,SNR=9.1						
BRTR	**Keskin Array B**	**90.03**	**310**	P	**P**	**04 51 01.3**	**-0.6**
ARCES	**ARCESS Array B**	**90.63**	**340**	P	**P**	**04 51 02.4**	**-1.5**
	4.2nm,1.0s,baz=46,slow=3.5,SNR=4.0						
ARCES	**ARCESS Array B**	**90.63**	**340**	P	**P**	**04 51 02.4**	**-1.5**
AKASG	**Malin Array Be**	**91.97**	**321**	P	**P**	**04 51 10.1**	**-0.4**
	1.3nm,0.6s,baz=70,slow=4.1,SNR=5.9						
AKASG	**Malin Array Be**	**91.97**	**321**	P	**P**	**04 51 10.1**	**-0.4**
FINES	**FINESS Array B**	**91.97**	**332**	P	**P**	**04 51 09.3**	**-0.9**
	1.0nm,0.6s,baz=132,slow=2.8,SNR=3.7						
FINES	**FINESS Array B**	**91.97**	**332**	P	**P**	**04 51 09.3**	**-0.9**
BUR08	**Bucovina Ar. S**	**95.07**	**318**	*e*P	**P**	**04 51 25.5**	**+0.6**
RES	**Resolute Bay**	**98.12**	**10**	*e*P	Pdif	04 51 39.3	+1.3
	1.1nm,0.7s						
LSZ	**Lusaka**	**98.92**	**255**	*e*P	Pdif	04 51 43.2	+0.2
	6.1nm,1.3s						
YKA	**Yellowknife Ar**	**99.84**	**24**	P	**Pdif**	**04 51 47.4**	**+1.5**
	0.2nm,0.8s,baz=286,slow=4.1,SNR=5.3						
YKA	**Yellowknife Ar**	**99.84**	**24**	P	**Pdif**	**04 51 47.4**	**+1.5**
TXAR	**Lajitas Array**	**121.94**	**52**	PKP	**PKPdf**	**04 56 58.0**	**+1.2**
	0.2nm,0.6s,baz=5.7,slow=1.6,SNR=4.4						
TXAR	**Lajitas Array**	**121.94**	**52**	PKP	**PKPdf**	**04 56 58.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**04 56 59.5**	**+0.9**
	0.4nm,0.7s,baz=39,slow=2.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**04 56 59.5**	**+0.9**
PLCA	**Paso Flores**	**139.82**	**160**	PKP	**PKPdf**	**04 57 31.9**	**+1.8**
	0.6nm,0.4s,baz=210,slow=2.5,SNR=4.7						
PLCA	**Paso Flores**	**139.82**	**160**	PKP	**PKPdf**	**04 57 31.9**	**+1.8**

*IDC **27** 04:54:54.0±0.6,53°79N×163°88W,h0km,mb4.3/27, mb1 4.4/31,mb1mx4.4/36,mbtmp4.3/31,ML4.1/4,MS3.8/12, Ms1 3.8/12,ms1mx3.6/45,Error ellipse: s-maj=16.7km s-min=9.4km az=170.0*
*MOS **27** 04:54:54.5±1.0,53°73N×163°86W,h13km,mb4.9/66, Error ellipse: s-maj=11.1km s-min=5.0km az=91.5*
*ISCJB **27** 04:54:55.4±1.0,53°48N±0°04×163°64W±0°04,h26km±6km, mb4.5/96,MS3.9/12,Error ellipse: s-maj=7.5km s-min=3.2km az=166.6*
*NEIC **27** 04:54:56.5,53°44N×163°67W,h11km,mb4.8/51, ML4.0(AEIC),After AEIC.*
*BJI **27** 04:55:20.9,54°90N×165°00W,h200km,mB5.0/6, mb4.5/10*

ISC 27 04:54:56.0±1.1,53°54N±0°05×163°69W±0°03,h18km±5km, n351,σ0°87/363,mb4.7/96,MS3.9/12,27C-10D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.07**	**331**	P	**Pb**	**04 55 16.7**	**+0.7**
WESN	**West Dahl Nort**	**1.15**	**333**	P	**Pn**	**04 55 17.9**	**+0.6**
SSLW	**Shishaldin Wes**	**1.26**	**349**	P	**Pn**	**04 55 19.4**	**+0.7**
FALS	**False Pass**	**1.33**	**7**	P	**Pn**	**04 55 20.2**	**+0.6**
FALS				S	**Sn**	**04 55 40.4**	**+3.6**
AKUT	**Akutan**	**1.37**	**297**	P	**Pn**	**04 55 20.0**	**-0.2**
AKUT				S	**Sn**	**04 55 39.9**	**+2.1**
AHB	**Akutan Harbor**	**1.38**	**295**	P	**Pn**	**04 55 20.6**	**+0.2**
ZRO	**Akutan Zero**	**1.46**	**293**	P	**Pn**	**04 55 21.6**	**+0.1**
AKLV	**Akutan Long Va**	**1.48**	**296**	P	**Pn**	**04 55 21.5**	**-0.2**
AKLV				S	**Sn**	**04 55 41.4**	**+0.8**
AKGG	**Akutan Green G**	**1.51**	**297**	P	**Pn**	**04 55 22.5**	**+0.3**
AKGG				S	**Sn**	**04 55 43.9**	**+2.5**
AKRB	**Akutan Reef Bi**	**1.53**	**294**	P	**Pn**	**04 55 22.6**	**+0.2**
DRIA	**Deer Island**	**1.66**	**30**	P	**Pn**	**04 55 24.2**	**+0.1**
UNV	**Unalaska Valle**	**1.70**	**281**	P	**Pn**	**04 55 24.1**	**-0.6**
UNV				S	**Sn**	**04 55 47.7**	**+1.7**
DT1	**Dutton Round H**	**1.77**	**27**	P	**Pn**	**04 55 26.1**	**+0.4**
DTNA	**Dutton South F**	**1.82**	**27**	P	**Pn**	**04 55 26.9**	**+0.6**
MTBL	**Makushin Table**	**1.82**	**285**	P	**Pn**	**04 55 26.6**	**+0.1**
MREP	**Makushin Rep't**	**1.84**	**280**	P	**Pn**	**04 55 27.0**	**+0.3**
MSW	**Makushin Switc**	**1.87**	**283**	P	**Pn**	**04 55 27.1**	**-0.1**
MCIR	**Makushin Cirqu**	**1.94**	**283**	P	**Pn**	**04 55 28.6**	**+0.4**
HAG	**Hague Volcano**	**2.06**	**30**	P	**Pn**	**04 55 31.2**	**+1.5**
HAG	**Hague Volcano**	**2.06**	**30**	P	**Pn**	**04 55 31.2**	**+1.5**
PS4A	**Pavlof South-4**	**2.10**	**30**	P	**Pn**	**04 55 31.5**	**+1.2**
PVV	**Pavlof Volcano**	**2.15**	**30**	P	**Pn**	**04 55 32.2**	**+1.4**
OKFG	**Magazine Ridge**	**2.52**	**269**	P	**Pn**	**04 55 35.9**	**-0.1**
SDPT	**Sand Point**	**2.61**	**45**	P	**Pn**	**04 55 38.0**	**+0.8**
SDPT				S	**Sn**	**04 56 07.9**	**-0.4**
OKCE	**Okmok Cone E**	**2.67**	**269**	P	**Pn**	**04 55 38.7**	**+0.6**
OKSO	**Okmok South**	**2.68**	**268**	P	**Pn**	**04 55 38.0**	**-0.2**
OKSO				S	**Sn**	**04 56 10.1**	**0.0**
OKSP	**Okmok Steeple**	**2.77**	**266**	P	**Pn**	**04 55 39.6**	**+0.2**
NIKO	**Nikolski**	**3.15**	**262**	P	**Pn**	**04 55 44.4**	**-0.3**
VNHG	**Veniaminof 1**	**3.75**	**42**	P	**Pn**	**04 55 54.0**	**+1.1**
CHGN	**Chignik**	**4.11**	**46**	*e*Pn	**Pn**	**04 55 58.5**	**+0.7**
CHGN				*e*Pg	**Pg**	**04 56 13.1**	**-1.6**
CHGN				*e*Sn	**Sn**	**04 56 45.8**	**+0.3**
CHGN				*e*Sg	**Sg**	**04 57 05.6**	**-2.3**
SPIA	**Saint Paul Isl**	**5.22**	**317**	P	**Pn**	**04 56 14.9**	**+1.9**
KOFP	**Korovin Flat P**	**6.42**	**263**	P	**Pn**	**04 56 30.9**	**+1.3**
ATKA	**Atka Island**	**6.50**	**262**	P	**Pn**	**04 56 30.8**	**+0.2**
KDAK	**Kodiak Island**	**7.58**	**51**	Pn	**Pn**	**04 56 44.2**	**-1.2**
	4.9nm,0.3s,baz=125,slow=23,SNR=28						
KDAK				Sn	Sn	04 58 05.7	-5.1
	1.2nm,0.3s,baz=330,slow=23,SNR=7.8						
KDAK	**Kodiak Island**	**7.58**	**51**	*e*Pn	**Pn**	**04 56 46.0**	**+0.5**
KDAK				Sn	Sn	04 58 05.7	-5.1
GSCK	**Great Sitkin C**	**7.72**	**264**	P	**Pn**	**04 56 47.4**	**0.0**
TRF	**Thorofare Moun**	**12.13**	**30**	*e*Pn	**Pn**	**04 57 48.2**	**+0.5**
TNA	**Tin City**	**12.24**	**352**	*e*Pn	Pn	04 57 52.6	+3.5
DIV	**Divide**	**12.27**	**45**	*e*Pn	**Pn**	**04 57 48.3**	**-1.4**
DIV				*e*Sn	**Sn**	**05 00 04.6**	**-1.3**
PAX	**Paxson**	**13.41**	**38**	*e*P	Pn	04 58 03.7	-1.5
PAX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PAX	**Paxson**	**13.41**	**38**	*e*Pn	Pn	04 58 03.7	-1.5
	comp=Z,7.9nm,0.7s						
FX1	**Attu Island--F**	**13.87**	**277**	Pn	**Pn**	**04 58 12.2**	**+0.7**
	comp=Z,4.9nm,0.3s,baz=116,slow=11,SNR=21						
FX1				LR	LR	05 03 09.6	
	comp=Z,268nm,18.1s,baz=91,slow=36						
FX1	**Attu Island--F**	**13.87**	**277**	*e*Pn	**Pn**	**04 58 12.6**	**+1.1**
COLA	**College**	**13.90**	**29**	*e*P	**Pn**	**04 58 13.5**	**+1.7**
COLA	**College**	**13.90**	**29**	*e*Pn	**Pn**	**04 58 13.5**	**+1.7**
MENT	**Mentasta**	**14.05**	**40**	*e*Pn	Pn	04 58 12.2	-1.7
ILAR	**Eielson Array**	**14.11**	**31**	Pn	Pn	04 58 11.2	-3.5
	comp=Z,0.2nm,0.3s,baz=222,slow=12,SNR=17						
ILAR				Sn	Sn	05 00 41.4	-9.3
	comp=Z,0.3nm,0.3s,baz=213,slow=28,SNR=4.7						
ILAR	**Eielson Array**	**14.11**	**31**	Pn	Pn	04 58 11.2	-3.5
ILAR				Sn	Sn	05 00 41.4	-9.3
DOT	**Dot Lake**	**14.32**	**37**	*e*Pn	Pn	04 58 15.1	-2.5
	comp=Z,7.5nm,1.2s						
PNL	**Peninsula**	**14.66**	**56**	*e*Pn	**Pn**	**04 58 22.5**	**+0.3**
COLD	**Coldfoot**	**15.20**	**20**	*e*Pn	**Pn**	**04 58 30.0**	**+0.5**
	comp=Z,35nm,1.0s						
EGAK	**Eagle**	**16.01**	**37**	*e*Pn	**Pn**	**04 58 39.2**	**-0.8**
	comp=Z,12nm,0.8s						
DAWY	**Dawson**	**16.30**	**40**	*e*Pn	**Pn**	**04 58 42.0**	**-1.7**
DLBC	**Dease Lake**	**19.32**	**62**	P	**P**	**04 59 21.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=3.6						
DLBC	**Dease Lake**	**19.32**	**62**	P	**P**	**04 59 21.7**	**+1.7**
BILL	**Bilibino**	**20.32**	**327**	*c* *i*P	**P**	**04 59 29.8**	**-0.8**
BILL				*e*		04 59 44.3	
BILL				pmax	pmax		
	comp=Z,21nm,1.3s						
BILL	**Bilibino**	**20.32**	**327**	*e*P	**P**	**04 59 30.9**	**+0.3**
	comp=Z,18nm,1.0s						
INK	**Inuvik**	**20.50**	**32**	P	**P**	**04 59 30.5**	**-2.0**
	comp=Z,4.4nm,0.5s,baz=211,slow=10,SNR=41						
INK				PcP	**PcP**	**05 03 43.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=107,slow=0.4,SNR=4.1						
INK	**Inuvik**	**20.50**	**32**	*e*P	**P**	**04 59 30.6**	**-2.0**
INK				PcP	**PcP**	**05 03 43.0**	**-0.3**
PET	**Petropavlovsk**	**22.35**	**284**	*e*P	**P**	**04 59 53.5**	**+0.9**
PET				pmax	pmax		
	comp=Z,17nm,1.3s						
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**04 59 56.4**	**-1.9**
	comp=Z,8.1nm,0.5s,baz=88,slow=12,SNR=15						
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**04 59 56.4**	**-1.9**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**04 59 56.4**	**-1.9**
SEY	**Seymchan**	**24.48**	**310**	*i*P	**P**	**05 00 11.8**	**-1.8**
YKW3	**Yellowknife Ar**	**26.85**	**51**	*e*P	**P**	**05 00 35.7**	**+0.7**
YKA	**Yellowknife Ar**	**26.86**	**51**	P	**P**	**05 00 35.8**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=270,slow=8.1,SNR=80						
YKA				PcP	**PcP**	**05 03 56.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=289,slow=2.2,SNR=6.6						
YKA	**Yellowknife Ar**	**26.86**	**51**	P	**P**	**05 00 35.8**	**+0.7**
YKA				PcP	**PcP**	**05 03 56.8**	**-0.1**
HAWA	**Hanford**	**28.90**	**86**	*e*P	**P**	**05 00 54.0**	**+0.4**
	comp=Z,3.6nm,0.8s						
NEW	**Newport**	**29.41**	**81**	P	**P**	**05 00 59.2**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=313,slow=3.8,SNR=4.1						
NEW	**Newport**	**29.41**	**81**	P	**P**	**05 00 59.2**	**+1.1**
YBH	**Yreka Blue Hor**	**29.62**	**97**	P	**P**	**05 01 01.1**	**+1.0**
	comp=Z,0.5nm,0.2s,baz=326,slow=10.0,SNR=7.0						
YBH				LR	LR	05 09 48.0	
	comp=Z,148nm,21.2s,baz=324,slow=30						
YBH	**Yreka Blue Hor**	**29.62**	**97**	P	**P**	**05 01 01.1**	**+1.0**
MFID	**Camas Ranch**	**32.73**	**88**	*e*P	**P**	**05 01 28.6**	**+1.1**
	comp=Z,3.6nm,0.8s						
TIXI	**Tiksi**	**33.53**	**328**	⇑*i*P	**P**	**05 01 32.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	**Tiksi**	**33.53**	**328**	*e*P	**P**	**05 01 33.2**	**-0.8**
	comp=Z,4.3nm,0.6s						
RES	**Resolute Bay**	**33.81**	**26**	*e*P	**P**	**05 01 35.5**	**-0.9**
	comp=Z,2.7nm,0.6s						
NVAR	**Mina Array Bea**	**34.33**	**97**	P	**P**	**05 01 44.4**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=301,slow=9.4,SNR=6.5						
NVAR	**Mina Array Bea**	**34.33**	**97**	P	**P**	**05 01 44.4**	**+2.8**
YAK	**Yakutsk**	**34.99**	**311**	*e*P	P	05 01 44.3	-2.4
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASAJ	**Asahikawa**	**35.80**	**277**	LR	LR	05 16 10.5	
	comp=Z,100nm,19.0s,baz=352,slow=36						
PDAR	**Pinedale Array**	**36.84**	**84**	P	**P**	**05 02 05.2**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=5.1,SNR=4.8						
PDAR	**Pinedale Array**	**36.84**	**84**	P	**P**	**05 02 05.2**	**+2.1**
PV01	**Paradox Valley**	**40.31**	**90**	*e*P	**P**	**05 02 33.1**	**+0.8**
ULM	**Lac du Bonnet**	**40.55**	**66**	P	**P**	**05 02 34.0**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=298,slow=6.6,SNR=3.6						
ULM	**Lac du Bonnet**	**40.55**	**66**	P	**P**	**05 02 34.0**	**+0.2**
AGMN	**Agassiz Nation**	**41.61**	**69**	*e*P	**P**	**05 02 41.8**	**-0.8**
	comp=Z,1.9nm,0.5s						
MAJO	**Matsushiro**	**43.14**	**271**	*e*P	**P**	**05 02 54.7**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s						
MAJO	**Matsushiro**	**43.14**	**271**	*e*P	**P**	**05 02 54.7**	**-0.5**
	comp=Z,15nm,0.9s						
MAT	**Matsushiro**	**43.14**	**271**	P	**P**	**05 02 55.0**	**-0.2**
MJAR	**Matsushiro Arr**	**43.14**	**271**	P	**P**	**05 02 54.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=20,slow=7.2,SNR=6.3						
MJAR				LR	LR	05 20 41.5	
	comp=Z,98nm,18.5s,baz=235,slow=36						
MJAR	**Matsushiro Arr**	**43.14**	**271**	P	**P**	**05 02 54.9**	**-0.3**
DAG	**Danmarks Havn**	**48.07**	**10**	*i* P	**P**	**05 03 33.5**	**-0.2**
	comp=Z,93nm,0.9s						
SUMG	**Summit**	**48.60**	**19**	*e*P	**P**	**05 03 38.6**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,11nm,0.5s						
SUMG	**Summit**	**48.60**	**19**	*e*P	**P**	**05 03 38.6**	**+0.4**
	comp=Z,11nm,0.5s						
SUMG	**Summit**	**48.60**	**19**	*i* P	**P**	**05 03 38.9**	**+0.7**
	comp=Z,18nm,1.0s						
KSRS	**Korea Array**	**48.64**	**280**	P	**P**	**05 03 39.1**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=52,slow=7.2,SNR=12						
KSRS				LR	LR	05 21 58.4	
	comp=Z,52nm,21.6s,baz=54,slow=34						
KSAR	**Wonju Array Be**	**48.67**	**280**	P	**P**	**05 03 39.1**	**+0.4**
TXAR	**Lajitas Array**	**49.35**	**94**	P	**P**	**05 03 45.0**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=298,slow=5.6,SNR=20			

comp=Z,61nm,18.5s
MKAR **Makanchi Array** 65.41 316 P P 05 05 36.4 -0.8
WMQ **Urumqi** 65.43 311 eP P 05 05 39.0 +1.6
NB2 **NORSAR Subarra** 65.69 3 P P 05 05 38.4 -0.4
comp=Z,2.0nm,0.6s,baz=359,slow=6.2
NOA **NORSAR Array B** 65.69 3 P P 05 05 38.4 -0.4
comp=Z,4.8nm,0.8s,baz=360,slow=6.4,SNR=12
NOA **NORSAR Array B** 65.69 3 P P 05 05 38.4 -0.4
PUL **Pulkovo** 66.48 352 eP P 05 05 42.9 -0.9
PUL pmax pmax
comp=Z,59nm,0.7s
GYA **Guiyang** 68.97 286 eP P 05 06 01.0 +0.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
ESK **Eskdalemuir** 70.32 12 eP P 05 06 07.7 -0.2
ESK pmax pmax
comp=Z,14nm,0.8s
ESK **Eskdalemuir** 70.32 12 eP P 05 06 07.7 -0.2
comp=Z,14nm,0.8s
OBN **Obninsk** 70.42 348 ⇓iP P 05 06 08.2 -0.3
OBN pmax pmax
comp=Z,6.0nm,0.8s
AB31 **Akbulak array** 71.15 331 ceP P 05 06 13.2 +0.2
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR **Akbulak array** 71.15 331 eP P 05 06 12.6 -0.4
comp=Z,8.5nm,0.6s
TKM2 **Tokmak 2** 71.30 318 eP P 05 06 14.3 -0.1
TKM2 pmax pmax
comp=Z,8.0nm,1.3s
TKM2 **Tokmak 2** 71.30 318 eP P 05 06 14.3 -0.1
comp=Z,8.3nm,1.3s
TKM2 **Tokmak 2** 71.30 318 P P 05 06 14.7 +0.3
SNR=8.0
USP **Ospenovka** 71.44 319 P P 05 06 15.8 +0.8
SNR=5.6
PPT **Papeete** 71.86 166 LR LR 05 32 37.1
comp=Z,152nm,19.6s,baz=339,slow=31
AAK **Ala-Archa** 71.98 319 P P 05 06 18.7 +0.3
comp=Z,4.5nm,0.4s,baz=209,slow=3.5,SNR=15
AAK **Ala-Archa** 71.98 319 c iP P 05 06 18.8 +0.4
AAK pmax pmax
comp=Z,21nm,0.8s
AAK **Ala-Archa** 71.98 319 eP P 05 06 18.7 +0.3
comp=Z,28nm,0.6s
KZA **Kyzart** 72.15 318 P P 05 06 20.0 +0.3
SNR=5.5
EKS2 **Erkin-Say** 72.24 319 eP P 05 06 20.3 +0.4
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 **Erkin-Say** 72.24 319 eP P 05 06 20.3 +0.4
comp=Z,8.9nm,1.0s
EKS2 **Erkin-Say** 72.24 319 P P 05 06 20.4 +0.5
SNR=7.0
AML **Almayashu** 72.72 319 P P 05 06 24.2 +1.1
SNR=9.7
KKAR **Karatay Array** 73.10 322 eP P 05 06 24.8 -0.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** 73.10 322 eP P 05 06 24.8 -0.1
comp=Z,1.8nm,0.6s
VSR **Storozhevoye** 73.86 345 eP P 05 06 27.9 -1.2
KSH **Kashi** 74.02 316 P P 05 06 33.5 +3.1
KSH PP PP 05 09 22.8 +7.8
KSH pmax pmax
comp=Z,12nm,1.2s
KSH pmax pmax
comp=Z,110nm,4.1s
KSH LR LR
comp=N,85nm,6.0s
KSH LR LR
comp=E,78nm,7.5s
KSH LR LR
comp=Z,200nm,5.2s
RAR **Rarotonga** 74.52 176 LR LR 05 33 44.6
comp=Z,116nm,19.4s,baz=135,slow=31
LSA **Lhasa** 74.94 300 eP P 05 06 37.1 +0.7
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA **Lhasa** 74.94 300 eP P 05 06 37.1 +0.7
comp=Z,8.0nm,0.7s
JTS **JuntasAbangare** 75.10 93 eP P 05 06 36.4 -0.5
comp=Z,9.3nm,1.3s
CLL **Collm** 75.48 2 eP P 05 06 38.0 -0.6
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL **Collm** 75.48 2 ⇓iP P 05 06 40.9 +2.3
comp=Z,9.0nm,1.2s
CLL epP pP 05 06 46.0 +1.5
AKASG **Malin Array Be** 75.56 352 P P 05 06 38.3 -0.7
comp=Z,5.4nm,0.5s,baz=11,slow=5.9,SNR=18
AKASG **Malin Array Be** 75.56 352 P P 05 06 38.3 -0.7
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG **Malin Array Be** 75.56 352 P P 05 06 38.3 -0.7
KIEV **Kiev** 75.57 352 eP P 05 06 37.7 -1.4
KIEV pmax pmax
comp=Z,3.0nm,0.4s
KIEV **Kiev** 75.57 352 eP P 05 06 37.7 -1.4
comp=Z,3.5nm,0.4s
AK01 **Malin Array Si** 75.57 352 eP P 05 06 38.1 -0.9
AK02 **Malin Array Si** 75.61 352 eP P 05 06 38.2 -1.1
BRG **Berggiesshubel** 75.94 2 eP P 05 06 40.9 -0.3
comp=Z,3.1nm,0.8s
BRG **Berggiesshubel** 75.94 2 eP P 05 06 40.9 -0.3
BRG pmax pmax
comp=Z,3.0nm,0.8s
BAIF **Baives** 76.27 8 eP P 05 06 43.5 +0.5
BAIF **Baives** 76.27 8 eP P 05 06 43.5 +0.5
BAIF **Baives** 76.27 8 eP P 05 06 43.5 +0.5
GIVF **Givet** 76.28 8 eP P 05 06 43.3 +0.2
GIVF **Givet** 76.28 8 eP P 05 06 43.3 +0.2
GIVF **Givet** 76.28 8 eP P 05 06 43.3 +0.2
PVCC **Panska Ves** 76.29 1 eP P 05 06 43.4 +0.2
PVCC e 05 06 53.9
PVCC **Panska Ves** 76.29 1 eP P 05 06 43.4 +0.2
PVCC epP PcP 05 06 53.9 -1.2
DPC **Dobruska-Polom** 76.48 360 eP P 05 06 44.7 +0.4
DPC e 05 06 54.9
DPC **Dobruska-Polom** 76.48 360 eP P 05 06 44.7 +0.4
DPC ex x 05 06 54.9
WLF **Walferdange** 76.81 7 eP P 05 06 46.6 +0.5
WLF pmax pmax
comp=Z,12nm,1.0s
WLF **Walferdange** 76.81 7 eP P 05 06 46.6 +0.5
comp=Z,12nm,1.0s
MORC **Moravsky Berou** 77.05 359 eP P 05 06 47.7 +0.1
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC **Moravsky Berou** 77.05 359 eP P 05 06 47.7 +0.1
comp=Z,3.9nm,1.0s
MORC **Moravsky Berou** 77.05 359 ⇑iP P 05 06 47.9 +0.4
GRF **Grafenberg Arr** 77.05 3 eP P 05 06 48.2 +0.7
GRF e*PP PcP 05 06 57.6 -0.8
GRF pmax pmax
comp=Z,14nm,0.9s
GRF **Grafenberg Arr** 77.05 3 eP P 05 06 48.2 +0.7
comp=Z,14nm,0.9s
GRF epP PcP 05 06 57.6 -0.8
KWP **Kalwaria Pacla** 77.06 356 ⇑↑P P 05 06 48.2 +0.6
KWP **Kalwaria Pacla** 77.06 356 ⇑iP P 05 06 48.2 +0.6
LDF **La Druitiere** 77.29 11 eP P 05 06 49.0 +0.2
comp=Z,3.9nm,0.5s
LDF **La Druitiere** 77.29 11 eP P 05 06 49.0 +0.2
LDF pmax pmax
comp=Z,4.0nm,0.5s
LDF **La Druitiere** 77.29 11 eP P 05 06 49.0 +0.2
comp=Z,3.9nm,0.5s
VRAC **Vranov** 77.52 360 ⇓iP P 05 06 50.4 +0.2
KHC **Kasperske Hory** 77.67 2 eP P 05 06 51.7 +0.6
KHC e 05 07 01.0
KHC **Kasperske Hory** 77.67 2 eP P 05 06 51.7 +0.6
KHC epP PcP 05 07 01.0 -0.2
PAGF **Fort de Pagny** 77.88 7 eP P 05 06 52.7 +0.5
comp=Z,3.0nm,0.5s
PAGF **Fort de Pagny** 77.88 7 eP P 05 06 52.7 +0.5
comp=Z,3.0nm,0.5s
GERES **GERESS Array B** 77.96 2 P P 05 06 52.8 +0.1
comp=Z,2.3nm,0.9s,baz=18,slow=4.8,SNR=14
GERES **GERESS Array B** 77.96 2 P P 05 06 52.8 +0.1
CDF **Champ du Feu** 78.13 6 eP P 05 06 53.6 -0.1
CDF **Champ du Feu** 78.13 6 eP P 05 06 53.6 -0.1
CDF **Champ du Feu** 78.13 6 eP P 05 06 53.6 -0.1
SFTF **Sexfontaines** 78.18 8 eP P 05 06 53.9 +0.1
SFTF **Sexfontaines** 78.18 8 eP P 05 06 53.9 +0.1
VYHS **Vyhne** 78.32 358 eP P 05 06 54.9 +0.3
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS **Vyhne** 78.32 358 eP P 05 06 54.9 +0.3
ECH **Echery** 78.32 6 eP P 05 06 54.5 -0.2
ECH e*PP PcP 05 07 04.6 +0.7
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH **Echery** 78.32 6 eP P 05 06 54.5 -0.2
comp=Z,9.5nm,1.0s
ECH epP PcP 05 07 04.6 +0.7
HAU **Haudompre** 78.47 7 eP P 05 06 55.5 0.0
comp=Z,12nm,0.9s
HAU **Haudompre** 78.47 7 eP P 05 06 55.5 0.0
HAU pmax pmax
comp=Z,12nm,0.9s
HAU **Haudompre** 78.47 7 eP P 05 06 55.5 0.0
comp=Z,12nm,0.9s
TRPA **Tarpa** 78.56 356 ⇓iP P 05 06 56.3 +0.4
TAPN **Taplejung** 78.62 301 eP P 05 06 56.9 0.0
comp=Z,8.3nm,0.6s
HINF **Hinteralfeld** 78.70 6 eP P 05 06 56.6 -0.1
comp=Z,6.0nm,0.8s
HINF **Hinteralfeld** 78.70 6 eP P 05 06 56.6 -0.1
HINF pmax pmax
comp=Z,6.0nm,0.8s
HINF **Hinteralfeld** 78.70 6 eP P 05 06 56.6 -0.1
comp=Z,6.0nm,0.8s
PSZ **Piszkesteto** 78.87 358 eP P 05 06 57.9 +0.2
PSZ e*PP PcP 05 07 07.5 +1.1
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ **Piszkesteto** 78.87 358 eP P 05 06 57.9 +0.2
comp=Z,6.1nm,0.9s
PSZ epP PcP 05 07 07.5 +1.1
PSZ **Piszkesteto** 78.87 358 ⇓iP P 05 06 58.6 +0.9
CONA **Conrad Observa** 78.90 0 ⇑iP P 05 06 56.8 -1.1
comp=Z,5.7nm,1.4s
CONA **Conrad Observa** 78.90 0 ⇑iP P 05 06 58.5 +0.6
comp=Z,5.7nm,1.4s
BUR08 **Bucovina Ar. S** 78.91 354 eP P 05 06 57.7 -0.3
BURAR **Bucovina Array** 78.93 354 ⇓iP P 05 06 58.2 +0.1
LOR **Lormes** 79.01 9 eP P 05 06 58.6 +0.2
comp=Z,8.1nm,0.6s
LOR **Lormes** 79.01 9 eP P 05 06 58.6 +0.2
comp=Z,8.1nm,0.6s
GUN **Gumba** 79.09 302 eP P 05 06 59.7 +0.1
comp=Z,24nm,0.5s
ODAN **Odare** 79.18 301 eP P 05 06 59.7 -0.3
SSF **Saint Saulge** 79.18 9 eP P 05 06 59.4 0.0
comp=Z,7.9nm,0.5s
SSF **Saint Saulge** 79.18 9 eP P 05 06 59.4 0.0
SSF pmax pmax
comp=Z,8.0nm,0.5s
SSF **Saint Saulge** 79.18 9 eP P 05 06 59.4 0.0
comp=Z,7.9nm,0.5s
MFF **Saint Martin d** 79.25 11 eP P 05 07 00.0 +0.3
MFF **Saint Martin d** 79.25 11 eP P 05 07 00.0 +0.3
MFF **Saint Martin d** 79.25 11 eP P 05 07 00.0 +0.3
MOTA **Moosalm** 79.39 4 ⇓iP P 05 07 01.1 +0.4
MOTA pmax pmax
comp=Z,8.0nm,0.9s
MOTA **Moosalm** 79.39 4 ⇓iP P 05 07 01.1 +0.4
comp=Z,7.6nm,0.9s
MOTA **Moosalm** 79.39 4 ⇓iP P 05 07 01.1 +0.4
comp=Z,7.6nm,0.9s
AVF **Avril sur Loir** 79.44 9 eP P 05 07 00.7 0.0
comp=Z,4.6nm,0.5s
AVF **Avril sur Loir** 79.44 9 eP P 05 07 00.7 0.0
AVF pmax pmax
comp=Z,5.0nm,0.5s
AVF **Avril sur Loir** 79.44 9 eP P 05 07 00.7 0.0
comp=Z,4.6nm,0.5s
KKN **Kakani** 79.49 303 eP P 05 07 02.1 +0.5
WTTA **Wattenberg** 79.49 3 ⇑iP P 05 07 01.9 +0.6
WTTA pmax pmax
comp=Z,11nm,1.2s
WTTA **Wattenberg** 79.49 3 ⇑iP P 05 07 01.9 +0.6
comp=Z,11nm,1.2s
WTTA **Wattenberg** 79.49 3 ⇑iP P 05 07 01.9 +0.6
comp=Z,11nm,1.2s
RAMN **Ramite** 79.51 301 eP P 05 07 01.6 -0.2
comp=Z,38nm,0.9s
PKI **Pulchoki** 79.61 303 eP P 05 07 02.2 -0.2
PKIN **Phulchoki** 79.61 303 eP P 05 07 02.8 +0.5
BGF **Bois d'Agland** 79.62 9 eP P 05 07 01.9 +0.2
BGF **Bois d'Agland** 79.62 9 eP P 05 07 01.9 +0.2
BGF **Bois d'Agland** 79.62 9 eP P 05 07 01.9 +0.2
SMF **Signal de Mont** 79.62 9 eP P 05 07 02.0 +0.2
SMF **Signal de Mont** 79.62 9 eP P 05 07 02.0 +0.2
SMF **Signal de Mont** 79.62 9 eP P 05 07 02.0 +0.2
CMAR **Chiang Mai Arr** 79.64 287 P P 05 07 02.0 -0.2
comp=Z,3.2nm,0.6s,baz=18,slow=5.8,SNR=15
CMAR **Chiang Mai Arr** 79.64 287 P P 05 07 02.0 -0.2
FETA **Feichten** 79.70 4 ⇑iP P 05 07 02.5 +0.1
comp=Z,11nm,1.0s
FETA **Feichten** 79.70 4 ⇑iP P 05 07 02.5 +0.1
comp=Z,11nm,1.0s
DMN **Daman** 79.73 303 eP P 05 07 02.9 -0.1
DANN **Dangsing** 79.78 304 eP P 05 07 03.6 +0.3
comp=Z,75nm,0.7s
TCF **Toulx Ste Croi** 79.82 10 eP P 05 07 03.1 +0.2
TCF **Toulx Ste Croi** 79.82 10 eP P 05 07 03.1 +0.2
TCF **Toulx Ste Croi** 79.82 10 eP P 05 07 03.1 +0.2
DRGR 79.89 356 ⇑↑P P 05 07 03.6 +0.3
DRGR 79.89 356 ⇑iP P 05 07 03.6 +0.3
KIV **Kislovodsk** 80.28 341 eP P 05 07 05.8 +0.3
KIV e*PP PcP 05 07 14.5 +1.9
KIV eSS SS 05 22 16.0 -3.5
KIV pmax pmax
comp=Z,5.0nm,0.8s
OBKA **Obir** 80.31 1 ⇑↑P P 05 07 06.3 +0.7
comp=Z,12nm,0.8s
OBKA **Obir** 80.31 1 ⇑iP P 05 07 06.3 +0.7
comp=Z,12nm,0.8s
KOLN **Koldanda** 80.34 304 eP P 05 07 06.0 -0.2
comp=Z,16nm,0.7s
PYUN **Piuthan** 80.37 305 eP P 05 07 06.3 -0.1
comp=Z,38nm,0.7s
KBZ **Khabaz** 80.46 341 P P 05 07 06.3 0.0
comp=Z,3.2nm,0.3s,baz=308,slow=5.1,SNR=9.0
KBZ LR LR 05 43 48.2
comp=Z,74nm,19.6s,baz=262,slow=37
KBZ **Khabaz** 80.46 341 P P 05 07 06.3 0.0
KBZ pmax pmax
comp=Z,3.0nm,0.3s
KBZ MLR MLR
comp=Z,74nm,19.6s
KBZ **Khabaz** 80.46 341 P P 05 07 06.3 0.0
RJF **Les Rejaudoux** 80.72 11 eP P 05 07 07.3 -0.4
RJF **Les Rejaudoux** 80.72 11 eP P 05 07 07.3 -0.4
RJF **Les Rejaudoux** 80.72 11 eP P 05 07 07.3 -0.4
LPL **La Plagne** 80.98 7 eP P 05 07 10.3 +0.9
LPL **La Plagne** 80.98 7 eP P 05 07 10.3 +0.9
LPL **La Plagne** 80.98 7 eP P 05 07 10.3 +0.9
LFF **La Frestale** 80.99 11 eP P 05 07 09.4 +0.2
comp=Z,5.5nm,0.5s
LFF **La Frestale** 80.99 11 eP P 05 07 09.4 +0.2
LFF pmax pmax
comp=Z,6.0nm,0.5s
LFF **La Frestale** 80.99 11 eP P 05 07 09.4 +0.2
comp=Z,5.5nm,0.5s
LPG **La Plagne** 81.00 7 eP P 05 07 10.5 +0.9
comp=Z,12nm,1.1s
LPG **La Plagne** 81.00 7 eP P 05 07 10.5 +0.9
LPG pmax pmax
comp=Z,12nm,1.1s
LPG **La Plagne** 81.00 7 eP P 05 07 10.5 +0.9
comp=Z,12nm,1.1s
BZS **Buzias** 81.11 356 ⇑↑P P 05 07 10.1 +0.3
BZS **Buzias** 81.11 356 ⇑iP P 05 07 10.1 +0.3
VOIR 81.11 354 ⇑↑P P 05 07 10.8 +0.9
VOIR 81.11 354 ⇑iP P 05 07 10.8 +0.9
CAF **Calviac** 81.15 10 eP P 05 07 10.3 +0.2
CAF **Calviac** 81.15 10 eP P 05 07 10.3 +0.2
CAF **Calviac** 81.15 10 eP P 05 07 10.3 +0.2
ZEI **Tsey** 81.18 340 eP P 05 07 10.6 +0.1
ZEI pmax pmax
comp=Z,5.0nm,0.7s
BNI **Bardonecchia** 81.44 7 eP P 05 07 13.6 +1.9
BNI pmax pmax
comp=Z,10.0nm,1.1s
BNI **Bardonecchia** 81.44 7 eP P 05 07 13.6 +1.9
comp=Z,10.0nm,1.1s
VIVF **Saint-Julien-l** 81.47 8 eP P 05 07 12.2 +0.4
VIVF **Saint-Julien-l** 81.47 8 eP P 05 07 12.2 +0.4
ORIF **Oris-en-Rattie** 81.51 7 eP P 05 07 12.7 +0.7
comp=Z,6.6nm,0.7s
ORIF **Oris-en-Rattie** 81.51 7 eP P 05 07 12.7 +0.7
ORIF pmax pmax
comp=Z,7.0nm,0.7s
ORIF **Oris-en-Rattie** 81.51 7 eP P 05 07 12.7 +0.7
comp=Z,6.6nm,0.7s
MBDF **Montbardon** 81.77 7 eP P 05 07 13.9 +0.4
comp=Z,8.1nm,0.7s
MBDF **Montbardon** 81.77 7 eP P 05 07 13.9 +0.4
MBDF pmax pmax
comp=Z,8.0nm,0.7s
MBDF **Montbardon** 81.77 7 eP P 05 07 13.9 +0.4
comp=Z,8.1nm,0.7s
SMRF **Simiane la Rot** 82.42 8 eP P 05 07 16.1 -0.7
SMRF **Simiane la Rot** 82.42 8 eP P 05 07 16.1 -0.7
MTLF **Montolieu** 82.74 10 eP P 05 07 18.3 -0.1
MTLF **Montolieu** 82.74 10 eP P 05 07 18.3 -0.1
MTLF **Montolieu** 82.74 10 eP P 05 07 18.3 -0.1
ETSF **Etsaut** 82.85 12 eP P 05 07 19.2 +0.1
ETSF **Etsaut** 82.85 12 eP P 05 07 19.2 +0.1
ETSF **Etsaut** 82.85 12 eP P 05 07 19.2 +0.1
LMR **La Mourre** 83.13 7 eP P 05 07 21.0 +0.6
comp=Z,14nm,0.9s
LMR **La Mourre** 83.13 7 eP P 05 07 21.0 +0.6
LMR pmax pmax
comp=Z,14nm,0.9s
LMR **La Mourre** 83.13 7 eP P 05 07 21.0 +0.6
comp=Z,14nm,0.9s
VTS **Vitosha** 84.06 355 ⇑↑P P 05 07 25.0 -0.4
VTS **Vitosha** 84.06 355 ⇑iP P 05 07 25.0 -0.4
PGF **Pioggiola** 84.08 5 eP P 05 07 25.3 -0.1
PGF **Pioggiola** 84.08 5 eP P 05 07 25.3 -0.1
PGF **Pioggiola** 84.08 5 eP P 05 07 25.3 -0.1
ESDC **Sonseca Array** 85.52 16 P P 05 07 32.5 -0.2
comp=Z,0.6nm,0.6s,baz=344,slow=5.4,SNR=5.6
ESDC **Sonseca Array** 85.52 16 P P 05 07 32.5 -0.2
BR131 **Keskin Array S** 85.91 347 eP P 05 07 34.9 +0.2
comp=Z,3.2nm,0.7s
BR131 epP pP 05 07 45.7 +5.0
BRTR **Keskin Array B** 85.91 347 P P 05 07 34.9 +0.2
comp=Z,4.2nm,0.8s,baz=26,slow=2.4,SNR=22
BRTR LR LR 05 50 22.0
comp=Z,38nm,19.9s,baz=186,slow=39
BRTR **Keskin Array B** 85.91 347 P P 05 07 34.9 +0.2
MALT **Malatya** 86.53 343 eP P 05 07 38.3 +0.5
MALT pmax pmax
comp=Z,3.0nm,1.0s
MALT **Malatya** 86.53 343 eP P 05 07 38.3 +0.5
comp=Z,3.4nm,1.0s
OTAV **Otavalo** 86.97 94 eP P 05 07 40.7 +0.1
comp=Z,1.7nm,0.7s
TIP **Timpagrande** 87.65 360 eP P 05 07 43.6 +0.4
comp=Z,4.7nm,0.8s
WRA **Warramunga Arr** 90.47 236 P P 05 07 59.5 +3.1
comp=Z,0.2nm,0.3s,baz=41,slow=6.5,SNR=5.6
WRA **Warramunga Arr** 90.47 236 P P 05 07 59.5 +3.1
ASAR **Alice Springs** 93.83 235 P P 05 08 13.0 +1.1
comp=Z,0.2nm,0.3s,baz=20,slow=3.5,SNR=3.1
ASAR **Alice Springs** 93.83 235 P P 05 08 13.0 +1.1
LSZ **Lusaka** 140.69 342 ePKPdf PKPdf 05 14 24.9 +0.2
TSUM **Tsumeb** 145.71 358 ePKPbc PKPdf 05 14 33.1 -0.3
LBTB **Lobatse** 150.67 343 ePKPbc PKPbc 05 14 46.9 +0.1
BOSA **Boshof** 154.24 342 PKPbc PKPbc 05 14 55.2 +0.5
comp=Z,1.8nm,0.7s,baz=315,slow=2.9,SNR=3.4
BOSA **Boshof** 154.24 342 PKPbc PKPbc 05 14 55.2 +0.5

IDC 27 05:18:34.9±5.7, 6.42S×154.38E, h60km±48km, mb3.6/9, mb1 3.8/10, mb1mx3.7/19, mbtmp3.6/10, ML3.1/1, MS3.5/3, Ms1 3.4/3, ms1mx3.1/27, Error ellipse: s-maj=37.5km s-min=25.6km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.74	247	P		P	Pn	05 20 25.9	+0.9
	1.4nm,0.3s,baz=60,slow=11,SNR=4.7								
PMG				S		Sn	Sn	05 21 52.8	+1.5
	1.5nm,0.3s,baz=211,slow=23,SNR=5.8								
CTA	**Charters Tower**	15.71	209	LR		LR	LR	05 26 41.3	
	comp=Z,97nm,19.9s,baz=53,slow=31								
WRA	**Warramunga Arr**	23.65	233	P		P	P	05 23 39.8	-1.3
	2.8nm,0.8s,baz=59,slow=9.9,SNR=8.2								
ASAR	**Alice Springs**	26.10	227	P		P	P	05 24 02.1	-1.3
	1.0nm,0.7s,baz=58,slow=9.4,SNR=6.5								
STKA	**Stephens Creek**	28.00	204	P		P	P	05 24 21.9	+1.6
	1.2nm,0.6s,baz=16,slow=12,SNR=4.2								
STKA				LR		LR	LR	05 35 13.8	
	comp=Z,85nm,18.6s,baz=24,slow=36								
AFI	**Afiamalu**	34.10	105	LR		LR	LR	05 36 53.4	
	comp=Z,114nm,20.0s,baz=37,slow=32								
SONM	**Songino Array**	68.53	327	P		P	P	05 29 32.3	+0.9
	0.4nm,0.6s,baz=139,slow=6.4,SNR=2.8								
MKAR	**Makanchi Array**	82.57	319	P		P	P	05 30 51.2	-0.4
	0.4nm,0.8s,baz=100,slow=5.2,SNR=9.0								
ILAR	**Eielson Array**	83.07	22	P		P	P	05 30 51.8	-2.0
	0.3nm,0.6s,baz=240,slow=4.1,SNR=4.7								
ZALV	**Zalesovo Beam**	83.37	326	P		P	P	05 30 55.6	+0.1
	0.4nm,0.3s,baz=87,slow=3.0,SNR=3.4								
NVAR	**Mina Array Bea**	91.85	52	P		P	P	05 31 38.0	+0.9
	1.3nm,0.9s,baz=260,slow=7.7,SNR=5.5								
YKA	**Yellowknife Ar**	96.12	28	P		P	P	05 31 56.0	+0.2
	0.1nm,0.6s,baz=262,slow=4.7,SNR=3.5								
TORD	**Teordi Ar. Bea**	152.28	286	PKPbc		PKPbc	PKPbc	05 38 25.2	+0.1
	2.5nm,0.6s,baz=55,slow=2.3,SNR=19								
TORD				PKPab		PKPab	PKPab	05 38 35.0	-0.1
	2.2nm,0.8s,baz=43,slow=2.1,SNR=7.2								

GUC 27 05:29:31.3±0.3, 34.09S×68.64W, h5km±7km, MD3.6, ML2.8, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	1.32	280	⇓iP		P	Pn	05 29 55.9	-0.8
LMEL				*i* S		Sn	Sn	05 30 14.7	-0.2
LMEL				AML		AML	AML	05 30 17.0	
	comp=N,244nm,0.3s								
CACH	**El Canelo**	1.63	269	⇓iP		P	Pn	05 30 01.1	+0.3
CACH				*i* S		Sg	Sg	05 30 23.8	-0.3
CHCH	**Chadas Angostu**	1.68	275	eP		P	Pb	05 30 02.1	-0.7
CHCH				*i* S		Sg	Sg	05 30 25.6	+0.1
CLCH	**Cerro Calan**	1.73	293	⇓iP		P	Pb	05 30 03.0	-0.6
CLCH				*i* S		Sg	Sg	05 30 27.1	0.0
CLCH				AML		AML	AML	05 30 28.8	
	comp=E,188nm,0.6s								
LNV	**Longovilo**	2.31	273	eP		P	Pb	05 30 12.7	-0.7
LNV				*i* S		Sb	Sb	05 30 43.8	+1.6

IDC 27 05:30:49.2±2.2, 14.02S×167.64E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/19, mbtmp4.1/6, Error ellipse: s-maj=84.2km s-min=26.2km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	29.73	229	P		P	P	05 36 58.3	+1.0
	2.0nm,0.5s,baz=49,slow=8.2,SNR=14								
WRA	**Warramunga Arr**	32.35	255	P		P	P	05 37 20.3	-0.4
	1.9nm,0.5s,baz=86,slow=9.5,SNR=14								
ASAR	**Alice Springs**	33.27	248	P		P	P	05 37 28.1	-0.6
	1.7nm,0.4s,baz=77,slow=9.3,SNR=26								
SONM	**Songino Array**	82.14	323	P		P	P	05 43 13.0	+1.0
	0.4nm,0.5s,baz=134,slow=8.3,SNR=2.7								
ILAR	**Eielson Array**	85.74	18	P		P	P	05 43 30.4	+0.6
	0.4nm,0.8s,baz=247,slow=4.3,SNR=4.3								
MKAR	**Makanchi Array**	96.94	316	P		P	P	05 44 21.9	-0.8
	0.9nm,0.8s,baz=84,slow=6.3,SNR=7.1								
ARCES	**ARCESS Array B**	119.66	346	PKP		PKPdf	PKPdf	05 49 38.8	-1.9
	1.2nm,0.8s,baz=28,slow=2.9,SNR=4.4								

---

*IDC **27** 05:32:03.9±6.9, 1.97S×99.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=338.6km s-min=26.1km az=53.0*

*DJA **27** 05:32:15.1±1.5, 2.5±6×10.0E±°, h15km±10km, M3.7/5, MLv3.7/5*

ISC 27 05:32:10.6±1.3, 1.69S±0.08×99.9E±0.1, h33km, n9, σ1°56/10, mb3.4/3, Southern Sumatera

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

PDSI	**Padang**	**0.93**	**34**	P	**Pb**	**05 32 28.4**	**0.0**
PDSI				S	**Sb**	**05 32 42.2**	**+1.7**
KRJI	**Kerinci**	**1.58**	**105**	P	**Pb**	**05 32 40.7**	**+1.4**
BKNI	**Bangkinang**	**2.29**	**29**	P	**Pn**	**05 32 44.8**	**-1.2**
MNSI	**Mandailing Nat**	**2.49**	**352**	P	**Pb**	**05 32 56.4**	**+1.7**
RGRI	**Rengat**	**2.74**	**61**	P	**Pb**	**05 32 59.3**	**+0.3**
WRA	**Warramunga Arr**	**38.21**	**121**	P	**P**	**05 39 26.4**	**-1.2**
	0.4nm,0.7s,baz=302,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**39.49**	**126**	P	**P**	**05 39 39.9**	**+1.5**
	0.2nm,0.3s,baz=303,slow=7.6,SNR=2.9						
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**05 41 07.1**	**0.0**
	1.0nm,0.5s,baz=152,slow=8.4,SNR=11						
TXAR	**Lajitas Array**	**144.50**	**37**	PKPbc	**PKPab**	**05 51 40.8**	**-2.0**
	0.2nm,0.5s,baz=266,slow=1.4,SNR=4.3						

IDC 27 05:57:45.5±6.4, 0.79S×102.34E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, Error ellipse: s-maj=372.2km s-min=28.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.64**	**123**	P	P	06 04 54.1	+0.1
	0.3nm,0.3s,baz=299,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**38.12**	**129**	P	P	06 05 06.3	-0.4
	0.6nm,0.6s,baz=305,slow=8.2,SNR=6.9						
MKAR	**Makanchi Array**	**50.55**	**342**	P	P	06 06 45.5	-0.3
	0.4nm,0.6s,baz=142,slow=7.8,SNR=5.1						
TXAR	**Lajitas Array**	**142.31**	**39**	PKP	PKPdf	06 17 22.3	+1.3
	0.2nm,0.5s,baz=298,slow=1.9,SNR=5.0						

IDC ***27*** *06:15:36.2±1.7, 43.55N×126.91W, h0km, mb3.6/5, mb1 4.0/12, mb1mx3.8/34, mbtmp3.8/12, ML3.8/7, MS3.8/10, Ms1 3.7/10, ms1mx3.4/38, Error ellipse: s-maj=28.6km s-min=11.5km az=53.0*

ISCJB ***27*** *06:15:37.3±0.7, 43.58N±0.04×126.95W±0.08, h14km, mb3.9/6, MS3.6/8, Error ellipse: s-maj=8.6km s-min=4.4km az=152.5*

NEIC ***27*** *06:15:38.7±0.8, 43.61N×127.04W, h10km, mb4.1/6, Error ellipse: s-maj=10.7km s-min=6.1km az=59.0*

ISC 27 06:15:39.4±1.2, 43.56N±0.07×126.9W±0.1, h14km, n76, σ1s32/73, mb4.0/6, MS3.7/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.02**	**109**	*e*Pn	Pn	06 16 09.1	-4.1
KEBM				*e*Sn	**Sn**	**06 16 35.9**	**-2.3**
RNO	**Roman Nose**	**2.34**	**80**	P	**Pn**	**06 16 15.7**	**-1.9**
MPOR	**Mary's Peak**	**2.62**	**68**	P	**Pn**	**06 16 19.7**	**-1.7**
DBO	**Dodson Butte**	**2.73**	**98**	P	**Pn**	**06 16 20.2**	**-2.7**
COR	**Corvallis**	**2.81**	**67**	*e*Pn	**Pn**	**06 16 22.7**	**-1.2**
EUO	**Eugene**	**2.84**	**75**	P	**Pn**	**06 16 22.9**	**-1.4**
HUMO	**Hull Mountain**	**3.07**	**107**	*e*Pn	Pn	06 16 23.9	-3.5
HUMO				*e*Sn	**Sn**	**06 17 03.5**	**-0.4**
NLO	**Nicolai Mounta**	**3.54**	**43**	P	**Pn**	**06 16 33.8**	**-0.2**
YBH	**Yreka Blue Hor**	**3.61**	**119**	Pn	**Pn**	**06 16 33.3**	**-1.7**
	3.7nm,0.3s,baz=293,slow=13,SNR=93						
YBH				Sn	**Sn**	**06 17 17.2**	**-0.4**
	1.2nm,0.3s,baz=122,slow=16,SNR=5.3						
YBH	**Yreka Blue Hor**	**3.61**	**119**	*e*Pn	**Pn**	**06 16 32.9**	**-2.2**
YBH				Sn	**Sn**	**06 17 17.2**	**-0.4**
PRLK	**Prince Lake**	**3.65**	**78**	P	**Pn**	**06 16 35.0**	**-0.5**
NLWA	**Neilton Lookou**	**4.39**	**28**	*e*Pn	**Pn**	**06 16 45.1**	**-0.6**
NLWA				*e*Sn	**Sn**	**06 17 36.6**	**-0.1**
WDC	**Whiskeytown Da**	**4.42**	**131**	*e*Pn	**Pn**	**06 16 47.8**	**+1.7**
LON	**Longmire**	**4.82**	**47**	*e*Pn	**Pn**	**06 16 52.1**	**+0.5**
RCM	**Mount Rainier-**	**4.92**	**47**	P	**Pn**	**06 16 53.7**	**+0.5**
MOD	**Modoc**	**5.16**	**107**	*e*Pn	**Pn**	**06 16 56.6**	**+0.3**
PGC	**Sidney**	**5.63**	**24**	*e*Pn	**Pn**	**06 17 02.4**	**-0.3**
PGC				*e*Sn	**Sn**	**06 18 07.5**	**+0.4**
HAWA	**Hanford**	**5.96**	**59**	*e*Pn	**Pn**	**06 17 07.0**	**-0.2**
BMO	**Blue Mountains**	**7.04**	**76**	*e*Pn	**Pn**	**06 17 21.4**	**-0.6**
CMB	**Columbia Colle**	**7.43**	**136**	*e*Pn	**Pn**	**06 17 28.0**	**+0.7**
NEW	**Newport**	**8.30**	**52**	Pn	**Pn**	**06 17 39.5**	**+0.2**
	2.3nm,0.3s,baz=248,slow=12,SNR=32						
NEW				LR	LR	06 21 15.4	
	comp=Z,476nm,18.3s,baz=256,slow=41						
NEW	**Newport**	**8.30**	**52**	*e*Pn	**Pn**	**06 17 39.2**	**-0.1**
NVAR	**Mina Array Bea**	**8.30**	**125**	Pn	**Pn**	**06 17 40.0**	**+0.5**
	0.3nm,0.3s,baz=300,slow=14,SNR=6.2						
NVAR	**Mina Array Bea**	**8.30**	**125**	Pn	**Pn**	**06 17 40.0**	**+0.5**
BBB	**Bella Bella**	**8.66**	**355**	Pn	**Pn**	**06 17 44.3**	**+0.1**
	1.0nm,0.3s,baz=218,slow=9.6,SNR=7.6						
BBB				LR	LR	06 20 12.6	
	comp=Z,428nm,18.8s,baz=262,slow=32						
BBB	**Bella Bella**	**8.66**	**355**	Pn	**Pn**	**06 17 44.3**	**+0.1**
HLID	**Hailey**	**9.09**	**86**	*e*Pn	**Pn**	**06 17 52.4**	**+2.1**
BSMT	**Bassoo Peak**	**9.52**	**59**	*e*Pn	**Pn**	**06 17 57.7**	**+1.6**
MSO	**Missoula**	**9.74**	**66**	*e*Pn	**Pn**	**06 17 58.5**	**-0.6**
JTMT	**Jette**	**9.79**	**60**	*e*Pn	**Pn**	**06 18 01.4**	**+1.5**
BLMT	**Blacktail Moun**	**9.84**	**59**	*e*Pn	**Pn**	**06 18 01.2**	**+0.6**
	5.8nm,0.6s						
SWMT	**Swartz Lake**	**9.89**	**62**	*e*Pn	**Pn**	**06 18 03.0**	**+1.7**
YBMT	**Yellow Bay**	**10.01**	**60**	*e*Pn	**Pn**	**06 18 02.9**	**+0.2**
	29nm,1.6s						
SLMT	**Seeley Lake**	**10.14**	**64**	*e*Pn	**Pn**	**06 18 04.4**	**-0.3**
MCMT	**McKenzie Canyo**	**10.20**	**78**	*e*Pn	**Pn**	**06 18 06.5**	**+1.0**
	1.3nm,0.4s						
CHMT	**Chamberlain Mo**	**10.21**	**66**	*e*Pn	**Pn**	**06 18 04.9**	**-0.8**
ISA	**Isabella**	**10.23**	**138**	*e*Pn	**Pn**	**06 18 07.5**	**+1.7**
	18nm,1.4s						
DLMT	**Dillon**	**10.41**	**75**	*e*Pn	**Pn**	**06 18 09.1**	**+0.7**
LRM	**Limekiln Ridge**	**10.56**	**73**	*e*Pn	**Pn**	**06 18 10.5**	**+0.1**
BOZ	**Bozeman (W)**	**11.11**	**74**	*e*Pn	**Pn**	**06 18 18.1**	**+0.2**
HRY	**Holter Researc**	**11.12**	**68**	*e*Pn	**Pn**	**06 18 19.3**	**+1.2**
	3.3nm,0.5s						
RRI2	**Red Ridge**	**11.36**	**86**	*e*Pn	**Pn**	**06 18 23.3**	**+1.9**
	7.5nm,1.3s						
YMR	**Madison River**	**11.54**	**79**	*e*Pn	**Pn**	**06 18 25.9**	**+2.1**
	83nm,2.0s						
IMW	**Indian Meadow**	**11.58**	**83**	*e*Pn	**Pn**	**06 18 26.8**	**+2.3**
	11nm,1.5s						
TPAW	**Teton Pass**	**11.61**	**85**	*e*Pn	**Pn**	**06 18 26.8**	**+1.9**
	6.8nm,1.1s						
MOOW	**Moose Ponds**	**11.73**	**84**	*e*Pn	**Pn**	**06 18 28.3**	**+1.7**
	27nm,2.2s						
FLWY	**Flagg Ranch**	**11.74**	**82**	*e*Pn	**Pn**	**06 18 29.2**	**+2.6**
LOHW	**Long Hollow**	**11.85**	**84**	*e*Pn	**Pn**	**06 18 30.2**	**+2.1**
	1.6nm,0.7s						
JLU	**Jordanelle**	**11.88**	**99**	*e*Pn	**Pn**	**06 18 28.8**	**+0.2**
	4.1nm,0.8s						
PDAR	**Pinedale Array**	**12.71**	**88**	Pn	**Pn**	**06 18 41.4**	**+1.4**
	0.0nm,0.3s,baz=272,slow=9.6,SNR=7.0						
PDAR				LR	LR	06 24 08.7	
	comp=Z,344nm,21.4s,baz=300,slow=40						
PDAR	**Pinedale Array**	**12.71**	**88**	Pn	**Pn**	**06 18 41.4**	**+1.4**
DLBC	**Dease Lake**	**15.02**	**354**	Pn	P	06 19 12.3	-4.1
	0.2nm,0.3s,baz=204,slow=7.3,SNR=3.1						
DLBC	**Dease Lake**	**15.02**	**354**	Pn	P	06 19 12.3	-4.1
ISCO	**Idaho Springs**	**16.36**	**96**	*e*P	**P**	**06 19 33.1**	**+1.4**
	18nm,1.5s						
TUC	**Tucson**	**16.95**	**126**	*e*P	**P**	**06 19 39.1**	**+1.0**
	8.6nm,1.5s						
ANMO	**Albuquerque**	**18.01**	**112**	P	**Pn**	**06 19 48.3**	**-1.1**
	0.1nm,0.3s,baz=318,slow=14,SNR=3.8						
ANMO	**Albuquerque**	**18.01**	**112**	*e*P	**Pn**	**06 19 49.2**	**-0.2**
	9.9nm,1.8s						
FFC	**Flin Flon**	**19.66**	**47**	*e*P	**Pn**	**06 20 08.3**	**-0.8**
	30nm,1.4s						
YKA	**Yellowknife Ar**	**20.29**	**17**	P	**P**	**06 20 13.7**	**-0.7**
	1.8nm,0.8s,baz=207,slow=11,SNR=19						
YKA	**Yellowknife Ar**	**20.29**	**17**	P	**P**	**06 20 13.7**	**-0.7**
DAWY	**Dawson**	**21.74**	**345**	*e*P	**P**	**06 20 28.9**	**-1.2**
ECSD	**EROS Data Cent**	**21.89**	**79**	*e*P	**P**	**06 20 31.0**	**-0.9**
	15nm,1.3s						
AGMN	**Agassiz Nation**	**22.04**	**67**	*e*P	**P**	**06 20 35.9**	**+2.5**
	56nm,1.6s						
ULM	**Lac du Bonnet**	**22.14**	**62**	P	**P**	**06 20 34.0**	**-0.5**
	2.0nm,0.5s,baz=273,slow=11,SNR=5.6						
ULM				LR	LR	06 29 32.3	
	comp=Z,302nm,18.5s,baz=280,slow=38						
ULM	**Lac du Bonnet**	**22.14**	**62**	P	**P**	**06 20 34.0**	**-0.5**
TXAR	**Lajitas Array**	**23.39**	**120**	P	**P**	**06 20 47.6**	**-0.3**
	0.3nm,0.5s,baz=305,slow=9.2,SNR=6.1						
TXAR				LR	LR	06 30 45.0	
	comp=Z,106nm,18.1s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**23.39**	**120**	P	**P**	**06 20 47.6**	**-0.3**
LPIG	**La Paz**	**23.74**	**140**	LR	LR	06 29 29.3	
	comp=Z,15nm,18.3s,baz=249,slow=35						
ILAR	**Eielson Array**	**24.03**	**339**	P	**P**	**06 20 52.0**	**-1.7**
	3.4nm,0.8s,baz=154,slow=8.6,SNR=38						
ILAR	**Eielson Array**	**24.03**	**339**	P	**P**	**06 20 52.0**	**-1.7**

INK	**Inuvik**	**25.05**	**354**	P	**P**	**06 21 00.5**	**-2.3**
	3.4nm,1.0s,baz=173,slow=10,SNR=8.8						
INK				LR	LR	06 31 34.5	
	comp=Z,149nm,19.8s,baz=122,slow=38						
INK	**Inuvik**	**25.05**	**354**	P	**P**	**06 21 00.5**	**-2.3**
JTS	**JuntasAbangare**	**49.18**	**120**	LR	LR	06 46 00.4	
	comp=Z,67nm,19.8s,baz=251,slow=37						
PPT	**Papeete**	**64.28**	**204**	LR	LR	06 48 47.6	
	comp=Z,114nm,20.4s,baz=191,slow=31						
ZALV	**Zalesovo Beam**	**79.13**	**342**	LR	LR	07 03 06.6	
	comp=Z,72nm,19.1s,baz=72,slow=36						
MKAR	**Makanchi Array**	**86.38**	**340**	LR	LR	07 09 36.0	
	comp=Z,50nm,18.4s,baz=354,slow=38						

ISCJB ***27*** *06:16:18.5±0.6, 29.19S±0.04×69.45W±0.09, h114km±9km, mb4.0/4, Error ellipse: s-maj=13.7km s-min=7.4km az=176.6*

NEIC ***27*** *06:16:19.1, 29.10S×69.89W, h145km, MG4.3(GUC), After GUC.*

GUC ***27*** *06:16:19.1±0.7, 29.10S×69.89W, h145km±19km, ML4.3*

IDC ***27*** *06:16:21.7±4.9, 29.24S×69.18W, h115km±40km, mb3.8/4, mb1 3.8/4, mb1mx3.4/16, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=56.5km s-min=39.6km az=110.0*

ISC 27 06:16:19.4±0.7, 29.14S±0.04×69.53W±0.07, h111km±7km, n28, σ1s59/41, mb4.1/4, 2C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.22**	**297**	↓*i*P	Pn	06 16 37.5	-5.6
VACH				*i* S	**Sn**	**06 16 56.0**	**-5.0**
VACH	**Vallenar**	**1.22**	**297**	↓*i*P	Pn	06 16 37.5	-5.6
VACH				*i* S	**Sn**	**06 16 56.0**	**-5.0**
VACH				AML	AML	06 16 57.0	
	comp=N,10μm,0.2s						
TLL	**Tololo Astrono**	**1.51**	**227**	↑*i*P	**Pn**	**06 16 47.7**	**+1.0**
TLL				*i* S	**Sn**	**06 17 08.8**	**+1.4**
TLL	**Tololo Astrono**	**1.51**	**227**	↑*i*P	**Pn**	**06 16 47.7**	**+1.0**
TLL				*i* S	**Sn**	**06 17 08.8**	**+1.4**
TLL				AML	AML	06 17 12.6	
	comp=N,878nm,0.4s						
CPCH	**Copiapo**	**1.92**	**337**	↓*i*P	**Pn**	**06 16 51.7**	**+0.2**
CPCH				*i* S	**Sn**	**06 17 16.4**	**+0.5**
CPCH	**Copiapo**	**1.92**	**337**	↓*i*P	**Pn**	**06 16 51.7**	**+0.2**
CPCH				*i* S	**Sn**	**06 17 16.4**	**+0.5**
CPCH				AML	AML	06 17 19.7	
	comp=N,7μm,0.1s						
CMCH	**Combarbala**	**2.39**	**212**	↓*i*P	**Pn**	**06 16 57.1**	**-0.4**
CMCH				*i* S	**Sn**	**06 17 26.3**	**-0.6**
CMCH	**Combarbala**	**2.39**	**212**	↓*i*P	**Pn**	**06 16 57.1**	**-0.4**
CMCH				*i* S	**Sn**	**06 17 26.3**	**-0.6**
CMCH				AML	AML	06 17 27.3	
	comp=N,3μm,0.5s						
CFAA	**Coronel Fontan**	**2.69**	**156**	P	**Pn**	**06 17 01.3**	**-0.1**
	comp=N,1.7nm,0.3s,baz=341,slow=12,SNR=328						
CFAA				S	**Sn**	**06 17 32.1**	**-1.7**
	comp=N,4.3nm,0.3s,baz=350,slow=9.4,SNR=21						
CFAA	**Coronel Fontan**	**2.69**	**156**	P	**Pn**	**06 17 01.3**	**-0.1**
CFAA				S	**Sn**	**06 17 32.1**	**-1.7**
CHNG	**Los Chungos**	**3.22**	**211**	*e*P	**Pn**	**06 17 08.0**	**-0.3**
CHNG				*i* S	**Sn**	**06 17 45.2**	**-0.9**
CHNG	**Los Chungos**	**3.22**	**211**	*e*P	**Pn**	**06 17 08.0**	**-0.3**
CHNG				*i* S	**Sn**	**06 17 45.2**	**-0.9**
CHNG				AML	AML	06 17 55.7	
	comp=E,290nm,0.5s						
TRQA	**Tornquist**	**10.89**	**147**	*e*Pn	**Pn**	**06 18 49.4**	**-2.6**
SIV	**San Ignacio**	**15.23**	**33**	LR	LR	06 25 37.6	
	comp=E,100nm,18.8s,slow=37						
BDFB	**Brasilia**	**23.95**	**60**	P	**P**	**06 21 23.6**	**0.0**
	comp=E,1.4nm,0.5s,baz=237,slow=11,SNR=4.6						
BDFB				LR	LR	06 32 25.2	
	comp=E,63nm,20.4s,baz=213,slow=41						
BDFB	**Brasilia**	**23.95**	**60**	P	**P**	**06 21 23.6**	**0.0**
DBIC	**Dimbokro**	**71.59**	**71**	P	**P**	**06 27 29.5**	**+0.5**
	comp=E,2.1nm,0.7s,baz=242,slow=9.9,SNR=3.7						
DBIC	**Dimbokro**	**71.59**	**71**	*e*P	**P**	**06 27 27.4**	**-1.7**
BOSA	**Boshof**	**80.40**	**117**	P	**P**	**06 28 19.2**	**+0.1**
	comp=E,1.0nm,0.4s,baz=178,slow=5.2,SNR=3.8						
BOSA	**Boshof**	**80.40**	**117**	P	**P**	**06 28 19.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.51**	**69**	P	**P**	**06 28 20.1**	**+0.4**
	comp=E,2.1nm,0.6s,baz=272,slow=5.5,SNR=28						
TORD				pP	**pP**	**06 28 50.4**	**+2.4**
	comp=E,0.8nm,0.8s,baz=261,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**80.51**	**69**	P	**P**	**06 28 20.1**	**+0.4**
TORD				pP	**pP**	**06 28 50.4**	**+2.4**
AAK	**Ala-Archa**	**148.14**	**55**	PKPbc	**PKPab**	**06 35 54.3**	**-1.3**
	comp=E,1.4nm,0.5s,baz=256,slow=4.2,SNR=5.1						
AAK	**Ala-Archa**	**148.14**	**55**	PKPbc	**PKPab**	**06 35 54.3**	**-1.3**
ZALV	**Zalesovo Beam**	**148.97**	**30**	PKPbc	**PKPbc**	**06 35 55.0**	**+1.2**
	comp=E,2.2nm,0.5s,baz=316,slow=4.8,SNR=11						
ZALV	**Zalesovo Beam**	**148.97**	**30**	PKPbc	**PKPbc**	**06 35 55.0**	**+1.2**
MKAR	**Makanchi Array**	**151.86**	**43**	PKPbc	**PKPbc**	**06 36 01.8**	**+0.7**
	comp=E,0.7nm,0.7s,baz=303,slow=2.1,SNR=8.0						
MKAR				PKPab	**PKPab**	**06 36 10.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=305,slow=3.7,SNR=4.7						
MKAR	**Makanchi Array**	**151.86**	**43**	PKPbc	**PKPbc**	**06 36 01.8**	**+0.7**
MKAR				PKPab	**PKPab**	**06 36 10.8**	**+0.3**

MAN 27 06:17:51, 9.79N×126.27E, h15km, mb4.8, ML3.7, MS3.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.04**	**218**	*e*P	Pb	06 18 09.6	-1.2
BUTP				*e*S	Sn	06 18 26.0	+0.7
MSLP	**Maasin**	**1.43**	**284**	*e*P	Pn	06 18 15.7	-0.7
PLP	**Palo**	**1.86**	**317**	↓*e*P	Pn	06 18 22.0	-0.4
PLP				*i* S	Sg	06 18 51.9	+0.9
BUKP	**Musuan**	**2.25**	**212**	*e*P	Pn	06 18 28.9	+1.2
BUKP				*e*S	Sn	06 18 56.0	+0.7
TBP	**Tagbilaran**	**2.38**	**268**	*e*P	Pb	06 18 31.8	-1.8

ISK ***27*** *06:26:05.2, 39.59N×39.92E, h2km, MD2.8*

ISCJB ***27*** *06:26:06.1±0.5, 39.58N±0.03×39.91E±0.03, h0km±6km, Error ellipse: s-maj=5.2km s-min=3.7km az=41.9*

DDA ***27*** *06:26:06.1, 39.53N×39.88E, h7km, MD3.1*

CSEM ***27*** *06:26:06.3±0.1, 39.58N×39.90E, h2km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.5km az=111.0*

ISC 27 06:26:06.2±1.2, 39.56N±0.02×39.91E±0.02, h0km±11km, n31, σ0s62/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.14**	**279**	*e*PG	**Pg**	**06 26 08.9**	**-0.1**
ERZN				*e*SG	**Sg**	**06 26 11.9**	**+1.0**
EZC	**Erzincan**	**0.47**	**294**	*e*PG	**Pg**	**06 26 15.4**	**+0.2**
EZC				*e*SG	**Sg**	**06 26 23.0**	**+1.8**
EZC	**Erzincan**	**0.47**	**294**	*e*Pg	**Pg**	**06 26 15.4**	**+0.2**
EZC				*e*Sg	**Sg**	**06 26 23.0**	**+1.8**
KOPT	**Kop Dagi**	**0.64**	**45**	*i* P	**Pg**	**06 26 19.3**	**+0.7**
KOPT	**Kop Dagi**	**0.64**	**45**	*i* P	**Pg**	**06 26 19.3**	**+0.7**
KELT	**Kelkit**	**0.77**	**320**	*i* P	**Pg**	**06 26 20.5**	**-0.5**
KELT				*i* S	**Sg**	**06 26 30.9**	**-0.1**
KELT	**Kelkit**	**0.77**	**320**	*i* P	**Pg**	**06 26 20.5**	**-0.5**
KELT				*i* S	**Sg**	**06 26 30.9**	**-0.1**
BINT	**Bingol**	**0.82**	**146**	*e*Pg	**Pg**	**06 26 22.3**	**+0.3**
BINT				*e*Sg	**Sb**	**06 26 34.6**	**-0.6**
BNGB	**Bing¨¶l**	**0.83**	**133**	*e*PG	**Pg**	**06 26 22.3**	**+0.2**
BNGB				*e*SG	**Sb**	**06 26 34.6**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.85**	**12**	*e*PG	**Pg**	**06 26 21.9**	**-0.6**
BAYT				*e*SG	**Sg**	**06 26 34.1**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**0.85**	**12**	*e*Pg	**Pg**	**06 26 21.9**	**-0.6**
BAYT				*e*Sg	**Sg**	**06 26 34.1**	**+0.6**
GUMT	**Gumushane**	**0.95**	**340**	*e*PG	**Pg**	**06 26 24.1**	**-0.4**
GUMT	**Gumushane**	**0.95**	**340**	*e*Pg	**Pg**	**06 26 24.1**	**-0.4**
ILIC	**ilic-Erzincan**	**1.04**	**264**	*e*PG	**Pg**	**06 26 26.0**	**-0.2**
ILIC	**ilic-Erzincan**	**1.04**	**264**	*e*Pg	**Pg**	**06 26 26.0**	**-0.2**
KEMA	**Kemaliye**	**1.13**	**255**	*i* P	**Pg**	**06 26 27.7**	**-0.2**
KEMA				*i* S	**Sg**	**06 26 42.7**	**+0.1**
KEMA	**Kemaliye**	**1.13**	**255**	*i* P	**Pg**	**06 26 27.7**	**-0.2**
KEMA				*i* S	**Sg**	**06 26 42.7**	**+0.1**
EZM	**Erzurum**	**1.17**	**73**	*e*PN	**Pg**	**06 26 28.8**	**+0.1**
ELZG	**Elazig**	**1.28**	**214**	*i* P	**Pg**	**06 26 30.7**	**-0.1**
ELZG				*i* S	**Sg**	**06 26 47.1**	**-0.4**
ELZG	**Elazig**	**1.28**	**214**	*i* P	**Pg**	**06 26 30.7**	**-0.1**
ELZG				*i* S	**Sg**	**06 26 47.1**	**-0.4**
SUSE	**Susehri**	**1.46**	**297**	*i* P	**Pn**	**06 26 33.9**	**-0.1**
SUSE				*i* S	**Sn**	**06 26 54.8**	**+0.8**
SUSE	**Susehri**	**1.46**	**297**	*i* P	**Pn**	**06 26 33.9**	**-0.1**
SUSE				*i* S	**Sn**	**06 26 54.8**	**+0.8**
ESPY	**Espiye-Giresun**	**1.62**	**327**	*e*PN	**Pn**	**06 26 35.6**	**-0.5**
ESPY	**Espiye-Giresun**	**1.62**	**327**	*e*Pn	**Pn**	**06 26 35.6**	**-0.5**
MYA	**Malataya**	**1.69**	**224**	*e*PN	**Pn**	**06 26 37.3**	**+0.2**
MYA	**Malataya**	**1.69**	**224**	*e*Pn	**Pn**	**06 26 37.3**	**+0.2**
MALT	**Malatya**	**1.70**	**223**	*e*PN	**Pb**	**06 26 37.9**	**-0.5**
MALT	**Malatya**	**1.70**	**223**	*e*Pn	**Pb**	**06 26 37.9**	**-0.5**
BEST	**Besiri**	**1.98**	**147**	*e*P	**Pb**	**06 26 42.5**	**-0.7**
AKCD	**Akcadag**	**2.00**	**231**	*i* P	**Pn**	**06 26 41.8**	**+0.4**
AKCD				*i* S	**Sn**	**06 27 07.8**	**+0.6**
AKCD	**Akcadag**	**2.00**	**231**	*i* P	**Pn**	**06 26 41.8**	**+0.4**
AKCD				*i* S	**Sn**	**06 27 07.8**	**+0.6**

IDC 27 06:27:32.2±2.2, 7.64S×130.01E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.4/18, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=115.2km s-min=33.0km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.93**	**161**	Pn	Pn	06 30 36.4	-1.0
	0.1nm,0.3s,baz=340,slow=13,SNR=3.1						
WRA				Sn	Sn	06 32 53.4	-8.9
	0.7nm,0.3s,baz=333,slow=20,SNR=5.6						
ASAR	**Alice Springs**	**16.37**	**167**	Pn	Pn	06 31 24.8	+1.2
	0.1nm,0.3s,baz=355,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	**68.76**	**327**	P	P	06 38 38.1	0.0
	0.2nm,0.5s,baz=113,slow=8.0,SNR=4.8						

IDC 27 06:36:13.8±6.0, 21.31S×175.73W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/20, mbtmp4.1/3, Error ellipse: s-maj=308.4km s-min=40.0km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**24.38**	**100**	*e*LR	LR	06 46 21.7	
	100nm,31.8s						
PAE	**Paea**	**24.91**	**86**	*e*T	T	07 07 01.6	
	1.8nm,0.3s						
PPT2	**Papeete2**	**24.93**	**86**	*e*LR	LR	06 47 00.8	
	106nm,27.0s						
ASAR	**Alice Springs**	**46.40**	**257**	P	P	06 44 42.2	-0.3
	4.2nm,0.8s,baz=92,slow=8.1,SNR=31						
WRA	**Warramunga Arr**	**46.59**	**262**	P	P	06 44 44.0	0.0
	3.2nm,0.9s,baz=100,slow=7.7,SNR=12						
YKA	**Yellowknife Ar**	**96.38**	**24**	P	P	06 49 44.0	-0.1
	0.2nm,0.9s,baz=230,slow=4.4,SNR=5.2						

IDC ***27*** *06:43:55.6±2.0, 8.81S×121.12E, h189km±20km, mb3.3/2, mb1 3.3/6, mb1mx3.2/21, mbtmp3.2/6, Error ellipse: s-maj=90.7km s-min=13.0km az=59.0*

AUST ***27*** *06:44:12.2±0.0, 9.65S×122.49E, h268km, Error ellipse: s-maj=1.4km s-min=1.2km az=31.0*

ISC 27 06:43:56.7±0.8, 8.68S±0.06×121.5E±0.1, h200km, n15, σ2s81/18, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.52**	**229**	P	**Sn**	**06 44 55.6**	**-1.2**
	baz=2.2,SNR=3.9						
KAPI	**Kappang**	**4.02**	**335**	P	**Pn**	**06 44 57.6**	**-1.2**
	1.4nm,0.3s,baz=174,slow=9.9,SNR=6.8						
KAPI				S	**Sn**	**06 45 45.8**	**-1.8**
	baz=72,slow

KARP				*e*Sn	**Sb**	06 59 17.7	**+0.1**
TURN	**Turunc**	**0.97**	**52**	*i* P	Pg	06 59 03.2	-5.6
TURN				*i* S	Sg	06 59 13.0	-8.5
YER	**Yerkesik**	**0.99**	**31**	*e*PG	**Pg**	06 59 08.9	**-0.4**
YER				*e*SG	**Sn**	06 59 23.4	**-0.6**
YER	**Yerkesik**	**0.99**	**31**	*e*Pg	**Pg**	06 59 08.9	**-0.4**
YER				*e*Sg	**Sn**	06 59 23.4	**-0.6**
FETY	**Fethiye**	**1.21**	**72**	*e*PN	**Pn**	06 59 12.6	**-0.3**
FETY	**Fethiye**	**1.21**	**72**	*e*Pn	**Pn**	06 59 12.6	**-0.3**
AYDN	**Tasoluk**	**1.39**	**7**	*i* P	**Pg**	06 59 16.8	**-0.1**
AYDN				*i* S	**Sg**	06 59 34.8	**-0.2**
AYDN	**Tasoluk**	**1.39**	**7**	*i* P	**Pg**	06 59 16.8	**-0.1**
AYDN				*i* S	**Sg**	06 59 34.8	**-0.2**
AKAS	**Kas**	**1.58**	**91**	*i* P	**Pb**	06 59 19.7	**+0.3**
AKAS				*i* S	**Sb**	06 59 39.8	**+0.4**
AKAS	**Kas**	**1.58**	**91**	*i* P	**Pb**	06 59 19.7	**+0.3**
AKAS				*i* S	**Sb**	06 59 39.8	**+0.4**
ZKR	**Zakros**	**1.65**	**226**	*e*PN	**Pb**	06 59 20.0	**-0.4**
ZKR	**Zakros**	**1.65**	**226**	*e*Pn	**Pb**	06 59 20.0	**-0.4**
DNZL	**Cakiroluk**	**1.80**	**38**	*i* P	**Pb**	06 59 23.1	**0.0**
DNZL				*i* S	**Sb**	06 59 45.9	**+0.2**
DNZL	**Cakiroluk**	**1.80**	**38**	*i* P	**Pb**	06 59 23.1	**0.0**
DNZL				*i* S	**Sb**	06 59 45.9	**+0.2**
GOLH	**Golhisar**	**1.81**	**57**	*i* P	**Pg**	06 59 24.4	**-0.4**
GOLH				*i* S	**Sb**	06 59 46.9	**+1.0**
GOLH	**Golhisar**	**1.81**	**57**	*i* P	**Pg**	06 59 24.4	**-0.4**
GOLH				*i* S	**Sb**	06 59 46.9	**+1.0**
DENT	**Denizli**	**1.84**	**36**	*e*PN	**Pn**	06 59 22.0	**+0.4**
DENT	**Denizli**	**1.84**	**36**	*e*Pn	**Pn**	06 59 22.0	**+0.4**
ELL	**Elmali**	**1.88**	**75**	*e*PN	**Pn**	06 59 22.5	**+0.3**
ELL	**Elmali**	**1.88**	**75**	*e*Pn	**Pn**	06 59 22.5	**+0.3**
NPS	**Neapolis**	**1.94**	**239**	*e*PN	**Pn**	06 59 23.5	**+0.5**
NPS	**Neapolis**	**1.94**	**239**	*e*Pn	**Pn**	06 59 23.5	**+0.5**
LAST	**Lasithi**	**2.09**	**238**	*e*PB	**Pn**	06 59 25.6	**+0.6**
LAST	**Lasithi**	**2.09**	**238**	*e*Pb	**Pn**	06 59 25.6	**+0.6**

*ISCJB **27** 07:00:22.4±0.8, 37°.65N±0°.05×36°.15E±0°.03, h5km±6km, Error ellipse: s-maj=9.2km s-min=4.2km az=178.0*
*ISK **27** 07:00:22.1, 37°.58N×36°.18E, h17km, MD2.9*
*CSEM **27** 07:00:22.2±0.2, 37°.63N×36°.14E, h8km, MD2.9, Error ellipse: s-maj=8.5km s-min=5.0km az=1.0*
*DDA **27** 07:00:23.0, 37°.56N×36°.16E, h7km, MD2.9*

ISC 27 07:00:22.0±1.1, 37°.61N±0°.04×36°.12E±0°.03, h7km±10km, n25, σ0946/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.18**	**100**	*i* P	**Pg**	**07 00 25.9**	**+0.1**
ANDN				*i* S	**Sg**	**07 00 28.5**	**+0.1**
ANDN	**Andirin**	**0.18**	**100**	*i* P	**Pg**	**07 00 25.9**	**+0.1**
ANDN				*i* S	**Sg**	**07 00 28.5**	**+0.1**
KOZT	**Kozan**	**0.27**	**241**	*e*PG	**Pb**	**07 00 28.9**	**-0.3**
KOZT				*e*SG	**Sb**	**07 00 33.8**	**0.0**
KOZT	**Kozan**	**0.27**	**241**	*e*Pg	**Pb**	**07 00 28.9**	**-0.2**
KMRS	**Kahramanmaras**	**0.63**	**99**	*e*PG	**Pg**	**07 00 34.1**	**-0.1**
KMRS				*e*SG	**Sg**	**07 00 42.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.63**	**99**	*e*Pg	**Pg**	**07 00 34.1**	**-0.1**
KMRS				*e*Sg	**Sg**	**07 00 42.2**	**-0.3**
GAZ	**Gaziantep**	**0.98**	**116**	*e*PG	**Pg**	**07 00 40.8**	**0.0**
GAZ	**Gaziantep**	**0.98**	**116**	*e*Pg	**Pg**	**07 00 40.8**	**0.0**
GULE	**Gulek**	**1.11**	**253**	*i* P	**Pn**	**07 00 44.6**	**+0.4**
GULE				*i* S	**Sn**	**07 01 00.6**	**+0.7**
GULE	**Gulek**	**1.11**	**253**	*i* P	**Pn**	**07 00 44.6**	**+0.4**
GULE				*i* S	**Sn**	**07 01 00.6**	**+0.7**
KUZU	**Kuzuini**	**1.13**	**137**	*i* P	**Pn**	**07 00 44.4**	**+0.1**
KUZU				*i* S	**Sg**	**07 00 58.1**	**-0.4**
KUZU	**Kuzuini**	**1.13**	**137**	*i* P	**Pn**	**07 00 44.4**	**+0.1**
KUZU				*i* S	**Sg**	**07 00 58.1**	**-0.4**
GZT	**Gaziantep**	**1.18**	**102**	*i* P	**Pn**	**07 00 45.6**	**+0.6**
GZT				*i* S	**Sn**	**07 01 01.2**	**-0.2**
BNN	**Bunyan**	**1.26**	**350**	*e*PN	**Pn**	**07 00 46.0**	**-0.1**
BNN	**Bunyan**	**1.26**	**350**	*e*Pn	**Pn**	**07 00 46.0**	**-0.1**
NIG	**Nigde**	**1.29**	**293**	*e*PN	**Pn**	**07 00 46.0**	**-0.7**
NIG	**Nigde**	**1.29**	**293**	*e*Pn	**Pn**	**07 00 46.0**	**-0.7**
MERS	**Mersin**	**1.47**	**240**	*e*PN	**Pn**	**07 00 48.7**	**-0.3**
MERS	**Mersin**	**1.47**	**240**	*e*Pn	**Pn**	**07 00 48.7**	**-0.3**
AKCD	**Akcadag**	**1.58**	**64**	*i* P	**Pg**	**07 00 52.5**	**+0.1**
AKCD				*i* S	**Sg**	**07 01 14.3**	**+1.4**
AKCD	**Akcadag**	**1.58**	**64**	*i* P	**Pg**	**07 00 52.5**	**+0.1**
MALT	**Malatya**	**1.96**	**68**	*e*PN	**Pn**	**07 00 55.5**	**-0.1**
MALT	**Malatya**	**1.96**	**68**	*e*Pn	**Pn**	**07 00 55.6**	**-0.1**
MYA	**Malataya**	**1.96**	**68**	*e*PN	**Pn**	**07 00 54.9**	**-0.9**
MYA	**Malataya**	**1.96**	**68**	*e*Pn	**Pn**	**07 00 54.9**	**-0.9**

IDC 27 07:06:49.9±5.3, 21°.97S×177°.88W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=226.4km s-min=68.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.31**	**258**	P	P	07 15 02.1	+0.1
	0.8nm,0.8s,baz=100,slow=7.7,SNR=7.2						
WRA	**Warramunga Arr**	**44.53**	**263**	P	P	07 15 03.9	+0.1
	1.1nm,0.6s,baz=102,slow=7.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**90.71**	**290**	P	P	07 19 54.1	-1.1
	0.9nm,0.4s,baz=129,slow=3.5,SNR=5.7						
AKASG	**Malin Array Be**	**144.35**	**330**	PKP	PKPdf	07 26 28.7	+0.8
	0.4nm,0.3s,baz=42,slow=4.8,SNR=4.2						

IDC 27 07:16:55.7±1.6, 9.73S×152°.11E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=40.7km s-min=26.3km az=118.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**273**	Pn	Pn	07 18 12.1	+1.5
	2.6nm,0.3s,baz=43,slow=9.9,SNR=6.2						
PMG				Sn	Sn	07 19 11.4	+3.4
	baz=325,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**19.94**	**237**	P	P	07 21 29.1	-0.3
	0.1nm,0.3s,baz=61,slow=10.0,SNR=9.0						
ASAR	**Alice Springs**	**22.24**	**229**	P	P	07 21 54.4	+0.1
	1.1nm,0.5s,baz=64,slow=9.6,SNR=16						
STKA	**Stephens Creek**	**24.10**	**202**	P	P	07 22 13.6	+0.5
	2.3nm,0.8s,baz=32,slow=7.3,SNR=5.8						
FITZ	**Fitzroy Crossi**	**26.98**	**249**	P	P	07 22 37.8	-1.6
	1.7nm,0.7s,baz=84,slow=9.5,SNR=6.8						
FITZ				LR	LR	07 33 15.8	
	comp=Z,62nm,19.0s,baz=270,slow=36						
MKAR	**Makanchi Array**	**83.59**	**320**	P	P	07 29 25.9	0.0
	0.6nm,0.6s,baz=108,slow=6.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**84.86**	**327**	P	P	07 29 31.8	-0.5
	0.7nm,0.5s,baz=123,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.82**	**280**	PKPbc	PKPbc	07 36 51.7	+0.4
	0.5nm,0.8s,baz=54,slow=2.5,SNR=2.9						
TORD				PKPab	PKPab	07 36 58.2	-0.1
	0.5nm,0.7s,baz=73,slow=1.9,SNR=3.8						

*THE **27** 07:30:53.7, 37°.39N×20°.78E, h6km±1km, ML3.0/1, Error ellipse: s-maj=1.2km s-min=0.5km az=45.0*
*CSEM **27** 07:30:53.1±0.7, 37°.37N×20°.78E, h2km, MD3.5, Error ellipse: s-maj=13.4km s-min=5.5km az=59.0*
*ATH **27** 07:30:59.5, 37°.48N×21°.27E, h25km±1km, MD3.5/17*

ISC 27 07:30:55.3±1.4, 37°.41N±0°.04×21°.03E±0°.06, h6km±11km, n49, σ1907/56, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.56**	**77**	P	**Pb**	**07 31 08.0**	**+0.6**
AMT				S	**Sb**	**07 31 18.8**	**+3.2**
AMT	**Artemida-Makis**	**0.56**	**77**	*e*PB	**Pb**	**07 31 07.8**	**+0.4**
AMT				*e*SB	**Sg**	**07 31 13.1**	**-0.1**
AMT	**Artemida-Makis**	**0.56**	**77**	P	**Pb**	**07 31 08.0**	**+0.6**
AMT				S	**Sb**	**07 31 18.8**	**+3.2**
KFL	**Anninata**	**0.72**	**345**	P	Pg	07 31 07.2	-2.0
KFL				S	**Sg**	**07 31 17.7**	**-1.0**
KFL	**Anninata**	**0.72**	**345**	P	Pg	07 31 07.2	-2.0
KFL				S	**Sg**	**07 31 17.7**	**-1.0**
RLS	**Riolos of Patr**	**0.73**	**28**	P	**Pg**	**07 31 09.7**	**+0.3**
RLS				S	**Sn**	**07 31 22.2**	**-1.4**
RLS	**Riolos of Patr**	**0.73**	**28**	*e*PN	**Pn**	**07 31 11.9**	**-0.3**
RLS	**Riolos of Patr**	**0.73**	**28**	P	**Pg**	**07 31 09.7**	**+0.3**
RLS	**Riolos of Patr**	**0.73**	**28**	*e*Pn	**Pn**	**07 31 11.9**	**-0.3**
RLS				S	**Sn**	**07 31 22.2**	**-1.4**

ITM	**Ithomi**	**0.75**	**107**	P	**Pb**	**07 31 11.2**	**+0.4**
ITM	**Ithomi**	**0.75**	**107**	*e*PN	**Pn**	**07 31 11.6**	**-0.8**
ITM				*e*SN	**Sb**	**07 31 20.5**	**-0.7**
ITM	**Ithomi**	**0.75**	**107**	P	**Pb**	**07 31 11.2**	**+0.4**
ITM	**Ithomi**	**0.75**	**107**	*e*Pn	**Pn**	**07 31 11.6**	**-0.8**
PYL	**PYLOS**	**0.77**	**132**	P	**Pg**	**07 31 10.7**	**+0.7**
PYL	**PYLOS**	**0.77**	**132**	P	**Pg**	**07 31 10.7**	**+0.7**
VLS	**Valsamata**	**0.84**	**336**	P	Pg	07 31 08.8	-2.7
VLS				S	**Sg**	**07 31 20.4**	**-2.0**
VLS	**Valsamata**	**0.84**	**336**	*e*PN	**Pn**	**07 31 16.5**	**+2.8**
VLS	**Valsamata**	**0.84**	**336**	P	Pg	07 31 08.8	-2.7
VLS				S	**Sg**	**07 31 20.4**	**-2.0**
VLX	**Vlachokerasia**	**1.08**	**92**	*e*PN	**Pn**	**07 31 17.5**	**+0.5**
VLX				*e*SN	**Sb**	**07 31 29.5**	**-1.2**
VLX	**Vlachokerasia**	**1.08**	**92**	*e*Pn	**Pn**	**07 31 17.5**	**+0.5**
LAKA	**Lakka**	**1.12**	**42**	P	**Pn**	**07 31 17.3**	**-0.2**
LAKA	**Lakka**	**1.12**	**42**	*e*PN	**Pn**	**07 31 17.2**	**-0.2**
LAKA	**Lakka**	**1.12**	**42**	P	**Pn**	**07 31 17.3**	**-0.2**
GUR	**Goura**	**1.17**	**63**	P	**Pn**	**07 31 17.9**	**-0.3**
GUR	**Goura**	**1.17**	**63**	*e*PN	**Pn**	**07 31 17.9**	**-0.3**
GUR	**Goura**	**1.17**	**63**	P	**Pn**	**07 31 17.9**	**-0.3**
EFP	**Efpalio**	**1.23**	**34**	*e*PN	**Pg**	**07 31 20.1**	**+1.2**
EFP	**Efpalio**	**1.23**	**34**	*e*Pn	**Pg**	**07 31 20.1**	**+1.2**
TRIZ	**Trizonia**	**1.26**	**41**	P	**Pb**	**07 31 19.4**	**-0.1**
TRIZ	**Trizonia**	**1.26**	**41**	*e*PN	**Pg**	**07 31 20.0**	**+0.5**
TRIZ	**Trizonia**	**1.26**	**41**	P	**Pb**	**07 31 19.4**	**-0.1**
TRIZ	**Trizonia**	**1.26**	**41**	*e*Pn	**Pg**	**07 31 20.0**	**+0.5**
KALE	**Kalithea**	**1.32**	**42**	P	**Pn**	**07 31 19.5**	**-0.7**
KALE	**Kalithea**	**1.32**	**42**	*e*PN	**Pg**	**07 31 21.6**	**+1.0**
KALE	**Kalithea**	**1.32**	**42**	P	**Pn**	**07 31 19.5**	**-0.7**
KALE	**Kalithea**	**1.32**	**42**	*e*Pn	**Pg**	**07 31 21.6**	**+1.0**
EVR	**Evrytania**	**1.63**	**22**	*e*PN	**Pg**	**07 31 27.1**	**+0.6**
LTK	**Loutraki**	**1.66**	**68**	P	**Pn**	**07 31 25.2**	**+0.4**
LTK	**Loutraki**	**1.66**	**68**	*e*PN	**Pb**	**07 31 26.4**	**+0.2**
LTK	**Loutraki**	**1.66**	**68**	P	**Pn**	**07 31 25.2**	**+0.4**
LTK	**Loutraki**	**1.66**	**68**	*e*Pn	**Pb**	**07 31 26.4**	**+0.2**
VLI	**Veliai**	**1.68**	**114**	*e*PN	**Pg**	**07 31 27.6**	**+0.2**
VLI	**Veliai**	**1.68**	**114**	*e*Pn	**Pg**	**07 31 27.6**	**+0.2**
DID	**Didima**	**1.76**	**86**	*e*PN	**Pb**	**07 31 27.3**	**-0.7**
DID	**Didima**	**1.76**	**86**	*e*Pn	**Pb**	**07 31 27.3**	**-0.7**
AGG	**Agios Georgios**	**1.91**	**32**	*e*PN	**Pb**	**07 31 30.7**	**+0.2**
AGG	**Agios Georgios**	**1.91**	**32**	*e*Pn	**Pb**	**07 31 30.7**	**+0.2**
LKR	**Lokris**	**1.99**	**51**	*e*PB	**Pn**	**07 31 30.4**	**+1.0**
THL	**Klokotos Trika**	**2.29**	**19**	*e*PN	**Pb**	**07 31 36.0**	**-0.9**

*IDC **27** 07:35:16.6±1.0, 6°.57S×154°.96E, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.0/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/33, Error ellipse: s-maj=39.0km s-min=21.0km az=127.0*
*ISCJB **27** 07:35:22.2±1.0, 6°.8S±0°.2×155°.1E±0°.2, h56km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=31.9km s-min=14.2km az=40.5*
*NEIC **27** 07:35:28.8±3.3, 6°.58S×154°.80E, h92km±27km, mb4.2/2, Error ellipse: s-maj=31.2km s-min=19.5km az=109.0*

ISC 27 07:35:23.8±0.8, 6°.7S±0°.1×155°.1E±0°.2, h56km, n26, σ0990/31, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.54**	**120**	LR	LR	07 38 19.7	
	comp=Z,92nm,18.7s,baz=294,slow=32						
PMG	**Port Moresby**	**8.32**	**250**	*e*Pn	**Pn**	**07 37 22.7**	**+0.8**
CTA	**Charters Tower**	**15.88**	**212**	Pn	**P**	**07 39 07.9**	**+1.3**
	0.3nm,0.3s,baz=35,slow=16,SNR=4.2						
CTA	**Charters Tower**	**15.88**	**212**	Pn	**P**	**07 39 07.9**	**+1.3**
WRAB	**Tennant Creek**	**24.08**	**235**	*e*P	**P**	**07 40 34.1**	**-0.2**
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**24.10**	**235**	P	**P**	**07 40 33.9**	**-0.5**
	2.9nm,0.5s,baz=57,slow=9.7,SNR=18						
WRA				PcP	**PcP**	**07 44 15.0**	**+0.3**
	0.4nm,0.6s,baz=51,slow=2.4,SNR=4.6						
WRA	**Warramunga Arr**	**24.10**	**235**	P	**P**	**07 40 33.9**	**-0.5**
WRA				PcP	**PcP**	**07 44 15.0**	**+0.3**
AS31	**Alice Springs**	**26.48**	**228**	*e*P	**P**	**07 40 55.2**	**-0.8**
ASAR	**Alice Springs**	**26.48**	**228**	P	**P**	**07 40 55.5**	**-0.5**
	2.3nm,0.6s,baz=60,slow=8.7,SNR=44						
ASAR				PcP	**PcP**	**07 44 20.8**	**+0.8**
	0.2nm,0.6s,baz=49,slow=3.0,SNR=4.2						
ASAR	**Alice Springs**	**26.48**	**228**	P	**P**	**07 40 55.5**	**-0.5**
ASAR				PcP	**PcP**	**07 44 20.8**	**+0.8**
STKA	**Stephens Creek**	**28.09**	**205**	P	**P**	**07 41 10.2**	**-0.1**
	1.6nm,0.8s,baz=9.4,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**28.09**	**205**	P	**P**	**07 41 10.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	**P**	**07 41 33.4**	**-1.8**
	4.1nm,0.7s,baz=99,slow=7.2,SNR=12						
FITZ				LR	LR	07 54 06.4	
	comp=Z,71nm,18.3s,baz=280,slow=37						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	*e*P	**P**	**07 41 34.3**	**-0.9**
	3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.73**	**295**	P	**P**	**07 45 30.8**	**+0.7**
	1.2nm,0.5s,baz=108,slow=4.9,SNR=5.7						
CMAR	**Chiang Mai Arr**	**60.73**	**295**	P	**P**	**07 45 30.8**	**+0.7**
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**07 47 42.5**	**-0.2**
	0.5nm,1.1s,baz=230,slow=7.2,SNR=6.5						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**07 47 42.5**	**-0.2**
MKAR	**Makanchi Array**	**83.21**	**319**	P	**P**	**07 47 45.1**	**+0.9**
	0.4nm,0.8s,baz=85,slow=3.0,SNR=3.2						
MKAR	**Makanchi Array**	**83.21**	**319**	P	**P**	**07 47 45.1**	**+0.9**
YKA	**Yellowknife Ar**	**95.98**	**28**	P	**P**	**07 48 45.0**	**+0.5**
	0.5nm,0.8s,baz=270,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**95.98**	**28**	P	**P**	**07 48 45.0**	**+0.5**
BDFB	**Brasilia**	**148.15**	**134**	PKPbc	**PKPab**	**07 55 07.4**	**-0.1**
	1.7nm,0.7s,baz=129,slow=6.5,SNR=3.7						
BDFB	**Brasilia**	**148.15**	**134**	PKPbc	**PKPab**	**07 55 07.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**153.03**	**286**	PKPbc	**PKPbc**	**07 55 15.5**	**-0.6**
	0.8nm,0.8s,baz=61,slow=2.9,SNR=4.5						
TORD				PKPab	**PKPab**	**07 55 25.7**	**-1.9**
	0.3nm,0.6s,baz=72,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.03**	**286**	PKPbc	**PKPbc**	**07 55 15.5**	**-0.6**
TORD				PKPab	**PKPab**	**07 55 25.7**	**-1.9**

IDC 27 07:42:57.9±4.3, 13°.62S×167°.22E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, Error ellipse: s-maj=131.2km s-min=37.0km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.68**	**228**	P	P	07 49 05.8	+0.1
	2.2nm,0.6s,baz=56,slow=9.3,SNR=6.1						
WRA	**Warramunga Arr**	**32.06**	**254**	P	P	07 49 27.0	+0.2
	2.2nm,0.8s,baz=85,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**33.04**	**247**	P	P	07 49 34.8	-0.5
	1.8nm,0.7s,baz=76,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**96.37**	**316**	P	P	07 56 29.0	+0.2
	0.5nm,0.7s,baz=95,slow=6.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**96.47**	**324**	P	P	07 56 28.6	-0.4
	0.2nm,0.4s,baz=111,slow=3.2,SNR=2.7						

IDC 27 07:51:14.0±7.1, 19°.15N×145°.27E, h159km±65km, mb3.4/7, mb1 3.6/8, mb1mx3.3/27, mbtmp3.4/8, Error ellipse: s-maj=36.4km s-min=15.7km az=95.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.41**	**299**	P	Pn	07 55 15.5	+8.2
	1.3nm,0.3s,baz=112,slow=6.0,SNR=4.4						
MJAR	**Matsushiro Ar**	**18.41**	**342**	P	P	07 55 14.8	-2.2
	0.5nm,0.3s,baz=158,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**40.30**	**196**	P	P	07 58 35.8	-0.2
	3.6nm,0.7s,baz=19,slow=9.0,SNR=33						
WRA				PcP	PcP	08 00 35.1	-1.3
	0.3nm,0.5s,baz=15,slow=3.8,SNR=5.0						
FITZ	**Fitzroy Crossi**	**41.74**	**209**	P	P	07 58 48.2	+0.5
	4.2nm,1.0s,baz=37,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**43.98**	**195**	P	P	07 59 05.5	-0.2
	0.5nm,0.4s,baz=18,slow=6.2,SNR=10.0						
MKAR	**Makanchi Array**	**57.86**	**314**	P	P	08 00 50.2	+1.1
	0.3nm,0.6s,baz=90,slow=8.4,SNR=4.6						
MKAR				PcP	PcP	08 01 38.6	-1.2
	0.1nm,0.4s,baz=70,slow=6.4,SNR=3.7						
YKA	**Yellowknife Ar**	**77.78**	**28**	P	P	08 02 54.5	+1.2
	0.1nm,0.6s,baz=288,slow=5.4,SNR=4.5						
NVAR	**Mina Array Bea**	**83.18**	**52**	P	P	08 03 24.0	+1.1
	0.8nm,0.8s,baz=267,slow=6.9,SNR=5.5						
FINES	**FINESS Array B**	**86.31**	**335**	P	P	08 03 37.2	-0.6
	0.3nm,0.3s,baz=50,slow=6.0,SNR=4.2						
PLCA	**Paso Flores**	**142.60**	**133**	PKP	PKPdf	08 10 28.5	0.0
	1.6nm,0.9s,baz=276,slow=4.2,SNR=3.7						
LPAZ	**La Paz**	**148.08**	**90**	PKPbc	PKPdf	08 10 40.5	+1.3
	1.2nm,0.3s,baz=242,slow=13,SNR=11						

*IDC **27** 08:32:32.6±2.9, 40°.81N×124°.34W, h0km, mb2.8/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=33.4km s-min=16.7km az=95.0*
*ISCJB **27** 08:32:34.4±1.4, 40°.78N±0°.04×124°.4W±0°.1, h29km±8km, mb3.0/1, Error ellipse: s-maj=14.0km s-min=5.8km az=174.7*
*NEIC **27** 08:32:35.5, 40°.76N×124°.40W, h19km, MW3.7(BRK), After NCEDC.*
NEIC Felt [II] at Arcata, Eureka and McKinleyville. Also felt at Bayside, Blue Lake, Ferndale, Fields Landing, Fortuna, Redway and Trinidad.

ISC 27 08:32:35.7±1.8, 40°.75N±0°.05×124°.36W±0°.09, h24km±13km, n47, σ1960/54, 12C-15D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.49**	**75**	*e*Pg	**Pb**	**08 32 45.8**	**-0.1**
KHMM				*e*Sg	**Sb**	**08 32 52.7**	**-0.1**
KRMB	**Red Mountain**	**0.84**	**24**	*e*Pg	**Pb**	**08 32 49.9**	**-1.8**
KIPM	**Iron Peak**	**1.16**	**144**	*e*Pn	**Pn**	**08 32 55.6**	**-0.8**
KCPM	**Cahto Peak**	**1.22**	**151**	*e*Pn	**Pn**	**08 32 56.8**	**-0.5**
KCPM				*e*Sn	**Sn**	**08 33 12.1**	**-1.0**
WDC	**Whiskeytown Da**	**1.39**	**96**	*e*Pn	**Pn**	**08 32 59.2**	**-0.4**
WDC				*e*Pg	Pb	08 33 04.9	+3.9
KBO	**Bosley Butte**	**1.46**	**4**	*e*Pn	**Pn**	**08 32 59.1**	**-1.6**
KBO				*e*Pg	**Pb**	**08 33 04.0**	**+1.7**
KBO				*e*Sn	**Sn**	**08 33 15.9**	**-3.2**
YBH	**Yreka Blue Hor**	**1.58**	**51**	Pg	**Pn**	**08 33 01.5**	**-0.8**
	57nm,0.3s,baz=250,slow=12,SNR=693						
YBH				Sn	**Sn**	**08 33 22.6**	**+0.6**
	21nm,0.3s,baz=12,slow=21,SNR=8.7						
YBH	**Yreka Blue Hor**	**1.58**	**51**	*e*Pn	**Pn**	**08 33 01.2**	**-1.1**
YBH				Pg	**Pn**	**08 33 01.5**	**-0.8**
YBH				Sn	**Sn**	**08 33 22.6**	**+0.6**
KEBM	**Edson Butte**	**2.12**	**0**	*e*Pn	**Pn**	**08 33 11.3**	**+1.6**
HUMO	**Hull Mountain**	**2.13**	**29**	*e*Pn	**Pn**	**08 33 08.4**	**-1.4**
HUMO				*e*Sn	**Sn**	**08 33 34.8**	**-0.7**
MOD	**Modoc**	**3.26**	**68**	*e*Pn	**Pn**	**08 33 24.9**	**-0.6**
WCN	**Washoe City**	**3.82**	**111**	*e*Pn	**Pn**	**08 33 32.9**	**-0.2**
WCN				*e*Pg	Pb	08 33 50.0	+7.5
NVAR	**Mina Array Bea**	**5.22**	**114**	Pn	**Pn**	**08 33 53.3**	**+0.9**
	1.4nm,0.3s,baz=284,slow=14,SNR=32						
NVAR	**Mina Array Bea**	**5.22**	**114**	Pn	**Pn**	**08 33 53.3**	**+0.9**
BMO	**Blue Mountains**	**6.61**	**49**	*e*Pn	**Pn**	**08 34 12.5**	**+1.1**
	5.7nm,0.6s						
I12A	**Atlanta**	**7.49**	**63**	⇓P	**Pn**	**08 34 25.7**	**+2.2**
	baz=7.5						
G12A	**Big Creek, Yel**	**7.94**	**54**	⇑P	**Pn**	**08 34 31.5**	**+1.8**
	baz=7.9						
H12A	**Diamond D Ranc**	**7.97**	**58**	⇓P	**Pn**	**08 34 32.0**	**+2.0**
	baz=8.0						
I13A	**Wildhorse Cree**	**8.22**	**64**	⇑P	**Pn**	**08 34 36.1**	**+2.5**
	baz=8.2						
F12A	**Elk City**	**8.31**	**50**	⇓P	**Pn**

δ41.00000°,λ70.00000°. NP2:ϑ₈108.00000°,δ52.00000°, λ107.00000°. Principal axes: T 1.2700, Plg76.0000°, Azm74.0000°; N -0.0100, Plg13.0000°, Azm277.0000°; P -1.2600, Plg5.0000°, Azm186.0000°; Data Used: II CN IU IC G.

ISC 27 08:48:16.2±0.3,17°39N±0°03'×100°77W±0°03',h45km±2km, h44km:pP-P,n1004,σ1914/1107,mb5.3/196,MS4.9/38, 239C-201D,Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.59**	**125**	*eP*		**Pn**		**08 48 26.2**	**-2.1**
CAIG				*i* S		**Sn**		**08 48 35.0**	**-1.9**
CAIG	**El Cayaco**	**0.59**	**125**	*eP*		**Pn**		**08 48 26.2**	**-2.1**
CAIG				*i* S		**Sn**		**08 48 35.0**	**-1.9**
ZIIG	**Zihuatanejo**	**0.70**	**288**	*eP*		**Pn**		**08 48 27.3**	**-2.4**
ZIIG				*i* S		**Sn**		**08 48 36.8**	**-2.7**
ZIIG	**Zihuatanejo**	**0.70**	**288**	*eP*		**Pn**		**08 48 27.3**	**-2.4**
ZIIG				*i* S		**Sn**		**08 48 36.8**	**-2.7**
ARIG	**Puente Sto Nin**	**0.97**	**24**	*eP*		**Pn**		**08 48 31.7**	**-1.8**
ARIG				*i* S		**Sn**		**08 48 44.7**	**-1.5**
ACP2	**Acapulco**	**0.99**	**121**	*eP*		**Pn**		**08 48 32.7**	**-1.0**
ACP2				*i* S		**Sn**		**08 48 45.5**	**-1.0**
ACX	**Acapulco**	**1.01**	**121**	*eP*		**Pn**		**08 48 32.7**	**-1.3**
ACX				*i* S		**Sn**		**08 48 45.4**	**-1.8**
ACX	**Acapulco**	**1.01**	**121**	*eP*		**Pn**		**08 48 32.7**	**-1.3**
ACX				*i* S		**Sn**		**08 48 45.4**	**-1.8**
MEIG	**Mezcala**	**1.22**	**64**	*eP*		**Pn**		**08 48 36.2**	**-0.7**
MEIG				*i* S		**Sn**		**08 48 51.4**	**-0.9**
MEIG	**Mezcala**	**1.22**	**64**	*eP*		**Pn**		**08 48 36.2**	**-0.7**
MEIG				*i* S		**Sn**		**08 48 51.4**	**-0.9**
HMTT	**Tlapaneco**	**2.15**	**79**	*i* P		**Pn**		**08 48 49.1**	**-0.5**
HMTT				*i* S		**Sn**		**08 49 14.4**	**-0.7**
YAIG	**Yautepec**	**2.18**	**48**	*eP*		**Pn**		**08 48 49.3**	**-0.9**
YAIG				*i* S		**Sn**		**08 49 15.7**	**-0.4**
YAIG	**Yautepec**	**2.18**	**48**	*eP*		**Pn**		**08 48 49.3**	**-0.9**
YAIG				*i* S		**Sn**		**08 49 15.7**	**-0.4**
MZVM		**2.31**	**39**	*eP*		**Pn**		**08 48 52.0**	**+0.2**
MZVM				*i* S		**Sn**		**08 49 18.2**	**-0.8**
SZVM	**Salazar**	**2.33**	**34**	*i* P		**Pn**		**08 48 52.1**	**-0.4**
SZVM	**Salazar**	**2.33**	**34**	*i* P		**Pn**		**08 48 52.1**	**-0.4**
URUA	**Uruapan**	**2.37**	**329**	*eP*		**Pn**		**08 48 52.8**	**0.0**
URUA				*i* S		**Sn**		**08 49 21.4**	**+0.7**
UNM	**Universidad Na**	**2.45**	**38**	*eP*		**Pn**		**08 48 53.8**	**-0.2**
UNM				*i* S		**Sn**		**08 49 21.8**	**-1.1**
UNM	**Universidad Na**	**2.45**	**38**	*eP*		**Pn**		**08 48 53.8**	**-0.2**
UNM				*i* S		**Sn**		**08 49 21.8**	**-1.1**
UNM	**Universidad Na**	**2.45**	**38**	*eP*		**Pn**		**08 48 53.8**	**-0.2**
UNM				*i* S		**Sn**		**08 49 21.8**	**-1.1**
VCVM	**Valle de Chalc**	**2.56**	**42**	*eP*		**Pn**		**08 48 55.7**	**+0.2**
VCVM				*i* S		**Sn**		**08 49 25.0**	**-0.7**
PBIG	**Penon de los B**	**2.59**	**38**	*eP*		**Pn**		**08 48 55.9**	**+0.2**
PBIG				*i* S		**Sn**		**08 49 25.8**	**-0.1**
PBVM	**Pinon**	**2.59**	**38**	*eP*		**Pn**		**08 48 55.9**	**+0.2**
PBVM				*i* S		**Sn**		**08 49 26.0**	**0.0**
PBVM	**Pinon**	**2.59**	**38**	*eP*		**Pn**		**08 48 55.9**	**+0.2**
PBVM				*i* S		**Sn**		**08 49 26.0**	**0.0**
AZVM	**Cuida Lopez Ma**	**2.60**	**33**	*eP*		**Pn**		**08 48 55.8**	**-0.3**
AZVM				*i* S		**Sn**		**08 49 27.0**	**+0.5**
MMIG	**Aquila**	**2.61**	**290**	*eP*		**Pn**		**08 48 54.4**	**-1.5**
MMIG				*i* S		**Sn**		**08 49 23.6**	**-2.8**
MMIG	**Aquila**	**2.61**	**290**	*eP*		**Pn**		**08 48 54.4**	**-1.5**
MMIG				*i* S		**Sn**		**08 49 23.6**	**-2.8**
PPM	**Popocatepetl**	**2.63**	**50**	*eP*		**Pn**		**08 48 56.4**	**-0.3**
PPM				*i* S		**Sn**		**08 49 27.7**	**0.0**
PPM	**Popocatepetl**	**2.63**	**50**	*eP*		**Pn**		**08 48 56.4**	**-0.3**
PPM				*i* S		**Sn**		**08 49 27.7**	**0.0**
PPM	**Popocatepetl**	**2.63**	**50**	*eP*		**Pn**		**08 48 56.2**	**-0.4**
PPM				*eP*				08 48 56.4	
PPM				*eS*		**Sn**		**08 49 26.8**	**-0.9**
PPM				*i* S				08 49 27.7	
PTVM	**Pico Tres Padr**	**2.70**	**35**	*eP*		**Pn**		**08 48 56.5**	**-0.9**
PTVM				*i* S		**Sn**		**08 49 28.2**	**-0.7**
PTVM	**Pico Tres Padr**	**2.70**	**35**	*eP*		**Pn**		**08 48 56.5**	**-0.9**
PTVM				*i* S		**Sn**		**08 49 28.2**	**-0.7**
PNIG	**Pinotepa**	**2.72**	**111**	*eP*		**Pn**		**08 48 56.9**	**-0.5**
PNIG				*i* S		**Sn**		**08 49 28.5**	**-0.6**
PNIG	**Pinotepa**	**2.72**	**111**	*eP*		**Pn**		**08 48 56.9**	**-0.5**
PNIG				*i* S		**Sn**		**08 49 28.5**	**-0.6**
IIO	**Organos**	**2.93**	**41**	*eP*		**Pn**		**08 48 59.6**	**-1.0**
IIO				*i* S		**Sn**		**08 49 33.8**	**-0.9**
IIO	**Organos**	**2.93**	**41**	*eP*		**Pn**		**08 48 59.6**	**-1.0**
IIO				*i* S		**Sn**		**08 49 33.8**	**-0.9**
PHPU	**Puebla**	**2.97**	**56**	*eP*		**Pn**		**08 49 00.1**	**-1.1**
PHPU				*i* S		**Sn**		**08 49 33.8**	**-1.9**
VTVM	**Tizayuca**	**3.03**	**38**	*eP*		**Pn**		**08 49 00.9**	**-1.1**
VTVM				*i* S		**Sn**		**08 49 36.1**	**-1.1**
DEIG	**Demacu**	**3.33**	**29**	*eP*		**Pn**		**08 49 04.8**	**-1.2**
DEIG				*i* S		**Sn**		**08 49 43.9**	**-0.6**
DEIG	**Demacu**	**3.33**	**29**	*eP*		**Pn**		**08 49 04.8**	**-1.2**
DEIG				*i* S		**Sn**		**08 49 43.9**	**-0.6**
EZ5V		**3.40**	**308**	*eP*		**Pn**		**08 49 08.1**	**+1.1**
EZ5V				*i* S		**Sn**		**08 49 47.4**	**+1.2**
R15V		**3.53**	**301**	*i* P		**Pn**		**08 49 09.8**	**+1.2**
R15V				*i* S		**Sn**		**08 49 51.5**	**+2.4**
VHO	**Vista Hermosa**	**3.87**	**94**	*eP*		**Pn**		**08 49 14.0**	**+0.6**
VHO				*i* S		**Sn**		**08 49 57.9**	**+0.2**
VHO	**Vista Hermosa**	**3.87**	**94**	*eP*		**Pn**		**08 49 14.0**	**+0.6**
VHO				*i* S		**Sn**		**08 49 57.9**	**+0.2**
OXBJ	**Oaxaca**	**3.88**	**94**	*i* P		**Pn**		**08 49 14.3**	**+0.7**
OXBJ				*i* S		**Sn**		**08 49 57.9**	**-0.1**
PANG	**Puerto Angel**	**4.46**	**112**	*i* P		**Pn**		**08 49 20.1**	**-1.2**
CJM	**Chamela**	**4.57**	**298**	*eP*		**Pn**		**08 49 22.0**	**-0.8**
CJM				*i* S		**Sn**		**08 50 12.4**	**-2.2**
CJM	**Chamela**	**4.57**	**298**	*eP*		**Pn**		**08 49 22.0**	**-0.8**
CJM				*i* S		**Sn**		**08 50 12.4**	**-2.2**
LVIG	**Laguna Verde**	**4.74**	**60**	*eP*		**Pn**		**08 49 25.9**	**+0.8**
LVIG				*i* S		**Sn**		**08 50 19.1**	**+0.3**
LVIG	**Laguna Verde**	**4.74**	**60**	*eP*		**Pn**		**08 49 25.9**	**+0.8**
LVIG				*i* S		**Sn**		**08 50 19.1**	**+0.3**
HUIG	**Huatulco**	**4.75**	**109**	*eP*		**Pn**		**08 49 25.7**	**+0.3**
HUIG				*i* S		**Sn**		**08 50 18.0**	**-1.2**
HUIG	**Huatulco**	**4.75**	**109**	*eP*		**Pn**		**08 49 25.7**	**+0.3**
HUIG				*i* S		**Sn**		**08 50 18.0**	**-1.2**
ANIG	**Ahuacatlan**	**5.08**	**316**	*eP*		**Pn**		**08 49 29.5**	**-0.5**
ANIG				*i* S		**Sn**		**08 50 26.3**	**-1.2**
ANIG	**Ahuacatlan**	**5.08**	**316**	*eP*		**Pn**		**08 49 29.5**	**-0.5**
ANIG				*i* S		**Sn**		**08 50 26.3**	**-1.2**
ZAIG	**Zacatecas**	**5.61**	**343**	*eP*		**Pn**		**08 49 37.5**	**+0.1**
ZAIG				*i* S		**Sn**		**08 50 40.4**	**-0.4**
ZAIG	**Zacatecas**	**5.61**	**343**	*eP*		**Pn**		**08 49 37.5**	**+0.1**
ZAIG				*i* S		**Sn**		**08 50 40.4**	**-0.4**
CMIG	**Matias Romero**	**5.63**	**92**	Pn		**Pn**		**08 49 37.4**	**-0.1**
	8.3nm,0.3s,baz=272,slow=12,SNR=61								
CMIG					Sn	**Sn**		**08 50 40.6**	**-0.3**
	57nm,0.3s,baz=274,slow=19,SNR=6.0								
CMIG					LR	LR		08 51 59.6	
	comp=Z,14μm,18.3s,baz=283,slow=42								
CMIG	**Matias Romero**	**5.63**	**92**	*eP*		**Pn**		**08 49 37.5**	**0.0**
CMIG				*i* S		**Sn**		**08 50 40.9**	**-0.1**
CMIG	**Matias Romero**	**5.63**	**92**	*eP*		**Pn**		**08 49 37.5**	**0.0**
CMIG				*i* S		**Sn**		**08 50 40.9**	**-0.1**
TGIG		**7.34**	**94**	*i* P		**Pn**		**08 50 01.5**	**+0.5**
TGIG				*i* S		**Sn**		**08 51 24.3**	**+1.3**
TGIG		**7.34**	**94**	*i* P		**Pn**		**08 50 01.5**	**+0.5**
TGIG				*i* S		**Sn**		**08 51 24.3**	**+1.3**
LNIG	**Linares**	**7.57**	**9**	*i* P		**Pn**		**08 50 03.3**	**-0.7**
LNIG				*i* S		**Sn**		**08 51 29.7**	**+1.1**
LNIG	**Linares**	**7.57**	**9**	*i* P		**Pn**		**08 50 03.3**	**-0.7**
LNIG				*i* S		**Sn**		**08 51 29.7**	**+1.1**
MAIG	**Mazatlaan**	**7.84**	**318**	*i* P		**Pn**		**08 50 07.3**	**-0.3**
MAIG				*i* S		**Sn**		**08 51 36.0**	**+1.0**
MAIG	**Mazatlaan**	**7.84**	**318**	*i* P		**Pn**		**08 50 07.3**	**-0.3**
MAIG				*i* S		**Sn**		**08 51 36.0**	**+1.0**
CCIG	**Comitan**	**8.34**	**96**	*i* P		**Pn**		**08 50 15.4**	**+0.7**
CCIG				*i* S		**Sn**		**08 51 48.5**	**+0.7**
CCIG	**Comitan**	**8.34**	**96**	*i* P		**Pn**		**08 50 15.4**	**+0.7**
CCIG				*i* S		**Sn**		**08 51 48.5**	**+0.7**
THIG		**8.54**	**106**	*eP*		**Pn**		**08 50 19.2**	**+1.9**
THIG				*i* S		**Sn**		**08 51 52.9**	**+0.6**
THIG		**8.54**	**106**	*eP*		**Pn**		**08 50 19.2**	**+1.9**
THIG				*i* S		**Sn**		**08 51 52.9**	**+0.6**
HPIG		**10.53**	**335**	*eP*		**Pn**		**08 50 46.1**	**+1.4**
HPIG		**10.53**	**335**	*eP*		**Pn**		**08 50 46.1**	**+1.4**
LPIG	**La Paz**	**11.14**	**308**	LR		LR		08 54 45.6	
	comp=Z,617nm,19.0s,baz=282,slow=35								
732A	**Laxson Ranch,**	**11.31**	**4**	⇓P		**Pn**		**08 50 56.7**	**+1.4**
	baz=11,SNR=69								
631A	**Perdido Creek**	**11.97**	**1**	⇑P		**Pn**		**08 51 05.0**	**+0.7**
	baz=12,SNR=15								
632A	**Uvalde**	**12.10**	**4**	⇑P		**Pn**		**08 51 06.8**	**+0.8**
	baz=12,SNR=17								
TEIG	**Tepich**	**12.16**	**75**	Pn		**Pn**		**08 51 04.4**	**-2.5**
	1.9nm,0.3s,baz=268,slow=15,SNR=8.7								
TEIG					Sn	**Sn**		**08 53 19.9**	**-1.3**
	6.3nm,0.3s,baz=18,slow=20,SNR=4.6								
TEIG					LR	LR		08 56 21.4	
	comp=Z,3μm,20.9s,baz=80,slow=41								
TEIG	**Tepich**	**12.16**	**75**	*e*Pn		**Pn**		**08 51 04.3**	**-2.6**
TEIG				*e*Sn		**Sn**		**08 53 20.7**	**-0.5**
TXAR	**Lajitas Array**	**12.18**	**348**	Pn		**Pn**		**08 51 08.4**	**+1.2**
	0.1nm,0.3s,baz=161,slow=14,SNR=37								
TXAR					LR	LR		08 56 23.9	
	comp=Z,8μm,20.2s,baz=75,slow=41								
TXAR	**Lajitas Array**	**12.18**	**348**	Pn		**Pn**		**08 51 08.4**	**+1.2**
628A	**Black Gap, Mar**	**12.20**	**351**	⇑P		**Pn**		**08 51 09.3**	**+1.9**
	baz=12,SNR=24								
627A	**Terlingua Ranc**	**12.24**	**349**	⇓P		**Pn**		**08 51 09.9**	**+1.8**
	baz=12,SNR=16								
626A	**Big Bend Ranch**	**12.49**	**346**	⇑P		**Pn**		**08 51 13.3**	**+1.8**
	baz=12,SNR=22								
532A	**Rocksprings**	**12.71**	**3**	⇑P		**Pn**		**08 51 15.1**	**+0.7**
	baz=13,SNR=24								
530A	**J-C Ranch, Com**	**12.71**	**358**	⇑P		**Pn**		**08 51 16.2**	**+1.8**
	baz=13,SNR=113								
531A	**Rocksprings**	**12.72**	**1**	⇑P		**Pn**		**08 51 15.5**	**+1.0**
	baz=13,SNR=48								
529A	**Stev Forest Ra**	**12.75**	**354**	⇑P		**Pn**		**08 51 16.6**	**+1.7**
	baz=13,SNR=43								
528A	**Cox Ranch, San**	**12.85**	**352**	⇓P		**Pn**		**08 51 18.0**	**+1.7**
	baz=13,SNR=23								
527A	**Woodward Ranch**	**12.96**	**349**	⇓P		**Pn**		**08 51 19.6**	**+1.7**
	baz=13,SNR=20								
526A	**Mary Lane Ranc**	**12.97**	**347**	⇓P		**Pn**		**08 51 20.0**	**+1.9**
	baz=13,SNR=26								
JCT	**Junction City**	**13.06**	**4**	*e*P		**Pn**		**08 51 20.0**	**+0.8**
JCT					pmax	pmax			
	comp=Z,159nm,1.2s								
JCT	**Junction City**	**13.06**	**4**	*e*Pn		**Pn**		**08 51 20.0**	**+0.8**
	comp=Z,159nm,1.2s								
429A	**Davenport Ranc**	**13.22**	**356**	⇓P		**Pn**		**08 51 23.1**	**+1.8**
	baz=13,SNR=59								
431A	**Sonora**	**13.23**	**1**	⇓P		**Pn**		**08 51 22.2**	**+0.6**
	baz=13,SNR=41								
HKT	**Hockley**	**13.29**	**19**	*e*P		**Pn**		**08 51 21.6**	**-0.7**
HKT	**Hockley**	**13.29**	**19**	*e*Pn		**Pn**		**08 51 21.6**	**-0.7**
430A	**Baggett Ranch,**	**13.34**	**358**	⇓P		**Pn**		**08 51 25.6**	**+2.5**
	baz=13,SNR=202								
428A	**Kincaid Ranch,**	**13.39**	**353**	⇑P		**Pn**		**08 51 25.8**	**+2.0**
	baz=13,SNR=25								
432A	**Menard**	**13.46**	**4**	⇓P		**Pn**		**08 51 24.8**	**+0.2**
	baz=14,SNR=14								
426A	**McDonald Obser**	**13.55**	**348**	⇓P		**Pn**		**08 51 27.6**	**+1.6**
	baz=14,SNR=20								
427A	**Hayter Ranch,**	**13.61**	**350**	⇓P		**Pn**		**08 51 28.3**	**+1.6**
	baz=14,SNR=27								
331A	**San Angelo**	**13.86**	**1**	⇑P		**Pn**		**08 51 31.0**	**+0.9**
	baz=14,SNR=42								
425A	**Indio Mountain**	**13.88**	**345**	⇑P		**Pn**		**08 51 31.8**	**+1.4**
	baz=14,SNR=38								
330A	**Mertzon**	**13.96**	**359**	⇑P		**Pn**		**08 51 32.9**	**+1.4**
	baz=14,SNR=65								
332A	**Millersview**	**13.96**	**4**	⇑P		**Pn**		**08 51 31.6**	**+0.1**
	baz=14,SNR=36								
328A	**Wristen Ranch,**	**14.05**	**353**	⇓P		**Pn**		**08 51 34.2**	**+1.5**
	baz=14,SNR=42								
329A	**Wagon Wheel Ra**	**14.08**	**356**	⇓P		**Pn**		**08 51 34.0**	**+0.9**
	baz=14,SNR=28								
327A	**Balmorhea Ranc**	**14.14**	**350**	⇓P		**Pn**		**08 51 33.7**	**-0.1**
	baz=14								
326A	**Caldwell Ranch**	**14.17**	**349**	⇓P		**Pn**		**08 51 36.0**	**+1.7**
	baz=14,SNR=33								
325A	**Bean Ranch, Si**	**14.43**	**345**	⇓P		**Pn**		**08 51 38.6**	**+0.7**
	baz=14,SNR=59								
230A	**Sterling City**	**14.44**	**359**	⇑P		**Pn**		**08 51 38.5**	**+0.6**
	baz=14,SNR=30								
231A	**Bronte**	**14.49**	**2**	⇑P		**Pn**		**08 51 38.5**	**-0.1**
	baz=14,SNR=55								
CGIG				**14.49**	**334**	*e*P		**Pn**	**08 51 36.2**	**-2.6**
CGIG				**14.49**	**334**	*e*P		**Pn**	**08 51 36.2**	**-2.6**
229A	**Bryant Ranch,**	**14.54**	**356**	⇑P		**Pn**		**08 51 40.0**	**+0.7**
	baz=15,SNR=61								
324A	**Moseley Ranch,**	**14.63**	**344**	⇑P		**Pn**		**08 51 43.1**	**+2.5**
	baz=15,SNR=126								
227A	**Bennet, Jal**	**14.74**	**352**	⇓P		**Pn**		**08 51 43.2**	**+1.3**
	baz=15,SNR=10								
228A	**UT Block 9, Go**	**14.76**	**354**	⇑P		**Pn**		**08 51 42.7**	**+0.5**
	baz=15,SNR=12								
WHTX	**Lake Whitney**	**14.85**	**11**	⇓P		**Pn**		**08 51 42.7**	**-0.6**
	baz=15,SNR=94								
MNTX	**Cornudas Mount**	**14.85**	**344**	*e*Pn		**Pn**		**08 51 44.3**	**+1.0**
	comp=Z,268nm,1.2s								
MNTX	**Cornudas Mount**	**14.85**	**344**	⇓P		**Pn**		**08 51 44.2**	**+0.9**
	baz=15,SNR=105								
HSIG				**14.87**	**323**	*i* P		**P**	**08 51 48.1**	**-0.5**
HSIG				**14.87**	**323**	*i* P		**P**	**08 51 48.1**	**-0.5**
GDL2	**Guadalupe Moun**	**15.10**	**348**	*e*Pn		**Pn**		**08 51 48.6**	**+1.9**
225A	**Deer Hill, Car**	**15.11**	**347**	⇑P		**Pn**		**08 51 47.9**	**+1.1**
	baz=15,SNR=49								
ABTX	**Abilene, Hawle**	**15.20**	**4**	⇓P		**Pn**		**08 51 46.9**	**-1.1**
	baz=15,SNR=73								
129A	**Stewart Farms,**	**15.21**	**356**	⇑P		**Pn**		**08 51 47.8**	**-0.2**
	baz=15,SNR=36								
224A	**Cornudas Mount**	**15.24**	**344**	⇑P		**Pn**		**08 51 49.3**	**+0.7**
	baz=15,SNR=85								
128A	**Castleberry Fa**	**15.24**	**354**	⇓P		**Pn**		**08 51 48.8**	**+0.2**
	baz=15,SNR=58								
127A	**Arkansas Junct**	**15.40**	**352**	⇑P		**Pn**		**08 51 51.5**	**+0.9**
	baz=15,SNR=19								
223A	**Chaparral, Ant**	**15.43**	**342**	⇓P		**Pn**		**08 51 51.6**	**+0.6**
	baz=16,SNR=9.5								
126A	**Clayton Basin,**	**15.47**	**350**	⇓P		**Pn**		**08 51 52.0**	**+0.5**
	baz=16,SNR=6.6								
320A	**Kipp Ranch, An**	**15.57**	**335**	⇓P		**Pn**		**08 51 54.0**	**+1.1**
	baz=16,SNR=35								
125A	**Gardner Draw,**	**15.60**	**348**	⇓P		**Pn**		**08 51 53.8**	**+0.6**
	baz=16,SNR=72								
222A	**Williams Famil**	**15.73**	**340**	⇑P		**Pn**		**08 51 55.4**	**+0.5**
	baz=16,SNR=6.3								
124A	**Stringfield Ra**	**15.82**	**345**	⇓P		**Pn**		**08 51 56.7**	**+0.6**
	baz=16,SNR=148								
CPRX	**Cap Rock**	**15.82**	**350**	*e*P		**Pn**		**08 51 56.3**	**+0.2**
	comp=Z,80nm,0.8s								
Z29A	**Hungry Hill Ra**	**15.83**	**357**	⇓P		**Pn**		**08 51 54.9**	**-1.1**
	baz=16,SNR=54								
Z30A	**Sanderson Ranc**	**15.83**	**359**	⇑P		**Pn**		**08 51 54.8**	**-1.3**
	baz=16,SNR=97								
Z31A	**Sharp Cattle R**	**15.87**	**2**	⇑P		**Pn**		**08 51 55.4**	**-1.2**
	baz=16,SNR=148								
221A	**Mesquite Ranch**	**15.88**	**338**	⇑P		**P**		**08 51 58.9**	**-1.0**
	baz=16,SNR=21								
Z32A	**Haskell**	**15.89**	**4**	⇓P		**Pn**		**08 51 55.5**	**-1.3**
	baz=16,SNR=92								
Z28A	**Tucker Farm, M**	**15.90**	**355**	⇓P		**Pn**		**08 51 56.6**	**-0.4**
	baz=16,SNR=64								
319A	**Douglas**	**15.93**	**333**	⇑P		**Pn**		**08 51 59.0**	**+1.6**
	baz=16,SNR=35								
123A	**Bell Site, Whi**	**15.97**	**343**	⇓P		**Pn**		**08 51 58.6**	**+0.7**
	baz=16,SNR=9.4								
Z27A	**Tatum**	**16.01**	**353**	⇑P		**Pn**		**08 51 58.3**	**-0.2**
	baz=16,SNR=159								
220A	**Playas Peak, P**	**16.07**	**336**	⇑P		**Pn**		**08 51 59.8**	**+0.6**
	baz=16,SNR=36								
Z26A	**Caprock**	**16.08**	**350**	⇓P		**Pn**		**08 51 59.5**	**+0.2**
	baz=16								
Z25A	**Roswell**	**16.22**	**348**	⇑P		**Pn**		**08 52 01.4**	**+0.3**
	baz=16,SNR=20								
121A	**Cookes Peak, D**	**16.36**	**339**	⇑P		**Pn**		**08 52 03.5**	**+0.6**
	baz=16,SNR=61								
Z24A	**Sheeppen Canyo**	**16.40**	**346**	⇓P		**Pn**		**08 52 04.4**	**+0.9**
	baz=16,SNR=107								
Y30A	**Stafford Cattl**	**16.42**	**360**	⇓P		**Pn**		**08 52 03.0**	**-0.6**
	baz=16,SNR=16								
Y29A	**Porterfield Fa**	**16.42**	**357**	⇑P		**Pn**		**08 52 02.6**	**-1.0**
	baz=16,SNR=88								
Y28A	**McKinney Farm,**	**16.50**	**356**	⇓P		**Pn**		**08 52 03.7**	**-0.9**
	baz=17,SNR=42								
Y31A	**Rekieta Farm,**	**16.51**	**1**	⇑P		**Pn**		**08 52 03.3**	**-1.4**
	baz=17,SNR=76								
Z23A	**Rita Site, Whi**	**16.55**	**344**	⇓P		**Pn**		**08 52 06.2**	**+0.9**
	baz=17,SNR=78								
Y27A	**Causey**	**16.57**	**353**	⇑P		**Pn**		**08 52 04.7**	**-0.8**
	baz=17,SNR=28								
Y32A	**R-V Farms, Ver**	**16.59**	**4**	⇑P		**Pn**		**08 52 03.8**	**-1.9**
	baz=17,SNR=9.8								
MSTX	**Muleshoe**	**16.61**	**354**	⇑P		**Pn**		**08 52 05.4**	**-0.6**
	baz=17,SNR=20								
120A	**U Bar Ranch, L**	**16.68**	**336**	⇑P		**P**		**08 52 08.6**	**-0.2**
	baz=17								
Y26A	**Elida**	**16.69**	**351**	⇑P		**Pn**		**08 52 06.6**	**-0.5**
	baz=17,SNR=16								
Z22A	**Elephant Butte**	**16.75**	**342**	⇓P		**Pn**		**08 52 08.2**	**+0.4**
	baz=17,SNR=80								
Y25A	**Mesa, Roswell**	**16.84**	**349**	⇑P		**Pn**		**08 52 09.2**	**+0.3**
	baz=17,SNR=17								
JTS	**JuntasAbangare**	**16.89**	**113**	Pn		**P**		**08 52 11.7**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=299,slow=13,SNR=16								
JTS					LR	LR		08 58 06.8	
	comp=Z,2μm,21.7s,baz=319,slow=36								
JTS	**JuntasAbangare**	**16.89**	**113**	*eP*		**P**		**08 52 12.2**	**+1.1**
	comp=Z,100nm,0.9s								
JTS	**JuntasAbangare**	**16.89**	**113**	P		**P**		**08 52 12.0**	**+0.9**
	comp=Z,396nm,1.5s,SNR=10								
X30A	**Coker Ranch, T**	**16.99**	**360**	⇓P		**Pn**		**08 52 09.2**	**-1.4**
	baz=17,SNR=30								
Y24A	**Capitan**	**16.99**	**347**	⇑P		**Pn**		**08 52 11.9**	**+1.1**
	baz=17,SNR=50								
X29A	**Tulia**	**17.01**	**357**	⇑P		**Pn**		**08 52 09.8**	**-1.1**
	baz=17,SNR=84								
Z21A	**St. Cloud Mine**	**17.02**	**340**	⇑P		**P**		**08 52 13.1**	**+0.4**
	baz=17								
X28A	**Dimmitt**	**17.11**	**356**	⇓P		**Pn**		**08 52 11.2**	**-1.1**
	baz=17,SNR=16								
Y23A	**Lovelace Mesa,**	**17.14**	**345**	⇑P		**P**		**08 52 13.9**	**0.0**
	baz=17,SNR=264								
Z20A	**Nine Sixteen R**	**17.17**	**337**	⇓P		**P**		**08 52 14.3**	**+0.1**
	baz=17,SNR=36								
X31A	**McDonald Ranch**	**17.19**	**2**	⇑P		**Pn**		**08 52 11.4**	**-1.7**
	baz=17,SNR=18								
X26A	**CR and CF Fran**	**17.31**	**352**	⇓P		**Pn**		**08 52 14.1**	**-0.6**
	baz=17,SNR=18								
X27A	**F and S Farms,**	**17.31**	**354**	⇑P		**Pn**		**08 52 14.1**	**-0.7**
	baz=17,SNR=12								
WMOK	**Wichita Mounta**	**17.37**	**5**	*eP*		**Pn**		**08 52 14.1**	**-1.3**
WMOK					pmax	pmax			
	comp=Z,200nm,1.4s					

T24A **Torres, Weston** 19.97 350 ⇑P P 08 52 45.3 +0.3
baz=20,SNR=50
GLA **Glamis** 20.09 324 eP Pn 08 52 48.5 +0.3
GLA pmax pmax
comp=Z,123nm,1.2s
GLA **Glamis** 20.09 324 eP Pn 08 52 48.5 +0.2
comp=Z,124nm,1.2s
GLA e 08 53 01.2
GLA **Glamis** 20.09 324 ⇑P Pn 08 52 47.7 -0.5
baz=20
T23A **Casias Ranch,** 20.12 348 ⇑P P 08 52 47.1 +0.5
baz=20,SNR=87
U20A **Newcomb** 20.12 342 ⇓P P 08 52 47.5 +1.0
baz=20
T22A **Edith** 20.28 346 ⇑P P 08 52 49.4 +1.0
baz=20,SNR=32
S26A **Kim** 20.30 354 ⇑P P 08 52 48.1 -0.4
baz=20,SNR=19
S27A **Las Animas** 20.30 355 ⇑P P 08 52 48.0 -0.6
baz=20,SNR=23
WUAZ **Wupatki** 20.37 334 eP Pn 08 52 51.1 -0.6
comp=Z,462nm,1.5s
WUAZ e 08 53 03.3
WUAZ **Wupatki** 20.37 334 ⇑P Pn 08 52 51.6 -0.1
baz=20,SNR=47
T21A **Navajo Lake** 20.42 344 ⇓P P 08 52 50.4 +0.6
baz=20,SNR=16
Y12C **Blythe** 20.44 325 ⇓P P 08 52 51.5 +1.6
baz=20,SNR=27
S25A **Robets Cordova** 20.45 352 ⇓P P 08 52 50.3 +0.2
baz=20,SNR=70
S24A **Houchin Ranch,** 20.55 350 ⇑P P 08 52 51.7 +0.4
baz=21,SNR=36
DVTC **Desert V Tower** 20.55 321 ⇑P Pn 08 52 52.9 -0.9
baz=21,SNR=6.1
SWSC **Sam W. Stewart** 20.57 322 ⇓P Pn 08 52 53.0 -0.9
baz=21,SNR=8.9
PDMCI **Parker Dam,Lak** 20.66 327 ⇑P P 08 52 53.4 +1.2
baz=21,SNR=13
S23A **Nye Farm, Mont** 20.76 348 ⇑P P 08 52 54.2 +0.6
baz=21,SNR=31
GNAR **Gosnell** 20.82 25 eP P 08 52 53.2 -0.7
comp=Z,6μm,1.3s
GNAR e 08 53 08.8
BC3 **Big Chuckawall** 20.89 324 ⇑P P 08 52 56.2 +1.4
baz=21
MVCO **Mesa Verde** 20.89 342 eP P 08 52 56.0 +1.0
comp=Z,601nm,1.8s
MVCO **Mesa Verde** 20.89 342 ⇑P P 08 52 55.3 +0.4
baz=21,SNR=18
R27A **Eads** 20.89 356 ⇑P P 08 52 54.5 -0.4
baz=21,SNR=56
MONP **Monument Peak** 20.91 321 ⇓P P 08 52 56.7 +1.5
baz=21,SNR=17
R25A **Fountain Ranch** 20.91 352 ⇑P P 08 52 55.0 0.0
baz=21,SNR=44
BAR **Barrett** 20.92 320 eP Pn 08 52 57.0 -1.1
comp=Z,116nm,1.5s
BAR e 08 53 08.8
TIGA **Tifton** 20.94 45 ⇓P P 08 52 53.4 -1.9
baz=21,SNR=8.1
R26A **Arlington** 20.96 354 ⇑P P 08 52 55.3 -0.3
baz=21
S22A **4UR Ranch, Cre** 20.97 346 ⇓P P 08 52 56.6 +0.8
baz=21,SNR=52
IRM **Iron Mountain** 21.09 325 ⇑P P 08 52 58.7 +1.7
baz=21,SNR=53
R24A **Sanders Place,** 21.11 350 ⇓P P 08 52 57.6 +0.3
baz=21,SNR=22
S21A **Coal Bank Pass** 21.12 344 ⇑P P 08 52 58.1 +0.6
baz=21,SNR=57
W13A **Hualapai Mount** 21.16 329 ⇓P P 08 52 59.2 +1.3
baz=21,SNR=23
R23A **Moffat** 21.19 349 ⇑P P 08 52 58.1 -0.2
baz=21,SNR=45
NEE2 **Needles Airpor** 21.27 327 ⇓P P 08 53 00.1 +1.3
baz=21,SNR=7.5
109C **Camp Elliot, M** 21.33 319 ⇓P P 08 53 00.6 +1.2
baz=21
R22A **Saguache, Gunn** 21.41 347 ⇑P P 08 53 01.3 +0.6
baz=22,SNR=67
S20A **Disappointment** 21.43 343 ⇑P P 08 53 01.4 +0.6
baz=22,SNR=54
PFO **Pinyon Flat Ob** 21.43 322 eP P 08 53 02.2 +1.5
comp=Z,120nm,1.2s
PFO e 08 53 16.2
PFO **Pinyon Flat Ob** 21.43 322 P P 08 53 02.0 +1.3
comp=Z,164nm,1.0s,SNR=8.9
PFO **Pinyon Flat Ob** 21.43 322 ⇓P P 08 53 02.4 +1.7
baz=21,SNR=9.4
BELC **Belle Mtn. Jos** 21.45 323 ⇑P P 08 53 02.2 +1.4
baz=22,SNR=16
U15A **North Rim** 21.53 334 ⇑P P 08 53 03.4 +1.4
baz=22,SNR=30
Q26A **Hugo** 21.59 354 ⇑P P 08 53 01.9 -0.5
baz=22,SNR=14
KSCO **Kaye Shedlock'** 21.60 356 ⇑P P 08 53 01.6 -0.9
baz=22,SNR=12
UTMT **University of** 21.62 27 eP P 08 53 01.6 -1.0
comp=Z,407nm,1.2s
UTMT e 08 53 18.7
Q25A **Bedland, Calha** 21.66 353 ⇓P P 08 53 02.2 -1.0
baz=22
R21A **Cimarron** 21.73 345 ⇓P P 08 53 04.4 +0.4
baz=22,SNR=63
LDFC **Landfair** 21.77 327 eP P 08 53 07.3 +3.0
comp=Z,522nm,1.8s
LDFC e 08 53 20.7
PV01 **Paradox Valley** 21.77 343 eP P 08 53 04.5 +0.1
comp=Z,15μm,1.4s
PV01 e 08 53 18.5
S18A **Hurst Farm, Bl** 21.79 340 ⇑P P 08 53 05.1 +0.5
baz=22,SNR=15
Q24A **Divide** 21.83 351 ⇓P P 08 53 04.9 -0.3
baz=22
GMRC **Granite Mounta** 21.83 325 ⇑P P 08 53 06.5 +1.5
baz=22,SNR=19
MURC **Murrieta** 21.87 321 ⇑P P 08 53 06.8 +1.5
baz=22,SNR=8.5
Q23A **Hartsel** 21.89 349 ⇑P P 08 53 05.7 -0.1
baz=22
WVT **Waverly** 21.91 29 eP P 08 53 03.4 -2.3
WVT pmax pmax
comp=Z,36nm,0.6s
WVT **Waverly** 21.91 29 eP P 08 53 03.4 -2.3
comp=Z,36nm,0.6s
BCIP **Isla Barro Col** 21.93 109 eP P 08 53 08.0 +1.9
comp=Z,65nm,1.1s
KSU1 **Kansas State U** 21.93 9 eP P 08 53 04.1 -1.8
comp=Z,318nm,0.8s
KSU1 e 08 53 17.1
Q22A **Crested Butte,** 22.06 347 ⇑P P 08 53 07.4 -0.1
baz=22,SNR=36
PV04 **Paradox Valley** 22.11 343 eP P 08 53 09.4 +1.5
PV04 e 08 53 21.2
PV10 **Paradox Valley** 22.13 343 eP P 08 53 07.9 -0.4
comp=Z,1μm,1.1s
SWET **Sewanee** 22.14 34 eP P 08 53 05.3 -2.9
comp=Z,75nm,1.3s
MTDJ **Mount Denham** 22.14 84 eP P 08 53 09.8 +1.4
comp=Z,998nm,2.3s
BBRC **Big Bear Solar** 22.17 322 ⇓P P 08 53 09.5 +0.8
baz=22
Q21A **Lamborn Mesa,** 22.18 346 ⇓P P 08 53 09.0 +0.3
baz=22,SNR=27
P26A **Davis Ranch, A** 22.20 355 ⇑P P 08 53 08.6 -0.4
baz=22,SNR=12
HEC **Hector,Ludlow** 22.24 324 ⇓P P 08 53 10.4 +1.1
baz=22,SNR=36
P25A **Willow Gulch B** 22.24 353 ⇑P P 08 53 08.5 -0.9
baz=22,SNR=7.0
SCI **San Clemente I** 22.30 317 ⇓P P 08 53 11.0 +1.1
baz=22
P24A **Kohler Place,** 22.34 352 ⇓P P 08 53 09.6 -0.8
baz=22
P23A **Jefferson** 22.35 350 ⇓P P 08 53 11.2 +0.5
baz=22,SNR=21
SMCO **Snowmass** 22.37 347 eP P 08 53 11.0 -0.1
comp=Z,246nm,1.4s
Q20A **Ridgley Place,** 22.47 345 ⇑P P 08 53 12.3 +0.5
baz=22,SNR=16
TUQ **Turquoise Moun** 22.47 326 ⇓P P 08 53 13.2 +1.3
baz=22,SNR=31
CIS **Catalina Islan** 22.48 319 ⇑P P 08 53 14.2 +2.2
baz=22
BFSC **Mount Baldy Ra** 22.59 321 ⇑P P 08 53 15.2 +2.1
baz=23
FMP **Fort Macarthur** 22.62 319 ⇓P P 08 53 13.7 +0.5
baz=23
RRX **Edison Barstow** 22.65 323 ⇑P P 08 53 14.7 +1.0
baz=23
SIUC **Southern Illin** 22.65 24 eP P 08 53 12.3 -1.3
comp=Z,245nm,1.0s
SIUC e 08 53 25.6
ISCO **Idaho Springs** 22.72 350 eP P 08 53 14.2 -0.5
ISCO e 08 53 26.7
ISCO pmax pmax
comp=Z,87nm,1.1s
ISCO **Idaho Springs** 22.72 350 eP P 08 53 14.2 -0.5
comp=Z,87nm,1.1s
ISCO e 08 53 26.7
ISCO **Idaho Springs** 22.72 350 ⇓P P 08 53 14.0 -0.7
baz=23,SNR=26
Q19A **Hogan Spring (** 22.73 343 ⇓P P 08 53 14.4 -0.1
baz=23
P22A **Eagle** 22.73 348 ⇑P P 08 53 14.2 -0.5
baz=23,SNR=15
O27A **Beecher Island** 22.77 357 ⇓P P 08 53 13.8 -1.1
baz=23,SNR=21
P21A **Newcastle** 22.81 347 ⇑P P 08 53 15.6 +0.1
baz=23,SNR=19
MWC **Mount Wilson** 22.82 321 eP P 08 53 18.0 +2.5
MWC pmax pmax
comp=Z,113nm,1.4s
MWC **Mount Wilson** 22.82 321 eP P 08 53 18.0 +2.5
comp=Z,113nm,1.4s
O25A **Wiggins** 22.83 353 ⇑P P 08 53 14.1 -1.5
baz=23
GSC **Goldstone** 22.85 324 eP P 08 53 16.9 +1.1
GSC pmax pmax
comp=Z,167nm,1.5s
GSC **Goldstone** 22.85 324 eP P 08 53 16.9 +1.1
comp=Z,167nm,1.5s
GSC **Goldstone** 22.85 324 ⇓P P 08 53 16.4 +0.6
baz=23,SNR=13
PASC **Pasadena Art C** 22.86 320 eP P 08 53 18.1 +2.3
comp=Z,104nm,1.5s
O26A **Horse Wrangler** 22.88 355 ⇓P P 08 53 15.1 -1.0
baz=23
CCUT **Cedar City** 22.94 334 eP P 08 53 18.6 +1.8
comp=Z,119nm,1.8s
CCUT e 08 53 32.2
O24A **Longmont** 22.96 352 ⇑P P 08 53 16.1 -0.9
baz=23,SNR=13
DECC **Green Verdugo** 23.00 320 ⇓P P 08 53 18.9 +1.6
baz=23
P20A **De Beque** 23.01 345 ⇑P P 08 53 17.2 -0.2
baz=23
SHOC **Shoshone** 23.01 326 ⇓P P 08 53 18.1 +0.7
baz=23
CPCT **Cooper Cave** 23.08 36 eP P 08 53 16.9 -1.1
SLM **Saint Louis** 23.09 21 eP P 08 53 16.1 -1.9
SLM e 08 53 28.5
SLM pmax pmax
comp=Z,1μm,2.0s
SLM **Saint Louis** 23.09 21 eP P 08 53 16.1 -1.9
comp=Z,1μm,2.0s
SLM e 08 53 28.5
ARUT **Antelope Range** 23.17 334 eP P 08 53 20.5 +1.4
ARUT e 08 53 34.8
ARUT pmax pmax
comp=Z,241nm,1.6s
ARUT **Antelope Range** 23.17 334 eP P 08 53 20.5 +1.4
comp=Z,241nm,1.6s
ARUT e 08 53 34.8
O23A **Lake Granby, G** 23.17 350 ⇑P P 08 53 18.7 -0.6
baz=23,SNR=35
EDW2 **Edwds Air Fo** 23.23 322 ⇑P P 08 53 20.5 +0.9
baz=23,SNR=8.0
O22A **Kremmling** 23.24 349 ⇓P P 08 53 19.1 -0.8
baz=23,SNR=51
SRU **San Rafael** 23.25 340 eP P 08 53 19.9 0.0
SRU pmax pmax
comp=Z,9μm,1.8s
SRU **San Rafael** 23.25 340 eP P 08 53 19.9 0.0
comp=Z,9μm,1.8s
SRU **San Rafael** 23.25 340 ⇓P P 08 53 19.9 0.0
baz=23,SNR=14
P19A **Cripple Cowboy** 23.29 344 ⇑P P 08 53 20.2 -0.1
baz=23,SNR=16
MSU **Marysvale** 23.29 337 eP P 08 53 20.3 -0.1
MSU e 08 53 34.0
MSU **Marysvale** 23.29 337 eP P 08 53 20.3 -0.1
MSU e 08 53 34.0
Q16A **Castle Valley** 23.29 339 ⇑P P 08 53 20.7 +0.4
baz=23,SNR=13
MVU **Marysvale** 23.30 337 eP P 08 53 21.7 +1.3
comp=Z,309nm,2.0s
MVU e 08 53 34.4
BLG **Laguna Peak** 23.36 319 ⇓P P 08 53 22.2 +1.4
baz=23
N27A **Anderson Farm,** 23.39 357 ⇓P P 08 53 19.9 -1.2
baz=24,SNR=20
N26A **Koester Ranch,** 23.45 355 ⇑P P 08 53 20.9 -0.9
baz=24
LRMC **Laurel Mountai** 23.47 323 ⇓P P 08 53 23.4 +1.3
baz=24,SNR=11
O21A **Pagoda** 23.47 347 ⇓P P 08 53 22.2 +0.1
baz=24
OSI **Osito Adit** 23.48 320 eP P 08 53 24.5 +2.5
comp=Z,155nm,1.4s
OSI **Osito Adit** 23.48 320 ⇓P P 08 53 23.3 +1.3
baz=24
OGNE **Ogallala** 23.50 358 eP P 08 53 22.2 0.0
comp=Z,602nm,1.4s
OGNE e 08 53 33.9
OGNE **Ogallala** 23.50 358 ⇓P P 08 53 21.1 -1.1
baz=24,SNR=11
USIN **University of** 23.50 27 eP P 08 53 20.7 -1.5
comp=Z,367nm,1.1s
USIN e 08 53 33.4
N25A **Grover** 23.52 354 ⇑P P 08 53 21.7 -0.7
baz=24
O20A **White River Ci** 23.57 346 ⇓P P 08 53 23.2 +0.2
baz=24,SNR=23
N24A **Carr** 23.62 352 ⇓P P 08 53 22.9 -0.5
baz=24
P18A **Preston Nutter** 23.64 342 ⇑P P 08 53 23.9 +0.2
baz=24,SNR=15
TMUT **Trail Mountain** 23.65 339 eP P 08 53 24.8 +0.9
comp=Z,275nm,1.5s
TMUT e 08 53 37.5
BSC **Santa Cruz Isl** 23.65 318 ⇓P P 08 53 24.5 +1.0
baz=24
TKL **Tuckaleechee C** 23.65 36 P P 08 53 20.9 -2.6
comp=Z,17nm,0.8s,baz=214,slow=8.2,SNR=16
TKL **Tuckaleechee C** 23.65 36 eP P 08 53 21.0 -2.6
P17A **Butcher Ranch,** 23.65 340 ⇑P P 08 53 23.8 +0.1
baz=24
FURC **Furnace Creek,** 23.75 326 ⇑P P 08 53 25.5 +1.1
baz=24,SNR=6.6
MPMC **Manual Prospec** 23.78 325 ⇓P P 08 53 26.0 +1.0
baz=24,SNR=21
N22A **Wattenberg Ran** 23.84 349 ⇑P P 08 53 25.6 0.0
baz=24,SNR=22
N23A **Red Feather La** 23.85 350 ⇓P P 08 53 25.5 -0.1
baz=24,SNR=33
ARVC **Arvin** 23.90 321 ⇑P P 08 53 27.1 +1.2
baz=24
O19A **Miners Draw (B** 23.95 344 ⇓P P 08 53 26.3 -0.2
baz=24,SNR=29
OLIL **Olney** 23.98 25 eP P 08 53 24.6 -1.9
comp=Z,775nm,1.9s
OLIL e 08 53 38.9
SBC **Santa Barbara** 23.98 319 ⇓P P 08 53 27.5 +0.8
baz=24
DAC **Darwin (Calif)** 24.00 325 eP P 08 53 28.4 +1.4
DAC e 08 53 38.3
DAC pmax pmax
comp=Z,264nm,1.9s
DAC **Darwin (Calif)** 24.00 325 eP P 08 53 28.4 +1.4
comp=Z,264nm,1.9s
DAC e 08 53 38.3
N21A **Black Mountain** 24.01 347 ⇓P P 08 53 27.7 +0.6
baz=24,SNR=41
BGNE **Belgrade** 24.04 5 ⇑P P 08 53 25.9 -1.3
baz=24
ISA **Isabella** 24.06 323 eP P 08 53 28.9 +1.5
ISA e 08 53 43.2
ISA pmax pmax
comp=Z,136nm,1.4s
ISA **Isabella** 24.06 323 eP P 08 53 28.9 +1.5
comp=Z,136nm,1.4s
ISA e 08 53 43.2
ISA **Isabella** 24.06 323 ⇓P P 08 53 28.7 +1.3
baz=24,SNR=17
COW **Cow Castle Cre** 24.06 45 eP P 08 53 28.0 +0.6
P16A **Fountain Green** 24.08 339 ⇑P P 08 53 28.8 +1.1
baz=24,SNR=7.6
M26A **McRoberts Ranc** 24.08 356 ⇓P P 08 53 27.2 -0.4
baz=24
M27A **Reverse DX Ran** 24.10 357 ⇓P P 08 53 27.2 -0.6
baz=24
M25A **Palm-Egli Farm** 24.13 354 ⇓P P 08 53 27.6 -0.5
baz=24,SNR=10
O18A **Roosevelt** 24.16 343 ⇓P P 08 53 28.9 +0.5
baz=24,SNR=6.7
PHWY **Pilot Hill** 24.17 351 eP P 08 53 27.5 -1.1
comp=Z,186nm,1.3s
PHWY e 08 53 41.0
JSC **Jenkinsville** 24.24 42 eP P 08 53 27.9 -1.1
JSC **Jenkinsville** 24.24 42 eP P 08 53 27.9 -1.1
M24A **Cheyenne** 24.25 353 ⇑P P 08 53 29.0 -0.3
baz=24,SNR=11
NHSC **New Hope** 24.26 46 eP P 08 53 28.8 -0.3
comp=Z,1μm,1.8s
NHSC e 08 53 39.2
P15A **Leamington** 24.26 338 ⇓P P 08 53 29.7 +0.4
baz=24
O17A **Robinson Place** 24.31 341 ⇑P P 08 53 30.4 +0.6
baz=24,SNR=7.0
WCI **Wyandotte Cave** 24.33 29 eP P 08 53 28.0 -1.8
WCI e 08 53 42.1
WCI pmax pmax
comp=Z,651nm,1.9s
WCI **Wyandotte Cave** 24.33 29 eP P 08 53 28.0 -1.8
comp=Z,651nm,1.9s
WCI e 08 53 42.1
PKM **Peak Mountain** 24.34 319 ⇑P P 08 53 31.3 +1.1
baz=24
M23A **Laramie** 24.37 351 ⇑P P 08 53 30.0 -0.4
baz=24,SNR=8.9
CWC **Cottonwood Cre** 24.39 324 ⇓P P 08 53 32.0 +1.5
baz=24,SNR=8.5
TZTN **Tazewell** 24.41 35 eP P 08 53 29.4 -1.2
comp=Z,293nm,1.4s
TZTN e 08 53 43.0
GRAC **Grapevine Rang** 24.41 326 ⇓P P 08 53 32.7 +2.1
baz=24,SNR=8.0
GTBY **Guantanamo Bay** 24.43 80 eP P 08 53 31.6 +0.7
comp=Z,62nm,0.9s
MPU **Maple Canyon** 24.43 340 eP P 08 53 33.2 +2.2
comp=Z,241nm,1.7s
MPU e 08 53 45.8
M22A **Cedar Creek Ra** 24.45 349 ⇑P P 08 53 31.2 0.0
baz=24,SNR=13
N19A **John Jarvie Ra** 24.52 345 ⇑P P 08 53 32.3 +0.7
baz=25,SNR=14
VES **Vestal, Richgr** 24.54 322 ⇓P P 08 53 33.4 +1.7
baz=25,SNR=9.2
R11A **Troy Canyon, C** 24.58 331 ⇑P P 08 53 33.7 +1.4
baz=25,SNR=14
L26A **Underwood Farm** 24.64 356 ⇑P P 08 53 32.5 -0.3
baz=25
L27A **T5 Ranch, Ells** 24.65 357 ⇑P P 08 53 32.8 0.0
baz=25
DAU **Daniels Canyon** 24.67 341 eP P 08 53 34.1 +0.9
DAU **Daniels Canyon** 24.67 341 eP P 08 53 34.1 +0.9
N18A **Larsen Ranch,** 24.73 344 ⇑P P 08 53 34.5 +0.9
baz=25,SNR=17
SMMC **Simmler** 24.73 320 ⇓P P 08 53 34.9 +1.4
baz=25
KMSC **Kings Mountain** 24.75 41 ⇓P P 08 53 32.6 -1.1
baz=25,SNR=9.6
M21A **Separation Pea** 24.79 348 ⇑P P 08 53 35.1 +0.8
baz=25,SNR=29
L24A **Wheatland** 24.83 353 ⇑P P 08 53 34.6 +0.2
baz=25,SNR=7.9
L25A **Engebretsen Ra** 24.83 354 ⇓P P 08 53 34.7 +0.3
baz=25
M20A **Sweetwater, Wa** 24.85 347 ⇓P P 08 53 35.7 +0.9
baz=25,SNR=7.6
JLU **Jordanelle** 24.90 340 eP P 08 53 36.4 +1.1
comp=Z,153nm,2.1s
TIN **Tinemaha** 24.91 325 ⇓P P 08 53 36.3 +1.1
baz=25
RCTC **Rector, Farmer** 24.95 323 ⇓P P 08 53 36.9 +1.4
baz=25,SNR=19
O15A **The Old Anders** 24.96 338 ⇓P P 08 53 36.4 +0.8
baz=25
L23A **Garrett** 25.00 351 ⇑P P 08 53 36.2 +0.1
baz=25,SNR=18
BLO **Bloomington** 25.00 27 eP P 08 53 34.3 -1.6
BLO e 08 53 46.7
BLO pmax pmax
comp=Z,279nm,1.7s
BLO **Bloomington** 25.00 27 eP P 08 53 34.2 -1.6
comp=Z,279nm,1.7s
BLO e 08 53 46.7
DUG **Dugway** 25.00 338 eP P 08 53 36.9 +0.8
DUG pmax pmax
comp=Z,135nm,1.4s
DUG **Dugway** 25.00 338 eP P 08 53 36.9 +0.8
comp=Z,135nm,1.4s
DUG **Dugway** 25.00 338 ⇓P P 08 53 37.1 +1.0
baz=25,SNR=15
N17A **Moffit Pass** 25.02 342 ⇓P P 08 53 37.5 +1.1
baz=25,SNR=15
L22A **Ellis Ranch, M** 25.03 350 ⇑P P 08 53 36.8 +0.4
baz=25,SNR=29
PTRM **Twissleman Ran** 25.09 320 eP P 08 53 38.5 +1.7
M19A **Rock Springs** 25.09 345 ⇑P P 08 53 37.2 +0.2
baz=25,SNR=14
HDIL **Hopedale** 25.13 21 eP P 08 53 35.2 -1.8
comp=Z,498nm,0.9s
HDIL e 08 53 49.4
L21A **Rawlins** 25.14 348 ⇓P P 08 53 38.3 +1.0
baz=25,SNR=5.2
N16A **Rees Ranch, Co** 25.16 341 ⇓P P 08 53 39.8 +2.2
baz=25
M18A **Lyman** 25.25 343 ⇓P P 08 53 38.9 +0.5
baz=25,SNR=6.2
K27A **Flueckinger Fa** 25.26 357 ⇑P P 08 53 38.9 +0.6
baz=25,SNR=16
K25A **Mack Ranch, Ha** 25.28 355 ⇑P P 08 53 39.9 +1.4
baz=25,SNR=7.1
SCIA **State Center** 25.28 13 eP P 08 53 38.8 +0.4
comp=Z,476nm,0.8s
SCIA e 08 53 50.5
K26A **Motz Farm, Whi** 25.31 356 ⇑P P 08 53 39.2 +0.4
baz=25,SNR=7.0
MTUM **Tungsten Hills** 25.32 325 eP P 08 53 40.7 +1.7
L20A **Wamsutter** 25.38 347 ⇓P P 08 53 40.1 +0.6
baz=25,SNR=11
M17A **Scullys Gap (B** 25.46 343 ⇓P P 08 53 41.4 +1.1
baz=26,SNR=11
K23A **Bowen Ranch, D** 25.62 352 ⇑P P 08 53 40.8 -0.8
baz=26
K22A **Casper** 25.65 350 ⇑P P 08 53 42.8 +0.9
baz=26,SNR=16
MLAC **Mammoth Lakes** 25.67 325 ⇓P P 08 53 43.6 +1.4
baz=26,SNR=8.9
L19A **Farson** 25.70 345 ⇑P P 08 53 42.7 +0.2
baz=26,SNR=42
L18A **Fontenelle, Gr** 25.71 344 ⇓P P 08 53 43.2 +0.7
baz=26,SNR=14
K21A **Alcova** 25.76 349 ⇓P P 08 53 43.1 +0.1
baz=26,SNR=26
SFIN **Scholer Farm** 25.78 25 ⇑P P 08 53 41.6 -1.3
baz=26,SNR=18
NV11 **Mina Array Sit** 25.90 328 eP P 08 53 46.0 +1.8
NV11 e 08 54 00.1
NVAR **Mina Array Bea** 25.98 327 P P 08 53 46.2 +1.2
comp=Z,26nm,0.9s,baz=148,slow=8.6,SNR=104
NVAR **Mina Array Bea** 25.98 327 P P 08 53 46.2 +1.2
K20A **Yellowstone Ra** 26.00 347 ⇑P P 08 53 45.0 -0.2
baz=26,SNR=20
M15A **Larsen Ranch,** 26.01 340 ⇓P P 08 53 44.8 -0.3
baz=26
J24A **Dixon Ranch, L** 26.07 354 ⇑P P 08 53 44.7 -0.9
baz=26,SNR=5.2
L17A **Cokeville** 26.10 343 ⇑P P 08 53 45.8 -0.3
baz=26
L16A **Fish Haven** 26.19 342 ⇑P P 08 53 46.7 -0.1
baz=26
J23A **Dilts Ranch, B** 26.25 352 ⇑P P 08 53 46.6 -0.7
baz=26
K19A **Absolon Red Bu** 26.27 346 ⇑P P 08 53 46.8 -0.8
baz=26,SNR=10
K18A **Toltan Ranch,** 26.38 344 ⇑P P 08 53 47.8 -0.7
baz=26,SNR=11
BW06 **Boulder Array** 26.38 345 eP P 08 53 48.6 0.0

comp=Z,125nm,1.3s
BW06 e 08 54 04.2
BW06 Boulder Array 26.38 345 ⇑P P 08 53 48.1 -0.5
baz=26,SNR=26
PDAR Pinedale Array 26.38 345 P P 08 53 48.1 -0.5
comp=Z,14nm,0.9s,baz=150,slow=9.2,SNR=59
PDAR LR LR 09 05 30.9
comp=Z,3µm,20.0s,baz=176,slow=40
PDAR Pinedale Array 26.38 345 P P 08 53 48.1 -0.5
J22A Midwest 26.39 351 ⇓P P 08 53 47.8 -0.7
baz=26,SNR=14
HVU Hansel Valley 26.40 340 eP P 08 53 50.3 +1.6
HVU e 08 54 05.0
HVU pmax pmax
comp=Z,46nm,1.3s
HVU Hansel Valley 26.40 340 eP P 08 53 50.2 +1.6
comp=Z,46nm,1.3s
HVU e 08 54 05.0
ELK Elko 26.41 335 eP P 08 53 50.3 +1.4
ELK e 08 54 02.7
L15A Malad City 26.47 340 ⇓P P 08 53 49.0 -0.4
baz=26,SNR=19
J21A Lysite 26.49 349 ⇓P P 08 53 48.5 -1.0
baz=27,SNR=11
ECSD EROS Data Cent 26.50 7 eP P 08 53 47.5 -1.9
comp=Z,121nm,1.0s
ECSD e 08 54 00.7
I24A Kuemmerle Ranc 26.59 354 ⇑P P 08 53 49.8 -0.6
baz=27
J20A Shoshoni 26.61 348 ⇓P P 08 53 50.3 -0.3
baz=27,SNR=14
BLA Blacksburg 26.67 38 eP P 08 53 49.8 -1.3
BLA pmax pmax
comp=Z,123nm,1.1s
BLA Blacksburg 26.67 38 eP P 08 53 49.8 -1.3
comp=Z,123nm,1.1s
K17A Gardner Place, 26.72 343 ⇓P P 08 53 51.1 -0.5
baz=27,SNR=20
J19A Crowheart 26.73 346 ⇓P P 08 53 51.4 -0.4
baz=27,SNR=9.6
AHID Auburn Hatcher 26.78 343 eP P 08 53 52.6 +0.4
comp=Z,47nm,1.3s
AHID e 08 54 05.4
L14A Malta 26.78 339 ⇑P P 08 53 52.5 +0.4
baz=27,SNR=8.1
CMB Columbia Colle 26.81 324 eP P 08 53 53.8 +1.5
CMB e 08 54 07.8
CMB pmax pmax
comp=Z,84nm,1.6s
CMB Columbia Colle 26.81 324 eP P 08 53 53.8 +1.5
comp=Z,84nm,1.6s
CMB e 08 54 07.8
I22A 9 Mile Ranch, 26.86 351 ⇓P P 08 53 52.4 -0.3
baz=27,SNR=5.5
I21A Big Trails, Te 26.91 350 ⇑P P 08 53 52.6 -0.7
baz=27,SNR=13
J18A Kendall Valley 26.91 345 ⇑P P 08 53 53.3 -0.2
baz=27,SNR=34
VWCC Virginia Weste 26.95 39 eP P 08 53 52.4 -1.2
VWCC e 08 54 05.2
K16A Soda Springs 26.98 342 ⇓P P 08 53 53.6 -0.4
baz=27
BMN Battle Mountai 27.01 332 eP P 08 53 56.6 +2.4
BMN pmax pmax
comp=Z,31nm,1.3s
BMN Battle Mountai 27.01 332 eP P 08 53 56.5 +2.4
comp=Z,31nm,1.3s
CNNC Cliffs of the 27.03 44 eP P 08 53 54.0 -0.3
comp=Z,32nm,0.6s
CNNC e 08 54 06.6
K15A Arbon 27.13 341 ⇑P P 08 53 55.4 +0.1
baz=27,SNR=13
I20A Worland 27.20 348 ⇓P P 08 53 56.0 +0.1
baz=27,SNR=17
K14A Jones Ranch, D 27.22 340 ⇑P P 08 53 56.5 +0.5
baz=27,SNR=17
J17A Brown Place, J 27.23 344 ⇓P P 08 53 56.5 +0.3
baz=27,SNR=15
REDW Red Top Meadow 27.27 344 eP P 08 53 57.6 +1.0
comp=Z,3.1nm,1.6s
REDW e 08 54 09.6
I18A Diamond G Ranc 27.32 346 ⇑P P 08 53 57.8 +0.7
baz=27,SNR=9.2
SNOW Snow King Moun 27.34 344 eP P 08 53 57.2 0.0
comp=Z,165nm,1.4s
H23A Clabaugh Cattl 27.37 353 ⇓P P 08 53 58.1 +0.7
baz=27
RRI2 Red Ridge 27.38 343 eP P 08 53 58.2 +0.6
comp=Z,274nm,1.8s
WCN Washoe City 27.38 327 eP P 08 54 00.1 +2.5
WCN pmax pmax
comp=Z,116nm,1.9s
WCN Washoe City 27.38 327 eP P 08 54 00.1 +2.5
comp=Z,116nm,1.9s
J16A Bone 27.39 343 ⇓P P 08 53 58.2 +0.5
baz=27,SNR=19
TPAW Teton Pass 27.41 344 eP P 08 53 58.1 +0.2
comp=Z,122nm,1.1s
LOHW Long Hollow 27.44 344 eP P 08 53 58.4 +0.3
comp=Z,190nm,1.6s
LOHW e 08 54 11.5
I19A Meeteetse 27.46 347 ⇑P P 08 53 57.6 -0.7
baz=28,SNR=6.1
H24A Dirks Ranch, A 27.46 354 ⇑P P 08 53 57.5 -0.7
baz=28,SNR=6.0
ACSO Alum Creek Sta 27.48 30 eP P 08 53 56.5 -1.7
comp=Z,141nm,1.5s
H22A Clearmont 27.53 351 ⇑P P 08 53 58.2 -0.6
baz=28,SNR=9.1
DCID1 Drake Creek 27.57 344 eP P 08 54 00.5 +1.2
comp=Z,173nm,1.3s
DCID1 e 08 54 17.2
MOOW Moose Ponds 27.60 344 eP P 08 53 59.6 +0.1
comp=Z,113nm,1.4s
MOOW e 08 54 17.2
H21A Big Horn, Sher 27.66 350 ⇓P P 08 53 59.2 -0.8
baz=28,SNR=5.6
H20A Greybull 27.69 349 ⇑P P 08 53 60.0 -0.2
baz=28,SNR=7.8
I17A Pilgrim Ck, 27.72 345 ⇓P P 08 54 01.2 +0.6
baz=28,SNR=15
J15A Blackfoot 27.75 342 ⇓P P 08 54 01.1 +0.3
baz=28,SNR=11
IMW Indian Meadow 27.79 344 eP P 08 54 01.5 +0.2
comp=Z,199nm,2.1s
OTAV Otavalo 27.80 125 eP P 08 54 04.5 +2.6
comp=Z,46nm,1.4s
FLWY Flagg Ranch 27.90 345 eP P 08 54 03.1 +0.9
comp=Z,110nm,1.3s
FLWY e 08 54 18.6
I16A Newdale 27.91 343 ⇓P P 08 54 03.0 +0.7
baz=28,SNR=6.4
G23A Biddle 28.00 353 ⇑P P 08 54 02.2 -0.7
baz=28,SNR=5.6
G24A Alzada 28.02 355 ⇑P P 08 54 02.2 -0.9
baz=28
J14A Carey 28.02 340 ⇓P P 08 54 03.4 +0.1
baz=28,SNR=6.1
SDDR Presa de Saban 28.04 82 eP P 08 54 04.6 +1.1
comp=Z,44nm,0.8s
H19A Powell 28.06 347 ⇓P P 08 54 03.8 +0.3
baz=28,SNR=9.0
G22A Birney 28.13 352 ⇑P P 08 54 03.5 -0.6
baz=28,SNR=13
H17A Grant Village 28.16 345 ⇓P P 08 54 04.7 +0.1
baz=28
H18A Shoshone NF, C 28.21 347 ⇑P P 08 54 04.2 -0.8
baz=28
G21A Lodge Grass 28.27 350 ⇑P P 08 54 04.4 -1.0
baz=28
J13A Cove Ranch, Pi 28.31 339 ⇑P P 08 54 05.2 -0.6
baz=28,SNR=7.6
I15A Monteview 28.31 342 ⇑P P 08 54 05.4 -0.4
baz=28
OHCM Honcut 28.34 325 eP P 08 54 08.0 +2.1
G20A Bridger 28.44 349 ⇓P P 08 54 05.7 -1.3
baz=28,SNR=5.7
JSRW J. Sargeant Re 28.52 40 eP P 08 54 06.5 -1.0
JSRW e 08 54 19.6
HLID Hailey 28.54 339 eP P 08 54 08.3 +0.4
comp=Z,14nm,0.9s
HLID e 08 54 20.9
HLID Hailey 28.54 339 ⇑P P 08 54 07.7 -0.1
baz=29,SNR=7.7
F24A Ekalaka 28.54 355 ⇓P P 08 54 06.7 -1.0
baz=29,SNR=12
SPMN St. Paul 28.54 12 ⇓P P 08 54 05.7 -1.9
baz=29
I14A Mackay 28.55 341 ⇓P P 08 54 07.6 -0.3
baz=29
RLMT Red Lodge 28.55 347 eP P 08 54 08.1 0.0
comp=Z,40nm,1.4s
RLMT Red Lodge 28.55 347 eP P 08 54 07.2 -0.8
baz=29,SNR=9.0
H16A Russell Place, 28.62 344 ⇓P P 08 54 08.2 -0.5
baz=29,SNR=6.3
F22A Rosebud 28.68 352 ⇑P P 08 54 07.6 -1.3
baz=29
ROSC El Rosal 28.73 113 P P 08 54 12.7 +2.6
comp=Z,3.2nm,0.7s,baz=273,slow=23,SNR=7.4
ROSC El Rosal 28.73 113 eP P 08 54 13.8 +3.7
I13A Wildhorse Cree 28.75 340 ⇑P P 08 54 09.6 -0.2
baz=29,SNR=7.5
QLMT Earthquake Lak 28.79 344 eP P 08 54 11.8 +1.8
comp=Z,4.2nm,1.3s
G18A Lazy EL Ranch, 28.80 347 ⇑P P 08 54 09.9 -0.2
baz=29,SNR=7.0
AAM Ann Arbor 28.81 27 eP P 08 54 08.6 -1.5
AAM e 08 54 22.3
AAM pmax pmax
comp=Z,106nm,0.8s
AAM Ann Arbor 28.81 27 eP P 08 54 08.6 -1.5
comp=Z,106nm,0.8s
AAM e 08 54 22.3
F21A Absaloka Mine, 28.84 351 ⇓P P 08 54 09.3 -1.1
baz=29
MFID Camas Ranch 28.91 337 eP P 08 54 11.9 +0.7
comp=Z,49nm,1.5s
MFID Camas Ranch 28.91 337 ⇑P P 08 54 11.0 -0.1
baz=29,SNR=7.4
H15A Lima 28.92 342 ⇑P P 08 54 10.8 -0.5
baz=29,SNR=6.1
F20A Billings 28.99 349 ⇓P P 08 54 11.3 -0.5
baz=29,SNR=16
G17A Pierce Place, 29.07 345 ⇓P P 08 54 13.5 +1.0
baz=29,SNR=23
H14A Leadore 29.14 341 ⇓P P 08 54 13.5 +0.3
baz=29,SNR=7.4
MCMT McKenzie Canyo 29.18 342 eP P 08 54 15.1 +1.5
comp=Z,1.9nm,0.7s
F19A Roth Farm, Mol 29.19 348 ⇑P P 08 54 13.6 0.0
baz=29
E24A Baker 29.24 355 ⇓P P 08 54 13.1 -0.8
baz=29
G16A Moss Hill, Enn 29.25 344 ⇑P P 08 54 14.9 +0.7
baz=29,SNR=18
E23A Ismay 29.27 354 ⇓P P 08 54 13.7 -0.4
baz=29
GCMT Greycliff 29.27 347 eP P 08 54 15.0 +0.7
comp=Z,31nm,1.3s
H13A Challis 29.37 340 ⇑P P 08 54 15.8 +0.6
baz=29,SNR=7.0
G15A Dillon 29.38 343 ⇑P P 08 54 15.8 +0.5
baz=29
F18A Big Timber 29.39 347 ⇑P P 08 54 15.5 +0.2
baz=30,SNR=8.0
E21A Keefer Ranch, 29.54 351 ⇑P P 08 54 16.0 -0.5
baz=30
H12A Diamond D Ranc 29.56 339 ⇓P P 08 54 17.0 +0.1
baz=30,SNR=12
DLMT Dillon 29.59 343 eP P 08 54 17.9 +0.7
comp=Z,129nm,1.8s
DLMT e 08 54 30.9
BOZ Bozeman (W) 29.60 344 eP P 08 54 17.6 +0.4
BOZ pmax pmax
comp=Z,73nm,2.0s
BOZ Bozeman (W) 29.60 344 eP P 08 54 17.6 +0.4
comp=Z,73nm,2.0s
BOZ Bozeman (W) 29.60 344 ⇑P P 08 54 17.2 0.0
baz=30,SNR=13
F17A Fitzpatrick Pl 29.60 346 ⇑P P 08 54 17.6 +0.3
baz=30,SNR=8.0
MOD Modoc 29.61 330 eP P 08 54 18.4 +1.1
comp=Z,23nm,1.0s
E20A Meyer Farm, Mu 29.67 350 ⇑P P 08 54 17.4 -0.3
baz=30,SNR=17
F16A Kennard Place, 29.72 345 ⇓P P 08 54 18.7 +0.4
baz=30,SNR=12
G14A Jackson 29.73 342 ⇓P P 08 54 18.7 +0.2
baz=30,SNR=8.9
E19A Rath Farm, Rou 29.74 349 ⇑P P 08 54 18.1 -0.3
baz=30,SNR=10.0
D24A Glendive 29.79 355 ⇑P P 08 54 18.1 -0.6
baz=30,SNR=13
G13A Cobalt 29.84 341 ⇑P P 08 54 19.6 +0.2
baz=30,SNR=7.9
D23A Lindsay 29.93 354 ⇑P P 08 54 19.2 -0.8
baz=30
ALLY Alegheny Colle 29.96 32 eP P 08 54 18.4 -1.9
comp=Z,168nm,1.5s
ALLY e 08 54 32.0
LRM Limekiln Ridge 29.98 344 eP P 08 54 21.4 +0.8
LRM e 08 54 33.6
F15A Butte 30.00 344 ⇑P P 08 54 21.1 +0.2
baz=30,SNR=10
D22A Cohagen 30.01 353 ⇑P P 08 54 20.3 -0.4
baz=30,SNR=26
D21A La Casta Ranch 30.04 351 ⇓P P 08 54 20.6 -0.4
baz=30,SNR=8.2
E18A Harlowton 30.07 347 ⇑P P 08 54 21.7 +0.4
baz=30,SNR=7.7
E17A Martinsdale 30.17 346 ⇓P P 08 54 22.7 +0.4
baz=30,SNR=15
F14A Wisdom 30.22 342 ⇓P P 08 54 23.0 +0.3
baz=30,SNR=5.2
G12A Big Creek, Yel 30.23 339 ⇑P P 08 54 23.2 +0.4
baz=30,SNR=11
SDMD Soldier's Deli 30.23 39 eP P 08 54 21.9 -0.8
comp=Z,19nm,0.8s
SDMD e 08 54 33.5
D20A Manuel Ranch, 30.24 350 ⇓P P 08 54 21.9 -0.8
baz=30
ERPA Erie 30.38 31 eP P 08 54 22.9 -1.1
comp=Z,255nm,2.1s
ERPA e 08 54 35.1
E16A East Helena 30.44 345 ⇓P P 08 54 25.0 +0.4
baz=30,SNR=19
SSPA Standing Stone 30.44 36 eP P 08 54 23.6 -0.9
comp=Z,198nm,1.8s
D19A Cripps Ranch, 30.44 349 ⇑P P 08 54 24.2 -0.3
baz=30,SNR=22
F13A Darby 30.49 341 ⇓P P 08 54 25.2 +0.1
baz=30,SNR=24
C23A Lambert 30.55 354 ⇑P P 08 54 25.1 -0.3
baz=31,SNR=16
C22A Vida 30.56 353 ⇑P P 08 54 25.1 -0.5
baz=31,SNR=13
E15A Deer Lodge 30.58 344 ⇓P P 08 54 26.0 +0.1
baz=31,SNR=9.3
D18A Linhart Farms, 30.64 348 ⇓P P 08 54 26.8 +0.4
baz=31,SNR=15
BMO Blue Mountains 30.70 337 eP P 08 54 26.7 -0.2
comp=Z,55nm,1.7s
BMO eP pP 08 54 39.5 +0.7
BMO ePcP PcP 08 57 24.8 +0.8
F12A Elk City 30.75 340 ⇓P P 08 54 27.7 +0.3
baz=31,SNR=21
D17A Six Diamond Ra 30.79 347 ⇓P P 08 54 28.1 +0.4
baz=31,SNR=42
C21A Desert Coulee 30.80 352 ⇑P P 08 54 27.3 -0.4
baz=31
E14A Clinton 30.81 343 ⇓P P 08 54 27.7 -0.2
baz=31,SNR=7.5
C20A Veseth Ranch, 30.82 350 ⇑P P 08 54 27.5 -0.3
baz=31,SNR=8.9
D16A Dana Ranch, Ca 30.87 346 ⇓P P 08 54 28.4 0.0
baz=31,SNR=15
C19A Slack Wire Ran 31.02 349 ⇑P P 08 54 29.7 +0.1
baz=31,SNR=15
E13A Victor 31.04 342 ⇓P P 08 54 29.6 -0.3
baz=31,SNR=14
AGMN Agassiz Nation 31.09 6 eP P 08 54 28.6 -1.5
comp=Z,143nm,1.3s
AGMN eP pP 08 54 41.6 -0.4
D15A Lincoln 31.12 344 ⇓P P 08 54 29.9 -0.8
baz=31,SNR=9.2
B22A Reddig Ranch S 31.12 353 ⇑P P 08 54 29.7 -0.8
baz=31
DGMT Dagmar 31.12 356 eP P 08 54 30.5 0.0
comp=Z,50nm,0.5s
DGMT eP pP 08 54 43.2 +0.8
DGMT Dagmar 31.12 356 ⇓P P 08 54 29.7 -0.9
baz=31
B23A Brockton 31.18 355 ⇓P P 08 54 30.7 -0.3
baz=31
CHMT Chamberlain Mo 31.20 343 eP P 08 54 31.7 +0.3
CHMT eP pP 08 54 44.4 +1.0
C17A Wharram Farm, 31.26 347 ⇓P P 08 54 31.6 -0.1
baz=31,SNR=42
MSO Missoula 31.31 342 eP P 08 54 32.2 -0.1
comp=Z,57nm,1.8s
MSO eP pP 08 54 45.1 +0.9
MSO Missoula 31.31 342 ⇑P P 08 54 31.9 -0.4
baz=31,SNR=8.7
EYMN Ely 31.41 12 eP P 08 54 32.4 -0.6
comp=Z,19nm,1.0s
EYMN eP pP 08 54 45.1 +0.1
D14A Greenough 31.42 343 ⇓P P 08 54 33.1 -0.2
baz=32,SNR=6.0
EGMT Eagleton 31.43 348 eP P 08 54 34.0 +0.8
comp=Z,137nm,1.8s
EGMT Eagleton 31.43 348 ⇓P P 08 54 32.9 -0.3
baz=32
E12A Beaver Dam Sad 31.44 340 ⇓P P 08 54 33.1 -0.4
baz=32,SNR=10
SLMT Seeley Lake 31.56 343 eP P 08 54 34.8 +0.3
SLMT eP pP 08 54 46.9 +0.4
C16A Fuhringer Ranc 31.64 346 ⇓P P 08 54 34.8 -0.4
baz=32,SNR=18
A23A Redstone 31.66 355 ⇑P P 08 54 34.6 -0.7
baz=32
B19A Brinkman Farms 31.70 350 ⇑P P 08 54 35.1 -0.4
baz=32,SNR=11
D13A Huson 31.70 342 ⇑P P 08 54 35.7 0.0
baz=32,SNR=14
B18A Beardsley Farm 31.79 349 ⇑P P 08 54 36.5 +0.1
baz=32
A22A Carney Farms, 31.80 354 ⇓P P 08 54 36.4 -0.1
baz=32
C15A Salmond Ranch, 31.82 345 ⇑P P 08 54 36.9 +0.1
baz=32
B17A L&G Farms, Che 31.89 347 ⇓P P 08 54 37.1 -0.3
baz=32,SNR=9.2
A21A Bergdoll Ranch 31.92 352 ⇓P P 08 54 36.6 -0.9
baz=32
D12A Red Ives Fores 31.94 341 ⇓P P 08 54 37.4 -0.4
baz=32
A20A Cobblestone Ra 31.95 351 ⇓P P 08 54 37.1 -0.6
baz=32
SWMT Swartz Lake 31.95 343 eP P 08 54 37.7 -0.2
SWMT eP pP 08 54 51.0 +1.2
C14A Swan Lake 32.12 343 ⇑P P 08 54 38.8 -0.6
baz=32
A19A Klindworth Far 32.12 350 ⇑P P 08 54 38.9 -0.4
baz=32,SNR=11
B16A M & M Farms, S 32.21 346 ⇓P P 08 54 39.5 -0.6
baz=32,SNR=5.4
FRIS Frissel Point 32.22 331 P P 08 54 41.2 +0.8
JTMT Jette 32.24 343 eP P 08 54 41.2 +0.8
JTMT eP pP 08 54 52.7 +0.3
JTMT ePcP PcP 08 57 29.1 +0.9
C13A Hot Springs 32.27 342 ⇓P P 08 54 39.9 -0.8
baz=32
A18A Metzger Ranch, 32.30 349 ⇓P P 08 54 39.7 -1.2
baz=32
B15A Bradely Ranch, 32.31 345 ⇓P P 08 54 40.4 -0.6
baz=32,SNR=13
KEBM Edson Butte 32.35 327 eP P 08 54 42.5 +1.1
comp=Z,258nm,1.4s
BROR Big Rock Looko 32.42 330 P P 08 54 42.6 +0.7
BSMT Bassoo Peak 32.48 342 eP P 08 54 43.4 +0.7
A17A Triple J Farms 32.49 348 ⇓P P 08 54 42.2 -0.4
baz=33,SNR=18
BLMT Blacktail Moun 32.51 343 eP P 08 54 43.0 +0.1
comp=Z,14nm,1.0s
BLMT e 08 54 55.4
B14A Marquette Ranc 32.54 344 ⇑P P 08 54 42.5 -0.5
baz=33
BINY Binghamton 32.55 35 eP P 08 54 42.1 -1.0
comp=Z,120nm,1.4s
BINY eP pP 08 54 53.3 -1.7
C12B Naegeli Ranch, 32.56 341 ⇓P P 08 54 42.6 -0.6
baz=33
B13A Whitefish 32.87 343 ⇑P P 08 54 45.9 +0.1
baz=33,SNR=11
ATAH Atahualpa 32.91 136 P P 08 54 47.8 +0.9
comp=Z,5.2nm,0.9s,baz=260,slow=12,SNR=4.8
ATAH LR LR 09 05 20.5
comp=Z,1µm,21.9s,baz=320,slow=31
ATAH Atahualpa 32.91 136 P P 08 54 47.8 +0.9
A15A Johnson Ranch, 32.97 345 ⇑P P 08 54 46.7 -0.2
baz=33,SNR=11
PAL Palisades 32.98 39 eP P 08 54 46.1 -0.8
PAL e*PP pP 08 54 59.2 +0.4
PAL pmax pmax
comp=Z,29nm,0.8s
PAL Palisades 32.98 39 eP P 08 54 46.1 -0.8
comp=Z,29nm,0.8s
PAL eP pP 08 54 59.2 +0.4
VLL Laurance Lake 32.99 333 P P 08 54 48.9 +1.9
ULM Lac du Bonnet 33.02 6 P P 08 54 45.0 -2.0
comp=Z,10nm,0.8s,baz=196,slow=10,SNR=13
ULM LR LR 09 09 19.2
comp=Z,1µm,18.3s,baz=98,slow=39
ULM Lac du Bonnet 33.02 6 eP P 08 54 44.9 -2.2
comp=Z,107nm,1.3s
A14A Double T Ranch 33.14 345 ⇓P P 08 54 48.0 -0.3
baz=33,SNR=7.8
B12A Libby 33.27 342 ⇑P P 08 54 49.8 +0.4
baz=33
GULW Guler Mountain 33.31 333 P P 08 54 51.7 +1.8
WALA Waterton Lakes 33.34 344 eP P 08 54 50.5 +0.5
comp=Z,0.7nm,1.3s
A13A Flathead Natio 33.36 344 ⇑P P 08 54 50.2 0.0
baz=33
ASR Mount Adams--S 33.49 333 P P 08 54 53.5 +2.2
NEW Newport 33.57 340 LR LR 09 09 25.4
comp=Z,3µm,19.2s,baz=160,slow=38
NEW Newport 33.57 340 eP P 08 54 52.5 +0.5
comp=Z,16nm,1.1s
NEW Newport 33.57 340 ⇑P P 08 54 52.0 0.0
baz=34
A12A Yaak River Ran 33.71 342 ⇓P P 08 54 53.7 +0.5
baz=34,SNR=6.8
WPW White Pass 33.91 334 P P 08 54 56.2 +1.3
TDL Tradedollar La 33.92 333 P P 08 54 56.5 +1.4
LON Longmire 34.06 334 eP P 08 54 57.5 +1.3
LON e*PP pP 08 55 11.1 +2.9
LON pmax pmax
comp=Z,34nm,1.4s
LON Longmire 34.06 334 eP P 08 54 57.5 +1.3
comp=Z,34nm,1.4s
LON eP pP 08 55 11.1 +2.9
ETW Entiat 34.15 336 P P 08 54 58.3 +1.2
NLW Nelson Butte 34.54 337 P P 08 55 01.6 +1.1
ACCN Adirondack Com 34.61 36 eP P 08 54 59.8 -1.2
comp=Z,61nm,1.4s
ACCN eP pP 08 55 13.7 +0.7
NCB Newcomb 34.69 35 eP P 08 55 01.4 -0.3
comp=Z,72nm,1.6s
LONY Lake Ozonia 34.93 33 eP P 08 55 02.1 -1.6
comp=Z,80nm,1.6s
LONY eP pP 08 55 15.9 +0.1
JCW Jim Creek 35.26 335 P P 08 55 06.9 +0.4
MDV Middlebury 35.28 35 eP P 08 55 05.2 -1.5
MDV eP pP 08 55 16.6 -2.2
NLWA Neilton Lookou 35.44 333 eP P 08 55 09.8 +1.6
comp=Z,47nm,1.4s
HNH Hanover 35.59 36 eP P 08 55 09.2 -0.2
comp=Z,49nm,1.1s
HNH eP pP 08 55 21.6 +0.2
FRNY Flat Rock 35.60 34 eP P 08 55 08.7 -0.8
comp=Z,48nm,1.3s
FRNY eP pP 08 55 21.8 +0.3
LBNH Lisbon 36.13 36 eP P 08 55 13.7 -0.4
LBNH pmax pmax
comp=Z,43nm,1.3s
LBNH Lisbon 36.13 36 eP P 08 55 13.7 -0.4
comp=Z,43nm,1.3s
FFC Flin Flon 37.27 359 eP P 08 55 22.0 -1.6
FFC e*PP pP 08 55 35.0 -0.7
FFC pmax pmax
comp=Z,36nm,0.9s
FFC Flin Flon 37.27 359 eP P 08 55 22.0 -1.6
comp=Z,36nm,0.9s
FFC eP pP 08 55 35.0 -0.7
FFC Flin Flon 37.27 359 P P 08 55 22.2 -1.4
comp=Z,74nm,0.8s,SNR=11
NNA Nana 37.56 139 LR LR 09 07 58.0
comp=Z,839nm,19.6s,baz=312,slow=32
WVL Waterville 37.62 37 eP P 08 55 26.1 -0.6

comp=Z,121nm,1.5s
WVL ePpP pP 08 55 38.5 -0.3
BBB Bella Bella 40.86 334 LR LR 09 15 57.9
comp=Z,318nm,18.2s,baz=344,slow=41
RPN Rapa Nui 45.02 191 LR LR 09 10 37.4
comp=Z,660nm,19.0s,baz=69,slow=30
SAML Samuel 45.44 122 eP P 08 56 29.4 -1.7
comp=Z,7.6nm,0.9s
SCHQ Schefferville 45.52 27 P P 08 56 30.0 -1.2
comp=Z,22nm,0.9s,baz=234,slow=8.9,SNR=45
SCHQ LR LR 09 17 26.0
comp=Z,1µm,20.1s,baz=86,slow=39
SCHQ Schefferville 45.52 27 eP P 08 56 30.3 -1.0
comp=Z,20nm,0.8s
SCHQ epP pP 08 56 43.2 -0.4
YKA Yellowknife Ar 46.09 351 P P 08 56 33.8 -1.7
comp=Z,6.5nm,0.9s,baz=161,slow=7.3,SNR=70
YKA PcP PcP 08 58 10.6 -0.6
comp=Z,3.1nm,0.9s,baz=156,slow=4.0,SNR=5.5
YKA Yellowknife Ar 46.09 351 P P 08 56 33.9 -1.7
YKA PcP PcP 08 58 10.6 -0.6
YKW3 Yellowknife Ar 46.15 351 eP P 08 56 34.5 -1.6
comp=Z,0.4nm,0.9s
YKW3 epP pP 08 56 49.3 +0.9
DLBC Dease Lake 46.30 339 LR LR 09 17 50.3
comp=Z,3µm,21.1s,baz=142,slow=38
DLBC Dease Lake 46.30 339 eP P 08 56 39.2 +1.7
LPAZ La Paz 46.42 134 P P 08 56 39.0 -0.4
comp=Z,3.0nm,0.8s,baz=304,slow=6.8,SNR=14
LPAZ LR LR 09 14 32.0
comp=Z,842nm,19.8s,baz=117,slow=34
LPAZ La Paz 46.42 134 eP P 08 56 39.5 0.0
comp=Z,33nm,1.6s
DRLN Deer Lake 47.16 38 eP P 08 56 44.6 +0.4
SIV San Ignacio 51.30 128 P P 08 57 15.6 -0.6
comp=Z,9.2nm,0.9s,baz=317,slow=11,SNR=38
SIV San Ignacio 51.30 128 P P 08 57 15.6 -0.6
RKT Rikitea 52.33 221 eP P 08 57 33.4 +10
comp=Z,56nm,1.4s
RKT eS S 09 04 56.5 +10
comp=Z,650nm,30.2s
RKT eSS SS 09 08 30.7 +5.8
comp=Z,256nm,27.3s
RKT eLR LR 09 12 48.3
comp=Z,1µm,27.5s,baz=46
BMRM Bremner River 53.47 335 eP P 08 57 34.1 +2.3
comp=Z,64nm,1.2s
MENT Mentasta 54.28 337 eP P 08 57 39.0 +1.3
DOT Dot Lake 54.83 338 eP P 08 57 43.3 +1.7
comp=Z,84nm,1.3s
DOT epP pP 08 57 52.6 -1.7
INK Inuvik 54.95 346 P P 08 57 42.6 +0.3
comp=Z,54nm,0.9s,baz=138,slow=7.1,SNR=158
INK Inuvik 54.95 346 eP P 08 57 42.6 +0.3
comp=Z,97nm,1.1s
PAX Paxson 54.95 337 eP P 08 57 43.4 +0.8
PAX pmax pmax
comp=Z,52nm,1.4s
PAX Paxson 54.95 337 eP P 08 57 43.4 +0.8
comp=Z,52nm,1.4s
PMR Palmer 55.65 334 eP P 08 57 48.3 +0.8
PMR pmax pmax
comp=Z,21nm,0.9s
PMR Palmer 55.65 334 eP P 08 57 48.3 +0.8
comp=Z,20nm,0.9s
ILAR Eielson Array 56.49 338 P P 08 57 53.8 +0.3
comp=Z,24nm,1.2s,baz=140,slow=4.7,SNR=67
ILAR LR LR 09 23 12.4
comp=Z,680nm,18.6s,baz=133,slow=37
ILAR Eielson Array 56.49 338 P P 08 57 53.8 +0.3
PMOR Pomariorio Ree 56.53 238 eP P 08 58 05.6 +11
comp=Z,134nm,1.4s
SPU Mount Spurr 56.69 333 eP P 08 57 55.8 +0.8
COLA College 56.89 338 eP P 08 57 56.6 +0.3
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 56.89 338 eP P 08 57 56.6 +0.3
comp=Z,18nm,1.0s
TRF Thorofare Moun 57.05 336 eP P 08 57 57.8 +0.1
comp=Z,61nm,0.9s
RES Resolute Bay 57.40 2 LR LR 09 24 51.3
comp=Z,658nm,21.0s,baz=32,slow=38
RES Resolute Bay 57.40 2 eP P 08 57 58.3 -1.4
comp=Z,26nm,1.3s
CFAA Coronel Fontan 57.86 147 P P 08 58 04.2 +0.6
comp=Z,1.2nm,1.2s,baz=320,slow=7.7,SNR=10
CFAA Coronel Fontan 57.86 147 P P 08 58 04.2 +0.6
SVW2 Sparrevohn 58.20 332 eP P 08 58 05.9 +0.3
comp=Z,34nm,1.3s
COLD Coldfoot 58.98 340 eP P 08 58 12.2 +1.3
comp=Z,31nm,1.1s
COLD epP pP 08 58 22.0 -1.6
SFJD Kangerlussuaq 59.09 21 eP P 08 58 11.3 -0.4
comp=Z,69nm,1.5s
SFJD Kangerlussuaq 59.09 21 i P P 08 58 11.1 -0.6
comp=Z,14nm,1.1s
PPT Papeete 59.28 237 LR LR 09 16 27.8
comp=Z,756nm,18.9s,baz=360,slow=29
PPT2 Papeete2 59.29 237 eLR LR 09 15 34.1
comp=Z,2µm,25.8s,baz=46
BDFB Brasilia 61.50 119 P P 08 58 29.0 -0.1
comp=Z,8.7nm,0.8s,baz=282,slow=6.3,SNR=15
BDFB Brasilia 61.50 119 P P 08 58 29.0 -0.1
UNV Unalaska Valle 61.85 322 eP P 08 58 31.8 +1.1
comp=Z,162nm,1.4s
TBI Tubuai 62.47 231 eS S 09 07 06.7 +7.2
comp=Z,314nm,31.8s
TBI eSS SS 09 11 05.8 +1.4
comp=Z,258nm,31.5s
TBI eLR LR 09 17 15.2
comp=Z,1µm,26.0s,baz=54
PLCA Paso Flores 64.28 155 P P 08 58 47.6 +0.5
comp=Z,6.9nm,1.1s,baz=323,slow=7.9,SNR=7.3
PLCA LR LR 09 20 45.2
comp=Z,426nm,19.0s,baz=358,slow=30
PLCA Paso Flores 64.28 155 P P 08 58 47.6 +0.5
TNA Tin City 64.89 335 eP P 08 58 52.0 +1.4
comp=Z,22nm,1.0s
TNA epP pP 08 59 02.3 -1.1
SUMG Summit 65.36 17 eP P 08 58 54.2 +0.1
SUMG pmax pmax
comp=Z,83nm,1.2s
SUMG Summit 65.36 17 eP P 08 58 54.2 +0.1
comp=Z,83nm,1.2s
SUMG Summit 65.36 17 i P P 08 58 54.2 +0.1
comp=Z,36nm,0.9s
ALE Alert 66.88 5 P P 08 59 02.0 -1.2
comp=Z,160nm,1.1s,SNR=22
DAG Danmarks Havn 71.38 14 i P P 08 59 44.4 +13
comp=Z,208nm,0.9s
BILL Bilibino 75.13 337⇑eP P 08 59 53.4 0.0
BILL e 09 00 03.6
BILL eSS SS 09 14 15.9 -1.6
BILL pmax pmax
comp=Z,41nm,1.8s
BILL MLR MLR
comp=Z,2µm,20.0s
BILL Bilibino 75.13 337 eP P 08 59 53.7 +0.3
comp=Z,38nm,1.3s
PMOZ Porto Moniz, M 75.51 60 eLR LR 09 24 47.8
comp=Z,283nm,22.0s
PGAV Gavieira, Arco 80.40 49 eLR LR 09 31 21.6
comp=Z,364nm,16.0s
LIS Lisbon 80.57 52 eP P 09 00 23.6 -0.6
LIS AMS AMS 09 31 42.5
comp=N,662nm,22.8s
LIS Lisbon 80.57 52 eP P 09 00 23.6 -0.6
LIS Lisbon 80.57 52 eP P 09 00 23.6 -0.6
POLO Lamas de Olo 80.89 50 eP P 09 00 25.9 -0.1
comp=N,14nm,1.3s
PVIS Viseu 80.99 50 eP P 09 00 26.4 -0.1
comp=N,34nm,1.2s
PMTG Montargil 81.17 52 eP P 09 00 27.6 +0.2
comp=N,79nm,1.9s
PTEO Sao Teotonio 81.19 53 eP P 09 00 28.7 +1.2
comp=N,79nm,1.4s
PNCL Nicolau / Gran 81.19 53 eP P 09 00 27.2 -0.3
comp=N,31nm,2.5s
MORF Marmelete 81.31 54 eP P 09 00 28.9 +0.7
comp=N,69nm,1.6s
MORF Marmelete 81.31 54 eP P 09 00 27.6 -0.7
MORF eS S 09 10 33.3 -2.6
MTE Manteigas 81.33 50 eP P 09 00 28.4 +0.1
comp=N,55nm,1.9s
MTE eLR LR 09 30 04.5
comp=N,288nm,22.0s
EVOP Sao Brissos 81.39 52⇑iP P 09 00 28.6 0.0
EVOP pmax pmax
comp=Z,129nm,1.4s
EVOP Sao Brissos 81.39 52⇑iP P 09 00 28.6 0.0
comp=Z,129nm,1.4s
EVO Evora 81.47 52⇑iP P 09 00 28.6 -0.4
comp=Z,129nm,1.4s
EVO eR
comp=Z,638nm,22.5s
EVO Evora 81.47 52 eP P 09 00 29.6 +0.6
comp=Z,46nm,1.7s
MESJ Messejana 81.50 53 eP P 09 00 28.7 -0.5
MESJ eS S 09 10 35.2 -2.5
MESJ AMS AMS 09 33 24.9
comp=Z,284nm,24.7s
MESJ Messejana 81.50 53 eP P 09 00 28.7 -0.5
MESJ eS S 09 10 35.2 -2.5
MESJ A A 09 33 24.9
comp=Z,284nm,24.7s
MESJ Messejana 81.50 53 eP P 09 00 28.7 -0.5
MESJ eS S 09 10 35.2 -2.5
MVO Moncorvo 81.50 50 eP P 09 00 29.8 +0.6
comp=Z,59nm,1.6s
MVO eLR LR 09 29 27.2
comp=Z,351nm,20.0s
PCBR Castelo Branco 81.53 51 eP P 09 00 29.5 +0.2
comp=Z,45nm,1.5s
PCVE Castro Verde 81.69 53 eP P 09 00 30.9 +0.7
comp=Z,62nm,1.6s
PMRV Marv??o 81.70 51 eP P 09 00 30.5 +0.3
comp=Z,65nm,1.6s
PESTR Estremoz 81.70 52 eP P 09 00 30.4 +0.1
comp=Z,35nm,1.5s
PBEJ Beja 81.72 53 eP P 09 00 31.3 +1.0
comp=Z,40nm,1.8s
PBDV Barranco-do-Ve 81.88 54 eP P 09 00 32.3 +1.1
comp=Z,66nm,1.9s
PVAQ Vaqueiros 82.00 53 eP P 09 00 32.6 +0.8
comp=Z,63nm,1.5s
SEY Seymchan 82.09 334⇑eP P 09 00 32.6 +0.8
QUIF Quistinic 82.25 42 eP P 09 00 34.2 +1.3
QUIF Quistinic 82.25 42 eP P 09 00 34.2 +1.3
QUIF Quistinic 82.25 42 eP P 09 00 34.2 +1.3
PET Petropavlovsk 82.48 323 eP P 09 00 33.3 -0.7
PET eS S 09 10 43.7 -3.5
PET MLR MLR
comp=Z,400nm,15.0s
SGMF Saint Gilles 82.54 42 eP P 09 00 35.3 +0.9
comp=Z,34nm,1.0s
SGMF Saint Gilles 82.54 42 eP P 09 00 35.3 +0.9
SGMF pmax pmax
comp=Z,34nm,1.0s
SGMF Saint Gilles 82.54 42 eP P 09 00 35.3 +0.9
comp=Z,34nm,1.0s
PEA0B Petropavlovsk- 83.00 323 eP P 09 00 37.7 +1.0
PETK Petropavlovsk- 83.00 323 P P 09 00 37.1 +0.4
comp=Z,16nm,1.1s,baz=77,slow=9.5,SNR=9.4
PETK Petropavlovsk- 83.00 323 P P 09 00 37.1 +0.4
PETK Petropavlovsk- 83.00 323 P P 09 00 37.1 +0.4
GRR Gorron 83.58 41 eP P 09 00 39.9 +0.1
comp=Z,138nm,1.3s
GRR Gorron 83.58 41 eP P 09 00 39.9 +0.1
GRR pmax pmax
comp=Z,138nm,1.3s
GRR Gorron 83.58 41 eP P 09 00 39.9 +0.1
comp=Z,138nm,1.3s
FLN La Foliniere 83.69 41 eP P 09 00 40.6 +0.2
comp=Z,59nm,0.9s
FLN eR
comp=Z,628nm,20.0s
FLN La Foliniere 83.69 41 eP P 09 00 40.6 +0.2
FLN pmax pmax
comp=Z,59nm,0.9s
FLN La Foliniere 83.69 41 eP P 09 00 40.6 +0.2
comp=Z,59nm,0.9s
PAB San Pablo 83.93 51 eP P 09 00 42.0 +0.1
PAB pmax pmax
comp=Z,54nm,1.4s
PAB San Pablo 83.93 51 eP P 09 00 42.0 +0.1
comp=Z,54nm,1.4s
LDF La Druitiere 83.97 41 eP P 09 00 42.0 +0.2
comp=Z,202nm,1.5s
LDF La Druitiere 83.97 41 eP P 09 00 42.0 +0.2
LDF pmax pmax
comp=Z,202nm,1.5s
LDF La Druitiere 83.97 41 eP P 09 00 42.0 +0.2
comp=Z,202nm,1.5s
ESDC Sonseca Array 84.17 50 P P 09 00 43.0 -0.1
comp=Z,3.1nm,0.7s,baz=294,slow=5.2,SNR=16
ESDC Sonseca Array 84.17 50 P P 09 00 43.0 -0.1
ESLA Sonseca Array 84.17 50 eP P 09 00 43.5 +0.4
comp=Z,3.4nm,1.4s
MFF Saint Martin d 84.62 43 eP P 09 00 45.2 +0.1
comp=Z,99nm,1.4s
MFF Saint Martin d 84.62 43 eP P 09 00 45.2 +0.1
MFF pmax pmax
comp=Z,99nm,1.4s
MFF Saint Martin d 84.62 43 eP P 09 00 45.2 +0.1
comp=Z,99nm,1.4s
SJPF Ste Jean 85.05 46 eP P 09 00 47.5 +0.1
SJPF Ste Jean 85.05 46 eP P 09 00 47.5 +0.1
SJPF Ste Jean 85.05 46 eP P 09 00 47.5 +0.1
TIXI Tiksi 85.07 346c iP P 09 00 46.8 -0.1
TIXI pmax pmax
comp=Z,48nm,1.2s
TIXI MLR MLR
comp=Z,645nm,25.0s
TIXI Tiksi 85.07 346 eP P 09 00 46.7 -0.1
comp=Z,51nm,1.3s
TIXI epP pP 09 00 57.2 -3.0
NB2 NORSAR Subarra 85.09 27 P P 09 00 47.5 +0.2
baz=303,slow=5.1
NB2 NORSAR Subarra 85.09 27 P P 09 00 47.5 +0.2
comp=Z,17nm,1.0s,baz=303,slow=5.1
NOA NORSAR Array B 85.09 27 P P 09 00 47.5 +0.2
comp=Z,2.3nm,0.8s,baz=302,slow=5.1,SNR=6.2
NOA LR LR 09 40 02.7
comp=Z,277nm,19.9s,baz=280,slow=37
NOA NORSAR Array B 85.09 27 P P 09 00 47.5 +0.2
ARCES ARCESS Array B 85.45 17 P P 09 00 47.7 -1.1
comp=Z,6.7nm,0.9s,baz=327,slow=6.5,SNR=6.6
ARCES LR LR 09 41 57.6
comp=Z,330nm,21.4s,baz=329,slow=38
ARCES ARCESS Array B 85.45 17 P P 09 00 47.7 -1.1
ETSF Etsaut 85.58 46 eP P 09 00 50.2 +0.1
comp=Z,54nm,1.1s
ETSF Etsaut 85.58 46 eP P 09 00 50.2 +0.1
ETSF pmax pmax
comp=Z,54nm,1.1s
ETSF Etsaut 85.58 46 eP P 09 00 50.2 +0.1
comp=Z,54nm,1.1s
LFF La Frestale 85.77 44 eP P 09 00 50.9 0.0
comp=Z,113nm,1.1s
LFF La Frestale 85.77 44 eP P 09 00 50.9 0.0
LFF pmax pmax
comp=Z,113nm,1.1s
LFF La Frestale 85.77 44 eP P 09 00 50.9 0.0
comp=Z,113nm,1.1s
SNF Seneffe 85.97 38 XP sP 09 01 10.2 +0.1
BAIF Baives 86.10 39 eP P 09 00 52.3 -0.1
comp=Z,63nm,1.2s
BAIF epP pP 09 01 10.6 +4.9
BAIF Baives 86.10 39 eP P 09 00 52.3 -0.1
BAIF e*PP pP 09 01 10.6 +4.9
BAIF pmax pmax
comp=Z,63nm,1.2s
BAIF Baives 86.10 39 eP P 09 00 52.3 -0.1
comp=Z,63nm,1.2s
BAIF epP pP 09 01 10.6 +4.9
EPF Esparros 86.16 46 eP P 09 00 52.8 -0.1
comp=Z,113nm,1.4s
EPF epP pP 09 01 11.5 +5.2
EPF Esparros 86.16 46 eP P 09 00 52.8 -0.1
EPF e*PP pP 09 01 11.5 +5.2
EPF pmax pmax
comp=Z,113nm,1.4s
EPF Esparros 86.16 46 eP P 09 00 52.8 -0.1
comp=Z,113nm,1.4s
EPF epP pP 09 01 11.5 +5.2
RJF Les Rejaudoux 86.16 44 eP P 09 00 52.5 -0.3
comp=Z,125nm,1.2s
RJF epP pP 09 01 11.1 +4.9
RJF eR
comp=Z,464nm,23.0s
RJF Les Rejaudoux 86.16 44 eP P 09 00 52.5 -0.3
RJF e*PP pP 09 01 11.1 +4.9
RJF pmax pmax
comp=Z,125nm,1.3s
RJF Les Rejaudoux 86.16 44 eP P 09 00 52.5 -0.3
comp=Z,125nm,1.3s
RJF epP pP 09 01 11.1 +4.9
RESF Ens 86.23 46 eP P 09 00 54.1 +0.7
RESF Ens 86.23 46 eP P 09 00 54.1 +0.7
TCF Toulx Ste Croi 86.26 43 eP P 09 00 53.0 -0.3
comp=Z,63nm,1.2s
TCF epP pP 09 01 11.3 +4.6
TCF Toulx Ste Croi 86.26 43 eP P 09 00 53.0 -0.3
TCF e*PP pP 09 01 11.3 +4.6
TCF pmax pmax
comp=Z,63nm,1.2s
TCF Toulx Ste Croi 86.26 43 eP P 09 00 53.0 -0.3
comp=Z,63nm,1.2s
TCF epP pP 09 01 11.3 +4.6
DOU Dourbes 86.31 38 XP sP 09 01 12.3 +0.5
GIVF Givet 86.45 38 eP P 09 00 54.0 -0.1
GIVF Givet 86.45 38 eP P 09 00 54.0 -0.1
GIVF Givet 86.45 38 eP P 09 00 54.0 -0.1
BGF Bois d'Agland 86.57 42 eP P 09 00 54.4 -0.4
comp=Z,42nm,1.0s
BGF epP pP 09 01 12.7 +4.5
BGF Bois d'Agland 86.57 42 eP P 09 00 54.4 -0.4
BGF e*PP pP 09 01 12.7 +4.5
BGF pmax pmax
comp=Z,42nm,1.0s
BGF Bois d'Agland 86.57 42 eP P 09 00 54.4 -0.4
comp=Z,42nm,1.0s
BGF epP pP 09 01 12.7 +4.5
BCLA Clavier 86.61 38 XP sP 09 01 13.8 +0.6
CAF Calviac 86.65 44 eP P 09 00 54.8 -0.5
CAF epP pP 09 01 13.5 +4.8
CAF Calviac 86.65 44 eP P 09 00 54.8 -0.5
CAF e*PP pP 09 01 13.5 +4.8
CAF Calviac 86.65 44 eP P 09 00 54.8 -0.5
CAF epP pP 09 01 13.5 +4.8
SSF Saint Saulge 86.80 42 eP P 09 00 55.2 -0.8
comp=Z,17nm,0.8s
SSF Saint Saulge 86.80 42 eP P 09 00 55.2 -0.8
SSF pmax pmax
comp=Z,17nm,0.8s
SSF Saint Saulge 86.80 42 eP P 09 00 55.2 -0.8
comp=Z,17nm,0.8s
AVF Avril sur Loir 86.81 42 eP P 09 00 55.2 -0.8
comp=Z,16nm,0.8s
AVF epP pP 09 01 13.6 +4.3
AVF Avril sur Loir 86.81 42 eP P 09 00 55.2 -0.8
AVF e*PP pP 09 01 13.6 +4.3
AVF pmax pmax
comp=Z,16nm,0.8s
AVF Avril sur Loir 86.81 42 eP P 09 00 55.2 -0.8
comp=Z,16nm,0.8s
AVF epP pP 09 01 13.6 +4.3
SALF Salau 86.83 46 eP P 09 00 57.1 +0.8
SALF Salau 86.83 46 eP P 09 00 57.1 +0.8
MEM Membach 86.94 38 XP sP 09 01 16.0 +1.1
LOR Lormes 86.95 41 eP P 09 00 56.4 -0.3
comp=Z,51nm,1.0s
LOR epP pP 09 01 14.8 +4.8
LOR eR
comp=Z,501nm,21.2s
LOR Lormes 86.95 41 eP P 09 00 56.4 -0.3
comp=Z,51nm,1.0s
LOR epP pP 09 01 14.8 +4.8
MSVF Nonsavu 87.16 251 eP P 09 01 01.4 +3.2
MSVF pmax pmax
comp=Z,30nm,1.0s
MSVF Nonsavu 87.16 251 eP P 09 01 01.4 +3.2
comp=Z,30nm,1.0s
SMF Signal de Mont 87.17 42 eP P 09 00 57.1 -0.7
comp=Z,18nm,1.0s
SMF Signal de Mont 87.17 42 eP P 09 00 57.1 -0.7
SMF pmax pmax
comp=Z,18nm,1.0s
SMF Signal de Mont 87.17 42 eP P 09 00 57.1 -0.7
comp=Z,18nm,1.0s
MEZF Maizieres J'vi 87.21 40 eP P 09 00 57.3 -0.6
MEZF Maizieres J'vi 87.21 40 eP P 09 00 57.3 -0.6
SFTF Sexfontaines 87.32 40 eP P 09 00 58.2 -0.2
SFTF Sexfontaines 87.32 40 eP P 09 00 58.2 -0.2
LBL Lubilhac 87.32 43 eP P 09 00 59.0 +0.4
LBL Lubilhac 87.32 43 eP P 09 00 59.0 +0.4
LBL Lubilhac 87.32 43 eP P 09 00 59.0 +0.4
MTLF Montolieu 87.33 45 eP P 09 00 58.4 -0.2
comp=Z,19nm,0.9s
MTLF epP pP 09 01 17.0 +5.0
MTLF Montolieu 87.33 45 eP P 09 00 58.4 -0.2
MTLF e*PP pP 09 01 17.0 +5.0
MTLF pmax pmax
comp=Z,19nm,0.9s
MTLF Montolieu 87.33 45 eP P 09 00 58.4 -0.2
comp=Z,19nm,0.9s
MTLF epP pP 09 01 17.0 +5.0
PAGF Fort de Pagny 87.60 40 eP P 09 00 59.3 -0.5
PAGF epP pP 09 01 18.2 +5.1
PAGF Fort de Pagny 87.60 40 eP P 09 00 59.3 -0.5
PAGF epP pP 09 01 18.2 +5.1
RUP Ruppelstein 87.93 38 eP P 09 01 01.4 0.0
RUP Ruppelstein 87.93 38 eP P 09 01 01.4 0.0
LASF Ste Croix 88.16 44 eP P 09 01 02.3 -0.3
comp=Z,103nm,1.5s
LASF Ste Croix 88.16 44 eP P 09 01 02.3 -0.3
comp=Z,103nm,1.5s
HAU Haudompre 88.20 40 eP P 09 01 01.8 -0.9
HAU epP pP 09 01 21.0 +4.9
HAU eR
comp=Z,536nm,20.5s
HAU Haudompre 88.20 40 eP P 09 01 01.8 -0.9
HAU e*PP pP 09 01 21.0 +4.9
HAU Haudompre 88.20 40 eP P 09 01 01.8 -0.9
HAU epP pP 09 01 21.0 +4.9
VIVF Saint-Julien-l 88.40 43 eP P 09 01 03.2 -0.5
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 88.40 43 eP P 09 01 03.2 -0.5
VIVF pmax pmax
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 88.40 43 eP P 09 01 03.2 -0.5
comp=Z,27nm,1.2s
HINF Hinteralfeld 88.59 40 eP P 09 01 03.4 -1.2
HINF Hinteralfeld 88.59 40 eP P 09 01 03.4 -1.2
HINF Hinteralfeld 88.59 40 eP P 09 01 03.4 -1.2
CDF Champ du Feu 88.60 39 eP P 09 01 03.7 -0.9
CDF Champ du Feu 88.60 39 eP P 09 01 03.7 -0.9
CDF Champ du Feu 88.60 39 eP P 09 01 03.7 -0.9
CABF La Chapelle 88.61 41 eP P 09 01 03.6 -1.1
comp=Z,21nm,0.9s
CABF La Chapelle 88.61 41 eP P 09 01 03.6 -1.1
CABF pmax pmax
comp=Z,21nm,0.9s
CABF La Chapelle 88.61 41 eP P 09 01 03.6 -1.1
comp=Z,21nm,0.9s
ORIF Oris-en-Rattie 89.16 43 eP P 09 01 06.6 -0.8
ORIF epP pP 09 01 24.5 +3.8
ORIF eR
comp=Z,538nm,20.2s
ORIF Oris-en-Rattie 89.16 43 eP P 09 01 06.6 -0.8
ORIF e*PP pP 09 01 24.5 +3.8
ORIF Oris-en-Rattie 89.16 43 eP P 09 01 06.6 -0.8
ORIF epP pP 09 01 24.5 +3.8
FELD Feldberg im Sc 89.27 40 eP P 09 01 07.0 -0.9
SMRF Simiane la Rot 89.34 44 eP P 09 01 08.1 -0.1
SMRF Simiane la Rot 89.34 44 eP P 09 01 08.1 -0.1
LPL La Plagne 89.47 42 eP P 09 01 08.7 -0.3
LPL La Plagne 89.47 42 eP P 09 01 08.7 -0.3
LPL La Plagne 89.47 42 eP P 09 01 08.7 -0.3
LPG La Plagne 89.49 42 eP P 09 01 09.0 -0.1
LPG La Plagne 89.49 42 eP P 09 01 09.0 -0.1
LPG La Plagne 89.49 42 eP P 09 01 09.0 -0.1
MBDF Montbardon 89.82 43 eP P 09 01 09.8 -0.7
comp=Z,42nm,1.3s
MBDF Montbardon 89.82 43 eP P 09 01 09.8 -0.7
MBDF pmax pmax
comp=Z,42nm,1.3s
MBDF Montbardon 89.82 43 eP P 09 01 09.8 -0.7
comp=Z,42nm,1.3s
LMR La Mourre 90.22 44 eP P 09 01 11.2 -1.0
comp=Z,33nm,1.1s
LMR La Mourre 90.22 44 eP P 09 01 11.2 -1.0
LMR pmax pmax
comp=Z,33nm,1.1s
LMR La Mourre 90.22 44 eP P 09 01 11.2 -1.0
comp=Z,33nm,1.1s
CALN Calern 90.30 44 eP P 09 01 13.7 +0.9

CALN	**Calern**	**90.30**	**44**	*e*P	**P**	**09 01 13.7 +0.9**			
CALN	**Calern**	**90.30**	**44**	*e*P	**P**	**09 01 13.7 +0.9**			
CLL	**Collm**	**90.59**	**35**	*i* P	**P**	**09 01 13.5 -0.3**			
CLL				pmax	pmax				
	comp=Z,17nm,1.5s								
CLL				MLR	MLR				
	comp=Z,300nm,21.1s								
CLL	**Collm**	**90.59**	**35**	*e*(P)	P	09 01 21.0 +7.2			
CLL				*i* pP	pP	09 01 23.9 -3.3			
CLL				*i* sP	sP	09 01 28.0 -4.2			
CLL				*e*		09 01 38.0			
CLL				*e*PP	**PP**	**09 04 48.0 -0.6**			
CLL				*e*S	**ScS**	**09 12 14.0 +4.4**			
CLL				*e*PS	**PS**	**09 13 18.0 -0.5**			
CLL				*e*SS	SS	09 18 16.0 +8.9			
CLL				*e*SSSS		09 25 30.0			
CLL				Lm	MLR	09 43 00.0			
	comp=Z,300nm,21.1s								
DAVA	**Damuels**	**90.67**	**40**⇑	*i* P	**P**	**09 01 13.5 -1.0**			
	comp=Z,26nm,1.6s								
DAVA	**Damuels**	**90.67**	**40**⇑	*i* P	**P**	**09 01 13.5 -1.0**			
	comp=Z,26nm,1.6s								
FINES	**FINESS Array B**	**90.84**	**23**	P	**P**	**09 01 14.0 -0.7**			
	comp=Z,3.9nm,0.9s,baz=357,slow=5.6,SNR=7.0								
FINES				LR	LR	09 42 21.1			
	comp=Z,494nm,21.6s,baz=317,slow=36								
FINES	**FINESS Array B**	**90.84**	**23**	P	**P**	**09 01 14.0 -0.7**			
RETA	**Reutte**	**91.11**	**39**⇑	*i* P	**P**	**09 01 16.4 0.0**			
	comp=Z,12nm,1.3s								
RETA	**Reutte**	**91.11**	**39**⇑	*i* P	**P**	**09 01 16.4 0.0**			
	comp=Z,12nm,1.3s								
BRG	**Berggiesshubel**	**91.33**	**35**	*e*P	**P**	**09 01 16.9 -0.3**			
	comp=Z,10nm,1.2s								
BRG	**Berggiesshubel**	**91.33**	**35**	*e*P	**P**	**09 01 16.9 -0.3**			
BRG				pmax	pmax				
	comp=Z,10.0nm,1.2s								
GERES	**GERESS Array B**	**92.19**	**37**	P	**P**	**09 01 20.7 -0.7**			
	comp=Z,1.3nm,0.8s,baz=308,slow=4.8,SNR=9.4								
GERES				LR	LR	09 43 02.9			
	comp=Z,380nm,21.7s,baz=294,slow=36								
GERES	**GERESS Array B**	**92.19**	**37**	P	**P**	**09 01 20.7 -0.7**			
KBA	**Koelnbreinsper**	**92.85**	**39**⇑	*i* P	**P**	**09 01 24.5 -0.1**			
KBA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
KBA	**Koelnbreinsper**	**92.85**	**39**⇑	*i* P	**P**	**09 01 24.5 -0.1**			
	comp=Z,10nm,1.2s								
KBA	**Koelnbreinsper**	**92.85**	**39**⇑	*i* P	**P**	**09 01 24.5 -0.1**			
	comp=Z,10nm,1.2s								
LIC	**Lamto**	**93.61**	**82**⇑	*i* P	**P**	**09 01 27.7 -0.8**			
	comp=Z,23nm,0.9s,baz=284								
LIC				*e*R					
	comp=Z,394nm,19.5s								
LIC	**Lamto**	**93.61**	**82**⇑	*i* P	**P**	**09 01 27.7 -0.8**			
	comp=Z,23nm,0.9s								
DBIC	**Dimbokro**	**93.64**	**82**	P	**P**	**09 01 27.8 -0.8**			
	comp=Z,4.8nm,0.8s,baz=242,slow=4.5,SNR=8.5								
DBIC	**Dimbokro**	**93.64**	**82**	*e*P	**P**	**09 01 28.2 -0.3**			
	comp=Z,7.3nm,0.8s								
MORC	**Moravsky Berou**	**93.87**	**35**	*e*P	**P**	**09 01 29.3 +0.3**			
MORC				pmax	pmax				
	comp=Z,5.0nm,1.3s								
MORC	**Moravsky Berou**	**93.87**	**35**	*e*P	**P**	**09 01 29.3 +0.3**			
	comp=Z,5.0nm,1.3s								
CONA	**Conrad Observa**	**93.90**	**37**⇑	*i* P	**P**	**09 01 29.3 0.0**			
	comp=Z,6.3nm,1.3s								
CONA	**Conrad Observa**	**93.90**	**37**⇑	*i* P	**P**	**09 01 29.3 0.0**			
	comp=Z,6.3nm,1.3s								
SOKA	**Soboth**	**94.06**	**38**⇑	*i* P	**P**	**09 01 29.3 -0.7**			
	comp=Z,14nm,1.2s								
SOKA	**Soboth**	**94.06**	**38**⇑	*i* P	**P**	**09 01 29.3 -0.7**			
	comp=Z,14nm,1.2s								
YSS	**Yuzh-Sakhalins**	**94.31**	**322**	*i* P	**P**	**09 01 31.3 +0.3**			
YSS				pmax	pmax				
	comp=Z,29nm,1.2s								
URZ	**Urewera**	**94.59**	**231**	LR	LR	09 34 48.2			
	comp=Z,304nm,19.9s,baz=178,slow=30								
VYHS	**Vyhne**	**95.28**	**36**	*e*P	**P**	**09 01 35.7 +0.2**			
VYHS				pmax	pmax				
	comp=Z,10.0nm,1.7s								
VYHS	**Vyhne**	**95.28**	**36**	*e*P	**P**	**09 01 35.7 +0.2**			
VYHS				*e*sP	**sP**	**09 01 54.4 +0.5**			
KEST	**Kesra**	**95.42**	**50**	LR	LR	09 46 47.4			
	comp=Z,111nm,18.5s,baz=313,slow=37								
KLMR	**Klimovskoe**	**95.77**	**18**	*e*P	**P**	**09 01 35.3 -2.1**			
KLMR				pmax	pmax				
	comp=Z,37nm,1.7s								
CRVS	**Cervenica-Dubn**	**96.48**	**34**	*e*P	**P**	**09 01 41.1 +0.2**			
CRVS	**Cervenica-Dubn**	**96.48**	**34**	*e*P	**P**	**09 01 41.1 +0.2**			
KOLS	**Kolonicke sedl**	**96.89**	**34**	*e*P	**P**	**09 01 43.0 +0.2**			
KOLS				pmax	pmax				
	comp=Z,9.0nm,1.3s								
KOLS	**Kolonicke sedl**	**96.89**	**34**	*e*P	**P**	**09 01 43.0 +0.2**			
UZH	**Uzhgorod**	**97.08**	**34**⇑	*i* P	**P**	**09 01 44.0 +0.4**			
UZH				*e*		09 02 02.4			
TORD	**Torodi Ar. Bea**	**97.68**	**74**	P	**P**	**09 01 45.2 -1.8**			
	comp=Z,1.4nm,0.9s,baz=296,slow=4.4,SNR=7.6								
TORD	**Torodi Ar. Bea**	**97.68**	**74**	P	**P**	**09 01 45.2 -1.8**			
DZM	**Mont Dzumac**	**98.86**	**250**	*e*SP	SP	09 14 49.8 +4.7			
	comp=Z,152nm,26.2s								
DZM				*e*LR	LR	09 34 16.7			
	comp=Z,923nm,23.1s								
OBN	**Obninsk**	**99.22**	**23**⇑	*e*P	**Pdif**	**09 01 52.6 -0.5**			
OBN				*e*		09 05 53.7			
OBN				*e*PS	**PS**	**09 14 53.5 +0.8**			
OBN				pmax	pmax				
	comp=Z,38nm,1.7s								
OBN				MLR	MLR				
	comp=Z,600nm,23.0s								
AKASG	**Malin Array Be**	**99.27**	**30**	LR	LR	09 49 02.6			
	comp=Z,227nm,18.2s,baz=275,slow=37								
VSR	**Storozhevoye**	**103.22**	**25**	*e*P	**Pdif**	**09 02 09.9 -1.0**			
CN2	**Changchun**	**105.87**	**327**	*e*Pdif	**Pdif**	**09 02 25.8 +2.9**			
CN2				PP	PP	09 06 51.0 +5.5			
CN2				*e*S	**Sdif**	**09 14 16.0 -1.2**			
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,500nm,20.0s								
CN2				LR	LR				
	comp=E,400nm,20.0s								
CN2				LR	LR				
	comp=Z,700nm,20.0s								
VNA3	**Neumayer Olymp**	**106.68**	**160**	*e*P	**PKKPbc**	**09 17 54.6 -3.2**			
VNA2	**Neumayer--Watz**	**107.40**	**160**	*e*P	**PKKPbc**	**09 17 52.8 -2.7**			
	baz=13,slow=4.4								
SNAA	**Sanae**	**108.87**	**161**	*e*P	**PKKPdf**	**09 18 05.2 -0.9**			
HHC	**Hu-ho-hao-te**	**114.74**	**333**	*e*PKP	PKPdf	09 06 52.8 +0.5			
HHC				PP	**PP**	**09 07 53.8 +4.3**			
HHC				PKS	**PKSdf**	**09 10 30.0 +0.9**			
HHC				SKS	**SKSdf**	**09 14 01.8 +0.7**			
HHC				SKKS	**SKKSac**	**09 14 44.8 -3.8**			
HHC				SS	**SS**	**09 23 43.8 +3.7**			
HHC				AMB	AMB				
	comp=Z,260nm,8.1s								
HHC				LR	LR				
	comp=N,550nm,19.9s								
HHC				LR	LR				
	comp=E,810nm,18.5s								
HHC				LR	LR				
	comp=Z,810nm,17.3s								
MK31	**Makanchi Array**	**116.06**	**358**	*e*PKIKP	**PKPdf**	**09 06 53.5 -1.0**			
MK31	**Makanchi Array**	**116.06**	**358**	*e*PKPdf	**PKPdf**	**09 06 53.5 -1.0**			
MKAR	**Makanchi Array**	**116.06**	**358**	PKP	**PKPdf**	**09 06 53.2 -1.4**			
	comp=Z,1.5nm,0.9s,baz=5.7,slow=2.9,SNR=11								
MKAR	**Makanchi Array**	**116.06**	**358**	PKIKP	**PKPdf**	**09 06 53.2 -1.4**			
MKAR	**Makanchi Array**	**116.06**	**358**	PKP	**PKPdf**	**09 06 53.2 -1.4**			
WMQ	**Urumqi**	**118.60**	**353**	*e*Pdif	**Pdif**	**09 03 20.5 +0.8**			
WMQ				PKP	**PKiKP**	**09 07 00.3 +0.7**			
WMQ				PP	PP	09 08 22.0 +6.0			
WMQ				PKS	**PKSdf**	**09 10 35.8 -0.5**			
WMQ				SKS	**SKSdf**	**09 14 07.5 -0.8**			
WMQ				S	**Sdif**	**09 16 01.0 -2.6**			
WMQ				SS	**SS**	**09 24 32.5 +2.8**			
WMQ				LR	LR				
	comp=N,330nm,28.0s								
WMQ				LR	LR				
	comp=E,240nm,27.0s								
WMQ				LR	LR				
	comp=Z,460nm,19.0s								
AAK	**Ala-Archa**	**120.12**	**4**	*e*PKIKP	**PKPdf**	**09 07 02.3 -0.4**			
AAK				*e*		09 08 26.6			
AAK	**Ala-Archa**	**120.12**	**4**	*e*PKPdf	**PKPdf**	**09 07 02.2 -0.4**			
AAK				*e*PP	**PP**	**09 08 26.6 0.0**			
GTA	**Gaotai**	**120.31**	**342**	PKP	**PKPdf**	**09 07 03.0 -0.1**			
GTA				PP	**PP**	**09 08 32.0 +4.0**			
GTA				AMB	AMB				
	comp=Z,71nm,5.2s								
GTA				LR	LR				
	comp=N,180nm,18.5s								
GTA				LR	LR				
	comp=E,310nm,21.4s								
GTA				LR	LR				
	comp=Z,290nm,20.0s								
XAN	**Xi'an**	**121.55**	**331**	PKP	**PKPdf**	**09 07 05.0 -0.5**			
XAN				LR	LR				
	comp=N,360nm,18.6s								
XAN				LR	LR				
	comp=E,110nm,18.2s								
XAN				LR	LR				
	comp=Z,180nm,17.4s								
LZH	**Lanzhou**	**121.94**	**337**	*e*PKP	**PKPdf**	**09 07 05.5 -0.9**			
LZH				*e*PP	**PP**	**09 08 43.0 +3.7**			
LZH				AMB	AMB				
	comp=Z,170nm,8.4s								
LZH				LR	LR				
	comp=N,240nm,18.0s								
LZH				LR	LR				
	comp=E,250nm,19.1s								
LZH				LR	LR				
	comp=Z,320nm,20.0s								
STKA	**Stephens Creek**	**122.20**	**243**	PKP	**PKPdf**	**09 07 06.2 -0.5**			
	comp=Z,5.1nm,0.9s,baz=73,slow=3.4,SNR=9.9								
STKA	**Stephens Creek**	**122.20**	**243**	PKP	**PKPdf**	**09 07 06.2 -0.5**			
KSH	**Kashi**	**123.31**	**3**	PKP	**PKPdf**	**09 07 10.0 +1.1**			
KSH				*e*PP	**PP**	**09 08 53.0 +4.8**			
KSH				PKS	**PKSdf**	**09 10 46.0 +0.4**			
KSH				SKS	**SKSdf**	**09 14 16.5 -1.0**			
KSH				AMB	AMB				
	comp=Z,66nm,4.8s								
KSH				LR	LR				
	comp=N,240nm,6.6s								
KSH				LR	LR				
	comp=E,210nm,9.9s								
KSH				LR	LR				
	comp=Z,270nm,6.0s								
CD2	**Chengdu**	**126.50**	**334**	PKP	**PKPdf**	**09 07 15.8 +0.7**			
CD2				PP	**PP**	**09 09 14.5 +4.6**			
CD2				PKS	**PKSdf**	**09 10 51.0 -0.9**			
CD2				AMB	AMB				
	comp=Z,130nm,7.1s								
CD2				LR	LR				
	comp=N,370nm,16.6s								
CD2				LR	LR				
	comp=Z,460nm,17.2s								
WRA	**Warramunga Arr**	**127.92**	**258**	PKP	**PKPdf**	**09 07 17.5 -0.4**			
	comp=Z,8.4nm,0.9s,baz=80,slow=2.1,SNR=43								
WRA	**Warramunga Arr**	**127.92**	**258**	PKP	**PKPdf**	**09 07 17.5 -0.4**			
ASAR	**Alice Springs**	**128.67**	**253**	PKP	**PKPdf**	**09 07 19.0 -0.3**			
	comp=Z,5.7nm,1.0s,baz=96,slow=2.1,SNR=32								
ASAR	**Alice Springs**	**128.67**	**253**	PKP	**PKPdf**	**09 07 19.0 -0.3**			
GYA	**Guiyang**	**128.91**	**328**	*e*Pdif	**Pdif**	**09 04 05.0 -0.9**			
GYA				PKP	**PKPdf**	**09 07 19.8 -0.1**			
GYA				PP	**PP**	**09 09 28.5 +2.5**			
GYA				PKS	**PKSdf**	**09 10 52.3 -4.4**			
GYA				SKS	**SKSdf**	**09 14 28.5 +0.1**			
GYA				AMB	AMB				
	comp=Z,120nm,6.2s								
GYA				LR	LR				
	comp=N,380nm,18.6s								
GYA				LR	LR				
	comp=E,330nm,20.4s								
GYA				LR	LR				
	comp=Z,500nm,17.0s								
BOSA	**Boshof**	**129.44**	**113**	PKP	**PKPdf**	**09 07 20.9 +0.2**			
	comp=Z,6.1nm,1.1s,baz=247,slow=1.2,SNR=5.3								
BOSA	**Boshof**	**129.44**	**113**	PKP	**PKPdf**	**09 07 20.9 +0.2**			
LBTB	**Lobatse**	**129.69**	**108**	*e*PKPdf	**PKPdf**	**09 07 21.5 +0.2**			
KMI	**Kunming**	**131.94**	**331**	PKP	**PKPdf**	**09 07 26.5 +0.7**			
KMI				PP	**PP**	**09 09 49.8 +4.1**			
KMI				LR	LR				
	comp=N,270nm,16.8s								
KMI				LR	LR				
	comp=E,250nm,18.7s								
KMI				LR	LR				
	comp=Z,330nm,16.9s								
QIZ	**Qiongzhong**	**132.93**	**319**	PKP	**PKPdf**	**09 07 28.0 +0.5**			
QIZ				LR	LR				
	comp=N,280nm,18.1s								
QIZ				LR	LR				
	comp=Z,370nm,17.5s								
CMAR	**Chiang Mai Arr**	**139.44**	**330**	PKP	**PKPdf**	**09 07 39.6 0.0**			
	comp=Z,2.4nm,0.4s,baz=350,slow=2.0,SNR=15								
CMAR	**Chiang Mai Arr**	**139.44**	**330**	PKP	**PKPdf**	**09 07 39.6 0.0**			
KAD	**Karad**	**145.16**	**8**	*i* P	**PKPbc**	**09 07 50.0 +0.6**			
HYB	**Hyderabad**	**145.41**	**1**	*i* PKP	**PKPab**	**09 07 51.0 +0.7**			
ABPO	**Ambohimpanom**	**149.58**	**98**	*e*PKP2	**PKPbc**	**09 08 02.2 +0.3**			
ABPO	**Ambohimpanom**	**149.58**	**98**	*e*PKPbc	**PKPbc**	**09 08 02.2 +0.3**			

MEX 27 08:57:52.8±0.6, 17°.36N×100°.81W, h24km±68km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.60**	**121**	*e*P	Pb	08 58 02.3	-2.4
CAIG				*i* S	Sb	08 58 10.9	-2.0
ZIIG	**Zihuatanejo**	**0.67**	**292**	*i* P	Pb	08 58 03.1	-2.8
ZIIG				*i* S	Sb	08 58 12.7	-2.1
ARIG	**Puente Sto Nin**	**1.02**	**26**	*i* P	Pn	08 58 08.3	-3.4
ARIG				*i* S	Sb	08 58 21.1	-3.7
YAIG	**Yautepec**	**2.23**	**48**	*i* P	Pn	08 58 27.0	-1.5
YAIG				*i* S	Sn	08 58 53.3	-2.2

MEX 27 09:14:02.5±0.3, 17°.36N×100°.83W, h22km±58km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.62**	**120**	*e*P	Pb	09 14 12.7	-2.0
CAIG				*i* S	Sb	09 14 20.7	-2.3
ZIIG	**Zihuatanejo**	**0.66**	**292**	*e*P	Pb	09 14 13.2	-2.1
ZIIG				*i* S	Sb	09 14 21.8	-2.2
ARIG	**Puente Sto Nin**	**1.02**	**26**	*i* P	Pn	09 14 18.3	-3.3
ARIG				*i* S	Sb	09 14 30.9	-3.7
YAIG	**Yautepec**	**2.24**	**48**	*i* P	Pn	09 14 35.9	-2.6
YAIG				*i* S	Sn	09 15 03.0	-2.6

MEX 27 09:32:48.6±0.5, 17°.35N×100°.81W, h16km±12km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.60**	**120**	*e*P	Pg	09 32 58.4	-2.1
CAIG				*i* S	Sg	09 33 05.9	-2.6
ZIIG	**Zihuatanejo**	**0.67**	**292**	*e*P	Pg	09 32 59.8	-2.0
ZIIG				*i* S	Sg	09 33 08.2	-2.6
ARIG	**Puente Sto Nin**	**1.02**	**25**	*e*P	Pb	09 33 04.4	-3.7
ARIG				*i* S	Sb	09 33 16.7	-4.6
MEIG	**Mezcala**	**1.27**	**63**	*i* P	Pn	09 33 08.8	-3.0
MEIG				*i* S	Sb	09 33 23.2	-5.3
YAIG	**Yautepec**	**2.24**	**48**	*e*P	Pn	09 33 22.3	-2.9
YAIG				*i* S	Sn	09 33 47.6	-5.0

IDC 27 09:38:39.4±2.1, 17°.28S×178°.80W, h566km±30km, mb2.9/5, mb1 3.3/6, mb1mx3.0/20, mbtmp3.0/6, Error ellipse: s-maj=107.1km s-min=16.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.55**	**65**	P	P	09 40 33.2	-0.2
	1.5nm,0.3s,baz=55,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**44.38**	**259**	P	P	09 46 00.5	0.0
	0.5nm,0.4s,baz=96,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	09 46 02.0	-0.2
	2.3nm,0.5s,baz=86,slow=8.8,SNR=27						
ILAR	**Eielson Array**	**85.37**	**13**	P	P	09 50 17.1	+0.3
	0.3nm,0.4s,baz=220,slow=5.3,SNR=15						
TXAR	**Lajitas Array**	**85.98**	**58**	P	P	09 50 21.0	+0.3
	0.5nm,0.7s,baz=207,slow=5.7,SNR=4.9						
YKA	**Yellowknife Ar**	**93.32**	**25**	P	P	09 50 56.4	-0.2
	0.1nm,0.7s,baz=221,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**144.08**	**315**	PKP	PKPbc	09 57 10.8	-0.2
	0.4nm,0.5s,baz=163,slow=1.5,SNR=3.5						
GERES	**GERESS Array B**	**146.91**	**345**	PKPbc	PKPbc	09 57 17.4	-1.5
	0.8nm,0.5s,baz=5.7,slow=2.0,SNR=5.5						

NIED ***27*** *09:48:00, 35°.70N×143°.00E, h5km, Mw4.3 Best double couple: M₀2.72000×10¹⁵ NP1:φs172.00000°, δ59.00000°, λ-109.00000°. NP2:φs26.00000°, δ36.00000°, λ-61.00000°.*

IDC ***27*** *09:48:51.7±0.7, 35°.53N×143°.10E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.1/29, mbtmp4.0/19, ML3.2/4, MS3.6/3, Ms1 3.6/3, ms1mx3.0/42, Error ellipse: s-maj=18.0km s-min=17.0km az=159.0*

ISCJB ***27*** *09:48:53.3±1.4, 35°.66N±0°.04×143°.02E±0°.04, h19km±9km, mb4.3/35, MS4.0/2, Error ellipse: s-maj=6.2km s-min=5.4km az=150.4*

MOS ***27*** *09:48:54.1±0.8, 35°.52N×143°.12E, h28km, mb4.5/16, Error ellipse: s-maj=14.3km s-min=8.1km az=119.5*

JMA ***27*** *09:48:55.1±0.3, 35°.68N×143°.02E, h78km, M4.0*

NEIC ***27*** *09:48:55.9±0.4, 35°.61N×143°.10E, mb4.6/9, MW4.2(NIED), Error ellipse: s-maj=8.8km s-min=7.8km az=195.0*

ISC 27 09:48:55.9±0.5, 35°.62N±0°.05×143°.06E±0°.05, h26km±3km, h26km:pP-P, n96, σ1ᵖ38/120, mb4.2/35, 5C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.79**	**273**	P	**Pn**	**09 49 24.6**	**-0.6**
CHOJ				*e*S	**Sn**	**09 49 47.2**	**+0.1**
BSO1	**Boso 1**	**1.96**	**241**	P	**Pn**	**09 49 26.0**	**-0.9**
BSO1				*e*S	**Sn**	**09 49 50.6**	**+0.2**
BSO3	**Boso 3**	**2.24**	**249**	P	**Pn**	**09 49 31.2**	**+0.1**
JHO	**Hitachi**	**2.25**	**297**	P	**Pn**	**09 49 29.7**	**-1.7**
JHO				*e*S	**Sn**	**09 49 55.0**	**-3.3**
JFT	**Otama**	**2.90**	**312**	P	**Pn**	**09 49 39.4**	**-1.0**
JFT				S	**Sn**	**09 50 11.6**	**-2.8**
JAG	**Ashikaga**	**3.03**	**286**	P	**Pn**	**09 49 41.1**	**-1.1**
JAG				S	**Sn**	**09 50 15.3**	**-2.4**
JOD2	**Odawara 2**	**3.26**	**265**	P	**Pn**	**09 49 44.6**	**-0.8**
JOD2				S	**Sn**	**09 50 21.3**	**-2.1**
JRY	**Ryogami san**	**3.40**	**278**	P	**Pn**	**09 49 47.0**	**-0.3**
JMK	**Ichinoseki**	**3.64**	**337**	P	**Pn**	**09 49 48.0**	**-2.5**
JMK				S	**Sn**	**09 50 28.7**	**-3.8**
JHJ2	**Mitsune**	**3.67**	**228**	P	**Pn**	**09 49 49.7**	**-1.2**
JHJ2				S	**Sn**	**09 50 30.6**	**-2.7**
JHJ	**Hachijo jima 2**	**3.68**	**228**	Pn	**Pn**	**09 49 49.1**	**-2.0**
	12nm,0.3s,baz=71,slow=19,SNR=5.6						
JHJ				Sn	**Sn**	**09 50 30.4**	**-3.4**
	193nm,0.3s,baz=73,slow=19,SNR=12						
JYN	**Shimob**	**3.68**	**269**	P	**Pn**	**09 49 50.8**	**-0.4**
JYK	**Kaneyama**	**3.94**	**328**	P	**Pn**	**09 49 52.8**	**-1.8**
MJAR	**Matsushiro Arr**	**4.04**	**285**	Pn	**Pn**	**09 49 56.5**	**+0.5**
	8.7nm,0.3s,baz=111,slow=9.0,SNR=63						
MJAR				LR	LR	09 51 41.6	
	comp=Z,630nm,20.0s,baz=95,slow=42						
MJAR	**Matsushiro Arr**	**4.04**	**285**	Pn	**Pn**	**09 49 56.5**	**+0.5**
MAJO	**Matsushiro**	**4.04**	**285**	*e*P	**Pn**	**09 49 57.3**	**+1.3**
MAJO				*e*		09 50 37.8	
MAJO	**Matsushiro**	**4.04**	**285**	*e*Pn	**Pn**	**09 49 57.3**	**+1.3**
MAJO				*e*Sn	**Sn**	**09 50 37.8**	**-4.7**
MAT	**Matsushiro**	**4.04**	**285**	P	**Pn**	**09 49 56.7**	**+0.7**
MAT				*e*S	**Sn**	**09 50 42.3**	**-0.2**
MAT	**Matsushiro**	**4.04**	**285**	P	**Pn**	**09 49 57.4**	**+1.4**
JOM	**Ohasama**	**4.10**	**340**	P	**Pn**	**09 49 54.8**	**-2.0**
JOM				S	**Sn**	**09 50 39.9**	**-4.0**
ERM	**Erimo**	**6.39**	**1**	*i* P	Pn	09 50 24.9	-3.4
ASAJ	**Asahikawa**	**8.49**	**358**	Pn	**Pn**	**09 50 54.4**	**-2.8**
	3.3nm,0.3s,baz=210,slow=11,SNR=29						
ASAJ	**Asahikawa**	**8.49**	**358**	*e*Pn	**Pn**	**09 50 54.7**	**-2.5**
	3.8nm,0.2s						
ASAJ				*e*Sn	**Sn**	**09 52 30.6**	**-1.6**
JNU	**Nakatsue**	**10.37**	**260**	Pn	**Pn**	**09 51 24.6**	**+1.6**
	0.3nm,0.3s,baz=72,slow=5.1,SNR=3.6						
JNU	**Nakatsue**	**10.37**	**260**	Pn	**Pn**	**09 51 24.6**	**+1.6**
YSS	**Yuzh-Sakhalins**	**11.33**	**359**‖	*e*P	**Pn**	**09 51 38.5**	**+2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.33**	**359**	*e*Pn	**Pn**	**09 51 37.5**	**+1.6**
USRK	**Ussuriysk Arra**	**12.05**	**319**	Pn	**Pn**	**09 51 46.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=5.4						
KSRS	**Korea Array**	**12.31**	**283**	Pn	**Pn**	**09 51 47.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=2.9						
KSRS				LR	LR	09 56 27.4	
	comp=Z,157nm,19.0s,baz=71,slow=37						
KSAR	**Wonju Array Be**	**12.34**	**283**	Pn	**Pn**	**09 51 47.4**	**-2.5**
YAK	**Yakutsk**	**27.75**	**346**	*e*P	**P**	**09 54 42.3**	**+0.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
SEY	**Seymchan**	**27.95**	**9**⇑	*e*P	**P**	**09 54 45.2**	**+1.3**
ENH	**Enshi**	**28.59**	**269**	*e*P	**P**	**09 54 50.3**	**+0.3**
	comp=Z,10nm,0.7s						
SONM	**Songino Array**	**29.68**	**306**	P	**P**	**09 55 00.8**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=104,slow=8.4,SNR=9.4						
SONM	**Songino Array**	**29.68**	**306**	P	**P**	**09 55 00.8**	**+1.2**
ZAK	**Zakamensk**	**32.19**	**310**	*e*P	**P**	**09 55 22.2**	**+0.5**
ZAK				*e*		09 58 09.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY	**Talaya**	**32.26**	**312**

WRAB					*ep*P	**pP**	**09 58 38.9**	**-0.4**
WRAB					*es*P	**sP**	**09 58 41.7**	**-0.7**
WRA	**Warramunga Arr**	**55.87**	**190**	P	**P**	**09 58 30.5**	**-0.8**
comp=Z,2.0nm,0.8s,baz=9.0,slow=7.4,SNR=15								
WRA	**Warramunga Arr**	**55.87**	**190**	P	**P**	**09 58 30.5**	**-0.8**
ARU	**Arti**	**58.30**	**319***c*	*i*P	**P**	**09 58 49.0**	**+0.8**
ARU						10 00 54.0	
ARU				S	**S**	**10 06 48.0**	**-0.6**
ARU				pmax	pmax		
comp=Z,12nm,1.7s							
AS31	**Alice Springs**	**59.59**	**190**	*ep*	**P**	**09 58 58.1**	**+0.6**
ASAR	**Alice Springs**	**59.60**	**190**	P	**P**	**09 58 56.9**	**-0.7**
comp=Z,0.7nm,0.7s,baz=11,slow=8.2,SNR=7.8							
ASAR	**Alice Springs**	**59.60**	**190**	P	**P**	**09 58 56.9**	**-0.7**
ABKAR	**Akbulak array**	**59.87**	**311**	*ep*	**P**	**09 58 59.2**	**0.0**
comp=Z,4.1nm,0.9s							
XMAS	**Kiritimati**	**64.29**	**107**	*ep*	**P**	**09 59 29.0**	**-0.3**
comp=Z,11nm,0.4s							
XMAS				*ep*P	**pP**	**09 59 37.3**	**-0.2**
XMAS				*es*P	**sP**	**09 59 39.9**	**-0.6**
YKA	**Yellowknife Ar**	**64.36**	**30**	P	**P**	**09 59 29.5**	**+0.5**
comp=Z,1.5nm,0.8s,baz=297,slow=6.4,SNR=29							
YKA	**Yellowknife Ar**	**64.36**	**30**	P	**P**	**09 59 29.6**	**+0.5**
AFI	**Afiamalu**	**65.21**	**131**	*ep*	**P**	**09 59 34.7**	**-0.6**
comp=Z,6.0nm,0.3s							
FINES	**FINESS Array B**	**70.68**	**333**	P	**P**	**10 00 09.3**	**+0.3**
comp=Z,2.7nm,0.8s,baz=57,slow=10,SNR=5.1							
FINES	**FINESS Array B**	**70.68**	**333**	P	**P**	**10 00 09.3**	**+0.3**
KBZ	**Khabaz**	**72.83**	**312**	P	**P**	**10 00 23.0**	**+0.7**
comp=Z,2.0nm,0.8s,baz=20,slow=7.7,SNR=6.4							
KBZ	**Khabaz**	**72.83**	**312**	P	**P**	**10 00 23.0**	**+0.7**
KBZ	**Khabaz**	**72.83**	**312**	P	**P**	**10 00 23.0**	**+0.7**
KIV	**Kislovodsk**	**72.84**	**312**‖	*ep*	**P**	**10 00 24.2**	**+1.8**
KIV				*e**PP	**pP**	**10 00 33.7**	**+3.0**
KIV				pmax	pmax		
comp=Z,22nm,1.8s							
FFC	**Flin Flon**	**74.17**	**33**	*i* P	**P**	**10 00 31.1**	**+1.2**
NVAR	**Mina Array Bea**	**74.76**	**54**	P	**P**	**10 00 35.2**	**+1.2**
comp=Z,0.8nm,0.7s,baz=297,slow=6.0,SNR=4.2							
NVAR	**Mina Array Bea**	**74.76**	**54**	P	**P**	**10 00 35.2**	**+1.2**
ANN	**Anapa**	**75.47**	**315**	*ep*	**P**	10 00 24.9	-13
ANN				*e**PP	pP	10 00 35.6	-10
ANN				pmax	pmax		
comp=Z,46nm,1.4s							
AKASG	**Malin Array Be**	**76.23**	**323**	P	**P**	**10 00 41.0**	**-0.9**
comp=Z,0.5nm,0.3s,baz=46,slow=7.0,SNR=5.2							
AKASG	**Malin Array Be**	**76.23**	**323**	*ep*	**P**	**10 00 42.2**	**+0.4**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**76.23**	**323**	P	**P**	**10 00 41.0**	**-0.9**
PDAR	**Pinedale Array**	**77.70**	**46**	P	**P**	**10 00 51.1**	**+0.5**
comp=Z,0.6nm,0.6s,baz=276,slow=2.6,SNR=6.3							
PDAR	**Pinedale Array**	**77.70**	**46**	P	**P**	**10 00 51.1**	**+0.5**
RAR	**Rarotonga**	**78.25**	**127**	LR	LR	10 30 54.3	
comp=Z,91nm,20.7s,baz=315,slow=32							
BRTR	**Keskin Array B**	**80.78**	**313**	P	**P**	**10 01 07.3**	**-0.2**
comp=Z,1.7nm,0.9s,baz=130,slow=3.9,SNR=6.6							
BRTR	**Keskin Array B**	**80.78**	**313**	P	**P**	**10 01 07.2**	**-0.2**
CLL	**Collm**	**82.98**	**331**	*ep*	**P**	**10 01 19.0**	**+0.5**
CLL				pmax	pmax		
comp=Z,5.0nm,1.1s							
CLL	**Collm**	**82.98**	**331**	*ep*	**P**	**10 01 19.0**	**+0.5**
comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	**84.61**	**329**	P	**P**	**10 01 26.9**	**-0.2**
comp=Z,0.2nm,0.3s,baz=31,slow=4.6,SNR=3.6							
GERES	**GERESS Array B**	**84.61**	**329**	P	**P**	**10 01 26.9**	**-0.2**
TXAR	**Lajitas Array**	**88.92**	**53**	P	**P**	**10 01 52.1**	**-1.0**
comp=Z,0.8nm,0.8s,baz=299,slow=1.9,SNR=7.9							
TXAR	**Lajitas Array**	**89.92**	**53**	P	**P**	**10 01 52.1**	**-1.0**

MOS ***27*** *10:00:45.2±0.9, 12.˚75S×14.˚58W, h10km, mb5.0/20, MS4.1/6, Error ellipse: s-maj=20.2km s-min=8.3km az=68.8*

BJI ***27*** *10:00:46.0, 13.˚00S×14.˚30W, h16km, mB5.7/7, Ms5.1/6, Ms7 4.9/6*

ISCJB ***27*** *10:00:46.3±0.3, 12.˚81S±0.˚07×14.˚43W±0.˚07, h16km, mb4.6/42, MS4.2/27, Error ellipse: s-maj=12.1km s-min=6.8km az=136.5*

IDC ***27*** *10:00:46.6±1.3, 12.˚54S×14.˚67W, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, MS4.1/22, Ms1 4.1/22, ms1mx4.1/31, Error ellipse: s-maj=49.2km s-min=15.3km az=145.0*

NEIC ***27*** *10:00:47.1±0.3, 12.˚80S×14.˚55W, h10km, mb5.1/22, Error ellipse: s-maj=11.7km s-min=6.5km az=132.0*

GCMT ***27*** *10:00:48.5±0.3, 12.˚86S×14.˚58W, h20km±1km, MW5.0, Moment Tensor Solution. s9,c12; s62,c90; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.58±.36; $M_{\theta\theta}$0.81±.20; $M_{\phi\phi}$2.77±.21; $M_{r\theta}$-0.04±.45; $M_{\theta\phi}$-1.58±.09; $M_{r\phi}$0.39±.30; Best double couple: $M_0$3.60000×10^{16} NP1:ϕ_s328.00000°, δ42.00000°, λ-94.00000°. NP2:ϕ_s153.00000°, δ48.00000°, λ-87.00000°. Principal axes: T 3.6700, Plg3.0000°, Azm241.0000°; N -0.0600, Plg3.0000°, Azm331.0000°; P -3.6100, Plg86.0000°, Azm103.0000°; Data Used: IU II IC G.*

ISC 27 10:00:47.9±0.4, 12.˚83S±0.˚10×14.˚52W±0.˚09, h16km, n180, σ0.˚98/163, mb4.7/42, MS4.2/28, 9C-18D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.15**	**27**	*ep*	**P**		**10 05 34.0**	**+1.5**
LIC	102nm,1.2s,baz=215			*e*R				
	1μm,23.0s							
LIC	**Lamto**	**21.15**	**27**	*ep*	**P**		**10 05 34.0**	**+1.5**
DBIC	102nm,1.2s **Dimbokro**	**21.62**	**27**	P	**P**		**10 05 36.8**	**-0.8**
DBIC	12nm,1.0s,baz=189,slow=12,SNR=6.5			LR	LR		10 12 02.9	
	comp=Z,733nm,19.7s,baz=186,slow=32							
DBIC	**Dimbokro**	**21.62**	**27**	*ep*	**P**		**10 05 36.9**	**-0.6**
	51nm,1.4s							
RCBR	**Riachuelo**	**22.20**	**286**	P	**P**		**10 05 42.4**	**-1.5**
	4.4nm,0.7s,baz=99,slow=10,SNR=3.8							
RCBR				LR	LR		10 12 00.5	
	comp=Z,494nm,19.4s,baz=98,slow=31							
RCBR	**Riachuelo**	**22.20**	**286**	P	**P**		**10 05 42.4**	**-1.5**
BBTS	**Babate**	**27.39**	**356**	LR	LR		10 15 17.4	
	comp=Z,245nm,20.5s,baz=191,slow=32							
TOA0	**Torodi Ar. Sit**	**30.41**	**33**	*ep*	**P**		**10 06 59.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**30.41**	**33**	P	**P**		**10 06 58.4**	**-1.3**
	1.8nm,0.7s,baz=220,slow=10,SNR=16							
TORD				LR	LR		10 17 20.1	
	comp=Z,848nm,19.5s,baz=215,slow=33							
TORD	**Torodi Ar. Bea**	**30.41**	**33**	P	**P**		**10 06 58.4**	**-1.3**
TSUM	**Tsumeb**	**31.47**	**106**	LR	LR		10 17 06.4	
	comp=Z,326nm,19.2s,baz=330,slow=31							
BDFB	**Brasilia**	**32.56**	**261**	P	**P**		**10 07 17.4**	**-1.5**
	6.6nm,0.9s,baz=78,slow=9.0,SNR=8.6							
BDFB				LR	LR		10 17 49.9	
	comp=Z,473nm,19.3s,baz=281,slow=32							
BDFB	**Brasilia**	**32.56**	**261**	P	**P**		**10 07 17.4**	**-1.5**
BOSA	**Boshof**	**40.16**	**119**	LR	LR		10 21 43.5	
	comp=Z,348nm,20.1s,baz=281,slow=31							
LSZ	**Lusaka**	**41.46**	**99**	*ep*	**P**		**10 08 34.3**	**-0.2**
	15nm,1.3s							
SAML	**Samuel**	**47.89**	**269**	*ep*	**P**		**10 09 25.5**	**-0.2**
	4.6nm,0.9s							
TRQA	**Tornquist**	**49.00**	**230**	*ep*	**P**		**10 09 34.7**	**+0.6**
	11nm,1.1s							
LPAZ	**La Paz**	**51.88**	**259**	P	**P**		**10 09 58.6**	**+1.8**
	4.1nm,0.9s,baz=103,slow=5.9,SNR=8.1							
LPAZ				LR	LR		10 31 39.5	
	comp=Z,152nm,19.8s,baz=265,slow=36							
LPAZ	**La Paz**	**51.88**	**259**	*ep*	P		10 10 01.6	+4.7
	6.2nm,0.9s							
CFAA	**Coronel Fontan**	**52.59**	**240**	P	**P**		**10 10 03.9**	**+2.7**
	0.6nm,0.9s,baz=89,slow=7.8,SNR=6.9							
CFAA	**Coronel Fontan**	**52.59**	**240**	P	**P**		**10 10 03.9**	**+2.7**
ESDC	**Sonseca Array**	**53.15**	**10**	P	**P**		**10 10 04.8**	**-0.3**
	0.3nm,0.3s,baz=246,slow=8.3,SNR=4.7							
ESDC	**Sonseca Array**	**53.15**	**10**	P	**P**		**10 10 04.8**	**-0.3**
KEST	**Kesra**	**53.32**	**24**	P	**P**		**10 10 08.0**	**+1.6**
	3.7nm,1.0s,baz=201,slow=8.6,SNR=6.9							
KEST				LR	LR		10 31 55.3	
	comp=Z,162nm,18.9s,baz=177,slow=35							
KEST	**Kesra**	**53.32**	**24**	*ep*	**P**		**10 10 08.3**	**+1.9**
ARE	**Arequipa**	**55.09**	**259**	*ep*	**P**		**10 10 20.0**	**-0.1**
ARE	**Arequipa**	**55.09**	**259**	*ep*	**P**		**10 10 20.0**	**-0.1**
PLCA	**Paso Flores**	**56.11**	**229**	LR	LR		10 30 21.8	
	comp=Z,248nm,21.0s,baz=76,slow=32							

VNA2	**Neumayer--Watz**	**58.22**	**177**	*ep*	**P**		**10 10 41.5**	**+0.4**
VNA2	**Neumayer--Watz**	**58.22**	**177**	*es*P	sP		10 10 48.2	0.0
VNA3	**Neumayer Olymp**	**58.45**	**178**	*ep*	**P**		**10 10 42.1**	**-0.6**
LFF	**La Frestale**	**59.14**	**13**	*ep*	**P**		**10 10 47.9**	**+0.2**
LFF	**La Frestale**	**59.14**	**13**	*ep*	**P**		**10 10 47.9**	**+0.2**
LFF	**La Frestale**	**59.14**	**13**	*ep*	**P**		**10 10 47.9**	**+0.2**
SNAA	**Sanae**	**59.23**	**176**	*ep*	**P**		**10 10 48.3**	**+0.1**
SNAA	**Sanae**	**59.23**	**176**	*es*P	sP		10 10 55.3	0.0
SNAA	**Sanae**	**59.23**	**176**	*ep*	**P**		**10 10 48.1**	**-0.1**
	16nm,1.1s							
RJF	**Les Rejaudoux**	**59.66**	**13**	*ep*	**P**		**10 10 51.1**	**-0.2**
RJF	50nm,1.3s			*e*R				
	296nm,19.5s							
RJF	**Les Rejaudoux**	**59.66**	**13**	*ep*	**P**		**10 10 51.1**	**-0.2**
RJF				pmax	pmax			
	comp=Z,50nm,1.3s							
RJF	**Les Rejaudoux**	**59.66**	**13**	*ep*	**P**		**10 10 51.1**	**-0.2**
	comp=Z,50nm,1.3s							
ORIF	**Oris-en-Rattie**	**60.38**	**17**	*ep*	**P**		**10 10 57.0**	**+0.6**
ORIF				*e*R				
	comp=Z,424nm,18.8s							
ORIF	**Oris-en-Rattie**	**60.38**	**17**	*ep*	**P**		**10 10 57.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**60.38**	**17**	*ep*	**P**		**10 10 57.0**	**+0.6**
MBDF	**Montbardon**	**60.46**	**17**	*ep*	**P**		**10 10 57.7**	**+0.6**
	comp=Z,16nm,0.9s							
MBDF	**Montbardon**	**60.46**	**17**	*ep*	**P**		**10 10 57.7**	**+0.6**
MBDF				pmax	pmax			
	comp=Z,16nm,0.9s							
MBDF	**Montbardon**	**60.46**	**17**	*ep*	**P**		**10 10 57.7**	**+0.6**
	comp=Z,16nm,0.9s							
TCF	**Toulx Ste Croi**	**60.74**	**13**	*ep*	**P**		**10 10 59.0**	**+0.2**
TCF	**Toulx Ste Croi**	**60.74**	**13**	*ep*	**P**		**10 10 59.0**	**+0.2**
TCF				pmax	pmax			
	comp=Z,17nm,0.9s							
TCF	**Toulx Ste Croi**	**60.74**	**13**	*ep*	**P**		**10 10 59.0**	**+0.2**
	comp=Z,17nm,0.9s							
LPG	**La Plagne**	**61.16**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
	comp=Z,25nm,1.0s							
LPG	**La Plagne**	**61.16**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
LPG				pmax	pmax			
	comp=Z,25nm,1.0s							
LPG	**La Plagne**	**61.16**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
	comp=Z,25nm,1.0s							
LPL	**La Plagne**	**61.17**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
LPL	**La Plagne**	**61.17**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
LPL	**La Plagne**	**61.17**	**17**	*ep*	**P**		**10 11 02.4**	**+0.4**
SMF	**Signal de Mont**	**61.46**	**14**	*ep*	**P**		**10 11 03.6**	**0.0**
	comp=Z,15nm,0.9s							
SMF	**Signal de Mont**	**61.46**	**14**	*ep*	**P**		**10 11 03.6**	**0.0**
SMF				pmax	pmax			
	comp=Z,15nm,0.9s							
SMF	**Signal de Mont**	**61.46**	**14**	*ep*	**P**		**10 11 03.6**	**0.0**
	comp=Z,15nm,0.9s							
AVF	**Avril sur Loir**	**61.48**	**14**	*ep*	**P**		**10 11 03.7**	**0.0**
AVF	**Avril sur Loir**	**61.48**	**14**	*ep*	**P**		**10 11 03.7**	**0.0**
AVF	**Avril sur Loir**	**61.48**	**14**	*ep*	**P**		**10 11 03.7**	**0.0**
SSF	**Saint Saulge**	**61.77**	**14**	*ep*	**P**		**10 11 05.7**	**0.0**
	comp=Z,49nm,1.4s							
SSF	**Saint Saulge**	**61.77**	**14**	*ep*	**P**		**10 11 05.7**	**0.0**
SSF				pmax	pmax			
	comp=Z,49nm,1.4s							
SSF	**Saint Saulge**	**61.77**	**14**	*ep*	**P**		**10 11 05.7**	**0.0**
	comp=Z,49nm,1.4s							
ROSC	**El Rosal**	**61.95**	**283**	LR	LR		10 38 02.1	
	comp=Z,251nm,18.0s,baz=121,slow=36							
CABF	**La Chapelle**	**62.00**	**16**	*ep*	**P**		**10 11 07.1**	**-0.3**
	comp=Z,27nm,0.8s							
CABF	**La Chapelle**	**62.00**	**16**	*ep*	**P**		**10 11 07.1**	**-0.3**
CABF				pmax	pmax			
	comp=Z,27nm,0.8s							
CABF	**La Chapelle**	**62.00**	**16**	*ep*	**P**		**10 11 07.1**	**-0.3**
	comp=Z,27nm,0.8s							
LOR	**Lormes**	**62.05**	**14**	*ep*	**P**		**10 11 07.2**	**-0.4**
LOR				*e*R				
	comp=Z,278nm,18.0s							
LOR	**Lormes**	**62.05**	**14**	*ep*	**P**		**10 11 07.2**	**-0.4**
GRR	**Gorron**	**62.15**	**10**	*ep*	**P**		**10 11 07.8**	**-0.4**
	comp=Z,100nm,1.4s							
GRR	**Gorron**	**62.15**	**10**	*ep*	**P**		**10 11 07.8**	**-0.4**
GRR				pmax	pmax			
	comp=Z,100nm,1.4s							
GRR	**Gorron**	**62.15**	**10**	*ep*	**P**		**10 11 07.8**	**-0.4**
	comp=Z,100nm,1.4s							
SFTF	**Sexfontaines**	**63.21**	**15**	*ep*	**P**		**10 11 15.0**	**-0.3**
SFTF	**Sexfontaines**	**63.21**	**15**	*ep*	**P**		**10 11 15.0**	**-0.3**
HAU	**Haudompre**	**63.35**	**16**	*ep*	**P**		**10 11 15.9**	**-0.4**
HAU				*e*R				
	comp=Z,233nm,19.8s							
HAU	**Haudompre**	**63.35**	**16**	*ep*	**P**		**10 11 15.9**	**-0.4**
HAU	**Haudompre**	**63.35**	**16**	*ep*	**P**		**10 11 15.9**	**-0.4**
MEZF	**Maizieres J'vi**	**63.49**	**14**	*ep*	**P**		**10 11 17.2**	**+0.1**
MEZF	**Maizieres J'vi**	**63.49**	**14**	*ep*	**P**		**10 11 17.2**	**+0.1**
FETA	**Feichten**	**63.73**	**19**⇓	*i*P	**P**		**10 11 18.7**	**-0.2**
	comp=Z,12nm,1.0s							
FETA	**Feichten**	**63.73**	**19**⇓	*i*P	**P**		**10 11 18.7**	**-0.2**
	comp=Z,12nm,1.0s							
ABTA	**Abfaltersbach**	**64.08**	**20**⇓	*i*P	**P**		**10 11 21.5**	**+0.3**
	comp=Z,20nm,1.7s							
ABTA	**Abfaltersbach**	**64.08**	**20**⇓	*i*P	**P**		**10 11 21.5**	**+0.3**
	comp=Z,20nm,1.7s							
WTTA	**Wattenberg**	**64.24**	**19**⇑	*i*P	**P**		**10 11 24.1**	**+1.8**
WTTA				pmax	pmax			
	comp=Z,21nm,1.4s							
WTTA	**Wattenberg**	**64.24**	**19**⇑	*i*P	**P**		**10 11 24.1**	**+1.8**
	comp=Z,21nm,1.4s							
WTTA	**Wattenberg**	**64.24**	**19**⇑	*i*P	**P**		**10 11 24.1**	**+1.8**
	comp=Z,21nm,1.4s							
BAIF	**Baives**	**64.75**	**13**	*ep*	**P**		**10 11 24.7**	**-0.7**
BAIF	**Baives**	**64.75**	**13**	*ep*	**P**		**10 11 24.7**	**-0.7**
BAIF	**Baives**	**64.75**	**13**	*ep*	**P**		**10 11 24.7**	**-0.7**
GERES	**GERESS Array B**	**66.30**	**20**	P	**P**		**10 11 35.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=246,slow=4.2,SNR=5.0							
GERES	**GERESS Array B**	**66.30**	**20**	P	**P**		**10 11 35.5**	**-0.1**
PRU	**Pruhonice**	**67.56**	**20**	*ep*	P		10 11 49.3	+5.9
PRU	**Pruhonice**	**67.56**	**20**	*ep*	P		10 11 49.3	+5.9
VYHS	**Vyhne**	**67.84**	**23**	*ep*	**P**		**10 11 45.6**	**+0.3**
VYHS				*e*			10 11 51.5	
VYHS				pmax	pmax			
	comp=Z,10.0nm,1.5s							
VYHS	**Vyhne**	**67.84**	**23**	*ep*	**P**		**10 11 45.6**	**+0.3**
VYHS				*ep*P	**pP**		**10 11 51.5**	**+1.0**
VYHS				*e*			10 12 02.8	
CLL	**Collm**	**68.22**	**18**	*es*	S		10 20 54.0	+6.8
CLL				*es*SS	SSS		10 28 27.0	
CLL				Lm	MLR		10 41 00.0	
	comp=N,100nm,21.9s							
CLL				Lm	MLR		10 41 00.0	
	comp=E,200nm,19.8s							
DPC	**Dobruska-Polom**	**68.47**	**21**	*ep*	**P**		**10 11 47.7**	**-1.5**
DPC				MLR	MLR			
	comp=Z,300nm,18.8s							
DPC	**Dobruska-Polom**	**68.47**	**21**	*ep*	**P**		**10 11 47.7**	**-1.5**
DPC				AMS	AMS		10 41 10.0	
	comp=Z,300nm,18.8s							
UPC	**Upice**	**68.50**	**20**	*ep*	P		10 11 52.8	+3.5
UPC	**Upice**	**68.50**	**20**	*ep*	P		10 11 52.8	+3.5
BRTR	**Keskin Array B**	**68.82**	**38**	P	**P**		**10 11 52.6**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=222,slow=4.4,SNR=7.6							
BRTR				LR	LR		10 41 30.9	
	comp=Z,69nm,21.7s,baz=51,slow=36							
BRTR	**Keskin Array B**	**68.82**	**38**	P	**P**		**10 11 52.6**	**+0.8**
CRVS	**Cervenica-Dubn**	**69.21**	**24**	*ep*	P		10 11 57.1	+3.3
CRVS				*e*			10 12 01.9	
CRVS				*e*			10 12 12.0	
CRVS				pmax	pmax			
	comp=Z,33nm,2.2s							
CRVS	**Cervenica-Dubn**	**69.21**	**24**	*ep*	P		10 11 57.1	+3.3
CRVS				*ep*P	pP		10 12 01.9	+2.9
CRVS				*e*			10 12 12.0	
AK02	**Malin Array Si**	**73.83**	**27**	*ep*	**P**		**10 12 21.6**	**0.0**
AK01	**Malin Array Si**	**73.86**	**27**	*ep*	**P**		**10 12 21.4**	**-0.4**
KIEV	**Kiev**	**73.86**	**27**	*ep*	**P**		**10 12 21.8**	**0.0**
KIEV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIEV	**Kiev**	**73.86**	**27**	*ep*	**P**		**10 12 21.8**	**0.0**
	comp=Z,10nm,1.0s							
AKASG	**Malin Array Be**	**73.87**	**27**	P	**P**		**10 12 21.4**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=224,slow=6.2,SNR=10.0							
AKASG				LR	LR		10 46 19.0	
	comp=Z,158nm,18.6s,baz=250,slow=37							
AKASG	**Malin Array Be**	**73.87**	**27**	P	**P**		**10 12 21.4**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.8s							

AKASG				MLR	MLR			
	comp=Z,158nm,18.6s							
AKASG	**Malin Array Be**	**73.87**	**27**	P	**P**		**10 12 21.4**	**-0.5**
NB2	**NORSAR Subarra**	**76.42**	**13**	P	**P**		**10 12 36.4**	**0.0**
	comp=Z,13nm,1.1s,baz=202,slow=6.2							
NOA	**NORSAR Array B**	**76.42**	**13**	P	**P**		**10 12 36.0**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=194,slow=8.9,SNR=4.7							
NOA				LR	LR		10 47 58.5	
	comp=Z,57nm,18.7s,baz=250,slow=37							
NOA	**NORSAR Array B**	**76.42**	**13**	P	**P**		**10 12 36.0**	**-0.4**
KIV	**Kislovodsk**	**76.77**	**39**	*i* P	**P**		**10 12 37.9**	**-0.9**
KIV				*e*			10 12 46.9	
KIV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,100nm,23.0s							
KBZ	**Khabaz**	**76.78**	**39**	P	**P**		**10 12 39.5**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=274,slow=6.3,SNR=5.9							
KBZ	**Khabaz**	**76.78**	**39**	P	**P**		**10 12 39.5**	**+0.8**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**76.78**	**39**	P	**P**		**10 12 39.5**	**+0.8**
QSPA	**South Pole Qui**	**77.32**	**180**	*ep*	**P**		**10 12 42.3**	**+0.7**
	comp=Z,29nm,1.3s							
VORD	**Divnogorie**	**78.86**	**31**	*ep*	**P**		**10 12 50.3**	**+0.1**
VORD				pmax	pmax			
	comp=Z,5.0nm,0.6s							
VORD				pmax	pmax			
	comp=N,2.0nm,0.3s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VSR	**Storozhevoye**	**78.95**	**31**	*ep*	**P**		**10 12 51.4**	**+0.7**
VRHR	**Novokhopersk**	**80.13**	**32**	*ep*	P		10 13 04.0	+6.9
VRHR				pmax	pmax			
	comp=N,4.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,5.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SCHQ	**Schefferville**	**80.50**	**332**	P	**P**		**10 12 59.0**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=112,slow=5.4,SNR=3.6							
SCHQ	**Schefferville**	**80.50**	**332**	*ep*	P		10 13 05.8	+6.7
FINES	**FINESS Array B**	**80.66**	**18**	P	**P**		**10 12 60.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=210,slow=4.5,SNR=7.1							
FINES				LR	LR		10 50 35.4	
	comp=Z,111nm,21.0s,baz=322,slow=37							
FINES	**FINESS Array B**	**80.66**	**18**	P	**P**		**10 12 60.0**	**+0.3**
ALLY	**Alegheny Colle**	**81.05**	**316**	*ep*	P		10 13 10.6	+8.3
KLMR	**Klimovskoe**	**84.95**	**23**	*ep*	**P**		**10 13 19.7**	**-2.3**
KLMR				pmax	pmax			
	comp=Z,31nm,1.6s							
SIUC	**Southern Illin**	**86.00**	**310**	*ep*	P		10 13 37.8	+10
	comp=Z,17nm,0.8s							
ARCES	**ARCESS Array B**	**86.78**	**13**	LR	LR		10 53 08.2	
	comp=Z,98nm,18.1s,baz=195,slow=36							
RPN	**Rapa Nui**	**88.44**	**243**	LR	LR		10 50 02.9	
	comp=Z,100nm,19.9s,baz=80,slow=33							
AKTO	**Aktyubinsk**	**89.00**	**38**	LR	LR		10 55 32.2	
	comp=Z,73nm,18.3s,baz=121,slow=37							
ABKAR	**Akbulak array**	**89.75**	**39**	*ep*	**P**		**10 13 46.3**	**+0.8**
VNDA	**Vanda**	**89.79**	**179**	LR	LR		10 49 07.6	
	comp=Z,164nm,19.2s,baz=30,slow=32							
732A	**Laxson Ranch,**	**92.15**	**299**	⇓P	**P**		**10 13 57.6**	**+0.4**
	baz=92							
632A	**Uvalde**	**92.17**	**300**	⇓P	**P**		**10 13 58.0**	**+0.7**
	baz=92							
JCT	**Junction City**	**92.41**	**301**	*ep*	**P**		**10 13 59.1**	**+0.7**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
JCT	**Junction City**	**92.41**	**301**	*ep*	**P**		**10 13 59.1**	**+0.7**
	comp=Z,7.9nm,0.9s							
532A	**Rocksprings**	**92.42**	**300**	⇓P	**P**		**10 13 58.6**	**+0.1**
	baz=92							
432A	**Menard**	**92.50**	**301**	⇑P	**P**		**10 13 59.0**	**+0.2**
	baz=92							

HHC					PP	PP	10 21 44.8	+5.4
HHC					PKS	**PKSdf**	**10 23 25.5**	**+0.2**
HHC					AMB	AMB		
	comp=Z,200nm,6.3s							
HHC					LR	LR		
	comp=N,210nm,20.0s							
HHC					LR	LR		
	comp=E,290nm,18.4s							
HHC					LR	LR		
	comp=Z,300nm,14.9s							
PPT2	**Papeete2**	**126.31**	**237**	*e*	LR	LR	10 59 28.8	
	comp=Z,138nm,23.5s							
SEY	**Seymchan**	**129.11**	**8**	*i*	PKIKP	**PKPdf**	**10 19 55.5**	**+0.6**
CN2	**Changchun**	**133.87**	**40**	*e*	PKP	**PKPdf**	**10 20 06.0**	**+1.6**
WRA	**Warramunga Arr**	**135.28**	**136**		PKP	**PKPdf**	**10 20 07.6**	**-0.3**
	comp=Z,1.3nm,1.1s,baz=250,slow=2.1,SNR=4.7							
WRA	**Warramunga Arr**	**135.28**	**136**		PKP	**PKPdf**	**10 20 07.6**	**-0.3**
MDJ	**Mudanjiang**	**135.96**	**37**		PKP	**PKPdf**	**10 20 07.5**	**-0.8**
COEN	**Coen**	**145.40**	**140**	*e*	PKPbc	**PKPbc**	**10 20 25.9**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**146.02**	**41**	*e*	PKP2	PKPab	10 20 35.1	+7.0
MJA0					pmax	pmax		
	comp=Z,2.0nm,1.0s							

MEX 27 10:01:58.0±0.5, 17°35N×100°84W, h26km±18km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.63**	**119**	*i* P	Pb	10 02 08.5	-1.9
CAIG				*i* S	Sb	10 02 16.6	-2.3
ZIIG	**Zihuatanejo**	**0.64**	**293**	*i* P	Pb	10 02 08.8	-1.9
ZIIG				*i* S	Sb	10 02 16.8	-2.5
ARIG	**Puente Sto Nin**	**1.04**	**27**	*e* P	Pn	10 02 13.7	-3.3
ARIG				*i* S	Sb	10 02 26.9	-3.7
YAIG	**Yautepec**	**2.26**	**48**	*e* P	Pn	10 02 32.0	-1.9
YAIG				*i* S	Sn	10 02 58.0	-3.2

MAN 27 10:04:05, 10°15N×122°02E, h2km, mb4.6, ML3.4, MS3.4, Panay

*IDC **27** 10:07:37.2±0.7, 7°07N×125°60E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.5/7, Error ellipse: s-maj=22.8km s-min=5.4km az=21.0*
*MAN **27** 10:07:41, 7°10N×125°62E, h22km, mb4.4, ML3.3, MS3.1*
ISC 27 10:07:40.8±0.8, 7°02N±0°06×125°54E±0°04, h26km±5km, n16, σ0°66/23, mb3.5/7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.06**	**38**	Pn	**Pb**	**10 07 45.3**	**-0.1**
	2μm,0.3s,baz=90,slow=20,SNR=138						
DAV					Sn	**Sb**	**10 07 49.4**	**+0.9**
	3μm,0.3s,baz=90,slow=20,SNR=231						
DMPH	**Davao City--Mi**	**0.07**	**330**	*e* P	**Pb**	**10 07 44.8**	**-0.7**
DMPH				*i* S	**Sb**	**10 07 48.3**	**-0.2**
KCP	**Kidapawan**	**0.45**	**268**	*i* P	**Pn**	**10 07 52.8**	**+1.2**
KCP				*i* S	**Sn**	**10 07 58.6**	**-0.3**
MATI	**Mati**	**0.71**	**96**	*e* P	**Pn**	**10 07 55.0**	**-0.3**
MATI				*e* S	**Sn**	**10 08 05.5**	**+0.1**
BUKP	**Musuan**	**0.97**	**331**	*e* P	**Pn**	**10 07 58.3**	**-0.6**
GSPH	**General Santos**	**1.10**	**212**	*e* P	**Pn**	**10 07 59.8**	**-0.9**
GSPH				*e* S	**Sn**	**10 08 15.2**	**+0.1**
CTBH	**Cotabato--PC H**	**1.30**	**279**	*i* P	**Pn**	**10 08 02.5**	**-0.9**
CTBH				*i* S	**Sn**	**10 08 19.4**	**-0.5**
CGP	**Cagayan de Oro**	**1.65**	**329**	*i* P	**Pn**	**10 08 08.7**	**+0.5**
CGP				*i* S	**Sb**	**10 08 30.5**	**-0.5**
PAGZ	**Pagadian**	**2.29**	**291**	*e* P	**Pn**	**10 08 17.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.96**	**180**	P	**P**	**10 13 02.5**	**+0.1**
	0.7nm,0.6s,baz=0.0,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**28.16**	**162**	P	**P**	**10 13 31.8**	**+0.6**
	0.2nm,0.4s,baz=336,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**31.58**	**165**	P	**P**	**10 14 01.4**	**0.0**
	0.3nm,0.5s,baz=337,slow=8.9,SNR=5.5						
STKA	**Stephens Creek**	**41.61**	**159**	P	**P**	**10 15 27.5**	**+0.7**
	1.3nm,0.8s,baz=324,slow=8.7,SNR=2.3						
MKAR	**Makanchi Array**	**54.20**	**325**	P	**P**	**10 17 05.0**	**+0.7**
	0.3nm,0.5s,baz=130,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**82.66**	**26**	P	**P**	**10 20 01.1**	**-0.7**
	0.4nm,0.8s,baz=257,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**97.00**	**24**	P	**P**	**10 21 09.7**	**-0.4**
	0.1nm,0.7s,baz=304,slow=5.1,SNR=4.1						

MEX 27 10:11:06.0±0.6, 17°36N×100°85W, h32km±20km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.63**	**119**	*e* P	Pb	10 11 16.3	-2.4
CAIG				*i* S	Sb	10 11 25.1	-2.2
ZIIG	**Zihuatanejo**	**0.64**	**293**	*e* P	Pb	10 11 16.9	-1.9
ZIIG				*i* S	Sb	10 11 25.0	-2.5
ARIG	**Puente Sto Nin**	**1.03**	**27**	*e* P	Pn	10 11 22.1	-2.2
ARIG				*i* S	Sn	10 11 34.5	-3.3
MEIG	**Mezcala**	**1.30**	**64**	*i* P	Pn	10 11 26.5	-1.6
MEIG				*i* S	Sn	10 11 40.9	-3.5
YAIG	**Yautepec**	**2.26**	**48**	*i* P	Pn	10 11 38.8	-2.5
YAIG				*i* S	Sn	10 12 06.2	-2.1

*CSEM **27** 10:27:11.6±0.9, 37°09N×37°24E, h2km, MD2.5, Error ellipse: s-maj=24.5km s-min=15.4km az=26.0*
ISK 27 10:27:11.6, 37°14N×37°24E, h5km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.04**	**327**	PG	Pg	10 27 12.1	-0.8
GAZ				*e*SG	Sg	10 27 13.0	-0.9
GAZ	**Gaziantep**	**0.04**	**327**	*i* Pg	Pg	10 27 12.1	-0.8
GAZ				*e*Sg	Sg	10 27 13.0	-0.9
KMRS	**Kahramanmaras**	**0.46**	**324**	*e*PG	Pb	10 27 21.8	-0.5
KMRS				*e*SG	Sb	10 27 30.0	+0.7
KMRS	**Kahramanmaras**	**0.46**	**324**	*e*Pg	Pb	10 27 21.8	-0.4
KMRS				*e*Sg	Sb	10 27 30.0	+0.6
KOZT	**Kozan**	**1.18**	**287**	*e*PN	Pn	10 27 35.3	+0.5
KOZT	**Kozan**	**1.18**	**287**	*e*Pn	Pn	10 27 35.3	+0.5
URFA	**Urfa**	**1.30**	**76**	*e*Pn	Pg	10 27 37.5	+0.9
URFA	**Urfa**	**1.30**	**76**	*e*Pn	Pg	10 27 37.5	+0.9

*ISCJB **27** 10:28:18.7±0.5, 39°57N±0°02×38°66E±0°04, h9km±4km, Error ellipse: s-maj=5.0km s-min=3.6km az=33.8*
*ISK **27** 10:28:18.3, 39°56N×38°66E, h12km, MD3.2*
*DDA **27** 10:28:18.2, 39°57N×38°64E, h7km, MD3.2, ML3.5*
*CSEM **27** 10:28:18.7±0.1, 39°57N×38°68E, h10km, MD3.2, Error ellipse: s-maj=4.4km s-min=3.1km az=109.0*
ISC 27 10:28:18.9±0.9, 39°56N±0°02×38°68E±0°03, h10km±7km, n44, σ0°59/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.14**	**217**	*e*PG	**Pg**	**10 28 21.9**	**-0.3**
ILIC				*e*SG	**Sg**	**10 28 24.8**	**+0.3**
ILIC	**ilic-Erzincan**	**0.14**	**217**	*e*Pg	**Pg**	**10 28 21.9**	**-0.3**
ILIC				*e*Sg	**Sg**	**10 28 24.8**	**+0.3**
KEMA	**Kemaliye**	**0.33**	**206**	*i* P	**Pg**	**10 28 25.0**	**-0.4**
KEMA				*i* S	**Sg**	**10 28 30.2**	**+0.4**
KEMA	**Kemaliye**	**0.33**	**206**	*i* P	**Pg**	**10 28 25.0**	**-0.4**
KEMA				*i* S	**Sg**	**10 28 30.2**	**+0.4**
EZC	**Erzincan**	**0.56**	**70**	*e*PG	**Pg**	**10 28 29.7**	**0.0**
EZC				*e*SG	**Sb**	**10 28 38.4**	**-0.5**
EZC	**Erzincan**	**0.56**	**70**	*e*Pg	**Pg**	**10 28 29.7**	**0.0**
EZC				*e*Sg	**Sb**	**10 28 38.4**	**-0.5**
KELT	**Kelkit**	**0.73**	**37**	*i* P	**Pg**	**10 28 33.0**	**-0.2**
KELT				*i* S	**Sg**	**10 28 43.4**	**+0.6**
KELT	**Kelkit**	**0.73**	**37**	*i* P	**Pg**	**10 28 33.0**	**-0.2**
KELT				*i* S	**Sg**	**10 28 43.4**	**+0.6**
SUSE	**Susehri**	**0.74**	**331**	*i* P	**Pg**	**10 28 32.8**	**-0.5**
SUSE				*i* S	**Sg**	**10 28 42.5**	**-0.4**
SUSE	**Susehri**	**0.74**	**331**	*i* P	**Pg**	**10 28 32.8**	**-0.5**
ERZN	**Erzincan**	**0.81**	**88**	*e*PG	**Pg**	**10 28 34.4**	**-0.1**
ERZN				*e*SG	**Sb**	**10 28 46.6**	**+0.4**
PTK	**Pertek**	**0.87**	**140**	*e*PG	**Pg**	**10 28 36.1**	**+0.4**
PTK	**Pertek**	**0.87**	**140**	*e*Pg	**Pg**	**10 28 36.1**	**+0.4**
DARE	**Darende-Malaty**	**0.91**	**228**	*e*PN	Pn	10 28 43.7	+5.8
GUMT	**Gumushane**	**1.09**	**34**	*e*PN	**Pg**	**10 28 39.2**	**-0.6**
GUMT	**Gumushane**	**1.09**	**34**	*e*Pn	**Pg**	**10 28 39.2**	**-0.6**
ELZG	**Elazig**	**1.09**	**167**	*i* P	**Pg**	**10 28 39.3**	**-0.6**
ELZG				*i* S	**Sg**	**10 28 54.1**	**0.0**
ELZG	**Elazig**	**1.09**	**167**	*i* P	**Pg**	**10 28 39.3**	**-0.6**
ELZG				*i* S	**Sg**	**10 28 54.1**	**0.0**
MYA	**Malataya**	**1.25**	**189**	*e*PN	**Pn**	**10 28 41.2**	**-1.3**
MYA	**Malataya**	**1.25**	**189**	*e*Pn	**Pn**	**10 28 41.2**	**-1.3**
MALT	**Malatya**	**1.26**	**189**	*e*PN	**Pn**	**10 28 41.4**	**-1.3**
MALT	**Malatya**	**1.26**	**189**	*e*Pn	**Pn**	**10 28 41.4**	**-1.3**
SVRC	**Sivrice-ELAZID**	**1.28**	**157**	*e*PN	**Pn**	**10 28 42.4**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.28**	**157**	*e*Pn	**Pn**	**10 28 42.4**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.33**	**309**	*e*PN	**Pn**	**10 28 43.3**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.33**	**309**	*e*Pn	**Pn**	**10 28 43.3**	**-0.3**
ESPY	**Espiye-Giresun**	**1.35**	**2**	*e*PN	**Pn**	**10 28 43.5**	**-0.4**
ESPY	**Espiye-Giresun**	**1.35**	**2**	*e*Pn	**Pn**	**10 28 43.5**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.40**	**347**	*i* P	**Pn**	**10 28 44.1**	**-0.4**
GRSN				*i* S	**Sn**	**10 29 03.2**	**+0.2**
GRSN	**GIRESUNGRSN**	**1.40**	**347**	*i* P	**Pn**	**10 28 44.1**	**-0.4**
GRSN				*i* S	**Sn**	**10 29 03.2**	**+0.2**
AKCD	**Akcadag**	**1.40**	**205**	*i* P	**Pb**	**10 28 45.0**	**-0.1**
AKCD				*i* S	**Sg**	**10 29 04.8**	**+1.0**
AKCD	**Akcadag**	**1.40**	**205**	*i* P	**Pb**	**10 28 45.0**	**-0.1**
AKCD				*i* S	**Sg**	**10 29 04.8**	**+1.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.40**	**53**	*e*PN	**Pn**	**10 28 44.6**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.40**	**53**	*e*Pn	**Pn**	**10 28 44.6**	**0.0**
BINT	**Bingol**	**1.57**	**115**	*e*Pn	**Pb**	**10 28 48.3**	**+0.2**
BNGB	**Bing¯¶l**	**1.66**	**110**	*e*PN	**Pn**	**10 28 48.3**	**+0.1**
BNN	**Bunyan**	**2.31**	**253**	*e*PN	**Pn**	**10 28 57.4**	**+0.2**
BNN	**Bunyan**	**2.31**	**253**	*e*Pn	**Pn**	**10 28 57.4**	**+0.2**
KMRS	**Kahramanmaras**	**2.48**	**215**	*e*PN	**Pn**	**10 28 59.6**	**+0.2**
KMRS	**Kahramanmaras**	**2.48**	**215**	*e*Pn	**Pn**	**10 28 59.6**	**+0.2**
KOZT	**Kozan**	**3.05**	**228**	*e*PN	**Pn**	**10 29 08.1**	**+0.9**
KOZT	**Kozan**	**3.05**	**228**	*e*Pn	**Pn**	**10 29 08.1**	**+0.9**
CORM	**Corum**	**3.17**	**282**	*e*PN	**Pn**	**10 29 09.9**	**+0.9**
CORM	**Corum**	**3.17**	**282**	*e*Pn	**Pn**	**10 29 09.9**	**+0.9**

*SZGRF **27** 10:40:21.5, 25°19S×178°86W, h33km, South of Fiji Islands*
*MOS **27** 10:41:22.3±1.9, 23°91S×179°47E, h532km, mb5.0/6, Error ellipse: s-maj=11.2km s-min=9.5km az=20.0*
*ISCJB **27** 10:41:22.4±0.6, 24°07S±0°04×179°36E±0°03, h535km±7km, mb4.8/77, Error ellipse: s-maj=6.5km s-min=4.1km az=162.8*
*DJA **27** 10:41:23.3±1.2, 24°S±12°×18°0E±1°1, h558km±19km, M5.0/28, mB5.4/12, mb5.2/28, Mw(mB)4.9/12*
*IDC **27** 10:41:23.2±1.1, 24°06S×179°36E, h538km±10km, mb4.2/24, mb1 4.2/24, mb1mx4.2/26, mbtmp4.2/24, Error ellipse: s-maj=10.4km s-min=9.3km az=150.0*
*AUST **27** 10:41:23.9±0.0, 23°92S×179°67E, h560km, Error ellipse: s-maj=1.4km s-min=0.9km az=283.0*
*NEIC **27** 10:41:23.6±0.6, 24°06S×179°51E, h548km±6km, mb5.1/24, Error ellipse: s-maj=7.0km s-min=6.7km az=141.0*
*BJI **27** 10:41:25.0, 23°97S×179°48E, h572km, mB5.2/24, mb4.9/40*
ISC 27 10:41:24.8±0.3, 24°10S±0°05×179°51E±0°04, h561km±3km, h563km: pP-P, n405, σ1°30/480, mb5.0/77, 69C-42D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.62**	**156**	*e*P	**P**	**10 49 58.6**	**-1.8**
RAO				*e*S	S	10 44 08.5	-10
MSVF	**Nonsavu**	**6.48**	**348**	*e*P	**P**	**10 43 06.0**	**-2.5**
MSVF				*e*S	**S**	**10 44 31.9**	**-1.4**
MSVF	**Nonsavu**	**6.48**	**348**	*e*P	**P**	**10 43 06.0**	**-2.5**
MSVF				*e*S	**S**	**10 44 31.9**	**-1.4**
MSVF	**Nonsavu**	**6.48**	**348**	P	**P**	**10 43 06.0**	**-2.5**
	316nm,0.5s,SNR=27						
NIUE	**Niue**	**11.03**	**65**	P	**P**	**10 43 51.3**	**-2.1**
	baz=11,SNR=21						
NIUE				S	**S**	**10 45 56.5**	**+0.9**
	baz=11,SNR=5.5						
DZM	**Mont Dzumac**	**12.19**	**277**	P	**P**	**10 44 05.0**	**-0.5**
	2.0nm,0.3s,baz=86,slow=15,SNR=21						
DZM	**Mont Dzumac**	**12.19**	**277**	*e*P	**P**	**10 44 05.5**	**0.0**
	114nm,1.0s						
DZM	**Mont Dzumac**	**12.19**	**277**	*e*P	**P**	**10 44 03.9**	**-1.6**
DZM	**Mont Dzumac**	**12.19**	**277**	P	**P**	**10 44 05.0**	**-0.5**
OUZ	**Omahuta**	**12.21**	**203**	*e*P	**P**	**10 44 06.5**	**+1.2**
NOUC	**Port Laguerre**	**12.31**	**277**	*e*P	**P**	**10 44 05.1**	**-1.5**
AFI	**Afiamalu**	**13.06**	**41**	P	P	10 44 09.0	-5.5
	12nm,0.3s,baz=14,slow=4.6,SNR=33						
AFI				S	S	10 46 22.4	-12
	0.7nm,0.3s,baz=73,slow=19,SNR=2.5						
AFI	**Afiamalu**	**13.06**	**41**	*e*P	P	10 44 08.3	-6.2
AFI				S	S	10 46 22.4	-12
AFI				*e*S	S	10 46 27.5	-6.7
URZ	**Urewera**	**14.26**	**188**	P	P	10 44 21.9	-4.5
	11nm,0.3s,baz=7.1,slow=3.9,SNR=50						
URZ				S	**S**	**10 46 51.6**	**-4.2**
	9.3nm,0.3s,baz=198,slow=19,SNR=14						
URZ	**Urewera**	**14.26**	**188**	*e*P	P	10 44 21.1	-5.2
URZ				S	**S**	**10 46 51.6**	**-4.2**
SNZO	**South Karori**	**17.62**	**192**	*e*P	**P**	**10 44 57.2**	**-1.3**
	108nm,0.7s						
KHZ	**Kahutara**	**18.93**	**194**	*e*P	**P**	**10 45 08.7**	**-1.6**
	102nm,0.8s						
RAR	**Rarotonga**	**19.34**	**86**	P	**P**	**10 45 11.8**	**-2.5**
	2.2nm,0.3s,baz=214,slow=0.0,SNR=3.9						
RAR	**Rarotonga**	**19.34**	**86**	P	**P**	**10 45 11.8**	**-2.5**
RPZ	**Rata Peaks**	**20.76**	**198**	P	**P**	**10 45 25.5**	**-1.5**
	33nm,0.5s,baz=36,slow=8.7,SNR=20						
RPZ	**Rata Peaks**	**20.76**	**198**	*e*P	**P**	**10 45 26.1**	**-0.9**
	1μm,2.9s						
RPZ				*e*S	**S**	**10 48 43.7**	**+0.9**
WHZ	**Wether Hill Ro**	**23.67**	**200**	*e*P	**P**	**10 45 52.1**	**-0.8**
HNR	**Honiara**	**23.69**	**305**	P	**P**	**10 45 50.8**	**-2.7**
	197nm,0.7s,baz=137,slow=9.3,SNR=5.3						
HNR	**Honiara**	**23.69**	**305**	P	**P**	**10 45 50.8**	**-2.7**
ARMA	**Armidale**	**25.53**	**250**	*e*P	**P**	**10 46 10.2**	**+0.4**
	21nm,0.6s						
ARMA	**Armidale**	**25.53**	**250**	P	**P**	**10 46 11.0**	**+1.2**
	baz=26,SNR=23						
EIDS	**Eidsvold**	**25.83**	**261**	*e*P	**P**	**10 46 12.6**	**+0.2**
	36nm,0.6s						
EIDS				*e*S	**S**	**10 50 04.4**	**+1.4**
EIDS	**Eidsvold**	**25.83**	**261**	P	**P**	**10 46 12.5**	**+0.2**
	baz=26,SNR=27						
TARA	**Tarawa**	**26.10**	**345**	*e*P	**P**	**10 46 14.2**	**-0.6**
	62nm,0.6s						
MGCD	**Mangrove Creek**	**26.45**	**244**	P	**P**	**10 46 19.2**	**+1.5**
	baz=27,SNR=13						
RMQ	**Roma**	**27.87**	**259**	P	**P**	**10 46 31.4**	**+1.1**
	baz=28,SNR=38						
CNB	**Canberra Magne**	**28.36**	**240**	P	**P**	**10 46 35.8**	**+1.4**
	baz=29,SNR=12						
CNB				S	**S**	**10 50 47.2**	**+4.8**
	baz=29,SNR=4.9						
TBI	**Tubuai**	**28.39**	**95**	*e*P	**P**	**10 46 35.7**	**+0.9**
	55nm,0.8s						
TBI	**Tubuai**	**28.39**	**95**	*e*P	**P**	**10 46 35.7**	**+0.9**
CAN	**Canberra**	**28.65**	**240**	*e*P	**P**	**10 46 37.8**	**+0.8**
CAN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CAN	**Canberra**	**28.65**	**240**	*e*P	**P**	**10 46 37.8**	**+0.8**
	comp=Z,7.2nm,0.5s						
YNG	**Young**	**28.90**	**242**	P	**P**	**10 46 40.0**	**+0.9**
	baz=29,SNR=13						
MILA	**Mila**	**29.01**	**236**	P	**P**	**10 46 41.3**	**+1.2**
	baz=29,SNR=8.7						
PAE	**Paea**	**29.54**	**83**	*e*P	**P**	**10 46 45.0**	**+0.2**
	comp=Z,13nm,1.4s						
PAE	**Paea**	**29.54**	**83**	*e*P	**P**	**10 46 45.0**	**+0.2**
PAE	**Paea**	**29.54**	**83**	*e*P	**P**	**10 46 45.0**	**+0.2**
PPT2	**Papeete2**	**29.57**	**83**	*e*P	**P**	**10 46 45.5**	**+0.4**
	comp=Z,31nm,1.1s						
PPT	**Papeete**	**29.57**	**83**	P	**P**	**10 46 45.7**	**+0.6**
	comp=Z,18nm,0.6s,baz=79,slow=18,SNR=4.9						
PPT	**Papeete**	**29.57**	**83**	P	**P**	**10 46 45.7**	**+0.6**
TIAR	**Tiarei**	**29.79**	**83**	*e*P	**P**	**10 46 47.5**	**+0.5**
	comp=Z,77nm,1.0s						
TIAR	**Tiarei**	**29.79**	**83**	*e*P	**P**	**10 46 47.5**	**+0.5**
TVO	**Taravao**	**29.80**	**84**	*e*P	**P**	**10 46 47.4**	**+0.2**
	comp=Z,42nm,0.8s						
TVO	**Taravao**	**29.80**	**84**	*e*P	**P**	**10 46 47.4**	**+0.2**
TVO	**Taravao**	**29.80**	**84**	*e*P	**P**	**10 46 47.4**	**+0.2**
CMSA	**Cobar Meteorol**	**30.72**	**248**	P	**P**	**10 46 54.8**	**0.0**
	baz=31,SNR=43						
CTA	**Charters Tower**	**31.03**	**271**	P	**P**	**10 46 57.6**	**0.0**
	comp=Z,171nm,0.5s,baz=96,slow=12						
CTA	**Charters Tower**	**31.03**	**271**	P	**P**	**10 46 57.6**	**0.0**
CTAO	**Charters Tower**	**31.03**	**271**	*e*P	**P**	**10 46 57.8**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,155nm,0.7s						
CTAO	**Charters Tower**	**31.03**	**271**	*e*P	**P**	**10 46 57.8**	**+0.2**
	comp=Z,155nm,0.7s						
QLP	**Quilpie**	**31.91**	**258**	P	**P**	**10 47 05.1**	**0.0**
	baz=32,SNR=38						
PMOR	**Pomariorio Ree**	**31.96**	**80**	*e*P	**P**	**10 47 05.5**	**0.0**
	comp=Z,47nm,1.1s						
PMOR	**Pomariorio Ree**	**31.96**	**80**	*e*P	**P**	**10 47 05.5**	**0.0**
TOO	**Toolangi**	**31.96**	**237**	P	**P**	**10 47 06.1**	**+0.7**
	baz=32,SNR=21						
VAH	**Vaihoa**	**32.11**	**80**	*e*P	**P**	**10 47 06.4**	**-0.4**
VAH	**Vaihoa**	**32.11**	**80**	*e*P	**P**	**10 47 06.4**	**-0.4**
PMG	**Port Moresby**	**34.14**	**290**	*e*P	**P**	**10 47 22.5**	**-1.4**
	comp=Z,134nm,0.7s						
PMG	**Port Moresby**	**34.14**	**290**	P	**P**	**10 47 23.0**	**-0.9**
	comp=Z,180nm,0.9s,comp=Z,1μm						
STKA	**Stephens Creek**	**34.23**	**248**	P	**P**	**10 47 24.6**	**0.0**
	comp=Z,10nm,0.6s,baz=93,slow=11,SNR=44						
STKA	**Stephens Creek**	**34.23**	**248**	P	**P**	**10 47 24.6**	**0.0**
STKA	**Stephens Creek**	**34.23**	**248**	P	**P**	**10 47 24.8**	**+0.2**
	baz=34,SNR=29						
ARPS	**Mount Arapiles**	**34.63**	**240**	P	**P**	**10 47 28.1**	**+0.3**
	baz=35,SNR=13						
COEN	**Coen**	**35.70**	**280**	*e*P	**P**	**10 47 37.0**	**0.0**
	comp=Z,289nm,0.8s						
COEN	**Coen**	**35.70**	**280**	P	**P**	**10 47 37.2**	**+0.2**
	baz=36,SNR=46						
QIS	**Mount Isa**	**36.99**	**267**	P	**P**	**10 47 46.9**	**-0.7**
	baz=37,SNR=9.3						
PATS	**Pohnpei**	**37.06**	**323**	P	**P**	**10 47 47.9**	**-0.2**
	baz=37,SNR=4.4						
PATS				S	**S**	**10 52 53.5**	**-1.2**
	baz=37,SNR=3.3						
BBOO	**Buckleboo**	**38.95**	**247**	*e*P	**P**	**10 48 02.6**	**-0.7**
	comp=Z,4μm,2.3s						
BBOO	**Buckleboo**	**38.95**	**247**	P	**P**	**10 48 02.7**	**-0.6**
	baz=39,SNR=57						
AS31	**Alice Springs**	**41.56**	**261**	*e*P	**P**	**10 48 23.8**	**-0.4**
ASAR	**Alice Springs**	**41.56**	**261**	P	**P**	**10 48 23.6**	**-0.7**
	comp=Z,26nm,0.6s,baz=100,slow=7.0,SNR=377						
ASAR				PcP	**PcP**	**10 50 06.8**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=92,slow=4.7,SNR=6.6						
ASAR				ScP	**ScP**	**10 53 08.9**	**+3.7**
	comp=Z,1.3nm,0.7s,baz=90,slow=5.6,SNR=5.5						
ASAR				S	**S**	**10 53 58.0**	**-2.3**
	comp=Z,3.0nm,0.9s,baz=104,slow=16,SNR=8.3						
ASAR	**Alice Springs**	**41.56**	**261**	P	**P**	**10 48 23.6**	**-0.7**
ASAR				PcP	**PcP**	**10 50 06.8**	**-1.3**
ASAR				ScP	**ScP**	**10 53 08.9**	**+3.7**
ASAR				S	**S**	**10 53 58.0**	**-2.3**
WRAB	**Tennant Creek**	**41.94**	**267**	*e*P	**P**	**10 48 26.2**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**41.94**	**267**	*e*P	**P**	**10 48 26.2**	**-1.0**
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**41.94**	**267**	P	**P**	**10 48 26.0**	**-1.2**
	comp=Z,553nm,0.5s						
WRA	**Warramunga Arr**	**41.94**	**267**	P	**P**	**10 48 25.8**	**-1.5**
	comp=Z,63nm,0.6s,baz=103,slow=8.3,SNR=588						
WRA				PcP	**PcP**	**10 50 08.8**	**-0.7**
	comp=Z,5.4nm,0.9s,baz=90,slow=3.0,SNR=6.7						
WRA				ScP	**ScP**	**10 53 11.0**	**+4.2**
	comp=Z,5.7nm,0.8s,baz=97,slow=3.8,SNR=11						
WRA				S	**S**	**10 54 02.2**	**-3.7**
	comp=Z,2.4nm,0.8s,baz=103,slow=15,SNR=8.1						
WRA				PKiKP	**PKiKP**	**10 57 12.1**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=81,slow=0.3,SNR=5.5						
WRA	**Warramunga Arr**	**41.94**	**267**	P	**P**	**10 48 25.8**	**-1.5**
WRA				PcP	**PcP**	**10 50 08.8**	**-0.7**
WRA				ScP	**ScP**	**10 53 11.0**	**+4.2**
WRA				S	**S**	**10 54 02.2**	**-3.7**
WRA				PKiKP	**PKiKP**	**10 57 12.1**	**-1.6**
JAY	**Jayapura**	**43.18**	**294**	P	**P**	**10 48 36.3**	**-0.8**
	baz=43,SNR=12						
JAY	**Jayapura**	**43.18**	**294**	P	**P**	**10 48 36.4**	**-0.7**
	comp=Z,69nm,0.7s						
FORT	**Forrest**	**45.82**	**250**	*e*P	**P**	**10 48 56.1**	**-0.9**
	comp=Z,126nm,0.7s						
FORT	**Forrest**	**45.82**	**250**	P	**P**	**10 48 56.2**	**-0.8**
	baz=46,SNR=41						
KDU	**Kakadu**	**45.86**

MAJO Matsushiro 71.81 326 *e*P **P** 10 51 51.0 -0.1
comp=Z,36nm,0.8s
MAT Matsushiro 71.81 326 P **P** 10 51 50.9 -0.2
MAT *e*S S 11 00 17.2 -10
JNU Nakatsue 73.38 319 P **P** 10 51 59.9 -0.3
comp=Z,19nm,0.7s,baz=127,slow=3.7,SNR=12
JNU Nakatsue 73.38 319 P **P** 10 51 59.9 -0.3
ASAJ Asahikawa 75.84 334 P **P** 10 52 14.6 +0.8
comp=Z,16nm,0.8s,baz=154,slow=1.8,SNR=9.8
ASAJ Asahikawa 75.84 334 *e*P **P** 10 52 15.9 +2.2
comp=Z,8.6nm,0.8s
MAW Mawson 77.40 201 P **P** 10 52 22.8 +0.8
comp=Z,6.4nm,0.4s,baz=131,slow=6.7,SNR=14
MAW Mawson 77.40 201 P **P** 10 52 22.8 +0.8
MYKOM Kota Tinggi 77.66 278 P **P** 10 52 24.7 +0.3
KSRS Korea Array 78.11 320 P **P** 10 52 27.1 +0.8
comp=Z,15nm,0.7s,baz=134,slow=5.6,SNR=56
YSS Yuzh-Sakhalins 78.13 335⇓*e*P **P** 10 52 29.0 +2.9
YSS pmax pmax
comp=Z,20nm,0.9s
KSAR Wonju Array Be 78.13 320 P **P** 10 52 27.1 +0.7
KGM Kluang 78.24 278 P **P** 10 52 27.2 -0.3
PET Petropavlovsk 78.92 347 *e*P **P** 10 52 30.2 +0.1
PET pmax pmax
comp=Z,23nm,1.9s
PETK Petropavlovsk- 79.19 347 P **P** 10 52 31.9 +0.3
comp=Z,11nm,0.7s,baz=136,slow=7.5,SNR=14
PETK Petropavlovsk- 79.19 347 P **P** 10 52 32.0 +0.3
PETK Petropavlovsk- 79.19 347 P **P** 10 52 31.9 +0.3
FRIM Kepong 80.28 278 P **P** 10 52 37.8 -0.5
NJ2 Nanjing 80.45 311 *e*P **P** 10 52 39.8 +1.1
NJ2 pmax pmax
comp=Z,30nm,0.8s
USRK Ussuriysk Arra 80.69 327 P **P** 10 52 40.4 +0.7
comp=Z,20nm,0.9s,baz=142,slow=3.2,SNR=27
IPM Ipoh 81.35 279 P **P** 10 52 44.0 +0.2
KULM Kulim 82.03 279 P **P** 10 52 47.8 +0.5
MDJ Mudanjiang 82.18 327 P **P** 10 52 46.8 -0.5
MDJ pP **pP** 10 54 48.3 +1.0
MDJ sP **sP** 10 55 46.3 +2.1
MDJ S **S** 11 02 17.3 +1.0
MDJ pmax pmax
comp=Z,27nm,0.8s
MDJ pmax pmax
comp=Z,110nm,4.9s
MDJ Mudanjiang 82.18 327 *e*P **P** 10 52 48.5 +1.2
comp=Z,23nm,0.9s
HABR Khabarovsk 82.47 332 *c*P **P** 10 52 47.4 -1.2
HABR *e*S S 11 02 12.9 -6.1
HABR *e*SS **SS** **11 07 56.7 -0.9**
HABR MLR MLR
comp=Z,228nm,15.0s
PSI Prapat 82.55 276 P **P** 10 52 49.2 -0.9
baz=83,SNR=8.8
SYO Syowa Base 82.71 194⇑*e*P **P** 10 52 48.2 -1.4
WHN Wuhan 82.77 308⇑*i*P **P** 10 52 51.5 +0.9
WHN pmax pmax
comp=Z,73nm,0.9s
GSI Gunungsitoli 83.16 274 P **P** 10 52 53.9 +0.9
baz=83,SNR=4.1
MONP Monument Peak 83.30 50 ⇓P **P** 10 52 55.2 +1.7
baz=84
EDW2 Edwards Air Fo 83.36 47 ⇑P **P** 10 52 55.0 +1.5
baz=84
ISA Isabella 83.49 46 ⇓P **P** 10 52 55.7 +1.5
baz=84
SNY Shenyang 83.52 321 ⇓P **P** 10 52 54.5 +0.4
SNY pmax pmax
comp=Z,13nm,1.5s
PFO Pinyon Flat Ob 83.68 49 ⇑P **P** 10 52 56.6 +1.4
baz=84
CN2 Changchun 83.78 324 *e*P **P** 10 52 56.0 +0.7
LRMC Laurel Mountai 83.90 47 ⇑P **P** 10 52 57.6 +1.3
baz=84
BELC Belle Mtn. Jos 84.21 49 ⇑P **P** 10 52 59.5 +1.7
baz=84
MPMC Manual Prospec 84.37 47 ⇓P **P** 10 52 59.6 +0.9
baz=84
HEC Hector,Ludlow 84.45 48 ⇑P **P** 10 53 00.7 +1.8
baz=85
SNAA Sanae 84.47 179 *e*P **P** 10 52 58.4 -0.1
KLR Kul'dur 84.49 331 *e*P P 10 52 55.2 -3.5
YBH Yreka Blue Hor 84.53 40 P **P** 10 53 00.1 +1.0
comp=Z,1.8nm,0.7s,baz=66,slow=10,SNR=3.1
YBH Yreka Blue Hor 84.53 40 P **P** 10 53 00.1 +1.0
VNA3 Neumayer Olymp 84.70 177 *e*P **P** 10 52 59.8 +0.3
GMRC Granite Mounta 84.88 48 ⇓P **P** 10 53 02.7 +1.6
baz=85
TUQ Turquoise Moun 85.06 48 ⇓P **P** 10 53 03.5 +1.5
baz=85
VNA2 Neumayer--Watz 85.11 178 *e*P **P** 10 53 01.7 +0.2
NVAR Mina Array Bea 85.21 44 P **P** 10 53 03.1 +0.4
comp=Z,0.8nm,0.6s,baz=226,slow=7.5,SNR=7.5
NVAR Mina Array Bea 85.21 44 P **P** 10 53 03.1 +0.4
ENH Enshi 86.19 305 *e*P **P** 10 53 08.0 +0.6
comp=Z,45nm,1.2s
GYA Guiyang 86.46 301 P **P** 10 53 09.5 +0.6
GYA pP **pP** 10 55 12.0 +1.5
GYA sP **sP** 10 56 09.8 +2.8
GYA PP **PP** 10 56 43.3 +2.1
GYA SKS **SKSac** 11 02 39.0 -3.4
GYA S **S** 11 02 57.8 -1.0
GYA sS **sS** 11 06 37.0 +1.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.4s
BJI Beijing 86.87 317 P **P** 10 53 11.0 +0.8
BJI S **S** 11 02 59.5 -2.2
BJI pmax pmax
comp=Z,18nm,0.8s
319A Douglas 87.63 54 ⇑P **P** 10 53 16.7 +2.5
baz=88
U15A North Rim 88.07 49 ⇑P **P** 10 53 18.1 +1.7
baz=88
320A Kipp Ranch, An 88.17 54 ⇑P **P** 10 53 19.3 +2.5
baz=88
XAN Xi'an 88.51 308 P **P** 10 53 19.5 +1.3
XAN pmax pmax
comp=Z,12nm,0.9s
120A U Bar Ranch, L 88.69 53 ⇓P **P** 10 53 21.4 +2.2
baz=89
X18A Snowflake 88.73 51 ⇑P **P** 10 53 21.1 +1.7
baz=89
KMI Kunming 88.96 298 P **P** 10 53 21.5 +0.8
KMI pmax pmax
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 89.17 291 P **P** 10 53 22.8 +1.3
comp=Z,15nm,1.0s,baz=134,slow=3.1,SNR=55
CMAR Chiang Mai Arr 89.17 291 P **P** 10 53 22.8 +1.3
CHTO Chiang Mai 89.33 291 *e*P **P** 10 53 23.5 +1.2
CHTO pmax pmax
comp=Z,22nm,1.0s
CHTO Chiang Mai 89.33 291 *e*P **P** 10 53 23.5 +1.2
comp=Z,22nm,1.0s
SEY Seymchan 89.37 348⇓*e*P **P** 10 53 21.8 +0.4
Y20A Horse Springs, 89.55 52 ⇑P **P** 10 53 25.0 +1.7
baz=90
MFID Camas Ranch 89.61 41 ⇑P **P** 10 53 24.7 +1.6
baz=90
X20A Quemado 89.77 52 ⇑P **P** 10 53 26.5 +2.2
baz=90
O15A The Old Anders 89.99 45 ⇑P **P** 10 53 27.1 +2.0
baz=90
W20A Ramah 90.06 51 ⇑P **P** 10 53 27.5 +1.9
baz=90
Y21A Point of Rocks 90.11 53 ⇓P **P** 10 53 27.7 +1.9
baz=90
I12A Atlanta 90.24 41 ⇓P **P** 10 53 27.5 +1.3
baz=90
HHC Hu-ho-hao-te 90.24 315 *e*P P 10 53 22.8 -3.3
HHC pP pP 10 55 33.5 +4.7
HHC PP **PP** **10 57 13.3 +2.6**
HHC SKS **SKSac** **11 02 58.5 -5.4**
HHC S **SKKSac** **11 03 23.3 +3.0**
HHC SS **SS** **11 09 52.8 +2.4**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,320nm,4.8s
Z22A Elephant Butte 90.26 53 ⇓P **P** 10 53 27.5 +1.0
baz=90
324A Moseley Ranch, 90.50 56 ⇓P **P** 10 53 28.7 +1.1
baz=91
J13A Cove Ranch, Pi 90.60 42 ⇑P **P** 10 53 29.4 +1.7
baz=91
M15A Larsen Ranch, 90.63 44 ⇑P **P** 10 53 28.9 +0.9
baz=91
626A Big Bend Ranch 90.66 58 ⇓P **P** 10 53 29.4 +1.1
baz=91
MNTX Cornudas Mount 90.70 55 ⇓P **P** 10 53 29.8 +1.4
baz=91
224A Cornudas Mount 90.77 55 ⇑P **P** 10 53 30.9 +2.0
baz=91
CD2 Chengdu 90.81 304⇓*i*P **P** 10 53 27.5 -1.4
CD2 pP **pP** 10 55 32.8 +1.1
CD2 sP **sP** 10 56 28.8 +1.0
CD2 PP **PP** 10 57 17.5 +2.3
CD2 SKS **SKSac** 11 03 04.8 -2.6
CD2 S **S** 11 03 35.5 -2.8
CD2 sS **sS** 11 07 17.8 0.0
CD2 SS **SS** 11 10 01.8 +3.0
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,130nm,5.1s
325A Bean Ranch, Si 90.86 56 ⇓P **P** 10 53 30.4 +1.1
baz=91
TXAR Lajitas Array 90.92 58 P **P** 10 53 30.9 +1.4
comp=Z,1.4nm,0.7s,baz=214,slow=6.4,SNR=22
TXAR PKKPbc **PKKPbc** 11 10 51.5 +0.6
comp=Z,0.4nm,0.6s,baz=131,slow=4.1,SNR=5.0
TXAR Lajitas Array 90.92 58 P **P** 10 53 30.9 +1.4
TXAR PKKPbc **PKKPbc** 11 10 51.5 +0.6
526A Mary Lane Ranc 90.92 57 ⇓P **P** 10 53 30.8 +1.2
baz=91
N16A Rees Ranch, Co 90.98 45 ⇑P **P** 10 53 31.3 +1.6
baz=91
O17A Robinson Place 91.08 46 ⇓P **P** 10 53 31.9 +1.7
baz=91
627A Terlingua Ranc 91.19 58 ⇓P **P** 10 53 31.8 +1.0
baz=91
H13A Challis 91.19 41 ⇑P **P** 10 53 32.5 +2.1
baz=91
F12A Elk City 91.26 39 ⇑P **P** 10 53 32.0 +1.3
baz=91
U21A Nageezi 91.29 50 ⇓P **P** 10 53 32.1 +0.9
baz=91
N17A Moffit Pass 91.40 45 ⇑P **P** 10 53 32.8 +1.2
baz=92
628A Black Gap, Mar 91.59 58 ⇓P **P** 10 53 34.1 +1.5
baz=92
Y24A Capitan 91.70 53 ⇓P **P** 10 53 34.3 +1.2
baz=92
M17A Scullys Gap (B 91.78 45 ⇑P **P** 10 53 34.6 +1.2
baz=92
S21A Coal Bank Pass 91.80 49 ⇓P **P** 10 53 35.0 +1.3
baz=92
M18A Lyman 92.14 45 ⇑P **P** 10 53 36.5 +1.5
baz=92
R21A Cimarron 92.31 49 ⇑P **P** 10 53 37.2 +1.3
baz=92
ILAR Eielson Array 92.33 14 P **P** 10 53 33.7 -1.3
comp=Z,0.6nm,0.8s,baz=213,slow=5.7,SNR=7.8
ILAR Eielson Array 92.33 14 P **P** 10 53 33.7 -1.3
BILL Bilibino 92.39 355⇑*e*P **P** 10 53 35.8 +0.6
BILL pmax pmax
comp=Z,11nm,1.6s
BILL Bilibino 92.39 355 *e*P **P** 10 53 35.4 +0.2
comp=Z,2.5nm,0.8s
429A Davenport Ranc 92.87 58 ⇓P **P** 10 53 39.5 +1.0
baz=93
L19A Farson 92.94 45 ⇓P **P** 10 53 39.8 +1.1
baz=93
Q22A Crested Butte, 92.99 49 ⇑P **P** 10 53 40.4 +1.3
baz=93
J18A Kendall Valley 93.08 44 ⇑P **P** 10 53 40.1 +0.8
baz=93
LZH Lanzhou 93.14 308 ⇓P **P** 10 53 40.5 +0.8
LZH pP **pP** 10 55 46.0 +3.4
LZH PP **PP** 10 57 37.5 +4.2
LZH SKS **SKSac** 11 03 19.5 -0.8
LZH *e*S **S** 11 03 57.8 -0.9
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,180nm,6.5s
PDAR Pinedale Array 93.15 44 P **P** 10 53 39.5 -0.1
comp=Z,0.5nm,0.7s,baz=236,slow=4.2,SNR=4.7
PDAR Pinedale Array 93.15 44 P **P** 10 53 39.5 -0.1
631A Perdido Creek 93.37 59 ⇑P **P** 10 53 41.8 +1.2
baz=94
J19A Crowheart 93.72 44 ⇓P **P** 10 53 43.4 +1.3
baz=94
O22A Kremmling 93.85 48 ⇓P **P** 10 53 43.6 +0.7
baz=94
ULN Ulaanbaatar 96.59 320 *e*P **P** 10 53 55.2 +0.2
comp=Z,2.6nm,0.8s
SONM Songino Array 96.96 319 P **P** 10 53 55.8 -0.8
comp=Z,1.0nm,0.8s,baz=123,slow=3.7,SNR=8.6
SONM Songino Array 96.96 319 P **P** 10 53 55.8 -0.8
GTA Gaotai 97.48 310 *e*P **P** 10 54 00.3 +1.2
GTA pP **pP** 10 56 03.3 +0.8
GTA sP **sP** 10 56 58.0 -0.5
GTA pmax pmax
comp=Z,5.0nm,1.3s
YKA Yellowknife Ar 100.74 26 P **Pdif** 10 54 12.7 -0.1
comp=Z,0.1nm,0.5s,baz=122,slow=38,SNR=4.1
YKA PKKPbc **PKKPbc** 11 10 23.0 -2.8
comp=Z,0.3nm,0.5s,baz=34,slow=2.6,SNR=12
YKA Yellowknife Ar 100.74 26 P **Pdif** 10 54 12.7 -0.1
YKA PKKPbc **PKKPbc** 11 10 23.0 -2.8
ZALV Zalesovo Beam 111.82 321 PKiKP **PKiKP** 10 58 54.0 -2.0
comp=Z,1.3nm,0.6s,baz=118,slow=2.1,SNR=5.1
ZALV Zalesovo Beam 111.82 321 PKiKP 10 58 54.0
ZALV Zalesovo Beam 111.82 321 PKiKP **PKiKP** 10 58 54.0 -2.0
MKAR Makanchi Array 111.96 313 Pdiff **Pdif** 10 55 04.4 +1.2
comp=Z,0.6nm,0.6s,baz=106,slow=4.7,SNR=4.3
MKAR PKiKP **PKiKP** 10 58 55.8 -0.7
comp=Z,1.8nm,0.8s,baz=90,slow=0.8,SNR=8.8
MKAR SKP 11 01 41.5
comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=3.9
MKAR Makanchi Array 111.96 313 P **Pdif** 10 55 04.4 +1.2
MKAR *i* 10 58 55.8
MKAR Makanchi Array 111.96 313 Pdif **Pdif** 10 55 04.4 +1.2
MKAR PKiKP **PKiKP** 10 58 55.8 -0.7
MKAR SKP 11 01 41.5
KSH Kashi 115.01 304 *e*PKP **PKPdf** 10 59 03.8 +1.1
KSH PP PP 11 00 21.3 +8.3
KSH PKS **PKSdf** **11 02 39.8 +0.3**
KSH SKS **SKSdf** **11 05 25.0 +3.0**
KSH AMB AMB
comp=Z,63nm,3.7s
KURK Kurchatov 115.04 316⇓*i*PKIKP **PKPdf** 10 59 02.2 0.0
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 115.04 316 *e*PKPdf **PKPdf** 10 59 01.8 -0.4
TKM2 Tokmak 2 115.91 308 *e*PKIKP **PKPdf** 10 59 04.1 -0.3
TKM2 Tokmak 2 115.91 308 *e*PKPdf **PKPdf** 10 59 04.1 -0.3
AAK Ala-Archa 116.66 307 PKP **PKPdf** 10 59 05.6 -0.2
comp=Z,1.4nm,0.6s,baz=157,slow=6.3,SNR=5.7
AAK Ala-Archa 116.66 307⇑*i*PKIKP **PKPdf** 10 59 06.0 +0.2
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 116.66 307 PKP **PKPdf** 10 59 05.6 -0.2
KBL Kabul 119.53 297 *e*PKIKP **PKPdf** 10 59 12.2 +0.6
KBL Kabul 119.53 297 *e*PKPdf **PKPdf** 10 59 12.2 +0.6
KKAR Karatay Array 119.63 307 *e*PKIKP **PKPdf** 10 59 11.2 -0.1
KKAR Karatay Array 119.63 307 *e*PKPdf **PKPdf** 10 59 11.2 -0.1
BVAR Borovoye Array 120.29 319 PKP **PKPdf** 10 59 11.7 -0.6
comp=Z,5.2nm,0.7s,baz=84,slow=1.4,SNR=28
BVAR Borovoye Array 120.29 319 PKIKP **PKPdf** 10 59 11.7 -0.6
BVAR Borovoye Array 120.29 319 PKP **PKPdf** 10 59 11.7 -0.6
BRVK Borovoye 120.36 319⇑*i*PKIKP **PKPdf** 10 59 12.3 -0.1
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 122.02 207 PKP **PKPdf** 10 59 16.6 0.0
comp=Z,2.9nm,0.7s,baz=157,slow=1.0,SNR=6.4
BOSA Boshof 122.02 207 PKP **PKPdf** 10 59 16.6 0.0
SCHQ Schefferville 122.91 39 PKP **PKPdf** 10 59 15.8 -1.4
comp=Z,0.6nm,0.6s,baz=248,slow=5.4,SNR=4.3
SCHQ Schefferville 122.91 39 PKP **PKPdf** 10 59 15.8 -1.4
SPITS Spitsbergen Ar 125.29 356 PKP **PKPdf** 10 59 21.2 0.0
comp=Z,10nm,0.7s,baz=114,slow=4.0,SNR=6.4
SPITS Spitsbergen Ar 125.29 356 PKP **PKPdf** 10 59 21.2 0.0
ARU Arti 126.78 323 *i* PKIKP **PKPdf** 10 59 24.7 +0.2
ARU 11 01 28.9
ARU 11 05 35.6
ARU Arti 126.78 323 *e*PKPdf **PKPdf** 10 59 24.8 +0.2
ABKAR Akbulak array 127.03 314 *e*PKPdf **PKPdf** 10 59 25.2 -0.1
AKTO Aktyubinsk 128.13 316 PKP **PKPdf** 10 59 26.9 -0.4
comp=Z,4.4nm,0.8s,baz=107,slow=2.7,SNR=19
AKTO Aktyubinsk 128.13 316 PKIKP **PKPdf** 10 59 26.9 -0.4
AKTO Aktyubinsk 128.13 316 PKP **PKPdf** 10 59 26.9 -0.4
ARCES ARCESS Array B 131.99 348 PKhKP **PKPpre** 10 59 26.8
comp=Z,3.5nm,0.9s,baz=332,slow=14,SNR=8.0
ARCES PKP **PKPdf** 10 59 33.3 -0.8
comp=Z,5.3nm,0.8s,baz=48,slow=1.3,SNR=15
ARCES ARCESS Array B 131.99 348 PKPpre PKPpre 10 59 26.8
ARCES PKP **PKPdf** 10 59 33.3 -0.8
FINES FINESS Array B 138.49 341 PKhKP PKPpre 10 59 39.0
comp=Z,2.0nm,0.7s,baz=39,slow=3.7,SNR=7.5
FINES PKP **PKPdf** 10 59 45.9 -0.5
comp=Z,3.6nm,0.6s,baz=79,slow=3.1,SNR=14
FINES SKPbc **SKiKP** 11 02 30.6 -1.2
comp=Z,12nm,0.8s,baz=27,slow=3.4,SNR=17
FINES FINESS Array B 138.49 341 PKPpre PKPpre 10 59 39.0
FINES PKP **PKPdf** 10 59 45.9 -0.5
FINES SKPbc **SKiKP** 11 02 30.6 -1.2
OBN Obninsk 138.71 328 *e*PKIKP **PKPdf** 10 59 46.9 0.0
OBN *e*SS SS 11 20 16.4 0.0
OBN pmax pmax
comp=Z,6.0nm,1.1s
ZEI Tsey 139.08 308 *i* PKIKP **PKPdf** 10 59 50.6 +2.2
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 139.65 310 *e*PKIKP **PKPdf** 10 59 50.3 +1.1
KIV *e* 11 02 51.7
KIV pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra142.21 351 PKP **PKPdf** 10 59 49.3 -3.9
comp=Z,15nm,0.9s,baz=18,slow=3.0
NOA NORSAR Array B142.21 351 PKhKP PKPpre 10 59 49.4
comp=Z,8.3nm,0.8s,baz=30,slow=2.6,SNR=20
NOA SKPbc **SKiKP** 11 02 40.9 +1.3
comp=Z,0.8nm,0.9s,baz=14,slow=4.1,SNR=3.5
NOA NORSAR Array B142.21 351 PKPpre PKPpre 10 59 49.4
NOA SKPbc **SKiKP** 11 02 40.9 +1.3
HFS Hagfors 142.65 348 PKhKP PKPpre 10 59 50.7
comp=Z,23nm,0.5s,baz=79,slow=3.1,SNR=123
HFS Hagfors 142.65 348 PKPpre PKPpre 10 59 50.7
MALT Malatya 144.10 303⇑PKIKP **PKPdf** 10 59 58.4 +1.1
MALT Malatya 144.10 303⇑*i*P **PKPdf** 10 59 58.4 +1.1
AKASG Malin Array Be 144.89 327 PKhKP PKPpre 10 59 53.9
comp=Z,0.5nm,0.3s,baz=45,slow=4.3,SNR=4.1
AKASG PKP **PKPdf** 10 59 57.7 -0.4
comp=Z,21nm,0.7s,baz=43,slow=4.0,SNR=42
AKASG SKPbc **SKiKP** 11 02 47.4 +2.0
comp=Z,7.8nm,0.6s,baz=47,slow=2.7,SNR=14
AKASG Malin Array Be 144.89 327 PKHKP PKPpre 10 59 53.9
AKASG 10 59 57.7
AKASG Malin Array Be 144.89 327 PKPpre PKPpre 10 59 53.9
AKASG PKP **PKPdf** 10 59 57.7 -0.4
AKASG SKPbc **SKiKP** 11 02 47.4 +2.0
AK01 Malin Array Si 144.91 327 *e*PKIKP **PKPdf** 10 59 58.4 +0.3
KIEV Kiev 144.91 327 *e*PKIKP **PKPdf** 10 59 58.2 +0.1
KIEV Kiev 144.91 327 *e*PKPdf **PKPdf** 10 59 58.2 +0.1
AK02 Malin Array Si 144.93 327 *e*PKPbc PKPbc 10 59 58.5 -0.3
SUW Suwalki 145.26 335 *e*PKP **PKPbc** **10 59 59.8 0.0**
SUW Suwalki 145.26 335 *e*PKP2 **PKPbc** **11 00 00.1 +0.4**
SUW Suwalki 145.26 335 *e*PKPbc **PKPbc** **11 00 00.1 +0.4**
SUW Suwalki 145.26 335 *e*PKP **PKPbc** **10 59 59.7 0.0**
ASF Jabal al Asfar 146.19 292 PKPbc **PKPbc** **11 00 04.3 +1.1**
comp=Z,19nm,0.8s,baz=351,slow=2.3,SNR=19
ASF Jabal al Asfar 146.19 292 PKPbc **PKPbc** **11 00 04.3 +1.1**
BR131 Keskin Array S 147.34 307 *e*PKPdf **PKPdf** **11 00 03.0 +0.2**
BR131 *e*PKPbc **PKPbc** **11 00 06.2 +0.1**
BR131 *e*PKPab **PKPab** **11 00 10.4 +0.4**
BRTR Keskin Array B 147.34 307 PKPbc **PKPbc** **11 00 05.8 -0.3**
comp=Z,19nm,0.6s,baz=129,slow=2.1,SNR=39
BRTR Keskin Array B 147.34 307 PKPbc **PKPbc** **11 00 05.8 -0.3**
MMAI Mount Meron Ar 147.37 294 PKPbc **PKPbc** **11 00 07.1 +0.8**
comp=Z,29nm,0.7s,baz=60,slow=3.8,SNR=20
MMAI Mount Meron Ar 147.37 294 PKPbc **PKPbc** **11 00 07.1 +0.8**
BEL Belsk 147.86 335 *e*PKP **PKPbc** **11 00 07.7 +0.8**
BEL Belsk 147.86 335 *e*PKP **PKPbc** **11 00 07.6 +0.8**
LVV L'vov 147.98 330 *e*PKHKP **PKPbc** **11 00 07.0 -0.2**
TLCR 148.28 319 ⇓PKP2 **PKPbc** **11 00 09.0 +0.9**
TLCR 148.28 319⇓*i*P **PKPbc** **11 00 09.0 +0.9**
CFR Carcaliu 148.69 319⇑PKP2 **PKPbc** **11 00 09.9 +0.8**
CFR Carcaliu 148.69 319⇑*i*P **PKPbc** **11 00 09.9 +0.8**
KWP Kalwaria Pacla 148.72 330 ⇓PKP2 **PKPbc** **11 00 10.0 +0.9**
KWP Kalwaria Pacla 148.72 330⇓*i*P **PKPbc** **11 00 10.0 +0.9**
EKA Eskdalemuir Ar 148.74 3 PKPbc **PKPbc** **11 00 08.6 -0.4**
comp=Z,3.9nm,0.6s,baz=355,slow=3.8,SNR=10
EKA Eskdalemuir Ar 148.74 3 PKPbc **PKPbc** **11 00 08.6 -0.4**
TESR 148.79 323⇑*i*P **PKPbc** **11 00 10.0 +0.6**
BURAR Bucovina Array 148.88 325⇑*i*P **PKPbc** **11 00 10.9 +1.2**
TIRR Tirgusor 148.91 318⇑*i*P **PKPbc** **11 00 10.0 +0.4**
BSEG Bad Segeberg 149.12 348 *e*PKPbc **PKPbc** **11 00 10.4 +0.6**
BSEG *e*PKPab **PKPab** **11 00 17.2 +0.7**
VRI Vrincioaia 149.13 321⇑*i*P **PKPbc** **11 00 10.9 +0.7**
PLOR Plostina 149.18 322⇑*i*P **PKPbc** **11 00 10.6 +0.2**
KOLS Kolonicke sedl 149.42 330 *e*PKP2 **PKPbc** **11 00 12.2 +1.4**
KOLS Kolonicke sedl 149.42 330 *e*PKP **PKPbc** **11 00 12.2 +1.4**
OJC Ojcow 149.52 334 *e*PKP **PKPbc** **11 00 11.2 +0.2**
UZH Uzhgorod 149.63 329 *e*PKHKP **PKPbc** **11 00 11.8 +0.5**
UZH *e* 11 00 19.0
MLR Muntele Rosu 149.79 322 PKPbc **PKPbc** **11 00 11.7 -0.2**
comp=Z,1.6nm,0.6s,baz=344,slow=4.8,SNR=12
MLR Muntele Rosu 149.79 322 PKPbc **PKPbc** **11 00 11.7 -0.2**
MLR Muntele Rosu 149.79 322⇑*i*P **PKPbc** **11 00 12.4 +0.5**
CRVS Cervenica-Dubn 149.81 331 *e*PKP **PKPbc** **11 00 12.5 +0.8**
DOPR Dopca 149.82 323⇑*i*P **PKPbc** **11 00 12.9 +1.0**
TRPA Tarpa 149.87 329⇑*i*P **PKPbc** **11 00 12.4 +0.6**
SECR 149.99 321⇑*i*P **PKPbc** **11 00 12.0 -0.3**
ISP Isparta 150.25 305 *e*PKIKP **PKPdf** **11 00 07.4 0.0**
ISP *e* 11 00 12.7
ISP *e* 11 00 22.0
ISP Isparta 150.25 305 *e*PKPdf **PKPdf** **11 00 07.4 0.0**
ISP *e*PKPbc **PKPbc** **11 00 12.7 -0.6**
ISP *e*PKPab **PKPab** **11 00 22.0 0.0**
ISP Isparta 150.25 305⇓*i*P **PKPbc** **11 00 12.8 -0.4**
KSP Ksiaz 150.31 338 *e*PKPdf **PKPbc** **11 00 13.9 +1.0**
KSP Ksiaz 150.31 338⇓*i*PKIKP **PKPbc** **11 00 13.7 +0.9**
KSP Ksiaz 150.31 338 *e*PKPdf **PKPbc** **11 00 13.8 +1.0**
VOIR 150.33 322⇑PKIKP **PKPbc** **11 00 13.6 +0.5**
VOIR 150.33 322⇑*i*P **PKPbc** **11 00 13.6 +0.5**
OKC Ostrava-Krasne 150.47 335 *e*PKIKP **PKPbc** **11 00 14.0 +0.8**
OKC Ostrava-Krasne 150.47 335⇑*e*PKP **PKPbc** **11 00 14.0 +0.8**
NRDL Niedersach Rie 150.52 347 *e*PKPbc **PKPbc** **11 00 13.5 +0.4**
ARR Arges 150.61 322⇑*i*P **PKPbc** **11 00 15.5 +1.7**
UPC Upice 150.69 338 *e*PKIKP **PKPbc** **11 00 14.5 +0.8**
UPC *e* 11 00 24.4
UPC Upice 150.69 338⇑*e*PKP **PKPbc** **11 00 14.5 +0.8**
UPC *e*PKPab **PKPab** **11 00 24.4 +1.2**
DRGR 150.71 326⇑PKIKP **PKPbc** **11 00 12.9 -1.1**
DRGR 150.71 326⇑*i*P **PKPbc** **11 00 12.9 -1.1**
DPC Dobruska-Polom 150.72 338 *i* PKIKP **PKPbc** **11 00 14.8 +1.0**
DPC *e* 11 00 24.4
DPC Dobruska-Polom 150.72 338⇑*i*PKP **PKPbc** **11 00 14.8 +1.0**
DPC *e*PKPab **PKPab** **11 00 24.4 +1.0**
MORC Moravsky Berou 150.75 336⇑PKIKP **PKPbc** **11 00 14.7 +0.8**
MORC Moravsky Berou 150.75 336⇑*i*P **PKPbc** **11 00 14.7 +0.8**
KRLC Kraliky 150.78 337⇑*e*PKP **PKPbc** **11 00 14.5 +0.5**
CLL Collm 150.91 342⇓*i*PKIKP **PKPbc** **11 00 14.7 +0.6**
CLL pmax pmax
comp=Z,52nm,0.7s
CLL Collm 150.91 342 *e*PKPbc **PKPbc** **11 00 14.9 +0.8**
CLL Collm 150.91 342⇓*i*PKPbc **PKPbc** **11 00 14.7 +0.6**
comp=Z,52nm,0.7s
CLL *i* 11 00 17.4
BRG Berggiesshubel 151.03 341 *i* PKP **PKPbc** **11 00 15.1 +0.7**
comp=Z,30nm,0.6s
BRG *e* 11 00 25.3
comp=Z,11nm,0.9s
BRG *e*pPKP **pPKPdf** **11 02 21.5 +2.1**
comp=Z,8.7nm,1.4s
BRG Berggiesshubel 151.03 341 *i* PKIKP **PKPbc** **11 00 15.1 +0.7**
BRG *e* 11 00 25.3
BRG *e* 11 02 21.5
BRG pmax pmax
comp=Z,30nm,0.6s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG Berggiesshubel 151.03 341 *e*PKPbc **PKPbc** **11 00 15.3 +0.9**
CLZ Clausthal 151.08 346 *e*PKIKP **PKPbc** **11 00 15.3 +0.7**
CLZ Clausthal 151.08 346 *e*PKPbc **PKPbc** **11 00 15.3 +0.7**
PSZ Piszkesteto 151.24 331⇑PKIKP **PKPbc** **11 00 15.2 +0.1**
PSZ Piszkesteto 151.24 331⇑*i*P **PKPbc** **11 00 15.2 +0.1**

VYHS	**Vyhne**	**151.26**	**333**	*e*PKIKP	**PKPbc**	**11 00 15.1**	**0.0**
VYHS				*e*		11 00 26.5	
VYHS	**Vyhne**	**151.26**	**333**	*e*PKP	**PKPbc**	**11 00 15.1**	**0.0**
VYHS				*e*		11 00 26.5	
VRAC	**Vranov**	**151.49**	**336**	PKPbc	**PKPbc**	**11 00 15.0**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=245,slow=4.3,SNR=3.7						
VRAC	**Vranov**	**151.49**	**336**	PKPbc	**PKPbc**	**11 00 15.0**	**-0.6**
VRAC	**Vranov**	**151.49**	**336** ⇑	*i*P	**PKPbc**	**11 00 16.3**	**+0.7**
PRU	**Pruhonice**	**151.62**	**339**	*e*PKIKP	**PKPbc**	**11 00 15.8**	**0.0**
PRU				*e*		11 00 28.1	
PRU	**Pruhonice**	**151.62**	**339** ⇑	*e*PKP	**PKPbc**	**11 00 15.8**	**0.0**
PRU				*e*PKPAB	**PKPab**	**11 00 28.1**	**+0.9**
TANN	**Tannenbergstha**	**151.87**	**342**	*e*PKPbc	**PKPbc**	**11 00 17.1**	**+0.7**
TANN				*e*PKPab	**PKPab**	**11 00 29.2**	**+0.9**
MOX	**Moxa**	**151.89**	**344**	*e*PKIKP	**PKPbc**	**11 00 16.9**	**+0.5**
MOX	**Moxa**	**151.89**	**344**	*e*PKPbc	**PKPbc**	**11 00 16.9**	**+0.5**
NKC	**Novy Kostel**	**152.03**	**342**	*e*PKIKP	**PKPbc**	**11 00 17.1**	**+0.3**
NKC				*e*		11 00 30.1	
NKC	**Novy Kostel**	**152.03**	**342** ⇑	*e*PKP	**PKPbc**	**11 00 17.1**	**+0.3**
NKC				*e*PKPAB	**PKPab**	**11 00 30.1**	**+1.2**
BZS	**Buzias**	**152.06**	**326** ⇓	PKIKP	**PKPbc**	**11 00 16.8**	**-0.1**
BZS	**Buzias**	**152.06**	**326** ⇓	*i*P	**PKPbc**	**11 00 16.8**	**-0.1**
ROTZ	**Rotzenmuhle**	**152.52**	**342**	*e*PKPbc	**PKPbc**	**11 00 18.7**	**+0.9**
KHC	**Kasperske Hory**	**152.68**	**340**	*i*PKIKP	**PKPdf**	**11 00 10.0**	**-0.6**
KHC				*e*		11 00 18.6	
KHC				*e*		11 00 32.5	
KHC	**Kasperske Hory**	**152.68**	**340**	*i*PKPDF	**PKPdf**	**11 00 10.0**	**-0.6**
KHC				⇑*e*PKP	**PKiKP**	**11 00 18.6**	**+0.3**
KHC				*e*PKPAB	**PKPab**	**11 00 32.5**	**+0.8**
GEC2	**GERESS Array S**	**152.89**	**339**	*e*PKIKP	**PKPbc**	**11 00 18.7**	**-0.1**
GEC2	**GERESS Array S**	**152.89**	**339**	*e*PKPbc	**PKPbc**	**11 00 18.7**	**-0.1**
GERES	**GERESS Array B**	**152.89**	**339**	PKP	**PKPdf**	**11 00 11.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=343,slow=2.8,SNR=4.6						
GERES				PKPbc	**PKPbc**	**11 00 18.0**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=29,slow=2.2,SNR=17						
GERES				PKPab	**PKPab**	**11 00 33.1**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=18,slow=4.8,SNR=6.0						
GERES	**GERESS Array B**	**152.89**	**339**	PKP	**PKPdf**	**11 00 11.4**	**+0.4**
GERES				PKPbc	**PKPbc**	**11 00 17.9**	**-0.8**
GERES				PKPab	**PKPab**	**11 00 33.1**	**+0.4**
CONA	**Conrad Observa**	**152.90**	**335** ⇑	*i*P	**PKPbc**	**11 00 15.9**	**-2.9**
CONA	**Conrad Observa**	**152.90**	**335** ⇑	*i*PKPbc	**PKPbc**	**11 00 15.9**	**-2.9**
	comp=Z,10.0nm,1.1s						
PKSM	**Moragy**	**153.09**	**330** ⇑	PKIKP	**PKPbc**	**11 00 19.1**	**0.0**
PKSM	**Moragy**	**153.09**	**330** ⇑	*i*P	**PKPbc**	**11 00 19.1**	**0.0**
VTS	**Vitosha**	**153.09**	**319** ⇓	PKIKP	**PKPbc**	**11 00 19.8**	**+0.3**
VTS	**Vitosha**	**153.09**	**319** ⇓	*i*P	**PKPbc**	**11 00 19.8**	**+0.3**
FETA	**Feichten**	**155.43**	**341** ⇑	*i*P	**PKPdf**	**11 00 14.9**	**+0.3**
FETA	**Feichten**	**155.43**	**341** ⇑	*i*PKPdf	**PKPdf**	**11 00 14.9**	**+0.3**
	comp=Z,8.1nm,1.0s						
DBIC	**Dimbokro**	**162.17**	**166**	PKP	**PKPdf**	**11 00 22.9**	**-0.4**
	comp=Z,5.4nm,1.1s,baz=180,slow=2.0,SNR=3.7						
DBIC	**Dimbokro**	**162.17**	**166**	PKP	**PKPdf**	**11 00 22.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**168.91**	**191**	PKP	**PKPdf**	**11 00 27.8**	**-0.7**
	comp=Z,3.3nm,1.1s,baz=228,slow=1.7,SNR=9.1						
TORD				PKPab	**PKPab**	**11 01 43.3**	**0.0**
	comp=Z,3.9nm,0.7s,baz=168,slow=4.0,SNR=26						
TORD	**Torodi Ar. Bea**	**168.91**	**191**	PKP	**PKPdf**	**11 00 27.9**	**-0.7**
TORD				PKPab	**PKPab**	**11 01 43.3**	**0.0**

MEX 27 10:45:36.1±0.5, 17°38N×100°85W, h22km±23km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ZIIG	**Zihuatanejo**	**0.63**	**292**	*i* P			Pb	10 45 46.5	-2.0
ZIIG				*i* S			Sb	10 45 54.9	-1.9
CAIG	**El Cayaco**	**0.65**	**120**	*i* P			Pb	10 45 46.1	-2.6
CAIG				*i* S			Sb	10 45 55.0	-2.3
ARIG	**Puente Sto Nin**	**1.02**	**28**	*e*P			Pn	10 45 51.6	-3.5
ARIG				*i* S			Sb	10 46 04.8	-3.4
MEIG	**Mezcala**	**1.30**	**65**	*i* P			Pn	10 45 55.5	-3.6
MEIG				*i* S			Sn	10 46 12.1	-3.7
YAIG	**Yautepec**	**2.25**	**49**	*i* P			Pn	10 46 10.4	-1.8
YAIG				*i* S			Sn	10 46 36.2	-3.3

MEX 27 10:55:40.7±0.4, 17°35N×100°83W, h10km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CAIG	**El Cayaco**	**0.61**	**119**	*e*P			Pg	10 55 51.5	-1.2
CAIG				*i* S			Sg	10 55 59.2	-1.5
ZIIG	**Zihuatanejo**	**0.66**	**293**	*e*P			Pg	10 55 52.0	-1.4
ZIIG				*i* S			Sg	10 56 00.9	-1.2
ARIG	**Puente Sto Nin**	**1.04**	**26**	*e*P			Pg	10 55 57.4	-3.4
ARIG				*i* S			Sg	10 56 10.6	-3.7
MEIG	**Mezcala**	**1.29**	**63**	*e*P			Pn	10 56 01.7	-3.3
MEIG				*i* S			Sb	10 56 18.0	-4.0
YAIG	**Yautepec**	**2.26**	**48**	*e*P			Pn	10 56 15.0	-3.3
YAIG				*i* S			Sn	10 56 41.0	-5.3

*CSEM **27** 10:57:57.8, 38.07N×21.88E, h6km±1km, **ML1.7**/3, After THE*
THE 27 10:57:57.8, 38.07N×21.88E, h6km±1km, ML1.7/3, Error ellipse: s-maj=1.2km s-min=0.3km az=342.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
LAKA	**Lakka**	**0.19**	**25**	P			Pg	10 58 01.7	0.0
LAKA				S			Sg	10 58 04.7	+0.3
LAKA	**Lakka**	**0.19**	**25**	P			Pg	10 58 01.7	0.0
LAKA				S			Sg	10 58 04.7	+0.3
RLS	**Riolos of Patr**	**0.32**	**269**	P			Pg	10 58 03.9	-0.2
RLS				S			Sg	10 58 09.1	+0.7
RLS	**Riolos of Patr**	**0.32**	**269**	P			Pg	10 58 03.9	-0.2
RLS				S			Sg	10 58 09.1	+0.7
TRIZ	**Trizonia**	**0.34**	**27**	P			Pg	10 58 04.4	0.0
TRIZ				S			Sg	10 58 09.2	+0.4
TRIZ	**Trizonia**	**0.34**	**27**	P			Pg	10 58 04.4	0.0
TRIZ				S			Sg	10 58 09.2	+0.4
EFP	**Efpalio**	**0.36**	**4**	P			Pg	10 58 05.0	+0.2
EFP				S			Sg	10 58 09.8	+0.2
EFP	**Efpalio**	**0.36**	**4**	P			Pg	10 58 05.0	+0.2
EFP				S			Sg	10 58 09.8	+0.2
KALE	**Kalithea**	**0.39**	**33**	P			Pg	10 58 05.4	0.0
KALE				S			Sg	10 58 11.0	+0.4
KALE	**Kalithea**	**0.39**	**33**	P			Pg	10 58 05.4	0.0
KALE				S			Sg	10 58 11.0	+0.4
GUR	**Goura**	**0.39**	**109**	P			Pg	10 58 05.2	-0.4
GUR				S			Sg	10 58 10.9	+0.1
GUR	**Goura**	**0.39**	**109**	P			Pg	10 58 05.2	-0.4
GUR				S			Sg	10 58 10.9	+0.1
AMT	**Artemida-Makis**	**0.55**	**194**	P			Pg	10 58 08.5	0.0
AMT	**Artemida-Makis**	**0.55**	**194**	P			Pg	10 58 08.5	0.0
DSF	**Desfina**	**0.62**	**56**	P			Pg	10 58 09.4	-0.4
DSF				S			Sg	10 58 18.5	+0.6
DSF	**Desfina**	**0.62**	**56**	P			Pg	10 58 09.4	-0.4
DSF				S			Sg	10 58 18.5	+0.6
LTK	**Loutraki**	**0.86**	**93**	P			Pg	10 58 13.9	-0.5
LTK				S			Sb	10 58 26.5	-0.5
LTK	**Loutraki**	**0.86**	**93**	P			Pg	10 58 13.9	-0.5
LTK				S			Sb	10 58 26.5	-0.5
VLS	**Valsamata**	**1.02**	**277**	P			Pg	10 58 16.6	-0.8
VLS				S			Sb	10 58 31.7	+0.1
VLS	**Valsamata**	**1.02**	**277**	P			Pg	10 58 16.6	-0.8
VLS				S			Sb	10 58 31.7	+0.1
DID	**Didima**	**1.22**	**117**	P			Pg	10 58 20.9	-0.3
DID				S			Sn	10 58 37.7	-0.4
DID	**Didima**	**1.22**	**117**	P			Pg	10 58 20.9	-0.3
DID				S			Sn	10 58 37.7	-0.4

MEX 27 11:11:49.7±0.4, 17°34N×100°85W, h16km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CAIG	**El Cayaco**	**0.63**	**117**	*e*P			Pg	11 12 00.2	-1.9
CAIG				*e*S			Sg	11 12 07.6	-2.9
ZIIG	**Zihuatanejo**	**0.64**	**295**	*e*P			Pg	11 12 00.3	-2.1
ZIIG				*i* S			Sg	11 12 08.3	-2.6
ARIG	**Puente Sto Nin**	**1.06**	**27**	*e*P			Pb	11 12 05.7	-4.0
ARIG				*i* S			Sb	11 12 18.7	-4.7
MEIG	**Mezcala**	**1.31**	**63**	*e*P			Pn	11 12 10.3	-3.3
MEIG				*i* S			Sn	11 12 25.3	-5.6
YAIG	**Yautepec**	**2.28**	**48**	*i* P			Pn	11 12 24.0	-2.9
YAIG				*i* S			Sn	11 12 51.1	-3.7

*OTT **27** 12:03:43.5±0.2, 62.04N×79.63W, h4km, MN3.7/32, 99km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.*
*IDC **27** 12:03:43.0±0.8, 61.96N×79.58W, h0km, mb3.4/4, mb1 3.8/8, mb1mx3.5/32, mbtmp3.6/8, ML3.0/4, Error ellipse: s-maj=13.7km s-min=9.1km az=12.0*
ISC 27 12:03:40.6±0.6, 62.01N±0.04×79.58W±0.04, h10km, n50, σ2s28/66, mb3.4/4, Hudson Strait region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
IVKQ	**Ivujivik**	**0.88**	**61**	PG			**Pn**	**12 04 00.2**	**+1.2**
IVKQ				SG			**Sb**	**12 04 11.4**	**+1.6**
IVKQ				Trac				12 04 12.9	
	comp=Z,351nm,0.2s								
AKVQ	**Akulivik**	**1.38**	**150**	PG			**Pg**	**12 04 09.9**	**+3.0**
AKVQ				SG			**Sg**	**12 04 27.6**	**+2.8**
AKVQ				Trac				12 04 31.1	
	comp=Z,171nm,0.1s								
FRB	**Frobisher Bay**	**5.34**	**66**	Pn			**Pn**	**12 05 03.1**	**+2.9**
	0.5nm,0.3s,baz=252,slow=15,SNR=13								
FRB				Sn			**Sn**	**12 05 58.5**	**-3.2**
	2.5nm,0.3s,baz=274,slow=20,SNR=4.8								
FRB				Lg			Lg	12 06 23.6	
	12nm,0.3s,baz=344,slow=22,SNR=12								
FRB	**Frobisher Bay**	**5.34**	**66**	PN			**Pn**	**12 05 02.4**	**+2.2**
FRB				PG			**Pb**	**12 05 11.6**	**-2.2**
FRB				SN			**Sn**	**12 05 58.5**	**-3.2**
FRB				LG			Lg	12 06 23.6	
FRB				Trac				12 06 29.4	
	comp=Z,60nm,0.7s								
SEDN	**First Sedna Si**	**5.51**	**288**	PN			**Pn**	**12 05 05.1**	**+2.6**
QILN	**Qililugaq Expl**	**5.52**	**331**	PN			**Pn**	**12 05 05.0**	**+2.3**
QILN				SN			**Sn**	**12 06 04.1**	**-1.9**
QILN				LG			Lg	12 06 31.6	
QILN				Trac				12 06 38.8	
	comp=Z,29nm,0.2s								
WAGN	**Wager Bay**	**5.83**	**316**	PN			**Pn**	**12 05 09.2**	**+2.3**
WAGN				SN			**Sn**	**12 06 14.2**	**+0.5**
WAGN				LG			Lg	12 06 42.0	
WAGN				Trac				12 06 49.8	
	comp=Z,46nm,0.2s								
NUNN	**Nunuq Camp, NU**	**6.05**	**307**	PN			**Pn**	**12 05 12.3**	**+2.3**
NUNN				SN			**Sn**	**12 06 17.9**	**-1.4**
NUNN				LG			Lg	12 06 50.7	
NUNN				Trac				12 06 52.8	
	comp=Z,30nm,0.2s								
SRLN	**Sarcpa Lake, N**	**6.76**	**348**	PN			**Pn**	**12 05 22.4**	**+2.7**
SRLN				SN			**Sn**	**12 06 35.4**	**-1.1**
SRLN				LG			Lg	12 07 09.5	
SRLN				Trac				12 07 12.9	
	comp=Z,75nm,0.5s								
KUQ	**Kuujjuuaa**	**6.82**	**120**	PN			**Pn**	**12 05 22.2**	**+1.7**
KUQ				SN			**Sn**	**12 06 36.5**	**-1.6**
KUQ				LG			Lg	12 07 14.2	
KUQ				Trac				12 07 20.5	
	comp=Z,38nm,0.4s								
ARVN	**Arviat, NU**	**6.98**	**269**	PN			**Pn**	**12 05 22.5**	**-0.3**
ARVN				SN			**Sn**	**12 06 40.0**	**-2.1**
ARVN				LG			Lg	12 07 17.9	
ARVN				Trac				12 07 24.6	
	comp=Z,60nm,0.7s								
BULN	**Bullion Camp,**	**7.36**	**313**	PN			**Pn**	**12 05 30.1**	**+2.1**
BULN				SN			**Sn**	**12 06 48.7**	**-2.8**
BULN				LG			Lg	12 07 28.8	
BULN				Trac				12 07 38.1	
	comp=Z,25nm,0.3s								
ILON	**Igloolik, Nuna**	**7.45**	**354**	PN			**Pn**	**12 05 30.8**	**+1.6**
ILON				SN			**Sn**	**12 06 50.8**	**-2.8**
ILON				LG			Lg	12 07 33.1	
ILON				Trac				12 07 40.5	
	comp=Z,27nm,0.2s								
KUGN	**Kugaaruk Camp,**	**7.54**	**329**	PN			**Pn**	**12 05 31.5**	**+1.2**
KUGN				SN			**Sn**	**12 06 52.4**	**-3.2**
KUGN				LG			Lg	12 07 34.0	
KUGN				Trac				12 07 41.3	
	comp=Z,32nm,0.4s								
YBKN	**Baker Lake, Hu**	**7.78**	**295**	PN			**Pn**	**12 05 36.0**	**+2.4**
YBKN				SN			**Sn**	**12 06 58.8**	**-2.9**
YBKN				LG			Lg	12 07 40.9	
YBKN				Trac				12 07 51.8	
	comp=Z,43nm,0.4s								
STLN	**Stellar Camp,**	**7.82**	**319**	PN			**Pn**	**12 05 36.2**	**+2.0**
STLN				SN			Sn	12 06 55.7	-7.1
STLN				LG			Lg	12 07 41.7	
STLN				Trac				12 07 46.0	
	comp=Z,42nm,0.5s								
FCC	**Fort Churchill**	**7.89**	**252**	PN			Pn	12 05 38.6	+3.5
FCC				SN			**Sn**	**12 07 01.6**	**-2.7**
FCC				LG			Lg	12 07 46.2	
FCC				Trac				12 07 53.7	
	comp=Z,24nm,0.5s								
SILO	**Sutton Inlier**	**8.05**	**203**	PN			**Pn**	**12 05 39.8**	**+2.4**
SILO				SN			**Sn**	**12 07 08.4**	**-0.1**
SILO				LG			Lg	12 07 52.8	
SILO				Trac				12 08 01.9	
	comp=Z,11nm,0.2s								
LG4Q	**La Grande 4**	**8.89**	**158**	PN			**Pn**	**12 05 50.8**	**+1.8**
LG4Q				SN			**Sn**	**12 07 24.5**	**-4.6**
LG4Q				LG			Lg	12 08 15.2	
LG4Q				Trac				12 08 27.0	
	comp=Z,46nm,0.4s								
VIMO	**Victor Mine**	**9.48**	**196**	PN			**Pn**	**12 06 00.2**	**+3.2**
VIMO				SN			**Sn**	**12 07 41.5**	**-2.1**
VIMO				LG			Lg	12 08 35.3	
VIMO				Trac				12 08 44.4	
	comp=Z,25nm,0.6s								
SCHQ	**Schefferville**	**9.80**	**131**	Pn			**Pn**	**12 06 01.5**	**+0.1**
	0.6nm,0.3s,baz=331,slow=13,SNR=9.5								
SCHQ				Sn			Sn	12 07 45.7	-5.7
	2.0nm,0.3s,baz=60,slow=18,SNR=7.0								
SCHQ				Lg			Lg	12 08 44.4	
	3.6nm,0.3s,baz=306,slow=17,SNR=9.8								
SCHQ	**Schefferville**	**9.80**	**131**	PN			**Pn**	**12 06 02.2**	**+0.7**
SCHQ				SN			**Sn**	**12 07 47.4**	**-4.1**
SCHQ				LG			Lg	12 08 44.8	
SCHQ				Trac				12 08 55.2	
	comp=Z,62nm,1.0s								
YOSQ	**Ashton Mining**	**9.98**	**153**	PN			**Pn**	**12 06 06.2**	**+2.3**
YOSQ				SN			**Sn**	**12 07 51.7**	**-4.2**
YOSQ				LG			Lg	12 08 49.9	
YOSQ				Trac				12 09 11.2	
	comp=Z,48nm,0.6s								
MALO	**McAlpine Lake**	**12.01**	**181**	PN			**Pn**	**12 06 32.6**	**+1.0**
MALO				SN			Sn	12 08 39.2	-6.4
MALO				LG			Lg	12 09 51.0	
MALO				Trac				12 09 58.3	
	comp=Z,66nm,1.4s								
PKLO	**Pickle Lake**	**12.06**	**214**	PN			**Pn**	**12 06 34.0**	**+1.8**
PKLO				SN			Sn	12 08 39.5	-7.1
PKLO				LG			Lg	12 09 53.0	
PKLO				Trac				12 09 59.1	
	comp=Z,75nm,1.1s								
NANO	**Nakina Ontario**	**12.37**	**203**	PN			**Pn**	**12 06 37.1**	**+0.6**
NANO				SN			**Sn**	**12 08 49.7**	**-4.6**
NANO				LG			Lg	12 10 02.1	
GDLN	**Gardenia Lake,**	**12.38**	**282**	PN			**Pn**	**12 06 35.5**	**-1.1**
GDLN				SN			Sn	12 08 44.9	-9.5
CHGQ	**Chibougamau**	**12.46**	**164**	SN			Sn	12 08 48.4	-8.3
CHGQ				LG			Lg	12 10 04.5	
CHGQ				Trac				12 10 18.9	
	comp=Z,5.4nm,0.2s								
CB31	**Cambridge Bay**	**12.66**	**315**	PN			**Pn**	**12 06 40.5**	**+0.2**
CB31				SN			Sn	12 08 54.2	-6.8
CB31				LG			Lg	12 10 10.7	
CB31				Trac				12 10 21.9	
	comp=Z,31nm,0.7s								
MNQ	**Manicouagan**	**12.95**	**148**	PN			**Pn**	**12 06 45.5**	**+1.0**
MNQ				SN			Sn	12 08 59.8	-8.6
MNQ				LG			Lg	12 10 17.0	
MNQ				Trac				12 10 34.4	
	comp=Z,29nm,0.5s								
COKN	**Cook Lake**	**13.43**	**288**	PN			**Pn**	**12 06 52.6**	**+1.7**
COKN				SN			Sn	12 09 09.8	-10
COKN				LG			Lg	12 10 37.0	
FFC	**Flin Flon**	**13.78**	**248**	PN			**Pn**	**12 06 56.0**	**+0.3**
SMQ	**Clarke City**	**13.78**	**143**	SN			Sn	12 09 15.2	-14
SMQ				LG			Lg	12 10 40.0	
SMQ				Trac				12 10 56.9	
	comp=Z,18nm,0.6s								
RES	**Resolute Bay**	**13.85**	**343**	Pn			**Pn**	**12 06 56.0**	**-0.6**
	0.4nm,0.3s,baz=162,slow=13,SNR=14								
RES				Sn			Sn	12 09 19.9	-10
	0.6nm,0.3s,baz=145,slow=12,SNR=7.2								
RES				Lg			Lg	12 10 45.4	
	0.7nm,0.3s,baz=233,slow=22,SNR=4.1								
RES	**Resolute Bay**	**13.85**	**343**	PN			**Pn**	**12 06 55.9**	**-0.6**
RES				SN			Sn	12 09 22.0	-8.2
RES				LG			Lg	12 10 49.9	
RES				Trac				12 11 07.6	
	comp=Z,13nm,0.7s								
VLDQ	**Val d'Or**	**13.98**	**174**	PN			**Pn**	**12 06 56.6**	**-1.8**
VLDQ				SN			Sn	12 09 19.8	-14
VLDQ				LG			Lg	12 10 42.4	
VLDQ				Trac				12 10 56.3	
	comp=Z,17nm,0.7s								
JERN	**Jeri Cho Mine,**	**14.44**	**300**	PN			**Pn**	**12 07 03.6**	**-1.1**
JERN				SN			Sn	12 09 34.4	-10
JERN				LG			Lg	12 11 01.6	
JERN				Trac				12 11 17.9	
	comp=Z,13nm,0.6s								
TBO	**Thunder Bay**	**14.48**	**207**	PN			**Pn**	**12 07 03.1**	**-2.3**
TBO				SN			Sn	12 09 35.8	-10
TBO				LG			Lg	12 11 00.2	
TBO				Trac				12 11 18.8	
	comp=Z,3.6nm,0.3s								
BELQ	**Belleterre**	**14.65**	**178**	PN			**Pn**	**12 07 06.3**	**-1.4**
BELQ				SN			Sn	12 09 39.1	-11
BELQ				Trac				12 11 21.1	
	comp=Z,15nm,0.7s								
ULM	**Lac du Bonnet**	**14.82**	**225**	Pn			**Pn**	**12 07 08.5**	**-1.4**
	0.9nm,0.3s,baz=35,slow=12,SNR=10								
ULM				Sn			Sn	12 09 42.5	-12
	0.9nm,0.3s,baz=93,slow=21,SNR=5.7								
ULM				Lg			Lg	12 11 21.7	
	0.9nm,0.3s,baz=311,slow=16,SNR=7.6								
ULM	**Lac du Bonnet**	**14.82**	**225**	PN			**Pn**	**12 07 08.6**	**-1.4**
ULM				SN			Sn	12 09 41.0	-13
ILKN	**Indian Lake**	**16.10**	**294**	PN			**Pn**	**12 07 25.6**	**-1.0**
ILKN				SN			Sn	12 10 12.2	-13
ILKN				LG			Lg	12 11 56.9	
ILKN				Trac				12 12 04.9	
	comp=Z,13nm,0.5s								
YKW3	**Yellowknife Ar**	**16.19**	**287**	PN			**Pn**	**12 07 26.1**	**-1.7**
YKW3				SN			Sn	12 10 14.4	-13
YKW3				LG			Lg	12 12 01.4	
YKW3				Trac				12 12 18.4	
	comp=Z,8.6nm,0.6s								
YKA	**Yellowknife Ar**	**16.20**	**287**	Pn			**Pn**	**12 07 26.0**	**-2.0**
	0.2nm,0.3s,baz=71,slow=12,SNR=20								
YKA				Sn			Sn	12 10 15.6	-12
	0.3nm,0.3s,baz=75,slow=22,SNR=11								
YKA				Lg			Lg	12 12 03.3	
	0.2nm,0.3s,baz=75,slow=30,SNR=3.6								
GALN	**Gameti Lake**	**17.06**	**294**	PN			**Pn**	**12 07 37.7**	**-1.2**
GALN				SN			Sn	12 10 33.9	-14
GALN				LG			Lg	12 12 14.1	
SADO	**Sadowa**	**17.27**	**179**	Lg			Lg	12 12 29.6	
	0.7nm,0.3s,baz=286,slow=19,SNR=3.8								
INK	**Inuvik**	**22.82**	**309**	P			**P**	**12 08 45.9**	**+2.7**
	0.8nm,0.7s,baz=72,slow=8.3,SNR=3.6								
PDAR	**Pinedale Array**	**26.17**	**237**	P			**P**	**12 09 18.7**	**+3.5**
	0.8nm,0.8s,baz=48,slow=9.6,SNR=6.4								
ILAR	**Eielson Array**	**29.00**	**305**	P			P	12 09 44.4	+4.4
	0.1nm,0.7s,baz=78,slow=6.5,SNR=3.3								
TXAR	**Lajitas Array**	**36.31**	**217**	P			P	12 10 48.9	+4.7
	0.5nm,0.6s,baz=46,slow=6.7,SNR=7.7								

IDC 27 12:09:33.8±2.5, 3.21S×130.41E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=133.7km s-min=26.1km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**15.52**	**197**	Pn			Pn	12 13 12.9	-1.3
	0.1nm,0.3s,baz=24,slow=12,SNR=5.1								
WRA	**Warramunga Arr**	**17.07**	**167**	P			Pn	12 13 33.8	-0.2
	0.2nm,0.3s,baz=351,slow=12,SNR=18								
WRA				S			Sn	12 16 30.0	-15
	0.1nm,0.3s,baz=358,slow=23,SNR=4.2								
ASAR	**Alice Springs**	**20.62**	**171**	P			P	12 14 15.3	+0.4
	2.2nm,0.5s,baz=351,slow=10,SNR=53								
ASAR				S			S	12 17 54.8	-12
	0.3nm,0.9s,baz=358,slow=27,SNR=3.2								
MKAR	**Makanchi Array**	**65.31**	**326**	P			P	12 20 17.8	0.0
	0.2nm,0.5s,baz=110,slow=7.8,SNR=2.6								

*IDC **27** 12:19:28.6±1.1, 62.02N×79.67W, h0km, mb3.2/1, mb

STLN				SN	**Sn**	**12 22 45.2**	**-2.8**	
STLN				LG	Lg	12 23 25.2		
STLN				Trac		12 23 40.0		
	comp=Z,23nm,0.5s							
FCC	**Fort Churchill**	**7.88 252**		PN	**Pn**	**12 21 23.2**	**+2.4**	
FCC				SN	**Sn**	**12 22 47.9**	**-2.1**	
FCC				LG	Lg	12 23 31.3		
FCC				Trac		12 23 42.8		
	comp=Z,16nm,0.6s							
SILO	**Sutton Inlier**	**8.06 203**		PN	**Pn**	**12 21 25.2**	**+1.8**	
SILO				SN	**Sn**	**12 22 54.9**	**+0.4**	
SILO				LG	Lg	12 23 41.0		
SILO				Trac		12 23 47.3		
	comp=Z,12nm,0.3s							
LG4Q	**La Grande 4**	**8.91 158**		PN	**Pn**	**12 21 36.7**	**+1.8**	
LG4Q				SN	**Sn**	**12 23 10.9**	**-4.3**	
LG4Q				LG	Lg	12 23 59.4		
LG4Q				Trac		12 24 12.4		
	comp=Z,17nm,0.4s							
VIMO	**Victor Mine**	**9.49 195**		PN	Pn	12 21 46.4	+3.5	
VIMO				SN	**Sn**	**12 23 28.6**	**-1.0**	
SCHQ	**Schefferville**	**9.82 131**		Pn	**Pn**	**12 21 48.3**	**+0.9**	
	0.4nm,0.3s,baz=322,slow=13,SNR=8.7							
SCHQ				Sn	**Sn**	**12 23 32.1**	**-5.4**	
	0.7nm,0.3s,baz=29,slow=14,SNR=5.4							
SCHQ				Lg	Lg	12 24 29.7		
	1.5nm,0.3s,baz=43,slow=14,SNR=9.4							
SCHQ	**Schefferville**	**9.82 131**		PN	**Pn**	**12 21 48.1**	**+0.8**	
SCHQ				SN	Sn	12 23 31.9	-5.6	
SCHQ				LG	Lg	12 24 30.2		
SCHQ				Trac		12 24 49.2		
	comp=Z,11nm,0.6s							
YOSQ	**Ashton Mining**	**10.00 153**		PN	**Pn**	**12 21 52.0**	**+2.2**	
YOSQ				SN	**Sn**	**12 23 36.8**	**-5.2**	
YOSQ				LG	Lg	12 24 34.9		
YOSQ				Trac		12 24 45.3		
	comp=Z,31nm,0.7s							
MALO	**McAlpine Lake**	**12.03 181**		PN	**Pn**	**12 22 18.6**	**+1.0**	
MALO				SN	Sn	12 24 23.7	-7.9	
PKLO	**Pickle Lake**	**12.07 214**		PN	**Pn**	**12 22 19.4**	**+1.3**	
PKLO				SN	**Sn**	**12 24 29.5**	**-3.0**	
NANO	**Nakina Ontario**	**12.38 203**		PN	**Pn**	**12 22 22.7**	**+0.3**	
NANO				SN	**Sn**	**12 24 35.3**	**-5.1**	
CB31	**Cambridge Bay**	**12.64 315**		PN	**Pn**	**12 22 26.8**	**+1.0**	
CB31				SN	Sn	12 24 39.0	-7.3	
CB31				LG	Lg	12 25 55.8		
CB31				Trac		12 26 02.9		
	comp=Z,6.6nm,0.4s							
RES	**Resolute Bay**	**13.84 343**		Sn	Sn	12 25 08.0	-7.5	
	0.1nm,0.3s,baz=101,slow=16,SNR=5.1							
RES				Lg	Lg	12 26 35.0		
	0.2nm,0.3s,baz=236,slow=23,SNR=4.3							
RES	**Resolute Bay**	**13.84 343**		SN	Sn	12 25 05.8	-10	
RES				Trac		12 26 53.0		
	comp=Z,4.2nm,0.6s							
ULM	**Lac du Bonnet**	**14.82 225**		Pn	**Pn**	**12 22 53.3**	**-2.4**	
	0.5nm,0.3s,baz=27,slow=12,SNR=4.3							
ULM				Sn	Sn	12 25 28.9	-11	
	0.4nm,0.3s,baz=336,slow=16,SNR=3.2							
ULM				Lg	Lg	12 27 07.8		
	0.4nm,0.3s,baz=307,slow=14,SNR=6.5							
YKW3	**Yellowknife Ar**	**16.18 287**		PN	**Pn**	**12 23 11.5**	**-1.9**	
YKW3				SN	Sn	12 25 58.3	-14	
YKW3				LG	Lg	12 27 47.2		
YKW3				Trac		12 28 03.9		
	comp=Z,2.6nm,0.5s							
YKA	**Yellowknife Ar**	**16.19 287**		Pn	**Pn**	**12 23 11.1**	**-2.4**	
	0.1nm,0.3s,baz=72,slow=12,SNR=6.6							
YKA				Sn	Sn	12 26 01.6	-11	
	0.1nm,0.3s,baz=74,slow=21,SNR=7.0							
YKA				Lg	Lg	12 27 49.0		
	0.1nm,0.3s,baz=77,slow=30,SNR=7.7							
INK	**Inuvik**	**22.80 309**		P	**P**	**12 24 32.0**	**+3.4**	
	0.8nm,0.9s,baz=80,slow=6.1,SNR=2.8							

IDC 27 12:25:01.4±1.9, 0°15S×125°55E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, Error ellipse: s-maj=195.6km s-min=26.3km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.48**	**157**	P	P	12 29 51.9	+0.1
	0.3nm,0.7s,baz=336,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**24.75**	**161**	P	P	12 30 24.9	-0.1
	0.1nm,0.5s,baz=339,slow=8.9,SNR=5.7						
MKAR	**Makanchi Array**	**60.10**	**327**	P	P	12 35 10.6	-0.1
	0.4nm,0.6s,baz=124,slow=7.0,SNR=6.0						

IDC 27 12:27:14.0±0.8, 61°.96N×79°.47W, h0km, mb3.4/4, mb1 3.8/8, mb1mx3.5/32, mbtmp3.6/8, ML2.9/4, Error ellipse: s-maj=16.0km s-min=10.1km az=20.0
OTT 27 12:27:14.5±0.2, 62°.06N×79°.63W, h5km, MN3.7/25, 98km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.
ISC 27 12:27:11.6±0.5, 61°.98N±0°.03×79°.60W±0°.03, h10km, n42, σ2s40/56, mb3.3/4, Hudson Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVKQ	**Ivujivik**	**0.91**	**60**	PG	**Pg**	**12 27 30.2**	**+1.2**
IVKQ				SG	**Sg**	**12 27 42.4**	**+1.5**
IVKQ				Trac		12 27 44.1	
	comp=Z,281nm,0.1s						
AKVQ	**Akulivik**	**1.36**	**149**	PG	Pg	12 27 41.0	+3.3
AKVQ				SG	**Sg**	**12 27 58.4**	**+3.1**
AKVQ				Trac		12 28 02.2	
	comp=Z,222nm,0.2s						
INUQ	**Inukjuak**	**3.62**	**168**	PN	Pn	12 28 12.6	+5.0
INUQ				SN	**Sb**	**12 28 57.1**	**-2.4**
INUQ				SG	**Sg**	**12 29 08.4**	**+0.7**
INUQ				Trac		12 29 09.7	
	comp=Z,142nm,0.3s						
FRB	**Frobisher Bay**	**5.36**	**66**	Pn	**Pn**	**12 28 34.2**	**+2.6**
	0.6nm,0.3s,baz=231,slow=19,SNR=3.8						
FRB				Sn	**Sn**	**12 29 29.3**	**-3.9**
	6.0nm,0.3s,baz=356,slow=19,SNR=10						
FRB				Lg	Lg	12 29 54.5	
	11nm,0.3s,baz=344,slow=21,SNR=12						
FRB	**Frobisher Bay**	**5.36**	**66**	PN	**Pn**	**12 28 34.4**	**+2.9**
FRB				SN	**Sn**	**12 29 29.7**	**-3.5**
FRB				LG	Lg	12 29 56.5	
FRB				Trac		12 30 00.6	
	comp=Z,50nm,0.5s						
SEDN	**First Sedna Si**	**5.51**	**288**	PN	**Pn**	**12 28 36.0**	**+2.4**
SEDN				SN	**Sn**	**12 29 36.1**	**-0.8**
SEDN				LG	Lg	12 30 05.5	
QILN	**Qililugaq Expl**	**5.54**	**331**	PN	**Pn**	**12 28 36.0**	**+2.1**
QILN				SN	**Sn**	**12 29 34.5**	**-3.0**
QILN				LG	Lg	12 30 05.4	
QILN				Trac		12 30 11.8	
	comp=Z,22nm,0.2s						
WAGN	**Wager Bay**	**5.84**	**316**	PN	**Pn**	**12 28 40.0**	**+1.9**
WAGN				SN	**Sn**	**12 29 42.4**	**-2.6**
WAGN				LG	Lg	12 30 13.2	
WAGN				Trac		12 30 27.1	
	comp=Z,53nm,0.3s						
NUNN	**Nunuq Camp, NU**	**6.06**	**307**	PN	**Pn**	**12 28 43.4**	**+2.2**
NUNN				SN	**Sn**	**12 29 48.5**	**-1.9**
NUNN				LG	Lg	12 30 19.9	
NUNN				Trac		12 30 24.2	
	comp=Z,62nm,0.5s						
SRLN	**Sarcpa Lake, N**	**6.78**	**348**	PN	**Pn**	**12 28 53.5**	**+2.4**
SRLN				SN	**Sn**	**12 30 04.8**	**-3.4**
SRLN				LG	Lg	12 30 40.0	
SRLN				Trac		12 30 43.9	
	comp=Z,64nm,0.5s						
KUQ	**Kuujjuuaa**	**6.81**	**120**	PN	**Pn**	**12 28 52.7**	**+1.2**
KUQ				SN	**Sn**	**12 30 05.5**	**-3.5**
KUQ				LG	Lg	12 30 45.1	
KUQ				Trac		12 30 50.5	
	comp=Z,23nm,0.2s						
ARVN	**Arviat, NU**	**6.97**	**269**	PN	Pn	12 28 57.7	+4.1
ARVN				SN	**Sn**	**12 30 11.7**	**-1.2**
ARVN				LG	Lg	12 30 50.1	
ARVN				Trac		12 30 58.4	
	comp=Z,58nm,0.8s						
BULN	**Bullion Camp,**	**7.37**	**313**	PN	**Pn**	**12 29 00.1**	**+1.0**
BULN				SN	**Sn**	**12 30 20.5**	**-2.2**
BULN				LG	Lg	12 31 01.8	
BULN				Trac		12 31 09.1	
	comp=Z,30nm,0.3s						
ILON	**Igloolik, Nuna**	**7.48**	**354**	PN	**Pn**	**12 29 02.3**	**+1.7**
ILON				SN	**Sn**	**12 30 21.2**	**-4.1**
ILON				LG	Lg	12 30 58.1	
ILON				Trac		12 31 08.3	
	comp=Z,64nm,0.6s						
KUGN	**Kugaaruk Camp,**	**7.55**	**329**	PN	**Pn**	**12 29 02.4**	**+0.8**
KUGN				SN	**Sn**	**12 30 24.1**	**-3.0**
KUGN				LG	Lg	12 31 04.8	
KUGN				Trac		12 31 12.4	
	comp=Z,39nm,0.5s						
YBKN	**Baker Lake, Hu**	**7.78**	**295**	PN	**Pn**	**12 29 07.5**	**+2.7**
YBKN				SN	**Sn**	**12 30 30.0**	**-2.8**
YBKN				LG	Lg	12 31 11.2	
YBKN				Trac		12 31 22.9	
	comp=Z,26nm,0.3s						
STLN	**Stellar Camp,**	**7.84**	**319**	PN	**Pn**	**12 29 06.8**	**+1.3**
STLN				SN	**Sn**	**12 30 30.6**	**-3.5**
STLN				LG	Lg	12 31 13.7	
STLN				Trac		12 31 36.4	
	comp=Z,43nm,0.6s						
FCC	**Fort Churchill**	**7.87**	**252**	PN	Pn	12 29 09.7	+3.8
FCC				SN	**Sn**	**12 30 30.6**	**-4.3**
FCC				LG	Lg	12 31 16.6	
FCC				Trac		12 31 31.8	
	comp=Z,30nm,0.7s						
SILO	**Sutton Inlier**	**8.03**	**203**	PN	**Pn**	**12 29 11.1**	**+2.9**
SILO				SN	**Sn**	**12 30 39.7**	**+0.9**
SILO				LG	Lg	12 31 21.5	
SILO				Trac		12 31 34.5	
	comp=Z,17nm,0.4s						
LG4Q	**La Grande 4**	**8.87**	**158**	PN	**Pn**	**12 29 22.3**	**+2.5**
LG4Q				SN	**Sn**	**12 30 57.8**	**-1.9**
LG4Q				LG	Lg	12 31 46.2	
LG4Q				Trac		12 31 57.8	
	comp=Z,38nm,0.4s						
WEMQ	**Wemindji, Queb**	**8.99**	**174**	PN	Pn	12 29 25.4	+4.0
WEMQ				SN	**Sn**	**12 31 00.6**	**-2.1**
WEMQ				LG	Lg	12 31 45.0	
WEMQ				Trac		12 31 51.8	
	comp=Z,58nm,0.9s						
VIMO	**Victor Mine**	**9.46**	**195**	PN	Pn	12 29 30.9	+3.2
VIMO				SN	**Sn**	**12 31 12.2**	**-1.7**
SCHQ	**Schefferville**	**9.79**	**131**	Pn	**Pn**	**12 29 30.9**	**-1.5**
	0.3nm,0.3s,baz=331,slow=15,SNR=5.3						
SCHQ				Sn	Sn	12 31 16.9	-5.4
	1.3nm,0.3s,baz=46,slow=17,SNR=4.1						
SCHQ				Lg	Lg	12 32 15.4	
	4.1nm,0.3s,baz=41,slow=20,SNR=11						
SCHQ	**Schefferville**	**9.79**	**131**	PN	**Pn**	**12 29 33.3**	**+0.9**
SCHQ				SN	**Sn**	**12 31 20.0**	**-2.3**
SCHQ				LG	Lg	12 32 15.1	
SCHQ				Trac		12 32 26.2	
	comp=Z,96nm,1.3s						
YOSQ	**Ashton Mining**	**9.96**	**153**	PN	**Pn**	**12 29 36.7**	**+2.0**
YOSQ				SN	**Sn**	**12 31 22.8**	**-3.7**
YOSQ				LG	Lg	12 32 20.5	
YOSQ				Trac		12 32 25.6	
	comp=Z,68nm,0.9s						
MALO	**McAlpine Lake**	**11.99**	**181**	PN	**Pn**	**12 30 04.6**	**+2.2**
MALO				SN	Sn	12 32 08.6	-7.4
PKLO	**Pickle Lake**	**12.03**	**214**	PN	**Pn**	**12 30 04.8**	**+1.8**
PKLO				SN	Sn	12 32 11.0	-6.0
GDLN	**Gardenia Lake,**	**12.37**	**282**	PN	**Pn**	**12 30 09.4**	**+1.9**
GDLN				SN	Sn	12 32 17.6	-7.7
CB31	**Cambridge Bay**	**12.67**	**315**	PN	**Pn**	**12 30 11.9**	**+0.4**
CB31				SN	Sn	12 32 25.1	-7.3
CB31				LG	Lg	12 33 41.0	
CB31				Trac		12 33 48.4	
	comp=Z,17nm,0.4s						
MNQ	**Manicouagan**	**12.93**	**148**	PN	**Pn**	**12 30 16.5**	**+1.2**
MNQ				SN	Sn	12 32 30.7	-8.4
MNQ				LG	Lg	12 33 48.5	
MNQ				Trac		12 34 05.3	
	comp=Z,27nm,0.5s						
SMQ	**Clarke City**	**13.77**	**143**	PN	**Pn**	**12 30 25.8**	**-0.9**
SMQ				SN	Sn	12 32 51.0	-8.6
SMQ				LG	Lg	12 34 09.9	
SMQ				Trac		12 34 28.0	
	comp=Z,16nm,0.6s						
RES	**Resolute Bay**	**13.87**	**343**	Pn	**Pn**	**12 30 26.6**	**-1.4**
	0.3nm,0.3s,baz=155,slow=13,SNR=9.2						
RES				Sn	Sn	12 32 51.5	-10
	0.5nm,0.3s,baz=99,slow=19,SNR=6.5						
RES				Lg	Lg	12 34 20.3	
	0.9nm,0.3s,baz=176,slow=15,SNR=6.0						
RES	**Resolute Bay**	**13.87**	**343**	PN	Pn	12 30 22.8	-5.1
RES				SN	Sn	12 32 51.1	-11
RES				LG	Lg	12 34 19.4	
RES				Trac		12 34 34.5	
	comp=Z,55nm,1.5s						
VLDQ	**Val d'Or**	**13.95**	**174**	PN	**Pn**	**12 30 27.7**	**-1.5**
VLDQ				SN	Sn	12 32 51.5	-13
ULM	**Lac du Bonnet**	**14.79**	**225**	Pn	**Pn**	**12 30 39.8**	**-0.9**
	0.9nm,0.3s,baz=38,slow=11,SNR=9.6						
ULM				Sn	Sn	12 33 15.7	-8.7
	1.0nm,0.3s,baz=115,slow=12,SNR=5.4						
ULM				Lg	Lg	12 34 53.3	
	0.9nm,0.3s,baz=309,slow=16,SNR=7.0						
YKW3	**Yellowknife Ar**	**16.19**	**288**	PN	**Pn**	**12 30 57.3**	**-1.5**
YKW3				SN	Sn	12 33 45.6	-13
YKW3				LG	Lg	12 35 31.9	
YKW3				Trac		12 35 50.4	
	comp=Z,10nm,0.7s						
YKA	**Yellowknife Ar**	**16.20**	**287**	Pn	**Pn**	**12 30 56.7**	**-2.2**
	0.2nm,0.3s,baz=72,slow=12,SNR=8.4						
YKA				Sn	Sn	12 33 45.7	-13
	0.2nm,0.3s,baz=64,slow=20,SNR=9.7						
YKA				Lg	Lg	12 35 35.5	
	0.2nm,0.3s,baz=75,slow=30,SNR=9.8						
SADO	**Sadowa**	**17.25**	**179**	Sn	Sn	12 34 12.6	-12
	0.3nm,0.3s,baz=309,slow=14,SNR=2.2						
SADO				Lg	Lg	12 36 00.8	
	0.5nm,0.3s,baz=286,slow=18,SNR=3.3						
INK	**Inuvik**	**22.83**	**309**	P	**P**	**12 32 17.2**	**+3.0**
	0.5nm,0.6s,baz=46,slow=15,SNR=4.0						
PDAR	**Pinedale Array**	**26.15**	**237**	P	P	12 32 51.8	+5.7
	0.8nm,0.7s,baz=50,slow=10,SNR=7.8						
ILAR	**Eielson Array**	**29.01**	**305**	P	P	12 33 14.6	+3.5
	0.2nm,0.7s,baz=70,slow=7.1,SNR=3.5						
TXAR	**Lajitas Array**	**36.28**	**217**	P	P	12 34 19.2	+4.1
	0.4nm,0.6s,baz=40,slow=6.8,SNR=7.2						

IDC 27 12:27:47.5±3.7, 0°.30N×97°.43E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/24, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=94.5km s-min=28.5km az=76.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.91**	**31**	Pn	Pn	12 28 34.4	-0.8
	1.8nm,0.3s,baz=216,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**41.37**	**121**	P	P	12 35 36.4	+0.7
	0.2nm,0.8s,baz=303,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**42.67**	**126**	P	P	12 35 45.5	-0.9
	0.2nm,0.8s,baz=304,slow=7.4,SNR=4.0						
SONM	**Songino Array**	**47.99**		8	P	12 36 28.0	-0.3
	0.3nm,0.3s,baz=190,slow=9.0,SNR=4.2						

ISCJB 27 12:32:22.0±0.6, 0°.11N±0°.06×97°.67E±0°.08, h10km, mb4.1/13, Error ellipse: s-maj=11.9km s-min=8.3km az=22.7
IDC 27 12:32:22.3±1.4, 0°.09N×97°.67E, h0km, mb4.1/10, mb1 4.1/12, mb1mx3.9/27, mbtmp4.0/12, ML3.7/2, Error ellipse: s-maj=43.4km s-min=16.0km az=60.0
NEIC 27 12:32:28.0±0.5, 0°.18N×97°.77E, h35km, mb4.1/5, Error ellipse: s-maj=10.9km s-min=6.9km az=65.0
ISC 27 12:32:23.3±1.0, 0°.1N±0°.1×97°.6E±0°.1, h10km, n29, σ0s94/29, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.05**	**26**	Pn	**Pn**	**12 33 09.4**	**-2.4**
	2.2nm,0.3s,baz=209,slow=19,SNR=8.4						
PSI	**Prapat**	**3.05**	**26**	Pn	**Pn**	**12 33 09.4**	**-2.4**
IPM	**Ipoh**	**5.60**	**38**	*e*Pn	**Pn**	**12 33 46.7**	**-0.1**
	14nm,0.7s						
IPM				*e*Sg	**Sg**	**12 35 24.8**	**+1.6**
KULM	**Kulim**	**6.05**	**31**	*e*Pn	**Pn**	**12 33 52.0**	**-0.9**
	14nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.34**	**4**	P	**Pn**	**12 36 38.0**	**0.0**
	0.3nm,0.3s,baz=194,slow=10,SNR=7.5						
CMAR	**Chiang Mai Arr**	**18.34**	**4**	P	**Pn**	**12 36 38.0**	**0.0**
KKM	**Kota Kinabalu**	**19.55**	**72**	*e*P	**P**	**12 36 51.4**	**-0.1**
	49nm,1.0s						
FITZ	**Fitzroy Crossi**	**32.97**	**125**	P	P	12 38 57.3	-1.3
	1.4nm,0.9s,baz=301,slow=18,SNR=3.1						
FITZ	**Fitzroy Crossi**	**32.97**	**125**	*e*P	**P**	**12 38 58.7**	**+0.1**
	3.1nm,1.2s						
WRA	**Warramunga Arr**	**41.13**	**121**	P	**P**	**12 40 07.9**	**-0.2**
	1.3nm,0.6s,baz=302,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**41.13**	**121**	P	**P**	**12 40 07.9**	**-0.2**
WRAB	**Tennant Creek**	**41.13**	**121**	*e*P	**P**	**12 40 07.8**	**-0.3**
	3.7nm,0.9s						
ASAR	**Alice Springs**	**42.42**	**126**	P	**P**	**12 40 19.4**	**+0.7**
	1.4nm,0.6s,baz=299,slow=7.8,SNR=30						
ASAR	**Alice Springs**	**42.42**	**126**	P	**P**	**12 40 19.4**	**+0.7**
KSAR	**Wonju Array Be**	**46.56**	**34**	P	**P**	**12 40 50.5**	**-0.9**
KSRS	**Korea Array**	**46.59**	**34**	P	**P**	**12 40 50.5**	**-1.1**
	2.0nm,0.9s,baz=210,slow=9.5,SNR=5.8						
SONM	**Songino Array**	**48.21**	**8**	P	**P**	**12 41 04.4**	**+0.2**
	1.2nm,0.6s,baz=190,slow=9.5,SNR=15						
SONM	**Songino Array**	**48.21**	**8**	P	**P**	**12 41 04.4**	**+0.2**
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**	**12 41 06.4**	**+0.5**
	2.4nm,0.5s,baz=155,slow=8.4,SNR=30						
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**	**12 41 06.4**	**+0.5**
KURK	**Kurchatov**	**52.99**	**345**	*e*P	**P**	**12 41 41.4**	**+1.3**
	1.7nm,0.9s						
USRK	**Ussuriysk Arra**	**53.57**	**30**	P	**P**	**12 41 44.7**	**+0.2**
	2.2nm,0.7s,baz=232,slow=4.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.74**	**351**	P	**P**	**12 41 53.5**	**+0.6**
	5.0nm,0.7s,baz=176,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**54.74**	**351**	P	**P**	**12 41 53.5**	**+0.6**
BVAR	**Borovoye Array**	**57.45**	**341**	P	**P**	**12 42 12.8**	**+0.5**
	0.9nm,0.7s,baz=138,slow=6.9,SNR=4.6						
BVAR	**Borovoye Array**	**57.45**	**341**	P	**P**	**12 42 12.8**	**+0.5**
ABKAR	**Akbulak array**	**58.69**	**332**	*e*P	**P**	**12 42 21.9**	**+0.9**
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**83.73**	**340**	P	**P**	**12 44 52.3**	**+0.1**
	2.6nm,0.8s,baz=105,slow=6.6,SNR=4.8						
ARCES	**ARCESS Array B**	**83.73**	**340**	P	**P**	**12 44 52.4**	**+0.1**

IDC 27 12:36:18.7±0.8, 36°.27N×142°.74E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/26, mbtmp3.7/11, ML3.7/2, Error ellipse: s-maj=25.4km s-min=19.0km az=104.0
ISCJB 27 12:36:19.2±0.6, 36°.32N±0°.05×142°.64E±0°.05, h15km, mb3.6/9, Error ellipse: s-maj=7.3km s-min=5.8km az=168.8
JMA 27 12:36:21.3±0.2, 36°.34N×142°.62E, h70km, M3.4
ISC 27 12:36:20.7±0.8, 36°.31N±0°.06×142°.65E±0°.07, h15km, n23, σ1s46/30, mb3.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.57**	**248**	P	**Pn**	**12 36 47.4**	**-0.7**
CHOJ				S	**Sn**	**12 37 06.9**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.69**	**299**	P	**Pn**	**12 36 48.7**	**-1.0**
JHO	**Hitachi**	**1.71**	**281**	P	**Pn**	**12 36 48.8**	**-1.1**
JHO				S	**Sn**	**12 37 09.6**	**-1.8**
JFK	**Kawauchi**	**1.77**	**307**	P	**Pn**	**12 36 50.1**	**-0.8**
JFK				S	**Sn**	**12 37 10.5**	**-2.7**
JMM	**Marumori**	**2.15**	**317**	S	**Sn**	**12 37 21.3**	**-1.1**
JIO	**Ouri**	**2.38**	**335**	P	**Pn**	**12 36 58.3**	**-0.9**
JAG	**Ashikaga**	**2.58**	**274**	P	**Pn**	**12 37 01.5**	**-0.5**
JAG				S	**Sn**	**12 37 30.4**	**-2.7**
JRY	**Ryogami san**	**3.05**	**266**	P	**Pn**	**12 37 07.9**	**-0.5**
JRY				S	**Sn**	**12 37 43.2**	**-1.4**
JOD2	**Odawara 2**	**3.08**	**251**	P	**Pn**	**12 37 08.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.59**	**275**	Pn	Pn	12 37 11.9	-3.9
	5.0nm,0.3s,baz=116,slow=20,SNR=38						
MAT	**Matsushiro**	**3.59**	**275**	P	**Pn**	**12 37 16.5**	**+0.7**
MAT				*e*S	**Sn**	**12 37 59.3**	**+1.3**
JHJ	**Hachijo jima 2**	**3.96**	**217**	Pn	**Pn**	**12 37 20.4**	**-0.5**
	18nm,0.3s,baz=55,slow=17,SNR=5.3						
JHJ				Sn	**Sn**	**12 38 03.5**	**-3.6**
	16nm,0.3s,baz=127,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**7.80**	**360**	Pn	**Pn**	**12 38 12.9**	**-0.7**
	0.9nm,0.3s,baz=201,slow=20,SNR=12						
ASAJ				Sn	**Sn**	**12 39 39.1**	**-2.5**
	baz=114,slow=20,SNR=2.7						
SONM	**Songino Array**	**29.02**	**305**	P	P	**12 42 21.5**	**+1.4**
	0.8nm,0.6s,baz=100,slow=8.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**43.14**	**313**	P	P	**12 44 20.9**	**+0.6**
	0.4nm,0.4s,baz=90,slow=8.6,SNR=3.5						
MKAR	**Makanchi Array**	**45.35**	**303**	P	P	**12 44 39.0**	**+0.8**
	0.6nm,0.6s,baz=90,slow=9.8,SNR=5.4						
ILAR	**Eielson Array**	**49.58**	**32**	P	P	**12 45 09.5**	**-1.3**
	0.4nm,0.7s,baz=269,slow=6.2,SNR=6.0						
WRA	**Warramunga Arr**	**56.49**	**189**	P	P	**12 46 01.9**	**-0.3**
	0.8nm,0.9s,baz=11,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**60.22**	**189**	P	P	**12 46 28.2**	**0.0**
	0.3nm,0.7s,baz=2.5,slow=6.2,SNR=5.1						
YKA	**Yellowknife Ar**	**63.93**	**30**	P	P	**12 46 53.7**	**+1.1**
	0.3nm,0.7s,baz=301,slow=6.8,SNR=5.3						
FINES	**FINESS Array B**	**69.92**	**333**	P	P	**12 47 32.1**	**+1.4**
	1.3nm,0.8s,baz=230,slow=27,SNR=1.9						
NVAR	**Mina Array Bea**	**74.62**	**54**	P	P	**12 48 00.1**	**+0.5**
	0.3nm,0.6s,baz=293,slow=6.7,SNR=4.5						
LPAZ	**La Paz**	**146.18**	**62**	PKPbc	**PKPab**	**12 56 02.6**	**+0.3**
	1.1nm,0.7s,baz=317,slow=3.0,SNR=3.8						

ISCJB 27 12:39:09.2±0.7, 56°.10N±0°.04×11°.49E±0°.09, h0km, Error ellipse: s-maj=7.8km s-min=6.0km az=154.4
*CSEM 27 12:39:09.7±0.2, 56°.09N×11°.47E, h1km, ML2.7, Error ellipse: s

*ECX **27** 13:15:07.7±0.7, 33°.29N×115°.69W, h4km, ML2.9*
*NEIC **27** 13:15:17.6±0.8, 33°.03N×116°.63W, h10km, ML2.8(PAS), Error ellipse: s-maj=16.7km s-min=9.4km az=95.0*
NEIC Felt at Bombay Beach.

ISC 27 13:15:06.7±1.1, 33°.32N±0°.03×115°.75W±0°.04, h6km±11km, n16, σ1§19/21, 4C-4D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRK	**Frink**	**0.13**	**50**	⇓*i*P	**Pg**	**13 15 09.7**	**+0.3**
HAY	**Hayfield**	**0.39**	**9**	⇓*i*P	**Pg**	**13 15 15.7**	**+1.4**
CRR	**Carrizo Plain**	**0.47**	**203**	⇓*i*P	**Pg**	**13 15 15.7**	**0.0**
SGL	**Mount Signal**	**0.67**	**178**	*e*P	**Pg**	**13 15 19.7**	**+0.2**
YUH	**Yuha Desert**	**0.69**	**192**	⇓*i*P	**Pg**	**13 15 19.7**	**-0.1**
COA	**Coachella**	**0.70**	**130**	⇑*i*P	**Pg**	**13 15 19.7**	**-0.3**
RMX	**La Rumorosa**	**0.77**	**201**	*e*P	**Pg**	**13 15 20.6**	**-0.7**
RMX				*e*S	**Sg**	**13 15 31.5**	**+0.2**
GLA	**Glamis**	**0.82**	**109**	*e*P	**Pg**	**13 15 21.7**	**-0.7**
BAR	**Barrett**	**1.00**	**231**	*e*Pg	**Pg**	**13 15 24.6**	**-1.3**
BAR				*e*Sg	Sg	13 15 29.8	-9.1
CBX	**Cerro Bola**	**1.26**	**218**	*e*P	**Pg**	**13 15 29.8**	**-1.1**
CBX				*e*S	**Sg**	**13 15 47.1**	**-0.2**
CBX				⇑*e*		13 15 55.9	
	comp=N,898nm,0.8s						
RDX	**Rancho Dawling**	**1.40**	**187**	*e*P	**Pn**	**13 15 31.6**	**-1.2**
MWC	**Mount Wilson**	**2.12**	**296**	*e*Pn	**Pb**	**13 15 47.5**	**+1.9**
MWC				*e*Sn	**Sn**	**13 16 10.1**	**+0.6**
SPX	**San Pedro Mart**	**2.28**	**174**	*e*PN	**Pn**	**13 15 45.8**	**+0.6**
SPX				*e*S	**Sn**	**13 16 15.2**	**+1.5**
SPX				⇑*e*		13 16 28.5	
	comp=E,26nm,0.7s						
SPX				⇑*e*		13 16 39.1	
	comp=N,29nm,0.7s						
ISA	**Isabella**	**3.24**	**317**	*e*Pn	**Pb**	**13 16 05.6**	**+0.9**
ISA				*e*Sn	**Sb**	**13 16 43.3**	**-1.1**
ARUT	**Antelope Range**	**4.84**	**22**	*e*Pn	**Pg**	**13 16 37.9**	**-1.5**
	comp=N,4.4nm,0.6s						
ARUT				*e*Sn	**Sg**	**13 17 39.8**	**-2.4**
MSU	**Marysvale**	**5.94**	**28**	*e*Pn	Pb	13 16 55.0	+4.3
	comp=N,2.4nm,0.7s						
MSU				*e*Sn	Sb	13 18 09.2	+7.0

IDC 27 13:45:18.9±3.1, 3°.45S×135°.40E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=136.5km s-min=29.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.43**	**184**	Pn	Pn	13 49 09.4	-1.8
	0.1nm,0.3s,baz=5.2,slow=13,SNR=6.7						
ASAR	**Alice Springs**	**20.16**	**184**	P	P	13 49 55.8	+0.7
	1.3nm,0.8s,baz=6.4,slow=11,SNR=12						
MKAR	**Makanchi Array**	**68.39**	**324**	P	P	13 56 22.5	0.0
	0.1nm,0.5s,baz=115,slow=6.5,SNR=3.2						

*CSEM **27** 13:54:30.9±0.3, 41°.72N×32°.21E, h2km, MD2.7, Error ellipse: s-maj=10.0km s-min=6.4km az=16.0*
*ISK **27** 13:54:31.8, 41°.62N×32°.21E, h8km, MD2.7*

ISC 27 13:54:31.2±1.3, 41°.72N±0°.06×32°.21E±0°.03, h12km±12km, n20, σ1§49/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAFT	**Safranbolu**	**0.60**	**143**	*e*PG	**Pg**	**13 54 42.2**	**-0.7**
SAFT				*e*SG	**Sg**	**13 54 50.3**	**-0.5**
SAFT	**Safranbolu**	**0.60**	**143**	*e*Pg	**Pg**	**13 54 42.2**	**-0.7**
SAFT				*e*Sg	**Sg**	**13 54 50.3**	**-0.5**
KDZE	**Karadeniz Ereo**	**0.70**	**235**	*e*PG	**Pg**	**13 54 45.0**	**+0.2**
KDZE				*e*SG	**Sg**	**13 54 54.0**	**0.0**
KDZE	**Karadeniz Ereo**	**0.70**	**235**	*e*Pg	**Pg**	**13 54 45.0**	**+0.2**
KDZE				*e*Sg	**Sg**	**13 54 54.0**	**0.0**
BZK	**Bozkurt**	**1.37**	**79**	*e*PN	**Pg**	**13 54 58.1**	**+0.7**
BZK	**Bozkurt**	**1.37**	**79**	*e*Pn	**Pg**	**13 54 58.1**	**+0.7**
MDUB	**Mudurnu**	**1.46**	**212**	*e*PN	**Pn**	**13 54 58.0**	**+0.5**
MDUB	**Mudurnu**	**1.46**	**212**	*e*Pn	**Pn**	**13 54 58.0**	**+0.5**
TOS	**Tosya**	**1.53**	**116**	*e*PN	**Pn**	**13 54 59.3**	**+0.9**
TOS	**Tosya**	**1.53**	**116**	*e*Pn	**Pn**	**13 54 59.3**	**+0.9**
CANT	**Cankiri**	**1.54**	**136**	*e*PN	**Pn**	**13 54 58.8**	**+0.2**
GULT	**Gulveren**	**1.81**	**225**	*e*PN	**Pn**	**13 55 03.4**	**+1.1**
GULT	**Gulveren**	**1.81**	**225**	*e*Pn	**Pn**	**13 55 03.4**	**+1.1**
YLV	**Yalova**	**2.43**	**243**	*e*PN	**Pn**	**13 55 13.0**	**+2.3**
YLV	**Yalova**	**2.43**	**243**	*e*Pn	**Pn**	**13 55 13.0**	**+2.3**
PSN	**Preselentsi**	**3.56**	**305**	*e*P	**Pn**	**13 55 27.0**	**+0.9**
PSN				*e*S	**Sn**	**13 56 05.4**	**-2.6**
PSN	**Preselentsi**	**3.56**	**305**	*e*P	**Pn**	**13 55 27.0**	**+0.9**
PSN				*e*S	**Sn**	**13 56 11.4**	**+3.4**
ROIA	**ROIAK**	**3.83**	**293**	*e*P	**Pn**	**13 55 29.0**	**-0.9**
ROIA				*e*S	**Sn**	**13 56 11.4**	**-3.5**
NEF	**NEVSHA**	**3.96**	**295**	*e*P	**Pn**	**13 55 31.0**	**-0.7**
NEF	**NEVSHA**	**3.96**	**295**	*e*P	**Pn**	**13 55 31.0**	**-0.7**

MAN 27 14:18:28, 9°.27N×125°.89E, h12km, mb4.4, ML3.2, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.40**	**221**	*e*P	Pb	14 18 37.5	+0.5
BUTP				*e*S	Sb	14 18 43.3	+0.2
MSLP	**Maasin**	**1.32**	**310**	*e*P	Pn	14 18 52.0	-0.3
CGP	**Cagayan de Oro**	**1.43**	**235**	⇓*i*P	Pn	14 18 53.6	-0.1
CGP				*i*S	Sb	14 19 13.4	+0.6
BUKP	**Musuan**	**1.61**	**211**	*e*P	Pb	14 18 57.6	-0.1
TBP	**Tagbilaran**	**2.04**	**282**	*e*P	Pn	14 19 02.7	+0.6
MATI	**Mati**	**2.34**	**171**	*e*P	Pn	14 19 06.8	+0.5
CTBH	**Cotabato--PC H**	**2.60**	**219**	⇑*i*P	Pn	14 19 11.5	+1.5

IDC 27 14:40:39.4±42.0, 7°.77S×99°.73W, h0km, mb3.9/2, MS3.8/2, Ms1 3.8/2, ms1mx3.3/22, Error ellipse: s-maj=1226.0km s-min=147.1km az=138.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**37.08**	**354**	LR	LR	14 59 27.7	
	comp=Z,72nm,21.8s,baz=0.0,slow=30						
PPT	**Papeete**	**49.47**	**254**	LR	LR	15 04 11.1	
	comp=Z,191nm,19.2s,baz=25,slow=28						
PPT2	**Papeete2**	**49.47**	**254**	*e*LR	LR	15 03 26.2	
	70nm,24.2s						
TBI	**Tubuai**	**50.09**	**246**	*e*LR	LR	15 03 46.6	
	68nm,27.5s						
ULM	**Lac du Bonnet**	**57.88**	**3**	P	P	14 50 33.6	+0.7
	4.7nm,0.7s,baz=183,slow=22,SNR=12						
YKA	**Yellowknife Ar**	**70.99**	**353**	P	P	14 51 57.0	-1.6
	0.2nm,0.5s,baz=161,slow=6.1,SNR=5.1						
ILAR	**Eielson Array**	**80.36**	**341**	P	P	14 52 53.0	+0.6
	baz=146,slow=5.0						

*PLV **27** 14:43:30.9±2.4, 22°.40N×102°.56E, h17km±172km, MD3.1*
*IDC **27** 14:43:34.6±1.0, 22°.15N×102°.86E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/28, Error ellipse: s-maj=24.9km s-min=17.3km az=96.0*
*BJI **27** 14:43:37.8, 22°.25N×102°.90E, h30km, mb3.8/3, ML3.9/7, Ms3.7/2, Ms7 3.5/2*

ISC 27 14:43:36.0±1.5, 22°.13N±0°.04×102°.64E±0°.06, h8km±12km, n15, σ1§16/21, mb3.5/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBV	**Dienbien**	**0.82**	**154**	*e*Pg	**Pb**	**14 43 52.2**	**-0.3**
DBV				*e*Sg	**Sn**	**14 44 05.8**	**-0.5**
TGV	**Tuan Giao**	**0.90**	**127**	*e*Pg	**Pn**	**14 43 54.6**	**-0.3**
TGV				*e*Sg	**Sn**	**14 44 08.5**	**+0.5**
SLVN	**Son La**	**1.41**	**124**	*e*Pg	**Pn**	**14 44 01.3**	**-0.8**
SLVN				*e*Sg	**Sg**	**14 44 23.2**	**+1.6**
MCVV	**Moc Chau**	**2.29**	**125**	*e*Pg	**Pb**	**14 44 17.5**	**-0.1**
MCVV				*e*Sg	**Sg**	**14 44 51.2**	**+1.5**
KMI	**Kunming**	**2.98**	**2**	Pg	**Pb**	**14 44 29.0**	**-0.6**
KMI				Sg	**Sb**	**14 45 07.0**	**+0.7**
KMI				smax	smax		
	comp=N,200nm,0.7s						
KMI				smax	smax		
	comp=E,220nm,0.9s						
CMAR	**Chiang Mai Arr**	**5.04**	**224**	Pn	**Pn**	**14 44 53.6**	**+1.7**
	comp=E,0.7nm,0.3s,baz=35,slow=12,SNR=33						
CMAR				Pg	**Pg**	**14 45 11.3**	**-1.3**
	comp=E,3.9nm,0.3s,baz=43,slow=17,SNR=184						
CMAR				Lg	Lg	14 46 18.9	
	comp=E,0.8nm,0.3s,baz=44,slow=32,SNR=4.4						
GYA	**Guiyang**	**5.66**	**40**	Pn	**Pn**	**14 44 59.0**	**-1.6**
GYA				smax	smax		
	comp=N,110nm,0.9s						
GYA				smax	smax		
	comp=E,130nm,1.0s						
LZH	**Lanzhou**	**13.95**	**4**	*e*P	**Pn**	**14 46 53.5**	**-0.7**
LZH				*e*PP	**P**	**14 47 04.5**	**+2.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				LR	LR		
	comp=N,160nm,10.0s						
LZH				LR	LR		
	comp=E,140nm,10.5s						
LZH				LR	LR		
	comp=Z,190nm,11.6s						
GTA	**Gaotai**	**17.40**	**353**	*e*P	**P**	**14 47 41.5**	**+0.9**
GTA				pP	pP	14 47 47.5	+4.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	**Songino Array**	**25.82**	**6**	P	**P**	**14 49 08.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=182,slow=8.9,SNR=3.8						
KSRS	**Korea Array**	**26.62**	**49**	LR	LR	15 00 56.5	
	comp=Z,34nm,19.6s,baz=125,slow=39						
MKAR	**Makanchi Array**	**29.67**	**331**	P	**P**	**14 49 42.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=137,slow=9.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**34.53**	**341**	P	**P**	**14 50 24.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=149,slow=6.2,SNR=2.3						
WRA	**Warramunga Arr**	**52.03**	**141**	P	**P**	**14 52 45.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=329,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**54.74**	**144**	P	**P**	**14 53 05.0**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=322,slow=7.4,SNR=2.8						

IDC 27 14:52:36.5±2.7, 13°.16S×167°.22E, h0km, mb3.6/4, Error ellipse: s-maj=107.2km s-min=30.2km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.99**	**227**	P	P	14 58 47.1	+0.2
	0.9nm,0.5s,baz=49,slow=9.3,SNR=5.3						
WRA	**Warramunga Arr**	**32.19**	**253**	P	P	14 59 06.4	-0.1
	0.2nm,0.5s,baz=85,slow=9.3,SNR=5.8						
ASAR	**Alice Springs**	**33.21**	**247**	P	P	14 59 15.2	-0.2
	0.5nm,0.5s,baz=75,slow=9.6,SNR=26						
ILAR	**Eielson Array**	**85.06**	**18**	P	P	15 05 13.7	0.0
	0.3nm,0.9s,baz=223,slow=6.2,SNR=4.6						
MKAR	**Makanchi Array**	**96.04**	**317**	P	P	15 06 05.7	-0.2
	0.2nm,0.5s,baz=87,slow=6.8,SNR=4.7						

IDC 27 14:56:25.6±1.9, 4°.81S×152°.35E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=111.5km s-min=25.8km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.10**	**228**	P	P	15 01 33.1	-0.2
	0.2nm,0.3s,baz=52,slow=9.7,SNR=9.5						
ASAR	**Alice Springs**	**25.84**	**222**	P	P	15 01 59.0	0.0
	0.2nm,0.4s,baz=57,slow=9.4,SNR=12						
FITZ	**Fitzroy Crossi**	**29.26**	**241**	P	P	15 02 29.9	+0.2
	1.2nm,0.8s,baz=69,slow=9.5,SNR=5.4						
URZ	**Urewera**	**40.20**	**149**	LR	LR	15 17 17.1	
	comp=Z,58nm,18.2s,baz=90,slow=31						
ILAR	**Eielson Array**	**82.34**	**22**	P	P	15 08 49.0	0.0
	0.5nm,0.7s,baz=250,slow=5.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.88**	**288**	PKPbc	PKPbc	15 16 18.4	-0.5
	0.2nm,0.5s,baz=65,slow=2.6,SNR=2.8						

MEX 27 15:11:07.3±0.4, 17°.63N×103°.22W, h16km±12km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.67**	**350**	*i*P	Pg	15 11 18.0	-2.5
MMIG				*i*S	Sg	15 11 26.3	-3.0
ZIIG	**Zihuatanejo**	**1.68**	**90**	*i*P	Pn	15 11 32.8	-3.1
ZIIG				*i*S	Sn	15 11 52.0	-5.1
R15V		**1.69**	**335**	*i*P	Pn	15 11 32.9	-3.5
R15V				*i*S	Sn	15 11 52.7	-5.1
EZ5V		**1.88**	**349**	*i*P	Pn	15 11 37.1	-2.0
EZ5V				*i*S	Sn	15 11 58.0	-4.7
ARIG	**Puente Sto Nin**	**2.81**	**76**	*i*P	Pn	15 11 48.3	-3.4
ARIG				*i*S	Sn	15 12 21.2	-4.1
SFJM	**Santa Fe**	**2.85**	**3**	*i*P	Pn	15 11 49.0	-3.4

*ISCJB **27** 15:22:45.4±0.9, 37°.54N±0°.06×72°.2E±0°.1, h130km, Error ellipse: s-maj=16.7km s-min=7.3km az=163.2*
*NNC **27** 15:22:48.4±12.0, 37°.69N×71°.82E, h102km±222km, mb2.9, mpv3.5, Error ellipse: s-maj=104.6km s-min=71.4km az=8.0*

ISC 27 15:22:46.4±1.1, 37°.54N±0°.08×72°.2E±0°.1, h130km, n6, σ1§88/9, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.70**	**348**	⇓P	**Pn**	**15 24 10.0**	**+1.2**
	4.9nm,0.4s,baz=162,slow=12						
KK31				⇓S	**Sn**	**15 25 10.4**	**-2.7**
	4.7nm,0.3s,baz=176,slow=24						
THN	**Thein Dam**	**5.87**	**149**	*e*P	**Pn**	**15 24 12.7**	**+1.6**
THN				*e*S	**Sn**	**15 25 16.5**	**-0.7**
DLH	**Dalhousie**	**5.88**	**147**	*e*P	**Sn**	**15 25 15.0**	**-2.9**
TKM2	**Tokmak 2**	**5.98**	**25**	⇑P	**Pn**	**15 24 12.7**	**-0.1**
	1.4nm,0.5s						
TKM2				⇓S	**Sn**	**15 25 20.9**	**+0.8**
	1.8nm,0.5s						
AB31	**Akbulak array**	**14.68**	**327**	P	**Pn**	**15 26 07.8**	**+0.4**
	0.4nm,0.3s,baz=133,slow=14,SNR=34						
AKTO	**Aktyubinsk**	**16.39**	**326**	⇓P	**P**	**15 26 28.4**	**-0.8**
	0.2nm,0.6s						

*MAN **27** 16:04:05, 10°.15N×122°.02E, h2km, mb4.8, ML3.7, MS3.6*
*ISCJB **27** 16:04:06.3±0.7, 10°.10N±0°.05×122°.01E±0°.04, h10km, mb3.4/4, Error ellipse: s-maj=7.4km s-min=5.2km az=20.4*
*IDC **27** 16:04:08.1±1.2, 9°.57N×122°.17E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx1.7/25, Error ellipse: s-maj=147.7km s-min=20.6km az=67.0*

ISC 27 16:04:06.5±1.0, 10°.14N±0°.05×122°.00E±0°.05, h10km, n17, σ1§28/18, mb3.4/4, 2C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.76**	**50**	*e*P	**Pg**	**16 04 20.3**	**-0.8**
GUIM				*e*S	**Sg**	**16 04 32.7**	**+1.7**
CUYO	**Cuyo Island**	**1.20**	**306**	*e*P	**Pn**	**16 04 29.3**	**-0.1**
CUYO				*e*S	**Sb**	**16 04 46.7**	**+1.8**
RCP	**Roxas**	**1.59**	**27**	⇑*e*P	**Pn**	**16 04 35.2**	**+0.4**
RCP				*e*S	**Sn**	**16 04 56.4**	**+0.9**
TBP	**Tagbilaran**	**1.89**	**103**	*e*P	**Pn**	**16 04 38.9**	**0.0**
LLP	**Lapu-Lapu**	**1.94**	**84**	*e*P	**Pn**	**16 04 39.4**	**-0.2**
LLP				*e*S	**Sn**	**16 05 05.0**	**+0.9**
SJMP	**San Jose**	**2.47**	**340**	*e*P	**Pn**	**16 04 46.4**	**-0.4**
PAGZ	**Pagadian**	**2.65**	**149**	*e*P	**Pn**	**16 04 51.5**	**+2.2**
OCLP	**Ormoc**	**2.72**	**70**	*e*P	**Pn**	**16 04 51.0**	**+0.6**
ENPP	**El Nido**	**2.75**	**293**	*e*P	**Pn**	**16 04 51.5**	**+0.9**
MSLP	**Maasin**	**2.82**	**90**	*e*P	**Pn**	**16 04 52.1**	**+0.5**
CTBH	**Cotabato--PC H**	**3.65**	**142**	⇑*i*P	**Pn**	**16 05 03.7**	**+0.7**
LUBP	**Lubang**	**3.97**	**335**	*e*P	**Pn**	**16 05 08.0**	**+0.5**
DAV	**Davao City (W)**	**4.67**	**130**	LR	LR	16 07 15.6	
	comp=Z,106nm,18.8s,baz=176,slow=45						
WRA	**Warramunga Arr**	**32.26**	**158**	P	**P**	**16 10 32.9**	**-2.7**
	0.3nm,0.5s,baz=339,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**35.55**	**161**	P	**P**	**16 11 02.8**	**-1.4**
	0.7nm,0.6s,baz=345,slow=7.5,SNR=16						
SONM	**Songino Array**	**39.82**	**344**	P	P	16 11 49.0	+9.0
	0.2nm,0.6s,baz=153,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**49.65**	**325**	P	P	16 13 04.6	+6.2
	0.2nm,0.7s,baz=126,slow=7.3,SNR=2.8						

IDC 27 16:06:09.9±2.2, 6°.62S×129°.22E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=147.4km s-min=31.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.14**	**160**	Pn	Pn	16 09 32.4	+0.7
	0.1nm,0.3s,baz=342,slow=12,SNR=7.1						
WRA				Sn	Sn	16 11 55.6	-14
	0.2nm,0.3s,baz=336,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.54**	**166**	P	Pn	16 10 15.3	-0.6
	0.1nm,0.3s,baz=340,slow=11,SNR=13						
JNU	**Nakatsue**	**39.56**	**2**	LR	LR	16 28 33.2	
	comp=Z,56nm,18.7s,baz=60,slow=34						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	16 17 07.8	+0.1
	0.2nm,0.4s,baz=116,slow=8.4,SNR=5.6						

*DDA **27** 16:07:28.5, 38°.51N×39°.45E, h7km, MD2.5*
*CSEM **27** 16:07:29.7±0.2, 38°.36N×39°.36E, h16km±2km, MD2.5, Error ellipse: s-maj=7.3km s-min=6.0km az=32.0*
*ISCJB **27** 16:07:30.3±0.6, 38°.41N±0°.04×39°.43E±0°.04, h6km±5km, Error ellipse: s-maj=6.4km s-min=5.5km az=10.4*
*ISK **27** 16:07:30.8, 38°.45N×39°.29E, h10km, MD2.5*

ISC 27 16:07:29.9±0.9, 38°.39N±0°.03×39°.39E±0°.03, h13km±6km, n17, σ1§27/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.07**	**263**	*e*PG	**Pg**	**16 07 32.7**	**-0.1**
SVRC				*e*SG	**Sg**	**16 07 35.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.07**	**263**	*e*Pg	**Pg**	**16 07 32.7**	**-0.1**
SVRC				*e*Sg	**Sg**	**16 07 35.3**	**+0.5**
ELZG	**Elazig**	**0.34**	**289**	*i*P	**Pg**	**16 07 37.1**	**+0.2**
ELZG				*i*S	**Sg**	**16 07 42.6**	**+1.0**
ELZG	**Elazig**	**0.34**	**289**	*i*P	**Pg**	**16 07 37.1**	**+0.2**
ELZG				*i*S	**Sg**	**16 07 42.6**	**+1.0**
PTK	**Pertek**	**0.51**	**0**	*e*PG	**Pg**	**16 07 39.9**	**-0.1**
PTK				*e*SG	**Sg**	**16 07 47.0**	**+0.3**
PTK	**Pertek**	**0.51**	**0**	*e*Pg	**Pg**	**16 07 39.9**	**-0.1**
PTK				*e*Sg	**Sg**	**16 07 47.1**	**+0.3**
DIYA	**Diyarbakir**	**0.74**	**128**	*i*P	**Pb**	**16 07 44.9**	**+0.2**
DIYA				*i*S	**Sg**	**16 07 54.3**	**+0.3**
DIYA	**Diyarbakir**	**0.74**	**128**	*i*P	**Pb**	**16 07 44.9**	**+0.2**
DIYA				*i*S	**Sg**	**16 07 54.3**	**+0.3**
MALT	**Malatya**	**0.76**	**265**	*e*PG	**Pg**	**16 07 44.7**	**0.0**
MALT	**Malatya**	**0.76**	**265**	*e*Pg	**Pg**	**16 07 44.7**	**0.0**
AKCD	**Akcadag**	**1.16**	**266**	*i*P	Pn	**16 07 51.0**	**-0.9**
AKCD				*i*S	**Sg**	**16 08 09.7**	**+2.4**
AKCD	**Akcadag**	**1.16**	**266**	*i*P	Pn	**16 07 51.0**	**-0.9**
AKCD				*i*S	**Sg**	**16 08 09.7**	**+2.4**
BNGB	**Bing¶ll**	**1.18**	**59**	*e*PN	**Pg**	**16 07 54.7**	**+2.1**
ILIC	**ilic-Erzincan**	**1.24**	**329**	*e*PN	**Pb**	**16 07 53.2**	**-0.1**
ILIC	**ilic-Erzincan**	**1.24**	**329**	*e*Pn	**Pb**	**16 07 53.2**	**-0.1**
ATAB	**Bozova**	**1.26**	**224**	*i*P	Pn	**16 07 50.8**	**-2.4**
ATAB				*i*S	**Sg**	**16 08 12.6**	**+2.0**
ATAB	**Bozova**	**1.26**	**224**	*i*P	Pn	**16 07 50.8**	**-2.4**
ATAB				*i*S	**Sg**	**16 08 12.6**	**+2.0**

*NIED **27** 16:23:00, 36°.40N×139°.30E, h135km, Mw4.1 Best double couple: M0 1.83000×10^15 NP1:φs329.00000°, δ61.00000°, λ133.00000°. NP2:φs87.00000°, δ51.00000°, λ39.00000°.*
*ISCJB **27** 16:23:15.5±0.3, 36°.41N±0°.04×139°.36E±0°.06, h143km±2km, mb4.2/43, Error ellipse: s-maj=8.5km s-min=6.1km az=1.3*
*MOS **27** 16:23:16.3±0.9, 36°.58N×139°.21E, h141km, mb4.5/27, Error ellipse: s-maj=12.8km s-min=7.8km az=120.2*
*NEIC **27** 16:23:17.0±1.1, 36°.66N×139°.37E, h136km±8km, mb4.5/12, MW4.1(NIED), Error ellipse: s-maj=23.5km s-min=9.2km az=122.0*
NEIC Recorded [1 JMA] in Gumma, Kanagawa, Saitama, Tochigi, Tokyo and Yamanashi.
*IDC **27** 16:23:17.4±0.7, 36°.34N×139°.14E, h141km±4km, mb3.7/18, mb1 3.8/22, mb1mx3.8/30, mbtmp3.7/22, Error ellipse: s-maj=16.1km s-min=7.6km az=71.0*
*JMA **27** 16:23:17.5±0.1, 36°.36N×139°.34E, h133km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs331.00000°, δ61.00000°, λ139.00000°. NP2: φs83.00000°, δ55.00000°, λ36.00000°. Principal axes: T Plg48.0000°, Azm294.0000°; N Plg42.0000°, Azm122.0000°; P Plg4.0000°, Azm28.0000°;*
JMA Felt I J1.
*BJI **27** 16:23:20.8, 37°.37N×137°.55E, h54km, mB4.8/19, mb4.5/26, Ms4.5/12, Ms7 4.2/13*

ISC 27 16:23:16.9±0.7, 36°.41N±0°.05×139°.31E±0°.06, h140km±5km, n114, σ1§10/125, mb4.2/43, 9C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.12**	**84**	⇑P	**Pn**	**16 23 35.8**	**-0.1**
JAG				S	**Sn**	**16 23 49.7**	**-0.5**
JKT	**Katashina**	**0.36**	**352**	⇑P	**Pn**	**16 23 36.8**	**+0.2**
JKT				S	**Sn**	**16 23 51.1**	**-0.5**
JRY	**Ryogami san**	**0.51**	**220**	⇑P	**Pn**	**16 23 37.5**	**+0.2**
JRY				S	**Sn**	**16 23 52.1**	**-0.6**
MJAR	**Matsushiro Arr**	**0.90**	**279**	P	**Pn**	**16 23 39.7**	**-0.1**
MJAR	103nm,0.3s,baz=105,slow=5.3,SNR=1011						
	94nm,0.3s,baz=46,slow=20,SNR=41			S	**Sn**	**16 23 56.9**	**-0.5**
MAJO	**Matsushiro**	**0.90**	**279**	*e*P	**Pn**	**16 23 39.8**	**-0.1**
MAJO				*e*		16 23 51.8	
MAJO	**Matsushiro**	**0.90**	**279**	*e*Pn	**Pn**

	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,67nm,4.6s						
LZH				LR	LR		
	comp=N,470nm,12.3s						
LZH				LR	LR		
	comp=E,440nm,13.0s						
LZH				LR	LR		
	comp=Z,570nm,16.5s						
ZAK	**Zakamensk**	**29.35 310**	*eP*	**P**		**16 29 05.5**	**-1.0**
GYA	**Guiyang**	**29.45 260**	*eP*	P		16 29 11.5	+3.9
GYA			pP	pP		16 29 25.0	-13
GYA			PP	**PnPn**		**16 30 03.5**	**-5.2**
GYA			S	**S**		**16 33 53.5**	**+1.9**
GYA			ScS	ScS		16 39 51.0	+17
GYA			pmax	pmax			
	comp=Z,10.0nm,0.8s						
GYA			pmax	pmax			
	comp=Z,90nm,4.8s						
GYA			LR	LR			
	comp=N,480nm,16.6s						
GYA			LR	LR			
	comp=E,430nm,17.4s						
GYA			LR	LR			
	comp=Z,450nm,16.0s						
GTA	**Gaotai**	**31.13 288**	*eP*	**P**		**16 29 21.5**	**-0.9**
GTA			pP	pP		16 29 35.3	-17
GTA			sP	sP		16 29 41.5	-27
GTA			pmax	pmax			
	comp=Z,2.0nm,0.6s						
KMI	**Kunming**	**33.19 261**	P	P		16 29 46.0	+5.4
KMI			pmax	pmax			
	comp=Z,7.0nm,1.1s						
WMQ	**Urumqi**	**39.61 297**	*eP*	**P**		**16 30 35.8**	**+1.1**
WMQ			pmax	pmax			
	comp=Z,160nm,5.0s						
CMAR	**Chiang Mai Arr**	**39.70 254**	P	**P**		**16 30 35.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=45,slow=7.0,SNR=6.9						
LSA	**Lhasa**	**40.58 275**	*eP*	**P**		**16 30 42.7**	**-0.6**
LSA			pmax	pmax			
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**40.58 275**	*eP*	**P**		**16 30 43.9**	**+0.6**
	comp=Z,5.9nm,0.7s						
ZAA0	**Zalesovo Array**	**41.09 313**	*eP*	**P**		**16 30 46.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.09 313**	P	**P**		**16 30 46.8**	**+0.2**
	comp=Z,9.1nm,0.5s,baz=88,slow=6.3,SNR=68						
ZALV			PcP	**PcP**		**16 32 43.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=66,slow=2.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**41.09 313**	P	**P**		**16 30 46.8**	**+0.2**
ZALV						16 32 43.3	
ZALV			pmax	pmax			
	comp=Z,9.0nm,0.5s						
ZALV			pmax	pmax			
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**42.05 314**	*eP*	**P**		**16 30 54.2**	**-0.2**
NVS			pmax	pmax			
	comp=N,3.0nm,0.8s						
NVS			pmax	pmax			
	comp=E,8.0nm,0.8s						
NVS			pmax	pmax			
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**43.02 302**	*eP*	**P**		**16 31 01.7**	**-0.7**
MK31	**Makanchi Array**	**43.02 302**	*eP*	**P**		**16 31 02.1**	**-0.3**
MKAR	**Makanchi Array**	**43.02 302**	P	**P**		**16 31 02.9**	**+0.5**
	comp=Z,4.4nm,0.6s,baz=88,slow=9.8,SNR=70						
MKAR	**Makanchi Array**	**43.02 302**	P	**P**		**16 31 02.9**	**+0.5**
MKAR			pmax	pmax			
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**43.02 302**	*eP*	**P**		**16 31 02.6**	**+0.2**
TAPN	**Taplejung**	**44.29 273**	*eP*	**P**		**16 31 13.8**	**+0.6**
	comp=Z,6.9nm,0.3s						
ODAN	**Odare**	**44.76 273**	*eP*	**P**		**16 31 16.9**	**+0.1**
KURK	**Kurchatov**	**44.99 308**	*c iP*	**P**		**16 31 17.5**	**-0.5**
KURK			pmax	pmax			
	comp=Z,33nm,0.8s						
KURK	**Kurchatov**	**44.99 308**	*eP*	**P**		**16 31 17.9**	**-0.1**
	comp=Z,28nm,0.8s						
KURBB	**Kurchatov Arra**	**45.05 308**	P	**P**		**16 31 17.4**	**-1.1**
	comp=Z,70nm,0.3s,baz=85,slow=8.2,SNR=2.5						
RAMN	**Ramite**	**45.36 274**	*eP*	**P**		**16 31 21.5**	**0.0**
	comp=Z,32nm,0.9s						
GUN	**Gumba**	**45.53 275**	*eP*	**P**		**16 31 23.3**	**+0.3**
	comp=Z,16nm,0.5s						
PKI	**Pulchoki**	**46.05 275**	*eP*	**P**		**16 31 26.9**	**-0.2**
PKIN	**Phulchoki**	**46.06 275**	*eP*	**P**		**16 31 27.1**	**0.0**
KKN	**Kakani**	**46.06 275**	*eP*	**P**		**16 31 27.2**	**+0.2**
DANN	**Dangsing**	**47.05 277**	*eP*	**P**		**16 31 35.3**	**+0.5**
	comp=Z,89nm,0.8s						
KOLN	**Koldanda**	**47.42 276**	*eP*	**P**		**16 31 37.8**	**+0.2**
PYUN	**Piuthan**	**47.77 277**	*eP*	**P**		**16 31 40.7**	**+0.4**
	comp=Z,117nm,1.1s						
TKM2	**Tokmak 2**	**48.44 298**	*eP*	**P**		**16 31 44.2**	**-1.0**
TKM2			pmax	pmax			
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**48.44 298**	*eP*	**P**		**16 31 45.6**	**+0.4**
	comp=Z,12nm,0.6s						
TKM2	**Tokmak 2**	**48.44 298**	P	**P**		**16 31 46.2**	**+1.0**
	SNR=25						
KZA	**Kyzart**	**48.91 297**	P	**P**		**16 31 50.8**	**+1.7**
	SNR=8.6						
KBK	**Karagaybulak**	**48.97 298**	P	**P**		**16 31 50.1**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**49.12 299**	P	**P**		**16 31 50.6**	**+0.4**
	SNR=6.0						
AAK	**Ala-Archa**	**49.30 298**	*eP*	**P**		**16 31 52.1**	**+0.4**
AAK			pmax	pmax			
	comp=Z,8.0nm,0.7s						
AAK	**Ala-Archa**	**49.30 298**	*eP*	**P**		**16 31 51.1**	**-0.6**
	comp=Z,3.4nm,0.6s						
AAK	**Ala-Archa**	**49.30 298**	P	**P**		**16 31 52.2**	**+0.5**
	SNR=6.7						
BVAR	**Borovoye Array**	**49.74 312**	P	**P**		**16 31 54.7**	**0.0**
	comp=Z,2.3nm,0.5s,baz=82,slow=7.5,SNR=22						
BVAR	**Borovoye Array**	**49.74 312**	P	**P**		**16 31 54.7**	**0.0**
BVAR			pmax	pmax			
	comp=Z,2.0nm,0.5s						
EKS2	**Erkin-Say**	**49.80 298**	*eP*	**P**		**16 31 54.0**	**-1.5**
EKS2			pmax	pmax			
	comp=Z,4.0nm,0.7s						
EKS2	**Erkin-Say**	**49.80 298**	*eP*	**P**		**16 31 54.0**	**-1.5**
	comp=Z,3.7nm,0.7s						
EKS2	**Erkin-Say**	**49.80 298**	P	**P**		**16 31 56.0**	**+0.5**
	SNR=7.8						
BRVK	**Borovoye**	**49.80 312**	*c iP*	**P**		**16 31 55.9**	**+0.8**
BRVK			pmax	pmax			
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**49.80 312**	*eP*	**P**		**16 31 54.9**	**-0.3**
	comp=Z,5.8nm,1.2s						
AML	**Almayashu**	**50.00 298**	P	**P**		**16 31 58.1**	**+0.7**
	SNR=34						
ILAR	**Eielson Array**	**50.92 32**	P	**P**		**16 32 04.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=269,slow=4.6,SNR=8.7						
KKAR	**Karatay Array**	**51.97 300**	*eP*	**P**		**16 32 10.8**	**-0.8**
KKAR	**Karatay Array**	**51.97 300**	*eP*	**P**		**16 32 11.6**	**0.0**
SVE	**Sverdlovsk**	**54.49 319**	*eP*	**P**		**16 32 30.5**	**+0.8**
SVE			pmax	pmax			
	comp=Z,11nm,1.1s						
ARU	**Arti**	**55.70 318**	*d iP*	**P**		**16 32 38.7**	**+0.3**
ARU			S	**S**		**16 40 12.5**	**-1.2**
ARU			pmax	pmax			
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**55.70 318**	*eP*	**P**		**16 32 38.2**	**-0.2**
	comp=Z,10.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.74 196**	P	**P**		**16 32 38.4**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=200,slow=1.4,SNR=6.9						
WRAB	**Tennant Creek**	**56.23 186**	*eP*	**P**		**16 32 42.7**	**+0.1**
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**56.24 186**	P	**P**		**16 32 42.2**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=0.5,slow=7.6,SNR=35						
ABKAR	**Akbulak array**	**57.04 310**	*eP*	**P**		**16 32 48.0**	**0.0**
	comp=Z,2.8nm,0.4s						
ASAR	**Alice Springs**	**59.97 186**	P	**P**		**16 33 08.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=5.1,slow=5.5,SNR=25						
ARCES	**ARCESS Array B**	**63.98 339**	P	**P**		**16 33 34.2**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=53,slow=8.0,SNR=3.5						
VRHR	**Novokhopersk**	**67.00 317**	*eP*	**P**		**16 33 53.4**	**-1.0**
VRHR			pmax	pmax			
	comp=N,7.0nm,0.6s						
VRHR			pmax	pmax			
	comp=Z,10.0nm,0.6s						
VRHR			pmax	pmax			
	comp=E,3.0nm,0.3s						
OBN	**Obninsk**	**67.57 323**	*i* P	**P**		**16 34 00.2**	**+2.3**
OBN			*e*			16 36 27.3	
OBN			pmax	pmax			
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**67.97 178**	P	**P**		**16 34 01.6**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=339,slow=20,SNR=3.2						
VSR	**Storozhevoye**	**68.28 318**	*eP*	**P**		**16 34 02.2**	**-0.2**
VORD	**Divnogorie**	**68.34 318**	*eP*	**P**		**16 34 02.4**	**-0.4**
VORD			pmax	pmax			
	comp=N,4.0nm,0.6s						
VORD			pmax	pmax			
	comp=E,8.0nm,0.6s						
VORD			pmax	pmax			
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**68.57 332**	P	**P**		**16 34 04.2**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=46,slow=8.2,SNR=10.0						
KBZ	**Khabaz**	**70.01 310**	P	**P**		**16 34 12.7**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=15,slow=2.4,SNR=9.3						
KBZ	**Khabaz**	**70.01 310**	P	**P**		**16 34 12.7**	**-0.6**
KBZ			pmax	pmax			
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**70.03 310**	*eP*	**P**		**16 34 14.8**	**+1.3**
KIV			*eS*	**S**		**16 43 14.9**	**+2.2**
KIV			pmax	pmax			
	comp=Z,8.0nm,1.0s						
ANN	**Anapa**	**72.73 313**	*eP*	**P**		**16 34 30.3**	**+0.7**
ANN			*e*PP*	**PcP**		**16 34 44.8**	**-1.3**
ANN			*e*			16 37 07.8	
ANN			*eS*	**S**		**16 43 41.8**	**-1.7**
ANN			pmax	pmax			
	comp=Z,71nm,1.7s						
AKASG	**Malin Array Be**	**73.74 322**	P	**P**		**16 34 35.1**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=48,slow=5.5,SNR=8.3						
AKASG	**Malin Array Be**	**73.74 322**	P	**P**		**16 34 35.2**	**-0.2**
AKASG			pmax	pmax			
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**74.09 337**	P	**P**		**16 34 37.3**	**0.0**
	comp=Z,2.2nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.09 337**	P	**P**		**16 34 37.4**	**0.0**
	comp=Z,2.8nm,0.7s,baz=40,slow=5.8,SNR=13						
BRTR	**Keskin Array B**	**77.98 311**	P	**P**		**16 35 00.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=109,slow=3.8,SNR=5.7						
CLL	**Collm**	**80.78 329**	*i* P	**P**		**16 35 14.5**	**-0.1**
CLL			pmax	pmax			
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**80.78 329**	*i* P	**P**		**16 35 14.5**	**-0.1**
CLL			*e*PcP	**PcP**		**16 35 20.0**	**-0.9**
GERES	**GERESS Array B**	**82.33 327**	P	**P**		**16 35 23.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=37,slow=5.3,SNR=5.4						
LPAZ	**La Paz**	**148.46 58**	PKPbc	**PKPbc**		**16 42 49.6**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=18,slow=12,SNR=5.3						

*ISCJB **27** 16:42:29.8±0.5, 22.8°N±0.1°×93.6°E±0.1°, h59km, mb3.5/5, Error ellipse: s-maj=24.8km s-min=5.1km az=37.7*
*IDC **27** 16:42:33.7±3.5, 22.89°N×93.85°E, h73km±33km, mb3.3/5, mb1 3.5/6, mb1mx3.2/27, mbtmp3.3/6, ML4.1/1, Error ellipse: s-maj=44.6km s-min=14.6km az=59.0*

ISC 27 16:42:31.3±0.8, 22.7°N±0.1°×93.43°E±0.1°, h59km, n20, σ2s01/29, mb3.6/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.17**	**12**	*ex*		Pn	16 43 01.0	-4.1
IMP				*ex*		Sn	16 43 24.0	-6.9
AGT	**Agartala**	**2.35**	**302**	*i* P		**Sn**	**16 43 36.0**	**+0.8**
AGT				*i* S			16 43 51.0	
SHL	**Shillong**	**3.23**	**334**	*ex*		**Pn**	**16 43 21.6**	**+2.0**
SHL				*ex*		**Sn**	**16 43 55.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**6.64**	**128**	P		**Pn**	**16 44 06.1**	**-0.2**
	1.0nm,0.3s,baz=304,slow=13,SNR=26							
CMAR				S		**Sn**	**16 45 20.6**	**-0.1**
	1.1nm,0.3s,baz=319,slow=24,SNR=8.8							
ODAN	**Odare**	**6.90**	**309**	*ePn*		**Pn**	**16 44 12.8**	**+2.7**
ODAN				*eSn*		**Sn**	**16 45 27.6**	**+0.2**
	109nm,0.3s							
TAPN	**Taplejung**	**6.98**	**313**	*ePn*		**Pn**	**16 44 13.3**	**+2.1**
TAPN				*eSn*		**Sn**	**16 45 29.1**	**-0.3**
	124nm,0.4s							
RAMN	**Ramite**	**7.54**	**306**	*ePn*		**Pn**	**16 44 21.5**	**+2.8**
GUN	**Gumba**	**8.61**	**309**	*ePn*		**Pn**	**16 44 35.7**	**+2.2**
GUN				*eSn*		**Sn**	**16 46 07.8**	**-1.5**
	95nm,0.4s							
PKI	**Pulchoki**	**8.76**	**306**	*ePn*		**Pn**	**16 44 37.5**	**+1.9**
PKI				*eSn*		**Sn**	**16 46 10.9**	**-2.2**
PKIN	**Phulchoki**	**8.78**	**306**	*ePn*		**Pn**	**16 44 38.0**	**+2.3**
PKIN				*eSn*		**Sn**	**16 46 10.9**	**-2.4**
	40nm,0.3s							
KKN	**Kakani**	**8.98**	**306**	*ePn*		**Pn**	**16 44 40.2**	**+1.8**
DMN	**Daman**	**9.01**	**305**	*ePn*		**Pn**	**16 44 40.9**	**+2.0**
KOLN	**Koldanda**	**10.25**	**302**	*ePn*		**Pn**	**16 44 57.1**	**+1.2**
KOLN				*eSn*		**Sn**	**16 46 46.1**	**-3.3**
	45nm,0.3s							
DANN	**Dangsing**	**10.41**	**305**	*ePn*		**Pn**	**16 44 59.4**	**+1.3**
DANN				*eSn*		**Sn**	**16 46 49.7**	**-3.7**
	22nm,0.3s							
PYUN	**Piuthan**	**10.88**	**302**	*ePn*		**Pn**	**16 45 05.5**	**+1.0**
PYUN				*eSn*		**Sn**	**16 47 01.5**	**-3.3**
	31nm,0.4s							
AAK	**Ala-Archa**	**25.41**	**326**	P		**P**	**16 47 54.5**	**+1.0**
	0.4nm,0.5s,baz=159,slow=8.6,SNR=3.7							
MKAR	**Makanchi Array**	**25.71**	**342**	P		**P**	**16 47 56.0**	**+0.1**
	1.5nm,0.7s,baz=150,slow=9.6,SNR=22							
SONM	**Songino Array**	**27.19**	**19**	P		**P**	**16 48 08.2**	**-1.2**
	0.2nm,0.3s,baz=216,slow=7.1,SNR=2.7							
WRA	**Warramunga Arr**	**58.20**	**134**	P		**P**	**16 52 19.0**	**-0.7**
	0.4nm,0.5s,baz=321,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**60.56**	**137**	P		**P**	**16 52 36.6**	**+0.7**
	0.7nm,0.4s,baz=319,slow=6.8,SNR=42							

*ISCJB **27** 16:46:41.2±0.4, 44.27°S±0.03°×170.05°E±0.04, h25km±4km, mb3.9/7, MS3.6/4, Error ellipse: s-maj=5.9km s-min=4.1km az=141.5*
*WEL **27** 16:46:41.9±0.1, 44.26°S×169.99°E, h14km±1km, ML4.8/35, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0,5.*
WEL Felt between West Coast, Otago and Canterbury, maximum reported intensity MM.
*IDC **27** 16:46:42.2±0.6, 43.58°S×169.85°E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.8/6, ML3.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/20, Error ellipse: s-maj=26.2km s-min=9.1km az=11.0*
*NEIC **27** 16:46:42.1, 44.26°S×169.99°E, h14km, mb4.3/3, ML4.9(WEL), After WEL.*
NEIC Felt [V] at Twizel and [IV] at Cromwell, Dunedin, Queenstown and Wanaka. Felt widely in the central part of the South Island.
*AUST **27** 16:46:45.0±4.2, 44.46°S×170.03°E, h29km, Error ellipse: s-maj=2.3km s-min=0.9km az=314.0*

ISC 27 16:46:41.3±1.0, 44.28°S±0.03°×169.99°E±0.03, h10km±7km, n88, σ1s09/85, mb4.0/7, MS3.7/4, 7C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.17**	**127**	P*		**Pb**	**16 46 46.3**	**-0.3**
LBZ				S*		**Sg**	**16 46 49.5**	**+1.9**
FOZ	**Fox Glacier**	**0.75**	**343**	P*		**Pg**	**16 46 55.6**	**-0.2**
FOZ				S*		**Sg**	**16 47 04.9**	**-0.7**
FOZ	**Fox Glacier**	**0.75**	**343**	P*		**Pg**	**16 46 55.5**	**-0.2**
WKZ	**Wanaka**	**0.89**	**232**	P*		**Pg**	**16 46 58.6**	**+0.3**
WKZ				S*		**Sg**	**16 47 10.4**	**+0.5**
WKZ	**Wanaka**	**0.89**	**232**	P*		**Pg**	**16 46 58.6**	**+0.3**
ODZ	**Otahua Downs**	**0.89**	**149**	P*		**Pg**	**16 46 58.1**	**-0.3**
ODZ	**Otahua Downs**	**0.89**	**149**	P*		**Pg**	**16 46 58.1**	**-0.3**
JCZ	**Jackson Bay**	**0.91**	**283**	P*		**Pg**	**16 46 58.9**	**0.0**
JCZ				S*		**Sg**	**16 47 10.7**	**0.0**
JCZ	**Jackson Bay**	**0.91**	**283**	P*		**Pg**	**16 46 58.9**	**0.0**
RPZ	**Rata Peaks**	**0.95**	**54**	Pg		**Pg**	**16 46 59.2**	**-0.4**
	2μm,0.3s,baz=245,slow=6.4,SNR=2753							
RPZ				Lg		Lg	16 47 11.8	
	9μm,0.3s,baz=102,slow=20,SNR=74							
RPZ	**Rata Peaks**	**0.95**	**54**	P*		**Pg**	**16 46 59.2**	**-0.4**
RPZ	**Rata Peaks**	**0.95**	**54**	Pg		**Pg**	**16 46 59.2**	**-0.4**
RPZ				Lg		Lg	16 47 11.8	
EAZ	**Earnscleugh**	**1.07**	**207**	P*		**Pb**	**16 47 01.6**	**-0.2**
EAZ	**Earnscleugh**	**1.07**	**207**	P*		**Pb**	**16 47 01.6**	**-0.2**
WVZ	**Waitaha Valley**	**1.32**	**24**	PN		**Pn**	**16 47 05.2**	**-0.5**
WVZ	**Waitaha Valley**	**1.32**	**24**	Pn		**Pn**	**16 47 05.2**	**-0.5**
MSZ	**Milford Sound**	**1.53**	**255**	PN		**Pn**	**16 47 08.6**	**+0.1**
MSZ	**Milford Sound**	**1.53**	**255**	Pn		**Pn**	**16 47 08.6**	**+0.1**
MLZ	**Mavora Lakes**	**1.68**	**230**	PN		**Pn**	**16 47 11.1**	**+0.4**
MLZ	**Mavora Lakes**	**1.68**	**230**	Pn		**Pn**	**16 47 11.0**	**+0.4**
TUZ	**Tuapeka**	**1.69**	**189**	PN		**Pn**	**16 47 10.0**	**-0.8**
TUZ	**Tuapeka**	**1.69**	**189**	Pn		**Pn**	**16 47 11.0**	**+0.2**
MQZ	**McQueen's Vall**	**2.00**	**74**	PN		**Pn**	**16 47 14.2**	**-0.9**
MQZ	**McQueen's Vall**	**2.00**	**74**	Pn		**Pn**	**16 47 14.2**	**-0.9**
CRLZ	**Canterbury Las**	**2.03**	**70**	PN		**Pn**	**16 47 14.6**	**-0.8**
CRLZ	**Canterbury Las**	**2.03**	**70**	Pn		**Pn**	**16 47 14.5**	**-0.8**
WHZ	**Wether Hill Ro**	**2.17**	**221**	PN		**Pn**	**16 47 16.2**	**-1.2**
WHZ	**Wether Hill Ro**	**2.17**	**221**	Pn		**Pn**	**16 47 16.1**	**-1.2**
LTZ	**Lake Taylor**	**2.23**	**49**	PN		**Pn**	**16 47 18.0**	**-0.4**
LTZ	**Lake Taylor**	**2.23**	**49**	Pn		**Pn**	**16 47 17.9**	**-0.4**
SYZ	**Scrubby Hill**	**2.33**	**195**	PN		**Pn**	**16 47 18.6**	**-1.0**
SYZ	**Scrubby Hill**	**2.33**	**195**	Pn		**Pn**	**16 47 18.6**	**-1.0**
DCZ	**Deep Cove**	**2.34**	**238**	PN		**Pn**	**16 47 19.5**	**-0.3**
DCZ	**Deep Cove**	**2.34**	**238**	Pn		**Pn**	**16 47 19.5**	**-0.3**
DSZ	**Denniston Nort**	**2.86**	**28**	PN		**Pn**	**16 47 26.2**	**-0.7**
DSZ	**Denniston Nort**	**2.86**	**28**	Pn		**Pn**	**16 47 26.2**	**-0.7**
APZ	**The Paps**	**2.91**	**208**	Pn		**Pn**	**16 47 25.8**	**-1.8**
PYZ	**Puysegur Point**	**3.00**	**230**	PN		**Pn**	**16 47 28.1**	**-0.7**
PYZ	**Puysegur Point**	**3.00**	**230**	Pn		**Pn**	**16 47 27.8**	**-1.0**
KHZ	**Kahutara**	**3.19**	**55**	PN		**Pn**	**16 47 30.6**	**-0.8**
KHZ	**Kahutara**	**3.19**	**55**	Pn		**Pn**	**16 47 30.6**	**-0.8**
THZ	**Tophouse**	**3.30**	**41**	PN		**Pn**	**16 47 32.5**	**-0.5**
THZ	**Tophouse**	**3.30**	**41**	Pn		**Pn**	**16 47 32.3**	**-0.7**
QRZ	**Quartz Range**	**3.93**	**29**	PN		**Pn**	**16 47 41.3**	**-0.3**
QRZ	**Quartz Range**	**3.93**	**29**	Pn		**Pn**	**16 47 41.1**	**-0.5**
NNZ	**Nelson**	**3.95**	**40**	PN		**Pn**	**16 47 41.2**	**-0.6**
NNZ	**Nelson**	**3.95**	**40**	Pn		**Pn**	**16 47 41.0**	**-0.8**
SNZO	**South Karori**	**4.57**	**51**	*ePn*		Pn	16 47 46.3	-4.0
MSWZ	**Moikau Station**	**4.81**	**55**	PN		**Pn**	**16 47 52.7**	**-1.0**
MSWZ	**Moikau Station**	**4.81**	**55**	Pn		**Pn**	**16 47 52.5**	**-1.2**
OGWZ	**Otaki Gorge**	**5.16**	**50**	PN		**Pn**	**16 47 57.4**	**-1.1**
OGWZ	**Otaki Gorge**	**5.16**	**50**	Pn		**Pn**	**16 47 57.4**	**-1.1**
TMWZ	**Te Maipa**	**5.38**	**56**	PN		**Pn**	**16 48 00.3**	**-1.2**
TMWZ	**Te Maipa**	**5.38**	**56**	Pn		**Pn**	**16 48 00.3**	**-1.2**
MRZ	**Mangatainoka R**	**5.49**	**51**	PN		**Pn**	**16 48 00.9**	**-2.1**
MRZ	**Mangatainoka R**	**5.49**	**51**	Pn		**Pn**	**16 48 00.5**	**-2.5**
URZ	**Urewera**	**8.06**	**44**	Pn		**Pn**	**16 48 35.5**	**-2.7**
	0.6nm,0.3s,baz=209,slow=14,SNR=6.5							
URZ				Sn		Sn	16 50 01.6	-7.8
	4.1nm,0.3s,baz=297,slow=20,SNR=7.6							
URZ	**Urewera**	**8.06**	**44**	*ePn*		**Pn**	**16 48 35.3**	**-2.9**
	22nm,0.7s							
OUZ	**Omahuta**	**9.47**	**18**	*ePn*		Pn	16 48 50.9	-6.6
	21nm,0.5s							
MILA	**Mila**	**17.35**	**287**	P		**P**	**16 50 46.1**	**+1.2**
	baz=17,SNR=6.2							
STKA	**Stephens Creek**	**25.42**	**290**	P		**P**	**16 52 10.1**	**+1.2**
	1.2nm,0.7s,baz=87,slow=11,SNR=3.7							
STKA				LR		LR	17 00 47.0	
	comp=Z,99nm,19.2s,baz=204,slow=34							
STKA	**Stephens Creek**	**25.42**	**290**	P		**P**	**16 52 10.1**	**+1.2**
CTAO	**Charters Tower**	**31.18**	**313**	*eP*		**P**	**16 52 58.9**	**-1.6**
	5.0nm,0.8s							
VNDA	**Vanda**	**33.51**	**183**	LR		LR	17 04 33.6	
	comp=Z,206nm,20.7s,baz=120,slow=31							
ASAR	**Alice Springs**	**35.91**	**293**	P		**P**	**16 53 40.9**	**-0.9**
	0.7nm,0.7s,baz=130,slow=7.8,SNR=14							
ASAR				LR		LR	17 07 09.8	
	comp=Z,111nm,18.1s,baz=134,slow=34							
ASAR	**Alice Springs**	**35.91**	**293**	P		**P**	**16 53 40.9**	**-0.9**
WRAB	**Tennant Creek**	**38.28**	**298**	*eP*		**P**	**16 54 00.8**	**-1.0**
	1.7nm,0.6s							
WRA	**Warramunga Arr**	**38.28**	**298**	P		**P**	**16 54 00.8**	**-1.0**
	1.6nm,0.6s,baz=137,slow=7.7,SNR=59							
WRA	**Warramunga Arr**	**38.28**	**298**	P			**16 54 00.8**	**-1.0**
TBI	**Tubuai**	**39.12**	**71**	*eLR*		LR	17 04 36.2	
	104nm,28.5s							
PPT2	**Papeete2**	**43.08**	**65**	*eLR*		LR	17 06 38.2	
	100nm,24.2s							
FITZ	**Fitzroy Crossi**	**45.30**	**291**	LR		LR	17 13 53.4	
	comp=Z,90nm,19.4s,baz=112,slow=36							
QSPA	**South Pole Qui**	**45.84**	**180**	P		P	16 55 10.5	+7.4
	3.8nm,1.1s,baz=21,slow=4.8,SNR=19							
QSPA	**South Pole Qui**	**45.84**	**180**	*eP*		**P**	**16 55 04.5**	**+1.3**
	3.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.86**	**296**	P		**P**	**16 59 41.5**	**+1.1**
	0.3nm,0.8s,baz=139,slow=2.9,SNR=2.6							
CMAR	**Chiang Mai Arr**	**89.86**	**296**	P		**P**	**16 59 41.5**	**+1.1**
MKAR	**Makanchi Array**	**119.06**	**308**	PKP		**PKPdf**	**17 05 31.1**	**+1.5**
	0.1nm,0.8s,baz=170,slow=1.8,SNR=2.2							
MKAR	**Mak

AFI Afiamalu 42.63 104 LR LR 17 12 51.9
comp=Z,320nm,20.1s,baz=259,slow=31

IDC 27 17:12:42.5±3.4, 31°27'S×176°67'W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=81.1km s-min=37.8km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.65**	**215**	Pn	Pn	17 14 48.8	-0.1
	0.1nm,0.3s,baz=160,slow=18,SNR=3.9						
URZ				Sn	Sn	17 16 27.4	+0.2
	0.4nm,0.3s,baz=107,slow=15,SNR=7.3						
ASAR	**Alice Springs**	**44.21**	**267**	P	P	17 20 53.7	+0.1
	0.4nm,0.9s,baz=99,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**45.28**	**272**	P	P	17 21 01.9	-0.2
	0.3nm,0.4s,baz=111,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**146.35**	**340**	PKPbc	PKPdf	17 32 23.6	+0.3
	3.5nm,1.0s,baz=42,slow=4.5,SNR=4.2						

---

*SZGRF **27** 17:26:41.1, 18°.66S×68°.91W, h33km, mb5.5, MS4.6, Chile-Bolivia border region*
*ISCJB **27** 17:26:41.8±0.1, 19°.05S±0°.02×69°.31W±0°.03, h115km, mb5.3/180, Error ellipse: s-maj=4.0km s-min=3.0km az=154.8*
*MOS **27** 17:26:41.2±1.1, 18°.93S×69°.18W, h106km, mb5.6/56, Error ellipse: s-maj=9.5km s-min=6.2km az=106.5*
*NEIC **27** 17:26:42.9±0.2, 19°.08S×69°.21W, mb5.4/142, Error ellipse: s-maj=5.0km s-min=4.1km az=71.0*
NEIC Felt [IV] at Pica; [III] at Alto Hospicio, Camina, Colchane, Huara, Iquique and Pozo Almonte; [II] at Arica, Pisagua and Putre. Felt [II] at Tacna, Peru.
*GUC **27** 17:26:42.9±0.9, 19°.21S×69°.56W, h115km±5km, ML5.7*
*LDG **27** 17:26:43.2±0.3, 18°.61S×69°.26W, h120km, Mb5.3/31, Ms4.2/10, Error ellipse: s-maj=20.4km s-min=11.1km az=39.0*
*IDC **27** 17:26:43.8±0.4, 19°.07S×69°.34W, h118km±3km, mb4.8/23, mb1 4.9/24, mb1mx4.8/27, mbtmp4.8/24, MS4.3/8, Ms1 4.3/8, ms1mx4.0/28, Error ellipse: s-maj=11.9km s-min=10.2km az=37.0*
*BJI **27** 17:26:45.3, 19°.00S×69°.20W, h114km, mB5.3/24*
*GCMT **27** 17:26:46.2±0.2, 19°.27S×69°.70W, h132km±1km, MW5.4, Moment Tensor Solution. s80,c130; s93,c156; Moment tensor: Scale 10^17^Nm; Mrr~0.63±.03; Mθθ~0.16±.03; Mφφ~0.78±.04; Mrθ~0.03±.02; Mrφ~0.02±.03; Mθφ~1.43±.02; Best double couple: M0~1.60000×10^17^ NP1:φ1≈179.00000°, δ1≈3.00000°, λ1≈-90.00000°. NP2:φ2≈359.00000°, δ2≈77.00000°, λ2≈-90.00000°. Principal axes: T 1.6700, Plg32.0000°, Azm89.0000°; N -0.1600, Plg0.0000°, Azm359.0000°; P -1.5200, Plg58.0000°, Azm269.0000°; Data Used: II IU IC G CN.*

ISC 27 17:26:43.0±0.2, 19°.17S±0°.03×69°.43W±0°.04, h116km, h116km:pP-P, n963, σ1934/1132, mb5.3/179, 234C-207D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.16**	**282**	*e*P	**Pn**	**17 26 59.4**	**0.0**
MNMC				*i* S	**Sn**	**17 27 11.6**	**-0.1**
MNMC				AML	AML	17 27 13.5	
	comp=E,532μm,0.7s						
PSGC	**Pisagua**	**0.78**	**236**↑	*i*P	**Pn**	**17 27 02.1**	**-0.6**
PSGC				*i* S	**Sn**	**17 27 16.1**	**-1.5**
PSGC	**Pisagua**	**0.78**	**236**↑	*i*P	**Pn**	**17 27 02.1**	**-0.6**
PSGC				*i* S	**Sn**	**17 27 16.1**	**-1.5**
PSGC				AML	AML	17 27 17.5	
	comp=N,169μm,0.5s						
ARCH	**Arica**	**1.06**	**309**	*e*P	**Pn**	**17 27 04.6**	**-0.6**
ARCH				*e*S	**Sn**	**17 27 21.1**	**-1.0**
ARCH	**Arica**	**1.06**	**309**	*e*P	**Pn**	**17 27 04.6**	**-0.6**
ARCH				*e*S	**Sn**	**17 27 21.1**	**-1.0**
ARCH				AML	AML	17 27 22.4	
	comp=E,105μm,0.3s						
HMBC	**Humberstone**	**1.19**	**201**↑	*i*P	**Pn**	**17 27 06.4**	**-0.4**
HMBC				*i* S	**Sn**	**17 27 23.9**	**-0.9**
HMBC	**Humberstone**	**1.19**	**201**↑	*i*P	**Pn**	**17 27 06.4**	**-0.4**
HMBC				*i* S	**Sn**	**17 27 23.9**	**-0.9**
HMBC				AML	AML	17 27 26.7	
	comp=N,350μm,0.5s						
PB01	**Plate Boundary**	**1.87**	**182**	*e*P	**Pn**	**17 27 14.9**	**+0.2**
PB01				*i* S	**Sn**	**17 27 38.4**	**-0.5**
PB01				AML	AML	17 27 41.6	
	comp=E,62μm,0.5s						
PB07	**Plate Boundary**	**2.58**	**189**↑	*e*P	**Pn**	**17 27 23.7**	**-0.2**
PB07				*e*S	**Sn**	**17 27 50.8**	**-4.5**
PB09	**Plate Boundary**	**2.62**	**176**	*e*P	**Pn**	**17 27 25.0**	**+0.6**
PB09				AML	AML	17 27 59.1	
	comp=E,79μm,0.5s						
MACH	**Maria Elena**	**3.03**	**186**	*e*P	**Pn**	**17 27 30.3**	**+0.5**
MACH	**Maria Elena**	**3.03**	**186**	*e*P	**Pn**	**17 27 30.3**	**+0.5**
PB04	**Plate Boundary**	**3.08**	**181**	*e*P	**Pn**	**17 27 31.0**	**+0.8**
LPAZ	**La Paz**	**3.12**	**24**	P	**Pn**	**17 27 33.5**	**+2.2**
	comp=E,118nm,0.3s,baz=214,slow=6.0,SNR=1928						
LPAZ				S	**Sn**	**17 28 09.9**	**+1.4**
	comp=E,36nm,0.3s,baz=240,slow=18,SNR=5.2						
LPAZ	**La Paz**	**3.12**	**24**↑	*i*Pn	**Pn**	**17 27 33.5**	**+2.2**
LPAZ				*e*Sn	Sn	17 27 53.0	-16
LPAZ				S	**Sn**	**17 28 09.9**	**+1.4**
ARE	**Arequipa**	**3.33**	**324**↑	*i*P	**Pn**	**17 27 32.5**	**-1.3**
ARE				*i* S	**Sn**	**17 28 08.3**	**-4.7**
ARE	**Arequipa**	**3.33**	**324**↑	*i*P	**Pn**	**17 27 32.5**	**-1.3**
ARE				*i* S	**Sn**	**17 28 08.3**	**-4.7**
MECH	**Mejillones**	**4.03**	**193**	P	**Pn**	**17 27 42.1**	**-0.7**
MECH	**Mejillones**	**4.03**	**193**	*e*P	**Pn**	**17 27 42.1**	**-0.7**
CEN1	**Los Morros**	**4.26**	**190**	P	**Pn**	**17 27 47.3**	**+1.2**
CEN1	**Los Morros**	**4.26**	**190**↓	*e*P	**Pn**	**17 27 47.3**	**+1.2**
ANCH	**Antofagasta**	**4.59**	**191**	P	**Pn**	**17 27 48.6**	**-1.7**
ANCH	**Antofagasta**	**4.59**	**191**	*e*P	**Pn**	**17 27 48.6**	**-1.7**
SIV	**San Ignacio**	**8.57**	**70**	P	**Pn**	**17 28 42.0**	**-2.3**
	comp=E,46nm,0.3s,baz=263,slow=12,SNR=661						
SIV	**San Ignacio**	**8.57**	**70**	P	**Pn**	**17 28 42.0**	**-2.3**
NNA	**Nana**	**10.09**	**314**	P	**Pn**	**17 29 02.9**	**-1.9**
	comp=E,9.2nm,0.3s,baz=133,slow=11,SNR=12						
NNA				LR	LR	17 33 48.7	
	comp=E,375nm,20.4s,baz=163,slow=42						
NNA	**Nana**	**10.09**	**314**	*e*Pn	**Pn**	**17 29 02.3**	**-2.6**
	comp=E,94nm,0.8s						
NNA	**Nana**	**10.09**	**314**	Pn	**Pn**	**17 29 02.4**	**-2.5**
	comp=E,280nm,0.4s,SNR=5.5						
SAML	**Samuel**	**11.82**	**32**↑	*i*Pn	Pn	17 29 24.4	-3.7
	comp=E,4.0nm,1.2s						
SAML				*e*Sn	Sn	17 31 30.2	-8.0
CFAA	**Coronel Fontan**	**12.43**	**175**	P	Pn	17 29 32.6	-3.3
	comp=E,0.5nm,0.3s,baz=349,slow=14,SNR=21						
CFAA	**Coronel Fontan**	**12.43**	**175**	P	Pn	17 29 32.6	-3.3
CLCH	**Cerro Calan**	**14.21**	**184**	*e*P	**P**	**17 30 02.0**	**-0.8**
ATAH	**Atahualpa**	**14.79**	**323**	P	**Pn**	**17 30 05.7**	**-1.2**
	comp=E,0.2nm,0.3s,baz=109,slow=13,SNR=3.5						
ATAH	**Atahualpa**	**14.79**	**323**	P	**Pn**	**17 30 05.7**	**-1.2**
TRQA	**Tornquist**	**19.91**	**163**↑	*i*P	**Pn**	**17 31 06.0**	**-2.2**
	comp=E,742nm,1.6s						
TRQA				*e*Sn	S	17 34 32.4	-11
BDFB	**Brasilia**	**20.73**	**84**	P	**P**	**17 31 13.8**	**-0.8**
	comp=E,85nm,0.5s,baz=256,slow=12,SNR=20						
BDFB	**Brasilia**	**20.73**	**84**	P	**P**	**17 31 13.8**	**-0.8**
SPB	**Sao Paulo**	**20.95**	**106**↑	*e*P	**P**	**17 31 13.8**	**-3.0**
	comp=E,339nm,1.1s						
SPB				*e*S	S	17 34 57.1	-6.7
OTAV	**Otavalo**	**21.22**	**334**	*e*P	**P**	**17 31 20.1**	**0.0**
	comp=E,115nm,1.4s						
OTAV				*e*pP	pP	17 31 46.4	+4.6
OTAV				*e*S	Sn	17 35 16.6	-8.5
PLCA	**Paso Flores**	**21.52**	**182**	P	**P**	**17 31 22.8**	**0.0**
	comp=E,84nm,1.0s,baz=0.4,slow=11,SNR=37						
PLCA	**Paso Flores**	**21.52**	**182**	P	**P**	**17 31 22.8**	**0.0**
PLCA				*e*pP	pP	17 31 48.6	+4.2
ROSC	**El Rosal**	**24.35**	**348**	LR	LR	17 41 00.6	
	comp=E,464nm,21.8s,baz=186,slow=35						
ROSC	**El Rosal**	**24.35**	**348**	P	**P**	**17 31 51.1**	**+0.4**
PAYG	**Puerto Ayora**	**27.49**	**310**	*e*P	**P**	**17 32 20.8**	**+2.1**
	comp=E,53nm,1.3s						
SDV	**Santo Domingo**	**27.90**	**357**	*e*P	**P**	**17 32 21.0**	**-1.4**
	comp=E,0.5nm,1.2s						
BCIP	**Isla Barro Col**	**29.96**	**339**	P	**P**	**17 32 41.7**	**+1.2**
	comp=E,32nm,0.7s						
BCIP				*e*pP	**pP**	**17 33 06.4**	**+0.5**
JTS	**JuntasAbangare**	**33.03**	**331**	P	**P**	**17 33 07.9**	**+0.5**
	comp=E,22nm,1.0s,baz=147,slow=3.3,SNR=14						
JTS	**JuntasAbangare**	**33.03**	**331**	*e*P	**P**	**17 33 07.7**	**+0.3**
	comp=E,168nm,1.8s						
EFI	**East Falkland**	**33.66**	**167**	*e*P	**P**	**17 33 13.5**	**+1.1**
EFI				*e**SP	**sP**	**17 33 51.9**	**+0.4**
EFI				pmax	pmax		
	comp=E,85nm,1.1s						
EFI	**East Falkland**	**33.66**	**167**	*e*P	**P**	**17 33 13.5**	**+1.1**
	comp=E,85nm,1.1s						
EFI				*e*pP	pP	17 33 42.4	+4.3
EFI				*es*P	**sP**	**17 33 51.9**	**+0.4**
FDF	**Fort de France**	**34.66**	**14**	*e*P	**P**	**17 33 19.2**	**-2.3**
FDF				pmax	pmax		
	comp=E,71nm,0.6s						
FDF	**Fort de France**	**34.66**	**14**	*e*P	**P**	**17 33 19.2**	**-2.3**
	comp=Z,71nm,0.6s						
RCBR	**Riachuelo**	**35.23**	**72**	P	**P**	**17 33 26.3**	**-0.2**
	comp=Z,123nm,0.8s,baz=237,slow=9.5,SNR=64						
RCBR				LR	LR	17 48 39.0	
	comp=Z,516nm,18.8s,baz=215,slow=38						
RCBR	**Riachuelo**	**35.23**	**72**↑	*e*P	**P**	**17 33 25.1**	**-1.4**
	comp=Z,172nm,0.9s						
RCBR				*e*pP	**pP**	**17 33 51.1**	**-1.2**
RCBR				*e*PP	**PnPn**	**17 34 43.0**	**-5.6**
USHA	**Ushuaia**	**35.61**	**179**	P	**P**	**17 33 31.0**	**+1.8**
	comp=Z,14nm,0.9s,baz=260,slow=6.4,SNR=3.8						
USHA	**Ushuaia**	**35.61**	**179**	P	**P**	**17 33 31.0**	**+1.8**
CRPR	**Cabo Rojo, PR**	**37.01**	**4**	*e*P	**P**	**17 33 40.0**	**-1.5**
	comp=Z,32nm,1.0s						
OBIP	**Obispado Ponce**	**37.08**	**4**	*e*P	**P**	**17 33 41.0**	**-1.1**
	comp=Z,56nm,0.9s						
CELP	**Cerrillos**	**37.11**	**5**	*e*P	**P**	**17 33 40.6**	**-1.8**
LSP	**Las Mesas**	**37.18**	**4**	P	**P**	**17 33 41.6**	**-1.4**
SJG	**San Juan**	**37.18**	**5**	P	**P**	**17 33 41.1**	**-1.9**
	comp=Z,22nm,0.7s,baz=289,slow=22,SNR=6.7						
SJG	**San Juan**	**37.18**	**5**	P	**P**	**17 33 41.1**	**-1.9**
LRS	**Lares**	**37.31**	**4**	*e*P	**P**	**17 33 42.9**	**-1.2**
LRS				*e*pP	**pP**	**17 34 10.1**	**0.0**
LRS				*es*P	**sP**	**17 34 22.8**	**-0.6**
SDDR	**Presa de Saban**	**37.95**	**357**	*e*P	**P**	**17 33 50.8**	**+1.3**
	comp=Z,16nm,0.9s						
TEIG	**Tepich**	**43.29**	**334**	P	**P**	**17 34 33.0**	**-0.2**
	comp=Z,38nm,0.9s,baz=151,slow=9.9,SNR=6.8						
TEIG	**Tepich**	**43.29**	**334**	P	**P**	**17 34 33.0**	**-0.2**
TEIG				*e*pP	**pP**	**17 34 58.8**	**-1.1**
CMIG	**Matias Romero**	**43.86**	**324**	P	**P**	**17 34 38.8**	**+0.7**
	comp=Z,30nm,1.1s,baz=127,slow=6.4,SNR=18						
CMIG	**Matias Romero**	**43.86**	**324**	P	**P**	**17 34 38.8**	**+0.7**
PMSA	**Palmer Station**	**45.72**	**177**	P	P	17 34 58.6	+6.5
	comp=Z,325nm,1.9s						
DWPF	**Disney**	**48.41**	**346**	P	**P**	**17 35 15.1**	**+1.7**
	comp=Z,28nm,0.8s						
BBSR	**BB Station**	**51.44**	**5**	P	**P**	**17 35 34.9**	**-1.4**
	comp=Z,13nm,0.6s						
TIGA	**Tifton**	**52.12**	**345**	↓P	**P**	**17 35 41.1**	**-0.2**
	baz=52						
NHSC	**New Hope**	**52.98**	**349**	*e*P	**P**	**17 35 47.3**	**-0.3**
	comp=Z,147nm,1.1s						
NHSC				*e*pP	**pP**	**17 36 14.1**	**-1.1**
NHSC				*es*P	**sP**	**17 36 28.0**	**0.0**
JSC	**Jenkinsville**	**54.33**	**348**	*e*P	**P**	**17 35 56.9**	**-0.6**
JSC	**Jenkinsville**	**54.33**	**348**	*e*P	**P**	**17 35 56.9**	**-0.6**
LRAL	**Lakeview Retre**	**54.55**	**342**	*e*P	**P**	**17 35 58.0**	**-1.1**
	comp=Z,71nm,1.7s						
LRAL				*e*pP	**pP**	**17 36 22.6**	**-4.2**
VBMS	**Vicksburg**	**54.94**	**338**	P	**P**	**17 36 01.9**	**0.0**
HKT	**Hockley**	**55.06**	**332**	*e*P	**P**	**17 36 03.6**	**+0.8**
HKT				*e**PP	**pP**	**17 36 31.1**	**+0.7**
HKT				*e**SP	**sP**	**17 36 43.6**	**+0.4**
HKT				pmax	pmax		
	comp=Z,128nm,1.6s						
HKT	**Hockley**	**55.06**	**332**	*e*P	**P**	**17 36 03.6**	**+0.8**
	comp=Z,128nm,1.6s						
HKT				*e*pP	**pP**	**17 36 31.1**	**+0.7**
HKT				*es*P	**sP**	**17 36 43.6**	**+0.4**
KMSC	**Kings Mountain**	**55.18**	**348**	↑P	**P**	**17 36 03.5**	**-0.1**
	baz=55,SNR=8.6						
732A	**Laxson Ranch,**	**56.02**	**327**	↓P	**P**	**17 36 09.9**	**+0.2**
	baz=56,SNR=13						
TKL	**Tuckaleechee C**	**56.19**	**346**	*e*P	**P**	**17 36 10.0**	**-0.9**
TKL				*e*pP	**pP**	**17 36 36.3**	**-2.4**
SWET	**Sewanee**	**56.30**	**344**	*e*P	**P**	**17 36 10.7**	**-1.0**
	comp=Z,34nm,0.8s						
SWET				*e*pP	**pP**	**17 36 38.2**	**-1.3**
632A	**Uvalde**	**56.55**	**328**	↑P	**P**	**17 36 13.8**	**+0.2**
	baz=57,SNR=23						
OXF	**Oxford**	**56.66**	**340**	*e*P	**P**	**17 36 12.9**	**-1.3**
OXF				*e**PP	**pP**	**17 36 41.1**	**-0.9**
OXF				pmax	pmax		
	comp=Z,77nm,1.0s						
OXF	**Oxford**	**56.66**	**340**	*e*P	**P**	**17 36 12.9**	**-1.3**
	comp=Z,77nm,1.0s						
OXF				*e*pP	**pP**	**17 36 41.1**	**-0.9**
631A	**Perdido Creek**	**56.88**	**327**	↓P	**P**	**17 36 15.7**	**-0.1**
	baz=57,SNR=20						
TZTN	**Tazewell**	**56.99**	**346**	*e*P	**P**	**17 36 15.7**	**-0.8**
	comp=Z,42nm,1.5s						
TZTN				*e*pP	**pP**	**17 36 43.1**	**-1.2**
TZTN				*es*P	**sP**	**17 36 56.2**	**-0.9**
BLA	**Blacksburg**	**57.02**	**350**	*e*P	**P**	**17 36 16.8**	**0.0**
BLA				*e**PP	**pP**	**17 36 43.6**	**-1.0**
BLA				pmax	pmax		
	comp=Z,45nm,1.3s						
BLA	**Blacksburg**	**57.02**	**350**	*e*P	**P**	**17 36 16.8**	**0.0**
	comp=Z,45nm,1.3s						
BLA				*e*pP	**pP**	**17 36 43.6**	**-1.0**
532A	**Rocksprings**	**57.12**	**328**	↑P	**P**	**17 36 17.7**	**+0.1**
	baz=57,SNR=19						
531A	**Rocksprings**	**57.47**	**328**	↓P	**P**	**17 36 20.5**	**+0.4**
	baz=58,SNR=33						
WHTX	**Lake Whitney**	**57.52**	**332**	↓P	**P**	**17 36 20.4**	**+0.1**
	baz=58,SNR=14						
432A	**Menard**	**57.68**	**329**	↑P	**P**	**17 36 21.5**	**0.0**
	baz=58,SNR=28						
WVT	**Waverly**	**57.69**	**342**	*e*P	**P**	**17 36 19.6**	**-1.8**
WVT				*e**PP	**pP**	**17 36 47.5**	**-1.8**
WVT				pmax	pmax		
	comp=Z,39nm,0.9s						
WVT	**Waverly**	**57.69**	**342**	*e*P	**P**	**17 36 19.6**	**-1.8**
	comp=Z,39nm,0.9s						
WVT				*e*pP	**pP**	**17 36 47.5**	**-1.8**
530A	**J-C Ranch, Com**	**57.86**	**327**	↑P	**P**	**17 36 22.9**	**+0.2**
	baz=58,SNR=20						
UALR	**University of**	**57.90**	**338**	*e*P	**P**	**17 36 22.2**	**-0.6**
	comp=Z,34nm,1.1s						
UALR				*e*pP	**pP**	**17 36 50.3**	**-0.5**
431A	**Sonora**	**57.92**	**328**	↑P	**P**	**17 36 23.0**	**-0.2**
	baz=58,SNR=26						
HALT	**Halls**	**57.93**	**341**	P	**P**	**17 36 22.1**	**-0.9**
332A	**Millersview**	**58.07**	**329**	↑P	**P**	**17 36 24.3**	**+0.1**
	baz=58,SNR=17						
628A	**Black Gap, Mar**	**58.14**	**326**	↑P	**P**	**17 36 25.4**	**+0.6**
	baz=58,SNR=51						
GNAR	**Gosnell**	**58.19**	**340**	*e*P	**P**	**17 36 24.5**	**-0.4**
	comp=Z,533nm,0.7s						
529A	**Stev Forest Ra**	**58.30**	**327**	↑P	**P**	**17 36 26.1**	**+0.2**
	baz=59,SNR=27						
430A	**Baggett Ranch,**	**58.32**	**328**	↑P	**P**	**17 36 25.9**	**-0.1**
	baz=59,SNR=12						
331A	**San Angelo**	**58.34**	**329**	↓P	**P**	**17 36 25.8**	**-0.3**
	baz=59,SNR=9.8						
627A	**Terlingua Ranc**	**58.39**	**325**	↑P	**P**	**17 36 26.7**	**+0.1**
	baz=59,SNR=31						
TXAR	**Lajitas Array**	**58.44**	**325**	P	**P**	**17 36 26.7**	**-0.2**
	comp=Z,9.8nm,1.0s,baz=141,slow=8.1,SNR=38						
TXAR				pP	**pP**	**17 36 55.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=158,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**58.44**	**325**	P	**P**	**17 36 26.7**	**-0.2**
TXAR				pP	**pP**	**17 36 55.0**	**+0.1**
429A	**Davenport Ranc**	**58.53**	**327**	↑P	**P**	**17 36 27.7**	**+0.2**
	baz=59,SNR=20						
528A	**Cox Ranch, San**	**58.62**	**326**	↑P	**P**	**17 36 28.2**	**+0.1**
	baz=59,SNR=13						
PARMO	**Parma**	**58.75**	**341**	*e*P	**P**	**17 36 28.2**	**-0.5**
PARMO				*e*pP	**pP**	**17 36 56.1**	**-0.7**
330A	**Mertzon**	**58.79**	**328**	↑P	**P**	**17 36 28.9**	**-0.3**
	baz=59,SNR=13						
231A	**Bronte**	**58.80**	**329**	↑P	**P**	**17 36 28.9**	**-0.4**
	baz=59,SNR=6.3						
626A	**Big Bend Ranch**	**58.87**	**325**	↑P	**P**	**17 36 30.5**	**+0.6**
	baz=59,SNR=51						
428A	**Kincaid Ranch,**	**59.02**	**327**	↓P	**P**	**17 36 31.2**	**+0.4**
	baz=59,SNR=14						
527A	**Woodward Ranch**	**59.05**	**325**	↓P	**P**	**17 36 31.3**	**+0.1**
	baz=59,SNR=25						
ABTX	**Abilene, Hawle**	**59.05**	**330**	↓P	**P**	**17 36 31.0**	**0.0**
	baz=59,SNR=13						
230A	**Sterling City**	**59.15**	**329**	↑P	**P**	**17 36 31.3**	**-0.4**
	baz=59						
526A	**Mary Lane Ranc**	**59.24**	**325**	↑P	**P**	**17 36 32.9**	**+0.5**
	baz=60,SNR=37						
WCI	**Wyandotte Cave**	**59.25**	**345**	*e*P	**P**	**17 36 31.1**	**-1.1**
WCI				*e**PP	**pP**	**17 36 58.7**	**-1.6**
WCI				pmax	pmax		
	comp=Z,39nm,1.3s						
WCI	**Wyandotte Cave**	**59.25**	**345**	*e*P	**P**	**17 36 31.1**	**-1.1**
	comp=Z,39nm,1.3s						
WCI				*e*pP	**pP**	**17 36 58.7**	**-1.6**
329A	**Wagon Wheel Ra**	**59.26**	**328**	↑P	**P**	**17 36 32.4**	**-0.1**
	baz=60,SNR=24						
USIN	**University of**	**59.36**	**343**	*e*P	**P**	**17 36 31.5**	**-1.4**
USIN				*e*pP	**pP**	**17 36 59.6**	**-1.4**
427A	**Hayter Ranch,**	**59.49**	**326**	↑P	**P**	**17 36 34.1**	**0.0**
	baz=60,SNR=16						
Z32A	**Haskell**	**59.55**	**331**	↓P	**P**	**17 36 34.0**	**-0.3**
	baz=60						
SIUC	**Southern Illin**	**59.56**	**342**	*e*P	**P**	**17 36 33.9**	**-0.5**
	comp=Z,109nm,0.8s						
SIUC				*e*pP	**pP**	**17 37 02.0**	**-0.4**
229A	**Bryant Ranch,**	**59.56**	**328**	↑P	**P**	**17 36 34.2**	**-0.4**
	baz=60,SNR=7.6						
328A	**Wristen Ranch,**	**59.60**	**327**	↓P	**P**	**17 36 34.9**	**+0.1**
	baz=60,SNR=30						
426A	**McDonald Obser**	**59.68**	**325**	↑P	**P**	**17 36 35.8**	**+0.2**
	baz=60,SNR=24						
Z31A	**Sharp Cattle R**	**59.86**	**330**	↑P	**P**	**17 36 36.5**	**0.0**
	baz=60,SNR=9.6						
327A	**Balmorhea Ranc**	**59.95**	**326**	↓P	**P**	**17 36 37.1**	**-0.1**
	baz=60						
228A	**UT Block 9, Go**	**60.08**	**328**	↑P	**P**	**17 36 37.7**	**-0.4**
	baz=60,SNR=12						
Y32A	**R-V Farms, Ver**	**60.11**	**331**	↑P	**P**	**17 36 38.2**	**0.0**
	baz=60,SNR=9.6						
129A	**Stewart Farms,**	**60.13**	**329**	↓P	**P**	**17 36 38.1**	**-0.3**
	baz=60,SNR=11						
326A	**Caldwell Ranch**	**60.16**	**326**	↑P	**P**	**17 36 38.9**	**+0.2**
	baz=60,SNR=28						
TUL1	**Tulsa**	**60.20**	**335**	↑P	**P**	**17 36 38.6**	**-0.1**
	baz=60,SNR=13						
425A	**Indio Mountain**	**60.29**	**325**	↓P	**P**	**17 36 39.6**	**0.0**
	baz=61,SNR=58						
Z30A	**Sanderson Ranc**	**60.30**	**330**	↑P	**P**	**17 36 39.3**	**-0.3**
	baz=61,SNR=9.2						
227A	**Bennet, Jal**	**60.35**	**327**	↓P	**P**	**17 36 40.1**	**+0.1**
	baz=61,SNR=8.0						
ACSO	**Alum Creek Sta**	**60.42**	**348**	*e*P	**P**	**17 36 39.7**	**-0.5**
	comp=Z,62nm,1.1s						
ACSO				*e*pP	**pP**	**17 37 07.3**	**-1.0**
128A	**Castleberry Fa**	**60.43**	**328**	↑P	**P**	**17 36 40.0**	**-0.5**
	baz=61,SNR=6.2						
WMOK	**Wichita Mounta**	**60.43**	**332**	*e*P	**P**	**17 36 38.5**	**-1.9**
WMOK				pmax	pmax		
	comp=Z,27nm,1.4s						
WMOK	**Wichita Mounta**	**60.43**	**332**	*e*P	**P**	**17 36 38.5**	**-1.9**
	comp=Z,26nm,1.4s						
Y31A	**Rekieta Farm,**	**60.45**	**331**	↑P	**P**	**17 36 40.5**	**0.0**
	baz=61,SNR=7.9						
SHEL	**Horse Pasture**	**60.51**	**98**	*e*P	**P**	**17 36 42.4**	**+1.0**
SHEL				pmax	pmax		
	comp=Z,210nm,0.9s						
SHEL	**Horse Pasture**	**60.51**	**98**	*e*P	**P**	**17 36 42.4**	**+1.0**
	comp=Z,210nm,0.9s						
Z29A	**Hungry Hill Ra**	**60.56**	**329**	↑P	**P**	**17 36 40.6**	**-0.8**
	baz=61,SNR=9.4						
Y30A	**Stafford Cattl**	**60.68**	**330**	↓P	**P**	**17 36 41.6**	**-0.6**
	baz=61						
325A	**Bean Ranch, Si**	**60.73**	**325**	↑P	**P**	**17 36 42.7**	**0.0**
	baz=61,SNR=73						
BRYW	**Bryant College**	**60.80**	**358**	*e*P	**P**	**17 36 42.9**	**+0.2**
	comp=Z,67nm,1.0s						
RKT	**Rikitea**	**60.81**	**254**	*e*P	P	17 36 46.4	+3.2
	comp=Z,65nm,1.5s						
RKT				*e*S	**S**	**17 44 54.6**	**+2.7**
	comp=Z,400nm,26.2s						
RKT				*e*LR	LR	17 54 53.1	
	comp=Z,674nm,37.0s						
RKT	**Rikitea**	**60.81**	**254**	*e*P	P	17 36 46.4	+3.2
RKT				*e*S	**S**	**17 44 54.6**	**+2.7**
RKT				pmax	pmax		
	comp=Z,65nm,1.5s						
RKT	**Rikitea**	**60.81**	**254**	*e*P	P	17 36 46.4	+3.2
	comp=Z,65nm,1.5s						
RKT				*e*S	**S**	**17 44 54.6**	**+2.7**
X31A	**McDonald Ranch**	**60.88**	**331**	↓P	**P**	**17 36 43.3**	**-0.1**
	baz=61,SNR=24						
127A	**Arkansas Junct**	**60.91**	**327**	↑P	**P**	**17 36 43.7**	**-0.1**
	baz=61,SNR=5.6						
Z28A	**Tucker

X27A	F and S Farms, baz=63	62.36	329	⇓P		P	17 36 52.9	-0.6
123A	Bell Site, Whi baz=63	62.40	325	⇓P		P	17 36 53.9	0.0
W28A	Vega baz=63	62.42	330	⇓P		P	17 36 53.4	-0.5
VNA3	Neumayer Olymp	62.43	162	*e*P		P	17 36 55.1	+1.7
VNA3	Neumayer Olymp	62.43	162	*ep*P		pP	17 37 24.1	+2.4
VNA3	Neumayer Olymp	62.43	162	*es*P		sP	17 37 36.4	+2.0
222A	Williams Famil baz=63	62.46	324	⇓P		P	17 36 54.6	+0.4
Z24A	Sheeppen Canyo baz=63,SNR=36	62.46	326	⇑P		P	17 36 54.2	-0.1
Y25A	Mesa, Roswell baz=63,SNR=21	62.58	327	⇓P		P	17 36 54.5	-0.5
V29A	Stinnett baz=63	62.61	331	⇓P		P	17 36 54.8	-0.2
X26A	CR and CF Fran baz=63	62.63	328	⇑P		P	17 36 55.1	-0.2
W27A	Bowe Ranch, En baz=63,SNR=7.4	62.68	329	⇑P		P	17 36 55.2	-0.4
320A	Kipp Ranch, An baz=63,SNR=7.7	62.69	323	⇑P		P	17 36 56.5	+0.8
221A	Mesquite Ranch baz=63	62.76	324	⇑P		P	17 36 57.5	+1.2
V28A	Channing baz=63	62.84	330	⇑P		P	17 36 56.3	-0.3
Z23A	Rita Site, Whi baz=63,SNR=7.3	62.87	326	⇓P		P	17 36 57.4	+0.5
Y24A	Capitan baz=63,SNR=10	62.96	327	⇑P		P	17 36 57.3	-0.4
VNA2	Neumayer--Watz baz=307,slow=8.9	63.01	161	*e*P		P	17 36 58.9	+1.7
VNA2	Neumayer--Watz baz=307,slow=8.9	63.01	161	*ep*P		pP	17 37 27.9	+2.4
VNA2	Neumayer--Watz baz=307,slow=8.9	63.01	161	*es*P		sP	17 37 40.4	+2.2
W26A	Owens Ranch, T baz=63,SNR=12	63.04	329	⇓P		P	17 36 58.1	+0.1
X25A	Clemmons Ranch baz=63,SNR=6.2	63.04	328	⇑P		P	17 36 57.8	-0.3
220A	Playas Peak, P baz=63,SNR=32	63.11	323	⇑P		P	17 36 59.2	+0.7
319A	Douglas baz=63,SNR=5.7	63.15	322	⇓P		P	17 36 59.9	+1.1
121A	Cookes Peak, D baz=63,SNR=13	63.16	324	⇓P		P	17 37 00.0	+1.1
Z22A	Elephant Butte baz=64,SNR=24	63.26	325	⇑P		P	17 37 00.5	+1.0
Y23A	Lovelace Mesa, baz=64,SNR=12	63.29	326	⇓P		P	17 36 59.8	0.0
KSU1	Kansas State U comp=Z,79nm,1.1s	63.30	337	*e*P		P	17 36 59.1	-0.4
X24A	Lazy VL Ranch, baz=64,SNR=7.6	63.46	327	⇓P		P	17 37 00.8	-0.1
W25A	X Bar L Ranch, baz=64,SNR=12	63.48	328	⇑P		P	17 37 00.9	-0.1
V26A	Tequesquite Ra baz=64,SNR=17	63.62	329	⇓P		P	17 37 01.8	0.0
120A	U Bar Ranch, L baz=64	63.64	323	⇓P		P	17 37 03.0	+0.9
LONY	Lake Ozonia comp=Z,19nm,1.0s	63.65	356	*e*P		P	17 37 01.5	-0.2
LONY				*ep*P		pP	17 37 30.2	+0.2
Z21A	St. Cloud Mine baz=64,SNR=5.9	63.68	325	⇓P		P	17 37 03.5	+1.1
Y22A	Socorro baz=64,SNR=8.0	63.78	326	⇓P		P	17 37 03.7	+0.7
FRNY	Flat Rock comp=Z,16nm,1.0s	63.80	357	*e*P		P	17 37 02.9	+0.3
FRNY				*ep*P		pP	17 37 31.9	+0.9
Y22D	IRIS PASSCAL I baz=64	63.86	326	⇓P		P	17 37 04.2	+0.8
X23A	Hourglass Bar baz=64	63.86	327	⇑P		P	17 37 04.1	+0.5
LPM	Los Pinos Moun comp=Z,35nm,1.2s	63.89	326	*e*P		P	17 37 03.8	+0.2
LPM				*ep*P		pP	17 37 32.5	+0.4
T28A	Walsh baz=64	63.91	331	⇓P		P	17 37 03.1	-0.5
W24A	Lazy 6 Ranch, baz=64,SNR=17	63.95	328	⇓P		P	17 37 04.0	-0.1
LENM	Lemitar comp=Z,16nm,1.3s	63.96	326	*e*P		P	17 37 04.8	+0.7
LENM				*ep*P		pP	17 37 32.6	0.0
Z20A	Nine Sixteen R baz=64,SNR=21	64.04	324	⇑P		P	17 37 05.9	+1.2
V25A	Rancho No Teng baz=64,SNR=9.0	64.05	329	⇓P		P	17 37 04.8	+0.1
U26A	Atchley Ranch, baz=64,SNR=5.6	64.08	330	⇓P		P	17 37 04.8	0.0
T27A	Campo baz=64,SNR=8.5	64.14	331	⇑P		P	17 37 05.2	0.0
Y21A	Point of Rocks baz=64,SNR=28	64.21	325	⇓P		P	17 37 07.1	+1.3
LAZ	Ladron comp=Z,20nm,1.1s	64.22	326	*e*P		P	17 37 07.0	+1.1
LAZ				*ep*P		PcP	17 37 36.0	-3.8
LAZ				*es*P		sP	17 37 48.9	+1.9
X22A	Bernardo baz=64,SNR=11	64.24	326	⇓P		P	17 37 07.2	+1.3
ANMO	Albuquerque comp=Z,95nm,1.8s	64.29	327	*e*P		P	17 37 06.6	+0.3
ANMO				*ep*P		pP	17 37 34.8	+0.1
V24A	Rampart Ranch, baz=65,SNR=23	64.29	328	⇓P		P	17 37 06.3	0.0
W23A	Werner Place, baz=65,SNR=5.9	64.29	327	⇓P		P	17 37 06.8	+0.5
U25A	Circle Dot Ran baz=65,SNR=13	64.40	329	⇓P		P	17 37 07.2	+0.3
Y20A	Horse Springs, baz=65,SNR=12	64.52	325	⇑P		P	17 37 08.9	+1.0
W22A	Albuquerque baz=65,SNR=5.8	64.60	326	⇓P		P	17 37 09.3	+1.0
X21A	Alamocita Cree baz=65,SNR=21	64.60	325	⇑P		P	17 37 09.5	+1.1
SCIA	State Center	64.63	341	*e*P		P	17 37 07.5	-0.6
SCIA				*ep*P		pP	17 37 35.0	-1.6
T26A	Comanche Natio baz=65,SNR=12	64.63	330	⇑P		P	17 37 08.8	+0.3
SNAA	Sanae	64.64	161	*e*P		P	17 37 09.2	+1.3
SNAA	Sanae	64.64	161	*ep*P		pP	17 37 38.3	+1.9
SNAA	Sanae	64.64	161	*es*P		sP	17 37 51.0	+1.9
SNAA	Sanae comp=Z,26nm,0.8s	64.64	161	*e*P		P	17 37 08.8	+0.9
SNAA				*ep*P		pP	17 37 36.8	+0.5
SNAA				*es*P		sP	17 37 50.1	+1.0
TUC	Tucson	64.70	322	*e*P		P	17 37 09.7	+0.8
TUC				*e**PP		pP	17 37 37.4	0.0
TUC				*e**SP		sP	17 37 51.7	+1.7
TUC	comp=Z,70nm,1.7s			pmax		pmax		
TUC	Tucson comp=Z,70nm,1.7s	64.70	322	*e*P		P	17 37 09.7	+0.8
TUC				*ep*P		pP	17 37 37.4	0.0
TUC				*es*P		sP	17 37 51.7	+1.7
S27A	Las Animas baz=65	64.72	331	⇓P		P	17 37 08.9	-0.1
V23A	Ortiz Mt. (NFS baz=65,SNR=18	64.77	327	⇑P		P	17 37 10.4	+1.0
U24A	Moreno Valley baz=65,SNR=5.1	64.83	329	⇓P		P	17 37 10.7	+0.8
S26A	Kim baz=65,SNR=42	64.94	331	⇑P		P	17 37 10.8	+0.4
T25A	Trinidad baz=65,SNR=21	64.99	330	⇑P		P	17 37 11.5	+0.6
W21A	San Fidel baz=65,SNR=8.4	65.04	326	⇑P		P	17 37 12.2	+1.0
X20A	Quemado baz=65,SNR=15	65.06	325	⇓P		P	17 37 12.5	+1.2
R27A	Eads baz=66,SNR=9.1	65.17	332	⇑P		P	17 37 11.7	-0.1
U23A	El Rito baz=66,SNR=11	65.22	328	⇓P		P	17 37 13.2	+0.8
T24A	Torres, Weston baz=66,SNR=18	65.25	329	⇑P		P	17 37 13.6	+1.0
S25A	Robets Cordova baz=66,SNR=22	65.42	330	⇓P		P	17 37 14.2	+0.6
R26A	Arlington baz=66,SNR=19	65.48	331	⇓P		P	17 37 14.2	+0.3
W20A	Ramah baz=66,SNR=20	65.50	325	⇓P		P	17 37 15.2	+1.0
V21A	Milan baz=66,SNR=9.2	65.56	326	⇓P		P	17 37 15.7	+1.1
U22A	Llaves baz=66,SNR=17	65.60	327	⇓P		P	17 37 16.0	+1.2
214A	Organ Pipe Nat	65.66	320	⇓P		P	17 37 16.4	+1.3
KSCO	Kaye Shedlock' baz=66	65.69	332	⇑P		P	17 37 15.8	+0.6
T23A	Casias Ranch, baz=66,SNR=5.5	65.70	328	⇓P		P	17 37 16.0	+0.5
R25A	Fountain Ranch baz=66,SNR=8.6	65.74	330	⇑P		P	17 37 15.9	+0.4
S24A	Houchin Ranch, baz=66,SNR=18	65.78	329	⇓P		P	17 37 16.9	+0.9
X18A	Snowflake baz=66,SNR=7.7	65.85	324	⇑P		P	17 37 17.6	+1.2
BGNE	Belgrade baz=66,SNR=16	65.89	337	⇑P		P	17 37 16.2	-0.1
V20A	Brimhall baz=66,SNR=15	65.99	326	⇑P		P	17 37 18.0	+0.7
Q26A	Hugo baz=66,SNR=7.9	66.02	331	⇓P		P	17 37 17.8	+0.5
U21A	Nageezi baz=66,SNR=18	66.05	327	⇓P		P	17 37 18.4	+0.8
T22A	Edith baz=66,SNR=28	66.12	328	⇑P		P	17 37 19.1	+1.0
W18A	Petrified Fore baz=66,SNR=5.2	66.17	325	⇓P		P	17 37 19.5	+1.1
R24A	Sanders Place, baz=66,SNR=14	66.20	330	⇑P		P	17 37 19.4	+0.9
S23A	Nye Farm, Mont baz=66	66.21	329	⇑P		P	17 37 19.4	+0.7
Q25A	Bedland, Calha baz=67	66.34	331	⇓P		P	17 37 19.6	+0.1
T21A	Navajo Lake baz=67,SNR=8.7	66.42	327	⇓P		P	17 37 20.8	+0.8
P26A	Davis Ranch, A baz=67	66.46	332	⇑P		P	17 37 20.6	+0.4
U20A	Newcomb baz=67,SNR=6.1	66.46	326	⇓P		P	17 37 20.9	+0.7
R23A	Moffat baz=67,SNR=11	66.51	329	⇓P		P	17 37 21.4	+0.7
O27A	Beecher Island baz=67	66.60	333	⇑P		P	17 37 21.7	+0.7
X16A	Lo Mia Camp, P baz=67,SNR=18	66.61	323	⇑P		P	17 37 22.5	+1.3
S22A	4UR Ranch, Cre baz=67,SNR=20	66.65	328	⇓P		P	17 37 22.3	+0.7
Z14A	Wintersburg baz=67,SNR=5.2	66.73	321	⇑P		P	17 37 23.1	+1.3
P25A	Willow Gulch B baz=67,SNR=17	66.79	331	⇓P		P	17 37 22.9	+0.6
Q24A	Divide baz=67,SNR=13	66.80	330	⇓P		P	17 37 23.1	+0.6
113A	Mohawk Valley, baz=67,SNR=6.5	66.81	320	⇑P		P	17 37 23.6	+1.3
R22A	Saguache, Gunn baz=67,SNR=8.0	66.99	329	⇓P		P	17 37 24.6	+0.9
O26A	Horse Wrangler baz=67	67.00	332	⇓P		P	17 37 24.2	+0.7
OGNE	Ogallala comp=Z,128nm,1.6s	67.03	334	*e*P		P	17 37 23.8	+0.1
OGNE				*ep*P		pP	17 37 53.0	+0.7
OGNE	Ogallala baz=67	67.03	334	⇑P		P	17 37 24.1	+0.4
S21A	Coal Bank Pass baz=67,SNR=23	67.06	328	⇓P		P	17 37 24.9	+0.7
Q23A	Hartsel baz=67,SNR=5.0	67.08	330	⇑P		P	17 37 24.6	+0.4
MVCO	Mesa Verde comp=Z,79nm,1.4s	67.08	327	*e*P		P	17 37 24.8	+0.6
MVCO				*ep*P		pP	17 37 52.8	-0.1
MVCO	Mesa Verde baz=67,SNR=20	67.08	327	⇑P		P	17 37 24.9	+0.6
P24A	Kohler Place, baz=67	67.13	331	⇑P		P	17 37 25.4	+1.0
N27A	Anderson Farm, baz=67	67.13	333	⇓P		P	17 37 24.7	+0.4
Y14A	Wickenburg baz=68,SNR=9.4	67.17	322	⇑P		P	17 37 25.8	+1.2
O25A	Wiggins baz=68	67.25	332	⇑P		P	17 37 26.1	+1.0
WUAZ	Wupatki comp=Z,113nm,1.5s	67.36	324	*e*P		P	17 37 27.4	+1.4
WUAZ				*ep*P		pP	17 37 54.3	-0.4
WUAZ	Wupatki baz=68,SNR=16	67.36	324	⇓P		P	17 37 27.3	+1.4
COWI	Cover comp=Z,20nm,1.4s	67.37	345	*e*P		P	17 37 24.7	-0.9
COWI				*ep*P		pP	17 37 53.7	-0.6
ECSD	EROS Data Cent comp=Z,84nm,1.5s	67.37	339	*e*P		P	17 37 24.9	-0.8
ECSD				*ep*P		pP	17 37 52.8	-1.6
N26A	Koester Ranch, baz=68,SNR=5.1	67.44	333	⇓P		P	17 37 27.0	+0.7
P23A	Jefferson baz=68,SNR=7.5	67.45	330	⇓P		P	17 37 27.8	+1.1
S20A	Disappointment baz=68,SNR=34	67.48	327	⇑P		P	17 37 27.9	+1.1
R21A	Cimarron baz=68,SNR=31	67.49	328	⇑P		P	17 37 27.7	+0.9
SPMN	St. Paul baz=68,SNR=7.5	67.52	342	⇑P		P	17 37 25.7	-0.8
Q22A	Crested Butte, baz=68,SNR=17	67.56	329	⇓P		P	17 37 28.3	+1.0
GLA	Glamis baz=68	67.64	320	⇑P		P	17 37 29.0	+1.4
M27A	Reverse DX Ran baz=68	67.67	334	⇑P		P	17 37 28.5	+0.8
ISCO	Idaho Springs	67.68	331	*e*P		P	17 37 28.5	+0.4
ISCO				*e**PP		pP	17 37 57.2	+0.4
ISCO	comp=Z,63nm,1.4s			pmax		pmax		
ISCO	Idaho Springs comp=Z,63nm,1.4s	67.68	331	*e*P		P	17 37 28.5	+0.4
ISCO				*ep*P		pP	17 37 57.2	+0.4
ISCO	Idaho Springs baz=68,SNR=31	67.68	331	⇓P		P	17 37 28.8	+0.7
O24A	Longmont baz=68	67.69	331	⇑P		P	17 37 28.8	+0.9
R20A	Redvale baz=68,SNR=8.9	67.77	328	⇑P		P	17 37 29.6	+1.1
N25A	Grover baz=68	67.81	332	⇑P		P	17 37 29.6	+1.0
PV01	Paradox Valley comp=Z,4μm,1.3s	67.82	327	*e*P		P	17 37 29.9	+1.0
PV01				*ep*P		pP	17 37 59.3	+1.7
SMCO	Snowmass comp=Z,31nm,1.1s	67.84	329	*e*P		P	17 37 30.1	+0.9
SMCO				*ep*P		pP	17 37 58.6	+0.8
Q21A	Lamborn Mesa, baz=68,SNR=6.0	67.86	329	⇓P		P	17 37 29.8	+0.7
Y12C	Blythe baz=68	67.94	320	⇓P		P	17 37 30.9	+1.5
P22A	Eagle baz=68,SNR=20	68.06	330	⇑P		P	17 37 31.2	+0.8
PDMCI	Parker Dam,Lak baz=68	68.09	321	⇑P		P	17 37 31.5	+1.1
L27A	T5 Ranch, Ells baz=68	68.10	334	⇑P		P	17 37 31.0	+0.7
O23A	Lake Granby, G baz=68,SNR=20	68.15	331	⇓P		P	17 37 31.8	+0.9
SWSC	Sam W. Stewart baz=68,SNR=5.9	68.17	319	⇓P		P	17 37 32.6	+1.7
DVTC	Desert V Tower baz=68,SNR=8.6	68.17	319	⇑P		P	17 37 32.7	+1.8
N24A	Carr baz=68,SNR=11	68.17	332	⇓P		P	17 37 31.9	+1.0
PV04	Paradox Valley	68.19	327	*e*P		P	17 37 31.2	+0.1
S18A	Hurst Farm, Bl baz=68,SNR=31	68.22	326	⇑P		P	17 37 32.5	+1.1
LIC	Lamto comp=Z,272nm,1.3s,baz=251	68.23	75	⇑*i*P		P	17 37 30.6	-1.1
LIC	comp=Z,437nm,22.8s			*e*R				
LIC	Lamto comp=Z,272nm,1.3s	68.23	75	⇑*i*P		P	17 37 30.6	-1.1
M25A	Palm-Egli Farm baz=69	68.30	333	⇑P		P	17 37 32.4	+0.7
Q20A	Ridgley Place, baz=69	68.31	328	⇑P		P	17 37 32.4	+0.6
P21A	Newcastle baz=69,SNR=22	68.34	329	⇑P		P	17 37 33.4	+1.3
O22A	Kremmling baz=69,SNR=32	68.41	330	⇑P		P	17 37 33.0	+0.4
BC3	Big Chuckawall baz=69,SNR=16	68.44	320	⇑P		P	17 37 34.1	+1.4
W13A	Hualapai Mount baz=69,SNR=18	68.50	322	⇓P		P	17 37 34.8	+1.6
MONP	Monument Peak baz=69,SNR=12	68.52	319	⇓P		P	17 37 35.0	+1.6
U15A	North Rim baz=69,SNR=25	68.54	324	⇑P		P	17 37 35.2	+1.8
BAR	Barrett comp=Z,83nm,1.4s	68.54	318	*e*P		P	17 37 33.9	+0.7
BAR				*ep*P		pP	17 38 01.0	-1.0
DBIC	Dimbokro comp=Z,77nm,0.7s,baz=222,slow=6.0,SNR=61	68.56	75	P		P	17 37 32.7	-1.0
DBIC	comp=Z,46nm,0.9s,baz=227,slow=5.6,SNR=3.0			pP		pP	17 38 03.5	+1.0
DBIC	comp=Z,322nm,18.6s,baz=208,slow=36			LR		LR	18 07 26.0	
DBIC	Dimbokro comp=Z,126nm,0.8s	68.56	75	*e*P		P	17 37 32.2	-1.5
DBIC				*ep*P		pP	17 38 03.5	+1.0
DBIC				*es*P		sP	17 38 16.3	+1.2
K27A	Flueckinger Fa baz=69,SNR=13	68.58	335	⇑P		P	17 37 34.0	+0.6
IRM	Iron Mountain baz=69,SNR=8.4	68.60	320	⇑P		P	17 37 35.1	+1.5
M24A	Cheyenne baz=69,SNR=13	68.66	332	⇑P		P	17 37 35.1	+1.1
NEE2	Needles Airpor baz=69	68.70	321	⇑P		P	17 37 35.2	+1.1
N23A	Red Feather La baz=69,SNR=23	68.71	331	⇓P		P	17 37 35.1	+0.7
P20A	De Beque baz=69	68.78	329	⇓P		P	17 37 35.7	+0.9
Q19A	Hogan Spring (baz=69,SNR=7.1	68.80	328	⇑P		P	17 37 35.9	+1.1
BRSD	Miller baz=69	68.81	338	⇑P		P	17 37 34.3	-0.3
PHWY	Pilot Hill comp=Z,81nm,1.6s	68.81	332	*e*P		P	17 37 35.1	0.0
PHWY				*ep*P		pP	17 38 04.6	+0.7
L25A	Engebretsen Ra baz=69	68.85	333	⇓P		P	17 37 35.8	+0.7
N22A	Wattenberg Ran baz=69,SNR=26	68.87	331	⇑P		P	17 37 36.3	+0.9
O21A	Pagoda baz=69	68.89	330	⇑P		P	17 37 36.9	+1.4
109C	Camp Elliot, M baz=69	68.95	318	⇓P		P	17 37 36.8	+1.1
K26A	Motz Farm, Whi baz=69	68.97	334	⇓P		P	17 37 36.5	+0.8
BELC	Belle Mtn. Jos baz=69,SNR=13	69.01	320	⇓P		P	17 37 37.7	+1.4
PFO	Pinyon Flat Ob comp=Z,46nm,1.1s	69.02	319	*e*P		P	17 37 38.1	+1.7
PFO				*ep*P		pP	17 38 05.7	+0.6
PFO	Pinyon Flat Ob comp=Z,137nm,1.1s,SNR=7.4	69.02	319	P		P	17 37 38.9	+2.6
PFO	Pinyon Flat Ob baz=69,SNR=11	69.02	319	⇓P		P	17 37 37.9	+1.6
M23A	Laramie baz=69,SNR=27	69.06	332	⇑P		P	17 37 37.1	+0.6
MAIT	Maitri	69.15	159	*e*P		P	17 37 27.1	-9.2
MAIT				*e*			17 38 09.2	
P19A	Cripple Cowboy baz=70,SNR=18	69.17	328	⇑P		P	17 37 38.2	+0.9
L24A	Wheatland baz=70	69.18	332	⇑P		P	17 37 37.9	+0.8
NVL	N'lazarevskaya comp=Z,50nm,1.4s	69.18	159	*e*P		P	17 37 42.4	+5.8
NVL				pmax		pmax		
K25A	Mack Ranch, Ha baz=70	69.18	333	⇑P		P	17 37 38.0	+0.9
O20A	White River Ci baz=70,SNR=23	69.19	329	⇑P		P	17 37 38.3	+1.0
LDFC	Landfair comp=Z,131nm,1.3s	69.21	321	*e*P		P	17 37 38.9	+1.5
LDFC				*ep*P		pP	17 38 07.8	+1.6
LDFC				*es*P		sP	17 38 18.9	+0.1
GMRC	Granite Mounta baz=70,SNR=24	69.33	321	⇓P		P	17 37 39.8	+1.6
N21A	Black Mountain baz=70,SNR=8.0	69.33	330	⇑P		P	17 37 39.5	+1.2
M22A	Cedar Creek Ra baz=70,SNR=9.5	69.41	331	⇓P		P	17 37 39.4	+0.7
MURC	Murrieta baz=70	69.48	319	⇑P		P	17 37 40.6	+1.5
SRU	San Rafael comp=Z,2μm,1.3s	69.56	327	*e*P		P	17 37 40.0	+0.4
SRU				pmax		pmax		
SRU	San Rafael comp=Z,2μm,1.3s	69.56	327	*e*P		P	17 37 40.0	+0.4
SRU	San Rafael baz=70,SNR=19	69.56	327	⇑P		P	17 37 40.4	+0.8
L23A	Garrett baz=70,SNR=8.2	69.57	332	⇑P		P	17 37 40.1	+0.5
EYMN	Ely comp=Z,56nm,1.4s	69.67	344	*e*P		P	17 37 39.2	-0.7
EYMN				*ep*P		pP	17 38 08.0	-0.7
K24A	Anderson Ranch baz=70	69.68	333	⇑P		P	17 37 41.1	+0.9
N20A	Spence Gulch, baz=70,SNR=22	69.75	330	⇓P		P	17 37 41.5	+0.8
BBRC	Big Bear Solar baz=70	69.75	319	⇓P		P	17 37 42.8	+1.9
O19A	Miners Draw (B baz=70,SNR=24	69.75	329	⇑P		P	17 37 41.7	+1.0
Q16A	Castle Valley baz=70,SNR=12	69.75	326	⇓P		P	17 37 42.0	+1.2
HEC	Hector,Ludlow baz=70,SNR=22	69.77	320	⇑P		P	17 37 42.7	+1.8
L22A	Ellis Ranch, M baz=70	69.83	331	⇓P		P	17 37 42.3	+1.1
M21A	Separation Pea baz=70,SNR=17	69.92	331	⇓P		P	17 37 42.6	+0.8
SCI	San Clemente I baz=70	69.92	317	⇓P		P	17 37 43.3	+1.6
TUQ	Turquoise Moun baz=70	69.94	321	⇑P		P	17 37 43.4	+1.4
P17A	Butcher Ranch, baz=70,SNR=14	69.94	327	⇓P		P	17 37 42.7	+0.8
MVU	Marysvale comp=Z,66nm,1.3s	70.00	325	*e*P		P	17 37 43.9	+1.5
MVU				*ep*P		pP	17 38 12.5	+1.2
MVU				*es*P		sP	17 38 26.1	+2.3
K23A	Bowen Ranch, D baz=70,SNR=7.7	70.05	332	⇓P		P	17 37 43.0	+0.5
J24A	Dixon Ranch, L baz=70,SNR=7.7	70.11	333	⇑P		P	17 37 43.9	+1.1
CIS	Catalina Islan baz=70	70.11	318	⇑P		P	17 37 44.2	+1.3
ARUT	Antelope Range comp=Z,120nm,1.4s	70.15	324	*e*P		P	17 37 45.1	+1.9
ARUT				pmax		pmax		
ARUT	Antelope Range comp=Z,120nm,1.4s	70.15	324	*e*P		P	17 37 45.1	+1.9
O18A	Roosevelt baz=70,SNR=5.2	70.17	328	⇓P		P	17 37 44.4	+1.1
BFSC	Mount Baldy Ra baz=70,SNR=7.9	70.19	319	⇓P		P	17 37 44.9	+1.4
L21A	Rawlins baz=70,SNR=30	70.21	331	⇑P		P	17 37 44.0	+0.4
RRX	Edison Barstow baz=70	70.21	320	⇓P		P	17 37 45.2	+1.7
M20A	Sweetwater, Wa baz=70,SNR=9.6	70.22	330	⇑P		P	17 37 44.4	+0.8
N19A	John Jarvie Ra baz=70,SNR=25	70.23	329	⇓P		P	17 37 44.1	+0.5
FMP	Fort Macarthur baz=70	70.24	318	⇑P		P	17 37 45.1	+1.5
K22A	Casper baz=71,SNR=12	70.37	332	⇑P		P	17 37 45.0	+0.6
GSC	Goldstone	70.37	320	*e*P		P	17 37 46.2	+1.6
GSC				*e**PP		pP	17 38 14.6	+1.2
GSC	comp=Z,96nm,1.6s			pmax		pmax		
GSC	Goldstone comp=Z,96nm,1.6s	70.37	320	*e*P		P	17 37 46.2	+1.6
GSC				*ep*P		pP	17 38 14.6	+1.2
GSC	Goldstone baz=71,SNR=14	70.37	320	⇓P		P	17 37 46.1	+1.6
MWC	Mount Wilson	70.43	319	*e*P		P	17 37 46.6	+1.6
MWC				*e**PP		pP	17 38 14.9	+1.0
MWC	comp=Z,120nm,1.6s			pmax		pmax		
MWC	Mount Wilson comp=Z,120nm,1.6s	70.43	319	*e*P		P	17 37 46.6	+1.6
MWC				*ep*P		pP	17 38 14.9	+1.0
SHOC	Shoshone baz=71	70.46	321	⇓P		P	17 37 46.4	+1.4
PASC	Pasadena Art C comp=Z,171nm,1.8s	70.47	319	*e*P		P	17 37 46.6	+1.6
O17A	Robinson Place baz=71,SNR=13	70.48	328	⇓P		P	17 37 46.4	+1.2
RSSD	Black Hills	70.49	334	*e*P		P	17 37 45.3	+0.1
RSSD				*e**PP		pP	17 38 14.2	+0.1

RSSD pmax pmax
comp=Z,36nm,1.2s
RSSD Black Hills 70.49 334 *e*P **P 17 37 45.3 +0.1**
comp=Z,36nm,1.2s
RSSD *ep*P **pP 17 38 14.2 +0.1**
P16A Fountain Green 70.52 327 ⇑P **P 17 37 46.9 +1.4**
baz=71
I24A Kuemmerle Ranc 70.52 334 ⇑P **P 17 37 46.1 +0.8**
baz=71,SNR=7.6
N18A Larsen Ranch, 70.54 329 ⇓P **P 17 37 46.2 +0.6**
baz=71,SNR=13
DECC Green Verdugo 70.61 319 ⇓P **P 17 37 47.5 +1.5**
baz=71
K21A Alcova 70.68 331 ⇓P **P 17 37 47.2 +0.8**
baz=71,SNR=41
M19A Rock Springs 70.69 329 ⇓P **P 17 37 46.6 +0.1**
baz=71
L20A Wamsutter 70.69 330 ⇑P **P 17 37 47.2 +0.7**
baz=71,SNR=21
P15A Leamington 70.81 326 ⇓P **P 17 37 48.6 +1.4**
baz=71
EDW2 Edwards Air Fo 70.82 319 ⇑P **P 17 37 48.3 +1.1**
baz=71,SNR=8.3
DAU Daniels Canyon 70.91 327 *e*P **P 17 37 49.1 +1.2**
DAU *e**PP **pP 17 38 17.5 +0.6**
DAU pmax pmax
comp=Z,91nm,1.6s
DAU Daniels Canyon 70.91 327 *e*P **P 17 37 49.1 +1.2**
comp=Z,91nm,1.6s
DAU *ep*P **pP 17 38 17.5 +0.6**
J22A Midwest 70.95 332 ⇑P **P 17 37 48.2 +0.3**
baz=71,SNR=22
BLG Laguna Peak 70.98 318 ⇓P **P 17 37 49.3 +1.1**
baz=71
LRMC Laurel Mountai 71.03 320 ⇓P **P 17 37 49.9 +1.4**
baz=71,SNR=13
M18A Lyman 71.08 329 ⇑P **P 17 37 49.0 +0.2**
baz=71,SNR=5.4
N17A Moffit Pass 71.09 328 ⇑P **P 17 37 50.1 +1.2**
baz=71,SNR=63
OSI Osito Adit 71.10 319 ⇑P **P 17 37 50.2 +1.3**
baz=71
JLU Jordanelle 71.15 327 *e*P **P 17 37 50.4 +1.1**
comp=Z,86nm,1.5s
JLU *ep*P **pP 17 38 19.7 +1.5**
FURC Furnace Creek, 71.19 321 ⇓P **P 17 37 51.2 +1.8**
baz=72,SNR=8.3
K20A Yellowstone Ra 71.20 331 ⇓P **P 17 37 49.8 +0.3**
baz=72,SNR=12
H24A Dirks Ranch, A 71.22 334 ⇓P **P 17 37 49.5 +0.1**
baz=72,SNR=20
L19A Farson 71.25 330 ⇑P **P 17 37 50.6 +0.8**
baz=72,SNR=19
MPMC Manual Prospec 71.30 320 ⇑P **P 17 37 51.4 +1.2**
baz=72,SNR=11
J21A Lysite 71.33 332 ⇓P **P 17 37 50.9 +0.6**
baz=72
I22A 9 Mile Ranch, 71.34 333 ⇓P **P 17 37 50.7 +0.5**
baz=72,SNR=19
N16A Rees Ranch, Co 71.35 328 ⇑P **P 17 37 51.7 +1.2**
baz=72,SNR=9.1
M17A Scullys Gap (B 71.40 328 ⇑P **P 17 37 51.2 +0.4**
baz=72,SNR=8.8
H23A Clabaugh Cattl 71.42 334 ⇑P **P 17 37 51.1 +0.4**
baz=72
O15A The Old Anders 71.43 327 ⇓P **P 17 37 52.4 +1.5**
baz=72
L18A Fontenelle, Gr 71.44 329 ⇑P **P 17 37 51.5 +0.5**
baz=72,SNR=13
ARVC Arvin 71.50 319 ⇑P **P 17 37 52.6 +1.4**
baz=72
DAC Darwin (Calif) 71.50 321 *e*P **P 17 37 51.9 +0.4**
DAC *e**PP **pP 17 38 21.6 +1.1**
DAC pmax pmax
comp=Z,62nm,1.5s
DAC Darwin (Calif) 71.50 321 *e*P **P 17 37 51.9 +0.4**
comp=Z,62nm,1.5s
DAC *ep*P **pP 17 38 21.6 +1.1**
DUG Dugway 71.55 326 *e*P **P 17 37 52.6 +1.0**
DUG *e**PP **pP 17 38 22.1 +1.5**
DUG pmax pmax
comp=Z,67nm,1.4s
DUG Dugway 71.55 326 *e*P **P 17 37 52.6 +1.0**
comp=Z,67nm,1.4s
DUG *ep*P **pP 17 38 22.1 +1.5**
DUG Dugway 71.55 326 ⇑P **P 17 37 53.0 +1.4**
baz=72,SNR=33
K19A Absolon Red Bu 71.56 331 ⇓P **P 17 37 51.9 +0.3**
baz=72,SNR=26
J20A Shoshoni 71.62 331 ⇑P **P 17 37 52.8 +0.8**
baz=72,SNR=9.3
ISA Isabella 71.63 320 *e*P **P 17 37 53.6 +1.5**
ISA *e**PP **pP 17 38 21.6 +0.5**
ISA pmax pmax
comp=Z,64nm,1.4s
ISA Isabella 71.63 320 *e*P **P 17 37 53.6 +1.5**
comp=Z,64nm,1.4s
ISA *ep*P **pP 17 38 21.6 +0.5**
ISA Isabella 71.63 320 ⇑P **P 17 37 53.9 +1.8**
baz=72,SNR=17
I21A Big Trails, Te 71.63 332 ⇓P **P 17 37 52.3 +0.3**
baz=72,SNR=43
R11A Troy Canyon, C 71.75 323 ⇓P **P 17 37 54.6 +1.7**
baz=72,SNR=37
H22A Clearmont 71.84 333 ⇓P **P 17 37 53.6 +0.3**
baz=72,SNR=13
BW06 Boulder Array 71.85 330 ⇑P **P 17 37 53.7 +0.2**
baz=72,SNR=21
PDAR Pinedale Array 71.85 330 P **P 17 37 53.2 -0.3**
comp=Z,6.6nm,1.0s,baz=149,slow=6.6,SNR=33
PDAR *p*P **pP 17 38 22.0 -0.5**
comp=Z,6.4nm,1.1s,baz=141,slow=9.6,SNR=4.0
PDAR Pinedale Array 71.85 330 P **P 17 37 53.2 -0.3**
PDAR *p*P **pP 17 38 22.0 -0.5**
GRAC Grapevine Rang 71.85 321 ⇑P **P 17 37 55.3 +1.9**
baz=72
CWC Cottonwood Cre 71.90 320 ⇓P **P 17 37 55.4 +1.6**
baz=72,SNR=5.0
N15A Stansbury Isla 71.91 327 ⇑P **P 17 37 54.3 +0.6**
baz=72
G23A Biddle 71.93 334 ⇑P **P 17 37 54.1 +0.4**
baz=72,SNR=15
PKM Peak Mountain 71.97 318 ⇑P **P 17 37 55.9 +1.6**
baz=72,SNR=12
L17A Cokeville 71.98 329 ⇑P **P 17 37 54.4 +0.1**
baz=72,SNR=7.5
K18A Toltan Ranch, 71.98 330 ⇓P **P 17 37 55.2 +0.9**
baz=72,SNR=13
PMAR Madeira 71.98 45 *e*P P 17 37 57.4 +3.0
MDND Maddock 71.99 339 ⇓P **P 17 37 54.3 +0.4**
baz=72,SNR=21
J19A Crowheart 72.00 331 ⇓P **P 17 37 54.7 +0.4**
baz=72,SNR=44
F24A Ekalaka 72.07 335 ⇓P **P 17 37 54.8 +0.3**
baz=72,SNR=20
I20A Worland 72.11 332 ⇓P **P 17 37 55.4 +0.5**
baz=72,SNR=11
VES Vestal, Richgr 72.12 319 ⇓P **P 17 37 56.4 +1.5**
baz=72,SNR=5.2
H21A Big Horn, Sher 72.17 333 ⇓P **P 17 37 55.1 -0.1**
baz=72
L16A Fish Haven 72.19 328 ⇑P **P 17 37 55.8 +0.3**
baz=72,SNR=12
M15A Larsen Ranch, 72.29 327 ⇓P **P 17 37 56.7 +0.7**
baz=73,SNR=21
G22A Birney 72.32 334 ⇑P **P 17 37 56.0 0.0**
baz=73,SNR=6.0
SMMC Simmler 72.35 318 ⇓P **P 17 37 58.0 +1.7**
baz=73,SNR=8.0
TIN Tinemaha 72.40 321 ⇑P **P 17 37 58.4 +1.7**
baz=73
J18A Kendall Valley 72.41 330 ⇑P **P 17 37 57.3 +0.5**
baz=73,SNR=5.5
H20A Greybull 72.47 332 ⇑P **P 17 37 57.1 +0.1**
baz=73,SNR=12
K17A Gardner Place, 72.49 329 ⇑P **P 17 37 57.7 +0.5**
baz=73
RCTC Rector, Farmer 72.52 320 ⇑P **P 17 37 58.2 +1.0**
baz=73
I19A Meeteetse 72.57 331 ⇓P **P 17 37 58.3 +0.6**
baz=73,SNR=24
PMPS Porto Santo 72.57 45 *e*P P 17 38 01.5 +3.8
PMPS Porto Santo 72.57 45 *e*PcP **PcP 17 38 13.4 -1.2**
PMPS *ep*P **pP 17 38 25.4 -1.3**
PMPST Porto Santo, M 72.59 45 *e*P P 17 38 01.0 +3.2
AHID Auburn Hatcher 72.59 329 *e*P **P 17 37 58.2 +0.4**
comp=Z,48nm,1.3s
AHID *ep*P **pP 17 38 27.0 +0.1**
E24A Baker 72.61 336 ⇑P **P 17 37 58.3 +0.6**
baz=73,SNR=18
L15A Malad City 72.66 328 ⇑P **P 17 37 58.5 +0.4**
baz=73,SNR=36
I18A Diamond G Ranc 72.69 331 ⇓P **P 17 37 59.1 +0.6**
baz=73,SNR=7.5
G21A Lodge Grass 72.71 333 ⇓P **P 17 37 58.5 +0.2**
baz=73,SNR=8.3
F22A Rosebud 72.76 334 ⇑P **P 17 37 58.6 +0.1**
baz=73,SNR=11
J17A Brown Place, J 72.85 330 ⇓P **P 17 38 00.2 +0.8**
baz=73,SNR=15
K16A Soda Springs 72.88 329 ⇓P **P 17 38 00.6 +1.1**
baz=73,SNR=54
E23A Ismay 72.95 335 ⇓P **P 17 37 59.8 +0.1**
baz=73
LOHW Long Hollow 72.99 330 *e*P **P 17 38 01.1 +0.8**
comp=Z,65nm,1.7s
LOHW *e*PcP **PcP 17 38 16.6 +0.2**
H19A Powell 73.06 332 ⇑P **P 17 38 01.0 +0.5**
baz=73,SNR=10
TPAW Teton Pass 73.06 330 *e*P **P 17 38 01.6 +0.9**
comp=Z,39nm,1.3s
D24A Glendive 73.07 336 ⇓P **P 17 38 01.2 +0.8**
baz=73,SNR=12
L14A Malta 73.11 327 ⇑P **P 17 38 01.5 +0.7**
baz=73,SNR=17
RRI2 Red Ridge 73.13 329 *e*P **P 17 38 01.6 +0.5**
comp=Z,99nm,1.4s
RRI2 *ep*P **pP 17 38 29.7 -0.5**
MLAC Mammoth Lakes 73.14 321 ⇓P **P 17 38 02.9 +1.6**
baz=73
G20A Bridger 73.15 332 ⇓P **P 17 38 01.1 +0.2**
baz=73,SNR=11
F21A Absaloka Mine, 73.16 333 ⇑P **P 17 38 01.5 +0.5**
baz=73
MOOW Moose Ponds 73.16 330 *e*P **P 17 38 01.3 +0.1**
comp=Z,45nm,1.5s
MOOW *ep*P **pP 17 38 28.4 -1.9**
I17A Pilgrim Ck. 73.21 330 ⇓P **P 17 38 02.7 +1.2**
baz=74,SNR=17
J16A Bone 73.22 329 ⇓P **P 17 38 02.4 +0.9**
baz=74,SNR=14
K15A Arbon 73.23 328 ⇑P **P 17 38 02.3 +0.7**
baz=74,SNR=14
ELK Elko 73.23 325 *e*P **P 17 38 02.2 +0.5**
ELK *ep*P **pP 17 38 31.4 +0.6**
NV11 Mina Array Sit 73.28 322 *e*P **P 17 38 03.3 +1.4**
NV11 *ep*P **pP 17 38 31.6 +0.6**
NVAR Mina Array Bea 73.36 322 P **P 17 38 03.5 +1.0**
comp=Z,11nm,0.9s,baz=147,slow=6.8,SNR=52
NVAR *p*P **pP 17 38 32.5 +0.9**
comp=Z,9.4nm,1.0s,baz=141,slow=7.3,SNR=6.1
NVAR Mina Array Bea 73.36 322 P **P 17 38 03.5 +1.0**
NVAR *p*P **pP 17 38 32.5 +0.9**
IMW Indian Meadow 73.36 330 *e*P **P 17 38 02.8 +0.3**
comp=Z,59nm,1.4s
H18A Shoshone NF, C 73.37 331 ⇑P **P 17 38 02.9 +0.5**
baz=74,SNR=13
K14A Jones Ranch, D 73.45 328 ⇓P **P 17 38 03.5 +0.7**
baz=74,SNR=8.1
D23A Lindsay 73.46 335 ⇑P **P 17 38 03.5 +0.8**
baz=74,SNR=21
RLMT Red Lodge 73.53 332 *e*P **P 17 38 04.3 +0.9**
comp=Z,91nm,1.5s
RLMT *ep*P **pP 17 38 33.5 +1.0**
RLMT Red Lodge 73.53 332 ⇓P **P 17 38 04.3 +0.9**
baz=74,SNR=28
H17A Grant Village 73.57 331 ⇓P **P 17 38 05.2 +1.5**
baz=74
F20A Billings 73.57 333 ⇓P **P 17 38 03.9 +0.5**
baz=74,SNR=11
I16A Newdale 73.61 330 ⇓P **P 17 38 04.9 +1.1**
baz=74,SNR=10
LKWY Lake 73.62 331 *e*P **P 17 38 05.3 +1.4**
LKWY pmax pmax
comp=Z,39nm,0.9s
LKWY Lake 73.62 331 *e*P **P 17 38 05.3 +1.4**
comp=Z,39nm,0.9s
E21A Keefer Ranch, 73.71 334 ⇓P **P 17 38 04.8 +0.7**
baz=74
J15A Blackfoot 73.71 329 ⇓P **P 17 38 05.3 +1.0**
baz=74,SNR=14
SCHQ Schefferville 73.73 2 P **P 17 38 04.5 +0.5**
comp=Z,5.1nm,0.7s,baz=180,slow=5.4,SNR=6.3
SCHQ *e*P **P 17 38 02.9 -1.1**
comp=Z,56nm,1.3s
SCHQ *ep*P **pP 17 38 33.2 +0.1**
TBI Tubuai 73.80 250 *e*P **P 17 38 06.6 +1.4**
comp=Z,162nm,1.3s
TBI *e*S **S 17 47 28.4 +0.9**
comp=Z,161nm,32.5s
TBI *e*LR LR 18 00 51.3
comp=Z,643nm,34.8s,baz=113
TBI Tubuai 73.80 250 *e*P **P 17 38 06.6 +1.4**
comp=Z,162nm,1.3s
TBI *e*S **S 17 47 28.4 +0.9**
G18A Lazy EL Ranch, 73.82 332 ⇓P **P 17 38 05.6 +0.7**
baz=74,SNR=33
D22A Cohagen 73.83 335 ⇓P **P 17 38 05.7 +0.9**
baz=74,SNR=28
F19A Roth Farm, Mol 73.96 332 ⇓P **P 17 38 06.3 +0.6**
baz=74,SNR=22
C23A Lambert 73.97 336 ⇓P **P 17 38 06.4 +0.8**
baz=74,SNR=8.8
D21A La Casita Ranch 74.09 334 ⇓P **P 17 38 07.3 +0.9**
baz=74,SNR=14
H16A Russell Place, 74.12 330 ⇑P **P 17 38 08.2 +1.4**
baz=74,SNR=25
E20A Meyer Farm, Mu 74.12 333 ⇓P **P 17 38 07.4 +0.9**
baz=74,SNR=19
DGMT Dagmar 74.14 337 *e*P **P 17 38 07.6 +1.0**
comp=Z,104nm,1.3s
DGMT *ep*P **pP 17 38 36.6 +0.9**
DGMT Dagmar 74.14 337 ⇓P **P 17 38 07.4 +0.8**
baz=74,SNR=9.6
I15A Monteview 74.18 329 ⇑P **P 17 38 08.6 +1.6**
baz=74,SNR=5.1
J14A Carey 74.19 328 ⇑P **P 17 38 08.6 +1.4**
baz=74,SNR=26
C22A Vida 74.20 335 ⇓P **P 17 38 07.6 +0.7**
baz=74,SNR=5.8
VAH Vaihoa 74.22 259 *e*P P 17 38 10.5 +2.8
comp=Z,128nm,1.3s
VAH Vaihoa 74.22 259 *e*P P 17 38 10.5 +2.8
comp=Z,128nm,1.3s
CMB Columbia Colle 74.34 320 *e*P **P 17 38 09.1 +1.1**
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 74.34 320 *e*P **P 17 38 09.1 +1.1**
comp=Z,21nm,1.3s
F18A Big Timber 74.34 332 ⇑P **P 17 38 08.7 +0.8**
baz=75,SNR=25
G17A Pierce Place, 74.35 331 ⇓P **P 17 38 09.6 +1.6**
baz=75
E19A Rath Farm, Rou 74.37 333 ⇑P **P 17 38 08.7 +0.7**
baz=75,SNR=28
B23A Brockton 74.44 336 ⇑P **P 17 38 09.1 +0.8**
baz=75,SNR=13
A24A Westby 74.45 337 ⇓P **P 17 38 09.3 +1.0**
baz=75
PMOR Pomariorio Ree 74.53 259 *e*P P 17 38 12.5 +3.0
comp=Z,137nm,1.3s
PMOR Pomariorio Ree 74.53 259 *e*P P 17 38 12.5 +3.0
comp=Z,137nm,1.3s
J13A Cove Ranch, Pi 74.58 328 ⇑P **P 17 38 10.7 +1.4**
baz=75,SNR=14
D20A Manuel Ranch, 74.59 334 ⇓P **P 17 38 09.9 +0.6**
baz=75,SNR=24
I14A Mackay 74.60 329 ⇓P **P 17 38 11.1 +1.6**
baz=75,SNR=10.0
B22A Reddig Ranch S 74.69 336 ⇓P **P 17 38 10.5 +0.7**
baz=75,SNR=6.9
H15A Lima 74.72 330 ⇓P **P 17 38 11.7 +1.5**
baz=75,SNR=9.9
C21A Desert Coulee 74.75 335 ⇓P **P 17 38 10.8 +0.7**
baz=75,SNR=15
F17A Fitzpatrick Pl 74.76 332 ⇓P **P 17 38 11.5 +1.1**
baz=75,SNR=26
G16A Moss Hill, Enn 74.78 330 ⇑P **P 17 38 11.4 +0.9**
baz=75,SNR=12
A23A Redstone 74.80 337 ⇑P **P 17 38 11.2 +0.8**
baz=75
HLID Hailey 74.81 328 *e*P **P 17 38 12.0 +1.2**
HLID *ep*P **pP 17 38 41.8 +1.8**
HLID Hailey 74.81 328 ⇓P **P 17 38 12.2 +1.5**
baz=75,SNR=53
I13A Wildhorse Cree 74.92 328 ⇑P **P 17 38 12.9 +1.4**
baz=75,SNR=23
E18A Harlowton 74.94 332 ⇑P **P 17 38 12.3 +0.9**
baz=75,SNR=17
D19A Cripps Ranch, 74.96 333 ⇑P **P 17 38 12.1 +0.7**
baz=75,SNR=22
MCMT McKenzie Canyo 74.97 330 P **P 17 38 13.1 +1.4**
BOZ Bozeman (W) 75.01 331 *e*P **P 17 38 12.4 +0.6**
BOZ pmax pmax
comp=Z,50nm,1.5s
BOZ Bozeman (W) 75.01 331 *e*P **P 17 38 12.4 +0.6**
comp=Z,50nm,1.5s
BOZ Bozeman (W) 75.01 331 ⇑P **P 17 38 12.5 +0.6**
baz=75,SNR=11
C20A Veseth Ranch, 75.03 334 ⇑P **P 17 38 12.0 +0.3**
baz=75,SNR=17
TVO Taravao 75.03 256 *e*P P 17 38 14.8 +2.3
comp=Z,111nm,1.3s
TVO Taravao 75.03 256 *e*P P 17 38 14.8 +2.3
TVO pmax pmax
comp=Z,111nm,1.3s
TVO Taravao 75.03 256 *e*P P 17 38 14.8 +2.3
comp=Z,111nm,1.3s
G15A Dillon 75.05 330 ⇓P **P 17 38 13.0 +0.9**
baz=75,SNR=16
H14A Leadore 75.06 329 ⇓P **P 17 38 13.7 +1.5**
baz=75,SNR=19
F16A Kennard Place, 75.11 331 ⇑P **P 17 38 13.3 +0.9**
baz=75,SNR=9.3
TIAR Tiarei 75.18 256 *e*P P 17 38 15.9 +2.6
comp=Z,34nm,1.0s
TIAR Tiarei 75.18 256 *e*P P 17 38 15.9 +2.6
comp=Z,34nm,1.0s
B21A Ellsworth Farm 75.20 335 ⇑P **P 17 38 13.5 +0.8**
baz=76,SNR=7.9
A22A Carnarvon, 75.22 336 ⇑P **P 17 38 13.6 +0.7**
baz=76,SNR=14
DLMT Dillon 75.25 330 *e*P **P 17 38 13.5 +0.3**
comp=Z,57nm,1.4s
DLMT *ep*P **pP 17 38 42.7 +0.3**
E17A Martinsdale 75.28 332 ⇑P **P 17 38 14.4 +1.0**
baz=76,SNR=25
PAE Paea 75.37 256 *e*P P 17 38 16.5 +2.2
comp=Z,15nm,1.2s
PAE Paea 75.37 256 *e*P P 17 38 16.5 +2.2
PAE pmax pmax
comp=Z,15nm,1.2s
PAE Paea 75.37 256 *e*P P 17 38 16.5 +2.2
comp=Z,15nm,1.2s
D18A Linhart Farms, 75.38 333 ⇑P **P 17 38 14.8 +1.0**
baz=76,SNR=17
PPT2 Papeete2 75.38 256 *e*P P 17 38 16.7 +2.2
comp=Z,63nm,1.3s
PPT2 *e*S **S 17 47 44.9 -0.6**
comp=Z,274nm,26.8s
PPT2 *e*LR LR 18 01 46.5
comp=Z,466nm,29.8s
MFID Camas Ranch 75.43 327 *e*P **P 17 38 15.8 +1.5**
comp=Z,90nm,1.4s
MFID *ep*P **pP 17 38 44.2 +0.8**
MFID Camas Ranch 75.43 327 ⇓P **P 17 38 15.8 +1.5**
baz=76,SNR=26
C19A Slack Wire Ran 75.48 334 ⇓P **P 17 38 15.0 +0.6**
baz=76,SNR=24
F15A Butte 75.56 330 ⇑P **P 17 38 16.3 +1.3**
baz=76,SNR=25
G14A Jackson 75.57 330 ⇓P **P 17 38 16.2 +1.1**
baz=76,SNR=5.2
B20A Solberg Farm, 75.61 335 ⇑P **P 17 38 15.5 +0.4**
baz=76
A21A Bergtoll Ranch 75.61 336 ⇑P **P 17 38 15.7 +0.7**
baz=76,SNR=10
E16A East Helena 75.70 331 ⇓P **P 17 38 16.5 +0.8**
baz=76,SNR=11
D17A Six Diamond Ra 75.73 332 ⇑P **P 17 38 16.6 +0.7**
baz=76,SNR=47
H12A Diamond D Ranc 75.75 328 ⇑P **P 17 38 17.3 +1.3**
baz=76,SNR=32
G13A Cobalt 75.83 329 ⇑P **P 17 38 18.0 +1.5**
baz=76,SNR=97
A20A Cobblestone Ra 75.92 335 ⇓P **P 17 38 17.3 +0.5**
baz=76,SNR=20
F14A Wisdom 75.94 330 ⇓P **P 17 38 18.6 +1.4**
baz=76,SNR=12
B19A Brinkman Farms 76.00 334 ⇓P **P 17 38 17.9 +0.7**
baz=76,SNR=16
EGMT Eagleton 76.00 333 *e*P **P 17 38 17.3 0.0**
comp=Z,62nm,1.2s
EGMT *ep*P **pP 17 38 46.9 +0.3**
EGMT Eagleton 76.00 333 ⇓P **P 17 38 17.8 +0.5**
baz=76,SNR=21
D16A Dana Ranch, Ca 76.02 332 ⇑P **P 17 38 18.8 +1.3**
baz=76,SNR=12
E15A Deer Lodge 76.06 331 ⇓P **P 17 38 18.8 +1.0**
baz=76
C17A Wharram Farm, 76.13 333 ⇓P **P 17 38 18.6 +0.5**
baz=76,SNR=8.9
A19A Klindworth Far 76.29 335 ⇓P **P 17 38 19.5 +0.6**
baz=77,SNR=14
B18A Beardsley Farm 76.30 334 ⇓P **P 17 38 19.7 +0.7**
baz=77,SNR=13
F13A Darby 76.39 329 ⇓P **P 17 38 20.9 +1.2**
baz=77,SNR=58
E14A Clinton 76.45 330 ⇑P **P 17 38 21.5 +1.5**
baz=77,SNR=22
D15A Lincoln 76.46 331 ⇑P **P 17 38 21.4 +1.3**
baz=77,SNR=12
B17A L&G Farms, Che 76.65 333 ⇑P **P 17 38 21.4 +0.4**
baz=77,SNR=7.4
C16A Fuhringer Ranc 76.69 332 ⇓P **P 17 38 22.1 +0.9**
baz=77,SNR=15
A18A Metzger Ranch, 76.73 334 ⇑P **P 17 38 21.8 +0.4**
baz=77
E13A Victor 76.79 330 ⇑P **P 17 38 23.3 +1.4**
baz=77,SNR=26
F12A Elk City 76.81 329 ⇓P **P 17 38 23.1 +1.0**
baz=77,SNR=24
MOD Modoc 76.81 324 *e*P **P 17 38 23.1 +1.0**
comp=Z,62nm,1.5s
MOD *ep*P **pP 17 38 52.6 +1.2**
D14A Greenough 76.94 331 ⇓P **P 17 38 23.7 +1.0**
baz=77,SNR=14
MSO Missoula 76.96 330 *e*P **P 17 38 24.1 +1.3**
comp=Z,37nm,1.4s
MSO *ep*P **pP 17 38 54.2 +2.0**
MSO Missoula 76.96 330 ⇑P **P 17 38 24.2 +1.3**
baz=77,SNR=11
TOA0 Torodi Ar. Sit 77.05 71 *e*P **P 17 38 22.5 -1.3**
TOA0 *ep*P **pP 17 38 53.2 0.0**
TOA0 *es*P **sP 17 39 06.4 +0.8**
TORD Torodi Ar. Bea 77.05 71 P **P 17 38 22.6 -1.3**
comp=Z,32nm,0.7s,baz=255,slow=5.3,SNR=202
TORD *p*P **pP 17 38 53.9 +0.7**
comp=Z,32nm,0.7s,baz=250,slow=5.7,SNR=2.9
TORD LR LR 18 10 57.8
comp=Z,328nm,20.0s,baz=245,slow=34
TORD Torodi Ar. Bea 77.05 71 P **P 17 38 22.6 -1.3**
TORD *p*P **pP 17 38 53.9 +0.7**
C15A Salmond Ranch, 77.05 332 ⇑P **P 17 38 24.6 +1.2**
baz=77,SNR=21
A17A Triple J Farms 77.11 334 ⇓P **P 17 38 24.0 +0.5**
baz=77,SNR=10
B16A M & M Farms, S 77.14 333 ⇓P **P 17 38 24.0 +0.3**
baz=77
BMO Blue Mountains 77.20 327 *e*P **P 17 38 24.9 +0.7**
comp=Z,42nm,1.3s
BMO *ep*P **pP 17 38 51.3 -2.2**
D13A Huson 77.40 330 ⇑P **P 17 38 26.5 +1.3**
baz=78,SNR=32
B15A Bradely Ranch, 77.44 332 ⇑P **P 17 38 25.7 +0.3**
baz=78,SNR=18
A16A West Butte Ran 77.50 333 ⇑P **P 17 38 26.5 +0.7**
baz=78,SNR=22
B14A Marquette Ranc 77.79 332 ⇓P **P 17 38 27.9 +0.5**
baz=78,SNR=6.7
C13A Hot Springs 77.88 331 ⇓P **P 17 38 28.9 +1.0**
baz=78,SNR=26
A15A Johnson Ranch, 78.01 332 ⇑P **P 17 38 28.6 0.0**
baz=78,SNR=7.0
BSMT Bassoo Peak 78.10 331 P **P 17 38 30.8 +1.5**
A14A Double T Ranch 78.31 332 ⇓P **P 17 38 30.6 +0.3**
baz=79,SNR=14
C12B Naegeli Ranch, 78.32 330 ⇑P **P 17 38 31.5 +1.3**
baz=79,SNR=6.4
B13A Whitefish 78.33 331 ⇓P **P 17 38 31.4 +1.1**
baz=79,SNR=19
FFC Flin Flon 78.67 341 *i* P **P 17 38 32.2 +0.3**

FFC **Flin Flon** 78.67 341 *e*P P 17 38 31.9 0.0
FFC **Flin Flon** 78.67 341 P P 17 38 32.7 +0.8
comp=Z,89nm,1.1s,SNR=8.2
SYO **Syowa Base** 78.85 160⇑*e*P P 17 38 32.0 -0.8
B12A **Libby** 78.92 331 ⇑P P 17 38 34.5 +1.0
baz=79
VNDA **Vanda** 79.05 190 P P 17 38 36.1 +2.2
comp=Z,8.9nm,1.1s,baz=143,slow=4.7,SNR=11
VNDA **Vanda** 79.05 190 *e*P P 17 38 36.1 +2.2
comp=Z,39nm,1.6s
A12A **Yaak River Ran** 79.28 331 ⇑P P 17 38 36.6 +1.1
baz=80,SNR=26
HAWA **Hanford** 79.39 327 *e*P P 17 38 37.7 +1.6
comp=Z,98nm,1.6s
HAWA *e*pP pP 17 39 05.5 -0.1
NEW **Newport** 79.49 330 ⇓P P 17 38 37.1 +0.5
baz=80,SNR=6.4
OD2 **Odessa Site #2** 79.66 328 P P 17 38 39.2 +1.7
VFP **Flag Point** 79.69 326 P P 17 38 39.9 +2.0
DPW **Davenport** 79.74 329 P P 17 38 39.6 +1.6
DPW **Davenport** 79.74 329 P P 17 38 39.6 +1.6
TRW **Toppenish Ridg** 79.84 327 P P 17 38 40.6 +2.0
VLL **Laurance Lake** 79.89 326 P P 17 38 41.2 +2.2
MORF **Marmelete** 80.16 45 *e*P P 17 38 42.0 +1.5
comp=Z,138nm,0.9s
MORF **Marmelete** 80.16 45 *e*PcP PcP 17 38 45.4 -2.0
MORF *e*pP pP 17 39 12.8 +2.8
SUR **Sutherland** 80.18 121 *e*P P 17 38 42.2 +1.1
comp=Z,34nm,0.9s
SUR **Sutherland** 80.18 121 P P 17 38 42.8 +1.7
comp=Z,221nm,1.2s,SNR=5.1
PTEO **Sao Teotonio** 80.24 45 *e*P P 17 38 42.3 +1.5
comp=Z,155nm,1.1s
PTEO **Sao Teotonio** 80.24 45 *e*PcP PcP 17 38 46.0 -1.7
PTEO *e*pP pP 17 39 13.3 +2.9
PBDV **Barranco-do-Ve** 80.60 45 *e*P P 17 38 44.3 +1.4
comp=Z,92nm,1.4s
MDT **Midelt** 80.64 51 P P 17 38 44.1 +0.8
comp=Z,18nm,0.8s,baz=253,slow=5.3,SNR=26
MDT *e*pP pP 17 39 14.3 +1.4
comp=Z,35nm,1.0s,baz=251,slow=6.3,SNR=7.1
MDT **Midelt** 80.64 51 P P 17 38 44.1 +0.8
MDT *e*pP pP 17 39 14.3 +1.4
PNCL **Nicolau / Gran** 80.68 44 *e*P P 17 38 44.3 +1.1
comp=Z,63nm,1.1s
PNCL **Nicolau / Gran** 80.68 44 *e*PcP PcP 17 38 48.5 -1.1
PNCL *e*pP pP 17 39 15.3 +2.6
PCVE **Castro Verde** 80.74 45 *e*P P 17 38 44.8 +1.3
comp=Z,37nm,1.1s
PCVE *e*pP pP 17 39 15.9 +2.8
PVAQ **Vaqueiros** 80.83 45 *e*P P 17 38 45.2 +1.2
comp=Z,48nm,1.4s
PBEJ **Beja** 81.07 45 *e*P P 17 38 46.4 +1.1
comp=Z,30nm,0.9s
PBEJ *e*pP pP 17 39 14.1 -0.8
EVOP **Sao Brissos** 81.17 44⇑*i*P P 17 38 46.6 +0.8
EVOP pmax pmax
comp=Z,41nm,0.6s
EVOP **Sao Brissos** 81.17 44⇑*i*P P 17 38 46.6 +0.8
comp=Z,41nm,0.6s
TSUM **Tsumeb** 81.19 107 *e*P P 17 38 47.3 +0.8
comp=Z,44nm,0.9s
TSUM *e*pP pP 17 39 18.1 +1.9
TSUM *e*PP PP 17 41 45.2 -8.1
EVO **Evora** 81.25 44⇑*i*P P 17 38 46.6 +0.4
comp=Z,41nm,0.7s
EVO *e*R
comp=Z,137nm,20.0s
EVO **Evora** 81.25 44 *e*P P 17 38 47.0 +0.8
comp=Z,34nm,1.2s
EVO **Evora** 81.25 44 *e*PcP PcP 17 38 51.4 -0.7
EVO *e*pP pP 17 39 16.3 +0.5
PMTG **Montargil** 81.40 44 *e*P P 17 38 48.0 +1.0
comp=Z,60nm,1.1s
PMTG *e*pP pP 17 39 18.8 +2.2
PTOM **Tomar** 81.58 43 *e*P P 17 38 47.6 -0.3
comp=Z,86nm,0.9s
PTOM **Tomar** 81.58 43 *e*PcP PcP 17 38 52.8 -0.7
PTOM *e*pP pP 17 39 20.1 +2.6
PBAR **Barrancos** 81.70 45 *e*P P 17 38 49.9 +1.3
comp=Z,37nm,1.4s
PBAR **Barrancos** 81.70 45 *e*PcP PcP 17 38 53.8 -0.3
PESTR **Estremoz** 81.70 44 *e*P P 17 38 49.6 +1.0
comp=Z,59nm,1.0s
PESTR **Estremoz** 81.70 44 *e*PcP PcP 17 38 53.8 -0.3
PESTR *e*pP pP 17 39 20.9 +2.6
JCW **Jim Creek** 81.81 328 P P 17 38 49.5 +0.6
CMW **Cultus Mountai** 82.05 328 P P 17 38 51.2 +0.8
MBW **Mount Baker** 82.18 328 P P 17 38 51.6 +0.5
NLWA **Neilton Lookou** 82.29 326 *e*P P 17 38 50.5 -1.1
comp=Z,76nm,1.8s
PVIS **Viseu** 82.51 42 *e*P P 17 38 52.6 -0.2
MTE **Manteigas** 82.56 43 *e*P P 17 38 54.1 +1.0
comp=Z,68nm,1.1s
MTE *e*pP pP 17 39 24.6 +1.8
MTE **Manteigas** 82.56 43 *e*P P 17 38 53.4 +0.2
comp=Z,45nm,1.0s
MTE *e*pP pP 17 39 23.9 +1.1
PVRL **Vila Real** 82.93 42 *e*P P 17 38 55.7 +0.7
comp=Z,34nm,1.5s
PVRL **Vila Real** 82.93 42 *e*PcP PcP 17 38 58.9 -0.6
PVRL *e*pP pP 17 39 27.5 +2.8
POLO **Lamas de Olo** 82.93 42 *e*P P 17 38 55.5 +0.4
comp=Z,18nm,1.1s
PCAB **Cabril** 82.97 41 *e*P P 17 38 56.0 +0.8
MVO **Moncorvo** 83.30 42 *e*P P 17 38 57.5 +0.5
comp=Z,53nm,0.9s
MVO *e*pP pP 17 39 28.8 +2.1
PBRG **Braganca** 83.83 42 *e*P P 17 39 00.2 +0.6
comp=Z,57nm,1.3s
PBRG *e*pP pP 17 39 31.5 +2.1
PAB **San Pablo** 84.20 45 *e*P P 17 39 01.6 0.0
PAB *e**PP pP 17 39 32.6 +1.2
PAB pmax pmax
comp=Z,37nm,1.0s
PAB **San Pablo** 84.20 45 *e*P P 17 39 01.6 0.0
comp=Z,37nm,1.0s
PAB *e*pP pP 17 39 32.6 +1.2
TAM **Tamanrasset** 84.22 64 *e*P P 17 39 02.0 -0.2
TAM *e**PP pP 17 39 33.7 +1.8
TAM pmax pmax
comp=Z,27nm,1.1s
TAM **Tamanrasset** 84.22 64 *e*P P 17 39 02.0 -0.2
comp=Z,26nm,1.1s
TAM *e*pP pP 17 39 33.7 +1.8
ESDC **Sonseca Array** 84.53 45 P P 17 39 03.0 -0.1
comp=Z,13nm,0.7s,baz=245,slow=5.5,SNR=27
ESDC pP pP 17 39 34.2 +1.2
comp=Z,15nm,0.9s,baz=250,slow=5.4,SNR=4.3
ESDC **Sonseca Array** 84.53 45 P P 17 39 03.0 -0.1
ESDC pP pP 17 39 34.2 +1.2
ESLA **Sonseca Array** 84.53 45 *e*P P 17 39 03.8 +0.6
comp=Z,9.0nm,1.0s
ESLA *e*pP pP 17 39 34.7 +1.7
BOSA **Boshof** 84.98 118 P P 17 39 05.9 -0.1
comp=Z,13nm,1.0s,baz=244,slow=6.5,SNR=10
BOSA LR LR 18 14 30.2
comp=Z,237nm,18.3s,baz=258,slow=34
BOSA **Boshof** 84.98 118 *e*P P 17 39 05.5 -0.5
comp=Z,38nm,1.1s
BOSA *e*pP pP 17 39 36.5 +0.7
LBTB **Lobatse** 86.44 115 *e*P P 17 39 13.5 +0.3
comp=Z,54nm,1.4s
LBTB *e*pP pP 17 39 41.7 -1.4
LBTB *e*PP PP 17 42 29.9 -6.2
SJPF **Ste Jean** 88.01 43 *e*P P 17 39 19.0 -1.1
comp=Z,100nm,1.1s
SJPF **Ste Jean** 88.01 43 *e*P P 17 39 19.0 -1.1
SJPF pmax pmax
comp=Z,100nm,1.1s
SJPF **Ste Jean** 88.01 43 *e*P P 17 39 19.0 -1.1
comp=Z,100nm,1.1s
LARF **Larrau** 88.13 43 *e*P P 17 39 27.6 +6.9
ETSF **Etsaut** 88.34 43 *e*P P 17 39 20.7 -1.0
comp=Z,43nm,1.0s
ETSF **Etsaut** 88.34 43 *e*P P 17 39 20.7 -1.0
ETSF pmax pmax
comp=Z,43nm,1.0s
ETSF **Etsaut** 88.34 43 *e*P P 17 39 20.7 -1.0
comp=Z,43nm,1.0s
REYF **Montagne du Re** 88.53 43 *e*P P 17 39 29.5 +6.9
YKA **Yellowknife Ar** 88.83 341 P P 17 39 23.6 +0.1
comp=Z,37nm,0.8s,baz=136,slow=4.7,SNR=454
YKA pP pP 17 39 53.7 +0.2
comp=Z,22nm,0.8s,baz=136,slow=4.8,SNR=5.4
YKA **Yellowknife Ar** 88.83 341 P P 17 39 23.6 +0.1
YKA pP pP 17 39 53.8 +0.2
YKW3 **Yellowknife Ar** 88.89 341 *e*P P 17 39 23.6 -0.1
comp=Z,1.9nm,1.1s
YKW3 *e*pP pP 17 39 53.3 -0.5
YKW3 *e*sP sP 17 40 06.8 +0.8
EPF **Esparros** 88.98 43 *e*P P 17 39 23.7 -1.0
comp=Z,23nm,1.0s
EPF **Esparros** 88.98 43 *e*P P 17 39 23.7 -1.0
EPF pmax pmax
comp=Z,23nm,1.0s
EPF **Esparros** 88.98 43 *e*P P 17 39 23.7 -1.0
comp=Z,23nm,1.0s
ROSF **Rostrenen** 89.32 38 *e*P P 17 39 23.8 -2.3
comp=Z,191nm,1.5s
ROSF **Rostrenen** 89.32 38 *e*P P 17 39 23.8 -2.3
ROSF pmax pmax
comp=Z,191nm,1.5s
ROSF **Rostrenen** 89.32 38 *e*P P 17 39 23.8 -2.3
comp=Z,191nm,1.5s
SALF **Salau** 89.41 44 *e*P P 17 39 32.5 +5.7
LFF **La Frestale** 90.12 42 *e*P P 17 39 29.3 -0.6
comp=Z,126nm,0.9s
LFF **La Frestale** 90.12 42 *e*P P 17 39 29.3 -0.6
LFF pmax pmax
comp=Z,126nm,0.9s
LFF **La Frestale** 90.12 42 *e*P P 17 39 29.3 -0.6
comp=Z,126nm,0.9s
MFF **Saint Martin d** 90.33 40 *e*P P 17 39 29.0 -1.9
comp=Z,56nm,1.1s
MFF **Saint Martin d** 90.33 40 *e*P P 17 39 29.0 -1.9
MFF pmax pmax
comp=Z,56nm,1.1s
MFF **Saint Martin d** 90.33 40 *e*P P 17 39 29.0 -1.9
comp=Z,56nm,1.1s
MTLF **Montolieu** 90.35 44 *e*P P 17 39 29.0 -2.0
comp=Z,24nm,1.1s
MTLF **Montolieu** 90.35 44 *e*P P 17 39 29.0 -2.0
MTLF pmax pmax
comp=Z,25nm,1.1s
MTLF **Montolieu** 90.35 44 *e*P P 17 39 29.0 -2.0
comp=Z,24nm,1.1s
RJF **Les Rejaudoux** 90.77 42 *e*P P 17 39 32.1 -0.9
comp=Z,56nm,0.9s
RJF *e*R
comp=Z,156nm,18.8s
RJF **Les Rejaudoux** 90.77 42 *e*P P 17 39 32.1 -0.9
RJF pmax pmax
comp=Z,56nm,0.9s
RJF **Les Rejaudoux** 90.77 42 *e*P P 17 39 32.1 -0.9
comp=Z,56nm,0.9s
CAF **Calviac** 90.95 42 *e*P P 17 39 33.1 -0.7
comp=Z,47nm,1.0s
CAF **Calviac** 90.95 42 *e*P P 17 39 33.1 -0.7
CAF pmax pmax
comp=Z,47nm,1.0s
CAF **Calviac** 90.95 42 *e*P P 17 39 33.1 -0.7
comp=Z,47nm,1.0s
BORG **Borgarnes** 91.38 19 P P 17 39 35.6 +0.4
comp=Z,29nm,1.2s,baz=229,slow=12,SNR=3.1
BORG **Bogarnes** 91.38 19 P P 17 39 35.6 +0.4
TCF **Toulx Ste Croi** 91.64 41 *e*P P 17 39 34.9 -2.1
comp=Z,31nm,0.9s
TCF **Toulx Ste Croi** 91.64 41 *e*P P 17 39 34.9 -2.1
TCF pmax pmax
comp=Z,31nm,0.9s
TCF **Toulx Ste Croi** 91.64 41 *e*P P 17 39 34.9 -2.1
comp=Z,31nm,0.9s
LASF **Ste Croix** 91.74 44 *e*P P 17 39 35.9 -1.6
LASF **Ste Croix** 91.74 44 *e*P P 17 39 35.9 -1.6
LBL **Lubilhac** 91.84 42 *e*P P 17 39 43.2 +5.2
PYM **Petit Puy Mans** 91.91 42 *e*P P 17 39 42.6 +4.3
PYM **Petit Puy Mans** 91.91 42 *e*P P 17 39 42.6 +4.3
PYM **Petit Puy Mans** 91.91 42 *e*P P 17 39 42.6 +4.3
LSZ **Lusaka** 92.04 107 *e*P P 17 39 41.4 +1.7
comp=Z,6.6nm,0.9s
LSZ *e*PP PP 17 43 16.0 -4.8
AGO **Saint Agoulin** 92.12 42 *e*P P 17 39 43.4 +4.2
AGO **Saint Agoulin** 92.12 42 *e*P P 17 39 43.4 +4.2
BGF **Bois d'Agland** 92.16 41 *e*P P 17 39 37.5 -1.8
comp=Z,55nm,0.8s
BGF **Bois d'Agland** 92.16 41 *e*P P 17 39 37.5 -1.8
BGF pmax pmax
comp=Z,55nm,0.8s
BGF **Bois d'Agland** 92.16 41 *e*P P 17 39 37.5 -1.8
comp=Z,55nm,0.8s
KEST **Kesra** 92.30 53 P P 17 39 40.9 +0.5
comp=Z,1.7nm,0.8s,baz=155,slow=3.4,SNR=3.5
KEST **Kesra** 92.30 53 *e*P P 17 39 40.4 0.0
PLDF **La Plantade** 92.39 42 *e*P P 17 39 45.0 +4.5
AVF **Avril sur Loir** 92.57 41 *e*P P 17 39 39.2 -2.0
comp=Z,24nm,0.9s
AVF **Avril sur Loir** 92.57 41 *e*P P 17 39 39.2 -2.0
AVF pmax pmax
comp=Z,24nm,0.9s
AVF **Avril sur Loir** 92.57 41 *e*P P 17 39 39.2 -2.0
comp=Z,24nm,0.9s
VIVF **Saint-Julien-l** 92.59 43 *e*P P 17 39 40.1 -1.4
comp=Z,36nm,1.2s
VIVF **Saint-Julien-l** 92.59 43 *e*P P 17 39 40.1 -1.4
VIVF pmax pmax
comp=Z,36nm,1.2s
VIVF **Saint-Julien-l** 92.59 43 *e*P P 17 39 40.1 -1.4
comp=Z,36nm,1.2s
SSF **Saint Saulge** 92.78 41 *e*P P 17 39 39.9 -2.3
comp=Z,36nm,1.0s
SSF **Saint Saulge** 92.78 41 *e*P P 17 39 39.9 -2.3
SSF pmax pmax
comp=Z,36nm,1.0s
SSF **Saint Saulge** 92.78 41 *e*P P 17 39 39.9 -2.3
comp=Z,36nm,1.0s
SMF **Signal de Mont** 92.81 41 *e*P P 17 39 40.6 -1.8
comp=Z,70nm,1.0s
SMF **Signal de Mont** 92.81 41 *e*P P 17 39 40.6 -1.8
SMF pmax pmax
comp=Z,70nm,1.0s
SMF **Signal de Mont** 92.81 41 *e*P P 17 39 40.6 -1.8
comp=Z,70nm,1.0s
LOR **Lormes** 93.09 41 *e*P P 17 39 41.4 -2.3
comp=Z,46nm,1.0s
LOR *e*R
comp=Z,182nm,20.2s
LOR **Lormes** 93.09 41 *e*P P 17 39 41.4 -2.3
comp=Z,46nm,1.0s
ORIF **Oris-en-Rattie** 93.40 44 *e*P P 17 39 44.1 -1.2
comp=Z,54nm,1.3s
ORIF *e*R
comp=Z,212nm,23.0s
ORIF **Oris-en-Rattie** 93.40 44 *e*P P 17 39 44.1 -1.2
ORIF pmax pmax
comp=Z,54nm,1.3s
ORIF **Oris-en-Rattie** 93.40 44 *e*P P 17 39 44.1 -1.2
comp=Z,54nm,1.3s
SUMG **Summit** 93.84 9 *e*P P 17 39 49.0 +2.0
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG **Summit** 93.84 9 *e*P P 17 39 49.0 +2.0
comp=Z,30nm,1.0s
MBDF **Montbardon** 93.91 44 *e*P P 17 39 46.3 -1.4
comp=Z,27nm,1.2s
MBDF **Montbardon** 93.91 44 *e*P P 17 39 46.3 -1.4
MBDF pmax pmax
comp=Z,27nm,1.2s
MBDF **Montbardon** 93.91 44 *e*P P 17 39 46.3 -1.4
comp=Z,27nm,1.2s
LPL **La Plagne** 94.19 43 *e*P P 17 39 48.1 -0.9
comp=Z,27nm,1.0s
LPL **La Plagne** 94.19 43 *e*P P 17 39 48.1 -0.9
LPL pmax pmax
comp=Z,27nm,1.0s
LPL **La Plagne** 94.19 43 *e*P P 17 39 48.1 -0.9
comp=Z,27nm,1.0s
LPG **La Plagne** 94.20 43 *e*P P 17 39 48.3 -0.8
comp=Z,44nm,1.2s
LPG **La Plagne** 94.20 43 *e*P P 17 39 48.3 -0.8
LPG pmax pmax
comp=Z,44nm,1.2s
LPG **La Plagne** 94.20 43 *e*P P 17 39 48.3 -0.8
comp=Z,44nm,1.2s
SFTF **Sexfontaines** 94.20 40 *e*P P 17 39 46.9 -1.8
comp=Z,39nm,0.9s
SFTF **Sexfontaines** 94.20 40 *e*P P 17 39 46.9 -1.8
comp=Z,39nm,0.9s
CABF **La Chapelle** 94.21 42 *e*P P 17 39 47.2 -1.7
comp=Z,33nm,1.0s
CABF **La Chapelle** 94.21 42 *e*P P 17 39 47.2 -1.7
CABF pmax pmax
comp=Z,33nm,1.0s
CABF **La Chapelle** 94.21 42 *e*P P 17 39 47.2 -1.7
comp=Z,33nm,1.0s
MEZF **Maizieres J'vi** 94.33 40 *e*P P 17 39 47.6 -1.7
comp=Z,55nm,1.1s
MEZF **Maizieres J'vi** 94.33 40 *e*P P 17 39 47.6 -1.7
comp=Z,55nm,1.1s
BAIF **Baives** 94.47 38 *e*P P 17 39 48.0 -1.9
BAIF **Baives** 94.47 38 *e*P P 17 39 48.0 -1.9
BAIF **Baives** 94.47 38 *e*P P 17 39 48.0 -1.9
PAGF **Fort de Pagny** 94.76 40 *e*P P 17 39 49.8 -1.5
comp=Z,20nm,1.2s
PAGF **Fort de Pagny** 94.76 40 *e*P P 17 39 49.8 -1.5
comp=Z,20nm,1.2s
THEF **They Montfort** 94.79 40 *e*P P 17 39 56.7 +5.3
THEF **They Montfort** 94.79 40 *e*P P 17 39 56.7 +5.3
THEF **They Montfort** 94.79 40 *e*P P 17 39 56.7 +5.3
CASY **Casey** 94.82 180 *e*P P 17 39 51.7 +0.4
comp=Z,16nm,1.2s
GIVF **Givet** 94.85 38 *e*P P 17 39 50.0 -1.6
GIVF **Givet** 94.85 38 *e*P P 17 39 50.0 -1.6
GIVF **Givet** 94.85 38 *e*P P 17 39 50.0 -1.6
HAU **Haudompre** 94.93 41 *e*P P 17 39 50.1 -2.0
comp=Z,29nm,1.0s
HAU *e*R
comp=Z,123nm,22.2s
HAU **Haudompre** 94.93 41 *e*P P 17 39 50.1 -2.0
HAU pmax pmax
comp=Z,29nm,1.0s
HAU **Haudompre** 94.93 41 *e*P P 17 39 50.1 -2.0
comp=Z,29nm,1.0s
LOMF **Lomont** 94.97 42 *e*P P 17 39 59.8 +7.4
HINF **Hinteralfeld** 95.17 41 *e*P P 17 39 51.1 -2.1
comp=Z,28nm,1.0s
HINF **Hinteralfeld** 95.17 41 *e*P P 17 39 51.1 -2.1
HINF pmax pmax
comp=Z,28nm,1.0s
HINF **Hinteralfeld** 95.17 41 *e*P P 17 39 51.1 -2.1
comp=Z,28nm,1.0s
ECH **Echery** 95.51 41 P P 17 39 54.3 -0.4
ECH pmax pmax
comp=Z,17nm,1.1s
ECH **Echery** 95.51 41 P P 17 39 54.3 -0.4
comp=Z,17nm,1.1s
ECH **Echery** 95.51 41 *e*P P 17 39 59.8 +5.1
CDF **Champ du Feu** 95.66 41 *e*P P 17 39 53.6 -1.9
comp=Z,50nm,1.1s
CDF **Champ du Feu** 95.66 41 *e*P P 17 39 53.6 -1.9
CDF pmax pmax
comp=Z,50nm,1.1s
CDF **Champ du Feu** 95.66 41 *e*P P 17 39 53.6 -1.9
comp=Z,50nm,1.1s
RUP **Ruppelstein** 96.02 39 *e*P P 17 40 03.4 +6.4
RUP **Ruppelstein** 96.02 39 *e*P P 17 40 03.4 +6.4
LANF **Langenberg** 96.20 40 *e*P P 17 40 04.1 +6.3
LANF **Langenberg** 96.20 40 *e*P P 17 40 04.1 +6.3
LANF **Langenberg** 96.20 40 *e*P P 17 40 04.1 +6.3
TUE **Stuetta** 96.24 43 P P 17 39 57.9 -0.4
comp=Z,12nm,1.1s
DAVOX **Davos/Dischmat** 96.69 43 PP PP 17 43 53.6 -3.3
comp=Z,4.2nm,0.8s,baz=314,slow=8.8,SNR=4.4
DAVOX **Davos/Dischmat** 96.69 43 PP PP 17 43 53.6 -3.3
GRF **Grafenberg Arr** 98.54 40 *e*P Pdif 17 40 14.1 +5.7
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRF MLR MLR
comp=Z,200nm,19.0s
GRF **Grafenberg Arr** 98.54 40 *e*P Pdif 17 40 14.1 +5.7
comp=Z,9.0nm,0.8s
GRF *e*L L 18 41 25.8
comp=Z,197nm,19.0s
MBAR **Mbarara** 99.41 94 LR LR 18 22 46.9
comp=Z,345nm,20.4s,baz=344,slow=34
GERES **GERESS Array B** 99.81 42 P **Pdif** **17 40 14.6 +0.5**
comp=Z,2.2nm,0.9s,baz=240,slow=5.4,SNR=12
GERES **GERESS Array B** 99.81 42 P **Pdif** **17 40 14.6 +0.5**
CLL **Collm** 100.13 39 *e*P **Pdif** **17 40 20.0 +4.6**
CLL *e* 17 44 20.0
CLL *e* 17 50 47.0
CLL *e*S **Sdif** **17 51 35.0 -5.4**
CLL **Collm** 100.13 39 *e*(Pdif) **Pdif** **17 40 20.0 +4.6**
CLL *e*PP **PP** **17 44 20.0 -2.7**
CLL *e*SKSac **SKSac** **17 50 47.0 +3.8**
CLL *e*Sdif **Sdif** **17 51 35.0 -5.4**
CLL *e*SP **SP** **17 53 02.0 -7.7**
CLL *e*PS **PS** **17 53 27.0 +2.5**
CLL Lm MLR 18 45 00.0
comp=Z,200nm,21.4s
BRG **Berggiesshubel** 100.57 40 *e*PDIF **Pdif** **17 40 21.9 +4.6**
comp=Z,2.2nm,0.9s
BRG *e* 17 40 46.8
comp=Z,6.9nm,1.3s
BRG *e*PP **PP** **17 44 22.9 -3.1**
comp=Z,36nm,1.9s
BRG **Berggiesshubel** 100.57 40 *e*P **Pdif** **17 40 21.9 +4.6**
BRG *e* 17 44 22.9
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG pmax pmax
comp=Z,36nm,1.9s
ILAR **Eielson Array** 101.94 335 P **Pdif** **17 40 23.2 +0.1**
comp=Z,0.3nm,0.7s,baz=104,slow=3.8,SNR=3.4
ILAR PP PP 17 44 26.4 -10
comp=Z,0.7nm,0.9s,baz=101,slow=6.4,SNR=5.7
ILAR **Eielson Array** 101.94 335 P **Pdif** **17 40 23.2 +0.1**
ILAR PP PP 17 44 26.4 -10
NOA **NORSAR Array B** 102.14 29 P **Pdif** **17 40 25.6 +1.5**
comp=Z,0.7nm,0.8s,baz=295,slow=3.3,SNR=2.8
NOA PP **PP** **17 44 36.5 -1.1**
comp=Z,1.9nm,1.0s,baz=264,slow=9.2,SNR=3.2
NOA **NORSAR Array B** 102.14 29 P **Pdif** **17 40 25.6 +1.5**
NOA PP **PP** **17 44 36.5 -1.1**
VYHS **Vyhne** 102.98 43 *e*P **Pdif** **17 40 32.3 +4.1**
VYHS **Vyhne** 102.98 43 PDIF **Pdif** **17 40 32.3 +4.1**
BUR08 **Bucovina Ar. S** 106.98 45 *e*P **Pdif** **17 40 55.0 +8.9**
AKASG **Malin Array Be** 110.02 42 PP PP 17 45 32.2 -3.5
comp=Z,1.3nm,0.7s,baz=267,slow=6.3,SNR=5.6
AKASG **Malin Array Be** 110.02 42 PP PP 17 45 32.2 -3.5
DZM **Mont Dzumac** 111.71 236 *e*LR LR 18 18 14.8
comp=Z,297nm,30.1s
BRTR **Keskin Array B** 111.88 54 PP PP 17 45 46.0 -3.7
comp=Z,6.2nm,1.1s,baz=252,slow=6.4,SNR=10
BRTR **Keskin Array B** 111.88 54 PP PP 17 45 46.0 -3.7
APA **Apatity** 112.45 24⇑*e*PKIKP 17 45 11.0
APA MLR MLR
comp=Z,500nm,15.0s
OBN **Obninsk** 114.63 37 *e*PKIKP PKPdf 17 45 10.7 +1.5
OBN *e* 17 46 04.2
OBN pmax pmax
comp=Z,8.0nm,1.9s
KBZ **Khabaz** 119.02 50 PKP PKPdf 17 45 22.7 +4.6
comp=Z,4.2nm,1.0s,baz=214,slow=0.7,SNR=7.5
KBZ **Khabaz** 119.02 50 PKIKP PKPdf 17 45 22.7 +4.6
KBZ **Khabaz** 119.02 50 PKP PKPdf 17 45 22.7 +4.6
BILL **Bilibino** 120.18 339 *i* PKIKP **PKPdf** **17 45 20.0 +0.4**
BILL *e* 17 46 45.1
BILL pmax pmax
comp=Z,2.0nm,1.2s
STKA **Stephens Creek** 121.17 211 PKP **PKPdf** **17 45 22.4 -0.4**
comp=Z,2.5nm,0.7s,baz=142,slow=3.4,SNR=9.7
STKA **Stephens Creek** 121.17 211 PKP **PKPdf** **17 45 22.4 -0.4**
TIXI **Tiksi** 126.43 353⇑*i*PKIKP **PKPdf** **17 45 31.7 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI **Tiksi** 126.43 353 P **PKPdf** **17 45 31.2 -0.3**
ARU **Arti** 126.48 33 PKIKP PKPdf 17 45 39.0 +7.0
CTA **Charters Tower** 127.60 224 PKP **PKPdf** **17 45 36.2 +0.9**
comp=Z,5.3nm,0.9s,baz=163,slow=5.3,SNR=3.4
CTA **Charters Tower** 127.60 224 PKP **PKPdf** **17 45 36.2 +0.9**
SEY **Seymchan** 127.77 337⇑*i*PKIKP **PKPdf** **17 45 35.7 +1.4**
AKTO **Aktyubinsk** 128.20 40 PKP **PKPdf** **17 45 37.2 +1.8**
comp=Z,1.9nm,0.8s,baz=353,slow=8.1,SNR=3.0
AKTO PP **PP** **17 47 38.3 -2.5**
comp=Z,2.1nm,0.8s,baz=318,slow=2.9,SNR=3.9
AKTO **Aktyubinsk** 128.20 40 PKIKP **PKPdf** **17 45 37.3 +1.8**
AKTO 17 47 38.3
AKTO **Aktyubinsk** 128.20 40 PKP **PKPdf** **17 45 37.2 +1.8**
AKTO PP **PP** **17 47 38.3 -2.5**
ABKAR **Akbulak array** 129.75 41 *e*PKPdf **PKPdf** **17 45 39.1 +0.7**
PETK **Petropavlovsk-** 130.40 325 PKP **PKPdf** **17 45 40.5 +0.9**
comp=Z,2.8nm,1.0s,baz=135,slow=2.2,SNR=5.2
PETK **Petropavlovsk-** 130.40 325 PKIKP **PKPdf** **17 45 40.5 +0.9**

PETK	**Petropavlovsk-**	**130.40**	**325**	PKP	**PKPdf**	**17 45 40.5**	**+0.9**		
ASAR	**Alice Springs**	**131.72**	**209**	PKP	**PKPdf**	**17 45 43.1**	**0.0**		
	comp=Z,3.1nm,0.5s,baz=128,slow=1.6,SNR=33								
ASAR				pPKP	**pPKPdf**	**17 46 13.6**	**-1.0**		
	comp=Z,7.9nm,1.1s,baz=144,slow=2.2,SNR=5.5								
ASAR				PP	**PP**	**17 48 01.8**	**-1.3**		
	comp=Z,1.2nm,1.0s,baz=163,slow=6.7,SNR=4.6								
ASAR				SKPbc	**SKPab**	**17 48 58.6**	**-0.5**		
	comp=Z,5.8nm,1.2s,baz=148,slow=4.1,SNR=7.5								
ASAR	**Alice Springs**	**131.72**	**209**	PKP	**PKPdf**	**17 45 43.1**	**0.0**		
ASAR				pPKP	**pPKPdf**	**17 46 13.6**	**-1.0**		
ASAR				PP	**PP**	**17 48 01.8**	**-1.3**		
ASAR				SKPbc	**SKPab**	**17 48 58.6**	**-0.5**		
AS31	**Alice Springs**	**131.72**	**209**	*e*PKPdf	**PKPdf**	**17 45 43.1**	**-0.1**		
AS31				*ep*PKPdf	**pPKPdf**	**17 46 14.6**	**+0.1**		
BRVK	**Borovoye**	**134.06**	**33**	*i* PKIKP	**PKIKP**	**17 45 48.8**	**+2.3**		
BVAR	**Borovoye Array**	**134.13**	**33**	PKP	**PKPdf**	**17 45 46.0**	**-0.6**		
	comp=Z,0.6nm,0.6s,baz=225,slow=3.9,SNR=3.1								
BVAR	**Borovoye Array**	**134.13**	**33**	PKIKP	**PKPdf**	**17 45 46.0**	**-0.6**		
BVAR	**Borovoye Array**	**134.13**	**33**	PKP	**PKPdf**	**17 45 46.0**	**-0.6**		
WRA	**Warramunga Arr**	**134.68**	**212**	PKhKP	PKPpre	17 45 35.6			
	comp=Z,0.8nm,0.9s,baz=135,slow=2.6,SNR=8.1								
WRA				PKP	**PKiKP**	**17 45 48.9**	**-1.3**		
	comp=Z,4.8nm,0.5s,baz=151,slow=1.6,SNR=9.7								
WRA				SKPbc	**SKPbc**	**17 49 08.3**	**-0.2**		
	comp=Z,7.8nm,1.2s,baz=152,slow=2.7,SNR=13								
WRA	**Warramunga Arr**	**134.68**	**212**	PKPpre	PKPpre	17 45 35.6			
WRA				PKP	**PKiKP**	**17 45 48.9**	**-1.3**		
WRA				SKPbc	**SKPbc**	**17 49 08.3**	**-0.2**		
WRAB	**Tennant Creek**	**134.68**	**212**	*e*PKIKP	**PKPdf**	**17 45 49.2**	**+0.4**		
WRAB				*e*		17 46 19.3			
WRAB	**Tennant Creek**	**134.68**	**212**	*e*PKPdf	**PKPdf**	**17 45 49.2**	**+0.4**		
WRAB				*ep*PKPdf	**pPKPdf**	**17 46 19.3**	**-0.8**		
WRAB				eSKP		17 49 07.5			
YAK	**Yakutsk**	**135.14**	**347**	*e*PKIKP	**PKPdf**	**17 45 48.9**	**+0.7**		
YAK				pmax	pmax				
	comp=Z,11nm,1.3s								
NVS	**Novosibirsk**	**138.76**	**24**	*e*PKIKP	**PKPdf**	**17 45 54.7**	**-0.4**		
NVS				pmax	pmax				
	comp=N,2.0nm,1.2s								
NVS				pmax	pmax				
	comp=E,5.0nm,1.2s								
NVS				pmax	pmax				
	comp=Z,18nm,1.2s								
KKAR	**Karatay Array**	**138.77**	**46**	*e*PKIKP	**PKPdf**	**17 45 57.8**	**+2.2**		
KKAR				*e*		17 48 49.7			
KKAR	**Karatay Array**	**138.77**	**46**	*e*PKPdf	**PKPdf**	**17 45 57.8**	**+2.2**		
KKAR				*e*PP	**PP**	**17 48 49.7**	**+1.5**		
KURK	**Kurchatov**	**139.62**	**31**	*i* PKIKP	PKPdf	17 46 04.6	+7.8		
ZAA0	**Zalesovo Array**	**140.04**	**24**	*e*PKPdf	**PKPdf**	**17 45 57.8**	**+0.3**		
ZAA0				*ep*PKPdf	**pPKPdf**	**17 46 29.2**	**+0.3**		
ZAA0				eSKP		17 49 24.2			
ZALV	**Zalesovo Beam**	**140.04**	**24**	PKP	**PKPdf**	**17 45 57.9**	**+0.4**		
	comp=Z,4.3nm,0.9s,baz=322,slow=3.9,SNR=4.2								
ZALV				pPKP	**pPKPdf**	**17 46 29.3**	**+0.3**		
	comp=Z,15nm,0.9s,baz=300,slow=3.3,SNR=5.6								
ZALV				SKPbc	**SKiKP**	**17 49 23.5**	**-2.0**		
	comp=Z,6.5nm,1.0s,baz=305,slow=5.2,SNR=5.3								
ZALV				SKKPbc	SKKPab	17 57 48.3	-8.9		
	comp=Z,0.4nm,0.5s,baz=106,slow=3.6,SNR=3.9								
ZALV	**Zalesovo Beam**	**140.04**	**24**	PKIKP	**PKPdf**	**17 45 57.9**	**+0.4**		
ZALV						17 46 29.3			
ZALV	**Zalesovo Beam**	**140.04**	**24**	PKP	**PKPdf**	**17 45 57.9**	**+0.4**		
ZALV				pPKP	**pPKPdf**	**17 46 29.3**	**+0.3**		
ZALV				SKPbc	**SKiKP**	**17 49 23.5**	**-2.0**		
ZALV				SKKPbc	SKKPab	17 57 48.3	-8.9		
FITZ	**Fitzroy Crossi**	**140.12**	**203**	PKhKP	PKPpre	17 45 53.1			
	comp=Z,2.4nm,0.6s,baz=168,slow=9.8,SNR=8.4								
FITZ				PKP	**PKiKP**	**17 45 59.7**	**-1.5**		
	comp=Z,3.8nm,0.7s,baz=194,slow=7.0,SNR=5.1								
FITZ	**Fitzroy Crossi**	**140.12**	**203**	*e*PKPpre	PKPpre	17 45 52.6			
FITZ				PKPpre	PKPpre	17 45 53.1			
FITZ				*e*PKPdf	**PKiKP**	**17 45 59.6**	**-1.7**		
FITZ				PKP	**PKiKP**	**17 45 59.7**	**-1.5**		
FITZ				*ep*PKPdf	pPKPdf	17 46 31.2	+1.0		
AAK	**Ala-Archa**	**141.63**	**44**	PKP	**PKPdf**	**17 46 01.0**	**0.0**		
	comp=Z,1.0nm,0.7s,baz=230,slow=4.3,SNR=6.5								
AAK	**Ala-Archa**	**141.63**	**44**	*i* PKIKP	PKPdf	17 46 05.6	+4.6		
AAK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
AAK	**Ala-Archa**	**141.63**	**44**	PKP	**PKPdf**	**17 46 01.0**	**0.0**		
TKM2	**Tokmak 2**	**142.22**	**43**	*e*PKIKP	**PKPdf**	**17 45 58.1**	**-4.0**		
KSH	**Kashi**	**143.97**	**48**	PKP	**PKPdf**	**17 46 04.0**	**-1.2**		
KSH				PP	**PP**	**17 49 20.8**	**+0.8**		
KSH				PKS	**PKSdf**	**17 49 39.5**	**-1.4**		
KSH				SKS	**SKSdf**	**17 53 02.5**	**-1.7**		
KSH				SKKS	**SKKSac**	**17 56 00.3**	**-1.5**		
KSH				SS	**SS**	**18 07 55.0**	**0.0**		
KSH				AMB	AMB				
	comp=Z,120nm,3.9s								
KSH				LR	LR				
	comp=N,69nm,4.1s								
KSH				LR	LR				
	comp=E,120nm,4.4s								
KSH				LR	LR				
	comp=Z,220nm,6.4s								
MK31	**Makanchi Array**	**144.00**	**34**	*e*PKIKP	PKPbc	17 46 03.1	0.0		
MK31	**Makanchi Array**	**144.00**	**34**	*e*PKPdf	PKPbc	17 46 03.1	0.0		
MK31				eSKP		17 49 31.5			
MKAR	**Makanchi Array**	**144.00**	**34**	PKP	PKPbc	17 46 02.7	-0.4		
	comp=Z,1.6nm,0.6s,baz=319,slow=3.5,SNR=16								
MKAR				SKPbc	**SKiKP**	**17 49 33.0**	**-1.1**		
	comp=Z,3.7nm,0.9s,baz=305,slow=4.3,SNR=4.2								
MKAR				SKKPbc	SKKPab	17 57 22.8	-17		
	comp=Z,0.5nm,0.8s,baz=132,slow=3.6,SNR=4.2								
MKAR	**Makanchi Array**	**144.00**	**34**	PKIKP	PKPbc	17 46 02.7	-0.4		
MKAR	**Makanchi Array**	**144.00**	**34**	PKP	PKPbc	17 46 02.7	-0.4		
MKAR				SKPbc	**SKiKP**	**17 49 33.0**	**-1.1**		
MKAR				SKKPbc	SKKPab	17 57 22.8	-17		
HABR	**Khabarovsk**	**144.69**	**331**	*ce*PKIKP	**PKPdf**	**17 46 05.5**	**-0.4**		
HABR				*e*		17 46 37.8			
HABR				*e*		17 46 41.8			
HABR				*e*		17 49 28.4			
HABR				*e*		17 53 03.5			
HABR				*e*SS	SS	18 08 01.5	-0.1		
HABR				*e*SSS	SSS	18 13 27.8			
HABR				pmax	pmax				
	comp=Z,119nm,1.4s								
HABR				pmax	pmax				
	comp=E,57nm,2.2s								
HABR				pmax	pmax				
	comp=N,23nm,1.4s								
POO	**Poona**	**145.28**	**85**	⇓*i*P	**PKPdf**	**17 46 06.0**	**-1.9**		
	comp=N,8.0nm,1.0s								
KAD	**Karad**	**145.43**	**87**	*i* P	**PKPab**	**17 46 09.5**	**+0.8**		
KLR	**Kul'dur**	**145.51**	**335**	*e*PKHKP	PKPpre	17 46 04.4			
KLR				pmax	pmax				
	comp=N,28nm,1.6s								
KLR				pmax	pmax				
	comp=Z,200nm,1.6s								
AJM	**Ajmer**	**146.18**	**71**	*i* P	**PKPab**	**17 46 11.0**	**-0.3**		
IRK	**Irkutsk**	**146.62**	**7**	*e*PKP2	**PKPbc**	**17 46 10.5**	**-0.4**		
IRK				pmax	pmax				
	comp=Z,63nm,1.7s								
GUMO	**Guam**	**146.66**	**266**	PKPbc	**PKPbc**	**17 46 10.1**	**-1.9**		
	comp=Z,180nm,1.0s,baz=325,slow=1.0,SNR=6.2								
GUMO	**Guam**	**146.66**	**266**	PKPbc	**PKPbc**	**17 46 10.2**	**-1.9**		
MOY	**Mondy**	**146.70**	**11**	*e*PKP2	**PKPab**	**17 46 12.6**	**0.0**		
MOY				pmax	pmax				
	comp=Z,31nm,1.4s								
KHET	**Khetri**	**147.03**	**68**	*e*P	**PKPdf**	**17 46 09.8**	**-0.8**		
TLY	**Talaya**	**147.10**	**8**	*e*PKP2	**PKPab**	**17 46 12.5**	**-1.6**		
TLY				pmax	pmax				
	comp=Z,32nm,1.1s								
TLY	**Talaya**	**147.10**	**8**	*e*PKPdf	**PKPbc**	**17 46 11.6**	**-0.7**		
TLY				*ep*PKPdf	**pPKPdf**	**17 46 45.8**	**+4.3**		
SDNR	**Sundarnagar**	**147.38**	**61**	*ex*	x	17 46 15.0			
KKR	**Kurukshetra**	**147.59**	**64**	*e*P	**PKPdf**	**17 46 10.2**	**-1.3**		
BHGR	**Bahadurgarh**	**147.93**	**66**	*e*P	**PKPdf**	**17 46 12.1**	**0.0**		
AYAN	**Aya Nagar**	**148.12**	**67**	*e*P	**PKPdf**	**17 46 12.4**	**0.0**		
SONA	**Sohna**	**148.12**	**67**	*e*P	**PKPdf**	**17 46 11.2**	**-1.2**		
ZAK	**Zakamensk**	**148.32**	**9**	*e*PKIKP	**PKPbc**	**17 46 13.3**	**-2.4**		
ZAK				*e*		17 46 16.1			
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
BISR	**Bishrakh**	**148.38**	**66**	*e*P	**PKPdf**	**17 46 13.4**	**+0.7**		
DDI	**Dehra Dun**	**148.56**	**63**	*e*P	**PKPdf**	**17 46 13.0**	**-0.1**		
DDI				*ex*	x	17 47 10.0			
WMQ	**Urumqi**	**148.82**	**33**	*e*PKPbc	**PKPdf**	**17 46 12.5**	**-0.6**		
WMQ				pPKP	**pPKPdf**	**17 46 42.8**	**-1.8**		
AGRA	**Agra**	**149.03**	**69**	*e*P	**PKPdf**	**17 46 12.3**	**-1.6**		
AGRA				AMb	AMB	17 46 26.6			
	comp=Z,66nm,0.4s								
HIA	**Hailar**	**149.07**	**348**	*e*PKPbc	**PKPbc**	**17 46 17.9**	**+0.4**		
HIA				*e*PKPab	**PKPab**	**17 46 22.5**	**+0.5**		
USRK	**Ussuriysk Arra**	**149.27**	**329**	PKPbc	**PKPbc**	**17 46 18.9**	**+0.7**		
	comp=Z,27nm,0.9s,baz=18,slow=1.9,SNR=29								
USRK				pPKPbc	**pPKPbc**	**17 46 50.7**	**+1.4**		
	comp=Z,22nm,0.9s,baz=48,slow=1.8,SNR=4.3								
HYB	**Hyderabad**	**149.57**	**88**	*i* PKP	**PKPbc**	**17 46 21.0**	**+1.3**		
HYB				*ep*PKP	**pPKPdf**	**17 46 50.0**	**+3.5**		
MDJ	**Mudanjiang**	**150.07**	**332**	PKPbc	**PKPdf**	**17 46 13.0**	**-2.0**		
MDJ	**Mudanjiang**	**150.07**	**332**	*e*PKPdf	**PKPdf**	**17 46 14.5**	**-0.5**		
MDJ				*e*PKPbc	**PKiKP**	**17 46 20.7**	**-0.2**		
MJAR	**Matsushiro Arr**	**150.21**	**311**	PKPbc	**PKPbc**	**17 46 20.9**	**+0.2**		
	comp=Z,15nm,0.9s,baz=110,slow=0.8,SNR=28								
MJAR				pPKPbc	**pPKPbc**	**17 46 53.9**	**+1.9**		
	comp=Z,8.6nm,0.7s,baz=114,slow=1.1,SNR=3.6								
MJAR	**Matsushiro Arr**	**150.21**	**311**	PKPbc	**PKPbc**	**17 46 20.9**	**+0.2**		
MJAR				pPKPbc	**pPKPbc**	**17 46 53.9**	**+1.9**		
MAJO	**Matsushiro**	**150.21**	**311**	*e*PKIKP	**PKPdf**	**17 46 15.8**	**+0.3**		
MAJO				*e*		17 46 26.6			
MAJO	**Matsushiro**	**150.21**	**311**	*e*PKPdf	**PKPdf**	**17 46 15.8**	**+0.3**		
MAJO				*e*PKPbc	**PKPbc**	**17 46 19.9**	**-0.8**		
MAJO				*e*PKPab	**PKPab**	**17 46 26.6**	**-0.5**		
MAT	**Matsushiro**	**150.21**	**311**	PKP	**PKPbc**	**17 46 21.2**	**+0.5**		
SONM	**Songino Array**	**151.20**	**6**	PKP	**PKPdf**	**17 46 17.4**	**+0.5**		
	comp=Z,2.4nm,1.0s,baz=79,slow=0.1,SNR=13								
SONM				PKPbc	**PKiKP**	**17 46 23.0**	**-0.3**		
	comp=Z,4.7nm,0.5s,baz=308,slow=1.4,SNR=38								
SONM				pPKPbc	**pPKPbc**	**17 46 54.8**	**+0.6**		
	comp=Z,18nm,0.7s,baz=306,slow=1.7,SNR=6.1								
SONM	**Songino Array**	**151.20**	**6**	PKP	**PKPdf**	**17 46 17.4**	**+0.5**		
SONM				PKPbc	**PKiKP**	**17 46 23.0**	**-0.3**		
SONM				pPKPbc	**pPKPbc**	**17 46 54.8**	**+0.6**		
ULN	**Ulaanbaatar**	**151.23**	**5**	*e*PKPdf	**PKPdf**	**17 46 17.8**	**+0.9**		
ULN				*e*PKPbc	**PKiKP**	**17 46 23.6**	**+0.2**		
CN2	**Changchun**	**152.44**	**336**	*e*PKPbc	**PKPbc**	**17 46 25.3**	**-0.3**		
KAPI	**Kappang**	**154.33**	**202**	PKPbc	**PKPbc**	**17 46 30.9**	**+0.3**		
	comp=Z,3.3nm,0.5s,baz=67,slow=6.3,SNR=4.1								
KAPI				PKPab	**PKPab**	**17 46 45.6**	**+0.8**		
	comp=Z,55nm,1.1s,baz=189,slow=4.8,SNR=13								
KAPI	**Kappang**	**154.33**	**202**	PKPbc	**PKPbc**	**17 46 30.9**	**+0.3**		
KAPI				PKPab	**PKPab**	**17 46 45.6**	**+0.8**		
KSRS	**Korea Array**	**156.29**	**324**	PKP	**PKPdf**	**17 46 24.8**	**+0.6**		
	comp=Z,2.1nm,0.9s,baz=64,slow=2.9,SNR=6.3								
KSRS				PKPbc	PKPab	17 46 35.1	-18		
	comp=Z,2.3nm,0.9s,baz=127,slow=0.5,SNR=6.2								
KSRS				PKPab	PKPab	17 46 54.0	+1.2		
	comp=Z,4.7nm,1.0s,baz=48,slow=3.7,SNR=6.1								
KSAR	**Wonju Array Be**	**156.32**	**324**	PKP	**PKPdf**	**17 46 24.8**	**+0.6**		
KSAR				PKPbc	PKPab	17 46 35.1	-18		
KSAR				PKPab	PKPab	17 46 54.0	+1.1		
KMSI	**Cibinong**	**157.32**	**217**	P	**PKPab**	**17 46 59.1**	**+1.4**		
GTA	**Gaotai**	**157.79**	**22**	PKP	**PKPdf**	**17 46 27.8**	**+1.6**		
GTA				pPKP	**PKPab**	**17 47 00.3**	**+1.0**		
GTA				sPKP		17 47 13.0			
GTA				PKS	**PKSdf**	**17 50 00.0**	**-0.1**		
GTA				SKS	**SKSdf**	**17 53 19.0**	**-2.7**		
GTA				AMB	AMB				
	comp=Z,140nm,5.7s								
GTA				LR	LR				
	comp=E,140nm,24.2s								
GTA				LR	LR				
	comp=Z,170nm,21.4s								
HHC	**Hu-ho-hao-te**	**158.37**	**358**	*e*PKP	**PKPdf**	**17 46 28.0**	**+1.1**		
HHC				pPKP	**pPKPdf**	**17 46 56.0**	**-2.5**		
HHC				sPKP		17 47 06.8			
HHC				PKS	**PKSdf**	**17 50 01.5**	**+0.9**		
HHC				PP	PP	17 50 47.0	+5.9		
HHC				SKS	**SKSdf**	**17 53 23.5**	**+1.4**		
HHC				SS	**SS**	**18 10 37.3**	**+5.7**		
HHC				AMB	AMB				
	comp=Z,260nm,5.9s								
LSA	**Lhasa**	**159.47**	**56**	*e*PKIKP	**PKPdf**	**17 46 30.3**	**+1.3**		
LSA				*e*		17 47 00.7			
LSA				*e*		17 50 45.5			
LSA	**Lhasa**	**159.47**	**56**	*e*PKPdf	**PKPdf**	**17 46 30.2**	**+1.3**		
LSA				*ep*PKPdf	**pPKPdf**	**17 47 00.7**	**+0.1**		
LSA				*e*PP	**PP**	**17 50 45.5**	**-3.6**		
LZH	**Lanzhou**	**162.13**	**18**	*e*PKP	**PKPdf**	**17 46 30.5**	**-0.8**		
LZH				pPKP	**pPKPdf**	**17 47 01.0**	**-1.9**		
LZH				sPKP		17 47 12.8			
LZH				PP	**PP**	**17 51 04.0**	**+2.4**		
LZH				SKS	**SKSdf**	**17 53 23.0**	**-2.8**		
LZH				SKKS	**SKKSac**	**17 57 39.5**	**-0.5**		
LZH				SS	**SS**	**18 11 12.0**	**+0.3**		
LZH				AMB	AMB				
	comp=Z,230nm,6.8s								
XAN	**Xi'an**	**165.11**	**5**	PKP	**PKPdf**	**17 46 33.0**	**-0.9**		
CD2	**Chengdu**	**166.78**	**26**	PKP	**PKPdf**	**17 46 36.0**	**+0.6**		
CD2				pPKP	**pPKPdf**	**17 47 06.3**	**-0.7**		
CD2				sPKP		17 47 18.3			
CD2				PKPab	**PKPab**	**17 47 41.0**	**+2.2**		
CD2				PKS	**PKSdf**	**17 50 07.3**	**-0.9**		
CD2				PP	**PP**	**17 51 29.8**	**+3.8**		
CD2				SKS	**SKSdf**	**17 53 27.0**	**-2.0**		
CD2				SKKS	**SKKSac**	**17 58 04.0**	**+0.5**		
CD2				SS	**SS**	**18 12 00.5**	**+1.0**		
CD2				AMB	AMB				
	comp=Z,170nm,6.5s								
CD2				LR	LR				
	comp=N,290nm,7.1s								
CD2				LR	LR				
	comp=Z,250nm,6.0s								
ENH	**Enshi**	**168.90**	**5**	*e*PKPdf	**PKPdf**	**17 46 37.0**	**+0.2**		
ENH				*ep*PKPdf	**pPKPdf**	**17 47 10.5**	**+2.1**		
CMAR	**Chiang Mai Arr**	**168.97**	**92**	PKP	**PKPdf**	**17 46 37.5**	**+0.4**		
	comp=Z,0.5nm,0.6s,baz=254,slow=2.2,SNR=7.1								
CMAR				PKPab	**PKPab**	**17 47 49.2**	**+0.2**		
	comp=Z,4.8nm,0.8s,baz=260,slow=6.0,SNR=21								
CMAR				PP	PP	17 51 33.0	-6.1		
	comp=Z,1.6nm,0.9s,baz=284,slow=6.4,SNR=5.4								
CMAR	**Chiang Mai Arr**	**168.97**	**92**	PKP	**PKPdf**	**17 46 37.5**	**+0.4**		
CMAR				PKPab	**PKPab**	**17 47 49.2**	**+0.2**		
CMAR				PP	PP	17 51 33.0	-6.1		
CHTO	**Chiang Mai**	**169.00**	**90**	P	**PKPab**	**17 47 48.3**	**-0.8**		
	comp=Z,11nm,1.6s								
CMMT	**Chiang Mai**	**169.00**	**90**	P	**PKPab**	**17 47 48.4**	**-0.8**		
	comp=Z,9.6nm,1.6s								
KMI	**Kunming**	**170.63**	**49**	PKP	**PKPdf**	**17 46 38.5**	**+0.3**		
KMI				PP	**PP**	**17 51 50.3**	**+3.7**		
KMI				SS	SS	18 12 35.0	-4.9		
KMI				AMB	AMB				
	comp=Z,97nm,5.0s								
KMI				LR	LR				
	comp=Z,180nm,31.1s								
GYA	**Guiyang**	**171.90**	**26**	*e*PKP	**PKPdf**	**17 46 39.0**	**+0.3**		
GYA				sPKP		17 47 21.5			
GYA				PKPab	**PKPab**	**17 48 02.0**	**+0.4**		
GYA				PKS	**PKSdf**	**17 50 07.3**	**-4.0**		
GYA				PP	**PP**	**17 51 53.3**	**+1.5**		
GYA				SKKS		17 58 26.0			
GYA				SS	**SS**	**18 12 47.5**	**-2.9**		
GYA				AMB	AMB				
	comp=Z,130nm,8.2s								
GYA				LR	LR				
	comp=N,180nm,20.6s								
GYA				LR	LR				
	comp=E,130nm,21.4s								
GYA				LR	LR				
	comp=Z,150nm,20.0s								
QIZ	**Qiongzhong**	**179.30**	**101**	PKP	**PKPdf**	**17 46 41.8**	**+1.2**		
QIZ				PKPab		17 48 37.3			
QIZ				PP	**PP**	**17 52 28.3**	**-0.7**		
QIZ				SKKS		17 59 03.0			
QIZ				SS	**SS**	**18 14 01.5**	**-2.7**		
QIZ				AMB	AMB				
	comp=Z,190nm,7.0s								

*IDC **27** 17:35:58.4±15.0, 0.°43S×131.°63E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=238.5km s-min=98.4km az=157.0*
*AUST **27** 17:36:02.2, 0.°49S×132.°00E, h15km*
*ISCJB **27** 17:36:04.3±1.1, 0.°8S±0.°1×132.°17E±0.°06, h31km, mb3.8/2, Error ellipse: s-maj=16.6km s-min=9.1km az=5.3*

ISC 27 17:36:05.4±1.4, 0.°7S±0.°2×132.°06E±0.°08, h31km, n12, σ1§38/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.81**	**260**	P	**Pb**	**17 36 19.6**	**-1.4**
	baz=0.8,SNR=86						
SWI				S	**Sb**	**17 36 33.9**	**+2.2**
	baz=0.8,SNR=15						
AAI	**Ambon**	**4.85**	**233**	P	Pn	17 37 19.4	+3.0
	baz=5.0,SNR=5.2						
TLE	**Tual**	**4.93**	**172**	P	Pn	17 37 20.6	+3.2
	baz=5.2,SNR=3.5						
TLE				S	Sn	17 38 23.4	+10
	baz=5.2,SNR=3.4						
KDU	**Kakadu**	**11.89**	**178**	P	**Pn**	**17 38 53.1**	**+0.1**
	baz=12,SNR=7.0						
MTN	**Manton Dam**	**12.08**	**184**	P	**Pn**	**17 38 55.6**	**0.0**
	baz=12,SNR=14						
FITZ	**Fitzroy Crossi**	**18.39**	**200**	P	**P**	**17 40 16.1**	**-1.9**
	0.2nm,0.3s,baz=34,slow=14,SNR=7.6						
FITZ	**Fitzroy Crossi**	**18.39**	**200**	P	**P**	**17 40 16.4**	**-1.5**
	baz=19,SNR=6.1						
WRA	**Warramunga Arr**	**19.23**	**173**	P	**Pn**	**17 40 27.8**	**-0.6**
	0.2nm,0.3s,baz=352,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.88**	**176**	P	**P**	**17 41 07.7**	**+1.1**
	2.6nm,0.7s,baz=358,slow=11,SNR=45						
PATS	**Pohnpei**	**27.25**	**74**	P	**P**	**17 41 47.1**	**-0.1**
	baz=27,SNR=3.5						
STKA	**Stephens Creek**	**32.27**	**165**	P	**P**	**17 42 32.1**	**+0.7**
	1.0nm,0.7s,baz=346,slow=12,SNR=2.9						
NIUE	**Niue**	**59.67**	**112**	P	**P**	**17 46 07.9**	**+0.6**
	baz=60,SNR=3.3						

IDC 27 17:51:16.4±1.4, 7.°90S×67.°74E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.6/28, mbtmp3.6/10, Error ellipse: s-maj=44.2km s-min=22.7km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**40.42**	**49**	P	P	17 58 57.1	+0.4
	1.0nm,0.8s,baz=240,slow=9.0,SNR=9.4						
AAK	**Ala-Archa**	**50.67**	**6**	P	P	18 00 18.7	+1.0
	2.0nm,0.3s,baz=198,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**55.97**	**12**	P	P	18 00 55.3	-1.2
	0.4nm,0.7s,baz=207,slow=8.4,SNR=6.0						
BRTR	**Keskin Array B**	**56.93**	**329**	P	P	18 01 03.2	-0.4
	0.5nm,0.8s,baz=144,slow=12,SNR=2.8						
AKTO	**Aktyubinsk**	**58.71**	**353**	P	P	18 01 15.2	-0.5
	0.7nm,0.6s,baz=190,slow=6.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**59.03**	**8**	P	P	18 01 17.1	-0.9
	92nm,0.4s,baz=207,slow=7.6,SNR=1.7						
BVAR	**Borovoye Array**	**60.73**	**2**	P	P	18 01 29.6	0.0
	0.5nm,0.7s,baz=170,slow=8.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**63.28**	**11**	P	P	18 01 46.8	+0.1
	0.2nm,0.3s,baz=242,slow=8.2,SNR=4.2						
ASAR	**Alice Springs**	**65.06**	**112**	P	P	18 01 58.8	-0.5
	0.6nm,0.8s,baz=277,slow=5.8,SNR=6.0						
SONM	**Songino Array**	**65.14**	**28**	P	P	18 01 59.3	0.0
	0.9nm,1.1s,baz=222,slow=6.0,SNR=6.3						
WRA	**Warramunga Arr**	**65.39**	**108**	P	P	18 02 01.3	-0.1
	0.9nm,0.9s,baz=285,slow=6.1,SNR=5.2						
YKA	**Yellowknife Ar**	**125.49**	**1**	PKP	PKPdf	18 10 17.9	-1.3
	0.1nm,0.4s,baz=348,slow=2.7,SNR=3.6						
PDAR	**Pinedale Array**	**145.19**	**357**	PKPbc	PKPdf	18 10 57.0	+0.3
	0.7nm,0.7s,baz=110,slow=2.3,SNR=4.8						
NVAR	**Mina Array Bea**	**149.12**	**9**	PKPbc	PKP

121A **Cookes Peak, D** 13.86 358 ⇑P Pn 17 56 19.3 +0.6
baz=14,SNR=9.2
330A **Mertzon** 13.87 22 ⇑P Pn 17 56 20.8 +1.9
baz=14
120A **U Bar Ranch, L** 13.92 355 ⇑P Pn 17 56 20.5 +1.0
baz=14
432A **Menard** 13.96 28 ⇑P Pn 17 56 21.6 +1.6
baz=14,SNR=11
TUC **Tucson** 13.99 348 *e*Pn Pn 17 56 21.5 +1.0
11nm,0.9s
228A **UT Block 9, Go** 14.09 17 ⇑P Pn 17 56 23.2 +1.4
baz=14
124A **Stringfield Ra** 14.11 6 ⇑P Pn 17 56 23.6 +1.3
baz=14
214A **Organ Pipe Nat** 14.18 340 ⇓P Pn 17 56 23.0 0.0
baz=14
Z20A **Nine Sixteen R** 14.48 356 ⇓P Pn 17 56 28.3 +1.1
baz=14
Z22A **Elephant Butte** 14.57 1 ⇓P Pn 17 56 29.6 +1.1
baz=15,SNR=7.5
Z24A **Sheeppen Canyo** 14.74 6 ⇑P Pn 17 56 32.6 +1.7
baz=15
Z27A **Tatum** 15.08 13 ⇑P Pn 17 56 37.2 +1.9
baz=15,SNR=10
113A **Mohawk Valley,** 15.24 339 ⇑P Pn 17 56 37.3 -0.1
baz=15,SNR=9.9
Y21A **Point of Rocks** 15.33 359 ⇑P Pn 17 56 39.4 +0.7
baz=15
HKT **Hockley** 15.35 41 *e*Pn Pn 17 56 39.4 +0.6
84nm,1.6s
Y25A **Mesa, Roswell** 15.41 8 ⇓P Pn 17 56 40.2 +0.4
baz=16
BNM **Barren Site** 15.47 2 *e*Pn Pn 17 56 42.8 +2.1
30nm,1.5s
LENM **Lemitar** 15.48 1 *e*Pn Pn 17 56 41.6 +0.9
18nm,1.4s
Z30A **Sanderson Ranc** 15.61 20 ⇑P Pn 17 56 43.8 +1.5
baz=16
LPM **Los Pinos Moun** 15.63 2 *e*Pn P 17 56 47.2 +0.3
8.6nm,1.0s
X21A **Alamocita Cree** 15.76 358 ⇑P Pn 17 56 44.4 -0.1
baz=16
GLA **Glamis** 15.88 336 *e*Pn Pn 17 56 42.2 -3.6
70nm,1.3s
GLA **Glamis** 15.88 336 ⇓P Pn 17 56 45.4 -0.3
baz=16,SNR=7.8
X20A **Quemado** 15.89 356 ⇑P Pn 17 56 46.7 +0.6
baz=16
Z31A **Sharp Cattle R** 15.97 22 ⇓P Pn 17 56 48.0 +1.1
baz=16
X18A **Snowflake** 16.02 352 ⇑P Pn 17 56 47.7 +0.1
baz=16
Y14A **Wickenburg** 16.08 343 ⇑P Pn 17 56 48.5 +0.1
baz=16
X16A **Lo Mia Camp, P** 16.16 348 ⇑P Pn 17 56 50.2 +0.7
baz=16
X26A **CR and CF Fran** 16.16 10 ⇓P Pn 17 56 50.9 +1.5
baz=16
SWSC **Sam W. Stewart** 16.17 333 ⇓P Pn 17 56 49.5 0.0
baz=16
Z32A **Haskell** 16.21 24 ⇑P Pn 17 56 51.7 +1.7
baz=16
ANMO **Albuquerque** 16.27 2 Pn Pn 17 56 51.5 +0.6
0.1nm,0.3s,baz=212,slow=15,SNR=4.0
ANMO **Albuquerque** 16.27 2 Pn Pn 17 56 51.5 +0.6
BAR **Barrett** 16.34 331 Pn Pn 17 56 49.3 -2.4
70nm,1.6s
Y12C **Blythe** 16.39 338 ⇓P Pn 17 56 52.7 +0.4
baz=16
MONP **Monument Peak** 16.40 332 ⇑P Pn 17 56 52.8 +0.2
baz=16
W20A **Ramah** 16.47 356 ⇓P Pn 17 56 54.5 +1.0
baz=16,SNR=6.8
Y31A **Rekieta Farm,** 16.51 21 ⇑P Pn 17 56 54.3 +0.5
baz=17
W24A **Lazy 6 Ranch,** 16.61 5 ⇓P Pn 17 56 56.5 +1.3
baz=17,SNR=7.4
BC3 **Big Chuckawall** 16.66 336 ⇓P Pn 17 56 55.8 +0.1
baz=17,SNR=20
PDMCI **Parker Dam,Lak** 16.77 340 ⇑P Pn 17 56 56.8 -0.2
baz=17
Y32A **R-V Farms, Ver** 16.84 23 ⇓P Pn 17 56 59.2 +1.2
baz=17
IRM **Iron Mountain** 16.99 337 ⇑P Pn 17 57 00.4 +0.5
baz=17
PFO **Pinyon Flat Ob** 17.03 333 *e*Pn Pn 17 56 59.5 -0.9
134nm,1.7s
PFO **Pinyon Flat Ob** 17.03 333 ⇓P Pn 17 57 00.6 +0.2
baz=17,SNR=9.4
V24A **Rampart Ranch,** 17.13 6 ⇑P P 17 57 03.4 -0.1
baz=17
V20A **Brimhall** 17.14 357 ⇓P Pn 17 57 02.6 +0.7
baz=17
BELC **Belle Mtn. Jos** 17.18 335 ⇑P Pn 17 57 02.4 0.0
baz=17,SNR=20
WUAZ **Wupatki** 17.21 349 *e*Pn Pn 17 57 02.7 -0.1
22nm,1.1s
WUAZ **Wupatki** 17.21 349 ⇑P P 17 57 03.6 -0.8
baz=17
V25A **Rancho No Teng** 17.31 7 ⇓P P 17 57 05.3 -0.2
baz=17
MURC **Murrieta** 17.35 331 ⇓P P 17 57 04.9 -0.8
baz=17
W13A **Hualapai Mount** 17.42 342 ⇑P P 17 57 06.3 -0.5
baz=18
GMRC **Granite Mounta** 17.73 337 ⇑P Pn 17 57 08.5 -0.7
baz=18,SNR=10.0
U21A **Nageezi** 17.74 359 ⇑P Pn 17 57 09.9 +0.5
baz=18
LDFC **Landfair** 17.80 339 Pn Pn 17 57 09.2 -0.9
TEIG **Tepich** 18.00 82 LR LR 18 04 22.1
comp=Z,745nm,22.0s,baz=58,slow=38
HEC **Hector,Ludlow** 18.03 335 ⇑P Pn 17 57 12.7 -0.2
baz=18,SNR=8.4
BFSC **Mount Baldy Ra** 18.09 331 ⇑P Pn 17 57 13.2 -0.5
baz=18
T21A **Navajo Lake** 18.30 359 ⇑P P 17 57 16.7 +0.2
baz=18
T22A **Edith** 18.32 1 ⇓P P 17 57 17.4 +0.6
baz=18,SNR=7.0
TUQ **Turquoise Moun** 18.41 337 ⇑P P 17 57 17.5 -0.1
baz=18,SNR=5.3
T24A **Torres, Weston** 18.48 6 ⇑P Pn 17 57 19.4 +0.7
baz=18
MVCO **Mesa Verde** 18.55 357 *e*P Pn 17 57 19.6 +0.3
31nm,1.4s
MVCO **Mesa Verde** 18.55 357 ⇓P Pn 17 57 19.9 +0.6
baz=19
GSC **Goldstone** 18.63 335 *e*P Pn 17 57 20.5 +0.2
50nm,1.4s
GSC **Goldstone** 18.63 335 ⇑P Pn 17 57 20.2 0.0
baz=19
EDW2 **Edwards Air Fo** 18.78 332 ⇑P Pn 17 57 22.5 +0.5
baz=19
S21A **Coal Bank Pass** 18.97 359 ⇑P Pn 17 57 24.5 -0.1
baz=19,SNR=6.7
S24A **Houhin Ranch,** 19.03 5 ⇓P Pn 17 57 25.5 +0.2
baz=19
S22A **4UR Ranch, Cre** 19.05 1 ⇑P Pn 17 57 25.7 +0.1
baz=19
S25A **Robets Cordova** 19.13 7 ⇓P Pn 17 57 26.6 +0.3
baz=19
S18A **Hurst Farm, Bl** 19.14 353 ⇑P Pn 17 57 26.6 +0.1
baz=19
LRMC **Laurel Mountai** 19.15 333 ⇓P Pn 17 57 26.0 -0.6
baz=19,SNR=9.4
S20A **Disappointment** 19.16 357 ⇑P Pn 17 57 27.1 +0.4
baz=19
S26A **Kim** 19.22 9 ⇓P Pn 17 57 27.9 +0.5
baz=19
ARVC **Arvin** 19.37 330 ⇑P Pn 17 57 28.9 -0.1
baz=19
S27A **Las Animas** 19.37 11 ⇓P Pn 17 57 29.8 +0.6
baz=19
PV01 **Paradox Valley** 19.47 357 *e*P P 17 57 27.1 -2.2
316nm,0.8s
R20A **Redvale** 19.52 357 ⇑P Pn 17 57 31.1 +0.1
baz=20
R23A **Moffat** 19.54 3 ⇑P Pn 17 57 31.5 +0.2
baz=20
R22A **Saguache, Gunn** 19.54 1 ⇑P Pn 17 57 31.5 +0.1
baz=20
MPMC **Manual Prospec** 19.57 335 ⇓P P 17 57 30.4 +0.1
baz=20,SNR=16
R25A **Fountain Ranch** 19.63 7 ⇑P Pn 17 57 32.9 +0.7
baz=20,SNR=13
ISA **Isabella** 19.65 332 *e*P P 17 57 31.1 0.0
29nm,1.3s
ISA **Isabella** 19.65 332 ⇑P Pn 17 57 31.9 -0.6
baz=20,SNR=5.7
PKM **Peak Mountain** 19.66 328 ⇓P Pn 17 57 32.1 -0.6
baz=20
R21A **Cimarron** 19.67 359 ⇑P P 17 57 32.1 +0.5
baz=20
FURC **Furnace Creek,** 19.68 337 ⇓P Pn 17 57 32.2 -0.5
baz=20
PV10 **Paradox Valley** 19.74 356 *e*P P 17 57 32.4 +0.2
224nm,1.0s
PV04 **Paradox Valley** 19.75 356 *e*P Pn 17 57 33.5 -0.2
DAC **Darwin (Calif)** 19.80 335 *e*P P 17 57 33.4 +0.5
26nm,1.2s
R26A **Arlington** 19.89 9 ⇑P P 17 57 33.9 +0.2
baz=20,SNR=8.7
R27A **Eads** 19.98 10 ⇑P P 17 57 35.5 +0.9
baz=20
TUL1 **Tulsa** 19.99 28 ⇓P P 17 57 36.1 +1.3
baz=20
VES **Vestal, Richgr** 20.07 331 ⇑P Pn 17 57 36.4 -1.0
baz=20,SNR=5.3
Q22A **Crested Butte,** 20.17 1 ⇑P P 17 57 38.0 +1.0
baz=20
MSU **Marysvale** 20.27 349 *e*P Pn 17 57 39.6 -0.4
33nm,1.7s
SMCO **Snowmass** 20.48 1 *e*P P 17 57 40.8 +0.3
38nm,1.4s
Q16A **Castle Valley** 20.50 351 ⇑P P 17 57 41.2 +0.7
baz=20
SRU **San Rafael** 20.61 353 *e*P P 17 57 40.3 -1.3
2µm,1.6s
SRU **San Rafael** 20.61 353 ⇓P P 17 57 42.1 +0.5
baz=21
P21A **Newcastle** 20.83 360 ⇓P P 17 57 44.6 +0.6
baz=21
P22A **Eagle** 20.90 1 ⇑P P 17 57 46.1 +1.2
baz=21
R11A **Troy Canyon, C** 20.94 341 ⇑P P 17 57 45.4 +0.1
baz=21,SNR=11
P19A **Cripple Cowboy** 20.99 356 ⇑P P 17 57 46.1 +0.3
baz=21
P17A **Butcher Ranch,** 20.99 353 ⇓P P 17 57 46.1 +0.4
baz=21
ISCO **Idaho Springs** 21.15 4 *e*P P 17 57 47.8 +0.2
30nm,1.5s
ISCO **Idaho Springs** 21.15 4 ⇑P P 17 57 48.9 +1.3
baz=21
P16A **Fountain Green** 21.25 351 ⇑P P 17 57 50.0 +1.5
baz=21
O20A **White River Ci** 21.45 358 ⇓P P 17 57 51.8 +1.1
baz=22
O22A **Kremmling** 21.47 2 ⇑P P 17 57 52.1 +1.1
baz=22
O23A **Lake Granby, G** 21.55 3 ⇓P P 17 57 52.5 +0.7
baz=22
MPU **Maple Canyon** 21.64 351 *e*P P 17 57 54.3 +1.5
75nm,1.8s
O19A **Miners Draw (B** 21.66 356 ⇑P P 17 57 53.0 +0.1
baz=22
O18A **Roosevelt** 21.69 354 ⇑P P 17 57 53.6 +0.3
baz=22
O17A **Robinson Place** 21.70 353 ⇑P P 17 57 53.7 +0.2
baz=22
NV11 **Mina Array Sit** 21.89 337 *e*P P 17 57 54.3 -1.1
NVAR **Mina Array Bea** 21.94 336 P P 17 57 54.9 -1.2
1.3nm,0.8s,baz=156,slow=9.1,SNR=11
NVAR LR LR 18 06 07.5
comp=Z,731nm,18.6s,baz=50,slow=36
NVAR **Mina Array Bea** 21.94 336 P P 17 57 54.9 -1.2
DAU **Daniels Canyon** 21.98 352 *e*P P 17 57 56.4 -0.1
66nm,1.4s
DUG **Dugway** 22.02 349 *e*P P 17 57 57.8 +1.0
37nm,1.4s
DUG **Dugway** 22.02 349 ⇓P P 17 57 57.1 +0.4
baz=22
N20A **Spence Gulch,** 22.15 358 ⇑P P 17 57 58.8 +0.6
baz=22
JLU **Jordanelle** 22.19 352 *e*P P 17 57 58.7 0.0
46nm,1.5s
N23A **Red Feather La** 22.23 3 ⇓P P 17 57 59.8 +0.7
baz=22
N18A **Larsen Ranch,** 22.37 355 ⇑P P 17 58 02.6 +2.0
baz=22
KSU1 **Kansas State U** 22.41 22 *e*P P 17 58 00.6 -0.3
25nm,0.8s
OXF **Oxford** 22.44 42 *e*P P 17 58 03.0 +1.9
38nm,1.1s
CMB **Columbia Colle** 22.47 332 *e*P P 17 57 59.5 -2.0
32nm,1.5s
N16A **Rees Ranch, Co** 22.47 352 ⇑P P 17 58 03.4 +1.7
baz=22
N15A **Stansbury Isla** 22.64 350 ⇑P P 17 58 05.1 +1.7
baz=23
PHWY **Pilot Hill** 22.66 4 *e*P P 17 58 03.7 0.0
21nm,1.2s
ELK **Elko** 23.08 344 *e*P P 17 58 09.1 +1.0
JTS **JuntasAbangare** 23.14 108 P P 17 58 10.8 +2.1
M15A **Larsen Ranch,** 23.19 350 ⇑P P 17 58 09.0 -0.1
baz=23
HWUT **Hardware Ranch** 23.20 352 *e*P P 17 58 08.8 -0.5
41nm,1.5s
WCN **Washoe City** 23.27 335 *e*P P 17 58 11.4 +1.4
41nm,1.4s
BMN **Battle Mountai** 23.36 341 *e*P P 17 58 11.7 +0.9
9.2nm,1.1s
HVU **Hansel Valley** 23.55 350 *e*P P 17 58 12.7 -0.1
111nm,2.1s
L16A **Fish Haven** 23.58 352 ⇑P P 17 58 13.6 +0.5
baz=24
L15A **Malad City** 23.71 351 ⇓P P 17 58 13.9 -0.4
baz=24
L14A **Malta** 23.88 349 ⇓P P 17 58 15.6 -0.4
baz=24
K21A **Alcova** 23.93 0 ⇑P P 17 58 16.6 +0.1
baz=24
K22A **Casper** 23.96 1 ⇑P P 17 58 16.7 0.0
baz=24
K20A **Yellowstone Ra** 23.97 358 ⇑P P 17 58 16.6 -0.3
baz=24
K18A **Toltan Ranch,** 24.05 355 ⇑P P 17 58 17.9 +0.3
baz=24
BW06 **Boulder Array** 24.14 356 ⇓P P 17 58 18.0 -0.5
baz=24
PDAR **Pinedale Array** 24.14 356 P P 17 58 18.5 0.0
2.0nm,0.7s,baz=161,slow=9.4,SNR=10
PDAR **Pinedale Array** 24.14 356 P P 17 58 18.5 0.0
K19A **Absolon Red Bu** 24.16 357 ⇑P P 17 58 18.2 -0.4
baz=24
K15A **Arbon** 24.39 351 ⇓P P 17 58 20.3 -0.5
baz=24
K16A **Soda Springs** 24.41 352 ⇑P P 17 58 20.3 -0.6
baz=24
J19A **Crowheart** 24.61 357 ⇓P P 17 58 22.5 -0.2
baz=25
J18A **Kendall Valley** 24.62 355 ⇑P P 17 58 22.3 -0.6
baz=25
J16A **Bone** 24.84 352 ⇑P P 17 58 24.7 -0.2
baz=25,SNR=6.9
RRI2 **Red Ridge** 24.88 353 *e*P P 17 58 25.9 +0.6
51nm,1.3s
SNOW **Snow King Moun** 24.93 354 *e*P P 17 58 27.5 +1.8
60nm,1.4s
TPAW **Teton Pass** 24.98 354 *e*P P 17 58 26.1 -0.1
37nm,1.3s
LOHW **Long Hollow** 25.07 354 *e*P P 17 58 27.2 +0.3
13nm,0.8s
J15A **Blackfoot** 25.08 351 ⇑P P 17 58 27.0 +0.2
baz=25,SNR=7.6
I18A **Diamond G Ranc** 25.09 356 ⇓P P 17 58 27.1 -0.1
baz=25
DCID1 **Drake Creek** 25.11 353 *e*P P 17 58 29.5 +2.3
36nm,1.1s
I21A **Big Trails, Te** 25.11 360 ⇓P P 17 58 27.6 +0.4
baz=25
SWET **Sewanee** 25.12 45 *e*P P 17 58 27.6 +0.3
J14A **Carey** 25.18 349 ⇓P P 17 58 27.9 +0.1
baz=25
I22A **9 Mile Ranch,** 25.20 1 ⇑P P 17 58 28.9 +0.9
baz=25
J13A **Cove Ranch, Pi** 25.37 348 ⇑P P 17 58 31.1 +1.5
baz=25
I19A **Meeteetse** 25.38 357 ⇑P P 17 58 31.4 +1.8
baz=25
IMW **Indian Meadow** 25.38 354 *e*P P 17 58 30.2 +0.4
14nm,1.3s
I16A **Newdale** 25.42 353 ⇑P P 17 58 31.5 +1.5
baz=26
DWPF **Disney** 25.50 63 P P 17 58 34.5 +3.9
RSSD **Black Hills** 25.57 5 *e*P P 17 58 31.1 -0.3
2.4nm,0.6s
HLID **Hailey** 25.58 348 *e*P P 17 58 31.6 +0.2
25nm,1.6s
HLID **Hailey** 25.58 348 ⇑P P 17 58 32.6 +1.1
baz=26
MOD **Modoc** 25.72 337 *e*P P 17 58 33.9 +1.1
11nm,1.3s
MFID **Camas Ranch** 25.74 346 ⇓P P 17 58 33.9 +1.0
baz=26
I14A **Mackay** 25.75 350 ⇓P P 17 58 33.9 +0.8
baz=26
H20A **Greybull** 25.79 359 ⇓P P 17 58 34.6 +1.3
baz=26
I13A **Wildhorse Cree** 25.86 349 ⇓P P 17 58 34.7 +0.6
baz=26
H22A **Clearmont** 25.91 2 ⇓P P 17 58 35.8 +1.4
baz=26
H19A **Powell** 26.01 357 ⇓P P 17 58 36.7 +1.3
baz=26
H16A **Russell Place,** 26.21 354 ⇓P P 17 58 38.4 +1.2
baz=26
H15A **Lima** 26.30 351 ⇑P P 17 58 39.5 +1.4
baz=26
QLMT **Earthquake Lak** 26.36 353 *e*P P 17 58 37.7 -0.9
0.3nm,0.5s
H14A **Leadore** 26.41 350 ⇑P P 17 58 40.5 +1.5
baz=26
RLMT **Red Lodge** 26.47 357 *e*P P 17 58 41.9 +2.3
10nm,1.2s
YBH **Yreka Blue Hor** 26.53 334 LR LR 18 08 39.7
comp=Z,905nm,21.4s,baz=155,slow=36
MCMT **McKenzie Canyo** 26.54 351 *e*P P 17 58 41.5 +1.3
4.4nm,1.1s
H12A **Diamond D Ranc** 26.61 348 ⇓P P 17 58 42.3 +1.4
baz=27,SNR=6.3
G18A **Lazy EL Ranch,** 26.68 356 ⇓P P 17 58 43.2 +1.8
baz=27
G24A **Alzada** 26.73 5 ⇑P P 17 58 43.7 +1.9
baz=27
G16A **Moss Hill, Enn** 26.79 353 ⇑P P 17 58 43.7 +1.2
baz=27
G15A **Dillon** 26.82 352 ⇑P P 17 58 44.2 +1.6
baz=27
TKL **Tuckaleechee C** 26.83 46 LR LR 18 10 59.5
comp=Z,385nm,20.9s,baz=248,slow=40
G13A **Cobalt** 27.02 349 ⇓P P 17 58 45.3 +0.8
baz=27
F12A **Elk City** 27.85 348 ⇑P P 17 58 51.6 -0.3
baz=28
E17A **Martinsdale** 27.92 355 ⇓P P 17 58 53.2 +0.6
baz=28
E16A **East Helena** 28.07 354 ⇓P P 17 58 54.1 +0.3
baz=28
HRY **Holter Researc** 28.26 353 P P 17 58 54.3 -1.2
4.7nm,0.7s
D20A **Manuel Ranch,** 28.40 359 ⇓P P 17 58 57.8 +1.1
baz=28
D22A **Cohagen** 28.46 2 ⇑P P 17 58 58.4 +1.1
baz=28
D19A **Cripps Ranch,** 28.49 358 ⇑P P 17 58 58.1 +0.6
baz=28
D17A **Six Diamond Ra** 28.59 355 ⇑P P 17 58 58.7 +0.2
baz=29
MSO **Missoula** 28.66 350 ⇓P P 17 58 59.7 +0.6
baz=29
D14A **Greenough** 28.84 351 ⇑P P 17 59 00.9 +0.3
baz=29
SLMT **Seeley Lake** 28.99 351 *e*P P 17 59 00.1 -2.0
15nm,1.2s
C23A **Lambert** 29.15 3 ⇑P P 17 59 05.1 +1.8
baz=29
SWMT **Swartz Lake** 29.33 351 *e*P P 17 59 03.7 -1.3
NEW **Newport** 30.63 347 P P 17 59 16.9 +0.5
WALA **Waterton Lakes** 30.83 351 P P 17 59 22.1 +3.8
0.2nm,1.1s
OTAV **Otavalo** 33.70 120 P P 17 59 48.8 +4.6
TAOE **Nuku Hiva Isla** 42.39 233 *e*T T 18 46 00.9
58nm,0.2s
DLBC **Dease Lake** 43.11 343 P P 18 00 58.6 -3.8
YKA **Yellowknife Ar** 44.12 355 P P 18 01 09.2 -1.2
0.2nm,0.5s,baz=167,slow=7.7,SNR=4.1
YKA **Yellowknife Ar** 44.12 355 P P 18 01 09.2 -1.2
RPN **Rapa Nui** 45.52 183 LR LR 18 14 27.4
comp=Z,198nm,20.9s,baz=92,slow=28
SCHQ **Schefferville** 47.44 31 P P 18 01 36.1 -0.6
0.8nm,0.5s,baz=246,slow=14,SNR=4.5
SCHQ **Schefferville** 47.44 31 *e*P P 18 01 35.7 -1.0
8.7nm,1.2s
RKT **Rikitea** 49.52 214 *e*S S 18 08 59.8 -1.2
98nm,27.2s
RKT *e*LR LR 18 15 49.7
509nm,27.8s,baz=29
RKT *e*T T 18 54 41.8
14nm,0.3s
KDAK **Kodiak Island** 51.29 331 LR LR 18 20 44.8
comp=Z,428nm,21.9s,baz=113,slow=32
SAML **Samuel** 51.41 118 *e*P P 18 02 07.5 -0.1
10nm,1.5s
LPAZ **La Paz** 51.85 130 P P 18 02 12.7 +1.1
1.9nm,0.8s,baz=306,slow=8.7,SNR=8.5
LPAZ LR LR 18 21 57.0
comp=Z,210nm,19.8s,baz=40,slow=33
LPAZ **La Paz** 51.85 130 *e*P P 18 02 12.4 +0.8
4.0nm,0.9s
ILAR **Eielson Array** 53.13 340 P P 18 02 17.8 -1.9
1.2nm,0.7s,baz=148,slow=5.9,SNR=14
ILAR LR LR 18 25 33.6
comp=Z,294nm,20.5s,baz=143,slow=37
ILAR **Eielson Array** 53.13 340 P P 18 02 17.8 -1.9
TRF **Thorofare Moun** 53.47 338 *e*P P 18 02 22.6 +0.2
39nm,1.5s
PPT **Papeete** 54.98 232 LR LR 18 19 42.3
comp=Z,459nm,18.3s,baz=172,slow=29
PPT2 **Papeete2** 54.99 232 *e*S S 18 10 15.4 -0.9
191nm,27.5s
PPT2 *e*LR LR 18 18 19.7
1µm,26.0s
TBI **Tubuai** 58.61 226 *e*S S 18 11 03.2 -0.8
188nm,26.5s
TBI *e*LR LR 18 19 56.0
866nm,28.0s,baz=45
BDFB **Brasilia** 67.56 116 P P 18 04 01.1 +1.8
1.2nm,0.3s,baz=241,slow=13,SNR=3.4
BDFB LR LR 18 33 02.9
comp=Z,148nm,18.7s,baz=285,slow=36
BDFB **Brasilia** 67.56 116 P P 18 04 01.1 +1.8
AFI **Afiamalu** 71.29 248 LR LR 18 26 58.7
comp=Z,265nm,20.5s,baz=314,slow=29
PETK **Petropavlovsk-** 78.27 322 LR LR 18 31 27.6
comp=Z,127nm,20.4s,baz=264,slow=30
TIXI **Tiksi** 82.31 345 *e*P P 18 05 24.0 +0.5
12nm,1.4s
ARCES **ARCESS Array B** 85.95 15 LR LR 18 44 27.6
comp=Z,195nm,19.8s,baz=93,slow=36
PMSA **Palmer Station** 89.47 163 P P 18 05 58.3 -0.5
17nm,0.7s
DZM **Mont Dzumac** 93.52 248 *e*LR LR 18 36 23.7
845nm,26.7s
GERES **GERESS Array B** 94.83 35 LR LR 18 48 31.2
comp=Z,114nm,18.0s,baz=110,slow=35
CBIJ **Chichi jima** 98.78 302 LR LR 18 41 46.1
comp=Z,124nm,21.4s,baz=138,slow=30
KEST **Kesra** 99.28 47 LR LR 18 54 17.0
comp=Z,48nm,19.2s,baz=197,slow=37
DBIC **Dimbokro** 99.56 80 LR LR 18 50 06.5
comp=Z,87nm,18.4s,baz=289,slow=34
CN2 **Changchun** 101.35 324 *e*P Pdif 18 06 53.5 -0.2
HHC **Hu-ho-hao-te** 110.69 329 *e*PKP PKiKP 18 11 35.3 -0.3
HHC PP PP 18 12 16.0 +4.7
HHC PKS PKSdf 18 15 12.5 +0.2
HHC SKS SKSdf 18 18 48.0 -0.1
HHC SKKS SKKSac 18 19 10.8 -4.8
HHC AMB AMB
comp=Z,200nm,8.6s
HHC LR LR
comp=N,200nm,16.7s
HHC LR LR
comp=E,190nm,16.7s
HHC LR LR
comp=Z,170nm,20.2s
LZH **Lanzhou** 118.12 332 *e*PKP PKPdf 18 11 51.0 +1.0
LZH sPKP 18 11 55.5
LZH LR LR
comp=N,110nm,17.9s
LZH LR LR
comp=E,120nm,18.0s
LZH LR LR

	comp=Z,160nm,20.0s						
KSH	**Kashi**	**122.08 357**	*e*PKP	**PKPdf**	**18 11 55.5**	**-2.0**
KSH			*e*PP	**PP**	**18 13 33.5**	**+3.0**
KSH			PKS	**PKSdf**	**18 15 30.0**	**-4.3**
KSH			SKS	SKSdf	18 19 01.5	-8.4
KSH			AMB	AMB		
	comp=Z,77nm,6.1s					
KSH			LR	LR		
	comp=N,71nm,4.9s					
KSH			LR	LR		
	comp=E,69nm,5.7s					
KSH			LR	LR		
	comp=Z,180nm,7.1s					
WRA	**Warramunga Arr**	**122.11 258**	PKP	**PKPdf**	**18 11 57.2**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=74,slow=2.2,SNR=17					
WRA	**Warramunga Arr**	**122.11 258**	PKP	**PKPdf**	**18 11 57.2**	**-0.6**
CD2	**Chengdu**	**122.41 328**	PKP	**PKPdf**	**18 11 58.3**	**0.0**
ASAR	**Alice Springs**	**123.07 253**	PKP	**PKPdf**	**18 11 59.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=80,slow=2.2,SNR=8.4					
ASAR	**Alice Springs**	**123.07 253**	PKP	**PKPdf**	**18 11 59.5**	**-0.1**
GYA	**Guiyang**	**124.37 323**	*e*Pdif	**Pdif**	**18 08 34.3**	**-2.3**
GYA			PKP	**PKPdf**	**18 12 01.8**	**-0.4**
GYA			PP	**PP**	**18 13 49.0**	**+2.3**
GYA			AMB	AMB		
	comp=Z,80nm,7.6s					
KMI	**Kunming**	**127.60 325**	PKP	**PKPdf**	**18 12 09.8**	**+1.2**

IDC 27 17:54:14.7±3.8, 7.88S×67.29E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, MS3.8/2, Ms1 3.8/2, ms1mx3.1/29, Error ellipse: s-maj=105.8km s-min=30.3km az=65.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**22.24**	**239**	LR	LR	18 06 21.7	
	comp=Z,108nm,19.6s,baz=180,slow=33						
CMAR	**Chiang Mai Arr**	**40.74**	**50**	P	P	18 01 57.4	-0.4
	0.8nm,0.9s,baz=245,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**56.05**	**12**	P	P	18 03 55.1	-0.3
	0.3nm,0.7s,baz=205,slow=5.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**63.35**	**11**	P	P	18 04 45.2	-0.3
	0.1nm,0.3s,baz=240,slow=2.8,SNR=2.5						
SONM	**Songino Array**	**65.33**	**28**	P	P	18 04 59.9	+1.0
	0.5nm,1.0s,baz=225,slow=3.3,SNR=3.7						
ASAR	**Alice Springs**	**65.48**	**112**	P	P	18 05 00.3	0.0
	0.3nm,0.8s,baz=269,slow=7.0,SNR=4.6						
WRA	**Warramunga Arr**	**65.82**	**108**	P	P	18 05 02.4	-0.1
	0.6nm,0.9s,baz=272,slow=7.4,SNR=5.0						
ESDC	**Sonseca Array**	**80.85**	**312**	LR	LR	18 45 00.0	
	comp=Z,96nm,19.2s,baz=310,slow=38						

IDC 27 18:06:49.4±4.1, 16.45S×177.61W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.8/18, mbtmp4.5/3, MS3.9/3, Ms1 3.9/3, ms1mx3.3/30, Error ellipse: s-maj=171.5km s-min=47.9km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.01**	**240**	P	P	18 14 27.0	+0.8
	3.0nm,0.6s,baz=90,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**45.67**	**258**	P	P	18 15 11.6	-0.7
	2.4nm,0.8s,baz=95,slow=8.3,SNR=43						
ASAR	**Alice Springs**	**45.94**	**253**	P	P	18 15 14.0	-0.4
	16nm,0.7s,baz=88,slow=8.1,SNR=284						
ASAR				LR	LR	18 33 16.4	
	comp=Z,85nm,19.0s,baz=169,slow=34						
KSRS	**Korea Array**	**74.13**	**318**	LR	LR	18 49 31.9	
	comp=Z,48nm,18.1s,baz=25,slow=35						
SONM	**Songino Array**	**125.99**	**319**	LR	LR	19 01 35.5	
	comp=Z,125nm,18.4s,baz=5.9,slow=35						
GERES	**GERESS Array B**	**146.39**	**346**	PKPbc	PKPdf	18 26 31.6	+0.4
	0.2nm,0.4s,baz=38,slow=5.0,SNR=4.4						

MEX 27 18:29:32.9±0.9, 18.05N×99.06W, h54km±9km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMTT	**Tlapaneco**	**0.54**	**117**	*i* P	Pn	18 29 43.0	-1.9
HMTT				*i* S	Sn	18 29 51.6	-2.1
MEIG	**Mezcala**	**0.55**	**258**	*e*P	Pn	18 29 43.6	-1.5
MEIG				*i* S	Sn	18 29 52.5	-1.3
YAIG	**Yautepec**	**0.81**	**359**	*i* P	Pn	18 29 46.5	-2.0
YAIG				*i* S	Sn	18 29 57.6	-2.3
PPM	**Popocatepetl**	**1.10**	**22**	*i* P	Pn	18 29 50.8	-1.9
PPM				*i* S	Sn	18 30 05.6	-1.7
MZVM		**1.15**	**352**	*i* P	Pn	18 29 52.0	-0.7
MZVM				*i* S	Sn	18 30 06.4	-1.0
ARIG	**Puente Sto Nin**	**1.25**	**281**	*i* P	Pn	18 29 52.0	-2.1
ARIG				*i* S	Sn	18 30 07.9	-2.0
CAIG	**El Cayaco**	**1.52**	**229**	*i* P	Pn	18 29 56.6	-1.2
CAIG				*i* S	Sn	18 30 14.7	-1.8
PNIG	**Pinotepa**	**1.87**	**151**	*i* P	Pn	18 30 01.8	-0.8
PNIG				*i* S	Sn	18 30 23.1	-2.0
ZIIG	**Zihuatanejo**	**2.33**	**260**	*i* P	Pn	18 30 06.5	-2.3
ZIIG				*i* S	Sn	18 30 33.6	-2.8

IDC 27 18:36:44.6±61.0, 17.01S×179.82W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=1107.0km s-min=153.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.90**	**240**	P	P	18 44 04.3	+0.6
	0.4nm,0.3s,baz=95,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**43.48**	**259**	P	P	18 44 49.4	-0.6
	0.1nm,0.4s,baz=96,slow=7.8,SNR=5.7						
ASAR	**Alice Springs**	**43.74**	**253**	P	P	18 44 51.7	-0.4
	0.9nm,0.5s,baz=90,slow=7.8,SNR=33						

IDC 27 18:42:25.3±4.1, 21.41S×70.14W, h0km, mb3.6/1, mb1 3.5/2, mb1mx3.4/16, mbtmp3.4/2, ML3.2/1, Error ellipse: s-maj=136.5km s-min=63.0km az=94.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.44**	**21**	Pn	Pn	18 43 48.3	-0.2
	0.4nm,0.3s,baz=208,slow=6.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**78.41**	**71**	P	P	18 54 28.4	0.0
	0.2nm,0.4s,baz=249,slow=4.8,SNR=6.3						
MKAR	**Makanchi Array**	**146.23**	**35**	PKPbc	PKPdf	19 02 06.9	+0.2
	0.3nm,0.7s,baz=328,slow=3.3,SNR=5.1						

BJI ***27*** *18:56:42.2, 9.04S×119.96E, h206km, mB4.8/25, mb4.6/39*
MOS ***27*** *18:56:47.0±1.0, 8.04S×119.86E, h188km, mb4.6/28, Error ellipse: s-maj=13.4km s-min=7.1km az=116.3*
ISCJB ***27*** *18:56:48.1±0.3, 8.17S±0.02×119.77E±0.02, h198km±3km, mb4.4/63, Error ellipse: s-maj=4.3km s-min=3.2km az=36.9*
AUST ***27*** *18:56:49.0±0.1, 8.25S×119.81E, h180km, Error ellipse: s-maj=0.7km s-min=0.5km az=29.0*
NEIC ***27*** *18:56:49.8±0.2, 8.17S×119.73E, mb4.4/27, Error ellipse: s-maj=8.4km s-min=4.9km az=60.0*
DJA ***27*** *18:56:49.7±0.1, 8°S±2"×12"0E±", h180km±3km, M4.7/49, mB5.2/26, mb4.8/49, MLv5.2/17, Mw(mB)4.6/26*
IDC ***27*** *18:56:50.1±0.6, 8.08S×119.87E, h202km±5km, mb4.2/23, mb1 4.3/26, mb1mx4.2/31, mbtmp4.2/26, MS3.6/3, Ms1 3.6/3, ms1mx2.9/36, Error ellipse: s-maj=12.3km s-min=6.1km az=63.0*

ISC 27 18:56:49.2±0.3, 8.26S±0.03×119.80E±0.04, h194km±2km, h194km:pP-P, n538, σ1.925/593, mb4.5/62, 139C-134D, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.48**	**161**	P	**Pn**	**18 57 21.2**	**-1.0**
	baz=1.5,SNR=375						
WSI				S	**Sn**	**18 57 45.2**	**-2.7**
	baz=1.5,SNR=23						
WSI	**Waingapu**	**1.48**	**161**	P	**Pn**	**18 57 21.1**	**-1.1**
WSI				S	**Sn**	**18 57 45.1**	**-2.9**
MMRI	**Maumere**	**2.44**	**99**	P	**Pn**	**18 57 32.3**	**+0.2**
MMRI				S	**Sn**	**18 58 04.7**	**-0.8**
BKSI	**Bulukumba**	**2.94**	**6**	P	**Pn**	**18 57 37.6**	**-0.2**
KAPI	**Kappang**	**3.23**	**359**	P	**Pn**	**18 57 40.3**	**-1.0**
	230nm,0.3s,baz=179,slow=9.3,SNR=400						
KAPI				S	**Sn**	**18 58 19.0**	**-3.1**
	9.8nm,0.3s,baz=194,slow=20,SNR=7.7						
KAPI				LR	LR	18 59 16.8	
	comp=Z,291nm,18.2s,baz=87,slow=48						
KAPI	**Kappang**	**3.23**	**359**	*e*Pn	**Pn**	**18 57 40.3**	**-1.0**
KAPI				S	**Sn**	**18 58 19.0**	**-3.1**
KAPI	**Kappang**	**3.23**	**359**	P	**Pn**	**18 57 40.3**	**-1.0**
BBSI	**Bau Bau**	**3.90**	**45**	P	**Pn**	**18 57 50.5**	**+1.0**
KHKI	**Kahang-Kahang**	**4.14**	**268**	P	**Pn**	**18 57 50.5**	**-2.1**
SRBI	**Singaraja**	**4.54**	**272**	P	**Pn**	**18 57 56.3**	**-1.3**
DNP	**Denpasar**	**4.55**	**264**	P	**Pn**	**18 57 57.2**	**-0.6**
IGBI	**Denpasar**	**4.63**	**263**	P	**Pn**	**18 57 56.6**	**-2.2**
IGBI				S	**Sn**	**18 58 50.0**	**-3.4**
KDI	**Kendari**	**5.12**	**33**	P	**Pn**	**18 58 05.4**	**+0.4**
	189nm,1.2s,2µm0.6nm						
BYJI	**Banyuwangi**	**5.38**	**270**	P	**Pn**	**18 58 08.5**	**+0.1**
	348nm,1.0s,9µm						
KMMI	**Kalianget**	**5.90**	**281**	P	**Pn**	**18 58 15.6**	**+0.5**
	278nm,1.1s,2µm0.9nm						
BLJI	**Banyuglugur**	**6.16**	**274**	P	**Pn**	**18 58 18.5**	**0.0**
	310nm,1.0s,4µm1.3nm						
GMJI	**Gumukmas**	**6.29**	**269**	P	**Pn**	**18 58 18.9**	**-1.2**
	187nm,1.1s,4µm1.2nm						
KRKI	**Karangkates**	**7.27**	**270**	P	**Pn**	**18 58 34.2**	**+1.3**
	215nm,0.8s,18µm4.6nm						
PCI	**Palu**	**7.31**	**0**	S	Sn	18 59 38.2	-18
	baz=7.3,SNR=3.3						
LUWI	**Luwuk**	**7.76**	**23**	P	**Pn**	**18 58 40.1**	**+0.7**
	120nm,1.0s,890nm0.4nm						
PWJI	**Pagerwojo**	**7.92**	**271**	P	**Pn**	**18 58 41.1**	**-0.3**
	101nm,0.7s,3µm1.1nm						
SJI	**Sawahan**	**7.97**	**273**	P	**Pn**	**18 58 41.5**	**-0.7**
	116nm,0.3s,7µm1.1nm						
PCJI	**Pacitan**	**8.53**	**270**	P	**Pn**	**18 58 47.8**	**-1.6**
	295nm,0.7s,4µm						
MRSI	**Marisa**	**8.94**	**14**	P	**Pn**	**18 58 55.0**	**+0.2**
	57nm,1.0s,486nm						
UGM	**Wanagama**	**9.19**	**272**	*e*Pn	**Pn**	**18 58 55.9**	**-2.1**
UGM	**Wanagama**	**9.19**	**272**	P	**Pn**	**18 58 56.1**	**-2.0**
	baz=92,SNR=55						
SMRI	**Semarang**	**9.35**	**277**	P	**Pn**	**18 59 00.1**	**-0.1**
	280nm,1.0s						
AAI	**Ambon**	**9.51**	**62**	P	Pn	18 59 05.9	+3.7
	baz=9.5,SNR=12						
AAI	**Ambon**	**9.51**	**62**	P	Pn	18 59 05.2	+3.0
	268nm,1.4s,3µm						
BJII	**Banjamegara**	**10.04**	**275**	P	**Pn**	**18 59 08.7**	**-0.4**
	50nm,0.8s						
TGJI	**Tegal**	**10.67**	**277**	P	**Pn**	**18 59 15.8**	**-1.5**
	136nm,1.1s						
BNDI	**Bandanaira**	**10.71**	**70**	P	P	18 59 21.7	-3.2
	2µm,0.8s,12µm						
LBMI	**Labuha**	**10.78**	**46**	P	**Pn**	**18 59 20.1**	**+1.4**
	182nm,0.9s,2µm						
MNI	**Manado**	**10.87**	**28**	P	**Pn**	**18 59 21.9**	**+2.0**
	116nm,1.0s,1µm						
FITZ	**Fitzroy Crossi**	**11.31**	**150**	P	**Pn**	**18 59 25.9**	**+0.4**
	4.5nm,0.3s,baz=340,slow=9.6,SNR=60						
FITZ				S	**Sn**	**19 01 27.8**	**-3.8**
	22nm,0.3s,baz=169,slow=15,SNR=11						
FITZ	**Fitzroy Crossi**	**11.31**	**150**	*e*Pn	**Pn**	**18 59 25.1**	**-0.4**
FITZ				*e*Sn	**Sn**	**19 01 26.0**	**-5.6**
FITZ				S	**Sn**	**19 01 27.8**	**-3.8**
FITZ	**Fitzroy Crossi**	**11.31**	**150**	P	**Pn**	**18 59 25.6**	**+0.1**
	baz=11,SNR=32						
FITZ				S	Sn	19 01 25.5	-6.1
	baz=11,SNR=6.2						
CISI	**Cisompet, Garu**	**11.89**	**273**	P	Pn	18 59 29.6	-3.4
	72nm,0.9s,2µm						
MTN	**Manton Dam**	**12.04**	**113**	P	**Pn**	**18 59 34.1**	**-0.7**
	baz=12,SNR=216						
MTN				S	Sn	19 01 39.2	-10
	baz=12,SNR=14						
LEM	**Lembang**	**12.16**	**276**	P	**Pn**	**18 59 36.5**	**0.0**
	baz=12,SNR=3.4						
LEM	**Lembang**	**12.16**	**276**	P	**Pn**	**18 59 35.7**	**-0.8**
	310nm,1.1s,981nm						
MBWA	**Marble Bar**	**12.82**	**180**	*e*Pn	**Pn**	**18 59 44.0**	**-0.7**
MBWA				*e*Sn	Sn	19 01 53.2	-14
TLE	**Tual**	**13.11**	**79**	P	**Pn**	**18 59 46.2**	**-2.1**
	baz=13,SNR=33						
TLE				S	**Sn**	**19 02 16.4**	**+1.8**
	baz=13,SNR=5.2						
TLE	**Tual**	**13.11**	**79**	P	**Pn**	**18 59 47.1**	**-1.3**
	108nm,0.9s						
KDU	**Kakadu**	**13.22**	**110**	P	**Pn**	**18 59 48.7**	**-1.0**
	baz=13,SNR=134						
KDU				S	Sn	19 02 08.6	-8.6
	baz=13,SNR=4.6						
FAKI	**Fak Fak**	**13.48**	**68**	P	**Pn**	**18 59 51.5**	**-1.5**
	288nm,0.9s,3µm						
KSM	**Kuching**	**13.53**	**315**	*e*Pn	**P**	**18 59 57.4**	**+1.1**
	10nm,0.7s						
KSM	**Kuching**	**13.53**	**315**	P	**P**	**18 59 57.8**	**+1.5**
	baz=14,SNR=6.6						
XMI	**Christmas Isla**	**14.09**	**260**	P	**P**	**19 00 02.4**	**0.0**
	baz=14,SNR=3.2						
XMI				S	Sn	19 02 21.2	-17
	baz=14,SNR=5.1						
XMIS	**Christmas Isla**	**14.13**	**260**	*e*Pn	**Pn**	**18 59 58.6**	**-2.5**
XMIS	**Christmas Isla**	**14.13**	**260**	P	**Pn**	**19 00 01.9**	**+0.8**
	baz=14,SNR=7.6						
XMIS				S	Sn	19 02 18.2	-21
	baz=14,SNR=4.9						
KKM	**Kota Kinabalu**	**14.65**	**346**	*e*Pn	**Pn**	**19 00 08.4**	**+0.8**
	38nm,1.2s						
KKM	**Kota Kinabalu**	**14.65**	**346**	P	**P**	**19 00 09.5**	**+0.7**
	baz=15,SNR=4.2						
PPBI	**Pangkal Pinang**	**14.89**	**293**	P	**Pn**	**19 00 10.7**	**+0.3**
	9.3nm,1.2s						
GIRL	**Giralia**	**15.27**	**200**	P	**P**	**19 00 18.4**	**+2.9**
	baz=15,SNR=7.3						
GIRL				S	**Sn**	**19 03 06.1**	**+0.2**
	baz=15,SNR=4.9						
KASI	**Kota Agung**	**15.43**	**279**	P	**P**	**19 00 20.1**	**+2.8**
	63nm,0.9s,837nm						
LWLI	**Liwa**	**15.96**	**281**	P	**Pn**	**19 00 24.8**	**+1.2**
	51nm,0.7s,1µm						
BAKI	**Biak**	**17.70**	**67**	P	**P**	**19 00 43.4**	**+1.1**
	314nm,1.3s,4µm						
KSI	**Kapahiang**	**17.71**	**284**	P	**P**	**19 00 41.6**	**-0.8**
	59nm,1.5s,3µm						
WRA	**Warramunga Arr**	**18.25**	**131**	P	**P**	**19 00 48.9**	**+0.7**
	6.9nm,0.3s,baz=305,slow=13,SNR=58						
WRA				S	**S**	**19 04 04.1**	**-2.9**
	1.0nm,0.3s,baz=306,slow=21,SNR=20						
WRA	**Warramunga Arr**	**18.25**	**131**	P	**P**	**19 00 48.9**	**+0.7**
WRA				S	**S**	**19 04 04.1**	**-2.9**
WRAB	**Tennant Creek**	**18.25**	**131**	*e*P	**P**	**19 00 48.8**	**+0.5**
WRAB				*e*S	**S**	**19 04 03.7**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,31nm,0.7s						
WRAB	**Tennant Creek**	**18.25**	**131**	*e*P	**P**	**19 00 48.8**	**+0.5**
	comp=Z,31nm,0.7s						
WRAB				*e*S	**S**	**19 04 03.7**	**-3.3**
MEEK	**Meekatharra**	**18.31**	**183**	P	**P**	**19 00 50.8**	**+2.0**
	baz=18,SNR=178						
MEEK				S	**S**	**19 04 10.8**	**+2.7**
	baz=18,SNR=10.0						
MMPI	**Merauke**	**20.37**	**92**	P	**P**	**19 01 11.5**	**+0.4**
	baz=20,SNR=4.2						
AS31	**Alice Springs**	**20.43**	**140**	*e*P	**P**	**19 01 12.8**	**+1.0**
AS31				*e*S	**S**	**19 04 48.3**	**-1.6**
ASAR	**Alice Springs**	**20.43**	**140**	P	**P**	**19 01 12.8**	**+1.1**
	comp=Z,26nm,0.6s,baz=313,slow=8.9,SNR=294						
ASAR				S	**S**	**19 04 49.0**	**-0.8**
	comp=Z,65nm,1.0s,baz=312,slow=19,SNR=35						
ASAR				PcP	**PcP**	**19 05 15.2**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=297,slow=1.7,SNR=5.8						
ASAR				ScP	**ScP**	**19 08 33.6**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=318,slow=1.7,SNR=4.2						
ASAR	**Alice Springs**	**20.43**	**140**	P	**P**	**19 01 12.8**	**+1.1**
ASAR				S	**S**	**19 04 49.0**	**-0.8**
ASAR				PcP	**PcP**	**19 05 15.2**	**-0.6**
ASAR				ScP	**ScP**	**19 08 33.6**	**-0.5**
MORW	**Morawa**	**21.00**	**189**	P	**P**	**19 01 18.2**	**+0.6**
	baz=21,SNR=16						
MORW				S	S	19 05 10.7	+11
	baz=21,SNR=8.2						
JAY	**Jayapura**	**21.58**	**76**	P	**P**	**19 01 23.0**	**-0.9**
	baz=22,SNR=9.5						
TGY	**Tagaytay City**	**22.25**	**3**	P	**P**	**19 01 29.7**	**-0.7**
	comp=Z,76nm,0.3s,baz=152,slow=16,SNR=6.2						
TGY	**Tagaytay City**	**22.25**	**3**	P	**P**	**19 01 29.7**	**-0.7**
BLDU	**Ballidu**	**22.43**	**187**	P	**P**	**19 01 32.6**	**+0.7**
	baz=23,SNR=66						
BLDU				S	Sn	19 05 47.7	-7.8
	baz=23,SNR=7.0						
IPM	**Ipoh**	**22.60**	**303**	*e*P	**P**	**19 01 33.7**	**+0.1**
	comp=Z,30nm,0.7s						
QIS	**Mount Isa**	**22.71**	**125**	P	**P**	**19 01 35.8**	**+1.2**
	baz=23,SNR=60						
QIS				S	**S**	**19 05 34.3**	**+5.9**
	baz=23,SNR=5.6						
KLBR	**Kellerberrin**	**23.29**	**184**	P	**P**	**19 01 41.0**	**+1.3**
	baz=23,SNR=56						
KLBR				S	Sn	19 06 05.8	-11
	baz=23,SNR=6.8						
KULM	**Kulim**	**23.36**	**305**	*e*P	**P**	**19 01 39.6**	**-0.9**
	comp=Z,22nm,1.0s						
PSI	**Prapat**	**23.54**	**297**	P	**P**	**19 01 41.7**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=144,slow=2.5,SNR=8.6						
PSI	**Prapat**	**23.54**	**297**	P	**P**	**19 01 41.7**	**-0.6**
PSI	**Prapat**	**23.54**	**297**	P	**P**	**19 01 42.0**	**-0.3**
	baz=24,SNR=6.3						
PSI	**Prapat**	**23.54**	**297**	P	**P**	**19 01 41.4**	**-0.9**
	comp=Z,16nm,1.1s						
COEN	**Coen**	**23.62**	**106**	P	**P**	**19 01 43.2**	**+0.4**
	baz=24,SNR=232						
FORT	**Forrest**	**23.70**	**162**	*e*P	**P**	**19 01 43.4**	**0.0**
	comp=Z,103nm,0.8s						
FORT	**Forrest**	**23.70**	**162**	P	**P**	**19 01 44.9**	**+1.5**
	baz=24,SNR=30						
GSI	**Gunungsitoli**	**24.11**	**292**	P	**P**	**19 01 49.5**	**+2.2**
	baz=24,SNR=4.2						
GSI				S	S	19 06 07.7	+17
	baz=24,SNR=6.7						
NWAO	**Narrogin (SRO)**	**24.66**	**185**	P	**P**	**19 01 53.7**	**+1.6**
	comp=Z,44nm,0.8s,baz=9.1,slow=7.5,SNR=16						
NWAO	**Narrogin (SRO)**	**24.66**	**185**	*e*P	**P**	**19 01 52.6**	**+0.4**
	comp=Z,49nm,0.9s						
NWAO				*e*S	S	19 06 31.4	+32
RKGY	**Rocky Gully**	**26.35**	**185**	P	**P**	**19 02 09.8**	**+2.5**
	baz=26,SNR=13						
PMG	**Port Moresby**	**27.06**	**94**	P	**P**	**19 02 13.7**	**-0.2**
	comp=Z,5.4nm,0.5s,baz=292,slow=6.9,SNR=3.7						
PMG	**Port Moresby**	**27.06**	**94**	*e*P	**P**	**19 02 13.2**	**-0.8**
CTA	**Charters Tower**	**28.17**	**117**	P	**P**	**19 02 25.1**	**+1.4**
	comp=Z,20nm,0.9s,baz=300,slow=11,SNR=9.6						
CTA	**Charters Tower**	**28.17**	**117**	P	**P**	**19 02 25.1**	**+1.4**
CTAO	**Charters Tower**	**28.17**	**117**	*e*P	**P**	**19 02 24.2**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**28.17**	**117**	*e*P	**P**	**19 02 24.2**	**+0.5**
	comp=Z,24nm,0.9s						
BBOO	**Buckleboo**	**28.70**	**151**	*e*P	**P**	**19 02 29.5**	**+1.2**
	comp=Z,270nm,0.9s						
BBOO	**Buckleboo**	**28.70**	**151**	P	**P**	**19 02 29.6**	**+1.4**
	baz=29,SNR=60						
QIZ	**Qiongzhong**	**28.84**	**340**	P	**P**	**19 02 30.3**	**+0.7**
QIZ				pP	**pP**	**19 03 07.8**	**-1.5**
QIZ				S	**S**	**19 07 05.3**	**0.0**
QIZ				pmax	pmax		
	comp=Z,100nm,5.2s						
QIZ	**Qiongzhong**	**28.84**	**340**	*e*P	**P**	**19 02 30.1**	**+0.5**
	comp=Z,4.1nm,0.6s						
QLP	**Quilpie**	**29.49**	**131**	P	**P**	**19 02 37.6**	**+2.2**
	baz=30,SNR=12						
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**	**19 02 50.7**	**+1.9**
	comp=Z,22nm,0.8s,baz=313,slow=8.0,SNR=90						
STKA	**Stephens Creek**	**31.03**	**142**	*e*P	**P**	**19 02 50.7**	**+1.9**
	comp=Z,4.5nm,0.9s						
STKA				*e*S	**S**	**19 07 39.0**	**-0.5**
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**	**19 02 50.6**	**+1.7**
	baz=31,SNR=81						
YHNB	**Yeheng**	**32.77**	**3**	*e*P	**P**	**19 03 02.3**	**-1.8**
RMQ	**Roma**	**32.92**	**127**	P	**P**	**19 03 08.2**	**+2.7**
	baz=33,SNR=6.9						
CMSA	**Cobar Meteorol**	**33.43**	**137**	P	**P**	**19 03 12.2**	**+2.5**
	baz=34,SNR=19						
CM31	**Chiang Mai Arr**	**33.59**	**322**	*e*P	**P**	**19 03 10.8**	**-0.4**
	comp=Z,1.2nm,0.4s						
CM31				*e*PcP	**PcP**	**19 05 48.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**33.59**	**322**	P	**P**	**19 03 10.8**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=154,slow=7.2,SNR=25						
CMAR				pP	**pP**	**19 03 52.9**	**+1.5**
	comp=Z,2.0nm,1.1s,baz=150,slow=6.4,SNR=2.6						
CMAR				PcP	**PcP**	**19 05 47.6**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=182,slow=2.3,SNR=7.9						
CMAR				ScP	**ScP**	**19 09 12.8**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=144,slow=1.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**33.59**	**322**	P	**P**	**19 03 10.8**	**-0.4**
CMAR				pP	**pP**	**19 03 52.9**	**+1.5**
CMAR				PcP	**PcP**	**19 05 47.6**	**+0.5**
CMAR				ScP	**ScP**	**19 09 12.8**	**-0.6**
CMMT	**Chiang Mai**	**33.86**	**323**	P	**P**	**19 03 14.5**	**+0.9**
	comp=Z,5.2nm,1.4s,comp=Z,477nm						
CHTO	**Chiang Mai**	**33.86**	**323**	*e*P	**P**	**19 03 13.4**	**-0.2**
CHTO				*e*		19 05 46.2	
CHTO				pmax	pmax		
	comp=Z,11nm,1.5s						
CHTO	**Chiang Mai**	**33.86**	**323**	*e*P	**P**	**19 03 13.4**	**-0.2**
	comp=Z,11nm,1.5s						
CHTO				*e*PcP	**PcP**	**19 05 46.1**	**-1.8**
CHTO	**Chiang Mai**	**33.86**	**323**	P	**P**	**19 03 14.2**	**+0.6**
	comp=Z,5.7nm,1.5s						
ARPS	**Mount Arapiles**	**34.74**	**148**	P	**P**	**19 03 23.2**	**+2.3**
	baz=35,SNR=12						
GYA	**Guiyang**	**36.79**	**340**	*e*P	**P**	**19 03 40.8**	**+2.2**
GY

DZM	**Mont Dzumac**	**46.88**	**112**	P	**P**		**19 05 01.3**	**+0.8**
	comp=Z,28nm,0.9s,baz=274,slow=3.6,SNR=12							
DZM	**Mont Dzumac**	**46.88**	**112**	P	**P**		19 05 01.3	+0.8
ODAN	**Odare**	**46.97**	**319**	*e*P	**P**		**19 05 00.3**	**-0.9**
	comp=Z,10nm,0.5s							
TAPN	**Taplejung**	**47.10**	**320**	*e*P	**P**		**19 05 01.6**	**-0.7**
	comp=Z,12nm,0.4s							
RAMN	**Ramite**	**47.55**	**319**	*e*P	**P**		**19 05 05.0**	**-0.7**
	comp=Z,25nm,0.4s							
MAJO	**Matsushiro**	**47.81**	**20**	P	P		19 05 04.5	-2.7
MAJO				pmax	pmax			
	comp=Z,20nm,1.1s							
MAJO	**Matsushiro**	**47.81**	**20**	P	P		19 05 04.5	-2.7
	comp=Z,20nm,1.1s							
MAT	**Matsushiro**	**47.81**	**20**	P	P		19 05 04.7	-2.5
MJAR	**Matsushiro Arr**	**47.81**	**20**	P	P		19 05 04.6	-2.6
	comp=Z,1.4nm,0.4s,baz=199,slow=8.4,SNR=12							
MJAR				PcP	**PcP**		**19 06 31.9**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=208,slow=3.3,SNR=5.7							
MJAR	**Matsushiro Arr**	**47.81**	**20**	P	P		19 05 04.6	-2.6
MJAR				PcP	**PcP**		**19 06 31.9**	**-1.0**
GUN	**Gumba**	**48.67**	**319**	*e*P	**P**		**19 05 13.4**	**-0.9**
	comp=Z,16nm,0.5s							
PKI	**Pulchoki**	**48.75**	**318**	*e*P	**P**		**19 05 13.6**	**-1.3**
	comp=Z,17nm,0.4s							
PKIN	**Phulchoki**	**48.76**	**318**	*e*P	**P**		**19 05 14.2**	**-0.8**
	comp=Z,8.0nm,0.4s							
DMN	**Daman**	**48.98**	**318**	*e*P	**P**		**19 05 15.5**	**-1.1**
	comp=Z,10nm,0.4s							
KKN	**Kakani**	**48.98**	**318**	*e*P	**P**		**19 05 15.3**	**-1.3**
	comp=Z,5.8nm,0.4s							
HHC	**Hu-ho-hao-te**	**49.45**	**352**	*e*P	**P**		**19 05 20.5**	**+0.8**
HHC				pP	pP		19 06 07.3	+4.6
HHC				sP	sP		19 06 30.0	+5.8
HHC				PP	**PP**		**19 07 19.8**	**+3.8**
HHC				PcS	**PcS**		**19 10 36.0**	**+0.2**
HHC				S	**S**		**19 12 13.8**	**+1.7**
HHC				sS	sS		19 13 33.0	+5.8
HHC				SS	**SS**		**19 15 46.0**	**-0.9**
HHC				pmax	pmax			
	comp=Z,23nm,0.5s							
HHC				pmax	pmax			
	comp=Z,330nm,5.0s							
KOLN	**Koldanda**	**50.09**	**317**	*e*P	**P**		**19 05 23.5**	**-1.4**
	comp=Z,20nm,0.5s							
DANN	**Dangsing**	**50.36**	**318**	*e*P	**P**		**19 05 25.6**	**-1.4**
	comp=Z,41nm,0.4s							
PYUN	**Piuthan**	**50.71**	**317**	*e*P	**P**		**19 05 28.2**	**-1.4**
	comp=Z,29nm,0.4s							
GTA	**Gaotai**	**50.92**	**340**	*e*P	**P**		**19 05 31.0**	**+0.1**
GTA				pP	**pP**		**19 06 15.5**	**+1.5**
GTA				sP	sP		19 06 41.3	+5.8
GTA				PP	**PP**		**19 07 30.8**	**+1.4**
GTA				ScP	**ScP**		**19 10 21.0**	**-1.3**
GTA				S	**S**		**19 12 29.5**	**-3.0**
GTA				pmax	pmax			
	comp=Z,22nm,1.0s							
GTA				pmax	pmax			
	comp=Z,130nm,4.8s							
CN2	**Changchun**	**52.07**	**5**	*e*P	**P**		**19 05 41.8**	**+2.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MDJ	**Mudanjiang**	**53.37**	**9**	P	**P**		**19 05 49.8**	**+1.2**
MDJ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,99nm,3.7s							
USRK	**Ussuriysk Arra**	**53.37**	**11**	P	**P**		**19 05 46.8**	**-1.8**
	comp=Z,1.6nm,0.4s,baz=199,slow=6.6,SNR=10							
RPZ	**Rata Peaks**	**56.81**	**137**	P	**P**		**19 06 14.9**	**+1.6**
	baz=215,slow=5.4							
RPZ	**Rata Peaks**	**56.81**	**137**	P	**P**		**19 06 14.9**	**+1.6**
ULN	**Ulaanbaatar**	**57.01**	**350**	*e*P	**P**		**19 06 13.6**	**-1.1**
	comp=Z,5.8nm,0.6s							
ULN				*e*pP	**pP**		**19 06 56.7**	**-2.2**
ULN	**Ulaanbaatar**	**57.01**	**350**	P	**P**		**19 06 13.2**	**-1.6**
	comp=Z,12nm,1.5s							
SONM	**Songino Array**	**57.10**	**349**	P	**P**		**19 06 14.6**	**-0.7**
	comp=Z,6.8nm,0.6s,baz=165,slow=8.4,SNR=104							
SONM				pP	**pP**		**19 07 01.1**	**+1.6**
	comp=Z,5.5nm,1.0s,baz=170,slow=7.6,SNR=4.3							
SONM	**Songino Array**	**57.10**	**349**	P	**P**		**19 06 14.6**	**-0.7**
SONM				pP	**pP**		**19 07 01.1**	**+1.6**
CASY	**Casey**	**58.28**	**184**	P	**P**		**19 06 23.5**	**+0.3**
	comp=Z,11nm,0.9s							
URZ	**Urewera**	**59.42**	**130**	*e*P	**P**		**19 06 31.0**	**-0.5**
WMQ	**Urumqi**	**59.44**	**333**	P	**P**		**19 06 31.5**	**-0.1**
WMQ				pP	**PcP**		**19 07 20.3**	**+3.1**
WMQ				pmax	pmax			
	comp=Z,9.0nm,1.0s							
WMQ				pmax	pmax			
	comp=Z,120nm,4.0s							
ZAK	**Zakamensk**	**60.14**	**348**	⇓*i*P	**P**		**19 06 35.2**	**-1.1**
ZAK				*e*			19 07 23.3	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
TLY	**Talaya**	**61.30**	**349**	*e*P	P		19 06 41.3	-2.7
TLY				*e*			19 07 25.3	
TLY				pmax	pmax			
	comp=Z,13nm,1.2s							
TLY	**Talaya**	**61.30**	**349**	*e*P	**P**		**19 06 43.6**	**-0.4**
	comp=Z,21nm,1.4s							
MOY	**Mondy**	**61.85**	**347**	*e*P	**P**		**19 06 47.3**	**-0.4**
MOY				pmax	pmax			
	comp=Z,22nm,2.1s							
KSH	**Kashi**	**62.49**	**323**	P	**P**		**19 06 51.0**	**-1.3**
KSH				PcP	**PcP**		**19 07 28.3**	**-1.4**
KSH				pP	**pP**		**19 07 39.0**	**+1.8**
KSH				PP	**PP**		**19 09 14.3**	**+1.9**
KSH				ScP	**ScP**		**19 11 09.8**	**-3.4**
KSH				PcS	**PcS**		**19 11 30.3**	**-3.0**
KSH				S	S		19 14 55.5	-8.8
KSH				ScS	SKSac		19 16 20.5	-5.2
KSH				sS	**sS**		**19 16 24.0**	**+1.5**
KSH				SS	**SS**		**19 19 10.8**	**-1.4**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,95nm,4.4s							
KSH				LR	LR			
	comp=N,49nm,7.6s							
KSH				LR	LR			
	comp=E,51nm,4.7s							
KSH				LR	LR			
	comp=Z,230nm,6.1s							
KBL	**Kabul**	**64.13**	**315**	P	P		19 06 58.4	-4.9
KBL	**Kabul**	**64.13**	**315**	P	P		19 06 58.4	-4.9
MK31	**Makanchi Array**	**64.17**	**332**	*e*P	**P**		**19 07 01.7**	**-1.3**
MK31				*e**PP	**pP**		**19 07 50.0**	**+1.8**
MK31	**Makanchi Array**	**64.17**	**332**	*e*P	**P**		**19 07 01.7**	**-1.3**
MK31				*e*pP	**pP**		**19 07 50.0**	**+1.8**
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**		**19 07 02.1**	**-0.9**
	comp=Z,8.9nm,0.5s,baz=150,slow=5.7,SNR=190							
MKAR				pP	**pP**		**19 07 49.9**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=138,slow=7.5,SNR=3.7							
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**		**19 07 02.1**	**-0.9**
MKAR				*PP	**pP**		**19 07 49.9**	**+1.7**
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.5s							
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**		**19 07 02.1**	**-0.9**
MKAR				pP	**pP**		**19 07 49.9**	**+1.7**
TKM2	**Tokmak 2**	**64.89**	**326**	*e*P	P		19 07 05.8	-2.2
TKM2				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TKM2	**Tokmak 2**	**64.89**	**326**	*e*P	P		19 07 05.8	-2.2
	comp=Z,1.4nm,0.5s							
AAK	**Ala-Archa**	**65.33**	**325**	P	**P**		**19 07 10.2**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=150,slow=6.2,SNR=6.9							
AAK				pP	**pP**		**19 07 58.2**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=63,slow=6.8,SNR=2.3							
AAK	**Ala-Archa**	**65.33**	**325**	P	**P**		**19 07 10.2**	**-0.6**
AAK				*PP	**pP**		**19 07 58.2**	**+2.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AAK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AAK	**Ala-Archa**	**65.33**	**325**	*e*P	**P**		**19 07 08.9**	**-1.9**
	comp=Z,6.8nm,0.5s							
AAK				pP	**pP**		**19 07 58.2**	**+2.1**
AAK				*e*pP	**pwP**		**19 07 58.3**	**+2.2**
EKS2	**Erkin-Say**	**65.76**	**324**	*e*P	**P**		**19 07 13.1**	**-0.4**
EKS2				pmax	pmax			
	comp=Z,8.0nm,1.4s							
EKS2	**Erkin-Say**	**65.76**	**324**	*e*P	**P**		**19 07 13.1**	**-0.4**
	comp=Z,8.3nm,1.4s							
ZAA0	**Zalesovo Array**	**68.64**	**339**	*e*P	P		19 07 29.1	-2.1
ZAA0				*e*pP	pP		19 08 16.6	-0.3
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**		**19 07 29.4**	**-1.7**
	comp=Z,21nm,0.3s,baz=140,slow=5.2,SNR=152							
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**		**19 07 29.5**	**-1.7**
ZALV				pmax	pmax			
	comp=Z,21nm,0.4s							
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**		**19 07 29.4**	**-1.7**
KURK	**Kurchatov**	**68.69**	**333**	*e*P	**P**		**19 07 30.4**	**-1.2**
KURK				*e**PP	**pP**		**19 08 15.5**	**-1.8**
KURK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KURK	**Kurchatov**	**68.69**	**333**	*e*P	**P**		**19 07 30.4**	**-1.2**
	comp=Z,9.3nm,1.0s							
KURK				*e*pP	**pP**		**19 08 15.5**	**-1.8**
PEA0B	**Petropavlovsk-**	**69.09**	**23**	*e*P	**P**		**19 07 33.5**	**-0.5**
PETK	**Petropavlovsk-**	**69.09**	**23**	P	**P**		**19 07 32.9**	**-1.1**
	comp=Z,5.7nm,0.7s,baz=203,slow=5.2,SNR=24							
PETK	**Petropavlovsk-**	**69.09**	**23**	P	**P**		**19 07 32.9**	**-1.1**
PETK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PETK	**Petropavlovsk-**	**69.09**	**23**	P	**P**		**19 07 32.9**	**-1.1**
NVS	**Novosibirsk**	**69.92**	**338**	*e*P	P		19 07 36.0	-3.0
NVS				pmax	pmax			
	comp=N,6.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,8.0nm,1.4s							
NVS				pmax	pmax			
	comp=Z,15nm,1.4s							
YAK	**Yakutsk**	**70.50**	**5**	*i*P	**P**		**19 07 43.9**	**+1.5**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
YAK	**Yakutsk**	**70.50**	**5**	P	**P**		**19 07 41.1**	**-1.3**
OPO	**Ambohidratompo**	**70.98**	**253**	P	**P**		**19 07 46.3**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=74,slow=6.2,SNR=5.2							
OPO	**Ambohidratompo**	**70.98**	**253**	P	**P**		**19 07 46.3**	**-0.1**
VNDA	**Vanda**	**72.59**	**171**	P	**P**		**19 07 55.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=311,slow=8.8,SNR=6.9							
VNDA	**Vanda**	**72.59**	**171**	P	**P**		**19 07 55.8**	**+1.0**
BRVK	**Borovoye**	**74.09**	**331**	⇑*e*P	**P**		**19 08 02.9**	**-1.0**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.2s							
BRVK	**Borovoye**	**74.09**	**331**	P	P		19 08 01.9	-2.0
	comp=Z,10nm,1.3s							
SEY	**Seymchan**	**75.25**	**15**	⇑*e*P	**P**		**19 08 09.8**	**-0.5**
ABKAR	**Akbulak array**	**77.42**	**325**	*e*P	**P**		**19 08 20.9**	**-1.8**
	comp=Z,2.7nm,0.4s							
ABKAR				*e*pP	**pP**		**19 09 06.2**	**-3.4**
RAR	**Rarotonga**	**78.18**	**110**	LR	LR		19 41 50.3	
	comp=Z,60nm,21.9s,baz=280,slow=34							
SYO	**Syowa Base**	**78.82**	**201**	⇑*e*P	**P**		**19 08 30.9**	**+0.7**
TIXI	**Tiksi**	**79.97**	**3**	⇑*e*P	P		19 08 34.3	-1.9
TIXI				pmax	pmax			
	comp=Z,12nm,1.6s							
TIXI	**Tiksi**	**79.97**	**3**	*e*P	P		19 08 34.0	-2.2
	comp=Z,3.0nm,0.3s							
TIXI				*e*pP	pP		19 09 23.5	+0.2
SVE	**Sverdlovsk**	**80.81**	**331**	*e*P	**P**		**19 08 40.3**	**-0.7**
ARU	**Arti**	**81.61**	**331**	*c i*P	P		19 08 43.3	-1.9
ARU							19 11 51.8	
ARU				S	**S**		**19 18 43.6**	**+2.7**
ARU				SS	**SS**		**19 24 02.5**	**-0.4**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
ARU	**Arti**	**81.61**	**331**	*e*P	P		19 08 42.0	-3.3
QSPA	**South Pole Qui**	**81.73**	**180**	*e*P	**P**		**19 08 47.2**	**+1.3**
	comp=Z,3.5nm,0.9s							
BILL	**Bilibino**	**82.87**	**16**	*i*P	**P**		**19 08 53.4**	**+1.9**
BILL				*e*			19 12 08.0	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BILL	**Bilibino**	**82.87**	**16**	*e*P	P		19 08 49.6	-1.9
DGRG	**David-gareji**	**83.93**	**313**	P	**P**		**19 08 57.9**	**+0.3**
KBZ	**Khabaz**	**86.31**	**315**	P	**P**		**19 09 08.3**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=152,slow=6.7,SNR=3.7							
KBZ	**Khabaz**	**86.31**	**315**	P	**P**		**19 09 08.3**	**-1.0**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**86.31**	**315**	P	**P**		**19 09 08.3**	**-1.0**
LSZ	**Lusaka**	**89.39**	**255**	*e*P	**P**		**19 09 24.8**	**+0.1**
	comp=Z,2.2nm,0.6s							
LSZ				*e*pP	**pP**		**19 10 10.0**	**-2.7**
BOSA	**Boshof**	**90.05**	**241**	P	**P**		**19 09 28.4**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=91,slow=10,SNR=12							
BOSA	**Boshof**	**90.05**	**241**	*e*P	**P**		**19 09 27.8**	**+0.3**
	comp=Z,5.2nm,0.9s							
LBTB	**Lobatse**	**90.33**	**245**	P	**P**		**19 09 29.5**	**+0.6**
SNAA	**Sanae**	**91.92**	**195**	P	**P**		**19 09 36.4**	**+1.2**
	comp=Z,1.7nm,0.7s							
OBN	**Obninsk**	**92.85**	**325**	*e*P	**P**		**19 09 38.7**	**-1.0**
OBN				*e*PS	**PS**		**19 21 59.6**	**-6.5**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**98.83**	**26**	P	P		19 10 04.5	-2.2
	comp=Z,0.2nm,0.4s,baz=257,slow=3.9,SNR=4.9							
ILAR	**Eielson Array**	**98.83**	**26**	P	P		19 10 04.5	-2.2
ARCES	**ARCESS Array B**	**99.19**	**339**	P	**Pdif**		**19 10 06.7**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=72,slow=4.2,SNR=6.3							
ARCES	**ARCESS Array B**	**99.19**	**339**	P	**Pdif**		**19 10 06.7**	**-1.4**
SPITS	**Spitsbergen Ar**	**100.78**	**348**	P	**Pdif**		**19 10 13.7**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=149,slow=9.8,SNR=8.4							
SPITS	**Spitsbergen Ar**	**100.78**	**348**	P	**Pdif**		**19 10 13.7**	**-1.4**
YKA	**Yellowknife Ar**	**113.20**	**24**	PKiKP	**PKiKP**		**19 15 01.8**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=298,slow=1.9,SNR=14							
YKA	**Yellowknife Ar**	**113.20**	**24**	PKiKP	**PKiKP**		**19 15 01.8**	**-1.4**
NEW	**Newport**	**117.85**	**39**	⇓P	**PKPdf**		**19 15 12.4**	**-0.3**
	baz=118							
C11A	**Tepee Creek (N**	**118.55**	**40**	⇑P	**PKPdf**		**19 15 13.7**	**-0.3**
	baz=118							
TOA0	**Torodi Ar. Sit**	**119.10**	**280**	*e*PKPdf	**PKPdf**		**19 15 14.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**119.10**	**280**	PKP	**PKPdf**		**19 15 14.8**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=41,slow=2.1,SNR=9.7							
TORD	**Torodi Ar. Bea**	**119.10**	**280**	PKP	**PKPdf**		**19 15 14.8**	**-1.1**
SMMC	**Simmler**	**119.30**	**54**	⇓P	**PKPdf**		**19 15 16.6**	**+0.8**
	baz=119							
D12A	**Red Ives Fores**	**119.40**	**40**	⇑P	**PKPdf**		**19 15 14.9**	**-0.9**
	baz=119							
B13A	**Whitefish**	**119.46**	**38**	⇑P	**PKPdf**		**19 15 15.8**	**0.0**
	baz=119							
E12A	**Beaver Dam Sad**	**119.49**	**41**	⇑P	**PKPdf**		**19 15 15.1**	**-0.9**
	baz=119							
C13A	**Hot Springs**	**119.66**	**39**	⇓P	**PKPdf**		**19 15 15.5**	**-0.7**
	baz=120							
F12A	**Elk City**	**119.93**	**41**	⇓P	**PKPdf**		**19 15 16.5**	**-0.4**
	baz=120							
NVAR	**Mina Array Bea**	**119.94**	**50**	PKP	**PKPdf**		**19 15 17.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=274,slow=2.7,SNR=9.6							
NVAR	**Mina Array Bea**	**119.94**	**50**	PKP	**PKPdf**		**19 15 17.0**	**-0.2**
D13A	**Huson**	**119.95**	**40**	⇓P	**PKPdf**		**19 15 15.9**	**-0.9**
	baz=120,SNR=6.4							
G12A	**Big Creek, Yel**	**120.10**	**42**	⇓P	**PKPdf**		**19 15 16.3**	**-1.0**
	baz=120							
C14A	**Swan Lake**	**120.14**	**39**	⇑P	**PKPdf**		**19 15 16.3**	**-0.9**
	baz=120							
MFID	**Camas Ranch**	**120.33**	**44**	⇑P	**PKPdf**		**19 15 17.6**	**-0.1**
	baz=120							
E13A	**Victor**	**120.37**	**40**	⇑P	**PKPdf**		**19 15 17.5**	**-0.2**
	baz=120							
MSO	**Missoula**	**120.38**	**40**	⇑P	**PKPdf**		**19 15 17.0**	**-0.7**
	baz=120							
ISA	**Isabella**	**120.45**	**53**	⇑P	**PKPdf**		**19 15 18.8**	**+0.7**
	baz=120							
SLMT	**Seeley Lake**	**120.50**	**39**	*e*PKPdf	**PKPdf**		**19 15 16.5**	**-1.5**
F13A	**Darby**	**120.52**	**41**	⇑P	**PKPdf**		**19 15 16.8**	**-1.2**
	baz=120							
D14A	**Greenough**	**120.56**	**40**	⇓P	**PKPdf**		**19 15 17.7**	**-0.4**
	baz=120,SNR=6.6							
H12A	**Diamond D Ranc**	**120.61**	**43**	⇑P	**PKPdf**		**19 15 18.4**	**+0.1**
	baz=121							
B15A	**Bradely Ranch,**	**120.65**	**38**	⇓P	**PKPdf**		**19 15 17.1**	**-1.0**
	baz=121							
I12A	**Atlanta**	**120.68**	**44**	⇓P	**PKPdf**		**19 15 17.9**	**-0.5**
	baz=121							
E14A	**Clinton**	**120.83**	**40**	⇓P	**PKPdf**		**19 15 18.4**	**-0.2**
	baz=121							
G13A	**Cobalt**	**120.83**	**42**	⇓P	**PKPdf**		**19 15 17.3**	**-1.4**
	baz=121							
C15A	**Salmond Ranch,**	**120.84**	**38**	⇓P	**PKPdf**		**19 15 17.9**	**-0.7**
	baz=121							
EDW2	**Edwards Air Fo**	**121.00**	**54**	⇑P	**PKPdf**		**19 15 19.7**	**+0.5**
	baz=121							
H13A	**Challis**	**121.01**	**42**	⇑P	**PKPdf**		**19 15 18.8**	**-0.2**
	baz=121							
LRMC	**Laurel Mountai**	**121.11**	**54**	⇑P	**PKPdf**		**19 15 20.2**	**+0.7**
	baz=121							
F14A	**Wisdom**	**121.13**	**41**	⇓P	**PKPdf**		**19 15 19.4**	**+0.1**
	baz=121							
MPMC	**Manual Prospec**	**121.14**	**53**	⇓P	**PKPdf**		**19 15 20.4**	**+0.8**
	baz=121							
D15A	**Lincoln**	**121.19**	**39**	⇓P	**PKPdf**		**19 15 19.0**	**-0.3**
	baz=121							
HLID	**Hailey**	**121.25**	**44**	*e*PKPdf	**PKPdf**		**19 15 19.5**	**-0.1**
HLID	**Hailey**	**121.25**	**44**	⇑P	**PKPdf**		**19 15 19.8**	**+0.3**
	baz=121							
I13A	**Wildhorse Cree**	**121.33**	**43**	⇓P	**PKPdf**		**19 15 20.3**	**+0.5**
	baz=121							
C16A	**Fuhringer Ranc**	**121.36**	**38**	⇓P	**PKPdf**		**19 15 18.1**	**-1.4**
	baz=121							
E15A	**Deer Lodge**	**121.36**	**40**	⇑P	**PKPdf**		**19 15 19.0**	**-0.7**
	baz=121							
BFSC	**Mount Baldy Ra**	**121.40**	**55**	⇑P	**PKPdf**		**19 15 18.3**	**-1.8**
	baz=121							
J13A	**Cove Ranch, Pi**	**121.47**	**44**	⇑P	**PKPdf**		**19 15 20.5**	**+0.6**
	baz=121							
H14A	**Leadore**	**121.58**	**42**	⇑P	**PKPdf**		**19 15 19.6**	**-0.5**
	baz=122							
F15A	**Butte**	**121.69**	**41**	⇓P	**PKPdf**		**19 15 20.0**	**-0.3**
	baz=122							
B17A	**L&G Farms, Che**	**121.72**	**37**	⇓P	**PKPdf**		**19 15 19.9**	**-0.2**
	baz=122							
I14A	**Mackay**	**121.78**	**43**	⇑P	**PKPdf**		**19 15 20.7**	**+0.1**
	baz=122							
D16A	**Dana Ranch, Ca**	**121.81**	**39**	⇓P	**PKPdf**		**19 15 20.8**	**+0.4**
	baz=122							
GSC	**Goldstone**	**121.85**	**54**	*e*PKIKP	**PKPdf**		**19 15 21.5**	**+0.7**
GSC	**Goldstone**	**121.85**	**54**	*e*PKPdf	**PKPdf**		**19 15 21.5**	**+0.7**
GSC	**Goldstone**	**121.85**	**54**	⇓P	**PKPdf**		**19 15 21.7**	**+0.8**
	baz=122							
J14A	**Carey**	**121.95**	**44**	⇑P	**PKPdf**		**19 15 21.7**	**+0.8**
	baz=122							
G15A	**Dillon**	**121.95**	**41**	⇓P	**PKPdf**		**19 15 20.7**	**-0.1**
	baz=122							
A18A	**Metzger Ranch,**	**122.01**	**36**	⇓P	**PKPdf**		**19 15 20.2**	**-0.5**
	baz=122							
R11A	**Troy Canyon, C**	**122.03**	**50**	⇑P	**PKPdf**		**19 15 21.5**	**+0.3**
	baz=122							
C17A	**Wharram Farm,**	**122.03**	**38**	⇓P	**PKPdf**		**19 15 19.8**	**-1.0**
	baz=122							
H15A	**Lima**	**122.06**	**42**	⇓P	**PKPdf**		**19 15 21.5**	**+0.4**
	baz=122							
F16A	**Kennard Place,**	**122.27**	**40**	⇑P	**PKPdf**		**19 15 21.3**	**-0.1**
	baz=122,SNR=6.2							
D17A	**Six Diamond Ra**	**122.29**	**39**	⇓P	**PKPdf**		**19 15 20.6**	**-0.8**
	baz=122							
B18A	**Beardsley Farm**	**122.29**	**37**	⇑P	**PKPdf**		**19 15 20.0**	**-1.2**
	baz=122							
BOZ	**Bozeman (W)**	**122.32**	**40**	⇑P	**PKPdf**		**19 15 21.4**	**-0.1**
	baz=122,SNR=7.4							
HEC	**Hector,Ludlow**	**122.34**	**54**	⇑P	**PKPdf**		**19 15 23.1**	**+1.3**
	baz=122							
G16A	**Moss Hill, Enn**	**122.37**	**41**	⇑P	**PKPdf**		**19 15 22.1**	**+0.4**
	baz=122							
K14A	**Jones Ranch, D**	**122.46**	**44**	⇓P	**PKPdf**		**19 15 21.8**	**0.0**
	baz=122							
EGMT	**Eagleton**	**122.47**	**37**	⇑P	**PKPdf**		**19 15 21.6**	**0.0**
	baz=122							
E17A	**Martinsdale**	**122.47**	**39**	⇓P	**PKPdf**		**19 15 21.4**	**-0.4**
	baz=122							
PFO	**Pinyon Flat Ob**	**122.52**	**55**	⇑P	**PKPdf**		**19 15 23.1**	**+0.9**
	baz=122							
TUQ	**Turquoise Moun**	**122.52**	**53**	⇓P	**PKPdf**		**19 15 23.3**	**+1.1**
	baz=122							
L14A	**Malta**	**122.59**	**45**	⇑P	**PKPdf**		**19 15 22.5**	**+0.4**
	baz=122							
A19A	**Klindworth Far**	**122.65**	**36**	⇑P	**PKPdf**		**19 15 21.2**	**-0.7**
	baz=123							
J15A	**Blackfoot**	**122.66**	**43**	⇑P	**PKPdf**		**19 15 23.1**	**+0.9**
	baz=123							
MONP	**Monument Peak**	**122.70**	**56**	⇑P	**PKPdf**		**19 15 24.1**	**+1.4**
	baz=123							
B19A	**Brinkman Farms**	**122.75**	**37**	⇓P	**PKPdf**		**19 15 21.8**	**-0.4**
	baz=123							
BELC	**Belle Mtn. Jos**	**122.80**	**55**	⇓P	**PKPdf**		**19 15 23.9**	**+1.1**
	baz=123							
D18A	**Linhart Farms,**	**122.81**	**38**	⇑P	**PKPdf**		**19 15 22.3**	**0.0**
	baz=123							
F17A	**Fitzpatrick Pl**	**122.83**	**40**	⇓P	**PKPdf**		**19 15 23.4**	**+0.9**
	baz=123,SNR=11							
K15A	**Arbon**	**122.85**	**44**	⇓P	**PKPdf**		**19 15 23.7**	**+1.1**
	baz=123							
GMRC	**Granite Mounta**	**122.89**	**54**	⇓P	**PKPdf**		**19 15 23.4**	**+0.5**
	baz=

comp=Z,1.0nm,0.4s,baz=117,slow=1.7,SNR=9.9
PDAR Pinedale Array 124.84 43 PKP PKPdf 19 15 26.3 -0.2
L18A Fontenelle, Gr 124.85 44 ⇓P PKPdf 19 15 26.7 +0.2
baz=125
C22A Vida 124.89 36 ⇓P PKPdf 19 15 26.4 +0.1
baz=125
J19A Crowheart 124.98 42 ⇓P PKPdf 19 15 26.3 -0.4
baz=125,SNR=6.8
O17A Robinson Place 125.01 46 ⇑P PKPdf 19 15 26.5 -0.4
baz=125
D22A Cohagen 125.02 37 ⇑P PKPdf 19 15 26.7 +0.3
baz=125
M18A Lyman 125.02 45 ⇑P PKPdf 19 15 27.1 +0.2
baz=125
B23A Brockton 125.04 35 ⇓P PKPdf 19 15 26.3 -0.2
baz=125
U15A North Rim 125.09 51 ⇓P PKPdf 19 15 28.6 +1.3
baz=125
DBIC Dimbokro 125.13 272 ePKPdf PKPdf 19 15 26.9 -0.7
Q16A Castle Valley 125.14 48 ⇑P PKPdf 19 15 27.6 +0.5
baz=125
H20A Greybull 125.14 40 ⇑P PKPdf 19 15 26.6 -0.3
baz=125
Y14A Wickenburg 125.23 54 ⇓P PKPdf 19 15 28.4 +1.1
baz=125
L19A Farson 125.25 44 ⇑P PKPdf 19 15 27.6 +0.3
baz=125
P17A Butcher Ranch, 125.26 47 ⇑P PKPdf 19 15 27.8 +0.4
baz=125
C23A Lambert 125.27 36 ⇑P PKPdf 19 15 27.7 +0.7
baz=125
I20A Worland 125.30 41 ⇑P PKPdf 19 15 27.3 +0.1
baz=125
K19A Absolon Red Bu 125.30 43 ⇓P PKPdf 19 15 26.7 -0.6
baz=125,SNR=6.1
G21A Lodge Grass 125.31 39 ⇑P PKPdf 19 15 27.0 -0.1
baz=125
DGMT Dagmar 125.48 35 ⇓P PKPdf 19 15 27.1 -0.2
baz=125
O18A Roosevelt 125.50 46 ⇑P PKPdf 19 15 28.3 +0.5
baz=125
E22A Miles City 125.50 37 ⇓P PKPdf 19 15 27.3 -0.1
baz=125
SRU San Rafael 125.55 47 ⇑P PKPdf 19 15 27.4 -0.6
baz=126
P18A Preston Nutter 125.56 47 ⇓P PKPdf 19 15 28.0 -0.1
baz=126
D23A Lindsay 125.58 36 ⇓P PKPdf 19 15 27.7 +0.1
baz=126
J20A Shoshoni 125.58 42 ⇑P PKPdf 19 15 27.4 -0.4
baz=126,SNR=7.6
F22A Rosebud 125.64 38 ⇓P PKPdf 19 15 27.5 -0.3
baz=126
H21A Big Horn, Sher 125.69 40 ⇓P PKPdf 19 15 28.1 +0.1
baz=126
K20A Yellowstone Ra 125.71 43 ⇓P PKPdf 19 15 27.6 -0.5
baz=126
N19A John Jarvie Ra 125.85 45 ⇑P PKPdf 19 15 27.8 -0.7
baz=126
C24A Savage 125.85 36 ⇑P PKPdf 19 15 27.7 -0.4
baz=126
E23A Ismay 125.86 37 ⇑P PKPdf 19 15 28.5 +0.4
baz=126
214A Organ Pipe Nat 125.88 56 ⇑P PKPdf 19 15 28.2 -0.4
baz=126
G22A Birney 125.89 39 ⇑P PKPdf 19 15 28.0 -0.3
baz=126
I21A Big Trails, Te 125.90 41 ⇑P PKPdf 19 15 27.7 -0.7
baz=126
L20A Wamsutter 125.98 43 ⇑P PKPdf 19 15 28.4 -0.3
baz=126
J21A Lysite 126.00 41 ⇓P PKPdf 19 15 28.2 -0.5
baz=126
WUAZ Wupatki 126.07 52 ⇓P PKPdf 19 15 29.9 +0.9
baz=126
D24A Glendive 126.12 36 ⇓P PKPdf 19 15 28.7 +0.1
baz=126
M20A Sweetwater, Wa 126.30 44 ⇑P PKPdf 19 15 29.3 0.0
baz=126
X16A Lo Mia Camp, P 126.34 53 ⇓P PKPdf 19 15 29.8 +0.2
baz=126
I22A 9 Mile Ranch, 126.38 40 ⇓P PKPdf 19 15 29.1 -0.3
baz=126
E24A Baker 126.42 37 ⇑P PKPdf 19 15 29.6 +0.4
baz=126
S18A Hurst Farm, Bl 126.43 49 ⇑P PKPdf 19 15 29.2 -0.5
baz=126
K21A Alcova 126.44 42 ⇑P PKPdf 19 15 29.3 -0.3
baz=126,SNR=6.3
G23A Biddle 126.45 39 ⇓P PKPdf 19 15 29.2 -0.2
baz=126
N20A Spence Gulch, 126.51 45 ⇑P PKPdf 19 15 29.8 0.0
baz=126,SNR=6.9
Q19A Hogan Spring (126.52 47 ⇓P PKPdf 19 15 30.0 +0.3
baz=126
J22A Midwest 126.61 41 ⇓P PKPdf 19 15 28.6 -1.2
baz=126
L21A Rawlins 126.65 43 ⇓P PKPdf 19 15 29.7 -0.3
baz=127,SNR=7.5
F24A Ekalaka 126.71 37 ⇓P PKPdf 19 15 29.3 -0.5
baz=127
O20A White River Ci 126.80 45 ⇑P PKPdf 19 15 30.1 -0.3
baz=127
M21A Separation Pea 126.81 43 ⇑P PKPdf 19 15 29.4 -0.9
baz=127,SNR=8.3
K22A Casper 126.92 42 ⇓P PKPdf 19 15 30.1 -0.3
baz=127
G24A Alzada 126.99 38 ⇓P PKPdf 19 15 30.0 -0.4
baz=127
H24A Dirks Ranch, A 127.19 39 ⇓P PKPdf 19 15 30.1 -0.7
baz=127
Q20A Ridgley Place, 127.22 47 ⇑P PKPdf 19 15 31.2 +0.1
baz=127
L22A Ellis Ranch, M 127.25 43 ⇓P PKPdf 19 15 31.4 +0.3
baz=127
M22A Cedar Creek Ra 127.42 43 ⇑P PKPdf 19 15 31.8 +0.3
baz=127
K23A Bowen Ranch, D 127.46 41 ⇓P PKPdf 19 15 31.2 -0.3
baz=127
W18A Petrified Fore 127.47 52 ⇑P PKPdf 19 15 32.6 +0.9
baz=127
S20A Disappointment 127.59 48 ⇓P PKPdf 19 15 32.3 +0.4
baz=128
L23A Garrett 127.70 42 ⇓P PKPdf 19 15 31.9 -0.2
baz=128
MVCO Mesa Verde 127.71 49 ePKPdf PKPdf 19 15 32.1 -0.1
MVCO Mesa Verde 127.71 49 ⇓P PKPdf 19 15 32.8 +0.6
baz=128
J24A Dixon Ranch, L 127.81 40 ⇑P PKPdf 19 15 31.5 -0.6
baz=128
RSSD Black Hills 127.83 39 ePKIKP PKPdf 19 15 31.1 -1.1
RSSD Black Hills 127.83 39 ePKPdf PKPdf 19 15 31.1 -1.1
R21A Cimarron 127.98 47 ⇑P PKPdf 19 15 32.4 -0.3
baz=128
S21A Coal Bank Pass 128.07 48 ⇑P PKPdf 19 15 34.2 +1.3
baz=128
N23A Red Feather La 128.08 44 ⇓P PKPdf 19 15 32.9 0.0
baz=128
Q22A Crested Butte, 128.25 46 ⇓P PKPdf 19 15 34.1 +0.8
baz=128
MDND Maddock 128.37 33 ⇓P PKPdf 19 15 32.9 +0.1
baz=128
O23A Lake Granby, G 128.39 44 ⇑P PKPdf 19 15 34.1 +0.6
baz=128
W20A Ramah 128.43 51 ⇑P PKPdf 19 15 34.3 +0.6
baz=128
T21A Navajo Lake 128.51 49 ⇑P PKPdf 19 15 34.6 +0.9
baz=128
U21A Nageezi 128.62 50 ⇓P PKPdf 19 15 34.4 +0.5
baz=129
K25A Mack Ranch, Ha 128.67 41 ⇓P PKPdf 19 15 33.5 -0.3
baz=129
S22A 4UR Ranch, Cre 128.75 48 ⇑P PKPdf 19 15 34.9 +0.6
baz=129
ISCO Idaho Springs 128.78 45 ⇑P PKPdf 19 15 34.5 +0.2
baz=129
P23A Jefferson 128.80 45 ⇑P PKPdf 19 15 34.6 +0.2
baz=129
319A Douglas 128.94 56 ⇑P PKPdf 19 15 36.2 +1.7
baz=129
T22A Edith 128.97 49 ⇓P PKPdf 19 15 35.4 +0.8
baz=129
Z20A Nine Sixteen R 129.00 54 ⇑P PKPdf 19 15 34.5 -0.1
baz=129
K26A Motz Farm, Whi 129.07 40 ⇑P PKPdf 19 15 34.5 +0.1
baz=129
120A U Bar Ranch, L 129.13 55 ⇑P PKPdf 19 15 35.2 +0.2
baz=129
X21A Alamocita Cree 129.21 52 ⇑P PKPdf 19 15 36.0 +0.9
baz=129
220A Playas Peak, P 129.41 55 ⇓P PKPdf 19 15 36.1 +0.6
baz=129
Y21A Point of Rocks 129.44 52 ⇑P PKPdf 19 15 36.0 +0.4
baz=129
320A Kipp Ranch, An 129.57 56 ⇓P PKPdf 19 15 36.9 +1.1
baz=130
T23A Casias Ranch, 129.60 48 ⇓P PKPdf 19 15 37.2 +1.3
baz=130
O25A Wiggins 129.67 44 ⇓P PKPdf 19 15 36.2 +0.4
baz=130
X22A Bernardo 129.79 52 ⇑P PKPdf 19 15 37.3 +1.1
baz=130
121A Cookes Peak, D 129.82 54 ⇑P PKPdf 19 15 36.6 +0.3
baz=130
P25A Willow Gulch B 129.91 44 ⇑P PKPdf 19 15 36.9 +0.7
baz=130
Y22A Socorro 130.02 52 ⇓P PKPdf 19 15 37.6 +1.0
baz=130
BNM Barren Site 130.21 52 ePKPdf PKPdf 19 15 38.0 +1.0
BNM eSKP 19 18 40.3
W23A Werner Place, 130.22 50 ⇑P PKPdf 19 15 38.0 +1.0
baz=130
Z22A Elephant Butte 130.25 53 ⇓P PKPdf 19 15 39.0 +1.9
baz=130
T24A Torres, Weston 130.31 48 ⇑P PKPdf 19 15 39.2 +2.0
baz=130
PLCA Paso Flores 130.32 170 SKPbc SKPbc 19 18 42.9 +0.9
comp=Z,5.2nm,0.9s,baz=226,slow=3.3,SNR=4.1
PLCA Paso Flores 130.32 170 SKPbc SKPbc 19 18 42.9 +0.9
X23A Hourglass Bar 130.40 51 ⇓P PKPdf 19 15 38.6 +1.3
baz=130
R25A Fountain Ranch 130.42 46 ⇓P PKPdf 19 15 37.9 +0.7
baz=130
S25A Robets Cordova 130.52 47 ⇑P PKPdf 19 15 38.6 +1.2
baz=130
V24A Rampart Ranch, 130.68 49 ⇓P PKPdf 19 15 38.9 +1.0
baz=131
Y23A Lovelace Mesa, 130.73 52 ⇑P PKPdf 19 15 39.6 +1.7
baz=131
T25A Trinidad 130.75 47 ⇑P PKPdf 19 15 39.3 +1.4
baz=131
W24A Lazy 6 Ranch, 130.77 50 ⇓P PKPdf 19 15 39.4 +1.4
baz=131,SNR=6.0
Z23A Rita Site, Whi 130.82 53 ⇓P PKPdf 19 15 38.8 +0.7
baz=131
R26A Arlington 130.95 46 ⇑P PKPdf 19 15 38.7 +0.5
baz=131
V25A Rancho No Teng 131.12 49 ⇑P PKPdf 19 15 39.7 +1.0
baz=131,SNR=5.9
Y24A Capitan 131.21 52 ⇓P PKPdf 19 15 40.2 +1.3
baz=131,SNR=6.6
S26A Kim 131.23 46 ⇓P PKPdf 19 15 39.3 +0.5
baz=131
T26A Comanche Natio 131.33 47 ⇑P PKPdf 19 15 39.6 +0.5
baz=131
Z24A Sheeppen Canyo 131.48 52 ⇓P PKPdf 19 15 40.4 +1.0
baz=131
W25A X Bar L Ranch, 131.48 50 ⇑P PKPdf 19 15 40.0 +0.7
baz=131
124A Stringfield Ra 131.63 53 ⇓P PKPdf 19 15 40.3 +0.6
baz=132,SNR=6.3
V26A Tequesquite Ra 131.76 49 ⇑P PKPdf 19 15 40.4 +0.6
baz=132
224A Cornudas Mount 131.78 54 ⇑P PKPdf 19 15 40.3 +0.3
baz=132
Y25A Mesa, Roswell 131.79 51 ⇑P PKPdf 19 15 40.4 +0.5
baz=132
Z25A Roswell 132.00 52 ⇓P PKPdf 19 15 41.4 +1.1
baz=132
MNTX Cornudas Mount 132.02 54 ePKPdf PKPdf 19 15 39.5 -0.8
MNTX eSKP 19 18 47.4
MNTX Cornudas Mount 132.02 54 ⇓P PKPdf 19 15 41.2 +1.0
baz=132,SNR=13
324A Moseley Ranch, 132.02 55 ⇑P PKPdf 19 15 41.4 +1.0
baz=132,SNR=6.2
X26A CR and CF Fran 132.23 50 ⇑P PKPdf 19 15 41.2 +0.5
baz=132
125A Gardner Draw, 132.27 53 ⇓P PKPdf 19 15 41.2 +0.4
baz=132
225A Deer Hill, Car 132.33 54 ⇓P PKPdf 19 15 41.8 +0.8
baz=132
T28A Walsh 132.42 46 ⇓P PKPdf 19 15 41.7 +0.7
baz=132
325A Bean Ranch, Si 132.46 55 ⇓P PKPdf 19 15 41.8 +0.5
baz=132
ECSD EROS Data Cent 132.51 36 ePKPdf PKPdf 19 15 38.7 -2.1
ECSD eSKP 19 18 46.9
W27A Bowe Ranch, En 132.59 49 ⇑P PKPdf 19 15 41.9 +0.5
baz=132
425A Indio Mountain 132.63 55 ⇓P PKPdf 19 15 42.7 +1.1
baz=133
BGNE Belgrade 132.94 39 ⇓P PKPdf 19 15 41.8 +0.1
baz=133
Y27A Causey 132.98 51 ⇓P PKPdf 19 15 41.9 -0.3
baz=133
Z27A Tatum 133.16 52 ⇓P PKPdf 19 15 42.0 -0.5
baz=133
SCHQ Schefferville 133.25 5 PKP PKPdf 19 15 42.2 +0.3
comp=Z,1.3nm,0.3s,baz=6.1,slow=4.6,SNR=16
SCHQ SKPbc SKPbc 19 18 51.3 -0.5
comp=Z,4.8nm,1.1s,baz=22,slow=5.6,SNR=4.2
SCHQ Schefferville 133.25 5 PKP PKPdf 19 15 42.2 +0.3
SCHQ SKPbc SKPbc 19 18 51.3 -0.5
326A Caldwell Ranch 133.27 54 ⇓P PKPdf 19 15 43.2 +0.4
baz=133
426A McDonald Obser 133.45 55 ⇓P PKPdf 19 15 43.1 -0.1
baz=133
526A Mary Lane Ranc 133.60 56 ⇓P PKPdf 19 15 43.8 +0.3
baz=134
626A Big Bend Ranch 133.72 57 ⇑P PKPdf 19 15 44.6 +1.0
baz=134
427A Hayter Ranch, 133.90 55 ⇑P PKPdf 19 15 44.3 +0.4
baz=134
527A Woodward Ranch 133.96 56 ⇑P PKPdf 19 15 44.3 +0.2
baz=134
Y29A Porterfield Fa 134.13 50 ⇑P PKPdf 19 15 44.4 +0.1
baz=134
TXAR Lajitas Array 134.18 57 PKP PKPdf 19 15 45.9 +1.4
comp=Z,1.1nm,0.6s,baz=318,slow=1.7,SNR=6.3
TXAR Lajitas Array 134.18 57 PKP PKPdf 19 15 45.9 +1.4
328A Whitsun Ranch, 134.19 54 ⇑P PKPdf 19 15 44.5 +0.1
baz=134
Z29A Hungry Hill Ra 134.35 51 ⇑P PKPdf 19 15 45.3 +0.6
baz=134
627A Terlingua Ranc 134.37 57 ⇓P PKPdf 19 15 45.6 +0.7
baz=134
129A Stewart Farms, 134.47 52 ⇓P PKPdf 19 15 45.4 +0.5
baz=134
428A Kincaid Ranch, 134.52 55 ⇓P PKPdf 19 15 45.9 +0.8
baz=134
229A Bryant Ranch, 134.77 53 ⇓P PKPdf 19 15 46.1 +0.6
baz=135
Z30A Sanderson Ranc 134.78 51 ⇓P PKPdf 19 15 46.1 +0.6
baz=135
329A Wagon Wheel Ra 134.81 53 ⇓P PKPdf 19 15 46.2 +0.6
baz=135
W31A Holland Ranch, 134.85 48 ⇑P PKPdf 19 15 45.8 +0.3
baz=135
X31A McDonald Ranch 135.07 48 ⇓P PKPdf 19 15 46.8 +0.9
baz=135
529A Stev Forest Ra 135.10 55 ⇑P PKPdf 19 15 47.1 +0.9
baz=135
Y31A Rekieta Farm, 135.16 49 ⇑P PKPdf 19 15 46.2 +0.2
baz=135
429A Davenport Ranc 135.19 54 ⇑P PKPdf 19 15 46.2 -0.1
baz=135
330A Mertzon 135.48 53 ⇑P PKPdf 19 15 47.5 +0.7
baz=135
430A Baggett Ranch, 135.66 54 ⇑P PKPdf 19 15 47.2 0.0
baz=136
530A J-C Ranch, Com 135.81 55 ⇑P PKPdf 19 15 47.7 +0.3
baz=136
331A San Angelo 136.11 53 ⇓P PKPdf 19 15 49.1 +1.2
baz=136
431A Sonora 136.20 54 ⇑P PKPdf 19 15 49.5 +1.3
baz=136
531A Rocksprings 136.44 54 ⇑P PKPdf 19 15 49.8 +1.2
baz=136
631A Perdido Creek 136.69 55 ⇓P PKPdf 19 15 49.7 +0.7
baz=137
532A Rocksprings 136.97 54 ⇑P PKPdf 19 15 50.5 +0.9
baz=137
632A Uvalde 137.30 55 ⇓P PKPdf 19 15 51.3 +1.2
baz=137
732A Laxson Ranch, 137.43 56 ⇓P PKPdf 19 15 51.5 +1.1
baz=137
WVT Waverly 142.53 38 ePKHKP PKPpre 19 15 54.0
WVT Waverly 142.53 38 ePKPpre PKPpre 19 15 54.0
OXF Oxford 142.56 42 ePKHKP PKPpre 19 15 54.1
OXF Oxford 142.56 42 ePKPpre PKPpre 19 15 54.1
SSPA Standing Stone 144.12 23 ePKPdf PKPab 19 15 59.5 -0.7
SWET Sewanee 144.29 38 ePKPpre PKPab 19 15 59.4 -1.7
WES Weston 144.63 14 ePKIKP PKPab 19 16 01.0 -1.0
WES Weston 144.63 14 ePKPdf PKPab 19 16 01.0 -1.0
TZTN Tazewell 144.73 34 ePKPdf PKPab 19 16 01.6 -1.0
LRAL Lakeview Retre 145.04 41 ePKPdf PKPbc 19 16 02.6 -1.1
PAL Palisades 145.19 18 ePKIKP PKPbc 19 16 03.1 -0.8
PAL Palisades 145.19 18 ePKPdf PKPbc 19 16 03.1 -0.8
TKL Tuckaleechee C 145.25 35 ePKPdf PKPdf 19 16 03.3 -0.9
CPNY Central Park 145.37 19 ePKPdf PKPdf 19 16 03.2 -1.0
SDMD Soldier's Deli 145.58 23 ePKPdf PKPdf 19 16 04.0 -0.7
JSRW J. Sargeant Re 146.62 26 ePKPdf PKPdf 19 16 06.8 +0.3
KMSC Kings Mountain 146.97 33 ⇑P PKPdf 19 16 07.9 +0.8
baz=147
JSC Jenkinsville 147.66 34 ePKIKP PKPdf 19 16 07.1 -1.2
JSC Jenkinsville 147.66 34 ePKPdf PKPdf 19 16 07.1 -1.2
TIGA Tifton 148.28 40 ⇑P PKPdf 19 16 12.3 +2.9
baz=148
LPAZ La Paz 154.38 162 PKPab PKPab 19 16 44.6 +1.7
comp=Z,2.9nm,0.7s,baz=134,slow=2.1,SNR=8.6
LPAZ La Paz 154.38 162 PKPab PKPab 19 16 44.6 +1.7

IDC 27 19:08:33.8±6.0, 20°45.5S×178°65.5W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=309.6km s-min=54.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.94	257	P	P	19 16 42.2	-0.7
	1.0nm,0.8s,baz=94,slow=8.2,SNR=9.3						
WRA	Warramunga Arr	44.00	262	P	P	19 16 43.8	+0.3
	1.2nm,0.9s,baz=96,slow=8.4,SNR=13						
GERES	GERESS Array B	149.98	344	PKPbc	PKPbc	19 28 25.9	-0.4
	0.5nm,0.8s,baz=15,slow=5.5,SNR=3.5						

MEX 27 19:15:08.0±1.0, 16°17N×97°93W, h5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.29	319	*i* P	Pg	19 15 12.0	-1.7
PNIG				*i* S	Sg	19 15 18.0	+0.4
VHO	Vista Hermosa	1.45	52	*i* P	Pn	19 15 32.1	-3.2
VHO				*i* S	Sb	19 15 49.2	-5.6
HUIG	Huatulco	1.80	103	*i* P	Pn	19 15 35.7	-4.0
HUIG				*e*S	Sn	19 15 58.1	-4.8
TPIG	Tehuac#an	2.30	14	*i* P	Pn	19 15 43.2	-3.6
TPIG				*i* S	Sn	19 16 11.8	-3.9
MEIG	Mezcala	2.38	317	*i* P	Pn	19 15 45.5	-2.3
MEIG				*i* S	Sn	19 16 14.0	-3.4
CAIG	El Cayaco	2.40	292	*i* P	Pn	19 15 45.0	-3.1
CAIG				*i* S	Sn	19 16 14.5	-3.4
YAIG	Yautepec	2.88	338	*e*P	Pn	19 15 51.9	-3.0
YAIG				*i* S	Sn	19 16 26.9	-3.3
PPM	Popocatepetl	2.95	347	*e*P	Pn	19 15 52.8	-3.4
PPM				*i* S	Sn	19 16 28.9	-3.7
ARIG	Puente Sto Nin	3.12	313	*e*P	Pn	19 15 55.9	-2.0
ARIG				*i* S	Sn	19 16 32.1	-3.5

ISK 27 19:19:48.4, 39°25N×42°39E, h10km, MD2.8
DDA 27 19:19:49.0, 39°38N×42°35E, h7km, MD3.1
CSEM 27 19:19:48.7±0.2, 39°31N×42°36E, h5km, MD2.8, Error ellipse: s-maj=5.5km s-min=4.6km az=179.0
ISCJB 27 19:19:49.3±0.7, 39°34N±0°03×42°37E±0°04, h11km±5km, Error ellipse: s-maj=4.9km s-min=4.6km az=9.3

ISC 27 19:19:48.4±1.1, 39°35N±0°02×42°36E±0°02, h8km±10km, n29, σ0°97/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	Hanur-Agry	0.54	65	*e*Pg	Pg	19 19 59.5	+0.5
AGRB				*e*Sg	Sb	19 20 08.5	+0.2
AGRB	Hanur-Agry	0.54	65	*e*Pg	Pg	19 19 59.5	+0.5
AGRB				*e*Sg	Sb	19 20 08.5	+0.2
VRTB	Varto-Mus	0.72	256	*e*PG	Pg	19 20 02.7	+0.3
VRTB				*e*SG	Sb	19 20 13.7	+0.2
VRTB	Varto-Mus	0.72	256	*e*Pg	Pg	19 20 02.7	+0.3
VRTB				*e*Sg	Sb	19 20 13.7	+0.2
HOMI	Horasan	0.78	334	*i* P	Pg	19 20 03.4	-0.1
HOMI				*i* S	Sb	19 20 15.3	+0.1
TATV	Tatvan	0.84	185	*i* P	Pg	19 20 04.0	-0.6
TATV				*i* S	Sg	19 20 16.3	+0.8
TATV	Tatvan	0.84	185	*i* P	Pg	19 20 04.0	-0.6
TATV				*i* S	Sg	19 20 16.3	+0.8
ERZM	Erzurum	0.95	306	*i* P	Pg	19 20 06.6	-0.1
ERZM				*i* S	Sg	19 20 16.1	-3.0
ERZM	Erzurum	0.95	306	*i* P	Pg	19 20 06.6	-0.1
ERZM				*i* S	Sg	19 20 16.1	-3.0
EZM	Erzurum	0.95	306	*e*PG	Pn	19 20 09.2	+0.8
CLDR	Caldiran	1.23	99	*e*PN	Pn	19 20 12.2	+0.2
CLDR	Caldiran	1.23	99	*e*Pn	Pn	19 20 12.2	+0.2
BNGB	Bing¨ll	1.35	255	*e*PN	Pn	19 20 13.4	-0.2
KARS	Kars	1.40	23	*e*PN	Pg	19 20 15.1	-0.1
KARS	Kars	1.40	23	*e*Pn	Pg	19 20 15.1	-0.1
KOPT	Kop Dagi	1.59	296	*i* P	Pg	19 20 18.9	0.0
KOPT				*i* S	Sg	19 20 40.3	+0.8
KOPT	Kop Dagi	1.59	296	*i* P	Pg	19 20 18.9	0.0
KOPT				*i* S	Sg	19 20 40.3	+0.8
DDEM	Demirkent	1.61	343	*i* P	Pb	19 20 18.2	-0.3
DDEM				*i* S	Sn	19 20 29.7	-8.6
DDEM	Demirkent	1.61	343	*i* P	Pb	19 20 18.9	+0.4
DDEM				*i* S	Sn	19 20 38.3	0.0
DDEM	Demirkent	1.61	343	*i* P	Pb	19 20 18.9	+0.4
DDEM				*i* S	Sn	19 20 38.3	0.0
BEST	Besiri	1.68	211	*i* P	Pg	19 20 21.4	+0.7
BEST				*i* S	Sg	19 20 42.5	-0.1
DAGI	Agillar	1.76	349	*i* P	Pb	19 20 21.4	+0.3
DAGI	Agillar	1.76	349	*i* P	Pb	19 20 21.3	+0.3
DAGI				*i* S	Sn	19 20 40.5	-1.5
ARTV	Artvin	1.87	350	*i* P	Pn	19 20 17.5	-3.4
ARTV				*i* S	Pg	19 20 26.9	+2.6
ARTV	Artvin	1.87	350	*i* P	Pn	19 20 17.5	-3.4
GNI	Garni	2.00	66	*e*PN	Pb	19 20 24.5	-0.7
GNI	Garni	2.00	66	*e*Pn	Pb	19 20 24.5	-0.7
ERZN	Erzincan	2.06	278	*e*PN	Pn	19 20 24.6	+1.3
HAKT	HAKKARI	2.08	149	*i* P	Pg	19 20 28.9	+0.7
HAKT				*i* S	Sn	19 20 48.7	-1.2

IDC 27 19:36:50.1±5.2, 31°51S×179°83W, h275km±44km, mb3.6/5, mb1 3.9/7, mb1mx3.5/20, mbtmp3.7/7, Error ellipse: s-maj=44.0km s-min=18.9km az=36.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	7.19	200	P	Pn	19 38 34.7	+1.4
	9.8nm,0.3s,baz=0.1,slow=2.9,SNR=84						
URZ				S	S	19 39 54.9	-1.7
	16nm,0.3s,baz=84,slow=23,SNR=18						
RPZ	Rata Peaks	14.16	209	P	P	19 39 58.0	-1.1
	1.4nm,0.3s,baz=4.4,slow=7.1,SNR=6.2						
STKA	Stephens Creek	32.71	259	P	P	19 42 58.3	+1.0
	2.2nm,0.5s,baz=107,slow=11,SNR=16						
ASAR	Alice Springs	41.50	269	P	P	19 44 10.4	-0.6
	2.1nm,0.5s,baz=107,slow=7.3,SNR=91						
WRA	Warramunga Arr	42.59	274	P	P	19 44 19.1	-0.7
	4.6nm,0.5s,baz=112,slow=8.0,SNR=107						
QSPA	South Pole Qui	58.60	180	P	P	19 46 18.7	+0.4
	0.8nm,0.8s,baz=52,slow=7.8,SNR=3.2						
VNA3	Neumayer Olymp	77.30	177	*e*P	P	19 48 13.4	-0.5
VNA2	Neumayer--Watz	77.71	177	*e*P	P	19 48 16.0	-0.2
	baz=194,slow=5.8						
PLCA	Paso Flores	82.89	134	P	P	19 48 43.4	-0.9
	4.1nm,1.1s,baz=228,slow=7.3,SNR=3.2						
FINES	FINESS Array B	145.62	338	PKPbc	PKPdf	19 55 55.0	+0.1
	1.7nm,0.7s,baz=48,slow=3.5,SNR=12						

IDC 27 19:52:01.8±6.9, 19°09S×69°11W, h142km±45km, mb3.4/2, mb1 3.5/4, mb1mx3.2/19, mbtmp3.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/11, Error ellipse: s-maj=72.9km s-min=34.6km az=39.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.94**	**19**	P	Pn	19 52 49.1	+0.1
	2.5nm,0.3s,baz=205,slow=7.7,SNR=34						
LPAZ				S	Sn	19 53 25.4	+0.2
	1.0nm,0.3s,baz=162,slow=5.4,SNR=5.4						
SIV	**San Ignacio**	**8.26**	**69**	P	Pn	19 53 58.2	-0.7
	1.0nm,0.3s,baz=274,slow=12,SNR=18						
ROSC	**El Rosal**	**24.34**	**347**	LR	LR	20 08 30.6	
	comp=Z,72nm,18.5s,baz=180,slow=41						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	P	20 03 38.2	+0.3
	0.5nm,0.5s,baz=252,slow=5.0,SNR=8.6						
YKA	**Yellowknife Ar**	**88.86**	**341**	P	P	20 04 39.1	-0.2
	0.4nm,0.7s,baz=132,slow=4.8,SNR=11						
YKA				pP	pP	20 05 08.3	-7.3
	0.3nm,0.6s,baz=139,slow=4.8,SNR=5.6						

IDC 27 19:58:28.5±1.5, 3°.48N×96°.08E, h0km, mb3.3/5, mb1 3.4/7, mb1mx3.3/25, mbtmp3.2/7, ML3.3/2, Error ellipse: s-maj=42.7km s-min=15.7km az=42.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.92**	**103**	Pn	Pn	19 59 18.7	+2.3
	1.3nm,0.3s,baz=317,slow=18,SNR=6.8						
PSI				Pg	Pg	19 59 28.1	+3.4
	5.5nm,0.3s,baz=315,slow=14,SNR=11						
PSI				Lg	Lg	20 00 01.9	
	2.8nm,0.3s,baz=166,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**15.15**	**10**	Pn	Pn	20 02 04.8	+0.8
	0.1nm,0.3s,baz=196,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**44.20**	**123**	P	P	20 06 39.3	-0.4
	0.3nm,0.5s,baz=304,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**44.78**	**347**	P	P	20 06 42.8	-1.2
	0.3nm,0.4s,baz=157,slow=9.0,SNR=11						
SONM	**Songino Array**	**45.08**	**10**	P	P	20 06 45.1	-1.3
	0.2nm,0.5s,baz=190,slow=9.5,SNR=3.5						
ASAR	**Alice Springs**	**45.66**	**128**	P	P	20 06 50.8	-0.6
	0.2nm,0.9s,baz=301,slow=7.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**51.15**	**351**	P	P	20 07 34.9	+1.7
	0.5nm,0.3s,baz=169,slow=6.8,SNR=4.3						
ARCES	**ARCESS Array B**	**80.03**	**340**	P	P	20 10 40.6	+1.0
	4.5nm,1.0s,baz=83,slow=3.8,SNR=4.0						

IDC 27 19:59:41.0±1.0, 20°.46N×119°.95E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.4/23, mbtmp3.3/6, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/29, Error ellipse: s-maj=41.9km s-min=19.9km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.30**	**21**	LR	LR	20 11 05.7	
	comp=Z,34nm,18.6s,baz=343,slow=38						
CMAR	**Chiang Mai Arr**	**19.91**	**268**	P	P	20 04 14.8	+0.5
	0.1nm,0.3s,baz=91,slow=7.6,SNR=3.6						
SONM	**Songino Array**	**29.43**	**341**	P	P	20 05 47.0	+0.5
	0.1nm,0.4s,baz=158,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**40.32**	**320**	P	P	20 07 19.3	-0.9
	0.2nm,0.5s,baz=116,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**42.55**	**160**	P	P	20 07 38.1	-0.5
	1.8nm,0.9s,baz=342,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**45.91**	**162**	P	P	20 08 05.8	+0.2
	0.3nm,0.5s,baz=342,slow=6.9,SNR=20						
YKA	**Yellowknife Ar**	**86.83**	**22**	P	P	20 12 27.2	0.0
	0.1nm,0.6s,baz=301,slow=4.6,SNR=3.3						

IDC 27 20:09:38.1±2.5, 0°.68S×133°.35E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=100.2km s-min=24.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.90**	**203**	P	P	20 14 00.5	+0.1
	0.1nm,0.3s,baz=31,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**19.17**	**177**	P	Pn	20 14 04.2	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**22.86**	**179**	P	P	20 14 42.7	-0.6
	0.5nm,0.4s,baz=360,slow=12,SNR=13						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	20 20 19.7	-0.1
	0.2nm,0.6s,baz=112,slow=6.3,SNR=2.8						

*AUST **27** 20:20:40.5±1.8, 0°.60S×133°.53E, h0km, Error ellipse: s-maj=1.0km s-min=0.7km az=239.0*

*IDC **27** 20:20:41.3±0.5, 0°.67S×133°.18E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.4/26, mbtmp4.4/18, ML4.5/2, MS3.9/13, Ms1 4.0/13, ms1mx3.5/41, Error ellipse: s-maj=24.1km s-min=9.9km az=77.0*

*MOS **27** 20:20:43.1±0.9, 0°.68S×133°.17E, h24km, mb4.8/33, MS4.1/6, Error ellipse: s-maj=15.9km s-min=6.9km az=115.7*

*GCMT **27** 20:20:45.0±0.2, 0°.55S×133°.29E, h18km, MW5.0, Moment Tensor Solution. s45,c62; s78,c120; Moment tensor: Scale 10^16^Nm; Mrr3.55±.14; Mθθ-2.99±.09; Mφφ-0.57±.11; Mrθ-1.61±.19; Mrφ1.34±.06; Mθφ0.89±.25; Best double couple: M=4.00000×10^16^ NP1:ϕ112.00000°, δ31.00000°, λ86.00000°. NP2:ϕ296.00000°, δ59.00000°, λ92.00000°. Principal axes: T 4.0000, Plg76.0000°, Azm213.0000°; N 0.0200, Plg2.0000°, Azm115.0000°; P -4.0300, Plg14.0000°, Azm24.0000°; Data Used: II IU IC G CN.*

*ISCJB **27** 20:20:46.3±0.7, 0°.65S±0°.03×133°.38E±0°.03, h52km±6km, mb4.7/70, MS4.0/22 Error ellipse: s-maj=6.1km s-min=4.9km az=141.0*

*NEIC **27** 20:20:47.8±0.8, 0°.70S×133°.25E, h51km±8km, mb4.6/21, Error ellipse: s-maj=8.3km s-min=5.7km az=55.0*

*BJI **27** 20:20:48.2, 0°.81S×133°.05E, h68km, mB5.0/29, mb4.7/42, Ms4.6/24, Ms7 4.1/24*

*DJA **27** 20:20:51.8±0.4, 1°S±3°×13°3E±°, h58km±4km, M5.0/38, mB5.4/21, mb5.0/38, MLv5.3/11, Mw(mB)4.9/21*

ISC 27 20:20:47.7±0.8, 0°.64S±0°.04×133°.33E±0°.04, h45km±7km, n220, σ1°§53/239, mb4.7/70, MS4.0/22, 6C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.08**	**264**	P	**Pn**	**20 21 18.3**	**-1.8**
SWI	**Sorong**	**2.08**	**264**	P	**Pn**	**20 21 18.0**	**-2.1**
	baz=2.3,SNR=1000						
SWI				S	**Sn**	**20 21 47.8**	**+3.0**
	baz=2.3,SNR=7.8						
SWI	**Sorong**	**2.08**	**264**	P	**Pn**	**20 21 18.6**	**-1.5**
SWI				S	**Sn**	**20 21 46.7**	**+1.9**
FAKI	**Fak Fak**	**2.50**	**205**	P	**Pn**	**20 21 25.9**	**-0.1**
FAKI	**Fak Fak**	**2.50**	**205**	P	**Pn**	**20 21 25.6**	**-0.4**
BAKI	**Biak**	**2.83**	**101**	P	**Pn**	**20 21 30.0**	**-0.5**
BAKI	**Biak**	**2.83**	**101**	P	**Pn**	**20 21 27.7**	**-2.8**
TLE	**Tual**	**5.00**	**187**	P	**Pn**	**20 22 00.8**	**+0.6**
	baz=5.1,SNR=110						
TLE				S	**Sn**	**20 23 00.2**	**+3.4**
	baz=5.1,SNR=14						
TLE	**Tual**	**5.00**	**187**	P	**Pn**	**20 22 01.0**	**+0.8**
TLE				S	**Sn**	**20 22 57.7**	**+0.9**
MSAI	**Masohi**	**5.15**	**239**	P	Pn	20 22 04.9	+2.6
MSAI				S	**Sn**	**20 23 03.4**	**+2.9**
BNDI	**Bandanaira**	**5.15**	**222**	P	**Pn**	**20 22 03.0**	**+0.7**
SMPI	**Sarmi**	**5.55**	**104**	P	Pn	20 22 11.5	+3.7
	69nm,0.9s,0.3nm						
LBMI	**Labuha**	**5.82**	**270**	P	**Pn**	**20 22 10.7**	**-0.9**
	300nm,0.9s,3μm1.5nm						
AAI	**Ambon**	**5.95**	**239**	P	**Pn**	**20 22 13.8**	**+0.4**
	baz=6.2,SNR=47						
AAI				S	**Sn**	**20 23 24.9**	**+4.6**
	baz=6.2,SNR=7.6						
AAI	**Ambon**	**5.95**	**239**	P	**Pn**	**20 22 13.9**	**+0.5**
	1μm,0.8s,14μm5.5nm						
AAI				S	**Sn**	**20 23 21.1**	**+0.8**
	1μm,0.8s,14μm5.5nm						
TNTI	**Ternate**	**6.12**	**283**	P	Pn	20 22 18.9	+3.2
	140nm,0.9s,2μm0.8nm						
TNTI				S	**Sn**	**20 23 26.0**	**+1.5**
	140nm,0.9s,2μm0.8nm						
PALU	**Palu**	**8.02**	**8**	P	**Pn**	**20 22 39.1**	**-2.6**
	baz=8.0,SNR=8.4						
MNI	**Manado**	**8.73**	**284**	P	Pn	20 22 55.0	+3.4
	157nm,0.7s,1μm						
KMSI	**Cibinong**	**9.42**	**277**	P	Pn	20 23 03.0	+2.0
	222nm,1.1s						
LUWI	**Luwuk**	**10.56**	**268**	P	**Pn**	**20 23 17.8**	**+1.2**
	196nm,0.9s,1μm						
DAV	**Davao City (W)**	**10.88**	**315**	Pn	Pn	20 23 22.1	+1.2
DAV	**Davao City (W)**	**10.88**	**315**	P	Pn	20 23 23.8	+2.8
KDI	**Kendari**	**11.19**	**253**	P	**Pn**	**20 23 25.4**	**+0.2**
	56nm,0.9s						
MRSI	**Marisa**	**11.44**	**276**	P	Pn	20 23 31.6	+3.0
BBSI	**Bau Bau**	**11.77**	**246**	P	**Pn**	**20 23 34.0**	**+0.9**
	130nm,1.1s,1μm						
KDU	**Kakadu**	**12.00**	**184**	P	**Pn**	**20 23 34.1**	**-2.1**
	baz=12,SNR=267						
KDU				S	**Sn**	**20 25 45.7**	**-3.0**
	baz=12,SNR=6.8						
MTN	**Manton Dam**	**12.32**	**190**	P	Pn	20 23 37.9	-2.7
	baz=12,SNR=142						
MTN				S	Sn	20 25 46.8	-10
	baz=12,SNR=8.9						
PCI	**Palu**	**13.49**	**269**	P	Pn	20 23 43.4	-13
	baz=14,SNR=6.2						
MMRI	**Maumere**	**13.60**	**234**	P	**Pn**	**20 23 59.5**	**+1.3**
	84nm,1.1s,1μm						
TTSI	**Tana Toraja**	**13.71**	**260**	P	Pn	20 24 01.3	+1.7
SPSI	**Sidrap Palu**	**13.94**	**256**	P	**Pn**	**20 24 03.6**	**+0.8**
BKSI	**Bulukumba**	**13.98**	**250**	P	**Pn**	**20 24 05.0**	**+1.7**
	93nm,1.4s,1μm						
KAPI	**Kappang**	**14.23**	**252**	Pn	**Pn**	**20 24 06.5**	**-0.2**
	1.5nm,0.3s,baz=96,slow=6.0,SNR=29						
KAPI	**Kappang**	**14.23**	**252**	Pn	**Pn**	**20 24 06.5**	**-0.2**
KAPI	**Kappang**	**14.23**	**252**	Pn	**Pn**	**20 24 07.7**	**+1.0**
	SNR=10						
KAPI	**Kappang**	**14.23**	**252**	P	**Pn**	**20 24 08.5**	**+1.8**
	112nm,1.0s,959nm						
WSI	**Waingapu**	**15.76**	**235**	P	**Pn**	**20 24 28.0**	**+1.3**
	186nm,1.1s,2μm						
SMKI	**Samarinda**	**16.12**	**271**	P	**P**	**20 24 35.8**	**+1.8**
	83nm,0.9s,2μm						
PMG	**Port Moresby**	**16.29**	**123**	Pn	**P**	**20 24 37.5**	**+1.6**
	0.6nm,0.3s,baz=302,slow=15,SNR=4.3						
PMG	**Port Moresby**	**16.29**	**123**	*e*Pn	**P**	**20 24 35.0**	**-0.8**
	53nm,1.3s						
PMG	**Port Moresby**	**16.29**	**123**	P	**P**	**20 24 37.8**	**+1.9**
	37nm,1.3s						
GUMO	**Guam**	**18.19**	**39**	LR	LR	20 31 10.5	
	comp=Z,321nm,21.2s,baz=229,slow=34						
KKM	**Kota Kinabalu**	**18.33**	**291**	P	**Pn**	**20 24 59.7**	**+0.9**
	baz=18,SNR=5.4						
BBKI	**Banjar Baru**	**18.68**	**261**	P	**Pn**	**20 25 05.6**	**+2.5**
	59nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P	**P**	**20 25 02.6**	**-2.3**
	1.3nm,0.3s,baz=41,slow=12,SNR=24						
FITZ				S	Sn	20 28 23.5	-13
	1.0nm,0.3s,baz=180,slow=15,SNR=5.0						
FITZ				LR	LR	20 32 11.9	
	comp=Z,464nm,21.7s,baz=27,slow=37						
FITZ	**Fitzroy Crossi**	**18.92**	**203**	*e*P	**P**	**20 25 01.6**	**-3.3**
	0.2nm,0.4s						
FITZ				*e*S	Sn	20 28 20.4	-17
FITZ				S	S	20 28 23.5	-14
FITZ	**Fitzroy Crossi**	**18.92**	**203**	P	**P**	**20 25 03.0**	**-1.9**
	baz=19,SNR=14						
FITZ				S	Sn	20 28 24.8	-12
	baz=19,SNR=8.1						
WRAB	**Tennant Creek**	**19.20**	**177**	*e*P	**P**	**20 25 06.8**	**-1.1**
WRAB				*e*S	S	20 28 29.6	-14
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s						
WRAB	**Tennant Creek**	**19.20**	**177**	*e*P	**P**	**20 25 06.8**	**-1.1**
	comp=Z,33nm,0.8s						
WRAB				*e*S	S	20 28 29.6	-14
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**20 25 06.7**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=356,slow=11,SNR=45						
WRA				S	S	20 28 31.4	-12
	comp=Z,0.7nm,0.3s,baz=354,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**19.21**	**177**	P	**P**	**20 25 06.7**	**-1.3**
WRA				S	S	20 28 31.4	-12
KHKI	**Kahang-Kahang**	**19.25**	**246**	P	**P**	**20 25 08.8**	**+0.3**
	comp=Z,84nm,1.9s,comp=Z,1μm						
SRBI	**Singaraja**	**19.50**	**247**	P	**P**	**20 25 11.9**	**+0.6**
	comp=Z,74nm,1.9s,comp=Z,2μm						
KMMI	**Kalianget**	**20.33**	**251**	P	Pn	20 25 28.1	+5.5
BYJI	**Banyuwangi**	**20.34**	**248**	P	Pn	20 25 23.4	+0.6
	comp=Z,197nm,1.6s,comp=Z,20μm						
QIS	**Mount Isa**	**20.72**	**163**	P	**P**	**20 25 24.6**	**+0.1**
	baz=21,SNR=15						
BLJI	**Banyuglugur**	**20.89**	**250**	P	**P**	**20 25 27.7**	**+1.3**
	comp=Z,111nm,1.3s,comp=Z,1μm						
GMJI	**Gumukmas**	**21.21**	**249**	P	**P**	**20 25 30.6**	**+0.8**
	comp=Z,58nm,1.2s,comp=Z,819nm						
PBKI	**Pangkalan Bun**	**21.74**	**264**	P	P	20 25 43.8	+8.3
STKI	**Sintang**	**21.86**	**272**	P	**P**	**20 25 36.3**	**-0.5**
	comp=Z,23nm,1.6s,comp=Z,6μm						
SJI	**Sawahan**	**22.61**	**251**	P	**P**	**20 25 45.0**	**0.0**
	comp=Z,75nm,1.5s						
PWJI	**Pagerwojo**	**22.66**	**251**	P	**P**	**20 25 45.6**	**+0.2**
	comp=Z,32nm,1.3s						
AS31	**Alice Springs**	**22.89**	**179**	*e*P	**P**	**20 25 46.5**	**-1.2**
AS31				*e*S	**S**	**20 29 51.8**	**-2.6**
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**20 25 47.0**	**-0.8**
	comp=Z,18nm,0.5s,baz=359,slow=12,SNR=118						
ASAR				S	**S**	**20 29 58.5**	**+4.0**
	comp=Z,6.9nm,0.9s,baz=352,slow=20,SNR=4.0						
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**20 25 47.0**	**-0.8**
ASAR				S	**S**	**20 29 58.5**	**+4.0**
CTA	**Charters Tower**	**23.10**	**148**	P	**P**	**20 25 51.0**	**+1.2**
	comp=Z,15nm,1.0s,baz=315,slow=13,SNR=4.6						
CTA				LR	LR	20 36 33.6	
	comp=Z,963nm,18.0s,baz=324,slow=41						
CTA	**Charters Tower**	**23.10**	**148**	P	**P**	**20 25 51.0**	**+1.2**
CTAO	**Charters Tower**	**23.10**	**148**	*e*P	**P**	**20 25 47.3**	**-2.5**
CTAO	**Charters Tower**	**23.10**	**148**	*e*P	**P**	**20 25 47.3**	**-2.5**
KSM	**Kuching**	**23.11**	**275**	*e*P	**P**	**20 25 49.0**	**-1.0**
	comp=Z,36nm,1.1s						
KSM	**Kuching**	**23.11**	**275**	P	**P**	**20 25 50.0**	**0.0**
	baz=23,SNR=10						
SMRI	**Semarang**	**23.69**	**254**	P	**P**	**20 25 55.6**	**0.0**
	comp=Z,111nm,1.8s						
MBWA	**Marble Bar**	**24.33**	**212**	*e*P	**P**	**20 26 01.1**	**-0.3**
	comp=Z,119nm,1.2s						
MBWA	**Marble Bar**	**24.33**	**212**	P	**P**	**20 26 03.3**	**+1.9**
	SNR=12						
BJII	**Banjamegara**	**24.46**	**254**	P	**P**	**20 26 04.7**	**+1.9**
	comp=Z,128nm,2.1s,comp=Z,3μm						
TGJI	**Tegal**	**24.92**	**255**	P	**P**	**20 26 07.3**	**+0.4**
	comp=Z,65nm,1.1s						
PATS	**Pohnpei**	**26.02**	**73**	S	S	20 31 04.2	+19
	baz=26,SNR=3.4						
CISI	**Cisompet, Garu**	**26.34**	**254**	P	**P**	**20 26 18.2**	**-1.6**
	comp=Z,164nm,0.9s,comp=Z,2μm						
LEM	**Lembang**	**26.37**	**256**	P	**P**	**20 26 20.5**	**+0.3**
	comp=Z,80nm,0.9s						
SSLB	**Suanglung**	**27.09**	**334**	P	**P**	**20 26 24.7**	**-1.7**
	comp=Z,20nm,1.1s						
JOW	**Kunigami**	**27.75**	**350**	LR	LR	20 37 36.3	
	comp=Z,189nm,18.2s,baz=108,slow=37						
CBIJ	**Chichi jima**	**28.87**	**17**	LR	LR	20 35 43.7	
	comp=Z,112nm,20.7s,baz=253,slow=31						
QIZ	**Qiongzhong**	**30.23**	**312**	P	**P**	**20 26 54.0**	**-0.4**
QIZ				pP	pP	20 27 14.0	+7.6
QIZ				S	**S**	**20 31 50.3**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,14nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,120nm,4.8s						
QIZ				LR	LR		
	comp=Z,200nm,15.6s						
QIZ	**Qiongzhong**	**30.23**	**312**	*e*P	**P**	**20 26 53.4**	**-1.0**
	comp=Z,23nm,1.2s						
KSI	**Kapahiang**	**30.85**	**264**	P	**P**	**20 27 01.9**	**+1.9**
KRJI	**Kerinci**	**31.89**	**267**	P	P	20 27 16.8	+7.6
STKA	**Stephens Creek**	**32.03**	**167**	P	**P**	**20 27 09.3**	**-0.8**
	comp=Z,4.1nm,0.4s,baz=354,slow=10,SNR=24						
STKA				LR	LR	20 42 06.8	
	comp=Z,743nm,18.8s,baz=170,slow=40						
STKA	**Stephens Creek**	**32.03**	**167**	P	**P**	**20 27 09.3**	**-0.8**
STKA	**Stephens Creek**	**32.03**	**167**	P	**P**	**20 27 09.4**	**-0.7**
	baz=32,SNR=19						
BBOO	**Buckleboo**	**32.10**	**176**	P	**P**	**20 27 10.5**	**-0.2**
	baz=32,SNR=11						
IPM	**Ipoh**	**32.67**	**279**	*e*P	**P**	**20 27 14.8**	**-1.1**
	comp=Z,9.8nm,1.0s						
CHBT	**CHBT**	**33.51**	**294**	P	**P**	**20 27 22.5**	**-0.7**
	comp=Z,13nm,0.9s						
SSE	**Sheshan**	**33.60**	**341**	P	**P**	**20 27 26.0**	**+2.2**
SSE				PP	**PP**	**20 28 44.3**	**+3.7**
SSE				S	**S**	**20 32 43.5**	**+0.2**
SSE				pmax	pmax		
	comp=Z,30nm,0.6s						
SSE				pmax	pmax		
	comp=Z,130nm,4.2s						
SSE				LR	LR		
	comp=N,180nm,17.7s						
SSE				LR	LR		
	comp=E,140nm,17.7s						
SSE				LR	LR		
	comp=Z,270nm,14.8s						
JNU	**Nakatsue**	**33.66**	**356**	P	P	20 27 28.0	+3.6
	comp=Z,4.2nm,0.9s,baz=157,slow=13,SNR=2.1						
JNU				LR	LR	20 40 21.3	
	comp=Z,112nm,19.9s,baz=313,slow=35						
JNU	**Nakatsue**	**33.66**	**356**	P	P	20 27 28.0	+3.6
BLDU	**Ballidu**	**33.73**	**206**	P	**P**	**20 27 25.2**	**+0.3**
	baz=34,SNR=14						
PSI	**Prapat**	**34.56**	**276**	P	**P**	**20 27 31.2**	**-1.3**
	comp=Z,11nm,0.7s,baz=74,slow=7.4,SNR=9.8						
PSI	**Prapat**	**34.56**	**276**	P	**P**	**20 27 31.3**	**+11**
PSI	**Prapat**	**34.56**	**276**	P	**P**	**20 27 31.5**	**-1.1**
	baz=35,SNR=4.8						
PSI	**Prapat**	**34.56**	**276**	P	**P**	**20 27 31.2**	**-1.3**
NJ2	**Nanjing**	**35.28**	**338**	*e*P	**P**	**20 27 40.5**	**+2.2**
NJ2				sP	sP	20 28 07.3	+11
NJ2				S	**S**	**20 33 13.0**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,240nm,5.0s						
NJ2				LR	LR		
	comp=N,300nm,20.9s						
NJ2				LR	LR		
	comp=E,160nm,14.3s						
NJ2				LR	LR		
	comp=Z,220nm,21.7s						
ARPS	**Mount Arapiles**	**36.80**	**169**	P	**P**	**20 27 51.5**	**+0.2**
	baz=37,SNR=13						
GYA	**Guiyang**	**37.24**	**318**	*e*P	**P**	**20 27 54.5**	**-0.8**
GYA				pP	pP	20 28 13.5	+6.0
GYA				sP	sP	20 28 22.0	+9.1
GYA				PP	**PnPn**	**20 29 25.8**	**+4.1**
GYA				PcP	**PcP**	**20 30 14.0**	**-0.4**
GYA				S	**S**	**20 33 39.5**	**0.0**
GYA				ScP	ScP	20 33 53.3	-4.8
GYA				ScS	ScS	20 38 01.0	-5.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
MJAR	**Matsushiro Arr**	**37.27**	**6**	P	**P**	**20 27 55.5**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=190,slow=8.3,SNR=4.2						
MJAR				LR	LR	20 40 26.0	
	comp=Z,183nm,19.8s,baz=180,slow=32						
MJAR	**Matsushiro Arr**	**37.27**	**6**	P	**P**	**20 27 55.5**	**+0.2**
KSRS	**Korea Array**	**38.23**	**353**	LR	LR	20 43 21.8	
	comp=Z,123nm,18.1s,baz=80,slow=36						
CM31	**Chiang Mai Arr**	**38.76**	**301**	P	**P**	**20 28 05.9**	**-2.2**
	comp=Z,3.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.76**	**301**	P	**P**	**20 28 07.2**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=123,slow=7.0,SNR=21						
CMAR				PcP	**PcP**	**20 30 19.4**	**+0.2**
	comp=Z,2.1nm,1.1s,baz=105,slow=2.1,SNR=4.7						
CMAR				LR	LR	20 42 09.8	
	comp=Z,81nm,20.6s,baz=125,slow=33						
CMAR	**Chiang Mai Arr**	**38.76**	**301**	P	**P**	**20 28 07.2**	**-0.9**
CMAR				PcP	**PcP**	**20 30 19.4**	**+0.2**
CMMT	**Chiang Mai**	**38.91**	**302**	P	**P**	**20 28 08.7**	**-0.7**
CHTO	**Chiang Mai**	**38.91**	**302**	*e*P	**P**	**20 28 08.0**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**38.91**	**302**	*e*P	**P**	**20 28 08.0**	**-1.4**
	comp=Z,4.5nm,0.8s						
CHTO	**Chiang Mai**	**38.91**	**302**	P	**P**	**20 28 08.9**	**-0.5**
	SNR=5.2						
CHTO	**Chiang Mai**	**38.91**	**302**	P	**P**	**20 28 08.9**	**-0.5**
MILA	**Mila**	**39.08**	**160**	P	**P**	**20 28 12.6**	**+2.0**
	baz=39,SNR=18						
KMI	**Kunming**	**39.14**	**313**	P	**P**	**20 28 12.8**	**+1.3**
KMI				S	**S**	**20 34 06.5**	**-2.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
KMI				pmax	pmax		
	comp=Z,140nm,5.5s						
KMI				LR	LR		
	comp=N,210nm,18.4s						
KMI				LR	LR		
	comp=E,150nm,17.2s						
KMI				LR	LR		
	comp=Z,180nm,16.0s						
XAN	**Xi'an**	**41.41**	**329**	P	**P**	**20 28 28.5**	**-1.4**
CD2	**Chengdu**	**42.11**	**321**	P	**P**	**20 28 37.5**	**+1.8**
CD2				PP	PP	20 30 19.8	+5.9
CD2				S	**S**	**20 34 51.5**	**-0.9**
CD2				SS	**SS**	**20 37 56.5**	**-4.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,4.5s						
CD2				LR	LR		
	comp=N,210nm,6.0s						
CD2				LR	LR		
	comp=Z,260nm,13.1s						
BJI	**Beijing**	**43.41**	**341**	P	**P**	**20 28 45.5**	**-0.5**
BJI				S	**S**	**20 35 14.5**	**+3.4**
BJI				sS	sS	20 35 44.0	+12
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI				LR	LR		
	comp=N,170nm,19.1s						
BJI				LR	LR		
	comp=E,300nm,18.7s						
BJI				LR	LR		
	comp=Z,97nm,22.2s						
CN2	**Changchun**	**44.80**	**352**	*e*P	P	20 29 02.5	+5.4
CN2				*e*pP	pP	20 29 20.0	+10
CN2				*e*S	**S**	**20 35 32.0**	**+0.8**
CN2				SS	**ScS**	**20 38 49.8**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0

LSA				pmax	pmax			
	comp=Z,11nm,0.8s							
LSA	**Lhasa**	**50.26**	**311**	*eP*	**P**	**20**	**29**	**40.6 +0.2**
	comp=Z,11nm,0.8s							
GTA	**Gaotai**	**50.29**	**326**	*eP*	**P**	**20**	**29**	**40.0 0.0**
GTA				pP	pP	20	30	00.0 +7.3
GTA				sP	sP	20	30	09.3 +11
GTA				PcP	**PcP**	**20**	**30**	**59.5 +1.1**
GTA				S	S	20	36	44.3 -5.4
GTA				sS	sS	20	37	15.5 +4.7
GTA				SS	SS	20	40	14.3 -10
GTA				pmax	pmax			
	comp=Z,8.0nm,1.7s							
GTA				pmax	pmax			
	comp=Z,100nm,4.7s							
GTA				LR	LR			
	comp=N,110nm,16.2s							
GTA				LR	LR			
	comp=E,120nm,15.2s							
GTA				LR	LR			
	comp=Z,140nm,16.2s							
TAPN	**Taplejung**	**51.90**	**306**	*eP*	**P**	**20**	**29**	**51.7 -0.8**
	comp=Z,35nm,1.1s							
ODAN	**Odare**	**51.96**	**305**	*eP*	**P**	**20**	**29**	**52.1 -0.8**
	comp=Z,20nm,0.6s							
RAMN	**Ramite**	**52.64**	**305**	*eP*	**P**	**20**	**29**	**57.4 -0.5**
ULN	**Ulaanbaatar**	**53.45**	**338**	*eP*	**P**	**20**	**30**	**03.3 -0.1**
	comp=Z,8.1nm,1.1s							
ULN	**Ulaanbaatar**	**53.45**	**338**	P	**P**	**20**	**30**	**04.3 +0.9**
	SNR=5.7							
GUN	**Gumba**	**53.61**	**306**	*eP*	**P**	**20**	**30**	**04.4 -0.8**
	comp=Z,37nm,0.9s							
SONM	**Songino Array**	**53.67**	**338**	P	**P**	**20**	**30**	**05.4 +0.4**
	comp=Z,2.1nm,0.9s,baz=144,slow=6.9,SNR=17							
SONM				PcP	**PcP**	**20**	**31**	**10.2 -0.6**
	comp=Z,2.3nm,0.7s,baz=161,slow=3.5,SNR=8.7							
SONM	**Songino Array**	**53.67**	**338**	P	**P**	**20**	**30**	**05.4 +0.4**
SONM				PcP	**PcP**	**20**	**31**	**10.2 -0.6**
PKI	**Pulchoki**	**53.86**	**305**	*eP*	**P**	**20**	**30**	**05.9 -1.1**
PKIN	**Phulchoki**	**53.87**	**305**	*eP*	**P**	**20**	**30**	**06.2 -0.8**
	comp=Z,5.7nm,0.6s							
KKN	**Kakani**	**54.05**	**306**	*eP*	**P**	**20**	**30**	**07.0 -1.2**
DMN	**Daman**	**54.12**	**305**	*eP*	**P**	**20**	**30**	**08.0 -0.8**
KOLN	**Koldanda**	**55.41**	**305**	*eP*	**P**	**20**	**30**	**17.7 -0.4**
	comp=Z,40nm,0.8s							
DANN	**Dangsing**	**55.50**	**306**	*eP*	**P**	**20**	**30**	**18.2 -0.7**
	comp=Z,38nm,0.8s							
PYUN	**Piuthan**	**56.04**	**305**	*eP*	**P**	**20**	**30**	**22.1 -0.5**
	comp=Z,56nm,0.7s							
ZAK	**Zakamensk**	**56.94**	**338**	*i P*	**P**	**20**	**30**	**28.2 -0.2**
ZAK				*e*		20	31	23.4
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.8s							
PETK	**Petropavlovsk-**	**57.30**	**17**	P	**P**	**20**	**30**	**32.6 +1.8**
	comp=Z,6.2nm,1.0s,baz=198,slow=9.1,SNR=3.8							
PETK				LR	LR	20	52	26.6
	comp=Z,60nm,19.4s,baz=32,slow=33							
PETK	**Petropavlovsk-**	**57.30**	**17**	P	**P**	**20**	**30**	**32.6 +1.8**
PETK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PETK				MLR	MLR			
	comp=Z,60nm,19.4s							
PETK	**Petropavlovsk-**	**57.30**	**17**	P	**P**	**20**	**30**	**32.6 +1.8**
TLY	**Talaya**	**57.85**	**339**	*eP*	**P**	**20**	**30**	**35.8 +1.1**
TLY				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MOY	**Mondy**	**58.84**	**337**	*eP*	**P**	**20**	**30**	**42.6 +0.9**
MOY				pmax	pmax			
	comp=Z,21nm,2.2s							
WMQ	**Urumqi**	**60.10**	**323**	P	**P**	**20**	**30**	**51.0 +0.4**
WMQ				pP	pP	20	31	14.0 +10
WMQ				PcP	**PcP**	**20**	**31**	**35.3 -0.7**
WMQ				PP	**PP**	**20**	**33**	**04.3 +0.7**
WMQ				S	**S**	**20**	**38**	**57.5 -3.1**
WMQ				sS	sS	20	39	33.0 +11
WMQ				pmax	pmax			
	comp=Z,12nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,120nm,4.5s							
WMQ				LR	LR			
	comp=N,72nm,18.0s							
WMQ				LR	LR			
	comp=E,240nm,27.0s							
WMQ				LR	LR			
	comp=Z,56nm,18.0s							
DDI	**Dehra Dun**	**60.86**	**306**	*eP*	**P**	**20**	**30**	**55.0 -1.0**
YAK	**Yakutsk**	**62.57**	**358**	*eP*	**P**	**20**	**31**	**06.5 -0.3**
YAK				pmax	pmax			
	comp=Z,22nm,1.7s							
MK31	**Makanchi Array**	**64.92**	**324**	*eP*	**P**	**20**	**31**	**22.5 -0.1**
MK31	**Makanchi Array**	**64.92**	**324**	*eP*	**P**	**20**	**31**	**22.5 -0.1**
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20**	**31**	**22.7 +0.1**
	comp=Z,5.0nm,0.7s,baz=112,slow=8.0,SNR=60							
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20**	**31**	**22.7 +0.1**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20**	**31**	**22.7 +0.1**
SEY	**Seymchan**	**65.01**	**9**	*eP*	**P**	**20**	**31**	**23.4 +0.6**
KSH	**Kashi**	**65.78**	**314**	P	**P**	**20**	**31**	**29.8 +1.3**
KSH				pP	pP	20	31	49.0 +7.4
KSH				sP	sP	20	31	58.8 +12
KSH				PcP	**PcP**	**20**	**31**	**59.8 +0.4**
KSH				PP	**PP**	**20**	**33**	**57.8 +4.0**
KSH				ScP		20	35	53.5
KSH				PcS		20	36	02.8
KSH				S	**S**	**20**	**40**	**10.0 -2.0**
KSH				sS	sS	20	40	44.0 +10
KSH				ScS	SKSac	20	41	15.0 -5.8
KSH				SS	**SS**	**20**	**44**	**28.0 +0.7**
KSH				pmax	pmax			
	comp=Z,19nm,1.1s							
KSH				LR	LR			
	comp=N,100nm,6.1s							
KSH				LR	LR			
	comp=E,120nm,6.2s							
KSH				LR	LR			
	comp=Z,130nm,6.3s							
KZA	**Kyzart**	**67.28**	**317**	P	**P**	**20**	**31**	**39.4 +1.0**
	SNR=16							
TKM2	**Tokmak 2**	**67.38**	**318**	*i P*	**P**	**20**	**31**	**39.5 +0.8**
TKM2	**Tokmak 2**	**67.38**	**318**	P	**P**	**20**	**31**	**39.5 +0.8**
	SNR=12							
ZAA0	**Zalesovo Array**	**67.50**	**331**	*eP*	**P**	**20**	**31**	**37.6 -1.4**
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20**	**31**	**38.0 -0.9**
	comp=Z,2.0nm,0.8s,baz=113,slow=5.2,SNR=12							
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20**	**31**	**38.1 -0.9**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20**	**31**	**38.0 -0.9**
AAK	**Ala-Archa**	**68.01**	**317**	P	**P**	**20**	**31**	**43.2 +0.5**
	comp=Z,1.7nm,0.8s,baz=107,slow=5.6,SNR=9.2							
AAK	**Ala-Archa**	**68.01**	**317**	P	**P**	**20**	**31**	**43.2 +0.5**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**68.01**	**317**	*eP*	**P**	**20**	**31**	**42.4 -0.2**
	comp=Z,5.3nm,1.1s							
AAK	**Ala-Archa**	**68.01**	**317**	P	**P**	**20**	**31**	**42.9 +0.2**
	SNR=6.0							
USP	**Ospenovka**	**68.25**	**318**	P	**P**	**20**	**31**	**44.3 +0.3**
	SNR=12							
AML	**Almayashu**	**68.37**	**316**	P	**P**	**20**	**31**	**45.9 +0.7**
	SNR=17							
EKS2	**Erkin-Say**	**68.51**	**317**	*eP*	**P**	**20**	**31**	**46.1 +0.4**
EKS2				pmax	pmax			
	comp=Z,5.0nm,0.8s							
EKS2	**Erkin-Say**	**68.51**	**317**	*eP*	**P**	**20**	**31**	**46.1 +0.4**
	comp=Z,5.3nm,0.8s							
EKS2	**Erkin-Say**	**68.51**	**317**	P	**P**	**20**	**31**	**46.4 +0.6**
	SNR=12							
NVS	**Novosibirsk**	**68.78**	**332**	*eP*	**P**	**20**	**31**	**45.0 -1.9**
NVS				pmax	pmax			
	comp=N,8.0nm,1.7s							
NVS				pmax	pmax			
	comp=E,11nm,1.7s							
NVS				pmax	pmax			
	comp=Z,21nm,1.7s							
KURK	**Kurchatov**	**68.98**	**326**	P	**P**	**20**	**31**	**48.1 -0.2**
KURK				pmax	pmax			
	comp=Z,73nm,0.4s							
KURK	**Kurchatov**	**68.98**	**326**	P	**P**	**20**	**31**	**48.1 -0.2**
KURK	**Kurchatov**	**68.98**	**326**	P	**P**	**20**	**31**	**48.7 +0.4**
	SNR=14							
KURBB	**Kurchatov Arra**	**68.98**	**326**	P	**P**	**20**	**31**	**48.1 -0.3**
	comp=Z,73nm,0.3s,baz=124,slow=5.7,SNR=1.3							
KBL	**Kabul**	**69.40**	**307**	*eP*	**P**	**20**	**31**	**50.5 -1.0**
KBL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KBL	**Kabul**	**69.40**	**307**	*eP*	**P**	**20**	**31**	**50.5 -1.0**
	comp=Z,6.5nm,0.8s							
KKAR	**Karatay Array**	**70.91**	**316**	*eP*	**P**	**20**	**32**	**00.0 -0.4**
KKAR				pmax	pmax			
	comp=Z,18nm,0.9s							
KKAR	**Karatay Array**	**70.91**	**316**	*eP*	**P**	**20**	**31**	**60.0 -0.4**
	comp=Z,18nm,0.9s							
BILL	**Bilibino**	**72.22**	**12**	*i P*	P	20	32	12.0 +4.3
BILL				*e*		20	32	29.4
BILL				pmax	pmax			
	comp=Z,10.0nm,2.6s							
TIXI	**Tiksi**	**72.23**	**359**	*eP*	**P**	**20**	**32**	**07.6 -0.1**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.7s							
TIXI				MLR	MLR			
	comp=Z,119nm,16.0s							
TIXI	**Tiksi**	**72.23**	**359**	*eP*	**P**	**20**	**32**	**06.4 -1.3**
BVAR	**Borovoye Array**	**74.58**	**326**	P	**P**	**20**	**32**	**21.5 -0.4**
	comp=Z,3.6nm,0.7s,baz=114,slow=6.6,SNR=30							
BVAR	**Borovoye Array**	**74.58**	**326**	P	**P**	**20**	**32**	**21.5 -0.4**
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**74.58**	**326**	P	**P**	**20**	**32**	**21.5 -0.4**
BRVK	**Borovoye**	**74.65**	**326**	*c i P*	**P**	**20**	**32**	**21.9 -0.4**
BRVK				pmax	pmax			
	comp=Z,25nm,1.7s							
BRVK	**Borovoye**	**74.65**	**326**	*eP*	**P**	**20**	**32**	**21.4 -1.0**
	comp=Z,10nm,0.9s							
BRVK	**Borovoye**	**74.65**	**326**	P	**P**	**20**	**32**	**22.7 +0.4**
	SNR=6.1							
VNDA	**Vanda**	**78.35**	**174**	P	**P**	**20**	**32**	**43.5 +0.7**
	comp=Z,2.9nm,0.8s,baz=329,slow=6.2,SNR=11							
VNDA	**Vanda**	**78.35**	**174**	*eP*	**P**	**20**	**32**	**43.3 +0.5**
	comp=Z,4.3nm,0.8s							
ABKAR	**Akbulak array**	**79.69**	**320**	*eP*	**P**	**20**	**32**	**49.8 -0.9**
	comp=Z,4.5nm,0.8s							
SVE	**Sverdlovsk**	**81.12**	**328**	*eP*	**P**	**20**	**32**	**58.1 -0.1**
SVE				pmax	pmax			
	comp=Z,15nm,1.5s							
AKTO	**Aktyubinsk**	**81.16**	**321**	P	**P**	**20**	**32**	**57.8 -0.8**
	comp=Z,1.5nm,0.5s,baz=80,slow=7.9,SNR=9.2							
AKTO	**Aktyubinsk**	**81.16**	**321**	P	**P**	**20**	**32**	**57.8 -0.8**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKTO	**Aktyubinsk**	**81.16**	**321**	P	**P**	**20**	**32**	**57.8 -0.8**
ARU	**Arti**	**82.14**	**327**	*c i P*	**P**	**20**	**33**	**03.3 -0.3**
ARU						20	36	10.4
ARU				S	**S**	**20**	**43**	**19.9 +4.9**
ARU				SS	**SS**	**20**	**48**	**37.8 +2.5**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ARU	**Arti**	**82.14**	**327**	*eP*	**P**	**20**	**33**	**02.3 -1.3**
	comp=Z,4.6nm,0.8s							
PMR	**Palmer**	**84.64**	**28**	P	P	20	33	21.5 +5.2
PMR				pmax	pmax			
	comp=Z,17nm,1.2s							
PMR	**Palmer**	**84.64**	**28**	P	P	20	33	21.5 +5.2
	comp=Z,17nm,1.2s							
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**20**	**33**	**23.2 -0.9**
	comp=Z,1.5nm,0.9s,baz=257,slow=5.5,SNR=12							
ILAR				LR	LR	21	09	25.7
	comp=Z,135nm,21.5s,baz=293,slow=34							
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**20**	**33**	**23.2 -0.9**
MIB	**Mutribah**	**86.83**	**300**	*eP*	**P**	**20**	**33**	**27.1 -0.8**
MIB				AMb	AMB	20	33	28.6
	comp=Z,22nm,1.3s							
NAY	**Al-Naaiem**	**86.89**	**299**	*eP*	**P**	**20**	**33**	**26.6 -1.6**
NAY				AMb	AMB	20	33	28.6
	comp=Z,14nm,1.1s							
KIV	**Kislovodsk**	**90.90**	**314**	*eP*	**P**	**20**	**33**	**47.3 +0.3**
KIV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**95.99**	**349**	LR	LR	21	19	02.0
	comp=Z,78nm,18.8s,baz=30,slow=36							
ARCES	**ARCESS Array B**	**96.78**	**340**	P	**P**	**20**	**34**	**13.1 -0.1**
	comp=Z,5.0nm,1.1s,baz=93,slow=6.1,SNR=5.5							
ARCES	**ARCESS Array B**	**96.78**	**340**	P	**P**	**20**	**34**	**13.1 -0.1**
VSU	**Vasula**	**99.18**	**329**	*i P*	**Pdif**	**20**	**34**	**26.8 +2.6**
YKA	**Yellowknife Ar**	**100.62**	**26**	P	**Pdif**	**20**	**34**	**31.2 +0.6**
	comp=Z,0.1nm,0.3s,baz=277,slow=5.4,SNR=3.6							
YKA	**Yellowknife Ar**	**100.62**	**26**	P	**Pdif**	**20**	**34**	**31.2 +0.6**
TOA0	**Torodi Ar. Sit**	**130.51**	**287**	P	**PKPdf**	**20**	**39**	**51.4 -3.2**
TORD	**Torodi Ar. Bea**	**130.51**	**287**	PKP	**PKPdf**	**20**	**39**	**54.3 -0.3**
	comp=Z,1.0nm,0.9s,baz=151,slow=0.5,SNR=6.8							
TORD	**Torodi Ar. Bea**	**130.51**	**287**	PKP	**PKPdf**	**20**	**39**	**54.3 -0.3**
LPAZ	**La Paz**	**152.96**	**129**	PKPbc	**PKPbc**	**20**	**40**	**43.2 +1.3**
	comp=Z,1.5nm,0.7s,baz=261,slow=2.9,SNR=6.1							
LPAZ	**La Paz**	**152.96**	**129**	PKPbc	**PKPbc**	**20**	**40**	**43.2 +1.3**

IDC ***27*** *20:41:46.6±15.0, 6.81S×129.11E, h106km±161km, mb3.3/2, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML4.3/3, Error ellipse: s-maj=122.4km s-min=58.2km az=37.0*

ISCJB ***27*** *20:41:49.7±0.7, 7.10S±0.04×128.88E±0.09, h156km, mb3.4/2, Error ellipse: s-maj=12.8km s-min=6.0km az=178.5*

AUST ***27*** *20:41:51.9, 6.98S×129.03E, h100km*

ISC 27 20:41:51.1±0.8, 7.09S±0.06×128.84E±0.09, h156km, n12, σ2526/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**4.13**	**70**	P	**Pn**	**20 42 54.6**	**+1.3**
	baz=3.9,SNR=18						
TLE				S	Sn	20 43 35.0	-6.7
	baz=3.9,SNR=11						
MTN	**Manton Dam**	**6.15**	**159**	P	**Pn**	**20 43 21.7**	**+1.8**
	baz=6.2,SNR=26						
MTN				S	**Sn**	**20 44 26.4**	**-3.1**
	baz=6.2,SNR=12						
KDU	**Kakadu**	**6.62**	**148**	P	**Pn**	**20 43 26.9**	**+0.8**
	baz=6.6,SNR=33						
KDU				S	Sn	20 44 34.6	-5.9
	baz=6.6,SNR=7.6						
SWI	**Sorong**	**6.64**	**21**	P	**Pn**	**20 43 27.3**	**+0.9**
	baz=6.5,SNR=3.8						
SWI				S	**Sn**	**20 44 37.6**	**-3.6**
	baz=6.5,SNR=7.7						
FITZ	**Fitzroy Crossi**	**11.38**	**196**	P	**Pn**	**20 44 30.5**	**+1.2**
	1.6nm,0.3s,baz=27,slow=12,SNR=61						
FITZ				S	**Sn**	**20 46 31.1**	**-4.2**
	1.8nm,0.3s,baz=170,slow=12,SNR=8.0						
FITZ	**Fitzroy Crossi**	**11.38**	**196**	P	**Pn**	**20 44 30.7**	**+1.5**
	baz=12,SNR=42						
FITZ				S	**Sn**	**20 46 33.2**	**-2.0**
	baz=12,SNR=4.6						
WRA	**Warramunga Arr**	**13.85**	**158**	P	**Pn**	**20 44 58.9**	**-2.0**
	0.8nm,0.3s,baz=340,slow=12,SNR=7.9						
WRA				S	Sn	20 47 22.3	-12
	0.6nm,0.3s,baz=331,slow=22,SNR=4.9						
COEN	**Coen**	**15.65**	**117**	P	**P**	**20 45 26.5**	**+2.3**
	baz=16,SNR=5.2						
ASAR	**Alice Springs**	**17.19**	**164**	P	**Pn**	**20 45 43.0**	**+1.0**
	2.9nm,0.3s,baz=342,slow=10,SNR=176						
ASAR				S	S	20 48 44.7	-7.8
	0.2nm,0.3s,baz=343,slow=26,SNR=4.0						
GSI	**Gunungsitoli**	**32.29**	**284**	S	**S**	**20 53 06.9**	**-1.0**
	baz=32,SNR=11						
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**20 52 32.2**	**+0.8**
	0.3nm,0.4s,baz=125,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**71.16**	**334**	P	**P**	**20 52 52.4**	**-0.2**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.9						

MOS ***27*** *20:53:22.9±1.0, 6.85S×106.29E, h27km, mb5.2/42, MS4.0/23, Error ellipse: s-maj=12.0km s-min=5.8km az=116.6*

ISCJB ***27*** *20:53:24.0±0.2, 7.17S±0.03×105.85E±0.02, h35km, mb4.9/91, MS4.1/41, Error ellipse: s-maj=4.1km s-min=2.9km az=30.2*

NEIC ***27*** *20:53:26.7±0.7, 6.96S×106.15E, h47km±6km, mb4.9/31, Error ellipse: s-maj=7.6km s-min=5.3km az=54.0*

AUST ***27*** *20:53:27.2±0.2, 7.28S×105.93E, h54km, Error ellipse: s-maj=0.7km s-min=0.6km az=240.0*

BJI ***27*** *20:53:28.1, 6.72S×105.82E, h40km, mB5.0/31, mb4.8/41, Ms4.7/35, Ms7 4.4/34*

IDC ***27*** *20:53:28.0±1.3, 6.89S×106.27E, h54km±10km, mb4.5/33, mb1 4.6/35, mb1mx4.5/38, mbtmp4.5/35, MS4.0/26, Ms1 4.0/26, ms1mx3.8/35, Error ellipse: s-maj=15.0km s-min=7.9km az=49.0*

DJA ***27*** *20:53:28.5±0.5, 7.7S±3×10.6E±°, h28km±5km, M5.1/30, mB5.5/22, mb5.2/30, MLv5.4/27, Mw(mB)5.0/22, Mwp5.9/1*

GCMT ***27*** *20:53:31.1±0.3, 7.51S×105.83E, h69km±2km, MW5.0, Moment Tensor Solution. s38,c55; s59,c90; Moment tensor: Scale 10^16Nm; Mrr1.74±.17; Mθθ-2.78±.14; Mφφ1.04±.18; Mrθ1.70±.10; Mrφ3.15±.12; Mθφ0.13±.12; Best double couple: M0:4.20000×10^16 NP1:φs342.00000°, δ58.00000°, λ164.00000°. NP2:φs81.00000°, δ76.00000°, λ34.00000°. Principal axes: T 3.4400, Plg33.0000°, Azm306.0000°; N 1.4300, Plg54.0000°, Azm100.0000°; P -4.8600, Plg12.0000°, Azm208.0000°; Data Used: IU II IC G CN.*

ISC 27 20:53:26.0±0.3, 7.02S±0.04×106.08E±0.04, h41km±2km, h41km:pP-P, n354, σ1§52/395, mb5.0/90, MS4.1/42, 20C-12D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.55**	**317**	P	Pn	20 53 42.6	+5.1
CGJI				S	Sn	20 53 53.8	+8.2
DBJI	**Dramaga**	**0.81**	**55**	P	Pn	20 53 47.0	+6.0
SBJI	**Serang**	**0.89**	**3**	P	Pn	20 53 48.1	+6.0
CBJI	**Citeko**	**0.97**	**52**	P	Pn	20 53 46.7	+3.5
CBJI				S	Sn	20 54 03.4	+7.6
TNG	**Tangerang**	**1.01**	**34**	P	Pn	20 53 50.1	+6.3
TNG	**Tangerang**	**1.01**	**34**	P	Pn	20 53 51.0	+7.2
LEM	**Lembang**	**1.54**	**83**	P	Pn	20 53 55.0	+3.8
	baz=1.7,SNR=728						
LEM				S	Sn	20 54 18.2	+8.1
	baz=1.7,SNR=4.5						
LEM	**Lembang**	**1.54**	**83**	P	Pn	20 53 56.5	+5.3
LEM				S	Sn	20 54 19.1	+9.0
CISI	**Cisompet, Garu**	**1.81**	**107**	P	**Pn**	**20 53 56.1**	**+1.4**
CISI				S	**Sn**	**20 54 20.3**	**+3.9**
BLSI	**Bandar Lampung**	**1.84**	**333**	P	Pn	20 54 01.4	+6.3
KASI	**Kota Agung**	**2.16**	**313**	P	Pn	20 54 05.9	+6.4
LWLI	**Liwa**	**2.82**	**315**	P	Pn	20 54 15.8	+7.0
CLJI	**Cilicap**	**3.00**	**104**	P	Pn	20 54 16.1	+5.1
TGJI	**Tegal**	**3.03**	**87**	P	Pn	20 54 15.7	+4.3
XMI	**Christmas Isla**	**3.43**	**186**	P	Pn	20 54 12.4	-4.6
	baz=3.2,SNR=100						
XMI				S	Sn	20 54 46.9	-10
	baz=3.2,SNR=5.4						
XMIS	**Christmas Isla**	**3.47**	**187**	P	Pn	20 54 12.6	-4.9
	baz=3.2,SNR=654						
XMIS				S	Sn	20 54 47.6	-10
	baz=3.2,SNR=10						
BJII	**Banjamegara**	**3.62**	**95**	P	Pn	20 54 23.4	+3.8
MNAI	**Manna**	**4.08**	**310**	P	Pn	20 54 31.6	+5.7
SMRI	**Semarang**	**4.33**	**91**	P	Pn	20 54 35.8	+6.4
UGM	**Wanagama**	**4.50**	**102**	P	**Pn**	**20 54 33.2**	**+1.5**
	baz=4.6,SNR=137						
UGM	**Wanagama**	**4.50**	**102**	P	Pn	20 54 37.8	+6.1
KSI	**Kapahiang**	**4.82**	**314**	P	Pn	20 54 41.7	+5.6
PPBI	**Pangkal Pinang**	**4.83**	**1**	P	Pn	20 54 43.3	+7.1
	352nm,0.8s,3μm1.1nm						
PCJI	**Pacitan**	**5.19**	**103**	P	Pn	20 54 45.0	+3.8
	360nm,0.9s,8μm3.1nm						
SJI	**Sawahan**	**5.69**	**98**	P	Pn	20 54 51.9	+3.8
	215nm,0.8s,8μm1.7nm						
PWJI	**Pagerwojo**	**5.77**	**100**	P	**Pn**	**20 54 51.7**	**+2.6**
	274nm,0.7s,6μm2.1nm						
KRKI	**Karangkates**	**6.42**	**101**	P	Pn	20 55 06.5	+8.4
	310nm,0.6s,11μm2.9nm						
KRJI	**Kerinci**	**6.72**	**317**	P	Pn	20 55 07.0	+4.8
	390nm,0.8s,6μm2.9nm						
PBKI	**Pangkalan Bun**	**7.03**	**53**	P	Pn	20 55 11.7	+5.2
	234nm,1.0s,4μm1.5nm						
GMJI	**Gumukmas**	**7.41**	**100**	P	Pn	20 55 16.8	+5.1
	93nm,1.0s,2μm0.4nm						
BLJI	**Banyuglugur**	**7.49**	**96**	P	Pn	20 55 18.5	+5.7
	116nm,0.5s,3μm0.7nm						
RGRI	**Rengat**	**7.60**	**330**	P	Pn	20 55 20.8	+6.5
	295nm,0.8s,17μm						
NBBI	**Negara**	**8.57**	**100**	P	Pn	20 55 38.9	+11
BKNI	**Bangkinang**	**8.86**	**325**	P	Pn	20 55 36.2	+4.6
	131nm,1.2s,1μm						
STKI	**Sintang**	**8.86**	**38**	P	Pn	20 55 37.6	+6.0
	70nm,1.0s,2μm						
MYKOM	**Kota Tinggi**	**9.03**	**346**	P	Pn	20 55 39.7	+5.9
SRBI	**Singaraja**	**9.12**	**97**	P	Pn	20 55 39.0	+3.9
	134nm,0.8s,2μm						
IGBI	**Denpasar**	**9.16**	**102**	P	**Pn**	**20 55 38.3**	**+2.6**
	43nm,1.0s						
DNP	**Denpasar**	**9.20**	**101**	P	Pn	20 55 39.5	+3.3
	264nm,0.4s,13μm						
KGM	**Kluang**	**9.39**	**343**	P	Pn	20 55 44.5	+5.7
KSM	**Kuching**	**9.43**	**27**	*e*Pn	**Pn**	**20 55 40.8**	**+1.4**
	23nm,1.0s						
KSM	**Kuching**	**9.43**	**27**	P	Pn	20 55 45.7	+6.3
	baz=9.8,SNR=4.1						
KSM	**Kuching**	**9.43**	**27**	P	Pn	20 55 46.6	+7.2
KHKI	**Kahang-Kahang**	**9.54**	**99**	P	**Pn**	**20 55 44.0**	**+3.1**
	53nm,0.9s						
MNSI	**Mandailing Nat**	**10.11**	**320**	P	**Pn**	**20 55 50.1**	**+1.4**
	47nm,0.8s,762nm						
COCO	**West Island**	**10.46**	**240**	*e*P	**Pn**	**20 55 52.0**	**-1.5**
COCO				pmax	pmax		
	comp=Z,298nm,0.9s						
COCO	**West Island**	**10.46**	**240**	*e*Pn	**Pn**	**20 55 52.0**	**-1.5**
	comp=Z,298nm,0.9s						
COCO				*e*Sn	Sn	20 57 35.7	-14
COCO	**West Island**	**10.46**	**240**	P	Pn	20 55 58.3	+4.8
	comp=Z,359nm,1.0s						
**KB

FITZ LR LR 21 06 29.1
comp=Z,218nm,19.3s,baz=306,slow=36
FITZ Fitzroy Crossi 22.02 122 *eP* **P 20 58 17.1 +0.1**
comp=Z,26nm,1.1s
FITZ S **S** **21 02 16.4 -1.5**
FITZ Fitzroy Crossi 22.02 122 P **P 20 58 17.1 +0.1**
baz=22,SNR=18
MEEK Meekatharra 22.87 150 P **P 20 58 27.0 +0.9**
baz=23,SNR=4.6
MEEK S **S** **21 02 32.5 -0.5**
baz=23,SNR=4.3
CTBH Cotabato--PC H 22.99 52 *i*/P **P 20 58 30.1 +2.7**
MORW Morawa 23.86 158 P **P 20 58 36.2 +0.5**
baz=24,SNR=3.6
MORW S **S** **21 02 49.6 +0.5**
baz=24,SNR=5.6
DAV Davao City (W) 23.97 55 P **P 20 58 38.3 +1.5**
comp=Z,72nm,0.3s,baz=82,slow=4.8,SNR=4.2
DAV Davao City (W) 23.97 55 P **P 20 58 38.3 +1.5**
MTN Manton Dam 25.34 105 P **P 20 58 50.3 +1.0**
baz=25,SNR=12
TGY Tagaytay City 25.65 35 LR LR 21 10 20.7
comp=Z,5.1nm,19.4s,baz=96,slow=40
SWI Sorong 25.85 77 P **P 20 58 54.0 +0.1**
baz=26,SNR=11
QIZ Qiongzhong 26.15 8 P **P 20 58 57.8 +1.2**
QIZ S **S** **21 03 28.8 +3.1**
QIZ sS **sS** **21 03 44.0 -0.3**
QIZ LR LR
comp=N,500nm,21.6s
QIZ LR LR
comp=Z,770nm,20.4s
CMAR Chiang Mai Arr 26.27 345 P **P 20 58 58.0 +0.3**
comp=Z,5.4nm,0.8s,baz=180,slow=8.4,SNR=38
CMAR PcP **PcP** **21 02 25.1 +1.5**
comp=Z,1.7nm,0.7s,baz=204,slow=3.3,SNR=4.5
CMAR ScP **ScP** **21 05 59.1 -1.2**
comp=Z,2.1nm,1.1s,baz=194,slow=4.6,SNR=8.1
CMAR LR LR 21 10 38.8
comp=Z,267nm,19.7s,baz=177,slow=39
CMAR Chiang Mai Arr 26.27 345 P **P 20 58 58.0 +0.3**
CMAR PcP **PcP** **21 02 25.1 +1.5**
CMAR ScP **ScP** **21 05 59.1 -1.2**
KDU Kakadu 26.60 104 P **P 20 58 59.6 -1.1**
baz=27,SNR=7.5
CHTO Chiang Mai 26.61 345 *eP* **P 20 59 00.9 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 26.61 345 *eP* **P 20 59 00.9 +0.1**
comp=Z,6.3nm,0.8s
KLBR Kellerberrin 26.77 157 P **P 20 59 01.8 -0.4**
baz=27,SNR=5.7
NWAO Narrogin (SRO) 27.79 160 P **P 20 59 11.5 +0.3**
comp=Z,8.6nm,0.8s,baz=325,slow=10.0,SNR=3.3
NWAO LR LR 21 09 03.4
comp=Z,393nm,19.0s,baz=338,slow=34
NWAO Narrogin (SRO) 27.79 160 P **P 20 59 11.5 +0.3**
WRA Warramunga Arr 30.27 118 P **P 20 59 33.2 -0.3**
comp=Z,5.6nm,0.5s,baz=303,slow=10,SNR=65
WRA PcP **PcP** **21 02 33.2 -0.3**
comp=Z,0.6nm,0.3s,baz=300,slow=2.1,SNR=5.6
WRA S S 21 04 24.9 -5.9
comp=Z,2.0nm,1.2s,baz=294,slow=16,SNR=4.6
WRA ScP **ScP** **21 06 10.4 -2.4**
comp=Z,1.7nm,0.9s,baz=300,slow=3.0,SNR=4.6
WRA Warramunga Arr 30.27 118 P **P 20 59 33.2 -0.3**
WRA PcP **PcP** **21 02 33.2 -0.3**
WRA S S 21 04 24.9 -5.9
WRA ScP **ScP** **21 06 10.4 -2.4**
WRAB Tennant Creek 30.28 118 *eP* **P 20 59 33.2 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 30.28 118 *eP* **P 20 59 33.2 -0.3**
comp=Z,9.3nm,0.6s
ASAR Alice Springs 31.43 125 P **P 20 59 43.4 -0.3**
comp=Z,1.9nm,0.5s,baz=298,slow=7.3,SNR=42
ASAR PcP **PcP** **21 02 36.5 -0.1**
comp=Z,0.7nm,0.4s,baz=277,slow=3.2,SNR=4.1
ASAR ScP **ScP** **21 06 14.7 -1.9**
comp=Z,1.9nm,1.0s,baz=339,slow=5.0,SNR=7.2
ASAR LR LR 21 12 25.2
comp=Z,166nm,18.3s,baz=296,slow=36
ASAR Alice Springs 31.43 125 P **P 20 59 43.4 -0.3**
ASAR PcP **PcP** **21 02 36.5 -0.1**
ASAR ScP **ScP** **21 06 14.7 -1.9**
AS31 Alice Springs 31.43 125 *eP* **P 20 59 42.6 -1.1**
KMI Kunming 32.11 354 P P 20 59 53.0 +3.2
KMI pP pP 21 00 02.5 +1.4
KMI sP sP 21 00 06.5 +0.5
KMI PP **PP** **21 01 01.0 -1.9**
KMI PcP **PcP** **21 02 40.8 +2.3**
KMI S **S** **21 05 04.3 +4.6**
KMI sS sS 21 05 19.5 +1.0
KMI ScS **ScS** **21 10 18.3 +0.2**
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI pmax pmax
comp=Z,120nm,4.8s
KMI LR LR
comp=N,540nm,14.7s
KMI LR LR
comp=E,400nm,13.6s
KMI LR LR
comp=Z,660nm,14.1s
TRD Trivandrum 32.87 298 *ex* sS 21 05 30.4 +0.2
GYA Guiyang 33.28 1 *eP* **P 21 00 01.8 +1.9**
GYA pP **pP** **21 00 14.3 +3.1**
GYA sP **sP** **21 00 20.3 +4.2**
GYA PP **PP** **21 01 15.5 -0.3**
GYA PcP **PcP** **21 02 43.5 +1.9**
GYA S **S** **21 05 20.0 +2.3**
GYA ScP **ScP** **21 06 22.3 -0.6**
GYA ScS **ScS** **21 10 22.0 -1.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,480nm,16.6s
GYA LR LR
comp=E,330nm,17.4s
GYA LR LR
comp=Z,450nm,16.0s
QIS Mount Isa 35.14 116 P **P 21 00 16.2 +0.2**
baz=35,SNR=20
HYB Hyderabad 36.46 312 *i* P **P 21 00 27.0 -0.3**
COEN Coen 37.09 104 P **P 21 00 32.2 -0.5**
baz=37,SNR=7.3
ENH Enshi 37.22 5 P **P 21 00 33.4 -0.3**
comp=Z,5.6nm,0.4s
CD2 Chengdu 37.78 357 P **P 21 00 40.5 +2.1**
CD2 pP **pP** **21 00 50.0 +0.2**
CD2 sP **sP** **21 00 54.0 -0.7**
CD2 PP **PnPn** **21 02 10.8 +4.1**
CD2 S **S** **21 06 29.8 +3.4**
CD2 sS **sS** **21 06 45.8 +0.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.7s
CD2 LR LR
comp=N,490nm,13.7s
CD2 LR LR
comp=Z,650nm,16.1s
ODAN Odare 38.24 332 *eP* **P 21 00 42.0 -0.5**
comp=Z,30nm,0.6s
TAPN Taplejung 38.51 333 *eP* **P 21 00 44.7 -0.2**
comp=Z,45nm,0.8s
RAMN Ramite 38.68 332 *eP* **P 21 00 46.4 +0.1**
comp=Z,19nm,0.5s
LSA Lhasa 39.23 339 *eP* **P 21 00 50.8 -0.2**
LSA pmax pmax
comp=Z,13nm,0.7s
LSA Lhasa 39.23 339 *eP* **P 21 00 50.8 -0.2**
comp=Z,13nm,0.7s
KAD Karad 39.72 308 *i* x P 21 01 00.0 +5.1
PKI Pulchoki 39.78 331 *eP* **P 21 00 55.0 -0.5**
comp=Z,8.8nm,0.3s
PKIN Phulchoki 39.79 331 *eP* **P 21 00 55.2 -0.3**
comp=Z,5.4nm,0.3s
GUN Gumba 39.83 332 *eP* **P 21 00 55.8 -0.2**
DMN Daman 39.95 330 *eP* **P 21 00 56.6 -0.3**
KKN Kakani 40.02 331 *eP* **P 21 00 56.7 -0.7**
comp=Z,26nm,0.8s
SSE Sheshan 40.56 20 P **P 21 00 59.8 -1.8**
SSE S **S** **21 07 05.8 -2.4**
SSE ScS **ScS** **21 11 03.5 -0.6**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,130nm,5.0s
SSE LR LR
comp=N,180nm,20.0s
SSE LR LR
comp=E,110nm,20.0s
SSE LR LR
comp=Z,280nm,21.3s
PMG Port Moresby 40.72 96 P **P 21 01 04.1 +1.0**
comp=Z,33nm,0.8s,baz=283,slow=6.4,SNR=9.7
PMG Port Moresby 40.72 96 *eP* **P 21 01 03.2 +0.1**
comp=Z,40nm,0.9s
NJ2 Nanjing 40.72 17 *eP* **P 21 01 04.5 +1.7**
NJ2 pP **pP** **21 01 12.3 -2.0**
NJ2 sP **sP** **21 01 17.3 -1.9**
NJ2 S **S** **21 07 11.0 +0.5**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,240nm,5.1s
NJ2 LR LR
comp=N,330nm,17.9s
NJ2 LR LR
comp=E,470nm,18.5s
NJ2 LR LR
comp=Z,400nm,19.2s
KOLN Koldanda 40.84 329 *eP* **P 21 01 04.1 -0.1**
XAN Xi'an 40.92 4 P **P 21 01 04.3 -0.3**
XAN pP **pP** **21 01 16.3 +0.2**
XAN sP **sP** **21 01 22.0 +1.1**
XAN PP **PnPn** **21 02 42.5 -1.5**
XAN S **S** **21 07 11.8 -1.8**
XAN sS **sS** **21 07 32.5 -0.2**
XAN SS SS 21 10 09.3 -7.3
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,15nm,6.4s
XAN LR LR
comp=N,300nm,17.8s
XAN LR LR
comp=E,100nm,20.8s
XAN LR LR
comp=Z,160nm,17.8s
CTAO Charters Tower 41.04 113 *eP* **P 21 01 04.1 -1.7**
CTAO pmax pmax
comp=Z,19nm,1.1s
CTAO Charters Tower 41.04 113 *eP* **P 21 01 04.1 -1.7**
comp=Z,19nm,1.1s
DANN Dangsing 41.23 329 *eP* **P 21 01 06.9 -0.6**
STKA Stephens Creek 41.31 132 P **P 21 01 08.2 +0.4**
comp=Z,5.6nm,0.4s,baz=302,slow=7.5,SNR=69
STKA LR LR 21 20 19.9
comp=Z,198nm,19.6s,baz=333,slow=39
STKA Stephens Creek 41.31 132 *eP* **P 21 01 07.9 +0.1**
comp=Z,6.2nm,1.2s
STKA Stephens Creek 41.31 132 P **P 21 01 08.1 +0.3**
baz=41,SNR=54
PYUN Piuthan 41.43 328 *eP* **P 21 01 08.4 -0.6**
LZH Lanzhou 42.93 357 *eP* **P 21 01 21.0 0.0**
LZH pP **pP** **21 01 31.0 -1.6**
LZH sP **sP** **21 01 34.0 -3.4**
LZH *e*PP **PP** **21 03 03.8 +2.5**
LZH *e*S **S** **21 07 44.0 +0.6**
LZH sS **sS** **21 08 00.5 -2.1**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,140nm,5.8s
LZH LR LR
comp=N,530nm,14.0s
LZH LR LR
comp=E,380nm,14.5s
LZH LR LR
comp=Z,680nm,16.5s
AGRA Agra 43.60 322 *eP* **P 21 01 26.9 +0.5**
BISR Bishrakh 44.89 323 *ex* P 21 01 29.0 -7.7
AYAN Aya Nagar 45.01 323 *eP* **P 21 01 37.5 -0.1**
AYAN AMb AMB 21 01 39.1
comp=Z,28nm,0.8s
NDI New Delhi 45.10 323 *ex* P 21 01 31.0 -7.4
BHGR Bahadurgarh 45.27 323 *ex* P 21 01 36.5 -3.2
KHET Khetri 45.52 321 *eP* **P 21 01 42.4 +0.6**
DDI Dehra Dun 45.84 326 *ex* **P 21 01 42.0 -2.3**
KKR Kurukshetra 46.27 324 *eP* **P 21 01 47.9 +0.2**
GTA Gaotai 46.56 353 ⇑P **P 21 01 50.5 +0.6**
GTA pP **pP** **21 02 00.5 -1.0**
GTA sP **sP** **21 02 03.5 -2.9**
GTA PcP **PcP** **21 03 24.5 +0.9**
GTA ScP **ScP** **21 07 12.8 -1.3**
GTA PcS **PcS** **21 07 17.5 -1.0**
GTA S **S** **21 08 37.3 +1.4**
GTA ScS **ScS** **21 11 37.5 -4.2**
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,76nm,5.2s
GTA LR LR
comp=N,250nm,18.5s
GTA LR LR
comp=E,210nm,21.4s
GTA LR LR
comp=Z,390nm,24.7s
SDNR Sundarnagar 47.34 326 *eP* **P 21 01 56.5 +0.5**
BJI Beijing 47.74 10 P **P 21 01 59.5 +0.6**
BJI PcP **PcP** **21 03 28.3 +0.7**
BJI pmax pmax
comp=Z,18nm,0.6s
BJI LR LR
comp=N,250nm,16.4s
BJI LR LR
comp=E,200nm,9.6s
BJI LR LR
comp=Z,190nm,34.7s
KSAR Wonju Array Be 48.70 23 P **P 21 02 07.0 +0.7**
KSAR PcP **PcP** **21 03 30.8 -0.4**
KSRS Korea Array 48.72 23 P **P 21 02 07.0 +0.5**
comp=Z,3.3nm,0.8s,baz=216,slow=8.6,SNR=11
KSRS PcP **PcP** **21 03 30.8 -0.4**
comp=Z,4.6nm,0.9s,baz=209,slow=3.4,SNR=9.5
KSRS LR LR 21 22 24.7
comp=Z,78nm,19.0s,baz=60,slow=36
MJAR Matsushiro Arr 52.77 33 P **P 21 02 34.4 -2.8**
comp=Z,1.3nm,0.6s,baz=218,slow=8.5,SNR=5.0
MJAR PcP **PcP** **21 03 46.4 +0.1**
comp=Z,2.1nm,0.9s,baz=196,slow=4.0,SNR=3.8
MJAR LR LR 21 23 01.0
comp=Z,80nm,19.9s,baz=220,slow=34
MJAR Matsushiro Arr 52.77 33 P **P 21 02 34.4 -2.8**
MJAR PcP **PcP** **21 03 46.4 +0.1**
WMQ Urumqi 53.27 343 P **P 21 02 41.0 +0.3**
WMQ pmax pmax
comp=Z,11nm,1.2s
WMQ pmax pmax
comp=Z,130nm,5.4s
WMQ LR LR
comp=N,120nm,22.0s
WMQ LR LR
comp=E,250nm,20.0s
WMQ LR LR
comp=Z,120nm,21.0s
CN2 Changchun 53.54 17 *eP* **P 21 02 41.3 -1.3**
CN2 *e*S **S** **21 10 17.5 +4.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,300nm,10.0s
CN2 LR LR
comp=Z,200nm,11.0s
KSH Kashi 54.03 331 P **P 21 02 44.5 -2.0**
KSH pP **pP** **21 02 57.5 -0.8**
KSH sP **sP** **21 03 03.0 -0.1**
KSH PcP **PcP** **21 03 48.3 -2.8**
KSH PP **PP** **21 04 48.3 -0.1**
KSH ScP **ScP** **21 07 42.5 -3.7**
KSH PcS **PcS** **21 07 47.0 -3.6**
KSH S S 21 10 12.5 -7.4
KSH sS **sS** **21 10 35.5 -4.1**
KSH ScS **ScS** **21 12 27.0 -5.7**
KSH SS **SS** **21 13 59.3 -2.7**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=N,130nm,4.5s
KSH LR LR
comp=E,93nm,4.8s
KSH LR LR
comp=Z,170nm,6.4s
KBL Kabul 54.15 322 *eP* **P 21 02 47.6 0.0**
KBL pmax pmax
comp=Z,26nm,0.8s
KBL Kabul 54.15 322 *eP* **P 21 02 47.6 0.0**
comp=Z,26nm,0.8s
KBL Kabul 54.15 322 P **P 21 02 47.7 +0.2**
baz=54,SNR=13
SONM Songino Array 54.62 0 P **P 21 02 50.7 +0.1**
comp=Z,6.6nm,0.8s,baz=173,slow=8.1,SNR=72
SONM PcP **PcP** **21 03 53.0 -0.2**
comp=Z,16nm,0.8s,baz=178,slow=3.6,SNR=25
SONM ScP **ScP** **21 07 46.0 -2.5**
comp=Z,1.9nm,0.9s,baz=163,slow=2.6,SNR=7.6
SONM LR LR 21 27 55.5
comp=Z,416nm,21.8s,baz=178,slow=38
SONM Songino Array 54.62 0 P **P 21 02 50.7 +0.1**
SONM PcP **PcP** **21 03 53.0 -0.2**
SONM ScP **ScP** **21 07 46.0 -2.5**
ULN Ulaanbaatar 54.65 1 *eP* **P 21 02 50.6 -0.2**
comp=Z,6.4nm,0.8s
MDJ Mudanjiang 55.59 20 P **P 21 02 57.3 -0.2**
MDJ pP **pP** **21 03 09.0 -0.4**
MDJ sP **sP** **21 03 14.0 -0.2**
MDJ ScP **ScP** **21 07 52.3 -0.4**
MDJ PcS **PcS** **21 07 57.0 +0.1**
MDJ S **S** **21 10 40.8 +0.4**
MDJ pmax pmax
comp=Z,8.0nm,1.4s
MDJ pmax pmax
comp=Z,76nm,5.8s
MDJ LR LR
comp=N,72nm,34.4s
MDJ LR LR
comp=E,41nm,28.8s
MDJ LR LR
comp=Z,100nm,34.7s
USRK Ussuriysk Arra 56.10 22 P **P 21 02 59.9 -1.2**
comp=Z,1.5nm,0.5s,baz=196,slow=5.5,SNR=4.9
KZA Kyzart 56.39 333 P **P 21 03 03.3 -0.4**
SNR=13
TKM2 Tokmak 2 56.91 334 *i* P **P 21 03 07.0 -0.1**
TKM2 Tokmak 2 56.91 334 P **P 21 03 07.1 -0.1**
SNR=7.3
KBK Karagaybulak 56.98 333 P **P 21 03 07.9 +0.2**
SNR=14
AML Almayashu 57.15 332 P **P 21 03 08.9 -0.3**
SNR=24
AAK Ala-Archa 57.17 333 P **P 21 03 09.0 0.0**
comp=Z,2.7nm,0.7s,baz=157,slow=6.8,SNR=9.7
AAK PcP **PcP** **21 04 04.7 +1.4**
comp=Z,8.5nm,0.9s,baz=157,slow=3.1,SNR=6.9
AAK Ala-Archa 57.17 333 P **P 21 03 09.0 0.0**
AAK 21 04 04.7
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 57.17 333 *eP* **P 21 03 08.1 -0.9**
comp=Z,38nm,0.9s
AAK *e*PcP **PcP** **21 04 03.8 +0.5**
AAK PcP **PcP** **21 04 04.7 +1.4**
ZAK Zakamensk 57.22 358 *eP* **P 21 03 09.3 +0.2**
ZAK *e* 21 04 03.8
ZAK pmax pmax
comp=Z,2.0nm,0.9s
EKS2 Erkin-Say 57.52 332 *eP* **P 21 03 10.8 -0.7**
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 57.52 332 *eP* **P 21 03 10.8 -0.7**
comp=Z,19nm,0.8s
EKS2 Erkin-Say 57.52 332 P **P 21 03 11.0 -0.4**
SNR=30
MK31 Makanchi Array 57.60 341 *eP* **P 21 03 10.7 -1.0**
MK31 Makanchi Array 57.60 341 *eP* **P 21 03 10.7 -1.0**
MKAR Makanchi Array 57.60 341 P **P 21 03 10.9 -0.9**
comp=Z,6.7nm,0.5s,baz=146,slow=7.8,SNR=126
MKAR ScP **ScP** **21 07 59.8 -1.7**
comp=Z,0.7nm,0.9s,baz=175,slow=7.2,SNR=3.9
MKAR LR LR 21 30 40.3
comp=Z,134nm,21.5s,baz=172,slow=39
MKAR Makanchi Array 57.60 341 P **P 21 03 10.9 -0.9**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,134nm,21.5s
MKAR Makanchi Array 57.60 341 P **P 21 03 10.9 -0.9**
MKAR ScP **ScP** **21 07 59.8 -1.7**
TLY Talaya 58.50 358 *eP* **P 21 03 18.3 +0.3**
TLY *e* 21 04 11.4
TLY *e* 21 05 29.8
TLY *e*S S 21 11 10.0 -8.6
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,217nm,19.0s
MOY Mondy 58.62 356 *eP* P 21 03 22.6 +3.7
CASY Casey 59.25 178 P **P 21 03 22.9 0.0**
comp=Z,22nm,1.5s
KKAR Karatay Array 59.42 330 *eP* **P 21 03 23.1 -1.4**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 59.42 330 *eP* **P 21 03 23.1 -1.4**
comp=Z,2.8nm,0.6s
HABR Khabarovsk 60.84 22 *eP* P 21 03 40.2 +6.1
HABR *e* 21 11 56.1
HABR *e**SS S 21 12 00.6 +12
HABR *e* 21 13 18.1
HABR *e*SS **SS** **21 15 43.3 -5.2**
HABR pmax pmax
comp=Z,63nm,1.6s
HABR pmax pmax
comp=N,43nm,1.6s
HABR pmax pmax
comp=E,55nm,1.6s
HABR MLR MLR
comp=Z,212nm,20.0s
KURBB Kurchatov Arra 62.16 341 P **P 21 03 41.9 -1.0**
comp=Z,52nm,0.3s,baz=157,slow=6.0,SNR=2.1
KURBB LR LR 21 33 56.8
comp=Z,151nm,18.8s,baz=115,slow=39
KURK Kurchatov 62.21 341*c* *i*P **P 21 03 42.6 -0.7**
KURK pmax pmax
comp=Z,20nm,1.2s
KURK Kurchatov 62.21 341 P **P 21 03 41.9 -1.3**
YSS Yuzh-Sakhalins 62.81 27 *i* P **P 21 03 46.5 -0.9**
YSS pmax pmax
comp=Z,17nm,1.0s
YSS Yuzh-Sakhalins 62.81 27 *eP* **P 21 03 46.3 -1.0**
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 63.33 346 *eP* **P 21 03 49.2 -1.4**
ZALV Zalesovo Beam 63.33 346 P **P 21 03 49.5 -1.1**
comp=Z,3.8nm,0.5s,baz=134,slow=4.2,SNR=30
ZALV LR LR 21 34 16.0
comp=Z,158nm,18.3s,baz=255,slow=39
ZALV Zalesovo Beam 63.33 346 P **P 21 03 49.5 -1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,158nm,18.3s
ZALV Zalesovo Beam 63.33 346 P **P 21 03 49.5 -1.1**
NVS Novosibirsk 64.52 346 *eP* **P 21 03 55.9 -2.6**
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,3.0nm,1.2s
NVS pmax pmax
comp=Z,8.0nm,1.2s
QRN Al-Qurain 66.31 305 *eP* **P 21 04 11.9 +1.3**
KBD Kabd 66.66 306 *eP* **P 21 04 14.0 +1.1**
RDF Al-Radifah 66.68 305 *eP* **P 21 04 14.5 +1.5**
RDF AMb AMB 21 04 18.5
comp=Z,57nm,1.0s
UMR Umm Al-Rimmam 66.79 306 *eP* **P 21 04 14.6 +1.0**
UMR AMb AMB 21 04 18.2

comp=Z,50nm,0.5s
BVAR Borovoye Array 67.03 337 P **P** **21 04 14.2 -0.5**
comp=Z,29nm,0.8s,baz=143,slow=8.1,SNR=137
BVAR LR LR 21 39 00.1
comp=Z,75nm,20.9s,baz=142,slow=41
BVAR Borovoye Array 67.03 337 P **P** **21 04 14.2 -0.5**
BVAR pmax pmax
comp=Z,29nm,0.8s
BVAR MLR MLR
comp=Z,75nm,20.9s
BVAR Borovoye Array 67.03 337 P **P** **21 04 14.2 -0.5**
NAY Al-Naaiem 67.05 306 *e*P **P** **21 04 16.0 +0.6**
NAY AMb AMB 21 04 16.9
comp=Z,24nm,0.7s
MAW Mawson 67.08 197 P **P** **21 04 16.3 +1.5**
comp=Z,7.3nm,0.7s,baz=9.3,slow=4.4,SNR=7.5
MAW LR LR 21 26 40.3
comp=Z,194nm,18.9s,baz=222,slow=30
MAW Mawson 67.08 197 P **P** **21 04 16.3 +1.5**
BRVK Borovoye 67.10 337*d* iP **P** **21 04 14.5 -0.6**
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 67.10 337 *e*P **P** **21 04 13.9 -1.2**
comp=Z,20nm,0.8s
ABKAR Akbulak array 68.96 330 *e*P **P** **21 04 26.7 -0.2**
comp=Z,57nm,0.6s
AKTO Aktyubinsk 70.67 330 P **P** **21 04 37.7 +0.2**
comp=Z,8.4nm,0.6s,baz=136,slow=6.9,SNR=46
AKTO Aktyubinsk 70.67 330 P **P** **21 04 37.7 +0.2**
AKTO pmax pmax
comp=Z,8.0nm,0.6s
AKTO Aktyubinsk 70.67 330 P **P** **21 04 37.7 +0.2**
BHD Baghdad 70.85 309 *e*P **P** **21 04 38.0 -0.9**
BHD *e*S S 21 13 44.0 -7.4
YAK Yakutsk 71.23 12 *e*P **P** **21 04 38.1 -2.5**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK Yakutsk 71.23 12 *e*P **P** **21 04 38.0 -2.5**
comp=N,26nm,0.8s
GNI Garni 73.32 315 P **P** **21 04 54.9 +1.1**
comp=N,8.8nm,0.9s,baz=343,slow=8.5,SNR=8.2
GNI LR LR 21 38 00.8
comp=N,61nm,21.1s,baz=28,slow=36
GNI Garni 73.32 315 *e*P **P** **21 04 54.8 +1.1**
comp=N,14nm,0.9s
DGRG David-gareji 73.44 317 P **P** **21 04 56.0 +1.7**
SVE Sverdlovsk 73.65 336⇑ *i*P **P** **21 04 56.6 +1.5**
SVE pmax pmax
comp=Z,56nm,0.9s
TBLG Delisi 73.99 317 *e*P **P** **21 04 58.6 +1.2**
TBLG Delisi 73.99 317 P **P** **21 04 58.6 +1.2**
PETK Petropavlovsk- 74.06 29 P **P** **21 04 56.7 -0.9**
comp=Z,4.2nm,0.8s,baz=236,slow=2.6,SNR=3.6
PETK LR LR 21 38 22.8
comp=Z,50nm,18.1s,baz=70,slow=36
PETK Petropavlovsk- 74.06 29 P **P** **21 04 56.7 -0.9**
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK MLR MLR
comp=Z,50nm,18.1s
PETK Petropavlovsk- 74.06 29 P **P** **21 04 56.7 -0.9**
ARU Arti 74.25 335*d* iP **P** **21 04 59.6 +1.0**
ARU 21 07 42.1
ARU S **S** **21 14 33.3 +4.1**
ARU SS **SS** **21 19 17.5 +1.8**
ARU pmax pmax
comp=Z,70nm,1.7s
ARU Arti 74.25 335 *e*P **P** **21 04 59.2 +0.6**
comp=Z,42nm,1.0s
ZEI Tsey 74.99 318 *e*P **P** **21 05 04.7 +1.2**
ZEI pmax pmax
comp=Z,18nm,0.9s
SYO Syowa Base 75.17 200⇑ *e*P **P** **21 05 04.9 +1.1**
ONI Oni 75.21 317 P **P** **21 05 06.0 +1.4**
KBZ Khabaz 76.05 318 P **P** **21 05 10.3 +1.1**
comp=Z,29nm,0.9s,baz=115,slow=4.6,SNR=44
KBZ Khabaz 76.05 318 P **P** **21 05 10.3 +1.1**
KBZ pmax pmax
comp=Z,29nm,0.9s
KBZ Khabaz 76.05 318 P **P** **21 05 10.3 +1.1**
VNDA Vanda 76.12 169 P **P** **21 05 09.6 +0.5**
comp=Z,4.2nm,0.7s,baz=318,slow=6.8,SNR=21
VNDA LR LR 21 34 39.7
comp=Z,225nm,18.1s,baz=317,slow=32
VNDA Vanda 76.12 169 *e*P **P** **21 05 09.3 +0.2**
comp=Z,5.0nm,0.9s
KIV Kislovodsk 76.28 318*d* iP **P** **21 05 11.9 +1.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 76.28 318 *e*P **P** **21 05 11.7 +1.0**
comp=Z,23nm,1.0s
ASF Jabal al Asfar 76.41 305 *e*P **P** **21 05 14.0 +2.3**
comp=Z,18nm,0.9s,baz=329,slow=5.1,SNR=13
ASF LR LR 21 37 42.9
comp=Z,108nm,18.6s,baz=161,slow=35
ASF Jabal al Asfar 76.41 305 P **P** **21 05 14.0 +2.3**
LSZ Lusaka 76.54 256 *e*P **P** **21 05 13.5 +0.7**
comp=Z,3.7nm,0.9s
SOKR Solikamsk 76.99 337*c* iP **P** **21 05 14.9 +0.7**
SOKR pmax pmax
comp=Z,60nm,1.1s
MALT Malatya 77.17 312 *e*P **P** **21 05 17.0 +1.1**
MALT pmax pmax
comp=Z,5.0nm,0.8s
MALT Malatya 77.17 312 *e*P **P** **21 05 16.9 +1.1**
comp=Z,4.9nm,0.8s
SBA Scott Base 77.20 169 *e*P **P** **21 05 16.6 +1.4**
SBA pmax pmax
comp=Z,5.0nm,0.7s
SBA Scott Base 77.20 169 *e*P **P** **21 05 16.6 +1.4**
comp=Z,4.7nm,0.7s
EIL Elat 77.31 302 P **P** **21 05 18.5 +1.8**
comp=Z,15nm,0.7s,baz=86,slow=1.4,SNR=14
EIL LR LR 21 35 59.1
comp=Z,73nm,21.5s,baz=100,slow=33
EIL Elat 77.31 302 P **P** **21 05 18.5 +1.8**
EIL Elat 77.31 302 P **P** **21 05 18.4 +1.7**
baz=77,SNR=6.7
MMAI Mount Meron Ar 77.87 306 P **P** **21 05 22.4 +2.5**
comp=Z,16nm,0.7s,baz=89,slow=8.6,SNR=12
MMAI LR LR 21 39 04.0
comp=Z,92nm,18.2s,baz=170,slow=35
MMAI Mount Meron Ar 77.87 306 P **P** **21 05 22.4 +2.5**
SEY Seymchan 78.13 20⇑ *e*P **P** **21 05 19.9 -0.6**
LBTB Lobatse 78.46 246 P **P** **21 05 24.2 +0.9**
comp=Z,4.3nm,0.8s
BOSA Boshof 78.64 242 P **P** **21 05 25.1 +0.8**
comp=Z,1.8nm,0.6s,baz=130,slow=4.5,SNR=3.9
BOSA LR LR 21 34 26.4
comp=Z,68nm,19.4s,baz=152,slow=31
BOSA Boshof 78.64 242 P **P** **21 05 25.1 +0.8**
VRHR Novokhopersk 79.88 325 *e*P **P** **21 05 30.5 +0.2**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,60nm,0.7s
TIXI Tiksi 79.94 7⇑ *e*P **P** **21 05 28.6 -1.6**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI MLR MLR
comp=Z,176nm,23.0s
TIXI Tiksi 79.94 7 *e*P **P** **21 05 28.1 -2.1**
comp=Z,8.4nm,0.7s
ANN Anapa 80.09 318 *e*P P 21 05 43.5 +12
ANN *i* *PP pP 21 05 53.4 +9.4
ANN pmax pmax
comp=Z,46nm,1.3s
BRTR Keskin Array B 81.16 312 P **P** **21 05 38.1 +0.4**
comp=Z,14nm,0.7s,baz=133,slow=7.1,SNR=68
BRTR PP **PP** **21 08 43.8 +0.4**
comp=Z,1.8nm,1.0s,baz=100,slow=7.5,SNR=4.3
BRTR LR LR 21 45 05.8
comp=Z,59nm,18.8s,baz=321,slow=38
BRTR Keskin Array B 81.16 312 P **P** **21 05 38.1 +0.4**
BRTR PP **PP** **21 08 43.8 +0.4**
VORD Divnogorie 81.18 324 *e*P **P** **21 05 37.4 +0.1**
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s

VSR Storozhevoye 81.35 324 *e*P **P** **21 05 38.2 0.0**
OBN Obninsk 84.24 327*d* iP **P** **21 05 54.1 +1.0**
OBN *e* 21 09 05.5
OBN pmax pmax
comp=Z,38nm,0.7s
OBN Obninsk 84.24 327 *e*P **P** **21 05 53.3 +0.1**
comp=Z,39nm,0.8s
KLMR Klimovskoe 84.98 333 *e*P **P** **21 05 55.5 -1.2**
KLMR pmax pmax
comp=Z,86nm,1.2s
BILL Bilibino 85.81 19 *i* P **P** **21 05 59.9 -0.8**
BILL *e**PP **pP** **21 06 08.8 -4.5**
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,16.0s
TIRR Tirgusor 86.15 315⇑ P **P** **21 06 04.0 +1.1**
TIRR Tirgusor 86.15 315⇑ *i*P **P** **21 06 04.0 +1.1**
CFR Carcaliu 86.51 316 ⇓P **P** **21 06 05.9 +1.2**
CFR Carcaliu 86.51 316 ⇓ *i*P **P** **21 06 05.9 +1.2**
NEF NEVSHA 86.68 314 *e*P **P** **21 06 06.7 +1.1**
LEOM Leova 86.74 317⇑ P **P** **21 06 07.7 +1.9**
LEOM Leova 86.74 317⇑ *i*P **P** **21 06 07.7 +1.9**
TMCR Tamitsa 86.93 336 *e*P **P** **21 06 06.5 +0.2**
TMCR pmax pmax
comp=Z,62nm,1.3s
AKASG Malin Array Be 87.14 322 P **P** **21 06 07.6 0.0**
comp=Z,8.2nm,0.9s,baz=91,slow=4.6,SNR=14
AKASG PP **PP** **21 09 29.6 -2.1**
comp=Z,2.7nm,0.7s,baz=94,slow=6.6,SNR=7.4
AKASG Malin Array Be 87.14 322 P **P** **21 06 07.6 0.0**
AKASG 21 09 29.6
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 87.14 322 P **P** **21 06 07.6 0.0**
AKASG PP **PP** **21 09 29.6 -2.1**
MLR Muntele Rosu 88.09 316 P **P** **21 06 13.9 +1.4**
comp=Z,3.8nm,1.0s,baz=166,slow=4.2,SNR=13
MLR PP **PP** **21 09 41.6 +1.9**
comp=Z,0.8nm,0.8s,baz=291,slow=4.6,SNR=3.7
MLR Muntele Rosu 88.09 316 P **P** **21 06 13.9 +1.4**
MLR PP **PP** **21 09 41.6 +1.9**
MLR Muntele Rosu 88.09 316⇑ *i*P **P** **21 06 14.0 +1.4**
RZN Rozhen 88.21 312 *e*P **P** **21 06 14.0 +0.8**
PRAR RASCA 88.28 318⇑ *i*P **P** **21 06 13.9 +0.6**
VOIR 88.69 316⇑ P **P** **21 06 16.5 +1.2**
VOIR 88.69 316⇑ *i*P **P** **21 06 16.5 +1.2**
PGB Panagyurishte 88.77 313 *e*P **P** **21 06 16.3 +0.6**
ARR Arges 88.97 316 ⇓ *i*P **P** **21 06 17.4 +0.8**
BURAR Bucovina Array 89.01 318⇑ *i*P **P** **21 06 18.5 +1.7**
BUR08 Bucovina Ar. S 89.03 318 *e*P **P** **21 06 18.0 +1.2**
MPEP Malo Peshtene 89.22 314 *e*P **P** **21 06 18.9 +1.1**
SNAA Sanae 89.23 197 *e*P **P** **21 06 19.2 +1.8**
SNAA Sanae 89.23 197 *e*P **P** **21 06 18.7 +1.3**
comp=Z,11nm,1.3s
JOF Joensuu 89.34 334 *e*P **P** **21 06 18.5 +0.7**
JOF pmax pmax
comp=Z,16nm,0.7s
JOF Joensuu 89.34 334 *ep* **P** **21 06 18.5 +0.7**
comp=Z,16nm,0.7s
VTS Vitosha 89.47 313 ⇓P **P** **21 06 19.8 +0.7**
VTS Vitosha 89.47 313 ⇓ *i*P **P** **21 06 19.8 +0.7**
VSU Vasula 90.39 329 *i* P **P** **21 06 23.1 +0.3**
VSU pmax pmax
comp=Z,67nm,2.1s
VNA2 Neumayer--Watz 90.88 198 *e*P **P** **21 06 27.0 +2.0**
baz=89,slow=4.5
BZS Buzias 91.10 316⇑ P **P** **21 06 27.1 +0.7**
BZS Buzias 91.10 316⇑ *i*P **P** **21 06 27.1 +0.7**
UZH Uzhgorod 91.12 319 *e*P P 21 06 39.1 +13
FINES FINESS Array B 91.35 332 P **P** **21 06 27.6 +0.4**
comp=Z,9.1nm,0.8s,baz=101,slow=7.4,SNR=22
FINES LR LR 21 51 48.8
comp=Z,121nm,18.1s,baz=315,slow=38
FINES FINESS Array B 91.35 332 P **P** **21 06 27.6 +0.4**
KAF Kangasniemi 91.39 332 *e*P **P** **21 06 27.0 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 91.39 332 *ep* **P** **21 06 27.0 -0.4**
comp=Z,8.4nm,0.7s
VNA3 Neumayer Olymp 91.41 197 *e*P **P** **21 06 29.8 +2.3**
ARCES ARCESS Array B 93.23 340 P **P** **21 06 36.0 +0.2**
comp=Z,6.1nm,0.9s,baz=106,slow=5.3,SNR=18
ARCES LR LR 21 49 47.5
comp=Z,108nm,21.5s,baz=264,slow=36
ARCES ARCESS Array B 93.23 340 P **P** **21 06 36.0 +0.2**
SPITS Spitsbergen Ar 96.76 348 P **P** **21 06 51.2 -0.6**
comp=Z,16nm,0.8s,baz=124,slow=9.7,SNR=11
SPITS Spitsbergen Ar 96.76 348 P **P** **21 06 51.2 -0.6**
HFS Hagfors 97.22 330 P Pdif 21 06 54.3 0.0
comp=Z,3.9nm,0.9s,baz=120,slow=8.5,SNR=3.3
HFS Hagfors 97.22 330 P Pdif 21 06 54.3 0.0
NOA NORSAR Array B 98.45 331 LR LR 21 55 21.2
comp=Z,61nm,20.4s,baz=105,slow=38
LPG La Plagne 101.50 315 *e*PP PP 21 11 24.6 +0.3
comp=Z,13nm,1.0s
LPL La Plagne 101.52 315 *e*PP PP 21 11 25.0 +0.7
YKA Yellowknife Ar 117.19 20 PKP **PKPdf** **21 12 05.7 -0.8**
comp=Z,0.3nm,0.6s,baz=340,slow=2.2,SNR=7.6
YKA PKKPab **PKKPab** **21 22 35.6 +1.0**
comp=Z,0.1nm,0.5s,baz=123,slow=4.8,SNR=4.4
YKA Yellowknife Ar 117.19 20 PKP **PKPdf** **21 12 05.7 -0.8**
YKA PKKPab **PKKPab** **21 22 35.6 +1.0**
NVAR Mina Array Bea 129.22 45 PKP **PKPdf** **21 12 30.9 +0.3**
comp=Z,0.5nm,0.5s,baz=266,slow=2.4,SNR=3.6
NVAR Mina Array Bea 129.22 45 PKP **PKPdf** **21 12 30.9 +0.3**
SCHQ Schefferville 131.98 354 PKP **PKPdf** **21 12 35.6 +0.6**
comp=Z,1.6nm,0.7s,baz=292,slow=5.4,SNR=3.7
SCHQ SKPbc **SKPbc** **21 15 55.2 -2.8**
comp=Z,5.5nm,0.8s,baz=42,slow=2.8,SNR=12
SCHQ Schefferville 131.98 354 PKP **PKPdf** **21 12 35.6 +0.6**
SCHQ SKPbc **SKPbc** **21 15 55.2 -2.8**
PDAR Pinedale Array 132.55 36 PKP **PKPdf** **21 12 36.4 -0.4**
comp=Z,0.7nm,0.7s,baz=116,slow=2.1,SNR=5.3
PDAR Pinedale Array 132.55 36 PKP **PKPdf** **21 12 36.4 -0.4**
ULM Lac du Bonnet 133.16 19 SKPbc **SKPbc** **21 15 59.0 -3.2**
comp=Z,6.9nm,0.9s,baz=304,slow=7.3,SNR=9.5
ULM Lac du Bonnet 133.16 19 SKPbc **SKPbc** **21 15 59.0 -3.2**
RSSD Black Hills 134.64 31 *e*PKIKP **PKPdf** **21 12 40.4 -0.2**
RSSD Black Hills 134.64 31 *e*PKPdf **PKPdf** **21 12 40.4 -0.2**
RSSD *e*SKP 21 16 05.0
WMOK Wichita Mounta 144.15 36 *e*PKiKP **PKPab** **21 12 55.3 -0.3**
WMOK Wichita Mounta 144.15 36 *e*PKPdf **PKPab** **21 12 55.3 -0.3**
TXAR Lajitas Array 144.26 48 PKP PKPbc 21 12 57.5 +0.8
comp=Z,3.2nm,0.6s,baz=222,slow=2.4,SNR=25
TXAR SKPbc **SKPbc** **21 16 32.8 -1.6**
comp=Z,1.1nm,0.9s,baz=21,slow=3.5,SNR=3.8
TXAR Lajitas Array 144.26 48 PKP PKPbc 21 12 57.5 +0.8
TXAR SKPbc **SKPbc** **21 16 32.8 -1.6**
ERPA Erie 144.63 8 *e*PKPdf **PKPab** **21 12 56.8 -0.4**
QUA2 Belchertown 144.86 358 *e*PKPdf **PKPab** **21 12 57.6 -0.3**
BINY Binghamton 144.92 3 *e*PKPdf **PKPab** **21 12 57.7 -0.5**
ALLY Alegheny Colle 145.07 8 *e*PKPdf **PKPbc** **21 12 57.5 -1.3**
BDFB Brasilia 145.86 229 PKPbc **PKPab** **21 13 03.0 +0.4**
comp=Z,2.1nm,0.4s,baz=125,slow=3.4,SNR=5.5
BDFB Brasilia 145.86 229 PKPbc **PKPab** **21 13 03.0 +0.4**
OLIL Olney 145.93 20 *e*PKPdf **PKPab** **21 13 01.9 -0.1**
ACSO Alum Creek Sta 145.95 12 *e*PKPdf **PKPbc** **21 13 01.7 +0.2**
BLO Bloomington 146.03 18 *e*PKP2 **PKPdf** **21 13 01.4 +0.3**
BLO Bloomington 146.03 18 *e*PKPdf **PKPdf** **21 13 01.4 +0.3**
SSPA Standing Stone 146.34 5 *e*PKPdf **PKPdf** **21 13 02.1 +0.6**
SIUC Southern Illin 146.43 22 *e*PKPdf **PKPbc** **21 13 02.9 -0.2**
WCI Wyandotte Cave 146.97 18 *e*PKP2 **PKPbc** **21 13 04.6 -0.1**
WCI Wyandotte Cave 146.97 18 *e*PKPbc **PKPbc** **21 13 04.6 -0.1**
SDMD Soldier's Deli 147.64 4 *e*PKPbc **PKPbc** **21 13 05.7 -0.7**
OXF Oxford 149.13 25 *e*PKP2 **PKPbc** **21 13 09.6 -0.9**
OXF Oxford 149.13 25 *e*PKPbc **PKPbc** **21 13 09.6 -0.9**
OXF *e*PKPab **PKPab** **21 13 14.8 0.0**
SWET Sewanee 149.84 20 *e*PKPdf **PKPdf** **21 13 03.1 -4.4**
SWET *e*PKPab **PKPab** **21 13 17.2 -0.5**
LPAZ La Paz 156.14 194 PKPab **PKPab** **21 13 46.6 +1.3**
comp=Z,0.9nm,0.7s,baz=214,slow=3.6,SNR=4.9
LPAZ La Paz 156.14 194 PKPab **PKPab** **21 13 46.6 +1.3**

*IDC **27**.21:11:44.4±13.0, 36.°46N×71.°38E, h84km±63km, mb2.9/2, mb1 3.1/5, mb1mx2.9/28, mbtmp2.9/5, ML2.9/2, Error ellipse: s-maj=276.4km s-min=40.6km az=142.0*

*ISCJB **27**.21:11:45.6±1.3, 36.°9N±0.°1×70.°9E±0.°2, h88km, mb3.1/2, Error ellipse: s-maj=22.9km s-min=12.6km az=24.4*

ISC 27 21:11:46.9±1.7, 36.°9N±0.°1×70.°9E±0.°2, h88km, n7, σ1s09/9, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.25**	**357**	⇑Pn			**Pn**	**21 13 17.7**	**+1.2**
	0.9nm,0.3s,baz=180,slow=13								
KK31				⇓Sn			**Sn**	**21 14 26.0**	**-0.5**
	6.5nm,0.6s,baz=189,slow=24								
AAK	**Ala-Archa**	**6.39**	**24**	P			**Pn**	**21 13 19.9**	**+1.4**
	0.5nm,0.3s,baz=190,slow=11,SNR=11								
AAK				S			**Sn**	**21 14 30.3**	**+0.2**
	0.6nm,0.3s,baz=330,slow=23,SNR=8.3								
TKM2	**Tokmak 2**	**7.04**	**29**	⇓Pn			**Pn**	**21 13 28.4**	**+1.1**
	1.1nm,0.5s								
TKM2				⇑Sn			Sn	21 14 56.1	+10
	2.2nm,0.8s								
MKAR	**Makanchi Array**	**13.03**	**37**	P			**Pn**	**21 14 47.2**	**-1.4**
	0.0nm,0.3s,baz=229,slow=13,SNR=4.0								
ZALV	**Zalesovo Beam**	**19.61**	**25**	P			**P**	**21 16 07.5**	**-0.6**
	0.1nm,0.3s,baz=215,slow=12,SNR=4.1								
TORD	**Tordi Ar. Bea**	**65.68**	**268**	P			**P**	**21 22 22.3**	**0.0**
	0.1nm,0.3s,baz=54,slow=5.9,SNR=4.5								
YKA	**Yellowknife Ar**	**80.89**	**3**	P			**P**	**21 23 51.4**	**+0.5**
	0.1nm,0.4s,baz=351,slow=5.9,SNR=4.1								

*ISCJB **27**.21:15:33.0±0.3, 38.°34N±0.°02×74.°15E±0.°07, h124km, mb3.8/5, Error ellipse: s-maj=7.7km s-min=3.2km az=173.1*

*BJI **27**.21:15:35.1, 38.°59N×74.°16E, h128km, mB4.6/3, mb4.1/6*

*NNC **27**.21:15:35.6±4.9, 38.°86N×73.°74E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=40.3km s-min=24.7km az=169.0*

*IDC **27**.21:15:37.1±1.5, 38.°54N×73.°86E, h130km±9km, mb3.6/5, mb1 3.6/10, mb1mx3.3/31, mbtmp3.6/10, Error ellipse: s-maj=23.9km s-min=16.4km az=133.0*

ISC 27 21:15:34.2±0.6, 38.°28N±0.°05×74.°20E±0.°07, h124km, n53, σ1s81/58, mb4.0/5, 7C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.85**	**48**	⇓ *i*Pg			Pn	21 16 02.8	-3.4
KSH					Sg		Sn	21 16 23.0	-7.6
KSH					smax	smax			
	comp=N,3μm,0.4s								
KSH					smax	smax			
	comp=E,2μm,0.4s								
AML	**Almayashu**	**3.86**	**354**	P			**Pn**	**21 16 30.8**	**-1.5**
	SNR=74								
KZA	**Kyzart**	**3.88**	**12**	P			**Pn**	**21 16 32.1**	**-0.4**
	SNR=47								
UCH	**Uchtor**	**3.95**	**3**	P			**Pn**	**21 16 33.2**	**-0.3**
	SNR=18								
ULHL	**Ulahol**	**4.26**	**21**	P			**Pn**	**21 16 37.5**	**+0.1**
	SNR=44								
AAK	**Ala-Archa**	**4.35**	**3**	P			**Pn**	**21 16 38.2**	**-0.4**
	comp=E,9.6nm,0.3s,baz=158,slow=7.2,SNR=51								
AAK				S			**Sn**	**21 17 26.3**	**-2.3**
	comp=E,6.7nm,0.3s,baz=68,slow=19,SNR=8.8								
AAK	**Ala-Archa**	**4.35**	**3**	P			**Pn**	**21 16 38.2**	**-0.4**
	SNR=39								
EKS2	**Erkin-Say**	**4.38**	**356**	P			**Pn**	**21 16 38.3**	**-0.7**
	SNR=131								
KBK	**Karagaybulak**	**4.41**	**7**	P			**Pn**	**21 16 39.6**	**+0.2**
	SNR=28								
CHCP	**Chirah Chowk**	**4.68**	**190**	P			Pn	21 16 46.9	+4.0
CHMS	**Chumysh**	**4.73**	**5**	P			**Pn**	**21 16 43.2**	**-0.3**
	SNR=11								
TKM2	**Tokmak 2**	**4.75**	**13**	⇑Pn			**Pn**	**21 16 44.1**	**+0.1**
	comp=E,14nm,0.4s								
TKM2				⇓Sn			**Sn**	**21 17 34.8**	**-3.5**
	comp=E,42nm,0.5s								
TKM2	**Tokmak 2**	**4.75**	**13**	P			**Pn**	**21 16 44.0**	**0.0**
	SNR=48								
CEP	**Cherat**	**4.82**	**203**	P			**Pn**	**21 16 47.2**	**+2.3**
CEP				S			**Sn**	**21 17 40.0**	**+0.1**
USP	**Ospenovka**	**4.98**	**3**	P			**Pn**	**21 16 46.4**	**-0.6**
	SNR=7.8								
KK31	**Karatay Array**	**5.57**	**331**	⇑Pn			**Pn**	**21 16 51.9**	**-2.9**
	comp=E,10nm,0.4s,baz=155,slow=12								
KK31				⇑Sn			Sn	21 17 49.1	-8.6
	comp=E,7.4nm,0.3s,baz=147,slow=25								
THW	**Thamme Wali**	**5.83**	**201**	P			**Pn**	**21 16 59.7**	**+1.3**
DLH	**Dalhousie**	**5.91**	**165**	*e*P			**Pn**	**21 17 00.0**	**+0.4**
DLH				*e*S			**Sn**	**21 18 04.0**	**-2.2**
SARP	**Sargodha**	**6.47**	**192**	P			**Pn**	**21 17 08.0**	**+1.0**
SDNR	**Sundarnagar**	**7.14**	**161**	*e*P			**Pn**	**21 17 19.0**	**+2.9**
SDNR				*ex*			x	21 18 39.0	
SMLA	**Simla**	**7.54**	**160**	*i* P			**Pn**	**21 17 23.4**	**+2.0**
SMLA				*i* S			**Sn**	**21 18 42.3**	**-3.1**
DDI	**Dehra Dun**	**8.56**	**157**	*e*S			**Sn**	**21 19 11.2**	**+1.1**
KKR	**Kurukshetra**	**8.58**	**165**	*e*S			**Sn**	**21 19 07.6**	**-3.0**
KKR					AML	AML		21 19 19.3	
	comp=Z,132nm,0.1s								
NDI	**New Delhi**	**9.90**	**164**	*e*S			**Sn**	**21 19 37.0**	**-5.6**
AYAN	**Aya Nagar**	**10.08**	**165**	*e*S			**Sn**	**21 19 42.5**	**-4.4**
AYAN					AML	AML		21 19 47.7	
	comp=Z,47nm,0.6s								
KHET	**Khetri**	**10.27**	**172**	*e*P			**Pn**	**21 17 57.1**	**-1.2**
KHET				*e*S			Sn	21 19 44.3	-7.3
KHET					AML	AML		21 19 50.6	
	comp=N,19nm,0.2s								
KHET					AML	AML		21 19 51.2	
	comp=E,38nm,0.3s								
MK31	**Makanchi Array**	**10.39**	**32**	⇑P			**Pn**	**21 18 00.2**	**+0.5**
	comp=E,3.3nm,0.7s,baz=206,slow=12,SNR=34								
MKAR	**Makanchi Array**	**10.39**	**32**	P			**Pn**	**21 17 59.7**	**0.0**
	comp=E,0.3nm,0.3s,baz=205,slow=14,SNR=48								
PYUN	**Piuthan**	**12.54**	**142**	*e*P			**Pn**	**21 18 27.3**	**-1.2**
	comp=E,21nm,0.3s								
PYUN				*e*S			Sn	21 20 37.3	-10
KURBB	**Kurchatov Arra**	**12.72**	**13**	P			**Pn**	**21 18 27.4**	**-2.9**
	comp=E,5.0nm,0.3s,baz=201,slow=12,SNR=1.8								
DANN	**Dangsing**	**12.72**	**138**	*e*P			**Pn**	**21 18 30.1**	**-0.9**
	comp=E,18nm,0.3s								
KURK	**Kurchatov**	**12.82**	**13**	⇓P			**P**	**21 18 37.3**	**-0.5**
	comp=E,3.3nm,0.8s								
KOLN	**Koldanda**	**13.11**	**140**	*e*P			**Pn**	**21 18 34.9**	**-1.0**
	comp=E,7.3nm,0.3s								
KKN	**Kakani**	**13.98**	**135**	*e*P			**Pn**	**21 18 47.0**	**-0.2**
	comp=E,12nm,0.6s								
PKIN	**Phulchoki**	**14.21**	**135**	*e*P			**Pn**	**21 18 51.0**	**+0.8**
	comp=E,7.1nm,0.3s								
PKI	**Pulchoki**	**14.23**	**135**	*e*P			**Pn**	**21 18 51.1**	**+0.7**
	comp=E,5.6nm,0.2s								
GUN	**Gumba**	**14.23**	**133**	*e*P			**Pn**	**21 18 50.7**	**+0.3**
	comp=E,6.0nm,0.2s								
VOSK	**Vostochnaya**	**14.61**	**352**	⇑P			Pn	21 18 50.3	-4.5
	comp=E,0.3nm,0.4s								
BVAR	**Borovoye Array**	**14.98**	**351**	P			**Pn**	**21 18 58.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=150,slow=15,SNR=3.8								
AB31	**Akbulak array**	**15.02**	**321**	⇑P			Pn	21 18 55.3	-4.5
	comp=E,0.4nm,0.3s								
ZRNK	**Zerenda**	**15.11**	**348**	⇓P			**Pn**	**21 19 00.6**	**-0.3**
	comp=E,0.9nm,0.5s								
RAMN	**Ramite**	**15.37**	**134**	*e*P			**Pn**	**21 19 05.1**	**+0.4**
	comp=E,9.6nm,0.3s								
TAPN	**Taplejung**	**15.73**	**130**	*e*P			**Pn**	**21 19 09.5**	**+0.4**
	comp=E,6.4nm,0.5s								
ODAN	**Odare**	**15.90**	**132**	*e*P			**P**	**21 19 12.8**	**+0.4**
	comp=E,15nm,0.5s								
AKTO	**Aktyubinsk**	**16.73**	**322**	P			**Pn**	**21 19 17.9**	**-3.1**
	comp=E,0.6nm,0.3s,baz=125,slow=15,SNR=9.4								
AKTO	**Aktyubinsk**	**16.73**	**322**	⇑P			**Pn**	**21 19 20.3**	**-0.7**
	comp=E,0.7nm,0.8s								
ZALV	**Zalesovo Beam**	**17.28**	**22**	P			**P**	**21 19 27.2**	**+0.1**
	comp=E,0.6nm,0.3s,baz=218,slow=11,SNR=20								
GTA	**Gaotai**	**19.97**	**79**	*e*P			**Pn**	**21 20 01.5**	**+1.9**
GTA				SS			**sS**	**21 24 10.8**	**-1.3**
GTA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,150nm,4.8s								
GTA				LR	LR				
	comp=N,170nm,14.7s								
GTA				LR	LR				
	comp=E,130nm,12.4s								
GTA				LR	LR				
	comp=Z,110nm,16.2s								
SONM	**Songino Array**	**25.23**	**57**	P			**P**	**21 20 52.4**	**

comp=Z,2.4nm,0.9s,baz=111,slow=7.6,SNR=6.4
FINES pP **pP** **21 23 04.1 +1.2**
comp=Z,1.1nm,0.6s,baz=116,slow=6.3,SNR=2.2
ARCES ARCESS Array B 40.51 336 P **P** **21 23 00.9 +0.4**
comp=Z,3.0nm,1.0s,baz=107,slow=9.0,SNR=9.8
ARCES pP **pP** **21 23 30.0 +1.6**
comp=Z,1.6nm,0.7s,baz=106,slow=8.9,SNR=1.8
TORD Torodi Ar. Bea 68.29 270 P **P** **21 26 21.9 -0.2**
comp=Z,0.7nm,0.3s,baz=50,slow=5.7,SNR=26
YKA Yellowknife Ar 79.32 4 P **P** **21 27 26.7 +1.1**
comp=Z,0.1nm,0.3s,baz=349,slow=5.1,SNR=3.2
YKA pP **pP** **21 27 58.4 +1.6**
comp=Z,0.3nm,0.7s,baz=351,slow=6.1,SNR=3.4

MEX 27 21:19:03.4±0.4, 16°21'N×97°62'W, h9km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.53**	**291**	*i* P	Pg	21 19 12.9	-0.7
PNIG				*i* S	Sg	21 19 20.5	-0.1
VHO	**Vista Hermosa**	**1.21**	**44**	*i* P	Pb	21 19 22.8	-3.9
VHO				*i* S	Sb	21 19 37.9	-4.7
OXBJ	**Oaxaca**	**1.21**	**45**	*i* P	Pb	21 19 23.3	-3.5
OXBJ				*i* S	Sb	21 19 38.1	-4.6
HUIG	**Huatulco**	**1.51**	**107**	*i* P	Pn	21 19 27.1	-3.6
HUIG				*i* S	Sn	21 19 45.5	-5.0
TPIG	**Tehuac#an**	**2.21**	**6**	*i* P	Pn	21 19 36.5	-4.1
TPIG				*i* S	Sn	21 20 03.4	-4.9

ISCJB ***27*** *21:48:28.3±1.0, 47°16'N×0°04'×18°09'E±0°10, h22km±6km, Error ellipse: s-maj=11.0km s-min=7.0km az=8.3*
CSEM ***27*** *21:48:28.5, 47°12'N×18°23'E, h12km, ML1.2/1, After BUD*
ISC 27 21:48:28.6±0.9, 47°12'N±0°04'×18°19'E±0°06, h14km±10km, n18, σ0°29/26, 5C-3D, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKST	**T"s**	**0.17**	**322**⇓	*e*Pg	**Pg**	**21 48 32.6**	**-0.2**
PKST			⇑	eSg	**Sg**	**21 48 35.7**	**+0.1**
PKST	**T"s**	**0.17**	**322**⇑	*e*Pg	**Pg**	**21 48 32.6**	**-0.2**
PKST			⇑	eSg	**Sg**	**21 48 35.7**	**+0.1**
CSKK	**Cs˘‡kako**	**0.24**	**11**⇑	eSg	Sb	21 48 48.3	+9.3
CSKK	**Cs˘‡kako**	**0.24**	**11**⇑	*e*Pg	Pb	21 48 44.2	+9.4
CSKK				*e*Sg	Sb	21 48 48.3	+9.3
PKSG		**0.30**	**27**⇓	*e*Pg	**Pg**	**21 48 34.7**	**-0.2**
PKSG			⇓	*e*Sg	**Sg**	**21 48 39.5**	**+0.4**
PKSG		**0.30**	**27**⇓	*e*g	**Pg**	**21 48 34.7**	**-0.2**
PKSG			⇓	eSg	**Sg**	**21 48 39.5**	**+0.4**
PKS9	**Tamasi**	**0.54**	**174**	*e*Pg	**Pb**	**21 48 39.6**	**-0.2**
PKS9				*e*Sg	**Sn**	**21 48 50.6**	**-0.1**
PKS9	**Tamasi**	**0.54**	**174**	*e*Pg	**Pb**	**21 48 39.6**	**-0.2**
PKS9				*e*Sg	**Sn**	**21 48 50.6**	**-0.1**
PKS7	**Kunszentmiklos**	**0.67**	**96**	eSg	**Sb**	**21 48 51.2**	**+0.1**
PKS7	**Kunszentmiklos**	**0.67**	**96**	*e*	**Sb**	**21 48 51.2**	**+0.1**
PKS2	**Kecel**	**0.94**	**132**	*e*Sb	**Sn**	**21 49 01.3**	**+0.6**
PKS2	**Kecel**	**0.94**	**132**	*e*Sg	**Sn**	**21 49 01.3**	**+0.6**
PKSM	**Moragy**	**0.96**	**161**	*e*Pn	**Pb**	**21 48 47.0**	**-0.1**
PKSM				*e*Sn	**Sg**	**21 48 59.9**	**+0.1**
PKSM	**Moragy**	**0.96**	**161**	*e*Pn	**Pb**	**21 48 47.0**	**-0.1**
PKSM				*e*Sn	**Sg**	**21 48 59.9**	**+0.1**
PKS6	**Bocsa**	**1.08**	**119**	*e*Sn	**Sn**	**21 49 04.0**	**0.0**
PKS6	**Bocsa**	**1.08**	**119**	*e*	**Sn**	**21 49 04.0**	**0.0**
PSZ	**Piszkesteto**	**1.40**	**55**	*e*Pn	**Pn**	**21 48 53.9**	**+0.1**
PSZ				*e*Sn	**Sg**	**21 49 13.3**	**-0.5**
PSZ	**Piszkesteto**	**1.40**	**55**	*e*Pg	**Pn**	**21 48 53.9**	**+0.1**
PSZ				*e*Sg	**Sg**	**21 49 13.3**	**-0.5**

ISCJB ***27*** *21:51:17.8±0.4, 38°16'N±0°04'×23°18'E±0°04, h27km±5km, Error ellipse: s-maj=6.8km s-min=4.7km az=36.4*
CSEM ***27*** *21:51:17.8±0.1, 38°17'N×23°17'E, h18km±1km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.0km az=42.0*
THE ***27*** *21:51:18.0, 38°18'N×23°22'E, h10km±3km, ML1.7/3, Error ellipse: s-maj=3.7km s-min=0.5km az=244.0*
ATH ***27*** *21:51:18.2, 38°17'N×23°14'E, h21km±2km, MD2.7/8, ML1.6*
ISC 27 21:51:18.2±1.0, 38°17'N±0°02'×23°17'E±0°02, h17km±9km, n31, σ0°50/47, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTK	**Loutraki**	**0.21**	**227**	P	**Pg**	**21 51 23.3**	**0.0**
LTK				S	**Sb**	**21 51 26.9**	**-0.4**
LTK	**Loutraki**	**0.21**	**227**	*e*PB	**Pg**	**21 51 23.4**	**+0.1**
LTK				*e*SB	**Sb**	**21 51 27.2**	**-0.1**
LTK	**Loutraki**	**0.21**	**227**	*e*Pb	**Pg**	**21 51 23.4**	**+0.1**
LTK				S	**Sb**	**21 51 26.9**	**-0.4**
LTK				*e*Sb	**Sb**	**21 51 27.2**	**-0.1**
ATH	**Athens Observa**	**0.48**	**114**	*e*PB	**Pb**	**21 51 28.3**	**+0.3**
ATH				*e*SB	**Sb**	**21 51 35.1**	**+0.4**
ATH	**Athens Observa**	**0.48**	**114**	*e*Pb	**Pb**	**21 51 28.3**	**+0.3**
ATH				*e*Sb	**Sb**	**21 51 35.1**	**+0.4**
NAIG	**Nisos Aigina**	**0.48**	**148**	*e*PB	**Pb**	**21 51 28.3**	**+0.1**
NAIG	**Nisos Aigina**	**0.48**	**148**	*e*Pb	**Pb**	**21 51 28.3**	**+0.1**
LKR	**Lokris**	**0.50**	**345**	P	**Pg**	**21 51 27.7**	**-0.5**
LKR				S	**Sg**	**21 51 35.0**	**0.0**
LKR	**Lokris**	**0.50**	**345**	*e*PB	**Pg**	**21 51 27.7**	**-0.5**
LKR				*e*SB	**Sb**	**21 51 35.8**	**+0.3**
LKR	**Lokris**	**0.50**	**345**	P	**Pg**	**21 51 27.7**	**-0.5**
LKR				S	**Sg**	**21 51 35.0**	**0.0**
LKR				*e*Sb	**Sb**	**21 51 35.8**	**+0.3**
ATAL	**Atalanti**	**0.54**	**348**	P	**Pg**	**21 51 28.1**	**-0.8**
ATAL	**Atalanti**	**0.54**	**348**	P	**Pg**	**21 51 28.1**	**-0.8**
DSF	**Desfina**	**0.56**	**296**	P	**Pg**	**21 51 29.2**	**-0.1**
DSF				S	**Sb**	**21 51 38.2**	**+1.0**
DSF	**Desfina**	**0.56**	**296**	P	**Pg**	**21 51 29.2**	**-0.1**
DSF				S	**Sb**	**21 51 38.2**	**+1.0**
PTL	**Penteli**	**0.56**	**102**	P	**Pg**	**21 51 28.2**	**-1.2**
PTL	**Penteli**	**0.56**	**102**	*e*PN	**Pg**	**21 51 29.6**	**+0.2**
PTL				*e*SN	**Sb**	**21 51 38.0**	**+0.7**
PTL	**Penteli**	**0.56**	**102**	P	**Pg**	**21 51 28.2**	**-1.2**
PTL	**Penteli**	**0.56**	**102**	*e*Pn	**Pg**	**21 51 29.6**	**+0.2**
PTL				*e*Sn	**Sb**	**21 51 38.0**	**+0.7**
DID	**Didima**	**0.66**	**175**	P	**Pg**	**21 51 30.4**	**-0.8**
DID	**Didima**	**0.66**	**175**	*e*PN	**Pg**	**21 51 31.0**	**-0.2**
DID				*e*SN	**Sb**	**21 51 40.6**	**+0.4**
DID	**Didima**	**0.66**	**175**	P	**Pg**	**21 51 30.4**	**-0.8**
DID	**Didima**	**0.66**	**175**	*e*Pn	**Pg**	**21 51 31.0**	**-0.2**
DID				*e*Sn	**Sb**	**21 51 40.6**	**+0.4**
GUR	**Goura**	**0.69**	**251**	P	**Pb**	**21 51 31.9**	**+0.1**
GUR	**Goura**	**0.69**	**251**	*e*PN	**Pg**	**21 51 31.7**	**-0.1**
GUR	**Goura**	**0.69**	**251**	P	**Pb**	**21 51 31.9**	**+0.1**
AXAR	**Agios Charalam**	**0.72**	**326**	P	**Pg**	**21 51 32.3**	**0.0**
AXAR	**Agios Charalam**	**0.72**	**326**	P	**Pg**	**21 51 32.3**	**0.0**
KALE	**Kalithea**	**0.84**	**286**	*e*PN	**Pb**	**21 51 34.0**	**-0.3**
KALE	**Kalithea**	**0.84**	**286**	*e*Pn	**Pb**	**21 51 34.0**	**-0.3**
LAKA	**Lakka**	**0.94**	**275**	*e*PN	**Pb**	**21 51 35.7**	**-0.3**
LAKA	**Lakka**	**0.94**	**275**	*e*Pn	**Pb**	**21 51 35.7**	**-0.3**

IDC ***27*** *21:52:30.3±0.6, 3°04'S×129°52'E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.3/22, mbtmp4.2/15, ML4.4/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=26.6km s-min=11.8km az=78.0*
ISCJB ***27*** *21:52:32.8±0.4, 2°99'S±0°03'×129°62'E±0°04, h28km, mb4.3/16, MS3.4/3, Error ellipse: s-maj=5.8km s-min=4.6km az=163.5*
DJA ***27*** *21:52:34.3±0.2, 3°S±3°×13°0E±°, h10km, M4.7/27, mB5.5/5, mb4.7/27, MLv4.5/13, Mw(mB)5.0/5*
AUST ***27*** *21:52:37.0±0.3, 3°07'S×129°58'E, h48km, Error ellipse: s-maj=0.9km s-min=0.8km az=41.0*
ISC 27 21:52:34.9±0.5, 3°04'S±0°05'×129°50'E±0°05, h28km, n63, σ1°65/66, mb4.1/16, MS3.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.65**	**242**	P	**Pb**	**21 52 47.9**	**+0.1**
AAI	**Ambon**	**1.46**	**244**	P	**Pb**	**21 53 00.8**	**-0.6**
	baz=1.5,SNR=70						
AAI	**Ambon**	**1.46**	**244**	P	**Pb**	**21 53 00.8**	**-0.6**
BNDI	**Bandanaira**	**1.53**	**165**	P	**Pb**	**21 53 02.7**	**+0.1**
FAKI	**Fak Fak**	**2.75**	**88**	P	**Pn**	**21 53 17.8**	**+0.7**
SWI	**Sorong**	**2.78**	**39**	P	**Pn**	**21 53 17.5**	**-0.1**
	baz=2.8,SNR=74						
SWI				S	**Sn**	**21 53 52.5**	**+2.2**
	baz=2.8,SNR=5.5						
SWI	**Sorong**	**2.78**	**39**	P	**Pn**	**21 53 17.1**	**-0.5**
LBMI	**Labuha**	**3.11**	**320**	P	**Pn**	**21 53 20.8**	**-1.4**
TLE	**Tual**	**4.13**	**129**	P	**Pn**	**21 53 40.2**	**+4.0**
	baz=4.1,SNR=11						
TLE	**Tual**	**4.13**	**129**	P	**Pn**	**21 53 40.1**	**+3.9**
TNTI	**Ternate**	**4.34**	**331**	P	**Pn**	**21 53 38.0**	**-1.1**
MNI	**Manado**	**6.44**	**314**	P	**Pn**	**21 54 08.8**	**+0.8**
	90nm,0.5s,2μm0.5nm						
KDI	**Kendari**	**6.93**	**262**	P	**Pn**	**21 54 13.7**	**-1.0**
	33nm,1.0s,0.1nm						
LUWI	**Luwuk**	**7.01**	**286**	P	**Pn**	**21 54 14.7**	**-1.1**
	69nm,0.8s,925nm0.4nm						
BBSI	**Bau Bau**	**7.33**	**250**	P	**Pn**	**21 54 22.9**	**+2.7**
	52nm,0.9s,0.2nm						
MRSI	**Marisa**	**8.32**	**295**	P	**Pn**	**21 54 31.7**	**-2.1**
MMRI	**Maumere**	**9.12**	**232**	P	Pn	21 54 49.5	+4.8
	42nm,1.1s						
BKSI	**Bulukumba**	**9.63**	**256**	P	**Pn**	**21 54 54.1**	**+2.4**
	25nm,1.0s						
TTSI	**Tana Toraja**	**9.67**	**270**	P	**Pn**	**21 54 54.6**	**+2.3**
	18nm,0.8s,2μm						
MTN	**Manton Dam**	**9.88**	**171**	P	**Pn**	**21 54 56.8**	**+1.7**
	baz=9.9,SNR=29						
MTN				S	**Sn**	**21 56 46.7**	**+1.5**
	baz=9.9,SNR=3.4						
KAPI	**Kappang**	**9.92**	**258**	Pn	**Pn**	**21 54 58.8**	**+3.0**
	2.7nm,0.3s,baz=73,slow=14,SNR=7.1						
KAPI	**Kappang**	**9.92**	**258**	P	**Pn**	**21 54 58.3**	**+2.5**
	28nm,1.2s						
KDU	**Kakadu**	**10.03**	**163**	P	**Pn**	**21 54 57.2**	**0.0**
	baz=10.0,SNR=20						
KDU				S	**Sn**	**21 56 47.0**	**-1.8**
	baz=10.0,SNR=4.5						
BBKI	**Banjar Baru**	**14.64**	**268**	P	**Pn**	**21 56 02.9**	**+2.5**
	51nm,1.0s						
KHKI	**Kahang-Kahang**	**14.80**	**248**	P	**P**	**21 56 05.8**	**-2.3**
	25nm,1.0s						
SRBI	**Singaraja**	**15.08**	**250**	P	**Pn**	**21 56 08.5**	**+2.3**
	36nm,1.2s						
FITZ	**Fitzroy Crossi**	**15.45**	**194**	Pn	**Pn**	**21 56 11.1**	**+0.1**
	0.7nm,0.3s,baz=19,slow=11,SNR=12						
FITZ				Sn	**Sn**	**21 59 04.3**	**+3.0**
	0.2nm,0.3s,baz=161,slow=13,SNR=3.0						
FITZ				LR	LR	22 02 56.4	
	comp=Z,158nm,18.0s,baz=15,slow=40						
FITZ	**Fitzroy Crossi**	**15.45**	**194**	P	**Pn**	**21 56 11.1**	**+0.1**
	baz=16,SNR=14						
KMMI	**Kalianget**	**15.98**	**255**	P	**P**	**21 56 21.6**	**+0.4**
	63nm,1.1s						
BLJI	**Banyuglugur**	**16.51**	**253**	P	**P**	**21 56 26.4**	**-0.7**
	56nm,0.8s						
COEN	**Coen**	**17.32**	**130**	P	**P**	**21 56 37.2**	**+1.1**
	baz=17,SNR=11						
WRA	**Warramunga Arr**	**17.45**	**165**	P	**Pn**	**21 56 33.7**	**-2.8**
	2.2nm,0.3s,baz=344,slow=12,SNR=38						
WRA				S	**Sn**	**21 59 52.4**	**+2.2**
	0.4nm,0.3s,baz=341,slow=22,SNR=6.4						
SJI	**Sawahan**	**18.26**	**254**	P	**Pn**	**21 56 48.3**	**+1.8**
	52nm,0.8s						
PWJI	**Pagerwojo**	**18.29**	**254**	P	**Pn**	**21 56 47.2**	**+0.3**
	44nm,0.8s						
SMRI	**Semarang**	**19.40**	**257**	P	**Pn**	**21 56 59.8**	**-0.5**
	64nm,1.0s						
UGM	**Wanagama**	**19.50**	**255**	P	**Pn**	**21 57 05.3**	**+3.8**
	baz=20,SNR=3.4						
KSM	**Kuching**	**19.70**	**283**	P	**Pn**	**21 57 03.8**	**-0.1**
	baz=20,SNR=3.8						
QIS	**Mount Isa**	**20.01**	**151**	P	**P**	**21 57 06.3**	**+0.7**
	baz=20,SNR=31						
BJII	**Banjamegara**	**20.16**	**257**	P	Pn	21 57 09.2	-0.2
	39nm,1.1s						
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	**21 57 15.6**	**-0.2**
	36nm,0.7s,baz=346,slow=10,SNR=212						
ASAR				S	**S**	**22 01 01.9**	**-6.1**
	6.2nm,1.1s,baz=347,slow=18,SNR=8.9						
ASAR				LR	LR	22 05 05.2	
	comp=Z,110nm,19.1s,baz=348,slow=36						
CBJI	**Citeko**	**22.82**	**261**	P	**P**	**21 57 37.4**	**+1.5**
	88nm,0.3s						
PPBI	**Pangkal Pinang**	**23.36**	**272**	P	**P**	**21 57 41.8**	**+0.4**
	18nm,0.9s,1μm						
MEEK	**Meekatharra**	**25.68**	**203**	P	**P**	**21 58 02.9**	**+0.1**
	baz=26,SNR=7.2						
BBOO	**Buckleboo**	**30.25**	**169**	P	**P**	**21 58 42.6**	**-0.9**
	baz=30,SNR=4.6						
STKA	**Stephens Creek**	**30.86**	**160**	P	**P**	**21 58 48.3**	**-0.7**
	1.0nm,0.4s,baz=332,slow=8.1,SNR=9.6						
STKA				LR	LR	22 11 15.6	
	comp=Z,159nm,19.0s,baz=204,slow=36						
STKA	**Stephens Creek**	**30.86**	**160**	P	**P**	**21 58 49.2**	**+0.3**
	baz=31,SNR=8.5						
PSI	**Prapat**	**31.11**	**280**	P	**P**	**21 58 50.4**	**-1.1**
	10nm,0.9s,baz=129,slow=1.6,SNR=8.3						
PSI	**Prapat**	**31.11**	**280**	P	**P**	**21 58 50.8**	**-0.7**
	baz=31,SNR=5.0						
PSI	**Prapat**	**31.11**	**280**	P	**P**	**21 58 50.6**	**-0.9**
	15nm,0.9s						
TPTI		**32.91**	**281**	P	**P**	**21 59 07.4**	**+0.3**
	132nm,1.2s,33μm						
CMAR	**Chiang Mai Arr**	**36.90**	**307**	P	**P**	**21 59 42.2**	**+0.6**
	1.6nm,0.9s,baz=139,slow=7.6,SNR=13						
CMAR				PcP	**PcP**	**22 02 04.3**	**+1.4**
	1.0nm,0.9s,baz=158,slow=2.1,SNR=5.2						
CMMT	**Chiang Mai**	**37.09**	**307**	P	**P**	**21 59 44.4**	**+1.3**
	5.8nm,1.0s						
CHTO	**Chiang Mai**	**37.09**	**307**	P	**P**	**21 59 43.9**	**+0.7**
MJAR	**Matsushiro Arr**	**40.20**	**11**	P	**P**	**22 00 08.7**	**-0.3**
	0.6nm,0.4s,baz=196,slow=8.2,SNR=3.4						
KSRS	**Korea Array**	**40.31**	**358**	P	**P**	**22 00 09.1**	**-0.8**
	1.0nm,0.6s,baz=177,slow=9.7,SNR=3.8						
KSRS				LR	LR	22 14 14.2	
	comp=Z,39nm,21.8s,baz=167,slow=32						
USRK	**Ussuriysk Arra**	**47.08**	**2**	P	**P**	**22 01 03.8**	**-0.3**
	1.6nm,0.6s,baz=198,slow=6.7,SNR=6.3						
SONM	**Songino Array**	**54.55**	**341**	P	**P**	**22 02 00.3**	**-0.4**
	0.9nm,0.6s,baz=154,slow=7.3,SNR=12						
PETK	**Petropavlovsk-**	**60.75**	**19**	P	**P**	**22 02 44.7**	**+0.7**
	8.3nm,0.7s,baz=192,slow=6.3,SNR=9.2						
MKAR	**Makanchi Array**	**64.67**	**326**	P	**P**	**22 03 09.9**	**-0.4**
	1.0nm,0.6s,baz=113,slow=8.4,SNR=20						
ZALV	**Zalesovo Beam**	**67.84**	**333**	P	**P**	**22 03 29.1**	**-1.3**
	1.0nm,0.6s,baz=100,slow=6.0,SNR=7.1						
VNDA	**Vanda**	**76.42**	**173**	P	**P**	**22 04 20.4**	**-1.0**
	1.3nm,0.9s,baz=300,slow=4.8,SNR=6.0						
ILAR	**Eielson Array**	**89.99**	**25**	P	**P**	**22 05 30.6**	**-1.0**
	0.3nm,0.9s,baz=244,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**127.46**	**284**	PKP	**PKPdf**	**22 11 38.6**	**+0.3**
	1.0nm,1.1s,baz=41,slow=2.6,SNR=3.5						

MAN 27 22:14:43, 11°40'N×125°39'E, h46km, mb4.2, ML3.1, MS2.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.21**	**12**	*e*P	Pn	22 14 52.3	+1.3
BESP				eS	Sn	22 15 00.0	+3.4
PLP	**Palo**	**0.47**	**241**⇑	*i*P	Pn	22 14 54.6	+0.9
PLP				*i* S	Sn	22 15 05.2	+4.0
OCLP	**Ormoc**	**0.84**	**246**	*e*P	Pn	22 15 00.0	+1.5
CNP	**Catarman**	**1.32**	**327**	*e*P	Pn	22 15 06.2	+1.2
MSLP	**Maasin**	**1.36**	**203**	*e*P	Pn	22 15 08.4	+2.9
MSLP				*e*S	Sn	22 15 24.5	+2.0

IDC 27 22:37:01.4±1.1, 0°62'S×133°31'E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/21, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=60.2km s-min=18.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.94**	**203**	P	P	22 41 23.7	-0.4
	0.2nm,0.3s,baz=34,slow=13,SNR=3.6						
FITZ				S	Sn	22 44 45.2	-12
	0.1nm,0.3s,baz=217,slow=5.1,SNR=3.3						
WRA	**Warramunga Arr**	**19.23**	**177**	P	P	22 41 27.1	-0.3
	0.4nm,0.3s,baz=355,slow=11,SNR=23						
WRA				S	Sn	22 44 52.1	-12
	0.1nm,0.3s,baz=358,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**22.91**	**179**	P	P	22 42 07.4	+0.2
	1.9nm,0.3s,baz=357,slow=12,SNR=37						
STKA	**Stephens Creek**	**32.06**	**167**	P	P	22 43 30.1	+0.1
	1.2nm,0.7s,baz=344,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	22 47 43.4	+0.7
	0.7nm,0.5s,baz=114,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**67.48**	**331**	P	P	22 47 58.2	-0.9
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.7						
ILAR	**Eielson Array**	**86.21**	**25**	P	P	22 49 44.6	0.0
	0.2nm,0.6s,baz=264,slow=6.1,SNR=4.2						

ISCJB ***27*** *22:50:30.6±0.3, 23°11'N±0°02'×121°53'E±0°02, h21km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=27.1*
TAP ***27*** *22:50:31.5, 23°15'N×121°40'E, h23km, ML3.6, B*
JMA ***27*** *22:50:32.8±0.3, 23°25'N×121°54'E, h99km, M2.8*
ISC 27 22:50:30.3±1.0, 23°12'N±0°02'×121°51'E±0°02, h23km±8km, n62, σ1°03/95, 12C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.13**	**262**⇓	*i*P	**Pn**	**22 50 35.9**	**-1.1**
	baz=207						
CHKT				*i* S	**Sb**	**22 50 39.0**	**+0.8**
	baz=207						
TWF1	**Yuli**	**0.30**	**320**⇑	*i*P	**Pn**	**22 50 37.7**	**-1.6**
	baz=323						
TWF1				S	**Sn**	**22 50 42.7**	**-2.5**
	baz=323						
EHY	**Hungye**	**0.42**	**336**⇑	*i*P	**Pb**	**22 50 39.3**	**+0.1**
	baz=337						
EHY				*e*S	**Sb**	**22 50 45.1**	**-0.1**
	baz=337						
ELDTW	**Lidau**	**0.46**	**279**⇑	*i*P	**Pb**	**22 50 39.1**	**-0.7**
	baz=277						
ELDTW				S	**Sb**	**22 50 44.3**	**-2.0**
	baz=277						
TTN	**Taitung**	**0.49**	**223**	*e*P	**Pn**	**22 50 41.4**	**-0.6**
	baz=201						
TTN				*e*S	**Sn**	**22 50 49.1**	**-0.7**
	baz=201						
TWG	**Pinlang**	**0.50**	**234**⇓	*i*P	**Pb**	**22 50 40.5**	**0.0**
	baz=232						
TWG				*i* S	**Sb**	**22 50 47.0**	**-0.4**
	baz=232						
ESL	**Shilin**	**0.69**	**354**	*e*P	**Pn**	**22 50 43.7**	**-1.0**
	baz=353						
ESL				*e*S	**Sb**	**22 50 53.0**	**0.0**
	baz=353						
ECL	**Taimali**	**0.73**	**225**	*e*P	**Pb**	**22 50 43.5**	**-0.8**
	baz=216						
ALS	**Alishan**	**0.76**	**301**⇑	*i*P	**Pn**	**22 50 45.0**	**-0.9**
	baz=304						
WTP	**Ta-pu**	**0.83**	**279**⇑	*i*P	**Pn**	**22 50 46.2**	**-0.5**
	baz=277						
WTP				*e*S	**Sn**	**22 50 57.0**	**-1.2**
	baz=277						
SGST	**Jiashian**	**0.85**	**268**⇑	*e*P	**Pn**	**22 50 46.5**	**-0.4**
	baz=264						
SGST				*e*S	**Sn**	**22 50 57.8**	**-0.9**
	baz=264						
HWA	**Hwalien**	**0.86**	**6**	*e*P	**Pn**	**22 50 47.9**	**+0.9**
	baz=360						
CHN4	**Tsaushan**	**0.87**	**286**⇑	*i*P	**Pn**	**22 50 47.1**	**-0.1**
	baz=290						
CHN4				*e*S	**Sn**	**22 50 57.8**	**-1.4**
	baz=290						
SSD	**Sandimen**	**0.89**	**245**	*e*P	**Pb**	**22 50 46.3**	**-0.8**
	baz=234						
CHN5	**Tsauling**	**0.90**	**302**⇑	*i*P	**Pn**	**22 50 47.6**	**0.0**
	baz=304						
CHN5				*e*S	**Sn**	**22 51 00.6**	**+0.7**
	baz=304						
CHN1	**Nanshi**	**0.91**	**274**⇑	*i*P	**Pn**	**22 50 47.7**	**+0.1**
	baz=272						
CHN1				*e*S	**Sn**	**22 50 59.2**	**-0.8**
	baz=272						
SMLT	**Sun Moon Lake**	**0.94**	**324**⇑	*e*P	**Pn**	**22 50 47.9**	**-0.4**
	baz=334						
SMLT				S	**Sn**	**22 51 00.4**	**-0.7**
	baz=334						
TAW	**Tawu**	**0.95**	**217**	*e*P	**Pb**	**22 50 47.0**	**-1.1**
	baz=211						
TWK	**Hsinying**	**0.95**	**279**⇑	P	**Pn**	**22 50 48.2**	**-0.1**
	baz=278						
TWK				*e*S	**Sn**	**22 51 00.8**	**-0.3**
	baz=278						
EAST	**Anshuo**	**0.95**	**220**⇑	P	**Pb**	**22 50 47.4**	**-0.8**
	baz=213						
TWD	**Chiawan**	**0.96**	**5**	*e*P	**Pn**	**22 50 48.7**	**+0.3**
	baz=358						
TYC	**Yuchr**	**0.98**	**323**	*e*P	**Pn**	**22 50 48.8**	**0.0**
	baz=336						
TYC				*e*S	**Sn**	**22 51 02.0**	**+0.1**
	baz=336						
SGLT	**Jiouru**	**1.02**	**248**	*e*P	**Pb**	**22 50 50.3**	**+1.0**
	baz=243						
CHN2	**Minshiung**	**1.03**	**294**	*e*P	**Pb**	**22 50 49.6**	**+0.1**
	baz=294						
CHN2				*e*S	**Sn**	**22 51 04.1**	**+0.9**
	baz=294						
WGK	**Gukeng**	**1.04**	**303**	*e*P	**Pb**	**22 50 50.4**	**+0.8**
	baz=305						
WGK				*e*S	**Sn**	**22 51 03.6**	**+0.4**
	baz=305						
TWM1	**Shoushan**	**1.04**	**254**	*e*P	**Pb**	**22 50 51.1**	**+1.4**
	baz=250						
WHF	**Hehuan Shan**	**1.04**	**348

PNG	**Penghu**	**1.85**	**284**	*e*P		**Pn**	**22 51 00.6**	**0.0**
	baz=284								
PNG				*e*S		**Sn**	**22 51 21.8**	**-1.5**
	baz=284								
YOJ	**Yonaguni jima**	**1.92**	**46**	*e*P		**Pb**	**22 51 03.0**	**-1.6**
	baz=48								
YOJ	**Yonaguni jima**	**1.92**	**46**	P		**Pb**	**22 51 03.2**	**-1.4**
YOJ				*e*S		**Sb**	**22 51 26.5**	**-1.6**
NWF	**Wu-fen Shan**	**1.96**	**7**	*e*P		**Pb**	**22 51 04.6**	**-0.8**
	baz=8.0								
TWS1	**Kuangyinshan**	**1.98**	**358**	*e*P		**Pn**	**22 51 02.9**	**+0.5**
	baz=14								
HATJ	**Hateruma jima**	**2.30**	**66**	*e*S		**Sn**	**22 51 35.5**	**+1.0**
IRIF	**Iriomote-Funau**	**2.37**	**59**	P		**Pb**	**22 51 09.8**	**-2.5**
IRIF				S		**Sn**	**22 51 37.3**	**+1.2**
JKRS	**Kuro-shima**	**2.55**	**64**	P		**Pn**	**22 51 12.1**	**+1.9**
JKRS				*e*S		**Sn**	**22 51 42.4**	**+1.9**
JIJ	**Ishigaki jima**	**2.71**	**62**	P		**Pn**	**22 51 14.0**	**+1.5**
JIJ				S		**Sn**	**22 51 45.3**	**+0.7**
JTJ	**Tarama**	**3.29**	**62**	P		**Pn**	**22 51 22.0**	**+1.5**
JTJ				*e*S		**Sn**	**22 51 59.9**	**+1.0**

*ISCJB **27** 23:07:04.6±1.3,51°.47N±0°.06×16°.04E±0°.06, h0km, Error ellipse: s-maj=8.9km s-min=4.3km az=22.4*
*PRU **27** 23:07:06.6,51°.47N×16°.11E, h0km*
*CSEM **27** 23:07:07.7±1.0,51°.38N×16°.06E, h2km, ML2.8/4, Error ellipse: s-maj=16.9km s-min=7.1km az=6.0*

ISC 27 23:07:05.6±1.8,**51°.51N**±0°.08×**16°.08E**±0°.05,**h0km**,**n18**, σ**0^{s}63**/30,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**23 07 18.7**	**+0.1**
KSP				*e*Sg		**Sg**	**23 07 27.9**	**+0.5**
UPC	**Upice**	**1.00**	**182**	*e*PG		**Pg**	**23 07 24.6**	**-0.2**
UPC	**Upice**	**1.00**	**182**	Pg		**Pg**	**23 07 24.6**	**-0.2**
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG		**Pg**	**23 07 27.5**	**-0.5**
DPC				*e*SG		**Sg**	**23 07 42.1**	**-1.1**
	comp=Z,5.5nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**172**	Pg		**Pg**	**23 07 27.5**	**-0.5**
DPC				Sg		**Sg**	**23 07 42.1**	**-1.1**
	5.5nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG		**Pn**	**23 07 32.0**	**0.0**
PVCC				*e*SG		**Sg**	**23 07 49.6**	**0.0**
	comp=Z,25nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**225**	Pg		**Pn**	**23 07 32.0**	**0.0**
PVCC				Sg		**Sg**	**23 07 49.6**	**0.0**
	25nm,0.2s							
BRG	**Berggiesshubel**	**1.49**	**245**	PG		**Pn**	**23 07 33.7**	**+0.1**
BRG				SG		**Sn**	**23 07 54.1**	**+0.4**
	7.3nm,0.3s							
PRU	**Pruhonice**	**1.81**	**213**	*e*PG		**Pg**	**23 07 40.0**	**-0.3**
PRU				*e*SG		**Sb**	**23 08 02.9**	**+0.1**
	comp=Z,3.5nm,0.2s							
PRU	**Pruhonice**	**1.81**	**213**	Pg		**Pg**	**23 07 40.0**	**-0.3**
PRU				Sg		**Sb**	**23 08 02.9**	**+0.1**
	3.5nm,0.2s							
CLL	**Collm**	**1.94**	**265**	*e*Pg		**Pb**	**23 07 42.0**	**+0.2**
CLL				*e*Sg		**Sg**	**23 08 08.0**	**+0.2**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn		**Pb**	**23 07 42.1**	**-0.2**
MORC				*e*Sg		**Sn**	**23 08 06.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*SG		**Sb**	**23 08 12.5**	**+0.5**
OKC	**Ostrava-Krasne**	**2.13**	**141**	Sg		**Sb**	**23 08 12.5**	**+0.5**
NKC	**Novy Kostel**	**2.63**	**242**	*e*SG		**Sg**	**23 08 29.0**	**-1.1**
	comp=Z,4.2nm,0.3s							
NKC	**Novy Kostel**	**2.63**	**242**	Sg		**Sg**	**23 08 29.0**	**-1.1**
	4.2nm,0.3s							
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PG		**Pg**	**23 08 00.0**	**-0.6**
KHC				*e*SG		**Sg**	**23 08 39.0**	**+1.2**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg		**Pg**	**23 08 00.0**	**-0.6**
KHC				Sg		**Sg**	**23 08 39.0**	**+1.2**

*ISCJB **27** 23:07:41.9±1.2,45°.24N±0°.07×23°.96E±0°.05, h7km±6km, Error ellipse: s-maj=12.0km s-min=5.1km az=10.4*
*BUC **27** 23:07:42.1±1.4,45°.31N×23°.99E, h12km±6km, MD2.3/2, Error ellipse: s-maj=20.4km s-min=5.1km az=14.0*

ISC 27 23:07:41.8±1.5,**45°.27N**±0°.09×**23°.99E**±0°.03,**h12**km±8km, **n20**, σ**0^{s}25**/28,**10C-4D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LOT	**Lotru**	**0.24**	**320**	⇓*i*P		**Pg**	**23 07 47.1**	**+0.2**
LOT				*i* S		**Sg**	**23 07 50.0**	**-0.3**
LOT	**Lotru**	**0.24**	**320**	⇓*i*P		**Pg**	**23 07 47.1**	**+0.2**
LOT				S		**Sg**	**23 07 50.0**	**-0.3**
ARR	**Arges**	**0.47**	**77**	⇑*i*P		**Pb**	**23 07 52.0**	**0.0**
ARR				*i* S		**Sb**	**23 07 58.5**	**-0.5**
ARR	**Arges**	**0.47**	**77**	⇑*i*P		**Pb**	**23 07 52.0**	**0.0**
ARR	**Arges**	**0.47**	**77**	S		**Sb**	**23 07 58.5**	**-0.5**
VOIR		**0.77**	**77**	⇑*i*P		**Pb**	**23 07 57.3**	**+0.1**
VOIR				*i* S		**Sb**	**23 08 08.0**	**+0.4**
VOIR		**0.77**	**77**	⇑*i*P		**Pb**	**23 07 57.3**	**+0.1**
VOIR		**0.77**	**77**	S		**Sb**	**23 08 08.0**	**+0.4**
MDB	**Medias**	**0.92**	**17**	⇑*i*P		**Pn**	**23 08 00.4**	**-0.2**
MDB				*i* S		**Sn**	**23 08 13.7**	**-0.1**
MDB	**Medias**	**0.92**	**17**	⇑*i*P		**Pn**	**23 08 00.4**	**-0.2**
MDB	**Medias**	**0.92**	**17**	S		**Sn**	**23 08 13.7**	**-0.1**
DEV	**Deva**	**0.98**	**309**	⇑*i*P		**Pb**	**23 08 00.8**	**+0.1**
DEV				*i* S		**Sb**	**23 08 13.4**	**-0.2**
DEV	**Deva**	**0.98**	**309**	⇑*i*P		**Pb**	**23 08 00.8**	**+0.1**
DEV	**Deva**	**0.98**	**309**	S		**Sb**	**23 08 13.4**	**-0.2**
BZS	**Buzias**	**1.71**	**283**	⇓*i*P		**Pb**	**23 08 13.1**	**0.0**
BZS				*i* S		**Sb**	**23 08 34.2**	**-0.3**
BZS	**Buzias**	**1.71**	**283**	⇓*i*P		**Pb**	**23 08 13.1**	**0.0**
BZS	**Buzias**	**1.71**	**283**	S		**Sb**	**23 08 34.2**	**-0.3**
DRGR		**1.77**	**330**	⇑*i*P		**Pn**	**23 08 12.6**	**+0.3**
DRGR				*i* S		**Sb**	**23 08 36.4**	**+0.1**
DRGR		**1.77**	**330**	⇑*i*P		**Pn**	**23 08 12.6**	**+0.3**
DRGR		**1.77**	**330**	S		**Sb**	**23 08 36.4**	**+0.1**

*IDC **27** 23:17:19.9±1.6,7°.34S×129°.46E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=67.4km s-min=23.9km az=71.0*
*ISCJB **27** 23:17:27.9±0.8,7°.61S±0°.06×129°.5E±0°.1, h100km, mb3.5/2, Error ellipse: s-maj=17.5km s-min=8.4km az=172.3*
*AUST **27** 23:17:28.3±0.0,7°.43S×129°.55E, h163km, Error ellipse: s-maj=1.6km s-min=1.0km az=270.0*

ISC 27 23:17:28.4±1.0,**7°.75S**±0°.07×**129°.5E**±0°.1,**h100**km,**n12**, σ**2^{s}74**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLE	**Tual**	**3.87**	**57**	P		**Pn**	**23 18 25.4**	**-0.3**
	baz=3.6,SNR=5.7							
AAI	**Ambon**	**4.24**	**342**	P		**Pn**	**23 18 28.1**	**-2.7**
	baz=4.0,SNR=4.3							
MTN	**Manton Dam**	**5.32**	**162**	P		Pn	23 18 50.2	+4.9
	baz=5.6,SNR=18							
MTN				S		Sn	23 19 53.3	+7.9
	baz=5.6,SNR=5.1							
KDU	**Kakadu**	**5.72**	**149**	P		**Pn**	**23 18 53.7**	**+2.8**
	baz=6.0,SNR=83							
FITZ	**Fitzroy Crossi**	**10.94**	**200**	Pn		Pn	23 20 04.9	+3.0
	0.5nm,0.3s,baz=26,slow=13,SNR=26							
FITZ				Sn		**Sn**	**23 22 01.5**	**-0.9**
	3.1nm,0.3s,baz=101,slow=16,SNR=13							
FITZ	**Fitzroy Crossi**	**10.94**	**200**	P		Pn	23 20 05.5	+3.6
	baz=11,SNR=7.6							
FITZ				S		**Sn**	**23 22 02.3**	**-0.1**
	baz=11,SNR=6.7							
WRA	**Warramunga Arr**	**13.00**	**159**	Pn		**Pn**	**23 20 30.0**	**+0.6**
	1.0nm,0.3s,baz=337,slow=13,SNR=55							
WRA				Sn		**Sn**	**23 22 47.2**	**-5.2**
	0.9nm,0.3s,baz=332,slow=22,SNR=9.9							
QIS	**Mount Isa**	**16.07**	**143**	P		**P**	**23 21 11.7**	**+1.7**
	baz=16,SNR=5.1							
ASAR	**Alice Springs**	**16.38**	**165**	Pn		**P**	**23 21 15.9**	**+2.4**
	0.4nm,0.3s,baz=346,slow=10.0,SNR=15							
ASAR				Sn		**Sn**	**23 24 12.1**	**-2.1**
	0.5nm,0.3s,baz=360,slow=23,SNR=6.2							
STKA	**Stephens Creek**	**26.53**	**156**	P		P	23 23 03.0	+6.3
	0.9nm,0.6s,baz=336,slow=13,SNR=3.8							
LHI	**Lord Howe Isla**	**36.33**	**135**	P		P	23 24 18.4	-4.2
	baz=37,SNR=3.8							
MKAR	**Makanchi Array**	**68.57**	**327**	P		**P**	**23 28 22.3**	**+1.9**
	0.3nm,0.4s,baz=119,slow=8.5,SNR=11							

*ISCJB **27** 23:21:08.7±0.7,37°.90N±0°.04×20°.99E±0°.04, h28km±4km, Error ellipse: s-maj=7.3km s-min=5.7km az=17.5*
*ATH **27** 23:21:08.4,37°.92N×21°.02E, h19km±1km, MD3.2/11*
*CSEM **27** 23:21:08.5±0.2,37°.88N×21°.02E, h17km±1km, ML1.9/5, Error ellipse: s-maj=5.1km s-min=3.4km az=27.0*
*THE **27** 23:21:09.6,37°.95N×21°.03E, h18km±1km, ML1.9/5, Error ellipse: s-maj=1.3km s-min=0.4km az=296.0*

ISC 27 23:21:09.0±1.1,**37°.91N**±0°.04×**21°.02E**±0°.02,**h19**km±2km, **n33**, σ**0^{s}35**/61,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KFL	**Anninata**	**0.27**	**317**	P		**Pb**	**23 21 15.0**	**-0.2**
KFL				S		**Sb**	**23 21 19.5**	**+0.2**
KFL	**Anninata**	**0.27**	**317**	P		**Pb**	**23 21 15.0**	**-0.2**
KFL				S		**Sb**	**23 21 19.5**	**+0.2**
RLS	**Riolos of Patr**	**0.38**	**67**	P		**Pg**	**23 21 16.7**	**-0.3**
RLS				S		**Sg**	**23 21 22.9**	**+0.5**
RLS	**Riolos of Patr**	**0.38**	**67**	*e*PB		**Pg**	**23 21 16.7**	**-0.3**
RLS				*e*SB		**Sg**	**23 21 22.4**	**0.0**
RLS	**Riolos of Patr**	**0.38**	**67**	P		**Pg**	**23 21 16.7**	**-0.3**
RLS				*e*Sb		**Sg**	**23 21 22.4**	**0.0**
RLS				S		**Sg**	**23 21 22.9**	**+0.5**
VLS	**Valsamata**	**0.43**	**308**	P		**Pg**	**23 21 17.7**	**-0.3**
VLS				S		**Sg**	**23 21 24.7**	**+0.7**
VLS	**Valsamata**	**0.43**	**308**	*e*PB		**Pg**	**23 21 17.7**	**-0.3**
VLS				*e*SB		**Sg**	**23 21 23.9**	**-0.1**
VLS	**Valsamata**	**0.43**	**308**	P		**Pg**	**23 21 17.7**	**-0.3**
VLS				*e*Sb		**Sg**	**23 21 23.9**	**-0.1**
VLS				S		**Sg**	**23 21 24.7**	**+0.7**
AMT	**Artemida-Makis**	**0.66**	**125**	P		**Pb**	**23 21 22.1**	**+0.1**
AMT				S		**Sn**	**23 21 33.2**	**-0.2**
AMT	**Artemida-Makis**	**0.66**	**125**	*e*PN		**Pb**	**23 21 22.1**	**+0.1**
AMT				*e*SN		**Sb**	**23 21 31.2**	**+0.4**
AMT	**Artemida-Makis**	**0.66**	**125**	*e*Pn		**Pb**	**23 21 22.1**	**+0.1**
AMT	**Artemida-Makis**	**0.66**	**125**	P		**Pb**	**23 21 22.1**	**+0.1**
AMT				*e*Sn		**Sb**	**23 21 31.2**	**+0.4**
LAKA	**Lakka**	**0.82**	**66**	P		**Pb**	**23 21 24.5**	**-0.2**
LAKA				S		**Sg**	**23 21 36.5**	**+0.4**
LAKA	**Lakka**	**0.82**	**66**	*e*PN		**Pb**	**23 21 24.3**	**-0.4**
LAKA				*e*SN		**Sb**	**23 21 35.7**	**+0.3**
LAKA	**Lakka**	**0.82**	**66**	P		**Pb**	**23 21 24.5**	**-0.2**
LAKA				*e*Sn		**Sb**	**23 21 35.7**	**+0.3**
LAKA				S		**Sg**	**23 21 36.5**	**+0.4**
EFP	**Efpalio**	**0.86**	**53**	P		**Pb**	**23 21 25.1**	**-0.3**
EFP				S		**Sb**	**23 21 37.0**	**+0.4**
EFP	**Efpalio**	**0.86**	**53**	*e*PN		**Pb**	**23 21 25.2**	**-0.2**
EFP				*e*SN		**Sg**	**23 21 37.5**	**+0.1**
EFP	**Efpalio**	**0.86**	**53**	P		**Pb**	**23 21 25.1**	**-0.3**
EFP				S		**Sb**	**23 21 37.0**	**+0.4**
EFP				*e*Sn		**Sg**	**23 21 37.5**	**+0.1**
TRIZ	**Trizonia**	**0.94**	**61**	P		**Pb**	**23 21 26.3**	**-0.5**
TRIZ				S		**Sg**	**23 21 39.9**	**0.0**
TRIZ	**Trizonia**	**0.94**	**61**	*e*PN		**Pb**	**23 21 26.4**	**-0.4**
TRIZ				*e*SN		**Sb**	**23 21 39.5**	**+0.6**
TRIZ	**Trizonia**	**0.94**	**61**	P		**Pb**	**23 21 26.3**	**-0.5**
TRIZ				*e*Sn		**Sb**	**23 21 39.5**	**+0.6**
TRIZ				S		**Sg**	**23 21 39.9**	**0.0**
KALE	**Kalithea**	**1.00**	**61**	P		**Pb**	**23 21 27.5**	**-0.3**
KALE				S		**Sn**	**23 21 41.8**	**0.0**
KALE	**Kalithea**	**1.00**	**61**	*e*PN		**Pb**	**23 21 27.3**	**-0.5**
KALE				*e*SN		**Sn**	**23 21 41.8**	**0.0**
KALE	**Kalithea**	**1.00**	**61**	P		**Pb**	**23 21 27.5**	**-0.3**
KALE				S		**Sn**	**23 21 41.8**	**0.0**
ITM	**Ithomi**	**1.02**	**135**	*e*PN		**Pb**	**23 21 28.1**	**-0.1**
ITM	**Ithomi**	**1.02**	**135**	*e*Pn		**Pb**	**23 21 28.1**	**-0.1**
GUR	**Goura**	**1.04**	**88**	P		**Pb**	**23 21 28.0**	**-0.6**
GUR	**Goura**	**1.04**	**88**	*e*PN		**Pb**	**23 21 28.2**	**-0.4**
GUR	**Goura**	**1.04**	**88**	*e*Pn		**Pb**	**23 21 28.2**	**-0.4**
EVR	**Evrytania**	**1.18**	**31**	*e*PN		**Pn**	**23 21 30.7**	**+0.1**
EVR	**Evrytania**	**1.18**	**31**	*e*Pn		**Pn**	**23 21 30.7**	**+0.1**
AGG	**Agios Georgios**	**1.51**	**42**	*e*PN		**Pb**	**23 21 36.7**	**+0.2**
AGG	**Agios Georgios**	**1.51**	**42**	*e*Pn		**Pb**	**23 21 36.7**	**+0.2**

MAN 27 23:21:46,11°.55N×125°.38E, h1km, mb4.1, ML2.9, MS2.6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.08**	**48**	*e*P		Pg	23 21 47.8	+0.2
BESP				*e*S		Sg	23 21 52.8	+4.1
PLP	**Palo**	**0.54**	**226**	⇓*e*P		Pg	23 21 56.8	+0.4
PLP				*i* S		Sb	23 22 08.1	+1.5
MSLP	**Maasin**	**1.49**	**200**	*e*P		Pg	23 22 14.7	+0.1
MSLP				*e*S		Sn	23 22 35.8	+1.7

IDC 28 00:05:10.5±7.1,**18°.80S×177°.16W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=303.9km s-min=41.2km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.65**	**260**	P		P	00 13 33.1	-0.1
	0.5nm,0.3s,baz=97,slow=7.4,SNR=20							
ASAR	**Alice Springs**	**45.70**	**255**	P		P	00 13 33.5	-0.2
	0.6nm,0.5s,baz=88,slow=8.0,SNR=10							
ILAR	**Eielson Array**	**86.49**	**13**	P		P	00 17 54.8	0.0
	0.3nm,0.9s,baz=220,slow=6.8,SNR=3.0							

*ISK **28** 00:18:13.7,37°.93N×29°.09E, h15km, MD2.4*
*DDA **28** 00:18:13.2,37°.92N×29°.04E, h16km, MD2.6*
*ISCJB **28** 00:18:14.1±0.5,37°.92N±0°.02×29°.06E±0°.05, h8km±5km, Error ellipse: s-maj=6.5km s-min=3.9km az=13.4*
*CSEM **28** 00:18:14.1±0.2,37°.93N×29°.04E, h2km, MD2.4, Error ellipse: s-maj=6.0km s-min=3.9km az=103.0*

ISC 28 00:18:13.4±0.9,**37°.90N**±0°.02×**29°.09E**±0°.04,**h14**km±7km, **n16**, σ**0^{s}61**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DENT	**Denizli**	**0.15**	**197**	*e*PG		**Pb**	**00 18 18.6**	**+0.6**
DENT				*e*SG		**Sb**	**00 18 21.8**	**+0.7**
DENT	**Denizli**	**0.15**	**197**	*e*Pg		**Pb**	**00 18 18.6**	**+0.6**
DENT				*e*Sg		**Sb**	**00 18 21.8**	**+0.7**
DNZL	**Cakiroluk**	**0.21**	**190**	*i* P		**Pg**	**00 18 18.2**	**-0.1**
DNZL				*i* S		**Sg**	**00 18 21.7**	**+0.1**
DNZL	**Cakiroluk**	**0.21**	**190**	*i* P		**Pg**	**00 18 18.2**	**-0.1**
DNZL				*i* S		**Sg**	**00 18 21.7**	**+0.1**
KHL	**Karahalli**	**0.54**	**39**	*e*PG		**Pb**	**00 18 24.1**	**-0.6**
KHL				*e*SG		**Sb**	**00 18 32.5**	**+0.1**
KHL	**Karahalli**	**0.54**	**39**	*e*Pg		**Pb**	**00 18 24.1**	**-0.6**
KHL				*e*Sg		**Sb**	**00 18 32.5**	**+0.1**
KHAL	**Karahalli**	**0.56**	**34**	*i* P		**Pb**	**00 18 24.5**	**-0.6**
KHAL				*i* S		**Sb**	**00 18 32.4**	**-0.7**
KHAL	**Karahalli**	**0.56**	**34**	*i* P		**Pb**	**00 18 24.5**	**-0.6**
KHAL				*i* S		**Sb**	**00 18 32.4**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**331**	*e*PG		**Pb**	**00 18 27.2**	**-0.2**
KULA				*e*SG		**Sb**	**00 18 37.0**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**331**	*e*Pg		**Pb**	**00 18 27.2**	**-0.2**
KULA				*e*Sg		**Sb**	**00 18 37.0**	**+0.1**
GOLH	**Golhisar**	**0.76**	**150**	*i* P		**Pn**	**00 18 29.6**	**-0.1**
GOLH				*i* S		**Sn**	**00 18 40.6**	**-0.5**
GOLH	**Golhisar**	**0.76**	**150**	*i* P		**Pn**	**00 18 29.6**	**-0.1**
GOLH				*i* S		**Sn**	**00 18 40.6**	**-0.5**
AYDN	**Tasoluk**	**0.99**	**256**	*i* P		**Pb**	**00 18 31.4**	**-0.9**
AYDN				*i* S		**Sg**	**00 18 45.3**	**-0.2**
AYDN	**Tasoluk**	**0.99**	**256**	*i* P		**Pb**	**00 18 31.4**	**-0.9**
AYDN				*i* S		**Sg**	**00 18 45.3**	**-0.2**
GDZ	**Gediz**	**1.23**	**14**	*i* P		**Pg**	**00 18 38.4**	**+1.4**
GDZ				*i* S		**Sg**	**00 18 53.2**	**+0.2**
GDZ	**Gediz**	**1.23**	**14**	*i* P		**Pg**	**00 18 38.4**	**+1.4**
GDZ				*i* S		**Sg**	**00 18 53.2**	**+0.2**

IDC 28 00:25:46.5±3.6,**23°.08S×175°.11W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/20, mbtmp4.2/5, Error ellipse: s-maj=106.6km s-min=41.2km az=136.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.98**	**267**	P		P	00 32 50.2	+0.8
	5.7nm,0.5s,baz=89,slow=10,SNR=11							
STKA	**Stephens Creek**	**39.19**	**247**	P		P	00 33 15.7	-0.6
	0.9nm,0.4s,baz=90,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**46.60**	**259**	P		P	00 34 16.7	+0.1
	1.4nm,0.7s,baz=101,slow=7.5,SNR=12							
WRA	**Warramunga Arr**	**46.95**	**264**	P		P	00 34 18.5	-0.9
	2.8nm,0.8s,baz=101,slow=8.0,SNR=89							
MJAR	**Matsushiro Arr**	**73.87**	**322**	P		P	00 37 23.2	-0.1
	1.1nm,0.6s,baz=164,slow=7.3,SNR=4.3							
BRTR	**Keskin Array B**	**150.55**	**311**	PKPbc		PKPbc	00 45 40.3	-0.3
	0.4nm,0.8s,baz=144,slow=8.4,SNR=2.8							

*ISCJB **28** 00:28:50.8±0.4,51°.48N±0°.02×16°.22E±0°.04, h0km, Error ellipse: s-maj=3.4km s-min=2.8km az=167.3*
*CSEM **28** 00:28:52.9±0.1,51°.46N×16°.21E, h2km, ML3.1/6, Error ellipse: s-maj=3.4km s-min=2.2km az=87.0*
*WAR **28** 00:28:52.3,51°.54N×16°.07E*
*IPEC **28** 00:28:52.8±0.2,51°.48N×16°.27E, h0km, ML1.8/3, Error ellipse: s-maj=1.6km s-min=1.0km az=28.0*
*IDC **28** 00:28:54.3±1.2,51°.42N×16°.24E, h0km, mb1 3.8/2, mb1mx3.2/23, mbtmp3.8/2, ML2.4/4, Error ellipse: s-maj=22.4km s-min=10.3km az=109.0*
*PRU **28** 00:28:55.2,51°.36N×16°.17E, h0km*
*UPP **28** 00:28:59.8,51°.91N×15°.92E, h0km, ML1.9, Suspected Mining explosion.*

ISC 28 00:28:52.2±0.8,**51°.51N**±0°.03×**16°.16E**±0°.02,**h0km**,**n39**, σ**1^{s}18**/65,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg		**Pg**	**00 29 05.5**	**+0.5**
KSP				*e*Sg		**Sg**	**00 29 13.5**	**-0.3**
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg		**Pg**	**00 29 05.5**	**+0.5**
KSP				*e*Sg		**Sg**	**00 29 13.4**	**-0.3**
UPC	**Upice**	**1.01**	**185**	*e*PG		**Pg**	**00 29 11.6**	**+0.1**
UPC	**Upice**	**1.01**	**185**	Pg		**Pg**	**00 29 11.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG		**Pg**	**00 29 14.3**	**-0.2**
DPC				*e*SG		**Sg**	**00 29 28.2**	**-1.4**
	comp=Z,12nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**175**	Pg		**Pg**	**00 29 14.3**	**-0.2**
DPC				Sg		**Sg**	**00 29 28.2**	**-1.4**
	12nm,0.3s							
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG		**Pb**	**00 29 20.1**	**+0.8**
PVCC				*e*SG		**Sn**	**00 29 38.6**	**+0.3**
	comp=Z,100nm,0.2s							
PVCC	**Panska Ves**	**1.41**	**226**	Pg		**Pb**	**00 29 20.1**	**+0.8**
PVCC				Sg		**Sn**	**00 29 38.6**	**+0.3**
	100nm,0.2s							
KRLC	**Kraliky**	**1.49**	**164**	*e*PG		**Pn**	**00 29 20.2**	**0.0**
KRLC				*e*SG		**Sn**	**00 29 38.1**	**-2.3**
KRLC	**Kraliky**	**1.49**	**164**	Pg		**Pn**	**00 29 20.2**	**0.0**
KRLC				Sg		**Sn**	**00 29 38.1**	**-2.3**
BRG	**Berggiesshubel**	**1.54**	**246**	*e*Pn		**Pg**	**00 29 22.3**	**+0.7**
	baz=67							
BRG				*e*Sg		**Sn**	**00 29 42.8**	**+1.3**
	baz=67							
PRU	**Pruhonice**	**1.84**	**215**	*e*PN		**Pn**	**00 29 25.3**	**+0.3**
PRU				*e*PG		**Pg**	**00 29 27.0**	**-0.4**
PRU				*e*SG		**Sb**	**00 29 50.2**	**0.0**
	comp=Z,11nm,0.2s							
PRU	**Pruhonice**	**1.84**	**215**	Pn		**Pn**	**00 29 25.3**	**+0.3**
PRU	**Pruhonice**	**1.84**	**215**	Pg		**Pg**	**00 29 27.0**	**-0.4**
PRU				*e*Sg		**Sg**	**00 29 50.7**	**-0.5**
	baz=36							
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn		**Pn**	**00 29 26.2**	**-0.3**
	baz=335							
MORC				*e*Sg		**Sn**	**00 29 52.0**	**+0.4**
	7.4nm,0.3s,baz=335							
CLL	**Collm**	**1.99**	**265**	*e*Pg		**Pg**	**00 29 31.0**	**+0.7**
CLL				*e*Sg		**Sg**	**00 29 58.0**	**+2.0**
	comp=Z,8.0nm,0.7s							
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG		**Pb**	**00 29 31.7**	**+0.6**
OKC				*e*SG		**Sn**	**00 29 56.7**	**+1.4**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pg		**Pb**	**00 29 31.7**	**+0.6**
OKC				Sg		**Sn**	**00 29 56.7**	**+1.4**
VRAC	**Vranov**	**2.22**	**173**	Pn		**Pn**	**00 29 30.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=346,slow=16,SNR=6.6							
VRAC				Lg		Lg	00 30 02.3	
	comp=Z,2.0nm,0.3s,baz=279,slow=19,SNR=7.3							
VRAC	**Vranov**	**2.22**

ellipse: s-maj=207.0km s-min=10.7km az=74.0
*GCMT **28** 00:43:22.6±0.3, 62.25S×165.44E, h12km, MW5.0, Moment Tensor Solution. s19,c21; s53,c73; Moment tensor: Scale 10^16Nm; Mrr=0.35±.14; Mθθ=3.15±.10; Mφφ=-2.81±.13; Mrθ=-2.21±.34; Mθφ=-0.92±.11; Mφr=0.46±.37; Best double couple: M0=3.70000×10^16 NP1:φ=230.00000°, δ=69.00000°, λ=164.00000°. NP2:φ=326.00000°, δ=75.00000°, λ=22.00000°. Principal axes: T 4.3700, Plg26.0000°, Azm189.0000°; N -1.4200, Plg64.0000°, Azm359.0000°; P -2.9600, Plg4.0000°, Azm97.0000°; Data Used: IU II G IC.*

ISC 28 00:43:17.3±3.2, 62.3S±0.3×165.8E±1.0, h10km, n34, σ0=95/16, mb4.0/5, MS4.1/15, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.40**	**183**	Pn	**P**	**Pn**	**00 46 53.6**	**-0.5**
	0.8nm,0.3s,baz=5.9,slow=16,SNR=40							
VNDA				LR	LR	LR	00 51 53.4	
	comp=Z,2μm,18.2s,baz=9.6,slow=34							
VNDA	**Vanda**	**15.40**	**183**	Pn	**P**	**Pn**	**00 46 53.6**	**-0.5**
SBA	**Scott Base**	**15.69**	**179**	*e*Pn	**P**	**Pn**	**00 46 58.6**	**+0.7**
	52nm,1.1s							
RPZ	**Rata Peaks**	**18.82**	**12**	LR	LR	LR	00 53 52.9	
	comp=Z,1μm,19.4s,baz=133,slow=34							
URZ	**Urewera**	**25.01**	**21**	LR	LR	LR	00 57 29.2	
	comp=Z,789nm,18.9s,baz=198,slow=34							
QSPA	**South Pole Qui**	**27.84**	**180**	P	**P**	**P**	**00 49 06.9**	**+0.3**
	4.4nm,1.0s,baz=27,slow=3.6,SNR=8.3							
QSPA				LR	LR	LR	00 59 05.9	
	comp=Z,610nm,19.4s,baz=202,slow=34							
QSPA	**South Pole Qui**	**27.84**	**180**	*e*P	**P**	**P**	**00 49 06.7**	**0.0**
	9.1nm,1.1s							
STKA	**Stephens Creek**	**34.13**	**322**	P	**P**	**P**	**00 50 03.3**	**+1.2**
	1.8nm,0.9s,baz=121,slow=5.9,SNR=3.8							
STKA				LR	LR	LR	01 01 49.7	
	comp=Z,308nm,18.8s,baz=168,slow=33							
STKA	**Stephens Creek**	**34.13**	**322**	P	**P**	**P**	**00 50 03.3**	**+1.2**
MAW	**Mawson**	**39.09**	**216**	LR	LR	LR	01 06 50.6	
	comp=Z,524nm,19.0s,baz=131,slow=36							
NWAO	**Narrogin (SRO)**	**42.37**	**291**	LR	LR	LR	01 04 48.4	
	comp=Z,188nm,19.4s,baz=295,slow=30							
ASAR	**Alice Springs**	**44.17**	**316**	P	**P**	**P**	**00 51 26.4**	**+0.3**
	0.9nm,0.5s,baz=161,slow=7.7,SNR=8.0							
ASAR				LR	LR	LR	01 08 39.1	
	comp=Z,130nm,20.0s,baz=162,slow=34							
ASAR	**Alice Springs**	**44.17**	**316**	P	**P**	**P**	**00 51 26.4**	**+0.3**
AS31	**Alice Springs**	**44.17**	**316**	P	**P**	**P**	**00 51 24.5**	**-1.6**
SNAA	**Sanae**	**46.12**	**185**	P	**P**	**P**	**00 51 41.3**	**+0.2**
	1.5nm,1.0s,baz=164,slow=7.4,SNR=6.4							
SNAA	**Sanae**	**46.12**	**185**	P	**P**	**P**	**00 51 41.3**	**+0.2**
RAR	**Rarotonga**	**47.31**	**46**	LR	LR	LR	01 06 43.6	
	comp=Z,257nm,21.1s,baz=7.2,slow=30							
WRA	**Warramunga Arr**	**47.52**	**318**	P	**P**	**P**	**00 51 51.0**	**-1.5**
	0.3nm,0.8s,baz=160,slow=6.8,SNR=2.5							
WRA				PcP	PcP	PcP	00 53 21.9	-0.5
	0.4nm,0.8s,baz=163,slow=3.2,SNR=2.5							
WRA				LR	LR	LR	01 08 53.0	
	comp=Z,135nm,20.1s,baz=155,slow=32							
WRA	**Warramunga Arr**	**47.52**	**318**	P	**P**	**P**	**00 51 51.0**	**-1.5**
WRA				PcP	PcP	PcP	00 53 21.9	-0.5
PMSA	**Palmer Station**	**48.01**	**154**	LR	LR	LR	01 10 21.4	
	comp=Z,144nm,19.4s,baz=210,slow=34							
TBI	**Tubuai**	**49.18**	**59**	*e*LQ	LQ	LQ	01 03 33.5	
	579nm,27.5s							
TBI				*e*LR	LR	LR	01 06 02.7	
	253nm,23.5s							
TBI				*e*T	T	T	01 44 24.6	
	68nm,0.4s							
HNR	**Honiara**	**52.89**	**353**	LR	LR	LR	01 11 24.7	
	comp=Z,161nm,18.2s,baz=168,slow=32							
PAE	**Paea**	**54.27**	**56**	*e*T	T	T	01 50 44.7	
	8.7nm,0.4s							
TVO	**Taravao**	**54.29**	**56**	*e*T	T	T	01 50 46.6	
	20nm,0.4s							
PPT2	**Papeete2**	**54.34**	**56**	*e*LR	LR	LR	01 08 22.4	
	156nm,22.0s							
PPT2				*e*T	T	T	01 50 50.1	
	15nm,0.3s							
TIAR	**Tiarei**	**54.45**	**56**	*e*T	T	T	01 50 59.0	
	15nm,0.3s							
MEH	**Mehetia**	**54.67**	**57**	*e*T	T	T	01 51 15.5	
	40nm,0.2s							
RKT	**Rikitea**	**55.58**	**74**	*e*T	T	T	01 52 29.4	
	8.2nm,0.2s							
VAH	**Vaihoa**	**57.23**	**57**	*e*T	T	T	01 54 27.2	
	180nm,0.2s							
KAPI	**Kappang**	**66.39**	**309**	LR	LR	LR	01 22 27.6	
	comp=Z,91nm,18.8s,baz=346,slow=35							
PSI	**Prapat**	**81.89**	**292**	LR	LR	LR	01 25 50.4	
	comp=Z,83nm,20.2s,baz=161,slow=31							
BOSA	**Boshof**	**84.07**	**214**	LR	LR	LR	01 30 02.3	
	comp=Z,146nm,18.1s,baz=164,slow=33							
LPAZ	**La Paz**	**91.06**	**129**	LR	LR	LR	01 28 52.8	
	comp=Z,61nm,19.1s,baz=355,slow=30							
CMAR	**Chiang Mai Arr**	**95.92**	**299**	LR	LR	LR	01 37 18.1	
	comp=Z,54nm,19.5s,baz=347,slow=34							

*IDC **28** 00:49:11.1±0.8, 52.08N×165.95W, h0km, mb3.6/12, mb1 3.9/13, mb1mx3.7/30, mbtmp3.6/13, ML3.6/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/46, Error ellipse: s-maj=26.2km s-min=18.6km az=169.0*
*ISCJB **28** 00:49:14.5±0.6, 52.16N±0.04×165.87W±0.07, h33km, mb3.6/12, MS4.2/1, Error ellipse: s-maj=6.8km s-min=5.4km az=38.4*
*NEIC **28** 00:49:14.3, 52.27N×165.92W, h10km, ML3.3(AEIC), After AEIC.*

ISC 28 00:49:16.6±0.7, 52.19N±0.08×165.92W±0.05, h35km, n54, σ0=85/61, mb3.7/12, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.69**	**348**	P	**P**	**Pn**	**00 49 42.3**	**-1.3**
UNV				S		**Sn**	**00 50 03.2**	**-0.8**
MREP	**Makushin Rep't**	**1.70**	**343**	P	**P**	**Pn**	**00 49 43.4**	**-0.4**
MGOD	**Makushin Gods**	**1.71**	**341**	P	**P**	**Pn**	**00 49 43.0**	**-0.8**
OKFG	**Magazine Ridge**	**1.72**	**316**	P	**P**	**Pn**	**00 49 43.2**	**-0.8**
OKFG				S		**Sn**	**00 50 04.8**	**+0.2**
MSOM	**Makushin Julie**	**1.74**	**340**	P	**P**	**Pn**	**00 49 43.5**	**-0.8**
OKSP	**Okmok Steeple**	**1.79**	**307**	P	**P**	**Pn**	**00 49 44.4**	**-0.6**
OKSO	**Okmok South**	**1.79**	**312**	P	**P**	**Pn**	**00 49 44.0**	**-1.0**
OKSO				S		**Sn**	**00 50 05.8**	**-0.7**
MSW	**Makushin Switc**	**1.80**	**344**	P	**P**	**Pn**	**00 49 44.4**	**-0.8**
MSW				S		**Sn**	**00 50 07.1**	**+0.3**
MTBL	**Makushin Table**	**1.84**	**346**	P	**P**	**Pn**	**00 49 45.1**	**-0.7**
OKCE	**Okmok Cone E**	**1.84**	**313**	P	**P**	**Pn**	**00 49 45.2**	**-0.5**
MCIR	**Makushin Cirqu**	**1.86**	**342**	P	**P**	**Pn**	**00 49 45.7**	**-0.3**
ZRO	**Akutan Zero**	**1.90**	**359**	P	**P**	**Pn**	**00 49 45.6**	**-1.0**
AHB	**Akutan Harbor**	**1.93**	**2**	P	**P**	**Pn**	**00 49 46.0**	**-0.9**
AKRB	**Akutan Reef Bi**	**1.94**	**357**	P	**P**	**Pn**	**00 49 46.2**	**-0.9**
AKRB				S		**Sn**	**00 50 11.2**	**+0.9**
AKUT	**Akutan**	**1.95**	**3**	P	**P**	**Pn**	**00 49 46.1**	**-1.0**
AKUT				S		**Sn**	**00 50 10.7**	**+0.3**
NIKO	**Nikolski**	**1.95**	**295**	P	**P**	**Pn**	**00 49 45.6**	**-1.6**
AKLV	**Akutan Long Va**	**1.98**	**359**	P	**P**	**Pn**	**00 49 46.3**	**-1.2**
AKGG	**Akutan Green G**	**2.01**	**359**	P	**P**	**Pn**	**00 49 47.0**	**-1.0**
WESE	**West Dahl East**	**2.42**	**19**	P	**P**	**Pn**	**00 49 52.7**	**-1.0**
WESN	**West Dahl Nort**	**2.51**	**18**	P	**P**	**Pn**	**00 49 54.7**	**-0.2**
FALS	**False Pass**	**3.06**	**28**	P	**P**	**Pn**	**00 50 01.7**	**-0.7**
DRIA	**Deer Island**	**3.53**	**37**	P	**P**	**Pn**	**00 50 07.7**	**-1.2**
DT1	**Dutton Round H**	**3.64**	**35**	P	**P**	**Pn**	**00 50 09.6**	**-0.8**
DTNA	**Dutton South F**	**3.68**	**35**	P	**P**	**Pn**	**00 50 10.0**	**-1.0**
SDPT	**Sand Point**	**4.52**	**43**	P	**P**	**Pn**	**00 50 21.6**	**-0.8**
ILAR	**Eielson Array**	**15.97**	**31**	Pn	**Pn**	**Pn**	**00 52 57.1**	**-1.1**
	0.1nm,0.3s,baz=224,slow=12,SNR=5.4							
ILAR	**Eielson Array**	**15.97**	**31**	Pn	**Pn**	**Pn**	**00 52 57.1**	**-1.1**
INK	**Inuvik**	**22.36**	**32**	P	**P**	**P**	**00 54 10.6**	**-0.5**
	2.7nm,0.7s,baz=257,slow=9.8,SNR=12							
INK	**Inuvik**	**22.36**	**32**	P	**P**	**P**	**00 54 10.6**	**-0.5**
YKA	**Yellowknife Ar**	**28.76**	**49**	P	**P**	**P**	**00 55 10.2**	**-0.3**
	0.1nm,0.5s,baz=270,slow=7.7,SNR=4.4							
YKA				PcP	PcP	PcP	00 58 19.6	0.0
	0.4nm,0.6s,baz=277,slow=2.2,SNR=7.0							
YKA	**Yellowknife Ar**	**28.76**	**49**	P	**P**	**P**	**00 55 10.2**	**-0.3**
YKA				PcP	PcP	PcP	00 58 19.6	0.0
NVAR	**Mina Array Bea**	**35.54**	**94**	P	**P**	**P**	**00 56 11.2**	**+0.9**
	0.2nm,0.5s,baz=299,slow=9.2,SNR=2.9							
NVAR	**Mina Array Bea**	**35.54**	**94**	P	**P**	**P**	**00 56 11.2**	**+0.9**
PDAR	**Pinedale Array**	**38.35**	**81**	P	**P**	**P**	**00 56 34.1**	**-0.1**
	0.3nm,0.5s,baz=316,slow=3.8,SNR=3.7							
PDAR	**Pinedale Array**	**38.35**	**81**	P	**P**	**P**	**00 56 34.1**	**-0.1**
TXAR	**Lajitas Array**	**50.63**	**92**	P	**P**	**P**	**00 58 11.8**	**-0.4**
	0.9nm,0.5s,baz=296,slow=5.4,SNR=9.1							
TXAR	**Lajitas Array**	**50.63**	**92**	P	**P**	**P**	**00 58 11.8**	**-0.4**
SONM	**Songino Array**	**53.19**	**303**	P	**P**	**P**	**00 58 32.0**	**+0.9**
	0.1nm,0.3s,baz=53,slow=7.7,SNR=3.9							
SONM				PcP	PcP	PcP	00 59 39.5	+0.8
	0.3nm,0.4s,baz=72,slow=3.0,SNR=3.6							
SONM	**Songino Array**	**53.19**	**303**	P	**P**	**P**	**00 58 32.0**	**+0.9**
SONM				PcP	PcP	PcP	00 59 39.5	+0.8
JOW	**Kunigami**	**54.60**	**269**	LR	LR	LR	01 21 32.0	
	comp=Z,184nm,18.9s,baz=108,slow=36							
MKAR	**Makanchi Array**	**65.44**	**315**	P	**P**	**P**	**00 59 55.4**	**-0.2**
	0.3nm,0.7s,baz=51,slow=7.9,SNR=5.0							
MKAR	**Makanchi Array**	**65.44**	**315**	P	**P**	**P**	**00 59 55.4**	**-0.2**
AKASG	**Malin Array Be**	**76.68**	**350**	P	**P**	**P**	**01 01 04.1**	**+0.6**
	1.3nm,0.5s,baz=6.8,slow=5.1,SNR=3.3							
AKASG	**Malin Array Be**	**76.68**	**350**	P	**P**	**P**	**01 01 04.1**	**+0.6**
GERES	**GERESS Array B**	**79.34**	**0**	P	**P**	**P**	**01 01 19.3**	**+0.8**
	0.5nm,0.7s,baz=353,slow=6.9,SNR=4.0							
GERES	**GERESS Array B**	**79.34**	**0**	P	**P**	**P**	**01 01 19.3**	**+0.8**
BRTR	**Keskin Array B**	**86.89**	**345**	P	**P**	**P**	**01 01 59.0**	**+1.4**
	0.5nm,0.6s,baz=17,slow=1.5,SNR=3.1							
BRTR	**Keskin Array B**	**86.89**	**345**	P	**P**	**P**	**01 01 59.0**	**+1.4**
WRA	**Warramunga Arr**	**88.59**	**234**	P	**P**	**P**	**01 02 04.3**	**-1.3**
	0.4nm,0.7s,baz=37,slow=5.4,SNR=4.8							
WRA	**Warramunga Arr**	**88.59**	**234**	P	**P**	**P**	**01 02 04.3**	**-1.3**
ASAR	**Alice Springs**	**91.94**	**233**	P	**P**	**P**	**01 02 20.4**	**-0.8**
	0.5nm,0.7s,baz=353,slow=5.5,SNR=5.7							
ASAR	**Alice Springs**	**91.94**	**233**	P	**P**	**P**	**01 02 20.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**114.05**	**13**	PKP	PKPdf	PKPdf	01 07 51.4	-0.7
	0.8nm,1.1s,baz=20,slow=1.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**114.05**	**13**	PKP	PKPdf	PKPdf	01 07 51.4	-0.7

IDC 28 01:02:21.6±2.3, 2.92S×130.31E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=141.1km s-min=27.1km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.37**	**167**	P	P	Pn	01 06 25.9	+0.3
	0.3nm,0.3s,baz=347,slow=11,SNR=10							
ASAR	**Alice Springs**	**20.91**	**171**	P	P		01 07 05.8	-0.2
	0.8nm,0.3s,baz=349,slow=10,SNR=17							
MKAR	**Makanchi Array**	**65.03**	**326**	P	P		01 13 03.7	0.0
	0.1nm,0.6s,baz=123,slow=7.2,SNR=2.8							

IDC 28 01:09:21.5±0.9, 12.18N×143.87E, h0km, mb3.3/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.3/6, Error ellipse: s-maj=37.9km s-min=17.6km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.70**	**35**	Pn	Pn	Pn	01 09 52.9	+0.4
	27nm,0.3s,baz=194,slow=8.3,SNR=8.6							
GUMO				Sn		Sn	01 10 14.3	-0.7
	24nm,0.3s,baz=162,slow=20,SNR=9.1							
WRA	**Warramunga Arr**	**33.27**	**197**	P	P		01 16 00.5	-0.4
	0.6nm,0.9s,baz=20,slow=9.8,SNR=5.4							
ASAR	**Alice Springs**	**36.94**	**195**	P	P		01 16 32.6	+0.1
	0.1nm,0.4s,baz=19,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**61.83**	**317**	P	P		01 19 42.6	+0.1
	0.2nm,0.6s,baz=100,slow=7.4,SNR=3.6							
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	P		01 19 44.9	+0.1
	0.2nm,0.3s,baz=115,slow=9.7,SNR=2.7							
ILAR	**Eielson Array**	**70.25**	**25**	P	P		01 20 36.9	+0.6
	0.2nm,0.9s,baz=250,slow=5.5,SNR=3.9							
YKA	**Yellowknife Ar**	**84.55**	**27**	P	P		01 21 55.9	-0.5
	0.1nm,0.4s,baz=282,slow=4.9,SNR=5.7							
FINES	**FINESS Array B**	**92.02**	**335**	P	P		01 22 31.4	-0.7
	3.0nm,1.0s,baz=46,slow=5.5,SNR=6.3							

GUC 28 01:13:01.5±0.6, 31.84S×71.45W, h42km±1km, MD4.1, ML3.6, 9C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.06**	**221**	⇑*i*P	P	Pn	01 13 08.2	0.0
CHNG				*i* S		Sn	01 13 13.2	+0.3
CHNG				AML	AML	AML	01 13 13.6	
	comp=E,7μm,0.2s							
PTCH	**Petorca**	**0.61**	**134**	*e*P	P	Pn	01 13 13.8	-0.1
PTCH				*i* S		Sn	01 13 23.6	+0.8
PTCH				AML	AML	AML	01 13 25.8	
	comp=E,11μm,0.2s							
CMCH	**Combarbala**	**0.77**	**30**	⇑*i*P	P	Pn	01 13 16.2	+0.2
CMCH				*i* S		Sn	01 13 27.6	+1.1
CMCH				AML	AML	AML	01 13 28.8	
	comp=N,10μm,0.7s							
JACH	**Jahuel**	**1.11**	**139**	⇑*i*P	P	Pn	01 13 21.9	+1.1
JACH				*i* S		Sn	01 13 37.2	+2.1
ROCH	**El Roble**	**1.19**	**162**	⇑*i*P	P	Pn	01 13 22.1	+0.1
ROCH				*i* S		Sn	01 13 38.0	+0.7
ROCH				AML	AML	AML	01 13 40.0	
	comp=N,2μm,0.5s							
IHA	**Instituto Hidr**	**1.20**	**188**	⇑*i*P	P	Pn	01 13 21.5	-0.3
IHA				*i* S		Sn	01 13 37.5	+0.7
PEL	**Peldehue**	**1.46**	**154**	⇓*i*P	P	Pn	01 13 26.5	+1.1
PEL				*i* S		Sn	01 13 45.1	+1.7
PEL				AML	AML	AML	01 13 52.5	
	comp=N,2μm,0.4s							
CLCH	**Cerro Calan**	**1.74**	**154**	⇑*i*P	P	Pn	01 13 30.4	+1.1
CLCH				*i* S		Sn	01 13 52.1	+1.8
CLCH				AML	AML	AML	01 13 56.1	
	comp=N,1μm,0.7s							
SAN	**Santiago**	**1.74**	**158**	*e*P	P	Pn	01 13 30.5	+1.1
SAN				*e*S		Sn	01 13 51.9	+1.4
SAN				AML	AML	AML	01 13 58.3	
	comp=N,482nm,0.6s							
TLL	**Tololo Astrono**	**1.75**	**19**	*e*P	P	Pn	01 13 31.1	+1.2
TLL				*e*S		Sn	01 13 53.4	+2.3
TLL				AML	AML	AML	01 13 57.6	
	comp=E,600nm,0.4s							
FCH	**Farellones**	**1.78**	**147**	*e*P	P	Pn	01 13 36.2	+6.0
FCH				*i* S		Sn	01 14 01.2	+9.2
FCH				AML	AML	AML	01 14 04.7	
	comp=E,785nm,0.3s							
ANTU	**Antumapu**	**1.86**	**158**	*e*P	P	Pn	01 13 31.8	+0.9
ANTU				*e*S		Sn	01 13 55.0	+1.7
ANTU				AML	AML	AML	01 14 01.0	
	comp=N,571nm,0.9s							
CHCH	**Chadas Angostu**	**2.20**	**162**	⇑*i*P	P	Pn	01 13 36.5	+0.9
CHCH				*e*S		Sn	01 14 03.0	+1.4
LMEL	**Las Melosas**	**2.26**	**153**	⇑*i*P	P	Pn	01 13 38.2	+1.5
LMEL				*e*S		Sn	01 14 05.5	+1.9
LMEL				AML	AML	AML	01 14 11.2	
	comp=N,808nm,0.1s							
CACH	**El Canelo**	**2.38**	**163**	⇑*i*P	P	Pn	01 13 39.9	+1.7

IDC 28 01:19:43.4±1.5, 1.14N×126.23E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=163.2km s-min=21.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.41**	**160**	P	P		01 24 43.8	-0.1
	0.8nm,0.3s,baz=338,slow=11,SNR=34							
ASAR	**Alice Springs**	**25.76**	**164**	P	P		01 25 16.1	0.0
	0.4nm,0.3s,baz=339,slow=9.9,SNR=7.7							
MKAR	**Makanchi Array**	**59.40**	**326**	P	P		01 29 48.0	+0.1
	0.2nm,0.5s,baz=128,slow=7.1,SNR=4.4							
ZALV	**Zalesovo Beam**	**62.67**	**334**	P	P		01 30 09.7	-0.1
	0.2nm,0.3s,baz=128,slow=6.1,SNR=2.6							

*KRSC **28** 01:20:25.3±2.2, 53.89N×154.83E, h559km±48km, ML4.5 MOS **28** 01:20:30.7±1.2, 54.24N×154.53E, h485km, mb3.7/4, Error ellipse: s-maj=20.1km s-min=15.5km az=81.8*
*ISCJB **28** 01:20:31.3±0.3, 54.18N±0.09×154.7E±0.2, h494km±6km, mb3.2/15, Error ellipse: s-maj=16.5km s-min=10.8km az=41.3*
*IDC **28** 01:20:32.4±1.2, 54.22N×154.50E, h488km±16km, mb2.8/14, mb1 3.0/15, mb1mx2.9/27, mbtmp2.8/15, Error ellipse: s-maj=15.3km s-min=12.5km az=150.0*

ISC 28 01:20:31.6±0.7, 54.11N±0.09×154.90E±0.10, h489km±10km, n54, σ1=83/62, mb3.1/15, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.80**	**130**	*e*P	**P**	**P**	**01 21 35.9**	**+1.2**
GNL	**Ganaly**	**1.85**	**102**	*i* P	**P**	**P**	**01 21 36.9**	**+1.8**
PETK	**Petropavlovsk-**	**1.94**	**120**	P	**P**	**P**	**01 21 36.9**	**+1.5**
	4.9nm,0.3s,baz=258,slow=1.6,SNR=22							
PETK	**Petropavlovsk-**	**1.94**	**120**	PN	**P**	**P**	**01 21 36.9**	**+1.5**
PETK				pmax	pmax			
	comp=Z,5.0nm,0.3s							
MIPR	**Malaya Ipel'ka**	**2.15**	**148**	P	**P**	**P**	**01 21 37.0**	**+0.5**
KOK	**Koryaka**	**2.37**	**109**	*e*P	**P**	**P**	**01 21 39.9**	**+2.1**
KRER	**Koryakskii**	**2.42**	**108**	P	**P**	**P**	**01 21 40.1**	**+1.8**
AVH	**Avacha**	**2.43**	**109**	*e*P	**P**	**P**	**01 21 40.3**	**+2.1**
SMAR	**Somma**	**2.47**	**109**	*i* P	**P**	**P**	**01 21 40.4**	**+1.9**
PET	**Petropavlovsk**	**2.49**	**114**	PN	**P**	**P**	**01 21 40.1**	**+1.7**
PET				S		**S**	**01 22 33.9**	**+1.2**
PET	**Petropavlovsk**	**2.49**	**114**	*e*P	**P**	**P**	**01 21 40.1**	**+1.7**
PET				S		**S**	**01 22 33.9**	**+1.2**
ASAK	**Asacha**	**2.50**	**133**	*i* P	**P**	**P**	**01 21 40.0**	**+1.4**
UGLR	**Uglovaya**	**2.50**	**110**	*e*P	**P**	**P**	**01 21 40.5**	**+1.9**
SDLR	**Sedlovina**	**2.51**	**108**	*i* P	**P**	**P**	**01 21 40.2**	**+1.5**
MTVR	**Mutnovka**	**2.56**	**128**	*e*P	**P**	**P**	**01 21 40.9**	**+1.9**
KII	**Karymskiy**	**2.68**	**90**	*e*P	**P**	**P**	**01 21 41.3**	**+1.7**
RUS	**Russkaya**	**2.74**	**126**	PN	**P**	**P**	**01 21 39.3**	**-0.7**
RUS				S		**S**	**01 22 32.8**	**-2.8**
RUS	**Russkaya**	**2.74**	**126**	*e*P	**P**	**P**	**01 21 39.3**	**-0.7**
RUS				S		**S**	**01 22 32.8**	**-2.8**
ESO	**Esso**	**2.84**	**49**	PN	**P**	**P**	**01 21 42.5**	**+2.0**
ESO	**Esso**	**2.84**	**49**	*e*P	**P**	**P**	**01 21 42.5**	**+2.0**
SPN	**Mys Shipunski**	**3.21**	**106**	*e*S	**S**	**S**	**01 22 38.5**	**-3.0**
TUMR	**Tumrok**	**3.26**	**67**	*i* P	**P**	**P**	**01 21 45.9**	**+2.3**
KOZ	**Kozyrevsk**	**3.46**	**54**	P	**P**	**P**	**01 21 47.0**	**+2.1**
KOZR	**Kozyr**	**3.48**	**54**	PN	**P**	**P**	**01 21 47.0**	**+2.0**
KMNR	**Kamenistaya**	**3.49**	**60**	*e*P	**P**	**P**	**01 21 47.0**	**+1.8**
SRDR	**Sredinnyy**	**3.54**	**49**	*i* P	**P**	**P**	**01 21 47.7**	**+2.2**
KPT	**Kopyto**	**3.58**	**57**	P	**P**	**P**	**01 21 47.5**	**+1.6**
BZMR	**Bezymyannaya**	**3.70**	**58**	P	**P**	**P**	**01 21 48.6**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.81**	**59**	P	**P**	**P**	**01 21 50.1**	**+2.4**
KRSR	**Krestovskiy**	**3.87**	**55**	*e*P	**P**	**P**	**01 21 49.6**	**+1.4**
ZLN	**Zelenaya**	**3.90**	**58**	P	**P**	**P**	**01 21 50.5**	**+2.1**
MKZ	**Mys Kozlova**	**4.02**	**81**	PN	**P**	**P**	**01 21 48.4**	**-0.9**
MKZ				S		**S**	**01 22 49.5**	**-3.3**
MKZ	**Mys Kozlova**	**4.02**	**81**	*e*P	**P**	**P**	**01 21 48.4**	**-0.9**
MKZ				*e*S		**S**	**01 22 49.5**	**-3.3**
KBTR	**Krutoberegovo**	**5.00**	**62**	PN	**P**	**P**	**01 21 57.2**	**-0.6**
KBTR				S		**S**	**01 23 05.4**	**-3.0**
KBTR	**Krutoberegovo**	**5.00**	**62**	*i* P	**P**	**P**	**01 21 57.2**	**-0.6**
KBTR				S		**S**	**01 23 05.4**	**-3.0**
BKI	**Bering**	**6.52**	**76**	*e*S	**S**	**S**	**01 23 33.8**	**-1.2**
KSRS	**Korea Array**	**24.90**	**239**	P	**P**	**P**	**01 25 15.0**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=46,slow=11,SNR=4.4							
ILAR	**Eielson Array**	**30.32**	**46**	P	**P**	**P**	**01 26 04.2**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=274,slow=9.6,SNR=5.9							
SONM	**Songino Array**	**30.67**	**278**	P	**P**	**P**	**01 26 04.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=67,slow=8.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**39.60**	**299**	P	**P**	**P**	**01 27 17.4**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=88,slow=9.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**39.60**	**299**	P	**P**	**P**	**01 27 17.4**	**-2.2**
YKA	**Yellowknife Ar**	**44.48**	**42**	P	**P**	**P**	**01 27 59.7**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=300,slow=7.2,SNR=5.1							
MKAR	**Makanchi Array**	**44.91**	**292**	P	**P**	**P**	**01 28 00.2**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=55,slow=6.6,SNR=20							
MKAR	**Makanchi Array**	**44.91**	**292**	P	**P**	**P**	**01 28 00.2**	**-1

LKR	**Lokris**	**0.54**	**41**	P	**Pg**	**01 28 44.7**	**-0.7**
LKR				S	**Sb**	**01 28 54.3**	**+0.3**
LKR	**Lokris**	**0.54**	**41**	*e*PB	**Pg**	**01 28 44.7**	**-0.7**
LKR				*e*SB	**Sg**	**01 28 52.7**	**+0.1**
LKR	**Lokris**	**0.54**	**41**	P	**Pg**	**01 28 44.7**	**-0.7**
LKR				*e*Sb	**Sg**	**01 28 52.7**	**+0.1**
LKR				S	**Sb**	**01 28 54.3**	**+0.3**
EFP	**Efpalio**	**0.54**	**290**	P	**Pg**	**01 28 45.0**	**-0.4**
EFP	**Efpalio**	**0.54**	**290**	P	**Pg**	**01 28 45.0**	**-0.4**
ATAL	**Atalanti**	**0.58**	**39**	P	**Pg**	**01 28 45.5**	**-0.7**
ATAL	**Atalanti**	**0.58**	**39**	P	**Pg**	**01 28 45.5**	**-0.7**
AGG	**Agios Georgios**	**0.80**	**348**	P	**Pg**	**01 28 50.3**	**0.0**
AGG				S	**Sb**	**01 29 01.6**	**+0.1**
AGG	**Agios Georgios**	**0.80**	**348**	P	**Pg**	**01 28 50.3**	**0.0**
AGG				S	**Sb**	**01 29 01.6**	**+0.1**
DID	**Didima**	**0.92**	**143**	*e*PG	**Pg**	**01 28 52.1**	**-0.4**
DID	**Didima**	**0.92**	**143**	*e*Pg	**Pg**	**01 28 52.1**	**-0.4**

FUNV 28 01:42:38.7, 6.73N×73.11W, h189km, MW3.7, 4C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.38**	**35**	⇑*i*P	Pn	01 43 10.2	-0.5
CAPV				*e*S	Sn	01 43 32.4	-3.0
SOCV	**Socops**	**2.72**	**55**	⇑*i*P	Pn	01 43 23.9	-0.6
SOCV				*e*S	Sn	01 43 56.0	-4.2
VIGV	**El Vigia**	**2.72**	**39**	⇑*i*P	Pn	01 43 23.8	-0.7
VIGV				*e*S	Sn	01 43 56.8	-3.5
ELOV	**Elorza**	**3.61**	**86**	*e*P	Pn	01 43 34.5	-0.7
VIRV	**Villa del Rosa**	**3.81**	**10**	⇑*i*P	Pn	01 43 36.3	-1.5
VIRV				*e*S	Sn	01 44 19.4	-4.7
TEPV	**Terepaima**	**5.04**	**50**	*e*P	Pn	01 43 51.9	-1.5
TEPV				*e*S	Sn	01 44 46.6	-5.6
SIQV	**Siquisique**	**5.08**	**40**	*e*P	Pn	01 43 52.1	-1.8
BAUV	**El Baul**	**5.48**	**66**	*e*P	Pn	01 43 58.0	-2.3
MAPV	**Macapo**	**5.54**	**56**	*e*P	Pn	01 43 58.0	-1.9

*DJA **28** 02:09:19.3±0.7, 3°S±6°×12°9E±°, h186km±7km, M3.0/6, MLv3.0/6*

IDC 28 02:09:08.3±4.4, 5°17S×129°86E, h214km±40km, mb2.7/1, mb1 3.6/4, mb1mx3.2/19, mbtmp3.4/4, Error ellipse: s-maj=85.3km s-min=14.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.64**	**4**	P	Pn	02 09 51.1	+13
BNDI				S	S	02 10 13.5	+13
MSAI	**Masohi**	**2.03**	**333**	P	Pn	02 09 42.2	-6.1
MSAI				S	S	02 10 07.7	-12
AAI	**Ambon**	**2.22**	**312**	P	Pn	02 09 48.4	-1.8
AAI				S	S	02 10 13.4	-9.1
FAKI	**Fak Fak**	**3.27**	**47**	P	Pn	02 09 57.5	-4.4
NLAI	**Namlea**	**3.35**	**305**	P	Pn	02 10 01.4	-1.5
SWI	**Sorong**	**4.50**	**18**	P	Pn	02 10 09.6	-7.3
LBMI	**Labuha**	**5.08**	**332**	P	Pn	02 10 12.3	-12
FITZ	**Fitzroy Crossi**	**13.50**	**197**	P	P	02 12 13.3	-0.5
	0.8nm,0.3s,baz=39,slow=13,SNR=15						
FITZ				S	S	02 14 31.0	-10
	0.2nm,0.3s,baz=53,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**15.32**	**164**	P	Pn	02 12 32.1	-1.8
	0.3nm,0.3s,baz=343,slow=12,SNR=21						
WRA				S	S	02 15 14.6	-9.0
	0.4nm,0.3s,baz=337,slow=22,SNR=7.6						
ASAR	**Alice Springs**	**18.80**	**168**	P	P	02 13 13.1	+1.1
	2.2nm,0.3s,baz=346,slow=12,SNR=71						
ASAR				S	S	02 16 34.5	0.0
	baz=346,slow=16,SNR=3.4						
MKAR	**Makanchi Array**	**66.63**	**326**	P	P	02 19 35.5	-0.3
	0.1nm,0.4s,baz=126,slow=7.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**70.89**	**328**	P	P	02 20 02.0	0.0
	45nm,0.3s,baz=127,slow=6.0,SNR=2.0						

*IDC **28** 02:20:56.6±4.7, 36°44N×71°42E, h165km±34km, mb3.3/6, mb1 3.3/11, mb1mx3.1/30, mbtmp3.2/11, Error ellipse: s-maj=46.5km s-min=24.0km az=150.0*

*NNC **28** 02:21:05.7±4.0, 37°18N×71°12E, h192km±35km, mb2.6, mpv3.5, Error ellipse: s-maj=35.4km s-min=20.7km az=24.0*

ISC 28 02:20:52.8±1.6, 36°6N±0°1×70°8E±0°1, h88km, n20, σ1§76/19, mb3.8/6, 1C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.84**	**132**	*e*P	Sn	02 23 23.0	+0.2
KK31	**Karatay Array**	**6.52**	**358**	P	Pn	02 22 32.0	+5.9
	1.1nm,0.4s,baz=176,slow=12,SNR=34						
KK31				S	**Sn**	**02 23 40.5**	**+1.6**
	12nm,0.7s,baz=183,slow=18,SNR=19						
AAK	**Ala-Archa**	**6.67**	**24**	P	Pn	02 22 32.7	+4.4
	1.4nm,0.3s,baz=190,slow=7.2,SNR=23						
AAK				S	**Sn**	**02 23 44.8**	**+1.9**
	1.4nm,0.3s,baz=115,slow=22,SNR=8.3						
TKM2	**Tokmak 2**	**7.32**	**29**	⇓P	Pn	02 22 41.3	+4.2
	4.2nm,0.5s						
TKM2				⇓S	**Sn**	**02 23 59.3**	**+0.6**
	14nm,0.8s						
MK31	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**02 23 57.1**	**-0.9**
	0.8nm,0.6s,baz=226,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**02 23 57.9**	**-0.1**
	0.1nm,0.3s,baz=225,slow=12,SNR=7.8						
AB31	**Akbulak array**	**14.95**	**331**	⇓P	**P**	**02 24 24.6**	**+1.9**
	1.6nm,0.8s,baz=141,slow=12,SNR=15						
AB31				S	**Sn**	**02 27 00.7**	**-3.2**
	1.3nm,0.6s,baz=147,slow=23,SNR=3.5						
ZRNK	**Zerenda**	**16.42**	**356**	⇓P	**Pn**	**02 24 38.2**	**+0.5**
	2.3nm,0.6s						
BVA0	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**02 24 39.6**	**+1.6**
	0.2nm,0.7s,baz=187,slow=16,SNR=7.4						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**02 24 39.5**	**+1.4**
	0.2nm,0.3s,baz=163,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**P**	**02 24 43.9**	**+2.5**
	0.6nm,0.3s,baz=137,slow=10,SNR=20						
AKTO	**Aktyubinsk**	**16.65**	**330**	⇓P	**P**	**02 24 43.5**	**+2.0**
	0.4nm,0.5s						
AKTO				⇑S	**Sn**	**02 27 43.8**	**-1.1**
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**02 25 14.7**	**-2.3**
	0.2nm,0.3s,baz=226,slow=10,SNR=7.2						
BRTR	**Keskin Array B**	**29.29**	**288**	P	**P**	**02 26 48.2**	**+1.3**
	0.5nm,0.8s,baz=81,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**02 27 55.9**	**-0.5**
	1.0nm,0.6s,baz=125,slow=10.0,SNR=8.0						
ARCES	**ARCESS Array B**	**41.02**	**338**	P	**P**	**02 28 25.6**	**-1.3**
	1.2nm,0.5s,baz=105,slow=9.2,SNR=8.8						
NB2	**NORSAR Subarra**	**44.24**	**323**	P	**P**	**02 28 51.9**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**02 28 52.0**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=96,slow=7.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**65.59**	**268**	P	P	02 31 25.1	-2.5
	comp=Z,0.6nm,0.7s,baz=51,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	P	02 32 53.8	-4.5
	comp=Z,0.5nm,0.7s,baz=349,slow=5.2,SNR=13						

*ISCJB **28** 03:10:40.3±1.3, 35°22N±0°05×23°32E±0°05, h6km±9km, mb3.5/8, MS3.1/1, Error ellipse: s-maj=9.8km s-min=4.9km az=31.3*

*IDC **28** 03:10:40.3±1.5, 35°35N×23°45E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/26, mbtmp3.6/9, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/36, Error ellipse: s-maj=38.5km s-min=24.5km az=116.0*

*ATH **28** 03:10:41.4, 35°31N×23°38E, h5km±2km, MD3.5/12*

*CSEM **28** 03:10:41.4, 35°31N×23°38E, h5km, MD3.5, After ATH*

ISC 28 03:10:42.4±1.2, 35°34N±0°05×23°42E±0°04, h13km±8km, n38, σ0§57/47, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.41**	**81**	*e*PB	**Pg**	**03 10 50.5**	**-0.1**
KARN				*e*SB	**Sb**	**03 10 57.5**	**-0.3**
KARN	**Karanos**	**0.41**	**81**	*e*Pb	**Pg**	**03 10 50.5**	**-0.1**
KARN				*e*Sb	**Sb**	**03 10 57.5**	**-0.3**
VAM	**Vamos**	**0.64**	**84**	*e*PB	**Pg**	**03 10 54.7**	**-0.2**
VAM				*e*SB	**Sb**	**03 11 04.4**	**+0.1**
VAM	**Vamos**	**0.64**	**84**	*e*Pb	**Pg**	**03 10 54.7**	**-0.2**
VAM				*e*Sb	**Sb**	**03 11 04.4**	**+0.1**
GVD	**Gavdhos**	**0.74**	**132**	*e*PB	**Pg**	**03 10 56.0**	**-0.8**
GVD				*e*SB	**Sg**	**03 11 06.9**	**+0.4**
GVD	**Gavdhos**	**0.74**	**132**	*e*Pb	**Pg**	**03 10 56.0**	**-0.8**
GVD				*e*Sb	**Sg**	**03 11 06.9**	**+0.4**
KYTH	**Kithira**	**0.99**	**342**	*e*PB	**Pb**	**03 11 00.7**	**-0.7**
KYTH	**Kithira**	**0.99**	**342**	*e*Pb	**Pb**	**03 11 00.7**	**-0.7**
SIVA	**Sivas**	**1.19**	**105**	*e*PG	**Pn**	**03 11 04.1**	**-0.5**
SIVA				*e*SB	**Sg**	**03 11 21.4**	**+0.8**
SIVA	**Sivas**	**1.19**	**105**	*e*Pg	**Pn**	**03 11 04.1**	**-0.5**
SIVA				*e*Sb	**Sg**	**03 11 21.4**	**+0.8**
IDI	**Anoyia**	**1.21**	**92**	*e*PB	**Pb**	**03 11 05.3**	**+0.2**
IDI	**Anoyia**	**1.21**	**92**	*e*Pb	**Pb**	**03 11 05.3**	**+0.2**
VLI	**Veliai**	**1.43**	**344**	*e*PB	**Pb**	**03 11 08.8**	**-0.1**
VLI				*e*SB	**Sg**	**03 11 29.3**	**+0.8**
VLI	**Veliai**	**1.43**	**344**	*e*Pb	**Pb**	**03 11 08.8**	**-0.1**
VLI				*e*Sb	**Sg**	**03 11 29.3**	**+0.8**
DYR	**Agios Nikonas**	**1.67**	**329**	*e*PB	**Pb**	**03 11 13.2**	**+0.2**
DYR	**Agios Nikonas**	**1.67**	**329**	*e*Pb	**Pb**	**03 11 13.2**	**+0.2**
LAST	**Lasithi**	**1.70**	**95**	*e*PG	**Pb**	**03 11 13.5**	**0.0**
LAST	**Lasithi**	**1.70**	**95**	*e*Pg	**Pb**	**03 11 13.5**	**0.0**
NPS	**Neapolis**	**1.80**	**92**	*e*PN	**Pb**	**03 11 15.8**	**+0.6**
NPS	**Neapolis**	**1.80**	**92**	*e*Pn	**Pb**	**03 11 15.8**	**+0.6**
DID	**Didima**	**2.17**	**356**	*e*PN	**Pb**	**03 11 21.6**	**+0.1**
DID	**Didima**	**2.17**	**356**	*e*Pn	**Pb**	**03 11 21.6**	**+0.1**
VLX	**Vlachokerasia**	**2.19**	**338**	*e*PN	**Pb**	**03 11 21.6**	**-0.4**
VLX	**Vlachokerasia**	**2.19**	**338**	*e*Pn	**Pb**	**03 11 21.6**	**-0.4**
ITM	**Ithomi**	**2.20**	**327**	*e*PN	**Pb**	**03 11 21.8**	**-0.2**
ITM	**Ithomi**	**2.20**	**327**	*e*Pn	**Pb**	**03 11 21.8**	**-0.2**
APE	**Apeiranthos**	**2.43**	**44**	*e*PN	**Pb**	**03 11 24.7**	**-1.3**
APE	**Apeiranthos**	**2.43**	**44**	*e*Pn	**Pb**	**03 11 24.7**	**-1.3**
BRTR	**Keskin Array B**	**9.22**	**59**	Pn	Pn	03 12 59.9	+4.7
	0.1nm,0.3s,baz=245,slow=14,SNR=4.5						
GERES	**GERESS Array B**	**15.28**	**335**	Pn	**Pn**	**03 14 18.4**	**+0.5**
	0.1nm,0.3s,baz=164,slow=18,SNR=2.4						
HFS	**Hagfors**	**25.60**	**349**	P	**P**	**03 16 11.3**	**+0.2**
	3.1nm,0.9s,baz=153,slow=10.0,SNR=6.9						
FINES	**FINESS Array B**	**26.18**	**3**	P	**P**	**03 16 15.4**	**-0.8**
	3.7nm,1.1s,baz=180,slow=11,SNR=4.3						
NOA	**NORSAR Array B**	**26.88**	**347**	P	**P**	**03 16 22.2**	**-0.5**
	0.6nm,0.9s,baz=152,slow=9.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**29.54**	**227**	P	**P**	**03 16 46.6**	**-0.2**
	0.2nm,0.4s,baz=32,slow=8.5,SNR=8.3						
TORD				LR	LR	03 29 10.4	
	comp=Z,43nm,18.9s,baz=285,slow=38						
ARCES	**ARCESS Array B**	**34.27**	**1**	P	**P**	**03 17 27.2**	**-0.6**
	2.9nm,0.9s,baz=169,slow=7.0,SNR=5.5						
MKAR	**Makanchi Array**	**44.87**	**56**	P	**P**	**03 18 56.2**	**-0.1**
	0.2nm,0.5s,baz=273,slow=7.4,SNR=4.7						
SCHQ	**Schefferville**	**62.12**	**319**	P	**P**	**03 21 03.1**	**+0.3**
	0.4nm,0.4s,baz=63,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**76.83**	**341**	P	**P**	**03 22 34.8**	**+1.3**
	0.1nm,0.7s,baz=45,slow=6.2,SNR=2.5						

WEL 28 03:22:58.7±0.2, 45°21S×167°28E, h100km±1km, ML3.5/10, 4C-1D, Error ellipse: s-maj=2.1km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.28**	**198**	PN	Pn	03 23 12.8	-0.4
DCZ				SN	Sn	03 23 23.4	-0.6
MLZ	**Mavora Lakes**	**0.65**	**103**	⇑PN	Pn	03 23 15.3	-0.5
MLZ				SN	Sn	03 23 27.7	-0.8
MSZ	**Milford Sound**	**0.71**	**41**	PN	Pn	03 23 16.2	0.0
MSZ				SN	Sn	03 23 29.1	-0.2
WHZ	**Wether Hill Ro**	**0.83**	**146**	PN	Pn	03 23 17.3	-0.1
WHZ				SN	Sn	03 23 30.8	-0.7
WKZ	**Wanaka**	**1.29**	**73**	⇑PN	Pn	03 23 22.3	-0.2
EAZ	**Earnscleugh**	**1.44**	**92**	PN	Pn	03 23 23.9	-0.3
JCZ	**Jackson Bay**	**1.55**	**43**	⇑PN	Pn	03 23 25.0	-0.8
APZ	**The Paps**	**1.70**	**163**	PN	Pn	03 23 27.5	0.0
TUZ	**Tuapeka**	**1.81**	**115**	PN	Pn	03 23 28.5	-0.4
SYZ	**Scrubby Hill**	**1.86**	**136**	⇓PN	Pn	03 23 29.3	-0.2
LBZ	**Lake Benmore**	**2.23**	**69**	PN	Pn	03 23 32.5	-1.8
FOZ	**Fox Glacier**	**2.39**	**47**	PN	Pn	03 23 35.5	-0.8
ODZ	**Otahua Downs**	**2.39**	**87**	⇑PN	Pn	03 23 34.9	-1.4
WVZ	**Waitaha Valley**	**3.28**	**51**	PN	Pn	03 23 46.5	-1.6

*NIED **28** 03:27:00, 33°60N×131°80E, h92km, Mw4.0 Best double couple: M0 1.30000×10^15 NP1:φs22.00000°, δ81.00000°, λ81.00000°. NP2:φs249.00000°, δ13.00000°, λ135.00000°.*

*ISCJB **28** 03:27:34.0±0.3, 33°56N±0°04×131°81E±0°05, h94km±2km, mb3.7/17, Error ellipse: s-maj=7.1km s-min=6.2km az=146.1*

*IDC **28** 03:27:35.7±0.5, 33°56N×131°67E, h92km±4km, mb3.5/16, mb1 3.7/19, mb1mx3.6/30, mbtmp3.6/19, Error ellipse: s-maj=11.9km s-min=8.6km az=129.0*

*JMA **28** 03:27:35.7, 33°59N×131°83E, h83km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs32.00000°, δ74.00000°, λ78.00000°. NP2:φs250.00000°, δ20.00000°, λ126.00000°. Principal axes: T Plg59.0000°, Azm286.0000°; N Plg11.0000°, Azm36.0000°; P Plg28.0000°, Azm132.0000°;*

JMA Felt II J1.

ISC 28 03:27:35.2±0.5, 33°57N±0°04×131°84E±0°04, h90km±3km, n32, σ1§30/57, mb3.8/17, 5C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKI	**Kunimi**	**0.23**	**284**	⇓P	**Pn**	**03 27 47.9**	**-0.4**
JKI				S	**Sn**	**03 27 57.2**	**-0.9**
OIT2	**Oita 2**	**0.44**	**228**	⇑P	**Pn**	**03 27 49.5**	**-0.1**
OIT2				S	**Sn**	**03 27 59.7**	**-0.5**
JKD	**Kudamatsu**	**0.48**	**3**	⇓P	**Pn**	**03 27 49.5**	**-0.3**
JKD				S	**Sn**	**03 27 59.5**	**-1.2**
JUS	**Usuki**	**0.51**	**188**	⇑P	**Pn**	**03 27 50.0**	**-0.1**
JUS				*i*S	**Sn**	**03 28 00.3**	**-0.8**
JNA	**Nagahama**	**0.53**	**92**	⇑P	**Pn**	**03 27 50.1**	**-0.1**
JNA				S	**Sn**	**03 28 01.0**	**-0.5**
UWA2	**Uwa jima 2**	**0.75**	**118**	⇑P	**Pn**	**03 27 51.9**	**-0.3**
UWA2				S	**Sn**	**03 28 04.4**	**-0.6**
JHM	**Kurahashi**	**0.81**	**45**	⇑P	**Pn**	**03 27 52.7**	**-0.1**
JHM				S	**Sn**	**03 28 05.3**	**-0.6**
JNU	**Nakatsue**	**0.92**	**241**	P	**Pn**	**03 27 54.0**	**0.0**
	687nm,0.3s,baz=52,slow=3.2,SNR=7001						
JNU				S	**Sn**	**03 28 07.7**	**-0.5**
	848nm,0.3s,baz=172,slow=16,SNR=91						
JNU	**Nakatsue**	**0.92**	**241**	⇓P	**Pn**	**03 27 54.1**	**0.0**
JNU				S	**Sn**	**03 28 07.5**	**-0.7**
JTO	**Tosashimizu**	**1.08**	**131**	⇓P	**Pn**	**03 27 55.5**	**-0.3**
JTO				S	**Sn**	**03 28 10.4**	**-0.9**
JHT	**Toyohira**	**1.19**	**24**	⇓P	**Pn**	**03 27 57.6**	**+0.5**
JHT				S	**Sn**	**03 28 13.2**	**-0.5**
KSRS	**Korea Array**	**5.02**	**322**	P	**Pn**	**03 28 48.9**	**+0.8**
	7.3nm,0.3s,baz=141,slow=14,SNR=82						
KSRS				S	Sn	03 29 56.5	+12
	2.8nm,0.3s,baz=138,slow=28,SNR=5.9						
MAT	**Matsushiro**	**6.00**	**59**	P	**Pn**	**03 29 02.9**	**+1.4**
MAT				S	**Sn**	**03 30 05.1**	**-3.7**
MJAR	**Matsushiro Arr**	**6.00**	**59**	P	**Pn**	**03 29 03.7**	**+2.2**
	3.4nm,0.3s,baz=244,slow=14,SNR=31						
MJAR				S	**Sn**	**03 30 03.9**	**-4.9**
	1.8nm,0.3s,baz=217,slow=16,SNR=5.7						
JHJ	**Hachijo jima 2**	**6.66**	**92**	P	**Pn**	**03 29 11.7**	**+1.3**
	28nm,0.3s,baz=74,slow=21,SNR=5.2						
JHJ				S	**Sn**	**03 30 22.0**	**-2.8**
	5.3nm,0.3s,baz=60,slow=20,SNR=3.8						
SONM	**Songino Array**	**23.84**	**314**	P	**P**	**03 32 40.0**	**-0.1**
	4.9nm,0.7s,baz=131,slow=10,SNR=20						
SONM				pP	**pP**	**03 32 58.9**	**-0.7**
	3.0nm,1.1s,baz=126,slow=10.0,SNR=3.9						
SONM				sP	**sP**	**03 33 10.1**	**-0.6**
	1.1nm,0.6s,baz=129,slow=9.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**38.70**	**316**	P	**P**	**03 34 49.6**	**-0.4**
	0.6nm,0.6s,baz=90,slow=4.3,SNR=4.9						
ZALV				pP	**pP**	**03 35 12.2**	**+1.0**
	0.8nm,0.7s,baz=83,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**39.46**	**305**	P	**P**	**03 34 56.0**	**-0.5**
	0.9nm,0.8s,baz=94,slow=11,SNR=12						
MKAR				pP	**pP**	**03 35 17.2**	**-0.5**
	0.7nm,0.9s,baz=91,slow=10,SNR=3.4						
MKAR				sP	**sP**	**03 35 26.4**	**-1.7**
	0.5nm,0.6s,baz=92,slow=9.1,SNR=3.5						
MKAR				ScP	**ScP**	**03 40 41.1**	**-2.1**
	0.2nm,0.7s,baz=102,slow=5.8,SNR=2.8						
WRA	**Warramunga Arr**	**53.27**	**177**	P	**P**	**03 36 44.7**	**0.0**
	0.7nm,0.6s,baz=355,slow=7.8,SNR=4.0						
WRA				pP	**pP**	**03 37 06.7**	**-0.2**
	0.4nm,0.6s,baz=354,slow=8.1,SNR=2.1						
AKTO	**Aktyubinsk**	**55.12**	**312**	P	**P**	**03 36 57.2**	**-0.7**
	0.6nm,0.6s,baz=66,slow=17,SNR=4.2						
ILAR	**Eielson Array**	**56.52**	**31**	P	**P**	**03 37 08.7**	**+1.0**
	0.4nm,0.6s,baz=266,slow=6.8,SNR=9.5						
ILAR				pP	**pP**	**03 37 31.6**	**+1.6**
	0.5nm,0.7s,baz=285,slow=9.6,SNR=5.4						
ASAR	**Alice Springs**	**56.96**	**178**	P	**P**	**03 37 11.4**	**+0.2**
	0.6nm,0.6s,baz=8.9,slow=13,SNR=12						
ASAR				pP	**pP**	**03 37 34.6**	**+1.0**
	0.3nm,0.6s,baz=8.0,slow=14,SNR=2.0						
INK	**Inuvik**	**60.93**	**25**	P	**P**	**03 37 39.4**	**+1.3**
	1.3nm,0.7s,baz=261,slow=7.8,SNR=6.2						
ARCES	**ARCESS Array B**	**64.36**	**338**	P	**P**	**03 38 00.7**	**-0.3**
	3.6nm,1.0s,baz=70,slow=8.3,SNR=9.7						
JOF	**Joensuu**	**65.19**	**330**	*ep*	**P**	**03 38 05.6**	**-0.8**
	0.7nm,0.4s						
STKA	**Stephens Creek**	**65.75**	**171**	P	**P**	**03 38 10.1**	**-0.2**
	0.5nm,0.4s,baz=330,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**68.05**	**330**	P	**P**	**03 38 23.8**	**-0.8**
	1.3nm,0.6s,baz=70,slow=5.6,SNR=13						
YKA	**Yellowknife Ar**	**70.57**	**27**	P	**P**	**03 38 41.3**	**+1.1**
	0.6nm,0.8s,baz=305,slow=6.0,SNR=14						
YKA				pP	**pP**	**03 39 04.3**	**+1.0**
	0.2nm,0.6s,baz=308,slow=5.4,SNR=2.6						
NOA	**NORSAR Array B**	**74.11**	**334**	P	**P**	**03 39 00.1**	**-1.2**
	0.8nm,0.8s,baz=48,slow=5.5,SNR=2.6						
BRTR	**Keskin Array B**	**75.02**	**308**	P	**P**	**03 39 06.8**	**-0.3**
	0.6nm,0.7s,baz=116,slow=6.6,SNR=4.3						
NVAR	**Mina Array Bea**	**83.22**	**48**	P	**P**	**03 39 53.5**	**+1.5**
	0.5nm,0.6s,baz=315,slow=5.4,SNR=5.6						
NVAR				pP	**pP**	**03 40 17.2**	**+1.5**
	0.5nm,0.8s,baz=261,slow=5.4,SNR=2.4						
PDAR	**Pinedale Array**	**85.52**	**40**	P	**P**	**03 40 04.8**	**+1.3**
	0.2nm,0.8s,baz=257,slow=2.4,SNR=3.7						

*NIED **28** 03:34:00, 24°20N×125°80E, h44km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:φs278.00000°, δ87.00000°, λ-79.00000°. NP2:φs21.00000°, δ12.00000°, λ-167.00000°.*

*JMA **28** 03:34:15.8±0.2, 24°23N×125°84E, h59km±5km, M3.6*

ISC 28 03:34:14.2±1.8, 24°2N±0°2×125°94E±0°09, h53km±41km, n16, σ1§11/27, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.78**	**321**	P	**Pn**	**03 34 29.5**	**+0.4**
JOGS				*e*S	**Sn**	**03 34 39.8**	**-0.1**
JMJ	**Miyako jima 2**	**0.89**	**318**	P	**Pn**	**03 34 30.9**	**+0.4**
JMJ				*e*S	**Sn**	**03 34 41.6**	**-0.8**
JTJ	**Tarama**	**1.23**	**293**	P	**Pn**	**03 34 35.7**	**+0.6**
JTJ				S	**Sn**	**03 34 50.0**	**-0.7**
JIJ	**Ishigaki jima**	**1.66**	**278**	P	**Pn**	**03 34 41.6**	**+0.7**
JIJ				S	**Sn**	**03 34 59.6**	**-1.4**
JKRS	**Kuro-shima**	**1.77**	**273**	P	**Pn**	**03 34 43.7**	**+1.3**
JKRS				*e*S	**Sn**	**03 35 03.4**	**-0.3**
HATJ	**Hateruma jima**	**1.96**	**268**	P	**Pn**	**03 34 45.8**	**+0.9**
HATJ				*e*S	**Sn**	**03 35 06.9**	**-1.4**
IRIF	**Iriomote-Funau**	**2.03**	**276**	P	**Pn**	**03 34 46.8**	**+0.9**
IRIF				*e*S	**Sn**	**03 35 09.5**	**-0.6**
JKE	**Kume jima 2**	**2.29**	**19**	P	**Pn**	**03 34 50.8**	**+1.2**
YOJ	**Yonaguni jima**	**2.69**	**277**	P	**Pn**	**03 34 55.7**	**+0.7**
YOJ				*e*S	**Sn**	**03 35 25.5**	**-0.9**
JAGN	**Aguni-jima**	**2.69**	**26**	P	**Pn**	**03 34 56.2**	**+1.1**
JOW	**Kunigami**	**3.40**	**38**	P	**Pn**	**03 35 06.6**	**+1.9**
JOW				*e*S	**Sn**	**03 35 43.2**	**-0.6**
JIH	**Iheya**	**3.40**	**32**	P	**Pn**	**03 35 05.9**	**+1.1**
JTK	**Tokunoshima**	**4.52**	**36**	P	**Pn**	**03 35 21.1**	**+1.0**
JTK				*e*S	**Sn**	**03 36 08.8**	**-2.5**
JAMN	**Amaminishikomi**	**5.00**	**35**	P	**Pn**	**03 35 27.0**	**+0.3**
JAMN				*e*S	**Sn**	**03 36 22.4**	**-0.8**

STKA	**Stephens Creek**	**28.27**	**156**	P		P	04 23 56.4	+1.2
	1.2nm,0.4s,baz=323,slow=10,SNR=5.7								
MKAR	**Makanchi Array**	**66.78**	**327**	P		P	04 28 45.5	-0.2
	0.3nm,0.5s,baz=117,slow=7.8,SNR=6.8								

FUNV 28 04:20:28.8, 6.80N×73.15W, h167km, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.35**	**38**	*i* P	Pn	04 20 57.8	-0.7
CAPV				*e*S	Sn	04 21 19.0	-2.4
VIGV	**El Vigia**	**2.69**	**41**	*e*P	Pn	04 21 12.3	-0.9
VIGV				*e*S	Sn	04 21 44.1	-3.5
SOCV	**Socops**	**2.71**	**57**	*e*P	Pn	04 21 12.2	-1.2
SOCV				*e*S	Sn	04 21 44.5	-3.5
ELOV	**Elorza**	**3.65**	**87**	*e*P	Pn	04 21 24.1	-0.9
VIRV	**Villa del Rosa**	**3.76**	**11**	*e*P	Pn	04 21 24.4	-2.0
VIRV				*e*S	Sn	04 22 06.9	-4.5
QARV	**Quebrada Arrib**	**4.27**	**37**	*e*P	Pn	04 21 31.7	-1.4
SANV	**Sanarito**	**4.47**	**53**	*e*P	Pn	04 21 34.1	-1.7
CURV	**Curarigua**	**4.49**	**44**	*e*P	Pn	04 21 34.5	-1.5
DABV	**Dabajuro**	**4.79**	**31**	*e*P	Pn	04 21 38.9	-1.0
TEPV	**Terepaima**	**5.03**	**51**	*e*P	Pn	04 21 41.7	-1.2
SIQV	**Siquisique**	**5.06**	**41**	*e*P	Pn	04 21 41.3	-2.1
BAUV	**El Baul**	**5.49**	**67**	*e*P	Pn	04 21 46.6	-2.4
MAPV	**Macapo**	**5.54**	**57**	*e*P	Pn	04 21 47.8	-1.9
MONV	**Montecano**	**6.01**	**31**	*e*P	Pn	04 21 54.0	-1.9

IDC 28 04:27:05.0±1.6, 0.57S×133.25E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=83.1km s-min=18.0km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**203**	P	P	04 31 28.0	0.0
	0.2nm,0.3s,baz=30,slow=8.1,SNR=3.6						
FITZ				S	Sn	04 34 48.8	-13
	0.2nm,0.3s,baz=202,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**19.29**	**177**	P	P	04 31 30.9	-0.7
	0.3nm,0.3s,baz=355,slow=12,SNR=8.8						
WRA				S	Sn	04 35 00.2	-9.3
	0.3nm,0.3s,baz=352,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**22.97**	**178**	P	P	04 32 11.7	+0.3
	4.5nm,0.9s,baz=6.9,slow=9.1,SNR=25						
STKA	**Stephens Creek**	**32.13**	**167**	P	P	04 33 34.1	-0.2
	3.0nm,1.0s,baz=333,slow=10.0,SNR=4.3						
MKAR	**Makanchi Array**	**64.81**	**324**	P	P	04 37 46.6	+0.9
	0.4nm,0.6s,baz=118,slow=7.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**67.40**	**331**	P	P	04 38 01.4	-0.8
	0.3nm,0.3s,baz=145,slow=5.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**68.88**	**326**	P	P	04 38 11.7	+0.1
	0.4nm,0.5s,baz=124,slow=6.4,SNR=5.4						

DDA 28 04:28:22.1, 37.91N×29.06E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.22**	**182**	*i* P	Pg	04 28 26.7	0.0
DNZL				*i* S	Sg	04 28 30.2	+0.5
KHAL	**Karahalli**	**0.58**	**36**	*i* P	Pg	04 28 33.3	-0.2
KHAL				*i* S	Sg	04 28 41.6	+0.5

MEX 28 04:49:49.1±0.3, 16.05N×98.14W, h14km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**2**	*e*P	Pg	04 49 54.8	-1.4
PNIG				*e*S	Sg	04 50 00.4	-0.6
VHO	**Vista Hermosa**	**1.69**	**53**	*i* P	Pn	04 50 14.7	-3.8
VHO				*i* S	Sn	04 50 34.9	-5.3
HUIG	**Huatulco**	**1.98**	**98**	*i* P	Pn	04 50 19.0	-3.2
HUIG				*i* S	Sn	04 50 42.4	-4.4
CAIG	**El Cayaco**	**2.27**	**296**	*e*P	Pn	04 50 23.1	-3.1
CAIG				*i* S	Sn	04 50 49.2	-4.8
YAIG	**Yautepec**	**2.93**	**343**	*i* P	Pn	04 50 33.5	-2.1
YAIG				*i* S	Sn	04 51 06.9	-3.9
ARIG	**Puente Sto Nin**	**3.06**	**317**	*e*P	Pn	04 50 33.8	-3.3
ARIG				*i* S	Sn	04 51 10.3	-3.3

*DDA **28** 05:04:48.5, 39.10N×26.61E, h28km, MD3.2*
*ISK **28** 05:04:48.8, 39.06N×26.61E, h16km, MD3.1*
*ISCJB **28** 05:04:49.0±0.4, 39.07N±0.02×26.60E±0.02, h11km±3km, Error ellipse: s-maj=3.3km s-min=2.6km az=147.2*
*CSEM **28** 05:04:49.2±0.1, 39.08N×26.61E, h8km, MD3.2, Error ellipse: s-maj=2.5km s-min=2.1km az=65.0*
*ATH **28** 05:04:49.4, 39.09N×26.53E, h23km, MD3.3/4*
*THE **28** 05:04:49.7, 39.05N×26.57E, h6km±1km, ML2.6/5, Error ellipse: s-maj=1.9km s-min=0.7km az=255.0*

ISC 28 05:04:49.5±0.9, 39.08N±0.02×26.60E±0.02, h11km±7km, n74, σ0962/112, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.24**	**16**	*i* P	**Pg**	**05 04 54.1**	**-0.4**
AYVA				*i* S	**Sg**	**05 04 57.8**	**-0.1**
AYVA	**Ayvalik**	**0.24**	**16**	*i* P	**Pg**	**05 04 54.1**	**-0.4**
AYVA				*i* S	**Sg**	**05 04 57.8**	**-0.1**
PRK	**Paraskevi**	**0.31**	**303**	P	**Pg**	**05 04 55.6**	**-0.2**
PRK				S	**Sg**	**05 05 00.6**	**+0.7**
PRK	**Paraskevi**	**0.31**	**303**	*e*PB	**Pg**	**05 04 55.6**	**-0.2**
PRK				*e*SB	**Sg**	**05 05 00.4**	**+0.5**
PRK	**Paraskevi**	**0.31**	**303**	*e*Pb	**Pg**	**05 04 55.6**	**-0.2**
PRK				S	**Sg**	**05 05 00.6**	**+0.7**
SIGR	**SIGRI**	**0.60**	**283**	P	**Pg**	**05 05 00.8**	**-0.3**
SIGR				S	**Sg**	**05 05 09.2**	**+0.2**
SIGR	**SIGRI**	**0.60**	**283**	P	**Pg**	**05 05 00.8**	**-0.3**
SIGR				S	**Sg**	**05 05 09.2**	**+0.2**
URLA	**Izmir**	**0.71**	**181**	*i* P	**Pg**	**05 05 02.6**	**-0.7**
URLA				*i* S	**Sg**	**05 05 14.3**	**+1.6**
URLA	**Izmir**	**0.71**	**181**	*i* P	**Pg**	**05 05 02.6**	**-0.7**
URLA				*i* S	**Sg**	**05 05 14.3**	**+1.6**
BLCB	**Balcova**	**0.77**	**153**	*e*PG	**Pg**	**05 05 03.7**	**-0.7**
BLCB				*e*SG	**Sg**	**05 05 14.5**	**0.0**
BLCB	**Balcova**	**0.77**	**153**	*e*Pg	**Pg**	**05 05 03.7**	**-0.7**
BLCB				*e*Sg	**Sg**	**05 05 14.5**	**0.0**
EZN	**Ezine**	**0.78**	**344**	*e*PG	**Pg**	**05 05 04.5**	**-0.1**
EZN				*e*SG	**Sb**	**05 05 16.5**	**+0.9**
EZN	**Ezine**	**0.78**	**344**	*e*Pg	**Pg**	**05 05 04.5**	**-0.1**
EZN				*e*Sg	**Sb**	**05 05 16.5**	**+0.9**
CHOS	**Chios island**	**0.81**	**212**	P	**Pg**	**05 05 04.9**	**-0.3**
CHOS				S	**Sg**	**05 05 15.7**	**-0.1**
CHOS	**Chios island**	**0.81**	**212**	*e*PN	**Pg**	**05 05 05.0**	**-0.3**
CHOS				*e*SN	**Sg**	**05 05 16.2**	**+0.4**
CHOS	**Chios island**	**0.81**	**212**	P	**Pg**	**05 05 04.9**	**-0.3**
CHOS				S	**Sg**	**05 05 15.7**	**-0.1**
CHOS				*e*Sn	**Sg**	**05 05 16.2**	**+0.4**
IZM	**Izmir**	**0.85**	**143**	*e*PG	**Pg**	**05 05 06.3**	**+0.4**
IZM				*e*SG	**Sg**	**05 05 17.9**	**+0.9**
IZM	**Izmir**	**0.85**	**143**	*e*Pg	**Pg**	**05 05 06.3**	**+0.4**
IZM				*e*Sg	**Sg**	**05 05 18.0**	**+0.9**
BOZC	**Bozcaada**	**0.88**	**331**	*i* P	**Pg**	**05 05 05.8**	**-0.6**
BOZC				*i* S	**Sg**	**05 05 18.0**	**+0.1**
AKS	**Akhisar**	**0.96**	**101**	*e*PG	**Pb**	**05 05 07.6**	**-0.6**
AKS	**Akhisar**	**0.96**	**101**	*e*Pg	**Pb**	**05 05 07.6**	**-0.6**
AKHS	**Akhisar**	**0.96**	**101**	*i* P	**Pb**	**05 05 07.0**	**-1.2**
AKHS				*i* S	**Sb**	**05 05 20.8**	**-0.1**
AKHS	**Akhisar**	**0.96**	**101**	*i* P	**Pb**	**05 05 07.0**	**-1.2**
AKHS				*i* S	**Sb**	**05 05 20.8**	**-0.1**
BALY	**Balya**	**1.03**	**50**	*i* P	**Pb**	**05 05 08.8**	**-0.6**
BALY				*i* S	**Sg**	**05 05 23.8**	**+1.1**
BALY	**Balya**	**1.03**	**50**	*i* P	**Pb**	**05 05 08.8**	**-0.6**
BALY				*i* S	**Sg**	**05 05 23.8**	**+1.1**
BALB	**Balikesir**	**1.14**	**60**	*e*PN	**Pb**	**05 05 10.3**	**-0.9**
GONE	**Gonen-Balikesi**	**1.28**	**40**	*e*PN	**Pn**	**05 05 12.4**	**-0.9**
GONE	**Gonen-Balikesi**	**1.28**	**40**	*e*Pn	**Pn**	**05 05 12.4**	**-0.9**
LPK	**Lapseki**	**1.30**	**5**	*e*PN	**Pn**	**05 05 13.0**	**-0.6**
LPK	**Lapseki**	**1.30**	**5**	*e*Pn	**Pn**	**05 05 13.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.32**	**356**	*e*PN	**Pn**	**05 05 13.2**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.32**	**356**	*e*Pn	**Pn**	**05 05 13.2**	**-0.7**
LIA	**Limnos Island**	**1.37**	**307**	P	**Pn**	**05 05 14.3**	**-0.3**
LIA				S	**Sg**	**05 05 33.4**	**-0.3**
LIA	**Limnos Island**	**1.37**	**307**	*e*PN	**Pn**	**05 05 14.2**	**-0.3**
LIA				*e*SN	**Sn**	**05 05 32.4**	**-0.3**
LIA	**Limnos Island**	**1.37**	**307**	P	**Pn**	**05 05 14.3**	**-0.3**
LIA				*e*Sn	**Sn**	**05 05 32.4**	**-0.3**
LIA				S	**Sg**	**05 05 33.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.42**	**22**	*e*PN	**Pn**	**05 05 14.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.42**	**22**	*e*Pn	**Pn**	**05 05 14.6**	**-0.6**
GCAM	**G?zelcaml?**	**1.46**	**160**	*i* P	Pn	05 05 09.4	-6.4
GCAM				*i* S	**Sn**	**05 05 36.0**	**+1.2**
DURS	**Dursunbey**	**1.54**	**70**	*i* P	**Pn**	**05 05 16.5**	**-0.5**
DURS				*i* S	**Sn**	**05 05 37.7**	**+0.7**
DURS	**Dursunbey**	**1.54**	**70**	*i* P	**Pn**	**05 05 16.5**	**-0.5**
DURS				*i* S	**Sn**	**05 05 37.7**	**+0.7**
DEMI	**Demirci**	**1.65**	**91**	*i* P	**Pb**	**05 05 20.3**	**+0.4**
DEMI				*i* S	**Sn**	**05 05 38.5**	**-1.1**
DEMI	**Demirci**	**1.65**	**91**	*i* P	**Pb**	**05 05 20.3**	**+0.4**
DEMI				*i* S	**Sn**	**05 05 38.5**	**-1.1**
DST	**Dursunbey**	**1.65**	**71**	*e*PN	**Pn**	**05 05 18.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.67**	**15**	*e*PN	**Pn**	**05 05 18.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.67**	**15**	*e*Pn	**Pn**	**05 05 18.9**	**+0.2**
SART	**Tekirdag**	**1.67**	**15**	*i* P	**Pn**	**05 05 18.5**	**-0.2**
SART				*i* S	**Sn**	**05 05 39.9**	**-0.3**
SART	**Tekirdag**	**1.67**	**15**	*i* P	**Pn**	**05 05 18.5**	**-0.2**
SART				*i* S	**Sn**	**05 05 39.9**	**-0.3**
ENEZ	**Enez**	**1.69**	**348**	*e*PN	**Pn**	**05 05 19.4**	**+0.4**
ENEZ	**Enez**	**1.69**	**348**	*e*Pn	**Pn**	**05 05 19.4**	**+0.4**
KULA	**Kula-Manisa**	**1.70**	**109**	*e*PN	**Pn**	**05 05 19.2**	**+0.1**
KULA	**Kula-Manisa**	**1.70**	**109**	*e*Pn	**Pn**	**05 05 19.3**	**+0.1**
AYDN	**Tasoluk**	**1.73**	**144**	*i* P	**Pn**	**05 05 19.4**	**-0.2**
AYDN	**Tasoluk**	**1.73**	**144**	*i* P	**Pn**	**05 05 19.4**	**-0.2**
ALN	**Alexandroupoli**	**1.87**	**347**	P	**Pn**	**05 05 21.2**	**-0.2**
ALN				S	**Sn**	**05 05 45.3**	**+0.4**
ALN	**Alexandroupoli**	**1.87**	**347**	*e*PB	**Pn**	**05 05 21.1**	**-0.3**
ALN				*e*SN	**Sn**	**05 05 45.1**	**+0.2**
ALN	**Alexandroupoli**	**1.87**	**347**	P	**Pn**	**05 05 21.2**	**-0.2**
ALN				*e*Sn	**Sn**	**05 05 45.1**	**+0.2**
ORLT	**Orhaneli**	**2.02**	**61**	*e*PN	**Pn**	**05 05 23.0**	**-0.5**
ORLT	**Orhaneli**	**2.02**	**61**	*e*Pn	**Pn**	**05 05 23.0**	**-0.5**
AOS	**Alonnisos**	**2.12**	**273**	*e*PN	**Pn**	**05 05 25.2**	**+0.4**
AOS	**Alonnisos**	**2.12**	**273**	*e*Pn	**Pn**	**05 05 25.2**	**+0.4**
APE	**Apeiranthos**	**2.18**	**203**	*e*PN	**Pn**	**05 05 24.5**	**-1.1**
APE	**Apeiranthos**	**2.18**	**203**	*e*Pn	**Pn**	**05 05 24.5**	**-1.1**
MDNY	**Mudanya-Bursa**	**2.18**	**53**	*e*PN	**Pn**	**05 05 25.7**	**0.0**
MDNY	**Mudanya-Bursa**	**2.18**	**53**	*e*Pn	**Pn**	**05 05 25.7**	**0.0**
GDZ	**Gediz**	**2.24**	**89**	*i* P	**Pb**	**05 05 31.8**	**+1.7**
GDZ				*i* S	**Sg**	**05 06 00.6**	**-0.9**
TVSB	**Tavsanli**	**2.25**	**80**	*e*PN	**Pn**	**05 05 26.6**	**-0.1**
ARMT	**Armutlu**	**2.29**	**49**	*e*PN	**Pn**	**05 05 27.4**	**+0.2**
ARMT	**Armutlu**	**2.29**	**49**	*e*Pn	**Pn**	**05 05 27.4**	**+0.2**
YLV	**Yalova**	**2.60**	**54**	*e*PN	**Pn**	**05 05 31.2**	**-0.3**
YLV	**Yalova**	**2.60**	**54**	*e*Pn	**Pn**	**05 05 31.2**	**-0.3**
CTKS	**Kestanelik-??a**	**2.60**	**33**	*e*PN	**Pn**	**05 05 32.3**	**+0.8**
CTKS	**Kestanelik-??a**	**2.60**	**33**	*e*Pn	**Pn**	**05 05 32.3**	**+0.8**
EDRB	**Edirne**	**2.77**	**2**	*e*PN	**Pn**	**05 05 34.3**	**+0.5**
EDRB	**Edirne**	**2.77**	**2**	*e*Pn	**Pn**	**05 05 34.3**	**+0.5**

*ISCJB **28** 05:06:57.2±0.5, 23.29S±0.08×174.92W±0.09, h30km, mb4.5/23, MS3.4/3, Error ellipse: s-maj=13.4km s-min=9.8km az=40.4*
*AUST **28** 05:06:57.7, 23.13S×174.21W, h60km*
*IDC **28** 05:07:00.4±0.7, 23.21S×174.95W, h38km±5km, mb4.3/18, mb1 4.5/19, mb1mx4.4/24, mbtmp4.3/19, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=21.4km s-min=13.7km az=145.0*
*NEIC **28** 05:07:01.9±1.9, 23.35S×174.90W, h58km±15km, mb5.0/8, Error ellipse: s-maj=13.9km s-min=10.3km az=118.0*

ISC 28 05:06:59.4±0.5, 23.25S±0.1×174.96W±0.10, h30km, n91, σ1§16/96, mb4.6/23, MS3.7/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.26**	**50**	P	Pn	05 08 19.1	-11
	baz=5.7,SNR=24						
MSVF	**Nonsavu**	**8.54**	**309**	*e*Pn	Pn	05 09 05.1	+4.0
	48nm,1.3s						
AFI	**Afiamalu**	**9.75**	**19**	Pn	Pn	05 09 10.5	-7.3
	10.0nm,0.3s,baz=64,slow=21,SNR=6.9						
AFI				Sn	Sn	05 10 48.1	-18
	1.8nm,0.3s,baz=24,slow=20,SNR=3.1						
AFI	**Afiamalu**	**9.75**	**19**	*e*Pn	Pn	05 09 10.8	-7.0
RAR	**Rarotonga**	**14.21**	**85**	Pn	Pn	05 10 07.2	-11
	6.8nm,0.3s,baz=275,slow=11,SNR=7.2						
RAR				Sn	Sn	05 12 25.3	-30
	0.9nm,0.3s,baz=30,slow=20,SNR=2.4						
RAR	**Rarotonga**	**14.21**	**85**	*e*Pn	Pn	05 10 07.5	-11
RAR				Sn	Sn	05 12 25.3	-30
URZ	**Urewera**	**16.44**	**203**	Pn	**Pn**	**05 10 47.5**	**-0.4**
	0.8nm,0.3s,baz=0.0,slow=2.0,SNR=5.7						
URZ				Sn	Sn	05 13 23.3	-26
	1.0nm,0.3s,baz=217,slow=20,SNR=5.9						
URZ	**Urewera**	**16.44**	**203**	*e*P	**Pn**	**05 10 46.9**	**-0.9**
	9.6nm,0.6s						
URZ				Sn	Sn	05 13 23.3	-26
DZM	**Mont Dzumac**	**17.21**	**270**	P	**P**	**05 11 00.7**	**+1.6**
	0.4nm,0.3s,baz=84,slow=18,SNR=4.9						
DZM				LR	LR	05 15 20.9	
	comp=Z,104nm,18.6s,baz=34,slow=29						
DZM	**Mont Dzumac**	**17.21**	**270**	*e*LR	LR	05 15 21.7	
	157nm,26.1s						
DZM	**Mont Dzumac**	**17.21**	**270**	P	**P**	**05 11 00.7**	**+1.6**
TBI	**Tubuai**	**23.41**	**95**	*e*LR	LR	05 17 29.6	
	159nm,26.8s						
RPZ	**Rata Peaks**	**23.46**	**206**	P	**P**	**05 12 05.8**	**-0.5**
	7.7nm,0.7s,baz=21,slow=8.6,SNR=3.1						
RPZ	**Rata Peaks**	**23.46**	**206**	P	**P**	**05 12 05.8**	**-0.5**
PPT2	**Papeete2**	**24.43**	**81**	*e*LR	LR	05 17 52.4	
	199nm,27.0s						
PPT	**Papeete**	**24.43**	**81**	LR	LR	05 19 42.2	
	comp=Z,36nm,21.4s,baz=237,slow=31						
ARMA	**Armidale**	**30.58**	**249**	S	S	05 18 35.8	+25
	baz=31,SNR=4.3						
EIDS	**Eidsvold**	**30.98**	**259**	P	**P**	**05 13 14.8**	**+0.6**
	baz=32,SNR=3.2						
CMSA	**Cobar Meteorol**	**35.75**	**248**	P	**P**	**05 13 55.8**	**+0.1**
	baz=36,SNR=7.9						
CTA	**Charters Tower**	**36.11**	**267**	P	**P**	**05 13 58.5**	**-0.4**
	18nm,0.6s,baz=92,slow=11,SNR=24						
CTA	**Charters Tower**	**36.11**	**267**	P	**P**	**05 13 58.5**	**-0.4**
CTAO	**Charters Tower**	**36.11**	**267**	*e*P	**P**	**05 13 58.9**	**-0.1**
	19nm,0.8s						
QLP	**Quilpie**	**37.05**	**256**	P	**P**	**05 14 06.6**	**-0.3**
	baz=38,SNR=7.2						
PMG	**Port Moresby**	**38.73**	**284**	P	**P**	**05 14 20.5**	**-0.6**
	32nm,0.8s,baz=50,slow=8.1,SNR=8.8						
PMG	**Port Moresby**	**38.73**	**284**	*e*P	**P**	**05 14 20.2**	**-1.0**
	52nm,1.1s						
STKA	**Stephens Creek**	**39.26**	**248**	P	**P**	**05 14 24.8**	**-0.6**
	3.9nm,0.6s,baz=91,slow=10,SNR=12						
STKA				LR	LR	05 27 52.7	
	comp=Z,100nm,18.5s,baz=317,slow=32						
STKA	**Stephens Creek**	**39.26**	**248**	*e*P	**P**	**05 14 25.0**	**-0.4**
	0.8nm,0.6s						
STKA	**Stephens Creek**	**39.26**	**248**	P	**P**	**05 14 25.1**	**-0.4**
	baz=40,SNR=8.9						
BBOO	**Buckleboo**	**43.95**	**246**	P	**P**	**05 15 02.7**	**-1.2**
	baz=45,SNR=7.5						
AS31	**Alice Springs**	**46.70**	**259**	*e*P	**P**	**05 15 25.8**	**-0.1**
ASAR	**Alice Springs**	**46.70**	**259**	P	**P**	**05 15 25.1**	**-0.8**
	12nm,1.0s,baz=92,slow=8.1,SNR=32						
ASAR				LR	LR	05 35 33.8	
	comp=Z,88nm,20.1s,baz=262,slow=37						
ASAR	**Alice Springs**	**46.70**	**259**	P	**P**	**05 15 25.1**	**-0.8**
WRAB	**Tennant Creek**	**47.06**	**264**	*e*P	**P**	**05 15 27.1**	**-1.6**
	17nm,0.8s						
WRAB	**Tennant Creek**	**47.06**	**264**	P	**P**	**05 15 27.3**	**-1.4**
	196nm,0.4s,SNR=50						
WRA	**Warramunga Arr**	**47.07**	**264**	P	**P**	**05 15 27.4**	**-1.4**
	20nm,0.6s,baz=102,slow=8.3,SNR=74						
WRA				pP	**pP**	**05 15 40.2**	**+2.4**
	3.4nm,0.5s,baz=101,slow=8.0,SNR=4.3						
WRA				PcP	**PcP**	**05 17 01.1**	**+0.5**
	1.1nm,0.7s,baz=89,slow=3.4,SNR=2.8						
WRA	**Warramunga Arr**	**47.07**	**264**	P	**P**	**05 15 27.4**	**-1.4**
WRA				pP	**pP**	**05 15 40.2**	**+2.4**
WRA				PcP	**PcP**	**05 17 01.1**	**+0.5**
JAY	**Jayapura**	**47.59**	**289**	P	**P**	**05 15 32.4**	**-0.5**
	baz=48,SNR=5.4						
KDU	**Kakadu**	**50.86**	**272**	P	P	05 15 47.3	-10
	baz=52,SNR=3.1						
FORT	**Forrest**	**50.87**	**248**	*e*P	**P**	**05 15 56.2**	**-1.5**
	11nm,0.6s						
FORT	**Forrest**	**50.87**	**248**	P	**P**	**05 15 56.5**	**-1.1**
	baz=52,SNR=15						
FITZ	**Fitzroy Crossi**	**55.50**	**263**	*e*P	**P**	**05 16 31.0**	**-1.0**
	15nm,1.0s						
FITZ	**Fitzroy Crossi**	**55.50**	**263**	P	**P**	**05 16 31.7**	**-0.2**
	baz=56,SNR=14						
KLBR	**Kellerberrin**	**59.50**	**246**	P	**P**	**05 17 00.0**	**0.0**
	baz=60,SNR=7.5						
MEEK	**Meekatharra**	**59.72**	**252**	P	**P**	**05 17 01.2**	**-0.5**
	baz=60,SNR=4.8						
MBWA	**Marble Bar**	**60.04**	**258**	*e*P	**P**	**05 17 03.0**	**-0.9**
	7.4nm,0.8s						
BLDU	**Ballidu**	**60.56**	**247**	P	**P**	**05 17 07.3**	**0.0**
	baz=61,SNR=7.5						
MORW	**Morawa**	**61.43**	**249**	P	**P**	**05 17 13.2**	**0.0**
	baz=62,SNR=6.3						
MJAR	**Matsushiro Arr**	**74.08**	**322**	P	**P**	**05 18 32.1**	**-0.6**
	1.4nm,0.6s,baz=153,slow=6.3,SNR=6.4						
MJAR	**Matsushiro Arr**	**74.08**	**322**	P	**P**	**05 18 32.1**	**-0.6**
ASAJ	**Asahikawa**	**77.48**	**330**	P	**P**	**05 18 53.2**	**+1.3**
	10nm,0.9s,baz=108,slow=19,SNR=5.6						
ASAJ	**Asahikawa**	**77.48**	**330**	P	P	**05 18 53.2**	**+1.3**
PETK	**Petropavlovsk-**	**79.65**	**344**	P	**P**	**05 19 03.2**	**-0.4**
	5.4nm,0.9s,baz=148,slow=12,SNR=4.6						
PETK	**Petropavlovsk-**	**79.65**	**344**	P	P	**05 19 03.2**	**-0.4**
MAW	**Mawson**	**79.94**	**199**	P	**P**	**05 19 06.3**	**+1.1**
	4.9nm,1.0s,baz=166,slow=7.1,SNR=4.0						
MAW	**Mawson**	**79.94**	**199**	P	P	**05 19 06.3**	**+1.1**
KSRS	**Korea Array**	**80.80**	**317**	P	**P**	**05 19 10.2**	**0.0**
	2.4nm,0.7s,baz=125,slow=5.6,SNR=6.4						
KSAR	**Wonju Array Be**	**80.82**	**317**	P	P	**05 19 10.2**	**-0.1**
NVAR	**Mina Array Bea**	**81.12**	**42**	P	**P**	**05 19 10.7**	**-1.5**
	1.0nm,0.7s,baz=224,slow=7.9,SNR=8.2						
NVAR				pP	**pP**	**05 19 24.4**	**+2.7**
	0.8nm,0.7s,baz=221,slow=8.3,SNR=4.9						
NVAR	**Mina Array Bea**	**81.12**	**42**	P	P	**05 19 10.7**	**-1.5**
NVAR				pP	**pP**	**05 19 24.4**	**+2.7**
USRK	**Ussuriysk Arra**	**82.81**	**325**	P	**P**	**05 19 21.8**	**+1.3**
	5.6nm,0.9s,baz=157,slow=5.7,SNR=7.2						
VNA3	**Neumayer Olymp**	**85.22**	**175**	*e*P	P	05 19 38.3	+5.7
VNA2	**Neumayer--Watz**	**85.69**	**176**	*e*P	**P**	**05 19 34.9**	**-0.1**
	baz=207,slow=6.3						
TXAR	**Lajitas Array**	**86.19**	**56**	P	**P**	**05 19 37.0**	**-1.2**
	1.1nm,0.9s,baz=222,slow=6.7,SNR=7.7						
TXAR				pP	**pP**	**05 19 49.9**	**+2.1**
	0.6nm,0.8s,baz=210,slow=7.2,SNR=4.4						
TXAR	**Lajitas Array**	**86.19**	**56**	P	P	**05 19 37.0**	**-1.2**
TXAR				pP	**pP**	**05 19 49.9**	**+2.1**
IPM	**Ipoh**	**86.26**	**276**	*e*P	**P**	**05 19 40.1**	**+1.2**
	6.1nm,0.6s						
PDAR	**Pinedale Array**	**89.05**	**42**	P	**P**	**05 19 50.9**	**-1.0**
	0.5nm,0.8s,baz=213,slow=4.3,SNR=3.3						
PDAR	**Pinedale Array**	**89.05**	**42**	P	P	**05 19 50.9**	**-1.0**
ILAR	**Eielson Array**	**90.38**	**12**	P	**P**	**05 19 56.4**	**-0.8**
	1.1nm,0.8s,baz=218,slow=6.1,SNR=10						
ILAR				sP	**sP**	**05 20 13.0**	**+2.7**
	0.1nm,0.7s,baz=76,slow=33,SNR=2.8						
ILAR	**Eielson Array**	**90.38**	**12**	P	P	**05 19 56.4**	**-0.8**
ILAR				sP	**sP**	**05 20 13.0**	**+2.7**
CMAR	**Chiang Mai Arr**	**93.67**	**288**	P	**P**	**05 20 13.9**	**+0.4**
	0.5nm,0.3s,baz=136,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.67**	**288**	P	P	**05 20 13.9**	**+0.4**
YKA	**Yellowknife Ar**	**97.83**	**24**	P	**P**	**05 20 30.2**	**-1.2**
	0.2nm,0.9s,baz=238,slow=4.7,SNR=4.3

1.5nm,0.9s,baz=231,slow=5.3,SNR=5.4
WRA Warramunga Arr 73.33 102 P **P** **06 07 09.7 +0.3**
BRTR Keskin Array B 78.62 347 LR LR 06 46 41.8
comp=Z,39nm,18.3s,baz=330,slow=39
AAK Ala-Archa 82.90 18 LR LR 06 42 12.3
comp=Z,65nm,19.2s,baz=189,slow=34
MLR Muntele Rosu 85.75 343 P **P** **06 08 16.4 +0.2**
0.4nm,0.8s,baz=131,slow=9.3
MLR Muntele Rosu 85.75 343 P **P** **06 08 16.4 +0.2**
ZALV Zalesovo Beam 95.98 20 P **P** **06 09 03.5 -0.2**
0.3nm,0.4s,baz=197,slow=3.0,SNR=2.4
ZALV LR LR 06 49 06.5
comp=Z,59nm,18.9s,baz=243,slow=34
ZALV Zalesovo Beam 95.98 20 P **P** **06 09 03.5 -0.2**
SONM Songino Array 98.66 34 LR LR 06 50 05.2
comp=Z,140nm,20.9s,baz=54,slow=33
ILAR Eielson Array 151.02 15 PKPbc **PKPbc** **06 15 29.0 -0.3**
1.3nm,0.7s,baz=317,slow=3.2,SNR=10
ILAR Eielson Array 151.02 15 PKPbc **PKPbc** **06 15 29.0 -0.3**
YKA Yellowknife Ar 153.57 344 PKPbc **PKPbc** **06 15 35.4 +0.4**
0.3nm,1.0s,baz=37,slow=3.2,SNR=2.7
YKA Yellowknife Ar 153.57 344 PKPbc **PKPbc** **06 15 35.4 +0.4**

IDC 28 05:58:23.2±1.6, 38°07'S×50°26'E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=86.9km s-min=29.0km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.28**	**308**	P		P	P	06 09 26.5	+0.3
	1.6nm,1.1s,baz=143,slow=5.0,SNR=4.6								
ASAR	**Alice Springs**	**71.02**	**105**	P		P	P	06 09 43.3	+0.2
	0.3nm,0.5s,baz=231,slow=6.6,SNR=3.4								
CMAR	**Chiang Mai Arr**	**72.46**	**48**	P		P	P	06 09 51.7	+0.1
	0.6nm,0.3s,baz=221,slow=6.8,SNR=4.1								
WRA	**Warramunga Arr**	**73.45**	**103**	P		P	P	06 09 57.8	+0.1
	1.0nm,0.9s,baz=230,slow=5.6,SNR=2.3								
ILAR	**Eielson Array**	**151.41**	**15**	PKPbc		PKPbc	PKPbc	06 18 17.2	-0.7
	1.3nm,0.8s,baz=313,slow=2.8,SNR=5.7								
YKA	**Yellowknife Ar**	**153.84**	**344**	PKPbc		PKPbc	PKPbc	06 18 22.9	-0.5
	0.2nm,0.8s,baz=30,slow=1.5,SNR=2.9								
YKA				PKPab		PKPab	PKPab	06 18 36.3	-0.1
	0.8nm,1.1s,baz=27,slow=3.3,SNR=3.5								

IDC 28 05:59:36.4±0.9, 37°89S×50°57E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=36.0km s-min=27.0km az=53.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**52.30**	**180**	P		P	P	06 08 50.0	+0.4
	2.0nm,1.1s,baz=270,slow=9.1,SNR=2.8								
TORD	**Torodi Ar. Bea**	**68.37**	**308**	P		P	P	06 10 39.9	0.0
	1.4nm,1.0s,baz=144,slow=5.2,SNR=4.3								
ASAR	**Alice Springs**	**70.83**	**105**	P		P	P	06 10 55.0	-0.2
	0.5nm,0.7s,baz=226,slow=6.3,SNR=3.8								
CMAR	**Chiang Mai Arr**	**72.16**	**48**	P		P	P	06 11 03.2	+0.2
	1.3nm,0.6s,baz=229,slow=6.9,SNR=4.5								
WRA	**Warramunga Arr**	**73.25**	**102**	P		P	P	06 11 09.8	+0.1
	0.9nm,0.8s,baz=236,slow=5.8,SNR=4.5								
AAK	**Ala-Archa**	**83.05**	**18**	P		P	P	06 12 05.0	+1.4
	1.5nm,0.9s,baz=207,slow=10,SNR=3.6								
ILAR	**Eielson Array**	**151.17**	**15**	PKPbc		PKPbc	PKPbc	06 19 29.1	-1.5
	1.3nm,0.8s,baz=313,slow=2.8,SNR=5.3								
YKA	**Yellowknife Ar**	**153.74**	**344**	PKPbc		PKPbc	PKPbc	06 19 35.4	-1.0
	0.3nm,1.0s,baz=28,slow=2.8,SNR=2.6								
YKA				PKPab		PKPab	PKPab	06 19 49.6	+0.3
	0.5nm,0.9s,baz=30,slow=4.4,SNR=4.3								

IDC 28 06:03:55.9±3.0, 36°22S×51°33E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=276.9km s-min=29.3km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**67.84**	**307**	P		P	P	06 14 55.9	-0.2
	0.4nm,0.9s,baz=144,slow=5.4,SNR=2.2								
ASAR	**Alice Springs**	**70.69**	**106**	P		P	P	06 15 12.1	-1.8
	0.4nm,0.9s,baz=238,slow=5.3,SNR=3.0								
WRA	**Warramunga Arr**	**73.02**	**102**	P		P	P	06 15 29.8	+1.8
	0.3nm,0.3s,baz=243,slow=6.8,SNR=3.5								
ILAR	**Eielson Array**	**149.40**	**15**	PKPbc		PKPbc	PKPbc	06 23 45.8	-0.2
	0.4nm,0.8s,baz=314,slow=2.6,SNR=4.3								

*ISK **28** 06:07:05.2, 38°.73N×38°.76E, h6km, MD3.5*
*DDA **28** 06:07:05.9, 38°.72N×38°.73E, h11km, ML3.5*
*CSEM **28** 06:07:06.1±0.2, 38°.73N×38°.80E, h2km, MD3.5, Error ellipse: s-maj=5.6km s-min=4.1km az=107.0*
ISC 28 06:07:06.0±1.0, 38°.71N±0°.02×38°.78E±0°.02, h11km±9km, n63, σ1§14/96, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.47**	**216**	PG		**Pg**	**Pg**	**06 07 14.7**	**-0.5**
MYA				*e*SG		**Sg**	**Sg**	**06 07 21.9**	**+0.4**
MYA	**Malataya**	**0.47**	**216**	*i* Pg		**Pg**	**Pg**	**06 07 14.7**	**-0.5**
MYA				*e*Sg		**Sg**	**Sg**	**06 07 21.9**	**+0.4**
MALT	**Malatya**	**0.48**	**215**	PG		**Pg**	**Pg**	**06 07 15.8**	**+0.4**
MALT				*e*SG		**Sg**	**Sg**	**06 07 22.2**	**+0.5**
MALT	**Malatya**	**0.48**	**215**	*i* Pg		**Pg**	**Pg**	**06 07 15.8**	**+0.4**
MALT				*e*Sg		**Sg**	**Sg**	**06 07 22.3**	**+0.5**
KEMA	**Kemaliye**	**0.60**	**339**	*i* P		**Pg**	**Pg**	**06 07 16.9**	**-0.8**
KEMA				*i* S		**Sg**	**Sg**	**06 07 25.7**	**0.0**
KEMA	**Kemaliye**	**0.60**	**339**	*i* P		**Pg**	**Pg**	**06 07 16.9**	**-0.8**
KEMA				*i* S		**Sg**	**Sg**	**06 07 25.7**	**0.0**
ILIC	**ilic-Erzincan**	**0.76**	**348**	*e*PG		**Pg**	**Pg**	**06 07 20.1**	**-0.6**
ILIC				*e*SG		**Sg**	**Sg**	**06 07 30.8**	**+0.2**
ILIC	**ilic-Erzincan**	**0.76**	**348**	*e*Pg		**Pg**	**Pg**	**06 07 20.1**	**-0.6**
ILIC				*e*Sg		**Sg**	**Sg**	**06 07 30.8**	**+0.2**
AKCD	**Akcadag**	**0.79**	**239**	*i* P		**Pg**	**Pg**	**06 07 20.4**	**-0.8**
AKCD				*i* S		**Sg**	**Sg**	**06 07 31.0**	**-0.5**
AKCD	**Akcadag**	**0.79**	**239**	*i* P		**Pg**	**Pg**	**06 07 20.4**	**-0.8**
AKCD				*i* S		**Sg**	**Sg**	**06 07 31.0**	**-0.5**
DARE	**Darende-Malaty**	**0.80**	**288**	*e*PG		**Pn**	**Pn**	**06 07 24.5**	**+1.1**
EZC	**Erzincan**	**1.13**	**23**	*e*PN		**Pb**	**Pb**	**06 07 26.7**	**-1.1**
EZC	**Erzincan**	**1.13**	**23**	*e*Pn		**Pb**	**Pb**	**06 07 26.7**	**-1.1**
ERZN	**Erzincan**	**1.14**	**40**	*e*PN		**Pb**	**Pb**	**06 07 26.7**	**-1.3**
URFA	**Urfa**	**1.27**	**178**	*e*PN		**Pg**	**Pg**	**06 07 30.6**	**+0.3**
URFA	**Urfa**	**1.27**	**178**	*e*Pn		**Pg**	**Pg**	**06 07 30.7**	**+0.3**
ATAB	**Bozova**	**1.29**	**197**	*i* P		**Pg**	**Pg**	**06 07 31.2**	**+0.3**
ATAB				*i* S		**Sb**	**Sb**	**06 07 47.5**	**+0.4**
ATAB	**Bozova**	**1.29**	**197**	*i* P		**Pg**	**Pg**	**06 07 31.2**	**+0.3**
ATAB				*i* S		**Sb**	**Sb**	**06 07 47.5**	**+0.4**
DIYA	**Diyarbakir**	**1.32**	**126**	*i* P		**Pg**	**Pg**	**06 07 32.6**	**+1.3**
DIYA				*i* S		**Sb**	**Sb**	**06 07 47.8**	**0.0**
DIYA	**Diyarbakir**	**1.32**	**126**	*i* P		**Pg**	**Pg**	**06 07 32.6**	**+1.3**
DIYA				*i* S		**Sb**	**Sb**	**06 07 47.8**	**0.0**
BINT	**Bingol**	**1.35**	**82**	*e*Pn		**Pg**	**Pg**	**06 07 33.4**	**+1.5**
KELT	**Kelkit**	**1.48**	**14**	*i* P		**Pn**	**Pn**	**06 07 33.4**	**+0.5**
KELT				*i* S		**Sn**	**Sn**	**06 07 50.8**	**-1.6**
KELT	**Kelkit**	**1.48**	**14**	*i* P		**Pn**	**Pn**	**06 07 33.4**	**+0.5**
KELT				*i* S		**Sn**	**Sn**	**06 07 50.8**	**-1.6**
BNGB	**Bing˜ll**	**1.51**	**79**	*e*PN		**Pn**	**Pn**	**06 07 33.4**	**+0.2**
SUSE	**Susehri**	**1.56**	**344**	*i* P		**Pb**	**Pb**	**06 07 35.3**	**+0.2**
SUSE				*i* S		**Sg**	**Sg**	**06 07 57.4**	**+1.1**
SUSE	**Susehri**	**1.56**	**344**	*i* P		**Pb**	**Pb**	**06 07 35.3**	**+0.2**
SUSE				*i* S		**Sg**	**Sg**	**06 07 57.4**	**+1.1**
SARI	**SarD1z-Kayseri**	**1.63**	**270**	*e*PN		**Pg**	**Pg**	**06 07 38.4**	**+1.1**
SARI	**SarD1z-Kayseri**	**1.63**	**270**	*e*Pn		**Pg**	**Pg**	**06 07 38.4**	**+1.1**
GUMT	**Gumushane**	**1.83**	**17**	*e*PN		**Pn**	**Pn**	**06 07 38.1**	**+0.5**
GUMT	**Gumushane**	**1.83**	**17**	*e*Pn		**Pn**	**Pn**	**06 07 38.1**	**+0.5**
PINB	**Pinarbasi**	**1.86**	**270**	*i* P		**Pb**	**Pb**	**06 07 39.6**	**-0.6**
PINB				*i* S		**Sb**	**Sb**	**06 08 04.3**	**+0.7**
PINB	**Pinarbasi**	**1.86**	**270**	*i* P		**Pb**	**Pb**	**06 07 39.6**	**-0.6**
PINB				*i* S		**Sb**	**Sb**	**06 08 04.3**	**+0.7**
KOPT	**Kop Dagi**	**1.87**	**45**	*i* P		**Pg**	**Pg**	**06 07 41.5**	**-0.3**
KOPT				*i* S		**Sg**	**Sg**	**06 08 08.7**	**+2.6**
KOPT	**Kop Dagi**	**1.87**	**45**	*i* P		**Pg**	**Pg**	**06 07 41.5**	**-0.3**
BAYT	**Ayd˜ntepe-Bay**	**1.99**	**32**	*e*PN		**Pn**	**Pn**	**06 07 40.1**	**+0.3**
BAYT	**Ayd˜ntepe-Bay**	**1.99**	**32**	*e*Pn		**Pn**	**Pn**	**06 07 40.1**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.02**	**327**	*e*PN		**Pn**	**Pn**	**06 07 40.5**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.02**	**327**	*e*Pn		**Pn**	**Pn**	**06 07 40.5**	**+0.3**
MARD	**Mardin**	**2.11**	**131**	*i* P		**Pb**	**Pb**	**06 07 45.1**	**+0.7**
MARD				*i* S		**Sg**	**Sg**	**06 08 13.6**	**-0.2**
BEST	**Besiri**	**2.12**	**112**	*i* P		**Pb**	**Pb**	**06 07 45.6**	**+1.0**
BEST				*i* S		**Sg**	**Sg**	**06 08 15.8**	**+1.5**
BTMT	**Batman**	**2.19**	**103**	*e*PN		**Pn**	**Pn**	**06 07 41.7**	**-0.8**
BTMT	**Batman**	**2.19**	**103**	*e*Pn		**Pn**	**Pn**	**06 07 41.7**	**-0.8**
ESPY	**Espiye-Giresun**	**2.21**	**359**	*e*PN		**Pn**	**Pn**	**06 07 42.0**	**-0.6**
ESPY	**Espiye-Giresun**	**2.21**	**359**	*e*Pn		**Pn**	**Pn**	**06 07 42.0**	**-0.6**
ANDN	**Andirin**	**2.22**	**240**	*i* P		**Pb**	**Pb**	**06 07 46.5**	**+0.2**
ANDN				*i* S		**Sb**	**Sb**	**06 08 16.1**	**+2.2**
ANDN	**Andirin**	**2.22**	**240**	*i* P		**Pb**	**Pb**	**06 07 46.5**	**+0.2**
ANDN				*i* S		**Sb**	**Sb**	**06 08 16.1**	**+2.2**
EZM	**Erzurum**	**2.33**	**58**	*e*PN		**Pn**	**Pn**	**06 07 45.2**	**+0.6**
ERZM	**Erzurum**	**2.34**	**58**	*i* P		**Pb**	**Pb**	**06 07 49.3**	**+0.9**
ERZM	**Erzurum**	**2.34**	**58**	*i* P		**Pb**	**Pb**	**06 07 49.3**	**+0.9**
KUZU	**Kuzuini**	**2.36**	**215**	*i* P		**Pb**	**Pb**	**06 07 47.0**	**-1.5**
KUZU				*i* S		**Sb**	**Sb**	**06 08 16.7**	**-1.0**
KUZU	**Kuzuini**	**2.36**	**215**	*i* P		**Pb**	**Pb**	**06 07 47.0**	**-1.5**
KUZU				*i* S		**Sb**	**Sb**	**06 08 16.7**	**-1.0**
TOKA	**Tokat**	**2.40**	**313**	*i* P		**Pn**	**Pn**	**06 07 47.2**	**+1.9**
TOKA				*i* S		**Sn**	**Sn**	**06 08 16.2**	**+1.4**
TOKA	**Tokat**	**2.40**	**313**	*i* P		**Pn**	**Pn**	**06 07 47.2**	**+1.9**
TOKA				*i* S		**Sn**	**Sn**	**06 08 16.2**	**+1.4**
ERBA	**Erbaa**	**2.51**	**322**	*i* P		**Pb**	**Pb**	**06 07 50.0**	**-1.2**
ERBA	**Erbaa**	**2.51**	**322**	*i* P		**Pb**	**Pb**	**06 07 50.0**	**-1.2**
KOZT	**Kozan**	**2.63**	**243**	*e*PN		**Pn**	**Pn**	**06 07 49.4**	**+0.9**
KOZT	**Kozan**	**2.63**	**243**	*e*Pn		**Pn**	**Pn**	**06 07 49.4**	**+0.9**
YOZ	**Yozgat**	**2.84**	**290**	*e*PN		**Pn**	**Pn**	**06 07 52.1**	**+0.6**
YOZ	**Yozgat**	**2.84**	**290**	*e*Pn		**Pn**	**Pn**	**06 07 52.1**	**+0.6**
CORM	**Corum**	**3.53**	**296**	*e*PN		**Pn**	**Pn**	**06 08 01.8**	**+0.8**
CORM	**Corum**	**3.53**	**296**	*e*Pn		**Pn**	**Pn**	**06 08 01.8**	**+0.8**
CDAG	**Cicekdag**	**3.54**	**286**	*i* P		**Pb**	**Pb**	**06 08 07.4**	**-1.4**
CDAG				*i* S		**Sg**	**Sg**	**06 08 57.4**	**-2.4**
BHD	**Baghdad**	**7.08**	**138**	*i* Pn		Pn	**Pn**	**06 08 46.0**	**-3.5**
BHD				*i* Pb		**Pb**	**Pb**	**06 09 06.5**	**-2.4**
BHD				*i* Pg		Pg	**Pg**	**06 09 13.8**	**-7.7**
BHD				*i* Sn		**Sn**	**Sn**	**06 10 06.0**	**-4.0**
BHD				*i* Sb		**Sb**	**Sb**	**06 10 33.7**	**+0.3**
BHD				*i* Sg		**Sg**	**Sg**	**06 10 50.0**	**-3.1**

IDC 28 06:08:41.8±2.1, 37°48S×50°56E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS3.6/1, Ms1 3.5/1, ms1mx2.2/37, Error ellipse: s-maj=144.9km s-min=29.0km az=29.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**22.92**	**285**	LR		LR	LR	06 20 29.8	
	comp=Z,137nm,18.1s,baz=164,slow=31								
TORD	**Torodi Ar. Bea**	**68.11**	**308**	P		P	P	06 19 43.9	+0.2
	0.3nm,0.6s,baz=128,slow=4.9,SNR=2.3								
ASAR	**Alice Springs**	**70.95**	**106**	P		P	P	06 20 01.8	+0.4
	0.6nm,0.7s,baz=234,slow=6.4,SNR=2.8								
WRA	**Warramunga Arr**	**73.35**	**103**	P		P	P	06 20 15.6	-0.2
	1.6nm,1.2s,baz=227,slow=4.4,SNR=3.5								
ILAR	**Eielson Array**	**150.78**	**15**	PKPbc		PKPbc	PKPbc	06 28 34.5	-0.7
	0.4nm,0.6s,baz=318,slow=3.3,SNR=7.4								
ILAR				PKPab		PKPab	PKPab	06 28 41.9	-0.4
	0.6nm,0.9s,baz=317,slow=4.3,SNR=4.7								

IDC 28 06:12:02.6±2.1, 37°41S×50°65E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=146.7km s-min=29.0km az=29.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.12**	**308**	P		P	P	06 23 04.8	+0.3
	0.2nm,0.7s,baz=123,slow=5.1,SNR=2.7								
ASAR	**Alice Springs**	**70.90**	**106**	P		P	P	06 23 21.5	-0.4
	0.3nm,0.7s,baz=230,slow=5.7,SNR=2.9								
WRA	**Warramunga Arr**	**73.30**	**103**	P		P	P	06 23 36.9	+0.7
	0.3nm,0.3s,baz=216,slow=5.1,SNR=3.5								
ILAR	**Eielson Array**	**150.69**	**15**	PKPbc		PKPbc	PKPbc	06 31 54.7	-1.0
	0.4nm,0.6s,baz=316,slow=2.9,SNR=7.5								
ILAR				PKPab		PKPab	PKPab	06 32 02.2	-0.5
	0.6nm,1.0s,baz=271,slow=2.9,SNR=4.3								

IDC 28 06:20:34.1±19.0, 11°87S×167°03E, h140km±176km, mb3.3/5, mb1 3.6/5, mb1mx3.4/19, mbtmp3.3/5, Error ellipse: s-maj=147.8km s-min=51.4km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.41**	**251**	P		P	P	06 26 50.8	-0.2
	0.5nm,0.6s,baz=86,slow=9.2,SNR=2.7								
ASAR	**Alice Springs**	**33.57**	**245**	P		P	P	06 27 01.1	+0.1
	0.4nm,0.5s,baz=68,slow=11,SNR=4.8								
ILAR	**Eielson Array**	**83.89**	**18**	P		P	P	06 32 48.0	+0.2
	0.6nm,0.8s,baz=231,slow=5.8,SNR=9.8								
MKAR	**Makanchi Array**	**94.98**	**317**	P		P	P	06 33 40.6	-0.2
	0.2nm,0.5s,baz=81,slow=7.5,SNR=4.2								
YKA	**Yellowknife Ar**	**95.12**	**27**	P		P	P	06 33 40.4	-0.6
	0.1nm,0.5s,baz=257,slow=4.9,SNR=6.2								
ARCES	**ARCESS Array B**	**117.44**	**346**	PKP		PKPdf	PKPdf	06 39 02.5	-0.1
	2.8nm,1.0s,baz=88,slow=2.9,SNR=5.0								

IDC 28 06:21:24.7±1.7, 5°49S×81°24W, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.7/21, mbtmp3.6/10, ML3.1/3, MS3.0/2, Ms1 3.1/2, ms1mx2.8/28, Error ellipse: s-maj=74.4km s-min=15.5km az=44.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.26**	**120**	Pn		Pn	Pn	06 22 19.3	+1.6
	0.4nm,0.3s,baz=280,slow=6.1,SNR=5.7								
ATAH				Pg		Pb	Pb	06 22 25.0	+0.9
	3.1nm,0.3s,baz=323,slow=9.4,SNR=16								
ATAH				LR		LR	LR	06 22 58.6	
	comp=Z,166nm,20.4s,baz=216,slow=29								
ATAH				Lg		Lg	Lg	06 23 06.1	
	6.8nm,0.3s,baz=354,slow=18,SNR=3.2								
NNA	**Nana**	**7.78**	**146**	Pn		Pn	Pn	06 23 19.4	+0.1
	0.8nm,0.3s,baz=315,slow=17,SNR=2.1								
NNA				Sn		Sn	Sn	06 24 55.8	+7.5
	0.8nm,0.3s,baz=288,slow=19,SNR=2.1								
NNA				Lg		Lg	Lg	06 25 27.6	
	0.6nm,0.3s,baz=252,slow=20,SNR=3.0								
LPAZ	**La Paz**	**16.74**	**131**	Pn		Pn	Pn	06 25 21.4	-0.2
	0.1nm,0.3s,baz=328,slow=16,SNR=3.9								
LPAZ				LR		LR	LR	06 32 05.4	
	comp=Z,79nm,21.1s,baz=283,slow=38								
SIV	**San Ignacio**	**22.36**	**119**	P		P	P	06 26 24.5	-0.2
	1.8nm,0.7s,baz=304,slow=11,SNR=10								
BDFB	**Brasilia**	**34.13**	**110**	P		P	P	06 28 10.5	-1.4
	1.7nm,0.8s,baz=330,slow=8.1,SNR=3.5								
PDAR	**Pinedale Array**	**54.48**	**335**	P		P	P	06 30 54.8	+0.3
	0.2nm,0.6s,baz=123,slow=6.7,SNR=2.4								
NVAR	**Mina Array Bea**	**55.60**	**325**	P		P	P	06 31 02.5	-0.1
	0.3nm,0.7s,baz=128,slow=5.8,SNR=2.2								
YKA	**Yellowknife Ar**	**72.43**	**344**	P		P	P	06 32 52.4	-0.2
	0.1nm,0.7s,baz=146,slow=6.7,SNR=2.6								
ESDC	**Sonseca Array**	**83.75**	**49**	P		P	P	06 33 56.6	+0.5
	1.3nm,0.8s,baz=268,slow=5.5,SNR=5.6								
TORD	**Torodi Ar. Bea**	**84.38**	**76**	P		P	P	06 33 59.3	-0.4
	0.3nm,0.6s,baz=297,slow=6.3,SNR=3.8								

GUC 28 06:37:18.4±0.6, 31°52S×69°93W, h125km±8km, ML3.5, 7C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.98**	**291**	*i* P		Pn	Pn	06 37 40.9	+0.2
CMCH				*i* S		Sn	Sn	06 37 57.7	0.0
CMCH				AML		AML	AML	06 38 02.6	
	comp=E,1μm,0.9s								
PTCH	**Petorca**	**1.12**	**229**	*i* P		Pn	Pn	06 37 42.2	+0.1
PTCH				*i* S		Sn	Sn	06 38 00.2	+0.1
PTCH				AML		AML	AML	06 38 02.6	
	comp=E,1μm,0.3s								
CHNG	**Los Chungos**	**1.38**	**255**	*e*P		Pn	Pn	06 37 44.8	+0.1
CHNG				*e*S		Sn	Sn	06 38 04.7	-0.1
CHNG				AML		AML	AML	06 38 07.2	
	comp=E,239nm,0.4s								
TLL	**Tololo Astrono**	**1.55**	**331**	*i* P		Pn	Pn	06 37 47.8	+0.7
TLL				*i* S		Sn	Sn	06 38 09.3	+0.5
TLL				AML		AML	AML	06 38 10.9	
	comp=N,717nm,0.4s								
PEL	**Peldehue**	**1.74**	**201**	*i* P		Pn	Pn	06 37 48.9	0.0
PEL				*i* S		Sn	Sn	06 38 12.5	+0.2
PEL				AML		AML	AML	06 38 13.5	
	comp=E,630nm,0.3s								
CLCH	**Cerro Calan**	**1.94**	**195**	*i* P		Pn	Pn	06 37 51.8	+0.4
CLCH				*i* S		Sn	Sn	06 38 17.1	+0.4
CLCH				AML		AML	AML	06 38 18.4	
	comp=E,344nm,0.7s								
STL	**Santa Lucia**	**2.00**	**197**	*e*P		Pn	Pn	06 37 52.4	+0.3
STL				*i* S		Sn	Sn	06 38 18.3	+0.3
SAN	**Santiago**	**2.02**	**198**	*e*P		Pn	Pn	06 37 52.7	+0.3
SAN				*e*S		Sn	Sn	06 38 18.7	+0.2
SAN				AML		AML	AML	06 38 20.1	
	comp=N,227nm,0.7s								
ANTU	**Antumapu**	**2.12**	**196**	*i* P		Pn	Pn	06 37 53.9	+0.2
ANTU				*i* S		Sn	Sn	06 38 20.9	+0.2
ANTU				AML		AML	AML	06 38 21.7	
	comp=E,436nm,0.3s								
TACH	**Talagante**	**2.29**	**201**	*i* P		Pn	Pn	06 37 55.1	-0.5
TACH				*i* S		Sn	Sn	06 38 23.7	-0.6
LMEL	**Las Melosas**	**2.33**	**186**	*e*P		Pn	Pn	06 37 56.8	+0.4
LMEL				*e*S		Sn	Sn	06 38 26.4	+0.8
LMEL				AML		AML	AML	06 38 33.6	
	comp=N,237nm,0.5s								
CHCH	**Chadas Angostu**	**2.48**	**194**	*i* P		Pn	Pn	06 37 58.0	-0.1
CHCH				*i* S		Sn	Sn	06 38 28.7	-0.1
CACH	**El Canelo**	**2.65**	**192**	*i* P		Pn	Pn	06 38 00.6	+0.2
CACH				*i* S		Sn	Sn	06 38 33.9	+1.1

IDC 28 06:43:18.6±34.0, 24°55S×179°88W, h520km±329km, mb3.2/4, mb1 3.4/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=219.9km s-min=100.2km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.59**	**271**	P		P	P	06 48 59.2	+0.6
	1.7nm,0.5s,baz=96,slow=13,SNR=5.7								
STKA	**Stephens Creek**	**34.59**	**249**	P		P	P	06 49 23.4	-0.4
	0.9nm,0.4s,baz=82,slow=10,SNR=4.5								
ASAR	**Alice Springs**	**42.04**	**261**	P		P	P	06 50 24.4	-0.2
	0.9nm,0.5s,baz=97,slow=7.5,SNR=16								
WRA	**Warramunga Arr**	**42.48**	**267**	P		P	P	06 50 27.6	-0.4
	2.6nm,0.4s,baz=103,slow=8.0,SNR=22								
MKAR	**Makanchi Array**	**112.67**	**312**	PKiKP		PKiKP	PKiKP	07 00 56.3	+0.5
	0.1nm,0.4s,baz=93,slow=3.2,SNR=3.2								
ARCES	**ARCESS Array B**	**132.54**	**348**	PKP		PKPdf	PKPdf	07 01 31.6	-1.5
	1.8nm,0.8s,baz=20,slow=2.9,SNR=8.6								

*IDC **28** 07:08:58.3±0.8, 30°.99S×178°.11W, h0km, mb4.5/7, mb1 4.7/7, mb1mx4.2/20, mbtmp4.5/7, MS3.6/3, Ms1 3.6/3, ms1mx2.9/37, Error ellipse: s-maj=30.3km s-min=23.6km az=1.0*
*ISCJB **28** 07:09:01.4±1.3, 31°.47S±0°.10×178°.1W±0°.2, h35km, mb4.5/8, MS3.8/2, Error ellipse: s-maj=26.4km s-min=12.1km az=16.5*
*NEIC **28** 07:09:03.3±0.8, 31°.07S×178°.04W, h35km, mb4.5/5, Error ellipse: s-maj=21.7km s-min=15.7km az=136.0*
**ISC 28 07:09:03.6±0.8, 31°.4S±0°.1×

MSVF	**Nonsavu**	**8.34**	**88**	*e*Pn	**Pn**	**07 24 05.5**	**+0.2**
	28nm,0.8s							
OUZ	**Omahuta**	**17.38**	**168**	*e*P	**Pn**	**07 25 52.9**	**-0.5**
	24nm,1.2s							
EIDS	**Eidsvold**	**18.35**	**244**	*e*P	**P**	**07 26 02.5**	**+1.7**
	11nm,0.9s							
URZ	**Urewera**	**21.12**	**163**	P	**P**	**07 26 31.4**	**+2.1**
	12nm,0.6s,baz=323,slow=3.0,SNR=18							
URZ	**Urewera**	**21.12**	**163**	*e*P	**P**	**07 26 31.3**	**+2.1**
	10nm,0.6s							
CTA	**Charters Tower**	**21.85**	**261**	P	**P**	**07 26 36.9**	**+0.7**
	3.8nm,0.8s,baz=68,slow=12,SNR=5.6							
CTA	**Charters Tower**	**21.85**	**261**	P	**P**	**07 26 36.9**	**+0.7**
STKA	**Stephens Creek**	**28.45**	**236**	P	**P**	**07 27 36.8**	**+1.5**
	8.9nm,0.7s,baz=57,slow=8.4,SNR=21							
STKA	**Stephens Creek**	**28.45**	**236**	*e*P	**P**	**07 27 36.4**	**+1.1**
	1.9nm,0.7s							
WRA	**Warramunga Arr**	**33.05**	**261**	P	**P**	**07 28 14.4**	**-1.1**
	0.5nm,0.2s,baz=95,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**33.05**	**261**	P	**P**	**07 28 14.4**	**-1.1**
AS31	**Alice Springs**	**33.44**	**254**	*e*P	**P**	**07 28 18.7**	**-0.2**
ASAR	**Alice Springs**	**33.44**	**254**	P	**P**	**07 28 18.9**	**-0.1**
	9.1nm,0.4s,baz=83,slow=8.8,SNR=190							
ASAR				S	**S**	**07 33 18.8**	**+0.8**
	0.2nm,0.5s,baz=80,slow=17,SNR=4.3							
ASAR	**Alice Springs**	**33.44**	**254**	P	**P**	**07 28 18.9**	**-0.1**
ASAR				S	**S**	**07 33 18.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**41.41**	**263**	P	**P**	**07 29 25.8**	**+0.4**
	2.6nm,0.8s,baz=121,slow=6.3,SNR=7.4							
FITZ	**Fitzroy Crossi**	**41.41**	**263**	*e*P	**P**	**07 29 25.6**	**+0.3**
	2.6nm,0.7s							
SONM	**Songino Array**	**86.43**	**323**	P	P	07 34 16.6	+0.2
	0.6nm,0.6s,baz=116,slow=3.4,SNR=2.8							
SONM	**Songino Array**	**86.43**	**323**	P	P	07 34 16.6	+0.2
NVAR	**Mina Array Bea**	**88.08**	**49**	P	P	07 34 25.6	+1.1
	1.2nm,0.7s,baz=228,slow=7.5,SNR=9.6							
NVAR	**Mina Array Bea**	**88.08**	**49**	P	P	07 34 25.6	+1.1
ILAR	**Eielson Array**	**89.23**	**17**	P	**P**	**07 34 27.8**	**-1.3**
	1.0nm,0.5s,baz=236,slow=5.3,SNR=21							
ILAR	**Eielson Array**	**89.23**	**17**	P	**P**	**07 34 27.8**	**-1.3**
TXAR	**Lajitas Array**	**96.22**	**61**	P	P	07 35 03.5	+1.3
	0.3nm,0.8s,baz=216,slow=4.5,SNR=3.3							
TXAR	**Lajitas Array**	**96.22**	**61**	P	P	07 35 03.5	+1.3
YKA	**Yellowknife Ar**	**99.72**	**27**	P	**Pdif**	**07 35 17.9**	**+1.0**
	0.8nm,0.5s,baz=256,slow=4.8,SNR=30							
YKA	**Yellowknife Ar**	**99.72**	**27**	P	**Pdif**	**07 35 17.9**	**+1.0**
ARCES	**ARCESS Array B**	**124.08**	**345**	PKP	**PKPdf**	**07 40 29.2**	**-0.3**
	2.1nm,0.9s,baz=64,slow=2.8,SNR=6.8							
GERES	**GERESS Array B**	**143.60**	**333**	PKP	**PKPdf**	**07 41 06.6**	**0.0**
	0.3nm,0.7s,baz=90,slow=2.0,SNR=4.3							
GERES	**GERESS Array B**	**143.60**	**333**	PKP	**PKPdf**	**07 41 06.6**	**0.0**

*ISCJB **28** 07:31:06.9±0.4,3°.21S±0°.06×102°.91E±0°.07,h200km, mb3.8/12, Error ellipse: s-maj=10.9km s-min=5.3km az=143.1*

*DJA **28** 07:31:08.6±0.4,3°.5S±5°×10°.3E±°,h187km±8km,M4.5/14, mb4.4/6,mB5.4/2,MLv4.5/14,Mw(mB)4.8/2*

*IDC **28** 07:31:08.1±1.9,3°.13S×102°.99E,h196km±17km, mb3.6/12, mb1 3.7/14,mb1mx3.6/25,mbtmp3.6/14, Error ellipse: s-maj=22.9km s-min=9.9km az=52.0*

ISC 28 07:31:07.9±0.6,3°.24S±0°.07×102°.92E±0°.08,h200km,n33, σ1§11/39,mb3.9/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.52**	**219**	P	**Pn**	**07 31 34.9**	**-0.3**
MBSI	**MBSI**	**0.83**	**232**	P	**Pn**	**07 31 35.9**	**-0.7**
MNAI	**Manna**	**1.11**	**178**	P	**Pn**	**07 31 38.1**	**-0.4**
MNAI				S	**Sn**	**07 32 00.9**	**-1.4**
KRJI	**Kerinci**	**1.85**	**308**	P	**Pn**	**07 31 45.4**	**+0.4**
LWLI	**Liwa**	**2.10**	**147**	P	**Pn**	**07 31 47.6**	**+0.1**
KASI	**Kota Agung**	**2.76**	**145**	P	**Pn**	**07 31 54.1**	**-0.6**
RGRI	**Rengat**	**2.93**	**348**	P	**Pn**	**07 31 56.6**	**-0.2**
BLSI	**Bandar Lampung**	**3.13**	**132**	P	**Pn**	**07 31 59.4**	**+0.3**
PDSI	**Padang**	**3.38**	**313**	P	**Pn**	**07 32 01.8**	**-0.3**
PPBI	**Pangkal Pinang**	**3.39**	**72**	P	**Pn**	**07 32 01.9**	**-0.2**
BKNI	**Bangkinang**	**4.01**	**332**	P	**Pn**	**07 32 09.5**	**-0.4**
DBJI	**Dramaga**	**5.04**	**131**	P	**Pn**	**07 32 23.2**	**+0.4**
	80nm,0.4s,0.4nm						
MYKOM	**Kota Tinggi**	**5.08**	**11**	P	**Pn**	**07 32 23.2**	**-0.2**
	25nm,0.8s,0.1nm						
MNSI	**Mandailing Nat**	**5.22**	**320**	P	**Pn**	**07 32 23.9**	**-1.2**
	68nm,0.5s,13µm0.5nm						
GSI	**Gunungsitoli**	**7.00**	**310**	P	**Pn**	**07 32 46.5**	**-1.6**
	162nm,0.7s,2µm0.7nm						
TGJI	**Tegal**	**7.15**	**120**	P	**Pn**	**07 32 51.0**	**+0.9**
PSI	**Prapat**	**7.21**	**326**	P	**Pn**	**07 32 48.3**	**-2.8**
	1.6nm,0.3s,baz=144,slow=15,SNR=10						
PSI	**Prapat**	**7.21**	**326**	P	**Pn**	**07 32 50.0**	**-1.0**
	19nm,0.9s						
KAPI	**Kappang**	**16.88**	**97**	P	**Pn**	**07 34 53.1**	**+0.2**
	5.9nm,0.3s,baz=282,slow=5.7,SNR=6.8						
CMAR	**Chiang Mai Arr**	**25.32**	**350**	P	**P**	**07 35 45.0**	**-0.5**
	2.9nm,0.6s,baz=182,slow=8.9,SNR=6.6						
FITZ	**Fitzroy Crossi**	**26.71**	**125**	P	**P**	**07 36 29.3**	**+0.4**
	0.9nm,0.4s,baz=288,slow=7.2,SNR=8.9						
WRA	**Warramunga Arr**	**34.85**	**121**	P	**P**	**07 37 39.9**	**-0.4**
	1.1nm,0.3s,baz=297,slow=10.0,SNR=13						
WRA				PcP	**PcP**	**07 40 09.5**	**+0.6**
	0.9nm,0.4s,baz=312,slow=2.2,SNR=7.0						
WRA				ScP	**ScP**	**07 43 35.5**	**+0.1**
	0.3nm,0.5s,baz=307,slow=3.1,SNR=2.9						
ASAR	**Alice Springs**	**36.17**	**127**	P	**P**	**07 37 52.1**	**+0.6**
	4.1nm,0.5s,baz=301,slow=7.9,SNR=78						
ASAR				PcP	**PcP**	**07 40 13.7**	**+0.9**
	0.8nm,0.4s,baz=314,slow=2.5,SNR=8.1						
ASAR				S	**S**	**07 43 12.8**	**-3.8**
	0.7nm,0.6s,baz=299,slow=15,SNR=8.9						
ASAR				ScP	**ScP**	**07 43 40.2**	**0.0**
	0.6nm,0.8s,baz=309,slow=3.5,SNR=5.1						
STKA	**Stephens Creek**	**46.16**	**133**	P	**P**	**07 39 13.8**	**+1.1**
	4.8nm,0.6s,baz=319,slow=8.0,SNR=12						
SONM	**Songino Array**	**50.95**	**3**	P	**P**	**07 39 50.5**	**+1.4**
	0.8nm,0.5s,baz=178,slow=8.7,SNR=2.3						
MKAR	**Makanchi Array**	**53.05**	**342**	P	**P**	**07 40 04.5**	**+0.1**
	0.6nm,0.5s,baz=151,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**58.96**	**348**	P	**P**	**07 40 45.9**	**-0.2**
	1.4nm,0.4s,baz=160,slow=5.9,SNR=10						
PETK	**Petropavlovsk-**	**72.40**	**31**	P	**P**	**07 42 11.2**	**-0.9**
	1.6nm,0.6s,baz=233,slow=7.0,SNR=2.3						
BRTR	**Keskin Array B**	**76.31**	**312**	P	**P**	**07 42 34.5**	**-0.6**
	1.0nm,0.6s,baz=125,slow=6.0,SNR=6.1						
BOSA	**Boshof**	**77.63**	**242**	P	**P**	**07 42 44.7**	**+2.0**
	1.6nm,0.9s,baz=90,slow=1.0,SNR=4.1						
FINES	**FINESS Array B**	**86.56**	**332**	P	**P**	**07 43 28.5**	**+0.3**
	0.8nm,0.7s,baz=58,slow=5.2,SNR=2.6						
TXAR	**Lajitas Array**	**143.80**	**41**	PKP	**PKPdf**	**07 50 18.9**	**-1.2**
	0.3nm,0.5s,baz=189,slow=1.4,SNR=9.3						
CFAA	**Coronel Fontan**	**144.34**	**193**	PKP	**PKPdf**	**07 50 21.4**	**+0.5**
	0.1nm,0.4s,baz=175,slow=4.3,SNR=6.4						

*ISCJB **28** 07:36:54.4±0.3,15°.37N±0°.04×91°.69W±0°.04,h195km±2km, mb4.0/17, Error ellipse: s-maj=7.7km s-min=4.3km az=35.1*

*IDC **28** 07:36:54.9±0.8,15°.35N×91°.59W,h200km±6km,mb3.6/9, mb1 3.8/13,mb1mx3.6/26,mbtmp3.7/13, Error ellipse: s-maj=19.7km s-min=9.4km az=55.0*

*NEIC **28** 07:36:55.2,15°.33N×91°.89W,h205km,mb4.4/16, MD4.5(MEX), After MEX.*

*MEX **28** 07:36:55.2±1.0,15°.33N×91°.89W,h205km±9km,MD4.5*

ISC 28 07:36:54.3±0.5,15°.27N±0°.05×91°.82W±0°.04,h201km±4km, n201,σ1§73/225,mb4.2/18,68C-64D,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.56**	**230**	*i* P	**Pn**	**07 37 21.1**	**-0.6**
THIG				*i* S	**Sn**	**07 37 42.8**	**-0.1**
THIG		**0.56**	**230**	*i* P	**Pn**	**07 37 21.1**	**-0.6**
THIG				*i* S	**Sn**	**07 37 42.8**	**-0.1**
TP2	**Tecpan 2**	**0.91**	**122**	‖*i* P	**Pn**	**07 37 24.5**	**+0.4**
JAT	**Jato**	**0.96**	**169**	‖*e*P	**Pn**	**07 37 24.6**	**+0.6**
CCIG	**Comitan**	**1.05**	**343**	*i* P	**Pn**	**07 37 24.1**	**-0.6**
CCIG				*i* S	**Sn**	**07 37 46.9**	**-1.6**
CCIG	**Comitan**	**1.05**	**343**	*i* P	**Pn**	**07 37 24.1**	**-0.6**
CCIG				*i* S	**Sn**	**07 37 46.9**	**-1.6**
FUG	**Fuego 3**	**1.25**	**131**	*e*P	**Pn**	**07 37 26.7**	**+0.4**
PCG	**Pacaya**	**1.46**	**126**	*e*P	**Pn**	**07 37 28.8**	**+0.7**
PCG				*e*S		07 38 03.9	
NBG	**Las Nubes**	**1.58**	**115**	‖*e*P	**Pn**	**07 37 30.1**	**+0.9**
TGIG		**1.95**	**320**	*i* P	**Pn**	**07 37 31.9**	**-0.6**
TGIG				*i* S	**Sn**	**07 37 59.3**	**-3.0**
TGIG		**1.95**	**320**	*i* P	**Pn**	**07 37 31.9**	**-0.6**
TGIG				*i* S	**Sn**	**07 37 59.3**	**-3.0**
MRL	**Marmol**	**2.07**	**95**	‖*e*P	**Pn**	**07 37 33.6**	**-0.2**
MRL				*e*S	**Sn**	**07 38 03.2**	**-1.2**
RBDL	**Robledal**	**2.37**	**119**	*e*P	**Pn**	**07 37 34.9**	**-2.1**
RBDL				*e*S		07 38 01.9	
SNJE	**San Jose**	**2.56**	**123**	*e*P	**Pn**	**07 37 37.9**	**-1.3**
SBLS	**San Blas**	**2.56**	**123**	*e*P	**Pn**	**07 37 38.3**	**-0.9**
SNET	**Serv Nac Est T**	**2.96**	**122**	AML	AML	07 38 28.9	
	comp=Z,285nm,0.2s						
LFRS	**El Faro**	**3.13**	**121**	*e*P	**Pn**	**07 37 45.2**	**-0.5**
LFRS				*e*S		07 38 18.0	
HUIG	**Huatulco**	**4.16**	**277**	*i* P	**Pn**	**07 37 56.6**	**-1.6**
HUIG				*i* S	**Sn**	**07 38 45.1**	**-3.2**
HUIG	**Huatulco**	**4.16**	**277**	*i* P	**Pn**	**07 37 56.6**	**-1.6**
HUIG				*i* S	**Sn**	**07 38 45.1**	**-3.2**
TGUH	**Tegucigalpa,Un**	**4.56**	**105**	*e*Pn	**Pn**	**07 38 03.2**	**0.0**
VHO	**Vista Hermosa**	**5.05**	**291**	*i* P	**Pn**	**07 38 10.1**	**+0.6**
VHO				*i* S	**Sn**	**07 39 05.4**	**-3.4**
VHO	**Vista Hermosa**	**5.05**	**291**	*i* P	**Pn**	**07 38 10.1**	**+0.6**
VHO				*i* S	**Sn**	**07 39 05.4**	**-3.4**
TEIG	**Tepich**	**5.98**	**34**	P	**Pn**	**07 38 19.0**	**-2.3**
	comp=Z,15nm,0.3s,baz=224,slow=5.7,SNR=103						
TEIG				S	**Sn**	**07 39 24.7**	**-5.4**
	baz=90,slow=20,SNR=3.4						
TEIG	**Tepich**	**5.98**	**34**	*e*Pn	**Pn**	**07 38 19.3**	**-2.0**
PNIG	**Pinotepa**	**6.17**	**281**	*i* P	**Pn**	**07 38 23.7**	**-0.1**
PNIG				*i* S	**Sn**	**07 39 31.5**	**-3.2**
PNIG	**Pinotepa**	**6.17**	**281**	*i* P	**Pn**	**07 38 23.7**	**-0.1**
PNIG				*i* S	**Sn**	**07 39 31.5**	**-3.2**
JTS	**JuntasAbangare**	**8.33**	**126**	P	**Pn**	**07 38 51.5**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=338,slow=9.3,SNR=35						
JTS				S		07 40 16.6	
	comp=Z,1.0nm,0.3s,baz=285,slow=20,SNR=2.7						
JTS	**JuntasAbangare**	**8.33**	**126**	*e*Pn	**Pn**	**07 38 51.5**	**-0.4**
JTS				*e*Sn	**Sn**	**07 40 21.7**	**-4.0**
BCIP	**Isla Barro Col**	**13.19**	**116**	*e*P	**P**	**07 39 57.9**	**+0.7**
MTDJ	**Mount Denham**	**14.00**	**76**	*e*Pn	**P**	**07 40 06.5**	**+0.3**
732A	**Laxson Ranch,**	**15.37**	**332**	‖P	**P**	**07 40 22.9**	**+1.6**
	baz=15						
632A	**Uvalde**	**15.96**	**334**	‖P	**Pn**	**07 40 30.4**	**+2.2**
	baz=16						
DWPF	**Disney**	**16.00**	**35**	*e*P	**Pn**	**07 40 28.7**	**+0.1**
	comp=Z,244nm,1.6s						
631A	**Perdido Creek**	**16.23**	**332**	‖P	**Pn**	**07 40 33.6**	**+2.2**
	baz=16						
532A	**Rocksprings**	**16.55**	**335**	‖P	**Pn**	**07 40 37.4**	**+2.1**
	baz=16						
JCT	**Junction City**	**16.82**	**336**	‖P	**Pn**	**07 40 40.3**	**+1.8**
	baz=17						
531A	**Rocksprings**	**16.86**	**333**	‖P	**Pn**	**07 40 40.8**	**+1.9**
	baz=17						
432A	**Menard**	**17.17**	**336**	‖P	**Pn**	**07 40 43.3**	**+0.7**
	baz=17						
530A	**J-C Ranch, Com**	**17.20**	**331**	‖P	**Pn**	**07 40 44.5**	**+1.5**
	baz=17						
431A	**Sonora**	**17.33**	**334**	‖P	**Pn**	**07 40 45.3**	**+0.8**
	baz=17,SNR=11						
628A	**Black Gap, Mar**	**17.44**	**326**	‖P	**Pn**	**07 40 46.9**	**+1.0**
	baz=17						
332A	**Millersview**	**17.60**	**337**	‖P	**Pn**	**07 40 47.9**	**+0.2**
	baz=18						
529A	**Stev Forest Ra**	**17.61**	**329**	‖P	**Pn**	**07 40 48.3**	**+0.5**
	baz=18						
627A	**Terlingua Ranc**	**17.69**	**325**	‖P	**Pn**	**07 40 49.6**	**+0.7**
	baz=18,SNR=5.7						
430A	**Baggt Ranch,**	**17.69**	**332**	‖P	**Pn**	**07 40 49.1**	**+0.3**
	baz=18,SNR=6.5						
TXAR	**Lajitas Array**	**17.76**	**324**	P	**Pn**	**07 40 50.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=38						
TXAR				pP	**pP**	**07 41 22.2**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=134,slow=11,SNR=1.9						
TXAR				ScP	**ScP**	**07 48 32.3**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=145,slow=4.6,SNR=6.5						
TIGA	**Tifton**	**17.77**	**24**	‖P	**P**	**07 40 47.4**	**-0.2**
	baz=18						
331A	**San Angelo**	**17.80**	**335**	‖P	**Pn**	**07 40 49.9**	**-0.1**
	baz=18,SNR=18						
429A	**Davenport Ranc**	**17.86**	**331**	‖P	**Pn**	**07 40 50.7**	**-0.1**
	baz=18						
528A	**Cox Ranch, San**	**17.93**	**328**	‖P	**Pn**	**07 40 51.6**	**0.0**
	baz=18						
232A	**Coleman**	**18.02**	**338**	‖P	**P**	**07 40 51.4**	**+1.1**
	baz=18,SNR=6.2						
626A	**Big Bend Ranch**	**18.19**	**323**	‖P	**Pn**	**07 40 55.1**	**+0.5**
	baz=18						
330A	**Mertzon**	**18.20**	**334**	‖P	**Pn**	**07 40 54.1**	**-0.6**
	baz=18,SNR=7.4						
LRAL	**Lakeview Retre**	**18.22**	**13**	*e*P	**P**	**07 40 53.6**	**+1.1**
	comp=Z,7.1nm,0.9s						
231A	**Bronte**	**18.31**	**336**	‖P	**Pn**	**07 40 55.0**	**-1.0**
	baz=18,SNR=5.6						
428A	**Kincaid Ranch,**	**18.33**	**329**	‖P	**Pn**	**07 40 56.2**	**0.0**
	baz=18						
527A	**Woodward Ranch**	**18.35**	**326**	‖P	**Pn**	**07 40 56.9**	**+0.3**
	baz=18						
526A	**Mary Lane Ranc**	**18.55**	**325**	‖P	**Pn**	**07 40 59.3**	**+0.4**
	baz=18						
329A	**Wagon Wheel Ra**	**18.62**	**332**	‖P	**P**	**07 40 58.3**	**+1.4**
	baz=19,SNR=5.5						
ABTX	**Abilene, Hawle**	**18.68**	**339**	‖P	**P**	**07 40 58.9**	**+1.4**
	baz=19						
427A	**Hayter Ranch,**	**18.79**	**328**	‖P	**Pn**	**07 41 00.6**	**-1.1**
	baz=19						
328A	**Wristen Ranch,**	**18.93**	**330**	‖P	**Pn**	**07 41 02.0**	**-1.2**
	baz=19,SNR=7.4						
229A	**Bryant Ranch,**	**18.95**	**333**	‖P	**P**	**07 41 02.1**	**+1.5**
	baz=19						
426A	**McDonald Obser**	**18.98**	**326**	‖P	**Pn**	**07 41 03.0**	**-1.1**
	baz=19,SNR=7.8						
131A	**Roby**	**19.00**	**337**	‖P	**P**	**07 41 02.4**	**+1.5**
	baz=19						
130A	**Snyder**	**19.15**	**336**	‖P	**P**	**07 41 04.2**	**+1.7**
	baz=19						
Z32A	**Haskell**	**19.25**	**340**	‖P	**P**	**07 41 04.7**	**+1.0**
	baz=19,SNR=8.4						
228A	**UT Block 9, Go**	**19.43**	**332**	‖P	**P**	**07 41 07.3**	**+1.6**
	baz=19						
326A	**Caldwell Ranch**	**19.46**	**327**	‖P	**P**	**07 41 07.9**	**+1.9**
	baz=19,SNR=8.4						
129A	**Stewart Farms,**	**19.55**	**334**	‖P	**P**	**07 41 07.9**	**+1.0**
	baz=20,SNR=7.0						
425A	**Indio Mountain**	**19.60**	**324**	‖P	**P**	**07 41 09.3**	**+1.8**
	baz=20,SNR=11						
227A	**Bennet, Jal**	**19.68**	**330**	‖P	**P**	**07 41 10.0**	**+1.7**
	baz=20						
128A	**Castleberry Fa**	**19.81**	**333**	‖P	**P**	**07 41 10.5**	**+0.8**
	baz=20						
Z30A	**Sanderson Ranc**	**19.82**	**336**	‖P	**P**	**07 41 10.2**	**+0.4**
	baz=20						
Y32A	**R-V Farms, Ver**	**19.88**	**341**	‖P	**P**	**07 41 12.0**	**+1.6**
	baz=20						
OTAV	**Otavalo**	**19.94**	**137**	*e*P	**Pn**	**07 41 15.9**	**0.0**
	comp=Z,8.2nm,1.0s						
SDDR	**Presa de Saban**	**19.97**	**76**	*e*P	**P**	**07 41 12.8**	**+1.3**
	comp=Z,40nm,0.6s						
Z29A	**Hungry Hill Ra**	**20.03**	**335**	‖P	**P**	**07 41 12.5**	**+0.4**
	baz=20						
325A	**Bean Ranch, Si**	**20.04**	**325**	‖P	**P**	**07 41 13.6**	**+1.3**
	baz=20						
ROSC	**El Rosal**	**20.07**	**119**	P	**P**	**07 41 12.8**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=86,slow=16,SNR=4.6						
Y31A	**Rekieta Farm,**	**20.11**	**339**	‖P	**P**	**07 41 13.9**	**+1.0**
	baz=20						
127A	**Arkansas Junct**	**20.25**	**331**	‖P	**P**	**07 41 15.6**	**+1.1**
	baz=20						
Y30A	**Stafford Cattl**	**20.26**	**338**	‖P	**P**	**07 41 14.8**	**+0.3**
	baz=20						
Z28A	**Tucker Farm, M**	**20.34**	**334**	‖P	**P**	**07 41 15.2**	**-0.1**
	baz=20,SNR=5.3						
GDL2	**Guadalupe Moun**	**20.36**	**328**	*e*P	**P**	**07 41 17.6**	**+2.0**
GDL2				*e*		07 41 52.6	
324A	**Moseley Ranch,**	**20.37**	**325**	‖P	**P**	**07 41 16.7**	**+0.9**
	baz=20						
MNTX	**Cornudas Mount**	**20.51**	**325**	*e*P	**P**	**07 41 17.8**	**+0.7**
	comp=Z,4.8nm,0.8s						
MNTX	**Cornudas Mount**	**20.51**	**325**	‖P	**P**	**07 41 17.8**	**+0.7**
	baz=20,SNR=7.7						
225A	**Deer Hill, Car**	**20.53**	**327**	‖P	**P**	**07 41 18.6**	**+1.1**
	baz=20,SNR=8.5						
Y29A	**Porterfield Fa**	**20.54**	**336**	‖P	**P**	**07 41 18.2**	**+0.8**
	baz=20						
126A	**Clayton Basin,**	**20.55**	**329**	‖P	**P**	**07 41 18.4**	**+0.8**
	baz=20						
SWET	**Sewanee**	**20.55**	**14**	*e*P	**P**	**07 41 17.8**	**+0.2**
	comp=Z,5.2nm,0.5s						
Z27A	**Tatum**	**20.72**	**332**	‖P	**P**	**07 41 19.1**	**-0.4**
	baz=21,SNR=6.0						
X30A	**Coker Ranch, T**	**20.77**	**338**	‖P	**P**	**07 41 20.1**	**+0.3**
	baz=21						
Y28A	**McKinney Farm,**	**20.81**	**335**	‖P	**P**	**07 41 20.1**	**-0.3**
	baz=21,SNR=7.7						
125A	**Gardner Draw,**	**20.88**	**328**	‖P	**P**	**07 41 21.8**	**+0.7**
	baz=21						
224A	**Cornudas Mount**	**20.88**	**326**	‖P	**P**	**07 41 21.9**	**+0.7**
	baz=21,SNR=8.1						
Z26A	**Caprock**	**21.04**	**331**	‖P	**P**	**07 41 23.1**	**+0.3**
	baz=21						
X29A	**Tulia**	**21.07**	**337**	‖P	**P**	**07 41 23.3**	**+0.2**
	baz=21						
WVT	**Waverly**	**21.08**	**9**	*e*P	**P**	**07 41 22.8**	**-0.2**
	comp=Z,7.6nm,0.6s						
MSTX	**Muleshoe**	**21.08**	**334**	‖P	**P**	**07 41 23.4**	**+0.1**
	baz=21						
CPCT	**Cooper Cave**	**21.14**	**17**	*e*P	**P**	**07 41 24.5**	**+0.8**
Y27A	**Causey**	**21.18**	**333**	‖P	**P**	**07 41 24.3**	**0.0**
	baz=21,SNR=7.1						
223A	**Chaparral, Ant**	**21.33**	**324**	‖P	**P**	**07 41 26.9**	**+1.1**
	baz=21						
Z25A	**Roswell**	**21.40**	**329**	‖P	**P**	**07 41 27.6**	**+1.0**
	baz=21						
TKL	**Tuckaleechee C**	**21.55**	**18**	P	**P**	**07 41 28.2**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=188,slow=9.3,SNR=12						
TKL	**Tuckaleechee C**	**21.55**	**18**	*e*P	**P**	**07 41 28.0**	**+0.1**
W29A	**Amraillo**	**21.65**	**338**	‖P	**P**	**07 41 29.2**	**+0.2**
	baz=22						
Z24A	**Sheeppen Canyo**	**21.77**	**328**	‖P	**P**	**07 41 32.2**	**+1.8**
	baz=22,SNR=6.5						
X27A	**F and S Farms,**	**21.80**	**334**	‖P	**P**	**07 41 31.0**	**+0.3**
	baz=22						
KMSC	**Kings Mountain**	**21.92**	**24**	‖P	**P**	**07 41 32.4**	**+0.8**
	baz=22						
X26A	**CR and CF Fran**	**22.03**	**333**	‖P	**P**	**07 41 33.1**	**+0.3**
	baz=22						
320A	**Kipp Ranch, An**	**22.11**	**319**	‖P	**P**	**07 41 36.6**	**+2.9**
	baz=22						
221A	**Mesquite Ranch**	**22.12**	**322**	‖P	**P**	**07 41 36.1**	**+2.3**
	baz=22						
W27A	**Bowe Ranch, En**	**22.15**	**335**	‖P	**P**	**07 41 33.9**	**-0.1**
	baz=22,SNR=6.4						
Z23A	**Rita Site, Whi**	**22.17**	**326**	‖P	**P**	**07 41 36.7**	**+2.5**
	baz=22						
Y24A	**Capitan**	**22.28**	**329**	‖P	**P**	**07 41 37.2**	**+1.9**
	baz=22						
X25A	**Clemmons Ranch**	**22.39**	**331**	‖P	**P**	**07 41 37.4**	**+1.1**
	baz=22						
TZTN	**Tazewell**	**22.44**	**18**	*e*P	**P**	**07 41 36.6**	**+0.1**
	comp=Z,9.1nm,0.6s						
SIUC	**Southern Illin**	**22.48**	**5**	*e*P	**P**	**07 41 37.1**	**+0.3**
	comp=Z,28nm,0.6s						
SIUC				*e*		07 42 13.6	
121A	**Cookes Peak, D**	**22.50**	**323**	‖P	**P**	**07 41 39.8**	**+2.5**
	baz=22,SNR=5.7						
220A	**Playas Peak, P**	**22.50**	**320**	‖P	**P**	**07 41 40.1**	**+2.8**
	baz=22,SNR=7.3						
Z22A	**Elephant Butte**	**22.56**	**325**	‖P	**P**	**07 41 40.1**	**+2.2**
	baz=22						
Y23A	**Lovelace Mesa,**	**22.60**	**328**	‖P	**P**	**07 41 40.8**	**+2.6**
	baz=23						
319A	**Douglas**	**22.62**	**318**	‖P	**P**	**07 41 41.2**	**+2.8**
	baz=23						
W25A	**X Bar L Ranch,**	**22.88**	**333**	‖P	**P**	**07 41 42.2**	**+1.5**
	baz=23						
Z21A	**St. Cloud Mine**	**22.99**	**324**	‖P	**P**	**07 41 44.7**	**+2.9**
	baz=23						
120A	**U Bar Ranch, L**	**23.01**	**321**	‖P	**

NVAR				pP		**pP**	**07 43 51.1**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=114,slow=10,SNR=4.5							
NVAR				ScP		**ScP**	**07 49 15.6**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=106,slow=5.3,SNR=3.7							
H18A	**Shoshone NF, C**	**32.98**	**336**	⇓P		**P**	**07 43 12.0**	**+1.5**
	baz=33							
J14A	**Carey**	**33.55**	**331**	⇑P		**P**	**07 43 17.1**	**+1.7**
	baz=34							
J13A	**Cove Ranch, Pi**	**33.92**	**330**	⇓P		**P**	**07 43 19.9**	**+1.4**
	baz=38							
H13A	**Challis**	**34.84**	**331**	⇓P		**P**	**07 43 28.3**	**+1.8**
	baz=35							
F12A	**Elk City**	**36.21**	**332**	⇓P		**P**	**07 43 39.0**	**+1.0**
	baz=36							
SAML	**Samuel**	**37.21**	**128**	*e*P		**P**	**07 43 44.2**	**-2.5**
	comp=Z,2.5nm,0.6s							
A14A	**Double T Ranch**	**37.98**	**337**	⇑P		**P**	**07 43 53.7**	**+0.8**
	baz=38							
LPAZ	**La Paz**	**39.12**	**142**	P		**P**	**07 44 03.6**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=334,slow=9.1,SNR=6.4							
LPAZ				ScP		**ScP**	**07 49 38.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=102,slow=1.9,SNR=4.1							
LPAZ	**La Paz**	**39.12**	**142**	*e*P		**P**	**07 44 03.6**	**+0.4**
	comp=Z,6.2nm,0.8s							
SIV	**San Ignacio**	**43.44**	**134**	P		**P**	**07 44 36.8**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=314,slow=9.4,SNR=9.2							
SIV				PcP		**PcP**	**07 46 22.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=313,slow=5.8,SNR=3.6							
SCHQ	**Schefferville**	**43.98**	**21**	P		**P**	**07 44 40.6**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=234,slow=8.4,SNR=8.1							
SCHQ	**Schefferville**	**43.98**	**21**	*e*P		**P**	**07 44 40.2**	**-1.3**
	comp=Z,9.5nm,1.4s							
YKA	**Yellowknife Ar**	**49.84**	**346**	P		**P**	**07 45 26.4**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=148,slow=7.5,SNR=43							
YKA				pP		**pP**	**07 46 09.7**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=146,slow=7.5,SNR=8.2							
YKA				ScP		**ScP**	**07 50 19.7**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=143,slow=4.3,SNR=3.8							
CFAA	**Coronel Fontan**	**51.81**	**154**	P		**P**	**07 45 43.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=326,slow=11,SNR=3.2							
BDFB	**Brasilia**	**53.06**	**123**	P		**P**	**07 45 49.5**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=291,slow=11,SNR=5.9							
ILAR	**Eielson Array**	**61.75**	**336**	P		**P**	**07 46 50.7**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=105,slow=5.6,SNR=7.3							
ILAR				pP		**pP**	**07 47 38.6**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=136,slow=5.1,SNR=3.8							
WMQ	**Urumqi**	**121.20**	**0**	*e*PKP		**PKPdf**	**07 55 24.8**	**+1.2**
KSH	**Kashi**	**124.32**	**11**	*e*PKP		**PKPdf**	**07 55 27.0**	**-2.8**
KSH				sPKP			07 56 48.0	
KSH				PP		**PP**	**07 57 19.5**	**+3.0**
KSH				PKS		**PKSdf**	**07 59 02.5**	**-4.1**
KSH				AMB	AMB			
	comp=Z,110nm,5.0s							
KSH				LR	LR			
	comp=N,45nm,5.6s							
KSH				LR	LR			
	comp=E,50nm,3.9s							
KSH				LR	LR			
	comp=Z,150nm,5.8s							
NJ2	**Nanjing**	**124.52**	**328**	*e*PKP		**PKPdf**	**07 55 31.0**	**+0.8**
CD2	**Chengdu**	**131.70**	**342**	PKP		**PKPdf**	**07 55 44.0**	**0.0**
GYA	**Guiyang**	**134.79**	**336**	*e*Pdif		**Pdif**	**07 52 49.8**	**-2.2**
GYA				PKP		**PKPdf**	**07 55 50.0**	**-0.1**
GYA				sPKP			07 57 01.3	
GYA				PP		**PP**	**07 58 28.5**	**+3.8**
GYA				AMB	AMB			
	comp=Z,70nm,7.6s							
WRA	**Warramunga Arr**	**135.86**	**257**	PKP		**PKPdf**	**07 55 52.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=87,slow=2.6,SNR=3.2							
ASAR	**Alice Springs**	**136.24**	**252**	PKP		**PKPdf**	**07 55 53.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=106,slow=1.8,SNR=5.8							
FITZ	**Fitzroy Crossi**	**144.04**	**260**	PKP		**PKPdf**	**07 56 06.4**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=164,slow=7.3,SNR=8.9							
FITZ	**Fitzroy Crossi**	**144.04**	**260**	*e*PKPdf		PKPbc	07 56 06.3	+1.0

*GUC **28** 07:40:53.9±0.7, 21°.17S×68°.83W, h123km±5km, ML3.6*
*IDC **28** 07:41:10.0±2.0, 19°.82S×67°.81W, h210km±17km, mb3.3/2, mb1 3.3/5, mb1mx3.1/20, mbtmp3.2/5, Error ellipse: s-maj=27.4km s-min=25.1km az=39.0*

ISC 28 07:40:54.1±0.9, 21°.18S±0°.05×68°.8W±0°.1, h120km±10km, n16, σ1§09/19, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.70**	**281**	⇑*i*P	**Pn**	**07 41 13.8**	**+0.2**
PB01				*i* S	**Sn**	**07 41 27.9**	**-0.4**
PB01				AML	AML	07 41 30.9	
	comp=E,1μm,0.1s						
PB09	**Plate Boundary**	**0.77**	**217**	⇑*i*P	**Pn**	**07 41 14.6**	**+0.4**
PB09				*e*S	**Sn**	**07 41 29.9**	**+0.6**
PB09				AML	AML	07 41 32.0	
	comp=E,8μm,0.4s						
PB04	**Plate Boundary**	**1.28**	**212**	⇓*i*P	Pn	07 41 24.6	+5.5
PB04				*i* S	Sn	07 41 48.4	+10
PB04				AML	AML	07 41 58.3	
	comp=E,626nm,0.2s						
HMBC	**Humberstone**	**1.40**	**310**	*e*P	**Pn**	**07 41 20.3**	**-0.2**
HMBC				*i* S	**Sn**	**07 41 40.5**	**0.0**
HMBC				AML	AML	07 41 41.9	
	comp=E,788nm,0.2s						
PB06	**Plate Boundary**	**1.70**	**207**	⇑*i*P	**Pn**	**07 41 24.4**	**+0.3**
PB06				*i* S	**Sn**	**07 41 47.7**	**+0.8**
PB06				AML	AML	07 41 50.8	
	comp=N,571nm,0.2s						
PSGC	**Pisagua**	**2.04**	**320**	*e*P	**Pn**	**07 41 27.6**	**-0.6**
PSGC				*i* S	**Sn**	**07 41 54.0**	**-0.2**
PSGC				AML	AML	07 42 01.0	
	comp=N,283nm,0.4s						
MNMC	**Minimini**	**2.19**	**339**	⇑*i*P	**Pn**	**07 41 30.5**	**+0.2**
MNMC				*i* S	**Sn**	**07 41 58.9**	**+1.0**
MNMC				AML	AML	07 42 06.3	
	comp=E,663nm,0.3s						
CEN1	**Los Morros**	**2.58**	**211**	*e*P	Pn	07 41 38.6	+3.6
CEN1				AML	AML	07 42 22.5	
	comp=E,167nm,0.7s						
ANCH	**Antofagasta**	**2.93**	**211**	⇓*i*P	**Pn**	**07 41 40.4**	**+0.9**
LPAZ	**La Paz**	**4.90**	**7**	P	**Pn**	**07 42 07.2**	**+0.8**
	comp=E,2.5nm,0.3s,baz=192,slow=6.7,SNR=64						
LPAZ				S	**Sn**	**07 43 04.7**	**+2.2**
	comp=E,0.2nm,0.3s,baz=66,slow=18,SNR=1.9						
SIV	**San Ignacio**	**8.92**	**56**	P	Pn	07 42 55.7	-4.5
	comp=E,3.5nm,0.3s,baz=256,slow=12,SNR=82						
SIV				S	Sn	07 44 29.1	-10
	baz=342,slow=20,SNR=2.1						
CFAA	**Coronel Fontan**	**10.39**	**178**	P	sPn	07 43 51.4	+2.5
	comp=E,0.0nm,0.3s,baz=348,slow=15,SNR=4.1						
BDFB	**Brasilia**	**20.42**	**78**	P	**P**	**07 45 19.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=228,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**07 52 33.6**	**-1.3**
	comp=E,0.7nm,0.6s,baz=260,slow=5.4,SNR=8.7						
YKA	**Yellowknife Ar**	**90.94**	**341**	P	**P**	**07 53 45.0**	**+1.0**
	comp=E,0.2nm,0.4s,baz=133,slow=4.5,SNR=12						
MKAR	**Makanchi Array**	**145.29**	**36**	PKP	**PKPab**	**08 00 18.7**	**+0.7**
	comp=E,0.9nm,0.7s,baz=321,slow=3.3,SNR=11						

IDC 28 07:53:04.1±4.1, 1°.82S×139°.72E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=158.6km s-min=28.3km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.77**	**196**	P	P	07 57 25.1	+0.1
	0.3nm,0.3s,baz=18,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.44**	**194**	P	P	07 58 04.4	-0.5
	1.0nm,0.7s,baz=21,slow=10,SNR=15						
MKAR	**Makanchi Array**	**69.71**	**322**	P	P	08 04 16.1	+0.2
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.2						

DJA 28 07:53:43.8±0.5, 1°S±4°×12°2E±°, h12km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.83**	**116**	P	Pg	07 53 58.2	-1.6
LUWI				S	Sb	07 54 11.4	+0.1
MRSI	**Marisa**	**1.14**	**356**	P	Pb	07 54 03.9	-1.6
TTSI	**Tana Toraja**	**3.23**	**223**	P	Pn	07 54 35.1	+0.7
SPSI	**Sidrap Palu**	**3.98**	**215**	P	Pn	07 54 45.0	+0.4
KAPI	**Kappang**	**4.88**	**208**	P	Pn	07 54 55.2	-1.9
BKSI	**Bulukumba**	**5.00**	**202**	P	Pn	07 54 58.7	0.0

*KRSC **28** 08:16:23.6±3.1, 52°.67N×153°.62E, h543km±82km, ML4.4*
*MOS **28** 08:16:28.4±0.7, 52°.88N×153°.74E, h497km, mb3.8/1, Error ellipse: s-maj=55.6km s-min=23.3km az=48.9*
*ISCJB **28** 08:16:29.7±0.7, 53°.2N±0°.1×153°.7E±0°.1, h487km, mb3.0/5, Error ellipse: s-maj=18.3km s-min=10.9km az=171.0*
*IDC **28** 08:16:29.3±1.4, 52°.80N×153°.73E, h504km±20km, mb2.6/5, mb1 2.8/7, mb1mx2.6/27, mbtmp2.6/7, Error ellipse: s-maj=44.9km s-min=16.9km az=143.0*

ISC 28 08:16:29.6±1.1, 53°.0N±0°.1×153°.8E±0°.1, h487km, n28, σ1§60/31, mb2.9/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.92**	**111**	*e*P	**P**	**08 17 34.1**	**+1.1**
APC	**Apacha**	**2.01**	**91**	P	**P**	**08 17 34.7**	**+1.3**
PETK	**Petropavlovsk-**	**2.33**	**86**	P	**P**	**08 17 36.6**	**+1.4**
	0.7nm,0.3s,baz=47,slow=1.1,SNR=10						
PETK	**Petropavlovsk-**	**2.33**	**86**	PN	**P**	**08 17 36.6**	**+1.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAK	**Asacha**	**2.55**	**102**	*e*P	**P**	**08 17 38.0**	**+1.4**
GNL	**Ganaly**	**2.56**	**72**	*e*P	**P**	**08 17 38.5**	**+1.8**
RUS	**Russkaya**	**2.90**	**99**	PN	**P**	**08 17 39.9**	**+1.2**
RUS				S	**S**	**08 18 35.6**	**+0.5**
RUS	**Russkaya**	**2.90**	**99**	P	**P**	**08 17 39.9**	**+1.2**
RUS				S	**S**	**08 18 35.6**	**+0.5**
KOK	**Koryaka**	**2.91**	**82**	P	**P**	**08 17 40.9**	**+2.0**
AVH	**Avacha**	**2.97**	**83**	P	**P**	**08 17 40.7**	**+1.4**
KRER	**Koryakskii**	**2.98**	**82**	P	**P**	**08 17 41.4**	**+1.9**
UGLR	**Uglovaya**	**3.02**	**84**	*e*P	**P**	**08 17 41.7**	**+2.1**
SDLR	**Sedlovina**	**3.06**	**83**	*e*P	**P**	**08 17 41.7**	**+1.8**
SPN	**Mys Shipunski**	**3.74**	**86**	S	**S**	**08 18 45.7**	**-0.6**
TUMR	**Tumrok**	**4.37**	**56**	P	**P**	**08 17 52.6**	**+2.5**
KMNR	**Kamenistaya**	**4.66**	**51**	P	**P**	**08 17 55.6**	**+2.9**
SRDR	**Sredinnyy**	**4.77**	**43**	P	**P**	**08 17 56.8**	**+3.2**
MKZ	**Mys Kozlova**	**4.94**	**68**	PN	**P**	**08 17 55.9**	**+0.8**
MKZ				S	**S**	**08 19 03.1**	**-1.9**
MKZ	**Mys Kozlova**	**4.94**	**68**	P	**P**	**08 17 55.9**	**+0.8**
MKZ				*e*S	**S**	**08 19 03.1**	**-1.9**
KBTR	**Krutoberegovo**	**6.14**	**55**	PN	**P**	**08 18 06.7**	**+0.3**
KBTR	**Krutoberegovo**	**6.14**	**55**	P	**P**	**08 18 06.7**	**+0.3**
BKI	**Bering**	**7.47**	**68**	S	**S**	**08 19 50.4**	**-0.2**
MJAR	**Matsushiro Arr**	**19.76**	**220**	P	P	08 20 23.4	-3.3
	comp=Z,0.2nm,0.3s,baz=12,slow=9.9,SNR=4.5						
SONM	**Songino Array**	**30.22**	**280**	P	**P**	**08 21 58.8**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=95,slow=11,SNR=3.2						
ILAR	**Eielson Array**	**31.56**	**45**	P	**P**	**08 22 11.1**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=260,slow=5.4,SNR=6.3						
YKA	**Yellowknife Ar**	**45.74**	**40**	P	**P**	**08 24 06.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=303,slow=7.1,SNR=8.4						
SCHQ	**Schefferville**	**67.39**	**24**	P	**P**	**08 26 33.3**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=329,slow=5.9,SNR=3.1						
TXAR	**Lajitas Array**	**74.10**	**62**	P	**P**	**08 27 15.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=297,slow=6.0,SNR=3.2						

*IDC **28** 08:42:04.0±0.7, 55°.48S×26°.79W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.5/1, MS3.9/1, Ms1 3.7/1, ms1mx3.0/18, Error ellipse: s-maj=28.7km s-min=18.5km az=81.0*
*ISCJB **28** 08:42:06.2±0.7, 55°.4S±0°.1×26°.8W±0°.3, h25km, mb4.1/7, MS3.9/1, Error ellipse: s-maj=26.5km s-min=11.9km az=158.9*
*NEIC **28** 08:42:09.5±0.6, 55°.45S×26°.84W, h35km, mb4.4/3, Error ellipse: s-maj=24.0km s-min=13.8km az=72.0*

ISC 28 08:42:07.9±0.7, 55°.5S±0°.1×26°.8W±0°.2, h25km, n26, σ0§88/25, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.46**	**161**	*e*Pn	**Pn**	**08 46 09.7**	**+0.4**
VNA2	**Neumayer--Watz**	**17.64**	**159**	*e*Pn	**P**	**08 46 13.4**	**+1.1**
	baz=322,slow=14						
SNAA	**Sanae**	**19.18**	**157**	*e*Pn	**P**	**08 46 29.0**	**-0.3**
SNAA	**Sanae**	**19.18**	**157**	P	**Pn**	**08 46 30.6**	**+0.3**
	0.1nm,0.3s,baz=305,slow=12,SNR=17						
SNAA	**Sanae**	**19.18**	**157**	*e*P	**Pn**	**08 46 30.9**	**+0.6**
	9.9nm,1.2s						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**08 48 55.0**	**-1.0**
	2.9nm,0.8s,baz=236,slow=6.2,SNR=14						
QSPA	**South Pole Qui**	**34.77**	**180**	*e*P	**P**	**08 48 56.2**	**+0.2**
	9.1nm,1.1s						
CFAA	**Coronel Fontan**	**37.54**	**292**	P	**P**	**08 49 19.2**	**-0.6**
	0.3nm,0.6s,baz=138,slow=8.7,SNR=7.2						
CFAA	**Coronel Fontan**	**37.54**	**292**	P	**P**	**08 49 19.2**	**-0.6**
BOSA	**Boshof**	**45.62**	**76**	LR	LR	09 04 58.6	
	comp=Z,114nm,18.4s,baz=174,slow=30						
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**08 50 36.5**	**-0.9**
	1.6nm,0.6s,baz=182,slow=5.8,SNR=14						
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**08 50 36.5**	**-0.9**
LPAZ	**La Paz**	**50.23**	**304**	P	**P**	**08 51 03.2**	**+0.8**
	1.7nm,0.6s,baz=196,slow=7.3,SNR=7.3						
LPAZ	**La Paz**	**50.23**	**304**	*e*P	**P**	**08 51 03.9**	**+1.4**
	4.0nm,0.9s						
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**08 52 41.8**	**-0.9**
	1.9nm,0.7s,baz=202,slow=5.4,SNR=2.7						
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**08 52 41.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**72.45**	**29**	P	**P**	**08 53 32.4**	**+0.4**
	2.3nm,0.7s,baz=198,slow=6.5,SNR=15						
TORD	**Torodi Ar. Bea**	**72.45**	**29**	P	**P**	**08 53 32.4**	**+0.4**
ASAR	**Alice Springs**	**99.47**	**162**	P	**Pdif**	**08 55 50.2**	**+1.7**
	0.5nm,1.0s,baz=182,slow=4.9,SNR=4.5						
ASAR	**Alice Springs**	**99.47**	**162**	P	**Pdif**	**08 55 50.2**	**+1.7**
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	**PKPdf**	**09 01 24.4**	**-0.4**
	0.2nm,0.7s,baz=126,slow=2.0,SNR=5.5						
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	**PKPdf**	**09 01 24.4**	**-0.4**
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	**PKPbc**	**09 01 54.9**	**+0.6**
	2.3nm,0.9s,baz=121,slow=2.1,SNR=15						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	**PKPbc**	**09 01 54.9**	**+0.6**
SONM	**Songino Array**	**150.47**	**85**	PKPbc	**PKPbc**	**09 01 56.3**	**-0.1**
	1.1nm,0.5s,baz=238,slow=4.9,SNR=3.2						
SONM	**Songino Array**	**150.47**	**85**	PKPbc	**PKPbc**	**09 01 56.3**	**-0.1**

KRSC 28 08:47:12.1±0.8, 55°.21N×163°.31E, h11km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.04**	**345**	*e*P	Pb	08 47 31.5	-0.6
KBTR				*e*S	Sg	08 47 45.5	-0.1
MKZ	**Mys Kozlova**	**1.12**	**235**	*e*P	Pb	08 47 33.3	-0.2
MKZ				*e*S	Sb	08 47 48.1	0.0
BKI	**Bering**	**1.53**	**89**	*e*P	Pn	08 47 38.3	-0.9
BKI				*e*S	Sn	08 47 57.6	-1.4
ZLN	**Zelenaya**	**1.64**	**301**	P	Pb	08 47 41.9	-0.5
ZLN				*e*S	Sb	08 48 03.7	+0.6
BZGR	**Bezymyannyi-Gr**	**1.66**	**297**	P	Pn	08 47 41.6	+0.4
BZGR				*e*S	Sb	08 48 03.4	-0.3
SMKR	**Semkarok**	**1.72**	**324**	P	Pn	08 47 42.4	+0.3
LGNR	**Loginova**	**1.72**	**302**	P	Pn	08 47 43.2	+0.8
BZMR	**Bezymyannaya**	**1.76**	**296**	P	Pn	08 47 43.6	+0.9
BZMR				S	Sb	08 48 06.5	-0.3
BZWR	**Bezymyannyi-We**	**1.77**	**296**	P	Pn	08 47 43.6	+0.8
BZWR				S	Sb	08 48 06.6	-0.5
TUMR	**Tumrok**	**1.81**	**274**	*e*P	Pn	08 47 43.9	+0.5
TUMR				*e*S	Sn	08 48 07.2	+0.7
KMNR	**Kamenistaya**	**1.83**	**289**	*e*P	Pn	08 47 44.7	+1.0
KMNR				*e*S	Sb	08 48 08.3	-0.5
KRSR	**Krestovskiy**	**1.85**	**304**	P	Pn	08 47 43.9	0.0
KRSR				S	Sn	08 48 07.0	-0.4
KLY	**Klyuchi**	**1.86**	**307**	*i* P	Pn	08 47 43.1	-0.8
KLY				*e*S	Sn	08 48 05.9	-1.5
KPT	**Kopyto**	**1.91**	**295**	P	Pn	08 47 45.6	+0.9
KPT				S	Sn	08 48 09.9	+1.1
KOZ	**Kozyrevsk**	**2.13**	**295**	*e*P	Pb	08 47 49.3	-1.4
KOZ				*e*S	Sb	08 48 16.6	-0.5
SRDR	**Sredinnyy**	**2.31**	**300**	*e*P	Pn	08 47 51.7	+1.5
SRDR				*e*S	Sn	08 48 20.3	+1.6
ESO	**Esso**	**2.71**	**287**	P	Pn	08 47 57.2	+1.5
SPN	**Mys Shipunski**	**2.87**	**224**	S	Sn	08 48 29.6	-2.5
SDLR	**Sedlovina**	**3.24**	**235**	*e*P	Pn	08 48 04.4	+1.4
KRER	**Koryakskii**	**3.29**	**236**	P	Pn	08 48 05.1	+1.3
UGLR	**Uglovaya**	**3.31**	**235**	P	Pn	08 48 05.2	+1.2
AVH	**Avacha**	**3.32**	**236**	*e*P	Pn	08 48 05.8	+1.8
KOK	**Koryaka**	**3.35**	**237**	P	Pn	08 48 05.3	+0.8
GNL	**Ganaly**	**3.48**	**246**	P	Pn	08 48 07.8	+1.5
PET	**Petropavlovsk**	**3.51**	**233**	S	Sn	08 48 47.1	-0.8
MTVR	**Mutnovka**	**4.08**	**230**	P	Pn	08 48 17.3	+2.7
ASAK	**Asacha**	**4.28**	**231**	P	Pn	08 48 19.7	+2.5

KRSC 28 08:54:20.3±1.5, 49°.99N×159°.11E, h30km±30km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.48**	**352**	*e*P	Pn	08 55 00.1	+1.6
RUS				*e*S	Sn	08 55 29.1	+1.4
ASAK	**Asacha**	**2.51**	**343**	*e*P	Pn	08 55 01.1	+1.9
ASAK				S	Sn	08 55 30.9	+2.0
MTVR	**Mutnovka**	**2.56**	**347**	*e*P	Pn	08 55 01.3	+1.3
MTVR				*e*S	Sn	08 55 31.1	+0.8
GRL	**Gorelyy**	**2.65**	**346**	P	Pn	08 55 03.7	+2.6
GRL				S	Sn	08 55 35.3	+3.0
MIPR	**Malaya Ipel'ka**	**2.73**	**328**	*e*P	Pn	08 55 03.9	+1.9
MIPR				S	Sn	08 55 35.4	+1.4
PET	**Petropavlovsk**	**3.05**	**355**	S	Sn	08 55 44.6	+2.7
SPN	**Mys Shipunski**	**3.16**	**10**	S	Sn	08 55 46.7	+2.0
APC	**Apacha**	**3.18**	**338**	P	Pn	08 55 11.1	+2.9
UGLR	**Uglovaya**	**3.23**	**357**	P	Pn	08 55 12.9	+3.8
SMAR	**Somma**	**3.28**	**357**	P	Pn	08 55 13.3	+3.3
AVH	**Avacha**	**3.29**	**356**	P	Pn	08 55 13.4	+3.6
SDLR	**Sedlovina**	**3.30**	**358**	P	Pn	08 55 12.7	+2.7
SDLR				S	Sn	08 55 51.0	+2.7
KOK	**Koryaka**	**3.32**	**355**	P	Pn	08 55 13.6	+3.3
KRER	**Koryakskii**	**3.33**	**356**	P	Pn	08 55 13.4	+2.9
GNL	**Ganaly**	**3.78**	**349**	*e*P	Pn	08 55 19.5	+2.9
MKZ	**Mys Kozlova**	**4.85**	**18**	P	Pn	08 55 32.4	+1.3
KBTR	**Krutoberegovo**	**6.62**	**18**	P	Pn	08 55 57.9	+2.5

*ROM **28** 09:04:03.6±0.2, 42°.19N×16°.68E, h10km, Ml3.9/57, Error ellipse: s-maj=2.6km s-min=1.9km az=53.0*
*IDC **28** 09:04:04.7±1.0, 42°.29N×16°.13E, h0km, mb3.4/7, mb1 3.6/13, mb1mx3.6/29, mbtmp3.4/13, ML3.6/6, MS2.8/2, Ms1 2.8/2, ms1mx2.1/34, Error ellipse: s-maj=19.5km s-min=14.4km az=73.0*
*BEO **28** 09:04:05.1±1.0, 42°.08N×16°.59E, h0km, ML3.6/8*
*PDG **28** 09:04:05.0±0.4, 42°.14N×16°.49E, h18km±1km, ML3.6/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*NEIC **28** 09:04:05.2±0.3, 42°.15N×16°.57E, h10km, ML4.0(ZAG), ML3.9(ROM), ML3.8(PDG), Error ellipse: s-maj=3.5km s-min=3.3km az=136.0*
NEIC Felt [III] at Vieste and [II] at Manfredonia, Italy.
*VIE **28** 09:04:05.8±0.5, 42°.23N×16°.53E, h10km, mb3.6/16, ML3.5/6, Ms4.0/10, Error ellipse: s-maj=5.5km s-min=3.5km az=81.0 126 km NNW of Bari*
*CSEM **28** 09:04:05.2±0.1, 42°.14N×16°.50E, h10km, ML4.0, Ms4.0, Error ellipse: s-maj=1.8km s-min=1.5km az=30.0*
*LDG **28** 09:04:06.2, 42°.21N×16°.63E, h30km*
*PRU **28** 09:04:07.3, 42°.28N×16°.58E, h6km*
*SOF **28** 09:04:09.7, 42°.08N×16°.72E, h38km, MD2.8*
*THE **28** 09:04:10.1, 41°.93N×16°.71E, h31km±65km, ML3.9/8, Error ellipse: s-maj=65.5km s-min=2.3km az=0.0*
*STR **28** 09:04:17.6±0.7, 42°.63N×15°.55E, h5km, Ml4.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 28 09:04:04.7±1.0, 42°.16N±0°.02×16°.61E±0°.02, h15km±7km, n553, σ1§46/655, mb3.4/6, 34C-35D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MS1	**Monte Sant'Ang**	**0.67**	**228**	*e*Pg	**Pb**	**09 04 18.5**	**+0.4**
MS1				*e*Sg	**Sb**	**09 04 28.4**	**+1.1**
MSAG	**Monte S. Angel**	**0.69**	**230**	Pg	**Pb**	**09 04 18.9**	**+0.6**
MSAG				Sg	**Sb**	**09 04 29.0**	**+1.3**
	9μm,0.2s						
MSAG	**Monte S. Angel**	**0.69**	**230**	P	**Pb**	**09 04 19.0**	**+0.6**
MSAG				S	**Sb**	**09 04 28.8**	**+1.1**
MSAG	**Monte S. Angel**	**0.69**	**230**	P	**Pb**	**09 04 19.0**	**+0.6**
MSAG				S	**Sb**	**09 04 28.8**	**+1.1**
SGRT	**San Giovanni R**	**0.76**	**239**	Pg	**Pb**	**09 04 19.9**	**+0.3**
SGRT				Sg	**Sb**	**09 04 30.7**	**+0.9**
	5μm,0.3s						
SGRT	**

MIGL	Miglionico	1.56	185		Pn		Pn	09 04 32.0	+0.2
	5µm,0.7s								
TRIV	Trivento	1.59	257		Pn		Pn	09 04 33.2	+1.0
	1µm,0.7s								
TRIV	Trivento	1.59	257		Pn		Pn	09 04 33.2	+1.0
	1µm,0.7s								
MRB1	Monte Rocchett	1.60	231		Pn		Pb	09 04 34.1	+0.1
	2µm,0.6s								
MRB1	Monte Rocchett	1.60	231		Pn		Pb	09 04 34.1	+0.1
	2µm,0.6s								
BRY	Bratogost	1.61	62	*e*	Pn		Pg	09 04 34.5	-1.1
BRY				*e*	Sn		Sg	09 04 58.3	+1.8
BRY	Bratogost	1.61	62		P		Pg	09 04 34.4	-1.2
BRY					S		Sg	09 04 58.5	+2.0
BRY	Bratogost	1.61	62	*e*	Pn		Pg	09 04 34.5	-1.1
BRY				*e*	Sn		Sg	09 04 58.3	+1.8
SACR	S. Croce Del S	1.61	243		Pn		Pb	09 04 34.4	+0.2
SACR	S. Croce Del S	1.61	243		Pn		Pb	09 04 34.4	+0.2
SNAL	S. Angelo Dei	1.62	221		Pn		Pn	09 04 33.0	+0.3
	1µm,0.6s								
SNAL	S. Angelo Dei	1.62	221		Pn		Pn	09 04 33.0	+0.3
	1µm,0.6s								
IPES	Pescosannita	1.62	236		Pn		Pn	09 04 33.7	+1.0
BSSO	Busso	1.63	249		Pn		Pn	09 04 33.8	+1.0
	722nm,0.5s								
BSSO	Busso	1.63	249		Pn		Pn	09 04 33.8	+1.0
	722nm,0.5s								
MRLC	Muro Lucano	1.63	212		Pn		Pn	09 04 32.6	-0.3
	1µm,0.5s								
MRLC	Muro Lucano	1.63	212		Pn		Pn	09 04 32.6	-0.3
	1µm,0.5s								
PSB1	Pescosannita	1.64	236		Pn		Pb	09 04 34.7	+0.1
	701nm,0.5s								
PSB1	Pescosannita	1.64	236		Pn		Pb	09 04 34.7	+0.1
	701nm,0.5s								
CAFR	Castel Frentan	1.69	273		Pn		Pn	09 04 34.2	+0.7
	8µm,1.1s								
CAFR	Castel Frentan	1.69	273		Pn		Pn	09 04 34.2	+0.7
	8µm,1.1s								
BUM	Brajici-Budva	1.70	84	*e*	Pn		Pb	09 04 35.9	+0.3
BUM				*e*	Sn		Sg	09 05 00.8	+1.4
BUM	Brajici-Budva	1.70	84	*e*	Pn		Pb	09 04 35.9	+0.3
BUM				*e*	Sn		Sg	09 05 00.8	+1.4
PTRJ	Pietraroja	1.75	244		Pn		Pn	09 04 35.3	+0.8
	1µm,0.5s								
PTRJ	Pietraroja	1.75	244		Pn		Pn	09 04 35.3	+0.8
	1µm,0.5s								
MCRV	Calabrutti - M	1.75	219		Pn		Pn	09 04 34.4	-0.1
	958nm,0.3s								
MCRV	Calabrutti - M	1.75	219		Pn		Pn	09 04 34.4	-0.1
	958nm,0.3s								
CSSN	Cassano Irpino	1.76	223		Pn		Pn	09 04 34.6	0.0
	432nm,0.5s								
CSSN	Cassano Irpino	1.76	223		Pn		Pn	09 04 34.6	0.0
	432nm,0.5s								
CRAC	Craco	1.79	184		Pn		Pn	09 04 35.3	+0.2
	2µm,0.3s								
CRAC	Craco	1.79	184		Pn		Pn	09 04 35.3	+0.2
	2µm,0.3s								
LPEL	Lama dei Pelig	1.81	267		Pn		Pn	09 04 35.6	+0.3
	1µm,0.3s								
LPEL	Lama dei Pelig	1.81	267		Pn		Pn	09 04 35.6	+0.3
	1µm,0.3s								
MIDA	Miranda	1.83	255		Pn		Pn	09 04 36.3	+0.6
	600nm,0.4s								
MIDA	Miranda	1.83	255		Pn		Pn	09 04 36.3	+0.6
	600nm,0.4s								
KIJV	Kijevo	1.85	355	*e*	Pn		Pb	09 04 37.5	-0.8
KIJV				*e*	Sn		Sn	09 04 59.6	+0.5
KIJV	Kijevo	1.85	355	*e*	Pn		Pb	09 04 37.5	-0.8
KIJV				*e*	Sn		Sn	09 04 59.6	+0.5
SGO	Sicignano	1.87	212		Pn		Pb	09 04 38.1	-0.5
	141nm,0.3s								
SGO	Sicignano	1.87	212		Pn		Pb	09 04 38.1	-0.5
	141nm,0.3s								
NKY	Niksic	1.88	69⇑	*i*	Pn		Pb	09 04 38.8	0.0
NKY				*e*	Sn		Sg	09 05 05.1	-0.1
NKY	Niksic	1.88	69		P		Pb	09 04 38.7	0.0
NKY					S		Sg	09 05 04.8	-0.3
NKY	Niksic	1.88	69		P		Pb	09 04 38.7	0.0
NKY				*e*	Sn		Sg	09 05 05.1	-0.1
RNI2	Rionero Sannit	1.89	257		Pn		Pn	09 04 37.3	+0.8
	734nm,0.5s								
RNI2	Rionero Sannit	1.89	257		Pn		Pn	09 04 37.3	+0.8
	734nm,0.5s								
VAGA	Valle Agricola	1.93	248		Pn		Pn	09 04 37.8	+0.9
	617nm,0.3s								
VAGA	Valle Agricola	1.93	248		Pn		Pn	09 04 37.8	+0.9
	617nm,0.3s								
MCEL	Monticello	1.93	199		Pn		Pn	09 04 37.0	0.0
	597nm,0.5s								
MCEL	Monticello	1.93	199		Pn		Pn	09 04 37.0	0.0
	597nm,0.5s								
CDRU	Civita di Ruta	1.93	211		Pn		Pn	09 04 36.3	-0.8
	402nm,0.4s								
CDRU	Civita di Ruta	1.93	211		Pn		Pn	09 04 36.3	-0.8
	402nm,0.4s								
ULC	Ulcinj	1.97	95⇓	*i*	Pn		Pb	09 04 39.4	-0.8
ULC				*e*	Sn		Sg	09 05 07.0	-1.0
ULC	Ulcinj	1.97	95		P		Pb	09 04 39.4	-0.8
ULC					S		Sg	09 05 06.8	-1.2
ULC	Ulcinj	1.97	95⇓	*i*	Pn		Pb	09 04 39.4	-0.8
ULC				*e*	Sn		Sg	09 05 07.0	-1.0
PDG	Podgorica	1.98	81		Pn		Pn	09 04 38.7	+1.1
PDG	Podgorica	1.98	81	*e*	Pn		Pb	09 04 40.3	-0.1
PDG				*e*	Sn		Sg	09 05 06.4	-1.9
PDG	Podgorica	1.98	81⇓	*i*	Pn		Pb	09 04 39.9	-0.5
PDG				*e*	Sn		Sg	09 05 06.4	-1.9
TTG	Podgorica	1.98	81⇓	*i*	Pn		Pb	09 04 39.9	-0.5
TTG				*e*	Sn		Sg	09 05 07.9	-0.6
TTG	Podgorica	1.98	81		P		Pb	09 04 40.1	-0.3
TTG					S		Sg	09 05 07.8	-0.7
TTG	Podgorica	1.98	81		P		Pb	09 04 40.1	-0.3
UPM	Unac-Piva	1.99	57⇑	*i*	Pn		Pb	09 04 40.8	+0.2
UPM				*e*	Sn		Sg	09 05 07.5	-1.2
UPM	Unac-Piva	1.99	57⇑	*i*	Pn		Pb	09 04 40.8	+0.2
UPM				*e*	Sn		Sg	09 05 07.5	-1.2
SCHR	S. Chirico Rap	2.00	192		Pn		Pn	09 04 37.5	-0.4
	410nm,0.6s								
SCHR	S. Chirico Rap	2.00	192		Pn		Pn	09 04 37.5	-0.4
	410nm,0.6s								
CERA	Filignano	2.02	255		Pn		Pn	09 04 39.5	+1.3
	547nm,0.6s								
CERA	Filignano	2.02	255		Pn		Pn	09 04 39.5	+1.3
	547nm,0.6s								
INTR	Introdacqua	2.02	267		Pn		Pn	09 04 38.8	+0.6
	2µm,0.7s								
INTR	Introdacqua	2.02	267		Pn		Pn	09 04 38.8	+0.6
	2µm,0.7s								
SIRI	Monte Sirino -	2.05	196		Pn		Pn	09 04 39.0	+0.3
	414nm,0.3s								
SIRI	Monte Sirino -	2.05	196		Pn		Pn	09 04 39.0	+0.3
	414nm,0.3s								
VCEL	Villa Celiera	2.07	278		Pn		Pn	09 04 39.5	+0.5
	1µm,0.4s								
VCEL	Villa Celiera	2.07	278		Pn		Pn	09 04 39.5	+0.5
	1µm,0.4s								
CMPR	Campora	2.08	209		Pn		Pn	09 04 38.4	-0.7
CMPR	Campora	2.08	209		Pn		Pn	09 04 38.4	-0.7
ORI	Oriolo Calabro	2.09	183		Pn		Pn	09 04 40.3	+1.1
	1µm,0.4s								
ORI	Oriolo Calabro	2.09	183		Pn		Pn	09 04 40.3	+1.1
	1µm,0.4s								
SDI	San Donato	2.14	259		Pn		Pn	09 04 40.2	+0.4
	183nm,0.2s								
SDI	San Donato	2.14	259		Pn		Pn	09 04 40.2	+0.4
	183nm,0.2s								
RFI	Roccamonfina	2.14	247		Pn		Pn	09 04 41.8	+1.9
	101nm,1.2s								
RFI	Roccamonfina	2.14	247		Pn		Pn	09 04 41.8	+1.9
	101nm,1.2s								
MSC	Monte Massico	2.20	245		Pn		Pn	09 04 39.2	-1.4
MSC	Monte Massico	2.20	245		Pn		Pn	09 04 39.2	-1.4
POFI	Posta Fibreno	2.21	260		Pn		Pn	09 04 41.3	+0.5
POFI	Posta Fibreno	2.21	260		Pn		Pn	09 04 41.3	+0.5
CUC	Castrocucco	2.24	196		Pn		Pn	09 04 42.6	+1.3
	427nm,0.6s								
CUC	Castrocucco	2.24	196	*e*	Pn		Pn	09 04 41.8	+0.6
CUC				*e*	Sg		Sg	09 05 23.4	+6.7
CUC	Castrocucco	2.24	196	*e*	Pn		Pn	09 04 41.8	+0.6
VVLD	Villa Vallelon	2.25	264		Pn		Pn	09 04 41.8	+0.5
	862nm,0.4s								
VVLD	Villa Vallelon	2.25	264		Pn		Pn	09 04 41.8	+0.5
	862nm,0.4s								
FAGN	Fagnano	2.25	274		Pn		Pn	09 04 42.9	+1.5
	1µm,0.5s								
FAGN	Fagnano	2.25	274		Pn		Pn	09 04 42.9	+1.5
	1µm,0.5s								
BULG	Bulgheria - Ca	2.27	205		Pn		Pn	09 04 41.9	+0.2
	414nm,0.6s								
BULG	Bulgheria - Ca	2.27	205		Pn		Pn	09 04 41.9	+0.2
	414nm,0.6s								
TERO	Teramo	2.28	283		Pn		Pn	09 04 42.2	+0.5
	721nm,0.8s								
TERO	Teramo	2.28	283		Pn		Pn	09 04 42.2	+0.5
	721nm,0.8s								
MODR	Mondragone	2.28	245		Pn		Pn	09 04 42.1	+0.3
MODR	Mondragone	2.28	245		Pn		Pn	09 04 42.1	+0.3
OFFI	Offida	2.30	291		Pn		Pn	09 04 43.5	+1.5
OFFI	Offida	2.30	291		Pn		Pn	09 04 43.5	+1.5
PLE	Pljevlja	2.36	59⇑	*i*	Pn		Pb	09 04 46.3	-0.6
PLE				*e*	Sn		Sb	09 05 16.9	+1.1
PLE	Pljevlja	2.36	59⇑	*i*	Pn		Pb	09 04 46.3	-0.6
PLE				*e*	Sn		Sb	09 05 16.9	+1.1
AQU	L'Aquila	2.39	276	*e*	Pn		Pn	09 04 44.1	+0.8
AQU	L'Aquila	2.39	276	*e*	Pn		Pn	09 04 44.1	+0.8
CAMP	Campotosto	2.41	280		Pn		Pn	09 04 44.0	+0.4
	24nm,0.6s								
CAMP	Campotosto	2.41	280		Pn		Pn	09 04 44.0	+0.4
	24nm,0.6s								
GUAR	Guarcino	2.49	263		Pn		Pn	09 04 45.5	+0.9
	221nm,0.6s								
GUAR	Guarcino	2.49	263		Pn		Pn	09 04 45.5	+0.9
	221nm,0.6s								
SCTE	Santa Cesarea	2.51	145		Pn		Pn	09 04 45.8	+0.9
SCTE	Santa Cesarea	2.51	145		Pn		Pn	09 04 45.8	+0.9
PVY	Plav	2.52	79⇑	*i*	Pn		Pb	09 04 48.5	-1.1
PVY				*e*	Sn		Sb	09 05 20.8	+0.4
PVY	Plav	2.52	79⇑	*i*	Pn		Pb	09 04 48.5	-1.1
PVY				*e*	Sn		Sb	09 05 20.8	+0.4
BEY	Berane	2.53	72⇑	*i*	Pn		Pb	09 04 49.0	-0.8
BEY				*e*	Sn		Sb	09 05 20.6	-0.1
IVA	Berane	2.53	72⇑	*i*	Pn		Pb	09 04 49.0	-0.8
IVA				*e*	Sn		Sb	09 05 20.6	-0.2
TIR	Tirane	2.56	107		Pn		Pn	09 04 47.9	+2.3
TIR	Tirane	2.56	107	*e*	Pn		Pn	09 04 47.6	+2.0
TIR	Tirane	2.56	107	*e*	PN		Pn	09 04 48.0	+2.3
TIR	Tirane	2.56	107	*e*	Pn		Pn	09 04 47.9	+2.3
TIR	Tirane	2.56	107	*e*	Pn		Pn	09 04 47.7	+2.0
GIUL	Giuliano Di Ro	2.58	258		Pn		Pn	09 04 46.1	+0.2
GIUL	Giuliano Di Ro	2.58	258		Pn		Pn	09 04 46.1	+0.2
AOI	Ancona	2.62	303		Pn		Pn	09 04 46.6	+0.2
	439nm,1.0s								
AOI	Ancona	2.62	303		Pn		Pn	09 04 46.6	+0.2
	439nm,1.0s								
BLY	Banja Luka	2.62	9	*e*	Pn		Pb	09 04 49.1	-2.3
BLY				*e*	Sn		Sb	09 05 24.9	+1.5
BLY	Banja Luka	2.62	9	*e*	Pn		Pb	09 04 49.1	-2.3
BBLS	Lazići	2.67	49	*e*	Pn		Pb	09 04 50.4	-1.7
BBLS	Lazići	2.67	49	*e*	Pn		Pb	09 04 50.4	-1.7
NRCA	Norcia	2.67	286		Pn		Pn	09 04 48.0	+0.8
	305nm,0.1s								
NRCA	Norcia	2.67	286		Pn		Pn	09 04 48.0	+0.8
	305nm,0.1s								
SJES	Sjenica	2.71	65	*e*	Pn		Pn	09 04 50.1	+2.3
NVLJ	Novalja	2.72	333	*e*	Pn		Pn	09 04 49.2	+1.5
NVLJ					Sn		Sn	09 05 21.5	+1.1
NVLJ	Novalja	2.72	333	*e*	Pn		Pn	09 04 49.3	+1.5
NVLJ					Sn		Sn	09 05 20.6	+0.2
NVLJ	Novalja	2.72	333	*e*	Pn		Pn	09 04 49.3	+1.5
NVLJ					Sn		Sn	09 05 20.6	+0.2
FDMO	Fiordimonte	2.75	290		Pn		Pn	09 04 48.7	+0.5
	261nm,0.6s								
FDMO	Fiordimonte	2.75	290		Pn		Pn	09 04 48.7	+0.5
	261nm,0.6s								
CING	Cingoli	2.80	297		Pn		Pn	09 04 49.1	+0.2
	285nm,0.7s								
CING	Cingoli	2.80	297		Pn		Pn	09 04 49.1	+0.2
	285nm,0.7s								
PHP	Peshkopia	2.90	98		P		Pb	09 04 53.4	-2.6
PHP	Peshkopia	2.90	98		P		Pb	09 04 53.4	-2.6
CARO	Carolei	2.91	186		Pn		Pn	09 04 51.2	+0.7
	276nm,0.5s								
CARO	Carolei	2.91	186		Pn		Pn	09 04 51.2	+0.7
	276nm,0.5s								
IVAS	Ivanjica	2.96	60	*e*	Pn		Pb	09 04 54.3	-2.9
IVAS				*e*	Sn		Sn	09 05 29.7	+3.2
IVAS	Ivanjica	2.96	60	*e*	Pn		Pb	09 04 54.3	-2.9
IVAS				*e*	Sn		Sn	09 05 29.7	+3.2
TIP	Timpagrande	2.98	178	*e*	Pn		Pn	09 04 51.4	0.0
TIP	Timpagrande	2.98	178	*e*	Pn		Pn	09 04 51.4	0.0
ARVD	Arcevia	3.02	298		Pn		Pn	09 04 52.0	+0.1
	137nm,0.9s								
ARVD	Arcevia	3.02	298		Pn		Pn	09 04 52.0	+0.1
	137nm,0.9s								
SERS	Sersale	3.12	179		Pn		Pn	09 04 54.2	+0.8
	285nm,1.3s								
SERS	Sersale	3.12	179		Pn		Pn	09 04 54.2	+0.8
	285nm,1.3s								
DIVS	Divibare	3.15	51	*e*	Pn		Pn	09 04 56.2	+2.5
DIVS	Divibare	3.15	51	*e*	Pn		Pn	09 04 56.2	+2.5
FSSB	Fossombrone	3.21	300		Pn		Pn	09 04 54.8	+0.3
	70nm,0.3s								
FSSB	Fossombrone	3.21	300		Pn		Pn	09 04 54.8	+0.3
	70nm,0.3s								
PIEI	Pieia	3.30	296		Pn		Pn	09 04 56.2	+0.4
	80nm,0.4s								
PIEI	Pieia	3.30	296		Pn		Pn	09 04 56.2	+0.4
	80nm,0.4s								
MGAB	Montegabbione	3.41	284		Pn		Pn	09 04 58.1	+0.8
MGAB	Montegabbione	3.41	284		Pn		Pn	09 04 58.1	+0.8
KEK	Kerkira	3.43	134		Pn		Pn	09 04 59.1	+1.5
	123nm,0.5s								
KEK	Kerkira	3.43	134		P		Pn	09 04 59.2	+1.6
KEK	Kerkira	3.43	134	*e*	PN		Pn	09 04 59.4	+1.8
KEK	Kerkira	3.43	134	*e*	P		Pn	09 04 59.0	+1.5
KEK	Kerkira	3.43	134		Pn		Pn	09 04 59.1	+1.5
	123nm,0.5s								
TRUS	Trudelj	3.46	52	*e*	Pn		Pn	09 05 00.8	+2.9
TRUS	Trudelj	3.46	52	*e*	Pn		Pn	09 05 00.8	+2.9
GRUS	Gruza	3.47	59	*e*	Pn		Pn	09 05 00.7	+2.6
GRUS	Gruza	3.47	59	*e*	Pn		Pn	09 05 00.7	+2.6
BADI	Badiali	3.49	294		Pn		Pn	09 04 59.9	+1.6
	123nm,0.6s								
BADI	Badiali	3.49	294		Pn		Pn	09 04 59.9	+1.6
	123nm,0.6s								
SELS	Selova	3.49	71	*e*	Pn		Pn	09 05 00.7	+2.3
SELS	Selova	3.49	71	*e*	Pn		Pn	09 05 00.7	+2.3
BOJS	Bojanci	3.49	344	*i*	Pn		Pn	09 05 00.1	+1.8
BOJS				*i*	Sn		Sn	09 05 41.4	+2.1
BOJS	Bojanci	3.49	344	*i*	Pn		Pn	09 05 00.2	+1.8
BOJS				*i*	Sn		Sn	09 05 41.4	+2.1
SKO	Skopje	3.60	91		P		Pn	09 05 03.6	+3.7
SKO	Skopje	3.60	91	*e*	P		Pn	09 05 03.8	+3.9
SKO	Skopje	3.60	91		P		Pn	09 05 03.6	+3.7
BIA	Bitola	3.71	106		P		Pn	09 05 03.6	+2.1
BIA	Bitola	3.71	106	*e*	P		Pn	09 05 04.0	+2.5
BIA	Bitola	3.71	106		P		Pn	09 05 03.6	+2.1
CRES	Cresnjev	3.76	348	*i*	Pn		Pn	09 05 03.7	+1.6
CRES	Cresnjev	3.76	348	*i*	Pn		Pn	09 05 03.7	+1.6
NEST	Nestorio	3.77	116		P		Pn	09 05 05.3	+3.0
NEST	Nestorio	3.77	116		P		Pn	09 05 05.3	+3.0
PTJ	Puntijarka	3.78	353⇑	*i*	Pn		Pn	09 05 02.8	+0.4
PTJ					Sn		Sn	09 05 46.5	-0.1
PTJ	Puntijarka	3.78	353⇑	*i*	Pn		Pn	09 05 02.8	+0.4
PTJ					Sn		Sn	09 05 46.5	-0.1
FGSL	Fruska Gora	3.79	37	*e*	Pn		Pn	09 05 06.1	+3.6
FRGS	Fruska Gora	3.79	37	*e*	Pn		Pn	09 05 06.1	+3.6
FNA	Florina	3.83	109		P		Pn	09 05 05.5	+2.4
FNA	Florina	3.83	109		P		Pn	09 05 05.5	+2.4
IGT	Igoumenitsa	3.85	132		P		Pn	09 05 05.3	+2.0
IGT					S		Sn	09 05 48.2	-0.1
IGT	Igoumenitsa	3.85	132		P		Pn	09 05 05.3	+2.0
IGT					S		Sn	09 05 48.2	-0.1
SKDS	Skadanscina	3.88	332	*i*	Pn		Pn	09 05 04.3	+0.6
SKDS				*e*	Sn		Sn	09 05 48.0	-0.9
SKDS	Skadanscina	3.88	332	*i*	Pn		Pn	09 05 04.3	+0.6
SKDS				*e*	Sn		Sn	09 05 48.0	-0.9
LEGS	Legarje	3.91	347	*i*	Pn		Pn	09 05 05.5	+1.4
LEGS	Legarje	3.91	347	*i*	Pn		Pn	09 05 05.5	+1.4
CEL	Celeste	3.93	188		Pn		Pn	09 05 03.6	-0.9
CEL	Celeste	3.93	188		Pn		Pn	09 05 03.6	-0.9
JAN	Janina	4.07	126		P		Pn	09 05 08.7	+2.4
JAN	Janina	4.07	126	*e*	PN		Pn	09 05 08.8	+2.4
JAN	Janina	4.07	126		P		Pn	09 05 08.7	+2.4
PDKS	Podkum	4.07	344	*i*	Pn		Pn	09 05 08.0	+1.6
PDKS	Podkum	4.07	344	*i*	Pn		Pn	09 05 08.0	+1.6
TRI	Trieste	4.11	331		Pn		Pn	09 05 07.3	+0.5
	118nm,0.6s								
TRI	Trieste	4.11	331	*e*	Pn		Pn	09 05 07.2	+0.5
TRI	Trieste	4.11	331		Pn		Pn	09 05 07.3	+0.5
	118nm,0.6s								
JAVS	Javornik	4.16	335	*i*	Pn		Pn	09 05 08.6	+0.9
JAVS	Javornik	4.16	335	*i*	Pn		Pn	09 05 08.6	+0.9
JAVS				*i*	Sn		Sn	09 05 58.1	+2.0
LJU	Ljubljana	4.17	340	*i*	Pn		Pn	09 05 09.0	+1.3
LJU				*i*	Sn		Sn	09 05 57.4	+1.3
LJU	Ljubljana	4.17	340	*i*	Pn		Pn	09 05 09.0	+1.3
LJU				*i*	Sn		Sn	09 05 57.4	+1.3
MEV	Metsovon	4.22	123		P		Pn	09 05 11.4	+2.8
MEV	Metsovon	4.22	123		P		Pn	09 05 11.4	+2.8
KOGS	Kog	4.30	357	*e*	Pn		Pn	09 05 10.6	+1.1
KOGS	Kog	4.30	357	*e*	Pn		Pn	09 05 10.6	+1.1
KZN	Kozani	4.31	114	*e*	PN		Pn	09 05 12.0	+2.3
PKSM	Moragy	4.31	19⇑	*i*	P		Pb	09 05 15.1	-5.0
PKSM	Moragy	4.31	19⇑	*i*	P		Pb	09 05 15.1	-5.0
VOY	Vojsko	4.34	334	*e*	Pn		Pn	09 05 10.8	+0.7
VOY				*e*	Sn		Sn	09 05 59.3	-1.2
VOY	Vojsko	4.34	334	*e*	Pn		Pn	09 05 10.8	+0.7
VOY				*e*	Sn		Sn	09 05 59.3	-1.2
GROS	Grobnik	4.38	350	*i*	Pn		Pn	09 05 11.4	+0.8
GROS	Grobnik	4.38	350	*i*	Pn		Pn	09 05 11.4	+0.8
GROS				*i*	Sn		Sn	09 06 01.0	-0.4
GRG	Griva	4.51	103		P		Pn	09 05 14.6	+2.2
GRG	Griva	4.51	103		P		Pn	09 05 14.6	+2.2
VAY	Valandovo	4.54	99		P		Pn	09 05 14.9	+2.2
VAY	Valandovo	4.54	99		P		Pn	09 05 14.7	+2.0
VAY	Valandovo	4.54	99	*e*	P		Pn	09 05 14.7	+2.0
VAY	Valandovo	4.54	99		P		Pn	09 05 14.7	+2.0
ZAPS	Zavoj	4.58	74⇑	*i*	Pn		Pn	09 05 16.6	+3.3
ZAPS	Zavoj	4.58	74⇑	*i*	Pn		Pn	09 05 16.6	+3.3
OBKA	Obir	4.60	342	*e*	P		Pn	09 05 15.3	+1.6
OBKA	Obir	4.60	342⇑	*i*	Pn		Pn	09 05 14.6	+1.0
OBKA				*i*	Sn		Sn	09 06 07.6	+0.8
OBKA	Obir	4.60	342⇑	*i*	Pn		Pn	09 05 14.6	+1.0
	SNR=9.3								
OBKA				⇓	*i*	Sn	Sn	09 06 07.6	+0.8
OBKA	Obir	4.60	342		Pn		Pn	09 05 14.6	+1.0
	SNR=9.3								
OBKA					Sn		Sn	09 06 07.6	+0.8
SOKA	Soboth	4.66	346⇑	*i*	Pn		Pn	09 05 15.5	+1.0
SOKA				*i*	Sn		Sn	09 06 08.1	-0.3
SOKA	Soboth	4.66	346⇑	*i*	Pn		Pn	09 05 15.5	+1.0
SOKA				⇓	*i*	Sn	Sn	09 06 08.1	-0.3
SOKA	Soboth	4.66	346		Pn		Pn	09 05 15.5	+1.0
SOKA					Sn		Sn	09 06 08.1	-0.3
KNT	Kendrikon	4.81	100		P		Pn	09 05 18.8	+2.3
KNT	Kendrikon	4.81	100		P		Pn	09 05 18.8	+2.3
MAIM	Mastiano	4.82	293		P		Pn	09 05 16.1	-0.5
KKB	Krupnik	4.83	91		P		Pn	09 05 20.4	+3.6
KKB	Krupnik	4.83	91		P		Pn	09 05 20.4	+3.6
THL	Klokotos Trika	4.84	120		P		Pn	09 05 19.0	+2.0
THL	Klokotos Trika	4.84	120	*e*	PN		Pn	09 05 19.5	+2.5
THL	Klokotos Trika	4.84	120	*e*	P		Pn	09 05 18.5	+1.5
THL	Klokotos Trika	4.84	120		P		Pn	09 05

LAKA S Sn 09 06 32.1 -1.1
LAKA Lakka 5.67 132 *e*PN Pn 09 05 30.7 +2.3
LAKA Lakka 5.67 132 *e*P Pn 09 05 30.5 +2.1
LAKA Lakka 5.67 132 P Pn 09 05 30.4 +2.1
LAKA S Sn 09 06 32.1 -1.1
AXAR Agios Charalam 5.72 124 P Pn 09 05 31.7 +2.7
AXAR Agios Charalam 5.72 124 P Pn 09 05 31.7 +2.7
XOR Xorichti 5.72 117 P Pn 09 05 30.7 +1.7
XOR Xorichti 5.72 117 P Pn 09 05 30.7 +1.7
NEO Neokhori 5.77 117 *e*PN Pn 09 05 31.7 +2.0
NEO Neokhori 5.77 117 *e*P Pn 09 05 31.5 +1.8
CONA Conrad Observa 5.80 355⇓*i*Pn Pn 09 05 31.0 +0.9
CONA Conrad Observa 5.80 355⇓*i*Pn Pn 09 05 31.0 +0.9
SNR=16
CONA Conrad Observa 5.80 355 Pn Pn 09 05 31.0 +0.9
SNR=16
DSF Desfina 5.87 128 P Pn 09 05 32.4 +1.3
DSF S Sn 09 06 36.8 -1.3
DSF Desfina 5.87 128 P Pn 09 05 32.4 +1.3
DSF S Sn 09 06 36.8 -1.3
MOA Molln 5.93 345 *e*P Pn 09 05 33.6 +1.7
MOA Molln 5.93 345 *i*Pn Pn 09 05 33.9 +2.0
MOA *i*Sn Sn 09 06 39.0 -0.6
MOA Molln 5.93 345 *i*Pn Pn 09 05 33.9 +2.0
SNR=60
MOA ⇑*i*Sn Sn 09 06 39.0 -0.6
MOA Molln 5.93 345 Pn Pn 09 05 33.9 +2.0
SNR=60
MOA S Sn 09 06 39.0 -0.6
LKR Lokris 6.00 124 P Pn 09 05 34.3 +1.4
LKR Lokris 6.00 124 *e*PN Pn 09 05 34.3 +1.4
LKR Lokris 6.00 124 *e*P Pn 09 05 34.0 +1.1
LKR Lokris 6.00 124 P Pn 09 05 34.3 +1.4
KAVA Kavala 6.04 98 P Pn 09 05 35.9 +2.5
KAVA Kavala 6.04 98 P Pn 09 05 35.9 +2.5
AMT Artemida-Makis 6.06 138 P Pn 09 05 35.7 +2.0
AMT Artemida-Makis 6.06 138 *e*PN Pn 09 05 35.7 +2.0
AMT Artemida-Makis 6.06 138 *e*P Pn 09 05 35.5 +1.8
AMT Artemida-Makis 6.06 138 P Pn 09 05 35.7 +2.0
RZN Rozhen 6.06 92 P Pn 09 05 37.6 +3.7
RZN Rozhen 6.06 92 P Pn 09 05 37.6 +3.7
GUR Goura 6.09 132 P Pn 09 05 36.4 +2.2
GUR S Sn 09 06 43.4 -0.2
GUR Goura 6.09 132 *e*PN Pn 09 05 36.3 +2.1
GUR Goura 6.09 132 *e*P Pn 09 05 36.0 +1.8
GUR Goura 6.09 132 P Pn 09 05 36.4 +2.2
GUR S Sn 09 06 43.4 -0.2
RJOB Jochberg 6.20 335 *e*P Pn 09 05 37.1 +1.4
PSZ Piszkesteto 6.21 21⇑*i*P Pn 09 05 41.5 +5.7
WTTA Wattenberg 6.22 327⇓*i*Pn Pn 09 05 36.7 +0.7
WTTA *i*Sn Sn 09 06 47.5 +0.7
WTTA Wattenberg 6.22 327⇓*i*Pn Pn 09 05 36.7 +0.7
SNR=5.7
WTTA ⇓*i*Sn Sn 09 06 47.5 +0.7
WTTA Wattenberg 6.22 327 Pn Pn 09 05 36.7 +0.7
SNR=5.7
WTTA Sn Sn 09 06 47.5 +0.7
AOS Alonnisos 6.28 116 *e*PN Pn 09 05 37.9 +1.2
AOS Alonnisos 6.28 116 *e*P Pn 09 05 37.5 +0.8
WATA Walderalm 6.30 327⇓*i*Pn Pn 09 05 37.7 +0.7
WATA *i*Sn Sn 09 06 50.7 +1.9
WATA Walderalm 6.30 327⇓*i*Pn Pn 09 05 37.7 +0.7
SNR=11
WATA ⇑*i*Sn Sn 09 06 50.7 +1.9
WATA Walderalm 6.30 327 Pn Pn 09 05 37.7 +0.7
SNR=11
WATA Sn Sn 09 06 50.7 +1.9
PCP Piancastagn 6.35 295 P Pn 09 05 36.0 -1.6
DRGR 6.36 41⇓*i*P Pn 09 05 44.6 +6.7
LTK Loutraki 6.38 128 P Pn 09 05 39.5 +1.3
LTK Loutraki 6.38 128 *e*PN Pn 09 05 39.5 +1.3
LTK Loutraki 6.38 128 *e*P Pn 09 05 37.5 -0.7
LTK Loutraki 6.38 128 P Pn 09 05 39.5 +1.3
FETA Feichten 6.43 321⇓*i*Pn Pn 09 05 39.4 +0.5
FETA *i*Sn Sn 09 06 52.3 +0.4
FETA Feichten 6.43 321⇓*i*Pn Pn 09 05 39.3 +0.5
FETA ⇑*i*Sn Sn 09 06 52.3 +0.4
FETA Feichten 6.43 321 Pn Pn 09 05 39.3 +0.5
FETA Sn Sn 09 06 52.3 +0.4
ITM Ithomi 6.44 139 P Pn 09 05 40.3 +1.3
ITM S Sn 09 06 50.4 -1.8
ITM Ithomi 6.44 139 *e*PN Pn 09 05 40.2 +1.3
ITM Ithomi 6.44 139 *e*P Pn 09 05 40.0 +1.1
ITM Ithomi 6.44 139 P Pn 09 05 40.3 +1.3
ITM S Sn 09 06 50.4 -1.8
MOTA Moosalm 6.50 325⇓*i*Pn Pn 09 05 40.9 +1.0
MOTA *i*Sn Sn 09 06 55.0 +1.2
MOTA Moosalm 6.50 325⇓*i*Pn Pn 09 05 40.9 +1.0
SNR=12
MOTA ⇓*i*Sn Sn 09 06 55.0 +1.2
MOTA Moosalm 6.50 325 Pn Pn 09 05 40.9 +1.0
SNR=12
MOTA Sn Sn 09 06 55.0 +1.2
VLX Vlachokerasia 6.52 135 P Pn 09 05 42.8 +2.7
VLX S Sn 09 06 54.5 +0.2
VLX Vlachokerasia 6.52 135 *e*PN Pn 09 05 43.0 +2.9
VLX Vlachokerasia 6.52 135 P Pn 09 05 42.8 +2.7
VLX S Sn 09 06 54.5 +0.2
VYHS Vyhne 6.53 13 *e*PN Pn 09 05 42.2 +2.1
VYHS *e*SN Sn 09 07 04.1 +10
PYL PYLOS 6.58 141 P Pn 09 05 41.3 +0.4
PYL PYLOS 6.58 141 *e*PN Pn 09 05 41.0 +0.4
PYL PYLOS 6.58 141 *e*P Pn 09 05 41.0 +0.2
PYL PYLOS 6.58 141 P Pn 09 05 41.3 +0.4
KDZ Kurdzhali 6.59 91 P Pn 09 05 44.4 +3.5
KDZ Kurdzhali 6.59 91 P Pn 09 05 44.4 +3.5
DAVOX Davos/Dischmat 6.67 316 Pn Pn 09 05 42.1 -0.2
2.5nm,0.3s,baz=155,slow=16,SNR=21
DAVOX Sn Sn 09 07 01.5 +3.4
2.3nm,0.3s,baz=198,slow=23,SNR=5.2
DAVOX LR LR 09 08 38.7
comp=Z,67nm,21.1s,baz=79,slow=43
TUE Stuetta 6.76 312 *e*Pn Pn 09 05 43.3 -0.2
TUE *e*Sn Sn 09 06 54.7 -5.6
TUE Stuetta 6.76 312 *e*Pn Pn 09 05 43.3 -0.2
NAIG Nisos Aigina 6.87 127 *e*PN Pn 09 05 45.5 +0.7
NAIG Nisos Aigina 6.87 127 *e*P Pn 09 05 45.5 +0.7
SAOF Saorge 6.88 288 P Pn 09 05 46.0 +1.0
SAOF S Sn 09 07 00.7 -2.3
SAOF Saorge 6.88 288 P Pn 09 05 46.0 +1.0
SAOF S Sn 09 07 00.7 -2.3
SAOF Saorge 6.88 288 P Pn 09 05 46.0 +1.0
SAOF S Sn 09 07 00.7 -2.3
DID Didima 6.89 130 P Pn 09 05 46.4 +1.2
DID S Sn 09 07 02.5 -0.8
DID Didima 6.89 130 *e*PN Pn 09 05 46.0 +0.8
DID Didima 6.89 130 *e*P Pn 09 05 46.0 +0.8
DID Didima 6.89 130 P Pn 09 05 46.4 +1.2
DID S Sn 09 07 02.5 -0.8
DIDY Didyma 6.90 130 P Pn 09 05 46.4 +1.1
DIDY Didyma 6.90 130 P Pn 09 05 46.4 +1.1
VOIR 6.93 59⇑*i*P Pn 09 05 52.2 +6.5
SBF Sospel 6.94 287 *e*Pn Pn 09 05 44.2 -1.6
SNR=1.0
SBF *e*Sn Sn 09 06 57.4 -7.1
9.2nm,0.3s,SNR=1.0
SBF Sospel 6.94 287 *e*Pn Pn 09 05 44.2 -1.6
SNR=1.0
DYR Agios Nikonas 6.97 139 P Pn 09 05 47.5 +1.3
DYR Agios Nikonas 6.97 139 *e*PN Pn 09 05 47.6 +1.3
DYR Agios Nikonas 6.97 139 *e*P Pn 09 05 47.0 +0.8
DYR Agios Nikonas 6.97 139 P Pn 09 05 47.5 +1.3
AUTN L'Aution 6.97 288 P Pn 09 05 48.1 +1.7
AUTN L'Aution 6.97 288 P Pn 09 05 48.4 +1.7
AUTN L'Aution 6.97 288 P Pn 09 05 48.1 +1.7
GEC2 GERESS Array S 7.00 344 *e*P Pn 09 05 46.8 +0.2
GERES GERESS Array B 7.00 344 Pn Pn 09 05 47.6 +1.0
1.7nm,0.3s,baz=159,slow=14,SNR=36
GERES Sn Sn 09 07 02.4 -3.4
1.7nm,0.3s,baz=156,slow=23,SNR=4.0
GERES LR LR 09 08 51.2
comp=Z,81nm,19.1s,baz=283,slow=42
DAVA Damuels 7.02 319⇑*i*Pn Pn 09 05 48.4 +1.4
DAVA *i*Sn Sn 09 07 07.6 +1.1
DAVA Damuels 7.02 319⇑*i*Pn Pn 09 05 48.4 +1.4
DAVA ⇑*i*Sn Sn 09 07 07.6 +1.1
DAVA Damuels 7.02 319 Pn Pn 09 05 48.4 +1.4
DAVA Sn Sn 09 07 07.6 +1.1
TOUF Mont Tournerai 7.10 288 P Pn 09 05 49.2 +1.0
TOUF Mont Tournerai 7.10 288 P Pn 09 05 49.2 +1.0
TOUF Mont Tournerai 7.10 288 P Pn 09 05 49.2 +1.0

MVIF Mont Vial 7.15 287 P Pn 09 05 51.5 +2.8
MVIF Mont Vial 7.15 287 P Pn 09 05 50.6 +1.9
MVIF Mont Vial 7.15 287 P Pn 09 05 50.6 +1.9
VRAC Vranov 7.15 360 Pn Pn 09 05 49.6 +0.9
0.5nm,0.3s,baz=212,slow=11,SNR=5.0
VRAC Vranov 7.15 360⇑*i*P Pn 09 05 51.1 +2.4
VRAC Vranov 7.15 360 *e*Pn Pn 09 05 48.3 -0.4
VRAC Vranov 7.15 360⇑*i*P Pn 09 05 51.1 +2.4
ALN Alexandroupoli 7.19 97 *e*PN Pn 09 05 51.6 +2.4
KHC Kasperske Hory 7.29 344 *e*Pn Pn 09 05 51.3 +0.7
KHC *e*Sn Sn 09 07 08.3 -4.8
KHC Kasperske Hory 7.29 344 *e*PN Pn 09 05 51.5 +0.9
KHC *ex* x 09 05 59.0
KHC *ex* x 09 06 13.0
KHC *e*SN Sn 09 07 09.6 -3.5
KHC *ex* x 09 07 28.0
KHC *ex* x 09 07 36.5
KHC Kasperske Hory 7.29 344 Pn Pn 09 05 51.5 +0.9
VLI Veliai 7.31 136 *e*PN Pn 09 05 52.8 +2.0
VLI Veliai 7.31 136 *e*P Pn 09 05 48.5 -2.3
CALN Calern 7.31 286 P Pn 09 05 53.1 +2.1
CALN Calern 7.31 286 P Pn 09 05 53.1 +2.1
CALN Calern 7.31 286 P Pn 09 05 53.1 +2.1
FRF La Foret Royal 7.46 284 *e*Pn Pn 09 05 51.1 -1.7
FRF La Foret Royal 7.46 284 *e*P Pn 09 05 55.7 +2.9
SNR=1.0
FRF La Foret Royal 7.46 284 *e*Pn Pn 09 05 51.1 -1.7
WET Wettzell 7.46 341 *e*P Pn 09 05 53.5 +0.6
MLR Muntele Rosu 7.53 61 Pn Pn 09 05 59.5 +5.6
0.1nm,0.3s,baz=122,slow=17,SNR=3.6
MLR Muntele Rosu 7.53 61⇓*i*P Pn 09 06 00.3 +6.4
LMR La Mourre 7.53 282 *e*Pn Pn 09 05 53.4 -0.4
SNR=1.0
LMR La Mourre 7.53 282 *e*Pn Pn 09 05 53.4 -0.4
SNR=1.0
MBDF Montbardon 7.61 293 *e*Pn Pn 09 05 53.2 -1.9
SNR=1.0
MBDF Montbardon 7.61 293 *e*Pn Pn 09 05 53.2 -1.9
SNR=1.0
MORC Moravsky Berou 7.65 5⇓*i*P Pn 09 05 58.2 +2.7
MORC Moravsky Berou 7.65 5⇓*i*P Pn 09 05 58.2 +2.7
KYTH Kithira 7.70 138 P Pn 09 05 58.2 +2.0
KYTH Kithira 7.70 138 *e*PN Pn 09 05 58.3 +2.0
KYTH Kithira 7.70 138 *e*P Pn 09 05 58.5 +2.3
KYTH Kithira 7.70 138 P Pn 09 05 58.2 +2.0
LPG La Plagne 7.87 298 *e*Pn Pn 09 05 56.6 -2.2
SNR=1.0
LPG *e*Sn Sn 09 07 19.2 -8.5
13nm,0.3s
LPL La Plagne 7.89 299 *e*Pn Pn 09 05 56.8 -2.2
SNR=1.0
LPL *e*Sn Sn 09 07 20.0 -8.1
26nm,0.4s
PRU Pruhonice 7.96 350 *e*PN Pn 09 06 00.0 +0.2
PRU *e*SN Sn 09 07 25.3 -4.2
PRU Pruhonice 7.96 350 Pn Pn 09 06 00.0 +0.2
RSL Roselend 8.03 299 P Pn 09 06 02.0 +1.2
RSL Roselend 8.03 299 P Pn 09 06 02.0 +1.2
RSL Roselend 8.03 299 P Pn 09 06 02.0 +1.2
CHOS Chios island 8.14 114 *e*PN Pn 09 06 04.2 +1.9
ROTZ Rotzenmuhle 8.21 340 *e*P Pn 09 06 03.1 0.0
ORIF Oris-en-Rattie 8.27 293 *e*Pn Pn 09 06 02.5 -1.6
SNR=1.0
ORIF *e*Sn Sn 09 07 28.4 -8.9
4.3nm,0.4s
ORIF Oris-en-Rattie 8.27 293 *e*Pn Pn 09 06 02.5 -1.6
SNR=1.0
SMRF Simiane la Rot 8.28 286 *e*Sn Sn 09 07 29.7 -7.8
5.4nm,0.7s,SNR=1.0
GRF Grafenberg Arr 8.42 335 *e*P Pn 09 06 06.2 +0.2
STU Stuttgart 8.42 324 *e*P Pn 09 06 09.8 +3.8
BFO Black Forest 8.50 319 *e*P Pn 09 06 12.0 +4.9
APE Apeiranthos 8.55 124 *e*PN Pn 09 06 08.4 +0.5
APE Apeiranthos 8.55 124⇓*i*P Pn 09 06 09.0 +1.1
APE Apeiranthos 8.55 124⇓*i*P Pn 09 06 09.0 +1.1
TANN Tannenbergstha 8.74 342 *e*P Pn 09 06 10.8 +0.3
CABF La Chapelle 8.75 304 *e*Pn Pn 09 06 09.1 -1.6
SNR=1.0
CABF *e*Sn Sn 09 07 39.7 -9.5
3.9nm,0.3s
CABF La Chapelle 8.75 304 *e*Pn Pn 09 06 09.1 -1.6
SNR=1.0
KARN Karanos 8.83 137 *e*PN Pn 09 06 12.5 +0.8
BRG Berggiesshubel 8.91 349 SG 09 08 59.9
7.4nm,0.9s
BRG Berggiesshubel 8.91 349 SG Sn 09 08 02.6 +10
5.1nm,0.8s
BRG Berggiesshubel 8.91 349 *e* Pn 09 06 29.6 +17
BRG *e* 09 08 14.5
HINF Hinteralfeld 8.93 313 *e*Pn Pn 09 06 11.7 -1.4
SNR=1.0
HINF *e*Sn Sn 09 07 44.2 -9.3
9.2nm,0.4s
HINF Hinteralfeld 8.93 313 *e*Pn Pn 09 06 11.7 -1.4
SNR=1.0
VAM Vamos 8.97 136 *e*PN Pn 09 06 14.0 +0.4
CDF Champ du Feu 9.08 317 *e*Pn Pn 09 06 14.1 -1.0
SNR=1.0
CDF *e*Sn Sn 09 07 47.8 -9.3
2.5nm,0.3s
CDF Champ du Feu 9.08 317 *e*Pn Pn 09 06 14.1 -1.0
SNR=1.0
VIVF Saint-Julien-l 9.09 291 *e*Pg Pn 09 06 13.6 -1.6
VIVF *e*Sn Sn 09 07 48.5 -8.7
1.5nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 9.09 291 *e*Pg Pn 09 06 13.6 -1.6
MOX Moxa 9.16 340 *e*P Pn 09 06 16.1 -0.1
HAU Haudompre 9.32 312 *e*Pn Pn 09 06 17.2 -1.2
SNR=1.0
HAU *e*Sn Sn 09 07 53.6 -9.3
14nm,0.3s,SNR=1.0
HAU Haudompre 9.32 312 *e*Pn Pn 09 06 17.2 -1.2
SNR=1.0
GVD Gavdhos 9.36 139 *e*PN Pn 09 06 20.1 +1.1
IDI Anoyia 9.42 134 *e*PN Pn 09 06 19.1 -0.8
CLL Collm 9.48 346 *e*Pn Pn 09 06 22.0 +1.4
CLL *e*Sb S 09 08 31.0
CLL *e*Sg S 09 09 08.0
SIVA Sivas 9.59 135 *e*PB Pn 09 06 23.9 +1.9
LAST Lasithi 9.84 132 *e*PN Pn 09 06 24.8 -0.8
SMF Signal de Mont 10.18 300 *e*Pn Pn 09 06 28.0 -2.2
SNR=1.0
SMF *e*Sn Sn 09 08 14.0 -10
5.5nm,0.3s
LOR Lormes 10.41 304 *e*Pn Pn 09 06 30.7 -2.7
baz=127,SNR=1.0
LOR *e*Sn Sn 09 08 19.9 -10
7.8nm,0.3s,SNR=1.0
AVF Avril sur Loir 10.54 301 *e*Pn Pn 09 06 32.6 -2.5
SNR=1.0
SSF Saint Saulge 10.55 302 *e*Pn Pn 09 06 33.2 -2.0
SSF *e*Sn Sn 09 08 23.0 -10
3.5nm,0.3s
SSF Saint Saulge 10.55 302 *e*Pn Pn 09 06 33.2 -2.0
BGF Bois d'Agland 10.79 299 *e*Pn Pn 09 06 36.0 -2.5
TCF Toulx Ste Croi 11.13 297 *e*Pn Pn 09 06 40.8 -2.4
TCF *e*Sn Sn 09 08 37.2 -10
3.1nm,0.3s
BRTR Keskin Array B 13.10 95 Pn P 09 07 18.9 -1.6
0.1nm,0.3s,baz=272,slow=9.8,SNR=2.4
HFS Hagfors 18.09 355 P Pn 09 08 15.3 +0.2
0.3nm,0.3s,baz=165,slow=9.7,SNR=11
NB2 NORSAR Subarra 19.19 352 P P 09 08 28.2 +0.6
comp=Z,0.8nm,0.5s,baz=171,slow=12
NB2 NORSAR Subarra 19.19 352 P P 09 08 28.2 +0.6
comp=Z,0.8nm,0.5s,baz=171,slow=12,SNR=4.4
NOA NORSAR Array B 19.19 352 P P 09 08 27.6 0.0
comp=Z,0.3nm,0.3s,baz=167,slow=10,SNR=7.0
FINES FINESS Array B 20.14 13 P P 09 08 38.0 +0.1
comp=Z,2.1nm,0.6s,baz=190,slow=9.9,SNR=16
KAF Kangasniemi 20.81 13 *ep* P 09 08 43.0 -2.1
comp=Z,1.8nm,0.4s
TORD Torodi Ar. Bea 31.68 209 P P 09 10 29.0 +1.5
comp=Z,0.1nm,0.4s,baz=14,slow=8.6,SNR=2.4
MKAR Makanchi Array 45.87 61 P P 09 12 31.7 +5.5
comp=Z,0.3nm,0.5s,baz=281,slow=6.7,SNR=4.7
SONM Songino Array 60.26 51 P P 09 14 16.7 +4.3
comp=Z,1.1nm,0.6s,baz=300,slow=14,SNR=3.5
YKA Yellowknife Ar 68.61 338 P P 09 15 06.6 +0.1
comp=Z,0.1nm,0.4s,baz=38,slow=6.1,SNR=5.9
ILAR Eielson Array 72.63 353 P P 09 15 31.8 +0.8
comp=Z,0.2nm,0.6s,baz=354,slow=4.6,SNR=6.6
TXAR Lajitas Array 90.08 311 P P 09 17 05.5 +1.3
comp=Z,0.2nm,0.8s,baz=81,slow=5.6,SNR=2.5

IDC ***28*** *09:14:54.3±0.8,51.63N×75.41E,h0km,mb3.1/1, mb1 3.2/5,mb1mx3.1/31,mbtmp3.1/5,ML3.1/4,Error ellipse: s-maj=25.1km s-min=6.8km az=31.0*
NNC ***28*** *09:14:55.9±0.8,51.15N×75.36E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=26.1km s-min=5.3km az=28.0*
ISCJB ***28*** *09:14:56.2±0.5,51.67N±0.06×75.86E±0.06,h10km, mb3.1/1,Error ellipse: s-maj=9.9km s-min=3.8km az=26.0*
ISC 28 09:14:57.9±0.9,51.67N±0.08×75.83E±0.06,h10km,n13, σ1°42/18,10C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURBB	**Kurchatov Arra**	**2.00**	**121**	Pn		**Pn**	**09 15 31.9**	**+0.2**
	6.2nm,0.3s,baz=303,slow=19,SNR=1.5							
KURBB				Pg		**Pb**	**09 15 33.7**	**-0.6**
	7.6nm,0.3s,baz=303,slow=19,SNR=1.8							
KURBB				Lg		Lg	09 16 02.6	
	6.9nm,0.3s,baz=310,slow=35,SNR=1.6							
KURK	**Kurchatov**	**2.00**	**117**	⇓Pn		**Pn**	**09 15 31.9**	**+0.2**
	4.0nm,0.5s							
KURK				⇑Sn		**Sg**	**09 16 00.8**	**-1.3**
	13nm,0.6s							
VOSK	**Vostochnaya**	**3.17**	**291**	⇑Pn		**Pn**	**09 15 46.1**	**-1.8**
	2.9nm,0.5s							
VOSK				⇑Sn		**Sn**	**09 16 22.9**	**-2.8**
	24nm,0.6s							
BVA0	**Borovoye Array**	**3.60**	**294**	⇓Pn		**Pn**	**09 15 52.7**	**-1.1**
	0.4nm,0.8s,baz=117,slow=17,SNR=7.8							
BVA0				⇑Sn		**Sn**	**09 16 37.5**	**+1.1**
	2.2nm,1.0s,baz=110,slow=29,SNR=8.3							
BVAR	**Borovoye Array**	**3.60**	**294**	Pn		Pn	09 15 48.3	-5.6
	0.6nm,0.3s,baz=110,slow=15,SNR=12							
BVAR				Pg		Pb	09 15 53.3	-8.4
	1.0nm,0.3s,baz=113,slow=16,SNR=15							
BVAR				Lg		Lg	09 16 36.0	
	2.8nm,0.3s,baz=111,slow=28,SNR=11							
BRVK	**Borovoye**	**3.68**	**294**	⇑Pn		**Pn**	**09 15 53.8**	**-1.0**
	3.7nm,0.6s							
BRVK				⇑Sn		**Sn**	**09 16 39.5**	**+1.3**
	17nm,0.5s							
ZRNK	**Zerenda**	**4.38**	**290**	⇓Pn		Pn	09 16 06.5	+1.9
	2.4nm,0.7s							
ZRNK				⇓Sn		**Sn**	**09 16 57.3**	**+1.7**
	22nm,1.1s							
ZALV	**Zalesovo Beam**	**5.91**	**64**	Pn		**Pn**	**09 16 26.7**	**+1.3**
	0.6nm,0.3s,baz=258,slow=14,SNR=14							
ZALV				Sn		**Sn**	**09 17 33.6**	**+0.4**
	0.1nm,0.3s,baz=247,slow=25,SNR=3.4							
MK31	**Makanchi Array**	**6.45**	**137**	⇑Pn		**Pn**	**09 16 32.5**	**-0.4**
	0.2nm,0.4s,baz=315,slow=11,SNR=8.0							
MK31				⇑Sn		**Sn**	**09 17 48.8**	**+2.1**
	0.5nm,0.6s,baz=322,slow=18,SNR=3.7							
MK31				⇑Lg		Lg	09 18 18.2	
	1.7nm,0.5s,baz=319,slow=28,SNR=7.7							
MKAR	**Makanchi Array**	**6.45**	**137**	Pn		**Pn**	**09 16 32.1**	**-0.9**
	0.2nm,0.3s,baz=314,slow=12,SNR=8.4							
MKAR				Sn		**Sn**	**09 17 48.2**	**+1.5**
	0.2nm,0.3s,baz=336,slow=20,SNR=5.4							
MKAR				Lg		Lg	09 18 23.9	
	0.8nm,0.3s,baz=325,slow=27,SNR=9.4							
TKM2	**Tokmak 2**	**8.75**	**181**	⇑Lg		Lg	09 19 21.0	
AAK	**Ala-Archa**	**9.08**	**186**	Lg		Lg	09 19 38.4	
	0.2nm,0.3s,baz=41,slow=9.3,SNR=3.6							
ILAR	**Eielson Array**	**59.28**	**20**	P		**P**	**09 24 59.1**	**-0.1**
	0.2nm,0.9s,baz=345,slow=6.5,SNR=3.0							

DDA ***28*** *09:27:50.0,40.33N×40.73E,h22km, MD3.0*
ISCJB ***28*** *09:27:50.1±0.5,40.33N±0.03×40.74E±0.03,h5km±5km, Error ellipse: s-maj=5.0km s-min=3.3km az=169.9*
ISK ***28*** *09:27:50.0,40.33N×40.73E,h11km, MD2.7*
CSEM ***28*** *09:27:50.4±0.1,40.33N×40.74E,h15km, MD3.0, Error ellipse: s-maj=3.6km s-min=2.8km az=162.0*
ISC 28 09:27:49.7±1.1,40.33N±0.02×40.74E±0.02,h16km±9km, n40,σ0°76/61,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOPT	**Kop Dagi**	**0.36**	**211**	*i*P		**Pb**	**09 27 57.8**	**-0.2**
KOPT				*i*S		**Sb**	**09 28 05.3**	**+1.8**
KOPT	**Kop Dagi**	**0.36**	**211**	*i*P		**Pb**	**09 27 57.8**	**-0.2**
KOPT				*i*S		**Sb**	**09 28 05.3**	**+1.8**
BAYT	**Ayd¯–ntepe-Bay**	**0.46**	**278**	*e*PG		**Pb**	**09 27 59.4**	**-0.2**
BAYT				*e*SG		**Sb**	**09 28 06.1**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.46**	**278**	*e*Pg		**Pb**	**09 27 59.4**	**-0.2**
BAYT				*e*Sg		**Sb**	**09 28 06.1**	**-0.1**
EZM	**Erzurum**	**0.64**	**131**	*e*PG		**Pb**	**09 28 02.6**	**-0.1**
EZM				*e*SG		**Sb**	**09 28 12.6**	**+1.1**
ERZM	**Erzurum**	**0.64**	**131**	*i*P		**Pb**	**09 28 02.8**	**+0.1**
ERZM				*i*S		**Sn**	**09 28 13.0**	**-1.4**
ERZM	**Erzurum**	**0.64**	**131**	*i*P		**Pb**	**09 28 02.8**	**+0.1**
ERZM				*i*S		**Sn**	**09 28 13.0**	**-1.4**
PZAR	**Pazar-Rize**	**0.85**	**8**	*e*PG		**Pn**	**09 28 07.1**	**0.0**
PZAR	**Pazar-Rize**	**0.85**	**8**	*e*Pg		**Pn**	**09 28 07.1**	**0.0**
DDEM	**Demirkent**	**0.95**	**54**	*i*P		**Pn**	**09 28 08.1**	**-0.5**
DDEM				*i*S		**Sn**	**09 28 22.2**	**+0.3**
DDEM	**Demirkent**	**0.95**	**54**	*i*P		**Pn**	**09 28 08.1**	**-0.5**
DDEM				*i*S		**Sn**	**09 28 22.2**	**+0.3**
MACK	**Trabzon**	**0.96**	**310**	*i*P		**Pn**	**09 28 08.9**	**+0.3**
MACK				*i*S		**Sn**	**09 28 22.5**	**+0.6**
MACK	**Trabzon**	**0.96**	**310**	*i*P		**Pn**	**09 28 08.9**	**+0.3**
MACK				*i*S		**Sn**	**09 28 22.5**	**+0.6**
GUMT	**Gumushane**	**0.97**	**278**	*e*PG		**Pn**	**09 28 08.6**	**-0.2**
GUMT	**Gumushane**	**0.97**	**278**	*e*Pg		**Pn**	**09 28 08.6**	**-0.2**
DBAD	**Bademkaya**	**1.00**	**46**	*i*P		**Pn**	**09 28 09.0**	**-0.2**
DBAD				*i*S		**Sb**	**09 28 22.2**	**+0.5**
DBAD	**Bademkaya**	**1.00**	**46**	*i*P		**Pn**	**09 28 09.0**	**-0.2**
DBAD				*i*S		**Sb**	**09 28 22.2**	**+0.5**
ERZN	**Erzincan**	**1.08**	**227**	*e*PG		**Pn**	**09 28 11.0**	**+0.7**
KELT	**Kelkit**	**1.15**	**261**	*i*P		**Pg**	**09 28 11.7**	**-0.3**
KELT				*i*S		**Sn**	**09 28 27.5**	**+0.7**
KELT	**Kelkit**	**1.15**	**261**	*i*P		**Pg**	**09 28 11.7**	**-0.3**
KELT				*i*S		**Sn**	**09 28 27.5**	**+0.7**
DAGI	**Agillar**	**1.16**	**50**	*i*P		**Pg**	**09 28 11.8**	**-0.5**
DAGI				*i*S		**Sn**	**09 28 27.1**	**+0.1**
EZC	**Erzincan**	**1.21**	**242**	*e*PN		**Pg**	**09 28 13.2**	**+0.1**
EZC	**Erzincan**	**1.21**	**242**	*e*Pg		**Pn**	**09 28 11.0**	**-1.1**
EZC	**Erzincan**	**1.21**	**242**	*e*Pn		**Pg**	**09 28 13.2**	**+0.1**
DBOC	**Borcka**	**1.23**	**35**	*i*P		**Pg**	**09 28 13.1**	**-0.5**
DBOC				*i*S		**Sg**	**09 28 30.6**	**+0.9**
DBOC	**Borcka**	**1.23**	**35**	*i*P		**Pg**	**09 28 13.1**	**-0.5**
DBOC				*i*S		**Sg**	**09 28 30.6**	**+0.9**
ARTV	**Artvin**	**1.24**	**46**	*i*P		**Pg**	**09 28 13.2**	**-0.5**
ARTV				*i*S		**Sg**	**09 28 31.5**	**+1.5**
ARTV	**Artvin**	**1.24**	**46**	*i*P		**Pg**	**09 28 13.2**	**-0.5**
ARTV				*i*S		**Sg**	**09 28 31.5**	**+1.5**
BNGB	**Bing¯¶ł**	**1.34**	**182**	*e*PN		**Pg**	**09 28 15.2**	**-0.4**
BINT	**Bingol**	**1.47**	**188**	*e*Pn		**Pn**	**09 28 15.2**	**-0.4**
ESPY	**Espiye-Giresun**	**1.64**	**292**	*e*PN		**Pb**	**09 28 19.1**	**-0.5**
ESPY	**Espiye-Giresun**	**1.64**	**292**	*e*Pn		**Pb**	**09 28 19.1**	**-0.5**
PTK	**Pertek**	**1.77**	**216**	*e*PN		**Pb**	**09 28 21.6**	**-0.4**
PTK	**Pertek**	**1.77**	**216**	*e*Pn		**Pb**	**09 28 21.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.89**	**243**	*e*PN		**Pb**	**09 28 22.8**	**-1.0**
ILIC	**ilic-Erzincan**	**1.89**	**243**	*e*Pn		**Pb**	**09 28 22.8**	**-1.0**
AGRB	**Hanur-Agry**	**1.89**	**113**	*e*PN		**Pb**	**09 28 22.9**	**-1.0**
AGRB	**Hanur-Agry**	**1.89**	**113**	*e*Pn		**Pb**	**09 28 22.9**	**-1.0**
GRSN	**GIRESUNGRSN**	**1.97**	**288**	*i*P		**Pb**	**09 28 24.2**	**-1.0**
GRSN				*i*S		**Sg**	**09 28 51.9**	**-1.3**
GRSN	**GIRESUNGRSN**	**1.97**

mb1 3.8/3,**mb1mx3.5**/19,**mbtmp3.5**/3,**Error ellipse: s-maj=391.5km s-min=34.7km az=141.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.21**	**258**	P	P	10 10 27.7	-0.7
	0.2nm,0.7s,baz=96,slow=7.3,SNR=3.7						
ASAR	**Alice Springs**	**48.39**	**253**	P	P	10 10 30.1	+0.3
	0.6nm,0.4s,baz=86,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**84.03**	**12**	P	P	10 14 17.6	0.0
	0.2nm,0.4s,baz=209,slow=6.4,SNR=10						

*IDC **28** 10:28:20.2±1.7,7.79S×118.88E,h0km,mb3.9/3, mb1 4.0/6,mb1mx3.7/23,mbtmp3.8/6,ML3.6/3,Error ellipse: s-maj=63.2km s-min=20.4km az=64.0*
*ISCJB **28** 10:28:23.9±0.5,7.77S±0.04×119.09E±0.05,h34km, mb3.8/3,Error ellipse: s-maj=7.6km s-min=5.6km az=175.2*
*DJA **28** 10:28:25.1±0.4,8°S±5°×11°E±°,h110km,M3.8/7, MLv3.8/7*

ISC 28 10:28:25.2±0.9,**7.77S**±0.05×**119.09E**±0.06,**h34**km,**n15,** σ1§**75**/17,**mb3.7**/3,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.24**	**148**	P	**Pn**	**10 29 00.2**	**+0.3**
BKSI	**Bulukumba**	**2.64**	**23**	P	**Pn**	**10 29 05.5**	**+0.2**
BKSI				S	**Sn**	10 29 35.4	-0.7
KAPI	**Kappang**	**2.81**	**14**	Pn	**Pn**	**10 29 07.6**	**-0.1**
	3.8nm,0.3s,baz=179,slow=5.5,SNR=16						
KAPI				Sn	**Sn**	10 29 39.2	-1.2
	7.6nm,0.3s,baz=109,slow=20,SNR=6.9						
KAPI	**Kappang**	**2.81**	**14**	P	**Pn**	**10 29 07.7**	**-0.1**
MMRI	**Maumere**	**3.24**	**106**	P	**Pn**	**10 29 15.1**	**+1.5**
MMRI				S	Sn	10 29 40.1	-11
KHKI	**Kahang-Kahang**	**3.50**	**260**	P	**Pn**	**10 29 17.5**	**+0.4**
SPSI	**Sidrap Palu**	**3.84**	**10**	P	**Pn**	**10 29 23.8**	**+2.0**
SRBI	**Singaraja**	**3.85**	**265**	P	**Pn**	**10 29 22.3**	**+0.3**
IGBI	**Denpasar**	**4.04**	**255**	P	**Pn**	**10 29 24.7**	**+0.1**
TTSI	**Tana Toraja**	**4.75**	**9**	P	Pn	10 29 37.0	+2.7
FITZ	**Fitzroy Crossi**	**12.09**	**149**	Pn	**Pn**	**10 31 15.7**	**+0.6**
	0.1nm,0.3s,baz=326,slow=11,SNR=3.5						
FITZ				Sn	Sn	10 33 22.6	-6.3
	0.1nm,0.3s,baz=197,slow=17,SNR=3.5						
WRA	**Warramunga Arr**	**19.11**	**131**	P	**P**	**10 32 45.6**	**+0.3**
	0.5nm,0.3s,baz=302,slow=12,SNR=24						
WRA				S	**Sn**	**10 36 13.9**	**-5.6**
	0.0nm,0.3s,baz=334,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**21.26**	**140**	P	**P**	**10 33 09.5**	**+0.9**
	2.0nm,0.6s,baz=314,slow=8.9,SNR=41						
STKA	**Stephens Creek**	**31.86**	**142**	P	**P**	**10 34 48.4**	**+1.3**
	1.4nm,0.5s,baz=321,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**10 38 51.0**	**-0.4**
	0.5nm,0.7s,baz=146,slow=8.2,SNR=5.8						

IDC 28 10:34:31.8±1.8,**22.76S**×**174.91W**,**h0**km,**mb3.7**/5, **mb1 4.1**/6,**mb1mx3.9**/20,**mbtmp3.8**/6,**ML2.1**/1,**Error ellipse: s-maj=80.8km s-min=24.4km az=149.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.29**	**19**	Pn	Pn	10 36 45.4	-1.8
	1.2nm,0.3s,baz=22,slow=20,SNR=2.7						
AFI				Sn	Sn	10 38 27.6	-4.9
	2.0nm,0.3s,baz=27,slow=20,SNR=3.9						
ASAR	**Alice Springs**	**46.84**	**258**	P	P	10 43 04.4	+0.5
	0.8nm,0.9s,baz=104,slow=7.9,SNR=5.5						
WRA	**Warramunga Arr**	**47.17**	**263**	P	P	10 43 05.7	-0.8
	1.7nm,0.5s,baz=104,slow=8.5,SNR=35						
NVAR	**Mina Array Bea**	**80.73**	**42**	P	P	10 46 47.1	-0.3
	0.4nm,0.6s,baz=225,slow=8.9,SNR=4.4						
TXAR	**Lajitas Array**	**85.89**	**56**	P	P	10 47 13.8	-0.2
	0.3nm,0.7s,baz=226,slow=8.7,SNR=4.1						
ILAR	**Eielson Array**	**89.90**	**12**	P	P	10 47 33.6	+1.4
	0.4nm,0.8s,baz=211,slow=5.1,SNR=4.8						

*JMA **28** 10:35:58.2±0.5,23.97N×121.46E,h22km,M3.1*
*ISCJB **28** 10:36:00.6±0.3,23.78N±0.02×121.59E±0.02,h46km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=43.9*
*TAP **28** 10:36:00.4,23.79N×121.51E,h48km,ML3.8,B*

ISC 28 10:36:01.1±1.2,**23.78N**±0.02×**121.58E**±0.02,**h42**km±5km, **n62,**σ0§**96**/111,**5C-11D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.08**	**208**	*e*P	**Pn**	**10 36 08.3**	**+0.4**
	baz=168						
TEGC				*e*S	**Sn**	**10 36 14.6**	**+1.9**
	baz=168						
ESF	**Shoufeng Towns**	**0.11**	**324**	P	**Pn**	**10 36 07.8**	**-0.2**
	baz=346						
ESF				*e*S	**Sn**	**10 36 12.9**	**0.0**
	baz=346						
ESL	**Shilin**	**0.14**	**285**	⇑*i*P	**Pn**	**10 36 07.8**	**-0.4**
	baz=290						
ESL				*e*S	**Sn**	**10 36 12.6**	**-0.6**
	baz=290						
HWA	**Hwalien**	**0.20**	**7**	P	**Pn**	**10 36 09.0**	**+0.4**
	baz=20						
HWA				*e*S	**Sn**	**10 36 14.9**	**+1.0**
	baz=20						
TWD	**Chiawan**	**0.30**	**3**	⇑*i*P	**Pn**	**10 36 09.3**	**-0.3**
	baz=8.0						
TWD				S	**Sn**	**10 36 15.2**	**-0.3**
	baz=8.0						
EHY	**Hungye**	**0.36**	**221**	⇓*i*P	**Pn**	**10 36 09.2**	**-1.0**
	baz=207						
EHY				*e*S	**Sn**	**10 36 15.4**	**-1.2**
	baz=207						
WHF	**Hehuan Shan**	**0.47**	**322**	⇑*i*P	**Pn**	**10 36 11.3**	**-0.6**
	baz=328						
WHF				*i* S	**Sn**	**10 36 18.8**	**-0.7**
	baz=328						
TWF1	**Yuli**	**0.50**	**211**	⇓*i*P	**Pn**	**10 36 10.8**	**-1.2**
	baz=209						
EHP	**Heping Village**	**0.55**	**16**	*e*P	**Pn**	**10 36 12.0**	**-0.6**
	baz=16						
TWT	**Tachien**	**0.60**	**322**	⇓*i*P	**Pn**	**10 36 13.3**	**-0.2**
	baz=328						
TWT				S	**Sn**	**10 36 21.7**	**-0.5**
	baz=328						
SMLT	**Sun Moon Lake**	**0.63**	**280**	P	**Pn**	**10 36 13.4**	**-0.4**
	baz=285						
SMLT				*e*S	**Sn**	**10 36 22.1**	**-0.7**
	baz=285						
ENA	**Nanau**	**0.66**	**13**	*e*P	**Pn**	**10 36 13.3**	**-0.8**
	baz=10.0						
ENA				*e*S	**Sn**	**10 36 22.5**	**-1.0**
	baz=10.0						
TYC	**Yuchr**	**0.67**	**281**	*i* P	**Pn**	**10 36 13.8**	**-0.5**
	baz=284						
NNS	**Nan Shan**	**0.69**	**344**	⇓P	**Pn**	**10 36 14.1**	**-0.5**
	baz=352						
NNS				*e*S	**Sn**	**10 36 23.4**	**-0.8**
	baz=352						
CHKT	**Chengkung**	**0.70**	**196**	⇓*i*P	**Pn**	**10 36 14.1**	**-0.6**
	baz=181						
CHKT				*e*S	**Sn**	**10 36 24.6**	**+0.2**
	baz=181						
ALS	**Alishan**	**0.76**	**250**	⇑P	**Pn**	**10 36 15.8**	**+0.1**
	baz=243						
ALS				*e*S	**Sn**	**10 36 25.8**	**-0.4**
	baz=243						
ELDTW	**Lidau**	**0.78**	**221**	⇓*i*P	**Pn**	**10 36 14.7**	**-1.1**
	baz=212						
ELDTW				*e*S	**Sn**	**10 36 24.9**	**-1.5**
	baz=212						
WNT	**Mingjian**	**0.83**	**277**	P	**Pn**	**10 36 16.5**	**+0.1**
	baz=277						
WNT				*e*S	**Sn**	**10 36 27.9**	**+0.6**
	baz=277						
CHN5	**Tsauling**	**0.85**	**258**	*i* P	**Pn**	**10 36 16.5**	**-0.2**
	baz=257						
CHN5				*e*S	**Sn**	**10 36 28.3**	**+0.3**
	baz=257						
ENTT	**Nioudou**	**0.86**	**359**	⇓P	**Pn**	**10 36 16.2**	**-0.6**
	baz=10.0						
ENTT				S	**Sn**	**10 36 27.1**	**-1.1**
	baz=10.0						
TCU	**Taichung**	**0.90**	**294**	*e*P	**Pn**	**10 36 17.6**	**+0.2**
	baz=295						
TCU				*e*S	**Sn**	**10 36 30.2**	**+0.9**
	baz=295						
NSK	**Sanguang**	**0.92**	**347**	*i* P	**Pn**	**10 36 17.4**	**-0.2**
	baz=351						
NSK				S	**Sn**	**10 36 28.7**	**-1.0**
	baz=351						
TWQ1	**Liyutan**	**0.93**	**308**	⇓*i*P	**Pn**	**10 36 17.7**	**-0.1**
	baz=310						
TWQ1				*i* S	**Sn**	**10 36 30.1**	**+0.2**
	baz=310						
WGK	**Gukeng**	**0.94**	**265**	*e*P	**Pn**	**10 36 17.0**	**-0.8**
	baz=263						
WGK				*e*S	**Sn**	**10 36 32.8**	**+2.8**
	baz=263						
TWE	**Neicheng**	**0.94**	**5**	⇓P	**Pn**	**10 36 17.3**	**-0.6**
	baz=15						
TWE				*e*S	**Sn**	**10 36 27.8**	**-2.4**
	baz=15						
NSY	**Sanyi**	**0.98**	**310**	P	**Pn**	**10 36 18.6**	**+0.1**
	baz=312						
NSY				*e*S	**Sn**	**10 36 31.8**	**+0.6**
	baz=312						
CHN4	**Tsaushan**	**1.00**	**245**	*e*P	**Pn**	**10 36 18.7**	**0.0**
	baz=236						
CHN4				*e*S	**Sn**	**10 36 32.4**	**+0.7**
	baz=236						
NSTT	**Nanjuang**	**1.00**	**328**	⇓*i*P	**Pn**	**10 36 18.8**	**0.0**
	baz=320						
NSTT				S	**Sn**	**10 36 32.1**	**+0.5**
	baz=320						
WTP	**Ta-pu**	**1.03**	**239**	⇑*e*P	**Pn**	**10 36 19.2**	**+0.1**
	baz=237						
WTP				*e*S	**Sn**	**10 36 33.6**	**+1.1**
	baz=237						
CHN2	**Minshiung**	**1.04**	**257**	*e*P	**Pn**	**10 36 19.7**	**+0.5**
	baz=255						
CHN2				*e*S	**Sn**	**10 36 34.0**	**+1.4**
	baz=255						
TWG	**Pinlang**	**1.06**	**206**	P	**Pn**	**10 36 17.6**	**-2.0**
	baz=193						
TWG				*e*S	**Sn**	**10 36 30.2**	**-2.9**
	baz=193						
TTN	**Taitung**	**1.09**	**201**	*e*P	**Pn**	**10 36 18.7**	**-1.3**
	baz=187						
CHY	**Chiayi**	**1.10**	**255**	*e*P	**Pn**	**10 36 19.9**	**-0.1**
	baz=254						
CHY				*e*S	**Sn**	**10 36 34.1**	**+0.2**
	baz=254						
TWK	**Hsinying**	**1.12**	**243**	*e*P	**Pn**	**10 36 20.6**	**+0.1**
	baz=241						
TWK				*e*S	**Sn**	**10 36 35.3**	**+0.6**
	baz=241						
CHN1	**Nanshi**	**1.13**	**239**	*e*P	**Pn**	**10 36 20.4**	**-0.1**
	baz=237						
CHN1				*e*S	**Sn**	**10 36 35.7**	**+0.8**
	baz=237						
SGST	**Jiashian**	**1.15**	**233**	*e*P	**Pn**	**10 36 21.2**	**+0.5**
	baz=224						
SGST				*e*S	**Sn**	**10 36 36.1**	**+0.9**
	baz=224						
HSN	**Hsinchu**	**1.16**	**331**	*e*P	**Pn**	**10 36 20.7**	**-0.2**
	baz=324						
WTCT	**Ta-ch'eng**	**1.19**	**274**	*e*P	**Pn**	**10 36 21.1**	**-0.2**
	baz=274						
WTCT				*e*S	**Sn**	**10 36 37.5**	**+1.2**
	baz=274						
NCU	**National Centr**	**1.24**	**343**	*e*P	**Pn**	**10 36 22.5**	**+0.5**
	baz=349						
TAP1	**Taipei**	**1.26**	**358**	*e*P	**Pn**	**10 36 22.2**	**0.0**
	baz=11						
TAP1				*e*S	**Sn**	**10 36 37.9**	**0.0**
	baz=11						
TWB1	**Santiao Chiao**	**1.28**	**17**	*e*P	**Pn**	**10 36 22.9**	**+0.3**
	baz=12						
TWB1				*e*S	**Sn**	**10 36 38.2**	**-0.3**
	baz=12						
NWF	**Wu-fen Shan**	**1.30**	**8**	⇓*i*P	**Pn**	**10 36 22.8**	**-0.1**
	baz=10.0						
NWF				*e*S	**Sn**	**10 36 38.8**	**-0.3**
	baz=10.0						
ECL	**Taimali**	**1.31**	**206**	*e*P	Pn	10 36 20.3	-2.6
	baz=194						
CHN3	**Shinhua**	**1.32**	**238**	*e*P	**Pn**	**10 36 24.5**	**+1.5**
	baz=249						
CHN3				*e*S	**Sn**	**10 36 41.7**	**+2.3**
	baz=249						
TWS1	**Kuangyinshan**	**1.32**	**354**	*e*P	**Pn**	**10 36 21.8**	**-1.4**
	baz=8.0						
TWS1				*e*S	**Sn**	**10 36 39.9**	**+0.3**
	baz=8.0						
CHN8	**Yiju**	**1.33**	**251**	*e*P	**Pn**	**10 36 22.4**	**-0.7**
	baz=250						
CHN8				*e*S	**Sn**	**10 36 40.1**	**+0.4**
	baz=250						
SSD	**Sandimen**	**1.35**	**220**	*e*P	**Pn**	**10 36 23.4**	**-0.1**
	baz=220						
SSD				*e*S	**Sn**	**10 36 41.8**	**+1.6**
	baz=220						
SCLT	**Jiali**	**1.41**	**245**	*e*P	**Pn**	**10 36 23.8**	**-0.4**
	baz=244						
SCLT				*e*S	**Sn**	**10 36 42.7**	**+1.1**
	baz=244						
TWM1	**Shoushan**	**1.43**	**228**	*e*P	**Pn**	**10 36 26.0**	**+1.5**
	baz=223						
YOJ	**Yonaguni jima**	**1.47**	**62**	*e*P	**Pn**	**10 36 24.4**	**-0.8**
	baz=64						
YOJ	**Yonaguni jima**	**1.47**	**62**	P	**Pn**	**10 36 24.1**	**-1.1**
YOJ				*e*S	**Sn**	**10 36 43.8**	**+0.5**
EAST	**Anshuo**	**1.54**	**206**	*e*P	**Pn**	**10 36 24.2**	**-2.0**
	baz=191						
SCZT	**Fangliau**	**1.66**	**212**	*e*P	**Pn**	**10 36 27.8**	**+0.1**
	baz=225						
SCZT				*e*S	**Sn**	**10 36 49.2**	**+1.5**
	baz=225						
LAY	**Lan-yu**	**1.73**	**181**	*e*P	**Pn**	**10 36 27.4**	**-1.4**
	baz=181						
LAY				*e*S	**Sn**	**10 36 48.5**	**-1.2**
	baz=181						
PNG	**Penghu**	**1.87**	**264**	*e*P	**Pn**	**10 36 29.5**	**-1.1**
	baz=263						
PNG				*e*S	**Sn**	**10 36 51.7**	**-1.3**
	baz=263						
TWK1	**Hengchun**	**1.96**	**202**	*e*P	**Pn**	**10 36 31.5**	**-0.4**
	baz=187						
IRIF	**Iriomote-Funau**	**2.04**	**74**	P	**Pn**	**10 36 33.5**	**+0.5**
IRIF				*e*S	**Sn**	**10 36 58.6**	**+1.3**
HATJ	**Hateruma jima**	**2.06**	**82**	P	**Pn**	**10 36 33.8**	**+0.6**
HATJ				*e*S	**Sn**	**10 36 58.8**	**+1.2**
JKRS	**Kuro-shima**	**2.27**	**78**	P	**Pn**	**10 36 37.0**	**+0.9**
JKRS				*e*S	**Sn**	**10 37 04.3**	**+1.5**
JIJ	**Ishigaki jima**	**2.41**	**76**	P	**Pn**	**10 36 38.2**	**+0.1**
JIJ				*e*S	**Sn**	**10 37 06.4**	**0.0**
KNM	**Kinmen**	**2.94**	**283**	*e*P	**Pn**	**10 36 45.0**	**-0.4**
	baz=282						
JTJ	**Tarama**	**2.98**	**73**	P	**Pn**	**10 36 46.2**	**+0.4**
JTJ				*e*S	**Sn**	**10 37 21.2**	**+0.9**

*ISCJB **28** 11:00:49.1±0.6,3.59N±0.09×126.5E±0.3,h10km, mb3.9/10,MS3.3/1,Error ellipse: s-maj=39.9km s-min=11.5km az=169.6*
*IDC **28** 11:00:49.5±0.7,3.58N×126.51E,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.9/24,mbtmp4.0/10,MS3.2/2, Ms1 3.2/2,ms1mx2.1/50,Error ellipse: s-maj=48.6km s-min=14.3km az=77.0*
*MAN **28** 11:01:51,7.39N×124.75E,h29km,mb4.0,ML2.8,MS2.5*

ISC 28 11:00:50.9±0.7,**3.6N**±0.1×**126.4E**±0.2,**h10**km,**n15,** σ0§**78**/14,**mb3.9**/10,**1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.53**	**347**	LR	LR	11 03 28.2	
	comp=Z,190nm,19.8s,baz=226,slow=44						
CTBH	**Cotabato--PC H**	**4.17**	**330**	⇓*i*P	**Pb**	**11 02 03.1**	**-1.3**
BUKP	**Musuan**	**4.44**	**343**	*e*P	Pb	11 02 04.0	-5.1
BUKP				*e*S	Px	11 02 13.6	
PAGZ	**Pagadian**	**5.16**	**325**	*e*P	Pb	11 02 15.7	-5.6
PAGZ				*e*S	Px	11 02 24.1	
FITZ	**Fitzroy Crossi**	**21.58**	**182**	P	**P**	**11 05 41.4**	**+0.5**
	1.9nm,0.6s,baz=348,slow=8.9,SNR=6.8						
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**11 06 11.0**	**-1.2**
	6.7nm,0.4s,baz=344,slow=9.8,SNR=90						
WRA				PcP	**PcP**	**11 09 49.4**	**-0.3**
	0.4nm,0.9s,baz=329,slow=2.1,SNR=4.6						
CBIJ	**Chichi jima**	**27.83**	**31**	LR	LR	11 15 06.2	
	comp=Z,81nm,21.7s,baz=283,slow=31						
ASAR	**Alice Springs**	**28.08**	**165**	P	**P**	**11 06 42.4**	**-0.5**
	0.4nm,0.5s,baz=346,slow=13,SNR=11						
ASAR				PcP	**PcP**	**11 09 57.6**	**0.0**
	0.4nm,0.4s,baz=345,slow=2.2,SNR=5.4						
KSRS	**Korea Array**	**33.72**	**2**	P	**P**	**11 07 32.6**	**+0.1**
	1.0nm,0.6s,baz=183,slow=9.6,SNR=5.3						
STKA	**Stephens Creek**	**38.14**	**159**	P	**P**	**11 08 10.2**	**-0.3**
	3.9nm,0.6s,baz=343,slow=8.8,SNR=8.5						
STKA				PcP	**PcP**	**11 10 25.1**	**-0.3**
	1.9nm,1.1s,baz=346,slow=4.2,SNR=3.5						
SONM	**Songino Array**	**47.30**	**342**	P	**P**	**11 09 25.6**	**+0.8**
	0.3nm,0.4s,baz=152,slow=6.4,SNR=2.2						
PETK	**Petropavlovsk-**	**55.69**	**22**	P	**P**	**11 10 26.9**	**-0.4**
	2.9nm,0.9s,baz=171,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**57.45**	**325**	P	**P**	**11 10 40.1**	**0.0**
	0.7nm,0.5s,baz=120,slow=7.3,SNR=8.4						
BVAR	**Borovoye Array**	**67.23**	**327**	P	**P**	**11 11 46.8**	**+1.4**
	1.0nm,0.9s,baz=122,slow=7.0,SNR=6.1						
ILAR	**Eielson Array**	**85.38**	**25**	P	**P**	**11 13 28.8**	**+0.5**
	0.5nm,1.1s,baz=240,slow=5.4,SNR=4.2						

*ISCJB **28** 11:04:43.8±1.1,50.29N±0.07×174.43W±0.09,h33km, mb3.2/2,Error ellipse: s-maj=11.3km s-min=7.3km az=22.9*
*IDC **28** 11:04:43.5±3.5,50.33N×174.07W,h0km,mb3.1/3, mb1 3.7/4,mb1mx3.3/29,mbtmp3.4/4,ML3.7/1,Error ellipse: s-maj=82.8km s-min=37.1km az=1.0*
*NEIC **28** 11:04:46.1,50.33N×174.53W,h37km,ML3.2(AEIC),After AEIC.*

ISC 28 11:04:47.2±1.4,**50.4N**±0.1×**174.4W**±0.06,**h35**km,**n16,** σ1§**24**/19,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.82**	**5**	P	**Pn**	**11 05 14.6**	**-1.3**
ATKA				S	**Sn**	**11 05 38.5**	**+0.7**
KOFP	**Korovin Flat P**	**1.90**	**7**	P	**Pn**	**11 05 17.2**	**+0.1**
KOFP				S	**Sn**	**11 05 39.8**	**0.0**
GSCK	**Great Sitkin C**	**1.94**	**327**	P	**Pn**	**11 05 16.1**	**-1.5**
GSCK				S	**Sn**	**11 05 40.8**	**+0.1**
GSTD	**Great Sitkin T**	**1.97**	**328**	P	**Pn**	**11 05 15.9**	**-2.1**
GSTD				S	**Sn**	**11 05 41.6**	**+0.1**
KOWE	**Korovin West**	**1.98**	**4**	P	**Pn**	**11 05 18.2**	**0.0**
KIMD	**Kanaga Island**	**2.22**	**309**	P	**Pn**	**11 05 20.2**	**-1.2**
TASE	**Tanaga Southea**	**2.67**	**304**	P	**Pn**	**11 05 26.9**	**-0.8**
TAFP	**Tanaga Falls P**	**2.68**	**306**	P	**Pn**	**11 05 26.7**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**4.98**	**51**	P	**Pn**	**11 05 59.0**	**-0.4**
MSOM	**Makushin Julie**	**5.76**	**51**	P	**Pn**	**11 06 09.1**	**-1.0**
UNV	**Unalaska Valle**	**6.00**	**52**	P	**Pn**	**11 06 11.9**	**-1.4**
KDAK	**Kodiak Island**	**14.77**	**52**	Pn	Pn	11 08 08.9	-4.3
	0.4nm,0.3s,baz=263,slow=8.3,SNR=5.2						
PETK	**Petropavlovsk-**	**17.40**	**290**	P	**P**	**11 08 50.9**	**+2.9**
	0.2nm,0.3s,baz=102,slow=14,SNR=8.9						
ILAR	**Eielson Array**	**20.39**	**35**	P	**P**	**11 09 20.3**	**-0.4**
	0.5nm,0.5s,baz=231,slow=9.6,SNR=11						
YKA	**Yellowknife Ar**	**33.94**	**46**	P	**P**	**11 11 26.9**	**+0.4**
	0.1nm,0.6s,baz=277,slow=8.1,SNR=4.1						
PDAR	**Pinedale Array**	**43.98**	**74**	P	**P**	**11 12 50.3**	**-0.7**
	0.9nm,0.9s,baz=278,slow=6.3,SNR=6.0						

*IDC **28** 11:10:24.1±0.5,37.73S×50.75E,h0km,mb4.2/18, mb1 4.2/19,mb1mx4.2/27,mbtmp4.1/19,ML3.5/1,MS3.9/17, Ms1 3.9/17,ms1mx3.6/36,Error ellipse: s-maj=18.3km s-min=14.8km az=54.0*
*ISCJB **28** 11:10:25.0±0.4,37.74S±0.07×50.8E±0.1,h16km, mb4.1/22,MS3.9/16,Error ellipse: s-maj=13.3km s-min=10.3km az=171.5*
*NEIC **28** 11:10:25.8±0.4,37.72S×50.85E,h10km,mb4.6/3,Error ellipse: s-maj=12.4km s-min=11.3km az=71.0*

ISC 28 11:10:26.6±0.5,**37.72S**±0.09×**50.9E**±0.1,**h16**km,**n61,** σ1§**19**/57,**mb4.2**/22,**MS3.9**/16,**1C,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**17.03**	**16**	*e*Pn	**Pn**	**11 14 24.2**	**0.0**
	36nm,0.8s						
OPO	**Ambohidratompo**	**19.35**	**349**	P	**P**	**11 14 51.1**	**-0.5**
	0.1nm,0.3s,baz=204,slow=12,SNR=2.9						
OPO				LR	LR	11 20 48.3	
	comp=Z,418nm,18.1s,baz=0.0,slow=32						
OPO	**Ambohidratompo**	**19.35**	**349**	P	**P**	**11 14 51.1**	**-0.5**
BOSA	**Boshof**	**23.23**	**285**	P	**P**	**11 15 32.0**	**-1.3**
	8.9nm,1.1s,baz=143,slow=9.7,SNR=5.6						
BOSA				LR	LR	11 22 43.7	
	comp=Z,221nm,20.0s,baz=124,slow=32						
BOSA	**Boshof**	**23.23**	**285**	P	**P**	**11 15 32.0**	**-1.3**
LBTB	**Lobatse**	**24.94**	**293**	LR	LR	11 23 20.5	
	comp=Z,191nm,21.4s,baz=344,slow=31						
SUR	**Sutherland**	**25.12**	**273**	P	**P**	**11 15 53.5**	**+2.5**
	5.7nm,0.8s,baz=114,slow=10.0,SNR=3.7						
SUR				LR	LR	11 24 14.5	
	comp=Z,82nm,19.8s,baz=100,slow=33						
SUR	**Sutherland**	**25.12**	**273**	P	**P**	**11 15 53.5**	**+2.5**
LSZ	**Lusaka**	**30.05**	**312**	P	**P**	**11 16 34.3**	**-0.9**
	2.6nm,0.9s,baz=117,slow=9.0,SNR=3.3						
LSZ				LR	LR	11 26 55.8	
	comp=Z,407nm,20.1s,baz=162,slow=33						
LSZ	**Lusaka**	**30.05**	**312**	P	**P**	**11 16 34.3**	**-0.9**
MAW	**Mawson**	**30.69**	**171**	P	**P**	**11 16 38.4**	**-1.8**
	4.5nm,0.8s,baz=354,slow=9.1,SNR=4.6						
MAW				LR	LR	11 25 56.4	
	comp=Z,281nm,20.2s,baz=263,slow=30						
MAW	**Mawson**	**30.69**	**171**	P	**P**	**11 16 38.4**	**-1.8**
SYO	**Syowa Base**	**31.95**	**188**	⇑*e*P	**P**	**11 16 50.5**	**-0.8**
TSUM	**Tsumeb**	**34.35**	**293**	P	**P**	**11 17 12.8**	**-0.1**
	3.2nm,0.7s,baz=110,slow=9.3,SNR=3.5						
TSUM				LR	LR	11 30 00.6	
	comp=Z,99nm,18.7s,baz=153,slow=34						
TSUM	**Tsumeb**	**34.35**	**293**	P	**P**	**11 17 12.8**	**-0.1**
SNAA	**Sanae**	**43.42**	**202**	P	**P**	**11 18 27.9**	**-0.3**
	0.8nm,1.1s,baz=67,slow=7.7,SNR=4.1						
SNAA	**Sanae**	**43.42**	**202**	P	**P**	**11 18 27.9**	**-0.3**
ATD	**Arta Tunnel**	**49.56**	**350**	LR	LR	11 38 36.0	
	comp=Z,106nm,18.6s,baz=153,slow=34						
QSPA	**South Pole Qui**	**52.47**	**180**	P	**P**	**11 19 38.7**	**+0.2**
	12nm,1.0s,baz=257,slow=4.4,SNR=18						
QSPA	**South Pole Qui**	**52.47**	**180**	P	**P**	**11 19 38.7**	**+0.2**
	7.4nm,1.0s						
VNDA	**Vanda**	**57.80**	**166**	LR	LR	11 42 33.3	
	comp=Z,378nm,18.5s,ba

comp=N,0.5nm,0.8s,baz=242,slow=8.0,SNR=4.4
MKAR Makanchi Array 88.72 21 P **P** **11 23 20.1 +1.2**
AKASG Malin Array Be 90.08 346 P **P** **11 23 25.2 0.0**
comp=N,0.5s,baz=167,slow=4.4,SNR=2.9
AKASG Malin Array Be 90.08 346 P **P** **11 23 25.2 0.0**
VRAC Vranov 91.82 338 LR LR 12 11 06.5
comp=Z,55nm,18.1s,baz=160,slow=40
BVAR Borovoye Array 91.95 12 P **P** **11 23 33.6 -0.2**
comp=N,0.6nm,0.7s,baz=187,slow=8.7,SNR=3.3
BVAR Borovoye Array 91.95 12 P **P** **11 23 33.6 -0.2**
ESDC Sonseca Array 92.00 321 P P 11 23 39.9 +5.4
comp=N,0.2nm,0.3s,baz=142,slow=4.9,SNR=4.6
ESDC Sonseca Array 92.00 321 P P 11 23 39.9 +5.4
ZALV Zalesovo Beam 95.88 19 P **P** **11 23 50.8 -1.0**
comp=N,1.1nm,0.7s,baz=186,slow=1.4,SNR=4.5
ZALV LR LR 12 00 58.4
comp=Z,31nm,19.3s,baz=277,slow=32
ZALV Zalesovo Beam 95.88 19 P **P** **11 23 50.8 -1.0**
INK Inuvik 149.26 3 PKPbc **PKPbc** **11 30 13.4 +0.1**
comp=N,0.9s,baz=0.7,slow=4.0,SNR=11
INK Inuvik 149.26 3 PKPbc **PKPbc** **11 30 13.4 +0.1**
ILAR Eielson Array 150.94 16 PKPbc **PKPbc** **11 30 17.2 -0.3**
comp=N,0.7s,baz=313,slow=3.1,SNR=36
ILAR PKPab **PKPab** **11 30 22.7 -2.3**
comp=N,0.8s,baz=316,slow=3.1,SNR=26
ILAR Eielson Array 150.94 16 PKPbc **PKPbc** **11 30 17.2 -0.3**
ILAR PKPab **PKPab** **11 30 22.7 -2.3**
YKA Yellowknife Ar 153.64 345 PKPbc **PKPbc** **11 30 22.2 -1.5**
comp=N,0.7nm,0.7s,baz=37,slow=1.4,SNR=10
YKA PKPab **PKPab** **11 30 35.9 -0.4**
comp=N,1.4nm,0.8s,baz=28,slow=4.9,SNR=10
YKA Yellowknife Ar 153.64 345 PKPbc **PKPbc** **11 30 22.2 -1.5**
YKA PKPab **PKPab** **11 30 36.0 -0.4**
TXAR Lajitas Array 157.24 256 PKPab **PKPab** **11 30 52.5 -0.5**
comp=N,0.8nm,1.1s,baz=101,slow=0.9,SNR=3.3
TXAR Lajitas Array 157.24 256 PKPab **PKPab** **11 30 52.5 -0.5**

*IDC **28** 11:11:17.9±0.6,38°.91N×113°.09E,h0km,mb3.9/15,*
mb1 4.1/16,mb1mx4.0/27,mbtmp3.9/16,ML3.8/1,MS3.5/15,
Ms1 3.5/15,ms1mx3.3/46,Error ellipse: s-maj=20.7km
s-min=14.2km az=71.0
*MOS **28** 11:11:19.8±1.3,38°.90N×112°.98E,h22km,mb4.4/8,Error*
ellipse: s-maj=10.5km s-min=8.3km az=107.7
*ISCJB **28** 11:11:20.3±1.7,38°.92N±0°.03×112°.99E±0°.05,*
h25km±13km,mb4.1/24,MS3.5/13,Error ellipse:
s-maj=6.3km s-min=5.1km az=9.0
*NEIC **28** 11:11:20.1±0.3,38°.88N×112°.95E,h10km,mb4.4/8,Error*
ellipse: s-maj=8.0km s-min=7.3km az=90.0
*BJI **28** 11:11:20.5,38°.90N×112°.93E,h8km,mB4.4/6,mb4.3/15,*
ML4.5/20,Ms4.3/20,Ms7 4.0/18
ISC 28 11:11:20.3±1.7,38°.94N±0°.04×112°.98E±0°.03,h12km±11km,
n88,σ1°72/97,mb4.1/24,MS3.5/13,1C,Northeastern
China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIY	**Taiyuan**	**1.29**	**199**	*e*Pg		**Pn**	**11 11 43.0**	**-1.3**
TIY				Sg		**Sb**	**11 11 59.8**	**-1.4**
TIY				*s*max	*s*max			
	comp=N,8μm,0.4s							
TIY				*s*max	*s*max			
	comp=E,6μm,0.7s							
HHC	**Hu-ho-hao-te**	**2.20**	**331**	*e*Pn		**Pn**	**11 11 58.0**	**+1.2**
HHC				Pg		**Pb**	**11 12 00.8**	**+0.7**
HHC				Sg		**Sb**	**11 12 29.0**	**+1.7**
HHC				*s*max	*s*max			
	comp=N,7μm,0.5s							
HHC				*s*max	*s*max			
	comp=E,5μm,0.9s							
BJI	**Beijing**	**2.71**	**65**	Pn		**Pn**	**11 12 05.0**	**+1.4**
BJI				Pg		**Pb**	**11 12 09.3**	**+0.5**
BJI				Sg		**Sg**	**11 12 46.0**	**-1.3**
BJI				*s*max	*s*max			
	comp=N,2μm,0.5s							
BJI				*s*max	*s*max			
	comp=E,1μm,0.6s							
BJI	**Beijing**	**2.71**	**65**	P		**Pn**	**11 12 05.1**	**+1.4**
BJI							11 12 46.0	
BJI	**Beijing**	**2.71**	**65**	Pn		**Pn**	**11 12 05.1**	**+1.4**
BJI				Pg		**Pb**	**11 12 09.2**	**+0.5**
BJI				Sg		**Sg**	**11 12 46.0**	**-1.3**
BTO	**Baotou**	**2.82**	**307**	*e*Pn		**Pn**	**11 12 05.8**	**+0.5**
BTO				Pg		**Pb**	**11 12 09.8**	**-0.9**
BTO				Sg		**Sg**	**11 12 50.5**	**-0.4**
BTO				*s*max	*s*max			
	comp=N,180nm,0.3s							
BTO				*s*max	*s*max			
	comp=E,490nm,0.3s							
TIA	**Tai'an**	**4.27**	**128**	Pn		**Pn**	**11 12 26.3**	**+1.1**
TIA				Pg		**Pb**	**11 12 36.0**	**+0.6**
TIA				Sg		**Sb**	**11 13 31.8**	**+4.9**
TIA				*s*max	*s*max			
	comp=N,6μm,0.4s							
TIA				*s*max	*s*max			
	comp=E,5μm,0.3s							
XAN	**Xi'an**	**5.88**	**215**	Pn		**Pn**	**11 12 47.0**	**-0.3**
XAN				Pg		Pb	11 13 07.0	+4.2
XAN				Sn		**Sn**	**11 13 56.0**	**+1.4**
XAN				Sg		Sg	11 14 21.8	-7.2
XAN				*s*max	*s*max			
	comp=N,360nm,1.2s							
XAN				*s*max	*s*max			
	comp=E,120nm,0.9s							
XAN				LR	LR			
	comp=N,590nm,11.2s							
XAN				LR	LR			
	comp=E,230nm,10.6s							
XAN				LR	LR			
	comp=Z,290nm,11.9s							
NJ2	**Nanjing**	**8.37**	**143**	*e*P		Pn	11 13 27.5	+6.0
NJ2				S		Sn	11 15 04.3	+8.3
NJ2				*s*max	*s*max			
	comp=N,100nm,0.7s							
NJ2				*s*max	*s*max			
	comp=E,160nm,1.1s							
WHN	**Wuhan**	**8.45**	**172**	P		**Pn**	**11 13 24.5**	**+2.0**
WHN				S		**Sn**	**11 15 00.0**	**+2.1**
WHN				LR	LR			
	comp=E,3μm,9.4s							
WHN				LR	LR			
	comp=Z,1μm,11.7s							
SNY	**Shenyang**	**8.59**	**67**	⇑P		**Pn**	**11 13 23.5**	**-1.0**
SNY				S		**Sn**	**11 14 56.0**	**-5.3**
SNY				*p*max	*p*max			
	comp=Z,10.0nm,0.3s							
SNY				LR	LR			
	comp=N,480nm,5.4s							
SNY				LR	LR			
	comp=E,520nm,4.2s							
SNY				LR	LR			
	comp=Z,400nm,11.0s							
ENH	**Enshi**	**9.11**	**199**	*e*Pn		**Pn**	**11 13 31.6**	**0.0**
ENH				Sn		Sn	11 15 03.2	-11
ULN	**Ulaanbaatar**	**9.91**	**336**	*e*Pn		**Pn**	**11 13 43.4**	**+0.7**
ULN				Sn		Sn	11 15 47.1	+13
SONM	**Songino Array**	**10.10**	**334**	Pn		**Pn**	**11 13 45.3**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=147,slow=14,SNR=9.3							
SONM				Lg		Lg	11 16 35.5	
	comp=Z,2.6nm,0.3s,baz=148,slow=27,SNR=8.0							
SONM				LR		LR	11 18 01.5	
	comp=Z,451nm,18.6s,baz=156,slow=40							
SONM	**Songino Array**	**10.10**	**334**	Pn		**Pn**	**11 13 45.3**	**+0.1**
SONM				Lg		Lg	11 16 35.5	
GTA	**Gaotai**	**10.23**	**277**	*e*P		**Pn**	**11 13 47.3**	**+0.2**
GTA				*p*P			11 13 51.3	
GTA				*s*P			11 13 54.8	
GTA				S		**Sn**	**11 15 43.5**	**+1.7**
GTA				*s*S			11 15 51.8	
GTA				SS		**SnSn**	**11 16 00.8**	**+7.5**
GTA				*p*max	*p*max			
	comp=Z,4.0nm,0.6s							
GTA				*p*max	*p*max			
	comp=Z,140nm,4.5s							
GTA				LR	LR			
	comp=N,1μm,10.2s							
GTA				LR	LR			
	comp=E,400nm,9.5s							
GTA				LR	LR			
	comp=Z,500nm,11.6s							
CD2	**Chengdu**	**11.01**	**226**	P		**Pn**	**11 13 55.3**	**-2.4**
CD2				S		**Sn**	**11 15 57.0**	**-3.8**
CD2				*p*max	*p*max			
	comp=Z,10.0nm,0.5s							
CD2				LR	LR			
	comp=N,660nm,3.7s							
CD2				LR	LR			
	comp=Z,390nm,7.1s							
HIA	**Hailar**	**11.41**	**23**	*e*Pn		**Pn**	**11 14 04.8**	**+1.7**
KSAR	**Wonju Array Be**	**11.83**	**93**	Pn		**Pn**	**11 14 11.3**	**+2.5**
KSAR				Lg		Lg	11 17 29.4	
KSRS	**Korea Array**	**11.86**	**93**	Pn		**Pn**	**11 14 11.3**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=277,slow=13,SNR=7.3							
KSRS				Lg		Lg	11 17 29.4	
	baz=288,slow=27,SNR=4.3							
KSRS				LR		LR	11 18 49.3	
	comp=Z,52nm,21.2s,baz=280,slow=38							
ZAK	**Zakamensk**	**13.35**	**332**	*e*P		**Pn**	**11 14 27.2**	**-2.4**
ZAK				*p*max	*p*max			
	comp=Z,3.0nm,1.1s							
USRK	**Ussuriysk Arra**	**15.17**	**64**	Pn		**P**	**11 15 01.9**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=252,slow=14,SNR=6.5							
USRK				Lg		Lg	11 19 20.8	
	comp=Z,0.2nm,0.3s,baz=142,slow=43,SNR=3.6							
USRK				LR		LR	11 21 00.8	
	comp=Z,134nm,19.3s,baz=129,slow=39							
KLR	**Kul'dur**	**16.92**	**46**	*e*P		**Pn**	**11 15 16.7**	**-0.1**
QIZ	**Qiongzhong**	**20.02**	**189**	P		**P**	**11 15 52.8**	**-0.3**
QIZ				S		Sn	11 19 39.0	-1.0
QIZ				*p*max	*p*max			
	comp=Z,13nm,1.4s							
QIZ				LR		LR		
	comp=E,340nm,14.3s							
QIZ				LR		LR		
	comp=Z,410nm,12.1s							
MJAR	**Matsushiro Arr**	**20.08**	**89**	P		Pn	11 15 56.3	+0.7
	comp=Z,3.2nm,1.1s,baz=280,slow=12,SNR=4.6							
MJAR				LR		LR	11 23 03.2	
	comp=Z,60nm,19.1s,baz=290,slow=35							
MJAR	**Matsushiro Arr**	**20.08**	**89**	P		Pn	11 15 56.3	+0.7
LSA	**Lhasa**	**20.21**	**249**	P		Pn	11 15 56.8	-0.8
LSA				*p*max	*p*max			
	comp=Z,20nm,0.8s							
LSA	**Lhasa**	**20.21**	**249**	*e*P		**P**	**11 15 56.3**	**+0.7**
LSA				*p*max	*p*max			
	comp=Z,14nm,0.8s							
LSA	**Lhasa**	**20.21**	**249**	*e*P		**P**	**11 15 56.3**	**+0.7**
	comp=Z,14nm,0.8s							
ASAJ	**Asahikawa**	**22.70**	**67**	LR		LR	11 24 41.6	
	comp=Z,90nm,20.6s,baz=342,slow=36							
CHTO	**Chiang Mai**	**23.46**	**215**	*e*P		**P**	**11 16 28.9**	**-0.8**
CHTO				*p*max	*p*max			
	comp=Z,6.0nm,0.9s							
CHTO	**Chiang Mai**	**23.46**	**215**	*e*P		**P**	**11 16 28.9**	**-0.8**
	comp=Z,5.6nm,0.9s							
CHTO				*e*S		Sn	11 20 58.7	-3.8
MK31	**Makanchi Array**	**23.71**	**299**	*e*P		**P**	**11 16 33.1**	**+1.1**
MK31	**Makanchi Array**	**23.71**	**299**	*e*P		**P**	**11 16 33.1**	**+1.1**
MKAR	**Makanchi Array**	**23.71**	**299**	P		**P**	**11 16 32.9**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=97,slow=12,SNR=12							
MKAR				PcP		**PcP**	**11 20 15.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=61,slow=3.7,SNR=4.0							
MKAR	**Makanchi Array**	**23.71**	**299**	P		**P**	**11 16 32.9**	**+0.9**
MKAR							11 20 15.7	
MKAR				*p*max	*p*max			
	comp=Z,1.0nm,0.7s							
MKAR				*p*max	*p*max			
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**23.71**	**299**	*e*P		**P**	**11 16 33.2**	**+1.2**
MKAR				PcP		**PcP**	**11 20 15.7**	**-0.2**
CM31	**Chiang Mai Arr**	**23.77**	**215**	*e*P		**P**	**11 16 32.2**	**-0.6**
	comp=Z,2.1nm,0.4s							
CMAR	**Chiang Mai Ar**	**23.77**	**215**	P		**P**	**11 16 31.9**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=20,slow=8.7,SNR=31							
CMAR				LR		LR	11 26 52.3	
	comp=Z,113nm,19.3s,baz=40,slow=39							
CMAR	**Chiang Mai Arr**	**23.77**	**215**	P		**P**	**11 16 31.9**	**-0.9**
ZALV	**Zalesovo Beam**	**24.32**	**317**	P		**P**	**11 16 37.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=119,slow=8.4,SNR=7.4							
ZALV				LR		LR	11 26 57.2	
	comp=Z,74nm,19.0s,baz=57,slow=38							
ZALV	**Zalesovo Beam**	**24.32**	**317**	P		**P**	**11 16 37.6**	**0.0**
ZALV	**Zalesovo Beam**	**24.32**	**317**	P		**P**	**11 16 37.6**	**0.0**
NVS	**Novosibirsk**	**25.54**	**318**	*e*P		**P**	**11 16 51.1**	**+2.4**
NVS				*p*max	*p*max			
	comp=N,2.0nm,1.1s							
NVS				*p*max	*p*max			
	comp=E,6.0nm,1.1s							
NVS				*p*max	*p*max			
	comp=Z,8.0nm,1.1s							
KURK	**Kurchatov**	**26.82**	**307**	*e*P		**P**	**11 17 01.4**	**+1.1**
KURK				*p*max	*p*max			
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**26.82**	**307**	*e*P		**P**	**11 17 01.4**	**+1.1**
	comp=Z,7.5nm,0.9s							
AAK	**Ala-Archa**	**29.20**	**290**	LR		LR	11 30 15.2	
	comp=Z,107nm,18.5s,baz=247,slow=39							
KKAR	**Karatay Array**	**32.05**	**291**	*e*P		**P**	**11 17 48.6**	**+1.7**
KKAR	**Karatay Array**	**32.05**	**291**	*e*P		**P**	**11 17 48.6**	**+1.7**
BVAR	**Borovoye Array**	**32.26**	**310**	P		**P**	**11 17 49.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.6,SNR=4.7							
BVAR				LR		LR	11 31 43.3	
	comp=Z,121nm,19.1s,baz=318,slow=38							
BVAR	**Borovoye Array**	**32.26**	**310**	P		**P**	**11 17 49.0**	**+0.4**
BVAR	**Borovoye Array**	**32.26**	**310**	P		**P**	**11 17 49.0**	**+0.4**
PETK	**Petropavlovsk-**	**33.55**	**51**	LR		LR	11 34 05.1	
	comp=Z,78nm,18.7s,baz=88,slow=41							
IPM	**Ipoh**	**35.98**	**201**	*e*P		**P**	**11 18 21.1**	**-0.1**
	comp=Z,8.0nm,1.1s							
ARU	**Arti**	**39.41**	**315**	*e*P		**P**	**11 18 51.5**	**+1.7**
ARU				*p*max	*p*max			
	comp=Z,6.0nm,0.8s							
ARU	**Arti**	**39.41**	**315**	*e*P		**P**	**11 18 51.5**	**+1.7**
	comp=Z,5.5nm,0.8s							
FX1	**Attu Island--F**	**42.88**	**51**	LR		LR	11 36 58.7	
	comp=Z,60nm,21.6s,baz=9.4,slow=36							
ARCES	**ARCESS Array B**	**53.27**	**334**	LR		LR	11 48 00.7	
	comp=Z,25nm,18.6s,baz=253,slow=41							
SPITS	**Spitsbergen Ar**	**53.56**	**345**	LR		LR	11 46 51.6	
	comp=Z,86nm,18.7s,baz=335,slow=40							
FINES	**FINESS Array B**	**55.31**	**324**	P		**P**	**11 20 54.0**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=58,slow=8.4,SNR=3.9							
FINES				LR		LR	11 46 57.7	
	comp=Z,91nm,18.6s,baz=169,slow=39							
FINES	**FINESS Array B**	**55.31**	**324**	P		**P**	**11 20 54.0**	**+0.6**
BRTR	**Keskin Array B**	**59.35**	**298**	P		**P**	**11 21 21.4**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=101,slow=6.2,SNR=3.9							
BRTR	**Keskin Array B**	**59.35**	**298**	P		**P**	**11 21 21.4**	**-1.1**
ILAR	**Eielson Array**	**59.56**	**29**	P		**P**	**11 21 22.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=284,slow=5.6,SNR=13							
ILAR	**Eielson Array**	**59.56**	**29**	P		**P**	**11 21 22.8**	**-0.5**
WRAB	**Tennant Creek**	**61.89**	**157**	*e*P		**P**	**11 21 37.5**	**-2.2**
WRAB				*p*max	*p*max			
	comp=Z,4.0nm,0.8s							
WRAB	**Tennant Creek**	**61.89**	**157**	*e*P		**P**	**11 21 37.5**	**-2.2**
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**61.90**	**157**	P		**P**	**11 21 38.4**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=347,slow=7.0,SNR=12							
WRA	**Warramunga Ar**	**61.90**	**157**	P		**P**	**11 21 38.5**	**-1.3**
NB2	**NORSAR Subarra**	**62.00**	**327**	P		**P**	**11 21 40.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=61,slow=6.9							
NOA	**NORSAR Array B**	**62.00**	**327**	P		**P**	**11 21 40.1**	**0.0**
	comp=Z,2.0nm,0.9s,baz=59,slow=6.9,SNR=4.4							
NOA				LR		LR	11 50 41.2	
	comp=Z,43nm,18.4s,baz=50,slow=38							
NOA	**NORSAR Array B**	**62.00**	**327**	P		**P**	**11 21 40.1**	**0.0**
INK	**Inuvik**	**62.26**	**23**	P		**P**	**11 21 40.2**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=292,slow=3.8,SNR=9.6							
INK	**Inuvik**	**62.26**	**23**	P		**P**	**11 21 40.2**	**-1.4**
RES	**Resolute Bay**	**65.15**	**8**	P		**P**	**11 22 00.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=354,slow=10,SNR=7.4							
RES	**Resolute Bay**	**65.15**	**8**	P		**P**	**11 22 00.2**	**-0.4**
AS31	**Alice Springs**	**65.29**	**159**	*e*P		**P**	**11 22 01.5**	**-0.6**
ASAR	**Alice Springs**	**65.29**	**159**	P		**P**	**11 22 01.5**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=344,slow=6.5,SNR=31							
ASAR	**Alice Springs**	**65.29**	**159**	P		**P**	**11 22 01.5**	**-0.6**
YKA	**Yellowknife Ar**	**71.94**	**21**	P		**P**	**11 22 42.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=322,slow=6.0,SNR=24							
YKA	**Yellowknife Ar**	**71.94**	**21**	P		**P**	**11 22 42.4**	**-0.8**
STKA	**Stephens Creek**	**75.31**	**155**	P		**P**	**11 23 02.7**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=340,slow=8.6,SNR=5.5							
STKA	**Stephens Creek**	**75.31**	**155**	P		**P**	**11 23 02.7**	**-0.6**
SLMT	**Seeley Lake**	**84.71**	**30**	*e*P		**P**	**11 23 54.4**	**0.0**
	comp=Z,2.0nm,0.8s							
DGMT	**Dagmar**	**86.93**	**24**	*e*P		**P**	**11 24 03.0**	**-2.1**
	comp=Z,22nm,0.4s							
NVAR	**Mina Array Bea**	**89.75**	**38**	P		**P**	**11 24 18.8**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=297,slow=4.0,SNR=3.1							
NVAR	**Mina Array Bea**	**89.75**	**38**	P		**P**	**11 24 18.8**	**-0.1**
SWET	**Sewanee**	**104.17**	**16**	*e*Pdif		**Pdif**	**11 25 29.5**	**+5.4**

*ISCJB **28** 11:16:22.2±0.5,26°.40S±0°.03×27°.44E±0°.03,h9km±4km,*
mb3.9/6,MS3.8/4,Error ellipse: s-maj=5.8km s-min=3.2km
az=39.7
*PRE **28** 11:16:22.4±2.3,26°.44S×27°.45E,h2km,ML3.4*
*IDC **28** 11:16:23.6±0.9,26°.35S×27°.44E,h0km,mb3.9/6,*
mb1 4.2/11,mb1mx3.9/28,mbtmp4.1/11,ML3.9/3,MS3.7/4,
Ms1 3.7/4,ms1mx3.0/43,Error ellipse: s-maj=19.9km
s-min=13.2km az=64.0
ISC 28 11:16:22.8±1.0,26°.37S±0°.02×27°.40E±0°.03,h6km±7km,
n37,σ2°03/63,mb4.0/6,MS3.8/4,3C-1D,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KLOF	**Kloof**	**0.19**	**84**	⇓*i*Pg		**Pg**	**11 16 26.6**	**-0.2**
KLOF				*e*Sg		**Sg**	**11 16 28.2**	**-1.2**
KLOF				AML	AML		11 16 28.6	
	comp=Z,13μm,0.4s							
PRYS	**Parys**	**0.55**	**183**	*e*Pg		**Pg**	**11 16 33.5**	**0.0**
PRYS				*e*Pn		**Pb**	**11 16 34.6**	**-0.4**
PRYS				*e*S		**Sg**	**11 16 41.0**	**+0.2**
PRYS				AML	AML		11 16 45.3	
	comp=Z,934nm,0.6s							
KSR	**Koster**	**0.68**	**319**	*e*P		**Pb**	**11 16 37.8**	**+0.5**
KSR				*e*S		**Sb**	**11 16 47.0**	**-0.1**
KSR				Lg	Lg		11 16 47.3	
KSR				AML	AML		11 16 48.0	
	comp=Z,1μm,0.3s							
BFSD	**Buffelsfontein**	**0.73**	**228**	*e*P		**Pg**	**11 16 37.3**	**+0.4**
BFSD				*e*S		**Sg**	**11 16 47.0**	**+0.5**
BFSD				AML	AML		11 16 54.8	
	comp=Z,368nm,0.3s							
ERPM	**east rand prop**	**0.76**	**88**	⇑*i*Pg		**Pg**	**11 16 37.0**	**-0.5**
ERPM				*e*S		**Sg**	**11 16 45.3**	**-2.1**
ERPM				AML	AML		11 16 45.8	
	comp=Z,613nm,0.4s							
MOAB	**Moab Khotsong**	**0.81**	**221**	*e*P		**Pg**	**11 16 38.7**	**+0.3**
MOAB				*e*S		**Sb**	**11 16 50.0**	**-0.8**
MOAB				AML	AML		11 17 01.1	
	comp=Z,520nm,0.6s							
TLEK	**Tau Lekoa**	**0.88**	**228**	*e*P		**Pb**	**11 16 40.3**	**-0.2**
TLEK				*e*S		**Sb**	**11 16 52.0**	**-0.6**
SLR	**Silverton**	**1.02**	**52**	⇑*i*Pg		**Pg**	**11 16 42.0**	**-0.3**
SLR				*e*Pn		**Pb**	**11 16 43.5**	**+0.5**
SLR				*e*S		**Sg**	**11 16 55.0**	**-0.6**
SLR				Lg	Lg		11 16 56.9	
SLR				AML	AML		11 17 00.5	
	comp=Z,430nm,0.4s							
LBTB	**Lobatse**	**2.11**	**309**	Pn		**Pb**	**11 17 01.6**	**0.0**
	comp=Z,81nm,0.3s,baz=141,slow=16,SNR=608							
LBTB				Pg		**Pg**	**11 17 03.1**	**-0.2**
	comp=Z,81nm,0.3s,baz=142,slow=17,SNR=569							
LBTB				Lg	Lg		11 17 31.0	
	comp=Z,121nm,0.3s,baz=37,slow=20,SNR=59							
LBTB	**Lobatse**	**2.11**	**309**	*e*Pn		**Pb**	**11 17 01.7**	**+0.1**
LBTB				*e*S		**Sg**	**11 17 29.1**	**-1.5**
LBTB				Lg	Lg		11 17 31.4	
LBTB				AML	AML		11 17 33.1	
	comp=Z,714nm,0.7s							
BOSA	**Boshof**	**2.93**	**220**	Pn		**Pn**	**11 17 11.0**	**+0.9**
	comp=Z,9.8nm,0.3s,baz=38,slow=14,SNR=213							
BOSA				Pg		**Pg**	**11 17 18.4**	**-0.6**
	comp=Z,14nm,0.3s,baz=47,slow=16,SNR=22							
BOSA				Lg	Lg		11 17 53.1	
	comp=Z,31nm,0.3s,baz=314,slow=14,SNR=13							
BOSA	**Boshof**	**2.93**	**220**	⇑*i*Pn		**Pn**	**11 17 11.1**	**+0.9**
BOSA				*e*Pg		**Pg**	**11 17 18.6**	**-0.5**
BOSA				Sn		**Sn**	**11 17 45.8**	**0.0**
BOSA				Lg	Lg		11 17 53.2	
BOSA				AML	AML		11 18 01.6	
	comp=Z,77nm,0.6s							
HVD	**Gariep Dam**	**4.54**	**201**	*e*Pn		**Pn**	**11 17 32.2**	**0.0**
HVD				*e*S		**Sn**	**11 18 22.4**	**-3.0**
HVD				Lg	Lg		11 18 44.8	
HVD				AML	AML		11 18 54.0	
	comp=Z,59nm,0.6s							
MSNA	**Messina**	**4.67**	**31**	*e*Pn		**Pn**	**11 17 36.5**	**+2.5**
MSNA				*e*Pg		**Pg**	**11 17 49.9**	**-2.4**
MSNA				*e*S		**Sn**	**11 18 27.7**	**-0.9**
	comp=Z,53nm,0.6s							
MSNA				AML	AML		11 18 54.0	
	comp=Z,53nm,0.6s							
UPI	**Upington**	**5.81**	**249**	*e*S		**Sn**	**11 18 54.6**	**-2.1**
UPI				AML	AML		11 19 31.6	
	comp=Z,61nm,0.5s							
BLWY	**Bulawayo**	**6.30**	**10**	*i* P		**Pn**	**11 17 56.3**	**-0.2**
BLWY				*i*			11 17 56.5	
	baz=109,slow=22							
BLWY				*i* S		**Sn**	**11 19 05.9**	**-3.1**
SOE	**Somerset East**	**6.52**	**194**	*e*P		**Pn**	**11 17 59.0**	**-0.3**
SOE				*e*S		**Sn**	**11 19 10.0**	**-4.1**
SOE				AML	AML		11 20 02.8	
	comp=Z,29nm,0.6s							
GRM	**Grahamstown**	**6.96**	**186**	*e*Pn		**Pn**	**11 18 05.6**	**+0.2**
GRM				*e*S		**Sn**	**11 19 19.8**	**-5.1**
GRM				AML	AML		11 20 09.0	
	comp=Z,20nm,0.7s							
SUR	**Sutherland**	**8.29**	**222**	Pn		**Pn**	**11 18 24.4**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=55,slow=14,SNR=19							
SUR				Sn		**Sn**	**11 19 54.6**	**-3.5**
	comp=Z,1.4nm,0.3s,baz=163,slow=22,SNR=3.9							
SUR				Lg	Lg		11 20 42.9	
	comp=Z,5.1nm,0.3s,baz=145,slow=19,SNR=4.6							
SUR	**

s-maj=757.2km s-min=60.1km az=37.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**70.61**	**105**	P	P	11 48 54.5	-0.4
	0.4nm,0.8s,baz=230,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**72.97**	**102**	P	P	11 49 09.7	+0.5
	0.8nm,0.7s,baz=233,slow=5.4,SNR=8.2						
ILAR	**Eielson Array**	**150.04**	**15**	PKPbc	PKPbc	11 57 28.5	-0.5
	0.5nm,0.9s,baz=313,slow=3.1,SNR=4.0						

TAP 28 11:44:05.3,23°.18N×121°.36E,h18km,ML3.6,12C-2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.08**	**177**	⇓*i* P	Pg	11 44 09.2	+0.5
	baz=161						
CHKT				*i* S	Sg	11 44 11.7	+0.7
	baz=161						
TWF1	**Yuli**	**0.18**	**341**	⇑*i* P	Pb	11 44 10.6	+0.3
	baz=338						
TWF1				S	Sb	11 44 14.2	+0.7
	baz=338						
ELDTW	**Lidau**	**0.32**	**272**	⇑*i* P	Pg	11 44 12.1	-0.1
	baz=271						
ELDTW				*e*S	Sg	11 44 16.5	-0.5
	baz=271						
EHY	**Hungye**	**0.33**	**354**	⇑*i* P	Pb	11 44 12.6	-0.1
	baz=340						
EHY				*i* S	Sb	11 44 18.0	+0.3
	baz=340						
TWG	**Pinlang**	**0.44**	**217**	P	Pg	11 44 14.1	-0.2
	baz=227						
TWG				*e*S	Sg	11 44 20.4	0.0
	baz=227						
TTN	**Taitung**	**0.47**	**205**	*e*P	Pb	11 44 15.0	0.0
	baz=209						
ALS	**Alishan**	**0.61**	**303**	⇑*i* P	Pb	11 44 17.9	0.0
	baz=303						
ESL	**Shilin**	**0.64**	**6**	*e*P	Pg	11 44 16.9	-1.0
	baz=353						
ECL	**Taimali**	**0.69**	**213**	*e*P	Pb	11 44 17.2	-1.6
	baz=215						
WTP	**Ta-pu**	**0.69**	**276**	⇑*i* P	Pg	11 44 19.4	+0.4
	baz=274						
WTP				S	Sn	11 44 29.6	-1.1
	baz=274						
SGST	**Jiashian**	**0.72**	**263**	*e*P	Pg	11 44 19.9	+0.4
	baz=257						
SGST				*e*S	Sn	11 44 30.4	-1.0
	baz=257						
CHN4	**Tsaushan**	**0.73**	**284**	⇑P	Pn	11 44 20.2	-0.6
	baz=283						
CHN4				S	Sn	11 44 30.6	-0.9
	baz=283						
CHN5	**Tsauling**	**0.75**	**304**	⇑*i* P	Pn	11 44 20.8	-0.4
	baz=302						
CHN5				*e*S	Sn	11 44 31.4	-1.0
	baz=302						
CHN1	**Nanshi**	**0.77**	**271**	⇑*i* P	Pn	11 44 21.0	-0.3
	baz=270						
CHN1				*e*S	Sg	11 44 31.4	+0.9
	baz=270						
SSD	**Sandimen**	**0.80**	**238**	*e*P	Pb	11 44 19.8	-0.9
	baz=234						
TWK	**Hsinying**	**0.81**	**277**	⇑*i* P	Pg	11 44 21.5	+0.3
	baz=275						
TWK				S	Sn	11 44 33.7	+0.2
	baz=275						
SMLT	**Sun Moon Lake**	**0.82**	**329**	⇑P	Pb	11 44 21.3	+0.1
	baz=334						
SMLT				*e*S	Sg	11 44 32.9	+0.4
	baz=334						
TYC	**Yuchr**	**0.86**	**328**	⇑P	Pg	11 44 21.9	-0.1
	baz=337						
TYC				*e*S	Sn	11 44 34.5	-0.2
	baz=337						
CHN2	**Minshiung**	**0.89**	**294**	*e*P	Pn	11 44 23.1	+0.2
	baz=293						
WGK	**Gukeng**	**0.89**	**305**	*e*P	Pn	11 44 23.6	+0.6
	baz=303						
WGK				*e*S	Sn	11 44 37.4	+1.9
	baz=303						
CHY	**Chiayi**	**0.92**	**291**	*e*P	Pn	11 44 23.7	+0.4
	baz=289						
CHY				S	Sn	11 44 37.3	+1.2
	baz=289						
SGLT	**Jiouru**	**0.92**	**241**	*e*P	Pn	11 44 24.1	+0.8
	baz=241						
EAST	**Anshuo**	**0.92**	**211**	*e*P	Pb	11 44 21.2	-1.6
	baz=215						
CHN3	**Shinhua**	**0.92**	**264**	*e*P	Pg	11 44 23.3	+0.1
	baz=266						
TWD	**Chiawan**	**0.92**	**13**	*e*P	Pb	11 44 21.7	-1.2
	baz=356						
TWM1	**Shoushan**	**0.93**	**248**	*e*P	Pn	11 44 23.9	+0.3
	baz=250						
WNT	**Mingjian**	**0.93**	**318**	⇑P	Pn	11 44 24.2	+0.6
	baz=317						
WNT				S	Sn	11 44 38.2	+1.7
	baz=317						
WHF	**Hehuan Shan**	**0.97**	**355**	*e*P	Pb	11 44 23.0	-1.2
	baz=3.0						
SCZT	**Fangliau**	**1.05**	**221**	*e*P	Pg	11 44 24.5	-0.6
	baz=219						
CHN8	**Yiju**	**1.07**	**279**	*e*P	Pn	11 44 26.0	0.0
	baz=278						
CHN8				*e*S	Sg	11 44 42.6	+2.5
	baz=278						
SCLT	**Jiali**	**1.07**	**270**	*e*P	Pg	11 44 27.4	+1.3
	baz=269						
SCLT				*e*S	Sg	11 44 43.2	+3.1
	baz=269						
TWT	**Tachien**	**1.08**	**351**	*e*P	Pb	11 44 25.1	-0.7
	baz=346						
WSF	**Szhu**	**1.14**	**294**	*e*P	Pg	11 44 27.4	0.0
	baz=292						
WSF				*e*S	Sg	11 44 43.3	+0.9
	baz=292						
LAY	**Lan-yu**	**1.15**	**171**	*e*P	Pn	11 44 24.1	-2.5
	baz=163						
TCU	**Taichung**	**1.15**	**327**	*e*P	Pg	11 44 27.9	+0.2
	baz=324						
WTCT	**Ta-ch'eng**	**1.20**	**305**	*e*P	Pb	11 44 27.7	+0.1
	baz=302						
WTCT				*e*S	Sg	11 44 45.3	+1.0
	baz=302						
NNS	**Nan Shan**	**1.26**	**0**	*e*P	Pn	11 44 27.6	-0.7
	baz=8.0						
TWQ1	**Liyutan**	**1.28**	**335**	⇓*e*P	Pg	11 44 30.2	+0.1
	baz=333						
TWQ1				*e*S	Sg	11 44 48.5	+1.5
	baz=333						
ENA	**Nanau**	**1.29**	**16**	*e*P	Pn	11 44 27.6	-0.9
	baz=359						
HEN	**Hengchun**	**1.30**	**206**	*e*P	Pb	11 44 29.0	-0.2
	baz=202						
TWK1	**Hengchun**	**1.33**	**203**	*e*P	Pn	11 44 28.2	-0.9
	baz=198						
TSEB	**Hengchuen, Pin**	**1.34**	**199**	*e*P	Pn	11 44 29.0	-0.2
	baz=196						
NSY	**Sanyi**	**1.35**	**336**	*e*P	Pg	11 44 31.4	0.0
	baz=334						
NSY				*e*S	Sg	11 44 50.2	+1.1
	baz=334						
ENTT	**Nioudou**	**1.47**	**7**	*e*P	Pn	11 44 30.7	-0.3
	baz=2.0						
NSTT	**Nanjuang**	**1.48**	**347**	*e*P	Pb	11 44 32.7	+0.3
	baz=345						
NSTT				*e*S	Sg	11 44 52.2	-1.1
	baz=345						
NSK	**Sanguang**	**1.49**	**360**	*e*P	Pn	11 44 31.0	-0.4
	baz=8.0						
TWE	**Neicheng**	**1.56**	**10**	*e*P	Pn	11 44 32.8	+0.6
	baz=4.0						
PNG	**Penghu**	**1.70**	**284**	*e*P	Pn	11 44 34.9	+0.8
	baz=281						
PNG				*e*S	Sn	11 44 56.1	+0.6
	baz=281						
KNM	**Kinmen**	**2.95**	**295**	*e*P	Pn	11 44 54.1	+2.7
	baz=294						

NNC 28 11:55:37.9±2.5,38°.82N×72°.44E,h0km,mb3.7,mpv3.5, 3C-2D,Error ellipse: s-maj=20.4km s-min=14.3km az=5.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.52**	**342**	Pn	Pn	11 56 51.0	+3.3
	8.6nm,0.3s,baz=161,slow=12,SNR=165						
KK31				⇑Sn	Sb	11 57 47.7	-5.6
	2.8nm,0.3s,baz=162,slow=26,SNR=13						
TKM2	**Tokmak 2**	**4.74**	**29**	⇑Pn	Pn	11 56 50.5	-0.5
	2.5nm,1.0s						
TKM2				⇓Sn	Sn	11 57 47.6	+0.7
	2.3nm,0.5s						
AB31	**Akbulak array**	**13.75**	**323**	⇑Pn	Pn	11 58 51.7	-2.3
	0.5nm,0.4s,baz=142,slow=11,SNR=26						
AB31				Sn	Sn	12 01 24.5	-3.0
	0.3nm,0.3s,baz=133,slow=24,SNR=4.5						
AKTO	**Aktyubinsk**	**15.47**	**323**	⇓Pn	Pn	11 59 15.9	-1.5
	0.2nm,0.4s						

IDC 28 12:01:26.5±6.5,38°.00S×50°.34E,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/20,mbtmp3.6/2,Error ellipse: s-maj=313.4km s-min=49.1km az=44.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**70.98**	**105**	P	P	12 12 46.5	+0.2
	0.5nm,0.8s,baz=231,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**73.40**	**103**	P	P	12 13 00.6	-0.2
	0.4nm,0.7s,baz=229,slow=4.7,SNR=5.1						
ILAR	**Eielson Array**	**151.32**	**15**	PKPbc	PKPbc	12 21 21.0	-0.1
	0.4nm,0.9s,baz=308,slow=3.3,SNR=4.1						
ILAR				PKPab	PKPab	12 21 28.6	-0.6
	0.6nm,0.9s,baz=324,slow=2.7,SNR=5.3						

*ISCJB **28** 12:01:47.9±1.0,36°.50N±0°.06×28°.65E±0°.04,h1km±9km, Error ellipse: s-maj=10.6km s-min=4.9km az=15.6*
*ISK **28** 12:01:47.4,36°.49N×28°.66E,h13km,MD2.6*
*CSEM **28** 12:01:47.9±0.3,36°.49N×28°.66E,h10km,MD2.6, Error ellipse: s-maj=7.8km s-min=3.1km az=14.0*
*DDA **28** 12:01:48.8,36°.56N×28°.67E,h7km,MD2.9*
ISC 28 12:01:48.3±1.3,36°.52N±0°.06×28°.68E±0°.03,h13km±9km, n18,σ0§53/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**70**	*e*PG	**Pg**	**12 01 55.2**	**-0.2**
FETY				*e*SG	**Sg**	**12 02 00.8**	**+0.7**
FETY	**Fethiye**	**0.35**	**70**	*e*Pg	**Pg**	**12 01 55.2**	**-0.2**
FETY				*e*Sg	**Sg**	**12 02 00.8**	**+0.7**
YER	**Yerkesik**	**0.69**	**333**	*e*PG	**Pg**	**12 02 01.5**	**-0.3**
YER				*e*SG	**Sb**	**12 02 11.9**	**0.0**
YER	**Yerkesik**	**0.69**	**333**	*e*Pg	**Pg**	**12 02 01.5**	**-0.3**
YER				*e*Sg	**Sb**	**12 02 11.9**	**0.0**
AKAS	**Kas**	**0.80**	**110**	*i* P	**Pb**	**12 02 04.2**	**0.0**
AKAS				*i* S	**Sn**	**12 02 17.4**	**+0.1**
AKAS	**Kas**	**0.80**	**110**	*i* P	**Pb**	**12 02 04.2**	**0.0**
AKAS				*i* S	**Sn**	**12 02 17.4**	**+0.1**
GOLH	**Golhisar**	**1.01**	**44**	*i* P	**Pg**	**12 02 07.0**	**-0.8**
GOLH				*i* S	**Sn**	**12 02 22.2**	**-0.2**
GOLH	**Golhisar**	**1.01**	**44**	*i* P	**Pg**	**12 02 07.0**	**-0.8**
GOLH				*i* S	**Sn**	**12 02 22.2**	**-0.2**
ELL	**Elmali**	**1.02**	**77**	*e*PG	**Pg**	**12 02 07.7**	**-0.2**
ELL				*e*SG	**Sn**	**12 02 22.5**	**-0.2**
ELL	**Elmali**	**1.02**	**77**	*e*Pg	**Pg**	**12 02 07.7**	**-0.2**
ELL				*e*Sg	**Sn**	**12 02 22.5**	**-0.2**
MLSB	**Milas**	**1.06**	**317**	*e*PG	**Pg**	**12 02 08.3**	**-0.5**
MLSB	**Milas**	**1.06**	**317**	*e*Pg	**Pg**	**12 02 08.3**	**-0.5**
BDRM	**Kayabasi**	**1.13**	**299**	*i* P	**Pg**	**12 02 09.6**	**-0.5**
BDRM				*i* S	**Sn**	**12 02 26.2**	**+0.9**
BDRM	**Kayabasi**	**1.13**	**299**	*i* P	**Pg**	**12 02 09.6**	**-0.5**
BDRM				*i* S	**Sn**	**12 02 26.2**	**+0.9**
BODT	**Bodrum**	**1.23**	**297**	*e*PN	**Pb**	**12 02 10.8**	**-0.6**
BODT	**Bodrum**	**1.23**	**297**	*e*Pn	**Pb**	**12 02 10.8**	**-0.6**
AYDN	**Tasoluk**	**1.31**	**331**	*i* P	**Pb**	**12 02 12.8**	**0.0**
AYDN				*i* S	**Sn**	**12 02 30.7**	**+0.9**
AYDN	**Tasoluk**	**1.31**	**331**	*i* P	**Pb**	**12 02 12.8**	**0.0**
AYDN				*i* S	**Sn**	**12 02 30.7**	**+0.9**

*ISCJB **28** 12:02:26.8±0.7,37°.92N±0°.03×29°.03E±0°.08,h4km±9km, Error ellipse: s-maj=10.7km s-min=5.3km az=176.7*
*ISK **28** 12:02:26.1,37°.91N×29°.04E,h5km,MD2.7*
*DDA **28** 12:02:26.3,37°.92N×29°.10E,h7km,MD2.8*
*CSEM **28** 12:02:26.7±0.1,37°.91N×29°.04E,h5km,MD2.7, Error ellipse: s-maj=3.6km s-min=2.2km az=92.0*
ISC 28 12:02:26.7±1.2,37°.91N±0°.04×29°.02E±0°.05,h9km±16km, n16,σ0§48/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**175**	*e*PG	**Pg**	**12 02 29.7**	**-0.3**
DENT				*e*SG	**Sg**	**12 02 32.5**	**+0.2**
DENT	**Denizli**	**0.15**	**175**	*e*Pg	**Pg**	**12 02 29.7**	**-0.3**
DENT				*e*Sg	**Sg**	**12 02 32.5**	**+0.2**
DNZL	**Cakiroluk**	**0.22**	**174**	*i* P	Pg	12 02 27.2	-4.0
DNZL				*e*S	**Sg**	**12 02 34.8**	**+0.6**
DNZL	**Cakiroluk**	**0.22**	**174**	*i* P	Pg	12 02 27.2	-4.0
DNZL				*e*S	**Sg**	**12 02 34.8**	**+0.6**
KHL	**Karahalli**	**0.58**	**44**	*e*PG	**Pg**	**12 02 37.5**	**-0.5**
KHL				*e*SG	**Sg**	**12 02 45.9**	**+0.3**
KHL	**Karahalli**	**0.58**	**44**	*e*Pg	**Pg**	**12 02 37.5**	**-0.5**
KHL				*e*Sg	**Sg**	**12 02 45.9**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**335**	*e*PG	**Pg**	**12 02 39.6**	**-0.1**
KULA				*e*SG	**Sg**	**12 02 49.3**	**+0.9**
KULA	**Kula-Manisa**	**0.67**	**335**	*e*Pg	**Pg**	**12 02 39.6**	**-0.1**
KULA				*e*Sg	**Sg**	**12 02 49.3**	**+0.9**
ISP	**Isparta**	**1.20**	**93**	*e*PN	**Pg**	**12 02 50.0**	**+0.4**
ISP	**Isparta**	**1.20**	**93**	*e*Pn	**Pg**	**12 02 50.0**	**+0.4**
SHUT	**Suhut-Afyon**	**1.37**	**61**	*e*PN	**Pb**	**12 02 52.4**	**-0.2**
SHUT	**Suhut-Afyon**	**1.37**	**61**	*e*Pn	**Pb**	**12 02 52.4**	**-0.2**
ALT	**Altintas**	**1.43**	**36**	*e*PN	**Pb**	**12 02 53.3**	**-0.4**
ALT	**Altintas**	**1.43**	**36**	*e*Pn	**Pb**	**12 02 53.3**	**-0.4**
TVSB	**Tavsanli**	**1.58**	**13**	*e*PN	**Pb**	**12 02 55.8**	**-0.4**
TVSB	**Tavsanli**	**1.58**	**13**	*e*Pn	**Pb**	**12 02 55.8**	**-0.4**

*ISCJB **28** 12:21:09.1±1.1,56°.9S±0°.1×25°.0W±0°.5,h10km,mb4.1/3, Error ellipse: s-maj=43.2km s-min=15.1km az=158.0*
*IDC **28** 12:21:09.0±1.0,56°.95S×25°.03W,h0km,mb4.2/3, mb1 4.3/3,mb1mx4.0/14,mbtmp4.2/3,Error ellipse: s-maj=42.3km s-min=32.6km az=77.0*
ISC 28 12:21:10.5±0.9,57°.0S±0°.2×25°.1W±0°.3,h10km,n9,σ0§34/9, mb4.1/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**15.75**	**162**	*e*P	**Pn**	**12 24 51.8**	**-0.3**
VNA2	**Neumayer--Watz**	**15.91**	**159**	*e*P	**Pn**	**12 24 53.9**	**-0.3**
	baz=325,slow=14						
SNAA	**Sanae**	**17.43**	**156**	*e*P	**P**	**12 25 15.3**	**+0.5**
VNDA	**Vanda**	**45.72**	**182**	P	**P**	**12 29 31.1**	**0.0**
	0.5nm,0.5s,baz=170,slow=6.2,SNR=5.2						
LPAZ	**La Paz**	**51.87**	**303**	P	**P**	**12 30 19.9**	**+0.2**
	6.0nm,0.5s,baz=147,slow=6.2,SNR=30						
TORD	**Torodi Ar. Bea**	**73.29**	**27**	P	**P**	**12 32 42.0**	**+0.1**
	1.4nm,0.8s,baz=196,slow=6.5,SNR=7.5						
YKA	**Yellowknife Ar**	**137.64**	**316**	PKP	**PKPdf**	**12 40 33.0**	**-0.2**
	0.4nm,0.7s,baz=124,slow=1.9,SNR=5.3						
SONM	**Songino Array**	**149.60**	**86**	PKPbc	**PKPbc**	**12 40 59.2**	**-0.1**
	1.2nm,0.9s,baz=208,slow=3.3,SNR=6.6						
ILAR	**Eielson Array**	**151.61**	**310**	PKPbc	**PKPbc**	**12 41 03.0**	**-0.4**
	1.5nm,0.9s,baz=116,slow=2.0,SNR=21						

*ATH **28** 12:24:03.8,40°.48N×21°.78E,h5km,MD3.2/7*
*CSEM **28** 12:24:03.5±0.6,40°.53N×21°.82E,h2km,ML2.1/6, Error ellipse: s-maj=12.2km s-min=6.2km az=144.0*
*THE **28** 12:24:05.9,40°.44N×21°.86E,h0km±2km,ML2.1/6, Error ellipse: s-maj=2.6km s-min=0.9km az=7.0*
ISC 28 12:24:04.6±1.3,40°.48N±0°.04×21°.88E±0°.03,h4km±13km, n27,σ0§67/39,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.19**	**205**	P	**Pg**	**12 24 07.8**	**-0.5**
KZN				S	**Sg**	**12 24 11.3**	**+0.5**
KZN	**Kozani**	**0.19**	**205**	*e*PG	**Pg**	**12 24 07.5**	**-0.8**
KZN	**Kozani**	**0.19**	**205**	*e*Pg	**Pg**	**12 24 07.5**	**-0.8**
KZN	**Kozani**	**0.19**	**205**	P	**Pg**	**12 24 07.8**	**-0.5**
KZN				S	**Sg**	**12 24 11.3**	**+0.5**
FNA	**Florina**	**0.49**	**309**	P	**Pb**	**12 24 15.5**	**-0.3**
FNA				S	**Sb**	**12 24 23.4**	**+0.1**
LIT	**Litokhoron**	**0.60**	**129**	P	**Pb**	**12 24 16.5**	**-1.2**
LIT				S	**Sb**	**12 24 26.3**	**-0.2**
LIT	**Litokhoron**	**0.60**	**129**	*e*PB	**Pg**	**12 24 15.9**	**-0.2**
LIT				*e*SB	**Sb**	**12 24 26.4**	**-0.1**
LIT	**Litokhoron**	**0.60**	**129**	*e*Pb	**Pg**	**12 24 15.9**	**-0.2**
LIT	**Litokhoron**	**0.60**	**129**	P	**Pb**	**12 24 16.5**	**-1.2**
LIT				S	**Sb**	**12 24 26.3**	**-0.2**
GRG	**Griva**	**0.62**	**40**	P	**Pb**	**12 24 18.1**	**0.0**
NEST	**Nestorio**	**0.64**	**265**	P	**Pb**	**12 24 17.9**	**-0.4**
MEV	**Metsovon**	**0.85**	**216**	P	**Pb**	**12 24 21.4**	**-0.6**
MEV	**Metsovon**	**0.85**	**216**	P	**Pb**	**12 24 21.4**	**-0.6**
THL	**Klokotos Trika**	**0.92**	**173**	P	**Pg**	**12 24 22.0**	**-0.3**
THL				S	**Sb**	**12 24 36.0**	**+0.4**
THL	**Klokotos Trika**	**0.92**	**173**	*e*PB	**Pg**	**12 24 21.9**	**-0.3**
THL	**Klokotos Trika**	**0.92**	**173**	*e*Pb	**Pg**	**12 24 21.9**	**-0.3**
THL				S	**Sb**	**12 24 36.0**	**+0.4**
SOH	**Sokhos**	**1.18**	**73**	*e*PB	**Pn**	**12 24 27.9**	**0.0**
SOH	**Sokhos**	**1.18**	**73**	*e*Pb	**Pn**	**12 24 27.9**	**0.0**
PLG	**Polygyros**	**1.20**	**94**	*e*PG	**Pb**	**12 24 27.4**	**-0.5**
PLG	**Polygyros**	**1.20**	**94**	*e*Pg	**Pb**	**12 24 27.4**	**-0.5**
AGG	**Agios Georgios**	**1.50**	**166**	P	**Pb**	**12 24 32.5**	**-0.4**
AGG				S	**Sg**	**12 24 54.2**	**+1.6**
AGG	**Agios Georgios**	**1.50**	**166**	*e*PB	**Pg**	**12 24 33.0**	**-0.2**
AGG	**Agios Georgios**	**1.50**	**166**	P	**Pb**	**12 24 32.5**	**-0.4**
AGG	**Agios Georgios**	**1.50**	**166**	*e*Pb	**Pg**	**12 24 33.0**	**-0.2**
AGG				S	**Sg**	**12 24 54.2**	**+1.6**
EVR	**Evrytania**	**1.56**	**182**	P	**Pb**	**12 24 33.7**	**-0.3**
EVR				S	**Sg**	**12 24 55.8**	**+1.1**
EVR	**Evrytania**	**1.56**	**182**	*e*PB	**Pb**	**12 24 33.8**	**-0.3**
EVR	**Evrytania**	**1.56**	**182**	*e*Pb	**Pb**	**12 24 33.8**	**-0.3**
EVR				S	**Sg**	**12 24 55.8**	**+1.1**

IDC 28 12:25:20.5±4.0,11°.82S×166°.50E,h138km±35km, mb3.8/13,mb1 3.9/14,mb1mx3.8/22,mbtmp3.8/14, MS3.5/4,Ms1 3.5/4,ms1mx3.1/33,Error ellipse: s-maj=24.1km s-min=17.8km az=83.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.87**	**290**	LR	LR	12 28 43.6	
	comp=Z,47nm,18.4s,baz=54,slow=30						
DZM	**Mont Dzumac**	**10.20**	**180**	P	Pn	12 27 45.0	+1.6
	0.9nm,0.3s,baz=124,slow=23,SNR=13						
DZM				S	Sn	12 29 36.1	-0.2
	0.7nm,0.3s,baz=306,slow=21,SNR=6.4						
CTA	**Charters Tower**	**21.12**	**245**	P	P	12 29 54.1	-0.4
	6.3nm,1.0s,baz=76,slow=4.2,SNR=2.9						
WRA	**Warramunga Arr**	**31.93**	**251**	P	P	12 31 32.7	-0.6
	1.0nm,0.8s,baz=78,slow=9.5,SNR=7.2						
WRA				PcP	PcP	12 34 20.8	+0.2
	0.9nm,0.9s,baz=79,slow=3.0,SNR=5.5						
ASAR	**Alice Springs**	**33.12**	**245**	P	P	12 31 43.0	-0.8
	1.2nm,0.8s,baz=70,slow=9.6,SNR=12						
ASAR				pP	pP	12 32 14.6	+1.1
	0.9nm,0.8s,baz=70,slow=8.9,SNR=5.0						
ASAR				PcP	PcP	12 34 23.7	-0.2
	1.7nm,0.9s,baz=71,slow=2.3,SNR=18						
FITZ	**Fitzroy Crossi**	**39.91**	**256**	P	P	12 32 40.3	-1.0
	2.0nm,0.9s,baz=93,slow=4.1,SNR=3.9						
MJAR	**Matsushiro Arr**	**54.99**	**332**	P	P	12 34 37.1	-0.5
	2.0nm,0.9s,baz=165,slow=8.1,SNR=5.0						
ASAJ	**Asahikawa**	**59.77**	**340**	LR	LR	13 01 31.5	
	comp=Z,60nm,18.2s,baz=170,slow=36						
KSRS	**Korea Array**	**60.93**	**325**	P	P	12 35 19.4	+0.5
	1.5nm,0.7s,baz=142,slow=7.2,SNR=7.2						
KSRS				LR	LR	12 58 51.6	
	comp=Z,37nm,20.1s,baz=152,slow=33						
USRK	**Ussuriysk Arra**	**63.96**	**333**	P	P	12 35 39.4	+0.5
	0.8nm,0.6s,baz=114,slow=5.5,SNR=4.5						
VNDA	**Vanda**	**65.74**	**181**	P	P	12 35 50.3	+0.3
	1.0nm,0.6s,baz=346,slow=6.8,SNR=8.1						
CMAR	**Chiang Mai Arr**	**73.10**	**294**	P	P	12 36 37.7	+1.4
	3.7nm,0.8s,baz=124,slow=4.3,SNR=16						
KDAK	**Kodiak Island**	**77.03**	**21**	LR	LR	13 05 09.3	
	comp=Z,98nm,19.1s,baz=273,slow=31						
SONM	**Songino Array**	**79.72**	**324**	P	P	12 37 13.6	+0.4
	1.9nm,0.7s,baz=162,slow=6.7,SNR=11						
ILAR	**Eielson Array**	**84.01**	**18**	P	P	12 37 34.0	-1.0
	0.7nm,0.8s,baz=257,slow=4.9,SNR=11						
MKAR	**Makanchi Array**	**94.59**	**317**	P	P	12 38 25.6	-0.1
	3.6nm,0.5s,baz=91,slow=6.2,SNR=47						
ZALV	**Zalesovo Beam**	**94.61**	**324**	P	P	12 38 24.0	-1.5
	0.7nm,0.7s,baz=90,slow=5.9,SNR=4.8						
ARCES	**ARCESS Array B**	**117.26**	**346**	PKP	PKPdf	12 43 48.0	-1.0
	0.8nm,0.5s,baz=27,slow=3.3,SNR=8.3						
FINES	**FINESS Array B**	**122.76**	**339**	PKP	PKPdf	12 43 59.1	-0.6
	2.0nm,1.0s,baz=60,slow=4.6,SNR=4.5						
LSZ	**Lusaka**	**130.72**	**238**	PKP	PKPdf	12 44 16.8	+0.4
	1.2nm,0.5s,baz=304,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**165.10**	**277**	PKP	PKPdf	12 45 08.9	-0.4
	0.5nm,0.9s,baz=54,slow=0.3,SNR=2.8						
TORD				PKPab	PKPab	12 46 06.2	-0.8
	0.4nm,1.0s,baz=82,slow=4.1,SNR=2.6						

*ISCJB **28** 12:27:01.9±0.5,22°.76N±0°.03×122°.90E±0°.02,h50km, Error ellipse: s-maj=5.0km s-min=2.7km az=154.1*
*TAP **28** 12:27:02.5,22°.70N×122°.85E,h63km±1km,ML3.6,D*
*JMA **28** 12:27:02.8±0.3,22°.83N×122°.94E,h76km,M3.1*
ISC 28 12:27:01.5±1.4,22°.69N±0°.05×122°.91E±0°.04,h50km,n44, σ1§42/62,5C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.41**	**243**	P	**Pn**	**12 27 24.6**	**-0.2**
	baz=241						
LAY				*e*S	**Sn**	**12 27 40.4**	**-1.8**
	baz=241						
CHKT	**Chengkung**	**1.48**	**286**	P	**Pn**	**12 27 25.2**	**-0.5**

ENA eS Sn 12 27 57.4 -0.2
baz=330
TWK1 Hengchun 2.08 250 *eP* Pn 12 27 33.9 0.0
baz=248
WHF Hehuan Shan 2.09 314⇑*iP* Pn 12 27 34.7 +0.2
baz=315
WHF eS Sn 12 27 57.6 -2.0
baz=315
SSD Sandimen 2.10 272 *eP* Pn 12 27 35.4 +1.2
baz=272
ALS Alishan 2.10 293 *eP* Pn 12 27 35.6 +1.1
baz=299
HEN Hengchun 2.12 252 *eS* Sn 12 27 59.8 +0.2
baz=250
SCZT Fangliau 2.14 262 *eP* Pn 12 27 36.0 +1.3
baz=253
SGST Jiashian 2.18 281 *eP* Pn 12 27 37.4 +2.1
baz=286
SGST eS Sn 12 28 03.2 +2.1
baz=286
WTP Ta-pu 2.19 285 P Pn 12 27 37.6 +2.2
baz=285
WTP eS Sn 12 28 03.0 +1.6
baz=285
SMLT Sun Moon Lake 2.20 303 P Pn 12 27 36.8 +1.1
baz=310
TWT Tachien 2.23 315 P Pn 12 27 37.3 +1.2
baz=315
TWT eS Sn 12 28 00.4 -2.1
baz=315
CHN4 Tsaushan 2.23 288 P Pn 12 27 38.5 +2.5
baz=296
TYC Yuchr 2.24 303 P Pn 12 27 37.5 +1.4
baz=310
CHN5 Tsauling 2.24 294 *eP* Pn 12 27 38.7 +2.5
baz=294
CHN5 eS Sn 12 28 05.0 +2.2
baz=294
NNS Nan Shan 2.24 321 P Pn 12 27 37.0 +0.7
baz=322
NNS eS Sn 12 28 01.3 -1.6
baz=322
CHN1 Nanshi 2.25 283 P Pn 12 27 38.7 +2.5
baz=282
CHN1 S Sn 12 28 05.4 +2.6
baz=282
TWM1 Shoushan 2.30 274 *eP* Pn 12 27 40.7 +3.8
baz=271
ENTT Nioudou 2.30 328 P Pn 12 27 38.0 +1.1
baz=329
ENTT eS Sn 12 28 03.6 -0.5
baz=329
TWK Hsinying 2.30 285 P Pn 12 27 39.6 +2.5
baz=284
TWK eS Sn 12 28 07.3 +3.1
baz=284
TWE Neicheng 2.32 331 *eP* Pn 12 27 38.6 +1.4
baz=332
TWE eS Sn 12 28 03.9 -0.7
baz=332
CHN3 Shinhua 2.38 280 *eP* Pn 12 27 42.6 +4.7
baz=279
CHN3 eS Sn 12 28 11.9 +6.0
baz=279
WGK Gukeng 2.38 295 *eP* Pn 12 27 41.0 +3.0
baz=296
NSK Sanguang 2.44 325 P Pn 12 27 40.1 +1.2
baz=325
NSK eS Sn 12 28 05.7 -1.9
baz=325
JTJ Tarama 2.55 40 P Pn 12 27 40.5 +0.1
JTJ eS Sn 12 28 09.8 -0.4
TWQ1 Liyutan 2.56 311 P Pn 12 27 43.3 +2.7
baz=316
TWQ1 eS Sn 12 28 13.4 +2.8
baz=316
NSTT Nanjuang 2.61 318 *eP* Pn 12 27 43.6 +2.4
baz=319
NSTT eS Sn 12 28 11.3 -0.3
baz=319
JOGS Gusukube 3.08 47 P Pn 12 27 48.6 +0.9
JOGS eS Sn 12 28 22.9 -0.5

AUST ***28*** *12:30:47.9±27.0, 5°.36S×148°.12E, h0km±1km, Error ellipse: s-maj=5.9km s-min=1.6km az=38.0*
ISCJB ***28*** *12:31:01.2±0.6, 6°.19S±0°.05×147°.9E±0°.1, h60km, mb3.9/10, MS3.2/1, Error ellipse: s-maj=15.6km s-min=7.2km az=3.0*
IDC ***28*** *12:31:03.7±2.2, 6°.19S×147°.82E, h65km±21km, mb3.6/10, mb1 3.8/12, mb1mx3.7/19, mbtmp3.7/12, MS3.3/4, Ms1 3.3/4, ms1mx2.9/32, Error ellipse: s-maj=32.2km s-min=11.6km az=108.0*

ISC 28 12:31:01.8±0.7, 6°.12S±0°.07×148°.0E±0°.1, h60km, n28, σ1§75/26, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.38**	**195**	P		**Pn**	**12 31 50.8**	**-1.4**
	25nm,0.3s,baz=40,slow=6.4,SNR=42							
PMG				S		**Sn**	**12 32 31.9**	**+0.9**
	54nm,0.3s,baz=43,slow=23,SNR=6.3							
PMG				LR		LR	12 32 48.6	
	comp=Z,530nm,21.6s,baz=101,slow=32							
COEN	**Coen**	**9.14**	**211**	P		**Pn**	**12 33 10.4**	**-0.7**
	baz=9.9,SNR=15							
CTA	**Charters Tower**	**13.99**	**187**	LR		LR	12 39 16.5	
	comp=Z,94nm,18.7s,baz=41,slow=35							
PATS	**Pohnpei**	**16.46**	**39**	S		**Sn**	**12 37 45.5**	**-5.4**
	baz=16,SNR=3.5							
KDU	**Kakadu**	**16.68**	**246**	P		**Pn**	**12 34 49.3**	**-2.4**
	baz=17,SNR=8.4							
PALU	**Palau**	**19.02**	**314**	S		**S**	**12 38 50.5**	**-1.5**
	baz=19,SNR=3.2							
WRA	**Warramunga Arr**	**19.13**	**223**	P		**P**	**12 35 18.3**	**-2.0**
	0.9nm,0.3s,baz=50,slow=11,SNR=27							
GUMO	**Guam**	**19.83**	**351**	LR		LR	12 40 54.5	
	comp=Z,84nm,21.4s,baz=262,slow=30							
RMQ	**Roma**	**20.27**	**178**	P		Pn	12 35 34.1	-0.8
	baz=21,SNR=9.2							
QLP	**Quilpie**	**20.67**	**190**	P		**P**	**12 35 37.5**	**+0.6**
	baz=22,SNR=31							
ASAR	**Alice Springs**	**22.12**	**216**	P		**P**	**12 35 51.5**	**-1.1**
	3.5nm,0.6s,baz=53,slow=8.9,SNR=135							
ASAR				S		**S**	**12 39 52.4**	**-0.6**
	1.2nm,0.9s,baz=34,slow=18,SNR=5.6							
ARMA	**Armidale**	**24.41**	**172**	P		**P**	**12 36 17.1**	**+2.2**
	baz=25,SNR=5.4							
FITZ	**Fitzroy Crossi**	**24.89**	**239**	P		**P**	**12 36 19.0**	**-0.3**
	8.6nm,0.6s,baz=60,slow=7.3,SNR=40							
FITZ				LR		LR	12 47 30.6	
	comp=Z,69nm,18.7s,baz=197,slow=40							
FITZ	**Fitzroy Crossi**	**24.89**	**239**	P		**P**	**12 36 18.8**	**-0.4**
	baz=25,SNR=15							
STKA	**Stephens Creek**	**26.32**	**192**	P		**P**	**12 36 31.2**	**-1.0**
	1.8nm,0.4s,baz=5.0,slow=7.9,SNR=12							
STKA	**Stephens Creek**	**26.32**	**192**	P		**P**	**12 36 33.5**	**+1.3**
	baz=27,SNR=8.5							
PCI	**Palu**	**28.61**	**279**	P		P	12 36 42.2	-11
	baz=29,SNR=3.4							
PCI				S		**S**	**12 41 38.3**	**+1.0**
	baz=29,SNR=31							
MEEK	**Meekatharra**	**34.67**	**231**	P		**P**	**12 37 45.6**	**-0.3**
	baz=35,SNR=8.0							
MJAR	**Matsushiro Arr**	**43.42**	**348**	P		**P**	**12 39 00.6**	**+1.8**
	2.2nm,0.8s,baz=174,slow=8.4,SNR=7.1							
KSRS	**Korea Array**	**47.24**	**338**	P		**P**	**12 39 30.3**	**+1.3**
	0.7nm,0.6s,baz=157,slow=7.9,SNR=3.6							
PETK	**Petropavlovsk-**	**59.57**	**7**	P		P	12 41 02.9	+3.7
	1.2nm,0.5s,baz=174,slow=7.2,SNR=8.0							
SONM	**Songino Array**	**65.01**	**330**	P		**P**	**12 41 37.8**	**+2.0**
	0.4nm,0.6s,baz=99,slow=4.5,SNR=2.8							
MKAR	**Makanchi Array**	**78.25**	**320**	P		**P**	**12 42 55.3**	**0.0**
	0.3nm,0.4s,baz=100,slow=7.7,SNR=10.0							
ZALV	**Zalesovo Beam**	**79.66**	**328**	P		**P**	**12 43 02.4**	**-0.4**
	0.4nm,0.4s,baz=117,slow=6.6,SNR=2.6							
ILAR	**Eielson Array**	**85.19**	**23**	P		**P**	**12 43 31.9**	**+0.5**
	0.2nm,0.5s,baz=247,slow=5.1,SNR=7.1							
SIV	**San Ignacio**	**143.77**	**128**	PKP		**PKPdf**	**12 50 31.4**	**+0.1**
	0.6nm,0.4s,baz=242,slow=9.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc		**PKPab**	**12 50 37.0**	**-0.1**
	1.7nm,0.4s,baz=71,slow=3.1,SNR=27							
BDFB	**Brasilia**	**153.16**	**144**	PKPbc		**PKPbc**	**12 50 56.4**	**+2.4**
	3.0nm,0.5s,baz=222,slow=5.2,SNR=5.0							

UPA ***28*** *12:49:03.7, 7°.25N×82°.42W, h10km, MW4.8*
MOS ***28*** *12:49:05.8±1.0, 7°.66N×82°.15W, h10km, mb5.0/41, Error ellipse: s-maj=11.6km s-min=5.8km az=120.3*
UCR ***28*** *12:49:05.9, 7°.35N×82°.66W, h0km, MD4.4*
IDC ***28*** *12:49:05.1±0.5, 7°.57N×82°.19W, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.5/25, mbtmp4.4/21, ML6.0/2, MS4.0/21, Ms1 4.0/21, ms1mx3.8/31, Error ellipse: s-maj=22.2km s-min=11.5km az=58.0*
NEIC ***28*** *12:49:06.7±0.2, 7°.49N×82°.22W, h10km, mb4.8/94, Error ellipse: s-maj=6.2km s-min=3.5km az=219.0*
CASC ***28*** *12:49:06.2±1.8, 7°.35N×82°.40W, h25km±18km, MD4.3, mb4.8(NEIC)*
ISCJB ***28*** *12:49:07.0±1.3, 7°.60N±0°.04×82°.23W±0°.03, h15km±7km, mb4.7/116, MS4.1/21, Error ellipse: s-maj=7.8km s-min=3.9km az=26.7*
GCMT ***28*** *12:49:11.7±0.3, 7°.38N×82°.38W, h21km±1km, MW4.9, Moment Tensor Solution. s18,c20; s69,c88; Moment tensor: Scale 10¹⁶Nm; Mrr0.08±.12; Mθθ0.42±.09; Mφφ-0.50±.12; Mrθ0.64±.18; Mθφ2.21±.08; Mφr-0.14±.17; Best double couple: M₀2.40000×10¹⁶ NP1:φ₀6.00000°, δ74.00000°, λ-179.00000°. NP2:φ₀276.00000°, δ89.00000°, λ-16.00000°. Principal axes: T 2.3000, Plg11.0000°, Azm322.0000°; N 0.1100, Plg74.0000°, Azm93.0000°; P -2.4000, Plg12.0000°, Azm230.0000°; Data Used: IU II G IC.*

ISC 28 12:49:07.5±1.3, 7°.48N±0°.05×82°.36W±0°.04, h16km±7km, n695, σ1§12/730, mb4.8/116, MS4.0/21, 218C-194D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**1.34**	**351**	⇑*iP*		**Pn**	**12 49 31.1**	**-0.9**
TBS2		**1.34**	**347**	*eP*		**Pn**	**12 49 31.4**	**-0.4**
TBS2				eS		**Sg**	**12 49 50.8**	**-0.1**
BRU2	**Volcan**	**1.35**	**346**	⇑*iP*		**Pn**	**12 49 30.9**	**-0.9**
ACR	**Cerro Adams**	**1.42**	**325**	⇑*iP*		**Pn**	**12 49 30.7**	**-2.0**
ACR				⇑*iP*		**Pn**	**12 49 30.8**	**-2.0**
BUS	**Buena Vista**	**2.49**	**326**	*eP*		**Pn**	**12 49 47.3**	**-0.5**
BUS				eS		**Sn**	**12 50 18.3**	**+0.2**
QCR	**Quepos**	**2.64**	**317**	⇑*iP*		**Pn**	**12 49 48.2**	**-1.3**
QCR				eS		**Sn**	**12 50 19.5**	**-1.6**
LAJ	**Bijagual**	**2.94**	**324**	⇓*eP*		**Pn**	**12 49 54.5**	**+0.7**
SJS	**Escuela Geolog**	**2.97**	**326**	*eP*		**Pn**	**12 49 54.3**	**+0.1**
SJS				eS		**Sn**	**12 50 28.9**	**-0.5**
BCIP	**Isla Barro Col**	**3.00**	**56**	*ePn*		**Pn**	**12 49 54.1**	**-0.4**
BCIP				eSg		**Sg**	**12 50 44.2**	**+0.1**
BCIP	**Isla Barro Col**	**3.00**	**56**	*eP*		**Pn**	**12 49 54.2**	**-0.3**
BCIP				eS		**Sn**	**12 50 30.9**	**+0.8**
UPIG		**3.17**	**61**	*eP*		Pb	12 49 59.4	-4.1
UPIG				eS		**Sn**	**12 50 35.1**	**+0.8**
CGA2	**Cerro Gallo 2**	**3.27**	**321**	⇑*eP*		**Pn**	**12 49 57.5**	**-0.9**
CGA2				⇑*iP*		Pb	12 49 57.6	-7.7
FORC	**Fortuna**	**3.75**	**323**	*eP*		**Pn**	**12 50 04.4**	**-0.3**
JTS	**JuntasAbangare**	**3.79**	**318**	Pn		**Pn**	**12 50 04.6**	**-0.8**
	270nm,0.3s,baz=101,slow=9.6,SNR=293							
JTS				Sn		**Sn**	**12 50 47.9**	**-1.9**
	34nm,0.3s,baz=322,slow=20,SNR=4.2							
JTS				LR		LR	12 51 50.8	
	comp=Z,4μm,18.6s,baz=153,slow=43							
JTS	**JuntasAbangare**	**3.79**	**318**	Pn		**Pn**	**12 50 04.6**	**-0.8**
JTS				Sn		**Sn**	**12 50 47.9**	**-1.9**
JTS	**JuntasAbangare**	**3.79**	**318**	*ePn*		**Pn**	**12 50 04.2**	**-1.3**
VCR	**Vista de Mar**	**4.17**	**309**	⇑*eP*		**Pn**	**12 50 09.9**	**-0.8**
CNCH	**Conchagua**	**7.89**	**317**	*eP*		**Pn**	**12 51 02.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**8.13**	**324**	*ePn*		**Pn**	**12 51 06.2**	**+1.3**
OTAV	**Otavalo**	**8.18**	**151**	*ePn*		Pn	12 51 03.9	-2.2
OTAV	**Otavalo**	**8.18**	**151**	*ePn*		Pn	12 51 03.9	-2.2
ROSC	**El Rosal**	**8.39**	**108**	Pn		**Pn**	**12 51 09.6**	**+0.7**
	1.5nm,0.3s,baz=90,slow=20,SNR=2.6							
ROSC				LR		LR	12 53 56.3	
	comp=Z,759nm,20.4s,baz=344,slow=35							
ROSC	**El Rosal**	**8.39**	**108**	Pn		**Pn**	**12 51 09.6**	**+0.7**
LFRS	**El Faro**	**8.99**	**313**	*eP*		**Pn**	**12 51 16.1**	**-0.8**
LFRS				eS		Sn	12 52 49.1	-8.7
SBLS	**San Blas**	**9.54**	**312**	*eP*		**Pn**	**12 51 24.3**	**-0.2**
SNJE	**San Jose**	**9.54**	**312**	*eP*		**Pn**	**12 51 23.8**	**-0.7**
PAYG	**Puerto Ayora**	**11.32**	**225**	*ePn*		**Pn**	**12 51 47.9**	**-0.8**
PAYG	**Puerto Ayora**	**11.32**	**225**	*ePn*		**Pn**	**12 51 47.9**	**-0.8**
SDV	**Santo Domingo**	**11.69**	**82**	*ePn*		**Pn**	**12 51 53.6**	**-0.4**
SDV	**Santo Domingo**	**11.69**	**82**	*ePn*		**Pn**	**12 51 53.6**	**-0.4**
TEIG	**Tepich**	**13.91**	**336**	Pn		**P**	**12 52 32.7**	**+0.4**
	1.8nm,0.3s,baz=158,slow=18,SNR=4.3							
TEIG				LR		LR	12 57 55.2	
	comp=Z,794nm,19.8s,baz=155,slow=38							
TEIG	**Tepich**	**13.91**	**336**	Pn		**P**	**12 52 32.7**	**+0.4**
ATAH	**Atahualpa**	**15.04**	**165**	Pn		**P**	**12 52 46.6**	**+1.3**
	0.3nm,0.3s,baz=294,slow=20,SNR=4.1							
ATAH	**Atahualpa**	**15.04**	**165**	Pn		**P**	**12 52 46.6**	**+1.3**
SDDR	**Presa de Saban**	**15.70**	**42**	*eP*		**P**	**12 52 51.2**	**-1.0**
	34nm,0.8s							
CELP	**Cerrillos**	**18.63**	**54**	*eP*		**P**	**12 53 24.0**	**-0.6**
AOPR	**Arecibo Observ**	**18.64**	**53**	*ePn*		**Pn**	**12 53 24.3**	**-0.7**
	56nm,0.8s							
SJG	**San Juan**	**18.99**	**55**	P		**P**	**12 53 25.8**	**-2.8**
	4.4nm,0.3s,baz=313,slow=21,SNR=4.2							
SJG				LR		LR	13 00 21.8	
	comp=Z,260nm,19.2s,baz=277,slow=36							
SJG	**San Juan**	**18.99**	**55**	P		**P**	**12 53 25.8**	**-2.8**
NNA	**Nana**	**20.10**	**164**	P		**P**	**12 53 39.5**	**-1.3**
	5.7nm,0.3s,baz=156,slow=20,SNR=3.2							
NNA	**Nana**	**20.10**	**164**	P		**P**	**12 53 39.5**	**-1.3**
TIGA	**Tifton**	**23.87**	**357**	⇓P		**P**	**12 54 20.9**	**+0.5**
	baz=24							
SAML	**Samuel**	**25.12**	**130**	*eP*		**P**	**12 54 29.6**	**-2.4**
	5.9nm,0.8s							
HKT	**Hockley**	**25.69**	**332**	*eP*		**P**	**12 54 36.5**	**-0.4**
HKT				pmax		pmax		
	comp=Z,124nm,1.9s							
HKT	**Hockley**	**25.69**	**332**	*eP*		**P**	**12 54 36.5**	**-0.4**
	comp=Z,124nm,1.9s							
LRAL	**Lakeview Retre**	**25.79**	**351**	*eP*		**P**	**12 54 38.0**	**+0.2**
	comp=Z,94nm,2.3s							
732A	**Laxson Ranch,**	**26.89**	**324**	⇑P		**P**	**12 54 47.0**	**-0.9**
	baz=27,SNR=28							
632A	**Uvalde**	**27.37**	**325**	⇑P		**P**	**12 54 52.7**	**+0.4**
	baz=28							
LPAZ	**La Paz**	**27.49**	**149**	P		**P**	**12 54 53.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=350,slow=11,SNR=5.1							
LPAZ				LR		LR	13 07 06.7	
	comp=Z,343nm,18.7s,baz=181,slow=39							
LPAZ	**La Paz**	**27.49**	**149**	P		**P**	**12 54 53.5**	**-0.6**
	comp=Z,2.4nm,0.9s							
KMSC	**Kings Mountain**	**27.55**	**2**	⇑P		**P**	**12 54 53.8**	**+0.1**
	baz=28							
631A	**Perdido Creek**	**27.75**	**324**	⇑P		**P**	**12 54 55.7**	**+0.1**
	baz=28,SNR=6.2							
532A	**Rocksprings**	**27.91**	**326**	⇑P		**P**	**12 54 57.1**	**0.0**
	baz=28,SNR=17							
TKL	**Tuckaleechee C**	**28.08**	**358**	LR		LR	13 06 39.9	
	comp=Z,202nm,19.8s,baz=358,slow=38							
JCT	**Junction City**	**28.13**	**327**	*eP*		**P**	**12 54 59.1**	**+0.1**
JCT				pmax		pmax		
	comp=Z,46nm,1.3s							
JCT	**Junction City**	**28.13**	**327**	*eP*		**P**	**12 54 59.1**	**+0.1**
	comp=Z,46nm,1.3s							
JCT	**Junction City**	**28.13**	**327**	⇓P		**P**	**12 54 58.4**	**-0.6**
	baz=28,SNR=11							
WHTX	**Lake Whitney**	**28.16**	**332**	⇑P		**P**	**12 54 59.2**	**0.0**
	baz=28							
531A	**Rocksprings**	**28.30**	**325**	⇓P		**P**	**12 55 00.8**	**+0.3**
	baz=28							
432A	**Menard**	**28.43**	**327**	⇓P		**P**	**12 55 01.8**	**+0.1**
	baz=29							
UALR	**University of**	**28.68**	**343**	*eP*		**P**	**12 55 03.0**	**-0.8**
	comp=Z,19nm,0.9s							
431A	**Sonora**	**28.73**	**326**	⇑P		**P**	**12 55 04.3**	**-0.1**
	baz=29,SNR=9.9							
530A	**J-C Ranch, Com**	**28.74**	**324**	⇑P		**P**	**12 55 05.1**	**+0.7**
	baz=29,SNR=19							
332A	**Millersview**	**28.80**	**328**	⇑P		**P**	**12 55 04.7**	**-0.3**
	baz=29							
331A	**San Angelo**	**29.11**	**327**	⇑P		**P**	**12 55 07.5**	**-0.2**
	baz=29							
232A	**Coleman**	**29.15**	**329**	⇓P		**P**	**12 55 07.7**	**-0.4**
	baz=29							
430A	**Baggett Ranch,**	**29.16**	**325**	⇑P		**P**	**12 55 08.1**	**-0.1**
	baz=29							
628A	**Black Gap, Mar**	**29.20**	**321**	⇓P		**P**	**12 55 09.4**	**+0.9**
	baz=29,SNR=12							
529A	**Stev Forest Ra**	**29.24**	**323**	⇓P		**P**	**12 55 09.7**	**+0.8**
	baz=29,SNR=37							
429A	**Davenport Ranc**	**29.41**	**324**	⇓P		**P**	**12 55 10.8**	**+0.3**
	baz=30,SNR=24							
627A	**Terlingua Ranc**	**29.49**	**321**	⇑P		**P**	**12 55 12.1**	**+0.9**
	baz=30,SNR=21							
231A	**Bronte**	**29.53**	**328**	⇑P		**P**	**12 55 11.0**	**-0.5**
	baz=30							
TXAR	**Lajitas Array**	**29.58**	**320**	P		**P**	**12 55 13.4**	**+1.4**
	comp=Z,3.7nm,0.7s,baz=131,slow=8.6,SNR=27							
TXAR				PcP		**PcP**	**12 58 17.5**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=188,slow=2.7,SNR=3.4							
TXAR				LR		LR	13 08 41.0	
	comp=Z,137nm,19.9s,baz=160,slow=40							
TXAR	**Lajitas Array**	**29.58**	**320**	P		**P**	**12 55 13.4**	**+1.4**
TXAR				PcP		**PcP**	**12 58 17.5**	**+0.7**
330A	**Mertzon**	**29.59**	**326**	⇑P		**P**	**12 55 11.5**	**-0.6**
	baz=30							
528A	**Cox Ranch, San**	**29.61**	**322**	⇑P		**P**	**12 55 12.9**	**+0.6**
	baz=30,SNR=18							
ABTX	**Abilene, Hawle**	**29.73**	**330**	⇑P		**P**	**12 55 12.7**	**-0.5**
	baz=30							
230A	**Sterling City**	**29.92**	**327**	⇑P		**P**	**12 55 14.7**	**-0.3**
	baz=30							
428A	**Kincaid Ranch,**	**29.95**	**323**	⇓P		**P**	**12 55 16.0**	**+0.7**
	baz=30,SNR=28							
626A	**Big Bend Ranch**	**30.03**	**320**	⇑P		**P**	**12 55 16.8**	**+0.8**
	baz=30,SNR=7.4							
329A	**Wagon Wheel Ra**	**30.10**	**325**	⇓P		**P**	**12 55 17.0**	**+0.4**
	baz=30,SNR=6.2							
527A	**Woodward Ranch**	**30.11**	**321**	⇓P		**P**	**12 55 17.2**	**+0.5**
	baz=30,SNR=13							
131A	**Roby**	**30.15**	**329**	⇓P		**P**	**12 55 16.7**	**-0.3**
	baz=30							
Z32A	**Haskell**	**30.20**	**331**	⇑P		**P**	**12 55 17.0**	**-0.4**
	baz=30							
526A	**Mary Lane Ranc**	**30.35**	**321**	⇑P		**P**	**12 55 19.7**	**+0.9**
	baz=30,SNR=7.6							
229A	**Bryant Ranch,**	**30.37**	**326**	⇑P		**P**	**12 55 18.5**	**-0.5**
	baz=30,SNR=6.8							
130A	**Snyder**	**30.39**	**328**	⇑P		**P**	**12 55 18.7**	**-0.4**
	baz=30							
427A	**Hayter Ranch,**	**30.47**	**322**	⇑P		**P**	**12 55 21.2**	**+1.3**
	baz=31,SNR=8.3							
328A	**Wristen Ranch,**	**30.50**	**324**	⇓P		**P**	**12 55 19.8**	**-0.3**
	baz=31,SNR=11							
Z31A	**Sharp Cattle R**	**30.54**	**330**	⇓P		**P**	**12 55 20.1**	**-0.3**
	baz=31							
426A	**McDonald Obser**	**30.73**	**321**	⇑P		**P**	**12 55 22.6**	**+0.3**
	baz=31,SNR=12							
Y32A	**R-V Farms, Ver**	**30.75**	**331**	⇓P		**P**	**12 55 22.0**	**-0.2**
	baz=31							
WCI	**Wyandotte Cave**	**30.82**	**354**	*eP*		**P**	**12 55 22.2**	**-0.6**
WCI				pmax		pmax		
	comp=Z,96nm,2.4s							
WCI	**Wyandotte Cave**	**30.82**	**354**	*eP*		**P**	**12 55 22.2**	**-0.6**
	comp=Z,96nm,2.4s							
129A	**Stewart Farms,**	**30.90**	**327**	⇓P		**P**	**12 55 23.0**	**-0.6**
	baz=31,SNR=7.0							
228A	**UT Block 9, Go**	**30.92**	**325**	⇑P		**P**	**12 55 22.9**	**-0.9**
	baz=31,SNR=5.0							
Z30A	**Sanderson Ranc**	**31.02**	**328**	⇓P		**P**	**12 55 23.8**	**-0.8**
	baz=31,SNR=10							
Y31A	**Rekieta Farm,**	**31.12**	**330**	⇑P		**P**	**12 55 24.8**	**-0.6**
	baz=31,SNR=7.1							
326A	**Caldwell Ranch**	**31.15**	**322**	⇑P		**P**	**12 55 26.1**	**+0.2**
	baz=31,SNR=8.4							
128A	**Castleberry Fa**	**31.23**	**326**	⇑P		**P**	**12 55 26.1**	**-0.5**
	baz=31							
227A	**Bennet, Jal**	**31.24**	**324**	⇑P		**P**	**12 55 26.5**	**-0.1**
	baz=31,SNR=5.4							
Z29A	**Hungry Hill Ra**	**31.30**	**328**	⇓P		**P**	**12 55 26.3**	**-0.8**
	baz=32,SNR=11							
Y30A	**Stafford Cattl**	**31.36**	**329**	⇓P		**P**	**12 55 27.0**	**-0.7**
	baz=32,SNR=8.2							
425A	**Indio Mountain**	**31.41**	**321**	⇓P		**P**	**12 55 28.9**	**+0.8**
	baz=32,SNR=9.6							
SIV	**San Ignacio**	**31.43**	**138**	P		**P**	**12 55 26.7**	**-1.6**
	comp=Z,3.9nm,0.9s,baz=324,slow=9.0,SNR=14							
SIV	**San Ignacio**	**31.43**	**138**	P		**P**	**12 55 26.7**	**-1.6**
X31A	**McDonald Ranch**	**31.52**	**331**	⇓P		**P**	**12 55 29.1**	**+0.1**
	baz=32							
OLIL	**Olney**	**31.55**	**351**	*eP*		**P**	**12 55 28.6**	**-0.5**
	comp=Z,23nm,0.6s							
Z28A	**Tucker Farm, M**	**31.68**	**327**	⇑P		**P**	**12 55 30.6**	**0.0**
	baz=32							
Y29A	**Porterfield Fa**	**31.75**	**328**	⇑P		**P**	**12 55 30.7**	**-0.4**
	baz=32,SNR=5.7							
127A	**Arkansas Junct**	**31.77**	**325**	⇑P		**P**	**12 55 31.0**	**-0.3**
	baz=32							
CLNB	**Carlsbad**	**31.77**	**324**	*eP*		**P**	**12 55 32.0**	**+0.7**
	comp=Z,2.8nm,0.9s							
BLO	**Bloomington**	**31.78**	**354**	*eP*		**P**	**12 55 30.3**	**-0.9**
BLO				pmax		pmax		
	comp=Z,17nm,0.5s							
BLO	**Bloomington**	**31.78**	**354**	*eP*		**P**	**12 55 30.3**	**-0.9**
	comp=Z,16nm,0.5s							
325A	**Bean Ranch, Si**	**31.80**	**321**	⇑P		**P**	**12 55 31.9**	**+0.2**
	baz=32,SNR=8.9							
X30A	**Coker Ranch, T**	**31.81**	**330**	⇑P		**P**	**12 55 31.5**	**0.0**
	baz=32							
GDL2	**Guadalupe Mount**	**32.01**	**323**	*eP*		**P**	**12 55 34.1**	**+0.7**
Y28A	**McKinney Farm,**	**32.09**	**328**	⇓P		**P**	**12 55 34.9**	**+0.9**
	baz=32							
126A	**Clayton Basin,**	**32.13**	**324**	⇑P		**P**	**12 55 34.4**	**0.0**
	baz=32							
Z27A	**Tatum**	**32.16**	**326**	⇑P		**P**	**12 55 34.2**	**-0.5**
	baz=32							
324A	**Moseley Ranch,**	**32.16**	**321**	⇑P		**P**	**12 55 35.1**	**+0.2**
	baz=32,SNR=18							
225A	**Deer Hill, Car**	**32.22**	**323**	⇓P		**P**	**12 55 36.1**	**+0.7**
	baz=32,SNR=12							
X29A	**Tulia**	**32.22**	**329**	⇑P		**P**	**12 55 35.5**	**+0.3**
	baz=32							
MNTX	**Cornudas Mount**	**32.28**	**321**	*eP*		**P**	**12 55 36.1**	**+0.5**
	comp=Z,13nm,0.9s							
MNTX	**Cornudas Mount**	**32.28**	**321**	⇑P		**P**	**12 55 36.2**	**+0.5**
	baz=32,SNR=24							
MSTX	**Muleshoe**	**32.41**	**327**	⇑P		**P**	**12 55 37.3**	**+0.3**
	baz=33,SNR=6.9							
125A	**Gardner Draw,**	**

baz=34,SNR=6.7
320A **Kipp Ranch, An** 34.07 318 ⇓P P 12 55 53.5 +2.0
baz=34,SNR=49
Y23A **Lovelace Mesa,** 34.23 324 ⇓P P 12 55 53.9 +0.9
baz=34,SNR=19
W25A **X Bar L Ranch,** 34.27 327 ⇑P P 12 55 53.5 +0.4
baz=34
Z22A **Elephant Butte** 34.31 322 ⇑P P 12 55 54.9 +1.3
baz=34,SNR=9.1
V26A **Tequesquite Ra** 34.34 328 ⇑P P 12 55 54.6 +0.8
baz=34,SNR=14
121A **Cookes Peak, D** 34.34 320 ⇓P P 12 55 55.9 +2.0
baz=34,SNR=11
220A **Playas Peak, P** 34.42 318 ⇓P P 12 55 56.8 +2.3
baz=35,SNR=50
T28A **Walsh** 34.55 332 ⇑P P 12 55 55.4 -0.1
baz=35
319A **Douglas** 34.60 317 ⇑P P 12 55 58.2 +2.2
baz=35,SNR=21
BNM **Barren Site** 34.73 323 eP P 12 55 57.9 +0.6
comp=Z,7.1nm,0.9s
Y22A **Socorro** 34.78 323 ⇓P P 12 55 58.5 +0.8
baz=35,SNR=20
W24A **Lazy 6 Ranch,** 34.78 326 ⇓P P 12 55 58.6 +0.9
baz=35,SNR=11
U26A **Atchley Ranch,** 34.78 329 ⇓P P 12 55 57.0 -0.7
baz=35,SNR=7.2
Z21A **St. Cloud Mine** 34.79 321 ⇓P P 12 55 59.1 +1.4
baz=35,SNR=5.2
T27A **Campo** 34.79 331 ⇑P P 12 55 58.1 +0.4
baz=35
V25A **Rancho No Teng** 34.81 327 ⇓P P 12 55 58.4 +0.4
baz=35,SNR=14
LPM **Los Pinos Moun** 34.84 323 eP P 12 55 58.2 0.0
comp=Z,2.2nm,0.7s
120A **U Bar Ranch, L** 34.90 319 ⇑P P 12 56 01.1 +2.4
baz=35,SNR=23
V24A **Rampart Ranch,** 35.08 327 ⇑P P 12 56 01.0 +0.6
baz=35,SNR=8.5
U25A **Circle Dot Ran** 35.13 328 ⇑P P 12 56 00.9 +0.2
baz=35
W23A **Werner Place,** 35.16 325 ⇓P P 12 56 02.0 +1.0
baz=35,SNR=8.3
ANMO **Albuquerque** 35.19 324 eP P 12 56 01.9 +0.7
comp=Z,16nm,0.9s
X22A **Bernardo** 35.20 323 ⇓P P 12 56 03.2 +1.9
baz=35,SNR=7.4
Z20A **Nine Sixteen R** 35.24 320 ⇑P P 12 56 04.0 +2.4
baz=35,SNR=21
Y21A **Point of Rocks** 35.26 322 ⇑P P 12 56 03.9 +2.1
baz=35,SNR=9.3
T26A **Comanche Natio** 35.31 330 ⇓P P 12 56 02.1 -0.2
baz=36
W22A **Albuquerque** 35.51 324 ⇑P P 12 56 05.8 +1.8
baz=36
U24A **Moreno Valley** 35.59 327 ⇑P P 12 56 06.4 +1.6
baz=36
S26A **Kim** 35.60 331 ⇓P P 12 56 04.7 0.0
baz=36,SNR=10
V23A **Ortiz Mt. (NFS** 35.60 326 ⇓P P 12 56 05.4 +0.6
baz=36,SNR=5.5
SCIA **State Center** 35.61 346 eP P 12 56 03.6 -0.9
comp=Z,4nm,0.8s
X21A **Alamocita Cree** 35.62 322 ⇓P P 12 56 06.7 +1.7
baz=36,SNR=23
Y20A **Horse Springs,** 35.62 321 ⇓P P 12 56 06.8 +1.8
baz=36,SNR=12
T25A **Trinidad** 35.70 329 ⇓P P 12 56 05.8 +0.3
baz=36,SNR=13
R27A **Eads** 35.81 332 ⇑P P 12 56 07.1 +0.7
baz=36,SNR=5.1
T24A **Torres, Weston** 35.98 328 ⇓P P 12 56 09.0 +1.0
baz=36,SNR=12
W21A **San Fidel** 36.00 323 ⇓P P 12 56 09.9 +1.7
baz=36
U23A **El Rito** 36.03 326 ⇑P P 12 56 09.6 +1.1
baz=36,SNR=35
S25A **Robets Cordova** 36.11 330 ⇓P P 12 56 09.9 +0.8
baz=36,SNR=7.1
X20A **Quemado** 36.12 322 ⇓P P 12 56 11.1 +1.8
baz=36,SNR=10
R26A **Arlington** 36.13 331 ⇓P P 12 56 09.8 +0.7
baz=36
V22A **San Miguel Ran** 36.13 325 ⇓P P 12 56 09.8 +0.5
baz=36
TUC **Tucson** 36.18 317 eP P 12 56 11.0 +1.4
TUC pmax pmax
comp=Z,26nm,1.1s
TUC **Tucson** 36.18 317 eP P 12 56 11.0 +1.4
comp=Z,26nm,1.1s
KSCO **Kaye Shedlock'** 36.32 333 ⇓P P 12 56 11.2 +0.4
baz=36
R25A **Fountain Ranch** 36.41 330 ⇑P P 12 56 11.9 +0.3
baz=37,SNR=8.9
U22A **Llaves** 36.43 326 ⇑P P 12 56 13.1 +1.2
baz=37,SNR=21
T23A **Casias Ranch,** 36.47 327 ⇑P P 12 56 13.2 +1.0
baz=37,SNR=18
V21A **Milan** 36.47 324 ⇑P P 12 56 13.6 +1.4
baz=37,SNR=27
S24A **Houchin Ranch,** 36.49 329 ⇑P P 12 56 13.1 +0.7
baz=37,SNR=10.0
W20A **Ramah** 36.52 323 ⇓P P 12 56 14.2 +1.6
baz=37,SNR=10
Q26A **Hugo** 36.66 332 ⇑P P 12 56 14.1 +0.4
baz=37,SNR=14
R24A **Sanders Place,** 36.89 330 ⇓P P 12 56 16.5 +0.8
baz=37,SNR=7.8
T22A **Edith** 36.92 326 ⇑P P 12 56 16.9 +0.8
baz=37
U21A **Nageezi** 36.92 325 ⇓P P 12 56 17.1 +1.0
baz=37,SNR=12
S23A **Nye Farm, Mont** 36.95 328 ⇑P P 12 56 17.8 +1.5
baz=37
V20A **Brimhall** 36.95 323 ⇓P P 12 56 17.6 +1.2
baz=37
Q25A **Bedland, Calha** 37.00 331 ⇑P P 12 56 16.7 +0.1
baz=37,SNR=8.5
X18A **Snowflake** 37.01 321 ⇑P P 12 56 19.0 +2.2
baz=37,SNR=17
P26A **Davis Ranch, A** 37.09 333 ⇑P P 12 56 18.0 +0.6
baz=37
O27A **Beecher Island** 37.22 334 ⇑P P 12 56 19.3 +0.9
baz=37
R23A **Moffat** 37.22 329 ⇓P P 12 56 19.4 +0.7
baz=37,SNR=16
SADO **Sadowa** 37.26 4 P P 12 56 17.0 -1.4
comp=Z,2.6nm,0.8s,baz=254,slow=6.1,SNR=3.2
SADO **Sadowa** 37.26 4 P P 12 56 17.0 -1.4
T21A **Navajo Lake** 37.26 326 ⇓P P 12 56 20.2 +1.4
baz=37
W18A **Petrified Fore** 37.26 321 ⇑P P 12 56 20.5 +1.6
baz=37,SNR=8.1
214A **Organ Pipe Nat** 37.37 315 ⇓P P 12 56 21.2 +1.4
baz=38
U20A **Newcomb** 37.38 324 ⇑P P 12 56 21.3 +1.4
baz=38,SNR=5.0
S22A **4UR Ranch, Cre** 37.42 327 ⇑P P 12 56 20.9 +0.5
baz=38,SNR=15
P25A **Willow Gulch B** 37.43 332 ⇑P P 12 56 20.8 +0.5
baz=38,SNR=11
Q24A **Divide** 37.47 330 ⇓P P 12 56 21.0 +0.2
baz=38,SNR=5.1
O26A **Horse Wrangler** 37.63 333 ⇓P P 12 56 22.4 +0.5
baz=38
OGNE **Ogallala** 37.66 335 eP P 12 56 22.1 +0.1
comp=Z,24nm,0.7s
OGNE **Ogallala** 37.66 335 ⇑P P 12 56 22.2 +0.1
baz=38,SNR=5.2
R22A **Saguache, Gunn** 37.73 328 ⇑P P 12 56 23.4 +0.4
baz=38,SNR=12
N27A **Anderson Farm,** 37.75 335 ⇑P P 12 56 23.6 +0.7
baz=38
Q23A **Hartsel** 37.77 329 ⇓P P 12 56 23.3 0.0
baz=38,SNR=5.5
P24A **Kohler Place,** 37.78 331 ⇓P P 12 56 24.4 +1.1
baz=38
S21A **Coal Bank Pass** 37.88 326 ⇓P P 12 56 25.0 +0.8
baz=38,SNR=7.4
X16A **Lo Mia Camp, P** 37.90 319 ⇓P P 12 56 26.5 +2.2
baz=38,SNR=28
MVCO **Mesa Verde** 37.95 325 eP P 12 56 25.7 +0.9
comp=Z,29nm,1.0s
MVCO **Mesa Verde** 37.95 325 ⇑P P 12 56 25.4 +0.6
baz=38,SNR=21
P23A **Jefferson** 38.13 330 ⇓P P 12 56 27.3 +0.9
baz=38,SNR=10.0
ECSD **EROS Data Cent** 38.21 343 eP P 12 56 24.7 -2.0
comp=Z,13nm,1.0s
ECSD eP PcP PcP 12 58 41.1 +0.1
R21A **Cimarron** 38.26 327 ⇓P P 12 56 28.2 +0.8
baz=38
Z14A **Wintersburg** 38.27 317 ⇑P P 12 56 29.5 +2.2
baz=38,SNR=10
Q22A **Crested Butte,** 38.29 328 ⇓P P 12 56 28.1 +0.4
baz=38,SNR=23
S20A **Disappointment** 38.31 326 ⇓P P 12 56 28.8 +0.9
baz=38,SNR=9.1
O24A **Longmont** 38.34 331 ⇓P P 12 56 29.0 +1.1
baz=38
ISCO **Idaho Springs** 38.35 331 eP P 12 56 29.0 +0.8
ISCO e 12 58 43.1
ISCO pmax pmax
comp=Z,19nm,1.5s
ISCO **Idaho Springs** 38.35 331 eP P 12 56 29.0 +0.8
comp=Z,19nm,1.5s
ISCO eP PcP PcP 12 58 43.1 +1.2
ISCO **Idaho Springs** 38.35 331 ⇑P P 12 56 28.6 +0.4
baz=38,SNR=7.1
113A **Mohawk Valley,** 38.50 315 ⇓P P 12 56 30.9 +1.7
baz=39,SNR=10
WUAZ **Wupatki** 38.54 321 eP P 12 56 31.8 +2.1
comp=Z,34nm,1.0s
WUAZ **Wupatki** 38.54 321 ⇓P P 12 56 31.6 +1.8
baz=39,SNR=29
SMCO **Snowmass** 38.55 329 eP P 12 56 30.8 +0.8
comp=Z,12nm,1.1s
R20A **Redvale** 38.58 326 ⇓P P 12 56 31.7 +1.6
baz=39
Y14A **Wickenburg** 38.64 317 ⇑P P 12 56 32.5 +2.0
baz=39,SNR=18
PV01 **Paradox Valley** 38.65 326 eP P 12 56 31.7 +1.0
comp=Z,1μm,1.3s
SPMN **St. Paul** 38.68 348 ⇓P P 12 56 28.8 -1.8
baz=39
P22A **Eagle** 38.76 329 ⇓P P 12 56 31.6 0.0
baz=39,SNR=23
O23A **Lake Granby, G** 38.81 331 ⇓P P 12 56 32.4 +0.3
baz=39,SNR=8.3
M25A **Palm-Egli Farm** 38.92 334 ⇑P P 12 56 33.9 +1.1
baz=39
PV04 **Paradox Valley** 39.02 326 eP P 12 56 34.3 +0.6
P21A **Newcastle** 39.06 329 ⇑P P 12 56 35.2 +1.1
baz=39
O22A **Kremmling** 39.08 330 ⇓P P 12 56 34.4 0.0
baz=39,SNR=9.0
Q20A **Ridgley Place,** 39.09 327 ⇓P P 12 56 34.8 +0.5
baz=39,SNR=8.2
S18A **Hurst Farm, Bl** 39.14 324 ⇑P P 12 56 35.4 +0.5
baz=39,SNR=9.1
K27A **Flueckinger Fa** 39.22 337 ⇓P P 12 56 35.3 +0.1
baz=39
M24A **Cheyenne** 39.29 333 ⇓P P 12 56 36.4 +0.5
baz=40,SNR=7.8
N23A **Red Feather La** 39.36 331 ⇓P P 12 56 37.4 +0.8
baz=40
GLA **Glamis** 39.40 315 eP P 12 56 38.0 +1.2
GLA pmax pmax
comp=Z,30nm,1.0s
GLA **Glamis** 39.40 315 eP P 12 56 38.0 +1.2
comp=Z,30nm,1.0s
GLA **Glamis** 39.40 315 ⇓P P 12 56 39.0 +2.3
baz=40,SNR=12
PHWY **Pilot Hill** 39.45 332 eP P 12 56 37.5 +0.1
comp=Z,8.0nm,1.0s
P20A **De Beque** 39.53 328 ⇓P P 12 56 39.6 +1.7
baz=40
Y12C **Blythe** 39.57 316 ⇑P P 12 56 40.4 +2.2
baz=40,SNR=9.6
Q19A **Hogan Spring (** 39.61 326 ⇓P P 12 56 39.4 +0.8
baz=40
PDMCI **Parker Dam,Lak** 39.62 317 ⇓P P 12 56 40.5 +2.0
baz=40,SNR=15
U15A **North Rim** 39.69 321 ⇑P P 12 56 41.5 +2.1
baz=40,SNR=22
M23A **Laramie** 39.70 332 ⇓P P 12 56 40.0 +0.6
baz=40
L24A **Wheatland** 39.80 333 ⇓P P 12 56 41.0 +0.9
baz=40
K25A **Mack Ranch, Ha** 39.81 335 ⇑P P 12 56 40.8 +0.6
baz=40
W13A **Huapai Mount** 39.91 318 ⇑P P 12 56 43.4 +2.2
baz=40,SNR=40
O20A **White River Ci** 39.92 329 ⇓P P 12 56 41.8 +0.6
baz=40,SNR=7.5
P19A **Cripple Cowboy** 39.94 327 ⇑P P 12 56 41.8 +0.3
baz=40
N21A **Black Mountain** 40.02 330 ⇑P P 12 56 42.9 +0.8
baz=40,SNR=9.3
SWSC **Sam W. Stewart** 40.02 314 ⇑P P 12 56 43.9 +1.9
baz=40,SNR=8.0
M22A **Cedar Creek Ra** 40.06 331 ⇑P P 12 56 43.3 +0.8
baz=40
DVTC **Desert V Tower** 40.10 313 ⇑P P 12 56 44.8 +2.2
baz=40
BC3 **Big Chuckawall** 40.16 315 ⇑P P 12 56 45.3 +2.0
baz=40
L23A **Garrett** 40.20 333 ⇑P P 12 56 43.8 +0.3
baz=40,SNR=13
IRM **Iron Mountain** 40.23 316 ⇓P P 12 56 45.8 +2.1
baz=40,SNR=14
SRU **San Rafael** 40.42 325 eP P 12 56 46.3 +0.9
SRU pmax pmax
comp=Z,952nm,0.9s
SRU **San Rafael** 40.42 325 eP P 12 56 46.3 +0.9
comp=Z,952nm,0.9s
SRU **San Rafael** 40.42 325 ⇑P P 12 56 46.2 +0.9
baz=41,SNR=38
MONP **Monument Peak** 40.45 313 ⇓P P 12 56 47.4 +1.7
baz=41,SNR=6.1
N20A **Spence Gulch,** 40.45 329 ⇑P P 12 56 46.2 +0.6
baz=41,SNR=9.2
L22A **Ellis Ranch, M** 40.47 332 ⇓P P 12 56 46.3 +0.5
baz=41,SNR=6.2
O19A **Miners Draw (B** 40.50 328 ⇓P P 12 56 46.4 +0.4
baz=41,SNR=7.6
BAR **Barrett** 40.52 313 eP P 12 56 48.3 +2.2
comp=Z,11nm,1.2s
M21A **Separation Pea** 40.59 331 ⇑P P 12 56 47.2 +0.5
baz=41,SNR=7.8
P18A **Preston Nutter** 40.62 326 ⇓P P 12 56 48.0 +0.8
baz=41,SNR=12
Q16A **Castle Valley** 40.66 325 ⇓P P 12 56 48.4 +1.1
baz=41,SNR=8.3
K23A **Bowen Ranch, D** 40.68 333 ⇓P P 12 56 48.0 +0.6
baz=41
J24A **Dixon Ranch, L** 40.73 335 ⇑P P 12 56 48.8 +1.0
baz=41
BELC **Belle Mtn. Jos** 40.73 315 ⇓P P 12 56 49.5 +1.5
baz=41,SNR=16
P17A **Butcher Ranch,** 40.79 326 ⇑P P 12 56 49.0 +0.6
baz=41,SNR=9.4
PFO **Pinyon Flat Ob** 40.85 314 eP P 12 56 50.7 +1.8
comp=Z,24nm,1.0s
PFO **Pinyon Flat Ob** 40.85 314 ⇑P P 12 56 50.3 +1.4
baz=41,SNR=12
L21A **Rawlins** 40.86 331 ⇑P P 12 56 49.4 +0.4
baz=41,SNR=8.7
M20A **Sweetwater, Wa** 40.90 330 ⇓P P 12 56 49.8 +0.5
baz=41
GMRC **Granite Mounta** 40.92 316 ⇓P P 12 56 51.3 +1.8
baz=41,SNR=9.9
TMUT **Trail Mountain** 40.93 325 eP P 12 56 51.0 +1.3
comp=Z,9.6nm,1.0s
109C **Camp Elliot, M** 40.94 313 ⇓P P 12 56 51.4 +1.9
baz=41
O18A **Roosevelt** 40.95 327 ⇓P P 12 56 50.2 +0.5
baz=41,SNR=11
N19A **John Jarvie Ra** 40.96 329 ⇑P P 12 56 49.6 -0.2
baz=41,SNR=6.9
MSU **Marysvale** 40.97 323 eP P 12 56 51.5 +1.6
MSU **Marysvale** 40.97 323 eP P 12 56 51.5 +1.6
MVU **Marysvale** 40.98 323 eP P 12 56 51.9 +1.8
comp=Z,12nm,0.9s
MVU eP PcP PcP 12 58 51.9 +1.7
K22A **Casper** 41.00 333 ⇑P P 12 56 50.0 0.0
baz=41,SNR=8.6
BDFB **Brasilia** 41.05 124 P P 12 56 50.2 -0.5
comp=Z,2.1nm,0.5s,baz=285,slow=16,SNR=2.8
BDFB LR LR 13 14 58.5
comp=Z,251nm,20.1s,baz=241,slow=38
BDFB **Brasilia** 41.05 124 P P 12 56 50.2 -0.5
CCUT **Cedar City** 41.07 321 eP P 12 56 52.8 +2.0
comp=Z,6.9nm,1.0s
RSSD **Black Hills** 41.12 336 eP P 12 56 51.8 +0.7
RSSD e 12 58 51.3
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD **Black Hills** 41.12 336 eP P 12 56 51.8 +0.7
comp=Z,8.9nm,0.9s
RSSD eP PcP PcP 12 58 51.3 +0.8
CFAA **Coronel Fontan** 41.14 162 P P 12 56 53.0 +1.8
comp=Z,0.6nm,1.0s,baz=326,slow=11,SNR=3.5
CFAA **Coronel Fontan** 41.14 162 P P 12 56 53.0 +1.8
I24A **Kuemmerle Ranc** 41.15 335 ⇑P P 12 56 51.3 +0.2
baz=41
ARUT **Antelope Range** 41.26 322 eP P 12 56 54.3 +2.0
ARUT pmax pmax
comp=Z,11nm,1.0s
ARUT **Antelope Range** 41.26 322 eP P 12 56 54.3 +2.0
comp=Z,11nm,1.0s
N18A **Larsen Ranch,** 41.28 328 ⇓P P 12 56 52.7 +0.2
baz=41,SNR=7.5
O17A **Robinson Place** 41.29 327 ⇑P P 12 56 53.3 +0.7
baz=41,SNR=30
K21A **Alcova** 41.32 332 ⇑P P 12 56 52.7 -0.1
baz=42,SNR=7.8
L20A **Wamsutter** 41.37 330 ⇑P P 12 56 53.1 0.0
baz=42,SNR=8.4
MURC **Murrieta** 41.37 314 ⇓P P 12 56 54.9 +1.8
baz=42
P16A **Fountain Green** 41.40 325 ⇓P P 12 56 55.0 +1.6
baz=42
HEC **Hector,Ludlow** 41.41 316 ⇓P P 12 56 55.8 +2.4
baz=42,SNR=12
TUQ **Turquoise Moun** 41.47 317 ⇓P P 12 56 55.7 +1.7
baz=42,SNR=16
BBRC **Big Bear Solar** 41.52 315 ⇑P P 12 56 57.0 +2.5
baz=42
J22A **Midwest** 41.58 333 ⇓P P 12 56 54.8 0.0
baz=42,SNR=16
MPU **Maple Canyon** 41.66 326 eP P 12 56 56.5 +0.9
comp=Z,13nm,1.0s
O16A **Springville** 41.72 326 ⇓P P 12 56 56.9 +0.8
baz=42
DAU **Daniels Canyon** 41.73 326 eP P 12 56 57.2 +1.0
DAU **Daniels Canyon** 41.73 326 eP P 12 56 57.2 +1.0
P15A **Leamington** 41.73 325 ⇓P P 12 56 57.2 +1.1
baz=42
M18A **Lyman** 41.81 328 ⇑P P 12 56 56.9 +0.1
baz=42
H24A **Dirks Ranch, A** 41.85 336 ⇑P P 12 56 56.6 -0.3
baz=42,SNR=12
K20A **Yellowstone Ra** 41.86 331 ⇑P P 12 56 57.2 0.0
baz=42,SNR=11
N17A **Moffit Pass** 41.87 327 ⇓P P 12 56 58.0 +0.6
baz=42,SNR=9.5
L19A **Farson** 41.94 330 ⇓P P 12 56 57.8 0.0
baz=42,SNR=5.8
I22A **9 Mile Ranch,** 41.96 334 ⇑P P 12 56 58.0 +0.1
baz=42,SNR=7.4
J21A **Lysite** 41.97 332 ⇑P P 12 56 58.8 +0.8
baz=42,SNR=13
JLU **Jordanelle** 41.97 326 eP P 12 56 58.7 +0.6
comp=Z,12nm,1.1s
SHOC **Shoshone** 41.97 317 ⇓P P 12 57 00.1 +2.1
baz=42,SNR=19
GSC **Goldstone** 42.00 316 eP P 12 57 00.7 +2.4
GSC pmax pmax
comp=Z,24nm,1.1s
GSC **Goldstone** 42.00 316 eP P 12 57 00.7 +2.4
comp=Z,24nm,1.1s
GSC **Goldstone** 42.00 316 ⇓P P 12 57 00.4 +2.2
baz=42,SNR=13
BFSC **Mount Baldy Ra** 42.03 314 ⇓P P 12 57 00.2 +1.6
baz=42,SNR=6.7
SCI **San Clemente I** 42.04 312 ⇑P P 12 57 00.8 +2.2
baz=42
CIS **Catalina Islan** 42.14 313 ⇑P P 12 57 01.8 +2.4
baz=42
L18A **Fontenelle, Gr** 42.15 329 ⇑P P 12 57 00.3 +0.7
baz=42,SNR=22
M17A **Scullys Gap (B** 42.16 328 ⇑P P 12 57 00.1 +0.4
baz=42,SNR=34
N16A **Rees Ranch, Co** 42.16 327 ⇑P P 12 57 00.7 +1.1
baz=42,SNR=5.2
K19A **Absolon Red Bu** 42.23 331 ⇓P P 12 57 00.2 0.0
baz=42,SNR=20
I21A **Big Trails, Te** 42.26 333 ⇑P P 12 57 00.1 -0.3
baz=42,SNR=6.8
AGMN **Agassiz Nation** 42.26 347 eP P 12 56 58.7 -1.4
comp=Z,16nm,1.0s
J20A **Shoshoni** 42.27 332 ⇓P P 12 57 01.2 +0.8
baz=42,SNR=13
G24A **Alzada** 42.27 337 ⇓P P 12 57 00.7 +0.3
baz=42
MWC **Mount Wilson** 42.30 314 eP P 12 57 02.4 +1.5
MWC pmax pmax
comp=Z,11nm,0.9s
MWC **Mount Wilson** 42.30 314 eP P 12 57 02.4 +1.5
comp=Z,12nm,0.9s
O15A **The Old Anders** 42.31 325 ⇓P P 12 57 02.1 +1.2
baz=42
PASC **Pasadena Art C** 42.37 314 eP P 12 57 03.2 +2.0
comp=Z,16nm,1.0s
DUG **Dugway** 42.45 325 eP P 12 57 03.0 +1.0
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG **Dugway** 42.45 325 eP P 12 57 03.0 +1.0
comp=Z,5.5nm,0.9s
DUG **Dugway** 42.45 325 ⇓P P 12 57 02.9 +0.9
baz=43
H22A **Clearmont** 42.47 335 ⇑P P 12 57 01.9 -0.1
baz=43
BW06 **Boulder Array** 42.53 330 eP P 12 57 02.5 -0.2
comp=Z,17nm,1.4s
BW06 **Boulder Array** 42.53 330 ⇓P P 12 57 02.8 +0.1
baz=43,SNR=14
PDAR **Pinedale Array** 42.53 330 P P 12 57 02.4 -0.3
comp=Z,3.2nm,0.7s,baz=141,slow=9.6,SNR=29
PDAR PcP PcP 12 58 55.5 +0.3
comp=Z,1.7nm,0.9s,baz=125,slow=4.8,SNR=5.3
PDAR LR LR 13 15 55.0
comp=Z,133nm,18.9s,baz=320,slow=38
PDAR **Pinedale Array** 42.53 330 P P 12 57 02.4 -0.3
PDAR PcP PcP 12 58 55.5 +0.3
M16A **Huntsville** 42.56 327 ⇓P P 12 57 03.5 +0.6
baz=43,SNR=12
G23A **Biddle** 42.56 336 ⇑P P 12 57 02.4 -0.3
baz=43
EDW2 **Edwards Air Fo** 42.59 315 ⇓P P 12 57 05.0 +1.8
baz=43,SNR=18
J19A **Crowheart** 42.66 331 ⇑P P 12 57 03.7 0.0
baz=43,SNR=7.9
FURC **Furnace Creek,** 42.68 318 ⇑P P 12 57 06.1 +2.5
baz=43,SNR=23
K18A **Toltan Ranch,** 42.68 330 ⇑P P 12 57 04.7 +0.8
baz=43,SNR=26
LRMC **Laurel Mountai** 42.70 316 ⇓P P 12 57 05.9 +1.8
baz=43,SNR=14
L17A **Cokeville** 42.71 328 ⇑P P 12 57 04.3 +0.2
baz=43,SNR=28
HWUT **Hardware Ranch** 42.73 327 eP P 12 57 04.7 +0.4
comp=Z,18nm,0.9s
HWUT eP PcP PcP 12 58 56.3 +0.5
I20A **Worland** 42.75 332 ⇓P P 12 57 04.9 +0.6
baz=43,SNR=11
N15A **Stansbury Isla** 42.76 326 ⇓P P 12 57 05.4 +1.0
baz=43,SNR=6.0
MDND **Maddock** 42.83 343 ⇑P P 12 57 04.4 -0.3
baz=43
MPMC **Manual Prospec** 42.88 317 ⇑P P 12 57 07.2 +1.7
baz=43,SNR=16
R11A **Troy Canyon, C** 42.94 321 ⇓P P 12 57 08.2 +2.1
baz=43,SNR=43
G22A **Birney** 42.94 335 ⇑P P 12 57 06.4 +0.5
baz=43
L16A **Fish Haven** 42.94 328 ⇑P P 12 57 06.4 +0.3
baz=43,SNR=6.5
BLG **Laguna Peak** 42.97 313 ⇓P P 12 57 08.4 +2.3
baz=43
OSI **Osito Adit** 42.98 314 eP P 12 57 07.9 +1.7
comp=Z,46nm,0.4s
J18A **Kendall Valley** 43.09 330 ⇓P P 12 57 07.8 +0.5
baz=43,SNR=38
M15A **Larsen Ranch,** 43.11 327 ⇑P P 12 57 07.8 +0.5
baz=43,SNR=8.6
K17A **Gardner Place,** 43.20 329 ⇑P P 12 57 08.3 +0.2
baz=43
I19A **Meeteetse** 43.21 332 ⇑P P 12 57 08.9 +0.7
baz=43,SNR=8.6
E24A **Baker** 43.27 338 ⇑P P 12 57 08.8 +0.5
baz=43
ARVC **Arvin** 43.31 315 ⇑P P 12 57 11.3 +2.5

baz=44,SNR=10
GRAC **Grapevine Rang** 43.31 318 ⇑P P 12 57 11.5 +2.6
baz=44,SNR=21
BSC **Santa Cruz Isl** 43.32 313 ⇓P P 12 57 11.6 +2.6
baz=44
G21A **Lodge Grass** 43.34 334 ⇑P P 12 57 08.8 -0.2
baz=44
ISA **Isabella** 43.34 316 *e*P P 12 57 10.4 +1.3
ISA *e* 12 58 50.1
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA **Isabella** 43.34 316 *e*P P 12 57 10.4 +1.3
comp=Z,10nm,0.8s
ISA *e*PP PP 12 58 50.1 +0.1
ISA **Isabella** 43.34 316 ⇑P P 12 57 11.0 +1.8
baz=44,SNR=15
I18A **Diamond G Ranc** 43.35 331 ⇓P P 12 57 09.7 +0.3
baz=44,SNR=10
F22A **Rosebud** 43.38 336 ⇑P P 12 57 09.2 -0.2
baz=44,SNR=7.9
L15A **Malad City** 43.45 327 ⇑P P 12 57 10.3 +0.2
baz=44,SNR=16
CWC **Cottonwood Cre** 43.48 317 ⇑P P 12 57 12.4 +2.0
baz=44,SNR=10
HVU **Hansel Valley** 43.50 327 *e*P P 12 57 10.5 0.0
HVU pmax pmax
comp=Z,11nm,0.8s
HVU **Hansel Valley** 43.50 327 *e*P P 12 57 10.5 0.0
comp=Z,11nm,0.8s
J17A **Brown Place, J** 43.54 330 ⇓P P 12 57 11.6 +0.7
baz=44,SNR=25
E23A **Ismay** 43.59 337 ⇓P P 12 57 11.1 +0.1
baz=44
K16A **Soda Springs** 43.60 329 ⇑P P 12 57 11.7 +0.3
baz=44
SNOW **Snow King Moun** 43.64 330 *e*P P 12 57 11.9 +0.2
comp=Z,13nm,0.7s
LOHW **Long Hollow** 43.67 330 *e*P P 12 57 12.1 +0.2
comp=Z,7.7nm,0.6s
H19A **Powell** 43.69 332 ⇑P P 12 57 11.5 -0.4
baz=44,SNR=6.6
D24A **Glendive** 43.74 338 ⇑P P 12 57 11.9 -0.3
baz=44,SNR=7.2
TPAW **Teton Pass** 43.76 330 *e*P P 12 57 12.8 +0.1
comp=Z,8.4nm,0.8s
G20A **Bridger** 43.77 334 ⇓P P 12 57 12.2 -0.4
baz=44,SNR=19
E22A **Miles City** 43.80 336 ⇑P P 12 57 12.9 +0.2
baz=44
RRI2 **Red Ridge** 43.84 329 *e*P P 12 57 14.1 +0.8
comp=Z,14nm,0.9s
MOOW **Moose Ponds** 43.84 330 *e*P P 12 57 13.3 +0.1
comp=Z,7.1nm,0.7s
MOOW *e*PcP PcP 12 59 00.2 +0.6
VES **Vestal, Richgr** 43.86 315 ⇓P P 12 57 15.5 +2.3
baz=44,SNR=11
I17A **Pilgrim Ck.** 43.88 330 ⇓P P 12 57 14.3 +0.7
baz=44,SNR=21
PKM **Peak Mountain** 43.90 314 ⇓P P 12 57 15.4 +1.6
baz=44,SNR=7.3
TIN **Tinemaha** 43.91 317 ⇓P P 12 57 16.2 +2.4
baz=44,SNR=6.3
L14A **Malta** 43.93 327 ⇓P P 12 57 14.4 +0.5
baz=44,SNR=27
J16A **Bone** 43.93 329 ⇑P P 12 57 14.4 +0.5
baz=44,SNR=10
DCID1 **Drake Creek** 43.95 330 *e*P P 12 57 14.5 +0.4
comp=Z,11nm,0.9s
K15A **Arbon** 43.99 328 ⇓P P 12 57 14.6 +0.1
baz=44
H18A **Shoshone NF, C** 44.01 332 ⇓P P 12 57 14.3 -0.3
baz=44,SNR=11
IMW **Indian Meadow** 44.05 330 *e*P P 12 57 15.2 +0.3
comp=Z,11nm,0.7s
IMW *e*PcP PcP 12 59 01.5 +1.2
ULM **Lac du Bonnet** 44.10 348 P P 12 57 12.8 -2.2
comp=Z,27nm,0.8s,baz=157,slow=7.9,SNR=69
ULM LR LR 13 15 34.9
comp=Z,132nm,20.7s,baz=229,slow=36
ULM **Lac du Bonnet** 44.10 348 *e*P P 12 57 12.9 -2.1
comp=Z,26nm,0.8s
D23A **Lindsay** 44.12 338 ⇑P P 12 57 15.5 +0.3
baz=44,SNR=18
C24A **Savage** 44.13 339 ⇓P P 12 57 15.4 +0.1
baz=44,SNR=7.6
RLMT **Red Lodge** 44.17 333 *e*P P 12 57 15.8 0.0
comp=Z,16nm,0.8s
RLMT **Red Lodge** 44.17 333 ⇓P P 12 57 16.0 +0.1
baz=44,SNR=24
F20A **Billings** 44.20 334 ⇓P P 12 57 15.9 0.0
baz=44,SNR=12
RCTC **Rector, Farmer** 44.21 316 ⇑P P 12 57 18.0 +2.0
baz=44,SNR=7.5
ELK **Elko** 44.21 324 *e*P P 12 57 17.5 +1.2
ELK *e* 12 59 02.0
SMMC **Simmler** 44.23 314 ⇑P P 12 57 18.5 +2.2
baz=44,SNR=9.1
H17A **Grant Village** 44.23 331 ⇑P P 12 57 17.7 +1.3
baz=44
K14A **Jones Ranch, D** 44.24 327 ⇑P P 12 57 16.7 +0.3
baz=44,SNR=42
LKWY **Lake** 44.28 331 *e*P P 12 57 18.1 +1.3
LKWY pmax pmax
comp=Z,13nm,1.5s
LKWY **Lake** 44.28 331 *e*P P 12 57 18.1 +1.3
comp=Z,13nm,1.5s
I16A **Newdale** 44.30 330 ⇑P P 12 57 17.3 +0.4
baz=44,SNR=7.4
MTUM **Tungsten Hills** 44.30 318 *e*P P 12 57 18.9 +1.9
E21A **Keefer Ranch,** 44.33 336 ⇓P P 12 57 17.2 +0.2
baz=44
J15A **Blackfoot** 44.44 329 ⇑P P 12 57 18.6 +0.6
baz=45
G18A **Lazy EL Ranch,** 44.45 333 ⇑P P 12 57 18.0 -0.1
baz=45,SNR=16
D22A **Cohagen** 44.47 337 ⇑P P 12 57 18.2 +0.2
baz=45,SNR=25
F19A **Roth Farm, Mol** 44.59 334 ⇑P P 12 57 19.2 +0.1
baz=45,SNR=14
YMR **Madison River** 44.62 331 *e*P P 12 57 20.3 +0.8
comp=Z,10nm,0.7s
NV11 **Mina Array Sit** 44.63 319 *e*P P 12 57 21.6 +2.0
C23A **Lambert** 44.63 338 ⇓P P 12 57 19.5 +0.2
baz=45,SNR=11
D21A **La Casta Ranch** 44.72 336 ⇓P P 12 57 20.3 +0.2
baz=45
NVAR **Mina Array Bea** 44.73 319 P P 12 57 22.5 +2.1
comp=Z,31nm,0.7s,baz=128,slow=7.0,SNR=282
NVAR PcP PcP 12 59 03.7 +1.0
comp=Z,1.0nm,0.7s,baz=124,slow=4.5,SNR=3.9
NVAR **Mina Array Bea** 44.73 319 P P 12 57 22.5 +2.1
NVAR PcP PcP 12 59 03.7 +1.0
E20A **Meyer Farm, Mu** 44.74 335 ⇓P P 12 57 20.5 +0.3
baz=45,SNR=21
H16A **Russell Place,** 44.79 331 ⇓P P 12 57 21.5 +0.7
baz=45,SNR=15
DGMT **Dagmar** 44.84 339 *e*P P 12 57 20.7 -0.3
comp=Z,27nm,0.8s
DGMT **Dagmar** 44.84 339 ⇓P P 12 57 21.1 +0.1
baz=45,SNR=8.5
C22A **Vida** 44.85 338 ⇓P P 12 57 21.2 +0.2
baz=45,SNR=12
GCMT **Greycliff** 44.86 333 *e*P P 12 57 20.9 -0.3
comp=Z,12nm,0.9s
I15A **Monteview** 44.89 329 ⇓P P 12 57 23.1 +1.5
baz=45
J14A **Carey** 44.96 328 ⇑P P 12 57 23.1 +1.0
baz=45,SNR=44
QLMT **Earthquake Lak** 44.97 331 *e*P P 12 57 23.5 +1.3
F18A **Big Timber** 44.97 333 ⇑P P 12 57 22.5 +0.3
baz=45,SNR=25
E19A **Rath Farm, Rou** 44.99 334 ⇑P P 12 57 22.5 +0.3
baz=45,SNR=11
G17A **Pierce Place,** 45.00 332 ⇓P P 12 57 23.8 +1.4
baz=45,SNR=11
B23A **Brockton** 45.12 339 ⇓P P 12 57 23.5 +0.4
baz=45,SNR=13
A24A **Westby** 45.16 340 ⇑P P 12 57 23.8 +0.2
baz=45,SNR=6.5
BMN **Battle Mountai** 45.21 322 *e*P P 12 57 25.8 +1.6
BMN pmax pmax
comp=Z,74nm,0.9s
BMN **Battle Mountai** 45.21 322 *e*P P 12 57 25.8 +1.6
comp=Z,74nm,0.9s
D20A **Manuel Ranch,** 45.21 335 ⇑P P 12 57 24.3 +0.3
baz=45,SNR=9.8
I14A **Mackay** 45.34 328 ⇓P P 12 57 26.1 +0.9
baz=46,SNR=15
B22A **Reddig Ranch S** 45.35 338 ⇑P P 12 57 25.7 +0.7
baz=46
J13A **Cove Ranch, Pi** 45.36 327 ⇑P P 12 57 25.9 +0.6
baz=46,SNR=26
C21A **Desert Coulee** 45.38 337 ⇑P P 12 57 25.5 +0.2
baz=46,SNR=15
F17A **Fitzpatrick Pl** 45.40 332 ⇑P P 12 57 26.5 +0.9
baz=46,SNR=16
H15A **Lima** 45.41 330 ⇑P P 12 57 27.5 +1.7
baz=46,SNR=48
G16A **Moss Hill, Enn** 45.44 331 ⇓P P 12 57 26.7 +0.7
baz=46,SNR=10
A23A **Redstone** 45.50 339 ⇓P P 12 57 26.4 +0.2
baz=46
E18A **Harlowton** 45.56 333 ⇑P P 12 57 26.6 -0.3
baz=46,SNR=6.3
D19A **Cripps Ranch,** 45.58 335 ⇓P P 12 57 27.2 +0.3
baz=46,SNR=11
HLID **Hailey** 45.60 327 *e*P P 12 57 27.9 +0.7
comp=Z,16nm,0.8s
HLID **Hailey** 45.60 327 ⇑P P 12 57 28.1 +0.8
baz=46,SNR=53
C20A **Veseth Ranch,** 45.65 336 ⇑P P 12 57 27.4 -0.1
baz=46,SNR=8.3
BOZ **Bozeman (W)** 45.66 331 *e*P P 12 57 27.8 +0.1
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ **Bozeman (W)** 45.66 331 *e*P P 12 57 27.8 +0.1
comp=Z,4.8nm,0.6s
BOZ **Bozeman (W)** 45.66 331 ⇑P P 12 57 27.9 +0.3
baz=46,SNR=23
MCMT **McKenzie Canyo** 45.66 330 *e*P P 12 57 28.8 +1.0
comp=Z,4.7nm,0.8s
I13A **Wildhorse Cree** 45.68 328 ⇑P P 12 57 29.2 +1.3
baz=46,SNR=36
G15A **Dillon** 45.73 330 ⇓P P 12 57 29.0 +0.7
baz=46,SNR=15
F16A **Kennard Place,** 45.76 331 ⇓P P 12 57 29.0 +0.6
baz=46,SNR=7.4
H14A **Leadore** 45.78 329 ⇓P P 12 57 29.6 +0.9
baz=46,SNR=24
CMB **Columbia Colle** 45.89 317 *e*P P
CMB pmax pmax
comp=Z,11nm,1.1s
CMB **Columbia Colle** 45.89 317 *e*P P 12 57 31.7 +2.3
comp=Z,11nm,1.1s
A22A **Carney Farms,** 45.90 338 ⇑P P 12 57 30.0 +0.7
baz=46,SNR=13
E17A **Martinsdale** 45.91 333 ⇑P P 12 57 30.0 +0.4
baz=46,SNR=10.0
D18A **Linhart Farms,** 46.00 334 ⇑P P 12 57 30.5 +0.2
baz=46,SNR=8.7
C19A **Slack Wire Ran** 46.10 335 ⇑P P 12 57 31.5 +0.5
baz=46,SNR=21
I12A **Atlanta** 46.14 327 ⇑P P 12 57 32.1 +0.5
baz=46
WCN **Washoe City** 46.15 319 *e*P P 12 57 34.1 +2.4
WCN pmax pmax
comp=Z,21nm,1.2s
WCN **Washoe City** 46.15 319 *e*P P 12 57 34.1 +2.4
comp=Z,21nm,1.2s
LRM **Limekiln Ridge** 46.18 331 *e*P P 12 57 32.5 +0.7
H13A **Challis** 46.20 328 ⇑P P 12 57 32.4 +0.5
baz=46,SNR=9.2
F15A **Butte** 46.22 331 ⇑P P 12 57 32.7 +0.6
baz=46,SNR=32
B20A **Solberg Farm,** 46.24 336 ⇑P P 12 57 32.9 +0.8
baz=46
G14A **Jackson** 46.27 330 ⇑P P 12 57 32.4 -0.1
baz=46,SNR=7.6
A21A **Bergtoll Ranch** 46.27 338 ⇑P P 12 57 32.6 +0.3
baz=46,SNR=15
MFID **Camas Ranch** 46.27 326 *e*P P 12 57 33.5 +1.1
comp=Z,12nm,0.9s
MFID *e*PcP PcP 12 59 09.4 +1.5
MFID **Camas Ranch** 46.27 326 ⇓P P 12 57 33.1 +0.6
baz=46,SNR=14
E16A **East Helena** 46.34 332 ⇓P P 12 57 33.1 +0.2
baz=46,SNR=16
D17A **Six Diamond Ra** 46.35 333 ⇑P P 12 57 33.3 +0.2
baz=46,SNR=17
H12A **Diamond D Ranc** 46.50 328 ⇑P P 12 57 34.5 +0.2
baz=47,SNR=18
HRY **Holter Researc** 46.54 332 *e*P P 12 57 35.0 +0.5
G13A **Cobalt** 46.55 329 ⇓P P 12 57 34.8 +0.1
baz=47,SNR=15
A20A **Cobblestone Ra** 46.56 337 ⇓P P 12 57 35.1 +0.6
baz=47,SNR=11
DRLN **Deer Lake** 46.59 22 *e*P P 12 57 37.5 +2.8
EGMT **Eagleton** 46.62 335 *e*P P 12 57 35.1 0.0
comp=Z,7.6nm,0.8s
EGMT *e*PcP PcP 12 59 09.5 +0.6
EGMT *e*PP PP 12 59 25.2 +0.4
EGMT **Eagleton** 46.62 335 ⇑P P 12 57 35.1 0.0
baz=47,SNR=5.9
F14A **Wisdom** 46.62 330 ⇓P P 12 57 35.6 +0.3
baz=47,SNR=10
B19A **Brinkman Farms** 46.63 336 ⇑P P 12 57 35.3 +0.2
baz=47,SNR=12
D16A **Dana Ranch, Ca** 46.65 333 ⇑P P 12 57 35.8 +0.4
baz=47,SNR=24
E15A **Deer Lodge** 46.71 331 ⇑P P 12 57 36.1 +0.1
baz=47,SNR=18
C17A **Wharram Farm,** 46.75 334 ⇓P P 12 57 36.1 0.0
baz=47,SNR=6.9
A19A **Klindworth Far** 46.92 336 ⇑P P 12 57 37.6 +0.2
baz=47,SNR=5.9
B18A **Beardsley Farm** 46.92 335 ⇑P P 12 57 37.6 +0.1
baz=47,SNR=8.9
F13A **Darby** 47.09 330 ⇑P P 12 57 39.0 +0.1
baz=47,SNR=24
D15A **Lincoln** 47.11 332 ⇓P P 12 57 39.5 +0.5
baz=47
E14A **Clinton** 47.11 331 ⇓P P 12 57 39.3 +0.2
baz=47,SNR=20
G12A **Big Creek, Yel** 47.14 328 ⇑P P 12 57 39.6 +0.3
baz=47
B17A **L&G Farms, Che** 47.27 334 ⇑P P 12 57 39.7 -0.5
baz=47
OHCM **Honcut** 47.30 318 *e*P P 12 57 42.3 +1.9
C16A **Fuhringer Ranc** 47.32 333 ⇓P P 12 57 40.8 +0.2
baz=48
CHMT **Chamberlain Mo** 47.36 331 *e*P P 12 57 40.8 -0.3
A18A **Metzger Ranch,** 47.36 336 ⇓P P 12 57 40.7 -0.1
baz=48,SNR=14
E13A **Victor** 47.47 330 ⇑P P 12 57 42.0 +0.2
baz=48,SNR=18
F12A **Elk City** 47.53 329 ⇑P P 12 57 42.5 +0.2
baz=48,SNR=29
D14A **Greenough** 47.60 331 ⇑P P 12 57 42.5 -0.3
baz=48
MSO **Missoula** 47.63 331 *e*P P 12 57 43.0 0.0
comp=Z,3.6nm,0.8s
MSO **Missoula** 47.63 331 ⇑P P 12 57 43.2 +0.2
baz=48,SNR=8.5
C15A **Salmond Ranch,** 47.69 333 ⇑P P 12 57 44.0 +0.5
baz=48,SNR=22
SLMT **Seeley Lake** 47.71 332 *e*P P 12 57 43.5 -0.2
A17A **Triple J Farms** 47.73 335 ⇓P P 12 57 43.6 -0.1
baz=48,SNR=7.6
B16A **M & M Farms, S** 47.76 334 ⇑P P 12 57 43.5 -0.5
baz=48,SNR=9.7
MOD **Modoc** 47.95 322 *e*P P 12 57 46.4 +0.7
comp=Z,20nm,1.0s
BMO **Blue Mountains** 48.01 327 *e*P P 12 57 45.6 -0.4
comp=Z,6.3nm,0.9s
B15A **Bradely Ranch,** 48.06 333 ⇓P P 12 57 46.3 0.0
baz=48,SNR=11
D13A **Huson** 48.06 331 ⇑P P 12 57 45.9 -0.4
baz=48,SNR=5.7
A16A **West Butte Ran** 48.12 334 ⇑P P 12 57 47.0 +0.2
baz=48
SWMT **Swartz Lake** 48.14 331 *e*P P 12 57 47.1 +0.1
E12A **Beaver Dam Sad** 48.14 329 ⇑P P 12 57 46.9 -0.1
baz=48
RCBR **Riachuelo** 48.19 105 P P 12 57 46.6 -1.2
comp=Z,5.5nm,0.9s,baz=310,slow=8.5,SNR=2.0
RCBR **Riachuelo** 48.19 105 P P 12 57 46.6 -1.2
C14A **Swan Lake** 48.21 332 ⇑P P 12 57 47.5 +0.1
baz=48
B14A **Marquette Ranc** 48.42 333 ⇓P P 12 57 49.0 -0.1
baz=49,SNR=25
JTMT **Jette** 48.44 332 *e*P P 12 57 49.7 +0.4
D12A **Red Ives Fores** 48.47 330 ⇓P P 12 57 49.3 -0.2
baz=49,SNR=9.0
C13A **Hot Springs** 48.53 331 ⇓P P 12 57 50.3 +0.3
baz=49,SNR=6.6
A15A **Johnson Ranch,** 48.63 334 ⇑P P 12 57 50.7 -0.1
baz=49,SNR=6.1
BSMT **Bassoo Peak** 48.76 331 *e*P P 12 57 52.4 +0.5
SCHQ **Schefferville** 48.84 12 P P 12 57 50.9 -1.2
comp=Z,3.0nm,0.8s,baz=205,slow=4.5,SNR=7.2
SCHQ PcP PcP 12 59 15.9 -0.6
comp=Z,1.2nm,0.5s,baz=223,slow=5.9,SNR=4.4
SCHQ LR LR 13 18 22.3
comp=Z,163nm,19.6s,baz=111,slow=36
SCHQ **Schefferville** 48.84 12 *e*P P 12 57 51.2 -0.8
comp=Z,57nm,2.3s
SCHQ PcP PcP 12 59 15.9 -0.6
KIPM **Iron Peak** 48.87 318 *e*P P 12 57 54.9 +2.1
A14A **Double T Ranch** 48.94 333 ⇓P P 12 57 52.9 -0.2
baz=49
B13A **Whitefish** 48.98 332 ⇓P P 12 57 53.8 +0.5
baz=49,SNR=6.9
C12B **Naegeli Ranch,** 48.99 331 ⇑P P 12 57 54.0 +0.6
baz=49,SNR=21
PLCA **Paso Flores** 49.19 168 P P 12 57 56.5 +1.5
comp=Z,1.9nm,0.6s,baz=339,slow=9.2,SNR=3.0
PLCA **Paso Flores** 49.19 168 P P 12 57 56.5 +1.5
A13A **Flathead Natio** 49.35 333 ⇓P P 12 57 56.8 +0.6
baz=50
YBH **Yreka Blue Hor** 49.36 320 *e*P P 12 57 56.0 -0.4
comp=Z,11nm,0.8s
BUOR **Burton Butte** 49.36 321 P P 12 57 57.6 +1.1
C11A **Tepee Creek (N** 49.46 330 ⇓P P 12 57 57.6 +0.6
baz=50
KHMM **Horse Mountain** 49.57 319 *e*P P 12 58 00.7 +2.6
comp=Z,28nm,0.8s
B12A **Libby** 49.57 331 ⇓P P 12 57 58.5 +0.6
baz=50,SNR=7.5
FFC **Flin Flon** 49.68 345 *e*P P 12 57 57.9 -0.6
FFC pmax pmax
comp=Z,11nm,0.8s
FFC **Flin Flon** 49.68 345 *e*P P 12 57 57.9 -0.6
comp=Z,11nm,0.8s
A12A **Yaak River Ran** 49.93 332 ⇓P P 12 58 01.3 +0.7
baz=50
BKCOR **Black Crater** 50.16 324 P P 12 58 04.3 +1.9
NEW **Newport** 50.17 330 *e*P P 12 58 02.3 -0.1
comp=Z,4.5nm,0.8s
NEW **Newport** 50.17 330 ⇑P P 12 58 02.5 +0.1
baz=50
HAWA **Hanford** 50.20 327 *e*P P 12 58 03.1 +0.5
comp=Z,21nm,1.6s
FRIS **Frissel Point** 50.35 323 P P 12 58 05.4 +1.4
KBO **Bosley Butte** 50.57 320 *e*P P 12 58 07.5 +1.9
comp=Z,242nm,1.4s
BROR **Big Rock Looko** 50.59 323 P P 12 58 05.8 +0.2
KEBM **Edson Butte** 50.98 321 *e*P P 12 58 10.8 +2.1
comp=Z,128nm,1.3s
TBM **Table Mountain** 51.25 327 P P 12 58 11.8 +1.1
LON **Longmire** 51.66 326 *e*P P 12 58 14.0 +0.3
LON pmax pmax
comp=Z,9.0nm,0.9s
LON **Longmire** 51.66 326 *e*P P 12 58 14.0 +0.3
comp=Z,9.4nm,0.9s
NLWA **Neilton Lookou** 53.18 326 *e*P P 12 58 26.0 +1.1
comp=Z,9.8nm,0.8s
YKA **Yellowknife Ar** 59.74 343 P P 12 59 10.5 -0.8
comp=Z,6.6nm,1.0s,baz=139,slow=7.0,SNR=70
YKA PcP PcP 12 59 58.1 +0.1
comp=Z,0.7nm,0.6s,baz=141,slow=4.7,SNR=4.7
YKA PP PP 13 01 24.3 +1.1
comp=Z,0.4nm,0.8s,baz=135,slow=8.7,SNR=3.2
YKA **Yellowknife Ar** 59.74 343 P P 12 59 10.5 -0.8
YKA PcP PcP 12 59 58.1 +0.1
YKA PP PP 13 01 24.3 +1.1
RKT **Rikitea** 59.75 238 *e*LR LR 13 16 50.1
comp=Z,281nm,30.2s
YKW3 **Yellowknife Ar** 59.80 343 *e*P P 12 59 10.7 -1.0
comp=Z,0.3nm,1.1s
SFJD **Kangerlussuaq** 63.23 13 LR LR 13 26 13.2
comp=Z,109nm,19.9s,baz=214,slow=35
BBTS **Babate** 64.81 77 LR LR 13 26 48.6
comp=Z,88nm,18.2s,baz=51,slow=35
RES **Resolute Bay** 67.55 356 *e*P P 13 00 00.9 -1.8
comp=Z,5.9nm,1.1s
SUMG **Summit** 70.21 13 *e*P P 13 00 20.7 +0.9
SUMG **Summit** 70.21 13 *e*P P 13 00 20.7 +0.9
SUMG **Summit** 70.21 13 *i*P P 13 00 20.0 +0.2
comp=Z,7.0nm,0.8s
EGAK **Eagle** 70.31 337 *e*P P 13 00 20.0 0.0
comp=Z,9.4nm,1.0s
PPT **Papeete** 70.89 249 LR LR 13 25 18.9
comp=Z,442nm,19.5s,baz=97,slow=31
PPT2 **Papeete2** 70.89 249 *e*LR LR 13 22 02.3
comp=Z,55nm,24.2s
DOT **Dot Lake** 71.01 335 *e*P P 13 00 25.5 +1.1
TBI **Tubuai** 72.33 243 *e*LR LR 13 22 41.1
comp=Z,127nm,28.5s
HKL **Haleakala** 72.37 289 *e*P P 13 00 29.4 -4.5
HKL **Haleakala** 72.37 289 *e*P P 13 00 29.4 -4.5
ILAR **Eielson Array** 72.57 336 P P 13 00 33.8 +0.1
comp=Z,5.3nm,0.7s,baz=108,slow=4.3,SNR=83
ILAR PP PP 13 03 13.1 -1.9
comp=Z,0.7nm,1.0s,baz=109,slow=5.5,SNR=4.2
ILAR LR LR 13 37 51.7
comp=Z,98nm,18.4s,baz=65,slow=40
ILAR **Eielson Array** 72.57 336 P P 13 00 33.8 +0.1
ILAR PP PP 13 03 13.1 -1.9
COLA **College** 72.99 336 *e*P P 13 00 35.7 -0.5
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA **College** 72.99 336 *e*P P 13 00 35.7 -0.5
comp=Z,3.5nm,0.8s
EVOP **Sao Brissos** 73.05 52 *e*P P 13 00 36.8 -0.2
EVOP pmax pmax
comp=Z,15nm,0.9s
EVOP **Sao Brissos** 73.05 52 *e*P P 13 00 36.8 -0.2
comp=Z,15nm,0.9s
EVO **Evora** 73.14 52 *e*P P 13 00 36.8 -0.8
comp=Z,15nm,0.9s
COLD **Coldfoot** 74.65 338 *e*P P 13 00 47.3 +1.4
ESDC **Sonseca Array** 76.34 51 P P 13 00 56.4 +0.2
comp=Z,2.2nm,0.7s,baz=270,slow=4.7,SNR=12
ESDC **Sonseca Array** 76.34 51 P P 13 00 56.4 +0.2
LIC **Lamto** 76.69 85 *e*P P 13 00 59.3 +0.7
comp=Z,17nm,1.0s
LIC **Lamto** 76.69 85 *e*P P 13 00 59.3 +0.7
comp=Z,17nm,1.0s
DBIC **Dimbokro** 76.81 85 P P 13 00 59.9 +0.6
comp=Z,1.2nm,0.5s,baz=268,slow=9.5,SNR=3.0
DBIC LR LR 13 31 01.7
comp=Z,43nm,20.1s,baz=248,slow=33
DBIC **Dimbokro** 76.81 85 P P 13 00 59.9 +0.6
DAG **Danmarks Havn** 76.88 12 *i*P P 13 00 57.4 -1.0
comp=Z,15nm,0.8s
SJPF **Ste Jean** 78.46 48 *e*P P 13 01 07.9 -0.1
comp=Z,28nm,1.0s
SJPF **Ste Jean** 78.46 48 *e*P P 13 01 07.9 -0.1
SJPF pmax pmax
comp=Z,28nm,1.0s
SJPF **Ste Jean** 78.46 48 *e*P P 13 01 07.9 -0.1
comp=Z,28nm,1.0s
MFF **Saint Martin d** 79.26 44 *e*P P 13 01 12.2 -0.1
comp=Z,51nm,1.3s
MFF **Saint Martin d** 79.26 44 *e*P P 13 01 12.2 -0.1
MFF pmax pmax
comp=Z,51nm,1.3s
MFF **Saint Martin d** 79.26 44 *e*P P 13 01 12.2 -0.1
comp=Z,51nm,1.3s
CAF **Calviac** 80.82 46 *e*P P 13 01 21.0 +0.2
comp=Z,12nm,0.9s
CAF **Calviac** 80.82 46 *e*P P 13 01 21.0 +0.2
CAF pmax pmax
comp=Z,12nm,0.9s
CAF **Calviac** 80.82 46 *e*P P 13 01 21.0 +0.2
comp=Z,12nm,0.9s
TCF **Toulx Ste Croi** 80.89 44 *e*P P 13 01 20.5 -0.6
comp=Z,5.6nm,0.6s
TCF **Toulx Ste Croi** 80.89 44 *e*P P 13 01 20.5 -0.6
TCF pmax pmax
comp=Z,6.0nm,0.6s
TCF **Toulx Ste Croi** 80.89 44 *e*P P 13 01 20.5 -0.6
comp=Z,5.6nm,0.6s
BGF **Bois d'Agland** 81.33 44 *e*P P 13 01 22.9 -0.5
BGF **Bois d'Agland** 81.33 44 *e*P P 13 01 22.9 -0.5
BGF **Bois d'Agland** 81.33 44 *e*P P 13 01 22.9 -0.5
TNA **Tin City** 81.41 335 *e*P P 13 01 24.9 +1.5
comp=Z,2.6nm,1.0s
AVF **Avril sur Loir** 81.67 44 *e*P P 13 01 24.6 -0.6
AVF **Avril sur Loir** 81.67 44 *e*P P 13 01 24.6 -0.6
AVF **Avril sur Loir** 81.67 44 *e*P P 13 01 24.6 -0.6
LOR **Lormes** 82.00 43 *e*P P 13 01 26.7 -0.2

	comp=Z,12nm,0.8s							
LOR	**Lormes**	**82.00**	**43**	*e*P	**P**	**13 01 26.7**	**-0.2**	
	comp=Z,12nm,0.8s							
TOA0	**Torodi Ar. Sit**	**82.57**	**78**	*e*P	**P**	**13 01 30.4**	**-0.1**	
TORD	**Torodi Ar. Bea**	**82.57**	**78**	P	**P**	**13 01 29.8**	**-0.7**	
	comp=Z,1.1nm,0.7s,baz=294,slow=7.0,SNR=12							
TORD				LR	LR	13 34 36.2		
	comp=Z,95nm,19.6s,baz=210,slow=33							
TORD	**Torodi Ar. Bea**	**82.57**	**78**	P	**P**	**13 01 29.8**	**-0.7**	
VIVF	**Saint-Julien-I**	**82.68**	**46**	*e*P	**P**	**13 01 29.8**	**-0.8**	
	comp=Z,22nm,1.0s							
VIVF	**Saint-Julien-I**	**82.68**	**46**	*e*P	**P**	**13 01 29.8**	**-0.8**	
VIVF				pmax	pmax			
	comp=Z,23nm,1.0s							
VIVF	**Saint-Julien-I**	**82.68**	**46**	*e*P	**P**	**13 01 29.8**	**-0.8**	
	comp=Z,22nm,1.0s							
ORIF	**Oris-en-Rattie**	**83.53**	**46**	*e*P	**P**	**13 01 35.1**	**0.0**	
	comp=Z,22nm,1.0s							
ORIF	**Oris-en-Rattie**	**83.53**	**46**	*e*P	**P**	**13 01 35.1**	**0.0**	
ORIF				pmax	pmax			
	comp=Z,22nm,1.0s							
ORIF	**Oris-en-Rattie**	**83.53**	**46**	*e*P	**P**	**13 01 35.1**	**0.0**	
	comp=Z,22nm,1.0s							
TAM	**Tamanrasset**	**85.20**	**68**	*e*P	**P**	**13 01 42.6**	**-1.5**	
TAM				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TAM	**Tamanrasset**	**85.20**	**68**	*e*P	**P**	**13 01 42.5**	**-1.5**	
	comp=Z,5.7nm,1.0s							
NOA	**NORSAR Array B**	**85.25**	**29**	P	**P**	**13 01 43.4**	**0.0**	
	comp=Z,1.4nm,0.9s,baz=278,slow=4.6,SNR=3.0							
NOA				LR	LR	13 38 34.8		
	comp=Z,29nm,18.7s,baz=330,slow=35							
NOA	**NORSAR Array B**	**85.25**	**29**	P	**P**	**13 01 43.4**	**0.0**	
CLL	**Collm**	**87.56**	**39**	*e*P	P	13 01 58.0	+3.1	
CLL				*e*		13 02 05.0		
CLL	**Collm**	**87.56**	**39**	*es*P	**P**	**13 01 58.0**	**+3.1**	
CLL				*e*		13 02 05.0		
GERES	**GERESS Array B**	**88.40**	**41**	P	**P**	**13 01 58.9**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=290,slow=9.0,SNR=3.1							
GERES				LR	LR	13 33 18.2		
	comp=Z,87nm,20.4s,baz=284,slow=30							
GERES	**GERESS Array B**	**88.40**	**41**	P	**P**	**13 01 58.9**	**-0.2**	
ARCES	**ARCESS Array B**	**89.19**	**20**	P	**P**	**13 02 03.0**	**+0.8**	
	comp=Z,1.6nm,0.7s,baz=315,slow=10,SNR=4.5							
ARCES				LR	LR	13 37 55.5		
	comp=Z,45nm,20.5s,baz=216,slow=33							
ARCES	**ARCESS Array B**	**89.19**	**20**	P	**P**	**13 02 03.0**	**+0.8**	
BILL	**Bilibino**	**90.93**	**339**	*e*P	**P**	**13 02 09.3**	**-1.0**	
BILL				pmax	pmax			
	comp=Z,5.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,100nm,22.0s							
BILL	**Bilibino**	**90.93**	**339**	*e*P	**P**	**13 02 10.7**	**+0.4**	
	comp=Z,14nm,1.4s							
FINES	**FINESS Array B**	**92.14**	**27**	LR	LR	13 38 25.8		
	comp=Z,69nm,19.5s,baz=343,slow=32							
ZALV	**Zalesovo Beam**	**117.86**	**9**	PKP	**PKPdf**	**13 07 53.3**	**0.0**	
	comp=Z,0.3nm,0.5s,baz=8.7,slow=1.9,SNR=2.6							
ZALV	**Zalesovo Beam**	**117.86**	**9**	PKIKP	**PKPdf**	**13 07 53.3**	**0.0**	
ZALV	**Zalesovo Beam**	**117.86**	**9**	PKP	**PKPdf**	**13 07 53.3**	**0.0**	
MDJ	**Mudanjiang**	**120.69**	**334**	Pdif	**Pdif**	**13 04 22.5**	**-1.7**	
MDJ				LR	LR			
	comp=N,32nm,37.3s							
MDJ				LR	LR			
	comp=E,58nm,32.6s							
MDJ				LR	LR			
	comp=Z,50nm,25.6s							
CN2	**Changchun**	**123.09**	**336**	*e*PKP	PKPdf	13 07 59.0	-4.7	
MKAR	**Makanchi Array**	**124.27**	**13**	PKP	**PKPdf**	**13 08 05.2**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=354,slow=1.4,SNR=2.9							
MKAR	**Makanchi Array**	**124.27**	**13**	PKIKP	**PKPdf**	**13 08 05.2**	**-0.7**	
MKAR	**Makanchi Array**	**124.27**	**13**	PKP	**PKPdf**	**13 08 05.2**	**-0.7**	
SONM	**Songino Array**	**124.39**	**353**	PKP	**PKPdf**	**13 08 05.6**	**-0.6**	
	comp=Z,1.1nm,0.7s,baz=346,slow=0.8,SNR=4.3							
SONM	**Songino Array**	**124.39**	**353**	PKP	**PKPdf**	**13 08 05.6**	**-0.6**	
KSRS	**Korea Array**	**127.10**	**330**	PKP	**PKPdf**	**13 08 10.3**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=54,slow=3.1,SNR=3.3							
KSAR	**Wonju Array Be**	**127.13**	**330**	PKP	**PKPdf**	**13 08 10.3**	**-1.2**	
KSH	**Kashi**	**129.12**	**22**	PKP	**PKPdf**	**13 08 15.8**	**+0.3**	
KSH				PP	**PP**	**13 10 27.0**	**+4.7**	
KSH				PKS	**PKSdf**	**13 11 51.3**	**-0.9**	
KSH				SKS	**SKSdf**	**13 15 26.0**	**-1.0**	
KSH				SKKS	**SKKSac**	**13 17 18.5**	**-1.8**	
KSH				SS	**SS**	**13 27 44.5**	**+3.4**	
KSH				AMB	AMB			
	comp=Z,62nm,4.7s							
KSH				LR	LR			
	comp=N,57nm,5.7s							
KSH				LR	LR			
	comp=E,70nm,4.8s							
KSH				LR	LR			
	comp=Z,170nm,6.2s							
HHC	**Hu-ho-hao-te**	**130.24**	**346**	*e*PKP	**PKPdf**	**13 08 16.3**	**-1.3**	
HHC				PP	**PP**	**13 10 34.3**	**+5.0**	
HHC				PKS	**PKSdf**	**13 11 51.5**	**-2.7**	
HHC				SKS	**SKSdf**	**13 15 27.0**	**-1.9**	
HHC				SKKS	**SKKSac**	**13 17 24.5**	**-2.6**	
HHC				SS	**SS**	**13 27 58.0**	**+3.5**	
HHC				AMB	AMB			
	comp=Z,140nm,9.5s							
HHC				LR	LR			
	comp=N,300nm,19.0s							
HHC				LR	LR			
	comp=E,260nm,18.7s							
HHC				LR	LR			
	comp=Z,350nm,21.9s							
STKA	**Stephens Creek**	**132.48**	**233**	PKP	**PKPdf**	**13 08 22.6**	**+0.7**	
	comp=Z,0.4nm,0.4s,baz=179,slow=1.7,SNR=1.8							
STKA	**Stephens Creek**	**132.48**	**233**	PKP	**PKPdf**	**13 08 22.6**	**+0.7**	
NJ2	**Nanjing**	**135.79**	**334**	*e*PKP	**PKPdf**	**13 08 28.3**	**+0.2**	
CD2	**Chengdu**	**141.38**	**352**	PKP	**PKPdf**	**13 08 37.8**	**-0.7**	
ASAR	**Alice Springs**	**141.70**	**241**	PKhKP	PKPpre	13 08 33.6		
	comp=Z,0.7nm,0.7s,baz=134,slow=3.7,SNR=7.6							
ASAR				PKP	**PKPdf**	**13 08 38.9**	**-0.3**	
	comp=Z,0.7nm,0.4s,baz=119,slow=2.8,SNR=10.0							
ASAR	**Alice Springs**	**141.70**	**241**	PKPpre	PKPpre	13 08 33.6		
ASAR				PKP	**PKPdf**	**13 08 38.9**	**-0.3**	
WRA	**Warramunga Arr**	**142.36**	**247**	PKhKP	PKPpre	13 08 35.2		
	comp=Z,0.6nm,0.6s,baz=94,slow=2.9,SNR=11							
WRA				PKP	**PKPdf**	**13 08 41.2**	**+0.8**	
	comp=Z,2.4nm,0.7s,baz=101,slow=2.9,SNR=19							
WRA	**Warramunga Arr**	**142.36**	**247**	PKPpre	PKPpre	13 08 35.2		
WRA				PKP	**PKPdf**	**13 08 41.2**	**+0.8**	
GYA	**Guiyang**	**145.15**	**346**	PKPbc	**PKPbc**	**13 08 44.5**	**-0.3**	
GYA				PP	**PP**	**13 12 05.0**	**+2.7**	
GYA				PKS	**PKSdf**	**13 12 17.3**	**-3.8**	
GYA				SKKS		13 18 52.0		
GYA				SS	**SS**	**13 30 51.8**	**+0.3**	
GYA				AMB	AMB			
	comp=Z,90nm,7.3s							
GYA				LR	LR			
	comp=N,90nm,20.6s							
GYA				LR	LR			
	comp=E,60nm,21.4s							
GYA				LR	LR			
	comp=Z,80nm,20.0s							
KMI	**Kunming**	**147.22**	**351**	PKPbc	**PKPdf**	**13 08 47.3**	**-1.7**	
NWAO	**Narrogin (SRO)**	**148.83**	**213**	PKPbc	**PKPdf**	**13 08 53.8**	**+2.7**	
	comp=Z,10nm,0.9s,baz=231,slow=6.5,SNR=2.6							
NWAO	**Narrogin (SRO)**	**148.83**	**213**	PKPbc	**PKPdf**	**13 08 53.8**	**+2.7**	
CMAR	**Chiang Mai Arr**	**154.20**	**357**	PKP	**PKPdf**	**13 08 59.6**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=72,slow=2.9,SNR=3.0							
CMAR				PKPbc	**PKPbc**	**13 09 07.7**	**-0.1**	
	comp=Z,0.6nm,0.3s,baz=328,slow=2.5,SNR=6.3							
CMAR	**Chiang Mai Arr**	**154.20**	**357**	PKP	**PKPdf**	**13 08 59.6**	**-0.1**	
CMAR				PKPbc	**PKPbc**	**13 09 07.7**	**-0.1**	

*ISCJB **28** 13:10:13.9±0.1, 10.43N±0.02×62.65W±0.01, h10km, mb4.5/53, MS4.0/5, Error ellipse: s-maj=2.8km s-min=1.9km az=161.9*
*NEIC **28** 13:10:16.4, 10.31N×62.46W, h4km, mb4.7/33, MW4.5(CAR), After CAR.*
*FUNV **28** 13:10:16.4, 10.29N×62.45W, h3km, MW4.6*
*MOS **28** 13:10:17.1±1.0, 10.53N×62.68W, h33km, mb4.7/20, Error ellipse: s-maj=9.8km s-min=8.1km az=40.0*
*TRN **28** 13:10:18.2, 10.40N×62.45W, h13km, MD4.0*
*IDC **28** 13:10:21.2±1.9, 10.49N×62.64W, h57km±17km, mb4.1/21, mb1 4.2/22, mb1mx4.2/29, mbtmp4.1/22, ML5.5/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=14.4km s-min=10.3km az=122.0*
ISC 28 13:10:14.8±0.3, 10.33N±0.02×62.50W±0.02, h10km, n503, σ1.9s15/548, mb4.6/53, MS3.6/5, 148C-168D, Near coast of

Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
GUIV	**Guiria**	**0.42**	**41**	*e*P			**Pg**	**13 10 24.2**	**+1.2**
GUIV						*e*S	**Sb**	**13 10 30.7**	**0.0**
GUIV	**Guiria**	**0.42**	**41**	*i*P			**Pg**	**13 10 24.2**	**+1.2**
GUIV						*e*S	**Sb**	**13 10 30.7**	**0.0**
GUNV	**Guanoco**	**0.47**	**249**	*e*P			**Pg**	**13 10 25.8**	**+1.8**
GUNV						*e*S	**Sb**	**13 10 33.8**	**+1.7**
GUNV	**Guanoco**	**0.47**	**249**	*i*P			**Pg**	**13 10 25.7**	**+1.8**
GUNV						*e*S	**Sb**	**13 10 33.8**	**+1.7**
CRUV	**Carupano**	**0.80**	**295**	*e*P			**Pg**	**13 10 30.8**	**+0.5**
CRUV						*e*S	**Sg**	**13 10 41.5**	**+0.7**
CRUV	**Carupano**	**0.80**	**295**	*i*P			**Pg**	**13 10 30.8**	**+0.5**
CRUV						*e*S	**Sg**	**13 10 42.2**	**+1.4**
ALNG	**Atlantic LNG**	**0.81**	**100**	*e*P			**Pn**	**13 10 33.9**	**+1.6**
ALNG						*e*S	**Sn**	**13 10 43.8**	**-0.6**
ALNG	**Atlantic LNG**	**0.81**	**100**	*e*P			**Pn**	**13 10 33.9**	**+1.6**
ALNG						*e*S	**Sn**	**13 10 43.8**	**-0.6**
BUAY	**Buenos Aires**	**0.83**	**105**	*e*P			**Pn**	**13 10 34.9**	**+2.3**
BUAY						*e*S	**Sn**	**13 10 45.7**	**+0.8**
BUAY	**Buenos Aires**	**0.83**	**105**	*e*P			**Pn**	**13 10 34.9**	**+2.3**
BUAY	**Buenos Aires**	**0.83**	**105**	*e*			Pn	13 10 41.2	+8.7
BUAY						*e*S	**Sn**	**13 10 45.7**	**+0.8**
TPP	**Pointe-a-Pierr**	**1.03**	**91**	*i*P			**Pn**	**13 10 37.2**	**+1.9**
TPP						*e*S	**Sn**	**13 10 52.4**	**+2.5

baz=45,SNR=12
SCHQ **Schefferville** 44.52 356 P P 13 18 26.8 +0.2
comp=Z,5.2nm,0.5s,baz=178,slow=7.5,SNR=29
SCHQ **Schefferville** 44.52 356 eP P 13 18 25.9 -0.6
comp=Z,6.3nm,0.6s
T28A **Walsh** 44.52 313 ⇓P P 13 18 25.9 -1.1
baz=45,SNR=7.1
225A **Deer Hill, Car** 44.63 306 ⇑P P 13 18 28.4 +0.4
baz=45,SNR=18
125A **Gardner Draw,** 44.69 306 ⇓P P 13 18 27.7 -0.6
baz=45,SNR=13
X26A **CR and CF Fran** 44.71 309 ⇓P P 13 18 28.2 -0.3
baz=45
EYMN **Ely** 44.73 332 eP P 13 18 27.2 -1.0
comp=Z,6.7nm,0.8s
W26A **Owens Ranch, T** 44.89 310 ⇑P P 13 18 29.7 -0.2
baz=45
T27A **Campo** 44.94 313 ⇓P P 13 18 29.3 -1.0
baz=45
Z25A **Roswell** 44.95 307 ⇑P P 13 18 30.6 +0.2
baz=45,SNR=9.2
MNTX **Cornudas Mount** 44.95 305 eP P 13 18 29.1 -1.2
comp=Z,1.7nm,0.5s
MNTX **Cornudas Mount** 44.95 305 ⇓P P 13 18 30.1 -0.2
baz=45,SNR=9.2
324A **Moseley Ranch,** 44.95 304 ⇑P P 13 18 29.7 -0.7
baz=45
Y25A **Mesa, Roswell** 45.16 308 ⇑P P 13 18 32.3 +0.2
baz=45,SNR=6.2
224A **Cornudas Mount** 45.18 305 ⇓P P 13 18 32.1 -0.2
baz=45,SNR=7.0
V26A **Tequesquite Ra** 45.18 311 ⇓P P 13 18 32.0 -0.3
baz=45,SNR=27
124A **Stringfield Ra** 45.33 306 ⇑P P 13 18 34.7 +1.1
baz=45
S27A **Las Animas** 45.33 314 ⇑P P 13 18 33.5 0.0
baz=45
X25A **Clemmons Ranch** 45.35 309 ⇑P P 13 18 33.7 0.0
baz=45,SNR=11
U26A **Atchley Ranch,** 45.40 312 ⇓P P 13 18 33.3 -0.7
baz=46,SNR=15
W25A **X Bar L Ranch,** 45.46 310 ⇓P P 13 18 34.3 -0.2
baz=46,SNR=9.4
Z24A **Sheeppen Canyo** 45.47 307 ⇑P P 13 18 35.1 +0.4
baz=46,SNR=20
R27A **Eads** 45.53 315 ⇓P P 13 18 34.2 -0.8
baz=46
T26A **Comanche Natio** 45.61 313 ⇓P P 13 18 34.9 -0.8
baz=46,SNR=5.5
S26A **Kim** 45.72 313 ⇓P P 13 18 36.0 -0.5
baz=46
Y24A **Capitan** 45.74 308 ⇑P P 13 18 37.0 +0.3
baz=46,SNR=25
V25A **Rancho No Teng** 45.82 311 ⇑P P 13 18 37.6 +0.2
baz=46,SNR=20
U25A **Circle Dot Ran** 45.89 311 ⇑P P 13 18 37.8 -0.1
baz=46,SNR=16
R26A **Arlington** 46.00 314 ⇑P P 13 18 37.7 -0.9
baz=46
Z23A **Rita Site, Whi** 46.13 307 ⇓P P 13 18 39.9 +0.1
baz=46
W24A **Lazy 6 Ranch,** 46.18 309 ⇓P P 13 18 41.0 +0.8
baz=46,SNR=9.5
T25A **Trinidad** 46.19 312 ⇑P P 13 18 39.9 -0.4
baz=46
Y23A **Lovelace Mesa,** 46.22 307 ⇑P P 13 18 41.0 +0.4
baz=46,SNR=18
V24A **Rampart Ranch,** 46.27 310 ⇑P P 13 18 41.5 +0.5
baz=46,SNR=5.4
Q26A **Hugo** 46.32 315 ⇑P P 13 18 40.5 -0.7
baz=46,SNR=5.0
S25A **Robets Cordova** 46.42 313 ⇑P P 13 18 41.4 -0.7
baz=46,SNR=6.3
222A **Williams Famil** 46.46 305 ⇑P P 13 18 42.1 -0.4
baz=46,SNR=6.5
P26A **Davis Ranch, A** 46.49 316 ⇑P P 13 18 41.5 -1.1
baz=47
R25A **Fountain Ranch** 46.52 314 ⇑P P 13 18 41.9 -0.9
baz=47
X23A **Hourglass Bar** 46.55 308 ⇓P P 13 18 43.3 +0.1
baz=47,SNR=9.9
122A **Conniff Cattle** 46.56 306 ⇑P P 13 18 44.0 +0.8
baz=47
T24A **Torres, Weston** 46.63 312 ⇓P P 13 18 44.1 +0.3
baz=47
Z22A **Elephant Butte** 46.71 306 ⇑P P 13 18 44.5 +0.2
baz=47,SNR=6.3
W23A **Werner Place,** 46.73 309 ⇓P P 13 18 45.2 +0.6
baz=47,SNR=14
BNM **Barren Site** 46.74 308 eP P 13 18 42.8 -1.9
comp=Z,2.7nm,0.8s
LPM **Los Pinos Moun** 46.80 308 eP P 13 18 43.4 -1.7
ANMO **Albuquerque** 46.88 309 eP P 13 18 44.5 -1.2
comp=Z,4.8nm,0.8s
Y22A **Socorro** 46.94 307 ⇑P P 13 18 46.1 -0.1
baz=47,SNR=5.2
V23A **Ortiz Mt. (NFS** 46.96 310 ⇓P P 13 18 47.4 +1.0
baz=47
S24A **Houchin Ranch,** 46.98 313 ⇓P P 13 18 46.7 +0.1
baz=47
LENM **Lemitar** 47.02 307 eP P 13 18 45.4 -1.4
121A **Cookes Peak, D** 47.14 305 ⇓P P 13 18 48.4 +0.6
baz=47
R24A **Sanders Place,** 47.15 313 ⇓P P 13 18 47.6 -0.2
baz=47
X22A **Bernardo** 47.16 308 ⇑P P 13 18 49.1 +1.2
baz=47
U23A **El Rito** 47.19 310 ⇑P P 13 18 48.8 +0.7
baz=47
Z21A **St. Cloud Mine** 47.29 306 ⇑P P 13 18 49.6 +0.6
baz=47,SNR=7.1
T23A **Casias Ranch,** 47.34 311 ⇑P P 13 18 49.8 +0.4
baz=47
320A **Kipp Ranch, An** 47.41 303 ⇓P P 13 18 50.2 +0.3
baz=48
Y21A **Point of Rocks** 47.52 307 ⇑P P 13 18 51.3 +0.6
baz=48,SNR=8.0
220A **Playas Peak, P** 47.56 304 ⇓P P 13 18 51.4 +0.3
baz=48
V22A **San Miguel Ran** 47.57 310 ⇓P P 13 18 51.9 +0.8
baz=48
R23A **Moffat** 47.65 313 ⇓P P 13 18 51.3 -0.5
baz=48
X21A **Alamocita Cree** 47.74 307 ⇓P P 13 18 53.0 +0.4
baz=48,SNR=9.9
120A **U Bar Ranch, L** 47.83 305 ⇓P P 13 18 53.9 +0.7
baz=48
Z20A **Nine Sixteen R** 47.97 306 ⇑P P 13 18 54.8 +0.6
baz=48,SNR=6.1
T22A **Edith** 47.97 311 ⇑P P 13 18 54.7 +0.4
baz=48
Y20A **Horse Springs,** 48.04 307 ⇑P P 13 18 55.3 +0.5
baz=48
319A **Douglas** 48.04 303 ⇓P P 13 18 54.7 0.0
baz=48
V21A **Milan** 48.09 309 ⇓P P 13 18 55.7 +0.5
baz=48
ISCO **Idaho Springs** 48.17 315 eP P 13 18 54.9 -0.9
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 48.17 315 eP P 13 18 54.9 -0.9
comp=Z,4.1nm,0.8s
ISCO **Idaho Springs** 48.17 315 ⇓P P 13 18 55.1 -0.7
baz=48
S22A **4UR Ranch, Cre** 48.20 312 ⇑P P 13 18 55.8 -0.3
baz=48
K25A **Mack Ranch, Ha** 48.30 319 ⇓P P 13 18 56.3 -0.2
baz=48
U21A **Nageezi** 48.32 310 ⇓P P 13 18 57.5 +0.5
baz=48,SNR=6.5
R22A **Saguache, Gunn** 48.33 313 ⇑P P 13 18 56.8 -0.3
baz=48
X20A **Quemado** 48.33 307 ⇑P P 13 18 57.4 +0.3
baz=48,SNR=5.8
M24A **Cheyenne** 48.37 317 ⇓P P 13 18 57.0 -0.2
baz=48
ULM **Lac du Bonnet** 48.39 332 P P 13 18 55.3 -1.6
comp=Z,12nm,0.5s,baz=129,slow=8.1,SNR=42
ULM **Lac du Bonnet** 48.39 332 eP P 13 18 55.2 -1.7
comp=Z,14nm,0.6s
T21A **Navajo Lake** 48.43 311 ⇓P P 13 18 58.0 +0.2
baz=48
W20A **Ramah** 48.52 308 ⇓P P 13 18 58.4 -0.2
baz=49
O23A **Lake Granby, G** 48.55 315 ⇓P P 13 18 58.2 -0.5
baz=49,SNR=7.5
MDND **Maddock** 48.68 327 ⇑P P 13 18 58.9 -0.4
baz=49
Q22A **Crested Butte,** 48.69 313 ⇓P P 13 18 59.1 -0.7
baz=49
V20A **Brimhall** 48.72 309 ⇓P P 13 19 00.1 +0.1
baz=49
SMCO **Snowmass** 48.87 314 eP P 13 18 59.7 -1.6
comp=Z,51nm,2.6s
S21A **Coal Bank Pass** 48.87 312 ⇑P P 13 19 01.0 -0.3
baz=49
P22A **Eagle** 48.88 314 ⇓P P 13 19 00.5 -0.7
baz=49
U20A **Newcomb** 48.96 310 ⇓P P 13 19 01.7 -0.1
baz=49
R21A **Cimarron** 48.96 312 ⇓P P 13 19 01.9 +0.1
baz=49
O22A **Kremmling** 48.97 315 ⇓P P 13 19 01.2 -0.8
baz=49
N22A **Wattenberg Ran** 49.18 316 ⇑P P 13 19 02.9 -0.6
baz=49
L23A **Garrett** 49.25 318 ⇓P P 13 19 03.3 -0.8
baz=49
S20A **Disappointment** 49.35 312 ⇓P P 13 19 04.9 0.0
baz=49,SNR=7.6
R20A **Redvale** 49.50 312 ⇑P P 13 19 06.3 +0.3
baz=50
PV01 **Paradox Valley** 49.62 312 eP P 13 19 04.9 -2.0
L22A **Ellis Ranch, M** 49.70 317 ⇓P P 13 19 07.3 -0.2
baz=50
Q20A **Ridgley Place,** 49.72 313 ⇑P P 13 19 07.4 -0.2
baz=50
H24A **Dirks Ranch, A** 49.79 321 ⇑P P 13 19 06.1 -1.8
baz=50
N21A **Black Mountain** 49.89 315 ⇑P P 13 19 08.5 -0.5
baz=50
K22A **Casper** 50.04 318 ⇑P P 13 19 09.1 -0.8
baz=50
O20A **White River Ci** 50.14 314 ⇑P P 13 19 10.6 -0.2
baz=50
L21A **Rawlins** 50.30 317 ⇑P P 13 19 10.8 -1.2
baz=50
J22A **Midwest** 50.36 319 ⇑P P 13 19 10.7 -1.7
baz=50,SNR=5.2
Q19A **Hogan Spring (** 50.42 313 ⇓P P 13 19 11.9 -0.9
baz=50
N20A **Spence Gulch,** 50.44 315 ⇓P P 13 19 11.7 -1.4
baz=50
P19A **Cripple Cowboy** 50.47 313 ⇓P P 13 19 12.0 -1.4
baz=50
K21A **Alcova** 50.51 318 ⇑P P 13 19 12.7 -0.9
baz=51,SNR=10
G23A **Biddle** 50.53 321 ⇓P P 13 19 12.2 -1.3
baz=51
I22A **9 Mile Ranch,** 50.58 319 ⇓P P 13 19 12.6 -1.4
baz=51
M20A **Sweetwater, Wa** 50.66 316 ⇑P P 13 19 13.8 -0.8
baz=51
O19A **Miners Draw (B** 50.83 314 ⇓P P 13 19 15.0 -0.9
baz=51
WUAZ **Wupatki** 50.88 308 ⇓P P 13 19 15.9 -0.5
baz=51,SNR=5.1
I21A **Big Trails, Te** 51.07 319 ⇓P P 13 19 16.4 -1.3
baz=51
G22A **Birney** 51.09 321 ⇓P P 13 19 17.0 -0.8
baz=51
N19A **John Jarvie Ra** 51.10 315 ⇓P P 13 19 17.0 -0.9
baz=51
K20A **Yellowstone Ra** 51.25 317 ⇑P P 13 19 18.0 -1.1
baz=51,SNR=8.8
H21A **Big Horn, Sher** 51.28 320 ⇑P P 13 19 18.2 -1.0
baz=51
M19A **Rock Springs** 51.33 316 ⇓P P 13 19 18.6 -1.1
baz=51
F22A **Rosebud** 51.34 322 ⇑P P 13 19 18.9 -0.7
baz=51
J20A **Shoshoni** 51.38 318 ⇓P P 13 19 19.1 -0.9
baz=52,SNR=11
P18A **Preston Nutter** 51.38 313 ⇑P P 13 19 19.9 -0.4
baz=51,SNR=7.9
SRU **San Rafael** 51.40 312 eP P 13 19 19.2 -1.1
SRU pmax pmax
comp=Z,125nm,0.9s
SRU **San Rafael** 51.40 312 eP P 13 19 19.2 -1.1
comp=Z,125nm,0.9s
SRU **San Rafael** 51.40 312 ⇓P P 13 19 19.7 -0.5
baz=52,SNR=6.6
D23A **Lindsay** 51.42 324 ⇓P P 13 19 20.0 -0.2
baz=52
O18A **Roosevelt** 51.44 314 ⇓P P 13 19 20.2 -0.3
baz=52
N18A **Larsen Ranch,** 51.48 315 ⇓P P 13 19 19.9 -1.0
baz=52
DGMT **Dagmar** 51.54 326 eP P 13 19 19.3 -1.7
comp=Z,17nm,0.7s
DGMT **Dagmar** 51.54 326 ⇓P P 13 19 21.3 +0.3
baz=52
Z14A **Wintersburg** 51.54 305 ⇓P P 13 19 21.1 -0.1
baz=52
K19A **Absolon Red Bu** 51.66 317 ⇓P P 13 19 20.5 -1.6
baz=52,SNR=7.1
G21A **Lodge Grass** 51.66 321 ⇑P P 13 19 20.6 -1.5
baz=52
I20A **Worland** 51.67 319 ⇓P P 13 19 20.9 -1.3
baz=52
P17A **Butcher Ranch,** 51.68 313 ⇓P P 13 19 21.9 -0.5
baz=52
A24A **Westby** 51.69 326 ⇑P P 13 19 22.3 +0.3
baz=52,SNR=7.0
L19A **Farson** 51.70 316 ⇓P P 13 19 21.5 -1.1
baz=52,SNR=6.5
C23A **Lambert** 51.74 324 ⇓P P 13 19 21.9 -0.7
baz=52
Q16A **Castle Valley** 51.80 312 ⇓P P 13 19 22.4 -0.9
baz=52
H20A **Greybull** 51.83 320 ⇑P P 13 19 21.7 -1.6
baz=52,SNR=9.0
U15A **North Rim** 51.86 308 ⇑P P 13 19 23.1 -0.8
baz=52
M18A **Lyman** 51.92 315 ⇓P P 13 19 23.1 -1.1
baz=52
O17A **Robinson Place** 51.94 313 ⇓P P 13 19 23.9 -0.4
baz=52,SNR=7.5
TMUT **Trail Mountain** 51.96 312 eP P 13 19 23.1 -1.5
comp=Z,5.8nm,0.9s
J19A **Crowheart** 51.98 318 ⇑P P 13 19 23.2 -1.4
baz=52,SNR=6.6
D22A **Cohagen** 51.98 323 ⇓P P 13 19 23.8 -0.6
baz=52
B23A **Brockton** 51.98 325 ⇓P P 13 19 24.9 +0.6
baz=52,SNR=6.2
L18A **Fontenelle, Gr** 52.10 316 ⇑P P 13 19 24.6 -0.9
baz=52,SNR=5.7
BW06 **Boulder Array** 52.11 317 eP P 13 19 23.9 -1.7
comp=Z,5.3nm,0.8s
BW06 **Boulder Array** 52.11 317 ⇑P P 13 19 24.1 -1.5
baz=52,SNR=8.2
PDAR **Pinedale Array** 52.11 317 P P 13 19 23.9 -1.6
comp=Z,5.0nm,0.7s,baz=115,slow=9.6,SNR=47
PDAR PcP PcP 13 20 35.2 -2.3
comp=Z,1.4nm,0.7s,baz=119,slow=5.2,SNR=5.2
PDAR **Pinedale Array** 52.11 317 P P 13 19 23.9 -1.6
PDAR PcP PcP 13 20 35.2 -2.3
C22A **Vida** 52.11 324 ⇑P P 13 19 24.1 -1.2
baz=52
A23A **Redstone** 52.19 326 ⇓P P 13 19 26.0 +0.1
baz=52
I19A **Meeteetse** 52.27 319 ⇑P P 13 19 25.6 -1.1
baz=52,SNR=5.7
N17A **Moffit Pass** 52.28 314 ⇓P P 13 19 25.6 -1.3
baz=52
G20A **Bridger** 52.29 320 ⇑P P 13 19 24.9 -1.9
baz=52
M17A **Scullys Gap (B** 52.36 315 ⇑P P 13 19 26.2 -1.3
baz=52
K18A **Toltan Ranch,** 52.38 317 ⇑P P 13 19 26.6 -1.0
baz=52
P16A **Fountain Green** 52.40 312 ⇓P P 13 19 26.8 -0.9
baz=52
MSU **Marysvale** 52.41 311 eP P 13 19 25.1 -2.8
MSU pmax pmax
comp=Z,1.0nm,0.6s
MSU **Marysvale** 52.41 311 eP P 13 19 25.1 -2.8
comp=Z,1.2nm,0.6s
D21A **La Casta Ranch** 52.42 323 ⇑P P 13 19 27.1 -0.5
baz=52
MVU **Marysvale** 52.44 311 eP P 13 19 26.2 -1.9
comp=Z,34nm,2.6s
B22A **Reddig Ranch S** 52.47 325 ⇓P P 13 19 27.5 -0.4
baz=53
F20A **Billings** 52.52 321 ⇑P P 13 19 27.6 -0.8
baz=53
H19A **Powell** 52.54 319 ⇑P P 13 19 27.8 -0.8
baz=53
JLU **Jordanelle** 52.59 314 eP P 13 19 28.9 -0.3
comp=Z,48nm,2.8s
J18A **Kendall Valley** 52.60 317 ⇑P P 13 19 28.4 -0.9
baz=53
I18A **Diamond G Ranc** 52.67 318 ⇓P P 13 19 28.5 -1.2
baz=53,SNR=8.4
W13A **Hualapai Mount** 52.73 306 ⇓P P 13 19 30.1 -0.2
baz=53
A22A **Carney Farms,** 52.78 325 ⇓P P 13 19 30.5 +0.2
baz=53
E20A **Meyer Farm, Mu** 52.84 322 ⇑P P 13 19 29.9 -0.8
baz=53
C21A **Desert Coulee** 52.86 324 ⇓P P 13 19 30.3 -0.6
baz=53
RLMT **Red Lodge** 52.92 320 eP P 13 19 29.6 -2.0
comp=Z,45nm,2.4s
RLMT **Red Lodge** 52.92 320 ⇓P P 13 19 30.7 -0.8
baz=53
Y12C **Blythe** 52.92 305 ⇓P P 13 19 30.9 -0.5
baz=53
M16A **Huntsville** 52.97 314 ⇑P P 13 19 31.0 -1.0
baz=53
H18A **Shoshone NF, C** 52.98 319 ⇓P P 13 19 31.6 -0.4
baz=53
GLA **Glamis** 53.00 304 ⇓P P 13 19 31.6 -0.6
baz=53
K17A **Gardner Place,** 53.02 316 ⇓P P 13 19 31.2 -1.1
baz=53
HWUT **Hardware Ranch** 53.03 315 eP P 13 19 30.6 -1.8
comp=Z,74nm,2.8s
F19A **Roth Farm, Mol** 53.04 321 ⇓P P 13 19 31.3 -1.0
baz=53
L16A **Fish Haven** 53.09 315 ⇓P P 13 19 31.9 -1.0
baz=53
J17A **Brown Place, J** 53.12 317 ⇓P P 13 19 32.2 -0.8
baz=53,SNR=5.9
LOHW **Long Hollow** 53.15 317 eP P 13 19 31.9 -1.3
comp=Z,2.2nm,0.8s
G18A **Lazy EL Ranch,** 53.19 320 ⇑P P 13 19 32.1 -1.3
baz=53
E19A **Rath Farm, Rou** 53.22 321 ⇑P P 13 19 32.5 -1.1
baz=53
I17A **Pilgrim Ck.** 53.26 318 ⇑P P 13 19 33.1 -1.0
baz=53
C20A **Veseth Ranch,** 53.34 323 ⇓P P 13 19 33.9 -0.5
baz=53
A21A **Bergtoll Ranch** 53.35 325 ⇑P P 13 19 34.8 +0.3
baz=53
DUG **Dugway** 53.43 313 eP P 13 19 34.1 -1.2
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG **Dugway** 53.43 313 eP P 13 19 34.1 -1.2
comp=Z,3.4nm,0.8s
DUG **Dugway** 53.43 313 ⇓P P 13 19 34.7 -0.6
baz=54,SNR=6.7
N15A **Stansbury Isla** 53.45 314 ⇓P P 13 19 35.2 -0.2
baz=54
K16A **Soda Springs** 53.51 316 ⇑P P 13 19 34.9 -1.0
baz=54
IRM **Iron Mountain** 53.52 305 ⇑P P 13 19 35.8 -0.1
baz=54,SNR=5.5
DCID1 **Drake Creek** 53.53 317 eP P 13 19 34.3 -1.8
comp=Z,8.0nm,0.6s
F18A **Big Timber** 53.54 320 ⇑P P 13 19 34.9 -1.1
baz=54,SNR=6.5
D19A **Cripps Ranch,** 53.60 322 ⇓P P 13 19 35.4 -0.9
baz=54
BC3 **Big Chuckawall** 53.65 304 ⇑P P 13 19 36.5 -0.4
baz=54
J16A **Bone** 53.69 317 ⇓P P 13 19 36.3 -1.0
baz=54
L15A **Malad City** 53.75 315 ⇓P P 13 19 36.2 -1.5
baz=54,SNR=9.2
I16A **Newdale** 53.84 317 ⇑P P 13 19 37.4 -0.9
baz=54,SNR=5.1
A20A **Cobblestone Ra** 53.86 324 ⇑P P 13 19 37.9 -0.3
baz=54,SNR=5.7
E18A **Harlowton** 53.96 321 ⇓P P 13 19 37.2 -1.9
baz=54
H16A **Russell Place,** 54.02 319 ⇓P P 13 19 39.7 +0.1
baz=54
GMRC **Granite Mounta** 54.07 306 ⇓P P 13 19 39.4 -0.7
baz=54
K15A **Arbon** 54.10 316 ⇑P P 13 19 39.5 -0.7
baz=54
F17A **Fitzpatrick Pl** 54.14 320 ⇓P P 13 19 39.7 -0.7
baz=54
FFC **Flin Flon** 54.15 333 eP P 13 19 38.0 -2.1
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC **Flin Flon** 54.15 333 eP P 13 19 38.0 -2.1
comp=Z,5.0nm,0.7s
BELC **Belle Mtn. Jos** 54.17 305 ⇓P P 13 19 40.5 -0.3
baz=54
B19A **Brinkman Farms** 54.25 324 ⇓P P 13 19 41.3 +0.3
baz=54
MONP **Monument Peak** 54.28 303 ⇓P P 13 19 41.5 -0.2
baz=54
J15A **Blackfoot** 54.30 317 ⇓P P 13 19 41.0 -0.5
baz=54
L14A **Malta** 54.36 315 ⇓P P 13 19 41.3 -0.7
baz=54
A19A **Klindworth Far** 54.36 324 ⇓P P 13 19 41.6 -0.2
baz=54,SNR=5.2
TUQ **Turquoise Moun** 54.43 306 ⇑P P 13 19 42.3 -0.4
baz=54
PFO **Pinyon Flat Ob** 54.45 304 ⇓P P 13 19 42.3 -0.6
baz=54
K14A **Jones Ranch, D** 54.49 315 ⇑P P 13 19 41.8 -1.2
baz=55,SNR=5.9
E17A **Martinsdale** 54.50 321 ⇓P P 13 19 42.7 -0.3
baz=55
EGMT **Eagleton** 54.52 323 ⇑P P 13 19 43.0 0.0
baz=55
I15A **Monteview** 54.56 317 ⇑P P 13 19 43.7 +0.2
baz=55
G16A **Moss Hill, Enn** 54.59 319 ⇑P P 13 19 43.2 -0.5
baz=55
HEC **Hector,Ludlow** 54.62 305 ⇓P P 13 19 44.1 +0.2
baz=55
BOZ **Bozeman (W)** 54.65 319 eP P 13 19 42.5 -1.6
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ **Bozeman (W)** 54.65 319 eP P 13 19 42.5 -1.6
comp=Z,4.3nm,0.6s
D17A **Six Diamond Ra** 54.70 321 ⇑P P 13 19 44.1 -0.3
baz=55
F16A **Kennard Place,** 54.70 320 ⇓P P 13 19 44.1 -0.3
baz=55
B18A **Beardsley Farm** 54.71 323 ⇑P P 13 19 44.0 -0.4
baz=55
SHOC **Shoshone** 54.83 307 ⇓P P 13 19 45.0 -0.4
baz=55
H15A **Lima** 54.90 318 ⇓P P 13 19 45.8 -0.2
baz=55
R11A **Troy Canyon, C** 54.92 310 ⇓P P 13 19 45.6 -0.6
baz=55
C17A **Wharram Farm,** 54.95 322 ⇓P P 13 19 45.0 -1.2
baz=55
A18A **Metzger Ranch,** 54.99 324 ⇑P P 13 19 46.2 -0.2
baz=55
J14A **Carey** 55.00 316 ⇓P P 13 19 46.3 -0.4
baz=55,SNR=5.5
GSC **Goldstone** 55.10 306 ⇓P P 13 19 46.9 -0.6
baz=55
D16A **Dana Ranch, Ca** 55.17 321 ⇓P P 13 19 47.0 -0.9
baz=55
I14A **Mackay** 55.18 317 ⇓P P 13 19 47.5 -0.5
baz=55
F15A **Butte** 55.28 319 ⇓P P 13 19 48.3 -0.4
baz=55
H14A **Leadore** 55.38 318 ⇓P P 13 19 48.9 -0.6
baz=55
J13A **Cove Ranch, Pi** 55.48 316 ⇑P P 13 19 49.6 -0.6
baz=56
A17A **Triple J Farms** 55.50 323 ⇑P P 13 19 49.4 -0.8
baz=56
I13A **Wildhorse Cree** 55.62 317 ⇑P P 13 19 50.4 -0.9
baz=56,SNR=6.8
C16A **Fuhringer Ranc** 55.62 322 ⇓P P 13 19 50.1 -1.0
baz=56
HLID **Hailey** 55.70 316 eP P 13 19 50.1 -1.7
comp=Z,4.3nm,1.0s
HLID **Hailey** 55.70 316 ⇑P P 13 19 50.8 -1.0
baz=56,SNR=6.1

D15A	**Lincoln**	**55.78**	**321**	⇓	P		**P**	**13 19 51.8**	**-0.5**
	baz=56								
F14A	**Wisdom**	**55.83**	**319**	⇓	P		**P**	**13 19 52.3**	**-0.4**
	baz=56								
LRMC	**Laurel Mountai**	**55.85**	**306**	⇓	P		**P**	**13 19 52.1**	**-0.8**
	baz=56								
B16A	**M & M Farms, S**	**55.87**	**322**	⇑	P		**P**	**13 19 52.2**	**-0.6**
	baz=56								
GRAC	**Grapevine Rang**	**55.94**	**308**	⇓	P		**P**	**13 19 53.3**	**-0.2**
	baz=56								
EDW2	**Edwards Air Fo**	**55.96**	**305**	⇑	P		**P**	**13 19 52.8**	**-0.8**
	baz=56								
C15A	**Salmond Ranch,**	**56.14**	**321**	⇓	P		**P**	**13 19 53.7**	**-1.0**
	baz=56								
E14A	**Clinton**	**56.14**	**320**	⇓	P		**P**	**13 19 54.1**	**-0.7**
	baz=56								
I12A	**Atlanta**	**56.27**	**316**	⇑	P		**P**	**13 19 54.9**	**-1.0**
	baz=56								
B15A	**Bradely Ranch,**	**56.34**	**322**	⇑	P		**P**	**13 19 54.8**	**-1.4**
	baz=56								
H12A	**Diamond D Ranc**	**56.34**	**317**	⇓	P		**P**	**13 19 55.5**	**-0.8**
	baz=56								
E13A	**Victor**	**56.60**	**319**	⇓	P		**P**	**13 19 57.4**	**-0.7**
	baz=57								
MFID	**Camas Ranch**	**56.62**	**316**	⇑	P		**P**	**13 19 57.7**	**-0.6**
	baz=57								
A15A	**Johnson Ranch,**	**56.72**	**323**	⇓	P		**P**	**13 19 57.9**	**-1.0**
	baz=57								
B14A	**Marquette Ranc**	**56.79**	**322**	⇑	P		**P**	**13 19 58.1**	**-1.3**
	baz=57								
G12A	**Big Creek, Yel**	**56.86**	**318**	⇓	P		**P**	**13 19 59.2**	**-0.8**
	baz=57								
NVAR	**Mina Array Bea**	**57.00**	**309**		P		**P**	**13 20 00.2**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=112,slow=6.1,SNR=13								
NVAR					PcP		**PcP**	**13 20 55.3**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=141,slow=4.6,SNR=4.4								
NVAR	**Mina Array Bea**	**57.00**	**309**		P		**P**	**13 20 00.2**	**-1.0**
NVAR					PcP		**PcP**	**13 20 55.3**	**-1.0**
F12A	**Elk City**	**57.03**	**318**	⇓	P		**P**	**13 19 59.8**	**-1.4**
	baz=57								
A14A	**Double T Ranch**	**57.13**	**322**	⇑	P		**P**	**13 20 00.7**	**-1.1**
	baz=57								
E12A	**Beaver Dam Sad**	**57.48**	**319**	⇑	P		**P**	**13 20 02.7**	**-1.6**
	baz=58								
A13A	**Flathead Natio**	**57.71**	**322**	⇑	P		**P**	**13 20 04.9**	**-1.0**
	baz=58								
BMO	**Blue Mountains**	**58.09**	**317**	*e*P			**P**	**13 20 07.3**	**-1.3**
	comp=Z,42nm,2.8s								
C11A	**Tepee Creek (N**	**58.43**	**320**	⇑	P		**P**	**13 20 09.9**	**-1.0**
	baz=58								
A12A	**Yaak River Ran**	**58.46**	**322**	⇑	P		**P**	**13 20 10.6**	**-0.5**
	baz=58								
NEW	**Newport**	**59.12**	**321**	*e*P			P	13 20 13.8	-1.9
	comp=Z,20nm,1.8s								
NEW	**Newport**	**59.12**	**321**	⇑	P		P	13 20 13.9	-1.7
	baz=59								
ESDC	**Sonseca Array**	**59.36**	**50**		P		**P**	**13 20 18.9**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=257,slow=7.9,SNR=4.2								
ESDC	**Sonseca Array**	**59.36**	**50**		P		**P**	**13 20 18.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**62.77**	**80**		P		**P**	**13 20 41.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=291,slow=7.5,SNR=11								
TORD	**Torodi Ar. Bea**	**62.77**	**80**		P		**P**	**13 20 41.9**	**+0.9**
SUMG	**Summit**	**63.86**	**8**	*e*P			**P**	**13 20 46.3**	**-1.4**
SUMG					pmax		pmax		
	comp=Z,12nm,1.0s								
SUMG	**Summit**	**63.86**	**8**	*e*P			**P**	**13 20 46.3**	**-1.4**
	comp=Z,12nm,1.0s								
SUMG	**Summit**	**63.86**	**8**	*i* P			P	**13 20 46.5**	**-1.2**
	comp=Z,7.1nm,0.8s								
YKA	**Yellowknife Ar**	**64.00**	**336**		P		P	13 20 46.1	-2.2
	comp=Z,5.7nm,0.8s,baz=110,slow=7.4,SNR=86								
YKA	**Yellowknife Ar**	**64.00**	**336**		P		P	13 20 46.1	-2.2
NB2	**NORSAR Subarra**	**73.15**	**29**		P		**P**	**13 21 46.2**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=262,slow=6.2								
NOA	**NORSAR Array B**	**73.15**	**29**		P		**P**	**13 21 46.5**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=263,slow=6.0,SNR=15								
NOA	**NORSAR Array B**	**73.15**	**29**		P		**P**	**13 21 46.5**	**+1.0**
GERES	**GERESS Array B**	**73.22**	**42**		P		**P**	**13 21 46.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=270,slow=5.3,SNR=6.1								
GERES	**GERESS Array B**	**73.22**	**42**		P		**P**	**13 21 46.9**	**+0.7**
ILAR	**Eielson Array**	**78.33**	**334**		P		**P**	**13 22 13.4**	**-1.6**
	comp=Z,4.1nm,0.6s,baz=97,slow=4.7,SNR=98								
ILAR	**Eielson Array**	**78.33**	**334**		P		**P**	**13 22 13.4**	**-1.6**
COLA	**College**	**78.75**	**334**	*e*P			P	13 22 14.0	-3.3
COLA					pmax		pmax		
	comp=Z,2.0nm,0.6s								
COLA	**College**	**78.75**	**334**	*e*P			P	13 22 14.0	-3.3
	comp=Z,2.1nm,0.6s								
ARCES	**ARCESS Array B**	**79.70**	**21**		P		**P**	**13 22 21.0**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=301,slow=2.6,SNR=6.0								
ARCES	**ARCESS Array B**	**79.70**	**21**		P		**P**	**13 22 21.0**	**-1.5**
FINES	**FINESS Array B**	**80.33**	**29**		P		**P**	**13 22 26.1**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=259,slow=3.8,SNR=27								
FINES	**FINESS Array B**	**80.33**	**29**		P		**P**	**13 22 26.1**	**+0.1**
AKASG	**Malin Array Be**	**83.19**	**40**		P		**P**	**13 22 40.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=310,slow=4.2,SNR=5.0								
AKASG	**Malin Array Be**	**83.19**	**40**		P		**P**	**13 22 40.5**	**-0.8**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**83.19**	**40**		P		**P**	**13 22 40.5**	**-0.8**
OBN	**Obninsk**	**86.75**	**35**	⇑	*e*P		**P**	**13 22 58.0**	**-1.1**
OBN					*e*S		S	13 33 22.9	-14
OBN					pmax		pmax		
	comp=Z,11nm,0.8s								
BRTR	**Keskin Array B**	**88.15**	**50**		P		**P**	**13 23 06.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=262,slow=5.7,SNR=5.7								
BRTR	**Keskin Array B**	**88.15**	**50**		P		**P**	**13 23 06.0**	**-0.4**
VSR	**Storozhevoye**	**89.24**	**38**	*e*P			**P**	**13 23 10.3**	**-0.8**
VRHR	**Novokhopersk**	**90.75**	**38**	*e*P			**P**	**13 23 18.2**	**0.0**
VRHR					pmax		pmax		
	comp=Z,6.0nm,0.6s								
VRHR					pmax		pmax		
	comp=N,1.0nm,0.3s								
VRHR					pmax		pmax		
	comp=E,1.0nm,0.3s								
LSZ	**Lusaka**	**93.33**	**105**	*e*P			**P**	**13 23 31.7**	**+0.8**
BILL	**Bilibino**	**94.53**	**344**	⇓	*e*P		**P**	**13 23 37.4**	**+2.1**
BILL					*e*			13 27 17.1	
BILL					*e*S		SKSac	13 33 59.4	-11
BILL					pmax		pmax		
	comp=Z,2.0nm,1.2s								
MKAR	**Makanchi Array**	**115.02**	**26**		PKP		**PKPdf**	**13 28 54.7**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=321,slow=1.8,SNR=3.1								
MKAR	**Makanchi Array**	**115.02**	**26**		PKIKP		**PKPdf**	**13 28 54.7**	**-1.7**
MKAR	**Makanchi Array**	**115.02**	**26**		PKP		**PKPdf**	**13 28 54.7**	**-1.7**
KSH	**Kashi**	**117.19**	**35**	*e*PKP			**PKPdf**	**13 29 02.8**	**+1.8**
KSH					PP		PP	13 30 17.3	+6.9
KSH					PKS		**PKSdf**	**13 32 38.5**	**+0.7**
KSH					SKS		**SKSdf**	**13 36 10.3**	**-3.2**
KSH					SKKS		SKKSac	13 37 05.5	-7.1
KSH					SS		**SS**	**13 46 17.5**	**-2.0**
KSH					AMB		AMB		
	comp=Z,92nm,4.5s								
KSH					LR		LR		
	comp=N,33nm,5.2s								
KSH					LR		LR		
	comp=E,46nm,4.9s								
KSH					LR		LR		
	comp=Z,150nm,6.8s								
WMQ	**Urumqi**	**119.68**	**24**	*e*PKP			**PKPdf**	**13 29 03.5**	**-2.0**
HHC	**Hu-ho-hao-te**	**128.78**	**6**	*e*PKP			**PKPdf**	**13 29 19.3**	**-3.8**
HHC					PP		PP	13 31 38.0	+10
HHC					PKS		PKSdf	13 32 54.8	-5.0
HHC					SKKS			13 38 18.3	
HHC					AMB		AMB		
	comp=Z,150nm,7.6s								
HHC					LR		LR		
	comp=N,340nm,18.5s								
HHC					LR		LR		
	comp=E,300nm,21.0s								
HHC					LR		LR		
	comp=Z,310nm,20.1s								
LZH	**Lanzhou**	**132.07**	**15**	*e*PKP			**PKPdf**	**13 29 30.0**	**+0.4**
LZH					sPKP			13 29 45.0	
CD2	**Chengdu**	**136.93**	**17**	PKP			**PKPdf**	**13 29 37.3**	**-1.4**
NJ2	**Nanjing**	**137.84**	**358**	*e*PKP			**PKPdf**	**13 29 39.0**	**-1.2**
KMI	**Kunming**	**141.94**	**22**	PKP			**PKPdf**	**13 29 45.5**	**-2.7**
GYA	**Guiyang**	**141.95**	**16**	PKP			**PKPdf**	**13 29 45.8**	**-2.2**
GYA					PP		**PP**	**13 32 53.3**	**+2.0**
GYA					PKS		**PKSdf**	**13 33 20.5**	**-3.7**
GYA					AMB		AMB		
	comp=Z,90nm,7.4s								
GYA					LR		LR		
	comp=N,110nm,20.8s								
GYA					LR		LR		
	comp=E,80nm,21.0s								
GYA					LR		LR		
	comp=Z,90nm,20.5s								
CHTO	**Chiang Mai**	**145.74**	**32**	*e*PKP2			**PKPdf**	**13 29 53.7**	**-1.0**
CHTO	**Chiang Mai**	**145.74**	**32**	*e*PKPdf			**PKPdf**	**13 29 53.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**146.04**	**33**	PKPbc			**PKPdf**	**13 29 54.7**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=310,slow=5.3,SNR=11								
CMAR	**Chiang Mai Arr**	**146.04**	**33**	PKPbc			**PKPdf**	**13 29 54.7**	**-0.5**
STKA	**Stephens Creek**	**149.07**	**223**	PKP			**PKPdf**	**13 29 59.2**	**-0.6**
	comp=Z,6.2nm,0.7s,baz=112,slow=3.8,SNR=5.0								
STKA					PKPbc		**PKPbc**	**13 30 03.3**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=127,slow=4.1,SNR=4.8								
STKA	**Stephens Creek**	**149.07**	**223**	PKP			**PKPdf**	**13 29 59.2**	**-0.6**
STKA					PKPbc		**PKPbc**	**13 30 03.3**	**-0.7**
ASAR	**Alice Springs**	**159.49**	**228**	PKP			**PKPdf**	**13 30 13.4**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=90,slow=1.8,SNR=4.2								
ASAR					PKPab		**PKPab**	**13 30 50.5**	**-2.0**
	comp=Z,0.7nm,1.0s,baz=127,slow=3.3,SNR=4.7								
ASAR	**Alice Springs**	**159.49**	**228**	PKP			**PKPdf**	**13 30 13.4**	**-1.2**
ASAR					PKPab		**PKPab**	**13 30 50.5**	**-2.0**
WRA	**Warramunga Arr**	**161.16**	**238**	PKP			**PKPdf**	**13 30 15.4**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=130,slow=0.3,SNR=10								
WRA					PKPab		**PKPab**	**13 30 58.4**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=106,slow=4.4,SNR=14								
WRA	**Warramunga Arr**	**161.16**	**238**	PKP			**PKPdf**	**13 30 15.4**	**-1.2**
WRA					PKPab		**PKPab**	**13 30 58.4**	**-1.5**

IDC 28 13:23:22.4±3.1, 23°.13S×176°.11W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.5/4, Error ellipse: s-maj=218.4km s-min=27.3km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.69**	**259**	P	P	13 31 46.0	+0.7
	0.2nm,0.4s,baz=91,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**46.03**	**264**	P	P	13 31 47.0	-1.1
	0.3nm,0.5s,baz=103,slow=8.3,SNR=14						
NVAR	**Mina Array Bea**	**81.75**	**42**	P	P	13 35 43.4	+0.1
	0.4nm,0.7s,baz=215,slow=7.7,SNR=3.2						
TXAR	**Lajitas Array**	**87.01**	**56**	P	P	13 36 09.3	-0.7
	0.2nm,0.5s,baz=205,slow=2.6,SNR=3.4						
BRTR	**Keskin Array B**	**149.89**	**310**	PKPbc	PKPbc	13 43 15.2	+0.3
	0.7nm,0.8s,baz=148,slow=3.3,SNR=3.5						

NIED ***28*** *13:53:00,33°.80N×132°.70E,h50km,Mw3.7 Best double couple: M₀3.51000×10¹⁴ NP1:φ=204.00000°,δ86.00000°, λ-16.00000°. NP2:φ=295.00000°,δ74.00000°, λ-175.00000°.*

IDC ***28*** *13:53:28.8±3.1, 33°.83N×132°.81E,h22km±23km,mb3.1/1, mb1 3.3/3,mb1mx3.0/27,mbtmp3.2/3,ML3.1/2,MS2.7/1, Ms1 2.7/1,ms1mx2.1/16,Error ellipse: s-maj=28.1km s-min=15.3km az=153.0*

ISCJB ***28*** *13:53:29.0±0.5,33°.85N±0°.03×132°.74E±0°.05,h40km±8km, mb3.1/1, Error ellipse: s-maj=6.3km s-min=4.7km az=174.5*

JMA ***28*** *13:53:29.0,33°.85N×132°.74E,h44km,M3.7 Broadband fault plane solution: P waves. NP1:φ=19.00000°, δ84.00000°,λ12.00000°. NP2:φ=288.00000°,δ78.00000°, λ174.00000°. Principal axes: T Plg13.0000°, Azm244.0000°; N Plg76.0000°, Azm46.0000°; P Plg4.0000°, Azm153.0000°;*

JMA Felt I J1.

ISC 28 13:53:29.8±1.1, 33°.84N±0°.03×132°.75E±0°.04, h33km±4km, n17, σ=94°/26, 5C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JET	**Tanbara**	**0.26**	**103**	⇑P	**Pn**	**13 53 37.2**	**+0.1**
JET				S	**Sb**	**13 53 43.0**	**+1.0**
JHM	**Kurahashi**	**0.35**	**329**	⇓P	**Pb**	**13 53 37.8**	**-0.5**
JHM				S	**Sn**	**13 53 44.2**	**-0.2**
JNA	**Nagahama**	**0.36**	**219**	⇑P	**Pb**	**13 53 38.0**	**-0.3**
JNA				S	**Sn**	**13 53 44.4**	**-0.1**
JKU	**Kubokawa**	**0.59**	**153**	⇓P	**Pn**	**13 53 41.1**	**-0.7**
JKU				S	**Sn**	**13 53 50.0**	**-0.3**
UWA2	**Uwa jima 2**	**0.63**	**189**	⇓P	**Pn**	**13 53 41.8**	**-0.6**
UWA2				S	**Sn**	**13 53 50.7**	**-0.7**
JHT	**Toyohira**	**0.87**	**342**	⇓P	**Pn**	**13 53 44.6**	**-1.1**
JHT				S	**Sn**	**13 53 56.4**	**-0.9**
JMN	**Monobe**	**0.95**	**96**	⇑P	**Pn**	**13 53 45.8**	**-1.0**
JTO	**Tosashimizu**	**0.97**	**177**	⇓P	**Pn**	**13 53 46.4**	**-0.8**
JJS	**Sakaide**	**1.12**	**61**	⇑P	**Pn**	**13 53 47.8**	**-1.4**
JHS	**Saijyo**	**1.20**	**15**	⇑P	**Pn**	**13 53 49.4**	**-0.9**
JHS				*e*S	**Sn**	**13 54 04.6**	**-0.9**
JGT	**Gotsu**	**1.24**	**344**	P	**Pn**	**13 53 49.6**	**-1.2**
JGT				S	**Sn**	**13 54 05.5**	**-0.8**
JNU	**Nakatsue**	**1.72**	**246**	Pn	**Pn**	**13 53 56.8**	**-0.7**
	15nm,0.3s,baz=90,slow=8.1,SNR=301						
JNU				Sn	**Sn**	**13 54 17.7**	**-0.5**
	14nm,0.3s,baz=306,slow=12,SNR=9.1						
JNU				Lg	Lg	13 54 25.9	
	44nm,0.3s,baz=176,slow=7.5,SNR=5.4						
MAT	**Matsushiro**	**5.22**	**57**	P	**Pn**	**13 54 45.8**	**+0.2**
MJAR	**Matsushiro Arr**	**5.22**	**57**	Pn	**Pn**	**13 54 46.9**	**+1.3**
	1.4nm,0.3s,baz=242,slow=15,SNR=29						
MJAR				Lg	Lg	13 56 12.6	
	0.2nm,0.3s,baz=236,slow=31,SNR=3.0						
KSRS	**Korea Array**	**5.33**	**314**	Pn	**Pn**	**13 54 48.9**	**+1.8**
	0.2nm,0.3s,baz=126,slow=15,SNR=3.6						
KSRS				Sn	**Sn**	**13 55 47.8**	**+0.4**
	0.8nm,0.3s,baz=102,slow=13,SNR=5.8						
KSRS				Lg	Lg	13 56 19.1	
	0.4nm,0.3s,baz=148,slow=30,SNR=4.3						
USRK	**Ussuriysk Arra**	**10.37**	**357**	LR	LR	14 00 10.5	
	comp=Z,42nm,19.4s,baz=162,slow=39						
SONM	**Songino Array**	**24.21**	**313**	P	**P**	**13 58 44.6**	**+1.2**
	0.3nm,0.4s,baz=134,slow=10,SNR=3.7						

ISCJB ***28*** *14:00:17.9±0.6,29°.21N±0°.04×130°.52E±0°.09,h50km±7km, mb3.5/7, Error ellipse: s-maj=13.6km s-min=4.2km az=19.2*

JMA ***28*** *14:00:17.4±0.1,29°.19N×130°.54E,h55km,M3.1*

IDC ***28*** *14:00:19.8±2.5,29°.27N×130°.33E,h46km±24km,mb3.3/7, mb1 3.5/9,mb1mx3.4/26,mbtmp3.4/9,ML2.9/2,Error ellipse: s-maj=34.8km s-min=18.5km az=84.0*

ISC 28 14:00:18.8±1.3, 29°.21N±0°.04×130°.49E±0°.09, h41km±14km, n19, σ=75°/28, mb3.4/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**320**	P	**Pn**	**14 00 33.8**	**-0.2**
JNN				*e*S	**Sn**	**14 00 45.6**	**+0.6**
JZK	**Kikaishima**	**1.00**	**207**	P	**Pn**	**14 00 35.2**	**-1.2**
JZK				*e*S	**Sn**	**14 00 48.9**	**-0.5**
JAM	**Amami Oshima**	**1.11**	**224**	P	**Pn**	**14 00 37.6**	**-0.3**
JAM				*e*S	**Sn**	**14 00 53.2**	**+1.2**
JKC	**Kuchinoerabu**	**1.27**	**349**	P	**Pn**	**14 00 38.9**	**-1.2**
JKC				*e*S	**Sn**	**14 00 57.1**	**+1.1**
JTN	**Tanegashima 3**	**1.50**	**17**	P	**Pn**	**14 00 43.1**	**-0.2**
JTN				*e*S	**Sn**	**14 01 01.3**	**-0.3**
JTK	**Tokunoshima**	**1.96**	**224**	P	**Pn**	**14 00 49.3**	**-0.3**
JTK				*e*S	**Sn**	**14 01 14.1**	**+1.1**
JTSR	**Tashiro 2**	**1.98**	**11**	P	**Pn**	**14 00 49.7**	**-0.3**
JTSR				*e*S	**Sn**	**14 01 13.7**	**+0.1**
JSU	**Suzuyama**	**2.29**	**359**	P	**Pn**	**14 00 53.7**	**-0.4**
JSU				*e*S	**Sn**	**14 01 21.2**	**+0.2**
JNAR	**Kushima--Naru**	**2.40**	**16**	P	**Pn**	**14 00 55.5**	**-0.2**
JNAR				*e*S	**Sn**	**14 01 24.4**	**+0.5**
JSJ	**Shimokoshiki**	**2.54**	**345**	P	**Pn**	**14 00 57.5**	**-0.1**
JOW	**Kunigami**	**3.07**	**220**	P	**Pn**	**14 01 04.7**	**-0.2**
	2.2nm,0.3s,baz=78,slow=26,SNR=20						
JNU	**Nakatsue**	**3.91**	**5**	P	**Pn**	**14 01 17.1**	**+0.7**
	1.8nm,0.3s,baz=184,slow=17,SNR=18						
MKAR	**Makanchi Array**	**41.13**	**309**	P	**P**	**14 07 58.7**	**-0.2**
	0.4nm,0.7s,baz=92,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.17**	**320**	P	**P**	**14 07 57.8**	**-1.3**
	0.5nm,0.6s,baz=98,slow=4.5,SNR=3.8						
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**14 09 02.5**	**+0.9**
	0.5nm,0.9s,baz=354,slow=8.5,SNR=4.6						
ASAR	**Alice Springs**	**52.68**	**176**	P	**P**	**14 09 30.4**	**+1.2**
	0.4nm,1.0s,baz=10,slow=11,SNR=5.2						
KBZ	**Khabaz**	**68.83**	**309**	P	**P**	**14 11 18.5**	**-0.4**
	2.6nm,0.9s,baz=122,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**74.98**	**26**	P	**P**	**14 11 55.6**	**+0.1**
	0.4nm,1.0s,baz=301,slow=5.4,SNR=4.4						
BRTR	**Keskin Array B**	**76.78**	**308**	P	**P**	**14 12 05.9**	**-0.5**
	0.7nm,0.8s,baz=103,slow=5.3,SNR=3.7						

NIED ***28*** *14:01:00,29°.20N×130°.40E,h23km,Mw4.5 Best double couple: M₀6.78000×10¹⁵ NP1:φ=28.00000°,δ86.00000°, λ78.00000°. NP2:φ=278.00000°,δ13.00000°,λ160.00000°.*

BJI ***28*** *14:01:04.5,27°.66N×133°.29E,h13km,mB4.7/25,mb4.5/24, Ms4.3/26,Ms7 4.2/27*

JMA ***28*** *14:01:32.5,29°.21N×130°.43E,h69km±2km,M4.4*

MOS ***28*** *14:01:32.2±1.2,29°.21N×130°.41E,h44km,mb4.9/14,Error ellipse: s-maj=11.8km s-min=6.8km az=105.9*

ISCJB ***28*** *14:01:32.6±0.5,29°.20N±0°.03×130°.48E±0°.05,h49km±3km, mb4.3/40,MS4.0/13,Error ellipse: s-maj=8.0km s-min=3.1km az=25.0*

IDC ***28*** *14:01:34.0±1.4,29°.25N×130°.33E,h42km±13km,mb3.9/19, mb1 4.1/23,mb1mx4.0/31,mbtmp3.9/23,ML3.7/4,MS3.6/11, Ms1 3.6/11,ms1mx3.3/35,Error ellipse: s-maj=16.6km s-min=8.3km az=113.0*

NEIC ***28*** *14:01:34.8±1.0,29°.21N×130°.37E,h55km±8km,mb4.8/5, MW4.5(NIED),Error ellipse: s-maj=16.1km s-min=8.1km az=128.0*

ISC 28 14:01:33.9±0.8, 29°.20N±0°.03×130°.48E±0°.05, h47km±6km, n142, σ=139°/34/159, mb4.2/40, MS4.2/13, 6C-6D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.83**	**321**	P	**Pn**	**14 01 48.5**	**-0.8**
JNN				*e*S	**Sn**	**14 02 00.6**	**+0.1**
JZK	**Kikaishima**	**0.99**	**207**	P	**Pn**	**14 01 50.8**	**-0.6**
JZK				*e*S	**Sn**	**14 02 04.0**	**-0.2**
JAM	**Amami Oshima**	**1.10**	**225**	P	**Pn**	**14 01 52.1**	**-0.8**
JAM				*e*S	**Sn**	**14 02 07.0**	**+0.1**
JKC	**Kuchinoerabu**	**1.28**	**349**	P	**Pn**	**14 01 55.0**	**-0.4**
JKC				*e*S	**Sn**	**14 02 11.0**	**-0.5**
JTN	**Tanegashima 3**	**1.52**	**16**	P	**Pn**	**14 01 58.1**	**-0.5**
JTN				S	**Sn**	**14 02 16.4**	**-0.8**
JTK	**Tokunoshima**	**1.95**	**224**	P	**Pn**	**14 02 03.6**	**-0.9**
JTK				*e*S	**Sn**	**14 02 27.1**	**-0.7**
JTSR	**Tashiro 2**	**2.00**	**11**	P	**Pn**	**14 02 05.0**	**-0.3**
JTSR				*e*S	**Sn**	**14 02 28.8**	**-0.3**
JSU	**Suzuyama**	**2.30**	**359**	P	**Pn**	**14 02 08.5**	**-0.9**
JSU				*e*S	**Sn**	**14 02 36.4**	**-0.1**
JNAR	**Kushima--Naru**	**2.42**	**16**	P	**Pn**	**14 02 10.7**	**-0.3**
JNAR				*e*S	**Sn**	**14 02 39.5**	**+0.1**
JSJ	**Shimokoshiki**	**2.56**	**345**	P	**Pn**	**14 02 12.6**	**-0.3**
JSJ				*e*S	**Sn**	**14 02 43.0**	**+0.1**
JOW	**Kunigami**	**3.06**	**220**	P	**Pn**	**14 02 19.8**	**0.0**
	11nm,0.3s,baz=113,slow=23,SNR=7.4						
JOW				S	**Sn**	**14 02 54.6**	**-0.6**
	23nm,0.3s,baz=60,slow=14,SNR=5.7						
JOW				LR	LR	14 03 51.7	
	comp=Z,990nm,18.5s,baz=351,slow=46						
JOW	**Kunigami**	**3.06**	**220**	*e*Pn	**Pn**	**14 02 18.1**	**-1.7**
JOW				P	**Pn**	**14 02 19.8**	**0.0**
JOW	**Kunigami**	**3.06**	**220**	P	**Pn**	**14 02 18.9**	**-0.9**
JOW				*e*S	**Sn**	**14 02 54.6**	**-0.6**
JIH	**Iheya**	**3.09**	**226**	*e*S	**Sn**	**14 02 55.0**	**-1.0**
JNU	**Nakatsue**	**3.93**	**5**	P	**Pn**	**14 02 31.9**	**+0.2**
	9.1nm,0.3s,baz=160,slow=6.0,SNR=83						
JNU				S	**Sn**	**14 03 17.0**	**+0.4**
	5.4nm,0.3s,baz=212,slow=12,SNR=3.6						
JNU				LR	LR	14 03 30.6	
	comp=Z,272nm,19.8s,baz=197,slow=30						
JNU	**Nakatsue**	**3.93**	**5**	P	**Pn**	**14 02 31.9**	**+0.2**
JNU				*e*Pn	Pn	14 02 32.1	+0.4
KSAR	**Wonju Array Be**	**8.51**	**346**	P	**Pn**	**14 03 36.9**	**+2.4**
KSRS	**Korea Array**	**8.51**	**346**	P	**Pn**	**14 03 36.9**	**+2.4**
	0.4nm,0.3s,baz=156,slow=15,SNR=20						
KSRS				LR	LR	14 07 06.9	
	comp=Z,370nm,18.9s,baz=162,slow=40						
INCN	**Inchon**	**8.87**	**340**	*e*Pn	Pn	14 03 47.4	+8.0
NACB	**Ninganchiao**	**9.39**	**240**	*e*Pn	**Pn**	**14 03 48.5**	**+1.8**
MAT	**Matsushiro**	**9.79**	**40**	P	**Pn**	**14 03 52.0**	**0.0**
MJAR	**Matsushiro Arr**	**9.79**	**40**	P	**Pn**	**14 03 52.4**	**+0.4**

QIZ				pmax	pmax				
	comp=Z,12nm,1.8s								
QIZ				LR	LR				
	comp=N,220nm,15.0s								
QIZ				LR	LR				
	comp=Z,260nm,18.4s								
CD2	**Chengdu**	**23.18**	**281**	P	**P**	**14**	**06**	**37.0**	**+0.4**
CD2				pP	pP	14	06	42.0	-6.0
CD2				sP	sP	14	06	45.3	-8.4
CD2				PP	PnPn	14	07	19.3	+16
CD2				S	Sn	14	11	06.0	+0.9
CD2				sS	sS	14	11	14.8	+10
CD2				SS	SnSn	14	12	13.5	+52
CD2				pmax	pmax				
	comp=Z,30nm,0.5s								
CD2				pmax	pmax				
	comp=Z,90nm,4.7s								
CD2				LR	LR				
	comp=N,460nm,12.5s								
CD2				LR	LR				
	comp=Z,490nm,13.1s								
LZH	**Lanzhou**	**23.41**	**294**	*e*P	P	14	06	43.0	+4.0
LZH				pP	pP	14	06	48.0	-2.6
LZH				sP	sP	14	06	50.5	-5.8
LZH				PP	PnPn	14	07	27.0	+20
LZH				*e*S	Sn	14	11	13.5	+2.5
LZH				sS	sS	14	11	22.0	+13
LZH				pmax	pmax				
	comp=Z,21nm,1.0s								
LZH				pmax	pmax				
	comp=Z,120nm,4.5s								
LZH				LR	LR				
	comp=N,96nm,12.4s								
LZH				LR	LR				
	comp=E,560nm,16.2s								
LZH				LR	LR				
	comp=Z,620nm,17.8s								
KMI	**Kunming**	**24.99**	**267**	P	**P**	**14**	**06**	**55.5**	**+1.9**
KMI				S	S	14	11	35.3	+21
KMI				pmax	pmax				
	comp=Z,9.0nm,1.5s								
KMI				LR	LR				
	comp=N,210nm,11.3s								
KMI				LR	LR				
	comp=E,360nm,9.5s								
KMI				LR	LR				
	comp=Z,400nm,11.7s								
SONM	**Songino Array**	**26.31**	**322**	P	**P**	**14**	**07**	**03.3**	**-2.0**
	comp=Z,2.2nm,0.7s,baz=137,slow=11,SNR=10								
SONM				LR	LR	14	18	31.0	
	comp=Z,230nm,21.3s,baz=322,slow=39								
SONM	**Songino Array**	**26.31**	**322**	P	**P**	**14**	**07**	**03.3**	**-2.0**
GTA	**Gaotai**	**27.19**	**300**	*e*P	**P**	**14**	**07**	**14.5**	**+1.2**
GTA				pP	pP	14	07	18.5	-7.0
GTA				sP	sP	14	07	22.0	-9.1
GTA				S	S	14	12	12.8	+24
GTA				sS	sS	14	12	20.8	+11
GTA				SS	**SS**	**14**	**13**	**51.0**	**+6.6**
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GTA				pmax	pmax				
	comp=Z,120nm,5.9s								
GTA				LR	LR				
	comp=N,290nm,15.4s								
GTA				LR	LR				
	comp=E,270nm,13.5s								
GTA				LR	LR				
	comp=Z,350nm,14.3s								
ZAK	**Zakamensk**	**29.46**	**323**	*e*P	**P**	**14**	**07**	**32.7**	**-0.7**
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**30.68**	**257**	P	**P**	**14**	**07**	**44.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=70,slow=5.4,SNR=4.6								
CMAR				PcP	**PcP**	**14**	**10**	**43.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=35,slow=4.9,SNR=3.7								
CMAR	**Chiang Mai Arr**	**30.68**	**257**	P	**P**	**14**	**07**	**44.0**	**-0.3**
CMAR				PcP	**PcP**	**14**	**10**	**43.2**	**+1.6**
PETK	**Petropavlovsk-**	**31.13**	**32**	LR	LR	14	20	27.7	
	comp=Z,63nm,21.0s,baz=316,slow=36								
YAK	**Yakutsk**	**32.84**	**359**	*i* P	**P**	**14**	**08**	**03.6**	**+0.8**
YAK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
LSA	**Lhasa**	**34.14**	**281**	*e*P	**P**	**14**	**08**	**14.5**	**-0.6**
LSA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
LSA	**Lhasa**	**34.14**	**281**	*e*P	**P**	**14**	**08**	**14.5**	**-0.6**
	comp=Z,4.9nm,0.8s								
SEY	**Seymchan**	**36.61**	**17**	*d i*P	**P**	**14**	**08**	**36.2**	**+0.8**
TAPN	**Taplejung**	**37.56**	**278**	*e*P	**P**	**14**	**08**	**44.9**	**+0.6**
	comp=Z,5.2nm,0.7s								
ODAN	**Odare**	**37.95**	**277**	*e*P	**P**	**14**	**08**	**47.3**	**-0.2**
	comp=Z,28nm,0.6s								
RAMN	**Ramite**	**38.62**	**278**	*e*P	**P**	**14**	**08**	**52.4**	**-0.7**
GUN	**Gumba**	**39.02**	**279**	*e*P	**P**	**14**	**08**	**56.8**	**+0.2**
	comp=Z,46nm,0.7s								
PKI	**Pulchoki**	**39.51**	**279**	*e*P	**P**	**14**	**09**	**00.3**	**-0.3**
	comp=Z,31nm,0.8s								
PKIN	**Phulchoki**	**39.51**	**279**	*e*P	**P**	**14**	**09**	**00.3**	**-0.3**
KKN	**Kakani**	**39.57**	**279**	*e*P	**P**	**14**	**09**	**00.9**	**-0.1**
DMN	**Daman**	**39.76**	**279**	*e*P	**P**	**14**	**09**	**02.1**	**-0.5**
	comp=Z,16nm,0.7s								
DANN	**Dangsing**	**40.75**	**281**	*e*P	**P**	**14**	**09**	**10.8**	**-0.1**
	comp=Z,41nm,0.7s								
KOLN	**Koldanda**	**41.02**	**280**	*e*P	**P**	**14**	**09**	**12.8**	**-0.2**
	comp=Z,14nm,0.8s								
MK31	**Makanchi Array**	**41.14**	**309**	*e*P	**P**	**14**	**09**	**12.0**	**-1.5**
MK31	**Makanchi Array**	**41.14**	**309**	*e*P	**P**	**14**	**09**	**12.0**	**-1.5**
MKAR	**Makanchi Array**	**41.14**	**309**	P	**P**	**14**	**09**	**13.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=94,slow=10,SNR=27								
MKAR				PcP	**PcP**	**14**	**11**	**12.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=90,slow=2.9,SNR=6.0								
MKAR	**Makanchi Array**	**41.14**	**309**	P	**P**	**14**	**09**	**13.2**	**-0.3**
MKAR						14	11	12.5	
MKAR	**Makanchi Array**	**41.14**	**309**	P	**P**	**14**	**09**	**13.2**	**-0.3**
MKAR				*e*P	pP	14	09	13.6	-13
MKAR				PcP	**PcP**	**14**	**11**	**12.5**	**+0.3**
ZAA0	**Zalesovo Array**	**41.18**	**320**	*e*P	**P**	**14**	**09**	**12.2**	**-1.5**
ZALV	**Zalesovo Beam**	**41.18**	**320**	P	**P**	**14**	**09**	**12.3**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=102,slow=8.7,SNR=11								
ZALV				PcP	**PcP**	**14**	**11**	**11.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=113,slow=3.9,SNR=3.6								
ZALV	**Zalesovo Beam**	**41.18**	**320**	P	**P**	**14**	**09**	**12.3**	**-1.4**
ZALV						14	11	11.7	
ZALV	**Zalesovo Beam**	**41.18**	**320**	P	**P**	**14**	**09**	**12.3**	**-1.4**
ZALV				PcP	**PcP**	**14**	**11**	**11.7**	**-0.4**
PYUN	**Piuthan**	**41.47**	**280**	*e*P	**P**	**14**	**09**	**16.4**	**-0.3**
	comp=Z,55nm,0.9s								
TIXI	**Tiksi**	**42.51**	**359**	*de*P	**P**	**14**	**09**	**23.9**	**-0.4**
TIXI				pmax	pmax				
	comp=Z,7.0nm,2.5s								
KURK	**Kurchatov**	**44.12**	**314**	*d i*P	**P**	**14**	**09**	**37.3**	**-0.3**
KURK				pmax	pmax				
	comp=Z,17nm,0.7s								
KURK	**Kurchatov**	**44.12**	**314**	*e*P	**P**	**14**	**09**	**37.1**	**-0.5**
	comp=Z,16nm,0.7s								
KURK	**Kurchatov**	**44.12**	**314**	P	**P**	**14**	**09**	**37.2**	**-0.3**
	comp=Z,154nm,0.6s,SNR=10								
BILL	**Bilibino**	**44.24**	**18⇑**	*e*P	**P**	**14**	**09**	**38.5**	**+0.2**
BILL				*e*		14	11	23.2	
BILL				*e*S	**S**	**14**	**16**	**04.8**	**-3.5**
BILL				pmax	pmax				
	comp=Z,12nm,2.5s								
KSH	**Kashi**	**45.55**	**298**	*e*P	P	14	09	52.5	+3.2
KSH				pP	pP	14	09	58.5	-3.6
KSH				sP	sP	14	10	02.3	-5.2
KSH				PcP	PcP	14	11	18.3	-9.1
KSH				PP	PP	14	11	47.0	+11
KSH				ScP	**ScP**	**14**	**15**	**10.0**	**-6.4**
KSH				PcS	PcS	14	15	12.3	-9.3
KSH				S	S	14	16	56.0	+28
KSH				sS	sS	14	17	07.0	+17
KSH				ScS	**ScS**	**14**	**19**	**41.8**	**-0.1**
KSH				SS	**SnSn**	**14**	**20**	**22.3**	**-1.1**
KSH				pmax	pmax				
	comp=Z,39nm,4.4s								
KSH				LR	LR				
	comp=N,120nm,5.4s								
KSH				LR	LR				
	comp=E,130nm,5.3s								
KSH				LR	LR				
	comp=Z,210nm,8.4s								
TKM2	**Tokmak 2**	**45.67**	**303**	*e*P	**P**	**14**	**09**	**50.1**	**-0.2**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**45.67**	**303**	*e*P	**P**	**14**	**09**	**50.1**	**-0.2**
	comp=Z,3.3nm,0.8s								
AAK	**Ala-Archa**	**46.49**	**302**	*de*P	**P**	**14**	**09**	**57.6**	**+0.8**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**14**	**10**	**16.4**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=354,slow=8.6,SNR=14								
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**14**	**10**	**16.4**	**+0.4**
KKAR	**Karatay Array**	**49.39**	**303**	*e*P	**P**	**14**	**10**	**18.0**	**-1.0**
KKAR	**Karatay Array**	**49.39**	**303**	*e*P	**P**	**14**	**10**	**18.0**	**-1.0**
BRVK	**Borovoye**	**49.52**	**316**	*de*P	**P**	**14**	**10**	**19.7**	**0.0**
BRVK				pmax	pmax				
	comp=Z,25nm,1.2s								
BRVK	**Borovoye**	**49.52**	**316**	*e*P	**P**	**14**	**10**	**18.9**	**-0.9**
	comp=Z,16nm,0.7s								
BRVK	**Borovoye**	**49.52**	**316**	P	**P**	**14**	**10**	**19.4**	**-0.3**
	comp=Z,160nm,0.7s,SNR=7.5								
ASAR	**Alice Springs**	**52.66**	**176**	P	**P**	**14**	**10**	**44.3**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=8.4,slow=13,SNR=17								
ASAR	**Alice Springs**	**52.66**	**176**	P	**P**	**14**	**10**	**44.3**	**+0.7**
SVE	**Sverdlovsk**	**55.18**	**321⇑**	*e*P	**P**	**14**	**11**	**01.9**	**+0.3**
SVE				*e*		14	13	13.6	
SVE				*e*PPP	PPP	14	14	22.4	
SVE				pmax	pmax				
	comp=Z,14nm,0.9s								
SVE				MLR	MLR				
	comp=Z,536nm,16.0s								
ABKAR	**Akbulak array**	**56.12**	**312**	*e*P	**P**	**14**	**11**	**06.6**	**-1.9**
ARU	**Arti**	**56.34**	**321**	*d i*P	**P**	**14**	**11**	**09.5**	**-0.4**
ARU						14	13	14.3	
ARU				S	**S**	**14**	**18**	**57.5**	**+0.7**
ARU				SS	**SS**	**14**	**22**	**43.7**	**0.0**
ARU				pmax	pmax				
	comp=Z,12nm,1.0s								
ARU	**Arti**	**56.34**	**321**	*e*P	**P**	**14**	**11**	**08.8**	**-1.2**
	comp=Z,9.7nm,0.9s								
SOKR	**Solikamsk**	**57.13**	**324⇑**	*i*P	**P**	**14**	**11**	**15.8**	**+0.4**
SOKR				pmax	pmax				
	comp=Z,20nm,1.1s								
ILAR	**Eielson Array**	**60.89**	**29**	P	**P**	**14**	**11**	**41.4**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=271,slow=5.8,SNR=19								
ILAR	**Eielson Array**	**60.89**	**29**	P	**P**	**14**	**11**	**41.4**	**-0.1**
INK	**Inuvik**	**65.38**	**24**	P	**P**	**14**	**12**	**12.1**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=314,slow=6.5,SNR=22								
INK	**Inuvik**	**65.38**	**24**	P	**P**	**14**	**12**	**12.1**	**+0.9**
ARCES	**ARCESS Array B**	**67.98**	**339**	LR	LR	14	47	00.3	
	comp=Z,131nm,19.2s,baz=200,slow=40								
ZEI	**Tsey**	**68.49**	**308**	*e*P	**P**	**14**	**12**	**30.8**	**-0.9**
ZEI				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	**68.84**	**309**	P	**P**	**14**	**12**	**34.5**	**+1.0**
	comp=Z,11nm,0.9s,baz=143,slow=2.0,SNR=17								
KBZ	**Khabaz**	**68.84**	**309**	P	**P**	**14**	**12**	**34.5**	**+1.0**
KBZ	**Khabaz**	**68.84**	**309**	P	**P**	**14**	**12**	**34.5**	**+1.0**
KIV	**Kislovodsk**	**68.90**	**309⇑**	*e*P	**P**	**14**	**12**	**35.3**	**+1.2**
KIV				*e*		14	15	08.5	
KIV				*e*S	S	14	21	27.9	-7.1
KIV				*e*SS	**SS**	**14**	**26**	**03.4**	**+3.0**
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
KAF	**Kangasniemi**	**70.87**	**331**	*e*P	**P**	**14**	**12**	**43.2**	**-2.5**
KAF				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KAF	**Kangasniemi**	**70.87**	**331**	*e*p	**P**	**14**	**12**	**43.2**	**-2.5**
	comp=Z,2.2nm,0.8s								
FINES	**FINESS Array B**	**71.27**	**331**	P	**P**	**14**	**12**	**46.7**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=70,slow=7.0,SNR=14								
FINES	**FINESS Array B**	**71.27**	**331**	P	**P**	**14**	**12**	**46.7**	**-1.4**
RES	**Resolute Bay**	**72.26**	**11**	P	**P**	**14**	**12**	**55.0**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=311,slow=6.0,SNR=23								
RES	**Resolute Bay**	**72.26**	**11**	P	**P**	**14**	**12**	**55.0**	**+1.1**
AKASG	**Malin Array Be**	**74.57**	**320**	P	**P**	**14**	**13**	**07.6**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=57,slow=6.7,SNR=9.5								
AKASG	**Malin Array Be**	**74.57**	**320**	P	**P**	**14**	**13**	**07.6**	**-0.2**
AKASG	**Malin Array Be**	**74.57**	**320**	P	**P**	**14**	**13**	**07.6**	**-0.2**
AK02	**Malin Array Si**	**74.60**	**320**	*e*P	**P**	**14**	**13**	**07.3**	**-0.8**
YKA	**Yellowknife Ar**	**75.00**	**26**	P	**P**	**14**	**13**	**10.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=305,slow=5.7,SNR=24								
YKA	**Yellowknife Ar**	**75.00**	**26**	P	**P**	**14**	**13**	**10.9**	**+0.8**
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**14**	**13**	**21.4**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=99,slow=5.0,SNR=23								
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**14**	**13**	**21.4**	**+0.5**
NB2	**NORSAR Subarra**	**77.53**	**334**	P	**P**	**14**	**13**	**23.2**	**-1.4**
	comp=Z,11nm,1.4s,baz=48,slow=5.9								
NOA	**NORSAR Array B**	**77.53**	**334**	P	**P**	**14**	**13**	**23.4**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=82,slow=10,SNR=3.1								
NOA	**NORSAR Array B**	**77.53**	**334**	P	**P**	**14**	**13**	**23.4**	**-1.2**
DPC	**Dobruska-Polom**	**81.75**	**324**	*e*P	**P**	**14**	**13**	**49.3**	**+1.6**
DPC	**Dobruska-Polom**	**81.75**	**324**	*e*P	**P**	**14**	**13**	**49.3**	**+1.6**
NEW	**Newport**	**82.04**	**39**	P	**P**	**14**	**13**	**50.0**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=236,slow=7.3,SNR=4.1								
NEW	**Newport**	**82.04**	**39**	P	**P**	**14**	**13**	**50.0**	**+0.8**
CLL	**Collm**	**82.84**	**326**	*e*P	**P**	**14**	**13**	**54.0**	**+0.7**
CLL	**Collm**	**82.84**	**326**	*e*P	**P**	**14**	**13**	**54.0**	**+0.7**
PRU	**Pruhonice**	**82.89**	**324**	*e*P	**P**	**14**	**13**	**54.9**	**+1.3**
PRU	**Pruhonice**	**82.89**	**324**	*e*P	**P**	**14**	**13**	**54.9**	**+1.3**
KHC	**Kasperske Hory**	**83.91**	**324**	*e*P	**P**	**14**	**13**	**59.9**	**+1.0**
KHC	**Kasperske Hory**	**83.91**	**324**	*e*P	**P**	**14**	**13**	**59.9**	**+1.0**
GERES	**GERESS Array B**	**84.02**	**324**	P	**P**	**14**	**13**	**59.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=304,slow=2.4,SNR=5.8								
GERES	**GERESS Array B**	**84.02**	**324**	P	**P**	**14**	**13**	**59.7**	**+0.2**
FFC	**Flin Flon**	**85.05**	**27**	*ce*P	**P**	**14**	**14**	**06.3**	**+1.8**
NVAR	**Mina Array Bea**	**87.02**	**47**	P	**P**	**14**	**14**	**16.4**	**+1.6**
	comp=Z,9.9nm,0.7s,baz=310,slow=6.1,SNR=9.5								
NVAR	**Mina Array Bea**	**87.02**	**47**	P	**P**	**14**	**14**	**16.4**	**+1.6**
PDAR	**Pinedale Array**	**89.61**	**40**	P	**P**	**14**	**14**	**28.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=32,slow=0.3,SNR=5.9								
PDAR	**Pinedale Array**	**89.61**	**40**	P	**P**	**14**	**14**	**28.2**	**+1.2**
SCHQ	**Schefferville**	**95.00**	**10**	LR	LR	15	01	27.5	
	comp=Z,92nm,20.1s,baz=49,slow=38								
TORD	**Torodi Ar. Bea**	**115.08**	**303**	PKP	PKPdf	14	20	10.1	-0.6
	comp=Z,0.4nm,0.8s,baz=36,slow=2.5,SNR=2.7								
TORD	**Torodi Ar. Bea**	**115.08**	**303**	PKP	PKPdf	14	20	10.1	-0.6

IDC ***28*** *14:11:20.9±0.6, 61.05N×138.55W, h0km, mb4.0/14, mb1 4.2/20, mb1mx4.0/33, mbtmp4.0/20, ML3.7/6, MS3.4/5, Ms1 3.4/5, ms1mx3.0/36, Error ellipse: s-maj=14.4km s-min=8.3km az=33.0*

NEIC ***28*** *14:11:21.7±0.2, 61.05N×138.48W, h5km, mb4.4/24, MW4.1(USGS), MW4.1(PGC), Error ellipse: s-maj=3.9km s-min=2.3km az=196.0*

BJI ***28*** *14:11:22.4, 61.08N×139.29W, h12km, mB5.2/10, mb4.8/10, Ms4.9/4, Ms7 4.7/4*

PGC ***28*** *14:11:23.3±6.3, 61.03N×138.22W, h5km, ML4.2/4, Mw4.1, 48km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 28 14:11:22.2±0.6, 61°02N±0°03×138°49W±0°03, h9km±3km, n272, σ1§07/286, mb4.3/37, MS3.3/5, 55C-81D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
HYT	**Haines Junctio**	**0.52**	**112**	P		**Pg**	**14**	**11**	**31.0**	**-1.3**
HYT	**Haines Junctio**	**0.52**	**112**	⇑P		**Pg**	**14**	**11**	**31.0**	**-1.3**
PNL	**Peninsula**	**1.43**	**199**	P		**Pn**	**14**	**11**	**46.7**	**-1.6**
PNL				S		**Sn**	**14**	**12**	**04.9**	**-2.3**
SAMH	**Samovar Hills**	**1.44**	**233**	P		**Pn**	**14**	**11**	**47.8**	**-0.8**
SAMH				S		**Sb**	**14**	**12**	**07.9**	**+0.2**
BARN	**Barnard Glacie**	**1.54**	**273**	P		**Pn**	**14**	**11**	**49.1**	**-1.0**
BARN				S		**Sn**	**14**	**12**	**10.2**	**0.0**
WHY	**Whitehorse**	**1.80**	**100**	P		**Pn**	**14**	**11**	**52.8**	**-0.7**
WHY				S		**Sb**	**14**	**12**	**17.1**	**-1.1**
WHY	**Whitehorse**	**1.80**	**100**	⇑Pn		**Pn**	**14**	**11**	**52.9**	**-0.7**
WHY				⇓Sg		**Sb**	**14**	**12**	**17.7**	**-0.4**
BAGL	**Bagley Icefiel**	**1.85**	**255**	P		**Pn**	**14**	**11**	**53.3**	**-0.7**
BAGL				S		**Sg**	**14**	**12**	**20.1**	**-1.4**
BALM	**Baldy**	**1.88**	**272**	P		**Pn**	**14**	**11**	**54.6**	**+0.1**
KIAG	**Kiagna River**	**1.89**	**269**	P		**Pn**	**14**	**11**	**54.5**	**-0.2**
MESA	**MESA**	**1.90**	**245**	P		**Pb**	**14**	**11**	**55.7**	**-1.5**
ISLE	**Juniper Island**	**1.93**	**259**	P		**Pn**	**14**	**11**	**54.7**	**-0.6**
BARK	**Barkley Ridge**	**2.06**	**254**	P		**Pn**	**14**	**11**	**57.8**	**+0.7**
SKAG	**Skagway**	**2.22**	**133**	P		**Pn**	**14**	**11**	**57.9**	**-1.3**
SKAG				S		**Sn**	**14**	**12**	**26.9**	**+0.3**
KULT	**Kultieth River**	**2.23**	**251**	P		**Pn**	**14**	**11**	**59.8**	**+0.5**
KHIT	**Khitrov Hills**	**2.41**	**258**	P		**Pn**	**14**	**12**	**02.4**	**+0.6**
KHIT				S		**Sn**	**14**	**12**	**33.3**	**+1.8**
VRDI	**Verde Repeater**	**2.42**	**277**	P		**Pn**	**14**	**12**	**03.3**	**+1.3**
GRIN	**Grindle Hills**	**2.49**	**255**	P		**Pn**	**14**	**12**	**03.6**	**+0.7**
BERG	**Berg Lake**	**2.64**	**258**	P		**Pn**	**14**	**12**	**05.5**	**+0.6**
NICHA	**Nichawak Mount**	**2.81**	**256**	P		**Pn**	**14**	**12**	**07.9**	**+0.6**
BMRM	**Bremner River**	**2.98**	**272**	P		**Pn**	**14**	**12**	**10.2**	**+0.6**
DAWY	**Dawson**	**3.08**	**353**	P		**Pn**	**14**	**12**	**11.8**	**+0.8**
DAWY	**Dawson**	**3.08**	**353**	⇓Pn		**Pn**	**14**	**12**	**11.9**	**+0.8**
DAWY				⇑Pg		**Pg**	**14**	**12**	**19.5**	**-1.7**
DAWY				⇑Sg		**Sg**	**14**	**13**	**00.4**	**-0.7**
GOAT	**Goat Mountain**	**3.09**	**264**	P		**Pn**	**14**	**12**	**11.4**	**+0.3**
MENT	**Mentasta**	**3.13**	**310**	*e*Pn		**Pn**	**14**	**12**	**10.2**	**-1.4**
MENT				*e*Sg		**Sg**	**14**	**13**	**02.2**	**-0.3**
HARP	**HAARP**	**3.46**	**297**	P		**Pn**	**14**	**12**	**17.7**	**+1.5**
DIV	**Divide**	**3.54**	**275**	P		**Pn**	**14**	**12**	**17.4**	**0.0**
EYAK	**Cordova Ski Ar**	**3.59**	**266**	P		**Pn**	**14**	**12**	**18.2**	**+0.3**
DOT	**Dot Lake**	**3.70**	**318**	P		**Pn**	**14**	**12**	**19.2**	**-0.3**
VLZ	**Valdez**	**3.81**	**275**	P		**Pn**	**14**	**12**	**21.1**	**+0.2**
PAX	**Paxson**	**3.83**	**304**	*e*Pn		**Pn**	**14**	**12**	**20.5**	**-0.8**
EGAK	**Eagle**	**3.96**	**343**	*e*Pn		**Pn**	**14**	**12**	**23.7**	**+0.6**
EGAK				*e*Pg		**Pg**	**14**	**12**	**35.7**	**-2.8**
EGAK				*e*Sg		**Sg**	**14**	**13**	**27.1**	**-2.2**
DHY	**Denali Highway**	**4.66**	**300**	P		**Pn**	**14**	**12**	**33.6**	**+0.8**
SML	**Sawmill**	**4.79**	**284**	*e*Pn		**Pn**	**14**	**12**	**34.6**	**+0.1**
DLBC	**Dease Lake**	**5.00**	**117**	Pn		**Pn**	**14**	**12**	**36.8**	**-0.7**
	0.9nm,0.3s,baz=322,slow=11,SNR=11									
DLBC				Lg		Lg	14	13	57.2	
	29nm,0.3s,baz=211,slow=23,SNR=7.3									
DLBC	**Dease Lake**	**5.00**	**117**	Pn		**Pn**	**14**	**12**	**36.8**	**-0.7**
	34nm,0.6s									
DLBC				Lg		Lg	14	13	57.2	
DLBC	**Dease Lake**	**5.00**	**117**	⇓Pn		**Pn**	**14**	**12**	**36.3**	**-1.2**
DLBC				⇓Sg		**Sb**	**14**	**13**	**55.2**	**+5.1**
PMR	**Palmer**	**5.16**	**281**	*e*Pn		**Pn**	**14**	**12**	**40.4**	**+0.9**
	37nm,0.6s									
ILAR	**Eielson Array**	**5.37**	**318**	Pn		**Pn**	**14**	**12**	**41.0**	**-1.4**
	0.6nm,0.3s,baz=141,slow=13,SNR=40									
ILAR				Lg		Lg	14	14	12.7	
	32nm,0.3s,baz=123,slow=28,SNR=15									
ILAR	**Eielson Array**	**5.37**	**318**	Pn		**Pn**	**14**	**12**	**41.0**	**-1.4**
ILAR				Lg		Lg	14	14	12.7	
WRAK	**Wrangell Islan**	**5.62**	**143**	*e*Pn		**Pn**	**14**	**12**	**44.0**	**-1.7**
	32nm,0.4s									
COLA	**College**	**5.76**	**316**	*e*Pn		**Pn**	**14**	**12**	**46.3**	**-1.4**
	26nm,0.6s									
TRF	**Thorofare Moun**	**6.03**	**299**	*e*Pn		**Pn**	**14**	**12**	**52.6**	**+1.1**
	66nm,0.9s									
CRAG	**Craig**	**6.25**	**151**	*e*Pn		Pn	14	12	51.2	-3.2
INK	**Inuvik**	**7.62**	**14**	Pn		**Pn**	**14**	**13**	**13.0**	**-0.1**
	1.1nm,0.3s,baz=193,slow=12,SNR=42									
INK				Lg		Lg	14	15	21.2	
	4.1nm,0.3s,baz=331,slow=11,SNR=6.6									
INK				LR		LR	14	16	51.2	
	comp=Z,172nm,18.7s,baz=214,slow=44									
INK	**Inuvik**	**7.62**	**14**	Pn		**Pn**	**14**	**13**	**13.0**	**-0.1**
INK				Lg		Lg	14	15	21.2	
KDAK	**Kodiak Island**	**7.89**	**252**	Pn		**Pn**	**14**	**13**	**16.0**	**-0.9**
	3.6nm,0.3s,baz=40,slow=10,SNR=21									
KDAK	**Kodiak Island**	**7.89**	**252**	*e*Pn		**Pn**	**14**	**13**	**16.1**	**-0.7**
RUBB	**Prince Rupert**	**8.03**	**143**	Pn		**Pn**	**14**	**13**	**18.5**	**-0.3**
RUBB	**Prince Rupert**	**8.03**	**143**	⇑Pn		**Pn**	**14**	**13**	**18.5

baz=21,SNR=8.1
E16A East Helena 21.26 121 ⇓P P 14 16 09.4 +0.8
baz=21,SNR=26
B20A Solberg Farm, 21.39 112 ⇓P P 14 16 10.5 +0.6
baz=21
G13A Cobalt 21.41 127 ⇑P P 14 16 11.3 +1.1
baz=21
C19A Slack Wire Ran 21.46 115 ⇓P P 14 16 11.3 +0.6
baz=21,SNR=9.1
F15A Butte 21.48 123 ⇓P P 14 16 11.8 +0.8
baz=21,SNR=11
A21A Bergtoll Ranch 21.49 110 ⇓P P 14 16 11.7 +0.8
baz=21
LRM Limekiln Ridge 21.52 123 eP P 14 16 12.3 +0.8
D18A Linhart Farms, 21.54 117 ⇑P P 14 16 12.1 +0.5
baz=21
YBH Yreka Blue Hor 21.57 146 LR LR 14 23 07.4
comp=Z,128nm,19.9s,baz=352,slow=33
G14A Jackson 21.59 126 ⇑P P 14 16 13.0 +0.8
baz=21,SNR=9.0
H12A Diamond D Ranc 21.63 129 ⇑P P 14 16 13.2 +0.6
baz=22
E17A Martinsdale 21.66 120 ⇓P P 14 16 13.6 +0.6
baz=22,SNR=9.1
DLMT Dillon 21.83 124 eP P 14 16 15.6 +0.8
H13A Challis 21.84 128 ⇑P P 14 16 15.7 +0.9
baz=22,SNR=17
F16A Kennard Place, 21.89 122 ⇑P P 14 16 15.0 -0.3
baz=22
C20A Veseth Ranch, 21.94 114 ⇓P P 14 16 15.4 -0.4
baz=22
A22A Carney Farms, 21.95 108 ⇓P P 14 16 15.9 0.0
baz=22
D19A Cripps Ranch, 21.97 116 ⇑P P 14 16 16.2 +0.1
baz=22,SNR=5.4
E18A Harlowton 21.98 118 ⇓P P 14 16 16.1 -0.2
baz=22
BOZ Bozeman (W) 21.99 122 eP P 14 16 16.8 +0.3
7.2nm,1.0s
BOZ Bozeman (W) 21.99 122 P P 14 16 17.5 +1.0
baz=22,SNR=9.9
G15A Dillon 22.04 124 ⇓P P 14 16 16.8 -0.2
baz=22
H14A Leadore 22.14 126 ⇑P P 14 16 17.8 -0.4
baz=22
I12A Atlanta 22.17 130 ⇑P P 14 16 18.3 -0.1
baz=22
MCMT McKenzie Canyo 22.17 125 eP P 14 16 19.0 +0.5
6.5nm,1.0s
F17A Fitzpatrick Pl 22.19 120 ⇓P P 14 16 18.9 +0.3
baz=22,SNR=12
MFID Camas Ranch 22.24 132 eP P 14 16 20.9 +1.9
MFID Camas Ranch 22.24 132 ⇑P P 14 16 19.5 +0.4
baz=22
G16A Moss Hill, Enn 22.26 123 ⇓P P 14 16 19.7 +0.3
baz=22,SNR=9.9
C21A Desert Coulee 22.26 112 ⇓P P 14 16 19.1 -0.2
baz=22
D20A Manuel Ranch, 22.35 115 ⇑P P 14 16 21.1 +0.9
baz=22,SNR=12
H15A Lima 22.43 125 ⇓P P 14 16 21.3 +0.1
baz=22
I13A Wildhorse Cree 22.45 129 ⇑P P 14 16 22.2 +0.8
baz=22,SNR=6.7
E19A Rath Farm, Rou 22.55 117 ⇑P P 14 16 22.8 +0.4
baz=22
F18A Big Timber 22.59 119 ⇓P P 14 16 23.1 +0.3
baz=22
G17A Pierce Place, 22.63 121 ⇓P P 14 16 23.5 +0.3
baz=22
HLID Hailey 22.63 130 eP P 14 16 24.3 +0.9
5.7nm,1.0s
HLID Hailey 22.63 130 ⇑P P 14 16 23.7 +0.4
baz=22,SNR=8.5
I14A Mackay 22.69 128 ⇑P P 14 16 24.5 +0.5
baz=22
QLMT Earthquake Lak 22.74 123 eP P 14 16 25.6 +1.0
B23A Brockton 22.76 108 ⇓P P 14 16 24.9 +0.4
baz=23
E20A Meyer Farm, Mu 22.81 116 ⇓P P 14 16 25.5 +0.5
baz=23
J13A Cove Ranch, Pi 22.86 129 ⇑P P 14 16 26.2 +0.4
baz=23
A24A Westby 22.89 106 ⇑P P 14 16 25.6 -0.3
baz=23
H16A Russell Place, 22.92 123 ⇓P P 14 16 26.8 +0.4
baz=23
F19A Roth Farm, Mol 22.96 118 ⇓P P 14 16 27.0 +0.3
baz=23
G18A Lazy EL Ranch, 23.12 120 ⇑P P 14 16 29.0 +0.5
baz=23
C23A Lambert 23.15 110 ⇑P P 14 16 29.0 +0.5
baz=23
J14A Carey 23.18 128 ⇓P P 14 16 29.8 +0.8
baz=23,SNR=5.2
D22A Cohagen 23.18 112 ⇓P P 14 16 29.4 +0.5
baz=23
RLMT Red Lodge 23.40 120 eP P 14 16 32.6 +1.3
13nm,1.1s
RLMT Red Lodge 23.40 120 ⇑P P 14 16 32.1 +0.7
baz=23,SNR=9.5
I16A Newdale 23.51 125 ⇑P P 14 16 33.3 +1.0
baz=23,SNR=6.1
H18A Shoshone NF, C 23.60 121 ⇓P P 14 16 34.5 +1.2
baz=23
IMW Indian Meadow 23.71 124 eP P 14 16 34.1 -0.4
17nm,0.9s
I17A Pilgrim Ck. 23.84 123 ⇓P P 14 16 37.5 +1.9
baz=24,SNR=19
DCID1 Drake Creek 23.86 125 eP P 14 16 36.7 +0.9
22nm,0.8s
H19A Powell 23.89 120 ⇓P P 14 16 37.2 +1.2
baz=24
MOOW Moose Ponds 23.91 124 eP P 14 16 37.5 +1.1
7.0nm,1.0s
TPAW Teton Pass 24.04 124 eP P 14 16 40.2 +2.6
6.9nm,0.9s
LOHW Long Hollow 24.08 124 eP P 14 16 38.0 +0.1
4.8nm,1.0s
I18A Diamond G Ranc 24.33 122 ⇑P P 14 16 41.3 +1.1
baz=24
L14A Malta 24.39 130 ⇑P P 14 16 41.9 +1.3
baz=24
I19A Meeteetse 24.40 121 ⇓P P 14 16 40.9 +0.1
baz=24,SNR=7.5
H20A Greybull 24.45 119 ⇑P P 14 16 42.2 +1.0
baz=24
J18A Kendall Valley 24.65 123 ⇓P P 14 16 43.3 +0.1
baz=24
I20A Worland 24.83 120 ⇓P P 14 16 45.1 +0.5
baz=25
BW06 Boulder Array 25.21 123 eP P 14 16 49.0 +0.8
11nm,1.0s
BW06 Boulder Array 25.21 123 ⇓P P 14 16 48.6 +0.4
baz=25,SNR=9.9
PDAR Pinedale Array 25.21 123 P P 14 16 49.1 +1.0
5.3nm,1.0s,baz=319,slow=6.2,SNR=15
PDAR Pinedale Array 25.21 123 P P 14 16 49.1 +1.0
I21A Big Trails, Te 25.30 119 ⇓P P 14 16 49.0 +0.2
baz=25
J20A Shoshoni 25.34 120 ⇓P P 14 16 49.2 0.0
baz=25
K19A Absolon Red Bu 25.45 122 ⇓P P 14 16 51.0 +0.7
baz=25
H24A Dirks Ranch, A 25.75 114 ⇓P P 14 16 52.7 -0.2
baz=26
K20A Yellowstone Ra 25.80 122 ⇓P P 14 16 54.2 +0.7
baz=26,SNR=8.1
L19A Farson 25.85 124 ⇑P P 14 16 53.8 -0.1
baz=26
ULM Lac du Bonnet 25.88 95 P P 14 16 56.0 +2.1
1.0nm,0.4s,baz=45,slow=1.4,SNR=2.8
ULM Lac du Bonnet 25.88 95 P P 14 16 56.0 +2.1
NVAR Mina Array Bea 25.89 142 P P 14 16 55.7 +1.3
2.4nm,0.8s,baz=329,slow=8.6,SNR=14
NVAR LR LR 14 27 44.5
comp=Z,88nm,19.8s,baz=105,slow=38
NVAR Mina Array Bea 25.89 142 P P 14 16 55.7 +1.3
NV11 Mina Array Sit 25.94 141 eP P 14 16 54.9 +0.2
J22A Midwest 25.97 118 ⇓P P 14 16 54.6 -0.3
baz=26
DUG Dugway 26.15 131 eP P 14 16 59.6 +3.0
29nm,2.5s
K21A Alcova 26.27 120 ⇓P P 14 16 57.9 +0.1
baz=26
L20A Wamsutter 26.34 122 ⇓P P 14 16 58.5 +0.1
baz=26
K22A Casper 26.57 119 ⇓P P 14 17 00.9 +0.5
baz=26
L21A Rawlins 26.78 121 ⇓P P 14 17 02.8 +0.4
baz=27
R11A Troy Canyon, C 26.83 137 ⇑P P 14 17 03.4 +0.6
baz=27
M21A Separation Pea 27.08 122 ⇓P P 14 17 05.3 +0.3
baz=27
N20A Spence Gulch, 27.36 124 ⇓P P 14 17 08.0 +0.5
baz=27,SNR=9.4
M22A Cedar Creek Ra 27.57 121 ⇑P P 14 17 09.0 -0.5
baz=27
P18A Preston Nutter 27.61 128 ⇑P P 14 17 10.9 +1.0
baz=27
N21A Black Mountain 27.72 123 ⇑P P 14 17 12.2 +1.3
baz=28,SNR=7.1
P19A Cripple Cowboy 28.09 126 ⇓P P 14 17 14.2 0.0
baz=28
W21A San Fidel 32.55 129 ⇓P P 14 17 54.1 +0.5
baz=32
U25A Circle Dot Ran 32.71 123 ⇓P P 14 17 55.5 +0.6
baz=32
V24A Rampart Ranch, 32.94 125 ⇑P P 14 17 57.5 +0.5
baz=33
X21A Alamocita Cree 33.09 129 ⇑P P 14 17 59.2 +0.9
baz=33
PETK Petropavlovsk- 34.27 286 P P 14 18 07.3 -0.8
2.1nm,0.5s,baz=74,slow=11,SNR=9.1
PETK Petropavlovsk- 34.27 286 P P 14 18 07.3 -0.8
Z24A Sheeppen Canyo 35.01 127 ⇑P P 14 18 15.5 +0.6
baz=35
220A Playas Peak, P 35.10 132 ⇓P P 14 18 16.7 +1.1
baz=35
319A Douglas 35.31 134 ⇓P P 14 18 18.1 +0.7
baz=35
124A Stringfield Ra 35.53 128 ⇓P P 14 18 19.9 +0.5
baz=35
Z26A Caprock 35.60 125 ⇑P P 14 18 20.6 +0.7
baz=35
125A Gardner Draw, 35.88 127 ⇓P P 14 18 22.1 -0.2
baz=36
225A Deer Hill, Car 36.30 127 ⇑P P 14 18 26.5 +0.5
baz=36
GDL2 Guadalupe Moun 36.40 127 eP P 14 18 25.9 -0.8
6.7nm,1.2s
MNTX Cornudas Mount 36.45 128 ⇓P P 14 18 27.8 +0.8
baz=36
425A Indio Mountain 37.41 129 ⇓P P 14 18 36.9 +1.5
baz=37
426A McDonald Obser 37.88 127 ⇓P P 14 18 40.5 +1.0
baz=38
329A Wagon Wheel Ra 37.97 124 ⇑P P 14 18 40.9 +0.8
baz=38
231A Bronte 38.26 122 ⇓P P 14 18 43.4 +0.9
baz=38
526A Mary Lane Ranc 38.40 128 ⇑P P 14 18 45.2 +1.4
baz=38
527A Woodward Ranch 38.51 127 ⇑P P 14 18 46.0 +1.2
baz=38
528A Cox Ranch, San 38.82 126 ⇓P P 14 18 48.3 +1.0
baz=39
626A Big Bend Ranch 38.84 128 ⇓P P 14 18 48.1 +0.7
baz=39
430A Baggett Ranch, 38.88 124 ⇑P P 14 18 47.9 +0.1
baz=39
TXAR Lajitas Array 39.22 128 P P 14 18 52.2 +1.6
0.8nm,0.7s,baz=324,slow=6.1,SNR=9.8
TXAR LR LR 14 36 27.6
comp=Z,53nm,20.5s,baz=180,slow=38
TXAR Lajitas Array 39.22 128 P P 14 18 52.2 +1.6
627A Terlingua Ranc 39.22 128 ⇓P P 14 18 51.1 +0.5
baz=39
628A Black Gap, Mar 39.38 127 ⇓P P 14 18 52.9 +1.0
baz=39
532A Rocksprings 40.01 123 ⇓P P 14 18 57.6 +0.5
baz=40
631A Perdido Creek 40.36 124 ⇑P P 14 19 00.2 +0.2
baz=40
KMSC Kings Mountain 44.20 99 ⇓P P 14 19 30.8 -0.4
baz=44
ARCES ARCESS Array B 49.23 7 P P 14 20 09.9 -0.2
2.0nm,0.7s,baz=342,slow=7.6,SNR=5.3
ARCES ARCESS Array B 49.23 7 P P 14 20 09.9 -0.2
MDJ Mudanjiang 53.15 297 P P 14 20 39.8 -0.1
MDJ PcP PcP 14 21 48.5 +0.6
MDJ S S 14 28 08.8 -1.4
MDJ pmax pmax
comp=Z,170nm,4.2s
HIA Hailar 53.49 307 P P 14 20 37.8 -4.6
comp=Z,8.4nm,1.1s
NOA NORSAR Array B 56.06 17 P P 14 20 59.7 -1.1
comp=Z,0.9nm,0.8s,baz=6.3,slow=8.1,SNR=3.4
NOA NORSAR Array B 56.06 17 P P 14 20 59.7 -1.1
NAO01 NORSAR Array S 56.20 17 P P 14 21 02.5 +0.7
comp=Z,7.7nm,0.9s
FINES FINESS Array B 57.29 9 P P 14 21 09.4 0.0
comp=Z,3.5nm,0.7s,baz=332,slow=6.5,SNR=5.5
FINES FINESS Array B 57.29 9 P P 14 21 09.4 0.0
ULN Ulaanbaatar 59.34 315 P P 14 21 24.9 +0.7
comp=Z,0.8nm,0.7s
KSRS Korea Array 59.69 293 P P 14 21 26.9 +0.3
comp=Z,1.2nm,0.6s,baz=31,slow=6.9,SNR=8.9
KSAR Wonju Array Be 59.72 293 P P 14 21 26.9 +0.1
HHC Hu-ho-hao-te 63.70 307 eP P 14 21 53.8 +0.1
HHC PP PP 14 24 14.8 +1.5
HHC S S 14 30 26.5 -1.5
HHC SKS SKKSac 14 31 44.5 -2.6
HHC SS SS 14 34 34.5 -0.2
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.1s
HHC LR LR
comp=N,300nm,17.7s
HHC LR LR
comp=E,250nm,16.4s
HHC LR LR
comp=Z,150nm,15.9s
MKAR Makanchi Array 67.59 331 P P 14 22 17.4 -1.2
comp=Z,0.1nm,0.5s,baz=35,slow=3.5,SNR=2.7
MKAR Makanchi Array 67.59 331 P P 14 22 17.4 -1.2
AKASG Malin Array Be 68.19 8 P P 14 22 21.0 -1.3
comp=Z,0.3nm,0.3s,baz=318,slow=15,SNR=4.0
AKASG Malin Array Be 68.19 8 P P 14 22 21.0 -1.3
WMQ Urumqi 68.98 326 eP P 14 22 29.5 +2.0
ABKAR Akbulak array 69.08 347 eP P 14 22 26.8 -1.0
comp=Z,1.7nm,0.9s
LZH Lanzhou 70.79 311 eP P 14 22 40.0 +1.2
LZH pP pP 14 22 44.0 +2.1
LZH sP sP 14 22 46.5 +3.5
LZH pmax pmax
comp=Z,16nm,1.3s
ESDC Sonseca Array 73.03 35 P P 14 22 53.0 +0.9
comp=Z,2.2nm,0.8s,baz=329,slow=6.0,SNR=9.7
ESDC Sonseca Array 73.03 35 P P 14 22 53.0 +0.9
AAK Ala-Archa 73.26 335 P P 14 22 54.0 +0.5
comp=Z,6.3nm,0.9s
EKS2 Erkin-Say 73.38 336 P P 14 22 54.5 +0.3
comp=Z,1.6nm,0.7s
CD2 Chengdu 75.43 308 P P 14 23 07.3 +1.1
CD2 pP pP 14 23 12.0 +2.7
CD2 sP sP 14 23 14.3 +3.9
CD2 PcP PcP 14 23 21.0 +1.7
CD2 PP PP 14 25 57.8 +3.2
CD2 S S 14 32 45.3 -0.8
CD2 sS sS 14 32 52.0 +0.8
CD2 SS SS 14 37 36.5 +1.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.1s
CD2 LR LR
comp=N,240nm,5.3s
CD2 LR LR
comp=Z,210nm,5.4s
KSH Kashi 75.94 333 eP P 14 23 13.8 +4.7
KSH pP PcP 14 23 25.3 +3.8
KSH PP PP 14 26 05.3 +6.7
KSH S S 14 32 56.0 +4.3
KSH SKS SKKSac 14 33 20.5 +0.5
KSH ScS ScS 14 33 25.5 +2.0
KSH SS SS 14 37 51.5 +8.7
KSH pmax pmax
comp=Z,170nm,4.4s
KSH LR LR
comp=N,46nm,4.9s
KSH LR LR
comp=E,48nm,5.1s
KSH LR LR
comp=Z,160nm,5.3s
GYA Guiyang 78.25 304 eP P 14 23 23.0 +0.8
GYA pmax pmax
comp=Z,10.0nm,0.8s
CM31 Chiang Mai Arr 88.51 307 P P 14 24 14.3 -0.7
comp=Z,2.8nm,0.6s
CMAR Chiang Mai Arr 88.51 307 P P 14 24 15.2 +0.3
comp=Z,4.3nm,0.8s,baz=359,slow=5.4,SNR=32
CMAR Chiang Mai Arr 88.51 307 P P 14 24 15.2 +0.3
SAML Samuel 90.74 107 eP P 14 24 24.7 -0.6
comp=Z,9.1nm,1.4s
QSPA South Pole Qui 150.84 180 ePKPbc PKPbc 14 31 12.4 -0.9

IDC 28 14:28:53.7±2.1, 9°51.1'N×93°23.3'E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, Error ellipse: s-maj=74.2km s-min=21.9km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	10.48	31	Pn	Pn	14 31 25.8	+0.4
	baz=214,slow=15,SNR=7.4						
MKAR	Makanchi Array	38.31	348	P	P	14 36 16.4	+0.2
	0.5nm,0.8s,baz=157,slow=8.9,SNR=5.3						
SONM	Songino Array	39.79	14	P	P	14 36 28.1	-0.5
	0.2nm,0.6s,baz=201,slow=7.6,SNR=3.5						
ZALV	Zalesovo Beam	44.83	353	P	P	14 37 09.1	-0.3
	0.4nm,0.4s,baz=188,slow=8.7,SNR=2.8						
WRA	Warramunga Arr	49.95	126	P	P	14 37 49.8	0.0
	0.8nm,0.6s,baz=306,slow=8.7,SNR=9.2						
ASAR	Alice Springs	51.66	130	P	P	14 38 02.5	-0.2
	0.4nm,0.9s,baz=302,slow=7.1,SNR=5.0						

IDC 28 14:38:00.7±1.8, 1°95.5'S×126°52.5'E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/16, Error ellipse: s-maj=163.8km s-min=24.3km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.45	157	P	Pn	14 42 29.7	-0.5
	0.1nm,0.3s,baz=336,slow=10,SNR=15						
ASAR	Alice Springs	22.74	162	P	P	14 43 04.1	-0.6
	0.1nm,0.3s,baz=345,slow=12,SNR=6.2						
USRK	Ussuriysk Arra	46.21	5	LR	LR	15 05 19.4	
	comp=Z,36nm,20.1s,baz=67,slow=36						
MKAR	Makanchi Array	62.13	327	P	P	14 48 23.8	0.0
	0.9nm,0.4s,baz=121,slow=7.7,SNR=41						

*ISK **28** 14:59:58.9, 40°.89N×30°.39E, h8km, MD2.7*
*ISCJB **28** 14:59:59.2±0.7, 40°.91N±0°.05×30°.38E±0°.05, h4km±7km, Error ellipse: s-maj=8.7km s-min=4.8km az=26.9*
*CSEM **28** 14:59:59.4±0.2, 40°.90N×30°.40E, h10km, MD2.7, Error ellipse: s-maj=5.1km s-min=2.6km az=27.0*
*DDA **28** 15:00:00.1, 40°.87N×30°.38E, h7km, MD2.8*

ISC 28 14:59:59.5±1.1, 40°.90N±0°.04×30°.39E±0°.03, h13km±8km, n26, σ0°33/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPNC	Sapanca-Adapaz	0.22	197	ePG	Pg	15 00 03.6	-0.6
SPNC	Sapanca-Adapaz	0.22	197	ePg	Pg	15 00 03.6	-0.6
HENT	Hendek	0.39	101	iP	Pg	15 00 06.9	-0.4
HENT				iS	Sb	15 00 14.3	0.0
HENT	Hendek	0.39	101	iP	Pg	15 00 06.9	-0.4
HENT				iS	Sb	15 00 14.3	0.0
GULT	Gulveren	0.47	169	ePG	Pg	15 00 08.6	-0.2
GULT				eSG	Sg	15 00 15.6	+0.5
GULT	Gulveren	0.47	169	ePg	Pg	15 00 08.6	-0.2
GULT				eSg	Sg	15 00 15.6	+0.5
HRT	Hereke	0.56	263	ePG	Pg	15 00 10.2	-0.1
HRT				eSG	Sg	15 00 18.3	+0.6
HRT	Hereke	0.56	263	ePg	Pg	15 00 10.2	-0.1
HRT				eSg	Sg	15 00 18.3	+0.6
SILT	Sile	0.62	295	ePG	Pg	15 00 11.5	-0.1
SILT	Sile	0.62	295	ePg	Pg	15 00 11.5	-0.1
MDUB	Mudurnu	0.74	125	ePG	Pg	15 00 13.7	-0.2
MDUB	Mudurnu	0.74	125	ePg	Pg	15 00 13.7	-0.2
BUY	Buyukada	0.97	268	iP	Pb	15 00 18.4	+0.3
BUY				iS	Sn	15 00 32.1	-0.3
BUY	Buyukada	0.97	268	iP	Pb	15 00 18.4	+0.3
BUY				iS	Sn	15 00 32.1	-0.3
BORA	Eskisehir	1.02	177	iP	Pb	15 00 19.3	+0.3
BORA				iS	Sn	15 00 33.4	-0.4
BORA	Eskisehir	1.02	177	iP	Pb	15 00 19.3	+0.3
BORA				iS	Sn	15 00 33.4	-0.4
ISK	Istanbul-Kandi	1.02	280	ePG	Pg	15 00 18.8	-0.4
ISK	Istanbul-Kandi	1.02	280	ePg	Pg	15 00 18.8	-0.4
ARMT	Armutlu	1.21	255	ePN	Pb	15 00 22.0	-0.2
ARMT	Armutlu	1.21	255	ePn	Pb	15 00 22.0	-0.2
CTKS	Kestanelik-??a	1.47	284	ePN	Pb	15 00 26.6	0.0
CTKS	Kestanelik-??a	1.47	284	ePn	Pb	15 00 26.6	0.0
TVSB	Tavsanli	1.61	207	ePN	Pn	15 00 27.8	+0.1
TVSB	Tavsanli	1.61	207	ePn	Pn	15 00 27.8	+0.1
CTYL	Yal??k??y-??at	1.69	291	ePN	Pn	15 00 28.7	0.0
CTYL	Yal??k??y-??at	1.69	291	ePn	Pn	15 00 28.7	0.0

*ISCJB **28** 15:10:37.4±1.0, 39°.44N±0°.05×26°.47E±0°.07, h8km±7km, Error ellipse: s-maj=11.3km s-min=5.0km az=140.5*
*ISK **28** 15:10:37.4, 39°.46N×26°.52E, h1km, MD2.6*
*DDA **28** 15:10:37.3, 39°.48N×26°.52E, h8km, MD2.8*
*CSEM **28** 15:10:37.0±0.4, 39°.41N×26°.46E, h11km±1km, MD2.6, Error ellipse: s-maj=7.8km s-min=4.3km az=51.0*

ISC 28 15:10:37.6±1.2, 39°.45N±0°.06×26°.51E±0°.06, h15km±9km, n19, σ0°36/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	Ayvalik	0.20	136	iP	Pg	15 10 42.1	-0.1
AYVA				iS	Sg	15 10 45.3	0.0
AYVA	Ayvalik	0.20	136	iP	Pg	15 10 42.1	-0.1
AYVA				iS	Sg	15 10 45.3	0.0
EZN	Ezine	0.40	339	ePG	Pg	15 10 45.5	-0.2
EZN				eSG	Sg	15 10 51.6	+0.4
EZN	Ezine	0.40	339	ePg	Pg	15 10 45.5	-0.2
EZN				eSg	Sg	15 10 51.7	+0.4
BOZC	Bozcaada	0.53	318	iP	Pg	15 10 48.0	-0.1
BOZC				iS	Sg	15 10 54.4	-0.7
BALY	Balya	0.90	71	iP	Pn	15 10 56.4	+0.6
BALY				iS	Sn	15 11 08.2	-0.5
BALY	Balya	0.90	71	iP	Pn	15 10 56.4	+0.6
BALY				iS	Sn	15 11 08.2	-0.5
LPK	Lapseki	0.94	12	ePG	Pb	15 10 55.6	-0.1
LPK				eSG	Sn	15 11 08.9	-0.6
LPK	Lapseki	0.94	12	ePg	Pb	15 10 55.6	-0.1
LPK				eSg	Sn	15 11 08.9	-0.6
GELI	Tayfur-Gelibol	0.95	358	ePG	Pg	15 10 55.9	0.0
GELI				eSG	Sn	15 11 09.9	+0.2
GELI	Tayfur-Gelibol	0.95	358	ePg	Pg	15 10 55.9	0.0
GELI				eSg	Sn	15 11 09.9	+0.2
GONE	Gonen-Balikesi	1.08	56	ePG	Pg	15 10 58.5	0.0
GONE	Gonen-Balikesi	1.08	56	ePg	Pg	15 10 58.5	0.0
KRBG	Karabiga-Canak	1.12	32	ePN	Pn	15 10 59.0	+0.2
KRBG	Karabiga-Canak	1.12	32	ePn	Pn	15 10 59.0	+0.2
ENEZ	Enez	1.31	348	ePN	Pb	15 11 02.1	+0.1
ENEZ	Enez	1.31	348	ePn	Pb	15 11 02.1	+0.1
RKY	Sarkoy-Tekirda	1.34	22	ePN	Pb	15 11 02.2	-0.2
RKY	Sarkoy-Tekirda	1.34	22	ePn	Pb	15 11 02.2	-0.2

IDC 28 15:15:31.1±4.0, 5°50.5'S×147°75.5'E, h165km±44km, mb3.2/3, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=75.5km s-min=34.3km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.92	189	P	Pn	15 16 32.7	+2.0
	14nm,0.3s,baz=336,slow=6.1,SNR=78						
PMG				S	Sn	15 17 17.2	-0.2
	12nm,0.3s,baz=246,slow=21,SNR=16						
WRA	Warramunga Arr	19.39	221	P	P	15 19 44.7	+0.1
	0.8nm,0.3s,baz=48,slow=12,SNR=36						
ASAR	Alice Springs	22.45	215	P	P	15 20 17.1	+0.5
	2.1nm,0.7s,baz=49,slow=8.7,SNR=43						
FITZ	Fitzroy Crossi	24.96	238	P	P	15 20 39.4	-0.1
	0.9nm,0.5s,baz=63,slow=9.6,SNR=6.9						

MKAR	**Makanchi Array**	**77.59**	**320**	P	P	15 27 08.7	-0.3
	0.2nm,0.4s,baz=108,slow=7.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.68**	**285**	PKPbc	PKPdf	15 34 50.3	-0.6
	0.3nm,0.4s,baz=66,slow=3.2,SNR=4.0						

NIED ***28*** *15:20:00,45.70N×143.30E,h320km,Mw3.9 Best double couple: M0 7.06000×10^14 NP1:φ=220.00000°, δ=72.00000°, λ=117.00000°. NP2:φ=342.00000°, δ=32.00000°, λ=36.00000°.*
ISCJB ***28*** *15:20:48.6±0.3,45.78N±0.03×143.32E±0.08, h332km±3km,mb3.4/17, Error ellipse: s-maj=8.8km s-min=5.2km az=1.2*
MOS ***28*** *15:20:48.9±0.9,45.87N×143.30E,h335km,mb3.8/8, Error ellipse: s-maj=22.8km s-min=11.0km az=80.2*
JMA ***28*** *15:20:49.6±0.3,45.71N×143.29E,h333km±3km,M3.8*
IDC ***28*** *15:20:49.3±0.6,45.96N×143.29E,h319km±7km,mb3.2/17, mb1 3.4/20,mb1mx3.3/30,mbtmp3.2/20, Error ellipse: s-maj=14.2km s-min=10.5km az=138.0*
SKHL ***28*** *15:20:50.5±0.3,45.90N×143.30E,h332km±20km,mb4.4/5, msha4.5/2*

ISC 28 15:20:49.0±0.6,45°75N±0°04×143°31E±0°06,h328km±5km, n57,σ1§48/70,mb3.6/17,6C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.94**	**213**	⇑P	**Pn**	**15 21 33.1**	**+0.9**
JWK2	**Keihoku**	**1.08**	**247**	⇑P	**Pn**	**15 21 33.9**	**+1.2**
JWK2				*e*S	**S**	**15 22 08.3**	**+0.6**
YSS	**Yuzh-Sakhalins**	**1.27**	**343**	*e*PN	**Pn**	**15 21 34.4**	**+0.9**
YSS				*i* S	**S**	**15 22 09.0**	**-0.2**
YSS				smax	smax		
	comp=E,190nm,0.9s						
YSS	**Yuzh-Sakhalins**	**1.27**	**343**	*e*P	**Pn**	**15 21 34.4**	**+0.9**
YSS				AMB	AMB	15 21 39.0	
	comp=E,41nm,0.5s						
YSS				*i* S	**S**	**15 22 09.0**	**-0.2**
YSS				A	A	15 22 10.5	
	comp=E,190nm,0.9s						
JRR	**Rishiri**	**1.53**	**247**	P	**Pn**	**15 21 36.1**	**+1.0**
JSS	**Shosan**	**1.69**	**218**	P	**Pn**	**15 21 37.6**	**+1.4**
ASAJ	**Asahikawa**	**1.71**	**197**	P	**Pn**	**15 21 37.7**	**+1.3**
	comp=E,17nm,0.3s,baz=9.0,slow=5.8,SNR=245						
ASAJ				S	**S**	**15 22 15.4**	**+1.3**
	baz=218,slow=19,SNR=3.5						
ASAJ	**Asahikawa**	**1.71**	**197**	⇑P	**Pn**	**15 21 37.6**	**+1.3**
ASAJ				*e*S	**S**	**15 22 15.3**	**+1.2**
JTKR	**Abashiri--Toko**	**1.83**	**166**	⇑P	**Pn**	**15 21 38.3**	**+1.2**
JTKR				*e*S	**S**	**15 22 16.6**	**+1.0**
JYG	**Yagishiri**	**1.87**	**226**	P	**Pn**	**15 21 38.6**	**+1.2**
JKK2	**Kamakawa 2**	**1.91**	**192**	⇑P	**Pn**	**15 21 39.1**	**+1.3**
JRA	**Rausu**	**2.22**	**144**	P	**Pn**	**15 21 41.4**	**+1.4**
JHR	**Hokuryu**	**2.30**	**210**	P	**Pn**	**15 21 42.0**	**+1.3**
JAR	**Ashorobuto**	**2.47**	**172**	⇑P	**Pn**	**15 21 43.3**	**+1.2**
JAR				*e*S	**S**	**15 22 24.6**	**0.0**
JFR	**Furan**	**2.63**	**191**	P	**Pn**	**15 21 44.5**	**+1.0**
JAK	**Akkeshi**	**2.92**	**160**	P	**Pn**	**15 21 46.2**	**+0.1**
JAK				*e*S	**S**	**15 22 29.9**	**-1.9**
NEM2	**Nemuro 2**	**2.95**	**143**	*e*S	**S**	**15 22 28.8**	**-3.4**
JCH	**Churui**	**3.13**	**179**	P	**Pn**	**15 21 47.7**	**-0.4**
JCH				*e*S	**S**	**15 22 31.7**	**-3.7**
JEW	**Eniwo**	**3.19**	**205**	*e*S	**S**	**15 22 36.2**	**-0.3**
UGL	**Uglegorsk**	**3.44**	**346**	⇓*i*PN	**Pn**	**15 21 51.5**	**+0.7**
UGL				S	**S**	**15 22 39.0**	**-1.5**
UGL				pmax	pmax		
	comp=Z,162nm,0.4s						
UGL				smax	smax		
	comp=N,22nm,0.7s						
UGL				smax	smax		
	comp=E,28nm,0.7s						
UGL	**Uglegorsk**	**3.44**	**346**	⇓*i*P	**Pn**	**15 21 51.5**	**+0.7**
UGL				AMB	AMB	15 21 52.0	
	comp=E,162nm,0.6s						
UGL				*e*S	**S**	**15 22 39.0**	**-1.5**
UGL				A	A	15 22 41.3	
	comp=E,22nm,0.7s						
UGL				A	A	15 22 41.3	
	comp=E,28nm,0.7s						
JNBK	**Urakawa-nobuka**	**3.49**	**187**	*e*S	**S**	**15 22 39.7**	**-2.0**
ERM	**Erimo**	**3.73**	**182**	*e*PN	**Pn**	**15 21 55.3**	**+1.3**
JKB	**Kayabe**	**4.19**	**204**	P	**Pn**	**15 21 58.7**	**-0.1**
JKB				*e*S	**S**	**15 22 51.5**	**-3.5**
JOSM	**Okushiri--Mats**	**4.59**	**218**	P	**Pn**	**15 22 03.6**	**+0.5**
JOSM				*e*S	**S**	**15 23 01.2**	**-1.6**
JOT	**Ohata**	**4.66**	**201**	P	**Pn**	**15 22 03.8**	**-0.1**
JOT				*e*S	**S**	**15 22 59.6**	**-4.7**
TEY	**Ternei**	**4.77**	**264**	*e*P	**Pn**	**15 22 06.0**	**+0.9**
TYV	**Tymovskoe**	**5.14**	**355**	*e*P	**Pn**	**15 22 08.8**	**-0.3**
TYV				AMB	AMB	15 22 09.5	
	comp=E,22nm,0.8s						
TYV				AMB	AMB	15 22 09.5	
	comp=E,26nm,0.8s						
TYV				AMB	AMB	15 22 09.5	
	comp=E,59nm,0.8s						
TYV				*e*S	**S**	**15 23 12.4**	**-1.3**
GRNR	**Gornyy**	**6.81**	**320**	*e*P	**Pn**	**15 22 27.8**	**-0.7**
GRNR				AMB	AMB	15 22 28.4	
	comp=E,39nm,0.8s						
GRNR				AMB	AMB	15 22 28.4	
	comp=E,56nm,0.8s						
GRNR				AMB	AMB	15 22 28.4	
	comp=E,64nm,0.8s						
NKL	**Nikolayevsk**	**7.61**	**348**	*e*P	Pn	15 22 33.2	-4.7
OKH	**Okha**	**7.82**	**358**	*e*P	**Pn**	**15 22 41.5**	**+1.1**
USRK	**Ussuriysk Arra**	**8.16**	**263**	P	**Pn**	**15 22 46.1**	**+1.4**
	comp=E,0.6nm,0.3s,baz=71,slow=13,SNR=9.8						
EKMR	**Ekimchan**	**9.96**	**321**	*e*P	Pn	15 23 02.4	-3.9
EKMR				AMB	AMB	15 23 03.1	
	comp=E,8.0nm,0.5s						
MJAR	**Matsushiro Arr**	**9.96**	**204**	P	**Pn**	**15 23 08.3**	**+1.7**
	comp=E,0.7nm,0.3s,baz=16,slow=14,SNR=17						
PETK	**Petropavlovsk-**	**11.91**	**47**	P	**Pn**	**15 23 30.2**	**+0.4**
	comp=E,0.5nm,0.3s,baz=214,slow=9.0,SNR=20						
PETK	**Petropavlovsk-**	**11.91**	**47**	PN	**Pn**	**15 23 30.2**	**+0.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YASR	**Yasnyy**	**12.48**	**313**	*e*P	**Pn**	**15 23 34.2**	**-2.4**
YASR				AMB	AMB	15 23 34.9	
	comp=Z,4.0nm,0.5s						
KROS	**Kirovskiy**	**13.59**	**316**	*e*P	**P**	**15 23 46.9**	**-2.1**
KROS				AMB	AMB	15 23 47.4	
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**25.21**	**288**	P	**P**	**15 25 46.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=71,slow=7.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**37.61**	**304**	P	**P**	**15 27 33.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=69,slow=9.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**37.61**	**304**	P	**P**	**15 27 33.5**	**+0.6**
KDAK	**Kodiak Island**	**39.95**	**49**	P	**P**	**15 27 51.4**	**-0.7**
	comp=E,6.2nm,0.9s,baz=294,slow=20,SNR=4.5						
MKAR	**Makanchi Array**	**41.25**	**294**	P	**P**	**15 28 03.4**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=77,slow=7.8,SNR=6.1						
MKAR	**Makanchi Array**	**41.25**	**294**	P	**P**	**15 28 03.4**	**+0.6**
ILAR	**Eielson Array**	**41.53**	**37**	P	**P**	**15 28 03.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=261,slow=6.5,SNR=15						
INK	**Inuvik**	**46.08**	**31**	P	**P**	**15 28 39.9**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=296,slow=7.0,SNR=13						
RES	**Resolute Bay**	**53.83**	**16**	P	**P**	**15 29 36.9**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=304,slow=9.0,SNR=12						
YKA	**Yellowknife Ar**	**55.65**	**33**	P	**P**	**15 29 51.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=305,slow=6.7,SNR=37						
FINES	**FINESS Array B**	**61.83**	**331**	P	**P**	**15 30 32.5**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=43,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**65.88**	**189**	P	**P**	**15 31 02.1**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=8.1,slow=6.7,SNR=6.4						
NVAR	**Mina Array Bea**	**68.80**	**56**	P	**P**	**15 31 20.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=288,slow=6.1,SNR=9.8						
ASAR	**Alice Springs**	**69.61**	**189**	P	**P**	**15 31 25.8**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=4.9,slow=5.5,SNR=17						
PDAR	**Pinedale Array**	**70.67**	**48**	P	**P**	**15 31 30.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=286,slow=1.5,SNR=11						
ULM	**Lac du Bonnet**	**71.52**	**36**	P	**P**	**15 31 34.5**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=314,slow=7.0,SNR=4.2						
BRTR	**Keskin Array B**	**74.17**	**311**	P	**P**	**15 31 51.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=71,slow=4.9,SNR=3.3						
SCHQ	**Schefferville**	**76.59**	**17**	P	**P**	**15 32 03.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=270,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**83.76**	**54**	P	**P**	**15 32 43.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=287,slow=3.4,SNR=7.3						

ISCJB ***28*** *15:26:50.7±0.5,2.26S±0.05×119.04E±0.05,h33km, mb3.5/6,Error ellipse: s-maj=7.6km s-min=6.6km az=147.7*
DJA ***28*** *15:26:51.8±1.1,2.5S±4°×11.9E±°,h26km±13km,M4.1/9, mb4.0/3,MLv4.1/9*
IDC ***28*** *15:26:54.6±4.0,2.33S×119.28E,h66km±40km,mb3.3/7, mb1 3.5/8,mb1mx3.3/23,mbtmp3.4/8,ML4.0/1,Error ellipse: s-maj=56.6km s-min=16.5km az=54.0*

ISC 28 15:26:52.2±0.9,2°29S±0°06×119°08E±0°07,h35km,n21, σ1§06/21,mb3.5/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.05**	**135**	P	**Pn**	**15 27 10.3**	**-0.2**
SPSI	**Sidrap Palu**	**1.80**	**157**	P	**Pn**	**15 27 21.9**	**+1.3**
SMKI	**Samarinda**	**2.62**	**314**	P	**Pn**	**15 27 33.3**	**+1.3**
KAPI	**Kappang**	**2.79**	**166**	P	**Pn**	**15 27 34.4**	**0.0**
KAPI	24nm,0.3s,baz=337,slow=9.5,SNR=44			S	**Sn**	**15 28 08.7**	**+1.9**
	24nm,0.3s,baz=23,slow=19,SNR=4.7						
KAPI	**Kappang**	**2.79**	**166**	P	**Pn**	**15 27 34.5**	**+0.2**
KBKI	**Kotabaru**	**3.07**	**251**	P	**Pn**	**15 27 37.9**	**-0.4**
BKSI	**Bulukumba**	**3.18**	**161**	P	**Pn**	**15 27 41.6**	**+1.8**
LUWI	**Luwuk**	**3.90**	**71**	P	**Pn**	**15 27 49.7**	**+0.1**
KDI	**Kendari**	**3.91**	**115**	P	**Pn**	**15 27 50.8**	**+1.1**
MRSI	**Marisa**	**3.97**	**46**	P	**Pn**	**15 27 51.2**	**+0.6**
BBKI	**Banjar Baru**	**4.39**	**255**	P	**Pn**	**15 27 57.0**	**+0.6**
SRBI	**Singaraja**	**6.92**	**214**	P	**Pn**	**15 28 31.2**	**0.0**
	13nm,1.5s						
KMMI	**Kalianget**	**6.95**	**227**	P	**Pn**	**15 28 32.6**	**+1.1**
KHKI	**Kahang-Kahang**	**6.95**	**210**	P	**Pn**	**15 28 31.1**	**-0.5**
	12nm,1.0s						
PSI	**Prapat**	**20.77**	**284**	P	Pn	15 31 32.0	-1.0
	2.9nm,0.5s,baz=107,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**23.02**	**141**	P	**P**	**15 31 52.8**	**-1.6**
	1.2nm,0.7s,baz=318,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.64**	**147**	P	**P**	**15 32 18.5**	**-0.3**
	0.5nm,0.7s,baz=322,slow=7.8,SNR=8.4						
ASAR				PcP	**PcP**	**15 35 47.1**	**-1.9**
	0.2nm,0.7s,baz=340,slow=1.8,SNR=5.7						
STKA	**Stephens Creek**	**36.28**	**147**	P	P	15 33 48.6	-3.8
	1.1nm,0.7s,baz=325,slow=13,SNR=2.1						
SONM	**Songino Array**	**51.14**	**349**	P	**P**	**15 35 51.8**	**+0.1**
	0.2nm,0.4s,baz=152,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**58.60**	**331**	P	**P**	**15 36 46.2**	**+0.6**
	0.3nm,0.6s,baz=137,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**62.86**	**338**	P	**P**	**15 37 13.9**	**-0.5**
	0.4nm,0.4s,baz=134,slow=6.4,SNR=4.5						

MOS ***28*** *15:41:15.9±0.9,3.87N×126.41E,h34km,mb4.8/27,Error ellipse: s-maj=15.0km s-min=7.1km az=108.7*
BJI ***28*** *15:41:16.0,3.79N×126.38E,h34km,mB5.1/26,mb4.8/41, Ms4.7/21,Ms7 4.3/25*
IDC ***28*** *15:41:17.5±3.7,3.85N×126.44E,h31km±27km,mb4.2/21, mb1 4.3/21,mb1mx4.2/24,mbtmp4.1/21,MS3.7/19, Ms1 3.8/19,ms1mx3.5/39,Error ellipse: s-maj=26.5km s-min=11.5km az=79.0*
NEIC ***28*** *15:41:17.2±0.3,3.81N×126.34E,h35km,mb4.7/17,Error ellipse: s-maj=10.0km s-min=5.4km az=81.0*
ISCJB ***28*** *15:41:17.4±0.2,3.89N±0.03×126.62E±0.04,h45km, mb4.6/57,MS3.9/28,Error ellipse: s-maj=6.5km s-min=2.9km az=150.4*
DJA ***28*** *15:41:21.4±0.5,4.4N±5°×12.7E±°,h10km,M4.6/8,mb4.6/6, mB4.9/4,MLv4.8/8,Mw(mB)4.2/4*
AUST ***28*** *15:41:24.5,4.00N×127.01E,h100km*

ISC 28 15:41:19.0±0.3,3.89N±0.04×126.54E±0.05,h45km, h45km:pP-P,n180,σ1§88/208,mb4.7/56,MS3.9/28,6C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.69**	**324**	*e*P	**Pn**	**15 42 01.1**	**+1.0**
GSPH				*e*S	**Sn**	**15 42 35.5**	**+4.0**
MNI	**Manado**	**2.97**	**215**	P	Pn	15 42 08.4	+4.7
MATI	**Mati**	**3.05**	**355**	*e*P	**Pn**	**15 42 06.9**	**+2.2**
TNTI	**Ternate**	**3.21**	**165**	P	**Pn**	**15 42 08.3**	**+1.3**
DAV	**Davao City (W)**	**3.30**	**343**	Pn	Pn	15 42 11.4	+3.1
	85nm,0.3s,baz=254,slow=8.1,SNR=5.5						
DAV				Sn	Sn	15 43 04.6	+18
	146nm,0.3s,baz=282,slow=22,SNR=6.3						
DAV				LR	LR	15 43 51.4	
	comp=Z,2μm,18.2s,baz=47,slow=46						
DAV	**Davao City (W)**	**3.30**	**343**	*e*Pn	**Pn**	**15 42 07.1**	**-1.1**
DAV	**Davao City (W)**	**3.30**	**343**	P	Pn	15 42 17.7	+9.5
DMPH	**Davao City--Mi**	**3.33**	**342**	*e*P	**Pn**	**15 42 09.3**	**+0.6**
DMPH				*i* S	Sn	15 43 05.3	+18
KCP	**Kidapawan**	**3.42**	**335**	*e*P	**Pn**	**15 42 12.5**	**+2.6**
KCP				*e*S	**Sn**	**15 42 53.5**	**+4.3**
CTBH	**Cotabato--PC H**	**4.02**	**325**	⇑*e*P	**Pn**	**15 42 20.7**	**+2.6**
KMSI	**Cibinong**	**4.17**	**218**	P	Pn	15 42 27.3	+7.1
BUKP	**Musuan**	**4.22**	**340**	*e*P	Pn	15 42 24.1	+3.1
LBMI	**Labuha**	**4.60**	**168**	P	**Pn**	**15 42 27.7**	**+1.6**
CGP	**Cagayan de Oro**	**4.89**	**338**	⇓*e*P	Pn	15 42 34.6	+4.5
CGP				*e*S	**Sn**	**15 43 29.9**	**+4.5**
PAGZ	**Pagadian**	**5.03**	**322**	*e*P	Pn	15 42 35.4	+3.4
ZMPH	**Zamboanga City**	**5.39**	**305**	⇑*e*P	**Pn**	**15 42 39.1**	**+2.0**
ZMPH				*i* S	**Sn**	**15 43 38.9**	**+1.0**
IPIL	**Ipil**	**5.53**	**315**	⇓*e*P	Pn	15 42 41.9	+3.0
IPIL				*e*S	**Sn**	**15 43 43.0**	**+1.8**
LUWI	**Luwuk**	**6.18**	**218**	P	Pn	15 42 55.1	+7.3
	300nm,0.9s,3μm1.1nm						
SWI	**Sorong**	**6.68**	**135**	P	**Pn**	**15 42 55.3**	**+0.7**
	baz=6.5,SNR=7.5						
SWI				S	**Sn**	**15 44 08.3**	**-1.1**
	baz=6.5,SNR=5.5						
SWI	**Sorong**	**6.68**	**135**	P	**Pn**	**15 42 55.4**	**+0.8**
	40nm,1.2s,770nm0.2nm						
LLP	**Lapu-Lapu**	**6.87**	**338**	*e*P	**Pn**	**15 43 00.2**	**+2.8**
MSAI	**Masohi**	**7.58**	**162**	P	**Pn**	**15 43 09.1**	**+2.1**
	9.6nm,1.2s,647nm0.1nm						
AAI	**Ambon**	**7.71**	**168**	S	Sn	15 45 05.6	+31
	baz=7.8,SNR=4.7						
MYLDM	**Lahad Datu**	**8.12**	**279**	P	Pn	15 43 23.4	+9.0
PCI	**Palu**	**8.22**	**235**	S	Sn	15 45 09.8	+22
	baz=8.7,SNR=8.6						
PALU	**Palau**	**8.61**	**66**	P	**Pn**	**15 43 19.6**	**-1.5**
	baz=8.2,SNR=4.5						
TSM	**Tawau**	**8.65**	**273**	P	Pn	15 43 27.2	+5.4
KDI	**Kendari**	**8.73**	**207**	P	**Pn**	**15 43 24.6**	**+1.8**
	24nm,0.7s,520nm						
FAKI	**Fak Fak**	**8.85**	**140**	P	**Pn**	**15 43 25.9**	**+1.4**
	27nm,0.9s						
SDKM	**Sandakan**	**9.47**	**281**	P	Pn	15 43 40.3	+7.3
KAPI	**Kappang**	**11.15**	**218**	LR	LR	15 48 59.6	
	comp=Z,265nm,18.6s,baz=59,slow=42						
KAPI	**Kappang**	**11.15**	**218**	*e*Pn	Pn	15 43 51.0	-4.9
TLE	**Tual**	**11.31**	**147**	P	Pn	15 44 02.0	+3.8
BTM	**Batulicin**	**13.45**	**267**	P	**Pn**	**15 44 25.3**	**-2.1**
SBUM	**Sibu**	**14.37**	**265**	P	**P**	**15 44 47.8**	**+2.0**
WSI	**Wamingapu**	**14.84**	**205**	S	S	15 47 58.5	+13
	baz=15,SNR=3.3						
JAY	**Jayapura**	**15.52**	**114**	P	**P**	**15 44 59.3**	**+0.5**
	baz=15,SNR=7.1						
KSM	**Kuching**	**16.39**	**262**	P	**P**	**15 45 12.4**	**+4.0**
	baz=17,SNR=12						
KSM	**Kuching**	**16.39**	**262**	P	P	15 45 12.7	+4.3
MTN	**Manton Dam**	**17.24**	**165**	P	**Pn**	**15 45 15.9**	**-0.8**
	baz=17,SNR=5.6						
KDU	**Kakadu**	**17.50**	**160**	P	**Pn**	**15 45 18.7**	**-1.1**
	baz=18,SNR=9.0						
GUMO	**Guam**	**20.50**	**61**	LR	LR	15 52 58.8	
	comp=Z,90nm,19.7s,baz=180,slow=34						
GUMO	**Guam**	**20.50**	**61**	*e*P	Pn	15 45 54.5	-1.5
	191nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**15 46 07.9**	**-0.3**
	1.8nm,0.4s,baz=9.1,slow=9.2,SNR=17						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	*e*P	**P**	**15 46 05.7**	**-2.5**
	9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**15 46 08.5**	**+0.3**
	baz=22,SNR=4.8						
QIZ	**Qiongzhong**	**22.19**	**314**	P	**P**	**15 46 11.0**	**-0.7**
QIZ				pP	**pP**	**15 46 19.3**	**-3.2**
QIZ				S	**S**	**15 50 13.5**	**-0.1**
QIZ				sS	Sn	15 50 26.5	-0.4
QIZ				LR	LR		
	comp=Z,240nm,25.7s						
MYKOM	**Kota Tinggi**	**22.76**	**265**	P	P	15 46 24.2	+6.4
JOW	**Kunigami**	**22.87**	**4**	LR	LR	15 54 21.1	
	comp=Z,219nm,20.1s,baz=78,slow=34						
WRAB	**Tennant Creek**	**24.89**	**162**	*e*P	**P**	**15 46 36.3**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**24.89**	**162**	*e*P	**P**	**15 46 36.3**	**-1.6**
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**15 46 36.9**	**-1.0**
	comp=Z,11nm,1.0s,baz=332,slow=11,SNR=56						
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**15 46 36.9**	**-1.0**
IPM	**Ipoh**	**25.45**	**272**	P	**P**	**15 46 46.6**	**+3.5**
MBWA	**Marble Bar**	**25.78**	**195**	*e*P	**P**	**15 46 43.3**	**-2.6**
	comp=Z,16nm,1.1s						
KULM	**Kulim**	**25.84**	**274**	P	P	15 46 53.1	+6.5
QIS	**Mount Isa**	**27.48**	**153**	P	**P**	**15 47 03.0**	**+1.8**
	baz=28,SNR=17						
PSI	**Prapat**	**27.59**	**269**	P	P	15 47 10.6	+8.1
	baz=28,SNR=3.6						
AS31	**Alice Springs**	**28.32**	**166**	*e*P	**P**	**15 47 07.5**	**-1.2**
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**15 47 08.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=345,slow=7.5,SNR=36						
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**15 47 08.3**	**-0.4**
WHN	**Wuhan**	**28.90**	**338**	P	**P**	**15 47 14.5**	**+0.7**
WHN				*e*S	**S**	**15 52 03.5**	**+2.3**
WHN				LR	LR		
	comp=Z,1μm,14.1s						
NJ2	**Nanjing**	**28.93**	**346**	*e*P	**P**	**15 47 16.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
JNU	**Nakatsue**	**29.36**	**7**	P	**P**	**15 47 18.4**	**+0.5**
	comp=Z,13nm,1.0s,baz=125,slow=1.9,SNR=4.2						
JNU	**Nakatsue**	**29.36**	**7**	P	**P**	**15 47 18.4**	**+0.5**
GYA	**Guiyang**	**29.42**	**322**	P	**P**	**15 47 20.0**	**+1.3**
GYA				pP	**pP**	**15 47 30.5**	**-0.1**
GYA				PP	**PnPn**	**15 48 16.0**	**+1.9**
GYA				PcP	**PcP**	**15 50 25.5**	**+1.6**
GYA				S	**S**	**15 52 10.3**	**+0.4**
GYA				sS	**sS**	**15 52 27.5**	**-2.4**
GYA				SS	**SnSn**	**15 53 44.8**	**+4.9**
GYA				ScP	**ScP**	**15 54 02.8**	**+0.5**
GYA				ScS	**ScS**	**15 57 56.0**	**-1.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,520nm,17.6s						
GYA				LR	LR		
	comp=E,460nm,18.3s						
GYA				LR	LR		
	comp=Z,550nm,17.2s						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**15 47 30.3**	**+1.0**
	comp=Z,3.0nm,1.0s,baz=123,slow=7.3,SNR=17						
CMAR				ScP	**ScP**	**15 54 08.2**	**+2.1**
	comp=Z,1.6nm,1.0s,baz=139,slow=1.8,SNR=9.8						
CMAR				LR	LR	16 00 20.4	
	comp=Z,68nm,18.2s,baz=133,slow=37						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**15 47 30.3**	**+1.0**
CMAR				ScP	**ScP**	**15 54 08.2**	**+2.1**
CHTO	**Chiang Mai**	**30.78**	**301**	*e*P	**P**	**15 47 28.3**	**-2.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	**30.78**	**301**	*e*P	**P**	**15 47 28.3**	**-2.3**
	comp=Z,9.4nm,1.0s						
ENH	**Enshi**	**30.79**	**330**	*e*P	**P**	**15 47 29.8**	**-0.8**
	comp=Z,15nm,0.9s						
KMI	**Kunming**	**31.13**	**315**	P	**P**	**15 47 35.3**	**+1.4**
KMI				S	**S**	**15 52 37.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMI				LR	LR		
	comp=N,200nm,14.0s						
KMI				LR	LR		
	comp=E,150nm,16.6s						
KMI				LR	LR		
	comp=Z,230nm,17.8s						
MEEK	**Meekatharra**	**31.30**	**194**	P	**P**	**15 47 36.0**	**+0.8**
	baz=32,SNR=7.8						
KSAR	**Wonju Array Be**	**33.41**	**2**	P	**P**	**15 47 54.1**	**+0.7**
KSRS	**Korea Array**	**33.42**	**2**	P	**P**	**15 47 54.1**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=179,slow=9.8,SNR=18						
KSRS				LR	LR	16 02 59.1	
	comp=Z,71nm,18.6s,baz=180,slow=39						
XAN	**Xi'an**	**34.19**	**333**	P	**P**	**15 47 59.3**	**-1.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**34.22**	**17**	P	**P**	**15 48 00.5**	**0.0**
	comp=Z,1.4nm,0.7s,baz=191,slow=10.0,SNR=5.1						
MJAR				LR	LR	16 02 02.3	
	comp=Z,79nm,19.4s,baz=110,slow=36						
MJAR	**Matsushiro Arr**	**34.22**	**17**	P	**P**	**15 48 00.5**	**0.0**
CD2	**Chengd

	comp=Z,500nm,16.0s							
USRK	**Ussuriysk Arra**	**40.43**	**6**	P		**P**	**15 48 54.7**	**+1.8**
	comp=Z,4.1nm,0.7s,baz=175,slow=4.2,SNR=6.4							
MDJ	**Mudanjiang**	**40.65**	**3**	P		**P**	**15 48 55.5**	**+0.7**
MDJ				pP		**pP**	**15 49 05.0**	**-2.0**
MDJ				S		**S**	**15 54 59.3**	**-2.2**
MDJ				pmax	pmax			
	comp=Z,16nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,150nm,4.8s							
MDJ				LR	LR			
	comp=Z,75nm,25.5s							
MDJ	**Mudanjiang**	**40.65**	**3**	*e*P		**P**	**15 48 54.8**	**0.0**
	comp=Z,14nm,0.9s							
ARMA	**Armidale**	**41.71**	**147**	P		**P**	**15 49 05.0**	**+1.2**
	baz=42,SNR=6.2							
LSA	**Lhasa**	**42.19**	**311**	*e*P		**P**	**15 49 05.6**	**-2.6**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
LSA	**Lhasa**	**42.19**	**311**	*e*P		**P**	**15 49 05.6**	**-2.6**
	comp=Z,6.0nm,0.9s							
ASAJ	**Asahikawa**	**42.49**	**17**	LR	LR		16 07 14.1	
	comp=Z,94nm,19.0s,baz=198,slow=37							
GTA	**Gaotai**	**42.86**	**329**	*e*P		**P**	**15 49 12.0**	**-1.1**
GTA				pP		**pP**	**15 49 21.0**	**-4.5**
GTA				sP		**sP**	**15 49 25.8**	**-5.0**
GTA				S		**S**	**15 55 33.5**	**-1.3**
GTA				sS		sS	15 55 49.8	-5.5
GTA				SS		SS	15 58 38.5	-8.9
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,130nm,5.5s							
GTA				LR	LR			
	comp=N,92nm,17.3s							
GTA				LR	LR			
	comp=E,200nm,18.5s							
GTA				LR	LR			
	comp=Z,270nm,22.8s							
ARPS	**Mount Arapiles**	**42.90**	**162**	P		**P**	**15 49 14.3**	**+1.1**
	baz=43,SNR=8.1							
TAPN	**Taplejung**	**43.77**	**306**	*e*P		**P**	**15 49 20.4**	**-0.5**
	comp=Z,5.5nm,0.4s							
ODAN	**Odare**	**43.82**	**305**	*e*P		**P**	**15 49 20.7**	**-0.5**
	comp=Z,16nm,0.7s							
RAMN	**Ramite**	**44.50**	**305**	*e*P		**P**	**15 49 26.6**	**-0.1**
HABR	**Khabarovsk**	**45.01**	**8**	*e*P		**P**	**15 49 28.3**	**-1.7**
HABR				*e**PP		**pP**	**15 49 41.8**	**-0.6**
HABR							15 51 08.6	
HABR				*e*PPP		PPP	15 51 53.8	
HABR				*e*S		**S**	**15 56 04.1**	**-1.4**
HABR				*e**SS		**sS**	**15 56 27.3**	**+1.1**
HABR				*e*			15 59 20.9	
HABR				*e*SSS		SSS	16 00 15.9	
HABR				pmax	pmax			
	comp=Z,49nm,1.8s							
HABR				pmax	pmax			
	comp=N,47nm,2.8s							
HABR				pmax	pmax			
	comp=E,25nm,1.4s							
HABR				MLR	MLR			
	comp=Z,395nm,21.0s							
KLR	**Kul'dur**	**45.39**	**5**	*e*P		**P**	**15 49 30.3**	**-2.8**
GUN	**Gumba**	**45.48**	**306**	*e*P		**P**	**15 49 34.1**	**-0.5**
	comp=Z,17nm,0.4s							
HIA	**Hailar**	**45.58**	**354**	*e*P		**P**	**15 49 34.1**	**-0.5**
	comp=Z,34nm,1.3s							
PKI	**Pulchoki**	**45.72**	**305**	*e*P		**P**	**15 49 35.8**	**-0.7**
KKN	**Kakani**	**45.91**	**306**	*e*P		**P**	**15 49 37.5**	**-0.3**
DMN	**Daman**	**45.98**	**305**	*e*P		**P**	**15 49 38.1**	**-0.3**
DZM	**Mont Dzumac**	**46.78**	**125**	LR	LR		16 08 02.2	
	comp=Z,73nm,18.6s,baz=83,slow=34							
ULN	**Ulaanbaatar**	**46.91**	**342**	*e*P		**P**	**15 49 44.9**	**-0.3**
	comp=Z,14nm,1.1s							
SONM	**Songino Array**	**47.08**	**342**	P		**P**	**15 49 46.7**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=156,slow=8.5,SNR=22							
SONM				LR	LR		16 10 46.9	
	comp=Z,92nm,19.7s,baz=159,slow=38							
SONM	**Songino Array**	**47.08**	**342**	P		**P**	**15 49 46.7**	**+0.1**
KOLN	**Koldanda**	**47.28**	**305**	*e*P		**P**	**15 49 48.0**	**-0.5**
	comp=Z,16nm,0.5s							
DANN	**Dangsing**	**47.37**	**306**	*e*P		**P**	**15 49 48.5**	**-0.8**
	comp=Z,23nm,0.5s							
PYUN	**Piuthan**	**47.90**	**305**	*e*P		**P**	**15 49 53.0**	**-0.4**
	comp=Z,34nm,0.9s							
ZAK	**Zakamensk**	**50.31**	**341**	*e*P		**P**	**15 50 10.6**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
TLY	**Talaya**	**51.32**	**342**	*i* P		**P**	**15 50 19.9**	**+1.2**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.6s							
WMQ	**Urumqi**	**52.48**	**325**	*e*P		**P**	**15 50 28.0**	**+0.4**
WMQ				LR	LR			
	comp=N,120nm,25.0s							
WMQ				LR	LR			
	comp=E,97nm,28.0s							
WMQ				LR	LR			
	comp=Z,140nm,23.0s							
MSVF	**Nonsavu**	**55.15**	**115**	*e*P		**P**	**15 50 48.9**	**+1.4**
MSVF				pmax	pmax			
	comp=Z,58nm,1.2s							
MSVF	**Nonsavu**	**55.15**	**115**	*e*P		**P**	**15 50 48.9**	**+1.4**
	comp=Z,58nm,1.2s							
PETK	**Petropavlovsk-**	**55.35**	**22**	P		**P**	**15 50 49.0**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=208,slow=2.8,SNR=12							
PETK				LR	LR		16 11 06.0	
	comp=Z,39nm,20.2s,baz=294,slow=32							
PETK	**Petropavlovsk-**	**55.35**	**22**	P		**P**	**15 50 49.0**	**+0.6**
PETK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PETK	**Petropavlovsk-**	**55.35**	**22**	P		**P**	**15 50 49.0**	**+0.6**
MK31	**Makanchi Array**	**57.31**	**325**	*e*P		**P**	**15 50 59.7**	**-2.8**
MK31	**Makanchi Array**	**57.31**	**325**	*e*P		**P**	**15 50 59.6**	**-2.8**
MKAR	**Makanchi Array**	**57.31**	**325**	P		**P**	**15 51 01.8**	**-0.7**
	comp=Z,3.3nm,0.4s,baz=118,slow=7.8,SNR=56							
MKAR				LR	LR		16 17 24.2	
	comp=Z,124nm,18.8s,baz=271,slow=38							
MKAR	**Makanchi Array**	**57.31**	**325**	P		**P**	**15 51 01.8**	**-0.7**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.4s							
MKAR				MLR	MLR			
	comp=Z,124nm,18.8s							
MKAR	**Makanchi Array**	**57.31**	**325**	P		**P**	**15 51 01.8**	**-0.7**
KSH	**Kashi**	**57.80**	**315**	P		**P**	**15 51 07.8**	**+1.7**
KSH				pP		**pP**	**15 51 18.5**	**-0.4**
KSH				sP		**sP**	**15 51 22.8**	**-1.3**
KSH				PcP		**PcP**	**15 52 01.5**	**+3.1**
KSH				PP		**PP**	**15 53 18.5**	**+3.9**
KSH				ScP		**ScP**	**15 55 56.8**	**+1.8**
KSH				PcS		**PcS**	**15 56 00.0**	**+0.2**
KSH				S		**S**	**15 59 03.0**	**+0.6**
KSH				sS		**sS**	**15 59 20.5**	**-3.2**
KSH				ScS		**ScS**	**16 00 52.0**	**-0.3**
KSH				SS		**SS**	**16 02 55.8**	**+2.1**
KSH				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KSH				pmax	pmax			
	comp=Z,48nm,3.8s							
KSH				LR	LR			
	comp=N,99nm,5.5s							
KSH				LR	LR			
	comp=E,150nm,4.5s							
KSH				LR	LR			
	comp=Z,160nm,5.9s							
YAK	**Yakutsk**	**58.05**	**2**	*e*P		**P**	**15 51 07.5**	**+0.2**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s							
YAK				pmax	pmax			
	comp=N,11nm,1.5s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.2s							
YAK	**Yakutsk**	**58.05**	**2**	*e*P		**P**	**15 51 05.4**	**-1.8**
	comp=E,24nm,0.8s							
AAK	**Ala-Archa**	**60.11**	**318**	*d i*P		**P**	**15 51 22.4**	**+0.2**
AAK				pmax	pmax			
	comp=Z,18nm,1.7s							
ZAA0	**Zalesovo Array**	**60.36**	**333**	*e*P		**P**	**15 51 20.5**	**-2.9**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P		**P**	**15 51 22.4**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=108,slow=4.8,SNR=9.8							
ZALV				LR	LR		16 20 12.1	
	comp=Z,54nm,19.7s,baz=248,slow=39							
ZALV	**Zalesovo Beam**	**60.36**	**333**	P		**P**	**15 51 22.4**	**-1.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV				MLR	MLR			
	comp=Z,54nm,19.7s							
ZALV	**Zalesovo Beam**	**60.36**	**333**	P		**P**	**15 51 22.4**	**-1.0**
KURK	**Kurchatov**	**61.50**	**328**	*d i*P		**P**	**15 51 30.9**	**-0.3**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KURK	**Kurchatov**	**61.50**	**328**	*e*P		**P**	**15 51 30.6**	**-0.7**
	comp=Z,8.8nm,0.6s							
NVS	**Novosibirsk**	**61.64**	**333**	*e*P		**P**	**15 51 30.7**	**-1.4**
NVS				pmax	pmax			
	comp=N,2.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,3.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SEY	**Seymchan**	**61.92**	**13**	*d i*P		**P**	**15 51 35.6**	**+1.8**
URZ	**Urewera**	**62.79**	**137**	LR	LR		16 18 47.1	
	comp=Z,130nm,19.7s,baz=343,slow=36							
AFI	**Afiamalu**	**63.67**	**107**	LR	LR		16 18 27.5	
	comp=Z,104nm,18.1s,baz=266,slow=35							
BRVK	**Borovoye**	**67.15**	**327**	*ce*P		**P**	**15 52 08.4**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,11nm,1.0s							
BRVK	**Borovoye**	**67.15**	**327**	*e*P		**P**	**15 52 07.5**	**-0.7**
	comp=Z,9.9nm,1.0s							
TIXI	**Tiksi**	**67.68**	**1**	*ce*P		**P**	**15 52 11.2**	**0.0**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TIXI	**Tiksi**	**67.68**	**1**	*e*P		**P**	**15 52 09.6**	**-1.6**
	comp=Z,4.7nm,0.7s							
BILL	**Bilibino**	**69.44**	**15**	*e*P		**P**	**15 52 24.1**	**+1.8**
BILL				*e*S		**S**	**16 01 29.7**	**+3.6**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SVE	**Sverdlovsk**	**73.72**	**328**	*e*P		**P**	**15 52 48.9**	**+0.7**
SVE				pmax	pmax			
	comp=Z,12nm,1.1s							
ARU	**Arti**	**74.70**	**328**	*d i*P		**P**	**15 52 54.1**	**+0.2**
ARU							15 55 40.0	
ARU				S		**S**	**16 02 28.8**	**+2.1**
ARU				SS		**SS**	**16 07 09.1**	**-5.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ARU	**Arti**	**74.70**	**328**	*e*P		**P**	**15 52 53.8**	**-0.1**
	comp=Z,4.6nm,0.8s							
ZEI	**Tsey**	**81.97**	**312**	*e*P		**P**	**15 53 35.7**	**+1.0**
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VNDA	**Vanda**	**83.61**	**173**	P		**P**	**15 53 42.3**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=312,slow=7.5,SNR=3.7							
VNDA	**Vanda**	**83.61**	**173**	P		**P**	**15 53 42.3**	**+0.1**
ILAR	**Eielson Array**	**85.04**	**25**	P		**P**	**15 53 49.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=252,slow=5.6,SNR=10							
ILAR	**Eielson Array**	**85.04**	**25**	P		**P**	**15 53 49.9**	**+0.2**
KLMR	**Klimovskoe**	**85.17**	**331**	*e*P		**P**	**15 53 49.0**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,47nm,1.4s							
VSR	**Storozhevoye**	**85.34**	**321**	*e*P		**P**	**15 53 50.9**	**-0.6**
OBN	**Obninsk**	**86.82**	**325**	*i*P		**P**	**15 53 58.3**	**-0.3**
OBN				pmax	pmax			
	comp=Z,28nm,1.7s							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s							
BRTR	**Keskin Array B**	**89.77**	**310**	P		**P**	**15 54 11.8**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=120,slow=4.0,SNR=6.5							
BRTR	**Keskin Array B**	**89.77**	**310**	P		**P**	**15 54 11.8**	**-1.4**
ARCES	**ARCESS Array B**	**90.23**	**340**	P		**P**	**15 54 14.7**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=79,slow=6.3,SNR=7.3							
ARCES				LR	LR		16 37 41.7	
	comp=Z,88nm,19.1s,baz=38,slow=38							
ARCES	**ARCESS Array B**	**90.23**	**340**	P		**P**	**15 54 14.7**	**+0.1**
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**15 54 20.2**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=31,slow=4.4,SNR=8.7							
FINES				LR	LR		16 36 50.5	
	comp=Z,48nm,19.8s,baz=33,slow=36							
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**15 54 20.2**	**-0.9**
AKASG	**Malin Array Be**	**91.65**	**321**	P		**P**	**15 54 20.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=69,slow=4.9,SNR=4.9							
AKASG	**Malin Array Be**	**91.65**	**321**	P		**P**	**15 54 20.6**	**-0.9**
AKASG	**Malin Array Be**	**91.65**	**321**	P		**P**	**15 54 20.6**	**-0.9**
BUR08	**Bucovina Ar. S**	**94.76**	**318**	*e*P		**P**	**15 54 36.1**	**0.0**
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**15 54 52.0**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=54,slow=2.2,SNR=2.5							
NOA				LR	LR		16 44 01.7	
	comp=Z,62nm,19.2s,baz=65,slow=38							
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**15 54 52.0**	**-0.9**
YKA	**Yellowknife Ar**	**99.43**	**24**	P		**Pdif**	**15 54 57.1**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=305,slow=5.2,SNR=4.5							
YKA	**Yellowknife Ar**	**99.43**	**24**	P		**Pdif**	**15 54 57.1**	**+0.4**
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif**	**15 55 07.2**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=349,slow=4.1,SNR=3.6							
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif**	**15 55 07.2**	**-0.7**
LKWY	**Lake**	**109.99**	**40**	*e*P		Pdif	15 55 55.6	+11
LKWY	**Lake**	**109.99**	**40**	*e*Pdif		Pdif	15 55 55.6	+11
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP		**PKPdf**	**16 00 11.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP		**PKPdf**	**16 00 11.0**	**0.0**
PLCA	**Paso Flores**	**140.22**	**160**	PKP		**PKPdf**	**16 00 42.0**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=214,slow=11,SNR=3.8							
PLCA	**Paso Flores**	**140.22**	**160**	PKP		**PKPdf**	**16 00 42.0**	**-1.5**

CSEM ***28*** *15:46:06.8±0.1, 44.69°N×6.83°E, h10km, ML2.2/9, Error ellipse: s-maj=2.1km s-min=1.4km az=83.0*
STR ***28*** *15:46:07.3±0.3, 44.68°N×6.82°E, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***28*** *15:46:07.3, 44.66°N×6.84°E, h10km, ML1.5*

LDG 28 15:46:07.4±0.0, 44.69°N×6.80E, h3km, Md2.1/1, Ml2.3/5, Error ellipse: s-maj=1.1km s-min=0.7km az=72.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBDF	**Montbardon**	**0.04**	**328**	*e*Pg		Pg	15 46 08.9	+0.2
MBDF				*e*Sg		Sg	15 46 10.1	+0.6
	981nm,0.5s							
MBDF	**Montbardon**	**0.04**	**328**	*e*Pg		Pg	15 46 08.9	+0.2
MBDF				*e*Sg		Sg	15 46 10.1	+0.6
	491nm,0.5s							
OG22	**Abries**	**0.17**	**37**	Pg		Pg	15 46 11.2	+0.2
OG22				Sg		Sg	15 46 13.5	+0.1
OG22	**Abries**	**0.17**	**37**	Pg		Pg	15 46 11.2	+0.2
OG22				Sg		Sg	15 46 13.5	+0.1
SURF	**Saint Ours**	**0.21**	**178**	Pg		Pg	15 46 11.5	-0.2
SURF				Sg		Sg	15 46 14.4	-0.3
SURF	**Saint Ours**	**0.21**	**178**	Pg		Pg	15 46 11.5	-0.2
SURF				Sg		Sg	15 46 14.4	-0.3
PZZ	**Stroppo**	**0.29**	**129**	P		Pg	15 46 12.6	-0.6
PZZ				S		Sg	15 46 16.1	-1.0
RSP	**Reno Superiore**	**0.56**	**35**	P		Pg	15 46 18.4	0.0
RSP				S		Sg	15 46 25.7	-0.2
STV	**Sant Anna di V**	**0.58**	**140**	P		Pg	15 46 17.7	-1.0
STV				S		Sg	15 46 24.7	-1.6
ORIF	**Oris-en-Rattie**	**0.70**	**290**	*e*Pg		Pg	15 46 20.7	-0.2
ORIF				*e*Sg		Sg	15 46 29.7	-0.4
	11nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.70**	**290**	*e*Pg		Pg	15 46 20.7	-0.2
ORIF				*e*Sg		Sg	15 46 29.7	-0.4
	5.6nm,0.2s							
TOUF	**Mont Tournerai**	**0.75**	**155**	Pg		Pg	15 46 21.7	-0.3
TOUF				Sg		Sg	15 46 31.0	-0.9
TOUF	**Mont Tournerai**	**0.75**	**155**	Pg		Pg	15 46 21.7	-0.3
TOUF				Sg		Sg	15 46 31.0	-0.9
LSD	**Lago del Serru**	**0.81**	**17**	P		Pg	15 46 22.6	-0.6
LSD				S		Sg	15 46 33.2	-0.7
LPG	**La Plagne**	**0.81**	**357**	*e*Pg		Pg	15 46 22.9	-0.5
LPG				*e*Sg		Sg	15 46 33.8	-0.4
	6.3nm,0.2s							
LPG	**La Plagne**	**0.81**	**357**	*e*Pg		Pg	15 46 22.9	-0.5
LPG				*e*Sg		Sg	15 46 33.8	-0.4
	3.2nm,0.2s							
AUTN	**L'Aution**	**0.83**	**147**	Pg		Pg	15 46 23.3	-0.3
AUTN				Sg		Sg	15 46 34.1	-0.4
AUTN	**L'Aution**	**0.83**	**147**	Pg		Pg	15 46 23.3	-0.3
AUTN				Sg		Sg	15 46 34.1	-0.4
LPL	**La Plagne**	**0.83**	**357**	*e*Pg		Pg	15 46 23.3	-0.3
LPL				*e*Sg		Sg	15 46 34.0	-0.6
	8.4nm,0.3s							
LPL	**La Plagne**	**0.83**	**357**	*e*Pg		Pg	15 46 23.3	-0.3
LPL				*e*Sg		Sg	15 46 34.0	-0.6
	4.2nm,0.3s							
MVIF	**Mont Vial**	**0.83**	**162**	Pg		Pg	15 46 22.9	-0.7
MVIF				Sg		Sg	15 46 34.8	+0.3
MVIF	**Mont Vial**	**0.83**	**162**	Pg		Pg	15 46 22.9	-0.7
MVIF				Sg		Sg	15 46 34.8	+0.3
SAOF	**Saorge**	**0.89**	**142**	Pg		Pg	15 46 23.8	-0.7
SAOF				Sg		Sg	15 46 35.9	-0.1
SAOF	**Saorge**	**0.89**	**142**	Pg		Pg	15 46 23.8	-0.7
SAOF				Sg		Sg	15 46 35.9	-0.1
SBF	**Sospel**	**0.94**	**151**	*e*Pn		Pb	15 46 26.1	-0.4
SBF	**Sospel**	**0.94**	**151**	*e*P		Pb	15 46 26.9	+0.4
SBF				*e*Sg		Sg	15 46 37.4	-0.5
SBF				*e*Sn		Sb	15 46 39.2	-0.3
	4.6nm,0.2s							
SBF	**Sospel**	**0.94**	**151**	*e*Pn		Pb	15 46 26.1	-0.4
SBF	**Sospel**	**0.94**	**151**	*e*P		Pb	15 46 26.9	+0.4
SBF				*e*Sg		Sg	15 46 37.4	-0.5
SBF				*e*Sn		Sb	15 46 39.2	-0.3
	2.3nm,0.2s							
TRAV	**Traversella**	**1.06**	**39**	P		Pg	15 46 26.6	-1.3
TRAV				S		Sg	15 46 39.7	-2.1
RORO	**Rocca Rossa**	**1.07**	**122**	P		Pg	15 46 25.9	-2.1
RORO				S		Sg	15 46 38.2	-3.7
IMI	**Imperia**	**1.10**	**134**	P		Pg	15 46 26.4	-2.3
IMI				S		Sg	15 46 39.1	-4.0
FRF	**La Foret Royal**	**1.13**	**186**	*e*Pg		Pg	15 46 28.6	-0.6
FRF				*e*Sg		Sg	15 46 43.7	-0.2
	10nm,0.3s							
FRF	**La Foret Royal**	**1.13**	**186**	*e*Pg		Pg	15 46 28.6	-0.6
FRF				*e*Sg		Sg	15 46 43.7	-0.2
	5.2nm,0.3s							
SMRF	**Simiane la Rot**	**1.13**	**231**	*e*P		Pn	15 46 30.1	-0.1
SMRF				*e*Sg		Sg	15 46 43.4	-0.6
	8.3nm,0.3s							
SMRF	**Simiane la Rot**	**1.13**	**231**	*e*P		Pn	15 46 30.1	-0.1
SMRF				*e*Sg		Sg	15 46 43.4	-0.6
	4.2nm,0.3s							
LMR	**La Mourre**	**1.37**	**189**	*e*Pg		Pn	15 46 33.3	-0.1
LMR				*e*Sg		Sg	15 46 51.3	-0.2
	8.7nm,0.2s							
LMR	**La Mourre**	**1.37**	**189**	*e*Pg		Pn	15 46 33.3	-0.1
LMR				*e*Sg		Sg	15 46 51.3	-0.2
	4.3nm,0.2s							
VIVF	**Saint-Julien-l**	**1.53**	**277**	*e*Pg		Pn	15 46 35.9	+0.3
VIVF				*e*Sg		Sn	15 46 55.7	-0.4
	3.9nm,0.3s							
VIVF	**Saint-Julien-l**	**1.53**	**277**	*e*Pg		Pn	15 46 35.9	+0.3
VIVF				*e*Sg		Sn	15 46 55.7	-0.4
	2.0nm,0.3s							

MEX 28 15:51:30.3±0.6, 15.90°N×95.80°W, h15km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	**0.32**	**246**	*i* P		Pg	15 51 36.2	-0.9
HUIG				*i* S		Sg	15 51 40.7	-0.9
VHO	**Vista Hermosa**	**1.47**	**323**	*i* P		Pn	15 51 53.1	-3.5
VHO				*i* S		Sn	15 52 10.0	-5.8
PNIG	**Pinotepa**	**2.29**	**283**	*i* P		Pn	15 52 05.1	-2.5
PNIG				*i* S		Sn	15 52 31.9	-3.6
UTMO	**Huajuapan**	**2.71**	**315**	*i* P		Pn	15 52 10.7	-3.0
UTMO				*e*S		Sn	15 52 42.8	-3.6

IDC 28 15:55:06.1±2.9, 4.59°N×75.91°W, h103km±22km, mb3.4/4, mb1 3.5/4, mb1mx3.2/21, mbtmp3.4/4, Error ellipse: s-maj=32.4km s-min=27.8km az=45.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**1.59**	**80**	P		Pn	15 55 34.0	-0.2
	72nm,0.3s,baz=312,slow=3.9,SNR=83							
ROSC				S		Sn	15 55 55.5	0.0
	42nm,0.3s,baz=92,slow=21,SNR=12							
SIV	**San Ignacio**	**25.17**	**145**	P		P	16 00 22.6	+0.4
	1.1nm,0.7s,baz=335,slow=15							
YKA	**Yellowknife Ar**	**64.43**	**341**	P		P	16 05 31.6	+0.4
	0.1nm,0.3s,baz=134,slow=5.9,SNR=4.4							
YKA				pP		pP	16 05 50.1	-6.7
	0.4nm,0.7s,baz=130,slow=6.8,SNR=7.1							
DBIC	**Dimbokro**	**70.69**	**85**	P		P	16 06 10.8	-0.8
	2.2nm,0.6s,baz=261,slow=7.4,SNR=4.9							
TORD	**Torodi Ar. Bea**	**76.91**	**78**	P		P	16 06 48.4	+0.5
	0.3nm,0.4s,baz=278,slow=4.9,SNR=10.0							
ASAR	**Alice Springs**	**145.56**	**234**	PKPbc		PKPbc	16 14 33.5	-0.1
	0.2nm,0.4s,baz=119,slow=3.6,SNR=7.6							
WRA	**Warramunga Arr**	**146.83**	**240**	PKPbc		PKPdf	16 14 35.2	-0.2
	0.3nm,0.9s,baz=105,slow=2.8,SNR=3.1							

SZGRF ***28*** *15:58:07.9, 21.45°×174.67°W, h33km, Tonga Islands*
NEIC ***28*** *15:58:23.0±0.9, 21.07°×177.91W, h125km±8km, mb4.7/11, Error ellipse: s-maj=10.6km s-min=8.1km az=112.0*
BJI ***28*** *15:58:24.5, 20.61°×178.64W, h108km, mb5.3/14, mb4.9/19*
IDC ***28*** *15:58:50.8±2.3, 21.46°×177.91W, h384km±23km, mb3.7/15, mb1 3.9/17, mb1mx3.8/24, mbtmp3.7/17, Error ellipse: s-maj=16.5km s-min=11.8km az=142.0*
ISCJB ***28*** *15:58:51.0±0.3, 21.62°±0.06°×177.86W±0.07, h400km, mb4.3/30, Error ellipse: s-maj=10.1km s-min=6.8km az=43.2*
AUST ***28*** *15:58:52.3±1.4, 21.12°×177.74W, h416km, Error ellipse: s-maj=2.1km s-min=1.4km az=351.0*

**ISC 28 15:58:50.9±0.4, 21.55S±0.07°×177.81W±0.08

	baz=49,SNR=11						
MTN	**Manton Dam**	**49.36**	**271**	*e*P	**P**	**16 07 02.2**	**+0.1**
	baz=49,SNR=4.0						
FITZ	**Fitzroy Crossi**	**53.07**	**263**	*e*P	**P**	**16 07 26.7**	**-2.6**
	11nm,1.2s						
FITZ				*e*PP	PP	16 09 27.0	-7.1
FITZ	**Fitzroy Crossi**	**53.07**	**263**	P	**P**	**16 07 30.3**	**+1.0**
	baz=53,SNR=10						
SWI	**Sorong**	**53.69**	**286**	P	**P**	**16 07 34.7**	**+0.9**
	baz=54,SNR=6.4						
SBA	**Scott Base**	**56.84**	**184**	*e*P	**P**	**16 07 56.8**	**+1.8**
SBA				*e*PcP	**PcP**	**16 08 48.1**	**+2.9**
VNDA	**Vanda**	**56.89**	**185**	P	P	16 07 58.4	+3.1
	0.6nm,0.7s,baz=2.2,slow=8.6,SNR=3.5						
MEEK	**Meekatharra**	**57.75**	**251**	P	**P**	**16 08 02.2**	**0.0**
	baz=58,SNR=7.0						
KLBR	**Kellerberrin**	**57.78**	**245**	P	**P**	**16 08 04.0**	**+1.7**
	baz=58,SNR=8.6						
BLDU	**Ballidu**	**58.80**	**246**	P	**P**	**16 08 09.6**	**+0.3**
	baz=59,SNR=7.6						
MORW	**Morawa**	**59.60**	**248**	P	**P**	**16 08 15.2**	**+0.5**
	baz=60,SNR=6.6						
MJAR	**Matsushiro Arr**	**71.15**	**324**	P	**P**	**16 09 28.2**	**+0.6**
	1.4nm,0.8s,baz=170,slow=6.6,SNR=4.9						
PETK	**Petropavlovsk-**	**77.32**	**345**	P	**P**	**16 10 02.7**	**+0.4**
	4.5nm,0.8s,baz=141,slow=9.6,SNR=4.4						
KSRS	**Korea Array**	**77.79**	**319**	P	P	16 10 07.4	+2.2
	1.4nm,0.7s,baz=139,slow=6.2,SNR=6.0						
NJ2	**Nanjing**	**80.68**	**310**	*e*P	**P**	**16 10 22.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
YBH	**Yreka Blue Hor**	**80.99**	**38**	P	P	16 10 25.0	+2.6
	comp=Z,5.9nm,0.7s,baz=169,slow=2.0,SNR=12						
MDJ	**Mudanjiang**	**81.47**	**325**	P	**P**	**16 10 21.8**	**-2.9**
MDJ				pP	PcP	16 10 49.3	+20
MDJ				sP	sP	16 11 01.0	-96
MDJ				S	ScS	16 20 27.5	+11
MDJ				SS	**SS**	**16 25 33.3**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,60nm,3.4s						
MDJ				LR	LR		
	comp=N,23nm,20.0s						
MDJ				LR	LR		
	comp=E,25nm,18.7s						
MDJ				LR	LR		
	comp=Z,40nm,20.0s						
NVAR	**Mina Array Bea**	**81.66**	**43**	P	**P**	**16 10 28.1**	**+2.1**
	comp=Z,3.1nm,0.9s,baz=223,slow=8.8,SNR=18						
MOD	**Modoc**	**82.50**	**39**	*e*P	**P**	**16 10 30.3**	**+0.1**
	comp=Z,4.9nm,1.0s						
CN2	**Changchun**	**83.23**	**322**	*e*P	P	16 10 36.5	+2.8
CN2				*es*P	sP	16 11 16.5	-90
CN2				*e*S	ScS	16 20 45.5	+15
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
SYO	**Syowa Base**	**85.75**	**193**	⇓*e*X	**P**	**16 10 42.6**	**-3.2**
ENH	**Enshi**	**86.77**	**304**	*e*P	**P**	**16 10 52.4**	**+1.0**
	comp=Z,13nm,0.9s						
VNA3	**Neumayer Olymp**	**87.09**	**176**	*e*P	**P**	**16 10 53.6**	**+1.4**
SRU	**San Rafael**	**87.12**	**46**	*e*P	**P**	**16 10 54.6**	**+1.6**
	comp=Z,137nm,0.9s						
GYA	**Guiyang**	**87.32**	**300**	*e*P	**P**	**16 10 55.8**	**+1.6**
GYA				pP	PcP	16 11 26.3	+31
GYA				sP	sP	16 11 39.0	-89
GYA				PP	**PP**	**16 14 23.3**	**-2.2**
GYA				SKS	**ScS**	**16 21 10.0**	**+4.3**
GYA				S	S	16 21 23.5	+23
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
TXAR	**Lajitas Array**	**87.47**	**57**	P	P	16 10 57.5	+2.6
	comp=Z,1.1nm,0.6s,baz=217,slow=6.8,SNR=11						
VNA2	**Neumayer--Watz**	**87.53**	**177**	*e*P	**P**	**16 10 55.9**	**+1.6**
	baz=232,slow=3.1						
ANMO	**Albuquerque**	**87.92**	**51**	P	**P**	**16 10 58.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=263,slow=8.1,SNR=4.1						
LRM	**Limekiln Ridge**	**89.40**	**39**	*e*P	**P**	**16 11 04.5**	**+0.9**
PDAR	**Pinedale Array**	**89.60**	**43**	P	**P**	**16 11 05.4**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=210,slow=4.4,SNR=12						
BOZ	**Bozeman (W)**	**89.80**	**40**	*e*P	**P**	**16 11 06.8**	**+1.4**
	comp=Z,3.9nm,0.6s						
KMI	**Kunming**	**89.98**	**297**	P	P	16 11 09.5	+2.7
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LKWY	**Lake**	**89.98**	**41**	*e*P	**P**	**16 11 08.0**	**+1.6**
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**90.21**	**314**	*e*P	**P**	**16 11 08.3**	**+1.0**
HHC				pP	PcP	16 11 37.3	+29
HHC				sP	sP	16 11 49.3	-92
HHC				PP	**PP**	**16 14 44.3**	**-3.8**
HHC				SKS	**ScS**	**16 21 26.5**	**-2.5**
HHC				S	S	16 21 50.0	+24
HHC				sS	sS	16 22 40.3	-91
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,6.1s						
CMAR	**Chiang Mai Arr**	**90.63**	**289**	P	P	16 11 12.3	+2.7
	comp=Z,2.9nm,0.8s,baz=135,slow=3.1,SNR=28						
CHTO	**Chiang Mai**	**90.77**	**290**	*e*P	P	16 11 12.3	+2.0
	comp=Z,3.4nm,0.7s						
CD2	**Chengdu**	**91.50**	**303**	P	P	16 11 15.8	+2.3
CD2				pP	PcP	16 11 46.0	+32
CD2				sP	sP	16 11 58.5	-89
CD2				PP	**PP**	**16 14 57.0**	**-1.3**
CD2				SKS	**S**	**16 21 35.5**	**-2.7**
CD2				S	ScS	16 22 02.0	+22
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.1s						
CD2				LR	LR		
	comp=N,260nm,6.0s						
CD2				LR	LR		
	comp=Z,240nm,5.4s						
LZH	**Lanzhou**	**93.54**	**307**	*e*P	P	16 11 25.5	+2.6
LZH				pP	PcP	16 11 55.5	+32
LZH				sP	sP	16 12 05.5	-91
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**111.41**	**321**	PKiKP	**PKiKP**	**16 16 36.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=102,slow=2.4,SNR=10						
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**	**16 16 38.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=113,slow=1.2,SNR=19						
KSH	**Kashi**	**115.63**	**305**	*e*PKP	PKPdf	16 16 53.8	+7.2
KSH				sPKP		16 17 30.0	
KSH				PP	PP	16 18 01.5	+5.2
KSH				PKS	PKSdf	16 20 29.0	+5.6
KSH				SKS	SKSdf	16 23 54.0	+34
KSH				LR	LR		
	comp=N,44nm,7.9s						
KSH				LR	LR		
	comp=E,61nm,5.2s						
KSH				LR	LR		
	comp=Z,180nm,5.4s						
ARCES	**ARCESS Array B**	**129.98**	**350**	PKP	**PKPdf**	**16 17 12.9**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=99,slow=1.6,SNR=17						
FINES	**FINESS Array B**	**136.82**	**343**	PKhKP	PKPpre	16 17 16.8	
	comp=Z,1.4nm,0.8s,baz=221,slow=2.0,SNR=4.8						
FINES				PKP	**PKPdf**	**16 17 25.6**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=66,slow=4.7,SNR=5.8						
NOA	**NORSAR Array B**	**140.03**	**353**	PKhKP	PKPpre	16 17 26.4	
	comp=Z,1.3nm,0.9s,baz=40,slow=4.2,SNR=4.2						
AKASG	**Malin Array Be**	**144.01**	**331**	PKP	**PKPdf**	**16 17 38.1**	**-1.3**
	comp=Z,7.8nm,0.4s,baz=43,slow=4.2,SNR=38						
MALT	**Malatya**	**144.70**	**306**	⇑*i*P	**PKPdf**	**16 17 42.8**	**+1.7**
BSEG	**Bad Segeberg**	**147.07**	**351**	*e*PKPbc	**PKPab**	**16 17 48.4**	**-1.5**
BR131	**Keskin Array S**	**147.67**	**311**	*e*PKPdf	**PKPbc**	**16 17 49.6**	**+0.2**
BRTR	**Keskin Array B**	**147.67**	**311**	PKPbc	**PKPbc**	**16 17 49.7**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=142,slow=4.4,SNR=25						
TLCR		**147.85**	**323**	⇑*i*P	**PKPab**	**16 17 50.4**	**-3.0**
BUR08	**Bucovina Ar. S**	**148.04**	**330**	*e*PKPbc	**PKPab**	**16 17 52.2**	**-2.1**
TESR		**148.14**	**327**	⇓*i*P	**PKPbc**	**16 17 51.0**	**+0.7**
CFR	**Carcaliu**	**148.23**	**324**	⇑*i*P	**PKPab**	**16 17 52.0**	**-2.9**
VRI	**Vrincioaia**	**148.53**	**326**	⇑*i*P	**PKPab**	**16 17 52.8**	**-3.4**
KSP	**Ksiaz**	**148.74**	**343**	*e*PKP	**PKPbc**	**16 17 52.9**	**+1.2**
KSP	**Ksiaz**	**148.74**	**343**	*e*PKP	**PKPbc**	**16 17 52.8**	**+1.2**
MANR	**Mangalia**	**148.82**	**322**	⇓*i*P	**PKPbc**	**16 17 55.0**	**-2.4**
TRPA	**Tarpa**	**148.85**	**333**	⇓*i*P	**PKPbc**	**16 17 53.2**	**+1.2**
CLZ	**Clausthal**	**149.10**	**350**	*e*PKPbc	**PKPbc**	**16 17 53.3**	**+0.7**
CLL	**Collm**	**149.12**	**347**	*e*PKPbc	**PKPbc**	**16 17 53.7**	**+1.2**
CLL	**Collm**	**149.12**	**347**	⇓*i*PKPdf	**PKPbc**	**16 17 53.3**	**+0.8**
	comp=Z,9.0nm,1.0s						
CLL				⇑*i*PKPbc	**PKPab**	**16 17 55.5**	**-2.8**
	comp=Z,12nm,0.7s						
CLL				*i* PKPab	PKiKP	16 17 59.9	+6.4
	comp=Z,9.0nm,0.8s						
ISR	**Istrita**	**149.13**	**325**	⇑*i*P	**PKPbc**	**16 17 54.0**	**+1.1**
DPC	**Dobruska-Polom**	**149.17**	**342**	*e*PKPDF	**PKPbc**	**16 17 53.8**	**+1.0**
DPC				⇑*e*PKP	**PKPab**	**16 17 56.0**	**-2.7**
DPC				*e*PKPAB	PKiKP	16 18 00.8	+7.0
BRG	**Berggiesshubel**	**149.31**	**345**	*e*PKP	**PKPbc**	**16 17 54.0**	**+1.0**
	comp=Z,5.6nm,0.7s						
BRG				*e*		16 17 56.1	
	comp=Z,7.9nm,0.9s						
BRG	**Berggiesshubel**	**149.31**	**345**	*e*PKPbc	**PKPbc**	**16 17 54.2**	**+1.2**
SECR		**149.44**	**326**	⇑*i*P	**PKPbc**	**16 17 55.2**	**+1.6**
PVCC	**Panska Ves**	**149.48**	**344**	⇑*e*PKP	**PKPbc**	**16 17 54.7**	**+1.2**
VOIR		**149.69**	**327**	⇑*i*P	**PKPbc**	**16 17 55.0**	**+0.8**
PRU	**Pruhonice**	**149.98**	**344**	*e*PKPDF	**PKPbc**	**16 17 55.2**	**+0.5**
PRU				⇑*e*PKP	**PKPab**	**16 17 57.5**	**-4.5**
PRU				*e*PKPAB	PKiKP	16 18 03.6	+8.2
TANN	**Tannenbergstha**	**150.07**	**347**	*e*PKPbc	**PKPbc**	**16 17 56.0**	**+1.0**
NKC	**Novy Kostel**	**150.25**	**347**	⇑*e*PKP	**PKPbc**	**16 17 57.5**	**+2.2**
ROTZ	**Rotzenmuhle**	**150.74**	**347**	*e*PKPbc	**PKPbc**	**16 17 57.5**	**+1.0**
KHC	**Kasperske Hory**	**151.02**	**344**	*e*PKPbc	**PKPbc**	**16 17 58.0**	**+0.7**
KHC				*e*PKPab	**PKPab**	**16 18 07.9**	**+1.5**
KHC	**Kasperske Hory**	**151.02**	**344**	*e*PKPDF	**PKPbc**	**16 17 57.9**	**+0.7**
KHC				⇑*e*PKP	**PKiKP**	**16 17 59.8**	**+2.2**
KHC				*e*PKPAB	**PKPab**	**16 18 08.4**	**+2.0**
BZS	**Buzias**	**151.20**	**331**	⇑*i*P	**PKPbc**	**16 17 58.0**	**+0.4**
GEC2	**GERESS Array S**	**151.25**	**344**	*e*PKPbc	**PKPbc**	**16 17 58.6**	**+0.8**
GERES	**GERESS Array B**	**151.25**	**344**	PKPbc	**PKPbc**	**16 17 58.5**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=25,slow=2.4,SNR=17						
GERES				PKPab	**PKPab**	**16 18 09.2**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=35,slow=3.3,SNR=4.2						
CONA	**Conrad Observa**	**151.47**	**341**	⇑*i*PKPbc	**PKPbc**	**16 17 59.4**	**+1.1**
	comp=Z,4.5nm,0.7s						
PKSM	**Moragy**	**151.97**	**335**	⇑*i*P	**PKPbc**	**16 17 59.8**	**+0.4**
RJOB	**Jochberg**	**152.50**	**344**	*e*PKPbc	**PKPbc**	**16 18 02.7**	**+2.1**
VTS	**Vitosha**	**152.62**	**325**	⇓*i*P	**PKPbc**	**16 18 03.5**	**+2.4**
WTTA	**Wattenberg**	**153.23**	**346**	⇑*i*PKPbc	**PKPbc**	**16 18 02.9**	**+0.6**
	comp=Z,5.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**171.64**	**177**	PKP	**PKPdf**	**16 18 12.8**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=285,slow=1.2,SNR=5.4						
TORD				PKPab	**PKPab**	**16 19 40.0**	**+3.1**
	comp=Z,0.6nm,0.6s,baz=194,slow=3.8,SNR=3.9						

MEX 28 16:44:10.5±0.4, 21°.32N×104°.69W, h20km±13km, MD3.9, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**0.31**	**149**	*i* P	Pg	16 44 16.4	-1.1
ANIG				*i* S	Sb	16 44 21.5	-0.8
SFJM	**Santa Fe**	**1.75**	**118**	*i* P	Pn	16 44 37.2	-2.9
SFJM				*i* S	Sn	16 44 57.5	-4.4
EZ5V		**2.10**	**151**	*i* P	Pn	16 44 42.1	-2.8
EZ5V				*i* S	Sn	16 45 06.9	-3.8
R15V		**2.24**	**163**	*i* P	Pn	16 44 44.8	-1.8
R15V				*e*S	Sn	16 45 09.4	-4.4
ZAIG	**Zacatecas**	**2.44**	**53**	*i* P	Pn	16 44 47.4	-2.3
ZAIG				*i* S	Sn	16 45 15.7	-3.5
MMIG	**Aquila**	**3.27**	**157**	*i* P	Pn	16 44 58.2	-2.5
MMIG				*e*S	Sn	16 45 36.0	-3.1

*ATH **28** 16:44:21.6, 36°.46N×21°.70E, h5km±3km, MD3.5/18*
*THE **28** 16:44:22.2, 36°.43N×21°.71E, h0km±3km, ML2.8/6, Error ellipse: s-maj=3.8km s-min=1.4km az=215.0*
*CSEM **28** 16:44:22.2±0.7, 36°.43N×21°.75E, h2km, MD3.5, Error ellipse: s-maj=12.0km s-min=7.4km az=39.0*

ISC 28 16:44:22.1±1.9, 36°.44N±0°.06×21°.72E±0°.05, h2km±10km, n58, σ0s73/83, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.45**	**3**	P	**Pg**	**16 44 30.2**	**-0.6**
PYL				S	**Sg**	**16 44 37.8**	**+1.1**
PYL	**PYLOS**	**0.45**	**3**	*e*PB	**Pg**	**16 44 30.3**	**-0.6**
PYL	**PYLOS**	**0.45**	**3**	*e*Pb	**Pg**	**16 44 30.3**	**-0.6**
PYL				S	**Sg**	**16 44 37.8**	**+1.1**
DYR	**Agios Nikonas**	**0.59**	**57**	P	**Pg**	**16 44 32.3**	**-1.2**
DYR				S	**Sg**	**16 44 41.9**	**+0.8**
DYR	**Agios Nikonas**	**0.59**	**57**	*e*PB	**Pg**	**16 44 32.4**	**-1.1**
DYR				*e*SB	**Sg**	**16 44 42.1**	**+1.0**
DYR	**Agios Nikonas**	**0.59**	**57**	*e*Pb	**Pg**	**16 44 32.4**	**-1.1**
DYR				*e*Sb	**Sg**	**16 44 42.1**	**+1.0**
ITM	**Ithomi**	**0.75**	**13**	P	**Pg**	**16 44 36.4**	**-0.2**
ITM				S	**Sb**	**16 44 47.7**	**-1.0**
ITM	**Ithomi**	**0.75**	**13**	*e*PB	**Pg**	**16 44 35.9**	**-0.7**
ITM				*e*SB	**Sg**	**16 44 46.7**	**+0.3**
ITM	**Ithomi**	**0.75**	**13**	*e*Pb	**Pg**	**16 44 35.9**	**-0.7**
ITM	**Ithomi**	**0.75**	**13**	P	**Pg**	**16 44 36.4**	**-0.2**
ITM				*e*Sb	**Sg**	**16 44 46.7**	**+0.3**
ITM				S	**Sb**	**16 44 47.7**	**-1.0**
VLI	**Veliai**	**1.02**	**74**	P	**Pg**	**16 44 41.6**	**-0.1**
VLI				S	**Sn**	**16 44 57.5**	**-0.8**
VLI	**Veliai**	**1.02**	**74**	*e*PN	**Pb**	**16 44 41.8**	**-0.7**
VLI				*e*SB	**Sb**	**16 44 56.4**	**+0.1**
VLI	**Veliai**	**1.02**	**74**	P	**Pg**	**16 44 41.6**	**-0.1**
VLI				*e*Sb	**Sb**	**16 44 56.4**	**+0.1**
VLI				S	**Sn**	**16 44 57.5**	**-0.8**
VLX	**Vlachokerasia**	**1.07**	**30**	P	**Pg**	**16 44 41.7**	**-0.9**
VLX				S	**Sb**	**16 44 58.9**	**+1.1**
VLX	**Vlachokerasia**	**1.07**	**30**	*e*PG	**Pg**	**16 44 41.6**	**-1.0**
VLX				*e*SB	**Sg**	**16 44 56.2**	**-0.2**
VLX	**Vlachokerasia**	**1.07**	**30**	P	**Pg**	**16 44 41.7**	**-0.9**
VLX				*e*Sb	**Sg**	**16 44 56.2**	**-0.2**
VLX				S	**Sb**	**16 44 58.9**	**+1.1**
KYTH	**Kithira**	**1.08**	**98**	P	**Pg**	**16 44 42.3**	**-0.5**
KYTH	**Kithira**	**1.08**	**98**	*e*PB	**Pg**	**16 44 42.5**	**-0.3**
KYTH	**Kithira**	**1.08**	**98**	*e*Pb	**Pg**	**16 44 42.5**	**-0.3**
AMT	**Artemida-Makis**	**1.09**	**360**	P	**Pg**	**16 44 42.4**	**-0.6**
AMT				S	**Sn**	**16 44 59.9**	**-0.1**
AMT	**Artemida-Makis**	**1.09**	**360**	*e*PB	**Pg**	**16 44 42.4**	**-0.6**
AMT	**Artemida-Makis**	**1.09**	**360**	P	**Pg**	**16 44 42.4**	**-0.6**
AMT				S	**Sn**	**16 44 59.9**	**-0.1**
GUR	**Goura**	**1.57**	**18**	P	**Pn**	**16 44 50.9**	**-0.2**
GUR	**Goura**	**1.57**	**18**	*e*PG	**Pn**	**16 44 50.8**	**-0.3**
GUR	**Goura**	**1.57**	**18**	P	**Pn**	**16 44 50.9**	**-0.2**
DIDY	**Didyma**	**1.58**	**49**	P	**Pn**	**16 44 51.2**	**0.0**
DIDY	**Didyma**	**1.58**	**49**	P	**Pn**	**16 44 51.2**	**0.0**
DID	**Didima**	**1.61**	**48**	P	**Pn**	**16 44 51.7**	**+0.1**
DID				S	**Sg**	**16 45 14.9**	**+0.9**
DID	**Didima**	**1.61**	**48**	*e*PG	**Pn**	**16 44 51.7**	**+0.1**
DID	**Didima**	**1.61**	**48**	P	**Pn**	**16 44 51.7**	**+0.1**
DID				S	**Sg**	**16 45 14.9**	**+0.9**
RLS	**Riolos of Patr**	**1.62**	**353**	P	**Pn**	**16 44 51.9**	**+0.2**
RLS	**Riolos of Patr**	**1.62**	**353**	*e*PB	**Pg**	**16 44 53.1**	**-0.2**
RLS	**Riolos of Patr**	**1.62**	**353**	P	**Pn**	**16 44 51.9**	**+0.2**
RLS	**Riolos of Patr**	**1.62**	**353**	*e*Pb	**Pg**	**16 44 53.1**	**-0.2**
LAKA	**Lakka**	**1.81**	**7**	P	**Pn**	**16 44 54.2**	**-0.1**
LAKA				S	**Sb**	**16 45 19.5**	**+0.5**
LAKA	**Lakka**	**1.81**	**7**	*e*PN	**Pb**	**16 44 55.8**	**-0.1**
LAKA	**Lakka**	**1.81**	**7**	P	**Pn**	**16 44 54.2**	**-0.1**
LAKA	**Lakka**	**1.81**	**7**	*e*Pn	**Pb**	**16 44 55.8**	**-0.1**
LAKA				S	**Sb**	**16 45 19.5**	**+0.5**
LTK	**Loutraki**	**1.87**	**32**	P	**Pn**	**16 44 55.4**	**+0.3**
LTK				S	**Sb**	**16 45 21.3**	**+0.6**
LTK	**Loutraki**	**1.87**	**32**	*e*PG	**Pn**	**16 44 55.2**	**+0.1**
LTK	**Loutraki**	**1.87**	**32**	P	**Pn**	**16 44 55.4**	**+0.3**
LTK				S	**Sb**	**16 45 21.3**	**+0.6**
NAIG	**Nisos Aigina**	**1.93**	**47**	*e*PG	**Pb**	**16 44 57.6**	**-0.4**
NAIG	**Nisos Aigina**	**1.93**	**47**	*e*Pg	**Pb**	**16 44 57.6**	**-0.4**
TRIZ	**Trizonia**	**1.94**	**8**	*e*PN	**Pb**	**16 44 58.0**	**-0.2**
TRIZ	**Trizonia**	**1.94**	**8**	*e*Pn	**Pb**	**16 44 58.0**	**-0.2**
VLS	**Valsamata**	**1.95**	**333**	*e*PN	**Pg**	**16 44 59.1**	**-0.4**
KALE	**Kalithea**	**1.97**	**10**	P	**Pn**	**16 44 57.0**	**+0.4**
KALE	**Kalithea**	**1.97**	**10**	*e*PN	**Pb**	**16 44 58.8**	**0.0**
KALE	**Kalithea**	**1.97**	**10**	P	**Pn**	**16 44 57.0**	**+0.4**
DSF	**Desfina**	**2.07**	**18**	P	**Pn**	**16 44 57.9**	**0.0**
DSF	**Desfina**	**2.07**	**18**	P	**Pn**	**16 44 57.9**	**0.0**
PTL	**Penteli**	**2.35**	**46**	*e*PN	**Pn**	**16 45 03.2**	**+1.5**
PTL	**Penteli**	**2.35**	**46**	*e*Pn	**Pn**	**16 45 03.2**	**+1.5**
LKR	**Lokris**	**2.43**	**24**	*e*PN	**Pn**	**16 45 04.0**	**+1.2**
LKR	**Lokris**	**2.43**	**24**	*e*Pn	**Pn**	**16 45 04.0**	**+1.2**
EVR	**Evrytania**	**2.47**	**2**	*e*PN	**Pb**	**16 45 05.7**	**-1.6**
AGG	**Agios Georgios**	**2.62**	**11**	*e*PN	**Pn**	**16 45 07.2**	**+1.8**
AGG	**Agios Georgios**	**2.62**	**11**	*e*Pn	**Pn**	**16 45 07.3**	**+1.8**

IDC 28 16:52:55.0±1.0, 14°.15N×119°.39E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=27.8km s-min=16.7km az=40.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.50**	**92**	Pn	Pn	16 53 23.2	-0.1
	35nm,0.3s,baz=164,slow=6.2,SNR=13						
TGY				Sn	Sn	16 53 45.5	+1.9
	47nm,0.3s,baz=328,slow=18,SNR=7.9						
CMAR	**Chiang Mai Arr**	**20.09**	**285**	P	P	16 57 30.3	-0.1
	0.5nm,1.0s,baz=90,slow=8.7,SNR=4.1						
KSRS	**Korea Array**	**24.42**	**17**	LR	LR	17 08 49.0	
	comp=Z,48nm,19.1s,baz=205,slow=39						
JHJ	**Hachijo jima 2**	**26.47**	**41**	LR	LR	17 08 28.6	
	comp=Z,76nm,18.1s,baz=50,slow=35						
SONM	**Songino Array**	**35.28**	**345**	P	P	16 59 50.3	-1.5
	0.3nm,0.7s,baz=162,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**36.93**	**156**	P	P	17 00 05.3	-0.6
	1.4nm,0.8s,baz=331,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**40.17**	**159**	P	P	17 00 33.5	+0.2
	1.4nm,0.8s,baz=337,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**44.92**	**324**	P	P	17 01 12.4	+0.7
	0.4nm,0.8s,baz=129,slow=9.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**48.08**	**333**	P	P	17 01 36.7	+0.4
	0.4nm,0.5s,baz=132,slow=2.1,SNR=2.7						

MEX 28 16:53:55.6±0.4, 21°.31N×104°.79W, h10km±2km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**0.36**	**135**	*i* P	Pg	16 54 03.1	+0.1
ANIG				*i* S	Sg	16 54 08.3	+0.4
SFJM	**Santa Fe**	**1.83**	**116**	*i* P	Pn	16 54 23.8	-3.7
SFJM				*i* S	Sn	16 54 46.2	-4.7
EZ5V		**2.14**	**148**	*i* P	Pn	16 54 27.9	-3.9
EZ5V				*i* S	Sn	16 54 54.7	-4.0
R15V		**2.26**	**160**	*i* P	Pn	16 54 30.0	-3.2
R15V				*i* S	Sn	16 54 57.2	-4.1
ZAIG	**Zacatecas**	**2.52**	**55**	*i* P	Pn	16 54 34.4	-2.7
ZAIG				*i* S	Sn	16 55 04.1	-4.1
MMIG	**Aquila**	**3.30**	**155**	*i* P	Pn	16 54 45.2	-2.2
MMIG				*i* S	Sn	16 55 23.6	-3.1

GUC 28 17:02:48.3±0.6, 23°.87S×67°.42W, h204km±31km, ML3.9, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.29**	**300**	⇑*i*P	Pn	17 03 32.1	+1.7
PB06				*i* S	S	17 04 04.8	+2.1
PB06				AML	AML	17 04 08.3	
	comp=E,234nm,0.1s						
CEN1	**Los Morros**	**2.60**	**280**	*i* S	S	17 04 12.4	+3.9
CEN1				AML	AML	17 04 15.1	
	comp=N,178nm,0.5s						
PB09	**Plate Boundary**	**2.66**	**320**	⇓*i*P	Pn	17 03 37.1	+2.5
PB09				*i* S	S	17 04 13.4	+3.3
PB09				AML	AML	17 04 16.2	
	comp=N,205nm,0.5s						
ANCH	**Antofagasta**	**2.75**	**273**	⇓*i*P	Pn	17 03 36.5	+1.3
ANCH				*i* S	S	17 04 13.8	+2.5
ANCH				AML	AML	17 04 15.3	
	comp=E,334nm,0.1s						
PB01	**Plate Boundary**	**3.40**	**325**	*e*P	Pn	17 03 44.6	+1.5
PB01				*e*S	S	17

	baz=12,SNR=29							
PCI	**Palu**	**13.02**	**266**	P	**Pn**	**17 24 34.2**	**-0.1**
	baz=12,SNR=4.7							
WRA	**Warramunga Arr**	**19.91**	**176**	P	**P**	**17 26 01.1**	**+0.6**
	2.5nm,0.6s,baz=354,slow=11,SNR=23							
WRA				S	S	17 29 31.1	-12	
	0.5nm,0.8s,baz=1.8,slow=22,SNR=4.8							
ASAR	**Alice Springs**	**23.58**	**178**	P	**P**	**17 26 40.4**	**+0.9**
	1.7nm,0.4s,baz=358,slow=9.3,SNR=56							
STKA	**Stephens Creek**	**32.81**	**166**	P	**P**	**17 28 02.5**	**+0.6**
	1.3nm,0.9s,baz=328,slow=9.6,SNR=3.2							

IDC 28 17:37:31.8±2.4, 6.70S×129.75E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=96.5km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.02**	**199**	Pn	Pn	17 40 25.9	+1.3
	0.5nm,0.3s,baz=23,slow=12,SNR=30						
FITZ				Sn	Sn	17 42 26.6	-13
	0.1nm,0.3s,baz=17,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**13.90**	**162**	Pn	Pn	17 40 49.5	-0.8
	0.5nm,0.3s,baz=332,slow=14,SNR=33						
WRA				Sn	Sn	17 43 13.1	-12
	0.5nm,0.3s,baz=326,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.34**	**167**	P	Pn	17 41 34.8	-0.6
	0.3nm,0.3s,baz=344,slow=9.3,SNR=27						
ASAR				S	Sn	17 44 35.2	-14
	0.1nm,0.3s,baz=346,slow=25,SNR=2.5						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	17 48 31.9	0.0
	0.1nm,0.4s,baz=123,slow=8.1,SNR=4.0						

MAN 28 17:41:18, 5.82N×125.21E, h60km, mb4.3, ML3.1, MS2.9, Mindanao

*MOS **28** 17:42:11.9±1.1, 49.26N×156.50E, h47km, mb4.5/1, Error ellipse: s-maj=28.8km s-min=8.1km az=71.0*
*KRSC **28** 17:42:13.6±1.4, 49.51N×157.28E, h5km±5km, ML4.4*
*ISCJB **28** 17:42:14.6±1.0, 49.45N±0.08×156.4E±0.1, h66km±11km, mb3.2/8, Error ellipse: s-maj=19.0km s-min=7.2km az=37.1*
*IDC **28** 17:42:14.9±0.8, 49.49N×155.94E, h53km±7km, mb3.1/8, mb1 3.5/10, mb1mx3.2/27, mbtmp3.1/10, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=43.3km s-min=13.8km az=131.0*

ISC 28 17:42:14.8±0.8, 49.34N±0.08×156.48E±0.09, h50km±8km, n43, σ1§29/61, mb3.3/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.37**	**350**	i/P	**Pn**	**17 42 37.5**	**+0.1**
SKR				*i* S	**Sn**	**17 42 53.4**	**-1.0**
SKR				pmax	pmax		
	comp=N,240nm,0.4s						
SKR				pmax	pmax		
	comp=E,150nm,0.4s						
SKR				pmax	pmax		
	comp=Z,240nm,0.4s						
SKR				smax	smax		
	comp=N,1μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR				smax	smax		
	comp=Z,410nm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.95**	**3**	P	**Pn**	**17 42 58.3**	**-0.8**
MIPR				*i* S	**Sn**	**17 43 30.6**	**-2.6**
ASAK	**Asacha**	**3.18**	**16**	*e*P	**Pn**	**17 43 02.7**	**+0.4**
ASAK				*i* S	**Sn**	**17 43 38.6**	**-0.4**
MTVR	**Mutnovka**	**3.33**	**18**	*e*P	**Pn**	**17 43 04.5**	**+0.1**
MTVR				*i* S	**Sn**	**17 43 41.7**	**-1.1**
RUS	**Russkaya**	**3.36**	**22**	PN	**Pn**	**17 43 04.2**	**-0.4**
RUS				S	**Sn**	**17 43 40.9**	**-2.3**
RUS	**Russkaya**	**3.36**	**22**	*e*P	**Pn**	**17 43 04.2**	**-0.4**
RUS				*i* S	**Sn**	**17 43 40.9**	**-2.3**
GRL	**Gorelyy**	**3.38**	**17**	*e*P	**Pn**	**17 43 05.3**	**+0.3**
GRL				*i* S	**Sn**	**17 43 42.8**	**-1.0**
APC	**Apacha**	**3.62**	**7**	*e*P	**Pn**	**17 43 08.6**	**+0.4**
PETK	**Petropavlovsk-**	**3.85**	**11**	PN	**Pn**	**17 43 11.9**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=194,slow=13,SNR=197						
PETK	**Petropavlovsk-**	**3.85**	**11**	PN	**Pn**	**17 43 11.9**	**+0.4**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**3.94**	**20**	*e*PN	**Pn**	**17 43 12.9**	**+0.3**
PET				*e*S	**Sn**	**17 43 57.2**	**-0.3**
PET				pmax	pmax		
	comp=Z,26nm,0.6s						
PET				smax	smax		
	comp=N,158nm,0.6s						
PET				smax	smax		
	comp=E,137nm,0.5s						
PET	**Petropavlovsk**	**3.94**	**20**	*e*P	**Pn**	**17 43 12.8**	**+0.2**
PET				*i* S	**Sn**	**17 43 56.5**	**-1.0**
UGLR	**Uglovaya**	**4.15**	**20**	*e*P	**Pn**	**17 43 16.9**	**+1.3**
UGLR				*i* S	**Sn**	**17 44 03.2**	**+0.4**
AVH	**Avacha**	**4.18**	**19**	*e*P	**Pn**	**17 43 17.4**	**+1.4**
AVH				*i* S	**Sn**	**17 44 03.8**	**+0.2**
KOK	**Koryaka**	**4.19**	**18**	*e*P	**Pn**	**17 43 17.6**	**+1.5**
SMAR	**Somma**	**4.19**	**19**	*e*P	**Pn**	**17 43 17.6**	**+1.3**
KRER	**Koryakskii**	**4.22**	**19**	*e*P	**Pn**	**17 43 17.7**	**+1.0**
SDLR	**Sedlovina**	**4.23**	**20**	*e*P	**Pn**	**17 43 17.1**	**+0.4**
SDLR				*i* S	**Sn**	**17 44 04.2**	**-0.6**
SPN	**Mys Shipunski**	**4.38**	**29**	PN	**Pn**	**17 43 18.6**	**0.0**
SPN	**Mys Shipunski**	**4.38**	**29**	*e*P	**Pn**	**17 43 18.6**	**0.0**
SPN				*i* S	**Sn**	**17 44 06.9**	**-1.4**
GNL	**Ganaly**	**4.46**	**11**	*e*P	**Pn**	**17 43 21.2**	**+1.3**
GNL				*i* S	**Sn**	**17 44 10.3**	**-0.2**
KII	**Karymskiy**	**5.06**	**20**	P	**Pn**	**17 43 29.5**	**+1.5**
KII				*i* S	**Sn**	**17 44 24.9**	**-0.2**
MKZ	**Mys Kozlova**	**6.15**	**30**	PN	**Pn**	**17 43 41.8**	**-1.1**
MKZ	**Mys Kozlova**	**6.15**	**30**	*e*P	**Pn**	**17 43 41.8**	**-1.1**
MKZ				*e*S	**Sn**	**17 44 47.2**	**-4.7**
TUMR	**Tumrok**	**6.37**	**19**	P	**Pn**	**17 43 47.3**	**+1.3**
KMNR	**Kamenistaya**	**6.83**	**18**	P	**Pn**	**17 43 53.4**	**+1.1**
KPT	**Kopyto**	**7.02**	**17**	P	**Pn**	**17 43 56.3**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**7.09**	**20**	P	**Pn**	**17 43 56.7**	**+0.8**
KBTR	**Krutoberegovo**	**7.88**	**27**	PN	**Pn**	**17 44 06.4**	**-0.2**
KBTR	**Krutoberegovo**	**7.88**	**27**	P	**Pn**	**17 44 06.4**	**-0.2**
BKI	**Bering**	**8.27**	**41**	PN	**Pn**	**17 44 11.3**	**-0.6**
BKI	**Bering**	**8.27**	**41**	P	**Pn**	**17 44 11.3**	**-0.6**
BKI				*i* S	Sn	17 45 36.6	-7.2
ASAJ	**Asahikawa**	**10.86**	**247**	P	**Pn**	**17 44 47.2**	**-0.2**
	comp=E,0.6nm,0.3s,baz=145,slow=12,SNR=5.7						
MJAR	**Matsushiro Arr**	**18.44**	**233**	P	**P**	**17 46 23.5**	**-2.6**
	comp=E,0.1nm,0.3s,baz=27,slow=12,SNR=3.5						
KSRS	**Korea Array**	**23.75**	**251**	P	**P**	**17 47 20.4**	**-1.9**
	comp=E,0.5nm,0.7s,baz=55,slow=10.0,SNR=3.0						
KDAK	**Kodiak Island**	**30.74**	**54**	LR	LR	17 59 25.2	
	comp=E,188nm,18.9s,baz=132,slow=33						
ILAR	**Eielson Array**	**33.12**	**41**	P	**P**	**17 48 44.9**	**-0.7**
	comp=E,0.3nm,0.5s,baz=263,slow=6.2,SNR=2.5						
YKA	**Yellowknife Ar**	**47.50**	**39**	P	**P**	**17 50 43.9**	**-0.4**
	comp=E,0.1nm,0.6s,baz=297,slow=6.9,SNR=2.9						
YKA				pP	**pP**	**17 50 58.8**	**+1.2**
	comp=E,0.3nm,0.8s,baz=300,slow=7.8,SNR=4.7						
NVAR	**Mina Array Bea**	**59.27**	**66**	P	**P**	**17 52 13.5**	**+2.2**
	comp=E,0.3nm,0.6s,baz=330,slow=5.2,SNR=3.0						
PDAR	**Pinedale Array**	**61.42**	**57**	P	**P**	**17 52 28.2**	**+2.2**
	comp=E,0.5nm,0.9s,baz=349,slow=3.2,SNR=4.0						
WRA	**Warramunga Arr**	**71.73**	**202**	P	**P**	**17 53 30.5**	**-1.0**
	comp=E,0.3nm,0.8s,baz=14,slow=6.2,SNR=4.1						
WRA				pP	**pP**	**17 53 46.2**	**+0.6**
	comp=E,0.2nm,0.6s,baz=18,slow=6.8,SNR=1.4						
TXAR	**Lajitas Array**	**74.28**	**63**	P	**P**	**17 53 48.2**	**+1.3**
	comp=E,0.2nm,0.4s,baz=317,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**75.41**	**201**	P	**P**	**17 53 53.5**	**+0.4**
	comp=E,0.3nm,0.9s,baz=19,slow=6.2,SNR=5.6						
ASAR				pP	**pP**	**17 54 07.7**	**+0.5**
	comp=E,0.3nm,0.9s,baz=13,slow=5.0,SNR=2.0						

*IDC **28** 17:48:29.4±1.6, 36.53N×21.83E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.5/4, Error ellipse: s-maj=66.3km s-min=28.7km az=130.0*
*ATH **28** 17:48:30.0, 36.38N×21.68E, h6km±2km, MD3.4/19, ML3.4*
*CSEM **28** 17:48:32.1±0.3, 36.45N×21.78E, h2km, ML3.5/7, Error ellipse: s-maj=7.0km s-min=3.7km az=50.0*
*THE **28** 17:48:33.0, 36.48N×21.84E, h0km±2km, ML3.5/7, Error ellipse: s-maj=2.9km s-min=1.0km az=210.0*

ISC 28 17:48:31.4±1.3, 36.43N±0.04×21.76E±0.04, h8km±8km, n118, σ0§96/156, mb3.7/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.46**	**359**	P	**Pg**	**17 48 39.6**	**-0.8**
PYL				S	**Sg**	**17 48 47.0**	**+0.5**
PYL	**PYLOS**	**0.46**	**359**	*e*PG	**Pg**	**17 48 39.7**	**-0.7**
PYL				*e*SB	**Sg**	**17 48 47.3**	**+0.8**
PYL	**PYLOS**	**0.46**	**359**	*e*Pg	**Pg**	**17 48 39.7**	**-0.7**
PYL				*S*	**Sg**	**17 48 47.0**	**+0.5**
PYL				*e*Sb	**Sg**	**17 48 47.3**	**+0.8**
DYR	**Agios Nikonas**	**0.57**	**55**	P	**Pg**	**17 48 41.9**	**-0.6**
DYR				S	**Sg**	**17 48 50.2**	**+0.3**
DYR	**Agios Nikonas**	**0.57**	**55**	*e*PB	**Pg**	**17 48 41.8**	**-0.7**
DYR				*e*SB	**Sb**	**17 48 52.1**	**+0.2**
DYR	**Agios Nikonas**	**0.57**	**55**	P	**Pg**	**17 48 41.9**	**-0.6**
DYR				S	**Sg**	**17 48 50.2**	**+0.3**
DYR				*e*Sb	**Sb**	**17 48 52.1**	**+0.2**
ITM	**Ithomi**	**0.76**	**10**	P	**Pg**	**17 48 45.4**	**-0.6**
ITM				S	**Sg**	**17 48 56.0**	**+0.1**
ITM	**Ithomi**	**0.76**	**10**	*e*PB	**Pg**	**17 48 45.6**	**-0.4**
ITM				*e*SB	**Sg**	**17 48 56.5**	**+0.6**
ITM	**Ithomi**	**0.76**	**10**	*e*Pb	**Pg**	**17 48 45.6**	**-0.4**
ITM				S	**Sg**	**17 48 56.0**	**+0.1**
ITM				*e*Sb	**Sg**	**17 48 56.5**	**+0.6**
VLI	**Veliai**	**0.99**	**73**	P	**Pg**	**17 48 50.4**	**-0.1**
VLI				S	**Sb**	**17 49 04.2**	**+0.1**
VLI	**Veliai**	**0.99**	**73**	*e*PN	**Pg**	**17 48 50.6**	**+0.1**
VLI				*e*SB	**Sb**	**17 49 04.6**	**+0.5**
VLI	**Veliai**	**0.99**	**73**	P	**Pg**	**17 48 50.4**	**-0.1**
VLI				S	**Sb**	**17 49 04.2**	**+0.1**
VLI				*e*Sb	**Sb**	**17 49 04.6**	**+0.5**
KYTH	**Kithira**	**1.04**	**98**	P	**Pg**	**17 48 51.4**	**-0.1**
KYTH	**Kithira**	**1.04**	**98**	*e*PN	**Pg**	**17 48 51.6**	**+0.1**
KYTH	**Kithira**	**1.04**	**98**	P	**Pg**	**17 48 51.4**	**-0.1**
VLX	**Vlachokerasia**	**1.06**	**28**	P	**Pg**	**17 48 51.0**	**-0.8**
VLX				S	**Sb**	**17 49 06.7**	**+0.6**
VLX	**Vlachokerasia**	**1.06**	**28**	*e*PG	**Pg**	**17 48 51.2**	**-0.6**
VLX				*e*SB	**Sn**	**17 49 07.6**	**-0.1**
VLX	**Vlachokerasia**	**1.06**	**28**	*e*Pg	**Pg**	**17 48 51.2**	**-0.6**
VLX				S	**Sb**	**17 49 06.7**	**+0.6**
VLX				*e*Sb	**Sn**	**17 49 07.6**	**-0.1**
AMT	**Artemida-Makis**	**1.10**	**358**	P	**Pg**	**17 48 51.9**	**-0.6**
AMT				S	**Sn**	**17 49 09.4**	**+0.9**
AMT	**Artemida-Makis**	**1.10**	**358**	*e*PB	**Pg**	**17 48 51.6**	**-0.9**
AMT				*e*SB	**Sb**	**17 49 07.2**	**0.0**
AMT	**Artemida-Makis**	**1.10**	**358**	*e*Pb	**Pg**	**17 48 51.6**	**-0.9**
AMT	**Artemida-Makis**	**1.10**	**358**	P	**Pg**	**17 48 51.9**	**-0.6**
AMT				*e*Sb	**Sb**	**17 49 07.2**	**0.0**
AMT				S	**Sn**	**17 49 09.4**	**+0.9**
DIDY	**Didyma**	**1.56**	**48**	P	**Pb**	**17 49 00.6**	**0.0**
DIDY	**Didyma**	**1.56**	**48**	P	**Pb**	**17 49 00.6**	**0.0**
GUR	**Goura**	**1.57**	**17**	P	**Pn**	**17 48 59.7**	**0.0**
GUR				S	**Sb**	**17 49 21.1**	**+0.2**
GUR	**Goura**	**1.57**	**17**	*e*PG	**Pn**	**17 48 59.8**	**0.0**
GUR				*e*SB	**Sg**	**17 49 23.9**	**+1.9**
GUR	**Goura**	**1.57**	**17**	P	**Pn**	**17 48 59.7**	**0.0**
GUR				S	**Sb**	**17 49 21.1**	**+0.2**
GUR				*e*Sb	**Sg**	**17 49 23.9**	**+1.9**
DID	**Didima**	**1.60**	**47**	P	**Pb**	**17 49 00.8**	**-0.4**
DID	**Didima**	**1.60**	**47**	*e*PG	**Pn**	**17 49 00.6**	**+0.6**
DID	**Didima**	**1.60**	**47**	P	**Pb**	**17 49 00.8**	**-0.4**
RLS	**Riolos of Patr**	**1.64**	**352**	P	**Pb**	**17 49 01.7**	**-0.1**
RLS				S	**Sg**	**17 49 23.9**	**-0.2**
RLS	**Riolos of Patr**	**1.64**	**352**	*e*PB	**Pb**	**17 49 01.7**	**-0.1**
RLS				*e*SB	**Sg**	**17 49 24.7**	**+0.6**
RLS	**Riolos of Patr**	**1.64**	**352**	P	**Pb**	**17 49 01.7**	**-0.1**
RLS				S	**Sg**	**17 49 23.9**	**-0.2**
RLS				*e*Sb	**Sg**	**17 49 24.7**	**+0.6**
LAKA	**Lakka**	**1.81**	**6**	P	**Pb**	**17 49 04.5**	**-0.3**
LAKA				S	**Sb**	**17 49 28.4**	**+0.7**
LAKA	**Lakka**	**1.81**	**6**	*e*PN	**Pb**	**17 49 04.6**	**-0.3**
LAKA	**Lakka**	**1.81**	**6**	P	**Pb**	**17 49 04.5**	**-0.3**
LAKA				S	**Sb**	**17 49 28.4**	**+0.7**
UPR	**University Cam**	**1.85**	**1**	P	**Pb**	**17 49 04.7**	**-0.7**
UPR	**University Cam**	**1.85**	**1**	*e*PG	**Pb**	**17 49 05.7**	**+0.3**
UPR	**University Cam**	**1.85**	**1**	P	**Pb**	**17 49 04.7**	**-0.7**
UPR	**University Cam**	**1.85**	**1**	*e*Pg	**Pb**	**17 49 05.7**	**+0.3**
LTK	**Loutraki**	**1.86**	**31**	P	**Pn**	**17 49 04.5**	**+0.9**
LTK	**Loutraki**	**1.86**	**31**	*e*PN	**Pb**	**17 49 04.8**	**-0.8**
LTK	**Loutraki**	**1.86**	**31**	P	**Pn**	**17 49 04.5**	**+0.9**
LTK	**Loutraki**	**1.86**	**31**	*e*Pn	**Pb**	**17 49 04.8**	**-0.8**
PSA1	**Psathopyrgos**	**1.89**	**3**	*e*PG	**Pg**	**17 49 07.1**	**-0.6**
NAIG	**Nisos Aigina**	**1.92**	**46**	*e*PN	**Pb**	**17 49 06.4**	**-0.2**
NAIG	**Nisos Aigina**	**1.92**	**46**	*e*Pn	**Pb**	**17 49 06.4**	**-0.2**
TRIZ	**Trizonia**	**1.95**	**7**	P	**Pb**	**17 49 06.9**	**-0.2**
TRIZ	**Trizonia**	**1.95**	**7**	*e*PN	**Pb**	**17 49 06.6**	**-0.5**
TRIZ	**Trizonia**	**1.95**	**7**	*e*Pn	**Pb**	**17 49 06.6**	**-0.5**
TRIZ	**Trizonia**	**1.95**	**7**	P	**Pb**	**17 49 06.9**	**-0.2**
VLS	**Valsamata**	**1.97**	**332**	P	**Pb**	**17 49 07.5**	**-0.1**
VLS	**Valsamata**	**1.97**	**332**	*e*PG	**Pb**	**17 49 07.3**	**-0.3**
VLS	**Valsamata**	**1.97**	**332**	P	**Pb**	**17 49 07.5**	**-0.1**
KALE	**Kalithea**	**1.98**	**9**	P	**Pb**	**17 49 07.7**	**0.0**
KALE				S	**Sb**	**17 49 31.7**	**-0.8**
KALE	**Kalithea**	**1.98**	**9**	*e*PN	**Pb**	**17 49 07.1**	**-0.6**
KALE	**Kalithea**	**1.98**	**9**	*e*Pn	**Pb**	**17 49 07.1**	**-0.6**
KALE	**Kalithea**	**1.98**	**9**	P	**Pb**	**17 49 07.7**	**0.0**
KALE				S	**Sb**	**17 49 31.7**	**-0.8**
EFP	**Efpalio**	**1.99**	**3**	P	**Pb**	**17 49 07.5**	**-0.4**
EFP	**Efpalio**	**1.99**	**3**	P	**Pb**	**17 49 07.5**	**-0.4**
KARN	**Karanos**	**2.03**	**120**	P	**Pn**	**17 49 06.9**	**+0.9**
KARN	**Karanos**	**2.03**	**120**	P	**Pn**	**17 49 06.9**	**+0.9**
DSF	**Desfina**	**2.07**	**17**	P	**Pn**	**17 49 07.0**	**+0.5**
DSF	**Desfina**	**2.07**	**17**	P	**Pn**	**17 49 07.0**	**+0.5**
ATH	**Athens Observa**	**2.19**	**45**	*e*PN	**Pb**	**17 49 11.2**	**-0.1**
ATH	**Athens Observa**	**2.19**	**45**	*e*Pn	**Pb**	**17 49 11.2**	**-0.1**
ATHU	**Athens Univers**	**2.23**	**46**	P	**Pn**	**17 49 10.2**	**+1.6**
ATHU	**Athens Univers**	**2.23**	**46**	P	**Pn**	**17 49 10.2**	**+1.6**
VAM	**Vamos**	**2.23**	**117**	P	**Pn**	**17 49 10.6**	**+1.9**
VAM	**Vamos**	**2.23**	**117**	*e*PN	**Pb**	**17 49 10.7**	**-1.3**
VAM	**Vamos**	**2.23**	**117**	P	**Pn**	**17 49 10.6**	**+1.9**
PTL	**Penteli**	**2.33**	**46**	P	**Pn**	**17 49 10.2**	**+0.1**
PTL	**Penteli**	**2.33**	**46**	*e*PN	**Pn**	**17 49 11.6**	**+1.5**
PTL	**Penteli**	**2.33**	**46**	P	**Pn**	**17 49 10.2**	**+0.1**
PTL	**Penteli**	**2.33**	**46**	*e*Pn	**Pn**	**17 49 11.6**	**+1.5**
LKR	**Lokris**	**2.42**	**24**	*e*PB	**Pn**	**17 49 11.9**	**+0.6**
LKR	**Lokris**	**2.42**	**24**	*e*Pb	**Pn**	**17 49 11.9**	**+0.6**
AXAR	**Agios Charalam**	**2.44**	**17**	P	**Pn**	**17 49 13.0**	**+1.5**
AXAR	**Agios Charalam**	**2.44**	**17**	P	**Pn**	**17 49 13.0**	**+1.5**
ATAL	**Atalanti**	**2.47**	**24**	P	**Pn**	**17 49 12.6**	**+0.7**
ATAL	**Atalanti**	**2.47**	**24**	P	**Pn**	**17 49 12.6**	**+0.7**
EVR	**Evrytania**	**2.48**	**1**	*e*PG	**Pb**	**17 49 16.0**	**-0.3**
EVR	**Evrytania**	**2.48**	**1**	*e*Pg	**Pb**	**17 49 16.0**	**-0.3**
MAKR	**Makrakomi, Fth**	**2.59**	**6**	P	**Pn**	**17 49 15.9**	**+2.2**
MAKR	**Makrakomi, Fth**	**2.59**	**6**	P	**Pn**	**17 49 15.9**	**+2.2**
AGG	**Agios Georgios**	**2.62**	**10**	P	**Pn**	**17 49 15.3**	**+1.2**
AGG				S	**Sn**	**17 49 47.5**	**+1.4**
AGG	**Agios Georgios**	**2.62**	**10**	*e*PN	**Pn**	**17 49 16.2**	**+2.1**
AGG	**Agios Georgios**	**2.62**	**10**	P	**Pn**	**17 49 15.3**	**+1.2**
AGG	**Agios Georgios**	**2.62**	**10**	*e*Pn	**Pn**	**17 49 16.3**	**+2.1**
AGG				S	**Sn**	**17 49 47.5**	**+1.4**
MRMA	**Marmari**	**2.65**	**51**	P	**Pn**	**17 49 14.9**	**+0.5**
MRMA	**Marmari**	**2.65**	**51**	P	**Pn**	**17 49 14.9**	**+0.5**
MRKA	**Markates**	**2.70**	**32**	P	**Pn**	**17 49 15.3**	**+0.2**
MRKA	**Markates**	**2.70**	**32**	P	**Pn**	**17 49 15.3**	**+0.2**
IDI	**Anoyia**	**2.79**	**113**	P	**Pn**	**17 49 18.2**	**+1.8**
IDI	**Anoyia**	**2.79**	**113**	P	**Pn**	**17 49 18.2**	**+1.8**
THR1	**Thera Island**	**2.99**	**90**	P	**Pn**	**17 49 19.6**	**+0.5**
THR1	**Thera Island**	**2.99**	**90**	P	**Pn**	**17 49 19.6**	**+0.5**
APE	**Apeiranthos**	**3.10**	**77**	P	**Pn**	**17 49 21.3**	**+0.7**
APE	**Apeiranthos**	**3.10**	**77**	*e*PN	**Pn**	**17 49 22.1**	**+1.5**
APE	**Apeiranthos**	**3.10**	**77**	P	**Pn**	**17 49 21.3**	**+0.7**
APE	**Apeiranthos**	**3.10**	**77**	*e*Pn	**Pn**	**17 49 22.1**	**+1.5**
THL	**Klokotos Trika**	**3.13**	**4**	*e*PN	**Pn**	**17 49 23.0**	**+2.0**
THL	**Klokotos Trika**	**3.13**	**4**	*e*Pn	**Pn**	**17 49 23.0**	**+2.0**
XOR	**Xorichti**	**3.14**	**21**	P	**Pn**	**17 49 21.7**	**+0.5**
XOR	**Xorichti**	**3.14**	**21**	P	**Pn**	**17 49 21.7**	**+0.5**
KEK	**Kerkira**	**3.62**	**335**	*e*PN	**Pn**	**17 49 28.4**	**+0.6**
KEK	**Kerkira**	**3.62**	**335**	*e*Pn	**Pn**	**17 49 28.4**	**+0.6**
LIT	**Litokhoron**	**3.71**	**9**	*e*PN	**Pn**	**17 49 32.0**	**+3.0**
LIT	**Litokhoron**	**3.71**	**9**	*e*Pn	**Pn**	**17 49 32.0**	**+3.0**
CHOS	**Chios island**	**3.94**	**59**	P	**Pn**	**17 49 33.0**	**+0.8**
CHOS	**Chios island**	**3.94**	**59**	*e*PN	**Pn**	**17 49 33.3**	**+1.1**
CHOS	**Chios island**	**3.94**	**59**	P	**Pn**	**17 49 33.0**	**+0.8**
CHOS	**Chios island**	**3.94**	**59**	*e*Pn	**Pn**	**17 49 33.3**	**+1.1**
BRTR	**Keskin Array B**	**9.93**	**67**	Pn	**Pn**	**17 50 55.9**	**+1.4**
	0.1nm,0.3s,baz=255,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**25.18**	**5**	P	**P**	**17 53 55.3**	**-1.7**
	1.9nm,0.8s,baz=187,slow=7.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**29.36**	**223**	P	**P**	**17 54 35.2**	**+0.3**
	0.2nm,0.6s,baz=34,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**45.40**	**57**	P	**P**	**17 56 48.5**	**-1.8**
	0.4nm,0.5s,baz=262,slow=7.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**46.14**	**47**	P	**P**	**17 56 54.6**	**-1.5**
	0.4nm,0.4s,baz=282,slow=7.4,SNR=4.1						

IDC 28 17:50:02.3±2.2, 0.69S×133.73E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/21, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=98.9km s-min=21.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.04**	**204**	P	P	17 54 25.9	-0.3
	0.1nm,0.3s,baz=45,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**19.14**	**178**	P	P	17 54 27.5	+0.3
	0.1nm,0.3s,baz=358,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**22.84**	**180**	P	P	17 55 07.4	+0.2
	0.2nm,0.4s,baz=2.6,slow=12,SNR=18						
MKAR	**Makanchi Array**	**65.20**	**324**	P	P	18 00 46.0	+0.4
	0.4nm,0.6s,baz=114,slow=8.0,SNR=8.4						
KURBB	**Kurchatov Arra**	**69.25**	**326**	P	P	18 01 10.7	-0.5
	74nm,0.3s,baz=122,slow=5.3,SNR=3.1						

*IDC **28** 17:59:20.4±0.3, 2.91S×139.56E, h0km, mb5.7/39, mb1 5.7/41, mb1mx5.7/41, mbtmp5.7/41, ML5.5/2, MS5.2/28, Ms1 5.2/28, ms1mx5.0/40, Error ellipse: s-maj=12.8km s-min=8.6km az=72.0*
*MOS **28** 17:59:27.3±1.2, 2.91S×139.51E, h62km, mb6.1/54, MS5.1/42, Error ellipse: s-maj=7.9km s-min=4.8km az=108.2*
*BJI **28** 17:59:27.6, 3.18S×139.93E, h95km, mB6.2/55, mb5.8/63*
*AUST **28** 17:59:29.8±0.1, 2.94S×139.60E, h64km, Error ellipse: s-maj=0.6km s-min=0.5km az=43.0*
*ISCJB **28** 17:59:31.0±0.1, 2.93S±0.02×139.62E±0.02, h96km, mb5.8/191, Error ellipse: s-maj=2.7km s-min=2.4km az=148.4*
*NEIC **28** 17:59:31.8±0.1, 2.95S×139.54E, h93km, mb5.8/88, ME5.6, MW6.0, MW6.0, MW5.8(USGS), Error ellipse: s-maj=5.2km s-min=4.1km az=73.0 Broadband fault plane solution: P waves. NP1:φs110.00000°, δ50.00000°, λ90.00000°. NP2:φs290.00000°, δ40.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm20.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm200.00000°; Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁸ Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M₀1.10000×10¹⁸ NP1:φs329.00000°, δ33.00000°, λ112.00000°. NP2:φs124.00000°, δ59.00000°, λ76.00000°. Principal axes: T 1.1300, Plg71.0000°, Azm0.0000°; N -0.1400, Plg11.0000°, Azm130.0000°; P -0.9900, Plg13.0000°, Azm223.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Genyem, Jayapura and Sentani.
*DJA **28** 17:59:33.0±0.2, 3.3S±2.1×14.0E±1.1°, h95km±2km, M6.0/100, mb6.0/100, mB6.3/88, MLv6.4/7, Mw(mB)6.0/88, M

SNR=32
DAV Davao City (W) 17.17 306 P P 18 03 31.6 +5.5
DMPH Davao City--Mi 17.24 305 eP P 18 03 29.9 +3.1
GUMO Guam 17.25 18 P Pn 18 03 26.8 -0.1
4.8nm,0.3s,baz=171,slow=3.9,SNR=17
GUMO S Sn 18 06 34.5 -4.5
3.9nm,0.3s,baz=27,slow=21,SNR=1.0
GUMO LR LR 18 09 42.8
comp=Z,5µm,19.2s,baz=207,slow=36
GUMO Guam 17.25 18 ePn Pn 18 03 26.7 -0.3
3µm,1.5s
GUMO S Sn 18 06 34.5 -4.5
QIS Mount Isa 17.49 180 P P 18 03 28.0 -1.5
baz=18,SNR=432
WRAB Tennant Creek 17.63 196⇓ eP P 18 03 27.9 -3.2
WRAB pmax pmax
comp=Z,2µm,1.1s
WRAB Tennant Creek 17.63 196⇓ ePn P 18 03 27.9 -3.2
comp=Z,2µm,1.1s
WRAB eSn Sn 18 06 30.2 -18
WRAB Tennant Creek 17.63 196 Pn P 18 03 30.0 -1.1
comp=Z,8µm,1.2s
WRA Warramunga Arr 17.64 197 P P 18 03 29.0 -2.2
comp=Z,13nm,0.3s,baz=105,slow=20,SNR=113
WRA S Sn 18 06 36.4 -12
comp=Z,15nm,0.3s,baz=17,slow=23,SNR=5.1
WRA LR LR 18 10 51.0
comp=Z,19µm,19.8s,baz=20,slow=39
WRA P3KP 18 38 58.1
comp=Z,0.0nm,0.3s,baz=146,slow=1.5,SNR=5.0
WRA Warramunga Arr 17.64 197 P P 18 03 29.0 -2.2
WRA S Sn 18 06 36.4 -12
WRA PKKKP 18 38 58.1
MRSI Marisa 17.97 281 P Pn 18 03 36.9 +1.2
comp=Z,674nm,0.6s,comp=Z,8µmcomp=Z,23µm
BUKP Musuan 18.06 307 eP Pn 18 03 38.0 +1.2
MMRI Maumere 18.16 251 P Pn 18 03 38.3 +0.4
comp=Z,505nm,1.5s,comp=Z,8µmcomp=Z,29µm
CTA Charters Tower 18.22 160 P P 18 03 37.2 -0.4
comp=Z,12nm,0.3s,baz=334,slow=11,SNR=96
CTA S S 18 06 56.2 -4.9
comp=Z,0.3nm,0.3s,baz=205,slow=22,SNR=1.7
CTA Lg Lg 18 08 57.2
comp=Z,2.7nm,0.3s,baz=243,slow=14,SNR=4.4
CTA Charters Tower 18.22 160 P P 18 03 37.2 -0.4
CTA S S 18 06 56.2 -4.9
CTA Lg Lg 18 08 57.2
CTAO Charters Tower 18.22 160 eP P 18 03 36.0 -1.6
CTAO pmax pmax
comp=Z,541nm,1.4s
CTAO Charters Tower 18.22 160 ePn P 18 03 36.0 -1.6
comp=Z,541nm,1.4s
BUTP Butuan 18.29 311 eP Pn 18 03 39.9 +0.5
CTBH Cotabato--PC H 18.35 303⇑ eP Pn 18 03 39.6 -0.6
PAGZ Pagadian 19.41 304 eP Pn 18 03 52.5 -0.3
BKSI Bulukumba 19.56 262 P Pn 18 03 54.8 +0.3
comp=Z,634nm,0.7s,comp=Z,9µm
MSLP Maasin 19.61 312 eP Pn 18 03 53.5 -1.5
TTSI Tana Toraja 19.75 269 P Pn 18 03 58.7 +2.0
comp=Z,2µm,1.2s,comp=Z,20µm
SPSI Sidrap Palu 19.81 267 P Pn 18 03 57.9 +0.5
comp=Z,730nm,1.3s,comp=Z,9µm
PCI Palu 19.85 276 S S 18 07 08.4 -25
baz=20,SNR=4.0
KAPI Kappang 19.90 263 P Pn 18 03 57.1 -1.4
comp=Z,22nm,0.3s,baz=96,slow=5.3,SNR=80
KAPI S Sn 18 07 38.4 -4.2
comp=Z,0.9nm,0.3s,baz=122,slow=8.8,SNR=1.2
KAPI Kappang 19.90 263⇑ eP Pn 18 03 56.8 -1.7
comp=Z,390nm,1.0s
KAPI S Sn 18 07 38.4 -4.2
KAPI Kappang 19.90 263 P Pn 18 03 58.0 -0.4
SNR=61
KAPI Kappang 19.90 263 Pn Pn 18 03 57.9 -0.5
comp=Z,2µm,0.7s,SNR=58
KAPI Kappang 19.90 263 P Pn 18 03 57.5 -0.9
comp=Z,390nm,1.1s,comp=Z,7µmcomp=Z,19µm
TBP Tagbilaran 20.09 309 eP Pn 18 03 59.6 -1.1
PLP Palo 20.21 314⇑ eP Pn 18 03 59.4 -2.6
WSI Waingapu 20.29 250 P Pn 18 04 01.4 -1.6
baz=20,SNR=12
WSI Waingapu 20.29 250 P Pn 18 04 01.3 -1.7
comp=Z,2µm,0.7s,comp=Z,20µmcomp=Z,49µm
FITZ Fitzroy Crossi 20.34 221 P P 18 03 59.7 -0.8
comp=Z,308nm,0.9s,baz=42,slow=11,SNR=500
FITZ S S 18 07 40.2 -3.0
comp=Z,352nm,0.8s,baz=203,slow=12,SNR=4.6
FITZ LR LR 18 12 25.5
comp=Z,15µm,19.9s,baz=40,slow=39
FITZ Fitzroy Crossi 20.34 221 P P 18 03 59.7 -0.8
FITZ eS S 18 07 37.8 -5.4
FITZ S Sn 18 07 40.2 -13
FITZ Fitzroy Crossi 20.34 221 P Pn 18 04 01.1 -2.4
baz=20,SNR=964
FITZ S S 18 07 42.1 -1.1
baz=20,SNR=5.3
OCLP Ormoc 20.40 313 eP Pn 18 04 02.6 -1.6
LLP Lapu-Lapu 20.40 310 eP P 18 04 00.6 -0.7
PATS Pohnpei 21.07 62 P P 18 04 08.9 +0.4
baz=21,SNR=8.5
HNR Honiara 21.22 109 P P 18 04 08.6 -1.6
comp=Z,183nm,0.6s,baz=210,slow=4.8,SNR=4.6
HNR S S 18 07 57.1 -3.6
comp=Z,118nm,0.9s,baz=312,slow=6.0,SNR=1.6
HNR Honiara 21.22 109⇑ iP P 18 04 08.3 -1.9
comp=Z,1µm,1.0s
HNR S S 18 07 57.1 -3.6
HNR LR LR
comp=Z,6µm,19.0s
AS31 Alice Springs 21.31 194⇓ eP P 18 04 10.9 -0.1
AS31 eS S 18 07 57.9 -4.3
ASAR Alice Springs 21.31 194 P P 18 04 10.6 -0.4
comp=Z,608nm,1.1s,baz=24,slow=7.9,SNR=590
ASAR S S 18 08 01.0 -1.3
comp=Z,21nm,0.6s,baz=92,slow=27,SNR=2.2
ASAR Lg Lg 18 10 45.8
comp=Z,45nm,0.9s,baz=272,slow=26,SNR=2.1
ASAR LR LR 18 12 55.5
comp=Z,20µm,18.9s,baz=25,slow=38
ASAR P3KPbc 18 37 58.0
comp=Z,0.9nm,1.1s,baz=190,slow=3.9,SNR=4.8
ASAR P3KP 18 38 40.5
comp=Z,0.3nm,0.6s,baz=227,slow=2.3,SNR=4.6
ASAR Alice Springs 21.31 194 P P 18 04 10.6 -0.4
ASAR S S 18 08 01.0 -1.3
ASAR Lg Lg 18 10 45.8
ASAR e 18 37 58.0
ASAR PKKKP 18 38 40.5
CNP Catarman 21.36 316 eP P 18 04 11.6 0.0
GUIM Jordan 21.65 309 eP P 18 04 15.8 +1.1
KALP Kalibo 22.49 311 eP P 18 04 36.4 +13
SMKI Samarinda 22.51 276 P P 18 04 26.8 +3.0
comp=Z,1µm,1.6s,comp=Z,17µm
MYLDM Lahad Datu 22.57 291 P P 18 04 27.9 +3.5
TSM Tawau 22.87 288 P P 18 04 29.2 +1.8
CUYO Cuyo Island 23.02 307 eP P 18 04 29.5 +0.6
OTRP Odiongan 23.16 311 eP P 18 04 31.0 +0.8
AUQP San Andres 23.32 314 eP P 18 04 33.7 +2.1
KBKI Kotabaru 23.39 269 P P 18 04 34.1 +1.7
comp=Z,620nm,1.3s
GQP Guinayangan 23.87 315 eP P 18 04 36.0 -0.6
QLP Quilpie 23.91 170 P P 18 04 37.9 +1.0
baz=24,SNR=240
SJMP San Jose 23.91 310 eP P 18 04 38.6 +1.6
SDKM Sandakan 23.95 291 P P 18 04 38.5 +1.0
BOAC Boac 24.01 313 eP P 18 04 39.3 +1.4
KHKI Kahang-Kahang 24.45 256 P P 18 04 41.9 -0.1
comp=Z,522nm,1.2s,comp=Z,8µm
ENPP El Nido 24.51 305 eP P 18 04 43.5 +1.1
LQP Lukban 24.66 314⇓ eP P 18 04 46.4 +2.4
BATP Bataraza 24.67 298 eP P 18 04 45.4 +1.5
BBKI Banjar Baru 24.72 268 P P 18 04 47.0 +2.6
comp=Z,1µm,1.4s,comp=Z,31µmcomp=Z,38µm
KDM Kudat 24.75 293 P P 18 04 46.3 +1.7
SRBI Singaraja 24.79 257 P P 18 04 45.0 0.0
comp=Z,351nm,1.4s,comp=Z,5µm
EIDS Eidsvold 24.87 155⇓ eP P 18 04 48.3 +2.6
comp=Z,3µm,1.8s
EIDS e 18 05 13.1
EIDS Eidsvold 24.87 155 P P 18 04 47.8 +2.1
baz=25,SNR=204
DNP Denpasar 24.90 256 P P 18 04 46.8 +0.7
comp=Z,725nm,1.0s,comp=Z,13µm
RMQ Roma 24.99 160 P P 18 04 49.8 +3.1
baz=25,SNR=184
IGBI Denpasar 24.99 255 P P 18 04 46.5 -0.4
comp=Z,143nm,0.7s
KKM Kota Kinabalu 25.00 291 P P 18 04 47.7 +0.6
baz=25,SNR=46
KKM Kota Kinabalu 25.00 291 P P 18 04 48.9 +1.8
TGY Tagaytay City 25.09 313 P P 18 04 48.4 +0.6
comp=Z,1µm,1.0s,baz=280,slow=3.7,SNR=45
TGY LR LR 18 13 06.7
comp=Z,6.8nm,21.1s,baz=305,slow=33
TGY Tagaytay City 25.09 313 P P 18 04 48.4 +0.6
LUBP Lubang 25.37 311 eP P 18 04 50.3 +0.1
NBBI Negara 25.42 257 P P 18 04 48.8 -1.9
comp=Z,452nm,1.6s,comp=Z,9µm
BYJI Banyuwangi 25.64 257 P P 18 04 54.4 +1.6
BALP Baler 25.75 317 eP P 18 04 53.2 -0.4
KMMI Kalianget 25.84 260 P P 18 04 58.3 +3.7
comp=Z,2µm,1.3s,comp=Z,14µm
PALP Palanan 26.14 320 eP P 18 04 57.0 -0.1
BLJI Banyuglugur 26.31 259 P P 18 04 59.4 +0.6
comp=Z,239nm,1.3s,comp=Z,4µm
CAUP Cauayan 26.44 319 eP P 18 04 59.8 -0.1
MBWA Marble Bar 26.48 225⇓ iP P 18 05 01.1 +0.9
comp=Z,238nm,0.6s
MBWA eS S 18 09 26.8 -0.2
MBWA LR LR
comp=Z,11µm,19.0s
MBWA Marble Bar 26.48 225 P P 18 05 01.7 +1.5
SNR=17
GMJI Gumukmas 26.54 257 P P 18 05 01.1 +0.2
comp=Z,217nm,1.3s,comp=Z,3µm
SCZP Santa Cruz 26.94 314 eP P 18 05 02.5 -1.9
BWJI Bawean 27.00 263 P P 18 05 09.3 +4.2
comp=Z,214nm,1.0s,comp=Z,2µm
BTM Bintulu 27.19 283 P P 18 05 09.2 +2.5
BOLP Bolinao 27.34 315 eP P 18 05 12.8 +4.8
KRKI Karangkates 27.49 258 P P 18 05 12.0 +2.6
comp=Z,309nm,0.7s
ABRA Dolores 27.68 318 eP P 18 05 09.2 -1.8
SBUM Sibu 27.89 281 P P 18 05 15.2 +2.3
PBKI Pangkalan Bun 27.89 270 P P 18 05 15.2 +2.2
comp=Z,805nm,1.3s,comp=Z,9µm
SJI Sawahan 28.10 259 P P 18 05 16.4 +1.5
comp=Z,130nm,1.0s,comp=Z,3µm
PWJI Pagerwojo 28.11 259 P P 18 05 14.8 -0.1
comp=Z,200nm,1.2s,comp=Z,2µm
PCJI Pacitan 28.75 258 P P 18 05 21.2 +0.7
comp=Z,232nm,1.4s,comp=Z,3µm
STKA Stephens Creek 28.83 176 P P 18 05 21.0 -0.1
comp=Z,192nm,0.7s,baz=349,slow=8.3,SNR=249
STKA S S 18 10 04.2 +0.4
comp=Z,26nm,0.9s,baz=9.9,slow=17,SNR=1.5
STKA LR LR 18 17 56.6
comp=Z,16µm,19.2s,baz=346,slow=39
STKA Stephens Creek 28.83 176 P P 18 05 21.0 -0.1
STKA S S 18 10 04.2 +0.4
STKA Stephens Creek 28.83 176 P P 18 05 21.6 +0.5
baz=29,SNR=86
CMSA Cobar Meteorol 29.00 169 P P 18 05 24.9 +2.3
baz=29,SNR=355
SMRI Semarang 29.32 261 P P 18 05 27.4 +1.7
comp=Z,221nm,0.9s,comp=Z,6µm
UGM Wangagma 29.34 259 P P 18 05 26.7 +0.8
baz=29,SNR=10
UGM Wanagama 29.34 259 P P 18 05 33.2 +7.3
YOGI Yogyakarta 29.55 259 P P 18 05 29.7 +1.9
comp=Z,505nm,1.6s,comp=Z,8µm
ARMA Armidale 29.59 159⇓ eP P 18 05 30.2 +2.2
comp=Z,358nm,1.4s
ARMA e 18 05 56.6
ARMA Armidale 29.59 159 P P 18 05 31.0 +3.0
baz=30,SNR=17
KSM Kuching 29.60 278 P P 18 05 29.3 +1.2
baz=30,SNR=62
KSM Kuching 29.60 278 P P 18 05 29.4 +1.2
FORT Forrest 29.74 200⇓ eP P 18 05 29.7 +0.6
comp=Z,784nm,0.8s
FORT eS S 18 10 18.9 +0.7
FORT Forrest 29.74 200 P P 18 05 31.6 +2.4
baz=30,SNR=343
BBOO Buckleboo 29.88 186⇓ eP P 18 05 30.6 +0.2
comp=Z,7µm,1.0s
BBOO Buckleboo 29.88 186 P P 18 05 31.5 +1.1
baz=30,SNR=58
CBIJ Chichi jima 29.98 5 P P 18 05 30.1 -1.2
comp=Z,225nm,0.8s,baz=172,slow=6.0,SNR=11
CBIJ LR LR 18 16 18.0
comp=Z,3µm,20.9s,baz=172,slow=34
CBIJ Chichi jima 29.98 5 P P 18 05 30.1 -1.2
BJII Banjamegara 30.07 261 P P 18 05 34.1 +1.7
comp=Z,144nm,2.0s,comp=Z,4µm
TGJI Tegal 30.60 262 P P 18 05 38.2 +1.2
comp=Z,118nm,1.1s,comp=Z,4µm
MEEK Meekatharra 30.96 219 P P 18 05 41.0 +0.9
baz=31,SNR=110
GIRL Giralia 31.42 229 P P 18 05 47.4 +3.3
baz=32,SNR=55
JOW Kunigami 31.57 340 LR LR 18 17 37.9
comp=Z,3µm,18.9s,baz=356,slow=35
CISI Cisompet, Garu 31.96 261 P P 18 05 49.1 +0.1
comp=Z,413nm,0.8s,comp=Z,4µm
MGCD Mangrove Creek 31.97 162 P P 18 05 51.6 +2.9
baz=32,SNR=26
LEM Lembang 32.08 262 P P 18 05 51.9 +1.6
baz=32,SNR=7.7
LEM Lembang 32.08 262 P P 18 05 51.6 +1.4
comp=Z,167nm,1.2s,comp=Z,3µm
NOUC Port Laguerre 32.16 128 eP P 18 05 50.8 +0.2
YNG Young 32.24 166 P P 18 05 53.5 +2.4
baz=32,SNR=269
DZM Mont Dzumac 32.26 128 P P 18 05 52.0 +0.5
comp=Z,48nm,0.8s,baz=316,slow=7.2,SNR=20
DZM Mont Dzumac 32.26 128 eP P 18 05 52.4 +0.8
comp=Z,129nm,1.1s
DZM epP pP 18 06 14.3 +0.4
comp=Z,362nm,1.2s
DZM eS S 18 10 52.4 -5.6
comp=Z,2µm,27.1s
DZM eLR LR 18 14 23.0
comp=Z,15µm,28.2s
DZM Mont Dzumac 32.26 128 P P 18 05 52.0 +0.5
CBJI Citeko 32.81 263 P P 18 05 56.2 -0.2
KMBL Kambalda 32.82 209 P P 18 05 57.7 +1.4
baz=33,SNR=49
DBJI Dramaga 32.92 263 P P 18 05 57.9 +0.6
comp=Z,258nm,1.0s,comp=Z,3µm
TNG Tangerang 32.99 263 P P 18 05 57.9 -0.1
comp=Z,719nm,1.0s
SKJI Sukabumi 33.15 262 P P 18 05 58.7 -0.6
comp=Z,381nm,0.9s,comp=Z,4µm
PPBI Pangkal Pinang 33.43 271 P P 18 06 03.7 +1.9
comp=Z,276nm,0.9s,comp=Z,4µm
CNB Canberra Magne 33.45 165 P P 18 06 04.8 +3.1
baz=34,SNR=43
TARA Tarawa 33.59 83⇑ eP P 18 06 03.7 +0.5
comp=Z,2µm,1.5s
ARPS Mount Arapiles 33.71 177 P P 18 06 05.8 +2.0
baz=34,SNR=238
CGJI Cibinong 33.97 263 P P 18 06 04.6 -1.8
MORW Morawa 34.29 218 P P 18 06 10.0 +0.9
baz=34,SNR=168
QZH Quanzhou 34.42 325⇑ iP P 18 06 12.0 +1.8
QZH S S 18 11 33.0 +1.8
QZH pmax pmax
comp=Z,680nm,1.7s
QZH pmax pmax
comp=Z,4µm,3.8s
QZH LR LR
comp=Z,14µm,36.5s
XMI Christmas Isla 34.46 256 P P 18 06 12.1 +1.4
baz=34,SNR=3.4
XMIS Christmas Isla 34.50 256 P P 18 06 12.4 +1.4
baz=34,SNR=4.3
TOO Toolangi 34.87 172 P P 18 06 16.8 +2.8
baz=35,SNR=93
BLDU Ballidu 35.00 216 P P 18 06 16.5 +1.4
baz=35,SNR=119
MILA Mila 35.05 167 P P 18 06 18.2 +2.6
baz=35,SNR=114
MILA S S 18 12 13.4 +33
baz=35,SNR=6.2
KASI Kota Agung 35.09 265 P P 18 06 15.2 -0.9
comp=Z,703nm,0.9s,comp=Z,7µm
KLBR Kellerberrin 35.13 213 P P 18 06 18.1 +1.8
baz=35,SNR=225
HKC Hong Kong Obse 35.31 317⇑ iP P 18 06 18.0 +0.1
JHJ Hachijo jima 2 35.88 0 LR LR 18 20 05.5
comp=Z,4µm,21.1s,baz=207,slow=35
MYKOM Kota Tinggi 36.04 277 P P 18 06 25.6 +1.3
GZH Guangzhou 36.41 317 P P 18 06 27.5 +0.3
GZH S S 18 12 04.0 +2.3
GZH pmax pmax
comp=Z,2µm,4.2s
NWAO Narrogin (SRO) 36.44 213 P P 18 06 28.3 +0.9
comp=Z,241nm,0.7s,baz=41,slow=8.0,SNR=107
NWAO S S 18 12 01.1 -0.8
comp=Z,31nm,0.9s,baz=304,slow=20,SNR=1.5
NWAO LR LR 18 23 09.8
comp=Z,5µm,20.5s,baz=34,slow=39
NWAO Narrogin (SRO) 36.44 213⇓ eP P 18 06 28.3 +0.9
comp=Z,228nm,0.8s
NWAO S S 18 12 01.1 -0.8
NWAO Narrogin (SRO) 36.44 213 P P 18 06 29.9 +2.6
SNR=11
QIZ Qiongzhong 36.52 308 P P 18 06 28.3 0.0
QIZ PP PnPn 18 07 53.0 -1.3
QIZ S S 18 12 03.8 +0.2
QIZ PcS PcS 18 12 37.0 -1.3
QIZ SS SnSn 18 14 42.8 -0.3
QIZ pmax pmax
comp=Z,150nm,1.6s
QIZ pmax pmax
comp=Z,1µm,8.7s
QIZ LR LR
comp=N,2µm,18.9s
QIZ LR LR
comp=Z,4µm,42.3s
KUM Kumamoto 36.56 347 P pP 18 06 56.2 +5.2
baz=40,SNR=37
KGM Kluang 36.60 277 P P 18 06 30.8 +1.8
JNU Nakatsue 36.82 348 P P 18 06 31.1 +0.5
comp=Z,419nm,1.1s,baz=145,slow=4.8,SNR=65
JNU LR LR 18 21 13.1
comp=Z,2µm,19.5s,baz=168,slow=36
JNU Nakatsue 36.82 348 P P 18 06 31.1 +0.5
KSI Kapahiang 36.94 268 P P 18 06 32.7 +0.7
comp=Z,279nm,0.8s,comp=Z,6µm
RGRI Rengat 37.33 273 P P 18 06 37.5 +2.3
comp=Z,457nm,1.2s,comp=Z,104µm
KTGM Kuala Trenggan 37.34 283 P P 18 06 35.2 -0.1
RKGY Rocky Gully 37.87 211 P P 18 06 42.7 +3.2
baz=38,SNR=28
KRJI Kerinci 38.10 270 P P 18 06 43.1 +1.2
comp=Z,1µm,1.1s,comp=Z,13µm
SSE Sheshan 38.14 334 P P 18 06 42.3 +0.6
SSE sP sP 18 07 15.8 -0.1
SSE PP PnPn 18 08 15.0 +1.5
SSE S S 18 12 28.3 +0.6
SSE sS sS 18 13 10.8 +3.8
SSE SS SnSn 18 15 20.5 -1.3
SSE pmax pmax
comp=Z,190nm,0.7s
SSE pmax pmax
comp=Z,1µm,6.1s
SSE LR LR
comp=N,3µm,27.3s
SSE LR LR
comp=E,2µm,27.5s
SSE LR LR
comp=Z,3µm,24.6s
BKNI Bangkinang 38.68 274 P P 18 06 48.1 +1.5
comp=Z,788nm,1.2s,comp=Z,8µm
PDSI Padang 39.16 272 P P 18 06 51.9 +1.3
comp=Z,458nm,1.0s,comp=Z,6µm
IPM Ipoh 39.24 281 P P 18 06 52.9 +1.6
MJAR Matsushiro Arr 39.32 358 P P 18 06 50.4 -1.2
comp=Z,26nm,0.7s,baz=182,slow=8.8,SNR=56
MJAR PcP PcP 18 09 00.4 +2.0
comp=Z,18nm,1.1s,baz=213,slow=4.2,SNR=4.3
MJAR LR LR 18 22 15.2
comp=Z,2µm,20.6s,baz=170,slow=35
MJAR Matsushiro Arr 39.32 358 P P 18 06 50.4 -1.2
MJAR PcP PcP 18 09 00.4 +2.0
MAJO Matsushiro 39.32 358 eP P 18 06 50.5 -1.1
MAJO e 18 08 58.7
MAJO pmax pmax
comp=Z,68nm,0.7s
MAJO MLR MLR
comp=Z,1µm,21.0s
MAJO Matsushiro 39.32 358 eP P 18 06 50.5 -1.1
comp=Z,68nm,0.7s
MAJO ePcP PcP 18 08 58.6 +0.2
MAJO LR LR
comp=Z,1µm,21.0s
MAT Matsushiro 39.32 358 P P 18 06 50.3 -1.3
MAT S S 18 12 42.0 -3.4
KULM Kulim 39.76 282 P P 18 06 56.4 +0.8
MOO Moorlands 39.89 171 P P 18 06 59.7 +3.5
baz=40,SNR=12
NJ2 Nanjing 40.00 332 eP P 18 06 58.8 +1.5
NJ2 pP pP 18 07 21.3 +1.1
NJ2 sP sP 18 07 31.0 -0.5
NJ2 PP PnPn 18 08 34.5 -1.1
NJ2 S S 18 12 58.0 +2.3
NJ2 sS sS 18 13 33.0 -2.2
NJ2 SS SnSn 18 16 00.0 -6.6
NJ2 pmax pmax
comp=Z,420nm,1.1s
NJ2 pmax pmax
comp=Z,3µm,8.8s
NJ2 LR LR
comp=N,5µm,23.5s
NJ2 LR LR
comp=E,3µm,28.4s
NJ2 LR LR
comp=Z,8µm,35.3s
CHBT CHBT 40.16 294 P P 18 06 59.4 +0.5
comp=Z,221nm,1.1s,comp=Z,4µm
MNSI Mandailing Nat 40.17 275 P P 18 06 59.2 +0.2
comp=Z,259nm,0.8s,comp=Z,4µm
TAU Tasmania Unive 40.37 171⇓ eP P 18 07 02.5 +2.3
TAU pmax pmax
comp=Z,596nm,1.4s
TAU MLR MLR
comp=Z,8µm,20.0s
TAU Tasmania Unive 40.37 171⇓ eP P 18 07 02.5 +2.3
comp=Z,596nm,1.4s
TAU LR LR
comp=Z,8µm,20.0s
TAU Tasmania Unive 40.37 171 P P 18 07 03.1 +2.9
comp=Z,2µm,1.4s,SNR=18
MSVF Nonsavu 40.46 114 eP P 18 07 03.3 +1.9
MSVF pmax pmax
comp=Z,443nm,1.5s
MSVF MLR MLR
comp=Z,3µm,22.0s
MSVF Nonsavu 40.46 114 eP P 18 07 03.2 +1.9
comp=Z,442nm,1.5s
MSVF LR LR
comp=Z,3µm,22.0s
MSVF Nonsavu 40.46 114 P P 18 07 04.0 +2.6
comp=Z,547nm,1.4s,SNR=12
PSI Prapat 41.05 278 P P 18 07 06.3 0.0
comp=Z,524nm,1.1s,baz=98,slow=4.5,SNR=167
PSI S S 18 13 09.2 -3.0
comp=Z,2.0nm,0.5s,baz=137,slow=23,SNR=1.0
PSI Prapat 41.05 278 P P 18 07 06.3 0.0
PSI S S 18 13 09.2 -3.0
PSI Prapat 41.05 278 P P 18 07 06.4 0.0
baz=41,SNR=223
PSI S S 18 13 13.3 +1.1
baz=41,SNR=6.2
WHN Wuhan 41.12 326 P P 18 07 08.0 +1.5
WHN S S 18 13 17.5 +5.2
WHN pmax pmax
comp=Z,240nm,1.5s
WHN pmax pmax
comp=Z,5µm,8.8s
WHN LR LR
comp=N,4µm,12.1s
WHN LR LR
comp=E,2µm,5.9s
WHN LR LR
comp=Z,12µm,38.7s
TSI Tuntungan 41.51 279 P P 18 07 10.6 +0.7
comp=Z,435nm,1.9s,comp=Z,8µm
KSAR Wonju Array Be 41.64 346 P P 18 07 11.2 +0.5
KSAR PcP PcP 18 09 08.0 +2.1
KSRS Korea Array 41.65 346 P P 18 07 11.2 +0.5
comp=Z,69nm,1.1s,baz=173,slow=11,SNR=72
KSRS PcP PcP 18 09 08.0 +2.1
comp=Z,33nm,0.9s,baz=169,slow=3.9,SNR=11
KSRS LR LR 18 24 03.6
comp=Z,2µm,19.7s,baz=166,slow=36
INCN Inchon 42.00 345⇑ iP P 18 07 14.4 +0.8

comp=Z,598nm,1.4s
INCN e 18 07 37.9
INCN LR LR
comp=Z,2μm,20.0s
INCN Inchon 42.00 345 P **P** **18 07 15.2 +1.6**
SNR=25
GSI Gununguitoli 42.22 275 P **P** **18 07 15.1 -0.7**
baz=42,SNR=97
GSI Gununguitoli 42.22 275 P **P** **18 07 15.6 -0.2**
comp=Z,450nm,1.2s,comp=Z,5μm
PHET Kaeng Krachan 42.70 293 P **P** **18 07 20.0 +0.4**
comp=Z,779nm,1.0s,comp=Z,6μm
TPTI 42.84 278 P **P** **18 07 20.0 -0.8**
comp=Z,152nm,1.3s
GYA Guiyang 43.22 315⇑*i*P **P** **18 07 25.0 +1.2**
GYA pP **pP** **18 07 47.8 +0.8**
GYA sP **sP** **18 08 01.0 +2.7**
GYA PP **PcP** **18 09 11.5 -0.1**
GYA ScP **ScP** **18 12 53.5 -0.5**
GYA PcS **PcS** **18 13 05.3 +0.9**
GYA S **S** **18 13 43.5 -0.2**
GYA sS **sS** **18 14 21.5 -2.1**
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,1μm,7.2s
GYA LR LR
comp=N,2μm,21.7s
GYA LR LR
comp=E,2μm,22.6s
GYA LR LR
comp=Z,2μm,23.2s
COCO West Island 43.31 255 *e*P **P** **18 07 26.2 +1.7**
COCO pmax pmax
comp=Z,392nm,1.0s
COCO MLR MLR
comp=Z,1μm,20.0s
COCO West Island 43.31 255 *e*P **P** **18 07 26.2 +1.7**
comp=Z,392nm,1.0s
COCO LR LR
comp=Z,1μm,20.0s
COCO West Island 43.31 255 P P 18 07 28.2 +3.7
comp=Z,2μm,0.8s,SNR=6.3
LHMI Lhok Sumawe 43.37 281 P **P** **18 07 26.2 +1.1**
comp=Z,593nm,0.9s,comp=Z,7μm
SRDT SRDT 43.64 294 P **P** **18 07 28.5 +1.3**
comp=Z,193nm,1.3s,comp=Z,3μm
TIA Tai'an 44.26 334⇑P **P** **18 07 30.0 -1.8**
TIA PP **PcP** **18 09 13.0 -1.7**
TIA S **S** **18 13 54.5 -3.8**
TIA sS **sS** **18 14 41.0 +2.7**
TIA pmax pmax
comp=Z,2μm,7.8s
TIA LR LR
comp=N,4μm,35.3s
TIA LR LR
comp=E,4μm,17.6s
TIA LR LR
comp=Z,6μm,30.4s
DL2 Dalian 44.84 340⇑*i*P **P** **18 07 37.8 +1.5**
DL2 S **S** **18 14 08.3 +1.8**
DL2 pmax pmax
comp=Z,1μm,4.5s
DL2 LR LR
comp=N,900nm,19.2s
DL2 LR LR
comp=E,900nm,19.2s
DL2 LR LR
comp=Z,2μm,37.2s
ERM Erimo 44.88 4*ce*P **P** **18 07 38.4 +1.8**
ERM pmax pmax
comp=Z,118nm,1.2s
ERM Erimo 44.88 4⇓*e*P **P** **18 07 36.6 0.0**
comp=Z,121nm,1.2s
ERM LR LR
comp=Z,3μm,21.0s
ERM Erimo 44.88 4 P **P** **18 07 38.1 +1.5**
comp=Z,435nm,1.0s,SNR=5.1
OUZ Omahuta 44.98 140⇓*i*P **P** **18 07 39.5 +1.9**
comp=Z,267nm,1.1s
OUZ *e* 18 07 55.0
OUZ *e* 18 08 03.0
BSI Banda Aceh 45.04 281 P **P** **18 07 36.5 -1.9**
comp=Z,166nm,1.2s,comp=Z,2μm
CM31 Chiang Mai Arr 45.33 300⇑*i*P **P** **18 07 41.0 +0.4**
comp=Z,78nm,0.8s
CMAR Chiang Mai Arr 45.33 300 P **P** **18 07 41.1 +0.5**
comp=Z,64nm,0.7s,baz=120,slow=6.2,SNR=198
CMAR LR LR 18 27 01.5
comp=Z,1μm,19.5s,baz=19,slow=37
CMAR PKPPKP **P'P'df** **18 39 16.4 +0.9**
comp=Z,0.5nm,0.7s,baz=298,slow=4.2,SNR=4.7
CMAR Chiang Mai Arr 45.33 300 P **P** **18 07 41.1 +0.5**
CMAR P'P' 18 39 16.4
KMI Kunming 45.35 310⇑P **P** **18 07 42.3 +1.3**
KMI pP **pP** **18 08 06.3 +2.0**
KMI sP **sP** **18 08 16.0 +0.5**
KMI PcP **PcP** **18 09 21.0 +2.0**
KMI PP **PP** **18 09 31.3 +2.3**
KMI ScP **ScP** **18 13 03.3 +0.4**
KMI PcS **PcS** **18 13 13.5 0.0**
KMI S **S** **18 14 13.8 -1.1**
KMI sS **sS** **18 14 56.8 +1.8**
KMI ScS **ScS** **18 17 26.8 -1.6**
KMI SS **SS** **18 17 33.8 -6.3**
KMI pmax pmax
comp=Z,120nm,1.2s
KMI pmax pmax
comp=Z,1μm,6.4s
KMI LR LR
comp=N,2μm,21.9s
KMI LR LR
comp=E,1μm,21.5s
KMI LR LR
comp=Z,4μm,24.3s
CMMT Chiang Mai 45.47 300 P **P** **18 07 42.7 +1.0**
comp=Z,111nm,2.1s,comp=Z,3μm
CHTO Chiang Mai 45.47 300⇑*i*P **P** **18 07 42.0 +0.3**
CHTO *e* 18 08 04.2
CHTO pmax pmax
comp=Z,159nm,1.3s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 45.47 300⇑*i*P **P** **18 07 42.0 +0.3**
comp=Z,159nm,1.3s
CHTO *e* 18 08 04.2
CHTO LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 45.47 300 P **P** **18 07 42.4 +0.7**
SNR=75
CHTO Chiang Mai 45.47 300 P **P** **18 07 42.1 +0.3**
comp=Z,124nm,2.1s,comp=Z,3μm
XAN Xi'an 46.79 324 P **P** **18 07 52.0 +0.1**
XAN pP **pP** **18 08 15.0 -0.4**
XAN sP **sP** **18 08 26.5 0.0**
XAN PP **PP** **18 09 43.5 +0.3**
XAN S **S** **18 14 33.8 -1.0**
XAN sS **sS** **18 15 14.5 -0.7**
XAN SS SS 18 17 54.8 -7.9
XAN pmax pmax
comp=Z,42nm,1.4s
XAN pmax pmax
comp=Z,480nm,9.2s
XAN LR LR
comp=N,790nm,25.0s
XAN LR LR
comp=E,330nm,20.1s
XAN LR LR
comp=Z,500nm,23.5s
SNY Shenyang 46.89 344⇑P **P** **18 07 53.3 +0.8**
SNY PP **PP** **18 09 42.3 -1.6**
SNY S **S** **18 14 37.8 +1.9**
SNY sS sS 18 15 22.0 +5.7
SNY SS **SS** **18 18 04.5 +0.5**
SNY pmax pmax
comp=Z,2μm,5.5s
SNY LR LR
comp=N,940nm,21.4s
SNY LR LR
comp=E,860nm,13.7s
SNY LR LR
comp=Z,2μm,25.0s
ASAJ Asahikawa 46.94 3 P **P** **18 07 53.7 +0.9**
comp=Z,232nm,1.1s,baz=229,slow=14,SNR=30
ASAJ LR LR 18 27 58.3
comp=Z,1μm,19.8s,baz=205,slow=37
ASAJ Asahikawa 46.94 3 P **P** **18 07 53.7 +0.9**
YUK Yuzh-Kuril'sk 47.12 6*c i*P P 18 07 45.1 -9.1
YUK pmax pmax
comp=Z,1μm,1.8s
YUK pmax pmax
comp=E,555nm,1.1s
YUK pmax pmax
comp=N,836nm,1.6s
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=Z,547nm,20.0s
YUK MLR MLR
comp=E,416nm,20.0s
USRK Ussuriysk Arra 47.44 353 P **P** **18 07 57.6 +0.9**
comp=E,146nm,1.0s,baz=171,slow=6.8,SNR=106
USRK LR LR 18 25 56.5
comp=E,1μm,18.2s,baz=153,slow=34
TIY Taiyuan 47.66 331 *e*P **P** **18 07 59.0 +0.3**
TIY pP **pP** **18 08 22.0 -0.2**
TIY sP **sP** **18 08 33.5 +0.1**
TIY PP **PP** **18 09 48.5 -2.7**
TIY S **S** **18 14 48.0 +0.8**
TIY sS **sS** **18 15 28.3 +0.6**
TIY pmax pmax
comp=Z,1μm,5.0s
TIY LR LR
comp=N,2μm,16.2s
TIY LR LR
comp=E,250nm,9.1s
TIY LR LR
comp=Z,2μm,21.0s
BJI Beijing 47.88 336 P **P** **18 08 00.8 +0.7**
BJI pP **pP** **18 08 23.5 -0.2**
BJI S **S** **18 14 48.5 -1.5**
BJI sS **sS** **18 15 32.0 +1.5**
BJI pmax pmax
comp=Z,160nm,0.6s
BJI pmax pmax
comp=Z,3μm,6.5s
BJI LR LR
comp=N,2μm,24.9s
BJI LR LR
comp=E,2μm,19.5s
BJI LR LR
comp=Z,4μm,35.9s
CD2 Chengdu 47.96 317⇑*i*P P 18 08 03.5 +2.5
CD2 pP pP 18 08 26.5 +1.9
CD2 sP sP 18 08 38.0 +2.2
CD2 PP **PP** **18 09 56.5 +2.5**
CD2 S **S** **18 14 52.5 +0.9**
CD2 sS sS 18 15 33.8 +1.7
CD2 SS **SS** **18 18 18.3 -3.5**
CD2 pmax pmax
comp=Z,150nm,1.6s
CD2 pmax pmax
comp=Z,2μm,8.6s
CD2 LR LR
comp=N,2μm,21.4s
CD2 LR LR
comp=Z,2μm,28.6s
RAO Raoul Island 48.05 127 PFAKE 18 08 10.0 +8.3
RAO LR LR
comp=Z,2μm,21.0s
MDJ Mudanjiang 48.20 350 P **P** **18 08 03.5 +0.9**
MDJ sP **sP** **18 08 36.5 -0.8**
MDJ PcS **PcS** **18 13 25.0 +0.8**
MDJ S **S** **18 14 55.0 +0.6**
MDJ sS **sS** **18 15 34.8 -0.1**
MDJ pmax pmax
comp=Z,220nm,1.5s
MDJ pmax pmax
comp=Z,2μm,10.4s
MDJ LR LR
comp=N,3μm,34.6s
MDJ LR LR
comp=E,2μm,39.3s
CN2 Changchun 48.26 346⇑P **P** **18 08 03.8 +0.8**
CN2 *es*P **sP** **18 08 38.3 +0.6**
CN2 *e*S **S** **18 14 56.5 +1.3**
CN2 LR LR
comp=N,2μm,19.0s
CN2 LR LR
comp=E,2μm,19.0s
CN2 LR LR
comp=Z,2μm,21.0s
URZ Urewera 49.06 141 P **P** **18 08 11.0 +1.6**
comp=Z,20nm,0.5s,baz=358,slow=9.7,SNR=12
URZ Urewera 49.06 141 *e*P **P** **18 08 11.0 +1.6**
comp=Z,79nm,0.9s
AFI Afiamalu 49.22 106 P **P** **18 08 13.1 +2.1**
comp=Z,194nm,0.9s,baz=314,slow=2.8,SNR=21
AFI Afiamalu 49.22 106⇓*e*P **P** **18 08 11.1 +0.2**
comp=Z,266nm,1.0s
AFI LR LR
comp=Z,2μm,19.0s
RPZ Rata Peaks 49.23 150 P **P** **18 08 11.9 +1.3**
comp=Z,79nm,0.9s,baz=319,slow=4.8,SNR=33
RPZ LR LR 18 27 54.6
comp=Z,4μm,19.7s,baz=233,slow=35
RPZ Rata Peaks 49.23 150 *e*P **P** **18 08 11.5 +1.0**
comp=Z,212nm,0.9s
SNZO South Karori 49.52 145 *e*P **P** **18 08 12.1 -0.6**
comp=Z,170nm,1.0s
KHZ Kahutara 49.61 147 *e*P **P** **18 08 13.3 -0.1**
comp=Z,145nm,1.1s
YSS Yuzh-Sakhalins 49.78 3*ce*P **P** **18 08 15.3 +0.8**
YSS *e**SP sP 18 08 38.0 -11
YSS *e* 18 09 36.0
YSS *e*PPP PPP 18 11 12.0
YSS *e*S **S** **18 15 19.0 +2.6**
YSS *e*SS **SS** **18 18 50.0 -0.4**
YSS pmax pmax
comp=Z,190nm,1.0s
YSS pmax pmax
comp=Z,1μm,7.0s
YSS Yuzh-Sakhalins 49.78 3⇑*i*P **P** **18 08 14.1 -0.4**
comp=Z,220nm,0.9s
HHC Hu-ho-hao-te 50.56 333 *i* P **P** **18 08 21.8 +1.1**
HHC pP **pP** **18 08 45.3 +0.8**
HHC sP **sP** **18 08 56.5 +0.9**
HHC PP **PP** **18 10 20.0 +2.5**
HHC S **S** **18 15 28.3 +0.6**
HHC sS **sS** **18 16 09.8 +1.3**
HHC SS **SS** **18 19 02.3 -0.9**
HHC pmax pmax
comp=Z,200nm,1.3s
HHC pmax pmax
comp=Z,3μm,8.9s
HHC LR LR
comp=N,2μm,17.3s
HHC LR LR
comp=E,2μm,18.6s
HHC LR LR
comp=Z,3μm,16.7s
BTO Baotou 51.09 331 *e*P **P** **18 08 24.8 +0.1**
LZH Lanzhou 51.21 323 *e*P **P** **18 08 27.5 +1.7**
LZH pP **pP** **18 08 48.5 -1.1**
LZH sP **sP** **18 09 00.0 -0.7**
LZH PcP **PcP** **18 09 39.8 0.0**
LZH PP **PP** **18 10 25.0 +1.4**
LZH *e*S **S** **18 15 39.3 +2.3**
LZH sS **sS** **18 16 19.5 +1.6**
LZH SS **SS** **18 19 08.5 -5.3**
LZH pmax pmax
comp=Z,17nm,1.0s
HABR Khabarovsk 51.38 356*de*P **P** **18 08 25.0 -1.5**
HABR *e**PP pP 18 08 38.5 -12
HABR *e**SP sP 18 08 44.6 -17
HABR *e* 18 09 39.1
HABR *e* 18 10 22.0
HABR PPP PPP 18 11 22.7
HABR *e*S **S** **18 15 41.6 +3.2**
HABR *e**SS sS 18 16 04.1 -15
HABR *e* 18 18 10.6
HABR *e*SS **SS** **18 19 18.4 +2.8**
HABR pmax pmax
comp=Z,853nm,2.4s
HABR pmax pmax
comp=N,329nm,2.4s
HABR pmax pmax
comp=E,97nm,1.2s
HABR pmax pmax
comp=Z,2μm,3.4s
HABR MLR MLR
comp=Z,1μm,17.0s
MIDW Midway 51.68 50 *e*P **P** **18 08 30.5 +1.3**
comp=Z,179nm,1.3s
MIDW LR LR
comp=Z,4μm,22.0s
NIUE Niue 51.85 112 P P 18 08 33.2 +2.6
baz=52,SNR=4.9
IMP Imphal 52.19 305 *i* P **P** **18 08 31.0 -2.1**
KLR Kul'dur 52.42 354⇓*i*P **P** **18 08 31.9 -2.4**
KLR pmax pmax
comp=N,160nm,1.6s
KLR pmax pmax
comp=Z,980nm,1.6s
KLR pmax pmax
comp=N,2μm,8.0s
KLR pmax pmax
comp=Z,3μm,8.0s
AGT Agartala 54.06 302 *i* x P 18 08 50.0 +3.2
AGT *i* x x 18 09 38.0
SHL Shillong 54.20 305 *i* P **P** **18 08 49.0 +1.0**
SHL *e*S **S** **18 16 19.0 +0.9**
SKR Severo-Kuril's 55.28 13 *e*P P 18 08 59.0 +3.9
SKR *e* 18 09 17.5
SKR *e* 18 09 54.0
SKR *e*PPP PPP 18 12 19.0
SKR *e*S S 18 16 45.0 +14
SKR pmax pmax
comp=Z,3μm,4.0s
SKR pmax pmax
comp=N,480nm,1.5s
SKR pmax pmax
comp=E,480nm,1.5s
SKR pmax pmax
comp=Z,640nm,1.5s
SKR smax smax
comp=N,3μm,20.0s
SKR smax smax
comp=E,3μm,20.0s
SKR MLR MLR
comp=Z,3μm,18.0s
GTA Gaotai 55.79 323⇑P **P** **18 09 00.3 +1.1**
GTA pP **pP** **18 09 23.8 +0.4**
GTA sP **sP** **18 09 36.0 +1.6**
GTA S **S** **18 16 39.8 +1.0**
GTA sS **sS** **18 17 21.0 +0.7**
GTA SS **SS** **18 20 26.5 +0.5**
GTA pmax pmax
comp=Z,98nm,1.5s
GTA pmax pmax
comp=Z,2μm,8.6s
GTA LR LR
comp=N,790nm,20.4s
GTA LR LR
comp=E,670nm,14.7s
GTA LR LR
comp=Z,650nm,18.5s
CAL Calcutta 56.07 300 *e*P **P** **18 08 58.9 -2.3**
CAL *i* x x 18 16 46.0
LSA Lhasa 56.56 309 PFAKE 18 09 20.0 +15
LSA LR LR
comp=Z,256nm,19.0s
BWNR Bhubaneshwar 57.58 296 *ex* x 18 09 02.0
PEA0B Petropavlovsk- 57.90 13⇑*i*P **P** **18 09 14.4 +0.8**
PEA0B *e* 18 09 36.7
PETK Petropavlovsk- 57.90 13 P **P** **18 09 15.5 +1.9**
comp=Z,66nm,1.0s,baz=182,slow=5.5,SNR=38
PETK LR LR 18 30 59.3
comp=Z,1μm,21.6s,baz=205,slow=33
PETK Petropavlovsk- 57.90 13 P **P** **18 09 15.5 +1.9**
PETK pmax pmax
comp=Z,66nm,1.0s
PETK MLR MLR
comp=Z,1μm,21.6s
PETK Petropavlovsk- 57.90 13 P **P** **18 09 15.6 +1.9**
PET Petropavlovsk 58.04 13 *e*P **P** **18 09 15.5 +0.9**
PET *e**PP **pP** **18 09 38.7 -0.2**
PET *e* 18 10 05.4
PET *e*S **S** **18 17 10.1 +2.6**
PET *e*PS **PnS** **18 17 35.9 +1.6**
PET pmax pmax
comp=Z,102nm,1.4s
PET pmax pmax
comp=Z,2μm,5.1s
PET pmax pmax
comp=Z,1μm,16.4s
PET MLR MLR
comp=Z,700nm,18.0s
PET Petropavlovsk 58.04 13⇑*i*P **P** **18 09 15.0 +0.4**
comp=Z,139nm,1.3s
PET LR LR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 58.06 335⇑*i*P **P** **18 09 15.8 +0.7**
comp=Z,105nm,1.1s
ULN *e*pP **pP** **18 09 39.5 +0.1**
ULN Ulaanbaatar 58.06 335 P **P** **18 09 16.7 +1.6**
SNR=49
ULN Ulaanbaatar 58.06 335 P **P** **18 09 15.9 +0.8**
comp=Z,77nm,1.5s,comp=Z,3μmcomp=Z,5μm
SONM Songino Array 58.32 334 P **P** **18 09 17.5 +0.6**
comp=Z,17nm,0.7s,baz=153,slow=6.1,SNR=96
SONM LR LR 18 34 27.8
comp=Z,2μm,21.3s,baz=136,slow=36
SONM PKPPKP **P'P'df** **18 38 55.2 0.0**
comp=Z,1.0nm,1.0s,baz=346,slow=0.6,SNR=4.9
SONM PKP2bc 18 39 08.0
comp=Z,1.7nm,1.0s,baz=274,slow=0.8,SNR=6.3
SONM PKP2ab 18 39 29.7
comp=Z,2.7nm,1.0s,baz=296,slow=1.0,SNR=6.7
SONM Songino Array 58.32 334 P **P** **18 09 17.5 +0.6**
SONM P'P' 18 38 55.2
SONM ⇑*e* 18 39 08.0
SONM P'P'ab P'P'ab 18 39 29.7 +8.4
TAPN Taplejung 58.34 305 *e*P **P** **18 09 18.5 +0.9**
comp=Z,413nm,0.7s
ODAN Odare 58.42 304 *e*P **P** **18 09 18.9 +0.8**
comp=Z,413nm,0.7s
CIT Chita 59.06 342 *e*P **P** **18 09 23.2 +1.4**
CIT *e* 18 09 47.6
CIT *e* 18 10 12.2
CIT *e* 18 11 28.2
CIT *e* 18 17 25.6
CIT pmax pmax
comp=Z,565nm,2.4s
RAMN Ramite 59.11 304 *e*P **P** **18 09 23.7 +0.9**
comp=Z,479nm,0.9s
VIS Vishakhapatnam 59.13 293 *i* P **P** **18 09 22.4 -0.4**
VIS *ex* x 18 09 26.9
comp=Z,223nm,1.6s
VIS *i* x x 18 12 10.2
GUN Gumba 60.05 305 *e*P **P** **18 09 30.3 +0.8**
comp=Z,452nm,0.7s
PKI Pulchoki 60.32 304 *e*P **P** **18 09 31.7 +0.5**
comp=Z,209nm,0.9s
KKN Kakani 60.50 304 *e*P **P** **18 09 33.0 +0.6**
comp=Z,409nm,0.8s
DMN Daman 60.58 304 *e*P **P** **18 09 33.8 +0.8**
comp=Z,588nm,0.9s
CLNS Chul'man 60.79 351 *e*P **P** **18 09 34.3 +0.8**
CLNS *e* 18 10 18.9
CLNS *e* 18 11 44.2
CLNS *e*S **S** **18 17 46.9 +4.0**
CLNS pmax pmax
comp=Z,116nm,1.3s
CLNS pmax pmax
comp=N,88nm,1.3s
CLNS pmax pmax
comp=E,32nm,1.3s
CLNS pmax pmax
comp=Z,18nm,1.3s
CLNS pmax pmax
comp=N,25nm,1.2s
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS smax smax
comp=E,140nm,14.4s
CLNS smax smax
comp=N,181nm,14.6s
ZAK Zakamensk 61.59 334⇑*i*P **P** **18 09 40.1 +1.0**
ZAK *e* 18 09 55.1
ZAK pmax pmax
comp=Z,96nm,1.3s
RAR Rarotonga 61.61 112 LR LR 18 33 16.8
comp=Z,864nm,21.8s,baz=264,slow=33
KOLN Koldanda 61.89 304 *e*P **P** **18 09 42.6 +0.9**
comp=Z,332nm,0.9s
DANN Dangsing 61.96 304 *e*P **P** **18 09 42.8 +0.5**

comp=Z,309nm,0.7s
FX1 Attu Island--F 62.39 22 P **P 18 09 44.7 +0.4**
comp=Z,174nm,0.7s,baz=142,slow=2.4,SNR=26
FX1 Attu Island--F 62.39 22⇑ *e*P **P 18 09 44.6 +0.3**
FX1 *e*pP **pP 18 10 09.3 +0.5**
TLY Talaya 62.40 336 *e*P **P 18 09 45.1 +0.7**
TLY *e* 18 10 09.9
TLY *e*S **S 18 18 04.4 +0.8**
TLY *e* 18 18 43.0
TLY pmax pmax
comp=Z,56nm,0.8s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 62.40 336⇑ *i*P **P 18 09 45.5 +1.1**
comp=Z,118nm,1.1s
TLY *e*pP **pP 18 10 09.5 +0.4**
TLY *e*PP **PP 18 12 01.7 -1.3**
TLY LR LR
comp=Z,1μm,20.0s
TLY Talaya 62.40 336 P **P 18 09 46.1 +1.6**
SNR=41
TLY Talaya 62.40 336 P **P 18 09 45.1 +0.7**
comp=Z,456nm,0.6s,SNR=25
PYUN Piuthan 62.51 304 *e*P **P 18 09 46.6 +0.7**
comp=Z,2μm,0.9s
IRK Irkutsk 62.58 336 *e*P **P 18 09 46.6 +1.0**
IRK *e* 18 10 19.6
IRK pmax pmax
comp=Z,271nm,2.9s
XMAS Kiritimati 63.13 86⇑ *e*P **P 18 09 51.6 +1.6**
comp=Z,314nm,0.9s
TRD Trivandrum 63.48 281⇑ *e*P P 18 09 56.5 +4.3
TRD *e*S S 18 18 22.5 +4.3
HYB Hyderabad 63.49 291⇑ *i*P **P 18 09 50.0 -2.3**
HYB *e*pP **pP 18 10 16.0 -1.0**
HYB *e*S **S 18 18 18.0 -0.3**
MOY Mondy 63.52 334 *e*P **P 18 09 53.0 +1.1**
MOY pmax pmax
comp=Z,310nm,3.1s
NGP Nagpur 63.89 295 *e*P **P 18 09 53.7 -1.2**
NGP AMb AMB 18 09 55.1
comp=Z,151nm,1.1s
NGP *ex* x 18 18 20.4
LGTI Lohaghat 65.23 304 *ex* P 18 10 08.7 +5.3
YAK Yakutsk 65.25 355 *i* P **P 18 10 03.5 +0.6**
YAK *e**PP **pP 18 10 29.2 +1.5**
YAK *e* 18 10 36.3
YAK *e*PPP PPP 18 13 57.9
YAK *e*S **S 18 18 37.3 -1.0**
YAK *e**SS **sS 18 19 21.7 +0.8**
YAK *e* 18 19 52.2
YAK *e*SSS SSS 18 25 51.5
YAK pmax pmax
comp=N,104nm,1.2s
YAK pmax pmax
comp=Z,250nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,548nm,3.8s
YAK pmax pmax
comp=N,475nm,4.1s
YAK pmax pmax
comp=E,208nm,3.3s
YAK smax smax
comp=E,611nm,3.5s
YAK smax smax
comp=N,206nm,4.1s
YAK Yakutsk 65.25 355⇑ *i*P **P 18 10 03.4 +0.5**
comp=N,221nm,0.7s
YAK pP **pP 18 10 26.8 -0.9**
YAK *e*PP **PP 18 12 23.8 -3.9**
HON Honolulu 65.62 65⇑ *i*P **P 18 10 07.8 +1.8**
HON Honolulu 65.62 65⇑ *i*P **P 18 10 07.8 +1.8**
AKL Akola 65.63 294 *e*P **P 18 10 05.8 -0.4**
AKL AMb AMB 18 10 09.1
comp=Z,255nm,0.7s
AKL *i* x x 18 12 14.8
KIP Kipapa 65.63 65*c**e*P P 18 10 09.2 +3.1
KIP pmax pmax
comp=Z,272nm,0.8s
KIP Kipapa 65.63 65 *e*P **P 18 10 07.2 +1.0**
comp=Z,217nm,0.8s
WMQ Urumqi 65.75 321 *e*P **P 18 10 07.8 +1.2**
WMQ PcP **PcP 18 10 38.5 +1.4**
WMQ PP **PP 18 12 35.0 +2.4**
WMQ PcS 18 14 42.3
WMQ S **S 18 18 48.0 +2.7**
WMQ ScS **ScS 18 19 55.0 +1.5**
WMQ SS **SS 18 23 03.5 +1.8**
WMQ pmax pmax
comp=Z,200nm,1.3s
WMQ pmax pmax
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,860nm,19.0s
WMQ LR LR
comp=E,310nm,13.0s
WMQ LR LR
comp=Z,980nm,38.0s
CASY Casey 66.42 192 *e*P **P 18 10 12.0 +1.7**
comp=Z,200nm,1.1s
CASY *e*PP PP 18 12 29.4 -8.3
CASY LR LR
comp=Z,3μm,20.0s
SEY Seymchan 66.43 6*c* *i*P **P 18 10 11.3 +0.9**
KAAM Kaadhehdhoo 66.66 272 P P 18 10 08.3 -4.6
baz=67,SNR=4.1
KAAM Kaadhehdhoo 66.66 272 P P 18 10 15.9 +3.0
comp=Z,126nm,1.0s,comp=Z,3μm
DGAR Diego Garcia 66.96 263 *e*P **P 18 10 15.4 +0.6**
DGAR pmax pmax
comp=Z,228nm,0.8s
DGAR MLR MLR
comp=Z,1μm,20.0s
DGAR Diego Garcia 66.96 263 *e*P **P 18 10 15.4 +0.6**
comp=Z,2μm,0.8s,SNR=5.2
DGAR LR LR
comp=Z,1μm,20.0s
DGAR Diego Garcia 66.96 263 P **P 18 10 16.0 +1.2**
comp=Z,2μm,0.8s,SNR=5.2
DDI Dehra Dun 67.31 305 *e*P **P 18 10 16.3 -0.4**
NDI New Delhi 67.52 303 *ex* **P 18 10 15.0 -3.1**
NDI *ex* x 18 19 02.0
KAD Karad 67.55 290 *i* P **P 18 10 18.2 -0.3**
POO Poona 68.09 291⇓ *i*P **P 18 10 20.0 -1.9**
comp=Z,52nm,1.0s
SMLA Simla 68.28 305 *i* P **P 18 10 24.0 +1.2**
SMLA AMb AMB 18 10 24.6
BHK Bhakra 68.98 305 *ex* P 18 10 30.0 +2.8
DLH Dalhousie 69.68 306 *e*P **P 18 10 30.0 -1.7**
MK31 Makanchi Array 70.52 322 *i* P **P 18 10 37.2 +0.9**
MK31 pmax pmax
comp=Z,123nm,0.8s
MK31 Makanchi Array 70.52 322⇑ *i*P **P 18 10 36.9 +0.6**
MKAR Makanchi Array 70.52 322 P **P 18 10 37.1 +0.8**
comp=Z,127nm,0.7s,baz=113,slow=7.8,SNR=395
MKAR PKPPKP **P'P'df 18 38 37.3 +1.5**
comp=Z,0.5nm,0.8s,baz=293,slow=1.9,SNR=3.7
MKAR LR LR 18 43 14.2
comp=Z,684nm,21.6s,baz=122,slow=37
MKAR Makanchi Array 70.52 322 P **P 18 10 37.1 +0.8**
MKAR Makanchi Array 70.52 322 P **P 18 10 37.1 +0.8**
MKAR P'P' 18 38 37.3
PPT Papeete 70.84 107 P **P 18 10 40.4 +1.7**
comp=Z,110nm,1.1s,baz=344,slow=7.3,SNR=6.5
PPT LR LR 18 37 20.2
comp=Z,1μm,20.3s,baz=93,slow=32
PPT Papeete 70.84 107 P **P 18 10 40.4 +1.7**
PAE Paea 70.84 108 *e*P **P 18 10 40.9 +2.2**
comp=Z,9.0nm,0.7s
PAE Paea 70.84 108 *e*P **P 18 10 40.9 +2.2**
PAE pmax pmax
comp=Z,9.0nm,0.7s
PAE Paea 70.84 108 *e*P **P 18 10 40.9 +2.2**
comp=Z,9.0nm,0.7s
PPT2 Papeete2 70.84 107 *e*P **P 18 10 41.2 +2.3**
comp=Z,85nm,1.1s
PPT2 *e*S **S 18 19 43.0 -3.7**
comp=Z,1μm,25.0s
PPT2 *e*LR LR 18 32 11.8
comp=Z,6μm,35.5s
TIAR Tiarei 71.06 107 *e*P **P 18 10 42.5 +2.4**
comp=Z,83nm,0.8s
TIAR Tiarei 71.06 107 *e*P **P 18 10 42.5 +2.4**
comp=Z,83nm,0.8s
TVO Taravao 71.16 108 *e*P **P 18 10 43.2 +2.4**
comp=Z,63nm,0.9s
TVO Taravao 71.16 108 *e*P **P 18 10 43.2 +2.4**
TVO pmax pmax
comp=Z,63nm,0.9s
TVO Taravao 71.16 108 *e*P **P 18 10 43.2 +2.4**
comp=Z,63nm,0.9s
TBI Tubuai 71.35 114 *e*P **P 18 10 43.6 +1.9**
comp=Z,154nm,1.1s
TBI *e*S **S 18 19 50.3 -1.9**
comp=Z,916nm,28.0s
TBI *e*LR LR 18 32 23.8
comp=Z,4μm,35.5s
TBI Tubuai 71.35 114 *e*P **P 18 10 43.6 +1.9**
comp=Z,154nm,1.1s
TBI *e*S **S 18 19 50.3 -1.9**
KSH Kashi 71.90 313⇑ *i*P P 18 10 47.3 +2.4
KSH pP pP 18 11 06.0 -4.1
KSH pP pwP 18 11 13.0 +2.9
KSH sP sP 18 11 23.8 +3.0
KSH PP PP 18 13 32.5 +6.6
KSH S **S 18 19 58.5 +0.3**
KSH SKS **ScS 18 20 40.0 -2.0**
KSH ScS **SKKSac 18 20 42.5 +2.3**
KSH sS sS 18 20 45.3 +3.9
KSH SS SS 18 24 43.8 +7.0
KSH pmax pmax
comp=Z,150nm,0.8s
KSH pmax pmax
comp=Z,1μm,3.6s
KSH LR LR
comp=N,410nm,13.3s
KSH LR LR
comp=E,520nm,12.5s
KSH LR LR
comp=Z,830nm,21.3s
MEH Mehetia 72.29 108 *e*P **P 18 10 49.4 +1.9**
comp=Z,125nm,1.3s
MEH Mehetia 72.29 108 *e*P **P 18 10 49.4 +1.9**
comp=Z,125nm,1.3s
PMOR Pomariorio Ree 72.35 105 *e*P **P 18 10 50.2 +2.4**
comp=Z,302nm,1.1s
PMOR Pomariorio Ree 72.35 105 *e*P **P 18 10 50.2 +2.4**
comp=Z,302nm,1.1s
AAA Alma-Ata 72.53 317 *e*P **P 18 10 49.8 +1.3**
AAA pmax pmax
comp=Z,2μm,7.6s
AAA MLR MLR
comp=Z,700nm,15.0s
ZAA0 Zalesovo Array 72.59 330⇑ *i*P **P 18 10 47.5 -1.0**
ZALV Zalesovo Beam 72.59 330 P **P 18 10 48.0 -0.5**
comp=Z,41nm,0.7s,baz=106,slow=5.4,SNR=142
ZALV PKP2bc 18 38 12.2
comp=Z,0.8nm,0.8s,baz=298,slow=6.4,SNR=4.6
ZALV PKPPKP **P'P'df 18 38 35.5 +3.9**
comp=Z,1.6nm,0.9s,baz=298,slow=3.2,SNR=4.6
ZALV LR LR 18 43 03.5
comp=Z,919nm,21.5s,baz=112,slow=36
ZALV Zalesovo Beam 72.59 330 P **P 18 10 48.0 -0.5**
ZALV Zalesovo Beam 72.59 330 P **P 18 10 48.0 -0.5**
ZALV ⇑*e* 18 38 12.2
ZALV P'P' 18 38 35.5
VAH Vaihoa 72.61 105 *e*P **P 18 10 51.4 +2.0**
comp=Z,141nm,1.0s
VAH Vaihoa 72.61 105 *e*P **P 18 10 51.4 +2.0**
comp=Z,141nm,1.0s
ULHL Ulahol 72.65 316 P **P 18 10 50.6 +1.2**
SNR=8.1
BILL Bilibino 73.25 10⇑ *e*P **P 18 10 52.7 +0.5**
BILL *e* 18 13 41.0
BILL *i*S **SKiKP 18 20 12.3 -1.9**
BILL pmax pmax
comp=Z,193nm,2.5s
BILL MLR MLR
comp=Z,500nm,21.0s
BILL Bilibino 73.25 10⇑ *i*P **P 18 10 52.5 +0.3**
comp=Z,128nm,1.4s
BILL LR LR
comp=Z,609nm,20.0s
KZA Kyzart 73.28 316 P **P 18 10 55.2 +1.8**
SNR=312
TKM2 Tokmak 2 73.33 316 *i* P **P 18 10 54.3 +0.9**
TKM2 Tokmak 2 73.33 316 P **P 18 10 54.3 +0.9**
SNR=210
KBK Karagaybulak 73.69 316 P **P 18 10 56.5 +1.0**
SNR=116
NVS Novosibirsk 73.85 330⇑ *i*P **P 18 10 55.3 -0.6**
NVS *e**PP **pP 18 11 22.3 +1.1**
NVS pmax pmax
comp=N,67nm,1.4s
NVS pmax pmax
comp=E,96nm,1.4s
NVS pmax pmax
comp=Z,200nm,1.4s
UCH Uchtor 73.85 315 P P 18 10 59.4 +2.7
SNR=25
CHMS Chumysh 73.94 316 P **P 18 10 57.5 +0.8**
SNR=60
FRU Bishkek 73.98 316⇑ *i*P **P 18 10 57.5 +0.5**
FRU *e* 18 11 22.0
FRU *e* 18 13 45.0
FRU pmax pmax
comp=Z,210nm,1.8s
AAK Ala-Archa 74.00 316 P **P 18 10 58.2 +0.9**
comp=Z,82nm,1.1s,baz=117,slow=5.7,SNR=74
AAK Ala-Archa 74.00 316*c* *i*P **P 18 10 58.2 +0.9**
AAK pmax pmax
comp=Z,241nm,1.2s
AAK Ala-Archa 74.00 316⇑ *i*P **P 18 10 58.0 +0.7**
comp=Z,103nm,1.2s
AAK LR LR
comp=Z,674nm,20.0s
AAK Ala-Archa 74.00 316 P **P 18 10 58.4 +1.1**
SNR=52
AAK Ala-Archa 74.00 316 P **P 18 10 58.0 +0.7**
comp=Z,374nm,0.9s,SNR=50
USP Ospenovka 74.20 316 P **P 18 10 59.2 +0.9**
SNR=201
AML Almayashu 74.39 315 P **P 18 11 01.5 +1.6**
SNR=224
KURK Kurchatov 74.43 325⇑ *i*P **P 18 10 59.4 +0.1**
KURK *e**PP **pP 18 11 26.0 +1.3**
KURK *e* 18 13 48.1
KURK *e*S **SKiKP 18 20 19.2 +2.8**
KURK pmax pmax
comp=Z,225nm,1.2s
KURK MLR MLR
comp=Z,1μm,20.0s
KURK Kurchatov 74.43 325⇑ *i*P **P 18 10 59.4 +0.1**
comp=Z,225nm,1.2s
KURK *e*pP **pP 18 11 26.0 +1.3**
KURK *e*PP **PP 18 13 48.1 +1.1**
KURK *e*S **SKiKP 18 20 19.2 +2.8**
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 74.43 325 P **P 18 10 59.9 +0.6**
SNR=78
KURK Kurchatov 74.43 325 P **P 18 10 59.6 +0.3**
comp=Z,811nm,1.2s
KURBB Kurchatov Arra 74.44 325 P **P 18 11 00.8 +1.4**
comp=Z,50nm,0.3s,baz=115,slow=5.3,SNR=4.8
EKS2 Erkin-Say 74.50 316 P **P 18 11 01.1 +0.9**
SNR=185
TIXI Tiksi 74.80 356*c* *i*P **P 18 11 00.8 -0.3**
TIXI pmax pmax
comp=Z,152nm,2.5s
TIXI Tiksi 74.80 356⇑ *i*P **P 18 11 00.0 -1.0**
comp=Z,30nm,0.6s
VNDA Vanda 75.46 175 P **P 18 11 05.7 +0.9**
comp=Z,26nm,0.7s,baz=328,slow=6.2,SNR=126
VNDA LR LR 18 43 42.0
comp=Z,3μm,19.6s,baz=349,slow=35
VNDA Vanda 75.46 175 P **P 18 11 05.7 +0.9**
VNDA *e*pP **pP 18 11 29.3 -1.0**
KBL Kabul 75.78 307⇑ *i*P **P 18 11 07.8 0.0**
KBL *e**PP **pP 18 11 32.8 -0.5**
KBL pmax pmax
comp=Z,103nm,0.7s
KBL Kabul 75.78 307⇑ *i*P **P 18 11 07.8 0.0**
comp=Z,103nm,0.7s
KBL *e*pP **pP 18 11 32.8 -0.5**
SDPT Sand Point 75.89 31⇑ *i*P **P 18 11 07.3 -0.3**
comp=Z,465nm,0.8s
SDPT *e*pP **pP 18 11 34.6 +1.6**
SBA Scott Base 76.21 174 *e*P **P 18 11 11.2 +2.1**
SBA pmax pmax
comp=Z,118nm,1.2s
SBA MLR MLR
comp=Z,3μm,20.0s
SBA Scott Base 76.21 174 *e*P **P 18 11 11.2 +2.1**
comp=Z,118nm,1.2s
SBA LR LR
comp=Z,3μm,20.0s
KK31 Karatay Array 76.92 315 *i* P **P 18 11 13.6 -0.2**
KK31 pmax pmax
comp=Z,34nm,0.6s
CHGN Chignik 77.36 30 *e*P **P 18 11 17.0 +1.1**
BVA0 Borovoye Array 80.02 325 *i* P **P 18 11 30.8 +0.2**
BVA0 pmax pmax
comp=Z,29nm,0.7s
BVAR Borovoye Array 80.02 325 P **P 18 11 31.0 +0.4**
comp=Z,116nm,0.6s,baz=114,slow=7.3,SNR=238
BVAR PKKPbc **PKKPbc 18 30 17.2 -0.1**
comp=Z,0.5nm,0.6s,baz=274,slow=3.9,SNR=4.4
BVAR Borovoye Array 80.02 325 P **P 18 11 31.0 +0.4**
BVAR Borovoye Array 80.02 325 P **P 18 11 31.0 +0.4**
BVAR PKKPbc **PKKPbc 18 30 17.2 -0.1**
BRVK Borovoye 80.09 325*c* *i*P **P 18 11 31.4 +0.4**
BRVK pmax pmax
comp=Z,333nm,1.2s
BRVK Borovoye 80.09 325⇑ *i*P **P 18 11 31.3 +0.3**
comp=Z,209nm,0.8s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 80.09 325 P **P 18 11 31.2 +0.3**
SNR=101
BRVK Borovoye 80.09 325 P **P 18 11 31.0 0.0**
comp=Z,1μm,0.7s
KDAK Kodiak Island 80.87 30 P **P 18 11 36.5 +1.6**
comp=Z,200nm,1.0s,baz=244,slow=2.5,SNR=44
KDAK Kodiak Island 80.87 30 *e*P **P 18 11 35.0 0.0**
comp=Z,326nm,1.1s
KDAK *e*pP **pP 18 11 58.8 -1.9**
KDAK LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 80.87 30 P **P 18 11 36.9 +1.9**
comp=Z,1μm,0.9s,SNR=14
MRIV Mauritius Mete 81.57 250⇑ *e*P **P 18 11 40.5 +0.9**
MRIV *e*pP pP 18 11 57.7 -7.6
MAW Mawson 82.23 202 P **P 18 11 43.7 +1.7**
comp=Z,57nm,1.0s,baz=67,slow=5.5,SNR=28
MAW LR LR 18 45 49.8
comp=Z,3μm,20.0s,baz=68,slow=34
MAW Mawson 82.23 202 P **P 18 11 43.7 +1.7**
MAW Mawson 82.23 202 P **P 18 11 43.8 +1.9**
baz=82,SNR=6.9
WBK Wadi Bani Khal 82.49 293 P **P 18 11 45.5 +1.1**
SNR=20
JMDO Jabal Madar 83.26 293 P **P 18 11 49.4 +1.1**
SNR=11
SMDO Samad 83.38 293 P **P 18 11 50.1 +1.0**
SNR=30
PMR Palmer 83.78 27⇑ *i*P **P 18 11 49.7 -0.4**
PMR pmax pmax
comp=Z,265nm,1.2s
PMR Palmer 83.78 27⇑ *i*P **P 18 11 49.6 -0.4**
comp=Z,264nm,1.2s
MSEY Mahe Island 83.90 266 PFAKE 18 12 00.0 +8.2
MSEY LR LR
comp=Z,937nm,21.0s
HOQ Hoqain 84.11 294 P **P 18 11 53.1 +0.5**
SNR=51
BSY Bisya 84.13 293 P **P 18 11 53.4 +0.6**
SNR=19
RKT Rikitea 84.65 113 *e*LR LR 18 38 33.0
comp=Z,4μm,37.8s
ARQ Araqi 84.81 294 P **P 18 11 57.3 +1.1**
SNR=55
ABKT Ailbek 85.08 308 P **P 18 11 58.6 +1.3**
comp=Z,1μm,1.3s,SNR=83
BANOM Banah 85.25 296 P **P 18 11 59.4 +1.0**
SNR=31
HATD Hatta, Dubai 85.30 295 P **P 18 11 59.1 +0.5**
SNR=24
COLA College 85.33 24⇑ *i*P **P 18 11 56.9 -0.9**
COLA pmax pmax
comp=Z,103nm,1.0s
COLA MLR MLR
comp=Z,1μm,21.0s
COLA College 85.33 24⇑ *i*P **P 18 11 56.9 -0.9**
comp=Z,103nm,1.0s
COLA LR LR
comp=Z,1μm,21.0s
ASHO Ashiyiah 85.35 295 P **P 18 11 59.5 +0.6**
SNR=25
AB31 Akbulak array 85.48 320 *i* P **P 18 11 58.3 -0.6**
AB31 pmax pmax
comp=Z,124nm,1.1s
ILAR Eielson Array 85.69 24 P **P 18 11 58.4 -1.3**
comp=Z,84nm,0.9s,baz=262,slow=4.2,SNR=207
ILAR LR LR 18 45 35.8
comp=Z,1μm,20.9s,baz=270,slow=32
ILAR Eielson Array 85.69 24 P **P 18 11 58.4 -1.3**
NAZ Nazwa, Dubai 85.74 295 P **P 18 12 02.0 +1.2**
SNR=16
ASUD Al Ashush, Dub 86.01 295 P **P 18 12 03.9 +1.8**
SNR=11
SVE Sverdlovsk 86.43 327⇑ *i*P **P 18 12 03.8 +0.4**
SVE *e* 18 15 25.5
SVE *e*S S 18 22 22.8 -8.4
SVE *e*SS **SS 18 28 15.2 +1.9**
SVE pmax pmax
comp=Z,41nm,1.1s
SVE MLR MLR
comp=Z,1μm,21.0s
IBAF Bafgh 86.45 302 *e*P **P 18 12 04.0 -0.3**
RBK Rabkut 86.49 288 P **P 18 12 05.4 +0.8**
SNR=26
MENT Mentasta 86.58 26 *e*P **P 18 12 04.6 +0.4**
AKTO Aktyubinsk 86.90 321 P **P 18 12 05.8 -0.1**
comp=Z,15nm,0.8s,baz=96,slow=5.7,SNR=54
AKTO Aktyubinsk 86.90 321 P **P 18 12 05.8 -0.1**
AKTO Aktyubinsk 86.90 321 P **P 18 12 05.8 -0.1**
QSPA South Pole Qui 86.99 180 PKKP 18 29 59.7
comp=Z,1.2nm,0.7s,baz=357,slow=3.3,SNR=6.6
QSPA South Pole Qui 86.99 180 PFAKE 18 12 20.0 +14
QSPA LR LR
comp=Z,3μm,20.0s
IMEH Mehriz 87.24 301 *e*P **P 18 12 08.3 0.0**
ABTO Aybut 87.34 287 P **P 18 12 09.7 +0.9**
SNR=33
ARU Arti 87.49 327*c* *i*P **P 18 12 07.3 -1.3**
ARU *e* 18 15 31.2
ARU S **SKSac 18 22 29.6 +2.4**
ARU pmax pmax
comp=Z,67nm,1.0s
ARU MLR MLR
comp=Z,789nm,22.0s
ARU Arti 87.49 327⇑ *i*P **P 18 12 07.1 -1.4**
comp=Z,57nm,0.9s
ARU *e*PP **PP 18 15 32.9 -1.7**
ARU *e*S S 18 22 34.3 -7.1
ARU LR LR
comp=Z,833nm,22.0s
ARU Arti 87.49 327 P **P 18 12 07.7 -0.9**
comp=Z,370nm,0.7s,SNR=25
EGAK Eagle 88.08 25 PFAKE 18 12 20.0 +8.8
EGAK LR LR
comp=Z,1μm,22.0s
ISRV Sarvestan 88.37 299 *e*P **P 18 12 14.8 +1.0**
DAWY Dawson 88.71 26⇑ *i*P **P 18 12 15.3 +1.0**
DAWY *e*pP **pP 18 12 37.2 -3.2**
SOKR Solikamsk 88.88 330*c* *i*P **P 18 12 14.3 -0.7**
SOKR S **S 18 22 58.3 +3.9**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,1μm,26.0s
IFIR Firoozkooh 89.14 306 *e*P **P 18 12 18.0 +0.8**
ISFB Sefidab 89.46 304 *e*P **P 18 12 19.0 +0.5**
IDMV Damavand 89.72 305 *e*P **P 18 12 19.3 -0.7**
IVRN Varamin 89.93 305 *e*P **P 18 12 20.2 -0.5**
IVRN *e*P **PcP 18 12 21.3 -0.6**
SKAG Skagway 90.02 31⇑ *i*P **P 18 12 21.3 +0.9**
comp=Z,200nm,1.4s
IR3 Iran Long-Peri 90.53 305 *e*P **P 18 12 23.6 +0.1**
SYO Syowa Base 90.84 201⇓ *e*P **P 18 12 24.6 +0.6**
IR5 Iran Long-Peri 90.88 305 *e*P **P 18 12 26.0 +0.8**
ABPO Ambohimpanom 91.28 251 PFAKE 18 12 40.0 +13
ABPO LR LR
comp=Z,688nm,20.0s

OPO	**Ambohidratompo**	**91.35**	**251**		P		**P**	**18 12 27.9**	**+0.2**	
	comp=Z,21nm,1.1s,baz=82,slow=6.1,SNR=9.7									
OPO	**Ambohidratompo**	**91.35**	**251**		P		**P**	**18 12 27.9**	**+0.2**	
WRAK	**Wrangell Islan**	**91.37**	**34**		*e*P		**P**	**18 12 26.9**	**+0.2**	
	comp=Z,48nm,1.0s									
IRAZ	**Razeghan**	**91.42**	**305**		*e*P		**P**	**18 12 28.2**	**+0.4**	
INK	**Inuvik**	**91.57**	**22**		P		**P**	**18 12 27.8**	**+0.4**	
	comp=Z,8.8nm,1.0s,baz=274,slow=6.0,SNR=21									
INK					PP		**PP**	**18 16 05.0**	**-1.7**	
	comp=Z,8.4nm,1.0s,baz=260,slow=4.3,SNR=3.5									
INK	**Inuvik**	**91.57**	**22**		P		**P**	**18 12 27.8**	**+0.4**	
INK					PP		**PP**	**18 16 05.0**	**-1.7**	
DLBC	**Dease Lake**	**92.70**	**32**		P		**P**	**18 12 34.0**	**+1.0**	
	comp=Z,26nm,1.1s,baz=269,slow=4.0,SNR=12									
DLBC					PP		**PP**	**18 16 16.6**	**+0.6**	
	comp=Z,27nm,1.4s,baz=270,slow=14,SNR=5.2									
DLBC					LR		LR	18 52 52.2		
	comp=Z,792nm,18.7s,baz=56,slow=35									
DLBC	**Dease Lake**	**92.70**	**32**		*e*P		**P**	**18 12 33.2**	**+0.2**	
DLBC					*e*PP		**PP**	**18 16 15.0**	**-1.0**	
DLBC					PP		PP	18 16 16.6	+0.5	
QRN	**Al-Qurain**	**92.88**	**298**		*e*P		**P**	**18 12 34.4**	**0.0**	
QRN					AMb		AMB	18 12 35.5		
	comp=Z,109nm,1.4s									
UMR	**Umm Al-Rimmam**	**93.08**	**299**		*e*P		**P**	**18 12 35.2**	**-0.1**	
UMR					AMb		AMB	18 12 36.7		
	comp=Z,94nm,1.2s									
KBD	**Kabd**	**93.08**	**299**		*e*P		**P**	**18 12 35.6**	**+0.3**	
KBD					AMb		AMB	18 12 36.5		
	comp=Z,34nm,1.5s									
RDF	**Al-Radifah**	**93.20**	**299**		*e*P		**P**	**18 12 36.1**	**+0.3**	
RDF					AMb		AMB	18 12 38.4		
	comp=Z,92nm,0.8s									
MIB	**Mutribah**	**93.41**	**300**		*e*P		**P**	**18 12 36.8**	**0.0**	
MIB					AMb		AMB	18 12 38.6		
	comp=Z,136nm,1.2s									
NAY	**Al-Naaiem**	**93.48**	**299**		*e*P		**P**	**18 12 36.5**	**-0.7**	
NAY					AMb		AMB	18 12 38.9		
	comp=Z,86nm,0.9s									
MAK	**Makhachkala**	**93.53**	**313**		*e*P		**P**	**18 12 36.2**	**-0.8**	
MAK					*e**PP		**pP**	**18 13 00.4**	**-2.8**	
MAK					*e*			18 16 21.1		
MAK					S		**SKSac**	**18 23 05.5**	**+2.9**	
MAK					*e*			18 23 35.9		
MAK					*e*SP		**SP**	**18 24 55.0**	**+4.2**	
MAK					*e*PS		**PS**	**18 25 00.0**	**-3.6**	
MAK					pmax		pmax			
	comp=Z,21nm,0.4s									
MAK					MLR		MLR			
	comp=Z,543nm,15.0s									
BBB	**Bella Bella**	**93.73**	**38**		P		**P**	**18 12 39.5**	**+1.8**	
	comp=Z,24nm,1.1s,baz=300,slow=8.5,SNR=4.5									
BBB					LR		LR	18 46 39.5		
	comp=Z,1µm,21.8s,baz=262,slow=30									
BBB	**Bella Bella**	**93.73**	**38**		P		**P**	**18 12 39.5**	**+1.8**	
RAYN	**Ar Rayn**	**94.92**	**293**		P		**P**	**18 12 44.5**	**+0.6**	
	comp=Z,175nm,0.8s,SNR=17									
DGRG	**David-gareji**	**95.11**	**311**		P		**P**	**18 12 43.7**	**-0.7**	
DGRG					S		**PP**	**18 16 35.7**	**+0.5**	
TBLG	**Delisi**	**95.58**	**311**		P		**P**	**18 12 44.9**	**-1.6**	
TBLG					S		**PP**	**18 16 39.1**	**+0.2**	
GNI	**Garni**	**95.61**	**310**		P		**P**	**18 12 47.1**	**+0.3**	
	comp=Z,4.2nm,0.6s,baz=152,slow=6.6,SNR=5.2									
GNI	**Garni**	**95.61**	**310**		*e*P		**P**	**18 12 46.3**	**-0.5**	
	comp=Z,10nm,0.8s									
GNI					LR		LR			
	comp=Z,372nm,22.0s									
GOR	**Gori**	**96.05**	**312**		P		P	18 12 41.8	-6.9	
ZEI	**Tsey**	**96.18**	**313**		*e*P		**P**	**18 12 48.1**	**-1.4**	
ZEI					pmax		pmax			
	comp=Z,18nm,1.0s									
ONI	**Oni**	**96.52**	**312**		P		**P**	**18 12 50.1**	**-0.7**	
ONI					S		**PP**	**18 16 44.3**	**-1.8**	
AKH	**Akhalkalaki**	**96.52**	**311**		P		**P**	**18 12 49.3**	**-1.7**	
AKH					S		**PP**	**18 16 47.1**	**+0.7**	
NLWA	**Neilton Lookou**	**96.60**	**43**		*e*P		**P**	**18 12 51.5**	**+0.5**	
	comp=Z,31nm,1.0s									
NLWA					LR		LR			
	comp=Z,2µm,20.0s									
KBZ	**Khabaz**	**96.88**	**314**		P		**P**	**18 12 51.6**	**-0.7**	
	comp=Z,3.3nm,0.7s,baz=95,slow=6.2,SNR=12									
KBZ	**Khabaz**	**96.88**	**314**		P		**P**	**18 12 51.6**	**-0.7**	
KBZ	**Khabaz**	**96.88**	**314**		P		**P**	**18 12 51.6**	**-0.7**	
KHMM	**Horse Mountain**	**96.98**	**49**		*e*P			18 12 54.6		
	comp=Z,36nm,0.7s									
KIV	**Kislovodsk**	**97.02**	**314**	⇑	*e*P		**P**	**18 12 52.3**	**-0.8**	
KIV					*i*			18 16 51.9		
KIV					*i* S		**SKSac**	**18 23 21.8**	**+0.4**	
KIV					*e*PS		**PS**	**18 25 33.1**	**-8.9**	
KIV					pmax		pmax			
	comp=Z,10.0nm,1.0s									
KIV	**Kislovodsk**	**97.02**	**314**		PFAKE			18 13 00.0	+6.8	
KIV					LR		LR			
	comp=Z,602nm,20.0s									
KCPM	**Cahto Peak**	**97.13**	**51**		*e*P		Pdif	18 12 55.2	+1.4	
	comp=Z,24nm,0.9s									
VRHR	**Novokhopersk**	**97.30**	**321**		*e*P		**P**	**18 12 52.5**	**-1.5**	
VRHR					pmax		pmax			
	comp=N,20nm,0.9s									
VRHR					pmax		pmax			
	comp=E,30nm,0.9s									
VRHR					pmax		pmax			
	comp=Z,50nm,0.9s									
HUMO	**Hull Mountain**	**97.48**	**48**		*e*P		Pdif	18 12 56.7	+1.5	
	comp=Z,22nm,0.8s									
KLMR	**Klimovskoe**	**97.48**	**331**		*e*P		**P**	**18 12 52.9**	**-1.7**	
KLMR					S		**SKSac**	**18 23 19.1**	**-3.7**	
KLMR					pmax		pmax			
	comp=Z,27nm,1.2s									
TMCR	**Tamitsa**	**97.69**	**334**		*e*P		**P**	**18 12 54.1**	**-1.4**	
TMCR					pmax		pmax			
	comp=Z,54nm,1.4s									
YBH	**Yreka Blue Hor**	**97.71**	**48**		P		Pdif	18 12 58.2	+1.9	
	comp=Z,15nm,1.0s,baz=159,slow=2.2,SNR=16									
YBH					LR		LR	18 48 51.4		
	comp=Z,2µm,21.4s,baz=328,slow=30									
YBH	**Yreka Blue Hor**	**97.71**	**48**		*e*P		Pdif	18 12 56.9	+0.6	
	comp=Z,24nm,1.1s									
WDC	**Whiskeytown Da**	**97.89**	**50**		*e*P		Pdif	18 12 57.1	+0.1	
WDC					pmax		pmax			
	comp=Z,31nm,1.1s									
WDC	**Whiskeytown Da**	**97.89**	**50**		*e*P		Pdif	18 12 57.1	0.0	
	comp=Z,31nm,1.1s									
LVZ	**Lovozero**	**98.33**	**338**	*d*	*i*P		Pdif	18 12 58.7	+0.3	
LVZ					pmax		pmax			
	comp=Z,26nm,1.0s									
LVZ	**Lovozero**	**98.33**	**338**		PFAKE			18 13 10.0	+12	
LVZ					LR		LR			
	comp=Z,686nm,21.0s									
VORD	**Divnogorie**	**98.78**	**321**		*e*P		Pdif	18 12 59.6	-1.1	
VORD					pmax		pmax			
	comp=Z,20nm,0.8s									
VORD					pmax		pmax			
	comp=N,6.0nm,0.4s									
VORD					pmax		pmax			
	comp=E,20nm,0.8s									
VSR	**Storozhevoye**	**98.83**	**321**		*e*P		**P**	**18 12 59.4**	**-1.5**	
APA	**Apatity**	**98.87**	**338**	⇑	*i*P		Pdif	18 13 02.6	+1.9	
APA					*i*			18 17 00.0		
APA					*i*			18 23 32.0		
APA					*i* S		**S**	**18 24 20.0**	**-2.2**	
APA					*i* PS		PS	18 25 50.0	-11	
APA					pmax		pmax			
	comp=Z,76nm,2.4s									
APA					MLR		MLR			
	comp=Z,2µm,24.0s									
MAIT	**Maitri**	**98.89**	**195**		*e*P		P	18 12 53.3	-7.5	
SOC	**Sochi**	**99.19**	**314**		*e*P		**Pdif**	**18 12 53.8**	**-8.9**	
SOC					*e*PPP		PPP	18 19 11.7		
SOC					*e*			18 23 35.4		
SOC					*e*SSS		SSS	18 35 00.3		
SOC					MLR		MLR			
	comp=Z,566nm,20.0s									
SPA0	**Spitsbergen Ar**	**99.38**	**350**		*e*		**Pdif**	**18 13 02.2**	**-0.6**	
SPA0					*i*			18 17 08.3		
MOD	**Modoc**	**99.49**	**48**		*e*Pdif		**Pdif**	**18 13 04.9**	**+0.5**	
	comp=Z,41nm,1.1s									
MOD					*e*PP		PP	18 16 56.6	-12	
HAWA	**Hanford**	**99.64**	**44**		PFAKE			18 13 20.0	+15	
HAWA					LR		LR			
	comp=Z,521nm,20.0s									
KBS	**Kingsbay**	**99.69**	**351**		*e*		**Pdif**	**18 13 04.9**	**+0.7**	
KBS					*i*			18 17 11.4		
KBS	**Kingsbay**	**99.69**	**351**		PFAKE			18 13 10.0	+5.8	
KBS					LR		LR			
	comp=Z,593nm,20.0s									
CMB	**Columbia Colle**	**99.71**	**52**		*e*P		**Pdif**	**18 13 05.4**	**+0.2**	
CMB					*e*			18 17 06.7		
CMB					pmax		pmax			
	comp=Z,11nm,1.1s									
CMB	**Columbia Colle**	**99.71**	**52**		*e*Pdif		**Pdif**	**18 13 05.4**	**+0.2**	
	comp=Z,11nm,1.1s									
CMB					*e*PP		**PP**	**18 17 06.7**	**-4.0**	
OBN	**Obninsk**	**99.86**	**325**	⇓	*e*P		**Pdif**	**18 13 04.7**	**-0.7**	
OBN					*i*			18 17 10.0		
OBN					*e*S		SKSac	18 23 44.2	+9.3	
OBN					*i* PS		**PS**	**18 26 05.4**	**-6.5**	
OBN					pmax		pmax			
	comp=Z,25nm,0.9s									
OBN					MLR		MLR			
	comp=Z,1µm,22.0s									
OBN	**Obninsk**	**99.86**	**325**		*e*Pdif		**Pdif**	**18 13 04.5**	**-0.9**	
OBN					LR		LR			
	comp=Z,703nm,21.0s									
YKW3	**Yellowknife Ar**	**99.87**	**27**		*e*Pdif		**Pdif**	**18 13 04.4**	**-0.9**	
	comp=Z,0.4nm,1.4s									
YKW3					*e*PP		**PP**	**18 17 09.1**	**-1.8**	
YKA	**Yellowknife Ar**	**99.89**	**27**		P		**Pdif**	**18 13 05.4**	**+0.1**	
	comp=Z,5.6nm,0.9s,baz=283,slow=4.4,SNR=30									
YKA					PP		PP	18 16 56.3	-15	
	comp=Z,3.3nm,1.0s,baz=280,slow=8.1,SNR=5.3									
YKA					PKiKP		**PKiKP**	**18 17 31.6**	**-1.4**	
	comp=Z,0.7nm,0.7s,baz=273,slow=2.4,SNR=6.3									
YKA					PKKPbc		**PKKPbc**	**18 29 24.9**	**-2.6**	
	comp=Z,0.6nm,0.8s,baz=97,slow=2.8,SNR=6.9									
YKA					PKKPab		PKKPdf	18 29 45.1	+14	
	comp=Z,0.4nm,0.8s,baz=111,slow=3.8,SNR=3.9									
YKA	**Yellowknife Ar**	**99.89**	**27**		P		**Pdif**	**18 13 05.4**	**+0.1**	
YKA					PP		PP	18 16 56.3	-15	
YKA					PKiKP		**PKiKP**	**18 17 31.6**	**-1.4**	
YKA					PKKPbc		**PKKPbc**	**18 29 24.9**	**-2.6**	
YKA					PKKPab		PKKPdf	18 29 45.1	+14	
PKM	**Peak Mountain**	**100.37**	**55**	⇑	Pdiff		**Pdif**	**18 13 09.5**	**+1.1**	
	baz=100									
KEV	**Kevo**	**100.46**	**341**		*e*P		**Pdif**	**18 13 07.9**	**+0.2**	
KEV					pmax		pmax			
	comp=Z,10.0nm,0.8s									
KEV	**Kevo**	**100.46**	**341**		PFAKE			18 13 20.0	+12	
KEV					LR		LR			
	comp=Z,1µm,22.0s									
KEV	**Kevo**	**100.46**	**341**		*e*p		**Pdif**	**18 13 07.9**	**+0.2**	
	comp=Z,9.5nm,0.8s									
MALT	**Malatya**	**100.59**	**308**		*e*P		**Pdif**	**18 13 08.0**	**-1.2**	
MALT					pmax		pmax			
	comp=Z,3.0nm,0.6s									
MALT					MLR		MLR			
	comp=Z,354nm,21.0s									
MALT	**Malatya**	**100.59**	**308**		*e*Pdif		**Pdif**	**18 13 08.0**	**-1.2**	
	comp=Z,3.4nm,0.6s									
MALT					LR		LR			
	comp=Z,354nm,21.0s									
JOF	**Joensuu**	**100.89**	**334**		*e*P		**Pdif**	**18 13 08.7**	**-1.1**	
JOF					pmax		pmax			
	comp=Z,3.0nm,0.6s									
JOF	**Joensuu**	**100.89**	**334**		*e*p		**Pdif**	**18 13 08.7**	**-1.1**	
	comp=Z,3.2nm,0.6s									
VES	**Vestal, Richgr**	**100.91**	**54**	⇑	Pdiff		**Pdif**	**18 13 11.6**	**+1.1**	
	baz=101									
MLAC	**Mammoth Lakes**	**100.97**	**52**	⇓	Pdiff		**Pdif**	**18 13 12.1**	**+1.0**	
	baz=101									
ARCES	**ARCESS Array B**	**101.03**	**341**		P		**Pdif**	**18 13 09.9**	**-0.4**	
	comp=Z,24nm,0.7s,baz=78,slow=5.1,SNR=50									
ARCES	**ARCESS Array B**	**101.03**	**341**		P		**Pdif**	**18 13 09.9**	**-0.4**	
ARE0	**ARCESS Array S**	**101.03**	**341**		*e*		**Pdif**	**18 13 10.4**	**0.0**	
ARE0					*i*			18 17 17.9		
NEW	**Newport**	**101.04**	**41**		P		**Pdif**	**18 13 11.8**	**+0.9**	
	comp=Z,3.9nm,0.9s,baz=260,slow=2.4,SNR=7.7									
NEW					PP		PP	18 17 14.5	-5.8	
	comp=Z,4.4nm,1.0s,baz=294,slow=7.2,SNR=3.8									
NEW	**Newport**	**101.04**	**41**		P		**Pdif**	**18 13 11.8**	**+0.9**	
NEW					PP		PP	18 17 14.5	-5.8	
NEW					LR		LR			
	comp=Z,916nm,20.0s									
NVAR	**Mina Array Bea**	**101.31**	**52**		P		**Pdif**	**18 13 14.0**	**+1.4**	
	comp=Z,7.4nm,0.9s,baz=262,slow=5.8,SNR=41									
NVAR					PP		**PP**	**18 17 26.1**	**+3.0**	
	comp=Z,2.4nm,1.0s,baz=264,slow=8.1,SNR=4.1									
NVAR					PKiKP		PKiKP	18 17 42.5	+5.9	
	comp=Z,3.9nm,1.0s,baz=263,slow=3.5,SNR=4.7									
NVAR					PKKPab		PKKPdf	18 29 46.7	+18	
	comp=Z,0.9nm,0.9s,baz=90,slow=4.8,SNR=5.2									
NVAR	**Mina Array Bea**	**101.31**	**52**		P		**Pdif**	**18 13 14.0**	**+1.4**	
NVAR					PP		**PP**	**18 17 26.1**	**+3.0**	
NVAR					PKiKP		PKiKP	18 17 42.5	+5.9	
NVAR					PKKPab		PKKPdf	18 29 46.7	+18	
BMO	**Blue Mountains**	**101.36**	**45**		PFAKE			18 13 20.0	+7.5	
BMO					LR		LR			
	comp=Z,755nm,20.0s									
ISA	**Isabella**	**101.42**	**54**		*e*P		**Pdif**	**18 13 13.3**	**+0.4**	
ISA					pmax		pmax			
	comp=Z,5.0nm,1.1s									
ISA	**Isabella**	**101.42**	**54**		*e*Pdif		**Pdif**	**18 13 13.3**	**+0.4**	
	comp=Z,5.1nm,1.1s									
ISA					*e*PP		PP	18 17 17.1	-6.6	
ISA	**Isabella**	**101.42**	**54**	⇑	Pdiff		**Pdif**	**18 13 13.8**	**+0.9**	
	baz=102									
NV11	**Mina Array Sit**	**101.43**	**52**		*e*Pdif		**Pdif**	**18 13 14.1**	**+1.1**	
NV11					*e*PP		**PP**	**18 17 24.1**	**+0.3**	
SNAA	**Sanae**	**101.64**	**191**		*e*Pdif		**Pdif**	**18 13 13.8**	**+0.7**	
	comp=Z,18nm,1.3s									
SNAA					*e*PP		**PP**	**18 17 24.5**	**+0.6**	
CIS	**Catalina Islan**	**101.64**	**57**	⇓	Pdiff		**Pdif**	**18 13 14.9**	**+1.0**	
	baz=102									
C11A	**Tepee Creek (N**	**101.68**	**42**	⇑	Pdiff		**Pdif**	**18 13 15.1**	**+1.4**	
	baz=102									
RES	**Resolute Bay**	**101.75**	**13**		P		**Pdif**	**18 13 13.7**	**+0.3**	
	comp=Z,7.3nm,0.7s,baz=298,slow=5.2,SNR=27									
RES					PP		PP	18 17 15.6	-9.2	
	comp=Z,4.5nm,1.0s,baz=320,slow=9.2,SNR=2.5									
RES	**Resolute Bay**	**101.75**	**13**		*e*Pdif		**Pdif**	**18 13 13.3**	**-0.1**	
	comp=Z,87nm,1.9s									
RES					*e*PP		PP	18 17 15.1	-10	
RES					PP		PP	18 17 15.6	-9.2	
MWC	**Mount Wilson**	**101.87**	**56**		*e*P		**Pdif**	**18 13 15.8**	**+0.7**	
MWC					pmax		pmax			
	comp=Z,19nm,1.1s									
MWC	**Mount Wilson**	**101.87**	**56**		*e*Pdif		**Pdif**	**18 13 15.8**	**+0.7**	
	comp=Z,19nm,1.1s									
MWC					*e*PP		PP	18 17 21.7	-5.5	
EDW2	**Edwards Air Fo**	**101.87**	**55**	⇓	Pdiff		**Pdif**	**18 13 16.1**	**+1.1**	
	baz=102									
A12A	**Yaak River Ran**	**101.90**	**41**	⇓	Pdiff		**Pdif**	**18 13 16.1**	**+1.4**	
	baz=102									
BMN	**Battle Mountai**	**101.95**	**49**		PFAKE			18 13 30.0	+15	
BMN					LR		LR			
	comp=Z,907nm,21.0s									
KTK1	**Kautokeino**	**101.98**	**341**		*e*			18 17 24.6		
B12A	**Libby**	**102.02**	**41**	⇑	Pdiff		**Pdif**	**18 13 16.4**	**+1.2**	
	baz=102									
LRMC	**Laurel Mountai**	**102.07**	**55**	⇑	Pdiff		**Pdif**	**18 13 16.7**	**+0.9**	
	baz=102									
DAC	**Darwin (Calif)**	**102.08**	**54**		PFAKE			18 13 30.0	+14	
DAC					LR		LR			
	comp=Z,2µm,19.0s									
MPMC	**Manual Prospec**	**102.18**	**54**	⇓	Pdiff		**Pdif**	**18 13 17.3**	**+0.9**	
	baz=102									
TPH	**Tonopah**	**102.20**	**52**		PFAKE			18 13 30.0	+13	
TPH					LR		LR			
	comp=Z,780nm,21.0s									
BFSC	**Mount Baldy Ra**	**102.20**	**56**	⇑	Pdiff		**Pdif**	**18 13 16.9**	**+0.4**	
	baz=102									
C12B	**Naegeli Ranch,**	**102.22**	**42**	⇓	Pdiff		**Pdif**	**18 13 17.4**	**+1.3**	
	baz=102									
KMBO	**Kilima Mbogo**	**102.26**	**268**		*e*Pdif		**Pdif**	**18 13 17.2**	**-0.2**	
	comp=Z,14nm,1.5s									
KMBO					LR		LR			
	comp=Z,453nm,19.0s									
ASF	**Jabal al Asfar**	**102.32**	**302**		P		**Pdif**	**18 13 18.2**	**+1.2**	
	comp=Z,2.4nm,0.6s,baz=283,slow=5.1,SNR=4.2									
ASF	**Jabal al Asfar**	**102.32**	**302**		P		**Pdif**	**18 13 18.2**	**+1.2**	
E12A	**Beaver Dam Sad**	**102.35**	**43**	⇑	Pdiff		**Pdif**	**18 13 17.9**	**+1.0**	
	baz=102									
D12A	**Red Ives Fores**	**102.40**	**43**	⇓	Pdiff		**Pdif**	**18 13 18.0**	**+0.9**	
	baz=102									
MFID	**Camas Ranch**	**102.61**	**46**	⇓	Pdiff		**Pdif**	**18 13 19.3**	**+1.2**	
	baz=103									
BSMT	**Bassoo Peak**	**102.65**	**42**		*e*Pdif		**Pdif**	**18 13 18.1**	**-0.2**	
	comp=Z,9.1nm,1.2s									
F12A	**Elk City**	**102.67**	**44**	⇓	Pdiff		**Pdif**	**18 13 19.2**	**+0.9**	
	baz=103									
A13A	**Flathead Natio**	**102.71**	**41**	⇑	Pdiff		**Pdif**	**18 13 19.3**	**+0.9**	
	baz=103									
G12A	**Big Creek, Yel**	**102.72**	**44**	⇑	Pdiff		**Pdif**	**18 13 19.9**	**+1.3**	
	baz=103									
B13A	**Whitefish**	**102.77**	**41**	⇑	Pdiff		**Pdif**	**18 13 19.9**	**+1.2**	
	baz=103									
GSC	**Goldstone**	**102.80**	**55**	⇑	Pdiff		**Pdif**	**18 13 20.2**	**+1.1**	
	baz=103									
C13A	**Hot Springs**	**102.82**	**42**	⇓	Pdiff		**Pdif**	**18 13 20.2**	**+1.3**	
	baz=103									
D13A	**Huson**	**103.00**	**42**	⇓	Pdiff		**Pdif**	**18 13 20.9**	**+1.2**	
	baz=103									
SIM	**Simferopol'**	**103.02**	**315**		*e*P		**Pdif**	**18 13 15.4**	**-4.3**	
SIM					*e*S		**Sdif**	**18 24 57.0**	**-0.9**	
SIM					*e*SS		**SS**	**18 32 11.0**	**+1.4**	
SIM					pmax		pmax			
	comp=Z,300nm,12.0s									
SIM					MLR		MLR			
	comp=Z,300nm,18.0s									
I12A	**Atlanta**	**103.06**	**46**	⇑	Pdiff		**Pdif**	**18 13 21.3**	**+1.1**	
	baz=103									
H12A	**Diamond D Ranc**	**103.14**	**45**	⇑	Pdiff		**Pdif**	**18 13 21.8**	**+1.3**	
	baz=103									
SHOC	**Shoshone**	**103.17**	**54**	⇑	Pdiff		**Pdif**	**18 13 21.9**	**+1.2**	
	baz=103									
HEC	**Hector,Ludlow**	**103.24**	**55**	⇓	Pdiff		**Pdif**	**18 13 21.9**	**+0.8**	
	baz=103									
PFO	**Pinyon Flat Ob**	**103.25**	**56**		PFAKE			18 13 30.0	+8.8	
PFO					LR		LR			
	comp=Z,1µm,22.0s									
PFO	**Pinyon Flat Ob**	**103.25**	**56**	⇑	Pdiff		**Pdif**	**18 13 21.7**	**+0.5**	
	baz=103									
E13A	**Victor**	**103.29**	**43**	⇓	Pdiff		**Pdif**	**18 13 21.9**	**+0.9**	
	baz=103									
F13A	**Darby**	**103.31**	**44**	⇓	Pdiff		**Pdif**	**18 13 22.2**	**+1.1**	
	baz=103									
A14A	**Double T Ranch**	**103.34**	**40**	⇓	Pdiff		**Pdif**	**18 13 22.3**	**+1.0**	
	baz=103									
MONP	**Monument Peak**	**103.34**	**57**	⇓	Pdiff		**Pdif**	**18 13 22.8**	**+1.0**	
	baz=103									
KAF	**Kangasniemi**	**103.35**	**334**		*e*P		**Pdif**	**18 13 19.8**	**-1.0**	
KAF					pmax		pmax			
	comp=Z,4.0nm,0.7s									
KAF	**Kangasniemi**	**103.35**	**334**		*e*p		**Pdif**	**18 13 19.8**	**-1.0**	
	comp=Z,3.6nm,0.7s									
C14A	**Swan Lake**	**103.36**	**42**	⇑	Pdiff		**Pdif**	**18 13 22.3**	**+1.0**	
	baz=103									
MSO	**Missoula**	**103.39**	**43**		PFAKE			18 13 30.0	+8.5	
MSO					LR		LR			
	comp=Z,528nm,21.0s									
R11A	**Troy Canyon, C**	**103.45**	**51**	⇓	Pdiff		**Pdif**	**18 13 22.9**	**+0.9**	
	baz=104									
G13A	**Cobalt**	**103.49**	**44**	⇑	Pdiff		**Pdif**	**18 13 23.3**	**+1.3**	
	baz=104									
TUQ	**Turquoise Moun**	**103.51**	**54**	⇑	Pdiff		**Pdif**	**18 13 23.7**	**+1.4**	
	baz=104									
B14A	**Marquette Ranc**	**103.56**	**41**	⇓	Pdiff		**Pdif**	**18 13 23.3**	**+1.1**	
	baz=104									
H13A	**Challis**	**103.56**	**45**	⇑	Pdiff		**Pdif**	**18 13 23.8**	**+1.4**	
	baz=104									
BELC	**Belle Mtn. Jos**	**103.59**	**56**	⇑	Pdiff		**Pdif**	**18 13 23.7**	**+1.0**	
	baz=104									
HLID	**Hailey**	**103.61**	**46**		*e*Pdif		**Pdif**	**18 13 23.0**	**+0.4**	
	comp=Z,3.9nm,0.7s									
HLID					LR		LR			
	comp=Z,926nm,20.0s									
SLMT	**Seeley Lake**	**103.62**	**42**		*e*Pdif		**Pdif**	**18 13 21.9**	**-0.7**	
SLMT					*e*PP		PP	18 17 29.4	-10	
DVTC	**Desert V Tower**	**103.63**	**57**	⇑	Pdiff		**Pdif**	**18 13 24.0**	**+1.2**	
	baz=104									
D14A	**Greenough**	**103.64**	**42**	⇓	Pdiff		**Pdif**	**18 13 23.6**	**+1.0**	
	baz=104									
FINES	**FINESS Array B**	**103.68**	**333**		Pdiff		**Pdif**	**18 13 22.1**	**-0.1**	
	comp=Z,2.9nm,0.6s,baz=71,slow=5.5,SNR=20									
FINES					PP		PP	18 17 24.0	-16	
	comp=Z,7.0nm,1.1s,baz=46,slow=8.2,SNR=4.7									
FINES					PKiKP		**PKiKP**	**

AKASG	**Malin Array Be**	**105.11**	**322**	P	**Pdif**	**18 13 27.7**	**-1.2**		
AKASG						18 17 50.7			
AKASG	**Malin Array Be**	**105.11**	**322**	Pdif	**Pdif**	**18 13 27.6**	**-1.2**		
AKASG				PP	**PP**	**18 17 50.7**	**+0.2**		
AKASG				PKKPbc	**PKKPbc**	**18 29 10.2**	**-1.6**		
K15A	**Arbon**	**105.11**	**47**	⇓Pdiff	**Pdif**	**18 13 31.5**	**+2.3**		
	baz=105								
AK01	**Malin Array Si**	**105.12**	**322**	*e*Pdif	**Pdif**	**18 13 28.3**	**-0.6**		
KIEV	**Kiev**	**105.12**	**322**	*e*P	**Pdif**	**18 13 26.5**	**-2.4**		
KIEV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KIEV				MLR	MLR				
	comp=Z,1µm,22.0s								
KIEV	**Kiev**	**105.12**	**322**	*e*Pdif	**Pdif**	**18 13 26.5**	**-2.4**		
	comp=Z,8.5nm,1.1s								
KIEV				LR	LR				
	comp=Z,1µm,22.0s								
AK02	**Malin Array Si**	**105.13**	**322**	*e*Pdif	**Pdif**	**18 13 27.6**	**-1.3**		
G16A	**Moss Hill, Enn**	**105.15**	**44**	⇑Pdiff	**Pdif**	**18 13 30.9**	**+1.4**		
	baz=105								
B17A	**L&G Farms, Che**	**105.19**	**41**	⇓Pdiff	**Pdif**	**18 13 30.5**	**+1.2**		
	baz=105								
BOZ	**Bozeman (W)**	**105.19**	**43**	PFAKE		18 17 50.0			
BOZ				LR	LR				
	comp=Z,785nm,21.0s								
W13A	**Hualapai Mount**	**105.20**	**55**	⇑Pdiff	**Pdif**	**18 13 31.0**	**+1.0**		
	baz=105								
DAG	**Danmarks Havn**	**105.28**	**355**	*i* P	**PP**	**18 17 51.1**	**+0.1**		
DUG	**Dugway**	**105.32**	**49**	*e*P	**Pdif**	**18 13 31.5**	**+1.2**		
DUG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
DUG				MLR	MLR				
	comp=Z,779nm,20.0s								
DUG	**Dugway**	**105.32**	**49**	*e*Pdif	**Pdif**	**18 13 31.5**	**+1.2**		
	comp=Z,4.7nm,1.0s								
DUG				LR	LR				
	comp=Z,779nm,20.0s								
L15A	**Malad City**	**105.33**	**47**	⇓Pdiff	**Pdif**	**18 13 31.7**	**+1.4**		
	baz=105								
C17A	**Wharram Farm,**	**105.36**	**41**	⇑Pdiff	**Pdif**	**18 13 31.6**	**+1.4**		
	baz=105								
M15A	**Larsen Ranch,**	**105.38**	**48**	⇓Pdiff	**Pdif**	**18 13 31.2**	**+0.7**		
	baz=105								
QLMT	**Earthquake Lak**	**105.49**	**44**	*e*Pdif	**Pdif**	**18 13 33.0**	**+2.0**		
	comp=Z,0.2nm,0.2s								
D17A	**Six Diamond Ra**	**105.51**	**42**	⇓Pdiff	**Pdif**	**18 13 32.0**	**+1.1**		
	baz=106								
E17A	**Martinsdale**	**105.55**	**43**	⇑Pdiff	**Pdif**	**18 13 32.5**	**+1.3**		
	baz=106								
O15A	**The Old Anders**	**105.56**	**49**	⇓Pdiff	**Pdif**	**18 13 33.0**	**+1.6**		
	baz=106								
113A	**Mohawk Valley,**	**105.58**	**57**	⇓Pdiff	**Pdif**	**18 13 32.8**	**+1.4**		
	baz=106								
I16A	**Newdale**	**105.64**	**45**	⇑Pdiff	**Pdif**	**18 13 33.4**	**+1.7**		
	baz=106								
H16A	**Russell Place,**	**105.65**	**44**	⇓Pdiff	**Pdif**	**18 13 33.3**	**+1.6**		
	baz=106								
A18A	**Metzger Ranch,**	**105.66**	**40**	⇓Pdiff	**Pdif**	**18 13 33.0**	**+1.6**		
	baz=106								
J16A	**Bone**	**105.67**	**46**	⇓Pdiff	**Pdif**	**18 13 33.4**	**+1.6**		
	baz=106								
K16A	**Soda Springs**	**105.77**	**46**	⇓Pdiff	**Pdif**	**18 13 33.7**	**+1.5**		
	baz=106								
F17A	**Fitzpatrick Pl**	**105.80**	**43**	⇑Pdiff	**Pdif**	**18 13 34.0**	**+1.8**		
	baz=106								
P15A	**Leamington**	**105.83**	**50**	⇓Pdiff	**Pdif**	**18 13 34.1**	**+1.6**		
	baz=106								
B18A	**Beardsley Farm**	**105.83**	**40**	⇑Pdiff	**Pdif**	**18 13 33.6**	**+1.4**		
	baz=106								
RRI2	**Red Ridge**	**105.86**	**46**	*e*Pdif	**Pdif**	**18 13 33.7**	**+0.9**		
	comp=Z,4.7nm,0.8s								
G17A	**Pierce Place,**	**105.87**	**44**	⇓Pdiff	**Pdif**	**18 13 33.8**	**+1.2**		
	baz=106								
EGMT	**Eagleton**	**105.93**	**41**	PFAKE		18 18 00.0			
EGMT				LR	LR				
	comp=Z,612nm,20.0s								
HWUT	**Hardware Ranch**	**106.01**	**48**	PFAKE		18 18 00.0			
HWUT				LR	LR				
	comp=Z,2µm,22.0s								
IMW	**Indian Meadow**	**106.03**	**45**	*e*Pdif	**Pdif**	**18 13 33.9**	**+0.3**		
	comp=Z,7.1nm,1.1s								
L16A	**Fish Haven**	**106.03**	**47**	⇓Pdiff	**Pdif**	**18 13 34.9**	**+1.4**		
	baz=106								
MVU	**Marysvale**	**106.05**	**51**	PFAKE		18 18 00.0			
MVU				LR	LR				
	comp=Z,917nm,22.0s								
Y14A	**Wickenburg**	**106.07**	**56**	⇑Pdiff	**Pdif**	**18 13 35.2**	**+1.6**		
	baz=106								
MSU	**Marysvale**	**106.08**	**51**	*e*P	**Pdif**	**18 13 34.5**	**+0.8**		
MSU				pmax	pmax				
	comp=Z,4.0nm,1.1s								
MSU	**Marysvale**	**106.08**	**51**	*e*Pdif	**Pdif**	**18 13 34.5**	**+0.8**		
	comp=Z,3.6nm,1.1s								
D18A	**Linhart Farms,**	**106.09**	**42**	⇓Pdiff	**Pdif**	**18 13 34.6**	**+1.1**		
	baz=106								
TPAW	**Teton Pass**	**106.10**	**46**	*e*Pdif	**Pdif**	**18 13 34.6**	**+0.8**		
	comp=Z,11nm,1.3s								
AHID	**Auburn Hatcher**	**106.13**	**46**	PFAKE		18 18 00.0			
AHID				LR	LR				
	comp=Z,665nm,19.0s								
E18A	**Harlowton**	**106.16**	**42**	⇓Pdiff	**Pdif**	**18 13 35.1**	**+1.2**		
	baz=106								
Z14A	**Wintersburg**	**106.19**	**56**	⇑Pdiff	**Pdif**	**18 13 35.9**	**+1.8**		
	baz=106								
KIS	**Kishinev**	**106.25**	**318**	*e*PKP	PKiKP	18 17 51.0	+5.9		
KIS	**Kishinev**	**106.25**	**318**	*e*PP	PP	18 18 00.0	+0.9		
KIS	**Kishinev**	**106.25**	**318**	*e*PS	PS	18 27 15.0	-4.3		
KIS				*e*SS	SS	18 32 50.0	-3.5		
KIS				*e*LQ	LQ	18 54 00.0			
KIS				LRM	MLR	18 59 40.0			
	comp=Z,700nm,22.0s								
LKWY	**Lake**	**106.27**	**44**	PFAKE		18 18 00.0			
LKWY				LR	LR				
	comp=Z,1µm,20.0s								
JLU	**Jordanelle**	**106.28**	**49**	*e*Pdif	**Pdif**	**18 13 35.3**	**+0.6**		
	comp=Z,7.7nm,1.1s								
U15A	**North Rim**	**106.31**	**53**	⇑Pdiff	**Pdif**	**18 13 36.4**	**+1.5**		
	baz=106								
B19A	**Brinkman Farms**	**106.35**	**40**	⇑Pdiff	**Pdif**	**18 13 36.3**	**+1.8**		
	baz=106								
A19A	**Klindworth Far**	**106.36**	**40**	⇓Pdiff	**Pdif**	**18 13 36.6**	**+2.0**		
	baz=106								
F18A	**Big Timber**	**106.45**	**43**	⇑Pdiff	**Pdif**	**18 13 36.6**	**+1.5**		
	baz=106								
DAU	**Daniels Canyon**	**106.46**	**49**	*e*PKPdf	**PKiKP**	**18 17 45.4**	**-0.8**		
C19A	**Slack Wire Ran**	**106.46**	**41**	⇓Pdiff	**Pdif**	**18 13 36.7**	**+1.7**		
	baz=106								
214A	**Organ Pipe Nat**	**106.48**	**58**	⇑Pdiff	**Pdif**	**18 13 36.8**	**+1.4**		
	baz=106								
N17A	**Moffit Pass**	**106.67**	**48**	⇓Pdiff	**Pdif**	**18 13 37.7**	**+1.2**		
	baz=107								
G18A	**Lazy EL Ranch,**	**106.68**	**44**	⇓Pdiff	**Pdif**	**18 13 37.7**	**+1.4**		
	baz=107								
D19A	**Cripps Ranch,**	**106.71**	**42**	⇑Pdiff	**Pdif**	**18 13 37.3**	**+1.1**		
	baz=107								
H18A	**Shoshone NF, C**	**106.75**	**44**	⇑Pdiff	**Pdif**	**18 13 38.3**	**+1.6**		
	baz=107								
Q16A	**Castle Valley**	**106.78**	**50**	⇑Pdiff	**Pdif**	**18 13 37.5**	**+0.6**		
	baz=107								
J18A	**Kendall Valley**	**106.82**	**46**	⇑Pdiff	**Pdif**	**18 13 38.7**	**+1.7**		
	baz=107								
ISP	**Isparta**	**106.84**	**309**	PFAKE		18 18 00.0			
ISP				LR	LR				
	comp=Z,227nm,20.0s								
O17A	**Robinson Place**	**106.89**	**49**	⇑Pdiff	**Pdif**	**18 13 39.1**	**+1.7**		
	baz=107								
A20A	**Cobblestone Ra**	**106.89**	**40**	⇓Pdiff	**Pdif**	**18 13 39.2**	**+2.2**		
	baz=107								
K18A	**Toltan Ranch,**	**106.92**	**46**	⇓Pdiff	**Pdif**	**18 13 39.1**	**+1.7**		
	baz=107								
RLMT	**Red Lodge**	**106.93**	**44**	PFAKE		18 18 00.0			
RLMT				LR	LR				
	comp=Z,776nm,20.0s								
F19A	**Roth Farm, Mol**	**106.98**	**43**	⇓Pdiff	**Pdif**	**18 13 38.2**	**+0.7**		
	baz=107								
L18A	**Fontenelle, Gr**	**107.07**	**47**	⇑Pdiff	**Pdif**	**18 13 38.4**	**+0.3**		
	baz=107								
C20A	**Veseth Ranch,**	**107.15**	**41**	⇓Pdiff	**Pdif**	**18 13 39.6**	**+1.5**		
	baz=107								
WUAZ	**Wupatki**	**107.18**	**54**	*e*Pdif	**Pdif**	**18 13 40.1**	**+1.5**		
	comp=Z,3.0nm,0.7s								
D20A	**Manuel Ranch,**	**107.22**	**41**	⇑Pdiff	**Pdif**	**18 13 39.8**	**+1.3**		
	baz=107								
BW06	**Boulder Array**	**107.24**	**46**	PFAKE		18 18 00.0			
BW06				LR	LR				
	comp=Z,761nm,21.0s								
PDAR	**Pinedale Array**	**107.24**	**46**	Pdiff	**Pdif**	**18 13 40.9**	**+2.0**		
	comp=Z,2.7nm,0.7s,baz=231,slow=2.0,SNR=19								
PDAR				PP	**PP**	**18 18 05.1**	**-1.8**		
	comp=Z,5.0nm,1.2s,baz=287,slow=3.4,SNR=3.0								
PDAR				PKKP	**PKKPdf**	**18 29 14.5**	**-3.3**		
	comp=Z,1.2nm,1.1s,baz=112,slow=6.1,SNR=3.2								
PDAR	**Pinedale Array**	**107.24**	**46**	Pdif	**Pdif**	**18 13 40.9**	**+2.0**		
PDAR				PP	**PP**	**18 18 05.1**	**-1.8**		
PDAR				PKKP	**PKKPdf**	**18 29 14.5**	**-3.3**		
X16A	**Lo Mia Camp, P**	**107.29**	**55**	⇓Pdiff	**Pdif**	**18 13 40.7**	**+1.5**		
	baz=107								
P18A	**Preston Nutter**	**107.36**	**49**	⇓Pdiff	**Pdif**	**18 13 41.2**	**+1.6**		
	baz=107								
I19A	**Meeteetse**	**107.37**	**45**	⇑Pdiff	**Pdif**	**18 13 39.7**	**+0.3**		
	baz=107								
E20A	**Meyer Farm, Mu**	**107.37**	**42**	⇓Pdiff	**Pdif**	**18 13 41.3**	**+2.1**		
	baz=107								
J19A	**Crowheart**	**107.50**	**46**	⇓Pdiff	**Pdif**	**18 13 41.7**	**+1.7**		
	baz=108								
N18A	**Larsen Ranch,**	**107.53**	**48**	⇑Pdiff	**Pdif**	**18 13 41.6**	**+1.5**		
	baz=108								
G20A	**Bridger**	**107.63**	**43**	⇓Pdiff	**Pdif**	**18 13 42.0**	**+1.6**		
	baz=108								
SUW	**Suwalki**	**107.67**	**326**	*e*P	**Pdif**	**18 13 40.6**	**+0.4**		
SUW				LMZ	LR	18 58 12.0			
	comp=Z,900nm,28.7s								
SUW	**Suwalki**	**107.67**	**326**	*e*P	**Pdif**	**18 13 40.3**	**+0.1**		
SUW				pmax	pmax				
	comp=Z,40nm,0.9s								
SUW	**Suwalki**	**107.67**	**326**	*e*Pdif	**Pdif**	**18 13 40.3**	**+0.1**		
	comp=Z,40nm,0.9s								
SUW	**Suwalki**	**107.67**	**326**	*e*P	**Pdif**	**18 13 40.5**	**+0.4**		
SUW				LMZ	LR	18 58 12.0			
K19A	**Absolon Red Bu**	**107.74**	**46**	⇓Pdiff	**Pdif**	**18 13 42.9**	**+1.8**		
	baz=108								
M19A	**Rock Springs**	**107.80**	**47**	⇓Pdiff	**Pdif**	**18 13 43.0**	**+1.6**		
	baz=108								
S18A	**Hurst Farm, Bl**	**107.91**	**51**	⇑Pdiff	**Pdif**	**18 13 43.5**	**+1.5**		
	baz=108								
O19A	**Miners Draw (B**	**108.08**	**49**	⇑Pdiff	**Pdif**	**18 13 44.2**	**+1.7**		
	baz=108								
A22A	**Carney Farms,**	**108.14**	**39**	⇓Pdiff	**Pdif**	**18 13 44.4**	**+2.0**		
	baz=108								
K20A	**Yellowstone Ra**	**108.14**	**46**	⇑Pdiff	**Pdif**	**18 13 45.0**	**+2.2**		
	baz=108								
P19A	**Cripple Cowboy**	**108.32**	**49**	⇓Pdiff	**Pdif**	**18 13 45.3**	**+1.6**		
	baz=108								
BUR08	**Bucovina Ar. S**	**108.46**	**320**	*e*Pdif	**Pdif**	**18 13 44.4**	**+0.4**		
X18A	**Snowflake**	**108.49**	**55**	⇓Pdiff	**Pdif**	**18 13 46.2**	**+1.6**		
	baz=108								
FFC	**Flin Flon**	**108.52**	**33**	*e*P	**Pdif**	**18 13 45.3**	**+1.4**		
FFC				*e*		18 18 12.3			
FFC				pmax	pmax				
	comp=Z,2.0nm,0.8s								
FFC				MLR	MLR				
	comp=Z,775nm,21.0s								
FFC	**Flin Flon**	**108.52**	**33**	*e*Pdif	**Pdif**	**18 13 45.3**	**+1.4**		
	comp=Z,1.9nm,0.8s								
FFC				*e*PKPdf	PKiKP	18 17 33.9	-15		
FFC				*e*PP	**PP**	**18 18 12.3**	**-3.0**		
FFC				LR	LR				
	comp=Z,775nm,21.0s								
MLR	**Muntele Rosu**	**108.56**	**317**	Pdiff	**Pdif**	**18 13 44.5**	**0.0**		
	comp=Z,0.5nm,0.8s,baz=343,slow=3.7,SNR=4.7								
MLR	**Muntele Rosu**	**108.56**	**317**	Pdif	**Pdif**	**18 13 44.5**	**0.0**		
N20A	**Spence Gulch,**	**108.61**	**48**	⇑Pdiff	**Pdif**	**18 13 46.2**	**+1.2**		
	baz=109								
I21A	**Big Trails, Te**	**108.61**	**45**	⇑Pdiff	**Pdif**	**18 13 46.2**	**+1.4**		
	baz=109								
J21A	**Visite**	**108.62**	**45**	⇓Pdiff	**Pdif**	**18 13 46.7**	**+1.8**		
	baz=109								
MBAR	**Mbarara**	**108.80**	**268**	PFAKE		18 18 00.0			
MBAR				LR	LR				
	comp=Z,395nm,19.0s								
K21A	**Alcova**	**108.93**	**46**	⇓Pdiff	**Pdif**	**18 13 48.6**	**+2.2**		
	baz=109								
C23A	**Lambert**	**108.95**	**40**	⇓Pdiff	**Pdif**	**18 13 48.6**	**+2.5**		
	baz=109								
Q20A	**Ridgley Place,**	**108.98**	**50**	⇑Pdiff	**Pdif**	**18 13 48.7**	**+2.1**		
	baz=109								
L21A	**Rawlins**	**109.00**	**47**	⇑Pdiff	**Pdif**	**18 13 48.7**	**+2.0**		
	baz=109								
H22A	**Clearmont**	**109.07**	**44**	⇑Pdiff	**Pdif**	**18 13 49.1**	**+2.3**		
	baz=109								
R20A	**Redvale**	**109.07**	**51**	⇑Pdiff	**Pdif**	**18 13 49.1**	**+2.0**		
	baz=109								
M21A	**Separation Pea**	**109.09**	**47**	⇑Pdiff	**Pdif**	**18 13 49.2**	**+2.1**		
	baz=109								
MVCO	**Mesa Verde**	**109.17**	**52**	PFAKE		18 18 00.0			
MVCO				LR	LR				
	comp=Z,799nm,20.0s								
J22A	**Midwest**	**109.29**	**45**	⇓Pdiff	**Pdif**	**18 13 50.6**	**+2.8**		
	baz=109								
DGMT	**Dagmar**	**109.38**	**39**	PFAKE		18 18 00.0			
DGMT				LR	LR				
	comp=Z,815nm,20.0s								
KWP	**Kalwaria Pacla**	**109.43**	**322**	PFAKE		18 18 00.0			
KWP				LR	LR				
	comp=Z,1µm,21.0s								
K22A	**Casper**	**109.45**	**46**	⇑Pdiff	**Pdif**	**18 13 50.0**	**+1.4**		
	baz=109								
V20A	**Brimhall**	**109.46**	**53**	⇓Pdiff	**Pdif**	**18 13 50.8**	**+2.0**		
	baz=110								
319A	**Douglas**	**109.54**	**58**	⇓Pdiff	**Pdif**	**18 13 51.2**	**+2.1**		
	baz=110								
Q21A	**Lamborn Mesa,**	**109.55**	**50**	⇓Pdiff	**Pdif**	**18 13 51.2**	**+2.0**		
	baz=110								
W20A	**Ramah**	**109.56**	**54**	⇓Pdiff	**Pdif**	**18 13 51.3**	**+1.9**		
	baz=110								
X20A	**Quemado**	**109.67**	**54**	⇓Pdiff	**Pdif**	**18 13 51.8**	**+2.0**		
	baz=110								
R21A	**Cimarron**	**109.67**	**50**	⇑Pdiff	**Pdif**	**18 13 51.7**	**+1.9**		
	baz=110								
BOSA	**Boshof**	**109.72**	**238**	PKKPbc	PKKPbc	18 28 57.9	+1.2		
	comp=Z,3.7nm,1.0s,baz=325,slow=9.6,SNR=3.7								
BOSA				PKKP	**PKKPab**	**18 29 08.7**	**+0.2**		
	comp=Z,6.4nm,0.9s,baz=82,slow=3.4,SNR=6.2								
BOSA	**Boshof**	**109.72**	**238**	PKKPbc	PKKPbc	18 28 57.9	+1.2		
BOSA				PKKP	**PKKPab**	**18 29 08.7**	**+0.2**		
HFS	**Hagfors**	**109.72**	**334**	Pdiff	**Pdif**	**18 13 47.6**	**-1.5**		
	comp=Z,3.2nm,0.9s,baz=83,slow=12,SNR=3.5								
HFS				PP	PP	18 18 28.1	+4.3		
	comp=Z,4.1nm,0.8s,baz=57,slow=5.5,SNR=4.1								
HFS	**Hagfors**	**109.72**	**334**	Pdif	**Pdif**	**18 13 47.6**	**-1.5**		
HFS				PP	PP	18 18 28.1	+4.3		
LSZ	**Lusaka**	**109.78**	**253**	*e*PKPdf	**PKiKP**	**18 17 53.0**	**+0.2**		
LSZ				LR	LR				
	comp=Z,766nm,21.0s								
Z20A	**Nine Sixteen R**	**109.84**	**56**	⇓Pdiff	**Pdif**	**18 13 52.7**	**+2.1**		
	baz=110								
Z20A				⇑PKiKP	**PKiKP**	**18 17 54.5**	**+2.0**		
	baz=110								
Y20A	**Horse Springs,**	**109.88**	**55**	⇑Pdiff	**Pdif**	**18 13 53.1**	**+2.3**		
	baz=110								
E24A	**Baker**	**109.89**	**41**	⇑Pdiff	**Pdif**	**18 13 53.1**	**+2.7**		
	baz=110								
E24A				⇑PKiKP	**PKiKP**	**18 17 54.5**	**+2.4**		
	baz=110								
120A	**U Bar Ranch, L**	**109.90**	**57**	⇑Pdiff	**Pdif**	**18 13 53.3**	**+2.5**		
	baz=110								
KOLS	**Kolonicke sedl**	**109.93**	**321**	*e*PP	PP	18 18 27.1	+1.3		
T21A	**Navajo Lake**	**109.97**	**52**	⇓PKiKP	**PKiKP**	**18 17 54.4**	**+1.7**		
	baz=110								
U21A	**Nageezi**	**109.99**	**52**	⇑Pdiff	**Pdif**	**18 13 53.4**	**+2.2**		
	baz=110								
U21A				⇓PKiKP	**PKiKP**	**18 17 54.7**	**+1.9**		
	baz=110								
O22A	**Kremmling**	**110.03**	**48**	⇓Pdiff	**Pdif**	**18 13 52.5**	**+1.1**		
	baz=110								
Q22A	**Crested Butte,**	**110.05**	**50**	⇑Pdiff	**Pdif**	**18 13 54.0**	**+2.5**		
	baz=110								
K23A	**Bowen Ranch, D**	**110.06**	**45**	⇓Pdiff	**Pdif**	**18 13 53.7**	**+2.4**		
	baz=110								
220A	**Playas Peak, P**	**110.09**	**57**	⇓Pdiff	**Pdif**	**18 13 54.4**	**+2.7**		
	baz=110								
V21A	**Milan**	**110.12**	**53**	⇑Pdiff	**Pdif**	**18 13 54.2**	**+2.4**		
	baz=110								
L23A	**Garrett**	**110.17**	**46**	⇓Pdiff	**Pdif**	**18 13 54.4**	**+2.5**		
	baz=110								
320A	**Kipp Ranch, An**	**110.18**	**58**	⇓Pdiff	**Pdif**	**18 13 54.8**	**+2.7**		
	baz=110								
PMSA	**Palmer Station**	**110.22**	**169**	PFAKE		18 18 00.0			
PMSA				LR	LR				
	comp=Z,2µm,19.0s								
X21A	**Alamocita Cree**	**110.26**	**54**	⇑Pdiff	**Pdif**	**18 13 54.8**	**+2.3**		
	baz=110								
X21A				⇑PKiKP	**PKiKP**	**18 17 55.5**	**+2.1**		
	baz=110								
NB2	**NORSAR Subarra**	**110.28**	**336**	PP	PP	18 18 04.2	-24		
	baz=57,slow=7.4								
NB2	**NORSAR Subarra**	**110.28**	**336**	PP	PP	18 18 04.2	-24		
	comp=Z,5.2nm,1.2s,baz=57,slow=7.4								
NOA	**NORSAR Array B**	**110.28**	**336**	Pdiff	**Pdif**	**18 13 51.3**	**-0.4**		
	comp=Z,2.4nm,0.9s,baz=59,slow=4.5,SNR=3.1								
NOA				PP	**PP**	**18 18 27.9**	**+0.1**		
	comp=Z,3.3nm,1.0s,baz=67,slow=7.6,SNR=4.4								
NOA	**NORSAR Array B**	**110.28**	**336**	Pdif	**Pdif**	**18 13 51.3**	**-0.4**		
NOA				PP	**PP**	**18 18 27.9**	**+0.1**		
N23A	**Red Feather La**	**110.30**	**47**	⇓Pdiff	**Pdif**	**18 13 54.9**	**+2.3**		
	baz=110								
NC602	**NORSAR Array S**	**110.31**	**336**	*e*		18 18 27.0			
S22A	**4UR Ranch, Cre**	**110.36**	**51**	⇑Pdiff	**Pdif**	**18 13 54.4**	**+1.4**		
	baz=110								
S22A				⇑PKiKP	**PKiKP**	**18 17 55.4**	**+1.8**		
	baz=110								
Y21A	**Point of Rocks**	**110.44**	**55**	⇑Pdiff	**Pdif**	**18 13 55.9**	**+2.6**		
	baz=110								
Y21A				⇓PKiKP	**PKiKP**	**18 17 55.3**	**+1.6**		
	baz=110								
CRVS	**Cervenica-Dubn**	**110.44**	**322**	*e*PP	PP	18 18 33.2	+3.7		
T22A	**Edith**	**110.46**	**52**	⇑Pdiff	**Pdif**	**18 13 55.3**	**+2.0**		
	baz=110								
SUMG	**Summit**	**110.46**	**359**	*i* P	**PP**	**18 18 27.9**	**-1.3**		
SUMG	**Summit**	**110.46**	**359**	*i* P	PKKPab	18 29 21.6	+17		
	comp=Z,5.7nm,1.1s								
O23A	**Lake Granby, G**	**110.49**	**48**	⇑Pdiff	**Pdif**	**18 13 55.7**	**+2.3**		
	baz=110								
Z21A	**St. Cloud Mine**	**110.56**	**56**	⇑Pdiff	**Pdif**	**18 13 56.0**	**+2.2**		
	baz=111								
121A	**Cookes Peak, D**	**110.61**	**56**	⇑Pdiff	**Pdif**	**18 13 55.9**	**+1.9**		
	baz=111								
121A				⇓PKiKP	**PKiKP**	**18 17 55.6**	**+1.6**		
	baz=111								
U22A	**Llaves**	**110.63**	**52**	⇓Pdiff	**Pdif**	**18 13 56.1**	**+2.1**		
	baz=111								
U22A				⇑PKiKP	**PKiKP**	**18 17 56.4**	**+2.4**		
	baz=111								
LAZ	**Ladron**	**110.80**	**54**	*e*Pdif	**Pdif**	**18 13 54.4**	**-0.4**		
ISCO	**Idaho Springs**	**110.81**	**48**	PFAKE		18 18 00.0			
ISCO				LR	LR				
	comp=Z,797nm,21.0s								
Q23A	**Hartsel**	**110.86**	**49**	⇑PKiKP	**PKiKP**	**18 17 55.4**	**+1.0**		
	baz=111								
X22A	**Bernardo**	**110.88**	**54**	⇑PKiKP	**PKiKP**	**18 17 55.6**	**+1.2**		
	baz=111								
Y22A	**Socorro**	**111.03**	**55**	⇑Pdiff	**Pdif**	**18 13 57.9**	**+2.1**		
	baz=111								
Y22A				⇑PKiKP	**PKiKP**	**18 17 56.3**	**+1.5**		
	baz=111								
R23A	**Moffat**	**111.03**	**50**	⇑PKiKP	**PKiKP**	**18 17 56.0**	**+1.2**		
	baz=111								
Z22A	**Elephant Butte**	**111.16**	**56**	⇓Pdiff	**Pdif**	**18 13 58.8**	**+2.4**		
	baz=111								
Z22A				⇑PKiKP	**PKiKP**	**18 17 56.6**	**+1.7**		
	baz=111								
U23A	**El Rito**	**111.16**	**52**	⇑Pdiff	**Pdif**	**18 13 58.5**	**+2.1**		
	baz=111								
U23A				⇓PKiKP	**PKiKP**	**18 17 56.5**	**+1.5**		
	baz=111								
ANMO	**Albuquerque**	**111.24**	**54**	Pdiff	**Pdif**	**18 13 57.9**	**+1.1**		
	comp=Z,0.5nm,0.4s,baz=299,slow=0.9,SNR=4.1								
ANMO				PKiKP	**PKiKP**	**18 17 55.5**	**+0.3**		
	comp=Z,3.4nm,1.0s,baz=190,slow=4.1,SNR=5.1								
ANMO				PP	**PP**	**18 18 33.4**	**-2.7**		
	comp=Z,4.0nm,1.1s,baz=289,slow=6.4,SNR=10								
ANMO	**Albuquerque**	**111.24**

baz=113
Z25A Roswell 113.00 55 ⇑Pdiff Pdif 18 14 06.2 +1.7
baz=113
Z25A ⇓PKiKP **PKiKP 18 17 59.6 +1.2**
baz=113
T26A Comanche Natio 113.00 51 ⇓PKiKP PKiKP 18 17 59.6 +1.2
baz=113
BER Bergen 113.00 337 *e* PP 18 18 51.9 +4.8
O27A Beecher Island 113.03 47 ⇓PKiKP PKiKP 18 17 59.6 +1.3
baz=113
U26A Atchley Ranch, 113.07 52 ⇑Pdiff Pdif 18 14 06.6 +1.7
baz=113
U26A ⇓PKiKP **PKiKP 18 17 59.8 +1.2**
baz=113
OGNE Ogallala 113.14 46 PFAKE 18 18 10.0
OGNE LR LR
comp=Z,866nm,21.0s
225A Deer Hill, Car 113.15 56 ⇓PKiKP PKiKP 18 17 59.8 +1.0
baz=113
325A Bean Ranch, Si 113.17 57 ⇑Pdiff Pdif 18 14 07.2 +1.8
baz=113
325A ⇓PKiKP **PKiKP 18 17 59.9 +1.0**
baz=113
125A Gardner Draw, 113.17 56 ⇑PKiKP PKiKP 18 18 00.1 +1.3
baz=113
V26A Tequesquite Ra 113.18 52 ⇑Pdiff Pdif 18 14 06.9 +1.6
baz=113
V26A ⇑PKiKP **PKiKP 18 17 59.9 +1.1**
baz=113
VRAC Vranov 113.25 323 PP PP 18 18 46.8 -2.7
comp=Z,3.7nm,0.9s,baz=66,slow=7.9,SNR=3.3
VRAC Vranov 113.25 323 PP PP 18 18 46.8 -2.7
425A Indio Mountain 113.27 58 ⇓Pdiff Pdif 18 14 07.6 +1.8
baz=113
425A ⇓PKiKP **PKiKP 18 18 00.3 +1.2**
baz=113
R27A Eads 113.32 49 ⇓PKiKP PKiKP 18 18 00.6 +1.7
baz=113
S27A Las Animas 113.40 50 ⇓PKiKP PKiKP 18 18 00.9 +1.8
baz=113
X26A CR and CF Fran 113.45 54 ⇑PKiKP PKiKP 18 18 00.6 +1.3
baz=114
Z26A Caprock 113.60 55 ⇓Pdiff Pdif 18 14 09.1 +1.9
baz=114
Z26A ⇑PKiKP **PKiKP 18 18 00.4 +0.8**
baz=114
ULM Lac du Bonnet 113.75 35 PKiKP **PKiKP 18 17 58.3 -0.9**
comp=Z,3.9nm,0.6s,baz=314,slow=3.2,SNR=8.7
ULM PP **PP 18 18 51.4 -1.5**
comp=Z,5.8nm,0.9s,baz=298,slow=5.1,SNR=4.2
ULM Lac du Bonnet 113.75 35 PKiKP **PKiKP 18 17 58.3 -0.9**
ULM PP **PP 18 18 51.4 -1.5**
PVCC Panska Ves 113.91 325 AMS AMS 19 09 20.0
comp=Z,900nm,17.8s
TREC Trest 113.92 324 AMS AMS 19 09 00.0
comp=Z,800nm,23.9s
W27A Bowe Ranch, En 113.93 53 ⇑PKiKP PKiKP 18 18 01.3 +1.1
baz=114
TIR Tirane 113.99 314 PFAKE 18 18 10.0
TIR LR LR
comp=Z,1μm,21.0s
326A Caldwell Ranch 114.01 57 ⇓PKiKP PKiKP 18 18 01.6 +1.2
baz=114
426A McDonald Obser 114.10 58 ⇑PKiKP PKiKP 18 18 01.8 +1.0
baz=114
BRG Berggiesshubel 114.11 326 PDIF **Pdif 18 14 07.0 -1.9**
BRG *e*PP PP 18 18 42.6 -13
comp=Z,9.7nm,1.3s
BRG *e* 18 19 09.2
comp=Z,34nm,1.7s
BRG SDIF 18 26 31.0
BRG SS SS 18 34 44.0 +5.8
BRG
comp=N,1μm,29.7s
BRG
comp=E,295nm,16.6s
BRG
comp=Z,987nm,20.1s
BRG Berggiesshubel 114.11 326 P **Pdif 18 14 07.0 -1.9**
BRG SS SS 18 34 44.0 +5.8
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG pmax pmax
comp=Z,35nm,1.7s
BRG MLR MLR
comp=N,1μm,29.7s
BRG MLR MLR
comp=E,295nm,16.6s
BRG MLR MLR
comp=Z,987nm,20.1s
Y27A Causey 114.13 54 ⇓PKiKP PKiKP 18 18 01.8 +1.2
baz=114
PRU Pruhonice 114.17 325 *e*PKIKP PKPdf 18 18 00.8 +0.8
PRU MLR MLR
comp=Z,1μm,31.3s
PRU Pruhonice 114.17 325 *e*PKP PKPdf 18 18 00.8 +0.8
PRU AMS AMS 19 04 50.0
comp=Z,1μm,31.3s
526A Mary Lane Ranc 114.17 58 ⇑PKiKP PKiKP 18 18 01.8 +1.0
baz=114
Z27A Tatum 114.22 55 ⇑PKiKP PKiKP 18 18 01.7 +1.0
baz=114
626A Big Bend Ranch 114.23 59 ⇑PKiKP PKiKP 18 18 01.8 +0.9
baz=114
MSTX Muleshoe 114.42 54 ⇓PKiKP PKiKP 18 18 02.2 +1.1
baz=114
V28A Channing 114.42 52 ⇓PKiKP PKiKP 18 18 02.6 +1.5
baz=114
CLL Collm 114.43 326 *e*P **Pdif 18 14 11.0 +0.7**
CLL *e* 18 18 01.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL MLR MLR
comp=Z,1μm,20.4s
CLL Collm 114.43 326 *e*Pdif **Pdif 18 14 11.0 +0.7**
CLL *e*PKiKP **PKiKP 18 18 01.0 +0.6**
comp=Z,5.0nm,0.8s
CLL *e*(sPKiKP) 18 18 39.0
CLL *e*PP **PP 18 18 58.0 +0.3**
CLL *e*(sPP) 18 19 36.0
CLL *e*PPP PPP 18 21 19.0
CLL *e*Sdif Sdif 18 26 35.0 +2.2
CLL *e*(sSdiff) 18 27 26.0
CLL *e*PS **PS 18 28 34.0 -3.4**
CLL *e*PPS PPS 18 29 47.0
CLL *e*SS **SS 18 34 46.0 +3.7**
CLL *e*PSS PSS 18 35 36.0
CLL *e*PSPS 18 36 22.0
CLL *e*SSS SSS 18 38 48.0
CLL *e* 18 46 18.0
CLL LmV 19 10 00.0
comp=Z,1μm,20.4s
527A Woodward Ranch 114.56 58 ⇑PKiKP PKiKP 18 18 02.6 +1.1
baz=115
427A Hayter Ranch, 114.59 57 ⇓PKiKP PKiKP 18 18 02.6 +1.0
baz=115
AGMN Agassiz Nation 114.60 37 PFAKE 18 18 10.0 +9.1
AGMN LR LR
comp=Z,1μm,21.0s
TXAR Lajitas Array 114.67 59 Pdiff Pdif 18 14 26.0 +14
comp=Z,0.3nm,0.5s,baz=336,slow=2.0,SNR=3.6
TXAR PKP **PKiKP 18 18 02.6 +0.9**
comp=Z,3.4nm,1.0s,baz=316,slow=1.2,SNR=11
TXAR PP PP 18 18 55.2 -5.3
comp=Z,5.5nm,1.1s,baz=290,slow=3.7,SNR=5.1
TXAR PKKPbc **PKKPab 18 28 42.0 -4.1**
comp=Z,0.4nm,0.5s,baz=114,slow=5.8,SNR=4.8
TXAR PKKPab PKKPbc 18 28 47.3 +6.9
comp=Z,1.6nm,0.8s,baz=111,slow=6.9,SNR=5.9
TXAR PKKP **PKKPdf 18 29 03.6 +0.1**
comp=Z,1.0nm,0.9s,baz=120,slow=7.3,SNR=4.3
TXAR Lajitas Array 114.67 59 Pdif Pdif 18 14 26.0 +14
TXAR PKP **PKiKP 18 18 02.6 +0.9**
TXAR PP PP 18 18 55.2 -5.3
TXAR PKKPbc **PKKPab 18 28 42.0 -4.1**
TXAR PKKPab PKKPbc 18 28 47.3 +6.9
TXAR PKKP **PKKPdf 18 29 03.6 +0.1**
X28A Dimmitt 114.75 53 ⇓PKiKP PKiKP 18 18 02.7 +1.0
baz=115
627A Terlingua Ranc 114.88 59 ⇓PKiKP PKiKP 18 18 03.1 +1.0
baz=115
V29A Stinnett 114.94 52 ⇓PKiKP PKPdf 18 18 03.3 +1.3
baz=115
128A Castleberry Fa 114.97 55 ⇓PKiKP PKPdf 18 18 03.4 +1.2
baz=115
328A Wristen Ranch, 114.98 57 ⇑PKiKP PKPdf 18 18 03.4 +1.2
baz=115
AMTX Amarillo 115.08 53 PFAKE 18 18 10.0 +7.7
AMTX LR LR
comp=Z,2μm,22.0s
KHC Kasperske Hory 115.11 324 *e*PKIKP **PKPdf 18 18 03.3 +1.4**
KHC *e* 18 18 19.5
KHC *e* 18 19 02.5
KHC MLR MLR
comp=Z,700nm,21.6s
KHC Kasperske Hory 115.11 324 *e*PKPdf **PKPdf 18 18 02.8 +0.9**
KHC Kasperske Hory 115.11 324 *e*PKP **PKPdf 18 18 03.3 +1.4**
KHC *ex* x 18 18 19.5
KHC *es*PKP 18 18 42.2
KHC *e*PP **PP 18 19 02.5 -0.1**
KHC AMS AMS 19 04 50.0
comp=Z,700nm,21.6s
GEC2 GERESS Array S 115.17 324 *e*PKIKP **PKPdf 18 18 02.5 +0.4**
GERES GERESS Array B 115.17 324 Pdiff **Pdif 18 14 14.2 +0.4**
comp=Z,0.9nm,0.8s,baz=48,slow=4.0,SNR=6.3
GERES PKP **PKPdf 18 18 01.9 -0.2**
comp=Z,1.9nm,0.6s,baz=104,slow=1.7,SNR=11
GERES PP PP 18 18 54.6 -8.5
comp=Z,1.7nm,0.8s,baz=90,slow=3.9,SNR=3.4
GERES GERESS Array B 115.17 324 Pdif **Pdif 18 14 14.2 +0.4**
GERES PKP **PKPdf 18 18 01.9 -0.2**
GERES PP PP 18 18 54.6 -8.5
428A Kincaid Ranch, 115.22 57 ⇑PKiKP PKPdf 18 18 03.7 +0.9
baz=115
528A Cox Ranch, San 115.25 58 ⇑PKiKP PKPdf 18 18 03.6 +0.7
baz=115
628A Black Gap, Mar 115.30 59 ⇓PKiKP PKiKP 18 18 03.8 +0.9
baz=115
Y29A Porterfield Fa 115.34 54 ⇓PKiKP PKPdf 18 18 03.7 +0.9
baz=115
Z29A Hungry Hill Ra 115.46 54 ⇓PKiKP PKPdf 18 18 04.2 +1.1
baz=116
129A Stewart Farms, 115.48 55 ⇑PKiKP PKiKP 18 18 04.1 +1.0
baz=116
WET Wettzell 115.51 324 *e*PKIKP **PKPdf 18 18 04.0 +1.3**
MOX Moxa 115.52 326 *e*PKIKP **PKPdf 18 18 03.6 +1.0**
329A Wagon Wheel Ra 115.64 56 ⇓PKiKP PKiKP 18 18 03.8 +0.3
baz=116
229A Bryant Ranch, 115.68 56 ⇑PKiKP PKiKP 18 18 04.3 +0.7
baz=116
SFJD Kangerlussuaq 115.69 4 PFAKE 18 18 10.0 +7.6
SFJD LR LR
comp=Z,738nm,20.0s
SFJD Kangerlussuaq 115.69 4 *i* P **PP 18 19 06.5 +0.7**
SFJD Kangerlussuaq 115.69 4 *i* P PKKPdf 18 29 09.3 +7.4
comp=Z,7.8nm,0.9s
529A Stev Forest Ra 115.74 58 ⇑PKiKP PKiKP 18 18 04.4 +0.7
baz=116
BGNE Belgrade 115.77 45 ⇑PKiKP PKiKP 18 18 04.3 +0.9
baz=116
X30A Coker Ranch, T 115.83 53 ⇑PKiKP PKiKP 18 18 04.4 +0.7
baz=116
429A Davenport Ranc 115.91 57 ⇓PKiKP PKiKP 18 18 04.4 +0.3
baz=116
Z30A Sanderson Ranc 115.92 54 ⇑PKiKP PKiKP 18 18 04.5 +0.5
baz=116
Y30A Stafford Cattl 115.96 54 ⇑PKiKP PKiKP 18 18 04.9 +0.9
baz=116
ECSD EROS Data Cent 115.97 42 *e*PKPdf **PKPdf 18 18 03.3 -0.4**
ECSD LR LR
comp=Z,824nm,22.0s
130A Snyder 116.22 55 ⇑PKiKP PKiKP 18 18 05.3 +0.7
baz=116
230A Sterling City 116.27 56 ⇓PKiKP PKiKP 18 18 05.5 +0.8
baz=116
330A Mertzon 116.33 56 ⇑PKiKP PKiKP 18 18 05.3 +0.5
baz=116
W31A Holland Ranch, 116.37 52 ⇓PKiKP PKiKP 18 18 05.8 +1.1
baz=116
430A Baggett Ranch, 116.42 57 ⇑PKiKP PKiKP 18 18 06.2 +1.2
baz=116
231A Bronte 116.92 56 ⇓PKiKP PKiKP 18 18 07.1 +1.2
baz=117
TIP Timpagrande 116.95 313 PFAKE 18 18 20.0 +14
TIP LR LR
comp=Z,678nm,20.0s
431A Sonora 116.98 57 ⇑PKiKP PKiKP 18 18 07.3 +1.2
baz=117
331A San Angelo 116.98 56 ⇓PKiKP PKiKP 18 18 07.1 +1.1
baz=117
WTTA Wattenberg 117.12 323 ⇓*i*PKIKP **PKPdf 18 18 06.4 +0.4**
WTTA Wattenberg 117.12 323 ⇓*i*P **PKPdf 18 18 06.4 +0.4**
WTTA Wattenberg 117.12 323 ⇓*i*PKiKP **PKPdf 18 18 06.4 +0.4**
comp=Z,14nm,1.0s
531A Rocksprings 117.15 58 ⇑PKiKP PKiKP 18 18 07.5 +1.0
baz=117
Z32A Haskell 117.25 54 ⇓PKiKP PKiKP 18 18 07.3 +0.8
baz=117
631A Perdido Creek 117.29 58 ⇑PKiKP PKiKP 18 18 07.5 +0.8
baz=117
ABTX Abilene, Hawle 117.30 55 ⇓PKiKP PKiKP 18 18 07.5 +0.9
baz=117
CUC Castrocucco 117.35 314 PFAKE 18 18 20.0 +13
CUC LR LR
comp=Z,538nm,21.0s
EYMN Ely 117.37 36 *e*PKPdf **PKPdf 18 18 05.7 -0.6**
EYMN LR LR
comp=Z,1μm,20.0s
MOTA Moosalm 117.41 323 ⇑*i*PKIKP **PKPdf 18 18 07.4 +0.8**
MOTA Moosalm 117.41 323 ⇑*i*P **PKPdf 18 18 07.4 +0.8**
MOTA Moosalm 117.41 323 ⇑*i*PKiKP **PKPdf 18 18 07.4 +0.8**
comp=Z,9.1nm,1.0s
232A Coleman 117.48 55 ⇑PKiKP PKiKP 18 18 08.0 +1.0
baz=118
332A Millersview 117.53 56 ⇑PKiKP PKiKP 18 18 08.1 +1.0
baz=118
432A Menard 117.61 57 ⇑PKiKP PKiKP 18 18 08.2 +0.9
baz=118
KSU1 Kansas State U 117.68 47 PFAKE 18 18 20.0 +13
KSU1 LR LR
comp=Z,2μm,22.0s
532A Rocksprings 117.70 57 ⇑PKiKP PKiKP 18 18 08.3 +0.8
baz=118
JCT Junction City 117.70 57 *e*PKIKP **PKPdf 18 18 07.5 +0.1**
JCT MLR MLR
comp=Z,829nm,21.0s
JCT Junction City 117.70 57 *e*PKPdf **PKPdf 18 18 07.5 +0.1**
JCT LR LR
comp=Z,829nm,21.0s
FETA Feichten 117.78 323 ⇑*i*P **PKPdf 18 18 07.8 +0.6**
FETA Feichten 117.78 323 ⇑*i*PKiKP **PKPdf 18 18 07.8 +0.6**
comp=Z,8.2nm,1.0s
SPMN St. Paul 117.84 39 ⇑PKiKP PKiKP 18 18 08.4 +1.2
baz=118
CEL Celeste 117.89 312 PFAKE 18 18 20.0 +12
CEL LR LR
comp=Z,553nm,22.0s
632A Uvalde 117.94 58 ⇓PKiKP PKiKP 18 18 09.0 +1.0
baz=118
732A Laxson Ranch, 117.96 59 ⇑PKiKP PKiKP 18 18 08.9 +0.9
baz=118
AQU L'Aquila 118.13 317 PFAKE 18 18 20.0 +12
AQU LR LR
comp=Z,683nm,20.0s
DAVA Damuels 118.16 324 ⇑*i*P **PKPdf 18 18 07.5 -0.5**
DAVA Damuels 118.16 324 ⇑*i*PKPdf **PKPdf 18 18 07.5 -0.5**
comp=Z,12nm,1.2s
BFO Black Forest 118.54 325 PFAKE 18 18 20.0 +11
BFO LR LR
comp=Z,819nm,19.0s
MEM Membach 118.57 328 PKP **PKPdf 18 18 10.3 +1.8**
TSUM Tsumeb 118.91 246 *e*PKPdf **PKPdf 18 18 10.5 +0.4**
SCIA State Center 119.00 43 PFAKE 18 18 20.0 +10
SCIA LR LR
comp=Z,1μm,22.0s
BCLA Clavier 119.05 328 PKP **PKPdf 18 18 10.6 +1.2**
CDF Champ du Feu 119.09 326 *e*PKIKP **PKPdf 18 18 10.7 +1.0**
CDF Champ du Feu 119.09 326 *e*PKIKP **PKPdf 18 18 10.7 +1.0**
CDF Champ du Feu 119.09 326 *e*PKPdf **PKPdf 18 18 10.7 +1.0**
TUL1 Tulsa 119.37 50 ⇑PKiKP **PKiKP 18 18 11.6 +1.0**
baz=119
GIVF Givet 119.48 328 *e*PKIKP **PKPdf 18 18 12.2 +2.0**
comp=Z,15nm,0.9s
GIVF Givet 119.48 328 *e*PKIKP **PKPdf 18 18 12.2 +2.0**
GIVF Givet 119.48 328 *e*PKPdf **PKPdf 18 18 12.2 +2.0**
HINF Hinteralfeld 119.65 325 *e*PKIKP **PKPdf 18 18 11.9 +1.2**
comp=Z,12nm,0.7s
HINF Hinteralfeld 119.65 325 *e*PKIKP **PKPdf 18 18 11.9 +1.2**
HINF Hinteralfeld 119.65 325 *e*PKPdf **PKPdf 18 18 11.9 +1.2**
COWI Conover 119.68 37 *e*PKPdf **PKPdf 18 18 09.3 -1.4**
COWI LR LR
comp=Z,1μm,21.0s
ESK Eskdalemuir 119.79 337 PFAKE 18 18 20.0 +9.4
ESK LR LR
comp=Z,1μm,21.0s
BAIF Baives 119.83 329 *e*PKIKP **PKPdf 18 18 12.7 +1.8**
BAIF Baives 119.83 329 *e*PKIKP **PKPdf 18 18 12.7 +1.8**
BAIF Baives 119.83 329 *e*PKPdf **PKPdf 18 18 12.7 +1.8**
HAU Haudompre 119.83 326 *e*PKIKP **PKPdf 18 18 12.4 +1.4**
comp=Z,15nm,0.6s
HAU *e*R
comp=Z,1μm,21.0s
HAU Haudompre 119.83 326 *e*PKIKP **PKPdf 18 18 12.4 +1.4**
HAU Haudompre 119.83 326 *e*PKPdf **PKPdf 18 18 12.4 +1.4**
KVTX Kingsville 120.02 60 PFAKE 18 18 20.0 +8.1
KVTX LR LR
comp=Z,1μm,20.0s
MEZF Maizieres J'vi 120.28 327 *e*PKIKP **PKPdf 18 18 13.6 +1.8**
MEZF Maizieres J'vi 120.28 327 *e*PKPdf **PKPdf 18 18 13.6 +1.8**
SFTF Sexfontaines 120.45 326 *e*PKIKP **PKPdf 18 18 13.0 +0.8**
SFTF Sexfontaines 120.45 326 *e*PKPdf **PKPdf 18 18 13.0 +0.8**
CABF La Chapelle 120.74 324 *e*PKIKP **PKPdf 18 18 13.1 +0.2**
comp=Z,17nm,0.8s
CABF La Chapelle 120.74 324 *e*PKIKP **PKPdf 18 18 13.1 +0.2**
CABF La Chapelle 120.74 324 *e*PKPdf **PKPdf 18 18 13.1 +0.2**
LPG La Plagne 120.94 323 *e*PKIKP **PKPdf 18 18 13.5 -0.1**
LPG La Plagne 120.94 323 *e*PKIKP **PKPdf 18 18 13.5 -0.1**
LPG La Plagne 120.94 323 *e*PKPdf **PKPdf 18 18 13.5 -0.1**
LPL La Plagne 120.94 323 *e*PKIKP **PKPdf 18 18 14.0 +0.5**
LPL La Plagne 120.94 323 *e*PKIKP **PKPdf 18 18 14.0 +0.5**
LPL La Plagne 120.94 323 *e*PKPdf **PKPdf 18 18 14.0 +0.5**
PGF Pioggiola 120.98 319 *e*PKIKP **PKPdf 18 18 14.9 +1.4**
comp=Z,52nm,1.1s
PGF Pioggiola 120.98 319 *e*PKIKP **PKPdf 18 18 14.9 +1.4**
PGF Pioggiola 120.98 319 *e*PKPdf **PKPdf 18 18 14.9 +1.4**
BNI Bardonecchia 121.21 323 PFAKE 18 18 20.0 +6.1
BNI LR LR
comp=Z,1μm,22.0s
MBDF Montbardon 121.32 322 *e*PKIKP **PKPdf 18 18 13.6 -0.5**
MBDF Montbardon 121.32 322 *e*PKIKP **PKPdf 18 18 13.6 -0.5**
MBDF Montbardon 121.32 322 *e*PKPdf **PKPdf 18 18 13.6 -0.5**
SBF Sospel 121.35 321 *e*PKIKP **PKPdf 18 18 14.2 +0.1**
SBF Sospel 121.35 321 *e*PKIKP **PKPdf 18 18 14.2 +0.1**
SBF Sospel 121.35 321 *e*PKPdf **PKPdf 18 18 14.2 +0.1**
LOR Lormes 121.64 326 *e*PKIKP **PKPdf 18 18 16.0 +1.5**
comp=Z,12nm,1.0s
LOR *e*R
comp=Z,656nm,19.5s
LOR Lormes 121.64 326 *e*PKPdf **PKPdf 18 18 16.0 +1.5**
ORIF Oris-en-Rattie 121.76 323 *e*PKIKP **PKPdf 18 18 14.7 -0.2**
ORIF *e*R
comp=Z,782nm,21.8s
ORIF Oris-en-Rattie 121.76 323 *e*PKIKP **PKPdf 18 18 14.7 -0.2**
ORIF Oris-en-Rattie 121.76 323 *e*PKPdf **PKPdf 18 18 14.7 -0.2**
NRS Narsarsuaq 121.82 3 *i* P **SP 18 29 20.4 -10**
comp=Z,3.5nm,1.1s
SSF Saint Saulge 121.96 326 *e*PKIKP **PKPdf 18 18 15.8 +0.7**
comp=Z,9.9nm,0.7s
SSF Saint Saulge 121.96 326 *e*PKIKP **PKPdf 18 18 15.8 +0.7**
SSF Saint Saulge 121.96 326 *e*PKPdf **PKPdf 18 18 15.8 +0.7**
FRF La Foret Royal 122.00 321 *e*PKIKP **PKPdf 18 18 16.0 +0.7**
FRF La Foret Royal 122.00 321 *e*PKIKP **PKPdf 18 18 16.0 +0.7**
FRF La Foret Royal 122.00 321 *e*PKPdf **PKPdf 18 18 16.0 +0.7**
SMF Signal de Mont 122.01 325 *e*PKIKP **PKPdf 18 18 16.9 +1.7**
comp=Z,37nm,1.2s
SMF Signal de Mont 122.01 325 *e*PKIKP **PKPdf 18 18 16.9 +1.7**
SMF Signal de Mont 122.01 325 *e*PKPdf **PKPdf 18 18 16.9 +1.7**
LMR La Mourre 122.20 321 *e*PKIKP **PKPdf 18 18 17.2 +1.6**
LMR La Mourre 122.20 321 *e*PKIKP **PKPdf 18 18 17.2 +1.6**
LMR La Mourre 122.20 321 *e*PKPdf **PKPdf 18 18 17.2 +1.6**
AVF Avril sur Loir 122.20 326 *e*PKIKP **PKPdf 18 18 16.8 +1.3**
AVF Avril sur Loir 122.20 326 *e*PKIKP **PKPdf 18 18 16.8 +1.3**
AVF Avril sur Loir 122.20 326 *e*PKPdf **PKPdf 18 18 16.8 +1.3**
UALR University of 122.41 50 *e*PKPdf **PKPdf 18 18 16.6 +0.3**
SMRF Simiane la Rot 122.45 322 *e*PKIKP **PKPdf 18 18 17.3 +1.1**
SMRF Simiane la Rot 122.45 322 *e*PKPdf **PKPdf 18 18 17.3 +1.1**
VIVF Saint-Julien-l 122.52 323 *e*PKIKP **PKPdf 18 18 17.2 +0.9**
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 122.52 323 *e*PKIKP **PKPdf 18 18 17.2 +0.9**
VIVF Saint-Julien-l 122.52 323 *e*PKPdf **PKPdf 18 18 17.2 +0.9**
BGF Bois d'Agland 122.62 326 *e*PKIKP **PKPdf 18 18 17.4 +1.0**
comp=Z,17nm,0.8s
BGF Bois d'Agland 122.62 326 *e*PKIKP **PKPdf 18 18 17.4 +1.0**
BGF Bois d'Agland 122.62 326 *e*PKPdf **PKPdf 18 18 17.4 +1.0**
LDF La Druitiere 122.97 329 *e*PKIKP **PKPdf 18 18 18.6 +1.6**
comp=Z,17nm,0.9s
LDF La Druitiere 122.97 329 *e*PKIKP **PKPdf 18 18 18.6 +1.6**
LDF La Druitiere 122.97 329 *e*PKPdf **PKPdf 18 18 18.6 +1.6**
FLN La Foliniere 123.04 330 *e*PKIKP **PKPdf 18 18 18.7 +1.6**
comp=Z,102nm,1.3s
FLN *e*R
comp=Z,994nm,21.8s
FLN La Foliniere 123.04 330 *e*PKIKP **PKPdf 18 18 18.7 +1.6**
FLN La Foliniere 123.04 330 *e*PKPdf **PKPdf 18 18 18.7 +1.6**
GLMI Grayling 123.06 36 *e*PKPdf **PKPdf 18 18 18.1 +0.8**
GLMI LR LR
comp=Z,1μm,22.0s
TCF Toulx Ste Croi 123.13 326 *e*PKIKP **PKPdf 18 18 19.3 +1.9**
comp=Z,21nm,0.8s
TCF Toulx Ste Croi 123.13 326 *e*PKIKP **PKPdf 18 18 19.3 +1.9**
TCF Toulx Ste Croi 123.13 326 *e*PKPdf **PKPdf 18 18 19.3 +1.9**
LASF Ste Croix 123.44 323 *e*PKIKP **PKPdf 18 18 19.1 +1.0**
LASF Ste Croix 123.44 323 *e*PKPdf **PKPdf 18 18 19.1 +1.0**
GRR Gorron 123.47 329 *e*PKIKP **PKPdf 18 18 19.7 +1.8**
GRR Gorron 123.47 329 *e*PKIKP **PKPdf 18 18 19.7 +1.8**
GRR Gorron 123.47 329 *e*PKPdf **PKPdf 18 18 19.7 +1.8**
EFI East Falkland 123.53 167 PFAKE 18 18 30.0 +12
EFI LR LR
comp=Z,1μm,21.0s
KEST Kesra 123.70 312 PKP **PKPdf 18 18 19.7 +0.8**
comp=Z,4.0nm,1.0s,baz=335,slow=1.5,SNR=6.4
KEST PP **PP 18 20 01.1 -1.1**
comp=Z,2.8nm,0.9s,baz=173,slow=8.1,SNR=3.0
KEST Kesra 123.70 312 PKP **PKPdf 18 18 19.7 +0.8**
KEST PP **PP 18 20 01.1 -1.1**
SFIN Scholer Farm 123.81 42 ⇓PKiKP PKiKP 18 18 19.8 +0.7
baz=124
OLIL Olney 123.90 44 *e*PKPdf **PKPdf 18 18 19.6 +0.6**
SCHQ Schefferville 124.00 18 PKP **PKPdf 18 18 18.1 -0.7**
comp=Z,12nm,0.8s,baz=0.5,slow=3.0,SNR=28
SCHQ PP **PP 18 20 00.8 -2.3**
comp=Z,4.1nm,0.9s,baz=326,slow=12,SNR=3.4
SCHQ PKKPab **PKKPbc 18 28 05.7 -1.2**
comp=Z,1.6nm,0.8s,baz=131,slow=9.1,SNR=3.9
SCHQ Schefferville 124.00 18 *e*PKPdf **PKPdf 18 18 17.9 -0.9**
SCHQ PKP **PKPdf 18 18 18.1 -0.7**
SCHQ *e*PP **PP 18 20 00.0 -3.1**
SCHQ PP PP 18 20 00.8 -2.3
SCHQ PKKPab **PKKPbc 18 28 05.7 -1.2**
CAF Calviac 124.01 325 *e*PKIKP **PKPdf 18 18 20.4 +1.2**
CAF Calviac 124.01 325 *e*PKIKP **PKPdf 18 18 20.4 +1.2**
CAF Calviac 124.01 325 *e*PKPdf **PKPdf 18 18 20.4 +1.2**
RJF Les Rejaudoux 124.11 325 *e*PKIKP **PKPdf 18 18 21.0 +1.7**
RJF *e*R
comp=Z,660nm,22.5s
RJF Les Rejaudoux 124.11 325 *e*PKIKP **PKPdf 18 18 21.0 +1.7**
RJF Les Rejaudoux 124.11 325 *e*PKPdf **PKPdf 18 18 21.0 +1.7**
MFF Saint Martin d 124.24 327 *e*PKIKP **PKPdf 18 18 21.0 +1.5**
MFF Saint Martin d 124.24 327 *e*PKIKP **PKPdf 18 18 21.0 +1.5**
MFF Saint Martin d 124.24 327 *e*PKPdf **PKPdf 18 18 21.0 +1.5**
OXF Oxford 124.75 49 PFAKE 18 18 30.0 +9.2
OXF LR LR
comp=Z,1μm,21.0s
LFF La Frestale 124.77 325 *e*PKIKP **PKPdf 18 18 21.5 +1.0**
comp=Z,20nm,0.8s
LFF La Frestale 124.77 325 *e*PKIKP **PKPdf 18 18 21.5 +1.0**
LFF La Frestale 124.77 325 *e*PKPdf **PKPdf 18 18 21.5 +1.0**
BLO Bloomington 124.78 43 *e*PKIKP **PKPdf 18 18 20.5 -0.2**
BLO *e* 18 20 06.2
BLO Bloomington 124.78 43 *e*PKPdf **PKPdf 18 18 20.5 -0.2**
BLO *e*PP **PP 18 20 06.2 -3.0**
MTLF Montolieu 124.83 323 *e*PKIKP **PKPdf 18 18 21.7 +1.0**
MTLF Montolieu 124.83 323 *e*PKIKP **PKPdf 18 18 21.7 +1.0**
MTLF Montolieu 124.83 323 *e*PKPdf **PKPdf 18 18 21.7 +1.0**
AAM Ann Arbor 125.03 38 PFAKE 18 18 30.0 +8.9
AAM LR LR
comp=Z,1μm,21.0s
WVT Waverly 125.25 47 *e*PKIKP **PKPdf 18 18 20.9 -0.8**
WVT *e* 18 20 09.7
WVT Waverly 125.25 47 *e*PKPdf **PKPdf 18 18 20.9 -0.8**
WVT *e*PP **PP 18 20 09.7 -2.7**
PLAL Pickwick Lake 125.56 48 PFAKE 18 18 30.0 +7.7
PLAL LR LR
comp=Z,789nm,21.0s
EPF Esparros 126.13 324 *e*PKIKP **PKPdf 18 18 24.2 +0.9**

comp=Z,16nm,1.0s
EPF Esparros 126.13 324 *e*PKIKP **PKPdf 18 18 24.2 +0.9**
EPF Esparros 126.13 324 *e*PKPdf **PKPdf 18 18 24.2 +0.9**
SADO Sadowa 126.22 34 PKP **PKPdf 18 18 22.0 -1.3**
comp=Z,14nm,0.9s,baz=333,slow=2.9,SNR=12
SADO PP PP 18 20 11.4 -6.9
comp=Z,5.8nm,0.9s,baz=306,slow=9.5,SNR=4.2
SADO Sadowa 126.22 34 PKP **PKPdf 18 18 22.0 -1.3**
SADO PP PP 18 20 11.4 -6.9
ACSO Alum Creek Sta 126.58 40 PFAKE 18 18 30.0 +5.8
ACSO LR LR
comp=Z,1µm,22.0s
ETSF Etsaut 126.74 324 *e*PKIKP **PKPdf 18 18 26.0 +1.5**
comp=Z,47nm,1.2s
ETSF Etsaut 126.74 324 *e*PKIKP **PKPdf 18 18 26.0 +1.5**
ETSF Etsaut 126.74 324 *e*PKPdf **PKPdf 18 18 26.0 +1.5**
SJPF Ste Jean 127.00 325 *e*PKIKP **PKPdf 18 18 27.4 +2.5**
SJPF Ste Jean 127.00 325 *e*PKIKP **PKPdf 18 18 27.4 +2.5**
SJPF Ste Jean 127.00 325 *e*PKPdf **PKPdf 18 18 27.4 +2.5**
SWET Sewanee 127.04 47 *e*PKPdf **PKPdf 18 18 23.4 -1.8**
LRAL Lakeview Retre 127.18 50 PFAKE 18 18 40.0 +14
LRAL LR LR
comp=Z,1µm,22.0s
ERPA Erie 127.37 37 PFAKE 18 18 40.0 +14
ERPA LR LR
comp=Z,1µm,21.0s
BRAL Brewton 127.94 52 PFAKE 18 18 40.0 +13
BRAL LR LR
comp=Z,2µm,21.0s
CPCT Cooper Cave 127.95 46 *e*PKPdf **PKPdf 18 18 26.6 -0.3**
TZTN Tazewell 128.11 44 *e*PKPdf **PKPdf 18 18 27.9 +0.7**
TKL Tuckaleechee C 128.39 46 PKP **PKPdf 18 18 29.0 +1.2**
comp=Z,19nm,0.8s,baz=201,slow=2.6,SNR=8.7
TKL Tuckaleechee C 128.39 46 *e*PKPdf **PKPdf 18 18 28.1 +0.3**
TKL PKP **PKPdf 18 18 29.0 +1.2**
PLCA Paso Flores 128.53 151 PKP **PKPdf 18 18 30.3 +2.3**
comp=Z,10.0nm,0.8s,baz=221,slow=2.9,SNR=12
PLCA Paso Flores 128.53 151 PKP **PKPdf 18 18 30.3 +2.3**
LONY Lake Ozonia 128.75 31 *e*PKPdf **PKPdf 18 18 27.1 -1.1**
LONY *ep*PKPdf **pPKPdf 18 18 52.4 -3.0**
LONY *e*PP **PP 18 20 29.8 -5.1**
LONY LR LR
comp=Z,779nm,20.0s
FRNY Flat Rock 129.10 30 *e*PKPdf **PKPdf 18 18 27.2 -1.7**
FRNY *ep*PKPdf **pPKPdf 18 18 52.3 -3.8**
NCB Newcomb 129.39 31 *e*PKPdf **PKPdf 18 18 30.0 +0.6**
NCB *e*PP **PP 18 20 36.2 -2.9**
NCB LR LR
comp=Z,644nm,21.0s
SSPA Standing Stone 129.52 37 *e*PKPdf **PKPdf 18 18 29.9 +0.2**
SSPA *e*PP **PP 18 20 37.3 -2.8**
SSPA *e*SKP 18 21 40.8
BINY Binghamton 129.63 34 *e*PKPdf **PKPdf 18 18 30.6 +0.7**
BINY LR LR
comp=Z,1µm,20.0s
MDV Middlebury 129.90 31 *e*PKPdf **PKPdf 18 18 30.8 +0.4**
BLA Blacksburg 129.91 42 *e*PKIKP **PKPdf 18 18 30.4 -0.2**
BLA MLR MLR
comp=Z,830nm,20.0s
BLA Blacksburg 129.91 42 *e*PKPdf **PKPdf 18 18 30.4 -0.2**
BLA *e*PP **PP 18 20 38.5 -4.4**
BLA LR LR
comp=Z,830nm,20.0s
PAYG Puerto Ayora 130.01 93 *e*PKPdf **PKPdf 18 18 29.7 -1.8**
PAYG LR LR
comp=Z,689nm,19.0s
LBNH Lisbon 130.36 30 PFAKE 18 18 40.0 +8.8
LBNH LR LR
comp=Z,575nm,19.0s
KMSC Kings Mountain 130.37 45 ⇓PKiKP **PKiKP 18 18 32.8 +0.4**
baz=130
TIGA Tifton 130.47 50 ⇓PKiKP **PKiKP 18 18 33.6 +0.9**
baz=130
ESDC Sonseca Array 130.74 323 PKP **PKPdf 18 18 33.3 +1.1**
comp=Z,0.8nm,0.7s,baz=64,slow=3.0,SNR=3.3
ESDC PP **PP 18 20 45.6 -2.6**
comp=Z,2.2nm,1.0s,baz=46,slow=8.0,SNR=4.6
ESDC Sonseca Array 130.74 323 PKP **PKPdf 18 18 33.3 +1.1**
ESDC PP **PP 18 20 45.6 -2.6**
SDMD Soldier's Deli 130.91 38 *e*PKPdf **PKPdf 18 18 33.1 +0.6**
PAB San Pablo 131.05 323 PFAKE 18 18 40.0 +7.2
PAB LR LR
comp=Z,891nm,21.0s
WVL Waterville 131.20 28 *e*PKPdf **PKPdf 18 18 33.1 +0.3**
CBN Corbin 131.32 39 PFAKE 18 18 40.0 +6.8
CBN LR LR
comp=Z,690nm,21.0s
NHSC New Hope 132.23 46 PFAKE 18 18 50.0 +15
NHSC LR LR
comp=Z,808nm,19.0s
MTE Manteigas 132.36 326 PFAKE 18 18 50.0 +15
MTE LR LR
comp=Z,1µm,20.0s
CNNC Cliffs of the 132.70 43 PFAKE 18 18 50.0 +14
CNNC LR LR
comp=Z,993nm,21.0s
MESJ Messejana 134.47 324 *e*P **PKPdf 18 18 37.8 -1.4**
MESJ *e*PP **PP 18 21 12.7 +0.8**
MESJ *e*SS SS 18 38 56.1 +1.4
MESJ AMS AMS 19 22 18.5
comp=Z,602nm,22.7s
MESJ Messejana 134.47 324 *e*PKIKP **PKPdf 18 18 37.8 -1.4**
MESJ *e* 18 21 12.6
MESJ *e*SS SS 18 38 56.0 +1.3
MORF Marmelete 135.08 324 *e*PKIKP **PKPdf 18 18 38.7 -1.7**
MORF *e* 18 21 15.5
MORF *e*SS SS 18 39 04.1 +2.0
JTS JuntasAbangare 135.20 78 PKP **PKPdf 18 18 41.7 +0.5**
comp=Z,15nm,0.9s,baz=243,slow=4.6,SNR=8.4
JTS PP **PP 18 21 14.9 -3.1**
comp=Z,2.9nm,0.3s,baz=340,slow=14,SNR=3.7
JTS JuntasAbangare 135.20 78 *e*PKPdf **PKPdf 18 18 40.9 -0.3**
JTS PKP **PKPdf 18 18 41.7 +0.5**
JTS PP **PP 18 21 14.9 -3.1**
JTS LR LR
comp=Z,586nm,20.0s
CFAA Coronel Fontan 136.62 145 PKP **PKPdf 18 18 45.2 +1.7**
comp=Z,1.1nm,0.6s,baz=198,slow=3.3
CFAA Coronel Fontan 136.62 145 PKP **PKPdf 18 18 45.2 +1.7**
TOA0 Torodi Ar. Sit 137.17 286 *e*PKPpre PKPpre 18 18 33.8
TOA0 *e*PKPdf **PKiKP 18 18 45.6 -1.1**
TOA0 *e*PP **PP 18 21 28.1 -2.2**
TORD Torodi Ar. Bea 137.17 286 PKhKP PKPpre 18 18 33.9
comp=Z,1.3nm,0.6s,baz=67,slow=3.0,SNR=7.7
TORD PKP **PKiKP 18 18 46.6 0.0**
comp=Z,4.6nm,0.8s,baz=57,slow=1.8,SNR=13
TORD PP **PP 18 21 28.3 -2.0**
comp=Z,7.1nm,1.0s,baz=69,slow=4.9,SNR=4.6
TORD Torodi Ar. Bea 137.17 286 PKPpre PKPpre 18 18 33.9
TORD PKP **PKiKP 18 18 46.6 0.0**
TORD PP **PP 18 21 28.3 -2.0**
BCIP Isla Barro Col 140.33 79 *e*PKPdf **PKPdf 18 18 50.8 +0.1**
BCIP LR LR
comp=Z,967nm,22.0s
MTDJ Mount Denham 140.60 65 PFAKE 18 19 00.0 +8.9
MTDJ LR LR
comp=Z,524nm,20.0s
ATAH Atahualpa 140.78 105 PKhKP PKPpre 18 18 48.1
comp=Z,9.9nm,0.7s,baz=155,slow=4.8,SNR=7.0
ATAH Atahualpa 140.78 105 PKPpre PKPpre 18 18 48.1
NNA Nana 140.86 113 PKP **PKPdf 18 18 53.1 +1.5**
comp=Z,9.9nm,0.7s,baz=242,slow=7.4,SNR=4.4
NNA Nana 140.86 113 PKP **PKPdf 18 18 53.1 +1.5**
NNA LR LR
comp=Z,517nm,20.0s
SHEL Horse Pasture 140.91 240 PFAKE 18 19 00.0 +8.3
SHEL LR LR
comp=Z,769nm,20.0s
OTAV Otavalo 141.88 93 *e*PKPpre PKPpre 18 18 49.1
OTAV LR LR
comp=Z,459nm,22.0s
GTBY Guantanamo Bay 142.17 61 PFAKE 18 19 00.0 +6.2
GTBY LR LR
comp=Z,931nm,22.0s
LVC Limon Verde 142.31 134 PFAKE 18 19 00.0 +5.7
LVC LR LR
comp=Z,47nm,20.0s
BBSR BB Station 142.90 35 PFAKE 18 19 10.0 +15
BBSR LR LR
comp=Z,1µm,21.0s
ARE Arequipa 143.73 123 ⇓*i*PKIKP **PKPdf 18 18 56.0 -1.0**
ARE Arequipa 143.73 123 ⇓*iP* **PKPdf 18 18 56.0 -1.0**
DBIC Dimbokro 144.39 277 PKP **PKPdf 18 18 57.0 -0.8**
comp=Z,123nm,0.7s,baz=73,slow=4.1,SNR=100
DBIC Dimbokro 144.39 277 *e*PKPdf **PKPdf 18 18 56.5 -1.3**
DBIC PKP PKPbc 18 18 57.0 +0.5
LIC Lamto 144.59 277 *e*PKIKP **PKPdf 18 18 57.0 -1.2**
comp=Z,540nm,1.2s
LIC *e*R
comp=Z,402nm,22.8s
LIC Lamto 144.59 277 *e*PKPdf **PKPdf 18 18 57.0 -1.2**
GRTK Grand Turk 144.90 56 *e*PKPdf **PKPab 18 18 57.0 -0.8**
GRTK LR LR
comp=Z,915nm,21.0s
SDDR Presa de Saban 145.86 60 *e*PKPdf **PKPab 18 19 01.0 -0.6**
SDDR LR LR
comp=Z,939nm,20.0s
ROSC El Rosal 146.11 86 PKPbc **PKPab 18 19 02.4 -0.7**
comp=Z,36nm,0.6s,baz=74,slow=6.7,SNR=19
ROSC El Rosal 146.11 86 *e*PKPdf **PKPab 18 19 02.0 -1.1**
ROSC PKPbc **PKPab 18 19 02.4 -0.7**
LPAZ La Paz 146.59 126 PKPbc **PKPab 18 19 04.2 -0.9**
comp=Z,80nm,0.8s,baz=13,slow=0.9,SNR=109
LPAZ La Paz 146.59 126 *e*PKPdf **PKPab 18 19 03.7 -1.4**
LPAZ PKPbc **PKPab 18 19 04.2 -0.9**
SDV Santo Domingo 149.38 78 *e*PKPdf **PKPdf 18 19 07.3 +0.9**
SDV LR LR
comp=Z,1.0nm,21.0s
LSP Las Mesas 149.80 58 *e*PKPdf **PKPdf 18 19 04.5 -2.3**
LSP *e*PKPbc **PKiKP 18 19 12.3 -0.3**
CRPR Cabo Rojo, PR 149.86 58 *e*PKPdf **PKPdf 18 19 07.6 +0.8**
CRPR *e*PKPbc **PKiKP 18 19 11.6 -1.1**
LRS Lares 149.95 58 *e*PKPdf **PKPdf 18 19 07.7 +0.7**
LRS *e*PKPbc **PKiKP 18 19 12.6 -0.3**
OBIP Obispado Ponce 150.27 58 *e*PKPdf **PKPdf 18 19 08.2 +0.7**
OBIP *e*PKPbc **PKiKP 18 19 13.1 -0.4**
CELP Cerrillos 150.28 58 *e*PKPdf **PKPdf 18 19 08.6 +1.1**
CELP *e*PKPbc **PKiKP 18 19 13.4 -0.1**
SJG San Juan 150.62 57 PKP **PKPdf 18 19 09.2 +1.2**
comp=Z,116nm,0.8s,baz=42,slow=7.0,SNR=11
SJG PKPbc **PKiKP 18 19 13.9 -0.3**
comp=Z,116nm,0.8s,baz=48,slow=7.1,SNR=27
SJG San Juan 150.62 57 *e*PKPdf **PKPdf 18 19 08.9 +0.9**
SJG PKP **PKPdf 18 19 09.2 +1.2**
SJG *e*PKPbc **PKiKP 18 19 13.6 -0.6**
SJG PKPbc **PKiKP 18 19 13.9 -0.3**
SJG LR LR
comp=Z,872nm,22.0s
STVI Saint Thomas 151.50 56 *e*PKPdf **PKPdf 18 19 08.8 -0.5**
STVI *e*PKPbc **PKiKP 18 19 15.5 -0.5**
SIV San Ignacio 152.21 133 PKP **PKPdf 18 19 11.9 +1.3**
comp=Z,2.6nm,0.9s,baz=197,slow=0.9,SNR=12
SIV PKPbc **PKiKP 18 19 18.5 +0.9**
comp=Z,21nm,0.8s,baz=249,slow=2.9,SNR=56
SIV San Ignacio 152.21 133 PKP **PKPdf 18 19 11.9 +1.3**
SIV PKPbc **PKiKP 18 19 18.5 +0.9**
SAML Samuel 154.40 118 *e*PKPdf **PKPdf 18 19 13.7 0.0**
SAML *e*PKPbc **PKiKP 18 19 21.9 -0.3**
SAML LR LR
comp=Z,827nm,22.0s
ANWB Willy Bob 154.44 54 PFAKE 18 19 20.0 -2.1
ANWB LR LR
comp=Z,822nm,21.0s
CAM4 Nova Friburgo 154.75 175 (P) **PKPab 18 19 36.9 -1.1**
CAM4 *i* 18 19 38.6
CAM4 *i* 18 19 41.6
CAM4 *i* 18 19 45.0
CAM4 *i* 18 19 46.5
CAM4 *i* 18 19 49.4
GRGR Grenville 157.07 65 PFAKE 18 19 30.0 +13
GRGR LR LR
comp=Z,906nm,22.0s
BBGH Gun Hill 158.53 61 PFAKE 18 19 30.0 +11
BBGH LR LR
comp=Z,2µm,22.0s
SACV Santiago Islan 159.59 307 PFAKE 18 19 30.0 +10
SACV LR LR
comp=Z,709nm,19.0s
BDFB Brasilia 160.04 158 PKP **PKPdf 18 19 22.1 +1.2**
comp=Z,18nm,1.1s,baz=343,slow=2.4,SNR=9.7
BDFB Brasilia 160.04 158 PKP **PKPdf 18 19 22.1 +1.2**
RCBR Riachuelo 170.18 207 PFAKE 18 19 40.0 +11
RCBR LR LR
comp=Z,2µm,22.0s

*ISK **28** 18:10:03.6, 37°.38N×36°.36E, h6km, MD2.6*
*CSEM **28** 18:10:04.4±0.2, 37°.41N×36°.34E, h5km, MD2.8, Error ellipse: s-maj=5.1km s-min=3.1km az=7.0*
*DDA **28** 18:10:05.0, 37°.42N×36°.43E, h7km, MD2.6*
ISC 28 18:10:03.9±0.9, 37°.44N±0°.04×36°.36E±0°.02, h17km±7km, n24, σ0s91/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.14**	**357**	*i* P		**Pg**	**18 10 08.1**	**0.0**
ANDN				*i* S		**Sb**	**18 10 11.6**	**+0.5**
ANDN	**Andirin**	**0.14**	**357**	*i* P		**Pg**	**18 10 08.1**	**0.0**
ANDN				*i* S		**Sb**	**18 10 11.6**	**+0.5**
KOZT	**Kozan**	**0.42**	**276**	*e*PG		**Pg**	**18 10 12.6**	**0.0**
KOZT				*e*SG		**Sg**	**18 10 19.1**	**+0.7**
KOZT	**Kozan**	**0.42**	**276**	*e*Pg		**Pg**	**18 10 12.6**	**0.0**
KOZT				*e*Sg		**Sg**	**18 10 19.1**	**+0.7**
KMRS	**Kahramanmaras**	**0.44**	**81**	*e*PG		**Pg**	**18 10 12.4**	**-0.5**
KMRS				*e*SG		**Sb**	**18 10 19.5**	**0.0**
KMRS	**Kahramanmaras**	**0.44**	**81**	*e*Pg		**Pg**	**18 10 12.4**	**-0.5**
KMRS				*e*Sg		**Sb**	**18 10 19.5**	**0.0**
CEYT	**Ceyhan**	**0.65**	**229**	*e*PG		**Pg**	**18 10 15.9**	**-0.8**
CEYT	**Ceyhan**	**0.65**	**229**	*e*Pg		**Pg**	**18 10 15.9**	**-0.8**
GAZ	**Gaziantep**	**0.73**	**111**	*e*PG		**Pg**	**18 10 18.3**	**0.0**
GAZ	**Gaziantep**	**0.73**	**111**	*e*Pg		**Pg**	**18 10 18.3**	**0.0**
KUZU	**Kuzuini**	**0.88**	**139**	*i* P		**Pg**	**18 10 21.5**	**+0.4**
KUZU				*i* S		**Sg**	**18 10 33.0**	**+0.4**
KUZU	**Kuzuini**	**0.88**	**139**	*i* P		**Pg**	**18 10 21.5**	**+0.4**
KUZU				*i* S		**Sg**	**18 10 33.0**	**+0.4**
GZT	**Gaziantep**	**0.97**	**95**	*i* P		**Pn**	**18 10 23.6**	**+0.7**
GZT				*i* S		**Sn**	**18 10 38.0**	**+1.7**
SARI	**SarD1z-Kayseri**	**1.27**	**12**	*e*PG		**Pn**	**18 10 24.5**	**-2.5**
SARI	**SarD1z-Kayseri**	**1.27**	**12**	*e*Pg		**Pn**	**18 10 24.5**	**-2.5**
BNN	**Bunyan**	**1.47**	**344**	*e*PN		**Pb**	**18 10 32.0**	**+1.1**
BNN	**Bunyan**	**1.47**	**344**	*e*Pn		**Pb**	**18 10 32.0**	**+1.1**
ATAB	**Bozova**	**1.54**	**88**	*i* P		**Pg**	**18 10 33.6**	**-0.1**
ATAB				*i* S		**Sg**	**18 10 54.5**	**+0.7**
ATAB	**Bozova**	**1.54**	**88**	*i* P		**Pg**	**18 10 33.6**	**-0.1**
ATAB				*i* S		**Sg**	**18 10 54.5**	**+0.7**
MALT	**Malatya**	**1.86**	**61**	*e*PN		**Pb**	**18 10 37.5**	**0.0**
MALT	**Malatya**	**1.86**	**61**	*e*Pn		**Pb**	**18 10 37.5**	**0.0**
DARE	**Darende-Malaty**	**1.89**	**37**	*e*PN		Pn	18 10 31.2	-4.4
URFA	**Urfa**	**1.96**	**89**	*e*PN		**Pb**	**18 10 38.4**	**-0.9**
URFA	**Urfa**	**1.96**	**89**	*e*Pn		**Pb**	**18 10 38.4**	**-0.9**

IDC 28 18:16:23.1±1.0, 10°.42S×161°.44E, h72km±8km, mb3.5/7, mb1 3.8/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=21.1km s-min=12.9km az=42.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.77**	**304**	P		Pn	18 16 52.6	+1.0
	219nm,0.3s,baz=174,slow=6.7,SNR=87						
HNR				S		Sn	18 17 13.5	+0.1
	55nm,0.3s,baz=166,slow=8.5,SNR=3.8						
DZM	**Mont Dzumac**	**12.54**	**158**	P		Pn	18 19 19.8	+1.0
	0.6nm,0.3s,baz=125,slow=20,SNR=23						
WRA	**Warramunga Arr**	**27.77**	**247**	P			18 22 04.7	-0.8
	1.6nm,1.2s,baz=76,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**29.36**	**240**	P			18 22 21.1	+1.4
	1.1nm,1.0s,baz=65,slow=9.9,SNR=2.5						
ASAR				pP		pP	18 22 37.5	+0.8
	1.0nm,0.9s,baz=66,slow=9.6,SNR=2.7						
SONM	**Songino Array**	**75.70**	**325**	P			18 28 01.3	+0.3
	0.4nm,0.9s,baz=120,slow=4.4,SNR=3.4						
SONM				pP		pP	18 28 20.7	+0.4
	0.3nm,0.7s,baz=141,slow=5.2,SNR=5.1						
QSPA	**South Pole Qui**	**79.58**	**180**	P			18 28 21.3	-1.0
	1.1nm,0.9s,baz=243,slow=4.4,SNR=4.6						
ILAR	**Eielson Array**	**84.31**	**20**	P			18 28 46.4	-0.4
	1.1nm,1.1s,baz=232,slow=6.1,SNR=4.1						
NVAR	**Mina Array Bea**	**88.88**	**51**	P			18 29 11.7	+1.6
	0.5nm,0.7s,baz=246,slow=1.6,SNR=3.3						
MKAR	**Makanchi Array**	**90.19**	**318**	P			18 29 14.3	-1.4
	0.3nm,0.6s,baz=79,slow=3.1,SNR=3.9						
MKAR				pP		pP	18 29 33.4	-2.0
	0.3nm,0.7s,baz=123,slow=4.6,SNR=2.6						

*ISK **28** 18:26:53.9, 39°.65N×26°.51E, h5km, MD2.6*
*CSEM **28** 18:26:53.8±0.9, 39°.60N×26°.40E, h5km, MD2.6, Error ellipse: s-maj=16.8km s-min=8.2km az=32.0*
*ISCJB **28** 18:26:54.3±1.5, 39°.61N±0°.08×26°.47E±0°.05, h3km±15km, Error ellipse: s-maj=13.7km s-min=6.3km az=11.1*
*DDA **28** 18:26:55.7, 39°.88N×26°.48E, h7km, MD2.8*
ISC 28 18:26:54.3±2.0, 39°.60N±0°.09×26°.42E±0°.05, h15km±14km, n11, σ0s42/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.37**	**310**	*i* P		**Pb**	**18 27 02.4**	**-0.1**
BOZC				*i* S		**Sb**	**18 27 07.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.80**	**3**	*e*PG		**Pb**	**18 27 09.5**	**-0.3**
GELI				*e*SG		**Sb**	**18 27 21.1**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.80**	**3**	*e*Pg		**Pb**	**18 27 09.5**	**-0.3**
GELI				*e*Sg		**Sb**	**18 27 21.1**	**+0.7**
BALY	**Balya**	**0.94**	**81**	*i* P		**Pn**	**18 27 13.0**	**0.0**
BALY				*i* S		**Sg**	**18 27 24.9**	**+0.2**
BALY	**Balya**	**0.94**	**81**	*i* P		**Pn**	**18 27 13.0**	**0.0**
BALY				*i* S		**Sg**	**18 27 24.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.04**	**40**	*e*PG		**Pb**	**18 27 13.2**	**-0.8**
KRBG				*e*SG		**Sg**	**18 27 27.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.04**	**40**	*e*Pg		**Pb**	**18 27 13.2**	**-0.8**
KRBG				*e*Sg		**Sg**	**18 27 27.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.07**	**65**	*e*PG		**Pb**	**18 27 14.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.07**	**65**	*e*Pg		**Pb**	**18 27 14.4**	**-0.1**
ENEZ	**Enez**	**1.15**	**350**	*e*PN		**Pg**	**18 27 16.6**	**+0.1**
ENEZ	**Enez**	**1.15**	**350**	*e*Pn		**Pg**	**18 27 16.6**	**+0.1**

*NNC **28** 18:54:27.8±6.7, 36°.74N×70°.41E, h0km, mb3.8, mpv4.2, Error ellipse: s-maj=64.2km s-min=45.1km az=39.0*
*IDC **28** 18:54:29.6±4.7, 36°.30N×70°.98E, h166km±40km, mb3.3/9, mb1 3.4/13, mb1mx3.1/31, mbtmp3.2/13, Error ellipse: s-maj=34.8km s-min=17.7km az=36.0*
*ISCJB **28** 18:54:30.9±0.8, 36°.43N±0°.07×70°.96E±0°.09, h188km, mb3.5/8, Error ellipse: s-maj=10.3km s-min=9.3km az=43.3*
ISC 28 18:54:32.9±1.0, 36°.58N±0°.09×70°.9E±0°.1, h188km, n27, σ1s56/31, mb3.5/8, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**6.45**	**30**	P		Pn	**18 56 06.1**	**0.0**
	SNR=17						
EKS2	**Erkin-Say**	**6.47**	**19**	P		Pn	**18 56 07.0**	**+0.8**
	SNR=109						
KK31	**Karatay Array**	**6.53**	**358**	⇑P		Pn	**18 56 07.3**	**+0.6**
	2.3nm,0.3s,baz=187,slow=13,SNR=207						
KK31				⇓S		Sn	18 57 16.9	-4.2
	6.1nm,0.4s,baz=179,slow=14,SNR=18						
AAK	**Ala-Archa**	**6.66**	**24**	P		Pn	**18 56 09.5**	**+0.9**
	7.4nm,0.3s,baz=159,slow=5.9,SNR=155						
AAK				S		Sn	**18 57 23.9**	**-0.4**
	baz=24,slow=16,SNR=1.0						
KBK	**Karagaybulak**	**6.83**	**26**	P		Pn	**18 56 11.3**	**+0.4**
	SNR=20						
ULHL	**Ulahol**	**7.01**	**35**	P		Pn	**18 56 13.4**	**+0.1**
	SNR=7.5						
CHMS	**Chumysh**	**7.07**	**24**	P		Pn	**18 56 14.5**	**+0.7**
	SNR=9.3						
USP	**Ospenovka**	**7.24**	**21**	P		Pn	**18 56 16.7**	**+0.7**
	SNR=21						
TKM2	**Tokmak 2**	**7.30**	**28**	⇓P		Pn	**18 56 17.6**	**+0.5**
	23nm,0.5s						
TKM2	**Tokmak 2**	**7.30**	**28**	P		Pn	**18 56 17.7**	**+0.6**
	SNR=73						
MK31	**Makanchi Array**	**13.28**	**36**	⇓P		Pn	**18 57 34.0**	**-0.2**
	1.1nm,0.8s,baz=220,slow=12,SNR=8.7						
MKAR	**Makanchi Array**	**13.28**	**36**	P		Pn	**18 57 34.2**	**+0.1**
	0.1nm,0.3s,baz=223,slow=12,SNR=9.7						
AB31	**Akbulak array**	**14.98**	**331**	⇓P		P	**18 57 57.7**	**+1.6**
	0.2nm,0.3s,baz=145,slow=13,SNR=7.5						
AB31				⇑S		Sn	**19 00 37.9**	**-4.4**
	0.8nm,0.6s,baz=154,slow=23,SNR=2.5						
VOSK	**Vostochnaya**	**16.15**	**0**	⇓P		P	**18 58 09.4**	**+0.4**
	1.4nm,0.7s						
ZRNK	**Zerenda**	**16.43**	**356**	⇓P		Pn	**18 58 14.3**	**+1.6**
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**16.45**	**359**	P		Pn	**18 58 14.1**	**+1.1**
	0.3nm,0.3s,baz=170,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**16.67**	**330**	P		Pn	**18 58 17.3**	**+1.7**
	0.2nm,0.3s,baz=136,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**16.67**	**330**	⇑P		Pn	**18 58 15.9**	**+0.3**
	0.4nm,1.2s						
AKTO				⇑S		S	**19 01 20.7**	**+1.7**
	0.3nm,1.4s						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P		P	**18 58 50.3**	**+0.7**
	0.9nm,0.3s,baz=221,slow=12,SNR=7.4						
FINES	**FINESS Array B**	**37.37**	**326**	P		P	**19 01 28.4**	**+1.4**
	1.8nm,1.0s,baz=114,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**41.04**	**338**	P		P	**19 01 58.8**	**+1.5**
	3.5nm,1.0s,baz=95,slow=5.7,SNR=3.9						
HFS	**Hagfors**	**42.95**	**322**	P		P	**19 02 14.2**	**+1.3**
	1.3nm,0.8s,baz=164,slow=6.8,SNR=2.6						
NOA	**NORSAR Array B**	**44.27**	**323**	P		P	**19 02 24.0**	**+0.5**
	0.9nm,0.9s,baz=99,slow=8.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P		P	**19 04 55.6**	**-1.5**
	0.2nm,0.5s,baz=37,slow=8.0,SNR=2.9						
YKA	**Yellowknife Ar**	**81.17**	**3**	P		P	**19 06 27.6**	**+0.6**
	0.3nm,0.4s,baz=350,slow=5.5,SNR=10						
WRA	**Warramunga Arr**	**82.10**	**122**	P		P	**19 06 30.7**	**-1.8**
	0.2nm,0.3s,baz=325,slow=5.0,SNR=14						
ASAR	**Alice Springs**	**84.37**	**125**	P		P	**19 06 42.5**	**-1.6**
	0.5nm,0.6s,baz=307,slow=5.1,SNR=18						

IDC 28 19:14:50.5±2.5, 5°.43N×126°.53E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=213.1km s-min=25.6km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.35**	**163**	P		P	19 20 29.0	+0.5
	0.4nm,0.8s,baz=344,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**29.80**	**166**	P		P	19 20 58.8	-0.5
	0.2nm,0.9s,baz=334,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**56.06**	**325**	P		P	19 24 31.3	-0.1
	0.1nm,0.3s,baz=113,slow=6.9,SNR=8.1						

IDC 28 19:17:06.2±1.5, 14°.91S×74°.06W, h99km±8km, mb3.4/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=61.6km s-min=14.6km az=36.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.97**	**317**	P		Pn	19 18 04.2	-0.9
	23nm,0.3s,baz=134,slow=9.7,SNR=16						
NNA				S		Sn	19 18 51.2	+0.5
	16nm,0.3s,baz=254,slow=18,SNR=3.8						
LPAZ	**La Paz**	**5.87**	**104**	P		Pn	19 18 31.5	-0.1
	2.2nm,0.3s,baz=295,slow=10,SNR=30						
SIV	**San Ignacio**	**12.56**	**97**	P		Pn	19 19 56.7	-4.8
	0.4nm,0.3s,baz=289,slow=13,SNR=7.4						
TORD	**Torodi Ar. Bea**	**79.98**	**73**	P		P	19 29 04.9	-0.3
	0.7nm,0.7s,baz=248,slow=4.4,SNR=5.7						
TORD				pP		pP	19 29 30.4	-0.4
	0.3nm,0.7s,baz=252,slow=2.9,SNR=1.7						
YKA	**Yellowknife Ar**	**83.42**	**342**	P		P	19 29 22.2	0.0
	0.3nm,0.6s,baz=138,slow=5.5,SNR=8.7						
YKA				pP		pP	19 29 48.3	+0.3
	0.0nm,0.3s,baz=97,slow=

MKAR	**Makanchi Array**	**47.12**	**298**	P	P	19 46 18.2	0.0
	0.5nm,0.9s,baz=75,slow=7.7,SNR=3.9						
YKA	**Yellowknife Ar**	**51.58**	**36**	P	P	19 46 52.0	-0.1
	0.1nm,0.7s,baz=299,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**64.60**	**335**	P	P	19 48 23.4	+0.2
	1.1nm,0.8s,baz=12,slow=8.5,SNR=6.3						
NOA	**NORSAR Array B**	**68.84**	**341**	P	P	19 48 50.0	-0.3
	0.8nm,0.8s,baz=30,slow=6.3,SNR=4.9						

IDC 28 19:44:59.7±4.4, 30°22'S×178°52'W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/17, mbtmp3.8/2, Error ellipse: s-maj=221.9km s-min=69.2km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.67**	**267**	P	P	19 52 58.1	-0.3
	0.1nm,0.3s,baz=109,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**43.64**	**272**	P	P	19 53 06.4	+0.1
	1.2nm,0.4s,baz=113,slow=8.0,SNR=42						
FINES	**FINESS Array B**	**144.82**	**340**	PKP	PKPbc	20 04 37.2	+0.2
	0.4nm,0.5s,baz=40,slow=7.2,SNR=6.0						

*ISCJB **28** 19:45:33.6±0.4, 33°.79N±0°.06×137°.91E±0°.06, h335km±4km, mb3.3/7, Error ellipse: s-maj=9.4km s-min=7.9km az=157.6*
*JMA **28** 19:45:33.2±0.1, 33°.83N×137°.93E, h345km, M3.6*
*IDC **28** 19:45:34.8±0.6, 33°.83N×137°.90E, h332km±8km, mb3.1/7, mb1 3.3/11, mb1mx3.1/30, mbtmp3.2/11, Error ellipse: s-maj=23.0km s-min=10.0km az=69.0*

ISC 28 19:45:34.8±0.8, 33°.85N±0°.07×137°.84E±0°.06, h331km±6km, n32, σ0°.92/40, mb3.5/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.12**	**326**	P	**Pn**	**19 46 17.0**	**+0.9**
TTO4	**TONANKAI O.B.S**	**0.29**	**303**	P	**Pn**	**19 46 17.1**	**+0.9**
TTO5	**TONANKAI O.B.S**	**0.41**	**346**	P	**Pn**	**19 46 17.5**	**+1.0**
TK04	**Tokai 4**	**0.54**	**3**	P	**Pn**	**19 46 17.9**	**+1.1**
JYN	**Shimob**	**1.75**	**19**	P	**Pn**	**19 46 23.0**	**+0.4**
JOD2	**Odawara 2**	**1.75**	**36**	P	**Pn**	**19 46 22.7**	**+0.1**
JHJ	**Hachijo jima 2**	**1.78**	**114**	P	**Pn**	**19 46 23.7**	**+0.8**
	11nm,0.3s,baz=234,slow=22,SNR=1.6						
JHJ				S	**S**	**19 47 02.6**	**+1.3**
	23nm,0.3s,baz=258,slow=22,SNR=1.5						
JWZ	**Kozaga**	**1.80**	**260**	P	**Pn**	**19 46 22.7**	**-0.3**
JWZ				eS	**S**	**19 47 00.0**	**-1.5**
JWY	**Kouya**	**1.90**	**282**	P	**Pn**	**19 46 24.0**	**+0.3**
JWY				eS	**S**	**19 47 02.0**	**-0.9**
JGM	**Miyama**	**2.06**	**334**	P	**Pn**	**19 46 25.5**	**+0.7**
JGM				eS	**S**	**19 47 05.1**	**+0.2**
JRY	**Ryogami san**	**2.33**	**22**	P	**Pn**	**19 46 27.5**	**+0.6**
JWT	**Wachi**	**2.47**	**306**	P	**Pn**	**19 46 28.4**	**+0.4**
JWT				eS	**S**	**19 47 09.7**	**-0.9**
MJAR	**Matsushiro Arr**	**2.70**	**6**	P	**Pn**	**19 46 30.3**	**+0.2**
	17nm,0.3s,baz=189,slow=10,SNR=312						
MJAR				S	**S**	**19 47 13.6**	**-0.8**
	baz=176,slow=14,SNR=1.9						
MAT	**Matsushiro**	**2.71**	**6**	P	**Pn**	**19 46 30.3**	**+0.2**
MAT				S	**S**	**19 47 14.3**	**-0.1**
MAT	**Matsushiro**	**2.71**	**6**	P	**Pn**	**19 46 30.3**	**+0.2**
JKG	**Kaga**	**2.72**	**333**	P	**Pn**	**19 46 30.7**	**+0.6**
BSO1	**Boso 1**	**2.72**	**72**	P	**Pn**	**19 46 28.4**	**-1.2**
BSO1				eS	**S**	**19 47 12.0**	**-1.6**
JAI	**Aioi**	**2.82**	**270**	P	**Pn**	**19 46 30.9**	**-0.2**
JAG	**Ashikaga**	**2.89**	**27**	P	**Pn**	**19 46 30.7**	**-1.0**
JAG				eS	**S**	**19 47 15.6**	**-1.8**
JMN	**Monobe**	**3.30**	**269**	P	**Pn**	**19 46 35.8**	**+0.1**
JNU	**Nakatsue**	**5.86**	**265**	P	**Pn**	**19 47 03.5**	**+0.1**
	1.3nm,0.3s,baz=107,slow=5.5,SNR=15						
CBIJ	**Chichi jima**	**7.70**	**150**	P	Pn	19 47 21.0	-4.3
	3.3nm,0.3s,baz=282,slow=19,SNR=6.8						
CBIJ				S	S	19 48 43.2	-12
	16nm,0.3s,baz=287,slow=21,SNR=11						
KSRS	**Korea Array**	**8.83**	**297**	P	**Pn**	**19 47 39.4**	**+0.8**
	0.6nm,0.3s,baz=108,slow=13,SNR=25						
ASAJ	**Asahikawa**	**10.90**	**18**	P	**Pn**	**19 48 03.0**	**-0.5**
	0.6nm,0.3s,baz=218,slow=12,SNR=9.8						
SONM	**Songino Array**	**27.37**	**310**	P	**P**	**19 50 52.8**	**+2.3**
	0.4nm,0.5s,baz=121,slow=10,SNR=4.5						
ZALV	**Zalesovo Beam**	**42.00**	**315**	PcP	**PcP**	**19 54 41.2**	**-1.2**
	0.5nm,0.5s,baz=72,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**43.42**	**304**	P	**P**	**19 53 06.4**	**+0.6**
	0.2nm,0.4s,baz=86,slow=9.5,SNR=6.6						
FITZ	**Fitzroy Crossi**	**52.95**	**195**	P	**P**	**19 54 17.8**	**-0.4**
	3.6nm,1.0s,baz=47,slow=7.9,SNR=6.6						
WRA	**Warramunga Arr**	**53.59**	**184**	P	**P**	**19 54 21.9**	**-1.0**
	0.7nm,0.3s,baz=0.5,slow=7.6,SNR=37						
ASAR	**Alice Springs**	**57.32**	**184**	P	**P**	**19 54 48.5**	**-0.6**
	0.6nm,0.5s,baz=15,slow=12,SNR=15						
FINES	**FINESS Array B**	**70.25**	**332**	P	**P**	**19 56 12.7**	**+0.4**
	1.4nm,1.0s,baz=50,slow=7.4,SNR=5.4						
HFS	**Hagfors**	**75.75**	**335**	P	**P**	**19 56 44.5**	**+0.2**
	1.3nm,0.9s,baz=126,slow=7.3,SNR=2.9						

GUC 28 19:47:22.3±0.9, 35°.45S×72°.65W, h44km±36km, MD3.7, ML3.4, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.83**	**87**	↓*i* P	Pn	19 47 37.8	+0.1
TALC				*i* S	Sn	19 47 50.0	+1.3
TALC				AML	AML	19 47 51.0	
	comp=E,3μm,0.3s						
LNV	**Longovilo**	**1.81**	**35**	*i* P	Pn	19 47 49.5	-1.4
LNV				*i* S	Sn	19 48 12.4	-0.3
CHCH	**Chadas Angostu**	**2.24**	**48**	↑*i* P	Pn	19 47 58.0	+1.0
LMEL	**Las Melosas**	**2.57**	**52**	*eP*	Pn	19 48 02.8	+1.0
LMEL				AML	AML	19 48 41.3	
	comp=E,126nm,0.4s						
CLCH	**Cerro Calan**	**2.69**	**41**	↓*i* P	Pn	19 48 03.9	+0.7
CLCH				*eS*	Sn	19 48 35.1	+0.5
CLCH				AML	AML	19 48 44.8	
	comp=N,176nm,0.5s						
PEL	**Peldehue**	**2.82**	**36**	↓*i* P	Pn	19 48 06.1	+1.2
PEL				AML	AML	19 48 47.8	
	comp=N,221nm,0.6s						

IDC 28 19:51:55.3±2.0, 3°.21N×125°.48E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=195.5km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.60**	**160**	P	P	19 57 16.1	-1.3
	1.1nm,0.8s,baz=338,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**27.95**	**163**	P	P	19 57 49.0	+1.3
	0.2nm,0.6s,baz=340,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.28**	**326**	P	P	20 01 44.6	-0.2
	0.1nm,0.5s,baz=114,slow=8.2,SNR=3.8						

IDC 28 20:03:45.5±12.0, 0°.05N×130°.71E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=249.6km s-min=165.3km az=106.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.18**	**170**	P	P	20 08 21.0	-0.9
	1.1nm,0.6s,baz=353,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**23.78**	**173**	P	P	20 09 00.6	+0.6
	0.6nm,0.5s,baz=355,slow=9.0,SNR=15						
STKA	**Stephens Creek**	**33.38**	**163**	P	P	20 10 25.6	-0.2
	1.3nm,0.6s,baz=355,slow=9.4,SNR=5.3						

IDC 28 20:04:22.3±2.0, 0°.57S×132°.02E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=94.2km s-min=24.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.51**	**199**	P	Pn	20 08 41.9	+1.4
	0.1nm,0.3s,baz=41,slow=9.3,SNR=2.4						
FITZ				S	Sn	20 12 02.8	-5.4
	0.1nm,0.3s,baz=140,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**19.39**	**173**	P	P	20 08 49.6	-0.4
	0.4nm,0.3s,baz=353,slow=11,SNR=12						
WRA				S	Sn	20 12 17.0	-12
	0.1nm,0.3s,baz=5.0,slow=25,SNR=4.2						
ASAR	**Alice Springs**	**23.03**	**176**	P	P	20 09 28.9	-0.4
	1.9nm,0.5s,baz=355,slow=9.7,SNR=24						
STKA	**Stephens Creek**	**32.43**	**165**	P	P	20 10 54.0	-0.3
	0.9nm,0.5s,baz=349,slow=8.9,SNR=6.5						
MKAR	**Makanchi Array**	**64.09**	**324**	P	P	20 14 58.4	0.0
	0.4nm,0.7s,baz=109,slow=8.3,SNR=5.3						

*ISCJB **28** 20:07:55.9±0.5, 10°.41N±0°.04×62°.41W±0°.02, h22km±5km, Error ellipse: s-maj=6.9km s-min=3.3km az=157.9*
*FUNV **28** 20:07:55.1, 10°.32N×62°.33W, h1km, MW3.8*
*TRN **28** 20:07:59.1, 10°.52N×62°.23W, h13km, MD3.4*

ISC 28 20:07:55.3±1.1, 10°.36N±0°.04×62°.38W±0°.03, h13km±9km, n19, σ1°.07/34, 5C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**28**	↑*eP*	**Pg**	**20 08 01.7**	**-0.3**
GUIV				*eS*	**Sg**	**20 08 06.0**	**-0.5**
GUNV	**Guanoco**	**0.59**	**251**	↑*eP*	**Pg**	**20 08 06.8**	**-0.1**
GUNV				*eS*	**Sb**	**20 08 16.2**	**+0.5**
TPP	**Pointe-a-Pierr**	**0.91**	**92**	↑*eP*	**Pn**	**20 08 14.8**	**+0.9**
TPP				*eS*	**Sb**	**20 08 25.8**	**+0.7**
TRN	**Trinidad (W)**	**1.00**	**73**	↑*eP*	**Pb**	**20 08 14.4**	**-0.1**
TRN				*eS*	**Sb**	**20 08 27.7**	**+0.1**
TBH	**Brigand Hill**	**1.30**	**84**	*eP*	**Pg**	**20 08 20.9**	**+0.6**
TBH				*eS*	**Sg**	**20 08 37.4**	**+0.3**
ORIV	**Oritupano**	**1.63**	**219**	↑*eP*	**Pb**	**20 08 25.5**	**+0.2**
ORIV				*eS*	**Sn**	**20 08 45.6**	**+1.0**
TPR	**Prospect**	**1.78**	**62**	*eP*	**Pb**	**20 08 27.3**	**-0.4**
TPR				*eS*	**Sn**	**20 08 46.6**	**-1.6**
BOT	**Bacolet**	**1.82**	**64**	*eP*	**Pn**	**20 08 27.3**	**+1.0**
TOSP	**Speyside**	**2.04**	**62**	*eP*	**Pb**	**20 08 31.2**	**-1.0**
TOSP				*eS*	**Sn**	**20 08 54.6**	**-0.1**
PCRV	**Puerto La Cruz**	**2.23**	**266**	*eP*	**Pn**	**20 08 32.5**	**+0.4**
RIOV	**Rio Grande**	**2.34**	**166**	*eP*	**Pn**	**20 08 33.8**	**+0.3**
RIOV				*eS*	**Sn**	**20 09 01.6**	**-0.5**
GUIV	**El Guri**	**2.67**	**195**	*eP*	**Pn**	**20 08 38.3**	**+0.2**
PRGV	**PARIAGUAN**	**2.74**	**235**	*eP*	**Pn**	**20 08 39.9**	**+0.8**
PRGV				*eS*	**Sn**	**20 09 12.5**	**+0.4**
CUPV	**Cœpira**	**3.37**	**265**	*eP*	**Pn**	**20 08 48.5**	**+0.7**
CUPV				*eS*	**Sn**	**20 09 28.3**	**+0.6**
MCLT	**Moule a Chique**	**3.62**	**23**	*eP*	**Pn**	**20 08 53.4**	**+2.3**
MCLT				*eS*	**Sn**	**20 09 31.6**	**-2.1**
BIRV	**Birongo**	**3.83**	**272**	*eP*	**Pn**	**20 08 54.9**	**+0.9**
BIRV				*eS*	**Sn**	**20 09 38.4**	**-0.6**
MERV	**Las Mercedes**	**4.01**	**254**	*eP*	**Pn**	**20 08 57.3**	**+0.7**
MERV				*eS*	**Sn**	**20 09 42.5**	**-1.0**
LUEV	**Luepa**	**4.58**	**168**	*eP*	**Pn**	**20 09 03.4**	**-1.0**
BAUV	**El Baul**	**5.76**	**256**	*eP*	**Pn**	**20 09 20.8**	**+0.2**
BAUV				*eS*	**Sn**	**20 10 23.3**	**-3.2**

GUC 28 20:11:06.6±0.5, 32°.63S×71°.12W, h7km±4km, MD3.6, ML1.9, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.62**	**144**	*eP*	Pg	20 11 17.8	-0.9
PEL				*i* S	Sg	20 11 27.3	+0.3
PEL				AML	AML	20 11 30.2	
	comp=E,106nm,0.3s						
CHNG	**Los Chungos**	**0.82**	**337**	↓*i* P	Pg	20 11 22.3	0.0
CHNG				*i* S	Sb	20 11 33.9	-0.4
CHNG				AML	AML	20 11 36.1	
	comp=E,58nm,0.6s						
FCH	**Farellones**	**0.98**	**135**	*i* P	Pg	20 11 18.8	-7.1
FCH				*i* S	Sg	20 11 33.5	-5.4
FCH				AML	AML	20 11 39.2	
	comp=E,35nm,0.1s						
LNV	**Longovilo**	**1.34**	**190**	*eP*	Pn	20 11 30.3	-1.5
CHCH	**Chadas Angostu**	**1.35**	**163**	*eP*	Pn	20 11 31.1	-0.9
LMEL	**Las Melosas**	**1.43**	**148**	*eP*	Pn	20 11 32.3	-1.0
LMEL				*i* S	Sb	20 11 51.8	-0.8
LMEL				AML	AML	20 11 53.0	
	comp=N,100nm,0.1s						
CMCH	**Combarbala**	**1.46**	**4**	↓*i* P	Pn	20 11 32.6	-1.0
CMCH				*i* S	Sn	20 11 52.4	-0.6
CACH	**El Canelo**	**1.54**	**164**	↑*i* P	Pn	20 11 34.8	+0.1
CACH				*i* S	Sg	20 11 56.3	-0.2

*IDC **28** 20:16:36.7±1.0, 0°.31S×133°.01E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/22, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=51.8km s-min=18.5km az=81.0*
*ISCJB **28** 20:16:39.7±0.8, 0°.55S±0°.05×132°.97E±0°.08, h32km, mb3.7/5, Error ellipse: s-maj=11.2km s-min=7.5km az=163.4*
*AUST **28** 20:16:45.4, 0°.49S×132°.50E, h100km*

ISC 28 20:16:41.5±1.0, 0°.51S±0°.08×132°.84E±0°.10, h32km, n14, σ2°.27/15, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.62**	**257**	P	**Pn**	**20 17 07.7**	**-0.1**
	baz=1.3,SNR=47						
SWI				S	**Sb**	**20 17 30.5**	**-0.4**
	baz=1.3,SNR=6.0						
TLE	**Tual**	**5.10**	**181**	P	Pn	20 17 59.4	+3.7
	baz=5.2,SNR=8.1						
KDU	**Kakadu**	**12.11**	**182**	P	**Pn**	**20 19 34.0**	**+2.1**
	baz=12,SNR=13						
KDU				S	**Sn**	**20 21 45.4**	**-0.5**
	baz=12,SNR=3.7						
MTN	**Manton Dam**	**12.37**	**188**	P	**Pn**	**20 19 37.9**	**+2.4**
	baz=12,SNR=4.5						
MTN				S	**Sn**	**20 21 52.6**	**+0.2**
	baz=12,SNR=4.6						
PCI	**Palu**	**13.01**	**268**	S	Sn	20 22 21.2	+13
	baz=13,SNR=3.7						
WSI	**Waingapu**	**15.45**	**234**	S	Sn	20 22 55.5	-12
	baz=15,SNR=6.0						
FITZ	**Fitzroy Crossi**	**18.86**	**202**	P	**Pn**	**20 21 00.1**	**+0.2**
	0.0nm,0.3s,baz=13,slow=12,SNR=4.2						
FITZ				S	Sn	20 24 22.5	-7.7
	0.1nm,0.3s,baz=199,slow=11,SNR=5.2						
FITZ	**Fitzroy Crossi**	**18.86**	**202**	P	**Pn**	**20 21 00.2**	**+0.3**
	baz=19,SNR=3.4						
WRA	**Warramunga Arr**	**19.37**	**176**	P	**Pn**	**20 21 06.3**	**+0.3**
	0.3nm,0.3s,baz=354,slow=12,SNR=13						
WRA				S	**S**	**20 24 35.8**	**-6.4**
	0.1nm,0.3s,baz=0.2,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**23.04**	**178**	P	**P**	**20 21 46.4**	**+2.1**
	3.1nm,0.7s,baz=359,slow=9.3,SNR=52						
STKA	**Stephens Creek**	**32.28**	**166**	P	**P**	**20 23 08.6**	**+1.1**
	1.4nm,0.7s,baz=345,slow=12,SNR=8.9						
MKAR	**Makanchi Array**	**64.52**	**324**	P	**P**	**20 27 15.7**	**+0.2**
	0.6nm,0.8s,baz=119,slow=8.0,SNR=6.2						
BVAR	**Borovoye Array**	**74.20**	**326**	P	**P**	**20 28 15.4**	**+0.3**
	0.6nm,0.8s,baz=124,slow=7.8,SNR=3.5						
ILAR	**Eielson Array**	**86.31**	**25**	P	**P**	**20 29 18.0**	**-2.0**
	0.3nm,1.0s,baz=254,slow=6.5,SNR=3.4						

GUC 28 20:22:05.6±0.7, 20°.57S×67°.66W, h200km, ML3.5, 3C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**1.77**	**254**	↓*i* P	Pn	20 22 43.4	+1.5
PB01				*i* S	Sn	20 23 12.8	+2.6
PB01				AML	AML	20 23 15.7	
	comp=E,97nm,0.2s						
PB09	**Plate Boundary**	**1.91**	**230**	AML	AML	20 23 23.5	
	comp=E,229nm,0.5s						
PB11	**Plate Boundary**	**2.04**	**293**	↑*i* P	Pn	20 22 45.6	+0.8
PB11				*eS*	Sn	20 23 16.5	+1.4
MNMC	**Minimini**	**2.31**	**308**	↑*i* P	Pn	20 22 48.8	+0.9
MNMC				*i* S	Sn	20 23 22.7	+1.9
MNMC				AML	AML	20 23 27.6	
	comp=E,291nm,0.1s						
PB07	**Plate Boundary**	**2.37**	**241**	*eP*	Pn	20 22 50.1	+1.8
PB07				*i* S	Sn	20 23 23.1	+1.5
PB07				AML	AML	20 23 24.8	
	comp=N,205nm,0.3s						
PB04	**Plate Boundary**	**2.40**	**225**	*eP*	Pn	20 22 55.8	+7.5
PB04				*i* S	Sn	20 23 33.7	+12
PB04				AML	AML	20 23 35.1	
	comp=E,108nm,0.3s						
PSGC	**Pisagua**	**2.51**	**292**	↑*i* P	Pn	20 22 50.3	+0.5
PSGC				*i* S	Sn	20 23 24.7	+0.6
PSGC				AML	AML	20 23 26.3	
	comp=N,108nm,0.3s						
PB06	**Plate Boundary**	**2.77**	**220**	↓*i* P	Pn	20 22 54.3	+1.5
PB06				*i* S	Sn	20 23 31.6	+1.9

*BJI **28** 20:31:47.4, 8°.14S×119°.97E, h442km, mB4.7/24, mb4.4/42*
*MOS **28** 20:31:54.7±0.9, 7°.23S×119°.64E, h448km, mb4.4/30, Error ellipse: s-maj=13.1km s-min=6.8km az=115.9*
*ISCJB **28** 20:31:54.5±0.2, 7°.34S±0°.02×119°.59E±0°.02, h446km±2km, mb4.4/74, Error ellipse: s-maj=3.9km s-min=3.1km az=44.4*
*IDC **28** 20:31:55.3±0.6, 7°.31S×119°.65E, h437km±5km, mb4.0/23, mb1 4.1/26, mb1mx4.1/31, mbtmp4.1/26, Error ellipse: s-maj=13.5km s-min=5.8km az=60.0*
*AUST **28** 20:31:55.1±0.0, 7°.31S×119°.61E, h436km, Error ellipse: s-maj=0.8km s-min=0.6km az=225.0*
*DJA **28** 20:31:55.2±0.1, 7°.5±2°×12°.0E±°, h437km±2km, M4.5/54, mB5.1/23, mb4.8/54, MLv5.0/23, Mw(mB)4.4/23, Mwp6.7/1*
*NEIC **28** 20:31:55.6±0.4, 7°.26S×119°.66E, h445km±4km, mb4.4/24, Error ellipse: s-maj=8.5km s-min=4.2km az=59.0*

ISC 28 20:31:55.4±0.3, 7°.40S±0°.03×119°.62E±0°.04, h442km±2km, h443km: pP-P, n263, σ1°.39/343, mb4.5/74, 12C-2D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKSI	**Bulukumba**	**2.13**	**14**	P	**P**	**20 32 56.2**	**+0.2**
BKSI				S	**S**	**20 33 43.8**	**-1.2**
WSI	**Waingapu**	**2.35**	**163**	P	**P**	**20 32 56.4**	**-0.9**
	baz=2.5,SNR=81						
WSI				S	**S**	**20 33 44.3**	**-3.2**
	baz=2.5,SNR=8.4						
WSI	**Waingapu**	**2.35**	**163**	P	**P**	**20 32 56.5**	**-0.8**
WSI				S	**S**	**20 33 44.5**	**-3.0**
KAPI	**Kappang**	**2.38**	**3**	P	**P**	**20 32 56.6**	**-0.9**
	48nm,0.3s,baz=194,slow=5.0,SNR=201						
KAPI				S	**S**	**20 33 45.7**	**-2.1**
	baz=47,slow=21,SNR=19						
KAPI	**Kappang**	**2.38**	**3**	*eP*	**P**	**20 32 56.3**	**-1.2**
KAPI				*eS*	**S**	**20 33 44.9**	**-2.9**
KAPI	**Kappang**	**2.38**	**3**	P	**P**	**20 32 56.6**	**-0.9**
MMRI	**Maumere**	**2.87**	**115**	P	**P**	**20 32 59.8**	**-1.1**
SPSI	**Sidrap Palu**	**3.42**	**3**	P	**P**	**20 33 04.7**	**-0.5**
SPSI				S	**S**	**20 34 01.3**	**-0.5**
BBSI	**Bau Bau**	**3.50**	**57**	P	**P**	**20 33 06.6**	**+0.8**
KHKI	**Kahang-Kahang**	**4.08**	**256**	P	**P**	**20 33 10.3**	**-0.5**
TTSI	**Tana Toraja**	**4.33**	**3**	P	**P**	**20 33 12.9**	**-0.2**
SRBI	**Singaraja**	**4.42**	**261**	P	**P**	**20 33 13.9**	**+0.1**
DNP	**Denpasar**	**4.54**	**254**	P	**P**	**20 33 15.2**	**+0.2**
KDI	**Kendari**	**4.54**	**41**	P	**P**	**20 33 15.5**	**+0.4**
KDI				S	**S**	**20 34 18.3**	**-1.6**
IGBI	**Denpasar**	**4.64**	**252**	P	**P**	**20 33 15.1**	**-0.8**
IGBI				S	**S**	**20 34 16.8**	**-4.7**
NBBI	**Negara**	**5.04**	**259**	P	**P**	**20 33 17.0**	**-2.8**
BYJI	**Banyuwangi**	**5.27**	**261**	P	**P**	**20 33 22.9**	**+0.8**
	3μm,1.0s,29μm						
KMMI	**Kalianget**	**5.62**	**273**	P	**P**	**20 33 27.2**	**+1.7**
	856nm,1.1s,8μm2.7nm						
BLJI	**Banyuglugur**	**5.98**	**266**	P	**P**	**20 33 30.2**	**+1.0**
	741nm,0.8s,6μm2.2nm						
BBKI	**Banjar Baru**	**6.16**	**309**	P	**P**	**20 33 31.7**	**+0.6**
	1μm,1.2s,12μm3.9nm						
GMJI	**Gumukmas**	**6.17**	**262**	P	**P**	**20 33 30.5**	**-0.7**
	187nm,1.0s,3μm1.0nm						
GMJI				S	**S**	**20 34 44.5**	**-5.1**
	187nm,1.0s,3μm1.0nm						
PCI	**Palu**	**6.46**	**2**	P	**P**	**20 33 33.3**	**-1.0**
	baz=6.4,SNR=29						
PCI				S	S	20 35 23.8	+29
	baz=6.4,SNR=34						
BWJI	**Bawean**	**7.08**	**282**	P	**P**	**20 33 43.3**	**+2.4**
	74nm,1.1s,812nm0.3nm						
KRKI	**Karangkates**	**7.14**	**263**	P	**P**	**20 33 43.7**	**+2.2**
	302nm,0.7s,2.4nm						
KRKI				S	**S**	**20 35 05.8**	**-2.4**
	302nm,0.7s,2.4nm						
SMKI	**Samarinda**	**7.32**	**341**	P	**P**	**20 33 45.4**	**+1.9**
	268nm,1.2s,4μm1.0nm						
PWJI	**Pagerwojo**	**7.77**	**265**	P	**P**	**20 33 47.1**	**-1.2**
	85nm,0.8s,0.7nm						
PWJI				S	S	20 35 14.3	-6.4
	85nm,0.8s,0.7nm						
SJI	**Sawahan**	**7.79**	**267**	P	**P**	**20 33 48.5**	**-0.1**
	82nm,0.6s,2μm0.8nm						
SJI				S	**S**	**20 35 16.3**	**-5.0**
	82nm,0.6s,2μm0.8nm						
MRSI	**Marisa**	**8.16**	**17**	P	**P**	**20 33 52.9**	**+0.3**
	23nm,1.2s,0.1nm						
PCJI	**Pacitan**	**8.40**	**264**	P	**P**	**20 33 53.7**	**-1.4**
	140nm,0.6s,2μm						
PCJI				S	S	20 35 25.1	-8.3
	140nm,0.6s,2μm						
UGM	**Wanagama**	**9.03**	**266**	P	**P**	**20 34 00.9**	**-1.1**
	baz=9.0,SNR=13						
UGM				S	**S**	**20 35 41.7**	**-4.4**
	baz=9.0,SNR=3.5						
PBKI	**Pangkalan Bun**	**9.19**	**300**	P	**P**	**20 34 04.8**	**+1.1**
	246nm,1.0s,2μm						
AAI	**Ambon**	**9.30**	**67**	P	**P**	**20 34 05.8**	**+0.8**
	baz=9.3,SNR=3.8						
AAI	**Ambon**	**9.30**	**67**	P	P	20 34 09.1	+4.1
	80nm,1.1s,1μm						
BJII	**Banjamegara**	**9.82**	**270**	P	**P**	**20 34 12.0**	**+1.2**
	33nm,0.9s						
MNI	**Manado**	**10.22**	**31**	P	P	20 34 20.9	+5.9
LBMI	**Labuha**	**10.34**	**50**	P	**P**	**20 34 18.4**	**+2.0**
	53nm,0.7s						
STKI	**Sintang**	**11.00**	**312**	P	**P**

KRJI Kerinci 18.84 285 P **P** **20 35 47.4 +0.5**
100nm,1.1s
WRA Warramunga Arr 18.95 133 P **P** **20 35 48.1 +0.3**
13nm,0.3s,baz=307,slow=11,SNR=554
WRA S **S** **20 39 00.9 +3.4**
0.6nm,0.3s,baz=306,slow=20,SNR=17
WRA ScP **ScP** **20 42 44.1 -0.5**
baz=301,slow=2.7,SNR=8.5
WRA Warramunga Arr 18.95 133 P **P** **20 35 48.1 +0.3**
WRA S **S** **20 39 00.9 +3.4**
WRA ScP **ScP** **20 42 44.1 -0.5**
WRAB Tennant Creek 18.95 133 *e*P **P** **20 35 48.1 +0.3**
WRAB *e*S **S** **20 38 57.2 -0.4**
WRAB pmax pmax
comp=Z,166nm,0.8s
WRAB Tennant Creek 18.95 133 *e*P **P** **20 35 48.1 +0.3**
comp=Z,166nm,0.8s
WRAB *e*S **S** **20 38 57.2 -0.4**
WRAB *e*ScP **ScP** **20 42 40.3 -4.3**
MEEK Meekatharra 19.15 183 P **P** **20 35 50.5 +1.0**
baz=19,SNR=80
MEEK S **S** **20 39 00.3 -0.4**
baz=19,SNR=8.5
BKNI Bangkinang 20.05 292 P **P** **20 36 00.1 +2.2**
comp=Z,101nm,1.1s,comp=Z,1µm
AS31 Alice Springs 21.20 141 *e*P **P** **20 36 08.6 +0.3**
AS31 *e*S **S** **20 39 30.5 -3.5**
ASAR Alice Springs 21.20 141 P **P** **20 36 09.1 +0.8**
comp=Z,29nm,0.7s,baz=315,slow=8.9,SNR=287
ASAR S **S** **20 39 32.2 -1.7**
comp=Z,4.9nm,0.8s,baz=311,slow=15,SNR=5.0
ASAR ScP **ScP** **20 42 49.9 -0.1**
comp=Z,5.1nm,0.7s,baz=336,slow=1.9,SNR=12
ASAR Alice Springs 21.20 141 P **P** **20 36 09.1 +0.8**
ASAR S **S** **20 39 32.2 -1.7**
ASAR ScP **ScP** **20 42 49.9 -0.1**
TGY Tagaytay City 21.41 4 P **P** **20 36 10.3 0.0**
comp=Z,110nm,0.5s,baz=147,slow=11,SNR=11
TGY Tagaytay City 21.41 4 P **P** **20 36 10.3 0.0**
MNSI Mandailing Nat 21.58 291 P **P** **20 36 11.2 -0.6**
comp=Z,36nm,1.0s,comp=Z,430nm
MORW Morawa 21.81 188 P **P** **20 36 15.0 +1.3**
baz=22,SNR=5.0
IPM Ipoh 21.99 302 P **P** **20 36 15.3 -0.2**
KULM Kulim 22.74 303 P **P** **20 36 21.5 -0.8**
COCO West Island 22.94 256 *i*P **P** **20 36 20.9 -3.1**
PSI Prapat 23.00 295 P **P** **20 36 24.4 -0.3**
comp=Z,11nm,0.9s,baz=156,slow=6.1,SNR=11
PSI Prapat 23.00 295 P **P** **20 36 24.4 -0.3**
PSI Prapat 23.00 295 P **P** **20 36 24.7 -0.1**
baz=23,SNR=5.9
BLDU Ballidu 23.25 186 P **P** **20 36 27.4 +0.8**
baz=24,SNR=13
QIS Mount Isa 23.35 126 P **P** **20 36 28.1 +0.3**
baz=24,SNR=112
GSI Gunungsitoli 23.63 291 P **P** **20 36 28.9 -1.4**
baz=24,SNR=3.9
TSI Tuntungan 23.64 297 P **P** **20 36 31.2 +0.9**
comp=Z,76nm,1.1s
COEN Coen 24.04 108 *e*P **P** **20 36 32.9 -1.0**
comp=Z,176nm,0.9s
COEN Coen 24.04 108 P **P** **20 36 33.4 -0.5**
baz=24,SNR=21
KLBR Kellerberrin 24.13 184 P **P** **20 36 35.6 +1.1**
baz=24,SNR=5.6
FORT Forrest 24.56 162 *e*P **P** **20 36 39.2 +0.8**
comp=Z,95nm,0.7s
FORT *e*S **S** **20 40 27.2 +0.4**
FORT Forrest 24.56 162 P **P** **20 36 39.5 +1.2**
baz=25,SNR=35
FORT S S 20 40 12.3 -15
baz=25,SNR=4.3
NWAO Narrogin (SRO) 25.49 185 P **P** **20 36 47.5 +0.9**
comp=Z,13nm,0.6s,baz=355,slow=9.3,SNR=14
NWAO Narrogin (SRO) 25.49 185 P **P** **20 36 47.5 +0.9**
CHBT CHBT 26.38 319 P **P** **20 36 54.8 +0.1**
comp=Z,16nm,0.9s,comp=Z,3µmcomp=Z,264µm
RKGY Rocky Gully 27.18 185 P **P** **20 37 04.0 +2.4**
baz=27,SNR=13
PMG Port Moresby 27.32 96 P **P** **20 37 03.0 0.0**
comp=Z,5.7nm,0.5s,baz=201,slow=4.5,SNR=3.8
PMG Port Moresby 27.32 96 *e*P **P** **20 37 02.6 -0.4**
comp=Z,5.9nm,0.5s
CTA Charters Tower 28.73 119 P **P** **20 37 16.4 +1.0**
comp=Z,32nm,0.9s,baz=294,slow=10,SNR=15
CTA Charters Tower 28.73 119 P **P** **20 37 16.4 +1.0**
CTAO Charters Tower 28.73 119 *e*P **P** **20 37 16.1 +0.7**
CTAO Charters Tower 28.73 119 *e*P **P** **20 37 16.1 +0.7**
BBOO Buckleboo 29.53 151 *e*P **P** **20 37 22.8 +0.5**
comp=Z,1µm,0.8s
BBOO *e*S **S** **20 41 44.6 -0.1**
BBOO Buckleboo 29.53 151 P **P** **20 37 23.0 +0.7**
baz=30,SNR=29
SRDT SRDT 29.67 317 P **P** **20 37 24.5 +0.9**
comp=Z,36nm,1.3s
QLP Quilpie 30.19 132 P **P** **20 37 29.5 +1.5**
baz=30,SNR=19
STKA Stephens Creek 31.82 143 P **P** **20 37 43.3 +1.2**
comp=Z,44nm,0.6s,baz=314,slow=8.8,SNR=151
STKA S **S** **20 42 20.2 +0.2**
comp=Z,2.7nm,0.7s,baz=58,slow=19,SNR=2.9
STKA ScP **ScP** **20 43 21.4 -0.1**
comp=Z,7.0nm,0.9s,baz=2.5,slow=4.6,SNR=5.7
STKA Stephens Creek 31.82 143 *e*P **P** **20 37 43.0 +0.9**
comp=Z,9.1nm,0.7s
STKA *e*S **S** **20 42 20.0 0.0**
STKA S S 20 42 20.2 +0.1
STKA *e*ScP **ScP** **20 43 21.0 -0.5**
STKA ScP ScP 20 43 21.4 -0.1
STKA Stephens Creek 31.82 143 P **P** **20 37 43.3 +1.2**
baz=32,SNR=70
CM31 Chiang Mai Arr 32.81 322 *e*P **P** **20 37 50.8 +0.1**
comp=Z,4.3nm,0.7s
CMAR Chiang Mai Arr 32.81 322 P **P** **20 37 51.1 +0.4**
comp=Z,6.5nm,0.8s,baz=148,slow=6.8,SNR=49
CMAR PcP **PcP** **20 40 24.6 +1.1**
comp=Z,1.8nm,0.8s,baz=182,slow=3.3,SNR=7.9
CMAR ScP **ScP** **20 43 25.5 +0.4**
comp=Z,0.7nm,0.8s,baz=168,slow=3.5,SNR=4.6
CMAR Chiang Mai Arr 32.81 322 P **P** **20 37 51.1 +0.4**
CMAR PcP **PcP** **20 40 24.6 +1.1**
CMAR ScP **ScP** **20 43 25.5 +0.4**
CMMT Chiang Mai 33.08 322 P **P** **20 37 53.8 +0.8**
comp=Z,18nm,1.4s,comp=Z,296nm
CHTO Chiang Mai 33.08 322 *e*P **P** **20 37 52.7 -0.3**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 33.08 322 *e*P **P** **20 37 52.7 -0.3**
comp=Z,18nm,1.1s
CHTO *e*ScP **ScP** **20 43 23.3 -2.7**
CHTO Chiang Mai 33.08 322 P **P** **20 37 54.1 +1.1**
SNR=7.6
CHTO Chiang Mai 33.08 322 P **P** **20 37 53.3 +0.3**
comp=Z,19nm,1.4s
RMQ Roma 33.58 128 P **P** **20 37 59.1 +1.9**
baz=34,SNR=7.5
CMSA Cobar Meteorol 34.18 138 P **P** **20 38 03.9 +1.7**
baz=34,SNR=25
ARPS Mount Arapiles 35.56 149 P **P** **20 38 15.2 +1.4**
baz=36,SNR=35
GYA Guiyang 35.93 340 P **P** **20 38 17.3 +0.2**
GYA pP **pP** **20 39 40.0 +2.2**
GYA sP **sP** **20 40 30.5 +1.8**
GYA S **S** **20 43 25.5 +2.6**
GYA ScP **ScP** **20 43 37.0 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,60nm,5.5s
KMI Kunming 36.27 334 ⇑P **P** **20 38 21.5 +1.5**
KMI pP **pP** **20 39 42.3 +1.4**
KMI S **S** **20 43 31.3 +3.1**
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,180nm,4.8s
YNG Young 37.68 139 P **P** **20 38 33.2 +1.8**
baz=38,SNR=53
ARMA Armidale 37.73 132 *e*P **P** **20 38 34.2 +2.2**
comp=Z,122nm,1.8s
ARMA Armidale 37.73 132 P **P** **20 38 34.6 +2.6**
baz=38,SNR=11
WHN Wuhan 38.07 353 P **P** **20 38 35.3 +0.8**
TOO Toolangi 38.12 146 P **P** **20 38 37.2 +2.3**
baz=38,SNR=11
ENH Enshi 38.70 346 *e*P **P** **20 38 39.0 -0.8**
comp=Z,22nm,0.9s
MGCD Mangrove Creek 38.85 136 P **P** **20 38 43.8 +2.7**
baz=39,SNR=11
CNB Canberra Magne 38.94 140 P **P** **20 38 43.5 +1.8**
baz=39,SNR=4.8
HNR Honiara 39.93 96 *e*P P 20 38 44.5 -5.5
comp=Z,276nm,1.1s
CD2 Chengdu 41.01 339⇑ *i*P **P** **20 38 58.3 -0.2**
CD2 pP **pP** **20 40 22.5 +0.8**
CD2 PP **PP** **20 40 44.5 -0.8**
CD2 sP **sP** **20 41 11.3 -0.6**
CD2 S **S** **20 44 39.0 +1.1**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,240nm,5.9s
XAN Xi'an 42.45 347 P **P** **20 39 09.0 -0.9**
XAN pmax pmax
comp=Z,5.0nm,0.9s
KSAR Wonju Array Be 45.28 9 P **P** **20 39 31.9 0.0**
KSRS Korea Array 45.30 9 P **P** **20 39 31.9 -0.1**
comp=Z,2.1nm,0.8s,baz=190,slow=7.4,SNR=8.3
LZH Lanzhou 45.73 342 *e*P **P** **20 39 36.5 +0.9**
LZH pP **PcP** **20 41 03.8 -0.9**
LZH sP **sP** **20 41 52.5 +2.0**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.3s
ODAN Odare 46.21 319 *e*P **P** **20 39 39.3 -0.3**
TAPN Taplejung 46.34 319 *e*P **P** **20 39 40.5 -0.1**
comp=Z,205nm,0.9s
RAMN Ramite 46.79 318 *e*P **P** **20 39 43.9 -0.1**
MJAR Matsushiro Arr 47.07 21 P **P** **20 39 43.1 -2.6**
comp=Z,1.5nm,0.8s,baz=204,slow=8.9,SNR=8.0
MJAR ScP **ScP** **20 44 20.4 0.0**
comp=Z,2.1nm,0.8s,baz=199,slow=5.7,SNR=6.2
MJAR Matsushiro Arr 47.07 21 P **P** **20 39 43.1 -2.6**
MJAR ScP **ScP** **20 44 20.4 0.0**
MAJO Matsushiro 47.07 21 *e*P P 20 39 42.5 -3.2
MAJO Matsushiro 47.07 21 *e*P P 20 39 42.5 -3.2
BJI Beijing 47.31 356 P **P** **20 39 46.5 -0.9**
BJI S S 20 46 18.8 +12
BJI pmax pmax
comp=Z,19nm,0.9s
DZM Mont Dzumac 47.37 113 P **P** **20 39 48.8 +0.4**
comp=Z,19nm,0.9s,baz=266,slow=13,SNR=6.1
DZM Mont Dzumac 47.37 113 P **P** **20 39 48.8 +0.4**
HYB Hyderabad 47.48 302 *i*P **P** **20 39 48.5 -0.6**
GUN Gumba 47.91 319 *e*P **P** **20 39 52.2 -0.4**
comp=Z,199nm,0.8s
PKI Pulchoki 48.00 318 *e*P **P** **20 39 52.4 -0.8**
comp=Z,52nm,0.4s
PKIN Phulchoki 48.01 318 *e*P **P** **20 39 52.5 -0.8**
comp=Z,24nm,0.4s
DMN Daman 48.22 318 *e*P **P** **20 39 54.3 -0.6**
KKN Kakani 48.23 318 *e*P **P** **20 39 54.2 -0.6**
HHC Hu-ho-hao-te 48.58 352 *e*P **P** **20 39 57.0 -0.1**
HHC pP **pP** **20 41 24.0 +0.2**
HHC PP **PP** **20 41 56.8 +1.3**
HHC sP **sP** **20 42 13.5 +0.5**
HHC S **S** **20 46 25.5 +0.4**
HHC SS **SS** **20 50 02.5 +0.1**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,420nm,6.0s
KOLN Koldanda 49.34 317 *e*P **P** **20 40 02.4 -0.8**
DANN Dangsing 49.61 317 *e*P **P** **20 40 04.6 -0.6**
comp=Z,241nm,0.6s
PYUN Piuthan 49.97 317 *e*P **P** **20 40 06.9 -0.9**
GTA Gaotai 50.06 340 *e*P **P** **20 40 08.5 +0.3**
GTA pP **pP** **20 41 37.0 +1.5**
GTA sP **sP** **20 42 25.5 +1.0**
GTA ScP **ScP** **20 44 34.5 +1.2**
GTA pmax pmax
comp=Z,16nm,1.2s
CN2 Changchun 51.24 5 *e*P **P** **20 40 18.0 +1.4**
CN2 *e*pP **pP** **20 41 47.0 +2.6**
CN2 *e*S **S** **20 46 59.0 -2.0**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
MDJ Mudanjiang 52.56 9 P **P** **20 40 25.3 -0.8**
MDJ pP **pP** **20 41 52.5 -2.0**
MDJ S **S** **20 47 16.0 -2.7**
MDJ pmax pmax
comp=Z,8.0nm,2.1s
MDJ pmax pmax
comp=Z,110nm,4.5s
USRK Ussuriysk Arra 52.57 11 P **P** **20 40 25.6 -0.6**
comp=Z,5.9nm,0.7s,baz=199,slow=8.7,SNR=11
ERM Erimo 53.69 22*ce*P **P** **20 40 33.8 -0.4**
ERM pmax pmax
comp=Z,85nm,1.2s
ULN Ulaanbaatar 56.14 350 *e*P **P** **20 40 51.4 -0.2**
comp=Z,13nm,1.1s
ULN *e*ScP **ScP** **20 45 00.1 +0.5**
ULN Ulaanbaatar 56.14 350 P **P** **20 40 51.9 +0.3**
SNR=6.2
ULN Ulaanbaatar 56.14 350 P **P** **20 40 51.5 -0.2**
comp=Z,12nm,1.2s
SONM Songino Array 56.23 349 P **P** **20 40 52.1 -0.1**
comp=Z,12nm,0.8s,baz=164,slow=9.2,SNR=107
SONM ScP **ScP** **20 45 00.9 +0.9**
comp=Z,1.5nm,1.0s,baz=180,slow=7.4,SNR=5.6
SONM PKPPKP **P'P'df** **21 10 41.3 -1.7**
comp=Z,0.6nm,0.8s,baz=329,slow=3.7,SNR=7.1
SONM Songino Array 56.23 349 P **P** **20 40 52.1 -0.1**
SONM ScP **ScP** **20 45 00.9 +0.9**
SONM P'P' 21 10 41.3
RPZ Rata Peaks 57.56 138 P **P** **20 41 02.3 +0.9**
comp=Z,69nm,0.8s,baz=276,slow=2.1,SNR=29
RPZ Rata Peaks 57.56 138 *e*P **P** **20 41 01.6 +0.1**
comp=Z,80nm,0.9s
WMQ Urumqi 58.60 333 P **P** **20 41 08.5 -0.1**
WMQ pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 59.27 348 *e*P **P** **20 41 12.3 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
URZ Urewera 60.10 130 P **P** **20 41 18.6 -0.1**
comp=Z,19nm,0.8s,baz=24,slow=5.6,SNR=12
URZ Urewera 60.10 130 *e*P **P** **20 41 18.4 -0.3**
comp=Z,21nm,0.8s
TLY Talaya 60.43 349 *e*P **P** **20 41 19.5 -1.1**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 60.43 349 *e*P **P** **20 41 19.8 -0.8**
comp=Z,11nm,0.9s
TLY Talaya 60.43 349 P **P** **20 41 21.3 +0.7**
SNR=5.2
MOY Mondy 60.98 347 *e*P **P** **20 41 24.6 +0.2**
KSH Kashi 61.70 323 P **P** **20 41 28.8 -0.6**
KSH *e*PcP **PcP** **20 42 07.3 +1.4**
KSH pP **pP** **20 43 03.8 +2.3**
KSH sP **sP** **20 43 51.0 +1.8**
KSH PP **PP** **20 43 56.5 +4.4**
KSH ScP **ScP** **20 45 25.0 +0.5**
KSH S **S** **20 49 17.5 +0.4**
KSH ScS **SKKSac** **20 50 36.0 -0.6**
KSH sS **sS** **20 52 02.0 +0.4**
KSH SS **SS** **20 53 31.8 +3.2**
KSH pmax pmax
comp=Z,25nm,0.9s
KSH pmax pmax
comp=Z,51nm,2.6s
MK31 Makanchi Array 63.33 332*ce*P **P** **20 41 39.2 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK31 Makanchi Array 63.33 332 *e*P **P** **20 41 39.1 -0.6**
MK31 *e*PcP PcP 20 42 04.4 -7.9
MKAR Makanchi Array 63.33 332 P **P** **20 41 39.5 -0.3**
comp=Z,10nm,0.6s,baz=151,slow=7.5,SNR=222
MKAR Makanchi Array 63.33 332 P **P** **20 41 39.5 -0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 63.33 332 P **P** **20 41 39.5 -0.3**
KBL Kabul 63.40 315 *e*P **P** **20 41 39.3 -1.4**
KBL pmax pmax
comp=Z,25nm,0.8s
KBL Kabul 63.40 315 *e*P **P** **20 41 39.3 -1.4**
comp=Z,25nm,0.8s
KZA Kyzart 63.74 325 P **P** **20 41 43.1 +0.1**
SNR=18
TKM2 Tokmak 2 64.08 325 *i*P **P** **20 41 44.4 -0.5**
TKM2 Tokmak 2 64.08 325 P **P** **20 41 44.5 -0.5**
SNR=8.7
KBK Karagaybulak 64.28 325 P **P** **20 41 45.5 -0.7**
SNR=12
AAK Ala-Archa 64.53 325 *e*P **P** **20 41 47.2 -0.5**
AAK pmax pmax
comp=Z,43nm,0.9s
AAK Ala-Archa 64.53 325 *e*P **P** **20 41 47.2 -0.5**
comp=Z,43nm,0.9s
AAK *e*pP **pP** **20 43 15.9 -5.0**
AAK Ala-Archa 64.53 325 P **P** **20 41 47.8 0.0**
SNR=5.9
AAK Ala-Archa 64.53 325 P **P** **20 41 47.7 0.0**
SNR=14
AML Almayashu 64.68 324 P **P** **20 41 48.6 -0.4**
SNR=26
USP Ospenovka 64.92 325 P **P** **20 41 49.5 -0.5**
SNR=9.6
EKS2 Erkin-Say 64.96 324 P **P** **20 41 50.1 -0.3**
SNR=15
KK31 Karatay Array 67.14 323*ce*P **P** **20 42 02.6 -1.4**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
SMDO Samad 67.35 299 P **P** **20 42 05.4 -0.3**
SNR=6.1
ZAA0 Zalesovo Array 67.78 339 *e*P **P** **20 42 06.3 -1.3**
ZALV Zalesovo Beam 67.78 339 P **P** **20 42 06.5 -1.1**
comp=Z,6.5nm,0.3s,baz=135,slow=4.1,SNR=63
ZALV Zalesovo Beam 67.78 339 P **P** **20 42 06.5 -1.1**
ZALV pmax pmax
comp=Z,7.0nm,0.3s
ZALV Zalesovo Beam 67.78 339 P **P** **20 42 06.5 -1.1**
KURK Kurchatov 67.85 333 *e*P **P** **20 42 07.2 -0.8**
KURK *e* 20 42 32.3
KURK pmax pmax
comp=Z,18nm,0.9s
KURK Kurchatov 67.85 333 *e*P **P** **20 42 07.2 -0.8**
comp=Z,18nm,0.9s
KURK *e*PcP **PcP** **20 42 32.3 +1.4**
KURK Kurchatov 67.85 333 P **P** **20 42 08.0 -0.1**
SNR=6.7
HOQ Hoqain 68.16 299 P **P** **20 42 10.4 -0.2**
SNR=5.6
PETK Petropavlovsk- 68.38 24 P **P** **20 42 11.6 +0.3**
comp=Z,2.9nm,0.6s,baz=200,slow=4.9,SNR=13
PETK Petropavlovsk- 68.38 24 P **P** **20 42 11.6 +0.3**
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK Petropavlovsk- 68.38 24 P **P** **20 42 11.6 +0.3**
NVS Novosibirsk 69.06 338 *e*P **P** **20 42 13.5 -1.8**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
YAK Yakutsk 69.67 5 *i*P **P** **20 42 18.5 -0.4**
YAK pmax pmax
comp=Z,11nm,1.5s
YAK Yakutsk 69.67 5 P **P** **20 42 17.3 -1.5**
ABTO Aybut 69.97 291 P **P** **20 42 20.9 -0.9**
SNR=5.5
BVA0 Borovoye Array 73.19 331 *i*P **P** **20 42 38.5 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 73.26 331*ce*P **P** **20 42 39.6 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
BRVK Borovoye 73.26 331 *e*P **P** **20 42 39.2 -1.0**
comp=Z,13nm,1.2s
VNDA Vanda 73.46 171 P **P** **20 42 42.3 +1.3**
comp=Z,2.4nm,0.5s,baz=311,slow=6.0,SNR=16
VNDA Vanda 73.46 171 *e*P **P** **20 42 41.9 +0.9**
comp=Z,12nm,1.4s
SBA Scott Base 74.45 171 *e*P **P** **20 42 48.7 +2.0**
SBA pmax pmax
comp=Z,10.0nm,1.1s
SBA Scott Base 74.45 171 *e*P **P** **20 42 48.7 +2.0**
comp=Z,9.7nm,1.1s
SEY Seymchan 74.47 15*d i*P **P** **20 42 47.5 +0.6**
AB31 Akbulak array 76.62 324*ce*P **P** **20 42 57.6 -1.6**
RDF Al-Radifah 78.11 302 *e*P **P** **20 43 07.7 -0.2**
RDF AMb AMB 20 43 08.9
comp=Z,33nm,1.2s
UMR Umm Al-Rimmam 78.13 302 *e*P **P** **20 43 07.1 -0.8**
NAY Al-Naaiem 78.45 302 *e*P **P** **20 43 08.8 -0.9**
NAY AMb AMB 20 43 09.9
comp=Z,14nm,1.1s
MIB Mutribah 78.51 302 *e*P **P** **20 43 09.3 -0.7**
MIB AMb AMB 20 43 10.3
comp=Z,32nm,1.0s
SYO Syowa Base 79.55 201⇑ *e*PcP **PcP** **20 43 22.2 +1.2**
SVE Sverdlovsk 79.98 331⇑ *i*P **P** **20 43 16.6 -0.6**
SVE pmax pmax
comp=Z,18nm,1.2s
ARU Arti 80.78 330*c i*P **P** **20 43 20.4 -1.0**
ARU 20 46 31.5
ARU S **S** **20 52 51.3 -0.7**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 80.78 330 *e*P **P** **20 43 19.8 -1.6**
comp=Z,6.4nm,1.1s
BILL Bilibino 82.10 16⇓ *e*P **P** **20 43 27.9 -0.1**
BILL *e* 20 46 39.4
BILL *e*S **S** **20 53 04.6 -0.3**
BILL pmax pmax
comp=Z,2.0nm,1.2s
KMBO Kilima Mbogo 82.28 270 *e*P **P** **20 43 30.7 +0.3**
comp=Z,1.2nm,0.6s
GNI Garni 83.33 312 P **P** **20 43 34.7 -0.4**
comp=Z,6.9nm,1.0s
ZEI Tsey 84.63 314 *e*P **P** **20 43 41.3 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KBZ Khabaz 85.58 315 P **P** **20 43 46.0 +0.1**
comp=Z,4.3nm,0.8s,baz=158,slow=1.3,SNR=7.8
KBZ Khabaz 85.58 315 P **P** **20 43 46.0 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 85.58 315 P **P** **20 43 46.0 +0.1**
KIV Kislovodsk 85.79 315⇑ *e*P **P** **20 43 45.8 -1.2**
KIV *e* 20 47 14.7
KIV *e*S S 20 53 26.2 -16
KIV pmax pmax
comp=Z,10.0nm,1.2s
KIV Kislovodsk 85.79 315 P **P** **20 43 46.8 -0.2**
comp=Z,5.6nm,0.9s
LSZ Lusaka 89.44 255 *e*P **P** **20 44 04.8 -0.1**
BOSA Boshof 90.30 241 P **P** **20 44 08.9 +0.3**
comp=Z,4.8nm,0.9s,baz=90,slow=6.7,SNR=5.4
BOSA Boshof 90.30 241 *e*P **P** **20 44 08.8 +0.1**
comp=Z,6.9nm,1.0s
BRTR Keskin Array B 91.59 310 P **P** **20 44 12.8 -1.6**
comp=Z,1.4nm,0.9s,baz=99,slow=7.6,SNR=7.8
BRTR Keskin Array B 91.59 310 P **P** **20 44 12.8 -1.6**
OBN Obninsk 92.05 325⇑ *e*P **P** **20 44 15.3 -0.5**
OBN *e*S **SKSac** **20 54 07.7 +2.1**
OBN pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 92.69 196 P **P** **20 44 19.4 +0.8**
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 95.92 320 P **P** **20 44 31.8 -1.8**
comp=Z,0.4nm,0.5s,baz=69,slow=4.8,SNR=4.3
AKASG Malin Array Be 95.92 320 P **P** **20 44 31.8 -1.8**
AKASG Malin Array Be 95.92 320 P **P** **20 44 31.8 -1.8**
YKA Yellowknife Ar 112.50 24 PKiKP **PKiKP** **20 49 39.5 -0.4**
comp=Z,0.1nm,0.4s,baz=312,slow=1.9,SNR=4.7
YKA SKP 20 52 32.4
comp=Z,0.3nm,0.8s,baz=307,slow=2.5,SNR=5.8
YKA Yellowknife Ar 112.50 24 PKiKP **PKiKP** **20 49 39.5 -0.4**
YKA SKP 20 52 32.4
TORD Torodi Ar. Bea 118.77 281 PKP **PKPdf** **20 49 52.8 -0.6**
comp=Z,0.7nm,0.7s,baz=26,slow=2.5,SNR=8.8
TORD SKP 20 52 47.4
comp=Z,1.1nm,0.9s,baz=63,slow=1.6,SNR=5.0
TORD Torodi Ar. Bea 118.77 281 PKP **PKPdf** **20 49 52.8 -0.6**
TORD SKP 20 52 47.4
SCHQ Schefferville 132.42 5 SKPbc **SKPbc** **20 53 02.6 -0.7**
comp=Z,5.4nm,0.9s,baz=9.1,slow=5.1,SNR=8.7
SCHQ Schefferville 132.42 5 SKPbc **SKPbc** **20 53 02.6 -0.7**
TXAR Lajitas Array 133.85 56 SKPab **SKPbc** **20 53 10.2 +1.2**
comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=3.7
TXAR Lajitas Array 133.85 56 SKPab **SKPbc** **20 53 10.2 +1.2**
SADO Sadowa 139.36 21 SKPbc **SKPbc** **20 53 24.3 -0.4**

comp=Z,7.5nm,1.1s,baz=288,slow=3.2,SNR=3.7

SADO	Sadowa	139.36	21	SKPbc	SKPbc	20 53 24.3	-0.4
TKL	Tuckaleechee C	144.65	34	PKP	PKPab	20 50 41.3	-0.2
	comp=Z,5.5nm,0.4s,baz=185,slow=4.4,SNR=20						
TKL	Tuckaleechee C	144.65	34	PKP	PKPab	20 50 41.3	-0.2
CMIG	Matias Romero	145.00	71	PKP	PKPab	20 50 43.5	+0.2
	comp=Z,10nm,0.9s,baz=281,slow=3.7,SNR=11						
CMIG	Matias Romero	145.00	71	PKP	PKPab	20 50 43.5	+0.2
LPAZ	La Paz	155.24	162	PKPab	PKPab	20 51 28.0	+1.8
	comp=Z,4.9nm,0.7s,baz=185,slow=3.6,SNR=15						
LPAZ	La Paz	155.24	162	PKPab	PKPab	20 51 28.0	+1.8

*ISCJB **28** 21:00:10.2±0.2, 43˚.75N±0˚.01×105˚.29W±0˚.03, h0km, Error ellipse: s-maj=2.7km s-min=2.1km az=172.3*
*IDC **28** 21:00:11.7±1.9, 43˚.91N×105˚.60W, h0km, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=49.7km s-min=9.3km az=147.0*
*NEIC **28** 21:00:11.2±0.3, 43˚.78N×105˚.29W, h0km, ML3.1, Error ellipse: s-maj=5.8km s-min=4.4km az=143.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 28 21:00:10.6±0.7, 43.77N±0.02×105.34W±0.02, h0km, n103, σ1.925/125, 37C-31D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.21	334	⇓P		Pg		21 00 16.6	+1.9
	baz=0.2,SNR=258								
I23A				⇑S		Sg		21 00 19.3	+1.9
	baz=0.2								
J23A	Dilts Ranch, B	0.40	203	P		Pg		21 00 18.8	+0.6
	baz=0.4,SNR=184								
J23A				⇑S		Sg		21 00 23.9	+0.5
	baz=0.4								
I24A	Kuemmerle Ranc	0.52	80	P		Pg		21 00 21.0	+0.4
	baz=0.5,SNR=198								
J24A	Dixon Ranch, L	0.66	132	⇑P		Pg		21 00 23.0	-0.1
	baz=0.6,SNR=92								
H23A	Clabaugh Catl	0.79	357	⇓P		Pg		21 00 26.4	+0.6
	baz=0.8,SNR=22								
I22A	9 Mile Ranch,	0.84	279	P		Pg		21 00 27.5	+0.8
	baz=0.9,SNR=642								
I22A				⇑Sb		Sn		21 00 41.4	-1.6
	baz=0.9								
J22A	Midwest	0.91	247	P		Pg		21 00 27.9	0.0
	baz=0.9,SNR=211								
RSSD	Black Hills	1.00	69	*e*Pg		Pg		21 00 29.6	-0.2
RSSD				*e*S		Sb		21 00 46.2	+1.4
K23A	Bowen Ranch, D	1.04	192	⇓P		Pg		21 00 30.7	+0.2
	baz=1.1,SNR=7.2								
H22A	Clearmont	1.10	319	P		Pb		21 00 32.5	-0.1
	baz=1.1,SNR=173								
K24A	Anderson Ranch	1.11	160	⇓P		Pg		21 00 31.9	0.0
	baz=1.1								
H24A	Dirks Ranch, A	1.13	30	⇓P		Pg		21 00 32.0	-0.2
	baz=1.1								
K22A	Casper	1.42	218	⇓P		Pn		21 00 36.9	-0.9
	baz=1.4,SNR=260								
I21A	Big Trails, Te	1.42	272	⇓P		Pg		21 00 36.9	-0.8
	baz=1.4								
G23A	Biddle	1.43	358	P		Pn		21 00 37.8	-0.1
	baz=1.4,SNR=192								
H21A	Big Horn, Sher	1.50	305	P		Pb		21 00 39.5	+0.1
	baz=1.5,SNR=99								
K25A	Mack Ranch, Ha	1.58	137	P		Pn		21 00 40.1	+0.1
	baz=1.6,SNR=132								
J21A	Lysite	1.59	255	P		Pn		21 00 39.9	-0.3
	baz=1.6,SNR=35								
G22A	Birney	1.60	335	P		Pg		21 00 41.3	0.0
	baz=1.6,SNR=74								
L23A	Garrett	1.68	189	P		Pn		21 00 41.0	-0.4
	baz=1.7,SNR=228								
L23A				⇑S		Sn		21 01 04.4	+0.6
	baz=1.7								
G24A	Alzada	1.69	23	⇑P		Pn		21 00 42.3	+0.8
	baz=1.7,SNR=42								
L24A	Wheatland	1.75	170	⇑P		Pn		21 00 42.2	-0.1
	baz=1.8								
K21A	Alcova	1.80	232	P		Pn		21 00 43.8	+0.6
	baz=1.8,SNR=77								
L25A	Engebretsen Ra	1.90	148	⇑P		Pn		21 00 45.3	+0.9
	baz=1.9								
K26A	Motz Farm, Whi	1.90	123	⇑P		Pn		21 00 44.9	+0.5
	baz=1.9,SNR=51								
L22A	Ellis Ranch, M	1.92	205	⇓P		Pn		21 00 45.2	+0.5
	baz=1.9								
G21A	Lodge Grass	1.98	318	P		Pb		21 00 46.5	-1.0
	baz=2.0,SNR=81								
G21A				⇓Sb		Sg		21 01 15.3	+1.2
	baz=2.0								
I20A	Worland	2.03	276	⇑P		Pn		21 00 47.3	+1.1
	baz=2.1,SNR=246								
I20A				⇑Sb		Sg		21 01 16.0	+0.2
	baz=2.1								
J20A	Shoshoni	2.04	259	⇓Pb		Pb		21 00 48.9	+0.3
	baz=2.1								
H20A	Greybull	2.05	291	⇓P		Pn		21 00 47.1	+0.7
	baz=2.1								
H20A				⇓Sb		Sg		21 01 16.9	+0.5
	baz=2.1								
F22A	Rosebud	2.11	342	⇑P		Pn		21 00 47.7	+0.4
	baz=2.1,SNR=98								
F22A				⇓Sb		Sg		21 01 19.3	+0.9
	baz=2.1								
F24A	Ekalaka	2.17	17	⇑P		Pn		21 00 49.4	+1.3
	baz=2.2,SNR=33								
F24A				⇑Sb		Sg		21 01 21.0	+0.7
	baz=2.2								
K20A	Yellowstone Ra	2.46	244	⇓Sb		Sb		21 01 28.1	+1.3
	baz=2.5								
PHWY	Pilot Hill	2.47	182	*e*Pn		Pn		21 00 52.0	-0.4
PHWY				*e*S		Sb		21 01 27.5	+0.4
G20A	Bridger	2.52	306	P		Pn		21 00 53.3	+0.4
	baz=2.5,SNR=231								
M22A	Cedar Creek Ra	2.54	202	⇓Sb		Sb		21 01 31.7	+2.5
	baz=2.6								
I19A	Meeteetse	2.66	277	P		Pn		21 00 56.5	+1.6
	baz=2.7,SNR=43								
E22A	Miles City	2.70	351	P		Pn		21 00 55.8	+0.4
	baz=2.7,SNR=14								
E22A				⇓Sb		Sg		21 01 35.1	-2.3
	baz=2.7								
E23A	Ismay	2.73	0	⇓P		Pn		21 00 56.2	+0.6
	baz=2.7,SNR=18								
J19A	Crowheart	2.75	261	⇑Sb		Sg		21 01 37.4	-1.6
	baz=2.8								
H19A	Powell	2.77	290	⇑P		Pn		21 00 57.7	+1.3
	baz=2.8,SNR=35								
L20A	Wamsutter	2.83	232	⇑Sb		Sg		21 01 40.7	-0.6
	baz=2.8								
F20A	Billings	2.85	316	P		Pn		21 00 57.9	+0.5
	baz=2.9,SNR=16								
F20A				⇓Sb		Sg		21 01 41.2	-1.1
	baz=2.9								
E24A	Baker	2.88	14	⇓P		Pn		21 00 59.0	+1.1
	baz=2.9,SNR=36								
RLMT	Red Lodge	3.12	297	*e*Pn		Pn		21 01 02.1	+0.8
RLMT				*e*S		Sb		21 01 45.8	0.0
H18A	Shoshone NF, C	3.24	288	⇑P		Pn		21 01 03.5	+0.6
	baz=3.3,SNR=13								
PDAR	Pinedale Array	3.24	253	Pn		Pn		21 01 05.4	+2.4
	3.4nm,0.3s,baz=68,slow=16,SNR=41								
PDAR				Lg		Lg		21 01 48.4	
	3.3nm,0.3s,baz=69,slow=36,SNR=5.2								
PDAR	Pinedale Array	3.24	253	Pn		Pn		21 01 05.4	+2.4
PDAR				Lg		Lg		21 01 48.4	
BW06	Boulder Array	3.24	253	*e*Pn		Pn		21 01 04.0	+1.0
BW06				*e*S		Sb		21 01 49.2	-0.1
F19A	Roth Farm, Mol	3.31	310	P		Pn		21 01 05.0	+1.2
	baz=3.3,SNR=37								
F19A				⇑S		Sn		21 01 45.2	+1.4
	baz=3.3								
E20A	Meyer Farm, Mu	3.37	325	⇓P		Pn		21 01 05.4	+0.8
	baz=3.4								
G18A	Lazy EL Ranch,	3.40	299	⇓P		Pn		21 01 06.0	+1.0
	baz=3.4,SNR=52								
D23A	Lindsay	3.40	1	⇑P		Pn		21 01 05.9	+0.8
	baz=3.4,SNR=32								
D24A	Glendive	3.42	12	⇓P		Pn		21 01 06.8	+1.6
	baz=3.4								
D22A	Cohagen	3.43	350	⇑P		Pn		21 01 06.1	+0.8
	baz=3.4,SNR=26								
E19A	Rath Farm, Rou	3.63	319	⇓P		Pn		21 01 08.5	+0.3
	baz=3.6,SNR=22								
GCMT	Greycliff	3.69	305	*e*Pn		Pn		21 01 10.1	+1.1
GCMT				*e*S		Sb		21 02 04.7	+2.7
OGNE	Ogallala	3.74	138	*e*Pn		Pn		21 01 10.5	+0.9
OGNE				*e*S		Sg		21 02 11.1	+0.5
F18A	Big Timber	3.78	306	⇑P		Pn		21 01 11.8	+1.6
	baz=3.8,SNR=14								
C24A	Savage	3.81	9	⇑P		Pn		21 01 12.3	+1.7
	baz=3.8,SNR=21								
D20A	Manuel Ranch,	3.86	330	⇑P		Pn		21 01 11.6	+0.3
	baz=3.9,SNR=15								
ISCO	Idaho Springs	3.97	183	*e*Pn		Pn		21 01 14.2	+1.2
C22A	Vida	3.99	355	⇑P		Pn		21 01 14.8	+1.7
	baz=4.0,SNR=12								
C23A	Lambert	4.03	1	⇑P		Pn		21 01 15.3	+1.6
	baz=4.0,SNR=56								
E18A	Harlowton	4.28	312	P		Pn		21 01 18.5	+1.4
	baz=4.3,SNR=19								
AHID	Auburn Hatcher	4.33	259	*e*Pn		Pn		21 01 18.4	+0.5
F17A	Fitzpatrick Pl	4.35	301	⇓P		Pn		21 01 19.5	+1.5
	baz=4.4,SNR=23								
P26A	Davis Ranch, A	4.46	160	⇓P		Pn		21 01 20.1	+0.5
	baz=4.5								
C19A	Slack Wire Ran	4.74	328	⇑P		Pn		21 01 24.4	+1.1
	baz=4.7,SNR=22								
E17A	Martinsdale	4.75	306	⇑P		Pn		21 01 24.9	+1.4
	baz=4.8,SNR=20								
DGMT	Dagmar	4.77	9	*e*Pn		Pn		21 01 25.0	+1.3
DGMT				*e*S		Sg		21 02 38.6	-5.0
BOZ	Bozeman (W)	4.86	295	*e*Pn		Pn		21 01 21.6	-3.5
BOZ				*e*S		Sg		21 02 46.0	-0.8
D17A	Six Diamond Ra	5.06	314	⇑P		Pn		21 01 28.7	+0.8
	baz=5.1,SNR=54								
HWUT	Hardware Ranch	5.08	247	*e*Pn		Pn		21 01 28.4	+0.3
	8.4nm,0.4s								
A24A	Westby	5.24	10	⇑P		Pn		21 01 30.8	+0.7
	baz=5.2,SNR=19								
A22A	Carney Farms,	5.24	356	⇑P		Pn		21 01 30.6	+0.4
	baz=5.2,SNR=9.4								
EGMT	Eagleton	5.25	326	*e*Pn		Pn		21 01 30.7	+0.3
	19nm,0.4s								
EGMT				*e*S		Sn		21 02 25.8	-5.9
E16A	East Helena	5.27	304	⇓P		Pn		21 01 31.1	+0.4
	baz=5.3,SNR=8.7								
C17A	Wharram Farm,	5.42	317	⇑P		Pn		21 01 33.5	+0.8
	baz=5.4,SNR=8.9								
MCMT	McKenzie Canyo	5.50	284	*e*Pn		Pn		21 01 27.9	-6.1
MCMT				*e*Pg		Pg		21 01 54.0	-1.9
JLU	Jordanelle	5.54	237	*e*Pn		Pn		21 01 33.8	-0.7
	6.1nm,0.5s								
R26A	Arlington	5.65	165	P		Pn		21 01 36.0	+0.1
	baz=5.7,SNR=20								
R25A	Fountain Ranch	5.67	172	⇑P		Pn		21 01 36.2	0.0
	baz=5.7,SNR=7.8								
R27A	Eads	5.80	160	⇑P		Pn		21 01 38.4	+0.4
	baz=5.8,SNR=5.3								
E15A	Deer Lodge	5.81	300	⇑P		Pn		21 01 38.8	+0.6
	baz=5.8,SNR=15								
HVU	Hansel Valley	5.83	253	*e*Pn		Pn		21 01 39.7	+1.3
PV04	Paradox Valley	6.01	208	*e*Pn		Pn		21 01 42.2	+1.3
D15A	Lincoln	6.02	305	⇓P		Pn		21 01 41.8	+0.7
	baz=6.0,SNR=8.1								
C16A	Fuhringer Ranc	6.03	314	⇓P		Pn		21 01 41.3	+0.2
	baz=6.0,SNR=7.6								
SRU	San Rafael	6.07	222	*e*Pn		Pn		21 01 41.6	-0.2
	315nm,0.4s								
SRU				*e*S		Sg		21 03 23.9	-1.7
TMUT	Trail Mountain	6.28	227	*e*Pn		Pn		21 01 45.9	+1.2
	8.9nm,0.4s								
S26A	Kim	6.30	166	⇑P		Pn		21 01 45.1	+0.2
	baz=6.3,SNR=7.8								
ECSD	EROS Data Cent	6.32	87	*e*Pn		Pn		21 01 45.4	+0.4
	5.8nm,0.4s								
ECSD				*e*S		Sg		21 03 32.2	-1.2
B16A	M & M Farms, S	6.42	319	⇓P		Pn		21 01 46.7	+0.3
	baz=6.4,SNR=14								
Q16A	Castle Valley	6.54	224	⇓P		Pn		21 01 49.0	+0.8
	baz=6.6,SNR=16								
DUG	Dugway	6.62	240	*e*Pn		Pn		21 01 49.9	+0.7
	2.6nm,0.4s								
D14A	Greenough	6.63	303	⇑P		Pn		21 01 50.0	+0.6
	baz=6.6,SNR=8.9								
C14A	Swan Lake	7.11	307	⇓P		Pn		21 01 57.1	+1.2
	baz=7.1,SNR=11								
MSU	Marysvale	7.36	227	*e*Pn		Pn		21 02 01.0	+1.4
	2.5nm,0.4s								
ULM	Lac du Bonnet	9.15	42	Pn		Pn		21 02 22.9	-0.8
	1.1nm,0.3s,baz=228,slow=11,SNR=7.4								
ULM				Lg		Lg		21 04 52.9	
	0.3nm,0.3s,baz=317,slow=19,SNR=2.3								
ULM	Lac du Bonnet	9.15	42	Pn		Pn		21 02 22.9	-0.8
ULM				Lg		Lg		21 04 52.9	
YKA	Yellowknife Ar	19.52	347	P		P		21 04 39.3	0.0
	0.1nm,0.3s,baz=163,slow=13,SNR=8.4								
YKA	Yellowknife Ar	19.52	347	P		P		21 04 39.3	0.0

FUNV 28 21:00:12.0, 8˚.37N×63˚.07W, h1km, MW3.6, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GURV	El Guri	0.60	182	*e*P		Pg		21 00 23.8	+0.1
GURV				*e*S		Sg		21 00 32.3	+0.8
ORIV	Oritupano	0.78	334	*e*P		Pg		21 00 27.1	+0.1
ORIV				*e*S		Sg		21 00 38.2	+1.2
RIOV	Rio Grande	1.27	103	*e*P		Pg		21 00 35.6	-0.9
RIOV				*e*S		Sg		21 00 52.7	-0.3
PRGV	PARIAGUAN	1.61	284	*e*P		Pn		21 00 41.2	-0.4
PRGV				*e*S		Sn		21 01 02.6	-0.4
GUNV	Guanoco	1.79	4	*e*P		Pn		21 00 43.4	-0.6
GUNV				*e*S		Sn		21 01 06.4	-1.0
CRUV	Carupano	2.30	356	*e*P		Pn		21 00 49.7	-1.4
CRUV				*e*S		Sn		21 01 17.7	-2.3
PCRV	Puerto La Cruz	2.37	319	*e*P		Pn		21 00 51.1	-1.1
PCRV				*e*S		Sn		21 01 19.5	-2.4
GUIV	Guiria	2.41	20	*e*P		Pn		21 00 52.2	-0.5
GUIV				*e*S		Sn		21 01 21.3	-1.5
LUEV	Luepa	2.97	148	*e*P		Pn		21 01 00.2	-0.3
LUEV				*e*S		Sn		21 01 35.2	-1.8
CUPV	Cœpira	3.17	302	*e*P		Pn		21 01 02.3	-0.9
CUPV				*e*S		Sn		21 01 38.8	-2.9
MERV	Las Mercedes	3.31	286	*e*P		Pn		21 01 04.4	-0.6
MERV				*e*S		Sn		21 01 43.0	-2.1
BIRV	Birongo	3.79	304	*e*P		Pn		21 01 10.5	-1.2
BIRV				*e*S		Sn		21 01 53.0	-3.9
BAUV	El Baul	4.95	277	*e*P		Pn		21 01 25.5	-2.1
BAUV				*e*S		Sn		21 02 20.6	-5.0

*IDC **28** 21:05:38.0±0.7, 23˚.18S×174˚.70W, h0km, mb4.3/13, mb1 4.6/13, mb1mx4.4/20, mbtmp4.3/13, MS3.8/3, Ms1 3.8/3, ms1mx3.2/35, Error ellipse: s-maj=26.6km s-min=18.1km az=145.0*
*ISCJB **28** 21:05:42.4±0.3, 23˚.16S±0˚.09×174˚.81W±0˚.06, h36km, mb4.4/17, MS3.8/2, Error ellipse: s-maj=14.1km s-min=6.8km az=160.4*
*NEIC **28** 21:05:45.6±2.0, 23˚.15S×174˚.76W, h55km±17km, mb4.9/3, Error ellipse: s-maj=15.1km s-min=11.7km az=125.0*

ISC 28 21:05:43.7±0.5, 23˚.2S±0˚.1×174˚.7W±0˚.1, h36km, n144, σ0.968/141, mb4.3/17, 39C-57D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.74	307	*e*Pn		Pn		21 07 46.9	-0.8
	16nm,0.8s								
RAR	Rarotonga	13.95	85	Pn		Pn		21 08 49.1	-10
	5.7nm,0.3s,baz=270,slow=7.0,SNR=14								
RAR				Sn		Sn		21 11 08.5	-24
	2.0nm,0.3s,baz=90,slow=20,SNR=5.6								
RAR				LR		LR		21 12 39.2	
	comp=Z,286nm,21.3s,baz=90,slow=30								
RAR	Rarotonga	13.95	85	*e*Pn		Pn		21 08 48.8	-10
RAR				Sn		Sn		21 11 08.5	-24
URZ	Urewera	16.54	203	Pn		P		21 09 34.8	-0.3
	0.3nm,0.3s,baz=37,slow=10,SNR=3.1								
URZ				Sn		Sn		21 12 22.3	-13
	0.2nm,0.3s,baz=335,slow=19,SNR=3.8								
URZ	Urewera	16.54	203	Pn		P		21 09 34.8	-0.3
URZ				Sn		Sn		21 12 22.3	-13
DZM	Mont Dzumac	17.47	270	P		P		21 09 46.8	+1.3
	0.4nm,0.3s,baz=81,slow=19,SNR=4.7								
DZM	Mont Dzumac	17.47	270	P		P		21 09 46.8	+1.3
PPT	Papeete	24.17	81	LR		LR		21 17 39.9	
	comp=Z,274nm,19.8s,baz=219,slow=30								
CTAO	Charters Tower	36.38	267	*e*P		P		21 12 44.3	-0.4

PMG	Port Moresby	38.99	284	*e*P		P	21 13 05.3	-1.5
	53nm,1.3s							
STKA	Stephens Creek	39.50	248	P		P	21 13 10.3	-0.7
	1.9nm,0.5s,baz=96,slow=9.1,SNR=9.2							
STKA	Stephens Creek	39.50	248	*e*P		P	21 13 10.5	-0.4
AS31	Alice Springs	46.96	259	*e*P		P	21 14 11.0	-0.4
ASAR	Alice Springs	46.96	259	P		P	21 14 10.2	-1.1
	3.2nm,0.7s,baz=102,slow=6.2,SNR=38							
ASAR	Alice Springs	46.96	259	P		P	21 14 10.2	-1.1
WRAB	Tennant Creek	47.33	264	*e*P		P	21 14 12.5	-1.7
	8.7nm,0.7s							
WRA	Warramunga Arr	47.33	264	P		P	21 14 12.9	-1.3
	11nm,0.6s,baz=102,slow=8.2,SNR=74							
WRA	Warramunga Arr	47.33	264	P		P	21 14 12.9	-1.3
FITZ	Fitzroy Crossi	55.76	263	LR		LR	21 36 03.1	
	comp=Z,75nm,18.9s,baz=155,slow=33							
FITZ	Fitzroy Crossi	55.76	263	*e*P		P	21 15 16.7	-0.5
	6.3nm,0.8s							
QSPA	South Pole Qui	66.85	180	P		P	21 16 32.7	+1.0
	2.4nm,0.9s,baz=5.0,slow=3.1,SNR=6.8							
QSPA	South Pole Qui	66.85	180	P		P	21 16 32.7	+1.0
MJAR	Matsushiro Arr	74.25	322	P		P	21 17 16.5	-0.5
	1.9nm,0.8s,baz=154,slow=6.3,SNR=10							
MJAR	Matsushiro Arr	74.25	322	P		P	21 17 16.5	-0.5
BFSC	Mount Baldy Ra	78.75	45	⇓P		P	21 17 42.5	-0.2
	baz=79							
EDW2	Edwards Air Fo	78.93	44	⇑P		P	21 17 43.2	-0.4
	baz=79,SNR=5.3							
ISA	Isabella	79.11	44	⇓P		P	21 17 45.0	+0.4
	baz=79							
PFO	Pinyon Flat Ob	79.15	46	⇑P		P	21 17 44.6	-0.4
	baz=79							
LRMC	Laurel Mountai	79.49	44	⇓P		P	21 17 46.7	-0.1
	baz=80							
BELC	Belle Mtn. Jos	79.69	46	⇓P		P	21 17 47.8	-0.2
	baz=80							
PETK	Petropavlovsk-	79.73	343	P		P	21 17 48.1	+0.6
	4.9nm,0.9s,baz=110,slow=8.1,SNR=5.0							
PETK	Petropavlovsk-	79.73	343	P		P	21 17 48.1	+0.6
BC3	Big Chuckawall	79.85	47	⇑P		P	21 17 48.7	0.0
	baz=80							
GSC	Goldstone	79.95	45	⇓P		P	21 17 49.2	-0.1
	baz=80							
HEC	Hector,Ludlow	79.97	45	⇑P		P	21 17 49.1	-0.2
	baz=80							
MPMC	Manual Prospec	79.98	44	⇓P		P	21 17 49.3	-0.2
	baz=80							
IRM	Iron Mountain	80.35	46	⇑P		P	21 17 51.2	-0.2
	baz=81							
GMRC	Granite Mounta	80.38	46	⇓P		P	21 17 51.6	0.0
	baz=81							
YBH	Yreka Blue Hor	80.56	37	P		P	21 17 52.5	+0.1
	1.8nm,0.8s,baz=124,slow=3.6,SNR=4.1							
YBH	Yreka Blue Hor	80.56	37	P		P	21 17 52.5	+0.1
NVAR	Mina Array Bea	80.95	41	P		P	21 17 54.4	-0.3
	2.7nm,0.7s,baz=222,slow=9.0,SNR=23							
NVAR	Mina Array Bea	80.95	41	P		P	21 17 54.4	-0.3
KSRS	Korea Array	80.98	317	P		P	21 17 56.2	+1.7
	3.3nm,1.1s,baz=154,slow=7.0,SNR=4.9							
KSAR	Wonju Array Be	81.00	317	P		P	21 17 56.2	+1.6
R11A	Troy Canyon, C	82.58	43	⇓P		P	21 18 03.5	+0.3
	baz=83							
319A	Douglas	82.86	52	⇑P		P	21 18 05.4	+0.6
	baz=83							
X16A	Lo Mia Camp, P	83.01	48	⇑P		P	21 18 06.4	+0.9
	baz=83							
320A	Kipp Ranch, An	83.38	52	⇑P		P	21 18 08.2	+0.7
	baz=84							
U15A	North Rim	83.57	46	⇓P		P	21 18 08.5	-0.1
	baz=84,SNR=5.4							
220A	Playas Peak, P	83.68	52	⇑P		P	21 18 09.3	+0.3
	baz=84							
120A	U Bar Ranch, L	83.95	51	⇓P		P	21 18 11.1	+0.7
	baz=84							
Z20A	Nine Sixteen R	84.28	50	⇓P		P	21 18 12.4	+0.3
	baz=84							
Y20A	Horse Springs,	84.85	50	⇓P		P	21 18 15.4	+0.3
	baz=85							
X20A	Quemado	85.11	49	⇓P		P	21 18 16.9	+0.6
	baz=85							
W20A	Ramah	85.42	49	⇑P		P	21 18 17.8	-0.1
	baz=86,SNR=5.8							
Z22A	Elephant Butte	85.51	51	⇑P		P	21 18 18.7	+0.4
	baz=86							
MFID	Camas Ranch	85.52	39	⇓P		P	21 18 18.8	+0.8
	baz=86							
X21A	Alamocita Cree	85.55	50	⇑P		P	21 18 18.9	+0.3
	baz=86							
324A	Moseley Ranch,	85.66	53	⇑P		P	21 18 18.7	-0.3
	baz=86							
O15A	The Old Anders	85.67	43	⇑P		P	21 18 19.4	+0.5
	baz=86							
425A	Indio Mountain	85.70	54	⇓P		P	21 18 19.2	-0.1
	baz=86							
626A	Big Bend Ranch	85.73	55	⇓P		P	21 18 19.2	-0.2
	baz=86,SNR=5.5							

baz=88
C11A **Tepee Creek (N** 88.02 35 ⇓P P 21 18 30.2 +0.2
baz=88
530A **J-C Ranch, Com** 88.14 56 ⇓P P 21 18 30.9 -0.1
baz=88
329A **Wagon Wheel Ra** 88.29 55 ⇓P P 21 18 31.5 -0.2
baz=88
W25A **X Bar L Ranch,** 88.30 50 ⇑P P 21 18 31.2 -0.5
baz=88
631A **Perdido Creek** 88.38 57 ⇓P P 21 18 32.2 +0.1
baz=89
128A **Castleberry Fa** 88.45 53 ⇓P P 21 18 32.4 -0.1
baz=89
N20A **Spence Gulch,** 88.64 44 ⇓P P 21 18 33.5 +0.1
baz=89
531A **Rocksprings** 88.75 56 ⇓P P 21 18 33.7 -0.2
baz=89
J18A **Kendall Valley** 88.84 41 ⇓P P 21 18 34.2 -0.1
baz=89
PDAR **Pinedale Array** 88.88 42 P P 21 18 33.5 -1.0
0.9nm,0.8s,baz=204,slow=3.3,SNR=6.5
PDAR **Pinedale Array** 88.88 42 P P 21 18 33.5 -1.0
632A **Uvalde** 89.04 57 ⇓P P 21 18 35.2 0.0
baz=89
532A **Rocksprings** 89.23 57 ⇑P P 21 18 36.5 +0.4
baz=89
T25A **Trinidad** 89.29 49 ⇓P P 21 18 36.6 +0.2
baz=90
U26A **Atchley Ranch,** 89.38 50 ⇓P P 21 18 36.8 -0.1
baz=90
O22A **Kremmling** 89.39 45 ⇑P P 21 18 37.3 +0.3
baz=90
P23A **Jefferson** 89.45 46 ⇓P P 21 18 37.3 -0.1
baz=90
A13A **Flathead Natio** 89.66 35 ⇑P P 21 18 39.3 +1.5
baz=90
E16A **East Helena** 89.74 38 ⇑P P 21 18 38.2 -0.1
baz=90
X29A **Tulia** 89.90 52 ⇓P P 21 18 39.4 +0.2
baz=90
D16A **Dana Ranch, Ca** 90.10 38 ⇓P P 21 18 40.1 +0.2
baz=90
B15A **Bradely Ranch,** 90.28 36 ⇓P P 21 18 41.2 +0.5
baz=90
ILAR **Eielson Array** 90.33 12 P P 21 18 39.8 -0.6
1.5nm,0.9s,baz=213,slow=6.5,SNR=12
ILAR **Eielson Array** 90.33 12 P P 21 18 39.8 -0.6
C16A **Fuhringer Ranc** 90.43 37 ⇓P P 21 18 41.5 +0.1
baz=91
A15A **Johnson Ranch,** 90.58 36 ⇑P P 21 18 41.9 -0.1
baz=91
D17A **Six Diamond Ra** 90.65 38 ⇑P P 21 18 43.0 +0.5
baz=91
C17A **Wharram Farm,** 90.88 37 ⇑P P 21 18 43.2 -0.3
baz=91
A16A **West Butte Ran** 91.17 36 ⇑P P 21 18 45.2 +0.3
baz=91
B17A **L&G Farms, Che** 91.23 37 ⇓P P 21 18 45.3 +0.3
baz=91
A17A **Triple J Farms** 91.65 36 ⇓P P 21 18 47.0 0.0
baz=92
C19A **Slack Wire Ran** 91.90 38 ⇓P P 21 18 48.8 +0.6
baz=92
C20A **Veseth Ranch,** 92.48 38 ⇓P P 21 18 51.1 +0.2
baz=93
CMAR **Chiang Mai Arr** 93.92 288 P P 21 19 01.2 +3.2
1.0nm,0.9s,baz=124,slow=2.8,SNR=8.0
CMAR **Chiang Mai Arr** 93.92 288 P P 21 19 01.2 +3.2
C24A **Savage** 94.46 40 ⇑P P 21 19 00.5 +0.5
baz=95
B23A **Brockton** 94.60 39 ⇓P P 21 19 01.1 +0.5
baz=95
YKA **Yellowknife Ar** 97.72 24 P P 21 19 13.6 -0.7
0.4nm,0.9s,baz=239,slow=3.6,SNR=6.0
YKA **Yellowknife Ar** 97.72 24 P P 21 19 13.7 -0.7
AKASG **Malin Array Be** 146.88 332 PKPbc PKPdf 21 25 19.9 -0.1
0.9nm,0.6s,baz=43,slow=4.7,SNR=4.4
AKASG **Malin Array Be** 146.88 332 PKPbc PKPdf 21 25 19.9 -0.1
BRTR **Keskin Array B** 150.96 311 PKPbc PKPbc 21 25 32.6 -0.3
0.9nm,0.9s,baz=91,slow=4.9,SNR=3.8
BRTR **Keskin Array B** 150.96 311 PKPbc PKPbc 21 25 32.6 -0.3
TORD **Torodi Ar. Bea** 169.39 160 PKP PKPdf 21 25 47.0 -1.0
0.7nm,0.9s,baz=215,slow=1.8,SNR=3.5
TORD PKPab PKPab 21 27 00.8 +0.3
0.7nm,1.1s,baz=172,slow=2.6,SNR=2.3
TORD **Torodi Ar. Bea** 169.39 160 PKP PKPdf 21 25 47.0 -1.0
TORD PKPab PKPab 21 27 00.8 +0.3

*ISCJB **28** 21:19:37.8±0.7,0.°60S±0.°05×119.°78E±0.°07, h10km, mb3.5/5, Error ellipse: s-maj=10.2km s-min=5.9km az=22.0*

*IDC **28** 21:19:37.6±1.1,0.°64S×120.°38E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=57.2km s-min=18.4km az=70.0*

*DJA **28** 21:19:39.3±1.3, 1°S±4°×12°0E±°, h8km±10km, M4.5/6, mb5.4/1, MLv4.1/6*

ISC 28 21:19:40.4±1.1,0.°62S±0.°07×119.°8E±0.°1, h10km, n13, σ0°72/8, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	2.37	63	P	Pn	21 20 17.8	-1.6
MRSI				S	**Sn**	**21 20 48.1**	**-0.4**
TTSI	**Tana Toraja**	2.41	180	P	**Pn**	**21 20 19.1**	**-0.9**
TTSI				S	**Sn**	**21 20 49.9**	**+0.3**
LUWI	**Luwuk**	2.97	98	P	**Pn**	**21 20 27.6**	**0.0**
KDI	**Kendari**	4.33	140	P	Pn	21 20 44.6	-1.8
KAPI	**Kappang**	4.37	181	Pn	Pn	21 20 45.5	-1.4
	12nm,0.3s,baz=348,slow=7.6,SNR=47						
KAPI				Sn	**Sn**	**21 21 37.6**	**-0.4**
	2.7nm,0.3s,baz=174,slow=19,SNR=3.6						
KAPI				LR	LR	21 22 39.1	
	comp=Z,185nm,19.5s,baz=178,slow=41						
KAPI	**Kappang**	4.37	181	P	Pn	21 20 45.0	-1.9
BKSI	**Bulukumba**	4.68	176	P	Pn	21 20 49.3	-1.9
BKSI				S	**Sn**	**21 21 46.8**	**+1.1**
BLSI	**Bandar Lampung**	15.31	252	P	Pn	21 23 14.6	-2.2
WRA	**Warramunga Arr**	23.89	144	P	P	21 24 49.1	-5.4
	2.8nm,1.1s,baz=324,slow=11,SNR=8.1						
ASAR	**Alice Springs**	26.67	150	P	P	21 25 15.4	-4.4
	0.2nm,0.6s,baz=318,slow=7.6,SNR=4.7						
STKA	**Stephens Creek**	37.28	149	P	P	21 26 50.3	-2.4
	0.8nm,0.6s,baz=317,slow=13,SNR=3.4						
SONM	**Songino Array**	49.66	348	P	P	**21 28 32.5**	**+0.1**
	0.5nm,0.8s,baz=156,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	57.52	330	P	P	**21 29 30.4**	**+0.3**
	0.4nm,0.7s,baz=132,slow=7.3,SNR=6.8						

*IDC **28** 21:32:22.6±11.0, 15.°63S×165.°69E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/21, mbtmp4.2/5, ML4.7/1, Error ellipse: s-maj=207.2km s-min=33.6km az=57.0*

ISC 28 21:32:25.5±5.1,15.°5S±0.°3×165.°9E±0.°6, h35km, n7, σ1°08/9, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	6.57	176	Pn	**Pn**	**21 33 59.0**	**-0.7**
	17nm,0.3s,baz=26,slow=13,SNR=276						
DZM				Sn	**Sn**	**21 35 15.2**	**+1.7**
	5.3nm,0.3s,baz=18,slow=21,SNR=5.6						
NOUC	**Port Laguerre**	6.59	177	*e*P	**Pn**	**21 34 00.8**	**+0.9**
NOUC				*e*S	**Sn**	**21 35 12.5**	**-1.4**
NORM	**Noumea**	6.73	175	*e*P	**Pn**	**21 34 01.6**	**-0.3**
STKA	**Stephens Creek**	27.50	229	P	P	**21 38 07.9**	**-0.9**
	0.9nm,0.4s,baz=42,slow=7.9,SNR=5.8						
WRA	**Warramunga Arr**	30.37	257	P	P	**21 38 34.4**	**0.0**
	0.4nm,0.5s,baz=87,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	31.18	250	P	P	**21 38 41.8**	**+0.2**
	1.5nm,0.4s,baz=77,slow=9.0,SNR=53						
FITZ	**Fitzroy Crossi**	38.59	260	P	P	**21 39 45.9**	**+0.4**
	2.3nm,0.6s,baz=100,slow=5.9,SNR=7.9						

*AUST **28** 21:41:10.0±5.1,5.°81N×124.°17E, h13km, Error ellipse: s-maj=2.0km s-min=1.0km az=310.0*

*MAN **28** 21:41:18,5.°86N×125.°22E, h74km, mb4.3, ML3.1, MS2.9*

*ISCJB **28** 21:41:19.9±0.4,6.°04N±0.°05×125.°24E±0.°09, h111km, mb3.8/7, Error ellipse: s-maj=12.6km s-min=6.0km az=167.6*

*IDC **28** 21:41:21.3±1.1,6.°03N×125.°39E, h106km±13km, mb3.6/7, mb1 3.8/7, mb1mx3.4/25, mbtmp3.6/7, MS3.5/2, Ms1 3.5/2, ms1mx2.7/42, Error ellipse: s-maj=48.9km s-min=16.7km az=82.0*

ISC 28 21:41:21.1±0.7,6.°07N±0.°07×125.°30E±0.°09, h111km, n23, σ1°17/23, mb3.8/7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	0.96	348	*e*P	**Pn**	**21 41 42.8**	**+0.7**
DAV	**Davao City (W)**	1.04	16	P	**Pn**	**21 41 42.7**	**-0.1**
	120nm,0.3s,baz=225,slow=1.9,SNR=12						
DAV				S	**Sn**	**21 41 59.3**	**+0.1**
	244nm,0.3s,baz=256,slow=21,SNR=16						
MATI	**Mati**	1.29	47	*e*P	**Pn**	**21 41 44.1**	**-1.5**
CTBH	**Cotabato--PC H**	1.55	318	*i* P	**Pn**	**21 41 47.5**	**-1.1**
CTBH				*i* S	**Sn**	**21 42 07.5**	**-2.1**
BUKP	**Musuan**	1.82	353	*e*P	**Pn**	**21 41 51.1**	**-0.9**
BUKP				*e*S	Sn	21 42 23.0	+7.6
PAGZ	**Pagadian**	2.60	313	*e*P	**Pn**	**21 42 01.3**	**-0.6**
MTN	**Manton Dam**	19.66	163	P	**Pn**	**21 45 42.5**	**-1.4**
	baz=20,SNR=4.3						
KDU	**Kakadu**	19.95	159	P	**Pn**	**21 45 45.4**	**-1.9**
	baz=20,SNR=9.7						
FITZ	**Fitzroy Crossi**	24.02	179	P	P	**21 46 26.1**	**+0.2**
	3.6nm,0.9s,baz=60,slow=5.5,SNR=8.4						
FITZ	**Fitzroy Crossi**	24.02	179	P	P	**21 46 26.3**	**+0.5**
	baz=24,SNR=6.0						
WRA	**Warramunga Arr**	27.33	161	P	P	**21 46 55.5**	**-0.4**
	0.7nm,0.4s,baz=329,slow=11,SNR=9.7						
ASAR	**Alice Springs**	30.72	164	P	P	**21 47 26.0**	**+0.1**
	0.9nm,0.3s,baz=341,slow=7.0,SNR=31						
MEEK	**Meekatharra**	33.15	191	P	P	**21 47 46.4**	**-0.6**
	baz=33,SNR=4.7						
KLBR	**Kellerberrin**	38.13	190	P	P	**21 48 29.5**	**-0.1**
	baz=38,SNR=6.2						
NWAO	**Narrogin (SRO)**	39.53	191	P	P	**21 48 41.3**	**+0.1**
	11nm,1.1s,baz=24,slow=12,SNR=6.8						
BBOO	**Buckleboo**	39.99	166	P	P	**21 48 45.9**	**+0.8**
	baz=40,SNR=15						
STKA	**Stephens Creek**	40.81	159	P	P	**21 48 52.5**	**+0.7**
	1.3nm,0.4s,baz=335,slow=9.5,SNR=6.2						
STKA	**Stephens Creek**	40.81	159	P	P	**21 48 52.6**	**+0.8**
	baz=41,SNR=4.6						
YNG	**Young**	45.70	153	P	P	**21 49 33.0**	**+1.8**
	baz=46,SNR=6.6						
MKAR	**Makanchi Array**	54.83	325	P	P	**21 50 42.3**	**+2.4**
	0.4nm,0.9s,baz=116,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	57.87	333	LR	LR	22 16 43.7	
	comp=Z,51nm,20.4s,baz=75,slow=37						
KURBB	**Kurchatov Arra**	59.01	327	LR	LR	22 18 58.0	
	comp=Z,35nm,19.5s,baz=80,slow=38						
ILAR	**Eielson Array**	83.62	26	P	P	**21 53 36.4**	**-0.6**
	0.4nm,0.6s,baz=237,slow=4.2,SNR=6.2						

IDC 28 21:52:04.6±1.8,23.°56S×174.°27W, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.0/20, mbtmp4.3/5, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/42, Error ellipse: s-maj=163.3km s-min=25.4km az=166.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	13.61	83	Pn	Pn	21 55 16.8	-2.1
	4.0nm,0.3s,baz=270,slow=6.3,SNR=6.1						
URZ	**Urewera**	16.40	205	LR	LR	22 01 07.6	
	comp=Z,191nm,20.0s,baz=50,slow=33						
RPZ	**Rata Peaks**	23.46	207	LR	LR	22 04 09.9	
	comp=Z,308nm,19.9s,baz=189,slow=31						
CTA	**Charters Tower**	36.73	268	P	P	21 59 13.7	-0.2
	5.4nm,0.6s,baz=77,slow=8.4,SNR=6.4						
ASAR	**Alice Springs**	47.27	259	P	P	22 00 40.2	+0.2
	1.5nm,0.6s,baz=99,slow=6.5,SNR=18						
WRA	**Warramunga Arr**	47.67	264	P	P	22 00 42.4	-0.8
	2.0nm,0.5s,baz=102,slow=8.4,SNR=19						
TXAR	**Lajitas Array**	85.85	56	P	P	22 04 47.1	+0.5
	0.4nm,0.8s,baz=194,slow=4.6,SNR=4.1						
BRTR	**Keskin Array B**	151.45	311	PKPbc	PKPbc	22 12 01.2	+0.3
	0.4nm,0.8s,baz=19,slow=4.2,SNR=3.6						

*ISCJB **28** 21:54:22.0±1.2, 30.°66S±0.°10×177.°5W±0.°2, h33km, mb4.5/7, MS3.7/1, Error ellipse: s-maj=26.6km s-min=10.8km az=20.3*

*IDC **28** 21:54:25.1±6.8, 30.°68S×177.°46W, h55km±61km, mb4.2/7, mb1 4.3/8, mb1mx4.0/20, mbtmp4.1/8, ML3.8/1, MS3.8/2, Ms1 3.7/2, ms1mx3.1/45, Error ellipse: s-maj=48.8km s-min=28.5km az=176.0*

*AUST **28** 21:55:11.1±3.1, 31.°77S×179.°07E, h259km, Error ellipse: s-maj=3.2km s-min=1.9km az=239.0*

ISC 28 21:54:22.3±1.0, 30.°6S±0.°1×177.°4W±0.°2, h33km, n28, σ1°38/21, mb4.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	8.93	209	P	**Pn**	**21 56 28.1**	**-0.8**
	1.1nm,0.3s,baz=2.9,slow=17,SNR=10						
URZ				S	**Sn**	**21 58 08.8**	**+0.6**
	2.0nm,0.3s,baz=155,slow=11,SNR=4.9						
DZM	**Mont Dzumac**	16.78	296	LR	LR	22 03 28.7	
	comp=Z,322nm,18.7s,baz=116,slow=32						
DZM	**Mont Dzumac**	16.78	296	eLR	LR	22 02 19.2	
	500nm,24.9s						
TBI	**Tubuai**	25.85	81	eLR	LR	22 06 30.2	
	279nm,27.2s						
TBI				*e*T	T	22 26 56.0	
	9.8nm,0.3s						
PAE	**Paea**	28.34	69	*e*T	T	22 30 09.3	
	3.4nm,0.2s						
PPT2	**Papeete2**	28.39	69	eLR	LR	22 07 33.3	
	429nm,28.0s						
VAH	**Vaihoa**	31.23	67	*e*T	T	22 33 46.4	
	17nm,0.3s						
CMSA	**Cobar Meteorol**	31.57	259	P	P	**22 00 43.7**	**+1.9**
	baz=28,SNR=6.4						
QLP	**Quilpie**	33.84	267	P	P	**22 01 02.5**	**+0.8**
	baz=31,SNR=4.6						
CTA	**Charters Tower**	34.36	279	P	P	**22 01 07.1**	**+0.8**
	22nm,0.8s,baz=98,slow=9.8,SNR=12						
STKA	**Stephens Creek**	34.97	257	P	P	**22 01 12.4**	**+0.9**
	5.7nm,0.7s,baz=90,slow=9.0,SNR=11						
STKA				LR	LR	22 12 09.0	
	comp=Z,154nm,21.8s,baz=181,slow=30						
STKA	**Stephens Creek**	34.97	257	P	P	**22 01 13.2**	**+1.7**
	baz=32,SNR=5.0						
RKT	**Rikitea**	38.38	89	eLR	LR	22 12 15.4	
	198nm,25.2s						
BBOO	**Buckleboo**	39.45	254	P	P	**22 01 50.1**	**+0.6**
	baz=36,SNR=7.7						
ASAR	**Alice Springs**	43.64	267	P	P	**22 02 23.1**	**-0.9**
	1.9nm,0.4s,baz=104,slow=7.4,SNR=24						
WRA	**Warramunga Arr**	44.65	272	P	P	**22 02 31.7**	**-0.3**
	4.1nm,0.3s,baz=110,slow=8.1,SNR=49						
FITZ	**Fitzroy Crossi**	52.90	270	P	P	**22 03 34.7**	**-0.7**
	2.4nm,0.7s,baz=170,slow=4.8,SNR=4.3						
PETK	**Petropavlovsk-**	86.11	345	P	P	**22 06 59.8**	**+0.4**
	2.2nm,0.9s,baz=92,slow=4.8,SNR=2.7						
NVAR	**Mina Array Bea**	87.99	42	P	P	**22 07 11.7**	**+2.4**
	0.9nm,1.0s,baz=227,slow=7.8,SNR=5.5						
NVAR				pP	pP	22 07 26.9	+7.1
	1.5nm,0.7s,baz=221,slow=8.1,SNR=10						
MKAR	**Makanchi Array**	118.29	310	PKP	**PKPdf**	**22 13 05.4**	**-0.6**
	1.1nm,0.9s,baz=124,slow=0.4,SNR=7.6						
AKTO	**Aktyubinsk**	134.61	312	PKP	**PKPdf**	**22 13 37.3**	**+0.4**
	0.8nm,0.8s,baz=22,slow=4.8,SNR=4.6						
JOF	**Joensuu**	142.77	339	*e*pkp	PKPdf	22 13 44.6	-6.8
	1.4nm,0.7s						
KAF	**Kangasniemi**	144.88	341	*e*pkp	**PKPab**	**22 13 50.6**	**-3.7**
	3.4nm,0.7s						
FINES	**FINESS Array B**	145.48	340	PKPbc	**PKPdf**	**22 13 55.7**	**-0.5**
	15nm,0.8s,baz=58,slow=3.6,SNR=54						
NB2	**NORSAR Subarra**	148.99	352	PKP	**PKPbc**	**22 14 06.5**	**+0.3**
	comp=Z,5.4nm,1.1s,baz=10,slow=3.2						
NOA	**NORSAR Array**	148.99	352	PKPbc	**PKPbc**	**22 14 05.0**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=15,slow=4.4,SNR=6.3						
AKASG	**Malin Array Be**	151.76	323	PKPbc	**PKPbc**	**22 14 12.5**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=52,slow=2.7,SNR=14						
BRTR	**Keskin Array B**	153.15	298	PKPbc	**PKPbc**	**22 14 16.4**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=104,slow=4.0,SNR=7.8						

*IDC **28** 22:06:41.8±0.6,23.°18S×174.°68W, h0km, mb4.5/15, mb1 4.7/16, mb1mx4.6/22, mbtmp4.5/16, ML3.1/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/40, Error ellipse: s-maj=24.3km s-min=16.0km az=155.0*

*ISCJB **28** 22:06:45.6±0.3,23.°3S±0.°1×174.°74W±0.°05, h33km, mb4.7/18, MS4.0/3, Error ellipse: s-maj=16.8km s-min=5.9km az=165.7*

*NEIC **28** 22:06:50.0±1.8,23.°11S×174.°79W, h58km±14km, mb5.1/4, Error ellipse: s-maj=12.6km s-min=10.4km az=119.0*

*AUST **28** 22:07:19.8,22.°41S×177.°01W, h200km*

ISC 28 22:06:46.8±0.5,23.°35S±0.°08×174.°67W±0.°09, h35km, n177, σ0°91/172, mb4.5/18, MS3.9/3, 51C-55D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	6.14	47	P	Sn	22 09 01.6	-22
	baz=7.4,SNR=9.2						
MSVF	**Nonsavu**	8.81	308	*e*Pn	**Pn**	**22 08 51.5**	**-0.3**
	45nm,1.3s						
MSVF	**Nonsavu**	8.81	308	Pn	**Pn**	**22 08 53.9**	**+2.0**
	138nm,0.7s,SNR=5.0						
RAR	**Rarotonga**	13.96	84	*e*Pn	Pn	22 09 52.5	-10
URZ	**Urewera**	16.44	203	Pn	**P**	**22 10 40.3**	**+3.1**
	0.5nm,0.3s,baz=316,slow=4.2,SNR=7.9						
URZ				Sn	**Sn**	**22 13 31.3**	**-4.8**
	0.3nm,0.3s,baz=311,slow=20,SNR=3.9						
URZ	**Urewera**	16.44	203	Pn	**P**	**22 10 40.3**	**+3.1**
URZ				Sn	**Sn**	**22 13 31.3**	**-4.8**
DZM	**Mont Dzumac**	17.47	270	P	**Pn**	**22 10 48.0**	**+0.1**
	0.1nm,0.3s,baz=124,slow=15,SNR=2.4						
DZM	**Mont Dzumac**	17.47	270	eLR	LR	22 15 27.7	
	272nm,28.6s						
DZM	**Mont Dzumac**	17.47	270	P	**Pn**	**22 10 48.0**	**+0.1**
TBI	**Tubuai**	23.14	95	eLR	LR	22 16 59.5	
	384nm,26.8s						
PPT2	**Papeete2**	24.18	81	eLR	LR	22 17 32.3	
	435nm,25.8s						
RMQ	**Roma**	33.24	257	P	P	22 13 24.9	+4.1
	baz=31,SNR=4.4						
CMSA	**Cobar Meteorol**	35.95	248	P	P	**22 13 45.0**	**+0.8**
	baz=34,SNR=5.6						
CTA	**Charters Tower**	36.37	267	P	P	**22 13 47.9**	**-0.1**
	18nm,0.7s,baz=104,slow=9.9,SNR=13						
CTA	**Charters Tower**	36.37	267	P	**P**	**22 13 47.9**	**-0.1**
CTAO	**Charters Tower**	36.37	267	*e*P	**P**	**22 13 48.1**	**+0.1**
	22nm,0.8s						
RKT	**Rikitea**	36.40	98	eLR	LR	22 23 03.5	
	202nm,28.5s						
QLP	**Quilpie**	37.28	256	P	P	**22 13 58.1**	**+2.5**
	baz=35,SNR=5.4						
PMG	**Port Moresby**	39.02	284	P	P	**22 14 08.8**	**-1.5**
	22nm,0.8s,baz=116,slow=6.5,SNR=8.7						
PMG	**Port Moresby**	39.02	284	*e*P	P	**22 14 09.5**	**-0.8**
	38nm,1.0s						
STKA	**Stephens Creek**	39.45	248	P	P	**22 14 14.0**	**+0.2**
	2.6nm,0.6s,baz=103,slow=8.5,SNR=11						
STKA				LR	LR	22 27 14.6	
	comp=Z,114nm,19.2s,baz=184,slow=31						
STKA	**Stephens Creek**	39.45	248	*e*P	P	**22 14 14.4**	**+0.5**
STKA	**Stephens Creek**	39.45	248	P	P	22 14 17.5	+3.6
	baz=38,SNR=5.9						
MMPI	**Merauke**	45.48	281	S	S	22 21 07.0	-36
	baz=43,SNR=3.9						
AS31	**Alice Springs**	46.94	259	*e*P	**P**	**22 15 14.5**	**0.0**
ASAR	**Alice Springs**	46.94	259	P	**P**	**22 15 14.4**	**0.0**
	7.0nm,1.0s,baz=110,slow=6.9,SNR=33						
ASAR				LR	LR	22 32 06.0	
	comp=Z,112nm,18.6s,baz=304,slow=32						
ASAR	**Alice Springs**	46.94	259	P	**P**	**22 15 14.4**	**0.0**
WRAB	**Tennant Creek**	47.31	264	*e*P	**P**	**22 15 16.0**	**-0.9**
	17nm,0.9s						
WRAB	**Tennant Creek**	47.31	264	P	**P**	**22 15 16.0**	**-1.4**
	133nm,0.8s,SNR=20						
WRA	**Warramunga Arr**	47.32	264	P	**P**	**22 15 16.5**	**-1.0**
	14nm,0.7s,baz=102,slow=8.3,SNR=141						
WRA	**Warramunga Arr**	47.32	264	P	**P**	**22 15 16.5**	**-1.0**
JAY	**Jayapura**	47.88	289	P	**P**	**22 15 21.3**	**-0.6**
	baz=46,SNR=4.0						
KDU	**Kakadu**	51.13	272	P	P	**22 15 45.9**	**-0.7**
	baz=49,SNR=6.0						
FITZ	**Fitzroy Crossi**	55.74	263	*e*P	**P**	**22 16 20.5**	**+0.1**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	55.74	263	P	**P**	**22 16 21.0**	**+0.5**
	baz=54,SNR=10						
QSPA	**South Pole Qui**	66.73	180	P	**P**	**22 17 36.5**	**+2.2**
	baz=36,slow=2.2						
QSPA	**South Pole Qui**	66.73	180	P	**P**	**22 17 36.5**	**+2.2**
MJAR	**Matsushiro Arr**	74.33	322	P	**P**	**22 18 20.4**	**-0.5**
	3.7nm,0.8s,baz=158,slow=6.2,SNR=10						
MJAR	**Matsushiro Arr**	74.33	322	P	**P**	**22 18 20.4**	**-0.5**
TATO	**Taipei**	78.33	304	*e*P	P	22 18 49.7	+6.0
	381nm,0.6s						
MONP	**Monument Peak**	78.82	47	⇑P	**P**	**22 18 46.0**	**-0.5**
	baz=79						
BFSC	**Mount Baldy Ra**	78.83	45	⇑P	**P**	**22 18 46.4**	**0.0**
	baz=79						
EDW2	**Edwards Air Fo**	79.01	44	⇓P	**P**	**22 18 47.4**	**+0.1**
	baz=79						
ISA	**Isabella**	79.19	44	⇑P	**P**	**22 18 48.8**	**+0.4**
	baz=79						
LRMC	**Laurel Mountai**	79.57	44	⇓P	**P**	**22 18 50.6**	**+0.1**
	baz=80						
BELC	**Belle Mtn. Jos**	79.77	46	⇓P	**P**	**22 18 51.3**	**-0.3**
	baz=80						
PETK	**Petropavlovsk-**	79.83	343	P	**P**	**22 18 50.6**	**-0.8**
	3.3nm,0.8s,baz=136,slow=9.3,SNR=5.4						
PETK	**Petropavlovsk-**	79.83	343	P	**P**	**22 18 50.6**	**-0.8**
BC3	**Big Chuckawall**	79.93	47	⇓P	**P**	**22 18 52.7**	**+0.2**
	baz=80						
GSC	**Goldstone**	80.03	45	⇑P	**P**	**22 18 52.8**	**-0.1**
	baz=80						
HEC	**Hector,Ludlow**	80.05	45	⇑P	**P**	**22 18 52.8**	**-0.3**
	baz=80						
MPMC	**Manual Prospec**	80.06	44	⇓P	**P**	**22 18 53.6**	**+0.4**
	baz=80						
IRM	**Iron Mountain**	80.43	46	⇓P	**P**	**22 18 55.2**	**+0.2**
	baz=80						
GMRC	**Granite Mounta**	80.46	46	⇓P	**P**	**22 18 55.0**	**-0.3**
	baz=81						
113A	**Mohawk Valley,**	80.55	48	⇓P	**P**	**22 18 55.7**	**+0.1**
	baz=81						
214A	**Organ Pipe Nat**	80.74	49	⇓P	**P**	**22 18 56.4**	**-0.4**
	baz=81						
NVAR	**Mina Array Bea**	81.04	41	P	**P**	**22 18 58.5**	**0.0**
	4.0nm,0.8s,baz=221,slow=8.7,SNR=29						
NVAR	**Mina Array Bea**	81.04	41	P	**P**	**22 18 58.5**	**0.0**
KSRS	**Korea Array**	81.06	317	P	**P**	**22 18 59.9**	**+1.6**
	2.1nm,0.9s,baz=138,slow=6.6,SNR=6.6						
KSAR	**Wonju Array Be**	81.08	317	P	**P**	**22 18 59.9**	**+1.5**
Y14A	**Wickenburg**	81.74	48	⇓P	**P**	**22 19 02.2**	**+0.1**
	baz=82						
W13A	**Hualapai Mount**	81.83	46	⇓P	**P**	**22 19 02.5**	**-0.2**
	baz=82						
R11A	**Troy Canyon, C**

	baz=86								
626A	**Big Bend Ranch**	85.79	55	⇓P		P	22 19 23.4	+0.5	
	baz=86,SNR=6.3								
Q16A	**Castle Valley**	85.80	44	⇓P		P	22 19 23.4	+0.5	
	baz=86								
V20A	**Brimhall**	85.88	48	⇓P		P	22 19 23.6	+0.2	
	baz=86								
Y22A	**Socorro**	85.94	50	⇓P		P	22 19 23.9	+0.2	
	baz=86								
224A	**Cornudas Mount**	86.02	53	⇑P		P	22 19 24.3	+0.2	
	baz=86								
TXAR	**Lajitas Array**	86.04	56	P		P	22 19 24.3	+0.1	
	3.5nm,0.9s,baz=212,slow=8.8,SNR=27								
TXAR	**Lajitas Array**	86.04	56	P		P	22 19 24.3	+0.1	
325A	**Bean Ranch, Si**	86.07	54	⇑P		P	22 19 23.9	-0.5	
	baz=86								
526A	**Mary Lane Ranc**	86.08	55	⇓P		P	22 19 24.5	+0.1	
	baz=86,SNR=6.9								
W21A	**San Fidel**	86.08	49	⇑P		P	22 19 24.9	+0.5	
	baz=86								
Z23A	**Rita Site, Whi**	86.11	51	⇓P		P	22 19 24.6	+0.1	
	baz=86								
I12A	**Atlanta**	86.24	39	⇓P		P	22 19 25.4	+0.5	
	baz=86								
L14A	**Malta**	86.30	41	⇓P		P	22 19 25.4	+0.1	
	baz=86								
627A	**Terlingua Ranc**	86.31	56	⇑P		P	22 19 25.6	+0.1	
	baz=86,SNR=5.8								
124A	**Stringfield Ra**	86.39	52	⇑P		P	22 19 25.8	-0.2	
	baz=86								
426A	**McDonald Obser**	86.42	55	⇑P		P	22 19 25.8	-0.4	
	baz=86,SNR=7.8								
527A	**Woodward Ranch**	86.48	55	⇓P		P	22 19 26.1	-0.3	
	baz=87								
225A	**Deer Hill, Car**	86.55	53	⇑P		P	22 19 26.3	-0.5	
	baz=87								
J13A	**Cove Ranch, Pi**	86.56	39	⇑P		P	22 19 26.9	+0.4	
	baz=87								
Y23A	**Lovelace Mesa,**	86.58	51	⇑P		P	22 19 27.2	+0.3	
	baz=87								
628A	**Black Gap, Mar**	86.70	56	⇓P		P	22 19 27.1	-0.3	
	baz=87,SNR=6.3								
U21A	**Nageezi**	86.77	48	⇓P		P	22 19 27.9	+0.1	
	baz=87								
Z24A	**Sheeppen Canyo**	86.77	52	⇑P		P	22 19 28.2	+0.4	
	baz=87								
326A	**Caldwell Ranch**	86.78	54	⇓P		P	22 19 27.7	0.0	
	baz=87								
O17A	**Robinson Place**	86.79	44	⇓P		P	22 19 28.2	+0.4	
	baz=87								
L15A	**Malad City**	86.80	41	⇑P		P	22 19 27.9	+0.2	
	baz=87								
H12A	**Diamond D Ranc**	86.86	38	⇓P		P	22 19 28.4	+0.5	
	baz=87								
G12A	**Big Creek, Yel**	86.94	38	⇑P		P	22 19 28.1	-0.2	
	baz=87								
125A	**Gardner Draw,**	86.95	53	⇑P		P	22 19 28.6	0.0	
	baz=87								
427A	**Hayter Ranch,**	86.98	55	⇑P		P	22 19 29.0	+0.3	
	baz=87,SNR=7.7								
Y24A	**Capitan**	87.02	51	⇑P		P	22 19 29.0	0.0	
	baz=87,SNR=8.3								
528A	**Cox Ranch, San**	87.11	56	⇑P		P	22 19 29.4	-0.1	
	baz=87								
N17A	**Moffit Pass**	87.15	43	⇓P		P	22 19 30.3	+0.7	
	baz=87								
Z25A	**Roswell**	87.21	52	⇑P		P	22 19 30.1	+0.2	
	baz=87								
S21A	**Coal Bank Pass**	87.33	47	⇑P		P	22 19 30.6	0.0	
	baz=87								
F12A	**Elk City**	87.37	37	⇓P		P	22 19 30.8	+0.4	
	baz=88								
V23A	**Ortiz Mt. (NFS**	87.43	49	⇑P		P	22 19 31.5	+0.5	
	baz=88								
428A	**Kincaid Ranch,**	87.46	55	⇓P		P	22 19 31.8	+0.7	
	baz=88								
529A	**Stev Forest Ra**	87.52	56	⇓P		P	22 19 30.9	-0.5	
	baz=88								
Y25A	**Mesa, Roswell**	87.55	51	⇓P		P	22 19 30.5	-1.0	
	baz=88								
328A	**Wristen Ranch,**	87.68	54	⇑P		P	22 19 31.7	-0.5	
	baz=88								
Z26A	**Caprock**	87.74	52	⇓P		P	22 19 31.8	-0.7	
	baz=88								
429A	**Davenport Ranc**	88.01	55	⇑P		P	22 19 32.9	-0.8	
	baz=88,SNR=11								
C11A	**Tepee Creek (N**	88.11	35	⇑P		P	22 19 34.3	+0.5	
	baz=88								
Y26A	**Elida**	88.18	52	⇓P		P	22 19 34.7	+0.1	
	baz=88								
530A	**J-O Ranch, Com**	88.20	56	⇑P		P	22 19 34.5	-0.1	
	baz=88								
329A	**Wagon Wheel Ra**	88.35	55	⇑P		P	22 19 35.2	-0.1	
	baz=88								
O20A	**White River Ci**	88.36	45	⇑P		P	22 19 35.1	-0.2	
	baz=88								
W25A	**X Bar L Ranch,**	88.37	50	⇑P		P	22 19 35.4	0.0	
	baz=88								
U24A	**Moreno Valley**	88.39	49	⇑P		P	22 19 35.8	+0.1	
	baz=88								
631A	**Perdido Creek**	88.44	57	⇑P		P	22 19 35.8	+0.1	
	baz=89								
128A	**Castleberry Fa**	88.52	53	⇓P		P	22 19 36.2	+0.1	
	baz=89								
Q22A	**Crested Butte,**	88.55	46	⇓P		P	22 19 36.3	-0.1	
	baz=89								
G15A	**Dillon**	88.58	39	⇑P		P	22 19 36.4	+0.2	
	baz=89								
531A	**Rocksprings**	88.82	56	⇑P		P	22 19 37.6	+0.1	
	baz=89								
J18A	**Kendall Valley**	88.92	41	⇑P		P	22 19 37.9	-0.1	
	baz=89								
PDAR	**Pinedale Array**	88.96	42	P		P	22 19 37.3	-0.8	
	1.2nm,0.9s,baz=197,slow=3.1,SNR=4.3								
PDAR	**Pinedale Array**	88.96	42	P		P	22 19 37.3	-0.8	
632A	**Uvalde**	89.10	57	⇑P		P	22 19 38.8	0.0	
	baz=89								
532A	**Rocksprings**	89.29	57	⇓P		P	22 19 40.2	+0.5	
	baz=89								
A13A	**Flathead Natio**	89.75	35	⇓P		P	22 19 41.3	-0.2	
	baz=90								
B14A	**Marquette Ranc**	90.02	36	⇓P		P	22 19 42.6	-0.2	
	baz=90								
S26A	**Kim**	90.25	49	⇑P		P	22 19 44.1	-0.1	
	baz=90								
A14A	**Double T Ranch**	90.30	35	⇓P		P	22 19 44.1	0.0	
	baz=90								
ILAR	**Eielson Array**	90.44	12	P		P	22 19 43.2	-0.9	
	1.7nm,0.9s,baz=219,slow=5.8,SNR=12								
ILAR	**Eielson Array**	90.44	12	P		P	22 19 43.2	-0.9	
C16A	**Fuhringer Ranc**	90.52	37	⇓P		P	22 19 44.5	-0.6	
	baz=91								
A15A	**Johnson Ranch,**	90.67	36	⇓P		P	22 19 45.7	-0.1	
	baz=91								
D17A	**Six Diamond Ra**	90.74	38	⇓P		P	22 19 46.9	+0.7	
	baz=91								
C17A	**Wharram Farm,**	90.97	37	⇓P		P	22 19 47.1	-0.1	
	baz=91								
A16A	**West Butte Ran**	91.26	36	⇓P		P	22 19 48.6	0.0	
	baz=91								
C19A	**Slack Wire Ran**	91.99	38	⇑P		P	22 19 52.3	+0.4	
	baz=92								
D20A	**Manuel Ranch,**	92.16	39	⇓P		P	22 19 53.5	+0.8	
	baz=92								
NNA	**Nana**	92.36	104	LR		LR	22 53 48.7		
	comp=Z,102nm,18.8s,baz=32,slow=31								
C20A	**Veseth Ranch,**	92.57	38	⇓P		P	22 19 54.6	+0.1	
	baz=93								
A19A	**Klindworth Far**	92.81	37	⇓P		P	22 19 55.6	-0.1	
	baz=93								
A20A	**Cobblestone Ra**	93.24	37	⇑P		P	22 19 57.5	-0.1	
	baz=93								
CMAR	**Chiang Mai Arr**	93.96	288	P		P	22 20 03.0	+1.4	
	1.0nm,0.7s,baz=136,slow=3.1,SNR=9.4								
CMAR	**Chiang Mai Arr**	93.96	288	P		P	22 20 03.0	+1.4	
B23A	**Brockton**	94.69	39	⇓P		P	22 20 04.9	+0.6	
	baz=95								
YKA	**Yellowknife Ar**	97.83	24	P		P	22 20 17.0	-1.0	
	0.1nm,0.4s,baz=233,slow=4.1,SNR=6.4								
YKA	**Yellowknife Ar**	97.83	24	P		P	22 20 17.1	-1.0	
MKAR	**Makanchi Array**	115.39	312	PKP		PKPdf	22 25 25.5	+0.7	
	0.1nm,0.7s,baz=102,slow=3.5,SNR=2.4								
MKAR	**Makanchi Array**	115.39	312	PKP		PKPdf	22 25 25.5	+0.7	
AKASG	**Malin Array Be**	146.98	332	PKPbc		PKPbc	22 26 25.1	-0.4	
	0.2nm,0.3s,baz=44,slow=4.1,SNR=3.1								
AKASG	**Malin Array Be**	146.98	332	PKPbc		PKPbc	22 26 25.1	-0.4	
EKA	**Eskdalemuir Ar**	147.44	9	PKPbc		PKPbc	22 26 25.8	-0.8	
	3.0nm,0.9s,baz=332,slow=2.8,SNR=3.2								
EKA	**Eskdalemuir Ar**	147.44	9	PKPbc		PKPbc	22 26 25.8	-0.8	
BRTR	**Keskin Array B**	151.03	311	PKPbc		PKPbc	22 26 36.7	+0.3	
	0.9nm,0.9s,baz=108,slow=2.7,SNR=4.9								
BRTR				PKPab		PKPab	22 26 44.0	0.0	
	0.9nm,0.7s,baz=124,slow=3.5,SNR=5.7								
BRTR	**Keskin Array B**	151.03	311	PKPbc		PKPbc	22 26 36.7	+0.3	
BRTR				PKPab		PKPab	22 26 44.0	0.0	
CLL	**Collm**	151.47	350	*e*PKPbc		PKPbc	22 26 38.0	+1.2	
GERES	**GERESS Array B**	153.71	347	PKPbc		PKPbc	22 26 41.6	-0.5	
	0.4nm,0.7s,baz=346,slow=2.4,SNR=3.4								
GERES				PKPab		PKPab	22 26 53.4	-1.4	
	0.2nm,0.5s,baz=15,slow=4.1,SNR=2.1								
GERES	**GERESS Array B**	153.71	347	PKPbc		PKPbc	22 26 41.6	-0.5	
GERES				PKPab		PKPab	22 26 53.4	-1.4	
TORD	**Torodi Ar. Bea**	169.28	161	PKPab		PKPab	22 28 03.8	+0.5	
	1.2nm,1.0s,baz=225,slow=1.8,SNR=4.5								
TORD	**Torodi Ar. Bea**	169.28	161	PKPab		PKPab	22 28 03.8	+0.5	

IDC 28 22:08:40.9±36.0, 18°44'S×178°11'W, h489km±368km, mb3.3/3, mb1 3.5/3, mb1mx3.0/19, mbtmp3.3/3, Error ellipse: s-maj=194.9km s-min=133.5km az=44.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	38.63	242	P	P	22 15 21.8	+0.3
	1.3nm,0.6s,baz=99,slow=9.6,SNR=3.7						
WRA	**Warramunga Arr**	44.82	260	P	P	22 16 10.0	-0.7
	1.3nm,0.6s,baz=99,slow=7.4,SNR=2.2						
ASAR	**Alice Springs**	44.92	255	P	P	22 16 11.6	0.0
	5.7nm,0.5s,baz=91,slow=8.7,SNR=38						
MKAR	**Makanchi Array**	109.70	314	PKiKP	PKiKP	22 26 14.4	-1.3
	0.2nm,0.5s,baz=96,slow=1.4,SNR=4.9						
ARCES	**ARCESS Array B**	126.88	350	PKP	PKPdf	22 26 47.1	-0.8
	1.6nm,0.8s,baz=29,slow=2.8,SNR=7.3						
FINES	**FINESS Array B**	133.77	344	PKP	PKPdf	22 27 01.1	0.0
	1.1nm,0.9s,baz=28,slow=6.8,SNR=3.6						
BRTR	**Keskin Array B**	145.35	314	PKPbc	PKPbc	22 27 23.9	-0.1
	0.9nm,0.9s,baz=68,slow=3.9,SNR=3.0						
GERES	**GERESS Array B**	148.19	345	PKPbc	PKPbc	22 27 31.1	-0.3
	1.0nm,0.8s,baz=8.5,slow=2.7,SNR=6.0						
DAVOX	**Davos/Dischmat**	150.98	349	PKPbc	PKPbc	22 27 37.8	-0.3
	2.1nm,0.5s,baz=296,slow=2.0,SNR=8.7						

WEL 28 22:16:20.8±0.5, 36°84'S×178°63'E, h33km, ML3.5/4, 1C-2D, Error ellipse: s-maj=6.2km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	0.77	200	⇓P*	Pn	22 16 33.9	-1.4
MXZ				S*	Sn	22 16 43.9	-1.9
MXZ				S*	Sb	22 16 44.2	-1.8
PUZ	**Puketiti**	1.27	193	⇓PN	Pn	22 16 41.7	-0.6
PUZ				SN	Sn	22 16 56.9	-1.3
CNGZ	**Carnagh Statio**	1.68	191	PN	Pn	22 16 47.4	-0.5
CNGZ				SN	Sn	22 17 08.9	+0.6
MWZ	**Matawai**	1.74	210	P*	Pn	22 16 48.7	0.0
MWZ				S*	Sn	22 17 09.5	-0.3
URZ	**Urewera**	1.87	220	P*	Pn	22 16 50.2	-0.3
URZ				S*	Sn	22 17 12.3	-0.6
MARZ	**Manawahe**	1.94	233	P*	Pn	22 16 51.4	0.0
EDRZ	**Edgecumbe**	1.97	229	*e*P*	Pn	22 16 51.7	-0.3
EDRZ				S*	Sn	22 17 15.4	-0.2
TARZ	**Mount Tarawera**	2.19	230	P*	Pn	22 16 55.8	+0.7
KNZ	**Kokohu**	2.31	199	*e*PN	Pn	22 16 54.3	-2.2
KUZ	**Kuaotunu**	2.34	271	PN	Pn	22 16 55.6	-1.3
MHGZ	**Mahia Peninsul**	2.38	194	PN	Pn	22 16 56.0	-1.6
RAHZ	**Arahi**	2.41	210	PN	Pn	22 16 57.6	-0.4
TOZ	**Tahuroa Road**	2.65	249	P*	Pn	22 17 00.8	-0.4
NMHZ	**Naumai**	2.68	212	PN	Pn	22 17 01.1	-0.7
MKAZ	**Moumakai**	2.79	263	⇑PN	Pn	22 17 03.5	+0.4
BKZ	**Black Stump Fm**	2.88	215	P*	Pn	22 17 03.1	-1.3
MCHZ	**McNeill Hill**	3.02	210	PN	Pn	22 17 05.1	-1.2
ABAZ	**Army Bay**	3.06	273	PN	Pn	22 17 07.9	+1.0
KAHZ	**Kahuranaki**	3.26	205	PN	Pn	22 17 07.2	-2.5
OTVZ	**Oturere**	3.30	224	P*	Pn	22 17 09.6	-0.7
BHHZ	**Black Hill Sta**	3.33	217	P*	Pn	22 17 09.5	-1.2
NGZ	**Ngauruhoe**	3.35	225	P*	Pn	22 17 10.3	-0.6
WPVZ	**Whakapapa**	3.40	225	P*	Pn	22 17 11.0	-0.6
FWVZ	**Far West T-bar**	3.43	224	P*	Pn	22 17 11.6	-0.6
MOVZ	**Moawhango**	3.43	221	P*	Pn	22 17 10.4	-1.6
WNVZ	**Wahianoa**	3.45	223	P*	Pn	22 17 11.4	-1.1
PNHZ	**Pukenui**	3.62	211	PN	Pn	22 17 12.0	-2.6

TAP 28 22:18:35.4, 24°.93N×122°.28E, h14km, ML3.5, C
IDC 28 22:18:37.7±1.1, 24°.76N×121°.08E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=66.8km s-min=18.9km az=67.0

ISC 28 22:18:35.1±1.7, 24°.91N±0°.03×122°.30E±0°.06, h14km±9km, n47, σ0s97/74, mb3.5/5, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	0.29	289	*i* P	Pb	22 18 41.8	-0.3
	baz=282						
TWB1				*i* S	Sb	22 18 46.1	-0.9
	baz=282						
EGS		0.34	259	*e*P	Pb	22 18 42.3	-0.5
	baz=250						
NWF	**Wu-fen Shan**	0.49	289	*i* P	Pb	22 18 46.0	+0.4
	baz=288						
NWF				*e*S	Sb	22 18 53.4	+0.6
	baz=288						
ILA	**Ilan**	0.52	254	*e*P	Pg	22 18 44.3	-1.0
	baz=252						
TWE	**Neicheng**	0.60	252	P	Pb	22 18 47.4	0.0
	baz=240						
TWE				S	Sb	22 18 56.0	+0.3
	baz=240						
ENA	**Nanau**	0.70	226	*e*P	Pb	22 18 48.8	-0.2
	baz=216						
ENA				*e*S	Sg	22 18 57.8	-0.2
	baz=216						
TAP1	**Taipei**	0.71	280	P	Pn	22 18 50.1	-0.6
	baz=279						
TAP1				S	Sn	22 19 00.3	-1.2
	baz=279						
ENTT	**Nioudou**	0.72	248	⇑P	Pb	22 18 49.5	+0.2
	baz=238						
ENTT				*e*S	Sb	22 18 60.0	+0.9
	baz=238						
TWY	**Chenhua**	0.73	300	*i* P	Pn	22 18 50.0	-0.9
	baz=287						
TWY				S	Sn	22 19 00.8	-1.1
	baz=287						
TAP	**Taipei**	0.73	280	*e*P	Pn	22 18 50.6	-0.4
	baz=279						
TAP				*e*S	Sn	22 19 00.6	-1.3
	baz=279						
PCYT	**Pengchaiyu**	0.74	344	*e*P	Pb	22 18 50.1	+0.2
	baz=345						
TWS1	**Kuangyinshan**	0.82	283	*e*P	Pn	22 18 51.8	-0.4
	baz=283						
TWS1				*e*S	Sn	22 19 03.5	-0.7
	baz=283						
NSK	**Sanguang**	0.88	255	P	Pb	22 18 52.3	0.0
	baz=270						
NSK				S	Sb	22 19 04.1	+0.1
	baz=270						
NNS	**Nan Shan**	0.96	241	P	Pg	22 18 54.0	+0.2
	baz=231						
NNS				*e*S	Sn	22 19 07.5	-0.4
	baz=231						
NCU	**National Centr**	1.01	273	*e*P	Pn	22 18 56.9	+2.0
	baz=273						
TWD	**Chiawan**	1.04	218	*e*P	Pb	22 18 55.1	+0.1
	baz=217						
TWD				*e*S	Sg	22 19 09.0	+0.1
	baz=217						
NSTT	**Nanjuang**	1.21	257	*e*P	Pb	22 18 57.6	-0.2
	baz=256						
NSTT				*e*S	Sg	22 19 15.8	+1.6
	baz=256						
WHF	**Hehuan Shan**	1.21	231	⇓P	Pn	22 18 58.1	+0.1
	baz=231						
WHF				*e*S	Sn	22 19 14.4	0.0
	baz=231						
TWT	**Tachien**	1.21	237	*e*P	Pg	22 18 58.6	+0.2
	baz=229						
TWT				*e*S	Sg	22 19 14.7	+0.4
	baz=229						
ESL	**Shilin**	1.35	216	*e*P	Pn	22 18 59.3	-0.2
	baz=223						
ESL				*e*S	Sg	22 19 18.4	-0.1
	baz=223						
NSY	**Sanyi**	1.48	251	*e*P	Pg	22 19 04.4	+0.8
	baz=251						
NSY				*e*S	Sg	22 19 22.8	0.0
	baz=251						
TWQ1	**Liyutan**	1.50	248	*e*P	Pg	22 19 03.9	0.0
	baz=265						
TWQ1				*e*S	Sg	22 19 24.1	+0.8
	baz=265						
SMLT	**Sun Moon Lake**	1.63	231	*e*P	Pb	22 19 05.2	+0.1
	baz=232						
SMLT				*e*S	Sb	22 19 26.3	+0.7
	baz=232						
TYC	**Yuchr**	1.65	233	*e*P	Pb	22 19 05.8	+0.5
	baz=234						
TYC				*e*S	Sg	22 19 27.2	-1.1
	baz=234						
EHY	**Hungye**	1.66	213	*e*P	Pn	22 19 04.5	+0.7
	baz=216						
EHY				*e*S	Sb	22 19 26.2	0.0
	baz=216						
TCU	**Taichung**	1.66	243	*e*P	Pb	22 19 06.0	+0.5
	baz=262						
TCU				*e*S	Sg	22 19 27.4	-1.2
	baz=262						
WNT	**Mingjian**	1.79	235	*e*P	Pb	22 19 08.2	+0.4
	baz=238						
TWF1	**Yuli**	1.80	211	*e*P	Pn	22 19 05.1	-0.7
	baz=212						
ALS	**Alishan**	1.95	225	*e*P	Pn	22 19 09.4	+1.3
	baz=214						
ALS				*e*S	Sb	22 19 34.3	-0.6
	baz=214						
CHN5	**Tsauling**	1.97	229	*e*P	Pb	22 19 10.7	-0.2
	baz=233						
CHN5				*e*S	Sb	22 19 36.8	+1.4
	baz=233						
ELDTW	**Lidau**	2.08	215	*e*P	Pn	22 19 10.9	+1.3
	baz=202						
CHN2	**Minshiung**	2.16	231	*e*P	Pb	22 19 13.7	-0.3
	baz=252						
CHN2				*e*S	Sb	22 19 41.4	+0.8
	baz=252						
CHN4	**Tsaushan**	2.20	225	*e*P	Pb	22 19 13.6	-1.1
	baz=213						
CHN4				*e*S	Sb	22 19 42.7	+0.9
	baz=213						
WTP	**Ta-pu**	2.26	223	*e*P	Pb	22 19 14.5	-1.3
	baz=211						
WTP				*e*S	Sb	22 19 42.5	-1.1
	baz=211						
TWK	**Hsinying**	2.33	226	*e*P	Pn	22 19 14.8	+1.7
	baz=212						
TWK				*e*S	Sb	22 19 44.0	-1.5
	baz=212						
CHN1	**Nanshi**	2.36	224	*e*P	Pb	22 19 16.0	-1.5
	baz=211						
CHN1				*e*S	Sb	22 19 44.8	-1.7
	baz=211						
TWG	**Pinlang**	2.36	209	*e*P	Pn	22 19 14.6	+1.1
	baz=211						
SGST	**Jiashian**	2.40	221	*e*P	Pn	22 19 15.2	+1.2
	baz=210						
SGST				*e*S	Sb	22 19 45.8	-1.9
	baz=210						
ECL	**Taimali**	2.61	208	*e*P	Pn	22 19 18.3	+1.4
	baz=211						
SSD	**Sandimen**	2.64	216	*e*P	Pn	22 19 19.6	+2.3
	baz=203						
TWM1	**Shoushan**	2.69	220	*e*P	Pb	22 19 21.1	-2.0
	baz=222						
KSRS	**Korea Array**	13.39	20	Pn	P	22 21 57.8	+3.6
	0.1nm,0.3s,baz=195,slow=12,SNR=4.5						
SONM	**Songino Array**	26.11	335	P	P	22 24 10.1	+1.5
	0.7nm,0.7s,baz=149,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	38.53	315	P	P	22 25 57.4	+0.2
	0.8nm,0.7s,baz=104,slow=10,SNR=10						
ZALV	**Zalesovo Beam**	40.20	326	P	P	22 26 10.0	-0.9
	0.3nm,0.4s,baz=108,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	46.10	164	P	P	22 27 04.4	+5.4
	1.4nm,1.0s,baz=346,slow=8.8,SNR=12						
ASAR	**Alice Springs**	49.59	166	P	P	22 27 32.4	+6.4
	0.3nm,0.6s,baz=342,slow=8.1,SNR=7.8						

IDC 28 22:24:25.8±1.6, 24°.18S×66°.81W, h179km±16km, mb3.0/3, mb1 3.5/7, mb1mx3.3/19, mbtmp3.2/7, Error ellipse: s-maj=22.9km s-min=13.4km az=95.0
ISCJB 28 22:24:26.2±0.8, 24°.19S±0°.05×66°.88W±0°.10, h200km±11km, mb3.1/3, Error ellipse: s-maj=14.2km s-min=7.9km az=2.0
GUC 28 22:24:29.6±0.5, 23°.99S×67°.28W, h220km, ML4.0

ISC 28 22:24:26.1±1.1, 24°.19S±0°.06×66°.76W±0°.10, h186km±13km, n18, σ1s52/23, mb3.2/3, 3C-3D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	2.97	299	⇑*i*P	Pn	22 25 16.3	+1.4
PB06				*i* S	Sn	22 25 51.8	-1.1
PB06				AML	AML	22 25 53.2	
	comp=N,284nm,0.1s						
PB04	**Plate Boundary**	3.15	307	⇓*i*P	Pn	22 25 23.6	+6.7
PB04				*i* S	Sn	22 26 04.7	+8.2
PB04				AML	AML	22 26 05.6	
	comp=N,200nm,0.5s						
CEN1	**Los Morros**	3.25	284	⇓*i*P	Pn	22 25 21.6	+3.5
CEN1				*i* S	Sn	22 25 58.5	-0.2
CEN1				AML	AML	22 26 02.0	
	comp=E,212nm,0.6s						
PB09	**Plate Boundary**	3.30	316	⇑*i*P	Pn	22 25 20.6	+1.7
PB09				*e*S	Sn	22 25 59.7	-0.4
PB09				AML	AML	22 26 02.2	
	comp=E,281nm,0.2s						
ANCH	**Antofagasta**	3.37	278	*e*P	Pn	22 25 20.9	+1.4
ANCH				*i* S	Sn	22 25 59.6	-1.7
MECH	**Mejillones**	3.55	287	⇓*i*P	Pn	22 25 23.3	+1.6
MECH		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.36**	**312**	*e*P	**Pn**	**22 36 39.9**	**-1.7**
BLLM	**Bellamira**	**0.77**	**302**	*e*P	**Pn**	**22 36 41.5**	**-1.7**
VSM	**San Miguel**	**0.80**	**300**	*e*P	**Pn**	**22 36 41.9**	**-1.7**
SNVI	**San Vicente**	**1.37**	**295**	*e*P	**Pn**	**22 36 45.8**	**-1.8**
LBRS	**Las Brisas**	**1.60**	**296**	*e*P	**Pn**	**22 36 47.9**	**-1.6**
LFU	**La Fuente**	**1.67**	**295**	*e*P	**Pn**	**22 36 48.5**	**-1.6**
BOQS	**Boqueron**	**1.81**	**293**	*e*P	**Pn**	**22 36 50.0**	**-1.6**
SNJE	**San Jose**	**2.15**	**293**	*e*P	**Pn**	**22 36 53.5**	**-1.7**
SBLS	**San Blas**	**2.16**	**292**	*e*P	**Pn**	**22 36 53.8**	**-1.5**
SBLS				*e*S	**Sn**	**22 37 24.5**	**-2.2**
RTR	**El Retiro**	**2.20**	**293**	*e*P	**Pn**	**22 36 54.2**	**-1.3**
RBDL	**Robledal**	**2.33**	**298**	*e*P	**Pn**	**22 36 55.4**	**-1.6**
MRL	**Marmol**	**2.89**	**315**	*e*P	**Pn**	**22 37 03.4**	**+0.1**
IXG	**Ixpaco**	**3.03**	**292**	*e*P	**Pn**	**22 37 04.0**	**-1.0**
NBG	**Las Nubes**	**3.11**	**300**	*e*P	**Pn**	**22 37 06.2**	**+0.1**
FUG	**Fuego 3**	**3.48**	**294**	*e*P	**Pn**	**22 37 09.1**	**-1.3**
FUG				*e*S	**Sn**	**22 37 55.5**	**+1.6**
FG6		**3.56**	**296**	*e*S	**Sn**	**22 37 56.3**	**+0.4**
JTS	**JuntasAbangare** 1.5nm,0.3s,baz=233,slow=10,SNR=5.6	**3.74**	**137**	P	**Pn**	**22 37 13.0**	**-0.4**
JTS				S	**Sn**	**22 37 58.8**	**-0.6**
TP2	**Tecpan 2** 12nm,0.3s,baz=292,slow=22,SNR=10	**3.78**	**298**	*e*P	**Pn**	**22 37 14.4**	**+0.2**
TP2				*e*S	**Sn**	**22 37 60.0**	**-0.9**
TEIG	**Tepich** 1.1nm,0.3s,baz=164,slow=20,SNR=7.3	**7.18**	**355**	P	**Pn**	**22 37 56.7**	**-0.7**
CMIG	**Matias Romero** 0.5nm,0.3s,baz=125,slow=12,SNR=4.3	**8.14**	**301**	P	**Pn**	**22 38 09.1**	**-0.8**
CMIG				S	Sn	22 39 30.8	-11
TXAR	**Lajitas Array** 0.5nm,0.3s,baz=8.7,slow=14,SNR=5.7	**22.06**	**320**	P	**P**	**22 40 53.8**	**+0.1**
TKL	**Tuckaleechee C** 1.1nm,0.6s,baz=138,slow=9.6,SNR=13	**22.78**	**8**	P	**P**	**22 41 00.9**	**+0.7**
LPAZ	**La Paz** 0.8nm,0.3s,baz=21,slow=4.8,SNR=5.8	**34.90**	**146**	P	P	22 42 51.1	+2.8
PDAR	**Pinedale Array** 1.0nm,0.7s,baz=129,slow=11,SNR=9.3	**35.21**	**331**	P	**P**	**22 42 50.6**	**+0.4**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=110,slow=7.8,SNR=2.9	**37.19**	**318**	P	**P**	**22 43 08.4**	**+1.3**
ULM	**Lac du Bonnet** 3.5nm,0.4s,baz=173,slow=8.9,SNR=7.7	**37.73**	**351**	P	**P**	**22 43 09.6**	**-1.5**
SIV	**San Ignacio** 0.6nm,0.3s,baz=307,slow=8.4,SNR=5.2	**38.96**	**137**	P	**P**	**22 43 22.2**	**+0.4**
SCHQ	**Schefferville** 4.2nm,0.5s,baz=212,slow=5.9,SNR=14	**44.76**	**17**	P	**P**	**22 44 07.7**	**-0.5**
YKA	**Yellowknife Ar** 0.7nm,0.6s,baz=137,slow=7.6,SNR=5.0	**53.02**	**345**	P	**P**	**22 45 10.7**	**-0.1**
RES	**Resolute Bay** 1.9nm,0.4s,baz=168,slow=4.8,SNR=4.8	**61.78**	**358**	P	**P**	**22 46 11.4**	**-0.3**
ESDC	**Sonseca Array** 0.2nm,0.4s,baz=292,slow=6.2,SNR=3.6	**76.92**	**52**	P	**P**	**22 47 44.7**	**-0.6**
TORD	**Torodi Ar. Bea** 0.4nm,1.0s,baz=300,slow=5.4,SNR=4.8	**86.39**	**77**	P	**P**	**22 48 36.8**	**+1.5**
SONM	**Songino Array** 0.3nm,0.3s,baz=113,slow=1.9,SNR=2.6	**118.14**	**349**	PKP	**PKPdf**	**22 54 36.9**	**-1.4**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=341,slow=3.1,SNR=3.1	**119.75**	**8**	PKP	**PKPdf**	**22 54 39.9**	**-1.3**
STKA	**Stephens Creek** 1.0nm,0.6s,baz=100,slow=6.1,SNR=6.1	**131.30**	**239**	PKP	**PKPdf**	**22 55 06.3**	**+2.6**
WRA	**Warramunga Arr** 1.6nm,0.5s,baz=89,slow=2.4,SNR=23	**139.32**	**255**	PKP	**PKPdf**	**22 55 20.6**	**+1.6**
ASAR	**Alice Springs** 1.4nm,0.6s,baz=92,slow=2.0,SNR=17	**139.38**	**249**	PKP	**PKPdf**	**22 55 21.0**	**+2.0**

*MOS **28** 22:37:30.8±0.9,52.˚72N×170.˚26W,h60km,mb5.1/54, Error ellipse: s-maj=7.7km s-min=5.6km az=83.8*
*BJI **28** 22:37:32.5,52.˚85N×170.˚31W,h81km,mB5.0/18, mb4.7/24,Ms5.0/17,Ms7 4.6/17*
*ISCJB **28** 22:37:32.8±0.3,52.˚68N±0.˚03×170.˚28W±0.˚02,h79km±2km, mb4.8/166,Error ellipse: s-maj=5.5km s-min=2.2km az=0.8*
*IDC **28** 22:37:33.5±1.4,52.˚69N×170.˚26W,h71km±12km,mb4.4/42, mb1 4.5/45,mb1mx4.4/49,mbtmp4.3/45,MS3.8/32, Ms1 3.8/32,ms1mx3.7/68,Error ellipse: s-maj=11.0km s-min=7.1km az=170.0*
*NEIC **28** 22:37:33.9±0.2,52.˚70N×170.˚29W,h74km±2km,mb5.0/100, Error ellipse: s-maj=4.4km s-min=2.0km az=173.0*
NEIC Felt at Nikolski.

ISC 28 22:37:34.4±0.4,52.˚64N±0.˚05×170.˚24W±0.˚03,h82km±3km, n841,σ0.˚94/925,mb4.8/166,218C-174D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.33**	**62**	P	**Pn**	**22 37 55.8**	**-1.8**
OKSO	**Okmok South**	**1.45**	**59**	P	**Pn**	**22 37 57.2**	**-1.9**
OKSO				S	**Sn**	**22 38 17.3**	**-0.4**
OKCE	**Okmok Cone E**	**1.48**	**57**	P	**Pn**	**22 37 58.2**	**-1.3**
OKCE				S	**Sn**	**22 38 20.2**	**+1.7**
OKFG	**Magazine Ridge**	**1.60**	**60**	P	**Pn**	**22 37 59.6**	**-1.4**
OKFG				S	**Sn**	**22 38 21.1**	**-0.2**
KOSE	**Korovin Southe**	**2.35**	**264**	P	**Pn**	**22 38 10.6**	**-0.4**
KOFP	**Korovin Flat P**	**2.39**	**263**	P	**Pn**	**22 38 11.1**	**-0.4**
MCIR	**Makushin Cirqu**	**2.40**	**55**	P	**Pn**	**22 38 10.9**	**-0.8**
MREP	**Makushin Rep't**	**2.41**	**59**	P	**Pn**	**22 38 11.1**	**-0.7**
KOKL	**Mount Kliuchef**	**2.45**	**264**	P	**Pn**	**22 38 11.8**	**-0.5**
ATKA	**Atka Island**	**2.46**	**261**	P	**Pn**	**22 38 10.7**	**-1.8**
ATKA				S	**Sn**	**22 38 41.4**	**-0.3**
MTBL	**Makushin Table**	**2.52**	**57**	P	**Pn**	**22 38 12.3**	**-1.0**
UNV	**Unalaska Valle**	**2.55**	**60**	P	**Pn**	**22 38 12.4**	**-1.2**
UNV				S	**Sn**	**22 38 43.0**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.91**	**57**	P	**Pn**	**22 38 17.9**	**-0.6**
ZRO	**Akutan Zero**	**2.94**	**59**	P	**Pn**	**22 38 18.1**	**-0.7**
AKGG	**Akutan Green G**	**2.98**	**57**	P	**Pn**	**22 38 19.1**	**-0.3**
AKLV	**Akutan Long Va**	**2.98**	**57**	P	**Pn**	**22 38 19.6**	**+0.1**
AHB	**Akutan Harbor**	**3.03**	**59**	P	**Pn**	**22 38 19.9**	**-0.2**
AKUT	**Akutan**	**3.06**	**59**	*e*Pn	**Pn**	**22 38 19.6**	**-0.9**
AKUT				*e*S	**Sn**	**22 38 56.1**	**-0.1**
GSTD	**Great Sitkin T**	**3.67**	**263**	P	**Pn**	**22 38 27.5**	**-1.4**
GSCK	**Great Sitkin C**	**3.69**	**263**	P	**Pn**	**22 38 27.7**	**-1.3**
WESE	**West Dahl East**	**3.84**	**263**	P	**Pn**	**22 38 30.6**	**-0.5**
KIKV	**Kanaga Island**	**4.33**	**263**	P	**Pn**	**22 38 36.9**	**-0.8**
FALS	**False Pass**	**4.62**	**59**	P	**Pn**	**22 38 41.0**	**-0.6**
TASE	**Tanaga Southea**	**4.86**	**264**	P	**Pn**	**22 38 44.2**	**-0.9**
TANO	**Tanaga North**	**4.90**	**265**	P	**Pn**	**22 38 44.4**	**-1.0**
CHGN	**Chignik**	**7.80**	**57**	*e*Pn	**Pn**	**22 39 23.1**	**-1.8**
CHGN				*e*S	**Sn**	**22 40 47.7**	**-3.9**
FX1	**Attu Island--F** 16nm,0.3s,baz=76,slow=2.6,SNR=30	**10.07**	**278**	P	**Pn**	**22 39 54.9**	**-1.0**
FX1				S	**Sn**	**22 41 49.0**	**+2.1**
FX1	**Attu Island--F** 2.0nm,0.3s,baz=66,slow=20,SNR=1.8	**10.07**	**278**	*e*Pn	**Pn**	**22 39 55.0**	**-1.0**
FX1				S	**Sn**	**22 41 49.0**	**+2.1**
KDAK	**Kodiak Island** 3.8nm,0.3s,baz=244,slow=5.1,SNR=45	**11.31**	**56**	P	Pn	22 40 08.5	-4.3
KDAK				S	Sn	22 42 08.2	-8.8
KDAK	**Kodiak Island** 0.8nm,0.3s,baz=174,slow=19,SNR=3.2	**11.31**	**56**	*e*Pn	Pn	22 40 09.3	-3.4
KDAK				S	Sn	22 42 08.2	-8.8
KDAK	**Kodiak Island** 271nm,0.5s,SNR=11	**11.31**	**56**	Pn	**Pn**	**22 40 10.6**	**-2.1**
SVW2	**Sparrevohn**	**11.64**	**38**	*e*Pn	Pn	22 40 19.1	+1.8
SPU	**Mount Spurr**	**13.07**	**42**	*e*Pn	Pn	22 40 38.5	+1.9
PMR	**Palmer**	**14.49**	**43**	*e*P	**Pn**	**22 40 52.1**	**-2.9**
PMR	**Palmer**	**14.49**	**43**	*e*Pn	Pn	**22 40 52.1**	**-2.9**
COLA	**College**	**16.76**	**34**	*e*P	**P**	**22 41 22.9**	**-1.5**
COLA	comp=Z,27nm,0.9s			pmax	pmax		
COLA	**College** comp=Z,28nm,0.9s	**16.76**	**34**	*e*Pn	**P**	**22 41 22.9**	**-1.5**
ILAR	**Eielson Array** comp=Z,0.7nm,0.3s,baz=235,slow=11,SNR=36	**17.03**	**35**	P	**Pn**	**22 41 24.5**	**-2.5**
ILAR				S	**Sn**	**22 44 35.6**	**0.0**
ILAR	comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=3.3			PcP	**PcP**	**22 46 07.7**	**+0.3**
ILAR	comp=Z,0.1nm,0.3s,baz=274,slow=3.3,SNR=4.9			LR	LR	22 48 32.8	
ILAR	comp=Z,297nm,18.4s,baz=65,slow=39			ScP	**ScP**	**22 49 35.2**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.0nm,0.3s,baz=260,slow=2.9,SNR=8.0	**17.03**	**35**	P	**Pn**	**22 41 24.5**	**-2.5**
ILAR				S	**Sn**	**22 44 35.6**	**0.0**
ILAR				PcP	**PcP**	**22 46 07.7**	**+0.3**
ILAR				ScP	**ScP**	**22 49 35.2**	**+0.7**
PET	**Petropavlovsk**	**18.73**	**284**	*e*P	**Pn**	**22 41 46.9**	**-0.7**
BILL	**Bilibino**	**19.12**	**333**	*e*P	**Pn**	**22 41 52.6**	**+0.6**
BILL	comp=Z,4.0nm,1.0s			pmax	pmax		
BILL				MLR	MLR		
BILL	comp=Z,200nm,22.0s						
BILL	**Bilibino** comp=Z,28nm,0.9s	**19.12**	**333**	*e*P	**Pn**	**22 41 50.9**	**-1.1**
EGAK	**Eagle** comp=Z,18nm,0.4s	**19.16**	**39**	*e*P	**P**	**22 41 50.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**19.28**	**284**	*e*P	**Pn**	**22 41 53.0**	**-1.1**
PETK	**Petropavlovsk-** comp=Z,2.3nm,0.3s,baz=88,slow=13,SNR=24	**19.28**	**284**	P	**Pn**	**22 41 53.1**	**-1.0**
PETK				PcP	**PcP**	**22 46 12.3**	**+0.9**
PETK	comp=Z,0.1nm,0.3s,baz=90,slow=2.6,SNR=4.8			LR	LR	22 48 33.2	
PETK	**Petropavlovsk-** comp=Z,63nm,19.1s,baz=284,slow=34	**19.28**	**284**	P	**Pn**	**22 41 53.1**	**-1.0**
PETK	**Petropavlovsk-**	**19.28**	**284**	P	**Pn**	**22 41 53.1**	**-1.0**
PETK				PcP	**PcP**	**22 46 12.3**	**+0.9**
DAWY	**Dawson**	**19.58**	**42**	*e*P	**P**	**22 41 54.5**	**-1.0**
SKAG	**Skagway** comp=Z,69nm,1.0s	**20.46**	**57**	*e*Pn	Pn	22 42 06.5	-1.3
SEY	**Seymchan**	**22.10**	**312**	*e*P	**P**	**22 42 22.9**	**+0.5**
DIB	**Dawson Inlet,**	**22.60**	**73**	T	T	23 05 41.1	
DLBC	**Dease Lake** comp=Z,33nm,0.9s,baz=266,slow=7.2,SNR=40	**23.20**	**60**	P	**P**	**22 42 35.5**	**+1.5**
DLBC	**Dease Lake**	**23.20**	**60**	P	**P**	**22 42 35.5**	**+1.5**
INK	**Inuvik** comp=Z,23nm,0.5s,baz=254,slow=7.5,SNR=80	**23.42**	**34**	P	**P**	**22 42 34.3**	**-1.4**
INK				PcP	**PcP**	**22 46 20.1**	**+1.0**
INK	comp=Z,5.0nm,0.7s,baz=226,slow=1.2,SNR=4.9			S	**S**	**22 46 42.3**	**+0.2**
INK	comp=Z,2.3nm,0.8s,baz=225,slow=18,SNR=4.0			LR	LR	22 53 04.3	
INK	**Inuvik** comp=Z,231nm,18.0s,baz=149,slow=40	**23.42**	**34**	P	**P**	**22 42 34.3**	**-1.4**
INK				PcP	**PcP**	**22 46 20.1**	**+1.0**
INK				S	**S**	**22 46 42.3**	**+0.2**
BBB	**Bella Bella** comp=Z,36nm,1.1s,baz=309,slow=7.6,SNR=4.9	**25.44**	**74**	P	**P**	**22 42 55.5**	**+1.4**
BBB				LR	LR	22 49 58.7	
BBB	**Bella Bella** comp=Z,205nm,21.9s,baz=238,slow=29	**25.44**	**74**	P	**P**	**22 42 55.5**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**30.02**	**271**	*i* P	P	22 43 48.7	+14
YUK				*i*		22 44 34.7	
YUK				*i* SS	SS	22 50 31.8	-5.6
YUK	comp=N,422nm,1.3s			pmax	pmax		
YUK	comp=E,509nm,1.3s			pmax	pmax		
YUK	comp=Z,722nm,1.3s			pmax	pmax		
YUK	comp=Z,2μm,1.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**30.43**	**278**	*e*P	**P**	**22 43 39.1**	**+0.4**
YSS	comp=Z,13nm,1.3s			pmax	pmax		
YKW3	**Yellowknife Ar** comp=Z,0.1nm,0.6s	**30.45**	**49**	*e*P	**P**	**22 43 39.0**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,3.2nm,0.4s,baz=273,slow=8.0,SNR=163	**30.46**	**49**	P	**P**	**22 43 38.7**	**-0.1**
YKA				PcP	**PcP**	**22 46 37.0**	**+1.1**
YKA	comp=Z,1.8nm,0.7s,baz=281,slow=2.7,SNR=9.5			ScP	**ScP**	**22 50 13.6**	**+2.9**
YKA	comp=Z,0.2nm,0.6s,baz=279,slow=5.4,SNR=3.4			PKiKP	**PKiKP**	**22 54 05.2**	**-1.4**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.9s,baz=298,slow=1.4,SNR=4.4	**30.46**	**49**	P	**P**	**22 43 38.8**	**-0.1**
YKA				PcP	**PcP**	**22 46 37.0**	**+1.1**
YKA				ScP	**ScP**	**22 50 13.7**	**+2.9**
YKA				PKiKP	**PKiKP**	**22 54 05.2**	**-1.4**
LON	**Longmire** comp=Z,17nm,1.0s	**31.38**	**81**	*e*P	**P**	**22 43 49.0**	**+1.9**
LON				pmax	pmax		
LON	**Longmire** comp=Z,17nm,1.0s	**31.38**	**81**	*e*P	**P**	**22 43 49.0**	**+1.9**
TIXI	**Tiksi**	**32.23**	**329**	*e*P	**P**	**22 43 55.3**	**+1.1**
TIXI	comp=Z,1.0nm,1.0s			pmax	pmax		
TIXI	comp=Z,170nm,21.0s			MLR	MLR		
YAK	**Yakutsk**	**32.59**	**311**	*e*P	**P**	**22 43 58.0**	**+0.5**
YAK	comp=Z,11nm,0.5s			pmax	pmax		
HAWA	**Hanford** comp=Z,49nm,1.2s	**32.92**	**80**	*e*P	**P**	**22 44 02.1**	**+1.5**
REDWA	**Red Mountain**	**33.03**	**80**	P	**P**	**22 44 03.1**	**+1.6**
VIPM	**Ingram Point**	**33.24**	**84**	P	**P**	**22 44 05.0**	**+1.4**
VIPM	**Ingram Point**	**33.24**	**84**	P	**P**	**22 44 05.0**	**+1.4**
NEW	**Newport** comp=Z,26nm,0.7s,baz=297,slow=6.9,SNR=61	**33.46**	**76**	P	**P**	**22 44 06.2**	**+1.0**
NEW				PcP	**PcP**	**22 46 46.1**	**+1.6**
NEW	comp=Z,3.5nm,0.9s,baz=315,slow=4.7,SNR=4.0			LR	LR	22 54 22.2	
NEW	**Newport** comp=Z,24nm,0.7s	**33.46**	**76**	*e*P	**P**	**22 44 06.3**	**+1.0**
NEW				PcP	**PcP**	**22 46 46.1**	**+1.6**
YBH	**Yreka Blue Hor** comp=Z,2.5nm,0.6s,baz=304,slow=4.8,SNR=5.5	**33.51**	**90**	P	**P**	**22 44 07.5**	**+1.7**
YBH				PcP	**PcP**	**22 46 45.7**	**+0.9**
YBH	comp=Z,1.0nm,0.6s,baz=157,slow=4.2,SNR=3.0			LR	LR	22 55 01.9	
YBH	**Yreka Blue Hor** comp=Z,163nm,18.4s,baz=352,slow=31	**33.51**	**90**	P	**P**	**22 44 07.5**	**+1.7**
YBH				PcP	**PcP**	**22 46 45.7**	**+0.9**
A12A	**Yaak River Ran** baz=34,SNR=17	**34.01**	**74**	⇑P	**P**	**22 44 11.0**	**+0.9**
C11A	**Tepee Creek (N** baz=34	**34.17**	**76**	⇑P	**P**	**22 44 11.3**	**-0.2**
HABR	**Khabarovsk**	**34.30**	**285**	*e*P	**pP**	**22 44 31.4**	**-0.3**
HABR				*e*		22 46 45.9	
HABR				*e*SS	SS	22 51 53.9	-11
HABR	comp=N,61nm,2.5s			pmax	pmax		
HABR	comp=Z,58nm,1.9s			pmax	pmax		
HABR	comp=E,77nm,2.5s			pmax	pmax		
C12B	**Naegeli Ranch,** baz=35,SNR=23	**34.70**	**76**	⇑P	**P**	**22 44 16.5**	**+0.5**
A13A	**Flathead Natio** baz=35	**34.74**	**73**	⇑P	**P**	**22 44 16.3**	**-0.1**
MOD	**Modoc** comp=E,35nm,1.5s	**34.88**	**88**	*e*P	**P**	**22 44 19.5**	**+1.8**
B13A	**Whitefish** baz=35,SNR=14	**34.97**	**74**	⇑P	**P**	**22 44 19.0**	**+0.6**
WALA	**Waterton Lakes** comp=E,1.3nm,1.3s	**34.97**	**73**	*e*P	**P**	**22 44 18.0**	**-0.4**
WALA				*e*PcP	**PcP**	**22 46 50.7**	**+1.8**
BSMT	**Bassoo Peak**	**35.03**	**75**	*e*P	**P**	**22 44 19.9**	**+0.8**
BMO	**Blue Mountains** comp=E,13nm,1.1s	**35.06**	**81**	*e*P	**P**	**22 44 20.1**	**+0.9**
BMO				*e*PcP	**PcP**	**22 46 49.0**	**-0.2**
D12A	**Red Ives Fores** baz=35	**35.09**	**77**	⇑P	**P**	**22 44 19.7**	**+0.2**
BLMT	**Blacktail Moun**	**35.20**	**75**	*e*P	**P**	**22 44 21.5**	**+0.9**
C13A	**Hot Springs** baz=35,SNR=28	**35.24**	**75**	⇓P	**P**	**22 44 21.6**	**+0.9**
E12A	**Beaver Dam Sad** baz=35,SNR=38	**35.28**	**78**	⇓P	**P**	**22 44 21.5**	**+0.3**
A14A	**Double T Ranch** baz=35,SNR=32	**35.30**	**73**	⇑P	**P**	**22 44 21.9**	**+0.6**
JTMT	**Jette**	**35.38**	**75**	*e*P	**P**	**22 44 22.9**	**+0.9**
YBMT	**Yellow Bay**	**35.48**	**75**	*e*P	**P**	**22 44 23.7**	**+0.9**
D13A	**Huson** baz=36,SNR=12	**35.60**	**76**	⇓P	**P**	**22 44 23.9**	**+0.1**
SWMT	**Swartz Lake**	**35.66**	**75**	*e*P	**P**	**22 44 25.1**	**+0.7**
B14A	**Marquette Ranc** baz=36,SNR=20	**35.67**	**73**	⇑P	**P**	**22 44 24.9**	**+0.4**
C14A	**Swan Lake** baz=36	**35.68**	**75**	⇓P	**P**	**22 44 24.9**	**+0.3**
A15A	**Johnson Ranch,** baz=36,SNR=15	**35.69**	**72**	⇓P	**P**	**22 44 24.6**	**0.0**
F12A	**Elk City** baz=36,SNR=26	**35.81**	**79**	⇓P	**P**	**22 44 26.1**	**+0.5**
MSO	**Missoula** comp=E,17nm,1.0s	**36.04**	**76**	*e*P	**P**	**22 44 28.1**	**+0.5**
MSO				*e*PcP	**PcP**	**22 46 53.0**	**+0.9**
E13A	**Victor** baz=36,SNR=9.1	**36.09**	**77**	⇓P	**P**	**22 44 28.4**	**+0.3**
SLMT	**Seeley Lake**	**36.09**	**75**	*e*P	**P**	**22 44 28.2**	**+0.1**
G12A	**Big Creek, Yel** baz=36,SNR=10	**36.10**	**79**	⇑P	**P**	**22 44 29.4**	**+1.2**
B15A	**Bradely Ranch,** baz=36,SNR=25	**36.11**	**73**	⇑P	**P**	**22 44 28.3**	**+0.1**
D14A	**Greenough** baz=36,SNR=48	**36.17**	**76**	⇑P	**P**	**22 44 28.7**	**0.0**
F13A	**Darby** baz=36,SNR=16	**36.34**	**78**	⇓P	**P**	**22 44 30.7**	**+0.4**
C15A	**Salmond Ranch,** baz=36,SNR=59	**36.35**	**74**	⇓P	**P**	**22 44 31.2**	**+1.0**
RES	**Resolute Bay** comp=E,0.6nm,0.3s,baz=258,slow=10,SNR=5.5	**36.36**	**26**	P	**P**	**22 44 29.3**	**-0.5**
RES	comp=E,1.5nm,0.5s,baz=252,slow=4.0,SNR=5.2			PcP	**PcP**	**22 46 53.2**	**+0.9**
RES	**Resolute Bay**	**36.36**	**26**	*e*P	**P**	**22 44 30.4**	**+0.6**
RES				PcP	**PcP**	**22 46 53.2**	**+0.9**
A16A	**West Butte Ran** baz=36	**36.37**	**72**	⇓P	**P**	**22 44 30.7**	**+0.3**
CHMT	**Chamberlain Mo**	**36.40**	**76**	*e*P	**P**	**22 44 31.1**	**+0.3**
E14A	**Clinton** baz=36,SNR=21	**36.52**	**76**	⇑P	**P**	**22 44 32.1**	**+0.4**
B16A	**M & M Farms, S** baz=36	**36.56**	**73**	⇑P	**P**	**22 44 31.9**	**-0.1**
H12A	**Diamond D Ranc** baz=37,SNR=14	**36.69**	**80**	⇑P	**P**	**22 44 33.4**	**+0.2**
MFID	**Camas Ranch** baz=37,SNR=12	**36.73**	**82**	⇑P	**P**	**22 44 33.7**	**+0.2**
D15A	**Lincoln** baz=37,SNR=29	**36.77**	**75**	⇓P	**P**	**22 44 34.1**	**+0.2**
G13A	**Cobalt** baz=37,SNR=24	**36.77**	**79**	⇓P	**P**	**22 44 34.1**	**+0.2**
C16A	**Fuhringer Ranc** baz=37,SNR=55	**36.84**	**73**	⇑P	**P**	**22 44 34.6**	**+0.2**
A17A	**Triple J Farms** baz=37,SNR=27	**36.89**	**71**	⇓P	**P**	**22 44 35.1**	**+0.4**
F14A	**Wisdom** baz=37,SNR=24	**36.90**	**77**	⇑P	**P**	**22 44 35.7**	**+0.6**
I12A	**Atlanta** baz=37,SNR=17	**36.94**	**81**	⇓P	**P**	**22 44 35.8**	**+0.4**
E15A	**Deer Lodge** baz=37,SNR=22	**37.02**	**76**	⇑P	**P**	**22 44 36.1**	**+0.1**
H13A	**Challis** baz=37,SNR=8.3	**37.05**	**80**	⇑P	**P**	**22 44 36.3**	**+0.1**
B17A	**L&G Farms, Che** baz=37,SNR=19	**37.15**	**72**	⇑P	**P**	**22 44 36.8**	**-0.1**
G14A	**Jackson** baz=37,SNR=12	**37.15**	**78**	⇑P	**P**	**22 44 37.2**	**-0.1**
CMB	**Columbia Colle**	**37.18**	**93**	*e*PcP	**PcP**	**22 46 56.5**	**+0.9**
D16A	**Dana Ranch, Ca** baz=37,SNR=16	**37.35**	**74**	⇑P	**P**	**22 44 38.7**	**0.0**
H13A	**Challis** baz=37,SNR=8.3	**37.05**	**80**	⇑P	**P**	**22 44 36.3**	**+0.1**
A18A	**Metzger Ranch,** baz=37,SNR=12	**37.39**	**71**	⇑P	**P**	**22 44 38.7**	**-0.2**
F15A	**Butte** baz=37,SNR=12	**37.41**	**77**	⇑P	**P**	**22 44 39.3**	**-0.1**
LRM	**Limekiln Ridge**	**37.44**	**77**	*e*P	**P**	**22 44 40.3**	**+0.6**
I13A	**Wildhorse Cree** baz=37,SNR=19	**37.48**	**80**	⇑P	**P**	**22 44 40.5**	**+0.5**
C17A	**Wharram Farm,** baz=37,SNR=15	**37.50**	**73**	⇑P	**P**	**22 44 40.0**	**0.0**
HLID	**Hailey** comp=E,7.2nm,0.6s	**37.50**	**81**	*e*P	**P**	**22 44 41.0**	**+0.9**
HLID				*e*PcP	**PcP**	**22 46 58.6**	**+2.0**
E16A	**East Helena** baz=37,SNR=29	**37.53**	**75**	⇓P	**P**	**22 44 40.7**	**+0.5**
H14A	**Leadore** baz=37,SNR=20	**37.55**	**79**	⇑P	**P**	**22 44 40.8**	**+0.2**
BMN	**Battle Mountai**	**37.62**	**87**	*e*P	**P**	**22 44 42.3**	**+1.1**
BMN	comp=Z,23nm,1.4s			pmax	pmax		
BMN	**Battle Mountai** comp=Z,23nm,1.4s	**37.62**	**87**	*e*P	**P**	**22 44 42.3**	**+1.1**
B18A	**Beardsley Farm** baz=38,SNR=20	**37.69**	**72**	⇑P	**P**	**22 44 41.6**	**+0.1**
J13A	**Cove Ranch, Pi** baz=38,SNR=25	**37.74**	**81**	⇓P	**P**	**22 44 42.9**	**+0.8**
MCMT	**McKenzie Canyo**	**37.74**	**78**	*e*P	**P**	**22 44 42.6**	**+0.4**
G15A	**Dillon** baz=38,SNR=30	**37.77**	**78**	⇓P	**P**	**22 44 42.5**	**+0.1**
D17A	**Six Diamond Ra** baz=38,SNR=13	**37.79**	**74**	⇑P	**P**	**22 44 43.2**	**+0.7**
I14A	**Mackay** baz=38,SNR=35	**37.88**	**80**	⇑P	**P**	**22 44 44.0**	**+0.7**
EGMT	**Eagleton** comp=Z,107nm,1.5s	**37.89**	**72**	*e*P	**P**	**22 44 43.7**	**+0.5**
F16A	**Kennard Place,** baz=38,SNR=5.8	**37.95**	**76**	⇑P	**P**	**22 44 44.1**	**+0.3**
H15A	**Lima** baz=38,SNR=13	**37.98**	**78**	⇓P	**P**	**22 44 44.8**	**+0.6**
A19A	**Klindworth Far** baz=38,SNR=17	**38.02**	**70**	⇓P	**P**	**22 44 44.6**	**+0.3**
BOZ	**Bozeman (W)** comp=Z,30nm,1.4s	**38.02**	**76**	*e*P	**P**	**22 44 45.2**	**+0.7**
BOZ	comp=Z,30nm,1.4s			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,30nm,1.4s	**38.02**	**76**	*e*P	**P**	**22 44 45.2**	**+0.7**
E17A	**Martinsdale** baz=38,SNR=27	**38.05**	**75**	⇑P	**P**	**22 44 45.4**	**+0.6**
B19A	**Brinkman Farms** baz=38,SNR=21	**38.14**	**71**	⇓P	**P**	**22 44 45.9**	**+0.6**
G16A	**Moss Hill, Enn** baz=38,SNR=19	**38.15**	**77**	⇑P	**P**	**22 44 45.7**	**+0.2**
J14A	**Carey** baz=38	**38.18**	**81**	⇑P	**P**	**22 44 46.6**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,8.5nm,0.7s,baz=299,slow=8.2,SNR=60	**38.20**	**91**	P	**P**	**22 44 47.2**	**+1.1**
NVAR	comp=Z,4.6nm,0.7s,baz=265,slow=3.8,SNR=8.8			PcP	**PcP**	**22 47 00.1**	**+1.2**
NVAR	comp=Z,0.3nm,0.5s,baz=297,slow=4.0,

comp=Z,207nm,20.4s,baz=55,slow=32
MJAR **Matsushiro Arr** 39.18 267 P **P** 22 44 54.4 +0.4
MJAR PcP **PcP** 22 47 02.5 +0.7
B21A **Ellsworth Farm** 39.26 70 ⇓P **P** 22 44 55.2 +0.6
baz=39,SNR=7.0
E19A **Rath Farm, Rou** 39.26 74 ⇓P **P** 22 44 55.4 +0.6
baz=39,SNR=18
D20A **Manuel Ranch,** 39.31 72 ⇓P **P** 22 44 55.7 +0.6
baz=39,SNR=13
H17A **Grant Village** 39.34 77 ⇑P **P** 22 44 57.4 +1.8
baz=39,SNR=17
J16A **Bone** 39.35 80 ⇓P **P** 22 44 57.0 +1.3
baz=39,SNR=16
VES **Vestal, Richgr** 39.40 94 ⇓P **P** 22 44 56.7 +0.8
baz=39
IMW **Indian Meadow** 39.40 78 *eP* **P** 22 44 57.5 +1.3
comp=Z,24nm,1.0s
G18A **Lazy EL Ranch,** 39.42 76 ⇓P **P** 22 44 56.5 +0.3
baz=39,SNR=10
RRI2 **Red Ridge** 39.48 79 *eP* **P** 22 44 58.5 +1.6
comp=Z,25nm,0.8s
F19A **Roth Farm, Mol** 39.50 75 ⇓P **P** 22 44 57.2 +0.5
baz=39
MDJ **Mudanjiang** 39.52 283 P **P** 22 44 56.3 -0.5
MDJ pP **pP** 22 45 14.5 -1.8
MDJ sP **sP** 22 45 24.5 -1.2
MDJ S **S** 22 50 51.3 -1.5
MDJ pmax pmax
comp=Z,7.0nm,2.2s
MDJ pmax pmax
comp=Z,98nm,4.4s
HVU **Hansel Valley** 39.52 82 *eP* **P** 22 44 58.3 +1.3
HVU pmax pmax
comp=Z,19nm,0.7s
HVU **Hansel Valley** 39.52 82 *eP* **P** 22 44 58.3 +1.3
comp=Z,19nm,0.7s
C21A **Desert Coulee** 39.52 71 ⇓P **P** 22 44 57.6 +0.7
baz=39,SNR=8.1
PKM **Peak Mountain** 39.58 96 ⇑P **P** 22 44 58.6 +1.0
baz=40
MOOW **Moose Ponds** 39.60 78 *eP* **P** 22 44 58.6 +0.9
comp=Z,9.0nm,1.1s
A22A **Carney Farms,** 39.60 69 ⇑P **P** 22 44 57.9 +0.4
baz=39,SNR=13
I17A **Pilgrim Ck.** 39.60 78 ⇓P **P** 22 44 58.2 +0.4
baz=40
K16A **Soda Springs** 39.62 80 ⇓P **P** 22 44 59.5 +1.6
baz=40,SNR=18
L15A **Malad City** 39.62 82 ⇑P **P** 22 44 58.0 +0.2
baz=40,SNR=6.8
E20A **Meyer Farm, Mu** 39.62 73 ⇑P **P** 22 44 58.1 +0.4
baz=40,SNR=8.4
RLMT **Red Lodge** 39.71 76 *eP* **P** 22 44 59.6 +1.0
comp=Z,51nm,1.1s
H18A **Shoshone NF, C** 39.72 77 ⇓P **P** 22 44 59.1 +0.3
baz=40,SNR=20
SNOW **Snow King Moun** 39.75 79 *eP* **P** 22 45 00.5 +1.5
comp=Z,27nm,1.3s
ISA **Isabella** 39.88 94 *eP* **P** 22 45 00.6 +0.6
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA **Isabella** 39.88 94 *eP* **P** 22 45 00.6 +0.6
comp=Z,10nm,1.0s
ISA **Isabella** 39.88 94 ⇓P **P** 22 45 00.1 +0.1
baz=40,SNR=6.3
M15A **Larsen Ranch,** 39.90 82 ⇓P **P** 22 45 00.9 +0.7
baz=40
R11A **Troy Canyon, C** 39.90 89 ⇓P **P** 22 45 00.7 +0.4
baz=40,SNR=26
B22A **Reddig Ranch S** 39.91 70 ⇓P **P** 22 45 00.6 +0.6
baz=40
AHID **Auburn Hatcher** 39.95 80 *eP* **P** 22 45 01.6 +0.9
comp=Z,20nm,0.9s
D21A **La Casta Ranch** 39.98 72 ⇓P **P** 22 45 01.4 +0.7
baz=40
F20A **Billings** 39.99 74 ⇓P **P** 22 45 01.8 +1.0
baz=40
K17A **Gardner Place,** 40.06 80 ⇑P **P** 22 45 02.2 +0.6
baz=40
H19A **Powell** 40.12 76 ⇑P **P** 22 45 02.6 +0.6
baz=40,SNR=14
I18A **Diamond G Ranc** 40.18 78 ⇑P **P** 22 45 03.2 +0.6
baz=40,SNR=12
L16A **Fish Haven** 40.19 81 ⇓P **P** 22 45 03.3 +0.7
baz=40,SNR=22
N15A **Stansbury Isla** 40.20 83 ⇑P **P** 22 45 03.3 +0.6
baz=40
A23A **Redstone** 40.20 68 ⇑P **P** 22 45 02.6 +0.2
baz=40,SNR=7.7
E21A **Keefer Ranch,** 40.22 73 ⇓P **P** 22 45 03.5 +0.8
baz=40
MPMC **Manual Prospec** 40.22 93 ⇑P **P** 22 45 03.6 +0.7
baz=40,SNR=9.2
C22A **Vida** 40.26 70 ⇑P **P** 22 45 03.4 +0.5
baz=40,SNR=7.4
G20A **Bridger** 40.27 75 ⇑P **P** 22 45 03.6 +0.4
baz=40,SNR=31
FURC **Furnace Creek,** 40.34 92 ⇓P **P** 22 45 04.6 +1.1
baz=40,SNR=9.6
J18A **Kendall Valley** 40.34 79 ⇑P **P** 22 45 04.4 +0.5
baz=40,SNR=9.1
HWUT **Hardware Ranch** 40.35 82 *eP* **P** 22 45 04.5 +0.6
comp=Z,6.0nm,0.7s
B23A **Brockton** 40.40 69 ⇓P **P** 22 45 04.5 +0.4
baz=40,SNR=17
D22A **Cohagen** 40.41 71 ⇓P **P** 22 45 05.0 +0.8
baz=40,SNR=14
ALE **Alert** 40.41 11 P **P** 22 45 04.6 +0.9
comp=Z,34nm,0.5s,SNR=5.3
DUG **Dugway** 40.44 84 *eP* **P** 22 45 05.7 +1.0
DUG *e* 22 47 07.0
DUG pmax pmax
comp=Z,38nm,1.3s
DUG **Dugway** 40.44 84 *eP* **P** 22 45 05.7 +1.0
comp=Z,38nm,1.3s
DUG *ePcP* **PcP** 22 47 07.0 +1.0
L17A **Cokeville** 40.47 81 ⇓P **P** 22 45 05.6 +0.6
baz=40,SNR=13
I19A **Meeteetse** 40.48 77 ⇓P **P** 22 45 05.4 +0.4
baz=40,SNR=11
M16A **Huntsville** 40.48 82 ⇑P **P** 22 45 05.7 +0.6
baz=40
LRMC **Laurel Mountai** 40.48 94 ⇑P **P** 22 45 05.8 +0.8
baz=40
F21A **Absaloka Mine,** 40.58 73 ⇑P **P** 22 45 06.0 +0.3
baz=40
C23A **Lambert** 40.63 70 ⇑P **P** 22 45 07.0 +0.9
baz=40,SNR=30
K18A **Toltan Ranch,** 40.66 79 ⇑P **P** 22 45 07.4 +0.9
baz=40,SNR=12
A24A **Westby** 40.72 68 ⇑P **P** 22 45 07.5 +0.8
baz=41,SNR=25
H20A **Greybull** 40.81 76 ⇑P **P** 22 45 07.9 +0.3
baz=41
DGMT **Dagmar** 40.84 68 *eP* **P** 22 45 08.6 +0.8
comp=Z,54nm,1.4s
N16A **Rees Ranch, Co** 40.86 82 ⇑P **P** 22 45 08.6 +0.5
baz=41
G21A **Lodge Grass** 40.86 74 ⇓P **P** 22 45 08.3 +0.3
baz=41
BW06 **Boulder Array** 40.87 79 *eP* **P** 22 45 08.9 +0.6
comp=Z,30nm,1.1s
PDAR **Pinedale Array** 40.87 79 P **P** 22 45 08.7 +0.4
comp=Z,20nm,0.7s,baz=298,slow=3.3,SNR=142
PDAR LR LR 22 58 36.2
comp=Z,99nm,21.5s,baz=300,slow=31
PDAR **Pinedale Array** 40.87 79 P **P** 22 45 08.7 +0.4
J19A **Crowheart** 40.88 78 ⇓P **P** 22 45 09.2 +0.9
baz=41,SNR=14
E22A **Miles City** 40.93 72 ⇑P **P** 22 45 09.3 +0.8
baz=41,SNR=11
D23A **Lindsay** 40.96 71 ⇑P **P** 22 45 09.5 +0.8
baz=41,SNR=10
M17A **Scullys Gap (B** 40.97 81 ⇑P **P** 22 45 09.4 +0.3
baz=41,SNR=5.7
JLU **Jordanelle** 41.02 83 *eP* **P** 22 45 10.3 +0.8
comp=Z,13nm,0.8s
SHOC **Shoshone** 41.06 92 ⇑P **P** 22 45 10.3 +0.6
baz=41
L18A **Fontenelle, Gr** 41.08 80 ⇓P **P** 22 45 10.4 +0.4
baz=41,SNR=8.3
MWC **Mount Wilson** 41.10 95 *eP* **P** 22 45 11.1 +0.9
MWC pmax pmax
comp=Z,18nm,1.3s
MWC **Mount Wilson** 41.10 95 *eP* **P** 22 45 11.1 +0.9
comp=Z,18nm,1.3s
F22A **Rosebud** 41.11 73 ⇑P **P** 22 45 10.3 +0.3
baz=41,SNR=9.2

GSC **Goldstone** 41.14 93 *eP* **P** 22 45 11.2 +0.9
GSC *e* 22 47 09.5
GSC pmax pmax
comp=Z,24nm,0.9s
GSC **Goldstone** 41.14 93 *eP* **P** 22 45 11.2 +0.9
comp=Z,24nm,0.9s
GSC *ePcP* **PcP** 22 47 09.5 +1.3
GSC **Goldstone** 41.14 93 ⇓P **P** 22 45 11.3 +0.9
baz=41,SNR=26
P15A **Leamington** 41.15 85 ⇑P **P** 22 45 10.8 +0.2
baz=41
N17A **Moffit Pass** 41.19 82 ⇑P **P** 22 45 11.2 +0.3
baz=41
C24A **Savage** 41.21 70 ⇓P **P** 22 45 11.7 +0.9
baz=41,SNR=17
O16A **Springville** 41.23 83 ⇓P **P** 22 45 12.2 +1.0
baz=41
DAU **Daniels Canyon** 41.26 83 *eP* **P** 22 45 12.7 +1.2
DAU **Daniels Canyon** 41.26 83 *eP* **P** 22 45 12.7 +1.2
K19A **Absolon Red Bu** 41.26 78 ⇑P **P** 22 45 11.5 0.0
baz=41,SNR=28
E23A **Ismay** 41.27 72 ⇓P **P** 22 45 12.2 +1.0
baz=41
MPU **Maple Canyon** 41.27 84 *eP* **P** 22 45 12.6 +1.1
comp=Z,17nm,0.7s
H21A **Big Horn, Sher** 41.30 75 ⇑P **P** 22 45 12.0 +0.4
baz=41,SNR=7.8
BFSC **Mount Baldy Ra** 41.34 95 ⇑P **P** 22 45 12.7 +0.7
baz=41,SNR=5.7
M18A **Lyman** 41.36 81 ⇑P **P** 22 45 12.3 +0.1
baz=41,SNR=6.6
L19A **Farson** 41.38 80 ⇓P **P** 22 45 12.7 +0.3
baz=41,SNR=5.8
G22A **Birney** 41.40 74 ⇓P **P** 22 45 12.9 +0.4
baz=41,SNR=7.1
J20A **Shoshoni** 41.41 77 ⇑P **P** 22 45 13.4 +0.8
baz=41,SNR=29
D24A **Glendive** 41.49 70 ⇓P **P** 22 45 14.1 +1.0
baz=41,SNR=25
P16A **Fountain Green** 41.50 84 ⇑P **P** 22 45 14.6 +1.2
baz=41
ARUT **Antelope Range** 41.57 88 *eP* **P** 22 45 14.9 +0.9
ARUT **Antelope Range** 41.57 88 *eP* **P** 22 45 14.9 +0.9
TUQ **Turquoise Moun** 41.59 92 ⇑P **P** 22 45 14.4 +0.3
baz=42,SNR=8.1
I21A **Big Trails, Te** 41.61 76 ⇑P **P** 22 45 14.2 -0.1
baz=42,SNR=14
K20A **Yellowstone Ra** 41.66 78 ⇑P **P** 22 45 14.6 -0.1
baz=42,SNR=30
O17A **Robinson Place** 41.70 83 ⇑P **P** 22 45 16.1 +1.0
baz=42,SNR=7.6
H22A **Clearmont** 41.72 75 ⇑P **P** 22 45 15.1 +0.1
baz=42,SNR=5.8
HEC **Hector,Ludlow** 41.74 93 ⇑P **P** 22 45 16.0 +0.7
baz=42,SNR=12
CCUT **Cedar City** 41.77 88 *eP* **P** 22 45 16.6 +1.0
comp=Z,8.0nm,0.7s
J21A **Lyle** 41.79 77 ⇑P **P** 22 45 16.3 +0.5
baz=42,SNR=17
E24A **Baker** 41.81 71 ⇑P **P** 22 45 16.2 +0.5
baz=42,SNR=7.9
M19A **Rock Springs** 41.86 80 ⇑P **P** 22 45 16.8 +0.4
baz=42
MVU **Marysvale** 41.86 86 *eP* **P** 22 45 17.6 +1.1
comp=Z,13nm,0.9s
N18A **Larsen Ranch,** 41.87 81 ⇓P **P** 22 45 16.4 0.0
baz=42,SNR=7.2
MSU **Marysvale** 41.88 86 *eP* **P** 22 45 17.6 +1.1
MSU *e* 22 47 12.7
MSU **Marysvale** 41.88 86 *eP* **P** 22 45 17.6 +1.1
MSU *ePcP* **PcP** 22 47 12.7 +1.9
G23A **Biddle** 41.94 73 ⇑P **P** 22 45 17.1 +0.3
baz=42,SNR=6.8
TMUT **Trail Mountain** 41.97 84 *eP* **P** 22 45 18.5 +1.1
comp=Z,31nm,0.7s
I22A **9 Mile Ranch,** 42.05 76 ⇑P **P** 22 45 18.4 +0.7
baz=42,SNR=15
L20A **Wamsutter** 42.05 79 ⇓P **P** 22 45 18.3 +0.4
baz=42,SNR=7.5
O18A **Roosevelt** 42.10 82 ⇑P **P** 22 45 19.4 +1.2
baz=42,SNR=8.0
F24A **Ekalaka** 42.13 72 ⇑P **P** 22 45 18.7 +0.4
baz=42,SNR=6.1
P17A **Butcher Ranch,** 42.15 84 ⇑P **P** 22 45 19.5 +0.8
baz=42,SNR=12
GMRC **Granite Mounta** 42.19 93 ⇓P **P** 22 45 19.6 +0.6
baz=42,SNR=14
N19A **John Jarvie Ra** 42.22 81 ⇑P **P** 22 45 19.3 +0.1
baz=42,SNR=22
Q16A **Castle Valley** 42.23 85 ⇑P **P** 22 45 20.3 +0.9
baz=42,SNR=18
LDFC **Landfair** 42.32 92 *eP* **P** 22 45 20.5 +0.4
comp=Z,31nm,0.8s
K21A **Alcova** 42.33 78 ⇓P **P** 22 45 20.0 -0.1
baz=42,SNR=15
J22A **Midwest** 42.33 76 ⇑P **P** 22 45 20.5 +0.4
baz=42,SNR=31
P18A **Preston Nutter** 42.35 83 ⇑P **P** 22 45 21.2 +0.8
baz=42,SNR=20
CN2 **Changchun** 42.43 285 *eP* **P** 22 45 21.8 +1.1
CN2 *epP* **pP** 22 45 42.0 +1.6
CN2 *eS* **S** 22 51 36.0 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
G24A **Alzada** 42.44 73 ⇓P **P** 22 45 21.1 +0.3
baz=42
M20A **Sweetwater, Wa** 42.45 79 ⇓P **P** 22 45 21.4 +0.3
baz=42,SNR=11
PFO **Pinyon Flat Ob** 42.49 95 *eP* **P** 22 45 21.9 +0.5
comp=Z,12nm,1.0s
PFO **Pinyon Flat Ob** 42.49 95 P **P** 22 45 21.0 -0.5
comp=Z,50nm,1.1s,SNR=6.0
PFO **Pinyon Flat Ob** 42.49 95 ⇑P **P** 22 45 21.6 +0.1
baz=42,SNR=6.0
SRU **San Rafael** 42.50 84 *eP* **P** 22 45 22.5 +0.9
SRU pmax pmax
comp=Z,896nm,0.7s
SRU **San Rafael** 42.50 84 *eP* **P** 22 45 22.5 +0.9
comp=Z,896nm,0.7s
BELC **Belle Mtn. Jos** 42.51 94 ⇓P **P** 22 45 21.7 +0.1
baz=42,SNR=9.1
O19A **Miners Draw (B** 42.61 82 ⇑P **P** 22 45 22.8 +0.4
baz=42,SNR=32
L21A **Rawlins** 42.65 78 ⇓P **P** 22 45 22.5 -0.2
baz=42,SNR=14
H24A **Dirks Ranch, A** 42.69 73 ⇓P **P** 22 45 22.3 -0.6
baz=42,SNR=17
K22A **Casper** 42.75 77 ⇑P **P** 22 45 23.1 -0.3
baz=43,SNR=8.9
N20A **Spence Gulch,** 42.80 80 ⇑P **P** 22 45 24.6 +0.5
baz=43,SNR=15
M21A **Separation Pea** 42.87 79 ⇑P **P** 22 45 24.3 -0.3
baz=43,SNR=7.3
IRM **Iron Mountain** 42.91 93 ⇑P **P** 22 45 25.3 +0.5
baz=43,SNR=9.7
BAR **Barrett** 43.00 96 *eP* **P** 22 45 26.5 +1.0
comp=Z,22nm,1.3s
MONP **Monument Peak** 43.01 95 ⇑P **P** 22 45 26.6 +0.8
baz=43
W13A **Hualapai Mount** 43.05 91 ⇑P **P** 22 45 26.7 +0.6
baz=43,SNR=20
BC3 **Big Chuckawall** 43.07 94 ⇓P **P** 22 45 25.9 -0.2
baz=43,SNR=5.0
P19A **Cripple Cowboy** 43.11 82 ⇓P **P** 22 45 26.8 +0.3
baz=43,SNR=52
U15A **North Rim** 43.15 88 ⇓P **P** 22 45 27.7 +0.8
baz=43,SNR=38
L22A **Ellis Ranch, M** 43.17 78 ⇓P **P** 22 45 27.6 +0.6
baz=43,SNR=8.8
K23A **Bowen Ranch, D** 43.22 76 ⇑P **P** 22 45 27.4 +0.2
baz=43
O20A **White River Ci** 43.24 81 ⇑P **P** 22 45 27.9 +0.3
baz=43,SNR=27
N21A **Black Mountain** 43.29 80 ⇑P **P** 22 45 28.1 +0.1
baz=43,SNR=17
RSSD **Black Hills** 43.35 74 *eP* P 22 45 22.3 -6.1
RSSD pmax pmax
comp=Z,87nm,1.9s
RSSD **Black Hills** 43.35 74 *eP* P 22 45 22.3 -6.1
comp=Z,87nm,1.9s
SWSC **Sam W. Stewart** 43.35 95 ⇓P **P** 22 45 28.9 +0.6
baz=43
Q19A **Hogan Spring (** 43.36 83 ⇑P **P** 22 45 28.5 +0.1
baz=43,SNR=23
DVTC **Desert V Tower** 43.37 95 ⇓P **P** 22 45 29.1 +0.6
baz=43,SNR=5.0

PDMCI **Parker Dam,Lak** 43.43 92 ⇓P **P** 22 45 29.3 +0.4
baz=43,SNR=5.2
M22A **Cedar Creek Ra** 43.45 79 ⇓P **P** 22 45 29.5 +0.2
baz=43,SNR=17
CBIJ **Chichi jima** 43.47 253 LR LR 22 58 45.3
comp=Z,160nm,21.7s,baz=51,slow=29
P20A **De Beque** 43.55 82 ⇑P **P** 22 45 30.0 0.0
baz=43,SNR=6.1
L23A **Garrett** 43.56 77 ⇓P **P** 22 45 30.0 0.0
baz=43,SNR=20
Y12C **Blythe** 43.57 93 ⇑P **P** 22 45 30.7 +0.7
baz=44,SNR=7.3
O21A **Pagoda** 43.66 80 ⇓P **P** 22 45 31.5 +0.5
baz=44
S18A **Hurst Farm, Bl** 43.73 85 ⇓P **P** 22 45 31.9 +0.4
baz=44,SNR=52
MDND **Maddock** 43.77 67 ⇑P **P** 22 45 32.2 +0.8
baz=44
PV10 **Paradox Valley** 43.87 84 *eP* **P** 22 45 33.5 +0.9
GLA **Glamis** 43.87 94 *eP* **P** 22 45 32.9 +0.5
GLA pmax pmax
comp=Z,17nm,1.1s
GLA **Glamis** 43.87 94 *eP* **P** 22 45 32.9 +0.5
comp=Z,17nm,1.1s
GLA **Glamis** 43.87 94 ⇑P **P** 22 45 33.1 +0.6
baz=44
N22A **Wattenberg Ran** 43.91 79 ⇑P **P** 22 45 33.0 +0.1
baz=44,SNR=10
M23A **Laramie** 43.94 78 ⇑P **P** 22 45 33.0 -0.2
baz=44
PV04 **Paradox Valley** 43.94 84 *eP* **P** 22 45 33.5 +0.3
Q20A **Ridgley Place,** 43.95 82 ⇓P **P** 22 45 32.9 -0.3
baz=44,SNR=7.5
L24A **Wheatland** 44.06 77 ⇓P **P** 22 45 34.4 +0.4
baz=44
P21A **Newcastle** 44.10 81 ⇑P **P** 22 45 34.9 +0.4
baz=44,SNR=19
N23A **Red Feather La** 44.15 79 ⇑P **P** 22 45 35.2 +0.3
baz=44,SNR=10
O22A **Kremmling** 44.25 80 ⇓P **P** 22 45 35.8 +0.1
baz=44,SNR=8.0
PV01 **Paradox Valley** 44.30 84 *eP* **P** 22 45 36.5 +0.4
WUAZ **Wupatki** 44.30 89 *eP* **P** 22 45 36.7 +0.6
comp=Z,20nm,0.8s
Y14A **Wickenburg** 44.37 91 ⇑P **P** 22 45 37.1 +0.7
baz=44,SNR=9.1
R20A **Redvale** 44.38 83 ⇑P **P** 22 45 37.1 +0.4
baz=44,SNR=18
Q21A **Lamborn Mesa,** 44.46 82 ⇓P **P** 22 45 37.5 +0.2
baz=44,SNR=5.7
M24A **Cheyenne** 44.47 77 ⇑P **P** 22 45 37.7 +0.4
baz=44
P22A **Eagle** 44.47 81 ⇓P **P** 22 45 37.5 0.0
baz=44
ULM **Lac du Bonnet** 44.49 62 P **P** 22 45 37.2 0.0
comp=Z,12nm,0.5s,baz=304,slow=7.7,SNR=24
ULM PcP **PcP** 22 47 19.1 +0.1
comp=Z,2.8nm,0.5s,baz=308,slow=3.5,SNR=2.5
ULM **Lac du Bonnet** 44.49 62 *eP* **P** 22 45 37.2 0.0
comp=Z,30nm,1.4s
ULM PcP **PcP** 22 47 19.1 +0.1
L25A **Engebretsen Ra** 44.56 76 ⇓P **P** 22 45 38.3 +0.3
baz=44
O23A **Lake Granby, G** 44.59 79 ⇑P **P** 22 45 39.3 +0.8
baz=44,SNR=22
SMCO **Snowmass** 44.61 81 *eP* **P** 22 45 38.7 0.0
comp=Z,5.2nm,0.7s
SMCO *e* 22 47 21.4
S20A **Disappointment** 44.63 84 ⇓P **P** 22 45 39.0 +0.3
baz=44,SNR=41
K26A **Motz Farm, Whi** 44.70 75 ⇑P **P** 22 45 38.9 -0.1
baz=44
113A **Mohawk Valley,** 44.71 93 ⇑P **P** 22 45 39.3 +0.2
baz=45
R21A **Cimarron** 44.77 83 ⇓P **P** 22 45 40.0 +0.2
baz=45,SNR=14
Z14A **Wintersburg** 44.80 92 ⇑P **P** 22 45 40.3 +0.5
baz=45
N24A **Carr** 44.83 78 ⇑P **P** 22 45 40.5 +0.3
baz=45
Q22A **Crested Butte,** 44.84 82 ⇑P **P** 22 45 40.7 +0.2
baz=45,SNR=21
KSRS **Korea Array** 44.85 276 P **P** 22 45 41.5 +1.4
comp=Z,2.1nm,0.6s,baz=54,slow=7.4,SNR=8.8
KSRS LR LR 23 02 20.7
comp=Z,95nm,20.6s,baz=230,slow=33
KSAR **Wonju Array Be** 44.88 276 P **P** 22 45 41.5 +1.1
MVCO **Mesa Verde** 44.94 85 *eP* **P** 22 45 41.5 +0.3
M25A **Palm-Egli Farm** 44.95 77 ⇑P **P** 22 45 41.8 +0.6
baz=45,SNR=5.4
X16A **Lo Mia Camp, P** 45.00 90 ⇑P **P** 22 45 42.5 +0.8
baz=45,SNR=16
ISCO **Idaho Springs** 45.03 80 *eP* **P** 22 45 42.8 +0.8
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO **Idaho Springs** 45.03 80 *eP* **P** 22 45 42.8 +0.8
comp=Z,8.9nm,1.3s
S21A **Coal Bank Pass** 45.08 84 ⇑P **P** 22 45 42.6 +0.3
baz=45,SNR=24
O24A **Longmont** 45.15 79 ⇑P **P** 22 45 43.7 +1.0
baz=45
K27A **Flueckinger Fa** 45.25 74 ⇑P **P** 22 45 44.4 +1.0
baz=45
R22A **Saguache, Gunn** 45.34 82 ⇑P **P** 22 45 45.2 +0.7
baz=45,SNR=8.9
Q23A **Hartsel** 45.47 81 ⇑P **P** 22 45 46.1 +0.7
baz=45,SNR=12
M26A **McRoberts Ranc** 45.47 76 ⇓P **P** 22 45 46.1 +0.9
baz=45
U20A **Newcomb** 45.47 85 ⇑P **P** 22 45 46.2 +0.9
baz=45
W18A **Petrified Fore** 45.57 88 ⇑P **P** 22 45 47.1 +1.0
baz=46
AGMN **Agassiz Nation** 45.59 64 *eP* **P** 22 45 45.7 -0.2
comp=Z,23nm,0.8s
S22A **4UR Ranch, Cre** 45.61 83 ⇑P **P** 22 45 47.2 +0.6
baz=46,SNR=7.5
P24A **Kohler Place,** 45.63 80 ⇑P **P** 22 45 47.4 +0.8
baz=46
T21A **Navajo Lake** 45.67 84 ⇓P **P** 22 45 47.7 +0.8
baz=46,SNR=8.0
O25A **Wiggins** 45.73 78 ⇓P **P** 22 45 48.1 +0.8
baz=46,SNR=6.8
N26A **Koester Ranch,** 45.82 77 ⇓P **P** 22 45 48.4 +0.5
baz=46
X18A **Snowflake** 45.83 88 ⇓P **P** 22 45 49.1 +0.9
baz=46,SNR=6.1
Q24A **Divide** 45.84 80 ⇑P **P** 22 45 48.4 +0.1
baz=46
214A **Organ Pipe Nat** 45.85 93 ⇑P **P** 22 45 48.6 +0.4
baz=46,SNR=9.2
M27A **Reverse DX Ran** 45.88 76 ⇑P **P** 22 45 49.1 +0.7
baz=46
V20A **Brimhall** 45.89 86 ⇑P **P** 22 45 49.1 +0.5
baz=46,SNR=9.2
R23A **Moffat** 45.93 82 ⇓P **P** 22 45 49.6 +0.6
baz=46,SNR=7.6
JNU **Nakatsue** 45.94 269 P **P** 22 45 49.2 +0.3
comp=Z,8.0nm,0.6s,baz=34,slow=16,SNR=7.9
JNU **Nakatsue** 45.94 269 P **P** 22 45 49.2 +0.3
U21A **Nageezi** 45.96 85 ⇓P **P** 22 45 49.9 +0.6
baz=46,SNR=38
T22A **Edith** 46.04 84 ⇓P **P** 22 45 50.5 +0.6
baz=46,SNR=14
P25A **Willow Gulch B** 46.08 79 ⇑P **P** 22 45 50.8 +0.7
baz=46,SNR=15
BRSD **Miller** 46.10 70 ⇑P **P** 22 45 49.9 -0.1
baz=46
O26A **Horse Wrangler** 46.13 78 ⇑P **P** 22 45 51.1 +0.7
baz=46
N27A **Anderson Farm,** 46.24 77 ⇓P **P** 22 45 51.5 +0.3
baz=46,SNR=5.8
W20A **Ramah** 46.31 87 ⇓P **P** 22 45 52.2 +0.2
baz=46,SNR=10
R24A **Sanders Place,** 46.33 81 ⇑P **P** 22 45 52.7 +0.6
baz=46,SNR=14
V21A **Milan** 46.39 85 ⇓P **P** 22 45 53.0 +0.4
baz=46,SNR=6.6
Q25A **Bedland, Calha** 46.41 80 ⇑P **P** 22 45 53.0 +0.3
baz=46,SNR=6.7
OGNE **Ogallala** 46.45 76 *eP* **P** 22 45 53.1 +0.3
comp=Z,31nm,0.9s
U22A **Llaves** 46.48 84 ⇓P **P** 22 45 54.0 +0.6
baz=46,SNR=15
P26A **Davis Ranch, A** 46.54 78 ⇑P **P** 22 45 54.5 +0.8
baz=46,SNR=21
T23A **Casias Ranch,** 46.55 83 ⇓P **P** 22 45 54.7 +0.8
baz=46

S24A **Houchin Ranch,** 46.65 82 ⇓P P 22 45 55.5 +0.7
baz=46,SNR=8.5
O27A **Beecher Island** 46.66 77 ⇑P P 22 45 55.1 +0.6
baz=46
X20A **Quemado** 46.71 87 ⇓P P 22 45 55.8 +0.7
baz=47,SNR=12
V22A **San Miguel Ran** 46.76 85 ⇓P P 22 45 56.3 +0.8
baz=47
TUC **Tucson** 46.84 91 *e*P P 22 45 56.6 +0.6
TUC pmax pmax
comp=Z,16nm,1.0s
TUC **Tucson** 46.84 91 *e*P P 22 45 56.6 +0.6
comp=Z,16nm,1.0s
W21A **San Fidel** 46.84 86 ⇓P P 22 45 56.5 +0.3
baz=47
Q26A **Hugo** 46.84 79 ⇓P P 22 45 56.6 +0.6
baz=47,SNR=5.8
R25A **Fountain Ranch** 46.88 81 ⇑P P 22 45 57.0 +0.6
baz=47,SNR=10
U23A **El Rito** 46.92 84 ⇓P P 22 45 57.6 +0.9
baz=47,SNR=22
S25A **Robets Cordova** 47.11 81 ⇓P P 22 45 58.5 +0.4
baz=47,SNR=14
T24A **Torres, Weston** 47.12 82 ⇓P P 22 45 58.9 +0.5
baz=47,SNR=12
X21A **Alamocita Cree** 47.21 87 ⇑P P 22 46 00.2 +1.2
baz=47,SNR=27
Y20A **Horse Springs,** 47.21 88 ⇑P P 22 46 00.3 +1.2
baz=47,SNR=13
R26A **Arlington** 47.29 80 ⇓P P 22 46 00.1 +0.6
baz=47,SNR=10
V23A **Ortiz Mt. (NFS** 47.31 84 ⇑P P 22 46 01.0 +1.3
baz=47,SNR=11
KSCO **Kaye Shedlock'** 47.32 78 ⇑P P 22 46 00.4 +0.7
baz=47,SNR=6.1
W22A **Albuquerque** 47.34 86 ⇓P P 22 46 01.1 +1.1
baz=47
U24A **Moreno Valley** 47.42 83 ⇓P P 22 46 01.6 +0.9
baz=47,SNR=5.5
T25A **Trinidad** 47.46 82 ⇑P P 22 46 01.6 +0.7
baz=47,SNR=20
Y21A **Point of Rocks** 47.57 87 ⇑P P 22 46 03.0 +1.2
baz=48,SNR=9.2
Z20A **Nine Sixteen R** 47.62 89 ⇓P P 22 46 03.3 +1.1
baz=48,SNR=12
LAZ **Ladron** 47.63 86 *e*P P 22 46 03.1 +0.8
comp=Z,7.3nm,1.0s
X22A **Bernardo** 47.64 86 ⇑P P 22 46 03.7 +1.4
baz=48,SNR=11
ANMO **Albuquerque** 47.68 85 P P 22 46 02.6 0.0
comp=Z,5.5nm,1.1s,baz=314,slow=9.8,SNR=8.8
ANMO PcP PcP 22 47 31.8 +1.0
comp=Z,9.1nm,0.8s,baz=294,slow=3.4,SNR=14
ANMO **Albuquerque** 47.68 85 *e*P P 22 46 03.0 +0.4
comp=Z,12nm,1.4s
ANMO *e*PcP PcP 22 47 31.7 +1.0
R27A **Eads** 47.69 79 ⇑P P 22 46 02.9 +0.4
baz=48,SNR=7.7
S26A **Kim** 47.71 80 ⇑P P 22 46 03.2 +0.4
baz=48,SNR=21
W23A **Werner Place,** 47.72 85 ⇑P P 22 46 03.5 +0.6
baz=48,SNR=7.4
V24A **Rampart Ranch,** 47.88 84 ⇓P P 22 46 04.8 +0.6
baz=48,SNR=11
ECSD **EROS Data Cent** 47.88 70 *e*P P 22 46 03.1 -0.7
comp=Z,16nm,0.6s
LENM **Lemitar** 47.89 87 *e*P P 22 46 05.3 +1.1
T26A **Comanche Natio** 47.93 81 ⇑P P 22 46 04.6 +0.1
baz=48,SNR=14
U25A **Circle Dot Ran** 47.95 82 ⇑P P 22 46 05.1 +0.4
baz=48,SNR=15
Y22D **IRIS PASSCAL I** 47.98 87 ⇓P P 22 46 05.9 +0.9
baz=48
120A **U Bar Ranch, L** 47.99 89 ⇓P P 22 46 05.6 +0.6
baz=48,SNR=9.8
LPM **Los Pinos Moun** 48.00 86 *e*P P 22 46 06.0 +0.9
S27A **Las Animas** 48.02 80 ⇑P P 22 46 05.1 0.0
baz=48,SNR=6.6
Z21A **St. Cloud Mine** 48.05 88 ⇓P P 22 46 06.5 +1.0
baz=48,SNR=15
Y22A **Socorro** 48.05 87 ⇑P P 22 46 06.5 +1.0
baz=48,SNR=26
X23A **Hourglass Bar** 48.09 86 ⇓P P 22 46 06.7 +1.0
baz=48,SNR=6.0
BNM **Barren Site** 48.11 86 *e*P P 22 46 06.8 +0.8
comp=Z,11nm,0.9s
W24A **Lazy 6 Ranch,** 48.14 84 ⇓P P 22 46 07.1 +0.9
baz=48,SNR=9.1
EYMN **Ely** 48.17 62 *e*P P 22 46 05.8 -0.2
comp=Z,21nm,1.0s
V25A **Rancho No Teng** 48.20 83 ⇑P P 22 46 07.4 +0.8
baz=48,SNR=15
U26A **Atchley Ranch,** 48.35 82 ⇑P P 22 46 08.4 +0.6
baz=48,SNR=7.9
319A **Douglas** 48.41 91 ⇓P P 22 46 09.3 +1.1
baz=48
BGNE **Belgrade** 48.44 73 ⇓P P 22 46 08.8 +0.6
baz=48
220A **Playas Peak, P** 48.50 90 ⇑P P 22 46 09.7 +0.8
baz=48,SNR=18
121A **Cookes Peak, D** 48.51 89 ⇓P P 22 46 09.8 +0.7
baz=48,SNR=7.8
Z22A **Elephant Butte** 48.52 87 ⇑P P 22 46 09.9 +0.8
baz=48,SNR=6.6
X24A **Lazy VL Ranch,** 48.56 85 ⇓P P 22 46 10.0 +0.6
baz=48,SNR=6.3
Y23A **Lovelace Mesa,** 48.61 86 ⇑P P 22 46 10.5 +0.8
baz=48,SNR=21
W25A **X Bar L Ranch,** 48.71 84 ⇓P P 22 46 11.2 +0.7
baz=49,SNR=25
V26A **Tequesquite Ra** 48.73 83 ⇑P P 22 46 11.1 +0.5
baz=49,SNR=34
T28A **Walsh** 48.86 80 ⇑P P 22 46 12.1 +0.6
baz=49
122A **Conniff Cattle** 48.88 88 ⇑P P 22 46 12.8 +1.0
baz=49,SNR=5.8
221A **Mesquite Ranch** 48.88 89 ⇓P P 22 46 12.6 +0.8
baz=49
320A **Kipp Ranch, An** 48.89 90 ⇑P P 22 46 12.7 +0.8
baz=49,SNR=12
Z23A **Rita Site, Whi** 48.96 87 ⇑P P 22 46 13.2 +0.9
baz=49
Y24A **Capitan** 48.99 86 ⇓P P 22 46 13.2 +0.5
baz=49,SNR=34
SPMN **St. Paul** 49.11 66 ⇓P P 22 46 13.1 -0.1
baz=49,SNR=19
SPITS **Spitsbergen Ar** 49.38 358 P P 22 46 14.1 -0.9
comp=Z,2.6nm,0.4s,baz=273,slow=3.2,SNR=17
SPITS PcP PcP 22 47 36.6 +0.6
comp=Z,7.9nm,0.5s,baz=32,slow=2.2,SNR=18
SPITS **Spitsbergen Ar** 49.38 358 P P 22 46 14.1 -0.9
SPITS PcP PcP 22 47 36.6 +0.6
Z24A **Sheeppen Canyo** 49.44 86 ⇓P P 22 46 16.8 +0.6
baz=49,SNR=20
Y25A **Mesa, Roswell** 49.44 85 ⇓P P 22 46 17.2 +1.2
baz=49
X26A **CR and CF Fran** 49.55 84 ⇓P P 22 46 17.4 +0.5
baz=49,SNR=8.6
W27A **Bowe Ranch, En** 49.66 83 ⇑P P 22 46 18.0 +0.4
baz=50
V28A **Channing** 49.70 81 ⇑P P 22 46 18.6 +0.6
baz=50
TLY **Talaya** 49.75 306 *e*P P 22 46 19.5 +1.5
TLY pmax pmax
comp=Z,2.0nm,0.8s
124A **Stringfield Ra** 49.82 87 ⇓P P 22 46 19.7 +0.6
baz=50,SNR=16
Z25A **Roswell** 49.87 86 ⇑P P 22 46 19.9 +0.6
baz=50,SNR=12
Y26A **Elida** 49.97 84 ⇑P P 22 46 20.5 +0.4
baz=50,SNR=9.3
W28A **Vega** 50.04 82 ⇓P P 22 46 20.9 +0.4
baz=50
224A **Cornudas Mount** 50.21 87 ⇑P P 22 46 22.5 +0.6
baz=50,SNR=26
Z26A **Caprock** 50.32 85 ⇑P P 22 46 23.4 +0.7
baz=50,SNR=30
125A **Gardner Draw,** 50.33 86 ⇑P P 22 46 23.5 +0.7
baz=50,SNR=16
Y27A **Causey** 50.40 84 ⇓P P 22 46 23.9 +0.7
baz=50
X28A **Dimmitt** 50.55 83 ⇑P P 22 46 24.2 -0.2
baz=50
MSTX **Muleshoe** 50.57 84 ⇑P P 22 46 24.8 +0.2
baz=50,SNR=11
COWI **Conover** 50.58 63 *e*P P 22 46 23.5 -0.8
comp=Z,23nm,0.4s
225A **Deer Hill, Car** 50.61 87 ⇓P P 22 46 25.9 +0.9
baz=50,SNR=24
AMTX **Amarillo** 50.61 82 *e*P P 22 46 25.3 +0.5
comp=Z,14nm,0.9s
324A **Moseley Ranch,** 50.67 88 ⇑P P 22 46 25.7 +0.3
baz=51,SNR=8.1
SUMG **Summit** 50.68 17 *e*P P 22 46 26.3 +1.1
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG **Summit** 50.68 17 *e*P P 22 46 26.3 +1.1
comp=Z,17nm,0.9s
SUMG **Summit** 50.68 17 *i*P P 22 46 25.5 +0.3
comp=Z,15nm,1.0s
SONM **Songino Array** 50.71 300 P P 22 46 26.4 +1.0
comp=Z,0.6nm,0.6s,baz=64,slow=6.1,SNR=6.4
SONM PcP PcP 22 47 42.1 +0.6
comp=Z,6.4nm,0.7s,baz=63,slow=2.6,SNR=19
SONM ScP ScP 22 51 31.9 +1.9
comp=Z,2.9nm,1.0s,baz=55,slow=3.2,SNR=10
SONM LR LR 23 08 28.4
comp=Z,97nm,19.4s,baz=54,slow=37
SONM **Songino Array** 50.71 300 P P 22 46 26.4 +1.0
SONM PcP PcP 22 47 42.1 +0.6
SONM ScP ScP 22 51 31.9 +1.9
126A **Clayton Basin,** 50.73 86 ⇑P P 22 46 26.1 +0.4
baz=51,SNR=12
ZAK **Zakamensk** 50.73 304 *e*P P 22 46 38.5 +13
ZAK *e* 22 47 41.9
ZAK pmax pmax
comp=Z,2.0nm,1.4s
Z27A **Tatum** 50.76 85 ⇑P P 22 46 25.9 0.0
baz=51,SNR=14
KSU1 **Kansas State U** 50.83 74 *e*P P 22 46 26.0 -0.3
comp=Z,22nm,0.9s
X29A **Tulia** 50.90 82 ⇑P P 22 46 27.2 +0.2
baz=51
Y28A **McKinney Farm,** 50.93 83 ⇓P P 22 46 27.2 -0.1
baz=51
325A **Bean Ranch, Si** 51.04 88 ⇓P P 22 46 28.8 +0.6
baz=51,SNR=43
MOY **Mondy** 51.06 307 *e*P P 22 46 28.8 +0.8
W30A **Crocket Farms** 51.08 81 ⇓P P 22 46 28.3 0.0
baz=51
127A **Arkansas Junct** 51.11 85 ⇑P P 22 46 28.5 -0.1
baz=51
Z28A **Tucker Farm, M** 51.27 84 ⇑P P 22 46 29.8 0.0
baz=51
Y29A **Porterfield Fa** 51.32 83 ⇓P P 22 46 30.3 +0.2
baz=51,SNR=8.9
X30A **Coker Ranch, T** 51.40 82 ⇓P P 22 46 31.0 +0.3
baz=51
425A **Indio Mountain** 51.44 88 ⇓P P 22 46 31.9 +0.8
baz=51,SNR=32
W31A **Holland Ranch,** 51.45 80 ⇓P P 22 46 31.1 +0.1
baz=51
128A **Castleberry Fa** 51.68 85 ⇑P P 22 46 33.0 +0.1
baz=52,SNR=22
326A **Caldwell Ranch** 51.68 87 ⇓P P 22 46 33.1 +0.2
baz=52
Z29A **Hungry Hill Ra** 51.71 83 ⇓P P 22 46 33.0 0.0
baz=52,SNR=18
Y30A **Stafford Cattl** 51.77 82 ⇑P P 22 46 33.6 +0.1
baz=52,SNR=9.0
X31A **McDonald Ranch** 51.81 81 ⇓P P 22 46 33.7 0.0
baz=52
228A **UT Block 9, Go** 51.96 85 ⇓P P 22 46 34.9 -0.1
baz=52
Z30A **Sanderson Ranc** 52.04 83 ⇓P P 22 46 35.4 -0.1
baz=52,SNR=19
129A **Stewart Farms,** 52.05 84 ⇑P P 22 46 35.2 -0.4
baz=52
426A **McDonald Obser** 52.10 88 ⇓P P 22 46 36.2 +0.1
baz=52,SNR=17
HHC **Hu-ho-hao-te** 52.33 290 *e*P P 22 46 36.5 -1.1
HHC pP pP 22 47 00.0 +2.1
HHC sP sP 22 47 11.3 +4.1
HHC PP PP 22 48 37.0 +0.4
HHC S S 22 53 52.0 -4.8
HHC sS sS 22 54 32.8 +1.3
HHC SS SS 22 57 28.5 -6.3
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,240nm,6.3s
HHC LR LR
comp=N,280nm,15.3s
HHC LR LR
comp=E,720nm,15.3s
HHC LR LR
comp=Z,400nm,17.5s
328A **Wristen Ranch,** 52.34 86 ⇑P P 22 46 37.6 -0.2
baz=52,SNR=16
427A **Hayter Ranch,** 52.36 87 ⇑P P 22 46 38.0 +0.1
baz=52,SNR=6.8
SFJD **Kangerlussuaq** 52.36 26 P P 22 46 37.2 -0.1
comp=Z,8.4nm,0.7s,baz=310,slow=6.7,SNR=4.4
SFJD **Kangerlussuaq** 52.36 26 P P 22 46 37.2 -0.1
SFJD **Kangerlussuaq** 52.36 26 *i*P P 22 46 37.6 +0.3
WMOK **Wichita Mounta** 52.46 80 *e*P P 22 46 38.5 0.0
WMOK pmax pmax
comp=Z,23nm,0.8s
WMOK **Wichita Mounta** 52.46 80 *e*P P 22 46 38.5 0.0
comp=Z,23nm,0.8s
526A **Mary Lane Ranc** 52.50 88 ⇓P P 22 46 39.3 +0.3
baz=52,SNR=21
229A **Bryant Ranch,** 52.54 85 ⇑P P 22 46 39.3 0.0
baz=52
Y32A **R-V Farms, Ver** 52.56 81 ⇑P P 22 46 39.4 +0.1
baz=52,SNR=9.1
Z31A **Sharp Cattle R** 52.61 82 ⇑P P 22 46 39.6 -0.1
baz=52,SNR=5.8
130A **Snyder** 52.62 84 ⇑P P 22 46 39.6 -0.1
baz=52
527A **Woodward Ranch** 52.73 88 ⇑P P 22 46 40.6 -0.1
baz=53,SNR=15
329A **Wagon Wheel Ra** 52.77 85 ⇓P P 22 46 41.0 +0.1
baz=53,SNR=9.0
GUMO **Guam** 52.78 240 P P 22 46 40.8 -0.2
comp=Z,34nm,0.4s,baz=48,slow=12,SNR=4.1
GUMO **Guam** 52.78 240 P P 22 46 40.9 -0.2
626A **Big Bend Ranch** 52.83 89 ⇓P P 22 46 41.8 +0.4
baz=53,SNR=27
428A **Kincaid Ranch,** 52.88 86 ⇑P P 22 46 42.3 +0.6
baz=53,SNR=21
131A **Roby** 52.91 83 ⇓P P 22 46 41.9 0.0
baz=53
230A **Sterling City** 53.02 84 ⇑P P 22 46 42.7 -0.1
baz=53,SNR=11
Z32A **Haskell** 53.02 82 ⇓P P 22 46 42.5 -0.2
baz=53,SNR=19
LPIG **La Paz** 53.06 98 LR LR 23 03 46.8
comp=Z,8.3nm,20.0s,baz=104,slow=30
528A **Cox Ranch, San** 53.22 87 ⇓P P 22 46 44.3 +0.1
baz=53
TXAR **Lajitas Array** 53.27 88 P P 22 46 45.0 +0.3
comp=Z,18nm,0.8s,baz=298,slow=5.4,SNR=164
TXAR PcP PcP 22 47 52.2 +0.8
comp=Z,3.6nm,0.6s,baz=244,slow=1.4,SNR=5.2
TXAR **Lajitas Array** 53.27 88 P P 22 46 45.0 +0.3
TXAR PcP PcP 22 47 52.2 +0.8
330A **Mertzon** 53.32 85 ⇑P P 22 46 44.9 -0.1
baz=53,SNR=6.8
627A **Terlingua Ranc** 53.35 88 ⇑P P 22 46 45.3 0.0
baz=53,SNR=18
ABTX **Abilene, Hawle** 53.40 83 ⇓P P 22 46 45.2 -0.2
baz=53,SNR=5.1
429A **Davenport Ranc** 53.43 86 ⇓P P 22 46 45.5 -0.3
baz=53,SNR=12
TUL1 **Tulsa** 53.44 77 ⇑P P 22 46 45.5 -0.2
baz=53
231A **Bronte** 53.47 84 ⇓P P 22 46 45.7 -0.3
baz=53
529A **Stev Forest Ra** 53.59 87 ⇓P P 22 46 47.2 +0.2
baz=54
628A **Black Gap, Mar** 53.64 88 ⇓P P 22 46 47.3 0.0
baz=54,SNR=30
430A **Baggett Ranch,** 53.72 85 ⇓P P 22 46 47.5 -0.4
baz=54,SNR=20
331A **San Angelo** 53.84 84 ⇑P P 22 46 48.3 -0.4
baz=54,SNR=9.4
232A **Coleman** 53.91 83 ⇓P P 22 46 48.6 -0.6
baz=54,SNR=5.3
NJ2 **Nanjing** 53.99 277 *e*P P 22 46 49.0 -0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
530A **J-C Ranch, Com** 54.11 86 ⇑P P 22 46 50.6 -0.1
baz=54,SNR=32
431A **Sonora** 54.17 85 ⇑P P 22 46 51.0 -0.2
baz=54,SNR=25
332A **Millersview** 54.20 84 ⇑P P 22 46 51.1 -0.3
baz=54,SNR=7.1
432A **Menard** 54.53 84 ⇑P P 22 46 53.1 -0.7
baz=54,SNR=7.0
531A **Rocksprings** 54.58 85 ⇑P P 22 46 54.1 0.0
baz=54
JCT **Junction City** 54.81 84 *e*P P 22 46 55.1 -0.7
JCT pmax pmax
comp=Z,20nm,0.8s
JCT **Junction City** 54.81 84 *e*P P 22 46 55.1 -0.7
comp=Z,20nm,0.8s
RFTA **Plano** 54.90 80 *e*P P 22 46 57.0 +0.6
532A **Rocksprings** 54.99 85 ⇑P P 22 46 56.6 -0.5
baz=55
631A **Perdido Creek** 55.10 86 ⇑P P 22 46 57.0 -0.8
baz=55,SNR=11
WHTX **Lake Whitney** 55.16 81 ⇓P P 22 46 58.4 +0.2
baz=55
FVM **French Village** 55.17 71 *e*P P 22 46 57.1 -1.2
FVM pmax pmax
comp=Z,22nm,1.0s
FVM **French Village** 55.17 71 *e*P P 22 46 57.1 -1.2
comp=Z,22nm,1.0s
SFIN **Scholer Farm** 55.44 67 ⇓P P 22 46 59.7 -0.4
baz=55
632A **Uvalde** 55.51 85 ⇑P P 22 46 60.0 -0.8
baz=55,SNR=6.9
SCHQ **Schefferville** 55.60 43 P P 22 47 01.2 +0.2
comp=Z,7.8nm,0.7s,baz=331,slow=7.6,SNR=26
SCHQ LR LR 23 12 41.5
comp=Z,88nm,18.8s,baz=5.3,slow=38
SCHQ **Schefferville** 55.60 43 *e*P P 22 47 01.5 +0.4
comp=Z,9.7nm,0.7s
732A **Laxson Ranch,** 55.95 86 ⇑P P 22 47 03.6 -0.4
baz=56,SNR=5.1
OLIL **Olney** 55.99 69 *e*P P 22 47 03.6 -0.5
comp=Z,35nm,0.9s
AAM **Ann Arbor** 56.04 63 *e*P P 22 47 04.3 -0.1
AAM pmax pmax
comp=Z,19nm,0.5s
AAM **Ann Arbor** 56.04 63 *e*P P 22 47 04.3 -0.1
comp=Z,19nm,0.5s
SIUC **Southern Illin** 56.05 71 *e*P P 22 47 03.9 -0.6
comp=Z,16nm,0.8s
SADO **Sadowa** 56.76 58 LR LR 23 13 04.9
comp=Z,106nm,19.9s,baz=351,slow=38
USIN **University of** 56.77 70 *e*P P 22 47 09.3 -0.4
comp=Z,56nm,0.9s
ZALV **Zalesovo Beam** 56.87 317 P P 22 47 09.8 -0.3
comp=Z,0.8nm,0.6s,baz=26,slow=7.2,SNR=5.0
ZALV PcP PcP 22 48 05.3 +0.7
comp=Z,6.9nm,0.6s,baz=34,slow=4.1,SNR=22
ZALV LR LR 23 12 10.8
comp=Z,101nm,18.6s,baz=248,slow=37
ZALV **Zalesovo Beam** 56.87 317 P P 22 47 09.8 -0.3
ZALV 22 48 05.4
ZALV **Zalesovo Beam** 56.87 317 P P 22 47 09.8 -0.3
ZALV PcP PcP 22 48 05.3 +0.7
KEV **Kevo** 57.27 353 *e*P P 22 47 11.5 -1.2
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV **Kevo** 57.27 353 *e*p P 22 47 11.5 -1.2
comp=Z,5.8nm,0.7s
WCI **Wyandotte Cave** 57.37 68 *e*P P 22 47 13.1 -0.8
WCI pmax pmax
comp=Z,17nm,0.9s
WCI **Wyandotte Cave** 57.37 68 *e*P P 22 47 13.1 -0.8
comp=Z,18nm,0.9s
HKT **Hockley** 57.59 82 *e*P P 22 47 15.7 +0.3
HKT **Hockley** 57.59 82 *e*P P 22 47 15.7 +0.3
ARCES **ARCESS Array B** 57.60 354 P P 22 47 14.2 -0.8
comp=Z,2.8nm,0.5s,baz=28,slow=5.9,SNR=25
ARCES PcP PcP 22 48 07.7 +0.4
comp=Z,3.7nm,0.6s,baz=5.7,slow=4.9,SNR=6.0
ARCES LR LR 23 10 22.4
comp=Z,82nm,20.4s,baz=176,slow=34
ARCES **ARCESS Array B** 57.60 354 P P 22 47 14.2 -0.8
ARCES PcP PcP 22 48 07.7 +0.4
ACSO **Alum Creek Sta** 57.83 65 *e*P P 22 47 16.8 -0.2
comp=Z,16nm,0.6s
ALLY **Alegheny Colle** 58.39 62 *e*P P 22 47 21.0 +0.1
comp=Z,53nm,0.8s
XAN **Xi'an** 58.51 286 P P 22 47 21.5 -0.5
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,20nm,4.8s
LONY **Lake Ozonia** 59.20 56 *e*P P 22 47 25.9 -0.6
comp=Z,22nm,1.3s
FRNY **Flat Rock** 59.54 55 *e*P P 22 47 28.0 -0.9
comp=Z,22nm,1.4s
NCB **Newcomb** 59.84 56 *e*P P 22 47 31.0 +0.1
comp=Z,78nm,2.3s
GTA **Gaotai** 59.88 296 *e*P P 22 47 32.5 +1.0
GTA pmax pmax
comp=Z,2.0nm,1.0s
LZH **Lanzhou** 60.00 291 *e*P P 22 47 36.0 +3.7
LZH pmax pmax
comp=Z,13nm,1.0s
BINY **Binghamton** 60.20 59 *e*P P 22 47 33.7 +0.3
comp=Z,26nm,0.6s
SSPA **Standing Stone** 60.31 61 *e*P P 22 47 33.7 -0.4
comp=Z,30nm,0.5s
ACCN **Adirondack Com** 60.54 56 *e*P P 22 47 34.8 -0.9
comp=Z,14nm,1.1s
TKL **Tuckaleechee C** 60.61 69 P P 22 47 35.5 -0.8
comp=Z,4.9nm,0.5s,baz=329,slow=12,SNR=8.5
TKL LR LR 23 11 20.5
comp=Z,95nm,21.4s,baz=288,slow=33
TKL **Tuckaleechee C** 60.61 69 P P 22 47 35.5 -0.8
LRAL **Lakeview Retre** 60.63 73 *e*P P 22 47 35.5 -0.9
BLA **Blacksburg** 61.38 65 *e*P P 22 47 41.7 +0.2
BLA pmax pmax
comp=Z,33nm,0.8s
BLA **Blacksburg** 61.38 65 *e*P P 22 47 41.7 +0.2
comp=Z,33nm,0.8s
MVL **Millersville** 61.58 61 *e*P P 22 47 42.8 0.0
comp=Z,15nm,0.8s
SDMD **Soldier's Deli** 61.75 61 *e*P P 22 47 44.0 +0.1
comp=Z,16nm,0.8s
KURK **Kurchatov** 61.82 318 *e*P P 22 47 44.1 -0.1
KURK pmax pmax
comp=Z,16nm,2.5s
KURK **Kurchatov** 61.82 318 *e*P P 22 47 43.7 -0.5
comp=Z,3.2nm,0.6s
KURK **Kurchatov** 61.82 318 P P 22 47 44.2 0.0
comp=Z,35nm,0.6s,SNR=6.2
KURBB **Kurchatov Arra** 61.93 318 LR LR 23 15 47.0
comp=Z,119nm,20.2s,baz=60,slow=37
KMSC **Kings Mountain** 62.36 68 ⇓P P 22 47 47.9 -0.2
baz=62
JSRW **J. Sargeant Re** 62.43 63 *e*P P 22 47 49.4 +0.9
WES **Weston** 62.45 56 *e*P P 22 47 48.7 +0.2
WES pmax pmax
comp=Z,10.0nm,0.5s
WES **Weston** 62.45 56 *e*P P 22 47 48.7 +0.2
comp=Z,10nm,0.5s
WMQ **Urumqi** 62.95 307 *e*P P 22 47 53.5 +1.5
WMQ pP pP 22 48 12.5 -0.4
WMQ PcP PcP 22 48 30.3 +1.0
WMQ pmax pmax
comp=Z,85nm,3.8s
WMQ LR LR
comp=N,92nm,23.0s
WMQ LR LR
comp=E,54nm,20.0s
WMQ LR LR
comp=Z,52nm,26.0s
BVAR **Borovoye Array** 63.17 324 P P 22 47 53.4 +0.2
comp=Z,9.6nm,0.5s,baz=49,slow=6.3,SNR=82
BVAR PcP PcP 22 48 30.6 +0.6
comp=Z,5.8nm,0.6s,baz=58,slow=3.5,SNR=8.7
BVAR PKPPKP P'P'df 23 16 54.6 -0.1
comp=Z,0.8nm,0.7s,baz=242,slow=3.2,SNR=4.2
BVAR LR LR 23 18 32.0
comp=Z,126nm,18.0s,baz=125,slow=39
BVAR **Borovoye Array** 63.17 324 P P 22 47 53.4 +0.2
BVAR 22 48 30.6
BVAR **Borovoye Array** 63.17 324 P P 22 47 53.4 +0.2
BVAR PcP PcP 22 48 30.6 +0.6
BVAR P'P' 23 16 54.6
BRVK **Borovoye** 63.19 324 *e*P P 22 47 53.6 +0.3
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK **Borovoye** 63.19 324 *e*P P 22 47 53.6 +0.3

comp=Z,9.6nm,0.4s
BRVK Borovoye 63.19 324 P **P** **22 47 53.6 +0.3**
comp=Z,71nm,0.6s,SNR=7.7
SVE Sverdlovsk 63.20 331 *e*P **P** **22 47 53.7 +0.4**
SVE pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 63.23 313 *e*P **P** **22 47 52.6 -1.2**
MK31 Makanchi Array 63.23 313 *e*P **P** **22 47 52.6 -1.2**
MKAR Makanchi Array 63.23 313 P **P** **22 47 53.1 -0.6**
comp=Z,0.6nm,0.5s,baz=46,slow=5.6,SNR=18
MKAR PcP **PcP** **22 48 30.0 -0.4**
comp=Z,2.2nm,0.6s,baz=54,slow=7.9,SNR=4.6
MKAR LR LR 23 14 51.2
comp=Z,42nm,18.1s,baz=232,slow=35
MKAR Makanchi Array 63.23 313 P **P** **22 47 53.1 -0.6**
MKAR 22 48 30.0
MKAR Makanchi Array 63.23 313 P **P** **22 47 53.1 -0.6**
MKAR PcP **PcP** **22 48 30.0 -0.4**
JOF Joensuu 63.55 349 *e*P **P** **22 47 54.3 -1.2**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 63.55 349 *e*p **P** **22 47 54.3 -1.2**
comp=Z,5.2nm,0.5s
DRLN Deer Lake 63.60 42 *e*P **P** **22 47 56.5 +0.4**
comp=Z,28nm,0.7s
CD2 Chengdu 63.78 287 P **P** **22 47 59.3 +1.7**
CD2 pP **pP** **22 48 20.3 +1.7**
CD2 sP sP 22 48 29.8 +2.1
CD2 PP **PP** **22 50 21.5 +3.1**
CD2 S **S** **22 56 24.8 -1.3**
CD2 sS **sS** **22 57 01.0 -0.9**
CD2 SS **SS** **23 00 35.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,160nm,6.5s
CD2 LR LR
comp=N,320nm,7.7s
CD2 LR LR
comp=Z,200nm,7.1s
ARU Arti 64.14 332*c i*P **P** **22 47 59.2 -0.3**
ARU 22 50 16.5
ARU S **S** **22 56 32.1 +2.5**
ARU SS **SS** **23 00 38.1 -0.8**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 64.14 332 *e*P **P** **22 47 59.5 0.0**
comp=Z,5.3nm,0.9s
KLMR Klimovskoe 64.38 344 *e*P **P** **22 47 59.3 -1.7**
KLMR pmax pmax
comp=Z,16nm,1.7s
KAF Kangasniemi 64.85 351 *e*P **P** **22 48 02.7 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.6s
KAF Kangasniemi 64.85 351 *e*p **P** **22 48 02.7 -1.3**
comp=Z,9.6nm,0.6s
GYA Guiyang 65.36 282 *e*P **P** **22 48 08.8 +0.8**
GYA pP **pP** **22 48 30.8 +1.7**
GYA sP sP 22 48 40.0 +1.9
GYA PP **PP** **22 50 35.5 +3.1**
GYA ScP 22 52 35.5
GYA PcS 22 52 44.0
GYA S **S** **22 56 44.3 -1.4**
GYA sS **sS** **22 57 21.0 -0.6**
GYA SKS **SKSac** **22 57 53.3 -2.5**
GYA SS **SS** **23 01 00.0 +0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,640nm,18.7s
GYA LR LR
comp=E,610nm,19.6s
GYA LR LR
comp=Z,670nm,18.2s
FINES FINESS Array B 65.53 351 P **P** **22 48 08.3 -0.1**
comp=Z,5.4nm,0.6s,baz=12,slow=8.6,SNR=43
FINES LR LR 23 16 22.8
comp=Z,93nm,19.0s,baz=140,slow=36
FINES FINESS Array B 65.53 351 P **P** **22 48 08.3 -0.1**
NB2 NORSAR Subarra 66.67 359 P **P** **22 48 15.7 -0.1**
comp=Z,3.8nm,0.6s,baz=360,slow=6.5
NOA NORSAR Array B 66.67 359 P **P** **22 48 15.9 +0.2**
comp=Z,4.0nm,0.6s,baz=0.2,slow=6.3,SNR=24
NOA LR LR 23 19 17.0
comp=Z,28nm,18.3s,baz=0.0,slow=38
NOA NORSAR Array B 66.67 359 P **P** **22 48 15.9 +0.2**
HFS Hagfors 67.54 358 LR LR 23 16 45.2
comp=Z,48nm,21.3s,baz=166,slow=35
CMIG Matias Romero 67.73 91 P **P** **22 48 22.4 -0.7**
comp=Z,5.7nm,0.7s,baz=323,slow=7.9,SNR=9.6
CMIG Matias Romero 67.73 91 P **P** **22 48 22.4 -0.7**
KMI Kunming 68.69 284 P **P** **22 48 30.8 +1.5**
KMI pP **PcP** **22 48 52.0 -1.6**
KMI S **S** **22 57 21.5 -4.5**
KMI SS **SS** **23 01 51.0 -0.4**
KMI pmax pmax
comp=Z,6.0nm,0.8s
KMI pmax pmax
comp=Z,77nm,3.9s
KMI LR LR
comp=N,220nm,17.1s
KMI LR LR
comp=E,210nm,17.1s
KMI LR LR
comp=Z,240nm,14.1s
QIZ Qiongzhong 69.03 274 P **P** **22 48 29.8 -1.4**
QIZ S **S** **22 57 26.5 -3.2**
QIZ LR LR
comp=E,160nm,13.8s
QIZ LR LR
comp=Z,350nm,18.0s
AKTO Aktyubinsk 69.51 329 P **P** **22 48 33.6 0.0**
comp=Z,4.5nm,0.6s,baz=39,slow=5.8,SNR=29
AKTO LR LR 23 21 06.3
comp=Z,43nm,19.4s,baz=19,slow=38
AKTO Aktyubinsk 69.51 329 P **P** **22 48 33.7 0.0**
AKTO Aktyubinsk 69.51 329 P **P** **22 48 33.6 0.0**
AAK Ala-Archa 69.94 315 P **P** **22 48 36.8 +0.1**
comp=Z,4.2nm,0.8s,baz=120,slow=8.1,SNR=20
AAK Ala-Archa 69.94 315 P **P** **22 48 36.8 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 69.94 315 *e*P **P** **22 48 36.7 0.0**
comp=Z,18nm,0.8s
AAK Ala-Archa 69.94 315 P **P** **22 48 36.2 -0.5**
comp=Z,36nm,0.6s,SNR=5.8
PMOR Pomariorio Ree 70.08 157 *e*T T 00 05 06.6
comp=Z,7.9nm,0.2s
OBN Obninsk 70.34 344⇑ *e*P **P** **22 48 38.6 0.0**
OBN *e**PP **PcP** **22 49 04.0 +4.3**
OBN *e* 22 51 12.9
OBN *e*S **S** **22 57 41.8 -2.2**
OBN pmax pmax
comp=Z,9.0nm,0.7s
KSH Kashi 71.80 312 P P 22 48 51.3 +3.3
KSH PcP pP 22 49 10.8 +1.5
KSH pP pwP 22 49 12.5 +3.2
KSH sP sP 22 49 21.0 +2.7
KSH PP PP 22 51 35.3 +7.6
KSH S **S** **22 58 03.8 +2.0**
KSH sS **SKSac** **22 58 40.5 -3.8**
KSH SKS **SKKSac** **22 58 45.0 +0.6**
KSH ScS **ScS** **22 58 48.0 +1.9**
KSH SS SS 23 02 47.5 +9.2
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,19nm,2.9s
KSH LR LR
comp=N,120nm,4.9s
KSH LR LR
comp=E,98nm,4.2s
KSH LR LR
comp=Z,180nm,5.8s
PPT Papeete 72.17 159 LR LR 23 17 28.6
comp=Z,32nm,18.6s,baz=21,slow=33
PPT2 Papeete2 72.19 159 *e*LR LR 23 10 41.8
comp=Z,186nm,31.0s
PPT2 *e*T T 00 07 40.5
comp=Z,5.3nm,0.3s
TIAR Tiarei 72.21 159 *e*T T 00 07 44.1
comp=Z,18nm,0.3s
TAPN Taplejung 75.58 296 *e*P **P** **22 49 10.1 -0.3**
comp=Z,5.9nm,0.5s
AKASG Malin Array Be 75.73 347 P **P** **22 49 09.8 -0.7**
comp=Z,2.9nm,0.5s,baz=14,slow=5.7,SNR=11
AKASG LR LR 23 23 08.7
comp=Z,82nm,21.7s,baz=5.0,slow=36
AKASG Malin Array Be 75.73 347 P **P** **22 49 09.8 -0.7**
AKASG Malin Array Be 75.73 347 P **P** **22 49 09.8 -0.7**
KIEV Kiev 75.74 347 *e*P **P** **22 49 09.5 -1.1**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 75.74 347 *e*P **P** **22 49 09.5 -1.1**
comp=Z,2.7nm,0.6s
AK01 Malin Array Si 75.74 347 *e*P **P** **22 49 09.9 -0.7**
CHTO Chiang Mai 75.77 282 *e*P **P** **22 49 11.2 -0.1**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 75.77 282 *e*P **P** **22 49 11.2 -0.1**
comp=Z,4.8nm,1.1s
AK02 Malin Array Si 75.78 347 *e*P **P** **22 49 10.1 -0.7**
CMAR Chiang Mai Arr 76.04 282 P **P** **22 49 13.3 +0.5**
comp=Z,5.1nm,0.8s,baz=26,slow=7.0,SNR=27
CMAR Chiang Mai Arr 76.04 282 P **P** **22 49 13.3 +0.5**
GUN Gumba 76.13 298 *e*P **P** **22 49 13.4 -0.2**
comp=Z,8.6nm,0.4s
CLL Collm 76.39 358 *i* P **P** **22 49 14.5 +0.2**
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 76.39 358 *i* P **P** **22 49 14.5 +0.2**
comp=Z,4.0nm,0.6s
RAMN Ramite 76.50 297 *e*P **P** **22 49 15.3 -0.3**
KKN Kakani 76.55 298 *e*P **P** **22 49 16.1 +0.3**
comp=Z,6.1nm,0.6s
DMN Daman 76.78 298 *e*P **P** **22 49 17.5 +0.3**
comp=Z,3.6nm,0.4s
BRG Berggiesshubel 76.80 357 *e*P **P** **22 49 16.9 +0.3**
comp=Z,3.5nm,1.1s
BRG Berggiesshubel 76.80 357 *e*P **P** **22 49 16.9 +0.3**
BRG pmax pmax
comp=Z,4.0nm,1.1s
DANN Dangsing 76.91 300 *e*P **P** **22 49 18.0 0.0**
comp=Z,16nm,0.6s
KOLN Koldanda 77.46 299 *e*P **P** **22 49 21.1 +0.1**
comp=Z,3.0nm,0.4s
PYUN Piuthan 77.52 300 *e*P **P** **22 49 21.3 0.0**
GIVF Givet 77.55 3 *e*P **P** **22 49 20.9 +0.1**
GIVF Givet 77.55 3 *e*P **P** **22 49 20.9 +0.1**
GIVF Givet 77.55 3 *e*P **P** **22 49 20.9 +0.1**
BAIF Baives 77.57 4 *e*P **P** **22 49 21.2 +0.3**
comp=Z,7.0nm,0.6s
BAIF Baives 77.57 4 *e*P **P** **22 49 21.2 +0.3**
BAIF pmax pmax
comp=Z,7.0nm,0.6s
BAIF Baives 77.57 4 *e*P **P** **22 49 21.2 +0.3**
comp=Z,7.0nm,0.6s
MORC Moravsky Berou 77.75 355‖ *i*P **P** **22 49 22.1 +0.1**
TBI Tubuai 77.81 161 *e*T T 00 14 41.4
comp=Z,11nm,0.2s
KOLS Kolonicke sedl 78.25 352 *e*P **P** **22 49 25.5 +0.8**
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 78.25 352 *e*P **P** **22 49 25.5 +0.8**
VRAC Vranov 78.27 355⇑ *i*P **P** **22 49 25.7 +0.9**
CRVS Cervenica-Dubn 78.35 352 *e*P P 22 49 28.8 +3.5
CRVS pmax pmax
comp=Z,6.0nm,1.5s
CRVS Cervenica-Dubn 78.35 352 *e*P P 22 49 28.8 +3.5
KHC Kasperske Hory 78.56 357 *e*P **P** **22 49 26.0 -0.5**
KHC Kasperske Hory 78.56 357 *e*P **P** **22 49 26.0 -0.5**
LDF La Druitiere 78.80 7 *e*P **P** **22 49 27.4 -0.3**
LDF La Druitiere 78.80 7 *e*P **P** **22 49 27.4 -0.3**
LDF La Druitiere 78.80 7 *e*P **P** **22 49 27.4 -0.3**
GERES GERESS Array B 78.84 357 P **P** **22 49 27.9 -0.2**
comp=Z,0.8nm,0.6s,baz=11,slow=5.7,SNR=10
GERES PKKPbc **PKKPbc** **23 08 17.6 -1.1**
comp=Z,0.2nm,0.5s,baz=116,slow=3.1,SNR=3.5
GERES GERESS Array B 78.84 357 P **P** **22 49 27.9 -0.2**
GERES PKKPbc **PKKPbc** **23 08 17.6 -1.1**
GRR Gorron 78.94 7 *e*P **P** **22 49 28.9 +0.4**
GRR Gorron 78.94 7 *e*P **P** **22 49 28.9 +0.4**
GRR Gorron 78.94 7 *e*P **P** **22 49 28.9 +0.4**
VYHS Vyhne 78.95 354 *e*P **P** **22 49 29.0 +0.4**
VYHS Vyhne 78.95 354 *e*P **P** **22 49 29.0 +0.4**
SMOL Smolenice 79.01 355 *e*P **P** **22 49 30.2 +1.3**
SMOL Smolenice 79.01 355 *e*P **P** **22 49 30.2 +1.3**
TRPA Tarpa 79.02 351⇑ *i*P **P** **22 49 30.2 +1.3**
PAGF Fort de Pagny 79.13 3 *e*P **P** **22 49 30.2 +0.7**
comp=Z,2.1nm,0.5s
PAGF Fort de Pagny 79.13 3 *e*P **P** **22 49 30.2 +0.7**
comp=Z,2.1nm,0.5s
MEZF Maizieres J'vi 79.16 3 *e*P **P** **22 49 30.0 +0.3**
MEZF Maizieres J'vi 79.16 3 *e*P **P** **22 49 30.0 +0.3**
BUR08 Bucovina Ar. S 79.23 349 *e*P **P** **22 49 30.5 +0.2**
CDF Champ du Feu 79.31 2 *e*P **P** **22 49 30.8 +0.2**
comp=Z,1.8nm,0.5s
CDF Champ du Feu 79.31 2 *e*P **P** **22 49 30.8 +0.2**
CDF pmax pmax
comp=Z,2.0nm,0.5s
CDF Champ du Feu 79.31 2 *e*P **P** **22 49 30.8 +0.2**
comp=Z,1.8nm,0.5s
SFTF Sexfontaines 79.45 3 *e*P **P** **22 49 31.6 +0.3**
comp=Z,3.9nm,0.5s
SFTF Sexfontaines 79.45 3 *e*P **P** **22 49 31.6 +0.3**
comp=Z,3.9nm,0.5s
HAU Haudompre 79.69 2 *e*P **P** **22 49 32.9 +0.2**
HAU *e*R
comp=Z,84nm,20.5s
HAU Haudompre 79.69 2 *e*P **P** **22 49 32.9 +0.2**
HAU Haudompre 79.69 2 *e*P **P** **22 49 32.9 +0.2**
KBZ Khabaz 79.85 336 P **P** **22 49 34.2 +0.7**
comp=Z,1.9nm,0.7s,baz=3.0,slow=1.2,SNR=5.8
KBZ LR LR 23 27 08.9
comp=Z,42nm,18.1s,baz=272,slow=37
KBZ Khabaz 79.85 336 P **P** **22 49 34.2 +0.7**
KBZ Khabaz 79.85 336 P **P** **22 49 34.2 +0.7**
HINF Hinteralfeld 79.89 2 *e*P **P** **22 49 33.5 -0.3**
comp=Z,2.6nm,0.5s
HINF Hinteralfeld 79.89 2 *e*P **P** **22 49 33.5 -0.3**
HINF pmax pmax
comp=Z,3.0nm,0.5s
HINF Hinteralfeld 79.89 2 *e*P **P** **22 49 33.5 -0.3**
comp=Z,2.6nm,0.5s
LOR Lormes 80.34 4 *e*P **P** **22 49 36.5 +0.3**
comp=Z,4.8nm,0.6s
LOR *e*R
comp=Z,79nm,18.2s
LOR Lormes 80.34 4 *e*P **P** **22 49 36.5 +0.3**
comp=Z,4.8nm,0.6s
SSF Saint Saulge 80.53 4 *e*P **P** **22 49 37.5 +0.3**
comp=Z,8.8nm,0.7s
SSF Saint Saulge 80.53 4 *e*P **P** **22 49 37.5 +0.3**
SSF pmax pmax
comp=Z,9.0nm,0.7s
SSF Saint Saulge 80.53 4 *e*P **P** **22 49 37.5 +0.3**
comp=Z,8.8nm,0.7s
KBA Koelnbreinsper 80.61 358⇑ *i*P **P** **22 49 38.9 +1.1**
KBA pmax pmax
comp=Z,16nm,1.2s
KBA Koelnbreinsper 80.61 358⇑ *i*P **P** **22 49 38.9 +1.1**
comp=Z,16nm,1.2s
KBA Koelnbreinsper 80.61 358⇑ *i*P **P** **22 49 38.9 +1.1**
comp=Z,16nm,1.2s
AVF Avril sur Loir 80.80 4 *e*P **P** **22 49 38.8 +0.2**
comp=Z,5.6nm,0.6s
AVF Avril sur Loir 80.80 4 *e*P **P** **22 49 38.8 +0.2**
AVF pmax pmax
comp=Z,6.0nm,0.6s
AVF Avril sur Loir 80.80 4 *e*P **P** **22 49 38.8 +0.2**
comp=Z,5.6nm,0.6s
SMF Signal de Mont 80.97 4 *e*P **P** **22 49 39.7 +0.2**
SMF Signal de Mont 80.97 4 *e*P **P** **22 49 39.7 +0.2**
SMF Signal de Mont 80.97 4 *e*P **P** **22 49 39.7 +0.2**
CABF La Chapelle 81.08 3 *e*P **P** **22 49 40.5 +0.3**
CABF La Chapelle 81.08 3 *e*P **P** **22 49 40.5 +0.3**
CABF La Chapelle 81.08 3 *e*P **P** **22 49 40.5 +0.3**
OBKA Obir 81.15 357⇑ *e*P **P** **22 49 41.7 +1.2**
comp=Z,13nm,1.2s
OBKA Obir 81.15 357⇑ *e*P **P** **22 49 41.7 +1.2**
comp=Z,13nm,1.2s
GROS Grobnik 81.16 356 *i* P **P** **22 49 41.7 +1.1**
TCF Toulx Ste Croi 81.24 5 *e*P **P** **22 49 41.1 +0.1**
TCF Toulx Ste Croi 81.24 5 *e*P **P** **22 49 41.1 +0.1**
TCF Toulx Ste Croi 81.24 5 *e*P **P** **22 49 41.1 +0.1**
MLR Muntele Rosu 81.27 349 LR LR 23 28 14.6
comp=Z,18nm,18.5s,baz=324,slow=37
VOIR 81.42 349⇓ *i*P **P** **22 49 43.3 +1.3**
RKT Rikitea 81.46 147 *e*T T 00 19 19.7
comp=Z,2.1nm,0.3s
BZS Buzias 81.60 352⇑ *i*P **P** **22 49 43.3 +0.5**
CTA Charters Tower 81.68 221 P **P** **22 49 42.6 -0.8**
comp=Z,5.9nm,0.7s,baz=27,slow=4.5,SNR=2.5
CTA Charters Tower 81.68 221 P **P** **22 49 42.6 -0.8**
JAVS Javornik 81.78 357 *i* P **P** **22 49 44.3 +0.4**
BOJS Bojanci 82.12 356 *i* P **P** **22 49 46.1 +0.6**
LFF La Frestale 82.49 6 *e*P **P** **22 49 47.9 +0.4**
LFF La Frestale 82.49 6 *e*P **P** **22 49 47.9 +0.4**
LFF La Frestale 82.49 6 *e*P **P** **22 49 47.9 +0.4**
ORIF Oris-en-Rattie 82.77 3 *e*P **P** **22 49 49.3 +0.2**
comp=Z,11nm,0.8s
ORIF *e*R
comp=Z,113nm,19.0s
ORIF Oris-en-Rattie 82.77 3 *e*P **P** **22 49 49.3 +0.2**
ORIF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 82.77 3 *e*P **P** **22 49 49.3 +0.2**
comp=Z,11nm,0.8s
MBDF Montbardon 82.98 2 *e*P **P** **22 49 50.7 +0.4**
comp=Z,5.0nm,0.6s
MBDF Montbardon 82.98 2 *e*P **P** **22 49 50.7 +0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.6s
MBDF Montbardon 82.98 2 *e*P **P** **22 49 50.7 +0.4**
comp=Z,5.0nm,0.6s
SJG San Juan 84.03 68 P **P** **22 49 55.8 0.0**
comp=Z,12nm,0.8s,baz=174,slow=3.6,SNR=2.4
SJG San Juan 84.03 68 P **P** **22 49 55.8 0.0**
SJPF Ste Jean 84.16 8 *e*P **P** **22 49 56.2 +0.1**
comp=Z,8.6nm,0.7s
SJPF Ste Jean 84.16 8 *e*P **P** **22 49 56.2 +0.1**
SJPF pmax pmax
comp=Z,9.0nm,0.7s
SJPF Ste Jean 84.16 8 *e*P **P** **22 49 56.2 +0.1**
comp=Z,8.6nm,0.7s
EPF Esparros 84.36 7 *e*P **P** **22 49 57.2 0.0**
comp=Z,6.3nm,0.8s
EPF Esparros 84.36 7 *e*P **P** **22 49 57.2 0.0**
EPF pmax pmax
comp=Z,6.0nm,0.8s
EPF Esparros 84.36 7 *e*P **P** **22 49 57.2 0.0**
comp=Z,6.3nm,0.8s
ETSF Etsaut 84.42 8 *e*P **P** **22 49 58.5 +0.9**
comp=Z,13nm,0.7s
ETSF Etsaut 84.42 8 *e*P **P** **22 49 58.5 +0.9**
ETSF pmax pmax
comp=Z,13nm,0.7s
ETSF Etsaut 84.42 8 *e*P **P** **22 49 58.5 +0.9**
comp=Z,13nm,0.7s
BR131 Keskin Array S 85.70 342 *e*P **P** **22 50 04.5 +0.4**
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 85.70 342 P **P** **22 50 04.5 +0.4**
comp=Z,1.5nm,0.6s,baz=24,slow=3.1,SNR=16
BRTR PKKPbc **PKKPbc** **23 08 03.2 0.0**
comp=Z,1.0nm,0.6s,baz=167,slow=5.3,SNR=8.6
BRTR LR LR 23 38 36.2
comp=Z,28nm,19.1s,baz=170,slow=43
BRTR Keskin Array B 85.70 342 P **P** **22 50 04.5 +0.4**
BRTR PKKPbc **PKKPbc** **23 08 03.2 0.0**
WRA Warramunga Arr 86.76 231 P **P** **22 50 08.0 -1.2**
comp=Z,2.5nm,0.7s,baz=36,slow=5.9,SNR=23
WRA Warramunga Arr 86.76 231 P **P** **22 50 08.0 -1.2**
ESDC Sonseca Array 87.29 11 P **P** **22 50 11.6 -0.2**
comp=Z,2.1nm,0.8s,baz=351,slow=4.1,SNR=8.7
ESDC LR LR 23 28 59.1
comp=Z,69nm,19.3s,baz=200,slow=35
ESDC Sonseca Array 87.29 11 P **P** **22 50 11.6 -0.2**
PSI Prapat 88.31 272 P **P** **22 50 17.1 +0.1**
comp=Z,21nm,0.7s,baz=12,slow=4.5,SNR=23
PSI Prapat 88.31 272 P **P** **22 50 17.1 +0.1**
AS31 Alice Springs 90.16 229 *e*P **P** **22 50 24.8 -0.5**
ASAR Alice Springs 90.17 229 P **P** **22 50 24.9 -0.3**
comp=Z,8.8nm,0.7s,baz=29,slow=4.7,SNR=123
ASAR Alice Springs 90.17 229 P **P** **22 50 24.9 -0.3**
MMAI Mount Meron Ar 91.81 339 P **P** **22 50 33.6 +0.6**
comp=Z,2.3nm,0.6s,baz=37,slow=11,SNR=4.5
MMAI Mount Meron Ar 91.81 339 P **P** **22 50 33.6 +0.6**
STKA Stephens Creek 94.06 219 P **P** **22 50 42.6 -0.4**
comp=Z,2.0nm,0.7s,baz=56,slow=3.6,SNR=4.6
STKA LR LR 23 27 34.5
comp=Z,172nm,18.9s,baz=25,slow=32
STKA Stephens Creek 94.06 219 P **P** **22 50 42.6 -0.4**
RPZ Rata Peaks 97.32 194 LR LR 23 36 02.0
comp=Z,170nm,18.0s,baz=183,slow=36
TORD Torodi Ar. Bea 114.12 9 PKP PKPdf 22 56 03.8 -0.4
comp=Z,0.5nm,0.5s,baz=347,slow=2.7,SNR=7.4
TORD PKKPbc **PKKPbc** **23 06 42.9 +0.1**
comp=Z,0.6nm,0.6s,baz=168,slow=2.9,SNR=16
TORD PKKPab **PKKPab** **23 06 50.0 -4.6**
comp=Z,3.6nm,0.7s,baz=172,slow=4.8,SNR=26
TORD Torodi Ar. Bea 114.12 9 PKP PKPdf 22 56 03.8 -0.4
TORD PKKPbc **PKKPbc** **23 06 42.9 +0.1**
TORD PKKPab **PKKPab** **23 06 50.0 -4.6**
SIV San Ignacio 114.17 85 PKP PKPdf 22 56 04.1 -0.1
comp=Z,1.3nm,0.7s,baz=239,slow=3.9,SNR=6.1
SIV San Ignacio 114.17 85 PKP PKPdf 22 56 04.1 -0.1
DBIC Dimbokro 119.62 17 PKP **PKPdf** **22 56 14.5 -0.3**
comp=Z,1.5nm,0.6s,baz=45,slow=3.7,SNR=5.1
DBIC Dimbokro 119.62 17 PKP **PKPdf** **22 56 14.5 -0.3**
CFAA Coronel Fontan 121.44 102 PKP **PKPdf** **22 56 17.0 -0.7**
comp=Z,0.1nm,0.4s,baz=340,slow=1.9,SNR=7.4
CFAA Coronel Fontan 121.44 102 PKP **PKPdf** **22 56 17.0 -0.7**
PLCA Paso Flores 126.39 111 PKP **PKPdf** **22 56 26.7 -0.3**
comp=Z,6.7nm,0.8s,baz=286,slow=2.8,SNR=10
PLCA Paso Flores 126.39 111 PKP **PKPdf** **22 56 26.7 -0.3**
QSPA South Pole Qui 142.40 180 *e*PKPdf PKPdf 22 56 50.6 -5.3
TSUM Tsumeb 146.08 347 *e*PKPbc **PKPab** **22 57 05.4 -0.3**
LBTB Lobatse 149.92 330 *e*PKPbc **PKPbc** **22 57 15.9 +0.9**
MAW Mawson 150.75 219 PKP **PKPdf** **22 57 09.7 -0.1**
comp=Z,9.5nm,0.5s,baz=108,slow=6.4,SNR=15
MAW PKPbc **PKiKP** **22 57 16.1 0.0**
comp=Z,14nm,0.6s,baz=90,slow=3.8,SNR=8.0
MAW Mawson 150.75 219 PKP **PKPdf** **22 57 09.7 -0.1**
MAW PKPbc **PKiKP** **22 57 16.1 0.0**
BOSA Boshof 153.39 328 PKPbc **PKPbc** **22 57 23.5 +0.6**
comp=Z,7.9nm,0.6s,baz=23,slow=2.1,SNR=31
BOSA Boshof 153.39 328 PKPbc **PKPbc** **22 57 23.5 +0.6**
SNAA Sanae 160.10 168 PKP **PKPdf** **22 57 20.8 -1.6**
comp=Z,1.0nm,0.8s,baz=292,slow=2.8,SNR=5.1
SNAA PKPab **PKPab** **22 58 01.5 -1.5**
comp=Z,2.9nm,1.1s,baz=276,slow=3.3,SNR=5.8
SNAA Sanae 160.10 168 PKP **PKPdf** **22 57 20.8 -1.6**
SNAA PKPab **PKPab** **22 58 01.5 -1.5**

MAN ***28*** *23:02:36, 12.˚41N×125.˚56E, h16km, mb5.0, ML3.9, MS4.0*
IDC ***28*** *23:02:37.0±2.6, 12.˚23N×125.˚48E, h32km±18km, mb4.0/21, mb1 4.1/22, mb1mx4.0/30, mbtmp4.0/22, ML4.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/47, Error ellipse: s-maj=23.9km s-min=10.6km az=73.0*
ISCJB ***28*** *23:02:37.8±1.0, 12.˚32N±0.˚05×125.˚54E±0.˚08, h55km±8km, mb4.3/31, MS3.5/5, Error ellipse: s-maj=13.2km s-min=6.9km az=156.5*
NEIC ***28*** *23:02:38.6±1.5, 12.˚25N×125.˚45E, h46km±13km, mb4.4/6, Error ellipse: s-maj=12.4km s-min=5.7km az=68.0*
ISC 28 23:02:38.3±1.4, 12.˚31N±0.˚05×125.˚56E±0.˚09, h44km±11km, n82, σ0°81/93, mb4.5/40, MS3.6/5, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BESP	**Borongan**	**0.72**	**189**	*e*P		**Pn**	**23 02 52.0**	**-0.1**
PLP	**Palo**	**1.27**	**206**‖	*e*P		**Pn**	**23 02 58.8**	**-0.9**
PLP				*i* S		**Sn**	**23 03 17.1**	**+1.5**
MMPH	**Masbate**	**1.89**	**272**	*e*P		**Pn**	**23 03 08.0**	**-0.1**
MMPH				*i* S		**Sn**	**23 03 33.7**	**+3.0**
LLP	**Lapu-Lapu**	**2.52**	**218**	*e*P		**Pn**	**23 03 16.7**	**-0.1**
LLP				*e*S		Sn	23 03 50.5	+4.1
TBP	**Tagbilaran**	**3.09**	**213**	*e*P		**Pn**	**23 03 25.6**	**+0.9**
GQP	**Guinayangan**	**3.42**	**298**‖	*e*P		**Pn**	**23 03 29.1**	**0.0**
TGY	**Tagaytay City**	**4.84**	**292**	Pn		**Pn**	**23 03 47.9**	**-0.8**
	26nm,0.3s,baz=274,slow=6.0,SNR=2.1							
TGY	**Tagaytay City**	**4.84**	**292**	Pn		**Pn**	**23 03 47.9**	**-0.8**
DAV	**Davao City (W)**	**5.21**	**180**	LR		LR	23 06 06.4	
	comp=Z,248nm,18.5s,baz=256,slow=41							
CTBH	**Cotabato--PC H**	**5.22**	**194**‖	*e*P		Pn	23 03 56.1	+2.1
GUMO	**Guam**	**18.86**	**84**	LR		LR	23 12 52.9	
	comp=Z,151nm,20.4s,baz=128,slow=32							
ENH	**Enshi**	**23.26**	**323**	*e*P		**P**	**23 07 41.9**	**-0.2**
	11nm,0.9s							
KSAR	**Wonju Array Be**	**25.11**	**4**	P		**P**	**23 07 59.6**	**+0.6**
KSRS	**Korea Array**	**25.12**	**4**	P		**P**	**23 07 59.6**	**+0.5**
	1.9nm,0.8s,baz=180,slow=9.2,SNR=6.1							

KSRS LR LR 23 18 58.3
comp=Z,53nm,18.8s,baz=40,slow=39
CMAR Chiang Mai Arr 26.36 287 P **P** **23 08 10.2 -0.5**
5.6nm,0.7s,baz=95,slow=7.3,SNR=40
CMAR PcP **PcP** **23 11 35.8 0.0**
0.7nm,0.3s,baz=91,slow=0.8,SNR=7.0
CMAR Chiang Mai Ar 26.36 287 P **P** **23 08 10.2 -0.5**
CMAR PcP **PcP** **23 11 35.8 0.0**
CHTO Chiang Mai 26.42 288 *eP* **P** **23 08 09.6 -1.6**
2.7nm,0.9s
PSI Prapat 28.01 252 LR LR 23 20 11.8
comp=Z,209nm,18.6s,baz=247,slow=38
FITZ Fitzroy Crossi 30.22 180 P **P** **23 08 44.5 -0.5**
6.6nm,0.9s,baz=358,slow=8.1,SNR=9.4
FITZ Fitzroy Crossi 30.22 180 *eP* **P** **23 08 44.2 -0.7**
4.2nm,0.7s
WRA Warramunga Arr 33.20 165 P **P** **23 09 09.8 -1.4**
0.3nm,0.4s,baz=344,slow=8.9,SNR=11
WRA PcP **PcP** **23 11 53.5 +0.2**
0.9nm,0.6s,baz=343,slow=3.1,SNR=6.3
WRA ScP **ScP** **23 15 35.5 +1.2**
1.0nm,0.9s,baz=350,slow=4.2,SNR=4.8
WRA Warramunga Arr 33.20 165 P **P** **23 09 09.8 -1.4**
WRA PcP **PcP** **23 11 53.5 +0.2**
WRA ScP **ScP** **23 15 35.5 +1.2**
LSA Lhasa 36.29 304 *eP* **P** **23 09 39.0 +0.6**
9.2nm,1.1s
AS31 Alice Springs 36.68 167 *eP* **P** **23 09 42.6 +1.5**
ASAR Alice Springs 36.68 167 P **P** **23 09 40.6 -0.6**
0.7nm,0.3s,baz=349,slow=6.6,SNR=20
ASAR PcP **PcP** **23 12 03.6 +0.2**
0.7nm,0.8s,baz=343,slow=2.9,SNR=4.1
ASAR S **S** **23 15 21.4 -0.4**
0.3nm,0.7s,baz=342,slow=15,SNR=3.7
ASAR ScP **ScP** **23 15 48.5 +1.8**
1.2nm,0.8s,baz=339,slow=4.0,SNR=6.9
ASAR Alice Springs 36.68 167 P **P** **23 09 40.6 -0.6**
ASAR PcP **PcP** **23 12 03.6 +0.2**
ASAR S **S** **23 15 21.4 -0.4**
ASAR ScP **ScP** **23 15 48.5 +1.8**
TAPN Taplejung 38.44 299 *eP* **P** **23 09 56.0 -0.4**
6.3nm,0.5s
ODAN Odare 38.59 298 *eP* **P** **23 09 57.2 -0.4**
27nm,0.8s
SONM Songino Array 38.87 339 P **P** **23 09 59.5 -0.1**
3.9nm,1.0s,baz=154,slow=8.0,SNR=12
SONM Songino Array 38.87 339 P **P** **23 09 59.5 -0.1**
RAMN Ramite 39.30 298 *eP* **P** **23 10 03.4 -0.2**
24nm,0.8s
GUN Gumba 40.15 299 *eP* **P** **23 10 10.4 -0.4**
39nm,0.8s
HNR Honiara 40.43 121 LR LR 23 24 39.4
comp=Z,186nm,18.7s,baz=284,slow=33
PKI Pulchoki 40.47 298 *eP* **P** **23 10 12.6 -0.8**
17nm,0.7s
PKIN Phulchoki 40.49 298 *eP* **P** **23 10 13.0 -0.5**
KKN Kakani 40.64 298 *eP* **P** **23 10 14.1 -0.6**
DMN Daman 40.74 298 *eP* **P** **23 10 14.8 -0.8**
36nm,1.0s
DANN Dangsing 42.08 299 *eP* **P** **23 10 26.0 -0.5**
43nm,0.8s
KOLN Koldanda 42.08 298 *eP* **P** **23 10 26.0 -0.5**
36nm,0.8s
PYUN Piuthan 42.68 298 *eP* **P** **23 10 30.9 -0.5**
96nm,1.0s
BBOO Buckleboo 45.98 168 *eP* **P** **23 10 57.5 +0.2**
96nm,0.5s
STKA Stephens Creek 46.55 161 P **P** **23 11 01.2 -0.6**
1.9nm,0.6s,baz=326,slow=8.7,SNR=8.3
STKA Stephens Creek 46.55 161 P **P** **23 11 01.2 -0.6**
PETK Petropavlovsk- 48.09 26 P **P** **23 11 14.8 +1.2**
1.2nm,0.7s,baz=185,slow=8.5,SNR=3.1
PETK LR LR 23 30 19.3
comp=Z,28nm,19.7s,baz=222,slow=34
PETK Petropavlovsk- 48.09 26 P **P** **23 11 14.8 +1.2**
MK31 Makanchi Array 49.99 322 *eP* **P** **23 11 28.6 +0.4**
MKAR Makanchi Array 49.99 322 P **P** **23 11 28.8 +0.5**
5.3nm,0.8s,baz=118,slow=8.3,SNR=64
MKAR PcP **PcP** **23 12 48.1 +0.3**
0.8nm,0.7s,baz=124,slow=3.9,SNR=2.3
MKAR LR LR 23 35 23.2
comp=Z,53nm,18.6s,baz=152,slow=39
MKAR Makanchi Array 49.99 322 P **P** **23 11 28.8 +0.5**
MKAR PcP **PcP** **23 12 48.1 +0.3**
ZALV Zalesovo Beam 52.51 331 P **P** **23 11 46.6 -0.4**
1.9nm,0.7s,baz=112,slow=6.4,SNR=11
ZALV Zalesovo Beam 52.51 331 P **P** **23 11 46.6 -0.4**
KBL Kabul 55.62 303 *eP* **P** **23 12 09.8 -0.4**
4.2nm,0.8s
TIXI Tiksi 59.33 1 *eP* **P** **23 12 35.4 -0.1**
3.7nm,0.8s
BVAR Borovoye Array 59.60 325 P **P** **23 12 38.1 +0.4**
6.1nm,0.8s,baz=105,slow=9.3,SNR=26
BVAR Borovoye Array 59.60 325 P **P** **23 12 38.1 +0.4**
AKTO Aktyubinsk 66.32 320 P **P** **23 13 22.1 -0.2**
1.7nm,0.8s,baz=76,slow=7.4,SNR=5.9
AKTO Aktyubinsk 66.32 320 P **P** **23 13 22.1 -0.2**
RDF Al-Radifah 73.74 297 *eP* **P** **23 14 08.1 -0.2**
RDF AMb AMB 23 14 09.4
comp=Z,11nm,0.8s
MIB Mutribah 73.84 298 *eP* **P** **23 14 08.0 -0.9**
MIB AMb AMB 23 14 08.9
comp=Z,16nm,0.8s
NAY Al-Naaiem 73.98 297 *eP* **P** **23 14 08.5 -1.3**
NAY AMb AMB 23 14 09.2
comp=Z,5.8nm,0.9s
KBZ Khabaz 76.32 312 P **P** **23 14 22.5 -0.4**
comp=Z,2.6nm,1.0s,baz=80,slow=6.0,SNR=3.8
KBZ Khabaz 76.32 312 P **P** **23 14 22.5 -0.4**
JOF Joensuu 81.06 332 *ep* **P** **23 14 47.0 -1.6**
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 82.05 340 P **P** **23 14 53.0 -0.7**
comp=Z,3.7nm,0.8s,baz=81,slow=5.8,SNR=4.5
ARCES ARCESS Array B 82.05 340 P **P** **23 14 53.0 -0.7**
INK Inuvik 82.65 22 P **P** **23 14 56.6 -0.2**
comp=Z,1.2nm,0.6s,baz=280,slow=6.1,SNR=6.4
INK Inuvik 82.65 22 P **P** **23 14 56.6 -0.2**
BRTR Keskin Array B 83.70 309 P **P** **23 15 03.6 +0.5**
comp=Z,0.9nm,0.9s,baz=129,slow=5.7,SNR=5.1
BRTR Keskin Array B 83.70 309 P **P** **23 15 03.6 +0.5**
FINES FINESS Array B 83.77 332 P **P** **23 15 02.6 -0.1**
comp=Z,2.0nm,0.5s,baz=70,slow=4.5,SNR=20
FINES FINESS Array B 83.77 332 P **P** **23 15 02.6 -0.1**
AKASG Malin Array Be 84.55 321 P **P** **23 15 06.5 -0.5**
comp=Z,3.6nm,0.8s,baz=68,slow=4.3,SNR=4.7
AKASG Malin Array Be 84.55 321 P **P** **23 15 06.5 -0.5**
RES Resolute Bay 89.62 10 P **P** **23 15 31.2 +0.3**
comp=Z,1.0nm,0.8s,baz=297,slow=4.2,SNR=3.7
RES Resolute Bay 89.62 10 P **P** **23 15 31.2 +0.3**
HFS Hagfors 89.92 332 P **P** **23 15 32.3 -0.5**
comp=Z,1.8nm,0.8s,baz=94,slow=6.1,SNR=5.0
HFS Hagfors 89.92 332 P **P** **23 15 32.3 -0.5**
YKA Yellowknife Ar 92.18 24 P **P** **23 15 44.9 +1.7**
comp=Z,0.1nm,0.6s,baz=302,slow=4.3,SNR=3.2
YKA Yellowknife Ar 92.18 24 P **P** **23 15 44.9 +1.7**
TORD Torodi Ar. Bea 118.85 293 PKP **PKPdf** **23 21 22.3 -0.7**
comp=Z,0.4nm,0.8s,baz=56,slow=3.9,SNR=3.2
TORD Torodi Ar. Bea 118.85 293 PKP **PKPdf** **23 21 22.3 -0.7**
PLCA Paso Flores 148.35 156 PKPbc **PKPbc** **23 22 20.4 0.0**
comp=Z,4.0nm,1.1s,baz=224,slow=1.1,SNR=3.1
PLCA Paso Flores 148.35 156 PKPbc **PKPbc** **23 22 20.4 0.0**

*IDC **28** 23:12:48.1±1.2, 12°.20N×125°.44E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, MS3.5/2, Ms1 3.5/2, ms1mx2.7/46, Error ellipse: s-maj=60.4km s-min=18.3km az=66.0*
*ISCJB **28** 23:12:50.6±0.9, 12°.38N±0°.07×125°.8E±0°.1, h33km, mb4.0/8, MS3.7/1, Error ellipse: s-maj=21.4km s-min=9.1km az=13.7*
*MAN **28** 23:12:51, 12°.45N×125°.69E, h34km, mb4.6, ML3.5, MS3.5*
ISC 28 23:12:52.8±1.2, 12°.29N±0°.09×125°.6E±0°.2, h33km, n12, σ1§21/11, mb3.8/8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.28**	**210**↑	*eP*	**Pb**	**23 13 14.3**	**-2.1**
PLP				*i* S	**Sb**	**23 13 33.6**	**+1.0**
TBP	**Tagbilaran**	**3.11**	**214**	*eP*	**Pn**	**23 13 41.5**	**+1.9**
GUMO	**Guam**	**18.79**	**84**	LR	LR	23 23 42.2	
	comp=Z,82nm,19.7s,baz=133,slow=34						
CMAR	**Chiang Mai Arr**	**26.44**	**287**	P	**P**	**23 18 25.6**	**-1.3**
	1.5nm,0.9s,baz=97,slow=6.8,SNR=9.6						
WRA	**Warramunga Arr**	**33.15**	**165**	P	**P**	**23 19 25.7**	**-0.6**
	0.3nm,0.6s,baz=344,slow=8.7,SNR=6.8						
ASAR	**Alice Springs**	**36.63**	**167**	P	**P**	**23 19 56.6**	**+0.2**
	0.3nm,0.4s,baz=343,slow=6.4,SNR=8.8						
SONM	**Songino Array**	**38.92**	**339**	P	**P**	**23 20 16.0**	**+0.3**
	0.8nm,0.7s,baz=164,slow=7.8,SNR=5.9						
HNR	**Honiara**	**40.35**	**121**	LR	LR	23 35 38.6	
	comp=Z,100nm,19.7s,baz=341,slow=34						
MKAR	**Makanchi Array**	**50.06**	**322**	P	**P**	**23 21 44.4**	**0.0**
	1.5nm,0.8s,baz=121,slow=8.5,SNR=15						
KURBB	**Kurchatov Arra**	**54.07**	**325**	P	**P**	**23 22 14.3**	**+0.1**
	64nm,0.3s,baz=124,slow=7.1,SNR=2.3						
BVAR	**Borovoye Array**	**59.66**	**325**	P	**P**	**23 22 53.4**	**-0.4**
	1.0nm,0.7s,baz=108,slow=9.3,SNR=6.6						
FINES	**FINESS Array B**	**83.83**	**332**	P	**P**	**23 25 19.4**	**+0.6**
	1.8nm,0.8s,baz=66,slow=4.6,SNR=8.3						

IDC 28 23:19:27.4±33.0, 21°.56S×178°.73E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=611.3km s-min=139.8km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.58**	**245**	P	P	23 26 17.1	-1.0
	0.7nm,0.5s,baz=99,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**41.31**	**258**	P	P	23 27 14.6	-0.5
	2.4nm,0.9s,baz=92,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**41.44**	**264**	P	P	23 27 16.7	+0.6
	1.3nm,0.8s,baz=94,slow=8.3,SNR=15						
FITZ	**Fitzroy Crossi**	**49.87**	**264**	P	P	23 28 23.2	+0.3
	0.9nm,0.6s,baz=95,slow=11,SNR=3.7						

IDC 28 23:21:03.4±11.0, 2°.75S×139°.75E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=291.1km s-min=33.8km az=75.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.89**	**197**	P	Pn	23 25 12.5	-1.4
	0.1nm,0.3s,baz=21,slow=13,SNR=7.3						
ASAR	**Alice Springs**	**21.55**	**195**	P	P	23 25 55.6	+1.0
	0.4nm,0.9s,baz=25,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**45.36**	**299**	P	P	23 29 23.6	-0.3
	1.1nm,0.3s,baz=111,slow=8.1,SNR=6.3						

IDC 28 23:27:21.2±2.5, 0°.80S×133°.26E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/20, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=101.7km s-min=25.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.75**	**203**	P	Pn	23 31 43.0	+0.8
	0.1nm,0.3s,baz=27,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**19.05**	**177**	P	P	23 31 45.4	+0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.74**	**178**	P	P	23 32 24.3	-0.8
	0.4nm,0.6s,baz=8.0,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**65.01**	**324**	P	P	23 38 03.1	-0.1
	0.2nm,0.4s,baz=105,slow=8.3,SNR=7.8						

GUC 28 23:31:50.4±0.6, 23°.72S×67°.17W, h230km, ML3.6, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.43**	**294**↑	*i*P	Pn	23 32 37.5	+1.8
PB06				*i* S	S	23 33 13.8	+2.7
PB06				AML	AML	23 33 15.5	
	comp=E,146nm,0.1s						
PB04	**Plate Boundary**	**2.58**	**304**	*eP*	Pn	23 32 44.6	+7.5
PB04				*i* S	S	23 33 26.3	+13
PB04				AML	AML	23 33 29.3	
	comp=N,72nm,0.1s						
PB09	**Plate Boundary**	**2.70**	**315**↑	*i*P	Pn	23 32 41.0	+2.3
PB09				AML	AML	23 33 23.8	
	comp=E,99nm,0.1s						
CEN1	**Los Morros**	**2.80**	**276**↓	*i*P	Pn	23 32 43.0	+3.4
CEN1				*i* S	S	23 33 18.8	+0.7
CEN1				AML	AML	23 33 21.9	
	comp=N,43nm,0.2s						
ANCH	**Antofagasta**	**2.97**	**270**↓	*i*P	Pn	23 32 43.0	+1.7
ANCH				*i* S	S	23 33 23.0	+1.8
PB07	**Plate Boundary**	**3.19**	**308**↑	*i*P	Pn	23 32 46.0	+1.8
PB07				*i* S	S	23 33 28.5	+2.2
PB07				AML	AML	23 33 30.9	
	comp=E,68nm,0.2s						
PB01	**Plate Boundary**	**3.42**	**321**↑	*i*P	Pn	23 32 48.5	+1.8
PB01				*e*S	S	23 33 33.4	+2.5
PB01				AML	AML	23 33 37.1	
	comp=E,46nm,0.1s						
HMBC	**Humberstone**	**4.25**	**323**	*e*P	Pn	23 32 57.9	+1.3
HMBC				*i* S	S	23 33 50.5	+1.7
MNMC	**Minimini**	**5.09**	**333**	*e*P	Pn	23 33 08.7	+1.5
MNMC				*i* S	S	23 33 10.2	+2.2

IDC 28 23:41:52.9±2.7, 5°.52S×131°.12E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/18, mbtmp3.2/4, ML3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/15, Error ellipse: s-maj=119.2km s-min=29.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.60**	**203**	Pn	Pn	23 45 06.4	-0.8
	0.1nm,0.3s,baz=32,slow=12,SNR=3.8						
FITZ				Sn	Sn	23 47 26.4	-13
	0.1nm,0.3s,baz=142,slow=17,SNR=2.7						
FITZ				LR	LR	23 50 38.3	
	comp=Z,77nm,19.6s,baz=128,slow=39						
WRA	**Warramunga Arr**	**14.68**	**168**	Pn	Pn	23 45 20.9	-1.1
	0.1nm,0.3s,baz=351,slow=13,SNR=5.8						
WRA				Sn	Sn	23 47 57.3	-8.3
	0.1nm,0.3s,baz=341,slow=23,SNR=5.3						
ASAR	**Alice Springs**	**18.24**	**172**	P	P	23 46 08.8	+0.8
	0.1nm,0.3s,baz=353,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**67.61**	**326**	P	P	23 52 51.5	0.0
	0.1nm,0.4s,baz=110,slow=7.6,SNR=5.2						

*ISCJB **28** 23:46:58.8±2.0, 0°.74N±0°.08×99°.14E±0°.07, h6km±10km, mb3.7/8, Error ellipse: s-maj=16.7km s-min=8.4km az=38.6*
*IDC **28** 23:46:58.7±1.3, 0°.67N×99°.30E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.6/28, mbtmp3.7/10, Error ellipse: s-maj=52.5km s-min=21.4km az=60.0*
*DJA **28** 23:47:04.9±0.3, 1°.N±3°×10°.0E±°, h10km, M4.5/9, MLv4.5/9*
ISC 28 23:47:01.7±1.2, 0°.83N±0°.06×99°.29E±0°.06, h13km±8km, n18, σ1§10/22, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.30**	**96**	P	**Pb**	**23 47 08.6**	**-0.3**
MNSI				S	**Sg**	**23 47 12.5**	**+0.6**
GSI	**Gunungsitoli**	**1.77**	**286**	P	**Pg**	**23 47 36.4**	**+0.6**
BKNI	**Bangkinang**	**1.82**	**106**	P	**Pn**	**23 47 33.0**	**+0.2**
BKNI				S	**Sb**	**23 47 58.4**	**+0.6**
PSI	**Prapat**	**2.00**	**350**	Pn	**Pn**	**23 47 35.2**	**-0.1**
	40nm,0.3s,baz=167,slow=13,SNR=109						
PSI				Sn	**Sn**	**23 48 00.9**	**+0.7**
	48nm,0.3s,baz=270,slow=19,SNR=21						
PDSI	**Padang**	**2.09**	**146**	P	**Pg**	**23 47 40.9**	**-0.9**
TSI	**Tuntungan**	**2.75**	**345**	P	**Pg**	**23 47 53.7**	**-0.8**
TSI				S	**Sg**	**23 48 30.2**	**0.0**
TPTI		**3.21**	**319**	P	**Pb**	**23 47 58.1**	**-0.5**
RGRI	**Rengat**	**3.26**	**111**	P	**Pn**	**23 47 55.3**	**+2.6**
KRJI	**Kerinci**	**3.62**	**143**	P	**Pb**	**23 48 05.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.52**	**359**	P	**Pn**	**23 51 06.8**	**+0.8**
	baz=191,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**40.08**	**123**	P	P	**23 54 35.5**	**-1.8**
	0.2nm,0.5s,baz=302,slow=9.0,SNR=2.3						
AAK	**Ala-Archa**	**47.19**	**335**	P	P	**23 55 36.4**	**+1.9**
	0.4nm,0.4s,baz=156,slow=12,SNR=3.3						
SONM	**Songino Array**	**47.23**	**7**	P	P	**23 55 35.3**	**+0.7**
	0.3nm,0.7s,baz=189,slow=10.0,SNR=4.0						
MKAR	**Makanchi Array**	**48.13**	**344**	P	P	**23 55 41.4**	**-0.1**
	1.2nm,0.7s,baz=152,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**54.28**	**350**	P	P	**23 56 26.9**	**-0.6**
	1.4nm,0.7s,baz=170,slow=6.2,SNR=9.5						
BVAR	**Borovoye Array**	**57.30**	**340**	P	P	**23 56 47.8**	**-1.5**
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.3						
BRTR	**Keskin Array B**	**70.91**	**312**	P	P	**23 58 19.2**	**+0.1**
	0.5nm,0.6s,baz=117,slow=7.5,SNR=4.6						
FINES	**FINESS Array B**	**81.29**	**332**	P	P	**23 59 17.1**	**-0.5**
	1.0nm,0.9s,baz=101,slow=9.9,SNR=4.1						

*IDC **29** 00:06:07.7±1.4, 41°.63N×80°.57E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=27.2km s-min=23.9km az=122.0*
*ISCJB **29** 00:06:09.8±1.3, 41°.67N±0°.08×80°.78E±0°.10, h10km, mb3.0/2, Error ellipse: s-maj=13.5km s-min=8.1km az=144.0*
*NNC **29** 00:06:11.5±4.6, 42°.00N×80°.76E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=44.1km s-min=14.6km az=151.0*
ISC 29 00:06:11.1±1.6, 41°.6N±0°.1×80°.76E±0°.08, h10km, n8, σ0§49/10, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**3.23**	**301**	⇓P	**Pn**	**00 07 02.1**	**+0.2**
	13nm,0.5s						
KNDC				⇓Lg	Lg	00 07 47.7	
	58nm,0.8s						
TKM2	**Tokmak 2**	**4.05**	**291**	⇓Pn	**Pn**	**00 07 13.5**	**+0.3**
	4.1nm,0.5s						
TKM2				⇑Pg	**Pb**	**00 07 22.6**	**+0.1**
	5.1nm,0.5s						
TKM2				⇑Sn	**Sn**	**00 08 00.5**	**-0.4**
	4.5nm,0.5s						
TKM2				⇓Lg	Lg	00 08 13.9	
	17nm,0.7s						
AAK	**Ala-Archa**	**4.77**	**284**	Pn	**Pn**	**00 07 23.6**	**+0.5**
	0.2nm,0.3s,baz=97,slow=13,SNR=5.5						
MK31	**Makanchi Array**	**5.29**	**11**	Pn	**Pn**	**00 07 30.4**	**+0.2**
	0.5nm,0.4s,baz=187,slow=14,SNR=58						
MK31				⇑Sn	**Sn**	**00 08 30.5**	**-0.8**
	2.3nm,0.5s,baz=183,slow=24,SNR=7.4						
MKAR	**Makanchi Array**	**5.29**	**11**	Pn	**Pn**	**00 07 30.9**	**+0.7**
	0.6nm,0.3s,baz=191,slow=16,SNR=37						
MKAR				Sn	**Sn**	**00 08 31.3**	**0.0**
	1.4nm,0.3s,baz=188,slow=22,SNR=16						
KK31	**Karatay Array**	**7.74**	**285**	⇑Pg	Pb	00 08 30.3	+5.0
	0.3nm,0.5s,baz=89,slow=16,SNR=4.7						
KK31				⇑Lg	Lg	00 10 11.0	
	3.4nm,0.8s,baz=99,slow=26,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.26**	**273**	P	P	00 17 39.0	-3.8
	0.4nm,1.1s,baz=43,slow=5.4,SNR=2.5						
WRA	**Warramunga Arr**	**78.78**	**129**	P	**P**	**00 18 13.8**	**-0.3**
	0.1nm,0.7s,baz=333,slow=4.9,SNR=5.0						

*IDC **29** 00:17:28.0±0.8, 21°.41N×121°.44E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.7/24, mbtmp3.6/10, Error ellipse: s-maj=66.7km s-min=16.4km az=66.0*
*ISCJB **29** 00:17:29.5±0.9, 21°.57N±0°.03×121°.53E±0°.05, h17km±5km, mb3.6/10, Error ellipse: s-maj=8.4km s-min=5.6km az=165.0*
*TAP **29** 00:17:31.1, 21°.61N×121°.41E, h43km, ML4.0, C*
ISC 29 00:17:31.5±1.4, 21°.59N±0°.06×121°.43E±0°.05, h32km±9km, n46, σ1§44/59, mb3.7/10, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.47**	**14**	P	**Pb**	**00 17 41.3**	**-0.2**
	baz=26						
LAY				S	**Sb**	**00 17 48.8**	**+0.4**
	baz=26						
TSEB	**Hengchuen, Pin**	**0.58**	**303**↑	*i*P	**Pb**	**00 17 43.8**	**+0.3**
	baz=299						
TSEB				*i* S	**Sb**	**00 17 53.3**	**+1.7**
	baz=299						
TWK1	**Hengchun**	**0.68**	**302**	*i* P	**Pb**	**00 17 44.4**	**-0.7**
	baz=293						
TWK1				*e*S	**Sb**	**00 17 54.4**	**+0.2**
	baz=293						
HEN	**Hengchun**	**0.77**	**303**	*e*P	**Pb**	**00 17 45.8**	**-0.6**
	baz=303						
HEN				*e*S	**Sb**	**00 17 56.2**	**-0.5**
	baz=303						
TAW	**Tawu**	**0.92**	**327**	*i* P	**Pn**	**00 17 47.1**	**-1.1**
	baz=328						
TAW				S	**Sb**	**00 17 58.9**	**-1.9**
	baz=328						
EAST	**Anshuo**	**0.96**	**326**↑	*i*P	**Pn**	**00 17 48.0**	**-0.9**
	baz=334						
EAST				S	**Sb**	**00 18 00.4**	**-1.8**
	baz=334						
SCZT	**Fangliau**	**1.09**	**316**↑	*i*P	**Pn**	**00 17 50.7**	**+0.1**
	baz=321						
SCZT				*e*S	**Sn**	**00 18 03.7**	**-0.9**
	baz=321						
ECL	**Taimali**	**1.10**	**336**	P	**Pn**	**00 17 49.5**	**-1.2**
	baz=337						
ECL				S	**Sn**	**00 18 02.9**	**-2.0**
	baz=337						
TTN	**Taitung**	**1.19**	**347**	*e*P	**Pn**	**00 17 52.1**	**+0.1**
	baz=348						
TTN				*e*S	**Sn**	**00 18 07.2**	**+0.1**
	baz=348						
TWP	**Hsiaoliuchiu**	**1.25**	**308**	*e*P	**Pn**	**00 17 52.2**	**-0.6**
	baz=296						
TWG	**Pinlang**	**1.27**	**345**	*i* P	**Pn**	**00 17 52.1**	**-1.0**
	baz=336						
TWG				S	**Sn**	**00 18 07.0**	**-2.1**
	baz=336						
CHKT	**Chengkung**	**1.51**	**358**	*e*P	**Pn**	**00 17 56.8**	**+0.5**
	baz=5.0						
CHKT				*e*S	**Sn**	**00 18 14.6**	**-0.3**
	baz=5.0						
TWM1	**Shoushan**	**1.55**	**323**	*e*P	Pn	00 17 58.9	+2.0
	baz=323						
ELDTW	**Lidau**	**1.64**	**347**	*e*P	**Pn**	**00 17 57.4**	**-0.9**
	baz=347						
ELDTW				*e*S	**Sn**	**00 18 16.2**	**-2.2**
	baz=347						
SGST	**Jiashian**	**1.68**	**332**	*e*P	**Pn**	**00 18 00.5**	**+1.7**
	baz=343						
SGST				*e*S	**Sb**	**00 18 23.0**	**+0.3**
	baz=343						
TWF1	**Yuli**	**1.76**	**356**	*e*P	**Pn**	**00 17 59.1**	**-0.8**
	baz=347						
TWF1				*e*S	**Sn**	**00 18 19.1**	**-2.2**
	baz=347						
CHN1	**Nanshi**	**1.80**	**332**	*e*P	**Pn**	**00 18 01.5**	**+1.1**
	baz=333						
CHN1				*e*S	**Sn**	**00 18 25.7**	**+3.6**
	baz=333						
WTP	**Ta-pu**	**1.82**	**336**	*e*P	**Pn**	**00 18 02.5**	**+1.8**
	baz=345						
WTP				*e*S	**Sn**	**00 18 25.9**	**+3.3**
	baz=345						
TWK	**Hsinying**	**1.89**	**333**	*e*P	**Pn**	**00 18 03.0**	**+1.3**
	baz=333						
EHY	**Hungye**	**1.92**	**357**	*e*P	**Pn**	**00 18 00.9**	**-1.0**
	baz=347						
EHY				*e*S	**Sn**	**00 18 22.7**	**-2.3**
	baz=347						
CHN4	**Tsaushan**	**1.92**	**336**	*e*P	**Pn**	**00 18 02.7**	**+0.7**
	baz=337						
CHN4				*e*S	**Sn**	**00 18 27.6**	**+2.4**
	baz=337						
SCLT	**Jiali**	**1.95**	**324**	*e*P	**Pn**	**00 18 01.4**	**-1.1**
	baz=324						
ALS	**Alishan**	**2.00**	**343**	*e*P	**Pn**	**00 18 04.0**	**+0.5**
	baz=350						
CHY	**Chiayi**	**2.12**	**334**	*e*P	**Pn**	**00 18 05.4**	**+0.6**
	baz=334						
CHY				*e*S	**Sn**	**00 18 30.8**	**+0.7**

baz=6.0
WHF eS Sn 00 18 41.2 -0.1
baz=6.0
TWT Tachien 2.67 355 *e*P Pn 00 18 14.3 +1.9
baz=4.0
TWQ1 Liyutan 2.82 348 *e*P Pn 00 18 14.6 +0.2
baz=335
NNS Nan Shan 2.84 359 *e*P Pn 00 18 17.7 +2.9
baz=9.0
ENTT Nioudou 3.04 2 *e*P Pn 00 18 18.7 +1.2
baz=3.0
NSK Sanguang 3.08 359 *e*P Pn 00 18 19.7 +1.7
baz=8.0
NSK eS Sn 00 18 54.0 +0.3
baz=8.0
SONM Songino Array 28.85 339 P P 00 23 29.5 +2.3
0.2nm,0.5s,baz=158,slow=10,SNR=3.9
MKAR Makanchi Array 40.38 318 P P 00 25 08.8 +2.2
0.4nm,0.5s,baz=109,slow=9.6,SNR=7.7
ZALV Zalesovo Beam 42.56 329 P P 00 25 25.6 +1.4
0.8nm,0.6s,baz=116,slow=6.9,SNR=3.9
WRA Warramunga Arr 43.16 162 P **P 00 25 28.3 -1.1**
1.2nm,0.6s,baz=344,slow=9.0,SNR=12
ASAR Alice Springs 46.59 164 P **P 00 25 56.7 0.0**
0.6nm,0.6s,baz=354,slow=15,SNR=8.8
BVAR Borovoye Array 49.84 322 P P 00 26 23.2 +1.7
0.3nm,0.4s,baz=101,slow=7.7,SNR=3.5
STKA Stephens Creek 56.56 159 P **P 00 27 11.7 +0.6**
1.0nm,0.6s,baz=331,slow=12,SNR=3.4
FINES FINESS Array B 73.80 330 P P 00 29 05.3 +2.7
2.3nm,1.0s,baz=57,slow=5.1,SNR=3.4
NOA NORSAR Array B 80.62 332 P P 00 29 44.9 +3.9
0.6nm,0.8s,baz=76,slow=5.6,SNR=3.3
YKA Yellowknife Ar 85.27 23 P P 00 30 07.0 +2.1
0.1nm,0.6s,baz=302,slow=5.0,SNR=3.0

---

*ISCJB **29** 00:23:58.8±2.1, 12°.31N±0°.05×143°.96E±0°.05, h7$^{km}_{\pm 13}$, mb4.6/54, MS3.8/13, Error ellipse: s-maj=9.5km s-min=7.9km az=137.0*
*BJI **29** 00:23:58.7, 12°.05N×144°.40E, h29^{km}, mB4.6/5, mb4.7/23, Ms4.8/16, Ms7 4.5/16*
*IDC **29** 00:23:59.2±0.5, 12°.37N×144°.04E, h0^{km}, mb4.4/21, mb1 4.4/21, mb1mx4.4/30, mbtmp4.3/21, MS3.7/11, Ms1 3.7/11, ms1mx3.3/42, Error ellipse: s-maj=17.8km s-min=12.4km az=97.0*
*NEIC **29** 00:24:00.8±0.3, 12°.35N×143°.99E, h10^{km}, mb4.9/17, Error ellipse: s-maj=9.4km s-min=7.4km az=98.0*
*MOS **29** 00:24:02.7±1.1, 12°.33N×143°.92E, h35^{km}, mb4.8/31, Error ellipse: s-maj=13.3km s-min=8.0km az=99.1*

ISC 29 00:24:03.0±0.7, 12°.35N±0°.06×144°.05E±0°.06, h23$^{km}_{\pm 4}$km, n126, σ1^{s}37/144, mb4.7/54, MS3.7/13, 2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.47**	**33**	Pn	**Pn**	**00 24 28.3**	**+0.2**
	601nm,0.3s,baz=195,slow=5.9,SNR=220						
GUMO				Sn	**Sb**	**00 24 47.3**	**-0.6**
	493nm,0.3s,baz=197,slow=19,SNR=10						
GUMO	**Guam**	**1.47**	**33**	*e*Pn	**Pn**	**00 24 28.0**	**-0.1**
GUMO				*e*Sn	**Sb**	**00 24 47.5**	**-0.5**
JNU	**Nakatsue**	**23.93**	**332**	P	**P**	**00 29 15.9**	**+0.5**
	8.6nm,0.9s,baz=143,slow=5.1,SNR=3.6						
JNU				LR	LR	00 37 16.5	
	comp=Z,64nm,19.2s,baz=309,slow=33						
JNU	**Nakatsue**	**23.93**	**332**	P	**P**	**00 29 15.9**	**+0.5**
MJAR	**Matsushiro Arr**	**24.65**	**349**	P	**P**	**00 29 20.9**	**-1.2**
	1.6nm,0.5s,baz=162,slow=8.9,SNR=8.9						
MJAR				PcP	**PcP**	**00 32 59.4**	**+0.2**
	1.9nm,0.7s,baz=171,slow=4.6,SNR=5.8						
MJAR				LR	LR	00 38 32.9	
	comp=Z,206nm,18.3s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**24.65**	**349**	P	**P**	**00 29 20.9**	**-1.2**
MJAR				PcP	**PcP**	**00 32 59.4**	**+0.2**
MAT	**Matsushiro**	**24.66**	**349**	P	**P**	**00 29 21.4**	**-0.6**
MAT				*e*S	**S**	**00 33 46.0**	**+3.7**
COEN	**Coen**	**26.15**	**182**	*e*P	**P**	**00 29 34.8**	**-1.0**
	31nm,0.4s						
COEN	**Coen**	**26.15**	**182**	P	**P**	**00 29 35.3**	**-0.4**
	baz=17,SNR=11						
KSRS	**Korea Array**	**28.87**	**333**	P	**P**	**00 30 00.1**	**+0.3**
	2.9nm,0.8s,baz=143,slow=11,SNR=6.7						
KSAR	**Wonju Array Be**	**28.88**	**333**	P	**P**	**00 30 00.1**	**+0.2**
NJ2	**Nanjing**	**30.34**	**314**	*e*P	**P**	**00 30 13.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
ASAJ	**Asahikawa**	**31.68**	**358**	LR	LR	00 41 28.0	
	comp=Z,73nm,21.4s,baz=299,slow=33						
CTA	**Charters Tower**	**32.31**	**176**	P	**P**	**00 30 30.3**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=338,slow=9.0,SNR=4.7						
CTA				LR	LR	00 41 12.0	
	comp=Z,152nm,18.8s,baz=49,slow=32						
CTA	**Charters Tower**	**32.31**	**176**	P	**P**	**00 30 30.3**	**-0.2**
WRA	**Warramunga Arr**	**33.48**	**197**	P	**P**	**00 30 39.8**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=21,slow=10.0,SNR=8.8						
WRA				LR	LR	00 44 55.9	
	comp=Z,121nm,20.1s,baz=150,slow=38						
WRA	**Warramunga Arr**	**33.48**	**197**	P	**P**	**00 30 39.8**	**-1.0**
CN2	**Changchun**	**35.20**	**336**	*e*P	**P**	**00 30 56.0**	**+0.6**
ASAR	**Alice Springs**	**37.15**	**196**	P	**P**	**00 31 11.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=19,slow=10,SNR=20						
ASAR				LR	LR	00 46 16.0	
	comp=Z,132nm,20.6s,baz=16,slow=36						
ASAR	**Alice Springs**	**37.15**	**196**	P	**P**	**00 31 11.6**	**-0.6**
GYA	**Guiyang**	**37.79**	**297**	P	**P**	**00 31 18.8**	**+0.9**
GYA				PP	**PnPn**	**00 32 47.5**	**+1.9**
GYA				S	**S**	**00 37 09.3**	**+1.5**
GYA				SS	**SnSn**	**00 39 43.0**	**-5.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				LR	LR		
	comp=N,540nm,16.7s						
GYA				LR	LR		
	comp=E,480nm,17.6s						
GYA				LR	LR		
	comp=Z,520nm,16.2s						
KLR	**Kul'dur**	**38.15**	**347**	*e*P	P	00 31 15.7	-4.8
HHC	**Hu-ho-hao-te**	**40.20**	**321**	*e*P	**P**	**00 31 36.5**	**-1.4**
HHC				PP	**PnPn**	**00 33 13.0**	**-1.2**
HHC				S	**S**	**00 37 43.5**	**-0.1**
HHC				pmax	pmax		
	comp=Z,33nm,0.9s						
HHC				LR	LR		
	comp=N,380nm,15.3s						
HHC				LR	LR		
	comp=E,870nm,17.5s						
HHC				LR	LR		
	comp=Z,280nm,15.5s						
KMI	**Kunming**	**40.96**	**294**	P	**P**	**00 31 44.5**	**0.0**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CD2	**Chengdu**	**41.47**	**303**	P	**P**	**00 31 48.5**	**+0.1**
CD2				PP	**PnPn**	**00 33 27.8**	**-1.4**
CD2				S	**S**	**00 38 03.8**	**+1.1**
CD2				SS	**SS**	**00 41 02.8**	**-4.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				LR	LR		
	comp=N,210nm,5.9s						
CD2				LR	LR		
	comp=Z,210nm,4.5s						
PETK	**Petropavlovsk-**	**42.09**	**12**	LR	LR	00 45 49.8	
	comp=Z,37nm,19.9s,baz=68,slow=31						
LZH	**Lanzhou**	**43.18**	**310**	*e*P	P	00 31 54.0	-8.4
LZH				pP	pP	00 31 58.0	-12
LZH				sP	sP	00 32 00.0	-12
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
LZH	**Lanzhou**	**43.18**	**310**	*e*P	**P**	**00 32 05.0**	**+2.6**
LZH				pP	**pP**	**00 32 09.5**	**-0.1**
LZH				sP	**sP**	**00 32 12.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.82**	**284**	P	**P**	**00 32 08.7**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=86,slow=6.3,SNR=12						
CMAR	**Chiang Mai Arr**	**43.82**	**284**	P	**P**	**00 32 08.7**	**+1.1**
STKA	**Stephens Creek**	**44.04**	**183**	P	**P**	**00 32 08.7**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=352,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**44.04**	**183**	P	**P**	**00 32 08.7**	**-0.3**
PSI	**Prapat**	**45.66**	**262**	P	**P**	**00 32 22.9**	**+0.5**
	comp=Z,6.0nm,0.8s,baz=110,slow=2.5,SNR=5.7						
PSI	**Prapat**	**45.66**	**262**	P	**P**	**00 32 22.9**	**+0.5**
SONM	**Songino Array**	**47.29**	**326**	P	**P**	**00 32 35.1**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=147,slow=8.6,SNR=9.6						
SONM				PcP	**PcP**	**00 34 05.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=144,slow=3.2,SNR=5.0						
SONM	**Songino Array**	**47.29**	**326**	P	**P**	**00 32 35.1**	**+0.3**
SONM				PcP	**PcP**	**00 34 05.6**	**0.0**
ZAK	**Zakamensk**	**50.43**	**327**	*e*P	**P**	**00 32 57.9**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YAK	**Yakutsk**	**50.68**	**351**	*e*P	**P**	**00 33 02.1**	**+1.8**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
SEY	**Seymchan**	**50.86**	**5**	*e*P	**P**	**00 33 04.2**	**+2.5**
TAPN	**Taplejung**	**54.63**	**295**	*e*P	**P**	**00 33 30.3**	**-0.3**
	comp=Z,10nm,0.7s						
ODAN	**Odare**	**54.88**	**294**	*e*P	**P**	**00 33 32.7**	**+0.4**
RAMN	**Ramite**	**55.59**	**294**	*e*P	**P**	**00 33 37.4**	**-0.1**
	comp=Z,8.3nm,0.6s						
GUN	**Gumba**	**56.28**	**295**	*e*P	**P**	**00 33 42.3**	**-0.3**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**56.68**	**295**	*e*P	**P**	**00 33 44.5**	**-0.9**
	comp=Z,7.5nm,0.6s						
WMQ	**Urumqi**	**57.41**	**314**	*e*P	**P**	**00 33 51.0**	**+1.0**
BILL	**Bilibino**	**57.51**	**10**	*e*P	**P**	**00 33 50.3**	**+0.2**
BILL				*i*		00 34 43.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DANN	**Dangsing**	**58.18**	**296**	*e*P	**P**	**00 33 55.3**	**-0.6**
	comp=Z,16nm,0.5s						
KOLN	**Koldanda**	**58.29**	**295**	*e*P	**P**	**00 33 56.0**	**-0.6**
	comp=Z,9.7nm,0.8s						
PYUN	**Piuthan**	**58.84**	**295**	*e*P	**P**	**00 33 59.3**	**-1.1**
	comp=Z,21nm,0.8s						
MK31	**Makanchi Array**	**61.83**	**317**	*e*P	**P**	**00 34 20.4**	**+0.1**
MK31	**Makanchi Array**	**61.83**	**317**	*e*P	**P**	**00 34 20.4**	**+0.1**
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**00 34 20.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=93,slow=8.0,SNR=43						
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**00 34 20.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**00 34 20.1**	**-0.2**
ZALV	**Zalesovo Beam**	**62.16**	**325**	P	**P**	**00 34 21.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=103,slow=8.7,SNR=4.7						
ZALV				PcP	**PcP**	**00 35 01.3**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=107,slow=3.9,SNR=8.5						
ZALV				LR	LR	01 02 37.4	
	comp=Z,51nm,18.1s,baz=74,slow=37						
ZALV	**Zalesovo Beam**	**62.16**	**325**	P	**P**	**00 34 21.8**	**-0.6**
ZALV						00 35 01.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,51nm,18.1s						
ZALV	**Zalesovo Beam**	**62.16**	**325**	P	**P**	**00 34 21.8**	**-0.6**
ZALV				PcP	**PcP**	**00 35 01.3**	**-1.0**
KURK	**Kurchatov**	**65.01**	**320**	*e*P	**P**	**00 34 40.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**65.01**	**320**	*e*P	**P**	**00 34 40.5**	**-0.7**
	comp=Z,14nm,1.4s						
KSH	**Kashi**	**65.36**	**308**	*e*P	**P**	**00 34 46.3**	**+2.4**
KSH				pP	**pP**	**00 34 51.8**	**+0.5**
KSH				PcP	**PcP**	**00 35 17.8**	**+1.9**
KSH				PP	PP	00 37 13.8	+6.1
KSH				ScP		00 39 19.5	
KSH				PcS		00 39 21.0	
KSH				S	**S**	**00 43 28.5**	**+1.6**
KSH				ScS	**ScS**	**00 44 38.3**	**0.0**
KSH				SS	**SS**	**00 47 44.8**	**+4.6**
KSH				pmax	pmax		
	comp=Z,37nm,4.8s						
KSH				LR	LR		
	comp=N,90nm,5.0s						
KSH				LR	LR		
	comp=E,91nm,5.8s						
KSH				LR	LR		
	comp=Z,190nm,5.7s						
AAK	**Ala-Archa**	**66.71**	**311**	P	**P**	**00 34 51.8**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=170,slow=5.0,SNR=6.0						
AAK	**Ala-Archa**	**66.71**	**311**	P	**P**	**00 34 51.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**66.71**	**311**	P	**P**	**00 34 51.8**	**-0.8**
PMR	**Palmer**	**68.25**	**28**	*e*P	**P**	**00 35 00.0**	**-1.7**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PMR	**Palmer**	**68.25**	**28**	*e*P	**P**	**00 35 00.0**	**-1.7**
	comp=Z,8.2nm,0.9s						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**00 35 10.9**	**-1.7**
	comp=Z,3.9nm,0.6s,baz=250,slow=5.7,SNR=68						
ILAR				LR	LR	01 08 49.0	
	comp=Z,37nm,18.5s,baz=272,slow=38						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**00 35 10.9**	**-1.7**
BVAR	**Borovoye Array**	**70.40**	**322**	P	**P**	**00 35 15.0**	**-0.2**
	comp=Z,3.7nm,0.3s,baz=105,slow=8.1,SNR=76						
BVAR	**Borovoye Array**	**70.40**	**322**	P	**P**	**00 35 15.0**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BVAR	**Borovoye Array**	**70.40**	**322**	P	**P**	**00 35 15.0**	**-0.2**
BRVK	**Borovoye**	**70.47**	**322**	*e*P	**P**	**00 35 15.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**70.47**	**322**	*e*P	**P**	**00 35 15.5**	**-0.1**
	comp=Z,4.8nm,0.8s						
KBL	**Kabul**	**70.81**	**302**	*e*P	**P**	**00 35 21.3**	**+2.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBL	**Kabul**	**70.81**	**302**	*e*P	**P**	**00 35 21.3**	**+2.9**
	comp=Z,3.9nm,1.0s						
SVE	**Sverdlovsk**	**76.16**	**326**	*i*P	**P**	**00 35 49.0**	**-0.1**
SVE				pmax	pmax		
	comp=Z,11nm,1.1s						
ARU	**Arti**	**77.32**	**325**	*d i*P	**P**	**00 35 54.7**	**-1.0**
ARU						00 38 45.9	
ARU				S	**S**	**00 45 42.2**	**-2.2**
ARU				SS	**SS**	**00 50 37.8**	**-4.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**77.32**	**325**	*e*P	**P**	**00 35 54.6**	**-1.1**
	comp=Z,4.9nm,0.7s						
AKTO	**Aktyubinsk**	**78.07**	**319**	P	**P**	**00 35 59.3**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=91,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**78.07**	**319**	P	**P**	**00 35 59.3**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**78.07**	**319**	P	**P**	**00 35 59.3**	**-0.7**
BBB	**Bella Bella**	**79.04**	**39**	LR	LR	01 04 36.4	
	comp=Z,96nm,20.3s,baz=84,slow=31						
YKW3	**Yellowknife Ar**	**84.30**	**27**	*e*P	**P**	**00 36 32.3**	**-0.5**
	comp=Z,0.2nm,0.9s						
YKA	**Yellowknife Ar**	**84.32**	**27**	P	**P**	**00 36 32.6**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=288,slow=5.5,SNR=73						
YKA	**Yellowknife Ar**	**84.32**	**27**	P	**P**	**00 36 32.6**	**-0.3**
RES	**Resolute Bay**	**85.93**	**13**	*e*P	**P**	**00 36 40.8**	**+0.1**
	comp=Z,18nm,0.8s						
NEW	**Newport**	**86.68**	**41**	*e*P	**P**	**00 36 45.4**	**+0.3**
	comp=Z,9.2nm,0.8s						
BMO	**Blue Mountains**	**87.43**	**45**	*e*P	**P**	**00 36 49.3**	**+0.5**
BMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMO	**Blue Mountains**	**87.43**	**45**	*e*P	**P**	**00 36 49.3**	**+0.5**
	comp=Z,5.0nm,0.8s						
KEV	**Kevo**	**87.44**	**342**	*e*P	**P**	**00 36 47.1**	**-1.1**
KEV	**Kevo**	**87.44**	**342**	*e*p	**P**	**00 36 47.1**	**-1.1**
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**00 36 50.6**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=80,slow=8.7,SNR=11						
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**00 36 50.6**	**-0.4**
BSMT	**Bassoo Peak**	**88.30**	**41**	*e*P	**P**	**00 36 52.7**	**-0.4**
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**00 36 54.6**	**+1.2**
	comp=Z,7.6nm,0.7s,baz=265,slow=5.5,SNR=54						
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**00 36 54.6**	**+1.2**
JOF	**Joensuu**	**89.08**	**335**	*e*P	P	00 36 52.7	-3.4
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JOF	**Joensuu**	**89.08**	**335**	*e*p	P	00 36 52.7	-3.4
	comp=Z,3.6nm,0.7s						
OBN	**Obninsk**	**89.69**	**327**	*e*P	**P**	**00 36 58.0**	**-1.1**
OBN				pmax	pmax		
	comp=Z,22nm,2.5s						
HLID	**Hailey**	**89.78**	**45**	*e*P	**P**	**00 37 01.3**	**+1.2**
	comp=Z,3.7nm,0.8s						
ELK	**Elko**	**89.99**	**48**	*e*P	**P**	**00 37 02.2**	**+1.0**
	comp=Z,6.2nm,1.0s						
GSC	**Goldstone**	**90.28**	**54**	*e*P	**P**	**00 37 03.9**	**+1.4**
GSC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GSC	**Goldstone**	**90.28**	**54**	*e*P	**P**	**00 37 03.9**	**+1.4**
	comp=Z,6.9nm,0.8s						
KAF	**Kangasniemi**	**91.51**	**335**	*e*P	**P**	**00 37 04.8**	**-2.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**91.51**	**335**	*e*p	**P**	**00 37 04.8**	**-2.7**
	comp=Z,2.1nm,0.7s						
LDFC	**Landfair**	**91.67**	**54**	*e*P	**P**	**00 37 09.7**	**+0.7**
	comp=Z,15nm,0.9s						
DUG	**Dugway**	**91.92**	**48**	*e*P	**P**	**00 37 11.1**	**+1.0**
DUG				pmax	pmax		
	comp=Z,60nm,2.9s						
DUG	**Dugway**	**91.92**	**48**	*e*P	**P**	**00 37 11.1**	**+1.0**
	comp=Z,60nm,2.9s						
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**00 37 07.6**	**-1.9**
	comp=Z,2.4nm,0.5s,baz=66,slow=4.8,SNR=43						
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**00 37 07.6**	**-1.9**
CCUT	**Cedar City**	**92.31**	**51**	*e*P	**P**	**00 37 13.8**	**+1.7**
	comp=Z,26nm,2.5s						
RLMT	**Red Lodge**	**92.78**	**43**	*e*P	**P**	**00 37 13.7**	**-0.4**
	comp=Z,3.9nm,0.6s						
FFC	**Flin Flon**	**93.28**	**32**	*e*P	**P**	**00 37 15.6**	**-0.2**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	**Flin Flon**	**93.28**	**32**	*e*P	**P**	**00 37 15.6**	**-0.2**
	comp=Z,2.8nm,0.8s						
PDAR	**Pinedale Array**	**93.40**	**45**	LR	LR	01 16 35.9	
	comp=Z,69nm,20.0s,baz=246,slow=34						
BRTR	**Keskin Array B**	**97.32**	**313**	P	**P**	**00 37 34.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=35,slow=2.5,SNR=3.0						
BRTR	**Keskin Array B**	**97.32**	**313**	P	**P**	**00 37 34.1**	**-0.8**
ULM	**Lac du Bonnet**	**98.71**	**34**	P	**P**	**00 37 40.0**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=297,slow=4.5,SNR=4.1						
ULM	**Lac du Bonnet**	**98.71**	**34**	P	**P**	**00 37 40.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**134.88**	**303**	PKP	**PKPdf**	**00 43 21.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=21,slow=1.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**134.88**	**303**	PKP	**PKPdf**	**00 43 21.3**	**+0.2**
PLCA	**Paso Flores**	**138.54**	**139**	PKP	**PKPdf**	**00 43 28.8**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=252,slow=1.9,SNR=3.4						
PLCA	**Paso Flores**	**138.54**	**139**	PKP	**PKPdf**	**00 43 28.8**	**+1.5**
DBIC	**Dimbokro**	**143.77**	**300**	PKP	PKPbc	00 43 34.8	-0.1
	comp=Z,1.7nm,0.4s,baz=77,slow=3.0,SNR=14						
DBIC	**Dimbokro**	**143.77**	**300**	PKP	PKPbc	00 43 34.8	-0.1
LPAZ	**La Paz**	**148.60**	**101**	PKP	**PKPdf**	**00 43 45.8**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=279,slow=3.3,SNR=3.6						
LPAZ				PKPbc	**PKiKP**	**00 43 51.1**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=302,slow=2.9,SNR=20						
LPAZ	**La Paz**	**148.60**	**101**	PKP	**PKPdf**	**00 43 45.8**	**-0.4**
LPAZ				PKPbc	**PKiKP**	**00 43 51.1**	**-0.3**

---

*AUST **29** 00:25:35.9, 6°.49S×127°.52E, h5^{km}*
*IDC **29** 00:26:03.8±1.1, 6°.69S×127°.18E, h0^{km}, mb4.0/6, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, ML3.6/3, Error ellipse: s-maj=54.8km s-min=22.1km az=67.0*
*ISCJB **29** 00:26:06.5±0.6, 8°.91S±0°.06×126°.96E±0°.10, h33^{km}, mb3.8/6, Error ellipse: s-maj=14.5km s-min=7.2km az=158.2*

ISC 29 00:26:08.2±0.8, 9°.01S±0°.07×127°.0E±0°.1, h35^{km}, n16, σ2^{s}25/15, mb3.9/6, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.55**	**134**	S	Sn	00 28 38.0	+6.9
	baz=7.3,SNR=7.1						
KDU	**Kakadu**	**6.48**	**125**	P	Pn	00 27 26.3	-15
	baz=7.9,SNR=3.1						
KDU				S	Sn	00 29 02.1	+8.1
	baz=7.9,SNR=4.4						
WSI	**Waingapu**	**6.67**	**264**	P	Pn	00 27 34.6	-9.1
	baz=7.8,SNR=3.2						
KAPI	**Kappang**	**8.23**	**298**	Pn	**Pn**	**00 28 05.0**	**-0.3**
	baz=132,slow=16,SNR=1.9						
FITZ	**Fitzroy Crossi**	**9.14**	**188**	Pn	**Pn**	**00 28 20.9**	**+3.2**
	0.5nm,0.3s,baz=23,slow=15,SNR=7.9						
FITZ				Sn	**Sn**	**00 30 00.0**	**+0.6**
	2.5nm,0.3s,baz=271,slow=17,SNR=6.0						
FITZ	**Fitzroy Crossi**	**9.14**	**188**	P	Pn	00 28 21.3	+3.6
	baz=12,SNR=3.9						
WRA	**Warramunga Arr**	**12.97**	**148**	Pn	**Pn**	**00 29 12.1**	**+1.9**
	0.3nm,0.3s,baz=323,slow=14,SNR=12						
WRA				Sn	**Sn**	**00 31 34.3**	**+1.0**
	0.6nm,0.3s,baz=321,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**16.00**	**157**	Pn	**P**	**00 29 53.2**	**-0.7**
	0.2nm,0.3s,baz=320,slow=12,SNR=9.9						
ASAR				Sn	**Sn**	**00 32 41.2**	**-5.9**
	baz=16,slow=11,SNR=4.8						
MEEK	**Meekatharra**	**19.26**	**203**	S	**Sn**	**00 34 04.0**	**-2.1**
	baz=22,SNR=3.1						
CMAR	**Chiang Mai Arr**	**38.89**	**315**	P	**P**	**00 33 30.3**	**-0.4**
	1.3nm,0.3s,baz=136,slow=7.0,SNR=5.7						
SONM	**Songino Array**	**59.47**	**344**	P	**P**	**00 36 07.4**	**-0.4**
	0.3nm,0.7s,baz=156,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**68.34**	**329**	P	**P**	**00 37 05.5**	**-0.5**
	0.7nm,0.6s,baz=128,slow=6.9,SNR=6.4						
AAK	**Ala-Archa**	**70.21**	**322**	P	**P**	**00 37 18.1**	**+0.2**
	0.6nm,0.6s,baz=146,slow=7.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**72.12**	**335**	P	**P**	**00 37 28.0**	**-0.9**
	1.5nm,0.6s,baz=130,slow=3.1,SNR=6.5						
BVAR	**Borovoye Array**	**78.22**	**329**	P	**P**	**00 38 04.0**	**-0.1**
	0.7nm,0.6s,baz=122,slow=7.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**126.27**	**280

LAY				eS	Sb	00 36 24.9	+2.1
	baz=31						
TSEB	Hengchuen, Pin	0.63	300	P	Pb	00 36 20.1	+1.1
	baz=298						
TSEB				eS	Sb	00 36 28.1	+0.4
	baz=298						
TWK1	Hengchun	0.73	300	iP	Pg	00 36 20.6	+0.2
	baz=300						
TWK1				eS	Sg	00 36 29.5	-0.6
	baz=300						
HEN	Hengchun	0.81	301	eP	Pg	00 36 22.1	+0.1
	baz=302						
HEN				eS	Sg	00 36 32.8	+0.1
	baz=302						
TAW	Tawu	0.95	325	P	Pb	00 36 23.4	-1.0
	baz=328						
TAW				S	Sb	00 36 34.9	-1.9
	baz=328						
EAST	Anshuo	0.99	324	⇑iP	Pb	00 36 24.3	-0.9
	baz=336						
EAST				eS	Sb	00 36 35.9	-2.3
	baz=336						
SCZT	Fangliau	1.12	315	P	Pb	00 36 26.9	-0.5
	baz=322						
SCZT				eS	Sb	00 36 39.9	-2.0
	baz=322						
ECL	Taimali	1.12	334	eP	Pb	00 36 25.6	-1.8
	baz=338						
ECL				S	Sb	00 36 39.0	-2.9
	baz=338						
TTN	Taitung	1.21	345	eP	Pn	00 36 28.5	-0.2
	baz=349						
TTN				eS	Sb	00 36 44.1	-0.2
	baz=349						
TWP	Hsiaoliuchiu	1.29	306	eP	Pg	00 36 32.0	+0.9
	baz=294						
TWG	Pinlang	1.29	343	P	Pn	00 36 28.4	-1.5
	baz=336						
TWG				eS	Sb	00 36 42.8	-4.0
	baz=336						
CHKT	Chengkung	1.52	356	eP	Pn	00 36 33.6	+0.7
	baz=7.0						
CHKT				eS	Sn	00 36 51.4	-1.1
	baz=7.0						
TWM1	Shoushan	1.58	322	eP	Pb	00 36 35.6	+0.3
	baz=323						
ELDTW	Lidau	1.66	345	eP	Pb	00 36 36.4	-0.3
	baz=348						
SGST	Jiashian	1.71	331	eP	Pn	00 36 36.0	+0.3
	baz=344						
SGST				eS	Sb	00 36 59.0	+0.2
	baz=344						
TWF1	Yuli	1.77	354	eP	Pn	00 36 36.0	-0.5
	baz=348						
CHN1	Nanshi	1.82	331	eP	Pn	00 36 38.4	+1.2
	baz=333						
CHN1				eS	Sn	00 37 00.5	+0.3
	baz=333						
WTP	Ta-pu	1.84	334	eP	Pn	00 36 38.8	+1.3
	baz=346						
WTP				eS	Sn	00 37 01.1	+0.5
	baz=346						
TWK	Hsinying	1.91	331	eP	Pn	00 36 39.5	+1.1
	baz=333						
EHY	Hungye	1.92	356	eP	Pn	00 36 37.4	-1.1
	baz=350						
CHN4	Tsaushan	1.94	335	eP	Pn	00 36 39.9	+1.0
	baz=337						
CHN4				eS	Sn	00 37 04.1	+1.0
	baz=337						
ALS	Alishan	2.02	342	eP	Pn	00 36 40.9	+0.7
	baz=344						
CHN5	Tsauling	2.14	340	eP	Pn	00 36 42.5	+0.9
	baz=342						
CHY	Chiayi	2.15	333	eP	Pn	00 36 43.3	+1.8
	baz=335						
ESL	Shilin	2.22	359	eP	Pn	00 36 43.0	+0.3
	baz=353						
SMLT	Sun Moon Lake	2.35	347	eP	Pn	00 36 46.2	+1.6
	baz=349						
SMLT				eS	Sn	00 37 14.5	+1.2
	baz=349						
TYC	Yuchr	2.38	346	eP	Pn	00 36 45.8	+1.0
	baz=348						
TYC				eS	Sn	00 37 16.2	+2.4
	baz=348						
WNT	Mingjian	2.40	342	eP	Pn	00 36 45.6	+0.5
	baz=344						
WHF	Hehuan Shan	2.56	355	eP	Pn	00 36 47.8	+0.1
	baz=7.0						
PNG	Penghu	2.66	318	eP	Pn	00 36 48.4	-0.3
	baz=319						
ENA	Nanau	2.84	5	eP	Pn	00 36 52.8	+1.7
	baz=7.0						
NNS	Nan Shan	2.85	358	eP	Pn	00 36 54.5	+3.2
	baz=10.0						
NSY	Sanyi	2.90	347	eP	Pn	00 36 53.4	+1.4
	baz=336						
ENTT	Nioudou	3.05	1	eP	Pn	00 36 54.4	+0.5
	baz=3.0						
NSTT	Nanjuang	3.07	352	eP	Pn	00 36 57.2	+2.9
	baz=339						
NSK	Sanguang	3.08	358	eP	Pn	00 36 56.6	+2.0
	baz=8.0						
TWE	Neicheng	3.13	3	eP	Pn	00 36 57.0	+1.8
	baz=358						
YOJ	Yonaguni jima	3.19	26	P	Pn	00 36 58.5	+2.5
YOJ				eS	Sn	00 37 36.4	+2.6
HATJ	Hateruma jima	3.26	41	P	Pn	00 36 58.8	+1.8
HATJ				eS	Sn	00 37 34.9	-0.7
IRIF	Iriomote-Funau	3.43	37	P	Pn	00 37 00.1	+0.8
IRIF				eS	Sn	00 37 39.9	+0.1
JKRS	Kuro-shima	3.52	41	P	Pn	00 37 01.8	+1.3
JKRS				eS	Sn	00 37 41.1	-0.9
JIJ	Ishigaki jima	3.70	41	P	Pn	00 37 03.8	+0.9
JIJ				eS	Sn	00 37 44.6	-1.7
KNM	Kinmen	3.98	316	eP	Pn	00 37 07.1	+0.2
	baz=314						
JTJ	Tarama	4.25	44	P	Pn	00 37 11.5	+1.0
JTJ				eS	Sn	00 37 58.7	-1.2
SONM	Songino Array	28.87	339	P	P	00 42 05.2	+0.7
	0.2nm,0.5s,baz=163,slow=9.6,SNR=3.6						
MKAR	Makanchi Array	40.42	318	P	P	00 43 45.1	+1.1
	0.3nm,0.5s,baz=111,slow=9.7,SNR=6.3						
ZALV	Zalesovo Beam	42.59	329	P	P	00 44 01.7	+0.1
	0.8nm,0.5s,baz=112,slow=9.5,SNR=4.6						
WRA	Warramunga Arr	43.14	162	P	P	00 44 04.5	-2.0
	0.9nm,0.6s,baz=344,slow=9.0,SNR=7.7						
ASAR	Alice Springs	46.57	164	P	P	00 44 33.5	-0.3
	0.5nm,0.6s,baz=347,slow=7.9,SNR=6.9						
HNR	Honiara	48.74	125	LR	LR	01 01 53.3	
	comp=Z,409nm,21.4s,baz=332,slow=32						
STKA	Stephens Creek	56.54	159	P	P	00 45 47.9	-0.3
	1.4nm,0.9s,baz=315,slow=8.6,SNR=3.8						

ISCJB ***29*** *00:49:58.0±0.5, 66°.45N±0°.04×157°.48W±0°.08, h10km, mb3.4/4, Error ellipse: s-maj=6.4km s-min=4.9km az=2.7*
NEIC ***29*** *00:49:59.6, 66°.38N×157°.54W, h14km, ML3.5(AEIC), After AEIC.*
IDC ***29*** *00:50:00.6±1.1, 66°.77N×157°.56W, h0km, mb3.3/4, mb1 3.6/8, mb1mx3.4/30, mbtmp3.4/8, ML3.2/4, Error ellipse: s-maj=28.6km s-min=15.5km az=36.0*
ISC 29 00:49:59.6±1.0**, 66°.44N**±0°.06×**157°.31W**±0°.05**, h10**km**, n29, σ1ˢ.34**/34**, mb3.3**/4**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IM3	Indian Mountai	1.52	106	P	Pb	00 50 27.1	-0.7
IM3				S	Sg	00 50 48.4	+0.1
GCSA	Galena City Sc	1.71	174	P	Pn	00 50 28.0	-1.4
GCSA				S	Sb	00 50 51.4	-1.2
COLD	Coldfoot	2.92	71	P	Pn	00 50 47.4	+1.3
COLD				S	Sb	00 51 24.2	-3.2
MLY	Manley	3.06	114	P	Pn	00 50 48.0	0.0
CHUM	Lake Minchumin	3.32	138	P	Pn	00 50 52.5	+1.0
TT01	Tatalina	3.59	171	P	Pn	00 50 54.3	-0.9
NEA	Nenana	3.91	115	P	Pn	00 51 00.4	+0.8
MDM	Murphy Dome	4.04	107	P	Pn	00 51 02.7	+1.3
PPLA	Purkeypile	4.18	146	P	Pn	00 51 04.4	+0.9
PPLA				S	Sn	00 51 55.7	+3.3
COLA	College	4.22	107	ePn	Pn	00 51 04.8	+1.0
COLA				eS	Sg	00 52 13.0	-2.0
TRF	Thorofare Moun	4.23	132	P	Pn	00 51 04.5	+0.3
TRF				S	Sn	00 51 55.4	+1.7
WRH	Wood River Hil	4.32	113	P	Pn	00 51 06.3	+1.0
CCB	Clear Creek Bu	4.34	110	P	Pn	00 51 06.2	+0.6
TNA	Tin City	4.42	263	P	Pn	00 51 05.9	-0.8
TNA				S	Sn	00 51 58.8	+0.6
IL1	Eielson Array	4.64	106	P	Pn	00 51 10.5	+0.9
ILAR	Eielson Array	4.64	106	Pn	Pn	00 51 10.5	+0.9
	3.4nm,0.3s,baz=297,slow=13,SNR=114						
ILAR				Sn	Sn	00 52 02.1	-1.3
	3.2nm,0.3s,baz=293,slow=24,SNR=7.9						
ILAR				Lg	Lg	00 52 26.4	
	6.9nm,0.3s,baz=304,slow=32,SNR=12						
RND	Reindeer	4.71	126	P	Pn	00 51 11.6	+0.9
BM3	Burnt Mountain	5.09	73	P	Pn	00 51 17.3	+1.4
DHY	Denali Highway	5.43	124	P	Pn	00 51 21.7	+1.1
EGAK	Eagle	6.89	97	ePn	Pn	00 51 41.4	+0.9
	5.0nm,0.6s						
BCA3	Beaver Creek A	7.44	110	P	Pn	00 51 49.3	+1.1
DAWY	Dawson	7.88	99	ePn	Pn	00 51 54.5	+0.4
DAWY				eS	Sg	00 54 04.4	-7.7
KDAK	Kodiak Island	8.96	164	Pn	Pn	00 52 10.4	+1.5
	0.2nm,0.3s,baz=356,slow=15,SNR=2.6						
INK	Inuvik	9.33	68	Pn	Pn	00 52 15.6	+1.6
	0.3nm,0.3s,baz=258,slow=15,SNR=6.6						
YKA	Yellowknife Ar	18.54	82	P	Pn	00 54 17.6	+1.5
	0.0nm,0.3s,baz=300,slow=12,SNR=4.0						
NVAR	Mina Array Bea	35.70	122	P	P	00 57 03.4	+5.3
	0.3nm,0.7s,baz=308,slow=7.8,SNR=2.8						
TXAR	Lajitas Array	49.13	112	P	P	00 58 51.6	+4.4
	0.2nm,0.8s,baz=335,slow=8.1,SNR=2.7						
ZALV	Zalesovo Beam	51.13	318	P	P	00 59 01.9	-0.1
	0.4nm,0.3s,baz=32,slow=5.6,SNR=3.0						
MKAR	Makanchi Array	58.30	316	P	P	00 59 53.9	-0.2
	0.2nm,0.5s,baz=38,slow=5.7,SNR=4.2						

WEL 29 00:53:47.1±0.3**, 38°.05S**×**176°.53E, h137**km±2km**, ML3.7**/7**, 14C-2D, Error ellipse: s-maj=1.7km s-min=1.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDRZ	Edgecumbe	0.18	110	PN	Pn	00 54 05.7	-0.1
TARZ	Mount Tarawera	0.19	186	⇑PN	Pn	00 54 06.2	+0.3
RRRZ	Republican Roa	0.29	182	⇑PN	Pn	00 54 06.2	0.0
PRRZ	Plateau Road	0.47	193	PN	Pn	00 54 06.9	+0.1
URZ	Urewera	0.51	115	⇑PN	Pn	00 54 06.6	-0.4
URZ				SN	Sn	00 54 21.8	-0.4
ALRZ	Allen Road	0.54	196	PN	Pn	00 54 07.3	+0.1
MWZ	Matawai	0.84	110	PN	Pn	00 54 09.3	-0.1
TOZ	Tahuroa Road	0.87	291	⇓PN	Pn	00 54 09.7	+0.2
TOZ				SN	Sn	00 54 27.2	+0.7
WATZ	Wairara	0.91	223	PN	Pn	00 54 09.6	-0.4
RAHZ	Arahi	0.97	154	PN	Pn	00 54 10.9	+0.4
RITZ	Rihia Road	1.07	209	⇑PN	Pn	00 54 11.9	+0.5
NMHZ	Naumai	1.07	168	PN	Pn	00 54 12.2	+0.7
BKZ	Black Stump Fm	1.12	181	⇑PN	Pn	00 54 11.6	-0.3
BKZ				SN	Sn	00 54 30.4	-0.4
WTVZ	West Tongariro	1.30	214	PN	Pn	00 54 13.6	-0.2
OTVZ	Oturere	1.31	211	PN	Pn	00 54 14.1	+0.2
KNZ	Kokohu	1.32	138	PN	Pn	00 54 13.8	0.0
TWVZ	Taurewa	1.33	220	PN	Pn	00 54 14.0	-0.1
NGZ	Ngauruhoe	1.34	213	PN	Pn	00 54 14.3	0.0
PUZ	Puketiti	1.36	92	PN	Pn	00 54 13.5	-0.8
PRGZ	Paritu Road	1.38	130	PN	Pn	00 54 14.4	0.0
WPVZ	Whakapapa	1.39	213	PN	Pn	00 54 14.5	-0.2
CNGZ	Carnagh Statio	1.39	109	⇑PN	Pn	00 54 15.0	+0.5
HIZ	Hauiti	1.40	250	⇑PN	Pn	00 54 14.9	+0.3
TUVZ	Tukino	1.40	209	⇑PN	Pn	00 54 14.9	0.0
MCHZ	McNeill Hill	1.40	175	⇑PN	Pn	00 54 15.1	+0.4
MKAZ	Moumakai	1.43	310	⇓PN	Pn	00 54 14.9	-0.1
FWVZ	Far West T-bar	1.43	212	PN	Pn	00 54 15.0	-0.3
TRVZ	Turoa	1.47	211	PN	Pn	00 54 15.4	-0.3
WNVZ	Wahianoa	1.47	209	PN	Pn	00 54 15.5	-0.2
BHHZ	Black Hill Sta	1.49	194	⇑PN	Pn	00 54 15.2	-0.4
MXZ	Matakaoa Point	1.49	72	PN	Pn	00 54 15.2	-0.3
MOVZ	Moawhango	1.49	204	PN	Pn	00 54 15.1	-0.6
MHGZ	Mahia Peninsul	1.55	136	PN	Pn	00 54 16.5	+0.3
PKVZ	Pokaka	1.55	216	PN	Pn	00 54 16.2	-0.2
MTVZ	Mangateitei	1.57	211	PN	Pn	00 54 16.5	-0.1
CKHZ	Cape Kidnapper	1.67	165	⇑PN	Pn	00 54 17.7	+0.1
KAHZ	Kahuranaki	1.77	171	⇑PN	Pn	00 54 18.7	-0.1
MTAZ	Motutapu	1.80	314	PN	Pn	00 54 19.1	0.0
PNHZ	Pukenui	1.88	188	PN	Pn	00 54 19.1	-1.1
PXZ	Pawanui	2.00	173	⇑PN	Pn	00 54 20.8	-0.7
WPHZ	Waipukurau	2.02	182	PN	Pn	00 54 20.8	-0.9
TSZ	Takapari Road	2.06	192	PN	Pn	00 54 21.0	-1.2
WAZ	Wanganui	2.09	215	⇑PN	Pn	00 54 22.0	-0.5
PRHZ	Porangahau	2.22	178	PN	Pn	00 54 23.1	-1.0
DVHZ	Dannevirke	2.27	187	PN	Pn	00 54 23.2	-1.6
POWZ	Post Office Ro	2.42	194	PN	Pn	00 54 25.0	-1.6
BFZ	Birch Farm	2.64	185	PN	Pn	00 54 27.6	-1.7
MRZ	Mangatainoka R	2.71	195	PN	Pn	00 54 28.2	-2.2
MRZ				SN	Sn	00 55 00.8	-2.9
HOWZ	Holdsworth Sta	2.96	195	PN	Pn	00 54 30.9	-2.5
OGWZ	Otaki Gorge	2.96	200	PN	Pn	00 54 31.1	-2.3
KIW	Kapiti Island	3.08	204	PN	Pn	00 54 32.2	-2.8
TMWZ	Te Maipa	3.10	189	PN	Pn	00 54 32.9	-2.4
MTW	Mount Morrison	3.21	194	PN	Pn	00 54 33.8	-2.9
CAW	Cannon Point	3.26	200	PN	Pn	00 54 34.5	-2.8
TRWZ	Traveller	3.41	191	PN	Pn	00 54 36.5	-2.8
DUWZ	D'Urville Isla	3.42	215	PN	Pn	00 54 36.4	-2.9
PAWZ	Paruwai Farm	3.44	194	PN	Pn	00 54 36.5	-3.1
MSWZ	Moikau Station	3.51	196	PN	Pn	00 54 37.2	-3.3
WEL	Wellington	3.51	202	PN	Pn	00 54 37.5	-3.1
BHW	Baring Head	3.59	200	PN	Pn	00 54 38.2	-3.4
TCW	Tory Channel	3.61	208	PN	Pn	00 54 38.4	-3.4
PLWZ	Palliser	3.66	195	PN	Pn	00 54 39.0	-3.6
TUWZ	Tuamarina	3.92	210	PN	Pn	00 54 42.3	-3.7
NNZ	Nelson	3.99	217	PN	Pn	00 54 43.3	-3.6
QRZ	Quartz Range	4.16	227	PN	Pn	00 54 45.6	-3.5
BSWZ	Blackbirch Sta	4.19	208	PN	Pn	00 54 45.8	-3.8
THZ	Tophouse	4.64	216	PN	Pn	00 54 52.1	-3.5
KHZ	Kahutara	4.93	207	PN	Pn	00 54 55.0	-4.3
DSZ	Denniston Nort	5.18	223	PN	Pn	00 54 58.2	-4.6
LTZ	Lake Taylor	5.74	213	PN	Pn	00 55 05.4	-4.8
MQZ	McQueen's Vall	6.37	206	PN	Pn	00 55 12.6	-6.0
RPZ	Rata Peaks	7.02	214	PN	Pn	00 55 22.3	-5.0
ODZ	Otahua Downs	8.27	210	PN	Pn	00 55 38.7	-5.3
JCZ	Jackson Bay	8.41	222	PN	Pn	00 55 41.2	-4.8

IDC 29 01:09:22.8±2.2**, 4°.20N**×**126°.60E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/22**, mbtmp3.4**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.3**/29**, Error ellipse: s-maj=168.4km s-min=27.5km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.16	163	P	P	01 14 49.8	-0.2
	1.5nm,0.7s,baz=342,slow=11,SNR=11						
CBIJ	Chichi jima	27.20	32	LR	LR	01 23 35.0	
	comp=Z,78nm,21.9s,baz=211,slow=31						
ASAR	Alice Springs	28.59	166	P	P	01 15 21.0	+0.1
	0.3nm,0.6s,baz=346,slow=7.1,SNR=4.3						
MKAR	Makanchi Array	57.10	325	P	P	01 19 11.1	0.0
	0.2nm,0.5s,baz=123,slow=7.6,SNR=4.5						

IDC 29 01:10:10.8±2.6**, 22°.31S**×**175°.04W, h0**km**, mb3.7**/4**, mb1 4.1**/4**, mb1mx3.7**/19**, mbtmp3.7**/4**, Error ellipse: s-maj=143.7km s-min=30.3km az=155.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.82	258	P	P	01 18 42.5	-0.2
	0.4nm,0.7s,baz=102,slow=6.6,SNR=4.4						
WRA	Warramunga Arr	47.10	263	P	P	01 18 45.0	0.0
	2.2nm,0.6s,baz=102,slow=8.3,SNR=21						
TXAR	Lajitas Array	85.74	56	P	P	01 22 52.5	+0.3
	0.4nm,0.9s,baz=203,slow=9.4,SNR=3.8						
ILAR	Eielson Array	89.49	12	P	P	01 23 08.9	-0.4
	0.5nm,1.0s,baz=204,slow=6.5,SNR=3.1						

IDC 29 01:33:03.4±1.2**, 4°.21N**×**126°.67E, h0**km**, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.7**/23**, mbtmp3.8**/6**, 1D, Error ellipse: s-maj=88.9km s-min=17.8km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	3.84	321	⇓iP	Pn	01 34 03.9	0.0
MTN	Manton Dam	17.51	165	P	P	01 37 20.5	+10
	baz=3.5,SNR=4.7						
KDU	Kakadu	17.75	161	P	P	01 37 14.1	+1.0
	baz=4.1,SNR=3.5						
FITZ	Fitzroy Crossi	22.19	183	P	P	01 38 02.5	+1.1
	1.1nm,0.4s,baz=17,slow=9.9,SNR=8.1						
FITZ	Fitzroy Crossi	22.19	183	P	P	01 38 04.0	+2.6
	baz=9.3,SNR=3.1						
WRA	Warramunga Arr	25.16	163	P	P	01 38 30.2	-0.4
	5.6nm,0.8s,baz=342,slow=10,SNR=22						
ASAR	Alice Springs	28.59	166	P	P	01 39 01.9	+0.3
	0.4nm,0.6s,baz=343,slow=7.1,SNR=10						
STKA	Stephens Creek	38.59	159	P	P	01 40 27.5	-0.9
	2.1nm,0.5s,baz=324,slow=10,SNR=6.5						
SONM	Songino Array	46.83	341	P	P	01 41 35.7	+0.5
	0.2nm,0.5s,baz=154,slow=7.3,SNR=2.3						
MKAR	Makanchi Array	57.13	325	P	P	01 42 51.4	-0.6
	0.2nm,0.3s,baz=127,slow=7.7,SNR=9.0						

IDC 29 01:33:52.4±1.7**, 4°.28N**×**126°.73E, h0**km**, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.6**/23**, mbtmp3.8**/5**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/35**, Error ellipse: s-maj=100.8km s-min=23.2km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.26	183	P	P	01 38 50.8	-0.4
	1.5nm,0.5s,baz=17,slow=10.0,SNR=3.4						
WRA	Warramunga Arr	25.20	163	P	P	01 39 18.4	-1.6
	3.4nm,0.7s,baz=343,slow=10,SNR=3.6						
ASAR	Alice Springs	28.64	166	P	P	01 39 52.9	+2.0
	0.4nm,0.5s,baz=349,slow=8.0,SNR=3.9						
NWAO	Narrogin (SRO)	38.08	193	LR	LR	01 59 07.9	
	comp=Z,83nm,20.3s,baz=27,slow=40						
STKA	Stephens Creek	38.64	160	P	P	01 41 17.4	-0.3
	1.1nm,0.4s,baz=332,slow=10,SNR=3.1						
MKAR	Makanchi Array	57.11	325	P	P	01 43 40.7	-0.1
	0.5nm,0.7s,baz=126,slow=6.9,SNR=2.8						

ISCJB ***29*** *01:39:41.1±0.6, 21°.63S±0°.04×68°.55W±0°.08, h112km±6km, mb3.9/9, Error ellipse: s-maj=12.4km s-min=6.5km az=8.2*
GUC ***29*** *01:39:42.7±0.6, 21°.61S×68°.79W, h117km±3km, MD4.0, ML4.2*
IDC ***29*** *01:39:44.2±1.0, 21°.56S×68°.43W, h119km±5km, mb3.7/10, mb1 3.8/12, mb1mx3.7/20, mbtmp3.7/12, Error ellipse: s-maj=28.0km s-min=17.0km az=14.0*
ISC 29 01:39:43.1±0.7**, 21°.62S**±0°.05×**68°.68W**±0°.09**, h114**km±6km**, n26, σ0ˢ.93**/36**, mb3.9**/9**, 7C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	Plate Boundary	0.55	252	⇑iP	Pn	01 40 00.8	-0.1
PB09				iS	Sn	01 40 14.2	-0.1
PB09				AML	AML	01 40 14.9	
	comp=N,36μm,0.3s						
PB01	Plate Boundary	0.95	307	⇑iP	Pn	01 40 03.8	-0.4
PB01				iS	Sn	01 40 19.7	-0.4
PB01				AML	AML	01 40 23.0	
	comp=N,3μm,0.2s						
PB07	Plate Boundary	1.13	265	⇑iP	Pn	01 40 05.7	-0.4
PB07				iS	Sn	01 40 23.0	-0.4
PB07				AML	AML	01 40 24.7	
	comp=E,9μm,0.5s						
MACH	Maria Elena	1.15	240	⇑iP	Pn	01 40 05.9	-0.5
MACH				iS	Sn	01 40 23.7	-0.4
HMBC	Humberstone	1.75	320	⇑iP	Pn	01 40 12.9	-0.4
HMBC				iS	Sn	01 40 35.6	-0.7
HMBC				AML	AML	01 40 37.3	
	comp=N,3μm,0.8s						
PB11	Plate Boundary	2.07	334	⇑iP	Pn	01 40 17.0	-0.3
PB11				iS	Sn	01 40 43.0	-0.3
MECH	Mejillones	2.20	228	iP	Pn	01 40 18.6	-0.1
MECH				iS	Sn	01 40 45.7	-0.4
MECH				AML	AML	01 40 53.0	
	comp=E,2μm,0.6s						
CEN1	Los Morros	2.25	218	AML	AML	01 40 59.0	
	comp=N,1μm,0.5s						
PSGC	Pisagua	2.43	326	⇑iP	Pn	01 40 20.6	-1.3
PSGC				iS	Sn	01 40 50.1	-1.4
PSGC				AML	AML	01 40 56.1	
	comp=N,731nm,0.6s						
ANCH	Antofagasta	2.60	218	iP	Pn	01 40 23.8	-0.1
ANCH				iS	Sn	01 40 55.3	0.0
ANCH				AML	AML	01 41 03.2	
	comp=E,904nm,0.4s						
LPAZ	La Paz	5.33	6	P	Pn	01 41 02.9	+1.8
	comp=E,1.1nm,0.3s,baz=199,slow=6.5,SNR=18						
SIV	San Ignacio	9.12	53	P	Pn	01 41 48.4	-3.5
	comp=E,1.8nm,0.3s,baz=250,slow=13,SNR=47						
BDFB	Brasilia	20.46	77	P	P	01 44 09.9	-2.0
	comp=E,1.4nm,0.4s,baz=243,slow=9.0,SNR=4.3						
RCBR	Riachuelo	35.39	68	P	P	01 46 27.3	-0.9
	comp=E,2.9nm,0.6s,baz=227,slow=9.5,SNR=5.1						
TKL	Tuckaleechee C	58.74	346	P	P	01 49 28.8	-0.3
	comp=E,2.5nm,0.7s,baz=170,slow=6.1,SNR=3.6						
TXAR	Lajitas Array	60.85	325	P	P	01 49 44.5	+0.8
	comp=E,0.4nm,0.5s,baz=147,slow=8.5,SNR=11						
DBIC	Dimbokro	68.57	73	P	P	01 50 33.2	-0.9
	comp=E,2.8nm,0.7s,baz=235,slow=4.3,SNR=6.6						
PDAR	Pinedale Array	74.32	330	P	P	01 51 09.3	+0.9
	comp=E,0.4nm,0.5s,baz=125,slow=6.9,SNR=4.6						
NVAR	Mina Array Bea	75.72	322	P	P	01 51 18.4	+1.9
	comp=E,0.7nm,0.8s,baz=152,slow=8.0,SNR=4.2						
SCHQ	Schefferville	76.16	1	P	P	01 51 17.8	-0.5
	comp=E,1.7nm,0.7s,baz=179,slow=2.0,SNR=4.5						
TORD	Torodi Ar. Bea	77.20	70	P	P	01 51 23.9	-1.1
	comp=E,0.6nm,0.3s,baz=253,slow=5.5,SNR=25						
TORD				pP	pP	01 51 54.1	+0.2
	comp=E,3.3nm,0.9s,baz=252,slow=5.3,SNR=7.1						
YKA	Yellowknife Ar	91.38	341	P	P	01 52 36.0	+0.3
	comp=E,1.2nm,0.5s,baz=132,slow=4.5,SNR=47						
YKA				pP	pP	01 53 06.6	+1.4
	comp=E,0.1nm,0.5s,baz=133,slow=4.6,SNR=1.8						
ASAR	Alice Springs	129.90	207	PKP	PKPdf	01 58 40.2	+0.1
	comp=E,0.5nm,0.5s,baz=127,slow=1.6,SNR=6.2						
WRA	Warramunga Arr	132.96	210	PKP	PKPdf	01 58 46.7	+0.8
	comp=E,0.8nm,0.6s,baz=159,slow=1.6,SNR=12						
WRA				pPKP	pPKPdf	01 59 17.8	+1.0
	comp=E,0.5nm,1.0s,baz=141,slow=1.8,SNR=2.1						
ZALV	Zalesovo Beam	141.97	25	PKP	PKPdf	01 59 02.8	+1.4
	comp=E,0.9nm,0.7s,baz=321,slow=2.0,SNR=3.6						
MKAR	Makanchi Array	145.61	36	PKPbc	PKPab	01 59 08.8	-0.1
	comp=E,0.9nm,0.5s,baz=320,slow=5.2,SNR=12						
MKAR				pPKPbc	pPKPbc	01 59 39.9	+1.0
	comp=E,1.1nm,0.8s,baz=328,slow=4.3,SNR=5.1						

IPEC ***29*** *01:47:04.8±0.3, 51°.63N×16°.21E, h0km, ML1.6/3, Error ellipse: s-maj=2.0km s-min=1.6km az=38.0*
ISCJB ***29*** *01:47:05.0±0.8, 51°.49N±0°.04×16°.06E±0°.04, h0km, Error ellipse: s-maj=5.8km s-min=3.5km az=17.9*
PRU ***29*** *01:47:06.7, 51°.52N×16°.07E, h0km*
CSEM ***29*** *01:47:06.3±0.4, 51°.50N×16°.06E, h2km, ML2.8/7, Error ellipse: s-maj=7.4km s-min=4.5km az=11.0*
WAR ***29*** *01:47:08.0, 51°.47N×16°.10E*
ISC 29 01:47:07.0±1.4**, 51°.50N**±0°.07×**16°.04E**±0°.03**, h0**km**, n23, σ0ˢ.75**/42**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	166	ePg	Pg	01 47 19.9	0.0
KSP				eSg	Sg	01 47 29.6	+0.9
KSP	Ksiaz	0.68	166	ePg	Pg	01 47 19.8	-0.1
	baz=356						
KSP				eSg	Sg	01 47 29.4	+0.8
KSP	Ksiaz	0.68	166	ePg	Pg	01 47 19.9	0.0
KSP				eSg	Sg	01 47 29.5	+0.9
DPC	Dobruska-Polom	1.16	171	ePG	Pg	01 47 28.7	-0.6
DPC				eSG	Sg	01 47 43.1	-1.2
	comp=Z,6.6nm,0.4s						
DPC	Dobruska-Polom	1.16	171	ePg	Pg	01 47 28.7	-0.6
	baz=357						
DPC				eSg	Sg	01 47 44.2	-0.1
	baz=357						
PVCC	Panska Ves	1.34	224	ePG	Pg	01 47 32.3	-0.5
PVCC				eSG	Sg	01 47 50.3	+0.1
	comp=Z,25nm,0.4s						
PVCC	Panska Ves	1.34	224	Pg	Pg	01 47 32.3	-0.5
PVCC				Sg	Sg	01 47 50.3	+0.1
	25nm,0.4s						
PRU	Pruhonice	1.79	213	ePN	Pn	01 47 37.9	-1.2
PRU				ePG	Pb	01 47 40.0	-0.6
PRU				eSG	Sn	01 48 03.4	+0.9
	comp=Z,6.0nm,0.3s						

PRU	**Pruhonice**	**1.79 213**		Pn	**Pn**	01 47 37.9	**-1.2**
CLL	**Collm**	**1.91 265**	*e*	Pn	Pn	01 47 39.0	-1.8
CLL			*i*	Pg	**Pb**	**01 47 42.3**	**-0.4**
CLL			*e*			01 47 46.0	
CLL			*e*	Sg	**Sn**	**01 48 08.0**	**+2.4**
	comp=Z,8.0nm,0.5s						
MORC	**Moravsky Berou**	**1.97 150**	*e*	Pn	**Pn**	**01 47 40.4**	**-1.3**
	baz=336						
MORC			*e*	Sg	**Sb**	**01 48 08.3**	**-0.6**
	comp=Z,3.6nm,0.3s,baz=336						
OKC	**Ostrava-Krasne**	**2.13 140**	*e*	PG	**Pb**	**01 47 46.3**	**-0.2**
OKC	**Ostrava-Krasne**	**2.13 140**		Pg	**Pb**	**01 47 46.3**	**-0.2**
VRAC	**Vranov**	**2.22 171**	*e*	Pn	**Pn**	**01 47 44.8**	**-0.3**
	baz=354						
VRAC			*e*	Sg	**Sg**	**01 48 18.2**	**-0.1**
	comp=Z,2.9nm,0.3s,baz=354						
TREC	**Trest**	**2.23 189**	*e*	PN	**Pn**	**01 47 45.7**	**+0.4**
TREC	**Trest**	**2.23 189**		Pn	**Pn**	**01 47 45.7**	**+0.4**
KRUC	**Moravsky**	**2.45 175**	*e*	Pn	**Pn**	**01 47 48.3**	**+0.1**
	baz=357						
KRUC			*e*	Sg	**Sg**	**01 48 25.5**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=357						
NKC	**Novy Kostel**	**2.60 242**	*e*	PN	**Pn**	**01 47 49.9**	**-0.5**
NKC			*e*	SG	**Sg**	**01 48 30.7**	**0.0**
	comp=Z,19nm,0.3s						
NKC	**Novy Kostel**	**2.60 242**		Pn	**Pn**	**01 47 49.9**	**-0.5**
NKC				Sg	**Sg**	**01 48 30.7**	**0.0**
	comp=Z,19nm,0.3s						
OJC	**Ojcow**	**2.70 117**	*e*	Pg	**Pb**	**01 47 57.6**	**+1.4**
OJC			*e*	Sg	**Sg**	**01 48 32.8**	**-1.0**
KHC	**Kasperske Hory**	**2.85 215**	*e*	PN	**Pn**	**01 47 53.6**	**-0.1**
KHC			*e*	PG	**Pb**	**01 47 59.4**	**+0.7**
KHC			*e*	SN	**Sn**	**01 48 29.0**	**+0.3**
KHC			*e*	SG	**Sg**	**01 48 38.8**	**+0.4**
	comp=Z,3.7nm,0.5s						
KHC	**Kasperske Hory**	**2.85 215**		Pn	**Pn**	**01 47 53.6**	**-0.1**
SMOL	**Smolenice**	**3.12 163**	*e*	SG	**Sg**	**01 48 47.5**	**+0.4**

MAN 29 02:18:23.8±56″N×126″04E, h18km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.58 314**		*e*P	Pb	02 18 35.2	+0.5
BUTP				*e*S	Sn	02 18 45.2	-0.3
BUKP	**Musuan**	**1.18 235**		*e*P	Pn	02 18 44.1	-0.6
BUKP				*e*S	Sg	02 19 01.4	-0.2
CGP	**Cagayan de Oro**	**1.34 266**	⇓	*e*P	Pn	02 18 45.8	-1.0
CGP				*e*S	Sb	02 19 04.3	0.0
MATI	**Mati**	**1.62 172**		*e*P	Pn	02 18 49.7	-1.0
TBP	**Tagbilaran**	**2.43 298**		*e*P	Pn	02 19 02.3	+0.5
PAGZ	**Pagadian**	**2.73 255**		*e*P	Pn	02 19 08.3	+2.4
CNP	**Catarman**	**4.15 341**		*e*P	Pn	02 19 27.6	+2.0

MEX 29 02:21:14.8±1.3, 18°34N×103°28W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.08 231**		*i* P	Pg	02 21 15.6	-1.0
MMIG				*i* S	Sg	02 21 18.3	+0.6
R15V		**1.06 321**		*i* P	Pg	02 21 31.5	-3.8
R15V				*i* S	Sg	02 21 46.9	-2.3
EZ5V		**1.18 345**		*i* P	Pg	02 21 34.8	-2.9
EZ5V				*i* S	Sg	02 21 50.0	-3.3
ZIIG	**Zihuatanejo**	**1.88 113**		*i* P	Sn	02 21 43.6	-3.9
ZIIG				*i* S	Sn	02 22 07.7	-3.9

MEX 29 02:26:16.3±0.9, 18°57N×101°18W, h62km±14km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.84 110**		*e*P	Pn	02 26 30.4	-2.0
ARIG				*i* S	Sn	02 26 42.8	-1.4
ZIIG	**Zihuatanejo**	**1.00 196**		*i* P	Pn	02 26 32.5	-1.9
ZIIG				*i* S	Sn	02 26 46.3	-1.5
MOIG	**Morelia**	**1.10 359**		*e*P	Pn	02 26 34.0	-2.0
MOIG				*i* S	Sn	02 26 47.9	-2.8
MEIG	**Mezcala**	**1.61 113**		*i* P	Pn	02 26 40.8	-1.9
MEIG				*i* S	Sn	02 27 01.3	-1.3
CAIG	**El Cayaco**	**1.75 150**		*e*P	Pn	02 26 42.4	-2.0
CAIG				*i* S	Sn	02 27 03.0	-2.6
YAIG	**Yautepec**	**2.02 82**		*i* P	Pn	02 26 46.9	-1.4
YAIG				*i* S	Sn	02 27 11.5	-1.1
MMIG	**Aquila**	**2.08 262**		*e*P	Pn	02 26 47.5	-1.3
MMIG				*i* S	Sn	02 27 10.9	-2.8
EZ5V		**2.47 292**		*i* P	Pn	02 26 53.8	-0.7
EZ5V				*i* S	Sn	02 27 22.6	-1.2
R15V		**2.72 283**		*i* P	Pn	02 26 57.1	-0.7
R15V				*i* S	Sn	02 27 28.6	-1.0

IDC 29 02:32:28.8±2.0, 6°53S×129°30E, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=111.1km s-min=31.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.20 160**		Pn	Pn	02 35 51.5	+0.1
	0.1nm,0.3s,baz=339,slow=12,SNR=9.4						
WRA				Sn	Sn	02 38 18.6	-11
	0.2nm,0.3s,baz=336,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.60 166**		P	Pn	02 36 35.5	-0.2
	0.1nm,0.3s,baz=348,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**67.46 327**		P	P	02 43 26.5	0.0
	0.2nm,0.4s,baz=120,slow=5.2,SNR=7.1						

WEL 29 02:38:20.4±0.1, 38°88S×175°95E, h87km±1km, ML3.9/18, 18C-18D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.11 96**		P*	Pn	02 38 32.7	-0.2
HATZ				S*	Sn	02 38 41.9	-0.1
RITZ	**Rihia Road**	**0.12 217**		P*	Pn	02 38 33.0	+0.1
RATZ	**Rangitukua**	**0.14 275**	⇓	P*	Pn	02 38 32.7	-0.3
WHTZ	**Whakaora**	**0.21 1**	⇓	P*	Pn	02 38 33.3	+0.1
KATZ	**Kakaramea**	**0.22 245**		P*	Pn	02 38 33.1	-0.3
WATZ	**Wairara**	**0.24 315**	⇓	P*	Pn	02 38 33.0	-0.2
KRVZ	**Karewarewa**	**0.33 228**	⇑	P*	Pn	02 38 33.5	-0.3
OTVZ	**Oturere**	**0.36 218**	⇓	P*	Pn	02 38 34.2	+0.1
WTVZ	**West Tongariro**	**0.37 230**	⇑	P*	Pn	02 38 33.8	-0.3
WTVZ				S*	Sn	02 38 44.4	+0.1
NGZ	**Ngauruhoe**	**0.40 223**		P*	Pn	02 38 34.1	-0.2
ALRZ	**Allen Road**	**0.44 44**	⇓	P*	Pn	02 38 34.3	-0.2
TWVZ	**Taurewa**	**0.45 244**		P*	Pn	02 38 34.2	-0.3
TUVZ	**Tukino**	**0.45 211**	⇑	P*	Pn	02 38 34.7	0.0
WPVZ	**Whakapapa**	**0.45 224**		P*	Pn	02 38 34.2	-0.4
FWVZ	**Far West T-bar**	**0.49 220**	⇑	P*	Pn	02 38 34.6	-0.4
DRZ	**Dome Shelter**	**0.50 217**		P*	Pn	02 38 35.2	-0.1
BKZ	**Black Stump Fm**	**0.51 125**		P*	Pn	02 38 34.7	-0.3
BKZ				S*	Sn	02 38 46.1	+0.2
PRRZ	**Plateau Road**	**0.51 42**	⇓	P*	Pn	02 38 34.7	-0.3
TRVZ	**Turoa**	**0.53 217**	⇓	P*	Pn	02 38 35.2	-0.2
WNVZ	**Wahianoa**	**0.53 212**	⇑	P*	Pn	02 38 35.3	0.0
MOVZ	**Moawhango**	**0.55 197**	⇑	P*	Pn	02 38 35.1	-0.2
HRRZ	**Handcock Road**	**0.55 28**	⇓	P*	Pn	02 38 35.4	+0.1
BHHZ	**Black Hill Sta**	**0.61 172**	⇑	P*	Pn	02 38 35.8	-0.1
PKVZ	**Pokaka**	**0.63 229**	⇑	P*	Pn	02 38 35.9	-0.1
MTVZ	**Mangateitei**	**0.63 217**		P*	Pn	02 38 36.1	0.0
RRRZ	**Republican Roa**	**0.69 39**	⇓	P*	Pn	02 38 36.6	-0.1
UTU	**Utuhina**	**0.73 15**	⇓	P*	Pn	02 38 37.2	+0.2
TARZ	**Mount Tarawera**	**0.78 34**	⇓	P*	Pn	02 38 37.7	+0.1
MCHZ	**McNeill Hill**	**0.81 135**		PN	Pn	02 38 38.8	+1.0
RAHZ	**Arahi**	**0.88 93**	⇓	PN	Pn	02 38 39.3	+0.7
HIZ	**Hauiti**	**0.93 293**	⇓	PN	Pn	02 38 38.8	-0.4
LIRZ	**Lichensteins R**	**0.94 21**	⇓	P*	Pn	02 38 39.3	+0.1
VRZ	**Vera Road**	**0.96 255**	⇑	P*	Pn	02 38 39.4	-0.1
EDRZ	**Edgecumbe**	**0.99 39**		P*	Pn	02 38 39.7	-0.1
PNHZ	**Pukenui**	**1.05 170**	⇑	PN	Pn	02 38 40.6	0.0
MARZ	**Manawahe**	**1.06 33**	⇓	P*	Pn	02 38 40.6	0.0
URZ	**Urewera**	**1.10 56**		P*	Pn	02 38 40.8	-0.2
URZ				S*	Sn	02 38 56.7	+0.2
OPRZ	**Ohinepanea**	**1.14 25**		P*	Pn	02 38 41.4	-0.1
WAZ	**Wanganui**	**1.15 220**	⇑	PN	Pn	02 38 42.0	+0.3
KAHZ	**Kahuranaki**	**1.16 142**		PN	Pn	02 38 42.2	+0.3
CKHZ	**Cape Kidnapper**	**1.17 132**		PN	Pn	02 38 42.8	+0.9
TGRZ	**Tauranga**	**1.17 12**	⇓	P*	Pn	02 38 42.0	0.0
TSZ	**Takapari Road**	**1.18 180**	⇑	PN	Pn	02 38 42.0	-0.1
TOZ	**Tahuroa Road**	**1.20 343**		P*	Pn	02 38 42.1	-0.1
WPHZ	**Waipukurau**	**1.24 163**	⇑	PN	Pn	02 38 42.8	-0.1
RAEZ	**Rainy Point**	**1.28 251**		PN	Pn	02 38 43.8	+0.5
MWZ	**Matawai**	**1.35 67**		P*	Pn	02 38 44.0	-0.1
PXZ	**Pawanui**	**1.35 149**	⇑	PN	Pn	02 38 43.9	-0.1
DVHZ	**Dannevirke**	**1.43 173**	⇓	PN	Pn	02 38 44.6	-0.5
PRHZ	**Porangahau**	**1.48 159**	⇑	PN	Pn	02 38 45.5	-0.3
PRGZ	**Paritu Road**	**1.51 92**		PN	Pn	02 38 46.3	+0.2
POWZ	**Post Office Ro**	**1.52 185**		PN	Pn	02 38 46.1	-0.2
MHGZ	**Mahia Peninsul**	**1.55 101**		PN	Pn	02 38 46.9	+0.4
PKE	**Pukeiti**	**1.56 258**		PN	Pn	02 38 46.7	-0.2
MRZ	**Mangatainoka R**	**1.80 189**		PN	Pn	02 38 48.9	-1.0
CNGZ	**Carnagh Statio**	**1.81 78**		PN	Pn	02 38 50.2	+0.3
BFZ	**Birch Farm**	**1.81 173**		PN	Pn	02 38 49.0	-1.0
MKAZ	**Moumakai**	**1.87 340**		PN	Pn	02 38 50.3	-0.6
PUZ	**Puketiti**	**1.98 67**		PN	Pn	02 38 50.5	-1.7
OGWZ	**Otaki Gorge**	**2.03 197**		PN	Pn	02 38 51.7	-1.2
HOWZ	**Holdsworth Sta**	**2.04 189**		PN	Pn	02 38 51.6	-1.5
KIW	**Kapiti Island**	**2.14 202**		PN	Pn	02 38 52.8	-1.5
TMWZ	**Te Maipa**	**2.23 181**		PN	Pn	02 38 54.1	-1.5
MXZ	**Matakaoa Point**	**2.27 55**		PN	Pn	02 38 56.8	+0.7
MTW	**Mount Morrison**	**2.30 189**		PN	Pn	02 38 54.7	-1.8
CAW	**Cannon Point**	**2.33 197**	⇑	PN	Pn	02 38 55.0	-1.9
DUWZ	**D'Urville Isla**	**2.48 219**	⇑	PN	Pn	02 38 57.0	-1.8
TRWZ	**Traveller**	**2.52 185**		PN	Pn	02 38 57.6	-1.9
PAWZ	**Paruwai Farm**	**2.53 189**	⇓	PN	Pn	02 38 57.4	-2.1
WEL	**Wellington**	**2.57 200**		PN	Pn	02 38 57.8	-2.2
MSWZ	**Moikau Station**	**2.59 192**		PN	Pn	02 38 57.9	-2.5
BHW	**Baring Head**	**2.66 188**		PN	Pn	02 38 58.6	-2.6
TCW	**Tory Channel**	**2.66 208**		PN	Pn	02 38 58.9	-2.4
PLWZ	**Palliser**	**2.74 191**		PN	Pn	02 38 59.8	-2.6
TUWZ	**Tuamarina**	**2.98 211**		PN	Pn	02 39 03.0	-2.6
NNZ	**Nelson**	**3.06 219**		PN	Pn	02 39 04.2	-2.4
BSWZ	**Blackbirch Sta**	**3.25 209**		PN	Pn	02 39 06.4	-2.7
QRZ	**Quartz Range**	**3.28 233**		PN	Pn	02 39 07.6	-2.0
THZ	**Tophouse**	**3.71 218**	⇑	PN	Pn	02 39 12.5	-2.9
KHZ	**Kahutara**	**3.98 207**		PN	Pn	02 39 15.5	-3.5
DSZ	**Denniston Nort**	**4.27 227**		PN	Pn	02 39 19.5	-3.6
LTZ	**Lake Taylor**	**4.80 214**		PN	Pn	02 39 26.2	-4.0
MQZ	**McQueen's Vall**	**5.43 206**		PN	Pn	02 39 33.2	-5.5
LBZ	**Lake Benmore**	**7.00 216**		PN	Pn	02 39 55.0	-5.1
ODZ	**Otahua Downs**	**7.32 211**		PN	Pn	02 39 59.4	-5.2
CTZ	**Chatham Island**	**7.40 133**	*e*	PN	Pn	02 40 04.2	-1.4

IDC 29 02:58:49.5±2.6, 11°51S×122°79E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=210.0km s-min=33.4km az=50.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.92 128**		Pn	Pn	03 02 07.5	-0.8
	0.0nm,0.3s,baz=306,slow=13,SNR=3.5						
WRA				Sn	Sn	03 04 37.1	-6.5
	0.1nm,0.3s,baz=302,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**16.06 140**		Pn	Pn	03 02 37.6	+0.7
	0.1nm,0.3s,baz=315,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**68.41 331**		P	P	03 09 53.1	0.0
	0.3nm,0.6s,baz=136,slow=7.5,SNR=6.7						

IDC 29 03:15:18.5±1.4, 64°29N×39°37W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/30, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=61.6km s-min=23.6km az=38.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**5.39 305**		Pn	Pn	03 16 38.6	-1.3
	3.1nm,0.3s,baz=107,slow=11,SNR=15						
SFJD				Pg	Pb	03 16 49.7	-3.6
	9.3nm,0.3s,baz=121,slow=14,SNR=6.4						
SFJD				Sn	Sn	03 17 33.7	-8.9
	9.6nm,0.3s,baz=250,slow=22,SNR=7.3						
SFJD				Lg	Lg	03 17 52.5	
	22nm,0.3s,baz=216,slow=22,SNR=14						
SFJD	**Kangerlussuaq**	**5.39 305**		*i* P	Pn	03 16 38.2	-1.7
SFJD				*i* S	Sn	03 17 34.6	-7.9
SUMG	**Summit**	**8.33 2**		*i* P	Pn	03 17 21.7	+0.9
SUMG				*i* S	Sn	03 18 50.4	-5.4
SCHQ	**Schefferville**	**16.69 248**		Pn	Pn	03 19 10.7	-2.8
	0.1nm,0.3s,baz=36,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	**31.94 302**		P	P	03 21 43.5	-1.8
	0.1nm,0.6s,baz=51,slow=9.7,SNR=5.3						
ILAR	**Eielson Array**	**40.82 321**		P	P	03 23 02.8	+1.7
	0.1nm,0.6s,baz=35,slow=8.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**58.42 131**		P	P	03 25 15.4	-0.3
	0.2nm,0.5s,baz=338,slow=7.4,SNR=8.7						

IDC 29 03:44:02.0±0.7, 19°11N×145°52E, h192km±6km, mb3.6/17, mb1 3.7/20, mb1mx3.7/30, mbtmp3.6/20, Error ellipse: s-maj=14.8km s-min=6.9km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.52 187**		P	Pn	03 45 22.9	-0.1
	28nm,0.3s,baz=13,slow=3.8,SNR=13						
GUMO				S	Sn	03 46 26.9	0.0
	20nm,0.3s,baz=17,slow=19,SNR=4.0						
CBIJ	**Chichi jima**	**8.52 340**		P	Pn	03 46 02.7	+0.7
	7.9nm,0.3s,baz=259,slow=21,SNR=8.5						
CBIJ				S	Sn	03 47 32.8	-4.9
	10nm,0.3s,baz=307,slow=23,SNR=6.6						
MJAR	**Matsushiro Arr**	**18.52 341**		P	P	03 48 03.7	-0.3
	0.6nm,0.3s,baz=162,slow=9.2,SNR=11						
KSRS	**Korea Array**	**23.89 324**		P	P	03 48 57.5	-0.4
	2.1nm,0.8s,baz=142,slow=9.4,SNR=7.3						
PETK	**Petropavlovsk-**	**35.23 13**		P	P	03 50 39.1	+1.2
	1.1nm,0.6s,baz=7.6,slow=4.5,SNR=4.7						
CTA	**Charters Tower**	**38.96 179**		P	P	03 51 09.3	-0.3
	8.7nm,1.1s,baz=320,slow=18,SNR=5.4						
WRA	**Warramunga Arr**	**40.32 196**		P	P	03 51 20.8	-0.1
	23nm,0.7s,baz=20,slow=9.1,SNR=73						
WRA				S	S	03 57 15.5	+1.3
	0.7nm,0.9s,baz=21,slow=16,SNR=3.3						
FITZ	**Fitzroy Crossi**	**41.81 209**		P	P	03 51 33.1	+0.1
	5.3nm,0.3s,baz=35,slow=9.8,SNR=35						
SONM	**Songino Array**	**42.72 321**		P	P	03 51 40.4	+0.1
	0.4nm,0.4s,baz=131,slow=7.3,SNR=7.8						
SONM				pP	pP	03 52 23.0	+1.4
	0.3nm,0.5s,baz=100,slow=7.5,SNR=2.0						
ASAR	**Alice Springs**	**44.00 195**		P	P	03 51 50.0	-0.5
	1.8nm,0.4s,baz=14,slow=7.0,SNR=34						
ASAR				S	S	03 58 08.5	+0.5
	0.5nm,0.8s,baz=21,slow=16,SNR=4.1						
CMAR	**Chiang Mai Arr**	**44.00 277**		P	P	03 51 52.2	+1.6
	1.9nm,0.5s,baz=67,slow=7.5,SNR=11						
DZM	**Mont Dzumac**	**45.76 152**		P	P	03 52 04.3	-0.2
	8.5nm,0.9s,baz=62,slow=17,SNR=8.1						
STKA	**Stephens Creek**	**50.83 184**		P	P	03 52 41.5	-1.5
	0.9nm,0.3s,baz=328,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**57.59 322**		P	P	03 53 30.6	-0.9
	0.6nm,0.4s,baz=87,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**58.06 314**		P	P	03 53 34.6	-0.4
	0.3nm,0.5s,baz=87,slow=9.3,SNR=6.1						
ILAR	**Eielson Array**	**63.36 26**		P	P	03 54 09.9	-0.5
	0.6nm,0.4s,baz=258,slow=5.7,SNR=15						
YKA	**Yellowknife Ar**	**77.71 28**		P	P	03 55 37.4	+0.3
	0.7nm,0.6s,baz=288,slow=5.4,SNR=30						
YKA				pP	pP	03 56 24.0	+0.5
	0.4nm,0.6s,baz=290,slow=5.5,SNR=3.0						
ARCES	**ARCESS Array B**	**82.05 342**		P	P	03 56 01.1	+0.7
	12nm,1.3s,baz=46,slow=7.0,SNR=5.3						
NVAR	**Mina Array Bea**	**83.03 52**		P	P	03 56 07.2	+0.9
	1.7nm,0.7s,baz=261,slow=5.5,SNR=11						
JOF	**Joensuu**	**83.58 335**		*ep*	P	03 56 06.3	-2.0
	1.1nm,0.5s						
FINES	**FINESS Array B**	**86.44 335**		P	P	03 56 21.4	-1.2
	0.9nm,0.4s,baz=68,slow=4.7,SNR=32						
FINES				pP	pP	03 57 09.6	-0.3
	0.8nm,0.6s,baz=62,slow=4.5,SNR=1.7						
PDAR	**Pinedale Array**	**87.66 45**		P	P	03 56 28.2	-1.0
	0.2nm,0.4s,baz=225,slow=1.6,SNR=3.9						
LPAZ	**La Paz**	**147.85 90**		PKPbc	PKPbc	04 03 25.9	0.0
	0.6nm,0.5s,baz=243,slow=2.3,SNR=3.0						

*IDC **29** 03:53:57.7±2.0, 2°84S×128°54E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=54.7km s-min=26.2km az=66.0*
*DJA **29** 03:54:03.1±0.4, 3°S×12°8E, h10km, M3.3/5, MLv3.3/5*
*ISCJB **29** 03:54:04.2±0.6, 3°05S±0°05×128°31E±0°05, h51km, mb3.6/2, Error ellipse: s-maj=8.2km s-min=6.3km az=136.3*

ISC 29 03:54:04.7±0.9, 3°09S±0°06×128°33E±0°06, h51km, n9, σ1s55/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.61 192**		P	Pn	**03 54 15.8**	**-1.5**
AAI				S	Sn	**03 54 29.2**	**+2.8**
MSAI	**Masohi**	**0.65 113**		P	Pn	**03 54 18.6**	**+0.7**
MSAI				S	Sn	**03 54 29.3**	**+1.9**
NLAI	**Namlea**	**1.23 263**		P	Pn	**03 54 24.9**	**-0.7**
NLAI				S	Sn	**03 54 42.2**	**+1.1**
LBMI	**Labuha**	**2.57 341**		P	Pn	**03 54 43.7**	**-0.2**
LBMI				S	Sn	**03 55 14.7**	**+0.7**
KAPI	**Kappang**	**8.76 257**		Pn	Pn	**03 56 10.2**	**+1.3**
	1.1nm,0.3s,baz=83,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**15.15 190**		Pn	P	**03 57 37.6**	**-2.1**
	0.2nm,0.3s,baz=3.4,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**17.75 161**		P	Pn	**03 58 08.0**	**-0.3**
	0.1nm,0.3s,baz=341,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**21.16 166**		P	P	**03 58 46.6**	**+1.0**
	4.2nm,0.9s,baz=345,slow=11,SNR=26						
MKAR	**Makanchi Array**	**64.06 327**		P	P	**04 04 32.7**	**-0.7**
	0.3nm,0.6s,baz=116,slow=5.9,SNR=4.2						

TRN 29 03:57:19.7, 14°00N×60°41W, h29km, MD3.6, M3.3(FDF), 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLW	**Petit Monier**	**0.51 273**		*e*P	Pb	03 57 30.2	-0.1
SLW				*e*S	Sn	03 57 39.4	+0.5
MCLT	**Moule a Chique**	**0.59 241**	⇑	*e*P	Pb	03 57 30.2	-1.4
MCLT				*e*S	Sb	03 57 38.9	-0.8
SLB	**Belfond**	**0.63 255**	⇑	*e*P	Pn	03 57 34.3	+1.5
SLB				*e*S	Sn	03 57 45.1	+3.1
MVM	**Montagne Vaucl**	**0.72 320**		*e*P	Pn	03 57 34.2	+0.2
BIM	**Bigot**	**0.82 309**		*e*P	Pb	03 57 35.5	0.0
BIM				*e*S	Sn	03 57 48.6	+2.0
BHS	**Barnard House**	**0.98 225**		*e*P	Pb	03 57 39.2	+1.0
BHS				*e*S	Sb	03 57 51.5	+0.7
FDF	**Fort de France**	**1.02 316**		*e*P	Pb	03 57 38.8	-0.1
FDF				*e*S	Sb	03 57 54.5	+2.5
SVV	**Soufriere Volc**	**1.03 229**		*e*P	Pb	03 57 40.4	+1.4
SVV				*e*S	Sb	03 57 53.5	+1.3
SVB	**Belmont**	**1.09 229**	⇓	*e*P	Pn	03 57 37.1	-1.9
SVB				*e*S	Sn	03 57 53.5	+0.4
FCV	**Fort Charlotte**	**1.16 224**		*e*S	Sb	03 57 56.6	+0.7
HMG	**Houelmont**	**2.33 328**		*e*P	Pb	03 58 02.6	+1.5
BCG	**Bois Riant Cap**	**2.38 331**		*e*P	Pb	03 57 59.9	-2.1

*IDC **29** 04:13:47.5±1.0, 54°05N×160°95E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/29, mbtmp3.4/7, Error ellipse: s-maj=31.9km s-min=11.9km az=5.0*
*MOS **29** 04:13:48.8±2.0, 54°16N×160°97E, h22km, mb4.0/2, Error ellipse: s-maj=35.3km s-min=22.2km az=52.3*
*KRSC **29** 04:13:52.6±0.4, 53°74N×161°00E, h28km±17km, ML3.8*

ISC 29 04:13:46.8±1.4, 53°76N±0°03×161°18E±0°04, h5km±9km, n45, σ1s12/79, mb3.4/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.86 22**		*e*P	**Pn**	**04 14 08.3**	**+2.8**
MKZ				*e*S	**Sn**	**04 14 19.6**	**+1.1**
SPN	**Mys Shipunski**	**0.96 227**		*e*P	**Pn**	**04 14 08.5**	**+1.7**
SPN				*e*S	**Sn**	**04 14 19.9**	**-0.9**
KII	**Karymskiy**	**1.06 286**		*e*P	**Pn**	**04 14 09.8**	**+1.4**
KII				*e*S	**

FINES	**FINESS Array B**	**59.77**	**337**	P		**P**		**04 23 51.9**	**-0.2**
	comp=N,0.7nm,0.7s,baz=16,slow=9.9,SNR=4.9								
NOA	**NORSAR Array B**	**63.08**	**344**	P		**P**		**04 24 14.0**	**-0.6**
	comp=N,0.6nm,0.8s,baz=13,slow=6.0,SNR=2.2								
TXAR	**Lajitas Array**	**69.78**	**68**	P		**P**		**04 24 58.7**	**+0.7**
	comp=N,0.2nm,0.7s,baz=316,slow=2.5,SNR=2.7								

IDC 29 04:38:54.8±20.0, 18.85S×178.45W, h360km±172km, mb2.8/3, mb1 3.1/3, mb1mx2.8/19, mbtmp2.8/3, Error ellipse: s-maj=297.0km s-min=56.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.44**	**260**	P		P	P	04 46 31.8	0.0
	0.2nm,0.3s,baz=96,slow=7.7,SNR=7.3								
ASAR	**Alice Springs**	**44.51**	**255**	P		P	P	04 46 32.0	-0.3
	0.5nm,0.8s,baz=94,slow=7.9,SNR=4.8								
ILAR	**Eielson Array**	**86.81**	**13**	P		P	P	04 50 58.8	0.0
	0.4nm,0.8s,baz=222,slow=4.8,SNR=11								
BRTR	**Keskin Array B**	**145.41**	**314**	PKPbc		PKPdf	PKPdf	04 57 50.6	-0.2
	0.3nm,0.7s,baz=48,slow=2.1,SNR=3.1								

TAP 29 04:47:23.9, 24.17N×121.72E, h8km, ML3.5, 8C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**7**	P			Pg	04 47 27.1	+0.1
	baz=9.0								
EHP				*i* S			Sg	04 47 29.9	+0.7
	baz=9.0								
TWD	**Chiawan**	**0.15**	**233**	⇑*i* P			Pg	04 47 27.4	+0.3
	baz=240								
TWD				*i* S			Sg	04 47 29.9	+0.6
	baz=240								
HWA	**Hwalien**	**0.22**	**209**	*e*P			Pg	04 47 29.2	+0.8
	baz=222								
ENA	**Nanau**	**0.26**	**4**	⇑*i* P			Pg	04 47 29.5	+0.3
	baz=4.0								
ENA				*i* S			Sg	04 47 33.3	+0.6
	baz=4.0								
ESF	**Shoufeng Towns**	**0.36**	**214**	*e*P			Pg	04 47 31.2	+0.3
	baz=228								
NNS	**Nan Shan**	**0.42**	**310**	⇑*i* P			Pg	04 47 32.6	+0.3
	baz=310								
NNS				*e*S			Sg	04 47 38.5	+0.5
	baz=310								
WHF	**Hehuan Shan**	**0.42**	**267**	⇑*i* P			Pg	04 47 32.5	-0.2
	baz=267								
WHF				S			Sg	04 47 38.3	-0.3
	baz=267								
ESL	**Shilin**	**0.44**	**217**	P			Pg	04 47 32.5	-0.1
	baz=228								
ESL				S			Sg	04 47 38.7	+0.3
	baz=228								
ENTT	**Nioudou**	**0.49**	**343**	⇑*i* P			Pg	04 47 34.1	+0.5
	baz=343								
ENTT				S			Sg	04 47 41.0	+1.0
	baz=343								
TWT	**Tachien**	**0.51**	**280**	*i* P			Pb	04 47 34.8	-0.6
	baz=279								
TWT				S			Sg	04 47 41.3	+0.4
	baz=279								
TWE	**Neicheng**	**0.55**	**355**	⇑*i* P			Pg	04 47 35.2	+0.6
	baz=3.0								
TWE				*i* S			Sg	04 47 42.8	+0.9
	baz=3.0								
NSK	**Sanguang**	**0.60**	**327**	⇑*i* P			Pg	04 47 36.3	+0.5
	baz=327								
NSK				*i* S			Sg	04 47 44.3	+0.5
	baz=327								
EGS		**0.70**	**16**	*e*P			Pb	04 47 38.4	+0.1
	baz=23								
EHY	**Hungye**	**0.76**	**209**	*e*P			Pg	04 47 38.1	-0.4
	baz=213								
NSTT	**Nanjuang**	**0.80**	**305**	P			Pb	04 47 40.3	+0.1
	baz=305								
NSTT				*e*S			Sb	04 47 52.1	+0.9
	baz=305								
SMLT	**Sun Moon Lake**	**0.81**	**249**	P			Pg	04 47 39.8	+0.2
	baz=250								
SMLT				S			Sg	04 47 50.2	-0.1
	baz=250								
TYC	**Yuchr**	**0.83**	**252**	P			Pg	04 47 40.1	+0.1
	baz=244								
TYC				*e*S			Sg	04 47 50.7	-0.2
	baz=244								
TWB1	**Santiao Chiao**	**0.87**	**16**	*e*P			Pb	04 47 41.2	-0.1
	baz=7.0								
TWB1				*e*S			Sg	04 47 52.1	0.0
	baz=7.0								
TAP1	**Taipei**	**0.89**	**348**	*e*P			Pb	04 47 41.8	+0.3
	baz=346								
TWQ1	**Liyutan**	**0.89**	**282**	*e*P			Pn	04 47 42.2	-0.5
	baz=283								
TAP	**Taipei**	**0.89**	**347**	*e*P			Pb	04 47 41.5	-0.1
	baz=347								
TAP				*e*S			Sb	04 47 53.9	+0.3
	baz=347								
NWF	**Wu-fen Shan**	**0.90**	**3**	*e*P			Pb	04 47 41.9	0.0
	baz=354								
NWF				*e*S			Sg	04 47 53.3	+0.1
	baz=354								
TWF1	**Yuli**	**0.90**	**206**	⇑P			Pg	04 47 40.2	-1.1
	baz=220								
TWF1				*e*S			Sb	04 47 53.6	-0.4
	baz=220								
NSY	**Sanyi**	**0.91**	**286**	P			Pn	04 47 43.0	-0.1
	baz=286								
NSY				*e*S			Sb	04 47 55.2	+0.9
	baz=286								
HSN	**Hsinchu**	**0.93**	**313**	*e*P			Pn	04 47 43.2	-0.1
	baz=315								
HSN				*e*S			Sn	04 47 58.0	+1.2
	baz=315								
NCU	**National Centr**	**0.94**	**329**	*e*P			Pn	04 47 43.3	0.0
	baz=328								
NCU				*e*S			Sn	04 47 57.5	+0.5
	baz=328								
TCU	**Taichung**	**0.96**	**269**	*e*P			Pn	04 47 43.8	+0.2
	baz=269								
TCU				*e*S			Sn	04 47 57.9	+0.4
	baz=269								
TWS1	**Kuangyinshan**	**0.97**	**343**	P			Pn	04 47 43.7	-0.1
	baz=352								
TWS1				*e*S			Sn	04 47 57.3	-0.4
	baz=352								
WNT	**Mingjian**	**0.99**	**253**	*e*P			Pn	04 47 44.1	0.0
	baz=249								
ALS	**Alishan**	**1.07**	**232**	P			Pg	04 47 44.8	-0.1
	baz=234								
ALS				*e*S			Sb	04 47 59.6	+0.2
	baz=234								
TWY	**Chenhua**	**1.11**	**354**	*e*P			Pn	04 47 46.4	+0.6
	baz=338								
CHN5	**Tsauling**	**1.11**	**239**	P			Pn	04 47 46.2	+0.3
	baz=242								
CHN5				*e*S			Sn	04 48 01.9	+0.4
	baz=242								
CHKT	**Chengkung**	**1.11**	**197**	*e*P			Pg	04 47 44.4	-0.9
	baz=191								
CHKT				*e*S			Sn	04 48 01.4	+0.1
	baz=191								
ELDTW	**Lidau**	**1.17**	**214**	*e*P			Pb	04 47 44.7	-1.9
	baz=219								
YOJ	**Yonaguni jima**	**1.21**	**76**	*e*P			Pb	04 47 46.6	-0.5
	baz=59								
CHN2	**Minshiung**	**1.31**	**241**	*e*P			Pg	04 47 49.4	+0.4
	baz=243								
CHN2				*e*S			Sn	04 48 08.9	+2.8
	baz=243								
CHN4	**Tsaushan**	**1.32**	**232**	P			Pg	04 47 49.4	+0.1
	baz=223								
CHN4				*e*S			Sg	04 48 08.5	+2.1
	baz=223								
CHY	**Chiayi**	**1.36**	**241**	*e*P			Pg	04 47 50.9	+0.8
	baz=243								
CHY				*e*S			Sg	04 48 09.9	+2.0
	baz=243								
WTP	**Ta-pu**	**1.37**	**228**	P			Pb	04 47 49.8	-0.1
	baz=231								
WTP				S			Sg	04 48 09.9	+1.7
	baz=231								
TWK	**Hsinying**	**1.45**	**232**	P			Pg	04 47 51.5	-0.3
	baz=235								
TWK				*e*S			Sg	04 48 12.3	+1.7
	baz=235								
TWG	**Pinlang**	**1.47**	**204**	*e*P			Pn	04 47 48.2	-2.5
	baz=211								
CHN1	**Nanshi**	**1.47**	**228**	P			Pb	04 47 51.8	+0.2
	baz=222								
CHN1				*e*S			Sg	04 48 12.9	+1.6
	baz=222								
SGST	**Jiashian**	**1.50**	**224**	*e*P			Pb	04 47 52.1	-0.1
	baz=227								
SGST				*e*S			Sg	04 48 13.8	+1.4
	baz=227								
CHN8	**Yiju**	**1.61**	**240**	*e*P			Pb	04 47 53.4	-0.4
	baz=244								
TWM1	**Shoushan**	**1.79**	**222**	*e*P			Pb	04 47 57.5	+0.4
	baz=230								
EAST	**Anshuo**	**1.95**	**205**	*e*P			Pn	04 47 58.5	+1.1
	baz=200								
SCZT	**Fangliau**	**2.06**	**210**	*e*P			Pn	04 48 00.1	+1.3
	baz=202								
PNG	**Penghu**	**2.07**	**254**	*e*P			Pb	04 48 00.5	-1.3
	baz=257								

IDC 29 04:48:14.0±2.4, 21.70S×179.09W, h514km±30km, mb3.3/8, mb1 3.5/10, mb1mx3.3/23, mbtmp3.4/10, Error ellipse: s-maj=25.4km s-min=15.4km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.41**	**43**	P			P	04 50 34.6	-1.4
	3.9nm,0.3s,baz=207,slow=11,SNR=5.3								
AFI				S			S	04 52 25.5	-7.4
	0.6nm,0.3s,baz=63,slow=14,SNR=2.3								
DZM	**Mont Dzumac**	**13.44**	**266**	P			P	04 51 08.8	+1.0
	0.4nm,0.3s,baz=90,slow=20,SNR=5.7								
RPZ	**Rata Peaks**	**23.43**	**198**	P			P	04 52 44.4	+1.8
	5.8nm,0.5s,baz=276,slow=3.4,SNR=5.0								
CTA	**Charters Tower**	**32.38**	**266**	P			P	04 54 00.9	-0.3
	4.4nm,0.4s,baz=120,slow=8.1,SNR=8.4								
STKA	**Stephens Creek**	**36.36**	**245**	P			P	04 54 34.0	-0.4
	2.9nm,0.5s,baz=95,slow=9.4,SNR=10								
QSPA	**South Pole Qui**	**68.37**	**180**	P			P	04 58 22.8	-0.9
	2.0nm,0.7s,baz=23,slow=7.7,SNR=19								
NVAR	**Mina Array Bea**	**82.59**	**44**	P			P	04 59 44.0	+0.6
	0.6nm,0.6s,baz=221,slow=8.8,SNR=4.9								
TXAR	**Lajitas Array**	**88.56**	**58**	P			P	05 00 13.3	+1.1
	0.5nm,0.9s,baz=212,slow=6.8,SNR=5.2								
ILAR	**Eielson Array**	**89.71**	**13**	P			P	05 00 16.1	-0.4
	0.4nm,0.5s,baz=216,slow=5.0,SNR=6.2								
PDAR	**Pinedale Array**	**90.53**	**44**	P			P	05 00 21.1	-0.1
	0.5nm,0.8s,baz=233,slow=4.5,SNR=4.4								

MOS ***29*** *04:50:39.5±1.2, 3.08S×129.33E, h25km, mb4.8/39, Error ellipse: s-maj=13.3km s-min=6.3km az=113.2*
NEIC ***29*** *04:50:40.0±3.4, 3.08S×129.35E, h17km±21km, mb4.8/24, Error ellipse: s-maj=8.4km s-min=5.5km az=62.0*
ISCJB ***29*** *04:50:40.1±0.2, 3.02S±0.03×129.52E±0.03, h28km, mb4.7/63, MS3.8/12, Error ellipse: s-maj=4.2km s-min=3.3km az=44.9*
BJI ***29*** *04:50:42.7, 3.20S×129.40E, h54km, mB4.8/10, mb4.9/32, Ms4.9/17, Ms7 4.5/18*
IDC ***29*** *04:50:42.6±4.0, 3.09S×129.33E, h33km±29km, mb4.5/23, mb1 4.6/26, mb1mx4.5/28, mbtmp4.5/26, ML4.5/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/37, Error ellipse: s-maj=17.4km s-min=8.2km az=69.0*
DJA ***29*** *04:50:43.6±0.3, 3°S±3°×13°0E±°, h25km, M5.0/16, mB5.4/11, mb5.2/16, MLv5.1/14, Mw(mB)4.9/11*
AUST ***29*** *04:50:43.0±0.9, 3.16S×129.43E, h31km, Error ellipse: s-maj=0.8km s-min=0.6km az=24.0*
ISC 29 04:50:42.4±0.2, 2.95S±0.03×129.48E±0.03, h28km, n236, σ1s48/233, mb4.8/65, MS3.7/12, 4C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.68**	**235**	P			**Pb**	**04 50 55.2**	**-0.5**
AAI	**Ambon**	**1.48**	**240**	P			**Pn**	**04 51 08.1**	**+1.0**
	baz=1.3,SNR=121								
AAI	**Ambon**	**1.48**	**240**	P			**Pn**	**04 51 08.3**	**+1.2**
BNDI	**Bandanaira**	**1.62**	**165**	P			**Pn**	**04 51 11.7**	**+2.7**
NLAI	**Namlea**	**2.40**	**263**	P			**Pn**	**04 51 21.0**	**+1.2**
FAKI	**Fak Fak**	**2.76**	**89**	P			**Pn**	**04 51 25.8**	**+1.0**
LBMI	**Labuha**	**3.03**	**319**	P			**Pn**	**04 51 28.2**	**-0.4**
TLE	**Tual**	**4.20**	**130**	P			Pn	04 51 47.5	+2.9
	baz=4.1,SNR=24								
TLE	**Tual**	**4.20**	**130**	P			**Pn**	**04 51 47.2**	**+2.6**
TNTI	**Ternate**	**4.26**	**330**	P			**Pn**	**04 51 45.2**	**-0.2**
MNI	**Manado**	**6.37**	**313**	P			**Pn**	**04 52 14.9**	**+0.4**
	395nm,0.6s,14μm3.8nm								
KMSI	**Cibinong**	**6.52**	**302**	P			**Pn**	**04 52 17.5**	**+1.0**
	395nm,0.6s,9μm3.8nm								
BAKI	**Biak**	**6.85**	**75**	P			**Pn**	**04 52 21.9**	**+0.9**
	301nm,0.5s,4μm1.1nm								
KDI	**Kendari**	**6.92**	**262**	P			**Pn**	**04 52 22.9**	**+0.9**
	120nm,0.9s,1μm0.4nm								
LUWI	**Luwuk**	**6.97**	**286**	P			**Pn**	**04 52 22.2**	**-0.5**
	217nm,0.7s,3μm1.3nm								
BBSI	**Bau Bau**	**7.34**	**250**	P			**Pn**	**04 52 29.1**	**+1.3**
	169nm,0.9s,0.5nm								
MRSI	**Marisa**	**8.27**	**294**	P			**Pn**	**04 52 39.2**	**-1.4**
	182nm,0.8s,3μm								
SMPI	**Sarmi**	**9.27**	**84**	P			**Pn**	**04 52 56.0**	**+1.8**
	56nm,0.8s								
BKSI	**Bulukumba**	**9.63**	**256**	P			Pn	04 53 03.2	+4.0
	76nm,1.2s,881nm								
TTSI	**Tana Toraja**	**9.65**	**269**	P			Pn	04 53 03.7	+4.2
	61nm,0.7s								
SPSI	**Sidrap Palu**	**9.75**	**264**	P			**Pn**	**04 53 03.4**	**+2.6**
	68nm,0.6s,858nm								
PCI	**Palu**	**9.85**	**282**	P			**Pn**	**04 53 04.5**	**+2.2**
	baz=9.8,SNR=5.9								
PCI				S			**Sn**	**04 54 56.0**	**+3.9**
	baz=9.8,SNR=9.8								
KAPI	**Kappang**	**9.92**	**258**	Pn			**Pn**	**04 53 05.7**	**+2.5**
	5.3nm,0.3s,baz=113,slow=4.8,SNR=18								
KAPI	**Kappang**	**9.92**	**258**	Pn			**Pn**	**04 53 05.7**	**+2.5**
KAPI	**Kappang**	**9.92**	**258**	P			**Pn**	**04 53 06.3**	**+3.1**
	70nm,0.7s,867nm								
MTN	**Manton Dam**	**9.96**	**171**	P			**Pn**	**04 53 04.2**	**+0.5**
	baz=9.8,SNR=65								
KDU	**Kakadu**	**10.12**	**163**	P			Pn	04 53 04.2	-1.6
	baz=10.0,SNR=30								
JAY	**Jayapura**	**11.22**	**88**	P			Pn	04 53 24.3	+3.2
	baz=11,SNR=5.9								
WSI	**Waingapu**	**11.30**	**233**	P			Pn	04 53 16.9	-5.2
	baz=11,SNR=5.1								
WSI				S			**Sn**	**04 55 26.9**	**-0.8**
	baz=11,SNR=3.6								
PALU	**Palau**	**11.38**	**26**	P			Pn	04 53 25.1	+2.0
	baz=12,SNR=3.2								
MYLDM	**Lahad Datu**	**13.62**	**306**	P			**Pn**	**04 53 56.2**	**+2.3**
TSM	**Tawau**	**13.65**	**302**	P			**Pn**	**04 53 52.8**	**-1.5**
BBKI	**Banjar Baru**	**14.63**	**268**	P			**P**	**04 54 15.6**	**+2.0**
KHKI	**Kahang-Kahang**	**14.81**	**248**	P			**Pn**	**04 54 12.5**	**+2.4**
	37nm,0.6s								
SRBI	**Singaraja**	**15.09**	**250**	P			**P**	**04 54 19.1**	**+0.4**
	49nm,0.9s								
FITZ	**Fitzroy Crossi**	**15.52**	**194**	Pn			**Pn**	**04 54 18.3**	**-1.1**
	1.0nm,0.3s,baz=27,slow=12,SNR=28								
FITZ				LR			LR	05 01 04.0	
	comp=Z,434nm,18.4s,baz=18,slow=40								
FITZ	**Fitzroy Crossi**	**15.52**	**194**	*e*Pn			Pn	04 54 17.1	-2.3
	16nm,0.6s								
FITZ	**Fitzroy Crossi**	**15.52**	**194**	P			**Pn**	**04 54 18.1**	**-1.3**
	baz=15,SNR=15								
BLJI	**Banyuglugur**	**16.52**	**253**	P			**P**	**04 54 35.9**	**+1.3**
COEN	**Coen**	**17.39**	**130**	*e*Pn			**Pn**	**04 54 41.8**	**-1.4**
	556nm,1.2s								
COEN	**Coen**	**17.39**	**130**	P			**Pn**	**04 54 41.8**	**-1.4**
	baz=17,SNR=68								
BTM	**Bintulu**	**17.49**	**290**	P			**P**	**04 54 48.2**	**+2.8**
WRAB	**Tennant Creek**	**17.53**	**165**	*e*P			Pn	04 54 41.3	-3.7
WRAB				pmax			pmax		
	comp=Z,47nm,0.5s								
WRAB	**Tennant Creek**	**17.53**	**165**	*e*Pn			Pn	04 54 41.3	-3.7
	comp=Z,47nm,0.5s								
WRA	**Warramunga Arr**	**17.54**	**165**	P			Pn	04 54 42.0	-3.1
	comp=Z,6.2nm,0.3s,baz=343,slow=12,SNR=58								
WRA				S			**Sn**	**04 57 59.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=350,slow=22,SNR=4.5								
WRA	**Warramunga Arr**	**17.54**	**165**	P			Pn	04 54 42.0	-3.1
WRA				S			**Sn**	**04 57 59.6**	**0.0**

SBUM	**Sibu**	**18.07**	**287**	P			**P**	**04 54 54.9**	**+3.1**
PMG	**Port Moresby**	**18.70**	**111**	P			**P**	**04 54 58.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=295,slow=9.8,SNR=11								
PMG	**Port Moresby**	**18.70**	**111**	*e*P			**P**	**04 54 59.8**	**+1.1**
	comp=Z,30nm,0.9s								
UGM	**Wanagama**	**19.50**	**255**	P			**P**	**04 55 07.5**	**-0.1**
	baz=19,SNR=3.1								
KSM	**Kuching**	**19.67**	**283**	P			**P**	**04 55 10.7**	**+1.3**
	baz=20,SNR=6.4								
KSM	**Kuching**	**19.67**	**283**	P			**Pn**	**04 55 11.3**	**+0.4**
QIS	**Mount Isa**	**20.09**	**151**	P			**P**	**04 55 13.5**	**-0.4**
	baz=20,SNR=32								
MBWA	**Marble Bar**	**20.44**	**207**	*e*P			P	04 55 13.7	-4.0
	comp=Z,25nm,0.7s								
AS31	**Alice Springs**	**21.03**	**169**	*e*P			**P**	**04 55 22.8**	**-1.3**
ASAR	**Alice Springs**	**21.03**	**169**	P			**P**	**04 55 22.9**	**-1.2**
	comp=Z,89nm,0.4s,baz=346,slow=10,SNR=487								
ASAR							**S**	**04 59 13.5**	**-3.6**
	comp=Z,8.3nm,0.8s,baz=347,slow=19,SNR=4.5								
ASAR				PcP			**PcP**	**04 59 29.4**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=8.1,slow=1.3,SNR=5.4								
ASAR	**Alice Springs**	**21.03**	**169**	P			**P**	**04 55 22.9**	**-1.2**
ASAR				S			**S**	**04 59 13.5**	**-3.6**
ASAR				PcP			**PcP**	**04 59 29.4**	**-1.2**
GUMO	**Guam**	**22.43**	**43**	LR			LR	05 03 41.2	
	comp=Z,172nm,20.2s,baz=156,slow=34								
CTA	**Charters Tower**	**23.62**	**137**	P			**P**	**04 55 50.6**	**-0.7**
	comp=Z,27nm,0.9s,baz=329,slow=12,SNR=16								
CTA	**Charters Tower**	**23.62**	**137**	P			**P**	**04 55 50.6**	**-0.7**
CTAO	**Charters Tower**	**23.62**	**137**	*e*P			**P**	**04 55 51.0**	**-0.3**
CTAO				pmax			pmax		
	comp=Z,36nm,1.0s								
CTAO	**Charters Tower**	**23.62**	**137**	*e*P			**P**	**04 55 51.0**	**-0.3**
	comp=Z,36nm,1.0s								
MEEK	**Meekatharra**	**25.75**	**203**	P			P	04 56 07.0	-3.8
	baz=26,SNR=17								
MYKOM	**Kota Tinggi**	**26.05**	**280**	P			**P**	**04 56 14.8**	**+1.1**
KGM	**Kluang**	**26.62**	**280**	P			**P**	**04 56 19.8**	**+1.0**
QLP	**Quilpie**	**27.43**	**150**	P			**P**	**04 56 25.5**	**-0.4**
	baz=27,SNR=7.1								
KTGM	**Kuala Trenggan**	**27.57**	**287**	P			**P**	**04 56 28.6**	**+1.2**
FORT	**Forrest**	**27.71**	**183**	*e*P			**P**	**04 56 25.9**	**-2.5**
	comp=Z,29nm,0.7s								
FRIM	**Kepong**	**28.52**	**282**	P			**P**	**04 56 36.7**	**+0.9**
KMBL	**Kambalda**	**29.16**	**193**	P			P	04 56 38.8	-2.5
	baz=29,SNR=6.1								
PPI	**Padang Panjang**	**29.18**	**274**	S			S	05 01 19.5	-13
	baz=29,SNR=7.8								
IPM	**Ipoh**	**29.38**	**284**	P			**P**	**04 56 44.5**	**+1.0**
RMQ	**Roma**	**29.82**	**143**	S			S	05 01 59.3	+17
	baz=30,SNR=4.6								
KULM	**Kulim**	**29.94**	**286**	P			**P**	**04 56 49.6**	**+1.1**
BBOO	**Buckleboo**	**30.34**	**169**	*e*P			P	04 56 49.4	-2.3
	comp=Z,4μm,3.0s								
BBOO	**Buckleboo**	**30.34**	**169**	P			P	04 56 50.1	-1.6
	baz=30,SNR=15								
PATS	**Pohnpei**	**30.38**	**71**	S			**S**	**05 01 54.9**	**+3.5**
	baz=30,SNR=4.0								
EIDS	**Eidsvold**	**30.48**	**139**	S			S	05 01 47.1	-5.6
	baz=30,SNR=4.2								
STKA	**Stephens Creek**	**30.95**	**160**	P			P	04 56 55.6	-1.5
	comp=Z,6.4nm,0.5s,baz=336,slow=7.9,SNR=22								
STKA				LR			LR	05 10 23.8	
	comp=Z,270nm,20.3s,baz=221,slow=38								
STKA	**Stephens Creek**	**30.95**	**160**	*e*P			**P**	**04 56 55.8**	**-1.4**
	comp=Z,20nm,2.3s								
STKA	**Stephens Creek**	**30.95**	**160**	P			**P**	**04 56 56.2**	**-0.9**
	baz=31,SNR=13								
PSI	**Prapat**	**31.08**	**280**	P			**P**	**04 56 57.4**	**-1.2**
	comp=Z,15nm,0.8s,baz=100,slow=6.5,SNR=15								
PSI	**Prapat**	**31.08**	**280**	P			**P**	**04 56 57.4**	**-1.2**
PSI	**Prapat**	**31.08**	**280**	P			**P**	**04 56 58.3**	**-0.3**
	baz=31,SNR=8.3								
NWAO	**Narrogin (SRO)**	**31.95**	**200**	P			P	04 57 02.9	-3.1
	comp=Z,13nm,1.0s,baz=27,slow=10.0,SNR=5.4								
NWAO				LR			LR	05 09 20.2	
	comp=Z,159nm,19.9s,baz=189,slow=35								
NWAO	**Narrogin (SRO)**	**31.95**	**200**	P			P	04 57 02.9	-3.1
CMSA	**Cobar Meteorol**	**32.28**	**153**	P			**P**	**04 57 08.3**	**-0.5**
	baz=32,SNR=7.9								
CBIJ	**Chichi jima**	**32.29**	**22**	LR			LR	05 10 06.6	
	comp=Z,97nm,18.4s,baz=32,slow=36								
ARPS	**Mount Arapiles**	**35.53**	**163**	P			**P**	**04 57 36.9**	**-0.1**
	baz=36,SNR=13								
NJ2	**Nanjing**	**36.25**	**345**	*e*P			P	04 57 46.0	+2.8
NJ2				pmax			pmax		
	comp=Z,20nm,0.5s								
GYA	**Guiyang**	**36.63**	**324**	P			**P**	**04 57 48.3**	**+1.6**
GYA				pP			pP	04 58 04.3	+9.3
GYA				sP			sP	04 58 10.8	+12
GYA				PP			**PP**	**04 59 15.3**	**+4.9**
GYA				PcP			**PcP**	**05 00 10.5**	**+1.0**
GYA				S			**S**	**05 03 30.0**	**+1.8**
GYA				sS			**ScP**	**05 03 54.5**	**0.0**
GYA				SS			**SnSn**	**05 06 01.0**	**+1.5**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.9s								
GYA				pmax			pmax		
	comp=Z,90nm,4.9s								
GYA				LR			LR		
	comp=N,550nm,17.7s								
GYA				LR			LR		
	comp=E,470nm,18.6s								
GYA				LR			LR		
	comp=Z,500nm,17.2s								
CMAR	**Chiang Mai Arr**	**36.84**	**306**	P			**P**	**04 57 48.3

LZH	**Lanzhou**	**45.63**	**331**	*e*P		**P**	**04 59 02.3**	**+1.6**
LZH				pP		pP	04 59 19.0	+10
LZH				sP		sP	04 59 26.5	+14
LZH				pmax		pmax		
	comp=Z,29nm,1.3s							
HHC	**Hu-ho-hac-te**	**46.56**	**341**	*e*P		**P**	**04 59 10.0**	**+2.1**
HHC				pP		pP	04 59 25.8	+9.4
HHC				sP		sP	04 59 33.0	+13
HHC				PP		**PP**	**05 01 01.5**	**+3.8**
HHC				S		**S**	**05 05 57.0**	**+2.0**
HHC				pmax		pmax		
	comp=Z,39nm,0.8s							
HHC				LR		LR		
	comp=N,800nm,16.7s							
HHC				LR		LR		
	comp=E,800nm,16.2s							
HHC				LR		LR		
	comp=Z,320nm,16.3s							
CN2	**Changchun**	**46.68**	**356**	*e*P		**P**	**04 59 10.3**	**+1.7**
USRK	**Ussuriysk Arra**	**46.99**	**2**	P		**P**	**04 59 11.0**	**0.0**
	comp=Z,5.3nm,0.6s,baz=187,slow=6.7,SNR=12							
LSA	**Lhasa**	**48.98**	**314**	P		P	04 59 24.0	-3.2
LSA				pmax		pmax		
	comp=Z,40nm,1.0s							
GTA	**Gaotai**	**50.22**	**330**	*e*P		**P**	**04 59 36.3**	**+0.2**
GTA				pP		pP	04 59 51.3	+6.7
GTA				sP		sP	04 59 58.5	+11
GTA				pmax		pmax		
	comp=Z,11nm,0.8s							
TAPN	**Taplejung**	**50.27**	**310**	*e*P		**P**	**04 59 36.8**	**-0.2**
	comp=Z,13nm,0.5s							
ODAN	**Odare**	**50.28**	**309**	*e*P		**P**	**04 59 36.8**	**-0.1**
	comp=Z,14nm,0.5s							
RAMN	**Ramite**	**50.94**	**309**	*e*P		**P**	**04 59 42.1**	**+0.2**
	comp=Z,46nm,0.5s							
YSS	**Yuzh-Sakhalins**	**51.05**	**12**	*e*P		**P**	**04 59 40.7**	**-1.4**
YSS				pmax		pmax		
	comp=Z,12nm,1.3s							
GUN	**Gumba**	**51.96**	**309**	*e*P		**P**	**04 59 49.5**	**-0.2**
	comp=Z,30nm,0.6s							
KLR	**Kul'dur**	**52.01**	**2**	*e*P		**P**	**04 59 46.1**	**-3.1**
PKI	**Pulchoki**	**52.17**	**309**	*e*P		**P**	**04 59 50.5**	**-0.7**
	comp=Z,7.3nm,0.4s							
KKN	**Kakani**	**52.37**	**309**	*e*P		**P**	**04 59 52.1**	**-0.5**
	comp=Z,15nm,0.5s							
DMN	**Daman**	**52.42**	**308**	*e*P		**P**	**04 59 52.5**	**-0.5**
	comp=Z,18nm,0.7s							
KOLN	**Koldanda**	**53.68**	**308**	*e*P		**P**	**05 00 02.1**	**-0.1**
	comp=Z,29nm,0.6s							
DANN	**Dangsing**	**53.82**	**309**	*e*P		**P**	**05 00 03.0**	**-0.3**
	comp=Z,46nm,0.6s							
HYB	**Hyderabad**	**54.15**	**294**	*i* P		**P**	**05 00 03.5**	**-2.1**
ULN	**Ulaanbaatar**	**54.28**	**342**	*e*P		**P**	**05 00 06.1**	**-0.1**
	comp=Z,8.8nm,0.9s							
PYUN	**Piuthan**	**54.31**	**308**	*e*P		**P**	**05 00 06.7**	**-0.1**
	comp=Z,45nm,0.8s							
SONM	**Songino Array**	**54.47**	**341**	P		**P**	**05 00 07.8**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=150,slow=7.4,SNR=34							
SONM	**Songino Array**	**54.47**	**341**	P		**P**	**05 00 07.8**	**+0.3**
RPZ	**Rata Peaks**	**54.76**	**144**	P		**P**	**05 00 10.0**	**+0.4**
	comp=Z,15nm,0.5s,baz=328,slow=2.3,SNR=12							
RPZ	**Rata Peaks**	**54.76**	**144**	P		**P**	**05 00 10.0**	**+0.4**
URZ	**Urewera**	**55.85**	**135**	P		**P**	**05 00 17.3**	**-0.2**
	comp=Z,12nm,0.4s,baz=253,slow=4.5,SNR=9.8							
URZ	**Urewera**	**55.85**	**135**	*e*P		**P**	**05 00 17.0**	**-0.5**
	comp=Z,12nm,0.4s							
ZAK	**Zakamensk**	**57.70**	**340**	*e*P		**P**	**05 00 29.2**	**-1.3**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
TLY	**Talaya**	**58.70**	**341**	*e*P		**P**	**05 00 36.8**	**-0.6**
TLY				*e*S		**S**	**05 08 36.3**	**-4.0**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MOY	**Mondy**	**59.56**	**340**	*e*P		**P**	**05 00 44.2**	**+0.7**
WMQ	**Urumqi**	**59.76**	**326**	*e*P		**P**	**05 00 46.0**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PEA0B	**Petropavlovsk-**	**60.68**	**19**	*e*P		**P**	**05 00 51.8**	**+0.9**
PETK	**Petropavlovsk-**	**60.68**	**19**	P		**P**	**05 00 52.1**	**+1.1**
	comp=Z,23nm,0.7s,baz=176,slow=5.5,SNR=64							
PETK				LR		LR	05 24 06.7	
	comp=Z,58nm,21.1s,baz=29,slow=33							
PETK	**Petropavlovsk-**	**60.68**	**19**	P		**P**	**05 00 52.1**	**+1.1**
PETK				pmax		pmax		
	comp=Z,23nm,0.7s							
PETK	**Petropavlovsk-**	**60.68**	**19**	P		**P**	**05 00 52.1**	**+1.1**
MK31	**Makanchi Array**	**64.59**	**326**	P		**P**	**05 01 17.0**	**-0.3**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MK31	**Makanchi Array**	**64.59**	**326**	*e*P		**P**	**05 01 16.9**	**-0.3**
MKAR	**Makanchi Array**	**64.59**	**326**	P		**P**	**05 01 17.1**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=113,slow=7.9,SNR=79							
MKAR	**Makanchi Array**	**64.59**	**326**	P		**P**	**05 01 17.1**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**64.59**	**326**	P		**P**	**05 01 17.1**	**-0.2**
KSH	**Kashi**	**64.72**	**317**	P		**P**	**05 01 19.0**	**+0.6**
KSH				pP		pP	05 01 35.3	+8.1
KSH				sP		sP	05 01 41.8	+11
KSH				PcP		**PcP**	**05 01 51.8**	**-0.1**
KSH				PP		**PP**	**05 03 44.3**	**+3.2**
KSH				ScP			05 05 47.0	
KSH				PcS			05 05 54.0	
KSH				S		**S**	**05 09 54.0**	**-3.3**
KSH				sS		sS	05 10 22.5	+11
KSH				ScS		**SKSac**	**05 11 05.0**	**-6.4**
KSH				SS		**SS**	**05 14 09.0**	**+0.1**
KSH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KSH				pmax		pmax		
	comp=Z,40nm,2.8s							
KSH				LR		LR		
	comp=N,150nm,6.5s							
KSH				LR		LR		
	comp=E,100nm,6.2s							
KSH				LR		LR		
	comp=Z,140nm,6.1s							
YAK	**Yakutsk**	**64.80**	**0**	*e*P		**P**	**05 01 18.4**	**+0.2**
YAK				pmax		pmax		
	comp=Z,32nm,0.7s							
YAK	**Yakutsk**	**64.80**	**0**	*e*P		**P**	**05 01 18.3**	**+0.1**
	comp=Z,45nm,0.8s							
FX1	**Attu Island--F**	**66.61**	**27**	*e*P		**P**	**05 01 30.9**	**+0.8**
AAK	**Ala-Archa**	**67.15**	**319**	LR		LR	05 30 31.0	
	comp=Z,33nm,18.7s,baz=200,slow=36							
AAK	**Ala-Archa**	**67.15**	**319**	*e*P		**P**	**05 01 34.8**	**+0.8**
AAK				pmax		pmax		
	comp=Z,13nm,1.7s							
AAK	**Ala-Archa**	**67.15**	**319**	*e*P		**P**	**05 01 34.1**	**+0.1**
	comp=Z,23nm,1.3s							
ZAA0	**Zalesovo Array**	**67.75**	**333**	*e*P		**P**	**05 01 36.4**	**-1.0**
ZALV	**Zalesovo Beam**	**67.75**	**333**	P		**P**	**05 01 36.2**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=104,slow=6.1,SNR=20							
ZALV				LR		LR	05 33 26.8	
	comp=Z,31nm,19.6s,baz=289,slow=38							
ZALV	**Zalesovo Beam**	**67.75**	**333**	P		**P**	**05 01 36.3**	**-1.1**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ZALV				MLR		MLR		
	comp=Z,31nm,19.6s							
ZALV	**Zalesovo Beam**	**67.75**	**333**	P		**P**	**05 01 36.2**	**-1.1**
KBL	**Kabul**	**67.80**	**309**	*e*P		**P**	**05 01 37.7**	**-0.6**
KBL				pmax		pmax		
	comp=Z,4.0nm,0.5s							
KBL	**Kabul**	**67.80**	**309**	*e*P		**P**	**05 01 37.7**	**-0.6**
	comp=Z,3.8nm,0.5s							
SEY	**Seymchan**	**67.95**	**11**	*d* iP		**P**	**05 01 40.0**	**+1.6**
KURK	**Kurchatov**	**68.82**	**328**	*c* iP		**P**	**05 01 44.0**	**-0.1**
KURK				pmax		pmax		
	comp=Z,11nm,0.8s							
KURK	**Kurchatov**	**68.82**	**328**	*e*P		**P**	**05 01 43.7**	**-0.4**
	comp=Z,8.8nm,0.6s							
NVS	**Novosibirsk**	**69.04**	**333**	*e*P		**P**	**05 01 44.4**	**-0.9**
NVS				pmax		pmax		
	comp=N,4.0nm,0.6s							
NVS				pmax		pmax		
	comp=E,5.0nm,0.6s							
NVS				pmax		pmax		
	comp=Z,7.0nm,0.6s							
KK31	**Karatay Array**	**69.99**	**318**	*i* P		**P**	**05 01 50.9**	**-0.6**
VOSK	**Vostochnaya**	**73.93**	**327**	P		**P**	**05 02 14.1**	**-0.9**
VOSK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BVA0	**Borovoye Array**	**74.39**	**327**	*i* P		**P**	**05 02 17.4**	**-0.2**
BVA0				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BRVK	**Borovoye**	**74.46**	**327**	*ce*P		**P**	**05 02 17.8**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BRVK	**Borovoye**	**74.46**	**327**	*e*P		**P**	**05 02 17.7**	**-0.3**
	comp=Z,8.3nm,0.8s							
TIXI	**Tiksi**	**74.47**	**360**	*e*P		**P**	**05 02 17.4**	**-0.2**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
TIXI	**Tiksi**	**74.47**	**360**	*e*P		**P**	**05 02 17.5**	**-0.2**
	comp=Z,8.1nm,0.6s							
ZRNK	**Zerenda**	**75.11**	**327**	P		**P**	**05 02 21.0**	**-0.8**
ZRNK				pmax		pmax		
	comp=Z,13nm,1.4s							
BILL	**Bilibino**	**75.32**	**13**	*e*P		**P**	**05 02 24.2**	**+1.5**
BILL				*e*			05 05 11.0	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.2s							
VNDA	**Vanda**	**76.50**	**173**	P		**P**	**05 02 27.7**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=309,slow=7.4,SNR=13							
VNDA				LR		LR	05 35 35.2	
	comp=Z,109nm,21.7s,baz=313,slow=35							
VNDA	**Vanda**	**76.50**	**173**	*e*P		**P**	**05 02 27.9**	**-1.4**
	comp=Z,3.3nm,0.9s							
MAW	**Mawson**	**78.51**	**201**	P		**P**	**05 02 39.0**	**-1.7**
	comp=Z,2.1nm,0.5s,baz=37,slow=4.6,SNR=3.6							
MAW	**Mawson**	**78.51**	**201**	P		**P**	**05 02 39.0**	**-1.7**
AB31	**Akbulak array**	**79.04**	**321**	*i* P		**P**	**05 02 43.3**	**-0.7**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKTO	**Aktyubinsk**	**80.58**	**322**	P		**P**	**05 02 52.0**	**-0.3**
AKTO				pmax		pmax		
	comp=Z,2.0nm,1.6s							
SVE	**Sverdlovsk**	**81.06**	**329**	*e*P		**P**	**05 02 54.9**	**+0.2**
SVE				pmax		pmax		
	comp=Z,14nm,1.0s							
OPO	**Ambohidratompo**	**81.77**	**252**	P		**P**	**05 02 58.6**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=78,slow=2.5,SNR=6.6							
OPO	**Ambohidratompo**	**81.77**	**252**	P		**P**	**05 02 58.6**	**-0.9**
ARU	**Arti**	**82.02**	**328**	*c* iP		**P**	**05 02 59.2**	**-0.6**
ARU							05 06 03.5	
ARU				S		**S**	**05 13 13.4**	**+1.2**
ARU				SS		**SS**	**05 18 31.2**	**-0.4**
ARU				pmax		pmax		
	comp=Z,12nm,1.2s							
ARU	**Arti**	**82.02**	**328**	*e*P		**P**	**05 02 58.8**	**-1.0**
	comp=Z,6.3nm,0.8s							
RDF	**Al-Radifah**	**84.36**	**299**	*e*P		**P**	**05 03 12.8**	**+0.2**
RDF				AMb		AMB	05 03 13.3	
	comp=Z,17nm,0.7s							
NAY	**Al-Naaiem**	**84.67**	**300**	*e*P		**P**	**05 03 13.4**	**-0.6**
NAY				AMb		AMB	05 03 14.2	
	comp=Z,13nm,0.7s							
QSPA	**South Pole Qui**	**87.00**	**180**	P		**P**	**05 03 23.2**	**-1.8**
	comp=Z,2.4nm,0.8s,baz=296,slow=1.1,SNR=12							
QSPA	**South Pole Qui**	**87.00**	**180**	P		**P**	**05 03 23.2**	**-1.8**
SYO	**Syowa Base**	**87.22**	**201**	*e*P		**P**	**05 03 25.6**	**-0.2**
GNI	**Garni**	**87.86**	**310**	*e*P		**P**	**05 03 28.2**	**-1.5**
	comp=Z,5.5nm,0.6s							
ZEI	**Tsey**	**88.74**	**313**	*e*P		**P**	**05 03 33.5**	**-0.4**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.4s							
COLA	**College**	**89.53**	**25**	*e*P		**P**	**05 03 37.3**	**+0.5**
COLA				pmax		pmax		
	comp=Z,2.0nm,0.4s							
COLA	**College**	**89.53**	**25**	*e*P		**P**	**05 03 37.2**	**+0.5**
	comp=Z,1.7nm,0.4s							
KBZ	**Khabaz**	**89.55**	**314**	P		**P**	**05 03 35.9**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=77,slow=5.7,SNR=4.4							
KBZ	**Khabaz**	**89.55**	**314**	P		**P**	**05 03 35.9**	**-1.5**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KBZ	**Khabaz**	**89.55**	**314**	P		**P**	**05 03 35.9**	**-1.5**
ILAR	**Eielson Array**	**89.93**	**25**	P		**P**	**05 03 37.2**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=254,slow=4.5,SNR=13							
ILAR	**Eielson Array**	**89.93**	**25**	P		**P**	**05 03 37.2**	**-1.5**
KMBO	**Kilima Mbogo**	**92.17**	**269**	*e*P		**P**	**05 03 50.4**	**-0.1**
	comp=Z,1.9nm,1.0s							
INK	**Inuvik**	**95.32**	**22**	PKKP		**PKKPdf**	**05 20 56.0**	**-3.2**
	comp=Z,0.8nm,0.5s,baz=118,slow=3.0,SNR=9.4							
BR131	**Keskin Array S**	**96.37**	**309**	*e*P		**P**	**05 04 07.7**	**-1.5**
	comp=Z,0.3nm,0.6s							
BRTR	**Keskin Array B**	**96.37**	**309**	P		**P**	**05 04 07.2**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=94,slow=4.3,SNR=4.3							
BRTR	**Keskin Array B**	**96.37**	**309**	P		**P**	**05 04 07.2**	**-2.0**
ARCES	**ARCESS Array B**	**97.63**	**340**	P		**P**	**05 04 12.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=76,slow=5.1,SNR=6.1							
ARCES	**ARCESS Array B**	**97.63**	**340**	P		**P**	**05 04 12.8**	**-1.2**
FINES	**FINESS Array B**	**98.98**	**332**	P		P	05 04 18.2	-2.0
	comp=Z,1.6nm,0.8s,baz=72,slow=6.2,SNR=4.5							
FINES	**FINESS Array B**	**98.98**	**332**	P		P	05 04 18.2	-2.0
YKA	**Yellowknife Ar**	**104.36**	**26**	Pdiff		**Pdif**	**05 04 44.1**	**0.0**
	comp=Z,0.1nm,0.7s,baz=284,slow=4.5,SNR=3.6							
YKA				PKiKP		**PKiKP**	**05 09 00.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=306,slow=1.6,SNR=7.5							
YKA	**Yellowknife Ar**	**104.36**	**26**	Pdif		**Pdif**	**05 04 44.1**	**0.0**
YKA				PKiKP		**PKiKP**	**05 09 00.1**	**-0.4**
GERES	**GERESS Array B**	**108.99**	**321**	PKiKP		**PKiKP**	**05 09 09.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=52,slow=2.2,SNR=5.3							
GERES	**GERESS Array B**	**108.99**	**321**	PKiKP		**PKiKP**	**05 09 09.5**	**-0.1**
HLID	**Hailey**	**110.77**	**44**	*e*PKP		**PKiKP**	**05 09 13.8**	**+0.6**
DUG	**Dugway**	**112.86**	**47**	*e*PKiKP		**PKiKP**	**05 09 16.8**	**-0.5**
DUG	**Dugway**	**112.86**	**47**	*e*PKP		**PKiKP**	**05 09 16.8**	**-0.5**
WLF	**Walferdange**	**113.29**	**324**	*e*PKiKP		**PKiKP**	**05 09 17.5**	**-0.1**
WLF	**Walferdange**	**113.29**	**324**	*e*PKP		**PKiKP**	**05 09 17.5**	**-0.1**
PDAR	**Pinedale Array**	**114.39**	**44**	PKP		PKPdf	05 09 21.5	+1.2
	comp=Z,0.2nm,0.4s,baz=224,slow=3.9,SNR=3.4							
PDAR	**Pinedale Array**	**114.39**	**44**	PKP		PKPdf	05 09 21.5	+1.2
RSSD	**Black Hills**	**117.59**	**41**	*e*PKiKP		**PKPdf**	**05 09 25.3**	**-1.1**
RSSD	**Black Hills**	**117.59**	**41**	*e*PKPdf		**PKPdf**	**05 09 25.2**	**-1.1**
TXAR	**Lajitas Array**	**123.22**	**57**	PKP		**PKPdf**	**05 09 38.0**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=229,slow=1.5,SNR=8.6							
TXAR	**Lajitas Array**	**123.22**	**57**	PKP		**PKPdf**	**05 09 38.0**	**+0.6**
WMOK	**Wichita Mounta**	**125.21**	**49**	*e*PKiKP		**PKPdf**	**05 09 41.2**	**+0.2**
WMOK	**Wichita Mounta**	**125.21**	**49**	*e*PKPdf		**PKPdf**	**05 09 41.2**	**+0.2**
JCT	**Junction City**	**126.03**	**54**	*e*PKiKP		**PKPdf**	**05 09 43.3**	**+0.6**
JCT	**Junction City**	**126.03**	**54**	*e*PKPdf		**PKPdf**	**05 09 43.3**	**+0.6**
TOA0	**Torodi Ar. Sit**	**127.42**	**284**	*e*PKPdf		**PKPdf**	**05 09 45.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**127.42**	**284**	PKP		**PKPdf**	**05 09 45.3**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=86,slow=1.9,SNR=12							
TORD	**Torodi Ar. Bea**	**127.42**	**284**	PKP		**PKPdf**	**05 09 45.3**	**-0.4**
JTS	**JuntasAbangare**	**145.05**	**76**	*e*PKPbc		**PKPab**	**05 10 18.2**	**+0.5**
NNA	**Nana**	**149.92**	**120**	PKPbc		**PKPbc**	**05 10 30.4**	**-0.8**
	comp=Z,9.8nm,0.8s,baz=264,slow=8.3,SNR=5.0							
NNA	**Nana**	**149.92**	**120**	*e*PKPbc		**PKPbc**	**05 10 30.1**	**-1.2**
BCIP	**Isla Barro Col**	**150.21**	**77**	*e*PKPbc		**PKPdf**	**05 10 29.1**	**+2.4**
ATAH	**Atahualpa**	**150.43**	**110**	PKPbc		**PKPbc**	**05 10 33.0**	**0.0**
	comp=Z,13nm,0.8s,baz=309,slow=6.5,SNR=6.1							
ATAH	**Atahualpa**	**150.43**	**110**	PKPbc		**PKPbc**	**05 10 33.0**	**0.0**
SIV	**San Ignacio**	**158.48**	**151**	PKPab		**PKPab**	**05 11 12.6**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=197,slow=3.3,SNR=8.7							
SIV	**San Ignacio**	**158.48**	**151**	PKPab		**PKPab**	**05 11 12.6**	**-0.2**

IDC 29 05:02:51.6±3.4, 1°.98S×99°.17E, h0^{km}, mb3.6/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=161.8km s-min=56.4km az=65.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**50.02**	**6**	P		P		05 11 47.8	-0.1
	0.6nm,0.7s,baz=184,slow=9.4,SNR=6.6								
MKAR	**Makanchi Array**	**50.80**	**345**	P		P		05 11 53.8	+0.1
	0.4nm,0.7s,baz=162,slow=7.7,SNR=6.2								
ZALV	**Zalesovo Beam**	**57.00**	**350**	P		P		05 12 38.6	-0.3
	0.4nm,0.5s,baz=160,slow=4.6,SNR=3.5								
NVAR	**Mina Array Bea**	**130.11**	**39**	PKP		PKPdf		05 22 04.0	-0.3
	0.2nm,0.5s,baz=264,slow=2.7,SNR=3.2								
TXAR	**Lajitas Array**	**145.19**	**36**	PKPbc		PKPbc		05 22 30.8	-0.8
	0.3nm,0.6s,baz=258,slow=1.2,SNR=5.1								

*ISCJB **29** 05:06:52.8±0.3, 31°.37S×0°.02×69°.13W±0°.05, h114^{km}±3^{km}, mb4.4/25, Error ellipse: s-maj=6.7km s-min=3.9km az=5.6*
*GUC **29** 05:06:52.8±0.8, 31°.41S×69°.79W, h178^{km}±6^{km}, MD3.9, ML4.2*
*NEIC **29** 05:06:53.5±0.2, 31°.41S×69°.10W, mb4.4/11, Error ellipse: s-maj=6.2km s-min=3.6km az=103.0*
*IDC **29** 05:06:54.1±0.6, 31°.44S×69°.05W, h116^{km}±4^{km}, mb3.9/12, mb1 4.0/15, mb1mx3.9/21, mbtmp3.9/15, Error ellipse: s-maj=16.0km s-min=12.4km az=67.0*
ISC 29 05:06:54.0±0.4, 31°.38S±0°.03×69°.17W±0°.04, h113^{km}±3^{km},

h113^{km}: pP-P, n110, σ1s24/176, mb4.3/25, 9C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.83**	**106**	P		P	**Pn**	**05 07 13.5**	**-0.2**
	60nm,0.3s,baz=282,slow=7.4,SNR=8608								
CFAA				S		S	**Sn**	**05 07 28.5**	**-0.2**
	241nm,0.3s,baz=137,slow=19,SNR=153								
CFAA	**Coronel Fontan**	**0.83**	**106**	P		P	**Pn**	**05 07 13.5**	**-0.2**
CFAA				S		S	**Sn**	**05 07 28.5**	**-0.2**
CMCH	**Combarbala**	**1.58**	**277**	*i* P		P	**Pn**	**05 07 21.9**	**-0.1**
CMCH				*e*S		S	**Sn**	**05 07 43.7**	**+0.3**
CMCH	**Combarbala**	**1.58**	**277**	*i* P		P	**Pn**	**05 07 21.9**	**-0.1**
CMCH				*e*S		S	**Sn**	**05 07 43.7**	**+0.3**
CMCH				AML		AML		05 07 49.4	
	comp=N,17μm,0.8s								
PTCH	**Petorca**	**1.74**	**239**	*i* P		P	**Pn**	**05 07 23.4**	**-0.4**
PTCH				*i* S		S	**Sn**	**05 07 46.2**	**-0.5**
PTCH	**Petorca**	**1.74**	**239**	*i* P		P	**Pn**	**05 07 23.4**	**-0.4**
PTCH				*i* S		S	**Sn**	**05 07 46.2**	**-0.5**
PTCH				AML		AML		05 07 48.7	
	comp=N,3μm,0.2s								
JACH	**Jahuel**	**1.78**	**223**	*i* P		P	**Pn**	**05 07 24.6**	**+0.2**
JACH				*i* S		S	**Sn**	**05 07 48.7**	**+1.1**
JACH	**Jahuel**	**1.78**	**223**	*i* P		P	**Pn**	**05 07 24.6**	**+0.2**
JACH				*i* S		S	**Sn**	**05 07 48.7**	**+1.1**
TLL	**Tololo Astrono**	**1.85**	**310**	*i* P		P	**Pn**	**05 07 26.1**	**+0.6**
TLL				*i* S		S	**Sn**	**05 07 50.5**	**+1.0**
TLL	**Tololo Astrono**	**1.85**	**310**	*i* P		P	**Pn**	**05 07 26.1**	**+0.6**
TLL				*i* S		S	**Sn**	**05 07 50.5**	**+1.0**
TLL				AML		AML		05 07 56.5	
	comp=N,1μm,0.4s								
CHNG	**Los Chungos**	**2.05**	**255**	*i* P		P	**Pn**	**05 07 26.7**	**-1.0**
CHNG				*i* S		S	**Sn**	**05 07 51.4**	**-2.1**
CHNG	**Los Chungos**	**2.05**	**255**	*i* P		P	**Pn**	**05 07 26.7**	**-1.0**
CHNG				*i* S		S	**Sn**	**05 07 51.4**	**-2.1**
FCH	**Farellones**	**2.17**	**206**	*i* P		P	Pn	05 07 36.4	+6.9
FCH				*i* S		S	Sn	05 08 05.1	+8.5
FCH				AML		AML		05 08 11.2	
	comp=N,941nm,0.4s								
PEL	**Peldehue**	**2.18**	**216**	*i* P		P	**Pn**	**05 07 29.1**	**-0.3**
PEL				*i* S		S	**Sn**	**05 07 56.9**	**+0.3**
PEL				AML		AML		05 07 58.3	
	comp=E,3μm,0.5s								
CLCH	**Cerro Calan**	**2.32**	**210**	*i* P		P	**Pn**	**05 07 31.2**	**0.0**
CLCH				*i* S		S	**Sn**	**05 08 01.0**	**+1.1**
CLCH				AML		AML		05 08 10.0	
	comp=E,2μm,0.6s								
FSR	**Penalolen**	**2.39**	**208**	*i* P		P	**Pn**	**05 07 32.4**	**+0.3**
FSR				*i* S		S	**Sn**	**05 08 02.2**	**+0.8**
FSR	**Penalolen**	**2.39**	**208**	*i* P		P	**Pn**	**05 07 32.4**	**+0.3**
FSR				*i* S		S	**Sn**	**05 08 02.2**	**+0.8**
STL	**Santa Lucia**	**2.40**	**211**	*i* P		P	**Pn**	**05 07 32.1**	**-0.2**
STL				*i* S		S	**Sn**	**05 08 01.7**	**+0.1**
STL				AML		AML		05 08 05.0	
	comp=N,214nm,0.3s								
SAN	**Santiago**	**2.43**	**211**	*i* P		P	**Pn**	**05 07 31.9**	**-0.6**
SAN				*i* S		S	**Sn**	**05 08 01.3**	**-0.9**
SAN	**Santiago**	**2.43**	**211**	*i* P		P	**Pn**	**05 07 31.9**	**-0.6**
SAN				*i* S		S	**Sn**	**05 08 01.3**	**-0.9**
SAN				AML		AML		05 08 04.7	
	comp=N,778nm,0.5s								
SJCH	**San Jose de Ma**	**2.47**	**204**	AML		AML		05 08 11.9	
	comp=E,385nm,0.6s								
ANTU	**Antumapu**	**2.51**	**209**	*i* P		P	**Pn**	**05 07 33.5**	**-0.2**
ANTU				*i* S		S	**Sn**	**05 08 04.2**	**0.0**
ANTU	**Antumapu**	**2.51**	**209**	*i* P		P	**Pn**	**05 07 33.5**	**-0.2**
ANTU				*i* S		S	**Sn**	**05 08 04.2**	**0.0**
ANTU				AML		AML		05 08 06.1	
	comp=N

	comp=E,5.7nm,1.2s								
MSU					*e*P	P	05 19 20.7	-0.4	
MVU	**Marysvale**	**80.26**	**327**	*e*P	P	05 18 53.6	+1.3		
	comp=E,4.7nm,1.1s								
TORD	**Torodi Ar. Bea**	**81.02**	**69**	P	P	05 18 55.9	-0.7		
	comp=E,4.1nm,0.9s,baz=252,slow=5.0,SNR=22								
TORD				pP	pP	05 19 26.0	+0.5		
	comp=E,2.8nm,0.9s,baz=260,slow=4.8,SNR=6.5								
TORD	**Torodi Ar. Bea**	**81.02**	**69**	P	P	05 18 55.9	-0.7		
TORD				pP	pP	05 19 26.0	+0.5		
RSSD	**Black Hills**	**81.61**	**335**	*e*P	P	05 19 00.2	+0.9		
	comp=E,5.4nm,1.1s								
PDAR	**Pinedale Array**	**82.58**	**331**	P	P	05 19 04.5	+0.1		
	comp=E,1.5nm,0.8s,baz=140,slow=5.8,SNR=11								
PDAR	**Pinedale Array**	**82.58**	**331**	P	P	05 19 04.5	+0.1		
NVAR	**Mina Array Bea**	**83.18**	**323**	P	P	05 19 08.0	+0.3		
	comp=E,1.6nm,0.8s,baz=152,slow=5.1,SNR=8.9								
NVAR	**Mina Array Bea**	**83.18**	**323**	P	P	05 19 08.0	+0.3		
ELK	**Elko**	**83.45**	**327**	*e*P	P	05 19 09.4	+0.4		
	comp=E,2.5nm,0.9s								
ULM	**Lac du Bonnet**	**84.65**	**343**	P	P	05 19 14.0	-0.5		
	comp=E,4.3nm,0.8s,baz=139,slow=5.3,SNR=8.1								
ULM	**Lac du Bonnet**	**84.65**	**343**	*e*P	P	05 19 14.4	-0.1		
HLID	**Hailey**	**85.30**	**329**	*e*P	P	05 19 18.3	+0.1		
	comp=E,4.4nm,1.0s								
SCHQ	**Schefferville**	**85.88**	**1**	P	P	05 19 19.1	-1.4		
	comp=E,2.6nm,0.7s,baz=178,slow=5.3,SNR=6.1								
SCHQ	**Schefferville**	**85.88**	**1**	*e*P	P	05 19 19.4	-1.2		
KRMB	**Red Mountain**	**88.36**	**322**	*e*P	P	05 19 34.1	+1.1		
	comp=E,276nm,2.5s								
YKA	**Yellowknife Ar**	**100.38**	**340**	P	Pdif	05 20 26.7	-0.6		
	comp=E,0.3nm,0.5s,baz=122,slow=3.8,SNR=9.9								
YKA	**Yellowknife Ar**	**100.38**	**340**	P	Pdif	05 20 26.8	-0.6		
BRTR	**Keskin Array B**	**118.43**	**59**	PKP	PKPdf	05 25 27.5	-0.9		
	comp=E,0.1nm,0.5s,baz=217,slow=4.5,SNR=2.5								
BRTR	**Keskin Array B**	**118.43**	**59**	PKP	PKPdf	05 25 27.5	-0.9		
ASAR	**Alice Springs**	**120.98**	**205**	PKP	PKPdf	05 25 31.7	-2.0		
	comp=E,0.4nm,0.6s,baz=132,slow=1.7,SNR=3.2								
ASAR	**Alice Springs**	**120.98**	**205**	PKP	PKPdf	05 25 31.7	-2.0		
WRA	**Warramunga Arr**	**124.21**	**207**	PKP	PKPdf	05 25 38.3	-1.7		
	comp=E,1.0nm,0.5s,baz=166,slow=1.7,SNR=7.8								
WRA	**Warramunga Arr**	**124.21**	**207**	PKP	PKPdf	05 25 38.3	-1.7		
HYB	**Hyderabad**	**147.62**	**108**	*i* PKP	PKPbc	05 26 25.0	-0.8		
AAK	**Ala-Archa**	**149.10**	**58**	PKPbc	PKPbc	05 26 29.6	+0.5		
	comp=E,5.7nm,0.7s,baz=225,slow=4.3,SNR=21								
AAK	**Ala-Archa**	**149.10**	**58**	*e*PKPbc	PKPbc	05 26 29.5	+0.5		
AAK				*e*PKPab	PKPab	05 26 33.9	+0.1		
KURK	**Kurchatov**	**149.31**	**42**	*e*PKPbc	PKPbc	05 26 29.2	+0.1		
KURK				*e*PKPab	PKPab	05 26 34.7	+0.6		
KSH	**Kashi**	**150.60**	**64**	PKPbc	PKPbc	05 26 32.5	-0.3		
KSH				pPKP	pPKPdf	05 26 59.3	+1.3		
KSH				sPKP		05 27 09.5			
KSH				PKS	PKSdf	05 30 04.5	+2.4		
KSH				PP	PP	05 30 14.8	+4.3		
KSH				SKS	SKSdf	05 33 29.8	+5.1		
KSH				SKKS	SKKSac	05 36 53.5	+3.1		
KSH				SS	SS	05 49 18.0	-3.9		
KSH				AMB	AMB				
	comp=Z,84nm,5.1s								
KSH				LR	LR				
	comp=N,94nm,7.0s								
KSH				LR	LR				
	comp=E,98nm,9.2s								
KSH				LR	LR				
	comp=Z,130nm,7.0s								
ZAA0	**Zalesovo Array**	**150.72**	**32**	*e*PKPbc	PKPbc	05 26 32.3	-0.1		
ZAA0				*e*PKPab	PKPab	05 26 39.7	-0.1		
ZALV	**Zalesovo Beam**	**150.72**	**32**	PKPbc	PKPbc	05 26 32.2	-0.2		
	comp=Z,7.6nm,0.6s,baz=307,slow=3.5,SNR=26								
ZALV				pPKPbc	pPKPbc	05 27 03.5	+0.6		
	comp=Z,2.4nm,0.5s,baz=306,slow=3.5,SNR=2.4								
ZALV	**Zalesovo Beam**	**150.72**	**32**	PKPbc	PKPbc	05 26 32.2	-0.2		
ZALV				pPKPbc	pPKPbc	05 27 03.5	+0.6		
MK31	**Makanchi Array**	**153.21**	**47**	*e*PKPdf	PKPdf	05 26 31.3	+0.5		
MK31				*e*PKPbc	PKPbc	05 26 38.0	-0.3		
MK31				*e*PKPab	PKPab	05 26 50.2	-0.3		
MKAR	**Makanchi Array**	**153.21**	**47**	PKPbc	PKPbc	05 26 37.8	-0.5		
	comp=Z,1.4nm,0.7s,baz=312,slow=1.8,SNR=12								
MKAR				PKPab	PKPab	05 26 50.2	-0.3		
	comp=Z,1.8nm,0.7s,baz=302,slow=4.5,SNR=11								
MKAR				pPKPbc	pPKPbc	05 27 09.5	+0.6		
	comp=Z,0.7nm,0.8s,baz=277,slow=1.2,SNR=2.7								
MKAR	**Makanchi Array**	**153.21**	**47**	PKPbc	PKPbc	05 26 37.8	-0.5		
MKAR				PKPab	PKPab	05 26 50.2	-0.3		
MKAR				pPKPbc	pPKPbc	05 27 09.5	+0.6		
MJAR	**Matsushiro Arr**	**156.75**	**290**	PKPab	PKPab	05 27 06.4	+0.4		
	comp=Z,1.4nm,0.8s,baz=86,slow=3.9,SNR=4.2								
MJAR	**Matsushiro Arr**	**156.75**	**290**	PKPab	PKPab	05 27 06.4	+0.4		
SONM	**Songino Array**	**163.22**	**10**	PKPab	PKPab	05 27 34.4	+0.6		
	comp=Z,0.6nm,0.7s,baz=320,slow=5.5,SNR=6.2								
SONM	**Songino Array**	**163.22**	**10**	PKPab	PKPab	05 27 34.4	+0.6		
HHC	**Hu-ho-hao-te**	**170.53**	**357**	*e*PKP	PKPdf	05 26 48.0	-0.6		
HHC				pPKP	pPKPdf	05 27 15.5	-4.0		
HHC				sPKP		05 27 25.8			
HHC				PKS	PKSdf	05 30 19.0	-2.0		
HHC				PP	PP	05 31 58.5	+2.6		
HHC				SKS	SKSdf	05 33 40.3	-1.5		
HHC				SKKS	SKKSac	05 38 34.0	+1.2		
HHC				SS	SS	05 52 51.0	+3.2		
CD2	**Chengdu**	**173.92**	**93**	PKP	PKPdf	05 26 50.0	-0.4		

IDC 29 05:13:31.0±1.0, 17°.95N×148°.07E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/28, mbtmp4.1/14, ML4.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/43, Error ellipse: s-maj=31.9km s-min=18.1km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.32**	**216**	Pn	Pn	05 14 56.3	+4.6
	9.0nm,0.3s,baz=44,slow=16,SNR=6.2						
GUMO				Sn	Sn	05 15 53.2	-0.5
	42nm,0.3s,baz=334,slow=23,SNR=7.2						
CBIJ	**Chichi jima**	**10.60**	**330**	Pn	Pn	05 16 05.0	+0.8
	6.9nm,0.3s,baz=280,slow=20,SNR=6.7						
CBIJ				Sn	Sn	05 17 55.4	-8.3
	4.1nm,0.3s,baz=163,slow=19,SNR=2.6						
MJAR	**Matsushiro Arr**	**20.46**	**337**	P	P	05 18 10.9	+0.6
	1.5nm,0.7s,baz=164,slow=10,SNR=5.0						
KSRS	**Korea Array**	**26.27**	**322**	P	P	05 19 08.3	+0.3
	0.6nm,0.4s,baz=151,slow=8.9,SNR=4.4						
HNR	**Honiara**	**29.63**	**156**	LR	LR	05 28 06.2	
	comp=Z,70nm,21.4s,baz=244,slow=30						
PETK	**Petropavlovsk-**	**35.88**	**10**	P	P	05 20 34.0	+1.4
	1.2nm,0.4s,baz=141,slow=7.1,SNR=5.7						
WRA	**Warramunga Arr**	**39.99**	**200**	P	P	05 21 07.6	-0.1
	2.5nm,0.9s,baz=21,slow=9.3,SNR=8.7						
ASAR	**Alice Springs**	**43.61**	**199**	P	P	05 21 37.7	+0.4
	0.4nm,0.6s,baz=15,slow=6.8,SNR=6.9						
SONM	**Songino Array**	**45.14**	**321**	P	P	05 21 49.6	+0.1
	0.6nm,0.4s,baz=136,slow=7.8,SNR=8.7						
CMAR	**Chiang Mai Arr**	**46.55**	**279**	P	P	05 22 01.9	+1.0
	0.5nm,0.4s,baz=62,slow=6.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**59.98**	**322**	P	P	05 23 38.4	-0.7
	1.4nm,0.5s,baz=93,slow=6.5,SNR=12						
MKAR	**Makanchi Array**	**60.60**	**314**	P	P	05 23 43.9	+0.2
	5.1nm,0.7s,baz=90,slow=8.6,SNR=75						
BVAR	**Borovoye Array**	**68.48**	**321**	P	P	05 24 34.9	-0.1
	2.9nm,0.5s,baz=90,slow=8.0,SNR=19						
AKTO	**Aktyubinsk**	**76.41**	**319**	P	P	05 25 21.4	-1.0
	1.1nm,0.6s,baz=77,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**77.59**	**28**	P	P	05 25 28.9	+0.2
	0.7nm,0.6s,baz=286,slow=5.6,SNR=16						
FINES	**FINESS Array B**	**88.49**	**336**	P	P	05 26 23.6	-1.6
	1.2nm,0.6s,baz=63,slow=5.2,SNR=14						

*IDC **29** 05:14:49.4±0.8, 12°.31N×125°.54E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.0/26, mbtmp4.2/11, MS3.5/4, Ms1 3.6/4, ms1mx3.0/45, Error ellipse: s-maj=40.2km s-min=17.1km az=70.0*

*MAN **29** 05:14:53, 12°.42N×125°.54E, h16km, mb4.9, ML3.9, MS4.0*

ISC 29 05:14:50.1±2.1, 12°.43N±0°.04×125°.53E±0°.07, h3km±13km, n46, σ1s41/50, mb4.2/11, MS3.4/3, 5C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.83**	**186**	*e*P	Pn	05 15 09.1	+0.4
BESP				*e*S	Sn	05 15 22.2	+0.8
CNP	**Catarman**	**0.85**	**275**	*e*P	Pn	05 15 09.4	+0.4
PLP	**Palo**	**1.37**	**203**	*e*P	Pn	05 15 16.0	-0.1
PLP				*i* S	Sn	05 15 35.1	+0.3
OCLP	**Ormoc**	**1.64**	**214**	*e*P	Pg	05 15 22.3	+0.6
OCLP				*e*S	Sb	05 15 42.6	+0.4
PVCP	**Virac**	**1.77**	**311**	*e*P	Pb	05 15 23.1	-0.2
MMPH	**Masbate**	**1.87**	**268**	*e*P	Pg	05 15 25.4	-0.5
MMPH				*i* S	Sb	05 15 49.2	+0.6
MSLP	**Maasin**	**2.38**	**196**	*e*P	Pb	05 15 32.6	-1.0
MSLP				*e*S	Sb	05 16 03.5	+0.2
LLP	**Lapu-Lapu**	**2.60**	**216**	*e*P	Pn	05 15 34.9	+1.8
LLP				*e*S	Sb	05 16 09.8	0.0
RCP	**Roxas**	**2.86**	**253**	*e*P	Pb	05 15 39.4	-2.4
RCP				*i* S	Sb	05 16 17.2	-0.1
AUQP	**San Andres**	**2.92**	**288**	*e*P	Pb	05 15 42.2	-0.8
TBP	**Tagbilaran**	**3.18**	**211**	*e*P	Pn	05 15 43.2	+2.2
GQP	**Guinayangan**	**3.34**	**296**	*e*P	Pb	05 15 47.4	-2.7
GQP				*e*S	Sb	05 16 31.9	+0.7
GUIM	**Jordan**	**3.40**	**238**	*e*P	Pn	05 15 45.0	+1.0
OTRP	**Odiongan**	**3.43**	**269**	*e*P	Pn	05 15 47.2	+2.7
POLP	**Polillo Island**	**4.17**	**304**	*e*P	Pb	05 16 02.9	-1.3
POLP				*e*S	Sn	05 16 38.0	-6.1
SJMP	**San Jose**	**4.31**	**271**	*e*P	Pn	05 16 00.8	+4.1
BUKP	**Musuan**	**4.55**	**186**	*e*P	Pn	05 16 04.2	+4.2
CUYO	**Cuyo Island**	**4.69**	**251**	*e*P	Pn	05 16 05.0	+3.1
TGY	**Tagaytay City**	**4.77**	**291**	Pn	Pb	05 16 13.1	-1.5
	35nm,0.3s,baz=126,slow=13,SNR=3.4						
PALP	**Palanan**	**5.50**	**327**	*e*P	Pn	05 16 16.5	+3.5
PALP				*e*S	Sn	05 17 12.3	-4.4
CAUP	**Cauayan**	**5.75**	**322**	*e*P	Pn	05 16 19.2	+2.9
GUMO	**Guam**	**18.88**	**84**	LR	LR	05 24 20.6	
	comp=Z,111nm,20.9s,baz=146,slow=30						
CMAR	**Chiang Mai Arr**	**26.30**	**287**	P	P	05 20 27.5	+0.2
	3.3nm,0.7s,baz=96,slow=7.4,SNR=21						
CMAR				LR	LR	05 31 58.1	
	comp=Z,66nm,18.9s,baz=100,slow=39						
PSI	**Prapat**	**28.02**	**252**	LR	LR	05 32 40.6	
	comp=Z,96nm,18.3s,baz=20,slow=38						
FITZ	**Fitzroy Crossi**	**30.34**	**180**	P	P	05 21 02.0	-1.2
	2.9nm,0.5s,baz=19,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**33.32**	**165**	PcP	PcP	05 24 10.7	-1.0
	0.2nm,0.3s,baz=347,slow=3.1,SNR=4.9						
ASAR	**Alice Springs**	**36.80**	**167**	P	P	05 21 58.5	-1.0
	0.9nm,0.4s,baz=344,slow=6.7,SNR=15						
ASAR				PcP	PcP	05 24 19.5	-2.3
	0.3nm,0.5s,baz=341,slow=2.9,SNR=3.1						
TAPN	**Taplejung**	**38.36**	**298**	*e*P	P	05 22 13.6	+0.5
ODAN	**Odare**	**38.52**	**298**	*e*P	P	05 22 14.7	+0.4
	14nm,0.7s						
SONM	**Songino Array**	**38.76**	**339**	P	P	05 22 17.7	+1.8
	0.8nm,0.5s,baz=159,slow=8.6,SNR=6.9						
RAMN	**Ramite**	**39.22**	**297**	*e*P	P	05 22 20.9	+0.7
GUN	**Gumba**	**40.08**	**299**	*e*P	P	05 22 27.9	+0.4
PKI	**Pulchoki**	**40.40**	**298**	*e*P	P	05 22 30.1	0.0
	10nm,0.6s						
DMN	**Daman**	**40.67**	**298**	*e*P	P	05 22 32.7	+0.4
DANN	**Dangsing**	**42.00**	**299**	*e*P	P	05 22 43.5	+0.2
	21nm,0.8s						
KOLN	**Koldanda**	**42.01**	**298**	*e*P	P	05 22 43.6	+0.4
	21nm,0.8s						
PYUN	**Piuthan**	**42.60**	**298**	*e*P	P	05 22 48.6	+0.5
	40nm,0.9s						
STKA	**Stephens Creek**	**46.67**	**161**	LR	LR	05 43 59.9	
	comp=Z,120nm,19.2s,baz=202,slow=38						
BVAR	**Borovoye Array**	**59.49**	**325**	P	P	05 24 54.8	+0.3
	2.9nm,0.7s,baz=111,slow=7.9,SNR=7.9						
ARCES	**ARCESS Array B**	**81.93**	**340**	P	P	05 27 10.7	-0.2
	1.7nm,0.9s,baz=77,slow=6.4,SNR=4.6						
INK	**Inuvik**	**82.56**	**22**	P	P	05 27 14.8	+0.7
	1.5nm,0.9s,baz=274,slow=6.5,SNR=5.9						
BRTR	**Keskin Array B**	**83.61**	**309**	P	P	05 27 21.5	+1.0
	0.5nm,0.8s,baz=97,slow=8.0,SNR=3.5						
FINES	**FINESS Array B**	**83.66**	**332**	P	P	05 27 19.7	-0.3
	1.4nm,0.5s,baz=74,slow=4.6,SNR=9.2						
AKASG	**Malin Array Be**	**84.44**	**321**	P	P	05 27 23.7	-0.5
	1.6nm,0.6s,baz=68,slow=4.5,SNR=5.4						
HFS	**Hagfors**	**89.81**	**332**	P	P	05 27 49.8	-0.3
	2.2nm,0.8s,baz=93,slow=3.2,SNR=4.2						
PLCA	**Paso Flores**	**148.46**	**156**	PKPbc	PKPbc	05 34 38.9	+0.2
	2.4nm,0.8s,baz=246,slow=1.0,SNR=3.1						

*CASC **29** 05:20:17.7±1.9, 11°.67N×87°.00W, h24km±15km, MD4.3, ML4.2, mb4.3(NEIC)*

*NEIC **29** 05:20:19.0±0.9, 11°.76N×86°.81W, h58km±9km, mb4.3/16, Error ellipse: s-maj=17.3km s-min=6.7km az=51.0*

*IDC **29** 05:20:20.8±2.6, 12°.06N×86°.44W, h64km±26km, mb3.9/12, mb1 4.1/13, mb1mx3.8/27, mbtmp3.9/13, ML3.3/1, MS4.1/25, Ms1 4.1/25, ms1mx3.9/42, Error ellipse: s-maj=41.7km s-min=15.4km az=57.0*

ISC 29 05:20:16.9±1.6, 11°.72N±0°.07×86°.93W±0°.07, h31km±11km, n376, σ0s98/364, mb4.2/30, MS4.2/21, 142C-133D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NY14	**Universidad de**	**1.73**	**128**	*i* P	Pn	05 20 46.9	+2.0
LAPC	**Finca la Perla**	**1.75**	**123**	*i* P	Pn	05 20 47.5	+2.3
LAPC				*i* S	Sn	05 21 09.2	+2.8
GB1A	**Borinquen Arri**	**1.75**	**121**	*i* P	Pn	05 20 47.1	+1.9
CNCH	**Conchagua**	**1.78**	**330**	*i* P	Pn	05 20 46.5	+0.8
CNCH				*e*S	Sb	05 21 10.8	-0.3
BLLM	**Bellamira**	**2.14**	**323**	*i* P	Pn	05 20 51.5	+0.9
BLLM				*e*S	Sn	05 21 18.1	+2.0
VSM	**San Miguel**	**2.15**	**322**	*e*P	Pn	05 20 52.7	+1.8
PTEN	**Parque Tenorio**	**2.15**	**117**	*i* P	Pn	05 20 51.6	+0.8
AMAS	**Alto Masis**	**2.20**	**120**	*i* P	Pn	05 20 53.8	+2.4
TGUH	**Tegucigalpa,Un**	**2.35**	**352**	*e*Pn	Pn	05 20 55.2	+1.8
TGUH				Sn	Sn	05 21 23.4	+2.2
CHPA	**Chiripa**	**2.35**	**122**	*i* P	Pn	05 20 56.0	+2.5
CAHU	**Cacacuatique**	**2.39**	**329**	*e*P	Pn	05 20 56.4	+2.2
CAHU				*e*S	Sn	05 21 26.5	+3.9
JTS	**JuntasAbangare**	**2.40**	**126**	P	Pn	05 20 56.2	+2.0
	7.5nm,0.3s,baz=326,slow=14,SNR=40						
JTS				S	Sb	05 21 36.2	+7.3
	46nm,0.3s,baz=307,slow=20,SNR=10						
JTS				LR	LR	05 22 15.5	
	comp=Z,3μm,19.5s,baz=310,slow=50						
JTS	**JuntasAbangare**	**2.40**	**126**	*e*Pn	Pn	05 20 56.1	+2.0
JTS				Sn	Sn	05 21 25.3	+2.7
JTS				S	Sb	05 21 36.2	+7.3
SNVI	**San Vicente**	**2.65**	**316**	*e*P	Pn	05 20 59.2	+1.5
SNVI				*e*S	Sn	05 21 31.6	+2.7
LBRS	**Las Brisas**	**2.88**	**314**	*e*P	Pn	05 21 02.7	+2.0
CGA2	**Cerro Gallo 2**	**2.95**	**125**	*e*P	Pn	05 21 04.2	+2.3
SNET	**Serv Nac Est T**	**2.98**	**311**	*e*P	Pn	05 21 04.1	+2.0
SNET				*e*S	Sn	05 21 37.2	+0.3
SNET				AML	AML	05 21 42.5	
	comp=Z,2μm,0.5s						
BOQS	**Boqueron**	**3.05**	**311**	*e*P	Pn	05 21 05.0	+1.8
BOQS				*e*S	Sn	05 21 40.7	+1.9
LAJ	**Bijagual**	**3.32**	**123**	*e*P	Pn	05 21 05.8	-1.1
SBLS	**San Blas**	**3.37**	**309**	*e*P	Pn	05 21 09.2	+1.6
QCR	**Quepos**	**3.55**	**130**	*e*P	Pb	05 21 17.5	-1.5
RBDL	**Robledal**	**3.59**	**312**	*e*P	Pn	05 21 12.3	+1.7
TEIG	**Tepich**	**8.56**	**351**	LR	LR	05 25 56.6	
	comp=Z,772nm,20.8s,baz=226,slow=40						
TEIG	**Tepich**	**8.56**	**351**	Pn	Pn	05 22 16.0	-2.7
CMIG	**Matias Romero**	**9.37**	**306**	P	Pn	05 22 30.1	+0.2
	comp=Z,0.7nm,0.3s,baz=111,slow=10,SNR=15						
CMIG				S	Sn	05 24 16.1	+1.6
	comp=Z,0.7nm,0.3s,baz=229,slow=20,SNR=3.3						
CMIG				LR	LR	05 26 46.5	
	comp=Z,2μm,19.7s,baz=115,slow=40						
CMIG	**Matias Romero**	**9.37**	**306**	P	Pn	05 22 30.1	+0.2
CMIG				S	Sn	05 24 16.1	+1.6
OTAV	**Otavalo**	**14.18**	**143**	Pn	Pn	05 23 36.4	+0.2
	comp=Z,5.5nm,1.2s						
ROSC	**El Rosal**	**14.20**	**118**	LR	LR	05 29 03.6	
	comp=Z,353nm,21.7s,baz=187,slow=37						
ROSC	**El Rosal**	**14.20**	**118**	*e*Pn	Pn	05 23 36.2	-0.2
HKT	**Hockley**	**19.94**	**337**	*e*P	P	05 24 46.5	+0.2
	comp=Z,20nm,1.3s						
ATAH	**Atahualpa**	**20.56**	**155**	LR	LR	05 32 01.8	
	comp=Z,617nm,20.5s,baz=216,slow=34						
732A	**Lanson Ranch,**	**20.85**	**326**	P	P	05 24 57.3	+1.0
	baz=21,SNR=9.8						
SJG	**San Juan**	**21.05**	**70**	LR	LR	05 32 40.3	
	comp=Z,380nm,20.6s,baz=271,slow=36						
632A	**Uvalde**	**21.37**	**328**	P	P	05 25 03.6	+1.7
	baz=22,SNR=9.8						
631A	**Perdido Creek**	**21.71**	**326**	P	P	05 25 06.6	+1.0
	baz=22,SNR=14						
532A	**Rocksprings**	**21.93**	**329**	P	P	05 25 09.0	+1.0
	baz=22,SNR=9.1						
JCT	**Junction City**	**22.16**	**329**	*e*P	P	05 25 10.0	-0.4
	comp=Z,12nm,1.0s						
531A	**Rocksprings**	**22.29**	**327**	P	P	05 25 12.8	+1.0
	baz=22						
WHTX	**Lake Whitney**	**22.39**	**336**	P	P	05 25 13.8	+1.0
	baz=22,SNR=6.2						
432A	**Menard**	**22.48**	**330**	P	P	05 25 14.3	+0.5
	baz=23						
530A	**J-C Ranch, Com**	**22.70**	**326**	P	P	05 25 16.9	+0.7
	baz=23,SNR=11						
431A	**Sonora**	**22.73**	**328**	P	P	05 25 17.4	+0.8
	baz=23,SNR=9.5						
332A	**Millersview**	**22.87**	**331**	P	P	05 25 18.5	+0.5
	baz=23,SNR=18						
628A	**Black Gap, Mar**	**23.09**	**322**	P	P	05 25 20.6	+0.3
	baz=23,SNR=5.4						
331A	**San Angelo**	**23.14**	**329**	P	P	05 25 20.5	-0.3
	baz=23,SNR=12						
430A	**Baggett Ranch,**	**23.14**	**327**	P	P	05 25 21.0	+0.2
	baz=23						
529A	**Stev Forest Ra**	**23.18**	**325**	P	P	05 25 21.4	+0.3
	baz=23						
232A	**Coleman**	**23.25**	**332**	P	P	05 25 21.6	-0.2
	baz=23,SNR=16						
627A	**Terlingua Ranc**	**23.37**	**321**	P	P	05 25 22.9	-0.3
	baz=24,SNR=11						
429A	**Davenport Ranc**	**23.37**	**326**	P	P	05 25 23.0	-0.1
	baz=24						
TXAR	**Lajitas Array**	**23.46**	**321**	P	P	05 25 23.8	-0.2
	comp=Z,8.3nm,0.7s,baz=141,slow=9.1,SNR=76						
TXAR				PcP	PcP	05 29 09.7	+0.1
	comp=Z,0.7nm,0.9s,baz=134,slow=2.6,SNR=4.2						
TXAR				LR	LR	05 36 27.3	
	comp=Z,110nm,18.1s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**23.46**	**321**	P	P	05 25 23.8	-0.2
TXAR				PcP	PcP	05 29 09.7	+0.1
528A	**Cox Ranch, San**	**23.53**	**324**	P	P	05 25 23.9	-0.7
	baz=24						
231A	**Bronte**	**23.60**	**331**	P	P	05 25 24.9	-0.3
	baz=24,SNR=5.9						
330A	**Mertzon**	**23.60**	**328**	P	P	05 25 25.1	-0.2
	baz=24,SNR=5.8						
ABTX	**Abilene, Hawle**	**23.86**	**333**	P	P	05 25 27.3	-0.4
	baz=24,SNR=9.5						
428A	**Kincaid Ranch,**	**23.89**	**325**	P	P	05 25 27.6	-0.5
	baz=24						
626A	**Big Bend Ranch**	**23.90**	**321**	P	P	05 25 28.1	-0.1
	baz=24,SNR=28						
230A	**Sterling City**	**23.96**	**329**	P	P	05 25 28.2	-0.4
	baz=24						
527A	**Woodward Ranch**	**24.00**	**322**	P	P	05 25 28.9	-0.3
	baz=24						
TKL	**Tuckaleechee C**	**24.00**	**6**	P	P	05 25 30.1	+1.1
	comp=Z,7.8nm,1.0s,baz=174,slow=15,SNR=4.1						
TKL				LR	LR	05 34 41.1	
	comp=Z,203nm,19.9s,baz=220,slow=36						
TKL	**Tuckaleechee C**	**24.00**	**6**	P	P	05 25 30.1	+1.1
329A	**Wagon Wheel Ra**	**24.09**	**327**	P	P	05 25 29.5	-0.4
	baz=24,SNR=12						
526A	**Mary Lane Ranc**	**24.23**	**321**	P	P	05 25 31.1	-0.2
	baz=24						
131A	**Roby**	**24.25**	**331**	P	P	05 25 31.0	-0.3
	baz=24						
Z32A	**Haskell**	**24.37**	**334**	P	P	05 25 32.2	-0.2
	baz=24,SNR=5.9						
229A	**Bryant Ranch,**	**24.38**	**328**	P	P	05 25 32.6	+0.1
	baz=24,SNR=8.0						
427A	**Hayter Ranch,**	**24.39**	**324**	P	P	05 25 33.6	+0.8
	baz=24,SNR=5.3						
**

baz=28,SNR=13
221A **Mesquite Ranch** 27.87 320 ⇓P P 05 26 05.3 +1.1
baz=28
320A **Kipp Ranch, An** 27.91 318 ⇓P P 05 26 05.7 +1.1
baz=28
Y23A **Lovelace Mesa,** 28.18 325 ⇓P P 05 26 07.9 +1.0
baz=28
121A **Cookes Peak, D** 28.22 321 ⇑P P 05 26 08.0 +0.7
baz=28
220A **Playas Peak, P** 28.28 319 ⇑P P 05 26 08.3 +0.5
baz=28,SNR=5.9
W25A **X Bar L Ranch,** 28.29 329 ⇓P P 05 26 08.8 +0.9
baz=28
V26A **Tequesquite Ra** 28.41 330 ⇑P P 05 26 10.1 +1.2
baz=28
KSU1 **Kansas State U** 28.60 344 *e*P P 05 26 08.7 -1.7
comp=Z,20nm,1.3s
BNM **Barren Site** 28.66 324 *e*P P 05 26 11.9 +0.6
comp=Z,6.3nm,1.3s
Y22A **Socorro** 28.70 324 ⇓P P 05 26 12.8 +1.2
baz=29
120A **U Bar Ranch, L** 28.76 320 ⇓P P 05 26 13.4 +1.2
baz=29
W24A **Lazy 6 Ranch,** 28.78 327 ⇓P P 05 26 13.4 +1.1
baz=29
V25A **Rancho No Teng** 28.86 329 ⇓P P 05 26 14.1 +1.1
baz=29
U26A **Atchley Ranch,** 28.88 331 ⇑P P 05 26 13.9 +0.7
baz=29
V24A **Rampart Ranch,** 29.10 328 ⇑P P 05 26 16.4 +1.2
baz=29
Z20A **Nine Sixteen R** 29.11 320 ⇓P P 05 26 16.5 +1.2
baz=29
W23A **Werner Place,** 29.14 326 ⇑P P 05 26 16.9 +1.4
baz=29
ANMO **Albuquerque** 29.15 326 P P 05 26 16.7 +1.2
comp=Z,1.4nm,0.7s,baz=131,slow=8.7,SNR=7.1
ANMO **Albuquerque** 29.15 326 P P 05 26 16.7 +1.2
Y21A **Point of Rocks** 29.17 323 ⇓P P 05 26 17.0 +1.1
baz=29
U25A **Circle Dot Ran** 29.20 330 ⇑P P 05 26 17.2 +1.2
baz=29
Y20A **Horse Springs,** 29.52 322 ⇓P P 05 26 20.2 +1.2
baz=30
X21A **Alamocita Cree** 29.54 323 ⇑P P 05 26 20.4 +1.3
baz=30
S27A **Las Animas** 29.55 334 ⇓P P 05 26 20.4 +1.3
baz=30
V23A **Ortiz Mt. (NFS** 29.59 327 ⇓P P 05 26 20.9 +1.3
baz=30
T25A **Trinidad** 29.79 331 ⇑P P 05 26 22.2 +0.9
baz=30
R27A **Eads** 30.02 335 ⇑P P 05 26 24.2 +1.1
baz=30
TUC **Tucson** 30.02 317 *e*P P 05 26 23.8 +0.6
comp=Z,3.8nm,1.3s
U23A **El Rito** 30.04 328 ⇓P P 05 26 24.2 +0.7
baz=30,SNR=8.7
T24A **Torres, Weston** 30.05 330 ⇓P P 05 26 24.7 +1.1
baz=30
V22A **San Miguel Ran** 30.11 326 ⇓P P 05 26 25.3 +1.1
baz=30
U22A **Llaves** 30.43 327 ⇑P P 05 26 28.1 +1.2
baz=30
W20A **Ramah** 30.44 323 ⇑P P 05 26 27.9 +0.9
baz=30
T23A **Casias Ranch,** 30.51 329 ⇑P P 05 26 28.0 +0.4
baz=31
KSCO **Kaye Shedlock'** 30.56 336 ⇓P P 05 26 28.7 +0.8
baz=31
S24A **Houchin Ranch,** 30.57 331 ⇑P P 05 26 29.0 +0.7
baz=31
Q26A **Hugo** 30.86 334 ⇓P P 05 26 31.6 +1.0
baz=31
V20A **Brimhall** 30.89 324 ⇓P P 05 26 31.9 +0.9
baz=31
U21A **Nageezi** 30.90 326 ⇑P P 05 26 32.0 +0.9
baz=31
T22A **Edith** 30.93 328 ⇑P P 05 26 32.3 +0.9
baz=31
R24A **Sanders Place,** 31.00 332 ⇑P P 05 26 32.9 +0.9
baz=31
S23A **Nye Farm, Mont** 31.01 330 ⇓P P 05 26 33.0 +0.9
baz=31
Q25A **Bedland, Calha** 31.16 333 ⇑P P 05 26 34.1 +0.7
baz=31
BGNE **Belgrade** 31.17 344 ⇓P P 05 26 33.8 +0.7
baz=31
R23A **Moffat** 31.30 331 ⇑P P 05 26 35.3 +0.6
baz=31
P26A **Davis Ranch, A** 31.32 335 ⇑P P 05 26 35.3 +0.6
baz=31
U20A **Newcomb** 31.34 325 ⇑P P 05 26 35.5 +0.6
baz=31
S22A **4UR Ranch, Cre** 31.45 329 ⇑P P 05 26 37.0 +0.9
baz=32
P25A **Willow Gulch B** 31.62 334 ⇓P P 05 26 38.5 +1.1
baz=32
X16A **Lo Mia Camp, P** 31.76 319 ⇓P P 05 26 39.7 +1.0
baz=32
R22A **Saguache, Gunn** 31.79 330 ⇓P P 05 26 39.9 +0.9
baz=32
S21A **Coal Bank Pass** 31.89 328 ⇓P P 05 26 40.8 +0.9
baz=32
P23A **Jefferson** 32.25 332 ⇑P P 05 26 44.1 +1.0
baz=32
R21A **Cimarron** 32.30 329 ⇑P P 05 26 44.5 +1.1
baz=32
S20A **Disappointment** 32.31 327 ⇓P P 05 26 44.6 +1.1
baz=32
Q22A **Crested Butte,** 32.36 330 ⇓P P 05 26 44.5 +0.5
baz=32
R20A **Redvale** 32.59 328 ⇓P P 05 26 46.8 +0.9
baz=33
SMCO **Snowmass** 32.63 330 *e*P P 05 26 46.5 0.0
comp=Z,9.5nm,1.4s
M27A **Reverse DX Ran** 32.64 338 ⇓P P 05 26 47.4 +1.2
baz=33
PV01 **Paradox Valley** 32.65 327 *e*P P 05 26 46.8 +0.3
P22A **Eagle** 32.86 331 ⇓P P 05 26 49.4 +1.1
baz=33
O23A **Lake Granby, G** 32.97 333 ⇓P P 05 26 50.3 +1.0
baz=33
ECSD **EROS Data Cent** 32.98 347 *e*P P 05 26 47.8 -1.3
comp=Z,10nm,1.0s
N24A **Carr** 33.02 335 ⇑P P 05 26 50.8 +1.2
baz=33
S18A **Hurst Farm, Bl** 33.10 325 ⇓P P 05 26 51.6 +1.2
baz=33
P21A **Newcastle** 33.13 330 ⇑P P 05 26 51.6 +0.9
baz=33
O22A **Kremmling** 33.21 332 ⇓P P 05 26 52.2 +0.8
baz=33
PDMCI **Parker Dam,Lak** 33.46 317 ⇑P P 05 26 55.1 +1.8
baz=34
LPAZ **La Paz** 33.47 146 LR LR 05 40 51.9
comp=Z,172nm,18.3s,baz=258,slow=37
U15A **North Rim** 33.58 321 ⇓P P 05 26 56.3 +1.6
baz=34
Q19A **Hogan Spring (** 33.62 328 ⇓P P 05 26 56.3 +1.5
baz=34
K27A **Flueckinger Fa** 33.62 339 ⇓P P 05 26 56.2 +1.5
baz=34
N22A **Wattenberg Ran** 33.68 333 ⇑P P 05 26 56.7 +1.2
baz=34
W13A **Hualapai Mount** 33.76 318 ⇑P P 05 26 57.8 +1.6
baz=34
K26A **Motz Farm, Whi** 33.95 338 ⇓P P 05 26 59.4 +1.8
baz=34
P19A **Cripple Cowboy** 33.98 329 ⇓P P 05 26 59.5 +1.4
baz=34
O20A **White River Ci** 33.99 330 ⇑P P 05 26 59.6 +1.5
baz=34
N21A **Black Mountain** 34.14 332 ⇓P P 05 27 00.7 +1.3
baz=34
M22A **Cedar Creek Ra** 34.23 333 ⇑P P 05 27 00.7 +0.4
baz=34
L23A **Garrett** 34.43 335 ⇓P P 05 27 02.4 +0.5
baz=34
N20A **Spence Gulch,** 34.55 331 ⇓P P 05 27 03.5 +0.6
baz=35
O19A **Miners Draw (B** 34.55 329 ⇑P P 05 27 04.0 +1.0
baz=35
Q16A **Castle Valley** 34.62 326 ⇑P P 05 27 04.6 +1.1
baz=35
P18A **Preston Nutter** 34.63 327 ⇓P P 05 27 04.6 +0.8
baz=35
M21A **Separation Pea** 34.74 333 ⇓P P 05 27 05.3 +0.7
baz=35
O18A **Roosevelt** 34.98 328 ⇓P P 05 27 07.3 +0.7
baz=35
M20A **Sweetwater, Wa** 35.02 332 ⇓P P 05 27 07.7 +0.7
baz=35
L21A **Rawlins** 35.03 333 ⇑P P 05 27 07.8 +0.7
baz=35
N19A **John Jarvie Ra** 35.03 330 ⇑P P 05 27 08.2 +1.1
baz=35
K22A **Casper** 35.22 335 ⇓P P 05 27 09.4 +0.8
baz=35
O17A **Robinson Place** 35.30 328 ⇑P P 05 27 10.1 +0.7
baz=35
P16A **Fountain Green** 35.38 326 ⇓P P 05 27 11.1 +1.1
baz=36
I24A **Kuemmerle Ranc** 35.48 338 ⇑P P 05 27 11.5 +0.7
baz=36
K21A **Alcova** 35.51 334 ⇑P P 05 27 11.4 +0.2
baz=36
O16A **Springville** 35.72 327 ⇑P P 05 27 13.2 +0.2
baz=36
J22A **Midwest** 35.83 335 ⇑P P 05 27 14.5 +0.6
baz=36
N17A **Moffit Pass** 35.90 328 ⇑P P 05 27 15.2 +0.6
baz=36
K20A **Yellowstone Ra** 36.01 333 ⇑P P 05 27 15.3 -0.1
baz=36
L19A **Farson** 36.05 331 ⇑P P 05 27 16.0 +0.2
baz=36
J21A **Lysite** 36.18 334 ⇑P P 05 27 17.2 +0.3
baz=36
M17A **Scullys Gap (B** 36.21 329 ⇑P P 05 27 17.2 0.0
baz=36,SNR=6.6
H24A **Dirks Ranch, A** 36.22 339 ⇑P P 05 27 17.8 +0.7
baz=36
I22A **9 Mile Ranch,** 36.23 336 ⇓P P 05 27 17.8 +0.5
baz=36
K19A **Absolon Red Bu** 36.37 332 ⇓P P 05 27 19.1 +0.6
baz=36
J20A **Shoshoni** 36.46 334 ⇑P P 05 27 19.8 +0.6
baz=37
M16A **Huntsville** 36.58 328 ⇓P P 05 27 20.8 +0.4
baz=37
PDAR **Pinedale Array** 36.66 332 P P 05 27 20.9 -0.1
comp=Z,1.6nm,0.6s,baz=134,slow=9.4,SNR=13
PDAR **Pinedale Array** 36.66 332 P P 05 27 20.9 -0.1
G24A **Alzada** 36.68 339 ⇑P P 05 27 21.2 +0.2
baz=37
H22A **Clearmont** 36.76 337 ⇑P P 05 27 21.8 0.0
baz=37
L17A **Cokeville** 36.78 330 ⇑P P 05 27 22.0 -0.1
baz=37,SNR=8.6
K18A **Toltan Ranch,** 36.78 331 ⇓P P 05 27 22.2 +0.1
baz=37,SNR=10
J19A **Crowheart** 36.81 333 ⇓P P 05 27 22.5 +0.2
baz=37
R11A **Troy Canyon, C** 36.83 321 ⇓P P 05 27 22.4 -0.1
baz=37
G23A **Biddle** 36.91 338 ⇑P P 05 27 23.1 +0.1
baz=37
I20A **Worland** 36.95 334 ⇑P P 05 27 23.5 0.0
baz=37
L16A **Fish Haven** 36.99 329 ⇑P P 05 27 23.5 -0.4
baz=37
H21A **Big Horn, Sher** 37.06 336 ⇓P P 05 27 24.1 -0.2
baz=37
F24A **Ekalaka** 37.14 340 ⇑P P 05 27 25.2 +0.3
baz=37
J18A **Kendall Valley** 37.21 332 ⇑P P 05 27 25.8 0.0
baz=37,SNR=9.4
AGMN **Agassiz Nation** 37.22 350 *e*P P 05 27 24.1 -1.4
comp=Z,9.8nm,0.9s
K17A **Gardner Place,** 37.29 330 ⇑P P 05 27 26.3 -0.1
baz=37
H20A **Greybull** 37.34 335 ⇑P P 05 27 26.4 -0.2
baz=37
I19A **Meeteetse** 37.40 334 ⇑P P 05 27 27.0 -0.3
baz=38
SBC **Santa Barbara** 37.43 313 ⇓P P 05 27 27.4 0.0
baz=38
L15A **Malad City** 37.47 328 ⇓P P 05 27 27.8 -0.1
baz=38
I18A **Diamond G Ranc** 37.50 332 ⇑P P 05 27 28.1 -0.2
baz=38
SIV **San Ignacio** 37.59 137 P P 05 27 29.0 0.0
comp=Z,14nm,1.0s,baz=320,slow=9.1,SNR=35
SIV **San Ignacio** 37.59 137 P P 05 27 29.0 0.0
J17A **Brown Place, J** 37.65 331 ⇑P P 05 27 29.6 +0.1
baz=38,SNR=9.7
F22A **Rosebud** 37.73 338 ⇑P P 05 27 29.6 -0.3
baz=38
H19A **Powell** 37.90 334 ⇑P P 05 27 31.6 +0.1
baz=38
L14A **Malta** 37.94 328 ⇓P P 05 27 31.6 -0.2
baz=38
E23A **Ismay** 38.00 339 ⇑P P 05 27 32.8 +0.6
baz=38
I17A **Pilgrim Ck.** 38.02 332 ⇓P P 05 27 33.2 +0.6
baz=38
J16A **Bone** 38.02 330 ⇑P P 05 27 32.5 0.0
baz=38
G20A **Bridger** 38.02 335 ⇑P P 05 27 32.6 +0.1
baz=38
K15A **Arbon** 38.04 329 ⇓P P 05 27 32.7 0.0
baz=38
E22A **Miles City** 38.18 339 ⇑P P 05 27 34.0 +0.3
baz=38
H18A **Shoshone NF, C** 38.20 334 ⇓P P 05 27 34.2 +0.1
baz=38
D24A **Glendive** 38.21 341 ⇑P P 05 27 34.3 +0.3
baz=38
K14A **Jones Ranch, D** 38.27 328 ⇓P P 05 27 34.6 +0.1
baz=38
PQI **Presque Isle** 38.34 21 *e*P P 05 27 33.3 -1.6
comp=Z,28nm,0.3s
RLMT **Red Lodge** 38.38 334 *e*P P 05 27 35.0 -0.6
comp=Z,1.7nm,0.7s
F20A **Billings** 38.47 336 ⇓P P 05 27 36.8 +0.6
baz=39
J15A **Blackfoot** 38.51 330 ⇓P P 05 27 37.3 +0.7
baz=39,SNR=6.2
NVAR **Mina Array Bea** 38.59 319 P P 05 27 39.4 +2.0
comp=Z,1.0nm,0.7s,baz=132,slow=6.8,SNR=5.7
NVAR PcP PcP 05 29 50.5 +1.0
comp=Z,1.6nm,0.8s,baz=149,slow=3.5,SNR=6.3
NVAR LR LR 05 48 07.2
comp=Z,309nm,19.1s,baz=219,slow=43
NVAR **Mina Array Bea** 38.59 319 P P 05 27 39.4 +2.0
NVAR PcP PcP 05 29 50.5 +1.0
C24A **Savage** 38.61 341 ⇑P P 05 27 37.7 +0.5
baz=39
G18A **Lazy EL Ranch,** 38.66 334 ⇓P P 05 27 38.2 +0.3
baz=39
F19A **Roth Farm, Mol** 38.84 335 ⇑P P 05 27 39.3 0.0
baz=39
D22A **Cohagen** 38.87 339 ⇓P P 05 27 39.8 +0.3
baz=39
H16A **Russell Place,** 38.93 332 ⇓P P 05 27 41.0 +0.8
baz=39
J14A **Carey** 39.00 329 ⇑P P 05 27 41.1 +0.4
baz=39,SNR=6.0
E20A **Meyer Farm, Mu** 39.05 337 ⇓P P 05 27 41.0 0.0
baz=39
D21A **La Casta Ranch** 39.09 338 ⇓P P 05 27 41.5 +0.2
baz=39
C23A **Lambert** 39.09 340 ⇑P P 05 27 41.9 +0.6
baz=39
ULM **Lac du Bonnet** 39.12 351 P P 05 27 38.6 -2.8
comp=Z,4.2nm,0.7s,baz=175,slow=8.1,SNR=9.3
ULM LR LR 05 44 42.4
comp=Z,102nm,18.1s,baz=134,slow=38
ULM **Lac du Bonnet** 39.12 351 P P 05 27 38.6 -2.8
G17A **Pierce Place,** 39.18 333 ⇑P P 05 27 42.9 +0.7
baz=39
F18A **Big Timber** 39.20 335 ⇓P P 05 27 43.0 +0.7
baz=39
E19A **Rath Farm, Rou** 39.27 336 ⇓P P 05 27 43.5 +0.6
baz=39
C22A **Vida** 39.28 340 ⇑P P 05 27 43.4 +0.6
baz=39
J13A **Cove Ranch, Pi** 39.39 328 ⇓P P 05 27 44.5 +0.5
baz=40
I14A **Mackay** 39.40 329 ⇑P P 05 27 44.7 +0.6
baz=40,SNR=5.8
H15A **Lima** 39.52 331 ⇓P P 05 27 45.8 +0.7
baz=40,SNR=11
D20A **Manuel Ranch,** 39.53 337 ⇓P P 05 27 45.8 +0.8
baz=40
G16A **Moss Hill, Enn** 39.58 332 ⇑P P 05 27 46.4 +0.7
baz=40
F17A **Fitzpatrick Pl** 39.60 334 ⇓P P 05 27 46.5 +0.8
baz=40
B23A **Brockton** 39.61 341 ⇓P P 05 27 46.3 +0.7
baz=40
A24A **Westby** 39.72 342 ⇓P P 05 27 46.9 +0.4
baz=40
I13A **Wildhorse Cree** 39.73 329 ⇓P P 05 27 47.2 +0.3
baz=40,SNR=6.2
C21A **Desert Coulee** 39.77 339 ⇑P P 05 27 47.5 +0.5
baz=40
BOZ **Bozeman (W)** 39.83 333 *e*P P 05 27 39.5 -8.0
comp=Z,5.0nm,1.0s
G15A **Dillon** 39.85 332 ⇑P P 05 27 48.2 +0.3
baz=40
H14A **Leadore** 39.86 330 ⇓P P 05 27 48.2 +0.2
baz=40,SNR=7.1
D19A **Cripps Ranch,** 39.88 337 ⇓P P 05 27 47.8 -0.1
baz=40
F16A **Kennard Place,** 39.93 333 ⇓P P 05 27 48.5 +0.1
baz=40
C20A **Veseth Ranch,** 40.00 338 ⇑P P 05 27 49.0 0.0
baz=40
I12A **Atlanta** 40.16 328 P P 05 27 50.5 +0.1
baz=40
H13A **Challis** 40.26 329 ⇑P P 05 27 51.3 +0.1
baz=40,SNR=6.7
D18A **Linhart Farms,** 40.27 336 ⇑P P 05 27 51.4 +0.2
baz=40
F15A **Butte** 40.36 332 ⇑P P 05 27 52.2 +0.1
baz=40
G14A **Jackson** 40.37 331 ⇑P P 05 27 52.2 0.0
baz=40
A22A **Carney Farms,** 40.37 341 ⇑P P 05 27 52.1 +0.1
baz=40
C19A **Slack Wire Ran** 40.41 337 ⇓P P 05 27 52.6 +0.2
baz=40
E16A **East Helena** 40.53 334 ⇓P P 05 27 53.7 +0.3
baz=41
H12A **Diamond D Ranc** 40.55 329 ⇑P P 05 27 53.9 +0.2
baz=41
D17A **Six Diamond Ra** 40.60 335 ⇓P P 05 27 54.2 +0.3
baz=41
B20A **Solberg Farm,** 40.62 338 ⇓P P 05 27 54.4 +0.4
baz=41
G13A **Cobalt** 40.63 330 ⇑P P 05 27 54.5 +0.2
baz=41
A21A **Bergtoll Ranch** 40.70 340 ⇑P P 05 27 55.1 +0.4
baz=41
F14A **Wisdom** 40.75 332 ⇓P P 05 27 55.7 +0.4
baz=41
D16A **Dana Ranch, Ca** 40.86 334 ⇑P P 05 27 56.9 +0.8
baz=41
E15A **Deer Lodge** 40.87 333 ⇓P P 05 27 56.3 0.0
baz=41
A20A **Cobblestone Ra** 40.96 339 ⇓P P 05 27 56.8 0.0
baz=41
B19A **Brinkman Farms** 40.97 338 ⇑P P 05 27 57.5 +0.6
baz=41
C17A **Wharram Farm,** 41.01 335 ⇑P P 05 27 57.8 +0.5
baz=41
F13A **Darby** 41.19 331 ⇑P P 05 27 59.1 +0.2
baz=41
G12A **Big Creek, Yel** 41.20 329 ⇓P P 05 27 59.2 +0.2
baz=41
B18A **Beardsley Farm** 41.24 337 ⇑P P 05 27 59.3 +0.2
baz=41
E14A **Clinton** 41.26 332 ⇓P P 05 27 59.6 +0.2
baz=41
D15A **Lincoln** 41.29 333 ⇑P P 05 27 59.7 0.0
baz=41
B17A **L&G Farms, Che** 41.55 336 ⇓P P 05 28 01.8 +0.1
baz=42
E13A **Victor** 41.60 332 ⇑P P 05 28 02.2 0.0
baz=42
A18A **Metzger Ranch,** 41.69 337 ⇑P P 05 28 02.9 +0.1
baz=42
D14A **Greenough** 41.76 333 ⇑P P 05 28 03.5 0.0
baz=42
C15A **Salmond Ranch,** 41.90 334 ⇓P P 05 28 04.6 0.0
baz=42
BMO **Blue Mountains** 42.02 328 *e*P P 05 28 04.8 -0.9
comp=Z,1.7nm,0.8s
A17A **Triple J Farms** 42.04 337 ⇓P P 05 28 05.4 -0.3
baz=42
D13A **Huson** 42.20 332 ⇓P P 05 28 07.1 0.0
baz=42
E12A **Beaver Dam Sad** 42.23 330 ⇑P P 05 28 07.5 +0.1
baz=42
D12A **Dad Ives Fores** 42.59 331 ⇓P P 05 28 09.9 -0.4
baz=43
C13A **Hot Springs** 42.69 332 ⇓P P 05 28 10.9 -0.1
baz=43
A15A **Johnson Ranch,** 42.88 335 ⇑P P 05 28 12.6 0.0
baz=43
C12B **Naegeli Ranch,** 43.12 332 ⇓P P 05 28 14.9 +0.4
baz=43
B13A **Whitefish** 43.16 333 ⇓P P 05 28 15.2 +0.4
baz=43
A14A **Double T Ranch** 43.16 335 ⇓P P 05 28 14.7 -0.2
baz=43
A13A **Flathead Natio** 43.56 334 ⇓P P 05 28 17.8 -0.3
baz=44
C11A **Tepee Creek (N** 43.58 331 ⇑P P 05 28 18.3 +0.1
baz=44
FFC **Flin Flon** 44.52 348 *e*P P 05 28 24.6 -0.9
comp=Z,3.8nm,0.8s
SCHQ **Schefferville** 45.83 16 P P 05 28 33.2 -2.7
comp=Z,2.4nm,1.0s,baz=208,slow=7.6,SNR=3.4
SCHQ LR LR 05 49 22.2
comp=Z,267nm,18.0s,baz=196,slow=38
SCHQ **Schefferville** 45.83 16 P P 05 28 33.2 -2.7
BDFB **Brasilia** 47.15 124 LR LR 05 49 57.6
comp=Z,285nm,22.0s,baz=117,slow=38
BBB **Bella Bella** 52.20 329 LR LR 05 54 13.7
comp=Z,168nm,19.3s,baz=119,slow=39
FRB **Frobisher Bay** 53.55 10 LR LR 05 53 34.9
comp=Z,298nm,19.1s,baz=213,slow=38
YKA **Yellowknife Ar** 54.45 345 P P 05 29 39.3 -1.8
comp=Z,2.3nm,0.8s,baz=137,slow=7.6,SNR=54
YKA **Yellowknife Ar** 54.45 345 P P 05 29 39.3 -1.8
YKW3 **Yellowknife Ar** 54.51 345 *e*P P 05 29 39.8 -1.7
comp=Z,0.1nm,0.8s
DLBC **Dease Lake** 56.78 335 P P 05 29 58.5 +0.5
comp=Z,1.7nm,0.8s,baz=195,slow=5.3,SNR=4.3
DLBC LR LR 06 01 04.0
comp=Z,209nm,18.5s,baz=152,slow=43
DLBC **Dease Lake** 56.78 335 P P 05 29 58.5 +0.5
RKT **Rikitea** 58.40 234 *e*T T 06 32 50.8
comp=Z,2.1nm,0.2s
RES **Resolute Bay** 63.11 358 P P 05 30 39.3 -1.8
comp=Z,1.3nm,0.9s,baz=201,slow=8.6,SNR=3.6
RES **Resolute Bay** 63.11 358 P P 05 30 39.3 -1.8
INK **Inuvik** 64.05 343 P P 05 30 46.3 -1.1
comp=Z,3.1nm,1.0s,baz=120,slow=6.3,SNR=10.0
INK **Inuvik** 64.05 343 P P 05 30 46.3 -1.1
ILAR **Eielson Array** 66.89 336 P P 05 31 04.9 -1.0
comp=Z,2.0nm,1.1s,baz=109,slow=5.1,SNR=15
ILAR LR LR 06 08 31.9
comp=Z,139nm,18.1s,baz=113,slow=43
ILAR **Eielson Array** 66.89 336 P P 05 31 04.9 -1.0
PPT **Papeete** 68.36 246 LR LR 05 53 50.9
comp=Z,314nm,20.9s,baz=42,slow=29
PPT2 **Papeete2** 68.37 246 *e*LR LR 05 52 00.4
comp=Z,220nm,24.8s
TBI **Tubuai** 70.39 240 *e*LR LR 05 52 50.7
comp=Z,225nm,24.0s
DBIC **Dimbokro** 80.94 85 LR LR 06 08 40.3
comp=Z,95nm,18.7s,baz=86,slow=36
NOA **NORSAR Array B** 83.76 29 LR LR 06 07 22.4
comp=Z,84nm,18.9s,baz=290,slow=34
ARCES **ARCESS Array B** 86.71 19 LR LR 06 13 49.6
comp=Z,47nm,18.3s,baz=316,slow=37
GERES **GERESS Array B** 88.16 41 LR LR 06 07 41.2
comp=Z,147nm,20.1s,baz=267,slow=32
VRAC **Vranov** 89.85 40 LR LR 06 11 11.0
comp=Z,117nm,19.1s,baz=172,slow=34
FINES **FINESS Array B** 90.40 26 LR LR 06 10 56.2
comp=Z,111nm,19.7s,baz=136,slow=34
AKASG **Malin Array Be** 96.82 35 LR LR 06 12 41.7
comp=Z,111nm,21.5s,baz=340,slow=33
DZM **Mont Dzumac** 109.59 251 *e*LR LR 06 11 00.9
comp=Z,76nm,24.1s
SONM **Songino Array** 119.54 350 PKP PKPdf 05 39 02.2 -1.7
comp=Z,0.4nm,0.8s,baz=354,slow=1.4,SNR=3.5
SONM **Songino Array** 119.54 350 PKP PKPdf 05 39 02.2 -1.7
ASAR **Alice Springs** 139.46 247 PKP PKPdf 05 39 40.3 -1.8

comp=Z,0.3nm,0.7s,baz=101,slow=2.8,SNR=2.8

ASAR	**Alice Springs**	**139.46**	**247**	PKP	**PKPdf**	**05 39 40.3 -1.8**
WRA	**Warramunga Arr**	**139.55**	**253**	PKP	**PKPdf**	**05 39 40.5 -1.8**
	comp=Z,0.5nm,0.7s,baz=89,slow=2.4,SNR=3.4					
WRA	**Warramunga Arr**	**139.55**	**253**	PKP	**PKPdf**	**05 39 40.5 -1.8**
CMAR	**Chiang Mai Arr**	**149.46**	**349**	PKPbc	**PKPdf**	**05 40 00.9 +1.4**
	comp=Z,0.8nm,0.3s,baz=344,slow=3.4,SNR=8.4					
CMAR	**Chiang Mai Arr**	**149.46**	**349**	PKPbc	**PKPdf**	**05 40 00.9 +1.4**

IDC 29 05:41:59.3±6.1, 16°.65N×146°.82E, h90km±64km, mb3.2/4, mb1 3.5/4, mb1mx3.1/25, mbtmp3.2/4, ML4.7/1, Error ellipse: s-maj=235.1km s-min=22.0km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.58**	**212**	P	Pn	05 42 53.5	+0.9
	69nm,0.3s,baz=36,slow=12,SNR=38						
GUMO				S	Sn	05 43 34.2	+0.2
	39nm,0.3s,baz=173,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**38.38**	**199**	P	P	05 49 11.2	-0.7
	1.4nm,0.8s,baz=23,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**42.01**	**198**	P	P	05 49 42.3	+0.4
	0.2nm,0.3s,baz=19,slow=8.8,SNR=5.0						
ILAR	**Eielson Array**	**65.01**	**26**	P	P	05 52 28.6	-0.9
	0.3nm,0.4s,baz=272,slow=8.7,SNR=12						
YKA	**Yellowknife Ar**	**79.29**	**28**	P	P	05 53 56.1	+1.4
	0.1nm,0.4s,baz=285,slow=5.7,SNR=4.3						

DJA 29 05:53:15.7±0.6, 4°.S×13°.4E, h19km, M3.8/3, mb4.2/1, MLv3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.92**	**217**	P	Pn	05 53 47.1	-0.3
FAKI	**Fak Fak**	**2.02**	**305**	P	Pn	05 53 50.2	+1.4
FAKI				S	Sn	05 54 13.4	-0.2
BAKI	**Biak**	**3.63**	**37**	P	Pn	05 54 10.7	-0.3

IDC 29 06:09:43.9±1.2, 15°.14S×70°.25W, h216km±11km, mb3.4/6, mb1 3.5/9, mb1mx3.3/23, mbtmp3.4/9, Error ellipse: s-maj=28.8km s-min=15.8km az=23.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.33**	**120**	P	Pn	06 10 27.4	-0.4
	7.3nm,0.3s,baz=300,slow=8.9,SNR=306						
LPAZ				S	S	06 11 02.4	+0.6
	3.6nm,0.3s,baz=291,slow=11,SNR=11						
NNA	**Nana**	**7.14**	**295**	P	Pn	06 11 26.6	+0.4
	2.5nm,0.3s,baz=121,slow=14,SNR=4.9						
NNA				S	S	06 12 35.6	-12
	2.9nm,0.3s,baz=242,slow=16,SNR=4.1						
SIV	**San Ignacio**	**8.88**	**97**	P	Pn	06 11 48.8	+0.1
	0.1nm,0.3s,baz=289,slow=12,SNR=3.7						
BDFB	**Brasilia**	**21.44**	**94**	P	P	06 14 16.3	+0.7
	0.6nm,0.5s,baz=265,slow=14,SNR=3.3						
PLCA	**Paso Flores**	**25.50**	**181**	P	P	06 14 52.3	-0.2
	1.8nm,0.6s,baz=333,slow=14,SNR=3.6						
PDAR	**Pinedale Array**	**68.00**	**330**	P	P	06 20 19.6	-0.5
	0.3nm,0.4s,baz=116,slow=8.9,SNR=4.9						
DBIC	**Dimbokro**	**68.31**	**76**	P	P	06 20 22.0	-0.3
	1.7nm,0.4s,baz=210,slow=7.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.53**	**72**	P	P	06 21 10.6	-0.2
	2.1nm,0.4s,baz=268,slow=4.5,SNR=43						
YKA	**Yellowknife Ar**	**84.80**	**341**	P	P	06 21 53.0	-0.5
	0.9nm,0.8s,baz=136,slow=5.2,SNR=22						
SONM	**Songino Array**	**147.28**	**4**	PKPbc	PKPbc	06 29 02.7	+0.6
	0.9nm,0.7s,baz=333,slow=1.7,SNR=8.0						

WEL 29 06:11:12.8±0.0, 39°.19S×175°.03E, h5km, ML3.5/35, 4C-14D, Error ellipse: s-maj=0.5km s-min=0.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.22**	**286**	PG	Pg	06 11 17.8	+0.7
VRZ				SG	Sg	06 11 21.2	+1.2
PKVZ	**Pokaka**	**0.27**	**113**	⇓PG	Pg	06 11 18.9	+0.8
PKVZ				SG	Sg	06 11 23.2	+1.5
TWVZ	**Taurewa**	**0.34**	**70**	⇓PG	Pg	06 11 19.9	+0.4
MTVZ	**Mangateitei**	**0.40**	**120**	⇓PG	Pg	06 11 20.8	+0.2
WPVZ	**Whakapapa**	**0.40**	**13**	⇓PG	Pg	06 11 21.1	+0.4
FWVZ	**Far West T-bar**	**0.41**	**100**	PG	Pg	06 11 21.3	+0.2
TRVZ	**Turoa**	**0.42**	**106**	⇓PG	Pg	06 11 21.4	+0.2
DRZ	**Dome Shelter**	**0.42**	**102**	⇑PG	Pg	06 11 21.6	+0.1
WTVZ	**West Tongariro**	**0.44**	**81**	⇓PG	Pg	06 11 21.7	+0.2
NGZ	**Ngauruhoe**	**0.45**	**89**	⇓PG	Pg	06 11 21.8	+0.2
WNVZ	**Wahianoa**	**0.46**	**108**	⇓PG	Pg	06 11 22.2	+0.2
KRVZ	**Karewarewa**	**0.48**	**79**	⇓PG	Pg	06 11 22.4	+0.1
TUVZ	**Tukino**	**0.49**	**100**	⇓PG	Pg	06 11 22.8	+0.3
OTVZ	**Oturere**	**0.49**	**88**	⇓PG	Pg	06 11 22.8	+0.2
RAEZ	**Rainy Point**	**0.50**	**258**	PG	Pg	06 11 23.1	+0.6
KATZ	**Kakaramea**	**0.56**	**68**	PG	Pg	06 11 23.8	0.0
MHEZ	**Mangahewa**	**0.56**	**281**	PG	Pg	06 11 24.2	+0.6
WAZ	**Wanganui**	**0.57**	**183**	⇑PG	Pg	06 11 24.1	+0.2
MOVZ	**Moawhango**	**0.60**	**112**	⇓P*	Pg	06 11 24.4	-0.1
DREZ	**Durham Road**	**0.64**	**270**	P*	Pg	06 11 25.5	+0.3
RATZ	**Rangitukua**	**0.66**	**61**	⇓P*	Pg	06 11 25.7	+0.1
RITZ	**Rihia Road**	**0.68**	**72**	P*	Pg	06 11 26.2	+0.3
HIZ	**Hauiti**	**0.69**	**345**	⇑P*	Pg	06 11 26.1	+0.1
WATZ	**Wairara**	**0.73**	**49**	P*	Pg	06 11 27.0	-0.1
NEZ	**North Egmont**	**0.73**	**263**	⇑P*	Pg	06 11 27.2	+0.2
PKE	**Pukeiti**	**0.81**	**269**	P*	Pg	06 11 28.3	-0.1
BHHZ	**Black Hill Sta**	**0.86**	**111**	⇓P*	Pg	06 11 29.0	-0.3
NRZ	**Ngariki Road**	**0.86**	**260**	P*	Pg	06 11 29.6	+0.2
HATZ	**Hinemaiaia**	**0.88**	**71**	P*	Pg	06 11 29.7	0.0
WHTZ	**Whakaora**	**0.89**	**55**	P*	Pb	06 11 30.6	-0.2
NWEZ	**Newall Road**	**0.91**	**264**	P*	Pg	06 11 30.1	-0.1
TSZ	**Takapari Road**	**1.13**	**141**	P*	Pg	06 11 34.2	-0.4
BKZ	**Black Stump Fm**	**1.14**	**89**	P*	Pg	06 11 34.0	-0.7
PNHZ	**Pukenui**	**1.16**	**129**	P*	Pg	06 11 34.6	-0.6
ALRZ	**Allen Road**	**1.20**	**59**	P*	Pg	06 11 35.0	-0.8
MCHZ	**McNeill Hill**	**1.32**	**102**	P*	Pg	06 11 38.6	+0.4
POWZ	**Post Office Ro**	**1.33**	**155**	P*	Pn	06 11 37.5	-0.6
UTU	**Utuhina**	**1.36**	**42**	*e*PN	Pn	06 11 37.6	-0.8
NMHZ	**Naumai**	**1.39**	**87**	PN	Pn	06 11 39.0	+0.1
WPHZ	**Waipukurau**	**1.40**	**129**	PN	Pn	06 11 40.2	+0.5
DVHZ	**Dannevirke**	**1.42**	**142**	PN	Pn	06 11 39.6	-0.2
TOZ	**Tahuroa Road**	**1.50**	**14**	PN	Pn	06 11 38.6	-1.8
MRZ	**Mangatainoka R**	**1.53**	**164**	PN	Pn	06 11 40.5	-0.4
KAHZ	**Kahuranaki**	**1.55**	**114**	PN	Pg	06 11 42.5	-0.2
OGWZ	**Otaki Gorge**	**1.63**	**176**	PN	Pn	06 11 41.6	-0.6
PRHZ	**Porangahau**	**1.64**	**132**	*e*PN	Pg	06 11 44.2	-0.1
KIW	**Kapiti Island**	**1.68**	**183**	PN	Pn	06 11 42.2	-0.6
HOWZ	**Holdsworth Sta**	**1.75**	**168**	PN	Pn	06 11 43.9	0.0
DUWZ	**D'Urville Isla**	**1.82**	**207**	PN	Pn	06 11 43.8	-1.0
CAW	**Cannon Point**	**1.92**	**179**	PN	Pn	06 11 46.1	-0.1
MTW	**Mount Morrison**	**2.00**	**170**	PN	Pn	06 11 47.5	+0.2
MKAZ	**Moumakai**	**2.08**	**3**	PN	Pn	06 11 46.6	-1.7
TCW	**Tory Channel**	**2.10**	**196**	PN	Pn	06 11 47.8	-0.9
MWZ	**Matawai**	**2.13**	**67**	*e*PN	Pn	06 11 48.2	-0.9
SNZO	**South Karori**	**2.13**	**187**	*e*PN	Pn	06 11 49.1	0.0
NNZ	**Nelson**	**2.39**	**211**	PN	Pn	06 11 52.1	-0.5
RVAZ	**Riverhead Bore**	**2.44**	**351**	PN	Pn	06 11 52.0	-1.2
KUZ	**Kuaotunu**	**2.50**	**13**	*e*PN	Pn	06 11 51.7	-2.4
WCZ	**Waipu Caves**	**3.29**	**350**	PN	Pn	06 12 03.7	-1.2
KHZ	**Kahutara**	**3.42**	**199**	PN	Pn	06 12 06.2	-0.6
DSZ	**Denniston Nort**	**3.55**	**223**	PN	Pn	06 12 07.5	-1.1

IDC 29 06:24:24.7±8.5, 5°.14S×145°.63E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.7/19, mbtmp4.1/5, ML4.6/1, Error ellipse: s-maj=127.0km s-min=45.8km az=24.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**160**	Pn	Pn	06 25 33.5	-0.7
	3.4nm,0.3s,baz=22,slow=5.3,SNR=9.0						
PMG				Sn	Sn	06 26 20.3	-7.0
	8.5nm,0.3s,baz=235,slow=21,SNR=15						
WRA	**Warramunga Arr**	**18.36**	**216**	P	P	06 28 41.8	+0.6
	1.9nm,0.3s,baz=38,slow=12,SNR=62						
ASAR	**Alice Springs**	**21.61**	**210**	P	P	06 29 14.8	-1.7
	2.6nm,0.4s,baz=46,slow=8.3,SNR=40						
FITZ	**Fitzroy Crossi**	**23.40**	**235**	P	P	06 29 35.5	0.0
	1.0nm,0.3s,baz=56,slow=12,SNR=12						
STKA	**Stephens Creek**	**26.86**	**188**	P	P	06 30 08.5	+1.3
	2.1nm,0.7s,baz=3.8,slow=10,SNR=3.7						

IDC 29 06:36:13.8±2.0, 4°.44N×127°.28E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=83.3km s-min=21.3km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.46**	**184**	P	P	06 41 14.6	-0.1
	1.2nm,0.7s,baz=4.7,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**25.20**	**164**	P	P	06 41 40.2	-1.2
	0.9nm,0.7s,baz=345,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**28.67**	**167**	P	P	06 42 14.1	+1.4
	0.4nm,0.8s,baz=343,slow=8.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**31.00**	**299**	P	P	06 42 32.9	-0.4
	0.9nm,0.3s,baz=114,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	06 46 03.7	+0.3
	0.2nm,0.4s,baz=118,slow=7.5,SNR=5.0						

IDC 29 07:32:27.0±2.1, 1°.48N×127°.06E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=169.9km s-min=24.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.46**	**162**	P	P	07 37 28.2	+0.3
	0.8nm,0.4s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.87**	**165**	P	P	07 38 00.3	-0.4
	0.2nm,0.5s,baz=352,slow=7.7,SNR=7.2						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	07 42 32.6	0.0
	0.1nm,0.5s,baz=111,slow=9.6,SNR=2.6						

IDC 29 07:38:40.7±1.8, 1°.29N×126°.78E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=174.5km s-min=22.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**161**	P	P	07 43 40.9	+0.2
	1.0nm,0.6s,baz=339,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**25.76**	**165**	P	P	07 44 13.1	-0.2
	0.2nm,0.3s,baz=345,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	07 48 48.0	+1.7
	0.2nm,0.3s,baz=115,slow=7.2,SNR=5.5						
KURBB	**Kurchatov Arra**	**63.81**	**328**	P	P	07 49 13.1	-1.6
	0.3nm,0.5s,baz=128,slow=6.7,SNR=5.8						

HEL 29 07:40:18.9±0.4, 67°.73N×33°.79E, h0km, ML1.9, Explosion
IDC 29 07:40:18.8±1.9, 67°.78N×33°.97E, h0km, mb1 3.3/5, mb1mx3.0/29, mbtmp3.3/5, ML2.5/5, Error ellipse: s-maj=21.2km s-min=9.4km az=79.0
CSEM 29 07:40:19.1±0.5, 67°.66N×33°.57E, h2km, ML2.0, Error ellipse: s-maj=9.3km s-min=4.7km az=93.0, Mining explosion.
NAO 29 07:40:20.1±3.2, 67°.57N×33°.25E, ML2.1

ISC 29 07:40:18.6±1.9, 67°.65N±0°.04×33°.63E±0°.09, h0km, n34, σ0s89/56, Baltic Sea - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.54**	**275**	*e*P	**Pn**	**07 40 47.0**	**-0.2**
VRF				*e*S	**Sg**	**07 41 07.3**	**-0.7**
VRF	**Varrio**	**1.54**	**275**	P	**Pn**	**07 40 47.0**	**-0.2**
VRF				S	**Sg**	**07 41 07.2**	**-0.7**
KU6	**Riekki**	**2.20**	**224**	*e*PB	**Pb**	**07 40 58.8**	**-0.5**
KU6				*e*SB	**Sb**	**07 41 28.6**	**+1.4**
KU6	**Riekki**	**2.20**	**224**	Pb	**Pb**	**07 40 58.8**	**-0.5**
KU6				Sb	**Sb**	**07 41 28.5**	**+1.4**
MSF	**Maaselka**	**2.52**	**228**	*e*PB	**Pb**	**07 41 04.5**	**-0.2**
MSF				*e*SB	**Sb**	**07 41 38.3**	**+2.0**
MSF	**Maaselka**	**2.52**	**228**	Pb	**Pb**	**07 41 04.5**	**-0.2**
MSF				Sb	**Sb**	**07 41 38.2**	**+2.0**
SGF	**Sodankyl**	**2.73**	**269**	*e*PB	**Pb**	**07 41 07.8**	**-0.5**
SGF				*e*SB	**Sb**	**07 41 43.0**	**+0.6**
SGF	**Sodankyl**	**2.73**	**269**	Pb	**Pb**	**07 41 07.8**	**-0.5**
SGF				Sb	**Sb**	**07 41 42.9**	**+0.6**
RNF	**Rovaniemi**	**3.15**	**254**	*e*P	**Pn**	**07 41 10.3**	**+0.9**
RNF				*e*S	**Sn**	**07 41 48.8**	**+1.1**
RNF	**Rovaniemi**	**3.15**	**254**	P	**Pn**	**07 41 10.3**	**+0.9**
KEV	**Kevo**	**3.21**	**314**	*e*P	**Pn**	**07 41 11.1**	**+0.9**
KEV				*e*S	**Sn**	**07 41 48.8**	**-0.3**
KEV				MSG		07 42 04.2	
	comp=Z,5.9nm,0.3s						
KEV	**Kevo**	**3.21**	**314**	P	**Pn**	**07 41 11.1**	**+0.9**
KEV				S	**Sn**	**07 41 48.7**	**-0.3**
ARA0	**ARCESS Array S**	**3.53**	**306**	Pn	**Pn**	**07 41 14.3**	**-0.3**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**07 41 22.2**	**+0.4**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**07 41 56.0**	**-0.9**
	baz=128,slow=28						
ARA0				Lg	Lg	07 42 07.4	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**306**	Pn	**Pn**	**07 41 14.3**	**-0.3**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**07 41 22.2**	**+0.4**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**07 41 56.0**	**-0.9**
	baz=128,slow=28						
ARA0				Lg	Lg	07 42 07.4	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**306**	*e*P	**Pn**	**07 41 14.9**	**+0.3**
ARA0				*e*S	**Sn**	**07 41 56.2**	**-0.7**
ARA0	**ARCESS Array S**	**3.53**	**306**	Pn	**Pn**	**07 41 14.3**	**-0.3**
	baz=122,slow=15,SNR=50						
ARA0	**ARCESS Array S**	**3.53**	**306**	P	**Pn**	**07 41 14.9**	**+0.3**
ARA0	**ARCESS Array S**	**3.53**	**306**	Pg	**Pb**	**07 41 22.2**	**+0.4**
	baz=122,slow=16,SNR=90						
ARA0				S	**Sn**	**07 41 56.2**	**-0.7**
ARA0				Lg	Lg	07 42 07.4	
	baz=113,slow=35,SNR=6.6						
ARCES	**ARCESS Array B**	**3.53**	**306**	Pn	**Pn**	**07 41 14.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=121,slow=15,SNR=43						
ARCES				Pg	**Pb**	**07 41 22.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=121,slow=15,SNR=10						
ARCES				Sn	**Sn**	**07 41 56.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=122,slow=30,SNR=6.5						
ARCES				Lg	Lg	07 42 07.8	
	comp=Z,1.7nm,0.3s,baz=114,slow=29,SNR=12						
HEF	**Hetta**	**3.82**	**286**	*e*P	**Pn**	**07 41 19.5**	**+0.9**
HEF				*e*S	**Sn**	**07 42 04.9**	**+0.6**
HEF				MSG		07 42 26.5	
	comp=Z,1.4nm,0.2s						
HEF	**Hetta**	**3.82**	**286**	P	**Pn**	**07 41 19.5**	**+0.9**
HEF				S	**Sn**	**07 42 04.8**	**+0.6**
KTK1	**Kautokeino**	**4.09**	**294**	*e*P	**Pn**	**07 41 22.5**	**+0.2**
KTK1				AML	AML	07 42 33.1	
	comp=Z,9.4nm,0.6s						
KTK1	**Kautokeino**	**4.09**	**294**	*e*P	**Pn**	**07 41 22.5**	**+0.2**
	SNR=49						
LANU	**Lannavaara**	**4.42**	**281**	*e*P	**Pn**	**07 41 26.8**	**-0.2**
LANU				*e*S	**Sn**	**07 42 18.1**	**-1.0**
LANU	**Lannavaara**	**4.42**	**281**	P	**Pn**	**07 41 26.7**	**-0.2**
LANU				S	**Sn**	**07 42 18.1**	**-1.0**
KIF	**Kilpisjarvi**	**4.94**	**292**	*e*P	**Pn**	**07 41 33.5**	**-0.6**
KIF				*e*S	**Sn**	**07 42 29.5**	**-2.2**
KIF				MSG		07 42 58.9	
	comp=Z,1.4nm,0.3s						
KIF	**Kilpisjarvi**	**4.94**	**292**	P	**Pn**	**07 41 33.4**	**-0.6**
KIF				S	**Sn**	**07 42 29.5**	**-2.2**
FIA0	**FINESS Array S**	**7.03**	**211**	Lg	Lg	07 43 54.9	
	baz=26,slow=37						
FIA0	**FINESS Array S**	**7.03**	**211**	Lg	Lg	07 43 54.9	
	baz=26,slow=37						
FIA0	**FINESS Array S**	**7.03**	**211**	Lg	Lg	07 43 54.8	
	baz=26,slow=29,SNR=3.8						
FINES	**FINESS Array B**	**7.03**	**211**	Pn	**Pn**	**07 42 01.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=314,slow=33,SNR=2.7						
FINES				Sn	**Sn**	**07 43 22.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=348,slow=19,SNR=3.0						
HFS	**Hagfors**	**11.52**	**239**	Pn	**Pn**	**07 43 04.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=62,slow=18,SNR=3.0						
SPITS	**Spitsbergen Ar**	**11.64**	**342**	Pn	Pn	07 43 00.9	-4.8
	baz=156,slow=19,SNR=4.0						
NOA	**NORSAR Array B**	**11.70**	**246**	Pn	**Pn**	**07 43 06.5**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=38,slow=15,SNR=3.3						

ISCJB 29 07:46:24.5±1.0, 36°.34N±0°.04×69°.3E±0°.1, h43km, mb3.1/1, Error ellipse: s-maj=15.1km s-min=5.7km az=169.7
NNC 29 07:46:31.4±11.0, 36°.53N×69°.48E, h153km±238km, mb2.6, mpv3.2, Error ellipse: s-maj=107.8km s-min=72.7km az=16.0
IDC 29 07:46:32.3±9.5, 36°.65N×69°.17E, h108km±74km, mb3.2/2, mb1 3.2/4, mb1mx2.9/28, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=217.3km s-min=71.3km az=124.0

ISC 29 07:46:25.1±1.3, 36°.28N±0°.07×69°.2E±0°.1, h43km, n11, σ1s76/15, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.33**	**136**	⇑P	**Pn**	**07 47 15.7**	**+0.9**
CEP				S	**Sn**	**07 47 53.0**	**-0.1**
THW	**Thamme Wali**	**4.08**	**148**	P	**Pn**	**07 47 25.1**	**+0.2**
CHCP	**Chirah Chowk**	**4.26**	**127**	P	**Pn**	**07 47 28.0**	**+0.5**
KK31	**Karatay Array**	**6.90**	**8**	P	**Pn**	**07 48 06.5**	**+2.9**
	0.7nm,0.3s,baz=200,slow=16,SNR=34						
KK31				S	**Sn**	**07 49 21.3**	**+0.5**
	4.1nm,0.6s,baz=196,slow=25,SNR=12						
AAK	**Ala-Archa**	**7.57**	**31**	P	**Pn**	**07 48 15.2**	**+2.2**
	0.9nm,0.3s,baz=180,slow=5.4,SNR=10						
AAK				S	**Sn**	**07 49 37.1**	**-0.5**
	0.5nm,0.3s,baz=131,slow=22,SNR=17						
TKM2	**Tokmak 2**	**8.29**	**35**	⇓P	**Pn**	**07 48 23.7**	**+0.8**
	0.7nm,0.5s						
TKM2				⇓S	**Sn**	**07 49 52.8**	**-2.5**
	3.7nm,0.8s						
MKAR	**Makanchi Array**	**14.37**	**39**	P	**Pn**	**07 49 48.2**	**+2.4**
	0.1nm,0.3s,baz=222,slow=11,SNR=9.5						
AB31	**Akbulak array**	**14.62**	**335**	P	**Pn**	**07 49 49.4**	**+0.4**
	0.4nm,0.4s,baz=150,slow=13,SNR=15						
KURBB	**Kurchatov Arra**	**15.85**	**22**	P	**Pn**	**07 50 05.9**	**+0.8**
	0.0nm,0.3s,baz=208,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**20.76**	**27**	P	**P**	**07 50 60.0**	**-2.1**
	1.8nm,0.4s,baz=224,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**81.53**	**2**	P	**P**	**07 58 35.5**	**-2.1**
	0.2nm,0.8s,baz=354,slow=4.6,SNR=4.4						

JMA 29 07:48:26.7±0.3, 33°.35N×137°.53E, h371km±3km, M3.3
ISCJB 29 07:48:27.1±0.4, 33°.37N±0°.06×137°.54E±0°.06, h368km±2km, mb3.5/15, Error ellipse: s-maj=9.3km s-min=8.2km az=153.4
IDC 29 07:48:28.1±0.5, 33°.34N×137°.54E, h362km±7km, mb3.2/11, mb1 3.4/16, mb1mx3.2/30, mbtmp3.3/16, Error ellipse: s-maj=18.0km s-min=9.4km az=70.0

ISC 29 07:48:28.3±0.7, 33°.40N±0°.07×137°.52E±0°.07, h365km±5km, n53, σ0s95/70, mb3.5/15, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.37**	**10**	S	**S**	**07 49 50.0**	**0.0**
TTO3	**TONANKAI O.B.S**	**0.47**	**348**	P	**Pn**	**07 49 14.3**	**+0.4**
TTO3				*e*S	**S**	**07 49 51.5**	**+0.8**
TTO2	**TONANKAI O.B.S**	**0.53**	**310**	P	**Pn**	**07 49 14.1**	**+0.3**
TTO2				S	**S**	**07 49 51.7**	**+1.1**
TK02	**Tokai 2**	**0.58**	**20**	P	**Pn**	**07 49 14.1**	**+0.1**
TTO4	**TONANKAI O.B.S**	**0.61**	**2**	P	**Pn**	**07 49 14.1**	**0.0**
TTO4				*e*S	**S**	**07 49 50.9**	**-0.1**
TTO1	**TONANKAI O.B.S**	**0.65**	**290**	P	**Pn**	**07 49 14.2**	**0.0**
TK03	**Tokai 3**	**0.85**	**26**	P	**Pn**	**07 49 15.3**	**+0.4**
TK03				*e*S	**S**	**07 49 53.3**	**+0.8**
TTO5	**TONANKAI O.B.S**	**0.87**	**11**	P	**Pn**	**07 49 15.2**	**+0.3**
JIE	**Ise**	**1.20**	**326**	P	**Pn**	**07 49 16.2**	**-0.2**
JIE				*e*S	**S**	**07 49 53.9**	**-1.2**
JKN2	**Miekihoku**	**1.33**	**309**	P	**Pn**	**07 49 16.5**	**-0.5**
JKN2				S	**S**	**07 49 54.4**	**-1.9**
HMMJ	**Hamamatsu 2**	**1.46**	**7**	P	**Pn**	**07 49 17.5**	**-0.2**
HMMJ				S	**S**	**07 49 56.6**	**-0.9**
JWZ	**Kozaga**	**1.51**	**275**	P	**Pn**	**07 49 16.8**	**-1.2**
JWZ				S	**S**	**07 49 55.4**	**-2.6**
JWY	**Kouya**	**1.80**	**298**	P	**Pn**	**07 49 19.3**	**-0.4**
JWY				S	**S**	**07 49 59.3**	**-1.8**
JAO	**Obara**	**1.88**	**354**	P	**Pn**	**07 49 20.3**	**+0.1**
JAO				S	**S**	**07 50 01.6**	**-0.4**
JHJ	**Hachijo jima 2**	**1.92**	**98**	P	**Pn**	**07 49 19.2**	**-1.3**
	40nm,0.3s,baz=217,slow=20,SNR=4.8						
JHJ				S	**S**	**07 50 02.6**	**+0.1**
	13nm,0.3s,baz=48,slow=23,SNR=2.6						
JEG	**Eigenji**	**1.97**	**332**	P	**Pn**	**07 49 20.8**	**+0.1**
JNY	**Yasuok**	**1.98**	**8**	P	**Pn

WKZ	**Wanaka**	**0.72**	**137**	P*	Pg	08 07 23.6	+0.2
WKZ				S*	Sg	08 07 32.7	0.0
MLZ	**Mavora Lakes**	**1.04**	**186**	P*	Pg	08 07 29.5	-0.2
EAZ	**Earnscleugh**	**1.16**	**143**	P*	Pg	08 07 31.8	0.0
EAZ				S*	Sg	08 07 46.1	-0.7
FOZ	**Fox Glacier**	**1.23**	**53**	P*	Pg	08 07 33.2	0.0
FOZ				*eS**	Sn	08 07 52.2	+1.7
LBZ	**Lake Benmore**	**1.33**	**94**	⇓P*	Pn	08 07 34.8	-0.1
DCZ	**Deep Cove**	**1.44**	**215**	⇓PN	Pn	08 07 35.6	-0.6
WHZ	**Wether Hill Ro**	**1.61**	**189**	PN	Pn	08 07 39.0	+0.4
ODZ	**Otahua Downs**	**1.81**	**115**	⇑PN	Pn	08 07 41.7	+0.3
TUZ	**Tuapeka**	**1.89**	**151**	PN	Pn	08 07 43.3	+0.9
RPZ	**Rata Peaks**	**2.06**	**74**	PN	Pn	08 07 45.7	+0.9
WVZ	**Waitaha Valley**	**2.14**	**56**	PN	Pb	08 07 49.5	+0.8
SYZ	**Scrubby Hill**	**2.30**	**166**	PN	Pn	08 07 49.4	+1.3
LTZ	**Lake Taylor**	**3.25**	**63**	PN	Pn	08 08 03.6	+2.3
DSZ	**Denniston Nort**	**3.61**	**46**	⇓PN	Pn	08 08 04.8	-1.5
QRZ	**Quartz Range**	**4.66**	**43**	PN	Pn	08 08 19.0	-1.6
NNZ	**Nelson**	**4.83**	**52**	PN	Pn	08 08 22.4	-0.5

KRSC 29 08:08:46.9±0.2, 52°37N×160°68E, h32km±32km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.33**	**274**	*eP*	Pb	08 09 10.4	-0.8
RUS				*eS*	Sb	08 09 27.6	-0.3
PET	**Petropavlovsk**	**1.40**	**299**	*eP*	Pn	08 09 11.2	+1.1
PET				*eS*	Sb	08 09 29.1	-0.7
UGLR	**Uglovaya**	**1.41**	**307**	*eP*	Pb	08 09 12.1	-0.6
UGLR				*eS*	Sb	08 09 30.5	+0.1
SDLR	**Sedlovina**	**1.42**	**311**	P	Pb	08 09 12.1	-0.8
SDLR				*eS*	Sb	08 09 30.3	-0.5
SMAR	**Somma**	**1.45**	**309**	*eP*	Pb	08 09 12.7	-0.9
SMAR				*eS*	Sb	08 09 31.5	-0.4
AVH	**Avacha**	**1.48**	**308**	P	Pb	08 09 13.3	-0.6
AVH				*eS*	Sb	08 09 32.2	-0.2
KRER	**Koryakskii**	**1.50**	**309**	*eP*	Pb	08 09 13.6	-0.8
KRER				*eS*	Sb	08 09 32.9	-0.3
MTVR	**Mutnovka**	**1.53**	**275**	*eP*	Pb	08 09 13.9	-1.0
MTVR				*eS*	Sb	08 09 32.7	-1.4
KOK	**Koryaka**	**1.55**	**307**	*eP*	Pb	08 09 14.3	-0.8
KOK				*eS*	Sb	08 09 33.6	-0.8
GRL	**Gorelyy**	**1.60**	**278**	*eP*	Pb	08 09 14.7	-1.4
GRL				*eS*	Sb	08 09 35.3	-0.8
KII	**Karymskiy**	**1.83**	**337**	*eP*	Pb	08 09 18.4	-1.4
KII				*eS*	Sb	08 09 41.8	-0.5
GNL	**Ganaly**	**2.12**	**310**	*eP*	Pb	08 09 22.9	-1.9
GNL				*eS*	Sb	08 09 49.9	-0.9
APC	**Apacha**	**2.22**	**286**	*eP*	Pb	08 09 24.1	-2.2
APC				*eS*	Sb	08 09 52.3	-1.0
MKZ	**Mys Kozlova**	**2.28**	**16**	*eP*	Pn	08 09 23.0	+0.8
MKZ				*eS*	Sn	08 09 50.0	+0.8
MIPR	**Malaya Ipel'ka**	**2.41**	**269**	*eP*	Pn	08 09 26.3	+2.2
MIPR				*eS*	Sn	08 09 55.6	+3.1
TUMR	**Tumrok**	**2.94**	**354**	*eP*	Pn	08 09 34.8	+3.3
TUMR				*eS*	Sb	08 10 10.7	-3.5
KMNR	**Kamenistaya**	**3.40**	**356**	*eP*	Pn	08 09 41.7	+3.8
KMNR				*eS*	Sn	08 10 21.3	+4.1
ZLN	**Zelenaya**	**3.66**	**1**	*eP*	Pn	08 09 46.1	+4.8
KBTR	**Krutoberegovo**	**4.04**	**17**	*eP*	Pn	08 09 49.1	+2.6
BKI	**Bering**	**4.23**	**46**	*eS*	Sn	08 10 36.4	-0.9

*IDC **29** 08:14:14.1±2.1,3°.93N×127°.16E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=150.0km s-min=26.5km az=66.0*
*MAN **29** 08:14:26, 8°.13N×124°.70E, h42km, mb3.8, ML2.5, MS2.1*
ISC 29 08:14:01.2±1.7, 7°.0N±0°.2×126°.0E±0°.2, h150km, n6, σ2§34/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**1.25**	**312**	*eP*	Pn	08 14 37.5	+9.2
BUKP				*eS*	**Sn**	**08 14 46.5**	**-2.5**
CTBH	**Cotabato--PC H**	**1.75**	**276**	⇑*iP*	Pn	08 14 44.4	+11
CTBH				*i* S	**Sn**	**08 14 58.0**	**-0.3**
CGP	**Cagayan de Oro**	**1.91**	**317**	⇑*iP*	**Pn**	**08 14 36.9**	**+1.5**
CGP				*i* S	Sx	08 14 44.0	
WRA	**Warramunga Arr**	**28.04**	**163**	P	**P**	**08 19 37.2**	**-1.4**
	2.9nm,0.9s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**31.48**	**166**	P	**P**	**08 20 09.3**	**+0.3**
	0.1nm,0.3s,baz=348,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**54.45**	**324**	P	sP	08 24 06.0	+1.7
	0.3nm,0.5s,baz=114,slow=8.3,SNR=6.1						

*BEO **29** 08:19:09.4±0.7, 43°.26N×17°.24E, h0km, ML2.6/5*
*PDG **29** 08:19:10.9±0.2, 43°.37N×17°.57E, h1km, ML2.3/7, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*CSEM **29** 08:19:10.0±0.4, 43°.27N×17°.32E, h2km, ML2.3/7, Error ellipse: s-maj=7.9km s-min=4.9km az=60.0*
ISC 29 08:19:10.1±1.3, 43°.28N±0°.03×17°.34E±0°.03, h0km±14km, n29, σ0§90/57, 9C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.49**	**148**	*ePg*	**Pg**	**08 19 19.2**	**-0.3**
STON				Sg	**Sg**	**08 19 26.9**	**+1.1**
STON	**Ston**	**0.49**	**148**	*ePg*	**Pg**	**08 19 19.1**	**-0.3**
STON				Sg	**Sg**	**08 19 26.8**	**+1.1**
BRY	**Bratogost**	**0.95**	**113**	⇓*iPg*	**Pg**	**08 19 26.1**	**-2.3**
BRY				*eSg*	**Sg**	**08 19 40.0**	**-0.7**
HCY	**Herceg Novi**	**1.19**	**134**	⇑*iPg*	**Pg**	**08 19 32.3**	**-0.5**
HCY				*eSg*	**Sb**	**08 19 49.7**	**+0.3**
HCY	**Herceg Novi**	**1.19**	**134**	⇑*iPg*	**Pg**	**08 19 32.3**	**-0.5**
HCY				*eSg*	**Sb**	**08 19 49.7**	**+0.3**
BLY	**Banja Luka**	**1.47**	**356**	*ePg*	**Pn**	**08 19 36.9**	**-0.9**
BLY				*eSg*	**Sb**	**08 19 57.3**	**-0.2**
BLY	**Banja Luka**	**1.47**	**356**	*ePg*	**Pn**	**08 19 36.9**	**-0.9**
BLY				*eSg*	**Sb**	**08 19 57.3**	**-0.2**
PLE	**Pljevlja**	**1.49**	**88**	⇑*iPg*	Pn	08 19 35.2	-3.0
PLE				*eSg*	**Sb**	**08 19 56.2**	**-2.1**
BUM	**Brajici-Budva**	**1.51**	**130**	⇑*iPg*	**Pn**	**08 19 37.5**	**-0.9**
BUM				*eSg*	**Sg**	**08 19 59.9**	**+1.5**
BUM	**Brajici-Budva**	**1.51**	**130**	⇑*iPg*	**Pn**	**08 19 37.5**	**-0.9**
BUM				*eSg*	**Sg**	**08 19 59.9**	**+1.5**
BBLS	**Lazići**	**1.61**	**68**	*ePg*	**Pn**	**08 19 39.5**	**-0.3**
BBLS				*eSg*	**Sb**	**08 20 02.3**	**+0.8**
PDG	**Podgorica**	**1.64**	**121**	*ePn*	**Pn**	**08 19 39.2**	**-1.0**
PDG				*eSg*	**Sg**	**08 20 03.2**	**+0.3**
PDG	**Podgorica**	**1.64**	**121**	⇓*iPg*	**Pn**	**08 19 40.0**	**-0.2**
PDG				*eSg*	**Sg**	**08 20 03.2**	**+0.3**
TTG	**Podgorica**	**1.65**	**121**	⇓*iPg*	**Pn**	**08 19 40.0**	**-0.2**
TTG				*eSg*	**Sg**	**08 20 04.1**	**+1.1**
BEY	**Berane**	**1.91**	**102**	⇓*iPn*	**Pn**	**08 19 43.9**	**-0.1**
BEY				*eSn*	**Sb**	**08 20 10.3**	**0.0**
IVA	**Berane**	**1.92**	**102**	⇓*iPn*	**Pn**	**08 19 43.9**	**-0.1**
IVA				*eSn*	**Sb**	**08 20 10.3**	**-0.1**
ULC	**Ulcinj**	**1.93**	**133**	⇑*iPn*	**Pn**	**08 19 44.6**	**+0.5**
ULC				*eSn*	**Sg**	**08 20 11.6**	**-0.3**
ULC	**Ulcinj**	**1.93**	**133**	⇑*iPn*	**Pn**	**08 19 44.6**	**+0.5**
ULC				*eSn*	**Sg**	**08 20 11.6**	**-0.3**
TEKS	**Tekeris**	**2.02**	**51**	*ePn*	**Pn**	**08 19 45.5**	**+0.1**
TEKS				*eSg*	**Sg**	**08 20 16.5**	**+1.5**
TEKS	**Tekeris**	**2.02**	**51**	*ePn*	**Pn**	**08 19 45.5**	**+0.1**
TEKS				*eSg*	**Sg**	**08 20 16.5**	**+1.5**
PVY	**Plav**	**2.04**	**109**	⇑*iPn*	**Pn**	**08 19 46.2**	**+0.4**
PVY				*eSn*	**Sb**	**08 20 13.6**	**-0.4**
PVY	**Plav**	**2.04**	**109**	⇑*iPn*	**Pn**	**08 19 46.2**	**+0.4**
PVY				*eSn*	**Sb**	**08 20 13.6**	**-0.4**
IVAS	**Ivanjica**	**2.07**	**81**	*ePn*	**Pn**	**08 19 46.7**	**+0.6**
IVAS				*eSg*	**Sg**	**08 20 18.2**	**+1.8**
DIVS	**Divibare**	**2.09**	**66**	*ePn*	**Pn**	**08 19 47.1**	**+0.7**
DIVS				*eSg*	**Sg**	**08 20 17.1**	**0.0**
DIVS	**Divibare**	**2.09**	**66**	*ePn*	**Pn**	**08 19 47.1**	**+0.7**
DIVS				*eSg*	**Sg**	**08 20 17.1**	**0.0**
NVLJ	**Novalja**	**2.20**	**306**	*ePn*	**Pn**	**08 19 48.8**	**+1.0**
NVLJ				Sn	**Sg**	**08 20 20.7**	**+0.1**
NVLJ	**Novalja**	**2.20**	**306**	*ePn*	**Pn**	**08 19 48.7**	**+1.0**
NVLJ				Sn	**Sg**	**08 20 20.7**	**+0.1**
GRUS	**Gruza**	**2.52**	**75**	*ePn*	**Pn**	**08 19 53.6**	**+1.3**
GRUS				*eSg*	**Sg**	**08 20 32.4**	**+1.3**
GRUS	**Gruza**	**2.52**	**75**	*ePn*	**Pn**	**08 19 53.6**	**+1.3**
GRUS				*eSg*	**Sg**	**08 20 32.4**	**+1.3**

*IDC **29** 08:24:59.0±0.8, 9°.36S×113°.29E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/22, mbtmp4.2/12, ML3.6/1, MS3.4/9, Ms1 3.4/9, ms1mx3.1/35, Error ellipse: s-maj=53.2km s-min=14.2km az=54.0*
*ISCJB **29** 08:25:04.2±0.4, 9°.60S±0°.05×113°.43E±0°.04, h26km, mb4.2/11, MS3.4/6, Error ellipse: s-maj=7.6km s-min=4.7km az=18.8*
*AUST **29** 08:25:05.6, 9°.45S×113°.40E, h35km*
*DJA **29** 08:25:06.1±2.3, 9°.S±10°×11°.3E±°, h15km±17km, M4.7/16, mb5.3/4, mB5.5/2, MLv4.4/16, Mw(mB)5.0/2*
ISC 29 08:25:05.3±0.7, 9°.49S±0°.07×113°.46E±0°.05, h26km, n50, σ1§44/36, mb4.3/11, MS3.4/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.21**	**359**	P	**Pn**	**08 25 25.0**	**-1.5**
NBBI	**Negara**	**1.59**	**46**	P	**Pb**	**08 25 35.0**	**+0.9**
KRKI	**Karangkates**	**1.66**	**323**	P	**Pn**	**08 25 32.8**	**+0.1**
BLJI	**Banyuglugur**	**1.74**	**4**	P	**Pn**	**08 25 34.5**	**+0.7**
IGBI	**Denpasar**	**1.79**	**68**	P	**Pn**	**08 25 34.7**	**+0.2**
DNP	**Denpasar**	**1.91**	**65**	P	**Pn**	**08 25 37.2**	**+1.1**
PWJI	**Pagerwojo**	**2.19**	**311**	P	**Pn**	**08 25 40.3**	**+0.2**
SRBI	**Singaraja**	**2.22**	**51**	P	**Pn**	**08 25 41.4**	**+0.9**
KHKI	**Kahang-Kahang**	**2.40**	**62**	P	**Pn**	**08 25 43.7**	**+0.8**
SJI	**Sawahan**	**2.42**	**316**	P	**Pn**	**08 25 44.0**	**+0.7**
KMMI	**Kalianget**	**2.47**	**12**	P	**Pn**	**08 25 45.1**	**+1.2**
PCJI	**Pacitan**	**2.60**	**299**	P	**Pn**	**08 25 46.3**	**+0.6**
UGM	**Wanagama**	**3.30**	**298**	P	**Pn**	**08 25 56.6**	**+1.3**
	baz=3.2,SNR=46						
UGM	**Wanagama**	**3.30**	**298**	P	**Pn**	**08 25 56.7**	**+1.3**
YOGI	**Yogyakarta**	**3.54**	**298**	P	**Pn**	**08 25 59.8**	**+1.1**
SMRI	**Semarang**	**3.85**	**309**	P	**Pn**	**08 26 04.8**	**+1.9**
BJII	**Banjamegara**	**4.29**	**300**	P	**Pn**	**08 26 11.9**	**+2.9**
TGJI	**Tegal**	**5.02**	**301**	P	**Pn**	**08 26 21.9**	**+2.8**
CISI	**Cisompet, Garu**	**5.91**	**289**	P	**Pn**	**08 26 32.5**	**+1.3**
	186nm,0.7s,4µm						
LEM	**Lembang**	**6.36**	**294**	P	**Pn**	**08 26 40.5**	**+2.9**
	96nm,1.0s						
KAPI	**Kappang**	**7.66**	**55**	LR	LR	08 30 14.3	
	comp=Z,127nm,20.7s,baz=95,slow=41						
XMI	**Christmas Isla**	**7.72**	**262**	P	**Pn**	**08 26 56.7**	**+0.6**
	baz=7.7,SNR=5.0						
XMIS	**Christmas Isla**	**7.76**	**262**	P	**Pn**	**08 26 56.1**	**-0.5**
	baz=7.7,SNR=9.9						
XMIS				S	Sn	08 28 15.2	-8.5
	baz=7.7,SNR=4.3						
CGJI	**Cibinong**	**8.21**	**290**	P	**Pn**	**08 27 04.5**	**+1.7**
	170nm,0.6s,3µm						
PCI	**Palu**	**10.63**	**37**	S	Sn	08 29 25.2	-9.0
	baz=11,SNR=3.7						
KSI	**Kapahiang**	**12.25**	**298**	P	**Pn**	**08 27 58.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.59**	**127**	Pn	**Pn**	**08 28 30.4**	**+0.2**
	0.2nm,0.3s,baz=316,slow=9.2,SNR=4.3						
FITZ				Sn	Sn	08 31 02.6	-8.6
	0.2nm,0.3s,baz=210,slow=17,SNR=4.7						
FITZ				LR	LR	08 33 43.1	
	comp=Z,131nm,21.8s,baz=338,slow=35						
FITZ	**Fitzroy Crossi**	**14.59**	**127**	P	**Pn**	**08 28 30.8**	**+0.6**
	baz=15,SNR=5.2						
KKM	**Kota Kinabalu**	**15.67**	**10**	S	Sn	08 31 18.7	-19
	baz=16,SNR=3.4						
MTN	**Manton Dam**	**17.65**	**103**	P	**Pn**	**08 29 10.4**	**+0.9**
	baz=18,SNR=4.6						
MEEK	**Meekatharra**	**17.74**	**165**	P	**Pn**	**08 29 12.2**	**+1.5**
	baz=18,SNR=16						
MEEK				S	Sn	08 32 12.7	-15
	baz=18,SNR=15						
PSI	**Prapat**	**18.94**	**309**	LR	LR	08 37 02.2	
	comp=Z,119nm,18.3s,baz=16,slow=39						
WRA	**Warramunga Arr**	**22.68**	**120**	P	**P**	**08 30 03.7**	**-1.4**
	7.1nm,0.8s,baz=296,slow=11,SNR=32						
WRA				LR	LR	08 39 38.1	
	comp=Z,80nm,19.4s,baz=320,slow=38						
NWAO	**Narrogin (SRO)**	**23.59**	**172**	LR	LR	08 39 02.2	
	comp=Z,108nm,18.4s,baz=177,slow=36						
ASAR	**Alice Springs**	**24.09**	**128**	P	**P**	**08 30 18.8**	**-0.2**
	3.2nm,0.7s,baz=302,slow=8.6,SNR=59						
JAY	**Jayapura**	**27.95**	**77**	S	S	08 35 08.6	-28
	baz=28,SNR=3.4						
CMAR	**Chiang Mai Arr**	**31.25**	**333**	P	**P**	**08 31 20.6**	**-2.4**
	3.3nm,0.8s,baz=167,slow=8.3,SNR=20						
CMAR				LR	LR	08 45 33.5	
	comp=Z,22nm,18.7s,baz=160,slow=40						
CTA	**Charters Tower**	**33.34**	**112**	LR	LR	08 46 44.6	
	comp=Z,92nm,19.2s,baz=212,slow=39						
STKA	**Stephens Creek**	**34.29**	**135**	P	**P**	**08 31 50.0**	**+0.3**
	7.0nm,0.7s,baz=305,slow=8.0,SNR=17						
STKA				LR	LR	08 45 06.1	
	comp=Z,138nm,18.7s,baz=260,slow=35						
STKA	**Stephens Creek**	**34.29**	**135**	P	**P**	**08 31 50.2**	**+0.6**
	baz=34,SNR=10						
YNG	**Young**	**40.41**	**133**	P	**P**	**08 32 43.0**	**+1.4**
	baz=40,SNR=5.6						
SONM	**Songino Array**	**57.41**	**354**	P	P	08 34 48.6	-3.1
	1.6nm,0.3s,baz=177,slow=8.1,SNR=21						
MKAR	**Makanchi Array**	**62.55**	**336**	P	P	08 35 23.7	-3.3
	2.7nm,0.6s,baz=146,slow=7.3,SNR=33						
AAK	**Ala-Archa**	**62.90**	**329**	LR	LR	09 05 35.9	
	comp=Z,33nm,19.7s,baz=12,slow=39						
ZALV	**Zalesovo Beam**	**67.69**	**342**	P	P	08 35 56.0	-4.1
	1.9nm,0.6s,baz=142,slow=3.4,SNR=12						
BVAR	**Borovoye Array**	**72.26**	**334**	P	P	08 36 23.4	-4.8
	0.5nm,0.6s,baz=150,slow=6.8,SNR=4.0						
VNDA	**Vanda**	**72.40**	**170**	P	**P**	**08 36 27.1**	**-1.6**
	1.1nm,0.9s,baz=356,slow=4.9,SNR=4.9						
BRTR	**Keskin Array B**	**88.27**	**311**	P	P	08 37 52.0	-2.8
	1.3nm,0.9s,baz=124,slow=6.4,SNR=8.8						
FINES	**FINESS Array B**	**97.01**	**321**	P	P	08 38 31.7	-2.8
	2.0nm,0.9s,baz=86,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**116.82**	**23**	PKP	**PKPdf**	**08 43 45.0**	**-2.1**
	0.2nm,0.7s,baz=301,slow=1.6,SNR=5.5						

*SZGRF **29** 08:43:05.6, 41°.78N×14°.09E, h10km, Southern Italy*
*LDG **29** 08:43:07.6±0.1, 42°.03N×14°.02E, h2km, Ml3.5/12, Error ellipse: s-maj=3.2km s-min=2.3km az=24.0*
*ISCJB **29** 08:43:07.6±0.2, 42°.06N±0°.01×13°.96E±0°.02, h11km±1km, mb3.9/15, Error ellipse: s-maj=2.5km s-min=1.7km az=38.3*
*ROM **29** 08:43:07.9±0.1, 41°.99N×14°.00E, h8km±1km, Ml3.8/38, Error ellipse: s-maj=1.1km s-min=0.9km az=57.0*
*MOS **29** 08:43:07.2±1.1, 42°.04N×13°.84E, h10km, mb4.3/9, Error ellipse: s-maj=7.9km s-min=4.6km az=77.2*
*IDC **29** 08:43:08.4±1.0, 42°.14N×13°.91E, h0km, mb3.7/9, mb1 3.8/16, mb1mx3.7/33, mbtmp3.7/16, ML3.5/7, Error ellipse: s-maj=17.5km s-min=12.8km az=78.0*
*BEO **29** 08:43:08.0±0.7, 41°.85N×13°.74E, h22km±20km, ML4.0/1*
*CSEM **29** 08:43:08.5±0.1, 42°.01N×13°.91E, h10km, mb4.0/10, ML4.5/7, Ms3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=36.0*
*PRU **29** 08:43:08.6, 41°.99N×14°.07E, h0km*
*PDG **29** 08:43:09.3±0.4, 42°.12N×14°.11E, h13km, ML3.6/5, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*NEIC **29** 08:43:09.0±0.4, 42°.04N×13°.92E, h10km, ML4.0(PDG), ML3.8(ROM), Error ellipse: s-maj=5.2km s-min=4.7km az=55.0*
NEIC Felt [IV] at Introdacqua, Pratola Peligna, Sulmona and Torre de'Passeri; [III] at Chieti and Francavilla al Mare; [II] at Cassino and L'Aquila. Also felt at Palena, Pescara and Popoli.
*VIE **29** 08:43:10.8±0.7, 42°.21N×14°.14E, h10km, mb3.5/14, ML3.8/13, Ms3.5/2, Error ellipse: s-maj=5.1km s-min=3.7km az=148.0 141 km ENE of Rome*
ISC 29 08:43:08.8±0.6, 42°.03N±0°.02×13°.99E±0°.01, h10km±4km, n384, σ1§42/481, mb4.1/15, 23C-24D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTR	**Introdacqua**	**0.07**	**252**	Pg	**Pg**	**08 43 11.1**	**0.0**
INTR				Sg	**Sg**	**08 43 12.7**	**+0.1**
	20µm,0.3s						
INTR	**Introdacqua**	**0.07**	**252**	P	**Pg**	**08 43 11.1**	**0.0**
INTR				S	**Sg**	**08 43 12.8**	**+0.1**
INTR	**Introdacqua**	**0.07**	**252**	Pg	**Pg**	**08 43 11.1**	**0.0**
INTR				S	**Sg**	**08 43 12.8**	**+0.1**
LPEL	**Lama dei Pelig**	**0.15**	**84**	Pg	**Pg**	**08 43 11.3**	**-0.8**
LPEL				Sg	**Sg**	**08 43 13.3**	**-1.1**
	65µm,0.5s						
LPEL	**Lama dei Pelig**	**0.15**	**84**	Pg	**Pg**	**08 43 11.3**	**-0.8**
LPEL				Sg	**Sg**	**08 43 13.3**	**-1.1**
	65µm,0.5s						
VVLD	**Villa Vallelon**	**0.32**	**240**	Pg	**Pg**	**08 43 14.9**	**-0.3**
VVLD				Sg	**Sg**	**08 43 20.0**	**+0.6**
	19µm,0.5s						
VVLD	**Villa Vallelon**	**0.32**	**240**	P	**Pg**	**08 43 14.9**	**-0.3**
VVLD				S	**Sg**	**08 43 20.0**	**+0.6**
	19µm,0.5s						
CAFR	**Castel Frentan**	**0.33**	**54**	Pg	**Pg**	**08 43 15.5**	**+0.1**
CAFR				Sg	**Sb**	**08 43 22.0**	**-0.3**
	33µm,0.3s						
CAFR	**Castel Frentan**	**0.33**	**54**	Pg	**Pg**	**08 43 15.5**	**+0.1**
CAFR				Sg	**Sb**	**08 43 22.0**	**-0.3**
	33µm,0.3s						
SDI	**San Donato**	**0.35**	**202**	Pg	**Pg**	**08 43 14.8**	**-1.0**
SDI	**San Donato**	**0.35**	**202**	P	**Pg**	**08 43 14.8**	**-1.0**
SDI	**San Donato**	**0.35**	**202**	P	**Pg**	**08 43 14.8**	**-1.0**
SDI	**San Donato**	**0.35**	**202**	Pg	**Pg**	**08 43 14.8**	**-1.0**
RNI2	**Rionero Sannit**	**0.35**	**160**	Pg	**Pg**	**08 43 15.3**	**-0.5**
RNI2				Sg	**Sg**	**08 43 21.1**	**+0.6**
	29µm,1.1s						
RNI2	**Rionero Sannit**	**0.35**	**160**	P	Pg	**08 43 15.5**	**-0.3**
RNI2				S	**Sg**	**08 43 21.0**	**+0.6**
RNI2	**Rionero Sannit**	**0.35**	**160**	P	Pg	**08 43 15.5**	**-0.3**
RNI2				Sg	**Sg**	**08 43 21.1**	**+0.6**
	29µm,1.1s						
POFI	**Posta Fibreno**	**0.38**	**213**	Pg	**Pg**	**08 43 15.5**	**-0.8**
POFI				Sg	**Sg**	**08 43 21.2**	**-0.1**
POFI	**Posta Fibreno**	**0.38**	**213**	Pg	**Pg**	**08 43 15.5**	**-0.8**
POFI				Sg	**Sg**	**08 43 21.2**	**-0.1**
VCEL	**Villa Celiera**	**0.38**	**343**	Pg	**Pb**	**08 43 17.0**	**-0.8**
VCEL				Sg	**Sb**	**08 43 24.3**	**+0.5**
	31µm,0.4s						
VCEL	**Villa Celiera**	**0.38**	**343**	Pg	**Pb**	**08 43 17.0**	**-0.8**
VCEL				Sg	**Sb**	**08 43 24.3**	**+0.5**
	31µm,0.4s						
FAGN	**Fagnano**	**0.38**	**308**	Pg	**Pg**	**08 43 16.7**	**+0.3**
FAGN				Sg	**Sb**	**08 43 23.5**	**-0.3**
	35µm,0.4s						
FAGN	**Fagnano**	**0.38**	**308**	Pg	**Pg**	**08 43 16.7**	**+0.3**
FAGN				Sg	**Sb**	**08 43 23.5**	**-0.3**
	35µm,0.4s						
CERA	**Filignano**	**0.43**	**177**	Pg	**Pg**	**08 43 16.0**	**-1.4**
CERA				Sg	**Sg**	**08 43 22.9**	**-0.2**
	8µm,0.4s						
CERA	**Filignano**	**0.43**	**177**	Pg	**Pg**	**08 43 16.0**	**-1.4**
CERA				Sg	**Sg**	**08 43 22.9**	**-0.2**
	8µm,0.4s						
MIDA	**Miranda**	**0.44**	**153**	Pg	**Pg**	**08 43 16.3**	**-1.1**
MIDA				Sg	**Sg**	**08 43 22.7**	**-0.4**
	8µm,0.5s						
MIDA	**Miranda**	**0.44**	**153**	P	**Pg**	**08 43 16.3**	**-1.1**
MIDA				S	**Sg**	**08 43 22.8**	**-0.4**
MIDA	**Miranda**	**0.44**	**153**	Pg	**Pg**	**08 43 16.3**	**-1.1**
MIDA				S	**Sg**	**08 43 22.8**	**-0.4**
PTQR	**Pietraquaria**	**0.44**	**269**	Pg	**Pg**	**08 43 17.4**	**0.0**
PTQR	**Pietraquaria**	**0.44**	**269**	P	**Pg**	**08 43 17.4**	**0.0**
PTQR	**Pietraquaria**	**0.44**	**269**	Pg	**Pg**	**08 43 17.4**	**0.0**
TRIV	**Trivento**	**0.50**	**122**	Pg	**Pg**	**08 43 17.4**	**-1.1**
	4µm,0.6s						
TRIV	**Trivento**	**0.50**	**122**	Pg	**Pg**	**08 43 17.4**	**-1.1**
	4µm,0.6s						
FRES	**Fresagrandinar**	**0.51**	**96**	Pg	**Pg**	**08 43 17.6**	**-1.2**
FRES				Sg	**Sb**	**08 43 26.8**	**-0.7**
	7µm,0.5s						
FRES	**Fresagrandinar**	**0.51**	**96**	Pg	**Pg**	**08 43 17.6**	**-1.2**
FRES				Sg	**Sb**	**08 43 26.8**	**-0.7**
	7µm,0.5s						
AQU	**L'Aquila**	**0.54**	**307**	Pg	**Pg**	**08 43 19.3**	**0.0**
AQU				Sg	**Sb**	**08 43 29.0**	**+0.6**
	9µm,0.5s						
AQU	**L'Aquila**	**0.54**	**307**	*ePg*	**Pg**	**08 43 19.4**	**0.0**
AQU				*eS*	**Sn**	**08 43 31.2**	**-0.7**
AQU	**L'Aquila**	**0.54**	**307**	*eP*	**Pg**	**08 43 19.4**	**0.0**
AQU				Sg	**Sb**	**08 43 29.0**	**+0.6**
	9µm,0.5s						
GUAR	**Guarcino**	**0.56**	**245**	Pg	**Pg**	**08 43 18.9**	**-0.7**
	3µm,0.4s						
GUAR	**Guarcino**	**0.56**	**245**	P	**Pg**	**08 43 19.0**	**-0.7**

MSAG	**Monte S. Angel**	**1.47**	**102**	Pg	**Pn**	**08 43 35.1**	**-0.4**
	2µm,0.5s						
MS1	**Monte Sant'Ang**	**1.50**	**102**	*e*Pn	**Pb**	**08 43 36.1**	**-0.7**
MS1				*e*Sn	**Sg**	**08 43 56.8**	**-0.1**
AOI	**Ancona**	**1.54**	**350**	Pg	**Pb**	**08 43 37.4**	**-0.2**
	2µm,0.7s						
AOI	**Ancona**	**1.54**	**350**	Pg	**Pb**	**08 43 37.4**	**-0.2**
	2µm,0.7s						
MURB	**Monte Urbino**	**1.64**	**319**	Pg	**Pb**	**08 43 39.0**	**-0.2**
	2µm,0.5s						
MURB	**Monte Urbino**	**1.64**	**319**	Pg	**Pb**	**08 43 39.0**	**-0.2**
	2µm,0.5s						
ARVD	**Arcevia**	**1.66**	**333**	Pg	**Pb**	**08 43 38.7**	**-0.8**
	669nm,0.7s						
ARVD	**Arcevia**	**1.66**	**333**	Pg	**Pb**	**08 43 38.7**	**-0.8**
	669nm,0.7s						
PALZ	**Palazzo San Ge**	**1.84**	**126**	Pg	**Pn**	**08 43 40.7**	**+0.2**
	1µm,0.9s						
PALZ	**Palazzo San Ge**	**1.84**	**126**	Pg	**Pn**	**08 43 40.7**	**+0.2**
	1µm,0.9s						
PIEI	**Pieia**	**1.84**	**325**	Pg	**Pb**	**08 43 42.0**	**-0.7**
	354nm,0.6s						
PIEI	**Pieia**	**1.84**	**325**	Pg	**Pb**	**08 43 42.0**	**-0.7**
	354nm,0.6s						
MRVN	**Minervino Murg**	**1.92**	**120**	Pg	**Pn**	**08 43 41.2**	**-0.5**
BADI	**Badiali**	**1.96**	**320**	Pg	**Pb**	**08 43 43.8**	**-0.8**
	986nm,0.9s						
BADI	**Badiali**	**1.96**	**320**	Pg	**Pb**	**08 43 43.8**	**-0.8**
	986nm,0.9s						
CDT	**Castel del Mon**	**1.96**	**118**	*e*Pn	**Pn**	**08 43 42.0**	**-0.2**
CDT				*e*Sn	**Sn**	**08 44 07.1**	**+0.2**
SG1	**Sgolgore (BA)**	**2.35**	**120**	*e*Pn	**Pn**	**08 43 47.6**	**+0.1**
SG1				*e*Sn	**Sn**	**08 44 17.5**	**+1.0**
BAI	**Bari**	**2.36**	**112**	*e*Pn	**Pn**	**08 43 48.6**	**+1.0**
BAI				*e*Sn	**Sb**	**08 44 18.9**	**-1.7**
CUC	**Castrocucco**	**2.46**	**145**	*e*Pn	**Pn**	**08 43 50.1**	**+1.0**
CUC	**Castrocucco**	**2.46**	**145**	*e*Pn	**Pn**	**08 43 50.1**	**+1.0**
NVLJ	**Novalja**	**2.61**	**14**	*i* Pn	**Pn**	**08 43 50.7**	**-0.5**
NVLJ				Sn	**Sn**	**08 44 24.0**	**+1.1**
NVLJ	**Novalja**	**2.61**	**14**	*i* Pn	**Pn**	**08 43 50.6**	**-0.5**
NVLJ				Sn	**Sn**	**08 44 24.0**	**+1.1**
STON	**Ston**	**2.87**	**72**	*e*Pn	**Pn**	**08 43 54.8**	**0.0**
STON	**Ston**	**2.87**	**72**	*e*Pn	**Pn**	**08 43 54.7**	**0.0**
HCY	**Herceg Novi**	**3.37**	**81**	⇓*i*Pn	**Pn**	**08 44 02.4**	**+0.8**
HCY				*e*Sn	**Sn**	**08 44 41.4**	**-0.3**
HCY	**Herceg Novi**	**3.37**	**81**	P	**Pn**	**08 44 02.3**	**+0.7**
HCY				S	**Sn**	**08 44 42.8**	**+1.1**
HCY	**Herceg Novi**	**3.37**	**81**	P	**Pn**	**08 44 02.3**	**+0.7**
HCY				S	**Sn**	**08 44 42.8**	**+1.1**
HCY	**Herceg Novi**	**3.37**	**81**	P	**Pn**	**08 44 02.3**	**+0.7**
HCY				*e*Sn	**Sn**	**08 44 41.4**	**-0.3**
HCY				S	**Sn**	**08 44 42.8**	**+1.1**
BRY	**Bratogost**	**3.48**	**74**	P	**Pn**	**08 44 05.0**	**+1.8**
BRY				S	**Sn**	**08 44 45.2**	**+0.7**
BRY	**Bratogost**	**3.48**	**74**	P	**Pn**	**08 44 05.0**	**+1.8**
BRY				S	**Sn**	**08 44 45.2**	**+0.7**
BRY	**Bratogost**	**3.48**	**74**	P	**Pn**	**08 44 05.0**	**+1.8**
BRY				S	**Sn**	**08 44 45.2**	**+0.7**
SKDS	**Skadanscina**	**3.51**	**0**	*i* Pn	**Pn**	**08 44 03.1**	**-0.5**
SKDS				*e*Sn	**Sn**	**08 44 45.8**	**+0.6**
SKDS	**Skadanscina**	**3.51**	**0**	*i* Pn	**Pn**	**08 44 03.1**	**-0.5**
SKDS				*e*Sn	**Sn**	**08 44 45.8**	**+0.6**
GBRS	**Gornja Briga**	**3.55**	**9**	*e*Pn	**Pn**	**08 44 04.0**	**-0.1**
GBRS				*e*Sn	**Sn**	**08 44 49.1**	**+3.0**
BLY	**Banja Luka**	**3.58**	**40**	*e*Pn	**Pn**	**08 44 05.6**	**+1.2**
BLY				*e*Sn	**Sb**	**08 44 50.9**	**-4.8**
BLY	**Banja Luka**	**3.58**	**40**	*e*Pn	**Pn**	**08 44 05.6**	**+1.2**
BLY				*e*Sn	**Sb**	**08 44 50.9**	**-4.8**
BOJS	**Bojanci**	**3.59**	**14**	*i* Pn	**Pn**	**08 44 04.8**	**+0.2**
BOJS				*e*Sn	**Sn**	**08 44 47.8**	**+0.8**
BOJS	**Bojanci**	**3.59**	**14**	*i* Pn	**Pn**	**08 44 04.8**	**+0.2**
BOJS				*e*Sn	**Sn**	**08 44 47.8**	**+0.8**
OSPF	**L'Ospedale**	**3.60**	**266**	P	**Pn**	**08 44 04.7**	**-0.2**
OSPF	**L'Ospedale**	**3.60**	**266**	P	**Pn**	**08 44 04.7**	**-0.2**
BUM	**Brajici-Budva**	**3.66**	**84**	⇓*i*Pn	**Pn**	**08 44 06.4**	**+0.8**
BUM				*e*Sn	**Sn**	**08 44 48.8**	**0.0**
PGF	**Pioggiola**	**3.74**	**280**	*e*P	**Pn**	**08 44 07.8**	**+1.1**
PGF				*e*Sn	**Sn**	**08 44 47.0**	**-3.9**
	22nm,0.6s						
PGF	**Pioggiola**	**3.74**	**280**	*e*P	**Pn**	**08 44 07.8**	**+1.1**
PGF				*e*Sn	**Sn**	**08 44 47.0**	**-3.9**
	11nm,0.6s						
NKY	**Niksic**	**3.79**	**76**	P	**Pn**	**08 44 09.7**	**+2.3**
NKY				S	**Sn**	**08 44 52.7**	**+0.6**
NKY	**Niksic**	**3.79**	**76**	P	**Pn**	**08 44 09.7**	**+2.3**
NKY				S	**Sn**	**08 44 52.7**	**+0.6**
NKY	**Niksic**	**3.79**	**76**	P	**Pn**	**08 44 09.7**	**+2.3**
NKY				S	**Sn**	**08 44 52.7**	**+0.6**
UPM	**Unac-Piva**	**3.81**	**70**	⇓*i*Pn	**Pn**	**08 44 07.4**	**-0.4**
UPM				*e*Sn	**Sn**	**08 44 52.1**	**-0.7**
UPM	**Unac-Piva**	**3.81**	**70**	⇓*i*Pn	**Pn**	**08 44 07.4**	**-0.4**
UPM				*e*Sn	**Sn**	**08 44 52.1**	**-0.7**
ULC	**Ulcinj**	**3.92**	**89**	⇓*i*Pn	**Pn**	**08 44 09.6**	**+0.5**
ULC				*e*Sn	**Sn**	**08 44 54.9**	**-0.3**
ULC	**Ulcinj**	**3.92**	**89**	P	**Pn**	**08 44 10.6**	**+1.5**
ULC				S	**Sn**	**08 44 56.9**	**+1.7**
ULC	**Ulcinj**	**3.92**	**89**	P	**Pn**	**08 44 10.6**	**+1.5**
ULC				S	**Sn**	**08 44 56.9**	**+1.7**
ULC	**Ulcinj**	**3.92**	**89**	⇓*i*Pn	**Pn**	**08 44 09.6**	**+0.5**
ULC	**Ulcinj**	**3.92**	**89**	P	**Pn**	**08 44 10.6**	**+1.5**
ULC				S	**Sn**	**08 44 56.9**	**+1.7**
PDG	**Podgorica**	**3.93**	**82**	*e*Pn	**Pn**	**08 44 09.9**	**+0.7**
PDG				*e*Sn	**Sn**	**08 44 56.6**	**+1.1**
PDG	**Podgorica**	**3.93**	**82**	⇓*i*Pn	**Pn**	**08 44 09.5**	**+0.2**
PDG				*e*Sn	**Sn**	**08 44 56.6**	**+1.1**
TTG	**Podgorica**	**3.94**	**82**	⇓*i*Pn	**Pn**	**08 44 09.5**	**+0.2**
TTG				*e*Sn	**Sn**	**08 44 55.0**	**-0.5**
TTG	**Podgorica**	**3.94**	**82**	P	**Pn**	**08 44 10.0**	**+0.7**
TTG				S	**Sn**	**08 44 56.1**	**+0.6**
TTG	**Podgorica**	**3.94**	**82**	P	**Pn**	**08 44 10.0**	**+0.7**
TTG				S	**Sn**	**08 44 56.1**	**+0.6**
TTG	**Podgorica**	**3.94**	**82**	P	**Pn**	**08 44 10.0**	**+0.7**
TTG				S	**Sn**	**08 44 56.1**	**+0.6**
VOY	**Vojsko**	**4.00**	**359**	*e*Pn	**Pn**	**08 44 10.4**	**+0.1**
VOY				*e*Sn	**Sn**	**08 44 58.5**	**+1.2**
VOY	**Vojsko**	**4.00**	**359**	*e*Pn	**Pn**	**08 44 10.4**	**+0.1**
VOY				*e*Sn	**Sn**	**08 44 58.5**	**+1.2**
LJU	**Ljubljana**	**4.03**	**5**	*e*Pn	**Pn**	**08 44 13.0**	**+2.4**
LJU				*e*Sn	**Sn**	**08 45 00.0**	**+2.1**
CEL	**Celeste**	**4.04**	**158**	Pn	**Pn**	**08 44 10.5**	**-0.4**
CEL	**Celeste**	**4.04**	**158**	Pn	**Pn**	**08 44 10.5**	**-0.4**
PLE	**Pljevlja**	**4.19**	**70**	⇓*i*Pn	**Pn**	**08 44 13.0**	**+0.1**
PLE				*e*Sn	**Sn**	**08 45 01.1**	**-0.9**
BBLS	**Lazići**	**4.38**	**63**	*e*Pn	**Pn**	**08 44 17.0**	**+1.5**
BBLS				*e*Sn	**Sn**	**08 45 09.3**	**+2.7**
TIR	**Tirane**	**4.45**	**97**	*e*Pn	**Pn**	**08 44 17.2**	**+0.7**
TIR				*e*Sn	**Sn**	**08 45 08.0**	**-0.4**
TIR	**Tirane**	**4.45**	**97**	*e*Pn	**Pn**	**08 44 17.2**	**+0.7**
TIR				*e*Sn	**Sn**	**08 45 08.0**	**-0.4**
PVY	**Plav**	**4.46**	**81**	P	**Pn**	**08 44 19.0**	**+2.3**
PVY				S	**Sn**	**08 45 09.4**	**+0.6**
PVY	**Plav**	**4.46**	**81**	P	**Pn**	**08 44 19.0**	**+2.3**
PVY				S	**Sn**	**08 45 09.4**	**+0.6**
OBKA	**Obir**	**4.49**	**5**	⇓*i*Pn	**Pn**	**08 44 16.7**	**-0.4**
	SNR=12						
OBKA				⇑*i*Sn	**Sn**	**08 45 07.5**	**-2.0**
OBKA	**Obir**	**4.49**	**5**	Pn	**Pn**	**08 44 16.7**	**-0.4**
	SNR=12						
OBKA				Sn	**Sn**	**08 45 07.5**	**-2.0**
MYKA	**Terra Mystica**	**4.60**	**357**	⇓*i*Pn	**Pn**	**08 44 18.6**	**0.0**
MYKA				⇓*i*Sn	**Sn**	**08 45 11.4**	**-0.8**
MYKA	**Terra Mystica**	**4.60**	**357**	P	**Pn**	**08 44 18.6**	**0.0**
MYKA				Sn	**Sn**	**08 45 11.4**	**-0.8**
TEKS	**Tekeris**	**4.76**	**56**	*e*Pn	**Pn**	**08 44 21.1**	**+0.4**
TEKS	**Tekeris**	**4.76**	**56**	*e*Pn	**Pn**	**08 44 21.1**	**+0.4**
IVAS	**Ivanjica**	**4.79**	**69**	*e*Pn	**Pn**	**08 44 22.4**	**+1.2**
IVAS				*e*Sn	**Sn**	**08 45 17.5**	**+0.7**
IVAS	**Ivanjica**	**4.79**	**69**	*e*Pn	**Pn**	**08 44 22.4**	**+1.2**
ABTA	**Abfaltersbach**	**4.83**	**348**	⇓*i*Pn	**Pn**	**08 44 22.0**	**+0.3**
	SNR=31						
ABTA				⇓*i*Sn	**Sn**	**08 45 16.3**	**-1.5**
ABTA	**Abfaltersbach**	**4.83**	**348**	Pn	**Pn**	**08 44 22.0**	**+0.3**
	SNR=31						
ABTA				Sn	**Sn**	**08 45 16.3**	**-1.5**
DIVS	**Divibare**	**4.86**	**63**	*e*Pn	**Pn**	**08 44 23.2**	**+1.1**
DIVS				*e*Sn	**Sn**	**08 45 20.3**	**+1.8**
DIVS	**Divibare**	**4.86**	**63**	*e*Pn	**Pn**	**08 44 23.2**	**+1.1**
DIVS				*e*Sn	**Sn**	**08 45 20.3**	**+1.8**
KEK	**Kerkira**	**4.98**	**116**	*e*P	**Pn**	**08 44 24.8**	**+1.1**
KBA	**Koelnbreinsper**	**5.07**	**355**	⇑*i*Pn	**Pn**	**08 44 25.3**	**+0.3**
	SNR=14						
KBA				⇑*i*Sn	**Sn**	**08 45 23.4**	**-0.3**
KBA	**Koelnbreinsper**	**5.07**	**355**	Pn	**Pn**	**08 44 25.3**	**+0.3**
	SNR=14						
KBA				Sn	**Sn**	**08 45 23.4**	**-0.3**
SAOF	**Saorge**	**5.11**	**295**	P	**Pn**	**08 44 28.1**	**+2.6**
SAOF	**Saorge**	**5.11**	**295**	P	**Pn**	**08 44 28.1**	**+2.6**
SBF	**Sospel**	**5.15**	**293**	*e*Pn	**Pn**	**08 44 23.8**	**-2.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**08 45 20.4**	**-5.1**
	12nm,0.5s						
SBF	**Sospel**	**5.15**	**293**	*e*Pn	**Pn**	**08 44 23.8**	**-2.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**08 45 20.4**	**-5.1**
	6.2nm,0.5s						
TRUS	**Trudelj**	**5.18**	**63**	*e*Pn	**Pn**	**08 44 26.2**	**-0.3**
TRUS				*e*Sn	**Sn**	**08 45 26.4**	**+0.1**
TRUS	**Trudelj**	**5.18**	**63**	*e*Pn	**Pn**	**08 44 26.2**	**-0.3**
AUTN	**L'Aution**	**5.20**	**294**	P	**Pn**	**08 44 29.6**	**+2.7**
AUTN	**L'Aution**	**5.20**	**294**	P	**Pn**	**08 44 29.6**	**+2.7**
GRUS	**Gruza**	**5.27**	**67**	*e*Pn	**Pn**	**08 44 28.3**	**+0.6**
GRUS				*e*Sn	**Sn**	**08 45 29.7**	**+1.1**
GRUS	**Gruza**	**5.27**	**67**	*e*Pn	**Pn**	**08 44 28.3**	**+0.6**
GRUS				*e*Sn	**Sn**	**08 45 29.7**	**+1.1**
TOUF	**Mont Tournerai**	**5.32**	**294**	P	**Pn**	**08 44 31.0**	**+2.4**
TOUF	**Mont Tournerai**	**5.32**	**294**	P	**Pn**	**08 44 31.0**	**+2.4**
ARSA	**Arzberg**	**5.33**	**11**	⇑*i*Pn	**Pn**	**08 44 28.1**	**-0.5**
ARSA				⇑*i*Sn	**Sn**	**08 45 26.4**	**-3.6**
ARSA	**Arzberg**	**5.33**	**11**	*e*Pn	**Pn**	**08 44 28.7**	**+0.2**
ARSA	**Arzberg**	**5.33**	**11**	*e*Pn	**Pn**	**08 44 28.7**	**+0.2**
ARSA				Sn	**Sn**	**08 45 26.4**	**-3.6**
PKSM	**Moragy**	**5.35**	**37**	*e*Pn	**Pn**	**08 44 30.7**	**+1.9**
PKSM	**Moragy**	**5.35**	**37**	*e*Pn	**Pn**	**08 44 30.7**	**+1.9**
SELS	**Selova**	**5.39**	**75**	*e*Pn	**Pn**	**08 44 29.8**	**+0.4**
SELS	**Selova**	**5.39**	**75**	*e*Pn	**Pn**	**08 44 29.8**	**+0.4**
CALN	**Calern**	**5.49**	**291**	P	**Pn**	**08 44 32.3**	**+1.5**
WTTA	**Wattenberg**	**5.49**	**343**	⇑*i*Pn	**Pn**	**08 44 31.3**	**+0.4**
	SNR=10.0						
WTTA				⇓*i*Sn	**Sn**	**08 45 33.2**	**-1.0**
WTTA	**Wattenberg**	**5.49**	**343**	Pn	**Pn**	**08 44 31.3**	**+0.4**
	SNR=10.0						
WTTA				Sn	**Sn**	**08 45 33.2**	**-1.0**
FETA	**Feichten**	**5.50**	**336**	⇓*i*Pn	**Pn**	**08 44 32.1**	**+1.0**
	SNR=13						
FETA				⇓*i*Sn	**Sn**	**08 45 34.6**	**+0.1**
FETA	**Feichten**	**5.50**	**336**	Pn	**Pn**	**08 44 32.1**	**+1.0**
	SNR=13						
FETA				Sn	**Sn**	**08 45 34.6**	**+0.1**
TUE	**Stuetta**	**5.55**	**325**	*e*Pn	**Pn**	**08 44 32.5**	**+0.8**
TUE				*e*Sn	**Sn**	**08 45 36.4**	**+0.7**
TUE	**Stuetta**	**5.55**	**325**	*e*Pn	**Pn**	**08 44 32.5**	**+0.8**
TUE				*e*Sn	**Sn**	**08 45 36.4**	**+0.7**
WATA	**Walderalm**	**5.57**	**343**	⇑*i*Pn	**Pn**	**08 44 32.6**	**+0.6**
	SNR=18						
WATA	**Walderalm**	**5.57**	**343**	Pn	**Pn**	**08 44 32.6**	**+0.6**
	SNR=18						
DAVOX	**Davos/Dischmat**	**5.58**	**330**	Pn	**Pn**	**08 44 32.0**	**-0.2**
	1.9nm,0.3s,baz=151,slow=15,SNR=27						
DAVOX				Sn	**Sn**	**08 45 35.8**	**-0.7**
	1.3nm,0.3s,baz=153,slow=22,SNR=1.6						
DAVOX	**Davos/Dischmat**	**5.58**	**330**	P	**Pn**	**08 44 32.0**	**-0.2**
	2.0nm,0.3s						
DAVOX				S	**Sn**	**08 45 35.8**	**-0.7**
	1.0nm,0.3s						
FRF	**La Foret Royal**	**5.61**	**288**	*e*Pn	**Pn**	**08 44 31.3**	**-1.1**
	SNR=1.0						
FRF	**La Foret Royal**	**5.61**	**288**	*e*Pn	**Pn**	**08 44 31.3**	**-1.1**
	SNR=1.0						
LMR	**La Mourre**	**5.66**	**286**	*e*Pn	**Pn**	**08 44 32.8**	**-0.3**
	SNR=1.0						
LMR	**La Mourre**	**5.66**	**286**	*e*Pn	**Pn**	**08 44 32.8**	**-0.3**
	SNR=1.0						
MOTA	**Moosalm**	**5.70**	**340**	⇑*i*Pn	**Pn**	**08 44 34.4**	**+0.8**
	SNR=9.8						
MOTA	**Moosalm**	**5.70**	**340**	Pn	**Pn**	**08 44 34.4**	**+0.8**
	SNR=9.8						
JAN	**Janina**	**5.72**	**112**	*e*P	**Pn**	**08 44 36.0**	**+2.1**
MOA	**Molln**	**5.82**	**2**	⇑*i*Pn	**Pn**	**08 44 35.3**	**0.0**
	SNR=26						
MOA				⇑*i*Sn	**Sn**	**08 45 41.0**	**-1.1**
MOA	**Molln**	**5.82**	**2**	Pn	**Pn**	**08 44 35.3**	**0.0**
	SNR=26						
MOA				Sn	**Sn**	**08 45 41.0**	**-1.1**
BARS	**Barje**	**5.85**	**80**	*e*Pn	**Pn**	**08 44 36.1**	**+0.5**
BARS				*e*Sn	**Sn**	**08 45 41.9**	**-0.8**
BARS	**Barje**	**5.85**	**80**	*e*Pn	**Pn**	**08 44 36.1**	**+0.5**
BARS				*e*Sn	**Sn**	**08 45 41.9**	**-0.8**
MBDF	**Montbardon**	**5.91**	**300**	*e*Pn	**Pn**	**08 44 34.5**	**-2.1**
MBDF	**Montbardon**	**5.91**	**300**	*e*P	**Pn**	**08 44 38.9**	**+2.3**
	SNR=1.0						
MBDF				*e*Sn	Sn	08 45 38.6	-5.8
	11nm,0.7s,SNR=1.0						
MBDF	**Montbardon**	**5.91**	**300**	*e*Pn	**Pn**	**08 44 34.5**	**-2.1**
CONA	**Conrad Observa**	**6.04**	**12**	⇑*i*Pn	**Pn**	**08 44 37.9**	**-0.5**
	SNR=14						
CONA	**Conrad Observa**	**6.04**	**12**	Pn	**Pn**	**08 44 37.9**	**-0.5**
	SNR=14						
KZN	**Kozani**	**6.12**	**104**	*e*P	**Pn**	**08 44 41.0**	**+1.6**
VLS	**Valsamata**	**6.36**	**125**	*e*P	**Pn**	**08 44 43.7**	**+1.1**
SMRF	**Simiane la Rot**	**6.47**	**290**	*e*P	**Pn**	**08 44 46.7**	**+2.5**
	SNR=1.0						
ZAPS	**Zavoj**	**6.49**	**76**	*e*Pn	**Pn**	**08 44 45.9**	**+1.4**
ZAPS				*e*Sn	**Sn**	**08 45 57.9**	**-0.8**
ZAPS	**Zavoj**	**6.49**	**76**	*e*Pn	**Pn**	**08 44 45.9**	**+1.4**
ZAPS				*e*Sn	**Sn**	**08 45 57.9**	**-0.8**
ORIF	**Oris-en-Rattie**	**6.57**	**299**	*e*P	**Pn**	08 44 48.7	+3.1
THL	**Klokotos Trika**	**6.57**	**109**	*e*P	**Pn**	**08 44 46.1**	**+0.6**
BZS	**Buzias**	**6.58**	**54**	⇑P	Pn	08 44 48.8	+3.2
BZS	**Buzias**	**6.58**	**54**	⇑*i*P	Pn	08 44 48.8	+3.2
BZS	**Buzias**	**6.58**	**54**	*e*Pn	**Pn**	**08 44 45.9**	**+0.3**
BZS	**Buzias**	**6.58**	**54**	*e*Pn	**Pn**	**08 44 45.9**	**+0.3**
EVR	**Evrytania**	**6.72**	**115**	*e*P	**Pn**	**08 44 49.7**	**+1.9**
GEC2	**GERESS Array S**	**6.82**	**358**	*e*P	**Pn**	**08 44 48.0**	**-1.0**
GEC2				*e*		08 46 03.7	
GEC2	**GERESS Array S**	**6.82**	**358**	*e*Pn	**Pn**	**08 44 48.0**	**-1.0**
GEC2				*e*Sn	**Sn**	**08 46 03.7**	**-3.0**
GEC2	**GERESS Array S**	**6.82**	**358**	*e*Pn	**Pn**	**08 44 48.0**	**-1.0**
GEC2				*e*Sn	**Sn**	**08 46 03.7**	**-3.0**
GEC2	**GERESS Array S**	**6.82**	**358**	*e*P	**Pn**	**08 44 48.0**	**-1.0**
GERES	**GERESS Array B**	**6.82**	**358**	Pn	**Pn**	**08 44 48.4**	**-0.6**
	1.2nm,0.3s,baz=175,slow=13,SNR=35						
GERES				Sn	**Sn**	**08 46 05.3**	**-1.4**
	4.3nm,0.3s,baz=169,slow=24,SNR=10						
GERES	**GERESS Array B**	**6.82**	**358**	P	**Pn**	**08 44 48.4**	**-0.6**
	1.0nm,0.3s						
GERES				S	**Sn**	**08 46 05.3**	**-1.4**
	4.0nm,0.3s						
VTS	**Vitosha**	**6.86**	**82**	⇑P	**Pn**	**08 44 50.9**	**+1.3**
VTS	**Vitosha**	**6.86**	**82**	⇑*i*P	**Pn**	**08 44 50.9**	**+1.3**
VTS	**Vitosha**	**6.86**	**82**	*e*Pn	**Pn**	**08 44 50.4**	**+0.8**
VTS				*e*Sn	**Sn**	**08 46 05.6**	**-2.2**
VTS	**Vitosha**	**6.86**	**82**	*e*Pn	**Pn**	**08 44 50.4**	**+0.8**
VTS	**Vitosha**	**6.86**	**82**	P	**Pn**	**08 44 50.9**	**+1.3**
RLS	**Rios of Patr**	**6.97**	**122**	*e*P	Pn	08 44 53.9	+2.8
AGG	**Agios Georgios**	**7.03**	**113**	*e*P	**Pn**	**08 44 53.7**	**+1.8**
EFP	**Efpalio**	**7.05**	**118**	*e*P	**Pn**	**08 44 54.1**	**+2.0**
KHC	**Kasperske Hory**	**7.11**	**358**	*e*P	**Pn**	**08 44 52.2**	**-0.7**
KHC				*e*		08 46 11.3	
KHC	**Kasperske Hory**	**7.11**	**358**	*e*Pn	**Pn**	**08 44 51.8**	**-1.1**
KHC				*e*Sn	**Sn**	**08 46 09.4**	**-4.3**
KHC	**Kasperske Hory**	**7.11**	**358**	*e*PN	**Pn**	**08 44 52.2**	**-0.7**
KHC				*ex*	x	08 45 02.0	
KHC				*e*SN	**Sn**	**08 46 11.3**	**-2.4**
KHC				*ex*	x	08 46 37.5	
KHC	**Kasperske Hory**	**7.11**	**358**	Pn	**Pn**	**08 44 52.2**	**-0.7**
KHC				Sn	**Sn**	**08 46 11.3**	**-2.4**
WET	**Wettzell**	**7.16**	**354**	*e*P	**Pn**	**08 44 52.1**	**-1.5**
WET				*e*		08 46 11.9	
WET	**Wettzell**	**7.16**	**354**	*e*Pn	**Pn**	**08 44 52.1**	**-1.5**
WET				*e*Sn	**Sn**	**08 46 11.9**	**-3.0**
WET	**Wettzell**	**7.16**	**354**	*e*P	**Pn**	**08 44 52.1**	**-1.5**
TRIZ	**Trizonia**	**7.19**	**118**	*e*P	Pn	08 44 56.7	+2.7
LAKA	**Lakka**	**7.20**	**119**	*e*P	**Pn**	**08 44 56.3**	**+2.1**
KALE	**Kalithea**	**7.22**	**118**	*e*P	**Pn**	**08 44 56.8**	**+2.3**
KEST	**Kesra**	**7.26**	**211**	Pn	Pn	08 44 58.1	+3.0
	0.3nm,0.3s,baz=355,slow=7.4,SNR=6.1						
KEST	**Kesra**	**7.26**	**211**	*e*Pn	**Pn**	**08 44 57.0**	**+1.9**
CABF	**La Chapelle**	**7.28**	**312**	*e*Pn	**Pn**	**08 44 54.6**	**-0.8**
	SNR=1.0						
CABF	**La Chapelle**	**7.28**	**312**	*e*Pn	**Pn**	**08 44 54.6**	**-0.8**
	SNR=1.0						
VYHS	**Vyhne**	**7.31**	**26**	*e*P	**Pn**	**08 44 55.5**	**-0.2**
VYHS				*e*		08 46 14.3	
VYHS	**Vyhne**	**7.31**	**26**	*e*PN	**Pn**	**08 44 55.5**	**-0.2**
VYHS				*e*SN	**Sn**	**08 46 14.3**	**-4.4**
VYHS	**Vyhne**	**7.31**	**26**	*e*P	**Pn**	**08 44 55.5**	**-0.2**
VIVF	**Saint-Julien-l**	**7.34**	**296**	*e*Pn	**Pn**	**08 44 53.7**	**-2.5**
VIVF	**Saint-Julien-l**	**7.34**	**296**	*e*P	Pn	08 44 59.1	+2.9
	SNR=1.0						
VIVF				*e*Sn	Sn	08 46 12.6	-7.0
	2.3nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**7.34**	**296**	*e*Pn	**Pn**	**08 44 53.7**	**-2.5**
NVR	**Nevrokopi**	**7.42**	**92**	*e*P	**Pn**	**08 44 57.7**	**+0.4**
BFO	**Black Forest**	**7.46**	**330**	*e*P	**Pn**	**08 44 57.5**	**-0.2**
BFO	**Black Forest**	**7.46**	**330**	*e*Pn	**Pn**	**08 44 58.0**	**+0.3**
BFO	**Black Forest**	**7.46**	**330**	*e*Pn	**Pn**	**08 44 57.5**	**-0.2**
BFO	**Black Forest**	**7.46**	**330**	*e*P	**Pn**	**08 44 57.5**	**-0.2**
VRAC	**Vranov**	**7.50**	**13**	Pn	**Pn**	**08 44 59.8**	**+1.5**
	0.5nm,0.3s,baz=199,slow=12,SNR=5.5						
VRAC	**Vranov**	**7.50**	**13**	P	**Pn**	**08 44 59.8**	**+1.5**
	1.0nm,0.3s						
GUR	**Goura**	**7.61**	**120**	*e*P	**Pn**	**08 45 02.2**	**+2.3**
HINF	**Hinteralfeld**	**7.68**	**321**	*e*Pn	**Pn**	**08 44 59.4**	**-1.5**
	SNR=1.0						
HINF				*e*Sn	Sn	08 46 21.7	-6.3
	16nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**7.68**	**321**	*e*Pn	**Pn**	**08 44 59.4**	**-1.5**
	SNR=1.0						
LASF	**Ste Croix**	**7.70**	**289**	*e*Pn	**Pn**	**08 44 59.1**	**-1.9**
LASF	**Ste Croix**	**7.70**	**289**	*e*Pn	**Pn**	**08 44 59.1**	**-1.9**
ROTZ	**Rotzenmuhle**	**7.83**	**351**	*e*Pn	**Pn**	**08 45 01.8**	**-1.1**
ROTZ				*e*Sn	**Sn**	**08 46 26.2**	**-5.4**
ROTZ	**Rotzenmuhle**	**7.83**	**351**	*e*Pn	**Pn**	**08 45 01.8**	**-1.1**
ROTZ				*e*Sn	**Sn**	**08 46 26.2**	**-5.4**
ROTZ	**Rotzenmuhle**	**7.83**	**351**	*e*Pn	**Pn**	**08 45 01.8**	**-1.1**
DRGR		**7.85**	**50**	⇓P	Pn	08 45 05.8	+2.7
DRGR		**7.85**	**50**	⇓*i*P	Pn	08 45 05.8	+2.7
DRGR		**7.85**	**50**	P	Pn	08 45 05.8	+2.7

KBZ	**Khabaz**	**21.21**	**76**	P	**P**		**08 47 56.7**	**+2.1**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KBZ	**Khabaz**	**21.21**	**76**	P	**P**		**08 47 56.7**	**+2.1**
	comp=Z,2.0nm,0.9s							
KAF	**Kangasniemi**	**21.42**	**16**	*e*P	**P**		**08 47 56.8**	**+0.1**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KAF	**Kangasniemi**	**21.42**	**16**	*e*p	**P**		**08 47 56.8**	**+0.1**
	comp=Z,1.6nm,0.8s							
KAF	**Kangasniemi**	**21.42**	**16**	*e*P	**P**		**08 47 56.8**	**+0.1**
	comp=Z,2.0nm,0.8s							
JOF	**Joensuu**	**23.28**	**20**	*e*P	**P**		**08 48 17.2**	**+0.8**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
JOF	**Joensuu**	**23.28**	**20**	*e*p	**P**		**08 48 17.2**	**+0.8**
	comp=Z,3.7nm,0.7s							
JOF	**Joensuu**	**23.28**	**20**	*e*P	**P**		**08 48 17.2**	**+0.8**
	comp=Z,4.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**30.70**	**204**	P	**P**		**08 49 24.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=18,slow=8.7,SNR=4.4							
ARU	**Arti**	**31.84**	**48***c i*P		P		08 49 36.5	+2.8
ARU							08 50 37.5	
ARU				S	**S**		**08 54 45.6**	**+1.6**
ARU				pmax	pmax			
	comp=Z,16nm,2.5s							
BRVK	**Borovoye**	**38.61**	**54**⇑ *e*P		**P**		**08 50 32.4**	**+0.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**38.61**	**54**	*e*P	**P**		**08 50 32.4**	**+0.4**
	comp=Z,3.0nm,0.6s							
BVAR	**Borovoye Array**	**38.68**	**54**	P	**P**		**08 50 33.2**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=260,slow=8.4,SNR=9.8							
BVAR	**Borovoye Array**	**38.68**	**54**	P	**P**		**08 50 33.2**	**+0.6**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**38.68**	**54**	P	**P**		**08 50 33.2**	**+0.6**
	comp=Z,2.0nm,0.7s							
AAK	**Ala-Archa**	**43.88**	**68**	P	**P**		**08 51 17.6**	**+2.0**
	comp=Z,1.8nm,0.6s,baz=285,slow=4.1,SNR=9.5							
AAK	**Ala-Archa**	**43.88**	**68**⇑ *i*P		**P**		**08 51 17.9**	**+2.3**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**43.88**	**68**	*i* P	**P**		**08 51 17.9**	**+2.3**
	comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	**44.12**	**56***ce*P		**P**		**08 51 19.2**	**+2.0**
KURK				pmax	pmax			
	comp=Z,8.0nm,2.5s							
KURK	**Kurchatov**	**44.12**	**56**	*e*P	**P**		**08 51 19.2**	**+2.0**
	comp=Z,8.0nm,2.5s							
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**		**08 51 39.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=275,slow=6.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**		**08 51 39.8**	**+0.2**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**		**08 51 39.8**	**+0.2**
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.63**	**60**	P	**P**		**08 51 45.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=289,slow=6.6,SNR=28							
MKAR	**Makanchi Array**	**47.63**	**60**	P	**P**		**08 51 45.6**	**+0.6**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**47.63**	**60**	P	**P**		**08 51 45.6**	**+0.6**
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**61.84**	**50**	P	**P**		**08 53 29.3**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=286,slow=5.6,SNR=6.3							
SONM	**Songino Array**	**61.84**	**50**	P	**P**		**08 53 29.3**	**+1.1**
YAK	**Yakutsk**	**64.15**	**28**	*e*P	P		08 53 47.2	+4.1
YAK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
YKA	**Yellowknife Ar**	**67.97**	**337**	P	**P**		**08 54 07.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=38,slow=5.6,SNR=9.8							
YKA	**Yellowknife Ar**	**67.97**	**337**	P	**P**		**08 54 07.8**	**+0.2**

IDC 29 08:44:30.0±2.2, 1°49N×126°97E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, Error ellipse: s-maj=188.5km s-min=25.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.49**	**162**	P	P	08 49 30.8	-0.5
	0.3nm,0.5s,baz=340,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**25.89**	**165**	P	P	08 50 04.2	+0.3
	0.1nm,0.3s,baz=341,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	08 54 35.3	-0.1
	0.1nm,0.4s,baz=111,slow=6.9,SNR=2.7						

MEX 29 09:06:28.4±0.7, 15°23N×95°82W, h12km±18km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.50**	**327**	*i* P	Pg	09 06 36.8	-1.5
HUIG				*i* S	Sg	09 06 44.6	-0.4
VHO	**Vista Hermosa**	**1.93**	**333**	*i* P	Pn	09 06 57.4	-3.9
VHO				*i* S	Sn	09 07 20.3	-5.3
CMIG	**Matias Romero**	**1.96**	**27**	*i* P	Pn	09 06 58.1	-3.3
CMIG				*i* S	Sn	09 07 21.2	-4.7
PNIG	**Pinotepa**	**2.45**	**295**	*i* P	Pn	09 07 05.8	-2.4
PNIG				*i* S	Sn	09 07 33.3	-4.8
UTMO	**Huajuapan**	**3.12**	**323**	*i* P	Pn	09 07 14.8	-2.8
UTMO				*i* S	Sn	09 07 51.6	-3.4

IDC 29 09:10:32.6±1.5, 6°23S×33°62E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.7/3, MS3.5/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=80.2km s-min=30.2km az=104.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLWY	**Bulawayo**	**14.66**	**199**	*i* P	Pn	09 13 57.1	-4.5
BLWY				*i*		09 13 57.1	
	baz=224,slow=10						
BLWY				*i* S	S	09 17 00.8	-3.7
BOSA	**Boshof**	**23.63**	**199**	P	P	09 15 45.7	0.0
	2.4nm,0.8s,baz=4.7,slow=9.7,SNR=4.5						
BOSA				LR	LR	09 24 50.5	
	comp=Z,115nm,18.4s,baz=344,slow=36						
GERES	**GERESS Array B**	**57.56**	**345**	P	P	09 20 24.1	0.0
	0.8nm,0.7s,baz=154,slow=7.3,SNR=7.3						
MKAR	**Makanchi Array**	**68.11**	**34**	P	P	09 21 34.5	0.0
	0.3nm,0.5s,baz=227,slow=6.6,SNR=5.4						

IDC 29 09:13:55.0±2.0, 23°86S×175°62W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, MS3.9/2, Ms1 3.9/2, ms1mx3.3/26, Error ellipse: s-maj=113.8km s-min=25.9km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.61**	**273**	*e*LR	LR	09 22 04.6	
	114nm,21.2s						
TBI	**Tubuai**	**23.97**	**94**	*e*LR	LR	09 24 54.0	
	80nm,31.5s						
PPT2	**Papeete2**	**25.12**	**81**	*e*LR	LR	09 25 24.5	
	100nm,26.5s						
STKA	**Stephens Creek**	**38.46**	**248**	P	P	09 21 19.5	+0.7
	0.8nm,0.5s,baz=107,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**45.99**	**260**	P	P	09 22 19.8	-0.7
	0.7nm,0.8s,baz=95,slow=7.4,SNR=9.6						
ASAR				LR	LR	09 39 09.6	
	comp=Z,106nm,18.9s,baz=92,slow=33						
WRA	**Warramunga Arr**	**46.41**	**265**	P	P	09 22 22.9	-0.8
	0.3nm,0.3s,baz=95,slow=8.3,SNR=17						
KSRS	**Korea Array**	**80.85**	**318**	LR	LR	09 54 46.6	
	comp=Z,70nm,20.4s,baz=122,slow=30						
TXAR	**Lajitas Array**	**87.04**	**56**	P	P	09 26 42.5	-0.3
	1.2nm,1.0s,baz=208,slow=7.8,SNR=8.5						
ILAR	**Eielson Array**	**91.11**	**12**	P	P	09 27 00.5	-0.6
	0.4nm,1.0s,baz=210,slow=5.2,SNR=3.1						
BRTR	**Keskin Array B**	**150.70**	**310**	PKPbc	PKPbc	09 33 49.8	+0.2
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.6						
BRTR				PKPab	PKPab	09 33 57.2	+0.8
	0.7nm,0.7s,baz=108,slow=4.0,SNR=4.6						

IDC 29 09:49:09.8±1.1, 26°74N×103°97E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.5/25, mbtmp3.5/8, Error ellipse: s-maj=53.7km s-min=17.9km az=62.0, Yunnan

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

SONM	**Songino Array**	**21.14**	**5**	P	P		09 53 58.4	+1.9
	0.7nm,0.6s,baz=184,slow=11,SNR=6.5							
MKAR	**Makanchi Array**	**26.35**	**325**	P	P		09 54 47.8	+0.2
	0.3nm,0.5s,baz=132,slow=8.7,SNR=5.7							
ZALV	**Zalesovo Beam**	**30.65**	**338**	P	P		09 55 26.5	+0.8
	0.6nm,0.5s,baz=134,slow=8.3,SNR=3.2							
KURBB	**Kurchatov Arra**	**30.75**	**328**	P	P		09 55 26.5	-0.2
	40nm,0.3s,baz=134,slow=10,SNR=1.5							
WRA	**Warramunga Arr**	**54.96**	**144**	P	P		09 58 42.9	-0.1
	0.4nm,0.9s,baz=335,slow=8.4,SNR=3.6							
ASAR	**Alice Springs**	**57.86**	**147**	P	P		09 59 04.0	+0.4
	0.4nm,0.9s,baz=328,slow=7.2,SNR=3.4							
ARCES	**ARCESS Array B**	**61.20**	**337**	P	P		09 59 25.1	-0.9
	3.7nm,1.0s,baz=97,slow=7.6,SNR=3.5							
ILAR	**Eielson Array**	**73.82**	**25**	P	P		10 00 44.8	-1.2
	0.1nm,0.5s,baz=282,slow=4.6,SNR=5.4							
YKA	**Yellowknife Ar**	**85.88**	**17**	P	P		10 01 51.7	+0.4
	0.1nm,0.6s,baz=327,slow=5.4,SNR=3.6							

KRSC 29 10:20:00.4±0.2, 56°19N×162°23E, h5km±5km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.27**	**76**	*e*P	Pb	10 20 07.9	+0.1
KBG				*e*S	Sb	10 20 13.9	+1.2
KBTR	**Krutoberegovo**	**0.33**	**87**	*e*P	Pb	10 20 08.6	-0.2
KBTR				*e*S	Sb	10 20 14.1	-0.3
SMKR	**Semkarok**	**0.58**	**313**	*e*P	Pb	10 20 13.1	0.0
SMKR				*e*S	Sb	10 20 22.4	+0.7
BDR	**Baidarnaya**	**0.68**	**304**	*e*P	Pb	10 20 15.5	+0.6
BDR				*e*S	Sb	10 20 26.1	+1.3
SRKR	**Sorokina**	**0.75**	**309**	*e*P	Pb	10 20 16.1	0.0
SRKR				*e*S	Sb	10 20 28.1	+1.4
ZLN	**Zelenaya**	**0.82**	**258**	*e*P	Pn	10 20 18.0	-0.7
ZLN				*e*S	Sn	10 20 30.6	-0.7
CIRR	**Tsirk**	**0.83**	**265**	*e*P	Pn	10 20 18.4	-0.6
CIRR				*e*S	Sn	10 20 32.4	+0.6
LGNR	**Loginova**	**0.87**	**264**	*e*P	Pb	10 20 18.9	+0.5
LGNR				*e*S	Sn	10 20 31.8	-1.2
KLY	**Klyuchi**	**0.89**	**279**	*e*P	Pg	10 20 16.9	-0.6
KLY				*e*S	Sg	10 20 28.8	-0.2
BZGR	**Bezymyannyi-Gr**	**0.90**	**254**	*e*P	Pn	10 20 19.5	-0.3
BZGR				*e*S	Sn	10 20 33.3	0.0
KRSR	**Krestovskiy**	**0.93**	**272**	*e*P	Pb	10 20 19.2	0.0
KRSR				*e*S	Sb	10 20 31.9	0.0
BZWR	**Bezymyannyi-We**	**1.00**	**258**	*e*P	Pn	10 20 21.0	-0.3
BZWR				*e*S	Sn	10 20 36.1	+0.2
BZMR	**Bezymyannaya**	**1.01**	**256**	*e*P	Pn	10 20 21.4	0.0
BZMR				*e*S	Sn	10 20 37.2	+1.1
KIRR	**Kirishev**	**1.08**	**258**	*e*P	Pn	10 20 22.4	-0.1
KIRR				*e*S	Sn	10 20 38.3	+0.3
KPT	**Kopyto**	**1.15**	**260**	*e*P	Pn	10 20 23.3	+0.1
KPT				*e*S	Sn	10 20 40.9	+1.5
KMNR	**Kamenistaya**	**1.20**	**250**	*e*P	Pn	10 20 24.9	+0.9
KMNR				*e*S	Sn	10 20 43.7	+2.9
KOZ	**Kozyrevsk**	**1.33**	**265**	*e*P	Pg	10 20 26.8	+0.9
KOZ				*e*S	Sg	10 20 46.2	+2.5
SRDR	**Sredinnyy**	**1.41**	**276**	*e*P	Pg	10 20 27.9	+0.4
SRDR				*e*S	Sg	10 20 47.7	+1.9
TUMR	**Tumrok**	**1.49**	**233**	*e*P	Pg	10 20 29.4	+0.3
TUMR				*e*S	Sg	10 20 51.0	+2.5
MKZ	**Mys Kozlova**	**1.66**	**190**	*e*P	Pn	10 20 30.5	+0.4
MKZ				*e*S	Sg	10 20 53.2	-0.5
BKI	**Bering**	**2.34**	**113**	*e*P	Pn	10 20 40.0	+0.6
BKI				*e*S	Sn	10 21 08.7	+0.2
PALN	**Palana**	**3.15**	**338**	*e*P	Pb	10 20 54.2	-2.6
PALN				*e*S	Sb	10 21 34.6	-0.9
SPN	**Mys Shipunski**	**3.35**	**203**	*e*S	Sn	10 21 33.7	+0.1
SDLR	**Sedlovina**	**3.50**	**215**	*e*P	Pn	10 20 58.0	+2.4
SDLR				*e*S	Sn	10 21 41.2	+3.6
GNL	**Ganaly**	**3.52**	**226**	*e*P	Pn	10 20 57.9	+2.1
GNL				*e*S	Sn	10 21 40.4	+2.5
AVH	**Avacha**	**3.56**	**216**	*e*P	Pn	10 20 59.1	+2.7
AVH				*e*S	Sn	10 21 42.1	+3.2
UGLR	**Uglovaya**	**3.58**	**215**	*e*P	Pn	10 20 59.8	+3.1

IDC 29 10:28:08.4±1.5, 2°61S×139°22E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, ML3.9/1, Error ellipse: s-maj=61.8km s-min=20.9km az=96.0
ISCJB 29 10:28:12.8±0.8, 2°67S±0°08×138°9E±0°2, h37km, mb3.5/6, Error ellipse: s-maj=24.7km s-min=10.9km az=4.7
AUST 29 10:28:31.2±4.6, 3°98S×138°65E, h58km±1km, Error ellipse: s-maj=3.6km s-min=1.9km az=28.0

ISC 29 10:28:14.8±1.0, 2°62S±0°10×139°0E±0°2, h37km, n15, σ1s33/11, mb3.6/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**11.88**	**212**	P	**Pn**	**10 31 00.5**	**-1.3**
	baz=11,SNR=9.8						
COEN	**Coen**	**12.02**	**160**	P	**Pn**	**10 31 05.0**	**+1.4**
	baz=11,SNR=4.5						
MTN	**Manton Dam**	**12.77**	**217**	P	**Pn**	**10 31 13.8**	**-0.1**
	baz=12,SNR=7.0						
WRA	**Warramunga Arr**	**17.80**	**194**	P	**Pn**	**10 32 17.2**	**-2.6**
	0.4nm,0.3s,baz=16,slow=13,SNR=17						
PCI	**Palu**	**19.18**	**275**	P	Pn	10 32 48.4	+12
	baz=19,SNR=6.7						
WSI	**Waingapu**	**19.81**	**248**	S	Sn	10 36 42.6	+17
	baz=19,SNR=4.1						
WSI	**Waingapu**	**19.81**	**248**	P	Sn	10 36 45.6	+20
	767nm,0.5s,17μm3.7nm						
FITZ	**Fitzroy Crossi**	**20.18**	**219**	P	**P**	**10 32 47.5**	**+1.2**
	0.9nm,0.3s,baz=38,slow=12,SNR=6.6						
FITZ	**Fitzroy Crossi**	**20.18**	**219**	P	Pn	10 32 48.8	+0.4
	baz=19,SNR=4.4						
ASAR	**Alice Springs**	**21.49**	**193**	P	**P**	**10 32 60.0**	**-0.5**
	0.8nm,0.6s,baz=18,slow=10,SNR=13						
SONM	**Songino Array**	**57.74**	**335**	P	**P**	**10 38 03.2**	**+1.0**
	0.2nm,0.6s,baz=140,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**69.86**	**322**	P	**P**	**10 39 21.9**	**0.0**
	0.3nm,0.5s,baz=100,slow=7.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**71.98**	**330**	P	**P**	**10 39 33.9**	**-0.6**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=2.8						
BVAR	**Borovoye Array**	**79.37**	**325**	P	**P**	**10 40 16.7**	**-0.2**
	0.8nm,0.7s,baz=106,slow=8.0,SNR=4.8						
ILAR	**Eielson Array**	**85.65**	**24**	P	**P**	**10 40 48.5**	**-0.9**
	0.2nm,0.6s,baz=263,slow=4.2,SNR=5.7						

ISCJB 29 10:39:35.2±0.6, 13°07N±0°06×93°23E±0°05, h50km, mb3.9/16, MS3.3/4, Error ellipse: s-maj=9.2km s-min=7.6km az=10.9
IDC 29 10:39:36.6±0.6, 13°06N×93°20E, h46km±5km, mb3.7/16, mb1 3.8/16, mb1mx3.7/28, mbtmp3.7/16, MS3.2/5, Ms1 3.2/5, ms1mx2.8/49, Error ellipse: s-maj=16.4km s-min=11.6km az=51.0

ISC 29 10:39:36.9±0.6, 13°09N±0°09×93°16E±0°08, h50km, n31, σ0s79/36, mb3.9/16, MS3.2/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDT	**SRDT**	**5.93**	**77**	P	**Pn**	**10 41 03.3**	**+1.1**
	57nm,0.9s,3μm						
CMAR	**Chiang Mai Arr**	**7.71**	**45**	P	**Pn**	**10 41 26.4**	**-0.3**
	4.2nm,0.3s,baz=236,slow=16,SNR=70						
CMAR				S	**Sn**	**10 42 53.3**	**+0.6**
	baz=234,slow=28,SNR=3.4						
CMAR				LR	LR	10 45 02.3	
	comp=Z,87nm,20.0s,baz=46,slow=42						
CHTO	**Chiang Mai**	**7.96**	**44**	P	**Pn**	**10 41 29.9**	**-0.1**
CMMT	**Chiang Mai**	**7.96**	**44**	P	**Pn**	**10 41 30.4**	**+0.3**
	62nm,0.9s,590nm						
TAPN	**Taplejung**	**15.08**	**341**	*e*P	**Pn**	**10 43 06.5**	**-0.6**
RAMN	**Ramite**	**15.10**	**337**	*e*P	**Pn**	**10 43 07.2**	**-0.1**
	15nm,0.4s						
PKI	**Pulchoki**	**16.13**	**334**	*e*P	**Pn**	**10 43 20.6**	**0.0**
	13nm,0.5s						
PKIN	**Phulchoki**	**16.14**	**334**	*e*P	**P**	**10 43 21.1**	**-2.2**
	16nm,0.5s						
GUN	**Gumba**	**16.24**	**336**	*e*P	**Pn**	**10 43 21.6**	**-0.5**
KOLN	**Koldanda**	**17.12**	**330**	*e*P	**P**	**10 43 33.7**	**-0.4**
	13nm,0.6s						
DANN	**Dangsing**	**17.53**	**331**	*e*P	**P**	**10 43 38.2**	**-0.5**
PYUN	**Piuthan**	**17.70**	**329**	*e*P	**P**	**10 43 40.9**	**+0.5**
AAK	**Ala-Archa**	**33.58**	**335**	LR	LR	11 02 36.3	
	comp=Z,27nm,20.1s,baz=9.3,slow=41						
MKAR	**Makanchi Array**	**34.82**	**347**	P	**P**	**10 46 23.9**	**+0.9**
	1.0nm,0.7s,baz=165,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**36.36**	**15**	P	**P**	**10 46 36.1**	**-0.2**
	0.4nm,0.5s,baz=206,slow=8.4,SNR=5.5						
KSRS	**Korea Array**	**39.35**	**46**	P	**P**	**10 47 00.9**	**-0.6**
	3.5nm,0.6s,baz=241,slow=8.4,SNR=17						
KSRS				LR	LR	11 03 21.5	
	comp=Z,34nm,19.6s,baz=245,slow=36						
ZALV	**Zalesovo Beam**	**41.29**	**353**	P	**P**	**10 47 18.5**	**+1.2**
	1.1nm,0.5s,baz=181,slow=7.2,SNR=6.5						
ZALV				LR	LR	11 06 22.7	
	comp=Z,37nm,19.2s,baz=282,slow=39						
BVAR	**Borovoye Array**	**43.78**	**340**	P	**P**	**10 47 37.5**	**0.0**
	0.2nm,0.4s,baz=108,slow=9.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**44.58**	**133**	P	**P**	**10 47 43.8**	**-0.6**
	2.5nm,0.6s,baz=298,slow=5.8,SNR=14						
AKTO	**Aktyubinsk**	**46.96**	**330**	P	**P**	**10 48 03.9**	**+1.1**
	0.3nm,0.3s,baz=115,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**52.15**	**128**	P	**P**	**10 48 42.3**	**-0.4**
	0.8nm,0.5s,baz=309,slow=7.7,SNR=20						
WRA				pP	**pP**	**10 48 55.5**	**-0.9**
	0.9nm,0.6s,baz=305,slow=8.2,SNR=5.9						
WRA				PcP	**PcP**	**10 49 54.4**	**+0.3**
	0.3nm,0.6s,baz=315,slow=3.5,SNR=5.3						
ASAR	**Alice Springs**	**54.05**	**132**	P	**P**	**10 48 55.9**	**-0.9**
	0.9nm,0.4s,baz=307,slow=7.0,SNR=25						
ASAR				pP	**pP**	**10 49 09.9**	**-0.5**
	0.5nm,0.5s,baz=309,slow=6.7,SNR=3.4						
BRTR	**Keskin Array B**	**58.37**	**309**	P	**P**	**10 49 27.9**	**+0.4**
	0.8nm,0.7s,baz=127,slow=8.7,SNR=7.1						
BRTR				pP	**pP**	**10 49 39.9**	**-1.5**
	1.2nm,0.8s,baz=124,slow=7.4,SNR=6.7						
FINES	**FINESS Array B**	**67.69**	**331**	P	**P**	**10 50 28.1**	**-0.7**
	1.4nm,0.7s,baz=119,slow=7.4,SNR=5.3						
FINES				pP	**pP**	**10 50 43.7**	**+0.9**
	1.3nm,0.8s,baz=116,slow=6.3,SNR=2.6						
GERES	**GERESS Array B**	**73.34**	**317**	P	**P**	**10 51 04.0**	**+0.4**
	1.0nm,0.7s,baz=84,slow=6.8,SNR=8.8						
GERES				pP	**pP**	**10 51 17.1**	**-0.8**
	0.9nm,0.7s,baz=77,slow=5.9,SNR=5.0						
FX1	**Attu Island--F**	**73.65**	**38**	LR	LR	11 22 40.0	
	comp=Z,41nm,21.2s,baz=41,slow=35						
NB2	**NORSAR Subarra**	**74.75**	**330**	P	**P**	**10 51 10.8**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=96,slow=5.6						
NOA	**NORSAR Array B**	**74.75**	**330**	P	**P**	**10 51 11.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=90,slow=5.8,SNR=3.8						
BOSA	**Boshof**	**77.58**	**237**	P	**P**	**10 51 28.8**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=134,slow=15,SNR=6.7						
TORD	**Torodi Ar. Bea**	**88.48**	**283**	P	**P**	**10 52 25.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=74,slow=3.7,SNR=6.5						
ILAR	**Eielson Array**	**90.30**	**22**	P	**P**	**10 52 32.2**	**0.0**
	comp=Z,0.2nm,0.7s,baz=266,slow=5.2,SNR=6.4						

IDC 29 10:59:23.8±9.9, 19°98S×178°30W, h596km±98km, mb3.0/5, mb1 3.3/5, mb1mx2.9/18, mbtmp3.0/5, Error ellipse: s-maj=88.1km s-min=37.0km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.76**	**243**	P	P	11 05 50.9	+0.3
	2.2nm,0.8s,baz=16,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**44.36**	**256**	P	P	11 06 42.8	-0.1
	3.0nm,0.8s,baz=92,slow=7.9,SNR=48						
ASAR				PcP	PcP	11 08 13.1	-0.5
	0.3nm,0.5s,baz=100,slow=4.0,SNR=6.4						
WRA	**Warramunga Arr**	**44.39**	**262**	P	P	11 06 42.6	-0.5
	1.3nm,0.5s,baz=97,slow=8.2,SNR=24						
MJAR	**Matsushiro Arr**	**69.62**	**324**	P	P	11 09 34.6	+0.1
	0.7nm,0.5s,baz=146,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**87.87**	**13**	P	P	11 11 10.1	-0.3
	0.4nm,0.5s,baz=216,slow=5.2,SNR=14						
AKASG	**Malin Array Be**	**142.42**	**331**	PKhKP	PKPpre	11 17 44.9	
	0.6nm,0.4s,baz=44,slow=4.4,SNR=5.3						
BRTR	**Keskin Array B**	**146.28**	**313**	PKPbc	PKPbc	11 17 58.4	-0.6
	0.6nm,0.6s,baz=159,slow=5.9,SNR=5.3						
GERES	**GERESS Array B**	**149.63**	**344**	PKPbc	PKPbc	11 18 06.9	-0.2
	0.3nm,0.4s,baz=52,slow=2.2,SNR=5.0						

TIF 29 11:01:53.9, 42°57N×43°02E, h19km±2km
CSEM 29 11:01:54.1±0.1, 42°55N×42°98E, h2km, mb3.9, Error ellipse: s-maj=2.4km s-min=2.0km az=97.0
MOS 29 11:01:55.0±0.6, 42°56N×43°10E, h9km, mb3.9/1, Error ellipse: s-maj=12.2km s-min=9.0km az=73.6

ISC 29 11:01:54.4±1.1, 42°55N±0°02×43°00E±0°02, h11km±10km, n41, σ0s49/81, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.34**	**83**	P	**Pg**	**11 02 01.1**	**-0.1**
ONI

DDEM				*i* S		**Sb**	**11 02 53.7**	**+0.6**
DGRG	**David-gareji**	**2.08**	**121**	P		**Pb**	**11 02 31.9**	**-0.3**
DGRG				S		**Sg**	**11 03 01.5**	**+0.2**
DGRG	**David-gareji**	**2.08**	**121**	P		**Pb**	**11 02 31.9**	**-0.3**
DGRG				S		**Sg**	**11 03 01.5**	**+0.2**
SOC	**Sochi**	**2.62**	**294**	*e*PN		**Pb**	**11 02 39.9**	**-1.5**
SOC				*e*			11 03 15.1	
SOC				pmax	pmax			
	comp=Z,20nm,0.2s							
SOC				smax	smax			
	comp=N,97nm,0.2s							
SOC				smax	smax			
	comp=E,46nm,0.2s							

IDC 29 11:05:16.6±1.0, 27°47'N×66°17'E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.5/29, mbtmp3.6/10, MS3.6/1, Ms1 3.6/1, ms1mx2.4/42, Error ellipse: s-maj=25.2km s-min=22.5km az=49.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.09**	**29**	P	P	11 10 22.1	-1.9
	0.4nm,0.6s,baz=210,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**25.72**	**6**	P	P	11 10 48.0	-0.6
	0.4nm,0.5s,baz=153,slow=9.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**29.80**	**22**	P	P	11 11 25.6	+0.5
	0.3nm,0.3s,baz=245,slow=9.4,SNR=2.4						
SONM	**Songino Array**	**37.23**	**46**	P	P	11 12 30.3	+0.3
	0.1nm,0.4s,baz=251,slow=5.7,SNR=2.3						
FINES	**FINESS Array B**	**43.20**	**333**	P	P	11 13 19.2	+0.2
	1.4nm,0.8s,baz=160,slow=8.4,SNR=3.3						
HFS	**Hagfors**	**48.08**	**328**	P	P	11 13 58.0	+0.3
	0.6nm,0.5s,baz=141,slow=9.6,SNR=4.6						
ARCES	**ARCESS Array B**	**48.20**	**342**	P	P	11 13 59.4	+0.8
	2.1nm,1.0s,baz=129,slow=9.6,SNR=4.4						
USRK	**Ussuriysk Arra**	**54.52**	**54**	LR	LR	11 39 12.8	
	comp=Z,55nm,21.1s,baz=181,slow=37						
TORD	**Torodi Ar. Bea**	**61.54**	**271**	P	P	11 15 35.2	-0.7
	0.4nm,0.8s,baz=62,slow=4.4,SNR=2.7						
WRA	**Warramunga Arr**	**81.06**	**118**	P	P	11 17 33.8	-0.2
	0.4nm,0.9s,baz=318,slow=4.7,SNR=3.1						
ASAR	**Alice Springs**	**82.79**	**121**	P	P	11 17 43.5	+0.5
	0.3nm,0.6s,baz=300,slow=5.7,SNR=3.0						

IDC 29 11:17:41.5±1.8, 2°46N×93°57E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/34, Error ellipse: s-maj=48.8km s-min=20.5km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.36**	**86**	Pn	Pn	11 19 03.5	+0.5
	1.8nm,0.3s,baz=275,slow=5.9,SNR=5.6						
PSI				Sn	Sn	11 20 06.5	+1.0
	2.5nm,0.3s,baz=328,slow=15,SNR=4.8						
PSI				LR	LR	11 21 02.9	
	comp=Z,71nm,20.2s,baz=69,slow=38						
CMAR	**Chiang Mai Arr**	**16.75**	**18**	Pn	Pn	11 21 36.7	-1.0
	0.5nm,0.3s,baz=212,slow=11,SNR=11						
MKAR	**Makanchi Array**	**45.24**	**349**	P	P	11 26 00.6	0.0
	0.8nm,0.6s,baz=168,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**45.78**	**121**	P	P	11 26 04.8	-0.5
	0.9nm,0.9s,baz=300,slow=8.9,SNR=6.8						
JNU	**Nakatsue**	**46.37**	**45**	LR	LR	11 47 53.1	
	comp=Z,69nm,18.8s,baz=60,slow=39						
SONM	**Songino Array**	**46.54**	**12**	P	P	11 26 10.9	-0.1
	0.2nm,0.4s,baz=182,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**47.05**	**126**	P	P	11 26 15.3	0.0
	0.4nm,0.7s,baz=299,slow=7.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**51.83**	**353**	P	P	11 26 51.2	0.0
	0.4nm,0.5s,baz=184,slow=17,SNR=2.8						
ZALV				LR	LR	11 50 30.4	
	comp=Z,24nm,19.0s,baz=60,slow=38						

ISCJB 29 11:32:03.7±0.7, 4°26N±0°05×128°05E±0°08, h71km, mb3.6/8, Error ellipse: s-maj=11.9km s-min=6.6km az=173.6

IDC 29 11:32:04.1±3.1, 3°69N×126°42E, h49km±29km, mb3.4/8, mb1 3.6/8, mb1mx3.4/23, mbtmp3.4/8, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=52.2km s-min=14.0km az=75.0

DJA 29 11:32:11.7±1.5, 4°N±13°×128°8E±°, h10km, M4.6/5, mb4.8/3, mB5.1/3, MLv4.5/5, Mw(mB)4.5/3

ISC 29 11:32:05.3±0.9, 4°24N±0°07×128°08E±0°1, h71km, n25, σ1§28/20, mb3.8/8, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.21**	**327**	*e*P	**Pn**	**11 32 53.4**	**-0.1**
TNTI	**Ternate**	**3.50**	**191**	P	**Pn**	**11 32 58.2**	**+0.8**
DAV	**Davao City (W)**	**3.71**	**319**	LR	LR	11 34 45.0	
	comp=Z,343nm,18.7s,baz=84,slow=46						
DMPH	**Davao City--Mi**	**3.77**	**319**	*e*P	**Pn**	**11 33 02.7**	**+1.7**
MNI	**Manado**	**4.21**	**229**	P	**Pn**	**11 33 08.2**	**+1.1**
MNI				S	**Sn**	**11 33 54.0**	**-1.1**
BUKP	**Musuan**	**4.66**	**321**	*e*P	**Pn**	**11 33 14.0**	**+0.7**
CTBH	**Cotabato--PC H**	**4.78**	**309**	⇑*i*P	**Pn**	**11 33 15.4**	**+0.5**
LBMI	**Labuha**	**4.87**	**186**	P	Pn	11 33 19.7	+3.6
BUTP	**Butuan**	**5.27**	**333**	*e*P	Pn	11 33 27.7	+6.2
KMSI	**Cibinong**	**5.42**	**228**	P	**Pn**	**11 33 24.9**	**+1.2**
PAGZ	**Pagadian**	**5.84**	**308**	*e*P	**Pn**	**11 33 30.6**	**+1.3**
IPIL	**Ipil**	**6.46**	**309**	*e*P	**Pn**	**11 33 37.1**	**-0.7**
MSLP	**Maasin**	**6.64**	**332**	*e*P	Pn	11 33 45.9	+5.6
MRSI	**Marisa**	**7.12**	**239**	P	**Pn**	**11 33 48.9**	**+2.0**
	104nm,0.6s,1μm0.4nm						
KDI	**Kendari**	**9.76**	**214**	P	**Pn**	**11 34 22.4**	**-0.6**
	29nm,0.8s,567nm						
TTSI	**Tana Toraja**	**10.92**	**229**	P	Pn	11 34 41.8	+2.9
GMJI	**Gumukmas**	**19.12**	**229**	P	Pn	11 36 32.4	+8.1
FITZ	**Fitzroy Crossi**	**22.32**	**186**	P	P	11 36 50.6	-6.6
	1.4nm,0.8s,baz=7.1,slow=8.1,SNR=2.5						
WRA	**Warramunga Arr**	**24.82**	**166**	P	**P**	**11 37 21.7**	**+0.6**
	0.9nm,0.3s,baz=342,slow=10,SNR=24						
ASAR	**Alice Springs**	**28.32**	**169**	P	**P**	**11 37 52.2**	**-0.4**
	0.2nm,0.3s,baz=355,slow=8.0,SNR=13						
ASAR				PcP	**PcP**	**11 41 04.8**	**+0.7**
	0.4nm,0.6s,baz=358,slow=2.3,SNR=11						
ASAR				ScP	**ScP**	**11 44 42.0**	**+2.7**
	0.3nm,0.6s,baz=354,slow=2.3,SNR=5.8						
ASAR				LR	LR	11 49 38.1	
	comp=Z,120nm,18.4s,baz=236,slow=37						
MJAR	**Matsushiro Arr**	**33.49**	**15**	P	P	11 38 47.9	+10
	1.3nm,0.9s,baz=193,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**38.17**	**161**	P	**P**	**11 39 18.1**	**+0.1**
	0.9nm,0.5s,baz=350,slow=18,SNR=9.7						
SONM	**Songino Array**	**47.24**	**340**	P	**P**	**11 40 30.4**	**-1.0**
	0.4nm,0.6s,baz=149,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**57.88**	**324**	P	**P**	**11 41 49.2**	**-0.7**
	0.6nm,0.4s,baz=114,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**60.73**	**332**	P	**P**	**11 42 07.6**	**-1.8**
	0.3nm,0.3s,baz=128,slow=9.3,SNR=2.6						

IDC 29 11:35:56.9±1.5, 36°45N×21°90E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.5/3, Error ellipse: s-maj=65.2km s-min=26.6km az=127.0

ATH 29 11:35:58.7, 36°44N×21°70E, h5km±2km, MD3.5/10, ML3.2

THE 29 11:36:01.8, 36°53N×21°86E, h0km±2km, ML3.2/3, Error ellipse: s-maj=3.4km s-min=1.1km az=227.0

CSEM 29 11:36:01.2±0.5, 36°51N×21°85E, h0km±1km, ML3.2/3, Error ellipse: s-maj=10.3km s-min=4.5km az=54.0

ISC 29 11:35:59.6±1.4, 36°45N±0°04×21°76E±0°05, h9km±9km, n77, σ1§04/90, mb3.5/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.45**	**358**	P	**Pg**	**11 36 07.5**	**-0.8**
PYL				S	**Sg**	**11 36 14.9**	**+0.8**
DYR	**Agios Nikonas**	**0.56**	**56**	P	**Pg**	**11 36 09.6**	**-0.8**
ITM	**Ithomi**	**0.74**	**10**	P	**Pg**	**11 36 13.4**	**-0.5**
ITM				S	**Sg**	**11 36 23.9**	**+0.4**
ITM	**Ithomi**	**0.74**	**10**	*e*PB	**Pg**	**11 36 13.4**	**-0.5**
ITM				*e*SB	**Sg**	**11 36 24.1**	**+0.6**
ITM	**Ithomi**	**0.74**	**10**	*e*Pb	**Pg**	**11 36 13.4**	**-0.5**
ITM				*e*Sb	**Sg**	**11 36 24.1**	**+0.6**
VLI	**Veliai**	**0.98**	**74**	P	**Pb**	**11 36 18.5**	**-0.3**
VLI	**Veliai**	**0.98**	**74**	*e*PG	**Pg**	**11 36 18.2**	**-0.3**
VLI				*e*SG	**Sn**	**11 36 33.7**	**0.0**
VLI	**Veliai**	**0.98**	**74**	*e*Pg	**Pg**	**11 36 18.2**	**-0.3**
VLI				*e*Sg	**Sn**	**11 36 33.7**	**0.0**
KYTH	**Kithira**	**1.04**	**99**	P	**Pb**	**11 36 19.6**	**-0.2**
KYTH	**Kithira**	**1.04**	**99**	*e*PB	**Pb**	**11 36 19.6**	**-0.2**
KYTH	**Kithira**	**1.04**	**99**	*e*Pb	**Pb**	**11 36 19.6**	**-0.2**
VLX	**Vlachokerasia**	**1.04**	**28**	P	**Pg**	**11 36 18.9**	**-0.7**
VLX				S	**Sb**	**11 36 33.9**	**+0.1**
VLX	**Vlachokerasia**	**1.04**	**28**	P	**Pg**	**11 36 18.9**	**-0.7**
VLX				S	**Sb**	**11 36 33.9**	**+0.1**
AMT	**Artemida-Makis**	**1.08**	**358**	P	**Pg**	**11 36 19.4**	**-1.0**
AMT				S	**Sb**	**11 36 36.3**	**+1.5**
DIDY	**Didyma**	**1.55**	**48**	P	**Pb**	**11 36 28.6**	**+0.1**
DIDY	**Didyma**	**1.55**	**48**	P	**Pb**	**11 36 28.6**	**+0.1**
GUR	**Goura**	**1.55**	**17**	P	**Pn**	**11 36 27.9**	**+0.3**
GUR	**Goura**	**1.55**	**17**	P	**Pn**	**11 36 27.9**	**+0.3**
DID	**Didima**	**1.58**	**48**	P	**Pb**	**11 36 29.0**	**-0.1**
DID				S	**Sb**	**11 36 49.6**	**+0.4**
DID	**Didima**	**1.58**	**48**	P	**Pb**	**11 36 29.0**	**-0.1**
DID				S	**Sb**	**11 36 49.6**	**+0.4**
RLS	**Riolos of Patr**	**1.62**	**352**	P	**Pb**	**11 36 30.2**	**+0.5**
RLS	**Riolos of Patr**	**1.62**	**352**	*e*PB	**Pb**	**11 36 30.1**	**+0.4**
RLS	**Riolos of Patr**	**1.62**	**352**	P	**Pb**	**11 36 30.2**	**+0.5**
LAKA	**Lakka**	**1.79**	**5**	P	**Pb**	**11 36 32.4**	**-0.3**
LAKA				S	**Sb**	**11 36 56.5**	**+1.2**
LAKA	**Lakka**	**1.79**	**5**	P	**Pb**	**11 36 32.4**	**-0.3**
LTK	**Loutraki**	**1.84**	**31**	P	**Pn**	**11 36 32.4**	**+1.0**
LTK	**Loutraki**	**1.84**	**31**	P	**Pn**	**11 36 32.4**	**+1.0**
PSA1	**Psathopyrgos**	**1.87**	**3**	*e*PG	**Pb**	**11 36 34.0**	**0.0**
NAIG	**Nisos Aigina**	**1.90**	**46**	*e*PN	**Pb**	**11 36 35.0**	**+0.5**
NAIG	**Nisos Aigina**	**1.90**	**46**	*e*Pn	**Pb**	**11 36 35.0**	**+0.5**
TRIZ	**Trizonia**	**1.93**	**7**	P	**Pb**	**11 36 34.7**	**-0.2**
TRIZ	**Trizonia**	**1.93**	**7**	P	**Pb**	**11 36 34.7**	**-0.2**
KALE	**Kalithea**	**1.96**	**9**	P	**Pb**	**11 36 35.0**	**-0.5**
KALE	**Kalithea**	**1.96**	**9**	P	**Pb**	**11 36 35.0**	**-0.5**
EFP	**Efpalio**	**1.98**	**3**	P	**Pb**	**11 36 35.1**	**-0.7**
EFP	**Efpalio**	**1.98**	**3**	P	**Pb**	**11 36 35.1**	**-0.7**
KARN	**Karanos**	**2.04**	**120**	P	**Pb**	**11 36 36.8**	**0.0**
KARN	**Karanos**	**2.04**	**120**	P	**Pb**	**11 36 36.8**	**0.0**
DSF	**Desfina**	**2.05**	**17**	P	**Pn**	**11 36 35.0**	**+0.6**
DSF	**Desfina**	**2.05**	**17**	P	**Pn**	**11 36 35.0**	**+0.6**
ATH	**Athens Observa**	**2.18**	**45**	*e*PN	**Pb**	**11 36 38.8**	**-0.4**
ATH				*e*SN	**Sb**	**11 37 08.0**	**+1.7**
ATH	**Athens Observa**	**2.18**	**45**	*e*Pn	**Pb**	**11 36 38.8**	**-0.4**
VAM	**Vamos**	**2.23**	**117**	P	**Pb**	**11 36 39.7**	**-0.4**
VAM	**Vamos**	**2.23**	**117**	*e*PN	**Pb**	**11 36 39.8**	**-0.4**
VAM	**Vamos**	**2.23**	**117**	P	**Pb**	**11 36 39.7**	**-0.4**
PTL	**Penteli**	**2.31**	**46**	P	**Pn**	**11 36 38.9**	**+0.9**
PTL	**Penteli**	**2.31**	**46**	*e*PN	**Pb**	**11 36 40.7**	**-0.9**
PTL	**Penteli**	**2.31**	**46**	P	**Pn**	**11 36 38.9**	**+0.9**
PTL	**Penteli**	**2.31**	**46**	*e*Pn	**Pb**	**11 36 40.7**	**-0.9**
LKR	**Lokris**	**2.41**	**24**	P	**Pn**	**11 36 39.5**	**+0.3**
LKR	**Lokris**	**2.41**	**24**	P	**Pn**	**11 36 39.5**	**+0.3**
AXAR	**Agios Charalam**	**2.42**	**17**	P	**Pn**	**11 36 41.2**	**+1.8**
AXAR	**Agios Charalam**	**2.42**	**17**	P	**Pn**	**11 36 41.2**	**+1.8**
ATAL	**Atalanti**	**2.45**	**24**	P	**Pn**	**11 36 40.2**	**+0.4**
ATAL	**Atalanti**	**2.45**	**24**	P	**Pn**	**11 36 40.2**	**+0.4**
EVR	**Evrytania**	**2.46**	**1**	P	**Pn**	**11 36 42.0**	**+1.9**
EVR	**Evrytania**	**2.46**	**1**	*e*PN	**Pb**	**11 36 43.2**	**-0.9**
EVR	**Evrytania**	**2.46**	**1**	P	**Pn**	**11 36 42.0**	**+1.9**
EVR	**Evrytania**	**2.46**	**1**	*e*Pn	**Pb**	**11 36 43.2**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.58**	**6**	P	**Pn**	**11 36 43.8**	**+2.2**
MAKR	**Makrakomi, Fth**	**2.58**	**6**	P	**Pn**	**11 36 43.8**	**+2.2**
AGG	**Agios Georgios**	**2.61**	**10**	P	**Pn**	**11 36 43.7**	**+1.7**
AGG				S	**Sn**	**11 37 15.6**	**+1.8**
AGG	**Agios Georgios**	**2.61**	**10**	P	**Pn**	**11 36 43.7**	**+1.7**
AGG				S	**Sn**	**11 37 15.6**	**+1.8**
MRMA	**Marmari**	**2.63**	**52**	P	**Pn**	**11 36 42.7**	**+0.4**
MRMA	**Marmari**	**2.63**	**52**	P	**Pn**	**11 36 42.7**	**+0.4**
IDI	**Anoyia**	**2.79**	**114**	P	**Pn**	**11 36 46.9**	**+2.3**
IDI	**Anoyia**	**2.79**	**114**	P	**Pn**	**11 36 46.9**	**+2.3**
THR6	**Thira Island,**	**2.93**	**91**	P	**Pn**	**11 36 48.8**	**+2.4**
THR6	**Thira Island,**	**2.93**	**91**	P	**Pn**	**11 36 48.8**	**+2.4**
XOR	**Xorichti**	**3.12**	**21**	P	**Pn**	**11 36 50.4**	**+1.3**
XOR	**Xorichti**	**3.12**	**21**	P	**Pn**	**11 36 50.4**	**+1.3**
XRY	**Khrisi**	**3.57**	**115**	*e*PB	Pn	11 36 58.9	+3.8
XRY	**Khrisi**	**3.57**	**115**	*e*Pb	Pn	11 36 58.9	+3.8
FINES	**FINESS Array B**	**25.16**	**5**	P	**P**	**11 41 23.4**	**-1.5**
	0.6nm,0.4s,baz=163,slow=11,SNR=8.3						
TORD	**Torodi Ar. Bea**	**29.38**	**223**	P	**P**	**11 42 02.5**	**-0.7**
	0.3nm,0.6s,baz=30,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**45.38**	**57**	P	**P**	**11 44 16.2**	**-2.1**
	0.2nm,0.3s,baz=268,slow=8.0,SNR=7.0						

NIED 29 11:59:00, 20°40N×120°60E, h32km, Mw4.4 Best double couple: M0 4.41000×10^15 NP1:φs183.00000°, δ72.00000°, λ-22.00000°. NP2:φs280.00000°, δ69.00000°, λ-161.00000°.

IDC 29 11:59:32.2±0.5, 19°83N×120°59E, h0km, mb4.7/26, mb1 4.8/29, mb1mx4.7/33, mbtmp4.7/29, ML4.2/3, MS3.6/21, Ms1 3.6/21, ms1mx3.5/37, Error ellipse: s-maj=15.0km s-min=11.2km az=79.0

ISCJB 29 11:59:34.8±1.1, 19°84N±0°02×120°64E±0°03, h27km±8km, mb4.8/94, MS3.8/31, Error ellipse: s-maj=5.0km s-min=3.3km az=166.5

BJI 29 11:59:35.0, 19°91N×120°62E, h20km, mB4.8/32, mb4.7/45, ML4.4/3, Ms4.4/45, Ms7 4.2/44

MOS 29 11:59:35.5±0.9, 19°84N×120°62E, h33km, mb5.1/58, Error ellipse: s-maj=8.7km s-min=5.3km az=112.4

MAN 29 11:59:37, 19°54N×120°58E, h2km, mb5.4, ML4.4, MS4.7

NEIC 29 11:59:37.4±1.6, 19°81N×120°64E, h34km±11km, mb4.9/32, Error ellipse: s-maj=4.7km s-min=3.9km az=68.0

DJA 29 11:59:44.0±3.4, 20°N±7°×12°1E±1°0, h84km±34km, M4.7/15, mB5.4/2, mb4.7/15, Mw(mB)4.9/2

ISC 29 11:59:34.8±1.3, 19°79N±0°03×120°68E±0°04, h17km±7km, n254, σ1§53/269, mb4.9/94, MS3.8/31, 9C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.46**	**182**	⇓*i*P	**Pn**	**11 59 59.6**	**-0.8**
PIP				*e*S	**Sg**	**12 00 17.4**	**-4.5**
SIPP	**Brgy, Tapao**	**1.87**	**187**	⇓*i*P	Pn	11 59 57.6	-8.4
SIPP				*e*S	Sn	12 00 15.4	-14
SGCP	**Mt. Cagua**	**2.01**	**140**	*e*P	**Pn**	**12 00 09.6**	**+1.6**
ABRA	**Dolores**	**2.13**	**179**	*e*P	**Pn**	**12 00 09.8**	**+0.2**
ABRA				*e*S	**Sn**	**12 00 34.7**	**-1.0**
CVP	**Callao Caves**	**2.34**	**152**	⇑*i*P	**Pb**	**12 00 15.5**	**-1.1**
CVP				*i* S	**Sn**	**12 00 43.5**	**+2.6**
CAUP	**Cauayan**	**3.03**	**159**	*e*P	**Pb**	**12 00 27.0**	**-1.4**
PALP	**Palanan**	**3.18**	**148**	*e*P	Pn	12 00 27.4	+3.3
BOLP	**Bolinao**	**3.47**	**192**	*e*P	**Pn**	**12 00 30.2**	**+2.1**
BOLP				*e*S	**Sn**	**12 01 07.6**	**-1.3**
BALP	**Baler**	**4.12**	**168**	*e*P	**Pn**	**12 00 39.5**	**+2.5**
BALP				*e*S	**Sn**	**12 01 29.6**	**+4.8**
TATO	**Taipei**	**5.21**	**8**	*e*Pn	**Pn**	**12 00 53.0**	**+0.9**
TATO				*e*Sn	**Sn**	**12 01 51.0**	**-0.9**
QZH	**Quanzhou**	**5.48**	**340**	Pn	**Pn**	**12 00 54.5**	**-1.3**
QZH				Sn	Sn	12 01 50.3	-8.2
QZH				smax	smax		
	comp=N,280nm,0.5s						
QZH				smax	smax		
	comp=E,360nm,0.4s						
TGY	**Tagaytay City**	**5.66**	**177**	Pn	Pb	12 01 06.1	-7.2
	comp=E,9.1nm,0.3s,baz=240,slow=17,SNR=2.4						
TGY	**Tagaytay City**	**5.66**	**177**	Pn	Pb	12 01 06.1	-7.2
JOW	**Kunigami**	**9.89**	**43**	Pn	**Pn**	**12 01 57.2**	**+1.0**
	comp=E,3.4nm,0.3s,baz=228,slow=16,SNR=3.5						
JOW	**Kunigami**	**9.89**	**43**	Pn	**Pn**	**12 01 57.2**	**+1.0**
WHN	**Wuhan**	**12.14**	**333**	P	**Pn**	**12 02 27.5**	**+0.4**
WHN				S	**Sn**	**12 04 44.0**	**+1.8**
WHN				LR	LR		
	comp=Z,2μm,15.0s						
NJ2	**Nanjing**	**12.32**	**353**	*e*P	Pn	12 02 33.0	+3.4
NJ2				S	Sn	12 04 38.0	-8.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,440nm,11.5s						
NJ2				LR	LR		
	comp=E,480nm,12.6s						
NJ2				LR	LR		
	comp=Z,1μm,12.7s						
DAV	**Davao City (W)**	**13.51**	**159**	LR	LR	12 08 56.9	
	comp=Z,524nm,19.9s,baz=336,slow=42						
GYA	**Guiyang**	**14.50**	**300**	*e*P	P	12 03 01.8	-4.3
GYA				pP	Pn	12 03 08.8	+9.3
GYA				PP	PnPn	12 03 13.3	+5.8
GYA				S	**Sn**	**12 05 41.3**	**+1.3**
GYA				sS	S	12 05 51.5	-8.0
GYA				SS	**SnSn**	**12 05 58.0**	**+5.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,750nm,14.7s						
GYA				LR	LR		
	comp=E,670nm,15.6s						
GYA				LR	LR		
	comp=Z,700nm,14.2s						
ENH	**Enshi**	**14.54**	**318**	*e*Pn	**Pn**	**12 02 59.7**	**-0.3**
JNU	**Nakatsue**	**16.10**	**32**	Pn	**Pn**	**12 03 21.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=203,slow=7.1,SNR=7.1						
JNU				LR	LR	12 09 30.9	
	comp=Z,108nm,19.2s,baz=231,slow=37						
JNU	**Nakatsue**	**16.10**	**32**	Pn	**Pn**	**12 03 21.1**	**+0.6**
KMI	**Kunming**	**17.41**	**291**	P	**P**	**12 03 39.5**	**+1.0**
KMI				sP	sP	12 03 52.5	+7.1
KMI				S	**Sn**	**12 06 49.5**	**-1.4**
KMI				sS	**S**	**12 07 01.5**	**+2.3**
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
KMI				pmax	pmax		
	comp=Z,85nm,3.4s						
KMI				LR	LR		
	comp=N,300nm,11.7s						
KMI				LR	LR		
	comp=E,640nm,14.2s						
KMI				LR	LR		
	comp=Z,780nm,13.2s						
XAN	**Xi'an**	**17.63**	**326**	P	**Pn**	**12 03 38.0**	**-1.8**
XAN				pP	P	12 03 46.0	+5.3
XAN				sP	sP	12 03 50.5	+3.0
XAN				S	Sn	12 06 48.0	-7.8
XAN				sS	**S**	**12 07 00.0**	**-3.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,23nm,3.9s						
XAN				LR	LR		
	comp=N,430nm,13.9s						
XAN				LR	LR		
	comp=E,120nm,15.2s						
XAN				LR	LR		
	comp=Z,210nm,13.9s						
KSAR	**Wonju Array Be**	**18.68**	**18**	P	**Pn**	**12 03 52.0**	**-0.6**
KSRS	**Korea Array**	**18.70**	**18**	P	**Pn**	**12 03 52.0**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=199,slow=11,SNR=36						
KSRS				LR	LR	12 11 45.2	
	comp=Z,88nm,18.6s,baz=33,slow=39						
CD2	**Chengdu**	**18.86**	**309**	P	**Pn**	**12 03 55.0**	**+0.1**
CD2				pP	P	12 04 03.0	+8.7
CD2				sP	sP	12 04 08.0	+6.9
CD2				PP	**PnPn**	**12 04 11.3**	**+4.1**
CD2				S	**Sn**	**12 07 20.0**	**-5.6**
CD2				sS	**S**	**12 07 32.8**	**+4.5**
CD2				SS	**SnSn**	**12 07 45.0**	**+5.3**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,230nm,5.9s						
CD2				LR	LR		
	comp=N,640nm,14.9s						
CD2				LR	LR		
	comp=Z,950nm,13.1s						
CHBT	**CHBT**	**18.95**	**251**	P	**Pn**	**12 03 57.1**	**+1.1**
	comp=Z,26nm,1.2s						
CMMT	**Chiang Mai**	**20.54**	**271**	P	Pn	12 04 12.9	-2.0
	comp=Z,25nm,1.1s						
CHTO	**Chiang Mai**	**20.54**	**271**	*e*P	Pn	12 04 12.7	-2.3
CHTO				pmax	pmax		
	comp=Z,23nm,1.0s						
CHTO	**Chiang Mai**	**20.54**	**271**	*e*P	Pn	12 04 12.7	-2.3
	comp=Z,23nm,1.0s						
CHTO	**Chiang Mai**	**20.54**	**271**	P	Pn	12 04 13.1	-1.8
	SNR=11						
CHTO	**Chiang Mai**	**20.54**	**271**	P	Pn	12 04 12.6	-2.4
	comp=Z,28nm,1.1s						
BJI	**Beijing**	**20.55**	**350**	P	Pn	12 04 13.0	-1.9
BJI				pmax	pmax		
	comp=Z,89nm,1.0s						
BJI				LR	LR		
	comp=N,330nm,15.8s						
BJI				LR	LR		
	comp=E,240nm,13.4s						
BJI				LR	LR		
	comp=Z,200nm,16.7s						
CM31	**Chiang Mai Arr**	**20.58**	**270**	*e*P	Pn	12 04 13.7	-1.8
	comp=Z,6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.58**	**270**	P	**P**	**12 04 12.4**	**-0.7**
	comp=Z,12nm,0.9s,baz=71,slow=9.2,SNR=78						
CMAR				PcP	**PcP**	**12 08 25.1**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=94,slow=0.6,SNR=8.8						
CMAR				LR	LR	12 11 33.5	
	comp=Z,124nm,20.9s,baz=139,slow=35						
**

comp=Z,365nm,1.4s
CN2 Changchun 24.27 8 *e*P P **12 04 50.3 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,300nm,13.0s
CN2 LR LR
comp=Z,200nm,12.0s
AAI Ambon 24.47 162 P P **12 04 56.0 +2.8**
comp=Z,59nm,0.9s
KAPI Kappang 24.66 182 P P **12 04 55.6 +0.6**
comp=Z,7.8nm,0.8s,baz=34,slow=12,SNR=9.7
KAPI LR LR 12 15 18.0
comp=Z,106nm,19.0s,baz=300,slow=38
KAPI Kappang 24.66 182 *e*P P **12 04 55.2 +0.3**
comp=Z,136nm,2.0s
KAPI Kappang 24.66 182 P P **12 04 55.8 +0.9**
SNR=9.0
KAPI Kappang 24.66 182 P P **12 04 55.9 +0.9**
comp=Z,24nm,1.9s,comp=Z,556nm
MDJ Mudanjiang 25.84 15 P P **12 05 05.5 +0.1**
MDJ pmax pmax
comp=Z,28nm,1.0s
MDJ pmax pmax
comp=Z,100nm,5.4s
MDJ Mudanjiang 25.84 15 *e*P P **12 05 05.8 +0.3**
comp=Z,22nm,1.0s
USRK Ussuriysk Arra 26.11 19 P P **12 05 08.1 +0.2**
comp=Z,8.0nm,0.8s,baz=201,slow=8.5,SNR=14
GTA Gaotai 26.56 322 *e*P P **12 05 12.0 -0.1**
GTA pP pP 12 05 21.3 +4.1
GTA sP sP 12 05 25.3 +6.0
GTA S S **12 09 43.0 -3.1**
GTA sS sS 12 09 56.3 +1.8
GTA SS **SnSn** **12 10 51.5 +3.1**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,5.9s
GTA LR LR
comp=N,170nm,12.6s
GTA LR LR
comp=E,290nm,13.1s
GTA LR LR
comp=Z,510nm,14.5s
PSI Prapat 27.14 234 P P **12 05 16.9 -0.7**
comp=Z,6.7nm,0.8s,baz=351,slow=17,SNR=6.3
PSI LR LR 12 15 22.0
comp=Z,89nm,19.4s,baz=223,slow=35
PSI Prapat 27.14 234 P P **12 05 16.9 -0.7**
LSA Lhasa 28.51 296 *e*P P **12 05 30.9 +0.8**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 28.51 296 *e*P P **12 05 30.9 +0.8**
comp=Z,12nm,0.9s
ERM Erimo 29.21 36⇓ *e*P P **12 05 36.3 +0.7**
ERM pmax pmax
comp=Z,73nm,1.7s
HIA Hailar 29.42 359 *e*P P **12 05 39.6 +2.1**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 30.11 342 *e*P P **12 05 43.5 -0.2**
comp=Z,16nm,1.0s
ULN Ulaanbaatar 30.11 342 P P **12 05 44.1 +0.3**
SNR=7.8
ULN Ulaanbaatar 30.11 342 P P **12 05 44.0 +0.3**
comp=Z,16nm,1.1s
SONM Songino Array 30.29 341 P P **12 05 45.0 -0.3**
comp=Z,16nm,0.9s,baz=156,slow=7.9,SNR=119
SONM LR LR 12 18 31.2
comp=Z,142nm,18.5s,baz=10,slow=38
SONM Songino Array 30.29 341 P P **12 05 45.0 -0.3**
KLR Kul'dur 30.69 14 *e*P P **12 05 45.8 -2.8**
KLR pmax pmax
comp=Z,57nm,1.6s
HABR Khabarovsk 30.88 19 *e*P P **12 05 48.7 -1.6**
HABR *e**PP 12 05 58.4
HABR *e**SP 12 06 02.5
HABR *e* 12 06 49.7
HABR *e* 12 08 45.0
HABR *e*S S **12 10 50.9 -2.6**
HABR *e**SS 12 11 07.3
HABR *e*SS **SnSn** **12 12 32.9 -0.4**
HABR *i* 12 16 15.9
HABR pmax pmax
comp=N,14nm,1.6s
HABR pmax pmax
comp=E,19nm,1.2s
HABR pmax pmax
comp=Z,18nm,1.6s
HABR MLR MLR
comp=Z,120nm,18.0s
TAPN Taplejung 31.08 290 *e*P P **12 05 52.6 -0.1**
comp=Z,22nm,0.9s
ODAN Odare 31.31 289 *e*P P **12 05 54.6 -0.1**
RAMN Ramite 32.02 289 *e*P P **12 06 01.0 +0.1**
comp=Z,64nm,0.8s
YSS Yuzh-Sakhalins 32.54 29 *e*P P **12 06 04.1 -0.9**
YSS pmax pmax
comp=Z,33nm,2.2s
GUN Gumba 32.76 291 *e*P P **12 06 07.4 -0.1**
comp=Z,52nm,0.9s
PKI Pulchoki 33.13 290 *e*P P **12 06 10.0 -0.8**
KKN Kakani 33.27 291 *e*P P **12 06 11.2 -0.7**
DMN Daman 33.40 290 *e*P P **12 06 12.5 -0.6**
ZAK Zakamensk 33.51 340 *e*P P **12 06 12.8 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 34.52 341 *e*P P **12 06 20.2 -2.0**
TLY *e*S S 12 11 39.8 -10
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,111nm,17.0s
TLY Talaya 34.52 341 *e*P P **12 06 22.2 +0.1**
comp=Z,16nm,0.8s
TLY Talaya 34.52 341 P P **12 06 22.7 +0.5**
SNR=6.9
DANN Dangsing 34.66 291 *e*P P **12 06 23.3 -0.8**
KOLN Koldanda 34.75 290 *e*P P **12 06 23.9 -0.8**
comp=Z,25nm,0.8s
PYUN Piuthan 35.32 291 *e*P P **12 06 28.8 -0.8**
comp=Z,45nm,0.9s
MOY Mondy 35.36 339 *e*P P **12 06 29.5 -0.1**
MOY pmax pmax
comp=Z,21nm,2.2s
WMQ Urumqi 36.49 318 P P **12 06 40.5 +1.2**
WMQ pmax pmax
comp=Z,8.0nm,1.4s
WMQ LR LR
comp=N,130nm,17.0s
WMQ LR LR
comp=E,180nm,16.0s
WMQ LR LR
comp=Z,170nm,16.0s
CLNS Chul'man 37.13 4 *e*P P **12 06 44.1 -0.4**
CLNS *e**PP 12 06 54.4
CLNS *e* 12 08 10.0
CLNS *e*PPP PPP 12 08 29.4
CLNS *e* 12 08 57.8
CLNS *e*S S **12 12 34.9 +4.9**
CLNS *e*SSS SSS 12 15 33.9
CLNS *e* 12 16 58.5
CLNS pmax pmax
comp=Z,9.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,0.7s
CLNS smax smax
comp=N,56nm,13.8s
CLNS smax smax
comp=E,286nm,14.6s
CLNS MLR MLR
comp=N,61nm,13.0s
CLNS MLR MLR
comp=Z,90nm,12.0s
CLNS MLR MLR
comp=E,258nm,14.0s
FITZ Fitzroy Crossi 37.97 172 *e*P P **12 06 52.0 +0.1**
comp=E,9.6nm,1.1s
HYB Hyderabad 39.93 274 *i*P P **12 07 07.0 -1.5**
COEN Coen 40.18 145 *e*P P **12 07 09.2 -1.4**
comp=E,41nm,0.6s
PALK Pallekele 40.70 258 *e*P P **12 07 14.9 -0.1**
comp=E,5.7nm,0.6s
MK31 Makanchi Array 41.27 320*ce*P P **12 07 19.2 0.0**
MK31 pmax pmax
comp=Z,51nm,0.9s
MK31 Makanchi Array 41.27 320 *e*P P **12 07 19.3 +0.1**
MKAR Makanchi Array 41.27 320 P P **12 07 19.4 +0.1**
comp=Z,38nm,0.9s,baz=114,slow=9.6,SNR=290
MKAR PcP **PcP** **12 09 17.2 -0.6**
comp=Z,1.8nm,0.7s,baz=103,slow=5.5,SNR=4.0
MKAR LR LR 12 25 14.3
comp=Z,59nm,20.2s,baz=132,slow=37
MKAR Makanchi Array 41.27 320 P P **12 07 19.4 +0.1**
MKAR 12 09 17.2
MKAR pmax pmax
comp=Z,38nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,59nm,20.2s
MKAR Makanchi Array 41.27 320 P P **12 07 19.4 +0.1**
MKAR PcP **PcP** **12 09 17.2 -0.6**
WRAB Tennant Creek 41.69 160 *e*P P **12 07 22.3 -0.6**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 41.69 160 *e*P P **12 07 22.3 -0.6**
comp=Z,17nm,0.9s
WRA Warramunga Arr 41.69 160 P P **12 07 22.5 -0.4**
comp=Z,11nm,0.6s,baz=342,slow=9.1,SNR=142
WRA Warramunga Arr 41.69 160 P P **12 07 22.5 -0.4**
YAK Yakutsk 42.67 6 *e*P P **12 07 29.5 -0.9**
YAK pmax pmax
comp=N,11nm,1.3s
KSH Kashi 43.03 307 P P 12 07 36.5 +2.6
KSH pP pP 12 07 47.0 +7.9
KSH sP sP 12 07 51.0 +10
KSH PP **PcP** **12 09 20.0 -4.0**
KSH PcP PP 12 09 27.0 +13
KSH ScP **ScP** **12 13 14.0 -0.6**
KSH PcS **PcS** **12 13 18.5 +2.1**
KSH S S **12 14 00.0 +0.9**
KSH sS sS 12 14 18.5 +11
KSH SS **SS** **12 17 08.3 -3.0**
KSH ScS **ScS** **12 17 33.0 -1.2**
KSH pmax pmax
comp=Z,11nm,1.2s
KSH pmax pmax
comp=Z,68nm,3.3s
KSH LR LR
comp=N,200nm,5.4s
KSH LR LR
comp=E,130nm,5.9s
KSH LR LR
comp=Z,230nm,9.6s
ULHL Ulahol 43.56 311 P P **12 07 38.9 +0.7**
SNR=10
ZAA0 Zalesovo Array 43.73 330 *e*P P **12 07 38.5 -0.7**
ZALV Zalesovo Beam 43.73 330 P P **12 07 38.6 -0.5**
comp=Z,12nm,0.7s,baz=113,slow=7.1,SNR=85
ZALV Zalesovo Beam 43.73 330 P P **12 07 38.6 -0.5**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 43.73 330 P P **12 07 38.6 -0.5**
PETK Petropavlovsk- 43.80 32 P P **12 07 39.5 -0.2**
comp=Z,1.4nm,0.6s,baz=224,slow=4.0,SNR=3.5
PETK LR LR 12 27 31.7
comp=Z,37nm,18.1s,baz=39,slow=38
PETK Petropavlovsk- 43.80 32 P P **12 07 39.5 -0.2**
PETK pmax pmax
comp=Z,1.0nm,0.6s
PETK MLR MLR
comp=Z,37nm,18.2s
PETK Petropavlovsk- 43.80 32 P P **12 07 39.5 -0.2**
TKM2 Tokmak 2 44.21 312 *i*P P **12 07 44.0 +0.6**
TKM2 Tokmak 2 44.21 312 P P **12 07 44.1 +0.6**
SNR=8.7
KZA Kyzart 44.22 310 P P **12 07 45.1 +1.3**
SNR=15
KBK Karagaybulak 44.59 311 P P **12 07 47.5 +1.1**
SNR=5.6
AAK Ala-Archa 44.91 311*d*P P **12 07 49.5 +0.5**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 44.91 311 *e*P P **12 07 49.1 +0.1**
comp=Z,20nm,1.1s
NVS Novosibirsk 45.01 330 *e*P P 12 07 40.5 -8.8
NVS *e* 12 09 27.0
NVS pmax pmax
comp=Z,34nm,1.8s
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.3s
AS31 Alice Springs 45.08 163 *e*P P **12 07 50.7 +0.5**
ASAR Alice Springs 45.08 163 P P **12 07 50.8 +0.5**
comp=E,15nm,0.7s,baz=343,slow=7.0,SNR=209
ASAR LR LR 12 30 46.0
comp=E,85nm,18.3s,baz=153,slow=42
ASAR Alice Springs 45.08 163 P P **12 07 50.8 +0.5**
KURK Kurchatov 45.23 323 *e*P P **12 07 51.2 0.0**
KURK pmax pmax
comp=Z,49nm,0.9s
KURK Kurchatov 45.23 323 *e*P P **12 07 51.2 0.0**
comp=Z,49nm,0.9s
KURK Kurchatov 45.23 323 P P **12 07 51.6 +0.4**
SNR=22
AML Almayashu 45.35 310 P P **12 07 53.8 +1.1**
SNR=13
CTA Charters Tower 46.88 146 P P **12 08 05.8 +1.3**
comp=Z,16nm,1.0s,baz=331,slow=11,SNR=6.7
CTA Charters Tower 46.88 146 P P **12 08 05.8 +1.3**
CTAO Charters Tower 46.88 146 *e*P P **12 08 06.1 +1.6**
CTAO pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 46.88 146 *e*P P **12 08 06.1 +1.6**
comp=Z,18nm,1.0s
KBL Kabul 47.75 299 *e*P P **12 08 11.4 -0.1**
KBL pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 47.75 299 *e*P P **12 08 11.4 -0.1**
comp=Z,15nm,1.1s
KK31 Karatay Array 47.86 311*ce*P P **12 08 12.1 +0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 48.26 19⇑ *e*P P **12 08 15.9 +1.3**
HNR Honiara 48.35 123 LR LR 12 26 28.4
comp=Z,154nm,20.0s,baz=279,slow=33
VOSK Vostochnaya 50.39 323 P P **12 08 30.5 -0.6**
VOSK pmax pmax
comp=Z,20nm,0.9s
BVA0 Borovoye Array 50.83 323 *i*P P **12 08 34.2 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 50.90 323 *e*P P **12 08 35.2 +0.2**
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK Borovoye 50.90 323 *e*P P **12 08 35.2 +0.2**
comp=Z,23nm,0.8s
BRVK Borovoye 50.90 323 P P **12 08 34.9 -0.1**
SNR=7.3
ZRNK Zerenda 51.59 323 *i*P P **12 08 39.7 -0.5**
ZRNK pmax pmax
comp=Z,44nm,1.1s
EIDS Eidsvold 53.74 145 *e*P P **12 08 57.4 +1.0**
comp=Z,8.6nm,0.6s
BBOO Buckleboo 54.33 164 *e*P P **12 09 02.4 +1.8**
comp=Z,349nm,0.8s
STKA Stephens Creek 55.15 158 P P **12 09 07.6 +1.1**
comp=Z,3.5nm,0.7s,baz=350,slow=9.6,SNR=7.3
STKA Stephens Creek 55.15 158 *e*P P **12 09 07.2 +0.8**
comp=Z,1.1nm,0.9s
BILL Bilibino 55.96 19*d*P P **12 09 11.8 -0.1**
BILL *e* 12 10 08.1
BILL *e* 12 11 16.3
BILL pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 55.96 19 *e*P P **12 09 11.8 -0.1**
comp=Z,9.2nm,0.6s
AB31 Akbulak array 56.23 317*ce*P P **12 09 13.9 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
SVE Sverdlovsk 57.34 326⇑ *e*P P **12 09 22.0 +0.1**
SVE pmax pmax
comp=Z,31nm,1.0s
ARU Arti 58.37 325*d*P P **12 09 28.3 -0.8**
ARU 12 11 34.7
ARU S S **12 17 30.3 -0.7**
ARU SS SS **12 21 21.2 -1.7**
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 58.37 325 *e*P P **12 09 28.5 -0.6**
comp=Z,16nm,0.8s
ASHO Ashiyiah 59.54 288 ⇓P P **12 09 36.4 -1.5**
DZM Mont Dzumac 61.08 131 *e*LR LR 12 27 58.4
comp=Z,120nm,22.9s
MAK Makhachkala 64.62 309 *e*P P 12 10 07.3 -4.3
MAK MLR MLR
comp=Z,129nm,12.0s
RDF Al-Radifah 66.33 294 *e*P P **12 10 22.5 -0.4**
RDF AMb AMB 12 10 23.6
comp=Z,60nm,1.2s
MIB Mutribah 66.36 295 *e*P P **12 10 22.2 -0.9**
MIB AMb AMB 12 10 23.0
comp=Z,20nm,1.3s
NAY Al-Naaiem 66.54 294 *e*P P **12 10 23.2 -1.1**
NAY AMb AMB 12 10 23.7
comp=Z,20nm,0.7s
ZEI Tsey 67.28 309 *e*P P **12 10 28.4 -0.6**
ZEI pmax pmax
comp=Z,19nm,0.8s
KBZ Khabaz 67.90 310 P P **12 10 32.8 +0.2**
comp=Z,17nm,0.9s,baz=100,slow=4.8,SNR=19
KBZ LR LR 12 44 21.8
comp=Z,62nm,19.3s,baz=212,slow=40
KBZ Khabaz 67.90 310 P P **12 10 32.8 +0.2**
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ MLR MLR
comp=Z,62nm,19.3s
KBZ Khabaz 67.90 310 P P **12 10 32.8 +0.2**
KIV Kislovodsk 68.02 310 *e*P P **12 10 33.4 -0.1**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,58nm,18.0s
KIV Kislovodsk 68.02 310 *e*P P **12 10 34.3 +0.8**
comp=Z,41nm,0.9s
KIV Kislovodsk 68.02 310 P P **12 10 34.1 +0.5**
SNR=6.5
VRHR Novokhopersk 68.04 318 *e*P P **12 10 32.4 -1.0**
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,2.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
KLMR Klimovskoe 68.64 329 *e*P P **12 10 35.0 -1.9**
KLMR pmax pmax
comp=Z,28nm,1.7s
VORD Divnogorie 69.52 318 *e*P P **12 10 41.7 -0.9**
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,40nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 69.57 318 *e*P P **12 10 42.1 -0.8**
OBN Obninsk 70.67 323⇑ *i*P P **12 10 49.1 -0.5**
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,100nm,14.0s
ANN Anapa 71.63 312 *e*P P **12 10 54.0 -1.6**
ANN *e*S S **12 20 14.6 +0.2**
ANN pmax pmax
comp=Z,38nm,1.1s
MALT Malatya 72.08 305 *e*P P **12 10 59.2 +0.6**
MALT pmax pmax
comp=Z,16nm,0.9s
MALT Malatya 72.08 305 *e*P P **12 10 59.2 +0.6**
comp=Z,16nm,0.9s
ILAR Eielson Array 73.32 27 P P **12 11 04.5 -0.8**
comp=Z,2.3nm,0.8s,baz=268,slow=4.9,SNR=47
ILAR Eielson Array 73.32 27 P P **12 11 04.5 -0.8**
ARCES ARCESS Array B 73.43 339 P P **12 11 06.3 +0.4**
comp=Z,2.6nm,0.6s,baz=72,slow=9.1,SNR=10
ARCES LR LR 12 47 55.6
comp=Z,51nm,18.3s,baz=13,slow=40
ARCES ARCESS Array B 73.43 339 P P **12 11 06.3 +0.4**
SPITS Spitsbergen Ar 73.66 348 LR LR 12 51 29.2
comp=Z,44nm,18.1s,baz=85,slow=42
SIM Simferopol' 73.92 312 *e*P P 12 11 06.0 -3.2
SIM pmax pmax
comp=Z,18nm,0.7s
FINES FINESS Array B 75.00 330 P P **12 11 14.4 -0.7**
comp=Z,4.2nm,0.9s,baz=57,slow=6.4,SNR=16
FINES FINESS Array B 75.00 330 P P **12 11 14.4 -0.7**
VSU Vasula 75.39 327*c i*P P **12 11 16.8 -0.6**
VSU pmax pmax
comp=Z,26nm,1.2s
BR131 Keskin Array S 75.42 307 *e*P P **12 11 17.4 -0.9**
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 75.42 307 P P **12 11 17.5 -0.7**
comp=Z,1.8nm,0.8s,baz=119,slow=7.2,SNR=11
BRTR PP **PP** **12 14 09.3 +2.3**
comp=Z,0.9nm,0.9s,baz=60,slow=3.0,SNR=4.2
BRTR LR LR 12 50 55.0
comp=Z,27nm,19.0s,baz=13,slow=41
BRTR Keskin Array B 75.42 307 P P **12 11 17.5 -0.7**
BRTR PP **PP** **12 14 09.3 +2.3**
AKASG Malin Array Be 75.85 319 P P **12 11 19.1 -1.1**
comp=Z,6.5nm,0.7s,baz=64,slow=5.9,SNR=12
AKASG Malin Array Be 75.85 319 P P **12 11 19.1 -1.1**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 75.85 319 P P **12 11 19.1 -1.1**
AK01 Malin Array Si 75.86 319 *e*P P **12 11 19.1 -1.2**
KIEV Kiev 75.86 319 *e*P P **12 11 18.9 -1.4**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 75.86 319 *e*P P **12 11 18.9 -1.4**
comp=Z,6.1nm,0.7s
DAWY Dawson 76.65 26 *e*P P **12 11 24.9 +0.2**
INK Inuvik 77.46 21 P P **12 11 28.9 -0.1**
comp=Z,5.1nm,0.7s,baz=306,slow=6.0,SNR=35
INK Inuvik 77.46 21 P P **12 11 28.9 -0.1**
ISP Isparta 78.26 306 *e*P P **12 11 33.0 -1.2**
ISP pmax pmax
comp=Z,28nm,1.4s
ISP Isparta 78.26 306 *e*P P **12 11 33.0 -1.2**
comp=Z,28nm,1.4s
SUW Suwalki 78.51 323 *e*P P **12 11 34.6 -0.6**
SUW Suwalki 78.51 323 *e*P P **12 11 34.4 -0.7**
SUW pmax pmax
comp=Z,58nm,1.3s
SUW Suwalki 78.51 323 *e*P P **12 11 34.4 -0.7**
comp=Z,58nm,1.3s
SUW Suwalki 78.51 323 *e*P P **12 11 34.5 -0.6**
BUR08 Bucovina Ar. S 79.22 317 *e*P P **12 11 39.1 -0.2**
BEL Belsk 80.58 322 *e*P P **12 11 46.7 +0.3**
BEL Belsk 80.58 322 *e*P P **12 11 46.7 +0.3**
DAG Danmarks Havn 80.62 351 *i*P P **12 11 45.0 -1.2**
comp=Z,80nm,1.0s
HFS Hagfors 81.16 331 LR LR 12 49 06.4
comp=Z,39nm,19.4s,baz=72,slow=37
OJC Ojcow 81.74 320 *e*P P **12 11 52.3 -0.3**
OJC Ojcow 81.74 320 *e*P P **12 11 52.3 -0.3**
NB2 NORSAR Subarra 81.88 332 P P **12 11 52.0 -1.2**
comp=Z,14nm,1.0s,baz=64,slow=5.6
NOA NORSAR Array B 81.88 332 P P **12 11 52.4 -0.8**
comp=Z,6.9nm,0.9s,baz=64,slow=5.4,SNR=21
NOA LR LR 12 51 07.6
comp=Z,76nm,18.6s,baz=65,slow=38
NOA NORSAR Array B 81.88 332 P P **12 11 52.4 -0.8**
DLBC Dease Lake 82.96 30 P P **12 11 59.8 +0.9**
comp=Z,4.8nm,1.0s,baz=283,slow=5.7,SNR=6.2
DLBC Dease Lake 82.96 30 *e*P P **12 11 59.5 +0.6**
RES Resolute Bay 83.05 9 *e*P P **12 11 58.8 -0.3**
comp=Z,8.6nm,0.9s
MORC Moravsky Berou 83.25 321 *e*P P **12 12 00.4 -0.3**
MORC pmax pmax
comp=Z,2.0nm,1.0s
MORC Moravsky Berou 83.25 321 *e*P P **12 12 00.3 -0.3**
comp=Z,2.2nm,1.0s
KSP Ksiaz 83.58 322 *e*P P **12 12 02.6 +0.4**

KSP	Ksiaz	83.58	322	eP	P	12 12 02.4	+0.2
KSP	Ksiaz	83.58	322	eP	P	12 12 02.6	+0.4
KRLC	Kraliky	83.59	321	eP	P	12 12 02.3	-0.1
DPC	Dobruska-Polom	83.75	321	eP	P	12 12 03.1	-0.1
DPC	Dobruska-Polom	83.75	321	eP	P	12 12 03.1	-0.1
KMBO	Kilima Mbogo	84.19	267	eP	P	12 12 06.7	+0.4
	comp=Z,3.7nm,1.0s						
PVCC	Panska Ves	84.70	322	eP	P	12 12 08.4	+0.5
PVCC	Panska Ves	84.70	322	eP	P	12 12 08.4	+0.5
BRG	Berggiesshubel	84.92	322	eP	P	12 12 09.1	+0.1
	comp=Z,24nm,1.4s						
BRG	Berggiesshubel	84.92	322	eP	P	12 12 09.1	+0.1
BRG				pmax	pmax		
	comp=Z,24nm,1.5s						
PRU	Pruhonice	84.95	322	eP	P	12 12 09.3	+0.1
PRU	Pruhonice	84.95	322	eP	P	12 12 09.3	+0.1
CLL	Collm	85.27	323	⇓iP	P	12 12 10.1	-0.6
CLL				e		12 12 21.0	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	Collm	85.27	323	⇓iP	P	12 12 10.1	-0.6
	comp=Z,9.0nm,1.0s						
CLL				i		12 12 15.9	
CLL				epP	PcP	12 12 21.0	+7.1
KHC	Kasperske Hory	85.88	321	eP	P	12 12 13.8	-0.1
KHC	Kasperske Hory	85.88	321	eP	P	12 12 13.8	-0.1
GERES	GERESS Array B	85.93	321	P	P	12 12 14.2	-0.1
	comp=Z,2.7nm,0.8s,baz=65,slow=4.7,SNR=25						
GERES				LR	LR	12 51 36.3	
	comp=Z,52nm,20.5s,baz=122,slow=36						
GERES	GERESS Array B	85.93	321	P	P	12 12 14.2	-0.1
SUMG	Summit	86.80	354	eP	P	12 12 18.2	-0.2
SUMG				pmax	pmax		
	comp=Z,17nm,1.4s						
SUMG	Summit	86.80	354	eP	P	12 12 18.2	-0.2
	comp=Z,17nm,1.4s						
SUMG	Summit	86.80	354	i P	P	12 12 18.1	-0.3
	comp=Z,7.0nm,0.9s						
YKW3	Yellowknife Ar	87.14	22	eP	P	12 12 19.5	-0.2
	comp=Z,0.3nm,1.0s						
YKW3				e		12 12 30.0	
YKA	Yellowknife Ar	87.19	22	P	P	12 12 19.3	-0.7
	comp=Z,5.3nm,0.8s,baz=309,slow=4.4,SNR=97						
YKA	Yellowknife Ar	87.19	22	P	P	12 12 19.3	-0.7
DOU	Dourbes	90.53	325	P	P	12 12 35.5	-0.6
	comp=Z,10nm,2.6s						
PPT	Papeete	95.56	107	LR	LR	12 48 17.3	
	comp=Z,14nm,19.3s,baz=230,slow=31						
PPT2	Papeete2	95.57	107	eLR	LR	12 44 00.9	
	comp=Z,62nm,24.0s						
FRB	Frobisher Bay	96.43	4	P	P	12 13 01.8	-1.0
	comp=Z,5.0nm,0.7s,baz=352,slow=5.8,SNR=20						
FRB	Frobisher Bay	96.43	4	P	P	12 13 01.8	-1.0
TBI	Tubuai	97.50	112	eLR	LR	12 44 53.6	
	comp=Z,68nm,27.5s						
TORD	Torodi Ar. Bea	111.62	294	PP	PP	12 18 45.6	-5.2
	comp=Z,0.7nm,0.9s,baz=73,slow=8.3,SNR=4.1						
TORD	Torodi Ar. Bea	111.62	294	PP	PP	12 18 45.6	-5.2
TXAR	Lajitas Array	115.08	42	PKP	PKPdf	12 18 14.9	-0.9
	comp=Z,0.4nm,0.8s,baz=182,slow=1.7,SNR=5.1						
TXAR	Lajitas Array	115.08	42	PKP	PKPdf	12 18 14.9	-0.9
ROSC	El Rosal	151.40	33	PKPbc	PKPbc	12 19 29.7	+0.4
	comp=Z,5.8nm,0.7s,baz=277,slow=22,SNR=5.8						
ROSC	El Rosal	151.40	33	PKPbc	PKPbc	12 19 29.7	+0.4

GUC 29 12:04:14.5±0.3, 23°65S×67°37W, h240km, MD3.3, ML3.7, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	Plate Boundary	2.39	305	⇓iP	Pn	12 05 07.7	+7.8
PB04				i S	S	12 05 48.0	+12
PB04				AML	AML	12 05 50.3	
	comp=N,84nm,0.3s						
CEN1	Los Morros	2.61	275	⇑iP	Pn	12 05 05.4	+3.0
CEN1				i S	S	12 05 43.9	+3.9
CEN1				AML	AML	12 05 46.9	
	comp=N,27nm,0.7s						
ANCH	Antofagasta	2.79	269	⇑iP	Pn	12 05 05.8	+1.8
ANCH				i S	S	12 05 44.8	+1.7
PB07	Plate Boundary	3.01	309	eP	Pn	12 05 09.1	+2.4
PB07				i S	S	12 05 50.3	+2.4
PB07				AML	AML	12 05 52.3	
	comp=E,86nm,0.4s						
PB01	Plate Boundary	3.25	323	i P	Pn	12 05 11.4	+2.1
PB01				i S	S	12 05 54.8	+2.2
PB01				AML	AML	12 05 58.3	
	comp=E,45nm,0.1s						
HMBC	Humberstone	4.09	325	eP	Pn	12 05 20.9	+1.8
HMBC				i S	S	12 06 12.3	+2.0
HMBC				AML	AML	12 06 17.8	
	comp=E,40nm,0.6s						
PSGC	Pisagua	4.78	327	eP	Pn	12 05 28.9	+1.5
PSGC				i S	S	12 06 27.4	+2.0
PSGC				AML	AML	12 06 34.4	
	comp=N,10.0nm,0.4s						
MNMC	Minimini	4.95	335	i P	Pn	12 05 31.9	+2.1
MNMC				i S	S	12 06 32.1	+2.5
MNMC				AML	AML	12 06 38.4	
	comp=E,34nm,0.2s						

MEX 29 12:19:15.8±0.6, 16°46N×98°15W, h37km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.07	165	i P	Pn	12 19 20.3	-1.7
PNIG				i S	Sn	12 19 24.6	-1.6
UTMO	Huajupan	1.41	13	i P	Pn	12 19 37.4	-1.7
UTMO				i S	Sn	12 19 54.3	-2.3
VHO	Vista Hermosa	1.48	65	i P	Pn	12 19 39.0	-1.2
VHO				i S	Sn	12 19 56.0	-2.5
HUIG	Huatulco	2.07	109	i P	Pn	12 19 47.5	-0.6
HUIG				eS	Sn	12 20 10.2	-2.5
CMIG	Matias Romero	3.19	78	i P	Pn	12 20 01.3	-2.1
CMIG				i S	Sn	12 20 38.2	-2.0

IDC 29 12:20:12.7±3.7, 23°42N×44°66W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=163.2km s-min=31.1km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	45.01	95	P	P	12 28 30.1	-0.2
	0.7nm,0.9s,baz=304,slow=9.4,SNR=4.5						
PDAR	Pinedale Array	56.34	307	P	P	12 29 55.4	-0.4
	0.9nm,0.9s,baz=87,slow=9.1,SNR=5.3						
YKA	Yellowknife Ar	60.25	330	P	P	12 30 22.1	-0.4
	0.3nm,0.9s,baz=95,slow=7.6,SNR=3.9						
ILAR	Eielson Array	74.12	334	P	P	12 31 51.2	+0.6
	0.4nm,0.7s,baz=66,slow=4.8,SNR=8.2						

IDC 29 13:08:41.6±17.0, 1°12N×129°18E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/20, mbtmp3.4/3, Error ellipse: s-maj=263.6km s-min=127.9km az=163.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.54	167	P	P	13 13 33.0	+0.3
	0.6nm,0.5s,baz=347,slow=11,SNR=9.2						
ASAR	Alice Springs	25.06	170	P	P	13 14 06.8	-1.1
	0.2nm,0.8s,baz=349,slow=8.1,SNR=4.9						
STKA	Stephens Creek	34.87	161	P	P	13 15 35.6	+0.9
	2.4nm,1.0s,baz=339,slow=8.6,SNR=3.7						

IDC 29 13:11:50.6±2.2, 1°78N×126°74E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=180.1km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.84	161	P	P	13 16 54.4	-1.2
	1.0nm,0.7s,baz=340,slow=11,SNR=15						
ASAR	Alice Springs	26.24	165	P	P	13 17 28.9	+1.3
	0.4nm,1.0s,baz=344,slow=12,SNR=4.7						
MKAR	Makanchi Array	59.16	326	P	P	13 21 53.1	-0.2
	0.2nm,0.4s,baz=123,slow=8.1,SNR=5.0						

MAN 29 13:18:47.1±8.3, 43N×120°85E, h2km, mb3.8, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.24	245	⇓iP	Pg	13 18 52.6	+0.9
PIP				eS	Sg	13 19 00.5	+5.6
ABRA	Dolores	0.79	190	eP	Pb	13 19 02.8	-0.7
ABRA				eS	Sn	13 19 17.6	+0.1
SGCP	Mt. Cagua	1.15	99	eP	Pn	13 19 22.1	+12
CAUP	Cauayan	1.75	148	eP	Pb	13 19 19.3	-0.5
BALP	Baler	2.76	165	eP	Pn	13 19 34.0	+1.7

IDC 29 13:30:26.3±14.0, 0°55S×133°18E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=216.7km s-min=117.2km az=159.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.30	177	P	P	13 34 53.3	+0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=6.5						
ASAR	Alice Springs	22.99	178	P	P	13 35 33.4	+0.5
	0.4nm,0.3s,baz=358,slow=12,SNR=26						
STKA	Stephens Creek	32.16	166	P	P	13 36 55.3	-0.6
	1.0nm,0.7s,baz=335,slow=8.7,SNR=4.2						

AUST 29 13:40:58.6, 2°99S×128°51E, h60km

IDC 29 13:41:46.3±2.2, 7°05S×129°46E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=77.4km s-min=29.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	Manton Dam	5.99	164	P	Pn	13 43 23.2	+7.0
	baz=10,SNR=22						
KDU	Kakadu	6.34	152	P	Pn	13 43 28.9	+7.7
	baz=10,SNR=27						
PCI	Palu	11.37	302	S	Pn	13 44 37.5	+7.5
	baz=8.9,SNR=3.1						
FITZ	Fitzroy Crossi	11.60	198	Pn	Pn	13 44 32.1	-1.1
	0.3nm,0.3s,baz=16,slow=10,SNR=22						
FITZ				Sn	Sn	13 46 28.9	-15
	0.3nm,0.3s,baz=273,slow=21,SNR=5.6						
FITZ	Fitzroy Crossi	11.60	198	P	Pn	13 44 32.7	-0.5
	baz=15,SNR=8.3						
WRA	Warramunga Arr	13.67	160	Pn	Pn	13 45 02.7	+1.1
	0.7nm,0.3s,baz=340,slow=13,SNR=45						
WRA				Sn	Sn	13 47 24.1	-10
	0.5nm,0.3s,baz=340,slow=21,SNR=7.6						
ASAR	Alice Springs	17.07	166	P	Pn	13 45 46.5	0.0
	0.2nm,0.3s,baz=350,slow=14,SNR=18						
ASAR				S	Sn	13 48 47.3	-10
	0.1nm,0.3s,baz=346,slow=26,SNR=4.7						
MKAR	Makanchi Array	67.97	327	P	P	13 52 47.2	0.0
	0.1nm,0.4s,baz=124,slow=7.8,SNR=4.2						

IDC 29 13:51:21.0±1.5, 16°14S×74°74W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/19, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=53.4km s-min=31.0km az=34.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	4.60	333	Pn	Pn	13 52 37.0	+5.1
	0.6nm,0.3s,baz=108,slow=20,SNR=2.1						
NNA				Pg	Pb	13 52 44.9	+2.1
	12nm,0.3s,baz=164,slow=14,SNR=21						
NNA				Lg	Lg	13 53 35.9	
	23nm,0.3s,baz=199,slow=10,SNR=9.1						
LPAZ	La Paz	6.35	92	Pn	Pn	13 52 54.4	-2.4
	0.8nm,0.3s,baz=284,slow=6.7,SNR=16						
TORD	Torodi Ar. Bea	80.96	74	P	P	14 03 39.2	+1.1
	0.3nm,0.6s,baz=253,slow=4.8,SNR=2.5						
YKA	Yellowknife Ar	84.38	343	P	P	14 03 54.3	-0.5
	0.1nm,0.3s,baz=134,slow=4.4,SNR=3.9						
ASAR	Alice Springs	131.54	216	PKP	PKPdf	14 10 36.1	-0.5
	0.2nm,0.5s,baz=120,slow=1.9,SNR=6.3						
WRA	Warramunga Arr	134.15	220	PKP	PKPdf	14 10 40.8	-0.7
	1.0nm,1.1s,baz=128,slow=1.6,SNR=8.6						

ISCJB 29 13:56:44.2±1.1, 73°30N±0°05×7°5E±0°4, h0km, Error ellipse: s-maj=16.0km s-min=7.5km az=177.6
CSEM 29 13:56:46.7±0.4, 73°33N×7°60E, h1km, ML2.2, Error ellipse: s-maj=11.7km s-min=4.8km az=84.0, Suspected Mining explosion.
IDC 29 13:56:47.7±2.4, 73°22N×7°80E, h0km, mb1 3.4/4, mb1mx3.1/29, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=33.9km s-min=17.1km az=73.0
BER 29 13:56:50.8±2.6, 73°32N×7°75E, h10km, ML2.2
HEL 29 13:56:55.6±0.8, 72°92N×8°57E, h10km, ML2.0(UPP), ML2.2(BER)
UPP 29 13:56:59.4, 72°83N×9°45E, h0km, ML2.0, Suspected Mining explosion.

ISC 29 13:56:47.1±1.4, 73°28N±0°08×8°1E±0°1, h0km, n56, σ1s90/61, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	Bjornoya	3.32	63	eP	Pn	13 57 40.3	+0.2
BJO	Bjornoya	3.32	63	eP	Pn	13 57 40.3	+0.2
	SNR=50						
TRO	Tromso	5.02	131	eP	Pn	13 58 05.7	+2.3
TRO	Tromso	5.02	131	eP	Pn	13 58 05.7	+2.3
TRO	Tromso	5.02	131	eP	Pn	13 58 05.7	+2.3
	SNR=49						
SPA0	Spitsbergen Ar	5.33	19	eP	Pn	13 58 07.8	+0.1
SPA0	Spitsbergen Ar	5.33	19	eP	Pn	13 58 07.8	+0.1
	SNR=49						
SPITS	Spitsbergen Ar	5.33	19	Pn	Pn	13 58 07.7	+0.1
	baz=189,slow=15,SNR=73						
KBS	Kingsbay	5.75	7	eP	Pn	13 58 12.9	-0.6
KBS	Kingsbay	5.75	7	eP	Pn	13 58 12.9	-0.6
	SNR=49						
KIF	Kilpisjarvi	5.92	130	eP	Pn	13 58 18.1	+2.2
KIF				eS	Sn	13 59 22.7	-1.7
KIF	Kilpisjarvi	5.92	130	P	Pn	13 58 18.1	+2.2
KTK1	Kautokeino	6.48	124	eP	Pn	13 58 26.5	+2.9
KTK1	Kautokeino	6.48	124	eP	Pn	13 58 26.5	+2.9
KTK1	Kautokeino	6.48	124	eP	Pn	13 58 26.5	+2.9
	SNR=47						
NIKU	Nikkaluokta	6.52	141	eP	Pn	13 58 26.1	+2.0
NIKU				eS	Sn	13 59 35.0	-4.1
NIKU	Nikkaluokta	6.52	141	P	Pn	13 58 26.1	+2.0
	baz=356						
ARCES	ARCESS Array B	6.68	116	Pn	Pn	13 58 28.2	+2.0
	1.0nm,0.3s,baz=313,slow=11,SNR=72						
ARCES				Sn	Sn	13 59 41.5	-1.5
	0.1nm,0.3s,baz=314,slow=20,SNR=2.9						
ARE0	ARCESS Array S	6.68	116	eP	Pn	13 58 28.3	+2.0
ARE0	ARCESS Array S	6.68	116	eP	Pn	13 58 28.3	+2.0
ARE0	ARCESS Array S	6.68	116	eP	Pn	13 58 28.3	+2.0
	SNR=47						
SALU	Saltoluokta	6.87	144	eP	Pn	13 58 30.4	+1.6
SALU	Saltoluokta	6.87	144	P	Pn	13 58 30.4	+1.6
KEV	Kevo	6.94	111	eP	Pn	13 58 31.1	+1.3
KEV	Kevo	6.94	111	P	Pn	13 58 31.0	+1.3
LANU	Lannavaara	6.96	132	eP	Pn	13 58 31.9	+1.8
LANU	Lannavaara	6.96	132	P	Pn	13 58 31.9	+1.8
HEF	Hetta	7.04	126	eP	Pn	13 58 34.0	+2.7
HEF	Hetta	7.04	126	P	Pn	13 58 33.9	+2.7
STOK	Stokkvaagen	7.17	164	eP	Pn	13 58 34.8	+1.8
STOK				eS	Sn	13 59 47.9	-7.2
STOK				AML	AML	13 59 51.1	
	comp=Z,5.3nm,0.8s						
STOK	Stokkvaagen	7.17	164	eP	Pn	13 58 34.8	+1.8
STOK				eS	Sn	13 59 47.9	-7.2
STOK				AML	AML	13 59 51.1	
	comp=Z,5.3nm,0.8s						
STOK	Stokkvaagen	7.17	164	P	Pn	13 58 34.8	+1.8
FLOS	Flostrand	7.20	163	eP	Pn	13 58 34.1	+0.8
FLOS				eP	Pn	13 58 35.0	+1.7
FLOS				eS	Sn	13 59 48.8	-6.9
FLOS	Flostrand	7.20	163	eP	Pn	13 58 34.1	+0.8
FLOS				eP	Pn	13 58 35.0	+1.7
FLOS				eS	Sn	13 59 48.8	-6.9
FLOS	Flostrand	7.20	163	P	Pn	13 58 34.1	+0.8
MASU	Masugnsbyn	7.46	135	eP	Pn	13 58 39.3	+2.4
MASU	Masugnsbyn	7.46	135	P	Pn	13 58 39.3	+2.4
MOR8	Moi Rana	7.46	160	eP	Pn	13 58 37.6	+0.7
MOR8				eS	Sn	13 59 54.9	-7.2
MOR8				AML	AML	13 59 57.0	
	comp=Z,2.2nm,0.4s						
MOR8	Moi Rana	7.46	160	eP	Pn	13 58 37.6	+0.7
MOR8				eS	Sn	13 59 54.9	-7.2
MOR8				AML	AML	13 59 57.0	
	comp=Z,2.2nm,0.4s						
MOR8	Moi Rana	7.46	160	eP	Pn	13 58 37.6	+0.7
	SNR=47						
ERTU	Ertsjaerv	8.27	138	eP	Pn	13 58 49.6	+1.5
ERTU	Ertsjaerv	8.27	138	P	Pn	13 58 49.6	+1.5
SGF	Sodankyl	8.48	124	eP	Pn	13 58 54.0	+3.1
SGF	Sodankyl	8.48	124	P	Pn	13 58 54.0	+3.1
VRF	Varrio	9.01	117	eP	Pn	13 59 00.1	+1.8
VRF	Varrio	9.01	117	P	Pn	13 59 00.0	+1.8
SJUU	Sjulsmark	9.10	142	eP	Pn	13 59 01.2	+1.8
SJUU	Sjulsmark	9.10	142	P	Pn	13 59 01.1	+1.8
SVAU	Svanoeiden	9.71	149	eP	Pn	13 59 08.8	+1.1
SVAU	Svanoeiden	9.71	149	P	Pn	13 59 08.8	+1.1
BURU	Burvik	9.91	145	eP	Pn	13 59 11.6	+1.1
BURU	Burvik	9.91	145	P	Pn	13 59 11.6	+1.1
KU6	Riekki	10.42	123	eP	Pn	13 59 19.7	+2.2
KU6	Riekki	10.42	123	P	Pn	13 59 19.6	+2.2
NOA	NORSAR Array B	12.35	173	Pn	Pn	13 59 44.7	+0.8
	comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=3.4						
FINES	FINESS Array B	13.64	141	Pn	Pn	14 00 01.6	+0.2
	comp=Z,0.1nm,0.3s,baz=338,slow=12,SNR=6.5						

MAN 29 14:01:44.7±19.9N×121°98E, h26km, mb4.0, ML2.8, MS2.5, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZMPH	Zamboanga City	0.25	162	⇓iP	Pn	14 01 53.0	+1.0
ZMPH				i S	Sn	14 01 59.0	+1.8
IPIL	Ipil	0.83	45	⇓eP	Pb	14 01 58.0	-1.8
IPIL				eS	Sb	14 02 07.4	-3.2
PAGZ	Pagadian	1.53	65	eP	Pb	14 02 11.0	-0.7
PAGZ				eS	Sb	14 02 30.0	-0.7

NNC 29 14:05:57.9±5.7, 37°82N×71°56E, h231km±70km, mb2.3, mpv3.6, Error ellipse: s-maj=59.4km s-min=32.1km az=17.0

ISC 29 14:05:55.4±3.6, 37°6N±0°2×71°5E±0°1, h200km, n9, σ0s97/12, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	4.79	20	P	Pn	14 07 07.4	0.0
	SNR=73						
KZA	Kyzart	5.28	32	P	Pn	14 07 12.9	-0.8
	SNR=6.6						
EKS2	Erkin-Say	5.31	18	P	Pn	14 07 14.6	+0.8
	SNR=6.0						
AAK	Ala-Archa	5.49	24	P	Pn	14 07 16.8	+0.7
	SNR=14						
KK31	Karatay Array	5.51	352	P	Pn	14 07 17.6	+1.4
	1.8nm,0.3s,baz=184,slow=14,SNR=120						
KK31				⇑S	Sn	14 08 20.7	+0.5
	1.2nm,0.3s,baz=172,slow=23,SNR=8.6						
CHMS	Chumysh	5.90	24	P	Pn	14 07 22.1	+0.9
	SNR=5.8						
TKM2	Tokmak 2	6.13	29	⇑P	Pn	14 07 24.7	+0.3
	3.5nm,0.5s						
TKM2				⇓S	Sn	14 08 35.1	+0.2
	3.3nm,0.9s						
TKM2	Tokmak 2	6.13	29	P	Pn	14 07 24.9	+0.4
	SNR=10						
AB31	Akbulak array	14.31	328	⇑P	Pn	14 09 08.8	-0.2
	0.4nm,0.7s,baz=137,slow=15,SNR=4.7						
AB31				⇑S	S	14 11 46.1	-1.9
	0.6nm,0.7s						

IDC 29 14:07:11.4±2.2, 7°78S×113°39E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, Error ellipse: s-maj=134.0km s-min=25.3km az=51.0
ISCJB 29 14:07:14.7±0.8, 8°17S±0°05×113°17E±0°03, h12km±6km, mb3.4/4, Error ellipse: s-maj=8.2km s-min=4.3km az=6.8
DJA 29 14:07:14.9±0.3, 8°5S±3°×11°3E±°, h10km, M3.4/13, MLv3.4/13

ISC 29 14:07:13.7±1.1, 8°15S±0°05×113°18E±0°02, h12km±9km, n20, σ1s04/28, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	Gumukmas	0.29	115	P	Pb	14 07 20.6	-0.1
GMJI				S	Sb	14 07 26.1	+0.6
BLJI	Banyuglugur	0.57	46	P	Pb	14 07 25.7	+0.1
BLJI				S	Sb	14 07 34.5	+0.7
KRKI	Karangkates	0.72	269	P	Pg	14 07 27.9	+0.2
KRKI				S	Sg	14 07 37.1	-0.1
BYJI	Banyuwangi	1.16	93	P	Pg	14 07 31.1	+1.0
KMMI	Kalianget	1.34	36	P	Pn	14 07 37.6	-0.6
PWJI	Pagerwojo	1.37	275	P	Pn	14 07 37.5	-1.1
PWJI				S	Sg	14 07 57.8	-0.1
GRJI	Gresik	1.41	330	P	Pg	14 07 41.2	+0.4
GRJI				S	Sg	14 07 59.1	-0.1
NBBI	Negara	1.44	99	P	Pg	14 07 40.9	-0.5
SJI	Sawahan	1.46	286	P	Pn	14 07 39.7	-0.2
SJI				S	Sg	14 08 01.0	+0.2
NGJI	Ngawi	1.87	294	P	Pg	14 07 49.9	+0.2
PCJI	Pacitan	1.98	269	P	Pb	14 07 48.8	-0.9
PCJI				S	Sn	14 08 13.4	+1.6
SRBI	Singaraja	2.01	88	P	Pb	14 07 49.6	-0.6
SRBI				S	Sb	14 08 16.1	+0.9
DNP	Denpasar	2.07	105	P	Pg	14 07 52.7	-0.8
BWJI	Bawean	2.34	347	P	Pg	14 08 02.6	+4.0
KHKI	Kahang-Kahang	2.41	95	P	Pn	14 07 54.2	+1.3
UGM	Wanagama	2.64	275	P	Pb	14 08 00.2	-0.8
UGM				S	Sb	14 08 36.4	+3.0
WRA	Warramunga Arr	23.60	122	P	P	14 12 23.6	-1.0
	0.3nm,0.5s,baz=300,slow=11,SNR=5.3						
ASAR	Alice Springs	25.14	130	P	P	14 12 39.9	+1.0
	0.7nm,0.5s,baz=303,slow=9.0,SNR=28						
STKA	Stephens Creek	35.43	136	P	P	14 14 10.0	+0.2
	1.2nm,0.8s,baz=324,slow=9.2,SNR=4.6						
MKAR	Makanchi Array	61.22	336	P	P	14 17 26.6	-1.8
	0.1nm,0.3s,baz=159,slow=6.2,SNR=4.9						

MAN 29 14:11:25.9±2.5, 2°52N×122°39E, h31km, mb4.6, ML3.5, MS3.5, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	Jordan	1.12	10	eP	Pn	14 11 44.0	-0.5
GUIM				eS	Sn	14 11 58.1	-0.8
TBP	Tagbilaran	1.46	83	eP	Pn	14 11 50.1	+0.9
IPIL	Ipil	1.73	174	⇓eP	Pb	14 11 54.7	-1.5
IPIL				eS	Sn	14 12 14.8	+0.8
LLP	Lapu-Lapu

	4.0nm,0.7s						
AAK	**Ala-Archa**	**13.55**	**293**	Pn	Pn	14 45 31.0	+3.9
	0.2nm,0.3s,baz=90,slow=13,SNR=3.5						
SONM	**Songino Array**	**14.28**	**45**	Pn	**Pn**	**14 45 37.4**	**+0.3**
	0.3nm,0.3s,baz=229,slow=15,SNR=13						
ZALV	**Zalesovo Beam**	**16.08**	**346**	Pn	**P**	**14 46 02.5**	**-1.1**
	0.2nm,0.3s,baz=168,slow=14,SNR=8.2						
ZALV				Sn	**Sn**	**14 48 57.0**	**-0.7**
	0.1nm,0.3s,baz=168,slow=22,SNR=3.5						
BVAR	**Borovoye Array**	**20.55**	**322**	P	Pn	14 46 58.0	+3.0
	0.7nm,0.5s,baz=128,slow=9.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**21.03**	**160**	P	**P**	**14 46 56.1**	**-2.0**
	1.2nm,0.9s,baz=335,slow=9.2,SNR=6.9						
BRTR	**Keskin Array B**	**44.21**	**291**	P	P	14 50 27.3	+4.1
	0.4nm,0.6s,baz=76,slow=8.1,SNR=3.6						
NOA	**NORSAR Array B**	**52.67**	**323**	P	**P**	**14 51 28.5**	**+0.7**
	0.4nm,0.7s,baz=83,slow=8.3,SNR=2.8						
ILAR	**Eielson Array**	**67.40**	**23**	P	**P**	**14 53 09.5**	**+0.8**
	0.3nm,0.8s,baz=311,slow=5.6,SNR=3.3						
WRA	**Warramunga Arr**	**70.69**	**137**	P	**P**	**14 53 28.8**	**-0.9**
	0.6nm,0.8s,baz=327,slow=6.1,SNR=5.7						
ASAR	**Alice Springs**	**73.54**	**140**	P	**P**	**14 53 46.2**	**-0.4**
	0.3nm,0.6s,baz=325,slow=5.7,SNR=7.1						
YKA	**Yellowknife Ar**	**77.15**	**12**	P	P	14 54 11.5	+4.6
	0.1nm,0.5s,baz=331,slow=5.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**81.78**	**280**	P	**P**	**14 54 34.5**	**+1.6**
	0.4nm,0.6s,baz=46,slow=4.9,SNR=3.1						

MEX 29 14:53:43.5±0.8, 15°35N×96°83W, h15km±19km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.81**	**59**	*i* P	Pg	14 53 56.7	-2.5
HUIG				*e*S	Sg	14 54 05.9	-4.1
PNIG	**Pinotepa**	**1.62**	**310**	*e*P	Pn	14 54 08.8	-2.8
PNIG				*i* S	Sn	14 54 26.5	-5.7
VHO	**Vista Hermosa**	**1.71**	**3**	*e*P	Pn	14 54 09.8	-3.3
VHO				*i* S	Sn	14 54 30.4	-4.5
CMIG	**Matias Romero**	**2.55**	**47**	*e*P	Pn	14 54 20.9	-3.4
CMIG				*e*S	Sn	14 54 50.3	-4.8
UTMO	**Huajuapan**	**2.63**	**339**	*i* P	Pn	14 54 23.8	-2.0
UTMO				*i* S	Sn	14 54 53.6	-4.1
TPIG	**Tehuac#an**	**3.09**	**351**	*i* P	Pn	14 54 30.1	-2.0
TPIG				*i* S	Sn	14 55 05.0	-3.9
PPM	**Popocatepetl**	**4.07**	**335**	*i* P	Pn	14 54 43.4	-2.6
PPM				*i* S	Sn	14 55 29.8	-4.1

IDC 29 14:54:15.5±1.6, 11°62S×164°89E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=45.4km s-min=26.4km az=123.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.49**	**172**	Pn	Pn	14 56 47.0	-0.5
	0.2nm,0.3s,baz=81,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**30.50**	**250**	P	P	15 00 30.3	-0.3
	1.4nm,0.8s,baz=80,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**31.78**	**244**	P	P	15 00 42.3	+0.4
	0.7nm,0.5s,baz=64,slow=10,SNR=21						
FITZ	**Fitzroy Crossi**	**38.42**	**256**	P	P	15 01 38.7	-0.5
	2.3nm,0.7s,baz=92,slow=9.5,SNR=7.4						
SONM	**Songino Array**	**78.64**	**324**	P	P	15 06 20.3	+0.8
	0.3nm,0.6s,baz=134,slow=4.2,SNR=2.8						
ILAR	**Eielson Array**	**84.33**	**19**	P	P	15 06 48.8	-0.3
	0.4nm,0.8s,baz=236,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**93.37**	**317**	P	P	15 07 31.9	-0.8
	0.2nm,0.6s,baz=90,slow=6.2,SNR=3.0						

IDC 29 15:26:18.2±2.1, 14°95N×94°33W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/27, mbtmp3.8/9, ML3.4/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=36.1km s-min=35.2km az=12.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**2.19**	**346**	Pn	Pn	15 26 56.2	+0.3
	5.2nm,0.3s,baz=162,slow=11,SNR=101						
CMIG				Sn	Sn	15 27 24.3	+0.5
	20nm,0.3s,baz=130,slow=17,SNR=16						
TEIG	**Tepich**	**7.79**	**47**	Pn	Pn	15 28 14.7	+1.7
	0.9nm,0.3s,baz=288,slow=12,SNR=5.2						
TEIG				Sn	Sn	15 29 44.6	+2.7
	3.9nm,0.3s,baz=45,slow=19,SNR=16						
TEIG				LR	LR	15 31 28.6	
	comp=Z,129nm,18.4s,baz=140,slow=40						
TXAR	**Lajitas Array**	**16.71**	**330**	Pn	Pn	15 30 14.8	+0.8
	0.0nm,0.3s,baz=157,slow=14,SNR=18						
ANMO	**Albuquerque**	**22.70**	**333**	P	P	15 31 23.3	+1.4
	1.1nm,0.8s,baz=152,slow=9.0,SNR=4.7						
PDAR	**Pinedale Array**	**30.66**	**338**	P	P	15 32 34.7	0.0
	0.5nm,0.9s,baz=134,slow=9.1,SNR=4.1						
SCHQ	**Schefferville**	**45.15**	**22**	LR	LR	15 55 53.3	
	comp=Z,54nm,19.1s,baz=82,slow=39						
YKA	**Yellowknife Ar**	**49.60**	**348**	P	P	15 35 11.2	+0.2
	0.9nm,0.7s,baz=152,slow=7.2,SNR=17						
FRB	**Frobisher Bay**	**51.92**	**14**	P	P	15 35 27.4	-1.1
	2.3nm,0.9s,baz=207,slow=11,SNR=6.6						
RES	**Resolute Bay**	**59.73**	**360**	P	P	15 36 23.4	-1.0
	1.2nm,1.0s,baz=176,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**61.09**	**337**	P	P	15 36 33.4	-0.4
	0.8nm,0.9s,baz=140,slow=5.8,SNR=8.3						
ASAR	**Alice Springs**	**133.84**	**251**	PKP	PKPdf	15 45 39.0	+0.9
	0.3nm,1.0s,baz=153,slow=1.7,SNR=4.1						

GUC 29 15:26:57.0±0.4, 24°03S×67°28W, h200km, ML4.3, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.49**	**302**	⇑*i* P	Pn	15 27 42.4	+1.4
PB06				*i* S	Sn	15 28 17.1	+1.9
PB06				AML	AML	15 28 21.5	
	comp=N,446nm,0.3s						
PB04	**Plate Boundary**	**2.69**	**310**	⇑*i* P	Pn	15 27 49.5	+6.5
PB04				*i* S	Sn	15 28 29.9	+11
PB04				AML	AML	15 28 34.4	
	comp=N,300nm,0.5s						
CEN1	**Los Morros**	**2.75**	**283**	⇓*i* P	Pn	15 27 46.1	+2.2
CEN1				*i* S	Sn	15 28 23.6	+3.1
CEN1				AML	AML	15 28 25.9	
	comp=N,276nm,0.2s						
PB09	**Plate Boundary**	**2.87**	**321**	⇑*i* P	Pn	15 27 47.0	+1.6
PB09				*e*S	Sn	15 28 25.0	+1.9
PB09				AML	AML	15 28 33.1	
	comp=E,632nm,0.4s						
ANCH	**Antofagasta**	**2.89**	**276**	⇑*i* P	Pn	15 27 46.7	+1.4
ANCH				*e*S	Sn	15 28 24.7	+1.7
ANCH				AML	AML	15 28 27.9	
	comp=E,422nm,0.3s						
MACH	**Maria Elena**	**2.92**	**308**	*i* S	Sn	15 28 26.4	+2.0
MECH	**Mejillones**	**3.05**	**287**	⇑*i* P	Pn	15 27 49.0	+1.8
MECH				*e*S	Sn	15 28 28.8	+2.4
MECH				AML	AML	15 28 31.9	
	comp=N,431nm,0.3s						
PB07	**Plate Boundary**	**3.32**	**313**	*e*P	Pn	15 27 51.7	+0.9
PB07				*e*S	Sn	15 28 33.8	+0.9
PB07				AML	AML	15 28 35.8	
	comp=E,360nm,0.5s						
PB01	**Plate Boundary**	**3.61**	**325**	⇑*i* P	Pn	15 27 54.5	+0.4
PB01				*i* S	Sn	15 28 39.6	+0.7
PB11	**Plate Boundary**	**4.79**	**332**	*e*P	Pn	15 28 08.3	-0.7
PB11				*e*S	Sn	15 29 05.2	-0.5
MNMC	**Minimini**	**5.33**	**336**	⇑*i* P	Pn	15 28 15.9	-0.2
MNMC				*e*S	Sn	15 29 18.4	-0.1

*IDC **29** 15:29:00.8±2.9, 11°13N×122°52E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=288.6km s-min=28.5km az=63.0*
*ISCJB **29** 15:29:02.0±1.4, 11°7N±0°2×123°7E±0°1, h33km, mb3.3/3, Error ellipse: s-maj=35.7km s-min=13.5km az=25.5*
*MAN **29** 15:29:04, 12°44N×124°96E, h28km, mb4.2, ML3.0, MS2.7*
ISC 29 15:29:04.0±1.4, 11°8N±0°3×123°8E±0°2, h35km, n4, σ0s55/5, mb3.3/3, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.27**	**118**	⇑*i* P	**Pn**	**15 29 25.2**	**-0.1**
PLP				*i* S	**Sn**	**15 29 41.4**	**+0.2**
WRA	**Warramunga Arr**	**33.17**	**162**	P	**P**	**15 35 36.9**	**-0.5**
	0.3nm,0.8s,baz=338,slow=9.6,SNR=2.7						
ASAR	**Alice Springs**	**36.58**	**164**	P	**P**	**15 36 07.3**	**+0.5**
	0.2nm,0.4s,baz=343,slow=7.0,SNR=9.8						
MKAR	**Makanchi Array**	**49.39**	**323**	P	**P**	**15 37 50.3**	**0.0**
	0.3nm,0.6s,baz=132,slow=6.4,SNR=3.5						

*ATH **29** 16:07:48.9, 37°44N×27°11E, h18km, MD3.5/11*
*ISK **29** 16:07:49.2, 37°39N×27°02E, h3km, MD3.4*
*CSEM **29** 16:07:50.4±0.1, 37°40N×27°02E, h5km, ML3.6, Error ellipse: s-maj=3.0km s-min=2.4km az=85.0*
*ISCJB **29** 16:07:50.1±0.5, 37°41N±0°02×27°04E±0°03, h7km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=170.4*
*THE **29** 16:07:50.3, 37°43N×27°10E, h0km±1km, ML3.1/4, Error ellipse: s-maj=1.3km s-min=0.6km az=73.0*
*DDA **29** 16:07:51.7, 37°51N×27°17E, h29km, ML3.6*
ISC 29 16:07:50.0±1.1, 37°42N±0°02×27°06E±0°02, h3km±10km, n124, σ0s99/159, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.31**	**26**	*i* P	**Pb**	**16 07 57.5**	**-0.7**
GCAM				*i* S	**Sb**	**16 08 02.9**	**-0.8**
GCAM	**G?zelcaml?**	**0.31**	**26**	*i* P	**Pb**	**16 07 57.5**	**-0.7**
GCAM				*i* S	**Sb**	**16 08 02.9**	**-0.8**
BODT	**Bodrum**	**0.41**	**151**	*e*PG	**Pg**	**16 07 58.4**	**+0.5**
BODT				*e*SG	**Sg**	**16 08 04.2**	**+1.0**
BODT	**Bodrum**	**0.41**	**151**	*e*Pg	**Pg**	**16 07 58.4**	**+0.5**
BODT				*e*Sg	**Sg**	**16 08 04.2**	**+1.0**
BDRM	**Kayabasi**	**0.47**	**139**	*i* P	**Pg**	**16 07 58.8**	**-0.2**
BDRM				*i* S	**Sg**	**16 08 05.3**	**+0.2**
BDRM	**Kayabasi**	**0.47**	**139**	*i* P	**Pg**	**16 07 58.8**	**-0.2**
BDRM				*i* S	**Sg**	**16 08 05.3**	**+0.2**
MLSB	**Milas**	**0.58**	**102**	*e*PG	**Pg**	**16 08 01.5**	**+0.3**
MLSB				*e*SG	**Sb**	**16 08 11.2**	**-0.4**
MLSB	**Milas**	**0.58**	**102**	*e*Pg	**Pg**	**16 08 01.5**	**+0.3**
MLSB				*e*Sg	**Sb**	**16 08 11.2**	**-0.4**
AYDN	**Tasoluk**	**0.69**	**70**	*i* P	**Pg**	**16 08 03.8**	**+0.5**
AYDN				*i* S	**Sg**	**16 08 12.7**	**+0.4**
AYDN	**Tasoluk**	**0.69**	**70**	*i* P	**Pg**	**16 08 03.8**	**+0.5**
AYDN				*i* S	**Sg**	**16 08 12.7**	**+0.4**
NIS4	**Nisyros Isl.**	**0.75**	**176**	P	**Pb**	**16 08 05.3**	**-0.3**
NIS1	**Nisyros Isl.**	**0.82**	**173**	P	**Pg**	**16 08 06.3**	**+0.6**
NIS1	**Nisyros Isl.**	**0.82**	**173**	*e*PN	**Pg**	**16 08 05.1**	**-0.6**
NIS1	**Nisyros Isl.**	**0.82**	**173**	*e*Pn	**Pg**	**16 08 05.1**	**-0.6**
NIS1	**Nisyros Isl.**	**0.82**	**173**	P	**Pg**	**16 08 06.3**	**+0.6**
NIS2	**Nisyros Isl.**	**0.85**	**173**	P	**Pg**	**16 08 06.8**	**+0.6**
BLCB	**Balcova**	**0.96**	**359**	*e*PG	**Pb**	**16 08 09.1**	**-0.2**
BLCB	**Balcova**	**0.96**	**359**	*e*Pg	**Pb**	**16 08 09.1**	**-0.2**
IZM	**Izmir**	**0.99**	**9**	*e*PG	**Pg**	**16 08 09.3**	**+0.4**
IZM	**Izmir**	**0.99**	**9**	*e*Pg	**Pg**	**16 08 09.3**	**+0.4**
URLA	**Izmir**	**1.01**	**339**	*i* P	**Pg**	**16 08 09.8**	**+0.5**
URLA				*i* S	**Sn**	**16 08 26.3**	**+0.5**
URLA	**Izmir**	**1.01**	**339**	*i* P	**Pg**	**16 08 09.8**	**+0.5**
YER	**Yerkesik**	**1.02**	**106**	*e*PG	**Pb**	**16 08 10.1**	**-0.1**
YER	**Yerkesik**	**1.02**	**106**	*e*Pg	**Pb**	**16 08 10.1**	**-0.1**
CHOS	**Chios island**	**1.25**	**321**	P	**Pg**	**16 08 13.5**	**-0.4**
CHOS				S	**Sn**	**16 08 32.8**	**+1.0**
CHOS	**Chios island**	**1.25**	**321**	*e*PN	**Pg**	**16 08 12.6**	**-1.3**
CHOS				*e*SN	**Sg**	**16 08 30.4**	**+0.2**
CHOS	**Chios island**	**1.25**	**321**	*e*Pn	**Pg**	**16 08 12.6**	**-1.3**
CHOS	**Chios island**	**1.25**	**321**	P	**Pg**	**16 08 13.5**	**-0.4**
CHOS				*e*Sn	**Sg**	**16 08 30.4**	**+0.2**
CHOS				S	**Sn**	**16 08 32.8**	**+1.0**
APE	**Apeiranthos**	**1.27**	**254**	*e*PN	**Pg**	**16 08 13.5**	**-0.9**
APE	**Apeiranthos**	**1.27**	**254**	P	**Pg**	**16 08 13.9**	**-0.4**
APE				S	**Sn**	**16 08 33.4**	**+1.2**
APE	**Apeiranthos**	**1.27**	**254**	*e*PN	**Pg**	**16 08 13.7**	**-0.6**
APE	**Apeiranthos**	**1.27**	**254**	*e*Pn	**Pg**	**16 08 13.7**	**-0.6**
APE				S	**Sn**	**16 08 33.4**	**+1.2**
TURN	**Turunc**	**1.35**	**113**	*i* P	Pn	16 08 11.7	-3.9
TURN				*i* S	**Sg**	**16 08 28.4**	**-5.0**
ARG	**Arkhangelos**	**1.48**	**144**	P	**Pn**	**16 08 16.5**	**-0.9**
ARG				S	**Sg**	**16 08 38.0**	**+0.6**
ARG	**Arkhangelos**	**1.48**	**144**	*e*PN	**Pn**	**16 08 16.6**	**-0.9**
ARG				*e*SN	**Sb**	**16 08 36.8**	**-0.4**
ARG	**Arkhangelos**	**1.48**	**144**	*e*Pn	**Pn**	**16 08 16.6**	**-0.9**
ARG				*e*Sn	**Sb**	**16 08 36.8**	**-0.4**
ARG				S	**Sg**	**16 08 38.0**	**+0.6**
AKHS	**Akhisar**	**1.57**	**22**	*i* P	**Pn**	**16 08 17.8**	**-1.0**
AKHS				*i* S	**Sn**	**16 08 36.8**	**-2.9**
AKHS	**Akhisar**	**1.57**	**22**	*i* P	**Pn**	**16 08 17.8**	**-1.0**
AKS	**Akhisar**	**1.57**	**22**	*e*PN	**Pb**	**16 08 19.6**	**-0.1**
AKS	**Akhisar**	**1.57**	**22**	*e*Pn	**Pb**	**16 08 19.6**	**-0.1**
DNZL	**Cakiroluk**	**1.60**	**80**	*i* P	**Pn**	**16 08 19.4**	**+0.1**
DNZL				*i* S	**Sn**	**16 08 40.0**	**-0.6**
DNZL	**Cakiroluk**	**1.60**	**80**	*i* P	**Pn**	**16 08 19.4**	**+0.1**
DNZL				*i* S	**Sn**	**16 08 40.0**	**-0.6**
KULA	**Kula-Manisa**	**1.67**	**49**	*e*PN	**Pb**	**16 08 21.4**	**0.0**
KULA	**Kula-Manisa**	**1.67**	**49**	*e*Pn	**Pb**	**16 08 21.4**	**0.0**
FETY	**Fethiye**	**1.80**	**115**	*e*PN	**Pn**	**16 08 22.4**	**+0.5**
FETY	**Fethiye**	**1.80**	**115**	*e*Pn	**Pn**	**16 08 22.4**	**+0.5**
KARP	**Karpathos**	**1.87**	**177**	*e*PN	**Pn**	**16 08 22.1**	**-0.8**
KARP	**Karpathos**	**1.87**	**177**	*e*Pn	**Pn**	**16 08 22.1**	**-0.8**
AYVA	**Ayvalik**	**1.91**	**351**	*i* P	**Pg**	**16 08 26.2**	**-0.3**
AYVA				*i* S	**Sn**	**16 08 47.2**	**-0.6**
PRK	**Paraskevi**	**1.93**	**341**	P	**Pn**	**16 08 23.1**	**-0.5**
PRK				S	**Sn**	**16 08 48.9**	**+0.6**
PRK	**Paraskevi**	**1.93**	**341**	*e*PN	**Pn**	**16 08 22.9**	**-0.7**
PRK	**Paraskevi**	**1.93**	**341**	P	**Pn**	**16 08 23.1**	**-0.5**
PRK				S	**Sn**	**16 08 48.9**	**+0.6**
GOLH	**Golhisar**	**2.00**	**95**	*i* P	**Pb**	**16 08 26.1**	**-1.0**
GOLH				*i* S	**Sn**	**16 08 50.2**	**-0.2**
GOLH	**Golhisar**	**2.00**	**95**	*i* P	**Pb**	**16 08 26.1**	**-1.0**
GOLH				*i* S	**Sn**	**16 08 50.2**	**-0.2**
SIGR	**SIGRI**	**2.02**	**332**	P	**Pn**	**16 08 24.5**	**-0.5**
SIGR	**SIGRI**	**2.02**	**332**	P	**Pn**	**16 08 24.5**	**-0.5**
DEMI	**Demirci**	**2.08**	**38**	*i* P	**Pg**	**16 08 29.7**	**-0.2**
KHAL	**Karahalli**	**2.15**	**63**	*i* P	**Pn**	**16 08 26.4**	**-0.3**
KHAL				*i* S	**Sn**	**16 08 53.7**	**-0.2**
KHAL	**Karahalli**	**2.15**	**63**	*i* P	**Pn**	**16 08 26.4**	**-0.3**
KHAL				*i* S	**Sn**	**16 08 53.7**	**-0.2**
KHL	**Karahalli**	**2.15**	**64**	*e*PN	**Pn**	**16 08 28.1**	**+1.3**
KHL	**Karahalli**	**2.15**	**64**	*e*Pn	**Pn**	**16 08 28.1**	**+1.3**
BALB	**Balikesir**	**2.31**	**16**	*e*PN	**Pn**	**16 08 30.3**	**+1.4**
BALB	**Balikesir**	**2.31**	**16**	*e*Pn	**Pn**	**16 08 30.3**	**+1.4**
BALY	**Balya**	**2.36**	**11**	*i* P	**Pg**	**16 08 34.6**	**-0.5**
BALY				*i* S	**Sn**	**16 08 57.3**	**-1.8**
ELL	**Elmali**	**2.38**	**106**	*e*PN	**Pn**	**16 08 30.9**	**+0.9**
ELL	**Elmali**	**2.38**	**106**	*e*Pn	**Pn**	**16 08 30.9**	**+0.9**
ZKR	**Zakros**	**2.40**	**197**	P	**Pn**	**16 08 30.3**	**+0.1**
ZKR				S	**Sn**	**16 09 01.4**	**+1.3**
ZKR	**Zakros**	**2.40**	**197**	*e*PN	**Pn**	**16 08 29.8**	**-0.4**
ZKR	**Zakros**	**2.40**	**197**	*e*Pn	**Pn**	**16 08 29.8**	**-0.4**
ZKR	**Zakros**	**2.40**	**197**	P	**Pn**	**16 08 30.3**	**+0.1**
ZKR				S	**Sn**	**16 09 01.4**	**+1.3**
DURS	**Dursunbey**	**2.44**	**27**	*i* P	**Pn**	**16 08 30.1**	**-0.7**
DURS	**Dursunbey**	**2.44**	**27**	*i* P	**Pn**	**16 08 30.1**	**-0.7**
NPS	**Neapolis**	**2.45**	**209**	*e*PN	**Pn**	**16 08 30.7**	**-0.2**
NPS	**Neapolis**	**2.45**	**209**	*e*Pn	**Pn**	**16 08 30.7**	**-0.2**
EZN	**Ezine**	**2.47**	**347**	*e*PN	**Pn**	**16 08 32.3**	**+1.2**
EZN	**Ezine**	**2.47**	**347**	*e*Pn	**Pn**	**16 08 32.3**	**+1.2**
DST	**Dursunbey**	**2.50**	**29**	*e*PN	**Pn**	**16 08 33.2**	**+1.6**
DST	**Dursunbey**	**2.50**	**29**	*e*Pn	**Pn**	**16 08 33.2**	**+1.6**
BOZC	**Bozcaada**	**2.54**	**342**	*i* P	**Pn**	**16 08 31.5**	**-0.7**
BOZC				*i* S	**Sb**	**16 09 09.4**	**+1.5**
LAST	**Lasithi**	**2.59**	**210**	P	**Pn**	**16 08 33.3**	**+0.4**
LAST	**Lasithi**	**2.59**	**210**	P	**Pn**	**16 08 33.3**	**+0.4**
GONE	**Gonen-Balikesi**	**2.67**	**10**	*e*PN	**Pn**	**16 08 34.1**	**+0.3**
GONE	**Gonen-Balikesi**	**2.67**	**10**	*e*Pn	**Pn**	**16 08 34.1**	**+0.3**
IDI	**Anoyia**	**2.76**	**220**	P	**Pn**	**16 08 34.5**	**-0.6**
IDI	**Anoyia**	**2.76**	**220**	*e*PN	**Pn**	**16 08 35.1**	**0.0**
IDI	**Anoyia**	**2.76**	**220**	P	**Pn**	**16 08 34.5**	**-0.6**
IDI	**Anoyia**	**2.76**	**220**	*e*Pn	**Pn**	**16 08 35.1**	**0.0**
TVSB	**Tavsanli**	**2.77**	**42**	*e*PN	**Pn**	**16 08 36.6**	**+1.3**
TVSB	**Tavsanli**	**2.77**	**42**	*e*Pn	**Pn**	**16 08 36.6**	**+1.3**
ISP	**Isparta**	**2.78**	**81**	*e*PN	**Pn**	**16 08 36.6**	**+1.1**
ISP	**Isparta**	**2.78**	**81**	*e*Pn	**Pn**	**16 08 36.6**	**+1.1**
BCK	**Bucak**	**2.81**	**88**	*e*PN	**Pn**	**16 08 37.1**	**+1.3**
BCK	**Bucak**	**2.81**	**88**	*e*Pn	**Pn**	**16 08 37.1**	**+1.3**
LIA	**Limnos Island**	**2.88**	**330**	P	**Pn**	**16 08 36.7**	**0.0**
LIA	**Limnos Island**	**2.88**	**330**	*e*PN	**Pn**	**16 08 36.5**	**-0.2**
LIA	**Limnos Island**	**2.88**	**330**	*e*Pn	**Pn**	**16 08 36.5**	**-0.2**
ALT	**Altintas**	**2.90**	**55**	*e*PN	**Pn**	**16 08 37.8**	**+0.6**
ALT	**Altintas**	**2.90**	**55**	*e*Pn	**Pn**	**16 08 37.8**	**+0.6**
LPK	**Lapseki**	**2.96**	**356**	*e*PN	**Pn**	**16 08 38.1**	**+0.3**
LPK	**Lapseki**	**2.96**	**356**	*e*Pn	**Pn**	**16 08 38.1**	**+0.3**
KRBG	**Karabiga-Canak**	**2.97**	**4**	*e*PN	**Pn**	**16 08 39.1**	**+1.1**
KRBG	**Karabiga-Canak**	**2.97**	**4**	*e*Pn	**Pn**	**16 08 39.1**	**+1.1**
SHUT	**Suhut-Afyon**	**2.98**	**67**	*e*PN	**Pn**	**16 08 39.4**	**+1.1**
SHUT	**Suhut-Afyon**	**2.98**	**67**	*e*Pn	**Pn**	**16 08 39.4**	**+1.1**
BNT	**Bandirma**	**3.01**	**13**	*e*PN	**Pn**	**16 08 40.2**	**+1.7**
BNT	**Bandirma**	**3.01**	**13**	*e*Pn	**Pn**	**16 08 40.2**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.01**	**351**	*e*PN	**Pn**	**16 08 39.8**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.01**	**351**	*e*Pn	**Pn**	**16 08 39.8**	**+1.3**
SIVA	**Sivas**	**3.01**	**218**	P	**Pn**	**16 08 38.2**	**-0.3**
SIVA	**Sivas**	**3.01**	**218**	P	**Pn**	**16 08 38.2**	**-0.3**
VAM	**Vamos**	**3.06**	**230**	*e*PN	**Pn**	**16 08 39.8**	**+0.6**
VAM	**Vamos**	**3.06**	**230**	*e*Pn	**Pn**	**16 08 39.8**	**+0.6**
KYTH	**Kithira**	**3.42**	**252**	P	**Pn**	**16 08 44.9**	**+0.7**
KYTH	**Kithira**	**3.42**	**252**	P	**Pn**	**16 08 44.9**	**+0.7**
GEMT	**Gemlik**	**3.44**	**28**	*e*PN	**Pn**	**16 08 46.3**	**+1.9**
GEMT	**Gemlik**	**3.44**	**28**	*e*Pn	**Pn**	**16 08 46.3**	**+1.9**
CAVI	**Cavuskoy**	**3.53**	**37**	*e*PN	**Pn**	**16 08 47.7**	**+2.0**
CAVI	**Cavuskoy**	**3.53**	**37**	*e*Pn	**Pn**	**16 08 47.7**	**+2.0**
ALN	**Alexandroupoli**	**3.56**	**348**	P	**Pn**	**16 08 45.9**	**-0.2**
ALN	**Alexandroupoli**	**3.56**	**348**	P	**Pn**	**16 08 45.9**	**-0.2**
YLV	**Yalova**	**3.62**	**29**	*e*PN	**Pn**	**16 08 48.5**	**+1.5**
YLV	**Yalova**	**3.62**	**29**	*e*Pn	**Pn**	**16 08 48.5**	**+1.5**
GULT	**Gulveren**	**4.04**	**41**	*e*PN	**Pn**	**16 08 55.1**	**+2.4**
GULT	**Gulveren**	**4.04**	**41**	*e*Pn	**Pn**	**16 08 55.1**	**+2.4**

IDC 29 16:29:39.8±1.7, 34°18N×88°83E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.2/28, mbtmp3.2/6, ML3.2/4, Error ellipse: s-maj=58.7km s-min=21.9km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.54**	**340**	Pn	Pn	16 32 50.8	-2.3
	0.0nm,0.3s,baz=151,slow=13,SNR=4.6						
CMAR	**Chiang Mai Arr**	**18.07**	**148**	P	P	16 33 53.9	+1.0
	0.0nm,0.3s,baz=328,slow=12,SNR=14						
SONM	**Songino Array**	**18.96**	**39**	P	Pn	16 34 02.9	-0.3
	0.1nm,0.3s,baz=232,slow=11,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.97**	**353**	P	P	16 34 13.3	0.0
	0.1nm,0.3s,baz=183,slow=9.7,SNR=2.7						
BVAR	**Borovoye Array**	**22.97**	**331**	P	P	16 34 45.5	-0.2
	0.6nm,0.6s,baz=119,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**69.09**	**134**	P	P	16 40 47.3	-0.5
	0.1nm,0.4s,baz=325,slow=6.6,SNR=5.5						

IDC 29 16:56:30.3±3.0, 21°19S×175°81W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=307.4km s-min=33.0km az=161.0, Tonga Islands

| Code | Station Name | Δ° |

ellipse: s-maj=1.4km s-min=1.2km az=25.0
*THE **29** 17:05:44.4,39°90N×27°08E,h10km±2km, ML3.4/6, Error ellipse: s-maj=2.1km s-min=0.8km az=108.0*
ISC 29 17:05:43.3±0.9, 39°92N±0°01×27°17E±0°01, h12km±7km, n223, σ0°69/278, 14C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.39**	**118**	*i* P	**Pg**	**17 05 51.1**	**0.0**
BALY				*i* S	**Sg**	**17 05 56.7**	**+0.3**
BALY	**Balya**	**0.39**	**118**	*i* P	**Pg**	**17 05 51.1**	**0.0**
BALY				*i* S	**Sg**	**17 05 56.7**	**+0.3**
GONE	**Gonen-Balikesi**	**0.42**	**73**	*e*PG	**Pg**	**17 05 51.6**	**0.0**
GONE				*e*SG	**Sg**	**17 05 57.5**	**+0.4**
GONE	**Gonen-Balikesi**	**0.42**	**73**	*e*Pg	**Pg**	**17 05 51.6**	**0.0**
GONE				*e*Sg	**Sg**	**17 05 57.5**	**+0.4**
KRBG	**Karabiga-Canak**	**0.48**	**12**	*e*PG	**Pg**	**17 05 52.5**	**-0.2**
KRBG				*e*SG	**Sg**	**17 05 59.2**	**+0.1**
KRBG	**Karabiga-Canak**	**0.48**	**12**	*e*Pg	**Pg**	**17 05 52.5**	**-0.2**
KRBG				*e*Sg	**Sg**	**17 05 59.2**	**+0.1**
LPK	**Lapseki**	**0.55**	**325**	*e*PG	**Pg**	**17 05 53.7**	**-0.3**
LPK				*e*SG	**Sg**	**17 06 01.6**	**+0.4**
LPK	**Lapseki**	**0.55**	**325**	*e*Pg	**Pg**	**17 05 53.7**	**-0.3**
LPK				*e*Sg	**Sg**	**17 06 01.6**	**+0.4**
BALB	**Balikesir**	**0.62**	**117**	*e*PG	**Pg**	**17 05 54.9**	**-0.4**
BALB	**Balikesir**	**0.62**	**117**	*e*Pg	**Pg**	**17 05 54.9**	**-0.4**
EZN	**Ezine**	**0.66**	**262**	*e*PG	**Pg**	**17 05 56.1**	**0.0**
EZN	**Ezine**	**0.66**	**262**	*e*Pg	**Pg**	**17 05 56.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.71**	**312**	*e*PG	**Pg**	**17 05 56.6**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.71**	**312**	*e*Pg	**Pg**	**17 05 56.6**	**-0.5**
AYVA	**Ayvalik**	**0.72**	**211**	*i* P	**Pg**	**17 05 56.9**	**-0.3**
AYVA				*i* S	**Sg**	**17 06 05.6**	**-1.0**
AYVA	**Ayvalik**	**0.72**	**211**	*i* P	**Pg**	**17 05 56.9**	**-0.3**
AYVA				*i* S	**Sg**	**17 06 05.6**	**-1.0**
BNT	**Bandirma**	**0.72**	**53**	*e*PG	**Pg**	**17 05 56.3**	**-1.0**
BNT	**Bandirma**	**0.72**	**53**	*e*Pg	**Pg**	**17 05 56.3**	**-1.0**
RKY	**Sarkoy-Tekirda**	**0.76**	**1**	*e*PG	**Pg**	**17 05 57.7**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.76**	**1**	*e*Pg	**Pg**	**17 05 57.7**	**-0.4**
SART	**Tekirdag**	**0.76**	**1**	*i* P	**Pg**	**17 05 57.7**	**-0.4**
SART				*i* S	**Sg**	**17 06 08.2**	**+0.1**
SART	**Tekirdag**	**0.76**	**1**	*i* P	**Pg**	**17 05 57.7**	**-0.4**
SART				*i* S	**Sg**	**17 06 08.2**	**+0.1**
BOZC	**Bozcaada**	**0.86**	**265**	*i* P	**Pg**	**17 06 10.5**	**-0.7**
BOZC				*i* S	**Sg**	**17 06 10.5**	**-0.7**
MFT	**Murefte**	**0.87**	**6**	*e*PG	**Pg**	**17 05 59.3**	**-0.7**
MFT	**Murefte**	**0.87**	**6**	*e*Pg	**Pg**	**17 05 59.3**	**-0.7**
PRK	**Paraskevi**	**0.97**	**226**	P	**Pg**	**17 06 01.3**	**-0.7**
PRK				S	**Sg**	**17 06 14.5**	**-0.1**
PRK	**Paraskevi**	**0.97**	**226**	*e*PN	**Pg**	**17 06 01.4**	**-0.6**
PRK				*e*SN	**Sb**	**17 06 15.9**	**+1.1**
PRK	**Paraskevi**	**0.97**	**226**	P	**Pg**	**17 06 01.3**	**-0.7**
PRK				S	**Sg**	**17 06 14.5**	**-0.1**
PRK				*e*Sn	**Sb**	**17 06 15.9**	**+1.1**
DURS	**Dursunbey**	**1.06**	**107**	*i* P	**Pb**	**17 06 03.5**	**-0.1**
DURS				*i* S	**Sb**	**17 06 17.1**	**-0.4**
DURS	**Dursunbey**	**1.06**	**107**	*i* P	**Pb**	**17 06 03.5**	**-0.1**
DURS				*i* S	**Sb**	**17 06 17.1**	**-0.4**
TKR	**Tekirdag**	**1.10**	**15**	*e*PN	**Pg**	**17 06 03.9**	**-0.6**
TKR	**Tekirdag**	**1.10**	**15**	*e*Pn	**Pg**	**17 06 03.9**	**-0.6**
ENEZ	**Enez**	**1.12**	**317**	*e*PN	**Pg**	**17 06 04.0**	**-0.9**
ENEZ	**Enez**	**1.12**	**317**	*e*Pn	**Pg**	**17 06 04.0**	**-0.9**
AKS	**Akhisar**	**1.16**	**154**	*e*PN	**Pb**	**17 06 05.4**	**+0.1**
AKS	**Akhisar**	**1.16**	**154**	*e*Pn	**Pb**	**17 06 05.4**	**+0.1**
AKHS	**Akhisar**	**1.16**	**154**	*i* P	**Pg**	**17 06 05.3**	**-0.3**
AKHS				*i* S	**Sn**	**17 06 21.1**	**-0.1**
AKHS	**Akhisar**	**1.16**	**154**	*i* P	**Pg**	**17 06 05.3**	**-0.3**
AKHS				*i* S	**Sn**	**17 06 21.1**	**-0.1**
DST	**Dursunbey**	**1.16**	**106**	*e*PN	**Pg**	**17 06 05.1**	**-0.6**
DST	**Dursunbey**	**1.16**	**106**	*e*Pn	**Pg**	**17 06 05.1**	**-0.6**
SIGR	**SIGRI**	**1.24**	**235**	P	**Pn**	**17 06 05.8**	**-0.7**
SIGR				S	**Sb**	**17 06 22.2**	**-0.4**
SIGR	**SIGRI**	**1.24**	**235**	P	**Pn**	**17 06 05.8**	**-0.7**
SIGR				S	**Sb**	**17 06 22.2**	**-0.4**
CRLT	**Corlu**	**1.28**	**20**	*e*PN	**Pn**	**17 06 07.3**	**+0.2**
CRLT	**Corlu**	**1.28**	**20**	*e*Pn	**Pn**	**17 06 07.3**	**+0.2**
ALN	**Alexandroupoli**	**1.30**	**319**	P	**Pn**	**17 06 06.7**	**-0.6**
ALN				S	**Sb**	**17 06 24.1**	**-0.2**
ALN	**Alexandroupoli**	**1.30**	**319**	*e*PN	**Pb**	**17 06 06.6**	**-0.7**
ALN				*e*SN	**Sb**	**17 06 24.6**	**+0.3**
ALN	**Alexandroupoli**	**1.30**	**319**	P	**Pn**	**17 06 06.7**	**-0.6**
ALN				S	**Sb**	**17 06 24.1**	**-0.2**
ALN				*e*Sn	**Sb**	**17 06 24.6**	**+0.3**
ORLT	**Orhaneli**	**1.33**	**84**	*e*PN	**Pb**	**17 06 08.2**	**-0.1**
ORLT	**Orhaneli**	**1.33**	**84**	*e*Pn	**Pb**	**17 06 08.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.39**	**71**	*e*PN	**Pn**	**17 06 08.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.39**	**71**	*e*Pn	**Pn**	**17 06 08.4**	**-0.2**
ARMT	**Armutlu**	**1.45**	**63**	*e*PN	**Pn**	**17 06 09.1**	**-0.3**
ARMT	**Armutlu**	**1.45**	**63**	*e*Pn	**Pn**	**17 06 09.1**	**-0.3**
DEMI	**Demirci**	**1.49**	**126**	*i* P	**Pn**	**17 06 10.0**	**0.0**
DEMI				*i* S	**Sn**	**17 06 29.0**	**-0.4**
DEMI	**Demirci**	**1.49**	**126**	*i* P	**Pn**	**17 06 10.0**	**0.0**
DEMI				*i* S	**Sn**	**17 06 29.0**	**-0.4**
IZM	**Izmir**	**1.53**	**177**	*e*PN	**Pn**	**17 06 10.8**	**+0.3**
IZM	**Izmir**	**1.53**	**177**	*e*Pn	**Pn**	**17 06 10.8**	**+0.3**
LIA	**Limnos Island**	**1.53**	**270**	P	**Pn**	**17 06 10.3**	**-0.2**
LIA				S	**Sn**	**17 06 29.7**	**-0.6**
LIA	**Limnos Island**	**1.53**	**270**	*e*PN	**Pn**	**17 06 10.3**	**-0.2**
LIA				*e*SN	**Sn**	**17 06 31.3**	**+1.0**
LIA	**Limnos Island**	**1.53**	**270**	P	**Pn**	**17 06 10.3**	**-0.2**
LIA				S	**Sn**	**17 06 29.7**	**-0.6**
LIA				*e*Sn	**Sn**	**17 06 31.3**	**+1.0**
SLVT	**Silivri**	**1.53**	**31**	*e*PN	**Pn**	**17 06 10.2**	**-0.3**
SLVT	**Silivri**	**1.53**	**31**	*e*Pn	**Pn**	**17 06 10.2**	**-0.3**
BLCB	**Balcova**	**1.54**	**184**	*e*PN	**Pb**	**17 06 11.6**	**-0.2**
BLCB	**Balcova**	**1.54**	**184**	*e*Pn	**Pb**	**17 06 11.6**	**-0.2**
ELBA	**Catalca**	**1.56**	**38**	*i* P	**Pn**	**17 06 11.2**	**+0.3**
ELBA	**Catalca**	**1.56**	**38**	*i* P	**Pn**	**17 06 11.2**	**+0.3**
URLA	**Izmir**	**1.62**	**196**	*i* P	**Pn**	**17 06 12.1**	**+0.3**
URLA				*i* S	**Sg**	**17 06 36.0**	**+0.4**
URLA	**Izmir**	**1.62**	**196**	*i* P	**Pn**	**17 06 12.1**	**+0.3**
GEMT	**Gemlik**	**1.63**	**71**	*e*PN	**Pn**	**17 06 11.7**	**-0.2**
GEMT	**Gemlik**	**1.63**	**71**	*e*Pn	**Pn**	**17 06 11.7**	**-0.2**
CTKS	**Kestanelik-??a**	**1.66**	**37**	*e*PN	**Pn**	**17 06 12.0**	**-0.3**
CTKS	**Kestanelik-??a**	**1.66**	**37**	*e*Pn	**Pn**	**17 06 12.0**	**-0.3**
BGKT	**Bogazkoy**	**1.75**	**44**	*e*PN	**Pn**	**17 06 13.3**	**-0.2**
BGKT	**Bogazkoy**	**1.75**	**44**	*e*Pn	**Pn**	**17 06 13.3**	**-0.2**
BUY	**Buyukada**	**1.75**	**57**	*i* P	**Pn**	**17 06 12.9**	**-0.7**
BUY				*i* S	**Sb**	**17 06 36.8**	**-0.6**
BUY	**Buyukada**	**1.75**	**57**	*i* P	**Pn**	**17 06 12.9**	**-0.7**
BUY				*i* S	**Sb**	**17 06 36.8**	**-0.6**
CHOS	**Chios island**	**1.76**	**210**	P	**Pn**	**17 06 13.3**	**-0.5**
CHOS				S	**Sn**	**17 06 36.8**	**+0.6**
CHOS	**Chios island**	**1.76**	**210**	*e*PN	**Pn**	**17 06 14.1**	**+0.3**
CHOS				*e*SN	**Sb**	**17 06 37.8**	**0.0**
CHOS	**Chios island**	**1.76**	**210**	P	**Pn**	**17 06 13.3**	**-0.5**
CHOS	**Chios island**	**1.76**	**210**	*e*Pn	**Pn**	**17 06 14.1**	**+0.3**
CHOS				S	**Sn**	**17 06 36.8**	**+0.6**
CHOS				*e*Sn	**Sb**	**17 06 37.8**	**0.0**
CTYL	**Yal??k??y-??at**	**1.77**	**28**	*e*PN	**Pn**	**17 06 13.7**	**-0.1**
CTYL	**Yal??k??y-??at**	**1.77**	**28**	*e*Pn	**Pn**	**17 06 13.7**	**-0.1**
YLV	**Yalova**	**1.81**	**68**	*e*PN	**Pn**	**17 06 13.8**	**-0.5**
YLV	**Yalova**	**1.81**	**68**	*e*Pn	**Pn**	**17 06 13.9**	**-0.5**
KULA	**Kula-Manisa**	**1.82**	**140**	*e*PN	**Pn**	**17 06 15.1**	**+0.5**
KULA	**Kula-Manisa**	**1.82**	**140**	*e*Pn	**Pn**	**17 06 15.1**	**+0.5**
TVSB	**Tavsanli**	**1.83**	**104**	*e*PN	**Pn**	**17 06 14.9**	**+0.2**
TVSB	**Tavsanli**	**1.83**	**104**	*e*Pn	**Pn**	**17 06 14.9**	**+0.2**
ISK	**Istanbul-Kandi**	**1.84**	**51**	*e*PN	**Pn**	**17 06 14.0**	**-0.7**
ISK	**Istanbul-Kandi**	**1.84**	**51**	*e*Pn	**Pn**	**17 06 14.0**	**-0.7**
EDRB	**Edirne**	**1.95**	**351**	*e*PN	**Pn**	**17 06 16.7**	**+0.4**
EDRB	**Edirne**	**1.95**	**351**	*e*Pn	**Pn**	**17 06 16.7**	**+0.4**
GDZ	**Gediz**	**1.97**	**114**	*i* P	**Pn**	**17 06 17.5**	**+0.7**
GDZ				*i* S	**Sg**	**17 06 45.2**	**-1.6**
GDZ	**Gediz**	**1.97**	**114**	*i* P	**Pn**	**17 06 17.5**	**+0.7**
CAVI	**Cavuskoy**	**2.07**	**81**	*e*PN	**Pn**	**17 06 17.9**	**-0.1**
CAVI	**Cavuskoy**	**2.07**	**81**	*e*Pn	**Pn**	**17 06 17.9**	**-0.1**
HRT	**Hereke**	**2.11**	**64**	*e*PN	**Pn**	**17 06 18.1**	**-0.4**
HRT	**Hereke**	**2.11**	**64**	*e*Pn	**Pn**	**17 06 18.1**	**-0.4**
GCAM	**G?zelcaml?**	**2.22**	**179**	*i* P	**Pb**	**17 06 23.5**	**+0.1**
GCAM				*i* S	**Sb**	**17 06 52.3**	**+1.4**
SILT	**Sile**	**2.25**	**56**	*e*PN	**Pn**	**17 06 20.3**	**-0.1**
SILT	**Sile**	**2.25**	**56**	*e*Pn	**Pn**	**17 06 20.3**	**-0.1**
KAVA	**Kavala**	**2.29**	**299**	P	**Pn**	**17 06 21.0**	**0.0**
KAVA				S	**Sn**	**17 06 48.2**	**-0.9**
KAVA	**Kavala**	**2.29**	**299**	P	**Pn**	**17 06 21.0**	**0.0**
KAVA				S	**Sn**	**17 06 48.2**	**-0.9**
AYDN	**Tasoluk**	**2.33**	**166**	*i* P	**Pn**	**17 06 21.3**	**-0.2**
AYDN	**Tasoluk**	**2.33**	**166**	*i* P	**Pn**	**17 06 21.3**	**-0.2**
KHAL	**Karahalli**	**2.38**	**130**	*i* P	**Pn**	**17 06 22.8**	**+0.5**
KHAL				*i* S	**Sn**	**17 06 49.3**	**-2.2**
KHAL	**Karahalli**	**2.38**	**130**	*i* P	**Pn**	**17 06 22.8**	**+0.5**
KHL	**Karahalli**	**2.43**	**130**	*e*PN	**Pn**	**17 06 24.0**	**+1.0**
KHL	**Karahalli**	**2.43**	**130**	*e*Pn	**Pn**	**17 06 24.0**	**+1.0**
ALT	**Altintas**	**2.44**	**110**	*e*PN	**Pn**	**17 06 23.4**	**+0.3**
ALT	**Altintas**	**2.44**	**110**	*e*Pn	**Pn**	**17 06 23.4**	**+0.3**
GPA	**Golpazari**	**2.44**	**80**	*e*PN	**Pn**	**17 06 23.3**	**+0.3**
GPA	**Golpazari**	**2.44**	**80**	*e*Pn	**Pn**	**17 06 23.3**	**+0.3**
SPNC	**Sapanca-Adapaz**	**2.52**	**71**	*e*PN	**Pn**	**17 06 24.1**	**0.0**
SPNC	**Sapanca-Adapaz**	**2.52**	**71**	*e*Pn	**Pn**	**17 06 24.1**	**0.0**
BORA	**Eskisehir**	**2.53**	**90**	*i* P	**Pn**	**17 06 24.7**	**+0.4**
BORA				*i* S	**Sn**	**17 06 57.0**	**+1.9**
BORA	**Eskisehir**	**2.53**	**90**	*i* P	**Pn**	**17 06 24.7**	**+0.4**
BORA				*i* S	**Sn**	**17 06 57.0**	**+1.9**
JMB	**Yambol**	**2.58**	**350**	P	**Pn**	**17 06 25.8**	**+0.9**
JMB	**Yambol**	**2.58**	**350**	P	**Pn**	**17 06 25.8**	**+0.9**
DENT	**Denizli**	**2.61**	**146**	*e*PN	**Pn**	**17 06 25.9**	**+0.6**
DENT	**Denizli**	**2.61**	**146**	*e*Pn	**Pn**	**17 06 26.0**	**+0.6**
GULT	**Gulveren**	**2.61**	**78**	*e*PN	**Pn**	**17 06 25.6**	**+0.1**
GULT	**Gulveren**	**2.61**	**78**	*e*Pn	**Pn**	**17 06 25.6**	**+0.1**
AOS	**Alonnisos**	**2.65**	**255**	P	**Pn**	**17 06 25.6**	**-0.3**
AOS	**Alonnisos**	**2.65**	**255**	P	**Pn**	**17 06 25.6**	**-0.3**
DNZL	**Cakiroluk**	**2.67**	**146**	*i* P	**Pn**	**17 06 26.3**	**-0.1**
DNZL	**Cakiroluk**	**2.67**	**146**	*i* P	**Pn**	**17 06 26.3**	**-0.1**
PAIG	**Paliouri**	**2.68**	**271**	P	**Pn**	**17 06 25.9**	**-0.5**
PAIG	**Paliouri**	**2.68**	**271**	P	**Pn**	**17 06 25.9**	**-0.5**
BODT	**Bodrum**	**2.86**	**178**	*e*PN	**Pn**	**17 06 29.6**	**+0.8**
BODT	**Bodrum**	**2.86**	**178**	*e*Pn	**Pn**	**17 06 29.6**	**+0.8**
ESKT	**Eskisehir**	**2.87**	**97**	*e*PN	**Pn**	**17 06 29.4**	**+0.4**
ESKT	**Eskisehir**	**2.87**	**97**	*e*Pn	**Pn**	**17 06 29.4**	**+0.4**
PLD	**Plovdiv**	**2.87**	**320**	P	**Pn**	**17 06 29.6**	**+0.7**
PLD	**Plovdiv**	**2.87**	**320**	P	**Pn**	**17 06 29.6**	**+0.7**
SEYT	**Eskypehyr**	**2.87**	**97**	*i* P	**Pn**	**17 06 29.9**	**+0.9**
SEYT				*i* S	**Sb**	**17 06 47.0**	**-0.9**
SEYT	**Eskypehyr**	**2.87**	**97**	*i* P	**Pn**	**17 06 29.9**	**+0.9**
PLG	**Polygyros**	**2.89**	**280**	P	**Pn**	**17 06 29.1**	**-0.2**
PLG	**Polygyros**	**2.89**	**280**	*e*PN	**Pn**	**17 06 29.0**	**-0.2**
PLG	**Polygyros**	**2.89**	**280**	P	**Pn**	**17 06 29.1**	**-0.2**
NVR	**Nevrokopi**	**2.89**	**301**	P	**Pn**	**17 06 29.4**	**+0.2**
NVR				S	**Sn**	**17 07 03.8**	**-0.2**
NVR	**Nevrokopi**	**2.89**	**301**	*e*PN	**Pn**	**17 06 29.5**	**+0.2**
NVR				*e*SN	**Sn**	**17 07 04.3**	**+0.3**
NVR	**Nevrokopi**	**2.89**	**301**	P	**Pn**	**17 06 29.4**	**+0.2**
NVR				S	**Sn**	**17 07 03.8**	**-0.2**
NVR				*e*Sn	**Sn**	**17 07 04.3**	**+0.3**
YER	**Yerkesik**	**2.92**	**162**	*e*PN	**Pn**	**17 06 30.7**	**+1.0**
YER	**Yerkesik**	**2.92**	**162**	*e*Pn	**Pn**	**17 06 30.7**	**+1.0**
SHUT	**Suhut-Afyon**	**2.96**	**116**	*e*PN	**Pn**	**17 06 30.9**	**+0.6**
SHUT	**Suhut-Afyon**	**2.96**	**116**	*e*Pn	**Pn**	**17 06 30.9**	**+0.6**
SRS	**Serrai**	**2.98**	**295**	P	**Pn**	**17 06 30.3**	**-0.1**
SRS	**Serrai**	**2.98**	**295**	P	**Pn**	**17 06 30.3**	**-0.1**
HENT	**Hendek**	**2.99**	**71**	*i* P	**Pn**	**17 06 30.8**	**+0.2**
HENT	**Hendek**	**2.99**	**71**	*i* P	**Pn**	**17 06 30.8**	**+0.2**
MRKA	**Markates**	**3.03**	**247**	P	**Pn**	**17 06 30.6**	**-0.6**
MRKA	**Markates**	**3.03**	**247**	P	**Pn**	**17 06 30.6**	**-0.6**
SOH	**Sokhos**	**3.05**	**288**	P	**Pn**	**17 06 31.4**	**0.0**
SOH	**Sokhos**	**3.05**	**288**	P	**Pn**	**17 06 31.4**	**0.0**
XOR	**Xorichti**	**3.12**	**261**	P	**Pn**	**17 06 31.9**	**-0.5**
XOR	**Xorichti**	**3.12**	**261**	P	**Pn**	**17 06 31.9**	**-0.5**
APE	**Apeiranthos**	**3.13**	**205**	*e*PN	**Pn**	**17 06 34.1**	**+1.6**
APE	**Apeiranthos**	**3.13**	**205**	P	**Pn**	**17 06 31.8**	**-0.7**
APE	**Apeiranthos**	**3.13**	**205**	*e*PN	**Pn**	**17 06 32.7**	**+0.2**
APE	**Apeiranthos**	**3.13**	**205**	*i* P	**Pn**	**17 06 32.2**	**-0.3**
APE	**Apeiranthos**	**3.13**	**205**	P	**Pn**	**17 06 31.8**	**-0.7**
APE	**Apeiranthos**	**3.13**	**205**	*e*Pn	**Pn**	**17 06 32.7**	**+0.2**
MDUB	**Mudurnu**	**3.13**	**79**	*e*PN	**Pn**	**17 06 33.1**	**+0.5**
MDUB	**Mudurnu**	**3.13**	**79**	*e*Pn	**Pn**	**17 06 33.1**	**+0.5**
BOLV	**Bolvadin**	**3.17**	**111**	*i* P	**Pn**	**17 06 34.1**	**+0.9**
BOLV	**Bolvadin**	**3.17**	**111**	*i* P	**Pn**	**17 06 34.1**	**+0.9**
ISP	**Isparta**	**3.35**	**128**	*e*PN	**Pn**	**17 06 36.0**	**+0.4**
ISP	**Isparta**	**3.35**	**128**	P	**Pn**	**17 06 36.1**	**+0.4**
ISP	**Isparta**	**3.35**	**128**	P	**Pn**	**17 06 36.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.39**	**97**	*e*PN	**Pn**	**17 06 37.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.39**	**97**	*e*Pn	**Pn**	**17 06 37.2**	**+0.9**
KNT	**Kendrikon**	**3.48**	**292**	P	**Pn**	**17 06 37.9**	**+0.6**
KNT	**Kendrikon**	**3.48**	**292**	P	**Pn**	**17 06 37.9**	**+0.6**
KDZE	**Karadeniz Ereo**	**3.54**	**66**	*e*PN	**Pn**	**17 06 38.2**	**+0.2**
KDZE	**Karadeniz Ereo**	**3.54**	**66**	*e*Pn	**Pn**	**17 06 38.3**	**+0.2**
LIT	**Litokhoron**	**3.60**	**274**	P	**Pn**	**17 06 38.7**	**-0.3**
LIT	**Litokhoron**	**3.60**	**274**	*e*PN	**Pn**	**17 06 39.4**	**+0.4**
LIT	**Litokhoron**	**3.60**	**274**	P	**Pn**	**17 06 38.7**	**-0.3**
LIT	**Litokhoron**	**3.60**	**274**	*e*Pn	**Pn**	**17 06 39.4**	**+0.4**
FETY	**Fethiye**	**3.61**	**155**	*e*PN	**Pn**	**17 06 40.1**	**+0.9**
FETY	**Fethiye**	**3.61**	**155**	*e*Pn	**Pn**	**17 06 40.1**	**+0.9**
BCK	**Bucak**	**3.63**	**132**	*e*PN	**Pn**	**17 06 40.1**	**+0.6**
BCK	**Bucak**	**3.63**	**132**	*e*Pn	**Pn**	**17 06 40.1**	**+0.6**
VAY	**Valandovo**	**3.77**	**293**	*e*PN	**Pn**	**17 06 40.0**	**-1.1**
VAY				*e*Sg	**Sg**	**17 07 43.2**	**-1.1**
VAY	**Valandovo**	**3.77**	**293**	*e*PN	**Pn**	**17 06 40.6**	**-0.7**
VAY				*e*Sg	**Sg**	**17 07 43.6**	**-0.7**
KIZT	**Kizilcal**	**3.80**	**104**	*e*PN	**Pn**	**17 06 42.7**	**+0.9**
KIZT	**Kizilcal**	**3.80**	**104**	*e*Pn	**Pn**	**17 06 42.7**	**+0.9**
ELL	**Elmali**	**3.83**	**145**	*e*PN	**Pn**	**17 06 43.5**	**+1.2**
ELL	**Elmali**	**3.83**	**145**	*e*Pn	**Pn**	**17 06 43.5**	**+1.2**
LOD	**Lodumlu**	**4.30**	**89**	*e*PN	**Pn**	**17 06 49.9**	**+1.2**
LOD	**Lodumlu**	**4.30**	**89**	*e*Pn	**Pn**	**17 06 49.9**	**+1.2**
KONT	**Konya--Tatoy**	**4.50**	**114**	*e*PN	**Pn**	**17 06 52.8**	**+1.4**
KONT	**Konya--Tatoy**	**4.50**	**114**	*e*Pn	**Pn**	**17 06 52.8**	**+1.4**
TIRR	**Tirgusor**	**4.62**	**11**	*i* P	**Pn**	**17 06 53.6**	**+0.6**
TIRR	**Tirgusor**	**4.62**	**11**	*i* P	**Pn**	**17 06 53.6**	**+0.6**
BARS	**Barje**	**4.96**	**307**	*i* Pn	**Pn**	**17 06 58.7**	**+1.1**
BRTR	**Keskin Array B**	**4.99**	**90**	Pn	**Pn**	**17 06 58.7**	**+0.5**
	0.8nm,0.3s,baz=255,slow=10,SNR=59						
BRTR				Pg	**Pg**	**17 07 16.1**	**-2.7**
	0.6nm,0.3s,baz=271,slow=16,SNR=9.9						
BRTR				Sn	**Sn**	**17 07 55.9**	**+0.1**
	0.9nm,0.3s,baz=267,slow=16,SNR=7.8						
BRTR				Lg	Lg	17 08 24.1	
	0.7nm,0.3s,baz=267,slow=24,SNR=7.1						
CFR	**Carcaliu**	**5.30**	**7**	*i* P	**Pn**	**17 07 02.7**	**+0.4**
CFR	**Carcaliu**	**5.30**	**7**	*i* P	**Pn**	**17 07 02.7**	**+0.4**
SELS	**Selova**	**5.61**	**308**	*i* Pn	**Pn**	**17 07 06.9**	**+0.3**
MLR	**Muntele Rosu**	**5.64**	**351**	Pn	**Pn**	**17 07 08.9**	**+1.8**
	0.1nm,0.3s,baz=193,slow=7.0,SNR=14						
MLR				Sn	**Sn**	**17 08 13.1**	**+1.3**
	0.1nm,0.3s,baz=134,slow=20,SNR=2.1						
MLR	**Muntele Rosu**	**5.64**	**351**	*i* P	**Pn**	**17 07 08.8**	**+1.8**
MLR	**Muntele Rosu**	**5.64**	**351**	*i* P	**Pn**	**17 07 08.8**	**+1.8**
VOIR		**5.73**	**345**	*i* P	**Pn**	**17 07 09.2**	**+0.9**
VOIR		**5.73**	**345**	*i* P	**Pn**	**17 07 09.2**	**+0.9**
PLOR	**Plostina**	**5.94**	**356**	*i* P	**Pn**	**17 07 13.1**	**+2.0**
PLOR	**Plostina**	**5.94**	**356**	*i* P	**Pn**	**17 07 13.1**	**+2.0**
VRI	**Vrincioaia**	**5.95**	**357**	*i* P	Pn	17 07 14.8	+3.6
GRUS	**Gruza**	**6.23**	**312**	*e*Pn	**Pn**	**17 07 15.6**	**+0.5**
IVAS	**Ivanjica**	**6.39**	**307**	*i* Pn	**Pn**	**17 07 18.4**	**+1.0**
TESR		**6.59**	**357**	*i* P	**Pn**	**17 07 20.9**	**+0.8**
TESR		**6.59**	**357**	*i* P	**Pn**	**17 07 20.9**	**+0.8**
DIVS	**Divibare**	**6.78**	**310**	*i* Pn	**Pn**	**17 07 22.4**	**-0.3**
BZS	**Buzias**	**7.00**	**326**	*i* P	**Pn**	**17 07 25.2**	**-0.5**
BZS	**Buzias**	**7.00**	**326**	*i* P	**Pn**	**17 07 25.2**	**-0.5**
BURAR	**Bucovina Array**	**7.82**	**350**	*i* P	**Pn**	**17 07 38.5**	**+1.5**
BURAR	**Bucovina Array**	**7.82**	**350**	*i* P	**Pn**	**17 07 38.5**	**+1.5**
PKSM	**Moragy**	**8.85**	**318**	*i* P	**Pn**	**17 07 51.3**	**+0.2**
PKSM	**Moragy**	**8.85**	**318**	*i* P	**Pn**	**17 07 51.3**	**+0.2**
GERES	**GERESS Array B**	**13.11**	**317**	LR	LR	17 14 10.7	
	comp=Z,26nm,19.4s,baz=232,slow=39						
TORD	**Torodi Ar. Bea**	**34.84**	**227**	P	**P**	**17 12 34.0**	**-0.3**
	0.3nm,0.7s,baz=41,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**39.95**	**61**	P	**P**	**17 13 17.5**	**0.0**
	0.1nm,0.5s,baz=267,slow=8.3,SNR=4.3						

*CSEM **29** 17:27:03.2±0.6, 45°03N×14°89E, h2km, ML2.0, Error ellipse: s-maj=9.0km s-min=5.5km az=176.0*
*VIE **29** 17:27:08.1±0.5, 45°32N×14°85E, h7km±4km, mb1.9/1, ML2.5/4, Error ellipse: s-maj=3.2km s-min=1.9km az=172.0 35 km E of Rijeka*
ISC 29 17:27:05.6±1.1, 45°13N±0°03×14°90E±0°03, h9km±9km, n39, σ0°62/74, 17C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.41**	**351**	⇓*i* Pg	**Pg**	**17 27 13.5**	**-0.1**
GBRS				*e*Sg	**Sg**	**17 27 19.8**	**+0.8**
BOJS	**Bojanci**	**0.45**	**33**	*i* Pg	**Pg**	**17 27 14.3**	**0.0**
BOJS				*i* Sg	**Sb**	**17 27 21.6**	**-1.0**
BOJS							
	comp=Z,54nm,0.1s						
BOJS	**Bojanci**	**0.45**	**33**	*i* Pg	**Pg**	**17 27 14.4**	**0.0**
BOJS				*e*Sg	**Sb**	**17 27 21.6**	**-1.0**
KNDS	**Knezji Dol**	**0.54**	**318**	*i* Pg	**Pg**	**17 27 15.4**	**-0.8**
KNDS				*i* Sg	**Sg**	**17 27 23.7**	**+0.4**
KNDS	**Knezji Dol**	**0.54**	**318**	*i* Pg	**Pg**	**17 27 15.4**	**-0.8**
KNDS				*e*Sg	**Sg**	**17 27 23.7**	**+0.4**
NVLJ	**Novalja**	**0.57**	**182**	*i* Pg	**Pg**	**17 27 16.0**	**-0.6**
NVLJ				Sg	**Sg**	**

PLRO	**Paularo**	**0.71**	**258**	⇓	*e*Pg	**Pg**	17 32 15.2	-0.2
PLRO					*e*Sg	**Sb**	17 32 25.0	-0.2
PLRO	**Paularo**	**0.71**	**258**	⇓	*e*Pg	**Pg**	17 32 15.2	-0.1
PLRO					*e*Sg	**Sb**	17 32 25.0	-0.2
VINO	**Villanova**	**0.75**	**234**	⇓	*e*Pg	**Pg**	17 32 15.5	-0.5
VINO					*e*Sg	**Sb**	17 32 26.2	0.0
VINO	**Villanova**	**0.75**	**234**	⇓	*e*Pg	**Pg**	17 32 15.5	-0.5
VINO					*e*Sg	**Sb**	17 32 26.2	0.0
COLI	**Coloredo**	**0.78**	**224**	⇓	*e*Pg	**Pg**	17 32 16.4	-0.2
COLI					*e*Sg	**Sb**	17 32 27.5	+0.5
COLI	**Coloredo**	**0.78**	**224**	⇓	*e*Pg	**Pg**	17 32 16.4	-0.2
COLI					*e*Sg	**Sb**	17 32 27.5	+0.5
BAD	**Bernadia**	**0.78**	**234**	⇑	*e*Pg	**Pb**	17 32 16.5	-0.2
BAD					*e*Sg	**Sb**	17 32 27.8	+0.7
BAD	**Bernadia**	**0.78**	**234**	⇑	*e*Pg	**Pb**	17 32 16.5	-0.2
BAD					*e*Sg	**Sb**	17 32 27.8	+0.7
SABO	**M.te Sabotino**	**0.81**	**209**	⇓	*e*Pg	**Pg**	17 32 16.6	-0.6
SABO	**M.te Sabotino**	**0.81**	**209**	⇓	*e*Pg	**Pg**	17 32 16.6	-0.6
SABO					*e*Sg	**Sn**	17 32 29.2	-0.9
BOO	**Bordano**	**0.82**	**243**	⇑	*e*Pg	**Pb**	17 32 17.4	0.0
BOO	**Bordano**	**0.82**	**243**	⇑	*e*Pg	**Pb**	17 32 17.4	0.0
BOO					*e*Sg	**Sb**	17 32 29.2	+1.0
ZOU	**Zoufplan**	**0.83**	**261**	⇑	*e*Pg	**Pg**	17 32 17.2	-0.3
ZOU					*e*Sg	**Sb**	17 32 29.2	+0.6
FUSE	**Fusea**	**0.85**	**251**	⇓	*e*Pg	**Pn**	17 32 18.5	-0.3
FUSE	**Fusea**	**0.85**	**251**	⇓	*e*Pg	**Pn**	17 32 18.5	-0.3
TRI	**Trieste**	**1.03**	**196**		*e*Pg	**Pb**	17 32 20.2	-0.6
TRI	**Trieste**	**1.03**	**196**		*e*Pg	**Pb**	17 32 20.2	-0.6
ARSA	**Arzberg**	**1.09**	**59**	⇑	*e*Pg	**Pn**	17 32 22.1	+0.1
	comp=Z,0.8nm,0.1s,SNR=6.6							
ARSA				⇑	*i*Sg	**Sb**	17 32 36.0	+0.2
	comp=Z,14nm,0.2s							
ARSA	**Arzberg**	**1.09**	**59**		Pg	**Pn**	17 32 22.1	+0.1
	comp=Z,0.8nm,0.1s,SNR=6.6							
ARSA					Sg	**Sb**	17 32 36.0	+0.2
	comp=Z,14nm,0.2s							
ABTA	**Abfaltersbach**	**1.13**	**273**	⇑	*e*Pg	**Pb**	17 32 22.7	0.0
	comp=Z,2.7nm,0.1s,SNR=8.6							
ABTA				⇑	*i*Sg	**Sn**	17 32 38.8	+0.7
	comp=Z,3.3nm,0.1s							
ABTA	**Abfaltersbach**	**1.13**	**273**		Pg	**Pb**	17 32 22.7	0.0
	comp=Z,2.7nm,0.1s,SNR=8.6							
ABTA					Sg	**Sn**	17 32 38.8	+0.7
	comp=Z,3.3nm,0.1s							
MOA	**Molln**	**1.16**	**4**	⇑	*e*Pg	**Pg**	17 32 23.6	-0.1
	comp=Z,4.5nm,0.1s,SNR=12							
MOA	**Molln**	**1.16**	**4**		Pg	**Pg**	17 32 23.6	-0.1
	comp=Z,4.5nm,0.1s,SNR=12							
NVLJ	**Novalja**	**2.19**	**167**		Sn	**Sb**	17 33 08.7	+1.1
NVLJ	**Novalja**	**2.19**	**167**		Sn	**Sb**	17 33 08.6	+1.1
KHC	**Kasperske Hory**	**2.47**	**351**		*e*PN	**Pn**	17 32 43.2	+2.2
KHC					*e*PG	**Pg**	17 32 47.3	-1.4
KHC					*e*SN	**Sn**	17 33 09.5	-1.4
KHC					*e*SG	**Sg**	17 33 20.3	-0.3
	comp=Z,3.9nm,0.6s							
KHC	**Kasperske Hory**	**2.47**	**351**		Pn	**Pn**	17 32 43.2	+2.2
KHC	**Kasperske Hory**	**2.47**	**351**		Pg	**Pg**	17 32 47.3	-1.4
KHC					Sg	**Sg**	17 33 20.3	-0.3
	comp=Z,3.9nm,0.6s							
PRU	**Pruhonice**	**3.30**	**4**		*e*SG	**Sg**	17 33 47.7	+0.3
PRU	**Pruhonice**	**3.30**	**4**		Sg	**Sg**	17 33 47.7	+0.3
CLL	**Collm**	**4.68**	**351**		*e*Sg	**Sg**	17 34 31.0	-0.4

*SZGRF **29** 17:39:20.0, 19˚.01S×178˚.32W, h33km, Fiji Islands region*
*PRU **29** 17:39:30.2, 16˚.70S×175˚.75W, h30km, M4.5*
*ISCJB **29** 17:40:24.1±0.3, 17˚.73S±0˚.08×178˚.83W±0˚.06, h539km, mb4.2/25, Error ellipse: s-maj=11.6km s-min=6.1km az=146.9*
*BJI **29** 17:40:24.1, 17˚.60S×178˚.80W, h539km, mB4.6/5, mb4.4/8*
*AUST **29** 17:40:24.9±0.0, 17˚.52S×178˚.64W, h551km, Error ellipse: s-maj=1.8km s-min=1.4km az=336.0*
*VIE **29** 17:40:25.8, 17˚.55S×178˚.97W, h537km, mb3.7 284 km ENE of Suva*
*IDC **29** 17:40:29.1±1.5, 17˚.73S×179˚.00W, h584km±17km, mb3.8/22, mb1 4.0/22, mb1mx3.9/26, mbtmp3.8/22, Error ellipse: s-maj=16.5km s-min=8.8km az=146.0*

ISC 29 17:40:24.9±0.4, **17.7S**±0.1×**178.84W**±0.08, **h539**km, **n108, σ0§93**/121, **mb4.3**/25, **19C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**62**	P		**P**	**P**	**17 42 17.5**	**-2.6**
	17nm,0.3s,baz=43,slow=1.2,SNR=19								
AFI				S		**S**	**S**	**17 43 51.8**	**-2.7**
	1.0nm,0.3s,baz=274,slow=21,SNR=1.9								
NIUE	**Niue**	**8.58**	**101**	P		**P**	**P**	**17 42 28.4**	**+0.2**
	baz=8.4,SNR=5.0								
DZM	**Mont Dzumac**	**14.51**	**250**	P		**P**	**P**	**17 43 29.3**	**-0.4**
	1.7nm,0.3s,baz=64,slow=21,SNR=25								
URZ	**Urewera**	**20.82**	**189**	P		**P**	**P**	**17 44 26.7**	**-2.0**
	5.0nm,0.5s,baz=328,slow=6.9,SNR=6.4								
RPZ	**Rata Peaks**	**27.33**	**196**	P		**P**	**P**	**17 45 25.6**	**-1.0**
	6.4nm,0.4s,baz=31,slow=5.3,SNR=4.9								
RMQ	**Roma**	**31.21**	**248**	P		**P**	**P**	**17 46 01.4**	**+0.9**
	baz=31,SNR=77								
CTA	**Charters Tower**	**33.08**	**260**	P		**P**	**P**	**17 46 16.5**	**0.0**
	17nm,0.7s,baz=98,slow=11,SNR=16								
CNB	**Canberra Magne**	**33.24**	**232**	P		**P**	**P**	**17 46 18.8**	**+1.0**
	baz=34,SNR=80								
YNG	**Young**	**33.59**	**234**	P		**P**	**P**	**17 46 21.6**	**+1.0**
	baz=34,SNR=13								
MILA	**Mila**	**34.12**	**229**	P		**P**	**P**	**17 46 25.9**	**+0.8**
	baz=34,SNR=12								
CMSA	**Cobar Meteorol**	**34.91**	**240**	P		**P**	**P**	**17 46 32.1**	**+0.5**
	baz=35,SNR=79								
STKA	**Stephens Creek**	**38.38**	**241**	P		**P**	**P**	**17 47 01.1**	**+0.9**
	16nm,0.5s,baz=90,slow=9.4,SNR=107								
BBOO	**Buckleboo**	**43.16**	**241**	P		**P**	**P**	**17 47 38.6**	**+0.4**
	baz=43,SNR=6.4								
WRA	**Warramunga Arr**	**44.27**	**259**	P		**P**	**P**	**17 47 46.1**	**-0.9**
	5.8nm,0.6s,baz=93,slow=7.5,SNR=22								
WRA				S		**S**	**S**	**17 53 37.2**	**-4.7**
	0.7nm,1.0s,baz=93,slow=14,SNR=4.1								
ASAR	**Alice Springs**	**44.46**	**254**	P		**P**	**P**	**17 47 48.5**	**0.0**
	59nm,0.5s,baz=88,slow=8.2,SNR=570								
ASAR				ScP		**ScP**	**ScP**	**17 52 23.4**	**+2.1**
	0.9nm,0.6s,baz=92,slow=5.3,SNR=4.2								
ASAR				S		**S**	**S**	**17 53 42.0**	**-2.6**
	2.8nm,1.0s,baz=84,slow=16,SNR=12								
KDU	**Kakadu**	**47.15**	**269**	P		**P**	**P**	**17 48 09.1**	**+0.1**
	baz=47,SNR=12								
TLE	**Tual**	**48.76**	**278**	P		**P**	**P**	**17 48 22.3**	**+1.2**
	baz=49,SNR=3.7								
FITZ	**Fitzroy Crossi**	**52.66**	**260**	P		**P**	**P**	**17 48 50.0**	**+0.6**
	baz=53,SNR=4.0								
AAI	**Ambon**	**53.67**	**279**	P		**P**	**P**	**17 48 57.2**	**+0.5**
	baz=54,SNR=3.1								
MEEK	**Meekatharra**	**58.13**	**249**	P		**P**	**P**	**17 49 27.0**	**-0.4**
	baz=58,SNR=7.3								
KLBR	**Kellerberrin**	**58.56**	**243**	P		**P**	**P**	**17 49 29.9**	**-0.4**
	baz=59,SNR=7.9								
VNDA	**Vanda**	**60.65**	**185**	P		**P**	**P**	**17 49 44.5**	**+1.2**
	0.6nm,0.8s,baz=329,slow=5.9,SNR=4.3								
MJAR	**Matsushiro Arr**	**67.47**	**324**	P		**P**	**P**	**17 50 27.3**	**0.0**
	7.1nm,0.5s,baz=159,slow=6.2,SNR=46								
MAT	**Matsushiro**	**67.47**	**324**	P		**P**	**P**	**17 50 27.3**	**0.0**
FX1	**Attu Island--F**	**70.60**	**355**	P		**P**	**P**	**17 50 45.3**	**-0.4**
	6.5nm,0.5s,baz=309,slow=23,SNR=5.7								
PETK	**Petropavlovsk-**	**73.35**	**345**	P		**P**	**P**	**17 51 01.9**	**+0.3**
	11nm,0.7s,baz=133,slow=8.7,SNR=50								
KSRS	**Korea Array**	**74.25**	**319**	P		**P**	**P**	**17 51 07.5**	**+0.4**
	1.3nm,0.8s,baz=127,slow=6.5,SNR=5.5								
USRK	**Ussuriysk Arra**	**76.18**	**326**	P		**P**	**P**	**17 51 19.3**	**+1.6**
	2.4nm,0.6s,baz=109,slow=3.7,SNR=9.1								
MDJ	**Mudanjiang**	**77.75**	**325**	P		**P**	**P**	**17 51 27.8**	**+1.5**
MDJ				pmax		pmax	pmax		
	comp=Z,14nm,0.9s								
MDJ				pmax		pmax	pmax		
	comp=Z,94nm,4.6s								
YBH	**Yreka Blue Hor**	**78.60**	**39**	P		**P**	**P**	**17 51 32.4**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=98,slow=3.2,SNR=8.6								
NVAR	**Mina Array Bea**	**79.54**	**44**	P		**P**	**P**	**17 51 37.0**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=225,slow=9.1,SNR=12								
CN2	**Changchun**	**79.58**	**323**	*e*P		**P**	**P**	**17 51 37.5**	**+1.4**
CN2				pmax		pmax	pmax		
	comp=Z,20nm,1.2s								
BBB	**Bella Bella**	**82.31**	**29**	P		**P**	**P**	**17 51 50.8**	**+0.9**
	comp=Z,6.2nm,1.0s,baz=307,slow=22,SNR=4.0								
NEW	**Newport**	**85.56**	**36**	P		**P**	**P**	**17 52 06.4**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=248,slow=5.5,SNR=6.9								
ILAR	**Eielson Array**	**85.75**	**13**	P		**P**	**P**	**17 52 05.8**	**-0.9**
	comp=Z,2.8nm,0.4s,baz=224,slow=5.2,SNR=27								
DLBC	**Dease Lake**	**85.78**	**23**	P		**P**	**P**	**17 52 07.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=300,slow=4.2,SNR=4.0								
TXAR	**Lajitas Array**	**86.22**	**58**	P		**P**	**P**	**17 52 11.7**	**+1.9**
	comp=Z,4.0nm,0.8s,baz=217,slow=6.3,SNR=50								
PDAR	**Pinedale Array**	**87.47**	**44**	P		**P**	**P**	**17 52 16.2**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=216,slow=3.8,SNR=29								
CMAR	**Chiang Mai Arr**	**88.42**	**290**	P		**P**	**P**	**17 52 22.1**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=111,slow=3.0,SNR=7.6								
INK	**Inuvik**	**91.77**	**15**	P		**P**	**P**	**17 52 34.4**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=226,slow=4.7,SNR=12								
SONM	**Songino Array**	**93.10**	**319**	P		**P**	**P**	**17 52 41.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=126,slow=4.2,SNR=6.4								
YKA	**Yellowknife Ar**	**94.29**	**25**	P		**P**	**P**	**17 52 46.0**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=245,slow=4.5,SNR=29								
ZALV	**Zalesovo Beam**	**107.79**	**322**	PKiKP		**PKiKP**	**PKiKP**	**17 57 49.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=294,slow=4.7,SNR=4.3								
MKAR	**Makanchi Array**	**108.67**	**314**	PKiKP		**PKiKP**	**PKiKP**	**17 57 51.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=220,slow=0.5,SNR=17								
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP		**PKPdf**	**PKPdf**	**17 58 25.2**	**0.0**
	comp=Z,3.3nm,0.9s,baz=66,slow=1.2,SNR=17								
FINES	**FINESS Array B**	**132.85**	**344**	PKhKP		PKPpre	PKPpre	17 58 31.7	
	comp=Z,2.2nm,1.0s,baz=50,slow=3.0,SNR=6.4								
FINES				PKP		**PKPdf**	**PKPdf**	**17 58 38.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=31,slow=4.4,SNR=6.6								
FINES				SKP				18 01 16.9	
	comp=Z,2.0nm,0.7s,baz=58,slow=4.7,SNR=5.7								
NOA	**NORSAR Array B**	**136.09**	**353**	PKP		**PKPdf**	**PKPdf**	**17 58 45.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=20,slow=3.6,SNR=3.3								
AKASG	**Malin Array Be**	**140.16**	**332**	PKhKP		PKPpre	PKPpre	17 58 40.7	
	comp=Z,0.6nm,0.4s,baz=46,slow=3.9,SNR=7.1								
AKASG				PKP		**PKiKP**	**PKiKP**	**17 58 53.6**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=40,slow=2.8,SNR=5.6								
KWP	**Kalwaria Pacla**	**143.69**	**336**	⇓	*i*P	PKPab	PKPab	17 58 56.7	-0.7
TLCR		**144.15**	**326**	⇑	*i*P	**PKPdf**	**PKPdf**	**17 58 59.6**	**+0.2**
OJC	**Ojcow**	**144.25**	**339**	*e*	PKP	**PKPab**	**PKPab**	**17 58 59.6**	**+0.1**
BRTR	**Keskin Array B**	**144.32**	**315**		PKP	**PKPdf**	**PKPdf**	**17 59 00.1**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=111,slow=3.4,SNR=32								
TESR		**144.34**	**329**	⇑	P	**PKPab**	**PKPab**	**17 59 00.0**	**0.0**
NRDL	**Niedersach Rie**	**144.54**	**351**	*e*	PKPbc	**PKPab**	**PKPab**	**17 59 00.3**	**-0.1**
NIE	**Niedzica**	**144.75**	**338**	*e*	PKP	**PKPab**	**PKPab**	**17 59 02.0**	**+0.5**
VRI	**Vrincioaia**	**144.76**	**328**	⇑	*i*P	**PKPdf**	**PKPdf**	**17 58 59.3**	**-1.2**
PLOR	**Plostina**	**144.81**	**329**	⇑	*i*P	**PKPab**	**PKPab**	**17 59 01.6**	**-0.3**
TRPA	**Tarpa**	**144.96**	**335**	⇓	*i*P	**PKPab**	**PKPab**	**17 59 02.1**	**-0.1**
IBBN	**Ibbenburen**	**145.05**	**353**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 01.9**	**+0.4**
OKC	**Ostrava-Krasne**	**145.11**	**341**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 02.3**	**+0.5**
CLZ	**Clausthal**	**145.13**	**350**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 02.4**	**+0.5**
CLL	**Collm**	**145.14**	**347**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 02.2**	**+0.3**
CLL	**Collm**	**145.14**	**347**	⇑	*i*PKP	**PKPbc**	**PKPbc**	**17 59 02.1**	**+0.2**
	comp=Z,20nm,0.6s								
DPC	**Dobruska-Polom**	**145.20**	**343**	*i*	PKP	**PKPab**	**PKPab**	**17 59 02.9**	**-0.3**
BRG	**Berggiesshubel**	**145.34**	**346**	*e*	PKP	**PKPbc**	**PKPbc**	**17 59 02.8**	**+0.3**
	comp=Z,8.6nm,0.7s								
BRG	**Berggiesshubel**	**145.34**	**346**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 02.9**	**+0.4**
MORC	**Moravsky Berou**	**145.36**	**341**	⇓	*i*P	**PKPab**	**PKPab**	**17 59 03.5**	**-0.3**
ISR	**Istrita**	**145.38**	**328**	⇓	*i*P	**PKPab**	**PKPab**	**17 59 04.5**	**+0.4**
PVCC	**Panska Ves**	**145.50**	**345**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 03.6**	**+0.6**
VOIR		**145.89**	**329**	⇑	*i*P	**PKPbc**	**PKPbc**	**17 59 03.5**	**-0.9**
DRGR		**145.94**	**333**	⇓	*i*P	**PKPbc**	**PKPbc**	**17 59 05.1**	**+0.7**
PRU	**Pruhonice**	**146.01**	**344**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 05.0**	**+0.6**
PRU				*ex*		**PKPab**	**PKPbc**	**17 59 06.8**	**+0.5**
MOX	**Moxa**	**146.06**	**348**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 04.7**	**+0.1**
MOX				*e*	PKPab	**PKiKP**	**PKiKP**	**17 59 07.3**	**+0.3**
TANN	**Tannenbergstha**	**146.10**	**347**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 05.1**	**+0.4**
NKC	**Novy Kostel**	**146.27**	**347**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 05.7**	**+0.5**
TREC	**Trest**	**146.39**	**343**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 05.9**	**+0.4**
LOT	**Lotru**	**146.50**	**331**	⇑	*i*P	**PKPdf**	**PKPbc**	**17 59 03.2**	**-0.4**
ROTZ	**Rotzenmuhle**	**146.76**	**347**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 07.0**	**+0.5**
MEM	**Membach**	**146.91**	**354**		PKPbc	**PKPbc**	**PKPbc**	**17 59 07.1**	**+0.2**
TNS	**Taunus Mts**	**147.00**	**351**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 07.4**	**+0.2**
TNS				*e*	PKPab	**PKPab**	**PKPbc**	**17 59 10.4**	**0.0**
GRF	**Grafenberg Arr**	**147.04**	**348**	*e*	PKPab	**PKPab**	**PKPab**	**17 59 10.7**	**+0.2**
KHC	**Kasperske Hory**	**147.04**	**345**	*i*	PKP	**PKPbc**	**PKPbc**	**17 59 07.9**	**+0.6**
KHC				*ex*		**PKPab**	**PKPbc**	**17 59 11.2**	**+0.6**
SNF	**Seneffe**	**147.15**	**356**		PKPbc	**PKPbc**	**PKPbc**	**17 59 07.9**	**+0.4**
SNF					PKPab	**PKPab**	**PKPbc**	**17 59 10.9**	**+0.1**
BCLA	**Clavier**	**147.16**	**355**		PKPbc	**PKPbc**	**PKPbc**	**17 59 06.9**	**-0.7**
BCLA					PKPab	**PKPab**	**PKPbc**	**17 59 10.6**	**-0.3**
WET	**Wettzell**	**147.20**	**346**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 08.2**	**+0.5**
WET				*e*	PKPab	**PKPab**	**PKPbc**	**17 59 11.5**	**+0.3**
GEC2	**GERESS Array S**	**147.28**	**345**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 08.3**	**+0.3**
GERES	**GERESS Array B**	**147.28**	**345**		PKPbc	**PKPbc**	**PKPbc**	**17 59 08.3**	**+0.3**
	comp=Z,6.8nm,0.6s,baz=24,slow=3.1,SNR=69								
BZS	**Buzias**	**147.34**	**333**	⇓	*i*P	**PKPbc**	**PKPbc**	**17 59 07.7**	**-0.4**
ISP	**Isparta**	**147.38**	**314**	⇑	*i*P	**PKPbc**	**PKPbc**	**17 59 08.1**	**-0.6**
CONA	**Conrad Observa**	**147.51**	**341**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 09.3**	**+0.7**
	comp=Z,9.4nm,0.7s								
DOU	**Dourbes**	**147.54**	**356**		PKPbc	**PKPbc**	**PKPbc**	**17 59 08.9**	**+0.4**
WLF	**Walferdange**	**147.83**	**354**		PKPbc	**PKPbc**	**PKPbc**	**17 59 10.2**	**+0.9**
WLF	**Walferdange**	**147.83**	**354**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 10.1**	**+0.8**
MOA	**Molln**	**148.04**	**343**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 10.1**	**+0.2**
	comp=Z,6.0nm,0.8s								
FUR	**Furstenfeldbru**	**148.48**	**347**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 11.7**	**+0.7**
FUR				*e*	PKPab	**PKPab**	**PKPbc**	**17 59 17.3**	**+0.9**
RJOB	**Jochberg**	**148.53**	**345**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 11.3**	**+0.1**
RJOB				*e*	PKPab	**PKPab**	**PKPbc**	**17 59 17.5**	**+0.8**
BFO	**Black Forest**	**148.87**	**351**	*e*	PKPbc	**PKPbc**	**PKPbc**	**17 59 12.2**	**+0.3**
BFO				*e*	PKPab	**PKPab**	**PKPbc**	**17 59 17.9**	**-0.1**
SOKA	**Soboth**	**148.88**	**341**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 11.9**	**-0.3**
	comp=Z,5.1nm,0.6s								
KBA	**Koelnbreinsper**	**149.00**	**344**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 12.0**	**-0.5**
	comp=Z,5.4nm,0.4s								
WATA	**Walderalm**	**149.20**	**346**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 12.8**	**-0.1**
	comp=Z,6.0nm,0.4s								
RETA	**Reutte**	**149.23**	**347**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 13.0**	**+0.1**
	comp=Z,4.6nm,0.4s								
WTTA	**Wattenberg**	**149.25**	**346**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 13.4**	**+0.3**
	comp=Z,11nm,0.4s								
MOTA	**Moosalm**	**149.30**	**347**	⇓	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 13.1**	**-0.1**
	comp=Z,3.5nm,0.4s								
MYKA	**Terra Mystica**	**149.33**	**343**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 12.6**	**-0.6**
	comp=Z,6.7nm,0.5s								
ABTA	**Abfaltersbach**	**149.52**	**345**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 13.2**	**-0.5**
	comp=Z,12nm,0.6s								
DAVA	**Damuels**	**149.60**	**348**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 14.1**	**+0.2**
	comp=Z,3.3nm,0.5s								
FETA	**Feichten**	**149.68**	**347**	⇑	*i*PKPbc	**PKPbc**	**PKPbc**	**17 59 14.4**	**+0.3**
	comp=Z,13nm,1.1s								
TORD	**Torodi Ar. Bea**	**175.47**	**187**		PKP	**PKPdf**	**PKPbc**	**17 59 32.8**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=307,slow=0.7,SNR=4.5								

IDC 29 17:41:08.7±2.8, **6.61S**×**128.92E**, **h0**km, **mb4.2**/1, **mb1 4.1**/3, **mb1mx3.6**/18, **mbtmp4.0**/3, **ML4.0**/1, **Error ellipse: s-maj=289.6km s-min=30.0km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**159**	Pn		Pn	Pn	17 44 31.0	-1.1
	0.7nm,0.3s,baz=334,slow=14,SNR=37								
WRA				Sn		Sn	Sn	17 46 57.4	-14
	1.6nm,0.3s,baz=335,slow=22,SNR=12								
ASAR	**Alice Springs**	**17.62**	**165**	P		P	P	17 45 16.6	-0.4
	0.3nm,0.3s,baz=351,slow=12,SNR=28								
MKAR	**Makanchi Array**	**67.32**	**327**	P		P	P	17 52 05.6	0.0
	1.5nm,0.5s,baz=126,slow=7.5,SNR=38								

*CSEM **29** 17:53:21.4, 37˚.48N×24˚.93W, h0km, ML2.0, After PDA*

PDA 29 17:53:21.4±1.1, **37.48N**×**24.93W**, **h0**km±19km, **MD3.6, ML2.0, Error ellipse: s-maj=32.3km s-min=3.5km az=73.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**193**	*e*P		Pg		17 53 30.5	-0.2
PSMN				*e*S		Sg		17 53 37.1	0.0
PSMN				A		A		17 53 37.5	
	20nm,0.3s								
PSMN	**Pico do Norte,**	**0.49**	**193**	*e*P		Pg		17 53 30.5	-0.2
PSMN				*e*S		Sg		17 53 37.1	0.0
PSMA	**Santa Maria**	**0.51**	**198**	*e*P		Pg		17 53 30.7	-0.4
PSMA				*e*S		Sg		17 53 37.4	-0.3
PSMA				A		A		17 53 38.7	
	149nm,0.1s								
PDA	**Ponta Delgada**	**0.64**	**295**	*e*P		Pg		17 53 32.6	-1.1
PDA				*e*S		Sg		17 53 41.0	-1.0
PDA				A		A		17 53 41.4	
	26nm,0.1s								
PDA	**Ponta Delgada**	**0.64**	**295**	*e*P		Pg		17 53 32.6	-1.1
PDA				*e*S		Sg		17 53 41.0	-1.0
PSET	**Sete Cidades**	**0.71**	**299**	*e*P		Pg		17 53 33.6	-1.6
PSET				*e*S		Sg		17 53 43.5	-1.0
PSET				A		A		17 53 44.2	
	15nm,0.2s								
PSET	**Sete Cidades**	**0.71**	**299**	*e*P		Pg		17 53 33.6	-1.6
PSET				*e*S		Sg		17 53 43.5	-1.0

IDC 29 18:00:11.4±19.0, **19.69S**×**179.27W**, **h650**km±178km, **mb2.8**/4, **mb1 3.0**/4, **mb1mx2.7**/19, **mbtmp2.8**/4, **Error ellipse: s-maj=261.8km s-min=62.1km az=134.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.39**	**263**	P		P	P	18 05 52.0	+1.0
	3.0nm,0.9s,baz=90,slow=10,SNR=3.1								
WRA	**Warramunga Arr**	**43.53**	**261**	P		P	P	18 07 20.5	-0.3
	0.5nm,0.3s,baz=96,slow=7.5,SN

DANN				*e*Sn	**Sn**	**18 17 48.0**	**-3.3**
	80nm,0.4s							
PYUN	**Piuthan**	**11.03**	**297**	*e*Pn	**Pn**	**18 16 01.8**	**-0.7**
PYUN				*e*Sn	**Sn**	**18 18 00.0**	**-3.9**
	188nm,0.7s							
AAK	**Ala-Archa**	**25.08**	**324**	P	**P**	**18 18 44.7**	**+1.7**
	4.8nm,0.6s,baz=127,slow=6.6,SNR=29							
MKAR	**Makanchi Array**	**25.10**	**341**	P	**P**	**18 18 42.7**	**-0.4**
	11nm,0.6s,baz=144,slow=10.0,SNR=166							
SONM	**Songino Array**	**26.16**	**19**	P	**P**	**18 18 51.6**	**-1.2**
	0.3nm,0.5s,baz=202,slow=9.3,SNR=6.2							
ZALV	**Zalesovo Beam**	**31.19**	**349**	P	**P**	**18 19 35.6**	**-1.6**
	0.4nm,0.4s,baz=166,slow=9.1,SNR=4.0							
BVAR	**Borovoye Array**	**34.54**	**335**	P	**P**	**18 20 05.8**	**-0.7**
	2.6nm,0.6s,baz=139,slow=11,SNR=14							
KBZ	**Khabaz**	**46.37**	**309**	P	**P**	**18 21 45.7**	**+1.8**
	1.3nm,0.8s,baz=141,slow=5.2,SNR=4.2							
BRTR	**Keskin Array B**	**53.04**	**303**	P	**P**	**18 22 36.4**	**+1.6**
	0.9nm,0.5s,baz=139,slow=7.9,SNR=8.9							
AKASG	**Malin Array Be**	**56.38**	**316**	P	**P**	**18 22 58.0**	**-0.5**
	2.0nm,0.6s,baz=81,slow=6.6,SNR=6.9							
WRA	**Warramunga Arr**	**58.33**	**134**	P	**P**	**18 23 10.6**	**-2.1**
	1.0nm,0.7s,baz=320,slow=7.5,SNR=11							
FINES	**FINESS Array B**	**59.15**	**329**	P	**P**	**18 23 17.3**	**-0.4**
	1.5nm,0.6s,baz=95,slow=7.2,SNR=12							
ASAR	**Alice Springs**	**60.76**	**138**	P	**P**	**18 23 27.5**	**-1.8**
	0.9nm,0.6s,baz=320,slow=6.9,SNR=17							
NB2	**NORSAR Subarra**	**66.32**	**328**	P	**P**	**18 24 04.1**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=84,slow=6.9							
NOA	**NORSAR Array B**	**66.32**	**328**	P	**P**	**18 24 04.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=84,slow=6.6,SNR=7.4							
GERES	**GERESS Array B**	**66.50**	**315**	P	**P**	**18 24 07.5**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=77,slow=6.0,SNR=15							
BOSA	**Boshof**	**84.16**	**236**	P	**P**	**18 25 50.1**	**+1.9**
	comp=Z,4.2nm,0.9s,baz=80,slow=2.6,SNR=6.6							
TORD	**Torodi Ar. Bea**	**87.04**	**283**	P	**P**	**18 26 04.5**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=61,slow=4.1,SNR=10							

KRSC 29 18:45:46.9±1.8,**49.65N**×**157.33E,h5**km±5km,**ML3.8, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.65**	**352**	P		Pn	18 46 30.3	-0.1
MIPR				*i* S		Sn	18 47 01.9	-1.0
RUS	**Russkaya**	**2.88**	**15**	*e*P		Pn	18 46 34.7	+1.2
RUS				*e*S		Sn	18 47 09.6	+1.1
MTVR	**Mutnovka**	**2.89**	**10**	*e*P		Pn	18 46 35.5	+1.8
MTVR				*e*S		Sn	18 47 11.1	+2.1
GRL	**Gorelyy**	**2.94**	**9**	*e*P		Pn	18 46 36.7	+2.2
GRL				*e*S		Sn	18 47 13.1	+2.8
APC	**Apacha**	**3.28**	**358**	*e*P		Pn	18 46 39.3	+0.4
UGLR	**Uglovaya**	**3.69**	**14**	*e*P		Pn	18 46 46.7	+2.1
UGLR				*e*S		Sn	18 47 30.2	+1.7
SDLR	**Sedlovina**	**3.76**	**14**	*e*P		Pn	18 46 47.5	+1.8
SDLR				*i* S		Sn	18 47 31.7	+1.3
SPN	**Mys Shipunski**	**3.84**	**25**	*e*P		Pn	18 46 48.4	+1.8
SPN				*i* S		Sn	18 47 33.2	+1.1
GNL	**Ganaly**	**4.07**	**5**	*e*P		Pn	18 46 53.5	+3.6
MKZ	**Mys Kozlova**	**5.61**	**27**	*e*P		Pn	18 47 12.2	+1.3
MKZ				*i* S		Sn	18 48 15.2	-0.5

IDC 29 19:17:15.5±10.0,**24.98S**×**179.63E,h663**km±144km, **mb2.7/4,mb1 2.9/4,mb1mx2.7**/17,**mbtmp2.7**/4,**Error ellipse: s-maj=108.2km s-min=34.4km az=12.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**13.41**	**189**	P		P	19 20 05.5	-1.3
	4.8nm,0.3s,baz=61,slow=3.0,SNR=25							
URZ				S		S	19 22 33.4	+7.0
	0.4nm,0.3s,baz=310,slow=21,SNR=3.0							
STKA	**Stephens Creek**	**34.02**	**250**	P		P	19 23 09.3	+1.4
	1.3nm,0.7s,baz=111,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**41.54**	**262**	P		P	19 24 08.9	+0.3
	0.3nm,0.4s,baz=92,slow=7.5,SNR=17							
WRA	**Warramunga Arr**	**42.01**	**267**	P		P	19 24 11.4	-0.9
	0.4nm,0.4s,baz=104,slow=8.2,SNR=7.4							
TXAR	**Lajitas Array**	**91.29**	**58**	P		P	19 29 13.7	+0.7
	0.6nm,0.7s,baz=228,slow=6.7,SNR=7.1							
HFS	**Hagfors**	**143.53**	**348**	PKP		PKPbc	19 35 34.8	-0.6
	2.0nm,0.4s,baz=64,slow=3.4,SNR=29							

IDC ***29*** *19:19:35.3*±*1.4,15.28N*×*94.52W,h0km,mb4.1/12, mb1 4.3/14,mb1mx4.1/27,mbtmp4.1/14,ML4.0/2,MS3.7/13, Ms1 3.7/13,ms1mx3.5/31,Error ellipse: s-maj=40.4km s-min=18.9km az=54.0*

NEIC ***29*** *19:19:42.6,15.40N*×*94.73W,h12km,MD4.6(MEX),After MEX.*

MEX ***29*** *19:19:42.6*±*0.4,15.40N*×*94.73W,h12km*±*7km,MD4.6*

ISC 29 19:19:35.5±1.7,**15.29N**±0.06×**94.57W**±0.04,**h1**km±10km, **n227,**σ**150/227,mb4.2**/12,**MS3.8**/11,**90C-76D,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**1.82**	**350**	Pn		**Pn**	**19 20 08.3**	**+0.3**
	126nm,0.3s,baz=165,slow=11,SNR=1021							
CMIG				Sn		**Sn**	**19 20 31.9**	**+0.3**
	117nm,0.3s,baz=205,slow=5.8,SNR=16							
CMIG	**Matias Romero**	**1.82**	**350**	Pn		**Pn**	**19 20 08.3**	**+0.3**
CMIG				*e*S		**Sn**	**19 20 28.7**	**-2.9**
CMIG				Sn		**Sn**	**19 20 31.9**	**+0.3**
CMIG	**Matias Romero**	**1.82**	**350**	*i* P		**Pn**	**19 20 08.2**	**+0.3**
CMIG				*e*S		**Sn**	**19 20 28.7**	**-2.9**
TGIG		**2.03**	**43**	*i* P		**Pg**	**19 20 14.4**	**0.0**
TGIG				*e*S		**Sb**	**19 20 38.4**	**-0.7**
TGIG		**2.03**	**43**	*i* P		**Pg**	**19 20 14.4**	**0.0**
TGIG				*e*S		**Sb**	**19 20 38.4**	**-0.7**
THIG		**2.26**	**99**	*i* P		**Pg**	**19 20 18.7**	**-0.1**
THIG				*e*S		**Sg**	**19 20 47.2**	**-0.9**
THIG		**2.26**	**99**	*i* P		**Pg**	**19 20 18.7**	**-0.1**
THIG				*e*S		**Sg**	**19 20 47.2**	**-0.9**
CCIG	**Comitan**	**2.54**	**67**	*i* P		**Pg**	**19 20 22.4**	**-1.8**
CCIG				*e*S		**Sb**	**19 20 53.0**	**-0.9**
CCIG	**Comitan**	**2.54**	**67**	*i* P		**Pg**	**19 20 22.4**	**-1.8**
CCIG				*e*S		**Sb**	**19 20 53.0**	**-0.9**
VHO	**Vista Hermosa**	**2.73**	**311**	*i* P		**Pn**	**19 20 20.3**	**-0.5**
VHO				*e*S		**Sn**	**19 20 51.4**	**-3.2**
VHO	**Vista Hermosa**	**2.73**	**311**	*i* P		**Pn**	**19 20 20.3**	**-0.5**
VHO				*e*S		**Sn**	**19 20 51.4**	**-3.2**
UTMO	**Huajuapan**	**4.00**	**310**	*i* P		**Pn**	**19 20 38.7**	**+0.5**
UTMO				*i* S		**Sn**	**19 21 22.8**	**-3.1**
UTMO	**Huajuapan**	**4.00**	**310**	*i* P		**Pn**	**19 20 38.7**	**+0.5**
UTMO				*i* S		**Sn**	**19 21 22.8**	**-3.1**
TPIG	**Tehuac#an**	**4.10**	**320**	*i* P		**Pn**	**19 20 41.2**	**+1.6**
TPIG				*i* S		**Sn**	**19 21 26.1**	**-2.2**
TPIG	**Tehuac#an**	**4.10**	**320**	*i* P		**Pn**	**19 20 41.2**	**+1.6**
TPIG				*i* S		**Sn**	**19 21 26.1**	**-2.2**
LVIG	**Laguna Verde**	**4.75**	**338**	*i* P		**Pn**	**19 20 49.7**	**+1.4**
LVIG				*e*S		**Sn**	**19 21 41.1**	**-2.9**
LVIG	**Laguna Verde**	**4.75**	**338**	*i* P		**Pn**	**19 20 49.7**	**+1.4**
LVIG				*e*S		**Sn**	**19 21 41.1**	**-2.9**
ACX	**Acapulco**	**5.32**	**288**	*i* P		**Pn**	**19 20 57.8**	**+1.6**
ACX	**Acapulco**	**5.32**	**288**	*i* P		**Pn**	**19 20 57.8**	**+1.6**
PPM	**Popocatepetl**	**5.40**	**315**	*i* P		**Pn**	**19 20 59.2**	**+1.5**
PPM				*i* S		**Sn**	**19 21 58.7**	**-2.1**
PPM	**Popocatepetl**	**5.40**	**315**	*i* P		**Pn**	**19 20 58.7**	**+1.0**
PPM				*i* P		**Pn**	**19 20 59.2**	**+1.5**
PPM				*i* S		**Sn**	**19 21 58.7**	**-2.1**
YAIG	**Yautepec**	**5.58**	**310**	*i* P		**Pn**	**19 21 01.0**	**+1.1**
YAIG				*i* S		**Sn**	**19 22 02.4**	**-2.4**
YAIG	**Yautepec**	**5.58**	**310**	*i* P		**Pn**	**19 21 01.0**	**+1.1**
YAIG				*i* S		**Sn**	**19 22 02.4**	**-2.4**
TEIG	**Tepich**	**7.75**	**50**	Pn		**Pn**	**19 21 31.0**	**+1.5**
	6.4nm,0.3s,baz=282,slow=7.0,SNR=20							
TEIG				Sn		**Sn**	**19 22 56.9**	**-1.0**
	baz=33,slow=22,SNR=2.3							
TEIG				LR		LR	19 24 53.1	
	comp=Z,710nm,19.2s,baz=333,slow=41							
TEIG	**Tepich**	**7.75**	**50**	Pn		**Pn**	**19 21 31.0**	**+1.5**
TEIG				Sn		**Sn**	**19 22 56.9**	**-1.0**
732A	**Laxson Ranch,**	**14.28**	**340**	⇑P		**Pn**	**19 23 00.5**	**+1.6**
	baz=14							
632A	**Uvalde**	**14.95**	**342**	⇓P		**Pn**	**19 23 09.7**	**+1.7**
	baz=15							
631A	**Perdido Creek**	**15.11**	**339**	⇑P		**Pn**	**19 23 11.6**	**+1.4**
	baz=15							
532A	**Rocksprings**	**15.56**	**343**	⇓P		**P**	**19 23 19.7**	**-1.0**
	baz=16,SNR=5.6							
531A	**Rocksprings**	**15.79**	**341**	⇓P		**Pn**	**19 23 20.5**	**+1.3**
	baz=16							
530A	**J-C Ranch, Com**	**16.05**	**338**	⇑P		**P**	**19 23 24.5**	**-1.6**
	baz=16							
628A	**Black Gap, Mar**	**16.08**	**333**	⇓P		**P**	**19 23 25.3**	**-1.2**
	baz=16,SNR=13							
432A	**Menard**	**16.24**	**344**	⇓P		**P**	**19 23 27.4**	**-0.8**
	baz=16							
627A	**Terlingua Ranc**	**16.27**	**331**	⇑P		**P**	**19 23 28.8**	**+0.1**
	baz=16,SNR=21							
431A	**Sonora**	**16.29**	**341**	⇑P		**P**	**19 23 27.9**	**-1.0**
	baz=16							
TXAR	**Lajitas Array**	**16.30**	**331**	Pn		**P**	**19 23 27.8**	**-1.2**
	0.1nm,0.3s,baz=156,slow=14,SNR=23							
TXAR				LR		LR	19 31 22.7	
	comp=Z,60nm,18.9s,baz=95,slow=43							
TXAR	**Lajitas Array**	**16.30**	**331**	Pn		**P**	**19 23 27.8**	**-1.2**
529A	**Stev Forest Ra**	**16.36**	**336**	⇑P		**P**	**19 23 28.4**	**-1.2**
	baz=16							
430A	**Baggett Ranch,**	**16.59**	**340**	⇑P		**P**	**19 23 31.4**	**-0.8**
	baz=16							
528A	**Cox Ranch, San**	**16.62**	**334**	⇓P		**P**	**19 23 31.3**	**-1.2**
	baz=16							
429A	**Davenport Ranc**	**16.68**	**337**	⇓P		**P**	**19 23 32.3**	**-0.8**
	baz=17							
332A	**Millersview**	**16.70**	**344**	⇑P		**P**	**19 23 32.6**	**-0.7**
	baz=17							
626A	**Big Bend Ranch**	**16.71**	**330**	⇓P		**P**	**19 23 33.1**	**-0.5**
	baz=17,SNR=9.2							
WHTX	**Lake Whitney**	**16.83**	**351**	⇓P		**P**	**19 23 35.2**	**+0.4**
	baz=17							
527A	**Woodward Ranch**	**16.96**	**332**	⇑P		**P**	**19 23 36.1**	**-0.3**
	baz=17,SNR=11							
428A	**Kincaid Ranch,**	**17.07**	**336**	⇑P		**P**	**19 23 37.6**	**+0.1**
	baz=17							
526A	**Mary Lane Ranc**	**17.11**	**331**	⇓P		**P**	**19 23 37.2**	**-0.9**
	baz=17							
330A	**Mertzon**	**17.14**	**340**	⇓P		**P**	**19 23 37.8**	**-0.5**
	baz=17							
232A	**Coleman**	**17.16**	**345**	⇓P		**P**	**19 23 38.2**	**-0.3**
	baz=17							
231A	**Bronte**	**17.38**	**343**	⇓P		**P**	**19 23 42.0**	**+1.1**
	baz=17							
427A	**Hayter Ranch,**	**17.48**	**334**	⇑P		**P**	**19 23 42.1**	**+0.1**
	baz=17							
329A	**Wagon Wheel Ra**	**17.49**	**338**	⇓P		**P**	**19 23 42.4**	**+0.3**
	baz=17							
230A	**Sterling City**	**17.57**	**341**	⇑P		**P**	**19 23 43.5**	**+0.5**
	baz=18							
426A	**McDonald Obser**	**17.60**	**332**	⇓P		**P**	**19 23 43.5**	**+0.1**
	baz=18							
328A	**Wristen Ranch,**	**17.70**	**336**	⇓P		**P**	**19 23 45.0**	**+0.5**
	baz=18							
ABTX	**Abilene, Hawle**	**17.86**	**346**	⇓P		**P**	**19 23 47.7**	**+1.5**
	baz=18							
229A	**Bryant Ranch,**	**17.87**	**340**	⇑P		**P**	**19 23 47.0**	**+0.8**
	baz=18							
131A	**Roby**	**18.10**	**344**	⇑P		**P**	**19 23 50.7**	**+1.9**
	baz=18							
326A	**Caldwell Ranch**	**18.13**	**333**	⇓P		**P**	**19 23 50.3**	**+1.1**
	baz=18							
425A	**Indio Mountain**	**18.14**	**330**	⇓P		**P**	**19 23 50.5**	**+1.1**
	baz=18							
130A	**Snyder**	**18.18**	**342**	⇓P		**P**	**19 23 51.2**	**+1.4**
	baz=18							
Z32A	**Haskell**	**18.48**	**347**	⇑P		**Pn**	**19 23 54.3**	**+1.3**
	baz=18							
129A	**Stewart Farms,**	**18.50**	**340**	⇑P		**Pn**	**19 23 55.8**	**+2.5**
	baz=18,SNR=5.2							
325A	**Bean Ranch, Si**	**18.62**	**331**	⇓P		**Pn**	**19 23 55.4**	**+0.4**
	baz=18							
Z31A	**Sharp Cattle R**	**18.65**	**345**	⇑P		**Pn**	**19 23 56.7**	**+1.7**
	baz=19,SNR=5.8							
128A	**Castleberry Fa**	**18.70**	**339**	⇑P		**Pn**	**19 23 56.8**	**+1.1**
	baz=19							
Z30A	**Sanderson Ranc**	**18.88**	**343**	⇓P		**Pn**	**19 23 58.8**	**+0.9**
	baz=19,SNR=5.3							
324A	**Moseley Ranch,**	**18.92**	**330**	⇓P		**Pn**	**19 23 59.3**	**+0.7**
	baz=19							
TIGA	**Tifton**	**18.95**	**30**	⇑P		**Pn**	**19 24 01.4**	**+2.7**
	baz=19							
Z29A	**Hungry Hill Ra**	**19.03**	**341**	⇑P		**Pn**	**19 24 00.1**	**+0.4**
	baz=19,SNR=5.4							
127A	**Arkansas Junct**	**19.07**	**337**	⇓P		**Pn**	**19 24 00.8**	**+0.6**
	baz=19							
Y32A	**R-V Farms, Ver**	**19.15**	**348**	⇑P		**Pn**	**19 24 01.9**	**+0.8**
	baz=19							
225A	**Deer Hill, Car**	**19.18**	**333**	⇓P		**Pn**	**19 24 01.9**	**+0.2**
	baz=19							
Z28A	**Tur Farm, M**	**19.27**	**340**	⇑P		**Pn**	**19 24 03.1**	**+0.5**
	baz=19							
Y31A	**Rekieta Farm,**	**19.29**	**346**	⇓P		**Pn**	**19 24 03.3**	**+0.5**
	baz=19							
126A	**Clayton Basin,**	**19.30**	**335**	⇓P		**Pn**	**19 24 02.8**	**-0.2**
	baz=19							
224A	**Cornudas Mount**	**19.47**	**331**	⇑P		**Pn**	**19 24 04.8**	**-0.3**
	baz=19							
Y29A	**Porterfield Fa**	**19.57**	**342**	⇓P		**Pn**	**19 24 06.5**	**+0.2**
	baz=20							
125A	**Gardner Draw,**	**19.57**	**334**	⇑P		**Pn**	**19 24 06.0**	**-0.3**
	baz=20							
Z27A	**Tatum**	**19.58**	**338**	⇑P		**Pn**	**19 24 06.0**	**-0.4**
	baz=20,SNR=7.2							
Y28A	**McKinney Farm,**	**19.80**	**341**	⇓P		**Pn**	**19 24 08.9**	**0.0**
	baz=20							
Z26A	**Caprock**	**19.83**	**336**	⇑P		**Pn**	**19 24 09.2**	**-0.2**
	baz=20							
X31A	**McDonald Ranch**	**19.87**	**347**	⇑P		**Pn**	**19 24 09.8**	**+0.1**
	baz=20							
X30A	**Coker Ranch, T**	**19.90**	**345**	⇑P		**Pn**	**19 24 10.4**	**+0.2**
	baz=20,SNR=8.2							
124A	**Stringfield Ra**	**19.96**	**332**	⇓P		**Pn**	**19 24 10.6**	**-0.5**
	baz=20,SNR=5.4							
MSTX	**Muleshoe**	**20.02**	**340**	⇑P		Pn	19 24 11.2	-0.5
	baz=20							
Y27A	**Causey**	**20.08**	**339**	⇑P		Pn	19 24 11.8	-0.6
	baz=20							
X29A	**Tulia**	**20.13**	**343**	⇑P		Pn	19 24 12.9	-0.1
	baz=20							
Z25A	**Roswell**	**20.14**	**335**	⇓P		Pn	19 24 12.4	-0.6
	baz=20							
222A	**Williams Famil**	**20.26**	**328**	⇓P		Pn	19 24 14.3	-0.4
	baz=20							
Y26A	**Elida**	**20.35**	**337**	⇓P		Pn	19 24 14.8	-0.9
	baz=20							
W31A	**Holland Ranch,**	**20.39**	**347**	⇓P		Pn	19 24 15.7	-0.3
	baz=20							
320A	**Kipp Ranch, An**	**20.45**	**324**	⇑P		**P**	**19 24 15.6**	**+1.0**
	baz=20							
Z24A	**Sheeppen Canyo**	**20.45**	**333**	⇓P		Pn	19 24 15.9	-1.0
	baz=20							
TUL1	**Tulsa**	**20.57**	**357**	⇓P		Pn	19 24 18.2	+0.3
	baz=20							
W29A	**Amraillo**	**20.75**	**343**	⇑P		Pn	19 24 19.4	-0.8
	baz=21							
X27A	**F and S Farms,**	**20.75**	**340**	⇑P		Pn	19 24 19.5	-0.7
	baz=21							
Z23A	**Rita Site, Whi**	**20.78**	**331**	⇑P		Pn	19 24 19.8	-0.9
	baz=21,SNR=6.3							
220A	**Playas Peak, P**	**20.87**	**325**	⇑P		Pn	19 24 21.1	-0.6
	baz=21,SNR=6.2							
X26A	**CR and CF Fran**	**20.91**	**338**	⇑P		Pn	19 24 21.5	-0.7
	baz=21							
319A	**Douglas**	**20.91**	**323**	⇓P		Pn	19 24 21.4	-0.8
	baz=21							
121A	**Cookes Peak, D**	**20.96**	**327**	⇓P		Pn	19 24 22.4	-0.4
	baz=21,SNR=5.4							
Y24A	**Capitan**	**20.99**	**334**	⇓P		**P**	**19 24 22.5**	**+1.9**
	baz=21,SNR=9.6							
W27A	**Bowe Ranch, En**	**21.12**	**340**	⇑P		**P**	**19 24 23.6**	**+1.7**
	baz=21							
Z22A	**Elephant Butte**	**21.12**	**330**	⇓P		**P**	**19 24 23.4**	**+1.4**
	baz=21,SNR=5.3							
Y23A	**Lovelace Mesa,**	**21.27**	**333**	⇓P		**P**	**19 24 25.6**	**+2.1**
	baz=21							
120A	**U Bar Ranch, L**	**21.42**	**326**	⇓P		**P**	**19 24 27.2**	**+2.0**
	baz=21							
V29A	**Stinnett**	**21.42**	**344**	⇑P		**P**	**19 24 27.1**	**+2.0**
	baz=21							
V28A	**Channing**	**21.50**	**343**	⇑P		**P**	**19 24 27.0**	**+1.1**
	baz=21							
Y22A	**Socorro**	**21.68**	**331**	⇑P		**P**	**19 24 29.6**	**+1.6**
	baz=22							
W25A	**X Bar L Ranch,**	**21.74**	**338**	⇑P		**P**	**19 24 30.1**	**+1.5**
	baz=22,SNR=7.9							
X23A	**Hourglass Bar**	**21.88**	**334**	⇑P		**P**	**19 24 31.2**	**+1.1**
	baz=22							
V26A	**Tequesquite Ra**	**22.03**	**340**	⇓P		**P**	**19 24 33.2**	**+1.5**
	baz=22							
Y21A	**Point of Rocks**	**22.08**	**330**	⇑P		**P**	**19 24 34.2**	**+1.8**
	baz=22							
W24A	**Lazy 6 Ranch,**	**22.10**	**336**	⇑P		**P**	**19 24 34.2**	**+1.7**
	baz=22							
ANMO	**Albuquerque**	**22.30**	**334**	P		**P**	**19 24 36.3**	**+1.6**
	1.9nm,0.7s,baz=146,slow=13,SNR=8.4							
ANMO				LR		LR	19 34 07.4	
	comp=Z,99nm,18.4s,baz=262,slow=39							
ANMO	**Albuquerque**	**22.30**	**334**	P		**P**	**19 24 36.3**	**+1.6**
V25A	**Rancho No Teng**	**22.35**	**338**	⇓P		**P**	**19 24 37.1**	**+1.9**
	baz=22							
W23A	**Werner Place,**	**22.35**	**334**	⇑P		**P**	**19 24 37.0**	**+1.7**
	baz=22							
TKL	**Tuckaleechee C**	**22.47**	**24**	LR		LR	19 36 13.3	
	comp=Z,171nm,18.2s,baz=90,slow=44							
X21A	**Alamocita Cree**	**22.49**	**330**	⇓P		**P**	**19 24 38.3**	**+1.6**
	baz=22							
V24A	**Rampart Ranch,**	**22.50**	**337**	⇓P		**P**	**19 24 38.7**	**+1.9**
	baz=22,SNR=7.2							
U26A	**Atchley Ranch,**	**22.56**	**340**	⇓P		**P**	**19 24 39.2**	**+1.8**
	baz=22							
U25A	**Circle Dot Ran**	**22.78**	**339**	⇓P		**P**	**19 24 41.0**	**+1.2**
	baz=23,SNR=5.7							
T27A	**Campo**	**22.86**	**343**	⇑P		**P**	**19 24 42.0**	**+1.4**
	baz=23							
V23A	**Ortiz Mt. (NFS**	**22.87**	**335**	⇑P		**P**	**19 24 42.4**	**+1.7**
	baz=23,SNR=6.2							
X20A	**Quemado**	**22.91**	**329**	⇑P		**P**	**19 24 43.6**	**+2.4**
	baz=23							
V22A	**San Miguel Ran**	**23.32**	**334**	⇑P		**P**	**19 24 47.0**	**+1.6**
	baz=23							
U23A	**El Rito**	**23.38**	**336**	⇑P		**P**	**19 24 47.4**	**+1.4**
	baz=23,SNR=6.0							
W20A	**Ramah**	**23.38**	**330**	⇓P		**P**	**19 24 48.1**	**+2.1**
	baz=23							
T25A	**Trinidad**	**23.45**	**340**	⇑P		**P**	**19 24 48.6**	**+1.9**
	baz=23,SNR=8.2							
214A	**Organ Pipe Nat**	**23.49**	**318**	⇑P		**P**	**19 24 48.5**	**+1.6**
	baz=23							
V21A	**Milan**	**23.54**	**333**	⇑P		**P**	**19 24 49.8**	**+2.1**
	baz=23							
S26A	**Kim**	**23.60**	**342**	⇑P		**P**	**19 24 50.5**	**+2.4**
	baz=24							
T24A	**Torres, Weston**	**23.61**	**339**	⇑P		**P**	**19 24 50.6**	**+2.2**
	baz=24							
X18A	**Snowflake**	**23.64**	**327**	⇑P		**P**	**19 24 50.6**	**+2.1**
	baz=24							
V20A	**Brimhall**	**23.91**	**331**	⇑P		**P**	**19 24 53.4**	**+2.1**
	baz=24							
S25A	**Robets Cordova**	**23.94**	**340**	⇓P		**P**	**19 24 53.6**	**+2.2**
	baz=24							
T23A	**Casias Ranch,**	**23.94**	**337**	⇑P		**P**	**19 24 53.5**	**+2.0**
	baz=24							
R27A	**Eads**	**24.03**	**344**	⇓P		**P**	**19 24 53.0**	**+0.7**
	baz=24,SNR=5.8							
U21A	**Nageezi**	**24.07**	**333**	⇓P		**P**	**19 24 54.4**	**+1.6**
	baz=24,SNR=6.4							
R26A	**Arlington**	**24.23**	**343**	⇑P		**P**	**19 24 55.6**	**+1.5**
	baz=24,SNR=11							
T22A	**Edith**	**24.26**	**335**	⇑P		**P**	**19 24 55.8**	**+1.3**
	baz=24							
R25A	**Fountain Ranch**	**24.33**	**341**	⇓P		**P**	**19 24 56.9**	**+1.8**
	baz=24,SNR=6.8							
X16A	**Lo Mia Camp, P**	**24.37**	**324**	⇑P		**P**	**19 24 56.6**	**+1.1**
	baz=24							
T21A	**Navajo Lake**	**24.50**	**334**	⇑P		**P**	**19 24 58.8**	**+2.2**
	baz=24							
Z14A	**Wintersburg**	**24.51**	**321**	⇑P		**P**	**19 24 58.3**	**+1.7**
	baz=24							
113A	**Mohawk Valley,**	**24.63**	**318**	⇑P		**P**	**19 24 58.7**	**+1.1**
	baz=24							
KSCO	**Kaye Shedlock'**	**24.67**	**345**	⇓P		**P**	**19 24 59.8**	**+1.7**
	baz=25							
R24A	**Sanders Place,**	**24.68**	**340**	⇓P		**P**	**19 24 59.5**	**+1.2**
	baz=25							
Q26A	**Hugo**	**24.83**	**343**	⇑P		**P**	**19 25 01.2**	**+1.7**
	baz=25							
S22A	**4UR

B14A	**Marquette Ranc** baz=36	**36.40**	**339**	⇓P		**P**	**19 26 43.3**	**+1.7**
C12B	**Naegeli Ranch,** baz=37	**36.67**	**336**	⇓P		**P**	**19 26 45.3**	**+1.4**
A15A	**Johnson Ranch,** baz=37	**36.75**	**340**	⇓P		**P**	**19 26 46.1**	**+1.5**
B13A	**Whitefish** baz=37	**36.84**	**338**	⇑P		**P**	**19 26 46.6**	**+1.3**
A14A	**Double T Ranch** baz=37	**36.98**	**339**	⇑P		**P**	**19 26 48.1**	**+1.6**
B12A	**Libby** baz=37	**37.34**	**337**	⇑P		**P**	**19 26 51.3**	**+1.8**
LPAZ	**La Paz** comp=Z,110nm,18.2s,baz=68,slow=36	**40.81**	**139**	LR	LR		19 44 23.5	
SCHQ	**Schefferville** 2.7nm,0.9s,baz=225,slow=13,SNR=3.5	**44.93**	**22**	P		**P**	**19 27 50.4**	**-1.5**
SCHQ	comp=Z,220nm,19.1s,baz=80,slow=39			LR	LR		19 49 00.1	
SCHQ	**Schefferville**	**44.93**	**22**	P		**P**	**19 27 50.4**	**-1.5**
SIV	**San Ignacio** 0.6nm,0.5s,baz=317,slow=17,SNR=5.0	**45.39**	**132**	P		**P**	**19 27 55.1**	**-0.9**
SIV	**San Ignacio**	**45.39**	**132**	P		**P**	**19 27 55.1**	**-0.9**
YKA	**Yellowknife Ar** 2.1nm,0.7s,baz=153,slow=7.3,SNR=42	**49.23**	**348**	P		**P**	**19 28 25.3**	**+0.1**
YKA	0.1nm,0.6s,baz=146,slow=4.5,SNR=4.0			PcP		**PcP**	**19 29 47.5**	**-0.8**
YKA	**Yellowknife Ar**	**49.23**	**348**	P		**P**	**19 28 25.3**	**+0.1**
YKA				PcP		**PcP**	**19 29 47.5**	**-0.8**
RKT	**Rikitea** 1.3nm,0.3s	**54.95**	**227**	*e*T		T	20 28 12.8	
ILAR	**Eielson Array** 2.1nm,0.9s,baz=138,slow=4.5,SNR=20	**60.69**	**337**	P		**P**	**19 29 48.2**	**0.0**
ILAR	**Eielson Array**	**60.69**	**337**	P		**P**	**19 29 48.2**	**0.0**
PPT	**Papeete** comp=Z,123nm,20.4s,baz=1.9,slow=28	**63.30**	**241**	LR	LR		19 49 32.3	
PPT2	**Papeete2** 72nm,25.8s	**63.31**	**241**	*e*LR	LR		19 48 51.8	
TBI	**Tubuai** 262nm,22.8s	**66.00**	**235**	*e*LR	LR		19 50 07.3	
EKA	**Eskdalemuir Ar** 2.6nm,0.8s,baz=285,slow=4.2,SNR=4.4	**78.37**	**36**	P		**P**	**19 31 37.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**78.37**	**36**	P		**P**	**19 31 37.4**	**-0.2**
ESDC	**Sonseca Array** 2.8nm,0.9s,baz=290,slow=5.5,SNR=8.1	**80.86**	**51**	P		**P**	**19 31 51.6**	**0.0**
ESDC	**Sonseca Array**	**80.86**	**51**	P		**P**	**19 31 51.6**	**0.0**
MDT	**Midelt** 2.7nm,0.9s,baz=247,slow=8.1,SNR=4.0	**81.84**	**58**	P		**P**	**19 31 55.8**	**-1.2**
MDT	**Midelt**	**81.84**	**58**	P		**P**	**19 31 55.8**	**-1.2**
NOA	**NORSAR Array B** 0.9nm,0.8s,baz=85,slow=19,SNR=3.2	**84.19**	**28**	P		**P**	**19 32 08.8**	**+0.3**
NOA	comp=Z,48nm,20.6s,baz=115,slow=35			LR	LR		20 08 13.4	
NOA	**NORSAR Array B**	**84.19**	**28**	P		**P**	**19 32 08.8**	**+0.3**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=214,slow=11,SNR=3.5	**90.18**	**39**	P		**P**	**19 32 39.1**	**+1.2**
GERES	**GERESS Array B**	**90.18**	**39**	P		**P**	**19 32 39.1**	**+1.2**
FINES	**FINESS Array B** 1.2nm,0.9s,baz=352,slow=3.9,SNR=3.9	**90.37**	**24**	P		**P**	**19 32 40.2**	**+1.8**
TORD	**Torodi Ar. Bea** comp=Z,75nm,18.4s,baz=290,slow=35	**92.48**	**76**	LR	LR		20 12 56.5	
CMAR	**Chiang Mai Arr** 0.9nm,0.9s,baz=315,slow=2.0,SNR=4.5	**143.92**	**338**	PKhKP	PKPpre		19 39 08.5	

DHMR 29 19:49:52.8±1.9, 13.40N×49.52E, h25km±999km, ML3.7, 3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.17**	**336**	⇓	*i*P		Pn	19 50 12.5	-1.0
MUKL					*i* S		Sb	19 50 30.0	+1.0
BDHA	**Al Bayda'**	**3.88**	**279**	⇓	*i*P		Pn	19 50 54.2	+2.9
BDHA	baz=109,slow=16				*e*			19 50 54.3	
BDHA	comp=E,230nm,0.3s				AML		AML	19 50 54.9	
BDHA					*i* S		Sn	19 51 41.1	+4.8
LBOS		**4.18**	**277**	⇓	*i*P		Pn	19 50 58.1	+2.7
LBOS					*i* S		Sn	19 51 47.6	+4.0

IDC 29 19:56:32.5±2.9, 5.78S×152.44E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/19, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=133.2km s-min=40.3km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.2nm,0.3s,baz=45,slow=4.3,SNR=4.9	**6.35**	**235**	Pn		Pn	Pn	19 58 09.1	+1.6
PMG	1.5nm,0.3s,baz=70,slow=23,SNR=4.3			Sn		Sn	Sn	19 59 19.8	-1.0
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=55,slow=10,SNR=3.5	**22.53**	**230**	P		P	P	20 01 34.5	+0.2
ASAR	**Alice Springs** 0.5nm,0.7s,baz=56,slow=9.6,SNR=9.3	**25.19**	**223**	P		P	P	20 01 59.5	-0.6
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=84,slow=3.0,SNR=3.6	**150.25**	**286**	PKPbc		PKPbc	PKPbc	20 16 26.6	-0.2

*ISCJB **29** 20:05:16.9±0.5, 45.78N±0.04×143.7E±0.1, h339km±4km, mb3.2/6, Error ellipse: s-maj=13.3km s-min=5.9km az=171.9*
*IDC **29** 20:05:17.4±1.2, 46.09N×143.67E, h319km±11km, mb2.9/6, mb1 3.0/9, mb1mx2.8/27, mbtmp2.8/9, Error ellipse: s-maj=26.7km s-min=19.2km az=62.0*
*SKHL **29** 20:05:17.9±0.5, 45.90N×143.60E, h342km, mb4.1/4, msha4.1/2*
*MOS **29** 20:05:18.1±1.2, 46.08N×143.49E, h342km, mb3.6/3, Error ellipse: s-maj=39.4km s-min=21.3km az=90.4*
*JMA **29** 20:05:18.3±0.2, 45.71N×143.60E, h338km, M3.2*

ISC 29 20:05:17.0±0.8, 45.75N±0.05×143.70E±0.09, h337km±7km, n33, σ1^{s}60/43, mb3.2/6, 2C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.11**	**225**	P		**Pn**	**Pn**	**20 06 02.8**	**+1.0**
JWK2	**Keihoku**	**1.34**	**252**	P		**Pn**	**Pn**	**20 06 04.2**	**+1.3**
JWK2					*e*S	**S**	**S**	**20 06 39.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**1.38**	**332**	⇑	*i*PN		**Pn**	**20 06 04.1**	**+1.1**
YSS	comp=N,50nm,0.6s				pmax	pmax			
YSS	comp=Z,120nm,0.6s				pmax	pmax			
YSS	**Yuzh-Sakhalins**	**1.38**	**332**	⇑	*i*P		**Pn**	**20 06 04.1**	**+1.1**
YSS	comp=Z,50nm,0.6s				AMB	AMB	20 06 04.9		
YSS	comp=Z,120nm,0.6s				AMB	AMB	20 06 04.9		
YSS					*e*S	**S**	**20 06 40.5**	**+0.6**
YSS	comp=Z,24nm,0.4s				A	A	20 06 41.5		
JMP	**Maruseppu**	**1.75**	**188**	P		**Pn**	**20 06 06.9**	**+1.4**
JMP					*e*S	**S**	**20 06 44.9**	**+0.5**
JTKR	**Abashiri--Toko**	**1.78**	**175**	P		**Pn**	**20 06 07.4**	**+1.8**
JRR	**Rishiri**	**1.79**	**251**	P		**Pn**	**20 06 06.4**	**+0.8**
ASAJ	**Asahikawa** comp=Z,0.7nm,0.3s,baz=34,slow=32,SNR=9.6	**1.81**	**206**	P		**Pn**	**20 06 07.7**	**+1.9**
ASAJ	comp=Z,0.4nm,0.3s,baz=187,slow=34,SNR=4.4				S	**S**	**20 06 46.3**	**+1.4**
JKK2	**Kamakawa 2**	**1.99**	**200**	P		**Pn**	**20 06 09.2**	**+2.1**
JRA	**Rausu**	**2.07**	**150**	P		**Pn**	**20 06 09.5**	**+1.9**
JYG	**Yagishiri**	**2.08**	**232**	P		**Pn**	**20 06 08.9**	**+1.2**
JAR	**Ashorobuto**	**2.45**	**179**	P		**Pn**	**20 06 12.3**	**+1.7**
JAR					*e*S	**S**	**20 06 54.1**	**+0.5**
NEM2	**Nemuro 2**	**2.79**	**148**	P		**Pn**	**20 06 13.2**	**-0.3**
NEM2					*e*S	**S**	**20 06 56.2**	**-2.7**
JAK	**Akkeshi**	**2.84**	**165**	P		**Pn**	**20 06 14.3**	**+0.3**
JAK					*e*S	**S**	**20 06 58.0**	**-1.7**
JCH	**Churui**	**3.14**	**185**	P		**Pn**	**20 06 17.1**	**+0.4**
JCH					*e*S	**S**	**20 07 01.4**	**-3.3**
JEW	**Eniwo**	**3.32**	**210**	P		**Pn**	**20 06 20.5**	**+2.0**
UGL	**Uglegorsk**	**3.51**	**342**	*i* P		**Pn**	**20 06 20.0**	**-0.1**
UGL	comp=Z,47nm,0.7s				AMB	AMB	20 06 21.0	
UGL					*e*S	**S**	**20 07 10.0**	**-0.9**
JNBK	**Urakawa-nobuka**	**3.53**	**192**	P		**Pn**	**20 06 21.1**	**+0.6**
JNBK					*e*S	**S**	**20 07 09.3**	**-2.3**
JKB	**Kayabe**	**4.31**	**208**	P		**Pn**	**20 06 29.1**	**+0.6**
JKB					*e*S	**S**	**20 07 23.5**	**-2.7**
JOT	**Ohata**	**4.77**	**205**	P		**Pn**	**20 06 34.1**	**+0.6**
JOT					*e*S	**S**	**20 07 31.4**	**-3.8**
TYV	**Tymovskoe**	**5.17**	**353**	*e*P		**Pn**	**20 06 37.0**	**-0.7**
TYV					AMB	AMB	20 06 40.0	
TYV	comp=Z,13nm,0.8s				*e*S	**S**	**20 07 41.0**	**-1.9**
TYV					A	A	20 07 42.0	
TYV	comp=Z,6.0nm,0.6s				A	A	20 07 42.0	
GRNR	**Gornyy**	**6.99**	**319**	*e*P		**Pn**	**20 06 58.5**	**-0.3**
USRK	**Ussuriysk Arra** comp=Z,0.3nm,0.3s,baz=50,slow=11,SNR=9.2	**8.44**	**264**	P		**Pn**	**20 07 17.1**	**+1.0**
MJAR	**Matsushiro Arr** comp=Z,0.3nm,0.3s,baz=23,slow=10,SNR=7.0	**10.08**	**206**	P		P	20 07 41.9	+3.9
EKMR	**Ekimchan**	**10.13**	**320**	*e*P		Pn	20 07 32.8	-3.5
EKMR	comp=Z,4.0nm,0.5s					AMB	AMB	20 07 33.7	
BMKR	**Bomnak**	**13.05**	**319**	*e*P		**P**	**20 08 08.0**	**-2.5**
SONM	**Songino Array** comp=Z,0.4nm,0.6s,baz=73,slow=8.1,SNR=5.7	**25.47**	**288**	P		**P**	**20 10 16.3**	**+0.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.6s,baz=91,slow=7.4,SNR=6.3	**41.50**	**294**	P		**P**	**20 12 32.5**	**+0.5**
MKAR	**Makanchi Array**	**41.50**	**294**	P		**P**	**20 12 32.5**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.0nm,0.6s,baz=42,slow=7.0,SNR=8.6	**61.96**	**331**	P		**P**	**20 15 01.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.9s,baz=105,slow=7.8,SNR=3.1	**66.83**	**337**	P		**P**	**20 15 32.9**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=355,slow=4.9,SNR=8.3	**69.65**	**190**	P		P	20 15 54.4	+3.8
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,baz=268,slow=6.3,SNR=3.6	**83.53**	**54**	P		**P**	**20 17 09.8**	**+1.9**

*IDC **29** 20:07:48.6±0.9, 58.61S×25.25W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, MS3.8/2, Ms1 3.8/2, ms1mx3.3/21, Error ellipse: s-maj=45.0km s-min=27.5km az=87.0*
*ISCJB **29** 20:07:51.0±1.0, 58.8S±0.1×25.0W±0.5, h28km, mb3.9/4, MS3.8/2, Error ellipse: s-maj=41.7km s-min=13.5km az=156.2*

ISC 29 20:07:52.6±0.9, 58.7S±0.2×25.1W±0.3, h28km, n15, σ0^{s}95/11, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.90**	**156**	*e*Pn		**Pn**	**Pn**	**20 11 07.1**	**-0.3**
VNA3	**Neumayer Olymp**	**14.10**	**159**	*e*Pn		**Pn**	**Pn**	**20 11 09.3**	**-0.8**
VNA3	**Neumayer Olymp**	**14.10**	**159**	*e*Sn		Sn	Sn	20 13 31.0	-14
VNA2	**Neumayer--Watz**	**14.29**	**156**	*e*Pn		**Pn**	**Pn**	**20 11 11.6**	**-1.2**
VNA2	**Neumayer--Watz**	**14.29**	**156**	*e*Sn		Sn	Sn	20 13 37.3	-13
SNAA	**Sanae**	**15.85**	**154**	*e*Pn		**Pn**	**Pn**	**20 11 32.4**	**-1.0**
SNAA	**Sanae**	**15.85**	**154**	*e*Sn		Sn	Sn	20 14 15.9	-12
VNDA	**Vanda** 3.0nm,0.8s,baz=201,slow=5.7,SNR=15	**43.95**	**182**	P		**P**	**20 15 57.8**	**+1.3**
VNDA	comp=Z,144nm,19.1s,baz=241,slow=35				LR	LR	20 33 44.7	
BOSA	**Boshof** comp=Z,85nm,19.5s,baz=332,slow=29	**45.65**	**71**	LR		LR	20 30 06.1	
LPAZ	**La Paz** 0.7nm,0.6s,baz=184,slow=7.9,SNR=4.4	**52.83**	**305**	P		**P**	**20 17 05.3**	**-0.9**
TORD	**Torodi Ar. Bea** 0.8nm,0.4s,baz=200,slow=6.2,SNR=22	**74.88**	**27**	P		**P**	**20 19 31.0**	**+0.6**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=87,slow=8.3,SNR=5.0	**96.10**	**161**	P		**P**	**20 21 18.2**	**+0.6**
YKA	**Yellowknife Ar** 0.8nm,0.7s,baz=130,slow=2.4,SNR=18	**138.88**	**315**	PKP		**PKPdf**	**20 27 14.4**	**-0.1**
SONM	**Songino Array** 0.7nm,0.8s,baz=233,slow=3.1,SNR=6.7	**149.70**	**89**	PKPbc		**PKPbc**	**20 27 37.9**	**-0.8**
ILAR	**Eielson Array** 3.0nm,0.8s,baz=147,slow=2.5,SNR=30	**152.68**	**307**	PKPbc		**PKPbc**	**20 27 45.0**	**+0.1**

*IDC **29** 20:22:15.2±9.2, 3.53S×102.75E, h264km±90km, mb3.3/8, mb1 3.5/9, mb1mx3.2/24, mbtmp3.4/9, Error ellipse: s-maj=55.3km s-min=12.6km az=60.0*
*DJA **29** 20:22:20.1±3.7, 2.5±3×10^{4}E±^{1}, h38km±44km, M4.4/6, mb4.3/3, mB5.2/2, MLv4.4/6, Mw(mB)4.7/2*

ISC 29 20:22:16.6±1.3, 3.5S±0.2×102.8E±0.2, h280km±11km, n18, σ0^{s}77/15, mb3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.26**	**233**	P		P	Pn	20 22 57.6	+5.0
KSI						S	S	20 23 26.6	+5.6
KRJI	**Kerinci**	**1.93**	**316**	P		P	Pn	20 23 05.4	+4.2
LWLI	**Liwa**	**1.97**	**140**	P		P	Pn	20 23 04.1	+2.6
LWLI						S	S	20 23 40.3	+3.1
KASI	**Kota Agung**	**2.63**	**140**	P		P	Pn	20 23 09.4	+2.0
KASI						S	**S**	**20 23 49.0**	**+1.2**
BLSI	**Bandar Lampung**	**3.07**	**127**	P		P	**Pn**	**20 23 10.9**	**-0.8**
MNSI	**Mandailing Nat** 23nm,0.5s,1μm0.3nm	**5.34**	**323**	P		Pn	Pn	20 23 40.6	+3.1
MNSI	23nm,0.5s,1μm0.3nm					S	**S**	**20 24 42.6**	**+0.2**
CHBT	**CHBT** 8.5nm,1.0s,2μm	**16.15**	**358**	P		P	**P**	**20 25 46.9**	**-0.5**
KAPI	**Kappang** 1.6nm,0.3s,baz=176,slow=15,SNR=8.5	**16.97**	**96**	P		P	**P**	**20 25 55.5**	**-0.9**
BKSI	**Bukukumba**	**17.37**	**97**	P		P	**P**	**20 26 00.4**	**-0.3**
CMAR	**Chiang Mai Arr** 1.5nm,0.4s,baz=185,slow=8.9,SNR=23	**22.14**	**350**	P		P	**P**	**20 26 49.9**	**+0.3**
TGY	**Tagaytay City** 225nm,0.4s,baz=172,slow=5.9,SNR=5.2	**25.08**	**45**	P		P	**P**	**20 27 17.4**	**+1.1**
FITZ	**Fitzroy Crossi** 1.0nm,0.8s,baz=300,slow=23,SNR=5.4	**26.67**	**125**	P		P	**P**	**20 27 30.3**	**-0.1**
WRA	**Warramunga Ar** 0.9nm,0.4s,baz=286,slow=10.0,SNR=17	**34.83**	**121**	P		P	**P**	**20 28 41.1**	**-0.6**
ASAR	**Alice Springs** 2.5nm,0.5s,baz=301,slow=8.2,SNR=49	**36.12**	**27**	P		P	**P**	**20 28 53.7**	**+1.0**
SONM	**Songino Array** 0.6nm,0.4s,baz=182,slow=9.1,SNR=11	**51.21**	**3**	P		P	**P**	**20 30 52.1**	**+0.2**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=152,slow=8.1,SNR=8.7	**53.25**	**343**	P		P	**P**	**20 31 07.1**	**+0.4**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=155,slow=5.2,SNR=7.0	**59.18**	**348**	P		P	**P**	**20 31 48.0**	**-0.2**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=138,slow=7.8,SNR=3.2	**93.80**	**331**	P		P	**P**	**20 35 01.5**	**-0.3**

MEX 29 20:48:17.3±0.4, 16.72N×94.97W, h110km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.38**	**12**	*i* P		Pn	Pn	20 48 32.4	-1.1
CMIG					*e*S	Sn	Sn	20 48 43.1	-2.6
HUIG	**Huatulco**	**1.45**	**229**	*i* P		Pn	Pn	20 48 42.2	-1.4
HUIG					*e*S	Sn	Sn	20 49 01.7	-1.7
VHO	**Vista Hermosa**	**1.73**	**282**	*i* P		Pn	Pn	20 48 46.7	-0.5
VHO					*e*S	Sn	Sn	20 49 08.8	-1.0
TGIG		**1.77**	**88**	*i* P		Pn	Pn	20 48 45.9	-1.6
TGIG					*e*S	Sn	Sn	20 49 09.3	-1.2
CCIG	**Comitan**	**2.75**	**99**	*i* P		Pn	Pn	20 48 59.1	-1.1
CCIG					*e*S	Sn	Sn	20 49 30.9	-2.4
TPIG	**Tehuac#an**	**2.84**	**307**	*i* P		Pn	Pn	20 48 60.0	-1.5
TPIG					*e*S	Sn	Sn	20 49 33.7	-1.7
UTMO	**Huajuapan**	**2.92**	**293**	*i* P		Pn	Pn	20 49 01.3	-1.3
UTMO					*e*S	Sn	Sn	20 49 35.0	-2.5
PNIG	**Pinotepa**	**3.05**	**264**	*i* P		Pn	Pn	20 49 02.9	-1.1
PNIG					*e*S	Sn	Sn	20 49 38.1	-1.9
THIG		**3.17**	**124**	*i* P		Pn	Pn	20 49 05.0	-0.5

IDC 29 21:18:14.4±22.0, 19.75S×177.75W, h383km±267km, mb3.2/4, mb1 3.5/5, mb1mx3.1/20, mbtmp3.3/5, Error ellipse: s-maj=113.6km s-min=35.8km az=173.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.5nm,0.3s,baz=299,slow=4.4,SNR=6.8	**18.97**	**193**	P		P	P	21 22 10.0	+0.1
ASAR	**Alice Springs** 1.1nm,0.6s,baz=91,slow=7.7,SNR=15	**44.92**	**256**	P		P		21 25 53.1	-0.1
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=96,slow=7.6,SNR=12	**44.94**	**261**	P		P		21 25 52.9	-0.5
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=161,slow=6.2,SNR=4.3	**69.75**	**323**	P		P		21 28 44.8	+0.5
ILAR	**Eielson Array** 0.3nm,0.5s,baz=213,slow=5.4,SNR=5.8	**87.54**	**13**	P		P		21 30 18.9	-0.5

IDC 29 21:37:18.2±3.1, 48.45N×154.90E, h60km±28km, mb3.2/12, mb1 3.5/14, mb1mx3.3/30, mbtmp3.3/14, ML3.4/2, Error ellipse: s-maj=23.4km s-min=16.0km az=128.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 1.7nm,0.3s,baz=167,slow=13,SNR=92	**4.99**	**20**	P		P	Pn	21 38 30.6	0.0
ASAJ	**Asahikawa** 0.4nm,0.3s,baz=118,slow=29,SNR=6.1	**9.55**	**248**	P		P	Pn	21 39 33.9	+0.9
ILAR	**Eielson Array** 0.4nm,1.0s,baz=270,slow=5.9,SNR=4.2	**47.24**	**297**	P		P		21 45 58.5	-1.3
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=62,slow=7.6,SNR=2.9	**47.24**	**297**	P		P		21 45 44.1	-1.0
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=300,slow=7.8,SNR=5.1	**48.84**	**38**	P		P		21 45 57.4	+0.3
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=57,slow=6.0,SNR=2.4	**50.72**	**309**	P		P		21 46 10.4	-1.2
CMAR	**Chiang Mai Arr** 0.3nm,0.7s,baz=40,slow=7.2,SNR=3.1	**53.94**	**257**	P		P		21 46 36.8	+1.0
FINES	**FINESS Array B** 0.7nm,0.7s,baz=25,slow=7.4,SNR=6.5	**63.01**	**335**	P		P		21 47 38.4	+0.1
HFS	**Hagfors** 1.1nm,0.9s,baz=67,slow=4.8,SNR=5.6	**67.28**	**340**	P		P		21 48 06.2	+0.2
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=15,slow=6.2,SNR=2.7	**70.52**	**201**	P		P		21 48 25.7	-0.8
ASAR	**Alice Springs** 0.2nm,0.5s,baz=23,slow=5.0,SNR=3.5	**74.21**	**200**	P		P		21 48 48.6	+0.1
EKA	**Eskdalemuir Ar** 1.1nm,0.6s,baz=24,slow=5.2,SNR=4.2	**74.96**	**347**	P		P		21 48 53.1	+0.6
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=307,slow=3.3,SNR=7.6	**75.62**	**62**	P		P		21 48 57.4	+0.5
GERES	**GERESS Array B** 0.3nm,0.5s,baz=55,slow=5.1,SNR=4.4	**77.44**	**335**	P		P		21 49 07.6	+0.7

WEL 29 21:56:47.3±0.4, 37.46S×176.35E, h196km±4km, ML3.7/12, 7C-2D, Error ellipse: s-maj=6.6km s-min=5.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.00**	**144**	⇑	PN	Pn	Pn	21 57 16.5	0.0
URZ						SN	Sn	21 57 39.5	+0.1
MWZ	**Matawai**	**1.28**	**134**		PN	Pn	Pn	21 57 18.9	+0.2
MWZ						SN	Sn	21 57 42.8	-0.5
RAHZ	**Arahi**	**1.57**	**159**	⇓	PN	Pn	Pn	21 57 21.6	+0.4
PUZ	**Puketiti**	**1.63**	**113**	⇑	PN	Pn	Pn	21 57 21.4	-0.4
NMHZ	**Naumai**	**1.68**	**168**		PN	Pn	Pn	21 57 22.9	+0.6
BKZ	**Black Stump Fm**	**1.71**	**176**	⇑	PN	Pn	Pn	21 57 22.2	-0.5
BKZ						SN	Sn	21 57 49.3	-1.1
CNGZ	**Carnagh Statio**	**1.79**	**126**	⇑	PN	Pn	Pn	21 57 23.8	+0.5
KNZ	**Kokohu**	**1.88**	**147**	⇑	PN	Pn	Pn	21 57 24.0	-0.2
TUVZ	**Tukino**	**1.89**	**197**		PN	Pn	Pn	21 57 24.6	+0.1
PRGZ	**Paritu Road**	**1.90**	**141**		PN	Pn	Pn	21 57 24.0	-0.4
FWVZ	**Far West T-bar**	**1.91**	**199**		PN	Pn	Pn	21 57 25.1	+0.4
TRVZ	**Turoa**	**1.95**	**199**		PN	Pn	Pn	21 57 25.0	-0.2
WNVZ	**Wahianoa**	**1.96**	**197**		PN	Pn	Pn	21 57 25.2	-0.1
MCHZ	**McNeill Hill**	**2.00**	**172**		PN	Pn	Pn	21 57 25.6	+0.1
MOVZ	**Moawhango**	**2.01**	**193**	⇓	PN	Pn	Pn	21 57 25.2	-0.4
BHHZ	**Black Hill Sta**	**2.04**	**186**		PN	Pn	Pn	21 57 25.3	-0.7
MTVZ	**Mangateitei**	**2.05**	**200**		PN	Pn	Pn	21 57 26.0	0.0
MHGZ	**Mahia Peninsul**	**2.09**	**145**		PN	Pn	Pn	21 57 26.1	-0.3
CKHZ	**Cape Kidnapper**	**2.27**	**166**		PN	Pn	Pn	21 57 27.9	-0.4
KAHZ	**Kahuranaki**	**2.37**	**170**		PN	Pn	Pn	21 57 28.9	-0.6
PNHZ	**Pukenui**	**2.46**	**183**		PN	Pn	Pn	21 57 29.4	-1.0
WAZ	**Wanganui**	**2.54**	**205**	*e*	PN	Pn	Pn	21 57 31.0	-0.3
PXZ	**Pawanui**	**2.60**	**171**	⇑	PN	Pn	Pn	21 57 30.9	-1.1
PXZ						SN	Sn	21 58 04.4	-2.7
TSZ	**Takapari Road**	**2.62**	**187**		PN	Pn	Pn	21 57 30.9	-1.4
TSZ						SN	Sn	21 58 04.4	-3.1
PRHZ	**Porangahau**	**2.82**	**176**		PN	Pn	Pn	21 57 33.1	-1.4
DVHZ	**Dannevirke**	**2.84**	**183**		PN	Pn	Pn	21 57 33.0	-1.8
BFZ	**Birch Farm**	**3.22**	**181**		PN	Pn	Pn	21 57 37.1	-2.2
MRZ	**Mangatainoka R**	**3.26**	**190**	⇑	PN	Pn	Pn	21 57 37.2	-2.5
OGWZ	**Otaki Gorge**	**3.48**	**195**		PN	Pn	Pn	21 57 39.9	-2.5
HOWZ	**Holdsworth Sta**	**3.50**	**190**		PN	Pn	Pn	21 57 39.8	-2.9
KIW	**Kapiti Island**	**3.58**	**198**		PN	Pn	Pn	21 57 40.9	-2.8
TMWZ	**Te Maipa**	**3.67**	**185**	*e*	PN	Pn	Pn	21 57 41.8	-3.0
CAW	**Cannon Point**	**3.78**	**195**		PN	Pn	Pn	21 57 42.9	-3.2
TRWZ	**Traveller**	**3.97**	**187**		PN	Pn	Pn	21 57 45.4	-3.1
MSWZ	**Moikau Station**	**4.05**	**192**		PN	Pn	Pn	21 57 45.8	-3.6
PLWZ	**Palliser**	**4.20**	**191**		PN	Pn	Pn	21 57 47.7	-3.7
TUWZ	**Tuamarina**	**4.39**	**204**		PN	Pn	Pn	21 57 50.7	-3.0
THZ	**Tophouse**	**5.06**	**211**		PN	Pn	Pn	21 57 60.0	-2.4
KHZ	**Kahutara**	**5.41**	**203**		PN	Pn	Pn	21 58 03.1	-3.6
LTZ	**Lake Taylor**	**6.17**	**209**		PN	Pn	Pn	21 58 12.6	-4.1

**IDC 29 21:57:52.1±7.2,

LPAZ				S		Sn		22 05 58.5	+0.2
	comp=N,0.1nm,0.3s,baz=275,slow=12,SNR=2.6								
SIV	**San Ignacio**	**8.04**	**54**	P		**Pn**		**22 05 49.2**	**-2.1**
	comp=N,1.1nm,0.3s,baz=249,slow=12,SNR=13								
TXAR	**Lajitas Array**	**60.63**	**324**	P		**P**		**22 13 51.6**	**+0.6**
	comp=N,0.2nm,0.6s,baz=157,slow=5.8,SNR=2.6								
TORD	**Torodi Ar. Bea**	**76.21**	**70**	P		**P**		**22 15 27.2**	**-0.7**
	comp=N,0.4nm,0.5s,baz=253,slow=5.7,SNR=14								
YKA	**Yellowknife Ar**	**90.87**	**340**	P		**P**		**22 16 41.8**	**+0.2**
	comp=N,0.2nm,0.5s,baz=127,slow=4.2,SNR=5.2								
MKAR	**Makanchi Array**	**144.51**	**36**	PKP		**PKPdf**		**22 23 13.2**	**-0.8**
	comp=N,0.1nm,0.5s,baz=311,slow=3.3,SNR=3.4								

MAN 29 22:18:19,17″.57N×122°.55E,h24km,mb4.4,ML3.3,MS3.1, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CVP	**Callao Caves**	**0.71**	**281**	||*i*	P	22 18 33.0	+0.3
CVP				*i*	S	Sn	22 18 43.5	-0.2

IDC 29 22:32:46.5±2.1,2°.22N×126°.59E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/20,mbtmp3.4/3,Error ellipse: s-maj=178.3km s-min=24.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**161**	P		P	22 37 56.3	0.0
	0.9nm,0.3s,baz=340,slow=11,SNR=21							
ASAR	**Alice Springs**	**26.69**	**165**	P		P	22 38 27.9	+0.2
	0.3nm,0.5s,baz=343,slow=8.0,SNR=4.1							
MKAR	**Makanchi Array**	**58.72**	**326**	P		P	22 42 46.0	-0.2
	0.1nm,0.4s,baz=114,slow=10,SNR=3.5							

IDC 29 22:45:41.9±1.8,3°.99N×126°.45E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/23,mbtmp3.5/4,Error ellipse: s-maj=114.1km s-min=22.8km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**21.96**	**182**	P		P	22 50 38.4	+0.9
	1.4nm,0.8s,baz=24,slow=10.0,SNR=2.5							
WRA	**Warramunga Arr**	**25.01**	**162**	P		P	22 51 07.5	-0.3
	1.3nm,0.5s,baz=340,slow=11,SNR=23							
ASAR	**Alice Springs**	**28.43**	**166**	P		P	22 51 38.1	-0.5
	0.1nm,0.4s,baz=343,slow=7.2,SNR=3.0							
MKAR	**Makanchi Array**	**57.18**	**325**	P		P	22 55 30.9	+0.1
	0.4nm,0.5s,baz=120,slow=7.4,SNR=11							

IDC 29 23:01:52.8±2.0,8°.91S×119°.42E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.4/22,mbtmp3.4/4,ML3.0/2,Error ellipse: s-maj=84.5km s-min=25.8km az=59.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**3.88**	**5**	Pn		Pn	23 02 54.2	+0.4
	1.3nm,0.3s,baz=156,slow=16,SNR=4.6							
KAPI				Sn		Sn	23 03 34.6	-5.5
	1.2nm,0.3s,baz=125,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**18.13**	**129**	P		Pn	23 06 05.5	-0.7
	0.1nm,0.3s,baz=304,slow=12,SNR=6.0							
ASAR	**Alice Springs**	**20.19**	**138**	P		P	23 06 29.8	+0.6
	0.2nm,0.3s,baz=319,slow=9.3,SNR=4.1							
MKAR	**Makanchi Array**	**64.56**	**333**	P		P	23 12 31.6	-0.2
	0.5nm,0.7s,baz=143,slow=6.9,SNR=6.8							

*ISK **29** 23:08:05.9,38°.67N×27°.72E,h12km, MD2.6*
*DDA **29** 23:08:05.7,38°.67N×27°.71E,h15km, MD2.8*
*ISCJB **29** 23:08:06.3±0.5,38°.68N±0°.04×27°.70E±0°.07,h10km±6km, Error ellipse: s-maj=10.5km s-min=4.0km az=39.1*
*CSEM **29** 23:08:06.4±0.1,38°.67N×27°.72E,h10km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.4km az=129.0*

ISC 29 23:08:06.0±0.9,38°.67N±0°.03×27°.72E±0°.04,h16km±7km, n22,σ0°.26/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKHS	**Akhisar**	**0.22**	**19**	*i* P		**Pg**	**23 08 11.1**	**0.0**
AKHS				*i* S		**Sg**	**23 08 14.5**	**0.0**
AKHS	**Akhisar**	**0.22**	**19**	*i* P		**Pg**	**23 08 11.1**	**0.0**
AKHS				*i* S		**Sg**	**23 08 14.5**	**0.0**
AKS	**Akhisar**	**0.22**	**19**	*e*PG		**Pb**	**23 08 11.3**	**-0.3**
AKS				*e*SG		**Sb**	**23 08 15.0**	**-0.4**
AKS	**Akhisar**	**0.22**	**19**	*e*Pg		**Pb**	**23 08 11.3**	**-0.3**
AKS				*e*Sg		**Sb**	**23 08 15.0**	**-0.4**
IZM	**Izmir**	**0.45**	**233**	*e*PG		**Pb**	**23 08 15.2**	**-0.3**
IZM				*e*SG		**Sb**	**23 08 22.0**	**0.0**
IZM	**Izmir**	**0.45**	**233**	*e*Pg		**Pb**	**23 08 15.2**	**-0.3**
IZM				*e*Sg		**Sb**	**23 08 22.0**	**0.0**
BLCB	**Balcova**	**0.60**	**242**	*e*PG		**Pb**	**23 08 18.1**	**+0.1**
BLCB				*e*SG		**Sb**	**23 08 25.9**	**-0.5**
BLCB	**Balcova**	**0.60**	**242**	*e*Pg		**Pb**	**23 08 18.2**	**+0.1**
BLCB				*e*Sg		**Sb**	**23 08 25.9**	**-0.5**
KULA	**Kula-Manisa**	**0.75**	**102**	*e*PG		**Pg**	**23 08 20.8**	**+0.1**
KULA	**Kula-Manisa**	**0.75**	**102**	*e*Pg		**Pg**	**23 08 20.8**	**+0.1**
DEMI	**Demirci**	**0.86**	**64**	*i* P		**Pn**	**23 08 23.2**	**-0.3**
DEMI				*i* S		**Sg**	**23 08 34.5**	**+0.4**
DEMI	**Demirci**	**0.86**	**64**	*i* P		**Pn**	**23 08 23.2**	**-0.3**
DEMI				*i* S		**Sg**	**23 08 34.5**	**+0.4**
BALB	**Balikesir**	**0.98**	**7**	*e*PG		**Pn**	**23 08 25.1**	**+0.1**
BALB	**Balikesir**	**0.98**	**7**	*e*Pg		**Pn**	**23 08 25.1**	**+0.1**
AYDN	**Tasoluk**	**1.02**	**173**	*i* P		**Pg**	**23 08 25.8**	**+0.2**
AYDN				*i* S		**Sn**	**23 08 39.7**	**+0.2**
AYDN	**Tasoluk**	**1.02**	**173**	*i* P		**Pg**	**23 08 25.8**	**+0.2**
AYDN				*i* S		**Sn**	**23 08 39.7**	**+0.2**
DST	**Dursunbey**	**1.16**	**37**	*e*PN		**Pg**	**23 08 28.7**	**+0.2**
DST	**Dursunbey**	**1.16**	**37**	*e*Pn		**Pg**	**23 08 28.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.37**	**359**	*e*PN		**Pb**	**23 08 31.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.37**	**359**	*e*Pn		**Pb**	**23 08 31.5**	**+0.2**
TVSB	**Tavsanli**	**1.56**	**60**	*e*PN		**Pb**	**23 08 34.4**	**-0.1**
TVSB	**Tavsanli**	**1.56**	**60**	*e*Pn		**Pb**	**23 08 34.4**	**-0.1**

IDC 29 23:10:15.7±1.7,34°.70S×179°.75W,h0km,mb4.0/3, mb1 4.3/4,mb1mx3.9/17,mbtmp4.1/4,ML3.7/1,Error ellipse: s-maj=43.7km s-min=33.2km az=62.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**4.37**	**215**	Pn		Pn	23 11 21.3	-2.0
	4.1nm,0.3s,baz=288,slow=2.5,SNR=38							
URZ				Sn		Sn	23 12 04.7	-10
	11nm,0.3s,baz=87,slow=23,SNR=8.7							
ASAR	**Alice Springs**	**41.61**	**273**	P		P	23 18 06.2	+0.5
	2.4nm,0.4s,baz=114,slow=7.9,SNR=48							
WRA	**Warramunga Arr**	**42.99**	**278**	P		P	23 18 16.9	-0.1
	1.1nm,0.5s,baz=118,slow=7.6,SNR=26							
QSPA	**South Pole Qui**	**55.42**	**180**	P		P	23 19 52.4	+0.7
	0.5nm,0.8s,baz=292,slow=5.0,SNR=5.9							
FINES	**FINESS Array B**	**148.58**	**336**	PKPbc		PKPbc	23 30 03.4	-0.4
	1.3nm,0.9s,baz=0.0,slow=3.2,SNR=4.2							
BRTR	**Keskin Array B**	**153.04**	**291**	PKPbc		PKPbc	23 30 14.1	-1.2
	0.2nm,0.5s,baz=46,slow=4.2,SNR=3.2							

*IDC **29** 23:38:44.4±0.7,14°.61S×167°.94E,h0km, mb4.5/16, mb1 4.6/17,mb1mx4.5/24,mbtmp4.5/17,ML4.3/1,MS3.8/10, Ms1 3.8/10,ms1mx3.5/33, Error ellipse: s-maj=22.9km s-min=16.4km az=130.0*
*ISCJB **29** 23:38:50.9±1.5,14°.68S±0°.06×167°.78E±0°.05,h52km±13km, mb4.7/42,MS4.0/9, Error ellipse: s-maj=10.1km s-min=8.1km az=30.0*
*MOS **29** 23:38:51.8±1.1,14°.61S×167°.74E,h59km, mb4.7/17, Error ellipse: s-maj=12.8km s-min=8.7km az=20.8*
*BJI **29** 23:38:54.2,14°.48S×168°.00E,h80km,mB4.9/15, mb4.7/32, Ms5.2/11,Ms7.4/11*
*NEIC **29** 23:38:56.0±1.0,14°.66S×167°.76E,h87km±9km, mb4.7/10, Error ellipse: s-maj=8.9km s-min=6.2km az=183.0*

ISC 29 23:38:54.1±0.5,14°.82S±0°.05×167°.79E±0°.06,h69km±3km, h69km:pP-P,n107,σ1s76/124,mb4.7/42,2C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**7.32**	**190**	Pn		**Pn**	**23 40 35.4**	**-3.1**
	4.3nm,0.3s,baz=49,slow=17,SNR=32							
DZM				Sn		**Sn**	**23 41 57.6**	**-2.5**
	2.0nm,0.3s,baz=297,slow=20,SNR=8.9							
DZM				LR		LR	23 43 17.0	
	comp=Z,404nm,18.8s,baz=16,slow=36							
DZM	**Mont Dzumac**	**7.32**	**190**	*e*Pn		**Pn**	**23 40 35.3**	**-3.1**
DZM				*e*LR		LR	23 42 12.6	
	367nm,23.4s							
DZM	**Mont Dzumac**	**7.32**	**190**	*e*P		**Pn**	**23 40 35.3**	**-3.2**
DZM				*e*S		**Sn**	**23 41 55.0**	**-5.2**
DZM	**Mont Dzumac**	**7.32**	**190**	Pn		**Pn**	**23 40 35.4**	**-3.2**
DZM				Sn		**Sn**	**23 41 57.6**	**-2.5**
NOUC	**Port Laguerre**	**7.38**	**191**	*e*S		**Sn**	**23 41 58.2**	**-3.2**
HNR	**Honiara**	**9.35**	**304**	Pn		**Pn**	**23 41 04.0**	**-2.1**
	7.0nm,0.3s,baz=198,slow=17,SNR=1.9							
HNR				LR		LR	23 43 51.9	
	comp=Z,204nm,21.4s,baz=130,slow=33							
HNR	**Honiara**	**9.35**	**304**	*e*Pn		**Pn**	**23 41 06.5**	**+0.3**
HNR				*e*Sn		**Sn**	**23 42 48.4**	**-1.4**
MSVF	**Nonsavu**	**10.27**	**108**	*e*P		**Pn**	**23 41 21.0**	**+2.2**
MSVF	**Nonsavu**	**10.27**	**108**	*e*Pn		**Pn**	**23 41 21.0**	**+2.2**
AFI	**Afiamalu**	**19.82**	**90**	*e*P		**Pn**	**23 43 21.4**	**-0.1**
PMG	**Port Moresby**	**20.87**	**283**	P		Pn	23 43 32.6	-1.2
	24nm,0.9s,baz=281,slow=19,SNR=4.8							
PMG	**Port Moresby**	**20.87**	**283**	*e*P		**P**	**23 43 31.1**	**+0.5**
	41nm,1.1s							
CTA	**Charters Tower**	**21.19**	**253**	P		**P**	**23 43 35.2**	**+1.1**
	11nm,0.7s,baz=60,slow=8.1,SNR=8.5							
CTA				LR		LR	23 50 32.8	
	comp=Z,374nm,21.0s,baz=56,slow=33							
CTA	**Charters Tower**	**21.19**	**253**	P		**P**	**23 43 35.2**	**+1.1**
CTAO	**Charters Tower**	**21.19**	**253**	*e*P		**P**	**23 43 34.3**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,57nn,1.6s							
CTAO	**Charters Tower**	**21.19**	**253**	*e*P		**P**	**23 43 34.3**	**+0.2**
	comp=Z,57nn,1.6s							
ARMA	**Armidale**	**21.48**	**221**	P		**P**	**23 43 38.6**	**+1.4**
COEN	**Coen**	**23.85**	**269**	*e*P		**P**	**23 44 02.3**	**+1.0**
	comp=Z,74nm,1.1s							
URZ	**Urewera**	**24.76**	**162**	P		**P**	**23 44 09.7**	**+0.5**
	comp=Z,13nm,1.0s,baz=18,slow=9.9,SNR=5.2							
URZ	**Urewera**	**24.76**	**162**	*e*P		**P**	**23 44 10.7**	**+1.5**
STKA	**Stephens Creek**	**29.32**	**230**	P		**P**	**23 44 51.8**	**+1.6**
	comp=Z,16nm,0.9s,baz=46,slow=8.2,SNR=32							
STKA				LR		LR	23 55 17.8	
	comp=Z,151nm,19.6s,baz=31,slow=34							
STKA	**Stephens Creek**	**29.32**	**230**	*e*P		**P**	**23 44 51.5**	**+1.2**
	comp=Z,5.3nm,1.1s							
RAR	**Rarotonga**	**31.46**	**106**	*e*P		**P**	**23 45 11.5**	**+2.3**
WRAB	**Tennant Creek**	**32.28**	**256**	*e*P		**P**	**23 45 17.1**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WRAB	**Tennant Creek**	**32.28**	**256**	*e*P		**P**	**23 45 17.1**	**+0.6**
	comp=Z,3.9nm,0.9s							
WRA	**Warramunga Arr**	**32.29**	**256**	P		**P**	**23 45 15.8**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=80,slow=6.7,SNR=14							
WRA				LR		LR	23 57 48.2	
	comp=Z,332nm,19.2s,baz=75,slow=35							
WRA	**Warramunga Arr**	**32.29**	**256**	P		**P**	**23 45 15.8**	**-0.8**
AS31	**Alice Springs**	**33.11**	**249**	*e*P		**P**	**23 45 23.9**	**+0.1**
ASAR	**Alice Springs**	**33.11**	**249**	P		**P**	**23 45 23.4**	**-0.3**
	comp=Z,7.1nm,0.9s,baz=79,slow=8.9,SNR=28							
ASAR				PcP		**PcP**	**23 48 05.8**	**0.0**
	comp=Z,1.1nm,0.9s,baz=127,slow=3.2,SNR=4.5							
ASAR				S		**S**	**23 50 41.5**	**+3.3**
	comp=Z,0.8nm,0.9s,baz=72,slow=16,SNR=4.7							
ASAR				LR		LR	23 57 47.7	
	comp=Z,319nm,21.1s,baz=78,slow=34							
ASAR	**Alice Springs**	**33.11**	**249**	P		**P**	**23 45 23.4**	**-0.3**
ASAR				PcP		**PcP**	**23 48 05.8**	**0.0**
ASAR				S		**S**	**23 50 41.5**	**+3.3**
BBOO	**Buckleboo**	**33.92**	**233**	*e*P		**P**	**23 45 32.3**	**+1.7**
	comp=Z,164nm,0.8s							
GUMO	**Guam**	**36.21**	**320**	LR		LR	23 58 09.7	
	comp=Z,143nm,21.7s,baz=98,slow=32							
FITZ	**Fitzroy Crossi**	**40.49**	**259**	P		**P**	**23 46 26.9**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=115,slow=9.0,SNR=9.8							
FITZ				LR		LR	00 03 00.6	
	comp=Z,200nm,19.4s,baz=102,slow=36							
FITZ	**Fitzroy Crossi**	**40.49**	**259**	*e*P		**P**	**23 46 27.8**	**+1.3**
PPT2	**Papeete2**	**40.98**	**100**	*e*LR		LR	23 57 58.5	
	comp=Z,298nm,27.2s							
PPT	**Papeete**	**40.98**	**100**	LR		LR	23 59 13.7	
	comp=Z,90nm,20.8s,baz=172,slow=30							
TBI	**Tubuai**	**41.16**	**109**	*e*LR		LR	23 58 09.3	
	comp=Z,246nm,29.5s							
MBWA	**Marble Bar**	**46.00**	**255**	*e*P		**P**	**23 47 11.3**	**+0.4**
	comp=Z,20nm,1.2s							
KAPI	**Kappang**	**48.22**	**277**	P		**P**	**23 47 27.1**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=104,slow=15,SNR=2.8							
KAPI	**Kappang**	**48.22**	**277**	P		**P**	**23 47 27.1**	**-1.1**
MAJO	**Matsushiro**	**58.22**	**332**	*e*P		**P**	**23 48 39.9**	**-1.4**
SBA	**Scott Base**	**63.05**	**180**	*e*P		**P**	**23 49 14.3**	**+0.8**
SBA				pmax		pmax		
	comp=Z,13nm,1.4s							
SBA	**Scott Base**	**63.05**	**180**	*e*P		**P**	**23 49 14.3**	**+0.8**
	comp=Z,13nm,1.4s							
KSRS	**Korea Array**	**64.10**	**325**	P		**P**	**23 49 19.4**	**-1.6**
	comp=Z,3.2nm,1.1s,baz=137,slow=7.0,SNR=6.5							
KSAR	**Wonju Array Be**	**64.11**	**325**	P		**P**	**23 49 19.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**65.47**	**341**	*i* P		**P**	**23 49 30.2**	**+0.5**
YSS				*e*			23 49 50.2	
YSS				pmax		pmax		
	comp=Z,21nm,1.0s							
NJ2	**Nanjing**	**66.09**	**316**	*e*P		**P**	**23 49 34.5**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,20nm,0.6s							
QIZ	**Qiongzhong**	**66.22**	**299**	P		**P**	**23 49 33.8**	**-1.3**
QIZ				S		**S**	**23 58 21.3**	**+2.1**
QIZ				pmax		pmax		
	comp=Z,29nm,2.1s							
USRK	**Ussuriysk Arra**	**67.19**	**333**	P		**P**	**23 49 40.4**	**-0.3**
	comp=Z,6.3nm,1.0s,baz=135,slow=6.5,SNR=11							
MDJ	**Mudanjiang**	**68.60**	**332**	P		**P**	**23 49 50.0**	**+0.4**
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,41nm,3.6s							
HABR	**Khabarovsk**	**69.41**	**337**	P		**P**	**23 49 52.2**	**-2.3**
HABR				*e**SP		**sP**	**23 50 22.0**	**+1.3**
HABR				*e*S		**S**	**23 58 51.5**	**-4.7**
HABR				*e*			23 59 45.3	
HABR				*e*SS		**SS**	**00 03 19.6**	**-5.5**
HABR				pmax		pmax		
	comp=Z,74nm,2.8s							
HABR				pmax		pmax		
	comp=E,47nm,2.8s							
HABR				pmax		pmax		
	comp=N,27nm,1.9s							
KLR	**Kul'dur**	**71.29**	**336**	*e*P		P	23 50 02.2	-3.8
ENH	**Enshi**	**71.81**	**309**	*e*P		**P**	**23 50 08.7**	**-1.0**
	comp=N,22nm,1.2s							
GYA	**Guiyang**	**72.18**	**304**	*e*P		**P**	**23 50 14.0**	**+2.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BJI	**Beijing**	**72.65**	**321**	P		**P**	**23 50 14.3**	**0.0**
BJI				pP		**pP**	**23 50 33.0**	**+1.2**
BJI				sP		**sP**	**23 50 40.0**	**-0.6**
BJI				PP		**PP**	**23 52 59.3**	**+2.3**
BJI				S		**S**	**23 59 37.5**	**+3.4**
BJI				pmax		pmax		
	comp=Z,13nm,1.0s							
XAN	**Xi'an**	**74.12**	**312**	P		**P**	**23 50 23.0**	**-0.2**
XAN				pmax		pmax		
	comp=Z,2.0nm,1.1s							
XAN				pmax		pmax		
	comp=Z,14nm,6.1s							
KMI	**Kunming**	**74.78**	**302**	P		**P**	**23 50 29.0**	**+1.5**
KMI				pP		**pP**	**23 50 45.8**	**-0.4**
KMI				sP		**sP**	**23 50 55.0**	**+1.2**
KMI				PP		**PP**	**23 53 19.3**	**+3.6**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KMI				pmax		pmax		
	comp=Z,78nm,4.2s							
QSPA	**South Pole Qui**	**75.21**	**180**	*e*P		**P**	**23 50 28.8**	**-0.3**
	comp=Z,13nm,1.4s							
CMAR	**Chiang Mai Arr**	**75.44**	**294**	P		**P**	**23 50 32.3**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=116,slow=4.2,SNR=20							
CMAR	**Chiang Mai Arr**	**75.44**	**294**	P		**P**	**23 50 32.3**	**+1.2**
HHC	**Hu-ho-hao-te**	**75.98**	**319**	*e*P		**P**	**23 50 34.5**	**+0.6**
HHC				PP		**PP**	**23 53 23.5**	**-1.9**
HHC				pmax		pmax		
	comp=Z,37nn,0.9s							
HHC				LR		LR		
	comp=N,280nm,17.8s							
HHC				LR		LR		
	comp=E,650nm,15.3s							
HHC				LR		LR		
	comp=Z,230nm,14.1s							
CD2	**Chengdu**	**76.46**	**307**	P		**P**	**23 50 39.0**	**+2.3**
CD2				pP		**pP**	**23 50 57.5**	**+2.0**
CD2				sP		**sP**	**23 51 05.3**	**+2.2**
CD2				PP		**PP**	**23 53 33.5**	**+3.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				LR		LR		
	comp=N,410nm,5.3s							
CD2				LR		LR		
	comp=Z,220nm,6.0s							
SEY	**Seymchan**	**78.43**	**353**	||*i* P		**P**	**23 50 46.3**	**-0.6**
LZH	**Lanzhou**	**78.75**	**312**	*e*P		P	23 50 56.0	+6.5
LZH				pP		pP	23 51 15.0	+6.6
LZH				sP		sP	23 51 24.5	+8.5
LZH				pmax		pmax		
	comp=Z,35nm,1.2s							
LZH				pmax		pmax		
	comp=Z,130nm,5.6s							
YAK	**Yakutsk**	**82.26**	**343**	*e*P		**P**	**23 51 06.7**	**-0.8**
YAK				pmax		pmax		
	comp=Z,14nm,0.7s							
BILL	**Bilibino**	**82.64**	**359**	*e*P		**P**	**23 51 07.9**	**-1.5**
BILL				pmax		pmax		
	comp=Z,9.0nm,2.5s							
SONM	**Songino Array**	**82.87**	**323**	P		**P**	**23 51 11.4**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=139,slow=4.8,SNR=22							
SONM	**Songino Array**	**82.87**	**323**	P		**P**	**23 51 11.4**	**+0.2**
GTA	**Gaotai**	**83.09**	**314**	*e*P		**P**	**23 51 13.5**	**+1.0**
GTA				pP		**pP**	**23 51 29.8**	**-1.8**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
ZAK	**Zakamensk**	**85.92**	**325**	||*i* P		**P**	**23 51 25.4**	**-1.1**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
LSA	**Lhasa**	**86.03**	**302**	*e*P		**P**	**23 51 28.1**	**+0.1**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LSA	**Lhasa**	**86.03**	**302**	*e*P		**P**	**23 51 28.1**	**+0.1**
	comp=Z,3.1nm,0.8s							
TLY	**Talaya**	**86.35**	**326**	*i* P		**P**	**23 51 28.3**	**-0.2**
TLY				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ILAR	**Eielson Array**	**86.46**	**18**	P		**P**	**23 51 26.1**	**-2.6**
	comp=Z,1.6nm,0.8s,baz=244,slow=5.0,SNR=14							
ILAR	**Eielson Array**	**86.46**	**18**	P		**P**	**23 51 26.1**	**-2.6**
NVAR	**Mina Array Bea**	**86.95**	**49**	P		**P**	**23 51 31.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=238,slow=8.4,SNR=3.2							
NVAR	**Mina Array Bea**	**86.95**	**49**	P		**P**	**23 51 31.6**	**-0.4**
WMQ	**Urumqi**	**93.15**	**314**	*e*P		**P**	**23 52 01.0**	**+0.3**
SNAA	**Sanae**	**93.48**	**183**	P		**P**	**23 52 03.3**	**+1.4**
YFT	**Old Faithful**	**94.22**	**45**	*e*P		**P**	**23 52 08.9**	**+3.0**
	comp=Z,24nm,0.4s							
PDAR	**Pinedale Array**	**94.64**	**47**	LR		LR	00 27 35.6	
	comp=Z,46nm,18.7s,baz=251,slow=31							
GCMT	**Greycliff**	**95.38**	**44**	*e*P		P	23 52 17.3	+6.3
YKA	**Yellowknife Ar**	**97.40**	**27**	P		**P**	**23 52 17.4**	**-2.1**
	comp=Z,1.7nm,1.0s,baz=255,slow=4.4,SNR=14							
YKA	**Yellowknife Ar**	**97.40**	**27**	P		**P**	**23 52 17.4**	**-2.1**
MK31	**Makanchi Array**	**97.62**	**316**	*e*P		**P**	**23 52 20.6**	**-0.4**
MK31	**Makanchi Array**	**97.62**	**316**	*e*P		**P**	**23 52 20.6**	**-0.4**
MKAR	**Makanchi Array**	**97.62**	**316**	P		**P**	**23 52 20.9**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=102,slow=6.0,SNR=31							
MKAR	**Makanchi Array**	**97.62**	**316**	P		**P**	**23 52 20.9**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**97.62**	**316**	P		**P**	**23 52 20.9**	**-0.1**
ZAA0	**Zalesovo Array**	**97.76**	**324**	*e*P		**P**	**23 52 19.4**	**-1.9**
ZALV	**Zalesovo Beam**	**97.76**	**324**	P		**P**	**23 52 20.4**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=85,slow=3.4,SNR=14							
ZALV	**Zalesovo Beam**	**97.76**	**324**	P		**P**	**23 52 20.5**	**-0.9**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**97.76**	**324**	P		**P**	**23 52 20.4**	**-0.9**
KSH	**Kashi**	**100.65**	**308**	P		**Pdif**	**23 52 38.5**	**+3.7**
KSH				PP		PP	23 56 48.8	+5.8
KSH				pmax		pmax		
	comp=Z,7.0nm,2.1s							
KSH				LR		LR		
	comp=N,78nm,6.9s							
KSH				LR		LR		
	comp=E,78nm,5.4s							
KSH				LR		LR		
	comp=Z,180nm,6.3s							
ARU	**Arti**	**112.85**	**325**	*i* PKIKP		**PKiKP**	**23 57 22.8**	**0.0**
ARU							23 58 07.9	
ARU							00 03 57.5	
ARCES	**ARCESS Array B**	**120.47**	**346**	PKP		**PKPdf**	**23 57 36.2**	**-0.9**
	comp=Z,2.4nm,0.8s,

AUST 30 00:17:49.1±8.8, 3°67S×119°40E, h1km, Error ellipse: s-maj=1.4km s-min=1.1km az=330.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**2.78**	**9**	P	Pn	00 18 36.8	+1.9
	baz=2.8,SNR=17						
PCI				S	Sn	00 19 09.0	-0.1
	baz=2.8,SNR=28						
WSI	**Waingapu**	**6.03**	**172**	P	Pn	00 19 19.9	+0.3
	baz=6.1,SNR=4.5						
PALU	**Palau**	**18.60**	**54**	P	P	00 22 08.1	0.0
	baz=19,SNR=4.8						
PALU				S	Sn	00 25 34.5	-2.6
	baz=19,SNR=8.5						

DJA 30 00:19:29.0±1.9, 2°S±3°×129°E±°, h19km±24km, M3.3/5, MLv3.3/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.51**	**180**	P	Pn	00 19 54.3	-0.7
MSAI				S	Sn	00 20 14.4	+0.3
LBMI	**Labuha**	**1.86**	**310**	P	Pn	00 19 59.8	0.0
LBMI				S	Sn	00 20 23.4	+0.6
AAI	**Ambon**	**1.99**	**202**	P	Pn	00 20 01.2	-0.4
	baz=8.8,SNR=3.6						
AAI	**Ambon**	**1.99**	**202**	P	Pn	00 20 02.5	+0.9
SWI	**Sorong**	**2.52**	**68**	P	Sn	00 20 41.2	+2.0
	baz=12,SNR=9.8						
SWI	**Sorong**	**2.52**	**68**	P	Pn	00 20 09.0	+0.1
SWI				S	Sn	00 20 40.6	+1.4

*AUST **30** 00:20:14.2, 7°40S×108°41E, h20km*
*ISCJB **30** 00:20:15.4±0.5, 6°7S±0°1×106°82E±0°05, h200km, mb3.8/5, Error ellipse: s-maj=15.3km s-min=6.2km az=17.4*
*IDC **30** 00:20:16.2±13.0, 6°05S×107°21E, h178km±113km, mb3.8/4, mb1 4.0/4, mb1mx3.3/22, mbtmp3.8/4, Error ellipse: s-maj=176.4km s-min=21.4km az=55.0*
*DJA **30** 00:20:17.7±0.7, 7°S±16°×107°7E±°, h174km±9km, M3.7/9, mb4.0/1, MLv3.6/9*

ISC 30 00:20:16.8±0.8, 6°67S±0°08×106°88E±0°05, h200km, n25, σ1s86/26, mb3.8/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**0.17**	**311**	P	**Pn**	**00 20 41.5**	**-1.6**
LEM	**Lembang**	**0.75**	**102**	P	**Pn**	**00 20 44.0**	**-1.3**
	baz=12,SNR=5.9						
LEM	**Lembang**	**0.75**	**102**	P	**Pn**	**00 20 43.6**	**-1.6**
CGJI	**Cibinong**	**1.18**	**272**	P	**Pn**	**00 20 47.3**	**-0.5**
CGJI				S	**Sn**	**00 21 09.6**	**-2.2**
CISI	**Cisompet, Garu**	**1.28**	**134**	P	**Pn**	**00 20 45.6**	**-3.1**
CISI				S	**Sn**	**00 21 10.0**	**-3.5**
TGJI	**Tegal**	**2.24**	**95**	P	**Pn**	**00 20 57.2**	**-0.6**
CLJI	**Cilicap**	**2.37**	**116**	P	**Pn**	**00 20 58.1**	**-1.1**
KASI	**Kota Agung**	**2.62**	**295**	P	**Pn**	**00 21 02.3**	**+0.2**
KASI				S	**Sn**	**00 21 34.8**	**-2.6**
BJII	**Banjamegara**	**2.89**	**103**	P	**Pn**	**00 21 04.2**	**-1.0**
UGM	**Wanagama**	**3.82**	**109**	S	**Pn**	**00 21 15.3**	**-1.1**
	baz=2.2,SNR=22						
XMIS	**Christmas Isla**	**3.98**	**198**	P	**Pn**	**00 21 17.4**	**-0.9**
	baz=15,SNR=9.7						
XMIS	**Christmas Isla**	**3.98**	**198**	P	**Pn**	**00 21 17.4**	**-0.9**
	baz=4.1,SNR=9.7						
SJI	**Sawahan**	**4.97**	**103**	P	**Pn**	**00 21 30.2**	**-0.7**
PWJI	**Pagerwojo**	**5.07**	**106**	P	**Pn**	**00 21 31.1**	**-1.0**
PCI	**Palu**	**14.13**	**67**	P	Pn	00 23 16.1	-12
	baz=13,SNR=38						
PCI				S	**S**	**00 26 04.5**	**-1.5**
	baz=13,SNR=21						
FITZ	**Fitzroy Crossi**	**21.54**	**124**	P	**P**	**00 24 52.3**	**+1.8**
	1.4nm,0.5s,baz=331,slow=6.3,SNR=3.3						
MTN	**Manton Dam**	**24.67**	**106**	P	**P**	**00 25 20.4**	**+0.9**
	baz=23,SNR=5.2						
SWI	**Sorong**	**24.99**	**78**	P	P	00 25 11.6	-11
	baz=24,SNR=3.6						
KDU	**Kakadu**	**25.92**	**105**	P	**P**	**00 25 34.1**	**+3.4**
	baz=24,SNR=8.7						
WRA	**Warramunga Arr**	**29.74**	**119**	P	**P**	**00 26 06.5**	**+1.8**
	0.6nm,0.3s,baz=309,slow=9.2,SNR=12						
WRA				PcP	**PcP**	**00 29 05.3**	**+1.7**
	0.2nm,0.3s,baz=321,slow=2.4,SNR=7.6						
ASAR	**Alice Springs**	**30.98**	**126**	P	**P**	**00 26 17.7**	**+2.1**
	1.6nm,0.4s,baz=297,slow=7.9,SNR=28						
COEN	**Coen**	**36.40**	**104**	P	**P**	**00 27 03.7**	**+1.3**
	baz=35,SNR=7.1						
STKA	**Stephens Creek**	**40.95**	**132**	P	P	00 27 43.1	+3.1
	10.0nm,0.5s,baz=310,slow=8.1,SNR=44						
STKA	**Stephens Creek**	**40.95**	**132**	P	P	00 27 43.1	+3.1
	baz=39,SNR=37						
MKAR	**Makanchi Array**	**57.53**	**340**	P	**P**	**00 29 43.7**	**-1.6**
	0.2nm,0.5s,baz=146,slow=6.3,SNR=3.5						

IDC 30 00:45:26.4±1.8, 23°09S×170°33E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/19, mbtmp3.8/4, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/33, Error ellipse: s-maj=80.5km s-min=28.4km az=172.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	**Noumea**	**3.65**	**283**	*e*P	Pn	00 46 24.9	+0.6
DZM	**Mont Dzumac**	**3.73**	**285**	Pn	Pn	00 46 26.0	+0.6
	4.5nm,0.3s,baz=107,slow=14,SNR=32						
DZM				LR	LR	00 47 10.9	
	comp=Z,150nm,20.4s,baz=33,slow=28						
DZM				Sn	Sn	00 47 11.4	+1.2
	2.8nm,0.3s,baz=69,slow=22,SNR=3.7						
NOUC	**Port Laguerre**	**3.85**	**284**	*e*P	Pn	00 46 27.4	+0.4
NOUC				*e*S	Sn	00 47 13.2	+0.3
CTA	**Charters Tower**	**22.58**	**273**	P	P	00 50 30.0	+1.4
	4.9nm,0.8s,baz=56,slow=6.5,SNR=3.2						
ASAR	**Alice Springs**	**33.38**	**262**	P	P	00 52 06.7	-0.2
	1.4nm,0.7s,baz=86,slow=8.4,SNR=10						
WRA	**Warramunga Arr**	**33.57**	**268**	P	P	00 52 07.2	-1.4
	0.4nm,0.4s,baz=100,slow=8.4,SNR=11						
ARCES	**ARCESS Array B**	**129.04**	**345**	PKP	PKPdf	01 04 35.0	-0.6
	1.9nm,0.7s,baz=23,slow=6.6,SNR=4.4						
EKA	**Eskdalemuir Ar**	**147.44**	**353**	PKPbc	PKPbc	01 05 11.2	-0.8
	0.7nm,0.7s,baz=28,slow=3.2,SNR=2.8						
GERES	**GERESS Array B**	**148.34**	**330**	PKPbc	PKPbc	01 05 14.8	0.0
	0.3nm,0.6s,baz=48,slow=2.0,SNR=7.1						

*CSEM **30** 00:59:40.8, 35°20N×36°55E, h11km, ML1.9, After NSSC*

NSSC 30 00:59:40.8±3.5, 35°20N×36°55E, h11km±9km, MD0.7, ML1.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**0.20**	**86**	*i* P	Pg	00 59 45.2	-0.1
KFRA				*e*S	Sg	00 59 48.9	+0.7
KFRA				AML	AML	00 59 49.8	
	comp=N,484nm,0.3s						
KFRA				AML	AML	00 59 50.8	
	comp=E,179nm,0.1s						
KFRA	**Kufra**	**0.20**	**86**	*i* P	Pg	00 59 45.1	-0.1
KFRA				*i* S	Sg	00 59 48.5	+0.3
KFRA				AML	AML	00 59 49.8	
	comp=N,479nm,0.4s						
KFRA				AML	AML	00 59 50.8	
	comp=E,184nm,0.1s						
BIDA	**Albida**	**0.26**	**226**	*e*P	Pg	00 59 45.9	-0.5
BIDA				*e*S	Sg	00 59 50.1	+0.1
BIDA				AML	AML	00 59 51.1	
	comp=E,445nm,0.2s						
BIDA				AML	AML	00 59 51.1	
	comp=N,335nm,0.4s						
BIDA	**Albida**	**0.26**	**226**	*e*P	Pg	00 59 45.8	-0.5
BIDA				*e*S	Sg	00 59 50.5	+0.4
BIDA				AML	AML	00 59 51.1	
	comp=E,437nm,0.2s						
BIDA				AML	AML	00 59 51.1	
	comp=N,333nm,0.4s						
BIDA	**Albida**	**0.26**	**226**	*e*P	Pg	00 59 45.8	-0.6
	SNR=104						
BIDA				*e*S	Sg	00 59 50.5	+0.4
	comp=N,333nm,0.4s,SNR=109						
SLMH	**Al Salmeh**	**1.51**	**47**	*e*P	Pn	01 00 06.9	-0.9
SLMH				*e*S	Sn	01 00 25.9	-1.7
SLMH				AML	AML	01 00 31.0	
	comp=Z,22nm,0.6s						
JHLN	**Al Jahlan**	**1.61**	**72**	*e*P	Pn	01 00 07.3	-1.9
JHLN				*e*S	Sn	01 00 28.7	-1.4
JHLN				AML	AML	01 00 33.5	
	comp=Z,21nm,0.2s						
JHLN	**Al Jahlan**	**1.61**	**72**	*e*P	Pn	01 00 07.1	-2.2
JHLN				*e*S	Sn	01 00 29.3	-0.8
JHLN				AML	AML	01 00 31.1	
	comp=Z,19nm,0.3s						
JHLN	**Al Jahlan**	**1.61**	**72**	*e*P	Pn	01 00 07.1	-2.2
	SNR=51						
JHLN				*e*S	Sn	01 00 29.3	-0.8
	comp=Z,19nm,0.3s,SNR=49						
BRBR	**Barbar**	**1.85**	**196**	*e*P	Pn	01 00 12.3	-0.5
BRBR				*e*S	Sn	01 00 36.1	-0.2
BRBR				AML	AML	01 00 48.0	
	comp=E,3.1nm,0.7s						
BRBR				AML	AML	01 00 50.5	
	comp=N,5.4nm,0.6s						
BRBR	**Barbar**	**1.85**	**196**	*e*P	Pn	01 00 11.6	-1.1
BRBR				AML	AML	01 00 16.6	
	comp=E,3.0nm,0.2s						
BRBR				*e*S	Sn	01 00 36.1	-0.3
BRBR				AML	AML	01 00 50.5	
	comp=N,5.2nm,0.4s						
SFNV	**Sufian**	**3.14**	**66**	*e*P	Pn	01 00 29.0	-1.3
SFNV				*e*S	Sn	01 01 08.3	+0.4
SFNV				AML	AML	01 01 24.3	
	comp=Z,9.8nm,0.4s						
SFNV	**Sufian**	**3.14**	**66**	*e*P	Pn	01 00 29.2	-1.1
SFNV				*e*S	Sn	01 01 07.6	-0.2
SFNV				AML	AML	01 01 24.4	
	comp=Z,9.6nm,0.4s						
SFNV	**Sufian**	**3.14**	**66**	*e*P	Pn	01 00 29.2	-1.1
	SNR=51						
SFNV				*e*S	Sn	01 01 07.6	-0.2
	comp=Z,9.6nm,0.4s,SNR=49						
MZRK	**Al-Mazaregh**	**3.40**	**78**	*e*P	Pn	01 00 33.0	-0.8
MZRK	**Al-Mazaregh**	**3.40**	**78**	*e*P	Pn	01 00 37.4	+3.6
MZRK				*e*S	Sn	01 01 12.0	-2.2
MZRK	**Al-Mazaregh**	**3.40**	**78**	*e*P	Pn	01 00 37.4	+3.5
	SNR=51						
MZRK				*e*S	Sn	01 01 12.0	-2.2
	SNR=49						

*NIED **30** 01:17:00, 40°20N×144°80E, h8km, Mw3.7 Best double couple: M0 4.25000×10^14 NP1:φ=237.00000°, δ=51.00000°, λ=-66.00000°. NP2:φ=22.00000°, δ=45.00000°, λ=-116.00000°.*
*IDC **30** 01:17:02.0±1.4, 40°00N×145°19E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML3.2/3, Error ellipse: s-maj=35.5km s-min=25.7km az=107.0*
*ISCJB **30** 01:17:06.2±0.9, 40°16N±0°03×144°90E±0°06, h44km±12km, mb3.5/6, Error ellipse: s-maj=8.5km s-min=4.4km az=31.4*
*JMA **30** 01:17:07.2±0.2, 40°17N×144°82E, h43km, M3.8*

ISC 30 01:17:07.0±1.5, 40°13N±0°04×144°97E±0°08, h31km±18km, n28, σ0s83/33, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.33**	**325**	P	**Pn**	**01 17 43.0**	**-0.1**
JEM				*e*S	**Sn**	**01 18 09.5**	**-1.0**
JTH	**Tanohata**	**2.39**	**266**	P	Pn	01 17 43.2	-0.8
JTH				*e*S	Sn	01 18 10.3	-1.9
MIYJ	**Miyakonagasawa**	**2.49**	**258**	P	**Pn**	**01 17 45.0**	**-0.3**
MIYJ				*e*S	**Sn**	**01 18 12.9**	**-1.6**
JANG	**Nango**	**2.65**	**276**	P	Pn	01 17 47.1	-0.5
JANG				*e*S	Sn	01 18 16.8	-1.9
JNBK	**Urakawa-nobuka**	**2.72**	**323**	P	**Pn**	**01 17 48.8**	**+0.3**
JCH	**Churui**	**2.76**	**335**	P	Pn	01 17 48.5	-0.5
JCH				*e*S	**Sn**	**01 18 20.1**	**-1.1**
JAK	**Akkeshi**	**2.87**	**356**	P	Pn	01 17 49.0	-1.5
JAK				*e*S	**Sn**	**01 18 22.4**	**-1.5**
JOM	**Ohasama**	**2.91**	**258**	P	**Pn**	**01 17 51.4**	**+0.3**
JOM				*e*S	**Sn**	**01 18 24.2**	**-0.7**
JTM	**Tenmabayashi**	**3.05**	**284**	P	**Pn**	**01 17 53.2**	**+0.2**
JTM				*e*S	Sn	01 18 27.0	-1.3
JMK	**Ichinoseki**	**3.13**	**249**	P	**Pn**	**01 17 54.1**	**0.0**
JMK				*e*S	**Sn**	**01 18 28.9**	**-1.5**
JOT	**Ohata**	**3.23**	**294**	P	**Pn**	**01 17 55.7**	**+0.2**
JOT				S	**Sn**	**01 18 31.8**	**-1.0**
NEM2	**Nemuro 2**	**3.28**	**10**	P	Pn	01 17 54.0	-2.2
NEM2				*e*S	Sn	01 18 30.0	-4.1
JAH	**Hinai**	**3.32**	**272**	P	**Pn**	**01 17 57.4**	**+0.7**
JAH				S	**Sn**	**01 18 34.8**	**-0.3**
JRG	**Rokugo**	**3.42**	**259**	P	**Pn**	**01 17 58.8**	**+0.7**
JRG				*e*S	**Sn**	**01 18 37.3**	**-0.3**
JKB	**Kayabe**	**3.45**	**302**	P	Pn	01 17 58.4	-0.2
JKB				*e*S	**Sn**	**01 18 37.3**	**-1.1**
JYK	**Kaneyama**	**3.77**	**253**	P	**Pn**	**01 18 03.1**	**+0.2**
JYK				*e*S	**Sn**	**01 18 45.1**	**-1.0**
JOU	**Okura**	**3.78**	**244**	P	**Pn**	**01 18 02.8**	**-0.3**
JOU				*e*S	**Sn**	**01 18 45.6**	**-0.9**
JTKR	**Abashiri--Toko**	**3.91**	**349**	P	**Pn**	**01 18 04.6**	**-0.3**
JTKR				S	**Sn**	**01 18 49.0**	**-0.7**
JHR	**Hokuryu**	**4.34**	**327**	P	**Pn**	**01 18 11.5**	**+0.7**
JHR				*e*S	**Sn**	**01 19 00.1**	**-0.2**
ASAJ	**Asahikawa**	**4.35**	**337**	Pn	**Pn**	**01 18 11.2**	**+0.3**
	1.7nm,0.3s,baz=205,slow=12,SNR=8.9						
ASAJ				Sn	**Sn**	**01 19 01.2**	**+0.6**
	0.7nm,0.3s,baz=291,slow=30,SNR=4.5						
MJAR	**Matsushiro Arr**	**6.41**	**238**	Pn	**Pn**	**01 18 39.6**	**+0.4**
	0.6nm,0.3s,baz=63,slow=12,SNR=6.0						
USRK	**Ussuriysk Arra**	**10.45**	**297**	Pn	Pn	01 19 36.5	+2.0
	0.2nm,0.3s,baz=107,slow=14,SNR=8.7						
SONM	**Songino Array**	**28.56**	**299**	P	P	01 23 04.3	+4.3
	0.2nm,0.8s,baz=90,slow=9.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**41.97**	**310**	P	P	01 25 03.3	+8.5
	0.5nm,0.3s,baz=81,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**44.90**	**300**	P	P	01 25 28.9	+10
	0.3nm,0.7s,baz=91,slow=8.5,SNR=3.8						
ILAR	**Eielson Array**	**45.38**	**34**	P	**P**	**01 25 22.3**	**+0.2**
	0.5nm,0.9s,baz=265,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**60.58**	**191**	P	**P**	**01 27 13.3**	**-1.3**
	0.6nm,0.7s,baz=12,slow=6.9,SNR=4.9						
FINES	**FINESS Array B**	**67.35**	**333**	P	**P**	**01 27 59.6**	**+1.0**
	2.6nm,1.1s,baz=35,slow=5.1,SNR=1.9						

*CSEM **30** 01:17:35.0, 38°11N×8°59W, h6km, ML0.9, After INMG*

INMG 30 01:17:35.0±1.1, 38°11N×8°59W, h6km±3km, ML0.9, Error ellipse: s-maj=5.0km s-min=1.9km az=102.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNCL	**Nicolau / Gran**	**0.05**	**82**	*e*Pg	Pg	01 17 36.2	-0.3
PNCL				*e*Sg	Sg	01 17 37.6	0.0
PNCL				A	A	01 17 37.9	
	11nm,0.2s						
MOE	**Montemor**	**0.46**	**24**	*e*Sg	Sg	01 17 47.7	-2.3
MOE	**Montemor**	**0.46**	**24**	*e*Sg	Sg	01 17 47.7	-2.3
PTEO	**Sao Teotonio**	**0.57**	**191**	*e*Sg	Sg	01 17 51.8	-1.6
PTEO				A	A	01 17 58.6	
	7.7nm,0.6s						
PTEO	**Sao Teotonio**	**0.57**	**191**	*e*Sg	Sg	01 17 51.8	-1.6
	7.7nm,0.6s						
MORF	**Marmelete**	**0.80**	**183**	*e*Sg	Sg	01 18 00.8	-0.1
MORF				A	A	01 18 05.2	
	2.4nm,0.2s						
MORF	**Marmelete**	**0.80**	**183**	*e*Sg	Sg	01 18 00.8	-0.1
	2.4nm,0.2s						
PVAQ	**Vaqueiros**	**0.99**	**135**	*e*S	Sg	01 18 06.5	-0.3
PVAQ				A	A	01 18 07.0	
	0.6nm,0.2s						
PVAQ	**Vaqueiros**	**0.99**	**135**	*e*S	Sg	01 18 06.5	-0.3
	0.6nm,0.2s						
PFVI	**Vila Bisbo**	**0.99**	**191**	*e*S	Sg	01 18 06.0	-0.8
PFVI				A	A	01 18 07.9	
	9.2nm,0.6s						
PFVI	**Vila Bisbo**	**0.99**	**191**	*e*S	Sg	01 18 06.0	-0.8
	9.2nm,0.6s						
PMTG	**Montargil**	**1.00**	**17**	*e*S	Sg	01 18 07.1	-0.3
PMTG				A	A	01 18 08.8	
	1.1nm,0.2s						
PMTG	**Montargil**	**1.00**	**17**	*e*S	Sg	01 18 07.1	-0.3
	1.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.01**	**148**	*e*S	Sg	01 18 07.1	-0.4
PBDV				A	A	01 18 09.2	
	3.1nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.01**	**148**	*e*S	Sg	01 18 07.1	-0.4
	3.1nm,0.6s						
PESTR	**Estremoz**	**1.09**	**46**	*e*S	Sb	01 18 11.0	+0.1
PESTR				A	A	01 18 13.4	
	1.7nm,0.6s						
PESTR	**Estremoz**	**1.09**	**46**	*e*S	Sb	01 18 11.0	+0.1
	1.7nm,0.6s						
PBAR	**Barrancos**	**1.23**	**86**	*e*S	Sg	01 18 13.4	-1.1
PBAR				A	A	01 18 14.8	
	1.0nm,0.2s						
PBAR	**Barrancos**	**1.23**	**86**	*e*S	Sg	01 18 13.4	-1.1
	1.0nm,0.2s						

*CSEM **30** 01:17:43.0, 38°10N×8°60W, h8km, ML1.0, After INMG*

INMG 30 01:17:43.0±1.1, 38°10N×8°60W, h8km±5km, ML1.0, Error ellipse: s-maj=4.0km s-min=1.6km az=97.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNCL	**Nicolau / Gran**	**0.06**	**73**	*e*Pg	Pg	01 17 44.7	-0.1
PNCL				*e*Sg	Sg	01 17 46.1	-0.1
PNCL				A	A	01 17 46.4	
	18nm,0.2s						
PNCL	**Nicolau / Gran**	**0.06**	**73**	*e*Pg	Pg	01 17 44.7	-0.1
PNCL				*e*Sg	Sg	01 17 46.1	-0.1
	18nm,0.2s						
MOE	**Montemor**	**0.47**	**25**	*e*Sg	Sg	01 17 56.2	-2.2
MOE	**Montemor**	**0.47**	**25**	*e*Sg	Sg	01 17 56.2	-2.2
PTEO	**Sao Teotonio**	**0.56**	**190**	*e*Sg	Sg	01 18 00.7	-0.4
PTEO				A	A	01 18 13.4	
	12nm,0.9s						
PTEO	**Sao Teotonio**	**0.56**	**190**	*e*Sg	Sg	01 18 00.7	-0.4
	12nm,0.9s						
PBEJ	**Beja**	**0.58**	**97**	*e*Pg	Pg	01 17 53.4	-0.9
PBEJ				*e*Sg	Sg	01 18 01.6	-0.4
PBEJ				A	A	01 18 02.9	
	2.7nm,0.8s						
PBEJ	**Beja**	**0.58**	**97**	*e*Pg	Pg	01 17 53.4	-0.9
PBEJ				*e*Sg	Sg	01 18 01.6	-0.4
	2.7nm,0.8s						
EVO	**Evora**	**0.64**	**46**	*e*Pg	Pg	01 17 54.9	-0.4
EVO				*e*Sg	Sg	01 18 03.3	-0.3
EVO				A	A	01 18 07.6	
	3.5nm,0.3s						
EVO	**Evora**	**0.64**	**46**	*e*Pg	Pg	01 17 54.9	-0.4
EVO				*e*Sg	Sg	01 18 03.3	-0.3
	3.5nm,0.3s						
MORF	**Marmelete**	**0.79**	**183**	*e*Pg	Pb	01 17 58.9	-0.1
MORF				*e*Sg	Sb	01 18 09.6	-0.3
MORF				A	A	01 18 11.8	
	4.5nm,0.5s						
MORF	**Marmelete**	**0.79**	**183**	*e*Pg	Pb	01 17 58.9	-0.1
MORF				*e*Sg	Sb	01 18 09.6	-0.3
	4.5nm,0.5s						
PFVI	**Vila Bisbo**	**0.98**	**191**	*e*Sg	Sg	01 18 14.6	+0.1
PFVI				A	A	01 18 23.3	
	9.2nm,0.7s						
PFVI	**Vila Bisbo**	**0.98**	**191**	*e*Sg	Sg	01 18 14.6	+0.1
	9.2nm,0.7s						
PVAQ	**Vaqueiros**	**0.98**	**134**	*e*Sg	Sg	01 18 14.3	-0.4
PVAQ				A	A	01 18 16.8	
	2.6nm,0.4s						
PVAQ	**Vaqueiros**	**0.98**	**134**	*e*Sg	Sg	01 18 14.3	-0.4
	2.6nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.00**	**148**	*e*Sg	Sg	01 18 15.3	-0.1
PBDV	**Barranco-do-Ve**	**1.00**	**148**	*e*Sg	Sg	01 18 15.3	-0.1
PMTG	**Montargil**	**1.02**	**17**	*e*Sg	Sg	01 18 15.4	-0.4
PMTG				A	A	01 18 17.4	
	1.8nm,0.2s						
PMTG	**Montargil**	**1.02**	**17**	*e*Sg	Sg	01 18 15.4	-0.4
	1.8nm,0.2s						
PESTR	**Estremoz**	**1.11**	**45**	*e*Sg	Sg	01 18 18.7	0.0
PESTR				A	A	01 18 22.1	
	2.7nm,0.6s						
PESTR	**Estremoz**	**1.11**	**45**	*e*Sg	Sg	01 18 18.7	0.0
	2.7nm,0.6s						
PBAR	**Barrancos**	**1.23**	**86**	*e*Sg	Sb	01 18 22.4	-0.2
PBAR				A	A	01 18 23.4	
	1.2nm,0.1s						
PBAR	**Barrancos**	**1.23**	**86**	*e*Sg	Sb	01 18 22.4	-0.2
	1.2nm,0.1s						
PTOM	**Tomar**	**1.53**	**5**	*e*Sg	Sb	01 18 31.6	+0.5
PTOM				A	A	01 18 37.6	
	2.9nm,0.6s						
PTOM	**Tomar**	**1.53**	**5**	*e*Sg	Sb	01 18 31.6	+0.5
	2.9nm,0.6s						

*ISCJB **30** 01:36:45.3±0.8, 76°94N±0°04×18°8E±0°3, h10km, Error ellipse: s-maj=11.1km s-min=5.1km az=156.9*
*NAO **30** 01:36:45.9±1.0, 76°98N×19°01E, ML2.6*
*CSEM **30** 01:36:46.9±0.1, 76°94N×18°03E, h8km, ML2.5, Error ellipse: s-maj=5.9km s-min=1.7km az=69.0*
*BER **30** 01:36:50.6±3.7, 77°01N×18°32E, h15km±33km, MD2.2, ML2.5, ML2.6(NAO)*

ISC 30 01:36:49.0±0.9, 76°99N±0°04×18°27E±0°07, h10km, n16, σ1s07/21, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.62**	**273**	*e*P	**Pg**	**01 37 01.1**	**+0.2**
HSP				*e*S	**Sb**	**01 37 09.5**	**-1.0**
SPA0	**Spitsbergen Ar**	**1.27**	**342**	Pg	**Pn**	**01 37 11.8**	**-0.8**
	baz=149,slow=22						
SPA0				Lg	Lg	01 37 27.5	
	baz=165,slow=22						
SPA0	**Spitsbergen Ar**	**1.27**	**342**	*e*P	**Pn**	**01 37 11.8**	**-0.8**
SPA0				Pg	**Pn**	**01 37 11.8**	**-0.8**
	baz=149,slow=22						
SPA0				Lg	Lg	01 37 27.5	
	baz=165,slow=22						
SPA0	**Spitsbergen Ar**	**1.27**	**342**	Pg	**Pn**	**01 37 11.9**	**-0.8**
	baz=149,slow=21,SNR=134						
SPA0				Lg	Lg	01 37 27.5	
	baz=165,slow=21,SNR=49						
HOPEN	**Hopen**	**1.63**	**104**	*e*S	**Sn**	**01 37 38.0**	**-0.5**
HOPEN	**Hopen**	**1.63**	**104**	*e*S	**Sn**	**01 37 38.0**	**-0.5**
	SNR=129						
KBS	**Kingsbay**	**2.36**	**329**	Pn	**Pn**	**01 37 26.5**	**-1.1**
KBS				Pg	**Pb**	**01 37 32.3**	**+0.9**
KBS				Lg	Lg	01 38 01.9	
KBS	**Kingsbay**	**2.36**	**329**	*e*P	**Pn**	**01 37 26.5**	**-1.1**
KBS				*e*Pg	**Pb**	**01 37 31.7**	**+0.3**
KBS				*e*Sg	**Sb**	**01 38 01.8**	**+1.3**
KBS				AML

*LDG **30** 01:39:54.1±0.0,47.°45N×7.°14E,h18km,Ml2.7/30,Error ellipse: s-maj=0.8km s-min=0.7km az=139.0*

ISC 30 01:39:54.1±0.8,**47.°46N**±0.°01×**7.°12E**±0.°01,**h18**km±3km, **n244**,σt**89**/344,**38C-10D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BOURR	**Bourrignon** 3µm,0.4s	**0.10**	**131**	*i*Pg	**Pg**	**01 39 58.6**	**+0.7**
BOURR	3µm,0.4s			*e*Sg	**Sg**	**01 40 01.5**	**+1.1**
BOURR	**Bourrignon** 3µm,0.4s	**0.10**	**131**	⇓*i*Pg	**Pg**	**01 39 58.6**	**+0.7**
LOMF	**Lomont**	**0.23**	**242**	⇑*i*P*	**Pb**	**01 40 00.5**	**+0.9**
LOMF	**Lomont**	**0.23**	**242**	Pg	**Pb**	**01 40 00.5**	**+0.9**
LOMF				Sg	**Sg**	**01 40 04.4**	**+1.2**
LOMF	**Lomont**	**0.23**	**242**	Pg	Pg	01 40 05.3	+5.7
LOMF				Sg	**Sg**	**01 40 08.7**	**+5.5**
LOMF	**Lomont**	**0.23**	**242**	⇑*i*Pg	**Pb**	**01 40 00.5**	**+0.9**
LOMF	**Lomont**	**0.23**	**242**	Pb	**Pb**	**01 40 00.5**	**+0.9**
LOMF				Sg	**Sg**	**01 40 04.4**	**+1.2**
BBS	**Basel-Blauen**	**0.26**	**89**	⇑*i*P*	**Pg**	**01 40 00.5**	**+0.4**
BBS	**Basel-Blauen**	**0.26**	**89**	⇑*i*Pg	**Pg**	**01 40 00.5**	**+0.4**
BBS	**Basel-Blauen**	**0.26**	**89**	Pb	**Pg**	**01 40 00.5**	**+0.4**
BBS				Sg	**Sb**	**01 40 04.4**	**0.0**
MOF	**Molkenrain**	**0.39**	**1**	⇓*i*P*	**Pg**	**01 40 03.0**	**+0.6**
MOF	**Molkenrain**	**0.39**	**1**	Pg	**Pg**	**01 40 02.7**	**+0.3**
MOF				Sg	**Sg**	**01 40 07.0**	**-0.9**
MOF	**Molkenrain**	**0.39**	**1**	⇓*i*Pg	**Pg**	**01 40 03.0**	**+0.6**
MOF	**Molkenrain**	**0.39**	**1**	Pb	**Pg**	**01 40 03.0**	**+0.6**
MOF				Sg	**Sg**	**01 40 07.0**	**-0.9**
LOES	**Loerrach-Stett**	**0.40**	**68**	⇑Pg	**Pg**	**01 40 02.7**	**+0.3**
HINF	**Hinteralfeld** SNR=1.0	**0.40**	**333**	*e*Pg	**Pg**	**01 40 02.8**	**+0.3**
HINF	**Hinteralfeld**	**0.40**	**333**	*e*Pn	**Pg**	**01 40 03.6**	**+1.1**
HINF	135nm,0.2s			*e*Sg	**Sg**	**01 40 08.5**	**+0.4**
HINF	120nm,0.2s			*e*Sn	**Sb**	**01 40 09.8**	**+1.1**
HINF	**Hinteralfeld**	**0.40**	**333**	*e*Pg	**Pn**	**01 40 06.9**	**+1.8**
HINF	**Hinteralfeld**	**0.40**	**333**	*e*Pn	Pn	01 40 07.7	+2.6
HINF	194nm,0.2s			*e*Sg	**Sn**	**01 40 12.6**	**+0.4**
HINF	174nm,0.2s			*e*Sn	**Sb**	**01 40 13.8**	**+5.1**
HINF	**Hinteralfeld**	**0.40**	**333**	*e*Pn	**Pg**	**01 40 03.6**	**+1.1**
HINF	67nm,0.2s			*e*Sg	**Sg**	**01 40 08.5**	**+0.4**
HINF	60nm,0.2s			*e*Sn	**Sb**	**01 40 09.8**	**+1.1**
WYH	**Wyhlen**	**0.40**	**77**	⇑*i*Pg	**Pg**	**01 40 02.6**	**+0.1**
BALST	**Balsthal**	**0.41**	**107**	*e*Sg	**Sn**	**01 40 12.7**	**+0.3**
BALST	**Balsthal** 3µm,0.2s	**0.41**	**107**	⇑*i*Pg	**Pg**	**01 40 02.8**	**+0.2**
BALST	3µm,0.2s			*e*Sg	**Sg**	**01 40 08.6**	**+0.2**
BALST	**Balsthal** 3µm,0.2s	**0.41**	**107**	⇑*i*Pg	**Pg**	**01 40 02.8**	**+0.2**
BALST	3µm,0.2s			*e*Sg	**Sg**	**01 40 08.5**	**+0.2**
ENDD	**Endenburg**	**0.49**	**58**	⇓*i*Pg	**Pg**	**01 40 03.9**	**-0.1**
SULZ	**Cheisacher**	**0.68**	**84**	*e*Pn	**Pb**	**01 40 07.2**	**-0.2**
SULZ				*e*Sg	**Sn**	**01 40 20.5**	**+1.6**
SULZ	**Cheisacher** 509nm,0.3s	**0.68**	**84**	⇑*i*P	**Pb**	**01 40 07.1**	**-0.3**
SULZ	**Cheisacher** 485nm,0.3s	**0.68**	**84**	⇑*i*Pg	**Pb**	**01 40 07.1**	**-0.3**
SULZ				Sg	**Sn**	**01 40 20.5**	**+1.6**
FELD	**Feldberg im Sc**	**0.73**	**55**	⇑*i*Pn	**Pb**	**01 40 07.7**	**-0.7**
FELD				Pg	**Pb**	**01 40 08.3**	**-0.1**
FELD	**Feldberg im Sc**	**0.73**	**55**	⇑*i*Pn	**Pb**	**01 40 07.7**	**-0.7**
FELD	**Feldberg im Sc**	**0.73**	**55**	P	**Pb**	**01 40 08.3**	**-0.1**
FELD	**Feldberg im Sc**	**0.73**	**55**	Pg	**Pb**	**01 40 08.3**	**-0.1**
FELD				Sg	**Sn**	**01 40 22.1**	**+1.7**
KIZ	**Kirchzarten**	**0.73**	**47**	⇑*i*Pn	**Pb**	**01 40 07.5**	**-0.8**
KIZ				Pg	**Pb**	**01 40 08.2**	**-0.1**
KIZ				Sg	**Sb**	**01 40 17.9**	**-0.2**
KIZ	**Kirchzarten**	**0.73**	**47**	⇑*i*Pn	**Pb**	**01 40 07.5**	**-0.8**
KIZ	**Kirchzarten**	**0.73**	**47**	P	**Pb**	**01 40 08.2**	**-0.1**
KIZ				S	**Sb**	**01 40 17.9**	**-0.2**
FBB	**Freiburg im Br**	**0.73**	**42**	Pg	**Pb**	**01 40 08.3**	**-0.1**
FBB	**Freiburg im Br**	**0.73**	**42**	P	**Pb**	**01 40 08.3**	**-0.1**
HAU	**Haudompre** SNR=1.0	**0.76**	**317**	*e*Pn	**Pb**	**01 40 08.7**	**-0.1**
HAU	**Haudompre**	**0.76**	**317**	*e*Pg	**Pb**	**01 40 09.0**	**+0.2**
HAU	118nm,0.2s			*e*Sg	**Sb**	**01 40 19.3**	**+0.5**
HAU	**Haudompre**	**0.76**	**317**	*e*Pn	Pn	01 40 12.8	+2.8
HAU	**Haudompre**	**0.76**	**317**	*e*Pg	Pn	01 40 13.1	+3.1
HAU	324nm,0.3s			*e*Sg	**Sn**	**01 40 23.4**	**+2.4**
HAU	**Haudompre** SNR=1.0	**0.76**	**317**	*e*Pn	**Pb**	**01 40 08.7**	**-0.1**
HAU	**Haudompre**	**0.76**	**317**	*e*Pg	**Pb**	**01 40 09.0**	**+0.2**
HAU	59nm,0.2s			*e*Sg	**Sb**	**01 40 19.3**	**+0.5**
ECH	**Echery**	**0.76**	**2**	⇓*e*Pn	**Pb**	**01 40 08.3**	**-0.5**
ECH				Pg	**Pb**	**01 40 08.8**	**0.0**
ECH				Sg	**Sb**	**01 40 18.3**	**-0.5**
ECH	**Echery**	**0.76**	**2**	Pg	**Pb**	**01 40 08.3**	**-0.5**
ECH	**Echery**	**0.76**	**2**	Pg	Pn	01 40 13.3	+3.3
ECH				Sg	**Sn**	**01 40 23.0**	**+2.0**
ECH	**Echery**	**0.76**	**2**	⇓*e*Pn	**Pb**	**01 40 08.3**	**-0.5**
ECH	**Echery**	**0.76**	**2**	P	**Pb**	**01 40 08.8**	**0.0**
ECH				S	**Sb**	**01 40 18.3**	**-0.5**
ECH	**Echery**	**0.76**	**2**	Pg	**Pb**	**01 40 08.9**	**0.0**
ECH				Sg	**Sb**	**01 40 18.3**	**-0.5**
WIMIS	**Wimmis** 281nm,0.3s	**0.86**	**156**	*e*P	**Pb**	**01 40 10.7**	**+0.1**
CDF	**Champ du Feu** SNR=1.0	**0.96**	**6**	*e*Pn	**Pb**	**01 40 11.2**	**-1.1**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Pg	**Pb**	**01 40 12.3**	**0.0**
CDF				*e*Sn	**Sb**	**01 40 23.6**	**-1.1**
CDF	76nm,0.2s			*e*Sg	**Sb**	**01 40 24.9**	**+0.2**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Pn	**Pg**	**01 40 15.2**	**+2.4**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Pg	Pg	01 40 16.4	+3.6
CDF	111nm,0.2s			*e*Sg	**Sn**	**01 40 29.1**	**+3.0**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Pg	**Pb**	**01 40 12.3**	**0.0**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Pn	**Pg**	**01 40 15.2**	**+2.4**
CDF	38nm,0.2s			*e*Sg	**Sb**	**01 40 24.9**	**+0.2**
CDF				*e*Sn	**Sg**	**01 40 27.6**	**+2.1**
CDF	**Champ du Feu**	**0.96**	**6**	*e*Sn	**Sg**	**01 40 27.6**	**+2.1**
SLE	**Schleitheim**	**0.98**	**71**	*e*Pn	**Pb**	**01 40 11.1**	**-1.4**
SLE				*e*Sg	**Sg**	**01 40 28.8**	**+2.8**
SLE	**Schleitheim** 576nm,0.2s	**0.98**	**71**	⇑*i*P	**Pb**	**01 40 11.1**	**-1.4**
SLE	**Schleitheim** 562nm,0.2s	**0.98**	**71**	⇑*i*P	**Pb**	**01 40 11.1**	**-1.4**
SLE				Sg	**Sg**	**01 40 28.8**	**+2.8**
FLACH	**Flaach** 154nm,0.3s	**0.99**	**83**	⇑*i*P	**Pb**	**01 40 11.6**	**-1.1**
FLACH	**Flaach** 163nm,0.3s	**0.99**	**83**	⇑*i*P	**Pb**	**01 40 11.6**	**-1.1**
HASLI	**Hasliberg/Brie** 977nm,0.3s	**0.99**	**135**	*e*P	**Pb**	**01 40 12.0**	**-0.9**
HASLI	**Hasliberg/Brie** 986nm,0.3s	**0.99**	**135**	*e*P	**Pb**	**01 40 12.0**	**-0.9**
ZUR	**Degenried** 602nm,0.4s	**0.99**	**95**	⇑*i*P	**Pb**	**01 40 12.5**	**-0.4**
ZUR	**Degenried** 597nm,0.4s	**0.99**	**95**	⇑*i*P	**Pb**	**01 40 12.5**	**-0.4**
TRULL	**Truellikon** 135nm,0.3s	**1.07**	**79**	⇑*i*P	**Pn**	**01 40 12.7**	**-1.6**
TRULL	**Truellikon** 135nm,0.3s	**1.07**	**79**	⇑*i*P	**Pn**	**01 40 12.7**	**-1.6**
THEF	**They Montfort**	**1.08**	**316**	⇑*e*Pg	**Pb**	**01 40 14.5**	**+0.2**
THEF				Sg	**Sb**	**01 40 29.4**	**+1.2**
THEF	**They Montfort**	**1.08**	**316**	Pg	**Pb**	**01 40 14.3**	**-0.1**
THEF	**They Montfort**	**1.08**	**316**	⇑*e*P	**Pb**	**01 40 14.5**	**+0.2**
THEF				S	**Sb**	**01 40 29.4**	**+1.2**
THEF	**They Montfort**	**1.08**	**316**	Pg	**Pb**	**01 40 14.3**	**-0.1**
THEF				Sg	**Sb**	**01 40 29.4**	**+1.2**
SENIN	**Lac Senin/Sane** 125nm,0.3s	**1.10**	**174**	*e*P	**Pn**	**01 40 14.1**	**-0.8**
CABF	**La Chapelle** SNR=1.0	**1.10**	**220**	*e*Pn	**Pb**	**01 40 13.8**	**-0.9**
CABF	**La Chapelle**	**1.10**	**220**	*e*Pg	**Pb**	**01 40 14.9**	**+0.2**
CABF				*e*Sn	**Sb**	**01 40 27.4**	**-1.4**
CABF	36nm,0.2s			*e*Sg	**Sn**	**01 40 29.7**	**+0.1**
CABF	**La Chapelle**	**1.10**	**220**	*e*Pn	**Pg**	**01 40 17.8**	**+2.3**
CABF	**La Chapelle**	**1.10**	**220**	*e*Pg	**Pg**	01 40 18.9	+3.4
CABF				*e*Sg	**Sg**	**01 40 33.7**	**+3.7**
CABF	**La Chapelle** SNR=1.0	**1.10**	**220**	*e*Pn	**Pb**	**01 40 13.8**	**-0.9**
CABF	**La Chapelle**	**1.10**	**220**	*e*Pg	**Pb**	**01 40 14.9**	**+0.2**
CABF				*e*Sn	**Sb**	**01 40 27.4**	**-1.4**
CABF	18nm,0.2s			*e*Sg	**Sn**	**01 40 29.7**	**+0.1**
BFO	**Black Forest**	**1.19**	**43**	*e*Sn	**Sb**	**01 40 31.6**	**+0.3**
BFO				*e*Sg	**Sg**	**01 40 35.6**	**+2.8**
BFO	**Black Forest**	**1.19**	**43**	⇑*i*Pn	Pn	01 40 13.7	-2.3
BFO	**Black Forest**	**1.19**	**43**	Sn	**Sb**	**01 40 31.6**	**+0.3**
BFO				Sg	**Sg**	**01 40 35.6**	**+2.8**
STEIN	**Stein am Rhein** 79nm,0.8s	**1.20**	**79**	⇑*i*P	**Pn**	**01 40 14.6**	**-1.5**
STEIN	**Stein am Rhein** 70nm,0.8s	**1.20**	**79**	*e*P	Pn	01 40 14.4	-1.7
WILA	**Wila**	**1.21**	**91**	*e*Pn	**Pn**	**01 40 15.2**	**-1.1**
WILA				*e*Sn	**Sb**	**01 40 33.1**	**+1.1**
WILA				*e*Sg	**Sg**	**01 40 36.6**	**+3.1**
WILA	**Wila** 468nm,0.4s	**1.21**	**91**	⇑*i*P	**Pn**	**01 40 15.2**	**-1.1**
WILA	**Wila** 473nm,0.4s	**1.21**	**91**	⇑*i*P	**Pn**	**01 40 15.2**	**-1.1**
WILA				Sn	**Sb**	**01 40 33.1**	**+1.1**
WILA				Sg	**Sg**	**01 40 36.6**	**+3.1**
WEIN	**Weingarten** 126nm,0.2s	**1.27**	**86**	⇑*i*P	**Pn**	**01 40 15.8**	**-1.2**
WEIN	**Weingarten** 121nm,0.2s	**1.27**	**86**	⇑*i*P	**Pn**	**01 40 15.8**	**-1.2**
SISB	**Singen-Schiene**	**1.27**	**79**	Pn	**Pn**	**01 40 15.5**	**-1.5**
SISB	**Singen-Schiene**	**1.27**	**79**	Pn	**Pn**	**01 40 15.5**	**-1.5**
SISB	**Singen-Schiene**	**1.27**	**79**	Pn	**Pn**	**01 40 15.5**	**-1.5**
SPAK	**Spaichingen-Ko**	**1.29**	**60**	Pg	**Pn**	**01 40 17.6**	**+0.2**
DIX	**Grande Dixence** 71nm,0.3s	**1.39**	**172**	⇓*i*P	**Pn**	**01 40 18.6**	**-0.3**
DIX	**Grande Dixence** 67nm,0.3s	**1.39**	**172**	⇑*i*P	**Pn**	**01 40 18.6**	**-0.3**
PAGF	**Fort de Pagny**	**1.44**	**320**	*e*Pn	**Pn**	**01 40 18.3**	**-1.1**
PAGF	**Fort de Pagny**	**1.44**	**320**	*e*Pg	**Pb**	**01 40 21.4**	**+0.9**
PAGF	2.6nm,0.2s			*e*Sg	**Sb**	**01 40 40.0**	**+1.5**
PAGF	**Fort de Pagny**	**1.44**	**320**	*e*Pg	Pg	01 40 25.4	+3.4
PAGF	7.5nm,0.3s			*e*Sg	**Sg**	**01 40 44.3**	**+3.5**
PAGF	**Fort de Pagny**	**1.44**	**320**	*e*Pn	**Pn**	**01 40 18.3**	**-1.1**
PAGF	**Fort de Pagny**	**1.44**	**320**	*e*Pg	**Pb**	**01 40 21.4**	**+0.9**
PAGF	1.3nm,0.2s			*e*Sg	**Sb**	**01 40 40.0**	**+1.5**
GUT	**Gutenstein**	**1.48**	**65**	⇑*i*P	Pn	01 40 17.8	-2.1
GUT	**Gutenstein**	**1.48**	**65**	⇑*i*Pn	Pn	01 40 17.8	-2.1
BHBD	**Braunhartsberg**	**1.49**	**57**	⇑Pn	Pn	01 40 18.0	-2.2
MMK	**Mattmark** 45nm,0.5s	**1.52**	**157**	*e*P	**Pn**	**01 40 20.6**	**-0.1**
SFTF	**Sexfontaines** baz=126	**1.59**	**299**	*e*Pn	**Pn**	**01 40 20.5**	**-0.9**
SFTF	**Sexfontaines** baz=121	**1.59**	**299**	*e*Pg	**Pb**	**01 40 24.1**	**+1.1**
SFTF				*e*Sn	**Sn**	**01 40 39.1**	**-2.4**
SFTF	14nm,0.2s			*e*Sg	**Sb**	**01 40 44.7**	**+2.0**
SFTF	**Sexfontaines**	**1.59**	**299**	*e*Pn	**Pb**	**01 40 24.6**	**+1.6**
SFTF	**Sexfontaines**	**1.59**	**299**	*e*Pg	Pg	01 40 28.1	+3.4
SFTF	42nm,0.2s			*e*Sg	**Sg**	**01 40 48.7**	**+3.3**
SFTF	**Sexfontaines** baz=126	**1.59**	**299**	*e*Pn	**Pn**	**01 40 20.5**	**-0.9**
SFTF	**Sexfontaines** baz=121	**1.59**	**299**	*e*Pg	**Pb**	**01 40 24.1**	**+1.1**
SFTF				*e*Sn	**Sn**	**01 40 39.1**	**-2.4**
SFTF	7.0nm,0.2s			*e*Sg	**Sb**	**01 40 44.7**	**+2.0**
PLONS	**Plons/SG**	**1.59**	**104**	*e*Pn	**Pn**	**01 40 21.1**	**-0.4**
PLONS				*e*Sg	**Sg**	**01 40 48.2**	**+2.7**
PLONS	**Plons/SG** 85nm,0.4s	**1.59**	**104**	⇑*i*P	**Pn**	**01 40 21.0**	**-0.4**
PLONS	**Plons/SG**	**1.59**	**104**	Pn	**Pn**	**01 40 21.1**	**-0.4**
PLONS				Sg	**Sg**	**01 40 48.2**	**+2.7**
LIENZ	**Kamor/St.Gall** 51nm,0.7s	**1.62**	**95**	⇑*i*P	**Pn**	**01 40 21.4**	**-0.6**
LIENZ	**Kamor/St.Gall** 51nm,0.2s	**1.62**	**95**	⇑*i*P	**Pn**	**01 40 21.4**	**-0.6**
LBG	**Lerchenberg**	**1.65**	**42**	⇑*e*P	Pn	01 40 19.7	-2.5
LBG	**Lerchenberg**	**1.65**	**42**	⇑*e*Pn	Pn	01 40 19.7	-2.5
MEZF	**Maizieres J'vi** baz=127,SNR=1.0	**1.74**	**308**	*e*Pn	**Pn**	**01 40 22.3**	**-1.1**
MEZF	**Maizieres J'vi** baz=123	**1.74**	**308**	*e*Pg	**Pb**	**01 40 27.0**	**+1.5**
MEZF	8.6nm,0.2s			*e*Sg	**Sb**	**01 40 49.5**	**+2.5**
MEZF	**Maizieres J'vi**	**1.74**	**308**	*e*Pg	Pg	01 40 31.0	+3.4
MEZF	28nm,0.2s			*e*Sg	**Sg**	**01 40 53.5**	**+3.3**
MEZF	**Maizieres J'vi** baz=127,SNR=1.0	**1.74**	**308**	*e*Pn	**Pn**	**01 40 22.3**	**-1.1**
MEZF	**Maizieres J'vi** baz=123	**1.74**	**308**	*e*Pg	**Pb**	**01 40 27.0**	**+1.5**
MEZF	4.3nm,0.2s			*e*Sg	**Sb**	**01 40 49.5**	**+2.5**
BUCH	**Bad Urach**	**1.80**	**56**	P	Pn	01 40 21.9	-2.4
BUCH	**Bad Urach**	**1.80**	**56**	Pn	Pn	01 40 21.9	-2.4
DAVA	**Damuels**	**1.88**	**94**	⇑*i*Pn	**Pn**	**01 40 25.1**	**-0.5**
DAVA				⇓*i*Sn	**Sb**	**01 40 53.5**	**+2.2**
DAVA	**Damuels**	**1.88**	**94**	Pn	**Pn**	**01 40 25.1**	**-0.5**
DAVA				Sn	**Sb**	**01 40 53.5**	**+2.2**
DAVA				Sg	**Sg**	**01 40 57.2**	**+2.4**
LPL	**La Plagne** SNR=1.0	**1.96**	**188**	*e*Pg	**Pb**	**01 40 30.3**	**+0.9**
LPL	3.6nm,0.3s,SNR=1.0			*e*Sg	**Sb**	**01 40 55.0**	**+1.4**
LPL	**La Plagne**	**1.96**	**188**	*e*Pg	**Pg**	**01 40 33.9**	**+2.1**
LPL	6.8nm,0.3s			*e*Sg	**Sg**	**01 41 00.1**	**+2.8**
LPL	**La Plagne** SNR=1.0	**1.96**	**188**	*e*Pg	**Pb**	**01 40 30.3**	**+0.9**
LPL	1.8nm,0.3s,SNR=1.0			*e*Sg	**Sb**	**01 40 55.0**	**+1.4**
LPG	**La Plagne** SNR=1.0	**1.98**	**188**	*e*Pn	Pn	01 40 24.8	-2.2
LPG	**La Plagne**	**1.98**	**188**	*e*Pg	**Pb**	**01 40 30.6**	**+0.8**
LPG	SNR=1.0			*e*Sn	**Sn**	**01 40 48.4**	**-3.0**
LPG	3.1nm,0.2s			*e*Sg	**Sb**	**01 40 57.1**	**+2.9**
LPG	**La Plagne**	**1.98**	**188**	*e*Pg	**Pg**	**01 40 34.5**	**+2.3**
LPG				*e*Sn	**Sn**	**01 40 52.0**	**+0.6**
LPG	8.8nm,0.3s			*e*Sg	**Sg**	**01 41 01.1**	**+3.2**
LPG	**La Plagne** SNR=1.0	**1.98**	**188**	*e*Pn	Pn	01 40 24.8	-2.2
LPG	**La Plagne**	**1.98**	**188**	*e*Pg	**Pb**	**01 40 30.6**	**+0.8**
LPG	SNR=1.0			*e*Sn	**Sn**	**01 40 48.4**	**-3.0**
LPG	1.5nm,0.2s			*e*Sg	**Sb**	**01 40 57.1**	**+2.9**
UBR	**Ueberruh**	**2.04**	**83**	Pg	**Pn**	**01 40 28.5**	**+1.0**
UBR	**Ueberruh**	**2.04**	**83**	Px	Px	01 40 28.5	
UBR	**Ueberruh**	**2.04**	**83**	Pg	**Pn**	**01 40 28.5**	**+1.0**
LOR	**Lormes** SNR=1.0	**2.23**	**266**	*e*Pn	**Pn**	**01 40 29.0**	**-1.1**
LOR	**Lormes** baz=88	**2.23**	**266**	*e*Pg	**Pb**	**01 40 35.4**	**+1.6**
LOR	11nm,0.2s,SNR=1.0			*e*Sn	**Sn**	**01 40 54.2**	**-3.0**
LOR				*e*Sg	**Sb**	**01 41 03.6**	**+2.6**
LOR	**Lormes**	**2.23**	**266**	*e*Pg	**Pg**	**01 40 39.5**	**+2.7**
LOR	22nm,0.2s			*e*Sg	**Sg**	**01 41 07.3**	**+1.6**
LOR	**Lormes** SNR=1.0	**2.23**	**266**	*e*Pn	**Pn**	**01 40 29.0**	**-1.1**
LOR	**Lormes** baz=88	**2.23**	**266**	*e*Pg	**Pb**	**01 40 35.4**	**+1.6**
LOR	5.3nm,0.2s,SNR=1.0			*e*Sn	**Sn**	**01 40 54.2**	**-3.0**
LOR				*e*Sg	**Sb**	**01 41 03.6**	**+2.6**
WLF	**Walferdange**	**2.30**	**344**	*e*Sg	**Sg**	**01 41 08.4**	**+0.3**
WLF	**Walferdange**	**2.30**	**344**	Sg	**Sg**	**01 41 08.4**	**+0.3**
HDH	**Heidenheim-Cha**	**2.36**	**60**	Pg	**Pb**	**01 40 38.8**	**+2.7**
HDH	**Heidenheim-Cha**	**2.36**	**60**	Px	Px	01 40 38.8	
HDH	**Heidenheim-Cha**	**2.36**	**60**	Pg	**Pb**	**01 40 38.8**	**+2.7**
SMF	**Signal de Mont** SNR=1.0	**2.39**	**251**	*e*Pn	**Pn**	**01 40 30.8**	**-1.5**
SMF	**Signal de Mont**	**2.39**	**251**	*e*Pg	**Pb**	**01 40 38.7**	**+2.2**
SMF				*e*Sn	**Sn**	**01 40 57.5**	**-3.6**
SMF	10.0nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 09.5**	**-1.3**
SMF	**Signal de Mont**	**2.39**	**251**	*e*Pn	**Pn**	**01 40 35.1**	**+2.8**
SMF	**Signal de Mont**	**2.39**	**251**	*e*Pg	**Pg**	**01 40 42.6**	**+2.7**
SMF	20nm,0.2s			*e*Sg	**Sg**	**01 41 13.7**	**+2.9**
SMF	**Signal de Mont** SNR=1.0	**2.39**	**251**	*e*Pn	**Pn**	**01 40 30.8**	**-1.5**
SMF	**Signal de Mont**	**2.39**	**251**	*e*Pg	**Pb**	**01 40 38.7**	**+2.2**
SMF	5.0nm,0.2s,SNR=1.0			*e*Sn	**Sn**	**01 40 57.5**	**-3.6**
SMF	8.4nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 09.5**	**-1.3**
SSF	**Saint Saulge** SNR=1.0	**2.49**	**262**	*e*Pn	**Pn**	**01 40 32.6**	**-1.2**
SSF	**Saint Saulge** SNR=1.0	**2.49**	**262**	*e*Pg	**Pb**	**01 40 40.4**	**+2.0**
SSF				*e*Sn	**Sn**	**01 41 00.8**	**-3.0**
SSF	5.0nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 12.9**	**-1.4**
SSF	**Saint Saulge**	**2.49**	**262**	*e*Pg	**Pg**	**01 40 44.4**	**+2.4**
SSF	8.4nm,0.2s			*e*Sg	**Sg**	**01 41 16.9**	**+2.6**
SSF	**Saint Saulge** SNR=1.0	**2.49**	**262**	*e*Pn	**Pn**	**01 40 32.6**	**-1.2**
SSF	**Saint Saulge** SNR=1.0	**2.49**	**262**	*e*Pg	**Pb**	**01 40 40.4**	**+2.0**
SSF				*e*Sn	**Sn**	**01 41 00.8**	**-3.0**
SSF	2.5nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 12.9**	**-1.4**
FETA	**Feichten**	**2.50**	**99**	⇑*i*Pn	**Pn**	**01 40 33.9**	**-0.1**
FETA				⇑*i*Sn	**Sb**	**01 41 08.3**	**-0.7**
FETA	**Feichten**	**2.50**	**99**	Pn	**Pn**	**01 40 33.9**	**-0.1**
FETA				Sn	**Sb**	**01 41 08.3**	**-0.7**
AVF	**Avril sur Loir** SNR=1.0	**2.66**	**257**	*e*Pn	**Pn**	**01 40 34.4**	**-1.7**
AVF	**Avril sur Loir**	**2.66**	**257**	*e*Pg	Pb	01 40 44.1	+2.9
AVF	2.4nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 18.1**	**-1.4**
AVF	**Avril sur Loir**	**2.66**	**257**	*e*Pg	**Pg**	**01 40 48.1**	**+3.0**
AVF	4.3nm,0.2s			*e*Sg	**Sg**	**01 41 22.2**	**+2.7**
AVF	**Avril sur Loir** SNR=1.0	**2.66**	**257**	*e*Pn	**Pn**	**01 40 34.4**	**-1.7**
AVF	**Avril sur Loir**	**2.66**	**257**	*e*Pg	Pb	01 40 44.1	+2.9
ORIF	**Oris-en-Rattie** SNR=1.0	**2.68**	**199**	*e*Pn	**Pn**	**01 40 34.4**	**-2.1**
ORIF	**Oris-en-Rattie**	**2.68**	**199**	*e*Pg	Pb	01 40 43.7	+2.0
ORIF				*e*Sn	**Sn**	**01 41 04.3**	**-4.3**
ORIF	3.7nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 18.5**	**-1.9**
ORIF	**Oris-en-Rattie**	**2.68**	**199**	*e*Pg	**Pg**	**01 40 47.8**	**+2.2**
ORIF	7.6nm,0.2s			*e*Sg	**Sg**	**01 41 22.4**	**+2.0**
ORIF	**Oris-en-Rattie** SNR=1.0	**2.68**	**199**	*e*Pn	**Pn**	**01 40 34.4**	**-2.1**
ORIF	**Oris-en-Rattie**	**2.68**	**199**	*e*Pg	Pb	01 40 43.7	+2.0
ORIF	1.9nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**01 41 18.5**	**-1.9**
MOTA	**Moosalm**	**2.71**	**91**	⇑*i*Pn	**Pn**	**01 40 36.7**	**-0.2**
MOTA				⇓*i*Pg	**Pg**	**01 40 46.1**	**+0.1**
MOTA	**Moosalm**	**2.71**	**91**	Pn	**Pn**	**01 40 36.7**	**-0.2**
MBDF	**Montbardon**	**2.74**	**185**	*e*P	**Pn**	**01 40 38.3**	**+0.9**
MBDF	**Montbardon**	**2.74**	**185**	*e*Pg	**Pb**	**01 40 45.1**	**+2.4**
MBDF				*e*Sn	**Sn**	**01 41 05.7**	**-4.4**
MBDF	1.0nm,0.2s,SNR=1.0			*e*Sg	**Sb**	**01 41 19.6**	**+3.6**
MBDF	**Montbardon**	**2.74**	**185**	*e*Pg	**Pg**	**01 40 49.1**	**+2.4**
MBDF	2.4nm,0.3s			*e*Sg	**Sg**	**01 41 23.7**	**+1.4**
MBDF	**Montbardon**	**2.74**	**185**	*e*P	**Pn**	**01 40 38.3**	**+0.9**
MBDF	**Montbardon**	**2.74**	**185**	*e*Pg	**Pb**	**01 40 45.1**	**+2.4**
MBDF				*e*Sn	**Sn**	**01 41 05.7**	**-4.4**
MBDF	0.5nm,0.2s,SNR=1.0			*e*Sg	**Sb**	**01 41 19.6**	**+3.6**
FUR	**Furstenfeldbru**	**2.89**	**74**	*e*Sg	**Sg**	**01 41 26.1**	**-0.8**
FUR	**Furstenfeldbru**	**2.89**	**74**	Sg	**Sg**	**01 41 26.1**	**-0.8**
TNS	**Taunus Mts**	**2.90**	**17**	*e*Sg	**Sg**	**01 41 26.7**	**-0.6**
TNS	**Taunus Mts**	**2.90**	**17**	Sg	**Sg**	**01 41 26.7**	**-0.6**
WATA	**Walderalm**	**3.03**	**91**	⇑*i*Pn	**Pn**	**01 40 41.2**	**-0.1**
WATA	**Walderalm**	**3.03**	**91**	Pn	**Pn**	**01 40 41.2**	**-0.1**
GIVF	**Givet** SNR=1.0	**3.05**

LASF *e*Sg **Sg** **01 42 06.2 +1.1**
3.4nm,0.3s

LASF Ste Croix 4.08 215 *e*Sn **Sn** **01 41 42.3 -0.6**
LASF *e*Sg **Sg** **01 42 02.2 -2.9**
1.5nm,0.3s,SNR=1.0

KBA Koelnbreinsper 4.25 93 *e*Pn **Pn** **01 40 58.8 +0.6**
KBA Koelnbreinsper 4.25 93 Pn **Pn** **01 40 58.8 +0.6**
CAF Calviac 4.33 236 *e*Sg **Sg** **01 42 09.9 -3.2**
0.9nm,0.2s
CAF Calviac 4.33 236 *e*Sg **Sg** **01 42 13.8 +0.7**
1.4nm,0.2s
CAF Calviac 4.33 236 *e*Sg **Sg** **01 42 09.9 -3.2**
0.4nm,0.2s
RJF Les Rejaudoux 4.44 243 *e*Sg **Sg** **01 42 13.4 -3.1**
1.2nm,0.2s
RJF Les Rejaudoux 4.44 243 *e*Sg **Sg** **01 42 17.7 +1.2**
1.9nm,0.3s
RJF Les Rejaudoux 4.44 243 *e*Sg **Sg** **01 42 13.4 -3.1**
0.6nm,0.2s
TANN Tannenbergstha 4.60 48 *e*Sg **Sg** **01 42 21.5 -0.2**
TANN Tannenbergstha 4.60 48 Sg **Sg** **01 42 21.5 -0.2**
KHC Kasperske Hory 4.62 66 *e*PN Pn 01 41 06.3 +3.2
KHC *e*SG **Sg** **01 42 22.6 +0.1**
comp=Z,2.7nm,0.6s
KHC Kasperske Hory 4.62 66 Pn Pn 01 41 06.3 +3.2
KHC Sg **Sg** **01 42 22.6 +0.1**
2.7nm,0.6s
LDF La Druitiere 4.99 286 *e*Pn **Pn** **01 41 06.3 -1.8**
LDF La Druitiere 4.99 286 *e*Pg Pg 01 41 26.6 -3.1
LDF *e*Sg **Sg** **01 42 29.9 -4.3**
1.5nm,0.2s,SNR=1.0
LDF La Druitiere 4.99 286 *e*Sg **Sg** **01 42 33.5 -0.7**
5.8nm,0.3s
LDF La Druitiere 4.99 286 *e*Pn **Pn** **01 41 06.3 -1.8**
LDF La Druitiere 4.99 286 *e*Pg Pg 01 41 26.6 -3.1
LDF *e*Sg **Sg** **01 42 33.5 -0.7**
2.9nm,0.3s
MFF Saint Martin d 5.04 263 *e*Sg **Sg** **01 42 32.2 -3.7**
0.9nm,0.2s
MFF Saint Martin d 5.04 263 *e*Sg **Sg** **01 42 36.2 +0.3**
1.3nm,0.2s
MFF Saint Martin d 5.04 263 *e*Sg **Sg** **01 42 32.2 -3.7**
0.4nm,0.2s
FLN La Foliniere 5.26 287 *e*Pn **Pn** **01 41 10.9 -0.9**
FLN *e*Sn Sn 01 42 06.3 -5.6
SNR=1.0
FLN *e*Sg **Sg** **01 42 39.4 -3.4**
3.4nm,0.3s
FLN La Foliniere 5.26 287 *e*Pn Pn 01 41 14.9 +3.1
FLN *e*Sg **Sg** **01 42 43.4 +0.6**
3.4nm,0.3s
FLN La Foliniere 5.26 287 *e*Pn **Pn** **01 41 10.9 -0.9**
FLN *e*Sn Sn 01 42 06.3 -5.6
SNR=1.0
FLN *e*Sg **Sg** **01 42 43.4 +0.6**
1.7nm,0.3s
CLL Collm 5.44 43 *e*Sn Sn 01 42 01.0 -15
CLL *e*Sg **Sg** **01 42 52.0 +3.4**
GRR Gorron 5.44 283 *e*Sg **Sg** **01 42 44.4 -4.4**
1.1nm,0.2s
GRR Gorron 5.44 283 *e*Sg **Sg** **01 42 48.2 -0.6**
3.2nm,0.2s
GRR Gorron 5.44 283 *e*Sg **Sg** **01 42 48.2 -0.6**
1.6nm,0.2s
PRU Pruhonice 5.52 60 *e*SG **Sg** **01 42 52.5 +1.2**
PRU Pruhonice 5.52 60 Sg **Sg** **01 42 52.5 +1.2**
BRG Berggiesshubel 5.63 50 SG **Sg** **01 42 53.7 -1.0**
1.5nm,0.4s

IDC 30 01:52:13.8±0.9, 14°.61N×93°.46E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=33.2km s-min=18.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.50**	**53**	Pn	Pn	01 53 50.9	0.0
	0.7nm,0.3s,baz=242,slow=15,SNR=23						
CMAR				Sn	Sn	01 55 02.4	-3.5
	1.1nm,0.3s,baz=242,slow=27,SNR=8.5						
VIS	**Vishakhapatnam**	**10.21**	**289**	*i* P	Pn	01 54 42.3	+0.5
VIS				*i* S	Sn	01 56 29.7	-7.4
VIS				*i* S	Sn	01 56 30.5	-6.6
VIS				*ex*	x	01 56 31.0	
	comp=N,25nm,0.4s						
VIS				*ex*	x	01 56 33.4	
	comp=E,26nm,0.2s						
PSI	**Prapat**	**12.91**	**155**	Pn	Pn	01 55 20.4	+1.5
	comp=E,0.4nm,0.3s,baz=91,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**33.42**	**346**	P	P	01 58 54.5	+0.2
	comp=E,0.7nm,0.8s,baz=154,slow=8.7,SNR=10						
SONM	**Songino Array**	**34.83**	**15**	P	P	01 59 06.8	+0.3
	comp=E,0.9nm,0.9s,baz=189,slow=8.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**39.84**	**352**	P	P	01 59 48.4	-0.4
	comp=E,0.7nm,0.5s,baz=187,slow=6.0,SNR=4.9						
WRA	**Warramunga Arr**	**52.87**	**129**	P	P	02 01 32.3	+0.6
	comp=E,0.6nm,0.9s,baz=312,slow=8.0,SNR=4.2						
WRA				PcP	PcP	02 02 46.3	+5.2
	comp=E,0.5nm,0.8s,baz=321,slow=3.4,SNR=5.5						
ASAR	**Alice Springs**	**54.87**	**133**	P	P	02 01 45.4	-0.9
	comp=E,0.7nm,1.0s,baz=220,slow=20,SNR=3.1						
FINES	**FINESS Array B**	**66.50**	**331**	P	P	02 03 04.5	-0.6
	comp=E,0.4nm,0.3s,baz=187,slow=35,SNR=3.2						
GERES	**GERESS Array B**	**72.43**	**317**	P	P	02 03 42.3	+0.1
	comp=E,0.5nm,0.6s,baz=79,slow=6.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**88.42**	**283**	P	P	02 05 09.0	+0.4
	comp=E,0.1nm,0.7s,baz=303,slow=35,SNR=2.6						

*ISCJB **30** 02:03:01.9±0.7, 30°.42N±0°.07×50°.52E±0°.06, h57km±9km, mb3.5/11, Error ellipse: s-maj=12.0km s-min=6.6km az=153.7*
*CSEM **30** 02:03:01.5±0.1, 30°.41N×50°.53E, h20km, ML3.3, Error ellipse: s-maj=5.6km s-min=3.6km az=156.0*
*IDC **30** 02:03:08.6±7.8, 30°.71N×50°.32E, h85km±70km, mb3.2/11, mb1 3.3/12, mb1mx3.2/31, mbtmp3.2/12, ML2.9/1, Error ellipse: s-maj=39.6km s-min=20.2km az=161.0*
ISC 30 02:03:03.2±1.3, 30°.42N±0°.06×50°.51E±0°.05, h50km±15km, n28, σ1$03/34, mb3.7/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**2.23**	**319**	*e*Pn	**Pn**	**02 03 37.0**	**-0.7**
UMR	**Umm Al-Rimmam**	**2.57**	**251**	*e*P	**Pn**	**02 03 42.1**	**-0.3**
UMR	**Umm Al-Rimmam**	**2.57**	**251**	*e*P	**Pn**	**02 03 42.1**	**-0.3**
KBD	**Kabd**	**2.74**	**244**	*e*P	**Pn**	**02 03 44.7**	**-0.1**
KBD				*e*S	**Sn**	**02 04 17.0**	**+0.3**
KBD				AML	AML	02 04 17.2	
	comp=Z,61nm,0.5s						
KBD	**Kabd**	**2.74**	**244**	*e*P	**Pn**	**02 03 44.7**	**-0.1**
KBD				*e*S	**Sn**	**02 04 17.0**	**+0.3**
MIB	**Mutribah**	**2.81**	**258**	*e*P	**Pn**	**02 03 45.5**	**-0.2**
MIB	**Mutribah**	**2.81**	**258**	*e*P	**Pn**	**02 03 45.6**	**-0.2**
RDF	**Al-Radifah**	**2.97**	**241**	*e*P	**Pn**	**02 03 48.3**	**+0.3**
RDF				*e*S	**Sn**	**02 04 23.3**	**+0.9**
RDF				AML	AML	02 04 28.0	
	comp=Z,96nm,0.3s						
RDF	**Al-Radifah**	**2.97**	**241**	*e*P	**Pn**	**02 03 48.3**	**+0.3**
RDF				*e*S	**Sn**	**02 04 23.3**	**+0.9**
GHIR	**Ghir-Karzin**	**3.04**	**134**	*e*Pn	**Pn**	**02 03 47.8**	**-1.1**
NAY	**Al-Naaiem**	**3.07**	**248**	*e*P	**Pn**	**02 03 49.1**	**-0.1**
NAY				*e*S	**Sn**	**02 04 24.5**	**-0.2**
NAY				AML	AML	02 04 25.5	
	comp=Z,36nm,0.5s						
NAY	**Al-Naaiem**	**3.07**	**248**	*e*P	**Pn**	**02 03 49.1**	**-0.1**
NAY				*e*S	**Sn**	**02 04 24.5**	**-0.2**
NASN	**Na'in**	**3.08**	**39**	*e*Pn	**Pn**	**02 03 50.0**	**+0.3**
KHMZ	**Khomeyn**	**3.34**	**352**	*e*Pn	**Pn**	**02 03 53.2**	**0.0**
KRBR	**Kerman**	**5.43**	**93**	*e*Pn	**Pn**	**02 04 21.5**	**-0.4**
BRTR	**Keskin Array B**	**16.61**	**308**	P	**Pn**	**02 06 52.9**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=122,slow=14,SNR=2.9						
AKTO	**Aktyubinsk**	**20.77**	**14**	P	**P**	**02 07 39.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=212,slow=5.6,SNR=2.6						
MLR	**Muntele Rosu**	**24.39**	**315**	P	**P**	**02 08 17.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=122,slow=14,SNR=3.4						
BVAR	**Borovoye Array**	**26.85**	**27**	P	**P**	**02 08 42.6**	**+3.7**
	comp=Z,0.4nm,0.5s,baz=226,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**29.47**	**47**	P	**P**	**02 09 04.2**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=235,slow=5.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**34.09**	**36**	P	**P**	**02 09 43.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=262,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**34.94**	**340**	P	**P**	**02 09 48.5**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=155,slow=10,SNR=10.0						
HFS	**Hagfors**	**38.53**	**331**	P	**P**	**02 10 19.1**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=128,slow=9.6,SNR=12						
NOA	**NORSAR Array B**	**40.05**	**331**	P	**P**	**02 10 31.2**	**-2.1**
	comp=Z,1.7nm,1.1s,baz=109,slow=9.4,SNR=2.6						
ARCES	**ARCESS Array B**	**41.67**	**347**	P	**P**	**02 10 46.1**	**-0.4**
	comp=Z,2.5nm,1.1s,baz=159,slow=7.7,SNR=2.3						
EKA	**Eskdalemuir Ar**	**45.10**	**319**	P	**P**	**02 11 13.2**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=104,slow=8.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**48.09**	**260**	P	**P**	**02 11 38.6**	**+0.4**
	comp=Z,0.4nm,1.1s,baz=56,slow=7.5,SNR=12						
FRB	**Frobisher Bay**	**74.65**	**336**	P	**P**	**02 14 36.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=56,slow=11,SNR=3.5						

IDC 30 02:13:55.0±14.0, 15°.24S×165°.82E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=242.4km s-min=36.7km az=56.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.82**	**175**	Pn	Pn	02 15 36.6	+0.1
	0.8nm,0.3s,baz=303,slow=24,SNR=8.9						
DZM				Sn	Sn	02 16 55.4	+0.3
	1.4nm,0.3s,baz=110,slow=21,SNR=6.5						
STKA	**Stephens Creek**	**27.60**	**229**	P	P	02 19 44.5	+0.3
	2.1nm,0.8s,baz=53,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**30.34**	**257**	P	P	02 20 07.9	-0.9
	0.3nm,0.7s,baz=83,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**31.18**	**249**	P	P	02 20 16.8	+0.6
	0.9nm,0.5s,baz=80,slow=8.9,SNR=9.6						

*IDC **30** 02:15:28.1±5.7, 32°.11S×179°.90W, h231km±45km, mb3.5/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, Error ellipse: s-maj=51.2km s-min=24.1km az=45.0*
*ISCJB **30** 02:15:30.3±1.2, 32°.2S±0°.1×179°.9E±0°.2, h250km, mb3.6/4, Error ellipse: s-maj=24.9km s-min=14.7km az=176.6*
ISC 30 02:15:31.1±1.5, 32°.3S±0°.1×179°.9E±0°.2, h250km, n9, σ1$48/10, mb3.7/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.43**	**200**	P	**Pn**	**02 17 05.3**	**+0.8**
	1.0nm,0.3s,baz=108,slow=1.9,SNR=12						
URZ				S	**S**	**02 18 17.4**	**-1.9**
	0.7nm,0.3s,baz=43,slow=17,SNR=4.4						
STKA	**Stephens Creek**	**32.38**	**260**	P	**P**	**02 21 39.3**	**+1.7**
	1.4nm,0.7s,baz=94,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**41.30**	**270**	P	**P**	**02 22 52.1**	**-0.5**
	1.4nm,0.5s,baz=106,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**42.46**	**275**	P	**P**	**02 23 01.1**	**-0.9**
	1.7nm,0.3s,baz=112,slow=8.0,SNR=49						
VNDA	**Vanda**	**46.09**	**185**	P	**P**	**02 23 29.8**	**0.0**
	0.6nm,0.4s,baz=293,slow=2.8,SNR=9.0						
SNAA	**Sanae**	**76.35**	**179**	*e*P	**P**	**02 26 52.7**	**+0.3**
VNA3	**Neumayer Olymp**	**76.57**	**177**	*e*P	**P**	**02 26 54.2**	**+0.7**
VNA2	**Neumayer--Watz**	**76.98**	**178**	*e*P	**P**	**02 26 56.9**	**+1.1**
	baz=202,slow=4.9						
FINES	**FINESS Array B**	**146.23**	**338**	PKPbc	**PKPbc**	**02 34 39.0**	**-2.3**
	1.3nm,0.8s,baz=64,slow=4.4,SNR=5.5						

*ISCJB **30** 02:44:55.9±0.8, 26°.7S±0°.2×177°.2W±0°.2, h95km, mb4.0/5, Error ellipse: s-maj=28.2km s-min=20.4km az=176.1*
*IDC **30** 02:45:02.7±12.0, 26°.75S×177°.20W, h145km±103km, mb3.7/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/34, Error ellipse: s-maj=46.3km s-min=35.6km az=158.0*
ISC 30 02:44:56.7±0.8, 26°.7S±0°.2×177°.1W±0°.2, h95km, n23, σ1$00/16, mb4.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.70**	**283**	*e*LR	LR	02 52 19.9	
	107nm,27.1s						
RPZ	**Rata Peaks**	**19.57**	**206**	LR	LR	02 56 22.6	
	comp=Z,145nm,18.3s,baz=314,slow=35						
TBI	**Tubuai**	**25.21**	**89**	*e*LR	LR	02 56 09.3	
TBI	71nm,30.0s			*e*T	T	03 15 30.5	
	8.5nm,0.4s						
PAE	**Paea**	**26.93**	**76**	*e*T	T	03 17 45.1	
	2.8nm,0.3s						
PPT2	**Papeete2**	**26.97**	**76**	*e*LR	LR	02 57 10.1	
	122nm,26.0s						
PPT2				*e*T	T	03 17 48.6	
	3.6nm,0.3s						
TVO	**Taravao**	**27.17**	**77**	*e*T	T	03 18 02.8	
	7.3nm,0.3s						
CTA	**Charters Tower**	**34.22**	**273**	P	**P**	**02 51 35.2**	**+1.7**
	1.8nm,0.6s,baz=93,slow=13,SNR=3.5						
CTA				LR	LR	03 03 27.1	
	comp=Z,65nm,18.1s,baz=232,slow=32						
STKA	**Stephens Creek**	**36.28**	**252**	LR	LR	03 05 54.0	
	comp=Z,73nm,18.5s,baz=25,slow=35						
RKT	**Rikitea**	**38.22**	**94**	*e*T	T	03 31 42.7	
	2.0nm,0.3s						
ASAR	**Alice Springs**	**44.27**	**263**	P	**P**	**02 52 56.2**	**-0.9**
	1.2nm,0.5s,baz=91,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**44.92**	**268**	P	**P**	**02 53 01.3**	**-1.0**
	2.6nm,0.7s,baz=105,slow=7.8,SNR=24						
SNAA	**Sanae**	**81.87**	**178**	*e*P	**P**	**02 57 05.1**	**-0.1**
VNA3	**Neumayer Olymp**	**81.98**	**176**	*e*P	**P**	**02 57 05.9**	**+0.2**
VNA2	**Neumayer--Watz**	**82.42**	**177**	*e*P	**P**	**02 57 08.5**	**+0.5**
NVAR	**Mina Array Bea**	**84.93**	**42**	P	**P**	**02 57 22.2**	**+0.8**
	2.2nm,0.8s,baz=218,slow=7.9,SNR=4.7						
PDAR	**Pinedale Array**	**92.85**	**43**	P	**P**	**02 57 59.3**	**+0.3**
	0.7nm,0.8s,baz=176,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**115.96**	**311**	PKP	**PKPdf**	**03 03 27.1**	**-1.2**
	0.4nm,0.7s,baz=72,slow=2.5,SNR=5.2						
ARCES	**ARCESS Array B**	**135.09**	**349**	PKP	**PKPdf**	**03 04 03.8**	**-0.3**
	6.3nm,1.1s,baz=45,slow=1.4,SNR=5.7						
FINES	**FINESS Array B**	**141.88**	**342**	PKhKP	PKPpre	03 04 12.4	
	0.8nm,0.7s,baz=28,slow=8.6,SNR=3.6						
NOA	**NORSAR Array B**	**145.16**	**353**	PKPbc	**PKPbc**	**03 04 21.9**	**-0.5**
	3.1nm,0.8s,baz=13,slow=2.6,SNR=7.7						
AKASG	**Malin Array Be**	**148.71**	**327**	PKPbc	**PKPbc**	**03 04 31.2**	**-1.5**
	2.1nm,0.6s,baz=42,slow=3.4,SNR=8.8						
AKASG				PKPab	**PKPab**	**03 04 38.1**	**+1.5**
	1.0nm,0.5s,baz=48,slow=4.4,SNR=6.0						
BRTR	**Keskin Array B**	**151.34**	**305**	PKPbc	**PKPbc**	**03 04 38.6**	**-0.9**
	0.7nm,0.6s,baz=122,slow=3.6,SNR=6.0						
BRTR				PKPab	**PKPab**	**03 04 48.0**	**0.0**
	1.1nm,0.6s,baz=93,slow=4.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**166.52**	**175**	PKPab	**PKPab**	**03 05 54.3**	**+0.4**
	0.5nm,0.8s,baz=172,slow=2.5,SNR=5.4						

IDC 30 02:49:29.4±12.0, 17°.68S×178°.33W, h383km±131km, mb3.0/6, mb1 3.4/6, mb1mx3.1/19, mbtmp3.0/6, Error ellipse: s-maj=94.3km s-min=35.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.80**	**241**	P	P	02 56 19.0	-0.2
	1.6nm,0.6s,baz=79,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**44.74**	**259**	P	P	02 57 06.7	-0.1
	0.2nm,0.3s,baz=96,slow=7.3,SNR=9.6						
ASAR	**Alice Springs**	**44.92**	**254**	P	P	02 57 08.1	-0.1
	1.8nm,0.5s,baz=89,slow=8.6,SNR=28						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	03 01 25.5	+0.1
	0.2nm,0.5s,baz=223,slow=5.0,SNR=5.7						
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	03 01 27.2	0.0
	0.3nm,0.6s,baz=218,slow=7.1,SNR=6.1						
PDAR	**Pinedale Array**	**87.13**	**43**	P	P	03 01 33.3	-0.1
	0.4nm,0.6s,baz=242,slow=1.9,SNR=3.1						
BRTR	**Keskin Array B**	**144.67**	**315**	PKP	PKPbc	03 08 21.1	-0.2
	0.5nm,0.6s,baz=116,slow=4.5,SNR=5.0						
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	PKPbc	03 08 28.1	-0.8
	1.0nm,0.6s,baz=29,slow=3.0,SNR=8.2						

IDC 30 02:55:23.4±1.0, 13°.65N×145°.03E, h64km±9km, mb3.5/7, mb1 3.8/7, mb1mx3.5/25, mbtmp3.5/7, Error ellipse: s-maj=30.5km s-min=18.9km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.17**	**251**	P	Pn	02 55 34.5	+1.3
	5μm,0.3s,baz=146,slow=1.3,SNR=938						
GUMO				S	Sn	02 55 41.9	+1.6
	2μm,0.3s,baz=359,slow=23,SNR=31						
WRA	**Warramunga Arr**	**35.00**	**198**	P	P	03 02 09.3	-0.5
	0.8nm,0.6s,baz=20,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**38.65**	**196**	P	P	03 02 40.6	-0.2
	0.4nm,0.6s,baz=24,slow=12,SNR=7.0						
SONM	**Songino Array**	**46.78**	**325**	P	P	03 03 47.8	+1.2
	0.5nm,0.6s,baz=140,slow=6.4,SNR=5.4						
MKAR	**Makanchi Array**	**61.56**	**316**	P	P	03 05 34.1	+0.1
	0.4nm,0.5s,baz=89,slow=8.3,SNR=9.5						
ILAR	**Eielson Array**	**68.45**	**25**	P	P	03 06 16.9	-1.5
	0.4nm,0.4s,baz=252,slow=5.8,SNR=16						
YKA	**Yellowknife Ar**	**82.74**	**27**	P	P	03 07 39.6	-0.5
	0.5nm,0.5s,baz=286,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**86.76**	**51**	P	P	03 08 02.3	+1.1
	1.9nm,0.6s,baz=264,slow=5.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**134.96**	**305**	PKP	PKPdf	03 14 35.7	-0.6
	0.5nm,0.6s,baz=43,slow=1.2,SNR=11						
DBIC	**Dimbokro**	**143.93**	**302**	PKP	PKPab	03 14 49.9	+0.1
	0.9nm,0.3s,baz=96,slow=14,SNR=10						
CFAA	**Coronel Fontan**	**144.66**	**126**	PKP	PKPbc	03 14 52.8	+0.4
	1.5nm,0.7s,baz=233,slow=3.9,SNR=24						
LPAZ	**La Paz**	**147.87**	**99**	PKPbc	PKPbc	03 15 04.0	+1.0
	3.0nm,0.5s,baz=266,slow=3.9,SNR=4.6						
SIV	**San Ignacio**	**154.66**	**99**	PKPbc	PKPbc	03 15 17.8	-0.3
	1.1nm,0.5s,baz=317,slow=5.9,SNR=2.5						

IDC 30 03:00:37.3±1.6, 24°.08S×66°.93W, h170km±15km, mb3.6/3, mb1 3.6/7, mb1mx3.4/19, mbtmp3.4/7, MS3.1/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=24.2km s-min=12.9km az=101.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.34**	**308**	S	Sn	03 01 54.7	+5.4
CFAA	**Coronel Fontan**	**7.58**	**188**	P	Pn	03 02 27.1	+1.9
	0.1nm,0.3s,baz=342,slow=8.3,SNR=6.1						
CFAA				S	Sn	03 03 49.1	-1.2
	0.1nm,0.3s,baz=276,slow=20,SNR=5.6						
LPAZ	**La Paz**	**7.84**	**352**	P	Pn	03 02 29.5	+0.1
	0.4nm,0.3s,baz=140,slow=6.7,SNR=16						
LPAZ				S	Sn	03 03 58.5	+0.7
	0.1nm,0.3s,baz=218,slow=10,SNR=4.6						
SIV	**San Ignacio**	**9.75**	**35**	P	Pn	03 02 52.9	-1.0
	0.6nm,0.3s,baz=242,slow=12,SNR=12						
SIV				S	Sn	03 04 42.8	+0.3
	0.1nm,0.3s,baz=138,slow=19,SNR=2.6						
PLCA	**Paso Flores**	**16.88**	**190**	P	P	03 04 21.5	-1.4
	0.1nm,0.3s,baz=61,slow=9.3,SNR=2.2						
BDFB	**Brasilia**	**19.66**	**68**	P	P	03 04 54.1	+0.7
	1.0nm,0.3s,baz=236,slow=12,SNR=23						
BDFB				LR	LR	03 13 11.3	
	comp=Z,54nm,21.3s,baz=92,slow=38						
TORD	**Torodi Ar. Bea**	**76.54**	**69**	P	P	03 12 08.7	-0.6
	0.4nm,0.4s,baz=270,slow=7.1,SNR=18						
ULM	**Lac du Bonnet**	**78.33**	**342**	P	P	03 12 17.4	-0.9
	1.3nm,0.4s,baz=121,slow=5.5,SNR=3.6						
YKA	**Yellowknife Ar**	**94.22**	**340**	P	P	03 13 36.1	-0.3
	0.3nm,0.5s,baz=131,slow=4.6,SNR=10						
WRA	**Warramunga Arr**	**131.58**	**207**	PKP	PKPdf	03 19 30.5	-0.1
	0.3nm,0.3s,baz=154,slow=2.0,SNR=14						
ZALV	**Zalesovo Beam**	**143.44**	**28**	PKhKP	PKPpre	03 19 48.9	
	1.0nm,0.5s,baz=322,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	**146.55**	**40**	PKP	PKPdf	03 19 57.2	+0.3
	1.1nm,0.7s,baz=330,slow=2.3,SNR=14						
MKAR				PKPbc	PKPbc	03 19 58.9	+0.3
	1.0nm,0.7s,baz=301,slow=3.3,SNR=14						

*ISCJB **30** 03:08:33.2±0.3, 6°.75N±0°.03×72°.92W±0°.04, h170km±3km, mb3.9/19, Error ellipse: s-maj=6.3km s-min=4.4km az=33.1*
*FUNV **30** 03:08:33.1, 6°.71N×73°.20W, h163km, MW4.3*
*IDC **30** 03:08:33.7±0.5, 6°.75N×72°.96W, h160km±4km, mb3.8/17, mb1 3.9/21, mb1mx3.8/28, mbtmp3.8/21, Error ellipse: s-maj=10.9km s-min=7.6km az=92.0*
*NEIC **30** 03:08:34.2, 6°.84N×73°.07W, h156km, mb4.6/12, After RSNC.*
ISC 30 03:08:33.9±0.4, 6°.81N±0°.04×72°.98W±0°.05, h162km±3km, n99, σ1$06/135, mb3.9/19, 9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.24**	**32**	↓*i* P	**Pn**	**03 09 03.3**	**+1.2**
CAPV				*e*S	**Sn**	**03 09 23.8**	**-0.1**
ROSC	**El Rosal**	**2.36**	**215**	P	**Pn**	**03 09 14.9**	**+0.6**
	366nm,0.3s,baz=101,slow=21,SNR=745						
ROSC				S	**Sn**	**03 09 44.1**	**-1.4**
	196nm,0.3s,baz=91,slow=20,SNR=12						
ROSC	**El Rosal**	**2.36**	**215**	*e*Pn	**Pn**	**03 09 14.8**	**+0.5**
ROSC				*e*S	**Sn**	**03 09 43.1**	**-2.4**
SOCV	**Socops**	**2.57**	**55**	↓*i* P	**Pn**	**03 09 17.9**	**+1.4**
SOCV				*e*S	**Sn**	**03 09 49.5**	**+0.1**
VIGV	**El Vigia**	**2.58**	**38**	↓*i* P	**Pn**	**03 09 17.6**	**+1.1**
VIGV				*e*S	**Sn**	**03 09 50.8**	**+1.1**
SDV	**Santo Domingo**	**3.11**	**48**	*e*Pn	**Pn**	**03 09 24.4**	**+1.2**
SDV				*e*S	**Sn**	**03 10 01.9**	**+0.2**
ELOV	**Elorza**	**3.48**	**87**	*e*P	**Pn**	**03 09 29.3**	**+1.5**
VIRV	**Villa del Rosa**	**3.71**	**9**	↓*i* P	**Pn**	**03 09 30.0**	**-0.8**

BDFB	**Brasilia**	**33.30**	**132**	P		**P**	**03 14 57.2**	**+0.6**
	7.6nm,0.5s,baz=290,slow=11,SNR=31								
BDFB	**Brasilia**	**33.30**	**132**	P		**P**	**03 14 57.2**	**+0.6**
TXAR	**Lajitas Array**	**36.57**	**312**	P		**P**	**03 15 24.6**	**+0.2**
	0.7nm,0.5s,baz=125,slow=9.1,SNR=22								
TXAR				pP		**pP**	**03 16 00.9**	**+1.8**
	0.6nm,0.7s,baz=126,slow=8.4,SNR=4.0								
TXAR				PcP		**PcP**	**03 17 45.7**	**+1.3**
	0.6nm,0.6s,baz=131,slow=5.5,SNR=6.7								
TXAR	**Lajitas Array**	**36.57**	**312**	P		**P**	**03 15 24.6**	**+0.2**
TXAR				pP		**pP**	**03 16 00.9**	**+1.8**
TXAR				PcP		**PcP**	**03 17 45.7**	**+1.3**
RCBR	**Riachuelo**	**39.08**	**108**	P		**P**	**03 15 46.4**	**+0.8**
	2.7nm,0.5s,baz=251,slow=23,SNR=5.7								
RCBR	**Riachuelo**	**39.08**	**108**	P		**P**	**03 15 46.4**	**+0.8**
AGMN	**Agassiz Nation**	**45.69**	**339**	*e*P		**P**	**03 16 37.2**	**-1.3**
ULM	**Lac du Bonnet**	**47.34**	**340**	P		**P**	**03 16 51.0**	**-0.4**
	3.3nm,0.4s,baz=139,slow=7.6,SNR=8.1								
ULM	**Lac du Bonnet**	**47.34**	**340**	P		**P**	**03 16 51.0**	**-0.4**
PLCA	**Paso Flores**	**47.36**	**177**	P		**P**	**03 16 50.5**	**-1.1**
	1.2nm,0.8s,baz=16,slow=14,SNR=3.4								
PLCA	**Paso Flores**	**47.36**	**177**	P		**P**	**03 16 50.5**	**-1.1**
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**	**03 16 58.5**	**+1.1**
	4.4nm,0.5s,baz=181,slow=7.9,SNR=25								
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**	**03 16 58.5**	**+1.1**
PDAR	**Pinedale Array**	**48.17**	**324**	P		**P**	**03 16 58.3**	**+0.2**
	0.7nm,0.4s,baz=130,slow=9.3,SNR=6.8								
PDAR	**Pinedale Array**	**48.17**	**324**	P		**P**	**03 16 58.3**	**+0.2**
TPAW	**Teton Pass**	**49.42**	**324**	*e*P		**P**	**03 17 08.2**	**+0.5**
	1.1nm,0.5s								
RRI2	**Red Ridge**	**49.55**	**324**	*e*P		**P**	**03 17 09.2**	**+0.6**
	0.9nm,0.3s								
YKA	**Yellowknife Ar**	**63.32**	**340**	P		**P**	**03 18 45.2**	**-0.1**
	2.3nm,0.5s,baz=132,slow=6.8,SNR=69								
YKA				pP		**pP**	**03 19 24.2**	**+0.7**
	0.8nm,0.5s,baz=132,slow=6.9,SNR=3.3								
YKA				sP		**sP**	**03 19 40.4**	**-0.7**
	0.7nm,0.6s,baz=130,slow=7.0,SNR=2.3								
YKA	**Yellowknife Ar**	**63.32**	**340**	P		**P**	**03 18 45.2**	**-0.1**
YKA				pP		**pP**	**03 19 24.2**	**+0.7**
YKA				sP		**sP**	**03 19 40.4**	**-0.7**
DBIC	**Dimbokro**	**67.60**	**86**	P		**P**	**03 19 13.2**	**-0.6**
	7.9nm,0.7s,baz=261,slow=5.6,SNR=30								
DBIC	**Dimbokro**	**67.60**	**86**	*e*P		**P**	**03 19 12.6**	**-1.1**
	6.6nm,0.6s								
SUMG	**Summit**	**68.97**	**11**	*e*P		**P**	**03 19 22.1**	**+0.4**
	5.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P		**P**	**03 19 48.8**	**-1.3**
	0.9nm,0.4s,baz=284,slow=6.8,SNR=50								
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P		**P**	**03 19 48.8**	**-1.3**
ILAR	**Eielson Array**	**77.03**	**335**	P		**P**	**03 20 08.8**	**+0.2**
	0.3nm,0.4s,baz=97,slow=4.2,SNR=7.3								
ILAR				pP		**pP**	**03 20 47.6**	**-0.7**
	0.3nm,0.5s,baz=97,slow=4.5,SNR=2.3								
ILAR	**Eielson Array**	**77.03**	**335**	P		**P**	**03 20 08.8**	**+0.2**
ILAR				pP		**pP**	**03 20 47.6**	**-0.7**
NB2	**NORSAR Subarra**	**81.27**	**29**	P		**P**	**03 20 32.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=268,slow=5.6								
NOA	**NORSAR Array B**	**81.27**	**29**	P		**P**	**03 20 32.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=268,slow=5.3,SNR=4.1								
NOA	**NORSAR Array B**	**81.27**	**29**	P		**P**	**03 20 32.5**	**+0.7**
GERES	**GERESS Array B**	**82.74**	**42**	P		**P**	**03 20 40.0**	**+0.1**
	comp=Z,0.1nm,0.2s,baz=270,slow=4.0,SNR=5.9								
GERES	**GERESS Array B**	**82.74**	**42**	P		**P**	**03 20 40.0**	**+0.1**
ARCES	**ARCESS Array B**	**86.64**	**20**	P		**P**	**03 20 58.7**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=274,slow=3.9,SNR=20								
ARCES	**ARCESS Array B**	**86.64**	**20**	P		**P**	**03 20 58.7**	**-0.1**
VNA3	**Neumayer Olymp**	**88.12**	**163**	*e*P		**P**	**03 21 05.1**	**-0.7**
VNA2	**Neumayer--Watz**	**88.64**	**163**	*e*P		**P**	**03 21 07.6**	**-0.6**
	baz=306,slow=6.0								
ZALV	**Zalesovo Beam**	**116.65**	**14**	PKP		**PKPdf**	**03 26 59.4**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=321,slow=1.8,SNR=3.0								
ZALV	**Zalesovo Beam**	**116.65**	**14**	PKP		**PKPdf**	**03 26 59.4**	**+0.7**
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		**PKPdf**	**03 27 09.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=310,slow=2.6,SNR=24								
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		**PKPdf**	**03 27 09.4**	**-0.4**
SONM	**Songino Array**	**125.59**	**1**	PKP		**PKPdf**	**03 27 16.8**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=311,slow=1.3,SNR=10								
SONM	**Songino Array**	**125.59**	**1**	PKP		**PKPdf**	**03 27 16.8**	**+0.5**
AS31	**Alice Springs**	**149.22**	**234**	*e*PKPbc		**PKPbc**	**03 28 03.4**	**-0.8**
ASAR	**Alice Springs**	**149.22**	**234**	PKP		**PKPdf**	**03 27 59.5**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=117,slow=3.1,SNR=26								
ASAR				PKPbc		**PKPbc**	**03 28 03.3**	**-0.9**
	comp=Z,4.1nm,0.6s,baz=118,slow=3.6,SNR=46								
ASAR				PKPab		**PKPab**	**03 28 08.7**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=117,slow=4.0,SNR=10								
ASAR				pPKPbc		**pPKPbc**	**03 28 45.4**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=112,slow=3.9,SNR=1.9								
ASAR	**Alice Springs**	**149.22**	**234**	PKP		**PKPdf**	**03 27 59.5**	**-0.3**
ASAR				PKPbc		**PKPbc**	**03 28 03.3**	**-0.9**
ASAR				PKPab		**PKPab**	**03 28 08.7**	**-0.5**
ASAR				pPKPbc		**pPKPbc**	**03 28 45.4**	**-1.2**
WRAB	**Tennant Creek**	**150.45**	**241**	*e*PKPbc		**PKPbc**	**03 28 06.2**	**-1.0**
WRA	**Warramunga Arr**	**150.45**	**241**	PKP		**PKPdf**	**03 28 01.8**	**0.0**
	comp=Z,3.8nm,0.5s,baz=108,slow=2.5,SNR=67								
WRA				PKPbc		**PKPbc**	**03 28 06.3**	**-0.9**
	comp=Z,3.8nm,0.5s,baz=108,slow=2.5,SNR=90								
WRA				pPKP		**pPKPdf**	**03 28 45.2**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=107,slow=2.6,SNR=3.0								
WRA				pPKPbc		**pPKPbc**	**03 28 48.8**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=106,slow=2.6,SNR=3.6								
WRA	**Warramunga Arr**	**150.45**	**241**	PKP		**PKPdf**	**03 28 01.8**	**0.0**
WRA				PKPbc		**PKPbc**	**03 28 06.3**	**-0.9**
WRA				pPKP		**pPKPdf**	**03 28 45.2**	**+0.6**
WRA				pPKPbc		**pPKPbc**	**03 28 48.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKP		**PKPdf**	**03 28 07.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=196,slow=40,SNR=4.9								
CMAR				PKPbc		**PKiKP**	**03 28 14.9**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=336,slow=3.9,SNR=9.7								
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKP		**PKPdf**	**03 28 07.5**	**+0.9**
CMAR				PKPbc		**PKiKP**	**03 28 14.9**	**+0.4**

*DDA **30** 03:30:35.0,39˚.16N×26˚.33E,h7km,MD2.8*
*ISK **30** 03:30:38.3,39˚.05N×26˚.50E,h19km,MD2.8*
*CSEM **30** 03:30:38.3±0.3,39˚.04N×26˚.54E,h10km,MD2.8,Error ellipse: s-maj=8.1km s-min=4.2km az=89.0*

ISC 30 03:30:37.0±1.6,**39˚.10N**±0˚.04×**26˚.42E**±0˚.07,**h2**km±12km, **n12**,σ**0**.**84**/**20**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.73**	**354**	*e*PG	Pn	03 30 54.0	-0.2
EZN				*e*SG	**Sn**	**03 31 05.9**	**-0.1**
EZN	**Ezine**	**0.73**	**354**	*e*Pg	Pn	03 30 54.1	-0.2
EZN				*e*Sg	**Sn**	**03 31 05.9**	**-0.1**
URLA	**Izmir**	**0.75**	**170**	*i* P	**Pg**	**03 30 51.2**	**-0.2**
URLA				*i* S	**Sg**	**03 31 01.6**	**+0.4**
URLA	**Izmir**	**0.75**	**170**	*i* P	**Pg**	**03 30 51.2**	**-0.2**
URLA				*i* S	**Sg**	**03 31 01.6**	**+0.4**
BALY	**Balya**	**1.12**	**55**	*i* P	**Pn**	**03 30 59.7**	**-0.1**
BALY				*i* S	**Sn**	**03 31 17.6**	**+1.7**
BALY	**Balya**	**1.12**	**55**	*i* P	**Pn**	**03 30 59.7**	**-0.1**
BALY				*i* S	**Sn**	**03 31 17.6**	**+1.7**
BALB	**Balikesir**	**1.25**	**64**	*e*PN	**Pg**	**03 31 01.1**	**+0.2**
BALB				*e*SN	**Sn**	**03 31 17.4**	**-1.5**
BALB	**Balikesir**	**1.25**	**64**	*e*Pn	**Pg**	**03 31 01.2**	**+0.2**
BALB				*e*Sn	**Sn**	**03 31 17.4**	**-1.5**
GELI	**Tayfur-Gelibol**	**1.29**	**2**	*e*PN	Pg	03 31 02.8	+1.0
GELI				*e*SN	**Sn**	**03 31 20.3**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.29**	**2**	*e*Pn	Pg	03 31 02.8	+1.0
GELI				*e*Sn	**Sn**	**03 31 20.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.36**	**46**	*e*PN	**Pg**	**03 31 02.8**	**-0.2**
GONE				*e*SN	**Sg**	**03 31 20.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.36**	**46**	*e*Pn	**Pg**	**03 31 02.8**	**-0.2**
GONE				*e*Sn	**Sg**	**03 31 20.5**	**-0.1**

*BJI **30** 03:42:43.1,55˚.75N×152˚.94W,h22km,mB5.4/33, mb5.3/55,Ms5.3/47,Ms7 5.1/46*
*NEIC **30** 03:42:46.0,56˚.29N×152˚.48W,h20km,mb5.2/179,MW5.2, ML4.8(AEIC),Moment Tensor Solution. s82 Moment tensor: Scale 10^16^Nm; Mrr1.62; Mθθ-2.40; Mϕϕ0.78; Mrθ6.11; Mθϕ-1.45; Mϕr3.22; Best double couple: M~o~7.40000×10^16^ NP1:ϕs62.00000°,δ81.00000°, λ,86.00000°. NP2:ϕs266.00000°,δ10.00000°,λ,114.00000°. Principal axes: T 6.6400, Plg53.0000°, Azm326.0000°; N 1.2800, Plg3.0000°, Azm62.0000°; P -7.9300, Plg35.0000°, Azm155.0000°; After AEIC.*
*SZGRF **30** 03:42:47.8,56˚.55N×153˚.39W,h33km,mb5.4,MS4.9, Kodiak Island, Alaska, United States, region*
*ISCJB **30** 03:42:48.1±0.1,56˚.50N±0˚.02×152˚.75W±0˚.03,h28km, mb5.1/298,MS4.9/60,Error ellipse: s-maj=3.1km s-min=1.4km az=33.4*
*IDC **30** 03:42:48.2±1.9,56˚.48N×152˚.80W,h16km±10km,mb4.9/39, mb1 5.0/40,mb1mx5.0/41,mbtmp4.9/40,ML4.6/1,MS4.8/29, Ms1 4.8/29,ms1mx4.6/52,Error ellipse: s-maj=12.1km s-min=8.8km az=16.0*
*MOS **30** 03:42:48.0±1.0,56˚.58N×152˚.82W,h25km,mb5.5/127, MS4.8/18,Error ellipse: s-maj=8.8km s-min=3.4km az=89.7*
*GCMT **30** 03:42:50.2±0.3,56˚.11N×152˚.29W,h12km,MW5.2, Moment Tensor Solution. s53,c81; s56,c83; Moment tensor: Scale 10^16^Nm; Mrr2.16±.13; Mθθ-2.08±.12; Mϕϕ-0.08±.10; Mrθ7.25±.29; Mθϕ-2.00±.08; Mϕr3.21±.31; Best double couple: M~o~8.40000×10^16^ NP1:ϕs222.00000°, δ10.00000°,λ,67.00000°. NP2:ϕs66.00000°,δ81.00000°, λ,94.00000°. Principal axes: T 7.8600, Plg54.0000°, Azm341.0000°; N 1.0800, Plg4.0000°, Azm246.0000°; P -8.9400, Plg36.0000°, Azm153.0000°; Data Used: II IU IC G CN.*

ISC 30 03:42:48.9±0.3,**56˚.49N**±0˚.04×**152˚.78W**±0˚.03,**h26**km±1km, **h25**km:**pP-P,n1227**,σ**1**.**42**/1370,**mb5.2**/299,**MS4.9**/65, **303C-206D**,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.30**	**5**	Pn	**Pn**	**03 43 10.7**	**-0.6**
	370nm,0.3s,baz=192,slow=8.5,SNR=1102						
KDAK				Sn	**Sn**	**03 43 28.5**	**+0.8**
	203nm,0.3s,baz=157,slow=23,SNR=8.9						
KDAK	**Kodiak Island**	**1.30**	**5**	P	**Pn**	**03 43 10.7**	**-0.6**
KDAK				Sn	**Sn**	**03 43 28.5**	**+0.8**
KDAK				S	**Sb**	**03 43 30.2**	**+1.4**
KDAK	**Kodiak Island**	**1.30**	**5**	Pn	**Pn**	**03 43 10.0**	**-1.3**
	44μm,0.6s						
KCE	**Katmai Mt Cerb**	**2.18**	**324**	P	**Pn**	**03 43 24.7**	**+1.2**
KAWH	**Katmai**	**2.19**	**331**	P	**Pn**	**03 43 24.6**	**+1.0**
KAKN	**Katmai Knife C**	**2.19**	**327**	P	**Pn**	**03 43 24.6**	**+1.0**
KABU	**Katmai Buttres**	**2.24**	**324**	P	**Pn**	**03 43 25.7**	**+1.5**
KAPH	**Katmai Pasha**	**2.27**	**339**	P	**Pn**	**03 43 25.7**	**+1.0**
FOSS	**Fourpeaked Sta**	**2.36**	**348**	P	**Pn**	**03 43 26.8**	**+0.8**
KELA	**Mount Kelaz**	**2.52**	**322**	P	**Pn**	**03 43 28.4**	**+0.2**
MCNL	**McNeil River**	**2.82**	**344**	P	**Pn**	**03 43 33.5**	**+1.3**
AUI	**Augustine Isla**	**2.87**	**353**	P	**Pn**	**03 43 34.2**	**+1.3**
AUI				S	**Sb**	**03 44 11.9**	**-2.1**
AUP	**Augustine Pinn**	**2.90**	**354**	P	**Pn**	**03 43 34.9**	**+1.5**
AUP	**Augustine Pinn**	**2.90**	**354**	P	**Pn**	**03 43 34.9**	**+1.5**
AUW	**Augustine West**	**2.91**	**353**	P	**Pn**	**03 43 35.0**	**+1.6**
AUNW	**Augustine NWes**	**2.92**	**353**	P	**Pn**	**03 43 34.8**	**+1.3**
ANPK	**Aniakchak Peak**	**2.97**	**279**	P	**Pn**	**03 43 34.5**	**+0.2**
AZAC	**Aniakchak**	**3.03**	**280**	P	**Pn**	**03 43 35.7**	**+0.5**
ANPE	**Aniakchak Plen**	**3.05**	**278**	P	**Pn**	**03 43 35.5**	**+0.1**
CHGN	**Chignik**	**3.13**	**269**	P	**Pn**	**03 43 35.8**	**-0.7**
OPT	**Oil Point**	**3.18**	**356**	P	**Pn**	**03 43 38.1**	**+1.0**
BRLK	**Bradley Lake**	**3.43**	**16**	P	**Pn**	**03 43 39.3**	**-1.3**
BRLK				S	**Sn**	**03 44 17.4**	**-3.0**
VNSG	**Veniaminof 6**	**3.53**	**267**	P	**Pn**	**03 43 41.9**	**-0.1**
VNHG	**Veniaminof 1**	**3.56**	**268**	P	**Pn**	**03 43 42.8**	**+0.3**
INE	**Iliamna NE**	**3.58**	**358**	P	**Pn**	**03 43 43.1**	**+0.3**
ILW	**Iliamna West**	**3.58**	**357**	P	**Pn**	**03 43 43.2**	**+0.3**
SEW	**Seward**	**4.03**	**25**	P	**Pn**	**03 43 46.6**	**-2.1**
DFR	**Drift River**	**4.11**	**1**	P	**Pn**	**03 43 50.3**	**+0.3**
SLKM	**Skilak Lake**	**4.25**	**17**	P	**Pn**	**03 43 50.1**	**-1.7**
SLKM	**Skilak Lake**	**4.25**	**17**	P	**Pn**	**03 43 50.1**	**-1.7**
SDPT	**Sand Point**	**4.48**	**258**	P	**Pn**	**03 43 54.2**	**-0.7**
SPU	**Mount Spurr**	**4.72**	**4**	*e*Pn	**Pn**	**03 43 58.0**	**-0.3**
SPBG	**Spurr Blockage**	**4.79**	**2**	P	**Pn**	**03 43 59.6**	**+0.3**
SVW2	**Sparrevohn**	**4.84**	**344**	*e*Pn	**Pn**	**03 44 00.4**	**+0.5**
FIB	**Fire Island**	**4.88**	**15**	P	**Pn**	**03 44 00.0**	**-0.4**
FIB	**Fire Island**	**4.88**	**15**	P	**Pn**	**03 43 60.0**	**-0.4**
STLK	**Strandline Lak**	**5.04**	**5**	P	**Pn**	**03 44 02.9**	**+0.1**
SUA	**Susitna One**	**5.10**	**11**	P	**Pn**	**03 44 02.4**	**-1.2**
PS4A	**Pavlof South-4**	**5.23**	**261**	P	**Pn**	**03 44 04.2**	**-1.1**
PMR	**Palmer**	**5.45**	**19**	P	**Pn**	**03 44 06.4**	**-1.9**
PMR	**Palmer**	**5.45**	**19**	P	**Pn**	**03 44 06.4**	**-1.9**
EYAK	**Cordova Ski Ar**	**5.49**	**39**	P	**Pn**	**03 44 06.4**	**-2.4**
DTNA	**Dutton South F**	**5.50**	**260**	P	**Pn**	**03 44 08.1**	**-1.0**
DT1	**Dutton Round H**	**5.53**	**259**	P	**Pn**	**03 44 08.2**	**-1.3**
DRIA	**Deer Island**	**5.57**	**258**	P	**Pn**	**03 44 08.7**	**-1.3**
VLZ	**Valdez**	**5.73**	**33**	P	**Pn**	**03 44 10.2**	**-1.9**
SML	**Sawmill**	**5.80**	**21**	P	**Pn**	**03 44 12.2**	**-1.0**
SML	**Sawmill**	**5.80**	**21**	P	**Pn**	**03 44 12.2**	**-1.0**
GOAT	**Goat Mountain**	**5.88**	**42**	P	**Pn**	**03 44 12.3**	**-2.0**
DIV	**Divide**	**5.91**	**35**	P	**Pn**	**03 44 12.6**	**-2.0**
NICHA	**Nichawak Mount**	**5.97**	**47**	P	**Pn**	**03 44 13.2**	**-2.2**
BMRM	**Bremner River**	**6.18**	**40**	P	**Pn**	**03 44 16.2**	**-2.3**
FALS	**False Pass**	**6.25**	**359**	P	**Pn**	**03 44 17.8**	**-1.2**
GRIN	**Grindle Hills**	**6.26**	**49**	P	**Pn**	**03 44 17.5**	**-2.0**
KHIT	**Khitrov Hills**	**6.38**	**48**	P	**Pn**	**03 44 18.6**	**-2.5**
PPLA	**Purkeypile**	**6.43**	**2**	P	**Pn**	**03 44 22.2**	**+0.3**
KULT	**Kultieth River**	**6.49**	**50**	P	**Pn**	**03 44 20.4**	**-2.3**
VRDI	**Verde Repeater**	**6.78**	**42**	P	**Pn**	**03 44 24.3**	**-2.4**
ISLE	**Juniper Island**	**6.84**	**49**	P	**Pn**	**03 44 25.5**	**-2.1**
WESN	**West Dahl Nort**	**6.97**	**259**	P	**Pn**	**03 44 29.2**	**0.0**
WESE	**West Dahl East**	**7.01**	**258**	P	**Pn**	**03 44 29.0**	**-0.8**
KIAG	**Kiagna River**	**7.01**	**46**	P	**Pn**	**03 44 27.7**	**-2.2**
HARP	**HAARP**	**7.09**	**30**	P	**Pn**	**03 44 30.5**	**-0.3**
TRF	**Thorofare Moun**	**7.09**	**9**	P	**Pn**	**03 44 29.8**	**-1.2**
RND	**Reindeer**	**7.21**	**14**	P	**Pn**	**03 44 31.6**	**-0.9**
RND	**Reindeer**	**7.21**	**14**	P	**Pn**	**03 44 31.6**	**-0.9**
TABL	**Table Mountain**	**7.27**	**52**	P	**Pn**	**03 44 31.7**	**-1.8**
SAMH	**Samovar Hills**	**7.29**	**55**	P	**Pn**	**03 44 32.6**	**-1.1**
PAX	**Paxson**	**7.47**	**27**	P	**Pn**	**03 44 34.7**	**-1.4**
PAX	**Paxson**	**7.47**	**27**	P	**Pn**	**03 44 34.7**	**-1.4**
PNL	**Peninsula**	**7.78**	**60**	P	**Pn**	**03 44 38.3**	**-1.9**
AKUT	**Akutan**	**7.78**	**258**	*e*Pn	**Pn**	**03 44 39.5**	**-0.7**
MENT	**Mentasta**	**7.92**	**32**	*e*Pn	**Pn**	**03 44 42.7**	**+0.5**
UNV	**Unalaska Valle**	**8.29**	**257**	P	**Pn**	**03 44 44.8**	**-2.4**
GCSA	**Galena City Sc**	**8.52**	**348**	P	**Pn**	**03 44 50.5**	**+0.2**
COLA	**College**	**8.75**	**14**	P	**Pn**	**03 44 52.1**	**-1.3**
COLA	**College**	**8.75**	**14**	P	**Pn**	**03 44 52.1**	**-1.3**
MDM	**Murphy Dome**	**8.78**	**13**	P	**Pn**	**03 44 52.5**	**-1.5**
ILAR	**Eielson Array**	**8.79**	**17**	Pn	**Pn**	**03 44 52.9**	**-1.2**
	7.7nm,0.3s,baz=209,slow=13,SNR=214						
ILAR				Sn	**Sn**	**03 46 29.2**	**-3.0**
	8.4nm,0.3s,baz=19,slow=24,SNR=10						
ILAR				LR	LR	03 48 51.1	
	comp=Z,13μm,18.1s,baz=206,slow=41						
ILAR	**Eielson Array**	**8.79**	**17**	Pn	**Pn**	**03 44 52.9**	**-1.2**
ILAR				Sn	**Sn**	**03 46 29.2**	**-3.0**
SKAG	**Skagway**	**9.73**	**65**	*e*Pn	**Pn**	**03 45 06.1**	**-0.8**
SKAG				*e*S	**Sn**	**03 46 52.7**	**-2.6**
EGAK	**Eagle**	**10.06**	**30**	*e*Pn	**Pn**	**03 45 10.1**	**-1.4**
	45nm,1.0s						
DAWY	**Dawson**	**10.07**	**36**	*e*Pn	**Pn**	**03 45 10.9**	**-0.7**
DIB	**Dawson Inlet,**	**12.15**	**97**	T	T	03 57 56.6	
	SNR=59						
DLBC	**Dease Lake**	**12.39**	**71**	Pn	**Pn**	**03 45 42.5**	**-0.9**
	0.8nm,0.3s,baz=256,slow=9.2,SNR=13						
DLBC				Sn	**Sn**	**03 47 57.2**	**-3.3**
	0.5nm,0.3s,baz=130,slow=18,SNR=6.0						
DLBC	**Dease Lake**	**12.39**	**71**	*e*Pn	**Pn**	**03 45 42.8**	**-0.6**
DLBC				*e*S	**Sn**	**03 47 56.2**	**-4.3**
INK	**Inuvik**	**14.73**	**29**	Pn	**Pn**	**03 46 13.1**	**-2.1**
	0.6nm,0.3s,baz=226,slow=14,SNR=42						
INK				LR	LR	03 52 15.5	
	comp=Z,2μm,21.2s,baz=221,slow=38						
INK	**Inuvik**	**14.73**	**29**	Pn	**Pn**	**03 46 13.1**	**-2.1**
BBB	**Bella Bella**	**14.99**	**96**	Pn	**Pn**	**03 46 16.4**	**-2.3**
	0.2nm,0.3s,baz=276,slow=12,SNR=5.5						
BBB				LR	LR	03 50 53.5	
	comp=Z,2μm,19.3s,baz=301,slow=32						
BBB	**Bella Bella**	**14.99**	**96**	Pn	**Pn**	**03 46 16.4**	**-2.3**
PGC	**Sidney**	**19.36**	**101**	*e*P	**P**	**03 47 12.5**	**+0.3**
	27nm,2.6s						
NLWA	**Neilton Lookou**	**19.88**	**105**	*e*P	**Pn**	**03 47 19.0**	**-0.7**
	56nm,1.1s						
FX1	**Attu Island--F**	**19.89**	**274**	P	**P**	**03 47 17.8**	**-0.1**
	5.6nm,0.3s,baz=244,slow=18,SNR=14						
FX1	**Attu Island--F**	**19.89**	**274**	*e*P	**P**	**03 47 17.6**	**-0.3**
YKW3	**Yellowknife Ar**	**20.04**	**57**	*e*P	**P**	**03 47 19.1**	**-0.5**
	1.3nm,1.2s						
YKA	**Yellowknife Ar**	**20.05**	**57**	P	**P**	**03 47 19.1**	**-0.5**
	24nm,1.0s,baz=270,slow=9.9,SNR=216						
YKA				PcP	**PcP**	**03 51 35.0**	**+0.9**
	2.6nm,0.7s,baz=266,slow=1.6,SNR=12						
YKA				ScP	**ScP**	**03 55 09.7**	**+1.4**
	2.8nm,0.9s,baz=282,slow=2.3,SNR=12						
YKA	**Yellowknife Ar**	**20.05**	**57**	P	**P**	**03 47 19.1**	**-0.5**
YKA				PcP	**PcP**	**03 51 35.0**	**+0.9**
YKA				ScP	**ScP**	**03 55 09.7**	**+1.4**

JCW	**Jim Creek**	**20.45**	**101**	P		Pn	03 47 25.2	-1.2
RMW	**Rattlesnake Mo**	**20.95**	**102**	P		Pn	03 47 33.7	+1.4
RMW	**Rattlesnake Mo**	**20.95**	**102**	P		Pn	03 47 33.6	+1.3
GSM	**Grass Mountain**	**21.11**	**103**	P		**P**	**03 47 35.5**	**+4.1**
GSM	**Grass Mountain**	**21.11**	**103**	P		**P**	**03 47 35.5**	**+4.1**
LON	**Longmire**	**21.39**	**104**	*e*P		**P**	**03 47 34.1**	**-0.2**
LON				pmax		pmax		
	comp=Z,43nm,1.2s							
LON	**Longmire**	**21.39**	**104**	*e*P		**P**	**03 47 34.1**	**-0.2**
	comp=Z,43nm,1.2s							
TDL	**Tradedollar La**	**21.42**	**105**	P		**P**	**03 47 35.3**	**+0.6**
WPW	**White Pass**	**21.56**	**104**	P		**P**	**03 47 37.2**	**+1.0**
JLK	**June Lake**	**21.58**	**106**	P		**P**	**03 47 38.1**	**+1.7**
MTMW	**Mount Mitchell**	**21.63**	**106**	P		**P**	**03 47 38.1**	**+1.2**
ETW	**Entiat**	**21.67**	**100**	P		**P**	**03 47 38.1**	**+0.7**
BILL	**Bilibino**	**21.79**	**318**	*α*	*i*P	**P**	**03 47 38.3**	**-0.1**
BILL					*i*		03 47 43.9	
BILL				PPP		PPP	03 48 08.0	
BILL				S		S	03 51 25.0	-13
BILL				*e*SS		Sn	03 51 40.6	-7.1
BILL				pmax		pmax		
	comp=Z,108nm,1.0s							
BILL				MLR		MLR		
	comp=Z,4μm,14.0s							
BILL	**Bilibino**	**21.79**	**318**	*e*P		**P**	**03 47 38.2**	**-0.1**
	comp=Z,118nm,1.0s							
WTV	**Waterville**	**21.82**	**100**	P		**P**	**03 47 39.3**	**+0.4**
ASR	**Mount Adams--S**	**21.88**	**105**	P		**P**	**03 47 40.0**	**+0.4**
GULW	**Guler Mountain**	**22.02**	**105**	P		**P**	**03 47 41.7**	**+0.5**
GBB	**Gable Butte**	**22.65**	**102**	P		**P**	**03 47 48.1**	**+0.3**
BROR	**Big Rock Looko**	**22.67**	**110**	P		**P**	**03 47 48.9**	**+0.9**
OD2	**Odessa Site #2**	**22.68**	**99**	P		**P**	**03 47 47.7**	**-0.4**
SNIWA	**Snively Ranch**	**22.73**	**102**	P		**P**	**03 47 49.0**	**+0.4**
WRD	**Warden**	**22.80**	**101**	P		**P**	**03 47 48.4**	**-0.9**
**HA

baz=27,SNR=9.5
EGMT Eagleton 27.26 90 *e*P P 03 48 31.0 +0.2
comp=Z,21nm,0.9s
EGMT *e*PcP PcP 03 51 56.9 +7.0
EGMT *e*ScP **ScP** 03 55 29.6 +1.4
H14A Leadore 27.32 99 ⇓P P 03 48 31.8 +0.3
baz=27,SNR=17
A19A Klindworth Far 27.32 87 ⇑P P 03 48 31.1 -0.2
baz=27,SNR=11
I13A Wildhorse Cree 27.37 101 ⇑P P 03 48 32.2 +0.3
baz=27,SNR=15
HLID Hailey 27.44 102 *e*P P 03 48 33.1 +0.6
G15A Dillon 27.45 97 ⇓P P 03 48 32.8 +0.1
baz=27,SNR=7.3
B19A Brinkman Farms 27.47 88 ⇑P P 03 48 32.5 -0.1
baz=27,SNR=20
F16A Kennard Place, 27.55 95 ⇓P P 03 48 33.3 -0.1
baz=27
E17A Martinsdale 27.56 93 ⇑P P 03 48 33.9 +0.3
baz=27,SNR=11
SEY Seymchan 27.62 306 ⇑*i*P P 03 48 32.9 -0.8
BOZ Bozeman (W) 27.63 95 *e*P P 03 48 35.0 +0.8
BOZ *e* 03 51 56.5
BOZ pmax pmax
comp=Z,11nm,1.4s
BOZ Bozeman (W) 27.63 95 *e*P P 03 48 35.0 +0.8
comp=Z,11nm,1.4s
BOZ *e*PcP PcP 03 51 56.5 +5.6
WCN Washoe City 27.66 114 *e*P P 03 48 35.5 +0.9
WCN pmax pmax
comp=Z,28nm,1.0s
WCN Washoe City 27.66 114 *e*P P 03 48 35.5 +0.9
comp=Z,28nm,1.0s
J13A Cove Ranch, Pi 27.68 102 ⇓P P 03 48 35.2 +0.5
baz=27,SNR=10.0
D18A Linhart Farms, 27.71 91 ⇑P P 03 48 35.1 +0.2
baz=27,SNR=9.3
H15A Lima 27.72 98 ⇑P P 03 48 35.3 +0.3
baz=27,SNR=12
I14A Mackay 27.72 100 ⇓P P 03 48 35.6 +0.6
baz=27,SNR=6.1
PET Petropavlovsk 27.77 284 *e*P P 03 48 34.8 -0.3
PET *e*S S 03 53 13.9 -2.0
PET pmax pmax
comp=Z,52nm,1.1s
PET pmax pmax
comp=Z,400nm,15.5s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,2µm,19.0s
PET Petropavlovsk 27.77 284 *e*P P 03 48 35.5 +0.4
comp=Z,137nm,1.5s
G16A Moss Hill, Enn 27.79 96 ⇑P P 03 48 35.8 +0.1
baz=28,SNR=7.9
A20A Cobblestone Ra 27.80 87 ⇓P P 03 48 35.8 +0.2
baz=28,SNR=14
C19A Slack Wire Ran 27.82 90 ⇑P P 03 48 36.4 +0.6
baz=28,SNR=18
B20A Solberg Farm, 27.99 88 ⇓P P 03 48 37.7 +0.5
baz=28
F17A Fitzpatrick Pl 28.01 94 ⇑P P 03 48 38.0 +0.5
baz=28,SNR=9.8
E18A Harlowton 28.02 92 ⇑P P 03 48 38.5 +0.8
baz=28,SNR=5.2
J14A Carey 28.09 101 ⇓P P 03 48 39.0 +0.7
baz=28
BMN Battle Mountai 28.12 110 *e*P P 03 48 36.4 -2.2
BMN pmax pmax
comp=Z,12nm,1.1s
BMN Battle Mountai 28.12 110 *e*P P 03 48 36.4 -2.2
comp=Z,12nm,1.1s
I15A Monteview 28.20 99 ⇓P P 03 48 39.8 +0.5
baz=28
FFC Flin Flon 28.22 72 *e*P P 03 48 39.6 +0.4
FFC pmax pmax
comp=Z,21nm,1.4s
FFC Flin Flon 28.22 72 *e*P P 03 48 39.6 +0.4
comp=Z,21nm,1.4s
D19A Cripps Ranch, 28.24 90 ⇑P P 03 48 39.7 +0.1
baz=28,SNR=9.7
PETK Petropavlovsk- 28.24 284 P P 03 48 39.5 +0.1
comp=Z,15nm,0.8s,baz=90,slow=10,SNR=12
PETK LR LR 04 00 24.1
comp=Z,986nm,19.1s,baz=276,slow=37
PETK Petropavlovsk- 28.24 284 P P 03 48 39.5 +0.1
PETK Petropavlovsk- 28.24 284 P P 03 48 39.5 +0.1
QLMT Earthquake Lak 28.25 97 *e*P P 03 48 40.5 +0.7
RES Resolute Bay 28.29 28 P P 03 48 39.8 +0.3
comp=Z,8.8nm,0.7s,baz=252,slow=12,SNR=50
RES LR LR 04 02 46.1
comp=Z,3µm,18.1s,baz=81,slow=42
RES Resolute Bay 28.29 28 *e*P P 03 48 40.2 +0.6
comp=Z,31nm,1.1s
A21A Bergtoll Ranch 28.30 86 ⇑P P 03 48 40.3 +0.3
baz=28,SNR=8.3
CMB Columbia Colle 28.32 117 *e*P P 03 48 41.2 +0.9
CMB pmax pmax
comp=Z,127nm,2.5s
CMB Columbia Colle 28.32 117 *e*P P 03 48 41.2 +0.9
comp=Z,127nm,2.5s
G17A Pierce Place, 28.32 95 ⇓P P 03 48 40.7 +0.4
baz=28
C20A Veseth Ranch, 28.41 89 ⇓P P 03 48 41.5 +0.5
baz=28,SNR=7.3
H16A Russell Place, 28.43 97 ⇓P P 03 48 41.9 +0.5
baz=28,SNR=16
F18A Big Timber 28.53 93 ⇓P P 03 48 42.8 +0.6
baz=28,SNR=8.9
B21A Ellsworth Farm 28.55 87 ⇑P P 03 48 42.5 +0.2
baz=28
YMR Madison River 28.61 96 *e*P P 03 48 44.1 +1.1
comp=Z,19nm,0.8s
J15A Blackfoot 28.62 100 ⇑P P 03 48 44.2 +1.1
baz=28,SNR=22
D20A Manuel Ranch, 28.70 90 ⇑P P 03 48 44.2 +0.6
baz=28,SNR=10
E19A Rath Farm, Rou 28.71 92 ⇑P P 03 48 44.6 +0.9
baz=28,SNR=9.5
K14A Jones Ranch, D 28.79 102 ⇓P P 03 48 45.4 +0.8
baz=28,SNR=6.1
I16A Newdale 28.83 98 ⇓P P 03 48 45.7 +0.8
baz=28,SNR=6.7
C21A Desert Coulee 28.85 88 ⇑P P 03 48 45.0 +0.1
baz=29
A22A Carney Farms, 28.85 85 ⇓P P 03 48 45.5 +0.5
baz=29
ELK Elko 28.94 107 *e*P P 03 48 47.3 +1.3
G18A Lazy EL Ranch, 28.98 94 ⇑P P 03 48 46.4 +0.2
baz=29
F19A Roth Farm, Mol 28.99 93 ⇑P P 03 48 47.0 +0.7
baz=29
H17A Grant Village 29.00 97 ⇓P P 03 48 48.4 +1.9
baz=29,SNR=11
E20A Meyer Farm, Mu 29.05 91 ⇑P P 03 48 47.4 +0.7
baz=29,SNR=12
K15A Arbon 29.05 101 ⇓P P 03 48 48.4 +1.5
baz=29,SNR=12
NVAR Mina Array Bea 29.06 114 P P 03 48 48.1 +1.1
comp=Z,17nm,0.8s,baz=299,slow=9.1,SNR=74
NVAR PcP PcP 03 51 54.8 +0.2
comp=Z,0.7nm,0.7s,baz=48,slow=2.2,SNR=3.0
NVAR ScP ScP 03 55 35.9 +1.8
comp=Z,2.8nm,0.8s,baz=276,slow=3.2,SNR=10
NVAR Mina Array Bea 29.06 114 P P 03 48 48.1 +1.1
NVAR PcP PcP 03 51 54.8 +0.2
NVAR ScP ScP 03 55 35.9 +1.8
L14A Malta 29.11 103 ⇓P P 03 48 48.5 +1.2
baz=29,SNR=6.0
IMW Indian Meadow 29.12 98 *e*P P 03 48 48.5 +0.9
comp=Z,10nm,0.8s
NV11 Mina Array Sit 29.13 114 *e*P P 03 48 46.0 -1.6
B22A Reddig Ranch S 29.19 86 ⇑P P 03 48 48.5 +0.5
baz=29
RRI2 Red Ridge 29.27 99 *e*P P 03 48 49.6 +0.7
comp=Z,8.6nm,0.9s
I17A Pilgrim Ck. 29.30 97 ⇑P P 03 48 50.6 +1.4
baz=29,SNR=9.3
H18A Shoshone NF, C 29.32 95 ⇓P P 03 48 50.0 +0.6
baz=29,SNR=12
MOOW Moose Ponds 29.32 98 *e*P P 03 48 49.1 -0.2
comp=Z,52nm,2.5s
MOOW *e*PcP PcP 03 52 02.3 +7.1
D21A La Casta Ranch 29.34 89 ⇑P P 03 48 49.8 +0.5
baz=29
TPAW Teton Pass 29.38 98 *e*P P 03 48 47.4 -2.5
comp=Z,28nm,1.5s
TPAW *e*ScP **ScP** 03 55 36.9 +1.8
MLAC Mammoth Lakes 29.40 115 ⇑P P 03 48 51.7 +1.5
baz=29
A23A Redstone 29.44 84 ⇑P P 03 48 50.9 +0.8
baz=29
F20A Billings 29.46 92 ⇓P P 03 48 51.1 +0.7
baz=29
K16A Soda Springs 29.46 100 ⇓P P 03 48 51.6 +1.0
baz=29
LOHW Long Hollow 29.49 98 *e*P P 03 48 52.0 +1.2
comp=Z,8.5nm,1.0s
SNOW Snow King Moun 29.50 98 *e*P P 03 48 52.7 +1.7
comp=Z,114nm,2.5s
SNOW *e*PcP PcP 03 52 03.3 +7.5
HVU Hansel Valley 29.54 103 *e*P P 03 48 51.9 +0.7
HVU pmax pmax
comp=Z,15nm,1.1s
HVU Hansel Valley 29.54 103 *e*P P 03 48 51.9 +0.7
comp=Z,15nm,1.1s
C22A Vida 29.57 87 ⇑P P 03 48 51.7 +0.4
baz=29
L15A Malad City 29.59 102 ⇑P P 03 48 52.7 +1.0
baz=29,SNR=7.1
J17A Brown Place, J 29.59 98 ⇑P P 03 48 52.7 +1.0
baz=29,SNR=7.4
E21A Keefer Ranch, 29.61 90 ⇓P P 03 48 52.4 +0.7
baz=29
B23A Brockton 29.66 85 ⇑P P 03 48 52.7 +0.7
baz=29,SNR=7.6
H19A Powell 29.70 95 ⇑P P 03 48 53.8 +1.2
baz=29
D22A Cohagen 29.75 88 ⇓P P 03 48 53.8 +0.9
baz=30,SNR=11
MTUM Tungsten Hills 29.75 115 *e*P P 03 48 54.8 +1.6
G20A Bridger 29.78 93 ⇑P P 03 48 53.8 +0.5
baz=30
I18A Diamond G Ranc 29.86 97 ⇑P P 03 48 55.2 +1.0
baz=30,SNR=9.8
K17A Gardner Place, 29.89 99 ⇑P P 03 48 54.7 +0.4
baz=30
C23A Lambert 29.92 86 ⇓P P 03 48 55.3 +0.9
baz=30,SNR=15
M15A Larsen Ranch, 29.93 103 ⇓P P 03 48 55.5 +0.8
baz=30
A24A Westby 29.95 84 ⇓P P 03 48 54.9 +0.2
baz=30
J18A Kendall Valley 30.07 98 ⇑P P 03 48 56.4 +0.4
baz=30,SNR=16
DGMT Dagmar 30.09 85 *e*ScP **ScP** 03 55 39.0 +2.0
L16A Fish Haven 30.10 101 ⇑P P 03 48 57.4 +1.2
baz=30,SNR=15
RCTC Rector, Farmer 30.24 118 ⇑P P 03 48 58.5 +1.3
baz=30
D23A Lindsay 30.27 87 ⇑P P 03 48 58.6 +1.0
baz=30,SNR=6.9
PTRM Twissleman Ran 30.29 120 *e*ScP **ScP** 03 55 34.8 -3.0
N15A Stansbury Isla 30.29 104 ⇑P P 03 48 58.6 +0.7
baz=30
E22A Miles City 30.30 89 ⇓P P 03 48 58.2 +0.5
baz=30
HWUT Hardware Ranch 30.31 102 *e*P P 03 48 58.8 +0.7
comp=Z,12nm,0.9s
HWUT *e*ScP **ScP** 03 55 39.3 +1.3
G21A Lodge Grass 30.34 92 ⇑P P 03 48 58.6 +0.5
baz=30
L17A Cokeville 30.35 100 ⇓P P 03 48 59.2 +0.8
baz=30,SNR=6.4
H20A Greybull 30.36 94 ⇑P P 03 48 58.9 +0.5
baz=30
K18A Toltan Ranch, 30.44 99 ⇓P P 03 48 59.6 +0.3
baz=30
C24A Savage 30.50 86 ⇓P P 03 49 00.8 +1.3
baz=30,SNR=23
R11A Troy Canyon, C 30.52 111 ⇑P P 03 49 00.6 +0.7
baz=30,SNR=33
F22A Rosebud 30.52 91 ⇓P P 03 49 00.3 +0.6
baz=30,SNR=5.6
J19A Crowheart 30.57 97 ⇑P P 03 49 01.0 +0.7
baz=30,SNR=8.3
E23A Ismay 30.62 89 ⇓P P 03 49 01.4 +0.8
baz=30
BW06 Boulder Array 30.62 98 *e*P P 03 49 00.3 -0.5
comp=Z,9.2nm,0.7s
PDAR Pinedale Array 30.62 98 P P 03 49 01.2 +0.4
comp=Z,11nm,0.7s,baz=311,slow=5.3,SNR=92
PDAR PcP PcP 03 51 59.4 +0.8
comp=Z,0.2nm,0.5s,baz=352,slow=3.6,SNR=2.5
PDAR ScP ScP 03 55 39.6 +0.5
comp=Z,1.8nm,1.1s,baz=327,slow=2.5,SNR=5.3
PDAR Pinedale Array 30.62 98 P P 03 49 01.2 +0.4
PDAR PcP PcP 03 51 59.4 +0.8
PDAR ScP ScP 03 55 39.6 +0.5
DUG Dugway 30.63 105 *e*P P 03 48 56.4 -4.4
DUG *e* 03 55 38.7
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway 30.63 105 *e*P P 03 48 56.4 -4.4
comp=Z,20nm,1.1s
DUG *e*ScP **ScP** 03 55 38.7 -0.4
I20A Worland 30.63 95 ⇑P P 03 49 01.3 +0.5
baz=30
SMMC Simmler 30.67 120 ⇑P P 03 49 02.2 +1.1
baz=30
VES Vestal, Richgr 30.69 118 ⇑P P 03 49 01.7 +0.5
baz=30,SNR=5.7
CWC Cottonwood Cre 30.71 116 ⇓P P 03 49 02.7 +1.1
baz=30,SNR=5.8
O15A The Old Anders 30.75 105 ⇑P P 03 49 02.4 +0.4
baz=30
D24A Glendive 30.80 87 ⇑P P 03 49 02.9 +0.8
baz=30
H21A Big Horn, Sher 30.80 93 ⇑P P 03 49 02.7 +0.4
baz=30
G22A Birney 30.85 91 ⇓P P 03 49 03.2 +0.6
baz=31
N16A Rees Ranch, Co 30.88 103 ⇑P P 03 49 03.8 +0.7
baz=31
M17A Scullys Gap (B 30.89 101 ⇑P P 03 49 03.6 +0.4
baz=31,SNR=13
L18A Fontenelle, Gr 30.93 100 ⇑P P 03 49 04.0 +0.5
baz=31
K19A Absolon Red Bu 30.97 97 ⇑P P 03 49 04.1 +0.2
baz=31,SNR=6.6
J20A Shoshoni 31.05 96 ⇑P P 03 49 05.1 +0.6
baz=31,SNR=7.4
JLU Jordanelle 31.07 103 *e*P P 03 49 06.0 +1.2
comp=Z,9.4nm,1.0s
DAC Darwin (Calif) 31.08 116 *e*P P 03 49 00.2 -4.7
DAC pmax pmax
comp=Z,10.0nm,0.8s
DAC Darwin (Calif) 31.08 116 *e*P P 03 49 00.1 -4.7
comp=Z,10nm,0.8s
PKM Peak Mountain 31.09 120 ⇑P P 03 49 06.4 +1.4
baz=31
ISA Isabella 31.13 117 *e*P P 03 49 03.4 -1.8
ISA pmax pmax
comp=Z,15nm,0.8s
ISA Isabella 31.13 117 *e*P P 03 49 03.4 -1.8
comp=Z,15nm,0.8s
ISA Isabella 31.13 117 ⇓P P 03 49 05.6 +0.4
baz=31,SNR=9.4
E24A Baker 31.13 88 ⇑P P 03 49 06.1 +1.0
baz=31
N17A Moffit Pass 31.17 102 ⇑P P 03 49 05.8 +0.1
baz=31
L19A Farson 31.18 99 ⇓P P 03 49 06.0 +0.2
baz=31,SNR=6.6
I21A Big Trails, Te 31.18 94 ⇑P P 03 49 06.0 +0.3
baz=31,SNR=18
H22A Clearmont 31.21 92 ⇑P P 03 49 06.3 +0.4
baz=31
M18A Lyman 31.25 100 ⇓P P 03 49 06.5 +0.1
baz=31,SNR=12
FURC Furnace Creek, 31.30 114 ⇑P P 03 49 07.7 +1.2
baz=31
MPMC Manual Prospec 31.30 116 ⇑P P 03 49 07.7 +0.8
baz=31,SNR=17
DAU Daniels Canyon 31.31 103 *e*P P 03 49 08.5 +1.5
DAU Daniels Canyon 31.31 103 *e*P P 03 49 08.5 +1.5
O16A Springville 31.32 104 ⇑P P 03 49 07.6 +0.6
baz=31
G23A Biddle 31.36 91 ⇓P P 03 49 07.7 +0.5
baz=31
P15A Leamington 31.36 105 ⇓P P 03 49 07.9 +0.6
baz=31
K20A Yellowstone Ra 31.36 97 ⇑P P 03 49 07.3 0.0
baz=31,SNR=8.4
ARVC Arvin 31.38 118 ⇓P P 03 49 08.2 +0.9
baz=31
J21A Lysite 31.40 95 ⇑P P 03 49 08.1 +0.4
baz=31,SNR=18
F24A Ekalaka 31.49 89 ⇓P P 03 49 08.9 +0.6
baz=31
I22A 9 Mile Ranch, 31.58 94 ⇓P P 03 49 09.8 +0.7
baz=31
LRMC Laurel Mountai 31.66 117 ⇑P P 03 49 11.0 +1.1
baz=31
P16A Fountain Green 31.66 105 ⇑P P 03 49 10.9 +0.9
baz=31
M19A Rock Springs 31.69 99 ⇑P P 03 49 10.4 +0.1
baz=31,SNR=11
O17A Robinson Place 31.75 103 ⇑P P 03 49 11.4 +0.7
baz=31,SNR=8.4
N18A Larsen Ranch, 31.77 101 ⇑P P 03 49 11.0 0.0
baz=32,SNR=11
L20A Wamsutter 31.80 98 ⇑P P 03 49 11.3 +0.1
baz=32,SNR=5.5
G24A Alzada 31.82 90 ⇑P P 03 49 12.4 +1.1
baz=32
J22A Midwest 31.89 94 ⇑P P 03 49 12.6 +0.7
baz=32,SNR=23
K21A Alcova 31.98 96 ⇑P P 03 49 12.9 +0.1
baz=32,SNR=9.0
EDW2 Edwards Air Fo 31.99 118 ⇑P P 03 49 13.1 +0.4
baz=32
ARUT Antelope Range 32.05 109 *e*P P 03 49 12.7 -0.8
ARUT pmax pmax
comp=Z,17nm,0.9s
ARUT Antelope Range 32.05 109 *e*P P 03 49 12.7 -0.8
comp=Z,17nm,0.9s
BLG Laguna Peak 32.09 120 ⇓P P 03 49 14.0 +0.4
baz=32
O18A Roosevelt 32.09 102 ⇓P P 03 49 14.8 +1.1
baz=32,SNR=20
N19A John Jarvie Ra 32.10 100 ⇑P P 03 49 14.0 +0.2
baz=32,SNR=19
H24A Dirks Ranch, A 32.11 91 ⇓P P 03 49 13.8 0.0
baz=32
M20A Sweetwater, Wa 32.23 99 ⇓P P 03 49 15.7 +0.7
baz=32,SNR=11
GSC Goldstone 32.24 116 *e*P P 03 49 10.8 -4.2
GSC pmax pmax
comp=Z,173nm,2.3s
GSC Goldstone 32.24 116 *e*P P 03 49 10.8 -4.2
comp=Z,173nm,2.3s
GSC Goldstone 32.24 116 ⇑P P 03 49 15.8 +0.8
baz=32,SNR=7.8
CCUT Cedar City 32.27 109 *e*P P 03 49 16.9 +1.4
comp=Z,186nm,2.8s
L21A Rawlins 32.36 97 ⇑P P 03 49 16.3 +0.1
baz=32,SNR=8.9
K22A Casper 32.37 95 ⇑P P 03 49 16.2 0.0
baz=32,SNR=6.0
P18A Preston Nutter 32.41 103 ⇓P P 03 49 17.5 +0.8
baz=32
Q16A Castle Valley 32.43 105 ⇓P P 03 49 17.7 +1.0
baz=32,SNR=5.6
PASC Pasadena Art C 32.46 119 *e*P P 03 49 17.5 +0.6
comp=Z,13nm,0.9s
RRX Edison Barstow 32.48 116 ⇓P P 03 49 18.1 +1.1
baz=32
MWC Mount Wilson 32.48 118 *e*P P 03 49 18.0 +0.7
MWC pmax pmax
comp=Z,21nm,1.0s
MWC Mount Wilson 32.48 118 *e*P P 03 49 17.9 +0.7
comp=Z,21nm,1.0s
O19A Miners Draw (B 32.55 101 ⇓P P 03 49 18.4 +0.7
baz=32,SNR=10
TUQ Turquoise Moun 32.58 115 ⇓P P 03 49 18.9 +0.9
baz=32,SNR=5.5
M21A Separation Pea 32.61 98 ⇑P P 03 49 18.2 -0.1
baz=32,SNR=17
I24A Kuemmerle Ranc 32.63 92 ⇑P P 03 49 18.7 +0.4
baz=32
SRU San Rafael 32.63 104 *e*P P 03 49 20.1 +1.6
SRU pmax pmax
comp=Z,1µm,0.9s
SRU San Rafael 32.63 104 *e*P P 03 49 20.1 +1.6
comp=Z,1µm,0.9s
N20A Spence Gulch, 32.64 99 ⇑P P 03 49 19.2 +0.6
baz=32,SNR=27
BFSC Mount Baldy Ra 32.67 118 ⇑P P 03 49 19.5 +0.7
baz=32,SNR=8.5
RSSD Black Hills 32.79 91 *e*P P 03 49 17.9 -2.0
RSSD *e* 03 52 01.9
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 32.79 91 *e*P P 03 49 17.9 -2.0
comp=Z,11nm,1.0s
RSSD *e*PcP PcP 03 52 01.9 -2.5
RSSD *e*ScP **ScP** 03 55 47.2 +0.8
K23A Bowen Ranch, D 32.80 94 ⇓P P 03 49 20.4 +0.5
baz=32,SNR=5.6
L22A Ellis Ranch, M 32.83 96 ⇓P P 03 49 21.2 +1.0
baz=32,SNR=9.8
HEC Hector,Ludlow 32.85 116 ⇓P P 03 49 21.0 +0.7
baz=32
MDND Maddock 32.98 82 ⇓P P 03 49 22.0 +0.8
baz=33,SNR=9.1
P19A Cripple Cowboy 33.09 102 ⇑P P 03 49 23.2 +0.6
baz=33,SNR=22
N21A Black Mountain 33.10 99 ⇑P P 03 49 23.4 +0.8
baz=33,SNR=17
O20A White River Ci 33.14 100 ⇑P P 03 49 23.5 +0.5
baz=33,SNR=22
M22A Cedar Creek Ra 33.17 97 ⇑P P 03 49 23.6 +0.3
baz=33,SNR=11
L23A Garrett 33.18 95 ⇓P P 03 49 23.6 +0.3
baz=33,SNR=22
GMRC Granite Mounta 33.23 115 ⇑P P 03 49 24.1 +0.5
baz=33
SCI San Clemente I 33.26 120 ⇑P P 03 49 24.9 +1.1
baz=33
MURC Murrieta 33.41 118 ⇑P P 03 49 25.8 +0.7
baz=33
Q19A Hogan Spring (33.43 103 ⇑P P 03 49 25.5 +0.1
baz=33,SNR=15
O21A Pagoda 33.51 100 ⇓P P 03 49 26.9 +0.6
baz=33
L24A Wheatland 33.65 95 ⇑P P 03 49 27.8 +0.5
baz=33
ULM Lac du Bonnet 33.66 76 P P 03 49 27.6 +0.5
comp=Z,14nm,1.0s,baz=299,slow=7.8,SNR=14
ULM PcP PcP 03 52 08.6 +2.1
comp=Z,7.2nm,1.1s,baz=166,slow=11,SNR=1.7
ULM ScP ScP 03 55 49.4 +0.5
comp=Z,5.0nm,1.0s,baz=331,slow=5.6,SNR=4.0
ULM LR LR 04 03 26.1
comp=Z,2µm,18.5s,baz=146,slow=37
ULM Lac du Bonnet 33.66 76 *e*P P 03 49 27.8 +0.7
ULM PcP PcP 03 52 08.6 +2.1
ULM ScP ScP 03 55 49.4 +0.5
N22A Wattenberg Ran 33.66 98 ⇑P P 03 49 28.0 +0.4
baz=33,SNR=14
BELC Belle Mtn. Jos 33.68 116 ⇑P P 03 49 28.2 +0.6
baz=33
U15A North Rim 33.68 109 ⇓P P 03 49 28.8 +1.0
baz=33,SNR=5.3
N23A Red Feather La 33.87 97 ⇑P P 03 49 30.0 +0.5
baz=34,SNR=5.6
W13A Hualapai Mount 33.88 113 ⇓P P 03 49 30.5 +1.0
baz=34,SNR=16
Q20A Ridgley Place, 33.95 102 ⇑P P 03 49 29.9 -0.1
baz=34,SNR=5.7
S18A Hurst Farm, Bl 33.95 105 ⇑P P 03 49 30.3 +0.2
baz=34,SNR=7.2
IRM Iron Mountain 33.98 115 ⇓P P 03 49 31.1 +1.0
baz=34,SNR=26
P21A Newcastle 34.01 100 ⇑P P 03 49 31.1 +0.6
baz=34,SNR=9.5
109C Camp Elliot, M 34.03 119 ⇓P P 03 49 31.6 +1.1
baz=34
O22A Kremmling 34.05 99 ⇑P P 03 49 31.5 +0.5
baz=34,SNR=8.0
K26A Motz Farm, Whi 34.19 92 ⇑P P 03 49 31.9 0.0
baz=34
BC3 Big Chuckawall 34.23 116 ⇓P P 03 49 33.0 +0.7
baz=34,SNR=6.2
P22A Eagle 34.33 100 ⇓P P 03 49 33.8 +0.4
baz=34,SNR=6.7
O23A Lake Granby, G 34.36 98 ⇓P P 03 49 34.7 +1.0
baz=34,SNR=12
MONP Monument Peak 34.36 118 ⇑P P 03 49 34.7 +1.1
baz=34
PDMCI Parker Dam,Lak 34.37 114 ⇓P P 03 49 34.4 +1.0

baz=34
PV01 **Paradox Valley** 34.40 103 *e*P P 03 49 30.9 -3.1
comp=Z,6µm,1.7s
BAR **Barrett** 34.41 118 *e*P P 03 49 32.6 -1.3
comp=Z,40nm,1.4s
R20A **Redvale** 34.46 103 ⇑P P 03 49 35.0 +0.5
baz=34,SNR=16
ALE **Alert** 34.48 13 P P 03 49 34.1 +0.2
comp=Z,299nm,0.7s,SNR=21
N24A **Carr** 34.51 96 ⇑P P 03 49 35.6 +0.9
baz=34
SMCO **Snowmass** 34.51 100 *e*P P 03 49 35.6 +0.5
comp=Z,9.7nm,1.1s
M25A **Palm-Egli Farm** 34.55 95 ⇓P P 03 49 36.1 +1.0
baz=34
Y12C **Blythe** 34.62 115 ⇑P P 03 49 36.7 +1.1
baz=34,SNR=14
K27A **Fluecklinger Fa** 34.71 92 ⇑P P 03 49 36.6 +0.2
baz=34
S20A **Disappointment** 34.73 103 ⇓P P 03 49 37.3 +0.5
baz=34,SNR=11
AGMN **Agassiz Nation** 34.76 79 *e*P P 03 49 37.5 +0.8
AGMN *e*ScP **ScP** 03 55 53.6 +0.7
Q22A **Crested Butte,** 34.77 101 ⇑P P 03 49 37.6 +0.3
baz=34
R21A **Cimarron** 34.78 102 ⇑P P 03 49 37.4 +0.2
baz=34,SNR=7.1
ISCO **Idaho Springs** 34.82 98 *e*P P 03 49 37.5 -0.1
ISCO pmax pmax
comp=Z,16nm,1.4s
ISCO **Idaho Springs** 34.82 98 *e*P P 03 49 37.5 -0.1
comp=Z,16nm,1.4s
O24A **Longmont** 34.89 97 ⇓P P 03 49 39.1 +1.0
baz=35
P23A **Jefferson** 34.99 99 ⇓P P 03 49 40.3 +1.1
baz=35,SNR=12
GLA **Glamis** 35.02 116 *e*P P 03 49 35.9 -3.2
GLA pmax pmax
comp=Z,18nm,0.9s
GLA **Glamis** 35.02 116 *e*P P 03 49 35.9 -3.2
comp=Z,18nm,0.9s
GLA **Glamis** 35.02 116 ⇑P P 03 49 39.7 +0.6
baz=35
S21A **Coal Bank Pass** 35.16 103 ⇓P P 03 49 41.5 +0.9
baz=35,SNR=11
Y14A **Wickenburg** 35.24 113 ⇑P P 03 49 41.7 +0.7
baz=35,SNR=16
R22A **Saguache, Gunn** 35.31 101 ⇓P P 03 49 42.6 +0.7
baz=35
Q23A **Hartsel** 35.33 100 ⇓P P 03 49 43.0 +0.9
baz=35,SNR=7.4
BRSD **Miller** 35.40 87 ⇓P P 03 49 42.6 +0.3
baz=35
M27A **Reverse DX Ran** 35.41 93 ⇓P P 03 49 43.2 +0.7
baz=35
S22A **4UR Ranch, Cre** 35.62 102 ⇑P P 03 49 45.4 +0.9
baz=35
Q24A **Divide** 35.66 99 ⇑P P 03 49 45.8 +0.9
baz=35
X16A **Lo Mia Camp, P** 35.67 111 ⇓P P 03 49 46.1 +1.3
baz=35,SNR=15
U20A **Newcomb** 35.72 105 ⇑P P 03 49 46.2 +1.0
baz=35
Z14A **Wintersburg** 35.72 113 ⇑P P 03 49 46.0 +0.9
baz=35,SNR=5.5
O26A **Horse Wrangler** 35.77 96 ⇑P P 03 49 46.4 +0.8
baz=36
113A **Mohawk Valley,** 35.78 115 ⇓P P 03 49 46.2 +0.6
baz=36,SNR=8.0
T21A **Navajo Lake** 35.79 104 ⇑P P 03 49 46.6 +0.6
baz=36
P25A **Willow Gulch B** 35.81 97 ⇓P P 03 49 47.3 +1.2
baz=36,SNR=12
N27A **Anderson Farm,** 35.81 94 ⇓P P 03 49 46.8 +0.9
baz=36
R23A **Moffat** 35.84 100 ⇑P P 03 49 47.0 +0.6
baz=36
W18A **Petrified Fore** 36.02 108 ⇓P P 03 49 48.8 +0.9
baz=36
S23A **Nye Farm, Mont** 36.10 101 ⇑P P 03 49 49.7 +1.1
baz=36
T22A **Edith** 36.12 103 ⇓P P 03 49 50.1 +1.3
baz=36,SNR=8.4
U21A **Nageezi** 36.14 104 ⇑P P 03 49 50.1 +1.1
baz=36
V20A **Brimhall** 36.18 106 ⇑P P 03 49 50.2 +1.0
baz=36
Q25A **Bedland, Calha** 36.19 98 ⇓P P 03 49 49.6 +0.2
baz=36,SNR=7.6
R24A **Sanders Place,** 36.21 100 ⇓P P 03 49 50.4 +0.9
baz=36,SNR=10
P26A **Davis Ranch, A** 36.23 96 ⇑P P 03 49 50.5 +0.9
baz=36,SNR=9.5
O27A **Beecher Island** 36.27 95 ⇑P P 03 49 50.5 +0.6
baz=36
X18A **Snowflake** 36.36 109 ⇑P P 03 49 52.1 +1.3
baz=36,SNR=6.3
T23A **Casias Ranch,** 36.57 102 ⇓P P 03 49 53.5 +0.9
baz=36
S24A **Houchin Ranch,** 36.58 100 ⇑P P 03 49 53.9 +1.2
baz=36,SNR=15
Q26A **Hugo** 36.58 97 ⇓P P 03 49 53.6 +1.0
baz=36,SNR=17
U22A **Llaves** 36.61 104 ⇓P P 03 49 54.0 +1.0
baz=36,SNR=6.1
V21A **Milan** 36.62 105 ⇑P P 03 49 54.1 +1.0
baz=36
W20A **Ramah** 36.67 107 ⇓P P 03 49 54.3 +0.8
baz=36,SNR=26
R25A **Fountain Ranch** 36.72 99 ⇓P P 03 49 54.8 +1.1
baz=36,SNR=10.0
214A **Organ Pipe Nat** 36.91 115 ⇑P P 03 49 56.0 +0.7
baz=37,SNR=6.7
S25A **Robets Cordova** 36.99 100 ⇑P P 03 49 57.0 +0.9
baz=37,SNR=7.6
U23A **El Rito** 37.01 103 ⇓P P 03 49 57.4 +1.1
baz=37,SNR=21
KSCO **Kaye Shedlock'** 37.01 96 ⇑P P 03 49 57.1 +0.9
baz=37,SNR=11
R26A **Arlington** 37.07 98 ⇓P P 03 49 57.9 +1.2
baz=37,SNR=17
T24A **Torres, Weston** 37.08 101 ⇓P P 03 49 58.1 +1.1
baz=37,SNR=21
X20A **Quemado** 37.12 107 ⇑P P 03 49 58.1 +0.9
baz=37
W21A **San Fidel** 37.13 106 ⇑P P 03 49 57.8 +0.4
baz=37
ECSD **EROS Data Cent** 37.15 86 *e*P P 03 49 57.5 +0.2
comp=Z,11nm,0.8s
ECSD *e*ScP **ScP** 03 56 02.8 +0.9
EYMN **Ely** 37.33 76 *e*P P 03 49 59.5 +0.7
comp=Z,106nm,1.1s
T25A **Trinidad** 37.38 100 ⇓P P 03 50 00.5 +1.0
baz=37,SNR=9.3
R27A **Eads** 37.43 97 ⇓P P 03 50 01.0 +1.2
baz=37,SNR=13
U24A **Moreno Valley** 37.44 102 ⇑P P 03 50 01.4 +1.4
baz=37
V23A **Ortiz Mt. (NFS** 37.45 104 ⇓P P 03 50 01.3 +1.2
baz=37,SNR=7.4
S26A **Kim** 37.54 99 ⇓P P 03 50 01.4 +0.7
baz=37,SNR=17
X21A **Alamocita Cree** 37.57 107 ⇓P P 03 50 02.1 +0.9
baz=37,SNR=15
W22A **Albuquerque** 37.58 105 ⇑P P 03 50 02.1 +0.9
baz=37
TUC **Tucson** 37.66 112 *e*P P 03 50 02.6 +0.9
TUC pmax pmax
comp=Z,20nm,1.4s
TUC **Tucson** 37.66 112 *e*P P 03 50 02.6 +0.9
comp=Z,20nm,1.4s
Y20A **Horse Springs,** 37.67 108 ⇓P P 03 50 03.3 +1.3
baz=37
YAK **Yakutsk** 37.79 311 *e*P P 03 50 01.6 -0.7
YAK *e**PP **pP** 03 50 09.3 -0.8
YAK *e* 03 51 28.9
YAK *e* 03 52 17.2
YAK *e*S **S** 03 55 50.2 -0.9
YAK *e*SS **SnSn** 03 58 31.1 -0.8
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=Z,82nm,0.8s
YAK pmax pmax
comp=Z,20nm,0.8s
YAK smax smax
comp=N,63nm,2.7s
YAK smax smax
comp=E,65nm,2.0s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=E,2µm,18.0s
YAK MLR MLR
comp=N,2µm,17.0s
YAK **Yakutsk** 37.79 311 *e*P P 03 50 02.4 +0.1
comp=N,113nm,0.8s
T26A **Comanche Natio** 37.80 99 ⇑P P 03 50 03.1 +0.2
baz=38,SNR=10
S27A **Las Animas** 37.81 98 ⇓P P 03 50 03.8 +0.8
baz=38
BGNE **Belgrade** 37.84 90 ⇓P P 03 50 03.6 +0.6
baz=38
ANMO **Albuquerque** 37.90 105 P P 03 50 04.4 +0.5
comp=N,1.3nm,0.6s,baz=319,slow=11,SNR=3.4
ANMO PcP **PcP** 03 52 21.6 +2.1
comp=N,4.3nm,1.0s,baz=329,slow=3.6,SNR=3.8
ANMO ScP **ScP** 03 56 07.2 +2.3
comp=N,6.2nm,1.1s,baz=301,slow=3.6,SNR=9.6
ANMO **Albuquerque** 37.90 105 *e*P P 03 50 04.3 +0.5
comp=N,11nm,1.3s
ANMO *e*PcP **PcP** 03 52 20.0 +0.4
ANMO PcP **PcP** 03 52 21.6 +2.1
ANMO *e*ScP **ScP** 03 56 07.3 +2.3
W23A **Werner Place,** 37.90 104 ⇑P P 03 50 04.9 +1.0
baz=38
U25A **Circle Dot Ran** 37.92 101 ⇓P P 03 50 04.7 +0.7
baz=38,SNR=22
X22A **Bernardo** 37.94 106 ⇓P P 03 50 05.3 +1.1
baz=38
LAZ **Ladron** 37.95 106 *e*P P 03 50 05.2 +0.9
comp=N,31nm,1.9s
V24A **Ramart Ranch,** 37.95 103 ⇓P P 03 50 05.4 +1.1
baz=38,SNR=5.3
Y21A **Point of Rocks** 37.96 107 ⇓P P 03 50 05.8 +1.3
baz=38,SNR=9.9
Z20A **Nine Sixteen R** 38.17 109 ⇓P P 03 50 07.5 +1.4
baz=38,SNR=14
V25A **Rancho No Teng** 38.22 102 ⇓P P 03 50 07.7 +1.1
baz=38,SNR=10
W24A **Lazy 6 Ranch,** 38.26 103 ⇓P P 03 50 08.2 +1.3
baz=38,SNR=8.4
U26A **Atchley Ranch,** 38.29 100 ⇓P P 03 50 08.2 +1.0
baz=38,SNR=27
SPMN **St. Paul** 38.30 81 ⇑P P 03 50 07.5 +0.7
baz=38,SNR=8.4
Y22D **IRIS PASSCAL I** 38.31 106 ⇑P P 03 50 08.6 +1.3
baz=38
T27A **Campo** 38.36 99 ⇓P P 03 50 08.6 +0.9
baz=38
Y22A **Socorro** 38.40 106 ⇓P P 03 50 09.1 +1.1
baz=38,SNR=5.8
BNM **Barren Site** 38.41 106 *e*P P 03 50 09.7 +1.4
comp=N,54nm,1.9s
Z21A **St. Cloud Mine** 38.50 108 ⇓P P 03 50 10.4 +1.4
baz=38,SNR=6.6
120A **U Bar Ranch, L** 38.59 109 ⇓P P 03 50 10.9 +1.3
baz=38
T28A **Walsh** 38.65 98 ⇓P P 03 50 10.9 +0.8
baz=38
V26A **Tequesquite Ra** 38.71 101 ⇓P P 03 50 11.6 +1.0
baz=38,SNR=44
X24A **Lazy VL Ranch,** 38.74 104 ⇑P P 03 50 11.8 +0.9
baz=38
W25A **X Bar L Ranch,** 38.77 102 ⇑P P 03 50 12.0 +0.9
baz=38,SNR=14
Y23A **Lovelace Mesa,** 38.88 105 ⇓P P 03 50 13.1 +1.0
baz=39,SNR=10
Z22A **Elephant Butte** 38.92 107 ⇓P P 03 50 13.8 +1.4
baz=39,SNR=13
121A **Cookes Peak, D** 39.05 109 ⇓P P 03 50 14.6 +1.1
baz=39,SNR=11
220A **Playas Peak, P** 39.15 110 ⇓P P 03 50 15.3 +0.9
baz=39,SNR=14
319A **Douglas** 39.18 111 ⇓P P 03 50 15.8 +1.2
baz=39
X25A **Clemmons Ranch** 39.18 103 ⇓P P 03 50 15.8 +1.2
baz=39
Y24A **Capitan** 39.22 105 ⇓P P 03 50 15.9 +0.9
baz=39,SNR=13
Z23A **Rita Site, Whi** 39.30 106 ⇓P P 03 50 16.6 +1.1
baz=39
122A **Conniff Cattle** 39.33 108 ⇑P P 03 50 17.4 +1.6
baz=39
221A **Mesquite Ranch** 39.46 109 ⇑P P 03 50 17.9 +1.0
baz=39
V28A **Channing** 39.59 100 ⇓P P 03 50 18.6 +0.6
baz=39
320A **Kipp Ranch, An** 39.60 110 ⇑P P 03 50 19.0 +0.9
baz=39,SNR=13
Y25A **Mesa, Roswell** 39.62 104 ⇓P P 03 50 19.2 +1.0
baz=39,SNR=29
X26A **CR and CF Fran** 39.62 102 ⇑P P 03 50 18.8 +0.6
baz=39,SNR=7.8
W27A **Bowe Ranch, En** 39.65 101 ⇑P P 03 50 19.1 +0.7
baz=39
YSS **Yuzh-Sakhalins** 39.65 284 *e*P P 03 50 19.6 +1.5
YSS *e*S **S** 03 56 22.0 +2.6
YSS *e* 03 56 37.0
YSS MLR MLR
comp=Z,2µm,20.0s
YSS MLR MLR
comp=N,1µm,19.0s
YSS MLR MLR
comp=E,1µm,20.0s
Z24A **Sheeppen Canyo** 39.71 105 ⇑P P 03 50 19.8 +0.7
baz=39,SNR=5.6
123A **Bell Site, Whi** 39.77 107 ⇑P P 03 50 20.4 +1.0
baz=40
V29A **Stinnett** 39.89 99 ⇑P P 03 50 20.7 +0.4
baz=40
X27A **F and S Farms,** 39.94 102 ⇑P P 03 50 21.4 +0.6
baz=40,SNR=6.0
W28A **Vega** 39.97 100 ⇓P P 03 50 21.7 +0.7
baz=40
Y26A **Elida** 40.09 103 ⇑P P 03 50 23.0 +0.8
baz=40
Z25A **Roswell** 40.10 105 ⇑P P 03 50 22.8 +0.7
baz=40,SNR=7.8
124A **Stringfield Ra** 40.15 106 ⇓P P 03 50 23.6 +0.8
baz=40,SNR=7.1
223A **Chaparral, Ant** 40.17 108 ⇓P P 03 50 23.7 +0.9
baz=40
KSU1 **Kansas State U** 40.28 91 *e*P P 03 50 23.5 +0.1
comp=E,20nm,0.8s
W29A **Amarillo** 40.37 100 ⇓P P 03 50 25.1 +0.7
baz=40
Y27A **Causey** 40.48 103 ⇓P P 03 50 25.8 +0.5
baz=40
Z26A **Caprock** 40.50 104 ⇑P P 03 50 26.2 +0.6
baz=40,SNR=20
X28A **Dimmitt** 40.52 101 ⇑P P 03 50 26.2 +0.6
baz=40,SNR=6.0
224A **Cornudas Mount** 40.60 107 ⇑P P 03 50 27.3 +0.9
baz=40,SNR=21
125A **Gardner Draw,** 40.61 105 ⇓P P 03 50 27.3 +0.9
baz=40
MSTX **Muleshoe** 40.62 102 ⇓P P 03 50 27.1 +0.6
baz=40,SNR=10.0
X29A **Tulia** 40.85 101 ⇑P P 03 50 28.8 +0.4
baz=40,SNR=5.8
Z27A **Tatum** 40.88 103 ⇓P P 03 50 28.9 +0.2
baz=41,SNR=8.2
W30A **Crooket Farms** 40.91 99 ⇑P P 03 50 29.5 +0.7
baz=41
225A **Deer Hill, Car** 40.95 106 ⇓P P 03 50 29.9 +0.6
baz=41
Y28A **McKinney Farm,** 40.95 102 ⇑P P 03 50 29.3 +0.1
baz=41,SNR=8.5
126A **Clayton Basin,** 40.96 105 ⇓P P 03 50 29.8 +0.6
baz=41,SNR=5.6
MNTX **Cornudas Mount** 40.97 107 *e*P P 03 50 30.0 +0.7
comp=E,9.5nm,0.9s
324A **Moseley Ranch,** 41.11 107 ⇑P P 03 50 31.1 +0.5
baz=41
GDL2 **Guadalupe Moun** 41.12 105 *e*P P 03 50 31.6 +1.0
GDL2 *e*PcP PcP 03 52 36.1 +6.4
W31A **Holland Ranch,** 41.26 98 ⇓P P 03 50 32.2 +0.5
baz=41,SNR=8.5
127A **Arkansas Junct** 41.29 104 ⇓P P 03 50 32.4 +0.4
baz=41
X30A **Coker Ranch, T** 41.30 100 ⇓P P 03 50 32.5 +0.5
baz=41,SNR=8.2
Y29A **Porterfield Fa** 41.30 101 ⇓P P 03 50 32.3 +0.2
baz=41,SNR=16
Z28A **Tucker Farm, M** 41.35 102 ⇓P P 03 50 32.3 -0.1
baz=41
325A **Bean Ranch, Si** 41.44 107 ⇑P P 03 50 34.0 +0.7
baz=41,SNR=19
ASAJ **Asahikawa** 41.54 281 P P 03 50 34.9 +1.1
comp=E,55nm,0.8s,baz=347,slow=5.4,SNR=45
ASAJ LR LR 04 07 28.1
comp=E,1µm,21.7s,baz=124,slow=36
ASAJ **Asahikawa** 41.54 281 P P 03 50 34.9 +1.1
X31A **McDonald Ranch** 41.65 99 ⇑P P 03 50 35.4 +0.6
baz=41,SNR=7.9
Y30A **Stafford Cattl** 41.71 100 ⇑P P 03 50 35.9 +0.5
baz=41
Z29A **Hungry Hill Ra** 41.74 102 ⇓P P 03 50 35.5 -0.1
baz=41,SNR=5.6
128A **Castleberry Fa** 41.81 103 ⇓P P 03 50 36.2 0.0
baz=42,SNR=12
227A **Bennet, Jal** 41.84 104 ⇑P P 03 50 36.9 +0.5
baz=42
425A **Indio Mountain** 41.89 107 ⇓P P 03 50 37.5 +0.5
baz=42,SNR=20
Y31A **Rekieta Farm,** 42.00 100 ⇑P P 03 50 37.8 +0.1
baz=42
326A **Caldwell Ranch** 42.01 106 ⇓P P 03 50 38.6 +0.7
baz=42,SNR=16
Z30A **Sanderson Ranc** 42.03 101 ⇓P P 03 50 38.0 0.0
baz=42
129A **Stewart Farms,** 42.13 102 ⇑P P 03 50 39.0 +0.2
baz=42
228A **UT Block 9, Go** 42.13 104 ⇓P P 03 50 39.2 +0.3
baz=42,SNR=11
WMOK **Wichita Mounta** 42.23 98 *e*P P 03 50 35.4 -4.2
WMOK pmax pmax
comp=Z,28nm,0.8s
WMOK **Wichita Mounta** 42.23 98 *e*P P 03 50 35.4 -4.2
comp=Z,28nm,0.8s
327A **Balmorhea Ranc** 42.23 105 ⇑P P 03 50 40.0 +0.4
baz=42
Y32A **R-V Farms, Ver** 42.41 99 ⇓P P 03 50 41.3 +0.2
baz=42,SNR=12
426A **McDonald Obser** 42.49 106 ⇑P P 03 50 42.5 +0.5
baz=42,SNR=11
Z31A **Sharp Cattle R** 42.55 100 ⇑P P 03 50 42.2 0.0
baz=42,SNR=8.4
328A **Wristen Ranch,** 42.59 105 ⇓P P 03 50 42.7 +0.1
baz=42
CLNS **Chul'man** 42.62 306 *e*P P 03 50 41.9 -0.6
CLNS *e**PP **pP** 03 50 51.3 +1.0
CLNS *e* 03 52 18.6
CLNS *e* 03 52 34.0
CLNS *e*S **S** 03 56 59.9 -3.6
CLNS *e*SS **SS** 04 00 08.3 -5.1
CLNS pmax pmax
comp=Z,21nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=Z,4.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS smax smax
comp=E,171nm,13.2s
CLNS smax smax
comp=N,140nm,12.3s
CLNS MLR MLR
comp=N,3µm,15.0s
CLNS MLR MLR
comp=Z,5µm,17.0s
CLNS MLR MLR
comp=E,2µm,13.0s
ERM **Erimo** 42.63 278*c* *i*P P 03 50 44.0 +1.3
ERM pmax pmax
comp=Z,74nm,0.8s
ERM **Erimo** 42.63 278 *e*P P 03 50 43.9 +1.2
comp=Z,70nm,0.9s
ERM **Erimo** 42.63 278 P P 03 50 43.4 +0.7
comp=Z,496nm,1.0s,SNR=6.6
130A **Snyder** 42.65 102 ⇑P P 03 50 43.2 +0.2
baz=42
229A **Bryant Ranch,** 42.67 103 ⇑P P 03 50 43.4 +0.2
baz=42
427A **Hayter Ranch,** 42.68 106 ⇑P P 03 50 43.9 +0.5
baz=42,SNR=8.0
HABR **Khabarovsk** 42.76 291 *e*P P 03 50 42.9 -0.8
HABR *e**SP **sP** 03 50 51.1 -3.6
HABR *e*S **S** 03 57 05.6 -0.1
HABR *e**SS **sS** 03 57 15.9 -2.7
HABR *e*SS **SS** 04 00 17.8 +1.4
HABR 04 00 41.7
HABR *e*SSS SSS 04 00 51.3
HABR pmax pmax
comp=Z,58nm,0.9s
HABR pmax pmax
comp=E,30nm,0.9s
HABR pmax pmax
comp=N,12nm,0.9s
HABR MLR MLR
comp=Z,824nm,20.0s
Z32A **Haskell** 42.92 100 ⇑P P 03 50 45.2 0.0
baz=43,SNR=15
526A **Mary Lane Ranc** 42.94 107 ⇑P P 03 50 46.1 +0.6
baz=43,SNR=12
329A **Wagon Wheel Ra** 42.95 104 ⇓P P 03 50 46.0 +0.5
baz=43,SNR=19
TUL1 **Tulsa** 43.02 94 ⇓P P 03 50 46.0 +0.1
baz=43,SNR=7.9
230A **Sterling City** 43.11 102 ⇓P P 03 50 46.9 +0.1
baz=43,SNR=10
527A **Woodward Ranch** 43.12 106 ⇓P P 03 50 47.5 +0.5
baz=43
428A **Kincaid Ranch,** 43.16 105 ⇑P P 03 50 48.2 +1.0
baz=43,SNR=40
626A **Big Bend Ranch** 43.31 108 ⇓P P 03 50 49.2 +0.7
baz=43,SNR=15
HDIL **Hopedale** 43.32 84 *e*P P 03 50 48.4 +0.1
comp=Z,53nm,0.8s
ABTX **Abilene, Hawle** 43.35 100 ⇑P P 03 50 48.7 0.0
baz=43,SNR=6.8
330A **Mertzon** 43.45 103 ⇑P P 03 50 49.6 +0.1
baz=43,SNR=22
231A **Bronte** 43.51 102 ⇓P P 03 50 49.6 -0.3
baz=43,SNR=9.6
528A **Cox Ranch, San** 43.55 106 ⇑P P 03 50 51.0 +0.6
baz=43,SNR=14
SUMG **Summit** 43.56 23 *e*P P 03 50 50.9 +0.5
SUMG *e* 03 52 37.8
SUMG pmax pmax
comp=Z,53nm,0.8s
SUMG **Summit** 43.56 23 *e*P P 03 50 50.9 +0.5
comp=Z,53nm,0.8s
SUMG *e*PcP **PcP** 03 52 37.8 +0.3
SUMG **Summit** 43.56 23⇑ *i*P P 03 50 51.1 +0.7
comp=Z,44nm,0.8s
429A **Davenport Ranc** 43.67 104 ⇑P P 03 50 51.5 +0.2
baz=43,SNR=17
TXAR **Lajitas Array** 43.74 107 P P 03 50 52.4 +0.5
comp=Z,11nm,0.8s,baz=316,slow=5.9,SNR=136
TXAR PcP **PcP** 03 52 40.1 +1.7
comp=Z,6.5nm,1.1s,baz=272,slow=0.2,SNR=3.9
TXAR ScP **ScP** 03 56 29.8 +1.8
comp=Z,1.1nm,1.0s,baz=294,slow=4.0,SNR=4.8
TXAR LR LR 04 08 11.2
comp=Z,1µm,18.1s,baz=285,slow=35
TXAR **Lajitas Array** 43.74 107 P P 03 50 52.4 +0.5
TXAR PcP **PcP** 03 52 40.1 +1.7
TXAR ScP **ScP** 03 56 29.8 +1.8
627A **Terlingua Ranc** 43.79 107 ⇓P P 03 50 53.2 +0.9
baz=44,SNR=21
DAG **Danmarks Havn** 43.88 14⇑ *i*P P 03 50 52.7 +0.4
comp=Z,335nm,0.8s
DAG
529A **Stev Forest Ra** 43.88 105 ⇑P P 03 50 53.6 +0.5
baz=44,SNR=27
430A **Baggett Ranch,** 43.90 104 ⇓P P 03 50 53.5 +0.3
baz=44,SNR=17
232A **Coleman** 43.91 101 ⇓P P 03 50 53.1 -0.1
baz=44,SNR=7.5
331A **San Angelo** 43.93 102 ⇑P P 03 50 53.2 -0.2
baz=44
KLR **Kul'dur** 43.98 294⇓ *e*P P 03 50 51.0 -2.5
KLR *e*S **S** 03 57 23.5 +0.1
KLR *e* 04 00 50.5

KLR pmax pmax
comp=N,63nm,2.0s
KLR pmax pmax
comp=E,100nm,2.0s
KLR pmax pmax
comp=Z,260nm,2.0s
SFJD Kangerlussuaq 44.01 34 LR LR 04 11 07.3
comp=Z,2μm,18.9s,baz=313,slow=39
SFJD Kangerlussuaq 44.01 34 *e*P **P 03 50 54.4 +1.0**
comp=Z,49nm,0.8s
SFJD Kangerlussuaq 44.01 34⇑*i*P **P 03 50 54.5 +1.0**
comp=Z,46nm,0.8s
628A Black Gap, Mar 44.03 106⇑P **P 03 50 54.8 +0.6**
baz=44,SNR=21
332A Millersview 44.24 102⇑P **P 03 50 55.7 -0.2**
baz=44
431A Sonora 44.32 103⇑P **P 03 50 56.6 +0.1**
baz=44,SNR=18
530A J-C Ranch, Com 44.34 104⇑P **P 03 50 57.1 +0.4**
baz=44,SNR=13
KBS Kingsbay 44.52 4 *e*P **P 03 50 59.3 +1.8**
KBS *e* 03 52 41.2
KBS pmax pmax
comp=Z,22nm,0.8s
KBS Kingsbay 44.52 4 *e*P **P 03 50 59.3 +1.8**
comp=Z,22nm,0.8s
KBS *e* 03 52 41.2
432A Menard 44.61 102⇑P **P 03 50 58.9 +0.1**
baz=44,SNR=5.3
SFIN Scholer Farm 44.65 82⇓P **P 03 50 58.9 -0.1**
baz=44
531A Rocksprings 44.75 103⇑P **P 03 51 00.2 +0.2**
baz=44
JCT Junction City 44.91 102 *e*P P 03 50 56.4 -4.8
JCT pmax pmax
comp=Z,44nm,0.9s
JCT Junction City 44.91 102 *e*P P 03 50 56.4 -4.8
comp=Z,44nm,0.9s
WHTX Lake Whitney 45.02 99⇓P **P 03 51 02.2 +0.2**
baz=45
532A Rocksprings 45.13 103⇓P **P 03 51 03.1 +0.1**
baz=45
MIAR Mount Ida 45.25 93 *e*P P 03 50 58.7 -5.1
MIAR pmax pmax
comp=Z,29nm,0.9s
MIAR Mount Ida 45.25 93 *e*P P 03 50 58.7 -5.1
comp=Z,29nm,0.9s
OLIL Olney 45.25 85 *e*P **P 03 51 01.2 -2.5**
comp=Z,115nm,1.4s
631A Perdido Creek 45.32 104⇑P **P 03 51 04.1 -0.4**
baz=45,SNR=29
SPITS Spitsbergen Ar 45.42 3 P **P 03 51 05.2 +0.5**
comp=Z,27nm,0.8s,baz=22,slow=5.4,SNR=28
SPITS PcP **PcP 03 52 44.3 +1.0**
comp=Z,4.7nm,0.7s,baz=228,slow=10.0,SNR=5.2
SPITS LR LR 04 10 32.1
comp=Z,992nm,20.3s,baz=350,slow=37
SPITS Spitsbergen Ar 45.42 3 P **P 03 51 05.2 +0.5**
SPITS PcP **PcP 03 52 44.3 +1.0**
SCHQ Schefferville 45.46 54 P **P 03 51 05.2 -0.1**
comp=Z,18nm,0.8s,baz=322,slow=8.1,SNR=49
SCHQ PcP **PcP 03 52 44.4 +0.6**
comp=Z,3.6nm,0.6s,baz=226,slow=3.3,SNR=3.7
SCHQ LR LR 04 11 43.0
comp=Z,2μm,19.1s,baz=314,slow=38
SCHQ Schefferville 45.46 54 *e*P **P 03 51 02.4 -2.9**
comp=Z,20nm,0.8s
SCHQ PcP **PcP 03 52 44.4 +0.6**
632A Uvalde 45.67 103⇑P **P 03 51 07.2 -0.1**
baz=45,SNR=17
BLO Bloomington 45.81 83 *e*P **P 03 51 07.0 -1.2**
BLO pmax pmax
comp=Z,25nm,0.8s
BLO Bloomington 45.81 83 *e*P **P 03 51 07.0 -1.2**
comp=Z,25nm,0.8s
PARMO Parma 45.82 88 *e*P P 03 51 04.0 -4.3
USIN University of 46.04 85 *e*P **P 03 51 08.3 -1.6**
comp=Z,31nm,0.8s
732A Laxson Ranch, 46.19 104⇓P **P 03 51 11.1 -0.1**
baz=46,SNR=6.4
WCI Wyandotte Cave 46.61 84 *e*P **P 03 51 12.2 -2.3**
WCI pmax pmax
comp=Z,21nm,1.0s
WCI Wyandotte Cave 46.61 84 *e*P **P 03 51 12.2 -2.3**
comp=Z,20nm,1.0s
ACSO Alum Creek Sta 47.01 79 *e*P **P 03 51 19.7 +2.1**
comp=Z,88nm,1.4s
USRK Ussuriysk Arra 47.16 288 P **P 03 51 18.4 -0.3**
comp=Z,4.6nm,0.8s,baz=61,slow=6.9,SNR=10
USRK LR LR 04 13 34.0
comp=Z,1μm,19.2s,baz=49,slow=39
WVT Waverly 47.27 87 *e*P **P 03 51 18.0 -1.7**
WVT pmax pmax
comp=Z,34nm,1.3s
WVT Waverly 47.27 87 *e*P **P 03 51 18.0 -1.7**
comp=Z,34nm,1.3s
HKT Hockley 47.48 99 *e*P **P 03 51 20.1 -1.2**
HKT pmax pmax
comp=Z,135nm,1.9s
HKT Hockley 47.48 99 *e*P **P 03 51 20.1 -1.2**
comp=Z,136nm,1.9s
OXF Oxford 47.58 90 *e*P **P 03 51 19.6 -2.5**
OXF pmax pmax
comp=Z,121nm,1.1s
OXF Oxford 47.58 90 *e*P **P 03 51 19.6 -2.5**
comp=Z,121nm,1.1s
MDJ Mudanjiang 48.14 291 P **P 03 51 25.8 -0.5**
MDJ pP **pP 03 51 34.8 +0.6**
MDJ sP **sP 03 51 38.5 +1.1**
MDJ PP **PP 03 53 16.8 -1.5**
MDJ S **S 03 58 25.3 +2.0**
MDJ sS **sS 03 58 41.0 +4.7**
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,160nm,6.4s
MDJ LR LR
comp=N,2μm,22.6s
MDJ LR LR
comp=E,980nm,23.7s
MDJ LR LR
comp=Z,2μm,17.0s
MDJ Mudanjiang 48.14 291 *e*P **P 03 51 26.6 +0.3**
comp=Z,12nm,0.8s
VBMS Vicksburg 48.68 93 *e*P **P 03 51 30.0 -0.6**
comp=Z,140nm,1.3s
FRNY Flat Rock 48.80 68 *e*P **P 03 51 31.0 -0.4**
comp=Z,15nm,0.8s
SWET Sewanee 48.99 86 *e*P **P 03 51 33.1 +0.1**
comp=Z,82nm,1.3s
NCB Newcomb 49.07 70 *e*P **P 03 51 33.4 -0.1**
comp=Z,39nm,1.1s
MJAR Matsushiro Arr 49.21 277 P **P 03 51 35.5 +0.9**
comp=Z,5.9nm,0.7s,baz=39,slow=6.9,SNR=19
MJAR LR LR 04 14 23.9
comp=Z,616nm,19.4s,baz=75,slow=38
MJAR Matsushiro Arr 49.21 277 P **P 03 51 35.5 +0.9**
MAJO Matsushiro 49.21 277 *e*P **P 03 51 32.7 -2.0**
MAJO pmax pmax
comp=Z,24nm,0.8s
MAJO Matsushiro 49.21 277 *e*P **P 03 51 32.7 -2.0**
comp=Z,24nm,0.8s
MAT Matsushiro 49.21 277 P **P 03 51 35.3 +0.6**
MAT S **S 03 58 38.0 -0.6**
TZTN Tazewell 49.33 83 *e*P **P 03 51 35.3 -0.3**
comp=Z,49nm,1.3s
BINY Binghamton 49.38 72 *e*P **P 03 51 33.7 -2.3**
comp=Z,54nm,1.0s
SSPA Standing Stone 49.47 75 *e*P **P 03 51 36.8 +0.2**
comp=Z,58nm,1.1s
CPCT Cooper Cave 49.60 85 *e*P **P 03 51 36.1 -1.5**
NRS Narsarsuaq 49.65 37 *i*P P 03 51 29.7 -7.9
comp=Z,12nm,1.0s
ACCN Adirondack Com 49.77 70 *e*P **P 03 51 37.3 -1.5**
comp=Z,20nm,1.0s
HIA Hailar 49.85 301 *e*P **P 03 51 38.2 -1.2**
comp=Z,22nm,0.8s
LRAL Lakeview Retre 50.02 89 *e*P **P 03 51 38.9 -1.9**
comp=Z,21nm,1.0s
BLA Blacksburg 50.56 80 *e*P **P 03 51 44.9 -0.1**
BLA pmax pmax
comp=Z,22nm,0.9s
BLA Blacksburg 50.56 80 *e*P **P 03 51 44.9 -0.1**
comp=Z,22nm,0.9s
CIT Chita 50.78 307 *e*P **P 03 51 47.1 +0.7**
CIT *e* 03 52 00.5
CN2 Changchun 50.84 292 *e*P **P 03 51 45.3 -1.6**

JHJ Hachijo jima 2 50.87 272 LR LR 04 12 00.1
comp=Z,571nm,21.0s,baz=63,slow=34
KMSC Kings Mountain 51.58 83⇑P **P 03 51 52.3 -0.3**
baz=51
TIGA Tifton 53.11 87⇓P **P 03 52 03.5 -0.4**
baz=53
SNY Shenyang 53.22 292⇑P **P 03 52 05.5 +0.9**
SNY S **S 03 59 33.3 -0.4**
SNY pmax pmax
comp=Z,71nm,0.8s
SNY LR LR
comp=N,1μm,18.3s
SNY LR LR
comp=E,940nm,14.4s
SNY LR LR
comp=Z,2μm,17.7s
DRLN Deer Lake 53.47 54 *e*P **P 03 52 06.4 0.0**
comp=Z,22nm,0.8s
KEV Kevo 54.05 0 *e*P **P 03 52 10.6 +0.3**
KEV pmax pmax
comp=Z,33nm,0.8s
KEV Kevo 54.05 0 *e*P **P 03 52 10.6 +0.3**
comp=Z,33nm,0.8s
KEV Kevo 54.05 0 *e*p **P 03 52 09.8 -0.5**
comp=Z,28nm,0.8s
KSRS Korea Array 54.13 285 P **P 03 52 12.2 +0.8**
comp=Z,7.8nm,0.8s,baz=46,slow=6.9,SNR=30
KSRS LR LR 04 14 59.2
comp=Z,406nm,20.4s,baz=54,slow=36
CBIJ Chichi jima 54.15 266 P **P 03 52 12.9 +1.3**
comp=Z,140nm,0.8s,baz=179,slow=20,SNR=3.5
CBIJ Chichi jima 54.15 266 P **P 03 52 12.9 +1.3**
KSAR Wonju Array Be 54.16 285 P **P 03 52 12.2 +0.6**
ARCES ARCESS Array B 54.27 1 P **P 03 52 12.2 +0.3**
comp=Z,14nm,0.7s,baz=8.7,slow=6.9,SNR=51
ARCES PcP **PcP 03 53 17.1 +1.3**
comp=Z,9.0nm,0.8s,baz=18,slow=4.2,SNR=6.0
ARCES ARCESS Array B 54.27 1 P **P 03 52 12.2 +0.3**
ARCES PcP **PcP 03 53 17.1 +1.3**
IRK Irkutsk 54.56 313 *e*P **P 03 52 14.4 +0.1**
IRK pmax pmax
comp=Z,210nm,1.1s
TLY Talaya 55.24 313 *e*P **P 03 52 17.9 -1.4**
TLY *e*S S 03 59 53.3 -7.6
TLY *e*SS **SS 04 03 42.9 -1.5**
TLY pmax pmax
comp=Z,25nm,1.0s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 55.24 313 *e*P **P 03 52 20.2 +0.9**
comp=Z,244nm,2.3s
TLY Talaya 55.24 313 P **P 03 52 20.8 +1.5**
comp=Z,153nm,1.0s,SNR=13
JNU Nakatsue 55.77 280 P **P 03 52 24.8 +1.4**
comp=Z,15nm,0.9s,baz=2.4,slow=5.5,SNR=4.3
JNU Nakatsue 55.77 280 P **P 03 52 24.8 +1.4**
LVZ Lovozero 55.80 357 *c i*P **P 03 52 23.5 +0.5**
LVZ pmax pmax
comp=Z,82nm,0.8s
LVZ Lovozero 55.80 357 *e*P **P 03 52 23.9 +0.9**
comp=Z,82nm,0.9s
APA Apatity 56.16 357⇑*i*P **P 03 52 24.0 -1.6**
APA *e*S **S 04 00 14.0 +1.3**
MOY Mondy 56.32 314 *e*P **P 03 52 28.3 +1.2**
MOY pmax pmax
comp=Z,68nm,2.3s
DL2 Dalian 56.37 291 P **P 03 52 27.0 -0.5**
DL2 S **S 04 00 18.5 +2.3**
DL2 pmax pmax
comp=Z,10.0nm,0.8s
DL2 pmax pmax
comp=Z,160nm,5.1s
DL2 LR LR
comp=N,510nm,19.7s
DL2 LR LR
comp=E,610nm,19.8s
DL2 LR LR
comp=Z,550nm,15.8s
ZAK Zakamensk 56.38 312⇓*i*P **P 03 52 27.7 +0.2**
ZAK pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 56.68 308 *e*P **P 03 52 30.6 +0.8**
comp=Z,28nm,0.8s
SONM Songino Array 56.99 308 P **P 03 52 33.1 +1.1**
comp=Z,65nm,0.8s,baz=45,slow=6.5,SNR=526
SONM PcP **PcP 03 53 28.8 +1.9**
comp=Z,8.3nm,0.8s,baz=57,slow=2.3,SNR=4.2
SONM LR LR 04 19 35.3
comp=Z,2μm,19.7s,baz=39,slow=39
SONM Songino Array 56.99 308 P **P 03 52 33.1 +1.1**
SONM PcP **PcP 03 53 28.8 +1.9**
BJI Beijing 58.30 296 P **P 03 52 40.5 -0.6**
BJI PP PP 03 54 55.3 +5.5
BJI S **S 04 00 38.0 -3.5**
BJI SS **SS 04 04 30.5 -2.4**
BJI pmax pmax
comp=Z,25nm,0.7s
BJI pmax pmax
comp=Z,280nm,3.9s
BJI LR LR
comp=N,440nm,18.3s
BJI LR LR
comp=E,1μm,15.1s
BJI LR LR
comp=Z,860nm,17.0s
TMCR Tamitsa 59.38 355 *e*P **P 03 52 48.3 +0.1**
TMCR pmax pmax
comp=Z,46nm,0.8s
HHC Hu-ho-hao-te 59.95 299 *i*P **P 03 52 53.8 +1.1**
HHC pP **pP 03 52 59.8 -1.0**
HHC sP **sP 03 53 02.8 -1.1**
HHC PP **PP 03 55 06.0 +1.4**
HHC S **S 04 01 00.5 -2.6**
HHC sS **sS 04 01 15.3 -1.2**
HHC ScS **ScS 04 02 39.5 -1.7**
HHC SS **SS 04 05 00.0 +1.0**
HHC pmax pmax
comp=Z,110nm,0.9s
HHC pmax pmax
comp=Z,520nm,4.5s
HHC LR LR
comp=N,3μm,17.3s
HHC LR LR
comp=E,2μm,15.9s
HHC LR LR
comp=Z,2μm,14.7s
NVS Novosibirsk 60.03 326⇑*i*P **P 03 52 52.6 -0.2**
NVS *i* 03 55 04.6
NVS *e*S **S 04 00 59.4 -4.1**
NVS pmax pmax
comp=N,23nm,1.6s
NVS pmax pmax
comp=Z,75nm,1.6s
NVS pmax pmax
comp=E,26nm,1.5s
NVS pmax pmax
comp=Z,33nm,1.9s
NVS pmax pmax
comp=N,11nm,1.7s
NVS pmax pmax
comp=E,11nm,1.6s
NVS smax smax
comp=N,28nm,1.8s
NVS smax smax
comp=E,63nm,3.1s
ZAA0 Zalesovo Array 60.30 325 *e*P **P 03 52 55.1 +0.4**
ZALV Zalesovo Beam 60.30 325 P **P 03 52 55.1 +0.5**
comp=E,38nm,0.8s,baz=29,slow=7.2,SNR=148
ZALV LR LR 04 24 12.1
comp=E,688nm,18.3s,baz=43,slow=41
ZALV Zalesovo Beam 60.30 325 P **P 03 52 55.1 +0.5**
ZALV Zalesovo Beam 60.30 325 P **P 03 52 55.1 +0.5**
JOF Joensuu 60.88 358 *e*P **P 03 52 57.8 -0.7**
JOF pmax pmax
comp=Z,28nm,0.6s
JOF Joensuu 60.88 358 *e*p **P 03 52 57.8 -0.7**
comp=Z,28nm,0.6s
BTO Baotou 60.88 300 *e*P **P 03 52 59.3 +0.3**
KAF Kangasniemi 61.73 0 *e*P **P 03 53 04.0 -0.2**
KAF pmax pmax
comp=Z,27nm,0.6s
KAF Kangasniemi 61.73 0 *e*p **P 03 53 04.0 -0.2**
comp=Z,27nm,0.6s
NB2 NORSAR Subarra 62.13 9 P **P 03 53 07.9 +0.9**
baz=349,slow=6.9
NB2 NORSAR Subarra 62.13 9 P **P 03 53 07.9 +0.9**
comp=Z,46nm,0.8s,baz=349,slow=6.9
NOA NORSAR Array B 62.13 9 P **P 03 53 08.0 +1.0**
comp=Z,37nm,0.7s,baz=350,slow=6.8,SNR=150
NOA NORSAR Array B 62.13 9 P **P 03 53 08.0 +1.0**
NAO01 NORSAR Array S 62.30 9 *e*P **P 03 53 08.7 +0.6**
comp=Z,35nm,0.7s
FIA1 FINESS Array S 62.40 1 *e*P **P 03 53 08.9 +0.2**
FINES FINESS Array B 62.40 1 P **P 03 53 09.6 +0.9**
comp=Z,40nm,0.8s,baz=14,slow=8.6,SNR=105
FINES LR LR 04 23 32.9
comp=Z,381nm,18.3s,baz=136,slow=39
FINES FINESS Array B 62.40 1 P **P 03 53 09.6 +0.9**
SSE Sheshan 62.58 285 P **P 03 53 10.5 +0.1**
SSE PP **PP 03 55 30.0 +2.2**
SSE S **S 04 01 36.5 +0.1**
SSE sS **sS 04 01 48.0 -1.8**
SSE pmax pmax
comp=Z,15nm,0.6s
SSE pmax pmax
comp=Z,190nm,4.0s
SSE LR LR
comp=N,410nm,20.2s
SSE LR LR
comp=E,190nm,20.1s
SSE LR LR
comp=Z,360nm,20.1s
KLMR Klimovskoe 62.59 353 *c i*P **P 03 53 10.4 +0.4**
KLMR S S 04 01 24.6 -11
KLMR pmax pmax
comp=Z,64nm,0.9s
NJ2 Nanjing 63.07 288 *e*P **P 03 53 14.5 +0.9**
NJ2 pP **pP 03 53 25.0 +3.2**
NJ2 sP **sP 03 53 29.0 +4.1**
NJ2 PP **PP 03 55 34.5 +2.4**
NJ2 S **S 04 01 42.0 -0.6**
NJ2 sS **sS 04 01 58.0 +2.0**
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,290nm,5.2s
NJ2 LR LR
comp=N,320nm,26.6s
NJ2 LR LR
comp=E,140nm,28.4s
NJ2 LR LR
comp=Z,210nm,25.8s
HFS Hagfors 63.22 8 P **P 03 53 14.7 +0.4**
comp=Z,44nm,0.8s,baz=29,slow=3.4,SNR=72
HFS Hagfors 63.22 8 P **P 03 53 14.7 +0.4**
KONO Kongsberg 63.36 10 *e*P **P 03 53 16.3 +1.1**
KONO pmax pmax
comp=Z,39nm,0.8s
KONO Kongsberg 63.36 10 *e*P **P 03 53 16.3 +1.1**
comp=Z,39nm,0.8s
SVE Sverdlovsk 63.86 340⇑*i*P **P 03 53 19.6 +1.1**
SVE *e*S S 04 02 10.8 +19
SVE pmax pmax
comp=Z,56nm,0.9s
PUL Pulkovo 64.06 358⇓*e*P **P 03 53 21.1 +1.4**
PUL pmax pmax
comp=Z,96nm,0.7s
ARU Arti 64.61 341 *c i*P **P 03 53 23.3 -0.1**
ARU 03 55 41.7
ARU S **S 04 02 03.7 +2.6**
ARU SS **SS 04 06 14.7 +4.0**
ARU pmax pmax
comp=Z,53nm,0.8s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 64.61 341 *e*P **P 03 53 22.9 -0.5**
comp=Z,52nm,0.9s
TGUH Tegucigalpa,Un 64.92 103 *e*P **P 03 53 24.3 -1.6**
comp=Z,53nm,1.1s
KURK Kurchatov 65.02 327 *c i*P **P 03 53 26.5 +0.3**
KURK pmax pmax
comp=Z,28nm,1.0s
KURK Kurchatov 65.02 327 *e*P **P 03 53 26.4 +0.3**
comp=Z,22nm,0.8s
KURK Kurchatov 65.02 327 P **P 03 53 26.7 +0.5**
comp=Z,175nm,0.8s,SNR=19
BRVK Borovoye 65.24 333 P **P 03 53 27.7 +0.1**
BRVK pmax pmax
comp=Z,72nm,0.9s
BRVK Borovoye 65.24 333 *e*P **P 03 53 27.9 +0.4**
comp=Z,48nm,0.9s
BVA0 Borovoye Array 65.24 333 P **P 03 53 27.5 -0.1**
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 65.24 333 P **P 03 53 28.4 +0.8**
comp=Z,59nm,0.7s,baz=38,slow=7.5,SNR=182
BVAR Borovoye Array 65.24 333 P **P 03 53 28.4 +0.8**
BVAR Borovoye Array 65.24 333 P **P 03 53 28.4 +0.8**
VOSK Vostochnaya 65.36 332 P **P 03 53 28.0 -0.4**
VOSK pmax pmax
comp=Z,22nm,0.9s
VSU Vasula 65.39 0 *c i*P **P 03 53 29.1 +0.6**
VSU pmax pmax
comp=Z,88nm,0.7s
EKA Eskdalemuir Ar 65.83 18 P **P 03 53 32.1 +0.8**
comp=Z,30nm,0.7s,baz=328,slow=4.8,SNR=81
EKA Eskdalemuir Ar 65.83 18 P **P 03 53 32.1 +0.8**
ESK Eskdalemuir 65.83 18 *e*P **P 03 53 32.1 +0.7**
ESK pmax pmax
comp=Z,26nm,0.8s
ESK Eskdalemuir 65.83 18 *e*P **P 03 53 32.1 +0.7**
comp=Z,26nm,0.8s
MUD Monsted U'grnd 66.46 11⇑*i*P **P 03 53 36.9 +1.5**
comp=Z,32nm,0.8s
GTA Gaotai 66.57 306 P **P 03 53 37.0 +0.5**
GTA pP **pP 03 53 46.0 +1.3**
GTA sP **sP 03 53 51.0 +3.2**
GTA S **S 04 02 26.0 +0.2**
GTA sS **sS 04 02 40.0 +0.7**
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,280nm,5.2s
GTA LR LR
comp=N,1μm,15.4s
GTA LR LR
comp=E,2μm,15.9s
GTA LR LR
comp=Z,2μm,17.1s
XAN Xi'an 66.60 296 P **P 03 53 37.0 +0.3**
XAN pP **pP 03 53 48.0 +3.1**
XAN sP **sP 03 53 52.0 +4.0**
XAN PP PP 03 56 08.5 +5.5
XAN S **S 04 02 24.0 -2.1**
XAN sS **sS 04 02 42.0 +2.4**
XAN ScS **SKSac 04 03 29.0 -2.5**
XAN SS **SS 04 06 45.3 +2.5**
XAN pmax pmax
comp=Z,6.0nm,1.5s
XAN pmax pmax
comp=Z,54nm,6.7s
XAN LR LR
comp=N,860nm,14.7s
XAN LR LR
comp=E,170nm,15.2s
XAN LR LR
comp=Z,290nm,16.2s
WHN Wuhan 66.62 290 P **P 03 53 37.8 +1.0**
WHN S **S 04 02 30.8 +4.5**
WHN LR LR
comp=Z,1μm,20.5s
MK31 Makanchi Array 67.27 322 *ce*P **P 03 53 40.9 +0.2**
MK31 pmax pmax
comp=Z,29nm,0.8s
MK31 Makanchi Array 67.27 322 *e*P **P 03 53 40.8 0.0**
MKAR Makanchi Array 67.27 322 P **P 03 53 40.9 +0.2**
comp=Z,20nm,0.8s,baz=47,slow=6.5,SNR=229
MKAR PP **PP 03 56 03.6 -4.8**
comp=Z,3.5nm,0.8s,baz=44,slow=9.3,SNR=3.7
MKAR LR LR 04 27 47.8
comp=Z,741nm,18.2s,baz=32,slow=40
MKAR Makanchi Array 67.27 322 P **P 03 53 40.9 +0.2**
MKAR Makanchi Array 67.27 322 P **P 03 53 40.9 +0.2**
MKAR PP **PP 03 56 03.6 -4.8**
LZH Lanzhou 67.41 301 *e*P **P 03 53 42.0 0.0**
LZH pP **pP 03 53 49.0 -1.2**
LZH sP **sP 03 53 51.5 -1.8**
LZH *e*S **S 04 02 33.0 -3.1**
LZH sS **sS 04 02 46.0 -3.7**
LZH SS **SS 04 06 56.0 +0.4**
LZH pmax pmax

	comp=Z,33nm,1.0s							
LZH					pmax	pmax		
	comp=Z,150nm,4.0s							
LZH					LR	LR		
	comp=N,1μm,13.5s							
LZH					LR	LR		
	comp=E,1μm,12.6s							
LZH					LR	LR		
	comp=Z,1μm,15.0s							
COP	**Copenhagen**	**67.53**	**9**	*i* P		**P**	**03 53 43.6 +1.4**	
	comp=Z,16nm,0.8s							
COP				*i* S		**S**	**04 02 39.0 +2.4**	
COP								
	comp=Z,260nm,15.0s							
LLD	**Lille Linde**	**67.86**	**9**⇑	*i*P		**P**	**03 53 45.9 +1.6**	
	comp=Z,61nm,0.7s							
WMQ	**Urumqi**	**67.89**	**317**	P		**P**	**03 53 46.8 +2.0**	
WMQ				sP		**sP**	**03 53 55.5 -0.6**	
WMQ				PcP		**PcP**	**03 54 13.0 +1.9**	
WMQ				ScP			03 58 14.5	
WMQ				S		**S**	**04 02 42.5 +1.0**	
WMQ				SS		**SS**	**04 07 05.3 +2.9**	
WMQ				pmax	pmax			
	comp=Z,27nm,1.2s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.5s							
WMQ				LR	LR			
	comp=N,2μm,17.0s							
WMQ				LR	LR			
	comp=E,2μm,17.0s							
WMQ				LR	LR			
	comp=Z,730nm,20.0s							
IZAR	**Zarasai**	**68.11**	**1**	*e*P		**P**	**03 53 46.9 +1.1**	
IZAR				AMB		AMB	03 53 47.6	
	comp=Z,16nm,0.9s							
ISAL	**Salakas**	**68.29**	**1**	*e*P		**P**	**03 53 48.0 +1.1**	
ISAL				AMB		AMB	03 53 48.7	
	comp=Z,18nm,1.1s							
BSD	**Bornholm Skovb**	**68.30**	**8**⇑	*i*P		**P**	**03 53 47.9 +0.9**	
	comp=Z,29nm,0.8s							
OBN	**Obninsk**	**68.49**	**354**α	*i*P		**P**	**03 53 48.5 +0.3**	
OBN				*i*			03 53 57.1	
OBN				*e*			03 54 11.9	
OBN				*e*S		S	04 02 55.0 +7.0	
OBN				*e*			04 03 45.5	
OBN				*e*SS		**SS**	**04 07 13.3 +2.5**	
OBN				pmax	pmax			
	comp=Z,45nm,0.7s							
OBN				MLR		MLR		
	comp=Z,600nm,23.0s							
OBN	**Obninsk**	**68.49**	**354**	*e*P		**P**	**03 53 48.8 +0.6**	
	comp=Z,45nm,0.8s							
IIGN	**Ignalina**	**68.51**	**1**	*e*P		**P**	**03 53 49.4 +1.0**	
IIGN				AMB		AMB	03 53 50.1	
	comp=Z,19nm,0.9s							
RGN	**Rugen**	**68.74**	**9**	*e*P		**P**	**03 53 51.5 +1.8**	
	comp=Z,62nm,0.8s							
NACGM	**Naroch**	**68.96**	**0**	*e*		**P**	**03 53 49.0 -2.2**	
MICGM	**Minsk**	**69.36**	**360**	*e*		P	03 53 49.0 -4.7	
MNK	**Minsk**	**69.36**	**360**	*e*P		P	03 53 49.0 -4.7	
SDDR	**Presa de Saban**	**69.72**	**86**	*e*P		P	03 53 53.1 -3.3	
	comp=Z,32nm,0.9s							
SUW	**Suwalki**	**69.81**	**3**	*e*P		**P**	**03 53 56.9 +0.5**	
SUW				*e*S		**S**	**04 02 57.8 -5.8**	
SUW				LMZ		LR	04 23 09.6	
	comp=Z,400nm,23.2s							
SUW	**Suwalki**	**69.81**	**3**	*e*P		**P**	**03 53 56.2 -0.2**	
SUW				pmax	pmax			
	comp=Z,88nm,0.8s							
SUW	**Suwalki**	**69.81**	**3**	*e*P		**P**	**03 53 56.1 -0.2**	
	comp=Z,88nm,0.8s							
SUW	**Suwalki**	**69.81**	**3**	*e*P		**P**	**03 53 56.8 +0.5**	
SUW				*e*S		**S**	**04 02 57.8 -5.8**	
SUW				LMZ		LR	04 23 09.5	
GKP	**Gorka Klasztor**	**70.29**	**6**	*e*P		**P**	**03 54 00.7 +1.3**	
GKP				LMZ		LR	04 23 00.4	
	comp=Z,600nm,24.3s							
GKP	**Gorka Klasztor**	**70.29**	**6**	*e*P		**P**	**03 54 00.6 +1.3**	
GKP				LMZ		LR	04 23 00.4	
IBBN	**Ibbenburen**	**70.38**	**13**	*e*P		**P**	**03 54 01.4 +1.4**	
	comp=Z,47nm,0.9s							
AKTO	**Aktyubinsk**	**70.42**	**340**	P		**P**	**03 54 00.4 +0.1**	
	comp=Z,27nm,0.8s,baz=13,slow=5.3,SNR=25							
AKTO	**Aktyubinsk**	**70.42**	**340**	P		**P**	**03 54 00.4 +0.1**	
AKTO	**Aktyubinsk**	**70.42**	**340**	P		**P**	**03 54 00.4 +0.1**	
NRDL	**Niedersach Rie**	**70.47**	**11**	*e*P		**P**	**03 54 01.7 +1.3**	
	comp=Z,40nm,0.8s							
WTSB	**Winterswijk**	**70.60**	**13**	*i* P		**P**	**03 54 02.6 +1.3**	
	comp=Z,56nm,0.9s							
CLZ	**Clausthal**	**71.14**	**11**	*e*P		**P**	**03 54 06.3 +1.7**	
CLZ				pmax	pmax			
	comp=Z,52nm,1.1s							
CLZ	**Clausthal**	**71.14**	**11**	*e*P		**P**	**03 54 06.3 +1.7**	
	comp=Z,52nm,1.1s							
AB31	**Akbulak array**	**71.16**	**338**c*e*	P		**P**	**03 54 05.4 +0.7**	
AB31				pmax	pmax			
	comp=Z,25nm,0.7s							
BUG	**Bochum--Univer**	**71.17**	**13**	*e*P		**P**	**03 54 05.9 +1.1**	
	comp=Z,62nm,0.8s							
BEBN	**Eben Emael**	**71.60**	**14**	P		**P**	**03 54 08.5 +1.2**	
	comp=Z,11nm,0.9s							
HGN	**Heimansgroeve**	**71.66**	**14**	*i* P		**P**	**03 54 08.5 +0.7**	
	comp=Z,60nm,1.2s							
HGN				*e*S		**SKiKP**	**04 03 36.9 -7.1**	
HGN	**Heimansgroeve**	**71.66**	**14**	*e*L		L	04 29 38.0	
	comp=Z,653nm,19.2s							
CD2	**Chengdu**	**71.67**	**298**	P		P	03 54 05.3 -2.9	
CD2				pP		pP	03 54 17.3 +0.8	
CD2				sP		sP	03 54 22.0 +2.4	
CD2				PP		**PP**	**03 56 46.5 -0.5**	
CD2				S		**S**	**04 03 20.8 -5.4**	
CD2				sS		sS	04 03 40.5 +0.7	
CD2				SS		**SS**	**04 07 58.5 -2.7**	
CD2				pmax	pmax			
	comp=Z,30nm,0.8s							
CD2				pmax	pmax			
	comp=Z,230nm,5.5s							
CD2				LR		LR		
	comp=E,1μm,14.9s							
CD2				LR		LR		
	comp=Z,1μm,15.5s							
SNF	**Seneffe**	**71.68**	**15**	P		**P**	**03 54 07.7 -0.2**	
MEM	**Membach**	**71.83**	**14**	P		**P**	**03 54 09.9 +1.2**	
	comp=Z,20nm,0.9s							
BEL	**Belsk**	**71.90**	**4**	*e*P		**P**	**03 54 10.1 +0.9**	
BEL				LMZ		LR	04 23 30.9	
	comp=Z,500nm,23.4s							
BEL	**Belsk**	**71.90**	**4**	*e*P		**P**	**03 54 10.0 +0.9**	
BEL				LMZ		LR	04 23 30.9	
BCLA	**Clavier**	**71.92**	**15**	P		**P**	**03 54 09.8 +0.5**	
CLL	**Collm**	**71.92**	**9**⇑	*i*P		**P**	**03 54 10.1 +0.8**	
CLL				*e*			03 54 18.0	
CLL				*e*S		**S**	**04 03 27.0 -1.3**	
CLL				pmax	pmax			
	comp=Z,23nm,1.0s							
CLL				MLR		MLR		
	comp=Z,500nm,19.3s							
CLL	**Collm**	**71.92**	**9**	*e*P		**P**	**03 54 10.2 +0.9**	
	comp=Z,23nm,1.0s							
CLL	**Collm**	**71.92**	**9**⇑	*i*P		**P**	**03 54 10.1 +0.8**	
	comp=Z,23nm,1.0s							
CLL				*e*sP		**sP**	**03 54 18.0 -2.6**	
CLL				*e*PcP		**PcP**	**03 54 28.0 +0.1**	
CLL				*e*PP		PP	03 56 58.0 +10	
CLL				*e*S		**S**	**04 03 27.0 -1.3**	
CLL				*e*SS		SS	04 08 18.0 +14	
CLL				*e*			04 08 48.0	
CLL				*e*SSS		SSS	04 11 42.0	
CLL				LV			04 30 00.0	
	comp=Z,500nm,19.3s							
UBBA	**Unterbreizbach**	**72.11**	**11**	*e*P		**P**	**03 54 11.9 +1.6**	
	comp=Z,67nm,1.9s							
BAIF	**Baives**	**72.11**	**15**⇑	*i*P		**P**	**03 54 11.8 +1.4**	
	comp=Z,47nm,0.8s							
BAIF	**Baives**	**72.11**	**15**⇑	*i*P		**P**	**03 54 11.8 +1.4**	
BAIF				pmax	pmax			
	comp=Z,47nm,0.8s							
BAIF	**Baives**	**72.11**	**15**⇑	*i*P		**P**	**03 54 11.8 +1.4**	
	comp=Z,47nm,0.8s							
VRHR	**Novokhopersk**	**72.11**	**351**	*e*P		**P**	**03 54 09.3 -1.1**	
VRHR				pmax	pmax			
	comp=N,10.0nm,0.8s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.8s							
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
DOU	**Dourbes**	**72.13**	**15**	P		**P**	**03 54 12.1 +1.5**	
	comp=Z,14nm,1.1s							
GIVF	**Givet**	**72.16**	**15**	*e*P		**P**	**03 54 12.0 +1.3**	
	comp=Z,62nm,0.8s							
GIVF	**Givet**	**72.16**	**15**	*e*P		**P**	**03 54 12.0 +1.3**	
GIVF				pmax	pmax			
	comp=Z,62nm,0.8s							
GIVF	**Givet**	**72.16**	**15**	*e*P		**P**	**03 54 12.0 +1.3**	
	comp=Z,62nm,0.8s							
VSR	**Storozhevoye**	**72.20**	**352**	*e*P		**P**	**03 54 10.6 -0.4**	
VSR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,30nm,0.9s							
BRG	**Berggiesshubel**	**72.44**	**9**	*e*P		**P**	**03 54 13.3 +0.9**	
	comp=Z,25nm,1.1s							
BRG				PP		PP	03 56 47.0 -5.8	
BRG				S		**S**	**04 03 36.0 +1.8**	
BRG				SS		**SS**	**04 08 08.0 -3.5**	
BRG								
	comp=N,283nm,15.4s							
BRG								
	comp=E,411nm,19.7s							
BRG								
	comp=Z,715nm,14.8s							
BRG	**Berggiesshubel**	**72.44**	**9**	*e*P		**P**	**03 54 13.3 +0.9**	
BRG				S		**S**	**04 03 36.0 +1.8**	
BRG				SS		**SS**	**04 08 08.0 -3.5**	
BRG				pmax	pmax			
	comp=Z,25nm,1.1s							
BRG				MLR		MLR		
	comp=N,283nm,15.4s							
BRG				MLR		MLR		
	comp=E,411nm,19.7s							
BRG				MLR		MLR		
	comp=Z,715nm,14.8s							
BRG	**Berggiesshubel**	**72.44**	**9**	*e*P		**P**	**03 54 13.5 +1.1**	
	comp=Z,25nm,1.1s							
VORD	**Divnogorie**	**72.44**	**352**	*e*P		**P**	**03 54 12.2 -0.2**	
VORD				pmax	pmax			
	comp=N,30nm,0.7s							
VORD				pmax	pmax			
	comp=E,30nm,0.7s							
VORD				pmax	pmax			
	comp=Z,20nm,0.7s							
MOX	**Moxa**	**72.45**	**10**	*e*P		**P**	**03 54 13.6 +1.1**	
MOX				*e*			03 56 58.8	
MOX				*e*S		**SKiKP**	**04 03 41.0 -4.2**	
MOX				pmax	pmax			
	comp=Z,38nm,0.7s							
MOX				MLR		MLR		
	comp=Z,600nm,19.4s							
MOX	**Moxa**	**72.45**	**10**	*e*P		**P**	**03 54 13.6 +1.1**	
	comp=Z,38nm,0.7s							
MOX				*e*PP		PP	03 56 58.8 +5.9	
MOX				*e*S		**SKiKP**	**04 03 41.0 -4.2**	
MOX				*e*SS		SS	04 08 24.7 +13	
MOX				*e*L		L	04 30 34.3	
	comp=Z,576nm,19.4s							
ROSF	**Rostrenen**	**72.49**	**21**	*e*P		**P**	**03 54 13.9 +1.2**	
	comp=Z,42nm,1.0s							
ROSF	**Rostrenen**	**72.49**	**21**	*e*P		**P**	**03 54 13.9 +1.2**	
ROSF				pmax	pmax			
	comp=Z,42nm,1.0s							
ROSF	**Rostrenen**	**72.49**	**21**	*e*P		**P**	**03 54 13.9 +1.2**	
	comp=Z,42nm,1.0s							
TNS	**Taunus Mts**	**72.52**	**13**	*e*P		**P**	**03 54 14.2 +1.2**	
TNS				pmax	pmax			
	comp=Z,26nm,0.7s							
TNS	**Taunus Mts**	**72.52**	**13**	*e*P		**P**	**03 54 14.2 +1.2**	
	comp=Z,26nm,0.7s							
FLN	**La Foliniere**	**72.60**	**19**	*e*P		**P**	**03 54 14.2 +0.8**	
	comp=Z,59nm,1.0s							
FLN				*e*R				
	comp=Z,1μm,19.0s							
FLN	**La Foliniere**	**72.60**	**19**	*e*P		**P**	**03 54 14.2 +0.8**	
FLN				pmax	pmax			
	comp=Z,59nm,1.0s							
FLN	**La Foliniere**	**72.60**	**19**	*e*P		**P**	**03 54 14.2 +0.8**	
	comp=Z,59nm,1.0s							
KSP	**Ksiaz**	**72.65**	**7**	*e*P		**P**	**03 54 14.9 +1.2**	
KSP				*e*S		**S**	**04 03 35.9 -0.7**	
KSP				LMZ		LR	04 27 30.5	
	comp=Z,300nm,21.1s							
KSP	**Ksiaz**	**72.65**	**7**⇑	*e*P		**P**	**03 54 14.6 +0.9**	
KSP				*e**PP		**pP**	**03 54 21.3 -0.6**	
KSP				*e*S		**S**	**04 03 40.0 +3.4**	
KSP	**Ksiaz**	**72.65**	**7**	*e*P		**P**	**03 54 14.8 +1.2**	
KSP				*e*S		**S**	**04 03 35.9 -0.7**	
KSP				LMZ		LR	04 27 30.5	
SGMF	**Saint Gilles**	**72.71**	**20**	*e*P		**P**	**03 54 15.2 +1.2**	
	comp=Z,69nm,1.0s							
SGMF	**Saint Gilles**	**72.71**	**20**	*e*P		**P**	**03 54 15.2 +1.2**	
SGMF				pmax	pmax			
	comp=Z,69nm,1.0s							
SGMF	**Saint Gilles**	**72.71**	**20**	*e*P		**P**	**03 54 15.2 +1.2**	
	comp=Z,69nm,1.0s							
ABH	**Alteburg**	**72.74**	**13**	*e*P		**P**	**03 54 15.2 +0.9**	
TANN	**Tannenbergstha**	**72.76**	**10**	*e*P		**P**	**03 54 15.3 +0.9**	
	comp=Z,20nm,1.1s							
WLF	**Walferdange**	**72.77**	**14**	P		**P**	**03 54 15.9 +1.6**	
	comp=Z,21nm,2.2s							
WLF	**Walferdange**	**72.77**	**14**	*e*P		**P**	**03 54 15.5 +1.1**	
WLF				pmax	pmax			
	comp=Z,14nm,0.8s							
WLF	**Walferdange**	**72.77**	**14**	*e*P		**P**	**03 54 16.0 +1.6**	
	comp=Z,23nm,1.0s							
WLF	**Walferdange**	**72.77**	**14**	*e*P		**P**	**03 54 15.5 +1.1**	
	comp=Z,14nm,0.8s							
PVCC	**Panska Ves**	**72.83**	**8**	*i* P		**P**	**03 54 16.6 +1.9**	
PVCC				*e*			03 54 23.5	
PVCC				MLR		MLR		
	comp=Z,600nm,17.4s							
PVCC	**Panska Ves**	**72.83**	**8**	*i* P		**P**	**03 54 16.6 +1.9**	
PVCC				*e*pP		**pP**	**03 54 23.5 +0.5**	
PVCC				AMS		AMS	04 33 20.0	
	comp=Z,600nm,17.4s							
LDF	**La Druitiere**	**72.83**	**19**	*e*P		**P**	**03 54 15.5 +0.7**	
	comp=Z,20nm,0.8s							
LDF	**La Druitiere**	**72.83**	**19**	*e*P		**P**	**03 54 15.5 +0.7**	
LDF				pmax	pmax			
	comp=Z,20nm,0.8s							
LDF	**La Druitiere**	**72.83**	**19**	*e*P		**P**	**03 54 15.5 +0.7**	
	comp=Z,20nm,0.8s							
RUP	**Ruppelstein**	**72.85**	**14**	*e*P		**P**	**03 54 15.9 +0.9**	
RUP	**Ruppelstein**	**72.85**	**14**	*e*P		**P**	**03 54 15.9 +0.9**	
GRR	**Gorron**	**72.90**	**19**	*e*P		**P**	**03 54 16.2 +1.0**	
	comp=Z,40nm,0.9s							
GRR	**Gorron**	**72.90**	**19**	*e*P		**P**	**03 54 16.2 +1.0**	
GRR				pmax	pmax			
	comp=Z,41nm,0.9s							
GRR	**Gorron**	**72.90**	**19**	*e*P		**P**	**03 54 16.2 +1.0**	
	comp=Z,40nm,0.9s							
TKM2	**Tokmak 2**	**72.90**	**325**	*e*P		**P**	**03 54 15.7 +0.1**	
TKM2				pmax	pmax			
	comp=Z,38nm,1.0s							
TKM2	**Tokmak 2**	**72.90**	**325**	*e*P		**P**	**03 54 15.7 +0.1**	
	comp=Z,38nm,1.0s							
TKM2	**Tokmak 2**	**72.90**	**325**	P		**P**	**03 54 17.4 +1.9**	
	SNR=44							
QUIF	**Quistinic**	**72.91**	**21**⇑	*i*P		**P**	**03 54 16.4 +1.2**	
	comp=Z,25nm,0.8s							
QUIF	**Quistinic**	**72.91**	**21**⇑	*i*P		**P**	**03 54 16.4 +1.2**	
QUIF				pmax	pmax			
	comp=Z,25nm,0.8s							
QUIF	**Quistinic**	**72.91**	**21**⇑	*i*P		**P**	**03 54 16.4 +1.2**	
	comp=Z,25nm,0.8s							
USP	**Ospenovka**	**72.93**	**326**	P		**P**	**03 54 16.7 +1.1**	
	SNR=21							
NKC	**Novy Kostel**	**72.94**	**10**	*i* P		**P**	**03 54 17.0 +1.6**	
NKC	**Novy Kostel**	**72.94**	**10**	*i* P		**P**	**03 54 17.0 +1.6**	
CHMS	**Chumysh**	**73.10**	**326**	P		**P**	**03 54 18.4 +1.9**	
	SNR=16							
DPC	**Dobruska-Polom**	**73.14**	**7**	*i* P		**P**	**03 54 18.1 +1.5**	
DPC				*e*			03 54 26.4	
DPC				*e*S		**SKiKP**	**04 03 46.7 +0.4**	
DPC				MLR		MLR		
	comp=Z,400nm,14.7s							
DPC	**Dobruska-Polom**	**73.14**	**7**	*e*P		**P**	**03 54 17.9 +1.2**	
	comp=Z,57nm,0.9s							
DPC	**Dobruska-Polom**	**73.14**	**7**	*i* P		**P**	**03 54 18.1 +1.5**	
DPC				*e*pP		**pP**	**03 54 26.4 +1.5**	
DPC				*e*S		**SKiKP**	**04 03 46.7 +0.4**	
DPC				AMS		AMS	04 35 20.0	
	comp=Z,400nm,14.7s							
AKASG	**Malin Array Be**	**73.16**	**359**	P		**P**	**03 54 16.6 0.0**	
	comp=Z,37nm,0.7s,baz=2.6,slow=6.0,SNR=87							
AKASG	**Malin Array Be**	**73.16**	**359**	P		**P**	**03 54 16.6 0.0**	
AKASG	**Malin Array Be**	**73.16**	**359**	P		**P**	**03 54 16.6 0.0**	
KIEV	**Kiev**	**73.17**	**359**	*e*P		**P**	**03 54 16.4 -0.3**	
KIEV				pmax	pmax			
	comp=Z,43nm,0.8s							
KIEV	**Kiev**	**73.17**	**359**	*e*P		**P**	**03 54 16.4 -0.3**	
	comp=Z,43nm,0.8s							
TOD	**Tromm**	**73.17**	**12**	*e*P		**P**	**03 54 18.0 +1.2**	
TOD	**Tromm**	**73.17**	**12**	*e*P		**P**	**03 54 18.0 +1.2**	
AK01	**Malin Array Si**	**73.17**	**359**	*e*P		**P**	**03 54 16.9 +0.2**	
AK02	**Malin Array Si**	**73.20**	**359**	*e*P		**P**	**03 54 16.5 -0.4**	
SJG	**San Juan**	**73.26**	**83**	LR		LR	04 29 34.6	
	comp=Z,752nm,19.2s,baz=138,slow=38							
FRU	**Bishkek**	**73.29**	**326**⇑	*i*P		**P**	**03 54 18.0 +0.4**	
FRU				pmax	pmax			
	comp=Z,342nm,2.0s							
KBK	**Karagaybulak**	**73.34**	**325**	P		**P**	**03 54 19.8 +1.6**	
	SNR=24							
GRF	**Grafenberg Arr**	**73.35**	**11**	*e*P		**P**	**03 54 19.2 +1.3**	
GRF				*e*			03 57 05.0	
GRF				*e*S		**SKiKP**	**04 03 53.3 +6.7**	
GRF				pmax	pmax			
	comp=Z,27nm,0.8s							
GRF	**Grafenberg Arr**	**73.35**	**11**	*e*P		**P**	**03 54 19.2 +1.3**	
	comp=Z,27nm,0.8s							
GRF				*e*PP		**PP**	**03 57 05.0 +4.4**	
GRF				*e*S		**SKiKP**	**04 03 53.3 +6.7**	
GRF				*e*SS		SS	04 08 38.3 +13	
GRF				*e*L		L	04 32 42.1	
	comp=Z,621nm,18.8s							
PRU	**Pruhonice**	**73.36**	**8**	*i* P		**P**	**03 54 19.5 +1.6**	
PRU				*e*			03 54 25.9	
PRU				*e*S		**SKiKP**	**04 03 46.7 +0.1**	
PRU				MLR		MLR		
	comp=Z,500nm,16.6s							
PRU	**Pruhonice**	**73.36**	**8**	*i* P		**P**	**03 54 19.5 +1.6**	
PRU				*e*pP		**pP**	**03 54 25.9 -0.3**	
PRU				*e*S		**SKiKP**	**04 03 46.7 +0.1**	
PRU				AMS		AMS	04 33 40.0	
	comp=Z,500nm,16.6s							
ROTZ	**Rotzenmuhle**	**73.38**	**10**	*e*P		**P**	**03 54 19.5 +1.5**	
	comp=Z,23nm,0.9s							
OJC	**Ojcow**	**73.48**	**5**	*e*P		**P**	**03 54 19.3 +0.7**	
OJC				pmax	pmax			
	comp=Z,14nm,0.8s							
OJC	**Ojcow**	**73.48**	**5**	*e*P		**P**	**03 54 19.3 +0.7**	
	comp=Z,14nm,0.8s							
OJC	**Ojcow**	**73.48**	**5**	*e*P		**P**	**03 54 19.4 +0.8**	
AAK	**Ala-Archa**	**73.51**	**326**	*e*P		**P**	**03 54 19.9 +0.8**	
AAK				pmax	pmax			
	comp=Z,113nm,0.9s							
AAK	**Ala-Archa**	**73.51**	**326**	*e*P		**P**	**03 54 19.9 +0.8**	
	comp=Z,113nm,0.9s							
AAK				*e*PP		PP	03 56 56.0 -6.4	
AAK	**Ala-Archa**	**73.51**	**326**	P		**P**	**03 54 20.3 +1.2**	
	SNR=27							
AAK	**Ala-Archa**	**73.51**	**326**	P		**P**	**03 54 20.8 +1.7**	
	comp=Z,172nm,0.8s,SNR=15							
LANF	**Langenberg**	**73.66**	**13**	*e*P		**P**	**03 54 20.8 +1.1**	
LANF	**Langenberg**	**73.66**	**13**	*e*P		**P**	**03 54 20.8 +1.1**	
LANF	**Langenberg**	**73.66**	**13**	*e*P		**P**	**03 54 20.8 +1.1**	
EKS2	**Erkin-Say**	**73.71**	**326**	*e*P		**P**	**03 54 20.9 +0.7**	
EKS2				pmax	pmax			
	comp=Z,22nm,0.8s							
EKS2	**Erkin-Say**	**73.71**	**326**	*e*P		**P**	**03 54 20.9 +0.7**	
	comp=Z,22nm,0.8s							
EKS2	**Erkin-Say**	**73.71**	**326**	P		**P**	**03 54 21.4 +1.2**	
	SNR=32							
MEZF	**Maizieres J'vi**	**73.75**	**15**	*e*P		**P**	**03 54 21.6 +1.4**	
	comp=Z,36nm,0.9s							
MEZF	**Maizieres J'vi**	**73.75**	**15**	*e*P		**P**	**03 54 21.6 +1.4**	
	comp=Z,36nm,0.9s							
OKC	**Ostrava-Krasne**	**73.77**	**6**	*i* P		**P**	**03 54 21.8 +1.5**	
OKC				*e*			03 54 29.6	
OKC				*e*S		**S**	**04 03 54.8 +5.5**	
OKC				MLR		MLR		
	comp=Z,500nm,15.8s							
OKC	**Ostrava-Krasne**	**73.77**	**6**	*i* P		**P**	**03 54 21.8 +1.5**	
OKC				*e*pP		**pP**	**03 54 29.6 +1.0**	
OKC				*e*S		**S**	**04 03 54.8 +5.5**	
OKC				AMS		AMS	04 32 10.0	
	comp=Z,500nm,15.8s							
KZA	**Kyzart**	**73.77**	**325**	P		**P**	**03 54 22.9 +1.9**	
	SNR=19							
MORC	**Moravsky Berou**	**73.79**	**7**⇓	P		**P**	**03 54 21.6 +1.1**	
MORC	**Moravsky Berou**	**73.79**	**7**	*e*P		**P**	**03 54 21.6 +1.1**	
	comp=Z,9.2nm,0.7s							
MORC	**Moravsky Berou**	**73.79**	**7**⇓	*i*P		**P**	**03 54 21.6 +1.1**	
PAGF	**Fort de Pagny**	**73.80**	**15**	*e*P		**P**	**03 54 22.1 +1.6**	
	comp=Z,11nm,0.7s							
PAGF	**Fort de Pagny**	**73.80**	**15**	*e*P		**P**	**03 54 22.1 +1.6**	
	comp=Z,11nm,0.7s							
PPT	**Papeete**	**73.82**	**177**	LR		LR	04 25 50.4	
	comp=Z,537nm,18.0s,baz=340,slow=35							
PPT2	**Papeete2**	**73.84**	**177**	*e*S		**SKiKP**	**04 03 42.1 -5.9**	
	comp=Z,183nm,25.2s							
PPT2				*e*LR		LR	04 16 46.7	
	comp=Z,470nm,21.8s,baz=355							
GYA	**Guiyang**	**73.88**	**293**	*e*P		P	03 54 18.3 -3.1	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LVV	**L'vov**	**74.02**	**2**	*e*P		**P**	**03 54 22.1 +0.3**	
STU	**Stuttgart**	**74.03**	**12**	*e*P		**P**	**03 54 23.0 +1.1**	
	comp=Z,25nm,1.1s							
SFTF	**Sexfontaines**	**74.04**	**15**	*e*P		**P**	**03 54 23.1 +1.2**	
	comp=Z,52nm,1.0s,baz=341							
SFTF	**Sexfontaines**	**74.04**	**15**	*e*P		**P**	**03 54 23.1 +1.2**	
	comp=Z,52nm,1.0s							
WET	**Wettzell**	**74.06**	**10**	*e*P		**P**	**03 54 23.5 +1.5**	
WET				pmax	pmax			
	comp=Z,25nm,1.3s							
WET	**Wettzell**	**74.06**	**10**	*e*P		**P**	**03 54 23.5 +1.5**	
	comp=Z,25nm,1.3s							
TREC	**Trest**	**74.13**	**8**	*i* P		**P**	**03 54 23.7 +1.3**	
TREC				*e*			03 54 30.1	
TREC				MLR		MLR		
	comp=Z,500nm,16.4s							
TREC	**Trest**	**74.13**	**8**	*i* P		**P**	**03 54 23.7 +1.3**	
TREC				*e*pP		**pP**	**03 54

KK31 pmax pmax
comp=Z,25nm,0.8s
ECH Echery 74.33 14 *e*P **P 03 54 23.8 +0.2**
ECH pmax pmax
comp=Z,20nm,0.8s
ECH Echery 74.33 14 *e*P **P 03 54 23.8 +0.2**
comp=Z,20nm,0.8s
ECH Echery 74.33 14 *e*P **P 03 54 24.5 +0.9**
BFO Black Forest 74.36 13 *e*P **P 03 54 23.4 -0.4**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 74.36 13 *e*P **P 03 54 24.8 +1.0**
comp=Z,16nm,1.0s
BFO Black Forest 74.36 13 *e*P **P 03 54 23.4 -0.4**
comp=Z,10nm,0.8s
BFO Black Forest 74.36 13 P **P 03 54 25.4 +1.6**
comp=Z,82nm,0.8s,SNR=5.2
HAU Haudompre 74.42 14⇑*i*P **P 03 54 25.3 +1.1**
comp=Z,39nm,0.7s
HAU *e*R
comp=Z,967nm,19.5s
HAU Haudompre 74.42 14⇑*i*P **P 03 54 25.3 +1.1**
HAU pmax pmax
comp=Z,39nm,0.7s
HAU Haudompre 74.42 14⇑*i*P **P 03 54 25.3 +1.1**
comp=Z,39nm,0.7s
GEC2 GERESS Array S 74.43 9 *e*P **P 03 54 25.3 +1.0**
GEC2 pmax pmax
comp=Z,17nm,0.9s
GEC2 GERESS Array S 74.43 9 *e*P **P 03 54 25.3 +1.0**
comp=Z,17nm,0.9s
GERES GERESS Array B 74.43 9 P **P 03 54 25.6 +1.4**
comp=Z,12nm,0.7s,baz=350,slow=4.5,SNR=106
GERES GERESS Array B 74.43 9 P **P 03 54 25.6 +1.4**
SPAK Spaichingen-Ko 74.64 13 *e*P **P 03 54 26.9 +1.4**
HINF Hinteralfeld 74.67 14⇑*i*P **P 03 54 26.7 +1.0**
comp=Z,21nm,0.9s
HINF Hinteralfeld 74.67 14⇑*i*P **P 03 54 26.7 +1.0**
HINF pmax pmax
comp=Z,21nm,0.9s
HINF Hinteralfeld 74.67 14⇑*i*P **P 03 54 26.7 +1.0**
comp=Z,21nm,0.9s
MOF Molkenrain 74.68 14 *e*P **P 03 54 26.9 +1.2**
MOF Molkenrain 74.68 14 *e*P **P 03 54 26.9 +1.2**
MOF Molkenrain 74.68 14 *e*P **P 03 54 26.9 +1.2**
MFF Saint Martin d 74.75 19⇑*i*P **P 03 54 27.2 +1.2**
comp=Z,50nm,0.8s
MFF Saint Martin d 74.75 19⇑*i*P **P 03 54 27.2 +1.2**
MFF pmax pmax
comp=Z,50nm,0.8s
MFF Saint Martin d 74.75 19⇑*i*P **P 03 54 27.2 +1.2**
comp=Z,50nm,0.8s
FELD Feldberg im Sc 74.77 13 *e*P **P 03 54 27.3 +1.0**
LOR Lormes 74.78 16 *e*P **P 03 54 27.4 +1.2**
comp=Z,63nm,0.9s,baz=352
LOR *e*R
comp=Z,824nm,18.8s
LOR Lormes 74.78 16 *e*P **P 03 54 27.4 +1.2**
comp=Z,63nm,0.9s
KOLS Kolonicke sedl 74.86 3 *e*P **P 03 54 27.7 +1.0**
KOLS pmax pmax
comp=Z,15nm,1.2s
KOLS Kolonicke sedl 74.86 3 *e*P **P 03 54 27.7 +1.0**
CRVS Cervenica-Dubn 74.86 4 *e*P **P 03 54 28.0 +1.3**
CRVS pmax pmax
comp=Z,48nm,1.9s
CRVS Cervenica-Dubn 74.86 4 *e*P **P 03 54 28.0 +1.3**
FUR Furstenfeldbru 74.86 11 *e*P **P 03 54 27.9 +1.2**
FUR pmax pmax
comp=Z,30nm,0.8s
FUR Furstenfeldbru 74.86 11 *e*P **P 03 54 27.9 +1.2**
comp=Z,30nm,0.8s
SSF Saint Saulge 74.92 17⇑*i*P **P 03 54 28.2 +1.1**
comp=Z,66nm,0.8s
SSF Saint Saulge 74.92 17⇑*i*P **P 03 54 28.2 +1.1**
SSF pmax pmax
comp=Z,66nm,0.8s
SSF Saint Saulge 74.92 17⇑*i*P **P 03 54 28.2 +1.1**
comp=Z,66nm,0.8s
AVF Avril sur Loir 75.16 17⇑*i*P **P 03 54 29.4 +1.0**
comp=Z,42nm,0.7s
AVF Avril sur Loir 75.16 17⇑*i*P **P 03 54 29.4 +1.0**
AVF pmax pmax
comp=Z,42nm,0.7s
AVF Avril sur Loir 75.16 17⇑*i*P **P 03 54 29.4 +1.0**
comp=Z,42nm,0.7s
BGF Bois d'Agland 75.31 17 *e*P **P 03 54 30.3 +1.0**
comp=Z,47nm,0.8s
BGF Bois d'Agland 75.31 17 *e*P **P 03 54 30.3 +1.0**
BGF pmax pmax
comp=Z,47nm,0.8s
BGF Bois d'Agland 75.31 17 *e*P **P 03 54 30.3 +1.0**
comp=Z,47nm,0.8s
SMF Signal de Mont 75.38 16 *e*P **P 03 54 30.6 +0.9**
comp=Z,52nm,0.9s
SMF Signal de Mont 75.38 16 *e*P **P 03 54 30.6 +0.9**
SMF pmax pmax
comp=Z,52nm,0.9s
SMF Signal de Mont 75.38 16 *e*P **P 03 54 30.6 +0.9**
comp=Z,52nm,0.9s
RJOB Jochberg 75.44 10 *e*P **P 03 54 31.2 +1.1**
comp=Z,32nm,0.8s
TCF Toulx Ste Croi 75.46 18 *e*P **P 03 54 31.1 +0.9**
comp=Z,26nm,0.8s
TCF Toulx Ste Croi 75.46 18 *e*P **P 03 54 31.1 +0.9**
TCF pmax pmax
comp=Z,26nm,0.8s
TCF Toulx Ste Croi 75.46 18 *e*P **P 03 54 31.1 +0.9**
comp=Z,26nm,0.8s
CONA Conrad Observa 75.52 8⇑*i*P **P 03 54 32.0 +1.5**
comp=Z,20nm,0.8s
CONA Conrad Observa 75.52 8⇑*ip*P **P 03 54 32.0 +1.5**
comp=Z,20nm,0.8s,SNR=18
DAVA Damuels 75.58 12⇓*i*P **P 03 54 32.6 +1.6**
comp=Z,6.2nm,0.8s
DAVA Damuels 75.58 12⇓*ip*P **P 03 54 32.6 +1.6**
comp=Z,6.2nm,0.8s
MOTA Moosalm 75.66 11⇑*i*P **P 03 54 32.8 +1.3**
MOTA pmax pmax
comp=Z,17nm,0.9s
MOTA Moosalm 75.66 11⇑*i*P **P 03 54 32.8 +1.3**
comp=Z,17nm,0.9s
MOTA Moosalm 75.66 11⇑*ip*P **P 03 54 32.8 +1.3**
comp=Z,17nm,0.9s
TRPA Tarpa 75.67 3⇓*i*P **P 03 54 32.4 +1.1**
TRPA Tarpa 75.67 3⇑*e*P **P 03 54 32.4 +1.1**
WATA Walderalm 75.72 11⇓*i*P **P 03 54 32.8 +1.0**
WATA pmax pmax
comp=Z,20nm,0.8s
WATA Walderalm 75.72 11⇓*i*P **P 03 54 32.8 +1.0**
comp=Z,20nm,0.8s
WATA Walderalm 75.72 11⇓*ip*P **P 03 54 32.8 +1.0**
comp=Z,20nm,0.8s
CABF La Chapelle 75.75 15⇑*i*P **P 03 54 33.3 +1.4**
comp=Z,28nm,0.7s
CABF La Chapelle 75.75 15⇑*i*P **P 03 54 33.3 +1.4**
CABF pmax pmax
comp=Z,28nm,0.7s
CABF La Chapelle 75.75 15⇑*i*P **P 03 54 33.3 +1.4**
comp=Z,28nm,0.7s
PSZ Piszkesteto 75.78 5 *e*P **P 03 54 33.7 +1.7**
PSZ pmax pmax
comp=Z,20nm,0.9s
PSZ Piszkesteto 75.78 5 *e*P **P 03 54 33.7 +1.7**
comp=Z,20nm,0.9s
PSZ Piszkesteto 75.78 5⇓*i*P **P 03 54 33.1 +1.1**
PSZ Piszkesteto 75.78 5⇑*e*P **P 03 54 33.6 +1.6**
WTTA Wattenberg 75.79 11⇑*i*P **P 03 54 33.3 +1.0**
WTTA pmax pmax
comp=Z,31nm,0.8s
WTTA Wattenberg 75.79 11⇑*i*P **P 03 54 33.3 +1.0**
comp=Z,31nm,0.8s
WTTA Wattenberg 75.79 11⇑*ip*P **P 03 54 33.3 +1.0**
comp=Z,31nm,0.8s
SOP Sopron 75.81 7⇑*e*P **P 03 54 33.7 +1.6**
AGO Saint Agoulin 75.84 17 *e*P **P 03 54 33.8 +1.4**
AGO Saint Agoulin 75.84 17 *e*P **P 03 54 33.8 +1.4**
KSH Kashi 75.85 323⇑*i*P P 03 54 36.8 +4.2
KSH pP **PcP 03 54 49.5 +4.4**
KSH PP PP 03 57 31.0 +8.8
KSH S **S 04 04 17.5 +4.4**
KSH sS **SKSac 04 04 39.5 -1.7**
KSH ScS **ScS 04 04 45.5 +0.5**
KSH SS SS 04 09 14.8 +11
KSH pmax pmax
comp=Z,35nm,0.9s
KSH LR LR
comp=N,210nm,6.5s
KSH LR LR
comp=E,160nm,6.1s
KSH LR LR
comp=Z,240nm,6.4s
FETA Feichten 75.94 12⇑*i*P **P 03 54 34.6 +1.5**
comp=Z,22nm,0.9s
FETA Feichten 75.94 12⇑*ip*P **P 03 54 34.6 +1.5**
comp=Z,22nm,0.9s
PLDF La Plantade 76.00 17 *e*P **P 03 54 34.7 +1.3**
PLDF La Plantade 76.00 17 *e*P **P 03 54 34.7 +1.3**
PLDF La Plantade 76.00 17 *e*P **P 03 54 34.7 +1.3**
DAVOX Davos/Dischmat 76.08 12 P **P 03 54 35.7 +1.8**
comp=Z,11nm,0.8s
DAVOX Davos/Dischmat 76.08 12 P **P 03 54 35.7 +1.8**
PYM Petit Puy Mans 76.12 17 *e*P **P 03 54 35.0 +1.0**
PYM Petit Puy Mans 76.12 17 *e*P **P 03 54 35.0 +1.0**
PYM Petit Puy Mans 76.12 17 *e*P **P 03 54 35.0 +1.0**
KBA Koelnbreinsper 76.15 10⇑*i*P **P 03 54 35.9 +1.6**
KBA pmax pmax
comp=Z,30nm,0.8s
KBA Koelnbreinsper 76.15 10⇑*i*P **P 03 54 35.9 +1.6**
comp=Z,30nm,0.8s
KBA Koelnbreinsper 76.15 10⇑*ip*P **P 03 54 35.9 +1.6**
comp=Z,30nm,0.8s,SNR=22
ARSA Arzberg 76.16 8⇑*i*P **P 03 54 35.6 +1.4**
comp=Z,12nm,0.8s
ARSA Arzberg 76.16 8⇑*ip*P **P 03 54 35.6 +1.4**
comp=Z,12nm,0.8s
BUD Budapest 76.17 6⇓*e*P **P 03 54 36.2 +2.1**
BUR08 Bucovina Ar. S 76.22 1 *e*P **P 03 54 35.5 +0.9**
OG35 Corcelles 76.23 15 *e*P **P 03 54 35.6 +1.0**
BURAR Bucovina Array 76.25 1 P **P 03 54 35.8 +1.0**
BURAR Bucovina Array 76.25 1⇓*i*P **P 03 54 36.1 +1.3**
RJF Les Rejaudoux 76.30 18⇑*i*P **P 03 54 35.6 +0.6**
comp=Z,26nm,0.9s
RJF *e*R
comp=Z,2μm,18.8s
RJF Les Rejaudoux 76.30 18⇑*i*P **P 03 54 35.6 +0.6**
RJF pmax pmax
comp=Z,27nm,0.9s
RJF Les Rejaudoux 76.30 18⇑*i*P **P 03 54 35.6 +0.6**
comp=Z,26nm,0.9s
TUE Stuetta 76.32 13 *e*P **P 03 54 36.1 +0.8**
comp=Z,12nm,0.9s
LFF La Frestale 76.51 19 *e*P **P 03 54 37.4 +1.2**
comp=Z,55nm,0.8s
LFF La Frestale 76.51 19 *e*P **P 03 54 37.4 +1.2**
LFF pmax pmax
comp=Z,55nm,0.8s
LFF La Frestale 76.51 19 *e*P **P 03 54 37.4 +1.2**
comp=Z,55nm,0.8s
MYKA Terra Mystica 76.62 10⇑*i*P **P 03 54 37.8 +0.9**
comp=Z,7.9nm,0.8s
MYKA Terra Mystica 76.62 10⇑*ip*P **P 03 54 37.8 +0.9**
comp=Z,7.9nm,0.8s
LBL Lubilhac 76.66 17 *e*P **P 03 54 37.8 +0.7**
LBL Lubilhac 76.66 17 *e*P **P 03 54 37.8 +0.7**
LBL Lubilhac 76.66 17 *e*P **P 03 54 37.8 +0.7**
SOKA Soboth 76.69 9⇓*i*P **P 03 54 38.1 +0.8**
comp=Z,27nm,1.1s
SOKA Soboth 76.69 9⇓*ip*P **P 03 54 38.1 +0.8**
comp=Z,27nm,1.1s
CAF Calviac 76.76 18 *e*P **P 03 54 38.6 +1.0**
comp=Z,37nm,1.0s
CAF Calviac 76.76 18 *e*P **P 03 54 38.6 +1.0**
CAF pmax pmax
comp=Z,37nm,1.0s
CAF Calviac 76.76 18 *e*P **P 03 54 38.6 +1.0**
comp=Z,37nm,1.0s
OBKA Obir 76.82 9⇑*i*P **P 03 54 39.3 +1.3**
comp=Z,43nm,0.8s
OBKA Obir 76.82 9⇑*ip*P **P 03 54 39.3 +1.3**
comp=Z,43nm,0.8s
KIS Kishinev 76.87 359*c i*P **P 03 54 36.0 -2.1**
KIS *e* 03 54 46.0
KIS *e* 03 57 30.0
KIS *e* 03 59 24.0
KIS pmax pmax
comp=Z,400nm,2.0s
KIS Kishinev 76.87 359⇑*i*P **P 03 54 36.0 -2.1**
comp=Z,400nm,2.0s
KIS LRM MLR 04 40 38.0
comp=Z,600nm,20.0s
LPL La Plagne 76.91 15 *e*P **P 03 54 39.8 +1.1**
comp=Z,14nm,0.9s
LPL La Plagne 76.91 15 *e*P **P 03 54 39.8 +1.1**
LPL pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 76.91 15 *e*P **P 03 54 39.8 +1.1**
comp=Z,14nm,0.9s
LPG La Plagne 76.94 15 *e*P **P 03 54 40.0 +1.1**
comp=Z,13nm,0.9s
LPG La Plagne 76.94 15 *e*P **P 03 54 40.0 +1.1**
LPG pmax pmax
comp=Z,13nm,0.9s
LPG La Plagne 76.94 15 *e*P **P 03 54 40.0 +1.1**
comp=Z,13nm,0.9s
GROS Grobnik 76.95 8 *i*P **P 03 54 39.7 +1.0**
KMI Kunming 76.96 296 P **P 03 54 37.0 -2.3**
KMI pP **pP 03 54 46.8 -0.8**
KMI sP **sP 03 54 52.8 +2.2**
KMI PP **PP 03 57 29.5 -2.6**
KMI S **S 04 04 20.5 -5.4**
KMI sS **sS 04 04 39.5 -0.1**
KMI SS **SS 04 09 19.8 -2.2**
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI pmax pmax
comp=Z,150nm,6.1s
KMI LR LR
comp=N,900nm,22.8s
KMI LR LR
comp=E,770nm,22.8s
KMI LR LR
comp=Z,520nm,15.9s
DRGR 77.02 3⇑P **P 03 54 40.1 +1.0**
DRGR 77.02 3⇑*i*P **P 03 54 40.1 +1.0**
BEHE Becsehely 77.03 7⇑*e*P P 03 54 35.0 -4.1
VIVF Saint-Julien-l 77.25 16 *e*P **P 03 54 41.7 +1.3**
comp=Z,18nm,0.7s
VIVF Saint-Julien-l 77.25 16 *e*P **P 03 54 41.7 +1.3**
VIVF pmax pmax
comp=Z,18nm,0.7s
VIVF Saint-Julien-l 77.25 16 *e*P **P 03 54 41.7 +1.3**
comp=Z,18nm,0.7s
BNI Bardonecchia 77.36 15 *e*P **P 03 54 42.6 +1.5**
BNI pmax pmax
comp=Z,22nm,1.2s
BNI Bardonecchia 77.36 15 *e*P **P 03 54 42.6 +1.5**
comp=Z,22nm,1.2s
TESR 77.36 0⇑*i*P **P 03 54 42.0 +1.1**
ORIF Oris-en-Rattie 77.38 15 *e*P **P 03 54 42.5 +1.3**
comp=Z,17nm,0.9s
ORIF *e*R
comp=Z,591nm,19.0s
ORIF Oris-en-Rattie 77.38 15 *e*P **P 03 54 42.5 +1.3**
ORIF pmax pmax
comp=Z,17nm,0.9s
ORIF Oris-en-Rattie 77.38 15 *e*P **P 03 54 42.5 +1.3**
comp=Z,17nm,0.9s
PKSM Moragy 77.41 6⇓P **P 03 54 42.3 +1.1**
PKSM Moragy 77.41 6⇓*i*P **P 03 54 42.3 +1.1**
PKSM Moragy 77.41 6⇓*e*P **P 03 54 42.3 +1.1**
PGAV Gavieira, Arco 77.43 26 *e*SKSac **SKSac 04 04 46.6 -6.2**
PGAV *e*LR LR 04 23 39.1
comp=Z,1μm,20.0s
VISS Visnje 77.54 9 *i*P **P 03 54 42.6 +0.6**
MBDF Montbardon 77.69 15 *e*P **P 03 54 44.2 +1.2**
comp=Z,14nm,0.8s
MBDF Montbardon 77.69 15 *e*P **P 03 54 44.2 +1.2**
MBDF pmax pmax
comp=Z,14nm,0.8s
MBDF Montbardon 77.69 15 *e*P **P 03 54 44.2 +1.2**
comp=Z,14nm,0.8s
GHRR 77.81 360⇑*i*P **P 03 54 44.8 +1.4**
BOJS Bojanci 77.88 9 *i*P **P 03 54 44.8 +1.0**
LASF Ste Croix 77.89 17 *e*P **P 03 54 44.6 +0.7**
comp=Z,8.3nm,0.8s
LASF Ste Croix 77.89 17 *e*P **P 03 54 44.6 +0.7**
comp=Z,8.3nm,0.8s
SJPF Ste Jean 77.90 21 *e*P **P 03 54 44.9 +0.9**
comp=Z,7.7nm,0.8s
SJPF Ste Jean 77.90 21 *e*P **P 03 54 44.9 +0.9**
SJPF pmax pmax
comp=Z,8.0nm,0.8s
SJPF Ste Jean 77.90 21 *e*P **P 03 54 44.9 +0.9**
comp=Z,7.7nm,0.8s
PBRG Braganca 77.95 25 *e*P **P 03 54 46.0 +1.6**
comp=Z,31nm,1.8s
PLOR Plostina 78.02 0⇓*i*P **P 03 54 46.2 +1.5**
POLO Lamas de Olo 78.11 26 *e*P **P 03 54 47.2 +1.9**
comp=Z,21nm,1.3s
BZS Buzias 78.15 4 P **P 03 54 46.6 +1.3**
BZS Buzias 78.15 4⇓*i*P **P 03 54 46.4 +1.1**
PVRL Vila Real 78.22 26 *e*P **P 03 54 47.8 +1.9**
comp=Z,28nm,1.5s
ETSF Etsaut 78.24 20⇑*i*P **P 03 54 47.7 +1.7**
comp=Z,34nm,0.7s
ETSF Etsaut 78.24 20⇑*i*P **P 03 54 47.7 +1.7**
ETSF pmax pmax
comp=Z,34nm,0.7s
ETSF Etsaut 78.24 20⇑*i*P **P 03 54 47.7 +1.7**
comp=Z,34nm,0.7s
SMRF Simiane la Rot 78.25 16⇑*i*P **P 03 54 47.9 +1.9**
comp=Z,53nm,1.2s
SMRF Simiane la Rot 78.25 16⇑*i*P **P 03 54 47.9 +1.9**
comp=Z,53nm,1.2s
EPF Esparros 78.29 20 *e*P **P 03 54 46.7 +0.5**
comp=Z,11nm,0.8s
EPF Esparros 78.29 20 *e*P **P 03 54 46.7 +0.5**
EPF pmax pmax
comp=Z,11nm,0.8s
EPF Esparros 78.29 20 *e*P **P 03 54 46.7 +0.5**
comp=Z,11nm,0.8s
MTLF Montolieu 78.33 18⇑*i*P **P 03 54 47.5 +1.1**
comp=Z,24nm,0.9s
MTLF Montolieu 78.33 18⇑*i*P **P 03 54 47.5 +1.1**
MTLF pmax pmax
comp=Z,25nm,0.9s
MTLF Montolieu 78.33 18⇑*i*P **P 03 54 47.5 +1.1**
comp=Z,24nm,0.9s
QIZ Qiongzhong 78.33 287 P P 03 54 40.0 -6.7
QIZ pP pP 03 54 53.3 -1.7
QIZ sP sP 03 54 56.8 -1.3
QIZ S **S 04 04 37.0 -3.3**
QIZ pmax pmax
comp=Z,6.0nm,1.7s
QIZ pmax pmax
comp=Z,90nm,4.2s
QIZ LR LR
comp=N,490nm,21.8s
QIZ LR LR
comp=E,160nm,23.2s
QIZ LR LR
comp=Z,480nm,14.4s
MLR Muntele Rosu 78.38 1 P **P 03 54 48.6 +1.8**
comp=Z,1.7nm,0.7s,baz=222,slow=2.3,SNR=18
MLR Muntele Rosu 78.38 1 P **P 03 54 48.6 +1.8**
MLR Muntele Rosu 78.38 1⇑*i*P **P 03 54 47.9 +1.1**
LOT Lotru 78.39 2⇓*i*P **P 03 54 47.5 +0.7**
VOIR 78.42 2⇓P **P 03 54 48.4 +1.4**
VOIR 78.42 2⇓*i*P **P 03 54 48.4 +1.4**
MVO Moncorvo 78.49 26 *e*P **P 03 54 49.0 +1.6**
comp=Z,37nm,1.1s
MVO *e*SKSac **SKSac 04 04 53.9 -6.5**
MVO *e*LQ LQ 04 21 58.5
MVO *e*LR LR 04 24 25.0
comp=Z,1μm,20.0s
LSA Lhasa 78.57 307 *e*P **P 03 54 50.1 +1.6**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 78.57 307 *e*P **P 03 54 50.1 +1.6**
comp=Z,16nm,0.8s
SBF Sospel 78.63 14 *e*P **P 03 54 49.2 +1.1**
comp=Z,95nm,1.1s
SBF Sospel 78.63 14 *e*P **P 03 54 49.2 +1.1**
SBF pmax pmax
comp=Z,95nm,1.1s
SBF Sospel 78.63 14 *e*P **P 03 54 49.2 +1.1**
comp=Z,95nm,1.1s
CFR Carcaliu 78.69 359⇑*i*P **P 03 54 49.2 +0.9**
PVIS Viseu 78.71 26 *e*P **P 03 54 50.3 +1.7**
comp=Z,30nm,1.4s
SIM Simferopol' 78.76 355 P P 03 54 43.9 -4.8
SIM *e* 03 57 53.0
SIM 04 04 47.0
SIM *e*PS **PnS 04 05 20.0 -7.7**
SIM *e*PPS PPS 04 05 37.0
SIM pmax pmax
comp=Z,107nm,15.1s
FRF La Foret Royal 78.82 15 *e*P **P 03 54 50.2 +1.1**
comp=Z,28nm,1.0s
FRF La Foret Royal 78.82 15 *e*P **P 03 54 50.2 +1.1**
FRF pmax pmax
comp=Z,28nm,1.0s
FRF La Foret Royal 78.82 15 *e*P **P 03 54 50.2 +1.1**
comp=Z,28nm,1.0s
SECR 78.84 1⇑*i*P **P 03 54 50.1 +1.0**
LMR La Mourre 79.02 15 *e*P **P 03 54 51.5 +1.4**
comp=Z,17nm,0.8s
LMR La Mourre 79.02 15 *e*P **P 03 54 51.5 +1.4**
LMR pmax pmax
comp=Z,17nm,0.8s
LMR La Mourre 79.02 15 *e*P **P 03 54 51.5 +1.4**
comp=Z,17nm,0.8s
KIV Kislovodsk 79.08 349 *e*P **P 03 54 51.5 +0.9**
KIV *e*S **S 04 04 49.2 +1.3**
KIV *e*SSS SSS 04 13 21.2
KIV pmax pmax
comp=Z,33nm,1.0s
KIV pmax pmax
comp=Z,74nm,4.2s
KIV MLR MLR
comp=Z,266nm,18.0s
KIV Kislovodsk 79.08 349 *e*P **P 03 54 51.7 +1.1**
comp=Z,30nm,0.9s
MTE Manteigas 79.09 26 *e*P **P 03 54 52.4 +1.7**
comp=Z,45nm,1.3s
MTE *e*SKSac **SKSac 04 05 01.7 -2.9**
MTE *e*LQ LQ 04 21 54.8
MTE *e*LR LR 04 24 45.8
comp=Z,1μm,20.0s
KBZ Khabaz 79.28 348 P **P 03 54 52.8 +1.3**
comp=Z,16nm,0.8s,baz=334,slow=3.8,SNR=55
KBZ Khabaz 79.28 348 P **P 03 54 52.8 +1.3**
KBZ Khabaz 79.28 348 P **P 03 54 52.8 +1.3**
TIRR Tirgusor 79.41 359⇑P **P 03 54 53.6 +1.3**
TIRR Tirgusor 79.41 359⇑*i*P **P 03 54 53.6 +1.3**
MAK Makhachkala 79.45 345 *e*P **P 03 54 50.7 -1.8**
MAK *e* 03 54 58.7
MAK *e* 03 57 56.3
MAK S **S 04 04 56.3 +4.7**
MAK pmax pmax
comp=Z,50nm,0.4s
TBI Tubuai 79.58 177 *e*S S 04 04 42.3 -11
comp=Z,142nm,26.0s
TBI *e*SS SS 04 09 49.7 -12
comp=Z,143nm,24.5s
TBI *e*LR LR 04 19 23.6
comp=Z,429nm,22.8s,baz=356
ROSC El Rosal 79.60 97 P **P 03 54 55.2 +1.1**
comp=Z,0.7nm,0.4s,baz=112,slow=22,SNR=2.3
ROSC El Rosal 79.60 97 *e*P **P 03 54 55.0 +0.9**
PCBR Castelo Branco 79.64 26 *e*P **P 03 54 54.9 +1.3**
comp=Z,20nm,1.9s
SOC Sochi 79.74 351*c i*P **P 03 54 53.8 -0.2**
SOC *e* 03 55 00.2
SOC *e* 03 57 53.7
SOC *e*PPP PPP 03 59 41.4
SOC *e*S **S 04 04 51.8 -2.9**
SOC *e* 04 05 10.0
SOC pmax pmax
comp=Z,18nm,0.5s
PMRV Marv??o 80.05 27 *e*SKSac **SKSac 04 05 07.9 -3.4**
PMRV *e*LR LR 04 26 54.7
comp=Z,875nm,20.0s
ZEI Tsey 80.11 348 *e*P **P 03 54 56.6 +0.2**
ZEI pmax pmax
comp=Z,27nm,1.7s
PGF Pioggiola 80.14 14 *e*P **P 03 54 57.5 +1.1**
comp=Z,29nm,1.0s
PGF Pioggiola 80.14 14 *e*P **P 03 54 57.5 +1.1**
PGF pmax pmax
comp=Z,29nm,1.0s
PGF Pioggiola 80.14 14 *e*P **P 03 54 57.5 +1.1**
comp=Z,29nm,1.0s
ONI Oni 80.34 348 P **P 03 54 59.1 +1.7**
MPEP Malo Peshtene 80.48 3 *i*P **P 03 54 58.3 +0.2**
NEF NEVSHA 80.61 360 *i*P **P 03 54 59.7 +0.9**

ESDC	**Sonseca Array**	**80.62**	**24**	P		**P**	**03 55 00.5**	**+1.5**	
	comp=Z,9.4nm,0.8s,baz=341,slow=5.2,SNR=42								
ESDC				LR		LR	04 34 42.0		
	comp=Z,663nm,19.4s,baz=315,slow=39								
ESDC	**Sonseca Array**	**80.62**	**24**	P		**P**	**03 55 00.5**	**+1.5**	
ESLA	**Sonseca Array**	**80.62**	**24**	*eP*		**P**	**03 55 00.0**	**+1.0**	
	comp=Z,26nm,1.6s								
EVOP	**Sao Brissos**	**80.72**	**27**	*eP*		**P**	**03 54 59.8**	**+0.4**	
EVOP				pmax		pmax			
	comp=Z,34nm,1.1s								
EVOP	**Sao Brissos**	**80.72**	**27**	*eP*		**P**	**03 54 59.8**	**+0.4**	
	comp=Z,34nm,1.1s								
RKT	**Rikitea**	**80.72**	**163**	*e*LR		LR	04 19 53.5		
	comp=Z,355nm,23.2s								
EVO	**Evora**	**80.74**	**27**	*eP*		**P**	**03 54 59.8**	**+0.2**	
	comp=Z,34nm,1.1s								
EVO				*eR*					
	comp=Z,1μm,22.2s								
PNCL	**Nicolau / Gran**	**81.00**	**28**	*eP*		**P**	**03 55 02.4**	**+1.4**	
TBLG	**Delisi**	**81.03**	**347**	P		**P**	**03 55 02.9**	**+1.8**	
OTAV	**Otavalo**	**81.19**	**103**	*eP*		**P**	**03 54 59.7**	**-3.1**	
	comp=Z,27nm,1.6s								
DGRG	**David-gareji**	**81.22**	**346**	P		**P**	**03 55 04.0**	**+1.8**	
PBAR	**Barrancos**	**81.32**	**27**	*eP*		**P**	**03 55 04.3**	**+1.6**	
	comp=Z,40nm,1.4s								
SKO	**Skopje**	**81.78**	**4**	*eP*		**P**	**03 55 06.6**	**+1.6**	
SHL	**Shillong**	**81.79**	**304**	*eP*		P	03 54 57.0	-8.5	
DIM	**Dimitrovgrad**	**81.81**	**1**	*i* P		**P**	**03 55 06.7**	**+1.5**	
PVAQ	**Vaqueiros**	**81.88**	**27**	*e*SKSac		**SKSac**	**04 05 24.6**	**+0.8**	
PVAQ				*e*LQ		LQ	04 22 50.6		
PVAQ				*e*LR		LR	04 25 10.7		
	comp=Z,682nm,20.0s								
TAPN	**Taplejung**	**82.11**	**309**	*eP*		**P**	**03 55 08.2**	**+0.8**	
	comp=Z,61nm,0.7s								
MMB	**Musomiste**	**82.24**	**3**	*i* P		**P**	**03 55 08.0**	**+0.5**	
GUN	**Gumba**	**82.40**	**310**	*eP*		**P**	**03 55 10.2**	**+1.2**	
	comp=Z,76nm,0.8s								
VAY	**Valandovo**	**82.47**	**4**	*eP*		**P**	**03 55 08.6**	**0.0**	
KBL	**Kabul**	**82.62**	**326**	*eP*		**P**	**03 55 09.2**	**-0.6**	
KBL				pmax		pmax			
	comp=Z,15nm,0.8s								
KBL	**Kabul**	**82.62**	**326**	*eP*		**P**	**03 55 09.2**	**-0.6**	
	comp=Z,15nm,0.8s								
ODAN	**Odare**	**82.67**	**309**	*eP*		**P**	**03 55 11.1**	**+0.9**	
BIA	**Bitola**	**82.73**	**4**	*eP*		**P**	**03 55 10.3**	**+0.2**	
KKN	**Kakani**	**82.76**	**311**	*eP*		**P**	**03 55 11.6**	**+0.9**	
PKI	**Pulchoki**	**82.90**	**311**	*eP*		**P**	**03 55 12.2**	**+0.7**	
	comp=Z,64nm,0.8s								
PKIN	**Phulchoki**	**82.90**	**311**	*eP*		**P**	**03 55 12.8**	**+1.4**	
	comp=Z,24nm,0.7s								
DANN	**Dangsing**	**82.90**	**312**	*eP*		**P**	**03 55 12.4**	**+0.9**	
	comp=Z,195nm,0.8s								
RAMN	**Ramite**	**82.94**	**309**	*eP*		**P**	**03 55 12.4**	**+0.8**	
	comp=Z,101nm,0.8s								
DMN	**Daman**	**82.99**	**311**	*eP*		**P**	**03 55 12.9**	**+1.0**	
PYUN	**Piuthan**	**83.44**	**313**	*eP*		**P**	**03 55 14.6**	**+0.5**	
	comp=Z,147nm,0.9s								
KOLN	**Koldanda**	**83.48**	**312**	*eP*		**P**	**03 55 14.9**	**+0.6**	
	comp=Z,39nm,0.8s								
BR131	**Keskin Array S**	**83.99**	**355**	*eP*		**P**	**03 55 17.4**	**+0.7**	
	comp=Z,9.1nm,0.8s								
BRTR	**Keskin Array B**	**83.99**	**355**	P		**P**	**03 55 17.8**	**+1.1**	
	comp=Z,11nm,0.8s,baz=20,slow=2.7,SNR=69								
BRTR				LR		LR	04 41 52.5		
	comp=Z,199nm,18.3s,baz=198,slow=42								
BRTR	**Keskin Array B**	**83.99**	**355**	P		**P**	**03 55 17.8**	**+1.1**	
CHTO	**Chiang Mai**	**84.14**	**295**	*eP*		**P**	**03 55 17.4**	**-0.2**	
CHTO				pmax		pmax			
	comp=Z,141nm,3.0s								
CHTO	**Chiang Mai**	**84.14**	**295**	*eP*		**P**	**03 55 17.4**	**-0.2**	
	comp=Z,141nm,3.0s								
CMAR	**Chiang Mai Arr**	**84.44**	**295**	P		**P**	**03 55 19.6**	**+0.5**	
	comp=Z,7.2nm,0.8s,baz=9.4,slow=5.8,SNR=47								
CMAR				LR		LR	04 38 38.6		
	comp=Z,731nm,18.0s,baz=40,slow=40								
CMAR	**Chiang Mai Arr**	**84.44**	**295**	P		**P**	**03 55 19.6**	**+0.5**	
MALT	**Malatya**	**85.08**	**351**	*eP*		**P**	**03 55 21.7**	**-0.5**	
MALT				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MALT	**Malatya**	**85.08**	**351**	*eP*		**P**	**03 55 21.6**	**-0.5**	
	comp=Z,5.3nm,0.8s								
MALT	**Malatya**	**85.08**	**351**	⇑*i*P		**P**	**03 55 23.9**	**+1.7**	
NDI	**New Delhi**	**85.18**	**318**	*eP*		**P**	**03 55 20.0**	**-2.7**	
DZM	**Mont Dzumac**	**85.48**	**217**	*e*S		S	04 05 45.2	-8.6	
	comp=Z,130nm,23.3s								
DZM				*e*SS		**SS**	**04 11 25.0**	**-5.1**	
	comp=Z,151nm,24.9s								
DZM				*e*LR		LR	04 22 12.0		
	comp=Z,639nm,21.1s								
ISP	**Isparta**	**86.00**	**357**	*eP*		**P**	**03 55 26.3**	**-0.5**	
ISP				pmax		pmax			
	comp=Z,19nm,0.8s								
ISP	**Isparta**	**86.00**	**357**	*eP*		**P**	**03 55 26.3**	**-0.5**	
	comp=Z,19nm,0.8s								
ISP	**Isparta**	**86.00**	**357**	⇑*i*P		**P**	**03 55 27.5**	**+0.7**	
KEST	**Kesra**	**86.89**	**14**	P		**P**	**03 55 32.9**	**+1.8**	
	comp=Z,1.3nm,0.7s,baz=298,slow=3.5,SNR=5.6								
KEST				LR		LR	04 38 26.8		
	comp=Z,220nm,19.1s,baz=279,slow=38								
KEST	**Kesra**	**86.89**	**14**	P		**P**	**03 55 32.9**	**+1.8**	
MDT	**Midelt**	**87.02**	**26**	P		**P**	**03 55 32.7**	**+0.8**	
	comp=Z,5.6nm,0.9s,baz=340,slow=4.6,SNR=7.5								
MDT	**Midelt**	**87.02**	**26**	P		**P**	**03 55 32.7**	**+0.8**	
GVD	**Gavdhos**	**88.99**	**3**	*eP*		**P**	**03 55 41.1**	**+0.1**	
	comp=Z,85nm,0.9s								
CTA	**Charters Tower**	**91.78**	**235**	LR		LR	04 32 03.6		
	comp=Z,435nm,20.0s,baz=309,slow=32								
HYB	**Hyderabad**	**94.78**	**312**	*i* P		**P**	**03 56 06.5**	**-1.6**	
WRA	**Warramunga Arr**	**97.38**	**245**	P		**P**	**03 56 19.2**	**-0.6**	
	comp=Z,0.4nm,0.8s,baz=40,slow=6.3,SNR=5.4								
WRA	**Warramunga Arr**	**97.38**	**245**	P		**P**	**03 56 19.2**	**-0.6**	
PSI	**Prapat**	**97.67**	**287**	LR		LR	04 48 34.9		
	comp=Z,368nm,18.9s,baz=108,slow=40								
ASAR	**Alice Springs**	**100.73**	**243**	P		**Pdif**	**03 56 36.5**	**+1.8**	
	comp=Z,0.3nm,0.8s,baz=52,slow=4.8,SNR=2.9								
ASAR	**Alice Springs**	**100.73**	**243**	P		**Pdif**	**03 56 36.5**	**+1.8**	
TORD	**Torodi Ar. Bea**	**107.43**	**26**	PKiKP		**PKiKP**	**04 01 12.3**	**-0.8**	
	comp=Z,0.6nm,1.1s,baz=350,slow=3.3,SNR=3.3								
TORD				PP		**PP**	**04 01 33.5**	**+2.1**	
	comp=Z,1.2nm,1.1s,baz=343,slow=8.1,SNR=4.3								
TORD				PKKPbc		**PKKPbc**	**04 12 26.6**	**+0.9**	
	comp=Z,0.5nm,0.7s,baz=141,slow=2.5,SNR=3.7								
TORD	**Torodi Ar. Bea**	**107.43**	**26**	PKiKP		**PKiKP**	**04 01 12.3**	**-0.8**	
TORD				PP		**PP**	**04 01 33.5**	**+2.1**	
TORD				PKKPbc		**PKKPbc**	**04 12 26.6**	**+0.9**	
KMBO	**Kilima Mbogo**	**124.21**	**348**	*e*PKPdf		**PKPdf**	**04 01 46.6**	**+1.1**	
QSPA	**South Pole Qui**	**146.28**	**180**	PKPbc		**PKPbc**	**04 02 25.1**	**-0.4**	
	comp=Z,19nm,0.9s,baz=71,slow=0.8,SNR=31								
QSPA	**South Pole Qui**	**146.28**	**180**	*e*PKPdf		**PKPbc**	**04 02 25.1**	**-0.4**	
LBTB	**Lobatse**	**148.53**	**3**	*e*PKPbc		**PKPbc**	**04 02 32.9**	**-0.2**	
BOSA	**Boshof**	**152.10**	**4**	PKPbc		**PKPbc**	**04 02 41.8**	**+0.3**	
	comp=Z,12nm,0.7s,baz=1.0,slow=2.9,SNR=33								
BOSA	**Boshof**	**152.10**	**4**	*e*PKPbc		**PKPbc**	**04 02 41.5**	**-0.1**	
SUR	**Sutherland**	**155.48**	**13**	PKPab		**PKPab**	**04 03 06.2**	**+0.8**	
	comp=Z,6.4nm,0.8s,baz=223,slow=7.7,SNR=5.2								
SUR	**Sutherland**	**155.48**	**13**	PKPab		**PKPab**	**04 03 06.2**	**+0.8**	
VNA3	**Neumayer Olymp**	**158.57**	**148**	*e*PKPab		**PKPab**	**04 03 12.8**	**-4.8**	
VNA2	**Neumayer--Wätz**	**159.38**	**148**	*e*PKPab		PKPab	04 03 14.9	-6.2	
SNAA	**Sanae**	**160.26**	**152**	*e*PKPab		**PKPab**	**04 03 24.1**	**-0.9**	
SNAA	**Sanae**	**160.26**	**152**	PKP		**PKPdf**	**04 02 43.5**	**-0.7**	
	comp=Z,0.6nm,0.9s,baz=360,slow=21,SNR=4.3								
SNAA				PKPab		**PKPab**	**04 03 23.9**	**-1.1**	
	comp=Z,1.6nm,1.0s,baz=234,slow=7.2,SNR=5.1								
SNAA	**Sanae**	**160.26**	**152**	PKP		**PKPdf**	**04 02 43.5**	**-0.7**	
SNAA				PKPab		**PKPab**	**04 03 23.9**	**-1.1**	

*NEIC **30** 03:47:42.6,56.18N×152.21W, h20km, ML3.4(AEIC), After AEIC.*

*ISCJB **30** 03:47:49.4±0.7, 56.74N±0.06×152.5W±0.1, h22km, mb4.0/12, Error ellipse: s-maj=9.6km s-min=7.6km az=155.7*

*IDC **30** 03:47:52.4±5.5, 56.51N×152.66W, h35km±41km, mb3.7/12, mb1 3.8/13, mb1mx3.6/30, mbtmpg3.7/13, ML3.2/1, Error ellipse: s-maj=36.3km s-min=14.9km az=45.0*

ISC 30 03:47:50.8±0.8, 56.61N±0.07×152.7W±0.1, h22km, n30, σ1§40/30, mb4.2/12, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.18**	**4**	**Pn**		**Pb**	**03 48 12.5**	**+0.1**
	30nm,0.3s,baz=194,slow=8.4,SNR=10							
KDAK				Sn		**Sb**	**03 48 29.2**	**+2.0**
	33nm,0.3s,baz=179,slow=9.7,SNR=14							
KDAK	**Kodiak Island**	**1.18**	**4**	P		Pn	03 48 08.5	-3.4
KDAK				S		**Sb**	**03 48 28.9**	**+1.8**
KAKN	**Katmai Knife C**	**2.11**	**324**	P		**Pn**	**03 48 22.6**	**-2.2**
KABU	**Katmai Buttres**	**2.16**	**321**	P		**Pn**	**03 48 25.5**	**0.0**
KARR	**Katmai Rainbow**	**2.17**	**331**	P		**Pn**	**03 48 25.1**	**-0.5**
KAPH	**Katmai Pasha**	**2.17**	**337**	P		**Pn**	**03 48 24.2**	**-1.4**
FOSS	**Fourpeaked Sta**	**2.25**	**347**	P		**Pn**	**03 48 24.2**	**-2.6**
AUH	**Augustine H**	**2.79**	**352**	P		**Pn**	**03 48 32.4**	**-1.7**
AUNW	**Augustine NWes**	**2.80**	**352**	P		**Pn**	**03 48 32.5**	**-1.8**
ANPK	**Aniakchak Peak**	**2.98**	**277**	P		Pn	03 48 31.7	-5.1
OPT	**Oil Point**	**3.06**	**355**	P		**Pn**	**03 48 35.8**	**-2.0**
BRLK	**Bradley Lake**	**3.31**	**16**	P		Pn	03 48 36.9	-4.3
BRLK				S		**Sn**	**03 49 17.7**	**-2.2**
ILIM	**Iliamna**	**3.48**	**358**	P		**Pn**	**03 48 41.0**	**-2.6**
SEW	**Seward**	**3.90**	**25**	P		Pn	03 48 45.6	-3.8
ILAR	**Eielson Array**	**8.67**	**17**	Pn		**Pn**	**03 49 56.3**	**+1.6**
	0.6nm,0.3s,baz=202,slow=14,SNR=9.0							
ILAR				Sn		**Sn**	**03 51 30.4**	**-1.3**
	0.7nm,0.3s,baz=257,slow=7.6,SNR=8.4							
DLBC	**Dease Lake**	**12.32**	**72**	Pn		**Pn**	**03 50 45.6**	**+0.8**
	0.1nm,0.3s,baz=185,slow=4.4,SNR=2.1							
YBH	**Yreka Blue Hor**	**24.37**	**115**	P		**P**	**03 53 06.6**	**-0.5**
	1.5nm,0.9s,baz=154,slow=6.8,SNR=2.6							
PDAR	**Pinedale Array**	**30.61**	**98**	P		**P**	**03 54 02.6**	**-0.6**
	0.4nm,0.6s,baz=303,slow=6.3,SNR=2.5							
TXAR	**Lajitas Array**	**43.74**	**107**	P		**P**	**03 55 53.4**	**-0.9**
	0.7nm,0.8s,baz=329,slow=3.6,SNR=4.8							
SPITS	**Spitsbergen Ar**	**45.30**	**3**	P		**P**	**03 56 06.6**	**+0.5**
	4.2nm,1.0s,baz=132,slow=1.2,SNR=2.5							
ARCES	**ARCESS Array B**	**54.15**	**1**	P		**P**	**03 57 13.6**	**+0.1**
	1.9nm,0.9s,baz=20,slow=6.9,SNR=4.5							
SONM	**Songino Array**	**56.95**	**308**	P		**P**	**03 57 34.6**	**+0.6**
	2.2nm,0.7s,baz=46,slow=7.0,SNR=8.6							
ZALV	**Zalesovo Beam**	**60.22**	**325**	P		**P**	**03 57 56.8**	**+0.2**
	0.9nm,0.4s,baz=23,slow=8.0,SNR=3.9							
NB2	**NORSAR Subarra**	**62.01**	**9**	P		**P**	**03 58 09.3**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=350,slow=6.9							
NOA	**NORSAR Array B**	**62.01**	**9**	P		**P**	**03 58 09.4**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=352,slow=6.7,SNR=4.2							
FINES	**FINESS Array B**	**62.28**	**1**	P		**P**	**03 58 10.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=5.4,slow=6.1,SNR=3.6							
HFS	**Hagfors**	**63.10**	**8**	P		**P**	**03 58 16.1**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=48,slow=2.2,SNR=4.8							
BVAR	**Borovoye Array**	**65.15**	**333**	P		**P**	**03 58 29.9**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=34,slow=9.0,SNR=5.0							
MKAR	**Makanchi Array**	**67.19**	**322**	P		**P**	**03 58 42.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=53,slow=6.2,SNR=3.8							
QSPA	**South Pole Qui**	**146.40**	**180**	PKPbc		**PKPbc**	**04 07 27.0**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=22,slow=11,SNR=3.9							

IDC 30 04:14:05.7±5.7, 10.08N×57.48E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmpg3.7/5, Error ellipse: s-maj=150.7km s-min=29.9km az=149.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**40.24**	**1**	P		P	04 21 44.0	-0.1
	0.5nm,0.3s,baz=180,slow=12,SNR=3.9							
MKAR	**Makanchi Array**	**42.23**	**25**	P		P	04 22 01.0	+0.3
	0.4nm,0.8s,baz=221,slow=9.2,SNR=5.7							
ZALV	**Zalesovo Beam**	**48.91**	**21**	P		P	04 22 52.7	-0.7
	0.8nm,0.8s,baz=223,slow=7.7,SNR=5.2							
TORD	**Torodi Ar. Bea**	**54.65**	**279**	P		P	04 23 36.8	-0.1
	0.6nm,0.7s,baz=87,slow=6.4,SNR=13							
ESDC	**Sonseca Array**	**61.72**	**310**	P		P	04 24 26.2	+0.1
	2.0nm,0.9s,baz=94,slow=7.5,SNR=5.7							

MEX 30 04:17:28.4±0.7, 17.00N×94.45W, h152km±5km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.42**	**282**	*i* P		Pn	04 17 48.3	-1.4
CMIG				*i* S		Sn	04 18 03.7	-2.2
TGIG		**1.29**	**100**	*i* P		Pn	04 17 54.8	-1.4
TGIG				*i* S		Sn	04 18 15.0	-2.3
HUIG	**Huatulco**	**2.01**	**233**	*i* P		Pn	04 18 02.5	-1.3
HUIG				*i* S		Sn	04 18 29.5	-1.5
VHO	**Vista Hermosa**	**2.18**	**272**	*i* P		Pn	04 18 05.7	-0.4
VHO				*i* S		Sn	04 18 33.7	-1.3
CCIG	**Comitan**	**2.33**	**108**	*i* P		Pn	04 18 06.9	-0.9
CCIG				*e*S		Sn	04 18 35.5	-2.7
THIG		**2.96**	**134**	*i* P		Pn	04 18 13.7	-1.7
THIG				*e*S		Sn	04 18 49.7	-1.9
TPIG	**Tehuac#an**	**3.11**	**297**	*i* P		Pn	04 18 16.0	-1.5
TPIG				*i* S		Sn	04 18 53.0	-2.5
UTMO	**Huajuapan**	**3.30**	**285**	*i* P		Pn	04 18 18.9	-1.2
UTMO				*e*S		Sn	04 18 57.7	-2.3
PNIG	**Pinotepa**	**3.57**	**261**	*i* P		Pn	04 18 21.1	-2.1
PNIG				*i* S		Sn	04 19 03.9	-1.9

WEL 30 04:20:28.7±0.5, 36.11S×178.10E, h197km±6km, ML3.8/6, 1C, Error ellipse: s-maj=12.1km s-min=7.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.46**	**173**	PN		Pn	04 21 01.8	+0.1
MXZ				SN		Sn	04 21 27.2	-0.4
PUZ	**Puketiti**	**1.96**	**176**	PN		Pn	04 21 06.7	+0.1
PUZ				*e*SN		Sn	04 21 35.8	-0.5
MWZ	**Matawai**	**2.27**	**191**	PN		Pn	04 21 10.3	+0.4
MWZ				SN		Sn	04 21 41.8	-0.2
URZ	**Urewera**	**2.28**	**200**	⇑PN		Pn	04 21 10.2	+0.2
URZ				*e*SN		Sn	04 21 42.6	+0.3
CNGZ	**Carnagh Statio**	**2.37**	**178**	PN		Pn	04 21 11.5	+0.6
TARZ	**Mount Tarawera**	**2.47**	**210**	*e*PN		Pn	04 21 14.0	+1.8
RAHZ	**Arahi**	**2.91**	**196**	PN		Pn	04 21 17.3	+0.1
KNZ	**Kokohu**	**2.92**	**186**	PN		Pn	04 21 16.8	-0.4
MHGZ	**Mahia Peninsul**	**3.04**	**183**	PN		Pn	04 21 18.5	-0.1
NMHZ	**Naumai**	**3.15**	**199**	PN		Pn	04 21 20.4	+0.3
BKZ	**Black Stump Fm**	**3.31**	**202**	PN		Pn	04 21 21.4	-0.4
BHHZ	**Black Hill Sta**	**3.74**	**205**	PN		Pn	04 21 26.2	-1.0
KAHZ	**Kahuranaki**	**3.80**	**194**	PN		Pn	04 21 27.2	-0.7
PXZ	**Pawanui**	**4.03**	**194**	PN		Pn	04 21 29.3	-1.4
PXZ				SN		Sn	04 22 16.8	-2.8
PRHZ	**Porangahau**	**4.31**	**195**	PN		Pn	04 21 32.6	-1.5
BFZ	**Birch Farm**	**4.79**	**197**	PN		Pn	04 21 38.4	-1.9
BFZ				SN		Sn	04 22 34.2	-2.5
MRZ	**Mangatainoka R**	**4.95**	**203**	*e*PN		Pn	04 21 39.6	-2.8
MRZ				SN		Sn	04 22 36.3	-4.2
TIWZ	**Tintock**	**4.97**	**200**	PN		Pn	04 21 40.7	-1.9
OGWZ	**Otaki Gorge**	**5.23**	**205**	PN		Pn	04 21 43.4	-2.4
KIW	**Kapiti Island**	**5.36**	**207**	PN		Pn	04 21 45.2	-2.4
KHZ	**Kahutara**	**7.22**	**208**	PN		Pn	04 22 08.2	-3.4

*AUST **30** 04:22:21.1±5.4, 0.65S×126.82E, h0km, Error ellipse: s-maj=1.2km s-min=1.2km az=232.0*

*IDC **30** 04:22:41.0±0.7, 2.82S×126.99E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/26, mbtmpg4.2/12, ML4.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/44, Error ellipse: s-maj=30.7km s-min=15.2km az=69.0*

*DJA **30** 04:22:44.6±0.3, 3°S±3°×12°7E±°, h10km, M4.4/9, mb4.7/4, mB4.9/2, MLv4.2/9, Mw(mB)4.2/2*

*ISCJB **30** 04:22:46.0±0.3, 2.77S±0.04×126.84E±0.05, h41km, mb4.1/10, MS3.6/1, Error ellipse: s-maj=7.8km s-min=5.0km az=138.0*

ISC 30 04:22:47.3±0.5, 2.77S±0.05×126.84E±0.06, h41km, n41, σ1§48/42, mb4.1/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.53**	**150**	P		**Pn**	**04 22 56.7**	**-1.9**
NLAI				S		**Sn**	**04 23 05.7**	**-0.8**
AAI	**Ambon**	**1.63**	**124**	P		**Pn**	**04 23 14.8**	**+1.2**
	baz=3.3,SNR=18							
AAI	**Ambon**	**1.63**	**124**	P		**Pn**	**04 23 14.8**	**+1.2**
MSAI	**Masohi**	**2.17**	**105**	P		**Pn**	**04 23 22.7**	**+1.8**
LBMI	**Labuha**	**2.22**	**17**	P		**Pn**	**04 23 20.4**	**-1.3**
TNTI	**Ternate**	**3.56**	**9**	P		**Pn**	**04 23 38.9**	**-1.2**
KDI	**Kendari**	**4.37**	**254**	P		**Pn**	**04 23 51.0**	**-0.2**
LUWI	**Luwuk**	**4.41**	**293**	P		**Pn**	**04 23 50.4**	**-1.4**
MRSI	**Marisa**	**5.86**	**303**	P		**Pn**	**04 24 11.0**	**-0.7**
	61nm,0.5s,1μm0.4nm							
TTSI	**Tana Toraja**	**7.01**	**268**	P		Pn	04 24 31.0	+3.5
	15nm,0.7s							
SPSI	**Sidrap Palu**	**7.15**	**260**	P		**Pn**	**04 24 31.9**	**+2.4**
	38nm,0.6s							
BKSI	**Bulukumba**	**7.16**	**249**	P		**Pn**	**04 24 32.0**	**+2.4**
KAPI	**Kappang**	**7.41**	**252**	Pn		**Pn**	**04 24 33.6**	**+0.6**
	6.9nm,0.3s,baz=106,slow=6.1,SNR=45							
MTN	**Manton Dam**	**10.87**	**157**	P		Pn	04 25 25.9	+5.5
	baz=13,SNR=8.4							
KDU	**Kakadu**	**11.32**	**151**	P		**Pn**	**04 25 28.9**	**+2.2**
	baz=13,SNR=15							
FITZ	**Fitzroy Crossi**	**15.28**	**184**	Pn		**Pn**	**04 26 19.2**	**-1.1**
	0.0nm,0.3s,baz=7.2,slow=8.4,SNR=3.5							
FITZ	**Fitzroy Crossi**	**15.28**	**184**	P		**P**	**04 26 24.9**	**+0.4**
	baz=18,SNR=4.4							
WRA	**Warramunga Arr**	**18.57**	**157**	P		**P**	**04 26 59.4**	**-1.6**
	1.3nm,0.3s,baz=340,slow=11,SNR=41							
COEN	**Coen**	**19.60**	**125**	P		**P**	**04 27 10.4**	**-1.9**
	baz=21,SNR=36							
QIS	**Mount Isa**	**21.62**	**146**	P		**P**	**04 27 36.0**	**+1.8**
	baz=24,SNR=6.2							
ASAR	**Alice Springs**	**21.87**	**162**	P		**P**	**04 27 35.4**	**-1.4**
	2.7nm,0.3s,baz=343,slow=12,SNR=57							
ASAR				PcP		**PcP**	**04 31 36.0**	**+0.5**
	0.6nm,0.5s,baz=342,slow=1.8,SNR=6.7							
MEEK	**Meekatharra**	**25.01**	**198**	P		**P**	**04 28 05.8**	**-1.7**
	baz=27,SNR=22							
CTA	**Charters Tower**	**25.60**	**134**	P		**P**	**04 28 14.3**	**+1.3**
	1.3nm,0.5s,baz=280,slow=11,SNR=4.2							
PSI	**Prapat**	**28.45**	**281**	P		**P**	**04 28 39.6**	**+0.8**
	6.0nm,0.6s,baz=116,slow=3.2,SNR=7.5							
JOW	**Kunigami**	**29.46**	**3**	LR		LR	04 39 31.5	
	comp=Z,161nm,20.9s,baz=151,slow=34							
STKA	**Stephens Creek**	**32.11**	**156**	P		**P**	**04 29 08.8**	**-2.0**
	1.6nm,0.5s,baz=325,slow=8.5,SNR=9.9							
STKA				PcP		**PcP**	**04 31 59.4**	**-0.2**
	1.3nm,0.5s,baz=334,slow=8.2,SNR=4.7							
STKA	**Stephens Creek**	**32.11**	**156**	P		**P**	**04 29 09.3**	**-1.6**
	baz=34,SNR=6.5							
ODAN	**Odare**	**48.13**	**310**	*eP*		**P**	**04 31 25.9**	**+2.1**
TAPN	**Taplejung**	**48.14**	**311**	*eP*		**P**	**04 31 25.9**	**+1.9**
	24nm,1.1s							
RAMN	**Ramite**	**48.78**	**310**	*eP*		**P**	**04 31 30.8**	**+1.9**
	37nm,1.0s							
GUN	**Gumba**	**49.82**	**311**	*eP*		**P**	**04 31 38.5**	**+1.6**
KOLN	**Koldanda**	**51.50**	**309**	*eP*		**P**	**04 31 51.1**	**+1.7**
	18nm,0.6s							
DANN	**Dangsing**	**51.66**	**310**	*eP*		**P**	**04 31 52.2**	**+1.5**
	26nm,0.7s							
PYUN	**Piuthan**	**52.13**	**309**	*eP*		**P**	**04 31 55.8**	**+1.7**
SONM	**Songino Array**	**53.48**	**343**	P		**P**	**04 32 03.4**	**-0.3**
	1.5nm,0.8s,baz=151,slow=9.1,SNR=13							
SONM				PcP		**PcP**	**04 33 10.8**	**+0.6**
	0.6nm,0.8s,baz=170,slow=4.2,SNR=3.6							
PETK	**Petropavlovsk-**	**

comp=Z,1.3nm,0.6s,baz=350,slow=6.9
NOA **NORSAR Array B 62.07 9** P **P** **04 38 52.3 +0.4**
comp=Z,2.1nm,0.7s,baz=350,slow=6.8,SNR=7.0
NOA **NORSAR Array B 62.07 9** P **P** **04 38 52.3 +0.4**
FINES **FINESS Array B 62.35 1** P **P** **04 38 53.8 +0.2**
comp=Z,3.8nm,0.9s,baz=354,slow=12,SNR=6.8
FINES **FINESS Array B 62.35 1** P **P** **04 38 53.8 +0.2**
BVAR **Borovoye Array 65.22 333** P **P** **04 39 12.7 -0.1**
comp=Z,3.0nm,0.7s,baz=38,slow=7.5,SNR=17
BVAR **Borovoye Array 65.22 333** P **P** **04 39 12.7 -0.1**
MKAR **Makanchi Array 67.27 322** P **P** **04 39 25.6 -0.4**
comp=Z,1.1nm,0.7s,baz=45,slow=6.6,SNR=15
MKAR **Makanchi Array 67.27 322** P **P** **04 39 25.6 -0.4**
AKASG **Malin Array Be 73.11 359** P **P** **04 40 00.8 -0.8**
comp=Z,1.7nm,0.6s,baz=7.1,slow=6.0,SNR=6.0
AKASG **Malin Array Be 73.11 359** P **P** **04 40 00.8 -0.8**
GERES **GERESS Array B 74.36 9** P **P** **04 40 09.8 +0.5**
comp=Z,0.6nm,0.7s,baz=349,slow=5.7,SNR=5.4
GERES **GERESS Array B 74.36 9** P **P** **04 40 09.8 +0.5**
BRTR **Keskin Array B 83.95 355** P **P** **04 41 00.9 -0.9**
comp=Z,0.6nm,0.8s,baz=12,slow=7.4,SNR=3.9
BRTR **Keskin Array B 83.95 355** P **P** **04 41 00.9 -0.9**

*IDC **30** 04:29:55.8±3.4, 3.2°S×78.3°W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=193.6km s-min=73.5km az=55.0*
*IGQ **30** 04:30:08.5, 3.1°S×78.8°W, h93km±51km, Mb4.2, Ms4.0, Error ellipse: s-maj=3.1km s-min=1.6km az=6.5*
*ISCJB **30** 04:30:09.4±0.4, 3.1°S±0.0°×78.9°W±0.0°, h80km, mb3.3/4, Error ellipse: s-maj=9.8km s-min=4.3km az=24.5*

ISC 30 04:30:08.7±0.8, 3.2°S±0.0°×78.9°W±0.0°, h80km, n49, σ1§25/49, mb3.4/4, 15C-5D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
YANT	**Yantaza**	**0.68**	**166**	⇓S		**Sn**	**04 30 37.4**	**+1.7**
YANT	**Yantaza**	**0.68**	**166**	⇓P		**Pn**	**04 30 25.1**	**+0.8**
CATE	**Catamayo**	**0.88**	**210**	⇑S		**Sn**	**04 30 42.5**	**+2.8**
CATE	**Catamayo**	**0.88**	**210**	⇑P		**Pn**	**04 30 27.7**	**+1.2**
ARNL	**Arenillas**	**1.19**	**253**	⇑S		**Sn**	**04 30 47.3**	**+1.3**
ARNL	**Arenillas**	**1.19**	**253**	⇑P		**Pn**	**04 30 30.1**	**+0.1**
MACE	**Macas**	**1.19**	**38**	⇑S		**Sn**	**04 30 47.1**	**+0.8**
MACE	**Macas**	**1.19**	**38**	⇑P		**Pn**	**04 30 30.5**	**+0.3**
RIOE	**Riobamba**	**1.47**	**12**	P		**Pn**	**04 30 34.4**	**+0.5**
IGUA	**Igualata**	**1.72**	**10**	P		**Pn**	**04 30 38.2**	**+0.8**
BMAS	**Trigal station**	**1.74**	**15**	⇑P		**Pn**	**04 30 38.1**	**+0.6**
ARRY	**Arrayan**	**1.75**	**16**	⇑S		**Sn**	**04 31 01.8**	**+2.4**
ARRY	**Arrayan**	**1.75**	**16**	⇑P		**Pn**	**04 30 37.9**	**+0.3**
PAT1	**Patacocha**	**1.75**	**16**	⇓P		**Pn**	**04 30 38.3**	**+0.6**
BIL2	**Estacion Bilba**	**1.78**	**14**	P		**Pn**	**04 30 39.6**	**+1.6**
BBIL	**Ulba Tungurahu**	**1.79**	**14**	⇓P		**Pn**	**04 30 39.4**	**+1.2**
RETU	**Refugio**	**1.80**	**16**	⇑P		**Pn**	**04 30 39.5**	**+1.0**
ULBA	**Ulba**	**1.81**	**17**	P		**Pn**	**04 30 39.4**	**+0.9**
JUI6	**Juive**	**1.82**	**15**	⇓P		**Pn**	**04 30 39.7**	**+1.1**
BULB	**Ulba Tungurahu**	**1.82**	**17**	⇑P		**Pn**	**04 30 39.1**	**+0.5**
BRUN	**Tungurahua Vol**	**1.84**	**16**	⇑P		**Pn**	**04 30 39.4**	**+0.6**
RUN5	**Runtun**	**1.84**	**16**	P		**Pn**	**04 30 39.6**	**+0.8**
PISA	**Pisayambo**	**2.19**	**14**	P		**Pn**	**04 30 44.7**	**+1.0**
BMOR	**Cotopaxi Volca**	**2.50**	**11**	⇑P		**Pn**	**04 30 48.7**	**+0.9**
MOV1	**Cotopaxi Vol s**	**2.52**	**11**	P		**Pn**	**04 30 49.0**	**+0.9**
TAMB	**Tambo**	**2.55**	**13**	P		**Pn**	**04 30 49.9**	**+1.4**
BREF	**Cotopaxi Volca**	**2.56**	**11**	P		**Pn**	**04 30 50.0**	**+1.3**
BTAM	**Cotopaxi Volca**	**2.56**	**12**	P		**Pn**	**04 30 49.5**	**+0.9**
BVC2	**Cotopaxi Volca**	**2.58**	**12**	P		**Pn**	**04 30 49.7**	**+0.8**
NAS2	**Nasa**	**2.58**	**10**	P		**Pn**	**04 30 50.9**	**+2.1**
COV1	**Cotopaxi Volc**	**2.59**	**13**	P		**Pn**	**04 30 50.6**	**+1.5**
VC1	**Cotopaxi 1**	**2.59**	**12**	P		**Pn**	**04 30 50.6**	**+1.5**
ANTI	**Antisana**	**2.84**	**16**	⇑P		**Pn**	**04 30 53.2**	**+0.8**
JUA2	**San Juan 2**	**2.98**	**6**	P		**Pn**	**04 30 55.9**	**+1.6**
TERV	**Terraza Guagua**	**3.02**	**6**	P		**Pn**	**04 30 56.8**	**+1.9**
GGP	**Refugio Guagua**	**3.02**	**6**	⇑P		**Pn**	**04 30 56.3**	**+1.4**
PINO	**Pino**	**3.04**	**6**	P		**Pn**	**04 30 55.9**	**+0.8**
CHAR	**Charly**	**3.34**	**22**	P		**Pn**	**04 30 59.8**	**+0.8**
LAV4	**Lava4-Reventad**	**3.35**	**23**	P		**Pn**	**04 30 59.4**	**+0.4**
CONE	**Cono NE Rev Vo**	**3.36**	**22**	P		**Pn**	**04 30 60.0**	**+0.7**
GOLV	**Golondrinas**	**3.39**	**356**	P		**Pn**	**04 30 59.5**	**+0.1**
COTA	**Cotacachi**	**3.56**	**10**	P		**Pn**	**04 31 03.9**	**+1.8**
LITE	**Lita**	**4.02**	**8**	P		**Pn**	**04 31 09.5**	**+1.5**
ANMO	**Albuquerque**	**45.91**	**328**	P		**P**	**04 38 24.0**	**+0.3**
	0.3nm,0.3s,baz=139,slow=11,SNR=5.5							
PDAR	**Pinedale Array**	**53.47**	**332**	P		**P**	**04 39 20.5**	**-0.6**
	0.4nm,0.7s,baz=123,slow=11,SNR=4.0							
YKA	**Yellowknife Ar**	**70.88**	**343**	P		**P**	**04 41 15.6**	**-1.2**
	0.2nm,0.5s,baz=141,slow=6.0,SNR=11							
ILAR	**Eielson Array**	**83.66**	**336**	P		**P**	**04 42 27.9**	**-0.2**
	0.2nm,0.9s,baz=122,slow=4.3,SNR=5.1							
MKAR	**Makanchi Array**	**133.61**	**18**	PKP		**PKPdf**	**04 49 14.4**	**-1.9**
	0.1nm,0.4s,baz=338,slow=2.9,SNR=2.9							
WRA	**Warramunga Arr**	**140.05**	**233**	PKP		**PKPdf**	**04 49 27.3**	**-1.7**
	0.5nm,1.0s,baz=112,slow=2.4,SNR=4.1							

*AUST **30** 04:39:49.9±24.0, 20.7°S×174.2°E, h192km±3km, Error ellipse: s-maj=7.4km s-min=3.3km az=287.0*
*IDC **30** 04:39:52.7±1.8, 22.6°S×171.5°E, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.1/18, mbtmp4.2/6, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/39, Error ellipse: s-maj=61.1km s-min=35.6km az=157.0*
*NOU **30** 04:40:00.6±1.7, 20.0°S×170.7°E, h30km, MD3.3, ML4.2, MS2.2*

ISC 30 04:40:07.6±1.4, 21.9°S±0.4°×170.8°E±0.1°, h112km, n20, σ1§55/17, mb3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
BAYA	**Yate Dam**	**3.66**	**265**	*e*S		**Sn**	**04 41 46.4**	**+1.6**
NORM	**Noumea**	**4.04**	**264**	*e*P		**Pn**	**04 41 05.1**	**-2.3**
NORM				*e*S		**Sn**	**04 41 52.6**	**-1.3**
DZM	**Mont Dzumac**	**4.06**	**266**	Pn		**Pn**	**04 41 06.5**	**-1.4**
	13nm,0.3s,baz=97,slow=16,SNR=392							
DZM				Sn		**Sn**	**04 41 55.6**	**+0.8**
	16nm,0.3s,baz=17,slow=20,SNR=13							
DZM				LR		LR	04 42 21.0	
	comp=Z,170nm,19.1s,baz=11,slow=31							
DZM	**Mont Dzumac**	**4.06**	**266**	*e*P		**Pn**	**04 41 06.1**	**-1.8**
DZM				AMP			04 42 05.5	
	comp=Z,970nm,0.8s							
NOUC	**Port Laguerre**	**4.20**	**266**	*e*P		**Pn**	**04 41 08.0**	**-1.6**
NOUC				*e*S		**Sn**	**04 41 58.4**	**+0.7**
NOUC				AMP			04 42 09.5	
	comp=Z,66nm,11.9s							
RMQ	**Roma**	**20.63**	**253**	P		Pn	04 44 44.8	+3.2
	baz=24,SNR=6.0							
CMSA	**Cobar Meteorol**	**24.37**	**241**	P		**P**	**04 45 17.1**	**+1.7**
	baz=28,SNR=15							
STKA	**Stephens Creek**	**27.83**	**243**	P		**P**	**04 45 46.9**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=66,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**34.02**	**260**	P		P	04 46 43.3	+2.2
	comp=Z,4.9nm,0.7s,baz=86,slow=9.0,SNR=50							
WRA	**Warramunga Arr**	**34.08**	**266**	P		**P**	**04 46 43.4**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=97,slow=8.5,SNR=30							
WRA				LR		LR	05 00 24.1	
	comp=Z,104nm,18.2s,baz=45,slow=36							
FITZ	**Fitzroy Crossi**	**42.51**	**267**	P		P	04 47 55.8	+3.6
	baz=46,SNR=8.7							
PALU	**Palau**	**45.97**	**305**	P		P	04 48 07.9	-12
	baz=48,SNR=4.5							
MEEK	**Meekatharra**	**47.57**	**253**	P		**P**	**04 48 33.8**	**+1.6**
	baz=51,SNR=3.4							
KLBR	**Kellerberrin**	**47.98**	**247**	P		**P**	**04 48 35.4**	**+0.1**
	baz=51,SNR=9.3							
RKGY	**Rocky Gully**	**48.59**	**243**	P		P	04 48 33.4	-6.5
	baz=52,SNR=7.8							
BLDU	**Balliduu**	**48.91**	**248**	P		**P**	**04 48 40.2**	**-2.3**
	baz=52,SNR=6.6							
CMAR	**Chiang Mai Arr**	**80.93**	**294**	P		P	04 52 15.7	+5.7
	comp=Z,0.6nm,0.4s,baz=140,slow=4.7,SNR=4.6							
SONM	**Songino Array**	**90.21**	**323**	P		P	04 52 59.0	+3.6
	comp=Z,0.2nm,0.6s,baz=131,slow=4.4,SNR=3.7							
GERES	**GERESS Array B**	**147.50**	**331**	PKPbc		**PKPab**	**04 59 40.5**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=48,slow=1.5,SNR=4.9							
TORD	**Torodi Ar. Bea**	**166.48**	**232**	PKP		**PKPdf**	**05 00 00.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=135,slow=0.2,SNR=3.6							
TORD				PKPab		**PKPab**	**05 01 02.0**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=133,slow=4.0,SNR=3.5							

*ISCJB **30** 04:56:32.9±0.5, 24.6°S×122.4°E±0.0°, h98km±4km, Error ellipse: s-maj=4.9km s-min=3.0km az=168.2*
*TAP **30** 04:56:32.7, 24.7°N×122.3°E, h104km, ML3.9, C*
*JMA **30** 04:56:33.3±0.2, 24.7°N×122.4°E, h95km±2km, M3.1*

ISC 30 04:56:33.4±1.4, 24.6°N±0.0°×122.4°E±0.0°, h96km±9km, n49, σ0§72/95, 6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
TWB1	**Santiao Chiao**	**0.51**	**311**	*i*P		**Pn**	**04 56 48.9**	**0.0**
	baz=301							
TWB1				S		**Sn**	**04 57 00.3**	**-0.2**
	baz=301							
TWC	**Suao**	**0.52**	**264**	*i* P		**Pn**	**04 56 48.8**	**-0.1**
	baz=254							
TWC				S		**Sn**	**04 57 00.5**	**0.0**
	baz=254							
YOJ	**Yonaguni jima**	**0.58**	**111**	P		**Pn**	**04 56 49.5**	**+0.1**
YOJ				S		**Sn**	**04 57 01.4**	**0.0**
ILA	**Ilan**	**0.61**	**279**	P		**Pn**	**04 56 49.9**	**+0.2**
	baz=274							
ILA				S		**Sn**	**04 57 02.6**	**+0.7**
	baz=274							
ENA	**Nanau**	**0.66**	**249**	⇓*i*P		**Pn**	**04 56 50.5**	**+0.4**
	baz=243							
ENA				*e*S		**Sn**	**04 57 02.9**	**+0.3**
	baz=243							
TWE	**Neicheng**	**0.68**	**275**	⇓*i*P		**Pn**	**04 56 50.5**	**+0.2**
	baz=274							
TWE				S		**Sn**	**04 57 03.1**	**+0.2**
	baz=274							
NWF	**Wu-fen Shan**	**0.70**	**305**	⇓*i*P		**Pn**	**04 56 50.6**	**0.0**
	baz=295							
NWF				S		**Sn**	**04 57 02.9**	**-0.6**
	baz=295							
ENTT	**Nioudou**	**0.77**	**268**	P		**Pn**	**04 56 51.5**	**+0.4**
	baz=266							
ENTT				*e*S		**Sn**	**04 57 04.9**	**+0.4**
	baz=266							
TAP1	**Taipei**	**0.89**	**295**	*e*P		**Pn**	**04 56 51.9**	**-0.5**
	baz=292							
TAP1				*e*S		**Sn**	**04 57 05.9**	**-0.6**
	baz=292							
TAP	**Taipei**	**0.90**	**294**	*e*P		**Pn**	**04 56 52.4**	**-0.1**
	baz=292							
TAP				*e*S		**Sn**	**04 57 05.7**	**-1.1**
	baz=292							
TWD	**Chiawan**	**0.95**	**232**	P		**Pn**	**04 56 52.6**	**-0.3**
	baz=228							
TWD				S		**Sn**	**04 57 08.1**	**+0.4**
	baz=228							
TWY	**Chenhua**	**0.95**	**309**	*e*P		**Pn**	**04 56 52.9**	**-0.2**
	baz=301							
TWY				*e*S		**Sn**	**04 57 07.2**	**-0.6**
	baz=301							
NSK	**Sanguang**	**0.96**	**271**	⇓*i*P		**Pn**	**04 56 53.5**	**+0.3**
	baz=274							
NSK				S		**Sn**	**04 57 08.3**	**+0.2**
	baz=274							
NNS	**Nan Shan**	**0.97**	**257**	P		**Pn**	**04 56 53.7**	**+0.3**
	baz=248							
NNS				S		**Sn**	**04 57 08.7**	**+0.2**
	baz=248							
TWS1	**Kuangyinshan**	**1.00**	**296**	P		**Pn**	**04 56 53.3**	**-0.3**
	baz=293							
TWS1				*e*S		**Sn**	**04 57 08.3**	**-0.4**
	baz=293							
HWA	**Hwalien**	**1.01**	**227**	*e*P		**Pn**	**04 56 53.5**	**-0.1**
	baz=216							
HWA				*e*S		**Sn**	**04 57 09.8**	**+1.0**
	baz=216							
NCU	**National Centr**	**1.15**	**285**	*e*P		**Pn**	**04 56 55.7**	**+0.4**
	baz=290							
NCU				*e*S		**Sn**	**04 57 12.1**	**+0.3**
	baz=290							
WHF	**Hehuan Shan**	**1.17**	**244**	⇓*i*P		**Pn**	**04 56 56.0**	**+0.1**
	baz=240							
WHF				S		**Sn**	**04 57 12.7**	**-0.2**
	baz=240							
TWT	**Tachien**	**1.20**	**250**	P		**Pn**	**04 56 56.8**	**+0.8**
	baz=241							
TWT				S		**Sn**	**04 57 13.6**	**+0.5**
	baz=241							
ESL	**Shilin**	**1.23**	**227**	*e*P		**Pn**	**04 56 55.6**	**-0.7**
	baz=232							
ESL				*e*S		**Sn**	**04 57 12.5**	**-1.0**
	baz=232							
IRIF	**Iriomote-Funau**	**1.24**	**105**	P		**Pn**	**04 56 56.2**	**-0.1**
IRIF				S		**Sn**	**04 57 13.9**	**+0.2**
NSTT	**Nanjuang**	**1.29**	**269**	P		**Pn**	**04 56 56.9**	**+0.1**
	baz=266							
NSTT				S		**Sn**	**04 57 14.3**	**-0.2**
	baz=266							
HSN	**Hsinchu**	**1.32**	**276**	*e*P		**Pn**	**04 56 55.4**	**-1.9**
	baz=275							
HSN				*e*S		**Sn**	**04 57 14.9**	**-0.4**
	baz=275							
HATJ	**Hateruma jima**	**1.41**	**115**	P		**Pn**	**04 56 58.6**	**+0.3**
HATJ				S		**Sn**	**04 57 17.8**	**+0.6**
JKRS	**Kuro-shima**	**1.52**	**106**	P		**Pn**	**04 57 00.0**	**+0.3**
JKRS				S		**Sn**	**04 57 20.4**	**+0.8**
NSY	**Sanyi**	**1.53**	**261**	*e*P		**Pn**	**04 56 60.0**	**+0.2**
	baz=258							
NSY				*e*S		**Sn**	**04 57 20.2**	**+0.3**
	baz=258							
EHY	**Hungye**	**1.53**	**221**	*e*P		**Pn**	**04 56 59.1**	**-0.8**
	baz=226							
EHY				*e*S		**Sn**	**04 57 17.9**	**-2.0**
	baz=226							
TWQ1	**Liyutan**	**1.53**	**258**	*e*P		**Pn**	**04 57 00.1**	**+0.3**
	baz=256							
TWQ1				*e*S		**Sn**	**04 57 19.4**	**-0.5**
	baz=256							
SMLT	**Sun Moon Lake**	**1.59**	**241**	*e*P		**Pn**	**04 57 01.4**	**+0.7**
	baz=233							
SMLT				*e*S		**Sn**	**04 57 22.9**	**+1.5**
	baz=233							
JIJ	**Ishigaki jima**	**1.60**	**101**	P		**Pn**	**04 57 00.5**	**-0.3**
JIJ				S		**Sn**	**04 57 21.6**	**+0.1**
TYC	**Yuchr**	**1.61**	**242**	*e*P		**Pn**	**04 57 01.8**	**+0.9**
	baz=239							
TYC				S		**Sn**	**04 57 22.7**	**+1.0**
	baz=239							
TWF1	**Yuli**	**1.66**	**218**	*e*P		**Pn**	**04 57 00.8**	**-0.7**
	baz=223							
TWF1				*e*S		**Sn**	**04 57 20.7**	**-2.2**
	baz=223							
TCU	**Taichung**	**1.67**	**252**	*e*P		**Pn**	**04 57 02.3**	**+0.7**
	baz=250							
TCU				*e*S		**Sn**	**04 57 23.6**	**+0.6**
	baz=250							
CHKT	**Chengkung**	**1.83**	**212**	*e*P		**Pn**	**04 57 02.8**	**-0.9**
	baz=204							
CHKT				*e*S		**Sn**	**04 57 24.9**	**-1.8**
	baz=204							
ALS	**Alishan**	**1.87**	**232**	*e*P		**Pn**	**04 57 05.0**	**+0.5**
	baz=224							
ALS				*e*S		**Sn**	**04 57 28.4**	**+0.4**
	baz=224							
CHN5	**Tsauling**	**1.91**	**236**	*e*P		**Pn**	**04 57 05.4**	**+0.6**
	baz=244							
CHN5				*e*S		**Sn**	**04 57 29.8**	**+1.1**
	baz=244							
ELDTW	**Lidau**	**1.95**	**221**	*e*P		**Pn**	**04 57 05.0**	**-0.3**
	baz=219							
ELDTW				*e*S		**Sn**	**04 57 29.1**	**-0.5**
	baz=219							
JTJ	**Tarama**	**2.08**	**90**	P		**Pn**	**04 57 07.1**	**+0.2**
JTJ				S		**Sn**	**04 57 32.1**	**-0.4**
CHN2	**Minshiung**	**2.10**	**238**	*e*P		**Pn**	**04 57 08.3**	**+1.2**
	baz=245							
CHN2				*e*S		**Sn**	**04 57 33.6**	**+0.6**
	baz=245							
CHN4	**Tsaushan**	**2.12**	**232**	*e*P		**Pn**	**04 57 07.6**	**+0.2**
	baz=230							
CHN4				*e*S		**Sn**	**04 57 34.3**	**+0.9**
	baz=230							
CHY	**Chiayi**	**2.16**	**238**	*e*P		Pn	04 57 06.1	-1.8
	baz=245							
CHY				*e*S		**Sn**	**04 57 33.8**	**-0.6**
	baz=245							
WTP	**Ta-pu**	**2.17**	**230**	*e*P		**Pn**	**04 57 08.1**	**-0.1**
	baz=228							
WTP				*e*S		**Sn**	**04 57 35.3**	**+0.6**
	baz=228							
TWG	**Pinlang**	**2.21**	**214**	*e*P		**Pn**	**04 57 08.0**	**-0.7**
	baz=212							
TWG				*e*S		**Sn**	**04 57 34.3**	**-1.2**
	baz=212							
TWK	**Hsinying**	**2.25**	**232**	*e*P		**Pn**	**04 57 09.9**	**+0.8**
	baz=230							
TWK				*e*S		**Sn**	**04 57 35.7**	**-0.8**
	baz=230							
WSF	**Szhu**	**2.25**	**243**	*e*P		**Pn**	**04 57 09.1**	**0.0**
	baz=241							
WSF				*e*S		**Sn**	**04 57 36.4**	**0.0**
	baz=241							
CHN1	**Nanshi**	**2.27**	**230**	*e*P		**Pn**	**04 57 08.4**	**-1.0**
	baz=228							
CHN1				*e*S		**Sn**	**04 57 37.3**	**+0.3**
	baz=228							
SGST	**Jiashian**	**2.30**	**227**	*e*P		**Pn**	**04 57 10.7**	**+0.9**
	baz=225							
SGST				*e*S		**Sn**	**04 57 39.2**	**+1.4**
	baz=225							
EAST	**Anshuo**	**2.69**	**213**	*e*P		**Pn**	**04 57 15.8**	**+0.8**
	baz=206							
JKE	**Kume jima 2**	**4.28**	**66**	P		**Pn**	**04 57 36.2**	**-0.1**

MEX 30 05:14:29.6±0.8, 16.86°N×95.44°W, h96km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
CMIG	**Matias Romero**	**0.58**	**67**	*i* P		Pn	05 14 44.6	-1.1
CMIG				*e*S		Sn	05 14 55.7	-2.0
VHO	**Vista Hermosa**	**1.25**	**280**	*i* P		Pn	05 14 52.3	-0.6
VHO				*e*S		Sn	05 15 08.7	-1.8
HUIG	**Huatulco**	**1.26**	**211**	*i* P		Pn	05 14 51.7	-1.0
HUIG				*e*S		Sn	05 15 08.2	-2.0
TGIG		**2.23**	**92**	*i* P		Pn	05 15 04.4	-0.7
TGIG				*e*S		Sn	05 15 29.9	-2.4
TPIG	**Tehuac#an**	**2.40**	**311**	*i* P		Pn	05 15 06.8	-0.7
TPIG				*e*S		Sn	05 15 34.2	-2.3
UTMO	**Huajuapan**	**2.45**	**294**	*i* P		Pn	05 15 07.8	-0.5
UTMO				*e*S		Sn	05 15 35.5	-2.4
PNIG	**Pinotepa**	**2.61**	**260**	*i* P		Pn	05 15 08.2	-2.0
PNIG				*e*S		Sn	05 15 39.3	-2.1
CCIG	**Comitan**	**3.22**	**100**	*i* P		Pn	05 15 17.3	-1.2
CCIG				*e*S		Sn	05 15 55.2	-1.0

IDC 30 05:17:42.4±2.8, 20.62°S×175.73°W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, Error ellipse: s-maj=260.4km s-min=29.3km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
CTA	**Charters Tower**	**35.59**	**264**	P		P	05 24 43.6	+1.6
	2.7nm,0.6s,baz=114,slow=9.8,SNR=3.4							
ASAR	**Alice Springs**	**46.56**	**257**	P		P	05 26 10.5	-1.8
	1.3nm,0.9s,baz=94,slow=9.1,SNR=6.7							
WRA	**Warramunga Arr**	**46.69**	**262**	P		P	05 26 12.9	-0.5
	2.1nm,0.9s,baz=95,slow=8.3,SNR=40							
FITZ	**Fitzroy Crossi**	**55.12**	**262**	P		P	05 27 17.2	+0.3
	1.9nm,0.7s,baz=100,slow=6.1,SNR=5.0							
TXAR	**Lajitas Array**	**85.34**	**56**	P		P	05 30 21.9	0.0
	0.6nm,0.8s,baz=218,slow=7.9,SNR=6.9							

*TRN **30** 05:20:51.4, 18.9°N×64.9°W, h35km*
*NEIC **30** 05:20:52.9, 19.0°N×64.9°W, h13km, MD3.5(RSPR), After RSPR.*
*RSPR **30** 05:20:52.9, 19.0°N×64.9°W, h13km±4km, MD3.5/9*

ISC 30 05:20:50.6±2.3, 19.0°N±0.1°×65.0°W±0.0°, h10km, n31, σ0§57/43, 22C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
STVI	**Saint Thomas**	**0.67**	**172**	*e*S		**Sb**	**05 21 13.9**	**+0.1**
STVI	**Saint Thomas**	**0.67**	**172**	⇑*e*P		**Pg**	**05 21 04.5**	**+1.0**
STVI	**Saint Thomas**	**0.67**	**172**	⇑*e*P		**Pg**	**05 21 04.5**	**+1.0**
STVI				*e*S		**Sb**	**05 21 13.9**	**+0.1**
STVI	**Saint Thomas**	**0.67**	**172**	⇑*e*P		**Pg**	**05 21 04.5**	**+1.0**
STVI				*e*S		**Sb**	**05 21 13.9**	**+0.1**
TBVI	**Tortola**	**0.73**	**145**	⇓*i*P		**Pg**	**05 21 04.5**	**-0.1**
TBVI				*e*S		**Sg**	**05 21 14.4**	**+0.2**
TBVI	**Tortola**	**0.73**	**145**	⇓*i*P		**Pg**	**05 21 04.5**	**-0.1**
TBVI				*e*S		**Sg**	**05 21 14.4**	**+0.2**
TBVI	**Tortola**	**0.73**	**145**	⇓*i*P		**Pg**	**05 21 04.5**	**-0.1**
TBVI				*e*S		**Sg**	**05 21 14.4**	**+0.2**
HUMP	**Col San Antoni**	**1.16**	**221**	⇑*e*P		**Pn**	**05 21 12.4**	**-0.4**
HUMP	**Col San Antoni**	**1.16**	**221**	*e*S		**Sb**	**05 21 27.5**	**-0.2**
HUMP	**Col San Antoni**	**1.16**	**221**	⇑*e*P		**Pn**	**05 21 12.4**	**-0.4**
HUMP				*e*S		**Sb**	**05 21 27.5**	**-0.2**
HUMP	**Col San Antoni**	**1.16**	**221**	⇑*e*P		**Pn**	**05 21 12.4**	**-0.4**
HUMP				*e*S		**Sb**	**05 21 27.5**	**-0.2**
SJG	**San Juan**	**1.38**	**229**	⇑*e*P		**Pn**	**05 21 15.4**	**-0.5**
SJG	**San Juan**	**1.38**	**229**	⇑*i*P		**Pn**	**05 21 15.4**	**-0.5**
SJG				*e*S		**Sn**	**05 21 33.4**	**-0.8**
SJG	**San Juan**	**1.38**	**229**	*i* Pu		**Pn**	**05 21 15.4**	**-0.5**
SJG				*e*S		**Sn**	**05 21 33.2**	**-1.0**
SJG				*e*S		**Sn**	**05 21 33.4**	**-0.8**
SJG	**San Juan**	**1.38**	**229**	⇑*e*P		**Pn**	**05 21 15.4**	**-0.5**
SJG	**San Juan**	**1.38**	**229**	⇑*i*P		**Pn**	**05 21 15.4**	**-0.5**
SJG				*e*S		**Sn**	**05 21 33.2**	**-1.0**
SJG				*e*S		**Sn**	**05 21 33.4**	**-0.8**
CELP	**Cerrillos**	**1.73**	**237**	⇑*e*P		**Pn**	**05 21 20.8**	**+0.1**
CELP	**Cerrillos**	**1.73**	**237**	⇑*e*P		**Pn**	**05 21 20.8**	**+0.1**
CELP	**Cerrillos**	**1.73**	**237**	⇑*e*P		**Pn**	**05 21 20.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.75**	**248**	⇑*e*P		**Pn**	**05 21 20.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.75**	**248**	⇑*e*P		**Pn**

s-min=30.5km az=47.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.53**	**259**	LR	LR	05 47 07.5	
	comp=Z,359nm,18.6s,baz=16,slow=31						
BOSA	**Boshof**	**40.90**	**244**	LR	LR	05 57 42.3	
	comp=Z,265nm,21.3s,baz=167,slow=30						
CMAR	**Chiang Mai Arr**	**45.99**	**44**	P	P	05 45 29.6	+1.7
	0.5nm,0.4s,baz=236,slow=8.3,SNR=8.1						
CMAR				LR	LR	06 02 21.8	
	comp=Z,191nm,19.4s,baz=211,slow=33						
MAW	**Mawson**	**51.99**	**182**	LR	LR	06 04 41.6	
	comp=Z,192nm,18.5s,baz=199,slow=32						
ASAR	**Alice Springs**	**62.67**	**109**	P	P	05 47 29.3	-0.3
	0.5nm,0.7s,baz=272,slow=5.3,SNR=4.3						
ASAR				LR	LR	06 10 51.2	
	comp=Z,238nm,19.2s,baz=207,slow=32						
KBZ	**Khabaz**	**63.22**	**340**	LR	LR	06 14 04.7	
	comp=Z,55nm,19.5s,baz=284,slow=35						
WRA	**Warramunga Arr**	**63.52**	**105**	P	P	05 47 35.5	+0.3
	1.5nm,1.0s,baz=268,slow=6.4,SNR=7.6						
MKAR	**Makanchi Array**	**63.60**	**11**	P	P	05 47 34.1	-1.1
	0.2nm,0.6s,baz=205,slow=8.0,SNR=3.3						
MKAR				LR	LR	06 15 51.7	
	comp=Z,51nm,18.8s,baz=76,slow=37						
AKTO	**Aktyubinsk**	**66.33**	**353**	LR	LR	06 14 25.5	
	comp=Z,38nm,19.2s,baz=2.9,slow=34						
ZALV	**Zalesovo Beam**	**70.92**	**11**	P	P	05 48 21.4	0.0
	0.3nm,0.3s,baz=194,slow=4.2,SNR=2.5						
ZALV				LR	LR	06 20 08.6	
	comp=Z,69nm,18.2s,baz=342,slow=36						
TORD	**Torodi Ar. Bea**	**71.00**	**290**	LR	LR	06 20 55.5	
	comp=Z,86nm,18.9s,baz=110,slow=37						
SONM	**Songino Array**	**72.18**	**26**	P	P	05 48 28.4	-0.9
	0.4nm,0.7s,baz=226,slow=6.2,SNR=2.4						
SONM				LR	LR	06 20 57.7	
	comp=Z,60nm,18.6s,baz=357,slow=36						
KEST	**Kesra**	**75.00**	**314**	LR	LR	06 19 41.9	
	comp=Z,47nm,19.4s,baz=308,slow=34						
KSRS	**Korea Array**	**77.60**	**45**	LR	LR	06 18 31.3	
	comp=Z,61nm,20.7s,baz=337,slow=32						
USRK	**Ussuriysk Arra**	**83.64**	**41**	P	P	05 49 31.9	-1.1
	1.2nm,0.6s,baz=232,slow=5.9,SNR=3.3						
USRK				LR	LR	06 28 23.1	
	comp=Z,54nm,18.1s,baz=354,slow=37						
MJAR	**Matsushiro Arr**	**84.50**	**50**	LR	LR	06 24 56.8	
	comp=Z,57nm,18.3s,baz=110,slow=34						
ESDC	**Sonseca Array**	**86.16**	**313**	P	P	05 49 47.6	+1.7
	0.3nm,0.3s,baz=104,slow=4.4,SNR=2.8						
PDAR	**Pinedale Array**	**152.87**	**355**	PKPbc	PKPbc	05 57 01.4	-0.8
	0.5nm,0.6s,baz=98,slow=2.0,SNR=5.7						

IDC 30 06:28:06.6±1.9, 6°22'S×103°86'E, h50$^{km}_{\pm 6}$km, mb3.7/8, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, Error ellipse: s-maj=79.9km s-min=14.0km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.00**	**349**	P	P	06 33 25.4	-0.5
	1.0nm,0.4s,baz=182,slow=8.7,SNR=7.0						
CMAR				pP	pP	06 33 37.6	-1.1
	1.0nm,0.4s,baz=182,slow=10.0,SNR=1.5						
WRA	**Warramunga Arr**	**32.59**	**118**	P	P	06 34 33.2	-0.5
	0.7nm,0.6s,baz=287,slow=12,SNR=7.4						
WRA				pP	pP	06 34 46.0	-0.6
	0.6nm,0.9s,baz=312,slow=8.9,SNR=2.8						
ASAR	**Alice Springs**	**33.69**	**124**	P	P	06 34 41.9	-1.3
	0.7nm,1.0s,baz=297,slow=8.2,SNR=4.2						
STKA	**Stephens Creek**	**43.49**	**131**	P	P	06 36 04.9	-0.4
	7.4nm,1.2s,baz=302,slow=7.9,SNR=3.7						
STKA				pP	pP	06 36 18.5	-0.1
	3.4nm,0.7s,baz=324,slow=9.4,SNR=3.6						
SONM	**Songino Array**	**53.87**	**2**	P	P	06 37 25.5	+0.7
	1.7nm,0.7s,baz=176,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**56.15**	**342**	P	P	06 37 40.9	-0.3
	0.6nm,0.5s,baz=148,slow=9.3,SNR=14						
MKAR				pP	pP	06 37 54.2	-0.8
	0.5nm,0.7s,baz=144,slow=7.9,SNR=4.7						
USRK	**Ussuriysk Arra**	**56.23**	**24**	P	P	06 37 41.0	-0.7
	1.8nm,0.6s,baz=221,slow=4.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**62.05**	**347**	P	P	06 38 21.8	0.0
	0.8nm,0.3s,baz=157,slow=4.1,SNR=5.9						
ZALV				pP	pP	06 38 34.4	-1.4
	1.0nm,0.4s,baz=165,slow=5.7,SNR=4.1						
TXAR	**Lajitas Array**	**145.31**	**45**	PKPbc	PKPdf	06 47 40.5	+0.8
	0.9nm,0.7s,baz=301,slow=1.2,SNR=11						
TXAR				pPKPbc	pPKPbc	06 47 55.6	+0.9
	1.1nm,0.8s,baz=267,slow=1.8,SNR=7.5						

IDC 30 06:30:28.1±31.0, 23°59'S×176°69'W, h0^{km}, mb3.9/4, mb1 4.1/4, mb1mx3.8/20, mbtmp3.9/4, Error ellipse: s-maj=583.8km s-min=159.7km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.65**	**248**	P	P	06 37 44.3	-0.8
	1.2nm,0.7s,baz=101,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**45.07**	**260**	P	P	06 38 46.1	-0.2
	0.5nm,0.4s,baz=96,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**45.45**	**265**	P	P	06 38 49.5	+0.2
	1.0nm,0.3s,baz=102,slow=8.2,SNR=39						
FITZ	**Fitzroy Crossi**	**53.88**	**264**	P	P	06 39 53.6	+0.1
	1.6nm,0.8s,baz=109,slow=6.4,SNR=3.2						

*ISCJB **30** 06:31:02.4±0.6, 24°.21S±0°.05×67°.11W±0°.06, h181^{km}, mb3.5/3, Error ellipse: s-maj=7.3km s-min=6.6km az=147.6*
*IDC **30** 06:31:02.2±1.7, 24°.19S×67°.02W, h159$^{km}_{\pm 17}$km, mb3.5/3, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=29.5km s-min=14.2km az=96.0*
*GUC **30** 06:31:06.0±0.5, 24°.04S×67°.46W, h192$^{km}_{\pm 19}$km, ML3.9*
ISC 30 06:31:03.4±0.8, 24°20S±0°.06×67°10W±0°.07, h181^{km}, n13, σ1°59/19, mb3.6/3, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.63**	**322**	⇑*i*P	**Pn**	**06 31 38.8**	**+1.7**
SPCH				*i* S	**Sn**	**06 32 03.7**	**+0.6**
SPCH				AML	AML	06 32 05.4	
	comp=N,254nm,0.5s						
CEN1	**Los Morros**	**2.95**	**285**	⇓*i*P	**Pn**	**06 31 52.8**	**+1.2**
CEN1				*i* S	**Sn**	**06 32 28.1**	**-1.0**
CEN1				AML	AML	06 32 30.4	
	comp=N,346nm,0.5s						
ANCH	**Antofagasta**	**3.07**	**279**	⇑*i*P	**Pn**	**06 31 53.4**	**+0.5**
ANCH				*i* S	**Sn**	**06 32 29.7**	**-1.8**
ANCH				AML	AML	06 32 32.4	
	comp=E,391nm,0.1s						
MECH	**Mejillones**	**3.25**	**289**	⇑*i*P	**Pn**	**06 31 55.6**	**+0.4**
MECH				eS	**Sn**	**06 32 33.1**	**-2.5**
MECH				AML	AML	06 32 41.4	
	comp=N,386nm,0.5s						
CFAA	**Coronel Fontan**	**7.44**	**187**	P	**Pn**	**06 32 50.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=14,slow=11,SNR=8.0						
CFAA				S	**Sn**	**06 34 10.8**	**-2.4**
	comp=N,0.1nm,0.3s,baz=107,slow=19,SNR=6.9						
LPAZ	**La Paz**	**7.93**	**353**	P	**Pn**	**06 32 56.0**	**-0.5**
	comp=N,2.1nm,0.3s,baz=168,slow=8.4,SNR=67						
LPAZ				S	**Sn**	**06 34 22.7**	**-3.1**
	comp=N,0.1nm,0.3s,baz=114,slow=20,SNR=4.3						
SIV	**San Ignacio**	**9.94**	**36**	P	**Pn**	**06 33 20.4**	**-1.8**
	comp=N,0.5nm,0.3s,baz=243,slow=13,SNR=8.7						
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**06 35 21.4**	**+0.6**
	comp=N,1.2nm,0.3s,baz=237,slow=11,SNR=31						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**06 42 35.6**	**+0.5**
	comp=N,0.8nm,0.6s,baz=257,slow=5.4,SNR=13						
BOSA	**Boshof**	**80.73**	**117**	P	**P**	**06 42 57.0**	**+0.1**
	comp=N,3.1nm,0.9s,baz=239,slow=8.3,SNR=3.7						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**06 44 02.6**	**+1.1**
	comp=N,0.1nm,0.6s,baz=121,slow=4.5,SNR=2.8						
WRA	**Warramunga Arr**	**131.40**	**207**	PKP	**PKPdf**	**06 49 56.8**	**+1.8**
	comp=N,0.2nm,0.8s,baz=152,slow=1.8,SNR=4.6						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	**PKPab**	**06 50 25.4**	**-0.1**
	comp=N,0.4nm,0.6s,baz=293,slow=1.1,SNR=6.3						

IDC 30 06:50:42.2±3.2, 21°43S×175°73W, h0^{km}, mb3.9/3, mb1 4.3/3, mb1mx3.8/20, mbtmp3.9/3, Error ellipse: s-maj=336.6km s-min=31.6km az=161.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.38**	**257**	P	P	06 59 10.4	-0.2
	1.8nm,0.9s,baz=92,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**46.58**	**262**	P	P	06 59 12.2	0.0
	1.8nm,1.0s,baz=101,slow=7.6,SNR=7.8						
TXAR	**Lajitas Array**	**85.78**	**56**	P	P	07 03 23.9	0.0
	0.7nm,0.8s,baz=206,slow=8.0,SNR=8.2						

*ISCJB **30** 06:57:46.9±0.5, 34°.35N±0°.09×135°.85E±0°.08, h390$^{km}_{\pm 3}$km, mb3.1/8, Error ellipse: s-maj=14.4km s-min=9.9km az=157.1*
*IDC **30** 06:57:47.8±1.2, 34°.31N×135°.86E, h383$^{km}_{\pm 13}$km, mb2.9/8, mb1 3.1/12, mb1mx2.9/31, mbtmp2.9/12, Error ellipse: s-maj=20.3km s-min=16.4km az=118.0*
*JMA **30** 06:57:48.3±0.1, 34°.45N×135°.79E, h381$^{km}_{\pm 1}$km, M2.6*
ISC 30 06:57:47.9±0.8, 34°37N±0°.09×135°85E±0°.07, h382$^{km}_{\pm 6}$km, n27, σ0°59/34, mb3.0/8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.26**	**234**	P	**Pn**	**06 58 36.0**	**+0.5**
JWY				S	**S**	**06 59 13.0**	**-0.8**
JKN2	**Miekihoku**	**0.38**	**110**	P	**Pn**	**06 58 36.2**	**+0.7**
JKN2				S	**S**	**06 59 13.3**	**-0.6**
JIE	**Ise**	**0.71**	**88**	P	**Pn**	**06 58 36.8**	**+0.6**
JIE				S	**S**	**06 59 14.8**	**-0.3**
JWT	**Wachi**	**0.98**	**338**	P	**Pn**	**06 58 37.1**	**+0.2**
JWT				S	**S**	**06 59 15.5**	**-1.0**
TTO1	**TONANKAI O.B.S**	**1.08**	**133**	P	**Pn**	**06 58 38.2**	**+1.1**
JAI	**Aioi**	**1.29**	**244**	P	**Pn**	**06 58 38.6**	**+0.3**
JGM	**Miyama**	**1.51**	**28**	P	**Pn**	**06 58 39.8**	**+0.5**
JGM				S	**S**	**06 59 20.6**	**-0.2**
JKG	**Kaga**	**1.94**	**12**	P	**Pn**	**06 58 41.8**	**+0.1**
JHS	**Saijyo**	**2.33**	**286**	P	**Pn**	**06 58 44.8**	**+0.3**
JYN	**Shimob**	**2.49**	**62**	P	**Pn**	**06 58 45.6**	**0.0**
JOD2	**Odawara 2**	**2.81**	**71**	P	**Pn**	**06 58 49.3**	**+1.2**
MAT	**Matsushiro**	**2.90**	**41**	P	**Pn**	**06 58 48.8**	**0.0**
MAT				S	**S**	**06 59 38.0**	**-0.1**
MAT	**Matsushiro**	**2.90**	**41**	P	**Pn**	**06 58 48.9**	**+0.1**
MJAR	**Matsushiro Arr**	**2.90**	**41**	P	**Pn**	**06 58 49.0**	**+0.2**
	4.3nm,0.3s,baz=217,slow=8.8,SNR=60						
JRY	**Ryogami san**	**3.00**	**56**	P	**Pn**	**06 58 49.8**	**+0.2**
JRY				S	**S**	**06 59 40.2**	**+0.6**
BSO1	**Boso 1**	**4.25**	**85**	P	**Pn**	**06 59 00.0**	**-0.6**
JNU	**Nakatsue**	**4.32**	**255**	P	**Pn**	**06 59 02.5**	**+0.4**
	2.5nm,0.3s,baz=73,slow=3.7,SNR=14						
KSRS	**Korea Array**	**7.13**	**298**	P	**P**	**06 59 33.5**	**+0.2**
	0.4nm,0.3s,baz=118,slow=12,SNR=6.1						
USRK	**Ussuriysk Arra**	**10.26**	**344**	P	**P**	**07 00 08.3**	**-0.3**
	0.8nm,0.3s,baz=176,slow=11,SNR=12						
SONM	**Songino Array**	**25.77**	**310**	P	**P**	**07 02 45.1**	**-0.5**
	0.4nm,0.8s,baz=102,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**41.76**	**304**	P	**P**	**07 05 02.0**	**+0.6**
	0.2nm,0.8s,baz=89,slow=8.9,SNR=2.7						
WRA	**Warramunga Arr**	**54.03**	**182**	P	**P**	**07 06 33.5**	**-0.9**
	0.3nm,0.3s,baz=359,slow=7.7,SNR=7.4						
ILAR	**Eielson Array**	**54.14**	**31**	P	**P**	**07 06 34.1**	**-0.5**
	0.3nm,0.6s,baz=264,slow=5.2,SNR=9.8						
INK	**Inuvik**	**58.78**	**26**	P	**P**	**07 07 07.4**	**+0.5**
	0.6nm,0.4s,baz=297,slow=4.2,SNR=9.5						
ARCES	**ARCESS Array B**	**64.85**	**339**	P	**P**	**07 07 46.4**	**-0.5**
	3.0nm,1.0s,baz=64,slow=8.2,SNR=5.4						
RES	**Resolute Bay**	**66.26**	**13**	P	**P**	**07 07 56.3**	**+0.7**
	1.0nm,0.5s,baz=336,slow=8.0,SNR=7.9						
YKA	**Yellowknife Ar**	**68.33**	**28**	P	**P**	**07 08 09.1**	**+0.4**
	0.2nm,0.6s,baz=289,slow=5.4,SNR=4.9						

*IDC **30** 07:06:06.0±0.8, 47°.72N×123°.40W, h0^{km}, mb3.4/5, mb1 3.6/9, mb1mx3.5/29, mbtmp3.4/9, ML3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=12.7km s-min=8.1km az=26.0*
*PNSN **30** 07:06:10.2, 47°.60N×123°.48W, h45^{km}, MD3.6, Fault plane solution: NP1:φs=340.00000°, δ45.00000°, NP2: φs=187.00000°, δ48.00000°, Principal axes: T Plg2.0000°, Azm264.0000°; P Plg76.0000°, Azm167.0000°;*
*PGC **30** 07:06:10.3±0.0, 47°.68N×123°.60W, h43^{km}, ML2.9/5, 85km Ssw of Victoria, Bc Washington*
*NEIC **30** 07:06:10.2, 47°.60N×123°.48W, h45^{km}, MD3.6(SEA), After SEA.*
NEIC Felt [II] at Brinnon, Hoodsport, Olympia and Port Orchard. Also felt at Auburn, Belfair, Bremerton, Dupont, Grapeview, Hoquiam, Kent, Lacey, Lakebay, Lakewood, Lilliwaup, Longbranch, Mercer Island, Mukilteo, Poulsbo, Quinault, Seabeck, Seattle, Tacoma and Tahuya.
ISC 30 07:06:09.6±0.9, 47°62N±0°.03×123°48W±0°.03, h36$^{km}_{\pm 1}$km, n157, σ1°17/178, mb3.2/5, 70C-21D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSD	**Olympics--Snow**	**0.25**	**323**	⇓P	**Pn**	**07 06 18.2**	**+0.4**
HDW	**Hoodsport**	**0.29**	**85**	⇑P	**Pn**	**07 06 18.3**	**+0.6**
SMW	**South Mountain**	**0.32**	**163**	⇓P	**Pn**	**07 06 18.6**	**+0.8**
OSR	**Olympics--Salm**	**0.35**	**250**	⇑P	**Pn**	**07 06 19.0**	**+0.9**
NLWA	**Neilton Lookou**	**0.35**	**229**	*e*Pn	**Pn**	**07 06 18.9**	**+0.8**
NLWA				*e*Sn	**Sn**	**07 06 25.7**	**+1.1**
GNW	**Green Mountain**	**0.45**	**97**	⇑P	**Pn**	**07 06 19.9**	**+0.5**
OPC	**Olympic Penn C**	**0.48**	**6**	⇑P	**Pn**	**07 06 21.1**	**+1.2**
OOW	**Octopus West**	**0.49**	**284**	⇑P	**Pn**	**07 06 20.9**	**+0.8**
KIMR	**Kitsap County**	**0.50**	**104**	⇑P	**Pn**	**07 06 20.7**	**+0.5**
BLN	**Blyn Mountain**	**0.52**	**42**	⇓P	**Pn**	**07 06 21.0**	**+0.5**
SQM	**Sequim**	**0.54**	**33**	⇑P	**Pn**	**07 06 21.6**	**+0.8**
STW	**Striped Peak**	**0.54**	**347**	⇓P	**Pn**	**07 06 21.6**	**+0.7**
WISH	**Wishkah**	**0.54**	**201**	⇑P	**Pn**	**07 06 21.5**	**+0.6**
OBC	**Olympics--Boni**	**0.58**	**316**	⇑P	**Pn**	**07 06 22.0**	**+0.5**
KITP	**Kitsap County**	**0.58**	**85**	⇑P	**Pn**	**07 06 22.5**	**+1.2**
KINR	**Kitsap County**	**0.58**	**77**	⇑P	**Pn**	**07 06 22.3**	**+0.9**
BABE	**Bainbridge Sch**	**0.64**	**91**	⇑P	**Pn**	**07 06 23.6**	**+1.4**
EGRN	**Evergreen Coll**	**0.65**	**148**	P	**Pn**	**07 06 22.7**	**+0.4**
OFR	**Olym-F Res Ctr**	**0.69**	**297**	⇑P	**Pn**	**07 06 23.6**	**+0.7**
CPW	**Capitol Peak**	**0.69**	**160**	⇓P	**Pn**	**07 06 23.3**	**+0.3**
ALKI	**Alki Wastewate**	**0.72**	**93**	P	**Pn**	**07 06 24.5**	**+1.2**
VVHS	**Vashon High Sc**	**0.72**	**106**	⇑P	**Pn**	**07 06 23.8**	**+0.5**
LAWT	**Lawton Element**	**0.74**	**87**	P	**Pn**	**07 06 25.0**	**+1.5**
OTR	**Olympics--Tyee**	**0.74**	**309**	⇑P	**Pn**	**07 06 24.2**	**+0.6**
HOLY	**Holy Rosary Sc**	**0.74**	**94**	P	**Pn**	**07 06 25.0**	**+1.4**
QAW	**Queen Anne**	**0.75**	**89**	⇑P	**Pn**	**07 06 25.4**	**+1.5**
UPS	**University of**	**0.77**	**118**	⇑P	**Pn**	**07 06 24.7**	**+0.8**
SCCW	**Shoreline CC**	**0.77**	**80**	⇑P	**Pn**	**07 06 25.1**	**+1.2**
ON2	**Olympics--Nort**	**0.77**	**195**	⇑P	**Pn**	**07 06 24.3**	**+0.4**
KDKW	**Coast Env Seat**	**0.78**	**92**	⇑P	**Pn**	**07 06 25.5**	**+1.5**
MEAN	**Meany Midle Sc**	**0.80**	**90**	⇑P	**Pn**	**07 06 25.9**	**+1.6**
VGZ	**Gonzales**	**0.80**	**8**	P	**Pn**	**07 06 24.4**	**+0.1**
VGZ	**Gonzales**	**0.80**	**8**	⇑P	**Pn**	**07 06 24.4**	**+0.1**
VGZ				⇓S	**Sn**	**07 06 34.9**	**-0.1**
KIMB	**Kimball Elemen**	**0.80**	**93**	⇑P	**Pn**	**07 06 25.8**	**+1.5**
BSFP	**Boeing Fire Pr**	**0.81**	**97**	P	**Pn**	**07 06 25.5**	**+1.1**
BRKS	**Brookside Elem**	**0.82**	**80**	⇑P	**Pn**	**07 06 25.7**	**+1.2**
SWID	**South Whidbey**	**0.82**	**61**	P	**Pn**	**07 06 25.8**	**+1.2**
LYNC	**Lynnwood City**	**0.83**	**75**	P	**Pn**	**07 06 25.6**	**+0.9**
HICC	**Highline Commu**	**0.83**	**106**	⇑P	**Pn**	**07 06 25.5**	**+0.7**
SP2	**Seward Park 2**	**0.84**	**94**	⇑P	**Pn**	**07 06 26.0**	**+1.2**
FINN	**Finn Hill Juni**	**0.85**	**83**	P	**Pn**	**07 06 26.5**	**+1.5**
NIHS	**Ingelmoor High**	**0.86**	**82**	P	**Pn**	**07 06 26.6**	**+1.4**
KNEL	**Kent Elementar**	**0.87**	**106**	P	**Pn**	**07 06 26.1**	**+0.8**
RRHS	**Rochester High**	**0.88**	**160**	⇓P	**Pn**	**07 06 26.2**	**+0.9**
SVOH	**Skagit Valley**	**0.88**	**40**	⇓P	**Pn**	**07 06 26.1**	**+0.7**
RHAZ	**Hazelwood Elem**	**0.88**	**95**	P	**Pn**	**07 06 26.1**	**+0.7**
MPL	**Maple valley S**	**0.89**	**100**	⇑P	**Pn**	**07 06 26.3**	**+0.7**
MARYW	**Marymoor Park**	**0.92**	**87**	⇑P	**Pn**	**07 06 27.5**	**+1.5**
EVGW	**Everett Gatewa**	**0.93**	**75**	P	**Pn**	**07 06 27.0**	**+0.9**
LEOT	**Leota Junior H**	**0.94**	**81**	⇑P	**Pn**	**07 06 27.4**	**+1.2**
PCFR	**Pierce County**	**0.95**	**131**	⇓P	**Pn**	**07 06 26.7**	**+0.4**
PCEP	**Pierce County**	**0.96**	**122**	P	**Pn**	**07 06 27.0**	**+0.5**
ALCT	**Alcott Element**	**0.98**	**88**	P	**Pn**	**07 06 28.0**	**+1.2**
EARN	**East Ridge Ele**	**0.98**	**83**	⇑P	**Pn**	**07 06 28.0**	**+1.2**
PNLK	**Pine Lake Midd**	**0.98**	**92**	⇑P	**Pn**	**07 06 27.8**	**+0.9**
BLH	**Bald Hill**	**1.00**	**77**	⇑P	**Pn**	**07 06 27.7**	**+0.6**
GHW	**Garrison Hill**	**1.01**	**125**	⇑P	**Pn**	**07 06 27.4**	**+0.2**
LZB	**Mount Lazard**	**1.02**	**347**	⇑P	**Pn**	**07 06 27.5**	**+0.1**
LZB				⇓S	**Sn**	**07 06 39.9**	**-0.5**
OCP	**Olym-Cheeka Pk**	**1.02**	**312**	⇑P	**Pn**	**07 06 27.7**	**+0.3**
PGC	**Sidney**	**1.03**	**1**	*e*Pn	**Pn**	**07 06 27.7**	**+0.3**
PGC				*e*Sn	**Sn**	**07 06 41.0**	**+0.4**
PGC	**Sidney**	**1.03**	**1**	⇑P	**Pn**	**07 06 27.7**	**+0.3**
PGC				⇑S	**Sn**	**07 06 40.4**	**-0.2**
E03A	**Lebam**	**1.08**	**183**	P	**Pn**	**07 06 28.4**	**+0.3**
PCMD	**Pierce County**	**1.09**	**132**	P	**Pn**	**07 06 28.8**	**+0.4**
ELW	**Echo Lake**	**1.10**	**96**	⇑P	**Pn**	**07 06 28.8**	**+0.3**
D05A	**Enumclaw**	**1.10**	**113**	⇑P	**Pn**	**07 06 29.3**	**+0.8**
ATES	**Arlington Traf**	**1.14**	**57**	⇑P	**Pn**	**07 06 29.6**	**+0.7**
MCW	**Mount Constitu**	**1.14**	**22**	⇑P	**Pn**	**07 06 29.8**	**+0.7**
PFB	**Port Renfrew**	**1.15**	**326**	⇑P	**Pn**	**07 06 29.0**	**-0.1**
PFB	**Port Renfrew**	**1.15**	**326**	⇑P	**Pn**	**07 06 29.0**	**-0.1**
PFB				⇓S	**Sn**	**07 06 42.9**	**-0.8**
RMW	**Rattlesnake Mo**	**1.15**	**98**	⇑P	**Pn**	**07 06 29.5**	**+0.3**
SVTR	**Two Rivers Sch**	**1.16**	**96**	P	**Pn**	**07 06 29.8**	**+0.5**
BMW	**Boistfort Moun**	**1.16**	**171**	P	**Pn**	**07 06 29.9**	**+0.5**
HTW	**Haystack Looko**	**1.17**	**80**	⇓P	**Pn**	**07 06 30.0**	**+0.5**
SNB	**Saturna Island**	**1.17**	**10**	⇑P	**Pn**	**07 06 30.2**	**+0.7**
SNB	**Saturna Island**	**1.17**	**10**	⇑P	**Pn**	**07 06 30.2**	**+0.7**
SNB				⇑S	**Sn**	**07 06 44.8**	**+0.5**
JCW	**Jim Creek**	**1.19**	**61**	⇑P	**Pn**	**07 06 30.3**	**+0.6**
CMW	**Cultus Mountai**	**1.22**	**48**	⇑P	**Pn**	**07 06 31.1**	**+0.9**
GSM	**Grass Mountain**	**1.22**	**109**	⇓P	**Pn**	**07 06 30.6**	**+0.4**
LMW	**Ladd Mountain**	**1.25**	**139**	P	**Pn**	**07 06 31.4**	**+0.7**
BPCB	**Bare Point**	**1.31**	**354**	⇑P	**Pn**	**07 06 31.7**	**+0.4**
BPCB				⇓S	**Sn**	**07 06 47.0**	**-0.5**
GOBB	**Galiano Island**	**1.33**	**359**	⇑P	**Pn**	**07 06 32.2**	**+0.7**
REMR	**Mount Rainier-**	**1.38**	**125**	⇑P	**Pn**	**07 06 32.7**	**+0.3**
RCS	**Mount Rainier-**	**1.41**	**122**	⇑P	**Pn**	**07 06 33.4**	**+0.3**
FMW	**Mount Fremont**	**1.41**	**119**	⇑P	**Pn**	**07 06 33.3**	**+0.3**
RCM	**Mount Rainier-**	**1.43**	**123**	⇑P	**Pn**	**07 06 33.7**	**+0.4**
LON	**Longmire**	**1.44**	**127**	⇑P	**Pn**	**07 06 33.5**	**+0.4**
KOSW	**Kosmos**	**1.46**	**142**	P	**Pn**	**07 06 34.4**	**+0.9**
ERK	**Elk Rock**	**1.53**	**149**	⇑P	**Pn**	**07 06 35.2**	**+0.7**
TDL	**Tradedollar La**	**1.54**	**145**	⇑P	**Pn**	**07 06 35.5**	**+0.9**
RPW	**Rockpoint**	**1.56**	**57**	⇑P	**Pn**	**07 06 35.8**	**+1.0**
RVW	**Rose Valley**	**1.56**	**161**	P	**Pn**	**07 06 35.9**	**+1.1**
MBW	**Mount Baker**	**1.57**	**42**	⇑P	**Pn**	**07 06 36.3**	**+1.2**
B06A	**Marblemount**	**1.61**	**55**	P	**Pn**	**07 06 36.3**	**+0.9**
WPW	**White Pass**	**1.61**	**124**	⇓P	**Pn**	**07 06 36.5**	**+0.9**
FL2	**Flat Top 2**	**1.62**	**151**	⇓P	**Pn**	**07 06 36.7**	**+0.9**
STD	**Studebaker Rid**	**1.63**	**148**	P	**Pn**	**07 06 36.9**	**+1.0**
GPW	**Glacier Peak**	**1.65**	**72**	⇑P	**Pn**	**07 06 37.3**	**+1.0**
A05A	**Maple Falls**	**1.66**	**34**	P	**Pn**	**07 06 37.4**	**+1.2**
VDB	**Vedder Mountai**	**1.68**	**33**	⇑P	**Pn**	**07 06 37.4**	**+1.0**
ESD	**East Dome**	**1.69**	**147**	P	**Pn**	**07 06 38.1**	**+1.4**
F03A	**Seaside**	**1.69**	**182**	P	**Pn**	**07 06 37.2**	**+0.6**
HSR	**South Ridge**	**1.70**	**148**	P	**Pn**	**07 06 38.2**	**+1.2**
LVP	**Lakeview Peak**	**1.72**	**154**	⇑P	**Pn**	**07 06 38.2**	**+1.1**
TWW	**Teanaway**	**1.84**	**104**	⇑P	**Pn**	**07 06 40.2**	**+1.5**
LTY	**Liberty**	**1.94**

*IDC **30** 07:08:19.3±0.6,14°.27N×91°.78W,h0km,mb4.5/21, mb1 4.6/23,mb1mx4.6/29,mbtmp4.5/23,ML4.6/2,MS4.1/3, Ms1 4.1/3,ms1mx3.8/37,Error ellipse: s-maj=26.5km s-min=11.5km az=56.0*

*CASC **30** 07:08:25.0±1.9,14°.07N×92°.19W,h67km±34km,MD4.5, ML4.2,mb4.9(NEIC)*

*ISCJB **30** 07:08:28.2±0.5,14°.20N±0°.04×91°.86W±0°.03,h86km±3km, mb4.7/106,Error ellipse: s-maj=8.5km s-min=3.2km az=34.9*

*BJI **30** 07:08:28.7,14°.30N×91°.90W,h77km,mB5.2/4,Ms5.5/3, Ms7 5.4/2*

*NEIC **30** 07:08:30.7±0.7,14°.21N×91°.75W,h95km±5km,mb4.9/91, Error ellipse: s-maj=6.4km s-min=3.0km az=221.0*

ISC 30 07:08:28.3±1.1,14°.15N±0°.07×91°.94W±0°.07,h73km±8km, n576,σ1§06/604,mb4.8/106,159C-164D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.34	61	⇓eP	Pn		07 08 38.8	-1.2
TP2	Tecpan 2	1.09	55	⇑iP	Pn		07 08 49.0	+0.6
FG6		1.10	68	⇓eP	Pn		07 08 48.7	+0.2
FUG	Fuego 3	1.10	74	⇓iP	Pn		07 08 48.4	-0.1
PCG	Pacaya	1.31	79	eP	Pn		07 08 51.6	+0.5
GCG	Guatemala City	1.43	72	eP	Pn		07 08 54.3	+1.7
GCG				eS	Sn		07 09 18.7	+7.8
NBG	Las Nubes	1.60	74	eP	Pn		07 08 57.0	+2.0
RBDL	Robledal	2.19	91	eP	Pn		07 09 02.6	0.0
RTR	El Retiro	2.24	96	eP	Pn		07 09 03.4	0.0
SBLS	San Blas	2.27	98	eP	Pn		07 09 03.5	-0.4
SNJE	San Jose	2.28	97	eP	Pn		07 09 03.5	-0.5
MRL	Marmol	2.36	67	eP	Pn		07 09 07.4	+2.4
MTO2	Montecristo 2	2.51	84	eP	Pn		07 09 07.6	+0.5
BOQS	Boqueron	2.62	99	eP	Pn		07 09 08.4	-0.1
SNET	Serv Nac Est T	2.67	100	eP	Pn		07 09 09.0	-0.1
SNET				eS	Sn		07 09 44.0	+3.5
SNET				AML	AML		07 09 48.9	
	comp=Z,2μm,0.5s							
LFU	La Fuente	2.77	98	eP	Pn		07 09 10.6	+0.1
LBRS	Las Brisas	2.84	98	eP	Pn		07 09 11.5	0.0
LFRS	El Faro	2.84	100	eP	Pn		07 09 10.9	-0.6
SNVI	San Vicente	3.06	100	eP	Pn		07 09 14.4	-0.1
VSM	San Miguel	3.63	101	eP	Pn		07 09 23.4	+1.0
VSM				eS	Sn		07 10 07.6	+3.4
CAHU	Cacacuatique	3.64	96	eP	Pn		07 09 22.3	-0.2
BLLM	Bellamira	3.66	101	eP	Pn		07 09 23.1	+0.4
CMIG	Matias Romero	4.07	316	Pn	Pn		07 09 21.8	-6.4
	comp=Z,26nm,0.3s,baz=140,slow=11,SNR=350							
CMIG				Sn	Sn		07 10 08.3	-6.3
	comp=Z,78nm,0.3s,baz=138,slow=11,SNR=5.8							
CMIG	Matias Romero	4.07	316	Pn	Pn		07 09 21.8	-6.4
CMIG				Sn	Sn		07 10 08.3	-6.3
CNCH	Conchagua	4.08	102	eP	Pn		07 09 28.9	+0.4
CNCH				eS	Sn		07 10 17.3	+2.2
TGUH	Tegucigalpa,Un	4.53	91	ePn	Pn		07 09 34.6	+0.3
TGUH				eSn	Sn		07 10 22.7	-3.0
TEIG	Tepich	6.98	30	Pn	Pn		07 10 08.8	+0.9
	comp=Z,59nm,0.3s,baz=230,slow=6.7,SNR=335							
TEIG	Tepich	6.98	30	ePn	Pn		07 10 08.5	+0.6
JTS	JuntasAbangare	7.83	119	Pn	Pn		07 10 20.6	+1.0
	comp=Z,1.3nm,0.3s,baz=314,slow=7.7,SNR=25							
JTS				Sn	Sn		07 11 44.5	-2.3
	baz=294,slow=20,SNR=1.5							
JTS				Lg	Lg		07 12 14.4	
	comp=Z,1.5nm,0.3s,baz=320,slow=20,SNR=6.4							
JTS				LR	LR		07 13 38.7	
	comp=Z,1μm,20.8s,baz=307,slow=41							
JTS	JuntasAbangare	7.83	119	ePn	Pn		07 10 20.3	+0.7
JTS				eSn	Sn		07 11 39.9	-7.0
JTS				Sn	Sn		07 11 44.5	-2.4
JTS				Lg	Lg		07 12 14.4	
BRU	Baru	10.61	119	eP	Pn		07 10 58.5	+0.5
BCIP	Isla Barro Col	12.84	111	ePn	Pn		07 11 27.3	-0.6
MTDJ	Mount Denham	14.41	72	ePn	P		07 11 51.9	-1.8
HKT	Hockley	16.13	348	ePn	Pn		07 12 09.1	-1.4
	comp=Z,41nm,1.2s							
HKT				eSn	Sn		07 15 09.9	+1.3
732A	Laxson Ranch,	16.31	334	⇑P	Pn		07 12 10.6	-2.1
	baz=16,SNR=33							
632A	Uvalde	16.92	336	⇓P	Pn		07 12 18.4	-1.9
	baz=17,SNR=14							
GTBY	Guantanamo Bay	17.08	68	ePn	Pn		07 12 21.1	-1.3
	comp=Z,25nm,1.0s							
631A	Perdido Creek	17.16	334	⇑P	Pn		07 12 21.6	-1.7
	baz=17,SNR=16							
532A	Rocksprings	17.52	336	⇓P	Pn		07 12 27.3	-0.5
	baz=18,SNR=16							
JCT	Junction City	17.79	337	eP	Pn		07 12 31.7	+0.6
	comp=Z,22nm,0.8s							
531A	Rocksprings	17.80	335	⇓P	P		07 12 30.9	-0.1
	baz=18							
VBMS	Vicksburg	18.03	4	eP	P		07 12 33.6	+0.1
	comp=Z,70nm,0.8s							
530A	J-C Ranch, Com	18.13	333	⇑P	Pn		07 12 35.2	0.0
	baz=18,SNR=22							
432A	Menard	18.14	338	⇑P	Pn		07 12 35.5	+0.1
	baz=18,SNR=19							
431A	Sonora	18.29	336	⇑P	P		07 12 36.5	+0.1
	baz=18,SNR=26							
628A	Black Gap, Mar	18.32	328	⇑P	Pn		07 12 37.4	-0.1
	baz=18,SNR=68							
WHTX	Lake Whitney	18.46	345	⇑P	P		07 12 38.6	+0.4
	baz=18							
529A	Stev Forest Ra	18.51	331	⇓P	P		07 12 39.0	+0.1
	baz=19,SNR=34							
627A	Terlingua Ranc	18.55	327	⇓P	Pn		07 12 40.0	-0.3
	baz=19,SNR=87							
332A	Millersview	18.59	339	⇓P	Pn		07 12 40.3	-0.4
	baz=19,SNR=7.5							
TXAR	Lajitas Array	18.60	326	P	P		07 12 40.0	+0.2
	comp=Z,0.5nm,0.3s,baz=155,slow=13,SNR=146							
TXAR	Lajitas Array	18.60	326	P	P		07 12 40.0	+0.2
430A	Baggett Ranch,	18.64	334	⇓P	P		07 12 40.4	+0.2
	baz=19,SNR=19							
331A	San Angelo	18.77	337	⇓P	P		07 12 41.9	+0.3
	baz=19,SNR=23							
429A	Davenport Ranc	18.78	332	⇓P	P		07 12 42.0	+0.2
	baz=19,SNR=50							
528A	Cox Ranch, San	18.82	330	⇑P	P		07 12 42.7	+0.4
	baz=19,SNR=25							
TIGA	Tifton	18.84	23	⇓P	P		07 12 42.6	+0.3
	baz=19							
232A	Coleman	19.01	340	⇓P	P		07 12 44.7	+0.4
	baz=19,SNR=32							
626A	Big Bend Ranch	19.03	326	⇑P	P		07 12 45.0	+0.4
	baz=19,SNR=88							
330A	Mertzon	19.15	335	⇓P	P		07 12 46.0	+0.2
	baz=19,SNR=20							
527A	Woodward Ranch	19.22	328	⇑P	P		07 12 47.2	+0.6
	baz=19,SNR=83							
OTAV	Otavalo	19.22	135	eP	P		07 12 45.9	-1.2
	comp=Z,7.7nm,1.1s							
428A	Kincaid Ranch,	19.23	331	⇑P	P		07 12 47.5	+0.7
	baz=19,SNR=34							
RFTA	Plano	19.27	348	eP	P		07 12 47.5	+0.5
231A	Bronte	19.29	338	⇑P	P		07 12 47.5	+0.1
	baz=19,SNR=24							
LRAL	Lakeview Retre	19.33	13	eP	P		07 12 47.8	+0.1
	comp=Z,30nm,0.9s							
526A	Mary Lane Ranc	19.40	327	⇓P	P		07 12 49.2	+0.5
	baz=20,SNR=65							
230A	Sterling City	19.55	336	⇑P	P		07 12 50.1	-0.1
	baz=20,SNR=21							
329A	Wagon Wheel Ra	19.56	334	⇓P	P		07 12 50.5	+0.2
	baz=20,SNR=37							
ROSC	El Rosal	19.65	116	P	Pn		07 12 56.3	+2.4
	comp=Z,0.7nm,0.3s,baz=97,slow=2.5,SNR=58							
ROSC	El Rosal	19.65	116	eP	P		07 12 52.2	+0.5
427A	Hayter Ranch,	19.68	330	⇓P	P		07 12 51.9	+0.3
	baz=20,SNR=43							
ABTX	Abilene, Hawle	19.69	340	⇑P	P		07 12 51.7	0.0
	baz=20,SNR=16							
328A	Wristen Ranch,	19.84	332	⇓P	P		07 12 53.5	+0.2
	baz=20,SNR=140							
426A	McDonald Obser	19.85	328	⇑P	P		07 12 53.9	+0.3
	baz=20,SNR=42							
229A	Bryant Ranch,	19.90	335	⇓P	P		07 12 53.9	-0.1
	baz=20,SNR=16							
130A	Snyder	20.12	337	⇓P	P		07 12 56.1	-0.3
	baz=20,SNR=7.6							
327A	Balmorhea Ranc	20.15	330	⇓P	P		07 12 56.6	-0.1
	baz=20,SNR=9.1							
Z32A	Haskell	20.27	342	⇓P	P		07 12 57.9	0.0
	baz=20,SNR=44							
326A	Caldwell Ranch	20.35	329	⇑P	P		07 12 58.9	+0.1
	baz=20,SNR=77							
MIAR	Mount Ida	20.36	356	eP	P		07 12 59.1	+0.3
	comp=Z,54nm,0.9s							
228A	UT Block 9, Go	20.36	333	⇑P	P		07 12 58.8	-0.3
	baz=20,SNR=40							
OXF	Oxford	20.40	6	eP	P		07 12 59.6	+0.4
	comp=Z,63nm,0.9s							
425A	Indio Mountain	20.45	326	⇑P	P		07 12 59.8	-0.2
	baz=21,SNR=29							
Z31A	Sharp Cattle R	20.49	340	⇑P	P		07 13 00.2	-0.1
	baz=21,SNR=56							
129A	Stewart Farms,	20.50	335	⇓P	P		07 13 00.4	-0.2
	baz=21,SNR=38							
UALR	University of	20.54	359	eP	P		07 13 01.9	+1.1
	comp=Z,79nm,0.8s							
227A	Bennet, Jal	20.59	332	⇓P	P		07 13 01.5	0.0
	baz=21,SNR=72							
128A	Castleberry Fa	20.75	334	⇑P	P		07 13 02.8	-0.4
	baz=21,SNR=47							
Z30A	Sanderson Ranc	20.80	338	⇑P	P		07 13 02.8	-0.9
	baz=21,SNR=38							
325A	Bean Ranch, Si	20.90	327	⇑P	P		07 13 04.3	-0.6
	baz=21,SNR=53							
Y32A	R-V Farms, Ver	20.90	342	⇓P	P		07 13 04.2	-0.6
	baz=21,SNR=22							
Z29A	Hungry Hill Ra	21.00	337	⇓P	P		07 13 05.1	-0.7
	baz=21,SNR=76							
CLNB	Carlsbad	21.07	331	eP	P		07 13 07.3	+0.6
	comp=Z,27nm,0.8s							
Y31A	Rekieta Farm,	21.12	340	⇓P	P		07 13 06.5	-0.6
	baz=21,SNR=76							
127A	Arkansas Junct	21.18	332	⇓P	P		07 13 07.0	-0.9
	baz=21,SNR=17							
324A	Moseley Ranch,	21.23	326	⇑P	P		07 13 07.6	-0.7
	baz=21,SNR=69							
Y30A	Stafford Cattl	21.25	339	⇑P	P		07 13 07.9	-0.6
	baz=21,SNR=22							
GDL2	Guadalupe Moun	21.25	330	eP	P		07 13 08.7	0.0
Z28A	Tucker Farm, M	21.29	335	⇑P	P		07 13 08.2	-0.8
	baz=21,SNR=29							
MNTX	Cornudas Mount	21.37	327	eP	P		07 13 09.0	-0.8
	comp=Z,44nm,1.0s							
225A	Deer Hill, Car	21.41	329	⇑P	P		07 13 10.1	-0.3
	baz=22,SNR=42							
WMOK	Wichita Mounta	21.41	344	eP	P		07 13 10.0	-0.1
	comp=Z,27nm,0.8s							
126A	Clayton Basin,	21.46	331	⇓P	P		07 13 10.1	-0.7
	baz=22,SNR=54							
SDV	Santo Domingo	21.52	102	eP	P		07 13 10.3	-1.3
	comp=Z,0.5nm,1.1s							
Y29A	Porterfield Fa	21.52	337	⇑P	P		07 13 10.5	-0.9
	baz=22,SNR=21							
X31A	McDonald Ranch	21.65	342	⇓P	P		07 13 12.0	-0.6
	baz=22,SNR=52							
Z27A	Tatum	21.66	334	⇓P	P		07 13 11.9	-1.0
	baz=22,SNR=47							
SWET	Sewanee	21.66	13	eP	P		07 13 13.7	+0.8
	comp=Z,43nm,0.7s							
CPRX	Cap Rock	21.71	332	eP	P		07 13 14.5	+1.0
	comp=Z,88nm,0.8s							
224A	Cornudas Mount	21.74	327	⇑P	P		07 13 13.2	-0.7
	baz=22,SNR=110							
X30A	Coker Ranch, T	21.76	340	⇑P	P		07 13 13.4	-0.5
	baz=22,SNR=64							
125A	Gardner Draw,	21.77	330	⇑P	P		07 13 13.4	-0.7
	baz=22,SNR=44							
Y28A	McKinney Farm,	21.78	336	⇑P	P		07 13 13.2	-1.0
	baz=22,SNR=46							
TUL1	Tulsa	21.94	352	⇑P	P		07 13 15.0	-0.8
	baz=22							
Z26A	Caprock	21.96	332	⇓P	P		07 13 15.2	-0.9
	baz=22,SNR=51							
MSTX	Muleshoe	22.04	335	⇓P	P		07 13 15.7	-1.3
	baz=22,SNR=37							
X29A	Tulia	22.05	338	⇑P	P		07 13 16.0	-1.1
	baz=22,SNR=24							
Y27A	Causey	22.13	335	⇑P	P		07 13 16.4	-1.5
	baz=22,SNR=40							
W31A	Holland Ranch,	22.15	342	⇓P	P		07 13 17.1	-1.0
	baz=22,SNR=22							
GLAT	Glass	22.15	6	eP	P		07 13 17.9	-0.2
223A	Chaparral, Ant	22.17	326	⇓P	P		07 13 17.4	-1.0
	baz=22							
WVT	Waverly	22.19	9	eP	P		07 13 18.3	-0.2
	comp=Z,15nm,0.8s							
124A	Stringfield Ra	22.20	329	⇓P	P		07 13 18.5	-0.4
	baz=22,SNR=106							
CPCT	Cooper Cave	22.23	16	eP	P		07 13 20.0	+1.0
JSC	Jenkinsville	22.25	24	eP	P		07 13 20.1	+1.0
X28A	Dimmitt	22.30	337	⇑P	P		07 13 18.4	-1.4
	baz=22,SNR=13							
Z25A	Roswell	22.31	331	⇓P	P		07 13 19.1	-0.8
	baz=22,SNR=108							
W30A	Crocket Farms	22.34	341	⇑P	P		07 13 19.3	-0.9
	baz=22,SNR=5.8							
Y26A	Elida	22.44	333	⇓P	P		07 13 20.4	-1.0
	baz=22,SNR=23							
PARMO	Parma	22.50	5	eP	P		07 13 21.6	-0.2
222A	Williams Famil	22.62	325	⇓P	P		07 13 22.4	-0.9
	baz=23,SNR=14							
TKL	Tuckaleechee C	22.64	17	P	P		07 13 24.2	+0.9
	comp=Z,14nm,0.8s,baz=182,slow=9.7,SNR=16							
TKL				LR	LR		07 24 01.3	
	comp=Z,555nm,20.5s,baz=212,slow=42							
TKL	Tuckaleechee C	22.64	17	eP	P		07 13 24.6	+1.3
W29A	Amraillo	22.64	339	⇓P	P		07 13 22.5	-0.9
	baz=23,SNR=24							
Z24A	Sheeppen Canyo	22.66	330	⇑P	P		07 13 23.4	-0.4
	baz=23,SNR=39							
X27A	F and S Farms,	22.76	336	⇑P	P		07 13 23.4	-1.3
	baz=23,SNR=29							
Y25A	Mesa, Roswell	22.83	332	⇓P	P		07 13 25.0	-0.5
	baz=23,SNR=112							
221A	Mesquite Ranch	22.93	323	⇓P	P		07 13 26.4	-0.1
	baz=23,SNR=8.9							
W28A	Vega	22.96	338	⇓P	P		07 13 25.6	-1.1
	baz=23,SNR=11							
X26A	CR and CF Fran	22.97	334	⇓P	P		07 13 25.8	-1.1
	baz=23,SNR=18							
KMSC	Kings Mountain	22.98	23	⇑P	P		07 13 26.5	-0.3
	baz=23							
122A	Conniff Cattle	23.01	326	⇓P	P		07 13 27.3	0.0
	baz=23							
Z23A	Rita Site, Whi	23.04	328	⇑P	P		07 13 27.0	-0.5
	baz=23,SNR=19							
W27A	Bowe Ranch, En	23.11	336	⇓P	P		07 13 27.0	-1.2
	baz=23,SNR=43							
Y24A	Capitan	23.18	330	⇓P	P		07 13 28.8	-0.2
	baz=23,SNR=66							
V29A	Stinnett	23.28	340	⇑P	P		07 13 29.1	-0.7
	baz=23							
220A	Playas Peak, P	23.30	322	⇓P	P		07 13 30.0	-0.1
	baz=23,SNR=12							
121A	Cookes Peak, D	23.32	324	⇓P	P		07 13 30.5	+0.2
	baz=23,SNR=42							
X25A	Clemmons Ranch	23.32	333	⇑P	P		07 13 29.9	-0.4
	baz=23,SNR=16							
319A	Douglas	23.39	320	⇓P	P		07 13 31.0	+0.1
	baz=24,SNR=13							
V28A	Channing	23.41	339	⇑P	P		07 13 30.6	-0.4
	baz=24,SNR=15							
Z22A	Elephant Butte	23.42	327	⇑P	P		07 13 31.1	-0.1
	baz=24,SNR=12							
Y23A	Lovelace Mesa,	23.49	329	⇑P	P		07 13 31.6	-0.2
	baz=24,SNR=114							
TZTN	Tazewell	23.53	17	eP	P		07 13 32.2	+0.3
	comp=Z,44nm,1.0s							
SIUC	Southern Illin	23.59	5	eP	P		07 13 32.2	-0.3
	comp=Z,122nm,0.9s							
X24A	Lazy VL Ranch,	23.70	331	⇑P	P		07 13 33.6	-0.2
	baz=24,SNR=46							
W25A	X Bar L Ranch,	23.82	334	⇓P	P		07 13 34.8	+0.1
	baz=24,SNR=93							
120A	U Bar Ranch, L	23.82	323	⇑P	P		07 13 35.3	+0.5
	baz=24,SNR=26							
BNM	Barren Site	23.95	329	eP	P		07 13 36.8	+0.8
	comp=Z,65nm,1.1s							
Y22A	Sonoro	23.95	328	⇓P	P		07 13 36.5	+0.5
	baz=24,SNR=6.7							
USIN	University of	24.02	8	eP	P		07 13 36.4	+0.1
	comp=Z,54nm,0.8s							
V26A	Tequesquite Ra	24.04	336	⇓P	P		07 13 36.8	+0.1
	baz=24,SNR=16							
X23A	Hourglass Bar	24.07	330	⇑P	P		07 13 37.3	+0.2
	baz=24,SNR=15							
LPM	Los Pinos Moun	24.08	329	eP	P		07 13 37.9	+0.8
LENM	Lemitar	24.13	328	eP	P		07 13 40.0	+2.4
Z20A	Nine Sixteen R	24.21	324	⇑P	P		07 13 38.9	+0.6
	baz=24,SNR=23							
W24A	Lazy 6 Ranch,	24.23	332	⇓P	P		07 13 39.1	+0.7
	baz=24,SNR=35							
Y21A	Point of Rocks	24.38	327	⇓P	P		07 13 40.5	+0.6
	baz=24,SNR=11							
LAZ	Ladron	24.40	328	eP	P		07 13 41.0	+0.9
	comp=Z,26nm,1.2s							
V25A	Rancho No Teng	24.41	334	⇑P	P		07 13 40.6	+0.4
	baz=24,SNR=30							
X22A	Bernardo	24.42	329	⇓P	P		07 13 40.8	+0.6
	baz=24,SNR=6.7							
WCI	Wyandotte Cave	24.50	11	eP	P		07 13 40.3	-0.4
	comp=Z,99nm,0.8s							
ANMO	Albuquerque	24.50	330	P	P		07 13 41.6	+0.6
	comp=Z,18nm,0.7s,baz=147,slow=12,SNR=76							
ANMO	Albuquerque	24.50	330	eP	P		07 13 41.5	+0.6
	comp=Z,17nm,0.8s							
W23A	Werner Place,	24.53	331	⇓P	P		07 13 41.6	+0.4
	baz=25,SNR=25							
U26A	Atchley Ranch,	24.54	337	⇓P	P		07 13 41.8	+0.4
	baz=25,SNR=36							
V24A	Rampart Ranch,	24.60	333	⇓P	P		07 13 42.3	+0.4
	baz=25,SNR=17							
T28A	Walsh	24.61	340	⇑P	P		07 13 41.0	-0.8
	baz=25							
OLIL	Olney	24.72	7	eP	P		07 13 42.7	0.0
	comp=Z,72nm,0.8s							
T27A	Campo	24.76	339	⇓P	P		07 13 43.5	+0.2
	baz=25,SNR=12							
X21A	Alamocita Cree	24.77	327	⇑P	P		07 13 44.2	+0.7
	baz=25,SNR=25							
W22A	Albuquerque	24.80	330	⇑P	P		07 13 44.7	+1.0
	baz=25,SNR=31							
U25A	Circle Dot Ran	24.81	335	⇑P	P		07 13 44.7	+0.9
	baz=25,SNR=27							
V23A	Ortiz Mt. (NFS	25.02	332	⇑P	P		07 13 46.7	+1.0
	baz=25,SNR=46							
ATAH	Atahualpa	25.06	147	P	P		07 13 46.6	+0.2
	comp=Z,7.1nm,0.7s,baz=315,slow=11,SNR=3.7							
ATAH				LR	LR		07 22 11.8	
	comp=Z,469nm,20.2s,baz=308,slow=33							
ATAH	Atahualpa	25.06	147	P	P		07 13 46.6	+0.2
BLA	Blacksburg	25.16	22	eP	P		07 13 46.8	0.0
	comp=Z,46nm,1.1s							
T26A	Comanche Natio	25.17	338	⇑P	P		07 13 48.0	+0.9
	baz=25,SNR=10							
U24A	Moreno Valley	25.18	334	⇑P	P		07 13 48.0	+0.8
	baz=25,SNR=11							
KSU1	Kansas State U	25.19	351	eP	P		07 13 46.2	-0.8
	comp=Z,28nm,1.0s							
X20A	Quemado	25.22	326	⇓P	P		07 13 48.6	+1.0
	baz=25,SNR=10							
VWCC	Virginia Weste	25.35	23	eP	P		07 13 49.2	+0.8
BLO	Bloomington	25.38	10	eP	P		07 13 48.6	0.0
	comp=Z,33nm,0.8s							
T25A	Trinidad	25.45	336	⇑P	P		07 13 50.6	+1.0
	baz=26,SNR=22							
U23A	El Rito	25.51	333	⇓P	P		07 13 51.3	+1.1
	baz=26,SNR=69							
S26A	Kim	25.53	338	⇓P	P		07 13 51.4	+1.2
	baz=26,SNR=8.2							
T24A	Torres, Weston	25.65	335	⇑P	P		07 13 52.6	+1.0
	baz=26,SNR=8.8							
W20A	Ramah	25.67	327	⇓P	P		07 13 52.8	+1.1
	baz=26,SNR=21							
V21A	Milan	25.76	330	⇑P	P		07 13 53.6	+1.2
	baz=26,SNR=11							
U22A	Llaves	25.85	332	⇓P	P		07 13 53.4	+0.1
	baz=26,SNR=30							
R27A	Eads	25.89	340	⇑P	P		07 13 53.3	-0.2
	baz=26							
S25A	Robets Cordova	25.92	337	⇓P	P		07 13 53.9	+0.1
	baz=26,SNR=14							
T23A	Casias Ranch,	26.03	334	⇑P	P		07 13 54.9	0.0
	baz=26,SNR=6.1							
R26A	Arlington	26.13	339	⇓P	P		07 13 56.3	+0.7
	baz=26,SNR=7.5							
V20A	Brimhall	26.17	328	⇓P	P		07 13 57.0	+0.9
	baz=26,SNR=11							
S24A	Houchin Ranch,	26.20	336	⇓P	P		07 13 57.2	+0.7
	baz=26,SNR=6.0							
U21A	Nageezi	26.27	330	⇑P	P		07 13 57.9	+0.9
	baz=26,SNR=18							
R25A	Fountain Ranch	26.29	338	⇓P	P		07 13 58.1	+1.0
	baz=26							
W18A	Petrified Fore	26.32	326	⇑P	P		07 13 57.7	+0.2
	baz=26							
T22A	Edith	26.39	332	⇑P	P		07 13 59.2	+1.0
	baz=26,SNR=12							
HDIL	Hopedale	26.41	5	eP	P		07 13 57.0	-1.0
	comp=Z,33nm,0.9s							
KSCO	Kaye Shedlock'	26.50	341	⇓P	P		07 13 59.9	+0.9
	baz=27,SNR=7.6							
U20A	Newcomb	26.65	329	⇓P	P		07 14 01.1	+0.7
	baz=27,SNR=5.4							
T21A	Navajo Lake	26.67	331	⇑P	P		07 14 01.2	+0.6
	baz=27,SNR=24							
R24A	Sanders Place,	26.67	336	⇑P	P		07 14 01.4	+0.8
	baz=27,SNR=7.0							
Q26A	Hugo	26.71	340	⇓P	P		07 14 01.2	+0.3
	baz=27							
X16A	Lo Mia Camp, P	26.80

N24A	Carr	28.88	339	⇓P		P	07 14 20.7	+0.5
	baz=29							
O22A	Kremmling	28.90	336	⇓P		P	07 14 21.0	+0.4
	baz=29							
Q19A	Hogan Spring (	29.05	331	⇑P		P	07 14 22.6	+0.8
	baz=29,SNR=19							
P20A	De Beque	29.11	333	⇑P		P	07 14 23.1	+0.8
	baz=29,SNR=12							
N22A	Wattenberg Ran	29.42	337	⇓P		P	07 14 25.8	+0.6
	baz=30							
O20A	White River Ci	29.57	334	⇓P		P	07 14 27.1	+0.6
	baz=30,SNR=7.9							
ECSD	EROS Data Cent	29.75	353	eP		P	07 14 26.9	-0.9
	comp=Z,8.2nm,0.9s							
SRU	San Rafael	29.78	330	eP		P	07 14 29.5	+1.2
	comp=Z,499nm,1.1s							
L25A	Engebretsen Ra	29.78	342	⇑P		P	07 14 28.2	0.0
	baz=30							
N21A	Black Mountain	29.80	336	⇓P		P	07 14 29.3	+0.8
	baz=30,SNR=8.2							
Q16A	Castle Valley	29.95	329	⇑P		P	07 14 30.6	+0.8
	baz=30,SNR=17							
P18A	Preston Nutter	30.05	331	⇓P		P	07 14 31.7	+0.9
	baz=30							
O19A	Miners Draw (B	30.08	333	⇓P		P	07 14 31.4	+0.4
	baz=30,SNR=6.6							
CCUT	Cedar City	30.10	325	eP		P	07 14 33.2	+2.0
	comp=Z,16nm,1.0s							
MSU	Marysvale	30.15	327	eP		P	07 14 33.1	+1.5
N20A	Spence Gulch,	30.16	335	⇓P		P	07 14 32.5	+0.8
	baz=30,SNR=29							
P17A	Butcher Ranch,	30.16	330	⇑P		P	07 14 32.6	+1.0
	baz=30,SNR=24							
MVU	Marysvale	30.17	327	eP		P	07 14 34.8	+3.0
	comp=Z,6.9nm,0.8s							
TMUT	Trail Mountain	30.25	329	eP		P	07 14 34.6	+2.0
	comp=Z,13nm,0.7s							
L23A	Garrett	30.30	339	⇓P		P	07 14 33.4	+0.5
	baz=30							
ARUT	Antelope Range	30.31	325	eP		P	07 14 34.6	+1.6
	comp=Z,29nm,1.0s							
O18A	Roosevelt	30.45	332	⇓P		P	07 14 35.3	+1.2
	baz=31,SNR=24							
M21A	Separation Pea	30.46	337	⇑P		P	07 14 34.9	+0.5
	baz=31,SNR=5.4							
N19A	John Jarvie Ra	30.59	334	⇓P		P	07 14 35.7	+0.3
	baz=31,SNR=15							
BFSC	Mount Baldy Ra	30.67	315	⇓P		P	07 14 36.4	+0.2
	baz=31							
M20A	Sweetwater, Wa	30.68	336	⇑P		P	07 14 36.8	+0.5
	baz=31,SNR=9.3							
P16A	Fountain Green	30.72	329	⇓P		P	07 14 37.3	+0.7
	baz=31,SNR=6.7							
GSC	Goldstone	30.72	318	⇓P		P	07 14 37.1	+0.6
	baz=31							
O17A	Robinson Place	30.73	331	⇓P		P	07 14 37.7	+1.0
	baz=31,SNR=22							
L21A	Rawlins	30.77	337	⇑P		P	07 14 37.1	+0.1
	baz=31,SNR=9.1							
K23A	Bowen Ranch, D	30.85	340	⇓P		P	07 14 38.0	+0.4
	baz=31							
N18A	Larsen Ranch,	30.88	333	⇓P		P	07 14 38.6	+0.6
	baz=31,SNR=17							
SPMN	St. Paul	30.98	359	⇑P		P	07 14 39.0	+0.4
	baz=31							
P15A	Leamington	31.00	329	⇓P		P	07 14 40.0	+1.0
	baz=31,SNR=8.0							
MPU	Maple Canyon	31.02	330	eP		P	07 14 40.6	+1.4
	comp=Z,22nm,1.0s							
K22A	Casper	31.06	339	⇑P		P	07 14 40.0	+0.5
	baz=31							
M19A	Rock Springs	31.09	334	⇑P		P	07 14 40.1	+0.2
	baz=31							
O16A	Springville	31.10	330	⇑P		P	07 14 40.8	+0.8
	baz=31,SNR=22							
DAU	Daniels Canyon	31.15	331	eP		P	07 14 41.8	+1.3
BINY	Binghamton	31.17	23	eP		P	07 14 41.0	+0.7
	comp=Z,28nm,1.0s							
L20A	Wamsutter	31.18	336	⇑P		P	07 14 41.0	+0.3
	baz=31							
N17A	Moffit Pass	31.37	332	⇓P		P	07 14 43.2	+0.8
	baz=32,SNR=15							
JLU	Jordanelle	31.39	331	eP		P	07 14 43.9	+1.4
	comp=Z,31nm,1.6s							
M18A	Lyman	31.42	333	⇑P		P	07 14 43.3	+0.6
	baz=32							
I24A	Kuemmerle Ranc	31.54	342	⇓P		P	07 14 44.5	+0.8
	baz=32							
N16A	Rees Ranch, Co	31.60	331	⇑P		P	07 14 45.4	+1.0
	baz=32,SNR=13							
RSSD	Black Hills	31.61	343	eP		P	07 14 44.2	-0.1
	comp=Z,15nm,0.7s							
MPMC	Manual Prospec	31.62	318	⇑P		P	07 14 45.1	+0.5
	baz=32,SNR=6.6							
L19A	Farson	31.67	335	⇑P		P	07 14 45.3	+0.4
	baz=32							
M17A	Scullys Gap (B	31.72	333	⇑P		P	07 14 45.6	+0.2
	baz=32,SNR=11							
J22A	Midwest	31.72	340	⇑P		P	07 14 45.6	+0.4
	baz=32							
K20A	Yellowstone Ra	31.74	337	⇑P		P	07 14 45.9	+0.4
	baz=32							
DUG	Dugway	31.74	329	eP		P	07 14 46.6	+1.1
	comp=Z,17nm,1.4s							
DUG				ePcP		PcP	07 17 38.6	+3.1
L18A	Fontenelle, Gr	31.81	334	⇑P		P	07 14 46.5	+0.3
	baz=32,SNR=11							
R11A	Troy Canyon, C	31.92	323	⇓P		P	07 14 47.9	+0.7
	baz=32,SNR=12							
J21A	Lysite	32.00	338	⇓P		P	07 14 48.3	+0.5
	baz=32,SNR=10							
K19A	Absolon Red Bu	32.07	336	⇑P		P	07 14 48.1	-0.4
	baz=32,SNR=5.2							
N15A	Stansbury Isla	32.12	330	⇓P		P	07 14 48.8	-0.1
	baz=32							
HWUT	Hardware Ranch	32.23	332	eP		P	07 14 50.2	+0.4
	comp=Z,20nm,0.9s							
BW06	Boulder Array	32.31	335	eP		P	07 14 50.7	+0.1
	comp=Z,7.0nm,1.2s							
BW06				ePcP		PcP	07 17 39.8	+2.6
PDAR	Pinedale Array	32.31	335	P		P	07 14 50.6	0.0
	comp=Z,4.6nm,0.9s,baz=140,slow=8.9,SNR=17							
PDAR				PcP		PcP	07 17 37.8	+0.6
	comp=Z,2.3nm,0.7s,baz=138,slow=5.0,SNR=8.0							
PDAR	Pinedale Array	32.31	335	P		P	07 14 50.6	0.0
PDAR				PcP		PcP	07 17 37.8	+0.6
L17A	Cokeville	32.31	333	⇑P		P	07 14 50.6	0.0
	baz=32,SNR=18							
H24A	Dirks Ranch, A	32.33	343	⇑P		P	07 14 50.9	+0.3
	baz=32,SNR=18							
I21A	Big Trails, Te	32.35	339	⇑P		P	07 14 51.1	+0.3
	baz=32							
K18A	Toltan Ranch,	32.40	335	⇑P		P	07 14 51.8	+0.5
	baz=32,SNR=17							
SADO	Sadowa	32.40	17	P		P	07 14 49.9	-1.2
	comp=Z,14nm,0.7s,baz=228,slow=7.7,SNR=8.9							
SADO	Sadowa	32.40	17	P		P	07 14 49.9	-1.2
L16A	Fish Haven	32.49	332	⇑P		P	07 14 52.4	+0.2
	baz=33,SNR=8.0							
J19A	Crowheart	32.53	336	⇓P		P	07 14 52.5	+0.1
	baz=33,SNR=6.7							
M15A	Larsen Ranch,	32.53	331	⇑P		P	07 14 52.8	+0.4
	baz=33							
VES	Vestal, Richgr	32.54	316	⇓P		P	07 14 53.0	+0.6
	baz=33,SNR=5.6							
H22A	Clearmont	32.73	341	⇑P		P	07 14 54.5	+0.4
	baz=33							
K17A	Gardner Place,	32.86	334	⇑P		P	07 14 55.7	+0.4
	baz=33,SNR=27							
J18A	Kendall Valley	32.87	335	⇓P		P	07 14 55.7	+0.3
	baz=33,SNR=20							
RCTC	Rector, Farmer	32.91	317	⇓P		P	07 14 56.3	+0.6
	baz=33							
L15A	Malad City	32.92	331	⇓P		P	07 14 56.3	+0.5
	baz=33,SNR=22							
HVU	Hansel Valley	32.93	331	eP		P	07 14 57.5	+1.6
	comp=Z,38nm,1.0s							
AHID	Auburn Hatcher	32.95	334	eP		P	07 14 56.9	+0.7
	comp=Z,21nm,0.9s							
G23A	Biddle	32.98	342	⇓P		P	07 14 56.7	+0.5
	baz=33,SNR=10							
H21A	Big Horn, Sher	32.98	340	⇑P		P	07 14 56.4	+0.1
	baz=33							
I19A	Meeteetse	33.16	337	⇓P		P	07 14 58.6	+0.6
	baz=33,SNR=6.7							
H20A	Greybull	33.19	339	⇓P		P	07 14 58.3	+0.3
	baz=33							
I18A	Diamond G Ranc	33.19	336	⇑P		P	07 14 58.6	+0.3
	baz=33							
K16A	Soda Springs	33.22	333	⇑P		P	07 14 58.7	+0.3
	baz=33,SNR=9.8							
G22A	Birney	33.27	341	⇓P		P	07 14 59.1	+0.3
	baz=33,SNR=7.3							
J17A	Brown Place, J	33.27	335	⇑P		P	07 14 59.7	+0.7
	baz=33,SNR=37							
REDW	Red Top Meadow	33.33	335	eP		P	07 15 00.8	+1.3
	comp=Z,0.8nm,0.9s							
L14A	Malta	33.35	331	⇑P		P	07 15 00.2	+0.6
	baz=34,SNR=30							
SNOW	Snow King Moun	33.37	335	eP		P	07 15 00.1	+0.2
	comp=Z,62nm,0.8s							
ELK	Elko	33.40	327	eP		P	07 15 01.4	+1.3
ELK				ePcP		PcP	07 17 44.9	+4.6
LOHW	Long Hollow	33.44	335	eP		P	07 15 01.0	+0.6
	comp=Z,18nm,0.9s							
TPAW	Teton Pass	33.48	335	eP		P	07 15 01.5	+0.7
	comp=Z,46nm,1.3s							
TPAW				ePcP		PcP	07 17 44.1	+3.7
NV11	Mina Array Sit	33.50	321	eP		P	07 15 02.3	+1.4
K15A	Arbon	33.52	332	⇑P		P	07 15 01.6	+0.6
	baz=34,SNR=19							
G21A	Lodge Grass	33.57	340	⇓P		P	07 15 01.5	+0.1
	baz=34,SNR=7.8							
NVAR	Mina Array Bea	33.59	321	P		P	07 15 03.1	+1.3
	comp=Z,13nm,0.7s,baz=135,slow=8.7,SNR=97							
NVAR				PcP		PcP	07 17 42.2	+1.4
	comp=Z,2.2nm,0.7s,baz=145,slow=3.8,SNR=5.4							
NVAR	Mina Array Bea	33.59	321	P		P	07 15 03.1	+1.3
NVAR				PcP		PcP	07 17 42.2	+1.4
MOOW	Moose Ponds	33.61	335	eP		P	07 15 02.3	+0.5
	comp=Z,13nm,1.0s							
I17A	Pilgrim Ck.	33.68	335	⇓P		P	07 15 03.5	+1.0
	baz=34,SNR=8.2							
K14A	Jones Ranch, D	33.71	331	⇓P		P	07 15 03.2	+0.5
	baz=34,SNR=55							
LONY	Lake Ozonia	33.77	23	eP		P	07 15 04.0	+1.0
	comp=Z,29nm,1.3s							
IMW	Indian Meadow	33.81	335	eP		P	07 15 03.9	+0.2
	comp=Z,7.8nm,0.8s							
IMW				ePcP		PcP	07 17 43.0	+1.6
G20A	Bridger	33.90	339	⇓P		P	07 15 04.2	-0.1
	baz=34							
E24A	Baker	33.94	345	⇓P		P	07 15 04.6	+0.1
	baz=34,SNR=11							
H18A	Shoshone NF, C	33.96	337	⇓P		P	07 15 04.9	0.0
	baz=34,SNR=14							
I16A	Newdale	34.02	334	⇑P		P	07 15 05.9	+0.5
	baz=34,SNR=9.3							
J15A	Blackfoot	34.04	333	⇑P		P	07 15 06.1	+0.6
	baz=34,SNR=11							
E23A	Ismay	34.15	343	⇓P		P	07 15 05.7	-0.6
	baz=34,SNR=9.2							
RLMT	Red Lodge	34.19	338	eP		P	07 15 07.3	+0.4
	comp=Z,65nm,2.5s							
MDND	Maddock	34.20	351	⇓P		P	07 15 05.8	-0.8
	baz=34,SNR=6.4							
AGMN	Agassiz Nation	34.20	355	eP		P	07 15 06.6	-0.1
	comp=Z,88nm,2.6s							
BMN	Battle Mountai	34.26	325	eP		P	07 15 08.6	+1.1
	comp=Z,14nm,0.9s							
D24A	Glendive	34.46	345	⇑P		P	07 15 08.9	-0.1
	baz=34							
G18A	Lazy EL Ranch,	34.47	338	⇑P		P	07 15 09.0	-0.2
	baz=35,SNR=7.7							
J14A	Carey	34.47	332	⇑P		P	07 15 10.0	+0.7
	baz=35							
H16A	Russell Place,	34.60	335	⇑P		P	07 15 11.2	+0.7
	baz=35,SNR=6.9							
CMB	Columbia Colle	34.66	319	eP		P	07 15 11.5	+0.7
	comp=Z,8.1nm,1.1s							
E21A	Keefer Ranch,	34.70	342	⇓P		P	07 15 11.8	+0.7
	baz=35							
F19A	Roth Farm, Mol	34.71	339	⇑P		P	07 15 10.9	-0.3
	baz=35							
D23A	Lindsay	34.74	344	⇑P		P	07 15 12.3	+0.9
	baz=35,SNR=20							
QLMT	Earthquake Lak	34.78	335	eP		P	07 15 13.8	+1.8
J13A	Cove Ranch, Pi	34.83	331	⇓P		P	07 15 13.0	+0.6
	baz=35,SNR=20							
C24A	Savage	34.87	345	⇓P		P	07 15 13.1	+0.6
	baz=35							
G17A	Pierce Place,	34.91	337	⇑P		P	07 15 14.2	+1.2
	baz=35							
I14A	Mackay	34.91	332	⇑P		P	07 15 14.4	+1.3
	baz=35,SNR=25							
D22A	Cohagen	34.98	343	⇓P		P	07 15 13.9	+0.4
	baz=35,SNR=49							
E20A	Meyer Farm, Mu	35.00	340	⇑P		P	07 15 14.1	+0.4
	baz=35,SNR=13							
F18A	Big Timber	35.02	338	⇓P		P	07 15 14.1	+0.2
	baz=35,SNR=11							
HLID	Hailey	35.07	331	eP		P	07 15 15.2	+0.7
	comp=Z,24nm,1.0s							
H15A	Lima	35.11	334	⇓P		P	07 15 16.1	+1.3
	baz=35,SNR=24							
D21A	La Casta Ranch	35.15	342	⇑P		P	07 15 15.4	+0.5
	baz=35							
E19A	Rath Farm, Rou	35.18	340	⇓P		P	07 15 15.4	+0.2
	baz=35,SNR=8.4							
I13A	Wildhorse Cree	35.20	332	⇓P		P	07 15 16.3	+0.7
	baz=35,SNR=48							
G16A	Moss Hill, Enn	35.25	335	⇓P		P	07 15 16.6	+0.6
	baz=35,SNR=7.0							
C23A	Lambert	35.31	345	⇑P		P	07 15 16.7	+0.3
	baz=35,SNR=9.6							
MCMT	McKenzie Canyo	35.36	334	eP		P	07 15 18.7	+1.7
	comp=Z,29nm,0.9s							
F17A	Fitzpatrick Pl	35.37	337	⇑P		P	07 15 17.5	+0.5
	baz=36,SNR=13							
H14A	Leadore	35.42	333	⇓P		P	07 15 18.6	+1.1
	baz=36,SNR=28							
C22A	Vida	35.45	344	⇓P		P	07 15 17.6	+0.2
	baz=36,SNR=33							
G15A	Dillon	35.48	335	⇑P		P	07 15 19.2	+1.2
	baz=36,SNR=25							
D20A	Manuel Ranch,	35.52	341	⇓P		P	07 15 18.8	+0.7
	baz=36,SNR=15							
BOZ	Bozeman (W)	35.53	336	eP		P	07 15 18.8	+0.5
MFID	Camas Ranch	35.64	330	eP		P	07 15 19.9	+0.6
	comp=Z,25nm,1.0s							
MFID	Camas Ranch	35.64	330	⇑P		P	07 15 19.7	+0.4
	baz=36,SNR=26							
F16A	Kennard Place,	35.64	336	⇑P		P	07 15 19.8	+0.6
	baz=36							
E18A	Harlowton	35.66	339	⇓P		P	07 15 20.1	+0.7
	baz=36,SNR=6.4							
DLMT	Dillon	35.69	335	eP		P	07 15 21.3	+1.6
H13A	Challis	35.77	332	⇓P		P	07 15 21.4	+1.0
	baz=36,SNR=93							
D19A	Cripps Ranch,	35.83	340	⇑P		P	07 15 20.8	0.0
	baz=36,SNR=16							
C21A	Desert Coulee	35.86	342	⇓P		P	07 15 21.2	+0.1
	baz=36,SNR=15							
B23A	Brockton	35.88	345	⇑P		P	07 15 21.5	+0.3
	baz=36,SNR=12							
E17A	Martinsdale	35.91	338	⇓P		P	07 15 21.6	0.0
	baz=36							
G14A	Jackson	35.95	334	⇑P		P	07 15 22.7	+0.7
	baz=36,SNR=9.8							
B22A	Reddig Ranch S	35.99	344	⇓P		P	07 15 22.1	0.0
	baz=36,SNR=10							
LRM	Limekiln Ridge	36.00	335	eP		P	07 15 23.1	+0.6
H12A	Diamond D Ranc	36.03	332	⇓P		P	07 15 23.7	+1.0
	baz=36,SNR=67							
C20A	Veseth Ranch,	36.03	341	⇑P		P	07 15 22.9	+0.4
	baz=36,SNR=11							
F15A	Butte	36.03	335	⇑P		P	07 15 23.1	+0.3
	baz=36,SNR=16							
A24A	Wetby	36.07	346	⇓P		P	07 15 22.7	-0.1
	baz=36							
ULM	Lac du Bonnet	36.14	356	P		P	07 15 21.1	-2.2
	comp=Z,2.8nm,0.6s,baz=184,slow=7.5,SNR=4.6							
ULM				PcP		PcP	07 17 48.8	+1.1
	comp=Z,2.4nm,0.6s,baz=200,slow=1.5,SNR=3.2							
ULM	Lac du Bonnet	36.14	356	P		P	07 15 21.1	-2.2
ULM				PcP		PcP	07 17 48.8	+1.1
D18A	Linhart Farms,	36.16	339	⇓P		P	07 15 23.9	+0.2
	baz=36							
G13A	Cobalt	36.17	333	⇑P		P	07 15 24.5	+0.6
	baz=36,SNR=20							
E16A	East Helena	36.28	337	⇑P		P	07 15 25.0	+0.3
	baz=36,SNR=9.7							
A23A	Redstone	36.31	346	⇑P		P	07 15 25.0	+0.2
	baz=36,SNR=9.6							
F14A	Wisdom	36.37	334	⇓P		P	07 15 25.8	+0.2
	baz=36,SNR=6.1							
C19A	Slack Wire Ran	36.38	340	⇑P		P	07 15 25.4	-0.1
	baz=36,SNR=14							
D17A	Six Diamond Ra	36.44	338	⇑P		P	07 15 26.3	+0.2
	baz=36,SNR=17							
E15A	Deer Lodge	36.57	336	⇓P		P	07 15 27.4	+0.2
	baz=37,SNR=11							
A22A	Carney Farms,	36.60	345	⇑P		P	07 15 27.9	+0.6
	baz=37,SNR=12							
SAML	Samuel	36.62	127	eP		P	07 15 27.0	-0.8
	comp=Z,5.9nm,0.9s							
G12A	Big Creek, Yel	36.69	332	⇓P		P	07 15 28.9	+0.6
	baz=37							
F13A	Darby	36.76	334	⇓P		P	07 15 29.0	+0.2
	baz=37,SNR=29							
A21A	Bergtoll Ranch	36.87	344	⇓P		P	07 15 29.8	+0.2
	baz=37,SNR=9.2							
C17A	Wharram Farm,	36.88	339	⇓P		P	07 15 29.9	+0.2
	baz=37,SNR=15							
E14A	Clinton	36.91	335	⇓P		P	07 15 30.4	+0.3
	baz=37,SNR=15							
J08A	Circle Bar Ran	36.95	327	P		P	07 15 31.1	+0.7
MOD	Modoc	36.98	324	eP		P	07 15 31.4	+0.6
	comp=Z,20nm,1.3s							
B19A	Brinkman Farms	36.98	341	⇑P		P	07 15 30.8	+0.2
	baz=37,SNR=18							
D15A	Lincoln	37.03	336	⇑P		P	07 15 31.2	+0.1
	baz=37,SNR=10							
A20A	Cobblestone Ra	37.05	342	⇑P		P	07 15 31.2	+0.1
	baz=37,SNR=15							
B18A	Beardsley Farm	37.20	340	⇓P		P	07 15 32.5	0.0
	baz=37,SNR=6.9							
CHMT	Chamberlain Mo	37.21	336	eP		P	07 15 33.2	+0.5
E13A	Victor	37.22	334	⇑P		P	07 15 32.8	+0.1
	baz=37,SNR=54							
A19A	Klindworth Far	37.34	342	⇓P		P	07 15 34.3	+0.7
	baz=37,SNR=8.7							
C16A	Fuhrer Ranc	37.37	338	⇓P		P	07 15 34.3	+0.3
	baz=38,SNR=18							
MSO	Missoula	37.42	335	eP		P	07 15 34.6	+0.2
	comp=Z,14nm,1.1s							
D14A	Greenough	37.45	336	⇑P		P	07 15 34.6	-0.1
	baz=38,SNR=12							
B17A	L&G Farms, Che	37.45	339	⇑P		P	07 15 34.8	+0.2
	baz=38							
SLMT	Seeley Lake	37.58	336	eP		P	07 15 36.0	+0.2
C15A	Salmond Ranch,	37.67	337	⇑P		P	07 15 36.7	+0.2
	baz=38,SNR=7.3							
A18A	Metzger Ranch,	37.68	341	⇓P		P	07 15 36.3	-0.1
	baz=38,SNR=12							
D13A	Huson	37.85	335	⇓P		P	07 15 38.2	+0.3
	baz=38,SNR=23							
A17A	Triple J Farms	37.98	340	⇓P		P	07 15 38.7	-0.3
	baz=38,SNR=16							
SWMT	Swartz Lake	37.99	336	eP		P	07 15 39.5	+0.2
B15A	Bradely Ranch,	38.10	338	⇑P		P	07 15 39.9	-0.1
	baz=38							
D12A	Red Ives Fores	38.19	334	⇑P		P	07 15 40.7	-0.1
	baz=38							
YBH	Yreka Blue Hor	38.28	322	P		P	07 15 40.1	-1.6
	comp=Z,3.1nm,0.9s,baz=114,slow=2.1,SNR=5.4							
YBH	Yreka Blue Hor	38.28	322	P		P	07 15 40.1	-1.6
YBMT	Yellow Bay	38.28	336	eP		P	07 15 42.8	+1.1
	comp=Z,6.4nm,0.7s							
JTMT	Jette	38.30	336	eP		P	07 15 42.4	+0.6
JTMT				ePcP		PcP	07 17 56.1	+1.6
LPAZ	La Paz	38.32	141	P		P	07 15 42.2	-0.6
	comp=Z,3.8nm,1.2s,baz=16,slow=5.0,SNR=4.7							
LPAZ				PcP		PcP	07 17 56.4	+0.8
	comp=Z,1.4nm,0.9s,baz=18,slow=7.2,SNR=4.7							
LPAZ	La Paz	38.32	141	P		P	07 15 42.2	-0.6
LPAZ				PcP		PcP	07 17 56.4	+0.8
C13A	Hot Springs	38.36	335	⇓P		P	07 15 42.3	+0.1
	baz=38,SNR=9.6							
BLMT	Blacktail Moun	38.54	336	eP		P	07 15 44.6	+0.7
BSMT	Bassoo Peak	38.59	335	eP		P	07 15 44.8	+0.6
A15A	Johnson Ranch,	38.72	338	⇑P		P	07 15 45.3	+0.1
	baz=39,SNR=8.1							
B13A	Whitefish	38.88	336	⇑P		P	07 15 47.1	+0.5
	baz=39,SNR=15							
A14A	Double T Ranch	38.97	337	⇓P		P	07 15 47.9	+0.6
	baz=39,SNR=15							
A13A	Flathead Natio	39.31	337	⇓P		P	07 15 50.9	+0.7
	baz=39,SNR=6.2							
B12A	Libby	39.40	335	⇑P		P	07 15 52.1	+1.1
	baz=40,SNR=8.6							
HAWA	Hanford	39.61	330	eP		P	07 15 52.8	+0.2
	comp=Z,11nm,0.9s							
A12A	Yaak River Ran	39.80	336	⇓P		P	07 15 55.2	+0.9
	baz=40,SNR=8.4							
NEW	Newport	39.89	334	P		P	07 15 54.2	-0.7
	comp=Z,5.9nm,0.8s,baz=139,slow=8.4,SNR=19							
NEW	Newport	39.89	334	eP		P	07 15 54.4	-0.6
	comp=Z,9.3nm,0.9s							
NEW				ePcP		PcP	07 18 03.2	+3.8
VLL	Laurance Lake	40.06	327	P		P	07 15 58.3	+1.8
DPW	Davenport	40.06	332	P		P	07 15 57.2	+0.7
EBG	Ellensburg	40.48	330	P		P	07 16 01.2	+1.3
ETW	Entiat	40.86	331	P		P	07 16 03.6	+0.6
LON	Longmire	40.99	329	eP		P	07 16 04.9	+0.8
	comp=Z,28nm,0.8s							
FFC	Flin Flon	41.24	351	eP		P	07 16 05.7	-0.2
	comp=Z,18nm,1.8s							
NLWA	Neilton Lookou	42.47	328	eP		P	07 16 16.8	+0.6
	comp=Z,21nm,0.9s							
SIV	San Ignacio	42.75	133	P		P	07 16 18.9	+0.2
	comp=Z,7.7nm,0.8s,baz=312,slow=8.

comp=Z,15nm,1.0s
TCF Toulx Ste Croi 82.74 44 *e*P **P 07 20 42.6 -1.7**
comp=Z,12nm,1.0s
TCF Toulx Ste Croi 82.74 44 *e*P **P 07 20 42.6 -1.7**
comp=Z,12nm,1.0s
CAF Calviac 82.94 46 *e*P **P 07 20 43.7 -1.7**
CAF Calviac 82.94 46 *e*P **P 07 20 43.7 -1.7**
BGF Bois d'Agland 83.11 44 *e*P **P 07 20 44.7 -1.5**
comp=Z,16nm,0.8s
BGF Bois d'Agland 83.11 44 *e*P **P 07 20 44.7 -1.5**
comp=Z,16nm,0.8s
AVF Avril sur Loir 83.39 44 *e*P **P 07 20 45.9 -1.7**
comp=Z,9.7nm,0.9s
AVF Avril sur Loir 83.39 44 *e*P **P 07 20 45.9 -1.7**
comp=Z,9.7nm,0.9s
MTLF Montolieu 83.41 47 *e*P **P 07 20 45.6 -2.2**
comp=Z,22nm,1.2s
MTLF Montolieu 83.41 47 *e*P **P 07 20 45.6 -2.2**
comp=Z,22nm,1.2s
SSF Saint Saulge 83.43 43 *e*P **P 07 20 46.3 -1.5**
comp=Z,9.5nm,0.8s
SSF Saint Saulge 83.43 43 *e*P **P 07 20 46.3 -1.5**
comp=Z,9.5nm,0.8s
LOR Lormes 83.62 43 *e*P **P 07 20 47.4 -1.4**
comp=Z,17nm,0.9s
LOR Lormes 83.62 43 *e*P **P 07 20 47.4 -1.4**
comp=Z,17nm,0.9s
SMF Signal de Mont 83.75 44 *e*P **P 07 20 47.8 -1.7**
comp=Z,35nm,1.3s
SMF Signal de Mont 83.75 44 *e*P **P 07 20 47.8 -1.7**
comp=Z,35nm,1.3s
NB2 NORSAR Subarra 83.98 28 P **P 07 20 50.7 +0.3**
comp=Z,1.4nm,0.7s,baz=289,slow=5.3
NOA NORSAR Array B 83.98 28 P **P 07 20 51.0 +0.6**
comp=Z,2.4nm,0.8s,baz=289,slow=5.3,SNR=5.9
NOA NORSAR Array B 83.98 28 P **P 07 20 51.0 +0.6**
LASF Ste Croix 84.39 46 *e*P **P 07 20 51.3 -1.5**
comp=Z,52nm,1.4s
LASF Ste Croix 84.39 46 *e*P **P 07 20 51.3 -1.5**
comp=Z,52nm,1.4s
HAU Haudompre 85.06 42 *e*P **P 07 20 55.0 -1.1**
comp=Z,16nm,0.8s
HAU Haudompre 85.06 42 *e*P **P 07 20 55.0 -1.1**
comp=Z,16nm,0.8s
CABF La Chapelle 85.26 43 *e*P **P 07 20 56.8 -0.4**
comp=Z,18nm,0.9s
CABF La Chapelle 85.26 43 *e*P **P 07 20 56.8 -0.4**
comp=Z,18nm,0.9s
HINF Hinteralfeld 85.44 42 *e*P **P 07 20 56.7 -1.3**
HINF Hinteralfeld 85.44 42 *e*P **P 07 20 56.7 -1.3**
CDF Champ du Feu 85.55 41 *e*P **P 07 20 57.6 -1.0**
comp=Z,13nm,1.0s
CDF Champ du Feu 85.55 41 *e*P **P 07 20 57.6 -1.0**
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 85.57 45 *e*P **P 07 20 57.4 -1.4**
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 85.57 45 *e*P **P 07 20 57.4 -1.4**
comp=Z,14nm,0.7s
DBIC Dimbokro 85.58 84 P **P 07 21 00.3 +1.0**
comp=Z,3.6nm,0.8s,baz=280,slow=6.2,SNR=5.7
DBIC Dimbokro 85.58 84 P **P 07 21 00.3 +1.0**
ARCES ARCESS Array B 85.97 18 P **P 07 21 00.1 0.0**
comp=Z,2.5nm,0.6s,baz=306,slow=4.1,SNR=11
ARCES ARCESS Array B 85.97 18 P **P 07 21 00.1 0.0**
LPL La Plagne 85.99 44 *e*P **P 07 20 59.6 -1.4**
LPL La Plagne 85.99 44 *e*P **P 07 20 59.6 -1.4**
LPG La Plagne 86.01 44 *e*P **P 07 21 00.1 -1.1**
LPG La Plagne 86.01 44 *e*P **P 07 21 00.1 -1.1**
MBDF Montbardon 86.23 45 *e*P **P 07 21 00.6 -1.6**
comp=Z,16nm,1.0s
MBDF Montbardon 86.23 45 *e*P **P 07 21 00.6 -1.6**
comp=Z,16nm,1.0s
FRF La Foret Royal 86.47 46 *e*P **P 07 21 01.4 -1.8**
FRF La Foret Royal 86.47 46 *e*P **P 07 21 01.4 -1.8**
GERES GERESS Array B 89.45 40 P **P 07 21 17.4 0.0**
comp=Z,1.2nm,0.8s,baz=319,slow=5.5,SNR=5.1
GERES GERESS Array B 89.45 40 P **P 07 21 17.4 0.0**
TORD Torodi Ar. Bea 90.28 76 P **P 07 21 21.6 -0.2**
comp=Z,0.4nm,0.5s,baz=295,slow=3.8,SNR=6.2
TORD Torodi Ar. Bea 90.28 76 P **P 07 21 21.6 -0.2**
FINES FINESS Array B 90.34 25 P **P 07 21 20.5 -0.6**
comp=Z,1.4nm,0.7s,baz=279,slow=3.7,SNR=3.8
FINES FINESS Array B 90.34 25 P **P 07 21 20.5 -0.6**
CN2 Changchun 112.98 331 *e*PKP **PKiKP 07 26 56.0 -1.2**
MKAR Makanchi Array 119.12 5 PKP **PKPdf 07 27 09.0 0.0**
comp=Z,7.3nm,1.0s,baz=32,slow=7.1,SNR=2.1
MKAR Makanchi Array 119.12 5 PKP **PKPdf 07 27 09.0 0.0**
BOSA Boshof 120.37 115 PKP **PKPdf 07 27 12.9 +1.0**
comp=Z,3.7nm,0.7s,baz=272,slow=4.3,SNR=7.1
BOSA Boshof 120.37 115 PKP **PKPdf 07 27 12.9 +1.0**
HHC Hu-ho-hao-te 121.10 339 *e*PKP **PKPdf 07 27 09.5 -3.6**
HHC PP **PP 07 28 44.8 +2.4**
HHC SS SS 07 45 07.3 -1.7
HHC LR LR
comp=N,500nm,25.5s
HHC LR LR
comp=E,640nm,29.9s
HHC LR LR
comp=Z,590nm,28.4s
WMQ Urumqi 122.31 0 *e*P **Pdif 07 23 44.3 -0.6**
KSH Kashi 125.43 11 *e*PKP **PKPdf 07 27 20.0 -1.5**
KSH *e*PP **PP 07 29 15.5 +4.0**
KSH PKS **PKSdf 07 30 56.0 -2.2**
KSH SKS **SKSdf 07 34 20.5 -6.8**
KSH SKKS SKKSac 07 35 56.0 -8.6
KSH AMB AMB
comp=Z,180nm,7.4s
KSH LR LR
comp=N,450nm,11.4s
KSH LR LR
comp=E,870nm,15.2s
KSH LR LR
comp=Z,1μm,16.6s
LZH Lanzhou 127.85 344 *e*PKP **PKPdf 07 27 23.0 -3.3**
LZH sPKP 07 27 55.5
STKA Stephens Creek 128.18 241 PKP **PKPdf 07 27 26.6 -0.1**
comp=Z,2.5nm,0.7s,baz=15,slow=1.9,SNR=7.0
STKA Stephens Creek 128.18 241 PKP **PKPdf 07 27 26.6 -0.1**
CD2 Chengdu 132.72 342 PKP **PKPdf 07 27 36.5 +1.0**
WRA Warramunga Arr 135.49 256 PKP **PKPdf 07 27 41.9 +1.1**
comp=Z,0.9nm,0.6s,baz=88,slow=2.8,SNR=5.8
WRA Warramunga Arr 135.49 256 PKP **PKPdf 07 27 41.9 +1.1**
GYA Guiyang 135.76 336 *e*Pdif **Pdif 07 24 44.0 -1.1**
GYA PKP **PKPdf 07 27 42.0 +0.6**
GYA sPKP 07 28 12.5
GYA PP **PP 07 30 23.5 +4.8**
GYA AMB AMB
comp=Z,90nm,7.6s
KMI Kunming 138.42 340 PKP **PKPdf 07 27 47.3 +0.8**
CHTO Chiang Mai 145.53 342 *e*PKPbc **PKPdf 07 27 59.0 0.0**
CM31 Chiang Mai Arr 145.87 341 *e*PKPbc **PKPab 07 28 01.0 +0.4**
CMAR Chiang Mai Arr 145.87 341 PKPbc **PKPab 07 28 01.1 +0.4**
comp=Z,33nm,0.8s,baz=338,slow=3.5,SNR=21
CMAR Chiang Mai Arr 145.87 341 PKPbc **PKPab 07 28 01.1 +0.4**

BJI ***30*** *07:13:03.8, 56°.55N × 153°.12W, h12 km, mB6.2/61, mb5.6/56, Ms6.4/74, Ms7 6.1/69*
MOS ***30*** *07:13:04.1±0.9, 56°.47N × 152°.79W, h10 km, mb6.1/133, MS5.8/55, Error ellipse: s-maj=7.5km s-min=3.5km az=91.9*
IDC ***30*** *07:13:04.1±0.3, 56°.61N × 152°.61W, h0 km, mb5.2/39, mb1 5.3/44, mb1mx5.3/44, mbtmp5.2/44, ML4.6/5, MS5.8/28, Ms1 5.8/28, ms1mx5.7/45, Error ellipse: s-maj=9.8km s-min=5.8km az=8.0*
ISCJB ***30*** *07:13:05.8±0.1, 56°.49N±0°.02 × 152°.69W±0°.02, h21 km, mb5.7/382, MS5.9/247, Error ellipse: s-maj=2.6km s-min=1.2km az=33.8*
BGS ***30*** *07:13:05.4±1.8, 56°.50N × 154°.89W, h21 km, mb5.5, MS6.1*
NEIC ***30*** *07:13:07.3±0.1, 56°.55N × 152°.74W, h21 km, mb5.9/217, ME5.7, MS5.9/161, MW5.9, ML5.5(AEIC), MW6.1(USGS), Error ellipse: s-maj=2.5km s-min=1.9km az=21.0, Moment Tensor Solution. s84 Moment tensor: Scale 10^17 Nm; Mrr=2.18; Mθθ=3.79; Mφφ=1.61; Mrθ=6.52; Mθφ=0.49; Mφr=4.56; Best double couple: M0=8.60000×10^17 NP1:φ=56.00000°, δ=82.00000°, λ=74.00000°. NP2:φ=299.00000°, δ=18.00000°, λ=152.00000°. Principal axes: T 8.4000, Plg=50.0000°, Azm=308.0000°; N 0.4400, Plg=15.0000°, Azm=58.0000°; P -8.8400, Plg=34.0000°, Azm=159.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Kasilof, Seward and Soldotna; [II] at Homer, Kenai and Kodiak. Also felt at Anchorage, Anchor Point, Moose Pass and Sterling.
GCMT ***30*** *07:13:08.8±0.1, 56°.26N × 152°.64W, h12 km, MW6.0, Moment Tensor Solution. s88,c169; s2,c2; Moment tensor: Scale 10^18 Nm; Mrr=0.03±.01; Mθθ=-0.06±.01; Mφφ=0.04±.01; Mrθ=1.17±.02; Mθφ=-0.06±.01; Mφr=0.74±.02; Best double couple: M0=1.40000×10^18 NP1:φ=267.00000°, δ=1.00000°, λ=120.00000°. NP2:φ=58.00000°, δ=89.00000°, λ=89.00000°. Principal axes: T 1.3500, Plg=46.0000°, Azm=327.0000°; N 0.0600, Plg=1.0000°, Azm=58.0000°; P -1.4200, Plg=44.0000°, Azm=148.0000°; Data Used: II IU IC G CN. Surface waves: sta= 71, comp= 73, per= 50.*
SZGRF ***30*** *07:13:13.1, 57°.02N × 153°.05W, h26 km, mb6.1, MS6.0, Kodiak Island, Alaska, United States, region*
DJA ***30*** *07:13:46.5±5.0, 57°N±10° × 15°5W±2°1, h307 km±47 km, M5.3/19, mB5.8/14, mb5.2/19, Mw(mB)5.3/14, Mwp5.8/2*

ISC 30 07:13:06.2±0.2, 56.40N±0.02 × 152.77W±0.02, h17 km, h17 km:pP-P, n1856, σ1944/2030, mb5.8/385, MS6.0/252, 401C-232D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
KDAK	**Kodiak Island**	**1.39**	**4**	Pn		**Pn**	**07**	**13**	**28.8**	**-1.9**
	1μm,0.3s,baz=192,slow=9.0,SNR=1617									
KDAK				Sn		**Sn**	**07**	**13**	**46.4**	**-2.2**
	1μm,0.3s,baz=194,slow=12,SNR=14									
KDAK				LR		LR	07	13	55.3	
	comp=Z,126μm,19.6s,baz=53,slow=44									
KDAK	**Kodiak Island**	**1.39**	**4**	P		**Pn**	**07**	**13**	**28.8**	**-1.9**
KDAK				Sn		**Sn**	**07**	**13**	**46.4**	**-2.2**
KDAK				*e*Sn		**Sb**	**07**	**13**	**47.8**	**-1.3**
KCE	**Katmai Mt Cerb**	**2.26**	**326**	P		**Pn**	**07**	**13**	**42.5**	**-0.3**
KAKN	**Katmai Knife C**	**2.27**	**328**	P		**Pn**	**07**	**13**	**42.8**	**-0.1**
KAWH	**Katmai**	**2.27**	**332**	P		**Pn**	**07**	**13**	**42.5**	**-0.4**
KABU	**Katmai Buttres**	**2.32**	**325**	P		**Pn**	**07**	**13**	**43.6**	**0.0**
KAPH	**Katmai Pasha**	**2.36**	**339**	P		**Pn**	**07**	**13**	**44.1**	**0.0**
FOSS	**Fourpeaked Sta**	**2.46**	**349**	P		**Pn**	**07**	**13**	**44.9**	**-0.5**
KELA	**Mount Kelaz**	**2.60**	**323**	P		**Pn**	**07**	**13**	**46.5**	**-0.9**
AUP	**Augustine Pinn**	**2.99**	**354**	P		**Pn**	**07**	**13**	**52.8**	**0.0**
AUP	**Augustine Pinn**	**2.99**	**354**	P		**Pn**	**07**	**13**	**52.8**	**0.0**
ANPK	**Aniakchak Peak**	**2.99**	**281**	P		**Pn**	**07**	**13**	**52.5**	**-0.4**
AUW	**Augustine West**	**3.00**	**353**	P		**Pn**	**07**	**13**	**52.9**	**0.0**
AUNW	**Augustine NWes**	**3.01**	**353**	P		**Pn**	**07**	**13**	**53.0**	**0.0**
AZAC	**Aniakchak**	**3.06**	**282**	P		**Pn**	**07**	**13**	**53.5**	**-0.3**
ANPB	**Aniakchak Plen**	**3.07**	**280**	P		**Pn**	**07**	**13**	**53.2**	**-0.7**
CHGN	**Chignik**	**3.14**	**271**	*e*Pn		**Pn**	**07**	**13**	**54.8**	**0.0**
OPT	**Oil Point**	**3.27**	**356**	P		**Pn**	**07**	**13**	**56.4**	**-0.2**
BRLK	**Bradley Lake**	**3.52**	**16**	P		**Pn**	**07**	**13**	**57.1**	**-2.9**
BRLK				S		**Sn**	**07**	**14**	**36.6**	**-4.6**
VNSG	**Veniaminof 6**	**3.53**	**268**	P		**Pn**	**07**	**14**	**00.1**	**-0.2**
VNHG	**Veniaminof 1**	**3.57**	**270**	P		**Pn**	**07**	**14**	**00.8**	**+0.1**
INE	**Iliamna NE**	**3.67**	**358**	P		**Pn**	**07**	**14**	**01.3**	**-0.9**
ILW	**Iliamna West**	**3.67**	**357**	P		**Pn**	**07**	**14**	**01.2**	**-1.1**
SEW	**Seward**	**4.11**	**24**	P		Pn	07	14	04.5	-3.6
DFR	**Drift River**	**4.20**	**1**	P		**Pn**	**07**	**14**	**08.3**	**-1.2**
SLKM	**Skilak Lake**	**4.33**	**17**	P		**Pn**	**07**	**14**	**08.5**	**-2.7**
SLKM	**Skilak Lake**	**4.33**	**17**	P		**Pn**	**07**	**14**	**08.5**	**-2.7**
SDPT	**Sand Point**	**4.47**	**260**	P		**Pn**	**07**	**14**	**12.2**	**-0.8**
SPU	**Mount Spurr**	**4.81**	**4**	P		**Pn**	**07**	**14**	**16.1**	**-1.7**
SPBG	**Spurr Blockage**	**4.88**	**2**	P		**Pn**	**07**	**14**	**17.6**	**-1.2**
BGL	**Barrier Glacie**	**4.88**	**2**	P		**Pn**	**07**	**14**	**17.4**	**-1.4**
SVW2	**Sparrevohn**	**4.93**	**344**	*e*Pn		**Pn**	**07**	**14**	**18.9**	**-0.5**
FIB	**Fire Island**	**4.96**	**15**	P		**Pn**	**07**	**14**	**17.9**	**-1.9**
FIB	**Fire Island**	**4.96**	**15**	P		**Pn**	**07**	**14**	**17.9**	**-1.9**
STLK	**Strandline Lak**	**5.13**	**5**	P		**Pn**	**07**	**14**	**20.8**	**-1.4**
PVV	**Pavlof Volcano**	**5.18**	**262**	P		**Pn**	**07**	**14**	**21.9**	**-1.0**
SUA	**Susitna One**	**5.18**	**11**	P		**Pn**	**07**	**14**	**20.4**	**-2.6**
PS4A	**Pavlof South-4**	**5.23**	**262**	P		**Pn**	**07**	**14**	**22.4**	**-1.1**
HAG	**Hague Volcano**	**5.26**	**262**	P		**Pn**	**07**	**14**	**23.6**	**-0.3**
HAG	**Hague Volcano**	**5.26**	**262**	P		**Pn**	**07**	**14**	**23.6**	**-0.3**
DTNA	**Dutton South F**	**5.50**	**261**	P		**Pn**	**07**	**14**	**25.9**	**-1.3**
DT1	**Dutton Round H**	**5.53**	**260**	P		**Pn**	**07**	**14**	**26.4**	**-1.1**
PMR	**Palmer**	**5.53**	**18**	P		Pn	07	14	24.3	-3.3
PMR	**Palmer**	**5.53**	**18**	P		Pn	07	14	24.3	-3.3
EYAK	**Cordova Ski Ar**	**5.55**	**39**	P		Pn	07	14	24.7	-3.2
DRIA	**Deer Island**	**5.56**	**259**	P		**Pn**	**07**	**14**	**26.6**	**-1.5**
SKT	**Skwentna**	**5.63**	**6**	P		**Pn**	**07**	**14**	**26.9**	**-2.1**
VLZ	**Valdez**	**5.80**	**33**	P		**Pn**	**07**	**14**	**28.2**	**-3.1**
SML	**Sawmill**	**5.88**	**21**	P		**Pn**	**07**	**14**	**29.9**	**-2.6**
SML	**Sawmill**	**5.88**	**21**	P		**Pn**	**07**	**14**	**29.9**	**-2.6**
GOAT	**Goat Mountain**	**5.94**	**42**	P		**Pn**	**07**	**14**	**30.2**	**-3.1**
DIV	**Divide**	**5.97**	**35**	P		Pn	07	14	30.3	-3.5
NICHA	**Nichawak Mount**	**6.02**	**47**	P		Pn	07	14	31.2	-3.2
BERG	**Berg Lake**	**6.22**	**46**	P		Pn	07	14	33.7	-3.4
FALS	**False Pass**	**6.23**	**260**	P		**Pn**	**07**	**14**	**36.1**	**-1.1**
BMRM	**Bremner River**	**6.25**	**40**	P		Pn	07	14	34.1	-3.4
GRIN	**Grindle Hills**	**6.31**	**48**	P		**Pn**	**07**	**14**	**35.3**	**-3.1**
KHIT	**Khitrov Hills**	**6.43**	**47**	P		Pn	07	14	36.2	-3.9
PPLA	**Purkeypile**	**6.52**	**2**	P		**Pn**	**07**	**14**	**40.1**	**-1.3**
KULT	**Kultieth River**	**6.54**	**50**	P		**Pn**	**07**	**14**	**39.0**	**-2.6**
TT01	**Tatalina**	**6.73**	**347**	P		**Pn**	**07**	**14**	**42.9**	**-1.2**
VRDI	**Verde Repeater**	**6.84**	**41**	P		Pn	07	14	42.4	-3.4
ISLE	**Juniper Island**	**6.90**	**48**	P		**Pn**	**07**	**14**	**43.4**	**-3.1**
BAGL	**Bagley Icefiel**	**6.94**	**49**	P		**Pn**	**07**	**14**	**44.3**	**-2.7**
WESN	**West Dahl Nort**	**6.96**	**260**	P		**Pn**	**07**	**14**	**47.0**	**-0.3**
WESE	**West Dahl East**	**7.00**	**259**	P		**Pn**	**07**	**14**	**47.2**	**-0.6**
KIAG	**Kiagna River**	**7.07**	**46**	P		Pn	07	14	45.5	-3.4
BALM	**Baldy**	**7.14**	**45**	P		Pn	07	14	46.6	-3.2
BALM	**Baldy**	**7.14**	**45**	P		Pn	07	14	46.6	-3.2
HARP	**HAARP**	**7.16**	**30**	P		**Pn**	**07**	**14**	**48.7**	**-1.4**
TRF	**Thorofare Moun**	**7.18**	**9**	P		**Pn**	**07**	**14**	**47.4**	**-3.1**
RND	**Reindeer**	**7.30**	**14**	P		**Pn**	**07**	**14**	**49.5**	**-2.4**
RND	**Reindeer**	**7.30**	**14**	P		**Pn**	**07**	**14**	**49.5**	**-2.4**
TABL	**Table Mountain**	**7.32**	**52**	P		**Pn**	**07**	**14**	**49.6**	**-2.8**
BARN	**Barnard Glacie**	**7.43**	**46**	P		Pn	07	14	50.5	-3.3
PAX	**Paxson**	**7.55**	**26**	P		**Pn**	**07**	**14**	**52.6**	**-2.8**
PAX	**Paxson**	**7.55**	**26**	P		**Pn**	**07**	**14**	**52.6**	**-2.8**
AKUT	**Akutan**	**7.77**	**258**	P		**Pn**	**07**	**14**	**58.0**	**-0.3**
PNL	**Peninsula**	**7.81**	**60**	P		**Pn**	**07**	**14**	**56.4**	**-2.6**
ZRO	**Akutan Zero**	**7.90**	**258**	P		**Pn**	**07**	**14**	**59.5**	**-0.6**
MENT	**Mentasta**	**7.99**	**31**	*e*Pn		**Pn**	**07**	**14**	**58.5**	**-2.8**
UNV	**Unalaska Valle**	**8.28**	**258**	P		**Pn**	**07**	**15**	**03.8**	**-1.5**
MTBL	**Makushin Table**	**8.32**	**259**	P		**Pn**	**07**	**15**	**05.4**	**-0.6**
DOT	**Dot Lake**	**8.47**	**27**	P		**Pn**	**07**	**15**	**07.3**	**-0.6**
GCSA	**Galena City Sc**	**8.61**	**348**	P		**Pn**	**07**	**15**	**09.0**	**-0.8**
CCB	**Clear Creek Bu**	**8.62**	**14**	P		**Pn**	**07**	**15**	**07.9**	**-3.0**
BCA3	**Beaver Creek A**	**8.67**	**35**	P		**Pn**	**07**	**15**	**08.8**	**-1.9**
COLA	**College**	**8.83**	**14**	P		**Pn**	**07**	**15**	**10.1**	**-2.8**
COLA	**College**	**8.83**	**14**	P		**Pn**	**07**	**15**	**10.1**	**-2.8**
MDM	**Murphy Dome**	**8.87**	**13**	P		**Pn**	**07**	**15**	**10.6**	**-2.7**
IL1	**Eielson Array**	**8.88**	**17**	P		**Pn**	**07**	**15**	**11.0**	**-2.5**
ILAR	**Eielson Array**	**8.88**	**17**	Pn		**Pn**	**07**	**15**	**10.7**	**-2.8**
	10nm,0.3s,baz=206,slow=13,SNR=155									
ILAR				Sn		Sn	07	16	46.9	-6.1
	14nm,0.3s,baz=210,slow=21,SNR=5.0									
ILAR				LR		LR	07	19	11.8	
	comp=Z,139μm,18.5s,baz=207,slow=42									
ILAR	**Eielson Array**	**8.88**	**17**	Pn		**Pn**	**07**	**15**	**10.7**	**-2.8**
ILAR				Sn		Sn	07	16	46.9	-6.1
HYT	**Haines Junctio**	**9.11**	**55**	P		**Pn**	**07**	**15**	**14.2**	**-2.5**
OKFG	**Magazine Ridge**	**9.22**	**257**	P		**Pn**	**07**	**15**	**16.9**	**-1.3**
SIT	**Sitka**	**9.61**	**79**	P		Pn	07	15	19.0	-4.5
SIT	**Sitka**	**9.61**	**79**	P		Pn	07	15	19.0	-4.5
SPIA	**Saint Paul Isl**	**9.62**	**282**	P		**Pn**	**07**	**15**	**23.1**	**-0.6**
IM3	**Indian Mountai**	**9.63**	**358**	P		**Pn**	**07**	**15**	**21.9**	**-1.9**
SKAG	**Skagway**	**9.76**	**64**	P		**Pn**	**07**	**15**	**23.5**	**-2.1**
BESE	**Bessie Mountai**	**9.88**	**70**	P		**Pn**	**07**	**15**	**24.8**	**-2.6**
DAWY	**Dawson**	**10.14**	**35**	*e*Pn		**Pn**	**07**	**15**	**29.8**	**-1.0**
DAWY				*e*Sn		**Sn**	**07**	**17**	**21.8**	**-2.2**
CRAG	**Craig**	**11.06**	**87**	*e*Pn		**Pn**	**07**	**15**	**42.1**	**-1.2**
	370nm,1.2s									
CRAG				*e*Sn		Sn	07	17	37.6	-8.8
WRAK	**Wrangell Islan**	**11.31**	**81**	*e*Pn		**Pn**	**07**	**15**	**44.2**	**-2.6**
	125nm,0.9s									
WRAK				*e*Sn		**Sn**	**07**	**17**	**49.1**	**-3.4**
DIB	**Dawson Inlet,**	**12.13**	**97**	T		T	07	28	05.8	
	SNR=478									
DLBC	**Dease Lake**	**12.41**	**71**	Pn		**Pn**	**07**	**16**	**01.2**	**-0.7**
	3.4nm,0.3s,baz=270,slow=12,SNR=20									
DLBC				Sn		**Sn**	**07**	**18**	**14.5**	**-5.2**
	2.7nm,0.3s,baz=102,slow=19,SNR=2.9									
DLBC	**Dease Lake**	**12.41**	**71**	*e*Pn		**Pn**	**07**	**16**	**00.7**	**-1.2**
DLBC				Sn		**Sn**	**07**	**18**	**14.5**	**-5.2**
DLBC				*e*Sn		Sn	07	18	17.9	-1.9
INK	**Inuvik**	**14.81**	**29**	Pn		**Pn**	**07**	**16**	**32.6**	**-1.9**
	1.0nm,0.3s,baz=237,slow=19,SNR=97									
INK				LR		LR	07	22	34.9	
	comp=Z,33μm,20.5s,baz=222,slow=39									
INK	**Inuvik**	**14.81**	**29**	Pn		**Pn**	**07**	**16**	**32.6**	**-1.9**
BBB	**Bella Bella**	**14.97**	**96**	Pn		**Pn**	**07**	**16**	**34.5**	**-2.2**
	0.4nm,0.3s,baz=306,slow=15,SNR=4.9									
BBB				Sn		**Sn**	**07**	**19**	**16.6**	**-5.2**
	0.8nm,0.3s,baz=124,slow=19,SNR=6.3									
BBB				LR		LR	07	21	11.7	
	comp=Z,25μm,19.3s,baz=305,slow=33									
BBB	**Bella Bella**	**14.97**	**96**	Pn		**Pn**	**07**	**16**	**34.5**	**-2.2**
BBB				Sn		**Sn**	**07**	**19**	**16.6**	**-5.2**
AMKA	**Amchitka**	**17.14**	**265**	*e*Pn		**Pn**	**07**	**17**	**03.4**	**-1.3**
	604nm,0.9s									
PGC	**Sidney**	**19.33**	**101**	*e*P		**P**	**07**	**17**	**30.1**	**-0.3**
	113nm,2.8s									
NLWA	**Neilton Lookou**	**19.85**	**105**	*e*P		**P**	**07**	**17**	**36.1**	**0.0**
	519nm,1.8s									
SQM	**Sequim**	**19.89**	**102**	P		**Pn**	**07**	**17**	**37.6**	**-0.4**
FX1	**Attu Island--F**	**19.90**	**274**	P		**P**	**07**	**17**	**36.2**	**-0.3**
	13nm,0.3s,baz=283,slow=5.8,SNR=25									
FX1				S		S	07	21	11.8	-7.8
	1.1nm,0.3s,baz=300,slow=20,SNR=2.5									
FX1	**Attu Island--F**	**19.90**	**274**	*e*P		**P**	**07**	**17**	**35.3**	**-1.3**
FX1				S		S	07	21	11.8	-7.8
YKA	**Yellowknife Ar**	**20.09**	**57**	P		**P**	**07**	**17**	**35.7**	**-2.8**
	1.8nm,0.3s,baz=268,slow=12,SNR=65									
YKA				PcP		**PcP**	**07**	**21**	**53.7**	**+0.8**
	0.4nm,0.3s,baz=271,slow=1.6,SNR=7.4									
YKA				ScP		**ScP**	**07**	**25**	**27.9**	**-0.2**
	0.0nm,0.3s,baz=284,slow=2.2,SNR=5.6									
YKA	**Yellowknife Ar**	**20.09**	**57**	P		**P**	**07**	**17**	**35.7**	**-2.8**
YKA				PcP		**PcP**	**07**	**21**	**53.8**	**+0.8**
YKA				ScP		**ScP**	**07**	**25**	**27.9**	**-0.2**
JCW	**Jim Creek**	**20.43**	**101**	P		Pn	07	17	43.2	-1.3
B06A	**Marblemount**	**20.48**	**99**	P		**P**	**07**	**17**	**42.6**	**-0.3**
D05A	**Enumclaw**	**20.99**	**103**	P		**P**	**07**	**17**	**49.1**	**+0.7**
RCS	**Mount Rainier-**	**21.32**	**103**	P		**P**	**07**	**17**	**53.2**	**+0.8**
RCM	**Mount Rainier-**	**21.34**	**103**	P		**P**	**07**	**17**	**53.8**	**+1.2**
LON	**Longmire**	**21.36**	**104**	*e*P		**P**	**07**	**17**	**53.5**	**+1.1**
LON				pmax		pmax				
	comp=Z,473nm,1.8s									
LON	**Longmire**	**21.36**	**104**	*e*P		**P**	**07**	**17**	**53.5**	**+1.1**
	comp=Z,473nm,1.8s									
NLW	**Nelson Butte**	**21.36**	**99**	P		**P**	**07**	**17**	**53.5**	**+0.9**
STD	**Studebaker Rid**	**21.45**	**105**	P		**P**	**07**	**17**	**53.8**	**+0.3**
VALT	**Mount Saint He**	**21.49**	**105**	P		**P**	**07**	**17**	**54.5**	**+0.6**
MTMW	**Mount Mitchell**	**21.59**	**106**	P		**P**	**07**	**17**	**55.8**	**+0.7**
ETW	**Entiat**	**21.64**	**100**	P		**P**	**07**	**17**	**55.8**	**+0.2**
WTV	**Waterville**	**21.79**	**100**	P		**P**	**07**	**17**	**57.7**	**+0.6**
BILL	**Bilibino**	**21.86**	**319**	⇓*e*P		**P**	**07**	**17**	**56.6**	**-1.0**
BILL				*i*			07	18	16.8	
BILL				*i* SS		**S**	**07**	**22**	**01.6**	**+3.4**
BILL				pmax		pmax				
	comp=Z,247nm,1.0s									
BILL				MLR		MLR				
	comp=Z,71μm,19.0s									
BILL	**Bilibino**	**21.86**	**319**	*e*P		**P**	**07**	**17**	**56.3**	**-1.3**
	comp=Z,398nm,1.1s									
BILL				*e*S		**S**	**07**	**21**	**55.5**	**-2.7**
BILL				LR		LR				
	comp=Z,55μm,22.0s									
COR	**Corvallis**	**21.97**	**110**	*e*P		**P**	**07**	**18**	**00.5**	**+1.6**
COR				pmax		pmax				
	comp=Z,987nm,2.0s									
COR	**Corvallis**	**21.97**	**110**	*e*P		**P**	**07**	**18**	**00.5**	**+1.6**
	comp=Z,987nm,2.0s									
TRW	**Toppenish Ridg**	**22.32**	**103**	P		**P**	**07**	**18**	**03.3**	**+0.5**
VFP	**Flag Point**	**22.45**	**106**	P		**P**	**07**	**18**	**04.7**	**+0.4**
E07A	**Sunnyside**	**22.53**	**102**	P		**P**	**07**	**18**	**04.9**	**-0.1**
**M

C15A **Salmond Ranch,** 25.81 92 ⇑P P 07 18 36.0 -0.3
baz=26,SNR=36
G12A **Big Creek, Yel** 25.90 100 ⇓P P 07 18 36.9 -0.3
baz=26
CHMT **Chamberlain Mo** 25.95 95 eP P 07 18 37.5 -0.2
B16A **M & M Farms, S** 25.95 90 ⇓P P 07 18 36.7 -0.8
baz=26
F13A **Darby** 26.03 98 ⇓P P 07 18 38.3 0.0
baz=26,SNR=24
E14A **Clinton** 26.11 96 ⇓P P 07 18 38.8 -0.3
baz=26,SNR=28
A17A **Triple J Farms** 26.22 89 ⇑P P 07 18 39.5 -0.5
baz=26,SNR=22
C16A **Fuhringer Ranc** 26.27 92 ⇓P P 07 18 39.8 -0.7
baz=26,SNR=11
D15A **Lincoln** 26.28 94 ⇓P P 07 18 40.3 -0.3
baz=26,SNR=20
G13A **Cobalt** 26.52 99 ⇓P P 07 18 42.7 0.0
baz=26,SNR=26
B17A **L&G Farms, Che** 26.53 90 ⇑P P 07 18 41.6 -1.1
baz=26,SNR=20
H12A **Diamond D Ranc** 26.53 100 ⇓P P 07 18 42.5 -0.4
baz=26,SNR=21
F14A **Wisdom** 26.55 97 ⇓P P 07 18 42.8 -0.3
baz=26,SNR=12
E15A **Deer Lodge** 26.58 95 ⇓P P 07 18 42.6 -0.6
baz=26,SNR=14
A18A **Metzger Ranch,** 26.71 88 ⇑P P 07 18 43.5 -0.9
baz=27,SNR=9.2
OHCM **Honcut** 26.72 116 eP P 07 18 44.8 +0.4
MFID **Camas Ranch** 26.74 103 eP P 07 18 45.1 +0.4
comp=Z,69nm,1.3s
MFID **Camas Ranch** 26.74 103 ⇑P P 07 18 44.8 +0.1
baz=27,SNR=26
H13A **Challis** 26.85 100 ⇑P P 07 18 45.7 0.0
baz=27,SNR=36
G14A **Jackson** 26.85 98 ⇓P P 07 18 45.7 -0.1
baz=27,SNR=16
C17A **Wharram Farm,** 26.92 91 ⇑P P 07 18 45.7 -0.6
baz=27
F15A **Butte** 27.02 96 ⇓P P 07 18 47.2 -0.1
baz=27,SNR=21
B18A **Beardsley Farm** 27.04 89 ⇓P P 07 18 46.8 -0.5
baz=27,SNR=16
E16A **East Helena** 27.05 94 ⇑P P 07 18 47.7 +0.2
baz=27,SNR=22
LRM **Limekiln Ridge** 27.05 96 eP P 07 18 47.6 0.0
D17A **Six Diamond Ra** 27.23 92 ⇓P P 07 18 48.7 -0.5
baz=27,SNR=16
DLMT **Dillon** 27.25 97 eP P 07 18 50.2 +0.8
comp=Z,376nm,2.3s
EGMT **Eagleton** 27.26 89 eP P 07 18 49.2 -0.1
comp=Z,568nm,2.3s
EGMT LR LR
comp=Z,28µm,20.0s
H14A **Leadore** 27.30 99 ⇑P P 07 18 49.9 0.0
baz=27,SNR=46
A19A **Klindworth Far** 27.32 87 ⇑P P 07 18 49.4 -0.4
baz=27,SNR=18
I13A **Wildhorse Cree** 27.34 101 ⇓P P 07 18 50.5 +0.2
baz=27,SNR=26
HLID **Hailey** 27.41 102 eP P 07 18 51.1 +0.2
comp=Z,133nm,1.6s
HLID LR LR
comp=Z,15µm,19.0s
G15A **Dillon** 27.43 97 ⇑P P 07 18 51.0 0.0
baz=27,SNR=15
MCMT **McKenzie Canyo** 27.45 98 eP P 07 18 51.6 +0.4
B19A **Brinkman Farms** 27.47 88 ⇑P P 07 18 50.9 -0.3
baz=27,SNR=28
F16A **Kennard Place,** 27.53 95 ⇓P P 07 18 51.9 +0.1
baz=27,SNR=7.6
E17A **Martinsdale** 27.55 93 ⇓P P 07 18 52.1 +0.1
baz=27,SNR=18
BOZ **Bozeman (W)** 27.61 95 eP P 07 18 53.0 +0.4
BOZ pmax pmax
comp=Z,190nm,2.5s
BOZ MLR MLR
comp=Z,15µm,20.0s
BOZ **Bozeman (W)** 27.61 95 eP P 07 18 53.0 +0.4
comp=Z,190nm,2.5s
BOZ LR LR
comp=Z,15µm,20.0s
WCN **Washoe City** 27.61 114 eP P 07 18 54.0 +1.3
WCN eS S 07 23 40.3 +6.8
WCN pmax pmax
comp=Z,61nm,1.1s
WCN **Washoe City** 27.61 114 eP P 07 18 54.0 +1.3
comp=Z,61nm,1.1s
WCN eS S 07 23 40.3 +6.8
J13A **Cove Ranch, Pi** 27.65 102 ⇓P P 07 18 53.5 +0.6
baz=28,SNR=18
SEY **Seymchan** 27.68 306 ⇑⇓P P 07 18 52.4 -0.4
H15A **Lima** 27.70 98 ⇑P P 07 18 53.6 +0.3
baz=28,SNR=30
I14A **Mackay** 27.70 100 ⇑P P 07 18 54.0 +0.6
baz=28,SNR=18
D18A **Linhart Farms,** 27.70 91 ⇑P P 07 18 53.3 0.0
baz=28,SNR=25
G16A **Moss Hill, Enn** 27.77 96 ⇑P P 07 18 54.1 +0.1
baz=28,SNR=21
PET **Petropavlovsk** 27.80 284 d iP P 07 18 53.4 -0.5
PET eS S 07 23 31.4 -4.3
PET pmax pmax
comp=Z,3µm,7.1s
PET pmax pmax
comp=Z,4µm,16.8s
PET pmax pmax
comp=Z,159nm,1.1s
PET smax smax
comp=N,6µm,22.8s
PET smax smax
comp=N,4µm,19.7s
PET MLR MLR
comp=Z,22µm,18.0s
PET MLR MLR
comp=Z,19µm,19.0s
PET **Petropavlovsk** 27.80 284 eP P 07 18 54.7 +0.8
comp=Z,165nm,1.1s
PET LR LR
comp=Z,20µm,20.0s
A20A **Cobblestone Ra** 27.80 86 ⇑P P 07 18 54.2 0.0
baz=28,SNR=32
C19A **Slack Wire Ran** 27.81 89 ⇑P P 07 18 54.4 +0.1
baz=28,SNR=28
B20A **Solberg Farm,** 27.99 87 ⇓P P 07 18 55.6 -0.2
baz=28
F17A **Fitzpatrick Pl** 27.99 94 ⇑P P 07 18 56.1 +0.2
baz=28,SNR=25
E18A **Harlowton** 28.01 92 ⇑P P 07 18 56.3 +0.3
baz=28,SNR=15
J14A **Carey** 28.06 101 ⇑P P 07 18 57.6 +1.0
baz=28
BMN **Battle Mountai** 28.08 109 eP P 07 18 57.5 +0.7
BMN pmax pmax
comp=Z,618nm,3.0s
BMN MLR MLR
comp=Z,16µm,19.0s
BMN **Battle Mountai** 28.08 109 eP P 07 18 57.5 +0.7
comp=Z,618nm,3.0s
BMN LR LR
comp=Z,16µm,19.0s
I15A **Monteview** 28.18 99 ⇓P P 07 18 58.3 +0.6
baz=28
QLMT **Earthquake Lak** 28.23 96 eP P 07 18 58.7 +0.5
D19A **Cripps Ranch,** 28.23 90 ⇑P P 07 18 58.3 +0.3
baz=28,SNR=24
FFC **Flin Flon** 28.24 72 eP P 07 18 57.6 -0.4
FFC pmax pmax
comp=Z,355nm,2.2s
FFC MLR MLR
comp=Z,43µm,19.0s
FFC **Flin Flon** 28.24 72 eP P 07 18 57.6 -0.4
comp=Z,355nm,2.2s
FFC LR LR
comp=Z,43µm,19.0s
CMB **Columbia Colle** 28.27 117 eP P 07 18 59.5 +1.1
CMB pmax pmax
comp=Z,442nm,2.5s
CMB **Columbia Colle** 28.27 117 eP P 07 18 59.5 +1.1
comp=Z,442nm,2.5s
PEA0B **Petropavlovsk-** 28.27 284 eP P 07 18 58.2 0.0
PETK **Petropavlovsk-** 28.27 284 P P 07 18 58.2 0.0
comp=Z,10nm,0.5s,baz=75,slow=11,SNR=20
PETK LR LR 07 30 44.2
comp=Z,11µm,19.0s,baz=268,slow=38
PETK **Petropavlovsk-** 28.27 284 P P 07 18 58.2 0.0

PETK **Petropavlovsk-** 28.27 284 P P 07 18 58.2 0.0
A21A **Bergtoll Ranch** 28.29 86 ⇑P P 07 18 58.9 +0.4
baz=28,SNR=18
G17A **Pierce Place,** 28.31 95 ⇓P P 07 18 59.5 +0.7
baz=28,SNR=11
RES **Resolute Bay** 28.37 28 P P 07 18 58.9 0.0
comp=Z,19nm,0.7s,baz=256,slow=11,SNR=52
RES S S 07 23 41.3 -3.1
comp=Z,6.8nm,1.0s,baz=27,slow=16,SNR=1.5
RES LR LR 07 31 02.2
comp=Z,14µm,19.4s,baz=85,slow=38
RES **Resolute Bay** 28.37 28 eP P 07 18 59.0 +0.1
comp=Z,112nm,1.0s
RES S S 07 23 41.3 -3.1
C20A **Veseth Ranch,** 28.40 89 ⇓P P 07 18 59.7 +0.2
baz=28,SNR=16
H16A **Russell Place,** 28.41 97 ⇑P P 07 19 00.5 +0.7
baz=28,SNR=29
F18A **Big Timber** 28.52 93 ⇓P P 07 19 01.1 +0.6
baz=28,SNR=13
B21A **Ellsworth Farm** 28.55 87 ⇓P P 07 19 00.5 -0.3
baz=28
YMR **Madison River** 28.59 96 eP P 07 19 02.5 +1.1
comp=Z,92nm,1.1s
YMR ePP PP 07 20 04.1 -1.7
YMR ePcP PcP 07 22 15.7 +3.6
J15A **Blackfoot** 28.60 100 ⇓P P 07 19 02.5 +1.1
baz=28,SNR=45
GCMT **Greycliff** 28.61 93 eP P 07 19 02.8 +1.3
comp=Z,86nm,1.6s
D20A **Manuel Ranch,** 28.69 90 ⇓P P 07 19 02.6 +0.5
baz=29,SNR=19
E19A **Rath Farm, Rou** 28.70 91 ⇓P P 07 19 02.9 +0.8
baz=29,SNR=22
K14A **Jones Ranch, D** 28.77 102 ⇓P P 07 19 04.1 +1.2
baz=29,SNR=13
I16A **Newdale** 28.81 98 ⇓P P 07 19 04.1 +0.8
baz=29,SNR=18
C21A **Desert Coulee** 28.84 88 ⇓P P 07 19 04.0 +0.6
baz=29,SNR=11
A22A **Carney Farms,** 28.85 85 ⇑P P 07 19 04.0 +0.5
baz=29,SNR=8.6
ELK **Elko** 28.91 107 eP P 07 19 05.2 +1.0
G18A **Lazy EL Ranch,** 28.96 94 ⇑P P 07 19 04.6 0.0
baz=29
LKWY **Lake** 28.97 96 PFAKE 07 19 20.0 +15
LKWY LR LR
comp=Z,22µm,19.0s
F19A **Roth Farm, Mol** 28.98 93 ⇑P P 07 19 05.4 +0.8
baz=29,SNR=6.2
H17A **Grant Village** 28.98 96 ⇑P P 07 19 06.7 +1.9
baz=29,SNR=31
NVAR **Mina Array Bea** 29.01 114 P P 07 19 05.9 +0.7
comp=Z,27nm,0.7s,baz=306,slow=8.5,SNR=104
NVAR PcP PcP 07 22 13.8 +0.6
comp=Z,2.9nm,0.7s,baz=326,slow=2.0,SNR=2.7
NVAR ScP ScP 07 25 54.6 +0.9
comp=Z,2.4nm,0.7s,baz=295,slow=3.2,SNR=7.6
NVAR **Mina Array Bea** 29.01 114 P P 07 19 05.9 +0.7
NVAR PcP PcP 07 22 13.8 +0.6
NVAR ScP ScP 07 25 54.6 +0.9
K15A **Arbon** 29.02 101 ⇑P P 07 19 06.8 +1.7
baz=29,SNR=27
E20A **Meyer Farm, Mu** 29.04 91 ⇑P P 07 19 05.7 +0.5
baz=29,SNR=27
L14A **Malta** 29.08 103 ⇑P P 07 19 06.8 +1.1
baz=29,SNR=9.5
NV11 **Mina Array Sit** 29.09 113 eP P 07 19 06.5 +0.7
NV11 eS S 07 23 53.8 -2.8
NV11 eScP ScP 07 25 55.7 +1.9
IMW **Indian Meadow** 29.10 98 eP P 07 19 07.3 +1.4
comp=Z,58nm,1.1s
DCID1 **Drake Creek** 29.16 98 eP P 07 19 07.2 +0.8
comp=Z,46nm,0.8s
B22A **Reddig Ranch S** 29.19 86 ⇑P P 07 19 07.1 +0.6
baz=29,SNR=9.9
RLMT **Red Lodge** 29.25 94 eP P 07 19 08.6 +1.4
comp=Z,441nm,2.6s
RLMT LR LR
comp=Z,12µm,20.0s
RRI2 **Red Ridge** 29.25 99 eP P 07 19 08.5 +1.2
comp=Z,323nm,2.3s
I17A **Pilgrim Ck.** 29.28 97 ⇑P P 07 19 09.1 +1.6
baz=29,SNR=11
MOOW **Moose Ponds** 29.30 98 eP P 07 19 09.0 +1.3
comp=Z,114nm,1.8s
H18A **Shoshone NF, C** 29.30 95 ⇓P P 07 19 08.5 +0.7
baz=29,SNR=14
D21A **La Casta Ranch** 29.34 89 ⇓P P 07 19 08.2 +0.3
baz=29,SNR=26
MLAC **Mammoth Lakes** 29.36 115 ⇑P P 07 19 09.9 +1.7
baz=29
TPAW **Teton Pass** 29.36 98 eP P 07 19 09.4 +1.1
comp=Z,35nm,1.1s
K16A **Soda Springs** 29.44 100 ⇑P P 07 19 10.5 +1.6
baz=29,SNR=6.4
A23A **Redstone** 29.45 84 ⇑P P 07 19 08.9 +0.2
baz=29
F20A **Billings** 29.45 92 ⇓P P 07 19 09.7 +0.9
baz=29,SNR=15
LOHW **Long Hollow** 29.47 98 eP P 07 19 10.2 +1.0
comp=Z,44nm,1.3s
SNOW **Snow King Moun** 29.48 98 eP P 07 19 10.9 +1.6
comp=Z,122nm,1.8s
HVU **Hansel Valley** 29.51 103 eP P 07 19 11.2 +1.7
HVU pmax pmax
comp=Z,372nm,2.3s
HVU **Hansel Valley** 29.51 103 eP P 07 19 11.2 +1.7
comp=Z,372nm,2.3s
C22A **Vida** 29.56 87 ⇓P P 07 19 10.1 +0.3
baz=29,SNR=14
L15A **Malad City** 29.56 102 ⇓P P 07 19 11.3 +1.3
baz=30,SNR=16
J17A **Brown Place, J** 29.57 98 ⇓P P 07 19 11.3 +1.2
baz=30,SNR=8.5
E21A **Keefer Ranch,** 29.60 90 ⇓P P 07 19 11.0 +0.9
baz=30
B23A **Brockton** 29.66 85 ⇓P P 07 19 10.7 +0.1
baz=30,SNR=7.6
H19A **Powell** 29.68 94 ⇓P P 07 19 11.9 +0.9
baz=30
MTUM **Tungsten Hills** 29.71 115 eP P 07 19 13.2 +1.9
D22A **Cohagen** 29.74 88 ⇓P P 07 19 11.9 +0.6
baz=30,SNR=22
AHID **Auburn Hatcher** 29.75 99 eP P 07 19 12.3 +0.6
comp=Z,423nm,3.0s
AHID LR LR
comp=Z,7µm,20.0s
G20A **Bridger** 29.77 93 ⇑P P 07 19 12.4 +0.6
baz=30
TPH **Tonopah** 29.84 113 PFAKE 07 19 30.0 +18
TPH LR LR
comp=Z,18µm,20.0s
I18A **Diamond G Ranc** 29.84 97 ⇓P P 07 19 13.5 +1.0
baz=30,SNR=23
K17A **Gardner Place,** 29.86 99 ⇑P P 07 19 13.4 +0.8
baz=30
M15A **Larsen Ranch,** 29.90 103 ⇑P P 07 19 14.2 +1.3
baz=30
C23A **Lambert** 29.92 86 ⇓P P 07 19 13.2 +0.3
baz=30,SNR=24
A24A **Westby** 29.95 84 ⇑P P 07 19 13.6 +0.5
baz=30,SNR=10
F21A **Absaloka Mine,** 30.01 91 ⇑P P 07 19 14.8 +1.0
baz=30
J18A **Kendall Valley** 30.05 98 ⇓P P 07 19 14.8 +0.4
baz=30,SNR=28
L16A **Fish Haven** 30.08 101 ⇓P P 07 19 15.7 +1.1
baz=30,SNR=12
I19A **Meeteetse** 30.08 95 ⇓P P 07 19 15.1 +0.5
baz=30,SNR=9.2
DGMT **Dagmar** 30.09 84 eP P 07 19 15.2 +0.8
comp=Z,232nm,1.6s
DGMT LR LR
comp=Z,25µm,19.0s
TIN **Tinemaha** 30.11 115 ⇓P P 07 19 16.3 +1.6
baz=30
RCTC **Rector, Farmer** 30.19 117 ⇑P P 07 19 16.1 +0.8
baz=30
PTRM **Twissleman Ran** 30.23 119 eP P 07 19 17.4 +1.6
N15A **Stansbury Isla** 30.26 104 ⇓P P 07 19 16.8 +0.7
baz=30
D23A **Lindsay** 30.27 87 ⇓P P 07 19 16.7 +0.6
baz=30,SNR=14
HWUT **Hardware Ranch** 30.28 102 eP P 07 19 17.0 +0.7
comp=Z,505nm,2.5s
HWUT LR LR
comp=Z,28µm,21.0s

E22A **Miles City** 30.29 89 ⇓P P 07 19 16.8 +0.6
baz=30
SKR **Severo-Kuril's** 30.30 281 eP P 07 19 13.3 -2.9
SKR e 07 20 37.0
SKR pmax pmax
comp=Z,2µm,14.0s
G21A **Lodge Grass** 30.32 92 ⇑P P 07 19 16.9 +0.3
baz=30,SNR=9.6
L17A **Cokeville** 30.32 100 ⇓P P 07 19 17.6 +0.8
baz=30,SNR=19
H20A **Greybull** 30.35 94 ⇓P P 07 19 17.1 +0.3
baz=30
K18A **Toltan Ranch,** 30.42 99 ⇓P P 07 19 18.2 +0.6
baz=30,SNR=7.9
R11A **Troy Canyon, C** 30.48 110 ⇓P P 07 19 18.8 +0.8
baz=30,SNR=50
C24A **Savage** 30.50 86 ⇑P P 07 19 18.9 +0.9
baz=30,SNR=8.4
F22A **Rosebud** 30.51 90 ⇑P P 07 19 19.0 +0.7
baz=30
J19A **Crowheart** 30.55 97 ⇓P P 07 19 19.4 +0.7
baz=30,SNR=16
DUG **Dugway** 30.59 105 eP P 07 19 20.1 +1.0
DUG pmax pmax
comp=Z,151nm,1.8s
DUG MLR MLR
comp=Z,11µm,20.0s
DUG **Dugway** 30.59 105 eP P 07 19 20.1 +1.0
comp=Z,151nm,1.8s
DUG LR LR
comp=Z,11µm,20.0s
BW06 **Boulder Array** 30.60 98 eP P 07 19 18.8 -0.4
comp=Z,405nm,2.8s
BW06 LR LR
comp=Z,17µm,22.0s
PDAR **Pinedale Array** 30.60 98 P P 07 19 18.8 -0.5
comp=Z,22nm,0.7s,baz=313,slow=4.7,SNR=98
PDAR **Pinedale Array** 30.60 98 P P 07 19 18.8 -0.5
E23A **Ismay** 30.61 88 ⇓P P 07 19 20.0 +0.9
baz=30,SNR=7.7
SMMC **Simmler** 30.61 120 ⇓P P 07 19 20.6 +1.5
baz=31,SNR=9.5
I20A **Worland** 30.62 95 ⇑P P 07 19 19.7 +0.5
baz=30,SNR=7.3
VES **Vestal, Richgr** 30.64 118 ⇑P P 07 19 19.9 +0.6
baz=31,SNR=6.6
CWC **Cottonwood Cre** 30.66 116 ⇓P P 07 19 21.1 +1.4
baz=31,SNR=9.4
O15A **The Old Anders** 30.72 104 ⇓P P 07 19 20.7 +0.5
baz=31
H21A **Big Horn, Sher** 30.79 93 ⇑P P 07 19 20.9 +0.1
baz=31
D24A **Glendive** 30.79 87 ⇑P P 07 19 21.9 +1.3
baz=31
G22A **Birney** 30.84 91 ⇑P P 07 19 21.5 +0.3
baz=31,SNR=5.6
N16A **Rees Ranch, Co** 30.85 102 ⇑P P 07 19 22.1 +0.6
baz=31,SNR=9.8
M17A **Scullys Gap (B** 30.86 101 ⇑P P 07 19 22.0 +0.4
baz=31,SNR=16
L18A **Fontenelle, Gr** 30.90 100 ⇑P P 07 19 22.1 +0.3
baz=31,SNR=11
K19A **Absolon Red Bu** 30.95 97 ⇑P P 07 19 22.1 -0.2
baz=31,SNR=11
J20A **Shoshoni** 31.03 96 ⇑P P 07 19 23.9 +1.1
baz=31,SNR=13
DAC **Darwin (Calif)** 31.03 115 eP P 07 19 24.6 +1.6
DAC pmax pmax
comp=Z,103nm,1.5s
DAC MLR MLR
comp=Z,17µm,19.0s
DAC **Darwin (Calif)** 31.03 115 eP P 07 19 24.6 +1.6
comp=Z,103nm,1.5s
DAC LR LR
comp=Z,17µm,19.0s
PKM **Peak Mountain** 31.04 120 ⇓P P 07 19 24.4 +1.4
baz=31
JLU **Jordanelle** 31.04 103 eP P 07 19 24.2 +1.1
comp=Z,318nm,2.4s
ISA **Isabella** 31.08 117 eP P 07 19 23.4 +0.1
ISA pmax pmax
comp=Z,478nm,2.3s
ISA **Isabella** 31.08 117 eP P 07 19 23.4 +0.1
comp=Z,478nm,2.3s
ISA **Isabella** 31.08 117 ⇑P P 07 19 24.1 +0.8
baz=31,SNR=14
E24A **Baker** 31.13 88 ⇓P P 07 19 24.6 +1.0
baz=31,SNR=5.8
N17A **Moffit Pass** 31.14 102 ⇓P P 07 19 24.3 +0.3
baz=31,SNR=7.1
L19A **Farson** 31.16 99 ⇑P P 07 19 24.1 0.0
baz=31,SNR=15
I21A **Big Trails, Te** 31.17 94 ⇑P P 07 19 24.1 0.0
baz=31,SNR=27
H22A **Clearmont** 31.19 92 ⇑P P 07 19 24.8 +0.5
baz=31
M18A **Lyman** 31.22 100 ⇑P P 07 19 24.9 +0.2
baz=31,SNR=27
FURC **Furnace Creek,** 31.25 114 ⇑P P 07 19 25.8 +1.1
baz=31,SNR=9.7
MPMC **Manual Prospec** 31.25 116 ⇓P P 07 19 25.7 +0.7
baz=31,SNR=26
DAU **Daniels Canyon** 31.28 103 eP P 07 19 26.5 +1.2
DAU **Daniels Canyon** 31.28 103 eP P 07 19 26.5 +1.2
O16A **Springville** 31.29 103 ⇓P P 07 19 25.7 +0.5
baz=31,SNR=10
ARVC **Arvin** 31.33 118 ⇓P P 07 19 25.4 0.0
baz=31
P15A **Leamington** 31.33 105 ⇑P P 07 19 26.4 +0.8
baz=31,SNR=7.4
K20A **Yellowstone Ra** 31.34 97 ⇑P P 07 19 25.4 -0.3
baz=31,SNR=19
G23A **Biddle** 31.35 91 ⇑P P 07 19 25.7 +0.1
baz=31,SNR=9.3
MPU **Maple Canyon** 31.36 104 eP P 07 19 27.1 +1.2
comp=Z,106nm,1.6s
J21A **Lysite** 31.39 95 ⇓P P 07 19 26.4 +0.4
baz=31,SNR=36
SBC **Santa Barbara** 31.45 120 ⇑P P 07 19 28.1 +1.6
baz=32
F24A **Ekalaka** 31.48 89 ⇓P P 07 19 27.4 +0.6
baz=31,SNR=6.2
I22A **9 Mile Ranch,** 31.57 93 ⇓P P 07 19 27.8 +0.2
baz=31,SNR=8.1
LRMC **Laurel Mountai** 31.61 117 ⇑P P 07 19 29.0 +1.0
baz=32
P16A **Fountain Green** 31.63 104 ⇑P P 07 19 29.4 +1.1
baz=32
M19A **Rock Springs** 31.67 99 ⇑P P 07 19 28.4 -0.3
baz=32,SNR=20
O17A **Robinson Place** 31.72 103 ⇓P P 07 19 29.8 +0.7
baz=32,SNR=23
H23A **Clabaugh Cattl** 31.74 91 ⇓P P 07 19 28.4 -0.7
baz=32
N18A **Larsen Ranch,** 31.75 101 ⇑P P 07 19 29.1 -0.2
baz=32,SNR=23
L20A **Wamsutter** 31.78 98 ⇓P P 07 19 29.0 -0.6
baz=32,SNR=8.9
G24A **Alzada** 31.81 90 ⇓P P 07 19 29.9 +0.1
baz=32,SNR=5.1
BSC **Santa Cruz Isl** 31.86 121 ⇓P P 07 19 30.8 +0.8
baz=32
J22A **Midwest** 31.88 94 ⇑P P 07 19 30.4 0.0
baz=32,SNR=34
EDW2 **Edwards Air Fo** 31.94 118 ⇓P P 07 19 30.8 -0.1
baz=32,SNR=6.4
K21A **Alcova** 31.96 96 ⇑P P 07 19 31.0 -0.1
baz=32,SNR=47
SHOC **Shoshone** 31.99 114 ⇑P P 07 19 32.9 +1.6
baz=32
ARUT **Antelope Range** 32.02 109 eP P 07 19 32.4 +0.8
ARUT e 07 20 43.5
ARUT **Antelope Range** 32.02 109 eP P 07 19 32.4 +0.8
comp=Z,26µm,1.1s
ARUT ePP PP 07 20 43.5 -0.4
BLG **Laguna Peak** 32.04 120 ⇑P P 07 19 32.4 +0.7
baz=32
O18A **Roosevelt** 32.06 102 ⇑P P 07 19 32.9 +0.9
baz=32,SNR=18
N19A **John Jarvie Ra** 32.08 100 ⇑P P 07 19 32.4 +0.2
baz=32,SNR=42
I23A **Meade Ranch, G** 32.09 92 ⇓P P 07 19 32.1 -0.1
baz=32
H24A **Dirks Ranch, A** 32.10 90 ⇓P P 07 19 32.0 -0.2
baz=32,SNR=10
TMUT **Trail Mountain** 32.10 104 eP P 07 19 34.1 +1.6
comp=Z,972nm,2.9s
MVU **Marysvale** 32.14 106 eP P 07 19 34.1 +1.3

MVU LR LR
comp=Z,9µm,20.0s
MSU Marysvale 32.15 106 *e*P **P 07 19 34.3 +1.4**
MSU Marysvale 32.15 106 *e*P **P 07 19 34.3 +1.4**
GSC Goldstone 32.19 116 *e*P **P 07 19 34.4 +1.3**
GSC pmax pmax
comp=Z,762nm,2.6s
GSC Goldstone 32.19 116 *e*P **P 07 19 34.4 +1.3**
comp=Z,762nm,2.6s
GSC Goldstone 32.19 116 ⇑P **P 07 19 34.2 +1.1**
baz=32,SNR=13
M20A Sweetwater, Wa 32.21 98 ⇓P **P 07 19 33.7 +0.3**
baz=32,SNR=30
P17A Butcher Ranch, 32.23 104 ⇑P **P 07 19 34.1 +0.6**
baz=32,SNR=14
CCUT Cedar City 32.23 109 *e*P **P 07 19 34.5 +0.8**
comp=Z,226nm,1.9s
DECC Green Verdugo 32.28 119 ⇑P **P 07 19 34.6 +0.8**
baz=32
L21A Rawlins 32.34 97 ⇓P **P 07 19 34.7 +0.1**
baz=32,SNR=24
K22A Casper 32.35 95 ⇑P **P 07 19 34.4 -0.1**
baz=32,SNR=12
P18A Preston Nutter 32.38 103 ⇓P **P 07 19 36.0 +1.0**
baz=32
Q16A Castle Valley 32.39 105 ⇑P **P 07 19 36.2 +1.2**
baz=32,SNR=16
J23A Dilts Ranch, B 32.40 93 ⇑P **P 07 19 35.7 +0.8**
baz=32
PASC Pasadena Art C 32.41 119 *e*P **P 07 19 36.0 +1.1**
comp=Z,21nm,0.9s
RRX Edison Barstow 32.43 116 ⇓P **P 07 19 36.4 +1.2**
baz=32
MWC Mount Wilson 32.43 118 *e*P **P 07 19 36.9 +1.5**
MWC pmax pmax
comp=Z,464nm,2.3s
MWC Mount Wilson 32.43 118 *e*P **P 07 19 36.9 +1.5**
comp=Z,464nm,2.3s
O19A Miners Draw (B 32.52 101 ⇑P **P 07 19 36.7 +0.6**
baz=32,SNR=17
TUQ Turquoise Moun 32.53 114 ⇑P **P 07 19 37.1 +1.0**
baz=32
M21A Separation Pea 32.59 97 ⇑P **P 07 19 36.6 -0.1**
baz=32,SNR=35
SRU San Rafael 32.60 104 *e*P **P 07 19 37.8 +1.0**
SRU pmax pmax
comp=Z,6µm,1.3s
SRU San Rafael 32.60 104 *e*P **P 07 19 37.8 +1.0**
comp=Z,6µm,1.3s
BFSC Mount Baldy Ra 32.62 118 ⇑P **P 07 19 38.0 +1.1**
baz=33,SNR=13
I24A Kuemmerle Ranc 32.62 92 ⇓P **P 07 19 37.1 +0.3**
baz=32
N20A Spence Gulch, 32.62 99 ⇓P **P 07 19 37.9 +0.9**
baz=32,SNR=50
FMP Fort Macarthur 32.73 119 ⇑P **P 07 19 37.8 +0.1**
baz=33
RSSD Black Hills 32.78 91 *e*P **P 07 19 38.4 0.0**
RSSD pmax pmax
comp=Z,242nm,1.8s
RSSD Black Hills 32.78 91 *e*P **P 07 19 38.4 0.0**
comp=Z,242nm,1.8s
K23A Bowen Ranch, D 32.78 94 ⇑P **P 07 19 38.6 +0.3**
baz=33,SNR=28
HEC Hector,Ludlow 32.80 116 ⇑P **P 07 19 39.3 +0.8**
baz=33,SNR=9.5
L22A Ellis Ranch, M 32.81 96 ⇑P **P 07 19 39.5 +0.8**
baz=33,SNR=7.0
CIS Catalina Islan 32.93 120 ⇑P **P 07 19 40.2 +0.7**
baz=33
J24A Dixon Ranch, L 32.94 93 ⇑P **P 07 19 39.8 +0.2**
baz=33
BBRC Big Bear Solar 32.96 117 ⇑P **P 07 19 40.9 +0.8**
baz=33
MDND Maddock 32.98 82 ⇑P **P 07 19 40.2 +0.4**
baz=33,SNR=22
P19A Cripple Cowboy 33.07 102 ⇑P **P 07 19 41.6 +0.7**
baz=33,SNR=48
N21A Black Mountain 33.08 99 ⇑P **P 07 19 41.4 +0.4**
baz=33,SNR=33
O20A White River Ci 33.12 100 ⇓P **P 07 19 41.7 +0.4**
baz=33,SNR=52
M22A Cedar Creek Ra 33.15 97 ⇑P **P 07 19 41.8 +0.2**
baz=33,SNR=13
L23A Garrett 33.16 95 ⇑P **P 07 19 42.0 +0.3**
baz=33,SNR=44
MIDW Midway 33.17 222 PFAKE 07 20 00.0 +18
MIDW LR LR
comp=Z,16µm,20.0s
GMRC Granite Mounta 33.18 115 ⇓P **P 07 19 42.5 +0.7**
baz=33,SNR=24
SCI San Clemente I 33.20 120 ⇓P **P 07 19 43.0 +1.2**
baz=33
K24A Anderson Ranch 33.25 94 ⇓P **P 07 19 42.2 -0.2**
baz=33,SNR=15
MURC Murrieta 33.35 118 ⇑P **P 07 19 44.2 +1.0**
baz=33
Q19A Hogan Spring (33.40 103 ⇓P **P 07 19 44.1 +0.5**
baz=33,SNR=35
P20A De Beque 33.48 101 ⇑P **P 07 19 44.8 +0.3**
baz=33,SNR=29
O21A Pagoda 33.48 99 ⇓P **P 07 19 44.7 +0.2**
baz=33
M23A Laramie 33.59 96 ⇓P **P 07 19 45.6 +0.2**
baz=34,SNR=8.5
BELC Belle Mtn. Jos 33.63 116 ⇓P **P 07 19 46.3 +0.5**
baz=34
N22A Wattenberg Ran 33.64 98 ⇑P **P 07 19 46.5 +0.6**
baz=34,SNR=26
L24A Wheatland 33.64 95 ⇑P **P 07 19 46.2 +0.5**
baz=34,SNR=10
U15A North Rim 33.64 109 ⇑P **P 07 19 47.2 +1.2**
baz=34,SNR=15
ULM Lac du Bonnet 33.67 76 P **P 07 19 46.1 +0.4**
comp=Z,51nm,0.8s,baz=301,slow=8.9,SNR=68
ULM S **S 07 25 04.0 -3.7**
comp=Z,1.0nm,0.4s,baz=321,slow=7.3,SNR=3.1
ULM LR LR 07 33 45.0
comp=Z,33µm,18.2s,baz=313,slow=37
ULM Lac du Bonnet 33.67 76 *e*P **P 07 19 46.4 +0.6**
comp=Z,264nm,1.3s
ULM S **S 07 25 04.0 -3.7**
PFO Pinyon Flat Ob 33.72 117 *e*P **P 07 19 46.8 +0.3**
comp=Z,959nm,2.9s
PFO LR LR
comp=Z,13µm,22.0s
PFO Pinyon Flat Ob 33.72 117 ⇓P **P 07 19 47.3 +0.8**
baz=34
NEE2 Needles Airpor 33.72 114 ⇓P **P 07 19 47.4 +1.1**
baz=34
W13A Hualapai Mount 33.84 112 ⇑P **P 07 19 48.5 +0.9**
baz=34,SNR=9.6
PHWY Pilot Hill 33.84 96 *e*P **P 07 19 47.2 -0.5**
comp=Z,150nm,2.4s
K25A Mack Ranch, Ha 33.85 93 ⇑P **P 07 19 48.1 +0.5**
baz=34
N23A Red Feather La 33.85 97 ⇑P **P 07 19 48.5 +0.7**
baz=34,SNR=8.3
S18A Hurst Farm, Bl 33.92 105 ⇑P **P 07 19 48.8 +0.4**
baz=34,SNR=19
Q20A Ridgley Place, 33.92 102 ⇑P **P 07 19 47.9 -0.4**
baz=34,SNR=11
IRM Iron Mountain 33.93 115 ⇓P **P 07 19 49.5 +1.3**
baz=34,SNR=6.0
109C Camp Elliot, M 33.98 119 ⇓P **P 07 19 49.4 +0.8**
baz=34,SNR=7.9
P21A Newcastle 33.98 100 ⇑P **P 07 19 49.6 +0.7**
baz=34,SNR=17
PV04 Paradox Valley 34.00 103 *e*P **P 07 19 50.0 +1.1**
O22A Kremmling 34.03 99 ⇑P **P 07 19 49.8 +0.4**
baz=34,SNR=14
M24A Cheyenne 34.08 95 ⇓P **P 07 19 50.5 +0.8**
baz=34,SNR=6.1
L25A Engebretsen Ra 34.10 94 ⇓P **P 07 19 50.2 +0.4**
baz=34
K26A Motz Farm, Whi 34.17 92 ⇓P **P 07 19 50.2 -0.2**
baz=34
BC3 Big Chuckawall 34.18 116 ⇑P **P 07 19 51.0 +0.5**
baz=34,SNR=9.1
P22A Eagle 34.31 100 ⇑P **P 07 19 51.8 0.0**
baz=34,SNR=13
MONP Monument Peak 34.31 118 ⇑P **P 07 19 52.8 +1.0**
baz=34
PDMCI Parker Dam,Lak 34.33 114 ⇑P **P 07 19 52.8 +1.2**
baz=34,SNR=7.1
O23A Lake Granby, G 34.34 98 ⇓P **P 07 19 53.0 +0.9**
baz=34,SNR=29
BAR Barrett 34.36 118 *e*P **P 07 19 53.6 +1.6**
comp=Z,598nm,2.5s
PV01 Paradox Valley 34.37 103 *e*P **P 07 19 53.0 +0.8**
comp=Z,17µm,1.8s
Q21A Lamborn Mesa, 34.40 101 ⇓P **P 07 19 52.7 +0.2**
baz=34,SNR=8.1
R20A Redvale 34.43 103 ⇑P **P 07 19 53.2 +0.5**
baz=34,SNR=26
SMCO Snowmass 34.49 100 *e*P **P 07 19 53.5 +0.1**
comp=Z,181nm,1.9s
N24A Carr 34.49 96 ⇓P **P 07 19 53.4 +0.2**
baz=34,SNR=5.8
TIXI Tiksi 34.52 327 PFAKE 07 20 00.0 +7.1
TIXI LR LR
comp=Z,19µm,19.0s
M25A Palm-Egli Farm 34.53 95 ⇑P **P 07 19 54.0 +0.4**
baz=34,SNR=6.0
Y12C Blythe 34.57 115 ⇓P **P 07 19 55.0 +1.3**
baz=34,SNR=29
DVTC Desert V Tower 34.66 118 ⇑P **P 07 19 55.4 +0.8**
baz=35
L26A Underwood Farm 34.67 93 ⇑P **P 07 19 54.5 -0.2**
baz=34
K27A Flueckinger Fa 34.70 91 ⇑P **P 07 19 54.5 -0.4**
baz=35
S20A Disappointment 34.70 103 ⇑P **P 07 19 55.2 0.0**
baz=35,SNR=21
Q22A Crested Butte, 34.74 101 ⇑P **P 07 19 56.1 +0.5**
baz=35,SNR=10
R21A Cimarron 34.75 102 ⇓P **P 07 19 56.3 +0.7**
baz=35,SNR=12
AGMN Agassiz Nation 34.77 79 *e*P **P 07 19 55.1 -0.2**
AGMN LR LR
comp=Z,370nm,1.4s
comp=Z,30µm,19.0s
ISCO Idaho Springs 34.79 98 *e*P **P 07 19 57.1 +1.1**
ISCO pmax pmax
comp=Z,314nm,2.6s
ISCO MLR MLR
comp=Z,6µm,20.0s
ISCO Idaho Springs 34.79 98 *e*P **P 07 19 57.1 +1.1**
comp=Z,314nm,2.6s
ISCO LR LR
comp=Z,6µm,20.0s
WUAZ Wupatki 34.82 109 *e*P **P 07 19 57.6 +1.5**
comp=Z,117nm,1.4s
WUAZ LR LR
comp=Z,13µm,19.0s
O24A Longmont 34.87 97 ⇓P **P 07 19 57.5 +1.0**
baz=35,SNR=9.2
N25A Grover 34.94 95 ⇑P **P 07 19 57.5 +0.5**
baz=35
P23A Jefferson 34.97 99 ⇓P **P 07 19 59.1 +1.5**
baz=35,SNR=13
GLA Glamis 34.97 116 *e*P **P 07 19 58.6 +1.3**
GLA pmax pmax
comp=Z,63nm,1.0s
GLA Glamis 34.97 116 *e*P **P 07 19 58.6 +1.3**
comp=Z,62nm,1.0s
GLA Glamis 34.97 116 ⇑P **P 07 19 58.4 +1.1**
baz=35,SNR=7.3
M26A McRoberts Ranc 35.02 94 ⇓P **P 07 19 57.3 -0.4**
baz=35
L27A T5 Ranch, Ells 35.06 92 ⇓P **P 07 19 57.6 -0.5**
baz=35
MVCO Mesa Verde 35.08 104 *e*P **P 07 19 59.2 +0.8**
comp=Z,192nm,2.0s
MVCO LR LR
comp=Z,9µm,20.0s
S21A Coal Bank Pass 35.13 103 ⇓P **P 07 19 59.4 +0.5**
baz=35,SNR=22
KIP Kipapa 35.15 189 PFAKE 07 20 10.0 +11
KIP LR LR
comp=Z,9µm,22.0s
Y14A Wickenburg 35.19 113 ⇓P **P 07 20 00.3 +1.1**
baz=35,SNR=12
R22A Saguache, Gunn 35.28 101 ⇑P **P 07 20 01.4 +1.1**
baz=35,SNR=5.4
Q23A Hartsel 35.30 99 ⇓P **P 07 20 00.7 +0.3**
baz=35,SNR=20
P24A Kohler Place, 35.38 98 ⇓P **P 07 20 02.3 +1.4**
baz=35
M27A Reverse DX Ran 35.39 93 ⇓P **P 07 20 01.1 +0.2**
baz=35
BRSD Miller 35.40 86 ⇓P **P 07 20 01.2 +0.4**
baz=35,SNR=7.8
O25A Wiggins 35.40 96 ⇑P **P 07 20 01.8 +0.8**
baz=35
N26A Koester Ranch, 35.41 95 ⇑P **P 07 20 01.2 +0.2**
baz=35
S22A 4UR Ranch, Cre 35.59 102 ⇓P **P 07 20 03.7 +0.8**
baz=36,SNR=12
X16A La Jolla Camp, P 35.63 110 ⇓P **P 07 20 04.5 +1.4**
baz=36,SNR=33
Q24A Divide 35.64 99 ⇑P **P 07 20 04.2 +0.9**
baz=36,SNR=13
Z14A Wintersburg 35.68 113 ⇓P **P 07 20 04.1 +0.8**
baz=36,SNR=6.1
U20A Newcomb 35.69 105 ⇑P **P 07 20 04.3 +0.7**
baz=36
113A Mohawk Valley, 35.73 115 ⇑P **P 07 20 04.5 +0.8**
baz=36,SNR=12
O26A Horse Wrangler 35.76 95 ⇑P **P 07 20 04.6 +0.5**
baz=36,SNR=5.4
T21A Navajo Lake 35.76 103 ⇑P **P 07 20 04.8 +0.6**
baz=36
P25A Willow Gulch B 35.79 97 ⇑P **P 07 20 05.7 +1.2**
baz=36,SNR=16
N27A Anderson Farm, 35.80 94 ⇓P **P 07 20 05.1 +0.7**
baz=36,SNR=12
R23A Moffat 35.82 100 ⇓P **P 07 20 05.3 +0.5**
baz=36,SNR=8.2
OGNE Ogallala 35.98 93 *e*P **P 07 20 06.9 +0.9**
comp=Z,775nm,2.1s
OGNE LR LR
comp=Z,17µm,20.0s
W18A Petrified Fore 35.99 108 ⇑P **P 07 20 06.7 +0.6**
baz=36
S23A Nye Farm, Mont 36.07 101 ⇓P **P 07 20 08.4 +1.4**
baz=36
T22A Edith 36.09 103 ⇓P **P 07 20 08.5 +1.4**
baz=36,SNR=17
U21A Nageezi 36.11 104 ⇑P **P 07 20 08.0 +0.7**
baz=36,SNR=12
V20A Brimhall 36.15 106 ⇓P **P 07 20 08.5 +1.0**
baz=36,SNR=7.3
Q25A Bedland, Calha 36.17 98 ⇓P **P 07 20 08.3 +0.6**
baz=36,SNR=9.2
R24A Sanders Place, 36.18 100 ⇑P **P 07 20 09.0 +1.2**
baz=36,SNR=25
P26A Davis Ranch, A 36.21 96 ⇓P **P 07 20 08.5 +0.5**
baz=36,SNR=17
O27A Beecher Island 36.25 95 ⇑P **P 07 20 08.8 +0.5**
baz=36,SNR=9.2
X18A Snowflake 36.32 109 ⇓P **P 07 20 10.1 +1.1**
baz=36,SNR=6.8
GVA Apache Junctio 36.34 112 *i* P **P 07 20 10.2 +1.3**
T23A Casias Ranch, 36.54 102 ⇓P **P 07 20 11.8 +0.8**
baz=36
S24A Houchin Ranch, 36.55 100 ⇓P **P 07 20 12.1 +1.0**
baz=36,SNR=22
Q26A Hugo 36.56 97 ⇓P **P 07 20 11.9 +0.9**
baz=36,SNR=23
U22A Llaves 36.58 103 ⇓P **P 07 20 12.5 +1.2**
baz=36,SNR=12
V21A Milan 36.59 105 ⇑P **P 07 20 12.3 +1.0**
baz=36,SNR=9.6
W20A Ramah 36.64 106 ⇑P **P 07 20 12.6 +0.8**
baz=37,SNR=20
POHA Pohakuloa 36.65 184 *e*P **P 07 20 14.7 +2.8**
comp=Z,166nm,1.1s
R25A Fountain Ranch 36.70 99 ⇓P **P 07 20 13.2 +1.1**
baz=37,SNR=13
214A Organ Pipe Nat 36.87 115 ⇑P **P 07 20 14.8 +1.3**
baz=37,SNR=7.4
S25A Robets Cordova 36.96 100 ⇑P **P 07 20 15.3 +0.8**
baz=37,SNR=9.2
U23A El Rito 36.98 103 ⇓P **P 07 20 15.9 +1.3**
baz=37,SNR=13
KSCO Kaye Shedlock' 36.99 96 ⇑P **P 07 20 15.5 +0.9**
baz=37,SNR=23
R26A Arlington 37.05 98 ⇑P **P 07 20 15.9 +0.8**
baz=37,SNR=16
T24A Torres, Weston 37.05 101 ⇓P **P 07 20 16.8 +1.5**
baz=37,SNR=15
X20A Quemado 37.08 107 ⇓P **P 07 20 16.4 +0.9**
baz=37
W21A San Fidel 37.10 106 ⇑P **P 07 20 16.0 +0.3**
baz=37
ECSD EROS Data Cent 37.15 85 *e*P **P 07 20 15.6 -0.2**
comp=Z,517nm,2.3s
ECSD LR LR
comp=Z,32µm,19.0s
EYMN Ely 37.35 76 *e*P **P 07 20 17.3 -0.1**
comp=Z,166nm,0.8s
EYMN LR LR
comp=Z,30µm,19.0s
T25A Trinidad 37.35 100 ⇑P **P 07 20 18.8 +0.9**
baz=37,SNR=6.2
R27A Eads 37.41 97 ⇑P **P 07 20 19.3 +1.1**
baz=37,SNR=17
U24A Moreno Valley 37.41 102 ⇓P **P 07 20 19.8 +1.4**
baz=37
V23A Ortiz Mt. (NFS 37.41 103 ⇓P **P 07 20 19.8 +1.5**
baz=37,SNR=9.5
S26A Kim 37.52 99 ⇓P **P 07 20 20.1 +1.0**
baz=37,SNR=16
X21A Alamocita Cree 37.53 106 ⇑P **P 07 20 20.6 +1.2**
baz=38,SNR=23
W22A Albuquerque 37.55 105 ⇑P **P 07 20 20.7 +1.2**
baz=38
TUC Tucson 37.62 112 *e*P **P 07 20 21.1 +1.1**
TUC pmax pmax
comp=Z,405nm,2.4s
TUC MLR MLR
comp=Z,8µm,20.0s
TUC Tucson 37.62 112 *e*P **P 07 20 21.1 +1.1**
comp=Z,405nm,2.4s
TUC LR LR
comp=Z,8µm,20.0s
Y20A Horse Springs, 37.63 108 ⇑P **P 07 20 21.7 +1.5**
baz=38,SNR=5.3
T26A Comanche Natio 37.77 99 ⇑P **P 07 20 21.7 +0.3**
baz=38,SNR=7.6
S27A Las Animas 37.79 98 ⇓P **P 07 20 22.1 +0.7**
baz=38
BGNE Belgrade 37.83 90 ⇑P **P 07 20 21.7 +0.1**
baz=38,SNR=5.4
YAK Yakutsk 37.86 311 *c i*P **P 07 20 21.0 -0.5**
YAK *e**PP **pP 07 20 28.4 +1.7**
YAK *e* 07 21 47.4
YAK *e*PPP PPP 07 22 08.9
YAK *e*S **S 07 26 08.9 -2.6**
YAK *e*SS **SnSn 07 28 50.1 -2.2**
YAK *e*SSS SSS 07 29 26.3
YAK pmax pmax
comp=Z,110nm,0.9s
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=E,59nm,1.3s
YAK pmax pmax
comp=N,274nm,2.3s
YAK pmax pmax
comp=E,1µm,3.3s
YAK pmax pmax
comp=Z,1µm,3.2s
YAK smax smax
comp=N,557nm,3.2s
YAK smax smax
comp=E,827nm,2.4s
YAK MLR MLR
comp=Z,31µm,17.0s
YAK MLR MLR
comp=E,24µm,18.0s
YAK MLR MLR
comp=N,25µm,17.0s
YAK Yakutsk 37.86 311 *e*P **P 07 20 20.0 -1.5**
comp=N,147nm,0.8s
YAK LR LR
comp=Z,35µm,19.0s
ANMO Albuquerque 37.87 105 P **P 07 20 22.9 +0.7**
comp=Z,1.9nm,0.7s,baz=322,slow=8.1,SNR=19
ANMO PcP **PcP 07 22 39.9 +1.7**
comp=Z,13nm,1.0s,baz=286,slow=3.7,SNR=5.0
ANMO ScP **ScP 07 26 26.0 +1.4**
comp=Z,2.3nm,0.9s,baz=23,slow=1.5,SNR=8.7
ANMO Albuquerque 37.87 105 *e*P **P 07 20 22.6 +0.4**
comp=Z,106nm,1.9s
ANMO PcP **PcP 07 22 39.9 +1.7**
ANMO ScP **ScP 07 26 26.0 +1.4**
ANMO LR LR
comp=Z,7µm,19.0s
W23A Werner Place, 37.87 104 ⇑P **P 07 20 23.2 +1.0**
baz=38,SNR=9.2
U25A Circle Dot Ran 37.90 101 ⇓P **P 07 20 23.3 +0.9**
baz=38,SNR=9.0
X22A Bernardo 37.90 106 ⇑P **P 07 20 23.9 +1.5**
baz=38
LAZ Ladron 37.91 106 *e*P **P 07 20 23.9 +1.3**
comp=Z,48nm,1.6s
LAZ *e*ScP **ScP 07 26 26.6 +1.9**
V24A Rampart Ranch, 37.92 103 ⇑P **P 07 20 23.9 +1.3**
baz=38
Y21A Point of Rocks 37.93 107 ⇑P **P 07 20 24.3 +1.6**
baz=38
Z20A Nine Sixteen R 38.13 109 ⇑P **P 07 20 25.8 +1.4**
baz=38,SNR=18
LENM Lemitar 38.18 106 *e*P **P 07 20 26.1 +1.3**
V25A Rancho No Teng 38.20 102 ⇓P **P 07 20 25.7 +0.8**
baz=38,SNR=5.9
W24A Lazy 6 Ranch, 38.23 103 ⇑P **P 07 20 26.0 +0.7**
baz=38,SNR=5.6
LPM Los Pinos Moun 38.25 105 *e*P **P 07 20 26.9 +1.5**
U26A Atchley Ranch, 38.26 100 ⇑P **P 07 20 26.3 +0.8**
baz=38,SNR=24
Y22D IRIS PASSCAL I 38.28 106 ⇓P **P 07 20 27.4 +1.8**
baz=38
X23A Hourglass Bar 38.29 105 ⇓P **P 07 20 26.5 +0.8**
baz=38
SPMN St. Paul 38.30 81 ⇓P **P 07 20 25.6 +0.1**
baz=38,SNR=18
T27A Campo 38.34 99 ⇑P **P 07 20 26.6 +0.6**
baz=38,SNR=11
Y22A Socorro 38.36 106 ⇓P **P 07 20 27.7 +1.4**
baz=38
BNM Barren Site 38.38 106 *e*P **P 07 20 27.7 +1.2**
comp=Z,113nm,1.6s
Z21A St. Cloud Mine 38.47 108 ⇑P **P 07 20 29.0 +1.8**
baz=38
120A U Bar Ranch, L 38.55 109 ⇓P **P 07 20 29.1 +1.2**
baz=38,SNR=8.2
T28A Walsh 38.63 98 ⇓P **P 07 20 29.3 +0.9**
baz=38
V26A Tequesquite Ra 38.68 101 ⇑P **P 07 20 29.6 +0.7**
baz=39,SNR=39
X24A Lazy VL Ranch, 38.70 104 ⇓P **P 07 20 30.3 +1.1**
baz=39
W25A X Bar L Ranch, 38.74 102 ⇑P **P 07 20 30.2 +0.7**
baz=39,SNR=11
Y23A Lovelace Mesa, 38.85 105 ⇓P **P 07 20 31.5 +1.1**
baz=39,SNR=12
Z22A Elephant Butte 38.88 107 ⇑P **P 07 20 31.7 +1.1**
baz=39,SNR=16
121A Cookes Peak, D 39.01 108 ⇑P **P 07 20 32.9 +1.1**
baz=39,SNR=11
220A Playas Peak, P 39.11 110 ⇑P **P 07 20 33.4 +0.9**
baz=39,SNR=13
319A Douglas 39.14 111 ⇓P **P 07 20 34.3 +1.6**
baz=39
X25A Clemmons Ranch 39.15 103 ⇓P **P 07 20 34.2 +1.3**
baz=39
Y24A Capitan 39.19 105 ⇓P **P 07 20 34.3 +1.0**
baz=39,SNR=13
Z23A Rita Site, Whi 39.27 106 ⇑P **P 07 20 35.2 +1.3**
baz=39
122A Conniff Cattle 39.30 107 ⇓P **P 07 20 36.0 +1.9**
baz=39
221A Mesquite Ranch 39.42 109 ⇓P **P 07 20 36.3 +1.2**
baz=39
V28A Channing 39.57 100 ⇑P **P 07 20 36.6 +0.3**
baz=40,SNR=14
Y25A Mesa, Roswell 39.59 104 ⇑P **P 07 20 37.3 +0.7**
baz=40,SNR=28
X26A CR and CF Fran 39.59 102 ⇓P **P 07 20 37.1 +0.5**
baz=40,SNR=14
W27A Bowe Ranch, En 39.62 101 ⇑P **P 07 20 37.0 +0.2**
baz=40,SNR=7.0
YSS Yuzh-Sakhalins 39.68 284 *d i*P **P 07 20 38.0 +1.1**
YSS *e* 07 22 10.0
YSS *e*PPP PPP 07 22 35.0
YSS *i* S **S 07 26 42.0 +2.7**
YSS pmax pmax
comp=Z,210nm,1.6s

YSS pmax pmax
comp=Z,6µm,6.0s
YSS MLR MLR
comp=N,11µm,20.0s
YSS MLR MLR
comp=E,12µm,20.0s
YSS MLR MLR
comp=Z,18µm,20.0s
YSS Yuzh-Sakhalins 39.68 284 *e*P **P 07 20 37.0 0.0**
comp=Z,41nm,0.8s
YSS LR LR
comp=Z,6µm,20.0s
Z24A Sheeppen Canyo 39.68 105 ⇓P **P 07 20 38.7 +1.3**
baz=40
222A Williams Famil 39.70 108 ⇓P **P 07 20 38.5 +1.0**
baz=40,SNR=10
123A Bell Site, Whi 39.74 107 ⇓P **P 07 20 38.9 +1.1**
baz=40
YUK Yuzh-Kuril'sk 39.84 279*d i*P **P 07 20 36.6 -1.7**
YUK *i* PPP PPP 07 22 17.8
YUK *i* S **S 07 26 42.5 +0.8**
YUK pmax pmax
comp=N,403nm,1.4s
YUK pmax pmax
comp=E,461nm,1.6s
YUK pmax pmax
comp=Z,895nm,1.6s
YUK pmax pmax
comp=Z,3µm,2.8s
V29A Stinnett 39.86 99 ⇑P **P 07 20 39.2 +0.4**
baz=40,SNR=6.7
X27A F and S Farms, 39.91 102 ⇑P **P 07 20 40.1 +0.9**
baz=40,SNR=7.0
W28A Vega 39.94 100 ⇓P **P 07 20 39.5 +0.1**
baz=40,SNR=10
Y26A Elida 40.06 103 ⇓P **P 07 20 41.1 +0.7**
baz=40
Z25A Roswell 40.07 105 ⇓P **P 07 20 41.6 +1.1**
baz=40,SNR=8.4
124A Stringfield Ra 40.12 106 ⇑P **P 07 20 41.7 +0.7**
baz=40,SNR=8.2
223A Chaparral, Ant 40.14 108 ⇓P **P 07 20 42.6 +1.5**
baz=40
SCIA State Center 40.23 85 *e*P **P 07 20 42.4 +0.8**
comp=Z,658nm,1.8s
SCIA LR LR
comp=Z,34µm,19.0s
KSU1 Kansas State U 40.27 91 *e*P **P 07 20 42.5 +0.5**
comp=Z,72nm,0.8s
KSU1 LR LR
comp=Z,28µm,20.0s
W29A Amraillo 40.35 100 ⇑P **P 07 20 43.4 +0.6**
baz=40
Y27A Causey 40.45 102 ⇑P **P 07 20 44.1 +0.4**
baz=40,SNR=31
Z26A Caprock 40.47 104 ⇓P **P 07 20 44.6 +0.7**
baz=40,SNR=24
X28A Dimmitt 40.50 101 ⇓P **P 07 20 44.4 +0.4**
baz=40,SNR=9.3
224A Cornudas Mount 40.56 107 ⇑P **P 07 20 45.4 +0.7**
baz=40,SNR=25
125A Gardner Draw, 40.58 105 ⇑P **P 07 20 45.8 +1.0**
baz=40
MSTX Muleshoe 40.60 102 ⇓P **P 07 20 45.0 +0.2**
baz=40,SNR=21
X29A Tulia 40.82 100 ⇑P **P 07 20 46.8 +0.1**
baz=41,SNR=6.5
Z27A Tatum 40.85 103 ⇑P **P 07 20 47.2 +0.2**
baz=41
W30A Crocket Farms 40.89 99 ⇓P **P 07 20 47.8 +0.6**
baz=41
225A Deer Hill, Car 40.91 106 ⇓P **P 07 20 48.8 +1.2**
baz=41
Y28A McKinney Farm, 40.93 102 ⇓P **P 07 20 47.6 0.0**
baz=41,SNR=12
126A Clayton Basin, 40.93 104 ⇑P **P 07 20 48.1 +0.5**
baz=41,SNR=10
MNTX Cornudas Mount 40.93 107 *e*P **P 07 20 48.6 +1.0**
comp=Z,61nm,1.2s
MNTX LR LR
comp=Z,11µm,19.0s
324A Moseley Ranch, 41.08 107 ⇓P **P 07 20 50.0 +1.1**
baz=41,SNR=9.8
GDL2 Guadalupe Moun 41.09 105 *e*P **P 07 20 50.4 +1.4**
W31A Holland Ranch, 41.24 98 ⇓P **P 07 20 50.6 +0.6**
baz=41,SNR=12
127A Arkansas Junct 41.26 104 ⇓P **P 07 20 50.5 +0.1**
baz=41,SNR=6.0
X30A Coker Ranch, T 41.28 100 ⇑P **P 07 20 50.8 +0.4**
baz=41,SNR=7.7
Y29A Porterfield Fa 41.28 101 ⇓P **P 07 20 50.6 +0.2**
baz=41,SNR=31
CLNB Carlsbad 41.30 105 *e*P **P 07 20 52.1 +1.4**
comp=Z,57nm,1.8s
Z28A Tucker Farm, M 41.32 102 ⇑P **P 07 20 50.8 0.0**
baz=41
325A Bean Ranch, Si 41.41 107 ⇓P **P 07 20 52.7 +1.1**
baz=41,SNR=19
ASAJ Asahikawa 41.57 281 P **P 07 20 53.4 +0.8**
comp=Z,74nm,1.0s,baz=14,slow=3.5,SNR=21
ASAJ S **S 07 27 08.8 +1.3**
comp=Z,3.3nm,0.8s,baz=215,slow=18,SNR=2.1
ASAJ LR LR 07 37 47.7
comp=Z,13µm,21.0s,baz=284,slow=36
ASAJ Asahikawa 41.57 281 P **P 07 20 53.4 +0.8**
ASAJ S **S 07 27 08.8 +1.3**
JOHN Johnston Islan 41.59 205 PFAKE 07 21 10.0 +17
JOHN LR LR
comp=Z,5.0nm,22.0s
X31A McDonald Ranch 41.63 99 ⇓P **P 07 20 53.9 +0.6**
baz=42,SNR=17
Y30A Stafford Catt 41.69 100 ⇓P **P 07 20 53.9 +0.2**
baz=42,SNR=5.9
Z29A Hungry Hill Ra 41.71 102 ⇑P **P 07 20 54.1 +0.1**
baz=42,SNR=18
128A Castleberry Fa 41.78 103 ⇓P **P 07 20 54.7 +0.1**
baz=42,SNR=22
227A Bennet, Jal 41.81 104 ⇑P **P 07 20 55.4 +0.6**
baz=42,SNR=11
425A Indio Mountain 41.86 107 ⇓P **P 07 20 56.5 +1.3**
baz=42,SNR=9.8
Y31A Rekieta Farm, 41.97 100 ⇓P **P 07 20 56.1 0.0**
baz=42
326A Caldwell Ranch 41.98 106 ⇑P **P 07 20 57.0 +0.7**
baz=42,SNR=18
Z30A Sanderson Ranc 42.01 101 ⇑P **P 07 20 56.3 0.0**
baz=42,SNR=9.9
129A Stewart Farms, 42.10 102 ⇑P **P 07 20 57.2 0.0**
baz=42
228A UT Block 9, Go 42.10 104 ⇑P **P 07 20 57.8 +0.5**
baz=42,SNR=17
327A Balmorhea Ranc 42.20 105 ⇑P **P 07 20 58.7 +0.8**
baz=42
WMOK Wichita Mounta 42.21 97 *e*P **P 07 20 58.7 +0.7**
WMOK pmax pmax
comp=Z,127nm,0.4s
WMOK MLR MLR
comp=Z,4µm,22.0s
WMOK Wichita Mounta 42.21 97 *e*P **P 07 20 58.6 +0.7**
comp=Z,127nm,0.4s
WMOK LR LR
comp=Z,4µm,22.0s
Y32A R-V Farms, Ver 42.39 99 ⇑P **P 07 20 59.6 +0.2**
baz=42,SNR=20
426A McDonald Obser 42.46 106 ⇑P **P 07 21 01.1 +0.9**
baz=42,SNR=10
Z31A Sharp Cattle R 42.52 100 ⇑P **P 07 21 00.1 -0.4**
baz=42,SNR=10
328A Wristen Ranch, 42.56 104 ⇑P **P 07 21 01.0 +0.1**
baz=42,SNR=5.6
130A Snyder 42.62 102 ⇑P **P 07 21 01.6 +0.2**
baz=42
229A Bryant Ranch, 42.64 103 ⇓P **P 07 21 01.7 +0.2**
baz=43,SNR=5.5
427A Hayter Ranch, 42.65 106 ⇓P **P 07 21 02.3 +0.6**
baz=43,SNR=8.3
ERM Erimo 42.66 278*d i*P **P 07 21 02.5 +1.0**
ERM pmax pmax
comp=Z,165nm,1.2s
ERM Erimo 42.66 278 *e*P **P 07 21 02.8 +1.3**
comp=Z,328nm,1.3s
ERM LR LR
comp=Z,12µm,19.0s
CLNS Chul'man 42.68 307 *e*P **P 07 21 01.1 -0.5**
CLNS *e* 07 22 40.2
CLNS *e* 07 22 54.8
CLNS *e*PPP PPP 07 23 13.4
CLNS pmax pmax
comp=Z,69nm,1.4s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,42nm,1.2s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS MLR MLR
comp=N,22µm,13.0s
CLNS MLR MLR
comp=Z,42µm,15.0s
CLNS MLR MLR
comp=E,28µm,14.0s
HABR Khabarovsk 42.81 291 *e*P **P 07 21 01.9 -0.7**
HABR *e**SP **sP 07 21 06.1 -3.9**
HABR *e* 07 22 40.8
HABR 07 22 53.4
HABR *e*PPP PPP 07 23 12.1
HABR *e*S **S 07 27 26.6 +0.9**
HABR *e**SS **sS 07 27 31.6 -2.8**
HABR *e*SS **SS 07 30 38.5 +2.1**
HABR *e* 07 31 02.8
HABR *e*SSS SSS 07 31 11.7
HABR pmax pmax
comp=E,132nm,2.3s
HABR pmax pmax
comp=Z,263nm,1.8s
HABR pmax pmax
comp=N,77nm,1.6s
HABR pmax pmax
comp=Z,1µm,2.8s
HABR MLR MLR
comp=Z,10µm,18.0s
HABR MLR MLR
comp=N,21µm,20.0s
HABR MLR MLR
comp=E,15µm,20.0s
Z32A Haskell 42.90 99 ⇓P **P 07 21 03.4 -0.2**
baz=43,SNR=21
526A Mary Lane Ranc 42.90 107 ⇓P **P 07 21 04.7 +0.9**
baz=43,SNR=20
329A Wagon Wheel Ra 42.92 104 ⇑P **P 07 21 04.3 +0.4**
baz=43,SNR=37
TUL1 Tulsa 43.00 94 ⇑P **P 07 21 04.2 -0.2**
baz=43,SNR=14
GLMI Grayling 43.01 76 *e*P **P 07 21 05.1 +0.8**
comp=E,310nm,1.1s
GLMI LR LR
comp=Z,14µm,19.0s
230A Sterling City 43.08 102 ⇓P **P 07 21 05.2 0.0**
baz=43,SNR=19
527A Woodward Ranch 43.09 106 ⇓P **P 07 21 05.9 +0.6**
baz=43,SNR=9.2
428A Kincaid Ranch, 43.13 105 ⇑P **P 07 21 06.7 +1.1**
baz=43,SNR=33
626A Big Bend Ranch 43.28 107 ⇑P **P 07 21 07.6 +0.8**
baz=43,SNR=13
HDIL Hopedale 43.32 84 *e*P **P 07 21 06.0 -0.8**
comp=Z,193nm,0.9s
HDIL LR LR
comp=Z,26µm,19.0s
ABTX Abilene, Hawle 43.32 100 ⇓P **P 07 21 06.9 -0.2**
baz=43,SNR=10
330A Mertzon 43.42 103 ⇓P **P 07 21 08.2 +0.3**
baz=43,SNR=19
231A Bronte 43.48 102 ⇓P **P 07 21 08.3 0.0**
baz=43,SNR=16
528A Cox Ranch, San 43.52 106 ⇓P **P 07 21 10.0 +1.2**
baz=44,SNR=25
429A Davenport Ranc 43.64 104 ⇓P **P 07 21 09.7 +0.1**
baz=44,SNR=18
SUMG Summit 43.64 23 *e*P **P 07 21 08.8 -0.8**
SUMG pmax pmax
comp=Z,735nm,1.9s
SUMG Summit 43.64 23 *e*P **P 07 21 08.8 -0.8**
comp=Z,735nm,1.9s
SUMG Summit 43.64 23⇑*i*P **P 07 21 10.1 +0.5**
comp=Z,100nm,0.8s
SUMG *i* 07 23 09.3
SUMG
comp=Z,25µm,18.0s
TXAR Lajitas Array 43.70 107 P **P 07 21 11.2 +1.0**
comp=Z,15nm,0.8s,baz=320,slow=5.4,SNR=88
TXAR PcP **PcP 07 22 57.3 +0.3**
comp=Z,4.9nm,0.7s,baz=242,slow=0.8,SNR=4.3
TXAR LR LR 07 38 29.5
comp=Z,11µm,18.1s,baz=10.0,slow=35
TXAR Lajitas Array 43.70 107 P **P 07 21 11.2 +1.0**
TXAR PcP **PcP 07 22 57.3 +0.3**
627A Terlingua Ranc 43.76 107 ⇑P **P 07 21 11.4 +0.8**
baz=44,SNR=19
529A Stev Forest Ra 43.85 105 ⇑P **P 07 21 11.8 +0.4**
baz=44,SNR=27
430A Baggett Ranch, 43.87 104 ⇓P **P 07 21 11.8 +0.3**
baz=44,SNR=24
232A Coleman 43.88 101 ⇑P **P 07 21 11.3 -0.3**
baz=44,SNR=11
331A San Angelo 43.90 102 ⇑P **P 07 21 11.4 -0.3**
baz=44,SNR=6.7
DAG Danmarks Havn 43.97 14⇑*i*P **P 07 21 11.6 0.0**
comp=Z,662nm,0.9s
DAG
comp=Z,15µm,15.0s
628A Black Gap, Mar 43.99 106 ⇑P **P 07 21 13.3 +0.9**
baz=44,SNR=23
KLR Kul'dur 44.02 294 *e*P P 07 21 08.3 -4.1
KLR *e* 07 21 09.0
KLR *e* 07 23 28.0
KLR *e*S **S 07 27 40.7 -2.8**
KLR *e* 07 31 09.5
KLR pmax pmax
comp=N,170nm,2.0s
KLR pmax pmax
comp=E,400nm,2.0s
KLR pmax pmax
comp=Z,930nm,2.0s
KLR pmax pmax
comp=Z,4µm,9.0s
KLR smax smax
comp=N,1µm,3.0s
KLR smax smax
comp=E,720nm,3.0s
SFJD Kangerlussuaq 44.08 34 P **P 07 21 13.1 +0.4**
comp=E,79nm,0.7s,baz=315,slow=7.9,SNR=42
SFJD Kangerlussuaq 44.08 34 *e*P **P 07 21 12.5 -0.2**
comp=E,209nm,1.1s
SFJD LR LR
comp=Z,24µm,19.0s
SFJD Kangerlussuaq 44.08 34⇑*i*P **P 07 21 13.0 +0.4**
comp=Z,72nm,0.8s
SFJD
comp=Z,16µm,18.0s
SLM Saint Louis 44.14 86 *e*P **P 07 21 13.7 +0.2**
SLM pmax pmax
comp=Z,179nm,1.3s
SLM Saint Louis 44.14 86 *e*P **P 07 21 13.7 +0.2**
comp=Z,179nm,1.3s
332A Millersview 44.22 102 ⇓P **P 07 21 14.0 -0.2**
baz=44
431A Sonora 44.29 103 ⇑P **P 07 21 14.8 -0.1**
baz=44,SNR=31
530A J-C Ranch, Com 44.31 104 ⇑P **P 07 21 15.3 +0.3**
baz=44,SNR=25
LPIG La Paz 44.57 118 P **P 07 21 17.7 +0.7**
comp=Z,1.3nm,0.6s,baz=252,slow=3.2,SNR=2.7
LPIG La Paz 44.57 118 P **P 07 21 17.7 +0.7**
432A Menard 44.58 102 ⇓P **P 07 21 17.0 -0.2**
baz=44,SNR=14
KBS Kingsbay 44.61 4⇑*i*P **P 07 21 18.1 +1.3**
KBS AMB AMB 07 21 20.8
comp=Z,135nm,1.3s
KBS *e*S **S 07 27 51.6 +0.1**
KBS *e*SS **ScS 07 31 15.2 +2.4**
KBS AMS AMS 07 48 29.6
comp=Z,9µm,14.0s
KBS Kingsbay 44.61 4*c i*P **P 07 21 16.4 -0.4**
KBS pmax pmax
comp=Z,53nm,0.7s
KBS Kingsbay 44.61 4 *e*P **P 07 21 18.1 +1.3**
KBS LR LR
comp=Z,8µm,21.0s
RFTA Plano 44.65 97 *e*P **P 07 21 18.6 +1.0**
SFIN Scholer Farm 44.66 82 ⇓P **P 07 21 17.0 -0.6**
baz=44,SNR=9.1
531A Rocksprings 44.72 103 ⇓P **P 07 21 18.4 +0.1**
baz=45
JCT Junction City 44.88 102 *e*P **P 07 21 19.8 +0.2**
JCT pmax pmax
comp=Z,202nm,1.2s
JCT MLR MLR
comp=Z,10µm,20.0s
JCT Junction City 44.88 102 *e*P **P 07 21 19.8 +0.2**
comp=Z,202nm,1.2s
JCT LR LR
comp=Z,10µm,20.0s
WHTX Lake Whitney 45.00 99 ⇓P **P 07 21 20.5 +0.1**
baz=45,SNR=6.6
532A Rocksprings 45.10 103 ⇑P **P 07 21 21.4 +0.1**
baz=45,SNR=9.2
AAM Ann Arbor 45.22 78 *e*P **P 07 21 23.9 +1.8**
AAM pmax pmax
comp=Z,1µm,2.5s
AAM MLR MLR
comp=Z,24µm,19.0s
AAM Ann Arbor 45.22 78 *e*P **P 07 21 23.9 +1.8**
comp=Z,1µm,2.5s
AAM LR LR
comp=Z,24µm,19.0s
MIAR Mount Ida 45.23 93 *e*P **P 07 21 22.2 -0.1**
MIAR pmax pmax
comp=Z,44nm,0.7s
MIAR MLR MLR
comp=Z,20µm,19.0s
MIAR Mount Ida 45.23 93 *e*P **P 07 21 22.2 -0.1**
comp=Z,44nm,0.7s
MIAR LR LR
comp=Z,20µm,19.0s
OLIL Olney 45.25 84 *e*P **P 07 21 22.4 0.0**
comp=Z,279nm,1.2s
631A Perdido Creek 45.29 104 ⇑P **P 07 21 22.1 -0.7**
baz=45,SNR=43
SIUC Southern Illin 45.35 86 *e*P **P 07 21 23.1 -0.1**
comp=Z,269nm,1.5s
SPA0 Spitsbergen Ar 45.51 3 *e*P **P 07 21 24.0 0.0**
SPA0 *e*S **S 07 28 02.2 -2.3**
SPA0 *e*SS **SS 07 31 32.9 +5.4**
SCHQ Schefferville 45.51 54 P **P 07 21 24.4 +0.2**
comp=Z,30nm,0.6s,baz=314,slow=8.0,SNR=63
SCHQ S **S 07 28 05.2 +0.2**
comp=Z,2.7nm,0.8s,baz=38,slow=17,SNR=6.6
SCHQ LR LR 07 42 11.5
comp=Z,23µm,18.0s,baz=314,slow=39
SCHQ Schefferville 45.51 54 *e*P **P 07 21 23.6 -0.7**
comp=Z,196nm,1.4s
SCHQ S **S 07 28 05.2 +0.2**
632A Uvalde 45.65 103 ⇓P **P 07 21 25.6 0.0**
baz=46,SNR=23
UALR University of 45.75 92 *e*P **P 07 21 26.1 -0.2**
comp=Z,233nm,2.1s
PARMO Parma 45.81 88 *e*P **P 07 21 26.8 0.0**
BLO Bloomington 45.81 83 *e*P **P 07 21 27.0 +0.2**
BLO pmax pmax
comp=Z,172nm,1.1s
BLO Bloomington 45.81 83 *e*P **P 07 21 27.0 +0.2**
comp=Z,172nm,1.1s
SADO Sadowa 45.97 72 P **P 07 21 27.8 -0.2**
comp=Z,25nm,0.9s,baz=326,slow=6.0,SNR=10
SADO S **S 07 28 12.3 +0.6**
comp=Z,4.8nm,0.8s,baz=82,slow=7.6,SNR=2.2
SADO Sadowa 45.97 72 P **P 07 21 27.8 -0.2**
SADO S **S 07 28 12.3 +0.6**
USIN University of 46.04 85 *e*P **P 07 21 28.2 -0.4**
comp=Z,300nm,1.4s
732A Laxson Ranch, 46.16 104 ⇑P **P 07 21 29.8 +0.2**
baz=46,SNR=16
GLAT Glass 46.35 88 *e*P **P 07 21 31.2 +0.1**
UTMT University of 46.54 87 *e*P **P 07 21 32.5 0.0**
comp=Z,169nm,1.0s
HALT Halls 46.59 88 *e*P **P 07 21 32.8 -0.1**
WCI Wyandotte Cave 46.61 84 *e*P **P 07 21 33.0 -0.1**
WCI pmax pmax
comp=Z,133nm,1.3s
WCI Wyandotte Cave 46.61 84 *e*P **P 07 21 33.0 -0.1**
comp=Z,133nm,1.3s
ACSO Alum Creek Sta 47.01 79 *e*P **P 07 21 36.3 0.0**
comp=Z,212nm,1.3s
ACSO LR LR
comp=Z,17µm,19.0s
USRK Ussuriysk Arra 47.20 289 P **P 07 21 37.2 -0.4**
comp=Z,5.3nm,0.7s,baz=52,slow=5.6,SNR=14
USRK LR LR 07 41 49.5
comp=Z,17µm,21.4s,baz=48,slow=36
WVT Waverly 47.27 87 *e*P **P 07 21 38.1 -0.1**
WVT pmax pmax
comp=Z,281nm,1.6s
WVT Waverly 47.27 87 *e*P **P 07 21 38.1 -0.1**
comp=Z,281nm,1.6s
ERPA Erie 47.32 75 *e*P **P 07 21 39.2 +0.5**
comp=Z,225nm,1.1s
ERPA LR LR
comp=Z,25µm,19.0s
HKT Hockley 47.46 99 *e*P **P 07 21 40.5 +0.8**
HKT pmax pmax
comp=Z,503nm,1.8s
HKT Hockley 47.46 99 *e*P **P 07 21 40.5 +0.8**
comp=Z,502nm,1.8s
ALLY Alegheny Colle 47.56 76 *e*P **P 07 21 40.5 0.0**
comp=Z,438nm,1.2s
OXF Oxford 47.57 90 *e*P **P 07 21 39.9 -0.7**
OXF *e**PP **pP 07 21 46.6 +0.6**
OXF pmax pmax
comp=Z,322nm,1.0s
OXF MLR MLR
comp=Z,19µm,20.0s
OXF Oxford 47.57 90 *e*P **P 07 21 39.9 -0.7**
comp=Z,322nm,1.0s
OXF *e*pP **pP 07 21 46.5 +0.6**
OXF *e*sP **sP 07 21 49.2 +1.2**
OXF LR LR
comp=Z,19µm,20.0s
WAKE Wake Island 47.80 236 PFAKE 07 22 00.0 +18
WAKE LR LR
comp=Z,13µm,21.0s
PLAL Pickwick Lake 47.97 88 PFAKE 07 22 00.0 +16
PLAL LR LR
comp=Z,17µm,19.0s
MDJ Mudanjiang 48.18 291 P **P 07 21 44.8 -0.4**
MDJ pP **pP 07 21 51.0 +0.4**
MDJ sP **sP 07 21 53.8 +1.2**
MDJ PP **PP 07 23 38.3 +1.1**
MDJ S **S 07 28 41.8 -1.5**
MDJ pmax pmax
comp=Z,40nm,1.9s
MDJ pmax pmax
comp=Z,1µm,7.0s
MDJ LR LR
comp=N,24µm,25.5s
MDJ LR LR
comp=E,12µm,23.2s
MDJ LR LR
comp=Z,19µm,17.0s
KVTX Kingsville 48.21 103 PFAKE 07 22 00.0 +14
KVTX LR LR
comp=Z,5µm,20.0s
LONY Lake Ozonia 48.46 69 *e*P **P 07 21 47.5 +0.1**
comp=Z,77nm,1.3s
LONY LR LR
comp=Z,17µm,20.0s
VBMS Vicksburg 48.67 93 *e*P **P 07 21 49.9 +0.8**
comp=Z,432nm,1.3s
VBMS LR LR
comp=Z,21µm,19.0s
FRNY Flat Rock 48.83 68 *e*P **P 07 21 49.5 -0.7**
comp=Z,74nm,1.0s
SWET Sewanee 48.99 86 *e*P **P 07 21 51.0 -0.6**
comp=Z,129nm,0.9s
NCB Newcomb 49.09 69 *e*P **P 07 21 53.0 +0.7**
comp=Z,169nm,1.3s
NCB LR LR
comp=Z,19µm,19.0s
MAJO Matsushiro 49.23 277 *e*P **P 07 21 53.4 0.0**
MAJO pmax pmax
comp=Z,549nm,2.0s
MAJO MLR MLR
comp=Z,10µm,20.0s
MAJO Matsushiro 49.23 277 *e*P **P 07 21 53.4 0.0**
comp=Z,550nm,2.0s
MAJO LR LR
comp=Z,10µm,20.0s
MAT Matsushiro 49.23 277 P **P 07 21 54.2 +0.8**

MAT S **S** **07 28 55.0 -3.3**
MJAR Matsushiro Arr 49.23 277 P **P** **07 21 53.8 +0.4**
comp=Z,10nm,0.7s,baz=33,slow=6.5,SNR=25
MJAR LR LR 07 44 52.3
comp=Z,8μm,18.7s,baz=70,slow=39
MJAR Matsushiro Arr 49.23 277 P **P** **07 21 53.8 +0.4**
BJO Bjornoya 49.26 3 *e*P **P** **07 21 54.8 +1.7**
BJO *e*S **S** **07 28 58.9 +1.2**
TZTN Tazewell 49.34 83 *e*P **P** **07 21 54.5 +0.3**
comp=Z,233nm,1.5s
BINY Binghamton 49.40 72 *e*P **P** **07 21 55.3 +0.6**
comp=Z,201nm,1.0s
BINY LR LR
comp=Z,21μm,20.0s
SSPA Standing Stone 49.49 75 *e*P **P** **07 21 55.4 +0.1**
comp=Z,303nm,1.2s
CPCT Cooper Cave 49.60 85 *e*P **P** **07 21 55.6 -0.6**
MDV Middlebury 49.62 69 *e*P **P** **07 21 56.0 -0.2**
comp=Z,24μm,1.4s
MDV *e*pP **pP** **07 22 03.5 +1.9**
NRS Narsarsuaq 49.71 37⇑*i*P P 07 21 48.8 -7.9
comp=Z,36nm,1.1s
NRS
comp=Z,13μm,16.0s
ACCN Adirondack Com 49.79 70 *e*P **P** **07 21 57.8 +0.2**
comp=Z,127nm,1.1s
TKL Tuckaleechee C 49.86 84 P **P** **07 21 57.7 -0.5**
comp=Z,8.3nm,0.6s,baz=216,slow=2.4,SNR=8.2
TKL Tuckaleechee C 49.86 84 *e*P **P** **07 21 58.2 0.0**
LRAL Lakeview Retre 50.01 89 *e*P **P** **07 21 57.9 -1.5**
comp=Z,710nm,2.8s
LRAL LR LR
comp=Z,12μm,19.0s
LBNH Lisbon 50.10 68 *e*P **P** **07 22 00.4 +0.5**
LBNH *e**PP **pP** **07 22 05.7 +0.4**
LBNH *e**SP **sP** **07 22 08.2 +0.9**
LBNH pmax pmax
comp=Z,117nm,1.2s
LBNH MLR MLR
comp=Z,25μm,20.0s
LBNH Lisbon 50.10 68 *e*P **P** **07 22 00.4 +0.5**
comp=Z,117nm,1.2s
LBNH *e*pP **pP** **07 22 05.7 +0.4**
LBNH *e*sP **sP** **07 22 08.2 +0.9**
LBNH LR LR
comp=Z,25μm,20.0s
TRY Troy 50.25 70 *e*P **P** **07 22 02.0 +1.0**
HNH Hanover 50.28 68 *e*P **P** **07 22 02.7 +1.4**
BLA Blacksburg 50.57 80 PFAKE 07 22 20.0 +16
BLA LR LR
comp=Z,14μm,20.0s
MVL Millersville 50.77 75 *e*P **P** **07 22 05.1 +0.1**
comp=Z,116nm,1.0s
FFD Franklin Falls 50.78 68 *e*P **P** **07 22 05.4 +0.3**
comp=Z,18nm,0.7s
VWCC Virginia Weste 50.79 80 *e*P **P** **07 22 05.3 +0.1**
CIT Chita 50.84 307 *e*P **P** **07 22 05.1 -0.4**
CIT *e* 07 24 01.4
CIT *e*S **S** **07 29 19.8 -0.7**
CIT pmax pmax
comp=Z,671nm,4.4s
JHJ Hachijo jima 2 50.88 273 LR LR 07 42 19.1
comp=Z,6μm,21.2s,baz=54,slow=34
CN2 Changchun 50.89 293 *e*P **P** **07 22 05.5 -0.4**
CN2 *e*pP **pP** **07 22 11.5 +0.3**
CN2 *e*PP **PP** **07 24 02.5 +0.6**
CN2 *e*S **S** **07 29 20.5 -0.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=N,11μm,20.0s
CN2 LR LR
comp=E,17μm,20.0s
CN2 LR LR
comp=Z,12μm,20.0s
SDMD Soldier's Deli 50.93 75 *e*P **P** **07 22 05.8 -0.4**
comp=Z,159nm,1.1s
WVL Waterville 51.03 66 *e*P **P** **07 22 06.9 0.0**
comp=Z,170nm,1.2s
WVL *e*pP **pP** **07 22 12.3 0.0**
WVL *e*sP **sP** **07 22 14.6 +0.3**
BRNJ Basking Ridge 51.23 73 *e*P **P** **07 22 09.2 +0.8**
comp=Z,39μm,1.0s
BRNJ *e*pP **pP** **07 22 15.3 +1.4**
QUA2 Belchertown 51.26 70 *e*P **P** **07 22 09.6 +0.9**
comp=Z,189nm,1.1s
PAL Palisades 51.35 72 *e*P **P** **07 22 10.4 +1.1**
PAL pmax pmax
comp=Z,781nm,2.3s
PAL Palisades 51.35 72 *e*P **P** **07 22 10.4 +1.1**
comp=Z,781nm,2.3s
BRAL Brewton 51.50 91 PFAKE 07 22 20.0 +9.4
BRAL LR LR
comp=Z,14μm,20.0s
CBN Corbin 51.51 77 *e*P **P** **07 22 11.5 +0.9**
comp=Z,97nm,1.0s
CBN LR LR
comp=Z,14μm,21.0s
KMSC Kings Mountain 51.58 83⇑P **P** **07 22 10.7 -0.5**
baz=51
JSRW J. Sargeant Re 51.61 78 *e*P **P** **07 22 10.5 -0.8**
YLE Yale 51.64 71 *e*pP **pP** **07 22 18.1 +1.2**
comp=Z,409nm,1.0s
YLE *e*sP sP 07 22 20.3 +1.3
WES Weston 51.72 69 *e*P **P** **07 22 12.4 +0.3**
WES *e**PP **pP** **07 22 18.3 +0.8**
WES pmax pmax
comp=Z,294nm,1.1s
WES Weston 51.72 69 *e*P **P** **07 22 12.4 +0.3**
comp=Z,294nm,1.1s
WES *e*pP **pP** **07 22 18.2 +0.8**
WES *e*sP **sP** **07 22 20.7 +1.2**
BRYW Bryant College 51.94 70 *e*P **P** **07 22 14.3 +0.5**
comp=Z,180nm,1.0s
EMMW East Machias 52.03 64 *e*P **P** **07 22 14.5 +0.1**
comp=Z,277nm,1.1s
JSC Jenkinsville 52.26 83 *e*P **P** **07 22 15.9 -0.4**
JSC *e**PP **pP** **07 22 22.5 +0.8**
JSC Jenkinsville 52.26 83 *e*P **P** **07 22 15.9 -0.4**
JSC *e*pP **pP** **07 22 22.4 +0.8**
JSC *e*sP **sP** **07 22 24.8 +1.1**
SNY Shenyang 53.26 292⇑P **P** **07 22 24.8 +1.3**
SNY S **S** **07 29 57.5 +3.8**
SNY pmax pmax
comp=Z,3μm,5.4s
SNY LR LR
comp=N,11μm,17.4s
SNY LR LR
comp=E,11μm,18.9s
SNY LR LR
comp=Z,18μm,17.1s
CNNC Cliffs of the 53.40 80 *e*P **P** **07 22 25.1 +0.5**
comp=Z,202nm,1.4s
CNNC LR LR
comp=Z,23μm,19.0s
DRLN Deer Lake 53.52 54 *e*P **P** **07 22 24.8 -0.6**
comp=Z,100nm,1.0s
BORG Borgarnes 53.63 24 PFAKE 07 22 40.0 +14
BORG LR LR
comp=Z,19μm,20.0s
NHSC New Hope 53.74 83 *e*P **P** **07 22 25.4 -1.7**
comp=Z,222nm,1.1s
NHSC *e*pP **pP** **07 22 34.0 +1.5**
NHSC *e*sP **sP** **07 22 36.2 +1.6**
NHSC LR LR
comp=Z,30μm,19.0s
TRO Tromso 54.12 4 *e*P **P** **07 22 30.5 +1.0**
TRO *e*S **S** **07 30 03.4 -1.4**
TRO AMS AMS 07 44 24.1
comp=Z,6μm,21.4s
KEV Kevo 54.15 0 *e*P **P** **07 22 28.9 -0.7**
KEV pmax pmax
comp=Z,705nm,2.1s
KEV MLR MLR
comp=Z,6μm,20.0s
KEV Kevo 54.15 0 *e*P **P** **07 22 28.9 -0.7**
comp=Z,705nm,2.1s
KEV LR LR
comp=Z,6μm,20.0s
KEV Kevo 54.15 0 *e*p **P** **07 22 27.6 -2.0**
comp=Z,54nm,0.7s
CBIJ Chichi jima 54.15 266 P **P** **07 22 31.2 +1.0**
comp=Z,198nm,0.9s,baz=281,slow=19,SNR=7.3
CBIJ LR LR 07 46 59.2
comp=Z,1μm,19.0s,baz=29,slow=38
CBIJ Chichi jima 54.15 266 P **P** **07 22 31.2 +1.0**

KSRS Korea Array 54.17 285 P **P** **07 22 31.6 +1.3**
comp=Z,19nm,1.0s,baz=45,slow=5.6,SNR=29
KSRS LR LR 07 45 18.7
comp=Z,4μm,19.7s,baz=280,slow=36
KSAR Wonju Array Be 54.20 285 P **P** **07 22 31.6 +1.1**
XMAS Kiritimati 54.32 186 *e*P **P** **07 22 33.3 +1.8**
comp=Z,111nm,1.1s
XMAS LR LR
comp=Z,8μm,19.0s
ARCES ARCESS Array B 54.36 1 P **P** **07 22 30.2 -1.1**
comp=Z,23nm,0.7s,baz=3.9,slow=6.5,SNR=71
ARCES ARCESS Array B 54.36 1 P **P** **07 22 30.2 -1.1**
ARE0 ARCESS Array S 54.36 1⇑*i*P **P** **07 22 30.0 -1.2**
ARE0 *e*S **S** **07 30 07.5 -0.6**
ARE0 ARCESS Array S 54.36 1 *e*P **P** **07 22 31.4 +0.2**
IRK Irkutsk 54.63 313 *e*P **P** **07 22 34.5 +1.1**
IRK *e*S S 07 30 03.4 -8.7
IRK pmax pmax
comp=Z,358nm,2.6s
INCN Inchon 54.84 286 PFAKE 07 22 50.0 +15
INCN LR LR
comp=Z,4μm,20.0s
INCN Inchon 54.84 286 P **P** **07 22 36.9 +1.8**
SNR=7.2
KTK1 Kautokeino 54.86 2 *e*P **P** **07 22 36.0 +1.1**
KTK1 *e*S **S** **07 30 13.6 -1.1**
KTK1 AMS AMS 07 54 29.9
comp=Z,11μm,14.8s
TLY Talaya 55.31 313*c i*P **P** **07 22 38.1 -0.3**
TLY *e* 07 23 42.9
TLY *e* 07 24 41.9
TLY *e*PPP PPP 07 25 59.2
TLY *e*S **S** **07 30 21.8 +0.5**
TLY *e* 07 32 26.7
TLY *e*SS **SS** **07 34 09.7 +4.8**
TLY pmax pmax
comp=Z,151nm,1.7s
TLY MLR MLR
comp=Z,11μm,15.0s
TLY Talaya 55.31 313 *e*P **P** **07 22 39.5 +1.1**
comp=Z,454nm,1.8s
TLY LR LR
comp=Z,20μm,21.0s
TLY Talaya 55.31 313 P **P** **07 22 39.6 +1.2**
SNR=101
TLY Talaya 55.31 313 P **P** **07 22 39.6 +1.2**
comp=Z,458nm,1.8s,SNR=44
STEI Steigen 55.66 5 *e*P **P** **07 22 41.6 +1.0**
JNU Nakatsue 55.80 280 P **P** **07 22 42.0 -0.1**
comp=Z,13nm,0.9s,baz=71,slow=6.9,SNR=6.4
JNU LR LR 07 45 37.4
comp=Z,8μm,21.8s,baz=274,slow=35
JNU Nakatsue 55.80 280 P **P** **07 22 42.0 -0.1**
LVZ Lovozero 55.89 357 *e*P **P** **07 22 42.2 -0.1**
LVZ pmax pmax
comp=Z,110nm,0.8s
LVZ MLR MLR
comp=Z,5μm,22.0s
LVZ Lovozero 55.89 357 *e*P **P** **07 22 42.2 -0.1**
comp=Z,110nm,0.8s
LVZ LR LR
comp=Z,5μm,22.0s
APA Apatity 56.26 357⇓*i*P **P** **07 22 44.0 -0.9**
APA *i* 07 24 58.0
APA *i*S **S** **07 30 31.0 -2.4**
APA *i*PS **PnS** **07 30 47.0 +3.0**
APA pmax pmax
comp=Z,100nm,1.2s
MOY Mondy 56.39 314 *e*P **P** **07 22 48.0 +1.8**
MOY pmax pmax
comp=Z,341nm,2.4s
DL2 Dalian 56.41 291⇑*i*P **P** **07 22 47.0 +0.6**
DL2 PP **PP** **07 24 53.5 +1.8**
DL2 S **S** **07 30 40.5 +4.3**
DL2 pmax pmax
comp=Z,30nm,0.9s
DL2 pmax pmax
comp=Z,900nm,8.4s
DL2 LR LR
comp=N,6μm,18.7s
DL2 LR LR
comp=E,7μm,19.9s
DL2 LR LR
comp=Z,5μm,15.9s
ZAK Zakamensk 56.45 312 *e*P **P** **07 22 46.6 0.0**
ZAK *e* 07 30 41.0
ZAK pmax pmax
comp=Z,32nm,1.4s
ULN Ulaanbaatar 56.74 308 PFAKE 07 23 00.0 +11
ULN LR LR
comp=Z,29μm,19.0s
ULN Ulaanbaatar 56.74 308 P **P** **07 22 50.0 +1.2**
SNR=30
ULN Ulaanbaatar 56.74 308 P **P** **07 22 48.0 -0.8**
comp=Z,75nm,2.2s,comp=Z,3μmcomp=Z,8μm
DWPF Disney 56.85 88 *e*P **P** **07 22 48.7 -0.9**
SONM Songino Array 57.06 308 P **P** **07 22 51.1 +0.1**
comp=Z,56nm,0.7s,baz=44,slow=6.5,SNR=216
SONM S **S** **07 30 49.6 +4.8**
comp=Z,2.2nm,1.1s,baz=36,slow=15,SNR=5.6
SONM LR LR 07 49 54.4
comp=Z,29μm,18.4s,baz=40,slow=39
SONM PKP2bc 07 52 54.3
comp=Z,0.8nm,0.8s,baz=199,slow=1.7,SNR=5.2
SONM Songino Array 57.06 308 P **P** **07 22 51.1 +0.1**
SONM S **S** **07 30 49.6 +4.8**
SONM ⇑*e* 07 52 54.3
MOR8 Moi Rana 57.37 6 *e*P **P** **07 22 51.0 -1.8**
BJI Beijing 58.35 296 P **P** **07 23 00.3 +0.3**
BJI S **S** **07 30 57.3 -4.3**
BJI SS **SS** **07 34 51.5 -1.5**
BJI pmax pmax
comp=Z,48nm,1.9s
BJI pmax pmax
comp=Z,2μm,13.6s
BJI LR LR
comp=N,17μm,18.4s
BJI LR LR
comp=E,12μm,22.5s
BJI LR LR
comp=Z,10μm,19.1s
NSS Namsos 58.83 8 *e*P **P** **07 23 04.9 +1.9**
TEIG Tepich 59.30 100 PFAKE 07 23 20.0 +13
TEIG LR LR
comp=Z,10μm,20.0s
TMCR Tamitsa 59.48 355 *e*P **P** **07 23 08.5 +1.0**
TMCR pmax pmax
comp=Z,238nm,1.3s
HHC Hu-ho-hao-te 60.00 299 *i* P **P** **07 23 12.0 +0.4**
HHC PP **PP** **07 25 26.3 +2.7**
HHC S **S** **07 31 23.5 +0.2**
HHC ScS **ScS** **07 33 01.0 -0.2**
HHC SS **SS** **07 35 19.0 -0.2**
HHC pmax pmax
comp=Z,280nm,1.7s
HHC pmax pmax
comp=Z,5μm,11.2s
HHC LR LR
comp=N,33μm,16.3s
HHC LR LR
comp=E,24μm,17.3s
HHC LR LR
comp=Z,17μm,14.3s
NVS Novosibirsk 60.12 326⇑*i*P **P** **07 23 12.1 +0.1**
NVS *e*S **S** **07 31 20.7 -3.3**
NVS pmax pmax
comp=N,200nm,2.5s
NVS pmax pmax
comp=Z,615nm,2.5s
NVS pmax pmax
comp=E,235nm,2.4s
NVS pmax pmax
comp=Z,127nm,2.0s
NVS pmax pmax
comp=N,82nm,2.1s
NVS pmax pmax
comp=E,100nm,2.5s
NVS smax smax
comp=N,189nm,2.6s
NVS smax smax
comp=E,850nm,3.0s
ZALV Zalesovo Beam 60.38 325 P **P** **07 23 13.3 -0.5**
comp=E,44nm,0.7s,baz=34,slow=7.0,SNR=120
ZALV PP PP 07 25 20.9 -5.5
comp=E,6.1nm,0.8s,baz=32,slow=8.5,SNR=2.1
ZALV S **S** **07 31 30.8 +3.4**
comp=E,0.5nm,0.5s,baz=349,slow=3.8,SNR=3.7
ZALV LR LR 07 50 16.7
comp=E,9μm,20.4s,baz=290,slow=37
ZALV PKPPKP P'P'df 07 52 33.5 -9.4
comp=E,1.0nm,0.8s,baz=186,slow=1.5,SNR=4.3
ZALV PKP2bc 07 52 47.5
comp=E,0.9nm,0.8s,baz=186,slow=1.5,SNR=3.8
ZALV PKP2ab 07 52 57.8
comp=E,0.4nm,0.3s,baz=221,slow=5.9,SNR=3.6
ZALV Zalesovo Beam 60.38 325 P **P** **07 23 13.3 -0.5**
ZALV S **S** **07 31 30.8 +3.4**
ZALV Zalesovo Beam 60.38 325 P **P** **07 23 13.3 -0.5**
ZALV PP PP 07 25 20.9 -5.5
ZALV S **S** **07 31 30.8 +3.4**
ZALV P'P' 07 52 33.5
ZALV ⇑*e* 07 52 47.5
ZALV P'P'ab P'P'ab 07 52 57.8 -5.5
MOL Molde 60.38 10 *e*P **P** **07 23 15.9 +2.2**
MOL *e*S **S** **07 31 29.0 +1.9**
MOL *e*SS **SS** **07 35 23.8 0.0**
TIA Tai'an 60.79 292⇑P **P** **07 23 16.3 -0.6**
TIA pP pP 07 23 27.5 +5.1
TIA S **S** **07 31 35.5 +2.3**
TIA pmax pmax
comp=Z,2μm,5.7s
TIA LR LR
comp=N,6μm,16.0s
TIA LR LR
comp=E,3μm,14.9s
TIA LR LR
comp=Z,7μm,16.1s
BTO Baotou 60.94 300 *e*P **P** **07 23 18.0 0.0**
BTO pmax pmax
comp=Z,34nm,1.5s
JOF Joensuu 60.97 358 *e*P **P** **07 23 16.5 -1.2**
JOF pmax pmax
comp=Z,47nm,0.6s
JOF Joensuu 60.97 358 *ep* **P** **07 23 16.5 -1.2**
comp=Z,47nm,0.6s
TARA Tarawa 61.41 220 PFAKE 07 23 30.0 +8.7
TARA LR LR
comp=Z,9μm,20.0s
LRW Lerwick 61.65 16 AMS AMS 07 54 47.8
comp=Z,8μm,14.0s
KAF Kangasniemi 61.82 0 *e*P **P** **07 23 22.6 -0.9**
KAF pmax pmax
comp=Z,44nm,0.6s
KAF Kangasniemi 61.82 0 *ep* **P** **07 23 22.6 -0.9**
comp=Z,44nm,0.6s
TIY Taiyuan 62.00 296 *e*P **P** **07 23 25.0 -0.2**
TIY pP **pP** **07 23 34.0 +3.3**
TIY sP **sP** **07 23 36.8 +4.1**
TIY S **S** **07 31 48.0 -0.7**
TIY pmax pmax
comp=Z,2μm,7.7s
TIY LR LR
comp=N,15μm,15.1s
TIY LR LR
comp=E,2μm,9.8s
TIY LR LR
comp=Z,14μm,16.1s
JOW Kunigami 62.07 277 P **P** **07 23 26.9 +1.1**
comp=Z,47nm,0.9s,baz=61,slow=9.0,SNR=4.6
JOW LR LR 07 48 23.9
comp=Z,4μm,21.4s,baz=184,slow=34
JOW Kunigami 62.07 277 P **P** **07 23 26.9 +1.1**
NB2 NORSAR Subarra 62.22 9 P **P** **07 23 25.9 -0.4**
baz=351,slow=6.9
NB2 NORSAR Subarra 62.22 9 P **P** **07 23 25.9 -0.4**
comp=Z,102nm,0.8s,baz=351,slow=6.9
NOA NORSAR Array B 62.22 9 P **P** **07 23 25.6 -0.7**
comp=Z,58nm,0.7s,baz=350,slow=6.8,SNR=189
NOA NORSAR Array B 62.22 9 P **P** **07 23 25.6 -0.7**
BER Bergen 62.27 12 *e*P **P** **07 23 25.6 -0.9**
BER *e*S **S** **07 31 52.1 +0.8**
BER AMS AMS 07 53 55.1
comp=Z,6μm,19.2s
NAO01 NORSAR Array S 62.39 9 *e*P **P** **07 23 26.7 -0.6**
comp=Z,76nm,0.8s
FIA1 FINESS Array B 62.49 1 *e*P **P** **07 23 26.9 -1.1**
FINES FINESS Array B 62.49 1 P **P** **07 23 27.3 -0.7**
comp=Z,60nm,0.7s,baz=15,slow=8.1,SNR=94
FINES PKPPKP **P'P'df** **07 52 36.1 -4.2**
comp=Z,5.5nm,1.1s,baz=298,slow=4.1,SNR=5.2
FINES LR LR 07 53 43.8
comp=Z,5μm,18.9s,baz=194,slow=39
FINES FINESS Array B 62.49 1 P **P** **07 23 27.3 -0.7**
FINES P'P' 07 52 36.1
NC602 NORSAR Array S 62.55 9 *e*P **P** **07 23 29.7 +1.3**
NC602 *e*S **S** **07 31 53.8 -1.0**
NC602 *e*SS **SS** **07 36 02.7 +4.9**
SSE Sheshan 62.61 285 P **P** **07 23 27.3 -1.9**
SSE PP **PP** **07 25 46.5 -0.1**
SSE S **S** **07 31 55.0 -1.3**
SSE pmax pmax
comp=Z,23nm,0.5s
SSE pmax pmax
comp=Z,2μm,5.3s
SSE LR LR
comp=N,6μm,20.1s
SSE LR LR
comp=E,3μm,20.1s
SSE LR LR
comp=Z,6μm,17.0s
KLMR Klimovskoe 62.68 353*c i*P **P** **07 23 28.0 -1.3**
KLMR *i* S **S** **07 31 58.6 +2.1**
KLMR *i* 07 33 20.7
KLMR pmax pmax
comp=Z,269nm,1.4s
KLMR pmax pmax
comp=Z,572nm,5.8s
BBSR BB Station 62.70 72 PFAKE 07 23 40.0 +10
BBSR LR LR
comp=Z,6μm,19.0s
ODD1 Odda 62.88 11 *e*P **P** **07 23 31.5 +0.8**
ODD1 *e*S **S** **07 31 57.4 -1.7**
NJ2 Nanjing 63.10 288 *e*P **P** **07 23 33.5 +1.0**
NJ2 pP **pP** **07 23 37.5 -0.5**
NJ2 sP **sP** **07 23 40.5 +0.4**
NJ2 PP **PP** **07 25 53.5 +2.5**
NJ2 S **S** **07 32 02.0 -0.5**
NJ2 sS **sS** **07 32 11.0 -0.6**
NJ2 pmax pmax
comp=Z,120nm,1.0s
NJ2 pmax pmax
comp=Z,2μm,6.0s
NJ2 LR LR
comp=N,11μm,15.7s
NJ2 LR LR
comp=E,6μm,15.6s
NJ2 LR LR
comp=Z,12μm,15.6s
MVH1 Achvaich 63.27 18 *e*P **P** **07 23 34.2 +1.0**
MVH1 Achvaich 63.27 18 P **P** **07 23 34.2 +1.0**
KONO Kongsberg 63.45 10 *e*P **P** **07 23 34.3 -0.1**
KONO pmax pmax
comp=Z,86nm,0.8s
KONO MLR MLR
comp=Z,4μm,19.0s
KONO Kongsberg 63.45 10 *e*P **P** **07 23 34.3 -0.1**
comp=Z,86nm,0.8s
KONO LR LR
comp=Z,4μm,19.0s
KAC Achnashellach 63.47 19 *e*P **P** **07 23 35.5 +0.9**
KAC Achnashellach 63.47 19 P **P** **07 23 35.5 +0.9**
KPL Plockton 63.56 19 *e*P **P** **07 23 35.0 -0.1**
KPL AMB AMB 07 23 42.3
comp=Z,98nm,1.8s
KPL AMS AMS 07 53 38.0
comp=Z,12μm,17.4s
KPL Plockton 63.56 19 P **P** **07 23 35.0 -0.1**
KPL AMB AMB 07 23 42.3
comp=Z,98nm,1.8s
KPL AMS AMS 07 53 38.0
comp=Z,12μm,17.4s
GUMO Guam 63.59 254 LR LR 07 51 11.0
comp=Z,3μm,18.5s,baz=52,slow=36
MDO Dochfour 63.69 18⇑*e*P **P** **07 23 36.9 +0.8**
MDO Dochfour 63.69 18 P **P** **07 23 36.9 +0.8**
MCD Coleburn Disti 63.75 18⇑*e*P **P** **07 23 36.8 +0.4**
MCD Coleburn Disti 63.75 18 P **P** **07 23 36.8 +0.4**
SVE Sverdlovsk 63.95 340*d i*P **P** **07 23 38.2 +0.5**
SVE *e* 07 26 04.3
SVE *e*S **S** **07 32 12.4 +0.1**
SVE *e* 07 33 35.6

SVE eSS **SS** 07 36 19.5 -0.3
SVE pmax pmax
comp=Z,227nm,2.0s
SVE smax smax
comp=N,2µm,10.5s
SVE smax smax
comp=E,1µm,9.6s
MME1 Meikle Cairn 64.06 18 *e*P **P** **07 23 37.2 -1.2**
MME1 Meikle Cairn 64.06 18 P **P** **07 23 37.2 -1.2**
PUL Pulkovo 64.15 358 *e*P **P** **07 23 40.1 +1.1**
PUL pmax pmax
comp=Z,188nm,0.7s
PUL MLR MLR
comp=Z,4µm,15.0s
ARU Arti 64.70 341 *d i*P **P** **07 23 42.6 -0.1**
ARU 07 24 12.3
ARU *e* 07 26 04.5
ARU PPP PPP 07 27 36.7
ARU S **S** **07 32 22.7 +1.0**
ARU 07 33 33.4
ARU SS SS 07 36 39.0 +7.5
ARU pmax pmax
comp=Z,218nm,1.7s
ARU MLR MLR
comp=Z,14µm,20.0s
ARU Arti 64.70 341 PFAKE 07 23 50.0 +7.3
ARU LR LR
comp=Z,14µm,20.0s
ARU Arti 64.70 341 P **P** **07 23 41.7 -1.0**
comp=Z,617nm,0.9s,SNR=15
EAB Aberfoyle 64.89 19 *e*P **P** **07 23 43.0 -0.9**
EAB Aberfoyle 64.89 19 P **P** **07 23 43.0 -0.9**
TGUH Tegucigalpa,Un 64.89 103 *e*P **P** **07 23 44.2 -0.2**
comp=Z,147nm,1.1s
TGUH LR LR
comp=Z,9µm,19.0s
KURK Kurchatov 65.10 327 *e*P **P** **07 23 44.9 -0.4**
KURK pmax pmax
comp=Z,136nm,1.4s
KURK MLR MLR
comp=Z,18µm,19.0s
KURK Kurchatov 65.10 327 *e*P **P** **07 23 44.9 -0.4**
comp=Z,136nm,1.4s
KURK LR LR
comp=Z,18µm,19.0s
KURK Kurchatov 65.10 327 P **P** **07 23 45.6 +0.2**
SNR=42
PGBU Glenifferbraes 65.22 19 AMS AMS 07 55 09.7
comp=Z,11µm,18.8s
BRVK Borovoye 65.32 333 *c i*P **P** **07 23 46.3 -0.5**
BRVK pmax pmax
comp=Z,221nm,1.7s
BRVK Borovoye 65.32 333 PFAKE 07 24 00.0 +13
BRVK LR LR
comp=Z,16µm,19.0s
BRVK Borovoye 65.32 333 P **P** **07 23 46.6 -0.2**
SNR=73
BVA0 Borovoye Array 65.33 333 *i* P **P** **07 23 46.3 -0.5**
BVA0 pmax pmax
comp=Z,17nm,0.9s
EDI Edinburgh 65.34 18 *e*P **P** **07 23 45.5 -1.3**
EDI AMS AMS 07 54 41.8
comp=Z,12µm,17.8s
EDI Edinburgh 65.34 18 P **P** **07 23 45.5 -1.3**
EDI AMS AMS 07 54 41.8
comp=Z,12µm,17.8s
EAU Auchinoon 65.37 18 *e*P **P** **07 23 47.2 +0.1**
EAU Auchinoon 65.37 18 P **P** **07 23 47.2 +0.1**
ESY Stoneypath 65.45 18⇑ *e*P **P** **07 23 47.8 +0.2**
ESY Stoneypath 65.45 18 P **P** **07 23 47.8 +0.2**
VSU Vasula 65.48 0 *c i*P **P** **07 23 47.2 -0.5**
VSU pmax pmax
comp=Z,110nm,0.7s
VSU MLR MLR
comp=Z,6µm,20.0s
EBL Broad Law 65.51 18⇑ *e*P **P** **07 23 48.4 +0.4**
EBL Broad Law 65.51 18 P **P** **07 23 48.4 +0.4**
ESK Eskdalemuir 65.92 18⇑ *e*P **P** **07 23 50.6 +0.1**
ESK AMB AMB 07 23 58.7
comp=Z,136nm,2.2s
ESK AMS AMS 07 55 44.5
comp=Z,11µm,17.5s
ESK Eskdalemuir 65.92 18 P **P** **07 23 50.6 +0.1**
ESK AMB AMB 07 23 58.7
comp=Z,136nm,2.2s
ESK AMS AMS 07 55 44.5
comp=Z,11µm,17.5s
ESK Eskdalemuir 65.92 18 *i* P **P** **07 23 52.4 +1.8**
ESK Eskdalemuir 65.92 18 PFAKE 07 24 00.0 +9.4
ESK LR LR
comp=Z,6µm,19.0s
ECK Cauldkaine Hil 66.06 18⇑ *e*P **P** **07 23 51.7 +0.2**
ECK Cauldkaine Hil 66.06 18 P **P** **07 23 51.7 +0.2**
GCD Castle Douglas 66.22 19 *e*P **P** **07 23 53.2 +0.8**
GCD Castle Douglas 66.22 19 P **P** **07 23 53.2 +0.8**
GMM Mts of Mourne 66.43 21⇑ *e*P **P** **07 23 54.8 +0.9**
GMM Mts of Mourne 66.43 21 P **P** **07 23 54.8 +0.9**
XAL Allendale 66.53 18 *e*P **P** **07 23 54.8 +0.3**
XAL Allendale 66.53 18 P **P** **07 23 54.8 +0.3**
MUD Monsted U'grnd 66.55 11⇑ *i*P **P** **07 23 55.8 +1.2**
comp=Z,62nm,1.0s
MUD
comp=Z,5µm,17.0s
GTA Gaotai 66.63 306 *e*P **P** **07 23 55.0 -0.6**
GTA pP **pP** **07 24 02.8 +1.7**
GTA sP **sP** **07 24 05.5 +2.4**
GTA S **S** **07 32 45.3 -0.7**
GTA sS **sS** **07 32 55.8 +0.7**
GTA SS **SS** **07 37 00.8 -1.8**
GTA pmax pmax
comp=Z,71nm,2.1s
GTA pmax pmax
comp=Z,2µm,7.1s
GTA LR LR
comp=N,17µm,17.1s
GTA LR LR
comp=E,18µm,16.4s
GTA LR LR
comp=Z,24µm,17.1s
KESW Keswick, Cumbr 66.63 19 *e*P **P** **07 23 55.2 +0.1**
KESW AMB AMB 07 23 56.3
comp=Z,119nm,2.1s
KESW AMS AMS 07 55 32.6
comp=Z,15µm,17.7s
KESW Keswick, Cumbr 66.63 19 P **P** **07 23 55.2 +0.1**
KESW AMB AMB 07 23 56.3
comp=Z,119nm,2.1s
KESW AMS AMS 07 55 32.6
comp=Z,15µm,17.7s
XAN Xi'an 66.64 296 P **P** **07 23 56.0 +0.4**
XAN pP **pP** **07 24 04.0 +2.8**
XAN sP **sP** **07 24 07.3 +4.1**
XAN PP **PP** **07 26 26.0 +4.0**
XAN S **S** **07 32 47.0 +0.8**
XAN sS **sS** **07 33 00.0 +4.7**
XAN ScS **SKSac** **07 33 48.3 -3.2**
XAN pmax pmax
comp=Z,460nm,8.0s
XAN LR LR
comp=N,11µm,15.2s
XAN LR LR
comp=E,2µm,18.2s
XAN LR LR
comp=Z,4µm,15.2s
WHN Wuhan 66.66 290 P **P** **07 23 55.8 +0.1**
WHN S **S** **07 32 50.5 +4.2**
WHN LR LR
comp=N,11µm,12.9s
WHN LR LR
comp=E,13µm,15.9s
WHN LR LR
comp=Z,16µm,18.9s
GTBY Guantanamo Bay 66.83 89 *e*P **P** **07 23 56.1 -0.8**
comp=Z,95nm,1.3s
GTBY LR LR
comp=Z,16µm,19.0s
MTDJ Mount Denham 66.85 92 PFAKE 07 24 10.0 +13
MTDJ LR LR
comp=Z,13µm,19.0s
TATO Taipei 67.26 281 PFAKE 07 24 10.0 +10
TATO LR LR
comp=Z,7µm,21.0s
MK31 Makanchi Array 67.34 322 *i* P **P** **07 23 59.2 -0.7**
MK31 pmax pmax
comp=Z,89nm,1.0s
MK31 Makanchi Array 67.34 322 *e*P **P** **07 23 58.7 -1.1**
MKAR Makanchi Array 67.34 322 P **P** **07 23 59.0 -0.9**
comp=Z,17nm,0.7s,baz=44,slow=5.2,SNR=119
MKAR PP **PP** **07 26 23.5 -4.2**
comp=Z,8.3nm,0.9s,baz=46,slow=8.9,SNR=4.3
MKAR S **S** **07 32 57.3 +3.1**
comp=Z,0.7nm,1.0s,baz=20,slow=4.6,SNR=4.6
MKAR PKPPKP P'P'df 07 52 23.9 -7.2
comp=Z,0.8nm,0.8s,baz=228,slow=3.1,SNR=6.4
MKAR LR LR 07 57 19.2
comp=Z,8µm,18.1s,baz=32,slow=40
MKAR Makanchi Array 67.34 322 P **P** **07 23 59.0 -0.9**
MKAR S **S** **07 32 57.3 +3.1**
MKAR Makanchi Array 67.34 322 P **P** **07 23 59.0 -0.9**
MKAR PP **PP** **07 26 23.5 -4.2**
MKAR S **S** **07 32 57.3 +3.1**
MKAR P'P' 07 52 23.9
LZH Lanzhou 67.47 301 ⇑P **P** **07 24 01.5 +0.5**
LZH pP **pP** **07 24 05.5 -1.0**
LZH sP **sP** **07 24 07.0 -1.6**
LZH S **S** **07 32 54.5 -1.8**
LZH SS **SS** **07 37 15.0 -0.8**
LZH pmax pmax
comp=Z,260nm,1.6s
LZH pmax pmax
comp=Z,1µm,5.0s
LZH LR LR
comp=N,15µm,13.5s
LZH LR LR
comp=E,18µm,14.6s
LZH LR LR
comp=Z,20µm,17.9s
WME Myndd Eilian 67.55 20 *e*P **P** **07 24 01.0 0.0**
WME Myndd Eilian 67.55 20 P **P** **07 24 01.0 0.0**
COP Copenhagen 67.62 9⇑ *i*P **P** **07 24 02.0 +0.6**
comp=Z,32nm,0.9s
COP *i* 07 24 04.3
COP *i* S **S** **07 33 00.3 +3.1**
COP
comp=Z,3µm,16.0s
WLF1 Llynfaes 67.63 20 AMS AMS 07 57 09.6
comp=Z,8µm,17.9s
YRC Rhoscolyn 67.63 20 *e*P **P** **07 24 01.5 0.0**
YRC Rhoscolyn 67.63 20 P **P** **07 24 01.5 0.0**
VAL Valentia 67.69 24 *e*P **P** **07 24 01.7 -0.1**
VAL Valentia 67.69 24⇑ *i*S **S** **07 32 57.1 -0.9**
WPM1 Penmaenmawr 67.75 20 *e*P **P** **07 24 01.9 -0.4**
WPM1 Penmaenmawr 67.75 20 P **P** **07 24 01.9 -0.4**
GRTK Grand Turk 67.77 84 PFAKE 07 24 20.0 +17
GRTK LR LR
comp=Z,15µm,21.0s
LHO Holmfirth 67.85 18⇑ *e*P **P** **07 24 03.2 +0.3**
LHO Holmfirth 67.85 18 P **P** **07 24 03.2 +0.3**
LLD Lille Linde 67.95 9⇑ *i*P **P** **07 24 05.3 +1.8**
comp=Z,110nm,0.7s
WMQ Urumqi 67.97 317 P **P** **07 24 05.3 +1.4**
WMQ sP **sP** **07 24 12.0 +0.5**
WMQ PcP **PcP** **07 24 32.5 +2.4**
WMQ PP **PP** **07 26 36.0 +2.8**
WMQ ScP 07 28 32.5
WMQ S **S** **07 33 04.0 +2.1**
WMQ SS **SS** **07 37 23.5 +0.6**
WMQ pmax pmax
comp=Z,80nm,1.8s
WMQ pmax pmax
comp=Z,2µm,5.2s
WMQ LR LR
comp=N,19µm,17.0s
WMQ LR LR
comp=E,19µm,16.0s
WMQ LR LR
comp=Z,9µm,19.0s
IZAR Zarasai 68.20 1 *e*P **P** **07 24 05.0 -0.1**
IZAR AMB AMB 07 24 07.6
comp=Z,34nm,1.0s
STNC Stoke 68.22 19 AMS AMS 07 58 10.8
comp=Z,11µm,18.6s
FOEL Foel Wylfa 68.23 19⇑ *e*P **P** **07 24 05.7 +0.4**
FOEL AMB AMB 07 24 14.7
comp=Z,173nm,1.6s
FOEL AMS AMS 07 56 19.1
comp=Z,14µm,17.9s
FOEL Foel Wylfa 68.23 19 P **P** **07 24 05.7 +0.4**
FOEL AMB AMB 07 24 14.7
comp=Z,173nm,1.6s
FOEL AMS AMS 07 56 19.1
comp=Z,14µm,17.9s
ISAL Salakas 68.38 1 *e*P **P** **07 24 06.0 -0.1**
ISAL AMB AMB 07 24 08.8
comp=Z,32nm,1.1s
BSD Bornholm Skovb 68.39 8⇑ *i*P **P** **07 24 06.8 +0.6**
comp=Z,43nm,0.7s
BSD *i* S **S** **07 33 09.7 +3.4**
BSD
comp=Z,4µm,18.0s
OBN Obninsk 68.58 354 *α i*P **P** **07 24 07.5 +0.1**
OBN *e* 07 24 14.3
OBN *i* 07 24 32.6
OBN *e* 07 26 37.3
OBN *e*PPP PPP 07 28 22.9
OBN *i* S **S** **07 33 10.1 +1.5**
OBN *i* 07 34 04.4
OBN pmax pmax
comp=Z,236nm,1.7s
OBN MLR MLR
comp=Z,7µm,21.0s
OBN Obninsk 68.58 354 PFAKE 07 24 20.0 +13
OBN LR LR
comp=Z,7µm,19.0s
OBN Obninsk 68.58 354 P **P** **07 24 07.3 -0.1**
comp=Z,664nm,0.8s,SNR=5.5
IIGN Ignalina 68.60 1 *e*P **P** **07 24 07.5 -0.1**
IIGN AMB AMB 07 24 10.1
comp=Z,38nm,1.1s
HLM1 Long Mynd 68.65 19 *e*P **P** **07 24 07.9 0.0**
HLM1 AMB AMB 07 24 16.4
comp=Z,113nm,1.8s
HLM1 Long Mynd 68.65 19 P **P** **07 24 07.9 0.0**
HLM1 AMB AMB 07 24 16.4
comp=Z,113nm,1.8s
RGN Rugen 68.83 9 *e*P **P** **07 24 09.2 +0.2**
comp=Z,280nm,1.1s
QZH Quanzhou 68.86 283⇑ *i*P **P** **07 24 11.8 +2.2**
QZH PP **PP** **07 26 39.8 -1.6**
QZH S **S** **07 33 16.0 +3.2**
QZH pmax pmax
comp=Z,3µm,4.7s
QZH LR LR
comp=N,13µm,18.7s
QZH LR LR
comp=E,4µm,12.8s
QZH LR LR
comp=Z,10µm,18.2s
NACGM Naroch 69.06 0 *e*P **P** **07 24 08.0 -2.4**
MCH1 Michaelchurch 69.12 19 *e*P **P** **07 24 10.4 -0.4**
MCH1 AMB AMB 07 24 20.1
comp=Z,149nm,1.6s
MCH1 AMS AMS 07 58 15.2
comp=Z,9µm,16.3s
MCH1 Michaelchurch 69.12 19 P **P** **07 24 10.4 -0.4**
MCH1 AMB AMB 07 24 20.1
comp=Z,149nm,1.6s
MCH1 AMS AMS 07 58 15.2
comp=Z,9µm,16.3s
JTS JuntasAbangare 69.26 103 PFAKE 07 24 20.0 +7.7
JTS LR LR
comp=Z,5µm,20.0s
MICGM Minsk 69.46 360⇑ *i*P **P** **07 24 13.0 +0.1**
MNK Minsk 69.46 360⇑ *i*P **P** **07 24 13.0 +0.1**
MNK *e*S **S** **07 33 20.0 +1.0**
MNK *e* 07 34 14.0
MNK pmax pmax
comp=Z,420nm,1.5s
MNK pmax pmax
comp=N,840nm,1.8s
SDDR Presa de Saban 69.72 86 PFAKE 07 24 30.0 +15
SDDR LR LR
comp=Z,7µm,21.0s
HTL Hartland 69.80 21 *e*P **P** **07 24 15.5 +0.4**
HTL AMB AMB 07 24 16.5
comp=Z,115nm,2.1s
HTL AMS AMS 07 55 55.5
comp=Z,14µm,19.4s
HTL Hartland 69.80 21 P **P** **07 24 15.5 +0.4**
HTL AMB AMB 07 24 16.5
comp=Z,115nm,2.1s
HTL AMS AMS 07 55 55.5
comp=Z,14µm,19.4s
SWN1 Swindon 69.81 19 AMS AMS 07 56 58.1
comp=Z,10µm,19.2s
HEX Exmoor 69.86 20 *e*P **P** **07 24 15.4 0.0**
HEX Exmoor 69.86 20 P **P** **07 24 15.4 0.0**
SUW Suwalki 69.90 3 *e*P **P** **07 24 15.7 +0.1**
SUW *e*pP **pP** **07 24 16.9 -4.3**
SUW *e*S **S** **07 33 27.0 +2.8**
SUW LMZ LR 07 53 30.5
comp=Z,5µm,23.0s
SUW Suwalki 69.90 3 *e*P **P** **07 24 15.7 +0.1**
SUW *e*pP **pP** **07 24 16.8 -4.3**
SUW *e*S **S** **07 33 26.9 +2.8**
SUW LMZ LR 07 53 30.4
WOL Wolverton 70.10 19 *e*P **P** **07 24 17.6 +0.7**
WOL AMB AMB 07 24 26.4
comp=Z,328nm,1.9s
WOL AMS AMS 07 57 38.3
comp=Z,14µm,19.0s
WOL Wolverton 70.10 19 P **P** **07 24 17.6 +0.7**
WOL AMB AMB 07 24 26.4
comp=Z,328nm,1.9s
WOL AMS AMS 07 57 38.3
comp=Z,14µm,19.0s
GKP Gorka Klasztor 70.38 6 *e*P **P** **07 24 19.5 +0.9**
GKP *e*pP **pP** **07 24 21.8 -2.4**
GKP *e*S **S** **07 33 35.1 +5.2**
GKP LMZ LR 07 54 02.9
comp=Z,7µm,23.3s
GKP Gorka Klasztor 70.38 6 *e*P **P** **07 24 19.5 +0.9**
GKP *e*pP **pP** **07 24 21.7 -2.4**
GKP *e*S **S** **07 33 35.1 +5.2**
GKP LMZ LR 07 54 02.8
DYA Yadsworthy 70.44 21 *e*P **P** **07 24 19.4 +0.4**
DYA AMB AMB 07 24 20.2
comp=Z,97nm,2.2s
DYA AMS AMS 07 56 24.8
comp=Z,12µm,19.3s
DYA Yadsworthy 70.44 21 P **P** **07 24 19.4 +0.4**
DYA AMB AMB 07 24 20.2
comp=Z,97nm,2.2s
DYA AMS AMS 07 56 24.8
comp=Z,12µm,19.3s
IBBN Ibbenburen 70.47 13 *e*P **P** **07 24 20.1 +1.0**
comp=Z,444nm,1.9s
NRDL Niedersach Rie 70.55 11 *e*P **P** **07 24 20.2 +0.6**
comp=Z,380nm,1.9s
ELSH Elham, Standar 70.66 17 AMS AMS 07 58 10.1
comp=Z,12µm,18.2s
WTSB Winterswijk 70.69 13 *e*P **P** **07 24 21.4 +0.9**
comp=Z,133nm,0.8s
WTSB *e*pP **pP** **07 24 28.3 +2.3**
RUE Ruedersdorf 70.92 9 *e*P **P** **07 24 22.0 +0.2**
comp=Z,128nm,1.0s
CLZ Clausthal 71.23 11 *e*P **P** **07 24 24.9 +1.1**
CLZ pmax pmax
comp=Z,779nm,2.2s
CLZ Clausthal 71.23 11 *e*P **P** **07 24 24.9 +1.1**
comp=Z,779nm,2.2s
AB31 Akbulak array 71.25 338 *i* P **P** **07 24 23.1 -0.8**
AB31 pmax pmax
comp=Z,81nm,0.8s
PMOR Pomariorio Ree 71.25 175 *e*P **P** **07 24 21.9 -2.2**
comp=Z,180nm,1.3s
PMOR Pomariorio Ree 71.25 175 *e*P **P** **07 24 21.9 -2.2**
comp=Z,180nm,1.3s
BUG Bochum--Univer 71.26 13 *e*P **P** **07 24 24.4 +0.5**
comp=Z,395nm,1.7s
VAH Vaihoa 71.49 175 *e*P **P** **07 24 23.1 -2.5**
comp=Z,194nm,1.2s
VAH Vaihoa 71.49 175 *e*P **P** **07 24 23.1 -2.5**
comp=Z,194nm,1.2s
UCC Uccle 71.50 15 P **P** **07 24 25.4 0.0**
BEBN Eben Emael 71.69 14 P **P** **07 24 27.3 +0.8**
CD2 Chengdu 71.73 298 P **P** 07 24 23.5 -3.7
CD2 pP pP 07 24 31.8 -0.9
CD2 sP sP 07 24 35.3 +0.5
CD2 PP **PP** **07 27 05.0 -1.0**
CD2 S **S** **07 33 41.5 -4.8**
CD2 sS sS 07 33 55.3 -0.2
CD2 SS **SS** **07 38 20.0 -1.3**
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,2µm,6.5s
CD2 LR LR
comp=N,12µm,13.1s
CD2 LR LR
comp=Z,13µm,15.5s
HGN Heimansgroeve 71.75 14 *i* P **P** **07 24 27.8 +0.8**
comp=Z,122nm,1.1s
HGN *e*pP **pP** **07 24 34.5 +2.1**
HGN *i* S **S** **07 33 50.0 +4.2**
HGN *e*SS **SS** **07 38 19.7 -0.7**
HGN *e*SSS SSS 07 42 29.7
SNF Seneffe 71.77 15 P **P** **07 24 27.8 +0.7**
comp=Z,74nm,1.9s
AFI Afiamalu 71.83 199 PFAKE 07 24 40.0 +12
AFI LR LR
comp=Z,8µm,20.0s
MEM Membach 71.91 14 P **P** **07 24 28.8 +0.9**
comp=Z,74nm,1.4s
JSA Saint Aubin 71.97 20 *e*P **P** **07 24 28.6 +0.3**
JSA AMS AMS 07 57 35.8
comp=Z,10µm,19.2s
JSA Saint Aubin 71.97 20 P **P** **07 24 28.6 +0.3**
JSA AMS AMS 07 57 35.8
comp=Z,10µm,19.2s
BEL Belsk 71.99 4 *e*P **P** **07 24 29.3 +0.9**
BEL *e*pP **pP** **07 24 30.5 -3.4**
BEL *e*S **S** **07 33 53.1 +4.4**
BEL LMZ LR 07 54 02.5
comp=Z,6µm,23.2s
BEL Belsk 71.99 4 *e*P **P** **07 24 29.2 +0.9**
BEL *e*pP **pP** **07 24 30.5 -3.4**
BEL *e*S **S** **07 33 53.0 +4.4**
BEL LMZ LR 07 54 02.5
BCLA Clavier 72.00 15 P **P** **07 24 28.8 +0.4**
comp=Z,90nm,1.9s
CLL Collm 72.01 9⇑ *i*P **P** **07 24 28.9 +0.4**
CLL *i* 07 24 34.2
CLL *e* 07 24 36.0
CLL *e*S **S** **07 33 49.0 +0.1**
CLL pmax pmax
comp=Z,241nm,2.0s
CLL MLR MLR
comp=Z,6µm,18.3s
CLL Collm 72.01 9 *e*P **P** **07 24 28.8 +0.3**
comp=Z,303nm,2.0s
CLL Collm 72.01 9⇑ *i*P **P** **07 24 28.9 +0.4**
comp=Z,241nm,2.0s
CLL *i* pP **pP** **07 24 34.2 +0.2**
CLL *e*sP **sP** **07 24 36.0 -0.1**
comp=Z,309nm,2.0s
CLL *e*PP **PP** **07 27 11.0 +3.3**
CLL *e*PPP PPP 07 28 54.0
CLL *e*S **S** **07 33 49.0 +0.1**
comp=N,2µm,21.4s
CLL *e*S **S** **07 33 49.0 +0.1**
comp=E,3µm,20.0s
CLL *e*PPS PPS 07 34 30.0
CLL *e* 07 37 06.0
CLL *e*SS SS 07 38 35.0 +11
CLL *e*SSS SSS 07 42 00.0
CLL LV 08 04 00.0
comp=Z,6µm,18.3s
UBBA Unterbreizbach 72.19 11 *e*P **P** **07 24 30.4 +0.9**
comp=Z,151nm,1.6s
BAIF Baives 72.20 15⇑ *i*P **P** **07 24 30.6 +1.0**
comp=Z,567nm,1.7s
BAIF Baives 72.20 15⇑ *i*P **P** **07 24 30.6 +1.0**
BAIF pmax pmax
comp=Z,567nm,1.7s
BAIF Baives 72.20 15⇑ *i*P **P** **07 24 30.6 +1.0**
comp=Z,567nm,1.7s
VRHR Novokhopersk 72.21 351 *e*P **P** **07 24 28.5 -1.1**
VRHR *e**PP **pP** **07 24 32.1 -3.1**
VRHR *e*PPP PPP 07 28 50.6
VRHR *e*S **S** **07 33 47.3 -3.8**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s

VRHR pmax pmax
comp=E,1.0nm,0.3s
VRHR pmax pmax
comp=Z,110nm,1.5s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,70nm,1.5s
VRHR smax smax
comp=N,140nm,2.0s
VRHR smax smax
comp=E,410nm,2.0s
VRHR smax smax
comp=Z,80nm,2.0s
DOU Dourbes 72.22 15 P P 07 24 30.5 +0.7
comp=Z,60nm,1.7s
AAA Alma-Ata 72.23 324 *i* P P 07 24 31.8 +1.8
AAA *e*S S 07 33 56.3 +4.5
AAA pmax pmax
comp=Z,3µm,3.9s
AAA smax smax
comp=N,5µm,6.1s
AAA MLR MLR
comp=Z,21µm,16.0s
GIVF Givet 72.24 15⇑ *i*P P 07 24 30.8 +0.9
comp=Z,681nm,1.7s
GIVF Givet 72.24 15⇑ *i*P P 07 24 30.8 +0.9
GIVF pmax pmax
comp=Z,681nm,1.7s
GIVF Givet 72.24 15⇑ *i*P P 07 24 30.8 +0.9
comp=Z,681nm,1.7s
VSR Storozhevoye 72.29 352 *e*P P 07 24 29.2 -1.0
VSR *e**SP **sP** 07 24 33.7 -4.1
VSR *e* 07 27 07.1
VSR *e*PPP PPP 07 28 50.4
VSR *e*S S 07 33 48.0 -4.1
VSR *e*SS SS 07 38 38.9 +10
VSR pmax pmax
comp=Z,50nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR pmax pmax
comp=N,90nm,1.3s
VSR pmax pmax
comp=Z,90nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR smax smax
comp=N,480nm,2.7s
VSR smax smax
comp=E,260nm,2.7s
VSR smax smax
comp=Z,160nm,2.7s
AGPR Aguadilla, PR 72.44 83 *e*P P 07 24 31.5 -0.1
comp=Z,316nm,1.1s
AGPR *e*pP **pP** 07 24 38.0 +0.9
AGPR *e*sP **sP** 07 24 40.7 +1.6
BST Brest 72.45 21 *e*P P 07 24 32.9 +1.8
BST Brest 72.45 21 *e*P P 07 24 32.9 +1.8
BRG Berggiesshubel 72.53 9 *i* P P 07 24 32.5 +0.9
comp=Z,64nm,1.2s
BRG *i* 07 24 39.5
comp=Z,168nm,1.5s
BRG PP **PP** 07 27 09.0 -3.1
BRG S **S** 07 33 50.0 -4.8
BRG SS SS 07 38 24.0 -8.3
BRG *e*PKPPKP **P'P'df** 07 52 22.6 -0.3
comp=Z,4.5nm,1.3s
BRG
comp=N,4µm,17.1s
BRG
comp=E,4µm,17.6s
BRG
comp=Z,7µm,16.7s
BRG Berggiesshubel 72.53 9 *i* P P 07 24 32.5 +0.9
BRG *i* 07 24 39.5
BRG 07 27 09.0
BRG S **S** 07 33 50.0 -4.8
BRG pmax pmax
comp=Z,64nm,1.2s
BRG pmax pmax
comp=Z,168nm,1.5s
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG MLR MLR
comp=N,4µm,17.1s
BRG MLR MLR
comp=E,4µm,17.6s
BRG MLR MLR
comp=Z,7µm,16.7s
BRG Berggiesshubel 72.53 9 *e*P P 07 24 32.2 +0.6
comp=Z,283nm,1.8s
VORD Divnogorie 72.53 352 *e*P P 07 24 31.0 -0.6
VORD *e**PP **pP** 07 24 34.8 -2.3
VORD *e* 07 27 09.2
VORD *e*PPP PPP 07 28 54.3
VORD *e*S S 07 33 49.9 -4.9
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,40nm,0.7s
VORD pmax pmax
comp=Z,180nm,1.9s
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,70nm,0.9s
VORD smax smax
comp=N,310nm,2.1s
VORD smax smax
comp=E,140nm,2.1s
VORD smax smax
comp=Z,170nm,2.1s
MOX Moxa 72.54 10 *e*P P 07 24 32.2 +0.5
MOX *e**PP **pP** 07 24 39.7 +2.5
MOX *e* 07 27 13.0
MOX *e*S S 07 33 58.8 +3.9
MOX pmax pmax
comp=Z,348nm,1.9s
MOX MLR MLR
comp=Z,6µm,19.5s
MOX Moxa 72.54 10 *e*P P 07 24 32.2 +0.5
comp=Z,348nm,1.9s
MOX *e*pP **pP** 07 24 39.7 +2.5
MOX *e*PP **PP** 07 27 13.0 +0.8
MOX *e*S S 07 33 58.8 +3.9
MOX *e*SS SS 07 38 45.8 +13
MOX *e*L L 08 00 44.0
comp=Z,6µm,19.5s
ROSF Rostrenen 72.57 21⇑ *i*P P 07 24 32.7 +0.8
comp=Z,575nm,1.7s
ROSF Rostrenen 72.57 21⇑ *i*P P 07 24 32.7 +0.8
ROSF pmax pmax
comp=Z,575nm,1.7s
ROSF Rostrenen 72.57 21⇑ *i*P P 07 24 32.7 +0.8
comp=Z,575nm,1.7s
TNS Taunus Mts 72.60 13 *e*P P 07 24 32.8 +0.7
TNS pmax pmax
comp=Z,282nm,1.7s
TNS Taunus Mts 72.60 13 *e*P P 07 24 32.8 +0.7
comp=Z,282nm,1.7s
FLN La Foliniere 72.69 19⇑ *i*P P 07 24 33.1 +0.5
comp=Z,257nm,1.3s
FLN *e*R
comp=Z,16µm,19.5s
FLN La Foliniere 72.69 19⇑ *i*P P 07 24 33.1 +0.5
FLN pmax pmax
comp=Z,257nm,1.3s
FLN La Foliniere 72.69 19⇑ *i*P P 07 24 33.1 +0.5
comp=Z,257nm,1.3s
LSP Las Mesas 72.69 83 *e*P P 07 24 33.4 +0.4
KSP Ksiaz 72.74 7 *e*P P 07 24 33.7 +0.9
KSP *e*pP **pP** 07 24 35.3 -3.1
KSP *e*S **SKiKP** 07 34 01.6 -3.7
KSP LMZ LR 07 57 49.3
comp=Z,3µm,21.5s
KSP Ksiaz 72.74 7⇑ *e*P P 07 24 33.7 +0.9
KSP *e**PP **pP** 07 24 40.7 +2.3
KSP *e*S S 07 33 58.5 +1.3
KSP Ksiaz 72.74 7 *e*P P 07 24 33.7 +0.9
KSP *e*pP **pP** 07 24 35.3 -3.1
KSP *e*S **SKiKP** 07 34 01.6 -3.7
KSP LMZ LR 07 57 49.2
SGMF Saint Gilles 72.79 20⇑ *i*P P 07 24 34.0 +0.8
comp=Z,380nm,1.4s
SGMF Saint Gilles 72.79 20⇑ *i*P P 07 24 34.0 +0.8
SGMF pmax pmax
comp=Z,380nm,1.4s
SGMF Saint Gilles 72.79 20⇑ *i*P P 07 24 34.0 +0.8
comp=Z,380nm,1.4s
ABH Alteburg 72.83 13 *e*P P 07 24 34.0 +0.6
TANN Tannenbergstha 72.85 10 *e*P P 07 24 34.4 +0.8
comp=Z,212nm,1.8s
WLF Walferdange 72.86 14 P P 07 24 33.4 -0.2
comp=Z,140nm,1.8s
WLF Walferdange 72.86 14 *e*P P 07 24 33.4 -0.2
WLF pmax pmax
comp=Z,273nm,1.4s
WLF MLR MLR
comp=Z,6µm,21.0s
WLF Walferdange 72.86 14 *e*P P 07 24 34.7 +1.1
comp=Z,509nm,1.9s
WLF Walferdange 72.86 14 *e*P P 07 24 33.4 -0.2
comp=Z,273nm,1.4s
WLF LR LR
comp=Z,6µm,21.0s
LDF La Druitiere 72.92 19⇑ *i*P P 07 24 34.4 +0.5
comp=Z,645nm,1.8s
LDF La Druitiere 72.92 19⇑ *i*P P 07 24 34.4 +0.5
LDF pmax pmax
comp=Z,645nm,1.8s
LDF La Druitiere 72.92 19⇑ *i*P P 07 24 34.4 +0.5
comp=Z,645nm,1.8s
PVCC Panska Ves 72.92 8 *e*P P 07 24 34.3 +0.4
PVCC *e* 07 24 42.0
PVCC *e* 07 27 16.2
PVCC *e*S **SKiKP** 07 34 01.9 -3.7
PVCC MLR MLR
comp=Z,6µm,17.1s
PVCC Panska Ves 72.92 8 *e*P P 07 24 34.3 +0.4
PVCC *e*pP **pP** 07 24 42.0 +2.5
PVCC *e*PP **PP** 07 27 16.2 +0.7
PVCC *e*S **SKiKP** 07 34 01.9 -3.7
PVCC AMS AMS 08 06 30.0
comp=Z,6µm,17.1s
RUP Ruppelstein 72.94 14 *e*P P 07 24 35.2 +1.1
RUP Ruppelstein 72.94 14 *e*P P 07 24 35.2 +1.1
GRR Gorron 72.98 19⇑ *i*P P 07 24 35.0 +0.7
comp=Z,216nm,1.3s
GRR Gorron 72.98 19⇑ *i*P P 07 24 35.0 +0.7
GRR pmax pmax
comp=Z,216nm,1.3s
GRR Gorron 72.98 19⇑ *i*P P 07 24 35.0 +0.7
comp=Z,216nm,1.3s
TKM2 Tokmak 2 72.98 325 *e*P P 07 24 34.5 -0.2
TKM2 MLR MLR
comp=Z,8µm,20.0s
TKM2 Tokmak 2 72.98 325 *e*P P 07 24 34.5 -0.2
TKM2 LR LR
comp=Z,8µm,20.0s
TKM2 Tokmak 2 72.98 325 P P 07 24 35.1 +0.4
SNR=67
BCIP Isla Barro Col 72.98 99 PFAKE 07 24 50.0 +15
BCIP LR LR
comp=Z,5µm,20.0s
QUIF Quistinic 72.99 21⇑ *i*P P 07 24 35.1 +0.7
comp=Z,478nm,1.8s
QUIF Quistinic 72.99 21⇑ *i*P P 07 24 35.1 +0.7
QUIF pmax pmax
comp=Z,478nm,1.8s
QUIF Quistinic 72.99 21⇑ *i*P P 07 24 35.1 +0.7
comp=Z,478nm,1.8s
USP Ospenovka 73.02 326 P P 07 24 35.9 +1.2
SNR=33
NKC Novy Kostel 73.03 10 *e*P P 07 24 35.3 +0.7
NKC MLR MLR
comp=Z,8µm,16.3s
NKC Novy Kostel 73.03 10 *e*P P 07 24 35.3 +0.7
NKC AMS AMS 08 04 00.0
comp=Z,8µm,16.3s
CHMS Chumysh 73.18 326 P P 07 24 35.7 +0.1
SNR=35
GZH Guangzhou 73.18 286 P P 07 24 33.0 -2.8
GZH S **S** 07 34 00.5 -2.4
GZH LR LR
comp=N,6µm,20.8s
GZH LR LR
comp=E,10µm,20.4s
DPC Dobruska-Polom 73.23 7 *e*P P 07 24 36.8 +1.0
DPC *e* 07 24 43.9
DPC *e* 07 27 19.4
DPC *e*S **SKiKP** 07 34 06.1 -0.1
DPC MLR MLR
comp=Z,5µm,15.7s
DPC Dobruska-Polom 73.23 7 *e*P P 07 24 36.8 +1.0
DPC *e*pP **pP** 07 24 43.9 +2.5
DPC *e*PP **PP** 07 27 19.4 +1.2
DPC *e*S **SKiKP** 07 34 06.1 -0.1
DPC AMS AMS 08 05 40.0
comp=Z,5µm,15.7s
AKASG Malin Array Be 73.25 359 P P 07 24 35.1 -0.7
comp=Z,7.3nm,0.7s,baz=171,slow=30,SNR=4.6
AKASG LR LR 08 00 44.6
comp=Z,7µm,20.3s,baz=15,slow=39
AKASG Malin Array Be 73.25 359 P P 07 24 35.1 -0.7
AKASG Malin Array Be 73.25 359 P P 07 24 35.1 -0.7
TOD Tromm 73.25 12 *e*P P 07 24 36.4 +0.4
TOD Tromm 73.25 12 *e*P P 07 24 36.4 +0.4
KIEV Kiev 73.26 359 PFAKE 07 24 50.0 +14
KIEV LR LR
comp=Z,8µm,21.0s
AK01 Malin Array Si 73.26 359 *e*P P 07 24 35.2 -0.7
SJG San Juan 73.26 82 P P 07 24 36.5 +0.2
comp=Z,26nm,0.7s,baz=0.5,slow=2.7,SNR=11
SJG San Juan 73.26 82 P P 07 24 36.5 +0.2
SJG LR LR
comp=Z,7µm,19.0s
AK02 Malin Array Si 73.29 359 *e*P P 07 24 35.7 -0.4
PRA Prague 73.36 9 P P 07 24 38.0 +1.5
PRA AMS AMS 08 03 00.0
FRU Bishkek 73.37 326⇑ *i*P P 07 24 37.0 +0.2
FRU *e* 07 34 09.0
FRU pmax pmax
comp=Z,798nm,2.2s
FRU MLR MLR
comp=Z,37µm,14.0s
ULHL Ulahol 73.38 324 P P 07 24 38.4 +1.3
SNR=39
HUMP Col San Antoni 73.40 82 *e*P pP 07 24 45.3 +2.5
KBK Karagaybulak 73.42 325 P P 07 24 38.7 +1.4
SNR=63
GRF Grafenberg Arr 73.44 11 *e*P P 07 24 38.0 +1.0
GRF *e**PP **pP** 07 24 45.3 +2.7
GRF *e* 07 27 18.6
GRF *e*S **SKiKP** 07 34 10.3 +3.8
GRF pmax pmax
comp=Z,186nm,1.5s
GRF Grafenberg Arr 73.44 11 *e*P P 07 24 38.0 +1.0
comp=Z,186nm,1.5s
GRF *e*pP **pP** 07 24 45.3 +2.7
GRF *e*PP **PP** 07 27 18.6 -1.3
GRF *e*S **SKiKP** 07 34 10.3 +3.8
GRF *e*SS SS 07 39 02.6 +16
GRF *e*L L 08 02 53.0
comp=Z,10µm,18.0s
KTD Kalmit 73.45 13 *e*P P 07 24 38.1 +1.0
KTD Kalmit 73.45 13 *e*P P 07 24 38.1 +1.0
PRU Pruhonice 73.45 9 *e*P P 07 24 37.9 +0.8
PRU *e* 07 24 45.0
PRU *e*S **SKiKP** 07 34 05.5 -0.9
PRU MLR MLR
comp=Z,5µm,17.2s
PRU Pruhonice 73.45 9 *e*P P 07 24 37.9 +0.8
PRU *e*pP **pP** 07 24 45.0 +2.3
PRU *e*PP **PP** 07 27 15.6 -4.4
PRU *e*S **SKiKP** 07 34 05.5 -0.9
PRU AMS AMS 08 05 20.0
comp=Z,5µm,17.2s
ROTZ Rotzenmuhle 73.46 10 *e*P P 07 24 38.1 +0.9
comp=Z,199nm,1.7s
KRLC Kraliky 73.53 7 *e*P P 07 24 37.5 -0.1
KRLC *e*S **SKiKP** 07 34 10.6 +4.0
OJC Ojcow 73.57 5 *e*P P 07 24 38.2 +0.4
OJC *e* 07 24 50.4
OJC *e*S **SKiKP** 07 34 09.5 +2.9
OJC Ojcow 73.57 5 *e*P P 07 24 38.2 +0.4
OJC *e*PcP **PcP** 07 24 50.4 -3.3
OJC *e*S **SKiKP** 07 34 09.5 +2.9
OJC L L 08 02 47.2
comp=Z,6µm,20.3s
AAK Ala-Archa 73.59 326 *e*P P 07 24 37.9 -0.4
AAK pmax pmax
comp=Z,1µm,1.6s
AAK MLR MLR
comp=Z,11µm,19.0s
AAK Ala-Archa 73.59 326 *e*P P 07 24 37.9 -0.4
comp=Z,1µm,1.6s
AAK LR LR
comp=Z,11µm,19.0s
RAC Raciborz 73.62 6 *e*P P 07 24 38.6 +0.6
TIAR Tiarei 73.73 177 *e*P P 07 24 36.5 -2.4
comp=Z,212nm,1.2s
TIAR Tiarei 73.73 177 *e*P P 07 24 36.5 -2.4
comp=Z,212nm,1.2s
PPT Papeete 73.73 177 P P 07 24 41.5 +2.6
comp=Z,64nm,1.1s,baz=264,slow=13,SNR=3.7
PPT LR LR 07 53 04.7
comp=Z,5µm,18.2s,baz=334,slow=32
PPT Papeete 73.73 177 P P 07 24 41.5 +2.6
LANF Langenberg 73.75 13 *e*P P 07 24 39.8 +1.0
LANF Langenberg 73.75 13 *e*P P 07 24 39.8 +1.0
LANF Langenberg 73.75 13 *e*P P 07 24 39.8 +1.0
PPT2 Papeete2 73.75 177 *e*P P 07 24 36.8 -2.3
comp=Z,111nm,1.4s
PPT2 Papeete2 73.75 177 *e*PP PP 07 27 14.4 -10
comp=Z,303nm,23.0s
PPT2 *e*S **SKiKP** 07 34 03.2 -4.3
comp=Z,2µm,23.5s
PPT2 *e*SS SS 07 38 45.7 -8.0
comp=Z,1µm,24.8s
PPT2 *e*LQ LQ 07 43 44.8
comp=Z,4µm,25.8s
PPT2 *e*LR LR 07 47 06.8
comp=Z,6µm,21.8s,baz=350
EKS2 Erkin-Say 73.79 326 PFAKE 07 24 50.0 +11
EKS2 LR LR
comp=Z,16µm,22.0s
EKS2 Erkin-Say 73.79 326 P P 07 24 39.8 +0.4
SNR=69
PAE Paea 73.83 177 *e*P P 07 24 36.8 -2.6
comp=Z,21nm,1.3s
PAE Paea 73.83 177 *e*P P 07 24 36.8 -2.6
PAE pmax pmax
comp=Z,21nm,1.3s
PAE Paea 73.83 177 *e*P P 07 24 36.8 -2.6
comp=Z,21nm,1.3s
MEZF Maizieres J'vi 73.84 15 *e*P P 07 24 40.4 +1.0
comp=Z,492nm,1.6s
MEZF Maizieres J'vi 73.84 15 *e*P P 07 24 40.4 +1.0
comp=Z,492nm,1.6s
KZA Kyzart 73.85 325 P P 07 24 41.5 +1.4
SNR=44
OKC Ostrava-Krasne 73.86 6 *e*P P 07 24 40.0 +0.5
OKC *e* 07 27 22.8
OKC *e*S S 07 34 12.2 +2.3
OKC MLR MLR
comp=Z,4µm,16.3s
OKC Ostrava-Krasne 73.86 6 *e*P P 07 24 40.0 +0.5
OKC *e*PP **PP** 07 27 22.8 -0.7
OKC *e*S S 07 34 12.2 +2.3
OKC AMS AMS 08 05 30.0
comp=Z,4µm,16.3s
MORC Moravsky Berou 73.88 7 P P 07 24 40.8 +1.1
MORC Moravsky Berou 73.88 7⇓ *i*P P 07 24 40.0 +0.3
PAGF Fort de Pagny 73.88 15⇑ *i*P P 07 24 40.8 +1.2
comp=Z,270nm,1.9s
PAGF Fort de Pagny 73.88 15⇑ *i*P P 07 24 40.8 +1.2
comp=Z,270nm,1.9s
GYA Guiyang 73.92 293⇑ *i*P P 07 24 40.8 +0.4
GYA pP **pP** 07 24 45.0 -0.9
GYA PP **PP** 07 27 23.8 -1.1
GYA S **SKiKP** 07 34 06.0 -1.9
GYA sS **sS** 07 34 20.5 -0.2
GYA SKS SKSac 07 34 37.0 -10
GYA SS **SS** 07 38 53.3 -1.9
GYA pmax pmax
comp=Z,20nm,1.0s
TVO Taravao 73.95 177 *e*P P 07 24 37.6 -2.7
comp=Z,207nm,1.2s
TVO Taravao 73.95 177 *e*P P 07 24 37.6 -2.7
TVO pmax pmax
comp=Z,207nm,1.2s
TVO Taravao 73.95 177 *e*P P 07 24 37.6 -2.7
comp=Z,207nm,1.2s
MEH Mehetia 74.09 175 *e*P P 07 24 38.5 -2.6
comp=Z,190nm,1.3s
MEH Mehetia 74.09 175 *e*P P 07 24 38.5 -2.6
comp=Z,190nm,1.3s
LVV L'vov 74.11 2⇓ *i*P P 07 24 40.9 -0.1
LVV *e*S S 07 34 12.3 -0.5
LVV *e*PS **PnS** 07 34 52.5 +6.2
LVV pmax pmax
comp=Z,450nm,3.0s
STU Stuttgart 74.12 12 *e*P P 07 24 41.7 +0.7
comp=Z,106nm,1.4s
SFTF Sexfontaines 74.13 15⇑ *i*P P 07 24 41.9 +0.8
comp=Z,585nm,1.8s
SFTF Sexfontaines 74.13 15⇑ *i*P P 07 24 41.9 +0.8
comp=Z,585nm,1.8s
WET Wettzell 74.14 10 *e*P P 07 24 42.2 +1.0
WET pmax pmax
comp=Z,237nm,1.8s
WET Wettzell 74.14 10 *e*P P 07 24 42.2 +1.0
comp=Z,237nm,1.8s
TREC Trest 74.22 8 *e*P P 07 24 42.3 +0.7
TREC *e* 07 24 49.3
TREC *e*S S 07 34 17.0 +3.0
TREC MLR MLR
comp=Z,5µm,16.6s
TREC Trest 74.22 8 *e*P P 07 24 42.3 +0.7
TREC *e*pP **pP** 07 24 49.3 +2.1
TREC *e*S S 07 34 17.0 +3.0
TREC AMS AMS 08 04 50.0
comp=Z,5µm,16.6s
KHC Kasperske Hory 74.22 9 *e*P P 07 24 42.6 +0.9
KHC *e* 07 24 49.6
KHC *e* 07 27 25.0
KHC *e*S S 07 34 14.8 +0.7
KHC MLR MLR
comp=Z,9µm,18.5s
KHC Kasperske Hory 74.22 9 *e*P P 07 24 42.6 +0.9
KHC *e*pP **pP** 07 24 49.6 +2.4
KHC *e*PP **PP** 07 27 25.0 -1.6
KHC *e*S S 07 34 14.8 +0.7
KHC AMS AMS 08 03 40.0
comp=Z,9µm,18.5s
CDF Champ du Feu 74.23 14⇑ *i*P P 07 24 42.7 +0.9
comp=Z,566nm,1.8s
CDF Champ du Feu 74.23 14⇑ *i*P P 07 24 42.7 +0.9
CDF pmax pmax
comp=Z,566nm,1.8s
CDF Champ du Feu 74.23 14⇑ *i*P P 07 24 42.7 +0.9
comp=Z,566nm,1.8s
THEF They Montfort 74.24 15 *e*P P 07 24 42.4 +0.6
THEF They Montfort 74.24 15 *e*P P 07 24 42.4 +0.6
THEF They Montfort 74.24 15 *e*P P 07 24 42.4 +0.6
ROSA Rosais 74.26 42 eLR LR 07 50 32.7
KWP Kalwaria Pacla 74.27 3 *e*P P 07 24 42.7 +0.8
KWP *e*S **S** 07 34 17.4 +2.9
KWP LMZ LR 07 55 06.5
comp=Z,5µm,24.8s
KWP Kalwaria Pacla 74.27 3 *e*P P 07 24 42.7 +0.8
KWP pmax pmax
comp=Z,64nm,0.6s
KWP MLR MLR
comp=Z,5µm,19.0s
KWP Kalwaria Pacla 74.27 3 *e*P P 07 24 42.7 +0.8
comp=Z,64nm,0.6s
KWP LR LR
comp=Z,5µm,19.0s
KWP Kalwaria Pacla 74.27 3⇓ *i*P P 07 24 42.6 +0.7
KWP Kalwaria Pacla 74.27 3 *e*P P 07 24 42.7 +0.8
KWP *e*S S 07 34 17.4 +2.9
KWP LMZ LR 07 55 06.5
VRAC Vranov 74.29 7⇓ *i*P P 07 24 42.9 +0.9
AML Almayashu 74.29 326 P P 07 24 40.1 -2.6
SNR=6.3
KK31 Karatay Array 74.36 329 *i* P P 07 24 42.2 -0.4
KK31 pmax pmax
comp=Z,90nm,1.0s
ECH Echery 74.41 14 *e*P P 07 24 42.4 -0.4

ECH					pmax	pmax			
	comp=Z,23nm,0.7s								
ECH					MLR	MLR			
	comp=Z,6µm,19.0s								
ECH	**Echery**	**74.41**	**14**	*eP*	**P**		**07 24 42.4**	**-0.4**	
	comp=Z,23nm,0.7s								
ECH					LR	LR			
	comp=Z,6µm,19.0s								
ECH	**Echery**	**74.41**	**14**	*eP*	**P**		**07 24 43.6**	**+0.8**	
BFO	**Black Forest**	**74.45**	**13**	*eP*	**P**		**07 24 42.8**	**-0.2**	
BFO					pmax	pmax			
	comp=Z,155nm,1.6s								
BFO					MLR	MLR			
	comp=Z,4µm,19.0s								
BFO	**Black Forest**	**74.45**	**13**	*eP*	**P**		**07 24 43.5**	**+0.5**	
	comp=Z,183nm,1.7s								
BFO	**Black Forest**	**74.45**	**13**	*eP*	**P**		**07 24 42.8**	**-0.2**	
	comp=Z,155nm,1.6s								
BFO					LR	LR			
	comp=Z,4µm,19.0s								
HAU	**Haudompre**	**74.51**	**14**	⇑*iP*	**P**		**07 24 44.1**	**+0.8**	
	comp=Z,119nm,1.0s								
HAU				*eR*					
	comp=Z,13µm,19.5s								
HAU	**Haudompre**	**74.51**	**14**	⇑*iP*	**P**		**07 24 44.1**	**+0.8**	
HAU					pmax	pmax			
	comp=Z,119nm,1.0s								
HAU	**Haudompre**	**74.51**	**14**	⇑*iP*	**P**		**07 24 44.1**	**+0.8**	
	comp=Z,119nm,1.0s								
GEC2	**GERESS Array S**	**74.52**	**9**	*eP*	**P**		**07 24 44.1**	**+0.6**	
GEC2					pmax	pmax			
	comp=Z,126nm,1.6s								
GEC2	**GERESS Array S**	**74.52**	**9**	*eP*	**P**		**07 24 44.1**	**+0.6**	
	comp=Z,126nm,1.6s								
GERES	**GERESS Array B**	**74.52**	**9**	P	**P**		**07 24 43.4**	**0.0**	
	comp=Z,14nm,0.7s,baz=349,slow=4.3,SNR=76								
GERES				P*K*PP*K*P P'P'df			07 52 09.7	-10	
	comp=Z,0.4nm,0.7s,baz=242,slow=2.9,SNR=3.6								
GERES	**GERESS Array B**	**74.52**	**9**	P	**P**		**07 24 43.4**	**0.0**	
GERES				P'P'			07 52 09.7		
LIBD	**Limburg**	**74.53**	**13**	*eP*	**P**		**07 24 44.6**	**+1.2**	
LIBD	**Limburg**	**74.53**	**13**	*eP*	**P**		**07 24 44.6**	**+1.2**	
LIKS	**Likavka**	**74.70**	**6**	*eP*	**P**		**07 24 45.3**	**+0.9**	
LIKS	**Likavka**	**74.70**	**6**	*eP*	**P**		**07 24 45.3**	**+0.9**	
SPAK	**Spaichingen-Ko**	**74.73**	**13**	*eP*	**P**		**07 24 45.5**	**+0.8**	
HINF	**Hinteralfeld**	**74.76**	**14**	*eP*	**P**		**07 24 45.4**	**+0.6**	
	comp=Z,429nm,1.8s								
HINF	**Hinteralfeld**	**74.76**	**14**	*eP*	**P**		**07 24 45.4**	**+0.6**	
HINF					pmax	pmax			
	comp=Z,429nm,1.8s								
HINF	**Hinteralfeld**	**74.76**	**14**	*eP*	**P**		**07 24 45.4**	**+0.6**	
	comp=Z,429nm,1.8s								
MOF	**Molkenrain**	**74.77**	**14**	*eP*	**P**		**07 24 45.2**	**+0.3**	
MOF	**Molkenrain**	**74.77**	**14**	*eP*	**P**		**07 24 45.2**	**+0.3**	
MOF	**Molkenrain**	**74.77**	**14**	*eP*	**P**		**07 24 45.2**	**+0.3**	
MFF	**Saint Martin d**	**74.83**	**19**	⇑*iP*	**P**		**07 24 46.0**	**+0.8**	
	comp=Z,444nm,1.5s								
MFF	**Saint Martin d**	**74.83**	**19**	⇑*iP*	**P**		**07 24 46.0**	**+0.8**	
MFF					pmax	pmax			
	comp=Z,444nm,1.5s								
MFF	**Saint Martin d**	**74.83**	**19**	⇑*iP*	**P**		**07 24 46.0**	**+0.8**	
	comp=Z,444nm,1.5s								
FELD	**Feldberg im Sc**	**74.86**	**13**	*eP*	**P**		**07 24 45.7**	**+0.2**	
LOR	**Lormes**	**74.86**	**16**	⇑*iP*	**P**		**07 24 46.2**	**+0.8**	
	comp=Z,191nm,1.1s								
LOR				*eR*					
	comp=Z,14µm,19.0s								
LOR	**Lormes**	**74.86**	**16**	⇑*iP*	**P**		**07 24 46.2**	**+0.8**	
	comp=Z,191nm,1.1s								
KOLS	**Kolonicke sedl**	**74.95**	**3**	*eP*	**P**		**07 24 46.9**	**+1.0**	
KOLS					pmax	pmax			
	comp=Z,123nm,1.8s								
KOLS	**Kolonicke sedl**	**74.95**	**3**	*eP*	**P**		**07 24 46.9**	**+1.0**	
KOLS	**Kolonicke sedl**	**74.95**	**3**	*eP*	**P**		**07 24 46.5**	**+0.6**	
FUR	**Furstenfeldbru**	**74.95**	**11**	*eP*	**P**		**07 24 46.6**	**+0.7**	
FUR					pmax	pmax			
	comp=Z,283nm,1.6s								
FUR	**Furstenfeldbru**	**74.95**	**11**	*eP*	**P**		**07 24 46.6**	**+0.7**	
	comp=Z,283nm,1.6s								
CRVS	**Cervenica-Dubn**	**74.95**	**4**	*eP*	**P**		**07 24 46.6**	**+0.7**	
CRVS					pmax	pmax			
	comp=Z,220nm,2.2s								
CRVS	**Cervenica-Dubn**	**74.95**	**4**	*eP*	**P**		**07 24 46.6**	**+0.7**	
CRVS	**Cervenica-Dubn**	**74.95**	**4**	*eP*	**P**		**07 24 45.8**	**-0.1**	
SSF	**Saint Saulge**	**75.01**	**17**	⇑*iP*	**P**		**07 24 47.0**	**+0.8**	
	comp=Z,233nm,1.2s								
SSF	**Saint Saulge**	**75.01**	**17**	⇑*iP*	**P**		**07 24 47.0**	**+0.8**	
SSF					pmax	pmax			
	comp=Z,233nm,1.2s								
SSF	**Saint Saulge**	**75.01**	**17**	⇑*iP*	**P**		**07 24 47.0**	**+0.8**	
	comp=Z,233nm,1.2s								
BBS	**Basel-Blauen**	**75.19**	**14**	*eP*	**P**		**07 24 47.8**	**+0.5**	
BBS	**Basel-Blauen**	**75.19**	**14**	*eP*	**P**		**07 24 47.8**	**+0.5**	
LOMF	**Lomont**	**75.22**	**14**	*eP*	**P**		**07 24 48.0**	**+0.5**	
LOMF	**Lomont**	**75.22**	**14**	*eP*	**P**		**07 24 48.0**	**+0.5**	
LOMF	**Lomont**	**75.22**	**14**	*eP*	**P**		**07 24 48.0**	**+0.5**	
VYHS	**Vyhne**	**75.24**	**6**	*eP*	**P**		**07 24 48.2**	**+0.7**	
VYHS					pmax	pmax			
	comp=Z,81nm,1.8s								
VYHS	**Vyhne**	**75.24**	**6**	*eP*	**P**		**07 24 48.2**	**+0.7**	
AVF	**Avril sur Loir**	**75.25**	**17**	⇑*iP*	**P**		**07 24 48.1**	**+0.5**	
	comp=Z,147nm,1.1s								
AVF	**Avril sur Loir**	**75.25**	**17**	⇑*iP*	**P**		**07 24 48.1**	**+0.5**	
AVF					pmax	pmax			
	comp=Z,147nm,1.1s								
AVF	**Avril sur Loir**	**75.25**	**17**	⇑*iP*	**P**		**07 24 48.1**	**+0.5**	
	comp=Z,147nm,1.1s								
BGF	**Bois d'Agland**	**75.39**	**17**	⇑*iP*	**P**		**07 24 49.0**	**+0.6**	
	comp=Z,596nm,1.8s								
BGF	**Bois d'Agland**	**75.39**	**17**	⇑*iP*	**P**		**07 24 49.0**	**+0.6**	
BGF					pmax	pmax			
	comp=Z,596nm,1.8s								
BGF	**Bois d'Agland**	**75.39**	**17**	⇑*iP*	**P**		**07 24 49.0**	**+0.6**	
	comp=Z,596nm,1.8s								
SMF	**Signal de Mont**	**75.47**	**16**	⇑*iP*	**P**		**07 24 49.4**	**+0.5**	
	comp=Z,404nm,1.5s								
SMF	**Signal de Mont**	**75.47**	**16**	⇑*iP*	**P**		**07 24 49.4**	**+0.5**	
SMF					pmax	pmax			
	comp=Z,404nm,1.5s								
SMF	**Signal de Mont**	**75.47**	**16**	⇑*iP*	**P**		**07 24 49.4**	**+0.5**	
	comp=Z,404nm,1.5s								
RJOB	**Jochberg**	**75.53**	**10**	*eP*	**P**		**07 24 49.8**	**+0.5**	
	comp=Z,68nm,1.0s								
TCF	**Toulx Ste Croi**	**75.55**	**18**	⇑*iP*	**P**		**07 24 49.9**	**+0.5**	
	comp=Z,400nm,1.7s								
TCF	**Toulx Ste Croi**	**75.55**	**18**	⇑*iP*	**P**		**07 24 49.9**	**+0.5**	
TCF					pmax	pmax			
	comp=Z,400nm,1.7s								
TCF	**Toulx Ste Croi**	**75.55**	**18**	⇑*iP*	**P**		**07 24 49.9**	**+0.5**	
	comp=Z,400nm,1.7s								
MOA	**Molln**	**75.55**	**9**	⇑*iP*	**P**		**07 24 49.4**	**+0.1**	
	comp=Z,1µm,4.9s								
MOA	**Molln**	**75.55**	**9**	⇑*iP*	**P**		**07 24 49.4**	**+0.1**	
	comp=Z,1µm,4.9s,SNR=9.3								
RETA	**Reutte**	**75.57**	**11**	⇑*iP*	**P**		**07 24 50.3**	**+0.8**	
	comp=Z,543nm,3.2s								
RETA	**Reutte**	**75.57**	**11**	⇑*iP*	**P**		**07 24 50.3**	**+0.8**	
	comp=Z,543nm,3.2s								
CONA	**Conrad Observa**	**75.61**	**8**	⇑*iP*	**P**		**07 24 50.3**	**+0.6**	
	comp=Z,1µm,4.6s								
CONA	**Conrad Observa**	**75.61**	**8**	⇑*iP*	**P**		**07 24 50.3**	**+0.6**	
	comp=Z,1µm,4.6s,SNR=17								
DAVA	**Damuels**	**75.66**	**12**	⇑*iP*	**P**		**07 24 51.0**	**+0.8**	
	comp=Z,994nm,4.8s								
DAVA	**Damuels**	**75.66**	**12**	⇑*iP*	**P**		**07 24 50.9**	**+0.8**	
	comp=Z,994nm,4.8s,SNR=6.6								
PAYG	**Puerto Ayora**	**75.69**	**114**	*eP*	**P**		**07 24 50.7**	**+0.2**	
	comp=Z,92nm,1.2s								
PAYG					LR	LR			
	comp=Z,3µm,19.0s								
MOTA	**Moosalm**	**75.74**	**11**	⇑*iP*	**P**		**07 24 51.5**	**+0.9**	
MOTA					pmax	pmax			
	comp=Z,194nm,1.7s								
MOTA	**Moosalm**	**75.74**	**11**	⇑*iP*	**P**		**07 24 51.5**	**+0.9**	
	comp=Z,194nm,1.7s								
MOTA	**Moosalm**	**75.74**	**11**	⇑*iP*	**P**		**07 24 51.5**	**+0.9**	
	comp=Z,194nm,1.7s,SNR=11								
TRPA	**Tarpa**	**75.76**	**3**	⇓*iP*	**P**		**07 24 51.4**	**+0.9**	
TRPA	**Tarpa**	**75.76**	**3**	⇑*eP*	**P**		**07 24 51.4**	**+0.9**	
WATA	**Walderalm**	**75.80**	**11**	⇓*iP*	**P**		**07 24 52.0**	**+1.0**	
WATA					pmax	pmax			
	comp=Z,383nm,2.0s								
WATA	**Walderalm**	**75.80**	**11**	⇓*iP*	**P**		**07 24 52.0**	**+1.0**	
	comp=Z,382nm,2.0s								
WATA	**Walderalm**	**75.80**	**11**	⇓*iP*	**P**		**07 24 52.0**	**+1.0**	
	comp=Z,382nm,2.0s,SNR=8.0								
CABF	**La Chapelle**	**75.84**	**15**	⇑*iP*	**P**		**07 24 52.2**	**+1.1**	
	comp=Z,373nm,1.5s								
CABF	**La Chapelle**	**75.84**	**15**	⇑*iP*	**P**		**07 24 52.2**	**+1.1**	
CABF					pmax	pmax			
	comp=Z,373nm,1.5s								
CABF	**La Chapelle**	**75.84**	**15**	⇑*iP*	**P**		**07 24 52.2**	**+1.1**	
	comp=Z,373nm,1.5s								
PSZ	**Piszkesteto**	**75.87**	**5**	*eP*	**P**		**07 24 50.2**	**-1.0**	
PSZ					pmax	pmax			
	comp=Z,245nm,1.7s								
PSZ					MLR	MLR			
	comp=Z,5µm,20.0s								
PSZ	**Piszkesteto**	**75.87**	**5**	*eP*	**P**		**07 24 50.2**	**-1.0**	
	comp=Z,245nm,1.7s								
PSZ					LR	LR			
	comp=Z,5µm,20.0s								
PSZ	**Piszkesteto**	**75.87**	**5**	⇑*iP*	**P**		**07 24 52.3**	**+1.1**	
PSZ	**Piszkesteto**	**75.87**	**5**	⇑*eP*	**P**		**07 24 52.5**	**+1.3**	
WTTA	**Wattenberg**	**75.88**	**11**	⇑*iP*	**P**		**07 24 52.0**	**+0.5**	
WTTA					pmax	pmax			
	comp=Z,761nm,2.6s								
WTTA	**Wattenberg**	**75.88**	**11**	⇑*iP*	**P**		**07 24 52.0**	**+0.5**	
	comp=Z,761nm,2.6s								
WTTA	**Wattenberg**	**75.88**	**11**	⇑*iP*	**P**		**07 24 52.0**	**+0.5**	
	comp=Z,761nm,2.6s,SNR=17								
SOP	**Sopron**	**75.90**	**7**	⇑*eP*	**P**		**07 24 52.0**	**+0.7**	
KSH	**Kashi**	**75.92**	**323**	P	P		07 24 55.0	+3.2	
KSH				pP	**PcP**		**07 25 02.8**	**-1.4**	
KSH				sP	sP		07 25 06.5	+7.1	
KSH				PP	PP		07 27 48.3	+6.9	
KSH				S	S		07 34 40.3	+6.7	
KSH				sS	sS		07 34 49.8	+7.0	
KSH				SKS	**SKSac**		**07 34 59.8**	**-1.7**	
KSH				ScS	**ScS**		**07 35 06.5**	**+1.2**	
KSH				SS	SS		07 39 35.3	+10	
KSH				pmax	pmax				
	comp=Z,67nm,0.9s								
KSH				pmax	pmax				
	comp=Z,2µm,5.3s								
KSH				LR	LR				
	comp=N,2µm,6.2s								
KSH				LR	LR				
	comp=E,2µm,9.8s								
KSH				LR	LR				
	comp=Z,2µm,11.7s								
AGO	**Saint Agoulin**	**75.93**	**17**	*eP*	**P**		**07 24 52.7**	**+1.2**	
AGO	**Saint Agoulin**	**75.93**	**17**	*eP*	**P**		**07 24 52.7**	**+1.2**	
PSET	**Sete Cidades**	**75.97**	**41**	*eLQ*	LQ		07 44 28.1		
PSET				*eLR*	LR		07 50 51.2		
ANWB	**Willy Bob**	**76.02**	**79**	PFAKE			07 25 00.0	+7.6	
ANWB				LR	LR				
	comp=Z,8µm,21.0s								
FETA	**Feichten**	**76.02**	**12**	⇑*iP*	**P**		**07 24 52.9**	**+0.7**	
	comp=Z,746nm,3.8s								
FETA	**Feichten**	**76.02**	**12**	⇑*iP*	**P**		**07 24 52.9**	**+0.7**	
	comp=Z,746nm,3.8s,SNR=16								
PLDF	**La Plantade**	**76.09**	**17**	*eP*	**P**		**07 24 53.6**	**+1.1**	
PLDF	**La Plantade**	**76.09**	**17**	*eP*	**P**		**07 24 53.6**	**+1.1**	
PLDF	**La Plantade**	**76.09**	**17**	*eP*	**P**		**07 24 53.6**	**+1.1**	
CMLA	**Cha da Macela**	**76.10**	**41**	PFAKE			07 25 00.0	+7.4	
CMLA				LR	LR				
	comp=Z,9µm,19.0s								
VERF	**Verneugheol**	**76.12**	**18**	*eP*	**P**		**07 24 54.6**	**+1.9**	
VERF	**Verneugheol**	**76.12**	**18**	*eP*	**P**		**07 24 54.6**	**+1.9**	
OG01	**Vacheresse**	**76.20**	**15**	*eP*	**P**		**07 24 54.3**	**+1.2**	
OG01	**Vacheresse**	**76.20**	**15**	*eP*	**P**		**07 24 54.3**	**+1.2**	
PYM	**Petit Puy Mans**	**76.20**	**17**	*eP*	**P**		**07 24 54.0**	**+0.8**	
PYM	**Petit Puy Mans**	**76.20**	**17**	*eP*	**P**		**07 24 54.0**	**+0.8**	
PYM	**Petit Puy Mans**	**76.20**	**17**	*eP*	**P**		**07 24 54.0**	**+0.8**	
KBA	**Koelnbreinsper**	**76.23**	**10**	*iP*	**P**		**07 24 54.7**	**+1.3**	
KBA					pmax	pmax			
	comp=Z,671nm,2.4s								
KBA	**Koelnbreinsper**	**76.23**	**10**	*iP*	**P**		**07 24 54.7**	**+1.3**	
	comp=Z,671nm,2.4s								
KBA	**Koelnbreinsper**	**76.23**	**10**	*i* pP	**P**		**07 24 54.7**	**+1.3**	
	comp=Z,671nm,2.4s,SNR=19								
BMR	**Baia Mare**	**76.25**	**3**	P	**P**		**07 24 54.6**	**+1.3**	
BMR	**Baia Mare**	**76.25**	**3**	⇓*iP*	**P**		**07 24 54.2**	**+0.9**	
ARSA	**Arzberg**	**76.25**	**8**	⇑*iP*	**P**		**07 24 54.3**	**+0.9**	
	comp=Z,1µm,4.1s								
ARSA	**Arzberg**	**76.25**	**8**	⇑*iP*	**P**		**07 24 54.3**	**+0.9**	
	comp=Z,1µm,4.1s,SNR=11								
BUD	**Budapest**	**76.26**	**6**	⇑*eP*	**P**		**07 24 53.9**	**+0.6**	
HNR	**Honiara**	**76.30**	**228**	PFAKE			07 25 10.0	+16	
HNR				LR	LR				
	comp=Z,8µm,22.0s								
BUR08	**Bucovina Ar. S**	**76.31**	**1**	*eP*	**P**		**07 24 53.4**	**-0.3**	
OG35	**Corcelles**	**76.32**	**15**	*eP*	**P**		**07 24 54.7**	**+0.9**	
BURAR	**Bucovina Array**	**76.34**	**1**	⇑*iP*	**P**		**07 24 54.6**	**+0.7**	
TGY	**Tagaytay City**	**76.34**	**275**	LR	LR		08 01 26.1		
	comp=Z,14nm,18.2s,baz=262,slow=38								
RJF	**Les Rejaudoux**	**76.38**	**18**	⇑*iP*	**P**		**07 24 54.6**	**+0.5**	
	comp=Z,238nm,1.3s								
RJF				*eR*					
	comp=Z,19µm,18.2s								
RJF	**Les Rejaudoux**	**76.38**	**18**	⇑*iP*	**P**		**07 24 54.6**	**+0.5**	
RJF					pmax	pmax			
	comp=Z,238nm,1.3s								
RJF	**Les Rejaudoux**	**76.38**	**18**	⇑*iP*	**P**		**07 24 54.6**	**+0.5**	
	comp=Z,238nm,1.3s								
TUE	**Stuetta**	**76.40**	**13**	PFAKE			07 25 10.0	+16	
TUE				LR	LR				
	comp=Z,8µm,19.0s								
ABTA	**Abfaltersbach**	**76.48**	**10**	⇑*iP*	**P**		**07 24 55.0**	**+0.2**	
	comp=Z,770nm,4.1s								
ABTA	**Abfaltersbach**	**76.48**	**10**	⇑*iP*	**P**		**07 24 55.0**	**+0.2**	
	comp=Z,770nm,4.1s,SNR=8.2								
FRNF	**Fournols**	**76.48**	**18**	*eP*	**P**		**07 24 55.8**	**+1.1**	
FRNF	**Fournols**	**76.48**	**18**	*eP*	**P**		**07 24 55.8**	**+1.1**	
LFF	**La Frestale**	**76.60**	**19**	⇑*iP*	**P**		**07 24 56.1**	**+0.8**	
	comp=Z,562nm,1.5s								
LFF	**La Frestale**	**76.60**	**19**	⇑*iP*	**P**		**07 24 56.1**	**+0.8**	
LFF					pmax	pmax			
	comp=Z,562nm,1.5s								
LFF	**La Frestale**	**76.60**	**19**	⇑*iP*	**P**		**07 24 56.1**	**+0.8**	
	comp=Z,562nm,1.5s								
MYKA	**Terra Mystica**	**76.71**	**10**	⇑*iP*	**P**		**07 24 56.3**	**+0.3**	
	comp=Z,1µm,5.2s								
MYKA	**Terra Mystica**	**76.71**	**10**	⇑*iP*	**P**		**07 24 56.3**	**+0.3**	
	comp=Z,1µm,5.2s								
LBL	**Lubilhac**	**76.75**	**17**	*eP*	**P**		**07 24 56.8**	**+0.5**	
LBL	**Lubilhac**	**76.75**	**17**	*eP*	**P**		**07 24 56.8**	**+0.5**	
LBL	**Lubilhac**	**76.75**	**17**	*eP*	**P**		**07 24 56.8**	**+0.5**	
SOKA	**Soboth**	**76.78**	**9**	⇓*iP*	**P**		**07 24 56.1**	**-0.4**	
	comp=Z,540nm,2.4s								
SOKA	**Soboth**	**76.78**	**9**	⇓*iP*	**P**		**07 24 56.1**	**-0.4**	
	comp=Z,540nm,2.4s								
CAF	**Calviac**	**76.84**	**18**	⇑*iP*	**P**		**07 24 57.4**	**+0.6**	
	comp=Z,309nm,1.5s								
CAF	**Calviac**	**76.84**	**18**	⇑*iP*	**P**		**07 24 57.4**	**+0.6**	
CAF					pmax	pmax			
	comp=Z,309nm,1.5s								
CAF	**Calviac**	**76.84**	**18**	⇑*iP*	**P**		**07 24 57.4**	**+0.6**	
	comp=Z,309nm,1.5s								
OBKA	**Obir**	**76.91**	**9**	⇑*iP*	**P**		**07 24 57.5**	**+0.3**	
	comp=Z,775nm,2.6s								
OBKA	**Obir**	**76.91**	**9**	⇑*iP*	**P**		**07 24 57.5**	**+0.3**	
	comp=Z,775nm,2.6s,SNR=21								
SSB	**Saint Sauveur**	**76.91**	**16**	*eP*	**P**		**07 24 57.8**	**+0.7**	
SSB				MLR	MLR				
	comp=Z,10µm,19.0s								
SSB	**Saint Sauveur**	**76.91**	**16**	*eP*	**P**		**07 24 57.8**	**+0.7**	
SSB				LR	LR				
	comp=Z,10µm,19.0s								
SSB	**Saint Sauveur**	**76.91**	**16**	*eP*	**P**		**07 24 57.8**	**+0.7**	
PSMN	**Pico do Norte,**	**76.94**	**41**	*eLR*	LR		07 50 34.1		
KIS	**Kishinev**	**76.96**	**359**	*α iP*	**P**		**07 24 57.0**	**-0.3**	
KIS				*i*			07 25 03.0		
KIS				*e*			07 27 46.0		
KIS				*e*			07 29 40.0		
KIS				*i* S	**S**		**07 34 46.0**	**+1.6**	
KIS				*i* PS	**PnS**		**07 35 22.0**	**-1.0**	
KIS				*e*SS	**SS**		**07 39 46.0**	**+6.3**	
KIS				pmax	pmax				
	comp=Z,400nm,2.0s								
KIS				pmax	pmax				
	comp=Z,2µm,7.0s								
KIS	**Kishinev**	**76.96**	**359**	⇑*iP*	**P**		**07 24 57.0**	**-0.3**	
	comp=Z,400nm,2.0s								
KIS	**Kishinev**	**76.96**	**359**	*i* PcP	PcP		07 25 03.0	-5.3	
KIS	**Kishinev**	**76.96**	**359**	*i* PS			07 35 22.0		
KIS				*e*SS	SS		07 39 46.0	+6.3	
KIS				LRM	MLR		08 11 22.0		
	comp=Z,6µm,16.0s								
LPL	**La Plagne**	**77.00**	**15**	*eP*	**P**		**07 24 59.7**	**+1.8**	
	comp=Z,495nm,1.9s								
LPL	**La Plagne**	**77.00**	**15**	*eP*	**P**		**07 24 59.7**	**+1.8**	
LPL					pmax	pmax			
	comp=Z,495nm,1.9s								
LPL	**La Plagne**	**77.00**	**15**	*eP*	**P**		**07 24 59.7**	**+1.8**	
	comp=Z,495nm,1.9s								
KMI	**Kunming**	**77.00**	**296**	⇑P	**P**		**07 24 58.0**	**-0.2**	
KMI				pP	**pP**		**07 25 03.5**	**-0.3**	
KMI				sP	**sP**		**07 25 05.8**	**0.0**	
KMI				PP	**PP**		**07 27 50.3**	**-0.8**	
KMI				S	**S**		**07 34 45.0**	**-1.0**	
KMI				sS	**sS**		**07 34 54.0**	**-1.2**	
KMI				SS	**SS**		**07 39 37.5**	**-4.6**	
KMI				pmax	pmax				
	comp=Z,1µm,7.9s								
KMI				LR	LR				
	comp=N,10µm,22.6s								
KMI				LR	LR				
	comp=E,8µm,23.9s								
KMI				LR	LR				
	comp=Z,4µm,20.7s								
LPG	**La Plagne**	**77.02**	**15**	*eP*	**P**		**07 24 59.8**	**+1.7**	
	comp=Z,588nm,1.9s								
LPG	**La Plagne**	**77.02**	**15**	*eP*	**P**		**07 24 59.7**	**+1.7**	
LPG					pmax	pmax			
	comp=Z,588nm,1.9s								
LPG	**La Plagne**	**77.02**	**15**	*eP*	**P**		**07 24 59.8**	**+1.7**	
	comp=Z,588nm,1.9s								
GROS	**Grobnik**	**77.03**	**8**	*i* P	**P**		**07 24 58.3**	**+0.5**	
GROS				*e*S	**S**		**07 34 46.7**	**+1.3**	
DRGR		**77.11**	**3**	P	**P**		**07 24 59.6**	**+1.3**	
DRGR		**77.11**	**3**	*i* P	**P**		**07 24 58.1**	**-0.2**	
BEHE	**Becsehely**	**77.12**	**7**	⇑*eP*	**P**		**07 24 59.0**	**+0.8**	
GRN	**Grenoble**	**77.13**	**15**	*eP*	**P**		**07 24 59.5**	**+1.1**	
GRN	**Grenoble**	**77.13**	**15**	*eP*	**P**		**07 24 59.5**	**+1.1**	
GRN	**Grenoble**	**77.13**	**15**	*eP*	**P**		**07 24 59.5**	**+1.1**	
GDM	**Grand'Maison**	**77.22**	**15**	*eP*	**P**		**07 25 00.3**	**+1.3**	
GDM	**Grand'Maison**	**77.22**	**15**	*eP*	**P**		**07 25 00.3**	**+1.3**	
VIVF	**Saint-Julien-l**	**77.34**	**16**	⇑*iP*	**P**		**07 25 00.5**	**+0.9**	
	comp=Z,260nm,1.6s								
VIVF	**Saint-Julien-l**	**77.34**	**16**	⇑*iP*	**P**		**07 25 00.5**	**+0.9**	
VIVF					pmax	pmax			
	comp=Z,261nm,1.6s								
VIVF	**Saint-Julien-l**	**77.34**	**16**	⇑*iP*	**P**		**07 25 00.5**	**+0.9**	
	comp=Z,260nm,1.6s								
PHG	**Guadaloupe-2**	**77.44**	**80**	*eP*	**P**		**07 25 00.3**	**-0.3**	
BNI	**Bardonecchia**	**77.45**	**15**	PFAKE			07 25 10.0	+10	
BNI				LR	LR				
	comp=Z,9µm,19.0s								
TESR		**77.45**	**0**	⇑*iP*	**P**		**07 25 00.3**	**+0.2**	
ORIF	**Oris-en-Rattie**	**77.46**	**15**	*eP*	**P**		**07 25 01.4**	**+1.1**	
	comp=Z,409nm,1.8s								
ORIF				*eR*					
	comp=Z,9µm,19.2s								
ORIF	**Oris-en-Rattie**	**77.46**	**15**	*eP*	**P**		**07 25 01.4**	**+1.1**	
ORIF					pmax	pmax			
	comp=Z,409nm,1.8s								
ORIF	**Oris-en-Rattie**	**77.46**	**15**	*eP*	**P**		**07 25 01.4**	**+1.1**	
	comp=Z,409nm,1.8s								
JAVS	**Javornik**	**77.48**	**9**	*i* P	**P**		**07 25 00.3**	**-0.1**	
JAVS				*e*S	**S**		**07 34 51.8**	**+1.6**	
LEOM	**Leova**	**77.49**	**359**	P	**P**		**07 25 01.0**	**+0.7**	
LEOM	**Leova**	**77.49**	**359**	⇓*iP*	**P**		**07 25 00.5**	**+0.2**	
PKSM	**Moragy**	**77.50**	**6**	P	**P**		**07 25 02.1**	**+1.7**	
PKSM	**Moragy**	**77.50**	**6**	⇑*iP*	**P**		**07 25 00.8**	**+0.4**	
PKSM	**Morag

TOUF	Mont Tournerai	78.55	15	eP		P	07 25 07.6	+1.1	
TOUF	Mont Tournerai	78.55	15	eP		P	07 25 07.6	+1.1	
MVO	Moncorvo	78.57	26	eP		P	07 25 07.9	+1.4	
	comp=Z,205nm,1.4s								
MVO				eS		S	07 35 05.6	+3.5	
MVO				eSS		SS	07 40 09.2	+4.8	
MVO				A		A	07 59 57.3		
	comp=Z,13µm,18.0s								
MLS	Moulis	78.58	19	eP		P	07 25 07.1	+0.7	
MLS	Moulis	78.58	19	eP		P	07 25 07.1	+0.7	
RESF	Ens	78.58	20	eP		P	07 25 08.0	+1.4	
RESF	Ens	78.58	20	eP		P	07 25 08.0	+1.4	
GRER		78.59	0⇑	iP		P	07 25 11.0	+4.6	
AUTN	L'Aution	78.59	14	eP		P	07 25 08.1	+1.4	
AUTN	L'Aution	78.59	14	eP		P	07 25 08.1	+1.4	
AUTN	L'Aution	78.59	14	eP		P	07 25 08.1	+1.4	
SAOF	Saorge	78.61	14	eP		P	07 25 07.8	+1.2	
SAOF	Saorge	78.61	14	eP		P	07 25 07.8	+1.2	
SAOF	Saorge	78.61	14	eP		P	07 25 07.8	+1.2	
LSA	Lhasa	78.63	307	P		P	07 25 09.0	+1.5	
LSA				PP		PP	07 28 01.8	-3.0	
LSA				S		S	07 35 02.0	-1.9	
LSA				pmax	pmax				
	comp=Z,40nm,1.4s								
LSA				LR		LR			
	comp=N,12µm,18.0s								
LSA				LR		LR			
	comp=E,16µm,20.0s								
LSA				LR		LR			
	comp=Z,30µm,17.0s								
SBF	Sospel	78.72	14⇑	iP		P	07 25 08.0	+0.7	
	comp=Z,185nm,1.0s								
SBF	Sospel	78.72	14⇑	iP		P	07 25 08.0	+0.7	
SBF				pmax	pmax				
	comp=Z,185nm,1.0s								
SBF	Sospel	78.72	14⇑	iP		P	07 25 08.0	+0.7	
	comp=Z,185nm,1.0s								
FDF	Fort de France	78.76	80	PFAKE			07 25 20.0	+12	
FDF				LR		LR			
	comp=Z,7µm,19.0s								
TLCR		78.77	359	⇓P		P	07 25 08.2	+0.8	
TLCR		78.77	359	⇓iP		P	07 25 08.2	+0.8	
PVIS	Viseu	78.78	26	eP		P	07 25 09.1	+1.4	
	comp=Z,184nm,2.0s								
CFR	Carcaliu	78.79	359	P		P	07 25 07.9	+0.4	
CFR	Carcaliu	78.79	359	⇑iP		P	07 25 07.8	+0.3	
ANN	Anapa	78.80	353	eP		P	07 25 06.3	-1.3	
ANN				e			07 28 03.3		
ANN				eS		S	07 35 02.8	-1.5	
ANN				eSS		SS	07 40 05.6	-1.8	
ANN				eSSS		SSS	07 43 29.3		
ANN				pmax	pmax				
	comp=Z,88nm,1.9s								
VLC	Villacollemand	78.81	12	PFAKE			07 25 20.0	+12	
VLC				LR		LR			
	comp=Z,7µm,21.0s								
ISR	Istrita	78.85	0	⇓P		P	07 25 09.2	+1.3	
ISR	Istrita	78.85	0	⇓iP		P	07 25 09.2	+1.3	
SIM	Simferopol'	78.85	355	ceP		P	07 25 04.1	-3.8	
SIM				ePPP		PPP	07 29 54.0		
SIM				iS		S	07 35 03.1	-1.8	
SIM				pmax	pmax				
	comp=Z,107nm,2.1s								
LRDF	Laroque-de-Fa	78.86	18	eP		P	07 25 09.0	+1.0	
LRDF	Laroque-de-Fa	78.86	18	eP		P	07 25 09.0	+1.0	
FRF	La Foret Royal	78.90	15	eP		P	07 25 09.0	+0.8	
	comp=Z,170nm,1.3s								
FRF	La Foret Royal	78.90	15	eP		P	07 25 09.0	+0.8	
FRF				pmax	pmax				
	comp=Z,170nm,1.3s								
FRF	La Foret Royal	78.90	15	eP		P	07 25 09.0	+0.8	
	comp=Z,170nm,1.3s								
SECR		78.93	1	⇓iP		P	07 25 09.7	+1.4	
CARF	Carcanieres	79.00	19	eP		P	07 25 09.3	+0.4	
CARF	Carcanieres	79.00	19	eP		P	07 25 09.3	+0.4	
LMR	La Mourre	79.11	15	eP		P	07 25 10.2	+0.9	
	comp=Z,393nm,1.7s								
LMR	La Mourre	79.11	15	eP		P	07 25 10.2	+0.9	
LMR				pmax	pmax				
	comp=Z,393nm,1.7s								
LMR	La Mourre	79.11	15	eP		P	07 25 10.2	+0.9	
	comp=Z,393nm,1.7s								
KIV	Kislovodsk	79.17	349	ciP		P	07 25 10.4	+0.7	
KIV				e			07 28 06.1		
KIV				eS		S	07 35 10.3	+1.9	
KIV				pmax	pmax				
	comp=Z,65nm,1.0s								
KIV				pmax	pmax				
	comp=Z,568nm,4.4s								
KIV				MLR	MLR				
	comp=Z,3µm,19.0s								
KIV	Kislovodsk	79.17	349	PFAKE			07 25 20.0	+10	
KIV				LR		LR			
	comp=Z,4µm,20.0s								
KIV	Kislovodsk	79.17	349	P		P	07 25 10.9	+1.2	
	SNR=24								
KIV	Kislovodsk	79.17	349	P		P	07 25 10.2	+0.5	
	comp=Z,335nm,0.8s,SNR=12								
MTE	Manteigas	79.17	26	eP		P	07 25 11.4	+1.6	
	comp=Z,224nm,1.5s								
MTE				eS		S	07 35 10.1	+1.6	
MTE				eSS		SS	07 40 19.8	+6.4	
MTE				A		A	07 59 45.6		
	comp=Z,13µm,20.0s								
MTE	Manteigas	79.17	26	PFAKE			07 25 20.0	+10	
MTE				LR		LR			
	comp=Z,15µm,20.0s								
KBZ	Khabaz	79.37	349	P		P	07 25 11.0	+0.3	
	comp=Z,18nm,0.8s,baz=359,slow=5.3,SNR=39								
KBZ	Khabaz	79.37	349	P		P	07 25 11.0	+0.3	
KBZ	Khabaz	79.37	349	P		P	07 25 11.0	+0.3	
TBI	Tubuai	79.48	177	eP		P	07 25 09.0	-2.3	
	comp=Z,246nm,1.3s								
TBI	Tubuai	79.48	177	ePP		PP	07 28 08.3	-3.9	
	comp=Z,514nm,25.2s								
TBI				eS		S	07 35 06.3	-5.3	
	comp=Z,2µm,25.8s								
TBI				eSS		SS	07 40 10.3	-10	
	comp=Z,1µm,26.5s								
TBI				eLQ		LQ	07 45 54.7		
	comp=Z,2µm,25.2s								
TBI				eLR		LR	07 49 43.1		
	comp=Z,5µm,24.2s,baz=356								
TBI	Tubuai	79.48	177	eP		P	07 25 09.0	-2.3	
	comp=Z,246nm,1.3s								
TBI				ePP		PP	07 28 08.3	-3.9	
TBI				eS		S	07 35 06.3	-5.3	
TBI				eSS		SS	07 40 10.3	-10	
TBI				eLQ		LQ	07 45 54.7		
TIRR	Tirgusor	79.50	359	⇑P		P	07 25 11.8	+0.4	
TIRR	Tirgusor	79.50	359	⇑iP		P	07 25 11.8	+0.4	
DAV	Davao City (W)	79.53	267	PFAKE			07 25 20.0	+8.0	
DAV				LR		LR			
	comp=Z,11µm,22.0s								
MAK	Makhachkala	79.54	345	eP		P	07 25 10.9	-0.7	
MAK				e			07 25 18.3		
MAK				e			07 28 15.9		
MAK				ePPP		PPP	07 30 02.2		
MAK				eS		S	07 35 13.5	+1.4	
MAK				e			07 35 37.2		
MAK				eSS		SS	07 40 28.3	+10	
MAK				pmax	pmax				
	comp=Z,379nm,2.1s								
ROSC	El Rosal	79.58	97	P		P	07 25 13.0	+0.3	
	comp=Z,3.5nm,0.7s,baz=96,slow=17,SNR=7.8								
ROSC	El Rosal	79.58	97	P		P	07 25 13.0	+0.3	
PCBR	Castelo Branco	79.72	26	eP		P	07 25 13.7	+1.0	
	comp=Z,137nm,1.8s								
SOC	Sochi	79.83	351	ciP		P	07 25 13.5	+0.3	
SOC				e			07 25 21.2		
SOC				e			07 28 11.7		
SOC				ePPP		PPP	07 30 02.9		
SOC				iS		S	07 35 15.7	+0.5	
SOC				eSS		SS	07 40 23.1	+0.2	
SOC				pmax	pmax				
	comp=Z,43nm,0.8s								
SOC				pmax	pmax				
	comp=N,18nm,0.9s								
SOC				pmax	pmax				
	comp=E,6.0nm,0.6s								
SOC				pmax	pmax				
	comp=Z,948nm,3.8s								
SOC				smax	smax				
	comp=N,3µm,18.5s								
SOC				smax	smax				
	comp=E,346nm,18.5s								
PMAFR	Mafra	80.09	28	eP		P	07 25 15.6	+0.9	
	comp=E,354nm,1.6s								
PMRV	Marv??o	80.13	27	eP		P	07 25 15.8	+0.9	
	comp=E,133nm,1.7s								
PMRV				eS		S	07 35 19.1	+0.5	
PMRV				eSS		SS	07 40 41.1	+13	
PMRV				eLR		LR	07 57 14.3		
	comp=E,11µm,20.0s								
CTBH	Cotabato--PC H	80.14	268	⇓iP		P	07 25 17.4	+2.1	
ZEI	Tsey	80.20	348	eP		P	07 25 16.2	+0.7	
ZEI				eS		S	07 35 22.2	+2.5	
ZEI				pmax	pmax				
	comp=Z,74nm,1.7s								
PGF	Pioggiola	80.22	14	eP		P	07 25 16.1	+0.6	
	comp=Z,778nm,1.9s								
PGF	Pioggiola	80.22	14	eP		P	07 25 16.1	+0.6	
PGF				pmax	pmax				
	comp=Z,778nm,1.8s								
PGF	Pioggiola	80.22	14	eP		P	07 25 16.1	+0.6	
	comp=Z,778nm,1.8s								
PMTG	Montargil	80.26	27	eP		P	07 25 15.7	+0.1	
	comp=Z,118nm,1.5s								
PSN	Preselentsi	80.28	359	iP		P	07 25 15.9	+0.2	
LIS	Lisbon	80.35	28	eS		S	07 35 15.2	-5.7	
LIS				AMS		AMS	08 02 51.9		
	comp=N,8µm,18.9s								
LIS	Lisbon	80.35	28	eS		S	07 35 15.2	-5.7	
ONI	Oni	80.43	348	P		P	07 25 17.2	+0.6	
ONI				S		S	07 35 23.5	+1.8	
MPEP	Malo Peshtene	80.57	3	iP		P	07 25 16.7	-0.5	
PESTR	Estremoz	80.61	27	eP		P	07 25 16.7	-0.8	
	comp=N,123nm,1.5s								
GRGR	Grenville	80.62	82	PFAKE			07 25 30.0	+12	
GRGR				LR		LR			
	comp=Z,7µm,19.0s								
RKT	Rikitea	80.63	163	eP		P	07 25 14.6	-2.9	
	comp=Z,46nm,1.0s								
RKT				eS		S	07 35 17.7	-6.0	
	comp=Z,2µm,25.0s								
RKT				eLQ		LQ	07 46 57.9		
	comp=Z,1µm,27.8s								
RKT				eLR		LR	07 50 14.5		
	comp=Z,4µm,23.0s,baz=347								
RKT	Rikitea	80.63	163	eP		P	07 25 14.6	-2.9	
RKT				eS		S	07 35 17.7	-6.0	
RKT				pmax	pmax				
	comp=Z,46nm,1.0s								
RKT	Rikitea	80.63	163	eP		P	07 25 14.6	-2.9	
	comp=Z,46nm,1.0s								
RKT				eS		S	07 35 17.7	-6.0	
RKT				eLQ		LQ	07 46 57.9		
SZH	Strazhica	80.69	1	iP		P	07 25 16.7	-1.2	
ESDC	Sonseca Array	80.70	24	P		P	07 25 19.0	+0.9	
	comp=Z,9.9nm,0.7s,baz=341,slow=5.1,SNR=33								
ESDC				LR		LR	08 05 01.6		
	comp=Z,8µm,19.4s,baz=320,slow=39								
ESDC	Sonseca Array	80.70	24	P		P	07 25 19.0	+0.9	
ESLA	Sonseca Array	80.70	24	eP		P	07 25 18.9	+0.8	
	comp=Z,37nm,1.3s								
PAB	San Pablo	80.74	24	PFAKE			07 25 30.0	+12	
PAB				LR		LR			
	comp=Z,11µm,20.0s								
PRD	Provadia	80.77	360	iP		P	07 25 18.3	0.0	
EVOP	Sao Brissos	80.79	27	⇑iP		P	07 25 18.8	+0.3	
EVOP				pmax	pmax				
	comp=Z,475nm,1.8s								
EVOP	Sao Brissos	80.79	27	⇑iP		P	07 25 18.8	+0.3	
	comp=Z,475nm,1.8s								
EVO	Evora	80.82	27	⇑iP		P	07 25 18.8	+0.2	
	comp=Z,475nm,1.8s								
EVO				eR					
	comp=Z,15µm,18.5s								
EVO	Evora	80.82	27	eP		P	07 25 18.5	-0.1	
	comp=Z,139nm,1.6s								
AQU	L'Aquila	80.92	10	PFAKE			07 25 30.0	+11	
AQU				LR		LR			
	comp=Z,3µm,20.0s								
AQU	L'Aquila	80.92	10	⇑iP		P	07 25 19.6	+0.4	
BBGH	Gun Hill	80.94	80	PFAKE			07 25 30.0	+10	
BBGH				LR		LR			
	comp=Z,12µm,19.0s								
GOR	Gori	80.95	347	P		P	07 25 21.9	+2.5	
PNCL	Nicolau / Gran	81.08	28	eP		P	07 25 20.6	+0.6	
	comp=Z,201nm,1.4s								
TBLG	Delisi	81.12	347	eP		P	07 25 21.4	+1.1	
TBLG				S		S	07 35 30.7	+1.8	
TBLG	Delisi	81.12	347	P		P	07 25 21.4	+1.1	
TBLG				S		S	07 35 30.7	+1.8	
OTAV	Otavalo	81.16	103	PFAKE			07 25 30.0	+8.7	
OTAV				LR		LR			
	comp=Z,3µm,20.0s								
DGRG	David-gareji	81.31	346	P		P	07 25 21.8	+0.5	
DGRG				S		S	07 35 33.9	+2.9	
VTS	Vitosha	81.32	3	iP		P	07 25 20.1	-1.3	
PGB	Panagyurishte	81.38	2	iP		P	07 25 21.7	0.0	
PBAR	Barrancos	81.40	27	eP		P	07 25 22.2	+0.5	
	comp=Z,178nm,1.4s								
JMB	Yambol	81.50	0	iP		P	07 25 21.4	-0.8	
KZR	Kazreti	81.50	347	P		P	07 25 18.9	-3.5	
IMP	Imphal	81.57	302	eP		P	07 25 21.0	-1.9	
AKH	Akhalkalaki	81.59	348	P		P	07 25 23.8	+0.9	
AKH				S		S	07 35 35.5	+1.4	
MORF	Marmelete	81.81	28	eP		P	07 25 25.0	+1.0	
	comp=Z,210nm,1.6s								
MORF	Marmelete	81.81	28	eP		P	07 25 18.0	-6.0	
MORF				eS		S	07 35 30.3	-5.9	
PLD	Plovdiv	81.84	2	iP		P	07 25 23.8	-0.2	
BZK	Bozkurt	81.84	355	eP		P	07 25 21.7	-2.3	
SHL	Shillong	81.85	304	⇑iP		P	07 25 25.0	+0.5	
SHL				ex		x	07 35 35.0		
DBOC	Borcka	81.86	349	iP		P	07 25 23.8	-0.3	
SKO	Skopje	81.87	4	eP		P	07 25 25.7	+1.5	
PVAQ	Vaqueiros	81.96	27	eP		P	07 25 25.7	+1.0	
	comp=Z,193nm,1.6s								
PVAQ				eS		S	07 35 39.1	+1.4	
PVAQ				eSS		SS	07 41 01.9	+6.9	
PVAQ				eLR		LR	07 55 28.1		
	comp=Z,8µm,18.0s								
ARTV	Artvin	81.99	349	iP		P	07 25 24.3	-0.8	
PMG	Port Moresby	82.03	240	P		P	07 25 27.0	+1.8	
	comp=Z,31nm,1.0s,baz=353,slow=3.6,SNR=10								
PMG				LR		LR	07 58 52.7		
	comp=Z,6µm,20.1s,baz=103,slow=33								
PMG	Port Moresby	82.03	240	eP		P	07 25 26.7	+1.4	
	comp=Z,73nm,1.0s								
PMG	Port Moresby	82.03	240	P		P	07 25 26.6	+1.4	
	comp=Z,101nm,1.6s,comp=Z,2µm								
KKB	Krupnik	82.04	3	iP		P	07 25 25.8	+0.7	
PBDV	Barranco-do-Ve	82.06	28	eP		P	07 25 26.8	+1.5	
	comp=Z,192nm,1.5s								
DIKM	Dikmen	82.08	354	eP		P	07 25 25.2	0.0	
DAGI	Agillar	82.09	349	iP		P	07 25 25.1	-0.4	
EDRB	Edirne	82.12	0	eP		P	07 25 24.5	-0.9	
NIL	Nilore	82.16	323	PFAKE			07 25 40.0	+14	
NIL				LR		LR			
	comp=Z,13nm,20.0s								
TAPN	Taplejung	82.17	309	eP		P	07 25 26.3	-0.1	
DLH	Dalhousie	82.22	320	eP		P	07 25 25.0	-1.5	
RZN	Rozhen	82.25	2	iP		P	07 25 26.9	+0.5	
DDEM	Demirkent	82.30	349	iP		P	07 25 24.2	-2.3	
KDZ	Kurdzhali	82.30	1	iP		P	07 25 27.4	+0.9	
MMB	Musomiste	82.33	3	iP		P	07 25 26.1	-0.6	
KARS	Kars	82.41	348	eP		P	07 25 27.4	+0.1	
TIR	Tirane	82.42	6	PFAKE			07 25 40.0	+13	
TIR				LR		LR			
	comp=Z,10nm,19.0s								
ABKT	Ailbek	82.44	336	P		P	07 25 28.9	+1.6	
	comp=Z,308nm,0.8s,SNR=17								
MACK	Trabzon	82.44	350	iP		P	07 25 27.6	+0.4	
GUN	Gumba	82.47	310	eP		P	07 25 27.6	-0.4	
ESPY	Espiye-Giresun	82.56	351	eP		P	07 25 27.6	-0.2	
VAY	Valandovo	82.56	4	eP		P	07 25 27.3	-0.5	
NVR	Nevrokopi	82.57	3	P		P	07 25 28.3	+0.4	
NVR	Nevrokopi	82.57	3	eP		P	07 25 28.8	+0.9	
KDZE	Karadeniz Ereo	82.59	357	eP		P	07 25 27.4	-0.6	
KVT	Kavak	82.60	353	eP		P	07 25 25.2	-2.8	
HAVZ	Havza	82.63	354	iP		P	07 25 23.8	-4.4	
CTKS	Kestanelik-??a	82.72	359	eP		P	07 25 27.4	-1.3	
SLVT	Silivri	82.73	359	eP		P	07 25 29.7	+1.0	
KNT	Kendrikon	82.73	3	P		P	07 25 28.9	+0.2	
ODAN	Odare	82.74	309	eP		P	07 25 28.8	-0.4	
ILGA	Ilgaz	82.76	355	iP		P	07 25 28.9	-0.2	
BGKT	Bogazkoy	82.78	359	eP		P	07 25 29.2	+0.3	
SILT	Sile	82.79	358	eP		P	07 25 28.8	-0.2	
SRS	Serrai	82.80	3	P		P	07 25 28.7	-0.4	
BIA	Bitola	82.82	5	eP		P	07 25 28.9	-0.3	
KKN	Kakani	82.83	311	eP		P	07 25 29.5	-0.2	
ISK	Istanbul-Kandi	82.89	359	eP		P	07 25 28.8	-0.7	
GRG	Griva	82.92	4	P		P	07 25 30.8	+1.1	
ERBA	Erbaa	82.95	353	iP		P	07 25 29.9	0.0	
GUMT	Gumushane	82.95	351	eP		P	07 25 31.3	+1.3	
BAYT	Ayd¨–ntepe-Bay	82.95	350	eP		P	07 25 31.6	+1.5	
PKI	Pulchoki	82.97	311	eP		P	07 25 30.1	-0.4	
PKIN	Phulchoki	82.97	311	eP		P	07 25 30.6	+0.1	
	comp=Z,53nm,0.8s								
DANN	Dangsing	82.97	312	eP		P	07 25 30.6	+0.1	
RAMN	Ramite	83.00	309	eP		P	07 25 30.1	-0.5	
	comp=Z,161nm,0.9s								
DMN	Daman	83.06	311	eP		P	07 25 30.8	-0.1	
ALN	Alexandroupoli	83.06	1	P		P	07 25 29.9	-0.5	
ALN	Alexandroupoli	83.06	1	eP		P	07 25 30.8	+0.4	
SMLA	Simla	83.06	319	iP		P	07 25 31.8	+1.2	
SMLA				AMb		AMB	07 25 34.6		
	comp=Z,368nm,0.5s								
SMLA				iS		S	07 35 49.0	-0.1	
HOMI	Horasan	83.12	349	iP		P	07 25 31.1	+0.1	
HRT	Hereke	83.12	358	eP		P	07 25 29.5	-1.3	
RSDY	Resadiye-TOKAT	83.19	352	eP		P	07 25 32.3	+1.2	
CANT	Cankiri	83.21	355	eP		P	07 25 31.6	+0.3	
ENEZ	Enez	83.22	1	eP		P	07 25 30.2	-1.1	
VSL	Villasalto	83.27	14	eP		P	07 25 32.0	+0.5	
	comp=Z,150nm,1.5s								
VSL				LR		LR			
	comp=Z,6µm,19.0s								
KELT	Kelkit	83.28	351	iP		P	07 25 28.6	-3.2	
RKY	Sarkoy-Tekirda	83.28	0	eP		P	07 25 30.2	-1.4	
KOPT	Kop Dagi	83.29	350	iP		P	07 25 32.9	+0.9	
SUSE	Susehri	83.31	352	iP		P	07 25 30.7	-1.3	
EZM	Erzurum	83.31	349	eP		P	07 25 33.8	+1.7	
TOKA	Tokat	83.32	353	iP		P	07 25 32.9	+1.0	
ARMT	Armutlu	83.39	359	eP		P	07 25 30.9	-1.3	
DYDN	Diyadin	83.41	347	iP		P	07 25 33.1	+0.6	
MDUB	Midurnu	83.44	357	eP		P	07 25 31.6	-0.9	
PMOZ	Porto Moniz, M	83.45	36	eS		S	07 35 59.3	+6.1	
PMOZ				A		A	08 02 34.4		
	comp=Z,10µm,18.0s								
AGRB	Hanur-Agry	83.46	348	eP		P	07 25 33.8	+1.1	
DDI	Dehra Dun	83.46	318	⇑iP		P	07 25 33.0	+0.3	
DDI				ex		x	07 28 42.0		
CUC	Castrocucco	83.48	9	PFAKE			07 25 40.0	+7.3	
CUC				LR		LR			
	comp=Z,4µm,19.0s								
GULT	Gulveren	83.49	357	eP		P	07 25 31.6	-1.2	
PYUN	Piuthan	83.50	313	eP		P	07 25 32.9	-0.3	
	comp=Z,403nm,1.0s								
GEMT	Gemlik	83.52	358	eP		P	07 25 32.3	-0.5	
PLG	Polygyros	83.54	3	eP		P	07 25 34.1	+1.2	
KOLN	Koldanda	83.55	312	eP		P	07 25 33.0	-0.4	
	comp=Z,71nm,0.6s								
KZN	Kozani	83.55	4	eP		P	07 25 32.4	-0.6	
GELI	Tayfur-Gelibol	83.56	1	eP		P	07 25 30.9	-2.1	
KRBG	Karabiga-Canak	83.57	360	eP		P	07 25 33.9	+0.8	
CORM	Corum	83.58	354	eP		P	07 25 33.7	+0.4	
MDNY	Mudanya-Bursa	83.59	359	eP		P	07 25 32.3	-0.8	
LPK	Lapseki	83.59	0	eP		P	07 25 32.3	-0.9	
CAVI	Cavuskoy	83.74	358	eP		P	07 25 34.4	+0.5	
CLDR	Caldiran	83.77	347	eP		P	07 25 35.8	+1.4	
LIT	Litokhoron	83.78	4	P		P	07 25 34.4	+0.3	
LIT	Litokhoron	83.78	4	eP		P	07 25 34.4	+0.3	
ERZN	Erzincan	83.79	350	eP		P	07 25 34.4	0.0	
GONE	Gonen-Balikesi	83.92	360	eP		P	07 25 34.4	-0.4	
LOD	Lodumlu	83.96	356	eP		P	07 25 34.4	-0.8	
ILIC	ilic-Erzincan	84.03	351	eP		P	07 25 35.8	+0.2	
VRTB	Varto-Mus	84.04	349	eP		P	07 25 36.5	+0.8	
KEK	Kerkira	84.04	6	eP		P	07 25 27.9	-7.6	
BORA	Eskisehir	84.05	358	iP		P	07 25 33.2	-2.4	
LIA	Limnos Island	84.05	2	eP		P	07 25 35.5	0.0	
BR131	Keskin Array S	84.08	355	eP		P	07 25 35.6	-0.2	
	comp=Z,28nm,1.0s								
BRTR	Keskin Array B	84.08	355	P		P	07 25 36.1	+0.3	
	comp=Z,19nm,0.9s,baz=6.3,slow=2.8,SNR=58								
BRTR				PP		PP	07 28 51.4	+2.4	
	comp=Z,4.2nm,1.1s,baz=350,slow=6.3,SNR=3.5								
BRTR				PKPPKP		P'P'df	07 51 53.9	-7.9	
	comp=Z,0.3nm,0.3s,baz=158,slow=8.0,SNR=4.2								
BRTR	Keskin Array B	84.08	355	P		P	07 25 36.1	+0.3	
BRTR				PP		PP	07 28 51.4	+2.4	
BRTR				P'P'			07 51 53.9		
BOZC	Bozcaada	84.12	1	iP		P	07 25 32.5	-3.3	
EZN	Ezine	84.14	1	eP		P	07 25 33.7	-2.2	
CDAG	Cicekdag	84.15	354	iP		P	07 25 28.2	-7.9	
JAN	Janina	84.16	5	eP		P	07 25 37.8	+1.7	
FAKI	Fak Fak	84.16	256	P		P	07 25 38.4	+2.1	
	comp=Z,80nm,1.2s,comp=Z,2µm								
CMMT	Chiang Mai	84.19	295	P		P	07 25 35.2	-1.3	
CHTO	Chiang Mai	84.19	295	PFAKE			07 25 50.0	+13	
CHTO				LR		LR			
	comp=Z,7µm,22.0s								
CHTO	Chiang Mai	84.19	295	P		P	07 25 37.3	+0.8	
	SNR=19								
CHTO	Chiang Mai	84.19	295	P		P	07 25 35.2	-1.3	
	comp=Z,32nm,2.1s,comp=Z,1µm								
KEMA	Kemaliye	84.22	351	iP		P	07 25 35.5	-1.0	
BALY	Balya	84.22	360	iP		P	07 25 36.0	-0.5	
KKR	Kurukshetra	84.24

LKR	**Lokris**	**85.24**	**3**	*e*P	**P**	**07 25 40.4**	**-1.1**
NDI	**New Delhi**	**85.25**	**318**	*e*P	P	07 25 38.5	-3.2
NDI				*e*S	S	07 36 00.0	-11
BISR	**Bishrakh**	**85.27**	**317**	*ex*	x	07 25 33.6	
BHGR	**Bahadurgarh**	**85.35**	**318**	*ex*	x	07 25 38.6	
HAKT	**HAKKARI**	**85.36**	**347**	*i* P	**P**	**07 25 42.6**	**+0.1**
SDKM	**Sandakan**	**85.36**	**273**	P	P	07 25 48.8	+6.3
SHUT	**Suhut-Afyon**	**85.37**	**357**	*e*P	**P**	**07 25 41.4**	**-0.9**
DIYA	**Diyarbakir**	**85.40**	**350**	*i* P	**P**	**07 25 42.1**	**-0.3**
DZM	**Mont Dzumac**	**85.42**	**217**	P	**P**	**07 25 45.1**	**+2.6**
	comp=Z,17nm,1.2s,baz=98,slow=15,SNR=2.8						
DZM	**Mont Dzumac**	**85.42**	**217**	*e*S	S	07 36 06.7	-6.0
	comp=Z,6μm,24.4s						
DZM				*e*SS	SS	07 41 40.7	-7.8
	comp=Z,4μm,24.8s						
DZM				*e*LQ	LQ	07 48 52.5	
	comp=Z,4μm,28.5s						
DZM				*e*LR	LR	07 52 36.6	
	comp=Z,7μm,20.9s						
DZM	**Mont Dzumac**	**85.42**	**217**	P	**P**	**07 25 45.1**	**+2.6**
EFP	**Efpalio**	**85.43**	**4**	P	**P**	**07 25 42.8**	**+0.4**
EFP	**Efpalio**	**85.43**	**4**	*e*P	**P**	**07 25 43.6**	**+1.2**
KULA	**Kula-Manisa**	**85.44**	**359**	*e*P	**P**	**07 25 43.1**	**+0.4**
AYAN	**Aya Nagar**	**85.46**	**318**	*e*P	**P**	**07 25 43.1**	**+0.4**
AYAN				AMb	AMB	07 25 45.9	
	comp=Z,59nm,1.0s						
DSF	**Desfina**	**85.47**	**4**	P	**P**	**07 25 41.9**	**-0.8**
KALE	**Kalithea**	**85.47**	**4**	*e*P	**P**	**07 25 42.8**	**0.0**
CHOS	**Chios island**	**85.57**	**1**	*e*P	**P**	**07 25 42.7**	**-0.6**
KKM	**Kota Kinabalu**	**85.58**	**274**	P	**P**	**07 25 46.3**	**+2.7**
BLCB	**Balcova**	**85.58**	**0**	*e*P	**P**	**07 25 42.6**	**-0.5**
SIRN	**S¨–rnak**	**85.58**	**348**	*i* P	**P**	**07 25 44.5**	**+1.1**
URLA	**Izmir**	**85.60**	**1**	*i* P	**P**	**07 25 41.7**	**-1.7**
SULT	**Sultanhani-AKS**	**85.61**	**355**	*e*P	**P**	**07 25 40.7**	**-2.8**
VLS	**Valsamata**	**85.62**	**5**	*e*P	**P**	**07 25 43.4**	**0.0**
LAKA	**Lakka**	**85.62**	**4**	*e*P	**P**	**07 25 44.1**	**+0.7**
LADK	**Ladik-KONYA**	**85.66**	**356**	*e*P	**P**	**07 25 44.5**	**+0.7**
CUKT	**Cukurca**	**85.68**	**347**	*e*P	**P**	**07 25 42.9**	**-1.1**
RLS	**Riolos of Patr**	**85.78**	**5**	P	**P**	**07 25 45.0**	**+0.9**
RLS	**Riolos of Patr**	**85.78**	**5**	*e*P	**P**	**07 25 45.1**	**+0.9**
LTK	**Loutraki**	**85.87**	**3**	P	**P**	**07 25 43.8**	**-0.9**
LTK	**Loutraki**	**85.87**	**3**	*e*P	**P**	**07 25 43.8**	**-0.9**
PTL	**Penteli**	**85.87**	**3**	*e*P	**P**	**07 25 45.0**	**+0.3**
KONT	**Konya--Tatoy**	**85.92**	**356**	*e*P	**P**	**07 25 45.0**	**0.0**
MARD	**Mardin**	**85.94**	**349**	*i* P	**P**	**07 25 45.5**	**+0.3**
ATH	**Athens Observa**	**85.94**	**3**	*e*P	**P**	**07 25 44.7**	**-0.3**
URFA	**Urfa**	**86.00**	**351**	*e*P	**P**	**07 25 46.4**	**+0.9**
CAL	**Calcutta**	**86.08**	**306**	*e*P	**P**	**07 25 44.3**	**-1.6**
CAL				*ex*	x	07 29 11.2	
CAL				⇓*ix*	x	07 36 02.9	
KMRS	**Kahramanmaras**	**86.09**	**352**	*e*P	**P**	**07 25 47.5**	**+1.7**
ISP	**Isparta**	**86.10**	**357**	*e*P	**P**	**07 25 45.5**	**-0.4**
ISP	**Isparta**	**86.10**	**357**	*e*P	**P**	**07 25 46.5**	**+0.6**
ISP				pmax	pmax		
	comp=Z,51nm,0.9s						
ISP				MLR	MLR		
	comp=Z,4μm,20.0s						
ISP	**Isparta**	**86.10**	**357**	*e*P	**P**	**07 25 46.5**	**+0.6**
	comp=Z,51nm,0.9s						
ISP				LR	LR		
	comp=Z,4μm,20.0s						
NAIG	**Nisos Aigina**	**86.15**	**3**	*e*P	**P**	**07 25 46.5**	**+0.5**
KOZT	**Kozan**	**86.19**	**353**	*e*P	**P**	**07 25 48.8**	**+2.5**
DNZL	**Cakiroluk**	**86.26**	**359**	*i* P	**P**	**07 25 44.9**	**-1.9**
GCAM	**G?zelcaml?**	**86.26**	**360**	*i* P	**P**	**07 25 45.8**	**-0.8**
AGRA	**Agra**	**86.28**	**316**	*e*P	**P**	**07 25 46.4**	**-0.5**
AGRA				AMb	AMB	07 25 48.4	
	comp=Z,93nm,0.1s						
AYDN	**Tasoluk**	**86.30**	**359**	*i* P	**P**	**07 25 46.5**	**-0.4**
AMT	**Artemida-Makis**	**86.31**	**4**	*e*P	**P**	**07 25 48.1**	**+1.2**
KHET	**Khetri**	**86.32**	**318**	*e*P	**P**	**07 25 47.0**	**-0.1**
DID	**Didima**	**86.39**	**3**	P	**P**	**07 25 45.6**	**-1.7**
DID	**Didima**	**86.39**	**3**	*e*P	**P**	**07 25 46.2**	**-1.1**
GAZ	**Gaziantep**	**86.40**	**352**	*e*P	**P**	**07 25 48.5**	**+1.1**
BCK	**Bucak**	**86.46**	**357**	*e*P	**P**	**07 25 47.2**	**-0.5**
GULE	**Gulek**	**86.46**	**354**	*i* P	**P**	**07 25 46.3**	**-1.5**
VLX	**Vlachokerasia**	**86.50**	**4**	*e*P	**P**	**07 25 48.8**	**+0.9**
CEYT	**Ceyhan**	**86.67**	**353**	*e*P	**P**	**07 25 49.2**	**+0.6**
ITM	**Ithomi**	**86.67**	**4**	P	**P**	**07 25 49.0**	**+0.3**
ITM	**Ithomi**	**86.67**	**4**	*e*P	**P**	**07 25 49.7**	**+1.0**
GOLH	**Golhisar**	**86.70**	**358**	*i* P	**P**	**07 25 47.8**	**-1.1**
KUZU	**Kuzuini**	**86.81**	**352**	*i* P	**P**	**07 25 50.3**	**+0.9**
APE	**Apeiranthos**	**86.88**	**1**	*e*P	P	07 25 45.4	-4.3
APE	**Apeiranthos**	**86.88**	**1**	⇑P	**P**	**07 25 49.1**	**-0.6**
APE	**Apeiranthos**	**86.88**	**1**	*e*P	**P**	**07 25 47.4**	**-2.3**
APE	**Apeiranthos**	**86.88**	**1**	⇑*e*P	**P**	**07 25 49.1**	**-0.6**
MERS	**Mersin**	**86.89**	**354**	*e*P	**P**	**07 25 47.1**	**-2.7**
BODT	**Bodrum**	**86.90**	**360**	*e*P	**P**	**07 25 49.2**	**-0.6**
KORT	**Korkueli**	**86.92**	**358**	*i* P	**P**	**07 25 48.3**	**-1.7**
PYL	**PYLOS**	**86.95**	**4**	*e*P	P	07 25 44.7	-5.3
KEST	**Kesra**	**86.97**	**14**	P	**P**	**07 25 52.1**	**+1.9**
	comp=Z,5.0nm,1.0s,baz=286,slow=5.3,SNR=5.5						
KEST				LR	LR	08 08 36.9	
	comp=Z,3μm,19.2s,baz=86,slow=38						
KEST	**Kesra**	**86.97**	**14**	*e*P	**P**	**07 25 51.2**	**+1.0**
AAI	**Ambon**	**87.00**	**259**	P	**P**	**07 25 52.0**	**+1.6**
	comp=Z,128nm,0.8s,comp=Z,3μm						
DYR	**Agios Nikonas**	**87.10**	**4**	*e*P	**P**	**07 25 50.0**	**-0.8**
KRTS	**Karatas**	**87.13**	**353**	*e*P	**P**	**07 25 51.3**	**+0.5**
VLI	**Veliai**	**87.17**	**3**	P	**P**	**07 25 50.9**	**-0.2**
VLI	**Veliai**	**87.17**	**3**	*e*P	**P**	**07 25 50.4**	**-0.7**
ELL	**Elmali**	**87.18**	**358**	*e*P	**P**	**07 25 49.2**	**-2.1**
ERMK	**Ermenek**	**87.19**	**355**	*i* P	P	07 25 46.9	-4.5
NLAI	**Namlea**	**87.22**	**260**	P	**P**	**07 25 54.6**	**+3.1**
	comp=Z,59nm,1.2s,comp=Z,1μm						
FETY	**Fethiye**	**87.31**	**359**	*e*P	**P**	**07 25 49.9**	**-1.9**
ATAH	**Atahualpa**	**87.36**	**107**	P	**P**	**07 25 53.2**	**+0.5**
	comp=Z,12nm,0.8s,baz=336,slow=4.0,SNR=8.0						
ATAH	**Atahualpa**	**87.36**	**107**	P	**P**	**07 25 53.2**	**+0.5**
WDD	**Wield Dalam**	**87.46**	**10**	PFAKE		07 26 00.0	+7.6
WDD				LR	LR		
	comp=Z,6μm,20.0s						
CHBT	**CHBT**	**87.55**	**289**	P	**P**	**07 25 53.9**	**+0.8**
YAYL	**Yayladag**	**87.61**	**353**	*i* P	**P**	**07 25 53.1**	**-0.3**
GAZI	**Gazipasa**	**87.62**	**356**	*i* P	P	07 25 48.6	-4.7
AYKD	**Aykdinkavak**	**87.66**	**355**	*i* P	P	07 25 46.5	-6.9
ARG	**Arkhangelos**	**87.74**	**359**	*e*P	**P**	**07 25 53.0**	**-0.8**
LUWI	**Luwuk**	**87.78**	**265**	P	**P**	**07 25 52.8**	**-1.5**
	comp=Z,131nm,1.1s,comp=Z,2μm						
SRDT	**SRDT**	**87.87**	**293**	P	P	07 25 51.6	-3.1
	comp=Z,33nm,1.2s,comp=Z,3μm						
COEN	**Coen**	**87.89**	**241**	*e*P	**P**	**07 25 55.1**	**+0.5**
	comp=Z,823nm,1.5s						
RAO	**Raoul Island**	**87.96**	**202**	PFAKE		07 26 10.0	+15
RAO				LR	LR		
	comp=Z,4μm,21.0s						
AJM	**Ajmer**	**88.20**	**319**	*e*P	**P**	**07 25 55.8**	**-0.4**
EREN	**Erenkoy**	**88.24**	**354**	*e*P	**P**	**07 25 55.5**	**-0.6**
KARN	**Karanos**	**88.51**	**3**	P	**P**	**07 25 57.6**	**+0.1**
KARN	**Karanos**	**88.51**	**3**	*e*P	**P**	**07 25 56.8**	**-0.7**
VAM	**Vamos**	**88.51**	**2**	*e*P	**P**	**07 25 58.2**	**+0.7**
LFK	**Lefkose**	**88.52**	**355**	*e*P	**P**	**07 25 56.2**	**-1.4**
IDI	**Anoyia**	**88.65**	**2**	P	**P**	**07 25 57.8**	**-0.4**
IDI	**Anoyia**	**88.65**	**2**	*e*P	**P**	**07 25 56.7**	**-1.6**
	comp=Z,66nm,1.3s						
NPS	**Neapolis**	**88.68**	**1**	*e*P	**P**	**07 25 57.1**	**-1.2**
LEF	**Lefka**	**88.71**	**355**	*e*P	**P**	**07 25 58.5**	**0.0**
LAST	**Lasithi**	**88.78**	**1**	P	**P**	**07 25 58.0**	**-0.8**
LAST	**Lasithi**	**88.78**	**1**	*e*P	**P**	**07 25 58.1**	**-0.8**
PHET	**Kaeng Krachan**	**88.82**	**292**	P	**P**	**07 26 00.0**	**+0.8**
	comp=Z,69nm,0.9s						
ZKR	**Zakros**	**88.84**	**1**	*e*P	**P**	**07 25 57.9**	**-1.1**
SIVA	**Sivas**	**88.92**	**2**	P	**P**	**07 25 59.8**	**+0.4**
SIVA	**Sivas**	**88.92**	**2**	*e*P	**P**	**07 25 59.8**	**+0.4**
XRY	**Khrisi**	**89.07**	**1**	*e*P	**P**	**07 25 59.8**	**-0.3**
GVD	**Gavdhos**	**89.08**	**3**	*e*P	**P**	**07 25 59.4**	**-0.8**
	comp=Z,159nm,0.9s						
GVD	**Gavdhos**	**89.08**	**3**	*e*P	**P**	**07 26 00.0**	**-0.2**
BHPL	**Bhopal**	**90.07**	**315**	*e*P	**P**	**07 26 04.4**	**-0.6**
BHPL				AMb	AMB	07 26 07.9	
	comp=Z,78nm,1.6s						
RPN	**Rapa Nui**	**90.98**	**142**	PFAKE		07 26 20.0	+11
RPN				LR	LR		
	comp=Z,4μm,20.0s						
NGP	**Nagpur**	**91.30**	**313**	*e*P	**P**	**07 26 10.1**	**-0.6**
NGP				*ex*	x	07 36 31.2	
CTA	**Charters Tower**	**91.74**	**235**	P	**P**	**07 26 14.6**	**+2.1**
	comp=Z,18nm,0.9s,baz=16,slow=6.8,SNR=14						
CTA	**Charters Tower**	**91.74**	**235**	P	**P**	**07 26 14.6**	**+2.1**
CTAO	**Charters Tower**	**91.74**	**235**	*e*P	**P**	**07 26 14.3**	**+1.7**
CTAO				*e**PP	**pP**	**07 26 20.4**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,77nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,5μm,21.0s						
CTAO	**Charters Tower**	**91.74**	**235**	*e*P	**P**	**07 26 14.2**	**+1.7**
	comp=Z,77nm,1.4s						
CTAO				*e*pP	**pP**	**07 26 20.4**	**+2.2**
CTAO				LR	LR		
	comp=Z,5μm,21.0s						
SPSI	**Sidrap Palu**	**91.86**	**266**	P	**P**	**07 26 16.2**	**+2.9**
	comp=Z,27nm,2.1s,comp=Z,681nm						
NNA	**Nana**	**92.25**	**108**	*e*P	**P**	**07 26 14.4**	**-0.7**
	comp=Z,20nm,0.9s						
NNA				LR	LR		
	comp=Z,3μm,20.0s						
VIS	**Vishakhapatnam**	**92.53**	**308**	*e*P	**P**	**07 26 17.7**	**+1.3**
KSM	**Kuching**	**92.62**	**277**	P	**P**	**07 26 17.9**	**+1.0**
KAPI	**Kappang**	**92.74**	**265**	P	**P**	**07 26 17.4**	**0.0**
	comp=Z,5.0nm,0.4s,baz=201,slow=17,SNR=7.1						
KAPI	**Kappang**	**92.74**	**265**	P	**P**	**07 26 17.4**	**0.0**
HYB	**Hyderabad**	**94.84**	**312**	*i* P	**P**	**07 26 25.0**	**-2.1**
HYB				*e*PP	**PP**	**07 30 16.0**	**+0.8**
HYB				*e*SKS	**SKSac**	**07 37 00.0**	**-2.0**
POO	**Poona**	**95.72**	**316**	*e*P	**P**	**07 26 31.3**	**+0.2**
POO				AMb	AMB	07 26 34.6	
	comp=Z,54nm,1.5s						
KAD	**Karad**	**96.70**	**315**	*i* P	**P**	**07 26 36.1**	**+0.5**
SAML	**Samuel**	**97.15**	**95**	*e*P	**P**	**07 26 36.8**	**-0.7**
	comp=Z,12nm,1.0s						
SAML				LR	LR		
	comp=Z,10μm,21.0s						
SACV	**Santiago Islan**	**97.23**	**49**	PFAKE		07 26 50.0	+12
SACV				LR	LR		
	comp=Z,6μm,20.0s						
WRAB	**Tennant Creek**	**97.34**	**245**	PFAKE		07 26 50.0	+12
WRAB				LR	LR		
	comp=Z,5μm,21.0s						
WRA	**Warramunga Arr**	**97.35**	**245**	P	Pdif	07 26 39.5	+1.1
	comp=Z,2.1nm,0.9s,baz=39,slow=5.6,SNR=4.8						
WRA	**Warramunga Arr**	**97.35**	**245**	P	Pdif	07 26 39.5	+1.1
TAM	**Tamanrasset**	**99.00**	**20**	PFAKE		07 27 00.0	+14
TAM				LR	LR		
	comp=Z,8μm,20.0s						
LPAZ	**La Paz**	**100.47**	**104**	P	**Pdif**	**07 26 51.9**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=6.7,slow=18,SNR=6.7						
LPAZ	**La Paz**	**100.47**	**104**	P	**Pdif**	**07 26 51.9**	**-1.1**
ASAR	**Alice Springs**	**100.69**	**243**	Pdiff	**Pdif**	**07 26 56.1**	**+2.9**
	comp=Z,1.0nm,0.8s,baz=34,slow=5.3,SNR=6.2						
ASAR	**Alice Springs**	**100.69**	**243**	Pdif	**Pdif**	**07 26 56.1**	**+2.9**
SNZO	**South Karori**	**101.16**	**204**	PFAKE		07 27 10.0	+15
SNZO				LR	LR		
	comp=Z,4μm,21.0s						
CAN	**Canberra**	**103.83**	**226**	PFAKE		07 27 20.0	+13
CAN				LR	LR		
	comp=Z,5μm,21.0s						
SIV	**San Ignacio**	**104.09**	**98**	Pdiff	**Pdif**	**07 27 06.9**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=5.6,slow=6.5,SNR=6.1						
SIV	**San Ignacio**	**104.09**	**98**	Pdif	**Pdif**	**07 27 06.9**	**-1.5**
LVC	**Limon Verde**	**105.24**	**108**	PFAKE		07 31 40.0	
LVC				LR	LR		
	comp=Z,106nm,21.0s						
MBWA	**Marble Bar**	**106.00**	**256**	PFAKE		07 31 40.0	
MBWA				LR	LR		
	comp=Z,3μm,21.0s						
TORD	**Torodi Ar. Bea**	**107.50**	**26**	PKiKP	**PKiKP**	**07 31 31.0**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=318,slow=1.9,SNR=4.1						
TORD				PKKPbc	**PKKPbc**	**07 42 45.0**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=167,slow=2.2,SNR=10.0						
TORD	**Torodi Ar. Bea**	**107.50**	**26**	PKiKP	**PKiKP**	**07 31 31.0**	**-0.9**
TORD				PKKPbc	**PKKPbc**	**07 42 45.0**	**+0.8**
RCBR	**Riachuelo**	**109.50**	**70**	PFAKE		07 31 50.0	
RCBR				LR	LR		
	comp=Z,9μm,22.0s						
TAU	**Tasmania Unive**	**111.05**	**223**	PFAKE		07 31 50.0	
TAU				LR	LR		
	comp=Z,4μm,20.0s						
COCO	**West Island**	**111.34**	**280**	PFAKE		07 31 50.0	
COCO				LR	LR		
	comp=Z,2μm,20.0s						
NWAO	**Narrogin (SRO)**	**116.72**	**250**	PFAKE		07 32 00.0	+11
NWAO				LR	LR		
	comp=Z,4μm,22.0s						
SPB	**Sao Paulo**	**117.75**	**91**	PFAKE		07 32 00.0	+8.9
SPB				LR	LR		
	comp=Z,5μm,19.0s						
PLCA	**Paso Flores**	**118.89**	**121**	PKP	**PKPdf**	**07 31 51.5**	**-1.4**
	comp=Z,4.2nm,1.1s,baz=355,slow=9.6,SNR=2.8						
PLCA	**Paso Flores**	**118.89**	**121**	PKP	**PKPdf**	**07 31 51.5**	**-1.4**
DGAR	**Diego Garcia**	**119.66**	**306**	PFAKE		07 32 10.0	+15
DGAR				LR	LR		
	comp=Z,4μm,19.0s						
TRQA	**Tornquist**	**121.08**	**113**	PFAKE		07 32 10.0	+13
TRQA				LR	LR		
	comp=Z,5μm,20.0s						
MSEY	**Mahe Island**	**123.74**	**325**	PFAKE		07 32 10.0	+7.0
MSEY				LR	LR		
	comp=Z,3μm,20.0s						
MBAR	**Mbarara**	**124.30**	**356**	PFAKE		07 32 20.0	+16
MBAR				LR	LR		
	comp=Z,792nm,19.0s						
KMBO	**Kilima Mbogo**	**124.30**	**348**	*e*PKPdf	**PKPdf**	**07 32 05.5**	**+1.0**
KMBO				LR	LR		
	comp=Z,4μm,20.0s						
SHEL	**Horse Pasture**	**132.51**	**45**	PFAKE		07 32 30.0	+10
SHEL				LR	LR		
	comp=Z,3μm,21.0s						
DRV	**Dumont d'Urvil**	**132.59**	**210**	PP	PP	07 34 11.0	-32
DRV				SKS	SKSdf	07 39 20.0	-7.8
DRV	**Dumont d'Urvil**	**132.59**	**210**	SS	SS	07 52 57.0	+35
EFI	**East Falkland**	**132.75**	**122**	PFAKE		07 32 30.0	+11
EFI				LR	LR		
	comp=Z,5μm,20.0s						
SBA	**Scott Base**	**136.28**	**191**	PFAKE		07 32 40.0	+15
SBA				LR	LR		
	comp=Z,4μm,20.0s						
VNDA	**Vanda**	**136.58**	**193**	PKP	**PKPdf**	**07 32 26.5**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=306,slow=1.4,SNR=5.4						
VNDA				PKP2ab		07 47 39.7	
	comp=Z,1.2nm,0.4s,baz=297,slow=3.7,SNR=11						
VNDA	**Vanda**	**136.58**	**193**	*e*PKPdf	**PKPdf**	**07 32 24.4**	**-0.9**
VNDA				PKP	**PKPdf**	**07 32 26.5**	**+1.1**
VNDA				P'P'ab		07 47 39.7	
LSZ	**Lusaka**	**138.95**	**359**	PFAKE		07 32 40.0	+8.3
LSZ				LR	LR		
	comp=Z,7μm,20.0s						
RER	**Riviere de l'E**	**138.96**	**317**	PFAKE		07 32 40.0	+8.5
RER				LR	LR		
	comp=Z,3μm,20.0s						
ABPO	**Ambohimpanom**	**139.77**	**330**	PFAKE		07 32 40.0	+6.8
ABPO				LR	LR		
	comp=Z,3μm,19.0s						
CASY	**Casey**	**141.85**	**221**	PFAKE		07 32 50.0	+15
CASY				LR	LR		
	comp=Z,4μm,21.0s						
TSUM	**Tsumeb**	**142.16**	**15**	*e*PKPdf	**PKPdf**	**07 32 37.9**	**+0.5**
TSUM				LR	LR		
	comp=Z,4μm,22.0s						
QSPA	**South Pole Qui**	**146.19**	**180**	*e*PKPbc	**PKPbc**	**07 32 43.6**	**-0.4**
QSPA				LR	LR		
	comp=Z,4μm,19.0s						
LBTB	**Lobatse**	**148.62**	**3**	*e*PKPdf	**PKPdf**	**07 32 47.6**	**-0.7**
LBTB				*e*PKPbc	**PKPbc**	**07 32 51.0**	**-1.0**
LBTB				*e*PKPab	**PKPab**	**07 32 54.7**	**-0.8**
BOSA	**Boshof**	**152.19**	**4**	PKP	**PKPdf**	**07 32 53.5**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=189,slow=4.2,SNR=2.9						
BOSA				PKPbc	**PKPbc**	**07 32 59.7**	**-0.8**
	comp=Z,21nm,0.7s,baz=353,slow=2.2,SNR=46						
BOSA	**Boshof**	**152.19**	**4**	PKP	**PKPdf**	**07 32 53.5**	**-0.3**
BOSA				PKPbc	**PKPbc**	**07 32 59.7**	**-0.8**
BOSA				*e*PKPbc	**PKiKP**	**07 33 00.3**	**-0.5**
PAF	**Port-aux-Franc**	**153.49**	**267**	PFAKE		07 33 10.0	-5.0
PAF				LR	LR		
	comp=Z,4μm,19.0s						
SUR	**Sutherland**	**155.57**	**13**	PFAKE		07 33 10.0	+11
SUR				LR	LR		
	comp=Z,6μm,20.0s						
VNA3	**Neumayer Olymp**	**158.49**	**148**	*e*P	**PKPdf**	**07 33 01.7**	**+0.9**
VNA2	**Neumayer--Watz**	**159.30**	**148**	*e*P	**PKPdf**	**07 32 57.1**	**-4.7**
	baz=51,slow=0.7						
VNA2	**Neumayer--Watz**	**159.30**	**148**	*e*PKPab	**PKPab**	**07 33 39.6**	**+0.2**
	baz=51,slow=0.7						
VNA2	**Neumayer--Watz**	**159.30**	**148**	*e*KODIAK	**PKPab**	**07 33 43.6**	**+4.2**
	baz=51,slow=0.7						
SNAA	**Sanae**	**160.18**	**152**	*e*P	**PKPab**	**07 33 42.1**	**-1.2**
SNAA	**Sanae**	**160.18**	**152**	*e*PKPdf	**PKPdf**	**07 33 03.9**	**+1.1**

IDC 30 07:15:06.6±1.5, 2°44S×140°41E, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.1/18, mbtmp4.0/6, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=43.8km s-min=24.1km az=97.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.52**	**15**	LR	LR	07 25 28.8	
	comp=Z,197nm,18.2s,baz=232,slow=38						
WRA	**Warramunga Arr**	**18.38**	**198**	P	Pn	07 19 21.1	-2.0
	0.7nm,0.3s,baz=21,slow=11,SNR=37						
FITZ	**Fitzroy Crossi**	**21.27**	**222**	P	P	07 19 53.4	-1.2
	6.2nm,0.9s,baz=37,slow=7.8,SNR=9.4						
ASAR	**Alice Springs**	**22.03**	**196**	P	P	07 20 02.8	-0.1
	3.3nm,0.5s,baz=28,slow=9.8,SNR=45						
STKA	**Stephens Creek**	**29.31**	**178**	P	P	07 21 12.1	+1.1
	2.3nm,0.9s,baz=31,slow=12,SNR=3.9						
CMAR	**Chiang Mai Arr**	**45.78**	**299**	P	P	07 23 31.2	+0.8
	0.6nm,0.3s,baz=136,slow=4.8,SNR=4.2						
ILAR	**Eielson Array**	**84.88**	**24**	P	P	07 27 42.9	-0.2
	0.7nm,0.7s,baz=267,slow=4.3,SNR=5.6						

NNC 30 07:31:03.7±4.4, 49°35N×67°72E, h0km, mb3.2, mpv2.8, 6C-3D, Error ellipse: s-maj=70.1km s-min=21.8km az=134.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRNK	**Zerenda**	**3.70**	**12**	⇑Pg	Pb	07 32 08.4	-1.5
	2.5nm,0.7s						
ZRNK				⇑Lg	Lg	07 33 01.6	
	5.1nm,0.8s						
BVA0	**Borovoye Array**	**4.05**	**24**	⇓Pn	Pn	07 32 07.2	+0.3
	0.5nm,0.7s,baz=200,slow=11,SNR=6.9						
BVA0				⇑Pg	Pb	07 32 18.3	+2.5
	1.4nm,0.8s,baz=53,slow=37,SNR=6.8						
BVA0				⇓Lg	Lg	07 33 13.3	
	0.5nm,0.6s,baz=186,slow=31,SNR=4.1						
BRVK	**Borovoye**	**4.05**	**22**	⇑Pn	Pn	07 32 07.6	+0.7
	5.4nm,1.0s						
BRVK				⇑Lg	Lg	07 33 13.2	
	15nm,1.4s						
AB31	**Akbulak array**	**5.09**	**272**	⇓Pn	Pn	07 32 21.1	0.0
	1.6nm,0.9s,baz=112,slow=17,SNR=6.3						
KK31	**Karatay Array**	**6.54**	**162**	⇑Pn	Pb	07 32 56.2	-2.1
	0.7nm,0.4s,baz=199,slow=16,SNR=13						
KK31				Sn	Sn	07 33 30.2	-26
	2.2nm,0.3s,baz=200,slow=27,SNR=14						

*ISCJB **30** 07:34:39.8±0.7, 56°37N±0°06×152°55W±0°10, h20km, mb3.7/8, Error ellipse: s-maj=9.6km s-min=6.8km az=148.9*

*IDC **30** 07:34:39.1±1.2, 56°40N×152°72W, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.8/28, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=28.1km s-min=18.8km az=7.0*

*NEIC **30** 07:34:40.4, 56°23N×152°37W, h20km, ML3.5(AEIC), After AEIC.*

ISC 30 07:34:42.0±0.9, 56°52N±0°09×152°51W±0°07, h20km, n37, σ1ᵍ40/39, mb3.9/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.27**	**358**	Pn	**Pn**	**07 35 05.0**	**+0.5**
	41nm,0.3s,baz=191,slow=6.8,SNR=37						
KDAK	**Kodiak Island**	**1.27**	**358**	P	**Pn**	**07 35 05.0**	**+0.5**
KAWH	**Katmai**	**2.24**	**327**	P	**Pn**	**07 35 18.8**	**+0.8**
KAKN	**Katmai Knife C**	**2.26**	**323**	P	**Pn**	**07 35 19.6**	**+1.4**
KAPH	**Katmai Pasha**	**2.31**	**335**	P	**Pn**	**07 35 20.6**	**+1.7**
KARR	**Katmai Rainbow**	**2.31**	**330**	P	**Pn**	**07 35 20.8**	**+1.9**
FOSS	**Fourpeaked Sta**	**2.38**	**345**	P	**Pn**	**07 35

	27nm,0.3s,baz=197,slow=7.5,SNR=201							
KDAK				Sn		Sn	07 41 11.4	+0.9
	35nm,0.3s,baz=258,slow=19,SNR=26							
KDAK	**Kodiak Island**	**1.21**	**359**	P		**Pb**	**07 40 55.0**	**-0.1**
KDAK				Sn		**Sn**	**07 41 11.4**	**+0.9**
KAWH	**Katmai**	**2.18**	**327**	P		**Pn**	**07 41 08.8**	**+0.7**
KAKN	**Katmai Knife C**	**2.19**	**323**	P		**Pn**	**07 41 08.8**	**+0.5**
KAPH	**Katmai Pasha**	**2.24**	**335**	P		**Pb**	**07 41 10.9**	**-1.9**
FOSS	**Fourpeaked Sta**	**2.31**	**345**	P		**Pn**	**07 41 10.9**	**+1.0**
KAHC	**Katmai Hardscr**	**2.46**	**325**	P		**Pn**	**07 41 13.0**	**+1.0**
KELA	**Mount Kelaz**	**2.55**	**319**	P		**Pn**	**07 41 12.7**	**-0.4**
AUP	**Augustine Pinn**	**2.83**	**351**	P		**Pn**	**07 41 19.2**	**+2.1**
ANPK	**Aniakchak Peak**	**3.08**	**277**	P		**Pn**	**07 41 18.6**	**-2.0**
OPT	**Oil Point**	**3.10**	**354**	P		**Pn**	**07 41 22.6**	**+1.8**
ANPB	**Aniakchak Plen**	**3.16**	**276**	P		**Pn**	**07 41 20.0**	**-1.6**
BRLK	**Bradley Lake**	**3.32**	**15**	P		**Pn**	**07 41 23.7**	**0.0**
BRLK				S		**Sn**	**07 42 00.9**	**-1.7**
ILW	**Iliamna West**	**3.50**	**355**	P		**Pn**	**07 41 27.7**	**+1.3**
SEW	**Seward**	**3.90**	**24**	P		**Pn**	**07 41 31.0**	**-0.6**
RDT	**Redoubt**	**4.01**	**1**	P		**Pn**	**07 41 34.1**	**+0.8**
SLKM	**Skilak Lake**	**4.13**	**16**	P		**Pn**	**07 41 34.9**	**0.0**
SPU	**Mount Spurr**	**4.62**	**3**	P		**Pn**	**07 41 42.3**	**+0.6**
STLK	**Strandline Lak**	**4.95**	**4**	P		**Pn**	**07 41 46.8**	**+0.6**
SUA	**Susitna One**	**4.99**	**10**	P		**Pn**	**07 41 46.9**	**+0.1**
PMR	**Palmer**	**5.33**	**18**	P		**Pn**	**07 41 50.1**	**-1.2**
EYAK	**Cordova Ski Ar**	**5.34**	**39**	P		**Pn**	**07 41 50.5**	**-1.0**
BMRM	**Bremner River**	**6.04**	**40**	P		**Pn**	**07 42 00.9**	**-0.3**
TT01	**Tatalina**	**6.58**	**346**	P		**Pn**	**07 42 09.1**	**+0.6**
BALM	**Baldy**	**6.94**	**46**	P		**Pn**	**07 42 13.3**	**-0.2**
TRF	**Thorofare Moun**	**6.99**	**8**	P		**Pn**	**07 42 14.3**	**0.0**
PNL	**Peninsula**	**7.63**	**61**	P		**Pn**	**07 42 23.1**	**+0.2**
COLA	**College**	**8.63**	**14**	*e*Pn		**Pn**	**07 42 37.0**	**+0.4**
	12nm,1.0s							
ILAR	**Eielson Array**	**8.68**	**16**	Pn		**Pn**	**07 42 37.5**	**+0.2**
	0.9nm,0.3s,baz=204,slow=13,SNR=69							
ILAR				Sn		**Sn**	**07 44 08.7**	**-5.6**
	0.2nm,0.3s,baz=200,slow=26,SNR=4.1							
ILAR	**Eielson Array**	**8.68**	**16**	Pn		**Pn**	**07 42 37.5**	**+0.2**
ILAR				Sn		**Sn**	**07 44 08.7**	**-5.6**
INK	**Inuvik**	**14.60**	**29**	Pn		**Pn**	**07 43 59.3**	**+1.2**
	0.1nm,0.3s,baz=183,slow=14,SNR=3.2							
INK	**Inuvik**	**14.60**	**29**	Pn		**Pn**	**07 43 59.3**	**+1.2**
YKA	**Yellowknife Ar**	**19.90**	**57**	P		**P**	**07 45 04.0**	**+1.1**
	0.6nm,0.8s,baz=272,slow=10,SNR=12							
YKA	**Yellowknife Ar**	**19.90**	**57**	P		**P**	**07 45 04.0**	**+1.1**
PDAR	**Pinedale Array**	**30.51**	**98**	P		**P**	**07 46 44.9**	**0.0**
	0.2nm,0.5s,baz=238,slow=31,SNR=2.6							
PDAR	**Pinedale Array**	**30.51**	**98**	P		**P**	**07 46 44.9**	**0.0**
TXAR	**Lajitas Array**	**43.65**	**108**	P		**P**	**07 48 37.2**	**+1.1**
	0.2nm,0.7s,baz=136,slow=22,SNR=2.6							
TXAR	**Lajitas Array**	**43.65**	**109**	P		**P**	**07 48 37.2**	**+1.1**
SCHQ	**Schefferville**	**45.31**	**54**	P		**P**	**07 48 50.6**	**+1.5**
	0.7nm,0.5s,baz=319,slow=9.3,SNR=3.7							
SCHQ	**Schefferville**	**45.31**	**54**	P		**P**	**07 48 50.6**	**+1.5**
ARCES	**ARCESS Array B**	**54.18**	**1**	P		**P**	**07 49 56.3**	**0.0**
	3.1nm,0.9s,baz=18,slow=4.3,SNR=5.4							
ARCES	**ARCESS Array B**	**54.18**	**1**	P		**P**	**07 49 56.3**	**0.0**
SONM	**Songino Array**	**57.04**	**308**	P		**P**	**07 50 17.4**	**+0.2**
	2.3nm,0.8s,baz=43,slow=7.1,SNR=21							
SONM	**Songino Array**	**57.04**	**308**	P		**P**	**07 50 17.4**	**+0.2**
ZALV	**Zalesovo Beam**	**60.30**	**325**	P		**P**	**07 50 39.5**	**-0.2**
	1.6nm,0.7s,baz=32,slow=5.9,SNR=9.4							
ZALV	**Zalesovo Beam**	**60.30**	**325**	P		**P**	**07 50 39.5**	**-0.2**
NB2	**NORSAR Subarra**	**62.03**	**9**	P		**P**	**07 50 51.9**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=349,slow=6.9							
NOA	**NORSAR Array B**	**62.03**	**9**	P		**P**	**07 50 50.6**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=350,slow=6.7,SNR=5.2							
NOA	**NORSAR Array B**	**62.03**	**9**	P		**P**	**07 50 50.6**	**-0.7**
FINES	**FINESS Array B**	**62.31**	**1**	P		**P**	**07 50 52.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=27,slow=8.8,SNR=3.9							
FINES	**FINESS Array B**	**62.31**	**1**	P		**P**	**07 50 52.9**	**-0.3**
MKAR	**Makanchi Array**	**67.27**	**322**	P		**P**	**07 51 25.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=46,slow=6.7,SNR=8.3							
MKAR	**Makanchi Array**	**67.27**	**322**	P		**P**	**07 51 25.3**	**-0.5**
AKASG	**Malin Array Be**	**73.08**	**359**	P		**P**	**07 52 00.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=74,slow=27,SNR=2.2							
AKASG	**Malin Array Be**	**73.08**	**359**	P		**P**	**07 52 00.5**	**-0.7**

CASC 30 07:41:30.7±2.1, 13°39.99N×91°01.99W, h28km±18km, MD3.7, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.47**	**46**	‖*eP*	Pn	07 41 42.2	+0.6
FUG	**Fuego 3**	**1.20**	**68**	*eP*	Pn	07 41 51.8	-0.1
FG6		**1.21**	**62**	*eP*	Pn	07 41 52.3	0.0
TP2	**Tecpan 2**	**1.22**	**50**	*eP*	Pn	07 41 52.9	+0.3
PCG	**Pacaya**	**1.40**	**73**	*eP*	Pn	07 41 55.4	+0.7
NBG	**Las Nubes**	**1.70**	**69**	*eP*	Pb	07 42 00.4	-1.3
RBDL	**Robledal**	**2.24**	**87**	*eP*	Pn	07 42 06.0	-0.2
RBDL				*eS*	Sn	07 42 33.6	+0.5
SBLS	**San Blas**	**2.30**	**93**	*eP*	Pn	07 42 06.6	-0.5
SBLS				*eS*	Sn	07 42 36.1	+1.3
SNJE	**San Jose**	**2.32**	**93**	*eP*	Pn	07 42 07.8	+0.4
SNJE				*eS*	Sn	07 42 35.7	+0.6
MRL	**Marmol**	**2.47**	**64**	*eP*	Pn	07 42 11.2	+1.9
BOQS	**Boqueron**	**2.64**	**95**	*eP*	Pn	07 42 12.0	+0.2
LFRS	**El Faro**	**2.87**	**97**	*eP*	Pn	07 42 14.4	-0.4
LFRS				*eS*	Sn	07 42 48.4	-0.1
LBRS	**Las Brisas**	**2.87**	**95**	*eP*	Pn	07 42 14.7	-0.1

CASC 30 07:47:55.1±1.9, 13°39.93N×92°01.01W, h20km±22km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.53**	**43**	*eP*	Pn	07 48 07.3	-0.2
FUG	**Fuego 3**	**1.24**	**65**	*eP*	Pn	07 48 16.8	-0.8
FG6		**1.26**	**60**	*eP*	Pn	07 48 17.3	-0.7
TP2	**Tecpan 2**	**1.28**	**48**	*eP*	Pn	07 48 18.3	-0.1
RTR	**El Retiro**	**2.29**	**91**	*eP*	Pn	07 48 31.7	-0.3
RTR				*eS*	Sn	07 49 00.4	+0.5
SBLS	**San Blas**	**2.31**	**92**	*eP*	Pn	07 48 32.3	-0.1
SBLS				*eS*	Sn	07 49 01.4	+0.9
SNJE	**San Jose**	**2.33**	**91**	*eP*	Pn	07 48 32.8	+0.2
SNJE				*eS*	Sn	07 49 01.1	+0.2
MRL	**Marmol**	**2.51**	**63**	*eP*	Pn	07 48 36.0	+1.0
LFRS	**El Faro**	**2.88**	**96**	*eP*	Pn	07 48 39.9	-0.1
LFRS				*eS*	Sn	07 49 15.1	+1.0

*ISCJB **30** 07:53:58.2±0.3, 3°.88N±0°.06×122°.41E±0°.09, h604km, mb4.1/16, Error ellipse: s-maj=12.9km s-min=5.5km az=152.0*
*DJA **30** 07:53:59.4±0.5, 4°N±6°×12°2E±°, h600km±4km, M4.8/10, mB5.1/3, mb4.6/10, MLv4.9/6, Mw(mB)4.5/3*
*IDC **30** 07:54:00.2±1.1, 3°.81N×122°.44E, h617km±14km, mb3.5/16, mb1 3.5/16, mb1mx3.4/27, mbtmp3.5/16, Error ellipse: s-maj=21.4km s-min=6.9km az=69.0*

ISC 30 07:53:59.3±0.5, 3°.80N±0°.07×122°.3E±0°.1, h604km, n38, σ1§02/49, mb4.1/16, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**3.32**	**186**	P	**P**	**07 55 20.2**	**-0.5**
MRSI				S	**S**	**07 56 26.0**	**-0.9**
MNI	**Manado**	**3.44**	**133**	P	**P**	**07 55 20.8**	**-0.6**
KMSI	**Cibinong**	**3.61**	**152**	P	**P**	**07 55 22.1**	**-0.4**
LUWI	**Luwuk**	**4.83**	**175**	P	**P**	**07 55 30.2**	**-0.9**
LUWI				S	**S**	**07 56 45.6**	**-0.4**
TNTI	**Ternate**	**5.88**	**121**	P	**P**	**07 55 38.4**	**-1.2**
	332nm,1.0s,5µm1.3nm						
LBMI	**Labuha**	**6.80**	**130**	P	**P**	**07 55 47.2**	**-0.5**
	179nm,0.7s,7µm1.0nm						
LBMI				S	**S**	**07 57 19.3**	**+2.9**
	179nm,0.7s,7µm1.0nm						
NLAI	**Namlea**	**8.47**	**146**	P	**P**	**07 56 04.5**	**+1.2**
	76nm,0.8s,1µm						
FITZ	**Fitzroy Crossi**	**22.01**	**172**	P	**P**	**07 58 11.2**	**+0.3**
	5.7nm,0.7s,baz=355,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**26.39**	**154**	P	**P**	**07 58 49.2**	**-0.4**
	24nm,0.3s,baz=336,slow=9.6,SNR=282						
WRA				S	**S**	**08 02 38.2**	**-3.9**
	1.8nm,0.7s,baz=334,slow=16,SNR=5.4						
WRA				ScP	**ScP**	**08 04 37.2**	**-0.8**
	1.9nm,0.5s,baz=340,slow=3.1,SNR=16						
CMAR	**Chiang Mai Arr**	**27.11**	**304**	P	**P**	**07 58 57.2**	**+1.3**
	2.5nm,0.7s,baz=132,slow=10,SNR=13						
PMG	**Port Moresby**	**28.02**	**118**	P	**P**	**07 59 03.6**	**-0.3**
	6.2nm,0.5s,baz=233,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**29.54**	**158**	P	**P**	**07 59 17.5**	**+0.5**
	12nm,0.5s,baz=334,slow=7.1,SNR=286						
ASAR				S	**S**	**08 03 29.6**	**-1.3**
	1.1nm,0.5s,baz=328,slow=13,SNR=12						
ASAR				ScP	**ScP**	**08 04 47.4**	**-0.5**
	2.8nm,0.8s,baz=335,slow=2.7,SNR=15						
KSRS	**Korea Array**	**33.89**	**8**	P	**P**	**07 59 53.9**	**+0.4**
	0.3nm,0.3s,baz=276,slow=12,SNR=3.2						
NWAO	**Narrogin (SRO)**	**36.84**	**187**	P	**P**	**08 00 19.1**	**+1.1**
	7.9nm,0.4s,baz=19,slow=5.8,SNR=7.8						
STKA	**Stephens Creek**	**39.94**	**154**	P	**P**	**08 00 44.0**	**+1.1**
	11nm,0.5s,baz=326,slow=8.4,SNR=54						
TAPN	**Taplejung**	**40.48**	**309**	*eP*	**P**	**08 00 48.2**	**+0.4**
	12nm,0.3s						
ODAN	**Odare**	**40.50**	**308**	*eP*	**P**	**08 00 48.3**	**+0.5**
	29nm,0.6s						
USRK	**Ussuriysk Arra**	**41.13**	**11**	P	**P**	**08 00 52.0**	**-0.2**
	2.6nm,0.7s,baz=104,slow=6.5,SNR=6.2						
RAMN	**Ramite**	**41.16**	**308**	*eP*	**P**	**08 00 53.8**	**+0.7**
	40nm,0.7s						
GUN	**Gumba**	**42.17**	**308**	*eP*	**P**	**08 01 01.6**	**+0.5**
	64nm,0.7s						
PKI	**Pulchoki**	**42.39**	**308**	*eP*	**P**	**08 01 02.8**	**0.0**
KKN	**Kakani**	**42.59**	**308**	*eP*	**P**	**08 01 04.4**	**+0.2**
	16nm,0.4s						
DMN	**Daman**	**42.64**	**308**	*eP*	**P**	**08 01 05.0**	**+0.3**
KOLN	**Koldanda**	**43.91**	**307**	*eP*	**P**	**08 01 15.1**	**+0.7**
	60nm,0.6s						
ASAJ	**Asahikawa**	**43.97**	**21**	P	**P**	**08 01 14.2**	**-0.1**
	3.6nm,0.9s,baz=351,slow=20,SNR=2.1						
DANN	**Dangsing**	**44.04**	**308**	*eP*	**P**	**08 01 15.9**	**+0.4**
	74nm,0.6s						
PYUN	**Piuthan**	**44.54**	**307**	*eP*	**P**	**08 01 20.0**	**+0.7**
	79nm,0.6s						
ULN	**Ulaanbaatar**	**45.83**	**346**	P	**P**	**08 01 29.5**	**+0.9**
SONM	**Songino Array**	**45.96**	**345**	P	**P**	**08 01 29.8**	**+0.2**
	4.7nm,0.8s,baz=161,slow=8.7,SNR=49						
SONM				PcP	**PcP**	**08 02 52.9**	**-0.6**
	0.4nm,0.4s,baz=175,slow=5.3,SNR=3.4						
SONM				ScP	**ScP**	**08 05 49.6**	**-0.3**
	1.2nm,0.8s,baz=159,slow=4.8,SNR=7.5						
MKAR	**Makanchi Array**	**55.05**	**327**	P	**P**	**08 02 35.7**	**+0.3**
	6.1nm,0.6s,baz=126,slow=7.7,SNR=90						
MKAR				PcP	**PcP**	**08 03 27.1**	**-0.4**
	2.3nm,0.6s,baz=121,slow=4.9,SNR=12						
MKAR				ScP	**ScP**	**08 06 28.5**	**-0.6**
	1.0nm,0.6s,baz=130,slow=5.0,SNR=9.5						
KZA	**Kyzart**	**56.64**	**319**	P	**P**	**08 02 48.2**	**+1.3**
	SNR=9.1						
TKM2	**Tokmak 2**	**56.83**	**320**	P	**P**	**08 02 48.6**	**+0.7**
	SNR=6.3						
USP	**Ospenovka**	**57.70**	**320**	P	**P**	**08 02 54.0**	**+0.4**
	SNR=7.1						
ZALV	**Zalesovo Beam**	**58.60**	**335**	P	**P**	**08 02 58.6**	**-0.8**
	2.3nm,0.6s,baz=126,slow=5.6,SNR=12						
VNDA	**Vanda**	**84.08**	**172**	P	**P**	**08 05 27.5**	**+0.5**
	0.8nm,0.6s,baz=327,slow=5.7,SNR=6.3						
ARCES	**ARCESS Array B**	**88.85**	**340**	P	**P**	**08 05 48.4**	**-1.4**
	2.3nm,0.9s,baz=81,slow=8.7,SNR=4.2						
FINES	**FINESS Array B**	**89.68**	**331**	P	**P**	**08 05 52.4**	**-1.4**
	0.9nm,0.5s,baz=64,slow=4.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**118.70**	**287**	PKP	**PKPdf**	**08 11 40.1**	**-0.7**
	0.4nm,0.3s,baz=66,slow=1.4,SNR=10						

IDC 30 08:05:36.6±1.7, 9°.96S×125°.00E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=98.4km s-min=26.6km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.12**	**176**	Pn	Pn	08 07 36.1	+0.4
	0.4nm,0.3s,baz=2.4,slow=9.8,SNR=20						
FITZ				Sn	Sn	08 08 57.7	-11
	1.8nm,0.3s,baz=160,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**13.41**	**139**	Pn	Pn	08 08 48.2	-0.1
	0.2nm,0.3s,baz=317,slow=15,SNR=17						
WRA				Sn	Sn	08 11 08.5	-10
	0.3nm,0.3s,baz=322,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**16.06**	**149**	Pn	Pn	08 09 23.5	-0.6
	0.2nm,0.3s,baz=320,slow=12,SNR=18						
ASAR				Sn	Sn	08 12 13.9	-9.1
	0.1nm,0.3s,baz=312,slow=20,SNR=4.5						
MKAR	**Makanchi Array**	**68.13**	**330**	P	P	08 16 38.5	0.0
	0.2nm,0.6s,baz=134,slow=8.3,SNR=3.1						

WEL 30 08:21:04.0±0.4, 38°.07S×176°.03E, h207km±2km, ML3.9/17, 4C-19D, Error ellipse: s-maj=2.3km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.41**	**113**	‖Pn	Pn	08 21 31.9	+0.1
RRRZ	**Republican Roa**	**0.47**	**125**	‖Pn	Pn	08 21 31.7	-0.1
PRRZ	**Plateau Road**	**0.51**	**146**	Pn	Pn	08 21 32.0	0.0
PRRZ				Sn	S	08 21 53.4	-0.5
MARZ	**Manawahe**	**0.52**	**81**	‖Pn	Pn	08 21 32.0	0.0
TOZ	**Tahuroa Road**	**0.54**	**309**	‖Pn	Pn	08 21 32.2	+0.2
TOZ				Sn	S	08 21 53.7	-0.1
EDRZ	**Edgecumbe**	**0.56**	**94**	‖Pn	Pn	08 21 32.1	-0.2
URZ	**Urewera**	**0.88**	**103**	Pn	Pn	08 21 33.0	-0.7
URZ				Sn	S	08 21 55.7	-0.9
HIZ	**Hauiti**	**1.02**	**244**	⇑Pn	Pn	08 21 34.7	+0.1
WTVZ	**West Tongariro**	**1.10**	**198**	Pn	Pn	08 21 35.3	0.0
TWVZ	**Taurewa**	**1.10**	**205**	‖Pn	Pn	08 21 35.2	-0.1
OTVZ	**Oturere**	**1.12**	**194**	Pn	Pn	08 21 35.8	+0.2
NGZ	**Ngauruhoe**	**1.15**	**197**	Pn	Pn	08 21 35.7	0.0
BKZ	**Black Stump Fm**	**1.15**	**162**	Pn	Pn	08 21 35.3	-0.3
BKZ				Sn	S	08 21 58.5	-1.7
RAHZ	**Arahi**	**1.18**	**136**	‖Pn	Pn	08 21 36.1	+0.3
RAHZ				Sn	S	08 22 00.4	0.0
WPVZ	**Whakapapa**	**1.19**	**198**	Pn	Pn	08 21 35.9	-0.1
NMHZ	**Naumai**	**1.19**	**149**	‖Pn	Pn	08 21 36.6	+0.7
MWZ	**Matawai**	**1.21**	**103**	‖Pn	Pn	08 21 35.6	-0.4
TUVZ	**Tukino**	**1.23**	**194**	Pn	Pn	08 21 36.3	0.0
FWVZ	**Far West T-bar**	**1.24**	**197**	Pn	Pn	08 21 36.4	0.0
TRVZ	**Turoa**	**1.28**	**197**	Pn	Pn	08 21 36.8	0.0
WNVZ	**Wahianoa**	**1.30**	**195**	‖Pn	Pn	08 21 36.5	-0.3
PKVZ	**Pokaka**	**1.33**	**203**	Pn	Pn	08 21 36.6	-0.3
MOVZ	**Moawhango**	**1.35**	**189**	‖Pn	Pn	08 21 36.6	-0.6
MTVZ	**Mangateitei**	**1.38**	**198**	Pn	Pn	08 21 37.2	-0.2
BHHZ	**Black Hill Sta**	**1.41**	**179**	Pn	Pn	08 21 37.1	-0.5
VRZ	**Vera Road**	**1.45**	**223**	Pn	Pn	08 21 37.8	0.0
MCHZ	**McNeill Hill**	**1.47**	**159**	‖Pn	Pn	08 21 38.6	+0.6
KNZ	**Kokohu**	**1.60**	**127**	Pn	Pn	08 21 39.2	0.0
PRGZ	**Paritu Road**	**1.69**	**121**	Pn	Pn	08 21 39.9	-0.1
PUZ	**Puketiti**	**1.76**	**91**	‖Pn	Pn	08 21 40.0	-0.8
CNGZ	**Carnagh Station**	**1.77**	**104**	‖Pn	Pn	08 21 41.2	+0.5
CKHZ	**Cape Kidnapper**	**1.78**	**153**	‖Pn	Pn	08 21 41.0	+0.1
MHGZ	**Mahia Peninsul**	**1.83**	**127**	Pn	Pn	08 21 41.4	+0.1
KAHZ	**Kahuranaki**	**1.84**	**159**	‖Pn	Pn	08 21 41.6	+0.1
PNHZ	**Pukenui**	**1.84**	**176**	Pn	Pn	08 21 40.9	-0.6
WAZ	**Wanganui**	**1.86**	**205**	Pn	Pn	08 21 41.1	-0.6
MXZ	**Matakaoa Point**	**1.88**	**75**	Pn	Pn	08 21 41.4	-0.4
TSZ	**Takapari Road**	**1.98**	**181**	⇑Pn	Pn	08 21 42.2	-0.7
WPHZ	**Waipukurau**	**2.02**	**171**	Pn	Pn	08 21 42.7	-0.5
PXZ	**Pawanui**	**2.06**	**162**	‖Pn	Pn	08 21 43.2	-0.4
NWEZ	**Newall Road**	**2.07**	**234**	Pn	Pn	08 21 43.9	+0.2
DVHZ	**Dannevirke**	**2.23**	**177**	Pn	Pn	08 21 44.3	-1.0
PRHZ	**Porangahau**	**2.24**	**168**	‖Pn	Pn	08 21 44.8	-0.7
POWZ	**Post Office Ro**	**2.33**	**185**	Pn	Pn	08 21 45.1	-1.2
MRZ	**Mangatainoka R**	**2.61**	**187**	⇑Pn	Pn	08 21 47.8	-1.7
MRZ				Sn	S	08 22 21.1	-3.6
BFZ	**Birch Farm**	**2.61**	**176**	Pn	Pn	08 21 48.2	-1.3
TIWZ	**Tintock**	**2.70**	**182**	Pn	Pn	08 21 49.0	-1.5
OGWZ	**Otaki Gorge**	**2.82**	**193**	Pn	Pn	08 21 50.2	-1.6
HOWZ	**Holdsworth Sta**	**2.85**	**188**	Pn	Pn	08 21 50.2	-2.1
KIW	**Kapiti Island**	**2.92**	**197**	Pn	Pn	08 21 50.9	-2.1
TMWZ	**Te Maipa**	**3.03**	**182**	Pn	Pn	08 21 52.4	-2.0
MTW	**Mount Morrison**	**3.11**	**187**	Pn	Pn	08 21 52.8	-2.4
CAW	**Cannon Point**	**3.12**	**193**	Pn	Pn	08 21 53.2	-2.1
DUWZ	**D'Urville Isla**	**3.17**	**210**	Pn	Pn	08 21 53.6	-2.4
TRWZ	**Traveller**	**3.33**	**184**	Pn	Pn	08 21 55.7	-2.2
PAWZ	**Paruwai Farm**	**3.34**	**188**	Pn	Pn	08 21 55.4	-2.5
WEL	**Wellington**	**3.35**	**196**	Pn	Pn	08 21 55.8	-2.2
SNZO	**South Karori**	**3.39**	**197**	Pn	Pn	08 21 56.0	-2.5
MSWZ	**Moikau Station**	**3.39**	**190**	Pn	Pn	08 21 55.9	-2.6
TCW	**Tory Channel**	**3.41**	**203**	Pn	Pn	08 21 56.4	-2.4
BHW	**Baring Head**	**3.45**	**195**	Pn	Pn	08 21 56.6	-2.6
PLWZ	**Palliser**	**3.54**	**189**	Pn	Pn	08 21 57.6	-2.8
TUWZ	**Tuamarina**	**3.72**	**205**	Pn	Pn	08 21 59.7	-2.7
NNZ	**Nelson**	**3.75**	**212**	Pn	Pn	08 21 59.7	-3.0
QRZ	**Quartz Range**	**3.86**	**223**	Pn	Pn	08 22 00.7	-3.5
BSWZ	**Blackbirch Sta**	**3.99**	**204**	PN	Pn	08 22 03.2	-2.7
THZ	**Tophouse**	**4.40**	**212**	PN	Pn	08 22 07.7	-3.3
KHZ	**Kahutara**	**4.74**	**203**	PN	Pn	08 22 12.3	-2.9
DSZ	**Denniston Nort**	**4.90**	**220**	‖PN	Pn	08 22 13.0	-4.2
LTZ	**Lake Taylor**	**5.51**	**210**	PN	Pn	08 22 20.6	-4.4
MQZ	**McQueen's Vall**	**6.18**	**203**	PN	Pn	08 22 29.0	-4.5
WVZ	**Waitaha Valley**	**6.42**	**217**	PN	Pn	08 22 32.4	-4.2
RPZ	**Rata Peaks**	**6.78**	**212**	PN	Pn	08 22 37.0	-4.3
FOZ	**Fox Glacier**	**7.29**	**219**	PN	Pn	08 22 42.6	-5.3
ODZ	**Otahua Downs**	**8.05**	**208**	⇑PN	Pn	08 22 54.0	-3.7
JCZ	**Jackson Bay**	**8.12**	**220**	PN	Pn	08 22 54.1	-4.8

IDC 30 08:22:11.6±2.0, 10°.05S×125°.04E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, ML3.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/18, Error ellipse: s-maj=98.2km s-min=29.0km az=65.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**7.24**	**313**	LR	LR	08 26 57.8	
	comp=Z,582nm,19.5s,baz=290,slow=40						
FITZ	**Fitzroy Crossi**	**8.03**	**176**	Pn	Pn	08 24 10.0	+0.3
	0.4nm,0.3s,baz=26,slow=4.9,SNR=24						
FITZ				Sn	Sn	08 25 30.9	-10
	1.2nm,0.3s,baz=150,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**13.32**	**139**	Pn	Pn	08 25 22.5	+0.3
	0.1nm,0.3s,baz=317,slow=15,SNR=10						
WRA				Sn	Sn	08 27 40.4	-11
	0.2nm,0.3s,baz=320,slow=25,SNR=7.2						
ASAR	**Alice Springs**	**15.97**	**149**	Pn	Pn	08 25 57.0	-1.0
	0.1nm,0.3s,baz=320,slow=12,SNR=12						
ASAR				Sn	Sn	08 28 48.7	-7.1
	0.1nm,0.3s,baz=309,slow=21,SNR=4.4						
MKAR	**Makanchi Array**	**68.22**	**330**	P	P	08 33 14.1	0.0
	0.1nm,0.5s,baz=116,slow=6.4,SNR=1.9						

*NIED **30** 08:34:00, 29°.20N×130°.40E, h17km, Mw4.8 Best double couple: M0 1.55000×10^16 NP1:φ=21.00000°, δ=83.00000°, λ=78.00000°. NP2:φ=262.00000°, δ=14.00000°, λ=150.00000°.*
*MOS **30** 08:34:34.9±1.1, 29°.26N×130°.37E, h33km, mb4.9/11, Error ellipse: s-maj=11.7km s-min=6.5km az=99.5*
*NEIC **30** 08:34:36.5±0.3, 29°.26N×130°.38E, mb4.6/9, MW4.7(NIED), Error ellipse: s-maj=7.2km s-min=6.8km az=160.0*
*

MKAR PcP **PcP** **08 44 16.4 +0.1**
comp=Z,0.6nm,0.7s,baz=98,slow=1.7,SNR=4.1
MKAR Makanchi Array 41.10 309 P **P** **08 42 17.2 0.0**
MKAR 08 44 16.4
MKAR Makanchi Array 41.10 309 P **P** **08 42 17.1 0.0**
MKAR PcP **PcP** **08 44 16.4 +0.1**
ZALV Zalesovo Beam 41.14 320 P **P** **08 42 16.8 -0.5**
comp=Z,1.4nm,0.4s,baz=107,slow=9.1,SNR=10.0
ZALV Zalesovo Beam 41.14 320 P **P** **08 42 16.8 -0.5**
ZALV Zalesovo Beam 41.14 320 P **P** **08 42 16.8 -0.5**
PYUN Piuthan 41.44 280 *eP* **P** **08 42 20.5 +0.1**
comp=Z,43nm,0.7s
TIXI Tiksi 42.48 359 *ceP* **P** **08 42 26.6 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 42.48 359 *eP* **P** **08 42 27.8 -0.2**
comp=Z,1.5nm,0.6s
TIXI *epP* **pP** **08 42 37.3 +0.1**
TIXI *esP* **sP** **08 42 41.5 +0.5**
KURK Kurchatov 44.08 314 *ceP* **P** **08 42 41.0 -0.2**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 44.08 314 P **P** **08 42 41.1 -0.1**
KURBB Kurchatov Arra 44.12 314 P **P** **08 42 41.1 -0.4**
comp=Z,56nm,0.3s,baz=100,slow=9.3,SNR=1.4
BILL Bilibino 44.21 18 P **P** **08 42 42.0 0.0**
BILL *e* 08 42 52.9
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,400nm,16.0s
WRA Warramunga Arr 49.03 175 P **P** **08 43 20.1 -0.2**
comp=Z,1.9nm,0.7s,baz=354,slow=8.6,SNR=19
WRA Warramunga Arr 49.03 175 P **P** **08 43 20.1 -0.2**
BVA0 Borovoye Array 49.41 316 *i* P **P** **08 43 22.2 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 49.41 316 P **P** **08 43 22.8 -0.1**
comp=Z,9.8nm,0.6s,baz=93,slow=9.7,SNR=47
BVAR PcP **PcP** **08 44 44.9 0.0**
comp=Z,1.7nm,0.6s,baz=89,slow=3.3,SNR=3.8
BVAR Borovoye Array 49.41 316 P **P** **08 43 22.8 -0.1**
BVAR 08 44 44.9
BVAR Borovoye Array 49.41 316 P **P** **08 43 22.8 -0.1**
BVAR PcP **PcP** **08 44 44.9 0.0**
BRVK Borovoye 49.48 316 *eP* **P** **08 43 23.1 -0.3**
BRVK *e**PP **pP** **08 43 32.3 -0.5**
BRVK *e**SP **sP** **08 43 36.8 +0.2**
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 49.48 316 *eP* **P** **08 43 23.1 -0.3**
comp=Z,15nm,0.6s
BRVK *epP* **pP** **08 43 32.3 -0.5**
BRVK *esP* **sP** **08 43 36.8 +0.2**
ASAR Alice Springs 52.70 176 P **P** **08 43 48.8 +1.0**
comp=Z,0.9nm,0.6s,baz=91,slow=12,SNR=14
ASAR Alice Springs 52.70 176 P **P** **08 43 48.8 +1.0**
AB31 Akbulak array 56.08 312 *ceP* **P** **08 44 11.7 -0.5**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ARU Arti 56.30 321 *d iP* **P** **08 44 13.4 -0.3**
ARU 08 46 16.7
ARU S **S** **08 52 00.1 -1.5**
ARU SS SS 08 55 39.4 -8.8
ARU pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 57.17 313 P **P** **08 44 19.9 -0.1**
comp=Z,4.2nm,0.8s,baz=89,slow=13,SNR=14
AKTO Aktyubinsk 57.17 313 P **P** **08 44 19.9 -0.1**
AKTO Aktyubinsk 57.17 313 P **P** **08 44 19.9 -0.1**
KDAK Kodiak Island 58.94 38 P **P** **08 44 32.4 +0.2**
comp=Z,7.0nm,0.7s,baz=309,slow=17,SNR=4.1
KDAK Kodiak Island 58.94 38 P **P** **08 44 32.4 +0.2**
ILAR Eielson Array 60.87 29 P **P** **08 44 45.2 -0.2**
comp=Z,0.8nm,0.8s,baz=287,slow=8.1,SNR=10
ILAR Eielson Array 60.87 29 P **P** **08 44 45.2 -0.2**
INK Inuvik 65.36 24 P **P** **08 45 15.9 +0.9**
comp=Z,1.7nm,0.5s,baz=310,slow=6.8,SNR=35
INK Inuvik 65.36 24 P **P** **08 45 15.9 +0.9**
ARCES ARCESS Array B 67.95 338 P **P** **08 45 32.7 +1.1**
comp=Z,2.1nm,0.8s,baz=76,slow=10,SNR=3.6
ARCES ARCESS Array B 67.95 338 P **P** **08 45 32.7 +1.1**
ZEI Tsey 68.45 308 *eP* **P** **08 45 34.3 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 68.68 322 P **P** **08 45 37.0 +0.6**
OBN *e* 08 45 45.2
OBN MLR MLR
comp=Z,400nm,17.0s
KBZ Khabaz 68.80 309 P **P** **08 45 38.4 +1.1**
comp=Z,2.7nm,0.3s,baz=130,slow=3.7,SNR=16
KBZ Khabaz 68.80 309 P **P** **08 45 38.4 +1.1**
KBZ Khabaz 68.80 309 P **P** **08 45 38.4 +1.1**
KIV Kislovodsk 68.87 309 *eP* **P** **08 45 38.1 +0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
FINES FINESS Array B 71.23 331 P **P** **08 45 51.1 -0.8**
comp=Z,2.0nm,0.5s,baz=73,slow=6.6,SNR=7.2
FINES FINESS Array B 71.23 331 P **P** **08 45 51.1 -0.8**
RES Resolute Bay 72.23 11 P **P** **08 45 58.2 +0.4**
comp=Z,3.0nm,0.7s,baz=304,slow=6.0,SNR=24
RES Resolute Bay 72.23 11 P **P** **08 45 58.2 +0.4**
MALT Malatya 74.00 305 *eP* **P** **08 46 10.3 +1.2**
MALT pmax pmax
comp=Z,4.0nm,0.6s
MALT Malatya 74.00 305 *eP* **P** **08 46 10.2 +1.2**
comp=Z,3.6nm,0.6s
AKASG Malin Array Be 74.54 320 P **P** **08 46 11.5 -0.2**
comp=Z,5.9nm,0.5s,baz=58,slow=6.3,SNR=13
AKASG Malin Array Be 74.54 320 P **P** **08 46 11.5 -0.2**
AKASG Malin Array Be 74.54 320 P **P** **08 46 11.5 -0.2**
AK01 Malin Array Si 74.55 320 *eP* **P** **08 46 11.8 0.0**
AK02 Malin Array Si 74.57 320 *eP* **P** **08 46 11.5 -0.5**
AK02 *epP* **pP** **08 46 21.2 -0.5**
AK02 *esP* **sP** **08 46 25.8 +0.4**
YKA Yellowknife Ar 74.98 26 P **P** **08 46 14.7 +0.7**
comp=Z,0.2nm,0.4s,baz=308,slow=5.8,SNR=9.6
YKA Yellowknife Ar 74.98 26 P **P** **08 46 14.7 +0.7**
BR131 Keskin Array S 76.75 308 *eP* **P** **08 46 25.4 +0.5**
comp=Z,3.6nm,0.6s
BRTR Keskin Array B 76.75 308 P **P** **08 46 25.2 +0.4**
comp=Z,4.5nm,0.6s,baz=98,slow=4.7,SNR=25
BRTR Keskin Array B 76.75 308 P **P** **08 46 25.2 +0.4**
NB2 NORSAR Subarra 77.49 334 P **P** **08 46 28.0 -0.5**
comp=Z,0.8nm,0.6s,baz=49,slow=5.9
NOA NORSAR Array B 77.49 334 P **P** **08 46 27.4 -1.0**
comp=Z,0.9nm,0.5s,baz=51,slow=5.6,SNR=4.1
NOA NORSAR Array B 77.49 334 P **P** **08 46 27.4 -1.0**
BUR08 Bucovina Ar. S 78.33 318 *eP* **P** **08 46 33.4 -0.1**
FFC Flin Flon 85.03 27 *eP* **P** **08 47 09.7 +1.2**
FFC pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 85.03 27 *eP* **P** **08 47 09.7 +1.2**
comp=Z,4.5nm,1.0s
LRM Limekiln Ridge 86.05 39 *eP* **P** **08 47 16.0 +1.9**
comp=Z,84nm,1.6s
FRB Frobisher Bay 86.12 8 LR LR 09 24 05.8
comp=Z,312nm,19.2s,baz=40,slow=34
NVAR Mina Array Bea 87.02 47 P **P** **08 47 20.4 +1.4**
comp=Z,0.8nm,0.7s,baz=306,slow=6.5,SNR=5.9
NVAR Mina Array Bea 87.02 47 P **P** **08 47 20.4 +1.4**
HWUT Hardware Ranch 89.20 41 *eP* **P** **08 47 27.9 -1.3**
comp=Z,25nm,1.9s
PDAR Pinedale Array 89.60 40 P **P** **08 47 31.2 0.0**
comp=Z,0.1nm,0.3s,baz=26,slow=5.0,SNR=2.3
PDAR Pinedale Array 89.60 40 P **P** **08 47 31.2 0.0**
MSU Marysvale 90.80 44 *eP* **P** **08 47 38.4 +1.6**
MSU pmax pmax
comp=Z,8.0nm,1.5s
MSU Marysvale 90.80 44 *eP* **P** **08 47 38.4 +1.6**
comp=Z,8.3nm,1.5s
TORD Torodi Ar. Bea 115.04 303 PKP **PKPdf** **08 53 14.0 -0.8**
comp=Z,0.2nm,0.6s,baz=32,slow=3.9,SNR=2.3
TORD Torodi Ar. Bea 115.04 303 PKP **PKPdf** **08 53 14.0 -0.8**

IDC 30 08:34:44.0±2.6, 18°64S×69°39W, h121km±20km, mb3.5/6, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=30.2km s-min=20.0km az=21.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.62**	**27**	P	Pn	08 35 27.2	+1.0
	7.2nm,0.3s,baz=213,slow=5.9,SNR=252						
SIV	**San Ignacio**	**8.37**	**73**	P	Pn	08 36 42.4	-0.1
	1.5nm,0.3s,baz=269,slow=11,SNR=29						
SIV				S	Sn	08 38 12.3	-3.1
	0.2nm,0.3s,baz=178,slow=23,SNR=5.9						
CFAA	**Coronel Fontan**	**12.96**	**176**	P	Pn	08 37 43.0	-0.7
	0.1nm,0.3s,baz=352,slow=16,SNR=13						
BDFB	**Brasilia**	**20.64**	**85**	P	P	08 39 15.2	+0.9
	5.5nm,0.6s,baz=258,slow=12,SNR=9.6						
TXAR	**Lajitas Array**	**58.04**	**325**	P	P	08 44 23.7	-0.9
	0.1nm,0.4s,baz=149,slow=8.0,SNR=4.9						
DBIC	**Dimbokro**	**68.39**	**75**	P	P	08 45 33.4	+0.3
	0.9nm,0.4s,baz=175,slow=5.9,SNR=6.2						
PDAR	**Pinedale Array**	**71.42**	**330**	P	P	08 45 51.1	-0.3
	0.2nm,0.5s,baz=111,slow=6.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	P	08 46 23.2	+0.1
	1.6nm,0.5s,baz=253,slow=5.3,SNR=27						
YKA	**Yellowknife Ar**	**88.35**	**341**	P	P	08 47 21.9	+0.3
	0.6nm,0.4s,baz=134,slow=4.9,SNR=14						

*ISCJB **30** 09:26:41.5±1.1, 44°66N×0°04×21°72E±0°09, h4km±10km, Error ellipse: s-maj=11.7km s-min=4.3km az=23.2*
*BUC **30** 09:26:41.9±2.4, 44°60N×21°62E, h20km, MD2.7/2, Error ellipse: s-maj=21.7km s-min=9.1km az=39.0*
*CSEM **30** 09:26:41.8±0.2, 44°64N×21°76E, h2km, ML1.7, Error ellipse: s-maj=5.1km s-min=2.9km az=114.0*
*BEO **30** 09:26:42.4±0.4, 44°62N×21°83E, h0km, ML1.7/4*
ISC 30 09:26:42.1±1.4, 44°65N±0°03×21°75E±0°04, h6km±11km, n20, σ0°64/33, 3C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZS	**Buzias**	**0.98**	**355**	⇓*iP*	**Pg**	**09 27 00.4**	**-0.4**
BZS				*i* S	**Sb**	**09 27 14.6**	**0.0**
BZS	**Buzias**	**0.98**	**355**	⇓*iP*	**Pg**	**09 27 00.4**	**-0.4**
BZS	**Buzias**	**0.98**	**355**	S	**Sb**	**09 27 14.6**	**0.0**
BZS	**Buzias**	**0.98**	**355**	*ePg*	**Pg**	**09 27 00.7**	**-0.1**
BZS				*eSg*	**Sb**	**09 27 14.6**	**0.0**
BZS	**Buzias**	**0.98**	**355**	⇓*iP*	**Pg**	**09 27 00.4**	**-0.4**
BZS	**Buzias**	**0.98**	**355**	*ePg*	**Pg**	**09 27 00.7**	**-0.1**
BZS				S	**Sb**	**09 27 14.6**	**0.0**
GRUS	**Gruza**	**1.06**	**225**	*ePg*	**Pg**	**09 27 01.6**	**-0.8**
GRUS				*eSg*	**Sb**	**09 27 17.2**	**+0.3**
GRUS	**Gruza**	**1.06**	**225**	*ePg*	**Pg**	**09 27 01.6**	**-0.8**
GRUS				*eSg*	**Sb**	**09 27 17.2**	**+0.3**
DIVS	**Divibare**	**1.37**	**247**	*ePg*	**Pn**	**09 27 08.2**	**+0.3**
DIVS				*eSg*	**Sn**	**09 27 26.7**	**+0.3**
DIVS	**Divibare**	**1.37**	**247**	*ePg*	**Pn**	**09 27 08.2**	**+0.3**
DIVS				*eSg*	**Sn**	**09 27 26.7**	**+0.3**
SELS	**Selova**	**1.50**	**198**	*ePn*	**Pn**	**09 27 09.4**	**-0.1**
SELS				*eSn*	**Sg**	**09 27 31.2**	**+1.1**
ZAPS	**Zavoj**	**1.51**	**155**	*ePn*	**Pn**	**09 27 09.5**	**-0.2**
ZAPS				*eSn*	**Sb**	**09 27 30.0**	**0.0**
LOT	**Lotru**	**1.64**	**60**	⇑*iP*	**Pn**	**09 27 11.9**	**+0.3**
LOT				*i* S	**Sn**	**09 27 33.5**	**+0.4**
LOT	**Lotru**	**1.64**	**60**	⇑*iP*	**Pn**	**09 27 11.9**	**+0.3**
LOT	**Lotru**	**1.64**	**60**	S	**Sn**	**09 27 33.5**	**+0.4**
LOT	**Lotru**	**1.64**	**60**	⇑*iP*	**Pn**	**09 27 11.9**	**+0.3**
LOT				S	**Sn**	**09 27 33.5**	**+0.4**
DRGR		**2.25**	**17**	⇓*iP*	**Pn**	**09 27 20.6**	**+0.7**
DRGR				*i* S	**Sn**	**09 27 46.6**	**-1.4**
DRGR		**2.25**	**17**	⇓*iP*	**Pn**	**09 27 20.6**	**+0.7**
DRGR		**2.25**	**17**	S	**Sn**	**09 27 46.6**	**-1.4**
DRGR		**2.25**	**17**	⇓*iP*	**Pn**	**09 27 20.6**	**+0.7**
DRGR				S	**Sn**	**09 27 46.6**	**-1.4**

IDC 30 09:28:51.8±0.9, 4°90N×127°18E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=64.4km s-min=17.5km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.91**	**184**	P	P	09 33 57.5	0.0
	1.1nm,0.4s,baz=357,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**25.68**	**164**	P	P	09 34 24.3	+0.7
	1.9nm,0.5s,baz=343,slow=10,SNR=30						
ASAR	**Alice Springs**	**29.14**	**167**	P	P	09 34 53.4	-1.4
	0.3nm,0.7s,baz=345,slow=7.6,SNR=4.5						
ASAR				PcP	PcP	09 38 02.6	-0.2
	0.3nm,0.6s,baz=352,slow=2.2,SNR=6.0						
STKA	**Stephens Creek**	**39.07**	**160**	P	P	09 36 21.0	+0.3
	1.1nm,0.5s,baz=339,slow=8.6,SNR=3.5						
SONM	**Songino Array**	**46.34**	**341**	P	P	09 37 21.4	+1.6
	0.4nm,0.5s,baz=150,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**56.86**	**325**	P	P	09 38 37.4	-1.0
	0.3nm,0.6s,baz=116,slow=7.0,SNR=4.2						
ILAR	**Eielson Array**	**83.86**	**25**	P	P	09 41 22.6	-0.6
	0.2nm,0.8s,baz=262,slow=5.0,SNR=4.9						

*IDC **30** 09:34:23.6±1.0, 56°45N×152°68W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/27, mbtmp3.8/13, Error ellipse: s-maj=28.3km s-min=16.5km az=32.0*
*ISCJB **30** 09:34:24.5±0.6, 56°43N±0°05×152°47W±0°10, h20km, mb3.9/14, Error ellipse: s-maj=8.1km s-min=7.4km az=137.7*
*NEIC **30** 09:34:25.0, 56°19N×152°41W, h21km, ML3.3(AEIC), After AEIC.*
ISC 30 09:34:26.9±0.7, 56°54N±0°07×152°48W±0°07, h20km, n54, σ1°21/56, mb4.0/14, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.25**	**358**	Pn	**Pb**	**09 34 50.0**	**+0.3**
	7.0nm,0.3s,baz=194,slow=8.9,SNR=203						
KDAK	**Kodiak Island**	**1.25**	**358**	P	**Pb**	**09 34 50.1**	**+0.3**
KAKN	**Katmai Knife C**	**2.25**	**323**	P	**Pn**	**09 35 04.2**	**+1.2**
KAHG	**Katmai Hook Gl**	**2.25**	**331**	P	**Pb**	**09 35 06.3**	**-0.6**
KAPH	**Katmai Pasha**	**2.30**	**335**	P	**Pn**	**09 35 05.9**	**+2.2**
FOSS	**Fourpeaked Sta**	**2.36**	**344**	P	**Pn**	**09 35 06.6**	**+2.1**
KAHC	**Katmai Hardscr**	**2.52**	**328**	P	**Pn**	**09 35 08.5**	**+1.8**
AUP	**Augustine Pinn**	**2.88**	**350**	P	**Pn**	**09 35 14.4**	**+2.8**
ANNE	**Aniakchak Nort**	**3.10**	**279**	P	**Pn**	**09 35 12.2**	**-2.4**
ANPK	**Aniakchak Peak**	**3.13**	**278**	P	**Pn**	**09 35 12.5**	**-2.6**
OPT	**Oil Point**	**3.15**	**353**	P	**Pn**	**09 35 17.8**	**+2.4**
BRLK	**Bradley Lake**	**3.34**	**14**	P	**Pn**	**09 35 18.3**	**+0.3**
BRLK				S	**Sn**	**09 35 56.6**	**-0.5**
VNHG	**Veniaminof 1**	**3.73**	**268**	P	**Pn**	**09 35 21.6**	**-1.7**
SEW	**Seward**	**3.92**	**23**	P	**Pn**	**09 35 25.5**	**-0.3**
DFR	**Drift River**	**4.07**	**359**	P	**Pn**	**09 35 29.8**	**+1.8**
SLKM	**Skilak Lake**	**4.15**	**16**	P	**Pn**	**09 35 29.9**	**+0.8**
SPU	**Mount Spurr**	**4.66**	**3**	P	**Pn**	**09 35 37.2**	**+1.1**
STLK	**Strandline Lak**	**4.99**	**4**	P	**Pn**	**09 35 42.2**	**+1.6**
SUA	**Susitna One**	**5.02**	**10**	P	**Pn**	**09 35 41.3**	**+0.2**
SKT	**Skwentna**	**5.48**	**5**	P	**Pn**	**09 35 47.7**	**+0.3**
TT01	**Tatalina**	**6.63**	**346**	P	**Pn**	**09 36 04.2**	**+1.0**
COLA	**College**	**8.66**	**13**	*ePn*	**Pn**	**09 36 32.8**	**+1.9**
	5.3nm,1.0s						
ILAR	**Eielson Array**	**8.70**	**16**	Pn	**Pn**	**09 36 31.3**	**-0.2**
	0.3nm,0.3s,baz=200,slow=14,SNR=39						
ILAR				Sn	**Sn**	**09 38 07.5**	**-1.4**
	0.2nm,0.3s,baz=204,slow=20,SNR=4.8						
ILAR	**Eielson Array**	**8.70**	**16**	Pn	**Pn**	**09 36 31.3**	**-0.2**
ILAR				Sn	**Sn**	**09 38 07.5**	**-1.4**
INK	**Inuvik**	**14.62**	**29**	Pn	**P**	**09 37 57.6**	**-0.8**
	0.1nm,0.3s,baz=226,slow=14,SNR=9.8						
INK	**Inuvik**	**14.62**	**29**	Pn	**P**	**09 37 57.6**	**-0.8**
YKA	**Yellowknife Ar**	**19.88**	**57**	P	**Pn**	**09 38 57.5**	**-0.7**
	1.5nm,0.7s,baz=269,slow=11,SNR=19						
YKA	**Yellowknife Ar**	**19.88**	**57**	P	**Pn**	**09 38 57.5**	**-0.7**
BILL	**Bilibino**	**21.86**	**318**	*eP*	**P**	**09 39 17.8**	**-0.1**
	7.4nm,0.9s						
RES	**Resolute Bay**	**28.17**	**28**	P	**P**	**09 40 18.3**	**+1.0**
	0.4nm,0.7s,baz=248,slow=13,SNR=3.0						
RES	**Resolute Bay**	**28.17**	**28**	P	**P**	**09 40 18.3**	**+1.0**
NVAR	**Mina Array Bea**	**28.92**	**114**	P	**P**	**09 40 25.2**	**+0.6**
	0.5nm,0.9s,baz=320,slow=8.3,SNR=2.6						
NVAR	**Mina Array Bea**	**28.92**	**114**	P	**P**	**09 40 25.2**	**+0.6**
PDAR	**Pinedale Array**	**30.46**	**98**	P	**P**	**09 40 38.0**	**-0.3**
	0.2nm,0.6s,baz=302,slow=7.4,SNR=3.0						
PDAR	**Pinedale Array**	**30.46**	**98**	P	**P**	**09 40 38.0**	**-0.3**
TMUT	**Trail Mountain**	**31.98**	**105**	*eP*	**P**	**09 40 48.1**	**-3.6**
	21nm,0.7s						
TXAR	**Lajitas Array**	**43.59**	**108**	P	**P**	**09 42 31.2**	**+1.6**
	0.2nm,0.8s,baz=308,slow=4.5,SNR=2.8						
TXAR	**Lajitas Array**	**43.59**	**108**	P	**P**	**09 42 31.2**	**+1.6**
SONM	**Songino Array**	**57.10**	**308**	P	**P**	**09 44 12.0**	**+0.5**
	2.1nm,0.8s,baz=48,slow=7.0,SNR=18						
SONM	**Songino Array**	**57.10**	**308**	P	**P**	**09 44 12.0**	**+0.5**
ZALV	**Zalesovo Beam**	**60.35**	**325**	P	**P**	**09 44 34.6**	**+0.7**
	1.1nm,0.6s,baz=44,slow=6.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**60.35**	**325**	P	**P**	**09 44 34.6**	**+0.7**
NOA	**NORSAR Array B**	**62.06**	**9**	P	**P**	**09 44 46.0**	**+0.6**
	2.1nm,0.9s,baz=348,slow=6.8,SNR=4.0						
NOA	**NORSAR Array B**	**62.06**	**9**	P	**P**	**09 44 46.0**	**+0.6**
FINES	**FINESS Array B**	**62.35**	**1**	P	**P**	**09 44 47.0**	**-0.3**
	2.7nm,0.9s,baz=344,slow=4.5,SNR=4.3						
FINES	**FINESS Array B**	**62.35**	**1**	P	**P**	**09 44 47.0**	**-0.3**
MKAR	**Makanchi Array**	**67.33**	**323**	P	**P**	**09 45 19.8**	**-0.3**
	0.9nm,0.8s,baz=43,slow=7.5,SNR=8.6						
MKAR	**Makanchi Array**	**67.33**	**323**	P	**P**	**09 45 19.8**	**-0.3**
AKASG	**Malin Array Be**	**73.12**	**359**	P	**P**	**09 45 54.2**	**-1.1**
	0.3nm,0.3s,baz=3.3,slow=6.5,SNR=3.3						
AKASG	**Malin Array Be**	**73.12**	**359**	P	**P**	**09 45 54.2**	**-1.1**
BRTR	**Keskin Array B**	**83.96**	**355**	P	**P**	**09 46 54.9**	**-0.6**
	0.5nm,0.7s,baz=343,slow=6.4,SNR=3.6						
BRTR	**Keskin Array B**	**83.96**	**355**	P	**P**	**09 46 54.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**84.58**	**295**	P	**P**	**09 46 58.1**	**-0.6**
	0.6nm,0.3s,baz=23,slow=5.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**84.58**	**295**	P	**P**	**09 46 58.1**	**-0.6**

*IPEC **30** 09:37:42.5±0.3, 51°21N×19°19E, h0km, ML2.5/3, Error ellipse: s-maj=2.3km s-min=2.1km az=166.0*
*CSEM **30** 09:37:43.6±0.4, 51°18N×19°14E, h2km, ML3.0/6, Error ellipse: s-maj=7.6km s-min=3.9km az=24.0*
*PRU **30** 09:37:45.2, 51°14N×19°12E, h0km, Belchatow*
ISC 30 09:37:46.1±1.6, 51°06N±0°08×19°07E±0°05, h0km, n19, σ1°34/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.96**	**151**	*ePg*	**Pg**	**09 38 03.3**	**-1.1**
	baz=339						
OJC				*eSg*	**Sb**	**09 38 18.9**	**+0.1**
OJC	**Ojcow**	**0.96**	**151**	*ePg*	**Pg**	**09 38 03.5**	**-0.9**
OJC				*eSg*	**Sb**	**09 38 18.9**	**+0.1**
OKC	**Ostrava-Krasne**	**1.36**	**206**	*ePG*	**Pg**	**09 38 11.2**	**-0.9**
OKC				*eSG*	**Sn**	**09 38 31.4**	**+0.5**
	comp=Z,27nm,0.5s						
OKC	**Ostrava-Krasne**	**1.36**	**206**	Pg	**Pg**	**09 38 11.2**	**-0.9**
OKC				Sg	**Sn**	**09 38 31.4**	**+0.5**
	27nm,0.5s						
MORC	**Moravsky Berou**	**1.61**	**218**	*ePn*	**Pn**	**09 38 14.4**	**-1.4**
	baz=36						
MORC				*eSg*	**Sg**	**09 38 38.4**	**+0.6**
	22nm,0.5s,baz=36						
KRLC	**Kraliky**	**1.76**	**237**	*ePG*	**Pn**	**09 38 16.0**	**-1.8**
KRLC				*eSG*	**Sg**	**09 38 43.0**	**+0.5**
KRLC	**Kraliky**	**1.76**	**237**	Pg	**Pn**	**09 38 16.0**	**-1.8**
KRLC				Sg	**Sg**	**09 38 43.0**	**+0.5**
KSP	**Ksiaz**	**1.77**	**264**	*ePn*	**Pn**	**09 38 15.8**	**-2.1**
	baz=77						
KSP	**Ksiaz**	**1.77**	**264**	*ePn*	**Pn**	**09 38 18.1**	**+0.2**
KSP				*ePg*	**Pg**	**09 38 20.2**	**+0.3**
KSP				*eSg*	**Sg**	**09 38 43.2**	**+0.3**
NIE	**Niedzica**	**1.83**	**154**	*ePg*	**Pb**	**09 38 20.4**	**0.0**
NIE				*eSg*	**Sg**	**09 38 47.2**	**+2.5**
NIE	**Niedzica**	**1.83**	**154**	*ePg*	**Pb**	**09 38 20.4**	**0.0**
NIE				*eSg*	**Sg**	**09 38 47.2**	**+2.5**
DPC	**Dobruska-Polom**	**1.89**	**249**	*ePG*	**Pn**	**09 38 17.9**	**-1.7**
DPC				*eSG*	**Sg**	**09 38 46.5**	**-0.1**
	comp=Z,11nm,0.6s						
DPC	**Dobruska-Polom**	**1.89**	**249**	*ePn*	**Pn**	**09 38 17.8**	**-1.8**
	baz=64						
DPC				Sg	**Sg**	**09 38 46.5**	**-0.1**
	11nm,0.6s						
VRAC	**Vranov**	**2.37**	**223**	*ePn*	**Pn**	**09 38 24.6**	**-1.6**
	baz=40						
VRAC				*eSn*	**Sn**	**09 38 57.3**	**+1.4**
	28nm,0.8s,baz=40						
KRUC	**Moravsky**	**2.64**	**222**	*ePn*	**Pn**	**09 38 28.8**	**-1.1**
	baz=39						
KRUC				*eSn*	**Sn**	**09 39 04.3**	**+1.7**
	18nm,0.7s,baz=39						
BRG	**Berggiesshubel**	**3.25**	**269**	PG	**Pg**	**09 38 47.2**	**-1.0**
BRG				SG	**Sg**	**09 39 33.4**	**+3.1**
	12nm,0.8s						
CLL	**Collm**	**3.83**	**276**	*ePg*	Pg	09 39 04.0	+4.7
CLL				*eSg*	Sg	09 39 57.0	+8.1
KHC	**Kasperske Hory**	**4.03**	**243**	*ePG*	**Pb**	**09 38 59.0**	**+1.1**
KHC				*eSG*	**Sg**	**09 39 55.2**	**-0.2**
	comp=Z,6.8nm,0.7s						
KHC	**Kasperske Hory**	**4.03**	**243**	Pg	**Pb**	**09 38 59.0**	**+1.1**
KHC				Sg	**Sg**	**09 39 55.2**	**-0.2**
	6.8nm,0.7s						

IDC 30 09:40:36.2±2.9, 17°51S×176°28W, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.8/21, mbtmp4.3/5, ML2.6/1, Error ellipse: s-maj=167.4km s-min=30.8km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.62**	**51**	Pn	Pn	09 42 01.3	0.0
	10nm,0.3s,baz=203,slow=9.9,SNR=26						
AFI				Sn	Sn	09 42 54.0	-13
	24nm,0.3s,baz=47,slow=22,SNR=11						
STKA	**Stephens Creek**	**40.60**	**241**	P	P	09 48 18.2	+0.3
	2.6nm,0.8s,baz=110,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**46.70**	**259**	P	P	09 49 07.2	+0.1
	0.9nm,0.4s,baz=94,slow=8.2,SNR=50						
ASAR	**Alice Springs**	**46.85**	**254**	P	P	09 49 08.2	-0.2
	11nm,0.6s,baz=91,slow=8.0,SNR=194						
FITZ	**Fitzroy Crossi**	**55.09**	**260**	P	P	09 50 09.8	-0.7
	0.6nm,0.3s,baz=108,slow=5.5,SNR=4.8						

*IDC **30** 09:54:12.5±4.4, 36°06N×71°10E, h97km±35km, mb3.4/11, mb1 3.6/15, mb1mx3.4/31, mbtmp3.5/15, Error ellipse: s-maj=28.6km s-min=17.7km az=16.0*
*ISCJB **30** 09:54:14.0±0.5, 36°32N±0°04×71°01E±

comp=E,17nm,0.4s
AYAN Aya Nagar 9.28 145 *e*S **Sn 09 58 05.9 -2.1**
KUDL Kundal 9.30 149 *e*P **Pn 09 56 26.8 +1.2**
KUDL *e*S **Sn 09 58 04.2 -4.2**
KUDL AML AML 09 58 10.6
comp=E,12nm,0.2s
KUDL AML AML 09 58 11.0
comp=N,12nm,0.2s
AGRA Agra 10.72 146 *e*S **Sn 09 58 39.4 -3.7**
AGRA AML AML 09 59 31.9
comp=N,78nm,0.2s
AGRA AML AML 09 59 36.1
comp=E,52nm,0.3s
PYUN Piuthan 12.93 126 *e*P **Pn 09 57 14.8 +0.5**
DANN Dangsing 13.28 123 *e*P **Pn 09 57 19.3 +0.4**
comp=E,4.4nm,0.2s
MK31 Makanchi Array 13.39 35 ⇑P **Pn 09 57 20.8 +0.9**
comp=E,1.3nm,0.5s,baz=214,slow=12,SNR=14
MKAR Makanchi Array 13.39 35 P **Pn 09 57 20.3 +0.3**
comp=E,0.3nm,0.3s,baz=223,slow=14,SNR=13
KOLN Koldanda 13.55 125 *e*P **Pn 09 57 23.2 +0.9**
KOLN *e*S **Sn 09 59 46.5 -5.2**
KKN Kakani 14.67 121 *e*P **Pn 09 57 38.2 +1.5**
PKIN Phulchoki 14.88 122 *e*P **P 09 57 41.8 -0.5**
PKI Pulchoki 14.89 122 *e*P **P 09 57 42.3 -0.2**
GUN Gumba 15.01 120 *e*P **Pn 09 57 43.6 -0.2**
KURBB Kurchatov Arra 15.28 18 P **Pn 09 57 42.3 -1.7**
comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=8.1
AB31 Akbulak array 15.32 331 P **Pn 09 57 44.6 +0.1**
comp=E,1.9nm,0.4s,baz=144,slow=12,SNR=57
AB31 ⇑S Sn 10 00 24.0 -10
comp=E,2.0nm,0.6s,baz=154,slow=23,SNR=7.7
RAMN Ramite 16.11 121 *e*P **P 09 57 56.6 +0.7**
VOSK Vostochnaya 16.43 360 ⇓P **Pn 09 57 57.6 -0.6**
comp=E,7.4nm,0.8s
ZRNK Zerenda 16.72 355 ⇓P **Pn 09 58 01.0 -0.8**
comp=E,3.3nm,0.6s
BVA0 Borovoye Array 16.74 358 ⇓P **Pn 09 58 01.5 -0.5**
comp=E,0.6nm,0.7s
BVAR Borovoye Array 16.74 358 P **Pn 09 58 02.2 +0.2**
comp=E,0.8nm,0.3s,baz=172,slow=11,SNR=20
AKTO Aktyubinsk 17.02 330 P **P 09 58 06.9 +1.5**
comp=E,0.8nm,0.3s,baz=138,slow=10,SNR=11
AKTO S **Sn 10 01 07.7 -7.0**
comp=E,0.2nm,0.3s,baz=349,slow=23,SNR=4.0
AKTO Aktyubinsk 17.02 330 ⇓P **Pn 09 58 05.1 -0.4**
comp=E,0.4nm,0.5s
ZALV Zalesovo Beam 20.05 24 P **P 09 58 39.0 +0.5**
comp=E,2.7nm,0.3s,baz=223,slow=10,SNR=19
SONM Songino Array 28.35 55 P **P 09 59 59.5 +1.6**
comp=E,0.9nm,1.1s,baz=258,slow=5.7,SNR=2.6
AKASG Malin Array Be 33.17 309 P **P 10 00 40.7 +0.8**
comp=E,0.4nm,0.3s,baz=82,slow=7.6,SNR=3.9
FINES FINESS Array B 37.72 326 P **P 10 01 20.0 +1.2**
comp=E,0.5nm,0.4s,baz=119,slow=13,SNR=4.6
ARCES ARCESS Array B 41.38 338 P **P 10 01 51.5 +2.4**
comp=E,3.1nm,1.0s,baz=112,slow=7.9,SNR=13
NOA NORSAR Array B 44.62 323 P **P 10 02 15.9 +0.7**
comp=E,0.6nm,0.5s,baz=97,slow=7.8,SNR=2.8
TORD Torodi Ar. Bea 65.83 269 P **P 10 04 47.0 -1.1**
comp=E,0.3nm,0.4s,baz=54,slow=6.3,SNR=14
INK Inuvik 74.09 9 P **P 10 05 38.0 +0.3**
comp=E,0.9nm,0.8s,baz=330,slow=8.1,SNR=3.2
YKA Yellowknife Ar 81.44 3 P **P 10 06 19.4 +0.8**
comp=E,0.3nm,0.6s,baz=350,slow=5.3,SNR=11
WRA Warramunga Arr 81.78 122 P **P 10 06 20.3 -0.7**
comp=E,0.2nm,0.5s,baz=324,slow=5.0,SNR=5.5
ASAR Alice Springs 84.04 125 P **P 10 06 32.6 0.0**
comp=E,0.2nm,0.7s,baz=318,slow=4.9,SNR=5.0

IDC 30 09:55:20.2±9.9, 30.40S×178.83W, h340km, 99km, mb2.5/2, mb1 2.9/3, mb1mx2.8/18, mbtmp2.7/3, Error ellipse: s-maj=99.4km s-min=52.0km az=12.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.53**	**202**	P	Pn	09 57 20.5	+0.2
	0.4nm,0.3s,baz=170,slow=12,SNR=7.0						
URZ				S	S	09 58 58.9	+0.4
	1.7nm,0.3s,baz=115,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.39**	**267**	P	P	10 02 41.9	-0.7
	0.3nm,0.9s,baz=104,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**43.38**	**273**	P	P	10 02 50.8	+0.3
	0.2nm,0.3s,baz=110,slow=8.2,SNR=10.0						
FINES	**FINESS Array B**	**144.89**	**339**	PKP	PKPdf	10 14 15.5	-0.7
	0.8nm,0.3s,baz=56,slow=3.5,SNR=7.3						

*NSSC **30** 09:58:56.3±2.7, 36.36N×37.41E, h0km±13km, MD1.2, ML1.8*
*CSEM **30** 09:58:56.9±0.4, 36.21N×37.44E, h2km, MD2.7, Error ellipse: s-maj=9.9km s-min=7.4km az=3.0*
*DDA **30** 09:59:02.1, 36.37N×37.01E, h7km, MD2.7*
ISC 30 09:59:01.0±1.7, 36.34N±0.04×37.05E±0.07, h4km±13km, n17, σ0.93 9/20, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.44**	**2**	*i* P	**Pg**	**09 59 10.0**	**+0.6**
KUZU				*i* S	**Sb**	**09 59 17.2**	**-1.1**
KUZU	**Kuzuini**	**0.44**	**2**	*i* P	**Pg**	**09 59 10.0**	**+0.6**
KUZU				*i* S	**Sb**	**09 59 17.2**	**-1.1**
YAYL	**Yayladag**	**0.82**	**249**	*i* P	**Pg**	**09 59 16.1**	**-0.6**
YAYL				*i* S	**Sb**	**09 59 30.3**	**+0.9**
YAYL	**Yayladag**	**0.82**	**249**	*i* P	**Pg**	**09 59 16.1**	**-0.6**
YAYL				*i* S	**Sb**	**09 59 30.3**	**+0.9**
WRDH	**Warideh**	**0.97**	**212**	*e*P	**Pg**	**09 59 18.8**	**-0.9**
WRDH				*e*S	**Sb**	**09 59 35.4**	**+1.6**
WRDH				AML	AML	09 59 37.1	
	comp=E,34nm,0.3s						
WRDH				AML	AML	09 59 41.0	
	comp=N,23nm,0.6s						
WRDH	**Warideh**	**0.97**	**212**	*e*P	**Pg**	**09 59 18.8**	**-0.9**
	SNR=57						
WRDH				*e*S	**Sb**	**09 59 35.4**	**+1.6**
	comp=N,23nm,0.6s,SNR=49						
GZT	**Gaziantep**	**1.10**	**22**	*i* P	**Pg**	**09 59 21.8**	**-0.3**
GZT				*i* S	**Sb**	**09 59 38.2**	**+0.8**
JHLN	**Al Jahlan**	**1.31**	**120**	*e*P	Pn	09 59 15.7	-10
JHLN				*e*S	Sb	09 59 32.1	-11
JHLN				AML	AML	09 59 47.6	
	comp=Z,17nm,0.4s						
JHLN	**Al Jahlan**	**1.31**	**120**	*e*P	Pn	09 59 15.7	-10
	SNR=57						
JHLN				*e*S	Sb	09 59 32.1	-11
	comp=Z,17nm,0.4s,SNR=59						
ANDN	**Andirin**	**1.36**	**336**	*i* P	**Pb**	**09 59 27.4**	**+0.2**
ANDN				*i* S	**Sn**	**09 59 45.3**	**-0.3**
ANDN	**Andirin**	**1.36**	**336**	*i* P	**Pb**	**09 59 27.4**	**+0.2**
ANDN				*i* S	**Sn**	**09 59 45.3**	**-0.3**
BIDA	**Albida**	**1.45**	**204**	*e*P	Pn	09 59 25.5	-2.6
BIDA				*e*S	**Sn**	**09 59 47.1**	**-0.5**
BIDA				AML	AML	09 59 51.0	
	comp=N,17nm,0.8s						
BIDA				AML	AML	09 59 53.3	
	comp=E,29nm,0.3s						
BIDA	**Albida**	**1.45**	**204**	*e*P	Pn	09 59 25.5	-2.6
	SNR=57						
BIDA				*e*S	**Sn**	**09 59 47.1**	**-0.5**
	comp=E,29nm,0.3s,SNR=49						
SFNV	**Sufian**	**2.47**	**87**	*e*P	Pn	09 59 33.6	-8.6
SFNV				*e*S	Sn	10 00 02.8	-10
SFNV				AML	AML	10 00 29.8	
	comp=Z,15nm,0.5s						
SFNV	**Sufian**	**2.47**	**87**	*e*P	Pn	09 59 33.6	-8.6
	SNR=45						
SFNV				*e*S	Sn	10 00 02.8	-10
	comp=Z,15nm,0.5s,SNR=40						
MZRK	**Al-Mazaregh**	**2.96**	**99**	*e*P	Pn	09 59 39.1	-10
MZRK				*e*S	Sn	10 00 14.7	-10
MZRK				AML	AML	10 00 48.3	
	comp=Z,12nm,0.3s						
MZRK	**Al-Mazaregh**	**2.96**	**99**	*e*P	Pn	09 59 39.1	-10
	SNR=45						
MZRK				*e*S	Sn	10 00 14.7	-10
	comp=Z,12nm,0.3s,SNR=40						

*IDC **30** 10:02:43.2±1.2, 56.19N×153.18W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/28, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=23.9km s-min=19.3km az=75.0*
*ISCJB **30** 10:02:45.0±0.7, 56.39N±0.06×152.8W±0.1, h20km, mb3.5/5, Error ellipse: s-maj=9.3km s-min=7.0km az=44.8*
*NEIC **30** 10:02:47.1, 56.32N×152.88W, h20km, ML3.1(AEIC), After AEIC.*
ISC 30 10:02:46.9±0.9, 56.49N±0.07×152.67W±0.08, h20km, n27, σ1.16/29, mb3.7/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.30**	**2**	Pn	**Pb**	**10 03 10.2**	**-0.4**
	38nm,0.3s,baz=188,slow=9.1,SNR=491						
KDAK	**Kodiak Island**	**1.30**	**2**	P	**Pb**	**10 03 10.2**	**-0.4**
KDAK				S	**Sb**	**10 03 27.1**	**+0.3**
KAWH	**Katmai**	**2.22**	**330**	P	**Pn**	**10 03 22.8**	**+0.1**
KAKN	**Katmai Knife C**	**2.23**	**326**	P	**Pn**	**10 03 22.9**	**+0.1**
KAPH	**Katmai Pasha**	**2.30**	**338**	P	**Pn**	**10 03 25.5**	**+1.8**
FOSS	**Fourpeaked Sta**	**2.38**	**347**	P	**Pn**	**10 03 26.1**	**+1.2**
KAHC	**Katmai Hardscr**	**2.51**	**331**	P	**Pn**	**10 03 27.6**	**+1.0**
AUP	**Augustine Pinn**	**2.91**	**352**	P	**Pn**	**10 03 34.2**	**+2.1**
ANNE	**Aniakchak Nort**	**3.00**	**280**	P	**Pn**	**10 03 32.9**	**-0.4**
ANPB	**Aniakchak Plen**	**3.11**	**278**	P	**Pn**	**10 03 33.3**	**-1.5**
OPT	**Oil Point**	**3.19**	**355**	P	**Pn**	**10 03 37.7**	**+1.8**
BRLK	**Bradley Lake**	**3.42**	**15**	P	**Pn**	**10 03 38.6**	**-0.4**
BRLK				S	**Sn**	**10 04 17.4**	**-1.6**
VNHG	**Veniaminof 1**	**3.62**	**268**	P	**Pn**	**10 03 40.7**	**-1.2**
SEW	**Seward**	**4.01**	**24**	P	**Pn**	**10 03 46.6**	**-0.4**
SDPT	**Sand Point**	**4.54**	**259**	P	**Pn**	**10 03 51.9**	**-2.4**
SPU	**Mount Spurr**	**4.72**	**4**	P	**Pn**	**10 03 57.8**	**+0.9**
BGL	**Barrier Glacie**	**4.79**	**2**	P	**Pn**	**10 03 59.2**	**+1.3**
RC01	**Rabbit Creek A**	**4.86**	**17**	P	**Pn**	**10 03 58.1**	**-0.7**
ILAR	**Eielson Array**	**8.78**	**16**	Pn	**Pn**	**10 04 50.9**	**-1.6**
	0.8nm,0.3s,baz=204,slow=14,SNR=52						
ILAR				Sn	**Sn**	**10 06 30.4**	**-0.4**
	0.3nm,0.3s,baz=205,slow=23,SNR=8.5						
INK	**Inuvik**	**14.71**	**29**	Pn	**P**	**10 06 18.9**	**-0.6**
	0.1nm,0.3s,baz=225,slow=10.0,SNR=4.0						
FX1	**Attu Island--F**	**19.95**	**274**	P	**P**	**10 07 17.2**	**-0.1**
	0.5nm,0.3s,baz=306,slow=1.8,SNR=2.3						
YKA	**Yellowknife Ar**	**20.00**	**57**	P	Pn	10 07 20.5	+0.9
	0.3nm,0.6s,baz=269,slow=11,SNR=8.9						
NVAR	**Mina Array Bea**	**29.00**	**114**	P	**P**	**10 08 46.0**	**+0.7**
	0.2nm,0.4s,baz=318,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**43.67**	**107**	P	**P**	**10 10 51.6**	**+1.3**
	0.2nm,0.7s,baz=340,slow=7.7,SNR=2.7						
ARCES	**ARCESS Array B**	**54.28**	**1**	P	**P**	**10 12 10.7**	**-0.1**
	1.9nm,0.8s,baz=20,slow=7.4,SNR=5.5						
SONM	**Songino Array**	**57.05**	**308**	P	**P**	**10 12 31.5**	**+0.3**
	0.9nm,0.7s,baz=43,slow=6.5,SNR=7.4						
MKAR	**Makanchi Array**	**67.31**	**322**	P	**P**	**10 13 39.5**	**-0.4**
	0.3nm,0.5s,baz=32,slow=5.4,SNR=5.1						

CSEM 30 10:37:40.8, 41.57N×1.34E, h0km, ML0.9, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPOB	**Poblet**	**0.29**	**222**	Pg	Pg	10 37 46.2	-0.4
	SNR=7.9						
EPOB				Lg	Lg	10 37 50.2	
	0.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**0.29**	**222**	Pg	Pg	10 37 47.2	+0.6
	SNR=7.9						
EPOB				Lg	Lg	10 37 53.9	
	1.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.37**	**22**	Pg	Pg	10 37 48.2	+0.2
	SNR=7.9						
EMIR				Lg	Lg	10 37 52.3	
	1.8nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.37**	**22**	Pg	Pg	10 37 48.7	+0.7
	SNR=7.9						
EMIR				Lg	Lg	10 37 56.5	
	3.1nm,0.1s,SNR=7.9						
CSOR	**Sort**	**0.82**	**349**	Pg	Pg	10 37 55.4	-1.3
	SNR=7.9						
CSOR				Lg	Lg	10 38 06.8	
	0.8nm,0.1s,SNR=7.9						
CSOR	**Sort**	**0.82**	**349**	Pg	Pb	10 37 57.7	-0.4
	SNR=7.9						
CSOR				Lg	Lg	10 38 08.6	
	1.1nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**0.84**	**77**	Pg	Pg	10 37 56.1	-1.0
	SNR=7.9						
CFON				Lg	Lg	10 38 15.0	
	1.9nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.84**	**77**	Pg	Pn	10 38 00.2	+0.1
	SNR=7.9						
CFON				Lg	Lg	10 38 15.0	
	7.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**0.98**	**231**	Lg	Lg	10 38 15.6	
	0.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**0.98**	**231**	Lg	Lg	10 38 13.6	
	2.7nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.02**	**27**	Pg	Pg	10 37 59.0	-1.6
	SNR=7.9						
CLLI				Lg	Lg	10 38 16.4	
	0.2nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.02**	**27**	Pg	Pn	10 38 02.6	0.0
	SNR=7.9						
CLLI				Lg	Lg	10 38 17.5	
	1.3nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.36**	**277**	Pg	Pg	10 38 03.9	-3.2
	SNR=7.9						
ESAC				Lg	Lg	10 38 24.1	
	15nm,0.3s,SNR=5.7						

IDC 30 10:50:23.4±9.9, 24.22S×178.99W, h506km±94km, mb3.4/6, mb1 3.5/7, mb1mx3.2/21, mbtmp3.5/7, Error ellipse: s-maj=127.0km s-min=38.7km az=61.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.38**	**192**	P	P	10 53 25.7	-1.2
	1.6nm,0.3s,baz=211,slow=11,SNR=13						
URZ				S	S	10 55 53.6	-4.6
	0.5nm,0.3s,baz=224,slow=23,SNR=7.0						
RPZ	**Rata Peaks**	**21.09**	**200**	P	P	10 54 32.3	+0.8
	5.9nm,0.5s,baz=27,slow=7.4,SNR=7.0						
CTA	**Charters Tower**	**32.40**	**270**	P	P	10 56 11.9	+0.7
	4.4nm,0.3s,baz=92,slow=9.4,SNR=7.2						
STKA	**Stephens Creek**	**35.46**	**249**	P	P	10 56 36.3	-0.5
	2.5nm,0.5s,baz=90,slow=11,SNR=16						
ASAR	**Alice Springs**	**42.89**	**261**	P	P	10 57 37.0	0.0
	0.7nm,0.3s,baz=96,slow=7.1,SNR=26						
WRA	**Warramunga Arr**	**43.30**	**266**	P	P	10 57 40.3	0.0
	2.1nm,0.3s,baz=99,slow=6.8,SNR=160						
FITZ	**Fitzroy Crossi**	**51.72**	**266**	P	P	10 58 42.9	-0.7
	2.5nm,0.8s,baz=81,slow=6.0,SNR=8.0						

*NEIC **30** 11:04:18.8, 56.03N×152.22W, h20km, mb4.2/1, ML3.9(AEIC), After AEIC.*
*ISCJB **30** 11:04:27.7±0.5, 56.82N±0.05×152.7W±0.1, h10km, mb3.9/20, Error ellipse: s-maj=8.4km s-min=6.6km az=153.5*
*IDC **30** 11:04:28.7±1.1, 56.83N×152.29W, h0km, mb3.9/16, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, Error ellipse: s-maj=30.9km s-min=13.4km az=39.0*
ISC 30 11:04:29.3±0.7, 56.82N±0.07×152.40W±0.08, h10km, n63, σ1.86/50, mb4.0/20, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**0.97**	**354**	Pn	**Pg**	**11 04 46.5**	**-1.5**
	27nm,0.3s,baz=186,slow=7.4,SNR=156						
KDAK				Sn	Sn	11 05 11.0	+8.2
	121nm,0.3s,baz=169,slow=15,SNR=15						
KDAK	**Kodiak Island**	**0.97**	**354**	Pn	**Pg**	**11 04 46.5**	**-1.5**
KDAK				Sn	Sn	11 05 11.0	+8.2
KAPH	**Katmai Pasha**	**2.07**	**330**	P	**Pn**	**11 05 02.0**	**-2.1**
KCE	**Katmai Mt Cerb**	**2.07**	**315**	P	Pn	11 04 59.9	-4.2
KARR	**Katmai Rainbow**	**2.09**	**325**	P	**Pn**	**11 05 01.4**	**-3.0**
FOSS	**Fourpeaked Sta**	**2.11**	**341**	P	**Pn**	**11 05 02.3**	**-2.2**
KVTA	**Katmai Vly 10**	**2.21**	**316**	P	Pn	11 05 01.2	-4.8
AUP	**Augustine Pinn**	**2.61**	**348**	P	**Pn**	**11 05 10.3**	**-1.3**
AUH	**Augustine H**	**2.61**	**348**	P	**Pn**	**11 05 10.2**	**-1.4**
OPT	**Oil Point**	**2.88**	**352**	P	**Pn**	**11 05 13.7**	**-1.5**
BRLK	**Bradley Lake**	**3.06**	**14**	P	**Pn**	**11 05 14.9**	**-2.8**
BRLK				S	**Sb**	**11 06 01.1**	**-0.1**
ANNE	**Aniakchak Nort**	**3.11**	**274**	P	Pn	11 05 09.9	-8.5
ILS	**Iliamna Low So**	**3.17**	**354**	P	**Pn**	**11 05 17.3**	**-1.9**
ANPB	**Aniakchak Plen**	**3.23**	**272**	P	Pn	11 05 09.6	-11
CHGN	**Chignik**	**3.37**	**264**	*e*Pn	Pn	11 05 09.5	-12
SEW	**Seward**	**3.64**	**24**	P	Pn	11 05 21.8	-3.8
NCT	**North Crescent**	**3.77**	**356**	P	**Pn**	**11 05 25.6**	**-1.9**
VNHG	**Veniaminof 1**	**3.80**	**264**	P	Pn	11 05 17.0	-11
SUA	**Susitna One**	**4.74**	**10**	P	**Pn**	**11 05 37.8**	**-3.0**
SDPT	**Sand Point**	**4.76**	**255**	P	Pn	11 05 27.9	-13
PMR	**Palmer**	**5.08**	**18**	*e*Pn	**Pn**	**11 05 45.6**	**+0.4**
	65nm,1.1s						
COLA	**College**	**8.38**	**13**	*e*Pn	**Pn**	**11 06 28.0**	**-2.6**
	11nm,0.8s						
COLA				*e*Sn	Sn	11 08 11.0	+5.9
ILAR	**Eielson Array**	**8.42**	**16**	Pn	**Pn**	**11 06 28.6**	**-2.6**
	0.5nm,0.3s,baz=205,slow=14,SNR=26						
ILAR				Sn	**Sn**	**11 08 09.9**	**+3.7**
	0.4nm,0.3s,baz=210,slow=20,SNR=2.8						
ILAR	**Eielson Array**	**8.42**	**16**	Pn	**Pn**	**11 06 28.6**	**-2.6**
ILAR				Sn	**Sn**	**11 08 09.9**	**+3.7**
EGAK	**Eagle**	**9.67**	**30**	Pn	Pn	11 06 45.4	-2.9
	2.4nm,0.6s						
DLBC	**Dease Lake**	**12.09**	**73**	Pn	Pn	11 07 24.8	+3.4
	0.2nm,0.3s,baz=248,slow=16,SNR=3.1						
INK	**Inuvik**	**14.35**	**29**	Pn	**P**	**11 07 56.7**	**-2.5**
	0.1nm,0.3s,baz=240,slow=19,SNR=4.9						
INK	**Inuvik**	**14.35**	**29**	Pn	**P**	**11 07 56.7**	**-2.5**
YKA	**Yellowknife Ar**	**19.69**	**58**	P	**Pn**	**11 08 57.3**	**-2.4**
	0.0nm,0.3s,baz=270,slow=11,SNR=5.0						
BILL	**Bilibino**	**21.69**	**318**	*e*P	P	11 09 12.9	-6.9
	9.0nm,1.0s						
NEW	**Newport**	**22.87**	**97**	P	**P**	**11 09 34.0**	**+1.3**
	0.7nm,0.7s,baz=303,slow=18,SNR=2.3						
YBH	**Yreka Blue Hor**	**24.29**	**116**	P	**P**	**11 09 47.0**	**+0.3**
	1.9nm,0.8s,baz=192,slow=6.0,SNR=5.2						
RES	**Resolute Bay**	**27.90**	**29**	P	**P**	**11 10 18.9**	**0.0**
	0.4nm,0.6s,baz=261,slow=12,SNR=3.0						
RES	**Resolute Bay**	**27.90**	**29**	P	**P**	**11 10 18.9**	**0.0**
NVAR	**Mina Array Bea**	**29.00**	**115**	P	**P**	**11 10 29.6**	**+0.4**
	1.0nm,0.7s,baz=303,slow=8.9,SNR=8.4						
PDAR	**Pinedale Array**	**30.46**	**99**	P	**P**	**11 10 42.0**	**-0.2**
	0.5nm,0.6s,baz=330,slow=4.6,SNR=5.3						
ASAJ	**Asahikawa**	**41.69**	**281**	P	**P**	**11 12 16.6**	**-1.1**
	2.8nm,0.8s,baz=336,slow=10.0,SNR=2.4						
ASAJ	**Asahikawa**	**41.69**	**281**	P	**P**	**11 12 16.6**	**-1.1**
TXAR	**Lajitas Array**	**43.63**	**108**	P	**P**	**11 12 33.9**	**+0.1**
	0.9nm,0.9s,baz=304,slow=5.1,SNR=7.3						
SPITS	**Spitsbergen Ar**	**45.08**	**3**	P	**P**	**11 12 46.4**	**+1.6**
	14nm,1.1s,baz=306,slow=4.6,SNR=3.6						
SPITS	**Spitsbergen Ar**	**45.08**	**3**	P	**P**	**11 12 46.4**	**+1.6**
MJAR	**Matsushiro Arr**	**49.38**	**277**	P	**P**	**11 13 17.3**	**-1.5**
	0.9nm,0.7s,baz=39,slow=6.9,SNR=3.6						
ARCES	**ARCESS Array B**	**53.94**	**1**	P	P	11 13 54.5	+2.1
	3.0nm,0.9s,baz=9.1,slow=7.2,SNR=9.9						
ARCES	**ARCESS Array B**	**53.94**	**1**	P	P	11 13 54.5	+2.1
SONM	**Songino Array**	**56.96**	**308**	P	**P**	**11 14 15.2**	**+0.6**
	1.8nm,0.7s,baz=47,slow=6.5,SNR=9.7						
SONM	**Songino Array**	**56.96**	**308**	P	**P**	**11 14 15.2**	**+0.6**
ZALV	**Zalesovo Beam**	**60.15**	**325**	P	**P**	**11 14 37.8**	**+1.3**
	1.5nm,0.7s,baz=35,slow=7.0,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.15**	**325**	P	**P**	**11 14 37.8**	**+1.3**
NB2	**NORSAR Subarra**	**61.78**	**9**	P	P	11 14 50.0	+2.5
	comp=Z,2.2nm,0.7s,baz=351,slow=6.9						
NOA	**NORSAR Array B**	**61.78**	**9**	P	P	11 14 50.5	+3.0
	comp=Z,0.8nm,0.7s,baz=350,slow=6.8,SNR=2.8						
FINES	**FINESS Array B**	**62.07**	**1**	P	**P**	**11 14 51.2**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=0.7,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**62.07**	**1**	P	**P**	**11 14 51.2**	**+1.8**
HFS	**Hagfors**	**62.87**	**8**	P	P	11 14 56.7	+1.9
	comp=Z,3.4nm,0.9s,baz=8.5,slow=2.9,SNR=2.1						
HFS	**Hagfors**	**62.87**	**8**	P	P	11 14 56.7	+1.9
BVAR	**Borovoye Array**	**65.05**	**333**	P	**P**	**11 15 10.4**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=31,slow=7.0,SNR=6.9						
BVAR	**Borovoye Array**	**65.05**	**333**	P	**P**	**11 15 10.4**	**+1.2**
MKAR	**Makanchi Array**	**67.14**	**323**	P	**P**	**11 15 23.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=44,slow=6.9,SNR=9.5						
MKAR	**Makanchi Array**	**67.14**	**323**	P	**P**	**11 15 23.3**	**+0.5**
AKTO	**Aktyubinsk**	**70.19**	**340**	P	**P**	**11 15 43.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=336,slow=10.0,SNR=2.4						
AKTO	**Aktyubinsk**	**70.19**	**340**	P	**P**	**11 15 43.0**	**+1.3**
AKASG	**Malin Array Be**	**72.84**	**359**	P	**P**	**11 15 59.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=354,slow=5.0,SNR=3.3						
AKASG	**Malin Array Be**	**72.84**	**359**	P	**P**	**11 15 59.2**	**+1.5**
QSPA	**South Pole Qui**	**146.61**	**180**	PKPbc	**PKPdf**	**11 24 06.6**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=82,slow=4.3,SNR=3.9						

IDC 30 11:04:34.2±0.6, 56.65N×152.50W, h0km, mb4.2/20, mb1 4.2/22, mb1mx4.1/33, mbtmp4.1/22, ML3.8/1, Error ellipse: s-maj=18.7km s-min=11.8km az=24.0, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.14**	**358**	Pn	Pg	11 04 54.2	-1.8
	105nm,0.3s,baz=187,slow=8.3,SNR=98						
KDAK				Sn	Sn	11 05 18.5	+4.8
	62nm,0.3s,baz=325,slow=23,SNR=12						
KDAK	**Kodiak Island**	**1.14**	**358**	Sn	Sn	11 05 18.5	+4.8
ILAR	**Eielson Array**	**8.60**	**16**	Pn	Pn	11 06 36.3	-3.5
	1.9nm,0.3s,baz=205,slow=14,SNR=49						
INK	**Inuvik**	**14.52**	**29**	Pn	Pn	11 08 01.8	+1.1
	0.3nm,0.3s,baz=248,slow=15,SNR=11						
YKA	**Yellowknife Ar**	**19.83**	**57**	P

QSPA South Pole Qui 83.29 180 P P 11 23 24.5 +0.7
0.9nm,0.8s,baz=296,slow=3.5,SNR=5.4
TORD Torodi Ar. Bea 145.79 284 PKPbc PKPdf 11 30 36.4 +0.2
0.1nm,0.4s,baz=59,slow=3.1,SNR=4.3

---

*BJI **30** 11:29:47.9, 56˚.11N× 153˚.14W, h25km, mB5.0/11, mb4.7/22, Ms4.9/7, Ms7 4.7/8*
*NEIC **30** 11:29:48.4, 56˚.25N× 152˚.37W, h14km, mb4.8/28, ML4.2(AEIC), After AEIC.*
*ISCJB **30** 11:29:49.1±0.2, 56˚.59N±0˚.03× 152˚.55W±0˚.04, h20km, mb4.6/77, MS3.7/8, Error ellipse: s-maj=4.5km s-min=3.3km az=166.5*
*IDC **30** 11:29:49.6±3.1, 56˚.51N× 152˚.68W, h13km±18km, mb4.2/21, mb1 4.3/25, mb1mx4.3/31, mbtmp4.2/25, ML3.9/3, MS3.7/6, Ms1 3.8/6, ms1mx3.2/50, Error ellipse: s-maj=18.6km s-min=10.8km az=15.0*
*MOS **30** 11:29:49.1±1.0, 56˚.58N× 152˚.70W, h21km, mb4.8/50, Error ellipse: s-maj=13.0km s-min=4.9km az=88.4*
ISC 30 11:29:50.4±0.4, 56˚.60N±0˚.05× 152˚.68W±0˚.04, h20km, n241, σ1§35/258, mb4.7/77, MS3.8/8, 4C-3D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.18**	**3**	Pn		**Pb**	**11 30 13.2**	**+1.0**
	56nm,0.3s,baz=195,slow=8.5,SNR=353							
KDAK	**Kodiak Island**	**1.18**	**3**	P		**Pb**	**11 30 13.2**	**+1.0**
KAWH	**Katmai**	**2.12**	**328**	P		**Pb**	**11 30 28.5**	**+0.4**
KCE	**Katmai Mt Cerb**	**2.13**	**322**	P		**Pb**	**11 30 27.6**	**-0.7**
KAKN	**Katmai Knife C**	**2.13**	**324**	P		**Pb**	**11 30 27.1**	**-1.2**
KAPH	**Katmai Pasha**	**2.19**	**337**	P		**Pb**	**11 30 29.1**	**-0.3**
KAPH				S		**Sb**	**11 30 59.8**	**+3.8**
FOSS	**Fourpeaked Sta**	**2.27**	**347**	P		**Pb**	**11 30 29.5**	**-1.1**
KELA	**Mount Kelaz**	**2.47**	**319**	P		**Pn**	**11 30 31.3**	**+1.7**
MCNL	**McNeil River**	**2.74**	**342**	P		**Pb**	**11 30 36.2**	**-2.4**
AUP	**Augustine Pinn**	**2.79**	**352**	P		**Pb**	**11 30 37.5**	**-2.1**
AUP	**Augustine Pinn**	**2.79**	**352**	P		**Pb**	**11 30 37.5**	**-2.1**
AUW	**Augustine West**	**2.81**	**352**	P		**Pb**	**11 30 37.6**	**-2.2**
AUNW	**Augustine NWes**	**2.81**	**352**	P		**Pb**	**11 30 37.6**	**-2.3**
ANPK	**Aniakchak Peak**	**3.01**	**277**	P		**Pn**	**11 30 37.3**	**+0.3**
AZAC	**Aniakchak**	**3.07**	**278**	P		**Pn**	**11 30 38.2**	**+0.4**
OPT	**Oil Point**	**3.07**	**355**	P		Pn	11 30 40.9	+3.1
ANPB	**Aniakchak Plen**	**3.09**	**276**	P		**Pn**	**11 30 38.3**	**+0.2**
CHGN	**Chignik**	**3.20**	**267**	*e*Pn		**Pn**	**11 30 38.4**	**-1.0**
BRLK	**Bradley Lake**	**3.31**	**16**	P		**Pn**	**11 30 41.6**	**+0.6**
IVE	**Iliamna Volcan**	**3.43**	**357**	P		**Pn**	**11 30 44.9**	**+2.1**
VNHG	**Veniaminof 1**	**3.62**	**267**	P		**Pn**	**11 30 45.8**	**+0.4**
SEW	**Seward**	**3.90**	**25**	P		**Pn**	**11 30 48.6**	**-0.5**
DFR	**Drift River**	**4.00**	**360**	P		**Pn**	**11 30 52.8**	**+2.2**
SLKM	**Skilak Lake**	**4.12**	**17**	P		**Pn**	**11 30 53.0**	**+0.8**
SLKM	**Skilak Lake**	**4.12**	**17**	P		**Pn**	**11 30 53.0**	**+0.8**
SDPT	**Sand Point**	**4.55**	**257**	P		**Pn**	**11 30 57.1**	**-0.9**
SPU	**Mount Spurr**	**4.61**	**4**	P		**Pn**	**11 31 00.1**	**+1.3**
SPBG	**Spurr Blockage**	**4.67**	**2**	P		**Pn**	**11 31 01.8**	**+1.9**
BGL	**Barrier Glacie**	**4.68**	**2**	P		**Pn**	**11 31 01.8**	**+1.9**
SVW2	**Sparrevohn**	**4.75**	**343**	*e*Pn		**Pn**	**11 31 03.1**	**+2.3**
RC01	**Rabbit Creek A**	**4.75**	**18**	P		**Pn**	**11 31 01.0**	**+0.2**
STLK	**Strandline Lak**	**4.93**	**5**	P		**Pn**	**11 31 04.9**	**+1.5**
SUA	**Susitna One**	**4.98**	**11**	P		**Pn**	**11 31 04.6**	**+0.6**
PMR	**Palmer**	**5.33**	**19**	P		**Pn**	**11 31 08.5**	**-0.2**
PMR	**Palmer**	**5.33**	**19**	P		**Pn**	**11 31 08.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.37**	**40**	P		**Pn**	**11 31 08.1**	**-1.1**
SKT	**Skwentna**	**5.43**	**6**	P		**Pn**	**11 31 11.2**	**+1.1**
VLZ	**Valdez**	**5.61**	**33**	P		**Pn**	**11 31 12.4**	**-0.1**
DT1	**Dutton Round H**	**5.61**	**259**	P		**Pn**	**11 31 10.9**	**-1.7**
SML	**Sawmill**	**5.68**	**21**	P		**Pn**	**11 31 13.6**	**0.0**
SML	**Sawmill**	**5.68**	**21**	P		**Pn**	**11 31 13.6**	**0.0**
GOAT	**Goat Mountain**	**5.76**	**43**	P		**Pn**	**11 31 14.5**	**-0.3**
DIV	**Divide**	**5.78**	**35**	P		**Pn**	**11 31 14.3**	**-0.8**
BMRM	**Bremner River**	**6.07**	**40**	P		**Pn**	**11 31 18.3**	**-0.5**
PPLA	**Purkeypile**	**6.32**	**2**	P		**Pn**	**11 31 23.9**	**+1.4**
TT01	**Tatalina**	**6.54**	**346**	P		**Pn**	**11 31 27.2**	**+1.9**
BARK	**Barkley Ridge**	**6.56**	**50**	P		**Pn**	**11 31 24.1**	**-1.6**
VRDI	**Verde Repeater**	**6.66**	**42**	P		**Pn**	**11 31 26.5**	**-0.6**
ISLE	**Juniper Island**	**6.73**	**49**	P		**Pn**	**11 31 27.3**	**-0.7**
BAGL	**Bagley Icefiel**	**6.77**	**50**	P		**Pn**	**11 31 27.9**	**-0.6**
KIAG	**Kiagna River**	**6.89**	**47**	P		**Pn**	**11 31 29.9**	**-0.5**
BALM	**Baldy**	**6.96**	**46**	P		**Pn**	**11 31 30.9**	**-0.4**
BALM	**Baldy**	**6.96**	**46**	P		**Pn**	**11 31 30.9**	**-0.4**
HARP	**HAARP**	**6.96**	**30**	P		**Pn**	**11 31 32.8**	**+1.6**
TRF	**Thorofare Moun**	**6.97**	**9**	P		**Pn**	**11 31 31.6**	**+0.1**
RND	**Reindeer**	**7.09**	**14**	P		**Pn**	**11 31 33.9**	**+0.9**
RND	**Reindeer**	**7.09**	**14**	P		**Pn**	**11 31 33.9**	**+0.9**
TABL	**Table Mountain**	**7.16**	**53**	P		**Pn**	**11 31 33.4**	**-0.6**
BARN	**Barnard Glacie**	**7.25**	**47**	P		**Pn**	**11 31 34.9**	**-0.5**
PAX	**Paxson**	**7.35**	**27**	P		**Pn**	**11 31 36.9**	**+0.4**
PAX	**Paxson**	**7.35**	**27**	P		**Pn**	**11 31 36.9**	**+0.4**
PNL	**Peninsula**	**7.67**	**61**	P		**Pn**	**11 31 40.6**	**-0.3**
MENT	**Mentasta**	**7.79**	**32**	*e*Pn		**Pn**	**11 31 43.6**	**+1.0**
COLA	**College**	**8.63**	**14**	P		**Pn**	**11 31 54.3**	**+0.4**
COLA	**College**	**8.63**	**14**	P		**Pn**	**11 31 54.2**	**+0.4**
MDM	**Murphy Dome**	**8.66**	**13**	P		**Pn**	**11 31 54.7**	**+0.3**
ILAR	**Eielson Array**	**8.67**	**17**	Pn		**Pn**	**11 31 55.2**	**+0.7**
	1.6nm,0.3s,baz=205,slow=13,SNR=126							
ILAR				Sn		**Sn**	**11 33 27.4**	**-4.2**
	0.4nm,0.3s,baz=209,slow=23,SNR=4.2							
ILAR				LR		LR	11 36 03.3	
	comp=Z,880nm,20.3s,baz=204,slow=43							
ILAR	**Eielson Array**	**8.67**	**17**	Pn		**Pn**	**11 31 55.2**	**+0.7**
ILAR				Sn		**Sn**	**11 33 27.4**	**-4.2**
SKAG	**Skagway**	**9.63**	**66**	*e*Pn		**Pn**	**11 32 08.0**	**+0.3**
SKAG				*e*Sn		**Sn**	**11 33 54.0**	**-1.2**
EGAK	**Eagle**	**9.94**	**30**	*e*Pn		**Pn**	**11 32 12.7**	**+0.8**
DAWY	**Dawson**	**9.95**	**36**	*e*Pn		**Pn**	**11 32 13.3**	**+1.2**
DLBC	**Dease Lake**	**12.30**	**72**	Pn		**Pn**	**11 32 44.5**	**+0.2**
	0.3nm,0.3s,baz=198,slow=3.5,SNR=6.1							
DLBC				Sn		**Sn**	**11 34 58.2**	**-2.5**
	0.3nm,0.3s,baz=104,slow=19,SNR=3.4							
DLBC	**Dease Lake**	**12.30**	**72**	Pn		**Pn**	**11 32 44.5**	**+0.2**
DLBC				Sn		**Sn**	**11 34 58.2**	**-2.5**
INK	**Inuvik**	**14.61**	**29**	Pn		**Pn**	**11 33 17.1**	**+1.4**
	0.1nm,0.3s,baz=234,slow=16,SNR=18							
INK				LR		LR	11 39 15.4	
	comp=Z,273nm,19.1s,baz=218,slow=38							
INK	**Inuvik**	**14.61**	**29**	Pn		**Pn**	**11 33 17.1**	**+1.4**
FX1	**Attu Island--F**	**19.93**	**274**	P		**P**	**11 34 20.2**	**-0.5**
	2.7nm,0.3s,baz=93,slow=15,SNR=9.4							
FX1	**Attu Island--F**	**19.93**	**274**	*e*P		**Pn**	**11 34 20.7**	**-1.7**
YKA	**Yellowknife Ar**	**19.94**	**57**	P		**Pn**	**11 34 20.7**	**-1.7**
	0.1nm,0.3s,baz=270,slow=9.6,SNR=48							
YKA				ScP		**ScP**	**11 42 12.1**	**+0.9**
	0.0nm,0.3s,baz=270,slow=2.3,SNR=5.2							
YKA	**Yellowknife Ar**	**19.94**	**57**	P		**Pn**	**11 34 20.8**	**-1.7**
YKA				ScP		**ScP**	**11 42 12.1**	**+0.9**
BILL	**Bilibino**	**21.74**	**318**α	*i*P		**P**	**11 34 40.9**	**+0.8**
BILL				*e*			11 34 49.2	
BILL				S		S	11 38 28.0	-11
BILL				pmax		pmax		
	comp=Z,16nm,0.9s							
BILL				MLR		MLR		
	comp=Z,300nm,14.0s							
BILL	**Bilibino**	**21.74**	**318**	*e*P		**P**	**11 34 40.7**	**+0.6**
	comp=Z,13nm,0.8s							
HAWA	**Hanford**	**22.81**	**102**	*e*P		**P**	**11 34 51.5**	**-0.2**
	comp=Z,15nm,1.3s							
NEW	**Newport**	**23.00**	**96**	P		**P**	**11 34 52.2**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=284,slow=12,SNR=2.7							
NEW	**Newport**	**23.00**	**96**	*e*P		**P**	**11 34 52.8**	**-0.9**
YBH	**Yreka Blue Hor**	**24.34**	**115**	P		**P**	**11 35 07.0**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=332,slow=3.8,SNR=8.2							
YBH	**Yreka Blue Hor**	**24.34**	**115**	P		**P**	**11 35 07.0**	**+0.2**
BSMT	**Bassoo Peak**	**24.53**	**95**	*e*P		**P**	**11 35 08.6**	**0.0**
	comp=Z,13nm,1.6s							
JTMT	**Jette**	**24.86**	**94**	*e*P		**P**	**11 35 11.3**	**-0.2**
	comp=Z,9.6nm,1.5s							
BMO	**Blue Mountains**	**24.99**	**103**	*e*P		**P**	**11 35 13.4**	**+0.8**
	comp=Z,37nm,2.3s							
SWMT	**Swartz Lake**	**25.16**	**95**	*e*P		**P**	**11 35 15.2**	**+1.1**
RES	**Resolute Bay**	**28.17**	**28**	P		**P**	**11 35 41.7**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=203,slow=7.8,SNR=4.8							
RES				LR		LR	11 47 23.2	
	comp=Z,124nm,22.0s,baz=240,slow=37							
RES	**Resolute Bay**	**28.17**	**28**	*e*P		**P**	**11 35 40.9**	**+0.1**
	comp=Z,9.1nm,1.4s							
PETK	**Petropavlovsk-**	**28.27**	**284**	P		**P**	**11 35 40.5**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=83,slow=12,SNR=3.8							
PETK				LR		LR	11 47 18.4	
	comp=Z,62nm,20.9s,baz=261,slow=37							
PETK	**Petropavlovsk-**	**28.27**	**284**	P		**P**	**11 35 40.5**	**-1.4**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
PETK				MLR		MLR		
	comp=Z,62nm,20.9s							
PETK	**Petropavlovsk-**	**28.27**	**284**	P		**P**	**11 35 40.5**	**-1.4**
NVAR	**Mina Array Bea**	**29.05**	**114**	P		**P**	**11 35 50.1**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=308,slow=8.6,SNR=13							
NVAR				ScP		**ScP**	**11 42 37.1**	**0.0**
	comp=Z,0.9nm,0.9s,baz=254,slow=4.3,SNR=4.2							
NVAR	**Mina Array Bea**	**29.05**	**114**	P		**P**	**11 35 50.1**	**+0.8**
NVAR				ScP		**ScP**	**11 42 37.1**	**0.0**
PDAR	**Pinedale Array**	**30.58**	**98**	P		**P**	**11 36 03.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=310,slow=5.7,SNR=12							
PDAR	**Pinedale Array**	**30.58**	**98**	P		**P**	**11 36 03.0**	**+0.1**
SRU	**San Rafael**	**32.61**	**104**	*e*P		**P**	**11 36 21.4**	**+0.8**
SRU				pmax		pmax		
	comp=Z,222nm,1.0s							
SRU	**San Rafael**	**32.61**	**104**	*e*P		**P**	**11 36 21.4**	**+0.8**
	comp=Z,222nm,1.0s							
ULM	**Lac du Bonnet**	**33.57**	**76**	P		**P**	**11 36 29.0**	**+0.3**
	comp=Z,6.5nm,1.1s,baz=301,slow=9.3,SNR=5.8							
ULM				LR		LR	11 50 18.1	
	comp=Z,249nm,18.4s,baz=319,slow=37							
ULM	**Lac du Bonnet**	**33.57**	**76**	P		**P**	**11 36 29.0**	**+0.3**
PV01	**Paradox Valley**	**34.37**	**103**	*e*P		**P**	**11 36 36.1**	**+0.1**
	comp=Z,363nm,1.1s							
TIXI	**Tiksi**	**34.38**	**327**	*e*P		**P**	**11 36 35.8**	**+0.4**
	comp=Z,3.2nm,0.6s							
AGMN	**Agassiz Nation**	**34.69**	**79**	*e*P		**P**	**11 36 38.9**	**+0.5**
	comp=Z,12nm,0.9s							
KIP	**Kipapa**	**35.35**	**189**	*ce*P		P	11 36 50.0	+5.7
KIP				pmax		pmax		
	comp=Z,189nm,2.5s							
PUH	**Pauahi**	**37.22**	**184**	*e*P		**P**	**11 37 00.5**	**+0.1**
EYMN	**Ely**	**37.25**	**77**	*e*P		**P**	**11 37 01.7**	**+1.3**
	comp=Z,20nm,0.9s							
YAK	**Yakutsk**	**37.76**	**311**	*e*P		**P**	**11 37 03.8**	**-0.6**
YAK				pmax		pmax		
	comp=Z,13nm,0.6s							
YAK				MLR		MLR		
	comp=Z,256nm,19.0s							
YAK				MLR		MLR		
	comp=E,179nm,19.0s							
YAK				MLR		MLR		
	comp=N,184nm,16.0s							
YAK	**Yakutsk**	**37.76**	**311**	*e*P		**P**	**11 37 04.5**	**0.0**
	comp=N,27nm,0.8s							
ERM	**Erimo**	**42.67**	**278**	*e*P		P	11 37 47.3	+1.9
ERM				pmax		pmax		
	comp=Z,57nm,1.2s							
ERM	**Erimo**	**42.67**	**278**	*e*P		P	11 37 47.3	+1.9
	comp=Z,56nm,1.2s							
HABR	**Khabarovsk**	**42.78**	**291**	*e*P		**P**	**11 37 45.0**	**-1.1**
HABR				*e*			11 39 23.6	
HABR				*e*S		**S**	**11 44 05.0**	**-3.7**
HABR				*e*SS		**SS**	**11 47 16.0**	**-3.4**
HABR				*e*			11 47 43.9	
HABR				pmax		pmax		
	comp=E,22nm,1.4s							
HABR				pmax		pmax		
	comp=Z,25nm,1.4s							
HABR				pmax		pmax		
	comp=N,16nm,2.1s							
HABR				MLR		MLR		
	comp=Z,51nm,16.0s							
SUMG	**Summit**	**43.44**	**24**	*e*P		**P**	**11 37 51.7**	**0.0**
SUMG				pmax		pmax		
	comp=Z,12nm,0.7s							
SUMG	**Summit**	**43.44**	**24**	*e*P		**P**	**11 37 51.7**	**0.0**
	comp=Z,12nm,0.7s							
TXAR	**Lajitas Array**	**43.72**	**107**	P		**P**	**11 37 54.8**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=313,slow=6.6,SNR=13							
TXAR	**Lajitas Array**	**43.72**	**107**	P		**P**	**11 37 54.8**	**+0.7**
DAG	**Danmarks Havn**	**43.76**	**14**ß	*i*P		**P**	**11 37 54.8**	**+1.1**
	comp=Z,40nm,0.7s							
KLR	**Kul'dur**	**43.98**	**294**	*e*P		**P**	**11 37 53.3**	**-2.6**
KLR				pmax		pmax		
	comp=Z,40nm,1.6s							
JCT	**Junction City**	**44.88**	**103**	*e*P		**P**	**11 38 03.9**	**+0.6**
JCT				pmax		pmax		
	comp=Z,6.0nm,0.9s							
JCT	**Junction City**	**44.88**	**103**	*e*P		**P**	**11 38 03.9**	**+0.6**
	comp=Z,6.0nm,0.9s							
USRK	**Ussuriysk Arra**	**47.18**	**288**	LR		LR	11 58 45.5	
	comp=Z,122nm,21.3s,baz=331,slow=37							
MJAR	**Matsushiro Arr**	**49.25**	**277**	P		**P**	**11 38 37.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=43,slow=5.8,SNR=7.9							
MJAR	**Matsushiro Arr**	**49.25**	**277**	P		**P**	**11 38 37.4**	**+0.1**
MAT	**Matsushiro**	**49.25**	**277**	P		**P**	**11 38 36.7**	**-0.6**
SSPA	**Standing Stone**	**49.39**	**75**	*e*P		**P**	**11 38 39.5**	**+1.2**
	comp=Z,38nm,1.4s							
CN2	**Changchun**	**50.85**	**292**	*e*P		**P**	**11 38 49.8**	**+0.4**
CN2				*ep*P		**pP**	**11 38 57.5**	**+1.8**
CN2				pmax		pmax		
	comp=Z,30nm,0.7s							
KEV	**Kevo**	**53.94**	**0**	*e*P		**P**	**11 39 12.4**	**+0.5**
KEV				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KEV	**Kevo**	**53.94**	**0**	*ep*		**P**	**11 39 12.4**	**+0.5**
	comp=Z,3.6nm,0.6s							
ARCES	**ARCESS Array B**	**54.16**	**1**	P		**P**	**11 39 14.3**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=7.0,slow=6.6,SNR=13							
ARCES	**ARCESS Array B**	**54.16**	**1**	P		**P**	**11 39 14.3**	**+0.8**
KSRS	**Korea Array**	**54.16**	**285**	P		**P**	**11 39 14.8**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=45,slow=7.0,SNR=8.5							
KSAR	**Wonju Array Be**	**54.19**	**285**	P		**P**	**11 39 14.8**	**+0.7**
TLY	**Talaya**	**55.21**	**313**	*e*P		**P**	**11 39 21.6**	**+0.2**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s							
TLY				MLR		MLR		
	comp=Z,81nm,15.0s							
ZAK	**Zakamensk**	**56.35**	**312**	*e*P		**P**	**11 39 30.7**	**+1.0**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**56.66**	**308**	*e*P		**P**	**11 39 32.8**	**+0.8**
SONM	**Songino Array**	**56.97**	**308**	P		**P**	**11 39 35.8**	**+1.6**
	comp=Z,10nm,0.7s,baz=45,slow=6.7,SNR=110							
SONM	**Songino Array**	**56.97**	**308**	P		**P**	**11 39 35.8**	**+1.6**
NVS	**Novosibirsk**	**59.98**	**326**	*e*P		**P**	**11 39 54.1**	**-0.7**
NVS				pmax		pmax		
	comp=Z,6.0nm,0.6s							
ZAA0	**Zalesovo Array**	**60.24**	**325**	*e*P		**P**	**11 39 57.7**	**+1.1**
ZALV	**Zalesovo Beam**	**60.24**	**325**	P		**P**	**11 39 57.9**	**+1.3**
	comp=Z,6.1nm,0.7s,baz=32,slow=7.1,SNR=40							
ZALV	**Zalesovo Beam**	**60.24**	**325**	P		**P**	**11 39 57.9**	**+1.3**
ZALV				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ZALV	**Zalesovo Beam**	**60.24**	**325**	P		**P**	**11 39 57.9**	**+1.3**
JOF	**Joensuu**	**60.77**	**358**	*e*P		**P**	**11 39 59.8**	**-0.3**
JOF				pmax		pmax		
	comp=Z,5.0nm,0.6s							
JOF	**Joensuu**	**60.77**	**358**	*ep*		**P**	**11 39 59.8**	**-0.3**
	comp=Z,5.1nm,0.6s							
KAF	**Kangasniemi**	**61.62**	**1**	*e*P		**P**	**11 40 06.4**	**+0.5**
KAF				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KAF	**Kangasniemi**	**61.62**	**1**	*ep*		**P**	**11 40 06.4**	**+0.5**
	comp=Z,4.5nm,0.6s							
NB2	**NORSAR Subarra**	**62.02**	**9**	P		**P**	**11 40 09.3**	**+0.7**
	comp=Z,7.3nm,0.7s,baz=351,slow=6.9							
NOA	**NORSAR Array B**	**62.02**	**9**	P		**P**	**11 40 09.8**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=350,slow=6.7,SNR=18							
NOA	**NORSAR Array B**	**62.02**	**9**	P		**P**	**11 40 09.8**	**+1.2**
FINES	**FINESS Array B**	**62.29**	**1**	P		**P**	**11 40 11.6**	**+1.2**
	comp=Z,4.7nm,0.6s,baz=12,slow=9.8,SNR=13							
FINES	**FINESS Array B**	**62.29**	**1**	P		**P**	**11 40 11.6**	**+1.2**
KLMR	**Klimovskoe**	**62.49**	**353**	*e*P		**P**	**11 40 11.7**	**0.0**
KLMR				pmax		pmax		
	comp=Z,15nm,1.1s							
SVE	**Sverdlovsk**	**63.77**	**340**	*e*P		**P**	**11 40 21.7**	**+1.4**
SVE				pmax		pmax		
	comp=Z,11nm,0.8s							
ARU	**Arti**	**64.53**	**341**d	*i*P		**P**	**11 40 25.7**	**+0.4**
ARU							11 42 43.4	
ARU				S		**S**	**11 49 02.7**	**-0.2**
ARU				pmax		pmax		
	comp=Z,12nm,1.2s							
ARU	**Arti**	**64.53**	**341**	*e*P		**P**	**11 40 25.9**	**+0.7**
	comp=Z,3.6nm,0.6s							
KURK	**Kurchatov**	**64.95**	**327**‖	*i*P		**P**	**11 40 28.7**	**+0.6**
KURK				pmax		pmax		
	comp=Z,11nm,1.9s							
KURK	**Kurchatov**	**64.95**	**327**	*e*P		**P**	**11 40 29.4**	**+1.3**
BRVK	**Borovoye**	**65.16**	**333**‖	*i*P		**P**	**11 40 29.8**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BRVK	**Borovoye**	**65.16**	**333**	*e*P		**P**	**11 40 30.7**	**+1.2**
	comp=Z,8.5nm,0.9s							
ZRNK	**Zerenda**	**65.58**	**334**	*i*P		**P**	**11 40 32.7**	**+0.5**
ZRNK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GTA	**Gaotai**	**66.55**	**306**	*e*P		**P**	**11 40 39.5**	**+0.7**
GTA				pP		**pP**	**11 40 43.5**	**-1.8**
GTA				sP		**sP**	**11 40 47.0**	**-0.7**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
WHN	**Wuhan**	**66.63**	**290**	P		P	11 40 48.8	+10
MK31	**Makanchi Array**	**67.21**	**322**	*i*P		**P**	**11 40 43.2**	**+0.4**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.1s							
MK31	**Makanchi Array**	**67.21**	**322**	*e*P		**P**	**11 40 43.1**	**+0.4**
MKAR	**Makanchi Array**	**67.21**	**322**	P		**P**	**11 40 43.3**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=45,slow=7.4,SNR=28							
MKAR	**Makanchi Array**	**67.21**	**322**	P		**P**	**11 40 43.3**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**67.21**	**322**	P		**P**	**11 40 43.3**	**+0.5**
AKTO	**Aktyubinsk**	**70.34**	**340**	*i*P		**P**	**11 41 02.9**	**+0.8**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.9s							
AB31	**Akbulak array**	**71.08**	**338**	*i*P		**P**	**11 41 07.3**	**+0.7**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CD2	**Chengdu**	**71.67**	**298**	P		**P**	**11 41 07.8**	**-2.8**
CD2				pP		**pP**	**11 41 18.3**	**+1.2**
CD2				sP		**sP**	**11 41 22.3**	**+2.8**
CD2				PP		**PP**	**11 43 49.3**	**0.0**
CD2				S		**S**	**11 50 24.5**	**-4.6**
CD2				sS		**sS**	**11 50 41.8**	**+1.9**
CD2				SS		**SS**	**11 55 02.5**	**-1.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,110nm,6.9s							
CD2				LR		LR		
	comp=N,290nm,5.4s							
CD2				LR		LR		
	comp=Z,190nm,6.0s							
CLL	**Collm**	**71.81**	**9**	*i*P		**P**	**11 41 12.3**	**+1.3**
CLL				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CLL	**Collm**	**71.81**	**9**	*i*P		**P**	**11 41 12.3**	**+1.3**
	comp=Z,5.0nm,1.0s							
BAIF	**Baives**	**71.99**	**15**	*e*P		**P**	**11 41 13.7**	**+1.6**
	comp=Z,7.2nm,0.8s							
BAIF	**Baives**	**71.99**	**15**	*e*P		**P**	**11 41 13.7**	**+1.6**
BAIF				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BAIF	**Baives**	**71.99**	**15**	*e*P		**P**	**11 41 13.7**	**+1.6**
	comp=Z,7.2nm,0.8s							
BRG	**Berggiesshubel**	**72.32**	**9**	*e*P		**P**	**11 41 15.9**	**+1.8**
	comp=Z,4.5nm,0.9s							
BRG	**Berggiesshubel**	**72.32**	**9**	*e*P		**P**	**11 41 15.9**	**+1.8**
BRG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TKM2	**Tokmak 2**	**72.84**	**325**	*i*P		**P**	**11 41 18.0**	**+0.4**
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TKM2	**Tokmak 2**	**72.84**	**325**	*e*P		**P**	**11 41 18.6**	**+1.0**
	comp=Z,3.3nm,0.8s							
DPC	**Dobruska-Polom**	**73.02**	**7**	*e*P		**P**	**11 41 20.0**	**+1.6**
DPC				pmax		pmax		
	comp=Z,9.0nm,0.9s							
DPC	**Dobruska-Polom**	**73.02**	**7**	*e*P		**P**	**11 41 20.0**	**+

MTLF					pmax	pmax			
	comp=Z,12nm,0.9s								
MTLF	**Montolieu**	**78.20**	**18**	*eP*	**P**		**11 41 49.4**	**+1.3**	
	comp=Z,12nm,0.9s								
MAK	**Makhachkala**	**79.35**	**345**	*eP*	**P**		**11 41 53.7**	**-0.7**	
MAK				S	**S**		**11 51 48.7**	**-4.9**	
MAK				pmax	pmax				
	comp=Z,79nm,0.9s								
ZEI	**Tsey**	**80.01**	**348**	*eP*	**P**		**11 41 58.6**	**+0.3**	
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ESDC	**Sonseca Array**	**80.50**	**24**	P	**P**		**11 42 02.5**	**+1.8**	
	comp=Z,0.3nm,0.3s,baz=3.4,slow=5.0,SNR=7.2								
ESDC	**Sonseca Array**	**80.50**	**24**	P	**P**		**11 42 02.5**	**+1.8**	
TAPN	**Taplejung**	**82.08**	**309**	*eP*	**P**		**11 42 10.1**	**+0.5**	
GUN	**Gumba**	**82.37**	**310**	*eP*	**P**		**11 42 12.2**	**+1.0**	
	comp=Z,16nm,0.8s								
KKN	**Kakani**	**82.73**	**311**	*eP*	**P**		**11 42 13.8**	**+0.9**	
DANN	**Dangsing**	**82.87**	**312**	*eP*	**P**		**11 42 14.9**	**+1.2**	
	comp=Z,32nm,0.7s								
RAMN	**Ramite**	**82.91**	**309**	*eP*	**P**		**11 42 14.6**	**+0.7**	
	comp=Z,29nm,1.0s								
PYUN	**Piuthan**	**83.40**	**313**	*eP*	**P**		**11 42 17.1**	**+0.7**	
	comp=Z,37nm,1.0s								
KOLN	**Koldanda**	**83.45**	**312**	*eP*	**P**		**11 42 17.4**	**+0.8**	
BRTR	**Keskin Array B**	**83.89**	**355**	P	**P**		**11 42 19.6**	**+0.9**	
	comp=Z,1.3nm,0.7s,baz=14,slow=2.2,SNR=7.4								
BRTR	**Keskin Array B**	**83.89**	**355**	P	**P**		**11 42 19.6**	**+0.9**	
CMAR	**Chiang Mai Arr**	**84.45**	**295**	P	**P**		**11 42 21.8**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=9.3,slow=5.7,SNR=10								
CMAR	**Chiang Mai Arr**	**84.45**	**295**	P	**P**		**11 42 21.8**	**+0.2**	

*ISCJB **30** 11:41:11.5±1.2,36°.31N±0°.06×3°.42W±0°.04,h17km±6km, Error ellipse: s-maj=9.8km s-min=4.8km az=170.0*
*CSEM **30** 11:41:12.0±0.4,36°.34N×3°.38W,h10km,ML2.5/5, Error ellipse: s-maj=8.3km s-min=4.6km az=163.0*
*INMG **30** 11:41:13.9±1.4,36°.39N×3°.37W,h14km±10km,ML1.8, Error ellipse: s-maj=7.7km s-min=5.6km az=19.0*
*MDD **30** 11:41:13.7±1.2,36°.39N×3°.34W,h0km,mbLg2.1/10,Error ellipse: s-maj=9.2km s-min=4.9km az=16.0,PRXIMO*
ISC 30 11:41:10.8±2.0,36°.29N±0°.08×3°.36W±0°.03,h11km±10km, n30,σ0°96/59,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGUA	**Guajares**	**0.57**	**343**	⇓P			**Pb**	**11 41 22.7**	**-0.1**
	44nm,0.1s,SNR=18								
EGUA				S			**Sg**	**11 41 29.0**	**-0.4**
	121nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**0.57**	**343**	P			**Pb**	**11 41 22.7**	**-0.1**
	44nm,0.1s,SNR=18								
EGUA				S			**Sg**	**11 41 29.0**	**-0.4**
	121nm,0.2s,SNR=7.9								
EBER	**Berja**	**0.71**	**32**	P			**Pg**	**11 41 25.4**	**+0.8**
	5.3nm,0.2s,SNR=25								
EBER				S			**Sg**	**11 41 34.3**	**+0.3**
	82nm,0.2s,SNR=27								
EBER	**Berja**	**0.71**	**32**	P			**Pg**	**11 41 25.4**	**+0.8**
	5.3nm,0.2s,SNR=25								
EBER				S			**Sg**	**11 41 34.3**	**+0.3**
	82nm,0.2s,SNR=27								
ERON	**Agron**	**0.81**	**334**	P			**Pg**	**11 41 26.4**	**-0.1**
	2.8nm,0.1s,SNR=7.9								
ERON				S			**Sg**	**11 41 36.3**	**-0.8**
	12nm,0.2s,SNR=7.9								
ERON	**Agron**	**0.81**	**334**	P			**Pg**	**11 41 26.4**	**-0.1**
	2.8nm,0.1s,SNR=7.9								
ERON				S			**Sg**	**11 41 36.3**	**-0.8**
	12nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**0.92**	**356**	P			**Pb**	**11 41 29.0**	**+0.3**
	1.7nm,0.1s,SNR=6.7								
EQUE				S			**Sg**	**11 41 39.8**	**-0.6**
	9.2nm,0.1s								
EQUE	**Quentar**	**0.92**	**356**	P			**Pb**	**11 41 29.0**	**+0.3**
	1.7nm,0.1s,SNR=6.7								
EQUE				S			**Sg**	**11 41 39.8**	**-0.6**
	9.2nm,0.1s								
ECOG	**Cogollos-Vega**	**1.00**	**350**	P			**Pb**	**11 41 30.4**	**+0.2**
	12nm,0.1s,SNR=7.9								
ECOG				S			**Sg**	**11 41 41.0**	**-2.1**
	20nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**1.00**	**350**	P			**Pb**	**11 41 30.4**	**+0.2**
	12nm,0.1s,SNR=7.9								
ECOG				S			**Sg**	**11 41 41.0**	**-2.1**
	20nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**1.15**	**53**	P			**Pb**	**11 41 31.8**	**-0.8**
	15nm,0.3s,SNR=7.9								
ENIJ				S			**Sb**	**11 41 46.8**	**-0.8**
	30nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**1.15**	**53**	P			**Pb**	**11 41 31.8**	**-0.8**
	15nm,0.3s,SNR=7.9								
ENIJ				S			**Sb**	**11 41 46.8**	**-0.8**
	30nm,0.2s,SNR=7.9								
EQES	**Quesada**	**1.53**	**8**	P			**Pg**	**11 41 40.2**	**+0.1**
	4.1nm,0.1s,SNR=31								
EQES				S			**Sg**	**11 41 59.9**	**0.0**
	23nm,0.3s,SNR=9.0								
EQES	**Quesada**	**1.53**	**8**	P			**Pg**	**11 41 40.2**	**+0.1**
	4.1nm,0.1s,SNR=31								
EQES				S			**Sg**	**11 41 59.9**	**0.0**
	23nm,0.3s,SNR=9.0								
EHUE	**Huescar**	**1.64**	**22**	P			**Pg**	**11 41 42.1**	**-0.1**
	1.5nm,0.2s,SNR=7.9								
EHUE				S			**Sb**	**11 42 02.2**	**+0.4**
	4.5nm,0.3s,SNR=7.9								
EHUE	**Huescar**	**1.64**	**22**	P			**Pg**	**11 41 42.2**	**-0.1**
	1.5nm,0.2s,SNR=7.9								
EHUE				S			**Sb**	**11 42 02.2**	**+0.4**
	4.5nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**2.29**	**47**	P			**Pn**	**11 41 49.0**	**+0.4**
	3.6nm,0.2s,SNR=7.9								
EMUR				S			**Sn**	**11 42 14.8**	**-2.1**
	4.7nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**2.29**	**47**	P			**Pn**	**11 41 49.0**	**+0.4**
	3.6nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**2.75**	**31**	P			**Pn**	**11 41 57.1**	**+2.1**
	0.7nm,0.1s,SNR=7.9								
ETOB				S			**Sn**	**11 42 28.1**	**-0.2**
	4.2nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**2.75**	**31**	P			**Pn**	**11 41 57.1**	**+2.1**
	0.7nm,0.1s,SNR=7.9								
ETOB				S			**Sn**	**11 42 28.1**	**-0.2**
	4.2nm,0.2s,SNR=7.9								
PBAR	**Barrancos**	**3.49**	**304**	*e*Pn			**Pn**	**11 42 06.0**	**+1.0**
PBAR				*e*Sn			**Sn**	**11 42 46.1**	**-0.2**
PBAR				A			A	11 42 47.5	
	1.0nm,0.3s								
PBAR	**Barrancos**	**3.49**	**304**	*e*Pn			**Pn**	**11 42 06.0**	**+1.0**
PBAR				*e*Sn			**Sn**	**11 42 46.1**	**-0.2**
	1.0nm,0.3s								
PVAQ	**Vaqueiros**	**3.67**	**289**	*e*Pn			**Pn**	**11 42 08.5**	**+1.0**
PVAQ				*e*Sn			**Sn**	**11 42 49.9**	**-0.9**
PVAQ				A			A	11 42 54.5	
	1.4nm,0.2s								
PVAQ	**Vaqueiros**	**3.67**	**289**	*e*Pn			**Pn**	**11 42 08.5**	**+1.0**
PVAQ				*e*Sn			**Sn**	**11 42 49.9**	**-0.9**
	1.4nm,0.2s								
PBDV	**Barranco-do-Ve**	**3.79**	**286**	*e*Pn			**Pn**	**11 42 10.0**	**+0.8**
PBDV				*e*Sn			**Sn**	**11 42 53.8**	**-0.1**
PBDV				A			A	11 42 57.4	
	3.0nm,0.8s								
PBDV	**Barranco-do-Ve**	**3.79**	**286**	*e*Pn			**Pn**	**11 42 10.0**	**+0.8**
PBDV				*e*Sn			**Sn**	**11 42 53.8**	**-0.1**
	3.0nm,0.8s								
PCVE	**Castro Verde**	**3.98**	**291**	*e*Pn			**Pn**	**11 42 13.4**	**+1.6**
PCVE				*e*Sn			**Sn**	**11 42 58.5**	**0.0**
PCVE				A			A	11 43 01.6	
	2.5nm,0.7s								
PCVE	**Castro Verde**	**3.98**	**291**	*e*Pn			**Pn**	**11 42 13.4**	**+1.6**
PCVE				*e*Sn			**Sn**	**11 42 58.5**	**0.0**
	2.5nm,0.7s								
PNCL	**Nicolau / Gran**	**4.51**	**295**	*e*Pn			**Pn**	**11 42 20.0**	**+1.0**
PNCL				*e*Sn			**Sn**	**11 43 09.6**	**-1.9**
PNCL				A			A	11 43 21.1	
	3.1nm,1.0s								
PNCL	**Nicolau / Gran**	**4.51**	**295**	*e*Pn			**Pn**	**11 42 20.0**	**+1.0**
PNCL				*e*Sn			**Sn**	**11 43 09.6**	**-1.9**
	3.1nm,1.0s								

*IDC **30** 11:47:42.1±0.9,29°.50S×177°.23W,h0km,mb4.1/7, mb1 4.4/9,mb1mx4.1/20,mbtmp4.2/9,ML4.4/2,MS3.3/2, Ms1 3.3/2,ms1mx3.0/46,Error ellipse: s-maj=38.0km s-min=19.6km az=145.0*

*ISCJB **30** 11:47:44.9±0.7,29°.63S±0°.06×177°.07W±0°.09,h31km, mb4.2/7,MS3.2/1,Error ellipse: s-maj=10.8km s-min=8.0km az=5.0*
*NEIC **30** 11:47:48.4±1.4,29°.57S×177°.18W,h47km±11km,mb4.6/2, Error ellipse: s-maj=15.4km s-min=10.8km az=101.0*
ISC 30 11:47:46.6±0.6,29°.53S±0°.08×177°.10W±0°.09,h31km,n43, σ0°90/45,mb4.1/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**291**	*e*Pn			**Pb**	**11 48 02.7**	**+1.2**
RAO				*e*Sn			**Sn**	**11 48 12.2**	**+0.4**
OUZ	**Omahuta**	**9.70**	**232**	Pn			**Pn**	**11 50 04.2**	**+0.2**
	42nm,0.5s								
URZ	**Urewera**	**9.95**	**207**	Pn			**Pn**	**11 50 05.7**	**-1.7**
	0.8nm,0.3s,baz=221,slow=5.5,SNR=15								
URZ				Sn			**Sn**	**11 51 58.9**	**+1.0**
	5.1nm,0.3s,baz=175,slow=21,SNR=19								
URZ	**Urewera**	**9.95**	**207**	Pn			**Pn**	**11 50 05.7**	**-1.7**
URZ				Sn			**Sn**	**11 51 58.9**	**+1.0**
KHZ	**Kahutara**	**14.91**	**208**	*e*Pn			**Pn**	**11 51 16.5**	**+1.3**
	14nm,0.5s								
DZM	**Mont Dzumac**	**16.57**	**293**	LR			LR	11 56 05.4	
	comp=Z,114nm,21.7s,baz=92,slow=31								
RPZ	**Rata Peaks**	**17.03**	**211**	Pn			**Pn**	**11 51 41.5**	**-0.9**
	4.4nm,0.3s,baz=319,slow=2.1,SNR=21								
RPZ				Sn			Sn	11 54 36.0	-15
	0.8nm,0.3s,baz=306,slow=22,SNR=7.1								
RPZ	**Rata Peaks**	**17.03**	**211**	*e*Pn			**Pn**	**11 51 42.1**	**-0.3**
	15nm,0.4s								
RPZ				Sn			Sn	11 54 36.0	-15
ODZ	**Otahua Downs**	**18.27**	**209**	*e*P			**Pn**	**11 51 58.5**	**+0.8**
CTA	**Charters Tower**	**34.45**	**277**	P			**P**	**11 54 32.1**	**+0.4**
	2.0nm,0.4s,baz=93,slow=10,SNR=7.4								
CTA				LR			LR	12 05 00.5	
	comp=Z,39nm,19.0s,baz=64,slow=30								
CTA	**Charters Tower**	**34.45**	**277**	P			**P**	**11 54 32.1**	**+0.4**
CTAO	**Charters Tower**	**34.45**	**277**	*e*P			**P**	**11 54 31.9**	**+0.2**
	14nm,1.3s								
STKA	**Stephens Creek**	**35.45**	**256**	P			**P**	**11 54 39.8**	**-0.4**
	1.2nm,0.5s,baz=87,slow=16,SNR=4.8								
STKA	**Stephens Creek**	**35.45**	**256**	P			**P**	**11 54 39.8**	**-0.4**
AS31	**Alice Springs**	**43.95**	**266**	*e*P			**P**	**11 55 50.3**	**-0.7**
ASAR	**Alice Springs**	**43.95**	**266**	P			**P**	**11 55 49.9**	**-1.2**
	1.5nm,0.6s,baz=105,slow=7.0,SNR=36								
ASAR	**Alice Springs**	**43.95**	**266**	P			**P**	**11 55 49.9**	**-1.2**
WRA	**Warramunga Arr**	**44.86**	**271**	P			**P**	**11 55 56.9**	**-1.4**
	0.9nm,0.3s,baz=109,slow=6.2,SNR=38								
WRA	**Warramunga Arr**	**44.86**	**271**	P			**P**	**11 55 56.9**	**-1.4**
PUH	**Pauahi**	**53.00**	**26**	*e*P			**P**	**11 57 00.1**	**-0.6**
PETK	**Petropavlovsk-**	**85.17**	**345**	P			**P**	**12 00 18.8**	**-0.6**
	2.7nm,0.8s,baz=128,slow=7.2,SNR=4.4								
PETK	**Petropavlovsk-**	**85.17**	**345**	P			**P**	**12 00 18.8**	**-0.6**
NVAR	**Mina Array Bea**	**87.07**	**42**	P			**P**	**12 00 31.3**	**+1.8**
	1.5nm,0.7s,baz=222,slow=8.7,SNR=12								
NVAR	**Mina Array Bea**	**87.07**	**42**	P			**P**	**12 00 31.3**	**+1.8**
TXAR	**Lajitas Array**	**91.26**	**57**	P			**P**	**12 00 50.5**	**+1.3**
	0.3nm,0.9s,baz=207,slow=9.8,SNR=3.4								
TXAR	**Lajitas Array**	**91.26**	**57**	P			**P**	**12 00 50.5**	**+1.3**
MKAR	**Makanchi Array**	**117.81**	**310**	PKP			**PKPdf**	**12 06 29.3**	**-0.4**
	0.6nm,0.4s,baz=188,slow=2.9,SNR=5.6								
MKAR	**Makanchi Array**	**117.81**	**310**	PKP			**PKPdf**	**12 06 29.3**	**-0.4**
ZALV	**Zalesovo Beam**	**117.90**	**319**	PKP			**PKPdf**	**12 06 29.0**	**-0.6**
	0.4nm,0.5s,baz=90,slow=0.3,SNR=3.0								
ZALV	**Zalesovo Beam**	**117.90**	**319**	PKP			**PKPdf**	**12 06 29.0**	**-0.6**
BVAR	**Borovoye Array**	**126.33**	**316**	PKP			**PKPdf**	**12 06 45.9**	**+0.1**
	2.3nm,0.6s,baz=150,slow=1.8,SNR=7.5								
BVAR	**Borovoye Array**	**126.33**	**316**	PKP			**PKPdf**	**12 06 45.9**	**+0.1**
ARCES	**ARCESS Array B**	**137.90**	**348**	PKhKP			PKPpre	12 07 00.2	
	3.7nm,1.1s,baz=7.6,slow=2.7,SNR=3.7								
ARCES				PKP			**PKiKP**	**12 07 08.6**	**-0.6**
	2.8nm,0.9s,baz=35,slow=4.4,SNR=4.1								
ARCES	**ARCESS Array B**	**137.90**	**348**	PKPpre			PKPpre	12 07 00.2	
ARCES				PKP			**PKiKP**	**12 07 08.6**	**-0.6**
FINES	**FINESS Array B**	**144.59**	**341**	PKP			**PKPab**	**12 07 17.3**	**-0.6**
	2.7nm,0.5s,baz=58,slow=3.5,SNR=12								
FINES	**FINESS Array B**	**144.59**	**341**	PKP			**PKPab**	**12 07 17.3**	**-0.6**
NB2	**NORSAR Subarra**	**148.00**	**352**	PKP			**PKPbc**	**12 07 27.9**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=13,slow=2.9								
NOA	**NORSAR Array B**	**148.00**	**352**	PKPbc			**PKPbc**	**12 07 28.1**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=14,slow=4.5,SNR=6.2								
NOA	**NORSAR Array B**	**148.00**	**352**	PKPbc			**PKPbc**	**12 07 28.1**	**-0.2**
AKASG	**Malin Array Be**	**151.07**	**324**	PKPbc			**PKPbc**	**12 07 36.0**	**-0.2**
	comp=Z,7.9nm,0.5s,baz=46,slow=3.0,SNR=21								
AKASG	**Malin Array Be**	**151.07**	**324**	PKPbc			**PKPbc**	**12 07 36.0**	**-0.2**
BRTR	**Keskin Array B**	**152.86**	**300**	PKPbc			**PKPbc**	**12 07 40.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=116,slow=3.0,SNR=7.7								
BRTR	**Keskin Array B**	**152.86**	**300**	PKPbc			**PKPbc**	**12 07 40.5**	**-0.3**

*IDC **30** 11:56:40.6±0.9,42°.17N×80°.78E,h0km,mb3.7/7, mb1 3.9/13,mb1mx3.7/31,mbtmp3.7/13,ML3.7/5,Error ellipse: s-maj=16.5km s-min=13.1km az=180.0*
*ISCJB **30** 11:56:41.3±0.6,42°.11N±0°.06×80°.96E±0°.06,h10km, mb3.6/7,Error ellipse: s-maj=8.5km s-min=5.5km az=156.5*
*BJI **30** 11:56:41.8,41°.98N×80°.84E,h9km,ML4.0/9*
*MOS **30** 11:56:44.6±1.5,42°.25N×80°.83E,h33km,mb4.1/3,Error ellipse: s-maj=11.4km s-min=8.8km az=112.3*
*NNC **30** 11:56:44.6±2.1,42°.19N×80°.77E,h0km,mb4.1,mpv4.0, Error ellipse: s-maj=20.7km s-min=8.5km az=142.0*
ISC 30 11:56:42.6±0.8,41°.97N±0°.06×80°.96E±0°.04,h10km,n50, σ1°27/44,mb3.7/7,13C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.20**	**294**	⇑Pn			**Pn**	**11 57 34.5**	**+1.4**
	173nm,0.5s								
KNDC				⇓Lg			Lg	11 58 17.9	
	446nm,0.7s								
AAA	**Alma-Ata**	**3.24**	**295**	*e*PN			**Pn**	**11 57 35.3**	**+1.8**
AAA				*e*S			**Sb**	**11 58 19.0**	**-0.7**
AAA				pmax	pmax				
	comp=Z,326nm,0.4s								
AAA				smax	smax				
	comp=E,1μm,0.6s								
ULHL	**Ulahol**	**3.52**	**276**	P			**Pn**	**11 57 37.4**	**-0.2**
	SNR=189								
TKM2	**Tokmak 2**	**4.08**	**285**	PN			**Pn**	**11 57 45.6**	**+0.3**
TKM2								11 57 55.2	
TKM2				pmax	pmax				
	comp=Z,35nm,0.5s								
TKM2				pmax	pmax				
	comp=Z,51nm,0.6s								
TKM2	**Tokmak 2**	**4.08**	**285**	P			**Pn**	**11 57 46.0**	**+0.6**
	SNR=93								
KZA	**Kyzart**	**4.25**	**273**	P			**Pn**	**11 57 48.4**	**+0.5**
	SNR=21								
KSH	**Kashi**	**4.51**	**239**	Pn			**Pb**	**11 58 00.3**	**-1.7**
KSH				Sn			**Sb**	**11 59 00.0**	**+3.6**
KSH				smax	smax				
	comp=N,100nm,0.4s								
KSH				smax	smax				
	comp=E,120nm,0.8s								
KBK	**Karagaybulak**	**4.51**	**281**	P			**Pn**	**11 57 51.7**	**+0.5**
	SNR=96								
CHMS	**Chumysh**	**4.71**	**285**	P			**Pn**	**11 57 53.6**	**-0.1**
	SNR=11								
FRU	**Bishkek**	**4.78**	**283**	*e*PN			**Pn**	**11 57 54.0**	**-0.7**
FRU				*i*				11 58 07.0	
FRU				*i*				11 59 07.0	
FRU				pmax	pmax				
	comp=Z,98nm,1.8s								
FRU				pmax	pmax				
	comp=E,195nm,1.6s								
UCH	**Uchtor**	**4.80**	**275**	P			**Pb**	**11 58 07.2**	**0.0**
	SNR=9.2								
AAK	**Ala-Archa**	**4.84**	**280**	Pn			**Pn**	**11 57 55.8**	**+0.1**
	comp=E,14nm,0.3s,baz=105,slow=7.8,SNR=191								
AAK				Pg			**Pb**	**11 58 08.1**	**+0.4**
	comp=E,20nm,0.3s,baz=104,slow=7.3,SNR=21								
AAK				Lg			Lg	11 59 06.7	
	comp=E,14nm,0.3s,baz=219,slow=21,SNR=7.6								
AAK	**Ala-Archa**	**4.84**	**280**	PN			**Pn**	**11 57 55.8**	**+0.1**
AAK								11 58 08.1	
AAK				pmax	pmax				
	comp=Z,14nm,0.3s								
AAK				pmax	pmax				
	comp=Z,20nm,0.3s								
AAK	**Ala-Archa**	**4.84**	**280**	P			**Pn**	**11 57 55.9**	**+0.1**
	SNR=89								
MK31	**Makanchi Array**	**4.92**	**11**	Pn			**Pn**	**11 57 56.6**	**-0.1**
	comp=Z,4.9nm,0.4s,baz=204,slow=12,SNR=428								
MK31				⇑Pg			**Pb**	**11 58 08.7**	**-0.2**
	comp=Z,3.5nm,0.2s,baz=196,slow=16,SNR=3.5								
MK31				⇑Sn			**Sn**	**11 58 55.4**	**+1.8**
	comp=Z,25nm,0.5s								
MK31				⇑Lg			Lg	11 59 11.0	
	comp=Z,55nm,0.6s,baz=194,slow=24,SNR=4.6								
MK31	**Makanchi Array**	**4.92**	**11**	PN			**Pn**	**11 57 56.5**	**-0.1**
MK31								11 58 09.3	
MK31								11 58 55.4	
MK31				pmax	pmax				
	comp=Z,6.0nm,0.3s								
MK31				pmax	pmax				
	comp=Z,11nm,0.2s								
MK31				smax	smax				
	comp=N,19nm,0.3s								
MKAR	**Makanchi Array**	**4.92**	**11**	Pn			**Pn**	**11 57 56.5**	**-0.1**
	comp=N,2.7nm,0.3s,baz=197,slow=13,SNR=187								
MKAR				Sn			**Sn**	**11 58 54.2**	**+0.6**
	comp=N,9.8nm,0.3s,baz=190,slow=21,SNR=10								
MKAR				Lg			Lg	11 59 11.7	
	comp=N,17nm,0.3s,baz=196,slow=26,SNR=8.2								
MKAR	**Makanchi Array**	**4.92**	**11**	PN			**Pn**	**11 57 56.5**	**-0.1**
MKAR								11 58 54.2	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.3s								
MKAR				smax	smax				
	comp=N,10.0nm,0.3s								
USP	**Ospenovka**	**4.94**	**287**	P			**Pn**	**11 57 56.8**	**-0.2**
	SNR=33								
WMQ	**Urumqi**	**5.28**	**67**	Pn			**Pn**	**11 58 01.0**	**-0.7**
WMQ				Sg			**Sg**	**11 59 29.5**	**-2.7**
WMQ				smax	smax				
	comp=N,130nm,0.9s								
WMQ				smax	smax				
	comp=E,140nm,0.9s								
EKS2	**Erkin-Say**	**5.37**	**280**	P			**Pn**	**11 58 03.0**	**0.0**
	SNR=9.9								
AML	**Almayashu**	**5.41**	**274**	P			**Pn**	**11 58 04.6**	**+0.8**
	SNR=12								
KK31	**Karatay Array**	**7.80**	**282**	Pn			**Pn**	**11 58 35.0**	**-1.2**
	comp=E,1.3nm,0.7s,baz=92,slow=14,SNR=9.8								
KK31				⇑Pg			Pb	11 59 02.1	+4.2
	comp=E,7.5nm,0.6s,baz=91,slow=15,SNR=3.6								
KK31				⇑Lg			Lg	12 00 47.2	
	comp=E,8.5nm,0.5s,baz=92,slow=28,SNR=5.1								
KK31	**Karatay Array**	**7.80**	**282**	*e*P			**Pn**	**11 58 35.0**	**-1.2**
KK31				pmax	pmax				
	comp=Z,8.0nm,0.5s								
KURBB	**Kurchatov Arra**	**8.82**	**350**	Pn			**Pn**	**11 58 51.0**	**+0.9**
	comp=Z,6.5nm,0.3s,baz=174,slow=11,SNR=1.3								
KURK	**Kurchatov**	**8.90**	**350**	⇑Pn			**Pn**	**11 58 50.4**	**-0.8**
	comp=Z,6.9nm,0.7s								
KURK				⇓Sn			**Sn**	**12 00 30.8**	**-0.7**
	comp=Z,46nm,1.4s								
KURK				⇑Lg			Lg	12 01 20.8	
	comp=Z,52nm,0.9s								
KURK	**Kurchatov**	**8.90**	**350**	P			**Pn**	**11 58 51.0**	**-0.2**
KURK				pmax	pmax				
	comp=Z,7.0nm,0.3s								
ZALV	**Zalesovo Beam**	**12.26**	**11**	Pn			Pn	11 59 35.1	-2.1
	baz=182,slow=10,SNR=6.1								
ZALV				Lg			Lg	12 03 08.4	
	baz=201,slow=28,SNR=3.1								
ZALV	**Zalesovo Beam**	**12.26**	**11**	P			Pn	11 59 35.1	-2.1
VOSK	**Vostochnaya**	**12.70**	**331**	⇓Pn			**Pn**	**11 59 42.7**	**-0.4**
	comp=Z,3.3nm,1.1s								
VOSK				⇓Lg			Lg	12 03 21.8	
	comp=Z,21nm,1.5s								
NVS	**Novosibirsk**	**12.97**	**6**	*e*P			Pn	11 59 51.1	+4.3
NVS				*e*				12 01 59.0	
BVA0	**Borovoye Array**	**13.15**	**331**	⇑Pn			**Pn**	**11 59 48.3**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=0.1,SNR=11								
BVA0				⇑Lg			Lg	12 03 36.2	
	comp=Z,2.1nm,1.1s,baz=138,slow=27,SNR=3.7								
BVAR	**Borovoye Array**	**13.15**	**331**	Pn			Pn	11 59 44.5	-4.9
	comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=2.1								
BVAR				Lg			Lg	12 03 30.8	
	comp=Z,0.4nm,0.3s,baz=140,slow=27,SNR=6.4								
BVAR	**Borovoye Array**	**13.15**	**331**	P			Pn	11 59 44.5	-4.9
BRVK	**Borovoye**	**13.22**	**331**	⇑Lg

JWZ					S	**S**	**12 03 01.2**	**-0.6**			
SAI	**Saigo**	**3.02**	**269**		P	**Pn**	**12 02 19.6**	**-0.1**			
JNU	**Nakatsue**	**6.00**	**240**		P	**Pn**	**12 02 54.7**	**+0.4**			
0.7nm,0.3s,baz=39,slow=1.2,SNR=7.6											
KSRS	**Korea Array**	**7.43**	**282**		P	**Pn**	**12 03 13.2**	**+1.4**			
0.2nm,0.3s,baz=100,slow=13,SNR=6.5											
USRK	**Ussuriysk Arra**	**8.80**	**335**		P	**Pn**	**12 03 29.6**	**+0.7**			
0.3nm,0.3s,baz=160,slow=13,SNR=16											
ASAJ	**Asahikawa**	**8.88**	**27**		P	**Pn**	**12 03 27.7**	**-2.2**			
16nm,0.3s,baz=228,slow=11,SNR=197											
SONM	**Songino Array**	**25.36**	**307**		P	**P**	**12 06 27.9**	**-0.5**			
0.2nm,0.7s,baz=106,slow=7.9,SNR=3.8											
ZALV	**Zalesovo Beam**	**39.86**	**313**		P	**P**	**12 08 32.9**	**-0.1**			
0.7nm,0.3s,baz=104,slow=6.7,SNR=4.5											
MKAR	**Makanchi Array**	**41.56**	**302**		P	**P**	**12 08 47.5**	**+0.4**			
0.5nm,0.5s,baz=84,slow=10,SNR=6.2											
KURBB	**Kurchatov Arra**	**43.71**	**308**		P	**P**	**12 09 04.0**	**-0.1**			
74nm,0.3s,baz=86,slow=7.9,SNR=2.8											
BVAR	**Borovoye Array**	**48.49**	**312**		P	**P**	**12 09 41.4**	**+0.2**			
0.4nm,0.3s,baz=100,slow=8.8,SNR=5.3											
ILAR	**Eielson Array**	**51.98**	**32**		P	**P**	**12 10 07.7**	**+0.6**			
0.4nm,0.5s,baz=260,slow=5.7,SNR=9.7											
WRA	**Warramunga Arr**	**55.98**	**183**		P	**P**	**12 10 36.0**	**-0.4**			
4.6nm,0.4s,baz=360,slow=7.6,SNR=160											
INK	**Inuvik**	**56.62**	**26**		P	**P**	**12 10 41.2**	**+0.9**			
0.6nm,0.4s,baz=290,slow=9.0,SNR=13											
ASAR	**Alice Springs**	**59.70**	**183**		P	**P**	**12 11 02.0**	**-0.1**			
0.9nm,0.4s,baz=360,slow=6.1,SNR=49											
ARCES	**ARCESS Array B**	**63.44**	**339**		P	**P**	**12 11 26.6**	**+0.2**			
2.6nm,1.0s,baz=56,slow=7.6,SNR=13											
RES	**Resolute Bay**	**64.16**	**13**		P	**P**	**12 11 30.9**	**-0.1**			
0.7nm,0.5s,baz=316,slow=4.5,SNR=6.9											
YKA	**Yellowknife Ar**	**66.17**	**29**		P	**P**	**12 11 43.6**	**-0.4**			
0.1nm,0.5s,baz=309,slow=6.5,SNR=4.5											
FINES	**FINESS Array B**	**67.81**	**331**		P	**P**	**12 11 54.1**	**-0.2**			
1.6nm,0.7s,baz=76,slow=8.0,SNR=5.0											

*BGS **30** 12:07:24.8±1.8,50.93N×179.99E,h33km,mb5.4*
*DJA **30** 12:07:25.6±0.7,52.1N±7.7×17.8W±1.7,h10km,Me,6.1/18, mb6.1/18,mBe,4.4/16,Mw(mB)6.1/16*
*ISCJB **30** 12:07:26.4±0.1,51.46N±0.02×178.18W±0.01,h31km, mb5.9/482,MS5.4/59,Error ellipse: s-maj=2.9km s-min=1.3km az=1.3*
*NEIC **30** 12:07:28.2±0.1,51.54N×178.26W,h31km,mb6.0/262, ME5.9,MS5.5/9,MW5.7,MW5.6,Error ellipse: s-maj=3.3km s-min=1.9km az=178.0,Moment Tensor Solution. s95 Moment tensor: Scale 10^17^Nm; Mrr2.53; Mθθ-2.07; Mφφ-0.46; Mrθ1.49; Mθφ0.16; Mφr1.13; Best double couple: M≈3.00000×10^17^ NP1:φs73.00000°,δ64.00000°, λ74.00000°. NP2:φs286.00000°,δ30.00000°,λ120.00000°. Principal axes: T 3.3100, Plg67.0000°, Azm312.0000°; N -0.7800, Plg14.0000°, Azm80.0000°; P -2.5200, Plg17.0000°, Azm174.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **30** 12:07:28.8±0.8,51.55N×178.14W,h48km,mb6.2/138, MS5.4/25 Error ellipse: s-maj=6.3km s-min=3.8km az=94.2*
*BJI **30** 12:07:29.3,51.66N×178.04W,h66km,mBe0.0/45, mb6.1/58,Ms5.5/71,Ms7.5.4/64*
*IDC **30** 12:07:30.9±1.3,51.58N×178.13W,h53km±10km,mb5.5/44, mb1 5.6/47,mb1mx5.5/48,mbtmp5.5/47,MS5.2/3, Ms1 5.2/3,ms1mx4.0/71,Error ellipse: s-maj=10.6km s-min=6.9km az=157.0*
*SZGRF **30** 12:07:31.9,51.81N×179.26W,h33km,mb5.8,Andreanof Islands, Aleutian Islands, United States*
*GCMT **30** 12:07:31.0±0.1,51.33N×177.93W,h41km,MW5.7, Moment Tensor Solution. s111,c214; s47,c51; Moment tensor: Scale 10^17^Nm; Mrr4.05±.07; Mθθ-3.52±.06; Mφφ-0.54±.06; Mrθ1.72±.07; Mθφ-1.60±.04; Mφr1.89±.06; Best double couple: M0.4.90000×10^17^ NP1:φs259.00000°, δ31.00000°,λ111.00000°. NP2:φs54.00000°,δ61.00000°, λ77.00000°. Principal axes: T 4.8800, Plg71.0000°, Azm296.0000°; N -0.0400, Plg11.0000°, Azm60.0000°; P -4.8400, Plg15.0000°, Azm153.0000°; Data Used: II IU IC G CN. Surface waves: sta=117, comp=234, per= 50.*
*NEIC **30** 12:07:46.1±0.0,50.97N×178.30W,h55km,Moment Tensor Solution. s170 Moment tensor: Scale 10^17^Nm; Mrr4.90; Mθθ-4.13; Mφφ-0.77; Mrθ1.64; Mθφ-1.03; Mφr0.85; Best double couple: M0.5.00000×10^17^ NP1:φs70.00000°, δ56.00000°,λ86.00000°. NP2:φs258.00000°,δ35.00000°, λ96.00000°. Principal axes: T 5.2600, Plg78.0000°, Azm325.0000°; N -0.5000, Plg3.0000°, Azm72.0000°; P -4.7600, Plg10.0000°, Azm163.0000°;*
ISC 30 12:07:27.8±0.2,51.50N±0.04×178.18W±0.02,h31km, n1948,σ1913/2089,mb6.0/484,MS5.4/61,456C-242D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.35**	**15**	P	Pn	12 07 41.0	+4.1
GAKI	**Gareloi-Kavalg**	**0.40**	**279**	P	Pn	12 07 41.6	+4.2
TANO	**Tanaga North**	**0.42**	**5**	P	Pn	12 07 41.0	+3.2
GAEA	**Gareloi East**	**0.45**	**309**	P	Pn	12 07 42.8	+4.6
GALAA	**Gareloi Lava P**	**0.45**	**306**	P	Pn	12 07 42.7	+4.5
GANE	**Gareloi Northe**	**0.49**	**311**	P	Pn	12 07 42.7	+4.0
KIMD	**Kanaga Island**	**0.65**	**66**	P	**Pn**	**12 07 42.2**	**+1.3**
KIKV	**Kanaga Island**	**0.74**	**58**	P	**Pb**	**12 07 43.9**	**+1.6**
GSCK	**Great Sitkin C**	**1.36**	**67**	P	**Pb**	**12 07 52.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.39**	**65**	P	**Pn**	**12 07 52.7**	**+1.6**
CERAA	**Semis' Rag'd T**	**1.39**	**288**	P	**Pb**	**12 07 55.1**	**+2.0**
CESW	**Semis' Southwe**	**1.46**	**287**	P	**Pb**	**12 07 55.9**	**+1.6**
CEAP	**Semis' Anvil P**	**1.48**	**291**	P	**Pb**	**12 07 56.6**	**+1.9**
AMKA	**Amchitka**	**1.58**	**267**	P	**Pb**	**12 07 55.6**	**-0.8**
AMKA				S	**Sb**	**12 08 17.9**	**+2.1**
LSSE	**Little Sitkin**	**2.07**	**283**	P	**Pb**	**12 08 04.6**	**0.0**
LSSA	**Little Sitkin**	**2.10**	**284**	P	**Pb**	**12 08 05.0**	**-0.3**
LSNW	**Little Sitkin**	**2.10**	**284**	P	**Pb**	**12 08 04.9**	**-0.4**
ATKA	**Atka Island**	**2.57**	**73**	P	**Pn**	**12 08 07.7**	**+0.4**
ATKA				S	**Sn**	**12 08 38.0**	**+0.6**
KOKL	**Mount Kliuchef**	**2.60**	**70**	P	**Pn**	**12 08 10.2**	**+2.4**
KOFP	**Korovin Flat P**	**2.65**	**71**	P	**Pn**	**12 08 10.4**	**+2.0**
KOSE	**Korovin Southe**	**2.70**	**70**	P	**Pn**	**12 08 11.5**	**+2.4**
SMY	**Shemya**	**4.91**	**288**	P	Pn	12 08 43.0	+3.5
SMY				S	**Sb**	**12 09 46.0**	**-5.6**
SMY	**Shemya**	**4.91**	**288**	P	Pn	12 08 43.0	+3.5
SMY				S	**Sb**	**12 09 46.0**	**-5.6**
FX1	**Attu Island--F**	**5.50**	**288**	P	Pn	12 08 51.0	+3.4
136nm,0.3s,baz=277,slow=18,SNR=162							
FX1				S	Sn	12 09 57.7	+8.1
234nm,0.3s,baz=323,slow=23,SNR=6.8							
FX1	**Attu Island--F**	**5.50**	**288**	P	Pn	12 08 50.9	+3.4
FX1				S	Sn	12 09 57.7	+8.1
OKSP	**Okmok Steeple**	**6.31**	**70**	P	Pn	12 09 03.4	+4.7
OKSO	**Okmok South**	**6.41**	**69**	P	**Pn**	**12 09 03.0**	**+3.0**
OKCE	**Okmok Cone E**	**6.42**	**69**	P	Pn	12 09 03.8	+3.6
OKFG	**Magazine Ridge**	**6.57**	**69**	P	Pn	12 09 06.4	+4.2
MCIR	**Makushin Cirqu**	**7.29**	**68**	P	Pn	12 09 16.4	+4.4
SPIA	**Saint Paul Isl**	**7.34**	**36**	P	Pn	12 09 16.1	+3.4
MTBL	**Makushin Table**	**7.41**	**66**	P	Pn	12 09 17.8	+4.0
UNV	**Unalaska Valle**	**7.48**	**67**	P	Pn	12 09 18.1	+3.4
AKRB	**Akutan Reef Bi**	**7.80**	**66**	P	Pn	12 09 23.0	+3.9
ZRO	**Akutan Zero**	**7.84**	**66**	P	Pn	12 09 23.1	+3.4
AKGG	**Akutan Green G**	**7.86**	**65**	P	Pn	12 09 24.1	+4.2
AKLV	**Akutan Long Va**	**7.87**	**65**	P	Pn	12 09 24.1	+4.0
AHB	**Akutan Harbor**	**7.94**	**66**	P	Pn	12 09 25.4	+4.3
AKUT	**Akutan**	**7.97**	**66**	P	Pn	12 09 25.3	+3.9
WESE	**West Dahl East**	**8.73**	**65**	P	Pn	12 09 35.7	+3.8
WESN	**West Dahl Nort**	**8.75**	**64**	P	Pn	12 09 36.0	+3.9
FALS	**False Pass**	**9.48**	**63**	P	Pn	12 09 45.5	+3.4
SDPT	**Sand Point**	**11.24**	**63**	*e*Pn	**Pn**	**12 10 08.1**	**+1.9**
PET	**Petropavlovsk**	**14.26**	**285**	*e*P	**Pn**	**12 10 49.7**	**+2.4**
PET				*e*S	**Sn**	**12 13 28.8**	**+4.6**
PET				pmax	pmax		
comp=Z,2μm,4.5s							
PET				pmax	pmax		
comp=Z,285nm,0.9s							
PET				pmax	pmax		
comp=Z,2μm,8.5s							
PET				smax	smax		
comp=N,160nm,0.8s							
PET				smax	smax		
comp=N,3μm,9.8s							
PET				MLR	MLR		
comp=Z,21μm,22.0s							
PET				MLR	MLR		
comp=Z,14μm,21.0s							
PET	**Petropavlovsk**	**14.26**	**285**	*e*Pn	Pn	12 10 50.1	+2.8
PEA0B	**Petropavlovsk-**	**14.83**	**286**	*e*Pn	**P**	**12 10 59.0**	**-1.6**
PETK	**Petropavlovsk-**	**14.83**	**286**	P	**P**	**12 10 58.2**	**-2.4**
comp=Z,1.6nm,0.3s,baz=100,slow=16,SNR=29							
PETK				S	**Sn**	**12 13 39.1**	**+1.0**
baz=95,slow=16,SNR=2.4							
PETK	**Petropavlovsk-**	**14.83**	**286**	P	**P**	**12 10 58.2**	**-2.4**
PETK				S	**Sn**	**12 13 39.1**	**+1.0**
PETK	**Petropavlovsk-**	**14.83**	**286**	P	**P**	**12 10 58.2**	**-2.4**
PETK				S	**Sn**	**12 13 39.1**	**+1.0**
KDAK	**Kodiak Island**	**16.04**	**57**	P	**Pn**	**12 11 11.2**	**+0.4**
comp=Z,124nm,0.3s,baz=293,slow=7.9,SNR=6.7							
KDAK				S	**Sn**	**12 14 02.1**	**-5.3**
comp=Z,2.6nm,0.3s,baz=264,slow=9.2,SNR=2.8							
KDAK	**Kodiak Island**	**16.04**	**57**	P	**Pn**	**12 11 11.2**	**+0.4**
KDAK				S	**Sn**	**12 14 02.1**	**-5.3**
SKR	**Severo-Kuril's**	**16.14**	**277**	*e*P	**Pn**	**12 11 12.0**	**-0.2**
SKR				*e*S	**Sn**	**12 14 06.5**	**-3.6**
SKR				pmax	pmax		
comp=E,3μm,7.0s							
SKR				pmax	pmax		
comp=Z,3μm,7.0s							
SKR				pmax	pmax		
comp=Z,450nm,1.0s							
SKR				smax	smax		
comp=N,100nm,0.5s							
SKR				smax	smax		
comp=E,400nm,1.0s							
SKR				smax	smax		
comp=Z,180nm,1.0s							
SKR				smax	smax		
comp=N,4μm,8.0s							
SKR				smax	smax		
comp=E,3μm,10.0s							
SKR				MLR	MLR		
comp=N,5μm,20.0s							
SKR				MLR	MLR		
comp=E,4μm,20.0s							
SKR				MLR	MLR		
comp=Z,6μm,20.0s							
BILL	**Bilibino**	**18.24**	**341**	α *i*P	**P**	**12 11 42.0**	**+3.8**
BILL				pmax	pmax		
comp=Z,1μm,1.3s							
BILL				MLR	MLR		
comp=Z,8μm,15.0s							
BILL	**Bilibino**	**18.24**	**341**	*e*P	**P**	**12 11 42.1**	**+3.8**
comp=Z,834nm,0.9s							
SEY	**Seymchan**	**19.42**	**317**	*ce*P	**Pn**	**12 11 53.5**	**+1.1**
MID	**Middleton Isla**	**19.56**	**54**	*e*P	**P**	**12 11 53.6**	**+0.9**
MID				pmax	pmax		
comp=Z,506nm,0.7s							
MID	**Middleton Isla**	**19.56**	**54**	*e*P	**P**	**12 11 53.6**	**+0.9**
comp=Z,506nm,0.7s							
ILAR	**Eielson Array**	**20.91**	**39**	P	**P**	**12 12 07.0**	**-0.4**
comp=Z,70nm,0.8s,baz=241,slow=10.0,SNR=22							
ILAR				PcP	**PcP**	**12 16 13.7**	**-0.4**
comp=Z,31nm,0.6s,baz=279,slow=3.3,SNR=21							
ILAR				ScP	**ScP**	**12 19 45.1**	**-3.1**
comp=Z,15nm,0.5s,baz=274,slow=3.5,SNR=12							
ILAR				P3KPbc		12 46 10.2	
comp=Z,1.8nm,0.8s,baz=41,slow=3.8,SNR=16							
ILAR				PKP2ab		12 50 06.4	
comp=Z,0.9nm,1.0s,baz=43,slow=4.7,SNR=4.1							
ILAR	**Eielson Array**	**20.91**	**39**	P	**P**	**12 12 07.0**	**-0.4**
ILAR				PcP	**PcP**	**12 16 13.7**	**-0.4**
ILAR				ScP	**ScP**	**12 19 45.1**	**-3.1**
ILAR				*e*		12 46 10.2	
ILAR				P'P'ab	P'P'ab	12 50 06.4	-7.5
EGAK	**Eagle**	**23.21**	**41**	*e*P	**P**	**12 12 31.5**	**-0.2**
comp=Z,1μm,1.5s							
MIDW	**Midway**	**23.26**	**178**	*e*P	**P**	**12 12 32.9**	**+0.4**
comp=Z,336nm,1.2s							
DAWY	**Dawson**	**23.76**	**43**	*e*P	**P**	**12 12 36.9**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**25.09**	**267**	*c i*P	**P**	**12 12 50.8**	**+1.4**
YUK				*i* SS		12 18 25.3	
YUK				pmax	pmax		
comp=E,6μm,1.4s							
YUK				pmax	pmax		
comp=N,4μm,1.4s							
YUK				pmax	pmax		
comp=Z,7μm,1.4s							
YUK				pmax	pmax		
comp=Z,9μm,1.5s							
YUK				MLR	MLR		
comp=N,2μm,22.0s							
YUK				MLR	MLR		
comp=E,2μm,22.0s							
YUK				MLR	MLR		
comp=Z,5μm,22.0s							
SKAG	**Skagway**	**25.16**	**55**	*e*P	**P**	**12 12 50.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**25.69**	**275**	α *i*P	**P**	**12 12 58.0**	**+3.1**
YSS				*e*		12 13 09.0	
YSS				*e**SP	sP	12 13 14.0	+6.4
YSS				*e*S	**S**	**12 17 27.0**	**+5.7**
YSS				pmax	pmax		
comp=N,560nm,1.0s							
YSS				pmax	pmax		
comp=E,1μm,1.0s							
YSS				pmax	pmax		
comp=Z,1μm,1.0s							
YSS				MLR	MLR		
comp=N,2μm,20.0s							
YSS				MLR	MLR		
comp=Z,6μm,20.0s							
YSS				MLR	MLR		
comp=E,4μm,21.0s							
YSS	**Yuzh-Sakhalins**	**25.69**	**275**	*e*P	**P**	**12 12 57.2**	**+2.3**
comp=E,1μm,0.9s							
WRAK	**Wrangell Islan**	**27.01**	**61**	*e*P	**P**	**12 13 07.8**	**+1.1**
comp=E,100nm,1.1s							
ASAJ	**Asahikawa**	**27.09**	**270**	P	**P**	**12 13 09.6**	**+2.0**
comp=E,752nm,1.0s,baz=57,slow=5.8,SNR=274							
ASAJ				PcP	**PcP**	**12 16 28.7**	**+1.0**
comp=E,27nm,1.0s,baz=14,slow=4.2,SNR=2.7							
ASAJ	**Asahikawa**	**27.09**	**270**	P	**P**	**12 13 09.6**	**+2.0**
ASAJ				PcP	**PcP**	**12 16 28.7**	**+1.0**
INK	**Inuvik**	**27.14**	**35**	P	**P**	**12 13 08.0**	**+0.2**
comp=E,38nm,0.9s,baz=254,slow=9.7,SNR=5.5							
INK				PcP	**PcP**	**12 16 27.8**	**+0.4**
comp=E,104nm,0.8s,baz=262,slow=2.8,SNR=13							
INK				ScP	**ScP**	**12 20 03.3**	**-1.8**
comp=E,38nm,0.9s,baz=256,slow=5.3,SNR=4.4							
INK				P3KPbc		12 45 42.0	
comp=E,0.9nm,0.7s,baz=78,slow=9.3,SNR=6.4							
INK	**Inuvik**	**27.14**	**35**	P	**P**	**12 13 08.0**	**+0.2**
INK				PcP	**PcP**	**12 16 27.8**	**+0.4**
INK				ScP	**ScP**	**12 20 03.3**	**-1.8**
INK				*e*		12 45 42.0	
ERM	**Erimo**	**27.84**	**265**	*e*P	**P**	**12 13 15.3**	**+1.0**
ERM				pmax	pmax		
comp=Z,475nm,1.3s							
ERM	**Erimo**	**27.84**	**265**	*e*P	**P**	**12 13 15.3**	**+1.0**
comp=Z,475nm,1.3s							
DLBC	**Dease Lake**	**27.97**	**57**	P	**P**	**12 13 15.1**	**-0.3**
comp=Z,22nm,1.1s,baz=275,slow=13,SNR=7.4							
DLBC				PcP	**PcP**	**12 16 30.6**	**+0.9**
comp=Z,25nm,0.8s,baz=296,slow=4.3,SNR=5.3							
DLBC	**Dease Lake**	**27.97**	**57**	*e*P	**P**	**12 13 15.6**	**+0.2**
DLBC				PcP	**PcP**	**12 16 30.6**	**+0.9**
YAK	**Yakutsk**	**29.63**	**311**	*e*P	**P**	**12 13 29.0**	**-0.9**
YAK				*e**PP	**pP**	**12 13 40.0**	**+1.1**
YAK				*e*PPP	PPP	12 14 30.1	
YAK				*e*		12 16 33.2	
YAK				*e*S	**S**	**12 18 21.1**	**-1.9**
YAK				*e*		12 24 02.4	
YAK				pmax	pmax		
comp=Z,51nm,1.0s							
YAK				pmax	pmax		
comp=N,9.0nm,1.0s							
YAK				pmax	pmax		
comp=E,116nm,1.1s							
YAK				pmax	pmax		
comp=Z,89nm,1.1s							
YAK				smax	smax		
comp=N,204nm,1.6s							
YAK				smax	smax		
comp=E,125nm,1.2s							
YAK				MLR	MLR		
comp=E,8μm,19.0s							
YAK				MLR	MLR		
comp=Z,11μm,19.0s							
YAK				MLR	MLR		
comp=N,5μm,18.0s							
YAK	**Yakutsk**	**29.63**	**311**	*e*P	**P**	**12 13 29.7**	**-0.2**
comp=N,99nm,0.9s							
HABR	**Khabarovsk**	**29.82**	**283**	*c i*P	**P**	**12 13 33.6**	**+1.8**
HABR				*e**PP	pP	12 13 50.9	+10
HABR				*e*		12 14 32.2	
HABR				*e*		12 16 33.0	
HABR				*e*S	**S**	**12 18 25.0**	**-1.3**
HABR				*e*SS	**SnSn**	**12 20 05.1**	**+7.4**
HABR				*e*		12 24 02.6	
HABR				pmax	pmax		
comp=Z,662nm,1.6s							
HABR				pmax	pmax		
comp=E,267nm,1.1s							
HABR				pmax	pmax		
comp=N,149nm,1.6s							
HABR				pmax	pmax		
comp=Z,808nm,1.3s							
HABR				MLR	MLR		
comp=Z,6μm,18.0s							
BBB	**Bella Bella**	**30.45**	**69**	P	**P**	**12 13 39.0**	**+1.7**
comp=Z,254nm,0.9s,baz=295,slow=8.5,SNR=27							
BBB	**Bella Bella**	**30.45**	**69**	P	**P**	**12 13 39.0**	**+1.7**
TIXI	**Tiksi**	**30.72**	**330**	*e*P	**P**	**12 13 40.1**	**+0.6**
TIXI				pmax	pmax		
comp=Z,40nm,0.7s							
TIXI	**Tiksi**	**30.72**	**330**	*e*P	**P**	**12 13 40.1**	**+0.6**
comp=Z,40nm,0.7s							
KLR	**Kul'dur**	**31.52**	**286**	⇓ *i*P	**P**	**12 13 45.1**	**-1.7**
KLR				pmax	pmax		
comp=N,160nm,1.4s							
KLR				pmax	pmax		
comp=E,560nm,1.4s							
KLR				pmax	pmax		
comp=Z,1μm,1.4s							
CLNS	**Chul'man**	**32.90**	**302**	*e*P	**P**	**12 13 57.1**	**-1.8**
CLNS				*e**PP	**pP**	**12 14 07.9**	**0.0**
CLNS				*e*PPP	PPP	12 15 14.0	
CLNS				*e*		12 16 42.7	
CLNS				*e*S	S	12 19 06.8	-7.6
CLNS				*e*SS	SnSn	12 21 21.3	+8.8
CLNS				pmax	pmax		
comp=Z,22nm,1.2s							
CLNS				pmax	pmax		
comp=E,16nm,1.2s							
CLNS				pmax	pmax		
comp=N,11nm,1.1s							
CLNS				pmax	pmax		
comp=E,17nm,1.2s							
CLNS				pmax	pmax		
comp=Z,23nm,1.2s							
CLNS				pmax	pmax		
comp=N,16nm,0.9s							
CLNS				smax	smax		
comp=N,158nm,12.7s							
CLNS				smax	smax		
comp=E,326nm,12.7s							
CLNS				MLR	MLR		
comp=Z,3μm,14.0s							
CLNS				MLR	MLR		
comp=E,3μm,15.0s							
USRK	**Ussuriysk Arra**	**33.66**	**277**	P	**P**	**12 14 06.5**	**+1.1**
comp=E,288nm,0.8s,baz=59,slow=7.6,SNR=362							
USRK				PcP	**PcP**	**12 16 45.6**	**+0.8**
comp=E,56nm,1.0s,baz=45,slow=2.5,SNR=6.5							
KIP	**Kipapa**	**33.88**	**145**	*e*P	**P**	**12 14 08.2**	**+0.5**
KIP				pmax	pmax		
comp=Z,256nm,1.0s							
KIP	**Kipapa**	**33.88**	**145**	*e*P	**P**	**12 14 08.2**	**+0.5**
comp=Z,256nm,1.0s							
MJAR	**Matsushiro Arr**	**34.18**	**261**	P	**P**	**12 14 11.9**	**+1.7**
comp=Z,124nm,0.8s,baz=52,slow=8.0,SNR=352							
MJAR				PcP	**PcP**	**12 16 47.3**	**+0.7**
comp=Z,31nm,0.8s,baz=94,slow=0.9,SNR=14							
MJAR	**Matsushiro Arr**	**34.18**	**261**	P	**P**	**12 14 11.9**	**+1.7**
MJAR				PcP	**PcP**	**12 16 47.3**	**+0.7**
MAJO	**Matsushiro**	**34.18**	**261**	*e*P	**P**	**12 14 12.2**	**+2.0**
MAJO				*e*		12 16 47.4	
MAJO				pmax	pmax		
comp=Z,517nm,1.0s							
MAJO	**Matsushiro**	**34.18**	**261**	*e*P	**P**	**12 14 12.2**	**+2.0**
comp=Z,518nm,1.0s							
MAJO				*e*PcP	**PcP**	**12 16 47.4**	**+0.9**
MAT	**Matsushiro**	**34.18**	**261**	P	**P**	**12 14 12.0**	**+1.8**
MAT				S	**S**	**12 19 36.0**	**+1.5**
PGC	**Sidney**	**34.56**	**73**	*e*P	**P**	**12 14 14.3**	**+1.0**
comp=Z,26nm,1.6s							
OSR	**Olympics--Salm**	**34.76**	**75**	P	**P**	**12 14 17.2**	**+2.1**
OSD	**Olympics--Snow**	**34.77**	**74**	P	**P**	**12 14 17.6**	**+2.1**
NLWA	**Neilton Lookou**	**34.87**	**75**	*e*P	**P**	**12 14 17.9**	**+1.8**
comp=Z,289nm,1.1s							
YKA	**Yellowknife Ar**	**34.87**	**47**	P	**P**	**12 14 15.3**	**-0.5**
comp=Z,75nm,0.9s,baz=272,slow=7.8,SNR=9.6							
YKA				PcP	**PcP**	**12 16 48.6**	**+0.6**
comp=Z,61nm,0.8s,baz=291,slow=2.8,SNR=30							
YKA				ScP	**ScP**	**12 20 29.3**	**-1.6**
comp=Z,6.8nm,0.6s,baz=286,slow=3.7,SNR=4.3							
YKA				P3KPbc		12 45 07.9	
comp=Z,1.0nm,0.7s,baz=92,slow=5.1,SNR=13							
YKA				P3KP		12 46 30.5	
comp=Z,0.5nm,0.9s,baz=38,slow=2.1,SNR=5.2							
YKA	**Yellowknife Ar**	**34.87**	**47**	P	**P**	**12 14 15.3**	**-0.5**
YKA				PcP	**PcP**	**12 16 48.6**	**+0.6**
YKA				ScP	**ScP**	**12 20 29.3**	**-1.6**
YKA				*e*		12 45 08.0	
YKA				PKKKP		12 46 30.5	
MCW	**Mount Constitu**	**34.91**	**72**	⇑P	**P**	**12 14 18.4**	**+2.0**
MCW	**Mount Constitu**	**34.91**	**72**	⇑P	**P**	**12 14 18.4**	**+2.0**
MDJ	**Mudanjiang**	**34.93**	**280**	P	**P**	**12 14 16.8**	**+0.2**
MDJ				pP	pP	12 14 30.8	+5.2
MDJ				sP	sP	12 14 38.8	+9.4
MDJ				PP	**PP**	**12 15 36.3**	**+0.4**
MDJ				PcP	**PcP**	**12 16 49.0**	**+0.5**
MDJ				S	**S**	**12 19 43.0**	**-2.9**
MDJ				sS	sS	12 20 09.8	+9.0
MDJ				pmax	pmax		
comp=Z,200nm,1.0s							
MDJ				pmax	pmax		
comp=Z,560nm,6.2s							
MDJ				LR	LR		
comp=N,4μm,20.2s							
MDJ				LR	LR		
comp=E,4μm,26.6s							
MDJ				LR	LR		
comp=Z,4μm,28.5s							
MDJ	**Mudanjiang**	**34.93**	**280**	*e*P	**P**	**12 14 16.9**	**+0.4**
comp=Z,236nm,1.0s							
MDJ				LR	LR		
comp=Z,4μm,20.0s							
HDW	**Hoodsport**	**35.24**	**74**	⇑P	**P**	**12 14 21.3**	**+2.0**
GNW	**Green Mountain**	**35.42**	**

CN2 **Changchun** 37.90 281 ⇑*i*P P 12 14 42.5 +0.6
comp=Z,105nm,1.2s
CN2 *ep*P pP 12 14 58.5 +7.5
CN2 *e*PP **PnPn** **12 16 12.5 +2.5**
CN2 *e*S **S** **12 20 28.8 -2.4**
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3µm,25.0s
CN2 LR LR
comp=E,3µm,25.0s
CN2 LR LR
comp=Z,4µm,25.0s
HAWA Hanford 37.96 74 *e*P P 12 14 43.5 +1.1
comp=Z,330nm,1.0s
JBO Jordan Butte 38.24 75 P P 12 14 46.0 +1.2
VIPM Ingram Point 38.26 77 ⇑P P 12 14 46.5 +1.4
VIPM Ingram Point 38.26 77 ⇑P P 12 14 46.5 +1.4
KHMM Horse Mountain 38.33 84 *e*P P 12 14 46.4 +0.6
comp=Z,195nm,1.1s
YPT Yellepit 38.47 74 P P 12 14 48.1 +1.4
CBIJ Chichi jima 38.48 246 P P 12 14 48.3 +1.4
comp=Z,1µm,0.6s,baz=28,slow=4.7,SNR=27
CBIJ Chichi jima 38.48 246 P P
NEW Newport 38.48 70 P P 12 14 47.5 +0.7
comp=Z,556nm,0.8s,baz=299,slow=7.3,SNR=491
NEW Newport 38.48 70 *e*P P 12 14 47.2 +0.4
YBH Yreka Blue Hor 38.48 82 P P 12 14 48.8 +1.8
comp=Z,67nm,0.9s,baz=320,slow=4.0,SNR=41
YBH Yreka Blue Hor 38.48 82 P P 12 14 48.8 +1.8
HIA Hailar 38.60 292 *e*P P 12 14 48.4 +0.6
comp=Z,560nm,1.5s
A12A Yaak River Ran 39.02 68 ⇑P P 12 14 52.2 +0.9
baz=39,SNR=50
KIPM Iron Peak 39.11 85 *e*P P 12 14 53.4 +1.2
comp=Z,236nm,1.4s
KCPM Cahto Peak 39.12 86 *e*P P 12 14 52.6 +0.3
comp=Z,85nm,1.0s
C11A Tepee Creek (N 39.20 70 ⇓P P 12 14 53.2 +0.4
baz=39
B12A Libby 39.28 69 ⇑P P 12 14 54.3 +0.9
baz=39,SNR=52
RES Resolute Bay 39.48 25 P P 12 14 54.8 0.0
comp=Z,12nm,0.7s,baz=254,slow=11,SNR=49
RES PcP **PcP** 12 17 02.0 +0.2
comp=Z,101nm,0.8s,baz=266,slow=2.0,SNR=21
RES ScP **ScP** 12 20 45.1 -2.8
comp=Z,30nm,1.0s,baz=276,slow=9.2,SNR=6.1
RES Resolute Bay 39.48 25 *e*P P 12 14 54.9 +0.2
comp=Z,56nm,1.1s
RES PcP **PcP** 12 17 02.0 +0.2
RES ScP **ScP** 12 20 45.1 -2.8
C12B Naegeli Ranch, 39.72 70 ⇓P P 12 14 58.0 +0.8
baz=40,SNR=178
A13A Flathead Natio 39.74 68 ⇓P P 12 14 57.7 +0.3
baz=40
HOPS Hopland 39.85 86 *e*P P 12 14 58.7 +0.5
comp=Z,179nm,1.3s
WALA Waterton Lakes 39.97 67 *e*P P 12 14 59.6 +0.3
comp=Z,15nm,1.2s
B13A Whitefish 39.98 69 ⇑P P 12 14 59.8 +0.4
baz=40,SNR=90
KSRS Korea Array 40.02 271 P P 12 15 01.9 +2.2
comp=Z,161nm,0.8s,baz=55,slow=8.1,SNR=433
KSRS PcP **PcP** 12 17 05.0 +0.9
comp=Z,18nm,1.0s,baz=60,slow=4.2,SNR=5.6
BSMT Bassoo Peak 40.05 69 *e*P P 12 15 00.8 +0.7
KSAR Wonju Array Be 40.05 271 P P 12 15 01.9 +1.9
KSAR PcP **PcP** 12 17 05.0 +0.8
D12A Red Ives Fores 40.12 71 ⇓P P 12 15 00.7 +0.1
baz=40
SNY Shenyang 40.14 280 ⇑P P 12 15 02.5 +1.9
SNY PP **PnPn** 12 16 35.5 -1.2
SNY S **S** 12 21 03.0 -1.8
SNY pmax pmax
comp=Z,1µm,6.6s
SNY LR LR
comp=N,3µm,18.6s
SNY LR LR
comp=E,2µm,21.6s
SNY LR LR
comp=Z,3µm,29.7s
BLMT Blacktail Moun 40.22 69 *e*P P 12 15 02.2 +0.7
C13A Hot Springs 40.26 69 ⇓P P 12 15 02.2 +0.5
baz=40,SNR=108
A14A Double T Ranch 40.29 67 ⇓P P 12 15 02.2 +0.2
baz=40,SNR=94
JTMT Jette 40.40 69 *e*P P 12 15 03.4 +0.5
YBMT Yellow Bay 40.50 69 *e*P P 12 15 04.0 +0.3
comp=Z,278nm,1.0s
D13A Huson 40.62 70 ⇑P P 12 15 04.8 +0.1
baz=40,SNR=84
OHCM Honcut 40.63 85 *e*P P 12 15 05.3 +0.6
B14A Marquette Ranc 40.68 68 ⇑P P 12 15 05.7 +0.5
baz=40,SNR=129
SWMT Swartz Lake 40.68 69 *e*P P 12 15 05.4 +0.2
A15A Johnson Ranch, 40.69 67 ⇑P P 12 15 04.9 -0.4
baz=40,SNR=52
C14A Swan Lake 40.70 69 ⇑P P 12 15 05.9 +0.5
baz=41
INCN Inchon 40.81 272 *e*P P 12 15 08.2 +1.9
comp=Z,546nm,1.0s
INCN Inchon 40.81 272 P P 12 15 08.4 +2.2
SNR=38
JNU Nakatsue 40.97 264 P P 12 15 09.6 +1.9
comp=Z,405nm,0.9s,baz=49,slow=6.4,SNR=166
JNU Nakatsue 40.97 264 P P 12 15 09.6 +1.9
MSO Missoula 41.06 70 *e*P P 12 15 08.6 +0.3
comp=Z,369nm,1.1s
B15A Bradely Ranch, 41.12 68 ⇓P P 12 15 08.8 0.0
baz=41,SNR=83
SLMT Seeley Lake 41.12 70 *e*P P 12 15 09.1 +0.2
E13A Victor 41.12 71 ⇑P P 12 15 09.2 +0.3
baz=41,SNR=77
G12A Big Creek, Yel 41.13 73 ⇑P P 12 15 09.5 +0.4
baz=41,SNR=66
D14A Greenough 41.19 70 ⇓P P 12 15 09.6 +0.2
baz=41,SNR=254
A16A West Butte Ran 41.35 66 ⇑P P 12 15 10.3 -0.4
baz=41
C15A Salmond Ranch, 41.36 68 ⇑P P 12 15 11.6 +0.8
baz=41,SNR=159
F13A Darby 41.38 72 ⇑P P 12 15 11.4 +0.5
baz=41,SNR=49
F13A ⇓S **S** 12 21 22.9 -0.7
baz=41
F13A ⇓S **S** 12 21 22.9 -0.7
baz=41
F13A ⇓S **S** 12 21 22.9 -0.7
baz=41
CHMT Chamberlain Mo 41.42 70 *e*P P 12 15 11.2 -0.2
E14A Clinton 41.54 71 ⇓P P 12 15 12.8 +0.4
baz=41,SNR=114
B16A M & M Farms, S 41.56 67 ⇑P P 12 15 11.9 -0.4
baz=41,SNR=63
WCN Washoe City 41.73 83 *e*P P 12 15 14.5 +0.6
WCN pmax pmax
comp=Z,105nm,1.0s
WCN Washoe City 41.73 83 *e*P P 12 15 14.5 +0.6
comp=Z,105nm,1.0s
H12A Diamond D Ranc 41.73 74 ⇓P P 12 15 14.2 +0.3
baz=42,SNR=38
MFID Camas Ranch 41.77 76 *e*P P 12 15 14.6 +0.5
comp=Z,91nm,1.1s
MFID Camas Ranch 41.77 76 ⇓P P 12 15 14.8 +0.6
baz=42,SNR=31
D15A Lincoln 41.79 69 ⇑P P 12 15 14.6 +0.3
baz=42,SNR=88
G13A Cobalt 41.81 73 ⇑P P 12 15 15.0 +0.5
baz=42,SNR=97
C16A Fuhringer Ranc 41.85 68 ⇑P P 12 15 15.0 +0.2
baz=42,SNR=225
A17A Triple J Farms 41.87 66 ⇓P P 12 15 14.7 -0.2
baz=42,SNR=101
F14A Wisdom 41.93 71 ⇓P P 12 15 16.2 +0.6
baz=42,SNR=68
E15A Deer Lodge 42.04 70 ⇑P P 12 15 16.6 +0.2
baz=42,SNR=169
H13A Challis 42.08 73 ⇑P P 12 15 16.9 +0.1
baz=42,SNR=26
CMB Columbia Colle 42.10 85 *e*P P 12 15 17.8 +0.9
CMB pmax pmax
comp=Z,152nm,1.4s
CMB Columbia Colle 42.10 85 *e*P P 12 15 17.8 +0.9
comp=Z,152nm,1.4s
B17A L&G Farms, Che 42.14 67 ⇑P P 12 15 17.0 -0.1
baz=42,SNR=110

G14A Jackson 42.19 72 ⇑P P 12 15 17.7 0.0
baz=42,SNR=36
SAO San Andreas Ge 42.23 88 *e*P P 12 15 18.8 +0.9
SAO pmax pmax
comp=E,61nm,0.9s
SAO San Andreas Ge 42.23 88 *e*P P 12 15 18.8 +0.9
comp=Z,61nm,0.9s
D16A Dana Ranch, Ca 42.36 69 ⇑P P 12 15 19.2 +0.2
baz=42
HRY Holter Researc 42.36 69 *e*P P 12 15 19.3 +0.3
A18A Metzger Ranch, 42.37 65 ⇓P P 12 15 18.2 -0.7
baz=42,SNR=45
F15A Butte 42.44 71 ⇑P P 12 15 19.7 0.0
baz=42,SNR=69
ALE Alert 42.44 10 P P 12 15 19.0 0.0
comp=Z,402nm,0.6s,SNR=54
LRM Limekiln Ridge 42.47 71 *e*P P 12 15 20.1 +0.1
comp=Z,537nm,0.8s
C17A Wharram Farm, 42.50 68 ⇓P P 12 15 19.8 -0.3
baz=42,SNR=170
I13A Wildhorse Cree 42.52 74 ⇓P P 12 15 21.2 +0.8
baz=42,SNR=72
E16A East Helena 42.55 69 ⇑P P 12 15 20.8 +0.3
baz=42,SNR=129
H14A Leadore 42.58 73 ⇑P P 12 15 21.4 +0.5
baz=42,SNR=52
BMN Battle Mountai 42.62 80 *e*P P 12 15 22.2 +1.0
BMN pmax pmax
comp=Z,102nm,1.0s
BMN Battle Mountai 42.62 80 *e*P P 12 15 22.2 +1.0
comp=Z,102nm,1.0s
DLMT Dillon 42.63 71 *e*P P 12 15 21.3 0.0
comp=Z,176nm,1.3s
B18A Beardsley Farm 42.67 66 ⇑P P 12 15 21.3 -0.2
baz=42,SNR=72
J13A Cove Ranch, Pi 42.77 75 ⇓P P 12 15 23.3 +0.9
baz=43,SNR=111
MCMT McKenzie Canyo 42.77 72 *e*P P 12 15 22.9 +0.4
comp=Z,98nm,0.7s
D17A Six Diamond Ra 42.80 68 ⇓P P 12 15 22.5 0.0
baz=43,SNR=98
G15A Dillon 42.80 72 ⇑P P 12 15 22.7 0.0
baz=43,SNR=128
EGMT Eagleton 42.88 67 *e*P P 12 15 23.1 0.0
comp=Z,332nm,0.9s
I14A Mackay 42.91 74 ⇑P P 12 15 24.4 +0.8
baz=43,SNR=82
F16A Kennard Place, 42.98 70 ⇓P P 12 15 24.1 +0.1
baz=43,SNR=71
A19A Klindworth Far 42.99 65 ⇓P P 12 15 23.6 -0.3
baz=43,SNR=68
H15A Lima 43.01 72 ⇑P P 12 15 24.6 +0.2
baz=43,SNR=68
BOZ Bozeman (W) 43.05 71 *e*P P 12 15 25.2 +0.5
BOZ pmax pmax
comp=Z,293nm,0.8s
BOZ Bozeman (W) 43.05 71 *e*P P 12 15 25.1 +0.5
comp=Z,293nm,0.8s
DL2 Dalian 43.05 277 ⇑*i*P P 12 15 25.5 +1.0
DL2 pP pP 12 15 39.5 +5.8
DL2 PP **PP** **12 17 07.3 +2.7**
DL2 PcP **PcP** **12 17 14.5 +0.4**
DL2 S **S** **12 21 48.0 -0.1**
DL2 pmax pmax
comp=Z,180nm,1.1s
DL2 pmax pmax
comp=Z,400nm,5.6s
DL2 LR LR
comp=N,980nm,20.1s
DL2 LR LR
comp=E,1µm,20.2s
DL2 LR LR
comp=Z,2µm,21.7s
E17A Martinsdale 43.06 69 ⇑P P 12 15 25.4 +0.6
baz=43,SNR=113
B19A Brinkman Farms 43.12 66 ⇓P P 12 15 24.9 -0.1
baz=43,SNR=66
NVAR Mina Array Bea 43.16 83 P P 12 15 26.5 +0.9
comp=Z,46nm,0.8s,baz=291,slow=8.3,SNR=82
NVAR PcP **PcP** 12 17 15.6 +0.8
comp=Z,19nm,0.8s,baz=272,slow=3.4,SNR=4.1
NVAR Mina Array Bea 43.16 83 P P 12 15 26.5 +0.9
NVAR PcP **PcP** 12 17 15.6 +0.8
G16A Moss Hill, Enn 43.17 71 ⇑P P 12 15 25.9 +0.2
baz=43,SNR=138
J14A Carey 43.21 74 ⇓P P 12 15 27.2 +1.2
baz=43
D18A Linhart Farms, 43.29 68 ⇓P P 12 15 27.0 +0.6
baz=43,SNR=108
MLAC Mammoth Lakes 43.32 85 ⇑P P 12 15 28.3 +1.4
baz=43
C19A Slack Wire Ran 43.44 67 ⇑P P 12 15 28.2 +0.6
baz=43,SNR=208
I15A Monteview 43.45 73 ⇓P P 12 15 28.6 +0.7
baz=43,SNR=28
A20A Cobblestone Ra 43.48 65 ⇓P P 12 15 27.7 -0.2
baz=43,SNR=58
F17A Fitzpatrick Pl 43.48 70 ⇓P P 12 15 28.5 +0.5
baz=43,SNR=156
E18A Harlowton 43.56 68 ⇑P P 12 15 29.6 +0.9
baz=43,SNR=175
QLMT Earthquake Lak 43.62 71 *e*P P 12 15 29.5 +0.3
B20A Solberg Farm, 43.65 65 ⇑P P 12 15 28.9 -0.4
baz=44,SNR=51
MTUM Tungsten Hills 43.66 85 *e*P P 12 15 30.8 +1.1
G17A Pierce Place, 43.75 70 ⇓P P 12 15 31.0 +0.8
baz=44,SNR=135
FFC Flin Flon 43.76 55 *e*P P 12 15 28.6 -1.4
FFC pmax pmax
comp=Z,25nm,0.9s
FFC Flin Flon 43.76 55 *e*P P 12 15 28.6 -1.4
comp=Z,26nm,0.9s
H16A Russell Place, 43.79 71 ⇑P P 12 15 31.1 +0.4
baz=44,SNR=176
J15A Blackfoot 43.82 74 ⇑P P 12 15 32.2 +1.3
baz=44,SNR=54
D19A Cripps Ranch, 43.84 67 ⇓P P 12 15 31.1 +0.3
baz=44,SNR=154
K14A Jones Ranch, D 43.86 75 ⇓P P 12 15 32.0 +0.8
baz=44,SNR=19
RCTC Rector, Farmer 43.89 86 ⇑P P 12 15 31.5 +0.2
baz=44,SNR=13
A21A Bergtoll Ranch 43.98 64 ⇑P P 12 15 31.8 -0.1
baz=44,SNR=57
F18A Big Timber 44.03 69 ⇑P P 12 15 33.0 +0.6
baz=44,SNR=105
C20A Veseth Ranch, 44.04 66 ⇓P P 12 15 32.8 +0.3
baz=44,SNR=171
TIN Tinemaha 44.05 85 ⇓P P 12 15 33.9 +1.1
baz=44,SNR=8.2
SMMC Simmler 44.06 88 ⇓P P 12 15 33.5 +0.8
baz=44,SNR=5.9
I16A Newdale 44.12 73 ⇓P P 12 15 34.2 +1.0
baz=44,SNR=74
L14A Malta 44.12 76 ⇑P P 12 15 34.2 +1.0
baz=44,SNR=149
GCMT Greycliff 44.12 69 *e*P P 12 15 33.8 +0.5
comp=Z,161nm,0.9s
K15A Arbon 44.17 75 ⇑P P 12 15 35.1 +1.4
baz=44,SNR=61
YFT Old Faithful 44.18 72 *e*P P 12 15 35.4 +1.6
comp=Z,287nm,0.9s
B21A Ellsworth Farm 44.23 65 ⇓P P 12 15 33.6 -0.3
baz=44,SNR=76
E19A Rath Farm, Rou 44.27 68 ⇑P P 12 15 34.9 +0.5
baz=44,SNR=120
VES Vestal, Richgr 44.29 87 ⇑P P 12 15 34.6 +0.2
baz=44,SNR=23
D20A Manuel Ranch, 44.30 67 ⇓P P 12 15 35.3 +0.7
baz=44,SNR=115
H17A Grant Village 44.37 71 ⇑P P 12 15 37.3 +1.9
baz=44,SNR=159
LKWY Lake 44.37 71 *e*P P 12 15 36.9 +1.5
LKWY pmax pmax
comp=Z,285nm,1.0s
LKWY Lake 44.37 71 *e*P P 12 15 36.9 +1.5
comp=Z,285nm,1.0s
IMW Indian Meadow 44.43 72 *e*P P 12 15 36.8 +0.9
comp=Z,241nm,1.1s
PKM Peak Mountain 44.44 88 ⇓P P 12 15 36.9 +0.9
baz=44
G18A Lazy EL Ranch, 44.45 70 ⇑P P 12 15 36.0 +0.1
baz=44,SNR=75
C21A Desert Coulee 44.50 65 ⇑P P 12 15 36.3 +0.2
baz=44,SNR=136
F19A Roth Farm, Mol 44.51 69 ⇑P P 12 15 36.8 +0.5
baz=44,SNR=75
RRI2 Red Ridge 44.52 73 *e*P P 12 15 37.5 +1.0

comp=Z,729nm,1.6s
CWC Cottonwood Cre 44.53 85 ⇓P P 12 15 37.2 +0.6
baz=44,SNR=19
A22A Carney Farms, 44.55 63 ⇓P P 12 15 36.0 -0.5
baz=44,SNR=96
HVU Hansel Valley 44.55 76 *e*P P 12 15 37.7 +1.0
HVU pmax pmax
comp=Z,134nm,0.7s
HVU Hansel Valley 44.55 76 *e*P P 12 15 37.7 +1.0
comp=Z,134nm,0.7s
GRAC Grapevine Rang 44.62 84 ⇓P P 12 15 38.2 +1.0
baz=44,SNR=16
E20A Meyer Farm, Mu 44.63 68 ⇑P P 12 15 37.6 +0.4
baz=44,SNR=59
MOOW Moose Ponds 44.63 72 *e*P P 12 15 38.0 +0.6
comp=Z,119nm,1.2s
I17A Pilgrim Ck. 44.63 72 ⇑P P 12 15 38.7 +1.3
baz=44,SNR=50
K16A Soda Springs 44.65 74 ⇑P P 12 15 39.1 +1.5
baz=44,SNR=226
L15A Malad City 44.65 75 ⇓P P 12 15 38.3 +0.7
baz=44,SNR=37
TPAW Teton Pass 44.66 73 *e*P P 12 15 38.6 +0.9
comp=Z,427nm,1.6s
RLMT Red Lodge 44.73 70 *e*P P 12 15 38.9 +0.7
comp=Z,598nm,0.9s
H18A Shoshone NF, C 44.75 71 ⇑P P 12 15 38.8 +0.5
baz=45,SNR=55
ISA Isabella 44.78 87 ⇓P P 12 15 38.6 0.0
baz=45,SNR=22
REDW Red Top Meadow 44.79 73 *e*P P 12 15 40.1 +1.4
comp=Z,3.6nm,1.4s
SNOW Snow King Moun 44.79 73 *e*P P 12 15 39.7 +1.0
comp=Z,200nm,1.3s
LOHW Long Hollow 44.79 72 *e*P P 12 15 39.2 +0.5
comp=Z,165nm,1.3s
B22A Reddig Ranch S 44.87 64 ⇑P P 12 15 39.0 -0.1
baz=45,SNR=68
J17A Brown Place, J 44.87 73 ⇑P P 12 15 40.3 +1.0
baz=45,SNR=50
R11A Troy Canyon, C 44.89 82 ⇑P P 12 15 40.1 +0.6
baz=45,SNR=34
ARVC Arvin 44.91 87 ⇓P P 12 15 39.3 -0.1
baz=45,SNR=7.8
M15A Larsen Ranch, 44.93 76 ⇑P P 12 15 40.4 +0.6
baz=45
DAC Darwin (Calif) 44.94 85 *e*P P 12 15 40.2 +0.2
DAC pmax pmax
comp=Z,57nm,1.1s
DAC Darwin (Calif) 44.94 85 *e*P P 12 15 40.2 +0.2
comp=Z,57nm,1.1s
D21A La Casta Ranch 44.97 66 ⇑P P 12 15 40.2 +0.3
baz=45,SNR=113
AHID Auburn Hatcher 44.98 74 *e*P P 12 15 41.0 +0.8
comp=Z,228nm,1.1s
F20A Billings 45.00 68 ⇓P P 12 15 40.7 +0.4
baz=45,SNR=201
K17A Gardner Place, 45.10 74 ⇑P P 12 15 41.8 +0.7
baz=45,SNR=25
A23A Redstone 45.14 63 ⇓P P 12 15 40.9 -0.3
baz=45,SNR=19
BSC Santa Cruz Isl 45.14 89 ⇓P P 12 15 41.2 -0.1
baz=45
MPMC Manual Prospec 45.14 85 ⇓P P 12 15 42.1 +0.5
baz=45,SNR=18
H19A Powell 45.15 70 ⇓P P 12 15 42.5 +1.1
baz=45,SNR=104
I18A Diamond G Ranc 45.21 72 ⇑P P 12 15 42.9 +0.9
baz=45,SNR=34
E21A Keefer Ranch, 45.21 67 ⇓P P 12 15 42.4 +0.6
baz=45,SNR=35
L16A Fish Haven 45.22 75 ⇑P P 12 15 43.0 +0.9
baz=45,SNR=53
N15A Stansbury Isla 45.23 77 ⇑P P 12 15 42.9 +0.8
baz=45,SNR=21
C22A Vida 45.23 65 ⇑P P 12 15 41.7 -0.2
baz=45,SNR=104
FURC Furnace Creek, 45.27 85 ⇓P P 12 15 43.0 +0.8
baz=45,SNR=35
G20A Bridger 45.29 69 ⇓P P 12 15 42.8 +0.2
baz=45,SNR=328
B23A Brockton 45.34 64 ⇓P P 12 15 42.6 -0.2
baz=45,SNR=46
J18A Kendall Valley 45.37 72 ⇓P P 12 15 44.0 +0.7
baz=45,SNR=116
HWUT Hardware Ranch 45.38 75 *e*P P 12 15 44.1 +0.7
comp=Z,112nm,1.1s
HWUT LR LR
comp=Z,2µm,20.0s
D22A Cohagen 45.39 66 ⇑P P 12 15 43.7 +0.5
baz=45,SNR=188
LRMC Laurel Mountai 45.39 86 ⇓P P 12 15 43.4 -0.1
baz=45,SNR=5.5
BLG Laguna Peak 45.42 89 ⇓P P 12 15 43.8 +0.2
baz=45
DUG Dugway 45.47 78 *e*P P 12 15 45.0 +1.0
DUG pmax pmax
comp=Z,446nm,1.2s
DUG Dugway 45.47 78 *e*P P 12 15 45.0 +1.0
comp=Z,446nm,1.2s
I19A Meeteetse 45.51 71 ⇓P P 12 15 44.8 +0.5
baz=45,SNR=55
L17A Cokeville 45.51 74 ⇑P P 12 15 45.2 +0.8
baz=45,SNR=30
F21A Absaloka Mine, 45.59 68 ⇓P P 12 15 45.1 +0.3
baz=45,SNR=65
EDW2 Edwards Air Fo 45.59 87 ⇓P P 12 15 45.1 +0.2
baz=46,SNR=26
C23A Lambert 45.60 64 ⇑P P 12 15 45.1 +0.3
baz=45,SNR=95
O15A The Old Anders 45.62 77 ⇑P P 12 15 46.2 +0.9
baz=46,SNR=25
A24A Westby 45.65 63 ⇑P P 12 15 44.9 -0.3
baz=46,SNR=51
K18A Toltan Ranch, 45.69 73 ⇑P P 12 15 46.9 +1.0
baz=46,SNR=215
IRK Irkutsk 45.70 303 *e*P P 12 15 45.3 -0.2
IRK pmax pmax
comp=Z,112nm,1.1s
BJI Beijing 45.73 282 P P 12 15 47.5 +1.7
BJI pP **pP** **12 16 00.0 +4.9**
BJI sP sP 12 16 06.5 +7.7
BJI PP **PP** **12 17 32.5 -0.5**
BJI S **S** **12 22 24.3 -2.6**
BJI sS sS 12 22 51.3 +9.2
BJI pmax pmax
comp=Z,440nm,0.8s
BJI pmax pmax
comp=Z,2µm,9.8s
BJI LR LR
comp=N,4µm,17.9s
BJI LR LR
comp=E,4µm,19.7s
BJI LR LR
comp=Z,5µm,23.3s
BJT Baijiatuau 45.74 282 *e*P P 12 15 47.3 +1.3
comp=Z,411nm,0.9s
DGMT Dagmar 45.79 63 *e*P P 12 15 45.9 -0.4
comp=Z,437nm,1.5s
DECC Green Verdugo 45.79 88 ⇓P P 12 15 46.7 +0.2
baz=46
CTU Camp Tracy 45.81 76 *e*P P 12 15 46.9 +0.1
comp=Z,150nm,1.0s
H20A Greybull 45.83 70 ⇓P P 12 15 46.9 0.0
baz=46,SNR=51
G21A Lodge Grass 45.88 69 ⇓P P 12 15 47.1 0.0
baz=46,SNR=168
N16A Rees Ranch, Co 45.89 76 ⇑P P 12 15 48.2 +0.8
baz=46,SNR=29
BW06 Boulder Array 45.91 73 *e*P P 12 15 47.6 +0.1
comp=Z,12nm,0.6s
PDAR Pinedale Array 45.91 73 P P 12 15 48.0 +0.4
comp=Z,232nm,0.8s,baz=311,slow=2.8,SNR=452
PDAR P3KP 12 46 12.3
comp=Z,0.5nm,0.9s,baz=111,slow=5.0,SNR=3.8
PDAR Pinedale Array 45.91 73 P P 12 15 48.0 +0.4
PDAR PKKKP 12 46 12.3
J19A Crowheart 45.92 72 ⇑P P 12 15 48.3 +0.8
baz=46,SNR=120
E22A Miles City 45.92 66 ⇓P P 12 15 47.9 +0.5
baz=46,SNR=115
PASC Pasadena Art C 45.93 88 *e*P P 12 15 47.6 0.0
comp=Z,58nm,1.0s
D23A Lindsay 45.93 65 ⇓P P 12 15 47.9 +0.4
baz=46,SNR=63
MWC Mount Wilson 45.98 88 *e*P P 12 15 48.5 +0.3
MWC pmax pmax
comp=Z,266nm,1.4s

MWC Mount Wilson 45.98 88 eP P 12 15 48.5 +0.3
comp=Z,266nm,1.4s
SHOC Shoshone 46.00 85 ⇓P P 12 15 48.4 +0.3
baz=46,SNR=9.9
M17A Scullys Gap (B 46.00 75 ⇓P P 12 15 48.6 +0.2
baz=46,SNR=28
JLU Jordanelle 46.05 76 eP P 12 15 49.5 +0.8
comp=Z,158nm,1.0s
GSC Goldstone 46.05 86 eP P 12 15 49.0 +0.4
GSC pmax pmax
comp=Z,144nm,1.0s
GSC Goldstone 46.05 86 eP P 12 15 49.0 +0.4
comp=Z,144nm,1.0s
GSC Goldstone 46.05 86 ⇑P P 12 15 49.2 +0.5
baz=46,SNR=52
I20A Worland 46.07 71 ⇓P P 12 15 49.4 +0.7
baz=46,SNR=50
F22A Rosebud 46.11 67 ⇓P P 12 15 49.1 +0.2
baz=46,SNR=168
L18A Fontenelle, Gr 46.12 74 ⇓P P 12 15 49.6 +0.4
baz=46,SNR=62
FMP Fort Macarthur 46.16 88 ⇑P P 12 15 49.6 +0.2
baz=46
P15A Leamington 46.17 78 ⇑P P 12 15 50.3 +0.7
baz=46,SNR=96
C24A Savage 46.17 64 ⇑P P 12 15 49.7 +0.4
baz=46,SNR=26
RRX Edison Barstow 46.21 86 ⇑P P 12 15 50.4 +0.7
baz=46
BFSC Mount Baldy Ra 46.22 87 ⇑P P 12 15 50.4 +0.4
baz=46
N17A Moffit Pass 46.22 76 ⇓P P 12 15 50.4 +0.2
baz=46,SNR=50
E23A Ismay 46.25 66 ⇓P P 12 15 50.7 +0.6
baz=46
O16A Springville 46.26 77 ⇓P P 12 15 51.3 +1.0
baz=46
DAU Daniels Canyon 46.28 76 eP P 12 15 51.9 +1.2
DAU Daniels Canyon 46.28 76 eP P 12 15 51.9 +1.2
MPU Maple Canyon 46.30 77 eP P 12 15 51.4 +0.8
comp=Z,115nm,0.9s
K19A Absolon Red Bu 46.30 72 ⇓P P 12 15 50.5 -0.1
baz=46,SNR=275
CIS Catalina Islan 46.30 89 ⇓P P 12 15 50.5 0.0
baz=46
H21A Big Horn, Sher 46.31 69 ⇓P P 12 15 50.7 +0.1
baz=46,SNR=97
TLY Talaya 46.32 303 eP P 12 15 50.4 -0.1
TLY e 12 17 35.2
TLY eS S 12 22 35.6 +0.3
TLY eSS ScS 12 25 47.6 +4.7
TLY pmax pmax
comp=Z,47nm,1.0s
TLY MLR MLR
comp=Z,5μm,25.0s
TLY Talaya 46.32 303 eP P 12 15 50.8 +0.3
comp=Z,42nm,1.0s
TLY ePcP PcP 12 17 26.6 +1.4
TLY Talaya 46.32 303 P P 12 15 51.4 +0.9
SNR=25
TLY Talaya 46.32 303 P P 12 15 51.8 +1.3
comp=Z,225nm,1.2s,SNR=8.0
M18A Lyman 46.39 75 ⇓P P 12 15 51.7 +0.3
baz=46,SNR=52
G22A Birney 46.41 68 ⇑P P 12 15 51.4 +0.1
baz=46,SNR=45
L19A Farson 46.42 73 ⇓P P 12 15 51.7 +0.1
baz=46,SNR=117
J20A Shoshoni 46.44 71 ⇑P P 12 15 52.4 +0.7
baz=46,SNR=35
D24A Glendive 46.46 65 ⇑P P 12 15 52.3 +0.7
baz=46,SNR=53
SCI San Clemente I 46.49 89 ⇓P P 12 15 52.2 +0.2
baz=46
TUQ Turquoise Moun 46.52 85 ⇑P P 12 15 52.8 +0.4
baz=46
P16A Fountain Green 46.53 78 ⇑P P 12 15 53.5 +1.1
baz=46,SNR=36
ULN Ulaanbaatar 46.55 297 eP P 12 15 53.0 +0.5
comp=Z,129nm,1.3s
ULN LR LR
comp=Z,9μm,21.0s
ULN Ulaanbaatar 46.55 297 P P 12 15 53.6 +1.1
SNR=39
I21A Big Trails, Te 46.64 70 ⇑P P 12 15 53.4 +0.2
baz=46,SNR=152
HEC Hector,Ludlow 46.66 86 ⇓P P 12 15 53.5 +0.1
baz=47,SNR=13
BBRC Big Bear Solar 46.66 87 ⇓P P 12 15 54.1 +0.5
baz=47
K20A Yellowstone Ra 46.69 72 ⇑P P 12 15 53.5 -0.2
baz=47,SNR=117
O17A Robinson Place 46.73 76 ⇑P P 12 15 55.0 +0.9
baz=47,SNR=23
H22A Clearmont 46.73 69 ⇓P P 12 15 54.0 +0.1
baz=47,SNR=96
CCUT Cedar City 46.76 81 eP P 12 15 55.0 +0.7
comp=Z,396nm,1.8s
E24A Baker 46.79 65 ⇓P P 12 15 54.6 +0.4
baz=47,SNR=97
J21A Lysite 46.82 71 ⇑P P 12 15 54.7 0.0
baz=47,SNR=33
MVU Marysvale 46.87 79 eP P 12 15 56.1 +0.9
comp=Z,126nm,0.9s
M19A Rock Springs 46.89 74 ⇑P P 12 15 55.2 -0.1
baz=47,SNR=29
N18A Larsen Ranch, 46.90 75 ⇑P P 12 15 55.4 0.0
baz=47,SNR=40
MURC Murrieta 46.92 88 ⇓P P 12 15 55.5 +0.1
baz=47
SONM Songino Array 46.94 297 P P 12 15 56.4 +0.9
comp=Z,32nm,0.8s,baz=56,slow=7.3,SNR=133
SONM PcP PcP 12 17 28.4 +0.8
comp=Z,70nm,0.9s,baz=64,slow=2.0,SNR=14
SONM P4KPbc 12 53 41.3
comp=Z,1.3nm,0.6s,baz=29,slow=4.6,SNR=9.0
SONM Songino Array 46.94 297 P P 12 15 56.4 +0.9
SONM PcP PcP 12 17 28.4 +0.8
SONM e 12 53 41.3
G23A Biddle 46.94 68 ⇑P P 12 15 55.2 -0.2
baz=47,SNR=60
JOW Kunigami 46.97 259 P P 12 15 56.8 +1.0
comp=Z,242nm,0.9s,baz=70,slow=3.8,SNR=22
JOW PcP PcP 12 17 29.1 +1.3
JOW Kunigami 46.97 259 P P 12 15 56.8 +1.0
JOW PcP PcP 12 17 29.1 +1.3
TMUT Trail Mountain 46.99 78 eP P 12 15 57.1 +0.9
comp=Z,263nm,1.0s
I22A 9 Mile Ranch, 47.07 70 ⇑P P 12 15 56.8 +0.2
baz=47,SNR=124
L20A Wamsutter 47.08 73 ⇓P P 12 15 56.6 -0.2
baz=47,SNR=57
GMRC Granite Mounta 47.11 85 ⇑P P 12 15 57.2 +0.2
baz=47,SNR=23
F24A Ekalaka 47.12 66 ⇓P P 12 15 57.0 +0.1
baz=47,SNR=55
O18A Roosevelt 47.13 76 ⇓P P 12 15 58.2 +1.1
baz=47,SNR=39
P17A Butcher Ranch, 47.17 77 ⇑P P 12 15 58.2 +0.7
baz=47,SNR=113
ZAK Zakamensk 47.22 301 eP P 12 15 58.1 +0.5
ZAK e 12 17 29.7
ZAK pmax pmax
comp=Z,128nm,1.1s
N19A John Jarvie Ra 47.25 75 ⇑P P 12 15 58.1 +0.1
baz=47,SNR=52
Q16A Castle Valley 47.25 78 ⇑P P 12 15 59.1 +1.0
baz=47,SNR=73
LDFC Landfair 47.26 85 eP P 12 15 58.7 +0.6
comp=Z,286nm,1.3s
H23A Clabaugh Cattl 47.31 68 ⇓P P 12 15 58.0 -0.4
baz=47,SNR=11
J22A Midwest 47.35 70 ⇓P P 12 15 59.2 +0.4
baz=47,SNR=84
K21A Alcova 47.36 71 ⇓P P 12 15 58.7 -0.2
baz=47,SNR=73
P18A Preston Nutter 47.38 77 ⇓P P 12 15 60.0 +0.8
baz=47,SNR=115
PFO Pinyon Flat Ob 47.38 87 eP P 12 15 58.9 -0.2
comp=Z,125nm,1.3s
PFO Pinyon Flat Ob 47.38 87 ⇑P P 12 15 59.1 0.0
baz=47
BELC Belle Mtn. Jos 47.41 86 ⇑P P 12 15 59.0 -0.3
baz=47
G24A Alzada 47.43 67 ⇑P P 12 15 59.0 -0.3
baz=47,SNR=100
109C Camp Elliot, M 47.45 88 ⇓P P 12 15 59.9 +0.4
baz=47

M20A Sweetwater, Wa 47.48 73 ⇓P P 12 16 00.4 +0.5
baz=47,SNR=60
I23A Meade Ranch, G 47.62 69 ⇓P P 12 16 00.9 +0.1
baz=48,SNR=5.9
O19A Miners Draw (B 47.65 75 ⇑P P 12 16 01.6 +0.5
baz=48,SNR=146
L21A Rawlins 47.69 72 ⇓P P 12 16 01.5 +0.1
baz=48,SNR=153
H24A Dirks Ranch, A 47.69 68 ⇑P P 12 16 00.9 -0.5
baz=48,SNR=119
MOY Mondy 47.72 304 eP P 12 16 01.9 +0.4
MOY pmax pmax
comp=Z,112nm,1.3s
NEE2 Needles Airpor 47.76 85 ⇑P P 12 16 01.9 0.0
baz=48,SNR=7.0
K22A Casper 47.78 71 ⇑P P 12 16 01.9 -0.2
baz=48,SNR=96
IRM Iron Mountain 47.83 86 ⇓P P 12 16 02.5 +0.1
baz=48,SNR=7.0
N20A Spence Gulch, 47.84 74 ⇓P P 12 16 03.3 +0.6
baz=48,SNR=26
BAR Barrett 47.86 88 eP P 12 16 02.9 +0.2
comp=Z,59nm,0.9s
MONP Monument Peak 47.88 88 ⇓P P 12 16 03.2 +0.1
baz=48
J23A Dilts Ranch, B 47.90 70 ⇓P P 12 16 03.3 +0.3
baz=48,SNR=40
M21A Separation Pea 47.91 73 ⇑P P 12 16 03.0 -0.2
baz=48,SNR=43
BC3 Big Chuckawall 47.98 86 ⇓P P 12 16 03.3 -0.4
baz=48
W13A Hualapai Mount 48.00 84 ⇓P P 12 16 04.1 +0.1
baz=48,SNR=25
HHC Hu-ho-hao-te 48.03 286 ⇑iP P 12 16 06.0 +2.0
HHC pP pP 12 16 21.5 +8.2
HHC sP sP 12 16 28.5 +12
HHC PcS PcS 12 21 27.0 -0.3
HHC S S 12 23 00.0 0.0
HHC sS sS 12 23 22.0 +6.7
HHC ScS ScS 12 25 50.0 -4.6
HHC SS SS 12 26 21.5 -7.1
HHC pmax pmax
comp=Z,2μm,3.3s
HHC LR LR
comp=N,6μm,17.3s
HHC LR LR
comp=E,5μm,17.7s
HHC LR LR
comp=Z,5μm,18.1s
GUMO Guam 48.09 232 P P 12 16 03.0 -1.5
comp=Z,256nm,0.7s,baz=90,slow=3.0,SNR=16
GUMO Guam 48.09 232 eP P 12 16 03.4 -1.1
comp=Z,354nm,0.9s
U15A North Rim 48.13 81 ⇑P P 12 16 05.9 +0.8
baz=48,SNR=103
P19A Cripple Cowboy 48.14 76 ⇑P P 12 16 05.6 +0.6
baz=48,SNR=86
I24A Kuemmerle Ranc 48.17 69 ⇑P P 12 16 04.5 -0.6
baz=48,SNR=36
L22A Ellis Ranch, M 48.20 72 ⇑P P 12 16 06.1 +0.6
baz=48,SNR=56
DVTC Desert V Tower 48.23 88 ⇓P P 12 16 06.0 +0.3
baz=48
K23A Bowen Ranch, D 48.24 70 ⇑P P 12 16 05.5 -0.2
baz=48,SNR=57
O20A White River Ci 48.28 75 ⇓P P 12 16 06.3 +0.3
baz=48,SNR=60
N21A Black Mountain 48.33 74 ⇑P P 12 16 06.5 0.0
baz=48,SNR=24
RSSD Black Hills 48.36 68 eP P 12 16 06.2 -0.4
RSSD pmax pmax
comp=Z,411nm,1.4s
RSSD Black Hills 48.36 68 eP P 12 16 06.2 -0.4
comp=Z,411nm,1.4s
PDMCI Parker Dam,Lak 48.37 85 ⇑P P 12 16 06.5 0.0
baz=48,SNR=14
SSE Sheshan 48.38 269 P P 12 16 08.0 +1.3
SSE pP pP 12 16 27.0 +11
SSE S S 12 23 02.8 -2.2
SSE sS sS 12 23 27.8 +7.5
SSE pmax pmax
comp=Z,440nm,1.2s
SSE pmax pmax
comp=Z,890nm,4.8s
SSE LR LR
comp=N,2μm,30.4s
SSE LR LR
comp=E,560nm,30.4s
SSE LR LR
comp=Z,2μm,26.7s
Q19A Hogan Spring (48.39 77 ⇓P P 12 16 06.8 0.0
baz=48,SNR=79
J24A Dixon Ranch, L 48.47 69 ⇑P P 12 16 07.3 -0.1
baz=48,SNR=80
M22A Cedar Creek Ra 48.49 72 ⇑P P 12 16 07.7 0.0
baz=48,SNR=70
Y12C Blythe 48.49 86 ⇑P P 12 16 07.7 +0.2
baz=48
P20A De Beque 48.58 76 ⇓P P 12 16 08.5 +0.1
baz=48,SNR=96
L23A Garrett 48.59 71 ⇓P P 12 16 08.3 -0.1
baz=48,SNR=71
MDND Maddock 48.68 62 ⇑P P 12 16 08.6 -0.2
baz=48,SNR=14
O21A Pagoda 48.69 74 ⇓P P 12 16 09.5 +0.1
baz=49,SNR=56
K24A Anderson Ranch 48.74 70 ⇓P P 12 16 09.0 -0.5
baz=49,SNR=7.6
S18A Hurst Farm, Bl 48.74 78 ⇓P P 12 16 09.8 +0.1
baz=49,SNR=95
GLA Glamis 48.77 87 eP P 12 16 10.3 +0.6
GLA pmax pmax
comp=Z,104nm,0.9s
GLA Glamis 48.77 87 eP P 12 16 10.3 +0.6
comp=Z,104nm,0.9s
GLA Glamis 48.77 87 ⇓P P 12 16 09.9 +0.2
baz=49
N22A Wattenberg Ran 48.94 73 ⇓P P 12 16 11.6 +0.4
baz=49,SNR=40
M23A Laramie 48.97 72 ⇓P P 12 16 11.4 +0.1
baz=49,SNR=82
Q20A Ridgley Place, 48.98 76 ⇓P P 12 16 11.3 -0.1
baz=49,SNR=52
L24A Wheatland 49.08 71 ⇓P P 12 16 12.5 +0.4
baz=49,SNR=47
BTO Baotou 49.10 287 eP P 12 16 14.5 +2.3
BTO pmax pmax
comp=Z,350nm,1.0s
P21A Newcastle 49.14 75 ⇓P P 12 16 13.0 +0.3
baz=49,SNR=80
N23A Red Feather La 49.19 73 ⇑P P 12 16 13.6 +0.5
baz=49,SNR=53
NJ2 Nanjing 49.19 272 eP P 12 16 14.0 +1.1
NJ2 pP pP 12 16 29.8 +7.6
NJ2 sP sP 12 16 38.0 +12
NJ2 PP PP 12 18 10.5 +3.9
NJ2 S S 12 23 16.5 +0.2
NJ2 pmax pmax
comp=Z,360nm,0.9s
NJ2 pmax pmax
comp=Z,890nm,8.3s
NJ2 LR LR
comp=N,3μm,22.4s
NJ2 LR LR
comp=E,3μm,24.4s
NJ2 LR LR
comp=Z,4μm,24.0s
PHWY Pilot Hill 49.23 72 eP P 12 16 13.3 -0.1
comp=Z,78nm,0.9s
O22A Kremmling 49.28 74 ⇓P P 12 16 13.9 0.0
baz=49,SNR=61
ULM Lac du Bonnet 49.30 57 P P 12 16 12.2 -1.2
comp=Z,32nm,0.8s,baz=310,slow=8.1,SNR=20
ULM PcP PcP 12 17 35.6 -0.2
comp=Z,26nm,0.8s,baz=295,slow=7.9,SNR=4.8
ULM Lac du Bonnet 49.30 57 eP P 12 16 12.2 -1.2
comp=Z,74nm,1.3s
ULM PcP PcP 12 17 35.6 -0.2
Y14A Wickenburg 49.31 84 ⇓P P 12 16 13.9 0.0
baz=49,SNR=18
K25A Mack Ranch, Ha 49.36 69 ⇓P P 12 16 14.3 +0.1
baz=49,SNR=18
R20A Redvale 49.41 77 ⇓P P 12 16 15.0 +0.2
baz=49,SNR=46
TIY Taiyuan 49.46 282 eP P 12 16 17.0 +2.0
TIY PP PP 12 18 12.5 +3.5
TIY S S 12 23 18.5 -1.6

TIY LR LR
comp=N,3μm,15.3s
TIY LR LR
comp=E,510nm,10.4s
TIY LR LR
comp=Z,4μm,23.7s
Q21A Lamborn Mesa, 49.49 76 ⇑P P 12 16 15.7 +0.3
baz=49,SNR=58
M24A Cheyenne 49.50 71 ⇑P P 12 16 15.9 +0.5
baz=49,SNR=42
P22A Eagle 49.51 74 ⇓P P 12 16 15.8 +0.2
baz=49,SNR=39
L25A Engebretsen Ra 49.59 70 ⇑P P 12 16 16.4 +0.4
baz=49,SNR=15
113A Mohawk Valley, 49.62 86 ⇑P P 12 16 16.0 -0.1
baz=50
O23A Lake Granby, G 49.63 73 ⇑P P 12 16 17.4 +0.9
baz=50,SNR=73
SMCO Snowmass 49.64 75 eP P 12 16 16.9 +0.1
comp=Z,701nm,2.4s
S20A Disappointment 49.65 77 ⇑P P 12 16 16.8 +0.1
baz=50,SNR=136
KBS Kingsbay 49.70 357 ⇑iP P 12 16 17.0 +0.8
KBS ePP PP 12 18 17.0 +6.7
KBS i 12 20 40.8
KBS AMS AMS 12 38 00.4
comp=Z,3μm,21.2s
KBS Kingsbay 49.70 357 e P 12 16 17.8 +1.6
KBS Kingsbay 49.70 357 c iP P 12 16 17.4 +1.3
KBS pmax pmax
comp=Z,129nm,1.3s
KBS Kingsbay 49.70 357 eP P 12 16 17.5 +1.3
comp=Z,127nm,0.9s
K26A Motz Farm, Whi 49.71 69 ⇓P P 12 16 16.4 -0.5
baz=50,SNR=23
Z14A Wintersburg 49.73 85 ⇓P P 12 16 17.1 0.0
baz=50
R21A Cimarron 49.80 76 ⇓P P 12 16 18.2 +0.4
baz=50,SNR=79
N24A Carr 49.86 72 ⇓P P 12 16 18.8 +0.7
baz=50,SNR=22
Q22A Crested Butte, 49.88 75 ⇓P P 12 16 18.8 +0.4
baz=50,SNR=98
MVCO Mesa Verde 49.96 78 eP P 12 16 19.3 +0.3
comp=Z,294nm,1.3s
X16A Lo Mia Camp, P 49.97 83 ⇓P P 12 16 19.7 +0.7
baz=50,SNR=22
M25A Palm-Egli Farm 49.98 71 ⇓P P 12 16 19.9 +0.9
baz=50,SNR=59
ISCO Idaho Springs 50.07 73 eP P 12 16 20.5 +0.6
ISCO pmax pmax
comp=Z,155nm,1.2s
ISCO MLR MLR
comp=Z,5μm,21.0s
ISCO Idaho Springs 50.07 73 eP P 12 16 20.5 +0.6
comp=Z,155nm,1.2s
ISCO LR LR
comp=Z,5μm,21.0s
S21A Coal Bank Pass 50.10 77 ⇓P P 12 16 20.8 +0.6
baz=50,SNR=109
L26A Underwood Farm 50.18 70 ⇓P P 12 16 20.5 0.0
baz=50,SNR=18
O24A Longmont 50.19 73 ⇓P P 12 16 21.8 +1.2
baz=50,SNR=26
P23A Jefferson 50.20 74 ⇑P P 12 16 22.0 +1.0
baz=50,SNR=39
K27A Flueckinger Fa 50.26 68 ⇑P P 12 16 20.7 -0.3
baz=50,SNR=57
SPA0 Spitsbergen Ar 50.28 356 ⇑iP P 12 16 21.0 +0.3
SPITS Spitsbergen Ar 50.28 356 P P 12 16 21.0 +0.3
comp=Z,88nm,0.7s,baz=51,slow=6.6,SNR=168
SPITS PcP PcP 12 17 38.6 -0.4
comp=Z,96nm,0.8s,baz=93,slow=3.3,SNR=12
SPITS Spitsbergen Ar 50.28 356 P P 12 16 21.0 +0.3
SPITS PcP PcP 12 17 38.6 -0.4
N25A Grover 50.34 71 ⇓P P 12 16 22.5 +0.8
baz=50
R22A Saguache, Gunn 50.37 76 ⇓P P 12 16 23.3 +1.1
baz=50,SNR=51
AGMN Agassiz Nation 50.45 59 eP P 12 16 20.8 -1.5
comp=Z,124nm,1.1s
U20A Newcomb 50.49 79 ⇓P P 12 16 23.2 +0.3
baz=50,SNR=26
M26A McRoberts Ranc 50.49 70 ⇓P P 12 16 23.4 +0.5
baz=50,SNR=29
Q23A Hartsel 50.50 74 ⇑P P 12 16 24.1 +1.0
baz=50,SNR=97
TARA Tarawa 50.52 192 eP P 12 16 23.8 +0.7
comp=Z,96nm,0.9s
GVA Apache Junctio 50.55 84 iP P 12 16 23.7 +0.5
W18A Petrified Fore 50.56 81 ⇓P P 12 16 24.1 +0.6
baz=50,SNR=38
L27A T5 Ranch, Ells 50.59 69 ⇑P P 12 16 23.4 -0.2
baz=50
S22A 4UR Ranch, Cre 50.64 76 ⇓P P 12 16 25.2 +1.0
baz=50,SNR=130
P24A Kohler Place, 50.67 73 ⇓P P 12 16 25.3 +1.0
baz=50,SNR=9.3
T21A Navajo Lake 50.69 78 ⇑P P 12 16 25.3 +0.8
baz=51,SNR=47
214A Organ Pipe Nat 50.76 86 ⇑P P 12 16 25.0 +0.2
baz=51
O25A Wiggins 50.76 72 ⇓P P 12 16 25.9 +1.0
baz=51,SNR=11
X18A Snowflake 50.82 82 ⇓P P 12 16 26.3 +0.9
baz=51,SNR=50
N26A Koester Ranch, 50.84 71 ⇑P P 12 16 26.4 +0.9
baz=51,SNR=16
Q24A Divide 50.87 74 ⇓P P 12 16 26.6 +0.6
baz=51,SNR=32
V20A Brimhall 50.90 79 ⇑P P 12 16 26.3 +0.3
baz=51,SNR=36
M27A Reverse DX Ran 50.90 70 ⇓P P 12 16 26.5 +0.6
baz=51,SNR=52
R23A Moffat 50.96 75 ⇑P P 12 16 27.5 +0.9
baz=51,SNR=39
U21A Nageezi 50.98 78 ⇓P P 12 16 27.4 +0.7
baz=51,SNR=106
T22A Edith 51.06 77 ⇓P P 12 16 28.4 +1.0
baz=51,SNR=72
BRSD Miller 51.07 65 ⇓P P 12 16 26.5 -0.5
baz=51,SNR=27
P25A Willow Gulch B 51.11 73 ⇓P P 12 16 28.8 +1.2
baz=51,SNR=35
O26A Horse Wrangler 51.16 72 ⇑P P 12 16 28.4 +0.5
baz=51,SNR=15
S23A Nye Farm, Mont 51.16 76 ⇓P P 12 16 29.3 +1.2
baz=51,SNR=37
N27A Anderson Farm, 51.26 71 ⇓P P 12 16 29.3 +0.6
baz=51,SNR=25
W20A Ramah 51.32 80 ⇓P P 12 16 29.6 +0.4
baz=51,SNR=19
DAG Danmarks Havn 51.34 6 ⇑iP P 12 16 28.3 -0.3
comp=Z,139nm,0.8s
DAG
comp=Z,9μm,22.0s
R24A Sanders Place, 51.37 75 ⇑P P 12 16 30.3 +0.8
baz=51,SNR=41
V21A Milan 51.40 79 ⇓P P 12 16 30.2 +0.3
baz=51,SNR=39
Q25A Bedland, Calha 51.45 73 ⇓P P 12 16 30.7 +0.6
baz=51,SNR=64
HSP Hornsund 51.47 356 eP P 12 16 30.2 +0.7
OGNE Ogallala 51.47 70 eP P 12 16 30.6 +0.5
comp=Z,633nm,1.1s
U22A Llaves 51.51 78 ⇓P P 12 16 31.2 +0.5
baz=51
P26A Davis Ranch, A 51.57 72 ⇓P P 12 16 32.0 +1.0
baz=51,SNR=53
T23A Casias Ranch, 51.58 76 ⇓P P 12 16 31.9 +0.7
baz=51,SNR=68
S24A Houchin Ranch, 51.69 75 ⇓P P 12 16 33.0 +0.9
baz=52,SNR=37
O27A Beecher Island 51.69 71 ⇓P P 12 16 32.3 +0.5
baz=52,SNR=53
X20A Quemado 51.71 81 ⇑P P 12 16 33.1 +0.9
baz=52,SNR=78
TUC Tucson 51.78 84 eP P 12 16 32.4 -0.2
TUC pmax pmax
comp=Z,80nm,0.9s
TUC Tucson 51.78 84 eP P 12 16 32.4 -0.2
comp=Z,80nm,0.9s
W21A San Fidel 51.85 79 ⇑P P 12 16 33.3 +0.1
baz=52,SNR=5.7
Q26A Hugo 51.88 73 ⇓P P 12 16 33.9 +0.6
baz=52,SNR=28
R25A Fountain Ranch 51.92 74 ⇓P P 12 16 34.2 +0.6
baz=52,SNR=62

U23A **El Rito** 51.94 77 ⇑P P 12 16 34.7 +0.8
baz=52,SNR=48
S25A **Robets Cordova** 52.14 75 ⇑P P 12 16 35.7 +0.4
baz=52,SNR=69
T24A **Torres, Weston** 52.15 76 ⇑P P 12 16 36.5 +1.0
baz=52,SNR=39
Y20A **Horse Springs,** 52.20 81 ⇑P P 12 16 36.7 +0.8
baz=52,SNR=27
X21A **Alamocita Cree** 52.21 80 ⇓P P 12 16 37.1 +1.1
baz=52,SNR=38
R26A **Arlington** 52.32 74 ⇓P P 12 16 37.0 +0.4
baz=52,SNR=54
V23A **Ortiz Mt. (NFS** 52.33 78 ⇑P P 12 16 38.1 +1.3
baz=52,SNR=91
KSCO **Kaye Shedlock'** 52.35 72 ⇑P P 12 16 37.6 +0.8
baz=52,SNR=39
W22A **Albuquerque** 52.36 79 ⇑P P 12 16 37.9 +0.9
baz=52,SNR=27
U24A **Moreno Valley** 52.45 77 ⇓P P 12 16 38.7 +0.9
baz=52,SNR=20
T25A **Trinidad** 52.50 75 ⇓P P 12 16 38.7 +0.7
baz=52,SNR=152
Y21A **Point of Rocks** 52.57 80 ⇑P P 12 16 39.6 +1.0
baz=52,SNR=55
Z20A **Nine Sixteen R** 52.60 82 ⇑P P 12 16 39.3 +0.5
baz=52,SNR=31
LAZ **Ladron** 52.64 80 eP P 12 16 39.9 +0.8
comp=Z,79nm,0.9s
X22A **Bernardo** 52.65 80 ⇑P P 12 16 40.5 +1.4
baz=52,SNR=68
ANMO **Albuquerque** 52.69 79 eP P 12 16 39.9 +0.4
comp=Z,69nm,1.0s
R27A **Eads** 52.72 73 ⇑P P 12 16 40.0 +0.5
baz=53,SNR=48
FRB **Frobisher Bay** 52.72 32 PKPPKP 12 46 56.2
comp=Z,2.5nm,0.9s,baz=216,slow=2.9,SNR=4.1
W23A **Werner Place** 52.74 78 ⇑P P 12 16 40.2 +0.4
baz=53,SNR=40
S26A **Kim** 52.75 74 ⇓P P 12 16 39.9 +0.1
baz=53,SNR=41
ECSD **EROS Data Cent** 52.83 64 eP P 12 16 38.8 -1.3
comp=Z,147nm,1.1s
LENM **Lemitar** 52.90 80 eP P 12 16 41.7 +0.8
V24A **Rampart Ranch,** 52.90 77 ⇑P P 12 16 42.0 +1.0
baz=53,SNR=54
120A **U Bar Ranch, L** 52.96 82 ⇑P P 12 16 41.8 +0.4
baz=53
T26A **Comanche Natio** 52.97 75 ⇓P P 12 16 41.4 0.0
baz=53,SNR=31
U25A **Circle Dot Ran** 52.98 76 ⇓P P 12 16 42.1 +0.5
baz=53,SNR=66
Y22D **IRIS PASSCAL I** 52.99 80 ⇑P P 12 16 42.8 +1.3
baz=53,SNR=10
LPM **Los Pinos Moun** 53.01 79 eP P 12 16 42.4 +0.6
WHN **Wuhan** 53.03 274 P P 12 16 42.5 +0.8
WHN S S 12 24 06.3 -3.1
WHN pmax pmax
comp=Z,2μm,6.3s
WHN LR LR
comp=N,2μm,11.2s
WHN LR LR
comp=E,3μm,17.5s
WHN LR LR
comp=Z,7μm,24.9s
Z21A **St. Cloud Mine** 53.04 81 ⇓P P 12 16 42.8 +0.7
baz=53,SNR=34
S27A **Las Animas** 53.05 74 ⇓P P 12 16 42.1 +0.1
baz=53,SNR=6.7
Y22A **Socorro** 53.05 80 ⇑P P 12 16 43.0 +0.9
baz=53,SNR=93
SUMG **Summit** 53.09 14 eP P 12 16 42.2 +0.1
SUMG pmax pmax
comp=Z,168nm,1.1s
SUMG **Summit** 53.09 14 eP P 12 16 42.2 +0.1
comp=Z,168nm,1.1s
SUMG **Summit** 53.09 14⇑iP P 12 16 42.4 +0.3
comp=Z,90nm,1.0s
SUMG
comp=Z,2μm,19.0s
X23A **Hourglass Bar** 53.10 79 ⇑P P 12 16 43.0 +0.5
baz=53,SNR=66
BNM **Barren Site** 53.12 80 eP P 12 16 43.4 +0.7
comp=Z,106nm,1.0s
W24A **Lazy 6 Ranch,** 53.16 78 ⇑P P 12 16 43.6 +0.7
baz=53,SNR=70
V25A **Rancho No Teng** 53.23 77 ⇑P P 12 16 44.1 +0.7
baz=53,SNR=70
319A **Douglas** 53.36 84 ⇓P P 12 16 44.5 +0.2
baz=53
U26A **Atchley Ranch,** 53.39 76 ⇑P P 12 16 45.0 +0.4
baz=53,SNR=44
BGNE **Belgrade** 53.44 67 ⇓P P 12 16 44.7 0.0
baz=53,SNR=62
220A **Playas Peak, P** 53.46 83 ⇑P P 12 16 45.5 +0.4
baz=53
121A **Cookes Peak, D** 53.49 82 ⇓P P 12 16 45.7 +0.3
baz=53,SNR=47
Z22A **Elephant Butte** 53.51 81 ⇓P P 12 16 46.1 +0.6
baz=53,SNR=27
T27A **Campo** 53.56 74 ⇑P P 12 16 45.8 +0.1
baz=53,SNR=42
Y23A **Lovelace Mesa,** 53.62 79 ⇓P P 12 16 46.8 +0.6
baz=54,SNR=126
W25A **X Bar L Ranch,** 53.73 77 ⇑P P 12 16 47.6 +0.6
baz=54,SNR=90
V26A **Tequesquite Ra** 53.76 76 ⇑P P 12 16 47.4 +0.2
baz=54
221A **Mesquite Ranch** 53.85 82 ⇑P P 12 16 48.4 +0.5
baz=54
122A **Conniff Cattle** 53.87 81 ⇓P P 12 16 49.2 +1.2
baz=54,SNR=41
T28A **Walsh** 53.89 74 ⇓P P 12 16 48.5 +0.3
baz=54
Z23A **Rita Site, Whi** 53.96 80 ⇓P P 12 16 49.4 +0.7
baz=54,SNR=33
SPMN **St. Paul** 54.00 61 ⇓P P 12 16 47.9 -0.7
baz=54,SNR=13
Y24A **Capitan** 54.00 79 ⇑P P 12 16 49.6 +0.6
baz=54,SNR=190
XAN **Xi'an** 54.01 281 P P 12 16 50.0 +1.0
XAN pP pP 12 17 06.5 +8.1
XAN sP sP 12 17 13.5 +11
XAN PP **PP** 12 18 53.0 +2.7
XAN S **S** 12 24 18.0 -4.8
XAN sS sS 12 24 45.3 +7.0
XAN ScS **ScS** 12 26 30.0 -5.9
XAN SS **SKiKP** 12 27 58.0 -0.7
XAN pmax pmax
comp=Z,100nm,1.0s
XAN pmax pmax
comp=Z,240nm,8.1s
XAN LR LR
comp=N,1μm,20.0s
XAN LR LR
comp=E,920nm,20.0s
XAN LR LR
comp=Z,930nm,20.4s
X25A **Clemmons Ranch** 54.07 78 ⇑P P 12 16 50.2 +0.7
baz=54,SNR=32
222A **Williams Famil** 54.21 82 ⇑P P 12 16 50.9 +0.4
baz=54
ZAA0 **Zalesovo Array** 54.23 314 eP P 12 16 49.1 -1.0
ZALV **Zalesovo Beam** 54.23 314 P P 12 16 48.8 -1.4
comp=Z,12nm,0.5s,baz=58,slow=7.3,SNR=37
ZALV PcP **PcP** 12 17 55.0 +0.9
comp=Z,129nm,0.7s,baz=34,slow=3.9,SNR=54
ZALV P4KPbc 12 54 11.2
comp=Z,2.9nm,0.9s,baz=57,slow=4.0,SNR=8.6
ZALV **Zalesovo Beam** 54.23 314 P P 12 16 48.8 -1.4
ZALV 12 17 55.0
ZALV **Zalesovo Beam** 54.23 314 P P 12 16 48.8 -1.4
ZALV PcP **PcP** 12 17 55.0 +0.9
ZALV e 12 54 11.2
QZH **Quanzhou** 54.34 266⇑iP P 12 16 54.0 +2.7
QZH pmax pmax
comp=Z,890nm,1.2s
QZH LR LR
comp=N,4μm,19.0s
QZH LR LR
comp=E,1μm,12.2s
QZH LR LR
comp=Z,4μm,20.0s
NVS **Novosibirsk** 54.36 315⇑iP P 12 16 50.2 -0.9
NVS i 12 17 54.8
NVS pmax pmax
comp=Z,100nm,1.5s
NVS pmax pmax
comp=N,30nm,1.3s
NVS pmax pmax
comp=E,37nm,1.2s
123A **Bell Site, Whi** 54.37 81 ⇓P P 12 16 52.4 +0.7
baz=54,SNR=8.1
Z24A **Sheeppen Canyo** 54.45 79 ⇑P P 12 16 52.7 +0.4
baz=54,SNR=11
Y25A **Mesa, Roswell** 54.46 78 ⇓P P 12 16 52.7 +0.3
baz=54,SNR=34
X26A **CR and CF Fran** 54.58 77 ⇓P P 12 16 53.3 +0.1
baz=54,SNR=42
W27A **Bowe Ranch, En** 54.69 76 ⇓P P 12 16 53.8 -0.1
baz=55,SNR=29
223A **Chaparral, Ant** 54.69 81 ⇑P P 12 16 54.7 +0.6
baz=55
V28A **Channing** 54.73 75 ⇑P P 12 16 54.2 -0.1
baz=55,SNR=33
124A **Stringfield Ra** 54.82 80 ⇓P P 12 16 55.2 +0.2
baz=55,SNR=35
Z25A **Roswell** 54.88 79 ⇑P P 12 16 55.5 +0.2
baz=55,SNR=53
X27A **F and S Farms,** 54.95 77 ⇓P P 12 16 55.9 0.0
baz=55,SNR=13
Y26A **Elida** 54.99 78 ⇑P P 12 16 56.3 +0.1
baz=55,SNR=27
W28A **Vega** 55.08 76 ⇓P P 12 16 56.7 0.0
baz=55,SNR=9.8
V29A **Stinnett** 55.08 75 ⇓P P 12 16 56.2 -0.5
baz=55,SNR=17
224A **Cornudas Mount** 55.20 81 ⇓P P 12 16 58.1 +0.3
baz=55
Z26A **Caprock** 55.34 79 ⇓P P 12 16 58.8 +0.2
baz=55,SNR=41
125A **Gardner Draw,** 55.34 80 ⇓P P 12 16 59.1 +0.4
baz=55,SNR=13
SFJD **Kangerlussuaq** 55.39 22 PKP2bc 12 47 12.9
comp=E,14nm,1.1s,baz=177,slow=4.8,SNR=3.6
SFJD **Kangerlussuaq** 55.39 22 eP P 12 16 57.4 -1.0
comp=E,60nm,1.1s
SFJD ⇑e 12 47 12.9
SFJD **Kangerlussuaq** 55.39 22 iP P 12 16 57.9 -0.5
comp=E,24nm,0.8s
SFJD
comp=Z,3μm,30.0s
Y27A **Causey** 55.42 77 ⇑P P 12 16 59.4 +0.2
baz=55
W29A **Amraillo** 55.51 75 ⇓P P 12 16 59.8 0.0
baz=55,SNR=9.2
X28A **Dimmitt** 55.58 76 ⇓P P 12 17 00.3 -0.1
baz=55,SNR=28
MSTX **Muleshoe** 55.60 77 ⇑P P 12 17 00.5 0.0
baz=56,SNR=69
225A **Deer Hill, Car** 55.61 80 ⇓P P 12 17 01.0 +0.3
baz=56
AMTX **Amarillo** 55.65 76 eP P 12 17 00.8 -0.1
comp=Z,117nm,0.9s
324A **Moseley Ranch,** 55.66 81 ⇑P P 12 17 01.1 0.0
baz=56
LZH **Lanzhou** 55.72 287 ⇑P P 12 17 03.5 +2.1
LZH pP pP 12 17 20.5 +10
LZH sP sP 12 17 28.0 +13
LZH S **S** 12 24 42.3 -3.6
LZH sS sS 12 25 08.0 +6.5
LZH SS **SS** 12 28 27.0 -4.0
LZH pmax pmax
comp=Z,88nm,1.0s
LZH pmax pmax
comp=Z,430nm,4.0s
LZH LR LR
comp=N,5μm,15.3s
LZH LR LR
comp=E,6μm,16.8s
LZH LR LR
comp=Z,10μm,17.6s
126A **Clayton Basin,** 55.74 79 ⇓P P 12 17 01.4 -0.2
baz=56
Z27A **Tatum** 55.78 78 ⇓P P 12 17 01.5 -0.3
baz=56,SNR=43
GTA **Gaotai** 55.88 292 ⇑P P 12 17 03.5 +1.0
GTA S **S** 12 24 46.0 -1.9
GTA SS **SS** 12 28 29.0 -4.3
GTA pmax pmax
comp=Z,560nm,0.9s
GTA pmax pmax
comp=Z,2μm,5.0s
GTA LR LR
comp=N,2μm,18.5s
GTA LR LR
comp=E,3μm,22.1s
GTA LR LR
comp=Z,5μm,21.4s
SCIA **State Center** 55.92 64 eP P 12 17 02.3 -0.3
comp=Z,328nm,1.0s
X29A **Tulia** 55.93 76 ⇑P P 12 17 02.9 0.0
baz=56,SNR=18
Y28A **McKinney Farm,** 55.96 77 ⇓P P 12 17 02.8 -0.4
baz=56,SNR=27
325A **Bean Ranch, Si** 56.03 81 ⇓P P 12 17 03.9 +0.2
baz=56
W30A **Crocket Farms** 56.11 75 ⇑P P 12 17 04.4 +0.3
baz=56,SNR=11
127A **Arkansas Junct** 56.12 79 ⇑P P 12 17 03.8 -0.5
baz=56,SNR=9.2
ENH **Enshi** 56.24 278 eP P 12 17 05.3 +0.2
comp=Z,210nm,0.9s
Z28A **Tucker Farm, M** 56.30 77 ⇓P P 12 17 05.0 -0.5
baz=56,SNR=49
Y29A **Porterfield Fa** 56.34 76 ⇑P P 12 17 05.8 0.0
baz=56,SNR=46
425A **Indio Mountain** 56.42 81 ⇓P P 12 17 06.9 +0.4
baz=56,SNR=59
X30A **Coker Ranch, T** 56.43 75 ⇑P P 12 17 06.5 +0.1
baz=56,SNR=59
W31A **Holland Ranch,** 56.49 74 ⇓P P 12 17 07.0 +0.2
baz=56,SNR=34
227A **Bennet, Jal** 56.62 79 ⇑P P 12 17 07.5 -0.3
baz=56,SNR=21
326A **Caldwell Ranch** 56.68 80 ⇓P P 12 17 08.4 +0.1
baz=57,SNR=42
128A **Castleberry Fa** 56.70 78 ⇓P P 12 17 08.1 -0.2
baz=57,SNR=80
Z29A **Hungry Hill Ra** 56.73 77 ⇓P P 12 17 08.5 -0.1
baz=57,SNR=52
Y30A **Stafford Cattl** 56.80 76 ⇓P P 12 17 09.2 +0.1
baz=57,SNR=83
X31A **McDonald Ranch** 56.84 75 ⇓P P 12 17 09.4 +0.1
baz=57
327A **Balmorhea Ranc** 56.94 80 ⇑P P 12 17 10.1 0.0
baz=57,SNR=9.5
228A **UT Block 9, Go** 56.98 79 ⇑P P 12 17 10.0 -0.3
baz=57,SNR=19
129A **Stewart Farms,** 57.07 78 ⇑P P 12 17 10.5 -0.5
baz=57,SNR=48
Z30A **Sanderson Ranc** 57.07 77 ⇑P P 12 17 10.8 -0.2
baz=57,SNR=54
426A **McDonald Obser** 57.10 81 ⇑P P 12 17 11.0 -0.4
baz=57,SNR=42
Y31A **Rekieta Farm,** 57.13 75 ⇓P P 12 17 11.1 -0.3
baz=57,SNR=24
328A **Wristen Ranch,** 57.35 79 ⇑P P 12 17 12.7 -0.3
baz=57,SNR=125
427A **Hayter Ranch,** 57.36 80 ⇑P P 12 17 12.8 -0.3
baz=57,SNR=60
526A **Mary Lane Ranc** 57.48 81 ⇑P P 12 17 14.1 +0.1
baz=57,SNR=63
229A **Bryant Ranch,** 57.56 78 ⇑P P 12 17 13.9 -0.6
baz=57,SNR=14
Y32A **R-V Farms, Ver** 57.60 75 ⇓P P 12 17 14.8 +0.2
baz=58,SNR=95
130A **Snyder** 57.64 77 ⇓P P 12 17 14.7 -0.3
baz=58,SNR=23
Z31A **Sharp Cattle R** 57.64 76 ⇓P P 12 17 14.7 -0.3
baz=58,SNR=84
KEV **Kevo** 57.67 350 eP P 12 17 14.7 +0.2
KEV pmax pmax
comp=Z,74nm,1.0s
KEV **Kevo** 57.67 350 eP P 12 17 14.7 +0.2
comp=Z,74nm,1.0s
KEV **Kevo** 57.67 350 ep P 12 17 13.7 -0.8
comp=Z,111nm,0.5s
527A **Woodward Ranch** 57.72 81 ⇓P P 12 17 15.3 -0.4
baz=58,SNR=40
329A **Wagon Wheel Ra** 57.79 79 ⇑P P 12 17 15.8 -0.3
baz=58
626A **Big Bend Ranch** 57.81 82 ⇑P P 12 17 16.0 -0.3
baz=58,SNR=74
LPIG **La Paz** 57.85 91 LR LR 12 37 42.2
comp=Z,92nm,21.4s,baz=308,slow=31
PALP **Palanan** 57.85 256 eP P 12 17 16.4 -0.2
428A **Kincaid Ranch,** 57.89 80 ⇓P P 12 17 17.0 +0.3
baz=58
ARCES **ARCESS Array B** 58.04 350 P P 12 17 17.0 -0.2
comp=Z,27nm,0.5s,baz=33,slow=7.0,SNR=148
ARCES PcP **PcP** 12 18 08.7 -0.1
comp=Z,98nm,0.8s,baz=12,slow=6.2,SNR=19
ARCES PKPPKP P'P'df 12 46 55.5 -11
comp=Z,7.8nm,1.1s,baz=29,slow=2.8,SNR=5.0
ARCES **ARCESS Array B** 58.04 350 P P 12 17 17.0 -0.2
ARCES PcP **PcP** 12 18 08.7 -0.1
ARCES P'P' 12 46 55.5
ARE0 **ARCESS Array S** 58.04 350 eP P 12 17 17.1 -0.1
ARE0 **ARCESS Array S** 58.04 350 eP P 12 17 16.8 -0.4
230A **Sterling City** 58.04 78 ⇑P P 12 17 17.5 -0.3
baz=58,SNR=107
Z32A **Haskell** 58.05 75 ⇓P P 12 17 17.8 -0.1
baz=58,SNR=98
528A **Cox Ranch, San** 58.22 80 ⇓P P 12 17 19.1 0.0
baz=58,SNR=45
TXAR **Lajitas Array** 58.26 82 P P 12 17 19.0 -0.4
comp=Z,68nm,0.9s,baz=327,slow=6.5,SNR=252
TXAR PKPPKP **P'P'df** 12 46 59.2 -2.8
comp=Z,3.0nm,1.0s,baz=142,slow=2.9,SNR=7.3
TXAR P4KPbc 12 54 30.5
comp=Z,0.8nm,0.9s,baz=307,slow=3.3,SNR=3.7
TXAR **Lajitas Array** 58.26 82 P P 12 17 19.0 -0.4
TXAR P'P' 12 46 59.2
TXAR e 12 54 30.5
CAUP **Cauayan** 58.31 257 eP P 12 17 21.6 +1.8
330A **Mertzon** 58.34 78 ⇑P P 12 17 19.2 -0.7
baz=58,SNR=33
627A **Terlingua Ranc** 58.34 81 ⇑P P 12 17 19.8 -0.3
baz=58,SNR=37
LVZ **Lovozero** 58.42 346⇓iP P 12 17 19.1 -0.8
LVZ pmax pmax
comp=Z,115nm,1.1s
LVZ **Lovozero** 58.42 346 eP P 12 17 19.5 -0.4
comp=Z,134nm,0.9s
LVZ LR LR
comp=Z,4μm,20.0s
ABTX **Abilene, Hawle** 58.43 76 ⇑P P 12 17 20.6 +0.1
baz=58,SNR=63
429A **Davenport Ranc** 58.44 79 ⇑P P 12 17 19.9 -0.7
baz=58,SNR=35
ABRA **Dolores** 58.45 258 eP P 12 17 20.9 +0.2
TUL1 **Tulsa** 58.47 71 ⇑P P 12 17 20.3 -0.4
baz=58,SNR=47
231A **Bronte** 58.49 77 ⇓P P 12 17 20.1 -0.8
baz=58,SNR=22
TRO **Tromso** 58.53 353 eP P 12 17 20.0 -0.6
TRO eP P 12 17 20.6 +0.1
529A **Stev Forest Ra** 58.59 80 ⇓P P 12 17 21.4 -0.3
baz=58
GLMI **Grayling** 58.62 56 eP P 12 17 21.9 +0.3
comp=Z,382nm,1.0s
628A **Black Gap, Mar** 58.63 81 ⇓P P 12 17 21.8 -0.2
baz=58
430A **Baggett Ranch,** 58.73 79 ⇑P P 12 17 22.2 -0.5
baz=59,SNR=77
KTK1 **Kautokeino** 58.77 351 eP P 12 17 22.1 -0.2
KTK1 eS **S** 12 25 26.6 +1.8
KTK1 AMS AMS 12 43 35.7
comp=Z,5μm,20.4s
331A **San Angelo** 58.86 78 ⇑P P 12 17 22.9 -0.6
baz=59,SNR=51
APA **Apatity** 58.91 346⇓iP P 12 17 23.6 +0.4
APA i 12 18 12.0
APA eS S 12 25 20.0 -6.6
APA iPS **PnS** 12 25 36.0 -4.8
APA i 12 27 14.0
APA iSS **SS** 12 29 24.0 +4.6
APA iSSS SSS 12 31 44.0
APA pmax pmax
comp=Z,88nm,1.2s
APA MLR MLR
comp=Z,2μm,20.0s
232A **Coleman** 58.94 77 ⇓P P 12 17 23.6 -0.4
baz=59,SNR=65
GZH **Guangzhou** 58.96 269 P P 12 17 21.5 -2.7
GZH S S 12 25 20.5 -7.9
GZH LR LR
comp=N,1μm,19.0s
GZH LR LR
comp=E,2μm,18.3s
530A **J-C Ranch, Com** 59.12 79 ⇓P P 12 17 25.3 -0.1
baz=59,SNR=131
431A **Sonora** 59.19 78 ⇑P P 12 17 25.3 -0.6
baz=59,SNR=92
KURK **Kurchatov** 59.22 314 P P 12 17 25.4 -0.2
KURK 12 18 14.9
KURK pmax pmax
comp=Z,76nm,0.3s
KURK pmax pmax
comp=Z,58nm,0.3s
KURK **Kurchatov** 59.22 314 eP P 12 17 25.1 -0.5
comp=Z,186nm,1.0s
KURK LR LR
comp=Z,6μm,19.0s
KURK **Kurchatov** 59.22 314 P P 12 17 25.6 -0.1
SNR=24
332A **Millersview** 59.23 77 ⇑P P 12 17 25.8 -0.3
baz=59,SNR=81
KURBB **Kurchatov Arra** 59.32 314 P P 12 17 25.4 -1.0
comp=Z,76nm,0.3s,baz=42,slow=6.9,SNR=3.3
KURBB PcP **PcP** 12 18 14.9 +0.8
comp=Z,58nm,0.3s,baz=42,slow=3.0,SNR=2.5
CD2 **Chengdu** 59.33 282⇑iP P 12 17 27.8 +1.0
CD2 pP pP 12 17 45.0 +8.7
CD2 sP sP 12 17 52.5 +13
CD2 PP **PP** 12 19 41.0 +3.3
CD2 S **S** 12 25 28.5 -4.6
CD2 sS sS 12 25 58.0 +9.2
CD2 SS **SS** 12 29 25.3 -2.3
CD2 pmax pmax
comp=Z,530nm,1.4s
CD2 pmax pmax
comp=Z,1μm,7.1s
CD2 LR LR
comp=N,3μm,17.8s
CD2 LR LR
comp=Z,3μm,19.6s
BALP **Baler** 59.39 256 eP P 12 17 29.1 +1.9
432A **Menard** 59.55 78 ⇑P P 12 17 27.6 -0.7
baz=59,SNR=36
531A **Rocksprings** 59.59 79 ⇑P P 12 17 27.9 -0.7
baz=60
WMQ **Urumqi** 59.60 303 P P 12 17 29.0 +0.5
WMQ pP pP 12 17 46.3 +8.3
WMQ PcP **PcP** 12 18 16.8 +1.3
WMQ PP **PP** 12 19 42.8 +3.0
WMQ S **S** 12 25 32.5 -3.9
WMQ sS sS 12 26 01.0 +9.0
WMQ ScS **ScS** 12 27 09.8 -6.4
WMQ SS **SS** 12 29 32.3 +0.9
WMQ pmax pmax
comp=Z,92nm,1.0s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=N,3μm,20.0s
WMQ LR LR
comp=E,2μm,21.0s
WMQ LR LR
comp=Z,5μm,22.0s
SLM **Saint Louis** 59.81 65 eP P 12 17 29.4 -0.5
SLM pmax pmax
comp=Z,942nm,1.6s
SLM **Saint Louis** 59.81 65 eP P 12 17 29.4 -0.5
comp=Z,942nm,1.6s
BOLP **Bolinao** 59.91 258 eP P 12 17 31.5 +0.7
RFTA **Plano** 59.94 74 eP P 12 17 31.2 +0.4
532A **Rocksprings** 60.01 78 ⇓P P 12 17 30.4 -1.1
baz=60,SNR=43
631A **Perdido Creek** 60.11 79 ⇑P P 12 17 31.1 -1.0
baz=60
FVM **French Village** 60.15 66 eP P 12 17 31.5 -0.8
FVM pmax pmax
comp=Z,538nm,1.1s
FVM **French Village** 60.15 66 eP P 12 17 31.5 -0.8
comp=Z,538nm,1.1s
WHTX **Lake Whitney** 60.19 75 ⇑P P 12 17 32.8 +0.2
baz=60,SNR=51
MK31 **Makanchi Array** 60.26 309 eP P 12 17 32.0 -0.9
MK31 **Makanchi Array** 60.26 309 eP P 12 17 32.0 -0.9
MKAR **Makanchi Array** 60.26 309 P P 12 17 31.9 -1.0

comp=Z,33nm,0.7s,baz=43,slow=6.3,SNR=151
MKAR PcP **PcP** **12 18 17.9 -0.1**
comp=Z,21nm,0.7s,baz=50,slow=5.3,SNR=5.4
MKAR PKPPKP P'P'df 12 46 50.4 -11
comp=Z,1.5nm,0.9s,baz=241,slow=4.0,SNR=6.6
MKAR P4KPbc 12 54 38.5
comp=Z,1.0nm,1.0s,baz=22,slow=2.7,SNR=4.1
MKAR Makanchi Array 60.26 309 P **P** **12 17 31.9 -1.0**
MKAR 12 18 17.9
MKAR Makanchi Array 60.26 309 P **P** **12 17 31.9 -1.0**
MKAR PcP **PcP** **12 18 17.9 -0.1**
MKAR P'P' 12 46 50.4
MKAR *e* 12 54 38.5
SFIN Scholer Farm 60.35 61 ⇑P **P** **12 17 33.3 -0.3**
baz=60,SNR=80
SCZP Santa Cruz 60.37 258 *e*P **P** **12 17 32.4 -1.6**
STEI Steigen 60.47 354 *e*P **P** **12 17 33.9 -0.1**
632A Uvalde 60.52 79 ⇓P **P** **12 17 34.1 -0.8**
baz=60,SNR=25
AUQP San Andres 60.60 254 *e*P **P** **12 17 38.2 +2.6**
GYA Guiyang 60.69 276 ⇑*i*P **P** **12 17 37.0 +0.7**
GYA pP pP 12 17 55.3 +10
GYA sP sP 12 18 02.0 +13
GYA PcP **PcP** **12 18 21.8 +1.6**
GYA PP **PP** **12 19 53.5 +3.6**
GYA ScP **ScP** **12 22 16.0 -3.0**
GYA PcS **PcS** **12 22 22.0 -1.1**
GYA SS **SS** **12 29 47.5 -1.9**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.2s
GYA LR LR
comp=N,5μm,19.7s
GYA LR LR
comp=E,3μm,18.6s
GYA LR LR
comp=Z,5μm,19.2s
MIAR Mount Ida 60.72 70 *e*P **P** **12 17 36.1 -0.1**
MIAR pmax pmax
comp=Z,559nm,1.2s
MIAR Mount Ida 60.72 70 *e*P **P** **12 17 36.1 -0.1**
comp=Z,559nm,1.2s
AAM Ann Arbor 60.87 58 *e*P **P** **12 17 37.0 -0.1**
AAM pmax pmax
comp=Z,209nm,0.6s
AAM Ann Arbor 60.87 58 *e*P **P** **12 17 37.0 -0.1**
comp=Z,210nm,0.6s
OLIL Olney 60.94 63 *e*P **P** **12 17 37.3 -0.4**
comp=Z,794nm,0.9s
732A Laxson Ranch, 60.96 80 ⇓P **P** **12 17 37.5 -0.4**
baz=61,SNR=69
SIUC Southern Illin 61.03 65 *e*P **P** **12 17 37.6 -0.6**
comp=Z,204nm,0.6s
TGY Tagaytay City 61.04 256 P **P** **12 17 39.6 +0.9**
comp=Z,983nm,0.8s,baz=296,slow=1.0,SNR=35
TGY Tagaytay City 61.04 256 P **P** **12 17 39.6 +0.9**
BVAR Borovoye Array 61.05 320 P **P** **12 17 38.2 +0.1**
comp=Z,44nm,0.5s,baz=56,slow=6.5,SNR=175
BVAR PcP **PcP** **12 18 21.3 +0.3**
comp=Z,132nm,0.9s,baz=54,slow=3.8,SNR=16
BVAR PKPPKP P'P'df 12 46 48.9 -12
comp=Z,1.5nm,0.8s,baz=260,slow=2.7,SNR=5.3
BVAR P4KPbc 12 54 40.1
comp=Z,4.1nm,1.0s,baz=56,slow=3.6,SNR=10
BVAR Borovoye Array 61.05 320 P **P** **12 17 38.2 +0.1**
BVAR 12 18 21.3
BVAR Borovoye Array 61.05 320 P **P** **12 17 38.2 +0.1**
BVAR PcP **PcP** **12 18 21.3 +0.3**
BVAR P'P' 12 46 48.9
BVAR *e* 12 54 40.1
BRVK Borovoye 61.06 320 *c i*P **P** **12 17 38.3 +0.1**
BRVK pmax pmax
comp=Z,133nm,1.4s
BRVK Borovoye 61.06 320 *e*P **P** **12 17 38.4 +0.1**
comp=Z,104nm,0.9s
BRVK Borovoye 61.06 320 P **P** **12 17 38.8 +0.5**
SNR=30
OCLP Ormoc 61.25 250 *e*P **P** **12 17 40.3 +0.4**
TMCR Tamitsa 61.27 343 *e*P **P** **12 17 38.8 -0.6**
TMCR *e* 12 18 20.9
TMCR pmax pmax
comp=Z,148nm,1.1s
UALR University of 61.28 69 *e*P **P** **12 17 39.6 -0.4**
comp=Z,412nm,1.4s
PARMO Parma 61.46 66 *e*P **P** **12 17 40.9 -0.3**
BLO Bloomington 61.51 62 *e*P **P** **12 17 41.2 -0.3**
BLO pmax pmax
comp=Z,642nm,1.2s
BLO Bloomington 61.51 62 *e*P **P** **12 17 41.2 -0.3**
comp=Z,642nm,1.2s
PVMO Portageville 61.66 66 *e*P **P** **12 17 42.8 +0.2**
comp=Z,644nm,1.0s
SVE Sverdlovsk 61.70 328 *d i*P **P** **12 17 43.7 +1.2**
SVE *e* 12 18 22.3
SVE *e* 12 20 06.4
SVE *e*PPP PPP 12 21 38.5
SVE *e*S S 12 26 15.0 +12
SVE pmax pmax
comp=Z,123nm,0.9s
SVE MLR MLR
comp=Z,7μm,20.0s
SVE MLR MLR
comp=N,3μm,22.0s
SVE MLR MLR
comp=E,5μm,20.0s
HBAR Harrisburg 61.72 68 *e*P **P** **12 17 42.6 -0.3**
USIN University of 61.73 64 *e*P **P** **12 17 42.8 -0.2**
comp=E,872nm,0.8s
LUBP Lubang 61.75 256 *e*P **P** **12 17 42.8 -0.5**
GNAR Gosnell 61.80 67 *e*P **P** **12 17 43.7 +0.3**
comp=E,7μm,1.2s
MSLP Maasin 61.83 249 *e*P **P** **12 17 44.0 +0.2**
RCP Roxas 61.95 252 ⇑*i*P **P** **12 17 45.6 +0.9**
GLAT Glass 62.00 66 *e*P **P** **12 17 44.7 -0.1**
FLOS Flostrand 62.16 355 *e*P **P** **12 17 46.8 +1.4**
STOK Stokkvaagen 62.19 355 *e*P **P** **12 17 44.7 -0.9**
UTMT University of 62.19 66 *e*P **P** **12 17 46.3 +0.2**
comp=E,2μm,1.2s
SJMP San Jose 62.21 254 *e*P **P** **12 17 47.1 +0.7**
MOR8 Moi Rana 62.27 354 *e*P **P** **12 17 45.0 -1.1**
WCI Wyandotte Cave 62.30 63 *e*P **P** **12 17 46.7 -0.2**
WCI pmax pmax
comp=Z,392nm,0.9s
WCI Wyandotte Cave 62.30 63 *e*P **P** **12 17 46.7 -0.2**
comp=Z,392nm,0.9s
MET Memphis--Engin 62.44 68 *e*P **P** **12 17 49.5 +1.7**
comp=Z,1μm,1.1s
HKT Hockley 62.62 76 *e*P **P** **12 17 49.3 +0.3**
HKT pmax pmax
comp=Z,135nm,1.0s
HKT Hockley 62.62 76 *e*P **P** **12 17 49.3 +0.3**
comp=Z,135nm,1.0s
ACSO Alum Creek Sta 62.69 59 *e*P **P** **12 17 49.6 +0.2**
comp=Z,212nm,0.8s
ARU Arti 62.70 328 *c i*P **P** **12 17 49.8 +0.6**
ARU *e* 12 18 27.1
ARU 12 20 07.8
ARU PPP PPP 12 21 34.5
ARU S **S** **12 26 14.7 -0.6**
ARU 12 27 37.0
ARU SS **SS** **12 30 14.2 -5.0**
ARU pmax pmax
comp=Z,180nm,1.0s
ARU MLR MLR
comp=Z,3μm,20.0s
ARU Arti 62.70 328 *e*P **P** **12 17 49.8 +0.6**
comp=Z,118nm,0.7s
ARU LR LR
comp=Z,4μm,21.0s
ARU Arti 62.70 328 P **P** **12 17 49.6 +0.4**
comp=Z,1μm,0.8s,SNR=48
GUIM Jordan 62.78 252 *e*P **P** **12 17 50.4 +0.2**
ERPA Erie 62.92 56 *e*P **P** **12 17 51.2 +0.3**
comp=Z,174nm,1.0s
KVTX Kingsville 63.09 79 *e*P **P** **12 17 53.9 +1.7**
comp=Z,237nm,1.0s
ALLY Alegheny Colle 63.18 56 *e*P **P** **12 17 53.6 +0.9**
comp=Z,562nm,1.3s
BUKP Musuan 63.52 248 *e*P **P** **12 17 55.8 +0.6**
CUYO Cuyo Island 63.54 253 *e*P **P** **12 17 56.0 +0.7**
JOF Joensuu 63.58 345 *e*P **P** **12 17 52.8 -2.1**
JOF pmax pmax
comp=Z,35nm,0.5s
JOF Joensuu 63.58 345 *e*p **P** **12 17 52.8 -2.1**
comp=Z,35nm,0.5s
MATI Mati 63.59 246 *e*P **P** **12 17 55.0 -0.6**
LONY Lake Ozonia 63.81 51 *e*P **P** **12 17 55.1 -1.6**
comp=Z,60nm,1.1s
KLMR Klimovskoe 63.99 341 *c i*P **P** **12 17 57.6 0.0**
KLMR pmax pmax
comp=Z,100nm,1.0s
KMI Kunming 64.09 278 P **P** **12 18 00.3 +1.2**
KMI pP pP 12 18 13.8 +5.1
KMI sP sP 12 18 21.5 +9.2
KMI PcP **PcP** **12 18 35.5 +1.4**
KMI PP **PP** **12 20 18.0 -2.0**
KMI S **S** **12 26 30.8 -3.1**
KMI SS **SS** **12 30 44.0 +1.3**
KMI pmax pmax
comp=Z,200nm,1.1s
KMI pmax pmax
comp=Z,1μm,3.1s
KMI LR LR
comp=N,1μm,26.5s
KMI LR LR
comp=E,660nm,29.5s
KMI LR LR
comp=Z,2μm,30.7s
QIZ Qiongzhong 64.15 268 P **P** **12 17 59.5 +0.2**
QIZ pP pP 12 18 16.5 +7.6
QIZ S **S** **12 26 31.8 -2.5**
QIZ sS sS 12 27 00.8 +11
QIZ SS **SS** **12 30 44.0 +0.5**
QIZ pmax pmax
comp=Z,140nm,1.4s
QIZ pmax pmax
comp=Z,750nm,11.3s
QIZ LR LR
comp=N,1μm,22.4s
QIZ LR LR
comp=E,250nm,27.3s
QIZ LR LR
comp=Z,1μm,25.0s
QIZ Qiongzhong 64.15 268 *e*P **P** **12 18 00.3 +1.0**
comp=Z,184nm,1.1s
VBMS Vicksburg 64.17 70 *e*P **P** **12 17 59.6 +0.4**
comp=Z,340nm,0.9s
ENPP El Nido 64.22 255 *e*P **P** **12 18 01.0 +1.3**
NCB Newcomb 64.46 51 *e*P **P** **12 18 00.2 -0.8**
comp=Z,101nm,1.0s
CTBH Cotabato--PC H 64.53 248 ⇓*i*P **P** **12 18 02.9 +1.1**
SMPI Sarmi 64.58 229 P **P** **12 18 03.3 +1.2**
comp=Z,146nm,1.4s,comp=Z,3μm
BINY Binghamton 64.90 53 *e*P **P** **12 18 03.5 -0.4**
comp=Z,131nm,1.1s
MDV Middlebury 64.94 50 *e*P **P** **12 18 03.2 -0.9**
TZTN Tazewell 65.03 62 *e*P **P** **12 18 05.0 +0.2**
comp=Z,529nm,1.0s
IPIL Ipil 65.05 250 *e*P **P** **12 18 04.7 -0.5**
KAF Kangasniemi 65.08 348 *e*P **P** **12 18 03.1 -1.6**
KAF pmax pmax
comp=Z,54nm,0.6s
KAF Kangasniemi 65.08 348 *e*p **P** **12 18 03.1 -1.6**
comp=Z,54nm,0.6s
SSPA Standing Stone 65.08 56 *e*P **P** **12 18 04.3 -0.7**
comp=Z,106nm,1.0s
ACCN Adirondack Com 65.17 51 *e*P **P** **12 18 04.9 -0.7**
comp=Z,62nm,1.0s
CPCT Cooper Cave 65.29 64 *e*P **P** **12 18 06.4 -0.1**
PQI Presque Isle 65.32 45 *e*P **P** **12 18 05.5 -1.0**
comp=Z,49nm,0.8s
LBNH Lisbon 65.36 49 *e*P **P** **12 18 05.8 -1.1**
LBNH pmax pmax
comp=Z,60nm,1.1s
LBNH Lisbon 65.36 49 *e*P **P** **12 18 05.8 -1.1**
comp=Z,60nm,1.1s
TBLU Trondheim 65.40 356 *e*P P 12 18 09.9 +3.2
TBLU AMS AMS 12 45 13.1
comp=Z,3μm,25.5s
HNH Hanover 65.59 50 *e*P **P** **12 18 07.8 -0.5**
LRAL Lakeview Retre 65.63 67 *e*P **P** **12 18 08.0 -0.8**
comp=Z,202nm,0.9s
FIA1 FINESS Array S 65.75 347 *e*P **P** **12 18 08.4 -0.6**
FINES FINESS Array B 65.75 347 P **P** **12 18 08.6 -0.5**
comp=Z,47nm,0.8s,baz=24,slow=7.9,SNR=71
FINES PcP **PcP** **12 18 39.5 -0.6**
comp=Z,74nm,0.8s,baz=44,slow=5.8,SNR=14
FINES PKPPKP P'P'df 12 46 36.9 -17
comp=Z,2.2nm,0.8s,baz=285,slow=3.7,SNR=4.3
FINES FINESS Array B 65.75 347 P **P** **12 18 08.6 -0.5**
FINES PcP **PcP** **12 18 39.5 -0.6**
FINES P'P' 12 46 36.9
FFD Franklin Falls 66.07 50 *e*P **P** **12 18 11.3 -0.2**
comp=Z,28nm,0.7s
MOL Molde 66.19 357 *e*P **P** **12 18 13.0 +1.2**
BLA Blacksburg 66.26 60 *e*P **P** **12 18 13.1 +0.3**
BLA pmax pmax
comp=Z,357nm,1.3s
BLA Blacksburg 66.26 60 *e*P **P** **12 18 13.1 +0.3**
comp=Z,357nm,1.3s
TKM2 Tokmak 2 66.34 310 *e*P **P** **12 18 13.5 +0.1**
TKM2 Tokmak 2 66.34 310 *e*P **P** **12 18 13.5 +0.1**
TKM2 Tokmak 2 66.34 310 P **P** **12 18 13.7 +0.3**
SNR=45
MVL Millersville 66.34 55 *e*P **P** **12 18 12.6 -0.6**
comp=Z,70nm,0.9s
VWCC Virginia Weste 66.47 59 *e*P **P** **12 18 14.3 +0.1**
SDMD Soldier's Deli 66.53 56 *e*P **P** **12 18 14.2 -0.3**
comp=Z,117nm,1.1s
ULHL Ulahol 66.53 309 P **P** **12 18 14.8 +0.1**
SNR=12
USP Ospenovka 66.60 311 P **P** **12 18 15.4 +0.4**
SNR=76
CHMS Chumysh 66.68 310 P **P** **12 18 15.8 +0.4**
SNR=20
BRNJ Basking Ridge 66.74 54 *e*P **P** **12 18 15.6 -0.2**
comp=Z,25μm,0.9s
PAL Palisades 66.83 53 *e*P **P** **12 18 15.9 -0.4**
PAL pmax pmax
comp=Z,62nm,0.8s
PAL Palisades 66.83 53 *e*P **P** **12 18 15.9 -0.4**
comp=Z,62nm,0.8s
KBK Karagaybulak 66.85 310 P **P** **12 18 17.1 +0.4**
SNR=34
FRU Bishkek 66.87 310 ⇑*i*P **P** **12 18 16.0 -0.7**
FRU *i* 12 18 44.0
FRU pmax pmax
comp=Z,195nm,1.6s
CPNY Central Park 66.96 53 *e*P **P** **12 18 17.4 +0.2**
comp=Z,41nm,0.6s
WES Weston 67.05 50 *e*P **P** **12 18 17.1 -0.6**
WES pmax pmax
comp=Z,53nm,0.7s
WES Weston 67.05 50 *e*P **P** **12 18 17.1 -0.6**
comp=Z,53nm,0.7s
BRAL Brewton 67.07 69 *e*P **P** **12 18 17.7 -0.3**
comp=Z,1μm,1.1s
EMMW East Machias 67.08 46 *e*P **P** **12 18 16.8 -1.0**
comp=Z,212nm,1.1s
AAK Ala-Archa 67.08 310 *e*P **P** **12 18 18.1 0.0**
AAK pmax pmax
comp=Z,120nm,0.6s
AAK Ala-Archa 67.08 310 *e*P **P** **12 18 18.1 0.0**
comp=Z,120nm,0.6s
AAK Ala-Archa 67.08 310 P **P** **12 18 18.7 +0.6**
SNR=42
AAK Ala-Archa 67.08 310 P **P** **12 18 18.5 +0.4**
SNR=64
BATP Bataraza 67.09 255 *e*P **P** **12 18 19.6 +1.3**
KZA Kyzart 67.14 309 P **P** **12 18 19.3 +0.5**
SNR=46
JSRW J. Sargeant Re 67.26 58 *e*P **P** **12 18 19.4 +0.3**
KMSC Kings Mountain 67.28 62 ⇑P **P** **12 18 19.5 +0.2**
baz=67,SNR=147
BRYW Bryant College 67.30 51 *e*P **P** **12 18 18.8 -0.6**
comp=Z,92nm,1.0s
SWI Sorong 67.33 237 P **P** **12 18 20.0 +0.2**
comp=Z,625nm,0.9s,comp=Z,5μm
UCH Uchtor 67.38 310 P P 12 18 23.9 +3.5
SNR=6.0
EKS2 Erkin-Say 67.40 311 *e*P **P** **12 18 20.6 +0.4**
EKS2 pmax pmax
comp=Z,33nm,0.6s
EKS2 Erkin-Say 67.40 311 *e*P **P** **12 18 20.6 +0.4**
comp=Z,33nm,0.6s
EKS2 Erkin-Say 67.40 311 P **P** **12 18 20.7 +0.6**
SNR=58
NB2 NORSAR Subarra 67.56 355 P **P** **12 18 20.4 -0.3**
baz=7.5,slow=6.5
NB2 NORSAR Subarra 67.56 355 P **P** **12 18 20.4 -0.3**
comp=Z,69nm,1.1s,baz=7.5,slow=6.5
NOA NORSAR Array B 67.56 355 P **P** **12 18 20.6 -0.1**
comp=Z,48nm,1.0s,baz=5.8,slow=6.3,SNR=58
NOA PKP2bc 12 46 36.8
comp=Z,12nm,1.1s,baz=177,slow=3.6,SNR=4.4
NOA NORSAR Array B 67.56 355 P **P** **12 18 20.6 -0.1**
NOA ⇑*e* 12 46 36.8
DRLN Deer Lake 67.62 38 *e*P **P** **12 18 20.4 -0.9**
comp=Z,89nm,1.1s
PMG Port Moresby 67.63 217 P **P** **12 18 21.9 +0.3**
comp=Z,70nm,1.0s,baz=23,slow=5.7,SNR=21
PMG PKPPKP **P'P'df** **12 46 42.3 +2.6**
comp=Z,16nm,1.0s,baz=270,slow=7.1,SNR=4.3
PMG Port Moresby 67.63 217 *e*P **P** **12 18 21.1 -0.5**
comp=Z,243nm,1.5s
PMG P'P' 12 46 42.3
NAO01 NORSAR Array S 67.77 355 *e*P **P** **12 18 21.6 -0.4**
comp=Z,42nm,0.9s
AKTO Aktyubinsk 67.81 325 PKPPKP 12 46 38.1
comp=Z,0.5nm,0.3s,baz=236,slow=12,SNR=5.1
NC602 NORSAR Array S 67.85 355 *e*P **P** **12 18 22.0 -0.5**
AML Almayashu 67.85 310 P **P** **12 18 24.1 +0.8**
SNR=59
JSC Jenkinsville 67.96 62 *e*P **P** **12 18 24.1 +0.5**
JSC Jenkinsville 67.96 62 *e*P **P** **12 18 24.1 +0.5**
TNTI Ternate 68.05 241 P **P** **12 18 24.2 -0.1**
comp=Z,151nm,1.7s,comp=Z,2μm
TNTI Ternate 68.05 241 P **P** **12 18 24.2 -0.1**
comp=Z,151nm,1.7s,comp=Z,2μm
BER Bergen 68.44 358 AMS AMS 12 43 36.4
comp=Z,2μm,4.1s
VSU Vasula 68.53 346 *c i*P **P** **12 18 26.8 +0.1**
VSU pmax pmax
comp=Z,186nm,1.0s
FAKI Fak Fak 68.57 235 P **P** **12 18 27.9 +0.3**
comp=Z,309nm,1.0s,comp=Z,4μm
KSH Kashi 68.74 307 ⇑*i*P P 12 18 32.5 +4.0
KSH pP **PcP** **12 18 49.5 -3.6**
KSH sP sP 12 18 57.3 +15
KSH PP PP 12 21 09.8 +10
KSH ScP 12 22 54.0
KSH PcS 12 23 01.5
KSH S **S** **12 27 28.8 -0.9**
KSH sS sS 12 28 00.3 +15
KSH ScS **SKKSac** **12 28 25.5 -0.1**
KSH pmax pmax
comp=Z,150nm,1.0s
KSH LR LR
comp=N,2μm,15.4s
KSH LR LR
comp=E,1μm,14.7s
KSH LR LR
comp=Z,4μm,22.3s
TIGA Tifton 68.76 66 ⇓P **P** **12 18 28.6 0.0**
baz=69
MNI Manado 68.89 244 P **P** **12 18 30.2 +0.6**
MNI Manado 68.89 244 P **P** **12 18 29.6 0.0**
comp=Z,199nm,1.1s,comp=Z,3μm
MSVF Nonsavu 69.01 184 *e*P **P** **12 18 31.0 +0.8**
MSVF pmax pmax
comp=Z,53nm,1.2s
MSVF Nonsavu 69.01 184 *e*P **P** **12 18 31.0 +0.8**
comp=Z,53nm,1.2s
KONO Kongsberg 69.03 356 *e*P **P** **12 18 29.2 -0.6**
KONO pmax pmax
comp=Z,42nm,0.8s
KONO Kongsberg 69.03 356 *e*P **P** **12 18 29.2 -0.6**
comp=Z,42nm,0.8s
LBMI Labuha 69.15 240 P **P** **12 18 31.4 +0.2**
comp=Z,129nm,1.6s,comp=Z,2μm
LBMI Labuha 69.15 240 P **P** **12 18 31.4 +0.2**
comp=Z,129nm,1.6s,comp=Z,2μm
KDM Kudat 69.16 254 P **P** **12 18 33.4 +2.1**
NHSC New Hope 69.44 63 *e*P **P** **12 18 33.7 +0.9**
comp=Z,2μm,1.0s
MYLDM Lahad Datu 69.54 252 P **P** **12 18 35.9 +2.3**
IMP Imphal 69.73 284 *i*P **P** **12 18 33.0 -1.9**
OBN Obninsk 69.89 340 α*i*P **P** **12 18 35.5 +0.3**
OBN *i* 12 18 44.6
OBN *i* 12 18 52.6
OBN *i* 12 18 57.8
OBN 12 21 18.0
OBN *i*S **S** **12 27 40.7 -1.8**
OBN *e*SS **SS** **12 32 08.4 -2.0**
OBN pmax pmax
comp=Z,254nm,1.1s
OBN MLR MLR
comp=Z,3μm,17.0s
OBN Obninsk 69.89 340 *e*P **P** **12 18 35.4 +0.2**
comp=Z,180nm,0.9s
OBN Obninsk 69.89 340 P **P** **12 18 35.9 +0.7**
comp=Z,1μm,0.6s,SNR=7.7
SDKM Sandakan 69.95 253 P **P** **12 18 37.0 +0.8**
SDKM Sandakan 69.95 253 P **P** **12 18 36.2 0.0**
KMSI Cibinong 70.09 244 P **P** **12 18 37.5 +0.5**
comp=Z,391nm,1.1s,comp=Z,5μm
KKM Kota Kinabalu 70.22 254 P **P** **12 18 39.0 +1.1**
SHL Shillong 70.39 286 ⇑*i*P **P** **12 18 40.0 +1.0**
comp=Z,82nm,0.8s
SHL *e*S **S** **12 27 50.0 +0.4**
SNART Snartemo 70.44 357 *e*P **P** **12 18 39.4 +0.9**
TSM Tawau 70.62 252 P **P** **12 18 41.3 +1.0**
MVH1 Achvaich 70.83 3 *e*P **P** **12 18 42.1 +1.2**
MVH1 Achvaich 70.83 3 P **P** **12 18 42.1 +1.2**
GTK Gangtok 71.01 290 *e*P **P** **12 18 41.0 -1.8**
CMMT Chiang Mai 71.11 277 P **P** **12 18 43.9 +0.6**
comp=Z,123nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 71.11 277 *e*P **P** **12 18 43.9 +0.6**
CHTO pmax pmax
comp=Z,110nm,1.1s
CHTO Chiang Mai 71.11 277 *e*P **P** **12 18 43.9 +0.6**
comp=Z,110nm,1.1s
CHTO Chiang Mai 71.11 277 P **P** **12 18 44.1 +0.9**
SNR=62
CHTO Chiang Mai 71.11 277 P **P** **12 18 43.4 +0.1**
comp=Z,138nm,1.4s,comp=Z,2μm
BNDI Bandanaira 71.14 236 P **P** **12 18 44.0 +0.7**
BNDI Bandanaira 71.14 236 P **P** **12 18 43.7 +0.4**
comp=Z,325nm,1.2s,comp=Z,4μm
MCD Coleburn Disti 71.20 3 *e*P **P** **12 18 42.9 -0.3**
MCD Coleburn Disti 71.20 3 P **P** **12 18 42.9 -0.3**
IZAR Zarasai 71.22 346 *e*P **P** **12 18 43.3 0.0**
IZAR AMB AMB 12 18 45.7
comp=Z,37nm,1.3s
MDO Dochfour 71.31 4 *e*P **P** **12 18 43.7 -0.1**
MDO Dochfour 71.31 4 P **P** **12 18 43.7 -0.1**
MRSI Marisa 71.33 246 P **P** **12 18 44.6 +0.1**
comp=Z,380nm,0.9s,comp=Z,4μm
AAI Ambon 71.33 238 P **P** **12 18 44.4 -0.1**
comp=Z,327nm,1.0s,comp=Z,3μm
KPL Plockton 71.35 4 *e*P **P** **12 18 44.0 -0.1**
KPL AMB AMB 12 18 49.5
comp=Z,123nm,2.6s
KPL Plockton 71.35 4 P **P** **12 18 44.0 -0.1**
KPL AMB AMB 12 18 49.5
comp=Z,123nm,2.6s
CM31 Chiang Mai Arr 71.38 276 *e*P **P** **12 18 45.6 +0.7**
comp=Z,49nm,0.7s
CMAR Chiang Mai Arr 71.38 276 P **P** **12 18 45.9 +1.0**
comp=Z,86nm,0.8s,baz=27,slow=6.9,SNR=445
CMAR PKP2ab 12 46 30.8
comp=Z,0.5nm,0.6s,baz=263,slow=2.2,SNR=4.1
CMAR LR LR 12 53 50.2
comp=Z,2μm,19.6s,baz=50,slow=39
CMAR P4KPbc 12 55 30.4
comp=Z,3.3nm,0.9s,baz=17,slow=4.3,SNR=18
CMAR Chiang Mai Arr 71.38 276 P **P** **12 18 45.9 +1.0**
CMAR P'P'ab P'P'ab 12 46 30.8 -5.1
CMAR *e* 12 55 30.4
ISAL Salakas 71.41 346 *e*P **P** **12 18 44.3 -0.2**
ISAL AMB AMB 12 18 47.0
comp=Z,31nm,1.1s
KSB Sheil Bridge 71.49 4 *e*P **P** **12 18 46.2 +1.3**
KSB Sheil Bridge 71.49 4 P **P** **12 18 46.2 +1.3**
TAPN Taplejung 71.53 291 *e*P **P** **12 18 47.7 +1.7**
VAH Vaihoa 71.59 149 *e*P **P** **12 18 46.6 +0.7**
comp=Z,143nm,1.3s
VAH Vaihoa 71.59 149 *e*P **P** **12 18 46.6 +0.7**
comp=Z,143nm,1.3s
SLGI Shiliguri 71.60 290 *e*P **P** **12 18 47.5 +1.4**
IIGN Ignalina 71.60 346 *e*P **P** **12 18 45.6 0.0**
IIGN AMB AMB 12 18 48.1
comp=Z,47nm,1.3s
NACGM Naroch 71.95 345 *e* P 12 18 44.0 -3.7
AGT Agartala 72.03 286 *i* x P 12 18 52.0 +3.3

ODAN Odare 72.08 291 *e*P P 12 18 50.7 +1.4
comp=Z,2µm,1.0s
LUWI Luwuk 72.10 244 P P 12 18 48.5 -0.6
comp=Z,577nm,1.2s,comp=Z,5µm
MICGM Minsk 72.15 344 *e*P P 12 18 47.0 -2.0
MNK Minsk 72.16 344 *e*P P 12 18 47.0 -2.0
MNK pmax pmax
comp=Z,340nm,1.2s
GUN Gumba 72.17 292 *e*P P 12 18 51.4 +1.5
MUD Monsted U'grnd 72.24 356 *i*P P 12 18 51.3 +1.9
comp=Z,24nm,0.8s
VRHR Novokhopersk 72.36 335 *e*P P 12 18 49.2 -1.1
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s
VRHR MLR MLR
comp=N,880nm,20.0s
VRHR MLR MLR
comp=E,2µm,20.0s
VRHR MLR MLR
comp=Z,4µm,20.0s
RAMN Ramite 72.47 291 *e*P P 12 18 52.8 +1.2
DWPF Disney 72.49 67 *e*P P 12 18 52.0 +0.7
comp=Z,552nm,1.1s
EAB Aberfoyle 72.56 4 *e*P P 12 18 51.6 +0.3
EAB Aberfoyle 72.56 4 P P 12 18 51.6 +0.3
KKN Kakani 72.60 293 *e*P P 12 18 53.6 +1.2
comp=Z,2µm,0.9s
PKI Pulchoki 72.70 292 *e*P P 12 18 54.2 +1.1
comp=Z,2µm,1.0s
PKIN Phulchoki 72.70 292 *e*P P 12 18 54.8 +1.8
comp=Z,509nm,0.7s
COP Copenhagen 72.82 354 *i*P P 12 18 53.9 +1.0
comp=Z,24nm,0.8s
COP
comp=Z,870nm,27.0s
DMN Daman 72.84 293 *e*P P 12 18 55.2 +1.4
comp=Z,2µm,1.0s
VSR Storozhevoye 72.88 336 *c i*P P 12 18 53.7 +0.3
VSR pmax pmax
comp=N,70nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,180nm,0.9s
VSR MLR MLR
comp=Z,6µm,24.0s
ESY Stoneypath 72.89 3 *e*P P 12 18 52.7 -0.6
ESY Stoneypath 72.89 3 P P 12 18 52.7 -0.6
EAU Auchinoon 72.94 3 *e*P P 12 18 53.9 +0.3
EAU Auchinoon 72.94 3 P P 12 18 53.9 +0.3
EBL Broad Law 73.02 3 *e*P P 12 18 54.1 0.0
EBL Broad Law 73.02 3 P P 12 18 54.1 0.0
DANN Dangsing 73.05 294 *e*P P 12 18 56.3 +1.2
comp=Z,2µm,0.9s
VORD Divnogorie 73.08 336 *e*P P 12 18 54.5 0.0
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,30nm,0.4s
VORD pmax pmax
comp=Z,60nm,0.4s
VORD MLR MLR
comp=N,4µm,24.0s
VORD MLR MLR
comp=E,3µm,24.0s
VORD MLR MLR
comp=Z,6µm,24.0s
BSD Bornholm Skovb 73.20 352 *i*P P 12 18 54.8 -0.3
comp=Z,48nm,0.7s
BSD
comp=Z,2µm,18.0s
PPT2 Papeete2 73.20 152 *e*P P 12 18 58.1 +2.5
comp=Z,64nm,1.5s
PPT2 *e*S S 12 28 16.5 -5.0
comp=Z,5µm,29.8s
PPT2 *e*SS SS 12 32 57.9 -6.0
comp=Z,5µm,28.5s
PPT2 *e*LR LR 12 41 10.7
comp=Z,5µm,28.8s,baz=351
TIAR Tiarei 73.24 151 *e*P P 12 18 58.0 +2.2
comp=Z,72nm,1.0s
TIAR Tiarei 73.24 151 *e*P P 12 18 58.0 +2.2
comp=Z,72nm,1.0s
PAE Paea 73.27 152 *e*P P 12 18 58.0 +2.1
comp=Z,9.8nm,1.1s
PAE Paea 73.27 152 *e*P P 12 18 58.0 +2.1
PAE pmax pmax
comp=Z,10.0nm,1.1s
PAE Paea 73.27 152 *e*P P 12 18 58.0 +2.1
comp=Z,9.8nm,1.1s
COEN Coen 73.33 219 *e*P P 12 18 56.4 +0.1
comp=Z,991nm,1.0s
SUW Suwalki 73.35 347 *e*P P 12 18 55.9 -0.2
SUW Suwalki 73.35 347 *e*P P 12 18 55.7 -0.3
SUW pmax pmax
comp=Z,169nm,0.8s
SUW Suwalki 73.35 347 *e*P P 12 18 55.7 -0.3
comp=Z,169nm,0.8s
SUW Suwalki 73.35 347 *e*P P 12 18 55.8 -0.2
ESK Eskdalemuir 73.47 3 *e*P P 12 18 55.4 -1.3
ESK AMB AMB 12 18 57.7
comp=Z,98nm,2.0s
ESK Eskdalemuir 73.47 3 P P 12 18 55.4 -1.3
ESK AMB AMB 12 18 57.7
comp=Z,98nm,2.0s
ESK Eskdalemuir 73.47 3 *e*P P 12 18 57.1 +0.3
ESK pmax pmax
comp=Z,89nm,1.2s
ESK Eskdalemuir 73.47 3 *e*P P 12 18 57.1 +0.3
comp=Z,89nm,1.2s
KOLN Koldanda 73.58 294 *e*P P 12 18 59.1 +0.9
comp=Z,845nm,0.9s
CHBT CHBT 73.59 270 P P 12 18 58.8 +0.8
comp=Z,145nm,1.1s
ECK Cauldkaine Hil 73.61 3 *e*P P 12 18 57.7 +0.1
ECK Cauldkaine Hil 73.61 3 P P 12 18 57.7 +0.1
PYUN Piuthan 73.68 295 *e*P P 12 18 59.7 +1.0
comp=Z,3µm,1.0s
RGN Rugen 73.89 353 *e*P P 12 18 59.4 +0.2
comp=Z,188nm,0.9s
XAL Allendale 73.96 2 *e*P P 12 19 00.4 +0.8
XAL Allendale 73.96 2 P P 12 19 00.4 +0.8
PTH Pithoragarh 74.13 297 *e*P P 12 19 02.6 +1.3
LGTI Lohaghat 74.19 297 *ex* P 12 19 08.0 +6.6
THN Thein Dam 74.33 302 *e*P P 12 19 01.5 -0.7
BTM Bintulu 74.36 255 P P 12 19 03.5 +1.0
SRDT SRDT 74.38 273 P P 12 19 03.1 +0.5
comp=Z,251nm,1.1s,comp=Z,5µm
TEIG Tepich 74.38 77 *e*P P 12 19 02.6 -0.1
comp=Z,114nm,1.0s
SDNR Sundarnagar 74.39 301 *e*P P 12 19 03.1 +0.5
GMM Mts of Mourne 74.43 5 *e*P P 12 19 02.1 -0.3
GMM Mts of Mourne 74.43 5 P P 12 19 02.1 -0.3
DZM Mont Dzumac 74.48 195 P P 12 19 04.1 +1.1
comp=Z,48nm,0.9s,baz=55,slow=11,SNR=16
DZM Mont Dzumac 74.48 195 *e*P P 12 19 03.7 +0.6
comp=Z,269nm,1.4s
DZM *e*S SKiKP 12 28 29.3 +2.5
comp=Z,2µm,29.3s
DZM *e*LQ LQ 12 38 17.2
comp=Z,2µm,31.4s
DZM *e*LR LR 12 41 37.3
comp=Z,4µm,24.9s
DZM Mont Dzumac 74.48 195 *e*P P 12 19 02.4 -0.7
DZM Mont Dzumac 74.48 195 *e*P P 12 19 03.7 +0.6
comp=Z,113nm,1.1s
NOUC Port Laguerre 74.54 195 *e*P P 12 19 03.4 +0.1
SMLA Simla 74.58 301 *i*P P 12 19 03.0 -0.6
KDI Kendari 74.58 243 P P 12 19 04.7 +0.9
comp=Z,149nm,1.1s,comp=Z,2µm
BSEG Bad Segeberg 74.70 355 *e*P P 12 19 04.6 +0.7
BSEG pmax pmax
comp=Z,191nm,0.9s
BSEG Bad Segeberg 74.70 355 *e*P P 12 19 04.6 +0.7
comp=Z,191nm,0.9s
DDI Dehra Dun 74.72 299 *e*P P 12 19 04.0 -0.6
GKP Gorka Klasztor 74.80 350 *e*P P 12 19 04.5 0.0
GKP Gorka Klasztor 74.80 350 *e*P P 12 19 04.5 0.0
LHO Holmfirth 75.28 2 *e*P P 12 19 06.5 -0.8
LHO Holmfirth 75.28 2 P P 12 19 06.5 -0.8
WME Myndd Eilian 75.35 4 *e*P P 12 19 07.5 -0.2
WME Myndd Eilian 75.35 4 P P 12 19 07.5 -0.2

TTSI Tana Toraja 75.41 246 P P 12 19 08.9 +0.3
comp=Z,264nm,1.1s,comp=Z,3µm
WLF1 Llynfaes 75.45 4 *e*P P 12 19 07.8 -0.5
WLF1 AMB AMB 12 19 08.8
comp=Z,82nm,1.8s
WLF1 Llynfaes 75.45 4 P P 12 19 07.8 -0.5
WLF1 AMB AMB 12 19 08.8
comp=Z,82nm,1.8s
SBUM Sibu 75.47 255 P P 12 19 10.1 +1.2
YRC Rhoscolyn 75.49 4 *e*P P 12 19 08.9 +0.5
YRC Rhoscolyn 75.49 4 P P 12 19 08.9 +0.5
AKASG Malin Array Be 75.55 342 P P 12 19 08.6 -0.3
comp=Z,125nm,0.7s,baz=19,slow=5.7,SNR=151
AKASG Malin Array Be 75.55 342 P P 12 19 08.6 -0.3
AKASG Malin Array Be 75.55 342 P P 12 19 08.6 -0.3
KIEV Kiev 75.56 342 *e*P P 12 19 08.5 -0.5
KIEV pmax pmax
comp=Z,168nm,0.9s
KIEV Kiev 75.56 342 *e*P P 12 19 08.5 -0.5
comp=Z,168nm,0.9s
AK01 Malin Array Si 75.56 342 *e*P P 12 19 08.8 -0.2
AK02 Malin Array Si 75.60 342 *e*P P 12 19 08.9 -0.2
YRE Yr Eifl 75.76 4 *e*P P 12 19 09.7 -0.3
YRE Yr Eifl 75.76 4 P P 12 19 09.7 -0.3
BEL Belsk 75.80 348 *e*P P 12 19 10.8 +0.5
BEL Belsk 75.80 348 *e*P P 12 19 10.8 +0.5
BBSI Bau Bau 75.87 242 P P 12 19 13.3 +2.1
comp=Z,215nm,0.9s,comp=Z,3µm
FOEL Foel Wylfa 75.90 3 *e*P P 12 19 10.8 -0.1
FOEL AMB AMB 12 19 12.0
comp=Z,121nm,1.7s
FOEL Foel Wylfa 75.90 3 P P 12 19 10.8 -0.1
FOEL AMB AMB 12 19 12.0
comp=Z,121nm,1.7s
RUE Ruedersdorf 75.91 352 *e*P P 12 19 11.2 +0.3
comp=Z,132nm,1.1s
NRDL Niedersach Rie 76.15 355 *e*P P 12 19 12.4 +0.2
comp=Z,310nm,2.2s
SPSI Sidrap Palu 76.19 245 P P 12 19 12.8 -0.2
comp=Z,98nm,1.1s,comp=Z,1µm
HLM1 Long Mynd 76.28 3 *e*P P 12 19 12.9 -0.2
HLM1 AMB AMB 12 19 13.9
comp=Z,84nm,1.9s
HLM1 Long Mynd 76.28 3 P P 12 19 12.9 -0.2
HLM1 AMB AMB 12 19 13.9
comp=Z,84nm,1.9s
VAL Valentia 76.44 8 *e*P P 12 19 13.8 -0.1
IBBN Ibbenburen 76.45 356 *e*P P 12 19 14.6 +0.6
comp=Z,299nm,1.2s
NDI New Delhi 76.45 299 *e*P P 12 19 14.5 +0.1
CLZ Clausthal 76.78 355 *e*P P 12 19 16.5 +0.5
CLZ pmax pmax
comp=Z,531nm,2.1s
CLZ Clausthal 76.78 355 *e*P P 12 19 16.5 +0.5
comp=Z,531nm,2.1s
MCH1 Michaelchurch 76.80 3 *e*P P 12 19 15.8 -0.2
MCH1 AMB AMB 12 19 16.8
comp=Z,96nm,1.8s
MCH1 Michaelchurch 76.80 3 P P 12 19 15.8 -0.2
MCH1 AMB AMB 12 19 16.8
comp=Z,96nm,1.8s
WTSB Winterswijk 76.83 357 *e*P P 12 19 16.3 +0.2
comp=Z,312nm,2.0s
BKSI Bulukumba 77.10 244 P P 12 19 18.7 +0.6
comp=Z,364nm,1.1s,comp=Z,4µm
CLL Collm 77.13 353⇑ *i*P P 12 19 17.5 -0.3
CLL *e* 12 19 27.0
CLL *e*S S 12 29 00.0 -4.5
CLL pmax pmax
comp=Z,69nm,1.0s
CLL Collm 77.13 353 *e*P P 12 19 17.6 -0.3
comp=Z,69nm,1.0s
CLL Collm 77.13 353⇑ *i*P P 12 19 17.5 -0.3
comp=Z,69nm,1.0s
CLL *e*pP pP 12 19 27.0 -0.6
CLL *e*S S 12 29 00.0 -4.5
CLL *e*(SS) 12 33 54.0
CLL *e* 12 38 40.0
CLL Lm MLR 12 56 00.0
comp=N,1µm,20.7s
CLL Lm MLR 12 56 00.0
comp=E,2µm,20.6s
KSP Ksiaz 77.30 351 *e*P P 12 19 18.6 -0.2
KSP Ksiaz 77.30 351⇑ *e*P P 12 19 18.6 -0.2
KSP *e* 12 29 42.0
KSP MLR MLR
comp=Z,5µm,23.5s
KSP Ksiaz 77.30 351 *e*P P 12 19 18.6 -0.2
LVV L'vov 77.30 345⇓ *i*P P 12 19 18.3 -0.6
LVV *e*S S 12 28 56.9 -9.5
LVV pmax pmax
comp=Z,200nm,3.0s
LVV MLR MLR
comp=N,2µm,21.0s
LVV MLR MLR
comp=E,1µm,21.0s
LVV MLR MLR
comp=Z,2µm,21.0s
BUG Bochum–Univer 77.33 357 *e*P P 12 19 19.1 +0.1
comp=Z,151nm,1.4s
KSM Kuching 77.40 256 P P 12 19 21.0 +1.1
BRG Berggiesshubel 77.49 352 *i*P P 12 19 19.8 -0.1
comp=Z,63nm,1.0s
BRG Berggiesshubel 77.49 352 *i*P P 12 19 19.8 -0.1
BRG pmax pmax
comp=Z,63nm,1.0s
BRG Berggiesshubel 77.49 352 *e*P P 12 19 19.7 -0.1
comp=Z,64nm,1.0s
BRG Berggiesshubel 77.49 352 S SKiKP 12 28 42.0 +11
OJC Ojcow 77.51 348 *e*P P 12 19 20.1 +0.1
OJC Ojcow 77.51 348 *e*P P 12 19 20.2 +0.1
comp=Z,73nm,1.1s
OJC Ojcow 77.51 348 *e*P P 12 19 20.1 +0.1
OJC *e*sP sP 12 19 45.1 +12
OJC L L 12 59 57.1
comp=Z,3µm,19.6s
WOL Wolverton 77.53 2 *e*P P 12 19 20.0 -0.1
WOL AMB AMB 12 19 20.9
comp=Z,138nm,1.7s
WOL Wolverton 77.53 2 P P 12 19 20.0 -0.1
WOL AMB AMB 12 19 20.9
comp=Z,138nm,1.7s
UPC Upice 77.66 351 *e*P P 12 19 21.0 +0.1
UPC *e* 12 19 30.2
UPC Upice 77.66 351⇑ *e*P P 12 19 21.0 +0.1
UPC *e*pP pP 12 19 30.2 -0.4
KWP Kalwaria Pacla 77.69 346 *e*P P 12 19 21.7 +0.7
KWP Kalwaria Pacla 77.69 346 *e*P P 12 19 21.4 +0.4
KWP pmax pmax
comp=Z,210nm,0.6s
KWP Kalwaria Pacla 77.69 346 *e*P P 12 19 21.4 +0.4
comp=Z,210nm,0.6s
KWP Kalwaria Pacla 77.69 346⇓ *i*P P 12 19 21.5 +0.4
KWP Kalwaria Pacla 77.69 346 *e*P P 12 19 21.7 +0.7
KBKI Kotabaru 77.72 249 P P 12 19 20.6 -1.0
comp=Z,138nm,1.0s,comp=Z,3µm
HTL Hartland 77.74 4 *e*P P 12 19 21.2 0.0
HTL AMB AMB 12 19 22.2
comp=Z,102nm,1.8s
PVCC Panska Ves 77.77 352 *e*P P 12 19 21.5 0.0
PVCC *e* 12 19 31.1
PVCC MLR MLR
comp=Z,2µm,24.5s
PVCC Panska Ves 77.77 352⇑ *e*P P 12 19 21.5 0.0
PVCC *e*pP pP 12 19 31.1 -0.2
PVCC AMS AMS 12 53 50.0
comp=Z,2µm,24.5s
DPC Dobruska-Polom 77.78 351⇑ *i*P P 12 19 21.9 +0.3
DPC *e* 12 19 27.9
DPC *e* 12 30 12.8
DPC MLR MLR
comp=Z,2µm,22.5s
DPC Dobruska-Polom 77.78 351 *e*P P 12 19 21.8 +0.3
comp=Z,85nm,0.9s
DPC Dobruska-Polom 77.78 351⇑ *i*P P 12 19 21.9 +0.3
DPC *ex* x 12 19 27.9
DPC *ex* x 12 30 12.8
DPC AMS AMS 12 55 50.0
comp=Z,2µm,22.5s
CTA Charters Tower 77.79 214 P P 12 19 22.0 +0.1
comp=Z,95nm,1.0s,baz=22,slow=6.4,SNR=64
CTA PKKPbc **PKKPbc** 12 38 23.3 +0.6
comp=Z,4.8nm,0.9s,baz=14,slow=18,SNR=5.5
CTA Charters Tower 77.79 214 P P 12 19 22.0 +0.1
CTA PKKPbc **PKKPbc** 12 38 23.3 +0.6

CTAO Charters Tower 77.79 214 *e*P P 12 19 21.7 -0.1
CTAO pmax pmax
comp=Z,154nm,1.1s
CTAO Charters Tower 77.79 214 *e*P P 12 19 21.7 -0.1
comp=Z,154nm,1.1s
STKI Sintang 77.81 254 P P 12 19 22.8 +0.7
comp=Z,198nm,1.3s,comp=Z,11µm
UBBA Unterbreizbach 77.82 355 *e*P P 12 19 22.0 +0.4
comp=Z,157nm,1.7s
MOX Moxa 77.89 354 *e*P P 12 19 22.2 0.0
MOX pmax pmax
comp=Z,85nm,1.1s
MOX Moxa 77.89 354 *e*P P 12 19 22.2 0.0
comp=Z,85nm,1.1s
MAK Makhachkala 77.91 328 *c i*P P 12 19 23.3 +1.0
MAK *e* 12 19 36.4
MAK *e* 12 22 21.6
MAK *i*S S 12 29 13.2 +0.1
MAK *e* 12 29 54.7
MAK pmax pmax
comp=Z,450nm,1.1s
KRLC Kraliky 78.00 350⇑ *i*P P 12 19 23.0 +0.2
KRLC *e*PP PP 12 22 22.0 +3.7
BWNR Bhubaneshwar 78.01 287 *ex* x 12 19 13.0
BEBN Eben Emael 78.03 357 P P 12 19 23.2 +0.3
HGN Heimansgroeve 78.06 357 *e*P P 12 19 23.2 +0.2
comp=Z,347nm,1.9s
TANN Tannenbergstha 78.06 353 *e*P P 12 19 23.3 +0.1
comp=Z,103nm,1.4s
OKC Ostrava-Krasne 78.09 349 *e*P P 12 19 23.5 +0.3
OKC MLR MLR
comp=Z,2µm,18.0s
OKC Ostrava-Krasne 78.09 349⇑ *e*P P 12 19 23.5 +0.3
OKC AMS AMS 13 02 00.0
comp=Z,2µm,18.0s
BBSR BB Station 78.17 52 *e*P P 12 19 23.1 -0.8
comp=Z,59nm,0.8s
MEM Membach 78.21 357 P P 12 19 24.1 +0.2
comp=Z,65nm,1.7s
MORC Moravsky Berou 78.22 350 P P 12 19 24.3 +0.3
MORC Moravsky Berou 78.22 350 *e*P P 12 19 23.8 -0.2
comp=Z,36nm,1.0s
MORC Moravsky Berou 78.22 350⇓ *i*P P 12 19 23.8 -0.2
PRA Prague 78.24 352 ⇑P P 12 19 24.0 -0.1
NKC Novy Kostel 78.24 353⇑ *i*P P 12 19 24.3 +0.2
NKC Novy Kostel 78.24 353⇑ *i*P P 12 19 24.3 +0.2
ABKT Ailbek 78.25 318 P P 12 19 25.8 +1.4
comp=Z,531nm,1.1s,SNR=14
PRU Pruhonice 78.31 352 *e*P P 12 19 24.7 +0.2
PRU MLR MLR
comp=Z,2µm,23.3s
PRU Pruhonice 78.31 352⇑ *e*P P 12 19 24.7 +0.2
PRU *e*SCS ScS 12 29 47.4 +5.1
PRU AMS AMS 12 54 10.0
comp=Z,2µm,23.3s
SNF Seneffe 78.35 358 P P 12 19 25.4 +0.8
comp=Z,71nm,1.8s
BCLA Clavier 78.42 358 P P 12 19 25.2 +0.2
comp=Z,64nm,1.7s
BCLA AP pP 12 19 42.5 +7.7
KOLS Kolonicke sedl 78.43 346 *e*P P 12 19 25.7 +0.5
KOLS pmax pmax
comp=Z,68nm,0.9s
KOLS Kolonicke sedl 78.43 346 *e*P P 12 19 25.7 +0.5
TNS Taunus Mts 78.50 356 *e*P P 12 19 25.7 +0.1
TNS pmax pmax
comp=Z,78nm,1.1s
TNS Taunus Mts 78.50 356 *e*P P 12 19 25.7 +0.1
comp=Z,78nm,1.1s
CRVS Cervenica-Dubn 78.58 347 *e*P P 12 19 26.5 +0.5
CRVS pmax pmax
comp=Z,66nm,1.0s
CRVS Cervenica-Dubn 78.58 347 *e*P P 12 19 26.5 +0.5
BBKI Banjar Baru 78.62 250 P P 12 19 26.1 -0.6
comp=Z,169nm,1.2s,comp=Z,3µm
MMRI Maumere 78.66 240 P P 12 19 26.7 -0.1
comp=Z,196nm,1.3s,comp=Z,3µm
TBI Tubuai 78.68 153 *e*S S 12 29 19.4 -2.1
comp=Z,2µm,33.0s
TBI *e*SS SS 12 34 20.6 -6.2
comp=Z,956nm,28.2s
TBI *e*LR LR 12 43 14.0
comp=Z,4µm,30.2s,baz=342
KBZ Khabaz 78.69 331 P P 12 19 27.8 +1.1
comp=Z,104nm,0.9s,baz=45,slow=2.2,SNR=133
KBZ Khabaz 78.69 331 P P 12 19 27.8 +1.1
KBZ Khabaz 78.69 331 P P 12 19 27.8 +1.1
ROTZ Rotzenmuhle 78.72 353 *e*P P 12 19 27.2 +0.4
comp=Z,83nm,1.3s
GIVF Givet 78.75 358⇑ *i*P P 12 19 26.9 0.0
comp=Z,466nm,1.5s
GIVF Givet 78.75 358⇑ *i*P P 12 19 26.9 0.0
GIVF pmax pmax
comp=Z,466nm,1.5s
GIVF Givet 78.75 358⇑ *i*P P 12 19 26.9 0.0
comp=Z,466nm,1.5s
DOU Dourbes 78.76 358 P P 12 19 27.2 +0.3
comp=Z,66nm,1.7s
DOU AP pP 12 19 43.7 +7.0
VRAC Vranov 78.78 350⇑ *i*P P 12 19 27.3 +0.2
BAIF Baives 78.80 358⇑ *i*P P 12 19 27.6 +0.5
comp=Z,267nm,1.1s
BAIF Baives 78.80 358⇑ *i*P P 12 19 27.6 +0.5
BAIF pmax pmax
comp=Z,267nm,1.1s
BAIF Baives 78.80 358⇑ *i*P P 12 19 27.6 +0.5
comp=Z,267nm,1.1s
KTGM Kuala Trenggan 78.80 264 P P 12 19 28.9 +1.2
GRF Grafenberg Arr 78.87 354 *e*P P 12 19 28.1 +0.5
GRF pmax pmax
comp=Z,228nm,1.3s
GRF Grafenberg Arr 78.87 354 *e*P P 12 19 28.1 +0.5
comp=Z,228nm,1.3s
ABH Alteburg 78.88 356 *e*P P 12 19 27.7 0.0
TREC Trest 78.91 351 *e*P P 12 19 28.2 +0.4
TREC *e* 12 19 39.3
TREC MLR MLR
comp=Z,3µm,24.1s
TREC Trest 78.91 351⇑ *e*P P 12 19 28.2 +0.4
TREC *e*pP pP 12 19 39.3 +1.7
TREC AMS AMS 12 54 40.0
comp=Z,3µm,24.1s
RUP Ruppelstein 79.08 357 *e*P P 12 19 29.0 +0.2
RUP Ruppelstein 79.08 357 *e*P P 12 19 29.0 +0.2
TOD Tromm 79.10 355 *e*P P 12 19 28.8 0.0
TOD Tromm 79.10 355 *e*P P 12 19 28.8 0.0
WLF Walferdange 79.15 357 P P 12 19 30.2 +1.1
comp=Z,72nm,1.8s
WLF Walferdange 79.15 357 *e*P P 12 19 29.0 -0.1
WLF pmax pmax
comp=Z,55nm,0.8s
WLF Walferdange 79.15 357 *e*P P 12 19 29.6 +0.5
comp=Z,121nm,1.4s
WLF Walferdange 79.15 357 *e*P P 12 19 29.0 -0.1
comp=Z,55nm,0.8s
KIS Kishinev 79.17 342 *α i*P P 12 19 28.0 -1.3
KIS *e**PP pP 12 19 45.0 +6.0
KIS *e* 12 22 32.0
KIS *e* 12 29 30.0
KIS *e* 12 30 20.0
KIS pmax pmax
comp=Z,100nm,1.6s
KIS pmax pmax
comp=Z,1µm,2.0s
KIS Kishinev 79.17 342⇑ *i*P P 12 19 28.0 -1.3
comp=Z,1µm,1.6s
KIS *e*pP pP 12 19 45.0 +6.0
KIS LRM MLR 12 59 45.0
comp=Z,4µm,20.0s
TRPA Tarpa 79.17 346⇓ *i*P P 12 19 29.2 0.0
TRPA Tarpa 79.17 346 *e*P P 12 19 30.1 +0.9
BUR08 Bucovina Ar. S 79.22 344 *e*P P 12 19 30.2 +0.5
IAS Iasi 79.23 342 P P 12 19 30.3 +0.8
BURAR Bucovina Array 79.24 344⇑ *i*P P 12 19 30.5 +0.7
KHC Kasperske Hory 79.25 352⇑ *i*P P 12 19 30.0 +0.3
KHC *e* 12 19 36.0
KHC MLR MLR
comp=Z,2µm,21.6s
KHC Kasperske Hory 79.25 352 *e*P P 12 19 29.9 +0.2
comp=Z,68nm,1.0s
KHC Kasperske Hory 79.25 352⇑ *i*P P 12 19 30.0 +0.3
KHC *ex* x 12 19 36.0
KHC *ex* x 12 20 41.5
KHC AMS AMS 12 57 40.0
comp=Z,2µm,21.6s

ZEI	**Tsey**	**79.25**	**330**	*e*P	**P**		12 19 30.4	+0.3	
ZEI				pmax	pmax				
	comp=Z,385nm,1.1s								
ANN	**Anapa**	**79.26**	**335**	*c i*P	**P**		12 19 29.3	-0.4	
ANN				*e**PP	pP		12 19 50.7	+11	
ANN				*e*S	**S**		**12 29 27.8**	**+0.3**	
ANN				pmax	pmax				
	comp=Z,107nm,1.1s								
WET	**Wettzell**	**79.29**	**353**	*e*P	**P**		12 19 30.2	+0.3	
WET				pmax	pmax				
	comp=Z,65nm,1.2s								
WET	**Wettzell**	**79.29**	**353**	*e*P	**P**		12 19 30.2	+0.3	
	comp=Z,65nm,1.2s								
VYHS	**Vyhne**	**79.33**	**349**	*e*P	**P**		12 19 30.5	+0.4	
VYHS				pmax	pmax				
	comp=Z,45nm,1.2s								
VYHS	**Vyhne**	**79.33**	**349**	*e*P	**P**		12 19 30.5	+0.4	
KTD	**Kalmit**	**79.42**	**356**	*e*P	**P**		12 19 30.9	+0.3	
KTD	**Kalmit**	**79.42**	**356**	*e*P	**P**		12 19 30.9	+0.3	
BMR	**Baia Mare**	**79.47**	**345**	⇑P	**P**		12 19 31.8	+0.9	
BMR	**Baia Mare**	**79.47**	**345**	⇑*i*P	**P**		12 19 31.8	+0.9	
GEC2	**GERESS Array S**	**79.52**	**352**	*e*P	**P**		12 19 31.2	-0.1	
GEC2				pmax	pmax				
	comp=Z,62nm,1.1s								
GEC2	**GERESS Array S**	**79.52**	**352**	*e*P	**P**		12 19 31.2	-0.1	
	comp=Z,62nm,1.1s								
GERES	**GERESS Array B**	**79.52**	**352**	P	**P**		12 19 31.2	-0.1	
	comp=Z,17nm,0.7s,baz=22,slow=4.6,SNR=89								
GERES				PKKPbc	**PKKPbc**		**12 38 16.9**	**-0.5**	
	comp=Z,2.0nm,0.8s,baz=184,slow=2.1,SNR=9.2								
GERES				PKP2ab			12 46 05.8		
	comp=Z,0.4nm,0.6s,baz=346,slow=0.6,SNR=4.4								
GERES	**GERESS Array B**	**79.52**	**352**	P	**P**		12 19 31.2	-0.1	
GERES				PKKPbc	**PKKPbc**		**12 38 16.9**	**-0.5**	
GERES				P'P'ab			12 46 05.8		
ONI	**Oni**	**79.55**	**330**	P	**P**		12 19 32.5	+1.0	
AJM	**Ajmer**	**79.59**	**299**	*e*P	**P**		12 19 31.5	-0.4	
AJM				AMb	AMB		12 19 34.9		
	comp=Z,125nm,1.2s								
JSA	**Saint Aubin**	**79.64**	**3**	*e*P	**P**		12 19 31.8	+0.1	
JSA				AMB	AMB		12 19 33.3		
	comp=Z,201nm,1.2s								
JSA	**Saint Aubin**	**79.64**	**3**	P	**P**		12 19 31.8	+0.1	
JSA				AMB	AMB		12 19 33.3		
	comp=Z,201nm,1.2s								
TGUH	**Tegucigalpa,Un**	**79.70**	**80**	*e*P	**P**		12 19 33.7	+1.1	
	comp=Z,583nm,1.3s								
PSZ	**Piszkesteto**	**79.76**	**348**	⇓P	**P**		12 19 32.9	+0.4	
PSZ	**Piszkesteto**	**79.76**	**348**	*e*P	**P**		12 19 32.9	+0.4	
PSZ	**Piszkesteto**	**79.76**	**348**	⇓*i*P	**P**		12 19 32.9	+0.4	
PSZ	**Piszkesteto**	**79.76**	**348**	⇑*e*P	**P**		12 19 33.4	+0.9	
SOC	**Sochi**	**79.76**	**333**	*c i*P	**P**		12 19 32.8	+0.3	
SOC				*e*			12 22 30.0		
SOC				*e*S	S		12 29 26.1	-6.8	
SOC				*e*SS	**SS**		**12 34 46.7**	**+6.1**	
SOC				*e*SSS	SSS		12 38 02.7		
SOC				pmax	pmax				
	comp=Z,101nm,0.9s								
SOC				MLR	MLR				
	comp=Z,7μm,20.0s								
LANF	**Langenberg**	**79.77**	**356**	*e*P	**P**		12 19 32.8	+0.3	
LANF	**Langenberg**	**79.77**	**356**	*e*P	**P**		12 19 32.8	+0.3	
LANF	**Langenberg**	**79.77**	**356**	*e*P	**P**		12 19 32.8	+0.3	
LEOM	**Leova**	**79.79**	**342**	P	**P**		12 19 33.6	+1.0	
LEOM	**Leova**	**79.79**	**342**	⇓*i*P	**P**		12 19 33.8	+1.2	
PBKI	**Pangkalan Bun**	**79.89**	**253**	P	**P**		12 19 34.5	+0.9	
	comp=Z,429nm,1.1s,comp=Z,7μm								
GOR	**Gori**	**79.89**	**329**	P	**P**		12 19 34.9	+1.6	
STU	**Stuttgart**	**79.91**	**355**	*e*P	**P**		12 19 33.0	-0.2	
STU				pmax	pmax				
	comp=Z,111nm,1.3s								
STU	**Stuttgart**	**79.91**	**355**	*e*P	**P**		12 19 33.2	0.0	
	comp=Z,104nm,1.2s								
STU	**Stuttgart**	**79.91**	**355**	*e*P	**P**		12 19 33.0	-0.2	
	comp=Z,111nm,1.3s								
TBLG	**Delisi**	**79.92**	**329**	*i* P	**P**		12 19 34.7	+1.2	
TBLG	**Delisi**	**79.92**	**329**	P	**P**		12 19 34.7	+1.2	
SIM	**Simferopol'**	**79.96**	**337**	*c i*P	P		12 19 30.2	-3.4	
SIM				*e*			12 22 43.0		
SIM				*e*S	**S**		**12 29 33.0**	**-1.9**	
SIM				*e*PPS	PPS		12 30 27.0		
SIM				pmax	pmax				
	comp=Z,83nm,0.9s								
SIM				MLR	MLR				
	comp=Z,7μm,20.7s								
DGRG	**David-gareji**	**79.97**	**328**	P	**P**		12 19 34.9	+1.2	
TESR		**80.06**	**343**	⇑*i*P	**P**		12 19 34.4	+0.3	
FLN	**La Foliniere**	**80.10**	**2**	⇑*i*P	**P**		12 19 34.2	0.0	
	comp=Z,491nm,1.3s								
FLN				*e*R					
	comp=Z,2μm,22.8s								
FLN	**La Foliniere**	**80.10**	**2**	⇑*i*P	**P**		12 19 34.2	0.0	
FLN				pmax	pmax				
	comp=Z,491nm,1.3s								
FLN	**La Foliniere**	**80.10**	**2**	⇑*i*P	**P**		12 19 34.2	0.0	
	comp=Z,491nm,1.3s								
CONA	**Conrad Observa**	**80.22**	**350**	⇑*i*P	**P**		12 19 35.7	+0.6	
	comp=Z,85nm,1.1s								
CONA	**Conrad Observa**	**80.22**	**350**	⇑*i*P	**P**		12 19 35.7	+0.6	
	comp=Z,85nm,1.1s,SNR=40								
PAGF	**Fort de Pagny**	**80.27**	**357**	⇑*i*P	**P**		12 19 35.7	+0.5	
	comp=Z,145nm,1.4s								
PAGF	**Fort de Pagny**	**80.27**	**357**	⇑*i*P	**P**		12 19 35.7	+0.5	
	comp=Z,145nm,1.4s								
LDF	**La Druitiere**	**80.27**	**1**	⇑*i*P	**P**		12 19 34.9	-0.3	
	comp=Z,412nm,1.3s								
LDF	**La Druitiere**	**80.27**	**1**	⇑*i*P	**P**		12 19 34.9	-0.3	
LDF				pmax	pmax				
	comp=Z,412nm,1.3s								
LDF	**La Druitiere**	**80.27**	**1**	⇑*i*P	**P**		12 19 34.9	-0.3	
	comp=Z,412nm,1.3s								
BUD	**Budapest**	**80.30**	**348**	⇑*e*P	**P**		12 19 36.1	+0.8	
MEZF	**Maizieres J'vi**	**80.34**	**358**	⇑*i*P	**P**		12 19 36.0	+0.4	
	comp=Z,474nm,1.4s								
MEZF	**Maizieres J'vi**	**80.34**	**358**	⇑*i*P	**P**		12 19 36.0	+0.4	
	comp=Z,474nm,1.4s								
GHRR		**80.35**	**342**	⇑*i*P	**P**		12 19 38.2	+2.6	
CDF	**Champ du Feu**	**80.36**	**356**	⇑*i*P	**P**		12 19 35.7	-0.1	
	comp=Z,261nm,1.5s								
CDF	**Champ du Feu**	**80.36**	**356**	⇑*i*P	**P**		12 19 35.7	-0.1	
CDF				pmax	pmax				
	comp=Z,261nm,1.5s								
CDF	**Champ du Feu**	**80.36**	**356**	⇑*i*P	**P**		12 19 35.7	-0.1	
	comp=Z,261nm,1.5s								
KULM	**Kulim**	**80.38**	**266**	P	**P**		12 19 37.1	+0.8	
FUR	**Furstenfeldbru**	**80.39**	**354**	*e*P	**P**		12 19 36.0	+0.1	
FUR				pmax	pmax				
	comp=Z,127nm,1.2s								
FUR	**Furstenfeldbru**	**80.39**	**354**	*e*P	**P**		12 19 36.0	+0.1	
	comp=Z,127nm,1.2s								
SOP	**Sopron**	**80.39**	**350**	⇑*e*P	**P**		12 19 36.6	+0.8	
BFO	**Black Forest**	**80.39**	**356**	*e*P	**P**		12 19 35.8	-0.1	
BFO				pmax	pmax				
	comp=Z,102nm,1.3s								
BFO	**Black Forest**	**80.39**	**356**	*e*P	**P**		12 19 35.8	-0.1	
	comp=Z,102nm,1.3s								
BFO	**Black Forest**	**80.39**	**356**	*e*P	**P**		12 19 36.1	+0.2	
ROSF	**Rostrenen**	**80.45**	**3**	*e*P	**P**		12 19 36.4	+0.3	
	comp=Z,395nm,1.3s								
ROSF	**Rostrenen**	**80.45**	**3**	*e*P	**P**		12 19 36.4	+0.3	
ROSF				pmax	pmax				
	comp=Z,395nm,1.3s								
ROSF	**Rostrenen**	**80.45**	**3**	*e*P	**P**		12 19 36.4	+0.3	
	comp=Z,395nm,1.3s								
BST	**Brest**	**80.45**	**4**	*e*P	**P**		12 19 36.6	+0.4	
BST	**Brest**	**80.45**	**4**	*e*P	**P**		12 19 36.6	+0.4	
DRGR		**80.45**	**346**	⇑P	**P**		12 19 36.6	+0.3	
DRGR		**80.45**	**346**	⇑*i*P	**P**		12 19 36.6	+0.3	
MOA	**Molln**	**80.46**	**352**	⇑*i*P	**P**		12 19 36.4	+0.1	
	comp=Z,33nm,0.9s								
MOA	**Molln**	**80.46**	**352**	⇑*i*P	**P**		12 19 36.4	+0.1	
	comp=Z,33nm,0.9s,SNR=13								
PKSG		**80.47**	**349**	⇓*e*SKKPdf	**P**		12 19 37.5	+1.3	
GRR	**Gorron**	**80.47**	**2**	⇑*i*P	**P**		12 19 36.3	+0.1	
	comp=Z,499nm,1.3s								
GRR	**Gorron**	**80.47**	**2**	⇑*i*P	**P**		12 19 36.3	+0.1	
GRR				pmax	pmax				
	comp=Z,499nm,1.3s								
GRR	**Gorron**	**80.47**	**2**	⇑*i*P	**P**		12 19 36.3	+0.1	
	comp=Z,499nm,1.3s								
CSKK	**Cs˘ˇtkako**	**80.51**	**349**	⇑*e*SKKPdf	P		12 19 40.2	+3.7	
SGMF	**Saint Gilles**	**80.56**	**3**	⇑*i*P	**P**		12 19 36.9	+0.2	
	comp=Z,528nm,1.3s								
SGMF	**Saint Gilles**	**80.56**	**3**	⇑*i*P	**P**		12 19 36.9	+0.2	
SGMF				pmax	pmax				
	comp=Z,528nm,1.3s								
SGMF	**Saint Gilles**	**80.56**	**3**	⇑*i*P	**P**		12 19 36.9	+0.2	
	comp=Z,528nm,1.3s								
ECH	**Echery**	**80.56**	**356**	*e*P	**P**		12 19 36.8	0.0	
ECH	**Echery**	**80.56**	**356**	*e*P	**P**		12 19 36.8	0.0	
ECH	**Echery**	**80.56**	**356**	*e*P	**P**		12 19 36.8	0.0	
THEF	**They Montfort**	**80.59**	**357**	*e*P	**P**		12 19 37.3	+0.4	
THEF	**They Montfort**	**80.59**	**357**	*e*P	**P**		12 19 37.3	+0.4	
THEF	**They Montfort**	**80.59**	**357**	*e*P	**P**		12 19 37.3	+0.4	
BHPL	**Bhopal**	**80.60**	**295**	*e*P	**P**		12 19 37.3	-0.1	
SPAK	**Spaichingen-Ko**	**80.60**	**355**	*e*P	**P**		12 19 37.1	0.0	
LIBD	**Limburg**	**80.61**	**356**	*e*P	**P**		12 19 37.5	+0.5	
LIBD	**Limburg**	**80.61**	**356**	*e*P	**P**		12 19 37.5	+0.5	
AKH	**Akhalkalaki**	**80.61**	**330**	P	**P**		12 19 38.7	+1.3	
SFTF	**Sexfontaines**	**80.64**	**358**	⇑*i*P	**P**		12 19 37.4	+0.2	
	comp=Z,632nm,1.3s								
SFTF	**Sexfontaines**	**80.64**	**358**	⇑*i*P	**P**		12 19 37.4	+0.2	
	comp=Z,632nm,1.3s								
PKST	**T˜'s**	**80.64**	**349**	⇑*e*P	**P**		12 19 37.7	+0.5	
VRI	**Vrincioaia**	**80.66**	**343**	⇑P	**P**		12 19 38.2	+0.8	
VRI	**Vrincioaia**	**80.66**	**343**	⇑*i*P	**P**		12 19 38.2	+0.8	
VRI	**Vrincioaia**	**80.66**	**343**	*i* P	**P**		12 19 38.1	+0.7	
PLOR	**Plostina**	**80.69**	**343**	⇑P	**P**		12 19 38.0	+0.4	
PLOR	**Plostina**	**80.69**	**343**	⇑*i*P	**P**		12 19 38.0	+0.4	
RJOB	**Jochberg**	**80.70**	**353**	*e*P	**P**		12 19 37.8	+0.2	
	comp=Z,45nm,0.9s								
PETR		**80.71**	**342**	⇓*i*P	**P**		12 19 39.2	+1.7	
PKS7	**Kunszentmiklos**	**80.71**	**348**	⇓*e*SKKPdf	**P**		12 19 38.8	+1.3	
IPM	**Ipoh**	**80.78**	**266**	P	**P**		12 19 38.7	+0.3	
HAU	**Haudompre**	**80.80**	**357**	⇑*i*P	**P**		12 19 38.1	0.0	
	comp=Z,293nm,1.5s								
HAU				*e*R					
	comp=Z,2μm,21.8s								
HAU	**Haudompre**	**80.80**	**357**	⇑*i*P	**P**		12 19 38.1	0.0	
HAU				pmax	pmax				
	comp=Z,293nm,1.5s								
HAU	**Haudompre**	**80.80**	**357**	⇑*i*P	**P**		12 19 38.1	0.0	
	comp=Z,293nm,1.5s								
FELD	**Feldberg im Sc**	**80.86**	**356**	*e*P	**P**		12 19 38.4	-0.2	
QUIF	**Quistinic**	**80.87**	**3**	⇑*i*P	**P**		12 19 38.5	+0.1	
	comp=Z,335nm,1.2s								
QUIF	**Quistinic**	**80.87**	**3**	⇑*i*P	**P**		12 19 38.5	+0.1	
QUIF				pmax	pmax				
	comp=Z,335nm,1.2s								
QUIF	**Quistinic**	**80.87**	**3**	⇑*i*P	**P**		12 19 38.5	+0.1	
	comp=Z,335nm,1.2s								
TLCR		**80.91**	**341**	⇓P	**P**		12 19 39.4	+0.8	
TLCR		**80.91**	**341**	⇓*i*P	**P**		12 19 39.4	+0.8	
MOF	**Molkenrain**	**80.92**	**356**	*e*P	**P**		12 19 38.4	-0.4	
MOF	**Molkenrain**	**80.92**	**356**	*e*P	**P**		12 19 38.4	-0.4	
MOF	**Molkenrain**	**80.92**	**356**	*e*P	**P**		12 19 38.4	-0.4	
ARSA	**Arzberg**	**80.93**	**351**	⇑*i*P	**P**		12 19 39.1	+0.3	
	comp=Z,80nm,1.1s								
ARSA	**Arzberg**	**80.93**	**351**	⇑*i*P	**P**		12 19 39.1	+0.3	
	comp=Z,80nm,1.1s,SNR=25								
HINF	**Hinteralfeld**	**80.97**	**357**	⇑*i*P	**P**		12 19 38.8	-0.2	
	comp=Z,269nm,1.7s								
HINF	**Hinteralfeld**	**80.97**	**357**	⇑*i*P	**P**		12 19 38.8	-0.2	
HINF				pmax	pmax				
	comp=Z,269nm,1.7s								
HINF	**Hinteralfeld**	**80.97**	**357**	⇑*i*P	**P**		12 19 38.8	-0.2	
	comp=Z,269nm,1.7s								
CFR	**Carcaliu**	**81.06**	**341**	⇑P	**P**		12 19 39.9	+0.5	
CFR	**Carcaliu**	**81.06**	**341**	⇑*i*P	**P**		12 19 39.9	+0.5	
GRER		**81.09**	**342**	⇑*i*P	**P**		12 19 41.7	+2.1	
RETA	**Reutte**	**81.10**	**354**	⇑*i*P	**P**		12 19 40.0	+0.3	
	comp=Z,58nm,1.4s								
RETA	**Reutte**	**81.10**	**354**	⇑*i*P	**P**		12 19 40.0	+0.3	
	comp=Z,58nm,1.4s,SNR=13								
MYKOM	**Kota Tinggi**	**81.11**	**262**	P	**P**		12 19 40.8	+0.7	
EIDS	**Eidsvold**	**81.17**	**208**	*e*P	**P**		12 19 40.7	+0.6	
	comp=Z,59nm,0.9s								
MLR	**Muntele Rosu**	**81.17**	**343**	PKKPbc	PKKPbc		12 38 12.9	-0.8	
	comp=Z,1.2nm,0.9s,baz=264,slow=9.2,SNR=5.3								
MLR	**Muntele Rosu**	**81.17**	**343**	PKKPbc	PKKPbc		12 38 12.9	-0.8	
MLR	**Muntele Rosu**	**81.17**	**343**	⇑*i*P	**P**		12 19 40.9	+0.7	
WATA	**Walderalm**	**81.19**	**353**	⇑*i*P	**P**		12 19 40.5	+0.2	
WATA				pmax	pmax				
	comp=Z,106nm,1.2s								
WATA	**Walderalm**	**81.19**	**353**	⇑*i*P	**P**		12 19 40.5	+0.2	
	comp=Z,106nm,1.2s								
WATA	**Walderalm**	**81.19**	**353**	⇑*i*P	**P**		12 19 40.5	+0.2	
	comp=Z,106nm,1.2s,SNR=8.1								
MOTA	**Moosalm**	**81.21**	**354**	⇑*i*P	**P**		12 19 40.4	-0.1	
MOTA				pmax	pmax				
	comp=Z,90nm,0.9s								
MOTA	**Moosalm**	**81.21**	**354**	⇑*i*P	**P**		12 19 40.4	-0.1	
	comp=Z,90nm,0.9s								
MOTA	**Moosalm**	**81.21**	**354**	⇑*i*P	**P**		12 19 40.4	-0.1	
	comp=Z,90nm,0.9s,SNR=30								
DBOC	**Borcka**	**81.24**	**331**	*i* P	**P**		12 19 40.8	+0.3	
WTTA	**Wattenberg**	**81.26**	**353**	⇑*i*P	**P**		12 19 41.3	+0.6	
WTTA				pmax	pmax				
	comp=Z,162nm,1.3s								
WTTA	**Wattenberg**	**81.26**	**353**	⇑*i*P	**P**		12 19 41.3	+0.6	
	comp=Z,162nm,1.3s								
WTTA	**Wattenberg**	**81.26**	**353**	⇑*i*P	**P**		12 19 41.3	+0.6	
	comp=Z,162nm,1.3s,SNR=30								
KGM	**Kluang**	**81.27**	**262**	P	**P**		12 19 42.3	+1.3	
PKS9	**Tamasi**	**81.27**	**349**	*e*P	**P**		12 19 41.9	+1.3	
BBS	**Basel-Blauen**	**81.30**	**356**	*e*P	**P**		12 19 40.7	-0.1	
BBS	**Basel-Blauen**	**81.30**	**356**	*e*P	**P**		12 19 40.7	-0.1	
ARTV	**Artvin**	**81.30**	**331**	*i* P	**P**		12 19 41.7	+0.5	
NGP	**Nagpur**	**81.31**	**293**	*i* P	**P**		12 19 39.7	-1.5	
NGP				*ex*	x		12 19 41.4		
	comp=Z,816nm,1.1s								
DAVA	**Damuels**	**81.35**	**354**	⇑*i*P	**P**		12 19 41.5	+0.3	
	comp=Z,72nm,1.3s								
DAVA	**Damuels**	**81.35**	**354**	⇑*i*P	**P**		12 19 41.5	+0.3	
	comp=Z,72nm,1.3s,SNR=15								
FRIM	**Kepong**	**81.37**	**264**	P	**P**		12 19 42.3	+0.8	
VOIR		**81.38**	**344**	⇓P	**P**		12 19 42.4	+1.1	
VOIR		**81.38**	**344**	⇓*i*P	**P**		12 19 42.4	+1.1	
DAGI	**Agillar**	**81.41**	**330**	*i* P	**P**		12 19 42.0	+0.4	
ISR	**Istrita**	**81.42**	**343**	⇑P	**P**		12 19 42.3	+0.8	
ISR	**Istrita**	**81.42**	**343**	⇑*i*P	**P**		12 19 42.3	+0.8	
LOMF	**Lomont**	**81.44**	**357**	*e*P	**P**		12 19 41.9	+0.3	
LOMF	**Lomont**	**81.44**	**357**	*e*P	**P**		12 19 41.9	+0.3	
LOMF	**Lomont**	**81.44**	**357**	*e*P	**P**		12 19 41.9	+0.3	
KARS	**Kars**	**81.45**	**329**	*e*P	**P**		12 19 43.2	+1.4	
VIS	**Vishakhapatnam**	**81.48**	**288**	*e*P	**P**		12 19 42.4	+0.3	
SOKA	**Soboth**	**81.54**	**351**	⇑*e*P	**P**		12 19 42.6	+0.5	
	comp=Z,278nm,1.4s								
SOKA	**Soboth**	**81.54**	**351**	⇑*e*P	**P**		12 19 42.6	+0.5	
	comp=Z,278nm,1.4s								
FETA	**Feichten**	**81.56**	**354**	⇑*i*P	**P**		12 19 42.8	+0.5	
	comp=Z,86nm,1.1s								
FETA	**Feichten**	**81.56**	**354**	⇑*i*P	**P**		12 19 42.8	+0.5	
	comp=Z,86nm,1.1s,SNR=32								
BEHE	**Becsehely**	**81.56**	**350**	⇑*e*P	**P**		12 19 42.7	+0.6	
SECR		**81.59**	**343**	⇑*i*P	**P**		12 19 42.9	+0.6	
LOT	**Lotru**	**81.59**	**345**	⇑*i*P	**P**		12 19 42.3	-0.1	
PKSM	**Moragy**	**81.60**	**348**	P	**P**		12 19 43.1	+0.8	
PKSM	**Moragy**	**81.60**	**348**	⇑*i*P	**P**		12 19 39.2	-3.1	
PKSM	**Moragy**	**81.60**	**348**	⇑*e*P	**P**		12 19 42.0	-0.3	
LOR	**Lormes**	**81.60**	**359**	⇑*i*P	**P**		12 19 42.4	+0.1	
	comp=Z,307nm,1.3s								
LOR				*e*R					
	comp=Z,3μm,20.2s								
LOR	**Lormes**	**81.60**	**359**	⇑*i*P	**P**		12 19 42.4	+0.1	
	comp=Z,307nm,1.3s								
DDEM	**Demirkent**	**81.63**	**331**	*i* P	**P**		12 19 43.2	+0.5	
TIRR	**Tirgusor**	**81.69**	**341**	*e*P	**P**		12 19 43.5	+0.7	
TIRR				pmax	pmax				
	comp=Z,267nm,1.3s								
TIRR	**Tirgusor**	**81.69**	**341**	*e*P	**P**		12 19 43.5	+0.7	
	comp=Z,267nm,1.3s								
TIRR	**Tirgusor**	**81.69**	**341**	⇑*i*P	**P**		12 19 43.6	+0.7	
ABTA	**Abfaltersbach**	**81.70**	**353**	⇑*i*P	**P**		12 19 43.2	+0.2	
	comp=Z,138nm,1.1s								
ABTA	**Abfaltersbach**	**81.70**	**353**	⇑*i*P	**P**		12 19 43.2	+0.2	
	comp=Z,138nm,1.1s,SNR=41								
GROS	**Grobnik**	**81.71**	**350**	*i* P	**P**		12 19 43.2	+0.2	
GROS				*e*S	PnS		12 31 08.0	+25	
GROS				*e*SS	SS		12 35 33.0	+23	
MYKA	**Terra Mystica**	**81.72**	**352**	⇑*e*P	**P**		12 19 43.0	-0.1	
	comp=Z,100nm,1.4s								
MYKA	**Terra Mystica**	**81.72**	**352**	⇑*e*P	**P**		12 19 43.0	-0.1	
	comp=Z,100nm,1.4s								
AMRR	**Amara**	**81.76**	**342**	P	**P**		12 19 44.9	+1.8	
OBKA	**Obir**	**81.76**	**351**	⇑*i*P	**P**		12 19 43.6	+0.3	
	comp=Z,97nm,1.0s								
OBKA	**Obir**	**81.76**	**351**	⇑*i*P	**P**		12 19 43.6	+0.3	
	comp=Z,97nm,1.0s,SNR=35								
BZS	**Buzias**	**81.77**	**346**	⇑P	**P**		12 19 43.4	+0.2	
BZS	**Buzias**	**81.77**	**346**	⇑*i*P	**P**		12 19 43.4	+0.2	
SSF	**Saint Saulge**	**81.81**	**359**	⇑*i*P	**P**		12 19 43.6	+0.2	
	comp=Z,227nm,1.1s								
SSF	**Saint Saulge**	**81.81**	**359**	⇑*i*P	**P**		12 19 43.6	+0.2	
SSF				pmax	pmax				
	comp=Z,227nm,1.1s								
SSF	**Saint Saulge**	**81.81**	**359**	⇑*i*P	**P**		12 19 43.6	+0.2	
	comp=Z,227nm,1.1s								
DAVOX	**Davos/Dischmat**	**81.86**	**354**	LR	LR		13 00 16.0		
	comp=Z,2μm,20.8s,baz=3.9,slow=39								
SULR		**81.90**	**343**	⇑*i*P	**P**		12 19 41.9	-2.0	
KMMI	**Kalianget**	**82.02**	**248**	P	**P**		12 19 45.7	+0.8	
	comp=Z,341nm,1.1s,comp=Z,5μm								
AVF	**Avril sur Loir**	**82.08**	**359**	⇑*i*P	**P**		12 19 45.0	+0.2	
	comp=Z,278nm,1.2s								
AVF	**Avril sur Loir**	**82.08**	**359**	⇑*i*P	**P**		12 19 45.0	+0.2	
AVF				pmax	pmax				
	comp=Z,278nm,1.2s								
AVF	**Avril sur Loir**	**82.08**	**359**	⇑*i*P	**P**		12 19 45.0	+0.2	
	comp=Z,278nm,1.2s								
KHKI	**Kahang-Kahang**	**82.14**	**246**	P	**P**		12 19 43.8	-1.7	
	comp=Z,267nm,1.2s,comp=Z,2μm								
SRBI	**Singaraja**	**82.14**	**247**	P	**P**		12 19 44.7	-0.8	
	comp=Z,179nm,1.0s,comp=Z,2μm								
MACK	**Trabzon**	**82.17**	**332**	*i* P	**P**		12 19 45.6	+0.1	
TUE	**Stuetta**	**82.19**	**355**	*e*P	**P**		12 19 46.1	+0.4	
	comp=Z,113nm,1.1s								
CABF	**La Chapelle**	**82.20**	**357**	⇑*i*P	**P**		12 19 46.0	+0.4	
	comp=Z,326nm,1.3s								
CABF	**La Chapelle**	**82.20**	**357**	⇑*i*P	**P**		12 19 46.0	+0.4	
CABF				pmax	pmax				
	comp=Z,326nm,1.3s								
CABF	**La Chapelle**	**82.20**	**357**	⇑*i*P	**P**		12 19 46.0	+0.4	
	comp=Z,326nm,1.3s								
SMF	**Signal de Mont**	**82.22**	**359**	⇑*i*P	**P**		12 19 45.7	+0.1	
	comp=Z,328nm,1.0s								
SMF	**Signal de Mont**	**82.22**	**359**	⇑*i*P	**P**		12 19 45.7	+0.1	
SMF				pmax	pmax				
	comp=Z,328nm,1.0s								
SMF	**Signal de Mont**	**82.22**	**359**	⇑*i*P	**P**		12 19 45.7	+0.1	
	comp=Z,328nm,1.0s								
DYDN	**Diyadin**	**82.24**	**329**	*i* P	**P**		12 19 47.6	+1.6	
**B

comp=Z,56nm,1.5s,comp=Z,1µm
SZH Strazhica 83.32 343 *i* P **P 12 19 51.2 -0.2**
BALT Daday 83.35 337 *i* P **P 12 19 52.8 +1.0**
RSDY Resadiye-TOKAT 83.38 333 *e*P **P 12 19 52.7 +1.0**
RKT Rikitea 83.41 141 *e*LR LR 12 45 53.7
comp=Z,5µm,25.0s,baz=330
ERZN Erzincan 83.44 331 *e*P **P 12 19 53.4 +1.2**
DIVS Divibare 83.49 347 P **P 12 19 52.6 +0.3**
FRNF Fournois 83.49 359 *e*P **P 12 19 53.0 +0.7**
FRNF Fournois 83.49 359 *e*P **P 12 19 53.0 +0.7**
BSI Banda Aceh 83.57 271 P **P 12 19 51.6 -1.4**
comp=Z,53nm,0.9s,comp=Z,1µm
SSB Saint Sauveur 83.58 358 *e*P **P 12 19 53.1 +0.4**
SSB Saint Sauveur 83.58 358 *e*P **P 12 19 53.1 +0.4**
SSB Saint Sauveur 83.58 358 *e*P **P 12 19 53.1 +0.4**
RJF Les Rejaudoux 83.58 0⇑*i*P **P 12 19 52.8 +0.1**
comp=Z,616nm,1.4s
RJF *e*R
comp=Z,2µm,22.8s
RJF Les Rejaudoux 83.58 0⇑*i*P **P 12 19 52.8 +0.1**
RJF pmax pmax
comp=Z,616nm,1.4s
RJF Les Rejaudoux 83.58 0⇑*i*P **P 12 19 52.8 +0.1**
comp=Z,616nm,1.4s
GRN Grenoble 83.58 357 *e*P **P 12 19 53.5 +0.7**
GRN Grenoble 83.58 357 *e*P **P 12 19 53.5 +0.7**
GRN Grenoble 83.58 357 *e*P **P 12 19 53.5 +0.7**
GDM Grand'Maison 83.61 357 *e*P **P 12 19 53.9 +0.9**
GDM Grand'Maison 83.61 357 *e*P **P 12 19 53.9 +0.9**
MPEP Malo Peshtene 83.63 344 *i*P **P 12 19 52.5 -0.4**
LBL Lubilhac 83.64 359 *e*P **P 12 19 53.7 +0.6**
LBL Lubilhac 83.64 359 *e*P **P 12 19 53.7 +0.6**
LBL Lubilhac 83.64 359 *e*P **P 12 19 53.7 +0.6**
NVLJ Novalja 83.65 351 *i*P **P 12 19 52.6 -0.4**
TOS Tosya 83.66 336 *e*P **P 12 19 55.1 +1.8**
TOKT Tokat 83.67 334 *e*P **P 12 19 54.7 +1.5**
TOKA Tokat 83.68 334 *i*P **P 12 19 54.5 +1.1**
BNGB Bing℡ 83.70 331 *e*P **P 12 19 54.7 +1.2**
ILGA Ilgaz 83.72 336 *i*P **P 12 19 55.0 +1.2**
BNI Bardonecchia 83.74 357 *e*P **P 12 19 55.0 +1.3**
BNI pmax pmax
comp=Z,130nm,1.0s
BNI Bardonecchia 83.74 357 *e*P **P 12 19 55.0 +1.3**
comp=Z,130nm,1.0s
KRKI Karangkates 83.80 249 P **P 12 19 53.8 -0.3**
comp=Z,555nm,1.0s,comp=Z,18µm
SAFT Safranbolu 83.80 337 *e*P **P 12 19 54.7 +0.8**
SJI Sawahan 83.86 250 P **P 12 19 53.7 -0.8**
comp=Z,196nm,1.4s,comp=Z,3µm
ORIF Oris-en-Rattie 83.90 357⇑*i*P **P 12 19 55.3 +0.9**
comp=Z,301nm,1.3s
ORIF *e*R
comp=Z,1µm,23.0s
ORIF Oris-en-Rattie 83.90 357⇑*i*P **P 12 19 55.3 +0.9**
ORIF pmax pmax
comp=Z,301nm,1.3s
ORIF Oris-en-Rattie 83.90 357⇑*i*P **P 12 19 55.3 +0.9**
comp=Z,301nm,1.3s
ILIC ilic-Erzincan 83.90 332 *e*P **P 12 19 55.7 +1.1**
LFF La Frestale 83.94 1⇑*i*P **P 12 19 54.9 +0.4**
comp=Z,955nm,1.2s
LFF La Frestale 83.94 1⇑*i*P **P 12 19 54.9 +0.4**
LFF pmax pmax
comp=Z,955nm,1.2s
LFF La Frestale 83.94 1⇑*i*P **P 12 19 54.9 +0.4**
comp=Z,955nm,1.2s
CAF Calviac 83.96 360⇑*i*P **P 12 19 55.1 +0.5**
comp=Z,578nm,1.3s
CAF Calviac 83.96 360⇑*i*P **P 12 19 55.1 +0.5**
CAF pmax pmax
comp=Z,578nm,1.3s
CAF Calviac 83.96 360⇑*i*P **P 12 19 55.1 +0.5**
comp=Z,578nm,1.3s
JMB Yambol 83.97 342 P **P 12 19 55.4 +0.7**
JMB Yambol 83.97 342 *i*P **P 12 19 54.3 -0.4**
BKNI Bangkinang 84.00 263 P **P 12 19 55.9 +0.7**
comp=Z,634nm,1.0s,comp=Z,5µm
VIVF Saint-Julien-l 84.00 358⇑*i*P **P 12 19 55.4 +0.6**
comp=Z,318nm,1.4s
VIVF Saint-Julien-l 84.00 358⇑*i*P **P 12 19 55.4 +0.6**
VIVF pmax pmax
comp=Z,318nm,1.4s
VIVF Saint-Julien-l 84.00 358⇑*i*P **P 12 19 55.4 +0.6**
comp=Z,318nm,1.4s
KDZE Karadeniz Ereo 84.03 338 *e*P **P 12 19 54.8 -0.3**
HAKT HAKKARI 84.03 328 *i*P **P 12 19 56.3 +0.9**
JTS JuntasAbangare 84.04 81 *e*P **P 12 19 54.2 -1.3**
comp=Z,68nm,1.2s
MBDF Montbardon 84.06 356⇑*i*P **P 12 19 56.3 +1.0**
comp=Z,178nm,1.0s
MBDF Montbardon 84.06 356⇑*i*P **P 12 19 56.3 +1.0**
MBDF pmax pmax
comp=Z,178nm,1.0s
MBDF Montbardon 84.06 356⇑*i*P **P 12 19 56.3 +1.0**
comp=Z,178nm,1.0s
PWJI Pagerwojo 84.06 249 P **P 12 19 53.8 -1.6**
comp=Z,490nm,1.0s,comp=Z,4µm
SMRI Semarang 84.09 251 P **P 12 19 55.9 +0.3**
comp=Z,337nm,1.2s,comp=Z,5µm
KEMA Kemaliye 84.09 332 *i*P **P 12 19 56.4 +0.9**
CANT Cankiri 84.17 336 *e*P **P 12 19 57.1 +1.3**
BTMT Batman 84.17 330 *e*P **P 12 19 57.3 +1.4**
PTK Pertek 84.18 331 *e*P **P 12 19 57.6 +1.5**
SURF Saint Ours 84.30 356 *e*P **P 12 19 58.0 +1.4**
SURF Saint Ours 84.30 356 *e*P **P 12 19 58.0 +1.4**
CORM Corum 84.31 335 *e*P **P 12 19 58.0 +1.3**
ELDT Eldivan 84.33 336 *i*P **P 12 19 57.7 +1.0**
PLE Pljevlja 84.33 347⇑*i*P **P 12 19 57.5 +0.8**
PGB Panagyurishte 84.34 344 *i*P **P 12 19 57.2 +0.6**
CUKT Cukurca 84.35 328 *e*P **P 12 19 57.6 +0.7**
VTS Vitosha 84.46 344 P **P 12 19 57.4 0.0**
VTS Vitosha 84.46 344 *i*P **P 12 19 56.9 -0.5**
UPM Unac-Piva 84.52 348 *e*P **P 12 19 57.6 -0.1**
BEST Besiri 84.52 330 *i*P **P 12 19 58.9 +1.3**
HYB Hyderabad 84.53 291 *i*P **P 12 19 57.0 -1.0**
EDRB Edirne 84.53 342 *e*P **P 12 19 58.1 +0.5**
PCJI Pacitan 84.57 250 P **P 12 19 56.5 -1.5**
comp=Z,80nm,1.7s
CTYL Yal??k??y-??at 84.58 340 *e*P **P 12 19 58.1 +0.4**
DARE Darende-Malaty 84.59 333 *e*P P 12 20 01.7 +3.7
SILT Sile 84.59 339 *e*P **P 12 19 58.3 +0.4**
HENT Hendek 84.62 338 *i*P **P 12 19 58.3 +0.2**
YOZ Yozgat 84.64 335 *e*P **P 12 19 59.2 +0.9**
ELZG Elazig 84.66 332 *i*P **P 12 19 60.0 +1.5**
PLD Plovdiv 84.67 343 P **P 12 19 58.8 +0.6**
PLD Plovdiv 84.67 343 *i*P **P 12 19 58.3 +0.1**
SVRC Sivrice-ELAZID 84.68 331 *e*P **P 12 20 00.3 +1.7**
IVA Berane 84.70 347⇑*i*P **P 12 19 58.9 +0.4**
TGJI Tegal 84.73 252 P **P 12 19 58.4 -0.4**
comp=Z,288nm,1.1s,comp=Z,4µm
UGM Wanagama 84.73 250 *e*P **P 12 19 57.8 -1.1**
comp=Z,801nm,1.4s
UGM Wanagama 84.73 250 P **P 12 19 57.9 -1.0**
comp=Z,440nm,1.4s,comp=Z,6µm
BJII Banjamegara 84.75 251 P **P 12 19 58.4 -0.6**
comp=Z,235nm,1.2s,comp=Z,3µm
TOUF Mont Tournerai 84.75 356 *e*P **P 12 19 59.4 +0.5**
TOUF Mont Tournerai 84.75 356 *e*P **P 12 19 59.4 +0.5**
TOUF Mont Tournerai 84.75 356 *e*P **P 12 19 59.4 +0.5**
BGKT Bogazkoy 84.76 340 *e*P **P 12 19 59.1 +0.4**
CTKS Kestanelik-??a 84.76 340 *e*P **P 12 19 58.5 -0.2**
AUTN L'Aution 84.76 356 *e*P **P 12 19 59.3 +0.3**
AUTN L'Aution 84.76 356 *e*P **P 12 19 59.3 +0.3**
AUTN L'Aution 84.76 356 *e*P **P 12 19 59.3 +0.3**
SAOF Saorge 84.77 356 *e*P **P 12 19 58.9 +0.2**
SAOF Saorge 84.77 356 *e*P **P 12 19 58.9 +0.2**
SAOF Saorge 84.77 356 *e*P **P 12 19 58.9 +0.2**
ORH Orhaniye 84.78 339 *i*P P 12 19 51.7 -7.1
YOGI Yogyakarta 84.79 251 P **P 12 19 58.3 -0.8**
comp=Z,586nm,1.2s,comp=Z,9µm
LASF Ste Croix 84.79 359⇑*i*P **P 12 19 59.4 +0.5**
comp=Z,122nm,1.0s
LASF Ste Croix 84.79 359⇑*i*P **P 12 19 59.4 +0.5**
comp=Z,122nm,1.0s
ISK Istanbul-Kandi 84.80 340 *e*P **P 12 19 58.9 0.0**
SLVT Silivri 84.83 340 *e*P **P 12 19 59.7 +0.6**
DIY Diyarbakir 84.84 330 *e*P **P 12 20 00.4 +1.1**
FITZ Fitzroy Crossi 84.84 233 P **P 12 19 59.8 +0.6**
comp=Z,199nm,0.9s,baz=32,slow=5.1,SNR=233
FITZ Fitzroy Crossi 84.84 233 P **P 12 19 59.8 +0.6**
DIYA Diyarbakir 84.85 331 *i*P **P 12 20 00.3 +1.0**
SMRF Simiane la Rot 84.85 357⇑*i*P **P 12 20 00.3 +1.1**
comp=Z,560nm,1.3s
SMRF Simiane la Rot 84.85 357⇑*i*P **P 12 20 00.3 +1.1**
comp=Z,560nm,1.3s
ELBA Catalca 84.86 340 *i*P **P 12 19 59.8 +0.5**
BRY Bratogost 84.86 348⇑*i*P **P 12 19 59.1 -0.3**
MVIF Mont Vial 84.87 356 *e*P **P 12 19 59.6 +0.2**
MVIF Mont Vial 84.87 356 *e*P **P 12 19 59.6 +0.2**
MVIF Mont Vial 84.87 356 *e*P **P 12 19 59.6 +0.2**
MDUB Mudurnu 84.89 338 *e*P **P 12 20 00.1 +0.5**
NKY Niksic 84.89 347⇑*i*P **P 12 19 59.5 0.0**
SBF Sospel 84.89 356⇑*i*P **P 12 19 59.5 +0.1**
comp=Z,530nm,1.0s
SBF Sospel 84.89 356⇑*i*P **P 12 19 59.5 +0.1**
SBF pmax pmax
comp=Z,530nm,1.0s
SBF Sospel 84.89 356⇑*i*P **P 12 19 59.5 +0.1**
comp=Z,530nm,1.0s
CDAG Cicekdag 84.90 335 *i*P **P 12 20 00.0 +0.4**
HRT Hereke 84.90 339 *e*P **P 12 20 00.1 +0.6**
PVY Plav 84.97 347⇑*i*P **P 12 19 59.6 -0.3**
KDZ Kurdzhali 84.98 342 *i*P **P 12 20 00.3 +0.5**
MYA Malataya 84.99 332 *e*P **P 12 20 01.2 +1.1**
BR131 Keskin Array S 85.00 336 *e*P **P 12 20 00.3 +0.2**
comp=Z,149nm,0.9s
BRTR Keskin Array B 85.00 336 P **P 12 20 00.3 +0.2**
comp=Z,148nm,0.9s,baz=47,slow=2.4,SNR=453
BRTR PP **PP 12 23 18.1 +1.9**
comp=Z,10nm,1.0s,baz=38,slow=4.7,SNR=4.8
BRTR PKKPbc **PKKPbc 12 38 03.2 -1.8**
comp=Z,0.7nm,0.8s,baz=127,slow=3.5,SNR=3.9
BRTR PKPPKP P'P'df 12 45 58.9 -20
comp=Z,1.4nm,0.8s,baz=160,slow=5.0,SNR=5.3
BRTR Keskin Array B 85.00 336 P **P 12 20 00.3 +0.2**
BRTR PP **PP 12 23 18.1 +1.9**
BRTR PKKPbc **PKKPbc 12 38 03.2 -1.8**
BRTR P'P' 12 45 58.9
MALT Malatya 85.00 332 *e*P **P 12 20 01.4 +1.3**
MALT Malatya 85.00 332 *e*P **P 12 20 01.2 +1.1**
MALT pmax pmax
comp=Z,337nm,1.3s
MALT Malatya 85.00 332 *e*P **P 12 20 01.2 +1.1**
comp=Z,337nm,1.3s
MALT Malatya 85.00 332⇑*i*P **P 12 20 01.3 +1.1**
STON Ston 85.00 348 *i*P **P 12 19 59.1 -0.8**
REVF Revere 85.02 356 *e*P **P 12 20 00.1 +0.1**
REVF Revere 85.02 356 *e*P **P 12 20 00.1 +0.1**
REVF Revere 85.02 356 *e*P **P 12 20 00.1 +0.1**
CALN Calern 85.03 356 *e*P **P 12 20 00.5 +0.3**
CALN Calern 85.03 356 *e*P **P 12 20 00.5 +0.3**
CALN Calern 85.03 356 *e*P **P 12 20 00.5 +0.3**
LOD Lodumlu 85.06 337 *e*P **P 12 20 01.1 +0.8**
RZN Rozhen 85.07 343 *i*P **P 12 20 00.6 +0.1**
GULT Gulveren 85.08 338 *e*P **P 12 20 01.1 +0.6**
SARI SarD1z-Kayseri 85.16 333 *e*P **P 12 20 03.6 +2.6**
AKCD Akcadag 85.16 332 *i*P **P 12 20 01.8 +0.8**
KKB Krupnik 85.19 344 *i*P **P 12 20 01.4 +0.5**
MARD Mardin 85.20 330 *i*P **P 12 20 02.2 +1.0**
YLV Yalova 85.21 339 *e*P **P 12 20 01.4 +0.3**
FRF La Foret Royal 85.23 356⇑*i*P **P 12 20 01.1 +0.1**
comp=Z,310nm,1.2s
FRF La Foret Royal 85.23 356⇑*i*P **P 12 20 01.1 +0.1**
FRF pmax pmax
comp=Z,310nm,1.2s
FRF La Foret Royal 85.23 356⇑*i*P **P 12 20 01.1 +0.1**
comp=Z,310nm,1.2s
TTG Podgorica 85.23 347⇑*i*P **P 12 20 01.1 +0.1**
BNN Bunyan 85.23 334 *e*P **P 12 20 02.0 +0.7**
PINB Pinarbasi 85.24 334 *i*P **P 12 20 02.5 +0.9**
BBAL Bala 85.30 336 *i*P **P 12 20 02.1 +0.5**
KAMT Kaman 85.31 336 *e*P **P 12 20 02.1 +0.4**
HCY Herceg Novi 85.32 348⇑*i*P **P 12 20 01.1 -0.4**
ARMT Armutlu 85.33 340 *e*P **P 12 20 01.3 -0.3**
MMB Musomiste 85.35 344 *i*P **P 12 20 01.9 +0.2**
SKO Skopje 85.35 345 P **P 12 20 03.2 +1.5**
SKO Skopje 85.35 345 *i*P **P 12 20 03.0 +1.3**
GEMT Gemlik 85.38 339 *e*P **P 12 20 02.1 +0.2**
SDDR Presa de Saban 85.39 65 *e*P **P 12 20 02.5 +0.2**
comp=Z,78nm,0.8s
GSI Gungsitoli 85.39 266 P **P 12 20 03.0 +0.8**
comp=Z,389nm,1.0s,comp=Z,5µm
AFSR Af'ar-Bala (A 85.40 336 *e*P **P 12 20 02.7 +0.6**
BUM Brajici-Budva 85.41 347⇑*i*P **P 12 20 02.1 +0.1**
CAVI Cavuskoy 85.46 339 *e*P **P 12 20 02.6 +0.4**
LMR La Mourre 85.46 357⇑*i*P **P 12 20 02.5 +0.3**
comp=Z,356nm,1.2s
LMR La Mourre 85.46 357⇑*i*P **P 12 20 02.5 +0.3**
LMR pmax pmax
comp=Z,356nm,1.2s
LMR La Mourre 85.46 357⇑*i*P **P 12 20 02.5 +0.3**
comp=Z,356nm,1.2s
MDNY Mudanya-Bursa 85.51 340 *e*P **P 12 20 02.8 +0.3**
MTLF Montolieu 85.54 360⇑*i*P **P 12 20 02.9 +0.3**
comp=Z,352nm,1.2s
MTLF Montolieu 85.54 360⇑*i*P **P 12 20 02.9 +0.3**
MTLF pmax pmax
comp=Z,352nm,1.2s
MTLF Montolieu 85.54 360⇑*i*P **P 12 20 02.9 +0.3**
comp=Z,352nm,1.2s
NVR Nevrokopi 85.56 344 P **P 12 20 03.1 +0.4**
RKY Sarkoy-Tekirda 85.56 341 *e*P **P 12 20 02.6 -0.2**
AVNT Avonos 85.57 335 *i*P **P 12 20 03.2 +0.2**
ALN Alexandroupoli 85.59 342 P **P 12 20 03.0 +0.2**
OSSF Osses 85.59 2 *e*P **P 12 20 02.3 -0.5**
OSSF Osses 85.59 2 *e*P **P 12 20 02.3 -0.5**
LEM Lembang 85.59 253 P **P 12 20 02.5 -0.9**
comp=Z,193nm,1.2s,comp=Z,2µm
KRJI Kerinci 85.62 261 P **P 12 20 03.7 +0.2**
comp=Z,419nm,1.1s,comp=Z,5µm
BORA Eskisehir 85.62 338 *i*P **P 12 20 02.9 -0.3**
ULC Ulcinj 85.69 347⇑*i*P **P 12 20 03.2 -0.2**
ENEZ Enez 85.72 342 *e*P **P 12 20 03.5 0.0**
CBJI Citeko 85.73 254 P **P 12 20 03.4 -0.4**
comp=Z,409nm,1.1s
SJPF Ste Jean 85.73 2⇑*i*P **P 12 20 03.2 -0.4**
comp=Z,100nm,1.3s
SJPF Ste Jean 85.73 2⇑*i*P **P 12 20 03.2 -0.4**
SJPF pmax pmax
comp=Z,100nm,1.3s
SJPF Ste Jean 85.73 2⇑*i*P **P 12 20 03.2 -0.4**
comp=Z,100nm,1.3s
KAVA Kavala 85.78 343 P **P 12 20 04.2 +0.4**
ARMA Armidale 85.78 206 *e*P **P 12 20 05.2 +1.4**
comp=Z,116nm,0.9s
SVRH Sivrihisar-ESK 85.78 337 *e*P **P 12 20 03.8 -0.1**
PHP Peshkopia 85.79 346 P **P 12 20 04.1 +0.2**
REYF Montagne du Re 85.79 2 *e*P **P 12 20 02.8 -1.2**
REYF Montagne du Re 85.79 2 *e*P **P 12 20 02.8 -1.2**
VAY Valandovo 85.81 344 P **P 12 20 04.0 +0.1**
VAY Valandovo 85.81 344 *i*P **P 12 20 03.2 -0.7**
VAY Valandovo 85.81 344 *i*P **P 12 20 04.0 +0.1**
KRBG Karabiga-Canak 85.82 341 *e*P **P 12 20 04.2 +0.2**
SRS Serrai 85.83 344 P **P 12 20 04.2 +0.1**
AS31 Alice Springs 85.83 223 *e*P **P 12 20 04.1 -0.1**
ASAR Alice Springs 85.84 223 P **P 12 20 04.3 +0.2**
comp=Z,88nm,0.8s,baz=26,slow=5.8,SNR=668
ASAR PKKPbc **PKKPbc 12 38 03.5 -0.7**
comp=Z,2.1nm,0.8s,baz=206,slow=2.5,SNR=9.0
ASAR SKKPbc SKKPbc 12 41 41.5 -0.5
comp=Z,0.4nm,0.7s,baz=229,slow=1.5,SNR=4.7
ASAR PKPPKP **P'P'df 12 46 09.0 +0.9**
comp=Z,1.0nm,0.9s,baz=220,slow=2.3,SNR=3.8
ASAR Alice Springs 85.84 223 P **P 12 20 04.3 +0.2**
ASAR PKKPbc **PKKPbc 12 38 03.5 -0.7**
ASAR SKKPbc SKKPbc 12 41 41.5 -0.5
ASAR P'P' 12 46 09.0
EPF Esparros 85.84 1⇑*i*P **P 12 20 03.6 -0.6**
comp=Z,132nm,1.1s
EPF Esparros 85.84 1⇑*i*P **P 12 20 03.6 -0.6**
EPF pmax pmax
comp=Z,132nm,1.1s
EPF Esparros 85.84 1⇑*i*P **P 12 20 03.6 -0.6**
comp=Z,132nm,1.1s
SEYT Eskypehyr 85.87 338 *i*P **P 12 20 04.4 -0.1**
DBJI Dramaga 85.90 254 P **P 12 20 03.9 -0.8**
comp=Z,261nm,1.2s,comp=Z,3µm
KNT Kendrikon 85.91 344 P **P 12 20 04.7 +0.2**
MLS Moulis 85.92 1 *e*P **P 12 20 04.6 +0.1**
MLS Moulis 85.92 1 *e*P **P 12 20 04.6 +0.1**
LRDF Laroque-de-Fa 85.94 359 *e*P **P 12 20 05.0 +0.4**
LRDF Laroque-de-Fa 85.94 359 *e*P **P 12 20 05.0 +0.4**
LPK Lapseki 85.95 341 *e*P **P 12 20 04.7 0.0**
ETSF Etsaut 85.96 2⇑*i*P **P 12 20 04.9 +0.1**
comp=Z,120nm,1.0s
ETSF Etsaut 85.96 2⇑*i*P **P 12 20 04.9 +0.1**
ETSF pmax pmax
comp=Z,120nm,1.0s
ETSF Etsaut 85.96 2⇑*i*P **P 12 20 04.9 +0.1**
comp=Z,120nm,1.0s
VIEF Viey 85.98 1 *e*P **P 12 20 05.1 +0.2**
VIEF Viey 85.98 1 *e*P **P 12 20 05.1 +0.2**
AQU L'Aquila 85.99 351 *e*P **P 12 20 05.5 +0.6**
comp=Z,328nm,1.0s
AQU LR LR
comp=Z,2µm,22.0s
AQU L'Aquila 85.99 351⇓*i*P **P 12 20 05.4 +0.6**
CISI Cisompet, Garu 86.05 253 P **P 12 20 03.4 -2.1**
comp=Z,136nm,0.9s,comp=Z,2µm
RESF Ens 86.06 1 *e*P **P 12 20 05.9 +0.5**
RESF Ens 86.06 1 *e*P **P 12 20 05.9 +0.5**
GONE Gonen-Balikesi 86.08 340 *e*P **P 12 20 05.0 -0.3**
PGF Pioggiola 86.12 355⇑*i*P **P 12 20 05.6 0.0**
comp=Z,725nm,1.2s
PGF Pioggiola 86.12 355⇑*i*P **P 12 20 05.6 0.0**
PGF pmax pmax
comp=Z,725nm,1.2s
PGF Pioggiola 86.12 355⇑*i*P **P 12 20 05.6 0.0**
comp=Z,725nm,1.2s
GZT Gaziantep 86.14 332 *i*P **P 12 20 06.6 +0.8**
KSI Kapahiang 86.14 259 P **P 12 20 04.5 -1.5**
comp=Z,177nm,0.8s,comp=Z,11µm
SOH Sokhos 86.16 344 P **P 12 20 05.5 -0.3**
CARF Carcanieres 86.17 360 *e*P **P 12 20 05.7 -0.1**
CARF Carcanieres 86.17 360 *e*P **P 12 20 05.7 -0.1**
GRG Griva 86.19 345 P **P 12 20 05.8 -0.1**
KMRS Kahramanmaras 86.19 333 *e*P **P 12 20 06.6 +0.6**
TIR Tirane 86.20 346 *e*P **P 12 20 05.6 -0.3**
TIR pmax pmax
comp=Z,94nm,0.7s
TIR Tirane 86.20 346 *e*P **P 12 20 05.6 -0.3**
comp=Z,94nm,0.7s
KIZT Kizilcal 86.23 337 *e*P **P 12 20 06.3 +0.1**
TVSB Tavsanli 86.26 339 *e*P **P 12 20 06.3 0.0**
NIG Nigde 86.26 335 *e*P **P 12 20 07.4 +0.8**
BIA Bitola 86.30 345 *e*P **P 12 20 05.3 -1.1**
LWLI Liwa 86.32 257 P **P 12 20 05.4 -1.5**
comp=Z,555nm,0.9s,comp=Z,17µm
DURS Dursunbey 86.33 340 *i*P **P 12 20 06.3 -0.3**
POO Poona 86.35 295 *e*P **P 12 20 07.4 +0.4**
SKJI Sukabumi 86.37 254 P **P 12 20 03.9 -3.1**
comp=Z,247nm,1.3s,comp=Z,3µm
BALY Balya 86.38 340 *i*P **P 12 20 05.5 -1.4**
GAZ Gaziantep 86.41 332 *e*P **P 12 20 08.1 +1.0**
HORT Hortiatis 86.42 344 P **P 12 20 05.0 -2.1**
BALB Balikesir 86.42 340 *e*P **P 12 20 06.6 -0.4**
KASI Kota Agung 86.45 257 P **P 12 20 05.0 -2.4**
comp=Z,174nm,1.0s,comp=Z,2µm
SULT Sultanhani-AKS 86.47 335 *e*P **P 12 20 07.7 +0.3**
ALT Altintas 86.49 338 *e*P **P 12 20 07.2 -0.3**
PGAV Gavieira, Arco 86.50 8 *e*P **P 12 20 07.1 -0.4**
comp=Z,47nm,1.9s
PGAV *e*LR LR 12 49 14.2
comp=Z,1µm,20.0s
KOZT Kozan 86.52 334 *e*P **P 12 20 09.0 +1.4**
FNA Florina 86.53 345 P **P 12 20 06.9 -0.7**
EZN Ezine 86.57 341 *e*P **P 12 20 07.2 -0.5**
PLG Polygyros 86.58 344 P **P 12 20 07.5 -0.3**
CGJI Cibinong 86.58 255 P **P 12 20 06.0 -2.0**
comp=Z,170nm,1.1s,comp=Z,2µm
GDZ Gediz 86.60 339 *i*P **P 12 20 07.6 -0.5**
BOZC Bozcaada 86.61 342 *i*P **P 12 20 06.9 -1.0**
BOLV Bolvadin 86.61 338 *i*P **P 12 20 08.2 +0.1**
OUZ Omahuta 86.65 187 *e*P **P 12 20 09.0 +1.2**
comp=Z,573nm,2.9s
LIA Limnos Island 86.72 342 P **P 12 20 08.4 0.0**
LADK Ladik-KONYA 86.76 336 *e*P **P 12 20 08.7 -0.1**
PCAB Cabril 86.78 7 *e*P **P 12 20 08.5 -0.3**
comp=Z,99nm,1.1s
PBRG Braganca 86.78 6 *e*P **P 12 20 08.7 -0.1**
comp=Z,57nm,1.1s
DEMI Demirci 86.82 339 *i*P **P 12 20 08.2 -0.8**
KUZU Kuzuini 86.82 332 *i*P **P 12 20 09.8 +0.7**
SHUT Suhut-Afyon 86.86 338 *e*P **P 12 20 09.5 +0.2**
KZN Kozani 86.93 345 P **P 12 20 09.3 -0.3**
NEST Nestorio 86.94 345 P **P 12 20 08.5 -1.2**
PAIG Paliouri 86.97 343 P **P 12 20 08.0 -1.7**
CEYT Ceyhan 86.98 333 *e*P **P 12 20 10.5 +0.7**
GULE Gulek 86.99 334 *i*P **P 12 20 10.3 +0.2**
OSPF L'Ospedale 87.00 354 *e*P **P 12 20 09.8 -0.1**
OSPF L'Ospedale 87.00 354 *e*P **P 12 20 09.8 -0.1**
LIT Litokhoron 87.01 344 P **P 12 20 09.3 -0.6**
POLO Lamas de Olo 87.13 7 *e*P **P 12 20 10.1 -0.5**
comp=Z,50nm,1.0s
PRK Paraskevi 87.14 341 P **P 12 20 10.2 -0.3**
KAD Karad 87.14 294 *i*P **P 12 20 11.0 +0.1**
PVRL Vila Real 87.23 7 *e*P **P 12 20 11.2 +0.2**
comp=Z,130nm,1.0s
KHAL Karahalli 87.28 339 *i*P **P 12 20 10.1 -1.3**
PTO Porto 87.30 8 *e*P **P 12 20 11.4 +0.2**
comp=Z,139nm,1.0s
KULA Kula-Manisa 87.33 339 *e*P **P 12 20 11.1 -0.5**
MVO Moncorvo 87.39 7 *e*P **P 12 20 11.8 0.0**
comp=Z,127nm,0.9s
MVO *e*LQ LQ 12 44 57.1
MVO *e*LR LR 12 49 14.2
comp=Z,1µm,18.0s
MERS Mersin 87.45 334 *e*P **P 12 20 11.2 -1.0**
KRTS Karatas 87.49 334 *e*P **P 12 20 12.9 +0.7**
MEV Metsovon 87.52 345 P **P 12 20 13.1 +0.5**
ISP Isparta 87.57 338 *e*P **P 12 20 11.9 -0.8**
ISP Isparta 87.57 338 *e*P **P 12 20 12.5 -0.2**
ISP pmax pmax
comp=Z,63nm,0.9s
ISP Isparta 87.57 338 *e*P **P 12 20 12.5 -0.2**
comp=Z,63nm,0.9s
ISP Isparta 87.57 338⇑*i*P **P 12 20 11.9 -0.8**
XOR Xorichti 87.60 344 P **P 12 20 11.7 -1.1**
THL Klokotos Trika 87.61 345 P **P 12 20 11.3 -1.5**
AOS Alonnisos 87.67 343 P **P 12 20 11.2 -1.9**
JAN Janina 87.71 345 P **P 12 20 13.6 +0.3**
SKIA Skiathos 87.75 343 P **P 12 20 12.7 -0.8**
IZM Izmir 87.75 340 *e*P **P 12 20 12.9 -0.6**
PVIS Viseu 87.77 7 *e*P **P 12 20 13.4 -0.2**
comp=Z,149nm,1.1s
YAYL Yayladag 87.79 333 *i*P **P 12 20 14.1 +0.2**
BLCB Balcova 87.81 340 *e*P **P 12 20 12.8 -0.9**
KEK Kerkira 87.82 346 P **P 12 20 13.7 -0.1**
IGT Igoumenitsa 87.91 346 P **P 12 20 14.2 0.0**
URLA Izmir 87.92 341 *i*P **P 12 20 13.4 -0.9**
CHOS Chios island 88.01 341 P **P 12 20 14.2 -0.6**
DNZL Cakiroluk 88.04 339 *i*P **P 12 20 14.8 -0.3**
BCIP Isla Barro Col 88.06 78 *e*P **P 12 20 15.1 -0.2**
comp=Z,67nm,1.0s
CUC Castrocucco 88.07 349 *e*P **P 12 20 13.9 -1.2**
comp=Z,98nm,1.0s
AGG Agios Georgios 88.09 344 P **P 12 20 13.7 -1.4**
ERMK Ermenek 88.09 335 *i*P **P 12 20 14.8 -0.6**
MTE Manteigas 88.12 7 *e*P **P 12 20 15.2 -0.1**
comp=Z,153nm,0.9s
MTE *e*LQ LQ 12 45 34.5
MTE *e*LR LR 12 50 20.4
comp=Z,1µm,20.0s
MTE Manteigas 88.12 7 *e*P **P 12 20 14.9 -0.4**
comp=Z,110nm,0.9s
MAKR Makrakomi, Fth 88.13 344 P **P 12 20 14.8 -0.5**
AGPR Aguadilla, PR 88.14 62 *e*P **P 12 20 15.6 0.0**
comp=Z,806nm,1.3s
MRKA Markates 88.17 343 P **P 12 20 13.8 -1.7**
EVR Evrytania 88.28 345 P **P 12 20 15.6 -0.5**
AXAR Agios Charalam 88.28 344 P **P 12 20 14.9 -1.1**
ATAL Atalanti 88.29 344 P **P 12 20 14.4 -1.6**
AYDN Tasoluk 88.32 340 *i*P **P 12 20 15.9 -0.4**
LKR Lokris 88.33 344 P **P 12 20 14.4 -1.8**
MPR Mayaguez 88.33 63 *e*P **P 12 20 16.2 -0.3**
comp=Z,202nm,1.2s
KORT Korkueli 88.39 338 *i*P **P 12 20 15.7 -1.1**
LSP Las Mesas 88.39 63 *e*P **P 12 20 17.2 +0.4**
LRS Lares 88.43 62 *e*P **P 12 20 17.3 +0.3**
AOPR Arecibo Observ 88.44 62 *e*P **P 12 20 17.5 +0.4**
comp=Z,158nm,0.8s
CRPR Cabo Rojo, PR 88.52 63 *e*P **P 12 20 18.3 +1.0**
comp=Z,364nm,1.3s
GAZI Gazipasa 88.63 336 *i*P **P 12 20 15.8 -1.9**
DSF Desfina 88.65 344 P **P 12 20 16.1 -1.7**
PCBR Castelo Branco 88.68 7 *e*P **P 12 20 17.3 -0.5**
comp=Z,89nm,0.9s
MLSB Milas 88.70 340 *e*P **P 12 20 17.2 -0.8**
KALE Kalithea 88.73 344 P **P 12 20 16.9 -1.3**
ELL Elmali 88.74 338 *e*P **P 12 20 17.7 -0.7**

EFP	Efpalio	88.74	344	P		P		12 20 17.6	-0.5
CELP	Cerrillos	88.75	62	*e*P		P		12 20 18.9	+0.4
OBIP	Obispado Ponce	88.77	62	*e*P		P		12 20 19.1	+0.5
	comp=Z,582nm,1.2s								
TRIZ	Trizonia	88.77	344	P		P		12 20 17.5	-0.8
PTOM	Tomar	88.82	8	*e*P		P		12 20 18.0	-0.5
	comp=Z,208nm,1.1s								
ATHU	Athens Univers	88.85	343	P		P		12 20 17.3	-1.4
LAKA	Lakka	88.91	344	P		P		12 20 18.8	-0.2
TURN	Turunc	88.92	339	*i* P		P		12 20 18.6	-0.4
LTK	Loutraki	88.95	343	P		P		12 20 17.5	-1.7
SJG	San Juan	88.96	62	LR		LR		12 57 13.9	
	comp=Z,583nm,21.9s,baz=178,slow=34								
SJG	San Juan	88.96	62	*e*P		P		12 20 19.6	+0.2
	comp=Z,339nm,1.1s								
BDRM	Kayabasi	88.99	340	*i* P		P		12 20 17.7	-1.7
BODT	Bodrum	89.02	340	*e*P		P		12 20 18.1	-1.4
ESDC	Sonseca Array	89.06	4	P		P		12 20 19.2	-0.5
	comp=Z,58nm,0.9s,baz=354,slow=4.4,SNR=129								
ESDC				PKKPbc		PKKPbc		12 37 54.4	-0.8
	comp=Z,2.6nm,0.8s,baz=186,slow=1.6,SNR=10								
ESDC	Sonseca Array	89.06	4	P		P		12 20 19.2	-0.5
ESDC				PKKPbc		PKKPbc		12 37 54.4	-0.8
ESLA	Sonseca Array	89.06	4	*e*P		P		12 20 19.2	-0.5
	comp=Z,31nm,1.1s								
PMRV	Marv??o	89.09	7	*e*P		P		12 20 18.7	-1.1
	comp=Z,92nm,1.0s								
PMRV				*e*LR		LR		12 50 28.1	
	comp=Z,1μm,20.0s								
GUR	Goura	89.14	344	P		P		12 20 19.2	-1.0
VSL	Villasalto	89.14	354	*e*P		P		12 20 18.9	-1.1
	comp=Z,54nm,1.0s								
VSL				LR		LR			
	comp=Z,1μm,20.0s								
RLS	Riolos of Patr	89.17	345	P		P		12 20 20.5	+0.3
PAB	San Pablo	89.17	5	*e*P		P		12 20 19.8	-0.5
PAB				pmax		pmax			
	comp=Z,46nm,1.0s								
PAB	San Pablo	89.17	5	*e*P		P		12 20 19.8	-0.5
	comp=Z,46nm,1.0s								
VLS	Valsamata	89.20	345	P		P		12 20 20.5	+0.2
PAYG	Puerto Ayora	89.21	92	*e*P		P		12 20 21.4	+0.7
	comp=Z,222nm,1.6s								
LFK	Lefkose	89.21	335	*e*P		P		12 20 19.9	-0.7
KFL	Anninata	89.23	345	P		P		12 20 19.5	-1.0
PHNC	Paralimni	89.34	334	P		P		12 20 21.3	+0.3
	comp=Z,1.6nm,1.0s								
FKH	Fakeheh	89.37	332	*e*P		P		12 20 21.5	+0.1
PMTG	Montargil	89.38	8	*e*P		P		12 20 19.7	-1.5
	comp=Z,52nm,1.1s								
APE	Apeiranthos	89.39	341	P		P		12 20 18.8	-2.5
MAMC	Mammari	89.40	335	P		P		12 20 20.7	-0.6
PMAFR	Mafra	89.40	9	*e*P		P		12 20 20.9	-0.4
	comp=Z,179nm,1.1s								
DID	Didima	89.40	343	P		P		12 20 19.2	-2.1
STVI	Saint Thomas	89.42	61	*e*P		P		12 20 22.1	+0.5
	comp=Z,266nm,0.9s								
LEF	Lefka	89.54	335	*e*P		P		12 20 21.2	-0.7
CSS	Prodhromos	89.57	335	P		P		12 20 21.3	-0.8
	comp=Z,1.0nm,1.2s								
ALFC	Alevga	89.58	335	P		P		12 20 21.0	-1.2
	comp=Z,2.3nm,1.0s								
PESTR	Estremoz	89.64	7	*e*P		P		12 20 21.8	-0.6
	comp=Z,128nm,0.9s								
AMT	Artemida-Makis	89.64	344	P		P		12 20 21.8	-0.7
LIS	Lisbon	89.65	9	*e*P		P		12 20 22.5	+0.1
LIS				AMS		AMS		13 02 04.7	
	comp=Z,2μm,20.1s								
LIS	Lisbon	89.65	9	*e*P		P		12 20 22.5	+0.1
LIS				A		A		13 02 04.7	
	comp=Z,2μm,20.1s								
LIS	Lisbon	89.65	9	*e*P		P		12 20 22.4	+0.1
ARG	Arkhangelos	89.66	339	P		P		12 20 21.4	-1.1
VLX	Vlachokerasia	89.69	344	P		P		12 20 21.5	-1.3
MIB	Mutribah	89.69	322	*e*P		P		12 20 22.3	-0.5
MIB				AMb		AMB		12 20 23.7	
	comp=Z,486nm,0.9s								
AKMC	Akamas	89.77	335	P		P		12 20 21.3	-1.8
CEL	Celeste	89.77	349	*e*P		P		12 20 20.5	-2.5
	comp=Z,221nm,0.9s								
UMR	Umm Al-Rimmam	89.77	321	*e*P		P		12 20 22.5	-0.7
UMR				AMb		AMB		12 20 23.9	
	comp=Z,241nm,1.1s								
PPCY	Paphos	89.90	335	P		P		12 20 22.4	-1.2
BHL	Bhannes	89.91	332	*e*P		P		12 20 23.6	-0.3
EVOP	Sao Brissos	89.93	8	⇑*i* P		P		12 20 22.8	-0.9
EVOP				pmax		pmax			
	comp=Z,70nm,1.0s								
EVOP	Sao Brissos	89.93	8	⇑*i* P		P		12 20 22.8	-0.9
	comp=Z,70nm,1.0s								
EVO	Evora	89.93	8	⇑*i* P		P		12 20 22.8	-0.9
	comp=Z,70nm,1.0s								
EVO				*e*R					
	comp=Z,2μm,20.2s								
EVO	Evora	89.93	8	*e*P		P		12 20 22.3	-1.4
	comp=Z,64nm,0.9s								
ITM	Ithomi	89.95	344	P		P		12 20 23.1	-0.8
COVI	St. Croix	90.01	61	*e*P		P		12 20 27.6	+3.2
VLI	Veliai	90.22	343	P		P		12 20 23.3	-1.8
NAY	Al-Naaiem	90.23	321	*e*P		P		12 20 24.4	-0.9
NAY				AMb		AMB		12 20 25.9	
	comp=Z,150nm,1.0s								
STKA	Stephens Creek	90.24	213	P		P		12 20 25.7	+0.7
	comp=Z,99nm,0.8s,baz=357,slow=5.5,SNR=143								
STKA				PKKPbc		PKKPbc		12 37 53.6	0.0
	comp=Z,4.3nm,0.9s,baz=95,slow=4.9,SNR=6.0								
STKA	Stephens Creek	90.24	213	*e*P		P		12 20 25.6	+0.7
	comp=Z,30nm,0.9s								
STKA				PKKPbc		PKKPbc		12 37 53.6	0.0
RCY	Rachaya	90.24	332	*e*P		P		12 20 25.4	0.0
PYL	PYLOS	90.26	344	P		P		12 20 22.1	-3.2
DYR	Agios Nikonas	90.29	344	P		P		12 20 24.6	-0.9
PNCL	Nicolau / Gran	90.31	8	*e*P		P		12 20 24.0	-1.5
	comp=Z,58nm,1.3s								
PBAR	Barrancos	90.37	7	*e*P		P		12 20 24.9	-0.9
	comp=Z,146nm,1.1s								
RDF	Al-Radifah	90.39	321	*e*P		P		12 20 26.1	+0.1
RDF				AMb		AMB		12 20 27.6	
	comp=Z,364nm,1.0s								
MBWA	Marble Bar	90.40	236	*e*P		P		12 20 25.8	-0.2
MBWA	Marble Bar	90.40	236	P		P		12 20 26.1	+0.1
	SNR=7.7								
QRN	Al-Qurain	90.41	321	*e*P		P		12 20 25.5	-0.6
QRN				AMb		AMB		12 20 26.9	
	comp=Z,394nm,1.1s								
PBEJ	Beja	90.45	8	*e*P		P		12 20 25.7	-0.5
	comp=Z,80nm,1.0s								
MESJ	Messejana	90.60	8	*e*P		P		12 20 26.8	-0.1
MESJ				*e*SS		SS		12 37 20.5	+0.6
MESJ				AMS		AMS		13 01 22.6	
	comp=Z,2μm,20.5s								
MESJ	Messejana	90.60	8	*e*P		P		12 20 26.8	-0.1
MESJ				*e*SS		SS		12 37 20.5	+0.6
MESJ				A		A		13 01 22.6	
	comp=Z,2μm,20.5s								
MESJ	Messejana	90.60	8	*e*P		P		12 20 26.7	-0.1
MESJ				*e*SS		SS		12 37 20.5	+0.6
HOQ	Hoqain	90.82	311	P		P		12 20 27.9	-0.2
	SNR=6.4								
PCVE	Castro Verde	90.82	8	*e*P		P		12 20 27.5	-0.4
	comp=Z,45nm,1.1s								
PTEO	Sao Teotonio	90.85	8	*e*P		P		12 20 27.5	-0.5
	comp=Z,71nm,1.0s								
PVAQ	Vaqueiros	91.08	8	*e*P		P		12 20 27.9	-1.2
	comp=Z,86nm,1.4s								
PVAQ				*e*LR		LR		12 51 35.5	
	comp=Z,1μm,22.0s								
MORF	Marmelete	91.09	8	*e*P		P		12 20 28.6	-0.6
	comp=Z,123nm,1.4s								
MORF	Marmelete	91.09	8	*e*P		P		12 20 29.1	-0.1
MORF				*e*SS		SS		12 37 27.8	+0.6
NPS	Neapolis	91.11	341	P		P		12 20 27.4	-1.9
PBDV	Barranco-do-Ve	91.22	8	*e*P		P		12 20 29.7	-0.1
	comp=Z,74nm,1.1s								
PALK	Pallekele	91.22	283	*e*P		P		12 20 30.3	+0.2
	comp=Z,128nm,0.9s								
PALK	Pallekele	91.22	283	P		P		12 20 31.5	+1.3
	SNR=23								
PALK	Pallekele	91.22	283	P		P		12 20 30.7	+0.5
	comp=Z,185nm,1.4s,comp=Z,2μm								
PALK	Pallekele	91.22	283	P		P		12 20 31.1	+0.9
	comp=Z,185nm,1.4s,comp=Z,2μm								
IDI	Anoyia	91.24	341	P		P		12 20 27.3	-2.7
IDI	Anoyia	91.24	341	*e*P		P		12 20 27.2	-2.7
LAST	Lasithi	91.24	341	P		P		12 20 28.5	-1.5
PFVI	Vila Bisbo	91.25	8	*e*P		P		12 20 29.5	-0.4
	comp=Z,31nm,2.0s								
VAM	Vamos	91.26	342	P		P		12 20 28.5	-1.5
KARN	Karanos	91.32	342	P		P		12 20 28.8	-1.5
ARQ	Araqi	91.41	311	P		P		12 20 30.9	0.0
	SNR=21								
JMDO	Jabal Madar	91.48	310	P		P		12 20 31.4	+0.2
	SNR=6.6								
BSY	Bisya	91.59	311	P		P		12 20 31.9	+0.1
	SNR=8.2								
GVD	Gavdhos	91.83	342	*e*P		P		12 20 31.1	-1.5
	comp=Z,144nm,1.1s								
BPA	Boggy Peak	92.17	59	*e*P		P		12 20 31.6	-2.9
TRD	Trivandrum	92.51	287	*e*P		P		12 20 35.0	-1.0
KEST	Kesra	92.89	354	P		P		12 20 37.5	-0.1
	comp=Z,18nm,1.0s,baz=284,slow=1.6,SNR=31								
KEST				PKKP		PKKPbc		12 37 47.3	+1.6
	comp=Z,1.7nm,0.9s,baz=173,slow=8.7,SNR=3.6								
KEST	Kesra	92.89	354	*e*P		P		12 20 37.2	-0.4
KEST				PKKP		PKKPbc		12 37 47.3	+1.6
LZG	Guadaloupe-1	92.96	60	*e*P		P		12 20 38.4	+0.3
BBOO	Buckleboo	93.08	217	*e*P		P		12 20 37.4	-0.7
	comp=Z,545nm,1.0s								
SCG	Saint Claude	93.10	60	*e*P		P		12 20 39.3	+0.5
DOG	Dongo Capester	93.13	59	*e*P		P		12 20 39.4	+0.5
PHG	Guadaloupe-2	93.13	59	*e*P		P		12 20 39.4	+0.4
TBG	Guadaloupe-3	93.26	60	*e*P		P		12 20 39.8	+0.3
SDV	Santo Domingo	93.81	71	*e*P		P		12 20 43.0	+0.7
FDF	Fort de France	94.45	60	*e*P		P		12 20 44.7	-0.3
FDF				pmax		pmax			
	comp=Z,221nm,1.1s								
FDF	Fort de France	94.45	60	*e*P		P		12 20 44.7	-0.3
	comp=Z,221nm,1.1s								
FORT	Forrest	94.55	224	*e*P		P		12 20 45.5	+0.6
	comp=Z,77nm,0.8s								
ROSC	El Rosal	94.79	76	P		P		12 20 46.9	-0.1
	comp=Z,7.9nm,0.4s,baz=286,slow=23,SNR=4.6								
ROSC	El Rosal	94.79	76	P		P		12 20 46.9	-0.1
RPZ	Rata Peaks	95.29	188	P		P		12 20 48.3	+0.3
	comp=Z,12nm,0.8s,baz=98,slow=11,SNR=5.1								
RPZ	Rata Peaks	95.29	188	P		P		12 20 48.3	+0.3
OTAV	Otavalo	95.88	82	*e*P		P		12 20 52.8	+0.7
	comp=Z,29nm,1.3s								
RAYN	Ar Rayn	96.03	320	P		P		12 20 51.0	-1.2
	comp=Z,675nm,0.9s,SNR=30								
HMDM	Hanimaadhoo	96.14	289	P		P		12 20 53.8	+1.1
LPAZ	La Paz	115.05	85	PKP		PKPdf		12 26 05.6	-0.9
	comp=Z,2.4nm,0.8s,baz=13,slow=4.2,SNR=9.2								
LPAZ				PKKPab		PKKPab		12 36 48.3	+0.8
	comp=Z,3.1nm,0.8s,baz=198,slow=1.7,SNR=8.1								
LPAZ	La Paz	115.05	85	PKP		PKPdf		12 26 05.6	-0.9
LPAZ				PKKPab		PKKPab		12 36 48.3	+0.8
TOAD	Torodi Ar. Sit	115.63	0	*e*PKPdf		PKPdf		12 26 06.0	-1.0
TORD	Torodi Ar. Bea	115.63	0	PKP		PKPdf		12 26 06.3	-0.7
	comp=Z,25nm,0.7s,baz=345,slow=2.7,SNR=104								
TORD				SKP				12 29 39.4	
	comp=Z,1.5nm,0.5s,baz=342,slow=2.2,SNR=8.1								
TORD				PKKPbc		PKKPbc		12 36 38.2	+0.6
	comp=Z,6.8nm,1.0s,baz=170,slow=3.9,SNR=10.0								
TORD	Torodi Ar. Bea	115.63	0	PKP		PKPdf		12 26 06.3	-0.7
TORD				SKP				12 29 39.4	
TORD				PKKPbc		PKKPbc		12 36 38.2	+0.6
SIV	San Ignacio	119.19	79	PKP		PKPdf		12 26 12.5	-1.2
	comp=Z,6.1nm,0.8s,baz=323,slow=1.9,SNR=21								
SIV				PP		PP		12 27 34.4	0.0
	comp=Z,8.6nm,0.9s,baz=352,slow=12,SNR=3.5								
SIV				PKKPab		PKKPab		12 36 27.0	-2.0
	comp=Z,5.6nm,0.8s,baz=134,slow=3.9,SNR=11								
SIV	San Ignacio	119.19	79	PKP		PKPdf		12 26 12.5	-1.2
SIV				PP		PP		12 27 34.4	0.0
SIV				PKKPab		PKKPab		12 36 27.0	-2.0
KMBO	Kilima Mbogo	121.63	317	*e*PKPdf		PKPdf		12 26 19.3	+0.4
KMBO	Kilima Mbogo	121.63	317	PKPdf		PKPdf		12 26 19.9	+1.0
	SNR=14								
DBIC	Dimbokro	121.78	8	PKP		PKPdf		12 26 18.5	-0.4
	comp=Z,67nm,0.8s,baz=7.7,slow=1.9,SNR=89								
DBIC				PKKPbc		PKKPbc		12 36 15.8	+0.5
	comp=Z,3.5nm,0.9s,baz=238,slow=9.5,SNR=3.0								
DBIC	Dimbokro	121.78	8	PKP		PKPdf		12 26 18.5	-0.4
DBIC				PKKPbc		PKKPbc		12 36 15.8	+0.5
DRV	Dumont d'Urvil	122.03	198	PP		PP		12 27 39.0	-14
DRV				SKKS				12 33 21.0	
DRV				SP		SP		12 37 34.0	-8.3
DRV				SS		SS		12 44 35.0	+5.9
LIC	Lamto	122.21	8	⇑*i* PKIKP		PKPdf		12 26 19.2	-0.5
	comp=Z,216nm,0.8s								
LIC				*e*R					
	comp=Z,2μm,22.5s								
LIC	Lamto	122.21	8	⇑*i* PKPdf		PKPdf		12 26 19.2	-0.5
RCBR	Riachuelo	124.80	48	PKP		PKPdf		12 26 24.4	-0.3
	comp=Z,14nm,0.8s,baz=335,slow=4.6,SNR=10								
RCBR				PKKPbc		PKKPbc		12 36 04.7	+1.2
	comp=Z,12nm,0.9s,baz=111,slow=7.2,SNR=6.0								
RCBR	Riachuelo	124.80	48	PKP		PKPdf		12 26 24.4	-0.3
RCBR				PKKPbc		PKKPbc		12 36 04.7	+1.2
CFAA	Coronel Fontan	126.09	97	PKP		PKPdf		12 26 26.0	-0.6
	comp=Z,1.2nm,0.9s,baz=287,slow=3.1,SNR=14								
CFAA	Coronel Fontan	126.09	97	PKP		PKPdf		12 26 26.0	-0.6
BDFB	Brasilia	126.70	67	PKP		PKPdf		12 26 27.8	-0.5
	comp=Z,15nm,0.8s,baz=242,slow=2.6,SNR=17								
BDFB				PP		PP		12 28 24.9	-0.2
	comp=Z,22nm,1.1s,baz=336,slow=9.0,SNR=6.7								
BDFB	Brasilia	126.70	67	PKP		PKPdf		12 26 27.8	-0.5
BDFB				PP		PP		12 28 24.9	-0.2
VNDA	Vanda	129.35	186	PKP		PKPdf		12 26 31.0	-0.4
	comp=Z,12nm,1.1s,baz=332,slow=4.0,SNR=14								
VNDA				SKPbc		SKPab		12 29 49.3	-0.2
	comp=Z,8.4nm,0.9s,baz=8.6,slow=4.3,SNR=7.3								
VNDA	Vanda	129.35	186	PKP		PKPdf		12 26 31.0	-0.4
VNDA				SKPbc		SKPab		12 29 49.3	-0.2
SBA	Scott Base	129.42	184	*e*PKIKP		PKPdf		12 26 31.2	-0.3
SBA	Scott Base	129.42	184	*e*PKPdf		PKPdf		12 26 31.2	-0.3
PLCA	Paso Flores	130.64	107	PKP		PKPdf		12 26 34.7	-0.3
	comp=Z,30nm,1.0s,baz=304,slow=3.1,SNR=23								
PLCA				SKPbc		SKPbc		12 29 53.1	-3.1
	comp=Z,3.3nm,0.8s,baz=93,slow=4.5,SNR=3.6								
PLCA				SKP				12 30 07.1	
	comp=Z,8.1nm,0.8s,baz=299,slow=5.2,SNR=8.1								
PLCA	Paso Flores	130.64	107	PKP		PKPdf		12 26 34.7	-0.3
PLCA				SKPbc		SKPbc		12 29 53.1	-3.1
PLCA				SKP				12 30 07.1	
OPO	Ambohidratompo	131.58	296	SKPab		SKPbc		12 29 59.8	-0.7
	comp=Z,14nm,1.1s,baz=40,slow=4.8,SNR=4.9								
OPO	Ambohidratompo	131.58	296	SKPab		SKPbc		12 29 59.8	-0.7
ABPO	Ambohimpanom	131.91	295	*e*PKIKP		PKPdf		12 26 37.7	-0.5
ABPO	Ambohimpanom	131.91	295	*e*PKPdf		PKPdf		12 26 37.7	-0.5
TRQA	Tornquist	134.19	99	*e*PKPdf		PKPdf		12 26 41.2	-0.5
CAM4	Nova Friburgo	135.14	67	*i*		P		12 26 41.4	
CAM4				*i*				12 26 47.6	
CAM4				*i*				12 26 50.7	
CAM4				*i*				12 26 54.6	
CAM4				*i*				12 26 59.5	
CAM4				*i*				12 27 48.1	
LSZ	Lusaka	138.15	320	PKPdf		PKPdf		12 26 47.1	-2.8
	SNR=3.3								
QSPA	South Pole Qui	141.25	180	PKhKP		PKPpre		12 26 46.7	
	comp=Z,12nm,0.9s,baz=64,slow=1.1,SNR=41								
QSPA				PKP		PKPdf		12 26 55.2	+1.3
	comp=Z,73nm,0.9s,baz=311,slow=0.3,SNR=40								
QSPA				SKPbc		SKPbc		12 30 25.9	-2.2
	comp=Z,34nm,1.0s,baz=27,slow=4.6,SNR=5.3								
QSPA	South Pole Qui	141.25	180	PKPpre		PKPpre		12 26 46.7	
QSPA				PKP		PKPdf		12 26 55.2	+1.3
QSPA				SKPbc		SKPbc		12 30 25.9	-2.2
EFI	East Falkland	143.72	114	*e*PKIKP		PKPab		12 26 55.4	0.0
EFI	East Falkland	143.72	114	*e*PKPdf		PKPab		12 26 55.4	-0.1
PMSA	Palmer Station	144.56	138	PKP		PKPab		12 26 58.1	-0.2
	comp=Z,88nm,0.9s,baz=272,slow=2.9,SNR=13								
PMSA	Palmer Station	144.56	138	PKP		PKPab		12 26 58.1	-0.2
TSUM	Tsumeb	145.46	333	*e*PKPdf		PKPab		12 27 03.0	0.0
MAW	Mawson	146.81	218	PKP		PKPdf		12 27 03.3	-0.1
	comp=Z,344nm,1.0s,baz=65,slow=2.3,SNR=86								
MAW				PKPbc		PKPbc		12 27 05.7	+0.4
	comp=Z,344nm,1.0s,baz=52,slow=2.4,SNR=87								
MAW	Mawson	146.81	218	PKP		PKPdf		12 27 03.3	-0.1
MAW				PKPbc		PKPbc		12 27 05.7	+0.4
BOSA	Boshof	151.18	313	PKP		PKPdf		12 27 11.8	-0.1
	comp=Z,54nm,1.1s,baz=96,slow=1.4,SNR=11								
BOSA				PKPbc		PKiKP		12 27 18.4	+0.1
	baz=34,slow=2.7								
BOSA	Boshof	151.18	313	PKP		PKPdf		12 27 11.8	-0.1
BOSA				PKPbc		PKiKP		12 27 18.4	+0.1
SYO	Syowa Base	154.98	211	⇑*e*P		PKPdf		12 27 12.3	-3.6
SYO	Syowa Base	154.98	211	⇑*i* P		PKPab		12 27 38.8	-1.6
SYO	Syowa Base	154.98	211	⇓*i* P		PKPab		12 27 49.8	+9.4
VNA3	Neumayer Olymp	159.51	169	*e*PKPdf		PKPdf		12 27 20.3	-1.4
VNA3	Neumayer Olymp	159.51	169	*e*PKPab		PKPab		12 27 59.3	-0.7
SNAA	Sanae	159.65	176	*e*PKPdf		PKPdf		12 27 20.7	-1.2
SNAA	Sanae	159.65	176	PKP		PKPdf		12 27 20.0	-1.8
	comp=Z,8.7nm,1.0s,baz=158,slow=1.1,SNR=24								
SNAA				PKPab		PKPab		12 27 59.8	-0.9
	comp=Z,5.9nm,0.8s,baz=225,slow=0.5,SNR=8.2								
SNAA	Sanae	159.65	176	PKP		PKPdf		12 27 20.0	-1.8
SNAA				PKPab		PKPab		12 27 59.8	-0.9
VNA2	Neumayer--Watz	160.05	171	*e*PKPdf		PKPdf		12 27 21.5	-0.8
VNA2	Neumayer--Watz	160.05	171	*e*PKPab		PKPab		12 28 02.1	-0.2
VNA1	Neumayer--Stat	160.23	170	*e*PKPdf		PKPdf		12 27 21.7	-0.7
VNA1	Neumayer--Stat	160.23	170	*e*PKPab		PKPab		12 28 03.0	-0.1

*THE **30** 12:08:33.3, 38°.36N×22°.45E, h9km±1km, ML2.0/5, Error ellipse: s-maj=1.6km s-min=0.4km az=160.0*
*ATH **30** 12:08:33.4, 38°.43N×22°.43E, h18km±4km, MD2.8/10*
*CSEM **30** 12:08:33.4±0.1, 38°.43N×22°.43E, h10km, ML2.0/5, Error ellipse: s-maj=2.9km s-min=2.4km az=162.0*

ISC 30 12:08:33.2±0.9, **38°.43N**±0°.02×**22°.44E**±0°.02, **h10**km±5km, **n31**, σ0**948**/61, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	Desfina	0.07	105	P	Pg	12 08 35.5	-0.1
DSF				S	Sg	12 08 37.2	-0.1
DSF	Desfina	0.07	105	P	Pg	12 08 35.5	-0.1
DSF				S	Sg	12 08 37.2	-0.1
KALE	Kalithea	0.24	261	P	Pg	12 08 38.2	+0.1
KALE				S	Sg	12 08 42.2	+0.7
KALE	Kalithea	0.24	261	*e*PB	Pg	12 08 38.3	+0.1
KALE				*e*SB	Sg	12 08 42.1	+0.6
KALE	Kalithea	0.24	261	*e*Pb	Pg	12 08 38.3	+0.1
KALE				S	Sg	12 08 41.6	+0.1
KALE				*e*Sb		12 08 42.1	
TRIZ	Trizonia	0.29	258	P	Pg	12 08 39.2	0.0
TRIZ				S	Sg	12 08 44.0	+0.9
TRIZ	Trizonia	0.29	258	*e*PB	Pg	12 08 39.2	0.0
TRIZ				*e*SB	Sg	12 08 44.0	+0.9
TRIZ	Trizonia	0.29	258	P	Pg	12 08 39.2	0.0
TRIZ				S	Sg	12 08 43.6	+0.5
TRIZ				*e*Sb	Sg	12 08 44.0	+0.9
AXAR	Agios Charalam	0.38	27	P	Pb	12 08 41.5	-0.5
AXAR				S	Sb	12 08 48.3	+0.3
AXAR	Agios Charalam	0.38	27	P	Pb	12 08 41.5	-0.5
LAKA	Lakka	0.41	243	*e*PB	Pg	12 08 41.2	-0.1
LAKA				*e*SB	Sb	12 08 47.9	-0.9
LAKA	Lakka	0.41	243	P	Pg	12 08 40.9	-0.4
LAKA	Lakka	0.41	243	*e*Pb	Pg	12 08 41.2	-0.1
LAKA				*e*Sb	Sb	12 08 47.9	-0.9
EFP	Efpalio	0.42	270	P	Pg	12 08 41.4	-0.1
EFP				S	Sb	12 08 48.1	-1.0
EFP	Efpalio	0.42	270	*e*PB	Pg	12 08 41.2	-0.3
EFP				*e*SB	Sg	12 08 47.8	+0.8
EFP	Efpalio	0.42	270	P	Pg	12 08 41.4	-0.1
EFP				S	Sg	12 08 47.4	+0.4
EFP				*e*Sb	Sg	12 08 47.8	+0.8
LKR	Lokris	0.49	63	P	Pg	12 08 43.1	+0.3

ILAR	Eielson Array	8.79	16	Pn	Pn	12 11 13.3	-1.5	
SKAG	Skagway	9.67	65	*e*Pn	Pn	12 11 27.1	+0.2	
EGAK	Eagle 318nm,1.5s	10.04	29	Pn	Pn	12 11 32.7	+0.8	
DLBC	Dease Lake 0.2nm,0.3s,baz=256,slow=12,SNR=4.2	12.32	71	Pn	Pn	12 12 04.1	+0.9	
DLBC	Dease Lake	12.32	71	Pn	Pn	12 12 04.1	+0.9	
INK	Inuvik 0.1nm,0.3s,baz=224,slow=12,SNR=15	14.72	29	Pn	Pn	12 12 36.4	+0.7	
INK	Inuvik	14.72	29	Pn	Pn	12 12 36.4	+0.7	
NLWA	Neilton Lookou 27nm,1.5s	19.80	105	*e*P	P	12 13 38.6	+0.6	
YKW3	Yellowknife Ar 2.5nm,0.9s	19.99	57	*e*P	P	12 13 40.1	+0.2	
YKA	Yellowknife Ar 3.4nm,0.8s,baz=270,slow=11,SNR=47	19.99	57	P	P	12 13 40.0	+0.1	
YKA	Yellowknife Ar	19.99	57	P	P	12 13 40.0	+0.1	
LON	Longmire 6.8nm,0.9s	21.30	104	*e*P	P	12 13 54.5	+0.2	
HAWA	Hanford 6.0nm,0.8s	22.75	102	*e*P	P	12 14 09.7	-0.1	
NEW	Newport 3.1nm,1.0s,baz=295,slow=9.6,SNR=5.5	22.97	96	P	P	12 14 12.3	+0.4	
NEW	Newport 12nm,1.4s	22.97	96	*e*P	P	12 14 12.1	+0.1	
A12A	Yaak River Ran baz=23	23.41	93	⇑P	P	12 14 15.2	-1.3	
HUMO	Hull Mountain 70nm,1.0s	23.50	114	*e*P	P	12 14 17.5	+0.1	
C11A	Tepee Creek (N baz=24	23.69	96	⇓P	P	12 14 17.8	-1.4	
B12A	Libby baz=24	23.70	94	⇓P	P	12 14 18.1	-1.2	
A13A	Flathead Natio baz=24	24.10	92	⇓P	P	12 14 21.5	-1.6	
C12B	Naegeli Ranch, baz=24	24.19	95	⇑P	P	12 14 22.3	-1.7	
YBH	Yreka Blue Hor 9.0nm,0.8s,baz=337,slow=4.4,SNR=18	24.27	115	P	P	12 14 25.2	+0.4	
YBH	Yreka Blue Hor 4.4nm,0.7s	24.27	115	*e*P	P	12 14 25.4	+0.7	
B13A	Whitefish baz=24	24.37	93	⇑P	P	12 14 24.6	-1.0	
BSMT	Bassoo Peak	24.49	94	*e*P	P	12 14 26.6	-0.2	
A14A	Double T Ranch baz=24,SNR=11	24.62	91	⇓P	P	12 14 27.3	-0.7	
D12A	Red Ives Fores baz=24	24.64	97	⇑P	P	12 14 26.5	-1.6	
C13A	Hot Springs baz=25,SNR=5.8	24.71	95	⇑P	P	12 14 27.5	-1.2	
JTMT	Jette	24.83	94	*e*P	P	12 14 29.6	-0.2	
YBMT	Yellow Bay 4.1nm,0.8s	24.91	94	*e*P	P	12 14 30.5	-0.1	
BMO	Blue Mountains 4.4nm,1.2s	24.94	103	*e*P	P	12 14 31.2	+0.4	
A15A	Johnson Ranch, baz=25,SNR=5.4	25.00	90	⇑P	P	12 14 30.0	-1.4	
B14A	Marquette Ranc baz=25	25.04	92	⇓P	P	12 14 30.7	-1.1	
D13A	Huson baz=25	25.11	96	⇓P	P	12 14 31.4	-0.9	
C14A	Swan Lake baz=25	25.11	94	⇑P	P	12 14 30.9	-1.4	
SWMT	Swartz Lake	25.12	94	*e*P	P	12 14 33.2	+0.7	
WDC	Whiskeytown Da 26nm,1.5s	25.21	116	*e*P	P	12 14 33.6	+0.4	
MOD	Modoc 9.5nm,0.9s	25.37	111	*e*P	P	12 14 35.6	+0.8	
B15A	Bradely Ranch, baz=25	25.46	92	⇓P	P	12 14 34.5	-1.0	
MSO	Missoula 1.6nm,0.8s	25.55	96	*e*P	P	12 14 36.7	+0.3	
SLMT	Seeley Lake 11nm,1.4s	25.56	94	*e*P	P	12 14 36.2	-0.3	
D14A	Greenough baz=26	25.65	95	⇓P	P	12 14 36.5	-0.8	
E13A	Victor baz=26	25.65	97	⇑P	P	12 14 36.4	-0.9	
A16A	West Butte Ran baz=26	25.65	90	⇓P	P	12 14 36.5	-0.7	
C15A	Salmond Ranch, baz=26,SNR=8.1	25.74	93	⇓P	P	12 14 37.3	-0.8	
G12A	Big Creek, Yel baz=26	25.84	100	⇓P	P	12 14 38.3	-0.8	
B16A	M & M Farms, S baz=26	25.88	91	⇑P	P	12 14 38.7	-0.6	
F13A	Darby baz=26	25.97	98	⇑P	P	12 14 39.7	-0.5	
E14A	Clinton baz=26,SNR=5.2	26.05	96	⇓P	P	12 14 40.5	-0.5	
A17A	Triple J Farms baz=26,SNR=7.5	26.15	89	⇑P	P	12 14 41.5	-0.2	
C16A	Fuhringer Ranc baz=26	26.20	92	⇑P	P	12 14 42.0	-0.3	
D15A	Lincoln baz=26	26.21	94	⇓P	P	12 14 42.1	-0.3	
B17A	L&G Farms, Che baz=26	26.45	90	⇑P	P	12 14 44.6	+0.2	
G13A	Cobalt baz=26,SNR=6.4	26.46	99	⇓P	P	12 14 44.6	0.0	
H12A	Diamond D Ranc baz=26	26.47	101	⇓P	P	12 14 44.7	-0.1	
F14A	Wisdom baz=26	26.49	97	⇑P	P	12 14 44.8	-0.1	
E15A	Deer Lodge baz=26	26.52	95	⇓P	P	12 14 44.7	-0.4	
A18A	Metzger Ranch, baz=26	26.64	88	⇓P	P	12 14 45.6	-0.5	
MFID	Camas Ranch 5.1nm,1.0s	26.69	104	*e*P	P	12 14 46.0	-0.7	
MFID	Camas Ranch baz=26	26.69	104	⇓P	P	12 14 46.2	-0.4	
D16A	Dana Ranch, Ca baz=27	26.76	93	⇓P	P	12 14 47.2	-0.1	
H13A	Challis baz=27,SNR=8.3	26.79	100	⇑P	P	12 14 47.7	+0.1	
G14A	Jackson baz=27	26.79	98	⇑P	P	12 14 47.9	+0.2	
HRY	Holter Researc 3.0nm,0.7s	26.79	94	*e*P	P	12 14 47.5	-0.1	
C17A	Wharram Farm, baz=27	26.85	91	⇓P	P	12 14 48.1	+0.1	
F15A	Butte baz=27	26.95	96	⇑P	P	12 14 49.0	-0.1	
B18A	Beardsley Farm baz=27	26.96	89	⇑P	P	12 14 49.1	0.0	
E16A	East Helena baz=27	26.98	94	⇑P	P	12 14 49.2	-0.1	
D17A	Six Diamond Ra baz=27	27.17	92	⇑P	P	12 14 51.1	+0.1	
EGMT	Eagleton 332nm,0.9s	27.18	90	*e*P	P	12 14 51.1	0.0	
H14A	Leadore baz=27,SNR=7.9	27.24	99	⇓P	P	12 14 52.1	+0.4	
A19A	Klindworth Far baz=27	27.25	87	⇓P	P	12 14 51.4	-0.2	
I13A	Wildhorse Cree baz=27	27.29	101	⇓P	P	12 14 51.9	-0.3	
HLID	Hailey 0.9nm,0.6s	27.36	102	*e*P	P	12 14 53.1	+0.4	
G15A	Dillon baz=27	27.37	97	⇑P	P	12 14 53.0	+0.1	
B19A	Brinkman Farms baz=27,SNR=6.5	27.39	88	⇑P	P	12 14 53.5	+0.6	
F16A	Kennard Place, baz=27	27.46	95	⇑P	P	12 14 53.7	+0.1	
E17A	Martinsdale baz=27	27.48	93	⇑P	P	12 14 54.4	+0.6	
J13A	Cove Ranch, Pi baz=27	27.59	102	⇓P	P	12 14 55.5	+0.7	
D18A	Linhart Farms, baz=28,SNR=5.1	27.63	91	⇑P	P	12 14 55.8	+0.7	
H15A	Lima baz=28	27.64	98	⇓P	P	12 14 55.7	+0.4	
I14A	Mackay baz=28	27.64	100	⇑P	P	12 14 55.9	+0.6	
G16A	Moss Hill, Enn baz=28,SNR=6.1	27.71	96	⇑P	P	12 14 56.1	+0.2	
A20A	Cobblestone Ra baz=28,SNR=6.1	27.72	87	⇑P	P	12 14 56.2	+0.4	
C19A	Slack Wire Ran baz=28,SNR=7.3	27.74	90	⇓P	P	12 14 56.5	+0.5	
B20A	Solberg Farm, baz=28	27.91	88	⇑P	P	12 14 58.5	+1.0	
F17A	Fitzpatrick Pl baz=28	27.93	94	⇓P	P	12 14 58.5	+0.7	
E18A	Harlowton baz=28	27.94	92	⇓P	P	12 14 58.5	+0.6	
J14A	Carey baz=28	28.00	101	⇑P	P	12 14 59.2	+0.7	
D19A	Cripps Ranch, baz=28	28.16	91	⇑P	P	12 15 00.6	+0.8	
A21A	Bergtoll Ranch baz=28	28.22	86	⇓P	P	12 15 00.9	+0.6	
G17A	Pierce Place, baz=28	28.24	95	⇑P	P	12 15 01.5	+0.9	
C20A	Veseth Ranch, baz=28	28.33	89	⇑P	P	12 15 01.7	+0.4	
H16A	Russell Place, baz=28	28.35	97	⇑P	P	12 15 01.9	+0.3	
F18A	Big Timber baz=28	28.45	93	⇑P	P	12 15 02.9	+0.5	
B21A	Ellsworth Farm baz=28	28.48	87	⇓P	P	12 15 03.5	+1.0	
YMR	Madison River 3.0nm,0.7s	28.53	97	*e*P	P	12 15 03.5	+0.2	
J15A	Blackfoot baz=28,SNR=8.9	28.54	100	⇓P	P	12 15 04.2	+1.0	
D20A	Manuel Ranch, baz=28	28.62	90	⇑P	P	12 15 04.5	+0.6	
E19A	Rath Farm, Rou baz=28,SNR=5.3	28.63	92	⇓P	P	12 15 04.8	+0.8	
K14A	Jones Ranch, D baz=28	28.71	102	⇓P	P	12 15 05.6	+0.8	
I16A	Newdale baz=29	28.75	98	⇓P	P	12 15 05.9	+0.7	
C21A	Desert Coulee baz=29	28.77	88	⇓P	P	12 15 06.4	+1.2	
A22A	Carney Farms, baz=29	28.78	85	⇑P	P	12 15 06.3	+1.1	
F19A	Roth Farm, Mol baz=29	28.91	93	⇑P	P	12 15 07.2	+0.8	
H17A	Grant Village baz=29,SNR=5.7	28.91	97	⇑P	P	12 15 08.1	+1.4	
E20A	Meyer Farm, Mu baz=29	28.97	91	⇑P	P	12 15 07.9	+1.0	
K15A	Arbon baz=29	28.97	101	⇓P	P	12 15 08.2	+1.2	
NVAR	Mina Array Bea 4.9nm,0.8s,baz=300,slow=9.0,SNR=33	28.98	114	P	P	12 15 08.0	+0.7	
NVAR	Mina Array Bea	28.98	114	P	P	12 15 08.0	+0.7	
L14A	Malta baz=29	29.02	103	⇑P	P	12 15 08.9	+1.3	
NV11	Mina Array Sit	29.05	114	P	P	12 15 08.7	+0.8	
B22A	Reddig Ranch S baz=29	29.11	86	⇓P	P	12 15 09.2	+1.0	
I17A	Pilgrim Ck. baz=29	29.22	97	⇑P	P	12 15 10.2	+0.8	
H18A	Shoshone NF, C baz=29	29.24	95	⇑P	P	12 15 10.3	+0.7	
D21A	La Casta Ranch baz=29	29.27	89	⇑P	P	12 15 10.5	+0.9	
MLAC	Mammoth Lakes baz=29	29.32	116	⇓P	P	12 15 10.2	-0.1	
F20A	Billings baz=29	29.38	92	⇓P	P	12 15 11.6	+0.9	
C22A	Vida baz=29	29.49	87	⇑P	P	12 15 12.9	+1.3	
L15A	Malad City baz=29	29.51	102	⇓P	P	12 15 13.2	+1.3	
J17A	Brown Place, J baz=29	29.51	98	⇓P	P	12 15 13.0	+1.0	
B23A	Brockton baz=29	29.58	85	⇓P	P	12 15 13.4	+1.1	
H19A	Powell baz=30	29.62	95	⇓P	P	12 15 13.4	+0.6	
D22A	Cohagen baz=30,SNR=5.2	29.67	88	⇑P	P	12 15 14.2	+1.0	
G20A	Bridger baz=30	29.70	93	⇓P	P	12 15 14.6	+1.1	
I18A	Diamond G Ranc baz=30	29.78	97	⇑P	P	12 15 15.1	+0.8	
C23A	Lambert baz=30,SNR=7.5	29.84	86	⇓P	P	12 15 15.4	+0.7	
J18A	Kendall Valley baz=30	29.99	98	⇑P	P	12 15 16.9	+0.6	
D23A	Lindsay baz=30	30.19	88	⇓P	P	12 15 19.1	+1.3	
HWUT	Hardware Ranch 112nm,1.1s	30.23	102	*e*P	P	12 15 18.8	+0.5	
G21A	Lodge Grass baz=30	30.26	92	⇓P	P	12 15 19.3	+0.9	
C24A	Savage baz=30,SNR=6.4	30.42	86	⇑P	P	12 15 21.1	+1.3	
R11A	Troy Canyon, C baz=30	30.43	111	⇑P	P	12 15 20.0	-0.1	
F22A	Rosebud baz=30	30.44	91	⇑P	P	12 15 21.3	+1.3	
J19A	Crowheart baz=30	30.49	97	⇓P	P	12 15 21.6	+1.1	
E23A	Ismay baz=30	30.54	89	⇓P	P	12 15 22.2	+1.4	
BW06	Boulder Array 1.2nm,0.6s	30.54	98	*e*P	P	12 15 21.3	+0.2	
PDAR	Pinedale Array 2.6nm,0.8s,baz=315,slow=4.7,SNR=20	30.54	98	P	P	12 15 21.1	+0.1	
PDAR	Pinedale Array	30.54	98	P	P	12 15 21.1	+0.1	
GRAC	Grapevine Rang baz=30	30.55	115	⇑P	P	12 15 21.6	+0.6	
D24A	Glendive baz=31,SNR=7.0	30.72	87	⇑P	P	12 15 23.4	+1.1	
N16A	Rees Ranch, Co baz=31	30.80	103	⇓P	P	12 15 23.7	+0.3	
M17A	Scullys Gap (B baz=31	30.81	101	⇓P	P	12 15 24.2	+0.7	
K19A	Absolon Red Bu baz=31	30.89	97	⇓P	P	12 15 24.1	-0.1	
J20A	Shoshoni baz=31	30.96	96	⇓P	P	12 15 25.3	+0.6	
ISA	Isabella 72nm,1.0s	31.05	118	*e*P	P	12 15 25.7	+0.3	
ISA	Isabella baz=31	31.05	118	⇓P	P	12 15 25.6	+0.2	
I21A	Big Trails, Te baz=31	31.10	94	⇓P	P	12 15 26.3	+0.4	
M18A	Lyman baz=31	31.17	101	⇓P	P	12 15 26.9	+0.3	
FURC	Furnace Creek, baz=31	31.21	115	⇑P	P	12 15 27.6	+0.8	
MPMC	Manual Prospec baz=31	31.22	116	⇓P	P	12 15 27.3	+0.2	
G23A	Biddle baz=31	31.28	91	⇓P	P	12 15 27.7	+0.3	
K20A	Yellowstone Ra baz=31	31.28	97	⇑P	P	12 15 27.4	-0.2	
F24A	Ekalaka baz=31	31.41	89	⇓P	P	12 15 29.5	+0.9	
K21A	Alcova baz=32,SNR=5.6	31.90	96	⇑P	P	12 15 32.9	-0.1	
ARUT	Antelope Range 98nm,1.0s	31.97	109	*e*P	P	12 15 34.2	+0.6	
O18A	Roosevelt baz=32	32.01	102	⇓P	P	12 15 34.7	+0.7	
N19A	John Jarvie Ra baz=32	32.02	100	⇑P	P	12 15 34.1	0.0	
H24A	Dirks Ranch, A baz=32	32.03	91	⇑P	P	12 15 34.4	+0.4	
MVU	Marysvale 5.3nm,0.9s	32.09	107	*e*P	P	12 15 35.7	+0.9	
MSU	Marysvale	32.10	107	*e*P	P	12 15 35.7	+0.8	
M20A	Sweetwater, Wa baz=32	32.15	99	⇑P	P	12 15 35.5	+0.2	
GSC	Goldstone 144nm,1.0s	32.16	116	P	P	12 15 36.0	+0.8	
P17A	Butcher Ranch, baz=32	32.17	104	⇓P	P	12 15 35.8	+0.3	
CCUT	Cedar City 396nm,1.8s	32.19	109	P	P	12 15 36.3	+0.6	
L21A	Rawlins baz=32	32.28	97	⇓P	P	12 15 36.4	0.0	
K22A	Casper baz=32	32.29	95	⇑P	P	12 15 36.3	0.0	
P18A	Preston Nutter baz=32	32.33	103	⇑P	P	12 15 37.5	+0.5	
Q16A	Castle Valley baz=32	32.34	105	⇑P	P	12 15 37.3	+0.4	
O19A	Miners Draw (B baz=32	32.47	101	⇓P	P	12 15 38.6	+0.6	
M21A	Separation Pea baz=32,SNR=7.5	32.52	98	⇑P	P	12 15 38.4	-0.2	
SRU	San Rafael 282nm,0.9s	32.55	104	*e*P	P	12 15 39.9	+1.1	
N20A	Spence Gulch, baz=32,SNR=6.5	32.56	100	⇑P	P	12 15 39.1	+0.2	
FMP	Fort Macarthur baz=32	32.70	119	⇓P	P	12 15 39.6	-0.2	
K23A	Bowen Ranch, D baz=33	32.72	94	⇓P	P	12 15 40.6	+0.5	
L22A	Ellis Ranch, M baz=33	32.75	96	⇓P	P	12 15 41.3	+0.7	
P19A	Cripple Cowboy baz=33,SNR=5.4	33.01	102	⇑P	P	12 15 42.8	0.0	
N21A	Black Mountain baz=33	33.02	99	⇓P	P	12 15 43.2	+0.3	
O20A	White River Ci baz=33,SNR=5.1	33.06	100	⇓P	P	12 15 43.4	+0.2	
M22A	Cedar Creek Ra baz=33	33.09	97	⇓P	P	12 15 43.7	+0.2	
L23A	Garrett baz=33,SNR=5.9	33.10	95	⇓P	P	12 15 43.9	+0.4	
Q19A	Hogan Spring (baz=33,SNR=7.3	33.34	103	⇓P	P	12 15 45.6	0.0	
L24A	Wheatland baz=33	33.57	95	⇑P	P	12 15 48.2	+0.6	
N22A	Wattenberg Ran baz=33	33.58	98	⇑P	P	12 15 48.3	+0.5	
ULM	Lac du Bonnet 9.2nm,0.9s,baz=306,slow=9.4,SNR=13	33.58	76	P	P	12 15 47.1	-0.3	
ULM	Lac du Bonnet	33.58	76	P	P	12 15 47.1	-0.3	
U15A	North Rim baz=33	33.60	109	⇑P	P	12 15 48.3	+0.2	
W13A	Hualapai Mount baz=34	33.80	113	⇑P	P	12 15 50.3	+0.6	
Q20A	Ridgley Place, baz=34	33.87	102	⇑P	P	12 15 50.4	+0.2	
S18A	Hurst Farm, Bl baz=34,SNR=5.3	33.87	105	⇑P	P	12 15 50.2	-0.2	
P21A	Newcastle baz=34	33.92	101	⇑P	P	12 15 51.2	+0.4	
PV04	Paradox Valley	33.94	103	*e*P	P	12 15 51.4	+0.5	
O22A	Kremmling baz=34	33.97	99	⇓P	P	12 15 51.8	+0.6	
P22A	Eagle baz=34	34.25	100	⇑P	P	12 15 54.7	+1.1	
O23A	Lake Granby, G baz=34	34.28	98	⇓P	P	12 15 55.0	+1.1	
MONP	Monument Peak baz=34	34.28	118	⇓P	P	12 15 54.9	+0.9	
PV01	Paradox Valley 17µm,0.9s	34.31	103	P	P	12 15 54.5	+0.3	
Q21A	Lamborn Mesa, baz=34	34.35	101	⇑P	P	12 15 54.9	+0.5	
R20A	Redvale baz=34	34.38	103	⇓P	P	12 15 55.2	+0.5	
Y12C	Blythe baz=34	34.53	115	⇓P	P	12 15 56.2	+0.4	
DVTC	Desert V Tower baz=34	34.62	118	⇓P	P	12 15 57.1	+0.4	
S20A	Disappointment baz=34	34.65	103	⇓P	P	12 15 57.6	+0.6	
AGMN	Agassiz Nation 8.4nm,0.8s	34.69	79	*e*P	P	12 15 57.3	+0.2	
R21A	Cimarron baz=34	34.69	102	⇓P	P	12 15 58.4	+1.0	
WUAZ	Wupatki 9.8nm,1.4s	34.77	109	P	P	12 15 59.1	+1.1	
P23A	Jefferson baz=35	34.91	99	⇓P	P	12 16 00.3	+0.9	
S21A	Coal Bank Pass baz=35	35.08	103	⇑P	P	12 16 01.7	+0.9	
Y14A	Wickenburg baz=35	35.16	113	⇓P	P	12 16 01.8	+0.6	
S22A	4UR Ranch, Cre baz=35	35.54	102	⇑P	P	12 16 05.4	+0.6	
X16A	Lo Mia Camp, P baz=35	35.59	111	⇑P	P	12 16 05.7	+0.6	
Z14A	Wintersburg baz=36	35.64	113	⇓P	P	12 16 06.0	+0.6	
O26A	Horse Wrangler baz=36	35.69	96	⇓P	P	12 16 07.2	+1.3	
113A	Mohawk Valley, baz=36	35.70	115	⇓P	P	12 16 06.1	+0.3	
T21A	Navajo Lake baz=36	35.71	104	⇑P	P	12 16 07.4	+1.2	
P25A	Willow Gulch B baz=36	35.73	97	⇑P	P	12 16 07.4	+1.1	
T22A	Edith baz=36	36.03	103	⇑P	P	12 16 09.9	+0.9	
U21A	Nageezi baz=36	36.06	104	⇑P	P	12 16 09.9	+0.7	
V20A	Brimhall baz=36	36.10	106	⇑P	P	12 16 09.6	+0.1	
R24A	Sanders Place, baz=36	36.12	100	⇓P	P	12 16 10.1	+0.4	
P26A	Davis Ranch, A baz=36	36.15	97	⇑P	P	12 16 10.5	+0.6	
X18A	Snowflake baz=36	36.28	109	⇑P	P	12 16 11.5	+0.5	
S24A	Houchin Ranch, baz=36	36.49	101	⇓P	P	12 16 13.4	+0.4	
Q26A	Hugo baz=36	36.50	97	⇑P	P	12 16 13.9	+1.0	
V21A	Milan baz=36	36.53	105	⇓P	P	12 16 13.8	+0.6	
W20A	Ramah baz=36	36.59	107	⇓P	P	12 16 14.5	+0.8	
R25A	Fountain Ranch baz=36	36.63	99	⇓P	P	12 16 14.9	+0.9	
214A	Organ Pipe Nat baz=37	36.83	115	⇓P	P	12 16 15.8	+0.2	
S25A	Robets Cordova baz=37	36.90	100	⇓P	P	12 16 17.0	+0.7	
U23A	El Rito baz=37	36.92	103	⇑P	P	12 16 17.4	+0.8	
KSCO	Kaye Shedlock' baz=37	36.93	97	⇓P	P	12 16 17.4	+0.9	
R26A	Arlington baz=37	36.98	98	⇑P	P	12 16 17.9	+0.9	
EYMN	Ely 98nm,0.8s	37.26	77	*e*P	P	12 16 19.0	-0.1	
R27A	Eads baz=37	37.35	98	⇑P	P	12 16 21.0	+0.9	
V23A	Ortiz Mt. (NFS baz=37	37.36	104	⇓P	P	12 16 21.1	+0.8	
S26A	Kim baz=37,SNR=5.4	37.46	99	⇓P	P	12 16 21.4	+0.4	
X21A	Alamocita Cree baz=37	37.49	107	⇓P	P	12 16 22.2	+0.8	
T26A	Comanche Natio baz=38	37.72	100	⇓P	P	12 16 23.9	+0.7	
BGNE	Belgrade baz=38	37.76	90	⇑P	P	12 16 24.2	+0.9	
U25A	Circle Dot Ran baz=38,SNR=5.2	37.84	101	⇓P	P	12 16 24.8	+0.5	
Y21A	Point of Rocks baz=38	37.88	107	⇑P	P	12 16 25.5	+0.8	
Z20A	Nine Sixteen R baz=38	38.09	109	⇑P	P	12 16 27.4	+1.0	
V25A	Rancho No Teng baz=38	38.14	102	⇑P	P	12 16 27.4	+0.5	
W24A	Lazy 6 Ranch, baz=38	38.18	103	⇑P	P	12 16 27.9	+0.7	
U26A	Atchley Ranch, baz=38	38.20	101	⇑P	P	12 16 28.2	+0.8	
X23A	Hourglass Bar baz=38	38.24	105	⇑P	P	12 16 28.0	+0.3	
T27A	Campo baz=38	38.28	99	⇓P	P	12 16 28.5	+0.6	
120A	U Bar Ranch, L baz=38	38.51	110	⇓P	P	12 16 30.3	+0.4	
T28A	Walsh baz=38	38.57	98	⇑P	P	12 16 31.5	+1.2	
V26A	Tequesquite Ra baz=38,SNR=13	38.62	101	⇓P	P	12 16 31.8	+1.0	
W25A	X Bar L Ranch, baz=38	38.69	103	⇓P	P	12 16 32.0	+0.6	
Y23A	Lovelace Mesa, baz=39	38.80	105	⇓P	P	12 16 33.2	+0.7	
Z22A	Elephant Butte baz=39	38.84	107	⇓P	P	12 16 33.3	+0.6	
121A	Cookes Peak, D baz=39	38.96	109	⇓P	P	12 16 34.5	+0.7	
220A	Playas Peak, P baz=39	39.07	110	⇑P	P	12 16 35.0	+0.4	
Y24A	Capitan baz=39	39.14	105	⇑P	P	12 16 36.5	+1.2	
Y25A	Mesa, Roswell baz=39,SNR=5.6	39.54	104	⇑P	P	12 16 38.8	+0.3	
X27A	F and S Farms, baz=40	39.85	102	⇑P	P	12 16 41.1	0.0	
124A	Stringfield Ra baz=40	40.07	106	⇓P	P	12 16 43.5	+0.4	
Y27A	Causey baz=40	40.39	103	⇑P	P	12 16 45.8	+0.2	

Z26A Caprock 40.42 104 ⇑P P 12 16 45.9 +0.1
baz=40
224A Cornudas Mount 40.52 107 ⇓P P 12 16 47.6 +0.9
baz=40,SNR=41
125A Gardner Draw, 40.53 105 ⇓P P 12 16 46.7 0.0
baz=40
MSTX Muleshoe 40.54 102 ⇓P P 12 16 47.4 +0.6
baz=40
X29A Tulia 40.77 101 ⇑P P 12 16 49.2 +0.5
baz=41
Z27A Tatum 40.80 103 ⇓P P 12 16 49.1 +0.1
baz=41
225A Deer Hill, Car 40.86 106 ⇑P P 12 16 49.9 +0.4
baz=41,SNR=37
Y28A McKinney Farm, 40.87 102 ⇑P P 12 16 49.7 +0.1
baz=41
126A Clayton Basin, 40.88 105 ⇓P P 12 16 49.7 +0.1
baz=41
MNTX Cornudas Mount 40.88 107 P P 12 16 50.4 +0.8
134nm,0.9s
324A Moseley Ranch, 41.03 107 ⇑P P 12 16 50.8 -0.1
baz=41
W31A Holland Ranch, 41.18 98 ⇓P P 12 16 52.1 +0.1
baz=41
X30A Coker Ranch, T 41.22 100 ⇑P P 12 16 52.4 +0.1
baz=41
Y29A Porterfield Fa 41.22 101 ⇑P P 12 16 52.3 -0.1
baz=41
325A Bean Ranch, Si 41.36 107 ⇓P P 12 16 53.5 -0.1
baz=41,SNR=5.0
X31A McDonald Ranch 41.57 99 ⇓P P 12 16 55.3 +0.1
baz=41
Z29A Hungry Hill Ra 41.66 102 ⇑P P 12 16 56.0 0.0
baz=42
128A Castleberry Fa 41.72 103 ⇓P P 12 16 56.7 +0.2
baz=42
227A Bennet, Jal 41.76 105 ⇑P P 12 16 57.1 +0.3
baz=42
425A Indio Mountain 41.81 107 ⇓P P 12 16 57.6 +0.3
baz=42
326A Caldwell Ranch 41.93 106 ⇑P P 12 16 58.2 0.0
baz=42
Z30A Sanderson Ranc 41.95 101 ⇓P P 12 16 58.3 0.0
baz=42
129A Stewart Farms, 42.05 103 ⇓P P 12 16 59.2 +0.1
baz=42
228A UT Block 9, Go 42.05 104 ⇓P P 12 16 59.1 -0.1
baz=42
WMOK Wichita Mounta 42.15 98 P P 12 17 00.5 +0.6
1.4nm,0.8s
Y32A R-V Farms, Ver 42.33 99 ⇓P P 12 17 01.4 0.0
baz=42
426A McDonald Obser 42.41 107 ⇑P P 12 17 02.3 0.0
baz=42
Z31A Sharp Cattle R 42.46 100 ⇓P P 12 17 02.1 -0.4
baz=42
427A Hayter Ranch, 42.60 106 ⇑P P 12 17 03.5 -0.2
baz=42
Z32A Haskell 42.84 100 ⇓P P 12 17 04.9 -0.6
baz=43
526A Mary Lane Ranc 42.85 107 ⇓P P 12 17 06.1 +0.3
baz=43
329A Wagon Wheel Ra 42.87 104 ⇓P P 12 17 05.4 -0.4
baz=43,SNR=5.0
TUL1 Tulsa 42.93 94 ⇑P P 12 17 06.1 -0.1
baz=43
230A Sterling City 43.03 103 ⇓P P 12 17 06.7 -0.4
baz=43
527A Woodward Ranch 43.04 107 ⇓P P 12 17 07.0 -0.3
baz=43
428A Kincaid Ranch, 43.08 105 ⇓P P 12 17 07.6 0.0
baz=43,SNR=7.4
626A Big Bend Ranch 43.23 108 ⇑P P 12 17 09.0 +0.2
baz=43
ABTX Abilene, Hawle 43.26 100 ⇓P P 12 17 08.7 -0.2
baz=43
330A Mertzon 43.37 103 ⇑P P 12 17 09.7 -0.2
baz=43
231A Bronte 43.42 102 ⇑P P 12 17 10.1 -0.1
baz=43
528A Cox Ranch, San 43.47 106 ⇓P P 12 17 10.8 0.0
baz=43
429A Davenport Ranc 43.58 104 ⇑P P 12 17 11.7 +0.1
baz=43
TXAR Lajitas Array 43.65 107 P P 12 17 12.7 +0.5
3.0nm,0.9s,baz=313,slow=6.0,SNR=30
TXAR Lajitas Array 43.65 107 P P 12 17 12.7 +0.5
627A Terlingua Ranc 43.71 107 ⇓P P 12 17 13.1 +0.4
baz=44
529A Stev Forest Ra 43.80 105 ⇓P P 12 17 13.3 0.0
baz=44,SNR=8.1
430A Baggett Ranch, 43.81 104 ⇑P P 12 17 13.5 +0.1
baz=44
232A Coleman 43.82 101 ⇑P P 12 17 13.8 +0.3
baz=44
628A Black Gap, Mar 43.95 106 ⇑P P 12 17 14.7 +0.2
baz=44,SNR=7.7
332A Millersview 44.16 102 ⇑P P 12 17 16.3 +0.1
baz=44
431A Sonora 44.23 103 ⇑P P 12 17 16.9 +0.1
baz=44
530A J-C Ranch, Com 44.26 104 ⇑P P 12 17 16.7 -0.3
baz=44
432A Menard 44.52 102 ⇑P P 12 17 19.1 0.0
baz=44
SFIN Scholer Farm 44.57 82 ⇑P P 12 17 19.5 +0.1
baz=44
531A Rocksprings 44.67 104 ⇑P P 12 17 20.2 -0.1
baz=44,SNR=6.4
JCT Junction City 44.83 103 *e*P P 12 17 21.4 -0.1
167nm,0.8s
MIAR Mount Ida 45.17 93 P P 12 17 24.3 +0.1
559nm,1.2s
631A Perdido Creek 45.24 104 ⇓P P 12 17 24.4 -0.4
baz=45,SNR=6.6
632A Uvalde 45.59 103 ⇓P P 12 17 26.9 -0.7
baz=45
732A Laxson Ranch, 46.10 104 ⇓P P 12 17 31.1 -0.5
baz=46
WVT Waverly 47.19 87 P P 12 17 40.3 +0.3
230nm,0.9s
OXF Oxford 47.50 90 P P 12 17 42.5 +0.1
2μm,1.1s
SWET Sewanee 48.91 86 P P 12 17 53.5 +0.1
493nm,1.1s
MJAR Matsushiro Arr 49.29 277 P P 12 17 55.3 -1.0
4.1nm,0.7s,baz=43,slow=5.7,SNR=5.4
MJAR Matsushiro Arr 49.29 277 P P 12 17 55.3 -1.0
KMSC Kings Mountain 51.50 83 ⇓P P 12 18 12.7 -0.3
baz=51
KSRS Korea Array 54.22 285 P P 12 18 32.8 -0.2
2.7nm,0.8s,baz=36,slow=7.6,SNR=3.2
KSAR Wonju Array Be 54.25 285 P P 12 18 32.8 -0.4
SONM Songino Array 57.07 308 P P 12 18 54.1 +0.6
11nm,0.7s,baz=37,slow=5.2,SNR=4.4
SONM Songino Array 57.07 308 P P 12 18 54.1 +0.6
ZALV Zalesovo Beam 60.36 325 P P 12 19 16.2 +0.1
6.7nm,0.6s,baz=37,slow=6.1,SNR=2.0
ZALV Zalesovo Beam 60.36 325 P P 12 19 16.2 +0.1
NOA NORSAR Array B 62.14 9 P P 12 19 28.7 +0.5
5.8nm,0.7s,baz=350,slow=6.8,SNR=4.6
NOA NORSAR Array B 62.14 9 P P 12 19 28.7 +0.5
BVAR Borovoye Array 65.30 333 P P 12 19 48.8 -0.2
9.2nm,0.7s,baz=33,slow=7.6,SNR=2.6
BVAR Borovoye Array 65.30 333 P P 12 19 48.8 -0.2
MKAR Makanchi Array 67.33 322 P P 12 20 01.4 -0.8
6.4nm,0.8s,baz=33,slow=6.8,SNR=2.5
MKAR Makanchi Array 67.33 322 P P 12 20 01.4 -0.8
PPT Papeete 73.80 177 LR LR 12 46 49.1
comp=Z,2μm,20.9s,baz=278,slow=31

---

*BJI **30** 12:11:49.6,51.˚69N×178.˚12W,h12km,mB6.0/48, mb6.1/63,Ms5.6/65,Ms7.5 4.4/59*
*ISCJB **30** 12:11:51.4±0.1,51.˚47N±0.˚02×178.˚19W±0.˚02,h18km, mb5.8/397,MS5.3/65,Error ellipse: s-maj=3.2km s-min=1.4km az=3.6*
*SZGRF **30** 12:11:51.9,51.˚44N×179.˚35W,h33km,mb5.8,Andreanof Islands, Aleutian Islands, United States*
*INMG **30** 12:11:52.0,51.˚55N×178.˚29W,h14km,MW5.8*
*NEIC **30** 12:11:55.0±0.1,51.˚53N×178.˚27W,h31km,mb6.0/214, ME5.8,MW5.8,MW5.7,Error ellipse: s-maj=3.1km s-min=1.8km az=180.0,Moment Tensor Solution. s37 Moment tensor: Scale 10^{17}Nm; M_{rr}2.34; $M_{\theta\theta}$-2.23; $M_{\phi\phi}$-0.11; $M_{r\theta}$2.56; $M_{\theta\phi}$-1.30; $M_{\phi r}$1.35; Best double couple: M_o3.90000×10^{17} NP1:ϕ_s63.00000°,δ69.00000°, λ88.00000°. NP2:ϕ_s248.00000°,δ21.00000°,λ95.00000°. Principal axes: T 3.6300, Plg65.0000°, Azm329.0000°; N 0.5100, Plg1.0000°, Azm63.0000°; P -4.1400, Plg24.0000°, Azm153.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*BGS **30** 12:11:55.1±2.3,50.˚92N×179.˚96W,h33km,mb5.4*
*MOS **30** 12:11:55.9±0.8,51.˚56N×178.˚15W,h50km,mb6.1/143, MS5.5/19,Error ellipse: s-maj=6.5km s-min=3.9km az=93.9*
*IDC **30** 12:11:56.6±1.1,51.˚55N×178.˚16W,h44km±9km,mb5.4/42, mb1 5.5/44,mb1mx5.5/45,mbtmp5.4/44,ML5.3/2,MS5.2/35, Ms1 5.2/35,ms1mx5.1/61,Error ellipse: s-maj=11.4km s-min=7.3km az=161.0*
*GCMT **30** 12:11:58.0±0.1,51.˚28N×177.˚99W,h43km,MW5.7, Moment Tensor Solution. s99,c172; s53,c56; Moment tensor: Scale 10^{17}Nm; M_{rr}4.40±.09; $M_{\theta\theta}$-4.01±.06; $M_{\phi\phi}$-0.39±.06; $M_{r\theta}$1.74±.06; $M_{\theta\phi}$-1.66±.04; $M_{\phi r}$1.86±.05; Best double couple: M_o5.20000×10^{17} NP1:ϕ_s261.00000°, δ33.00000°,λ111.00000°. NP2:ϕ_s56.00000°,δ60.00000°, λ77.00000°. Principal axes: T 5.1800, Plg72.0000°, Azm295.0000°; N 0.0300, Plg11.0000°, Azm63.0000°; P -5.2200, Plg14.0000°, Azm156.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=255, per= 50.*
*NEIC **30** 12:12:12.3±0.0,51.˚11N×177.˚88W,h53km,Moment Tensor Solution. s171 Moment tensor: Scale 10^{17}Nm; M_{rr}5.27; $M_{\theta\theta}$-4.74; $M_{\phi\phi}$-0.53; $M_{r\theta}$1.34; $M_{\theta\phi}$-1.11; $M_{\phi r}$1.25; Best double couple: M_o5.40000×10^{17} NP1:ϕ_s67.00000°, δ54.00000°,λ80.00000°. NP2:ϕ_s264.00000°,δ37.00000°, λ104.00000°. Principal axes: T 5.6500, Plg77.0000°, Azm300.0000°; N -0.3800, Plg8.0000°, Azm73.0000°; P -5.2600, Plg8.0000°, Azm164.0000°;*
*DJA **30** 12:12:15.4±4.1,51.˚1N×179.˚3W±3.˚6,h213km±35km, M5.6/37,mb5.7/37,mB6.0/32,Mw(mB)5.6/32,Mwp6.5/1*

ISC 30 12:11:54.3±0.3,51.˚49N±0.˚04×178.˚12W±0.˚02,h28km±1km, h28km:pP-P,n1765,σ1°13/1915,mb5.9/397,MS5.3/65, 411C-242D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TASE	**Tanaga Southea**	**0.35**	**9**	P	Pn	12 12 07.5	+4.0
TANO	**Tanaga North**	**0.43**	**0**	P	**Pn**	**12 12 07.5**	**+3.0**
GAKI	**Gareloi-Kavalg**	**0.44**	**279**	P	Pn	12 12 08.1	+3.5
GAEA	**Gareloi East**	**0.49**	**308**	P	Pn	12 12 09.2	+3.8
GALAA	**Gareloi Lava P**	**0.49**	**305**	P	Pn	12 12 09.2	+3.8
GANE	**Gareloi Northe**	**0.53**	**310**	P	Pn	12 12 09.2	+3.3
KIMD	**Kanaga Island**	**0.62**	**63**	P	**Pn**	**12 12 09.1**	**+2.0**
KIKV	**Kanaga Island**	**0.71**	**56**	P	**Pn**	**12 12 10.9**	**+2.4**
ADAG	**Mount Adagdak**	**1.07**	**62**	P	**Pb**	**12 12 16.0**	**+1.9**
GSTD	**Great Sitkin T**	**1.36**	**64**	P	**Pb**	**12 12 20.1**	**+1.0**
CERAA	**Semis' Rag'd T**	**1.43**	**288**	P	**Pb**	**12 12 21.5**	**+1.3**
CESW	**Semis' Southwe**	**1.50**	**287**	P	**Pb**	**12 12 22.2**	**+0.8**
CEAP	**Semis' Anvil P**	**1.52**	**291**	P	**Pb**	**12 12 22.9**	**+1.1**
AMKA	**Amchitka**	**1.62**	**267**	P	**Pb**	**12 12 22.3**	**-1.0**
AMKA				S	**Sb**	**12 12 43.2**	**-0.1**
LSSE	**Little Sitkin**	**2.11**	**284**	P	**Pb**	**12 12 30.9**	**-0.8**
LSSA	**Little Sitkin**	**2.14**	**284**	P	**Pb**	**12 12 31.3**	**-1.1**
LSNW	**Little Sitkin**	**2.15**	**284**	P	**Pb**	**12 12 31.2**	**-1.2**
ATKA	**Atka Island**	**2.54**	**72**	P	**Pn**	**12 12 35.4**	**+1.9**
ATKA				S	**Sn**	**12 13 06.1**	**+2.6**
KOKL	**Mount Kliuchef**	**2.57**	**69**	P	**Pb**	**12 12 38.0**	**-1.7**
KOSE	**Korovin Southe**	**2.67**	**70**	P	**Pb**	**12 12 40.1**	**-1.2**
SMY	**Shemya**	**4.95**	**288**	P	**Pn**	**12 13 09.6**	**+2.9**
SMY				S	Sn	12 14 09.8	+6.9
SMY	**Shemya**	**4.95**	**288**	P	**Pn**	**12 13 09.6**	**+2.9**
SMY				S	Sn	12 14 09.8	+6.9
FX1	**Attu Island--F**	**5.54**	**288**	P	Pn	12 13 18.9	+4.2
	211nm,0.3s,baz=70,slow=1.0,SNR=9.9						
FX1				S	**Sn**	**12 14 20.1**	**+2.7**
	160nm,0.3s,baz=252,slow=20,SNR=3.3						
FX1	**Attu Island--F**	**5.54**	**288**	P	Pn	12 13 18.4	+3.6
FX1				S	**Sn**	**12 14 20.1**	**+2.7**
OKSP	**Okmok Steeple**	**6.28**	**70**	P	Pn	12 13 30.8	+5.9
OKSO	**Okmok South**	**6.38**	**69**	P	Pn	12 13 31.7	+5.4
SPIA	**Saint Paul Isl**	**7.33**	**36**	P	Pn	12 13 44.5	+5.2
UNV	**Unalaska Valle**	**7.45**	**67**	P	Pn	12 13 45.5	+4.6
ZRO	**Akutan Zero**	**7.81**	**66**	P	Pn	12 13 51.3	+5.4
AHB	**Akutan Harbor**	**7.91**	**66**	P	Pn	12 13 52.6	+5.3
AKUT	**Akutan**	**7.94**	**66**	*e*Pn	**Pn**	**12 13 49.0**	**+1.3**
WESE	**West Dahl East**	**8.70**	**65**	P	Pn	12 14 03.0	+4.9
FALS	**False Pass**	**9.46**	**63**	P	Pn	12 14 12.1	+3.8
DRIA	**Deer Island**	**10.13**	**64**	P	**Pn**	**12 14 20.2**	**+2.6**
SDPT	**Sand Point**	**11.21**	**63**	*e*Pn	**Pn**	**12 14 34.5**	**+2.1**
PET	**Petropavlovsk**	**14.30**	**285**	*e*P	**P**	**12 15 21.7**	**+0.3**
PET				*e*S	**Sn**	**12 17 55.1**	**+3.1**
PET				pmax	pmax		
	comp=Z,150nm,1.3s						
PET				smax	smax		
	comp=E,156nm,1.0s						
PET				MLR	MLR		
	comp=Z,24μm,21.0s						
PET				MLR	MLR		
	comp=Z,18μm,20.0s						
PET	**Petropavlovsk**	**14.30**	**285**	*e*Pn	**Pn**	**12 15 17.4**	**+2.9**
PEA0B	**Petropavlovsk-**	**14.87**	**286**	*e*Pn	**Pn**	**12 15 24.0**	**+1.7**
PETK	**Petropavlovsk-**	**14.87**	**286**	P	**P**	**12 15 25.0**	**-2.8**
	comp=Z,2.9nm,0.3s,baz=95,slow=17,SNR=9.1						
PETK				S	**Sn**	**12 18 09.3**	**+3.4**
	comp=Z,1.2nm,0.3s,baz=80,slow=19,SNR=4.1						
PETK				LR	LR	12 20 44.2	
	comp=Z,17μm,21.9s,baz=271,slow=36						
PETK	**Petropavlovsk-**	**14.87**	**286**	P	**P**	**12 15 25.0**	**-2.8**
PETK				S	**Sn**	**12 18 09.3**	**+3.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,17μm,21.9s						
PETK	**Petropavlovsk-**	**14.87**	**286**	P	**P**	**12 15 25.0**	**-2.8**
PETK				S	**Sn**	**12 18 09.3**	**+3.4**
KDAK	**Kodiak Island**	**16.01**	**57**	P	**Pn**	**12 15 37.2**	**0.0**
	comp=Z,50nm,0.3s,baz=261,slow=8.2,SNR=23						
KDAK	**Kodiak Island**	**16.01**	**57**	*e*Pn	**Pn**	**12 15 36.7**	**-0.4**
	comp=Z,785nm,1.4s						
SKR	**Severo-Kuril's**	**16.18**	**277**	*e*P	**P**	**12 15 41.9**	**-0.4**
SKR				pmax	pmax		
	comp=N,130nm,0.9s						
SKR				pmax	pmax		
	comp=E,130nm,0.9s						
SKR				pmax	pmax		
	comp=Z,330nm,0.9s						
SKR				MLR	MLR		
	comp=N,5μm,18.0s						
SKR				MLR	MLR		
	comp=E,5μm,18.0s						
SKR				MLR	MLR		
	comp=Z,5μm,18.0s						
BILL	**Bilibino**	**18.27**	**341**	*i*P	**P**	**12 16 08.7**	**+3.5**
BILL				pmax	pmax		
	comp=Z,760nm,1.2s						
BILL				MLR	MLR		
	comp=Z,6μm,15.0s						
SEY	**Seymchan**	**19.45**	**317**	*i* P	**Pn**	**12 16 19.7**	**+0.1**
ILAR	**Eielson Array**	**20.90**	**39**	P	**P**	**12 16 34.0**	**0.0**
	comp=Z,60nm,1.0s,baz=238,slow=9.5,SNR=14						
ILAR				PcP	**PcP**	**12 20 40.3**	**-0.6**
	comp=Z,23nm,0.6s,baz=290,slow=3.1,SNR=10						
ILAR				ScP	**ScP**	**12 24 12.2**	**-3.2**
	comp=Z,5.2nm,0.8s,baz=284,slow=3.4,SNR=6.8						
ILAR				P3KPbc		12 50 36.0	
	comp=Z,2.1nm,1.0s,baz=54,slow=3.4,SNR=9.7						
ILAR				PKP2ab		12 54 32.5	
	comp=Z,1.0nm,1.1s,baz=31,slow=4.2,SNR=5.2						
ILAR	**Eielson Array**	**20.90**	**39**	P	**P**	**12 16 34.0**	**0.0**
ILAR				PcP	**PcP**	**12 20 40.3**	**-0.6**
ILAR				ScP	**ScP**	**12 24 12.2**	**-3.2**
ILAR				*e*		12 50 36.0	
ILAR				P'P'ab	P'P'ab	12 54 32.5	-8.5
EGAK	**Eagle**	**23.19**	**41**	*e*P	**P**	**12 16 58.6**	**+0.2**
	comp=Z,936nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**25.13**	**267**	*c i*P	**P**	**12 17 17.2**	**+0.7**
YUK				*i* *SP	sP	12 17 50.0	+22
YUK				*i* S	**S**	**12 21 39.6**	**+0.2**
YUK				*e*SS	**SnSn**	**12 22 37.9**	**+7.8**
YUK				pmax	pmax		
	comp=E,6μm,1.5s						
YUK				pmax	pmax		
	comp=N,3μm,1.5s						
YUK				pmax	pmax		
	comp=Z,7μm,1.5s						
YUK				pmax	pmax		
	comp=Z,8μm,1.5s						
YUK				MLR	MLR		
	comp=E,1μm,20.0s						
YUK				MLR	MLR		
	comp=Z,3μm,20.0s						
YSS	**Yuzh-Sakhalins**	**25.73**	**275**	*e*P	**P**	**12 17 24.8**	**+2.8**
YSS				pmax	pmax		
	comp=N,400nm,1.0s						
YSS				pmax	pmax		
	comp=E,870nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1μm,1.0s						
YSS	**Yuzh-Sakhalins**	**25.73**	**275**	*e*P	**P**	**12 17 23.2**	**+1.2**
	comp=Z,1μm,0.9s						
WRAK	**Wrangell Islan**	**26.98**	**61**	*e*P	**P**	**12 17 36.1**	**+2.9**
	comp=Z,53nm,1.0s						
ASAJ	**Asahikawa**	**27.13**	**270**	P	**P**	**12 17 36.0**	**+1.3**
	comp=Z,627nm,1.0s,baz=65,slow=6.2,SNR=44						
ASAJ				LR	LR	12 27 31.8	
	comp=Z,3μm,18.9s,baz=79,slow=34						
ASAJ	**Asahikawa**	**27.13**	**270**	P	**P**	**12 17 36.0**	**+1.3**
INK	**Inuvik**	**27.13**	**35**	P	**P**	**12 17 34.6**	**+0.2**
	comp=Z,18nm,0.4s,baz=220,slow=8.4,SNR=11						
INK				PcP	**PcP**	**12 20 54.3**	**+0.1**
	comp=Z,106nm,1.0s,baz=265,slow=3.0,SNR=9.0						
INK				ScP	**ScP**	**12 24 29.7**	**-2.6**
	comp=Z,26nm,1.1s,baz=192,slow=3.0,SNR=7.8						
INK				LR	LR	12 29 14.8	
	comp=Z,7μm,18.4s,baz=229,slow=38						
INK	**Inuvik**	**27.13**	**35**	P	**P**	**12 17 34.6**	**+0.2**
INK				PcP	**PcP**	**12 20 54.3**	**+0.1**
INK				ScP	**ScP**	**12 24 29.7**	**-2.6**
ERM	**Erimo**	**27.88**	**265**	*e*P	**P**	**12 17 41.9**	**+0.6**
ERM				pmax	pmax		
	comp=Z,315nm,1.1s						
ERM	**Erimo**	**27.88**	**265**	*e*P	**P**	**12 17 41.9**	**+0.6**
	comp=Z,315nm,1.1s						
DLBC	**Dease Lake**	**27.95**	**57**	P	**P**	**12 17 44.0**	**+2.0**
	comp=Z,22nm,1.1s,baz=262,slow=9.7,SNR=4.3						
DLBC				PcP	**PcP**	**12 20 57.5**	**+1.1**
	comp=Z,22nm,0.9s,baz=254,slow=4.3,SNR=3.4						
DLBC				LR	LR	12 27 52.9	
	comp=Z,6μm,21.1s,baz=286,slow=34						
DLBC	**Dease Lake**	**27.95**	**57**	P	**P**	**12 17 44.0**	**+2.0**
DLBC				PcP	**PcP**	**12 20 57.5**	**+1.1**
YAK	**Yakutsk**	**29.67**	**311**	*e*P	**P**	**12 17 53.9**	**-3.1**
YAK				*e*PP	pP	12 18 12.4	+7.1
YAK				*e*		12 20 59.7	
YAK				*e*S	S	12 22 43.5	-7.1
YAK				*e*		12 28 29.5	
YAK				pmax	pmax		
	comp=Z,68nm,1.0s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,34nm,1.2s						
YAK				smax	smax		
	comp=N,2μm,15.9s						
YAK				smax	smax		
	comp=E,4μm,18.7s						
HABR	**Khabarovsk**	**29.86**	**283**	*c i*P	**P**	**12 17 59.8**	**+0.9**
HABR				*e*PP	pP	12 18 17.6	+10
HABR				*e*		12 18 58.5	
HABR				*e*		12 21 00.3	
HABR				*e*S	**S**	**12 22 52.0**	**-1.9**
HABR				*e*SS	**SnSn**	**12 24 31.2**	**+5.8**
HABR						12 28 29.8	
HABR				pmax	pmax		
	comp=E,276nm,1.5s						
HABR				pmax	pmax		
	comp=Z,458nm,1.5s						
HABR				pmax	pmax		
	comp=N,89nm,1.5s						
HABR				pmax	pmax		
	comp=Z,836nm,1.5s						
HABR				MLR	MLR		
	comp=E,6μm,21.0s						
HABR				MLR	MLR		
	comp=Z,7μm,21.0s						
HABR				MLR	MLR		
	comp=N,4μm,21.0s						
BBB	**Bella Bella**	**30.42**	**69**	P	**P**	**12 18 05.5**	**+1.7**
	comp=N,145nm,0.9s,baz=294,slow=9.6,SNR=18						
BBB				LR	LR	12 28 20.2	
	comp=N,3μm,19.0s,baz=282,slow=32						
BBB	**Bella Bella**	**30.42**	**69**	P	**P**	**12 18 05.5**	**+1.7**
KLR	**Kul'dur**	**31.56**	**286**	*i*P	**P**	**12 18 11.0**	**-2.9**
KLR				pmax	pmax		
	comp=N,140nm,1.4s						
KLR				pmax	pmax		
	comp=E,410nm,1.4s						
KLR				pmax	pmax		
	comp=Z,740nm,1.4s						
USRK	**Ussuriysk Arra**	**33.70**	**278**	P	**P**	**12 18 32.9**	**+0.3**
	comp=Z,214nm,0.8s,baz=58,slow=8.4,SNR=79						
USRK				PcP	**PcP**	**12 21 12.2**	**+0.4**
	comp=Z,38nm,1.0s,baz=38,slow=2.7,SNR=6.1						
USRK				LR	LR	12 30 46.1	
	comp=Z,3μm,20.7s,baz=211,slow=34						
KIP	**Kipapa**	**33.85**	**145**	*e*P	**P**	**12 18 35.1**	**+0.9**
KIP				pmax	pmax		
	comp=Z,225nm,1.0s						
KIP	**Kipapa**	**33.85**	**145**	*e*P	**P**	**12 18 35.1**	**+0.9**
	comp=Z,225nm,1.0s						
MAJO	**Matsushiro**	**34.22**	**261**	*e*P	**P**	**12 18 38.4**	**+1.1**
MAJO				*e*		12 21 14.1	
MAJO				pmax	pmax		
	comp=Z,445nm,1.0s						
MAJO	**Matsushiro**	**34.22**	**261**	*e*P	**P**	**12 18 38.4**	**+1.1**
	comp=Z,445nm,1.0s						
MAJO				*e*PcP	**PcP**	**12 21 14.1**	**+0.7**
MAT	**Matsushiro**	**34.22**	**261**	P	**P**	**12 18 38.3**	**+1.0**
MJAR	**Matsushiro Arr**	**34.22**	**261**	P	**P**	**12 18 38.3**	**+1.0**
	comp=Z,107nm,0.8s,baz=51,slow=6.9,SNR=69						
MJAR				PcP	**PcP**	**12 21 13.8**	**+0.3**
	comp=Z,30nm,0.9s,baz=160,slow=0.6,SNR=8.6						
MJAR				ScP	**ScP**	**12 24 55.5**	**-0.7**
	comp=Z,4.9nm,1.0s,baz=338,slow=1.1,SNR=5.2						
MJAR				LR	LR	12 30 39.5	
	comp=Z,5μm,21.2s,baz=65,slow=33						
MJAR	**Matsushiro Arr**	**34.22**	**261**	P	**P**	**12 18 38.3**	**+1.0**
MJAR				PcP	**PcP**	**12 21 13.8**	**+0.3**
MJAR				ScP	**ScP**	**12 24 55.5**	**-0.7**
PGC	**Sidney**	**34.52**	**73**	*e*P	**P**	**12 18 41.8**	**+2.0**
	comp=Z,21nm,1.5s						
NLWA	**Neilton Lookou**	**34.84**	**75**	*e*P	**P**	**12 18 44.5**	**+2.0**
	comp=Z,485nm,1.6s						
YKA	**Yellowknife Ar**	**34.85**	**47**	P	**P**	**12 18 41.8**	**-0.6**
	comp=Z,53nm,0.9s,baz=281,slow=8.6,SNR=19						
YKA				PcP	**PcP**	**12 21 15.1**	**+0.3**
	comp=Z,54nm,0.9s,baz=292,slow=2.5,SNR=16						
YKA				ScP	**ScP**	**12 24 55.8**	**-2.1**
	comp=Z,2.8nm,0.6s,baz=284,slow=3.8,SNR=6.1						
YKA				P3KPbc		12 49 35.0	
	comp=Z,0.8nm,0.7s,baz=97,slow=5.4,SNR=7.5						
YKA	**Yellowknife Ar**	**34.85**	**47**	P	**P**	**12 18 41.9**	**-0.6**
YKA				PcP	**PcP**	**12 21 15.1**	**+0.3**
YKA				ScP	**ScP**	**12 24 55.9**	**-2.1**
YKA				*e*		12 49 35.0	
MDJ	**Mudanjiang**	**34.97**	**280**	P	**P**	**12 18 42.0**	**-1.7**
MDJ				pP	pP	12 18 46.0	-6.0
MDJ				PP	**PnPn**	**12 20 00.0**	**-0.8**
MDJ				S	**S**	**12 24 13.0**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,150nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,570nm,6.9s						
MDJ				LR	LR		
	comp=N,4μm,21.0s						
MDJ				LR	LR		
	comp=E,4μm,26.0s						
MDJ				LR	LR		
	comp=Z,4μm,27.2s						
MDJ	**Mudanjiang**	**34.97**	**280**	*e*P	**P**	**12 18 43.3**	**-0.4**
	comp=Z,173nm,1.0s						
JHJ	**Hachijo jima 2**	**35.53**	**255**	P	**P**	**12 18 49.0**	**+0.4**
	comp=Z,980nm,0.9s,baz=151,slow=1.8,SNR=10						
POHA	**Pohakuloa**	**36.30**	**142**	*e*P	**P**	**12 18 56.2**	**+0.7**
	comp=Z,182nm,1.0s						
LON	**Longmire**	**36.38**	**75**	*e*P	**P**	**12 18 57.9**	**+2.1**
LON				pmax	pmax		
	comp=Z,398nm,1.8s						

LON **Longmire** 36.38 75 *e*P P 12 18 57.9 +2.1
comp=Z,398nm,1.8s
COR **Corvallis** 36.55 79 *e*P P 12 18 59.7 +2.5
COR pmax pmax
comp=Z,420nm,1.2s
COR **Corvallis** 36.55 79 *e*P P 12 18 59.7 +2.5
comp=Z,420nm,1.2s
KEBM **Edson Butte** 36.81 82 *e*P P 12 19 01.3 +1.7
comp=Z,256nm,1.1s
KBO **Bosley Butte** 37.24 83 *e*P P 12 19 05.5 +2.3
HUMO **Hull Mountain** 37.81 81 *e*P P 12 19 09.5 +1.5
comp=Z,72nm,1.0s
KRMB **Red Mountain** 37.82 83 *e*P P 12 19 09.7 +1.6
comp=Z,579nm,2.9s
HAWA **Hanford** 37.92 74 *e*P P 12 19 10.2 +1.3
comp=Z,236nm,0.8s
CN2 **Changchun** 37.94 281 *e*P P 12 19 08.8 -0.2
CN2 *e*pP pP 12 19 17.5 +0.1
CN2 *e*PP PnPn 12 20 39.0 +1.8
CN2 *e*S S 12 24 54.8 -4.1
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4μm,23.0s
CN2 LR LR
comp=E,3μm,23.0s
CN2 LR LR
comp=Z,5μm,25.0s
BEND **Bend** 38.03 78 P P 12 19 13.0 +3.2
KHMM **Horse Mountain** 38.30 84 *e*P P 12 19 14.6 +2.3
comp=Z,120nm,1.2s
YBH **Yreka Blue Hor** 38.45 82 P P 12 19 14.6 +1.2
comp=Z,77nm,1.0s,baz=320,slow=3.6,SNR=19
YBH LR LR 12 33 17.5
comp=Z,3μm,19.3s,baz=304,slow=33
YBH **Yreka Blue Hor** 38.45 82 *e*P P 12 19 15.5 +2.1
NEW **Newport** 38.45 70 P P 12 19 14.3 +1.0
comp=Z,437nm,0.9s,baz=300,slow=7.3,SNR=115
NEW ScP S 12 25 08.6 +2.0
comp=Z,11nm,1.1s,baz=335,slow=3.1,SNR=4.9
NEW LR LR 12 31 59.3
comp=Z,4μm,21.7s,baz=295,slow=31
NEW **Newport** 38.45 70 *e*P P 12 19 14.3 +1.0
comp=Z,390nm,0.8s
NEW ScP S 12 25 08.6 +2.0
CBIJ **Chichi jima** 38.51 246 P P 12 19 14.7 +0.7
comp=Z,818nm,0.7s,baz=27,slow=2.8,SNR=18
CBIJ LR LR 12 32 14.9
comp=Z,3μm,21.7s,baz=117,slow=32
CBIJ **Chichi jima** 38.51 246 P P 12 19 14.7 +0.7
HIA **Hailar** 38.64 292 *e*P P 12 19 14.7 -0.2
A12A **Yaak River Ran** 38.99 68 ⇓P P 12 19 19.1 +1.2
baz=39,SNR=21
KIPM **Iron Peak** 39.07 85 *e*P P 12 19 20.4 +1.7
KCPM **Cahto Peak** 39.08 86 *e*P P 12 19 20.6 +1.9
C11A **Tepee Creek (N** 39.16 70 ⇑P P 12 19 20.1 +0.8
baz=39
WDC **Whiskeytown Da** 39.21 84 *e*P P 12 19 21.6 +1.9
WDC **Whiskeytown Da** 39.21 84 *e*P P 12 19 21.6 +1.9
B12A **Libby** 39.25 69 ⇑P P 12 19 21.2 +1.2
baz=39,SNR=32
RES **Resolute Bay** 39.47 25 P P 12 19 21.3 -0.1
comp=Z,10nm,0.9s,baz=273,slow=8.3,SNR=3.8
RES PcP PcP 12 21 28.6 0.0
comp=Z,57nm,0.8s,baz=255,slow=3.1,SNR=12
RES ScP ScP 12 25 12.8 -2.3
comp=Z,32nm,1.2s,baz=300,slow=3.5,SNR=12
RES LR LR 12 37 28.1
comp=Z,4μm,21.2s,baz=267,slow=39
RES **Resolute Bay** 39.47 25 P P 12 19 21.3 -0.1
RES PcP PcP 12 21 28.6 0.0
RES ScP ScP 12 25 12.8 -2.3
C12B **Naegeli Ranch,** 39.69 70 ⇓P P 12 19 24.8 +1.1
baz=40,SNR=98
A13A **Flathead Natio** 39.71 68 ⇑P P 12 19 24.6 +0.7
baz=40
HOPS **Hopland** 39.81 86 *e*P P 12 19 26.3 +1.6
comp=Z,97nm,1.2s
WALA **Waterton Lakes** 39.94 67 *e*P P 12 19 26.8 +0.9
B13A **Whitefish** 39.95 69 ⇓P P 12 19 26.6 +0.8
baz=40,SNR=24
BSMT **Bassoo Peak** 40.02 69 *e*P P 12 19 27.7 +1.1
BSMT *e*ScP ScP 12 25 16.3 -1.6
KSRS **Korea Array** 40.06 271 P P 12 19 28.2 +1.4
comp=Z,147nm,0.8s,baz=58,slow=8.1,SNR=92
KSRS PcP PcP 12 21 31.8 +0.6
comp=Z,17nm,0.9s,baz=63,slow=3.8,SNR=4.7
KSRS LR LR 12 35 33.4
comp=Z,1μm,19.5s,baz=62,slow=35
D12A **Red Ives Fores** 40.09 71 ⇑P P 12 19 27.5 +0.5
baz=40
KSAR **Wonju Array Be** 40.09 271 P P 12 19 28.2 +1.2
KSAR PcP PcP 12 21 31.8 +0.5
SNY **Shenyang** 40.18 280 ⇑P P 12 19 28.8 +1.1
SNY S S 12 25 31.8 -0.7
SNY pmax pmax
comp=Z,1μm,6.6s
SNY LR LR
comp=N,2μm,19.8s
SNY LR LR
comp=E,3μm,15.6s
SNY LR LR
comp=Z,4μm,18.9s
BLMT **Blacktail Moun** 40.19 69 *e*P P 12 19 29.0 +1.0
C13A **Hot Springs** 40.23 70 ⇓P P 12 19 29.2 +1.0
baz=40,SNR=51
A14A **Double T Ranch** 40.26 67 ⇑P P 12 19 29.2 +0.7
baz=40,SNR=52
JTMT **Jette** 40.37 69 *e*P P 12 19 30.3 +0.9
YBMT **Yellow Bay** 40.47 69 *e*P P 12 19 31.0 +0.7
comp=Z,212nm,1.1s
D13A **Huson** 40.59 70 ⇑P P 12 19 31.6 +0.4
baz=40,SNR=31
OHCM **Honcut** 40.59 85 *e*P P 12 19 32.4 +1.2
B14A **Marquette Ranc** 40.65 68 ⇓P P 12 19 32.5 +0.7
baz=41,SNR=26
SWMT **Swartz Lake** 40.65 69 *e*P P 12 19 32.5 +0.7
A15A **Johnson Ranch,** 40.66 67 ⇓P P 12 19 31.8 +0.1
baz=41,SNR=19
C14A **Swan Lake** 40.67 69 ⇓P P 12 19 32.6 +0.7
baz=41
INCN **Inchon** 40.85 272 *e*P P 12 19 33.8 +0.4
comp=Z,414nm,0.9s
INCN **Inchon** 40.85 272 P P 12 19 34.8 +1.5
SNR=22
MSO **Missoula** 41.03 70 *e*P P 12 19 35.5 +0.6
comp=Z,158nm,0.8s
SLMT **Seeley Lake** 41.08 70 *e*P P 12 19 36.0 +0.6
B15A **Bradely Ranch,** 41.08 68 ⇑P P 12 19 35.6 +0.3
baz=41,SNR=48
E13A **Victor** 41.09 71 ⇑P P 12 19 36.0 +0.7
baz=41,SNR=36
G12A **Big Creek, Yel** 41.10 73 ⇑P P 12 19 36.3 +0.8
baz=41,SNR=51
G12A ⇑S S 12 25 47.3 +0.7
baz=41
G12A ⇑S S 12 25 47.3 +0.7
baz=41
D14A **Greenough** 41.16 70 ⇓P P 12 19 36.6 +0.6
baz=41,SNR=93
A16A **West Butte Ran** 41.32 66 ⇑P P 12 19 37.2 0.0
baz=41
C15A **Salmond Ranch,** 41.33 68 ⇑P P 12 19 38.6 +1.2
baz=41,SNR=85
F13A **Darby** 41.34 72 ⇑P P 12 19 38.5 +1.1
baz=41,SNR=28
CHMT **Chamberlain Mo** 41.39 70 *e*P P 12 19 38.3 +0.3
E14A **Clinton** 41.51 71 ⇓P P 12 19 39.7 +0.8
baz=41,SNR=42
B16A **M & M Farms, S** 41.53 67 ⇑P P 12 19 38.9 0.0
baz=41,SNR=27
WCN **Washoe City** 41.69 83 *e*P P 12 19 42.1 +1.7
WCN **Washoe City** 41.69 83 *e*P P 12 19 42.1 +1.7
H12A **Diamond D Ranc** 41.69 74 ⇑P P 12 19 41.1 +0.7
baz=42,SNR=24
MFID **Camas Ranch** 41.73 76 *e*P P 12 19 41.9 +1.2
MFID **Camas Ranch** 41.73 76 ⇓P P 12 19 41.6 +0.9
baz=42,SNR=15
D15A **Lincoln** 41.76 69 ⇑P P 12 19 41.3 +0.5
baz=42,SNR=40
G13A **Cobalt** 41.77 73 ⇓P P 12 19 42.0 +1.0
baz=42,SNR=61
C16A **Fuhringer Ranc** 41.81 68 ⇑P P 12 19 41.5 +0.2
baz=42,SNR=60
A17A **Triple J Farms** 41.84 66 ⇑P P 12 19 41.5 +0.1
baz=42,SNR=43

F14A **Wisdom** 41.90 71 ⇑P P 12 19 43.0 +0.8
baz=42,SNR=31
E15A **Deer Lodge** 42.01 70 ⇑P P 12 19 43.5 +0.5
baz=42,SNR=58
H13A **Challis** 42.05 73 ⇓P P 12 19 44.0 +0.7
baz=42,SNR=19
CMB **Columbia Colle** 42.06 85 *e*P P 12 19 45.2 +1.9
CMB pmax pmax
comp=Z,93nm,1.2s
CMB **Columbia Colle** 42.06 85 *e*P P 12 19 45.2 +1.9
comp=Z,93nm,1.2s
B17A **L&G Farms, Che** 42.11 67 ⇑P P 12 19 44.0 +0.4
baz=42,SNR=27
G14A **Jackson** 42.15 72 ⇓P P 12 19 44.6 +0.4
baz=42,SNR=29
SAO **San Andreas Ge** 42.19 88 *e*P P 12 19 46.4 +2.1
SAO *e**PP pP 12 20 04.4 +12
SAO pmax pmax
comp=Z,82nm,1.1s
SAO **San Andreas Ge** 42.19 88 *e*P P 12 19 46.4 +2.1
comp=Z,82nm,1.1s
SAO *e*pP pP 12 20 04.4 +12
D16A **Dana Ranch, Ca** 42.33 69 ⇑P P 12 19 46.2 +0.7
baz=42
HRY **Holter Researc** 42.33 69 *e*P P 12 19 46.2 +0.7
A18A **Metzger Ranch,** 42.34 65 ⇓P P 12 19 45.3 -0.2
baz=42,SNR=9.7
F15A **Butte** 42.41 71 ⇓P P 12 19 46.6 +0.4
baz=42,SNR=20
LRM **Limekiln Ridge** 42.44 71 *e*P P 12 19 47.2 +0.6
C17A **Wharram Farm,** 42.47 68 ⇑P P 12 19 46.9 +0.2
baz=42,SNR=41
I13A **Wildhorse Cree** 42.49 74 ⇑P P 12 19 47.9 +0.9
baz=42,SNR=38
HLID **Hailey** 42.50 75 *e*P P 12 19 48.2 +1.1
HLID *e*ScP ScP 12 25 25.9 -1.9
E16A **East Helena** 42.52 69 ⇓P P 12 19 47.6 +0.6
baz=42,SNR=53
H14A **Leadore** 42.55 73 ⇓P P 12 19 48.5 +1.1
baz=42,SNR=45
BMN **Battle Mountai** 42.59 80 *e*P P 12 19 49.5 +1.8
BMN pmax pmax
comp=Z,69nm,0.8s
BMN **Battle Mountai** 42.59 80 *e*P P 12 19 49.5 +1.8
comp=Z,69nm,0.8s
DLMT **Dillon** 42.60 71 *e*P P 12 19 48.5 +0.7
comp=Z,121nm,1.2s
DLMT *e*ScP ScP 12 25 25.8 -2.3
B18A **Beardsley Farm** 42.64 66 ⇑P P 12 19 48.3 +0.3
baz=42,SNR=20
J13A **Cove Ranch, Pi** 42.74 75 ⇑P P 12 19 50.1 +1.2
baz=43,SNR=36
MCMT **McKenzie Canyo** 42.74 72 *e*P P 12 19 49.8 +0.8
D17A **Six Diamond Ra** 42.77 68 ⇓P P 12 19 49.5 +0.5
baz=43,SNR=30
G15A **Dillon** 42.77 72 ⇓P P 12 19 49.7 +0.5
baz=43,SNR=45
I14A **Mackay** 42.88 74 ⇑P P 12 19 51.6 +1.5
baz=43,SNR=45
F16A **Kennard Place,** 42.95 70 ⇓P P 12 19 50.9 +0.4
baz=43,SNR=31
A19A **Klindworth Far** 42.96 65 ⇓P P 12 19 50.6 +0.1
baz=43,SNR=20
H15A **Lima** 42.98 72 ⇓P P 12 19 51.6 +0.7
baz=43,SNR=55
BOZ **Bozeman (W)** 43.02 71 *e*P P 12 19 52.5 +1.3
BOZ pmax pmax
comp=Z,207nm,0.8s
BOZ **Bozeman (W)** 43.02 71 *e*P P 12 19 52.5 +1.3
comp=Z,207nm,0.8s
BOZ *e*ScP ScP 12 25 38.4 +8.5
E17A **Martinsdale** 43.03 69 ⇑P P 12 19 52.3 +1.0
baz=43,SNR=29
B19A **Brinkman Farms** 43.09 66 ⇓P P 12 19 52.0 +0.4
baz=43,SNR=22
DL2 **Dalian** 43.09 277 ⇑*i*P P 12 19 52.0 +0.4
DL2 sP sP 12 20 05.8 +2.3
DL2 PP PP 12 21 33.8 +2.0
DL2 PcP PcP 12 21 41.5 +0.4
DL2 *e*S S 12 26 19.0 +3.3
DL2 pmax pmax
comp=Z,150nm,1.1s
DL2 pmax pmax
comp=Z,370nm,6.1s
DL2 LR LR
comp=N,1μm,16.9s
DL2 LR LR
comp=E,690nm,16.9s
DL2 LR LR
comp=Z,1μm,20.6s
NVAR **Mina Array Bea** 43.12 83 P P 12 19 53.2 +1.1
comp=Z,37nm,0.8s,baz=289,slow=7.8,SNR=21
NVAR PcP PcP 12 21 42.6 +1.1
comp=Z,18nm,0.8s,baz=275,slow=3.0,SNR=4.1
NVAR LR LR 12 34 40.7
comp=Z,2μm,21.1s,baz=66,slow=32
NVAR SKKP 12 46 41.3
comp=Z,1.8nm,1.0s,baz=105,slow=3.4,SNR=4.5
NVAR P3KP 12 51 08.7
comp=Z,0.8nm,0.8s,baz=104,slow=3.8,SNR=3.5
NVAR **Mina Array Bea** 43.12 83 P P 12 19 53.2 +1.1
NVAR PcP PcP 12 21 42.6 +1.1
NVAR SKKP 12 46 41.3
NVAR PKKKP 12 51 08.7
G16A **Moss Hill, Enn** 43.14 71 ⇓P P 12 19 52.8 +0.6
baz=43,SNR=64
J14A **Carey** 43.18 74 ⇑P P 12 19 54.0 +1.5
baz=43
D18A **Linhart Farms,** 43.26 68 ⇓P P 12 19 54.1 +1.1
baz=43,SNR=26
MLAC **Mammoth Lakes** 43.28 85 ⇓P P 12 19 55.2 +1.8
baz=43
C19A **Slack Wire Ran** 43.41 67 ⇓P P 12 19 55.2 +1.1
baz=43,SNR=76
I15A **Monteview** 43.42 73 ⇓P P 12 19 55.5 +1.1
baz=43,SNR=17
A20A **Cobblestone Ra** 43.45 65 ⇓P P 12 19 54.5 +0.1
baz=43,SNR=27
F17A **Fitzpatrick Pl** 43.45 70 ⇑P P 12 19 55.5 +0.9
baz=43,SNR=45
E18A **Harlowton** 43.53 68 ⇓P P 12 19 56.5 +1.3
baz=43,SNR=56
QLMT **Earthquake Lak** 43.58 71 *e*P P 12 19 56.7 +0.9
ELK **Elko** 43.62 79 *e*P P 12 19 57.5 +1.3
MTUM **Tungsten Hills** 43.62 85 *e*P P 12 19 57.9 +1.8
B20A **Solberg Farm,** 43.62 65 ⇓P P 12 19 56.1 +0.3
baz=44,SNR=16
G17A **Pierce Place,** 43.72 70 ⇑P P 12 19 58.2 +1.4
baz=44,SNR=28
H16A **Russell Place,** 43.76 71 ⇑P P 12 19 58.2 +0.9
baz=44,SNR=84
J15A **Blackfoot** 43.79 74 ⇑P P 12 19 59.3 +2.0
baz=44,SNR=45
D19A **Cripps Ranch,** 43.80 67 ⇓P P 12 19 58.0 +0.6
baz=44,SNR=34
K14A **Jones Ranch, D** 43.83 75 ⇓P P 12 19 59.0 +1.3
baz=44,SNR=11
RCTC **Rector, Farmer** 43.85 86 ⇓P P 12 19 58.5 +0.7
baz=44,SNR=6.7
YMR **Madison River** 43.95 71 *e*P P 12 19 59.9 +1.2
A21A **Bergtoll Ranch** 43.95 64 ⇓P P 12 19 58.6 +0.1
baz=44,SNR=27
F18A **Big Timber** 44.00 69 ⇓P P 12 19 59.9 +0.8
baz=44,SNR=29
C20A **Veseth Ranch,** 44.01 66 ⇓P P 12 19 59.6 +0.6
baz=44,SNR=45
TIN **Tinemaha** 44.02 85 ⇓P P 12 20 00.9 +1.6
baz=44,SNR=6.7
SMMC **Simmler** 44.02 88 ⇑P P 12 20 00.6 +1.4
baz=44
I16A **Newdale** 44.08 73 ⇓P P 12 20 01.2 +1.4
baz=44,SNR=23
L14A **Malta** 44.08 76 ⇑P P 12 20 01.2 +1.4
baz=44,SNR=48
GCMT **Greycliff** 44.09 69 *e*P P 12 20 00.7 +0.9
K15A **Arbon** 44.14 75 ⇑P P 12 20 02.1 +1.9
baz=44,SNR=50
B21A **Ellsworth Farm** 44.20 65 ⇑P P 12 20 00.3 -0.1
baz=44,SNR=27
E19A **Rath Farm, Rou** 44.24 68 ⇑P P 12 20 01.6 +0.7
baz=44,SNR=40
VES **Vestal, Richgr** 44.25 87 ⇓P P 12 20 01.5 +0.6
baz=44,SNR=18
D20A **Manuel Ranch,** 44.27 67 ⇑P P 12 20 01.9 +0.8
baz=44,SNR=31
H17A **Grant Village** 44.33 71 ⇓P P 12 20 04.0 +2.2
baz=44,SNR=103

IMW **Indian Meadow** 44.40 72 *e*P P 12 20 03.8 +1.3
comp=Z,184nm,1.1s
PKM **Peak Mountain** 44.40 88 ⇑P P 12 20 03.7 +1.3
baz=44
G18A **Lazy EL Ranch,** 44.41 70 ⇓P P 12 20 02.9 +0.5
baz=44,SNR=13
DCID1 **Drake Creek** 44.42 73 *e*P P 12 20 04.6 +2.1
comp=Z,195nm,1.2s
C21A **Desert Coulee** 44.47 65 ⇓P P 12 20 03.3 +0.6
baz=44,SNR=28
F19A **Roth Farm, Mol** 44.48 69 ⇑P P 12 20 03.5 +0.7
baz=44,SNR=29
HVU **Hansel Valley** 44.51 76 *e*P P 12 20 05.0 +1.8
HVU pmax pmax
comp=Z,141nm,0.8s
HVU **Hansel Valley** 44.51 76 *e*P P 12 20 05.0 +1.8
comp=Z,141nm,0.8s
A22A **Carney Farms,** 44.52 63 ⇓P P 12 20 03.1 +0.1
baz=44,SNR=29
GRAC **Grapevine Rang** 44.58 84 ⇑P P 12 20 05.0 +1.3
baz=44,SNR=12
E20A **Meyer Farm, Mu** 44.59 68 ⇑P P 12 20 04.2 +0.5
baz=44,SNR=26
MOOW **Moose Ponds** 44.60 72 *e*P P 12 20 05.3 +1.3
I17A **Pilgrim Ck.** 44.60 72 ⇑P P 12 20 05.5 +1.6
baz=44,SNR=23
L15A **Malad City** 44.62 75 ⇓P P 12 20 05.1 +1.0
baz=44,SNR=26
K16A **Soda Springs** 44.62 74 ⇑P P 12 20 06.3 +2.2
baz=44,SNR=84
TPAW **Teton Pass** 44.62 73 *e*P P 12 20 05.7 +1.5
comp=Z,336nm,1.6s
H18A **Shoshone NF, C** 44.71 71 ⇑P P 12 20 05.6 +0.7
baz=45,SNR=18
ISA **Isabella** 44.74 87 *e*P P 12 20 05.7 +0.7
ISA pmax pmax
comp=Z,62nm,1.0s
ISA **Isabella** 44.74 87 *e*P P 12 20 05.7 +0.7
comp=Z,62nm,1.0s
ISA **Isabella** 44.74 87 ⇑P P 12 20 05.5 +0.4
baz=45,SNR=29
REDW **Red Top Meadow** 44.76 73 *e*P P 12 20 07.2 +2.0
comp=Z,2.8nm,1.3s
SNOW **Snow King Moun** 44.76 73 *e*P P 12 20 07.2 +2.0
comp=Z,211nm,1.3s
SBC **Santa Barbara** 44.76 89 ⇑P P 12 20 06.3 +1.3
baz=45
LOHW **Long Hollow** 44.76 72 *e*P P 12 20 06.8 +1.6
comp=Z,148nm,1.3s
J17A **Brown Place, J** 44.84 73 ⇓P P 12 20 07.1 +1.3
baz=45,SNR=14
B22A **Reddig Ranch S** 44.84 64 ⇓P P 12 20 06.1 +0.5
baz=45,SNR=27
R11A **Troy Canyon, C** 44.85 82 ⇑P P 12 20 07.0 +1.0
baz=45,SNR=33
ARVC **Arvin** 44.87 87 ⇓P P 12 20 06.6 +0.7
baz=45
M15A **Larsen Ranch,** 44.90 76 ⇓P P 12 20 07.5 +1.2
baz=45
DAC **Darwin (Calif)** 44.90 85 *e*P P 12 20 07.4 +1.0
DAC pmax pmax
comp=Z,44nm,1.0s
DAC **Darwin (Calif)** 44.90 85 *e*P P 12 20 07.4 +1.0
comp=Z,44nm,1.0s
D21A **La Casta Ranch** 44.94 66 ⇓P P 12 20 07.2 +0.7
baz=45,SNR=32
AHID **Auburn Hatcher** 44.95 74 *e*P P 12 20 08.4 +1.7
comp=Z,404nm,1.5s
F20A **Billings** 44.97 68 ⇑P P 12 20 07.7 +0.9
baz=45,SNR=75
K17A **Gardner Place,** 45.07 74 ⇑P P 12 20 08.7 +1.0
baz=45,SNR=7.7
BSC **Santa Cruz Isl** 45.10 89 ⇓P P 12 20 08.3 +0.5
baz=45
MPMC **Manual Prospec** 45.10 85 ⇓P P 12 20 08.9 +0.9
baz=45,SNR=16
A23A **Redstone** 45.11 63 ⇓P P 12 20 07.8 0.0
baz=45,SNR=12
H19A **Powell** 45.12 70 ⇓P P 12 20 09.1 +1.2
baz=45,SNR=75
I18A **Diamond G Ranc** 45.18 72 ⇓P P 12 20 09.8 +1.2
baz=45,SNR=26
E21A **Keefer Ranch,** 45.18 67 ⇓P P 12 20 09.2 +0.8
baz=45,SNR=22
L16A **Fish Haven** 45.19 75 ⇓P P 12 20 09.9 +1.2
baz=45,SNR=35
N15A **Stansbury Isla** 45.19 77 ⇑P P 12 20 09.8 +1.1
baz=45,SNR=19
C22A **Vida** 45.20 65 ⇓P P 12 20 08.5 +0.1
baz=45,SNR=27
FURC **Furnace Creek,** 45.24 85 ⇓P P 12 20 10.0 +1.2
baz=45,SNR=22
G20A **Bridger** 45.26 69 ⇓P P 12 20 09.7 +0.6
baz=45,SNR=86
B23A **Brockton** 45.32 64 ⇑P P 12 20 09.3 -0.1
baz=45,SNR=17
J18A **Kendall Valley** 45.34 73 ⇓P P 12 20 10.8 +0.9
baz=45,SNR=60
HWUT **Hardware Ranch** 45.35 75 *e*P P 12 20 11.5 +1.6
comp=Z,1μm,2.8s
LRMC **Laurel Mountai** 45.35 86 ⇓P P 12 20 10.0 +0.1
baz=45,SNR=5.5
D22A **Cohagen** 45.36 66 ⇓P P 12 20 10.6 +0.8
baz=45,SNR=65
BLG **Laguna Peak** 45.38 89 ⇑P P 12 20 10.6 +0.5
baz=45,SNR=6.5
DUG **Dugway** 45.43 78 *e*P P 12 20 11.9 +1.4
DUG pmax pmax
comp=Z,411nm,1.3s
DUG **Dugway** 45.43 78 *e*P P 12 20 11.9 +1.4
comp=Z,411nm,1.3s
I19A **Meeteetse** 45.47 71 ⇓P P 12 20 11.8 +0.9
baz=45,SNR=29
L17A **Cokeville** 45.48 74 ⇓P P 12 20 11.7 +0.8
baz=45,SNR=19
EDW2 **Edwards Air Fo** 45.55 87 ⇑P P 12 20 12.1 +0.7
baz=46,SNR=14
F21A **Absaloka Mine,** 45.55 68 ⇓P P 12 20 12.0 +0.6
baz=45,SNR=133
C23A **Lambert** 45.57 64 ⇓P P 12 20 11.9 +0.5
baz=45,SNR=54
O15A **The Old Anders** 45.59 77 ⇓P P 12 20 13.1 +1.3
baz=46,SNR=16
A24A **Westby** 45.62 63 ⇑P P 12 20 11.7 -0.1
baz=46,SNR=35
K18A **Toltan Ranch,** 45.66 73 ⇑P P 12 20 13.6 +1.2
baz=46,SNR=65
IRK **Irkutsk** 45.74 303 *e*P P 12 20 12.0 -0.6
DECC **Green Verdugo** 45.75 88 ⇑P P 12 20 13.4 +0.4
baz=46
DGMT **Dagmar** 45.76 63 *e*P P 12 20 13.3 +0.4
comp=Z,350nm,1.6s
BJI **Beijing** 45.77 282 P P 12 20 14.0 +1.1
BJI pmax pmax
comp=Z,300nm,1.0s
BJI pmax pmax
comp=Z,2μm,10.3s
CTU **Camp Tracy** 45.78 76 *e*P P 12 20 14.4 +1.1
comp=Z,132nm,1.1s
BJT **Baijiatuu** 45.78 282 *e*P P 12 20 13.7 +0.6
comp=Z,219nm,0.8s
H20A **Greybull** 45.80 70 ⇑P P 12 20 13.4 +0.1
baz=46,SNR=22
G21A **Lodge Grass** 45.84 69 ⇓P P 12 20 13.9 +0.2
baz=46,SNR=59
N16A **Rees Ranch, Co** 45.85 76 ⇑P P 12 20 15.0 +1.0
baz=46,SNR=11
PDAR **Pinedale Array** 45.87 73 P P 12 20 14.7 +0.6
comp=Z,210nm,0.8s,baz=342,slow=1.6,SNR=86
PDAR SKKP 12 46 33.1
comp=Z,1.5nm,0.9s,baz=134,slow=2.6,SNR=5.3
PDAR P3KP 12 50 59.6
comp=Z,1.2nm,1.0s,baz=151,slow=2.1,SNR=4.4
PDAR **Pinedale Array** 45.87 73 P P 12 20 14.7 +0.6
PDAR SKKP 12 46 33.1
PDAR PKKKP 12 50 59.6
J19A **Crowheart** 45.88 72 ⇓P P 12 20 15.2 +1.1
baz=46,SNR=37
E22A **Miles City** 45.89 66 ⇑P P 12 20 14.2 +0.3
baz=46,SNR=54
PASC **Pasadena Art C** 45.89 88 *e*P P 12 20 15.1 +1.0
comp=Z,57nm,1.1s
D23A **Lindsay** 45.90 65 ⇑P P 12 20 14.7 +0.7
baz=46,SNR=24
MWC **Mount Wilson** 45.94 88 *e*P P 12 20 15.8 +1.2
MWC pmax pmax
comp=Z,152nm,1.3s
MWC **Mount Wilson** 45.94 88 *e*P P 12 20 15.8 +1.2

	comp=Z,152nm,1.3s									
SHOC	**Shoshone**	45.96	85	⇑	P		P	12 20 15.3	+0.7	
	baz=46,SNR=7.5									
M17A	**Scullys Gap (B**	45.97	75	⇑	P		P	12 20 15.4	+0.5	
	baz=46,SNR=15									
JLU	**Jordanelle**	46.02	76		*e*P		P	12 20 16.9	+1.6	
	comp=Z,155nm,1.1s									
GSC	**Goldstone**	46.02	86		*e*P		P	12 20 16.4	+1.3	
GSC					*e*			12 21 51.3		
GSC						pmax	pmax			
	comp=Z,147nm,1.1s									
GSC	**Goldstone**	46.02	86		*e*P		P	12 20 16.4	+1.3	
	comp=Z,147nm,1.1s									
GSC					*e*PcP		PcP	12 21 51.3	-0.1	
GSC	**Goldstone**	46.02	86	⇓	P		P	12 20 15.8	+0.6	
	baz=46,SNR=26									
I20A	**Worland**	46.03	71	⇓	P		P	12 20 16.3	+1.1	
	baz=46,SNR=27									
F22A	**Rosebud**	46.08	67	⇑	P		P	12 20 15.8	+0.3	
	baz=46,SNR=57									
L18A	**Fontenelle, Gr**	46.08	74	⇓	P		P	12 20 16.5	+0.7	
	baz=46,SNR=38									
P15A	**Leamington**	46.14	78	⇑	P		P	12 20 17.2	+1.0	
	baz=46,SNR=41									
C24A	**Savage**	46.15	64	⇑	P		P	12 20 16.5	+0.6	
	baz=46,SNR=25									
RRX	**Edison Barstow**	46.17	86	⇑	P		P	12 20 17.3	+1.1	
	baz=46									
BFSC	**Mount Baldy Ra**	46.18	87	⇓	P		P	12 20 16.9	+0.5	
	baz=46,SNR=16									
N17A	**Moffit Pass**	46.19	76	⇓	P		P	12 20 17.3	+0.7	
	baz=46,SNR=13									
E23A	**Ismay**	46.22	66	⇑	P		P	12 20 17.4	+0.8	
	baz=46									
O16A	**Springville**	46.22	77	⇓	P		P	12 20 18.0	+1.2	
	baz=46									
DAU	**Daniels Canyon**	46.25	76		*e*P		P	12 20 18.8	+1.6	
DAU	**Daniels Canyon**	46.25	76		*e*P		P	12 20 18.8	+1.6	
CIS	**Catalina Islan**	46.26	89	⇑	P		P	12 20 17.5	+0.5	
	baz=46									
MPU	**Maple Canyon**	46.26	77		*e*P		P	12 20 18.7	+1.6	
	comp=Z,84nm,0.8s									
K19A	**Absolon Red Bu**	46.26	72	⇑	P		P	12 20 17.3	+0.2	
	baz=46,SNR=114									
H21A	**Big Horn, Sher**	46.28	69	⇓	P		P	12 20 17.6	+0.5	
	baz=46,SNR=32									
M18A	**Lyman**	46.36	75	⇓	P		P	12 20 18.3	+0.4	
	baz=46,SNR=38									
TLY	**Talaya**	46.36	303		*e*P		P	12 20 16.1	-1.5	
TLY						pmax	pmax			
	comp=Z,37nm,1.1s									
TLY	**Talaya**	46.36	303		*e*P		P	12 20 17.5	-0.1	
	comp=Z,55nm,1.3s									
TLY					*e*PcP		PcP	12 21 52.5	+0.3	
TLY					*e*ScP		ScP	12 25 45.4	+2.1	
G22A	**Birney**	46.38	68	⇓	P		P	12 20 18.1	+0.2	
	baz=46,SNR=48									
L19A	**Farson**	46.38	73	⇓	P		P	12 20 18.7	+0.6	
	baz=46,SNR=40									
J20A	**Shoshoni**	46.41	71	⇑	P		P	12 20 19.4	+1.2	
	baz=46,SNR=27									
D24A	**Glendive**	46.43	65	⇑	P		P	12 20 19.2	+1.0	
	baz=46,SNR=34									
SCI	**San Clemente I**	46.45	89	⇑	P		P	12 20 19.2	+0.8	
	baz=46									
TUQ	**Turquoise Moun**	46.48	85	⇓	P		P	12 20 19.6	+0.7	
	baz=46									
P16A	**Fountain Green**	46.49	78	⇑	P		P	12 20 20.2	+1.2	
	baz=46,SNR=12									
ARUT	**Antelope Range**	46.53	81		*e*P		P	12 20 20.0	+0.8	
ARUT	**Antelope Range**	46.53	81		*e*P		P	12 20 20.0	+0.8	
ULN	**Ulaanbaatar**	46.59	297		*e*P		P	12 20 21.0	+1.4	
	comp=Z,80nm,1.1s									
ULN					*e*PcP		PcP	12 21 53.2	0.0	
ULN					*e*ScP		ScP	12 25 44.4	-0.1	
I21A	**Big Trails, Te**	46.61	70	⇑	P		P	12 20 20.0	+0.2	
	baz=46,SNR=61									
HEC	**Hector,Ludlow**	46.62	86	⇑	P		P	12 20 20.4	+0.6	
	baz=47,SNR=14									
BBRC	**Big Bear Solar**	46.62	87	⇓	P		P	12 20 20.8	+0.7	
	baz=47									
K20A	**Yellowstone Ra**	46.66	72	⇓	P		P	12 20 20.1	-0.1	
	baz=47,SNR=60									
O17A	**Robinson Place**	46.70	76	⇑	P		P	12 20 21.8	+1.2	
	baz=47,SNR=12									
H22A	**Clearmont**	46.70	69	⇑	P		P	12 20 20.7	+0.3	
	baz=47,SNR=49									
CCUT	**Cedar City**	46.72	81		*e*P		P	12 20 22.0	+1.2	
	comp=Z,63nm,0.9s									
E24A	**Baker**	46.76	65	⇑	P		P	12 20 21.4	+0.6	
	baz=47,SNR=48									
J21A	**Lysite**	46.79	71	⇓	P		P	12 20 21.8	+0.6	
	baz=47,SNR=33									
MVU	**Marysvale**	46.84	79		*e*P		P	12 20 23.5	+1.8	
	comp=Z,90nm,0.9s									
M19A	**Rock Springs**	46.86	74	⇓	P		P	12 20 22.2	+0.4	
	baz=47,SNR=42									
N18A	**Larsen Ranch,**	46.87	75	⇓	P		P	12 20 22.4	+0.5	
	baz=47,SNR=21									
MURC	**Murrieta**	46.88	88	⇓	P		P	12 20 22.6	+0.7	
	baz=47,SNR=7.0									
G23A	**Biddle**	46.91	68	⇑	P		P	12 20 22.2	+0.2	
	baz=47,SNR=38									
TMUT	**Trail Mountain**	46.96	78		*e*P		P	12 20 24.5	+1.7	
	comp=Z,206nm,1.0s									
SONM	**Songino Array**	46.98	297		P		P	12 20 23.7	+1.1	
	comp=Z,42nm,1.0s,baz=57,slow=8.6,SNR=18									
SONM					PcP		PcP	12 21 55.2	+0.7	
	comp=Z,56nm,0.9s,baz=64,slow=2.0,SNR=11									
SONM					ScP		ScP	12 25 44.8	-1.3	
	comp=Z,16nm,1.0s,baz=38,slow=2.1,SNR=9.0									
SONM					LR		LR	12 41 03.5		
	comp=Z,8μm,19.5s,baz=56,slow=37									
SONM					SKKP			12 46 33.9		
	comp=Z,0.8nm,0.9s,baz=294,slow=1.5,SNR=3.6									
SONM					P3KP			12 50 58.9		
	comp=Z,0.5nm,0.9s,baz=112,slow=1.6,SNR=2.4									
SONM					P4KPbc			12 58 07.9		
	comp=Z,0.9nm,0.7s,baz=29,slow=4.0,SNR=6.5									
SONM	**Songino Array**	46.98	297		P		P	12 20 23.7	+1.1	
SONM					PcP		PcP	12 21 55.2	+0.7	
SONM					ScP		ScP	12 25 44.8	-1.3	
SONM					SKKP			12 46 33.9		
SONM					PKKKP			12 50 58.9		
SONM					*e*			12 58 07.9		
JOW	**Kunigami**	47.01	260		LR		LR	12 37 05.0		
	comp=Z,2μm,21.4s,baz=251,slow=32									
I22A	**9 Mile Ranch,**	47.03	70	⇑	P		P	12 20 23.6	+0.6	
	baz=47,SNR=65									
L20A	**Wamsutter**	47.05	73	⇑	P		P	12 20 23.5	+0.2	
	baz=47,SNR=20									
GMRC	**Granite Mounta**	47.07	85	⇑	P		P	12 20 24.1	+0.6	
	baz=47,SNR=21									
F24A	**Ekalaka**	47.09	66	⇓	P		P	12 20 23.6	+0.3	
	baz=47,SNR=18									
O18A	**Roosevelt**	47.10	76	⇑	P		P	12 20 25.1	+1.5	
	baz=47,SNR=25									
P17A	**Butcher Ranch,**	47.14	77	⇑	P		P	12 20 25.1	+1.1	
	baz=47,SNR=41									
Q16A	**Castle Valley**	47.22	78	⇓	P		P	12 20 25.8	+1.2	
	baz=47,SNR=39									
N19A	**John Jarvie Ra**	47.22	75	⇑	P		P	12 20 25.1	+0.6	
	baz=47,SNR=45									
LDFC	**Landfair**	47.22	85		*e*P		P	12 20 25.8	+1.2	
	comp=Z,155nm,1.1s									
ZAK	**Zakamensk**	47.26	301		*e*P		P	12 20 25.1	+0.4	
ZAK					*e*			12 21 56.1		
ZAK						pmax	pmax			
	comp=Z,74nm,1.1s									
H23A	**Clabaugh Cattl**	47.27	68	⇑	P		P	12 20 24.5	-0.4	
	baz=47,SNR=6.5									
J22A	**Midwest**	47.32	70	⇑	P		P	12 20 26.0	+0.7	
	baz=47,SNR=77									
K21A	**Alcova**	47.32	72	⇑	P		P	12 20 25.7	+0.3	
	baz=47,SNR=55									
P18A	**Preston Nutter**	47.34	77	⇓	P		P	12 20 26.8	+1.1	
	baz=47,SNR=36									
PFO	**Pinyon Flat Ob**	47.34	87		*e*P		P	12 20 25.9	+0.3	
	comp=Z,749nm,2.8s									
PFO	**Pinyon Flat Ob**	47.34	87	⇑	P		P	12 20 26.0	+0.4	
	baz=47,SNR=9.4									
BELC	**Belle Mtn. Jos**	47.37	86	⇑	P		P	12 20 25.9	+0.1	
	baz=47,SNR=5.5									
G24A	**Alzada**	47.40	67	⇓	P		P	12 20 25.9	0.0	
	baz=47,SNR=44									
109C	**Camp Elliot, M**	47.41	88	⇑	P		P	12 20 26.8	+0.8	
	baz=47									
M20A	**Sweetwater, Wa**	47.45	73	⇓	P		P	12 20 27.4	+0.9	
	baz=47,SNR=37									
I23A	**Meade Ranch, G**	47.59	69	⇓	P		P	12 20 27.5	+0.1	
	baz=48									
O19A	**Miners Draw (B**	47.61	75	⇑	P		P	12 20 28.5	+0.9	
	baz=48,SNR=68									
L21A	**Rawlins**	47.65	72	⇑	P		P	12 20 28.5	+0.5	
	baz=48,SNR=86									
H24A	**Dirks Ranch, A**	47.66	68	⇓	P		P	12 20 27.6	-0.3	
	baz=48,SNR=26									
NEE2	**Needles Airpor**	47.73	85	⇓	P		P	12 20 29.0	+0.6	
	baz=48,SNR=8.4									
K22A	**Casper**	47.74	71	⇑	P		P	12 20 28.9	+0.2	
	baz=48,SNR=32									
MOY	**Mondy**	47.76	304		*e*P		P	12 20 28.3	-0.3	
MOY						pmax	pmax			
	comp=Z,96nm,1.4s									
IRM	**Iron Mountain**	47.79	86	⇓	P		P	12 20 29.6	+0.6	
	baz=48,SNR=7.4									
N20A	**Spence Gulch,**	47.80	74	⇑	P		P	12 20 30.3	+1.1	
	baz=48,SNR=19									
BAR	**Barrett**	47.83	88		*e*P		P	12 20 30.1	+0.9	
	comp=Z,69nm,1.0s									
MONP	**Monument Peak**	47.84	88	⇓	P		P	12 20 30.4	+0.8	
	baz=48,SNR=9.6									
J23A	**Dilts Ranch, B**	47.87	70	⇓	P		P	12 20 30.2	+0.7	
	baz=48,SNR=34									
M21A	**Separation Pea**	47.87	73	⇓	P		P	12 20 29.9	+0.2	
	baz=48,SNR=34									
BC3	**Big Chuckawall**	47.94	86	⇑	P		P	12 20 30.4	+0.2	
	baz=48,SNR=5.3									
W13A	**Hualapai Mount**	47.97	84	⇑	P		P	12 20 31.1	+0.5	
	baz=48,SNR=23									
HHC	**Hu-ho-hao-te**	48.07	286	⇑	*i*P		P	12 20 32.5	+1.4	
HHC					pP		pP	12 20 36.8	-2.8	
HHC					sP		sP	12 20 39.8	-3.2	
HHC					PcS		PcS	12 25 55.5	+1.2	
HHC					S		S	12 27 31.5	+3.9	
HHC					sS		sS	12 27 36.0	-5.7	
HHC					ScS		ScS	12 30 25.3	+3.3	
HHC					SS		SS	12 30 50.3	-6.0	
HHC						pmax	pmax			
	comp=Z,1μm,1.2s									
HHC						pmax	pmax			
	comp=Z,2μm,3.3s									
HHC						LR	LR			
	comp=N,6μm,17.5s									
HHC						LR	LR			
	comp=E,4μm,15.7s									
HHC						LR	LR			
	comp=Z,2μm,17.7s									
U15A	**North Rim**	48.10	81	⇓	P		P	12 20 32.8	+1.3	
	baz=48,SNR=36									
P19A	**Cripple Cowboy**	48.11	76	⇓	P		P	12 20 32.4	+0.8	
	baz=48,SNR=56									
GUMO	**Guam**	48.11	232		P		P	12 20 29.2	-2.3	
	comp=Z,254nm,0.8s,baz=173,slow=3.3,SNR=11									
GUMO						LR	LR	12 42 45.9		
	comp=Z,907nm,18.1s,baz=41,slow=38									
GUMO	**Guam**	48.11	232		*e*P		P	12 20 29.7	-1.7	
	comp=Z,367nm,1.0s									
I24A	**Kuemmerle Ranc**	48.14	69	⇑	P		P	12 20 31.5	-0.2	
	baz=48,SNR=14									
L22A	**Ellis Ranch, M**	48.17	72	⇓	P		P	12 20 32.7	+0.7	
	baz=48,SNR=37									
DVTC	**Desert V Tower**	48.20	88	⇓	P		P	12 20 32.7	+0.5	
	baz=48,SNR=11									
K23A	**Bowen Ranch, D**	48.21	70	⇓	P		P	12 20 32.4	+0.1	
	baz=48,SNR=34									
O20A	**White River Ci**	48.24	75	⇓	P		P	12 20 33.3	+0.7	
	baz=48,SNR=37									
N21A	**Black Mountain**	48.30	74	⇑	P		P	12 20 33.5	+0.5	
	baz=48,SNR=18									
RSSD	**Black Hills**	48.33	68		*e*P		P	12 20 33.2	0.0	
RSSD						pmax	pmax			
	comp=Z,108nm,0.7s									
RSSD	**Black Hills**	48.33	68		*e*P		P	12 20 33.2	0.0	
	comp=Z,108nm,0.7s									
PDMCI	**Parker Dam,Lak**	48.33	85	⇓	P		P	12 20 33.4	+0.3	
	baz=48,SNR=8.6									
Q19A	**Hogan Spring (**	48.36	77	⇑	P		P	12 20 33.6	+0.2	
	baz=48,SNR=54									
SSE	**Sheshan**	48.42	270		P		P	12 20 34.5	+0.7	
SSE						pmax	pmax			
	comp=Z,370nm,1.2s									
SSE						pmax	pmax			
	comp=Z,980nm,5.1s									
J24A	**Dixon Ranch, L**	48.43	69	⇓	P		P	12 20 34.0	+0.1	
	baz=48,SNR=40									
M22A	**Cedar Creek Ra**	48.45	72	⇑	P		P	12 20 34.5	+0.2	
	baz=48,SNR=28									
Y12C	**Blythe**	48.45	86	⇓	P		P	12 20 34.6	+0.6	
	baz=48,SNR=12									
P20A	**De Beque**	48.55	76	⇓	P		P	12 20 35.3	+0.4	
	baz=48,SNR=40									
L23A	**Garrett**	48.55	71	⇓	P		P	12 20 35.2	+0.2	
	baz=48,SNR=98									
MDND	**Maddock**	48.65	62	⇓	P		P	12 20 35.5	+0.1	
	baz=48,SNR=22									
O21A	**Pagoda**	48.66	74	⇑	P		P	12 20 36.3	+0.5	
	baz=49,SNR=30									
S18A	**Hurst Farm, BI**	48.71	78	⇑	P		P	12 20 36.9	+0.6	
	baz=49,SNR=54									
K24A	**Anderson Ranch**	48.71	70	⇓	P		P	12 20 35.8	-0.3	
	baz=49,SNR=8.1									
GLA	**Glamis**	48.73	87		*e*P		P	12 20 37.3	+1.1	
GLA						pmax	pmax			
	comp=Z,71nm,0.9s									
GLA	**Glamis**	48.73	87		*e*P		P	12 20 37.3	+1.1	
	comp=Z,71nm,0.9s									
GLA	**Glamis**	48.73	87	⇓	P		P	12 20 36.8	+0.6	
	baz=49,SNR=11									
N22A	**Wattenberg Ran**	48.91	73	⇑	P		P	12 20 38.5	+0.7	
	baz=49,SNR=25									
M23A	**Laramie**	48.94	72	⇓	P		P	12 20 38.1	+0.2	
	baz=49,SNR=36									
Q20A	**Ridgley Place,**	48.95	76	⇑	P		P	12 20 38.4	+0.4	
	baz=49,SNR=24									
L24A	**Wheatland**	49.05	71	⇓	P		P	12 20 39.4	+0.7	
	baz=49,SNR=37									
P21A	**Newcastle**	49.10	75	⇓	P		P	12 20 40.0	+0.8	
	baz=49,SNR=28									
BTO	**Baotou**	49.14	287		*e*P		P	12 20 41.3	+2.0	
BTO						pmax	pmax			
	comp=Z,300nm,1.1s									
N23A	**Red Feather La**	49.16	73	⇓	P		P	12 20 40.4	+0.7	
	baz=49,SNR=24									
NJ2	**Nanjing**	49.23	272		*e*P		P	12 20 40.0	0.0	
NJ2					pP		pP	12 20 50.8	+2.3	
NJ2					sP		sP	12 20 54.3	+2.4	
NJ2					PP		PP	12 22 36.5	+2.8	
NJ2					S		S	12 27 48.0	+4.1	
NJ2						pmax	pmax			
	comp=Z,300nm,1.0s									
NJ2						pmax	pmax			
	comp=Z,830nm,8.0s									
NJ2						LR	LR			
	comp=N,3μm,23.7s									
NJ2						LR	LR			
	comp=E,2μm,31.2s									
NJ2						LR	LR			
	comp=Z,3μm,22.5s									
O22A	**Kremmling**	49.25	74	⇑	P		P	12 20 41.1	+0.7	
	baz=49,SNR=20									
WUAZ	**Wupatki**	49.25	82		*e*P		P	12 20 41.4	+1.1	
ULM	**Lac du Bonnet**	49.27	57		*e*P		P	12 20 39.3	-0.8	
	comp=Z,24nm,0.8s,baz=304,slow=7.7,SNR=8.2									
ULM					PcP		PcP	12 22 02.2	-0.3	
	comp=Z,22nm,0.8s,baz=292,slow=7.8,SNR=4.9									
ULM					SKKP			12 46 37.0		
	comp=Z,2.2nm,0.8s,baz=73,slow=3.9,SNR=4.3									
ULM	**Lac du Bonnet**	49.27	57		*e*P		P	12 20 40.7	+0.6	
ULM					PcP		PcP	12 22 02.2	-0.3	
ULM					SKKP			12 46 37.0		
Y14A	**Wickenburg**	49.28	84	⇓	P		P	12 20 40.8	+0.4	
	baz=49,SNR=17									
PV01	**Paradox Valley**	49.30	77		*e*P		P	12 20 41.3	+0.6	
K25A	**Mack Ranch, Ha**	49.33	70	⇑	P		P	12 20 41.3	+0.5	
	baz=49,SNR=14									
R20A	**Redvale**	49.38	77	⇑	P		P	12 20 42.0	+0.7	
	baz=49,SNR=26									
Q21A	**Lamborn Mesa,**	49.46	76	⇓	P		P	12 20 42.7	+0.8	
	baz=49,SNR=31									
M24A	**Cheyenne**	49.47	71	⇓	P		P	12 20 43.0	+1.1	
	baz=49,SNR=14									
P22A	**Eagle**	49.47	74	⇑	P		P	12 20 42.8	+0.7	
	baz=49,SNR=13									
TIY	**Taiyuan**	49.50	282		*e*P		P	12 20 43.3	+1.2	
TIY					pP		pP	12 20 47.8	-2.8	
TIY					sP		sP	12 20 50.3	-3.7	
TIY					PP		PP	12 22 40.5	+4.4	
TIY					S		S	12 27 49.0	+1.3	
TIY						pmax	pmax			
	comp=Z,2μm,3.5s									
TIY						LR	LR			
	comp=N,3μm,16.0s									
TIY						LR	LR			
	comp=E,500nm,12.3s									
TIY						LR	LR			
	comp=Z,4μm,23.7s									
L25A	**Engebretsen Ra**	49.55	70	⇑	P		P	12 20 43.3	+0.8	
	baz=49,SNR=19									
113A	**Mohawk Valley,**	49.58	86	⇓	P		P	12 20 42.9	+0.3	
	baz=50,SNR=8.1									
O23A	**Lake Granby, G**	49.59	73	⇑	P		P	12 20 44.2	+1.1	
	baz=50,SNR=37									
S20A	**Disappointment**	49.62	77	⇑	P		P	12 20 43.7	+0.5	
	baz=50,SNR=64									
K26A	**Motz Farm, Whi**	49.68	69	⇑	P		P	12 20 43.4	0.0	
	baz=50,SNR=14									
Z14A	**Wintersburg**	49.70	85	⇓	P		P	12 20 44.0	+0.5	
	baz=50,SNR=6.4									
KBS	**Kingsbay**	49.71	357		*e*P		P	12 20 43.9	+0.9	
KBS						AMB	AMB	12 21 10.8		
	comp=Z,167nm,1.3s									
KBS	**Kingsbay**	49.71	357		*c*eP		P	12 20 44.0	+0.9	
KBS						pmax	pmax			
	comp=Z,69nm,1.0s									
KBS	**Kingsbay**	49.71	357		*e*P		P	12 20 44.0	+0.9	
	comp=Z,84nm,0.9s									
R21A	**Cimarron**	49.77	76	⇑	P		P	12 20 45.2	+0.9	
	baz=50,SNR=35									
N24A	**Carr**	49.83	72	⇓	P		P	12 20 45.8	+1.1	
	baz=50,SNR=15									
Q22A	**Crested Butte,**	49.84	75	⇓	P		P	12 20 45.7	+0.7	
	baz=50,SNR=30									
MVCO	**Mesa Verde**	49.93	78		*e*P		P	12 20 46.1	+0.5	
	comp=Z,231nm,1.2s									
X16A	**Lo Mia Camp, P**	49.93	83	⇑	P		P	12 20 46.8	+1.2	
	baz=50,SNR=23									
M25A	**Palm-Egli Farm**	49.94	71	⇓	P		P	12 20 46.7	+1.2	
	baz=50,SNR=28									
ISCO	**Idaho Springs**	50.03	73		*e*P		P	12 20 48.0	+1.6	
ISCO						pmax	pmax			
	comp=Z,173nm,1.4s									
ISCO	**Idaho Springs**	50.03	73		*e*P		P	12 20 48.0	+1.6	
	comp=Z,173nm,1.4s									
S21A	**Coal Bank Pass**	50.07	77	⇑	P		P	12 20 47.9	+1.1	
	baz=50,SNR=54									
L26A	**Underwood Farm**	50.15	70	⇓	P		P	12 20 47.3	+0.3	
	baz=50,SNR=16									
O24A	**Longmont**	50.16	73	⇑	P		P	12 20 48.7	+1.6	
	baz=50,SNR=22									
P23A	**Jefferson**	50.17	74	⇓	P		P	12 20 49.2	+1.7	
	baz=50,SNR=18									
K27A	**Fluecklinger Fa**	50.23	68	⇓	P		P	12 20 47.6	0.0	
	baz=50,SNR=22									
SPA0	**Spitsbergen Ar**	50.30	356		*e*P		P	12 20 47.6	0.0	
SPITS	**Spitsbergen Ar**	50.30	356		P		P	12 20 47.5	0.0	
	comp=Z,46nm,0.7s,baz=46,slow=7.2,SNR=35									
SPITS					PcP		PcP	12 22 05.5	-0.5	
	comp=Z,99nm,0.9s,baz=88,slow=7.6,SNR=4.6									
SPITS						LR	LR	12 39 22.6		
	comp=Z,3μm,21.5s,baz=340,slow=33									
SPITS	**Spitsbergen Ar**	50.30	356		P		P	12 20 47.5	0.0	
SPITS					PcP		PcP	12 22 05.5	-0.5	
N25A	**Grover**	50.31	71	⇑	P		P	12 20 49.7	+1.4	
	baz=50									
R22A	**Saguache, Gunn**	50.34	76	⇓	P		P	12 20 50.2	+1.4	
	baz=50,SNR=17									
U20A	**Newcomb**	50.45	79	⇓	P		P	12 20 50.2	+0.7	
	baz=50,SNR=10									
M26A	**McRoberts Ranc**	50.46	70	⇑	P		P	12 20 50.4	+1.0	
	baz=50,SNR=19									
Q23A	**Hartsel**	50.47	75	⇓	P		P	12 20 51.0	+1.3	
	baz=50,SNR=41									
GVA	**Apache Junctio**	50.51	84		*i*P		P	12 20 50.7	+1.0	
TARA	**Tarawa**	50.52	192		*e*P		P	12 20 51.0	+1.1	
	comp=Z,224nm,1.3s									
W18A	**Petrified Fore**	50.53	81	⇓	P		P	12 20 51.1	+1.0	
	baz=50,SNR=35									
L27A	**T5 Ranch, Ells**	50.56	69	⇑	P		P	12 20 50.4	+0.3	
	baz=50									
S22A	**4UR Ranch, Cre**	50.60	76	⇓	P		P	12 20 51.9	+1.2	
	baz=50,SNR=45									
P

baz=52,SNR=26
V23A Ortiz Mt. (NFS 52.30 78 ⇑P **P 12 21 05.0 +1.7**
baz=52,SNR=29
KSCO Kaye Shedlock' 52.32 72 ⇓P **P 12 21 04.5 +1.2**
baz=52,SNR=32
W22A Albuquerque 52.32 79 ⇓P **P 12 21 04.9 +1.4**
baz=52,SNR=18
U24A Moreno Valley 52.41 77 ⇑P **P 12 21 05.6 +1.3**
baz=52,SNR=10
T25A Trinidad 52.46 75 ⇓P **P 12 21 05.6 +1.1**
baz=52,SNR=33
Y21A Point of Rocks 52.53 80 ⇑P **P 12 21 06.5 +1.3**
baz=52,SNR=15
Z20A Nine Sixteen R 52.57 82 ⇑P **P 12 21 06.3 +1.0**
baz=52,SNR=16
X22A Bernardo 52.61 80 ⇑P **P 12 21 07.3 +1.7**
baz=52,SNR=32
ANMO Albuquerque 52.66 79 *e*P **P 12 21 06.7 +0.7**
comp=Z,70nm,1.1s
R27A Eads 52.69 73 ⇑P **P 12 21 07.0 +0.9**
baz=53,SNR=27
W23A Werner Place, 52.70 78 ⇓P **P 12 21 07.2 +0.8**
baz=53,SNR=25
S26A Kim 52.71 74 ⇑P **P 12 21 06.8 +0.5**
baz=53,SNR=17
ECSD EROS Data Cent 52.80 64 *e*P **P 12 21 06.3 -0.4**
comp=Z,65nm,0.9s
ECSD *e*PcP **PcP 12 22 16.6 +0.8**
LENM Lemitar 52.86 80 *e*P **P 12 21 08.6 +1.1**
V24A Rampart Ranch, 52.87 77 ⇑P **P 12 21 08.7 +1.2**
baz=53,SNR=27
120A U Bar Ranch, L 52.92 83 ⇓P **P 12 21 08.9 +1.0**
baz=53,SNR=22
T26A Comanche Natio 52.93 75 ⇑P **P 12 21 08.2 +0.3**
baz=53,SNR=9.6
U25A Circle Dot Ran 52.95 76 ⇑P **P 12 21 09.0 +0.9**
baz=53,SNR=20
Y22D IRIS PASSCAL I 52.95 80 ⇓P **P 12 21 09.6 +1.4**
baz=53,SNR=5.3
LPM Los Pinos Moun 52.97 79 *e*P **P 12 21 09.4 +1.1**
Z21A St. Cloud Mine 53.01 81 ⇓P **P 12 21 09.7 +1.1**
baz=53,SNR=8.5
S27A Las Animas 53.02 74 ⇑P **P 12 21 09.2 +0.6**
baz=53,SNR=5.6
Y22A Socorro 53.02 80 ⇓P **P 12 21 09.8 +1.2**
baz=53,SNR=36
X23A Hourglass Bar 53.06 79 ⇓P **P 12 21 10.1 +1.1**
baz=53,SNR=11
WHN Wuhan 53.07 274 P **P 12 21 09.0 +0.2**
SUMG Summit 53.09 14 *e*P **P 12 21 09.1 +0.2**
SUMG pmax pmax
comp=Z,86nm,1.1s
SUMG Summit 53.09 14 *e*P **P 12 21 09.1 +0.2**
comp=Z,86nm,1.1s
SUMG Summit 53.09 14 *i*P **PcP 12 22 17.1 +0.2**
comp=Z,58nm,0.9s
W24A Lazy 6 Ranch, 53.12 78 ⇓P **P 12 21 10.6 +1.1**
baz=53,SNR=24
V25A Rancho No Teng 53.19 77 ⇑P **P 12 21 11.0 +1.1**
baz=53,SNR=18
319A Douglas 53.32 84 ⇓P **P 12 21 11.5 +0.7**
baz=53,SNR=13
U26A Atchley Ranch, 53.35 76 ⇑P **P 12 21 11.9 +0.8**
baz=53,SNR=17
BGNE Belgrade 53.41 67 ⇑P **P 12 21 11.2 0.0**
baz=53,SNR=34
220A Playas Peak, P 53.43 83 ⇑P **P 12 21 12.2 +0.6**
baz=53,SNR=40
121A Cookes Peak, D 53.46 82 ⇑P **P 12 21 12.8 +0.9**
baz=53,SNR=21
Z22A Elephant Butte 53.48 81 ⇑P **P 12 21 12.9 +0.9**
baz=53,SNR=11
T27A Campo 53.53 74 ⇑P **P 12 21 12.8 +0.5**
baz=53,SNR=9.9
Y23A Lovelace Mesa, 53.58 79 ⇑P **P 12 21 13.9 +1.1**
baz=54,SNR=39
W25A X Bar L Ranch, 53.70 77 ⇓P **P 12 21 14.5 +0.9**
baz=54,SNR=46
V26A Tequesquite Ra 53.72 76 ⇓P **P 12 21 14.4 +0.7**
baz=54,SNR=24
BJO Bjornoya 53.76 354 *e*P **P 12 21 14.3 +1.1**
221A Mesquite Ranch 53.82 82 ⇑P **P 12 21 15.4 +1.0**
baz=54,SNR=5.7
122A Conniff Cattle 53.83 81 ⇓P **P 12 21 16.0 +1.4**
baz=54,SNR=23
T28A Walsh 53.86 74 ⇑P **P 12 21 15.3 +0.6**
baz=54
Z23A Rita Site, Whi 53.92 80 ⇑P **P 12 21 16.2 +1.0**
baz=54,SNR=10.0
Y24A Capitan 53.97 79 ⇓P **P 12 21 16.5 +0.9**
baz=54,SNR=65
SPMN St. Paul 53.97 61 ⇓P **P 12 21 14.7 -0.5**
baz=54,SNR=7.3
X25A Clemmons Ranch 54.04 78 ⇓P **P 12 21 17.2 +1.1**
baz=54,SNR=22
XAN Xi'an 54.05 281 P **P 12 21 16.3 +0.2**
XAN pP **pP 12 21 20.3 -4.4**
XAN sP sP 12 21 22.8 -5.3
XAN PP **PP 12 23 18.5 +1.1**
XAN S **S 12 28 48.3 -2.1**
XAN ScS **ScS 12 31 01.5 -1.8**
XAN SS **SS 12 32 28.8 -2.8**
XAN pmax pmax
comp=Z,95nm,1.1s
XAN pmax pmax
comp=Z,240nm,7.7s
XAN LR LR
comp=N,1μm,17.6s
XAN LR LR
comp=E,880nm,16.2s
XAN LR LR
comp=Z,770nm,16.0s
222A Williams Famil 54.17 82 ⇑P **P 12 21 18.0 +0.9**
baz=54,SNR=8.0
ZALV Zalesovo Beam 54.26 314 P **P 12 21 16.5 -0.7**
comp=Z,7.2nm,0.5s,baz=57,slow=6.9,SNR=14
ZALV PcP **PcP 12 22 21.1 0.0**
comp=Z,94nm,0.8s,baz=38,slow=3.6,SNR=24
ZALV SKKP 12 46 43.8
comp=Z,0.6nm,0.6s,baz=184,slow=5.8,SNR=3.8
ZALV P4KPbc 12 58 37.6
comp=Z,2.4nm,1.0s,baz=45,slow=2.7,SNR=6.7
ZALV Zalesovo Beam 54.26 314 P **P 12 21 16.5 -0.7**
ZALV 12 22 21.1
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV pmax pmax
comp=Z,94nm,0.8s
ZALV Zalesovo Beam 54.26 314 P **P 12 21 16.5 -0.7**
ZALV PcP **PcP 12 22 21.1 0.0**
ZALV SKKP 12 46 43.8
ZALV *e* 12 58 37.6
123A Bell Site, Whi 54.33 81 ⇓P **P 12 21 18.9 +0.8**
baz=54
QZH Quanzhou 54.38 266 ⇓*i*P **P 12 21 19.8 +1.4**
QZH sP **sP 12 21 33.0 +2.6**
QZH S **S 12 28 56.0 +1.2**
QZH pmax pmax
comp=Z,660nm,1.1s
QZH LR LR
comp=N,2μm,13.1s
QZH LR LR
comp=E,1μm,10.8s
QZH LR LR
comp=Z,4μm,26.0s
NVS Novosibirsk 54.39 315 *e*P P 12 21 14.8 -3.3
NVS *e* 12 22 21.5
NVS pmax pmax
comp=Z,82nm,1.8s
NVS pmax pmax
comp=N,42nm,1.7s
NVS pmax pmax
comp=E,57nm,1.6s
Z24A Sheeppen Canyo 54.41 79 ⇓P **P 12 21 19.5 +0.6**
baz=54,SNR=7.4
Y25A Mesa, Roswell 54.42 78 ⇓P **P 12 21 19.4 +0.5**
baz=54,SNR=28
X26A CR and CF Fran 54.54 77 ⇓P **P 12 21 20.4 +0.6**
baz=54,SNR=23
W27A Bowe Ranch, En 54.65 76 ⇓P **P 12 21 20.9 +0.4**
baz=55,SNR=8.9
223A Chaparral, Ant 54.66 81 ⇑P **P 12 21 21.6 +1.0**
baz=55,SNR=9.7
V28A Channing 54.70 75 ⇑P **P 12 21 21.1 +0.3**
baz=55,SNR=12
124A Stringfield Ra 54.78 80 ⇓P **P 12 21 22.4 +0.8**
baz=55,SNR=11
Z25A Roswell 54.84 79 ⇑P **P 12 21 22.5 +0.6**
baz=55,SNR=12
X27A F and S Farms, 54.91 77 ⇑P **P 12 21 23.0 +0.6**
baz=55,SNR=7.5
Y26A Elida 54.95 78 ⇑P **P 12 21 23.3 +0.6**
baz=55,SNR=18
W28A Vega 55.04 76 ⇓P **P 12 21 23.8 +0.5**
baz=55,SNR=6.5
V29A Stinnett 55.04 75 ⇓P **P 12 21 23.4 +0.2**
baz=55
224A Cornudas Mount 55.17 81 ⇑P **P 12 21 25.0 +0.6**
baz=55,SNR=20
Z26A Caprock 55.30 79 ⇓P **P 12 21 25.7 +0.5**
baz=55,SNR=30
125A Gardner Draw, 55.30 80 ⇑P **P 12 21 25.9 +0.7**
baz=55,SNR=12
Y27A Causey 55.38 77 ⇓P **P 12 21 26.3 +0.4**
baz=55
SFJD Kangerlussuaq 55.39 22 *e*P **P 12 21 23.9 -1.3**
SFJD Kangerlussuaq 55.39 22 *i*P **PcP 12 22 24.7 -0.5**
comp=E,45nm,1.1s
W29A Amraillo 55.47 75 ⇓P **P 12 21 26.8 +0.5**
baz=55
X28A Dimmitt 55.54 76 ⇓P **P 12 21 27.2 +0.2**
baz=56,SNR=18
MSTX Muleshoe 55.57 77 ⇑P **P 12 21 27.4 +0.3**
baz=56,SNR=26
225A Deer Hill, Car 55.58 80 ⇓P **P 12 21 27.7 +0.5**
baz=56,SNR=16
AMTX Amarillo 55.61 76 *e*P **P 12 21 28.4 +1.0**
comp=E,96nm,0.8s
324A Moseley Ranch, 55.63 81 ⇓P **P 12 21 28.0 +0.4**
baz=56,SNR=15
126A Clayton Basin, 55.70 79 ⇓P **P 12 21 28.1 +0.1**
baz=56,SNR=18
Z27A Tatum 55.74 78 ⇑P **P 12 21 28.5 +0.1**
baz=56,SNR=18
LZH Lanzhou 55.76 287 ⇑P **P 12 21 30.0 +1.5**
LZH pP **pP 12 21 34.5 -2.7**
LZH sP **sP 12 21 36.0 -4.6**
LZH S **S 12 29 12.0 -1.5**
LZH sS sS 12 29 20.0 -7.8
LZH SS **SS 12 32 56.0 -2.6**
LZH pmax pmax
comp=Z,90nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.0s
LZH LR LR
comp=N,5μm,14.3s
LZH LR LR
comp=E,6μm,15.8s
LZH LR LR
comp=Z,10μm,16.6s
KSU1 Kansas State U 55.81 68 *e*P **P 12 21 28.8 +0.1**
comp=Z,427nm,0.8s
X29A Tulia 55.90 76 ⇓P **P 12 21 29.8 +0.4**
baz=56,SNR=7.8
GTA Gaotai 55.92 292 P **P 12 21 29.5 -0.1**
GTA pP **pP 12 21 34.0 -4.3**
GTA sP **sP 12 21 37.0 -4.6**
GTA S **S 12 29 13.8 -1.7**
GTA SS **SS 12 32 56.5 -4.4**
GTA pmax pmax
comp=Z,390nm,1.2s
GTA pmax pmax
comp=Z,2μm,6.2s
GTA LR LR
comp=N,4μm,18.5s
GTA LR LR
comp=E,3μm,19.2s
GTA LR LR
comp=Z,6μm,19.0s
Y28A McKinney Farm, 55.93 77 ⇑P **P 12 21 29.7 0.0**
baz=56,SNR=24
325A Bean Ranch, Si 55.99 81 ⇑P **P 12 21 30.7 +0.4**
baz=56,SNR=27
W30A Crocket Farms 56.08 75 ⇑P **P 12 21 31.2 +0.5**
baz=56,SNR=6.9
127A Arkansas Junct 56.09 79 ⇓P **P 12 21 30.6 -0.3**
baz=56,SNR=13
Z28A Tucker Farm, M 56.27 77 ⇑P **P 12 21 31.8 -0.3**
baz=56,SNR=24
ENH Enshi 56.28 278 *e*P **P 12 21 31.6 -0.6**
Y29A Porterfield Fa 56.31 76 ⇑P **P 12 21 32.6 +0.2**
baz=56,SNR=27
425A Indio Mountain 56.39 81 ⇓P **P 12 21 33.5 +0.4**
baz=56,SNR=25
X30A Coker Ranch, T 56.40 75 ⇓P **P 12 21 33.3 +0.4**
baz=56,SNR=15
W31A Holland Ranch, 56.45 74 ⇑P **P 12 21 33.9 +0.5**
baz=56,SNR=20
227A Bennet, Jal 56.59 79 ⇓P **P 12 21 34.4 0.0**
baz=56,SNR=7.4
326A Caldwell Ranch 56.64 80 ⇓P **P 12 21 35.2 +0.4**
baz=57,SNR=30
128A Castleberry Fa 56.66 78 ⇑P **P 12 21 35.1 +0.2**
baz=57,SNR=33
Z29A Hungry Hill Ra 56.70 77 ⇓P **P 12 21 35.5 +0.4**
baz=57,SNR=25
Y30A Stafford Cattl 56.77 76 ⇑P **P 12 21 36.1 +0.5**
baz=57,SNR=41
X31A McDonald Ranch 56.81 75 ⇓P **P 12 21 36.2 +0.3**
baz=57
327A Balmorhea Ranc 56.91 80 ⇓P **P 12 21 36.7 +0.1**
baz=57,SNR=5.6
228A UT Block 9, Go 56.94 79 ⇓P **P 12 21 36.8 -0.1**
baz=57,SNR=20
129A Stewart Farms, 57.03 78 ⇓P **P 12 21 37.2 -0.3**
baz=57,SNR=9.4
Z30A Sanderson Ranc 57.03 77 ⇓P **P 12 21 37.6 +0.1**
baz=57,SNR=23
426A McDonald Obser 57.06 81 ⇓P **P 12 21 37.9 0.0**
baz=57,SNR=26
Y31A Rekieta Farm, 57.10 75 ⇓P **P 12 21 37.9 0.0**
baz=57
SGCP Mt. Cagua 57.22 258 *e*P **P 12 21 38.8 -0.1**
328A Wristen Ranch, 57.32 79 ⇑P **P 12 21 39.4 -0.1**
baz=57,SNR=41
427A Hayter Ranch, 57.32 80 ⇓P **P 12 21 39.6 0.0**
baz=57,SNR=12
526A Mary Lane Ranc 57.45 81 ⇓P **P 12 21 40.7 +0.1**
baz=57,SNR=19
WMOK Wichita Mounta 57.46 74 *e*P **P 12 21 40.4 0.0**
WMOK Wichita Mounta 57.46 74 *e*P **P 12 21 40.4 0.0**
229A Bryant Ranch, 57.52 78 ⇓P **P 12 21 41.0 0.0**
baz=57,SNR=10.0
Y32A R-V Farms, Ver 57.56 75 ⇓P **P 12 21 41.6 +0.4**
baz=58,SNR=59
130A Snyder 57.61 77 ⇓P **P 12 21 41.7 +0.2**
baz=58,SNR=18
JMIC Jan Mayen 57.61 4 LR LR 12 45 52.2
comp=Z,2μm,18.4s,baz=257,slow=35
Z31A Sharp Cattle R 57.61 76 ⇑P **P 12 21 41.5 0.0**
baz=58,SNR=26
527A Woodward Ranch 57.68 81 ⇑P **P 12 21 42.3 0.0**
baz=58,SNR=9.9
329A Wagon Wheel Ra 57.75 79 ⇓P **P 12 21 42.6 0.0**
baz=58,SNR=18
626A Big Bend Ranch 57.77 82 ⇓P **P 12 21 42.8 0.0**
baz=58,SNR=23
LPIG La Paz 57.81 91 P **P 12 21 42.9 -0.1**
comp=Z,6.5nm,1.2s,baz=221,slow=3.2
LPIG La Paz 57.81 91 P **P 12 21 42.9 -0.1**
428A Kincaid Ranch, 57.85 80 ⇑P **P 12 21 43.8 +0.5**
baz=58,SNR=23
PALP Palanan 57.89 257 *e*P **P 12 21 43.5 -0.1**
230A Sterling City 58.01 78 ⇓P **P 12 21 44.4 0.0**
baz=58,SNR=67
Z32A Haskell 58.02 75 ⇑P **P 12 21 44.8 +0.4**
baz=58,SNR=33
ARCES ARCESS Array B 58.06 350 P **P 12 21 43.5 -0.6**
comp=Z,20nm,0.5s,baz=34,slow=7.2,SNR=61
ARCES PcP **PcP 12 22 35.3 -0.4**
comp=Z,96nm,1.0s,baz=352,slow=6.1,SNR=12
ARCES LR LR 12 49 18.6
comp=Z,3μm,18.4s,baz=22,slow=39
ARCES PKP2bc 12 51 32.9
comp=Z,10nm,0.9s,baz=270,slow=0.7,SNR=10
ARCES ARCESS Array B 58.06 350 P **P 12 21 43.5 -0.6**
ARCES PcP **PcP 12 22 35.3 -0.4**
ARCES ⇑*e* 12 51 32.9
ARE0 ARCESS Array S 58.06 350 *e*P **P 12 21 45.0 +0.9**
ARE0 ARCESS Array S 58.06 350 *e*P **P 12 21 43.4 -0.7**
528A Cox Ranch, San 58.18 80 ⇓P **P 12 21 46.1 +0.4**
baz=58,SNR=19
TXAR Lajitas Array 58.22 82 P **P 12 21 46.0 +0.1**
comp=Z,61nm,0.9s,baz=308,slow=5.7,SNR=51
TXAR SKKP 12 46 24.3
comp=Z,1.2nm,1.0s,baz=165,slow=5.2,SNR=3.8
TXAR PKPPKP P'P'df 12 51 21.1 -7.9
comp=Z,1.9nm,1.0s,baz=151,slow=5.4,SNR=4.8
TXAR P4KPbc 12 58 58.5
comp=Z,0.5nm,0.7s,baz=306,slow=2.1,SNR=5.4
TXAR Lajitas Array 58.22 82 P **P 12 21 46.0 +0.1**
TXAR SKKP 12 46 24.3
TXAR P'P' 12 51 21.1
TXAR *e* 12 58 58.5
330A Mertzon 58.30 78 ⇑P **P 12 21 46.3 -0.2**
baz=58,SNR=18
627A Terlingua Ranc 58.31 81 ⇑P **P 12 21 46.8 +0.2**
baz=58,SNR=16
CAUP Cauayan 58.35 257 *e*P **P 12 21 48.3 +1.5**
ABTX Abilene, Hawle 58.39 76 ⇑P **P 12 21 47.5 +0.4**
baz=58,SNR=43
429A Davenport Ranc 58.41 79 ⇑P **P 12 21 46.9 -0.3**
baz=58,SNR=12
TUL1 Tulsa 58.44 71 ⇓P **P 12 21 47.1 -0.1**
baz=58,SNR=24
LVZ Lovozero 58.44 346 ⇓*i*P **P 12 21 46.6 -0.2**
LVZ pmax pmax
comp=Z,117nm,1.1s
LVZ Lovozero 58.44 346 *e*P **P 12 21 46.1 -0.7**
231A Bronte 58.46 77 ⇑P **P 12 21 46.9 -0.6**
baz=58,SNR=11
ABRA Dolores 58.49 258 *e*P **P 12 21 48.2 +0.4**
TRO Tromso 58.55 353 *e*P **P 12 21 47.9 +0.4**
TRO AMB AMB 12 21 50.6
comp=Z,102nm,0.8s
529A Stev Forest Ra 58.56 80 ⇑P **P 12 21 48.2 0.0**
baz=58,SNR=14
628A Black Gap, Mar 58.59 81 ⇓P **P 12 21 48.7 +0.2**
baz=58,SNR=15
GLMI Grayling 58.60 56 *e*P **P 12 21 49.3 +1.0**
comp=Z,215nm,1.0s
430A Baggett Ranch, 58.70 79 ⇑P **P 12 21 49.1 -0.1**
baz=59,SNR=26
KTK1 Kautokeino 58.79 351 *e*P **P 12 21 49.8 +0.5**
KTK1 AMB AMB 12 21 51.1
comp=Z,161nm,1.6s
331A San Angelo 58.83 78 ⇑P **P 12 21 49.6 -0.5**
baz=59,SNR=18
232A Coleman 58.90 77 ⇑P **P 12 21 50.4 -0.2**
baz=59,SNR=26
APA Apatity 58.93 346 ⇓*i*P **P 12 21 49.6 -0.6**
APA *i* 12 22 38.0
APA *i* 12 23 59.0
APA *e*S **S 12 29 50.0 -3.9**
APA *i*PS **PnS 12 30 06.0 -1.8**
APA *i* 12 31 30.0
APA *i* SS **SS 12 33 44.0 -2.7**
APA pmax pmax
comp=Z,50nm,1.2s
APA MLR MLR
comp=Z,4μm,17.0s
530A J-C Ranch, Com 59.08 79 ⇓P **P 12 21 52.0 +0.2**
baz=59,SNR=38
431A Sonora 59.16 78 ⇓P **P 12 21 52.1 -0.3**
baz=59,SNR=35
332A Millersview 59.20 77 ⇓P **P 12 21 52.6 -0.1**
baz=59,SNR=21
KURK Kurchatov 59.25 314 P **P 12 21 52.4 -0.3**
KURK pmax pmax
comp=Z,59nm,0.3s
KURK Kurchatov 59.25 314 P **P 12 21 52.4 -0.3**
KURBB Kurchatov Arra 59.36 314 P **P 12 21 52.4 -1.0**
comp=Z,59nm,0.3s,baz=43,slow=6.7,SNR=1.5
CD2 Chengdu 59.37 282 P **P 12 21 54.5 +0.7**
CD2 pP **pP 12 21 59.3 -3.3**
CD2 sP **sP 12 22 01.8 -4.1**
CD2 PP **PP 12 24 07.0 +2.2**
CD2 S **S 12 30 00.0 -0.7**
CD2 sS sS 12 30 07.3 -7.8
CD2 SS **SS 12 33 55.5 +0.2**
CD2 pmax pmax
comp=Z,470nm,1.1s
CD2 pmax pmax
comp=Z,1μm,11.3s
CD2 LR LR
comp=N,2μm,20.2s
CD2 LR LR
comp=Z,3μm,19.0s
BALP Baler 59.42 256 *e*P **P 12 21 54.5 +0.2**
432A Menard 59.52 78 ⇑P **P 12 21 54.5 -0.4**
baz=59,SNR=16
531A Rocksprings 59.56 79 ⇓P **P 12 21 54.8 -0.4**
baz=60,SNR=12
WMQ Urumqi 59.64 303 P **P 12 21 56.3 +0.7**
WMQ pP **pP 12 22 01.5 -2.8**
WMQ PcP **PcP 12 22 43.8 +1.3**
WMQ PP **PP 12 24 09.3 +2.4**
WMQ S **S 12 30 03.5 -0.4**
WMQ sS sS 12 30 11.3 -7.0
WMQ SS **SS 12 34 02.0 +3.0**
WMQ pmax pmax
comp=Z,100nm,1.4s
WMQ pmax pmax
comp=Z,990nm,5.0s
WMQ LR LR
comp=N,3μm,19.0s
WMQ LR LR
comp=E,4μm,21.0s
WMQ LR LR
comp=Z,4μm,21.0s
SLM Saint Louis 59.78 65 *e*P **P 12 21 56.6 +0.1**
SLM pmax pmax
comp=Z,203nm,0.8s
SLM Saint Louis 59.78 65 *e*P **P 12 21 56.6 +0.1**
comp=Z,203nm,0.8s
JCT Junction City 59.79 78 *e*P **P 12 21 56.8 0.0**
JCT pmax pmax
comp=Z,123nm,0.8s
JCT Junction City 59.79 78 *e*P **P 12 21 56.8 0.0**
comp=Z,122nm,0.8s
RFTA Plano 59.91 74 *e*P **P 12 21 58.4 +1.0**
BOLP Bolinao 59.94 258 *e*P P 12 21 54.1 -3.8
532A Rocksprings 59.98 78 ⇓P **P 12 21 57.3 -0.8**
baz=60,SNR=12
631A Perdido Creek 60.07 79 ⇓P **P 12 21 58.1 -0.6**
baz=60,SNR=16
FVM French Village 60.12 66 *e*P **P 12 21 58.2 -0.7**
FVM French Village 60.12 66 *e*P **P 12 21 58.2 -0.7**
WHTX Lake Whitney 60.16 75 ⇑P **P 12 21 59.5 +0.3**
baz=60,SNR=26
MKAR Makanchi Array 60.30 309 P **P 12 21 58.9 -1.1**
comp=Z,25nm,0.7s,baz=40,slow=6.3,SNR=28
MKAR PKPPKP P'P'df 12 51 08.5 -20
comp=Z,1.6nm,1.1s,baz=201,slow=2.5,SNR=4.3
MKAR P4KPbc 12 59 05.2
comp=Z,0.3nm,0.7s,baz=57,slow=5.3,SNR=3.6
MKAR Makanchi Array 60.30 309 P **P 12 21 58.9 -1.1**
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 60.30 309 P **P 12 21 58.9 -1.1**
MKAR P'P' 12 51 08.5
MKAR *e* 12 59 05.2
SFIN Scholer Farm 60.33 62 ⇑P **P 12 22 00.2 -0.1**
baz=60,SNR=41
SCZP Santa Cruz 60.41 258 *e*P **P 12 21 59.0 -2.1**
STEI Steigen 60.49 354 *e*P **P 12 22 01.8 +0.9**
STEI AMB AMB 12 22 11.6
comp=Z,108nm,1.8s
632A Uvalde 60.49 79 ⇑P **P 12 22 01.1 -0.4**
baz=60,SNR=11
AUQP San Andres 60.64 254 *e*P P 12 21 57.0 -5.6
MIAR Mount Ida 60.69 70 *e*P **P 12 22 02.9 +0.1**
MIAR pmax pmax
comp=Z,590nm,1.3s
MIAR Mount Ida 60.69 70 *e*P **P 12 22 02.9 +0.1**
comp=Z,590nm,1.3s
GYA Guiyang 60.73 276 ⇑*i*P **P 12 22 03.5 +0.2**
GYA PcP **PcP 12 22 48.5 +1.3**
GYA PP **PP 12 24 19.5 +2.4**
GYA ScP **ScP 12 26 47.5 +1.2**
GYA SS **SS 12 34 17.0 0.0**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,240nm,5.5s
GYA LR LR
comp=N,9μm,19.5s
GYA LR LR
comp=E,7μm,18.0s

GYA LR LR
comp=Z,8µm,19.0s
AAM Ann Arbor 60.84 58 *e*P **P 12 22 04.5 +0.8**
AAM pmax pmax
comp=Z,117nm,0.6s
AAM Ann Arbor 60.84 58 *e*P **P 12 22 04.5 +0.8**
comp=Z,117nm,0.6s
OLIL Olney 60.91 64 *e*P **P 12 22 04.6 +0.3**
comp=Z,568nm,0.9s
732A Laxson Ranch, 60.93 80 ⇓P **P 12 22 04.6 +0.1**
baz=61,SNR=24
SIUC Southern Illin 61.00 65 *e*P **P 12 22 04.8 0.0**
comp=Z,216nm,0.9s
TGY Tagaytay City 61.08 256 P **P 12 22 05.9 +0.2**
comp=Z,867nm,0.9s,baz=272,slow=1.6,SNR=22
TGY LR LR 12 51 04.2
comp=Z,3.7nm,18.1s,baz=286,slow=38
TGY Tagaytay City 61.08 256 P **P 12 22 05.9 +0.2**
BVAR Borovoye Array 61.08 320 P **P 12 22 04.5 -0.7**
comp=Z,31nm,0.5s,baz=54,slow=6.1,SNR=66
BVAR PKPPKP P'P'df 12 51 15.7 -12
comp=Z,1.9nm,0.8s,baz=188,slow=4.5,SNR=5.2
BVAR P4KPbc 12 59 08.4
comp=Z,2.0nm,0.9s,baz=356,slow=4.3,SNR=9.0
BVAR Borovoye Array 61.08 320 P **P 12 22 04.5 -0.7**
BVAR pmax pmax
comp=Z,31nm,0.5s
BVAR Borovoye Array 61.08 320 P **P 12 22 04.5 -0.7**
BVAR P'P' 12 51 15.7
BVAR *e* 12 59 08.4
BRVK Borovoye 61.10 320 *ce*P **P 12 22 06.2 +0.9**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 61.10 320 *e*P **P 12 22 05.2 -0.1**
comp=Z,64nm,0.8s
UALR University of 61.25 69 *e*P **P 12 22 07.1 +0.5**
comp=Z,279nm,1.3s
OCLP Ormoc 61.28 250 *e*P **P 12 22 06.7 -0.3**
TMCR Tamitsa 61.30 343 *e*P **P 12 22 05.1 -1.3**
TMCR *e* 12 22 48.2
TMCR pmax pmax
comp=Z,163nm,1.2s
PARMO Parma 61.43 66 *e*P **P 12 22 08.2 +0.5**
BLO Bloomington 61.49 62 *e*P **P 12 22 08.2 +0.1**
BLO pmax pmax
comp=Z,485nm,1.2s
BLO Bloomington 61.49 62 *e*P **P 12 22 08.2 +0.1**
comp=Z,485nm,1.2s
PVMO Portageville 61.63 66 *e*P **P 12 22 09.2 0.0**
comp=Z,472nm,0.9s
HBAR Harrisburg 61.69 68 *e*P **P 12 22 09.9 +0.5**
USIN University of 61.70 64 *e*P **P 12 22 09.6 0.0**
comp=Z,674nm,0.8s
SVE Sverdlovsk 61.73 328 *d i*P **P 12 22 10.1 +0.6**
SVE *e* 12 22 50.2
SVE pmax pmax
comp=Z,95nm,1.2s
GNAR Gosnell 61.77 67 *e*P **P 12 22 10.6 +0.6**
comp=Z,4µm,1.1s
LUBP Lubang 61.78 256 *e*P **P 12 22 08.7 -1.7**
OTRP Odiongan 61.78 254 *e*P **P 12 22 11.4 +1.0**
MSLP Maasin 61.86 249 *e*P **P 12 22 10.5 -0.4**
GLAT Glass 61.97 66 *e*P **P 12 22 11.4 0.0**
RCP Roxas 61.98 252 ⇑*e*P **P 12 22 12.1 +0.3**
UTMT University of 62.16 66 *e*P **P 12 22 13.8 +1.1**
comp=Z,1µm,1.1s
HALT Halls 62.19 67 *e*P **P 12 22 13.5 +0.6**
SJMP San Jose 62.25 254 *e*P **P 12 22 14.2 +0.7**
WCI Wyandotte Cave 62.28 63 *e*P **P 12 22 13.4 -0.1**
WCI pmax pmax
comp=Z,304nm,1.0s
WCI Wyandotte Cave 62.28 63 *e*P **P 12 22 13.4 -0.1**
comp=Z,304nm,1.0s
MOR8 Moi Rana 62.28 354 *e*P **P 12 22 15.5 -0.5**
MOR8 *es*P **sP 12 22 25.6 +0.4**
MET Memphis--Engin 62.41 68 *e*P **P 12 22 15.8 +1.5**
comp=Z,1µm,1.3s
HKT Hockley 62.58 76 *e*P **P 12 22 16.1 +0.6**
HKT pmax pmax
comp=Z,306nm,1.6s
HKT Hockley 62.58 76 *e*P **P 12 22 16.1 +0.6**
comp=Z,306nm,1.6s
ARU Arti 62.73 329 *c i*P **P 12 22 16.2 +0.1**
ARU *P pP 12 22 37.0 +12
ARU *e* 12 22 53.1
ARU *e* 12 24 34.6
ARU PPP PPP 12 26 08.3
ARU S **S 12 30 41.5 -1.2**
ARU pmax pmax
comp=Z,96nm,1.0s
ARU Arti 62.73 329 *e*P **P 12 22 16.3 +0.1**
comp=Z,111nm,1.1s
ARU Arti 62.73 329 P **P 12 22 16.3 +0.1**
comp=Z,541nm,0.8s,SNR=9.9
GUIM Jordan 62.81 252 *e*P **P 12 22 17.4 +0.1**
WVT Waverly 62.90 65 *e*P **P 12 22 17.6 -0.1**
WVT Waverly 62.90 65 *e*P **P 12 22 17.6 -0.1**
OXF Oxford 63.15 68 *e*P **P 12 22 19.7 +0.4**
OXF Oxford 63.15 68 *e*P **P 12 22 19.7 +0.4**
ALLY Alegheny Colle 63.15 56 *e*P **P 12 22 19.9 +0.6**
comp=Z,265nm,1.0s
BUKP Musuan 63.56 248 *e*P **P 12 22 23.2 +0.9**
HNR Honiara 63.56 204 LR LR 12 44 21.9
comp=Z,2µm,21.9s,baz=199,slow=31
CUYO Cuyo Island 63.57 253 *e*P **P 12 22 22.2 -0.1**
DAV Davao City (W) 63.91 247 LR LR 12 45 39.9
comp=Z,3µm,21.7s,baz=237,slow=32
KLMR Klimovskoe 64.02 341 *e*P **P 12 22 23.3 -1.3**
KLMR pmax pmax
comp=Z,82nm,1.1s
KLMR MLR MLR
comp=Z,6µm,21.0s
KMI Kunming 64.13 278 P **P 12 22 26.5 +0.3**
KMI pP **pP 12 22 36.5 +1.5**
KMI sP **sP 12 22 40.0 +1.7**
KMI PcP **PcP 12 23 01.5 +0.4**
KMI PP **PP 12 24 44.0 -3.1**
KMI S **S 12 30 56.8 -4.7**
KMI sS **sS 12 31 15.0 -1.0**
KMI SKS **SKKSac 12 32 14.5 -3.8**
KMI SS **SS 12 35 07.5 -2.9**
KMI pmax pmax
comp=Z,170nm,1.2s
KMI pmax pmax
comp=Z,1µm,4.3s
KMI LR LR
comp=N,490nm,20.1s
KMI LR LR
comp=E,2µm,17.9s
KMI LR LR
comp=Z,2µm,17.9s
VBMS Vicksburg 64.14 70 *e*P **P 12 22 26.9 +1.0**
comp=Z,664nm,1.5s
JAY Jayapura 64.14 227 P **P 12 22 26.6 +0.6**
comp=Z,50nm,1.2s
QIZ Qiongzhong 64.19 268 P **P 12 22 25.5 -0.9**
QIZ pP pP 12 22 29.3 -5.9
QIZ S **S 12 31 00.8 -1.1**
QIZ pmax pmax
comp=Z,100nm,1.5s
QIZ pmax pmax
comp=Z,850nm,11.7s
QIZ LR LR
comp=N,1µm,20.1s
QIZ LR LR
comp=E,440nm,16.9s
QIZ LR LR
comp=Z,1µm,22.7s
QIZ Qiongzhong 64.19 268 *e*P **P 12 22 26.9 +0.6**
comp=Z,374nm,1.8s
ENPP El Nido 64.25 255 *e*P **P 12 22 27.1 +0.3**
NCB Newcomb 64.44 51 *e*P **P 12 22 28.3 +0.6**
comp=Z,55nm,0.9s
PAGZ Pagadian 64.56 249 *e*P P 12 22 23.2 -5.6
CTBH Cotabato--PC H 64.56 248 ⇑*e*P **P 12 22 29.3 +0.6**
SMPI Sarmi 64.60 229 P **P 12 22 29.9 +0.9**
comp=Z,140nm,1.5s,comp=Z,6µm
SWET Sewanee 64.63 65 *e*P **P 12 22 29.2 +0.1**
comp=Z,308nm,1.0s
BINY Binghamton 64.88 53 *e*P **P 12 22 31.2 +0.7**
comp=Z,90nm,1.0s
TZTN Tazewell 65.01 62 *e*P **P 12 22 32.1 +0.6**
comp=Z,365nm,1.0s
SSPA Standing Stone 65.06 56 *e*P **P 12 22 32.2 +0.5**
comp=Z,110nm,1.0s

ACCN Adirondack Com 65.14 51 *e*P **P 12 22 32.9 +0.6**
comp=Z,61nm,1.1s
CPCT Cooper Cave 65.26 64 *e*P **P 12 22 33.5 +0.4**
TBLU Trondheim 65.42 356 *e*P **P 12 22 36.0 +2.3**
TKL Tuckaleechee C 65.53 63 LR LR 12 48 56.8
comp=Z,3µm,20.9s,baz=326,slow=34
LRAL Lakeview Retre 65.60 67 *e*P **P 12 22 34.9 -0.4**
comp=Z,151nm,0.9s
FIA1 FINESS Array S 65.77 348 *e*P **P 12 22 35.5 -0.6**
FINES FINESS Array B 65.77 348 P **P 12 22 35.2 -0.8**
comp=Z,21nm,0.5s,baz=24,slow=5.6,SNR=24
FINES PKPPKP P'P'df 12 51 04.4 -16
comp=Z,5.5nm,1.0s,baz=282,slow=7.0,SNR=5.6
FINES LR LR 12 51 29.1
comp=Z,2µm,21.1s,baz=16,slow=36
FINES FINESS Array B 65.77 348 P **P 12 22 35.2 -0.8**
FINES P'P' 12 51 04.4
MOL Molde 66.20 357 *e*P **P 12 22 40.1 +1.4**
BLA Blacksburg 66.23 60 *e*P **P 12 22 39.8 +0.3**
BLA Blacksburg 66.23 60 *e*P **P 12 22 39.8 +0.3**
TKM2 Tokmak 2 66.38 310 *e*P **P 12 22 40.4 -0.1**
TKM2 Tokmak 2 66.38 310 *e*P **P 12 22 40.4 -0.1**
TKM2 Tokmak 2 66.38 310 P **P 12 22 42.8 +2.3**
SNR=7.6
VWCC Virginia Weste 66.45 60 *e*P **P 12 22 41.3 +0.5**
SDMD Soldier's Deli 66.50 56 *e*P **P 12 22 41.6 +0.5**
comp=Z,66nm,1.0s
ULHL Ulahol 66.57 309 P P 12 22 45.0 +3.3
SNR=8.6
USP Ospenovka 66.64 311 P **P 12 22 42.2 +0.3**
SNR=8.8
PAL Palisades 66.80 53 *e*P **P 12 22 42.9 0.0**
PAL pmax pmax
comp=Z,118nm,1.1s
PAL Palisades 66.80 53 *e*P **P 12 22 42.9 0.0**
comp=Z,118nm,1.1s
KBK Karagaybulak 66.89 310 P **P 12 22 44.9 +1.2**
SNR=6.5
WES Weston 67.03 50 *e*P **P 12 22 44.6 +0.2**
WES pmax pmax
comp=Z,78nm,1.0s
WES Weston 67.03 50 *e*P **P 12 22 44.6 +0.2**
comp=Z,78nm,1.0s
BRAL Brewton 67.04 69 *e*P **P 12 22 45.2 +0.6**
comp=Z,665nm,0.9s
AAK Ala-Archa 67.12 310 *c i*P **P 12 22 45.4 +0.2**
AAK pmax pmax
comp=Z,278nm,1.8s
AAK Ala-Archa 67.12 310 P **P 12 22 47.1 +1.9**
SNR=6.4
BATP Bataraza 67.12 255 *e*P **P 12 22 45.5 +0.2**
JSRW J. Sargeant Re 67.23 58 *e*P **P 12 22 46.1 +0.3**
KMSC Kings Mountain 67.26 62 ⇑P **P 12 22 46.3 +0.3**
baz=67
SWI Sorong 67.36 237 P **P 12 22 47.2 +0.5**
comp=Z,494nm,1.0s,comp=Z,4µm
EKS2 Erkin-Say 67.44 311 *e*P **P 12 22 47.4 +0.2**
EKS2 pmax pmax
comp=Z,70nm,1.1s
EKS2 Erkin-Say 67.44 311 *e*P **P 12 22 47.4 +0.2**
comp=Z,70nm,1.1s
EKS2 Erkin-Say 67.44 311 P **P 12 22 47.5 +0.4**
SNR=8.5
NB2 NORSAR Subarra 67.58 355 P **P 12 22 47.2 -0.4**
baz=7.3,slow=6.9
NB2 NORSAR Subarra 67.58 355 P **P 12 22 47.2 -0.4**
comp=Z,64nm,1.4s,baz=7.3,slow=6.9
NOA NORSAR Array B 67.58 355 P **P 12 22 47.1 -0.5**
comp=Z,18nm,0.8s,baz=5.9,slow=6.4,SNR=27
NOA LR LR 12 49 03.4
comp=Z,2µm,21.2s,baz=5.0,slow=33
NOA PKP2bc 12 51 07.6
comp=Z,8.6nm,1.1s,baz=175,slow=3.1,SNR=4.0
NOA NORSAR Array B 67.58 355 P **P 12 22 47.1 -0.5**
NOA ⇑*e* 12 51 07.6
PMG Port Moresby 67.64 217 P **P 12 22 48.3 -0.1**
comp=Z,77nm,1.1s,baz=34,slow=5.8,SNR=15
PMG Port Moresby 67.64 217 *e*P **P 12 22 47.9 -0.5**
comp=Z,189nm,1.4s
NAO01 NORSAR Array S 67.79 355 *e*P **P 12 22 49.2 +0.3**
comp=Z,59nm,1.1s
LSA Lhasa 67.80 290 *e*P **P 12 22 51.8 +1.7**
LSA Lhasa 67.80 290 *e*P **P 12 22 51.8 +1.7**
AKTO Aktyubinsk 67.84 325 PKPPKP 12 51 06.0
comp=Z,0.5nm,0.2s,baz=212,slow=5.7,SNR=5.5
NC602 NORSAR Array S 67.86 355 *e*P **P 12 22 50.9 +1.6**
AML Almayashu 67.89 310 P **P 12 22 50.9 +0.6**
SNR=8.1
JSC Jenkinsville 67.93 63 *e*P **P 12 22 50.6 +0.4**
JSC Jenkinsville 67.93 63 *e*P **P 12 22 50.6 +0.4**
HFS Hagfors 68.33 354 LR LR 12 49 46.9
comp=Z,3µm,21.9s,baz=6.8,slow=33
VSU Vasula 68.55 346 ⇑*i*P **P 12 22 53.3 -0.4**
VSU pmax pmax
comp=Z,148nm,1.1s
FAKI Fak Fak 68.59 235 P **P 12 22 54.1 -0.4**
comp=Z,235nm,1.1s,comp=Z,3µm
TIGA Tifton 68.73 66 ⇓P **P 12 22 55.2 -0.1**
baz=69
KSH Kashi 68.78 307 P **P 12 22 58.5 +2.9**
KSH pP **pP 12 23 02.5 -2.0**
KSH sP **sP 12 23 05.5 -2.3**
KSH PcP **PcP 12 23 22.0 +1.9**
KSH PP **PP 12 25 31.3 +4.2**
KSH ScP 12 27 24.5
KSH PcS 12 27 26.5
KSH S **S 12 32 00.0 +2.8**
KSH ScS **ScS 12 32 54.3 +0.5**
KSH SS **SS 12 36 26.3 +4.8**
KSH pmax pmax
comp=Z,170nm,1.2s
KSH pmax pmax
comp=Z,360nm,3.7s
KSH LR LR
comp=N,2µm,16.6s
KSH LR LR
comp=E,2µm,15.8s
KSH LR LR
comp=Z,4µm,23.6s
ODD1 Odda 68.89 357 *e*P **P 12 22 57.4 +1.5**
MSVF Nonsavu 69.00 184 *e*P **P 12 22 57.6 +0.7**
MSVF pmax pmax
comp=Z,727nm,3.0s
MSVF Nonsavu 69.00 184 *e*P **P 12 22 57.6 +0.7**
comp=Z,726nm,3.0s
KONO Kongsberg 69.05 356 *e*P **P 12 22 56.0 -0.8**
KONO pmax pmax
comp=Z,60nm,1.2s
KONO Kongsberg 69.05 356 *e*P **P 12 22 56.0 -0.8**
comp=Z,60nm,1.2s
CNNC Cliffs of the 69.06 60 *e*P **P 12 22 58.5 +1.2**
comp=Z,195nm,1.2s
LBMI Labuha 69.17 240 P **P 12 22 57.9 -0.2**
comp=Z,146nm,2.0s,comp=Z,3µm
KDM Kudat 69.19 254 P **P 12 22 58.6 +0.3**
NHSC New Hope 69.41 63 *e*P **P 12 23 00.9 +1.5**
comp=Z,1µm,1.0s
MYLDM Lahad Datu 69.57 252 P **P 12 23 02.8 +2.2**
IMP Imphal 69.78 285 *i*P **P 12 23 00.0 -1.9**
IMP Imphal 69.78 285 *i* x 12 23 00.0
OBN Obninsk 69.92 340 *c i*P **P 12 23 02.0 -0.2**
OBN *i* 12 23 11.2
OBN *i* 12 23 24.9
OBN 12 25 37.0
OBN *i* S **S 12 32 12.6 +2.8**
OBN pmax pmax
comp=Z,307nm,1.8s
OBN MLR MLR
comp=Z,3µm,17.0s
OBN Obninsk 69.92 340 *e*P **P 12 23 02.4 +0.3**
comp=Z,204nm,1.1s
OBN Obninsk 69.92 340 P **P 12 23 02.9 +0.7**
comp=Z,1µm,1.2s,SNR=6.2
SDKM Sandakan 69.98 253 P **P 12 23 03.7 +0.4**
KKM Kota Kinabalu 70.25 254 P **P 12 23 05.3 +0.4**
SHL Shillong 70.43 287 *e*P **P 12 23 04.7 -1.4**
TSM Tawau 70.65 252 P **P 12 23 07.6 +0.3**
TLE Tual 70.67 233 P **P 12 23 08.6 +1.3**
comp=Z,361nm,1.1s,comp=Z,4µm
MSAI Masohi 70.68 238 P **P 12 23 07.8 +0.4**
comp=Z,36nm,0.9s,comp=Z,601nm
GTK Gangtok 71.05 290 *e*P **P 12 23 07.0 -2.8**
CMMT Chiang Mai 71.15 277 P **P 12 23 10.8 +0.5**
comp=Z,104nm,1.5s,comp=Z,2µm
CHTO Chiang Mai 71.15 277 *e*P **P 12 23 10.3 0.0**

CHTO pmax pmax
comp=Z,123nm,1.2s
CHTO Chiang Mai 71.15 277 *e*P **P 12 23 10.3 0.0**
comp=Z,123nm,1.2s
CHTO Chiang Mai 71.15 277 P **P 12 23 10.8 +0.5**
SNR=12
CHTO Chiang Mai 71.15 277 P **P 12 23 10.3 0.0**
comp=Z,117nm,1.5s,comp=Z,2µm
BNDI Bandanaira 71.16 236 P **P 12 23 10.1 -0.2**
comp=Z,310nm,1.1s,comp=Z,4µm
MCD Coleburn Disti 71.21 3 *e*P **P 12 23 10.1 +0.1**
MCD Coleburn Disti 71.21 3 P **P 12 23 10.1 +0.1**
IZAR Zarasai 71.24 346 *e*P **P 12 23 10.1 -0.1**
IZAR AMB AMB 12 23 12.4
comp=Z,23nm,0.9s
PMOR Pomariorio Ree 71.26 149 *e*P **P 12 23 11.0 +0.3**
comp=Z,120nm,1.1s
PMOR Pomariorio Ree 71.26 149 *e*P **P 12 23 11.0 +0.3**
comp=Z,120nm,1.1s
MDO Dochfour 71.32 4 *e*P **P 12 23 10.5 -0.2**
MDO Dochfour 71.32 4 P **P 12 23 10.5 -0.2**
AAI Ambon 71.35 238 P **P 12 23 11.6 +0.1**
comp=Z,268nm,1.1s,comp=Z,3µm
MRSI Marisa 71.36 246 P **P 12 23 11.0 -0.5**
comp=Z,261nm,1.1s,comp=Z,3µm
CM31 Chiang Mai Arr 71.42 276 *e*P **P 12 23 12.2 +0.3**
CMAR Chiang Mai Arr 71.42 276 P **P 12 23 12.2 +0.3**
comp=Z,63nm,0.8s,baz=26,slow=7.0,SNR=44
CMAR P4KPbc 12 59 56.9
comp=Z,2.3nm,0.9s,baz=19,slow=4.0,SNR=13
CMAR Chiang Mai Arr 71.42 276 P **P 12 23 12.2 +0.3**
CMAR *e* 12 59 56.9
ISAL Salakas 71.43 346 *e*P **P 12 23 11.2 -0.2**
ISAL AMB AMB 12 23 13.7
comp=Z,20nm,1.1s
VAH Vaihoa 71.56 149 *e*P **P 12 23 12.6 0.0**
comp=Z,100nm,1.1s
VAH Vaihoa 71.56 149 *e*P **P 12 23 12.6 0.0**
comp=Z,100nm,1.1s
TAPN Taplejung 71.57 291 *e*P **P 12 23 14.0 +0.9**
IIGN Ignalina 71.63 346 *e*P **P 12 23 12.4 -0.2**
IIGN AMB AMB 12 23 14.9
comp=Z,39nm,1.2s
SLGI Shiliguri 71.64 290 *e*P **P 12 23 13.5 +0.4**
NACGM Naroch 71.97 345 *e* **P 12 23 15.0 +0.3**
AGT Agartala 72.07 286 *i* x P 12 23 20.0 +4.3
ODAN Odare 72.12 291 *e*P **P 12 23 17.1 +0.8**
comp=Z,1µm,1.1s
LUWI Luwuk 72.13 244 P **P 12 23 14.9 -1.2**
comp=Z,420nm,1.1s,comp=Z,4µm
GUN Gumba 72.21 292 *e*P **P 12 23 18.3 +1.3**
comp=Z,2µm,0.9s
MUD Monsted U'grnd 72.26 356 *i* P **PcP 12 23 33.9 -0.4**
comp=Z,30nm,0.9s
VRHR Novokhopersk 72.39 335 *e*P **P 12 23 15.8 -1.4**
VRHR pmax pmax
comp=Z,50nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.3s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR MLR MLR
comp=N,920nm,16.0s
VRHR MLR MLR
comp=E,940nm,16.0s
VRHR MLR MLR
comp=Z,2µm,16.0s
DWPF Disney 72.46 67 *e*P **P 12 23 19.1 +1.2**
comp=Z,694nm,1.4s
RAMN Ramite 72.52 291 *e*P **P 12 23 19.4 +0.7**
comp=Z,967nm,0.5s
EAB Aberfoyle 72.57 4 *e*P **P 12 23 18.3 +0.1**
EAB Aberfoyle 72.57 4 P **P 12 23 18.3 +0.1**
KKN Kakani 72.64 293 *e*P **P 12 23 20.6 +1.2**
comp=Z,795nm,0.6s
PKI Pulchoki 72.74 293 *e*P **P 12 23 20.7 +0.6**
comp=Z,2µm,1.1s
PKIN Phulchoki 72.74 293 *e*P **P 12 23 21.0 +0.9**
comp=Z,311nm,0.7s
COP Copenhagen 72.84 354 *i*P **P 12 23 20.0 +0.2**
comp=Z,22nm,0.9s
DMN Daman 72.88 293 *e*P **P 12 23 21.6 +0.7**
comp=Z,1µm,1.0s
ESY Stoneypath 72.90 3 *e*P **P 12 23 21.4 +1.2**
ESY Stoneypath 72.90 3 P **P 12 23 21.4 +1.2**
VSR Storozhevoye 72.91 337 *e*P **P 12 23 19.9 -0.4**
VSR pmax pmax
comp=N,60nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR MLR MLR
comp=N,2µm,24.0s
VSR MLR MLR
comp=E,2µm,24.0s
VSR MLR MLR
comp=Z,6µm,24.0s
EAU Auchinoon 72.94 3 *e*P **P 12 23 22.0 +1.5**
EAU Auchinoon 72.94 3 P **P 12 23 22.0 +1.5**
DANN Dangsing 73.09 294 *e*P **P 12 23 23.8 +1.6**
comp=Z,2µm,1.0s
VORD Divnogorie 73.11 336 *e*P **P 12 23 21.6 +0.1**
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VORD pmax pmax
comp=Z,40nm,0.6s
VORD MLR MLR
comp=N,3µm,18.0s
VORD MLR MLR
comp=E,3µm,18.0s
VORD MLR MLR
comp=Z,4µm,18.0s
PPT2 Papeete2 73.17 152 *e*S **S 12 32 49.3 +1.1**
comp=Z,5µm,28.5s
PPT2 *e*LR LR 12 45 51.5
comp=Z,4µm,23.2s
LLD Lille Linde 73.20 354 *i*P **P 12 23 23.2 +1.2**
comp=Z,75nm,0.8s
TIAR Tiarei 73.21 151 *e*P **P 12 23 22.5 +0.1**
comp=Z,95nm,1.2s
TIAR Tiarei 73.21 151 *e*P **P 12 23 22.5 +0.1**
comp=Z,95nm,1.2s
SUW Suwalki 73.37 347 *e*P **P 12 23 22.2 -0.8**
SUW Suwalki 73.37 347 *e*P **P 12 23 22.5 -0.5**
SUW pmax pmax
comp=Z,207nm,1.1s
SUW Suwalki 73.37 347 *e*P **P 12 23 22.5 -0.5**
comp=Z,207nm,1.1s
SUW Suwalki 73.37 347 *e*P **P 12 23 22.2 -0.8**
ESK Eskdalemuir 73.48 3 *e*P **P 12 23 22.9 -0.8**
ESK AMB AMB 12 23 24.4
comp=Z,81nm,2.0s
ESK Eskdalemuir 73.48 3 P **P 12 23 22.9 -0.8**
ESK AMB AMB 12 23 24.4
comp=Z,81nm,2.0s
ESK Eskdalemuir 73.48 3 *e*P **P 12 23 22.9 -0.8**
ESK pmax pmax
comp=Z,30nm,0.9s
ESK Eskdalemuir 73.48 3 *e*P **P 12 23 22.9 -0.8**
comp=Z,30nm,0.9s
ECK Cauldkaine Hil 73.62 3 *e*P **P 12 23 24.5 +0.1**
ECK Cauldkaine Hil 73.62 3 P **P 12 23 24.5 +0.1**
KOLN Koldanda 73.62 294 *e*P **P 12 23 25.5 +0.3**
comp=Z,734nm,1.0s
CHBT CHBT 73.63 270 P **P 12 23 25.4 +0.3**
comp=Z,114nm,1.2s,comp=Z,2µm
PYUN Piuthan 73.72 295 *e*P **P 12 23 26.9 +1.1**
comp=Z,2µm,1.0s
PTH Pithoragarh 74.17 298 *ex* P **P 12 23 30.7 +2.4**
LGTI Lohaghat 74.23 297 *ex* P 12 23 35.2 +6.8
TEIG Tepich 74.35 77 *e*P **P 12 23 30.2 +1.0**
comp=Z,124nm,1.2s
THN Thein Dam 74.37 302 *e*P **P 12 23 28.4 -0.8**
BTM Bintulu 74.39 255 P **P 12 23 30.2 +0.6**
SRDT SRDT 74.42 273 P **P 12 23 30.1 +0.4**
comp=Z,192nm,1.2s,comp=Z,5µm
SDNR Sundarnagar 74.43 301 *e*P **P 12 23 29.5 -0.2**
GMM Mts of Mourne 74.44 5 *e*P **P 12 23 28.9 -0.4**
GMM Mts of Mourne 74.44 5 P **P 12 23 28.9 -0.4**
DZM Mont Dzumac 74.48 195 *e*P **P 12 23 30.7 +0.8**
comp=Z,209nm,1.3s
DZM *e*LR LR 12 46 13.2
comp=Z,4µm,24.4s

DZM Mont Dzumac 74.48 195 *e*P **P** 12 23 30.3 +0.5
DZM Mont Dzumac 74.48 195 *e*S **P** 12 23 30.2 +0.4
KDI Kendari 74.61 243 P **P** 12 23 31.5 +0.7
comp=Z,122nm,1.4s,comp=Z,2µm
SMLA Simla 74.62 301 *i* P **P** 12 23 31.0 +0.4
BSEG Bad Segeberg 74.71 355 *e*P **P** 12 23 31.4 +0.6
BSEG pmax pmax
comp=Z,150nm,1.0s
BSEG Bad Segeberg 74.71 355 *e*P **P** 12 23 31.4 +0.6
comp=Z,150nm,1.0s
DDI Dehra Dun 74.76 300 *e*P **P** 12 23 29.5 -2.1
GKP Gorka Klasztor 74.82 351 *e*P **P** 12 23 31.3 -0.2
GKP Gorka Klasztor 74.82 351 *e*P **P** 12 23 31.3 -0.2
CAL Calcutta 74.83 287 *e*P **P** 12 23 31.1 -0.9
PHET Kaeng Krachan 75.20 272 P **P** 12 23 35.1 +0.9
comp=Z,499nm,0.9s,comp=Z,4µm
WME Myndd Eilian 75.36 4 *e*P **P** 12 23 32.9 -1.7
WME Myndd Eilian 75.36 4 P **P** 12 23 32.9 -1.7
TTSI Tana Toraja 75.44 246 P **P** 12 23 35.3 -0.2
comp=Z,213nm,1.2s,comp=Z,3µm
SBUM Sibu 75.50 255 P **P** 12 23 36.4 +0.5
WPM1 Penmaenmawr 75.52 4 *e*P **P** 12 23 35.1 -0.4
WPM1 Penmaenmawr 75.52 4 P **P** 12 23 35.1 -0.4
AKASG Malin Array Be 75.58 342 P **P** 12 23 35.2 -0.7
comp=Z,68nm,0.7s,baz=19,slow=5.7,SNR=43
AKASG LR LR 12 58 12.3
comp=Z,4µm,19.2s,baz=35,slow=37
AKASG Malin Array Be 75.58 342 P **P** 12 23 35.2 -0.7
AKASG pmax pmax
comp=Z,68nm,0.7s
AKASG MLR MLR
comp=Z,4µm,19.2s
AKASG Malin Array Be 75.58 342 P **P** 12 23 35.2 -0.7
KIEV Kiev 75.59 342 *e*P **P** 12 23 34.5 -1.4
KIEV pmax pmax
comp=Z,118nm,0.9s
KIEV Kiev 75.59 342 *e*P **P** 12 23 34.5 -1.4
comp=Z,118nm,0.9s
AK01 Malin Array Si 75.59 342 *e*P **P** 12 23 35.5 -0.5
AK02 Malin Array Si 75.62 342 *e*P **P** 12 23 35.7 -0.4
BEL Belsk 75.82 348 *e*P **P** 12 23 37.4 +0.1
BEL Belsk 75.82 348 *e*P **P** 12 23 37.3 +0.1
FOEL Foel Wylfa 75.91 3 *e*P **P** 12 23 37.1 -0.7
FOEL AMB AMB 12 23 38.7
comp=Z,72nm,1.7s
FOEL Foel Wylfa 75.91 3 P **P** 12 23 37.1 -0.7
FOEL AMB AMB 12 23 38.7
comp=Z,72nm,1.7s
RUE Ruedersdorf 75.92 353 *e*P **P** 12 23 37.9 +0.1
comp=Z,65nm,1.0s
KBL Kabul 76.10 308 *e*P **P** 12 23 39.5 0.0
KBL pmax pmax
comp=Z,88nm,0.9s
KBL Kabul 76.10 308 *e*P **P** 12 23 39.5 0.0
comp=Z,88nm,0.9s
SPSI Sidrap Palu 76.22 245 P **P** 12 23 39.7 -0.3
comp=Z,78nm,1.1s,comp=Z,1µm
HLM1 Long Mynd 76.29 3 *e*P **P** 12 23 39.8 -0.2
HLM1 Long Mynd 76.29 3 P **P** 12 23 39.8 -0.2
VAL Valentia 76.44 8 *e*P **P** 12 23 39.2 -1.5
IBBN Ibbenburen 76.46 356 *e*P **P** 12 23 41.3 +0.4
comp=Z,799nm,2.1s
NDI New Delhi 76.49 299 *ex* P 12 23 38.0 -3.5
CLZ Clausthal 76.80 355 *e*P **P** 12 23 43.2 +0.3
CLZ pmax pmax
comp=Z,366nm,1.9s
CLZ Clausthal 76.80 355 *e*P **P** 12 23 43.2 +0.3
comp=Z,366nm,1.9s
MCH1 Michaelchurch 76.81 3 *e*P **P** 12 23 41.6 -1.2
MCH1 AMB AMB 12 23 43.5
comp=Z,80nm,1.9s
MCH1 Michaelchurch 76.81 3 P **P** 12 23 41.6 -1.2
MCH1 AMB AMB 12 23 43.5
comp=Z,80nm,1.9s
WTSB Winterswijk 76.84 357 *i* P **P** 12 23 42.8 -0.2
comp=Z,388nm,2.5s
BKSI Bulukumba 77.13 244 P **P** 12 23 44.8 -0.3
comp=Z,266nm,1.2s,comp=Z,3µm
CLL Collm 77.15 353⇑ *i*P **P** 12 23 44.0 -0.8
CLL *e* 12 23 54.0
CLL *e*S **S** 12 33 29.0 -2.7
CLL pmax pmax
comp=Z,81nm,1.3s
CLL Collm 77.15 353 *e*P **P** 12 23 44.3 -0.5
comp=Z,81nm,1.3s
CLL Collm 77.15 353⇑ *i*P **P** 12 23 44.0 -0.8
comp=Z,81nm,1.3s
CLL *e*pP **pP** 12 23 54.0 +0.3
CLL *e*PP PP 12 26 43.0 +5.2
CLL *e*S **S** 12 33 29.0 -2.7
CLL *e*PS **PnS** 12 34 10.0 -2.4
CLL *e*PPS PPS 12 34 37.0
CLL *e*SS **SS** 12 38 27.0 -1.0
CLL *e*SSS SSS 12 42 06.0
KSP Ksiaz 77.32 351 *e*P **P** 12 23 45.2 -0.5
KSP Ksiaz 77.32 351 *e*P **P** 12 23 45.0 -0.7
KSP *e* 12 33 56.5
KSP Ksiaz 77.32 351 *e*P **P** 12 23 45.2 -0.5
LVV L'vov 77.32 346⇓ *i*P **P** 12 23 45.1 -0.7
LVV pmax pmax
comp=Z,300nm,3.1s
LVV MLR MLR
comp=N,2µm,20.0s
LVV MLR MLR
comp=Z,3µm,20.0s
LVV MLR MLR
comp=E,2µm,19.0s
BUG Bochum--Univer 77.35 357 *e*P **P** 12 23 45.8 -0.1
comp=Z,278nm,2.0s
KSM Kuching 77.43 256 P **P** 12 23 47.5 +0.6
BRG Berggiesshubel 77.50 352 *i* P **P** 12 23 46.3 -0.5
comp=Z,70nm,1.2s
BRG SS S 12 33 17.0 -19
BRG
comp=N,2µm,24.7s
BRG
comp=E,837nm,23.3s
BRG
comp=Z,2µm,24.0s
BRG Berggiesshubel 77.50 352 *i* P **P** 12 23 46.3 -0.5
BRG pmax pmax
comp=Z,70nm,1.2s
BRG MLR MLR
comp=N,2µm,24.7s
BRG MLR MLR
comp=E,837nm,23.3s
BRG MLR MLR
comp=Z,2µm,24.0s
BRG Berggiesshubel 77.50 352 *e*P **P** 12 23 46.3 -0.5
comp=Z,70nm,1.2s
OJC Ojcow 77.53 348 *e*P **P** 12 23 47.4 +0.4
OJC pmax pmax
comp=Z,76nm,1.2s
OJC Ojcow 77.53 348 *e*P **P** 12 23 47.4 +0.4
comp=Z,76nm,1.2s
OJC Ojcow 77.53 348 *e*P **P** 12 23 46.6 -0.4
UPC Upice 77.68 351 *i* P **P** 12 23 47.8 0.0
UPC *e* 12 23 53.6
UPC Upice 77.68 351 *i* P **P** 12 23 47.8 0.0
UPC *ex* x 12 23 53.6
KWP Kalwaria Pacla 77.71 346 *e*P **P** 12 23 48.2 +0.2
KWP Kalwaria Pacla 77.71 346 *e*P **P** 12 23 48.4 +0.4
KWP pmax pmax
comp=Z,259nm,0.9s
KWP Kalwaria Pacla 77.71 346 *e*P **P** 12 23 48.4 +0.4
comp=Z,259nm,0.9s
KWP Kalwaria Pacla 77.71 346⇑ *i*P **P** 12 23 48.2 +0.2
KWP Kalwaria Pacla 77.71 346 *e*P **P** 12 23 48.1 +0.2
KBKI Kotabaru 77.75 249 P **P** 12 23 47.7 -0.9
comp=Z,110nm,1.1s,comp=Z,2µm
PVCC Panska Ves 77.79 352 *i* P **P** 12 23 48.4 0.0
PVCC *e* 12 23 55.8
PVCC Panska Ves 77.79 352 *i* P **P** 12 23 48.4 0.0
PVCC *ep*P **pP** 12 23 55.8 -1.6
DPC Dobruska-Polom 77.80 351 *e*P **P** 12 23 48.7 +0.2
DPC pmax pmax
comp=Z,173nm,1.5s
DPC Dobruska-Polom 77.80 351 *e*P **P** 12 23 48.7 +0.2
comp=Z,173nm,1.5s
DPC Dobruska-Polom 77.80 351 *i* P **P** 12 23 48.6 +0.1
CTA Charters Tower 77.80 214 P **P** 12 23 48.6 -0.1
comp=Z,81nm,1.0s,baz=24,slow=6.3,SNR=27
CTA Charters Tower 77.80 214 P **P** 12 23 48.6 -0.1
CTAO Charters Tower 77.80 214 *e*P **P** 12 23 48.5 -0.2
CTAO pmax pmax
comp=Z,131nm,1.1s
CTAO Charters Tower 77.80 214 *e*P **P** 12 23 48.5 -0.2
comp=Z,130nm,1.1s
STKI Sintang 77.84 255 P **P** 12 23 49.3 +0.2
comp=Z,168nm,1.3s
UBBA Unterbreizbach 77.84 355 *e*P **P** 12 23 48.7 +0.2
comp=Z,123nm,1.6s
MOX Moxa 77.91 354 *e*P **P** 12 23 49.0 -0.1
MOX pmax pmax
comp=Z,97nm,1.3s
MOX Moxa 77.91 354 *e*P **P** 12 23 49.0 -0.1
comp=Z,97nm,1.3s
MAK Makhachkala 77.94 328 *e*P **P** 12 23 49.8 +0.5
MAK *e* 12 24 07.0
MAK S **S** 12 33 41.0 +0.5
MAK pmax pmax
comp=Z,451nm,1.3s
KRLC Kraliky 78.03 350 *i* P **P** 12 23 49.5 -0.3
BEBN Eben Emael 78.04 358 P **P** 12 23 49.8 0.0
BWNR Bhubaneshwar 78.05 287 *ex* x 12 23 41.0
HGN Heimansgroeve 78.07 357 *i* P **P** 12 23 49.8 -0.1
comp=Z,252nm,1.8s
TANN Tannenbergstha 78.08 353 *e*P **P** 12 23 50.1 0.0
comp=Z,73nm,1.3s
OKC Ostrava-Krasne 78.11 349 *i* P **P** 12 23 50.2 0.0
OKC *e* 12 23 54.8
OKC Ostrava-Krasne 78.11 349 *i* P **P** 12 23 50.2 0.0
OKC *ex* x 12 23 54.8
MEM Membach 78.22 357 P **P** 12 23 50.7 -0.1
comp=Z,55nm,1.7s
MORC Moravsky Berou 78.24 350 *e*P **P** 12 23 51.4 +0.5
MORC pmax pmax
comp=Z,38nm,1.1s
MORC Moravsky Berou 78.24 350 *e*P **P** 12 23 51.4 +0.5
comp=Z,38nm,1.1s
MORC Moravsky Berou 78.24 350⇓ *i*P **P** 12 23 49.1 -1.8
PRA Prague 78.26 352 P **P** 12 23 51.0 0.0
NKC Novy Kostel 78.26 353 *i* P **P** 12 23 50.6 -0.4
NKC Novy Kostel 78.26 353 *i* P **P** 12 23 50.6 -0.4
PRU Pruhonice 78.33 352 *i* P **P** 12 23 51.5 +0.1
PRU Pruhonice 78.33 352 *i* P **P** 12 23 51.5 +0.1
SNF Seneffe 78.36 358 P **P** 12 23 51.4 -0.1
comp=Z,56nm,1.7s
BCLA Clavier 78.43 358 P **P** 12 23 52.0 0.0
comp=Z,62nm,1.8s
KOLS Kolonicke sedl 78.45 346 *e*P **P** 12 23 52.5 +0.4
KOLS pmax pmax
comp=Z,58nm,1.0s
KOLS Kolonicke sedl 78.45 346 *e*P **P** 12 23 52.5 +0.4
TNS Taunus Mts 78.52 356 *e*P **P** 12 23 52.4 -0.1
TNS pmax pmax
comp=Z,127nm,1.6s
TNS Taunus Mts 78.52 356 *e*P **P** 12 23 52.4 -0.1
comp=Z,127nm,1.6s
CRVS Cervenica-Dubn 78.60 347 *e*P **P** 12 23 53.1 +0.2
CRVS pmax pmax
comp=Z,50nm,1.1s
CRVS Cervenica-Dubn 78.60 347 *e*P **P** 12 23 53.1 +0.2
TBI Tubuai 78.66 153 *e*S **S** 12 33 46.8 -1.5
comp=Z,2µm,32.8s
TBI *e*SS **SS** 12 38 48.8 -4.6
comp=Z,676nm,26.2s
TBI *e*LR LR 12 48 16.5
comp=Z,5µm,28.2s
BBKI Banjar Baru 78.66 250 P **P** 12 23 52.9 -0.7
comp=Z,135nm,1.2s,comp=Z,3µm
MMRI Maumere 78.69 240 P **P** 12 23 52.6 -1.2
comp=Z,160nm,1.4s,comp=Z,3µm
KBZ Khabaz 78.72 331 P **P** 12 23 54.4 +0.7
comp=Z,72nm,0.9s,baz=24,slow=1.8,SNR=29
KBZ LR LR 12 59 29.9
comp=Z,6µm,22.0s,baz=29,slow=36
KBZ Khabaz 78.72 331 P **P** 12 23 54.4 +0.7
KBZ pmax pmax
comp=Z,72nm,0.9s
KBZ MLR MLR
comp=Z,6µm,22.0s
KBZ Khabaz 78.72 331 P **P** 12 23 54.4 +0.7
ROTZ Rotzenmuhle 78.74 353 *e*P **P** 12 23 53.8 +0.1
comp=Z,81nm,1.4s
GIVF Givet 78.76 358⇑ *i*P **P** 12 23 53.8 +0.1
comp=Z,448nm,1.6s
GIVF Givet 78.76 358⇑ *i*P **P** 12 23 53.8 +0.1
GIVF pmax pmax
comp=Z,449nm,1.6s
GIVF Givet 78.76 358⇑ *i*P **P** 12 23 53.8 +0.1
comp=Z,448nm,1.6s
LIKS Likavka 78.77 349 *e*P **P** 12 23 55.4 +1.6
LIKS pmax pmax
comp=Z,61nm,1.1s
LIKS Likavka 78.77 349 *e*P **P** 12 23 55.4 +1.6
DOU Dourbes 78.77 358 P **P** 12 23 53.8 0.0
comp=Z,65nm,1.8s
VRAC Vranov 78.80 350⇓ *i*P **P** 12 23 53.9 -0.1
BAIF Baives 78.81 358⇑ *i*P **P** 12 23 54.4 +0.4
comp=Z,378nm,1.4s
BAIF Baives 78.81 358⇑ *i*P **P** 12 23 54.4 +0.4
BAIF pmax pmax
comp=Z,378nm,1.4s
BAIF Baives 78.81 358⇑ *i*P **P** 12 23 54.4 +0.4
comp=Z,378nm,1.4s
KTGM Kuala Trenggan 78.84 265 P **P** 12 23 55.3 +0.6
GRF Grafenberg Arr 78.89 354 *e*P **P** 12 23 54.8 +0.3
GRF pmax pmax
comp=Z,210nm,1.4s
GRF Grafenberg Arr 78.89 354 *e*P **P** 12 23 54.8 +0.3
comp=Z,210nm,1.4s
ABH Alteburg 78.90 356 *e*P **P** 12 23 54.7 +0.1
TREC Trest 78.93 351 *i* P **P** 12 23 55.0 +0.3
TREC Trest 78.93 351 *i* P **P** 12 23 55.0 +0.3
RUP Ruppelstein 79.09 357 *e*P **P** 12 23 55.8 +0.1
RUP Ruppelstein 79.09 357 *e*P **P** 12 23 55.8 +0.1
TOD Tromm 79.11 355 *e*P **P** 12 23 55.9 +0.1
TOD Tromm 79.11 355 *e*P **P** 12 23 55.9 +0.1
WLF Walferdange 79.16 357 *e*P **P** 12 23 56.4 +0.4
comp=Z,180nm,1.7s
TRPA Tarpa 79.20 346⇓ *i*P **P** 12 23 56.4 +0.2
TRPA Tarpa 79.20 346⇓ *e* **P** 12 23 56.4 +0.2
KIS Kishinev 79.20 342α *i*P **P** 12 23 54.0 -2.2
KIS *e* 12 24 10.0
KIS pmax pmax
comp=Z,700nm,1.6s
KIS pmax pmax
comp=Z,1µm,2.0s
KIS Kishinev 79.20 342⇑ *i*P **P** 12 23 54.0 -2.2
comp=Z,1µm,2.0s
KIS *ep*P pP 12 24 28.0 +23
KIS LRM MLR 13 04 00.0
comp=Z,3µm,18.0s
BUR08 Bucovina Ar. S 79.24 344 *e*P **P** 12 23 57.2 +0.6
IAS Iasi 79.25 342 P **P** 12 23 57.3 +0.8
KHC Kasperske Hory 79.27 352 *e*P **P** 12 23 56.1 -0.5
KHC pmax pmax
comp=Z,97nm,1.3s
KHC Kasperske Hory 79.27 352 *e*P **P** 12 23 56.1 -0.5
comp=Z,97nm,1.3s
KHC Kasperske Hory 79.27 352 *i* P **P** 12 23 56.5 -0.1
KHC *ep*P **PcP** 12 24 03.0 -1.8
BURAR Bucovina Array 79.27 344⇑ *i*P **P** 12 23 55.9 -0.8
ZEI Tsey 79.28 330 *e*P **P** 12 23 56.9 -0.2
ZEI pmax pmax
comp=Z,253nm,1.1s
ANN Anapa 79.29 335*c i*P **P** 12 23 55.9 -0.8
ANN *e*PP pP 12 24 16.8 +11
ANN *e*S **S** 12 33 50.2 -4.7
ANN pmax pmax
comp=Z,122nm,1.5s
WET Wettzell 79.31 353 *e*P **P** 12 23 56.9 +0.1
WET pmax pmax
comp=Z,66nm,1.3s
WET Wettzell 79.31 353 *e*P **P** 12 23 56.9 +0.1
comp=Z,66nm,1.3s
VYHS Vyhne 79.35 349 *e*P **P** 12 23 57.4 +0.4
VYHS pmax pmax
comp=Z,38nm,1.2s
VYHS Vyhne 79.35 349 *e*P **P** 12 23 57.4 +0.4
KTD Kalmit 79.43 356 *e*P **P** 12 23 57.8 +0.3
KTD Kalmit 79.43 356 *e*P **P** 12 23 57.8 +0.3
BMR Baia Mare 79.49 345⇓ *i*P **P** 12 23 57.9 +0.1
BMR Baia Mare 79.49 345⇓ *i*P **P** 12 23 57.9 +0.1
GEC2 GERESS Array S 79.54 352 *e*P **P** 12 23 57.9 -0.3
GEC2 pmax pmax
comp=Z,58nm,1.2s
GEC2 GERESS Array S 79.54 352 *e*P **P** 12 23 57.9 -0.3
comp=Z,58nm,1.2s
GERES GERESS Array B 79.54 352 P **P** 12 23 57.7 -0.5
comp=Z,13nm,0.8s,baz=24,slow=4.7,SNR=21
GERES PKKPbc **PKKPbc** 12 42 43.0 -1.2
comp=Z,1.3nm,0.7s,baz=170,slow=1.8,SNR=9.2
GERES PKP2ab 12 50 42.5
comp=Z,0.3nm,0.4s,baz=225,slow=1.1,SNR=5.8
GERES LR LR 13 03 48.1
comp=Z,2µm,20.3s,baz=5.3,slow=39
GERES GERESS Array B 79.54 352 P **P** 12 23 57.7 -0.5
GERES PKKPbc **PKKPbc** 12 42 43.0 -1.2
GERES P'P'ab 12 50 42.5
ONI Oni 79.58 330 P **P** 12 23 59.0 +0.5
AJM Ajmer 79.63 300 *i* P **P** 12 23 59.0 +0.1
JSA Saint Aubin 79.65 3 *e*P **P** 12 23 57.9 -0.6
JSA AMB AMB 12 24 00.1
comp=Z,146nm,1.3s
JSA Saint Aubin 79.65 3 P **P** 12 23 57.9 -0.6
JSA AMB AMB 12 24 00.1
comp=Z,146nm,1.3s
TGUH Tegucigalpa,Un 79.67 81 *e*P **P** 12 24 00.2 +1.0
comp=Z,454nm,1.3s
PSZ Piszkesteto 79.78 348 *e*P **P** 12 24 00.5 +1.1
PSZ pmax pmax
comp=Z,102nm,1.2s
PSZ Piszkesteto 79.78 348 *e*P **P** 12 24 00.5 +1.1
comp=Z,102nm,1.2s
PSZ Piszkesteto 79.78 348⇓ *i*P **P** 12 23 59.6 +0.1
PSZ Piszkesteto 79.78 348⇑ *e* **P** 12 24 00.0 +0.5
LANF Langenberg 79.78 356 *e*P **P** 12 23 59.5 +0.1
LANF Langenberg 79.78 356 *e*P **P** 12 23 59.5 +0.1
LANF Langenberg 79.78 356 *e*P **P** 12 23 59.5 +0.1
SOC Sochi 79.79 333*c i*P **P** 12 23 59.5 0.0
SOC *e* 12 27 02.0
SOC *e*S **S** 12 33 54.5 -5.8
SOC pmax pmax
comp=Z,118nm,1.0s
SOC MLR MLR
comp=Z,6µm,19.0s
LEOM Leova 79.81 342⇑ *i*P **P** 12 23 59.7 +0.2
LEOM Leova 79.81 342⇑ *i*P **P** 12 23 59.7 +0.2
GOR Gori 79.93 329 P **P** 12 24 01.2 +0.9
PBKI Pangkalan Bun 79.93 253 P **P** 12 24 00.8 +0.2
comp=Z,321nm,1.1s,comp=Z,4µmcomp=Z,33µm
STU Stuttgart 79.93 355 *e*P **P** 12 23 59.9 -0.2
comp=Z,113nm,1.3s
TBLG Delisi 79.95 329 P **P** 12 24 01.0 +0.6
TBLG Delisi 79.95 329 P **P** 12 24 01.0 +0.6
SIM Simferopol' 79.98 337⇑ *e*P P 12 23 56.7 -3.8
SIM pmax pmax
comp=Z,63nm,0.9s
DGRG David-gareji 80.00 328 P **P** 12 24 01.2 +0.5
TESR 80.08 343⇓ *i*P **P** 12 24 00.9 -0.1
FLN La Foliniere 80.11 2⇑ *i*P **P** 12 24 00.9 -0.2
comp=Z,404nm,1.4s
FLN La Foliniere 80.11 2⇑ *i*P **P** 12 24 00.9 -0.2
FLN pmax pmax
comp=Z,404nm,1.4s
FLN La Foliniere 80.11 2⇑ *i*P **P** 12 24 00.9 -0.2
comp=Z,404nm,1.4s
CONA Conrad Observa 80.24 351⇑ *i*P **P** 12 24 02.2 +0.2
comp=Z,64nm,1.0s
CONA Conrad Observa 80.24 351⇑ *i*P **P** 12 24 02.2 +0.2
comp=Z,64nm,1.0s,SNR=15
PAGF Fort de Pagny 80.28 357⇑ *i*P **P** 12 24 02.5 +0.4
comp=Z,130nm,1.4s
PAGF Fort de Pagny 80.28 357⇑ *i*P **P** 12 24 02.5 +0.4
comp=Z,130nm,1.4s
LDF La Druitiere 80.29 1⇑ *i*P **P** 12 24 01.7 -0.4
comp=Z,309nm,1.4s
LDF La Druitiere 80.29 1⇑ *i*P **P** 12 24 01.7 -0.4
LDF pmax pmax
comp=Z,309nm,1.4s
LDF La Druitiere 80.29 1⇑ *i*P **P** 12 24 01.7 -0.4
comp=Z,309nm,1.4s
BUD Budapest 80.32 348⇑ *e* **P** 12 24 02.4 +0.1
MEZF Maizieres J'vi 80.36 358⇑ *i*P **P** 12 24 02.7 +0.3
comp=Z,488nm,1.5s
MEZF Maizieres J'vi 80.36 358⇑ *i*P **P** 12 24 02.7 +0.3
comp=Z,488nm,1.5s
GHRR 80.37 342⇓ *i*P **P** 12 24 03.6 +1.0
CDF Champ du Feu 80.38 356⇑ *i*P **P** 12 24 02.6 -0.1
comp=Z,182nm,1.5s
CDF Champ du Feu 80.38 356⇑ *i*P **P** 12 24 02.6 -0.1
CDF pmax pmax
comp=Z,182nm,1.5s
CDF Champ du Feu 80.38 356⇑ *i*P **P** 12 24 02.6 -0.1
comp=Z,182nm,1.5s
FUR Furstenfeldbru 80.40 354 *e*P **P** 12 24 02.7 -0.1
FUR pmax pmax
comp=Z,199nm,1.6s
FUR Furstenfeldbru 80.40 354 *e*P **P** 12 24 02.7 -0.1
comp=Z,199nm,1.6s
BFO Black Forest 80.41 356 *e*P **P** 12 24 02.5 -0.3
BFO pmax pmax
comp=Z,109nm,1.5s
BFO Black Forest 80.41 356 *e*P **P** 12 24 02.6 -0.3
comp=Z,94nm,1.4s
BFO Black Forest 80.41 356 *e*P **P** 12 24 02.5 -0.3
comp=Z,108nm,1.5s
SOP Sopron 80.41 350⇑ *e* **P** 12 24 03.2 +0.4
KULM Kulim 80.42 266 P **P** 12 24 04.0 +0.7
ROSF Rostrenen 80.46 3⇑ *i*P **P** 12 24 03.1 +0.1
comp=Z,315nm,1.4s
ROSF Rostrenen 80.46 3⇑ *i*P **P** 12 24 03.1 +0.1
ROSF pmax pmax
comp=Z,315nm,1.4s
ROSF Rostrenen 80.46 3⇑ *i*P **P** 12 24 03.1 +0.1
comp=Z,315nm,1.4s
BST Brest 80.46 4 *e*P **P** 12 24 03.3 +0.3
BST Brest 80.46 4 *e*P **P** 12 24 03.3 +0.3
DRGR 80.47 346⇑ *i*P **P** 12 24 02.1 -1.1
DRGR 80.47 346⇑ *i*P **P** 12 24 02.1 -1.1
MOA Molln 80.48 352⇑ *i*P **P** 12 24 02.9 -0.3
comp=Z,31nm,1.0s
MOA Molln 80.48 352⇑ *i*P **P** 12 24 02.9 -0.3
comp=Z,31nm,1.1s,SNR=8.7
GRR Gorron 80.48 2⇑ *i*P **P** 12 24 03.1 0.0
comp=Z,263nm,1.2s
GRR Gorron 80.48 2⇑ *i*P **P** 12 24 03.1 0.0
GRR pmax pmax
comp=Z,263nm,1.2s
GRR Gorron 80.48 2⇑ *i*P **P** 12 24 03.1 0.0
comp=Z,263nm,1.2s
PKSG 80.49 349⇓ *e* **P** 12 24 04.1 +0.9
CSKK Cs^‡kako 80.53 349⇑ *e*P P 12 24 17.1 +14
SGMF Saint Gilles 80.57 3 *e*P **P** 12 24 03.7 +0.1
comp=Z,378nm,1.4s
SGMF Saint Gilles 80.57 3 *e*P **P** 12 24 03.7 +0.1
SGMF pmax pmax
comp=Z,378nm,1.4s
SGMF Saint Gilles 80.57 3 *e*P **P** 12 24 03.7 +0.1
comp=Z,378nm,1.4s
ECH Echery 80.58 356 *e*P **P** 12 24 03.7 0.0
ECH Echery 80.58 356 *e*P **P** 12 24 03.7 0.0
ECH Echery 80.58 356 *e*P **P** 12 24 03.7 0.0
THEF They Montfort 80.61 357 *e*P **P** 12 24 03.7 -0.1
THEF They Montfort 80.61 357 *e*P **P** 12 24 03.7 -0.1
THEF They Montfort 80.61 357 *e*P **P** 12 24 03.7 -0.1
SPAK Spaichingen-Ko 80.61 355 *e*P **P** 12 24 04.0 0.0
LIBD Limburg 80.62 356 *e*P **P** 12 24 04.0 +0.1
LIBD Limburg 80.62 356 *e*P **P** 12 24 04.0 +0.1
BHPL Bhopal 80.64 295 *e*P **P** 12 24 04.4 -0.1
BHPL AMb AMB 12 24 05.5
comp=Z,426nm,1.2s
AKH Akhalkalaki 80.64 330 P **P** 12 24 05.2 +0.8
SFTF Sexfontaines 80.65 358⇑ *i*P **P** 12 24 04.1 0.0
comp=Z,427nm,1.4s
SFTF Sexfontaines 80.65 358⇑ *i*P **P** 12 24 04.1 0.0
comp=Z,427nm,1.4s
PKST T^'s 80.66 349⇓ *e* **P** 12 24 04.8 +0.7
VRI Vrincioaia 80.69 343⇑ *i*P **P** 12 24 04.9 +0.6
VRI Vrincioaia 80.69 343⇑ *i*P **P** 12 24 04.9 +0.6
VRI Vrincioaia 80.69 343 *i* P **P** 12 24 04.4 +0.1
RJOB Jochberg 80.71 353 *e*P **P** 12 24 04.5 0.0
comp=Z,31nm,1.0s
PLOR Plostina 80.72 343⇑ *i*P **P** 12 24 04.0 -0.5
PLOR Plostina 80.72 343⇑ *i*P **P** 12 24 04.0 -0.5
PKS7 Kunszentmiklos 80.73 348⇓ *e* **P** 12 24 05.5 +1.0
IPM Ipoh 80.81 266 P **P** 12 24 05.2 -0.2
HAU Haudompre 80.81 357⇑ *i*P **P** 12 24 04.9 -0.1
comp=Z,190nm,1.5s
HAU Haudompre 80.81 357⇑ *i*P **P** 12 24 04.9 -0.1
HAU pmax pmax
comp=Z,190nm,1.5s
HAU Haudompre 80.81 357⇑ *i*P **P** 12 24 04.9 -0.1

comp=Z,190nm,1.5s
FELD Feldberg im Sc 80.88 356 *e*P **P 12 24 04.9 -0.6**
QUIF Quistinic 80.88 3⇑*i*P **P 12 24 05.4 +0.1**
comp=Z,221nm,1.2s
QUIF Quistinic 80.88 3⇑*i*P **P 12 24 05.4 +0.1**
QUIF pmax pmax
comp=Z,221nm,1.2s
QUIF Quistinic 80.88 3⇑*i*P **P 12 24 05.4 +0.1**
comp=Z,221nm,1.2s
TLCR 80.94 341⇑*i*P **P 12 24 06.0 +0.4**
TLCR 80.94 341⇑*i*P **P 12 24 06.0 +0.4**
MOF Molkenrain 80.94 356 *e*P **P 12 24 05.4 -0.3**
MOF Molkenrain 80.94 356 *e*P **P 12 24 05.4 -0.3**
MOF Molkenrain 80.94 356 *e*P **P 12 24 05.4 -0.3**
ARSA Arzberg 80.95 351⇑*i*P **P 12 24 06.1 +0.4**
comp=Z,70nm,1.1s
ARSA Arzberg 80.95 351⇑*i*P **P 12 24 06.1 +0.4**
comp=Z,70nm,1.1s
HINF Hinteralfeld 80.99 357⇑*i*P **P 12 24 05.6 -0.3**
comp=Z,174nm,1.5s
HINF Hinteralfeld 80.99 357⇑*i*P **P 12 24 05.6 -0.3**
HINF pmax pmax
comp=Z,174nm,1.5s
HINF Hinteralfeld 80.99 357⇑*i*P **P 12 24 05.6 -0.3**
comp=Z,174nm,1.5s
CFR Carcaliu 81.08 342 ⇓P **P 12 24 06.5 +0.1**
CFR Carcaliu 81.08 342 ⇓*i*P **P 12 24 06.5 +0.1**
GRER 81.11 342 ⇓*i*P **P 12 24 08.5 +1.9**
RETA Reutte 81.11 354⇑*i*P **P 12 24 06.7 0.0**
comp=Z,47nm,1.3s
RETA Reutte 81.11 354⇑*i*P **P 12 24 06.7 0.0**
comp=Z,47nm,1.3s,SNR=8.7
MYKOM Kota Tinggi 81.15 262 P **P 12 24 07.7 +0.6**
MLR Muntele Rosu 81.19 343⇑*i*P **P 12 24 07.3 +0.1**
WATA Walderalm 81.21 353⇑*i*P **P 12 24 07.2 0.0**
WATA pmax pmax
comp=Z,113nm,1.3s
WATA Walderalm 81.21 353⇑*i*P **P 12 24 07.2 0.0**
comp=Z,113nm,1.3s
WATA Walderalm 81.21 353⇑*i*P **P 12 24 07.2 0.0**
comp=Z,113nm,1.3s
MOTA Moosalm 81.23 354⇑*i*P **P 12 24 07.2 -0.2**
MOTA pmax pmax
comp=Z,138nm,1.3s
MOTA Moosalm 81.23 354⇑*i*P **P 12 24 07.2 -0.2**
comp=Z,138nm,1.3s
MOTA Moosalm 81.23 354⇑*i*P **P 12 24 07.2 -0.2**
comp=Z,138nm,1.3s,SNR=15
WTTA Wattenberg 81.27 353⇑*i*P **P 12 24 07.8 +0.1**
WTTA pmax pmax
comp=Z,170nm,1.4s
WTTA Wattenberg 81.27 353⇑*i*P **P 12 24 07.8 +0.1**
comp=Z,170nm,1.4s
WTTA Wattenberg 81.27 353⇑*i*P **P 12 24 07.7 +0.1**
comp=Z,170nm,1.4s,SNR=11
PKS9 Tamasi 81.29 349⇓⇓*e*PP **P 12 24 07.9 +0.4**
KGM Kluang 81.30 262 P **P 12 24 08.4 +0.4**
BBS Basel-Blauen 81.31 356 *e*P **P 12 24 07.4 -0.3**
BBS Basel-Blauen 81.31 356 *e*P **P 12 24 07.4 -0.3**
KBA Koelnbreinsper 81.32 352⇑*i*P **P 12 24 08.4 +0.5**
KBA pmax pmax
comp=Z,199nm,0.8s
KBA Koelnbreinsper 81.32 352⇑*i*P **P 12 24 08.4 +0.5**
comp=Z,199nm,0.8s
KBA Koelnbreinsper 81.32 352⇑*i*P **P 12 24 08.4 +0.5**
comp=Z,199nm,0.8s
ARTV Artvin 81.33 331 *i*P **P 12 24 08.4 +0.3**
NGP Nagpur 81.35 293 *i*P **P 12 24 06.4 -1.9**
NGP AMb AMB 12 24 07.5
comp=Z,575nm,1.9s
DAVA Damuels 81.37 354⇑*i*P **P 12 24 08.0 -0.1**
comp=Z,70nm,1.4s
DAVA Damuels 81.37 354⇑*i*P **P 12 24 08.0 -0.1**
comp=Z,70nm,1.4s,SNR=11
FRIM Kepong 81.40 264 P **P 12 24 08.7 +0.2**
VOIR 81.41 344 ⇓P **P 12 24 09.0 +0.8**
VOIR 81.41 344 ⇓*i*P **P 12 24 09.0 +0.8**
DAGI Agillar 81.44 331 *i*P **P 12 24 07.3 -1.2**
ISR Istrita 81.44 343 ⇑P **P 12 24 08.7 +0.3**
ISR Istrita 81.44 343⇑*i*P **P 12 24 08.7 +0.3**
LOMF Lomont 81.45 357 *e*P **P 12 24 08.5 +0.1**
LOMF Lomont 81.45 357 *e*P **P 12 24 08.5 +0.1**
LOMF Lomont 81.45 357 *e*P **P 12 24 08.5 +0.1**
SOKA Soboth 81.56 351⇑*i*P **P 12 24 09.1 +0.1**
comp=Z,208nm,1.3s
SOKA Soboth 81.56 351⇑*i*P **P 12 24 09.1 +0.1**
comp=Z,208nm,1.3s
FETA Feichten 81.58 354⇑*i*P **P 12 24 09.3 +0.1**
comp=Z,78nm,1.1s
FETA Feichten 81.58 354⇑*i*P **P 12 24 09.3 +0.1**
comp=Z,78nm,1.1s,SNR=21
SECR 81.61 343⇑*i*P **P 12 24 10.3 +1.1**
LOR Lormes 81.61 359⇑*i*P **P 12 24 09.2 0.0**
comp=Z,264nm,1.3s
LOR Lormes 81.61 359⇑*i*P **P 12 24 09.2 0.0**
comp=Z,264nm,1.3s
LOT Lotru 81.61 345 ⇓*i*P **P 12 24 09.2 -0.2**
PKSM Moragy 81.62 348 P **P 12 24 09.5 +0.3**
PKSM Moragy 81.62 348⇑P **P 12 24 08.1 -1.1**
PKSM Moragy 81.62 348⇑*e* **P 12 24 08.8 -0.4**
DDEM Demirkent 81.66 331 *i*P **P 12 24 09.9 +0.2**
TIRR Tirgusor 81.72 341 *e*P **P 12 24 09.6 -0.1**
TIRR pmax pmax
comp=Z,183nm,1.3s
TIRR Tirgusor 81.72 341 *e*P **P 12 24 09.6 -0.1**
comp=Z,183nm,1.3s
TIRR Tirgusor 81.72 341 ⇓*i*P **P 12 24 09.4 -0.3**
ABTA Abfaltersbach 81.72 353⇑*i*P **P 12 24 09.6 -0.3**
comp=Z,122nm,1.3s
ABTA Abfaltersbach 81.72 353⇑*i*P **P 12 24 09.6 -0.3**
comp=Z,122nm,1.3s,SNR=25
GROS Grobnik 81.73 351 *i*P **P 12 24 09.7 -0.2**
MYKA Terra Mystica 81.74 352⇑*i*P **P 12 24 09.5 -0.4**
comp=Z,70nm,1.3s
MYKA Terra Mystica 81.74 352⇑*i*P **P 12 24 09.5 -0.4**
comp=Z,70nm,1.3s
OBKA Obir 81.78 351⇑*i*P **P 12 24 10.2 0.0**
comp=Z,75nm,0.9s
OBKA Obir 81.78 351⇑*i*P **P 12 24 10.2 0.0**
comp=Z,75nm,0.9s,SNR=15
BZS Buzias 81.79 346 ⇑P **P 12 24 10.0 -0.1**
BZS Buzias 81.79 346⇑*i*P **P 12 24 10.0 -0.1**
SSF Saint Saulge 81.82 359⇑*i*P **P 12 24 10.4 +0.1**
comp=Z,252nm,1.4s
SSF Saint Saulge 81.82 359⇑*i*P **P 12 24 10.4 +0.1**
SSF pmax pmax
comp=Z,253nm,1.4s
SSF Saint Saulge 81.82 359⇑*i*P **P 12 24 10.4 +0.1**
comp=Z,252nm,1.4s
BWJI Bawean 81.86 250 P **P 12 24 12.1 +1.3**
comp=Z,86nm,1.1s
DAVOX Davos/Dischmat 81.87 354 P **P 12 24 10.7 -0.1**
comp=Z,49nm,1.2s,baz=340,slow=9.6
DAVOX Davos/Dischmat 81.87 354 P **P 12 24 10.7 -0.1**
SULR 81.92 343 ⇓*i*P **P 12 24 08.7 -2.1**
KMMI Kalianget 82.05 248 P **P 12 24 12.9 +1.0**
comp=Z,282nm,1.4s,comp=Z,4µm
AVF Avril sur Loir 82.10 359⇑*i*P **P 12 24 11.7 0.0**
comp=Z,220nm,1.3s
AVF Avril sur Loir 82.10 359⇑*i*P **P 12 24 11.7 0.0**
AVF pmax pmax
comp=Z,220nm,1.3s
AVF Avril sur Loir 82.10 359⇑*i*P **P 12 24 11.7 0.0**
comp=Z,220nm,1.3s
KHKI Kahang-Kahang 82.17 246 P **P 12 24 10.1 -2.4**
comp=Z,192nm,1.0s,comp=Z,µm
SRBI Singaraja 82.17 247 P **P 12 24 11.0 -1.5**
comp=Z,136nm,1.2s,comp=Z,µm
TUE Stuetta 82.21 355 *e*P **P 12 24 12.9 +0.3**
comp=Z,86nm,1.1s
CABF La Chapelle 82.22 357⇑*i*P **P 12 24 12.8 +0.3**
comp=Z,218nm,1.3s
CABF La Chapelle 82.22 357⇑*i*P **P 12 24 12.8 +0.3**
CABF pmax pmax
comp=Z,218nm,1.3s
CABF La Chapelle 82.22 357⇑*i*P **P 12 24 12.8 +0.3**
comp=Z,218nm,1.3s
SMF Signal de Mont 82.23 359⇑*i*P **P 12 24 12.5 0.0**
comp=Z,249nm,1.1s
SMF Signal de Mont 82.23 359⇑*i*P **P 12 24 12.5 0.0**
SMF pmax pmax
comp=Z,249nm,1.1s
SMF Signal de Mont 82.23 359⇑*i*P **P 12 24 12.5 0.0**
comp=Z,249nm,1.1s
MFF Saint Martin d 82.28 1⇑*i*P **P 12 24 12.8 +0.1**
comp=Z,235nm,1.2s
MFF Saint Martin d 82.28 1⇑*i*P **P 12 24 12.8 +0.1**
MFF pmax pmax
comp=Z,235nm,1.2s
MFF Saint Martin d 82.28 1⇑*i*P **P 12 24 12.8 +0.1**
comp=Z,235nm,1.2s
BGF Bois d'Agland 82.33 359⇑*i*P **P 12 24 13.1 +0.1**
comp=Z,167nm,1.2s
BGF Bois d'Agland 82.33 359⇑*i*P **P 12 24 13.1 +0.1**
BGF pmax pmax
comp=Z,167nm,1.2s
BGF Bois d'Agland 82.33 359⇑*i*P **P 12 24 13.1 +0.1**
comp=Z,167nm,1.2s
MTDJ Mount Denham 82.33 71 *e*P **P 12 24 14.3 +0.8**
comp=Z,411nm,1.3s
BBJ Bamboo Saint A 82.37 70 *i*P **P 12 24 15.1 +1.5**
WRAB Tennant Creek 82.37 224 *e*P **P 12 24 12.4 -1.0**
WRAB Tennant Creek 82.37 224 *e*P **P 12 24 12.4 -1.0**
HOMI Horasan 82.38 330 *i*P **P 12 24 14.4 +0.8**
WRA Warramunga Arr 82.39 224 P **P 12 24 12.6 -0.9**
comp=Z,44nm,0.9s,baz=37,slow=6.1,SNR=31
WRA PKiKP **PKiKP 12 29 34.4 -0.3**
comp=Z,2.2nm,0.8s,baz=355,slow=1.6,SNR=4.7
WRA PKKPbc **PKKPbc 12 42 40.3 +1.3**
comp=Z,1.9nm,0.6s,baz=225,slow=2.1,SNR=18
WRA LR LR 12 58 09.8
comp=Z,789nm,20.7s,baz=25,slow=34
WRA Warramunga Arr 82.39 224 P **P 12 24 12.6 -0.9**
WRA PKiKP **PKiKP 12 29 34.4 -0.3**
WRA PKKPbc **PKKPbc 12 42 40.3 +1.3**
GTBY Guantanamo Bay 82.42 68 *e*P **P 12 24 14.5 +0.7**
JAVS Javornik 82.43 351 *i*P **P 12 24 12.1 -1.6**
VISS Visnje 82.45 351 *i*P **P 12 24 12.9 -0.7**
AGRB Hanur-Agry 82.47 329 *e*P **P 12 24 14.9 +0.9**
ESPY Espiye-Giresun 82.53 333 *e*P **P 12 24 13.5 -0.6**
CLDR Caldiran 82.56 328 *e*P **P 12 24 15.6 +1.0**
BAYT Ayd¯–ntepe-Bay 82.60 332 *e*P **P 12 24 15.2 +0.5**
TCF Toulx Ste Croi 82.61 360⇑*i*P **P 12 24 14.4 -0.1**
comp=Z,66nm,1.0s
TCF Toulx Ste Croi 82.61 360⇑*i*P **P 12 24 14.4 -0.1**
TCF pmax pmax
comp=Z,66nm,1.0s
TCF Toulx Ste Croi 82.61 360⇑*i*P **P 12 24 14.4 -0.1**
comp=Z,66nm,1.0s
TRI Trieste 82.64 352 *e*P **P 12 24 14.3 -0.3**
TRI pmax pmax
comp=Z,40nm,0.9s
TRI Trieste 82.64 352 *e*P **P 12 24 14.2 -0.3**
comp=Z,40nm,0.9s
GRSN GIRESUNGRSN 82.66 333 *i*P **P 12 24 14.6 -0.3**
ERZM Erzurum 82.68 330 *i*P **P 12 24 16.3 +1.1**
EZM Erzurum 82.68 330 *e*P **P 12 24 16.5 +1.2**
CRAR CRAIOVA 82.70 344 P **P 12 24 16.0 +1.1**
BOJS Bojanci 82.70 351 *i*P **P 12 24 14.7 -0.2**
GUMT Gumushane 82.73 332 *e*P **P 12 24 15.8 +0.5**
LHMI Lhok Sumawe 82.78 269 P **P 12 24 16.7 +1.0**
comp=Z,782nm,0.9s,comp=Z,8µm
DIKM Dikmen 82.80 335 *e*P **P 12 24 15.9 +0.4**
OG35 Corcelles 82.80 357 *e*P **P 12 24 15.6 +0.1**
BZK Bozkurt 82.83 336 *e*P **P 12 24 15.1 -0.5**
BLJI Banyuglugur 82.83 248 P **P 12 24 15.4 -0.5**
comp=Z,56nm,1.4s
AGO Saint Agoulin 82.84 359 *e*P **P 12 24 16.1 +0.4**
AGO Saint Agoulin 82.84 359 *e*P **P 12 24 16.1 +0.4**
KOPT Kop Dagi 82.84 331 *i*P **P 12 24 17.4 +1.3**
STH Stony Hill 82.88 70 *i*P **P 12 24 17.4 +1.2**
PLDF La Plantade 82.91 359 *e*P **P 12 24 16.5 +0.4**
PLDF La Plantade 82.91 359 *e*P **P 12 24 16.5 +0.4**
PLDF La Plantade 82.91 359 *e*P **P 12 24 16.5 +0.4**
GWJ Greenwich 82.93 70 *i*P **P 12 24 18.2 +1.5**
HOJ Hope 82.97 70 *i*P **P 12 24 17.5 +0.7**
ZIMR 83.07 343 P **P 12 24 17.4 +0.6**
KELT Kelkit 83.09 332 *i*P **P 12 24 17.5 +0.2**
NEF NEVSHA 83.09 342 *i*P **P 12 24 17.5 +0.5**
BYBT Boyabat 83.09 336 *e*P **P 12 24 18.2 +1.2**
TSI Tuntungan 83.11 267 P **P 12 24 16.9 -0.5**
comp=Z,546nm,0.9s,comp=Z,5µm
KVT Kavak 83.12 335 *e*P **P 12 24 18.1 +0.8**
PRD Provadia 83.13 341 *i*P **P 12 24 16.9 -0.2**
PYM Petit Puy Mans 83.14 359 *e*P **P 12 24 17.3 0.0**
PYM Petit Puy Mans 83.14 359 *e*P **P 12 24 17.3 0.0**
PYM Petit Puy Mans 83.14 359 *e*P **P 12 24 17.3 0.0**
VERF Verneugheol 83.14 360 *e*P **P 12 24 18.2 +0.9**
VERF Verneugheol 83.14 360 *e*P **P 12 24 18.2 +0.9**
YHJ Yallahs 83.21 70 *i*P **P 12 24 19.6 +1.6**
HAVZ Havza 83.22 335 *i*P **P 12 24 17.9 +0.2**
LPL La Plagne 83.29 357⇑*i*P **P 12 24 19.1 +0.8**
comp=Z,120nm,1.3s
LPL La Plagne 83.29 357⇑*i*P **P 12 24 19.1 +0.8**
LPL pmax pmax
comp=Z,120nm,1.3s
LPL La Plagne 83.29 357⇑*i*P **P 12 24 19.1 +0.8**
comp=Z,120nm,1.3s
ERBA Erbaa 83.30 334 *i*P **P 12 24 19.0 +0.8**
LPG La Plagne 83.31 357⇑*i*P **P 12 24 19.5 +1.1**
comp=Z,135nm,1.2s
LPG La Plagne 83.31 357⇑*i*P **P 12 24 19.5 +1.1**
LPG pmax pmax
comp=Z,135nm,1.2s
LPG La Plagne 83.31 357⇑*i*P **P 12 24 19.5 +1.1**
comp=Z,135nm,1.2s
VRTB Varto-Mus 83.33 330 *e*P **P 12 24 19.2 +0.7**
SZH Strazhica 83.34 343 *i*P **P 12 24 17.8 -0.5**
RKT Rikitea 83.38 141 *e*LR LR 12 50 37.0
comp=Z,5µm,23.8s
BALT Daday 83.38 337 *i*P **P 12 24 19.2 +0.5**
RSDY Resadiye-TOKAT 83.41 334 *e*P **P 12 24 19.3 +0.6**
EZC Erzincan 83.42 332 *e*P **P 12 24 19.8 +0.8**
PSI Prapat 83.42 266 P **P 12 24 19.0 -0.2**
comp=Z,320nm,0.9s,baz=16,slow=3.8,SNR=18
PSI LR LR 12 58 38.3
comp=Z,670nm,21.6s,baz=224,slow=34
PSI Prapat 83.42 266 P **P 12 24 19.0 -0.2**
GRTK Grand Turk 83.43 64 *e*P **P 12 24 19.9 +0.9**
comp=Z,809nm,1.5s
ERZN Erzincan 83.47 331 *e*P **P 12 24 20.0 +0.8**
DIVS Divibare 83.51 347 P **P 12 24 19.9 +0.7**
SSB Saint Sauveur 83.59 358 *e*P **P 12 24 19.5 -0.1**
SSB Saint Sauveur 83.59 358 *e*P **P 12 24 19.5 -0.1**
SSB Saint Sauveur 83.59 358 *e*P **P 12 24 19.4 -0.1**
RJF Les Rejaudoux 83.59 0⇑*i*P **P 12 24 19.6 +0.1**
comp=Z,494nm,1.4s
RJF Les Rejaudoux 83.59 0⇑*i*P **P 12 24 19.6 +0.1**
RJF pmax pmax
comp=Z,494nm,1.4s
RJF Les Rejaudoux 83.59 0⇑*i*P **P 12 24 19.6 +0.1**
comp=Z,494nm,1.4s
GRN Grenoble 83.59 357 *e*P **P 12 24 20.2 +0.5**
GRN Grenoble 83.59 357 *e*P **P 12 24 20.2 +0.5**
GRN Grenoble 83.59 357 *e*P **P 12 24 20.2 +0.5**
GDM Grand'Maison 83.62 357 *e*P **P 12 24 20.4 +0.5**
GDM Grand'Maison 83.62 357 *e*P **P 12 24 20.4 +0.5**
MPEP Malo Peshtene 83.65 344 *i*P **P 12 24 19.6 -0.3**
LBL Lubilhac 83.66 359 *e*P **P 12 24 20.9 +0.9**
LBL Lubilhac 83.66 359 *e*P **P 12 24 20.9 +0.9**
LBL Lubilhac 83.66 359 *e*P **P 12 24 20.9 +0.9**
TOS Tosya 83.69 336 *e*P **P 12 24 21.3 +1.0**
TOKT Tokat 83.70 334 *e*P **P 12 24 21.5 +1.2**
TOKA Tokat 83.71 334 *i*P **P 12 24 21.1 +0.8**
BNGB Bing¶ll 83.73 331 *e*P **P 12 24 21.3 +0.8**
ILGA Ilgaz 83.75 336 *i*P **P 12 24 21.7 +1.0**
BNI Bardonecchia 83.75 357 *e*P **P 12 24 21.5 +1.0**
BNI pmax pmax
comp=Z,124nm,1.1s
BNI Bardonecchia 83.75 357 *e*P **P 12 24 21.5 +1.0**
comp=Z,124nm,1.1s
SAFT Safranbolu 83.83 337 *e*P **P 12 24 21.5 +0.7**
ORIF Oris-en-Rattie 83.92 357⇑*i*P **P 12 24 22.0 +0.7**
comp=Z,341nm,1.4s
ORIF Oris-en-Rattie 83.92 357⇑*i*P **P 12 24 22.0 +0.7**
ORIF pmax pmax
comp=Z,341nm,1.4s
ORIF Oris-en-Rattie 83.92 357⇑*i*P **P 12 24 22.0 +0.7**
comp=Z,341nm,1.4s
ILIC ilic-Erzincan 83.93 332 *e*P **P 12 24 22.1 +0.6**
LFF La Frestale 83.95 1⇑*i*P **P 12 24 21.7 +0.3**
comp=Z,847nm,1.3s
LFF La Frestale 83.95 1⇑*i*P **P 12 24 21.7 +0.3**
LFF pmax pmax
comp=Z,847nm,1.3s
LFF La Frestale 83.95 1⇑*i*P **P 12 24 21.7 +0.3**
comp=Z,847nm,1.3s
CAF Calviac 83.97 360⇑*i*P **P 12 24 21.8 +0.3**
comp=Z,522nm,1.4s
CAF Calviac 83.97 360⇑*i*P **P 12 24 21.8 +0.3**
CAF pmax pmax
comp=Z,523nm,1.4s
CAF Calviac 83.97 360⇑*i*P **P 12 24 21.8 +0.3**
comp=Z,522nm,1.4s
JMB Yambol 83.99 342 *i*P **P 12 24 21.7 +0.1**
JTS JuntasAbangare 84.00 81 *e*P **P 12 24 21.6 -0.5**
comp=Z,73nm,1.3s
JTS epP **pP 12 24 34.7 +3.5**
VIVF Saint-Julien-l 84.01 358⇑*i*P **P 12 24 22.2 +0.5**
comp=Z,269nm,1.3s
VIVF Saint-Julien-l 84.01 358⇑*i*P **P 12 24 22.2 +0.5**
VIVF pmax pmax
comp=Z,269nm,1.3s
VIVF Saint-Julien-l 84.01 358⇑*i*P **P 12 24 22.2 +0.5**
comp=Z,269nm,1.3s
KDZE Karadeniz Ereo 84.06 338 *e*P **P 12 24 21.4 -0.6**
HAKT HAKKARI 84.06 328 *i*P **P 12 24 22.7 +0.3**
MBDF Montbardon 84.08 356⇑*i*P **P 12 24 23.0 +0.8**
comp=Z,128nm,1.0s
MBDF Montbardon 84.08 356⇑*i*P **P 12 24 23.0 +0.8**
MBDF pmax pmax
comp=Z,128nm,1.0s
MBDF Montbardon 84.08 356⇑*i*P **P 12 24 23.0 +0.8**
comp=Z,128nm,1.0s
KEMA Kemaliye 84.12 332 *i*P **P 12 24 22.9 +0.4**
CANT Cankiri 84.20 336 *e*P **P 12 24 23.7 +0.9**
BTMT Batman 84.21 330 *e*P **P 12 24 24.3 +1.4**
PTK Pertek 84.21 331 *e*P **P 12 24 24.1 +1.0**
SURF Saint Ours 84.32 356 *e*P **P 12 24 24.5 +1.0**
SURF Saint Ours 84.32 356 *e*P **P 12 24 24.5 +1.0**
CORM Corum 84.34 335 *e*P **P 12 24 24.5 +0.9**
PLE Pljevlja 84.35 347⇑*i*P **P 12 24 24.0 +0.4**
ELDT Eldivan 84.36 336 *i*P **P 12 24 24.6 +0.8**
PGB Panagyurishte 84.36 344 *i*P **P 12 24 23.0 -0.6**
CUKT Cukurca 84.38 328 *e*P **P 12 24 24.1 +0.2**
VTS Vitosha 84.48 344 P **P 12 24 24.1 -0.2**
VTS Vitosha 84.48 344 *i*P **P 12 24 23.5 -0.8**
UPM Unac-Piva 84.54 348⇑*i*P **P 12 24 24.4 -0.2**
EDRB Edirne 84.56 342 *e*P **P 12 24 24.7 +0.2**
HYB Hyderabad 84.57 291 *i*P **P 12 24 23.5 -1.5**
comp=Z,275nm,1.0s
HYB *e*S **S 12 34 50.0 -0.2**
CTYL Yal??k??y-??at 84.60 340 *e*P **P 12 24 24.3 -0.4**
DARE Darende-Malaty 84.62 333 *e*P P 12 24 28.2 +3.2
SILT Sile 84.62 339 *e*P **P 12 24 25.0 +0.2**
HENT Hendek 84.65 338 *i*P **P 12 24 24.9 -0.1**
YOZ Yozgat 84.66 335 *e*P **P 12 24 25.7 +0.4**
PLD Plovdiv 84.70 343 *i*P **P 12 24 25.1 -0.1**
SVRC Sivrice-ELAZID 84.71 331 *e*P **P 12 24 27.0 +1.5**
IVA Berane 84.73 347 *e*P **P 12 24 25.7 +0.2**
UGM Wanagama 84.76 250 *e*P **P 12 24 24.6 -1.2**
comp=Z,559nm,1.3s
TOUF Mont Tournerai 84.77 356 *e*P **P 12 24 26.0 +0.2**
TOUF Mont Tournerai 84.77 356 *e*P **P 12 24 26.0 +0.2**
TOUF Mont Tournerai 84.77 356 *e*P **P 12 24 26.0 +0.2**
AUTN L'Aution 84.78 356 *e*P **P 12 24 25.7 -0.2**
AUTN L'Aution 84.78 356 *e*P **P 12 24 25.7 -0.2**
AUTN L'Aution 84.78 356 *e*P **P 12 24 25.7 -0.2**
BGKT Bogazkoy 84.78 340 *e*P **P 12 24 25.5 -0.1**
SAOF Saorge 84.78 356 *e*P **P 12 24 25.7 +0.1**
SAOF Saorge 84.78 356 *e*P **P 12 24 25.7 +0.1**
SAOF Saorge 84.78 356 *e*P **P 12 24 25.7 +0.1**
CTKS Kestanelik-??a 84.78 340 *e*P **P 12 24 24.9 -0.7**
ORH Orhaniye 84.80 339 *i*P P 12 24 19.0 -6.8
LASF Ste Croix 84.80 359⇑*i*P **P 12 24 26.2 +0.5**
comp=Z,160nm,1.4s
LASF Ste Croix 84.80 359⇑*i*P **P 12 24 26.2 +0.5**
comp=Z,160nm,1.4s
ISK Istanbul-Kandi 84.83 340 *e*P **P 12 24 25.6 -0.3**
SLVT Silivri 84.85 340 *e*P **P 12 24 26.0 0.0**
FITZ Fitzroy Crossi 84.86 233 P **P 12 24 26.2 0.0**
comp=Z,162nm,0.9s,baz=28,slow=5.0,SNR=53
FITZ LR LR 13 00 14.1
comp=Z,1µm,19.9s,baz=248,slow=34
FITZ Fitzroy Crossi 84.86 233 P **P 12 24 26.2 0.0**
SMRF Simiane la Rot 84.86 357⇑*i*P **P 12 24 27.0 +0.9**
comp=Z,486nm,1.3s
SMRF Simiane la Rot 84.86 357⇑*i*P **P 12 24 27.0 +0.9**
comp=Z,486nm,1.3s
DIY Diyarbakir 84.87 330 *e*P **P 12 24 27.1 +0.9**
DIYA Diyarbakir 84.88 331 *i*P **P 12 24 27.1 +0.8**
BRY Bratogost 84.89 348⇑*i*P **P 12 24 25.8 -0.5**
MVIF Mont Vial 84.89 356 *e*P **P 12 24 26.4 +0.1**
MVIF Mont Vial 84.89 356 *e*P **P 12 24 26.4 +0.1**
MVIF Mont Vial 84.89 356 *e*P **P 12 24 26.4 +0.1**
SBF Sospel 84.91 356⇑*i*P **P 12 24 26.2 -0.1**
comp=Z,419nm,1.2s
SBF Sospel 84.91 356⇑*i*P **P 12 24 26.2 -0.1**
SBF pmax pmax
comp=Z,419nm,1.2s
SBF Sospel 84.91 356⇑*i*P **P 12 24 26.2 -0.1**
comp=Z,419nm,1.2s
NKY Niksic 84.91 347⇑*i*P **P 12 24 26.4 0.0**
MDUB Mudurnu 84.91 338 *e*P **P 12 24 26.5 +0.1**
SPNC Sapanca-Adapaz 84.92 339 *e*P **P 12 24 26.2 -0.1**
HRT Hereke 84.93 339 *e*P **P 12 24 26.6 +0.1**
PVY Plav 84.99 347⇑*i*P **P 12 24 26.9 +0.1**
KDZ Kurdzhali 85.00 343 *i*P **P 12 24 26.6 -0.2**
MYA Malataya 85.02 332 *e*P **P 12 24 27.9 +0.9**
BR131 Keskin Array S 85.02 336 *e*P **P 12 24 26.7 -0.4**
comp=Z,92nm,0.9s
BRTR Keskin Array B 85.02 336 P **P 12 24 26.9 -0.2**
comp=Z,111nm,1.0s,baz=50,slow=2.0,SNR=62
BRTR PP **PP 12 27 45.5 +2.3**
comp=Z,5.3nm,1.0s,baz=41,slow=3.9,SNR=3.7
BRTR PKPPKP P'P'df 12 50 24.9 -21
comp=Z,1.1nm,0.9s,baz=232,slow=1.6,SNR=4.2
BRTR Keskin Array B 85.02 336 P **P 12 24 26.9 -0.2**
BRTR PP **PP 12 27 45.5 +2.3**
BRTR P'P' 12 50 24.9
MALT Malatya 85.03 332 *e*P **P 12 24 28.0 +1.0**
MALT Malatya 85.03 332 *e*P **P 12 24 27.7 +0.6**
MALT Malatya 85.03 332 *e*P **P 12 24 27.7 +0.6**
MALT Malatya 85.03 332⇑*i*P **P 12 24 27.9 +0.8**
REVF Revere 85.04 356 *e*P **P 12 24 26.6 -0.3**
REVF Revere 85.04 356 *e*P **P 12 24 26.6 -0.3**
REVF Revere 85.04 356 *e*P **P 12 24 26.6 -0.3**
CALN Calern 85.04 356 *e*P **P 12 24 27.3 +0.2**
CALN Calern 85.04 356 *e*P **P 12 24 27.3 +0.2**
CALN Calern 85.04 356 *e*P **P 12 24 27.3 +0.2**
LOD Lodumlu 85.09 337 *e*P **P 12 24 27.7 +0.3**
RZN Rozhen 85.10 343 *i*P **P 12 24 27.4 -0.1**
GULT Gulveren 85.11 338 *e*P **P 12 24 27.6 +0.1**
SARI SarD1z-Kayseri 85.19 333 *e*P **P 12 24 30.2 +2.2**
AKCD Akcadag 85.19 332 *i*P **P 12 24 28.6 +0.7**
KKB Krupnik 85.21 344 *i*P **P 12 24 27.9 +0.1**
TKR Tekirdag 85.22 341 *e*P **P 12 24 28.2 +0.4**
MARD Mardin 85.23 330 *i*P **P 12 24 28.7 +0.5**
FRF La Foret Royal 85.24 357⇑*i*P **P 12 24 27.8 -0.1**
comp=Z,296nm,1.3s
FRF La Foret Royal 85.24 357⇑*i*P **P 12 24 27.8 -0.1**
FRF pmax pmax
comp=Z,296nm,1.3s
FRF La Foret Royal 85.24 357⇑*i*P **P 12 24 27.8 -0.1**
comp=Z,296nm,1.3s
TTG Podgorica 85.25 347⇑*i*P **P 12 24 27.8 -0.1**
BNN Bunyan 85.26 334 *e*P **P 12 24 28.6 +0.3**
PINB Pinarbasi 85.27 334 *i*P **P 12 24 28.6 +0.2**
BBAL Bala 85.33 336 *i*P **P 12 24 28.5 -0.1**
HCY Herceg Novi 85.34 348⇑*i*P **P 12 24 28.6 +0.2**
KAMT Kaman 85.34 336 *e*P **P 12 24 28.6 0.0**
ARMT Armutlu 85.35 340 *e*P **P 12 24 28.1 -0.4**
MMB Musomiste 85.37 344 *i*P **P 12 24 28.7 +0.1**
SKO Skopje 85.38 345 P **P 12 24 29.9 +1.3**
SKO Skopje 85.38 345 *i*P **P 12 24 29.4 +0.8**
GEMT Gemlik 85.41 339 *e*P **P 12 24 28.8 +0.1**
BUM Brajici-Budva 85.43 347⇑*i*P **P 12 24 29.1 +0.1**
GSI Gunungsitoli 85.43 266 P **P 12 24 29.2 0.0**
LMR La Mourre 85.48 357⇑*i*P **P 12 24 29.1 0.0**
comp=Z,347nm,1.3s
LMR La Mourre 85.48 357⇑*i*P **P 12 24 29.1 0.0**
LMR pmax pmax
comp=Z,347nm,1.3s
LMR La Mourre 85.48 357⇑*i*P **P 12 24 29.1 0.0**
comp=Z,347nm,1.3s
CAVI Cavuskoy 85.48 339 *e*P **P 12 24 29.2 0.0**
MDNY Mudanya-Bursa 85.53 340 *e*P **P 12 24 29.2 -0.2**
MTLF Montolieu 85.55 360⇑*i*P **P 12 24 29.7 +0.2**
comp=Z,299nm,1.3s
MTLF Montolieu 85.55 360⇑*i*P **P 12 24 29.7 +0.2**
MTLF pmax pmax
comp=Z,299nm,1.3s
MTLF Montolieu 85.55 360⇑*i*P **P 12 24 29.7 +0.2**

comp=Z,299nm,1.3s
NVR Nevrokopi 85.58 344 P **P** 12 24 29.8 **+0.1**
RKY Sarkoy-Tekirda 85.59 341 *eP* **P** 12 24 29.5 **-0.3**
AVNT Avonos 85.59 335 *iP* **P** 12 24 29.3 **-0.6**
ALN Alexandroupoli 85.61 342 P **P** 12 24 29.5 **-0.3**
ALN Alexandroupoli 85.61 342 *eP* **P** 12 24 29.5 **-0.3**
BORA Eskisehir 85.65 338 *iP* **P** 12 24 29.7 **-0.4**
ULC Ulcinj 85.71 347⇑*iP* **P** 12 24 29.8 **-0.5**
SJPF Ste Jean 85.74 2 *eP* **P** 12 24 30.0 **-0.4**
comp=Z,84nm,1.2s
SJPF Ste Jean 85.74 2 *eP* **P** 12 24 30.0 **-0.4**
SJPF pmax pmax
comp=Z,84nm,1.2s
SJPF Ste Jean 85.74 2 *eP* **P** 12 24 30.0 **-0.4**
comp=Z,84nm,1.2s
ENEZ Enez 85.75 342 *eP* **P** 12 24 29.9 **-0.5**
ARMA Armidale 85.79 206 *eP* **P** 12 24 30.6 **-0.1**
comp=Z,100nm,0.9s
SVRH Sivrihisar-ESK 85.81 337 *eP* **P** 12 24 30.5 **-0.5**
PHP Peshkopia 85.81 346 P **P** 12 24 31.4 **+0.5**
VAY Valandovo 85.83 345 P **P** 12 24 30.5 **-0.4**
VAY Valandovo 85.83 345 *iP* **P** 12 24 30.3 **-0.6**
VAY Valandovo 85.83 345 *iP* **P** 12 24 30.6 **-0.2**
KRBG Karabiga-Canak 85.85 341 *eP* **P** 12 24 30.3 **-0.7**
AS31 Alice Springs 85.85 223 *eP* **P** 12 24 30.6 **-0.5**
ASAR Alice Springs 85.85 223 P **P** 12 24 30.9 **-0.2**
comp=Z,71nm,0.8s,baz=29,slow=4.7,SNR=60
ASAR PKiKP **PKiKP** 12 29 39.9 **-0.3**
comp=Z,2.3nm,1.0s,baz=67,slow=2.4,SNR=4.5
ASAR PKKPbc **PKKPbc** 12 42 31.4 **+0.4**
comp=Z,1.5nm,0.8s,baz=204,slow=2.2,SNR=9.0
ASAR LR LR 13 00 32.7
comp=Z,760nm,20.3s,baz=29,slow=34
ASAR Alice Springs 85.85 223 P **P** 12 24 30.9 **-0.2**
ASAR PKiKP **PKiKP** 12 29 39.9 **-0.3**
ASAR PKKPbc **PKKPbc** 12 42 31.4 **+0.4**
SRS Serrai 85.85 344 P **P** 12 24 30.9 **-0.1**
EPF Esparros 85.86 1⇑*iP* **P** 12 24 30.3 **-0.7**
comp=Z,153nm,1.4s
EPF Esparros 85.86 1⇑*iP* **P** 12 24 30.3 **-0.7**
EPF pmax pmax
comp=Z,153nm,1.4s
EPF Esparros 85.86 1⇑*iP* **P** 12 24 30.3 **-0.7**
comp=Z,153nm,1.4s
SEYT Eskypehyr 85.90 338 *iP* **P** 12 24 31.2 **-0.2**
KNT Kendrikon 85.93 344 P **P** 12 24 31.9 **+0.5**
MLS Moulis 85.94 1 *eP* **P** 12 24 31.2 **-0.2**
MLS Moulis 85.94 1 *eP* **P** 12 24 31.2 **-0.2**
LRDF Laroque-de-Fa 85.95 360 *eP* **P** 12 24 31.5 **0.0**
LRDF Laroque-de-Fa 85.95 360 *eP* **P** 12 24 31.5 **0.0**
ETSF Etsaut 85.97 2⇑*iP* **P** 12 24 31.8 **+0.1**
comp=Z,286nm,1.6s
ETSF Etsaut 85.97 2⇑*iP* **P** 12 24 31.8 **+0.1**
ETSF pmax pmax
comp=Z,286nm,1.6s
ETSF Etsaut 85.97 2⇑*iP* **P** 12 24 31.8 **+0.1**
comp=Z,286nm,1.6s
LPK Lapseki 85.98 341 *eP* **P** 12 24 31.6 **0.0**
VIEF Viey 86.00 1 *eP* **P** 12 24 31.2 **-0.6**
VIEF Viey 86.00 1 *eP* **P** 12 24 31.2 **-0.6**
AQU L'Aquila 86.00 351 *eP* **P** 12 24 32.3 **+0.5**
comp=Z,272nm,1.1s
AQU L'Aquila 86.00 351⇓*iP* **P** 12 24 31.8 **0.0**
GELI Tayfur-Gelibol 86.01 341 *eP* **P** 12 24 30.9 **-0.9**
RESF Ens 86.08 1 *eP* **P** 12 24 32.6 **+0.4**
RESF Ens 86.08 1 *eP* **P** 12 24 32.6 **+0.4**
GONE Gonen-Balikesi 86.10 340 *eP* **P** 12 24 31.5 **-0.7**
PGF Pioggiola 86.14 355⇑*iP* **P** 12 24 32.3 **-0.2**
comp=Z,622nm,1.2s
PGF Pioggiola 86.14 355⇑*iP* **P** 12 24 32.3 **-0.2**
PGF pmax pmax
comp=Z,622nm,1.2s
PGF Pioggiola 86.14 355⇑*iP* **P** 12 24 32.3 **-0.2**
comp=Z,622nm,1.2s
GZT Gaziantep 86.17 332 *iP* **P** 12 24 33.1 **+0.3**
SOH Sokhos 86.18 344 P **P** 12 24 32.4 **-0.3**
SOH Sokhos 86.18 344 *eP* **P** 12 24 31.5 **-1.2**
GRG Griva 86.21 345 P **P** 12 24 33.0 **+0.2**
KMRS Kahramanmaras 86.22 333 *eP* **P** 12 24 33.2 **+0.2**
KIZT Kizilcal 86.26 337 *eP* **P** 12 24 33.3 **+0.1**
TVSB Tavsanli 86.29 339 *eP* **P** 12 24 32.9 **-0.5**
NIG Nigde 86.29 335 *eP* **P** 12 24 34.2 **+0.7**
BIA Bitola 86.33 345 *eP* **P** 12 24 30.8 **-2.6**
POO Poona 86.39 295⇑*iP* **P** 12 24 32.0 **-2.1**
comp=Z,47nm,1.0s
GAZ Gaziantep 86.44 332 *eP* **P** 12 24 34.6 **+0.5**
HORT Hortiatis 86.44 344 P **P** 12 24 33.2 **-0.8**
BALB Balikesir 86.45 340 *eP* **P** 12 24 32.9 **-1.1**
SULT Sultanhani-AKS 86.49 336 *eP* **P** 12 24 33.6 **-0.7**
PGAV Gavieira, Arco 86.51 8 *eP* **P** 12 24 34.0 **-0.4**
comp=Z,63nm,1.8s
PGAV *e*LR LR 12 48 41.6
comp=Z,1μm,20.0s
ALT Altintas 86.52 338 *eP* **P** 12 24 33.9 **-0.5**
FNA Florina 86.55 345 P **P** 12 24 33.9 **-0.6**
KOZT Kozan 86.55 334 *eP* **P** 12 24 35.6 **+1.1**
PLG Polygyros 86.60 344 P **P** 12 24 34.0 **-0.7**
BOLV Bolvadin 86.64 338 *iP* **P** 12 24 35.1 **-0.1**
OUZ Omahuta 86.64 187 *eP* **P** 12 24 36.2 **+1.7**
comp=Z,96nm,1.5s
LIA Limnos Island 86.74 342 P **P** 12 24 35.1 **-0.3**
LIA Limnos Island 86.74 342 *eP* **P** 12 24 34.5 **-0.9**
PCAB Cabril 86.78 7 *eP* **P** 12 24 35.9 **+0.3**
comp=Z,59nm,1.1s
LADK Ladik-KONYA 86.79 336 *eP* **P** 12 24 35.4 **-0.4**
PBRG Braganca 86.79 6 *eP* **P** 12 24 35.1 **-0.5**
comp=Z,52nm,1.7s
KUZU Kuzuini 86.85 332 *iP* **P** 12 24 35.9 **-0.2**
SHUT Suhut-Afyon 86.89 338 *eP* **P** 12 24 36.2 **-0.1**
NEST Nestorio 86.96 345 P **P** 12 24 36.3 **-0.3**
PAIG Paliouri 86.99 343 P **P** 12 24 35.5 **-1.1**
CEYT Ceyhan 87.01 333 *eP* **P** 12 24 37.9 **+1.2**
OSPF L'Ospedale 87.01 355 *eP* **P** 12 24 36.4 **-0.4**
OSPF L'Ospedale 87.01 355 *eP* **P** 12 24 36.4 **-0.4**
GULE Gulek 87.02 334 *iP* **P** 12 24 36.7 **-0.3**
KONT Konya--Tatoy 87.03 336 *eP* **P** 12 24 36.5 **-0.4**
LIT Litokhoron 87.03 344 P **P** 12 24 36.2 **-0.6**
LIT Litokhoron 87.03 344 *eP* **P** 12 24 36.0 **-0.8**
POLO Lamas de Olo 87.14 7 *eP* **P** 12 24 36.9 **-0.5**
comp=Z,35nm,1.1s
PRK Paraskevi 87.16 341 *eP* P 12 24 32.0 -5.4
PVRL Vila Real 87.24 7 *eP* **P** 12 24 38.1 **+0.2**
comp=Z,96nm,1.0s
PTO Porto 87.30 8 *eP* **P** 12 24 38.4 **+0.3**
comp=Z,111nm,1.0s
KHAL Karahalli 87.31 339 *iP* **P** 12 24 37.4 **-0.9**
KULA Kula-Manisa 87.36 339 *eP* **P** 12 24 37.9 **-0.7**
MVO Moncorvo 87.40 7 *eP* **P** 12 24 38.7 **0.0**
comp=Z,76nm,1.0s
MVO *e*LQ LQ 12 44 51.4
MVO *e*LR LR 12 49 09.8
comp=Z,1μm,18.0s
MERS Mersin 87.48 334 *eP* **P** 12 24 38.0 **-1.1**
MEV Metsovon 87.55 345 P **P** 12 24 40.4 **+0.9**
ISP Isparta 87.59 338 *eP* **P** 12 24 38.6 **-1.1**
ISP Isparta 87.59 338 *eP* **P** 12 24 39.0 **-0.7**
ISP pmax pmax
comp=Z,53nm,1.1s
ISP Isparta 87.59 338 *eP* **P** 12 24 39.0 **-0.7**
comp=Z,53nm,1.1s
XOR Xorichti 87.62 344 P **P** 12 24 38.4 **-1.3**
AOS Alonnisos 87.69 343 *eP* P 12 24 32.0 -8.0
JAN Janina 87.73 345 P **P** 12 24 40.1 **-0.1**
SKIA Skiathos 87.77 343 P **P** 12 24 39.0 **-1.4**
IZM Izmir 87.77 340 *eP* **P** 12 24 39.6 **-0.9**
PVIS Viseu 87.78 7 *eP* **P** 12 24 40.5 **0.0**
comp=Z,98nm,1.0s
YAYL Yayladag 87.82 333 *iP* **P** 12 24 40.3 **-0.5**
BLCB Balcova 87.83 340 *eP* **P** 12 24 39.3 **-1.4**
KEK Kerkira 87.84 346 P **P** 12 24 40.1 **-0.6**
IGT Igoumenitsa 87.93 346 P **P** 12 24 40.8 **-0.4**
BCIP Isla Barro Col 88.02 78 *eP* **P** 12 24 41.9 **0.0**
CHOS Chios island 88.03 341 P **P** 12 24 41.2 **-0.5**
DNZL Cakiroluk 88.06 339 *iP* **P** 12 24 41.3 **-0.8**
CUC Castrocucco 88.09 349 *eP* **P** 12 24 40.4 **-1.5**
comp=Z,81nm,1.1s
AGG Agios Georgios 88.11 344 P **P** 12 24 39.3 **-2.7**
AGG Agios Georgios 88.11 344 *eP* **P** 12 24 39.0 **-3.0**
AGPR Aguadilla, PR 88.11 62 *eP* **P** 12 24 43.0 **+0.8**
comp=Z,543nm,1.3s
ERMK Ermenek 88.12 335 *iP* **P** 12 24 41.4 **-1.0**
MTE Manteigas 88.12 7 *eP* **P** 12 24 41.6 **-0.5**
comp=Z,90nm,1.0s
MTE *e*LR LR 12 50 50.9
comp=Z,1μm,20.0s
MTE Manteigas 88.12 7 *eP* **P** 12 24 41.9 **-0.2**
comp=Z,69nm,0.9s
MAKR Makrakomi, Fth 88.15 344 P **P** 12 24 41.7 **-0.5**
MRKA Markates 88.20 343 P **P** 12 24 41.0 **-1.4**
EVR Evrytania 88.30 345 P **P** 12 24 42.9 **-0.1**
MPR Mayaguez 88.30 63 *eP* **P** 12 24 44.0 **+0.8**
comp=Z,174nm,1.2s
ATAL Atalanti 88.31 344 P **P** 12 24 41.3 **-1.7**
LKR Lokris 88.36 344 P **P** 12 24 41.4 **-1.8**
LSP Las Mesas 88.36 63 *eP* **P** 12 24 44.2 **+0.7**
LRS Lares 88.40 62 *eP* **P** 12 24 44.1 **+0.3**
AOPR Arecibo Observ 88.41 62 *eP* **P** 12 24 44.5 **+0.7**
comp=Z,193nm,1.1s
CRPR Cabo Rojo, PR 88.49 63 *eP* **P** 12 24 44.3 **+0.3**
comp=Z,281nm,1.4s
DSF Desfina 88.67 344 P **P** 12 24 43.1 **-1.6**
PCBR Castelo Branco 88.69 7 *eP* **P** 12 24 44.4 **-0.3**
comp=Z,75nm,1.1s
CELP Cerrillos 88.72 62 *eP* **P** 12 24 45.8 **+0.5**
OBIP Obispado Ponce 88.74 62 *eP* **P** 12 24 46.3 **+1.1**
comp=Z,409nm,1.2s
KALE Kalithea 88.76 344 P **P** 12 24 43.8 **-1.3**
EFP Efpalio 88.76 344 P **P** 12 24 45.4 **+0.3**
ELL Elmali 88.76 338 *eP* **P** 12 24 44.2 **-1.1**
TRIZ Trizonia 88.79 344 P **P** 12 24 44.1 **-1.1**
PTOM Tomar 88.83 8 *eP* **P** 12 24 44.3 **-1.1**
comp=Z,136nm,0.9s
LAKA Lakka 88.93 344 P **P** 12 24 44.8 **-1.1**
SJG San Juan 88.93 62 *eP* **P** 12 24 46.1 **-0.1**
comp=Z,294nm,1.2s
LTK Loutraki 88.97 343 P **P** 12 24 44.0 **-2.1**
BODT Bodrum 89.05 340 *eP* **P** 12 24 44.9 **-1.6**
FETY Fethiye 89.06 338 *eP* **P** 12 24 45.5 **-1.0**
ESDC Sonseca Array 89.07 5 P **P** 12 24 45.9 **-0.7**
comp=Z,34nm,0.9s,baz=354,slow=4.3,SNR=42
ESDC PKKPbc **PKKPbc** 12 42 21.7 **-0.4**
comp=Z,0.5nm,0.4s,baz=183,slow=2.3,SNR=7.0
ESDC Sonseca Array 89.07 5 P **P** 12 24 45.9 **-0.7**
ESDC PKKPbc **PKKPbc** 12 42 21.7 **-0.4**
ESLA Sonseca Array 89.07 5 *eP* **P** 12 24 45.7 **-0.9**
PMRV Marv??o 89.10 7 *eP* **P** 12 24 46.1 **-0.6**
comp=Z,55nm,1.1s
PMRV *e*LR LR 12 50 20.3
comp=Z,1μm,20.0s
VSL Villasalto 89.16 354 *eP* **P** 12 24 46.2 **-0.7**
comp=Z,34nm,1.0s
GUR Goura 89.17 344 P **P** 12 24 45.8 **-1.3**
PAYG Puerto Ayora 89.17 92 *eP* **P** 12 24 47.8 **+0.4**
comp=Z,189nm,1.5s
PAB San Pablo 89.18 5 *eP* **P** 12 24 46.1 **-1.0**
PAB pmax pmax
comp=Z,34nm,1.0s
PAB San Pablo 89.18 5 *eP* **P** 12 24 46.1 **-1.0**
comp=Z,34nm,1.0s
RLS Riolos of Patr 89.19 345 P **P** 12 24 46.8 **-0.3**
VLS Valsamata 89.22 345 P **P** 12 24 46.6 **-0.7**
LFK Lefkose 89.24 335 *eP* **P** 12 24 46.9 **-0.6**
KFL Anninata 89.25 345 P **P** 12 24 46.8 **-0.6**
PMTG Montargil 89.39 8 *eP* **P** 12 24 46.7 **-1.3**
comp=Z,44nm,1.3s
FKH Fakeheh 89.40 332 *eP* **P** 12 24 48.4 **+0.1**
PMAFR Mafra 89.41 9 *eP* **P** 12 24 48.0 **-0.1**
comp=Z,154nm,1.1s
DID Didima 89.42 343 P **P** 12 24 45.4 **-2.9**
LEF Lefka 89.56 335 *eP* **P** 12 24 47.9 **-1.0**
PESTR Estrenoz 89.64 7 *eP* **P** 12 24 48.2 **-1.0**
comp=Z,100nm,1.2s
AMT Artemida-Makis 89.67 344 P **P** 12 24 48.5 **-0.9**
ARG Arkhangelos 89.68 339 P **P** 12 24 48.0 **-1.4**
VLX Vlachokerasia 89.71 344 P **P** 12 24 48.7 **-1.0**
MIB Mutribah 89.73 322 *eP* **P** 12 24 48.9 **-0.8**
MIB AMb AMB 12 24 50.8
comp=Z,344nm,1.1s
CEL Celeste 89.79 349 *eP* **P** 12 24 48.0 **-1.9**
comp=Z,146nm,0.9s
UMR Umm Al-Rimmam 89.81 321 *eP* **P** 12 24 49.4 **-0.7**
UMR AMb AMB 12 24 51.1
comp=Z,208nm,1.6s
EVOP Sao Brissos 89.94 8⇑*iP* **P** 12 24 49.3 **-1.3**
EVOP pmax pmax
comp=Z,90nm,1.2s
EVOP Sao Brissos 89.94 8⇑*iP* **P** 12 24 49.3 **-1.3**
comp=Z,90nm,1.2s
BHL Bhannes 89.94 332 *eP* **P** 12 24 49.9 **-0.9**
EVO Evora 89.94 8⇑*iP* **P** 12 24 49.3 **-1.3**
comp=Z,90nm,1.2s
CDVI St. Croix 89.98 61 *epP* P 12 24 54.5 +3.4
VLI Paliai 90.25 343 P **P** 12 24 49.8 **-2.3**
STKA Stephens Creek 90.25 213 P **P** 12 24 52.2 **+0.4**
comp=Z,99nm,0.9s,baz=10,slow=5.5,SNR=46
STKA PKKPbc **PKKPdf** 12 42 18.2 **+0.9**
comp=Z,2.4nm,0.7s,baz=202,slow=5.4,SNR=4.6
STKA Stephens Creek 90.25 213 *eP* **P** 12 24 52.4 **+0.6**
comp=Z,27nm,0.9s
STKA PKKPbc **PKKPdf** 12 42 18.2 **+0.9**
NAY Al-Naaiem 90.26 322 *eP* **P** 12 24 50.9 **-1.3**
NAY AMb AMB 12 24 54.6
comp=Z,114nm,1.2s
RCY Rachaya 90.27 332 *eP* **P** 12 24 51.9 **-0.5**
PYL PYLOS 90.28 344 P **P** 12 24 50.8 **-1.4**
DYR Agios Nikonas 90.31 344 P **P** 12 24 51.0 **-1.4**
PNCL Nicolau / Gran 90.31 8 *eP* **P** 12 24 51.4 **-0.9**
comp=Z,72nm,1.6s
PBAR Barrancos 90.37 7 *eP* **P** 12 24 51.6 **-1.0**
comp=Z,94nm,1.0s
MBWA Marble Bar 90.42 236 *eP* **P** 12 24 52.2 **-0.7**
comp=Z,88nm,0.9s
MBWA Marble Bar 90.42 236 P **P** 12 24 52.7 **-0.1**
SNR=7.0
RDF Al-Radifah 90.43 321 *eP* **P** 12 24 52.4 **-0.7**
RDF AMb AMB 12 24 54.2
comp=Z,251nm,1.1s
QRN Al-Qurain 90.45 321 *eP* **P** 12 24 52.3 **-0.8**
QRN AMb AMB 12 24 54.7
comp=Z,256nm,2.0s
PBEJ Beja 90.45 8 *eP* **P** 12 24 52.8 **-0.2**
comp=Z,47nm,1.0s
PCVE Castro Verde 90.83 8 *eP* **P** 12 24 54.3 **-0.5**
comp=Z,52nm,1.2s
PVAQ Vaqueiro 91.09 8 *eP* **P** 12 24 55.6 **-0.3**
comp=Z,82nm,1.3s
NPS Neapolis 91.14 341 P **P** 12 24 53.9 **-2.4**
ZKR Zakros 91.16 340 P **P** 12 24 54.8 **-1.5**
ZKR Zakros 91.16 340 *eP* **P** 12 24 54.0 **-2.3**
PFVI Vila Bisbo 91.26 9 *eP* **P** 12 24 56.7 **0.0**
comp=Z,17nm,1.1s
IDI Anoyia 91.26 341 *eP* P 12 24 53.0 -3.9
PALK Pallekele 91.27 283 *eP* **P** 12 24 57.8 **+0.6**
comp=Z,106nm,1.0s
PALK Pallekele 91.27 283 P **P** 12 24 58.1 **+0.9**
SNR=11
ARQ Araqi 91.44 311 P **P** 12 24 57.5 **-0.4**
SNR=9.2
JMDO Jabal Madar 91.52 310 P **P** 12 24 58.0 **-0.2**
SNR=7.0
BSY Bisya 91.63 311 P **P** 12 24 58.0 **-0.7**
SNR=6.1
KEST Kesra 92.91 354 P **P** 12 25 04.2 **-0.4**
comp=Z,14nm,1.0s,baz=286,slow=4.3,SNR=10
KEST LR LR 13 13 07.3
comp=Z,440nm,19.5s,baz=226,slow=40
KEST Kesra 92.91 354 *eP* **P** 12 25 04.5 **0.0**
LZG Guadaloupe-1 92.93 60 *eP* **P** 12 25 05.1 **+0.3**
SCG Saint Claude 93.07 60 *eP* **P** 12 25 06.5 **+1.0**
BBOO Buckleboo 93.09 217 *eP* **P** 12 25 06.2 **+1.3**
comp=Z,422nm,1.0s
DOG Dongo Capester 93.10 60 *eP* **P** 12 25 06.1 **+0.5**
PHG Guadaloupe-2 93.10 60 *eP* **P** 12 25 06.5 **+0.8**
TBG Guadaloupe-3 93.24 60 *eP* **P** 12 25 07.0 **+0.8**
MGG Marie-Galante 93.36 59 *eP* **P** 12 25 07.4 **+0.7**
SDV Santo Domingo 93.78 71 *eP* **P** 12 25 10.1 **+1.2**
comp=Z,0.6nm,1.1s
FDF Fort de France 94.43 60 *eP* **P** 12 25 12.2 **+0.5**
FDF pmax pmax
comp=Z,197nm,1.1s
FDF Fort de France 94.43 60 *eP* **P** 12 25 12.2 **+0.5**
comp=Z,197nm,1.1s
FORT Forrest 94.57 224 *eP* **P** 12 25 11.8 **0.0**
comp=Z,67nm,0.9s
ROSC El Rosal 94.76 76 P **P** 12 25 13.7 **0.0**
comp=Z,7.5nm,0.3s,baz=99,slow=19,SNR=4.4
ROSC El Rosal 94.76 76 P **P** 12 25 13.7 **0.0**
RPZ Rata Peaks 95.28 188 LR LR 13 00 53.1
comp=Z,4μm,21.6s,baz=41,slow=31
OTAV Otavalo 95.84 82 *eP* P 12 25 22.9 +4.2
comp=Z,18nm,1.1s
MDT Midelt 95.87 5 P **P** 12 25 17.4 **-0.8**
comp=Z,29nm,1.1s,baz=17,slow=3.1,SNR=11
MDT LR LR 13 06 16.2
comp=Z,1μm,20.8s,baz=353,slow=34
MDT Midelt 95.87 5 P **P** 12 25 17.4 **-0.8**
RAYN Ar Rayn 96.07 320 P **P** 12 25 18.5 **-0.7**
comp=Z,470nm,1.0s,SNR=8.2
LPAZ La Paz 115.01 85 PKP **PKPdf** 12 30 32.3 **-1.0**
comp=Z,1.7nm,0.8s,baz=36,slow=5.5,SNR=3.9
LPAZ PKKPab **PKKPab** 12 41 15.8 **+1.2**
comp=Z,2.4nm,0.8s,baz=182,slow=5.2,SNR=4.0
LPAZ La Paz 115.01 85 PKP **PKPdf** 12 30 32.3 **-1.0**
LPAZ PKKPab **PKKPab** 12 41 15.8 **+1.2**
TOA0 Torodi Ar. Sit 115.64 0 *e*PKPdf **PKPdf** 12 30 33.1 **-0.7**
TORD Torodi Ar. Bea 115.64 0 PKP **PKPdf** 12 30 32.9 **-1.0**
comp=Z,18nm,0.8s,baz=358,slow=2.6,SNR=23
TORD PKKPbc **PKKPbc** 12 41 04.1 **-0.3**
comp=Z,5.8nm,1.0s,baz=164,slow=2.8,SNR=6.6
TORD PKKPab **PKKPab** 12 41 10.9 **-3.4**
comp=Z,5.7nm,0.9s,baz=184,slow=3.5,SNR=7.5
TORD Torodi Ar. Bea 115.64 0 PKP **PKPdf** 12 30 32.9 **-1.0**
TORD PKKPbc **PKKPbc** 12 41 04.1 **-0.3**
TORD PKKPab **PKKPab** 12 41 10.9 **-3.4**
SIV San Ignacio 119.15 79 PKP **PKPdf** 12 30 40.2 **-0.3**
comp=Z,4.2nm,0.8s,baz=38,slow=1.5,SNR=5.4
SIV PP **PP** 12 31 59.2 **-1.7**
comp=Z,8.2nm,1.0s,baz=346,slow=3.9,SNR=9.3
SIV PKKPbc **PKKPbc** 12 40 51.3 **-0.6**
comp=Z,4.4nm,1.0s,baz=150,slow=5.3,SNR=5.9
SIV San Ignacio 119.15 79 PKP **PKPdf** 12 30 40.2 **-0.3**
SIV PP **PP** 12 31 59.2 **-1.7**
SIV PKKPbc **PKKPbc** 12 40 51.3 **-0.6**
KMBO Kilima Mbogo 121.67 317 *e*PKPdf **PKPdf** 12 30 46.5 **+0.7**
KMBO Kilima Mbogo 121.67 317 *eP* **PKPdf** 12 30 45.9 **+0.1**
DBIC Dimbokro 121.79 8 PKP **PKPdf** 12 30 45.0 **-0.7**
comp=Z,36nm,0.5s,baz=352,slow=2.5,SNR=36
DBIC Dimbokro 121.79 8 PKP **PKPdf** 12 30 45.0 **-0.7**
DBIC *e*PKPdf **PKiKP** 12 30 45.2 **-0.7**
DRV Dumont d'Urvil 122.03 198 Pdif **Pdif** 12 27 23.0 **+10**
DRV Dumont d'Urvil 122.03 198 PP PP 12 32 13.0 -7.1
DRV SKKS 12 37 29.0
DRV Dumont d'Urvil 122.03 198 SS SS 12 49 11.0 +15
LIC Lamto 122.21 8⇑*i*PKIKP **PKPdf** 12 30 45.7 **-0.8**
comp=Z,212nm,1.0s
LIC Lamto 122.21 8⇑*i*PKPdf **PKPdf** 12 30 45.7 **-0.8**
MBAR Mbarara 123.76 325 PKP **PKPdf** 12 30 49.2 **-0.6**
comp=Z,8.8nm,0.7s,baz=325,slow=18,SNR=10.0
MBAR Mbarara 123.76 325 PKP **PKPdf** 12 30 49.2 **-0.6**
RCBR Riachuelo 124.78 48 PKP **PKPdf** 12 30 51.3 **-0.1**
comp=Z,9.1nm,0.8s,baz=35,slow=5.0,SNR=6.0
RCBR PKKPab **PKKPab** 12 40 32.5 **-1.0**
comp=Z,20nm,1.2s,baz=120,slow=8.4,SNR=4.7
RCBR Riachuelo 124.78 48 PKP **PKPdf** 12 30 51.3 **-0.1**
RCBR PKKPab **PKKPab** 12 40 32.5 **-1.0**
CFAA Coronel Fontan 126.05 97 PKP **PKPdf** 12 30 52.5 **-0.8**
comp=Z,0.7nm,0.8s,baz=277,slow=1.5,SNR=5.3
CFAA Coronel Fontan 126.05 97 PKP **PKPdf** 12 30 52.5 **-0.8**
BDFB Brasilia 126.67 67 PKP **PKPdf** 12 30 54.3 **-0.8**
comp=Z,9.5nm,0.7s,baz=28,slow=1.6,SNR=6.0
BDFB PP **PP** 12 32 50.5 **-1.2**
comp=Z,11nm,0.9s,baz=308,slow=9.7,SNR=4.9
BDFB Brasilia 126.67 67 PKP **PKPdf** 12 30 54.3 **-0.8**
BDFB PP **PP** 12 32 50.5 **-1.2**
VNDA Vanda 129.34 186 PKP **PKPdf** 12 30 57.0 **-1.2**
comp=Z,9.2nm,1.1s,baz=334,slow=5.2,SNR=5.4
VNDA SKPbc SKPab 12 34 15.4 -1.2
comp=Z,5.8nm,1.0s,baz=1.0,slow=4.9,SNR=6.1
VNDA Vanda 129.34 186 PKP **PKPdf** 12 30 57.0 **-1.2**
VNDA SKPbc SKPab 12 34 15.4 -1.2
SBA Scott Base 129.41 184 *e*PKIKP **PKPdf** 12 30 59.1 **+0.8**
SBA Scott Base 129.41 184 *e*PKPdf **PKPdf** 12 30 59.1 **+0.8**
PLCA Paso Flores 130.60 107 PKP **PKPdf** 12 31 01.9 **+0.2**
comp=Z,21nm,1.0s,baz=271,slow=2.5,SNR=7.0
PLCA SKPab **SKPbc** 12 34 23.5 **+0.3**
comp=Z,6.0nm,1.0s,baz=333,slow=7.1,SNR=3.0
PLCA Paso Flores 130.60 107 PKP **PKPdf** 12 31 01.9 **+0.2**
PLCA *e*PKPdf **PKiKP** 12 31 02.3 **-0.3**
PLCA SKPab **SKPbc** 12 34 23.5 **+0.3**
OPO Ambohidratompo131.62 296 PKP **PKPdf** 12 31 05.8 **+1.3**
comp=Z,9.3nm,0.8s,baz=122,slow=1.2,SNR=6.6
OPO SKPbc **SKPbc** 12 34 25.9 **-1.9**
comp=Z,8.9nm,0.9s,baz=15,slow=1.5,SNR=5.8
OPO Ambohidratompo131.62 296 PKP **PKPdf** 12 31 05.8 **+1.3**
OPO SKPbc **SKPbc** 12 34 25.9 **-1.9**
LSZ Lusaka 138.18 320 PKP **PKPdf** 12 31 18.6 **+1.8**
comp=Z,18nm,0.7s,baz=67,slow=11,SNR=5.6
LSZ SKPbc **SKPbc** 12 34 46.6 **-2.2**
comp=Z,11nm,1.0s,baz=36,slow=7.5,SNR=3.4
LSZ Lusaka 138.18 320 *e*PKPdf **PKPdf** 12 31 16.8 **0.0**
LSZ PKP **PKPdf** 12 31 18.6 **+1.8**
LSZ SKPbc **SKPbc** 12 34 46.6 **-2.2**
QSPA South Pole Qui 141.24 180 PKP **PKPdf** 12 31 22.1 **+1.5**
comp=Z,50nm,0.9s,baz=354,slow=1.6,SNR=8.2
QSPA SKPbc **SKPbc** 12 34 53.1 **-2.2**
comp=Z,23nm,1.0s,baz=8.3,slow=4.2,SNR=6.4
QSPA South Pole Qui 141.24 180 *e*PKPdf **PKPdf** 12 31 19.0 **-1.6**
QSPA PKP **PKPdf** 12 31 22.1 **+1.5**
QSPA SKPbc **SKPbc** 12 34 53.1 **-2.2**
MSNA Messina 143.65 313 *eP* PKPbc 12 31 24.0 +0.2
MSNA AMS AMS 13 34 52.3
comp=Z,2μm,28.5s
PMSA Palmer Station 144.53 138 PKP **PKPab** 12 31 25.4 **+0.5**
comp=Z,89nm,0.9s,baz=271,slow=3.8,SNR=11
PMSA Palmer Station 144.53 138 PKP **PKPab** 12 31 25.4 **+0.5**
TSUM Tsumeb 145.49 333 PKPbc **PKPbc** 12 31 29.9 **+0.1**
comp=Z,342nm,1.0s,baz=7.7,slow=3.7,SNR=67
TSUM Tsumeb 145.49 333 PKPbc **PKPbc** 12 31 29.9 **+0.1**
CNG Changalane 145.94 306 *eP* **PKPdf** 12 31 30.4 **+0.3**
MAW Mawson 146.83 218 PKPbc **PKPbc** 12 31 32.1 **0.0**
comp=Z,300nm,1.0s,baz=73,slow=3.2,SNR=50
MAW Mawson 146.83 218 PKPbc **PKPbc** 12 31 32.1 **0.0**
SLR Silverton 147.37 312 *eP* **PKPbc** 12 31 35.1 **-0.1**
SLR AMS AMS 13 36 53.3
comp=Z,2μm,23.0s
ERPM east rand prop 147.90 311 *eP* **PKPbc** 12 31 36.8 **+0.1**
LBTB Lobatse 147.95 317 *e*PKPdf **PKPdf** 12 31 34.5 **+0.8**
LBTB *e*PKPbc **PKPbc** 12 31 37.1 **+0.4**
KSR Koster 148.10 314 *eP* **PKPbc** 12 31 37.1 **-0.1**
KLOF Kloof 148.20 312 *eP* **PKPdf** 12 31 34.2 **+0.1**
PRYS Parys 148.81 312 *eP* **PKPbc** 12 31 39.0 **0.0**
BOSA Boshof 151.21 314 PKPbc **PKPbc** 12 31 44.8 **+0.1**
comp=Z,246nm,0.9s,baz=45,slow=1.6,SNR=49
BOSA Boshof 151.21 314 PKPbc **PKPbc** 12 31 44.8 **+0.1**
UPI Upington 152.70 320 *eP* **PKPbc** 12 31 47.1 **-0.9**
GRM Grahamstown 154.50 306 *eP* **PKPbc** 12 31 51.9 **+0.2**
CVNA Calvinia 156.06 320 *eP* **PKPab** 12 32 12.9 **-0.1**
CER Ceres 157.89 318 *eP* **PKPab** 12 32 18.2 **-2.6**
ELIM Elim 158.75 316 *eP* **PKPab** 12 32 25.1 **+0.5**
VNA3 Neumayer Olymp 159.49 169 *e*PKPdf **PKPdf** 12 31 47.4 **-1.1**
VNA3 Neumayer Olymp 159.49 169 *e*PKPab **PKPab** 12 32 26.6 **-0.1**
SNAA Sanae 159.63 176 *e*PKPdf **PKPdf** 12 31 47.7 **-1.0**
SNAA Sanae 159.63 176 *e*PKPab **PKPab** 12 32 26.8 **-0.6**
SNAA Sanae 159.63 176 PKP **PKPdf** 12 31 47.3 **-1.3**
comp=Z,5.4nm,1.0s,baz=141,slow=3.1,SNR=6.1
SNAA Sanae 159.63 176 *e*PKPdf **PKPdf** 12 31 46.7 **-2.0**
SNAA PKP **PKPdf** 12 31 47.3 **-1.3**
SNAA Sanae 159.63 176 *eP* PKPdf 12 31 42.4 -6.3
VNA2 Neumayer--Watz 160.03 171 *e*PKPdf **PKPdf** 12 31 48.2 **-0.9**
VNA2 Neumayer--Watz 160.03 171 *e*PKPab **PKPab** 12 32 29.2 **+0.1**
VNA1 Neumayer--Stat 160.21 170 *e*PKPdf **PKPdf** 12 31 48.7 **-0.5**
VNA1 Neumayer--Stat 160.21 170 *e*PKPab **PKPab** 12 32 30.0 **+0.2**

ATH ***30*** *12:15:57.2,39°.53N×20°.77E, h47*$^{km}_{\pm}$*2km, MD3.3/11*
THE ***30*** *12:15:58.0,39°.33N×20°.59E, h7*$^{km}_{\pm}$*11km, ML2.3/2, Error ellipse: s-maj=12.4km s-min=0.6km az=347.0

IGT				S	Sb	12 16 07.7	-1.2
IGT	**Igoumenitsa**	**0.25**	**285**	P	Pb	12 16 03.4	-1.1
IGT				S	Sb	12 16 07.7	-1.2
MEV	**Metsovon**	**0.55**	**55**	P	Pn	12 16 10.8	+0.3
MEV	**Metsovon**	**0.55**	**55**	P	Pn	12 16 10.8	+0.3
KEK	**Kerkira**	**0.70**	**291**	P	Pb	12 16 11.4	-0.3
KEK	**Kerkira**	**0.70**	**291**	*eP*	Pn	12 16 12.4	0.0
KEK				*eS*	Sn	12 16 24.3	+1.9
KEK	**Kerkira**	**0.70**	**291**	*eP*	Pn	12 16 12.4	0.0
KEK				*eS*	Sn	12 16 24.3	+1.9
EVR	**Evrytania**	**1.06**	**121**	*eP*	Pn	12 16 16.5	-1.0
EVR	**Evrytania**	**1.06**	**121**	*eP*	Pn	12 16 16.5	-1.0
THL	**Klokotos Trika**	**1.06**	**84**	*eP*	Pn	12 16 16.3	-1.1
THL	**Klokotos Trika**	**1.06**	**84**	*eP*	Pn	12 16 16.3	-1.1
VLS	**Valsamata**	**1.29**	**182**	*eP*	Pn	12 16 20.3	-0.3
VLS				*eS*	Sn	12 16 38.8	+1.8
VLS	**Valsamata**	**1.29**	**182**	*eP*	Pn	12 16 20.3	-0.3
VLS				*eS*	Sn	12 16 38.8	+1.8
AGG	**Agios Georgios**	**1.38**	**108**	*eP*	Pn	12 16 20.0	-1.8
AGG	**Agios Georgios**	**1.38**	**108**	*eP*	Pn	12 16 20.0	-1.8
EFP	**Efpalio**	**1.43**	**136**	*eP*	Pn	12 16 22.1	-0.4
EFP	**Efpalio**	**1.43**	**136**	*eP*	Pn	12 16 22.1	-0.4
RLS	**Riolos of Patr**	**1.55**	**155**	*eP*	Pn	12 16 24.0	-0.1
RLS	**Riolos of Patr**	**1.55**	**155**	*eP*	Pn	12 16 24.0	-0.1
LIT	**Litokhoron**	**1.56**	**65**	*eP*	Pn	12 16 21.4	-2.8
LIT	**Litokhoron**	**1.56**	**65**	*eP*	Pn	12 16 21.4	-2.8
TRIZ	**Trizonia**	**1.57**	**134**	*eP*	Pn	12 16 23.5	-0.8
TRIZ	**Trizonia**	**1.57**	**134**	*eP*	Pn	12 16 23.5	-0.8
KALE	**Kalithea**	**1.59**	**132**	*eP*	Pn	12 16 24.3	-0.4
KALE	**Kalithea**	**1.59**	**132**	*eP*	Pn	12 16 24.3	-0.4
LAKA	**Lakka**	**1.61**	**139**	*eP*	Pn	12 16 24.5	-0.5
LAKA	**Lakka**	**1.61**	**139**	*eP*	Pn	12 16 24.5	-0.5

*MAN **30** 12:38:55,5˝99N×126˝23E,h174km,mb4.9,ML3.8,MS3.8*
*ISCJB **30** 12:38:56.5±0.6,5˝72N±0˝08×126˝10E±0˝08,h150m±5km, mb4.0/12, Error ellipse: s-maj=16.7km s-min=9.2km az=135.9*
*IDC **30** 12:38:58.0±0.7,5˝75N×126˝13E,h148km±7km,mb3.6/11, mb1 3.7/11,mb1mx3.5/26,mbtmp3.6/11, Error ellipse: s-maj=28.5km s-min=10.0km az=61.0*

ISC 30 12:38:57.3±0.9,5˝67N±0˝10×126˝08E±0˝09,h141km±9km, n28,σ0°90/32,mb4.0/12,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.20**	**290**	*eP*		**Pn**	**12 39 22.2**	**-1.0**
MATI	**Mati**	**1.28**	**8**	*eP*		**Pn**	**12 39 23.4**	**-0.5**
MATI				*eS*		**Sn**	**12 39 43.7**	**-0.6**
DAV	**Davao City (W)**	**1.48**	**340**	P		**Pn**	**12 39 25.4**	**-0.6**
	93nm,0.3s,baz=56,slow=18,SNR=12							
DAV				S		**Sn**	**12 39 48.6**	**+0.6**
	270nm,0.3s,baz=354,slow=23,SNR=9.8							
DMPH	**Davao City--Mi**	**1.52**	**338**	*eP*		**Pn**	**12 39 26.4**	**0.0**
DMPH				*i* S		**Sn**	**12 39 49.4**	**+0.8**
KCP	**Kidapawan**	**1.66**	**323**	*eP*		Pn	12 39 34.6	+6.5
KCP				*eS*		Sn	12 39 58.6	+7.1
CTBH	**Cotabato--PC H**	**2.39**	**310**	*eP*		**Pn**	**12 39 36.6**	**-0.1**
BUKP	**Musuan**	**2.42**	**335**	*eP*		**Pn**	**12 39 37.5**	**+0.4**
BUKP				*eS*		**Sn**	**12 40 10.8**	**+3.1**
BUTP	**Butuan**	**3.31**	**352**	*eP*		Pn	12 39 43.2	-5.2
PAGZ	**Pagadian**	**3.45**	**309**	*eP*		**Pn**	**12 39 50.8**	**+0.6**
PAGZ				*eS*		**Sn**	**12 40 29.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**23.62**	**181**	P		**P**	**12 43 56.3**	**+0.6**
	1.1nm,0.8s,baz=354,slow=8.2,SNR=4.4							
PMG	**Port Moresby**	**25.80**	**125**	P		**P**	**12 44 14.7**	**-0.8**
	4.7nm,0.5s,baz=333,slow=2.3,SNR=5.5							
WRA	**Warramunga Arr**	**26.71**	**163**	P		**P**	**12 44 23.9**	**+0.2**
	1.4nm,0.4s,baz=348,slow=10,SNR=21							
CMAR	**Chiang Mai Arr**	**29.37**	**298**	P		**P**	**12 44 48.0**	**+0.6**
	1.0nm,0.7s,baz=115,slow=7.6,SNR=7.5							
ASAR	**Alice Springs**	**30.14**	**166**	P		**P**	**12 44 54.9**	**+0.7**
	0.5nm,0.5s,baz=345,slow=7.4,SNR=12							
STKA	**Stephens Creek**	**40.16**	**159**	P		**P**	**12 46 20.5**	**+0.7**
	4.0nm,0.8s,baz=311,slow=7.2,SNR=8.0							
ODAN	**Odare**	**42.44**	**304**	*eP*		**P**	**12 46 38.2**	**-0.6**
RAMN	**Ramite**	**43.13**	**304**	*eP*		**P**	**12 46 44.8**	**+0.5**
GUN	**Gumba**	**44.08**	**305**	*eP*		**P**	**12 46 51.6**	**-0.5**
KOLN	**Koldanda**	**45.91**	**304**	*eP*		**P**	**12 47 06.3**	**-0.1**
DANN	**Dangsing**	**45.98**	**304**	*eP*		**P**	**12 47 06.8**	**-0.3**
	18nm,0.6s							
PYUN	**Piuthan**	**46.53**	**304**	*eP*		**P**	**12 47 11.7**	**+0.5**
DZM	**Mont Dzumac**	**48.18**	**126**	P		**P**	**12 47 24.7**	**+0.8**
	3.8nm,0.6s,baz=345,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**55.61**	**325**	P		**P**	**12 48 18.1**	**-0.4**
	2.5nm,0.5s,baz=117,slow=7.7,SNR=37							
MKAR				PcP		**PcP**	**12 49 16.1**	**-0.3**
	0.8nm,0.7s,baz=117,slow=4.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**58.58**	**333**	P		**P**	**12 48 37.9**	**-1.3**
	0.7nm,0.5s,baz=140,slow=5.7,SNR=3.6							
KURBB	**Kurchatov Arra**	**59.77**	**327**	P		**P**	**12 48 46.6**	**-0.8**
	58nm,0.3s,baz=126,slow=6.2,SNR=2.3							
AKTO	**Aktyubinsk**	**71.75**	**321**	P		**P**	**12 50 03.2**	**-1.1**
	1.1nm,0.3s,baz=104,slow=12,SNR=3.8							
ILAR	**Eielson Array**	**83.64**	**26**	P		**P**	**12 51 09.7**	**-0.2**
	1.1nm,1.0s,baz=255,slow=5.8,SNR=7.4							
TORD	**Torodi Ar. Bea**	**121.69**	**289**	PKP		**PKPdf**	**12 57 35.5**	**-0.1**
	0.4nm,0.7s,baz=58,slow=1.4,SNR=5.2							

*ISK **30** 12:57:11.4,37˚25N×37˚24E,h5km,MD2.6*
*DDA **30** 12:57:12.6,37˚24N×37˚25E,h7km,MD3.1*
*CSEM **30** 12:57:12.8±0.4,37˚21N×37˚25E,h5km,MD2.6, Error ellipse: s-maj=10.1km s-min=7.2km az=112.0*

ISC 30 12:57:11.7±0.9,37˚24N±0˝04×37˚21E±0˝04,h5km±9km, n17,σ0°66/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.06**	**177**	PG		**Pg**	**12 57 13.1**	**-0.1**
GAZ				*e*SG		**Sg**	**12 57 14.9**	**+0.6**
GAZ	**Gaziantep**	**0.06**	**177**	*i* Pg		**Pg**	**12 57 13.1**	**-0.1**
GAZ				*e*Sg		**Sg**	**12 57 14.9**	**+0.6**
GZT	**Gaziantep**	**0.31**	**67**	*i* P		**Pg**	**12 57 17.5**	**-0.2**
KMRS	**Kahramanmaras**	**0.36**	**318**	*e*PG		**Pb**	**12 57 19.9**	**-0.8**
KMRS				*e*SG		**Sb**	**12 57 26.0**	**-0.8**
KMRS	**Kahramanmaras**	**0.36**	**318**	*e*Pg		**Pb**	**12 57 20.0**	**-0.8**
KMRS				*e*Sg		**Sb**	**12 57 26.0**	**-0.8**
KUZU	**Kuzuini**	**0.47**	**193**	*i* P		**Pb**	**12 57 21.7**	**-0.9**
KUZU	**Kuzuini**	**0.47**	**193**	*i* P		**Pb**	**12 57 21.7**	**-0.9**
ANDN	**Andirin**	**0.77**	**297**	*i* P		**Pn**	**12 57 29.2**	**-0.2**
ANDN	**Andirin**	**0.77**	**297**	*i* P		**Pn**	**12 57 29.2**	**-0.2**
KOZT	**Kozan**	**1.13**	**283**	*e*PN		**Pn**	**12 57 35.0**	**+0.8**
KOZT	**Kozan**	**1.13**	**283**	*e*Pn		**Pn**	**12 57 35.0**	**+0.8**
AKCD	**Akcadag**	**1.20**	**28**	*i* P		**Pn**	**12 57 35.7**	**+0.3**
AKCD				*e*S		**Sn**	**12 57 53.0**	**+0.8**
AKCD	**Akcadag**	**1.20**	**28**	*i* P		**Pn**	**12 57 35.7**	**+0.3**
AKCD				*i* S		**Sn**	**12 57 53.0**	**+0.8**
MALT	**Malatya**	**1.45**	**42**	*e*PN		**Pg**	**12 57 39.6**	**+0.2**
MALT	**Malatya**	**1.45**	**42**	*e*Pn		**Pg**	**12 57 39.7**	**+0.2**
KRTS	**Karatas**	**1.61**	**246**	*e*PN		**Pg**	**12 57 43.0**	**+0.4**
KRTS	**Karatas**	**1.61**	**246**	*e*Pn		**Pg**	**12 57 43.0**	**+0.4**

*ISK **30** 13:06:03.7,37˚11N×27˚90E,h5km,MD2.2*
*ISCJB **30** 13:06:04.9±1.0,37˚17N±0˝09×27˚91E±0˝05,h17km±19km, Error ellipse: s-maj=14.8km s-min=6.2km az=177.3*
*DDA **30** 13:06:04.5,37˚43N×27˚26E,h7km,MD2.7*
*CSEM **30** 13:06:05.1±0.3,37˚14N×27˚91E,h5km,MD2.2, Error ellipse: s-maj=9.1km s-min=5.6km az=173.0*

ISC 30 13:06:04.6±1.3,37˚17N±0˝05×27˚90E±0˝03,h13km±11km, n10,σ0°16/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.16**	**321**	*e*PG		**Pg**	**13 06 08.4**	**0.0**
MLSB				*e*SG		**Sb**	**13 06 12.6**	**-0.2**
MLSB	**Milas**	**0.16**	**321**	*e*Pg		**Pg**	**13 06 08.4**	**0.0**
MLSB				*e*Sg		**Sb**	**13 06 12.6**	**-0.2**
YER	**Yerkesik**	**0.30**	**97**	*e*PG		**Pg**	**13 06 10.8**	**0.0**
YER				*e*SG		**Sb**	**13 06 16.7**	**-0.2**
YER	**Yerkesik**	**0.30**	**97**	*e*Pg		**Pg**	**13 06 10.9**	**0.0**
YER				*e*Sg		**Sb**	**13 06 16.7**	**-0.2**
BDRM	**Kayabasi**	**0.38**	**254**	*i* P		**Pg**	**13 06 12.0**	**-0.2**
BDRM				*i* S		**Sb**	**13 06 19.2**	**+0.1**
BDRM	**Kayabasi**	**0.38**	**254**	*i* P		**Pg**	**13 06 12.0**	**-0.2**
BDRM				*i* S		**Sb**	**13 06 19.2**	**+0.1**
BODT	**Bodrum**	**0.49**	**257**	*e*PG		**Pg**	**13 06 14.1**	**-0.1**
BODT				*e*SG		**Sb**	**13 06 22.2**	**+0.1**
BODT	**Bodrum**	**0.49**	**257**	*e*Pg		**Pg**	**13 06 14.1**	**-0.1**
BODT				*e*Sg		**Sb**	**13 06 22.2**	**+0.1**
AYDN	**Tasoluk**	**0.49**	**358**	*i* P		**Pb**	**13 06 15.3**	**+0.2**
AYDN	**Tasoluk**	**0.49**	**358**	*i* P		**Pb**	**13 06 15.3**	**+0.2**

*IDC **30** 13:12:36.4±2.4,55˚81N×152˚77W,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.5/28,mbtmp3.5/7,ML3.4/2,Error ellipse: s-maj=48.5km s-min=24.9km az=140.0*
*NEIC **30** 13:12:41.4,56˚26N×152˚68W,h20km,ML3.1(AEIC),After AEIC.*

ISC 30 13:12:41.3±1.4,56˚5N±0˝1×152˚6W±0˝1,h10km,n20, σ0°94/21,mb3.8/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.32**	**1**	Pn		**Pn**	**13 13 06.0**	**+0.2**
	17nm,0.3s,baz=197,slow=7.8,SNR=314							
KDAK				Pg		Pg	13 13 12.5	+5.8
	23nm,0.3s,baz=194,slow=12,SNR=22							
KDAK				Sn		**Sb**	**13 13 23.9**	**+0.7**
	27nm,0.3s,baz=234,slow=17,SNR=20							
KDAK				Lg		Lg	13 13 37.5	
	22nm,0.3s,baz=347,slow=17,SNR=8.4							
KDAK	**Kodiak Island**	**1.32**	**1**	P		**Pn**	**13 13 06.0**	**+0.2**
KDAK				S		**Sb**	**13 13 23.2**	**0.0**
KAWH	**Katmai**	**2.25**	**330**	P		**Pn**	**13 13 18.6**	**-0.1**
KAKN	**Katmai Knife C**	**2.26**	**325**	P		**Pn**	**13 13 18.5**	**-0.3**
KAPH	**Katmai Pasha**	**2.33**	**337**	P		**Pn**	**13 13 21.1**	**+1.4**
KVTA	**Katmai Vly 10**	**2.40**	**324**	P		**Pn**	**13 13 20.6**	**0.0**
FOSS	**Fourpeaked Sta**	**2.41**	**347**	P		**Pn**	**13 13 21.9**	**+1.1**
KAHC	**Katmai Hardscr**	**2.54**	**331**	P		**Pn**	**13 13 23.2**	**+0.6**
AUH	**Augustine H**	**2.94**	**352**	P		**Pn**	**13 13 29.8**	**+1.7**
ANPK	**Aniakchak Peak**	**3.06**	**279**	P		Pn	13 13 29.0	-0.7
OPT	**Oil Point**	**3.21**	**355**	P		**Pn**	**13 13 33.2**	**+1.4**
BRLK	**Bradley Lake**	**3.44**	**15**	P		**Pn**	**13 13 34.7**	**-0.2**
BRLK				S		**Sn**	**13 14 13.3**	**-2.3**
VNHG	**Veniaminof 1**	**3.64**	**269**	P		Pn	13 13 36.9	-0.8
ILAR	**Eielson Array**	**8.80**	**16**	Pn		**Pn**	**13 14 48.2**	**-0.1**
	0.2nm,0.3s,baz=204,slow=14,SNR=27							
ILAR				Sn		Sn	13 16 21.6	-5.8
	0.2nm,0.3s,baz=206,slow=20,SNR=4.8							
INK	**Inuvik**	**14.72**	**29**	Pn		**P**	**13 16 16.0**	**+0.6**
	0.1nm,0.3s,baz=220,slow=12,SNR=6.1							
YKA	**Yellowknife Ar**	**19.99**	**57**	P		**P**	**13 17 14.3**	**+0.7**
	0.4nm,0.8s,baz=269,slow=10,SNR=6.2							
SONM	**Songino Array**	**57.08**	**308**	P		**P**	**13 22 27.0**	**-0.4**
	0.9nm,0.8s,baz=46,slow=7.5,SNR=8.8							
ZALV	**Zalesovo Beam**	**60.37**	**325**	P		**P**	**13 22 50.2**	**+0.2**
	0.3nm,0.4s,baz=30,slow=6.8,SNR=3.1							
BVAR	**Borovoye Array**	**65.30**	**333**	P		**P**	**13 23 22.6**	**-0.3**
	0.6nm,0.7s,baz=44,slow=8.8,SNR=3.9							
MKAR	**Makanchi Array**	**67.34**	**322**	P		**P**	**13 23 35.6**	**-0.5**
	0.4nm,0.7s,baz=42,slow=6.6,SNR=2.2							

IDC 30 13:15:50.7±0.9,34˚23N×81˚81E,h0km,mb3.7/11, mb1 3.9/14,mb1mx3.8/30,mbtmp3.8/14,ML3.8/3,Error ellipse: s-maj=27.9km s-min=16.1km az=55.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.16**	**328**	Pn		Pn	13 18 19.3	+1.2
	0.7nm,0.3s,baz=234,slow=2.7,SNR=5.9							
MKAR	**Makanchi Array**	**12.56**	**2**	Pn		Pn	13 18 51.4	+0.7
	0.8nm,0.3s,baz=183,slow=14,SNR=35							
ZALV	**Zalesovo Beam**	**19.83**	**5**	P		P	13 20 23.0	+0.1
	0.2nm,0.3s,baz=188,slow=9.0,SNR=5.7							
BVAR	**Borovoye Array**	**20.48**	**340**	P		Pn	13 20 31.4	-0.7
	5.3nm,0.7s,baz=146,slow=11,SNR=22							
CMAR	**Chiang Mai Arr**	**21.91**	**131**	P		P	13 20 47.2	+1.6
	3.8nm,0.8s,baz=313,slow=11,SNR=29							
SONM	**Songino Array**	**22.87**	**46**	P		P	13 20 56.0	+0.2
	0.2nm,0.4s,baz=245,slow=9.7,SNR=5.1							
AKTO	**Aktyubinsk**	**23.76**	**320**	P		P	13 21 05.7	+1.1
	0.5nm,0.3s,baz=118,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**44.34**	**325**	P		P	13 24 02.8	+0.5
	0.6nm,0.6s,baz=94,slow=9.9,SNR=2.9							
WRA	**Warramunga Arr**	**73.48**	**129**	P		P	13 27 25.1	-0.2
	0.4nm,0.7s,baz=328,slow=5.5,SNR=5.5							
ILAR	**Eielson Array**	**74.25**	**20**	P		P	13 27 28.6	-0.7
	0.5nm,0.6s,baz=324,slow=5.9,SNR=9.5							
INK	**Inuvik**	**74.43**	**13**	P		P	13 27 30.2	0.0
	0.4nm,0.4s,baz=288,slow=3.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	**74.63**	**276**	P		P	13 27 31.9	-0.4
	0.7nm,0.6s,baz=60,slow=6.8,SNR=3.2							
ASAR	**Alice Springs**	**75.92**	**132**	P		P	13 27 39.4	-0.1
	0.4nm,0.6s,baz=322,slow=5.6,SNR=6.6							
YKA	**Yellowknife Ar**	**82.71**	**8**	P		P	13 28 15.2	-0.8
	1.0nm,0.6s,baz=341,slow=5.3,SNR=23							

*LDG **30** 13:27:17.3±0.1,43˚89N×18˚64E,h2km,Ml4.0/8,Error ellipse: s-maj=2.7km s-min=1.7km az=45.0*
*IDC **30** 13:27:17.1±0.7,43˚77N×18˚41E,h0km,mb3.7/10, mb1 3.8/13,mb1mx3.8/26,mbtmp3.7/13,ML3.2/3,Error ellipse: s-maj=16.7km s-min=13.4km az=10.0*
*NEIC **30** 13:27:18.7,43˚87N×18˚64E,h2km,ML3.9(ZAG), ML3.9(PDG),ML3.9(THE),After CSEM.*
NEIC Felt at Sarajevo.
*CSEM **30** 13:27:18.0±0.1,43˚81N×18˚42E,h2km,Ms3.5,Error ellipse: s-maj=2.8km s-min=1.9km az=47.0*
*TIR **30** 13:27:18.4,44˚05N×18˚81E,h0km,ML4.2*
*BEO **30** 13:27:18.2±0.4,43˚80N×18˚38E,h4km±2km,ML3.7/1*
*PDG **30** 13:27:19.4±0.4,43˚77N×18˚58E,h11km,MD3.7/9, ML3.7/10,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*PRU **30** 13:27:19.9,43˚85N×18˚53E,h7km*
*THE **30** 13:27:20.8,43˚73N×18˚64E,h6km±23km,ML3.9/1, Error ellipse: s-maj=32.1km s-min=2.2km az=339.0*
*VIE **30** 13:27:24.1±0.4,44˚25N×18˚40E,h10km,mb3.2/10, ML3.3/8,Ms3.5/2,Error ellipse: s-maj=3.2km s-min=2.3km az=154.0 47 km N of Sarajevo*

ISC 30 13:27:17.9±1.0,43˚84N±0˝01×18˚44E±0˝02,h6km±7km, n305,σ1°50/417,mb3.9/11,45C-36D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.70**	**87**	P		**Pg**	**13 27 30.8**	**-0.5**
BBLS	**Lazići**	**0.70**	**87**	P		**Pg**	**13 27 30.8**	**-0.5**
UPM	**Unac-Piva**	**0.72**	**152**	*i*Pg		**Pg**	**13 27 31.4**	**-0.3**
UPM				*e*Sg		**Sg**	**13 27 40.7**	**-0.4**
UPM	**Unac-Piva**	**0.72**	**152**	⇑P		**Pg**	**13 27 30.8**	**-0.9**
UPM				S		**Sg**	**13 27 39.3**	**-1.8**
UPM	**Unac-Piva**	**0.72**	**152**	⇑P		**Pg**	**13 27 30.8**	**-0.9**
UPM	**Unac-Piva**	**0.72**	**152**	*i*Pg		**Pg**	**13 27 31.4**	**-0.3**
UPM				S		**Sg**	**13 27 39.3**	**-1.8**
UPM				*e*Sg		**Sg**	**13 27 40.7**	**-0.4**
PLE	**Pljevlja**	**0.85**	**126**	*i*Pg		**Pg**	**13 27 33.7**	**-0.6**
PLE				*e*Sg		**Sg**	**13 27 45.3**	**-0.1**
PLE	**Pljevlja**	**0.85**	**126**	*i*Pg		**Pg**	**13 27 33.7**	**-0.6**
PLE				*e*Sg		**Sg**	**13 27 45.3**	**-0.1**
BRY	**Bratogost**	**0.94**	**176**	*i*Pg		**Pg**	**13 27 34.9**	**-1.0**
BRY				*e*Sg		**Sg**	**13 27 48.7**	**+0.6**
BRY	**Bratogost**	**0.94**	**176**	⇑P		**Pg**	**13 27 34.8**	**-1.2**
BRY				S		**Sg**	**13 27 47.8**	**-0.3**
BRY	**Bratogost**	**0.94**	**176**	*i*Pg		**Pg**	**13 27 34.9**	**-1.0**
BRY				S		**Sg**	**13 27 47.8**	**-0.3**
BRY				*e*Sg		**Sg**	**13 27 48.7**	**+0.6**
NKY	**Niksic**	**1.10**	**158**	*i*Pg		**Pg**	**13 27 38.0**	**-1.1**
NKY				*e*Sg		**Sb**	**13 27 53.9**	**-0.1**
NKY	**Niksic**	**1.10**	**158**	⇓P		**Pg**	**13 27 37.9**	**-1.1**
NKY				S		**Sg**	**13 27 52.4**	**-0.9**
NKY	**Niksic**	**1.10**	**158**	*i*Pg		**Pg**	**13 27 38.0**	**-1.1**
NKY				S		**Sg**	**13 27 52.4**	**-0.9**
NKY				*e*Sg		**Sb**	**13 27 53.9**	**-0.1**
STON	**Ston**	**1.11**	**210**	*e*Pg		**Pg**	**13 27 38.5**	**-0.6**
STON				Sg		**Sg**	**13 27 54.0**	**+0.5**
STON	**Ston**	**1.11**	**210**	*e*Pg		**Pg**	**13 27 38.5**	**-0.6**
STON				Sg		**Sg**	**13 27 54.0**	**+0.5**
DIVS	**Divibare**	**1.15**	**76**	P		**Pg**	**13 27 39.2**	**-0.8**
DIVS				S		**Sn**	**13 27 55.9**	**-0.8**
DIVS	**Divibare**	**1.15**	**76**	*e*Pg		**Pg**	**13 27 39.4**	**-0.6**
DIVS				*e*Sg		**Sn**	**13 27 56.8**	**+0.1**
DIVS	**Divibare**	**1.15**	**76**	*e*Pg		**Pg**	**13 27 39.4**	**-0.6**
DIVS				S		**Sn**	**13 27 55.9**	**-0.8**
DIVS				*e*Sg		**Sn**	**13 27 56.8**	**+0.1**
SJES	**Sjenica**	**1.25**	**117**	*e*Pg		**Pb**	**13 27 41.6**	**-0.4**
SJES				*e*Sg		**Sb**	**13 27 58.5**	**+0.1**
IVAS	**Ivanjica**	**1.27**	**101**	*e*Pg		**Pn**	**13 27 40.9**	**-1.3**
IVAS				*e*Sg		**Sn**	**13 28 00.2**	**+0.7**
IVAS	**Ivanjica**	**1.27**	**101**	*e*Pg		**Pn**	**13 27 40.9**	**-1.3**
IVAS				*e*Sg		**Sn**	**13 28 00.2**	**+0.7**
BLY	**Banja Luka**	**1.28**	**316**	*e*Pn		**Pn**	**13 27 42.7**	**+0.4**
BLY				*e*Sn		**Sn**	**13 28 01.5**	**+1.7**
BLY	**Banja Luka**	**1.28**	**316**	*e*Pn		**Pn**	**13 27 42.7**	**+0.4**
BLY				*e*Sn		**Sn**	**13 28 01.5**	**+1.7**
HCY	**Herceg Novi**	**1.39**	**178**	⇓*i*Pg		**Pn**	**13 27 43.9**	**+0.1**
HCY				*e*Sg		**Sg**	**13 28 04.0**	**+1.4**
HCY	**Herceg Novi**	**1.39**	**178**	⇓P		**Pn**	**13 27 43.8**	**+0.1**
HCY				S		**Sg**	**13 28 03.3**	**+0.7**
HCY	**Herceg Novi**	**1.39**	**178**	⇓*i*Pg		**Pn**	**13 27 43.9**	**+0.1**
HCY				S		**Sg**	**13 28 03.3**	**+0.7**
HCY				*e*Sg		**Sg**	**13 28 04.0**	**+1.4**
BEY	**Berane**	**1.43**	**132**	⇑*i*Pg		**Pn**	**13 27 44.0**	**-0.5**
BEY				*e*Sg		**Sg**	**13 28 04.0**	**0.0**
IVA	**Berane**	**1.44**	**132**	⇑*i*Pg		**Pn**	**13 27 44.0**	**-0.5**
IVA				*e*Sg		**Sg**	**13 28 04.0**	**0.0**
TRUS	**Trudelj**	**1.47**	**74**	*e*Pn		**Pb**	**13 27 45.4**	**-0.2**
TRUS				*e*Sn		**Sg**	**13 28 06.8**	**+1.7**
TRUS	**Trudelj**	**1.47**	**74**	*e*Pn		**Pb**	**13 27 45.4**	**-0.2**
TRUS				*e*Sn		**Sg**	**13 28 06.8**	**+1.7**
PDG	**Podgorica**	**1.53**	**157**	*e*Pg		**Pn**	**13 27 45.5**	**-0.2**
PDG				*e*Sg		**Sg**	**13 28 07.1**	**+0.1**
PDG	**Podgorica**	**1.53**	**157**	*e*Pg		**Pn**	**13 27 45.5**	**-0.2**
PDG				*e*Sg		**Sg**	**13 28 07.1**	**+0.1**
TTG	**Podgorica**	**1.53**	**157**	⇓*i*Pg		**Pn**	**13 27 45.4**	**-0.2**
TTG				*e*Sg		**Sg**	**13 28 07.3**	**+0.2**
TTG	**Podgorica**	**1.53**	**157**	⇑P		**Pn**	**13 27 45.0**	**-0.7**
TTG				S		**Sn**	**13 28 05.7**	**-0.2**
TTG	**Podgorica**	**1.53**	**157**	⇑P		**Pn**	**13 27 45.0**	**-0.7**
TTG				S		**Sn**	**13 28 05.7**	**-0.2**
BUM	**Brajici-Budva**	**1.57**	**168**	⇑*i*Pg		**Pn**	**13 27 46.9**	**+0.5**
BUM				*e*Sg		**Sg**	**13 28 09.6**	**+1.2**
BUM	**Brajici-Budva**	**1.57**	**168**	⇑*i*Pg		**Pn**	**13 27 46.9**	**+0.5**
BUM				*e*Sg		**Sg**	**13 28 09.6**	**+1.2**
FGSL	**Fruska Gora**	**1.64**	**36**	*e*Pn		**Pb**	**13 27 48.7**	**+0.1**
FGSL				*e*Sn		**Sg**	**13 28 11.0**	**+0.3**
FRGS	**Fruska Gora**	**1.64**	**36**	*e*Pn		**Pb**	**13 27 48.7**	**+0.1**
FRGS				*e*Sn		**Sg**	**13 28 11.0**	**+0.3**
GRUS	**Gruza**	**1.65**	**87**	*e*Pn		**Pn**	**13 27 47.7**	**+0.4**
GRUS				*e*Sn		**Sg**	**13 28 11.1**	**+0.3**
GRUS	**Gruza**	**1.65**	**87**	*e*Pn		**Pn**	**13 27 47.7**	**+0.4**
GRUS				*e*Sn		**Sg**	**13 28 11.1**	**+0.3**
PVY	**Plav**	**1.67**	**138**	⇑*i*Pg		**Pn**	**13 27 47.9**	**+0.2**
PVY				*e*Sg		**Sb**	**13 28 10.3**	**0.0**
PVY	**Plav**	**1.67**	**138**	⇓P		**Pn**	**13 27 47.8**	**0.0**
PVY				S		**Sn**	**13 28 09.5**	**+0.1**
BEO	**Beograd**	**1.75

VTS				*i* Pg	**Pg**	**13 28 26.7**	**-2.1**		
VTS	**Vitosha**	**3.70**	**108**	*i* P	**Pn**	**13 28 15.8**	**+0.1**		
SOKA	**Soboth**	**3.72**	**321**	⇑*i*Pn	**Pn**	**13 28 17.0**	**+1.1**		
SOKA				⇑*i*Pg	**Pg**	**13 28 29.4**	**+0.1**		
SOKA				⇓*i*Sn	**Sn**	**13 28 58.3**	**-1.8**		
SOKA	**Soboth**	**3.72**	**321**	Pn	**Pn**	**13 28 17.0**	**+1.1**		
JAVS	**Javornik**	**3.73**	**305**	*i* Pn	**Pn**	**13 28 18.2**	**+2.1**		
JAVS				*i*		13 28 30.6			
JAVS				*i* Sn	**Sn**	**13 29 04.5**	**+4.2**		
JAVS	**Javornik**	**3.73**	**305**	*i* Pn	**Pn**	**13 28 18.2**	**+2.1**		
JAVS				*i* Sn	**Sn**	**13 29 04.5**	**+4.2**		
TRI	**Trieste**	**3.82**	**301**	*e*Pn	Pn	13 28 20.8	+3.6		
OBKA	**Obir**	**3.84**	**315**	⇑*i*Pn	**Pn**	**13 28 18.7**	**+1.2**		
	SNR=9.3								
OBKA				⇓*i*Pg	**Pg**	**13 28 31.1**	**-0.3**		
OBKA				⇓*i*Sn	**Sn**	**13 29 01.8**	**-1.2**		
OBKA	**Obir**	**3.84**	**315**	Pn	**Pn**	**13 28 18.7**	**+1.2**		
	SNR=9.3								
MPEP	**Malo Peshtene**	**3.88**	**95**	*i* P	**Pn**	**13 28 18.0**	**0.0**		
VOY	**Vojsko**	**3.90**	**306**	*e*Pn	**Pn**	**13 28 20.6**	**+2.1**		
VOY				*e*Pg	**Pg**	**13 28 31.7**	**-1.0**		
VOY				*e*Sn	**Sg**	**13 29 25.7**	**+2.4**		
VOY	**Vojsko**	**3.90**	**306**	*e*Pn	**Pn**	**13 28 20.6**	**+2.1**		
KKB	**Krupnik**	**3.94**	**118**	*i* P	**Pn**	**13 28 18.4**	**-0.5**		
KKB				*i* Pg	**Pg**	**13 28 32.0**	**-1.4**		
KKB	**Krupnik**	**3.94**	**118**	*i* P	**Pn**	**13 28 18.4**	**-0.5**		
VAY	**Valandovo**	**3.95**	**128**	*i* P	**Pb**	**13 28 29.3**	**+1.4**		
VAY	**Valandovo**	**3.95**	**128**	*e*Pn	**Pb**	**13 28 30.1**	**+2.2**		
VAY				*e*Sg	Sg	13 29 38.8	+14		
VAY	**Valandovo**	**3.95**	**128**	*e*Pn	**Pn**	**13 28 20.2**	**+1.2**		
VAY	**Valandovo**	**3.95**	**128**	*e*Pn	**Pn**	**13 28 20.2**	**+1.2**		
AQU	**L'Aquila**	**3.98**	**250**	Pn	Pn	13 28 23.4	+3.9		
AQU	**L'Aquila**	**3.98**	**250**	⇑*i*P	Pb	13 28 25.2	-3.2		
ARSA	**Arzberg**	**3.98**	**330**	⇑*i*Pn	**Pn**	**13 28 20.5**	**+1.0**		
	SNR=26								
ARSA				⇓*i*Sn	**Sn**	**13 29 04.3**	**-2.1**		
ARSA	**Arzberg**	**3.98**	**330**	*e*Pn	**Pn**	**13 28 20.6**	**+1.1**		
ARSA	**Arzberg**	**3.98**	**330**	Pn	**Pn**	**13 28 20.5**	**+1.0**		
	SNR=26								
ARSA				Sn	**Sn**	**13 29 04.3**	**-2.1**		
GRG	**Griva**	**4.11**	**133**	P	**Pn**	**13 28 22.0**	**+0.8**		
GRG	**Griva**	**4.11**	**133**	P	**Pn**	**13 28 22.0**	**+0.8**		
GRG	**Griva**	**4.11**	**133**	P	**Pn**	**13 28 22.0**	**+0.8**		
PSZ	**Piszkesteto**	**4.21**	**13**	*e*Pn	**Pn**	**13 28 22.6**	**0.0**		
PSZ				*e*Pg	**Pg**	**13 28 37.6**	**-0.9**		
PSZ	**Piszkesteto**	**4.21**	**13**	⇓*i*P	**Pn**	**13 28 22.9**	**+0.3**		
PSZ	**Piszkesteto**	**4.21**	**13**	*e*Pn	**Pn**	**13 28 22.6**	**0.0**		
PSZ	**Piszkesteto**	**4.21**	**13**	⇓*i*P	**Pn**	**13 28 22.9**	**+0.3**		
PSZ	**Piszkesteto**	**4.21**	**13**	*e*Pg	**Pg**	**13 28 37.6**	**-0.9**		
PSZ				*e*Sn	**Sn**	**13 29 09.6**	**-2.4**		
PSZ	**Piszkesteto**	**4.21**	**13**	⇓*e*Pn	**Pn**	**13 28 22.7**	**+0.1**		
PSZ				*e*Sn	**Sn**	**13 29 09.6**	**-2.4**		
DRGR		**4.22**	**44**	⇑*i*P	**Pg**	**13 28 39.0**	**+0.3**		
DRGR		**4.22**	**44**	*i* P	**Pn**	**13 28 20.3**	**-2.5**		
DRGR		**4.22**	**44**	*e*Pn	**Pn**	**13 28 24.5**	**+1.7**		
DRGR		**4.22**	**44**	*e*Pn	**Pn**	**13 28 24.5**	**+1.7**		
KNT	**Kendrikon**	**4.24**	**128**	P	**Pn**	**13 28 23.4**	**+0.4**		
KNT	**Kendrikon**	**4.24**	**128**	P	**Pn**	**13 28 23.4**	**+0.4**		
KNT	**Kendrikon**	**4.24**	**128**	P	**Pn**	**13 28 23.4**	**+0.4**		
KEK	**Kerkira**	**4.25**	**166**	P	**Pn**	**13 28 24.0**	**+0.9**		
KEK				S	**Sn**	**13 29 12.7**	**-0.2**		
KEK	**Kerkira**	**4.25**	**166**	P	**Pn**	**13 28 24.0**	**+0.9**		
KEK				S	**Sn**	**13 29 12.7**	**-0.2**		
KEK	**Kerkira**	**4.25**	**166**	*e*P	**Pn**	**13 28 24.2**	**+1.1**		
KEK	**Kerkira**	**4.25**	**166**	P	**Pn**	**13 28 24.0**	**+0.9**		
KEK				S	**Sn**	**13 29 12.7**	**-0.2**		
KZN	**Kozani**	**4.31**	**144**	*e*P	**Pn**	**13 28 23.0**	**-1.1**		
CUC	**Castrocucco**	**4.31**	**208**	*e*Pn	**Pn**	**13 28 25.4**	**+1.3**		
CUC	**Castrocucco**	**4.31**	**208**	*e*Pn	**Pn**	**13 28 25.4**	**+1.3**		
MYKA	**Terra Mystica**	**4.39**	**311**	⇑*i*Pn	**Pn**	**13 28 27.1**	**+2.0**		
MYKA	**Terra Mystica**	**4.39**	**311**	Pn	**Pn**	**13 28 27.1**	**+2.0**		
CONA	**Conrad Observa**	**4.47**	**337**	⇑*i*Pn	**Pn**	**13 28 27.1**	**+0.9**		
	SNR=13								
CONA				⇓*i*Sn	**Sn**	**13 29 15.9**	**-2.7**		
CONA	**Conrad Observa**	**4.47**	**337**	Pn	**Pn**	**13 28 27.1**	**+0.9**		
	SNR=13								
CONA				Sn	**Sn**	**13 29 15.9**	**-2.7**		
MMB	**Musomiste**	**4.50**	**118**	*i* P	**Pn**	**13 28 27.9**	**+1.3**		
MMB	**Musomiste**	**4.50**	**118**	*i* P	**Pn**	**13 28 27.9**	**+1.3**		
VYHS	**Vyhne**	**4.67**	**3**	*e*PN	**Pn**	**13 28 30.0**	**+1.2**		
VYHS				*e*PG	**Pg**	**13 28 47.8**	**+0.5**		
VYHS				*e*SN	**Sn**	**13 29 23.0**	**-0.3**		
VYHS	**Vyhne**	**4.67**	**3**	*e*Pn	**Pn**	**13 28 30.0**	**+1.2**		
NVR	**Nevrokopi**	**4.71**	**120**	P	**Pn**	**13 28 30.2**	**+0.7**		
NVR	**Nevrokopi**	**4.71**	**120**	*e*P	**Pn**	**13 28 30.3**	**+0.7**		
NVR	**Nevrokopi**	**4.71**	**120**	P	**Pn**	**13 28 30.2**	**+0.7**		
SOH	**Sokhos**	**4.73**	**128**	*e*P	**Pn**	**13 28 30.2**	**+0.5**		
HUMR	**Humele**	**4.75**	**79**	⇑*i*P	**Pn**	**13 28 32.1**	**+2.1**		
HUMR	**Humele**	**4.75**	**79**	⇑*i*P	**Pn**	**13 28 32.1**	**+2.1**		
LIT	**Litokhoron**	**4.80**	**140**	*e*P	**Pn**	**13 28 32.0**	**+1.3**		
TIP	**Timpagrande**	**4.82**	**196**	*e*Pn	**Pn**	**13 28 31.7**	**+0.6**		
TIP	**Timpagrande**	**4.82**	**196**	*e*Pn	**Pn**	**13 28 31.7**	**+0.6**		
KBA	**Koelnbreinsper**	**4.83**	**314**	⇑*i*Pn	**Pn**	**13 28 33.0**	**+1.7**		
KBA	**Koelnbreinsper**	**4.83**	**314**	Pn	**Pn**	**13 28 33.0**	**+1.7**		
MOA	**Molln**	**4.96**	**325**	⇑*i*Pn	**Pn**	**13 28 34.1**	**+1.2**		
	SNR=19								
MOA				⇑*i*Sn	**Sn**	**13 29 27.8**	**-2.7**		
MOA	**Molln**	**4.96**	**325**	Pn	**Pn**	**13 28 34.1**	**+1.2**		
	SNR=19								
MOA				Sn	**Sn**	**13 29 27.8**	**-2.7**		
VOIR		**4.98**	**69**	⇓*i*P	**Pn**	**13 28 34.7**	**+1.5**		
VOIR		**4.98**	**69**	⇓*i*P	**Pn**	**13 28 34.7**	**+1.5**		
THL	**Klokotos Trika**	**5.04**	**147**	*e*P	**Pn**	**13 28 34.6**	**+0.7**		
PLG	**Polygyros**	**5.08**	**131**	*e*P	**Pn**	**13 28 35.4**	**+0.8**		
RZN	**Rozhen**	**5.09**	**113**	*i* P	**Pn**	**13 28 34.8**	**-0.1**		
RZN	**Rozhen**	**5.09**	**113**	*i* P	**Pn**	**13 28 34.8**	**-0.1**		
ABTA	**Abfaltersbach**	**5.09**	**307**	⇓*i*Pn	**Pn**	**13 28 36.8**	**+2.0**		
	SNR=11								
ABTA	**Abfaltersbach**	**5.09**	**307**	Pn	**Pn**	**13 28 36.8**	**+2.0**		
	SNR=11								
TRPA	**Tarpa**	**5.16**	**32**	⇓*i*P	Pg	13 28 53.1	-3.5		
BMR	**Baia Mare**	**5.22**	**41**	⇑*i*P	Pg	13 29 03.6	+5.8		
KAVA	**Kavala**	**5.32**	**120**	P	**Pn**	**13 28 38.4**	**+0.6**		
KAVA	**Kavala**	**5.32**	**120**	P	**Pn**	**13 28 38.4**	**+0.6**		
CRVS	**Cervenica-Dubn**	**5.48**	**21**	*e*PN	**Pn**	**13 28 41.7**	**+1.7**		
CRVS	**Cervenica-Dubn**	**5.48**	**21**	*e*Pn	**Pn**	**13 28 41.7**	**+1.7**		
EVR	**Evrytania**	**5.53**	**152**	*e*P	**Pn**	**13 28 43.2**	**+2.4**		
KDZ	**Kurdzhali**	**5.58**	**111**	*i* P	Pb	13 28 59.5	+3.8		
MLR	**Muntele Rosu**	**5.60**	**70**	Pn	**Pn**	**13 28 43.9**	**+2.1**		
	0.1nm,0.3s,baz=324,slow=8.8,SNR=5.6								
MLR				Sn	**Sn**	**13 29 46.1**	**-0.4**		
	0.3nm,0.3s,baz=285,slow=16,SNR=2.7								
MLR				Lg	Lg	13 30 21.4			
	0.1nm,0.3s,baz=139,slow=20,SNR=2.2								
MLR	**Muntele Rosu**	**5.60**	**70**	⇑*i*P	**Pn**	**13 28 44.6**	**+2.8**		
MLR	**Muntele Rosu**	**5.60**	**70**	⇑*i*P	**Pn**	**13 28 44.6**	**+2.8**		
VRAC	**Vranov**	**5.62**	**348**	Pn	Pn	13 28 46.6	+4.7		
	0.4nm,0.3s,baz=178,slow=10,SNR=2.5								
VRAC				Sn	**Sn**	**13 29 46.0**	**-0.7**		
	1.4nm,0.3s,baz=146,slow=5.5,SNR=5.4								
VRAC	**Vranov**	**5.62**	**348**	⇑*i*P	**Pn**	**13 28 44.5**	**+2.6**		
VRAC	**Vranov**	**5.62**	**348**	⇑*i*P	**Pn**	**13 28 44.5**	**+2.6**		
AGG	**Agios Georgios**	**5.63**	**147**	*e*P	**Pn**	**13 28 43.0**	**+0.9**		
KOLS	**Kolonicke sedl**	**5.74**	**26**	*e*PG	**Pg**	**13 29 06.6**	**-1.3**		
KOLS				*e*SG	Sg	13 30 28.9	+6.6		
NEO	**Neokhori**	**5.77**	**140**	*e*P	**Pn**	**13 28 44.0**	**-0.1**		
WTTA	**Wattenberg**	**5.88**	**308**	⇑*i*Pn	**Pn**	**13 28 47.5**	**+1.8**		
	SNR=14								
WTTA	**Wattenberg**	**5.88**	**308**	Pn	**Pn**	**13 28 47.5**	**+1.8**		
	SNR=14								
VLS	**Valsamata**	**5.88**	**163**	*e*P	**Pn**	**13 28 46.8**	**+1.2**		
WATA	**Walderalm**	**5.95**	**308**	⇓*i*Pn	**Pn**	**13 28 49.0**	**+2.3**		
	SNR=6.4								
WATA	**Walderalm**	**5.95**	**308**	Pn	**Pn**	**13 28 49.0**	**+2.3**		
	SNR=6.4								
MORC	**Moravsky Berou**	**5.97**	**354**	*e*Pn	**Pn**	**13 28 48.2**	**+1.4**		
MORC	**Moravsky Berou**	**5.97**	**354**	⇑*i*P	**Pn**	**13 28 46.6**	**-0.2**		
MORC	**Moravsky Berou**	**5.97**	**354**	⇑*i*P	**Pn**	**13 28 46.6**	**-0.2**		
MORC	**Moravsky Berou**	**5.97**	**354**	*e*Pn	**Pn**	**13 28 48.2**	**+1.4**		
MORC				*e*Sn	**Sn**	**13 29 57.2**	**+1.7**		
GERES	**GERESS Array B**	**5.99**	**328**	Pn	**Pn**	**13 28 48.1**	**+1.1**		
	0.6nm,0.3s,baz=150,slow=14,SNR=19								
GERES				Sn	**Sn**	**13 29 55.9**	**-0.1**		
	1.0nm,0.3s,baz=150,slow=22,SNR=3.0								
GERES				Lg	Lg	13 30 34.8			
	0.3nm,0.3s,baz=151,slow=24,SNR=2.1								
EFP	**Efpalio**	**6.00**	**153**	*e*P	**Pn**	**13 28 47.8**	**+0.6**		
BURAR	**Bucovina Array**	**6.06**	**49**	⇓*i*P	**Pn**	**13 28 50.0**	**+1.9**		
BURAR	**Bucovina Array**	**6.06**	**49**	⇓*i*P	**Pn**	**13 28 50.0**	**+1.9**		
BUR08	**Bucovina Ar. S**	**6.07**	**49**	*e*Pn	**Pn**	**13 28 50.1**	**+1.9**		
BUR08	**Bucovina Ar. S**	**6.07**	**49**	*e*Pn	**Pn**	**13 28 50.1**	**+1.9**		
KALE	**Kalithea**	**6.12**	**152**	*e*P	**Pn**	**13 28 50.0**	**+1.2**		
TRIZ	**Trizonia**	**6.12**	**152**	*e*P	Pn	13 28 52.3	+3.6		
PLOR	**Plostina**	**6.17**	**68**	⇑*i*P	Pb	13 28 58.5	-7.3		
LAKA	**Lakka**	**6.20**	**153**	*e*P	**Pn**	**13 28 51.8**	**+1.9**		
LKR	**Lokris**	**6.22**	**145**	*e*P	**Pn**	**13 28 51.2**	**+1.1**		
MOTA	**Moosalm**	**6.23**	**307**	⇓*i*Pn	**Pn**	**13 28 52.8**	**+2.4**		
	SNR=16								
MOTA	**Moosalm**	**6.23**	**307**	Pn	**Pn**	**13 28 52.8**	**+2.4**		
	SNR=16								
VRI	**Vrincioaia**	**6.23**	**68**	⇓*i*P	Pn	13 28 53.8	+3.5		
VRI	**Vrincioaia**	**6.23**	**68**	⇓*i*P	Pn	13 28 53.8	+3.5		
KHC	**Kasperske Hory**	**6.27**	**329**	*e*Pn	**Pn**	**13 28 52.0**	**+1.1**		
KHC	**Kasperske Hory**	**6.27**	**329**	*e*PN	**Pn**	**13 28 52.6**	**+1.7**		
KHC				*ex*	x	13 29 05.5			
KHC				*ex*	x	13 30 01.8			
KHC	**Kasperske Hory**	**6.27**	**329**	*e*Pn	**Pn**	**13 28 52.0**	**+1.1**		
KHC				Sn	**Sn**	**13 30 01.8**	**-1.0**		
FETA	**Feichten**	**6.29**	**303**	⇑*i*Pn	**Pn**	**13 28 54.4**	**+3.1**		
	SNR=7.7								
FETA	**Feichten**	**6.29**	**303**	Pn	**Pn**	**13 28 54.4**	**+3.1**		
	SNR=7.7								
ALN	**Alexandroupoli**	**6.35**	**115**	*e*P	**Pn**	**13 28 53.3**	**+1.3**		
PRU	**Pruhonice**	**6.71**	**338**	*e*SN	**Sn**	**13 30 12.9**	**-0.6**		
PRU	**Pruhonice**	**6.71**	**338**	Sn	**Sn**	**13 30 12.9**	**-0.6**		
DAVOX	**Davos/Dischmat**	**6.72**	**299**	Pn	**Pn**	**13 28 58.1**	**+1.0**		
	1.3nm,0.3s,baz=103,slow=17,SNR=6.1								
DAVOX				Sn	**Sn**	**13 30 15.0**	**+0.9**		
	0.8nm,0.3s,baz=286,slow=22,SNR=3.5								
DAVOX				Lg	Lg	13 31 00.9			
	0.7nm,0.3s,baz=148,slow=20,SNR=3.3								
LTK	**Loutraki**	**6.74**	**148**	*e*P	**Pn**	**13 28 58.3**	**+0.9**		
AMT	**Artemida-Makis**	**6.77**	**157**	*e*P	**Pn**	**13 28 59.6**	**+1.8**		
TUE	**Stuetta**	**6.95**	**295**	*e*Pn	**Pn**	**13 29 02.9**	**+2.5**		
TUE	**Stuetta**	**6.95**	**295**	*e*Pn	**Pn**	**13 29 02.9**	**+2.5**		
PGF	**Pioggiola**	**7.02**	**263**	*e*Pn	**Pn**	**13 29 02.0**	**+0.7**		
PGF	**Pioggiola**	**7.02**	**263**	*e*Pn	**Pn**	**13 29 02.0**	**+0.7**		
PGF	**Pioggiola**	**7.02**	**263**	*e*Pn	**Pn**	**13 29 02.0**	**+0.7**		
ITM	**Ithomi**	**7.16**	**157**	*e*P	**Pn**	**13 29 05.7**	**+2.6**		
NAIG	**Nisos Aigina**	**7.18**	**146**	*e*P	**Pn**	**13 29 03.1**	**-0.2**		
DID	**Didima**	**7.30**	**148**	*e*P	**Pn**	**13 29 07.1**	**+2.1**		
PYL	**PYLOS**	**7.38**	**159**	*e*P	**Pn**	**13 29 08.6**	**+2.5**		
BRG	**Berggiesshubel**	**7.67**	**338**	PG	Pb	13 29 35.2	+4.0		
BRG				SG	**Sb**	**13 30 59.8**	**-3.0**		
	6.1nm,0.7s								
VLI	**Veliai**	**7.90**	**153**	*e*P	**Pn**	**13 29 11.2**	**-2.0**		
SBF	**Sospel**	**7.96**	**274**	*e*Pn	**Pn**	**13 29 13.3**	**-0.8**		
SBF				*e*Sn	**Sn**	**13 30 39.8**	**-4.6**		
	8.1nm,0.3s								
SBF	**Sospel**	**7.96**	**274**	*e*Pn	**Pn**	**13 29 13.3**	**-0.8**		
SBF				*e*Sn	**Sn**	**13 30 39.8**	**-4.6**		
SBF	**Sospel**	**7.96**	**274**	*e*Pn	**Pn**	**13 29 13.3**	**-0.8**		
CLL	**Collm**	**8.33**	**336**	*e*Sb	Sb	13 31 22.0	+0.3		
CLL				*e*Sg	**Sg**	**13 31 50.0**	**+5.0**		
KYTH	**Kithira**	**8.33**	**153**	*e*P	**Pn**	**13 29 19.8**	**+0.6**		
MBDF	**Montbardon**	**8.42**	**280**	*e*Pn	**Pn**	**13 29 19.5**	**-1.0**		
MBDF				*e*Sn	**Sn**	**13 30 51.2**	**-4.8**		
	24nm,0.9s								
MBDF	**Montbardon**	**8.42**	**280**	*e*Pn	**Pn**	**13 29 19.5**	**-1.0**		
MBDF				*e*Sn	**Sn**	**13 30 51.2**	**-4.8**		
MBDF	**Montbardon**	**8.42**	**280**	*e*Pn	**Pn**	**13 29 19.5**	**-1.0**		
LPG	**La Plagne**	**8.50**	**285**	*e*Pn	**Pn**	**13 29 20.7**	**-1.0**		
LPG				*e*Sn	**Sn**	**13 30 53.4**	**-4.6**		
	83nm,1.0s								
LPG	**La Plagne**	**8.50**	**285**	*e*Pn	**Pn**	**13 29 20.7**	**-1.0**		
LPG				*e*Sn	**Sn**	**13 30 53.4**	**-4.6**		
LPL	**La Plagne**	**8.50**	**285**	*e*Pn	**Pn**	**13 29 20.7**	**-1.0**		
LPL	**La Plagne**	**8.51**	**285**	*e*Pn	**Pn**	**13 29 21.4**	**-0.5**		
LPL				*e*Sn	**Sn**	**13 30 53.4**	**-4.9**		
	21nm,0.6s								
LPL	**La Plagne**	**8.51**	**285**	*e*Pn	**Pn**	**13 29 21.4**	**-0.5**		
LPL				*e*Sn	**Sn**	**13 30 53.4**	**-4.9**		
LPL	**La Plagne**	**8.51**	**285**	*e*Pn	**Pn**	**13 29 21.4**	**-0.5**		
LPL				*e*Sn	**Sn**	**13 30 53.4**	**-4.9**		
	5.9nm,0.5s								
VIVF	**Saint-Julien-l**	**9.92**	**281**	*e*Pn	**Pn**	**13 29 39.0**	**-1.9**		
VIVF				*e*Sn	Sn	13 31 26.6	-5.9		
	7.8nm,0.5s								
SMF	**Signal de Mont**	**10.67**	**290**	*e*Pn	**Pn**	**13 29 50.0**	**-1.2**		
SMF				*e*Sn	Sn	13 31 43.8	-7.2		
	7.8nm,0.5s								
SMF	**Signal de Mont**	**10.67**	**290**	*e*Pn	**Pn**	**13 29 50.0**	**-1.2**		
SMF				*e*Sn	Sn	13 31 43.8	-7.2		
SMF	**Signal de Mont**	**10.67**	**290**	*e*Pn	**Pn**	**13 29 50.0**	**-1.2**		
LOR	**Lormes**	**10.79**	**294**	*e*Pn	**Pn**	**13 29 51.7**	**-1.1**		
LOR	**Lormes**	**10.79**	**294**	*e*Pn	**Pn**	**13 29 51.7**	**-1.1**		
LOR	**Lormes**	**10.79**	**294**	*e*Pn	**Pn**	**13 29 51.7**	**-1.1**		
HFS	**Hagfors**	**16.57**	**352**	Pn	**P**	**13 31 13.1**	**-0.1**		
	0.1nm,0.3s,baz=212,slow=14,SNR=5.0								
TORD	**Tonodi Ar. Bea**	**33.80**	**210**	P	**P**	**13 34 00.8**	**+0.1**		
	1.1nm,0.6s,baz=15,slow=9.3,SNR=11								
BVAR	**Borovoye Array**	**34.97**	**56**	P	**P**	**13 34 11.5**	**+1.0**		
	0.8nm,0.8s,baz=272,slow=5.6,SNR=4.6								
KURBB	**Kurchatov Arra**	**40.37**	**58**	P	**P**	**13 34 56.2**	**0.0**		
	60nm,0.3s,baz=288,slow=9.3,SNR=2.6								
DBIC	**Dimbokro**	**42.28**	**216**	P	**P**	**13 35 12.5**	**+0.3**		
	2.7nm,0.7s,baz=38,slow=8.0,SNR=5.8								
ZALV	**Zalesovo Beam**	**43.27**	**52**	P	**P**	**13 35 20.5**	**+0.6**		
	0.4nm,0.5s,baz=264,slow=13,SNR=4.3								
MKAR	**Makanchi Array**	**43.89**	**63**	P	**P**	**13 35 26.5**	**+1.4**		
	0.5nm,0.7s,baz=302,slow=6.6,SNR=4.3								
SONM	**Songino Array**	**58.17**	**52**	P	**P**	**13 37 13.4**	**+0.9**		
	0.6nm,0.8s,baz=290,slow=8.2,SNR=6.1								
INK	**Inuvik**	**66.22**	**349**	P	**P**	**13 38 06.3**	**+0.4**		
	0.8nm,0.9s,baz=27,slow=2.3,SNR=4.0								
YKA	**Yellowknife Ar**	**67.55**	**338**	P	**P**	**13 38 15.0**	**+0.5**		
	1.0nm,1.0s,baz=35,slow=6.0,SNR=7.5								
CMAR	**Chiang Mai Arr**	**70.70**	**83**	P	**P**	**13 38 34.5**	**-0.2**		
	1.7nm,0.7s,baz=305,slow=7.3,SNR=13								
ILAR	**Eielson Array**	**71.12**	**353**	P	**P**	**13 38 37.9**	**+1.3**		
	0.2nm,0.7s,baz=3.2,slow=6.4,SNR=4.4								
WRA	**Warramunga Arr**	**122.10**	**87**	PKP	**PKPdf**	**13 46 12.2**	**-1.4**		
	0.4nm,1.0s,baz=334,slow=1.9,SNR=3.0								
ASAR	**Alice Springs**	**124.11**	**91**	PKP	**PKPdf**	**13 46 15.7**	**-1.7**		
	0.4nm,0.9s,baz=321,slow=2.4,SNR=4.1								

*IDC **30** 13:31:17.9±2.6, 55.°78N×152.°72W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/28, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=48.1km s-min=26.8km az=141.0*
*NEIC **30** 13:31:24.4, 56.°31N×152.°81W, h20km, ML2.9(AEIC), After AEIC.*
ISC 30 13:31:24.7±1.5, 56.°5N±0.°1×152.°6W±0.°1, h20km, n20, σ0s95/24, mb3.8/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**		**1.30 360**	Pn	**Pn**	**13 31 47.6**	**-0.1**
	24nm,0.3s,baz=194,slow=6.7,SNR=157						
KDAK				Pg	Pb	13 31 54.7	+6.2
	16nm,0.3s,baz=187,slow=13,SNR=16						
KDAK				Sn	**Sb**	**13 32 05.2**	**+0.4**
	15nm,0.3s,baz=206,slow=7.2,SNR=17						
KDAK	**Kodiak Island**		**1.30 360**	P	**Pn**	**13 31 47.8**	**0.0**
KDAK				S	**Sb**	**13 32 05.2**	**+0.4**
KAWH	**Katmai**		**2.25 329**	P	**Pn**	**13 32 00.8**	**0.0**
KAKN	**Katmai Knife C**		**2.26 325**	P	**Pn**	**13 32 00.7**	**-0.4**
KAPH	**Katmai Pasha**		**2.32 336**	P	**Pn**	**13 32 03.2**	**+1.4**
FOSS	**Fourpeaked Sta**		**2.40 346**	P	**Pn**	**13 32 03.9**	**+1.0**
KVTA	**Katmai Vly 10**		**2.40 323**	P	**Pn**	**13 32 02.7**	**-0.2**
KAHC	**Katmai Hardscr**		**2.54 330**	P	**Pn**	**13 32 05.0**	**+0.2**
AUP	**Augustine Pinn**		**2.92 351**	P	**Pn**	**13 32 11.7**	**+1.6**
AUH	**Augustine H**		**2.92 351**	P	**Pn**	**13 32 11.3**	**+1.2**
AUNW	**Augustine NWes**		**2.94 351**	P	**Pn**	**13 32 11.7**	**+1.4**
OPT	**Oil Point**		**3.20 354**	P	**Pn**	**13 32 15.2**	**+1.4**
BRLK	**Bradley Lake**		**3.41 15**	P	**Pn**	**13 32 16.5**	**-0.3**
BRLK				S	**Sn**	**13 32 54.7**	**-1.9**
ILW	**Iliamna West**		**3.60 356**	P	**Pn**	**13 32 20.3**	**+0.8**
ILAR	**Eielson Array**		**8.77 16**	Pn	**Pn**	**13 33 30.0**	**-0.2**
	0.2nm,0.3s,baz=204,slow=14,SNR=21						
ILAR				Sn	**Sn**	**13 35 07.0**	**-1.3**
	0.2nm,0.3s,baz=205,slow=24,SNR=6.3						
INK	**Inuvik**		**14.69 29**	Pn	**P**	**13 34 57.9**	**+0.8**
	0.1nm,0.3s,baz=219,slow=10.0,SNR=5.4						
YKA	**Yellowknife Ar**		**19.96 57**	P	**P**	**13 35 55.8**	**+0.6**
	0.6nm,0.9s,baz=268,slow=10,SNR=6.6						
SONM	**Songino Array**		**57.09 308**	P	**P**	**13 41 08.9**	**-0.4**
	0.7nm,0.7s,baz=43,slow=7.7,SNR=8.6						
ZALV	**Zalesovo Beam**		**60.37 325**	P	**P**	**13 41 31.8**	**0.0**
	0.4nm,0.5s,baz=23,slow=8.0,SNR=3.6						
BVAR	**Borovoye Array**		**65.30 333**	P	**P**	**13 42 04.1**	**-0.7**
	0.2nm,0.5s,baz=14,slow=9.5,SNR=3.8						

*IDC **30** 13:32:27.1±2.6, 56.°07N×153.°00W, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.3/4, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/28, Error ellipse: s-maj=47.2km s-min=28.7km az=136.0*
*NEIC **30** 13:32:30.3, 56.°29N×152.°57W, h20km, ML2.9(AEIC), After AEIC.*
ISC 30 13:32:32.3±1.7, 56.°6N±0.°1×152.°4W±0.°1, h20km, n18, σ1s03/20, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**		**1.20 355**	Pn	**Pn**	**13 32 53.8**	**-0.1**
	6.5nm,0.3s,baz=181,slow=7.9,SNR=18						

Mw4.4, Error ellipse: s-maj=2.6km s-min=2.0km az=24.0
*PRU **30** 13:38:41.9, 42'.20N ± 13'.67E, h39km, M4.3*
*VIE **30** 13:38:42.2 ± 0.4, 42'.50N ± 13'.44E, h10km, mb3.7/17, ML3.9/18, Ms3.9/1, Error ellipse: s-maj=3.6km s-min=3.0km az=100.0 103 km NE of Rome*
*THE **30** 13:39:06.4, 41'.62N ± 15'.74E, h7km ± 72km, Error ellipse: s-maj=72.4km s-min=9.4km az=287.0*
ISC 30 13:38:39.8 ± 0.7, 42'.34N ± 0'.01 × 13'.35E ± 0'.01, h10km ± 4km, n573, σ1§27/672, mb4.1/27, 36C-29D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.04**	**68**	Pg	**Pg**	**13 38 41.2**	**-0.6**
AQU				Sg	**Sg**	**13 38 42.7**	**-0.5**
AQU	**L'Aquila**	**0.04**	**68**	*e*Pg	**Pg**	**13 38 41.2**	**-0.6**
FAGN	**Fagnano**	**0.19**	**113**	Pg	**Pg**	**13 38 43.1**	**-0.7**
FAGN				Sg	**Sg**	**13 38 46.2**	**-0.3**
	200µm,0.4s						
FIAM	**Fiamignano**	**0.19**	**248**	Pg	**Pg**	**13 38 43.8**	**0.0**
FIAM				Sg	**Sg**	**13 38 47.2**	**+0.6**
	64µm,0.7s						
FIAM	**Fiamignano**	**0.19**	**248**	P	**Pg**	**13 38 43.8**	**0.0**
FIAM				S	**Sg**	**13 38 47.1**	**+0.6**
FIAM	**Fiamignano**	**0.19**	**248**	Pg	**Pg**	**13 38 43.8**	**0.0**
FIAM				Sg	**Sg**	**13 38 47.2**	**+0.6**
	64µm,0.7s						
PTQR	**Pietraquaria**	**0.32**	**173**	Pg	**Pg**	**13 38 45.3**	**-0.9**
PTQR	**Pietraquaria**	**0.32**	**173**	P	**Pg**	**13 38 45.4**	**-0.8**
PTQR	**Pietraquaria**	**0.32**	**173**	P	**Pg**	**13 38 45.4**	**-0.8**
TERO	**Teramo**	**0.34**	**33**	Pg	**Pg**	**13 38 45.5**	**-1.0**
TERO				Sg	**Sg**	**13 38 51.6**	**+0.5**
	93µm,0.9s						
TERO	**Teramo**	**0.34**	**33**	P	**Pg**	**13 38 45.6**	**-1.0**
TERO				S	**Sg**	**13 38 51.6**	**+0.5**
TERO	**Teramo**	**0.34**	**33**	P	**Pg**	**13 38 45.6**	**-1.0**
VCEL	**Villa Celiera**	**0.37**	**81**	Pg	**Pg**	**13 38 46.0**	**-1.1**
	64µm,0.8s						
CERT	**Cerreto**	**0.48**	**215**	Pg	**Pg**	**13 38 48.4**	**-0.7**
CERT				Sg	**Sg**	**13 38 55.3**	**-0.1**
	27µm,0.4s						
CERT	**Cerreto**	**0.48**	**215**	P	**Pg**	**13 38 48.4**	**-0.7**
CERT				S	**Sg**	**13 38 55.1**	**-0.3**
CERT	**Cerreto**	**0.48**	**215**	Pg	**Pg**	**13 38 48.4**	**-0.7**
CERT				Sg	**Sg**	**13 38 55.3**	**-0.1**
	27µm,0.4s						
GAVE	**Gavelli**	**0.49**	**316**	Pg	**Pg**	**13 38 49.7**	**+0.3**
GAVE	**Gavelli**	**0.49**	**316**	Pg	**Pg**	**13 38 49.7**	**+0.3**
VVLD	**Villa Vallelon**	**0.51**	**157**	Pg	**Pg**	**13 38 48.4**	**-1.3**
VVLD				Sg	**Sg**	**13 38 55.8**	**-0.6**
	14µm,0.8s						
VVLD	**Villa Vallelon**	**0.51**	**157**	P	**Pg**	**13 38 48.4**	**-1.3**
NRCA	**Norcia**	**0.53**	**341**	Pg	**Pg**	**13 38 49.2**	**-0.8**
NRCA				Sg	**Sg**	**13 38 57.6**	**+0.6**
	18µm,0.6s						
NRCA	**Norcia**	**0.53**	**341**	P	**Pg**	**13 38 49.2**	**-0.8**
NRCA				S	**Sb**	**13 38 58.2**	**-0.7**
NRCA	**Norcia**	**0.53**	**341**	Pg	**Pg**	**13 38 49.2**	**-0.8**
NRCA				Sg	**Sg**	**13 38 57.6**	**+0.6**
	18µm,0.6s						
NRCA				S	**Sb**	**13 38 58.2**	**-0.7**
INTR	**Introdacqua**	**0.53**	**128**	Pg	**Pg**	**13 38 48.7**	**-1.4**
INTR				Sg	**Sg**	**13 38 56.1**	**-0.9**
	15µm,0.6s						
INTR	**Introdacqua**	**0.53**	**128**	P	**Pg**	**13 38 48.6**	**-1.4**
INTR				S	**Sg**	**13 38 56.8**	**-0.2**
INTR	**Introdacqua**	**0.53**	**128**	P	**Pg**	**13 38 48.6**	**-1.4**
INTR				S	**Sg**	**13 38 56.8**	**-0.2**
GUAR	**Guarcino**	**0.55**	**183**	Pg	**Pg**	**13 38 49.7**	**-0.7**
	8µm,0.5s						
GUAR	**Guarcino**	**0.55**	**183**	Pg	**Pg**	**13 38 49.7**	**-0.7**
	8µm,0.5s						
MTCE	**Montecelio**	**0.55**	**235**	Pg	**Pg**	**13 38 49.7**	**-0.8**
MTCE				Sg	**Sg**	**13 38 57.7**	**-0.1**
	6µm,0.7s						
MTCE	**Montecelio**	**0.55**	**235**	P	**Pg**	**13 38 49.8**	**-0.8**
MTCE	**Montecelio**	**0.55**	**235**	P	**Pg**	**13 38 49.8**	**-0.8**
MTCE				Sg	**Sg**	**13 38 57.7**	**-0.1**
	6µm,0.7s						
TRTR	**Tortoreto Alta**	**0.63**	**41**	Pg	**Pg**	**13 38 51.8**	**-0.2**
	89µm,0.7s						
TRTR	**Tortoreto Alta**	**0.63**	**41**	Pg	**Pg**	**13 38 51.8**	**-0.2**
	89µm,0.7s						
OFFI	**Offida**	**0.65**	**22**	Pg	**Pg**	**13 38 51.9**	**-0.4**
	110µm,0.6s						
OFFI	**Offida**	**0.65**	**22**	Pg	**Pg**	**13 38 51.9**	**-0.4**
	110µm,0.6s						
POFI	**Posta Fibreno**	**0.68**	**156**	Pg	**Pg**	**13 38 51.0**	**-1.9**
LPEL	**Lama dei Pelig**	**0.68**	**115**	Pg	**Pg**	**13 38 51.1**	**-1.9**
LPEL				Sg	**Sg**	**13 39 01.5**	**-0.5**
	8µm,0.5s						
RMP	**Rome, Mte Porz**	**0.71**	**223**	Pg	**Pg**	**13 38 52.5**	**-1.1**
	12µm,1.0s						
RMP	**Rome, Mte Porz**	**0.71**	**223**	Pg	**Pg**	**13 38 52.5**	**-1.1**
	12µm,1.0s						
SDI	**San Donato**	**0.72**	**151**	Pg	**Pg**	**13 38 51.9**	**-1.7**
FDMO	**Fiordimonte**	**0.72**	**345**	Pg	**Pg**	**13 38 52.7**	**-1.1**
FDMO				Sg	**Sb**	**13 39 04.5**	**-0.1**
	7µm,0.3s						
FDMO	**Fiordimonte**	**0.72**	**345**	Pg	**Pg**	**13 38 52.7**	**-1.1**
FDMO				Sg	**Sb**	**13 39 04.5**	**-0.1**
	7µm,0.3s						
CESI	**CESI - Serrava**	**0.74**	**334**	Pg	**Pg**	**13 38 53.1**	**-1.1**
CESI				Sg	**Sb**	**13 39 05.5**	**+0.3**
	7µm,0.5s						
CESI	**CESI - Serrava**	**0.74**	**334**	Pg	**Pg**	**13 38 53.1**	**-1.1**
CESI				Sg	**Sb**	**13 39 05.5**	**+0.3**
	7µm,0.5s						
CAFR	**Castel Frentan**	**0.75**	**98**	Pg	**Pg**	**13 38 53.1**	**-1.1**
	9µm,0.5s						
RDP	**Rocca di Papa**	**0.75**	**219**	Pg	**Pg**	**13 38 53.1**	**-1.2**
	14µm,0.5s						
RDP	**Rocca di Papa**	**0.75**	**219**	Pg	**Pg**	**13 38 53.1**	**-1.2**
	14µm,0.5s						
GIUL	**Giuliano Di Ro**	**0.78**	**185**	Pg	**Pg**	**13 38 54.3**	**-0.6**
	6µm,0.8s						
GIUL	**Giuliano Di Ro**	**0.78**	**185**	Pg	**Pg**	**13 38 54.3**	**-0.6**
	6µm,0.8s						
ROM9	**Roma**	**0.80**	**231**	Pg	**Pg**	**13 38 54.6**	**-0.7**
	12µm,0.9s						
ROM9	**Roma**	**0.80**	**231**	Pg	**Pg**	**13 38 54.6**	**-0.7**
	12µm,0.9s						
LAV9	**Lanuvio**	**0.82**	**217**	Pg	**Pg**	**13 38 54.5**	**-1.1**
LAV9	**Lanuvio**	**0.82**	**217**	Pg	**Pg**	**13 38 54.5**	**-1.1**
GUMA	**Gualdo di Mace**	**0.84**	**31**	Pg	**Pg**	**13 38 53.0**	**-3.1**
	24µm,0.5s						
ASSB	**Assisi San Ben**	**0.87**	**324**	Pg	**Pg**	**13 38 55.5**	**-1.1**
	7µm,0.3s						
ASSB	**Assisi San Ben**	**0.87**	**324**	Pg	**Pg**	**13 38 55.5**	**-1.1**
	7µm,0.3s						
RNI2	**Rionero Sannit**	**0.87**	**137**	Pg	**Pg**	**13 38 55.2**	**-1.4**
	12µm,1.1s						
CERA	**Filignano**	**0.89**	**146**	Pg	**Pg**	**13 38 54.9**	**-2.1**
	7µm,0.9s						
SNTG	**Esanatoglia**	**0.96**	**342**	Pg	**Pg**	**13 38 56.8**	**-1.6**
SNTG	**Esanatoglia**	**0.96**	**342**	Pg	**Pg**	**13 38 56.8**	**-1.6**
MIDA	**Miranda**	**0.97**	**136**	Pg	**Pg**	**13 38 56.1**	**-2.4**
	5µm,0.9s						
TOLF	**Tolfa**	**1.04**	**255**	Pg	**Pg**	**13 38 59.2**	**-0.6**
	4µm,1.2s						
TOLF	**Tolfa**	**1.04**	**255**	Pg	**Pg**	**13 38 59.2**	**-0.6**
	4µm,1.2s						
CING	**Cingoli**	**1.04**	**354**	Pg	**Pg**	**13 38 58.1**	**-1.8**
	5µm,0.4s						
FRES	**Fresagrandinar**	**1.05**	**110**	Pg	**Pg**	**13 38 58.1**	**-1.8**
	3µm,0.7s						
TRIV	**Trivento**	**1.06**	**122**	Pg	**Pg**	**13 38 58.6**	**-1.6**
	3µm,0.7s						
MGAB	**Montegabbione**	**1.08**	**303**	Pg	**Pg**	**13 38 59.8**	**-0.8**
MGAB	**Montegabbione**	**1.08**	**303**	Pg	**Pg**	**13 38 59.8**	**-0.8**
MURB	**Monte Urbino**	**1.11**	**327**	Pg	**Pb**	**13 38 59.9**	**-1.2**
	18µm,0.3s						
MURB	**Monte Urbino**	**1.11**	**327**	Pg	**Pb**	**13 38 59.9**	**-1.2**
	18µm,0.3s						
VAGA	**Valle Agricola**	**1.13**	**144**	Pg	**Pb**	**13 38 59.6**	**-2.0**
	3µm,0.8s						
VAGA	**Valle Agricola**	**1.13**	**144**	Pg	**Pb**	**13 38 59.6**	**-2.0**
	3µm,0.8s						
RFI	**Roccamonfina**	**1.14**	**155**	Pg	**Pn**	**13 39 02.1**	**+0.2**
	263nm,0.8s						
RFI	**Roccamonfina**	**1.14**	**155**	Pg	**Pn**	**13 39 02.1**	**+0.2**
	263nm,0.8s						
LATE	**Laterza**	**1.18**	**284**	Pg	**Pb**	**13 39 01.9**	**-0.4**
	783nm,0.6s						
LATE	**Laterza**	**1.18**	**284**	Pg	**Pb**	**13 39 01.9**	**-0.4**
	783nm,0.6s						
SACS	**San Casciano d**	**1.18**	**296**	Pg	**Pb**	**13 39 02.2**	**-0.2**
	17µm,1.7s						
ARVD	**Arcevia**	**1.20**	**346**	Pg	**Pb**	**13 39 01.4**	**-1.3**
	6µm,0.9s						
ARVD	**Arcevia**	**1.20**	**346**	Pg	**Pb**	**13 39 01.4**	**-1.3**
	6µm,0.9s						
BSSO	**Busso**	**1.22**	**130**	Pg	**Pn**	**13 39 01.7**	**-1.4**
	3µm,1.0s						
BSSO	**Busso**	**1.22**	**130**	Pg	**Pn**	**13 39 01.7**	**-1.4**
	3µm,1.0s						
AOI	**Ancona**	**1.23**	**9**	Pg	**Pn**	**13 39 01.6**	**-1.5**
	5µm,0.7s						
AOI	**Ancona**	**1.23**	**9**	Pg	**Pn**	**13 39 01.6**	**-1.5**
	5µm,0.7s						
PIEI	**Pieia**	**1.34**	**334**	Pg	**Pn**	**13 39 03.7**	**-1.0**
	3µm,0.7s						
PIEI	**Pieia**	**1.34**	**334**	Pg	**Pn**	**13 39 03.7**	**-1.0**
	3µm,0.7s						
CIGN	**Sant'Elia a Pi**	**1.34**	**120**	Pg	**Pn**	**13 39 03.1**	**-1.6**
	1µm,0.8s						
CIGN	**Sant'Elia a Pi**	**1.34**	**120**	Pg	**Pn**	**13 39 03.1**	**-1.6**
	1µm,0.8s						
SACR	**S. Croce Del S**	**1.38**	**132**	Pg	**Pn**	**13 39 05.6**	**+0.3**
	4µm,1.6s						
SACR	**S. Croce Del S**	**1.38**	**132**	Pg	**Pn**	**13 39 05.6**	**+0.3**
	4µm,1.6s						
FSSB	**Fossombrone**	**1.42**	**343**	Pg	**Pn**	**13 39 05.2**	**-0.5**
	7µm,0.4s						
FSSB	**Fossombrone**	**1.42**	**343**	Pg	**Pn**	**13 39 05.2**	**-0.5**
	7µm,0.4s						
CAFI	**Castiglion Fio**	**1.42**	**315**	Pg	**Pn**	**13 39 05.6**	**-0.2**
	3µm,0.8s						
CAFI	**Castiglion Fio**	**1.42**	**315**	Pg	**Pn**	**13 39 05.6**	**-0.2**
	3µm,0.8s						
BADI	**Badiali**	**1.43**	**326**	Pg	**Pn**	**13 39 05.5**	**-0.3**
	7µm,1.0s						
BADI	**Badiali**	**1.43**	**326**	Pg	**Pn**	**13 39 05.5**	**-0.3**
	7µm,1.0s						
ARCI	**Arcidosso**	**1.48**	**291**	Pg	**Pn**	**13 39 07.0**	**+0.4**
	740nm,0.9s						
ARCI	**Arcidosso**	**1.48**	**291**	Pg	**Pn**	**13 39 07.0**	**+0.4**
	740nm,0.9s						
PARC	**Parchiule**	**1.54**	**328**	Pg	**Pn**	**13 39 07.6**	**+0.1**
	3µm,0.9s						
PARC	**Parchiule**	**1.54**	**328**	Pg	**Pn**	**13 39 07.6**	**+0.1**
	3µm,0.9s						
CRE	**Caprese Michel**	**1.64**	**322**	Pg	**Pn**	**13 39 08.6**	**-0.3**
	606nm,0.7s						
CRE	**Caprese Michel**	**1.64**	**322**	Pg	**Pn**	**13 39 08.6**	**-0.3**
	606nm,0.7s						
PESA	**Pesaro**	**1.65**	**347**	Pg	**Pb**	**13 39 10.4**	**+0.1**
	3µm,0.5s						
PESA	**Pesaro**	**1.65**	**347**	Pg	**Pb**	**13 39 10.4**	**+0.1**
	3µm,0.5s						
MAON	**Monte Argentar**	**1.65**	**274**	Pg	**Pn**	**13 39 08.3**	**-0.6**
	1µm,1.0s						
MAON	**Monte Argentar**	**1.65**	**274**	Pg	**Pn**	**13 39 08.3**	**-0.6**
	1µm,1.0s						
SGRT	**San Giovanni R**	**1.88**	**107**	Pg	**Pn**	**13 39 11.9**	**-0.2**
	1µm,0.9s						
SGRT	**San Giovanni R**	**1.88**	**107**	Pg	**Pn**	**13 39 11.9**	**-0.2**
	1µm,0.9s						
CASP	**Castiglione de**	**1.89**	**285**	Pg	**Pn**	**13 39 12.2**	**0.0**
	839nm,1.5s						
CASP	**Castiglione de**	**1.89**	**285**	Pg	**Pn**	**13 39 12.2**	**0.0**
	839nm,1.5s						
SFI	**Santa Sofia**	**1.91**	**325**	Pg	**Pn**	**13 39 12.4**	**-0.2**
SFI	**Santa Sofia**	**1.91**	**325**	Pg	**Pn**	**13 39 12.4**	**-0.2**
GRFL	**Gerfalco**	**1.93**	**296**	Pg	**Pn**	**13 39 12.9**	**+0.1**
	226nm,1.0s						
GRFL	**Gerfalco**	**1.93**	**296**	Pg	**Pn**	**13 39 12.9**	**+0.1**
	226nm,1.0s						
SGTA	**Sant Agata di**	**1.93**	**128**	Pg	**Pb**	**13 39 14.1**	**-1.0**
	1µm,0.8s						
SGTA	**Sant Agata di**	**1.93**	**128**	Pg	**Pb**	**13 39 14.1**	**-1.0**
	1µm,0.8s						
MSAG	**Monte S. Angel**	**2.01**	**107**	Pg	**Pn**	**13 39 14.3**	**+0.4**
	2µm,0.7s						
MSAG	**Monte S. Angel**	**2.01**	**107**	Pg	**Pn**	**13 39 14.3**	**+0.4**
	2µm,0.7s						
MS1	**Monte Sant'Ang**	**2.03**	**107**	*e*Pn	**Pn**	**13 39 15.2**	**+1.0**
MS1				*e*Sn	**Sb**	**13 39 42.5**	**+0.2**
MCRV	**Calabrutti - M**	**2.07**	**138**	Pg	**Pn**	**13 39 14.6**	**-0.2**
	593nm,1.1s						
MCRV	**Calabrutti - M**	**2.07**	**138**	Pg	**Pn**	**13 39 14.6**	**-0.2**
	593nm,1.1s						
MRLC	**Muro Lucano**	**2.25**	**134**	Pg	**Pn**	**13 39 17.6**	**+0.4**
	939nm,1.6s						
MRLC	**Muro Lucano**	**2.25**	**134**	Pg	**Pn**	**13 39 17.6**	**+0.4**
	939nm,1.6s						
CRMI	**Carmignano**	**2.27**	**311**	Pg	**Pn**	**13 39 18.0**	**+0.6**
	1µm,1.9s						
CRMI	**Carmignano**	**2.27**	**311**	Pg	**Pn**	**13 39 18.0**	**+0.6**
	1µm,1.9s						
CDRU	**Civita di Ruta**	**2.36**	**141**	Pg	**Pn**	**13 39 18.9**	**+0.1**
	269nm,1.3s						
CDRU	**Civita di Ruta**	**2.36**	**141**	Pg	**Pn**	**13 39 18.9**	**+0.1**
	269nm,1.3s						
PALZ	**Palazzo San Ge**	**2.40**	**125**	Pg	**Pn**	**13 39 20.3**	**+1.1**
	2µm,1.2s						
PALZ	**Palazzo San Ge**	**2.40**	**125**	Pg	**Pn**	**13 39 20.3**	**+1.1**
	2µm,1.2s						
FNVD	**Fontana Vidola**	**2.45**	**319**	Pg	**Pn**	**13 39 20.4**	**+0.4**
FNVD	**Fontana Vidola**	**2.45**	**319**	Pg	**Pn**	**13 39 20.4**	**+0.4**
MTRZ	**Monterenzio**	**2.46**	**327**	Pg	**Pn**	**13 39 21.5**	**+1.5**
MTRZ	**Monterenzio**	**2.46**	**327**	Pg	**Pn**	**13 39 21.5**	**+1.5**
MRVN	**Minervino Murg**	**2.48**	**120**	Pg	**Pn**	**13 39 20.4**	**0.0**
	386nm,1.2s						
MRVN	**Minervino Murg**	**2.48**	**120**	Pg	**Pn**	**13 39 20.4**	**0.0**
	386nm,1.2s						
NVLJ	**Novalja**	**2.48**	**26**	*i* Pn	**Pn**	**13 39 19.9**	**-0.4**
NVLJ				Sn	**Sn**	**13 39 50.5**	**-0.2**
NVLJ	**Novalja**	**2.48**	**26**	*i* Pn	**Pn**	**13 39 19.9**	**-0.4**
NVLJ				Sn	**Sn**	**13 39 50.5**	**-0.2**
ACER	**Acerenza**	**2.49**	**128**	Pg	**Pn**	**13 39 21.6**	**+1.1**
	694nm,0.8s						
ACER	**Acerenza**	**2.49**	**128**	Pg	**Pn**	**13 39 21.6**	**+1.1**
	694nm,0.8s						
CDT	**Castel del Mon**	**2.52**	**119**	*e*Pn	**Pn**	**13 39 21.1**	**+0.2**
CDT				*e*Sn	**Sn**	**13 39 52.9**	**+1.1**
MAIM	**Mastiano**	**2.62**	**308**	P	**Pn**	**13 39 21.8**	**-0.4**
MAIM				S	Sn	13 39 47.8	-6.3
BDI	**Bagni Di Lucca**	**2.65**	**311**	Pg	**Pn**	**13 39 22.9**	**+0.2**
	519nm,1.0s						
BDI	**Bagni Di Lucca**	**2.65**	**311**	Pg	**Pn**	**13 39 22.9**	**+0.2**
	519nm,1.0s						
ZCCA	**Zocca**	**2.65**	**320**	Pg	**Pn**	**13 39 24.6**	**+1.8**
ZCCA	**Zocca**	**2.65**	**320**	Pg	**Pn**	**13 39 24.6**	**+1.8**
AMUR	**Altamura**	**2.83**	**119**	Pg	**Pn**	**13 39 25.3**	**+0.2**
	783nm,1.6s						
AMUR	**Altamura**	**2.83**	**119**	Pg	**Pn**	**13 39 25.3**	**+0.2**
	783nm,1.6s						
SIRI	**Monte Sirino -**	**2.87**	**138**	Pg	**Pn**	**13 39 27.1**	**+1.3**
SIRI	**Monte Sirino -**	**2.87**	**138**	Pg	**Pn**	**13 39 27.1**	**+1.3**
BAI	**Bari**	**2.91**	**114**	*e*Pn	**Pn**	**13 39 27.0**	**+0.8**
BAI				*e*Sn	**Sn**	**13 40 04.2**	**+2.9**
CUC	**Castrocucco**	**2.99**	**141**	*e*Pn	**Pn**	**13 39 28.8**	**+1.4**
CUC				*e*Pg	**Pg**	**13 39 39.0**	**+1.9**
VALM	**Valbona**	**3.03**	**313**	P	**Pn**	**13 39 27.6**	**-0.3**
VALM				S	Sn	13 39 58.0	-6.3
OSPF	**L'Ospedale**	**3.17**	**259**	P	**Pn**	**13 39 29.4**	**-0.5**
OSPF	**L'Ospedale**	**3.17**	**259**	P	**Pn**	**13 39 29.4**	**-0.5**
OSPF	**L'Ospedale**	**3.17**	**259**	P	**Pn**	**13 39 29.4**	**-0.5**
NOCI	**Noci**	**3.19**	**118**	Pg	**Pn**	**13 39 30.4**	**+0.3**
	250nm,0.9s						
NOCI	**Noci**	**3.19**	**118**	Pg	**Pn**	**13 39 30.4**	**+0.3**
	250nm,0.9s						
GRAM	**Graiana**	**3.22**	**313**	P	**Pn**	**13 39 31.9**	**+1.4**
PGF	**Pioggiola**	**3.23**	**275**	*e*P	**Pn**	**13 39 30.8**	**+0.1**
PGF				*e*Sn	**Sn**	**13 40 05.7**	**-3.6**
	39nm,0.5s						
PGF	**Pioggiola**	**3.23**	**275**	*e*P	**Pn**	**13 39 30.8**	**+0.1**
PGF				*e*Sn	**Sn**	**13 40 05.7**	**-3.6**
	20nm,0.5s						
SKDS	**Skadanscina**	**3.24**	**8**	*i* Pn	**Pn**	**13 39 30.3**	**-0.5**
SKDS				*i* Sn	**Sn**	**13 40 10.1**	**+0.6**
SKDS	**Skadanscina**	**3.24**	**8**	Pn	**Pn**	**13 39 30.3**	**-0.5**
SKDS				*i* Sn	**Sn**	**13 40 10.1**	**+0.6**
STON	**Ston**	**3.25**	**79**	*e*Pn	**Pn**	**13 39 30.3**	**-0.6**
STON				Sn	**Sn**	**13 40 09.9**	**+0.2**
TRI	**Trieste**	**3.38**	**5**	Pg	**Pn**	**13 39 32.0**	**-0.6**
	237nm,0.6s						
TRI	**Trieste**	**3.38**	**5**	*e*P	**Pn**	**13 39 32.1**	**-0.6**
TRI	**Trieste**	**3.38**	**5**	*e*P	**Pn**	**13 39 32.1**	**-0.6**
TRI	**Trieste**	**3.38**	**5**	*e*P	**Pn**	**13 39 32.1**	**-0.6**
BOJS	**Bojanci**	**3.45**	**23**	*i* Pn	**Pn**	**13 39 34.1**	**+0.5**
BOJS				*i* Sn	**Sn**	**13 40 16.5**	**+1.9**
BOJS	**Bojanci**	**3.45**	**23**	*i* Pn	**Pn**	**13 39 34.1**	**+0.5**
BOJS				*i* Sn	**Sn**	**13 40 16.5**	**+1.9**
SC2M	**Scurtabo**	**3.46**	**308**	P	**Pn**	**13 39 34.1**	**+0.2**
JAVS	**Javornik**	**3.59**	**8**	*i* Pn	**Pn**	**13 39 35.3**	**-0.4**
JAVS	**Javornik**	**3.59**	**8**	*i* Pn	**Pn**	**13 39 35.3**	**-0.4**
VISS	**Visnje**	**3.63**	**17**	*i* Pn	**Pn**	**13 39 36.0**	**-0.1**
VISS	**Visnje**	**3.63**	**17**	*i* Pn	**Pn**	**13 39 36.0**	**-0.1**
VISS				*i* Sn	**Sn**	**13 40 23.1**	**+4.2**
VOY	**Vojsko**	**3.71**	**6**	*e*Pn	**Pn**	**13 39 36.7**	**-0.6**
VOY				*e*Sn	**Sn**	**13 40 20.2**	**-1.0**
VOY	**Vojsko**	**3.71**	**6**	*e*Pn	**Pn**	**13 39 36.7**	**-0.6**
LJU	**Ljubljana**	**3.80**	**12**	*e*Pn	**Pn**	**13 39 39.5**	**+1.0**
LJU				*e*Sn	**Sn**	**13 40 23.5**	**+0.3**
LJU	**Ljubljana**	**3.80**	**12**	*e*Pn	**Pn**	**13 39 39.5**	**+1.0**
LJU				*e*Sn	**Sn**	**13 40 23.5**	**+0.3**
HCY	**Herceg Novi**	**3.81**	**87**	⇓*i* Pn	**Pn**	**13 39 38.5**	**-0.1**
HCY				*e*Sn	**Sn**	**13 40 24.5**	**+1.0**
HCY	**Herceg Novi**	**3.81**	**87**	P	**Pn**	**13 39 38.5**	**-0.1**
HCY				S	**Sn**	**13 40 24.5**	**+1.0**
HCY	**Herceg Novi**	**3.81**	**87**	P	**Pn**	**13 39 38.5**	**-0.1**
HCY				S	**Sn**	**13 40 24.5**	**+1.0**
HCY	**Herceg Novi**	**3.81**	**87**	⇓*i* Pn	**Pn**	**13 39 38.5**	**-0.1**
HCY				*e*Sn	**Sn**	**13 40 24.5**	**+1.0**
BRY	**Bratogost**	**3.87**	**80**	*e*Pn	**Pn**	**13 39 40.2**	**+0.7**
BRY				*e*Sn	**Sn**	**13 40 26.1**	**+1.0**
BRY	**Bratogost**	**3.87**	**80**	P	**Pn**	**13 39 40.3**	**+0.7**
BRY				S	**Sn**	**13 40 26.1**	**+1.0**
BRY	**Bratogost**	**3.87**	**80**	P	**Pn**	**13 39 40.2**	**+0.7**
BRY				S	**Sn**	**13 40 26.1**	**+1.0**
BRY	**Bratogost**	**3.87**	**80**	P	**Pn**	**13 39 40.3**	**+0.7**
BRY				*e*Sn	**Sn**	**13 40 26.1**	**+1.0**
CTI	**Castel Tesino**	**3.91**	**342**	Pg	**Pn**	**13 39 40.3**	**+0.3**
	337nm,0.7s						
CTI	**Castel Tesino**	**3.91**	**342**	Pg	**Pn**	**13 39 40.3**	**+0.3**
	337nm,0.7s						
AGOR	**Agordo**	**4.05**	**347**	Pg	**Pn**	**13 39 42.2**	**+0.2**
	405nm,1.2s						
TIP	**Timpagrande**	**4.08**	**140**	*e*Pn	**Pn**	**13 39 44.8**	**+2.4**
TIP	**Timpagrande**	**4.08**	**140**	*e*Pn	**Pn**	**13 39 44.8**	**+2.4**
BUM	**Brajici-Budva**	**4.11**	**89**	⇓*i* Pn	**Pn**	**13 39 43.6**	**+0.8**
BUM				*e*Sn	**Sn**	**13 40 32.0**	**+1.0**
BUM	**Brajici-Budva**	**4.11**	**89**	⇓*i* Pn	**Pn**	**13 39 43.6**	**+0.8**
BUM				*e*Sn	**Sn**	**13 40 32.0**	**+1.0**
PCP	**Piancastagn**	**4.13**	**304**	P	**Pn**	**13 39 42.4**	**-0.7**
VSL	**Villasalto**	**4.14**	**228**	*e*P	**Pn**	**13 39 42.6**	**-0.5**
VSL	**Villasalto**	**4.14**	**228**	*e*P	**Pn**	**13 39 42.6**	**-0.5**
UPM	**Unac-Piva**	**4.18**	**76**	⇓*i* Pn	**Pn**	**13 39 45.0**	**+1.2**
UPM				*e*Sn	**Sn**	**13 40 34.0**	**+1.2**
UPM	**Unac-Piva**	**4.18**	**76**	⇓*i* Pn	**Pn**	**13 39 45.0**	**+1.2**
UPM				*e*Sn	**Sn**	**13 40 34.0**	**+1.2**
NKY	**Niksic**	**4.19**	**82**	⇓*i* Pn	**Pn**	**13 39 45.1**	**+1.1**
NKY				*e*Sn	**Sn**	**13 40 33.8**	**+0.7**
NKY	**Niksic**	**4.19**	**82**	P	**Pn**	**13 39 45.1**	**+1.1**
NKY				S	**Sn**	**13 40 33.8**	**+0.7**
NKY	**Niksic**	**4.19**	**82**	P	**Pn**	**13 39 45.1**	**+1.1**
NKY				S	**Sn**	**13 40 33.8**	**+0.7**
NKY	**Niksic**	**4.19**	**82**	⇓*i* Pn	**Pn**	**13 39 45.1**	**+1.1**
NKY				*e*Sn	**Sn**	**13 40 33.8**	**+0.7**
OBKA	**Obir**	**4.26**	**11**	⇑*i* Pn	**Pn**

		SNR=41								
FRF	**La Foret Royal**		**5.07**	**286**	*e*Pn		**Pn**	**13 39 54.8**	**-1.1**
	SNR=1.0									
FRF					*e*Sn		**Sn**	**13 40 49.9**	**-4.6**
	11nm,0.4s									
FRF	**La Foret Royal**		**5.07**	**286**	*e*Pn		**Pn**	**13 39 54.8**	**-1.1**
	SNR=1.0									
FRF					*e*Sn		**Sn**	**13 40 49.9**	**-4.6**
	5.4nm,0.4s									
WTTA	**Wattenberg**		**5.07**	**347**	⇑*i*Pn		**Pn**	**13 39 56.1**	**0.0**
	SNR=17									
WTTA	**Wattenberg**		**5.07**	**347**	Pn		**Pn**	**13 39 56.1**	**0.0**
	SNR=17									
DAVOX	**Davos/Dischmat**		**5.09**	**332**	Pn		**Pn**	**13 39 57.4**	**+1.1**
	12nm,0.3s,baz=151,slow=18,SNR=63									
DAVOX					Sn		**Sn**	**13 40 55.7**	**+0.5**
	4.7nm,0.3s,baz=315,slow=23,SNR=6.2									
DAVOX					Lg		Lg	13 41 39.4		
	baz=328,slow=19,SNR=1.6									
DAVOX	**Davos/Dischmat**		**5.09**	**332**	Pn		**Pn**	**13 39 57.4**	**+1.1**
DAVOX					Sn		**Sn**	**13 40 55.7**	**+0.5**
DAVOX					Lg		Lg	13 41 39.4		
DAVOX	**Davos/Dischmat**		**5.09**	**332**	P		**Pn**	**13 39 57.4**	**+1.1**
DAVOX					S		**Sn**	**13 40 55.7**	**+0.5**
LMR	**La Mourre**		**5.13**	**283**	*e*Pn		**Pn**	**13 39 55.4**	**-1.3**
	SNR=1.0									
LMR	**La Mourre**		**5.13**	**283**	*e*Pn		**Pn**	**13 39 55.4**	**-1.3**
	SNR=1.0									
ARSA	**Arzberg**		**5.15**	**17**	⇑*i*Pn		**Pn**	**13 39 56.7**	**-0.3**
ARSA	**Arzberg**		**5.15**	**17**	Pn		**Pn**	**13 39 56.7**	**-0.3**
WATA	**Walderalm**		**5.15**	**346**	⇓*i*Pn		**Pn**	**13 39 57.8**	**+0.6**
	SNR=9.5									
WATA	**Walderalm**		**5.15**	**346**	Pn		**Pn**	**13 39 57.8**	**+0.6**
	SNR=9.5									
MOTA	**Moosalm**		**5.25**	**343**	⇓*i*Pn		**Pn**	**13 39 58.9**	**+0.3**
	SNR=18									
MOTA	**Moosalm**		**5.25**	**343**	Pn		**Pn**	**13 39 58.9**	**+0.3**
	SNR=18									
PHP	**Peshkopia**		**5.32**	**95**	P		**Pn**	**13 40 02.2**	**+2.8**
PHP	**Peshkopia**		**5.32**	**95**	P		**Pn**	**13 40 02.2**	**+2.8**
MBDF	**Montbardon**		**5.35**	**299**	*e*P		**Pn**	**13 40 01.2**	**+1.4**
MBDF	**Montbardon**		**5.35**	**299**	*e*P		**Pn**	**13 40 01.2**	**+1.4**
PKSM	**Moragy**		**5.42**	**43**	⇓P		**Pn**	**13 40 00.2**	**-0.5**
PKSM	**Moragy**		**5.42**	**43**	⇓*i*P		**Pn**	**13 40 00.2**	**-0.5**
PKSM	**Moragy**		**5.42**	**43**	P		**Pn**	**13 40 00.2**	**-0.5**
RETA	**Reutte**		**5.47**	**341**	⇑*i*Pn		**Pn**	**13 40 02.1**	**+0.7**
	SNR=11									
RETA					⇑*i*Sn		**Sn**	**13 41 04.5**	**+0.1**
RETA	**Reutte**		**5.47**	**341**	Pn		**Pn**	**13 40 02.1**	**+0.7**
	SNR=11									
RETA					Sn		**Sn**	**13 41 04.5**	**+0.1**
DAVA	**Damuels**		**5.53**	**335**	⇑*i*Pn		**Pn**	**13 40 03.9**	**+1.5**
	SNR=13									
DAVA	**Damuels**		**5.53**	**335**	Pn		**Pn**	**13 40 03.9**	**+1.5**
	SNR=13									
KEK	**Kerkira**		**5.54**	**116**	P		**Pn**	**13 40 02.9**	**+0.6**
BNI	**Bardonecchia**		**5.55**	**302**	*e*P		**Pn**	**13 40 03.7**	**+1.1**
BNI					pmax		pmax			
	comp=Z,24nm,1.0s									
BNI	**Bardonecchia**		**5.55**	**302**	*e*P		**Pn**	**13 40 03.7**	**+1.1**
	comp=Z,24nm,1.0s									
BNI	**Bardonecchia**		**5.55**	**302**	*e*P		**Pn**	**13 40 03.7**	**+1.1**
	comp=Z,24nm,1.0s									
MOA	**Molln**		**5.55**	**6**	⇑*i*Pn		**Pn**	**13 40 03.5**	**+1.0**
	SNR=38									
MOA					⇑*i*Sn		**Sn**	**13 41 06.4**	**+0.1**
MOA	**Molln**		**5.55**	**6**	Pn		**Pn**	**13 40 03.5**	**+1.0**
	SNR=38									
MOA					Sn		**Sn**	**13 41 06.4**	**+0.1**
LPG	**La Plagne**		**5.72**	**306**	*e*P		**Pn**	**13 40 06.3**	**+1.2**
LPG	**La Plagne**		**5.72**	**306**	*e*P		**Pn**	**13 40 06.3**	**+1.2**
LPL	**La Plagne**		**5.74**	**306**	*e*P		**Pn**	**13 40 06.9**	**+1.6**
	SNR=1.0									
LPL					*e*Sn		Sn	13 41 05.2	-6.1	
	comp=Z,30nm,0.6s									
LPL	**La Plagne**		**5.74**	**306**	*e*P		**Pn**	**13 40 06.9**	**+1.6**
	SNR=1.0									
CONA	**Conrad Observa**		**5.86**	**17**	⇓*i*Pn		**Pn**	**13 40 06.8**	**-0.1**
	SNR=12									
CONA					⇓*i*Sn		**Sn**	**13 41 13.5**	**-0.7**
CONA	**Conrad Observa**		**5.86**	**17**	Pn		**Pn**	**13 40 06.8**	**-0.1**
	SNR=12									
SMRF	**Simiane la Rot**		**5.92**	**289**	*e*P		**Pn**	**13 40 08.7**	**+1.1**
	SNR=1.0									
SMRF	**Simiane la Rot**		**5.92**	**289**	*e*P		**Pn**	**13 40 08.7**	**+1.1**
	SNR=1.0									
IGT	**Igoumenitsa**		**5.98**	**116**	P		**Pn**	**13 40 09.9**	**+1.4**
ORIF	**Oris-en-Rattie**		**6.00**	**298**	*e*P		**Pn**	**13 40 11.9**	**+3.1**
	SNR=1.0									
SKO	**Skopje**		**6.02**	**91**	*e*Pn		**Pn**	**13 40 10.3**	**+1.3**
SKO	**Skopje**		**6.02**	**91**	*e*Pn		**Pn**	**13 40 10.8**	**+1.8**
NEST	**Nestorio**		**6.10**	**106**	P		**Pn**	**13 40 11.7**	**+1.5**
FNA	**Florina**		**6.22**	**102**	P		**Pn**	**13 40 12.6**	**+0.9**
JAN	**Janina**		**6.27**	**113**	*e*P		**Pn**	**13 40 14.2**	**+1.7**
GEC2	**GERESS Array S**		**6.51**	**2**	*e*P		**Pn**	**13 40 16.0**	**+0.2**
GEC2	**GERESS Array S**		**6.51**	**2**	*e*P		**Pn**	**13 40 16.0**	**+0.2**
GERES	**GERESS Array B**		**6.51**	**2**	Pn		**Pn**	**13 40 15.2**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=172,slow=13,SNR=44									
GERES					Sn		**Sn**	**13 41 27.4**	**-2.8**
	comp=Z,6.7nm,0.3s,baz=165,slow=22,SNR=8.9									
GERES					Lg		Lg	13 42 12.5		
	baz=168,slow=28,SNR=2.3									
GERES					LR		LR	13 42 38.5		
	comp=Z,176nm,19.0s,baz=357,slow=37									
GERES	**GERESS Array B**		**6.51**	**2**	Pn		**Pn**	**13 40 15.2**	**-0.6**
GERES					Sn		**Sn**	**13 41 27.4**	**-2.8**
GERES					Lg		Lg	13 42 12.5		
GERES	**GERESS Array B**		**6.51**	**2**	P		**Pn**	**13 40 15.2**	**-0.6**
FELD	**Feldberg im Sc**		**6.71**	**327**	P		**Pn**	**13 40 17.7**	**-0.8**
FELD	**Feldberg im Sc**		**6.71**	**327**	P		**Pn**	**13 40 17.7**	**-0.8**
CABF	**La Chapelle**		**6.72**	**312**	*e*Pn		**Pn**	**13 40 18.0**	**-0.7**
	SNR=1.0									
CABF	**La Chapelle**		**6.72**	**312**	*e*Pn		**Pn**	**13 40 18.0**	**-0.7**
	SNR=1.0									
VIVF	**Saint-Julien-l**		**6.78**	**295**	*e*P		**Pn**	**13 40 21.7**	**+2.2**
KHC	**Kasperske Hory**		**6.79**	**1**	*e*P		**Pn**	**13 40 19.1**	**-0.5**
KHC					*e*			13 41 34.1		
KHC	**Kasperske Hory**		**6.79**	**1**	*e*P		**Pn**	**13 40 18.8**	**-0.8**
	comp=Z,16nm,0.6s									
KHC	**Kasperske Hory**		**6.79**	**1**	*e*PN		**Pn**	**13 40 19.1**	**-0.5**
KHC					*ex*		x	13 40 27.0		
KHC					*e*SN		**Sn**	**13 41 34.1**	**-3.0**
KHC					*ex*		x	13 41 45.5		
KHC	**Kasperske Hory**		**6.79**	**1**	*e*P		**Pn**	**13 40 18.8**	**-0.8**
	comp=Z,16nm,0.6s									
KHC	**Kasperske Hory**		**6.79**	**1**	Pn		**Pn**	**13 40 19.1**	**-0.5**
BZS	**Buzias**		**6.80**	**58**	⇑P		**Pn**	**13 40 21.5**	**+1.8**
BZS	**Buzias**		**6.80**	**58**	⇑*i*P		**Pn**	**13 40 21.5**	**+1.8**
BZS	**Buzias**		**6.80**	**58**	P		**Pn**	**13 40 21.5**	**+1.8**
WET	**Wettzell**		**6.81**	**357**	*e*P		**Pn**	**13 40 19.7**	**-0.2**
WET	**Wettzell**		**6.81**	**357**	*e*P		**Pn**	**13 40 19.7**	**-0.2**
LOMF	**Lomont**		**6.83**	**319**	P		**Pn**	**13 40 20.0**	**-0.1**
LOMF	**Lomont**		**6.83**	**319**	P		**Pn**	**13 40 20.0**	**-0.1**
LOMF	**Lomont**		**6.83**	**319**	P		**Pn**	**13 40 20.0**	**-0.1**
LOMF	**Lomont**		**6.83**	**319**	P		**Pn**	**13 40 20.0**	**-0.1**
VLS	**Valsamata**		**6.92**	**125**	P		**Pn**	**13 40 22.7**	**+1.3**
VLS	**Valsamata**		**6.92**	**125**	*e*P		**Pn**	**13 40 22.2**	**+0.8**
BFO	**Black Forest**		**6.96**	**331**	*e*P		**Pn**	**13 40 21.6**	**-0.2**
BFO	**Black Forest**		**6.96**	**331**	*e*P		**Pn**	**13 40 21.3**	**-0.6**
	comp=Z,18nm,0.8s									
BFO	**Black Forest**		**6.96**	**331**	*e*P		**Pn**	**13 40 21.6**	**-0.2**
VAY	**Valandovo**		**6.96**	**95**	*e*Pn		**Pn**	**13 40 21.4**	**-0.5**
VAY					*e*Sg		**Sn**	**13 41 38.6**	**-2.5**
VAY	**Valandovo**		**6.96**	**95**	*e*Pn		**Pn**	**13 40 21.8**	**-0.1**
VAY					*e*Sg		**Sn**	**13 41 39.1**	**-2.0**
MOF	**Molkenrain**		**7.05**	**324**	P		**Pn**	**13 40 22.7**	**-0.5**
MOF	**Molkenrain**		**7.05**	**324**	P		**Pn**	**13 40 22.7**	**-0.5**
MOF	**Molkenrain**		**7.05**	**324**	P		**Pn**	**13 40 22.7**	**-0.5**
MOF	**Molkenrain**		**7.05**	**324**	P		**Pn**	**13 40 22.7**	**-0.5**
THL	**Klokotos Trika**		**7.12**	**110**	*e*P		**Pn**	**13 40 25.7**	**+1.7**
HINF	**Hinteralfeld**		**7.15**	**322**	*e*Pn		**Pn**	**13 40 23.4**	**-1.1**
HINF					*e*Sn		Sn	13 41 39.0	-6.8	
	comp=Z,27nm,0.4s									
HINF	**Hinteralfeld**		**7.15**	**322**	*e*Pn		**Pn**	**13 40 23.4**	**-1.1**
LASF	**Ste Croix**		**7.15**	**287**	*e*Pn		**Pn**	**13 40 21.8**	**-2.7**
	SNR=1.0									
LASF	**Ste Croix**		**7.15**	**287**	*e*Pn		**Pn**	**13 40 21.8**	**-2.7**
	SNR=1.0									
LIT	**Litokhoron**		**7.24**	**105**	P		**Pn**	**13 40 25.7**	**-0.1**
LIT	**Litokhoron**		**7.24**	**105**	*e*P		**Pn**	**13 40 25.5**	**-0.3**
PSZ	**Piszkesteto**		**7.25**	**37**	⇓P		**Pn**	**13 40 26.4**	**+0.6**
PSZ	**Piszkesteto**		**7.25**	**37**	⇓*i*P		**Pn**	**13 40 26.4**	**+0.6**
PSZ	**Piszkesteto**		**7.25**	**37**	P		**Pn**	**13 40 26.4**	**+0.6**
VYHS	**Vyhne**		**7.26**	**30**	*e*P		**Pn**	**13 40 26.2**	**+0.2**
VYHS	**Vyhne**		**7.26**	**30**	*e*PN		**Pn**	**13 40 26.2**	**+0.2**
VYHS	**Vyhne**		**7.26**	**30**	*e*P		**Pn**	**13 40 26.2**	**+0.2**
EVR	**Evrytania**		**7.28**	**115**	P		**Pn**	**13 40 28.6**	**+2.2**
EVR	**Evrytania**		**7.28**	**115**	*e*P		**Pn**	**13 40 27.8**	**+1.4**
KEST	**Kesra**		**7.30**	**207**	Pn		Pn	13 40 30.1	+3.5	
	comp=Z,3.1nm,0.3s,baz=306,slow=3.6,SNR=73									
KEST					Sn		**Sn**	**13 41 49.7**	**+0.2**
	baz=171,slow=19,SNR=1.5									
KEST					LR		LR	13 43 28.9		
	comp=Z,216nm,19.8s,baz=315,slow=40									
KEST	**Kesra**		**7.30**	**207**	Pn		Pn	13 40 30.1	+3.5	
KEST					Sn		**Sn**	**13 41 49.7**	**+0.2**
ECH	**Echery**		**7.32**	**326**	*e*P		**Pn**	**13 40 26.0**	**-0.8**
ECH					S		Sn	13 41 57.0	+7.0	
ECH					pmax		pmax			
	comp=Z,18nm,0.3s									
ECH	**Echery**		**7.32**	**326**	*e*P		**Pn**	**13 40 25.9**	**-0.8**
	comp=Z,18nm,0.3s									
ECH					S		Sn	13 41 57.0	+7.0	
ECH	**Echery**		**7.32**	**326**	P		**Pn**	**13 40 26.1**	**-0.8**
ECH					S		Sn	13 41 57.0	+7.0	
ECH	**Echery**		**7.32**	**326**	P		**Pn**	**13 40 26.1**	**-0.8**
VRAC	**Vranov**		**7.33**	**17**	Pn		**Pn**	**13 40 26.4**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=216,slow=13,SNR=5.9									
VRAC					Sn		**Sn**	**13 41 45.3**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=294,slow=18,SNR=1.9									
VRAC					Lg		Lg	13 42 41.0		
	comp=Z,0.1nm,0.3s,baz=285,slow=20,SNR=2.3									
VRAC	**Vranov**		**7.33**	**17**	Pn		**Pn**	**13 40 26.4**	**-0.5**
VRAC					Sn		**Sn**	**13 41 45.3**	**-4.8**
VRAC					Lg		Lg	13 42 41.0		
VRAC	**Vranov**		**7.33**	**17**	⇑*i*P		**Pn**	**13 40 24.0**	**-2.9**
VRAC	**Vranov**		**7.33**	**17**	ePn		**Pn**	**13 40 26.5**	**-0.4**
CDF	**Champ du Feu**		**7.43**	**327**	*e*Pn		**Pn**	**13 40 27.0**	**-1.3**
CDF					*e*Sn		Sn	13 41 44.7	-8.0	
	comp=Z,19nm,0.3s									
CDF	**Champ du Feu**		**7.43**	**327**	*e*Pn		**Pn**	**13 40 27.0**	**-1.3**
HAU	**Haudompre**		**7.52**	**321**	*e*Pn		**Pn**	**13 40 28.2**	**-1.4**
HAU					*e*Sn		Sn	13 41 47.7	-7.2	
	comp=Z,51nm,0.5s									
HAU	**Haudompre**		**7.52**	**321**	*e*Pn		**Pn**	**13 40 28.2**	**-1.4**
RLS	**Riolos of Patr**		**7.54**	**122**	*e*P		**Pn**	**13 40 31.6**	**+1.8**
AGG	**Agios Georgios**		**7.58**	**113**	*e*P		**Pn**	**13 40 32.3**	**+1.8**
EFP	**Efpalio**		**7.61**	**118**	*e*P		**Pn**	**13 40 32.7**	**+1.9**
SOH	**Sokhos**		**7.65**	**98**	*e*P		**Pn**	**13 40 29.7**	**-1.7**
PRU	**Pruhonice**		**7.70**	**6**	*e*P		**Pn**	**13 40 31.2**	**-0.7**
PRU					*e*			13 41 54.6		
PRU	**Pruhonice**		**7.70**	**6**	*e*PN		**Pn**	**13 40 31.2**	**-0.7**
PRU					*e*SN		**Sn**	**13 41 54.6**	**-4.5**
PRU	**Pruhonice**		**7.70**	**6**	Pn		**Pn**	**13 40 31.2**	**-0.7**
TRIZ	**Trizonia**		**7.75**	**118**	*e*P		**Pn**	**13 40 34.2**	**+1.5**
LAKA	**Lakka**		**7.76**	**119**	*e*P		**Pn**	**13 40 33.8**	**+0.9**
KALE	**Kalithea**		**7.78**	**118**	*e*P		**Pn**	**13 40 36.0**	**+2.8**
PLG	**Polygyros**		**7.84**	**101**	*e*P		**Pn**	**13 40 33.7**	**-0.3**
THEF	**They Montfort**		**7.85**	**321**	P		**Pn**	**13 40 33.6**	**-0.4**
THEF	**They Montfort**		**7.85**	**321**	P		**Pn**	**13 40 33.6**	**-0.4**
THEF	**They Montfort**		**7.85**	**321**	P		**Pn**	**13 40 33.6**	**-0.4**
THEF	**They Montfort**		**7.85**	**321**	P		**Pn**	**13 40 33.6**	**-0.4**
LBL	**Lubilhac**		**7.86**	**295**	P		**Pn**	**13 40 36.1**	**+1.8**
LBL	**Lubilhac**		**7.86**	**295**	P		**Pn**	**13 40 36.1**	**+1.8**
LBL	**Lubilhac**		**7.86**	**295**	P		**Pn**	**13 40 36.1**	**+1.8**
LBL	**Lubilhac**		**7.86**	**295**	P		**Pn**	**13 40 36.1**	**+1.8**
PLDF	**La Plantade**		**7.88**	**301**	P		**Pn**	**13 40 34.3**	**-0.3**
PLDF	**La Plantade**		**7.88**	**301**	P		**Pn**	**13 40 34.3**	**-0.3**
PLDF	**La Plantade**		**7.88**	**301**	P		**Pn**	**13 40 34.3**	**-0.3**
PLDF	**La Plantade**		**7.88**	**301**	P		**Pn**	**13 40 34.3**	**-0.3**
NVR	**Nevrokopi**		**7.91**	**94**	P		**Pn**	**13 40 37.7**	**+2.8**
NVR	**Nevrokopi**		**7.91**	**94**	*e*P		**Pn**	**13 40 35.2**	**+0.3**
NKC	**Novy Kostel**		**7.92**	**356**	*e*P		**Pn**	**13 40 36.0**	**+1.0**
NKC	**Novy Kostel**		**7.92**	**356**	*e*PN		**Pn**	**13 40 36.0**	**+1.0**
NKC	**Novy Kostel**		**7.92**	**356**	Pn		**Pn**	**13 40 36.0**	**+1.0**
MORC	**Moravsky Berou**		**7.99**	**20**	⇑P		**Pn**	**13 40 35.3**	**-0.7**
MORC	**Moravsky Berou**		**7.99**	**20**	*e*P		**Pn**	**13 40 35.2**	**-0.7**
	comp=Z,9.7nm,0.8s									
MORC	**Moravsky Berou**		**7.99**	**20**	⇑*i*P		**Pn**	**13 40 35.3**	**-0.7**
MORC	**Moravsky Berou**		**7.99**	**20**	P		**Pn**	**13 40 35.3**	**-0.7**
MORC	**Moravsky Berou**		**7.99**	**20**	*e*Pn		**Pn**	**13 40 38.0**	**+2.0**
DRGR			**8.03**	**53**	⇑P		**Pn**	**13 40 37.5**	**+0.9**
DRGR			**8.03**	**53**	⇑*i*P		**Pn**	**13 40 37.5**	**+0.9**
DRGR			**8.03**	**53**	P		**Pn**	**13 40 37.5**	**+0.9**
XOR	**Xorichti**		**8.03**	**108**	P		**Pn**	**13 40 36.6**	**+0.1**
SMF	**Signal de Mont**		**8.04**	**306**	*e*Pn		**Pn**	**13 40 34.7**	**-2.1**
	SNR=1.0									
SMF					*e*Sn		Sn	13 42 00.2	-7.6	
	comp=Z,9.4nm,0.4s,SNR=1.0									
SMF	**Signal de Mont**		**8.04**	**306**	*e*Pn		**Pn**	**13 40 34.7**	**-2.1**
	SNR=1.0									
LOT	**Lotru**		**8.14**	**64**	⇓*i*P		**Pn**	**13 40 39.8**	**+1.6**
LOT	**Lotru**		**8.14**	**64**	⇓*i*P		**Pn**	**13 40 39.8**	**+1.6**
GUR	**Goura**		**8.17**	**120**	*e*P		Pn	13 40 34.6	-4.0	
PYM	**Petit Puy Mans**		**8.19**	**298**	P		**Pn**	**13 40 40.3**	**+1.4**
PYM	**Petit Puy Mans**		**8.19**	**298**	P		**Pn**	**13 40 40.3**	**+1.4**
PYM	**Petit Puy Mans**		**8.19**	**298**	P		**Pn**	**13 40 40.3**	**+1.4**
PYM	**Petit Puy Mans**		**8.19**	**298**	P		**Pn**	**13 40 40.3**	**+1.4**
PAGF	**Fort de Pagny**		**8.21**	**322**	*e*Pn		**Pn**	**13 40 37.5**	**-1.4**
	baz=143									
PAGF	**Fort de Pagny**		**8.21**	**322**	*e*Pn		**Pn**	**13 40 37.5**	**-1.4**
	baz=143									
LKR	**Lokris**		**8.22**	**113**	*e*P		**Pn**	**13 40 36.2**	**-3.0**
AGO	**Saint Agoulin**		**8.23**	**300**	P		**Pn**	**13 40 40.8**	**+1.5**
AGO	**Saint Agoulin**		**8.23**	**300**	P		**Pn**	**13 40 40.8**	**+1.5**
AGO	**Saint Agoulin**		**8.23**	**300**	P		**Pn**	**13 40 40.8**	**+1.5**
MTLF	**Montolieu**		**8.24**	**281**	*e*Pn		**Pn**	**13 40 36.9**	**-2.6**
	SNR=1.0									
MTLF	**Montolieu**		**8.24**	**281**	*e*Pn		**Pn**	**13 40 36.9**	**-2.6**
	SNR=1.0									
DPC	**Dobruska-Polom**		**8.27**	**13**	AMS		AMS	13 44 00.0		
	comp=Z,600nm,8.5s									
LOR	**Lormes**		**8.35**	**309**	*e*Pn		**Pn**	**13 40 38.3**	**-2.7**
	baz=127,SNR=1.0									
LOR					*e*Sn		Sn	13 42 08.2	-7.2	
	comp=Z,8.6nm,0.4s,SNR=1.0									
LOR	**Lormes**		**8.35**	**309**	*e*Pn		**Pn**	**13 40 38.3**	**-2.7**
	baz=127,SNR=1.0									
ITM	**Ithomi**		**8.37**	**125**	*e*P		**Pn**	**13 40 42.4**	**+1.1**
MOX	**Moxa**		**8.39**	**352**	*e*P		**Pn**	**13 40 42.4**	**+0.9**
MOX					MLR		MLR			
	comp=Z,400nm,19.6s									
MOX	**Moxa**		**8.39**	**352**	*e*P		**Pn**	**13 40 42.4**	**+0.9**
	comp=Z,400nm,19.6s									
SSF	**Saint Saulge**		**8.45**	**307**	*e*Pn		**Pn**	**13 40 39.7**	**-2.6**
SSF	**Saint Saulge**		**8.45**	**307**	*e*Pn		**Pn**	**13 40 39.7**	**-2.6**
PYL	**PYLOS**		**8.45**	**127**	*e*P		**Pn**	**13 40 41.8**	**-0.5**
LTK	**Loutraki**		**8.53**	**117**	*e*P		**Pn**	**13 40 43.5**	**+0.1**
VLX	**Vlachokerasia**		**8.53**	**123**	*e*P		**Pn**	**13 40 45.3**	**+1.8**
BRG	**Berggiesshubel**		**8.55**	**3**	SG		Sn	13 42 31.5	+11	
	comp=Z,20nm,1.0s									
BRG	**Berggiesshubel**		**8.55**	**3**	P		**Pn**	**13 40 44.0**	**+0.4**
BRG					*i*			13 42 13.9		
BRG					smax		smax			
	comp=N,21nm,1.0s									
BRG	**Berggiesshubel**		**8.55**	**3**	P		**Pn**	**13 40 44.0**	**+0.4**
BRG	**Berggiesshubel**		**8.55**	**3**	PG		**Pn**	**13 40 44.0**	**+0.4**
BRG					*i*			13 42 13.9		
RUP	**Ruppelstein**		**8.56**	**331**	P		**Pn**	**13 40 44.5**	**+0.6**
RUP	**Ruppelstein**		**8.56**	**331**	P		**Pn**	**13 40 44.5**	**+0.6**
RUP	**Ruppelstein**		**8.56**	**331**	P		**Pn**	**13 40 44.5**	**+0.6**
CAF	**Calviac**		**8.59**	**291**	*e*Pn		**Pn**	**13 40 42.2**	**-2.0**
	SNR=1.0									
CAF	**Calviac**		**8.59**	**291**	*e*Pn		**Pn**	**13 40 42.2**	**-2.0**
	SNR=1.0									
CRVS	**Cervenica-Dubn**		**8.68**	**38**	*e*P		**Pn**	**13 40 47.1**	**+1.7**
CRVS	**Cervenica-Dubn**		**8.68**	**38**	*e*PN		**Pn**	**13 40 47.1**	**+1.7**
CRVS	**Cervenica-Dubn**		**8.68**	**38**	*e*P		**Pn**	**13 40 47.1**	**+1.7**
TRPA	**Tarpa**		**8.69**	**45**	⇓*i*P		**Pn**	**13 40 45.7**	**+0.2**
TRPA	**Tarpa**		**8.69**	**45**	⇓*i*P		**Pn**	**13 40 45.7**	**+0.2**
CLL	**Collm**		**8.98**	**359**	*e*P		**Pn**	**13 40 52.0**	**+2.5**
CLL					*e*			13 42 22.0		
CLL	**Collm**		**8.98**	**359**	*e*Pn		**Pn**	**13 40 52.0**	**+2.5**
CLL					*e*Sn		Sn	13 42 22.0	-8.6	
CLL					*e*Sb		Sb	13 42 59.0		
CLL					*e*Sg		Sg	13 43 41.0	+13	
CLL	**Collm**		**8.98**	**359**	*e*P		**Pn**	**13 40 52.0**	**+2.5**
DID	**Didima**		**9.00**	**119**	*e*P		**Pn**	**13 40 50.6**	**+0.8**
VOIR			**9.00**	**66**	⇓P		**Pn**	**13 40 52.1**	**+2.2**
VOIR			**9.00**	**66**	⇓*i*P		**Pn**	**13 40 52.1**	**+2.2**
VOIR			**9.00**	**66**	P		**Pn**	**13 40 52.1**	**+2.2**
VLI	**Veliai**		**9.29**	**124**	*e*P		**Pn**	**13 40 53.5**	**-0.3**
MLR	**Muntele Rosu**		**9.62**	**67**	Pn		**Pn**	**13 41 00.7**	**+2.3**
	comp=N,0.2nm,0.3s,baz=150,slow=13,SNR=21									
MLR	**Muntele Rosu**		**9.62**	**67**	Pn		**Pn**	**13 41 00.7**	**+2.3**
MLR	**Muntele Rosu**		**9.62**	**67**	⇑*i*P		**Pn**	**13 41 01.0**	**+2.6**
MLR	**Muntele Rosu**		**9.62**	**67**	⇑*i*P		**Pn**	**13 41 01.1**	**+2.6**
BURAR	**Bucovina Array**		**9.92**	**54**	⇑*i*P		Pn	13 41 06.1	+3.6	
BURAR	**Bucovina Array**		**9.92**	**54**	⇑*i*P		Pn	13 41 06.1	+3.6	
BUR08	**Bucovina Ar. S**		**9.93**	**54**	P		**Pn**	**13 41 03.6**	**+1.0**
BUR08	**Bucovina Ar. S**		**9.93**	**54**	P		**Pn**	**13 41 03.6**	**+1.0**
PLOR	**Plostina**		**10.19**	**65**	⇑P		**Pn**	**13 41 07.7**	**+1.5**
PLOR	**Plostina**		**10.19**	**65**	⇑*i*P		**Pn**	**13 41 07.7**	**+1.5**
PLOR	**Plostina**		**10.19**	**65**	P		**Pn**	**13 41 07.7**	**+1.5**
ESDC	**Sonseca Array**		**13.35**	**264**	Pn		**Pn**	**13 41 46.4**	**-3.0**
	comp=N,0.5nm,0.3s,baz=61,slow=13,SNR=5.0									
ESDC	**Sonseca Array**		**13.35**	**264**	Pn		**Pn**	**13 41 46.4**	**-3.0**
ESDC	**Sonseca Array**		**13.35**	**264**	Pn		**Pn**	**13 41 46.3**	**-3.0**
BRTR	**Keskin Array B**		**15.53**	**93**	Pn		**Pn**	**13 42 20.0**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.4s,baz=292,slow=7.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**47.11**	**50**	P	**P**	**13 47 11.8**	**0.0**
ZALV	**Zalesovo Beam**	**47.11**	**50**	P	**P**	**13 47 11.8**	**0.0**
ZALV	**Zalesovo Beam**	**47.11**	**50**	P	**P**	**13 47 11.8**	**0.0**
MK31	**Makanchi Array**	**47.88**	**60**	*e*P	**P**	**13 47 17.9**	**-0.1**
MK31	**Makanchi Array**	**47.88**	**60**	*e*P	**P**	**13 47 17.9**	**-0.1**
MK31	**Makanchi Array**	**47.88**	**60**	*e*P	**P**	**13 47 17.9**	**-0.1**
MKAR	**Makanchi Array**	**47.88**	**60**	P	**P**	**13 47 18.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=288,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**47.88**	**60**	*e*P	**P**	**13 47 18.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.88**	**60**	P	**P**	**13 47 18.1**	**+0.1**
MKAR	**Makanchi Array**	**47.88**	**60**	P	**P**	**13 47 18.0**	**+0.1**
SONM	**Songino Array**	**62.01**	**50**	P	**P**	**13 49 00.0**	**-0.3**
	comp=Z,2.2nm,1.1s,baz=296,slow=7.1,SNR=10						
SONM	**Songino Array**	**62.01**	**50**	P	**P**	**13 49 00.0**	**-0.3**
SONM	**Songino Array**	**62.01**	**50**	P	**P**	**13 49 00.0**	**-0.3**
INK	**Inuvik**	**66.92**	**347**	P	**P**	**13 49 32.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=8.1,slow=7.1,SNR=2.7						
INK	**Inuvik**	**66.92**	**347**	P	**P**	**13 49 32.3**	**+0.5**
INK	**Inuvik**	**66.92**	**347**	P	**P**	**13 49 32.3**	**+0.5**
YKA	**Yellowknife Ar**	**67.50**	**337**	P	**P**	**13 49 35.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=40,slow=5.7,SNR=7.7						
YKA	**Yellowknife Ar**	**67.50**	**337**	P	**P**	**13 49 35.3**	**-0.3**
YKA	**Yellowknife Ar**	**67.50**	**337**	P	**P**	**13 49 35.3**	**-0.3**
ILAR	**Eielson Array**	**72.11**	**351**	P	**P**	**13 50 04.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=5.6,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	**72.11**	**351**	P	**P**	**13 50 04.1**	**+0.1**
ILAR	**Eielson Array**	**72.11**	**351**	P	**P**	**13 50 04.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**74.62**	**79**	P	**P**	**13 50 19.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=314,slow=7.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**74.62**	**79**	P	**P**	**13 50 19.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**74.62**	**79**	P	**P**	**13 50 19.4**	**-0.1**
NJ2	**Nanjing**	**79.27**	**56**	*e*P	**P**	**13 50 47.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**80.42**	**32**	*e*P	P	13 50 55.0	+3.5
YSS				pmax	pmax		
	comp=Z,8.0nm,1.0s						

*CSEM **30** 13:38:50.7±0.1, 38°.47N×22°.30E, h8km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.9km az=149.0*
ATH 30 13:38:51.3, 38°.43N×22°.26E, h13km±4km, MD2.6/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.10**	**248**	*e*PG	Pg	13 38 53.8	-0.6
KALE				*e*SG	Sg	13 38 56.5	-0.1
KALE	**Kalithea**	**0.10**	**248**	*e*Pg	Pg	13 38 53.8	-0.6
KALE				S	Sg	13 38 55.6	-1.0
KALE				*e*Sg	Sb	13 38 56.5	-1.4
TRIZ	**Trizonia**	**0.16**	**246**	*e*PG	Pg	13 38 54.8	-0.3
TRIZ				*e*SG	Sg	13 38 58.0	+0.2
TRIZ	**Trizonia**	**0.16**	**246**	*e*Pg	Pg	13 38 54.8	-0.3
TRIZ				S	Sg	13 38 57.6	-0.2
TRIZ				*e*Sg	Sb	13 38 58.0	-1.4
DSF	**Desfina**	**0.21**	**95**	P	Pg	13 38 54.5	-1.5
DSF				S	Sg	13 38 58.5	-0.8
EFP	**Efpalio**	**0.28**	**269**	*e*PG	Pg	13 38 57.0	-0.1
EFP				*e*SG	Sb	13 39 02.0	-0.8
EFP	**Efpalio**	**0.28**	**269**	*e*Pg	Pg	13 38 57.0	-0.1
EFP				S	Sg	13 39 00.9	-0.1
EFP				*e*Sg	Sb	13 39 02.0	-0.8
LAKA	**Lakka**	**0.29**	**230**	*e*PG	Pg	13 38 57.3	-0.1
LAKA	**Lakka**	**0.29**	**230**	*e*Pg	Pg	13 38 57.3	-0.1
LAKA				S	Sb	13 39 03.2	-0.1
AGG	**Agios Georgios**	**0.59**	**5**	*e*PB	Pg	13 39 02.1	-0.9
AGG				*e*SB	Sb	13 39 11.8	-0.2
AGG	**Agios Georgios**	**0.59**	**5**	*e*Pb	Pg	13 39 02.1	-0.9
AGG				*e*Sb	Sb	13 39 11.8	-0.2
EVR	**Evrytania**	**0.60**	**324**	*e*PG	Pg	13 39 02.7	-0.5
EVR	**Evrytania**	**0.60**	**324**	P	Pg	13 39 02.4	-0.8
EVR	**Evrytania**	**0.60**	**324**	*e*Pg	Pg	13 39 02.7	-0.5
LTK	**Loutraki**	**0.69**	**126**	*e*PG	Pg	13 39 04.2	-0.6
LTK	**Loutraki**	**0.69**	**126**	*e*Pg	Pg	13 39 04.2	-0.6
DID	**Didima**	**1.20**	**140**	*e*PB	Pg	13 39 14.6	+0.1
DID	**Didima**	**1.20**	**140**	*e*Pb	Pg	13 39 14.6	+0.1

*KRSC **30** 13:39:49.0±2.0, 47°.82N×155°.66E, h7km±7km, ML4.5*
*SKHL **30** 13:39:50.1±0.2, 48°.00N×154°.86E, h91km±8km, mb4.7/5, msh5.6/2*
*ISCJB **30** 13:39:50.4±0.4, 48°.09N±0°.05×154°.40E±0°.07, h42km, mb4.1/22, Error ellipse: s-maj=8.9km s-min=3.2km az=137.9*
*BJI **30** 13:39:50.6, 48°.10N×154°.30E, h30km, mB4.7/4, mb4.3/7, Ms4.2/1, Ms7 4.1/1*
*MOS **30** 13:39:52.3±1.4, 48°.17N×154°.39E, h62km, mb4.2/15, Error ellipse: s-maj=11.7km s-min=7.6km az=59.2*
*IDC **30** 13:39:53.1±0.7, 48°.16N×154°.31E, h51km±6km, mb3.7/17, mb1 3.9/19, mb1mx3.8/30, mbtmp3.7/19, Error ellipse: s-maj=18.2km s-min=10.9km az=148.0*
ISC 30 13:39:53.0±0.5, 48°.20N±0°.07×154°.34E±0°.06, h42km, n74, σ1§76/73, mb4.0/22, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.75**	**24**	*e*P	**Pn**	**13 40 34.2**	**-0.3**
SKR				AMB	AMB	13 40 35.9	
	80nm,0.5s						
SKR				AMB	AMB	13 40 35.9	
	90nm,0.3s						
SKR				*e*S	**Sn**	**13 41 07.4**	**+1.0**
SKR				A	A	13 41 13.0	
	420nm,0.3s						
SKR				A	A	13 41 13.0	
	370nm,0.3s						
SKR				A	A	13 41 13.0	
	140nm,0.5s						
MIPR	**Malaya Ipel'ka**	**4.37**	**20**	*e*P	**Pn**	**13 40 58.6**	**+1.8**
MTVR	**Mutnovka**	**4.95**	**28**	*e*P	**Pn**	**13 41 05.9**	**+1.0**
MTVR				*i* S	**Sn**	**13 42 01.1**	**+0.3**
RUS	**Russkaya**	**5.01**	**31**	PN	**Pn**	**13 41 05.3**	**-0.3**
RUS				S	**Sn**	**13 42 01.7**	**-0.5**
RUS	**Russkaya**	**5.01**	**31**	*e*P	**Pn**	**13 41 05.3**	**-0.3**
RUS				*i* S	**Sn**	**13 42 01.7**	**-0.5**
APC	**Apacha**	**5.06**	**20**	*e*P	Pn	13 41 09.7	+3.4
KUR	**Kuril'sk**	**5.35**	**239**	*e*PN	Pn	13 41 13.0	+2.8
KUR				*e*S	**Sn**	**13 42 15.0**	**+4.5**
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax	smax		
	comp=N,430nm,0.8s						
KUR				smax	smax		
	comp=E,360nm,0.9s						
KUR	**Kuril'sk**	**5.35**	**239**	*e*P	Pn	13 41 13.0	+2.8
KUR				AMB	AMB	13 41 18.0	
	comp=E,70nm,0.5s						
KUR				AMB	AMB	13 41 18.0	
	comp=E,80nm,0.5s						
KUR				*e*S	**Sn**	**13 42 15.0**	**+4.5**
KUR				A	A	13 42 37.7	
	comp=E,430nm,0.9s						
KUR				A	A	13 42 37.7	
	comp=E,360nm,0.9s						
PETK	**Petropavlovsk-**	**5.36**	**22**	P	**Pn**	**13 41 12.6**	**+2.1**
	comp=E,2.0nm,0.3s,baz=172,slow=12,SNR=31						
PETK				S	Sn	13 42 25.1	+14
	baz=205,slow=21,SNR=3.1						
PETK	**Petropavlovsk-**	**5.36**	**22**	PN	**Pn**	**13 41 12.6**	**+2.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**5.56**	**28**	*e*PN	**Pn**	**13 41 15.0**	**+1.9**
PET				pmax	pmax		
	comp=Z,21nm,1.0s						
SDLR	**Sedlovina**	**5.85**	**28**	*e*P	**Pn**	**13 41 18.0**	**+0.8**
GNL	**Ganaly**	**5.96**	**21**	*e*P	**Pn**	**13 41 21.2**	**+2.5**
YUK	**Yuzh-Kuril'sk**	**7.21**	**238**	PN	**Pn**	**13 41 34.7**	**-1.1**
YUK				pmax	pmax		
	comp=N,42nm,0.8s						
YUK				pmax	pmax		
	comp=Z,73nm,1.7s						
YUK				pmax	pmax		
	comp=E,47nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.21**	**238**	*e*P	**Pn**	**13 41 34.8**	**-1.1**
YUK				AMB	AMB	13 41 51.2	
	comp=E,40nm,0.7s						
YUK				AMB	AMB	13 41 51.2	
	comp=E,70nm,0.7s						
JRA	**Rausu**	**7.69**	**240**	P	Pn	13 41 45.3	+2.9
NEM2	**Nemuro 2**	**7.71**	**234**	P	**Pn**	**13 41 41.4**	**-1.2**
NEM2				*e*S	**Sn**	**13 43 04.2**	**-4.4**
YSS	**Yuzh-Sakhalins**	**7.93**	**265**	*e*PN	Pn	13 41 49.6	+3.9
YSS	**Yuzh-Sakhalins**	**7.93**	**265**	*e*P	Pn	13 41 49.6	+3.9
YSS				*e*S	**Sn**	**13 43 14.3**	**+0.3**
YSS				A	A	13 43 19.4	
	comp=E,60nm,0.7s						
TYV	**Tymovskoe**	**8.05**	**294**	*e*P	**Pn**	**13 41 50.0**	**+2.7**
TYV				AMB	AMB	13 41 53.0	
	comp=E,22nm,1.0s						
TYV				AMB	AMB	13 41 53.0	
	comp=E,7.0nm,0.8s						
JNK	**Nakash**	**8.14**	**239**	P	**Pn**	**13 41 49.6**	**+1.0**
UGL	**Uglegorsk**	**8.18**	**281**	*e*P	**Pn**	**13 41 52.0**	**+3.0**
JTKR	**Abashiri--Toko**	**8.39**	**244**	P	Pn	13 41 56.6	+4.6
JAK	**Akkeshi**	**8.53**	**236**	P	**Pn**	**13 41 52.9**	**-0.9**
JAK				*e*S	**Sn**	**13 43 25.1**	**-3.5**
JMP	**Maruseppu**	**8.70**	**245**	P	Pn	13 42 01.0	+4.7
JAR	**Ashorobuto**	**8.86**	**240**	P	**Pn**	**13 41 59.4**	**+0.9**
JWK2	**Keihoku**	**9.01**	**256**	P	Pn	13 42 05.7	+5.2
JOB	**Onbets**	**9.07**	**238**	*e*S	**Sn**	**13 43 40.1**	**-1.9**
ASAJ	**Asahikawa**	**9.11**	**248**	P	Pn	13 42 05.6	+3.8
	comp=E,2.9nm,0.3s,baz=72,slow=13,SNR=50						
ASAJ	**Asahikawa**	**9.11**	**248**	P	Pn	13 42 07.0	+5.1
JKK2	**Kamakawa 2**	**9.14**	**246**	P	**Pn**	**13 42 05.1**	**+2.7**
JCH	**Churui**	**9.52**	**238**	P	**Pn**	**13 42 06.8**	**-0.7**
JCH				*e*S	Sn	13 43 48.0	-5.1
JFR	**Furan**	**9.63**	**243**	P	Pn	13 42 12.7	+3.6
NKL	**Nikolayevsk**	**9.98**	**305**	*e*P	**Pn**	**13 42 12.8**	**-0.9**
NKL				AMB	AMB	13 42 14.2	
	comp=E,10.0nm,1.1s						
NKL				AMB	AMB	13 42 14.2	
	comp=E,20nm,1.1s						
NKL				AMB	AMB	13 42 14.2	
	comp=E,30nm,1.1s						
ERM	**Erimo**	**10.03**	**236**	*i* PN	**Pn**	**13 42 14.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**10.08**	**238**	P	**Pn**	**13 42 15.1**	**-0.1**
JNBK				*e*S	**Sn**	**13 44 03.9**	**-2.9**
JSH	**Shimam**	**11.47**	**246**	P	Pn	13 42 37.9	+3.8
JYM2	**Yakumo 2**	**11.58**	**243**	P	**Pn**	**13 42 35.2**	**-0.4**
JTM	**Tenmabayashi**	**12.02**	**237**	P	Pn	13 42 38.5	-3.1
JTM				*e*S	Sn	13 44 44.2	-10
JANG	**Nango**	**12.05**	**234**	P	Pn	13 42 38.7	-3.4
JANG				*e*S	Sn	13 44 45.8	-9.4
JOSM	**Okushiri--Mats**	**12.14**	**245**	P	**Pn**	**13 42 43.5**	**+0.3**
HABR	**Khabarovsk**	**12.84**	**278**	PN	**Pn**	**13 42 52.7**	**0.0**
HABR				MLR	MLR		
	comp=Z,289nm,18.0s						
FX1	**Attu Island--F**	**12.85**	**62**	P	**Pn**	**13 42 51.8**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=290,slow=18,SNR=17						
FX1				S	Sn	13 45 03.7	-11
	comp=Z,1.5nm,0.3s,baz=164,slow=18,SNR=6.5						
KLR	**Kul'dur**	**14.94**	**282**	*e*P	**Pn**	**13 43 21.7**	**+0.5**
USRK	**Ussuriysk Arra**	**15.96**	**264**	P	**Pn**	**13 43 36.4**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=69,slow=13,SNR=21						
USRK				sP	**sP**	**13 43 48.7**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=69,slow=10,SNR=2.7						
MJA0	**Matsu Arr-Jizo**	**16.60**	**231**	*e*P	**P**	**13 43 46.9**	**+2.2**
MJAR	**Matsushiro Arr**	**16.62**	**231**	P	**Pn**	**13 43 44.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=23,slow=13,SNR=4.7						
YAK	**Yakutsk**	**19.59**	**324**	*e*P	**P**	**13 44 16.2**	**-1.1**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.6s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
CLNS	**Chul'man**	**19.76**	**307**	*e*P	**Pn**	**13 44 21.6**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s						
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
BILL	**Bilibino**	**20.80**	**13**	*e*P	Pn	13 44 33.5	+0.5
BILL				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KSRS	**Korea Array**	**22.04**	**251**	P	**P**	**13 44 43.7**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=50,slow=9.9,SNR=15						
SONM	**Songino Array**	**31.66**	**288**	P	**P**	**13 46 11.3**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=90,slow=10,SNR=3.3						
TLY	**Talaya**	**32.28**	**296**	*e*P	**P**	**13 46 16.8**	**-0.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ILAR	**Eielson Array**	**34.90**	**40**	P	**P**	**13 46 39.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=256,slow=5.6,SNR=16						
LZH	**Lanzhou**	**38.68**	**271**	*e*P	**P**	**13 47 12.8**	**0.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
INK	**Inuvik**	**39.98**	**33**	P	**P**	**13 47 23.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=266,slow=7.7,SNR=9.2						
KMI	**Kunming**	**46.33**	**259**	P	P	13 48 22.3	+7.3
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**13 48 18.8**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=61,slow=7.3,SNR=7.6						
MKAR				pP	**pP**	**13 48 31.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=70,slow=10,SNR=1.6						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**13 48 18.8**	**-1.2**
MKAR				*PP	**pP**	**13 48 31.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.26**	**303**	*i* P	**P**	**13 48 19.6**	**-2.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
RES	**Resolute Bay**	**49.20**	**19**	P	**P**	**13 48 35.7**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=316,slow=5.7,SNR=6.1						
YKA	**Yellowknife Ar**	**49.27**	**38**	P	**P**	**13 48 36.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=298,slow=7.3,SNR=39						
BVAR	**Borovoye Array**	**50.59**	**309**	P	**P**	**13 48 45.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=51,slow=8.4,SNR=6.8						
BVAR	**Borovoye Array**	**50.59**	**309**	P	**P**	**13 48 45.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**53.52**	**256**	P	**P**	**13 49 08.4**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=32,slow=7.3,SNR=10						
CMAR				pP	**pP**	**13 49 23.6**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=41,slow=9.3,SNR=2.4						
YBH	**Yreka Blue Hor**	**56.34**	**63**	P	**P**	**13 49 27.0**	**-2.6**
	comp=Z,1.8nm,0.7s,baz=208,slow=9.6,SNR=4.3						
NVAR	**Mina Array Bea**	**61.04**	**64**	P	**P**	**13 50 02.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=296,slow=7.1,SNR=10.0						
NVAR				sP	**sP**	**13 50 21.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=283,slow=9.1,SNR=2.6						
FINES	**FINESS Array B**	**63.08**	**335**	P	**P**	**13 50 14.6**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=32,slow=7.5,SNR=4.5						
PDAR	**Pinedale Array**	**63.23**	**55**	P	**P**	**13 50 16.6**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=283,slow=1.1,SNR=7.3						
SFJD	**Kangerlussuaq**	**63.58**	**11**	P	**P**	**13 50 20.4**	**+1.6**
	comp=Z,8.3nm,0.8s,baz=170,slow=3.2,SNR=4.0						
WRA	**Warramunga Arr**	**70.16**	**200**	P	**P**	**13 50 59.4**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=15,slow=6.3,SNR=29						
WRA				pP	**pP**	**13 51 14.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=13,slow=6.9,SNR=2.1						
ASAR	**Alice Springs**	**73.85**	**199**	P	**P**	**13 51 22.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=14,slow=5.1,SNR=28						
TXAR	**Lajitas Array**	**76.06**	**62**	P	**P**	**13 51 35.4**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=302,slow=4.8,SNR=17						
BRTR	**Keskin Array B**	**77.89**	**317**	P	**P**	**13 51 45.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=34,slow=4.6,SNR=4.2						

*IDC **30** 13:43:26.8±1.3, 42°.43N×13°.21E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/25, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=21.7km s-min=16.7km az=92.0*
*ROM **30** 13:43:26.9±0.1, 42°.32N×13°.38E, h10km±1km, Ml3.4/39, Error ellipse: s-maj=1.4km s-min=1.1km az=53.0*
*ISCJB **30** 13:43:26.2±0.2, 42°.32N±0°.02×13°.34E±0°.02, h13km±2km, mb3.3/3, Error ellipse: s-maj=3.1km s-min=2.9km az=140.6*
*CSEM **30** 13:43:26.8±0.1, 42°.32N×13°.37E, h8km, ML3.2, Error ellipse: s-maj=3.0km s-min=2.3km az=54.0*
*LDG **30** 13:43:28.2±0.2, 42°.28N×13°.38E, h2km, Ml3.2/4, Error ellipse: s-maj=7.8km s-min=5.1km az=48.0*
*VIE **30** 13:43:31.8±0.6, 42°.62N×13°.49E, h10km, mb3.2/4, ML3.3/5, Error ellipse: s-maj=6.0km s-min=4.8km az=97.0 115 km NE of Rome*
ISC 30 13:43:27.5±0.7, 42°.32N±0°.02×13°.38E±0°.02, h12km±4km, n137, σ1§11/168, mb3.4/3, 2C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**33**	Pg	**Pg**	**13 43 29.3**	**-0.4**
AQU				Sg	**Sg**	**13 43 30.7**	**-0.6**
AQU	**L'Aquila**	**0.04**	**33**	Pg	**Pg**	**13 43 29.3**	**-0.4**
FAGN	**Fagnano**	**0.17**	**111**	Pg	**Pg**	**13 43 31.1**	**-0.2**
FAGN				Sg	**Sg**	**13 43 34.2**	**+0.3**
	137µm,0.5s						
FAGN	**Fagnano**	**0.17**	**111**	Pg	**Pg**	**13 43 31.1**	**-0.2**
FAGN				Sg	**Sg**	**13 43 34.2**	**+0.3**
	137µm,0.5s						
FIAM	**Fiamignano**	**0.20**	**254**	Pg	**Pg**	**13 43 31.7**	**-0.2**
FIAM				Sg	**Sg**	**13 43 35.0**	**+0.1**
	18µm,0.6s						
FIAM	**Fiamignano**	**0.20**	**254**	Pg	**Pg**	**13 43 31.7**	**-0.2**
FIAM				Sg	**Sg**	**13 43 35.0**	**+0.1**
	18µm,0.6s						
PTQR	**Pietraquaria**	**0.30**	**176**	Pg	**Pg**	**13 43 33.4**	**-0.3**
PTQR	**Pietraquaria**	**0.30**	**176**	Pg	**Pg**	**13 43 33.4**	**-0.3**
TERO	**Teramo**	**0.34**	**29**	Pg	**Pg**	**13 43 33.4**	**-1.0**
TERO				Sg	**Sg**	**13 43 39.4**	**+0.3**
	12µm,0.4s						
VCEL	**Villa Celiera**	**0.35**	**78**	Pg	**Pg**	**13 43 34.4**	**-0.2**
VCEL				Sg	**Sb**	**13 43 40.7**	**-0.7**
	10µm,0.5s						
VCEL	**Villa Celiera**	**0.35**	**78**	Pg	**Pg**	**13 43 34.4**	**-0.2**
VCEL				Sg	**Sb**	**13 43 40.7**	**-0.7**
	10µm,0.5s						
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**13 43 36.3**	**-0.5**
	7µm,0.4s						
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**13 43 36.3**	**-0.5**
	7µm,0.4s						
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pg**	**13 43 36.2**	**-0.9**
	3µm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pg**	**13 43 36.2**	**-0.9**
	3µm,0.5s						
INTR	**Introdacqua**	**0.50**	**128**	Pg	**Pg**	**13 43 36.7**	**-0.6**
INTR				Sg	**Sg**	**13 43 44.6**	**+0.6**
	3µm,0.3s						
INTR	**Introdacqua**	**0.50**	**128**	Pg	**Pg**	**13 43 36.7**	**-0.6**
INTR				Sg	**Sg**	**13 43 44.6**	**+0.6**
	3µm,0.3s						
GAVE	**Gavelli**	**0.51**	**316**	Pg	**Pg**	**13 43 37.9**	**+0.4**
GAVE	**Gavelli**	**0.51**	**316**	Pg	**Pg**	**13 43 37.9**	**+0.4**
GUAR	**Guarcino**	**0.53**	**185**	Pg	**Pg**	**13 43 37.2**	**-0.7**
	2µm,0.4s						
GUAR	**Guarcino**	**0.53**	**185**	Pg	**Pg**	**13 43 37.2**	**-0.7**
	2µm,0.4s						
NRCA	**Norcia**	**0.54**	**339**	Pg	**Pg**	**13 43 37.4**	**-0.8**
NRCA				Sg	**Sg**	**13 43 46.1**	**+0.7**
	2µm,0.3s						
NRCA	**Norcia**	**0.54**	**339**	Pg	**Pg**	**13 43 37.4**	**-0.8**
NRCA				Sg	**Sg**	**13 43 46.1**	**+0.7**
	2µm,0.3s						
MTCE	**Montecelio**	**0.56**	**238**	Pg	**Pg**	**13 43 37.7**	**-0.7**
	2µm,0.4s						
MTCE	**Montecelio**	**0.56**	**238**	Pg	**Pg**	**13 43 37.7**	**-0.7**
	2µm,0.4s						
TRTR	**Tortoreto Alta**	**0.63**	**39**	Pg	**Pb**	**13 43 40.1**	**-0.3**
	10µm,0.6s						
TRTR	**Tortoreto Alta**	**0.63**	**39**	Pg	**Pb**	**13 43 40.1**	**-0.3**
	10µm,0.6s						
OFFI	**Offida**	**0.65**	**20**	Pg	**Pg**	**13 43 39.8**	**-0.4**
	15µm,0.5s						
OFFI	**Offida**	**0.65**	**20**	Pg	**Pg**	**13 43 39.8**	**-0.4**
	15µm,0.5s						
LPEL	**Lama dei Pelig**	**0.66**	**115**	Pg	**Pg**	**13 43 39.3**	**-1.0**
	8µm,0.5s						
LPEL	**Lama dei Pelig**	**0.66**	**115**	Pg	**Pg**	**13 43 39.3**	**-1.0**
	8µm,0.5s						
SDI	**San Donato**	**0.69**	**152**	Pg	**Pg**	**13 43 39.8**	**-1.2**
SDI	**San Donato**	**0.69**	**152**	Pg	**Pg**	**13 43 39.8**	**-1.2**
RMP	**Rome, Mte Porz**	**0.72**	**225**	Pg	**Pg**	**13 43 40.9**	**-0.5**
	3µm,0.6s						
RMP	**Rome, Mte Porz**	**0.72**	**225**	Pg	**Pg**	**13 43 40.9**	**-0.5**
	3µm,0.6s						
CAFR	**Castel Frentan**	**0.73**	**97**	Pg	**Pg**	**13 43 41.1**	**-0.5**
	3µm,0.5s						
CAFR	**Castel Frentan**	**0.73**	**97**	Pg	**Pg**	**13 43 41.1**	**-0.5**
	3µm,0.5s						
FDMO	**Fiordimonte**	**0.74**	**343**	Pg	**Pg**	**13 43 40.8**	**-1.1**
	1µm,0.4s						
FDMO	**Fiordimonte**	**0.74**	**343**	Pg	**Pg**	**13 43 40.8**	**-1.1**
	1µm,0.4s						
CESI	**CESI - Serrava**	**0.76**	**333**	Pg	**Pg**	**13 43 41.3**	**-1.0**
	893nm,0.6s						
CESI	**CESI - Serrava**	**0.76**	**333**	Pg	**Pg**	**13 43 41.3**	**-1.0**
	893nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.77**	**187**	Pg	**Pg**	**13 43 41.6**	**-0.8**
GIUL

ASQU	Asqua	1.88	322		Pg		Pn	13 43 59.6	+0.1
	246nm,0.9s								
ASQU	Asqua	1.88	322		Pg		Pn	13 43 59.6	+0.1
	246nm,0.9s								
MSAG	Monte S. Angel	1.98	107		Pg		Pb	13 44 02.4	-1.2
	358nm,0.6s								
MSAG	Monte S. Angel	1.98	107		Pg		Pb	13 44 02.4	-1.2
	358nm,0.6s								
MCRV	Calabrutti - M	2.04	138		Pg		Pn	13 44 02.6	+0.7
	90nm,0.8s								
MCRV	Calabrutti - M	2.04	138		Pg		Pn	13 44 02.6	+0.7
	90nm,0.8s								
NVLJ	Novalja	2.49	25	*e*	Pn		Pn	13 44 08.0	+0.2
NVLJ					Sn		Sn	13 44 38.3	+0.1
NVLJ	Novalja	2.49	25	*e*	Pn		Pn	13 44 08.0	+0.2
NVLJ					Sn		Sn	13 44 38.2	+0.1
PGF	Pioggiola	3.25	275	*e*	Pn		Pn	13 44 18.8	+0.4
PGF				*e*	Sn		Sn	13 44 55.6	-1.4
	6.3nm,0.3s								
PGF	Pioggiola	3.25	275	*e*	Pn		Pn	13 44 18.8	+0.4
PGF				*e*	Sn		Sn	13 44 55.6	-1.4
	3.2nm,0.3s								
SKDS	Skadanscina	3.25	8	*i*	Pn		Pn	13 44 18.8	+0.4
SKDS				*i*	Sn		Sn	13 44 58.2	+1.1
SKDS	Skadanscina	3.25	8	*i*	Pn		Pn	13 44 18.8	+0.4
SKDS				*i*	Sn		Sn	13 44 58.2	+1.1
BOJS	Bojanci	3.46	22	*i*	Pn		Pn	13 44 21.9	+0.8
BOJS				*i*	Sn		Sn	13 45 04.7	+2.7
BOJS	Bojanci	3.46	22	*i*	Pn		Pn	13 44 21.9	+0.8
BOJS				*i*	Sn		Sn	13 45 04.7	+2.7
JAVS	Javornik	3.60	8	*i*	Pn		Pn	13 44 23.9	+0.6
JAVS	Javornik	3.60	8	*i*	Pn		Pn	13 44 23.9	+0.6
JAVS				*i*	Sn		Sn	13 45 06.6	+0.8
VISS	Visnje	3.63	16	*i*	Pn		Pn	13 44 25.5	+1.9
VISS	Visnje	3.63	16	*i*	Pn		Pn	13 44 25.5	+1.9
VISS				*i*	Sn		Sn	13 45 07.7	+1.2
MABI	Malga Bissina	4.26	332		Pg		Pn	13 44 33.1	+0.7
	33nm,1.1s								
MABI	Malga Bissina	4.26	332		Pg		Pn	13 44 33.1	+0.7
	33nm,1.1s								
OBKA	Obir	4.27	11	⇑*i*	Pn		Pn	13 44 32.5	+0.1
OBKA				⇑*i*	Sn		Sn	13 45 19.9	-2.3
OBKA	Obir	4.27	11		Pn		Pn	13 44 32.5	+0.1
OBKA					Sn		Sn	13 45 19.9	-2.3
APPI	Appiano	4.43	340		Pg		Pn	13 44 36.2	+1.6
	43nm,0.5s								
APPI	Appiano	4.43	340		Pg		Pn	13 44 36.2	+1.6
	43nm,0.5s								
SBF	Sospel	4.61	291	*e*	Pn		Pn	13 44 37.5	+0.4
SBF				*e*	Sn		Sn	13 45 28.4	-2.3
	4.9nm,0.3s								
SBF	Sospel	4.61	291	*e*	Pn		Pn	13 44 37.5	+0.4
SBF				*e*	Sn		Sn	13 45 28.4	-2.3
	2.5nm,0.3s								
DAVOX	Davos/Dischmat	5.11	332		Pn		Pn	13 44 46.2	+2.2
	1.6nm,0.3s,baz=158,slow=19,SNR=8.3								
DAVOX					Sn		Sn	13 45 46.0	+3.0
	1.0nm,0.3s,baz=156,slow=20,SNR=3.1								
LMR	La Mourre	5.15	284	*e*	Pn		Pn	13 44 43.9	-0.5
LMR	La Mourre	5.15	284	*e*	Pn		Pn	13 44 43.9	-0.5
MBDF	Montbardon	5.37	299	*e*	Pn		Pn	13 44 49.3	+1.7
MBDF	Montbardon	5.37	299	*e*	Pn		Pn	13 44 49.3	+1.7
MOA	Molln	5.56	6	⇓*i*	Pn		Pn	13 44 50.9	+0.8
MOA				⇓*i*	Sn		Sn	13 45 52.3	-1.7
MOA	Molln	5.56	6		Pn		Pn	13 44 50.9	+0.8
MOA					Sn		Sn	13 45 52.3	-1.7
SMRF	Simiane la Rot	5.94	289	*e*	Pn		Pn	13 44 56.8	+1.5
SMRF	Simiane la Rot	5.94	289	*e*	Pn		Pn	13 44 56.8	+1.5
GERES	GERESS Array B	6.53	2		Pn		Pn	13 45 03.8	+0.4
	0.5nm,0.3s,baz=178,slow=13,SNR=5.9								
GERES					Sn		Sn	13 46 16.4	-1.5
	1.4nm,0.3s,baz=178,slow=24,SNR=6.2								
GERES					Lg		Lg	13 47 00.4	
	baz=171,slow=29,SNR=2.1								
CABF	La Chapelle	6.75	312	*e*	Pn		Pn	13 45 06.1	-0.4
CABF	La Chapelle	6.75	312	*e*	Pn		Pn	13 45 06.1	-0.4
HINF	Hinteralfeld	7.17	322	*e*	Pn		Pn	13 45 11.9	-0.3
HINF				*e*	Sn		Sn	13 46 29.7	-4.0
	6.0nm,0.4s								
HINF	Hinteralfeld	7.17	322	*e*	Pn		Pn	13 45 11.9	-0.3
LASF	Ste Croix	7.17	287	*e*	Pn		Pn	13 45 11.8	-0.4
LASF	Ste Croix	7.17	287	*e*	Pn		Pn	13 45 11.8	-0.4
KEST	Kesra	7.29	207		Pn		Pn	13 45 18.7	+4.7
	0.8nm,0.3s,baz=324,slow=2.7,SNR=2.3								
CDF	Champ du Feu	7.45	327	*e*	Pn		Pn	13 45 15.7	-0.4
CDF	Champ du Feu	7.45	327	*e*	Pn		Pn	13 45 15.7	-0.4
HAU	Haudompre	7.54	321	*e*	Pn		Pn	13 45 16.9	-0.4
HAU				*e*	Sn		Sn	13 46 38.6	-4.1
	11nm,0.5s								
HAU	Haudompre	7.54	321	*e*	Pn		Pn	13 45 16.9	-0.4
MLR	Muntele Rosu	9.61	67		Pn		Pn	13 45 48.8	+3.1
	0.0nm,0.3s,baz=276,slow=18,SNR=4.2								
TORD	Torodi Ar. Bea	30.79	203		P		P	13 49 45.0	+1.9
	0.3nm,0.5s,baz=16,slow=8.3,SNR=4.2								
MKAR	Makanchi Array	47.88	60		P		P	13 52 06.0	+0.7
	0.3nm,0.5s,baz=283,slow=7.9,SNR=7.3								
YKA	Yellowknife Ar	67.53	337		P		P	13 54 23.1	-0.1
	0.1nm,0.5s,baz=38,slow=5.6,SNR=2.7								

NIED ***30*** *14:01:00,33˙20N×138˙00E,h320km,Mw4.5 Best double couple: M₀5.65000×10¹⁵ NP1:φs11.00000°, δ89.00000°,λ-65.00000°. NP2:φs103.00000°,δ25.00000°, λ-178.00000°.*

BJI ***30*** *14:01:34.8,33˙26N×137˙90E,h334km,mB4.5/11, mb4.7/34*

JMA ***30*** *14:01:35.0±0.3,33˙24N×138˙04E,h349km±3km,M3.8*

MOS ***30*** *14:01:35.3±0.9,33˚.18N×137˚.82E,h330km,mb4.2/40, Error ellipse: s-maj=11.2km s-min=6.1km az=106.1*

ISCJB ***30*** *14:01:36.1±0.3,33˙.19N±0˙.04×137˙.89E±0˙.05, h339km±1km,mb4.2/58, Error ellipse: s-maj=7.2km s-min=5.7km az=150.8*

IDC ***30*** *14:01:36.8±0.8,33˙.16N×137˙.80E,h328km±7km,mb3.9/29, mb1 4.0/33,mb1mx4.0/36,mbtmp3.9/33, Error ellipse: s-maj=8.8km s-min=8.2km az=88.0*

ISC 30 14˙01˙37.0±0.5, 33˙.20N±0˙.05×137˙.91E±0˙.05, h333km±3km, n133, σ0s97/161, mb4.2/58, 4C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.62	334	*e*S			S	14 02 53.1	+0.1
TK02	Tokai 2	0.75	350	P			Pn	14 02 19.5	-0.2
TK02				*e*S			S	14 02 54.9	+1.0
TTO3	TONANKAI O.B.S	0.79	327	P			Pn	14 02 19.8	-0.1
TTO3				*e*S			S	14 02 55.5	+1.3
TTO4	TONANKAI O.B.S	0.86	339	P			Pn	14 02 20.1	+0.1
TTO4				*e*S			S	14 02 55.1	+0.6
TTO2	TONANKAI O.B.S	0.91	306	P			Pn	14 02 21.1	+0.9
TTO2				*e*S			S	14 02 57.0	+2.3
TK03	Tokai 3	0.96	3	*e*S			S	14 02 56.8	+1.4
TTO1	TONANKAI O.B.S	1.03	294	P			Pn	14 02 21.3	+0.6
TTO5	TONANKAI O.B.S	1.06	351	P			Pn	14 02 21.5	+0.6
TTO5				S			S	14 02 57.2	+1.1
TK04	Tokai 4	1.18	359	P			Pn	14 02 22.2	+0.7
TK04				S			S	14 02 58.6	+1.4
JKO	Kozu shima	1.42	46	P			Pn	14 02 21.8	-1.1
JIE	Ise	1.55	320	P			Pn	14 02 23.8	+0.1
JIE				*e*S			S	14 03 02.7	+1.6
JHJ	Hachijo jima 2	1.57	93	P			Pn	14 02 22.5	-1.4
	72nm,0.3s,baz=51,slow=7.4,SNR=15								
JHJ				S			S	14 03 02.0	+0.7
	89nm,0.3s,baz=73,slow=19,SNR=5.5								
JHJ2	Mitsune	1.60	93	P			Pn	14 02 23.2	-0.8
JWZ	Kozaga	1.87	281	P			Pn	14 02 25.4	-0.4
JWY	Kouya	2.18	298	P			Pn	14 02 28.6	+0.4
JOD2	Odawara 2	2.27	25	P			Pn	14 02 28.2	-0.6
JYN	Shimob	2.35	13	P			Pn	14 02 29.5	+0.1
JGM	Miyama	2.68	339	P			Pn	14 02 32.2	0.0
JRY	Ryogami san	2.92	16	P			Pn	14 02 33.9	-0.5
BSO1	Boso 1	2.93	60	P			Pn	14 02 31.5	-2.3
JWT	Wachi	2.94	316	P			Pn	14 02 34.6	+0.1
JWT				*e*S			S	14 03 20.1	-0.5
JAI	Aioi	2.95	282	P			Pn	14 02 34.5	-0.1
JAI				*e*S			S	14 03 20.6	-0.3
JKG	Kaga	3.33	337	P			Pn	14 02 37.9	-0.2
MJAR	Matsushiro Arr	3.34	4	P			Pn	14 02 37.5	-0.8
	7.2nm,0.3s,baz=175,slow=5.9,SNR=42								
MJAR				S			S	14 03 30.0	+2.4
	4.1nm,0.3s,baz=185,slow=19,SNR=6.0								
MAJO	Matsushiro	3.34	4	*i* P			Pn	14 02 37.8	-0.5
MAT	Matsushiro	3.34	4	P			Pn	14 02 37.6	-0.7
MAT				S			S	14 03 24.6	-2.9
MAT	Matsushiro	3.34	4	P			Pn	14 02 37.2	-1.1
MAT				*e*S			S	14 03 25.4	-2.1
JAG	Ashikaga	3.46	21	P			Pn	14 02 37.2	-2.2
JNU	Nakatsue	5.90	271	P			Pn	14 03 06.5	+0.3
	1.6nm,0.3s,baz=81,slow=6.7,SNR=22								
CBIJ	Chichi jima	7.12	148	P			Pn	14 03 15.8	-4.7
	26nm,0.3s,baz=305,slow=22,SNR=17								
CBIJ				S			S	14 04 35.0	-10
	152nm,0.3s,baz=284,slow=23,SNR=18								
KSRS	Korea Array	9.20	300	P			Pn	14 03 46.0	+0.8
	3.7nm,0.3s,baz=112,slow=12,SNR=152								
KSRS				S			S	14 05 32.7	+2.7
	baz=107,slow=22,SNR=5.2								
ERM	Erimo	9.73	24	*i* P			Pn	14 03 50.4	-1.1
ASAJ	Asahikawa	11.49	17	P			Pn	14 04 10.9	-1.9
	2.9nm,0.3s,baz=210,slow=13,SNR=45								
ASAJ				S			S	14 06 12.8	-8.4
	0.4nm,0.3s,baz=258,slow=20,SNR=4.1								
USRK	Ussuriysk Arra	11.91	339	P			Pn	14 04 17.4	-0.3
	1.1nm,0.3s,baz=169,slow=11,SNR=37								
YSS	Yuzh-Sakhalins	14.22	14	⇑*i* P			Pn	14 04 46.2	+1.1
YSS				*e*S			S	14 07 16.8	-1.8
YSS				pmax			pmax		
	comp=Z,60nm,0.4s								
SNY	Shenyang	14.25	311	⇓P			P	14 04 44.0	-0.1
SNY				pmax			pmax		
	comp=Z,23nm,0.5s								
CN2	Changchun	14.38	321	*e*P			P	14 04 44.8	-0.6
CN2				pmax			pmax		
	comp=Z,20nm,1.0s								
HABR	Khabarovsk	15.41	353	*e*P			P	14 04 55.7	-0.9
HABR				S			S	14 07 42.9	+0.7
HABR				pmax			pmax		
	comp=E,15nm,1.6s								
HABR				pmax			pmax		
	comp=Z,6.0nm,0.6s								
HABR				pmax			pmax		
	comp=N,9.0nm,1.3s								
HABR				MLR			MLR		
	comp=Z,53nm,14.0s								
NJ2	Nanjing	16.10	271	*e*P			P	14 05 05.5	+1.1
NJ2				pmax			pmax		
	comp=Z,20nm,0.5s								
KLR	Kul'dur	16.66	346	*e*P			P	14 05 06.7	-3.5
KLR				*e*				14 08 04.0	
BJI	Beijing	18.71	298	P			P	14 05 31.3	-1.0
BJI				pmax			pmax		
	comp=Z,55nm,0.8s								
WHN	Wuhan	20.18	269	P			P	14 05 46.3	-1.5
XAN	Xi'an	24.12	280	P			P	14 06 23.3	-0.5
XAN				pmax			pmax		
	comp=Z,12nm,0.8s								
XAN				pmax			pmax		
	comp=Z,14nm,4.6s								
PETK	Petropavlovsk-	24.43	30	P			P	14 06 27.0	+0.7
	comp=Z,7.0nm,0.8s,baz=229,slow=7.1,SNR=8.4								
PETK	Petropavlovsk-	24.43	30	P			P	14 06 27.0	+0.7
PETK				pmax			pmax		
	comp=Z,7.0nm,0.8s								
SONM	Songino Array	27.83	311	P			P	14 06 57.4	+0.7
	comp=Z,22nm,0.7s,baz=118,slow=8.7,SNR=67								
LZH	Lanzhou	28.09	286	*e*P			P	14 06 58.5	-0.7
LZH				pmax			pmax		
	comp=Z,16nm,1.0s								
YAK	Yakutsk	29.32	352	*e*P			P	14 07 09.2	-0.3
YAK				pmax			pmax		
	comp=Z,5.0nm,0.7s								
ZAK	Zakamensk	30.64	314	⇓*i* P			P	14 07 21.7	+0.3
ZAK				pmax			pmax		
	comp=Z,5.0nm,1.2s								
TLY	Talaya	30.92	317	*e*P			P	14 07 23.2	-0.5
TLY				pmax			pmax		
	comp=Z,5.0nm,0.9s								
GTA	Gaotai	31.15	292	*e*P			P	14 07 25.3	-0.7
GTA				pmax			pmax		
	comp=Z,6.0nm,1.2s								
FX1	Attu Island--F	31.95	41	P			P	14 07 34.8	+2.2
	comp=Z,3.7nm,0.3s,baz=323,slow=2.7,SNR=9.1								
CMAR	Chiang Mai Arr	37.79	257	P			P	14 08 22.2	-0.3
	comp=Z,4.9nm,0.6s,baz=50,slow=8.0,SNR=26								
CMAR				ScP			S	14 13 48.5	+0.2
	comp=Z,0.9nm,0.7s,baz=18,slow=3.3,SNR=8.8								
BILL	Bilibino	38.51	17	*d i* P			P	14 08 29.1	+1.3
BILL				pmax			pmax		
	comp=Z,23μm,1.1s								
BILL				MLR			MLR		
	comp=Z,100nm,14.0s								
LSA	Lhasa	39.79	278	P			P	14 08 37.5	-1.9
LSA				pmax			pmax		
	comp=Z,30nm,0.8s								
ZALV	Zalesovo Beam	42.50	316	P			P	14 08 59.7	-0.7
	comp=Z,5.2nm,0.7s,baz=92,slow=7.7,SNR=26								
ZALV				PcP			PcP	14 10 45.7	-0.4
	comp=Z,2.8nm,0.6s,baz=108,slow=3.1,SNR=8.6								
ZALV	Zalesovo Beam	42.50	316	P			P	14 08 59.7	-0.7
ZALV								14 10 45.7	
ZALV				pmax			pmax		
	comp=Z,5.0nm,0.7s								
ZALV				pmax			pmax		
	comp=Z,3.0nm,0.6s								
PMG	Port Moresby	43.28	167	P			P	14 09 06.6	-0.3
	comp=Z,4.8nm,0.6s,baz=315,slow=19,SNR=4.5								
TAPN	Taipei,ung	43.41	276	*e*P			P	14 09 08.0	-0.4
NVS	Novosibirsk	43.53	317	*e*P			P	14 09 08.0	-0.5
NVS				pmax			pmax		
	comp=Z,13nm,0.7s								
NVS				pmax			pmax		
	comp=E,11nm,0.7s								
MK31	Makanchi Array	43.84	305	*ce*P			P	14 09 10.6	-0.5
MK31				pmax			pmax		
	comp=Z,4.0nm,0.4s								
MKAR	Makanchi Array	43.84	305	P			P	14 09 10.9	-0.3
	comp=Z,3.7nm,0.4s,baz=88,slow=10.0,SNR=69								
MKAR				ScP			ScP	14 14 09.3	-0.8
	comp=Z,0.8nm,0.7s,baz=87,slow=4.5,SNR=4.6								
MKAR	Makanchi Array	43.84	305	P			P	14 09 10.9	-0.3
MKAR				pmax			pmax		
	comp=Z,4.0nm,0.4s								
MKAR				pmax			pmax		
	comp=N,1.0nm,0.7s								
ODAN	Odare	43.85	276	*e*P			P	14 09 11.4	-0.4
	comp=N,41nm,0.5s								
RAMN	Ramite	44.48	276	*e*P			P	14 09 16.3	-0.4
	comp=N,73nm,0.7s								
GUN	Gumba	44.74	278	*e*P			P	14 09 18.7	-0.2
	comp=N,34nm,0.7s								
PKI	Pulchoki	45.25	277	*e*P			P	14 09 22.1	-0.7
	comp=N,26nm,0.7s								
PKIN	Phulchoki	45.26	277	*e*P			P	14 09 22.5	-0.3
KKN	Kakani	45.28	278	*e*P			P	14 09 22.5	-0.5
	comp=N,35nm,0.7s								
DMN	Daman	45.49	278	*e*P			P	14 09 24.0	-0.6
KURK	Kurchatov	46.14	311	⇓*i* P			P	14 09 28.5	-0.5
KURK				pmax			pmax		
	comp=Z,23nm,0.7s								
DANN	Dangsing	46.35	279	*e*P			P	14 09 31.3	0.0
	comp=Z,52nm,0.5s								
PYUN	Piuthan	47.08	279	*e*P			P	14 09 36.7	-0.1
	comp=Z,56nm,0.4s								
TKM2	Tokmak 2	49.01	300	*i* P			P	14 09 50.8	-0.4
TKM2				pmax			pmax		
	comp=Z,2.0nm,0.5s								
AAK	Ala-Archa	49.86	300	P			P	14 09 57.0	-0.5
	comp=Z,2.7nm,0.8s,baz=108,slow=5.5,SNR=12								
AAK	Ala-Archa	49.86	300	P			P	14 09 57.0	-0.5
AAK				pmax			pmax		
	comp=Z,3.0nm,0.8s								
BVA0	Borovoye Array	51.10	314	*i* P			P	14 10 05.9	-0.5
BVA0				pmax			pmax		
	comp=Z,1.0nm,0.6s								
BVAR	Borovoye Array	51.10	314	P			P	14 10 06.0	-0.4
	comp=Z,4.0nm,0.5s,baz=98,slow=6.7,SNR=46								
BVAR				PcP			pP	14 11 15.7	+0.1
	comp=Z,1.3nm,0.5s,baz=110,slow=3.4,SNR=5.0								
BVAR				ScP			ScP	14 14 40.1	-0.5
	comp=Z,0.4nm,0.5s,baz=108,slow=4.7,SNR=3.3								
BVAR	Borovoye Array	51.10	314	P			P	14 10 06.0	-0.4
BVAR								14 11 15.7	
BVAR				pmax			pmax		
	comp=Z,4.0nm,0.5s								
BVAR				pmax			pmax		
	comp=Z,1.0nm,0.5s								
BRVK	Borovoye	51.16	314	P			P	14 10 06.3	-0.5
BRVK				pmax			pmax		
	comp=Z,8.0nm,0.7s								
KDAK	Kodiak Island	51.87	40	P			P	14 10 12.7	+0.8
	comp=Z,15nm,0.3s,baz=1.0,slow=23,SNR=54								
KK31	Karatay Array	52.62	302	*ce*P			P	14 10 17.3	-0.4
KK31				pmax			pmax		
	comp=Z,10.0nm,0.6s								
WRA	Warramunga Arr	52.96	184	P			P	14 10 19.6	-0.7
	comp=Z,3.9nm,0.6s,baz=0.4,slow=7.6,SNR=73								
WRA				pP			PcP	14 11 24.7	+0.6
	comp=Z,0.6nm,0.7s,baz=0.4,slow=7.7,SNR=1.5								
WRA				sP			sP	14 12 05.1	-1.7
	comp=Z,1.3nm,0.7s,baz=13,slow=8.2,SNR=4.5								
ILAR	Eielson Array	54.25	31	P			P	14 10 29.5	+0.4
	comp=Z,5.9nm,0.8s,baz=265,slow=4.9,SNR=91								
SVE	Sverdlovsk	56.16	320	*e*P			P	14 10 43.2	+0.5
ASAR	Alice Springs	56.68	184	P			P	14 10 46.6	-0.1
	comp=Z,1.3nm,0.5s,baz=16,slow=10,SNR=50								
ASAR				PcP			PcP	14 11 39.0	+0.5
	comp=Z,0.5nm,0.6s,baz=1.8,slow=3.5,SNR=4.2								
ASAR				ScP			ScP	14 15 04.9	-0.4
	comp=Z,0.4nm,0.8s,baz=1.1,slow=5.0,SNR=5.4								
ARU	Arti	57.37	320	*d i* P			P	14 10 50.6	-0.5
ARU				*PP			pP	14 12 01.7	-0.5
ARU								14 12 59.5	
ARU				S			S	14 18 21.9	+1.1
ARU				SS			SS	14 22 15.6	-0.1
ARU				pmax			pmax		
	comp=Z,15nm,1.0s								
AB31	Akbulak array	58.25	311	*ce*P			P	14 10 56.7	-0.6
AB31				pmax			pmax		
	comp=Z,3.0nm,0.3s								
INK	Inuvik	59.09	26	P			P	14 11 03.7	+1.0
	comp=Z,3.0nm,0.5s,baz=301,slow=6.4,SNR=16								
AKTO	Aktyubinsk	59.13	313	P			P	14 11 03.4	+0.1
	comp=Z,2.7nm,0.6s,baz=74,slow=13,SNR=13								
AKTO	Aktyubinsk	59.13	313	P			P	14 11 03.4	+0.1
AKTO				pmax			pmax		
	comp=Z,3.0nm,0.6s								
SPITS	Spitsbergen Ar	63.71	349	P			P	14 11 33.9	+0.6
	comp=Z,8.1nm,1.0s,baz=97,slow=6.8,SNR=6.7								
STKA	Stephens Creek	64.83	177	P			P	14 11 40.8	-0.1
	comp=Z,3.1nm,0.7s,baz=342,slow=12,SNR=6.6								
KEV	Kevo	66.00	339	*e*P			P	14 11 48.3	+0.3
KEV				pmax			pmax		
	comp=Z,5.0nm,0.7s								
KEV	Kevo	66.00	339	*e*p			P	14 11 48.3	+0.3
	comp=Z,5.3nm,0.7s								
ARCES	ARCESS Array B	66.56	339	P			P	14 11 51.9	+0.3
	comp=Z,5.3nm,0.6s,baz=71,slow=8.8,SNR=30								
JOF	Joensuu	67.98	332	*e*P			P	14 11 58.7	-1.8
JOF				pmax			pmax		
	comp=Z,6.0nm,0.7s								
JOF	Joensuu	67.98	332	*e*p			P	14 11 58.7	-1.8
	comp=Z,6.0nm,0.7s								
YKA	Yellowknife Ar	68.54	28	P			P	14 12 04.6	+0.7
	comp=Z,1.7nm,0.5s,baz=303,slow=6.1,SNR=43								
KAF	Kangasniemi	70.38	332	*e*P			P	14 12 14.0	-1.1
KAF				pmax			pmax		
	comp=Z,6.0nm,0.5s								
KAF	Kangasniemi	70.38	332	*e*p			P	14 12 14.0	-1.1
	comp=Z,5.9nm,0.5s								
FINES	FINESS Array B	70.84	332	P			P	14 12 17.7	-0.2
	comp=Z,6.2nm,0.6s,baz=68,slow=5.9,SNR=25								
ZEI	Tsey	71.00	309	*e*P			P	14 12 17.8	-1.7
ZEI				pmax			pmax		
	comp=Z,2.0nm,0.7s								
KBZ	Khabaz	71.20	310	P			P	14 12 20.6	+0.3
	comp=Z,6.3nm,0.8s,baz=84,slow=3.3,SNR=24								
KBZ	Khabaz	71.20	310	P			P	14 12 20.6	+0.3
KBZ				pmax			pmax		
	comp=Z,6.0nm,0.8s								
KIV	Kislovodsk	71.23	311	*e*P			P	14 12 21.5	+0.8
KIV				pmax			pmax		
	comp=Z,11nm,0.9s								
ANN	Anapa	74.09	313	*e*P			P	14 12 35.7	-1.5
ANN				pmax			pmax		
	comp=Z,41nm,1.7s								
MIB	Mutribah	74.80	296	*e*P			P	14 12 41.1	-0.4
MIB				AMb			AMB	14 12 41.9	
	comp=Z,51nm,0.7s								
KBD	Kabd	74.84	295	*e*P			P	14 12 41.5	-0.3
KBD				AMb			AMB	14 12 51.3	
	comp=Z,60nm,1.7s								
RDF	Al-Radifah	75.07	295	*e*P			P	14 12 43.3	+0.2
RDF				AMb			AMB	14 12 54.1	
	comp=Z,116nm,1.5s								
NAY	Al-Naaiem	75.14	295	*e*P			P	14 12 43.2	-0.4
NAY				AMb			AMB	14 12 43.6	
	comp=Z,34nm,0.6s								
AKASG	Malin Array Be	75.53	322	P			P	14 12 44.8	-0.5
	comp=Z,3.1nm,0.5

TERO	**Teramo**	**0.35**	**30**	Pg	Pg	14 10 51.1	-0.3
TERO				Sg	Sg	14 10 57.1	+1.0
	481nm,0.3s						
VCEL	**Villa Celiera**	**0.36**	**78**	Pg	Pg	14 10 52.2	+0.6
	548nm,0.5s						
VCEL	**Villa Celiera**	**0.36**	**78**	Pg	Pg	14 10 52.2	+0.6
	548nm,0.5s						
CERT	**Cerreto**	**0.47**	**218**	Pg	Pg	14 10 53.7	+0.1
CERT				Sg	Sg	14 11 00.3	+0.4
	334nm,0.5s						
CERT	**Cerreto**	**0.47**	**218**	Pg	Pg	14 10 53.7	+0.1
CERT				Sg	Sg	14 11 00.3	+0.4
	334nm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**157**	Pg	Pb	14 10 55.1	0.0
	223nm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**157**	Pg	Pb	14 10 55.1	0.0
	223nm,0.5s						
INTR	**Introdacqua**	**0.51**	**128**	Pg	Pg	14 10 54.2	-0.1
INTR				Sg	Sb	14 11 02.4	-0.5
	174nm,0.6s						
INTR	**Introdacqua**	**0.51**	**128**	Pg	Pg	14 10 54.2	-0.1
INTR				Sg	Sb	14 11 02.4	-0.5
	174nm,0.6s						
GUAR	**Guarcino**	**0.53**	**184**	Pg	Pb	14 10 55.7	0.0
	152nm,0.6s						
GUAR	**Guarcino**	**0.53**	**184**	Pg	Pb	14 10 55.7	0.0
	152nm,0.6s						
NRCA	**Norcia**	**0.54**	**340**	Pg	Pg	14 10 54.8	-0.2
NRCA	**Norcia**	**0.54**	**340**	Pg	Pg	14 10 54.8	-0.2
OFFI	**Offida**	**0.66**	**21**	Pg	Pb	14 10 57.9	0.0
OFFI	**Offida**	**0.66**	**21**	Pg	Pb	14 10 57.9	0.0
LPEL	**Lama dei Pelig**	**0.67**	**114**	Pg	Pg	14 10 56.9	-0.4
	114nm,0.3s						
LPEL	**Lama dei Pelig**	**0.67**	**114**	Pg	Pg	14 10 56.9	-0.4
	114nm,0.3s						
SDI	**San Donato**	**0.70**	**151**	Pg	Pb	14 10 58.7	+0.1
	44nm,0.3s						
SDI	**San Donato**	**0.70**	**151**	Pg	Pb	14 10 58.7	+0.1
	44nm,0.3s						
FDMO	**Fiordimonte**	**0.74**	**344**	Pg	Pg	14 10 58.4	-0.3
	77nm,0.2s						
FDMO	**Fiordimonte**	**0.74**	**344**	Pg	Pg	14 10 58.4	-0.3
	77nm,0.2s						
CESI	**CESI - Serrava**	**0.76**	**334**	Pg	Pg	14 10 58.7	-0.5
	58nm,0.6s						
CESI	**CESI - Serrava**	**0.76**	**334**	Pg	Pg	14 10 58.7	-0.5
	58nm,0.6s						
ASSB	**Assisi San Ben**	**0.89**	**324**	Pg	Pg	14 11 01.3	-0.3
	75nm,0.3s						
ASSB	**Assisi San Ben**	**0.89**	**324**	Pg	Pg	14 11 01.3	-0.3
	75nm,0.3s						
MURB	**Monte Urbino**	**1.13**	**327**	Pg	Pb	14 11 06.0	0.0
	197nm,0.6s						
MURB	**Monte Urbino**	**1.13**	**327**	Pg	Pb	14 11 06.0	0.0
	197nm,0.6s						

*ISCJB **30** 14:11:04.4±0.8, 42°.32N±0°.03×13°.37E±0°.04, h12km±7km, Error ellipse: s-maj=6.0km s-min=5.0km az=139.8*
*CSEM **30** 14:11:04.2, 42°.33N×13°.37E, h10km, MD2.1/4, After ROM*
*ROM **30** 14:11:04.2±0.1, 42°.33N×13°.37E, h10km±1km, Md2.1/4, Error ellipse: s-maj=2.1km s-min=1.9km az=27.0*

ISC 30 14:11:04.5±0.9, 42°.33N±0°.02×13°.38E±0°.03, h12km±5km, n22, σ0§39/34, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.03**	**36**	Pg	**Pg**	**14 11 06.6**	**-0.2**
AQU				Sg	**Sg**	**14 11 08.1**	**-0.2**
AQU	**L'Aquila**	**0.03**	**36**	Pg	**Pg**	**14 11 06.6**	**-0.2**
AQU				Sg	**Sg**	**14 11 08.1**	**-0.2**
FAGN	**Fagnano**	**0.17**	**112**	Pg	**Pg**	**14 11 08.4**	**+0.1**
FAGN	**Fagnano**	**0.17**	**112**	Pg	**Pg**	**14 11 08.4**	**+0.1**
FIAM	**Fiamignano**	**0.20**	**253**	Pg	**Pg**	**14 11 09.0**	**0.0**
FIAM				Sg	**Sg**	**14 11 12.3**	**+0.3**
FIAM	**Fiamignano**	**0.20**	**253**	Pg	**Pg**	**14 11 09.0**	**0.0**
FIAM				Sg	**Sg**	**14 11 12.3**	**+0.3**
TERO	**Teramo**	**0.34**	**30**	Pg	**Pg**	**14 11 11.1**	**-0.3**
TERO				Sg	**Sg**	**14 11 16.9**	**+1.0**
TERO	**Teramo**	**0.34**	**30**	Pg	**Pg**	**14 11 11.1**	**-0.3**
TERO				Sg	**Sg**	**14 11 16.9**	**+1.0**
VCEL	**Villa Celiera**	**0.35**	**79**	Pg	**Pb**	**14 11 12.5**	**-0.3**
VCEL	**Villa Celiera**	**0.35**	**79**	Pg	**Pb**	**14 11 12.5**	**-0.3**
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**14 11 13.6**	**-0.3**
CERT	**Cerreto**	**0.48**	**218**	Pg	**Pg**	**14 11 13.6**	**-0.3**
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pb**	**14 11 15.3**	**+0.1**
VVLD	**Villa Vallelon**	**0.49**	**158**	Pg	**Pb**	**14 11 15.3**	**+0.1**
INTR	**Introdacqua**	**0.50**	**129**	Pg	**Pg**	**14 11 14.4**	**0.0**
INTR				Sg	**Sb**	**14 11 22.5**	**-0.2**
INTR	**Introdacqua**	**0.50**	**129**	Pg	**Pg**	**14 11 14.4**	**0.0**
INTR				Sg	**Sb**	**14 11 22.5**	**-0.2**
NRCA	**Norcia**	**0.54**	**339**	Pg	**Pg**	**14 11 14.8**	**-0.3**
NRCA				Sg	**Sb**	**14 11 23.7**	**-0.1**
NRCA	**Norcia**	**0.54**	**339**	Pg	**Pg**	**14 11 14.8**	**-0.3**
NRCA				Sg	**Sb**	**14 11 23.7**	**-0.1**
OFFI	**Offida**	**0.65**	**20**	Pg	**Pb**	**14 11 17.9**	**+0.1**
OFFI	**Offida**	**0.65**	**20**	Pg	**Pb**	**14 11 17.9**	**+0.1**
LPEL	**Lama dei Pelig**	**0.66**	**115**	Pg	**Pg**	**14 11 16.8**	**-0.6**
LPEL				Sg	**Sg**	**14 11 26.7**	**+0.6**
LPEL	**Lama dei Pelig**	**0.66**	**115**	Pg	**Pg**	**14 11 16.8**	**-0.6**
LPEL				Sg	**Sg**	**14 11 26.7**	**+0.6**

IDC 30 14:15:42.4±1.2, 15°.23S×13°.53W, h0km, mb4.1/8, mb1 4.1/8, mb1mx3.9/22, mbtmp4.1/8, MS4.0/8, Ms1 3.9/8, ms1mx3.7/27, Error ellipse: s-maj=44.2km s-min=22.7km az=147.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**23.39**	**22**	P	P	14 20 52.5	-0.5
	2.7nm,0.9s,baz=194,slow=17,SNR=3.0						
RCBR	**Riachuelo**	**23.87**	**291**	P	P	14 20 57.5	-0.4
	7.6nm,0.9s,baz=106,slow=10,SNR=5.7						
RCBR				LR	LR	14 26 50.3	
	comp=Z,120nm,21.4s,baz=278,slow=28						
TORD	**Torodi Ar. Bea**	**31.97**	**29**	P	P	14 22 09.1	-1.3
	3.0nm,0.9s,baz=216,slow=8.8,SNR=11						
TORD				LR	LR	14 31 59.2	
	comp=Z,242nm,20.9s,baz=200,slow=31						
BDFB	**Brasilia**	**33.22**	**265**	LR	LR	14 33 22.1	
	comp=Z,222nm,20.1s,baz=50,slow=32						
BOSA	**Boshof**	**38.20**	**117**	LR	LR	14 34 59.1	
	comp=Z,185nm,20.5s,baz=311,slow=30						
LPAZ	**La Paz**	**52.42**	**261**	P	P	14 24 58.1	+0.1
	0.4nm,0.6s,baz=79,slow=5.2,SNR=1.9						
LPAZ				LR	LR	14 44 14.7	
	comp=Z,103nm,21.2s,baz=248,slow=33						
PLCA	**Paso Flores**	**55.32**	**231**	LR	LR	14 43 20.6	
	comp=Z,182nm,21.3s,baz=3.8,slow=30						
BRTR	**Keskin Array B**	**70.12**	**37**	P	P	14 26 57.9	+1.0
	0.5nm,0.3s,baz=186,slow=5.8,SNR=5.7						
MAW	**Mawson**	**70.85**	**157**	LR	LR	14 53 27.1	
	comp=Z,182nm,18.5s,baz=117,slow=32						
AKASG	**Malin Array Be**	**75.56**	**26**	P	P	14 27 28.6	-0.1
	0.4nm,0.4s,baz=224,slow=5.3,SNR=4.0						
FINES	**FINESS Array B**	**82.62**	**18**	P	P	14 28 07.6	+0.4
	2.2nm,0.9s,baz=222,slow=5.6,SNR=4.0						
AKTO	**Aktyubinsk**	**90.30**	**37**	P	P	14 28 46.7	+1.5
	1.6nm,0.7s,baz=230,slow=4.8						
ASAR	**Alice Springs**	**129.93**	**140**	PKP	PKPdf	14 34 54.4	-0.6
	0.3nm,0.9s,baz=193,slow=2.6,SNR=2.7						
WRA	**Warramunga Arr**	**132.89**	**137**	PKP	PKPdf	14 34 58.2	-2.4
	0.2nm,0.9s,baz=244,slow=2.2,SNR=2.4						

IDC 30 14:32:34.5±7.0, 5°.74S×146°.01E, h57km±59km, mb3.9/3, mb1 4.2/5, mb1mx3.5/19, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=67.2km s-min=40.0km az=49.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**163**	P	Pn	14 33 31.1	+0.4
	13nm,0.3s,baz=160,slow=19,SNR=129						
PMG				S	Sn	14 34 14.7	+0.4
	10nm,0.3s,baz=203,slow=21,SNR=7.5						
WRA	**Warramunga Arr**	**18.11**	**218**	P	Pn	14 36 43.1	+0.9
	2.2nm,0.3s,baz=41,slow=11,SNR=105						
ASAR	**Alice Springs**	**21.30**	**212**	P	P	14 37 16.3	-0.3
	3.7nm,0.5s,baz=48,slow=8.7,SNR=140						
FITZ	**Fitzroy Crossi**	**23.38**	**237**	P	P	14 37 37.5	-0.9
	5.7nm,0.4s,baz=57,slow=9.1,SNR=46						
STKA	**Stephens Creek**	**26.33**	**188**	P	P	14 38 05.9	+0.8
	3.4nm,0.9s,baz=16,slow=11,SNR=5.6						

IDC 30 14:43:52.7±2.5, 0°.69S×132°.89E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/21, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=105.4km s-min=24.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.71**	**202**	P	Pn	14 48 13.2	0.0
	0.0nm,0.3s,baz=34,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**19.19**	**176**	P	P	14 48 17.5	-0.6
	0.1nm,0.3s,baz=354,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**22.86**	**178**	P	P	14 48 58.1	+0.3
	0.4nm,0.3s,baz=358,slow=11,SNR=27						
MKAR	**Makanchi Array**	**64.70**	**324**	P	P	14 54 32.6	-0.1
	0.1nm,0.4s,baz=112,slow=7.5,SNR=2.8						

*ISCJB **30** 14:47:13.6±1.0, 51°.51N±0°.05×16°.08E±0°.04, h0km, Error ellipse: s-maj=7.1km s-min=3.6km az=14.5*
*CSEM **30** 14:47:15.2±0.6, 51°.51N×16°.05E, h2km, ML3.1/5, Error ellipse: s-maj=9.6km s-min=4.7km az=178.0*
*PRU **30** 14:47:16.5, 51°.48N×16°.06E, h0km*
*WAR **30** 14:47:17.3, 51°.47N×16°.10E*

ISC 30 14:47:16.5±1.3, 51°.49N±0°.06×16°.07E±0°.03, h0km, n25, σ0§70/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**14 47 29.3**	**+0.1**
KSP				*e*Sg	**Sg**	**14 47 38.6**	**+0.9**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**14 47 29.2**	**+0.1**
KSP				*e*Sg	**Sg**	**14 47 38.5**	**+0.9**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**14 47 29.2**	**+0.1**
KSP				*e*Sg	**Sg**	**14 47 38.5**	**+0.9**
KSP	**Ksiaz**	**0.66**	**168**	*e*	**Pb**	**14 47 31.3**	**+0.4**
UPC	**Upice**	**0.98**	**182**	*e*Pg	**Pg**	**14 47 35.2**	**-0.1**
UPC	**Upice**	**0.98**	**182**	Pg	**Pg**	**14 47 35.2**	**-0.1**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**14 47 38.0**	**-0.5**
DPC				*e*SG	**Sg**	**14 47 53.1**	**-0.2**
	comp=Z,13nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**172**	Pg	**Pg**	**14 47 38.0**	**-0.5**
DPC				Sg	**Sg**	**14 47 53.1**	**-0.2**
	13nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	**Pg**	**14 47 41.6**	**-0.7**
PVCC				*e*SG	**Sg**	**14 48 00.0**	**+0.2**
	comp=Z,42nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**225**	Pg	**Pg**	**14 47 41.6**	**-0.7**
PVCC				Sg	**Sg**	**14 48 00.0**	**+0.2**
	42nm,0.2s						
KRLC	**Kraliky**	**1.48**	**162**	*e*PG	**Pn**	**14 47 43.9**	**-0.6**
KRLC				*e*SG	**Sg**	**14 48 03.9**	**-0.2**
KRLC	**Kraliky**	**1.48**	**162**	Pg	**Pn**	**14 47 43.9**	**-0.6**
KRLC				Sg	**Sg**	**14 48 03.9**	**-0.2**
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	**Pn**	**14 47 48.7**	**+0.1**
PRU				*e*SG	**Sb**	**14 48 13.1**	**+0.1**
	comp=Z,14nm,0.3s						
PRU	**Pruhonice**	**1.79**	**214**	Pg	**Pn**	**14 47 48.7**	**+0.1**
PRU				Sg	**Sb**	**14 48 13.1**	**+0.1**
	14nm,0.3s						
CLL	**Collm**	**1.93**	**266**	*e*Pg	**Pn**	**14 47 51.0**	**+0.4**
CLL				*i*		14 47 54.6	
CLL				*e*Sg	**Sg**	**14 48 18.0**	**-0.5**
	comp=Z,7.0nm,0.8s						
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**14 47 50.1**	**-0.8**
MORC				*e*Sg	**Sb**	**14 48 17.3**	**-0.5**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*SG	**Sb**	**14 48 23.2**	**+0.8**
OKC	**Ostrava-Krasne**	**2.11**	**141**	Sg	**Sb**	**14 48 23.2**	**+0.8**
VRAC	**Vranov**	**2.21**	**171**	*e*Sg	**Sg**	**14 48 27.0**	**-0.3**
NKC	**Novy Kostel**	**2.62**	**243**	*e*SG	**Sg**	**14 48 41.5**	**+1.0**
	comp=Z,16nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	Sg	**Sg**	**14 48 41.5**	**+1.0**
	comp=Z,16nm,0.3s						
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**14 48 07.1**	**-0.7**
OJC				*e*Sg	**Sg**	**14 48 42.7**	**+0.1**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**14 48 07.1**	**-0.7**
OJC				*e*Sg	**Sg**	**14 48 42.7**	**+0.1**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PG	**Pb**	**14 48 08.8**	**+0.6**
KHC				*e*SG	**Sg**	**14 48 46.0**	**-1.9**
	comp=Z,3.7nm,0.4s						
KHC	**Kasperske Hory**	**2.85**	**215**	Pg	**Pb**	**14 48 08.8**	**+0.6**
KHC				Sg	**Sg**	**14 48 46.0**	**-1.9**
	comp=Z,3.7nm,0.4s						

*IDC **30** 15:04:18.9±3.3, 55°.67N×152°.84W, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/26, mbtmp3.3/4, ML4.7/1, Error ellipse: s-maj=68.6km s-min=30.0km az=153.0*
*ISCJB **30** 15:04:23.1±1.2, 56°.31N±0°.09×152°.6W±0°.2, h22km, mb3.6/3, Error ellipse: s-maj=15.7km s-min=10.8km az=36.8*
*NEIC **30** 15:04:26.9, 56°.43N×153°.03W, h20km, ML2.7(AEIC), After AEIC.*

ISC 30 15:04:26.4±1.5, 56°.5N±0°.1×152°.8W±0°.1, h22km, n20, σ1§08/22, mb3.7/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.32**	**5**	P	**Pn**	**15 04 49.7**	**+0.3**
KDAK				S	**Sb**	**15 05 07.2**	**+0.3**
KAWH	**Katmai**	**2.20**	**331**	P	**Pn**	**15 05 02.3**	**+0.6**
KAKN	**Katmai Knife C**	**2.21**	**327**	P	**Pn**	**15 04 59.2**	**-2.5**
KARR	**Katmai Rainbow**	**2.28**	**334**	P	**Pn**	**15 05 04.3**	**+1.6**
KAPH	**Katmai Pasha**	**2.29**	**339**	P	**Pn**	**15 05 04.6**	**+1.7**
FOSS	**Fourpeaked Sta**	**2.38**	**349**	P	**Pn**	**15 05 05.0**	**+0.8**
KAHC	**Katmai Hardscr**	**2.49**	**332**	P	**Pn**	**15 05 06.5**	**+0.8**
OPT	**Oil Point**	**3.20**	**356**	P	**Pn**	**15 05 17.0**	**+1.7**
BRLK	**Bradley Lake**	**3.45**	**16**	P	**Pn**	**15 05 18.3**	**-0.5**
BRLK				S	**Sn**	**15 05 57.3**	**-1.8**
VNHG	**Veniaminof 1**	**3.56**	**269**	P	**Pn**	**15 05 19.9**	**-0.4**
ILAR	**Eielson Array**	**8.81**	**17**	Pn	**Pn**	**15 06 32.2**	**-0.1**
	2.8nm,0.3s,baz=205,slow=14,SNR=174						
ILAR	**Eielson Array**	**8.81**	**17**	Pn	**Pn**	**15 06 32.2**	**-0.1**
YKA	**Yellowknife Ar**	**20.07**	**57**	P	**P**	**15 08 58.3**	**+0.5**
	0.2nm,0.7s,baz=269,slow=9.2,SNR=2.7						
YKA	**Yellowknife Ar**	**20.07**	**57**	P	**P**	**15 08 58.3**	**+0.5**
SONM	**Songino Array**	**57.00**	**308**	P	**P**	**15 14 10.4**	**+0.3**
	0.5nm,0.7s,baz=45,slow=7.8,SNR=5.0						
SONM	**Songino Array**	**57.00**	**308**	P	**P**	**15 14 10.4**	**+0.3**
ZALV	**Zalesovo Beam**	**60.31**	**325**	P	**P**	**15 14 32.1**	**-0.7**
	0.3nm,0.3s,baz=26,slow=10,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.31**	**325**	P	**P**	**15 14 32.1**	**-0.7**
MKAR	**Makanchi Array**	**67.28**	**322**	P	**P**	**15 15 18.9**	**0.0**
	0.2nm,0.6s,baz=33,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**67.28**	**322**	P	**P**	**15 15 18.9**	**0.0**

*ISK **30** 15:08:18.8, 39°.11N×29°.11E, h6km, MD2.6*
*ISCJB **30** 15:08:19.6±0.5, 39°.12N±0°.03×29°.09E±0°.04, h5km±7km, Error ellipse: s-maj=5.7km s-min=4.3km az=142.7*
*DDA **30** 15:08:19.9, 39°.09N×29°.08E, h7km, MD2.9*
*CSEM **30** 15:08:19.7±0.1.3, 39°.12N×29°.10E, h8km, MD2.9, Error ellipse: s-maj=2.4km s-min=2.0km az=90.0*

ISC 30 15:08:19.6±1.0, 39°.12N±0°.02×29°.11E±0°.02, h11km±11km, n25, σ0§37/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pb**	**15 08 26.6**	**-0.3**
GDZ				*i* S	**Sb**	**15 08 31.0**	**-0.8**
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pb**	**15 08 26.6**	**-0.3**
GDZ				*i* S	**Sb**	**15 08 31.0**	**-0.8**
DEMI	**Demirci**	**0.32**	**256**	*i* Pg	**Pg**	**15 08 26.1**	**+0.2**
DEMI				*i* Sg	**Sg**	**15 08 30.1**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**40**	*e*PG	**Pg**	**15 08 27.6**	**-0.4**
TVSB				*e*SG	**Sg**	**15 08 34.0**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg	**Pg**	**15 08 27.6**	**-0.4**
TVSB				*e*Sg	**Sg**	**15 08 34.0**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*PG	**Pg**	**15 08 32.6**	**-0.5**
KULA				*e*SG	**Sg**	**15 08 42.1**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg	**Pg**	**15 08 32.6**	**-0.5**
KULA				*e*Sg	**Sg**	**15 08 42.1**	**-0.2**
KHAL	**Karahalli**	**0.81**	**158**	*e*P	**Pb**	**15 08 35.8**	**+0.1**
KHAL				*e*S	**Sg**	**15 08 46.1**	**+0.4**
KHAL	**Karahalli**	**0.81**	**158**	*e*P	**Pb**	**15 08 35.8**	**+0.1**
KHAL				*e*S	**Sg**	**15 08 46.1**	**+0.4**
KHL	**Karahalli**	**0.86**	**158**	*e*PG	**Pg**	**15 08 36.4**	**+0.3**
KHL	**Karahalli**	**0.86**	**158**	*e*Pg	**Pg**	**15 08 36.4**	**+0.3**
ORLT	**Orhaneli**	**0.94**	**350**	*e*PG	**Pb**	**15 08 37.8**	**-0.1**
ORLT	**Orhaneli**	**0.94**	**350**	*e*Pg	**Pb**	**15 08 37.8**	**-0.1**
AKHS	**Akhisar**	**1.04**	**257**	*e*P	**Pb**	**15 08 39.6**	**0.0**
AKHS				*e*S	**Sb**	**15 08 53.3**	**0.0**
AKHS	**Akhisar**	**1.04**	**257**	*e*P	**Pb**	**15 08 39.6**	**0.0**
AKHS				*e*S	**Sb**	**15 08 53.3**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*PN	**Pg**	**15 08 43.3**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*Pn	**Pg**	**15 08 43.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*PN	**Pg**	**15 08 43.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn	**Pg**	**15 08 43.7**	**0.0**
BALY	**Balya**	**1.31**	**299**	*e*P	**Pg**	**15 08 44.8**	**+0.1**
BALY				*e*S	**Sb**	**15 09 00.5**	**-0.6**
BALY	**Balya**	**1.31**	**299**	*e*P	**Pg**	**15 08 44.8**	**+0.1**
BALY				*e*S	**Sb**	**15 09 00.5**	**-0.6**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*PN	**Pb**	**15 08 46.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*Pn	**Pb**	**15 08 46.1**	**-0.3**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pn**	**15 08 46.4**	**+0.5**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**15 08 46.4**	**+0.5**

IDC 30 15:09:09.0±3.6, 58°.98S×149°.59E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.7/12, mbtmp3.5/3, ML3.2/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/10, Error ellipse: s-maj=351.4km s-min=30.4km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.08**	**172**	P	P	15 13 32.6	0.0
	0.1nm,0.3s,baz=343,slow=13,SNR=5.1						
VNDA				LR	LR	15 19 33.2	
	comp=Z,123nm,18.3s,baz=61,slow=33						
MAW	**Mawson**	**36.72**	**220**	LR	LR	15 29 14.9	
	comp=Z,154nm,21.4s,baz=121,slow=33						
ASAR	**Alice Springs**	**37.01**	**336**	P	P	15 16 20.4	+0.2
	0.5nm,0.8s,baz=160,slow=8.6,SNR=6.6						
WRA	**Warramunga Arr**	**40.53**	**338**	P	P	15 16 49.3	-0.5
	0.7nm,1.1s,baz=168,slow=7.8,SNR=5.4						

IDC 30 15:20:34.5±1.0, 52°.12N×116°.11W, h0km, mb2.6/1, mb1 3.5/4, mb1mx3.2/28, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=30.3km s-min=8.3km az=94.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**3.92**	**190**	Pn	Pn	15 21 36.6	+0.7
	0.3nm,0.3s,baz=20,slow=14,SNR=6.6						
NEW				Pg	Pb	15 21 45.8	+1.3
	1.0nm,0.3s,baz=3.3,slow=15,SNR=6.7						
NEW				Lg	Lg	15 22 36.5	
	2.7nm,0.3s,baz=96,slow=20,SNR=3.3						
BBB	**Bella Bella**	**7.39**	**275**	Lg	Lg	15 24 32.3	
	0.6nm,0.3s,baz=162,slow=20,SNR=2.3						
DLBC	**Dease Lake**	**10.14**	**314**	Lg	Lg	15 25 55.7	
	0.3nm,0.3s,baz=198,slow=20,SNR=2.3						
PDAR	**Pinedale Array**	**10.35**	**152**	Pn	Pn	15 23 05.2	+0.9
	0.1nm,0.3s,baz=346,slow=13,SNR=2.9						
PDAR				Lg	Lg	15 25 59.3	
	0.1nm,0.3s,baz=12,slow=27,SNR=3.4						
YKA	**Yellowknife Ar**	**10.43**	**4**	Pn	Pn	15 23 02.4	-2.7
	0.2nm,0.3s,baz=188,slow=13,SNR=11						
YKA				Sn	Sn	15 24 50.6	-12
	0.6nm,0.3s,baz=183,slow=22,SNR=6.7						
YKA				Lg	Lg	15 25 53.6	
	0.1nm,0.3s,baz=182,slow=28,SNR=4.5						
ULM	**Lac du Bonnet**	**12.83**	**90**	Lg	Lg	15 27 03.9	
	0.3nm,0.3s,baz=7.8,slow=19,SNR=2.6						
ILAR	**Eielson Array**	**20.22**	**321**	P	Pn	15 25 12.3	-0.2
	0.3nm,0.8s,baz=108,slow=12,SNR=3.8						

*ISCJB **30** 15:25:26.0±0.7, 51°.54N±0°.08×175°.04W±0°.06, h40km, mb3.4/4, Error ellipse: s-maj=11.5km s-min=4.4km az=163.9*
*NEIC **30** 15:25:27.9, 51°.62N×175°.12W, h40km, ML3.5(AEIC), After AEIC.*
*IDC **30** 15:25:30.1±4.4, 51°.64N×175°.12W, h70km±39km, mb3.0/4, mb1 3.4/7, mb1mx3.2/30, mbtmp3.2/7, ML3.4/3, Error ellipse: s-maj=48.6km s-min=20.1km az=166.0*

ISC 30 15:25:27.3±1.0, 51°.6N±0°.1×175°.05W±0°.05, h40km, n22, σ1§13/26, mb3.4/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.79**	**41**	P	Pn	**15 25 41.1**	**-0.9**
ATKA				S	Sn	**15 25 51.5**	**-1.2**
GSCK	**Great Sitkin C**	**0.80

SAML	**Samuel**	**11.19**	**37**	*e*P		**Pn**	**15 50 54.8**	**-2.9**
	comp=E,5.3nm,0.7s								
TRQA	**Tornquist**	**21.19**	**162**	*e*P		**P**	**15 52 58.7**	**+0.4**
BDFB	**Brasilia**	**21.20**	**87**	P		**P**	**15 52 59.9**	**+1.1**
	comp=E,5.6nm,0.7s,baz=249,slow=11,SNR=8.5								
BDFB	**Brasilia**	**21.20**	**87**	P		**P**	**15 52 59.9**	**+1.1**
PLCA	**Paso Flores**	**22.66**	**181**	P		**P**	**15 53 14.2**	**+0.3**
	comp=E,4.9nm,0.9s,baz=338,slow=11,SNR=6.7								
PLCA	**Paso Flores**	**22.66**	**181**	P		**P**	**15 53 14.2**	**+0.3**
PLCA				*e*P		**P**	**15 53 14.8**	**+0.9**
TXAR	**Lajitas Array**	**57.17**	**325**	pP		pP	15 58 22.0	+0.1
	comp=E,0.2nm,0.5s,baz=120,slow=5.4,SNR=2.6								
TXAR	**Lajitas Array**	**57.17**	**325**	pP		pP	15 58 22.0	+0.1
DBIC	**Dimbokro**	**68.81**	**75**	P		**P**	**15 59 13.7**	**-1.3**
	comp=E,4.0nm,0.5s,baz=224,slow=7.7,SNR=14								
DBIC	**Dimbokro**	**68.81**	**75**	*e*P		**P**	**15 59 13.9**	**-1.1**
	comp=E,3.8nm,0.5s								
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**15 59 36.1**	**+1.3**
	comp=E,2.6nm,1.0s								
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**15 59 36.1**	**+1.3**
TOA0	**Torodi Ar. Sit**	**77.22**	**72**	*e*P		**P**	**16 00 03.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**77.22**	**72**	P		**P**	**16 00 03.4**	**-1.2**
	comp=E,2.1nm,0.4s,baz=254,slow=5.3,SNR=29								
TORD				pP		**pP**	**16 00 29.8**	**-0.2**
	comp=E,0.8nm,0.8s,baz=242,slow=6.8,SNR=2.0								
TORD				sP		**sP**	**16 00 41.3**	**+0.6**
	comp=E,0.7nm,0.7s,baz=258,slow=6.0,SNR=1.8								
TORD	**Torodi Ar. Bea**	**77.22**	**72**	P		**P**	**16 00 03.4**	**-1.2**
TORD				pP		**pP**	**16 00 29.8**	**-0.2**
TORD				sP		**sP**	**16 00 41.3**	**+0.6**
YKA	**Yellowknife Ar**	**87.55**	**341**	P		**P**	**16 00 57.9**	**+0.7**
	comp=E,0.7nm,0.6s,baz=135,slow=4.8,SNR=20								
YKA				pP		**pP**	**16 01 22.9**	**-0.3**
	comp=E,0.7nm,0.6s,baz=136,slow=4.8,SNR=5.5								
YKA	**Yellowknife Ar**	**87.55**	**341**	P		**P**	**16 00 58.0**	**+0.7**
YKA				pP		**pP**	**16 01 22.9**	**-0.3**
ASAR	**Alice Springs**	**132.45**	**210**	PKP		**PKPdf**	**16 07 24.0**	**-0.5**
	comp=E,0.1nm,0.6s,baz=143,slow=2.4,SNR=4.9								
ASAR	**Alice Springs**	**132.45**	**210**	PKP		**PKPdf**	**16 07 24.0**	**-0.5**
WRA	**Warramunga Arr**	**135.35**	**214**	PKP		**PKPdf**	**16 07 30.2**	**+0.3**
	comp=E,0.7nm,0.8s,baz=137,slow=1.5,SNR=9.5								
WRA				pPKP		**pPKPdf**	**16 07 57.5**	**+0.3**
	comp=E,0.1nm,0.4s,baz=141,slow=1.6,SNR=1.6								
WRA	**Warramunga Arr**	**135.35**	**214**	PKP		**PKPdf**	**16 07 30.2**	**+0.3**
WRA				pPKP		**pPKPdf**	**16 07 57.5**	**+0.3**
WRAB	**Tennant Creek**	**135.35**	**214**	*e*PKPdf		**PKPdf**	**16 07 28.7**	**-1.3**
ZALV	**Zalesovo Beam**	**139.20**	**23**	PKP		**PKPdf**	**16 07 36.4**	**+0.4**
	comp=E,0.3nm,0.5s,baz=350,slow=6.0,SNR=3.9								
ZALV	**Zalesovo Beam**	**139.20**	**23**	PKP		**PKPdf**	**16 07 36.4**	**+0.4**
SONM	**Songino Array**	**150.10**	**5**	PKPbc		**PKPbc**	**16 08 00.9**	**+0.7**
SONM				pPKPbc		**pPKPbc**	**16 08 27.4**	**+0.2**
	comp=E,0.4nm,0.6s,baz=338,slow=1.4,SNR=4.8								
SONM	**Songino Array**	**150.10**	**5**	PKPbc		**PKPbc**	**16 08 00.9**	**+0.7**
SONM				pPKPbc		**pPKPbc**	**16 08 27.4**	**+0.2**
	comp=E,0.2nm,0.5s,baz=284,slow=2.9,SNR=2.4								

IDC 30 15:49:01.3±4.7, 21°80S×175°44W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=175.5km s-min=31.8km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.58**	**25**	Pn	Pn	15 51 05.6	-1.4
	1.3nm,0.3s,baz=187,slow=14,SNR=3.0						
AFI				Sn	Sn	15 52 32.3	-12
	1.0nm,0.3s,baz=180,slow=18,SNR=2.2						
ASAR	**Alice Springs**	**46.56**	**258**	P	P	15 57 30.6	-0.6
	1.1nm,0.7s,baz=105,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**46.80**	**263**	P	P	15 57 32.5	-0.5
	1.0nm,0.7s,baz=101,slow=8.1,SNR=16						
CMAR	**Chiang Mai Arr**	**92.80**	**289**	P	P	16 02 17.4	+1.1
	0.6nm,0.8s,baz=132,slow=2.5,SNR=5.6						
AKASG	**Malin Array Be**	**145.29**	**332**	PKPbc	PKPbc	16 08 40.2	-0.3
	0.8nm,0.4s,baz=43,slow=4.0,SNR=5.2						
BRTR	**Keskin Array B**	**149.48**	**312**	PKPbc	PKPbc	16 08 52.2	-0.7
	0.4nm,0.6s,baz=126,slow=2.5,SNR=4.1						

*ISCJB **30** 15:54:07.9±0.7, 38°.72N±0°.03×22°.43E±0°.05, h30km±5km, Error ellipse: s-maj=6.0km s-min=5.6km az=20.2*
*ATH **30** 15:54:07.3, 38°.72N×22°.41E, h35km±2km, MD2.8/8*
*THE **30** 15:54:08.4, 38°.71N×22°.45E, h20km±3km, ML1.8/3, Error ellipse: s-maj=3.9km s-min=0.5km az=83.0*
*CSEM **30** 15:54:08.4±0.2, 38°.70N×22°.43E, h15km, ML1.8/3, Error ellipse: s-maj=3.6km s-min=3.1km az=110.0*

ISC 30 15:54:08.2±1.0, 38°.71N±0°.02×22°.43E±0°.03, h19km±2km, n28, σ0°.73/49, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AXAR	**Agios Charalam**	**0.19**	**72**	P	**Pg**	**15 54 13.6**	**+0.5**
AXAR				S	**Sg**	**15 54 16.9**	**+0.5**
AXAR	**Agios Charalam**	**0.19**	**72**	P	**Pg**	**15 54 13.6**	**+0.5**
AXAR				S	**Sg**	**15 54 16.9**	**+0.5**
DSF	**Desfina**	**0.31**	**166**	P	**Pg**	**15 54 15.0**	**0.0**
DSF				S	**Sg**	**15 54 19.8**	**+0.3**
DSF	**Desfina**	**0.31**	**166**	P	**Pg**	**15 54 15.0**	**0.0**
DSF				S	**Sg**	**15 54 19.8**	**+0.3**
AGG	**Agios Georgios**	**0.32**	**346**	P	**Pg**	**15 54 15.5**	**+0.2**
AGG				S	**Sg**	**15 54 20.0**	**0.0**
AGG	**Agios Georgios**	**0.32**	**346**	*e*PB	**Pg**	**15 54 15.3**	**0.0**
AGG				*e*SB	**Sb**	**15 54 21.5**	**+1.1**
AGG	**Agios Georgios**	**0.32**	**346**	*e*Pb	**Pg**	**15 54 15.3**	**0.0**
AGG				S	**Sg**	**15 54 20.0**	**0.0**
AGG				*e*Sb	**Sb**	**15 54 21.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.38**	**323**	P	**Pg**	**15 54 16.6**	**+0.3**
MAKR				S	**Sb**	**15 54 22.7**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.38**	**323**	P	**Pg**	**15 54 16.6**	**+0.3**
MAKR				S	**Sb**	**15 54 22.7**	**+0.5**
KALE	**Kalithea**	**0.39**	**216**	P	**Pg**	**15 54 16.5**	**+0.1**
KALE				S	**Sb**	**15 54 23.1**	**+0.7**
KALE	**Kalithea**	**0.39**	**216**	*e*PB	**Pg**	**15 54 16.4**	**+0.1**
KALE				*e*SB	**Sb**	**15 54 23.2**	**+0.8**
KALE	**Kalithea**	**0.39**	**216**	P	**Pg**	**15 54 16.5**	**+0.1**
KALE				S	**Sb**	**15 54 23.1**	**+0.7**
TRIZ	**Trizonia**	**0.44**	**220**	P	**Pg**	**15 54 17.2**	**-0.1**
TRIZ				S	**Sb**	**15 54 24.8**	**+1.0**
TRIZ	**Trizonia**	**0.44**	**220**	*e*PB	**Pg**	**15 54 16.8**	**-0.5**
TRIZ				*e*SB	**Sb**	**15 54 24.9**	**+1.1**
TRIZ	**Trizonia**	**0.44**	**220**	*e*Pb	**Pg**	**15 54 16.8**	**-0.5**
TRIZ	**Trizonia**	**0.44**	**220**	P	**Pg**	**15 54 17.2**	**-0.1**
TRIZ				S	**Sb**	**15 54 24.8**	**+1.0**
LKR	**Lokris**	**0.45**	**97**	*e*PB	**Pb**	**15 54 18.0**	**+0.4**
LKR				*e*SB	**Sn**	**15 54 25.5**	**-1.8**
LKR	**Lokris**	**0.45**	**97**	*e*Pb	**Pb**	**15 54 18.0**	**+0.4**
LKR				*e*Sb	**Sn**	**15 54 25.5**	**-1.8**
EFP	**Efpalio**	**0.50**	**236**	P	**Pb**	**15 54 18.4**	**0.0**
EFP				S	**Sg**	**15 54 26.4**	**+1.4**
EFP	**Efpalio**	**0.50**	**236**	*e*PB	**Pb**	**15 54 17.9**	**-0.5**
EFP				*e*SB	**Sg**	**15 54 26.6**	**+1.6**
EFP	**Efpalio**	**0.50**	**236**	*e*Pb	**Pb**	**15 54 17.9**	**-0.5**
EFP	**Efpalio**	**0.50**	**236**	P	**Pb**	**15 54 18.4**	**0.0**
EFP				S	**Sg**	**15 54 26.4**	**+1.4**
EVR	**Evrytania**	**0.53**	**293**	*e*PN	**Pb**	**15 54 18.5**	**-0.5**
EVR	**Evrytania**	**0.53**	**293**	*e*Pn	**Pb**	**15 54 18.5**	**-0.5**
LAKA	**Lakka**	**0.59**	**217**	*e*PN	**Pb**	**15 54 19.5**	**-0.4**
LAKA	**Lakka**	**0.59**	**217**	*e*Pn	**Pb**	**15 54 19.5**	**-0.4**
LTK	**Loutraki**	**0.80**	**148**	*e*PN	**Pn**	**15 54 24.3**	**-0.3**
LTK	**Loutraki**	**0.80**	**148**	*e*Pn	**Pn**	**15 54 24.3**	**-0.3**

NEIC 30 15:55:34.3, 52°.00N×174°.05W, h8km, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.22**	**336**	P	Pg	15 55 38.6	-0.2
ATKA				S	Sg	15 55 44.5	+2.6
KOFP	**Korovin Flat P**	**0.28**	**354**	P	Pg	15 55 40.5	+0.5
KOKL	**Mount Kliuchef**	**0.34**	**344**	P	Pg	15 55 41.5	+0.4
KOSE	**Korovin Southe**	**0.35**	**0**	P	Pg	15 55 41.3	+0.1
GSTD	**Great Sitkin T**	**1.30**	**273**	P	Pn	15 55 56.3	-2.5
GSTD				S	Sb	15 56 14.4	-1.5
GSCK	**Great Sitkin C**	**1.31**	**271**	P	Pn	15 55 56.2	-2.6
ADAG	**Mount Adagdak**	**1.58**	**270**	P	Pn	15 56 00.9	-1.6
KIKV	**Kanaga Island**	**1.94**	**268**	P	Pn	15 56 05.9	-1.5
KIMD	**Kanaga Island**	**1.99**	**264**	P	Pn	15 56 06.5	-1.6
TASE	**Tanaga Southea**	**2.48**	**268**	P	Pn	15 56 13.9	-1.1
TANO	**Tanaga North**	**2.52**	**270**	P	Pn	15 56 14.0	-1.5
AMKA	**Amchitka**	**4.18**	**264**	P	Pn	15 56 36.6	-1.7

*DDA **30** 15:57:32.9, 39°.35N×36°.72E, h7km, MD2.8*
*ISK **30** 15:57:33.4, 39°.34N×36°.70E, h8km, MD2.7*
*CSEM **30** 15:57:33.6±0.3, 39°.37N×36°.70E, h2km, MD2.8, Error ellipse: s-maj=9.3km s-min=5.7km az=162.0*

ISC 30 15:57:34.0±1.1, 39°.36N±0°.04×36°.69E±0°.03, h12km±11km, n19, σ0°.49/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINB	**Pinarbasi**	**0.72**	**198**	*e*P	Pg	15 57 44.2	-3.8
PINB				*e*S	**Sg**	**15 57 57.6**	**+0.2**
BNN	**Bunyan**	**0.83**	**233**	*e*PG	**Sg**	**15 57 49.8**	**-0.3**
BNN				*e*SG	**Sg**	**15 58 01.4**	**+0.5**
BNN	**Bunyan**	**0.83**	**233**	*e*Pg	**Pg**	**15 57 49.8**	**-0.3**
BNN				*e*Sg	**Sg**	**15 58 01.4**	**+0.5**
DARE	**Darende-Malaty**	**0.96**	**115**	*e*PG	**Pg**	**15 57 52.7**	**+0.2**
DARE	**Darende-Malaty**	**0.96**	**115**	*e*Pg	**Pg**	**15 57 52.7**	**+0.2**
YOZ	**Yozgat**	**1.10**	**285**	*e*PN	**Pb**	**15 57 54.1**	**-0.9**
YOZ				*e*SN	**Sn**	**15 58 11.2**	**+0.8**
YOZ	**Yozgat**	**1.10**	**285**	*e*Pn	**Pb**	**15 57 54.1**	**-0.9**
RSDY	**Resadiye-TOKAT**	**1.15**	**25**	*e*PN	**Pg**	**15 57 56.2**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.15**	**25**	*e*Pn	**Pg**	**15 57 56.2**	**+0.1**
KEMA	**Kemaliye**	**1.40**	**93**	*e*P	**Pn**	**15 57 58.9**	**-0.5**
KEMA				*e*S	**Sg**	**15 58 18.9**	**-0.2**
KEMA	**Kemaliye**	**1.40**	**93**	*e*P	**Pn**	**15 57 58.9**	**-0.5**
KEMA				*e*S	**Sg**	**15 58 18.9**	**-0.2**
SUSE	**Susehri**	**1.44**	**53**	*e*P	**Pb**	**15 58 00.6**	**-0.3**
SUSE				*e*S	**Sb**	**15 58 19.7**	**+0.5**
SUSE	**Susehri**	**1.44**	**53**	*e*P	**Pb**	**15 58 00.6**	**-0.3**
SUSE				*e*S	**Sb**	**15 58 19.7**	**+0.5**
AVNT	**Avonos**	**1.54**	**249**	*e*P	**Pb**	**15 58 02.7**	**+0.1**
AVNT				*e*S	**Sg**	**15 58 23.9**	**+0.2**
AVNT	**Avonos**	**1.54**	**249**	*e*P	**Pb**	**15 58 02.7**	**+0.1**
AVNT				*e*S	**Sg**	**15 58 23.9**	**+0.2**
CORM	**Corum**	**1.79**	**298**	*e*PN	**Pb**	**15 58 05.9**	**-0.9**
CORM	**Corum**	**1.79**	**298**	*e*Pn	**Pb**	**15 58 05.9**	**-0.9**
CTKT	**Corum**	**1.93**	**311**	*e*P	**Pb**	**15 58 09.3**	**+0.1**
CTKT				*e*S	**Sg**	**15 58 36.8**	**+0.6**
CTKT	**Corum**	**1.93**	**311**	*e*P	**Pb**	**15 58 09.3**	**+0.1**

*IDC **30** 16:04:59.9±0.9, 51°.35N×178°.26W, h0km, mb3.4/8, mb1 3.9/9, mb1mx3.6/29, mbtmp3.5/9, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/35, Error ellipse: s-maj=39.5km s-min=17.8km az=151.0*
*ISCJB **30** 16:05:05.7±0.6, 51°.26N±0°.08×178°.01W±0°.04, h45km, mb3.4/8, Error ellipse: s-maj=11.4km s-min=3.8km az=173.9*
*NEIC **30** 16:05:07.2±0.7, 51°.35N×178°.04W, h47km±6km, mb3.3/1, ML3.9(AEIC), Error ellipse: s-maj=14.2km s-min=4.0km az=175.0*

ISC 30 16:05:06.7±0.8, 51°.39N±0°.10×178°.03W±0°.03, h45km, n44, σ1°.21/50, mb3.4/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TASE	**Tanaga Southea**	**0.44**	**360**	P	**Pn**	**16 05 17.8**	**+0.8**
GAKI	**Gareloi-Kavalg**	**0.52**	**289**	P	**Pn**	**16 05 18.4**	**+0.6**
TANO	**Tanaga North**	**0.53**	**354**	P	**Pn**	**16 05 17.8**	**-0.2**
GALAA	**Gareloi Lava P**	**0.59**	**309**	P	**Pn**	**16 05 19.6**	**+0.8**
GAEA	**Gareloi East**	**0.59**	**311**	P	**Pn**	**16 05 19.7**	**+0.8**
KIMD	**Kanaga Island**	**0.62**	**53**	P	**Pn**	**16 05 19.0**	**-0.2**
GANE	**Gareloi Northe**	**0.63**	**313**	P	**Pn**	**16 05 19.6**	**+0.3**
KIKV	**Kanaga Island**	**0.72**	**47**	P	**Pn**	**16 05 20.8**	**+0.2**
ADAG	**Mount Adagdak**	**1.07**	**56**	P	**Pn**	**16 05 26.0**	**+0.8**
GSCK	**Great Sitkin C**	**1.32**	**61**	P	**Pn**	**16 05 29.1**	**+0.5**
GSTD	**Great Sitkin T**	**1.35**	**60**	P	**Pn**	**16 05 29.7**	**+0.6**
GSTD				S	**Sn**	**16 05 46.8**	**+0.9**
CERAA	**Semis' Rag'd T**	**1.51**	**291**	P	**Pn**	**16 05 32.1**	**+0.8**
CESW	**Semis' Southwe**	**1.58**	**290**	P	**Pn**	**16 05 32.8**	**+0.6**
CEAP	**Semis' Anvil P**	**1.61**	**293**	P	**Pn**	**16 05 34.2**	**+1.6**
AMKA	**Amchitka**	**1.67**	**271**	P	**Pn**	**16 05 33.2**	**-0.2**
AMKA				S	**Sn**	**16 05 53.9**	**+0.2**
LSSE	**Little Sitkin**	**2.19**	**286**	P	**Pn**	**16 05 41.7**	**+1.2**
LSSA	**Little Sitkin**	**2.22**	**286**	P	**Pn**	**16 05 42.3**	**+1.2**
LSNW	**Little Sitkin**	**2.23**	**286**	P	**Pn**	**16 05 42.6**	**+1.5**
ATKA	**Atka Island**	**2.52**	**70**	P	**Pn**	**16 05 45.0**	**-0.1**
ATKA				S	**Sn**	**16 06 15.8**	**+1.4**
KOKL	**Mount Kliuchef**	**2.55**	**67**	P	**Pn**	**16 05 47.8**	**+2.2**
KOFP	**Korovin Flat P**	**2.59**	**69**	P	**Pn**	**16 05 47.7**	**+1.6**
KOSE	**Korovin Southe**	**2.65**	**67**	P	**Pn**	**16 05 49.5**	**+2.7**
FX1	**Attu Island--F**	**5.62**	**289**	Pn	**Pn**	**16 06 28.4**	**+0.7**
	2.7nm,0.3s,baz=328,slow=18,SNR=19						
FX1				Sn	**Sn**	**16 07 31.4**	**+0.5**
	1.7nm,0.3s,baz=78,slow=23,SNR=2.8						
FX1	**Attu Island--F**	**5.62**	**289**	Pn	**Pn**	**16 06 28.4**	**+0.7**
FX1				Sn	**Sn**	**16 07 31.4**	**+0.5**
PETK	**Petropavlovsk-**	**14.95**	**286**	LR	LR	16 14 10.8	
	comp=Z,34nm,18.9s,baz=71,slow=37						
KDAK	**Kodiak Island**	**16.01**	**57**	Pn	**Pn**	**16 08 45.5**	**-3.0**
	0.6nm,0.3s,baz=205,slow=23,SNR=12						
KDAK				Sn	**Sn**	**16 11 43.1**	**-1.6**
	0.0nm,0.3s,baz=326,slow=16,SNR=2.5						
KDAK	**Kodiak Island**	**16.01**	**57**	Pn	**Pn**	**16 08 45.5**	**-3.0**
KDAK				Sn	**Sn**	**16 11 43.1**	**-1.6**
BILL	**Bilibino**	**18.37**	**341**	*e*P	**Pn**	**16 09 19.5**	**+1.8**
	1.7nm,0.7s						
ILAR	**Eielson Array**	**20.93**	**38**	P	**P**	**16 09 46.5**	**+1.3**
	0.1nm,0.3s,baz=239,slow=9.3,SNR=7.7						
ILAR	**Eielson Array**	**20.93**	**38**	P	**P**	**16 09 46.5**	**+1.3**
YKA	**Yellowknife Ar**	**34.87**	**47**	P	**P**	**16 11 53.2**	**+0.1**
	0.1nm,0.3s,baz=282,slow=8.3,SNR=5.2						
YKA	**Yellowknife Ar**	**34.87**	**47**	P	**P**	**16 11 53.2**	**+0.1**
NVAR	**Mina Array Bea**	**43.07**	**83**	P	**P**	**16 13 03.3**	**+1.1**
	0.6nm,0.7s,baz=302,slow=8.5,SNR=3.5						
NVAR	**Mina Array Bea**	**43.07**	**83**	P	**P**	**16 13 03.3**	**+1.1**
PDAR	**Pinedale Array**	**45.84**	**73**	P	**P**	**16 13 24.9**	**+0.5**
	1.3nm,0.6s,baz=299,slow=3.2,SNR=11						
PDAR	**Pinedale Array**	**45.84**	**73**	P	**P**	**16 13 24.9**	**+0.5**
TXAR	**Lajitas Array**	**58.17**	**82**	P	**P**	**16 14 56.0**	**0.0**
	0.4nm,0.6s,baz=318,slow=4.9,SNR=4.8						
TXAR	**Lajitas Array**	**58.17**	**82**	P	**P**	**16 14 56.0**	**0.0**
MKAR	**Makanchi Array**	**60.40**	**309**	P	**P**	**16 15 09.9**	**-1.2**
	0.1nm,0.3s,baz=48,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**60.40**	**309**	P	**P**	**16 15 09.9**	**-1.2**
WRA	**Warramunga Arr**	**82.36**	**225**	P	**P**	**16 17 22.5**	**-1.1**
	0.2nm,0.5s,baz=31,slow=5.5,SNR=3.9						
WRA	**Warramunga Arr**	**82.36**	**225**	P	**P**	**16 17 22.5**	**-1.1**
ASAR	**Alice Springs**	**85.83**	**223**	P	**P**	**16 17 41.1**	**-0.1**
	0.4nm,0.7s,baz=23,slow=5.7,SNR=7.6						
ASAR	**Alice Springs**	**85.83**	**223**	P	**P**	**16 17 41.1**	**-0.1**

IDC 30 16:05:15.6±2.9, 20°.86S×179°.85W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=284.9km s-min=34.6km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.75**	**257**	P	P	16 13 13.9	-1.1
	0.2nm,0.5s,baz=93,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**42.84**	**263**	P	P	16 13 16.5	+0.7
	0.5nm,0.3s,baz=96,slow=8.5,SNR=41						
TXAR	**Lajitas Array**	**88.71**	**58**	P	P	16 18 11.4	0.0
	0.4nm,0.6s,baz=209,slow=7.0,SNR=4.0						

*TAP **30** 16:11:25.0, 24°.05N×121°.97E, h52km±1km, ML2.9, D*
*ISCJB **30** 16:11:25.3±0.4, 24°.05N±0°.04×122°.03E±0°.03, h49km±11km, Error ellipse: s-maj=6.9km s-min=4.0km az=151.2*
*JMA **30** 16:11:29.1±0.3, 24°.62N×122°.28E, h54km, M2.4*

ISC 30 16:11:25.7±1.3, 24°.07N±0°.04×122°.01E±0°.04, h46km±16km, n37, σ1°.06/45, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.38**	**272**	*e*P	**Pn**	**16 11 35.2**	**0.0**
	baz=274						
TWD				*e*S	**Sn**	**16 11 42.3**	**+0.3**
	baz=274						
ENA	**Nanau**	**0.43**	**326**	⇓*i*P	**Pn**	**16 11 35.9**	**0.0**
	baz=331						
TWC	**Suao**	**0.56**	**345**	P	**Pn**	**16 11 37.7**	**+0.2**
	baz=349						
TWC				*e*S	**Sn**	**16 11 47.6**	**+1.6**
	baz=349						
ESL	**Shilin**	**0.58**	**245**	*e*P	**Pn**	**16 11 37.1**	**-0.7**
	baz=243						
WHF	**Hehuan Shan**	**0.68**	**277**	*e*P	**Pn**	**16 11 38.7**	**-0.8**
	baz=278						
NNS	**Nan Shan**	**0.69**	**303**	*e*P	**Pn**	**16 11 39.0**	**-0.3**
	baz=305						
ENTT	**Nioudou**	**0.70**	**325**	*e*P	**Pn**	**16 11 38.9**	**-0.4**
	baz=327						
TWE	**Neicheng**	**0.72**	**335**	⇓*i*P	**Pn**	**16 11 39.5**	**-0.1**
	baz=338						
EHY	**Hungye**	**0.84**	**229**	*e*P	**Pn**	**16 11 40.9**	**-0.2**
	baz=227						
NSK	**Sanguang**	**0.85**	**316**	*e*P	**Pn**	**16 11 41.0**	**-0.4**
	baz=318						
TWB1	**Santiao Chiao**	**0.94**	**359**	*e*P	**Pn**	**16 11 42.9**	**+0.4**
	baz=1.0						
TWB1				*e*S	**Sn**	**16 11 57.1**	**+2.2**
	baz=1.0						
TWF1	**Yuli**	**0.96**	**223**	*e*P	**Pn**	**16 11 42.2**	**-0.6**
	baz=221						
YOJ	**Yonaguni jima**	**1.00**	**66**	P	**Pn**	**16 11 42.9**	**-0.4**
YOJ				*e*S	**Sn**	**16 11 53.0**	**-3.3**
NWF	**Wu-fen Shan**	**1.02**	**348**	*e*P	**Pn**	**16 11 43.7**	**0.0**
	baz=350						
SMLT	**Sun Moon Lake**	**1.03**	**260**	*e*P	**Pn**	**16 11 43.7**	**-0.1**
	baz=260						
TYC	**Yuchr**	**1.06**	**262**	*e*P	**Pn**	**16 11 44.1**	**-0.1**
	baz=261						
NSTT	**Nanjuang**	**1.08**	**302**	*e*P	**Pn**	**16 11 44.5**	**+0.2**
	baz=303						
CHKT	**Chengkung**	**1.13**	**212**	*e*P	**Pn**	**16 11 44.7**	**-0.4**
	baz=210						
TWQ1	**Liyutan**	**1.16**	**284**	*e*P	**Pn**	**16 11 45.2**	**-0.3**
	baz=285						
TWS1	**Kuangyinshan**	**1.16**	**333**	*e*P	**Pn**	**16 11 44.2**	**-1.3**
	baz=334						
ALS	**Alishan**	**1.23**	**244**	*e*P	**Pn**	**16 11 46.5**	**-0.2**
	baz=243						
ELDTW	**Lidau**	**1.26**	**226**	*e*P	**Pn**	**16 11 46.8**	**-0.2**
	baz=225						
CHN5	**Tsauling**	**1.30**	**249**	*e*P	**Pn**	**16 11 47.6**	**+0.1**
	baz=249						
CHN4	**Tsaushan**	**1.48**	**242**	*e*P	**Pn**	**16 11 50.7**	**+0.8**
	baz=241						
TWG	**Pinlang**	**1.51**	**215**	*e*P	**Pn**	**16 11 50.5**	**+0.2**
	baz=213						
WTP	**Ta-pu**	**1.52**	**238**	*e*P	**Pn**	**16 11 50.9**	**+0.5**
	baz=236						
IRIF	**Iriomote-Funau**	**1.60**	**80**	P	**Pn**	**16 11 52.1**	**+0.6**
IRIF				*e*S	**Sn**	**16 12 08.6**	**-2.3**
CHN1	**Nanshi**	**1.61**	**237**	*e*P	**Pn**	**16 11 52.1**	**+0.3**
	baz=236						
SGST	**Jiashian**	**1.63**	**233**	*e*P	**Pn**	**16 11 52.5**	**+0.5**
	baz=232						
HATJ	**Hateruma jima**	**1.64**	**90**	P	**Pn**	**16 11 54.2**	**+2.1**
HATJ				S	**Sn**	**16 12 13.0**	**+0.9**
ECL	**Taimali**	**1.75**	**214**	*e*P	**Pn**	**16 11 54.2**	**+0.6**
	baz=212						
SSD	**Sandimen**	**1.82**	**224**	*e*P	**Pn**	**16 11 55.8**	**+1.2**
	baz=223						
JKRS	**Kuro-shima**	**1.84**	**84**	P	**Pn**	**16 11 56.3**	**+1.5**
JKRS				*e*S	**Sn**	**16 12 16.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.97**	**81**	P	**Pn**	**16 11 56.7**	**+0.1**
JIJ				*e*S	**Sn**	**16 12 17.8**	**-2.4**
EAST	**Anshuo**	**1.98**	**213**	*e*P	**Pn**	**16 11 57.1**	**+0.2**
	baz=211						
LAY	**Lan-yu**	**2.06**	**192**	*e*P	**Pn**	**16 11 58.3**	**+0.4**

SNR=39
DDI Dehra Dun 8.08 135 *e*P **Pn 16 40 29.0 0.0**
DDI *ex* x 16 42 00.0
KHET Khetri 8.93 154 *e*P **Pn 16 40 40.5 0.0**
KHET *e*S **Sn 16 42 14.5 -4.7**
KHET AML AML 16 42 19.5
comp=N,42nm,0.3s
KHET AML AML 16 42 19.7
comp=E,42nm,0.5s
NDI New Delhi 8.96 145 *e*P **Pn 16 40 42.0 +1.1**
NDI *e*S **Sn 16 42 18.0 -2.1**
KUDL Kundal 9.12 151 *e*P **Pn 16 40 43.5 +0.6**
KUDL *e*S **Sn 16 42 18.1 -5.7**
KUDL AML AML 16 42 23.8
comp=E,32nm,0.4s
KUDL AML AML 16 42 27.9
comp=N,19nm,0.2s
SONA Sohna 9.28 147 *e*P **Pn 16 40 45.6 +0.6**
SONA *e*S **Sn 16 42 23.1 -4.5**
SONA AML AML 16 42 30.1
comp=N,25nm,0.3s
SONA AML AML 16 42 30.5
comp=E,34nm,0.3s
LGTI Lohaghat 10.02 130 *e*P Pn 16 41 01.2 +6.1
LGTI *e*S **Sn 16 42 46.7 +1.0**
AJM Ajmer 10.09 163 *e*P **Pn 16 40 57.0 +0.8**
AJM *i* x x 16 42 44.0
AGRA Agra 10.54 147 *e*P **Pn 16 41 01.7 -0.4**
AGRA *e*S **Sn 16 42 52.5 -5.6**
AGRA AML AML 16 43 43.4
comp=N,95nm,0.3s
AGRA AML AML 16 43 46.5
comp=E,59nm,0.4s
PYUN Piuthan 12.70 126 *e*P **Pn 16 41 30.4 -0.5**
comp=E,20nm,0.2s
PYUN *e*S Sn 16 43 43.5 -7.3
DANN Dangsing 13.04 124 *e*P **Pn 16 41 35.1 -0.4**
MK31 Makanchi Array 13.31 34 P **Pn 16 41 38.3 -0.3**
comp=E,0.7nm,0.4s,baz=218,slow=13,SNR=35
MKAR Makanchi Array 13.31 34 P **Pn 16 41 38.8 +0.2**
comp=E,0.2nm,0.3s,baz=220,slow=11,SNR=16
MKAR Makanchi Array 13.31 34 P **Pn 16 41 38.8 +0.2**
KOLN Koldanda 13.32 126 *e*P **Pn 16 41 38.7 -0.2**
DMN Daman 14.43 123 *e*P **Pn 16 41 53.1 -0.2**
comp=E,43nm,0.6s
KKN Kakani 14.43 122 *e*P **Pn 16 41 52.6 -0.7**
comp=E,70nm,0.5s
KKN *e*S Sn 16 44 23.9 -8.9
PKIN Phulchoki 14.65 122 *e*P **Pn 16 41 55.8 -0.2**
PKI Pulchoki 14.66 122 *e*P **Pn 16 41 55.6 -0.7**
GUN Gumba 14.77 120 *e*P **Pn 16 41 57.1 -0.6**
comp=E,46nm,0.5s
KURK Kurchatov 15.38 17 *e*P **P 16 42 07.5 +0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
AB31 Akbulak array 15.50 331 ⇓P **Pn 16 42 02.2 -4.0**
comp=Z,11nm,0.5s,baz=141,slow=12,SNR=241
AB31 ⇓S Sn 16 44 43.6 -14
comp=Z,12nm,0.6s,baz=151,slow=23,SNR=13
RAMN Ramite 15.87 121 *e*P **Pn 16 42 10.9 -0.4**
comp=Z,79nm,0.7s
TAPN Taplejung 16.41 118 *e*P **Pn 16 42 17.8 -0.2**
comp=Z,145nm,0.7s
ODAN Odare 16.48 120 *e*P **Pn 16 42 18.9 +0.1**
comp=Z,51nm,0.6s
VOSK Vostochnaya 16.50 359 ⇑P **Pn 16 42 15.0 -3.6**
comp=Z,4.5nm,0.7s
ZRNK Zerenda 16.81 355 ⇑P **Pn 16 42 20.7 -1.7**
comp=Z,7.3nm,0.7s
BVA0 Borovoye Array 16.82 358 P **Pn 16 42 21.8 -0.7**
comp=Z,1.1nm,1.2s,baz=176,slow=15,SNR=14
BVAR Borovoye Array 16.82 358 P **Pn 16 42 21.2 -1.3**
comp=Z,1.2nm,0.3s,baz=166,slow=12,SNR=15
BVAR S Sn 16 45 21.8 -7.6
comp=Z,0.4nm,0.3s,baz=166,slow=24,SNR=5.8
BVAR Borovoye Array 16.82 358 P **Pn 16 42 21.2 -1.3**
BVAR S Sn 16 45 21.8 -7.6
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 16.85 358 *e*P **P 16 42 24.1 +1.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 17.20 330 P **Pn 16 42 25.9 -1.2**
comp=Z,1.2nm,0.3s,baz=143,slow=13,SNR=39
AKTO S Sn 16 45 27.7 -11
comp=Z,0.8nm,0.3s,baz=34,slow=23,SNR=6.4
AKTO Aktyubinsk 17.20 330 ⇑P **Pn 16 42 25.9 -1.2**
comp=Z,5.8nm,1.2s
AKTO Aktyubinsk 17.20 330 P **P 16 42 25.9 -1.2**
AKTO S Sn 16 45 27.7 -11
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
ZALV Zalesovo Beam 20.02 24 P **P 16 42 58.7 +1.1**
comp=N,4.2nm,0.4s,baz=209,slow=9.9,SNR=32
ZALV Zalesovo Beam 20.02 24 P **P 16 42 58.7 +1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
NVS Novosibirsk 20.32 20 *e*P **P 16 43 01.5 +0.8**
NVS pmax pmax
comp=Z,8.0nm,0.7s
NVS pmax pmax
comp=N,4.0nm,0.8s
SVE Sverdlovsk 21.86 344⇈ *e*P **P 16 43 18.1 +0.9**
SVE pmax pmax
comp=Z,15nm,1.2s
ARU Arti 22.01 341 *c i*P **P 16 43 19.2 +0.4**
ARU 16 43 40.7
ARU S S 16 47 21.4 +7.7
ARU pmax pmax
comp=Z,36nm,1.2s
ZEI Tsey 22.18 296 *e*P **P 16 43 23.6 +2.7**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 23.04 298 P **P 16 43 28.6 -0.4**
comp=Z,3.6nm,0.9s,baz=109,slow=7.1,SNR=13
KBZ Khabaz 23.04 298 P **P 16 43 28.7 -0.4**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 23.23 298 *e*P **P 16 43 27.0 -4.0**
KIV *e*S **S 16 47 34.8 +0.9**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,18nm,14.0s
VRHR Novokhopersk 25.97 314 *e*P **P 16 43 56.6 +1.0**
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=E,2.0nm,0.4s
VRHR pmax pmax
comp=Z,3.0nm,0.4s
ZAK Zakamensk 26.91 48 *e*P P 16 44 13.1 +8.9
ZAK pmax pmax
comp=Z,1.0nm,1.4s
VORD Divnogorie 27.29 313 *e*P **P 16 44 07.7 +0.3**
VORD pmax pmax
comp=Z,2.0nm,0.4s
VORD pmax pmax
comp=N,1.0nm,0.2s
VORD pmax pmax
comp=E,3.0nm,0.4s
VSR Storozhevoye 27.45 313 *e*P **P 16 44 08.6 -0.3**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,4.0nm,0.6s
SONM Songino Array 28.20 55 P P 16 44 19.3 +3.4
comp=E,0.3nm,0.6s,baz=278,slow=9.6,SNR=4.1
CMAR Chiang Mai Arr 30.01 119 P P 16 44 36.5 +4.5
comp=E,0.7nm,0.7s,baz=296,slow=8.2,SNR=8.4
AKASG Malin Array Be 33.39 309 P **P 16 45 01.5 +0.3**
comp=E,2.8nm,0.5s,baz=80,slow=7.5,SNR=13
AKASG Malin Array Be 33.39 309 P **P 16 45 01.5 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 36.28 330 *e*P **P 16 45 25.8 -0.1**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 36.28 330 *ep* **P 16 45 25.8 -0.1**
comp=Z,4.2nm,0.6s
FINES FINESS Array B 37.91 326 P **P 16 45 40.2 +0.6**
comp=Z,1.9nm,0.7s,baz=121,slow=9.6,SNR=10.0

ARCES ARCESS Array B 41.53 338 P **P 16 46 10.6 +1.0**
comp=Z,2.5nm,0.6s,baz=111,slow=7.7,SNR=12
BRG Berggiesshubel 43.07 309 *e*(P) P 16 46 24.3 +2.0
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 43.07 309 *e*P P 16 46 24.3 +2.0
BRG pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 43.38 306 PP PP 16 48 14.0 +6.1
comp=Z,0.8nm,0.9s,baz=79,slow=6.9,SNR=4.0
NB2 NORSAR Subarra 44.81 323 P **P 16 46 35.9 -0.2**
comp=Z,2.4nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.81 323 P **P 16 46 36.2 +0.2**
comp=Z,3.4nm,0.7s,baz=96,slow=7.8,SNR=12
TGY Tagaytay City 49.31 103 LR LR 17 12 11.1
comp=Z,3.3nm,18.6s,baz=286,slow=41
TORD Torodi Ar. Bea 66.06 269 P **P 16 49 07.2 -1.6**
comp=Z,1.4nm,0.7s,baz=47,slow=5.8,SNR=10
ILAR Eielson Array 74.95 16 P **P 16 50 03.3 +1.3**
comp=Z,0.5nm,0.9s,baz=319,slow=5.6,SNR=5.8
BOSA Boshof 77.76 220 P **P 16 50 19.3 +0.9**
comp=Z,4.0nm,0.9s,baz=343,slow=3.8,SNR=4.8
YKA Yellowknife Ar 81.50 3 P **P 16 50 39.3 +1.3**
comp=Z,1.0nm,0.7s,baz=349,slow=5.6,SNR=16
WRA Warramunga Arr 81.55 122 P **P 16 50 40.3 +1.4**
comp=Z,0.3nm,0.6s,baz=325,slow=4.9,SNR=5.3
ASAR Alice Springs 83.81 125 P **P 16 50 52.2 +1.6**
comp=Z,0.5nm,0.7s,baz=315,slow=4.8,SNR=6.9

IDC 30 16:41:49.4±1.7, 5.67S×122.62E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=56.9km s-min=22.5km az=40.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.93**	**283**	Pn	Pn	16 42 37.3	0.0
	3.7nm,0.3s,baz=138,slow=6.6,SNR=24						
KAPI				Sn	Sn	16 43 13.2	0.0
	4.0nm,0.3s,baz=222,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**18.20**	**142**	P	Pn	16 46 02.5	-1.3
	0.1nm,0.3s,baz=316,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**20.94**	**150**	P	P	16 46 34.6	+0.6
	0.9nm,0.8s,baz=329,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**63.26**	**330**	P	P	16 52 19.9	+0.1
	0.3nm,0.6s,baz=137,slow=7.8,SNR=4.2						

*SZGRF **30** 16:49:47.5, 20.51S×169.52E, h33km, mb5.2, Vanuatu Islands*
*IDC **30** 16:49:49.7±0.7, 18.03S×168.22E, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, ML4.1/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/36, Error ellipse: s-maj=22.8km s-min=15.8km az=125.0*
*AUST **30** 16:49:53.9, 17.99S×167.91E, h0km*
*ISCJB **30** 16:49:53.5±0.4, 18.11S±0.04×168.06E±0.07, h32km, mb4.5/22, MS3.8/4, Error ellipse: s-maj=10.3km s-min=5.3km az=7.6*
*NOU **30** 16:49:55.0±1.3, 17.97S×168.06E, h30km, MD3.1, ML3.3*
*NEIC **30** 16:49:55.8±0.4, 18.02S×168.04E, h35km, mb4.8/8, Error ellipse: s-maj=11.6km s-min=10.0km az=138.0*

ISC 30 16:49:54.6±0.5, 18.11S±0.06×168.20E±0.10, h32km, n120, σ1.9 01/111, mb4.6/22, MS3.8/4, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.21**	**197**	*e*P	**Pn**	**16 50 57.8**	**+1.3**
BAYA				*e*S	**Sn**	**16 51 43.3**	**-1.4**
DZM	**Mont Dzumac**	**4.27**	**202**	Pn	**Pn**	**16 50 56.4**	**-1.1**
	11nm,0.3s,baz=43,slow=15,SNR=300						
DZM				Sn	**Sn**	**16 51 43.8**	**-2.5**
	33nm,0.3s,baz=324,slow=23,SNR=7.9						
DZM				LR	LR	16 52 25.4	
	comp=Z,830nm,20.8s,baz=267,slow=36						
DZM	**Mont Dzumac**	**4.27**	**202**	*e*Pn	**Pn**	**16 50 56.4**	**-1.1**
	56nm,0.3s						
DZM				*e*Sn	**Sn**	**16 51 43.4**	**-2.9**
	230nm,0.3s						
DZM				*e*LR	LR	16 51 55.5	
	1μm,23.8s						
DZM	**Mont Dzumac**	**4.27**	**202**	*e*P	**Pn**	**16 50 57.0**	**-0.6**
DZM				Sn	**Sn**	**16 51 43.8**	**-2.5**
NOUC	**Port Laguerre**	**4.35**	**204**	*e*P	**Pn**	**16 50 59.6**	**+1.0**
NOUC				AMP		16 51 52.1	
	comp=Z,64nm,2.5s						
NORM	**Noumea**	**4.40**	**201**	*e*P	**Pn**	**16 50 58.5**	**-0.7**
NORM				*e*S	**Sn**	**16 51 47.6**	**-1.8**
NORM				AMP		16 51 50.7	
	comp=Z,219nm,2.6s						
MSVF	**Nonsavu**	**9.38**	**89**	*e*P	Pn	16 52 14.8	+7.1
	comp=Z,74nm,1.0s						
HNR	**Honiara**	**11.78**	**316**	Pn	**Pn**	**16 52 41.1**	**+0.6**
	comp=Z,15nm,0.3s,baz=178,slow=2.9,SNR=15						
HNR				LR	LR	16 56 17.7	
	comp=Z,276nm,20.9s,baz=203,slow=33						
HNR	**Honiara**	**11.78**	**316**	*e*P	**Pn**	**16 52 41.0**	**+0.6**
	comp=Z,123nm,0.8s						
LHI	**Lord Howe Isla**	**15.70**	**210**	P	Pn	16 53 26.6	-7.0
	baz=16,SNR=3.3						
LHI				S	Sn	16 56 07.2	-19
	baz=16,SNR=3.2						
EIDS	**Eidsvold**	**17.46**	**243**	*e*P	**P**	**16 53 57.8**	**+1.0**
	comp=Z,23nm,1.4s						
ARMA	**Armidale**	**19.42**	**228**	P	Pn	16 54 26.3	+6.5
	baz=19,SNR=6.2						
AFI	**Afiamalu**	**19.69**	**81**	LR	LR	17 00 19.0	
	comp=Z,284nm,21.4s,baz=292,slow=32						
RMQ	**Roma**	**19.81**	**242**	P	**Pn**	**16 54 26.6**	**+2.3**
	baz=20,SNR=14						
CTA	**Charters Tower**	**20.83**	**261**	P	**P**	**16 54 34.9**	**+1.1**
	comp=Z,11nm,0.9s,baz=67,slow=13,SNR=5.6						
CTA				LR	LR	17 01 42.5	
	comp=Z,398nm,18.5s,baz=49,slow=34						
CTA	**Charters Tower**	**20.83**	**261**	P	**P**	**16 54 34.9**	**+1.1**
CTAO	**Charters Tower**	**20.83**	**261**	*e*P	**P**	**16 54 34.5**	**+0.7**
	comp=Z,11nm,0.8s						
URZ	**Urewera**	**21.53**	**161**	P	**P**	**16 54 43.0**	**+1.9**
	comp=Z,8.0nm,0.6s,baz=328,slow=13,SNR=8.7						
URZ				LR	LR	17 01 46.7	
	comp=Z,274nm,18.0s,baz=165,slow=33						
URZ	**Urewera**	**21.53**	**161**	*e*P	**P**	**16 54 42.8**	**+1.7**
QLP	**Quilpie**	**23.68**	**245**	P	**P**	**16 55 04.6**	**+1.0**
	baz=24,SNR=15						
YNG	**Young**	**23.92**	**224**	P	**P**	**16 55 07.4**	**+1.6**
	baz=24,SNR=6.2						
CNB	**Canberra Magne**	**23.94**	**221**	P	**P**	**16 55 07.8**	**+1.7**
	baz=24,SNR=9.1						
CAN	**Canberra**	**24.17**	**221**	*e*P	**P**	**16 55 08.2**	**+0.1**
	comp=Z,19nm,0.8s						
CMSA	**Cobar Meteorol**	**24.35**	**232**	P	**P**	**16 55 10.6**	**+0.8**
	baz=24,SNR=30						
STKA	**Stephens Creek**	**27.64**	**235**	P	**P**	**16 55 40.4**	**+0.8**
	comp=Z,4.7nm,0.6s,baz=63,slow=8.7,SNR=14						
STKA				LR	LR	17 06 28.4	
	comp=Z,164nm,19.4s,baz=26,slow=36						
STKA	**Stephens Creek**	**27.64**	**235**	*e*P	**P**	**16 55 40.7**	**+1.2**
STKA	**Stephens Creek**	**27.64**	**235**	P	**P**	**16 55 40.8**	**+1.2**
	baz=28,SNR=11						
WRAB	**Tennant Creek**	**32.02**	**261**	*e*P	**P**	**16 56 16.6**	**-1.9**
WRA	**Warramunga Arr**	**32.03**	**261**	P	**P**	**16 56 17.0**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=83,slow=6.0,SNR=29						
WRA				PcP	**PcP**	**16 59 07.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=83,slow=3.2,SNR=7.8						
WRA	**Warramunga Arr**	**32.03**	**261**	P	**P**	**16 56 16.9**	**-1.6**
WRA				PcP	**PcP**	**16 59 07.5**	**-0.5**
BBOO	**Buckleboo**	**32.35**	**237**	P	**P**	**16 56 21.8**	**+0.6**
	baz=32,SNR=6.5						
AS31	**Alice Springs**	**32.46**	**254**	*e*P	**P**	**16 56 21.6**	**-0.7**
ASAR	**Alice Springs**	**32.46**	**254**	P	**P**	**16 56 21.8**	**-0.6**
	comp=Z,3.5nm,0.3s,baz=84,slow=8.5,SNR=86						
ASAR	**Alice Springs**	**32.46**	**254**	P	**P**	**16 56 21.8**	**-0.6**
KDU	**Kakadu**	**34.83**	**274**	P	**P**	**16 56 41.7**	**-1.2**
	baz=34,SNR=22						
MTN	**Manton Dam**	**36.06**	**273**	P	P	16 56 45.7	-7.9
	baz=36,SNR=32						
TBI	**Tubuai**	**39.84**	**105**	*e*LR	LR	17 08 29.7	
	comp=Z,164nm,26.2s						
SWI	**Sorong**	**40.12**	**291**	S	S	17 03 24.4	-8.1
	baz=40,SNR=12						
PPT2	**Papeete2**	**40.13**	**96**	*e*LR	LR	17 08 35.7	
	comp=Z,197nm,24.2s						
FITZ	**Fitzroy Crossi**	**40.39**	**263**	P	P	**16 57 30.3**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=137,slow=7.4,SNR=11						
FITZ				LR	LR	17 13 38.9	
	comp=Z,344nm,19.6s,baz=40,slow=35						
FITZ	**Fitzroy Crossi**	**40.39**	**263**	*e*P	**P**	**16 57 30.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.39**	**263**	P	**P**	**16 57 30.5**	**+0.5**
	baz=40,SNR=5.7						
MEEK	**Meekatharra**	**46.40**	**250**	P	**P**	**16 58 18.6**	**+0.1**
	baz=46,SNR=12						
NWAO	**Narrogin (SRO)**	**47.86**	**242**	P	**P**	**16 58 29.2**	**-0.5**
	comp=Z,12nm,1.1s,baz=223,slow=6.3,SNR=5.3						
NWAO	**Narrogin (SRO)**	**47.86**	**242**	P	**P**	**16 58 29.2**	**-0.5**
MORW	**Morawa**	**48.69**	**247**	P	P	16 58 43.9	+7.7
	baz=48,SNR=3.2						
KAPI	**Kappang**	**49.06**	**279**	P	**P**	**16 58 38.6**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=157,slow=12,SNR=4.3						
KAPI	**Kappang**	**49.06**	**279**	P	**P**	**16 58 38.6**	**-0.5**
PCI	**Palu**	**50.46**	**284**	P	**P**	**16 58 49.2**	**-0.6**
	baz=50,SNR=7.0						
VNDA	**Vanda**	**59.52**	**182**	P	P	16 59 58.1	+3.7
	comp=Z,0.5nm,0.5s,baz=67,slow=5.8,SNR=5.5						
VNDA	**Vanda**	**59.52**	**182**	P	P	16 59 58.1	+3.7
SBA	**Scott Base**	**59.78**	**180**	*e*P	**P**	**16 59 57.2**	**+1.1**
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**61.30**	**333**	P	**P**	**17 00 06.0**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=169,slow=8.2,SNR=15						
MJAR	**Matsushiro Arr**	**61.30**	**333**	P	**P**	**17 00 06.0**	**-1.1**
JNU	**Nakatsue**	**62.18**	**325**	P	**P**	**17 00 12.8**	**-0.4**
	comp=Z,14nm,1.1s,baz=81,slow=3.1,SNR=4.1						
JNU	**Nakatsue**	**62.18**	**325**	P	**P**	**17 00 12.8**	**-0.4**
USRK	**Ussuriysk Arra**	**70.29**	**333**	P	**P**	**17 01 05.3**	**+0.5**
	comp=Z,8.1nm,0.9s,baz=147,slow=3.9,SNR=18						
PETK	**Petropavlovsk-**	**71.50**	**353**	P	**P**	**17 01 12.1**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=148,slow=7.9,SNR=8.9						
PETK	**Petropavlovsk-**	**71.50**	**353**	P	**P**	**17 01 12.1**	**+0.1**
MDJ	**Mudanjiang**	**71.67**	**332**	*e*P	**P**	**17 01 13.9**	**+0.7**
	comp=Z,27nm,0.9s						
CMAR	**Chiang Mai Arr**	**77.15**	**294**	P	**P**	**17 01 47.3**	**+1.7**
	comp=Z,1.9nm,0.9s,baz=134,slow=4.1,SNR=13						
CMAR	**Chiang Mai Arr**	**77.15**	**294**	P	**P**	**17 01 47.3**	**+1.7**
ULN	**Ulaanbaatar**	**85.38**	**324**	*e*P	**P**	**17 02 29.0**	**+0.1**
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**85.73**	**323**	P	**P**	**17 02 31.0**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=149,slow=6.7,SNR=51						
SONM	**Songino Array**	**85.73**	**323**	P	**P**	**17 02 31.0**	**+0.3**
BILL	**Bilibino**	**85.92**	**359**	*e*P	**P**	**17 02 30.4**	**-0.5**
	comp=Z,12nm,1.1s						
DIB	**Dawson Inlet,**	**87.42**	**31**	T	T	18 39 38.9	
	SNR=119						
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**17 02 45.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=229,slow=6.2,SNR=7.1						
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**17 02 45.7**	**-0.1**
ILAR	**Eielson Array**	**89.46**	**18**	P	**P**	**17 02 45.9**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=234,slow=5.7,SNR=16						
ILAR	**Eielson Array**	**89.46**	**18**	P	**P**	**17 02 45.9**	**-2.1**
SNAA	**Sanae**	**90.23**	**183**	*e*P	**P**	**17 02 51.8**	**0.0**
VNA3	**Neumayer Olymp**	**90.86**	**181**	*e*P	**P**	**17 02 54.8**	**+0.1**
VNA2	**Neumayer--Watz**	**91.14**	**181**	*e*P	**P**	**17 02 56.5**	**+0.6**
	baz=161,slow=3.6						
TIXI	**Tiksi**	**93.44**	**348**	*e*P	**P**	**17 03 05.2**	**-1.1**
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**100.25**	**316**	P	**Pdif**	**17 03 37.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=92,slow=7.4,SNR=7.6						
MKAR	**Makanchi Array**	**100.25**	**316**	P	**Pdif**	**17 03 37.7**	**0.0**
ZALV	**Zalesovo Beam**	**100.63**	**323**	P	**Pdif**	**17 03 38.9**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=106,slow=7.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**100.63**	**323**	P	**Pdif**	**17 03 38.9**	**-0.3**
ARCES	**ARCESS Array B**	**123.73**	**345**	PKP	**PKPdf**	**17 08 47.8**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=84,slow=2.1,SNR=43						
ARCES	**ARCESS Array B**	**123.73**	**345**	PKP	**PKPdf**	**17 08 47.8**	**-0.7**
FINES	**FINESS Array B**	**129.18**	**338**	PKP	**PKPdf**	**17 08 58.7**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=106,slow=6.2,SNR=5.0						
FINES	**FINESS Array B**	**129.18**	**338**	PKP	**PKPdf**	**17 08 58.7**	**-0.4**
NOA	**NORSAR Array B**	**134.10**	**345**	PKP	**PKPdf**	**17 09 08.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=35,slow=5.3,SNR=3.2						
NOA	**NORSAR Array B**	**134.10**	**345**	PKP	**PKPdf**	**17 09 08.4**	**-0.2**
GERES	**GERESS Array B**	**143.04**	**332**	PKhKP	PKPpre	17 09 21.4	
	comp=Z,0.8nm,0.7s,baz=29,slow=3.0,SNR=5.6						
GERES	**GERESS Array B**	**143.04**	**332**	PKPpre	PKPpre	17 09 21.4	
GRF	**Grafenberg Arr**	**143.46**	**335**	*e*PKPbc	PKPbc	17 09 23.7	+0.5
TNS	**Taunus Mts**	**144.09**	**338**	*e*PKPbc	PKPbc	17 09 25.7	+0.6
RJOB	**Jochberg**	**144.26**	**331**	*e*PKPbc	PKPbc	17 09 26.4	+0.7
MEM	**Membach**	**144.60**	**340**	PKP	PKPbc	17 09 26.8	+0.2
FUR	**Furstenfeldbru**	**144.62**	**333**	*e*PKPbc	**PKPdf**	**17 09 27.7**	**-0.3**
BCLA	**Clavier**	**144.99**	**341**	PKP	**PKPab**	**17 09 27.5**	**-0.4**
STU	**Stuttgart**	**145.00**	**336**	*e*PKPbc	**PKPdf**	**17 09 28.7**	**+0.1**
ABTA	**Abfaltersbach**	**145.12**	**330** ⇑	*i*PKPab	**PKPbc**	**17 09 27.8**	**-0.8**
	comp=Z,26nm,0.9s						
WTTA	**Wattenberg**	**145.14**	**332** ⇑	*i*PKPdf	**PKPbc**	**17 09 28.6**	**-0.1**
	comp=Z,9.3nm,0.8s						
SNF	**Seneffe**	**145.22**	**342**	PKP	**PKPdf**	**17 09 28.9**	**-0.1**
MOTA	**Moosalm**	**145.32**	**332** ⇑	*i*PKPdf	**PKPbc**	**17 09 29.0**	**-0.3**
	comp=Z,26nm,1.0s						
LANF	**Langenberg**	**145.36**	**337**	PKP	**PKPab**	**17 09 29.6**	**+0.3**
WLF	**Walferdange**	**145.36**	**339**	PKP	**PKPab**	**17 09 29.9**	**+0.6**
WLF	**Walferdange**	**145.36**	**339**	*e*PKPbc	**PKPab**	**17 09 30.1**	**+0.8**
WLF	**Walferdange**	**145.36**	**339**	*e*PKP	**PKPab**	**17 09 29.5**	**+0.2**
DOU	**Dourbes**	**145.49**	**341**	PKP	**PKPdf**	**17 09 29.1**	**-0.3**
BFO	**Black Forest**	**145.69**	**336**	*e*PKPbc	**PKPbc**	**17 09 30.3**	**+0.1**
BFO	**Black Forest**	**145.69**	**336**	*e*PKP	**PKPdf**	**17 09 29.9**	**+0.1**
FETA	**Feichten**	**145.73**	**332** ⇑	*i*PKPab	**PKPdf**	**17 09 30.3**	**+0.1**
	comp=Z,25nm,0.8s						
DAVA	**Damuels**	**145.90**	**333** ⇓	*i*PKPab	**PKPbc**	**17 09 30.9**	**-0.1**
	comp=Z,23nm,1.0s						
TUE	**Stuetta**	**146.76**	**333**	*e*PKPbc	**PKPbc**	**17 09 33.4**	**-0.3**
LOMF	**Lomont**	**147.08**	**336**	PKP	**PKPbc**	**17 09 34.7**	**+0.3**
OG01	**Vacheresse**	**147.98**	**336**	PKP	**PKPbc**	**17 09 37.1**	**+0.2**
BNI	**Bardonecchia**	**149.02**	**334**	*e*PKPbc	**PKPbc**	**17 09 40.0**	**+0.2**
PLDF	**La Plantade**	**149.42**	**339**	PKP	**PKPbc**	**17 09 41.0**	**+0.4**
AGO	**Saint Agoulin**	**149.51**	**339**	PKP	**PKPbc**	**17 09 40.9**	**+0.1**
SSB	**Saint Sauveur**	**149.68**	**337**	*e*PKPbc	**PKPbc**	**17 09 41.3**	**0.0**
PYM	**Petit Puy Mans**	**149.82**	**339**	PKP	**PKPbc**	**17 09 42.3**	**+0.7**
LBL	**Lubilhac**	**150.19**	**338**	PKP	**PKPbc**	**17 09 43.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**166.10**	**251**	PKP	**PKPdf**	**17 09 56.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=2.3,slow=1.7,SNR=3.9						
TORD				PKPab	**PKPab**	**17 10 56.8**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=92,slow=2.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**166.10**	**251**	PKP	**PKPdf**	**17 09 56.6**	**-0.7**
TORD				PKPab	**PKPab**	**17 10 56.8**	**-1.2**
DBIC	**Dimbokro**	**166.76**	**212**	PKP	**PKPdf**	**17 09 59.7**	**+1.7**
	comp=Z,4.7nm,1.2s,baz=39,slow=1.7,SNR=3.5						
DBIC	**Dimbokro**	**166.76**	**212**	PKP	**PKPdf**	**17 09 59.7**	**+1.7**

**IDC 30 16:53:49.0±2.9, 0.57S×133.27E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=122.1km s-min=26.2km az=79.0, Ir

s-maj=2.5km s-min=1.0km az=39.0
*DJA **30** 17:00:04.2±0.6,0°S±4°×13°3E±°,h54km±6km,M4.8/26, mB5.3/12,mb4.7/26,MLv5.0/8,Mw(mB)4.7/12*
ISC 30 16:59:59.9±0.5,**0°24S**±0°05×**132°92E**±0°06,**h35**km,**n66,**
σ1§69/72,mb4.5/19,MS4.0/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.77**	**249**	P	**Pn**	**17 00 26.1**	**-1.9**
	baz=1.8,SNR=504						
SWI				S	**Sn**	**17 00 50.6**	**+1.2**
	baz=1.8,SNR=9.2						
FAKI	**Fak Fak**	**2.75**	**194**	P	**Pn**	**17 00 41.5**	**-0.1**
MSAI	**Masohi**	**5.04**	**232**	P	**Pn**	**17 01 14.6**	**+1.5**
BNDI	**Bandanaira**	**5.21**	**215**	P	**Pn**	**17 01 15.6**	**+0.1**
TLE	**Tual**	**5.37**	**182**	S	**Sn**	**17 02 23.3**	**+5.1**
	baz=36,SNR=6.7						
TLE	**Tual**	**5.37**	**182**	P	**Pn**	**17 01 18.2**	**+0.6**
	baz=5.3,SNR=66						
TLE				S	**Sn**	**17 02 23.3**	**+5.1**
	baz=5.3,SNR=6.7						
TLE	**Tual**	**5.37**	**182**	P	**Pn**	**17 01 18.6**	**+1.0**
	527nm,1.2s,6μm1.8nm						
TLE				S	**Sn**	**17 02 23.0**	**+4.8**
	527nm,1.2s,6μm1.8nm						
LBMI	**Labuha**	**5.43**	**266**	P	**Pn**	**17 01 17.6**	**-0.8**
	121nm,1.0s,2μm0.7nm						
LBMI				S	**Sn**	**17 02 20.3**	**+0.6**
	121nm,1.0s,2μm0.7nm						
TNTI	**Ternate**	**5.64**	**280**	P	Pn	17 01 24.3	+3.0
	78nm,1.0s,1μm0.3nm						
TNTI				S	**Sn**	**17 02 25.9**	**+1.0**
	78nm,1.0s,1μm0.3nm						
AAI	**Ambon**	**5.83**	**234**	P	**Pn**	**17 01 24.8**	**+0.8**
	baz=5.8,SNR=42						
AAI	**Ambon**	**5.83**	**234**	P	**Pn**	**17 01 23.5**	**-0.5**
	574nm,0.8s,6μm2.1nm						
AAI				S	**Sn**	**17 02 28.7**	**-1.0**
	574nm,0.8s,6μm2.1nm						
MNI	**Manado**	**8.24**	**282**	P	**Pn**	**17 01 58.8**	**+1.7**
	100nm,0.7s						
KMSI	**Cibinong**	**8.97**	**275**	P	Pn	17 02 10.0	+2.9
	119nm,0.9s,1μm						
KDI	**Kendari**	**10.93**	**250**	P	**Pn**	**17 02 35.9**	**+1.9**
	36nm,1.3s,603nm						
MMPI	**Merauke**	**11.05**	**138**	S	**Sn**	**17 04 39.9**	**+1.7**
	baz=11,SNR=4.8						
BBSI	**Bau Bau**	**11.57**	**243**	P	**Pn**	**17 02 43.6**	**+0.9**
	55nm,1.4s,671nm						
KDU	**Kakadu**	**12.38**	**182**	P	**Pn**	**17 02 51.0**	**-2.8**
	baz=12,SNR=51						
MTN	**Manton Dam**	**12.65**	**188**	P	**Pn**	**17 02 55.1**	**-2.4**
	baz=13,SNR=71						
MTN				S	**Sn**	**17 05 12.2**	**-5.0**
	baz=13,SNR=8.6						
PCI	**Palu**	**13.09**	**267**	P	**P**	**17 03 15.4**	**+2.1**
	baz=13,SNR=4.2						
PCI				S	**Sn**	**17 05 28.8**	**+0.6**
	baz=13,SNR=4.0						
SPSI	**Sidrap Palu**	**13.65**	**254**	P	**Pn**	**17 03 09.0**	**-2.1**
	36nm,1.2s,572nm						
KAPI	**Kappang**	**13.98**	**250**	Pn	**Pn**	**17 03 16.6**	**+1.0**
	1.2nm,0.3s,baz=116,slow=7.7,SNR=11						
SMKI	**Samarinda**	**15.71**	**269**	P	**P**	**17 03 44.6**	**+2.2**
PMG	**Port Moresby**	**16.85**	**123**	Pn	**Pn**	**17 03 52.8**	**-0.5**
	0.1nm,0.3s,baz=354,slow=17,SNR=3.1						
BBKI	**Banjar Baru**	**18.34**	**260**	P	**Pn**	**17 04 11.9**	**+0.1**
	46nm,1.3s						
KHKI	**Kahang-Kahang**	**19.04**	**244**	P	**Pn**	**17 04 19.7**	**-0.5**
	51nm,1.7s,754nm						
FITZ	**Fitzroy Crossi**	**19.14**	**202**	P	**P**	**17 04 18.3**	**-1.9**
	1.0nm,0.3s,baz=33,slow=12,SNR=23						
FITZ				S	Sn	17 07 40.0	-15
	0.3nm,0.3s,baz=256,slow=17,SNR=2.5						
FITZ	**Fitzroy Crossi**	**19.14**	**202**	P	**P**	**17 04 17.6**	**-2.6**
	baz=19,SNR=6.7						
WRA	**Warramunga Arr**	**19.64**	**176**	P	**P**	**17 04 24.7**	**-1.0**
	0.9nm,0.3s,baz=354,slow=11,SNR=25						
WRA				S	S	17 07 53.3	-12
	0.4nm,0.3s,baz=354,slow=23,SNR=5.5						
KMMI	**Kalianget**	**20.07**	**250**	P	Pn	17 04 32.7	+0.2
	30nm,1.0s						
QIS	**Mount Isa**	**21.23**	**162**	P	**P**	**17 04 41.8**	**-1.2**
	baz=21,SNR=16						
PBKI	**Pangkalan Bun**	**21.38**	**263**	P	**P**	**17 04 43.0**	**-1.7**
	67nm,1.1s						
STKI	**Sintang**	**21.44**	**271**	P	**P**	**17 04 46.1**	**+0.8**
	17nm,0.9s						
KSM	**Kuching**	**22.67**	**274**	P	**P**	**17 04 59.4**	**+0.9**
	baz=23,SNR=3.6						
ASAR	**Alice Springs**	**23.31**	**178**	P	**P**	**17 05 03.6**	**-1.4**
	19nm,0.9s,baz=357,slow=11,SNR=51						
ASAR				S	**S**	**17 09 18.6**	**+3.3**
	3.6nm,1.1s,baz=0.0,slow=21,SNR=4.4						
ASAR				LR	LR	17 15 15.2	
	comp=Z,236nm,20.0s,baz=1.3,slow=40						
CTA	**Charters Tower**	**23.66**	**147**	P	**P**	**17 05 08.8**	**+0.4**
	11nm,0.9s,baz=330,slow=12,SNR=12						
CTA				LR	LR	17 15 38.1	
	comp=Z,451nm,18.5s,baz=322,slow=40						
BJII	**Banjamegara**	**24.19**	**253**	P	**P**	**17 05 14.3**	**+0.8**
	40nm,1.5s						
QLP	**Quilpie**	**28.37**	**158**	P	**P**	**17 05 50.0**	**-1.0**
	baz=28,SNR=4.5						
STKA	**Stephens Creek**	**32.52**	**166**	P	**P**	**17 06 26.4**	**-1.2**
	18nm,1.0s,baz=351,slow=7.4,SNR=31						
STKA				LR	LR	17 21 03.8	
	comp=Z,258nm,19.8s,baz=187,slow=39						
STKA	**Stephens Creek**	**32.52**	**166**	P	**P**	**17 06 26.3**	**-1.3**
	baz=32,SNR=16						
CHBT	**CHBT**	**32.96**	**294**	P	**P**	**17 06 32.5**	**+0.8**
	17nm,0.9s,1μm						
BLDU	**Ballidu**	**33.91**	**206**	P	**P**	**17 06 39.2**	**-0.6**
	baz=34,SNR=6.7						
PSI	**Prapat**	**34.11**	**275**	P	**P**	**17 06 41.0**	**-0.9**
	4.0nm,0.6s,baz=99,slow=4.4,SNR=6.4						
MJAR	**Matsushiro Arr**	**36.92**	**7**	P	**P**	**17 07 04.5**	**-1.1**
	0.7nm,0.7s,baz=195,slow=8.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**38.20**	**301**	P	**P**	**17 07 17.2**	**+0.6**
	3.4nm,0.9s,baz=121,slow=7.0,SNR=27						
CMAR				PcP	**PcP**	**17 09 32.0**	**+1.2**
	0.4nm,0.7s,baz=120,slow=1.9,SNR=4.2						
CMMT	**Chiang Mai**	**38.35**	**301**	P	**P**	**17 07 18.9**	**+1.0**
	6.4nm,0.9s						
CHTO	**Chiang Mai**	**38.35**	**301**	P	**P**	**17 07 18.3**	**+0.4**
TAPN	**Taplejung**	**51.33**	**306**	*eP*	**P**	**17 09 01.4**	**-0.1**
	27nm,1.1s						
RAMN	**Ramite**	**52.07**	**305**	*eP*	**P**	**17 09 07.0**	**0.0**
	36nm,0.9s						
GUN	**Gumba**	**53.04**	**306**	*eP*	**P**	**17 09 14.0**	**-0.3**
	28nm,0.8s						
SONM	**Songino Array**	**53.14**	**338**	P	**P**	**17 09 15.5**	**+1.1**
	1.5nm,1.0s,baz=152,slow=7.6,SNR=7.6						
PKI	**Pulchoki**	**53.29**	**305**	*eP*	**P**	**17 09 15.6**	**-0.5**
KKN	**Kakani**	**53.48**	**305**	*eP*	**P**	**17 09 16.9**	**-0.5**
	25nm,1.1s						
DMN	**Daman**	**53.55**	**305**	*eP*	**P**	**17 09 18.1**	**+0.1**
	24nm,0.8s						
KOLN	**Koldanda**	**54.85**	**305**	*eP*	**P**	**17 09 27.4**	**+0.1**
	41nm,0.8s						
DANN	**Dangsing**	**54.94**	**305**	*eP*	**P**	**17 09 27.9**	**-0.2**
	52nm,0.9s						
RPZ	**Rata Peaks**	**55.03**	**147**	LR	LR	17 32 54.6	
	comp=Z,183nm,21.2s,baz=210,slow=36						
PYUN	**Piuthan**	**55.47**	**305**	*eP*	**P**	**17 09 31.9**	**+0.1**
	95nm,0.9s						
PETK	**Petropavlovsk-**	**57.04**	**18**	P	**P**	**17 09 41.7**	**-0.6**
	8.0nm,1.0s,baz=264,slow=9.6,SNR=3.2						
WMQ	**Urumqi**	**59.53**	**323**	P	**P**	**17 10 01.0**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MKAR	**Makanchi Array**	**64.35**	**324**	P	**P**	**17 10 33.0**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=116,slow=8.5,SNR=17						
ZALV	**Zalesovo Beam**	**66.95**	**331**	P	**P**	**17 10 48.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=120,slow=6.0,SNR=9.9						
BVAR	**Borovoye Array**	**74.01**	**326**	P	**P**	**17 11 32.8**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=123,slow=5.5,SNR=17						
VNDA	**Vanda**	**78.79**	**174**	P	**P**	**17 11 57.8**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=327,slow=6.7,SNR=6.7						
ILAR	**Eielson Array**	**86.03**	**25**	P	**P**	**17 12 36.2**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=266,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**100.44**	**26**	P	**Pdif**	**17 13 42.5**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=280,slow=4.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**130.00**	**287**	PKP	**PKPdf**	**17 19 06.5**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=160,slow=1.5,SNR=4.4						

*AUST **30** 17:05:32.3±76.0,2°78N×134°35E,h102km±2km, Error ellipse: s-maj=18.3km s-min=2.0km az=39.0*
*IDC **30** 17:06:09.3±0.8,0°28S×133°00E,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.0/24,mbtmp4.0/12,ML4.2/2,Error ellipse: s-maj=35.2km s-min=14.5km az=72.0*
*ISCJB **30** 17:06:12.7±0.6,0°23S±0°05×132°92E±0°05,h32km, mb3.9/9,Error ellipse: s-maj=7.8km s-min=7.3km az=37.4*
*DJA **30** 17:06:15.8±0.6,0°S±5°×13°3E±°,h42km,M4.8/9,mb5.0/8, mB5.4/4,MLv4.8/9,Mw(mB)4.9/4*
ISC 30 17:06:14.5±0.7,**0°23S**±0°07×**132°87E**±0°06,**h32**km,**n28,**
σ1§82/29,mb3.8/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.73**	**248**	P	**Pn**	**17 06 40.6**	**-1.7**
	baz=4.8,SNR=354						
SWI	**Sorong**	**1.73**	**248**	P	**Pn**	**17 06 40.8**	**-1.5**
SWI				S	**Sn**	**17 07 02.9**	**-0.4**
FAKI	**Fak Fak**	**2.75**	**193**	P	**Pn**	**17 06 56.2**	**-0.2**
FAKI				S	**Sn**	**17 07 29.9**	**+1.4**
BAKI	**Biak**	**3.38**	**107**	P	**Pn**	**17 07 05.0**	**-0.1**
MSAI	**Masohi**	**5.01**	**232**	P	**Pn**	**17 07 29.2**	**+1.7**
BNDI	**Bandanaira**	**5.19**	**215**	P	**Pn**	**17 07 30.9**	**+0.9**
	502nm,1.1s,5μm2.0nm						
TLE	**Tual**	**5.38**	**181**	P	**Pn**	**17 07 33.6**	**+1.1**
	baz=8.6,SNR=56						
TLE	**Tual**	**5.38**	**181**	P	**Pn**	**17 07 33.2**	**+0.6**
	452nm,0.7s,7μm1.7nm						
LBMI	**Labuha**	**5.38**	**266**	P	**Pn**	**17 07 32.9**	**+0.3**
	55nm,1.0s,0.3nm						
AAI	**Ambon**	**5.80**	**234**	P	**Pn**	**17 07 39.5**	**+1.2**
	baz=8.9,SNR=21						
AAI				S	Sn	17 08 50.9	+7.1
	baz=8.9,SNR=4.4						
AAI	**Ambon**	**5.80**	**234**	P	**Pn**	**17 07 39.7**	**+1.4**
	221nm,1.0s,3μm0.9nm						
KDU	**Kakadu**	**12.39**	**182**	P	**Pn**	**17 09 06.5**	**-2.2**
	baz=16,SNR=25						
MTN	**Manton Dam**	**12.65**	**188**	P	**Pn**	**17 09 09.9**	**-2.4**
	baz=16,SNR=28						
BKSI	**Bulukumba**	**13.70**	**248**	P	P	17 09 31.1	-3.8
KAPI	**Kappang**	**13.94**	**250**	Pn	**Pn**	**17 09 31.4**	**+1.6**
	baz=90,slow=4.5,SNR=9.2						
FITZ	**Fitzroy Crossi**	**19.13**	**201**	P	**P**	**17 10 32.9**	**-2.2**
	0.5nm,0.3s,baz=31,slow=13,SNR=7.7						
WRA	**Warramunga Arr**	**19.65**	**176**	P	**P**	**17 10 39.7**	**-1.1**
	0.9nm,0.3s,baz=356,slow=11,SNR=14						
WRA				S	S	17 14 09.9	-11
	0.6nm,0.3s,baz=1.4,slow=23,SNR=6.0						
KMMI	**Kalianget**	**20.03**	**250**	P	Pn	17 10 50.0	+3.1
ASAR	**Alice Springs**	**23.32**	**178**	P	**P**	**17 11 19.0**	**-1.0**
	15nm,0.8s,baz=353,slow=8.9,SNR=29						
ASAR				S	**S**	**17 15 37.1**	**+6.4**
	2.0nm,0.9s,baz=358,slow=21,SNR=6.0						
CTA	**Charters Tower**	**23.70**	**147**	P	**P**	**17 11 22.8**	**-0.9**
	4.9nm,0.6s,baz=322,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**	**17 12 40.8**	**-2.0**
	9.6nm,0.9s,baz=322,slow=9.0,SNR=14						
CMAR	**Chiang Mai Arr**	**38.15**	**301**	P	**P**	**17 13 31.9**	**+0.7**
	1.0nm,0.7s,baz=118,slow=6.6,SNR=10.0						
SONM	**Songino Array**	**53.11**	**338**	P	**P**	**17 15 30.8**	**+1.6**
	0.6nm,1.0s,baz=160,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**64.31**	**324**	P	**P**	**17 16 47.6**	**+0.6**
	0.6nm,0.7s,baz=110,slow=9.5,SNR=7.1						
ZALV	**Zalesovo Beam**	**66.92**	**331**	P	**P**	**17 17 03.3**	**-0.3**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=4.2						
BVAR	**Borovoye Array**	**73.98**	**326**	P	**P**	**17 17 47.5**	**+0.7**
	1.6nm,0.9s,baz=104,slow=6.3,SNR=6.3						
ILAR	**Eielson Array**	**86.04**	**25**	P	**P**	**17 18 51.3**	**-0.4**
	0.3nm,0.7s,baz=251,slow=6.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**129.95**	**287**	PKP	**PKPdf**	**17 25 21.8**	**-0.2**
	0.3nm,0.7s,baz=70,slow=1.7,SNR=2.3						

*FUNV **30** 17:17:35.6,5°39N×72°85W,h3km,MW4.0*
*IDC **30** 17:17:48.0±2.9,5°63N×72°94W,h86km±26km,mb3.3/5, mb1 3.5/5,mb1mx3.3/23,mbtmp3.3/5,MS3.1/1,Ms1 3.2/1, ms1mx2.5/20,Error ellipse: s-maj=34.6km s-min=18.1km az=56.0*
ISC 30 17:17:39.2±2.2,**5°75N**±0°06×**72°61W**±0°07,**h5**km±15km,
n25,σ1§51/33,mb3.7/5,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.93**	**243**	P	**Pb**	**17 18 15.2**	**0.0**
	104nm,0.3s,baz=101,slow=21,SNR=197						
ROSC				S	**Sg**	**17 18 42.9**	**+1.5**
	171nm,0.3s,baz=59,slow=19,SNR=10						
CAPV	**Capacho**	**2.12**	**8**	*eP*	**Pn**	**17 18 16.9**	**+1.3**
CAPV				*eS*	**Sg**	**17 18 47.5**	**-0.1**
SOCV	**Socops**	**3.06**	**34**	*eP*	**Pn**	**17 18 29.1**	**+0.7**
SOCV				*eS*	**Sb**	**17 19 09.9**	**-2.1**
VIGV	**El Vigia**	**3.31**	**22**	*eP*	**Pn**	**17 18 33.8**	**+2.0**
VIGV				*eS*	**Sn**	**17 19 15.6**	**+4.0**
ELOV	**Elorza**	**3.34**	**68**	*eP*	**Pn**	**17 18 33.4**	**+1.2**
VIRV	**Villa del Rosa**	**4.73**	**2**	*eP*	**Pn**	**17 18 51.3**	**0.0**
VIRV				*eS*	**Sn**	**17 19 46.8**	**+0.2**
SANV	**Sanarito**	**4.81**	**39**	*eP*	**Pn**	**17 18 53.5**	**+0.9**
SANV				*eS*	**Sn**	**17 19 51.3**	**+2.5**
QARV	**Quebrada Arrib**	**4.89**	**25**	*eP*	**Pn**	**17 18 54.7**	**+1.2**
QARV				*eS*	**Sn**	**17 19 52.4**	**+1.8**
CURV	**Curarigua**	**4.98**	**32**	*eP*	**Pn**	**17 18 55.6**	**+0.7**
CURV				*eS*	**Sn**	**17 19 54.1**	**+1.1**
TEPV	**Terepaima**	**5.38**	**39**	*eP*	**Pn**	**17 19 00.9**	**+0.6**
DABV	**Dabajuro**	**5.50**	**21**	*eP*	**Pn**	**17 19 02.3**	**+0.4**
BAUV	**El Baul**	**5.53**	**55**	*eP*	**Pn**	**17 19 02.3**	**0.0**
SIQV	**Siquisique**	**5.60**	**29**	*eP*	**Pn**	**17 19 04.1**	**+0.8**
MAPV	**Macapo**	**5.78**	**45**	*eP*	**Pn**	**17 19 05.9**	**+0.2**
TURV	**Turiamo**	**6.64**	**45**	*eP*	**Pn**	**17 19 17.1**	**-0.5**
MONV	**Montecano**	**6.70**	**23**	*eP*	**Pn**	**17 19 17.8**	**-0.6**
BIRV	**Birongo**	**7.84**	**53**	*eP*	**Pn**	**17 19 33.5**	**-0.5**
CUPV	**Cepira**	**8.00**	**57**	*eP*	**Pn**	**17 19 34.9**	**-1.3**
LPAZ	**La Paz**	**22.34**	**169**	P	**P**	**17 22 39.0**	**+0.2**
	1.7nm,0.5s,baz=312,slow=11,SNR=7.2						
LPAZ				LR	LR	17 31 33.2	
	comp=Z,41nm,18.5s,baz=294,slow=37						
SIV	**San Ignacio**	**24.43**	**152**	P	**P**	**17 22 57.8**	**-1.3**
	2.0nm,0.7s,baz=315,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**37.56**	**312**	P	**P**	**17 24 52.6**	**-2.3**
	0.9nm,0.7s,baz=112,slow=9.3,SNR=2.8						
YKA	**Yellowknife Ar**	**64.44**	**340**	P	**P**	**17 28 14.1**	**-2.3**
	0.6nm,0.7s,baz=131,slow=6.7,SNR=17						
TORD	**Torodi Ar. Bea**	**73.45**	**78**	P	**P**	**17 29 14.9**	**+1.5**
	0.3nm,0.6s,baz=292,slow=7.6,SNR=3.2						
ASAR	**Alice Springs**	**148.88**	**232**	PKPbc	**PKPdf**	**17 37 25.6**	**+0.5**
	0.4nm,0.5s,baz=117,slow=3.5,SNR=17						
WRA	**Warramunga Arr**	**150.25**	**239**	PKPbc	**PKPdf**	**17 37 29.4**	**+2.0**
	0.5nm,0.4s,baz=107,slow=2.9,SNR=19						

*ISCJB **30** 17:22:41.8±0.5,44°58N±0°06×141°05E±0°10, h267km±4km,mb2.7/6,Error ellipse: s-maj=11.3km s-min=9.1km az=172.9*
*JMA **30** 17:22:41.5±0.4,44°66N×140°98E,h270km±4km,M3.0*
*IDC **30** 17:22:42.5±1.1,44°63N×141°01E,h258km±11km,mb2.6/6, mb1 2.9/8,mb1mx2.8/26,mbtmp2.7/8, Error ellipse: s-maj=18.0km s-min=16.1km az=117.0*
ISC 30 17:22:42.5±0.8,**44°57N**±0°07×**141°02E**±0°07,**h262**km±6km,
n26,σ1§00/32,mb2.9/6,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.33**	**116**	P	**Pn**	**17 23 16.5**	**+0.1**
JRR	**Rishiri**	**0.60**	**20**	P	**Pn**	**17 23 17.2**	**+0.2**
JSS	**Shosan**	**0.62**	**106**	P	**Pn**	**17 23 17.8**	**+0.6**
JSS				*eS*	**S**	**17 23 45.6**	**+1.1**
JWK2	**Keihoku**	**0.97**	**40**	P	**Pn**	**17 23 18.3**	**-0.3**
JWK2				*eS*	**S**	**17 23 46.0**	**-1.1**
JHR	**Hokuryu**	**0.97**	**148**	P	**Pn**	**17 23 19.6**	**+0.8**
JSE	**Soyaes**	**1.18**	**70**	P	**Pn**	**17 23 19.1**	**-0.7**
ASAJ	**Asahikawa**	**1.22**	**111**	P	**Pn**	**17 23 20.1**	**-0.1**
	5.0nm,0.3s,baz=277,slow=7.7,SNR=138						
ASAJ				S	S	17 23 43.4	-6.4
	0.6nm,0.3s,baz=234,slow=6.2,SNR=2.3						
JSK	**Shakotan**	**1.28**	**198**	P	**Pn**	**17 23 20.8**	**+0.3**
JKK2	**Kamakawa 2**	**1.43**	**119**	P	**Pn**	**17 23 21.7**	**+0.2**
JKK2				*eS*	**S**	**17 23 52.4**	**+0.1**
JEW	**Eniwo**	**1.76**	**170**	P	**Pn**	**17 23 24.9**	**+0.9**
JFR	**Furan**	**1.81**	**140**	P	**Pn**	**17 23 24.9**	**+0.4**
JTKR	**Abashiri--Toko**	**2.16**	**105**	P	**Pn**	**17 23 28.1**	**+0.7**
JAR	**Ashorobuto**	**2.36**	**122**	P	**Pn**	**17 23 30.5**	**+1.2**
JCH	**Churui**	**2.60**	**138**	*eS*	**S**	**17 24 08.0**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.62**	**150**	P	**Pn**	**17 23 33.0**	**+1.2**
JNBK				*eS*	**S**	**17 24 10.9**	**0.0**
JOSM	**Okushiri--Mats**	**2.73**	**205**	P	**Pn**	**17 23 33.0**	**0.0**
JAK	**Akkeshi**	**3.10**	**119**	*eS*	**S**	**17 24 17.4**	**-2.4**
JOT	**Ohata**	**3.19**	**180**	P	**Pn**	**17 23 37.9**	**+0.1**
JOT				*eS*	**S**	**17 24 20.8**	**-0.9**
USRK	**Ussuriysk Arra**	**6.47**	**270**	P	**Pn**	**17 24 15.7**	**-0.9**
	0.2nm,0.3s,baz=84,slow=15,SNR=4.5						
MJAR	**Matsushiro Arr**	**8.30**	**196**	P	**Pn**	**17 24 38.7**	**-1.0**
	0.2nm,0.3s,baz=7.7,slow=13,SNR=6.6						
SONM	**Songino Array**	**24.06**	**290**	P	**P**	**17 27 35.0**	**+0.8**
	0.2nm,0.5s,baz=88,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**40.26**	**295**	P	**P**	**17 29 53.9**	**-0.2**
	0.1nm,0.7s,baz=69,slow=8.5,SNR=2.2						
ILAR	**Eielson Array**	**43.44**	**36**	P	**P**	**17 30 19.4**	**0.0**
	0.3nm,0.5s,baz=279,slow=7.2,SNR=5.5						
ILAR				ScP	**ScP**	**17 35 26.9**	**-1.3**
	0.5nm,0.8s,baz=288,slow=2.6,SNR=5.4						
YKA	**Yellowknife Ar**	**57.52**	**32**	P	**P**	**17 32 03.9**	**-0.3**
	0.1nm,0.4s,baz=307,slow=6.7,SNR=6.0						
WRA	**Warramunga Arr**	**64.49**	**187**	P	**P**	**17 32 52.0**	**+0.6**
	0.2nm,0.5s,baz=5.3,slow=6.8,SNR=7.5						
ASAR	**Alice Springs**	**68.22**	**187**	P	**P**	**17 33 16.2**	**+1.3**
	0.2nm,0.5s,baz=7.2,slow=6.4,SNR=8.7						

*ISK **30** 17:29:36.8,40°23N×27°01E,h3km,MD2.7*
*DDA **30** 17:29:37.0,40°19N×27°02E,h7km,ML2.9*
*CSEM **30** 17:29:37.5±0.1,40°21N×27°01E,h2km,MD2.7,Error ellipse: s-maj=2.7km s-min=2.0km az=44.0*
ISC 30 17:29:37.0±0.9,**40°20N**±0°03×**27°00E**±0°03,**h14**km±9km,
n33,σ0§23/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.25**	**313**	*ePG*	**Pg**	**17 29 42.4**	**-0.1**
LPK				*eSG*	**Sg**	**17 29 46.6**	**+0.4**
LPK	**Lapseki**	**0.25**	**313**	*ePg*	**Pg**	**17 29 42.4**	**-0.1**
LPK				*eSg*	**Sg**	**17 29 46.6**	**+0.4**
KRBG	**Karabiga-Canak**	**0.30**	**49**	*ePG*	**Pg**	**17 29 43.0**	**-0.2**
KRBG				*eSG*	**Sg**	**17 29 47.5**	**0.0**
KRBG	**Karabiga-Canak**	**0.30**	**49**	*ePg*	**Pg**	**17 29 43.0**	**-0.2**
KRBG				*eSg*	**Sg**	**17 29 47.5**	**0.0**
GELI	**Tayfur-Gelibol**	**0.45**	**297**	*ePG*	**Pg**	**17 29 45.8**	**-0.2**
GELI				*eSG*	**Sb**	**17 29 53.3**	**0.0**
GELI	**Tayfur-Gelibol**	**0.45**	**297**	*ePg*	**Pg**	**17 29 45.8**	**-0.2**
GELI				*eSg*	**Sb**	**17 29 53.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.51**	**15**	*ePG*	**Pg**	**17 29 47.0**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.51**	**15**	*ePg*	**Pg**	**17 29 47.0**	**-0.1**
GONE	**Gonen-Balikesi**	**0.55**	**106**	*ePG*	**Pb**	**17 29 48.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.55**	**106**	*ePg*	**Pb**	**17 29 48.1**	**-0.2**
MFT	**Murefte**	**0.62**	**20**	*ePG*	**Pg**	**17 29 49.1**	**-0.2**
MFT	**Murefte**	**0.62**	**20**	*ePg*	**Pg**	**17 29 49.1**	**-0.2**
BALY	**Balya**	**0.66**	**134**	*eP*	**Pb**	**17 29 50.3**	**0.0**
BALY				*eS*	**Sb**	**17 29 58.9**	**-0.4**
BALY	**Balya**	**0.66**	**134**	*eP*	**Pb**	**17 29 50.3**	**0.0**
BALY				*eS*	**Sb**	**17 29 58.9**	**-0.4**
BOZC	**Bozcaada**	**0.81**	**244**	*eP*	**Pg**	**17 29 52.4**	**-0.3**
BALB	**Balikesir**	**0.88**	**129**	*ePG*	**Pn**	**17 29 54.8**	**0.0**
BALB	**Balikesir**	**0.88**	**129**	*ePg*	**Pn**	**17 29 54.8**	**0.0**
AYVA	**Ayvalik**	**0.92**	**195**	*eP*	**Pg**	**17 29 54.9**	**+0.1**
AYVA	**Ayvalik**	**0.92**	**195**	*eP*	**Pg**	**17 29 54.9**	**+0.1**
DST	**Dursunbey**	**1.38**	**115**	*ePN*	**Pg**	**17 30 03.9**	**+0.4**
DST	**Dursunbey**	**1.38**	**115**	*ePn*	**Pg**	**17 30 03.9**	**+0.4**
ARMT	**Armutlu**	**1.47**	**75**	*ePN*	**Pb**	**17 30 04.5**	**+0.5**
**

h22km:**pP-P**,**n946**,σ1$**09**/1011,**mb5.2**/228,**MS4.7**/60,
262C-127D,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.33**	**6**	Pn	**Pn**	**17 38 36.9**	**-0.8**
	200nm,0.3s,baz=194,slow=8.4,SNR=840						
KDAK				Pg	**Pb**	**17 38 41.7**	**+3.0**
KDAK				Sn	**Sn**	**17 38 54.0**	**-0.6**
	1μm,0.3s,baz=247,slow=5.9,SNR=15						
KDAK				Lg	Lg	17 39 03.2	
	780nm,0.3s,baz=176,slow=5.3,SNR=11						
KDAK	**Kodiak Island**	**1.33**	**6**	P	**Pn**	**17 38 36.9**	**-0.8**
KDAK				Pg	**Pb**	**17 38 41.7**	**+3.0**
KDAK				S	**Sn**	**17 38 53.8**	**-0.9**
KDAK	**Kodiak Island**	**1.33**	**6**	Pn	**Pn**	**17 38 36.7**	**-1.0**
	60μm,0.5s						
KCE	**Katmai Mt Cerb**	**2.19**	**326**	P	**Pn**	**17 38 50.0**	**+0.3**
KAKN	**Katmai Knife C**	**2.20**	**328**	P	**Pn**	**17 38 50.0**	**+0.3**
KAHG	**Katmai Hook Gl**	**2.24**	**336**	P	**Pn**	**17 38 51.4**	**+1.1**
KABU	**Katmai Buttres**	**2.25**	**325**	P	**Pn**	**17 38 51.2**	**+0.9**
KAPH	**Katmai Pasha**	**2.29**	**340**	P	**Pn**	**17 38 51.5**	**+0.5**
FOSS	**Fourpeaked Sta**	**2.39**	**349**	P	**Pn**	**17 38 52.7**	**+0.4**
KELA	**Mount Kelaz**	**2.53**	**323**	P	**Pn**	**17 38 54.1**	**-0.1**
AUP	**Augustine Pinn**	**2.92**	**354**	P	**Pn**	**17 39 00.7**	**+1.0**
AUP	**Augustine Pinn**	**2.92**	**354**	P	**Pn**	**17 39 00.7**	**+1.0**
AUW	**Augustine West**	**2.94**	**354**	P	**Pn**	**17 39 00.7**	**+1.0**
AUNW	**Augustine NWes**	**2.94**	**354**	P	**Pn**	**17 39 01.0**	**+1.1**
ANPK	**Aniakchak Peak**	**2.95**	**280**	P	**Pn**	**17 38 59.7**	**-0.2**
AZAC	**Aniakchak**	**3.01**	**281**	P	**Pn**	**17 39 00.4**	**-0.4**
ANPB	**Aniakchak Plen**	**3.03**	**279**	P	**Pn**	**17 39 00.6**	**-0.4**
CHGN	**Chignik**	**3.11**	**269**	P	**Pn**	**17 39 01.1**	**-1.0**
OPT	**Oil Point**	**3.21**	**356**	P	**Pn**	**17 39 04.3**	**+0.8**
BRLK	**Bradley Lake**	**3.47**	**17**	P	**Pn**	**17 39 05.7**	**-1.5**
BRLK				S	**Sn**	**17 39 43.7**	**-3.8**
VNHG	**Veniaminof 1**	**3.53**	**269**	P	**Pn**	**17 39 08.3**	**+0.3**
VNFG	**Veniaminof 2**	**3.74**	**270**	P	**Pn**	**17 39 08.3**	**-2.5**
SEW	**Seward**	**4.07**	**25**	P	**Pn**	**17 39 12.9**	**-2.3**
DFR	**Drift River**	**4.14**	**1**	P	**Pn**	**17 39 16.3**	**-0.1**
SLKM	**Skilak Lake**	**4.28**	**18**	P	**Pn**	**17 39 16.6**	**-1.7**
SLKM	**Skilak Lake**	**4.28**	**18**	P	**Pn**	**17 39 16.6**	**-1.7**
SDPT	**Sand Point**	**4.44**	**259**	P	**Pn**	**17 39 19.6**	**-0.8**
SPU	**Mount Spurr**	**4.75**	**5**	P	**Pn**	**17 39 24.2**	**-0.5**
BGL	**Barrier Glacie**	**4.82**	**3**	P	**Pn**	**17 39 25.7**	**0.0**
SVW2	**Sparrevohn**	**4.86**	**344**	*e*Pn	**Pn**	**17 39 26.5**	**+0.3**
FIB	**Fire Island**	**4.92**	**15**	P	**Pn**	**17 39 26.4**	**-0.5**
FIB	**Fire Island**	**4.92**	**15**	P	**Pn**	**17 39 26.4**	**-0.5**
STLK	**Strandline Lak**	**5.08**	**5**	P	**Pn**	**17 39 28.9**	**-0.3**
PS4A	**Pavlof South-4**	**5.20**	**261**	P	**Pn**	**17 39 30.0**	**-0.9**
DTNA	**Dutton South F**	**5.47**	**260**	P	**Pn**	**17 39 33.6**	**-1.0**
PMR	**Palmer**	**5.49**	**19**	*e*P	**Pn**	**17 39 33.0**	**-1.8**
PMR	**Palmer**	**5.49**	**19**	*e*Pn	**Pn**	**17 39 33.0**	**-1.8**
DT1	**Dutton Round H**	**5.50**	**260**	P	**Pn**	**17 39 33.4**	**-1.5**
EYAK	**Cordova Ski Ar**	**5.53**	**39**	P	**Pn**	**17 39 32.9**	**-2.5**
DRIA	**Deer Island**	**5.54**	**258**	P	**Pn**	**17 39 33.7**	**-1.8**
VLZ	**Valdez**	**5.77**	**33**	P	**Pn**	**17 39 36.6**	**-2.0**
SML	**Sawmill**	**5.84**	**21**	P	**Pn**	**17 39 38.4**	**-1.3**
SML	**Sawmill**	**5.84**	**21**	P	**Pn**	**17 39 38.4**	**-1.3**
GOAT	**Goat Mountain**	**5.92**	**42**	P	**Pn**	**17 39 38.7**	**-2.1**
DIV	**Divide**	**5.95**	**35**	P	**Pn**	**17 39 39.1**	**-2.0**
NICHA	**Nichawak Mount**	**6.01**	**47**	P	**Pn**	**17 39 39.4**	**-2.5**
FALS	**False Pass**	**6.20**	**259**	P	**Pn**	**17 39 43.6**	**-1.0**
BERG	**Berg Lake**	**6.21**	**47**	P	**Pn**	**17 39 42.2**	**-2.5**
BMRM	**Bremner River**	**6.23**	**40**	P	**Pn**	**17 39 42.9**	**-2.1**
GRIN	**Grindle Hills**	**6.30**	**49**	P	**Pn**	**17 39 43.7**	**-2.3**
KHIT	**Khitrov Hills**	**6.42**	**48**	P	Pn	17 39 44.5	-3.2
PPLA	**Purkeypile**	**6.46**	**3**	P	**Pn**	**17 39 48.1**	**-0.2**
TT01	**Tatalina**	**6.66**	**347**	P	**Pn**	**17 39 50.8**	**-0.1**
VRDI	**Verde Repeater**	**6.82**	**42**	P	**Pn**	**17 39 50.6**	**-2.6**
WESN	**West Dahl Nort**	**6.94**	**259**	P	**Pn**	**17 39 54.5**	**-0.2**
WESE	**West Dahl East**	**6.97**	**258**	P	**Pn**	**17 39 54.5**	**-0.7**
KIAG	**Kiagna River**	**7.05**	**46**	P	**Pn**	**17 39 54.0**	**-2.4**
BALM	**Baldy**	**7.12**	**46**	P	**Pn**	**17 39 55.1**	**-2.2**
BALM	**Baldy**	**7.12**	**46**	P	**Pn**	**17 39 55.1**	**-2.2**
TRF	**Thorofare Moun**	**7.13**	**9**	P	**Pn**	**17 39 56.0**	**-1.4**
HARP	**HAARP**	**7.13**	**30**	P	**Pn**	**17 39 57.1**	**-0.3**
RND	**Reindeer**	**7.25**	**14**	P	**Pn**	**17 39 57.8**	**-1.2**
RND	**Reindeer**	**7.25**	**14**	P	**Pn**	**17 39 57.8**	**-1.2**
BARN	**Barnard Glacie**	**7.41**	**47**	P	**Pn**	**17 39 59.1**	**-2.3**
PAX	**Paxson**	**7.51**	**27**	P	**Pn**	**17 40 01.4**	**-1.2**
PAX	**Paxson**	**7.51**	**27**	P	**Pn**	**17 40 01.4**	**-1.2**
PNL	**Peninsula**	**7.81**	**260**	P	**Pn**	**17 40 04.7**	**-2.0**
MTBL	**Makushin Table**	**8.30**	**258**	P	**Pn**	**17 40 12.7**	**-0.7**
GCSA	**Galena City Sc**	**8.54**	**348**	P	**Pn**	**17 40 17.5**	**+0.8**
BCA3	**Beaver Creek A**	**8.65**	**35**	P	**Pn**	**17 40 16.7**	**-1.4**
COLA	**College**	**8.78**	**14**	P	**Pn**	**17 40 18.6**	**-1.3**
COLA	**College**	**8.78**	**14**	P	**Pn**	**17 40 18.6**	**-1.3**
MDM	**Murphy Dome**	**8.82**	**13**	P	**Pn**	**17 40 18.9**	**-1.5**
IL1	**Eielson Array**	**8.83**	**17**	P	**Pn**	**17 40 18.9**	**-1.7**
ILAR	**Eielson Array**	**8.83**	**17**	Pn	**Pn**	**17 40 18.6**	**-1.9**
	4.6nm,0.3s,baz=209,slow=14,SNR=80						
ILAR				Sn	**Sn**	**17 41 54.7**	**-4.6**
	4.8nm,0.3s,baz=209,slow=22,SNR=4.8						
ILAR				LR	LR	17 44 18.0	
	comp=Z,7μm,19.7s,baz=208,slow=41						
ILAR	**Eielson Array**	**8.83**	**17**	Pn	**Pn**	**17 40 18.6**	**-1.9**
ILAR				Sn	**Sn**	**17 41 54.7**	**-4.6**
HYT	**Haines Junctio**	**9.10**	**55**	P	**Pn**	**17 40 23.5**	**-0.9**
SPIA	**Saint Paul Isl**	**9.57**	**282**	P	**Pn**	**17 40 31.1**	**+0.3**
SKAG	**Skagway**	**9.77**	**65**	*e*Pn	**Pn**	**17 40 32.9**	**-0.6**
EGAK	**Eagle**	**10.10**	**30**	*e*P	**Pn**	**17 40 37.4**	**-0.6**
	66nm,1.0s						
DIB	**Dawson Inlet,**	**12.17**	**97**	T	T	17 53 22.5	
	SNR=42						
DLBC	**Dease Lake**	**12.43**	**71**	Pn	**Pn**	**17 41 09.1**	**-0.8**
	0.9nm,0.3s,baz=255,slow=13,SNR=7.1						
DLBC				Sn	**Sn**	**17 43 26.0**	**-1.4**
	1.2nm,0.3s,baz=270,slow=19,SNR=5.1						
DLBC				LR	LR	17 45 29.0	
	comp=Z,3μm,19.2s,baz=286,slow=35						
DLBC	**Dease Lake**	**12.43**	**71**	Pn	**Pn**	**17 41 09.1**	**-0.8**
DLBC				Sn	**Sn**	**17 43 26.0**	**-1.4**
INK	**Inuvik**	**14.78**	**29**	Pn	**Pn**	**17 41 40.9**	**-0.8**
	0.2nm,0.3s,baz=200,slow=16,SNR=16						
INK	**Inuvik**	**14.78**	**29**	Pn	**Pn**	**17 41 40.9**	**-0.8**
BBB	**Bella Bella**	**15.01**	**96**	LR	LR	17 46 20.2	
	comp=Z,2μm,18.8s,baz=131,slow=32						
FX1	**Attu Island--F**	**19.86**	**274**	P	**P**	**17 42 42.8**	**-0.9**
	4.2nm,0.3s,baz=76,slow=8.3,SNR=10.0						
FX1	**Attu Island--F**	**19.86**	**274**	P	**P**	**17 42 42.8**	**-0.9**
FX1				*e*Pn	**Pn**	**17 42 43.2**	**-2.2**
NLWA	**Neilton Lookou**	**19.90**	**105**	*e*P	**Pn**	**17 42 45.4**	**-0.5**
	52nm,1.0s						
YKW3	**Yellowknife Ar**	**20.08**	**57**	*e*P	**P**	**17 42 45.1**	**-1.0**
	2.7nm,1.5s						
YKA	**Yellowknife Ar**	**20.09**	**57**	P	**P**	**17 42 45.6**	**-0.5**
	9.9nm,1.0s,baz=270,slow=9.9,SNR=57						
YKA				PcP	**PcP**	**17 46 59.8**	**-0.6**
	0.8nm,0.5s,baz=289,slow=1.6,SNR=4.2						
YKA				ScP	**ScP**	**17 50 36.3**	**+1.3**
	2.6nm,1.0s,baz=285,slow=2.2,SNR=9.8						
YKA	**Yellowknife Ar**	**20.09**	**57**	P	**P**	**17 42 45.6**	**-0.5**
YKA				PcP	**PcP**	**17 46 59.9**	**-0.6**
YKA				ScP	**ScP**	**17 50 36.4**	**+1.3**
MBW	**Mount Baker**	**20.15**	**99**	P	Pn	17 42 48.5	-0.6
HDW	**Hoodsport**	**20.18**	**103**	P	**P**	**17 42 49.0**	**+1.6**
JCW	**Jim Creek**	**20.47**	**101**	P	**P**	**17 42 52.1**	**+1.6**
RMW	**Rattlesnake Mo**	**20.97**	**102**	P	P	17 43 00.8	+4.9
RMW	**Rattlesnake Mo**	**20.97**	**102**	P	P	17 43 00.8	+4.9
LON	**Longmire**	**21.41**	**104**	*e*P	P	17 42 51.6	-8.9
	28nm,1.1s						
ETW	**Entiat**	**21.69**	**100**	P	**P**	**17 43 05.0**	**+1.3**
BILL	**Bilibino**	**21.79**	**318**	α *i*P	**P**	**17 43 03.9**	**-0.5**
BILL				*i*		17 43 06.6	
BILL						17 43 23.0	
BILL				*e*		17 47 11.3	
BILL				pmax	pmax		
	comp=Z,59nm,1.4s						
BILL				MLR	MLR		
	comp=Z,3μm,13.0s						
BILL	**Bilibino**	**21.79**	**318**	*e*P	**P**	**17 43 03.8**	**-0.7**
	comp=Z,102nm,1.2s						
WTV	**Waterville**	**21.84**	**100**	P	**P**	**17 43 06.3**	**+1.1**
COR	**Corvallis**	**22.03**	**110**	*e*P	**P**	**17 43 08.9**	**+1.8**
COR				pmax	pmax		
	comp=Z,222nm,1.5s						
COR	**Corvallis**	**22.03**	**110**	*e*P	**P**	**17 43 08.9**	**+1.8**
	comp=Z,222nm,1.5s						
OD2	**Odessa Site #2**	**22.70**	**99**	P	**P**	**17 43 15.0**	**+0.6**
KEBM	**Edson Butte**	**22.71**	**115**	*e*P	**P**	**17 43 14.4**	**-0.1**
	comp=Z,158nm,1.1s						
HAWA	**Hanford**	**22.86**	**102**	*e*P	**P**	**17 43 16.5**	**+0.5**
	comp=Z,48nm,0.9s						
NEW	**Newport**	**23.07**	**96**	P	**P**	**17 43 19.0**	**+0.7**
	comp=Z,12nm,0.7s,baz=305,slow=9.8,SNR=19						
NEW				LR	LR	17 51 33.2	
	comp=Z,881nm,18.2s,baz=303,slow=35						
NEW	**Newport**	**23.07**	**96**	*e*P	**P**	**17 43 19.1**	**+0.9**
	comp=Z,14nm,0.7s						
A12A	**Yaak River Ran**	**23.52**	**93**	⇓P	**P**	**17 43 23.7**	**+1.0**
	baz=23,SNR=9.0						
B12A	**Libby**	**23.81**	**94**	⇑P	**P**	**17 43 26.6**	**+1.1**
	baz=24,SNR=13						
YBH	**Yreka Blue Hor**	**24.36**	**114**	LR	LR	17 50 59.4	
	comp=Z,1μm,18.7s,baz=320,slow=31						
WALA	**Waterton Lakes**	**24.41**	**91**	*e*P	**P**	**17 43 31.5**	**+0.3**
B13A	**Whitefish**	**24.48**	**93**	⇓P	**P**	**17 43 31.9**	**+0.1**
	baz=24,SNR=20						
BSMT	**Bassoo Peak**	**24.60**	**94**	*e*ScP	**ScP**	**17 50 48.5**	**+1.3**
A14A	**Double T Ranch**	**24.73**	**91**	⇑P	**P**	**17 43 34.4**	**+0.3**
	baz=24,SNR=40						
A15A	**Johnson Ranch,**	**25.11**	**90**	⇑P	**P**	**17 43 37.6**	**+0.1**
	baz=25,SNR=26						
B14A	**Marquette Ranc**	**25.15**	**92**	⇓P	**P**	**17 43 37.0**	**-0.9**
	baz=25,SNR=16						
B15A	**Bradely Ranch,**	**25.57**	**91**	⇓P	**P**	**17 43 41.5**	**-0.1**
	baz=25,SNR=13						
A16A	**West Butte Ran**	**25.76**	**89**	⇓P	**P**	**17 43 42.9**	**-0.5**
	baz=26,SNR=18						
B16A	**M & M Farms, S**	**25.99**	**90**	⇑P	**P**	**17 43 45.0**	**-0.5**
	baz=26,SNR=16						
A17A	**Triple J Farms**	**26.26**	**89**	⇓P	**P**	**17 43 47.4**	**-0.4**
	baz=26,SNR=16						
A18A	**Metzger Ranch,**	**26.75**	**88**	⇑P	**P**	**17 43 51.7**	**-0.5**
	baz=26,SNR=5.8						
D16A	**Dana Ranch, Ca**	**26.87**	**93**	⇓P	**P**	**17 43 53.9**	**+0.5**
	baz=27						
B18A	**Beardsley Farm**	**27.07**	**89**	⇓P	**P**	**17 43 55.5**	**+0.3**
	baz=27,SNR=16						
E16A	**East Helena**	**27.09**	**94**	⇑P	**P**	**17 43 56.2**	**+0.8**
	baz=27						
D17A	**Six Diamond Ra**	**27.27**	**92**	⇓P	**P**	**17 43 58.0**	**+0.9**
	baz=27						
EGMT	**Eagleton**	**27.29**	**90**	*e*ScP	**ScP**	**17 50 56.1**	**+1.3**
H14A	**Leadore**	**27.34**	**99**	⇓P	**P**	**17 43 58.4**	**+0.6**
	baz=27						
A19A	**Klindworth Far**	**27.35**	**87**	⇓P	**P**	**17 43 57.6**	**0.0**
	baz=27,SNR=20						
I13A	**Wildhorse Cree**	**27.39**	**101**	⇑P	**P**	**17 43 58.8**	**+0.6**
	baz=27						
HLID	**Hailey**	**27.46**	**102**	*e*ScP	**ScP**	**17 50 57.1**	**+1.5**
G15A	**Dillon**	**27.48**	**97**	⇓P	**P**	**17 43 60.0**	**+1.0**
	baz=27						
B19A	**Brinkman Farms**	**27.50**	**88**	⇑P	**P**	**17 43 59.1**	**+0.1**
	baz=27,SNR=22						
E17A	**Martinsdale**	**27.59**	**93**	⇑P	**P**	**17 44 01.0**	**+1.1**
	baz=27						
SEY	**Seymchan**	**27.61**	**306**	*c i*P	**P**	**17 43 58.9**	**-0.9**
J13A	**Cove Ranch, Pi**	**27.70**	**102**	⇑P	**P**	**17 44 01.8**	**+0.9**
	baz=28						
D18A	**Linhart Farms,**	**27.74**	**91**	⇑P	**P**	**17 44 01.3**	**+0.1**
	baz=28						
H15A	**Lima**	**27.74**	**98**	⇑P	**P**	**17 44 01.0**	**-0.4**
	baz=28						
I14A	**Mackay**	**27.74**	**100**	⇓P	**P**	**17 44 02.0**	**+0.6**
	baz=28						
PET	**Petropavlovsk**	**27.75**	**284**	*e*P	**P**	**17 44 00.5**	**-0.5**
PET				pmax	pmax		
	comp=Z,78nm,1.3s						
PET	**Petropavlovsk**	**27.75**	**284**	*e*P	**P**	**17 44 00.9**	**-0.1**
	comp=Z,64nm,1.1s						
G16A	**Moss Hill, Enn**	**27.82**	**96**	⇑P	**P**	**17 44 02.2**	**+0.2**
	baz=28,SNR=6.0						
A20A	**Cobblestone Ra**	**27.83**	**87**	⇑P	**P**	**17 44 02.3**	**+0.4**
	baz=28,SNR=26						
C19A	**Slack Wire Ran**	**27.85**	**89**	⇑P	**P**	**17 44 02.5**	**+0.4**
	baz=28,SNR=9.5						
B20A	**Solberg Farm,**	**28.02**	**87**	⇓P	**P**	**17 44 03.6**	**0.0**
	baz=28,SNR=11						
F17A	**Fitzpatrick Pl**	**28.03**	**94**	⇑P	**P**	**17 44 04.0**	**+0.1**
	baz=28,SNR=5.3						
E18A	**Harlowton**	**28.05**	**92**	⇓P	**P**	**17 44 05.3**	**+1.3**
	baz=28						
PETK	**Petropavlovsk-**	**28.22**	**284**	P	**P**	**17 44 05.2**	**-0.1**
	comp=Z,10nm,0.9s,baz=78,slow=10,SNR=7.4						
PETK				LR	LR	17 56 08.3	
	comp=Z,490nm,19.3s,baz=194,slow=38						
PETK	**Petropavlovsk-**	**28.22**	**284**	P	**P**	**17 44 05.2**	**-0.1**
PETK	**Petropavlovsk-**	**28.22**	**284**	P	**P**	**17 44 05.2**	**-0.1**
FFC	**Flin Flon**	**28.26**	**72**	*e*P	**P**	**17 44 04.1**	**-1.5**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FFC	**Flin Flon**	**28.26**	**72**	*e*P	**P**	**17 44 04.1**	**-1.5**
	comp=Z,4.6nm,0.9s						
FFC				*e*ScP	**ScP**	**17 50 58.5**	**+0.9**
D19A	**Cripps Ranch,**	**28.27**	**90**	⇓P	**P**	**17 44 06.1**	**+0.2**
	baz=28						
QLMT	**Earthquake Lak**	**28.27**	**97**	*e*P	**P**	**17 44 06.9**	**+0.8**
A21A	**Bergoll Ranch**	**28.33**	**86**	⇓P	**P**	**17 44 06.7**	**+0.4**
	baz=28,SNR=16						
RES	**Resolute Bay**	**28.33**	**28**	P	**P**	**17 44 06.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=247,slow=11,SNR=17						
RES				LR	LR	17 55 58.4	
	comp=Z,434nm,18.7s,baz=241,slow=38						
RES	**Resolute Bay**	**28.33**	**28**	*e*P	**P**	**17 44 06.2**	**+0.1**
	comp=Z,20nm,1.1s						
H16A	**Russell Place,**	**28.45**	**97**	⇓P	**P**	**17 44 07.2**	**-0.5**
	baz=28						
F18A	**Big Timber**	**28.56**	**93**	⇑P	**P**	**17 44 09.5**	**+1.0**
	baz=28						
B21A	**Ellsworth Farm**	**28.59**	**87**	⇑P	**P**	**17 44 08.8**	**+0.1**
	baz=28,SNR=7.1						
J15A	**Blackfoot**	**28.65**	**100**	⇑P	**P**	**17 44 09.9**	**+0.5**
	baz=28,SNR=7.2						
D20A	**Manuel Ranch,**	**28.73**	**90**	⇓P	**P**	**17 44 10.3**	**+0.4**
	baz=28						
E19A	**Rath Farm, Rou**	**28.74**	**91**	⇓P	**P**	**17 44 10.2**	**+0.1**
	baz=28						
F19A	**Roth Farm, Mol**	**29.02**	**93**	⇑P	**P**	**17 44 13.1**	**+0.5**
	baz=29						
H17A	**Grant Village**	**29.02**	**96**	⇑P	**P**	**17 44 13.4**	**+0.6**
	baz=29,SNR=6.8						
K15A	**Arbon**	**29.07**	**101**	⇓P	**P**	**17 44 13.8**	**+0.6**
	baz=29						
NVAR	**Mina Array Bea**	**29.07**	**114**	P	**P**	**17 44 14.3**	**+1.0**
	comp=Z,20nm,0.8s,baz=287,slow=9.4,SNR=1.8						
NVAR				ScP	**ScP**	**17 51 01.9**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=289,slow=3.3,SNR=7.7						
NVAR				LR	LR	17 54 07.2	
	comp=Z,2μm,18.1s,baz=38,slow=33						
NVAR	**Mina Array Bea**	**29.07**	**114**	P	**P**	**17 44 14.3**	**+1.0**
NVAR				ScP	**ScP**	**17 51 01.9**	**+1.2**
E20A	**Meyer Farm, Mu**	**29.07**	**91**	⇑P	**P**	**17 44 13.3**	**+0.2**
	baz=29						
B22A	**Reddig Ranch S**	**29.22**	**86**	⇓P	**P**	**17 44 15.0**	**+0.7**
	baz=29,SNR=7.0						
I17A	**Pilgrim Ck.**	**29.33**	**97**	⇓P	**P**	**17 44 15.5**	**0.0**
	baz=29						
H18A	**Shoshone NF, C**	**29.35**	**95**	⇓P	**P**	**17 44 15.6**	**0.0**
	baz=29						
D21A	**La Casta Ranch**	**29.37**	**89**	⇑P	**P**	**17 44 16.0**	**+0.3**
	baz=29						
F20A	**Billings**	**29.49**	**92**	⇑P	**P**	**17 44 16.6**	**-0.2**
	baz=29						
C22A	**Vida**	**29.60**	**87**	⇓P	**P**	**17 44 17.3**	**-0.3**
	baz=29						
B23A	**Brockton**	**29.69**	**85**	⇑P	**P**	**17 44 19.3**	**+0.9**
	baz=30,SNR=5.3						
H19A	**Powell**	**29.73**	**95**	⇑P	**P**	**17 44 19.1**	**+0.2**
	baz=30						
D22A	**Cohagen**	**29.78**	**88**	⇓P	**P**	**17 44 19.8**	**+0.6**
	baz=30						
G20A	**Bridger**	**29.81**	**93**	⇑P	**P**	**17 44 20.0**	**+0.4**
	baz=30						
I18A	**Diamond G Ranc**	**29.89**	**97**	⇑P	**P**	**17 44 20.8**	**+0.3**
	baz=30						
C23A	**Lambert**	**29.95**	**86**	⇑P	**P**	**17 44 21.4**	**+0.6**
	baz=30,SNR=25						
A24A	**Westby**	**29.98**	**84**	⇓P	**P**	**17 44 21.5**	**+0.5**
	baz=30						
J18A	**Kendall Valley**	**30.10**	**98**	⇓P	**P**	**17 44 22.9**	**+0.5**
	baz=30						
DGMT	**Dagmar**	**30.12**	**84**	*e*P	**P**	**17 44 22.4**	**+0.2**
	comp=Z,23nm,1.1s						
DGMT				*e*ScP	**ScP**	**17 51 05.4**	**+1.7**
L16A	**Fish Haven**	**30.12**	**101**	⇑P	**P**	**17 44 23.1**	**+0.6**
	baz=30						
I19A	**Meeteetse**	**30.12**	**96**	⇑P	**P**	**17 44 23.1**	**+0.6**
	baz=30,SNR=6.4						
D23A	**Lindsay**	**30.30**	**87**	⇓P	**P**	**17 44 24.3**	**+0.4**
	baz=30						
E22A	**Miles City**	**30.32**	**89**	⇑P	**P**	**17 44 24.2**	**+0.2**
	baz=30						
L17A	**Cokeville**	**30.37**	**100**	⇓P	**P**	**17 44 24.9**	**+0.2**
	baz=30						
H20A	**Greybull**	**30.39**	**94**	⇓P	**P**	**17 44 24.6**	**-0.1**
	baz=30						
C24A	**Savage**	**30.53**	**86**	⇑P	**P**	**17 44 27.3**	**+1.5**
	baz=30,SNR=10						
F22A	**Rosebud**	**30.55**	**90**	⇓P	**P**	**17 44 26.7**	**+0.6**
	baz=30						
PDAR	**Pinedale Array**	**30.64**	**98**	P	**P**	**17 44 28.0**	**+0.8**
	comp=Z,13nm,0.7s,baz=312,slow=5.1,SNR=31						
PDAR				ScP	**ScP**	**17 51 05.8**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=45,slow=1.0,SNR=3.9						
PDAR	**Pinedale Array**	**30.64**	**98**	P	**P**	**17 44 28.0**	**+0.8**
PDAR				ScP	**ScP**	**17 51 05.8**	**+0.1**
E23A	**Ismay**	**30.65**	**89**	⇓P	**P**	**17 44 27.6**	**+0.7**
	baz=30						
I20A	**Worland**	**30.66**	**95**	⇓P	**P**	**17 44 27.5**	**+0.3**
	baz=30						
D24A	**Glendive**	**30.82**	**87**	⇓P	**P**	**17 44 29.9**	**+1.4**
	baz=31,SNR=7.2						
G22A	**Birney**	**30.88**	**91**	⇑P	**P**	**17 44 29.2**	**+0.2**
	baz=31						
J20A	**Shoshoni**	**31.07**	**96**	⇓P	**P**	**17 44 32.1**	**+1.3**
	baz=31,SNR=8.3						
I21A	**Big Trails, Te**	**31.21**	**94**	⇑P	**P**	**17 44 32.2**	**+0.2**
	baz=31,SNR=6.0						
M18A	**Lyman**	**31.27**	**100**	⇓P	**P**	**17 44 32.2**	**-0.5**
	baz=31						
P15A	**Leamington**	**31.38**	**105**	⇓P	**P**	**17 44 33.4**	**-0.2**
	baz=31						
K20A	**Yellowstone Ra**	**31.39**	**97**	⇑P	**P**	**17 44 33.4**	**-0.3**
	baz=31						
G23A	**Biddle**	**31.39**	**91**	⇓P	**P**	**17 44 33.6**	**+0.1**
	baz=31						
ARVC	**Arvin**	**31.39**	**118**	⇑P	**P**	**17 44 33.5**	**0.0**
	baz=31						
J21A	**Lysite**	**31.43**	**95**	⇑P	**P**	**17 44 35.0**	**+1.0**
	baz=31,SNR=5.8						
F24A	**Ekalaka**	**31.52**	**89**	⇑P	**P**	**17 44 35.7**	**+1.1**
	baz=31,SNR=6.8						
I22A	**9 Mile Ranch,**	**31.61**	**93**	⇓P	**P**	**17 44 35.6**	**+0.1**
	baz=31						
M19A	**Rock Springs**	**31.72**	**99**	⇑P	**P**	**17 44 36.7**	**+0.2**
	baz=32						
N18A	**Larsen Ranch,**	**31.80**	**101**	⇑P	**P**	**17 44 37.1**	**-0.2**
	baz=32						
L20A	**Wamsutter**	**31.82**	**98**	⇑P	**P**	**17 44 37.7**	**+0.2**
	baz=32						
G24A	**Alzada**	**31.85**	**90**	⇓P	**P**	**17 44 37.9**	**+0.3**
	baz=32						
J22A	**Midwest**	**31.92**	**94**	⇓P	**P**	**17 44 39.3**	**+1.0**
	baz=32,SNR=7.6						
K21A	**Alcova**	**32.00**	**96**	⇑P	**P**	**17 44 39.5**	**+0.5**
	baz=32,SNR=11						
N19A	**John Jarvie Ra**	**32.12**	**100**	⇑P	**P**	**17 44 40.5**	**+0.3**
	baz=32,SNR=6.2						
H24A	**Dirks Ranch, A**	**32.13**	**91**	⇓P	**P**	**17 44 39.9**	**-0.2**
	baz=32						
M20A	**Sweetwater, Wa**	**32.26**	**98**	⇑P	**P**	**17 44 41.8**	**+0.4**
	baz=32,S

baz=36,SNR=6.1
R24A Sanders Place, 36.23 100 ⇑P P 17 45 16.9 +1.1
baz=36,SNR=6.1
P26A Davis Ranch, A 36.26 96 ⇑P P 17 45 17.0 +1.1
baz=36,SNR=10
O27A Beecher Island 36.30 95 ⇓P P 17 45 17.2 +1.0
baz=36
T23A Casias Ranch, 36.59 102 ⇑P P 17 45 18.9 0.0
baz=36
S24A Houchin Ranch, 36.60 100 ⇓P P 17 45 20.4 +1.4
baz=36,SNR=13
Q26A Hugo 36.61 97 ⇑P P 17 45 20.2 +1.3
baz=36,SNR=6.0
V21A Milan 36.64 105 ⇑P P 17 45 20.0 +0.7
baz=36
W20A Ramah 36.69 107 ⇑P P 17 45 20.3 +0.6
baz=36
R25A Fountain Ranch 36.74 99 ⇑P P 17 45 21.0 +0.9
baz=36,SNR=9.0
214A Organ Pipe Nat 36.92 114 ⇑P P 17 45 22.6 +1.1
baz=37
S25A Robets Cordova 37.01 100 ⇓P P 17 45 23.1 +0.7
baz=37,SNR=5.5
U23A El Rito 37.03 103 ⇓P P 17 45 23.4 +0.8
baz=37
KSCO Kaye Shedlock' 37.04 96 ⇑P P 17 45 23.8 +1.2
baz=37,SNR=11
R26A Arlington 37.09 98 ⇓P P 17 45 24.1 +1.1
baz=37,SNR=7.0
T24A Torres, Weston 37.10 101 ⇑P P 17 45 23.9 +0.6
baz=37,SNR=9.3
X20A Quemado 37.13 107 ⇑P P 17 45 24.3 +0.8
baz=37
W21A San Fidel 37.15 106 ⇑P P 17 45 24.1 +0.5
baz=37
EYMN Ely 37.37 76 *e*P P 17 45 25.4 +0.3
comp=Z,46nm,0.7s
T25A Trinidad 37.40 100 ⇓P P 17 45 26.5 +0.7
baz=37
R27A Eads 37.46 97 ⇓P P 17 45 26.8 +0.7
baz=37,SNR=8.9
U24A Moreno Valley 37.46 102 ⇑P P 17 45 27.2 +0.9
baz=37
V23A Ortiz Mt. (NFS 37.47 103 ⇓P P 17 45 27.0 +0.7
baz=37
S26A Kim 37.56 99 ⇓P P 17 45 28.0 +0.9
baz=37,SNR=18
X21A Alamocita Cree 37.59 106 ⇓P P 17 45 28.4 +1.1
baz=37,SNR=12
W22A Albuquerque 37.60 105 ⇑P P 17 45 28.3 +0.9
baz=37
Y20A Horse Springs, 37.69 108 ⇑P P 17 45 29.0 +0.8
baz=38
YAK Yakutsk 37.79 311 *c i*P P 17 45 27.4 -1.1
YAK *e**PP **pP** 17 45 36.5 +1.2
YAK *e* 17 46 55.2
YAK *e* 17 47 43.9
YAK *e*S **S** 17 51 15.6 -1.9
YAK *e*SS **SnSn** 17 53 59.6 +1.5
YAK *e*SSS SSS 17 54 27.8
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,27nm,1.5s
YAK smax smax
comp=E,66nm,9.6s
YAK smax smax
comp=N,20nm,7.1s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=E,1μm,17.0s
YAK MLR MLR
comp=N,969nm,16.0s
YAK Yakutsk 37.79 311 *e*P P 17 45 27.3 -1.1
comp=N,52nm,0.8s
BGNE Belgrade 37.87 90 ⇓P P 17 45 29.8 +0.4
baz=38
ANMO Albuquerque 37.92 105 P P 17 45 30.8 +0.6
comp=N,2.3nm,0.6s,baz=294,slow=9.3,SNR=5.0
ANMO ScP **ScP** 17 51 33.5 +1.9
comp=N,5.6nm,1.1s,baz=302,slow=4.8,SNR=6.7
ANMO LR LR 18 00 28.6
comp=N,478nm,18.7s,baz=137,slow=35
ANMO Albuquerque 37.92 105 P P 17 45 30.8 +0.6
ANMO ScP **ScP** 17 51 33.5 +1.9
W23A Werner Place, 37.92 104 ⇓P P 17 45 30.3 +0.1
baz=38
U25A Circle Dot Ran 37.94 101 ⇑P P 17 45 31.1 +0.7
baz=38
X22A Bernardo 37.95 106 ⇑P P 17 45 30.9 +0.5
baz=38
V24A Rampart Ranch, 37.97 103 ⇑P P 17 45 31.2 +0.6
baz=38
Y21A Point of Rocks 37.98 107 ⇑P P 17 45 31.1 +0.4
baz=38
Z20A Nine Sixteen R 38.19 109 ⇓P P 17 45 33.1 +0.8
baz=38,SNR=6.9
V25A Rancho No Teng 38.24 102 ⇑P P 17 45 33.0 +0.1
baz=38
W24A Lazy 6 Ranch, 38.28 103 ⇑P P 17 45 33.6 +0.4
baz=38
U26A Atchley Ranch, 38.31 100 ⇓P P 17 45 33.9 +0.5
baz=38,SNR=5.8
SPMN St. Paul 38.33 81 ⇓P P 17 45 33.2 -0.1
baz=38,SNR=6.0
X23A Hourglass Bar 38.34 105 ⇑P P 17 45 33.5 -0.2
baz=38
T27A Campo 38.38 99 ⇓P P 17 45 34.6 +0.7
baz=38,SNR=5.8
Y22A Socorro 38.41 106 ⇓P P 17 45 34.5 +0.3
baz=38
BNM Barren Site 38.43 106 *e*P P 17 45 36.2 +1.7
comp=N,10nm,1.1s
T28A Walsh 38.67 98 ⇓P P 17 45 36.8 +0.5
baz=38,SNR=9.2
V26A Tequesquite Ra 38.73 101 ⇓P P 17 45 37.5 +0.7
baz=38,SNR=32
W25A X Bar L Ranch, 38.79 102 ⇑P P 17 45 38.5 +1.0
baz=39,SNR=5.2
Y23A Lovelace Mesa, 38.90 105 ⇓P P 17 45 39.3 +0.9
baz=39
Z22A Elephant Butte 38.94 107 ⇑P P 17 45 40.1 +1.4
baz=39,SNR=6.3
121A Cookes Peak, D 39.06 108 ⇑P P 17 45 40.3 +0.5
baz=39
220A Playas Peak, P 39.17 110 ⇓P P 17 45 41.5 +0.9
baz=39,SNR=6.6
319A Douglas 39.19 111 ⇑P P 17 45 41.7 +1.0
baz=39
X25A Clemmons Ranch 39.20 103 ⇓P P 17 45 41.8 +0.9
baz=39
Y24A Capitan 39.24 105 ⇑P P 17 45 42.1 +0.9
baz=39,SNR=5.2
V28A Channing 39.61 100 ⇓P P 17 45 44.7 +0.5
baz=39
YSS Yuzh-Sakhalins 39.63 284 *e*P P 17 45 45.0 +1.0
YSS *e*S **S** 17 51 50.0 +4.4
YSS *e*SSS SSS 17 55 06.0
YSS MLR MLR
comp=N,600nm,20.0s
YSS MLR MLR
comp=E,600nm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 39.63 284 *e*P P 17 45 45.1 +1.0
comp=Z,14nm,1.0s
X26A CR and CF Fran 39.64 102 ⇑P P 17 45 45.2 +0.7
baz=39
W27A Bowe Ranch, En 39.67 101 ⇑P P 17 45 45.0 +0.3
baz=39
Z24A Sheeppen Canyo 39.73 105 ⇑P P 17 45 46.2 +0.9
baz=40
COWI Conover 39.77 77 *e*P P 17 45 45.4 0.0
comp=Z,12nm,0.7s
V29A Stinnett 39.91 99 ⇓P P 17 45 46.8 +0.2
baz=40
X27A F and S Farms, 39.96 102 ⇑P P 17 45 47.5 +0.3
baz=40
W28A Vega 39.99 100 ⇑P P 17 45 47.8 +0.5
baz=40
Y26A Elida 40.11 103 ⇑P P 17 45 48.9 +0.5
baz=40
124A Stringfield Ra 40.17 106 ⇓P P 17 45 49.5 +0.5
baz=40
KSU1 Kansas State U 40.31 91 *e*P P 17 45 50.6 +0.8
comp=Z,35nm,0.9s
W29A Amraillo 40.40 100 ⇑P P 17 45 51.0 +0.3
baz=40
Z26A Caprock 40.52 104 ⇑P P 17 45 52.8 +1.0
baz=40,SNR=5.2
X28A Dimmitt 40.55 101 ⇑P P 17 45 52.2 +0.2
baz=40
224A Cornudas Mount 40.62 107 ⇓P P 17 45 52.9 +0.3
baz=40
125A Gardner Draw, 40.63 105 ⇑P P 17 45 53.2 +0.5
baz=40
MSTX Muleshoe 40.65 102 ⇑P P 17 45 52.9 +0.1
baz=40
X29A Tulia 40.87 100 ⇑P P 17 45 54.8 +0.1
baz=41
Z27A Tatum 40.90 103 ⇑P P 17 45 55.4 +0.5
baz=41,SNR=6.6
W30A Crocket Farms 40.94 99 ⇑P P 17 45 55.8 +0.7
baz=41
Y28A McKinney Farm, 40.98 102 ⇓P P 17 45 55.8 +0.3
baz=41,SNR=5.8
MNTX Cornudas Mount 40.98 107 *e*P P 17 45 57.2 +1.8
comp=Z,20nm,1.0s
324A Moseley Ranch, 41.13 107 ⇑P P 17 45 57.4 +0.6
baz=41,SNR=5.5
W31A Holland Ranch, 41.28 98 ⇓P P 17 45 58.3 +0.3
baz=41,SNR=8.9
127A Arkansas Junct 41.31 104 ⇑P P 17 45 58.4 +0.1
baz=41
X30A Coker Ranch, T 41.32 100 ⇑P P 17 45 59.0 +0.7
baz=41,SNR=8.0
Y29A Porterfield Fa 41.33 101 ⇑P P 17 45 58.7 +0.3
baz=41,SNR=12
Z28A Tucker Farm, M 41.37 102 ⇓P P 17 45 58.8 0.0
baz=41
325A Bean Ranch, Si 41.46 107 ⇑P P 17 46 00.4 +0.8
baz=41,SNR=9.7
ASAJ Asahikawa 41.52 281 P P 17 46 01.0 +1.3
comp=Z,44nm,0.9s,baz=38,slow=2.9,SNR=33
ASAJ Asahikawa 41.52 281 P P 17 46 01.0 +1.3
X31A McDonald Ranch 41.67 99 ⇑P P 17 46 01.9 +0.7
baz=41,SNR=8.9
Y30A Stafford Cattl 41.74 100 ⇓P P 17 46 02.0 +0.3
baz=42
Z29A Hungry Hill Ra 41.76 102 ⇑P P 17 46 02.5 +0.5
baz=42,SNR=6.5
128A Castleberry Fa 41.83 103 ⇑P P 17 46 03.0 +0.5
baz=42,SNR=6.5
227A Bennet, Jal 41.86 104 ⇓P P 17 46 04.0 +1.3
baz=42,SNR=5.0
425A Indio Mountain 41.91 107 ⇑P P 17 46 05.0 +1.7
baz=42,SNR=16
Y31A Rekieta Farm, 42.02 100 ⇑P P 17 46 04.2 +0.2
baz=42
326A Caldwell Ranch 42.03 106 ⇑P P 17 46 05.0 +0.8
baz=42,SNR=15
Z30A Sanderson Ranc 42.06 101 ⇑P P 17 46 04.5 +0.2
baz=42,SNR=9.3
228A UT Block 9, Go 42.16 104 ⇓P P 17 46 06.1 +0.9
baz=42,SNR=15
WMOK Wichita Mounta 42.25 97 *e*P P 17 46 06.6 +0.7
WMOK pmax pmax
comp=Z,47nm,1.0s
WMOK Wichita Mounta 42.25 97 *e*P P 17 46 06.6 +0.7
comp=Z,47nm,1.0s
Y32A R-V Farms, Ver 42.44 99 ⇑P P 17 46 08.0 +0.6
baz=42,SNR=7.3
426A McDonald Obser 42.51 106 ⇓P P 17 46 08.6 +0.4
baz=42,SNR=6.2
Z31A Sharp Cattle R 42.57 100 ⇑P P 17 46 09.0 +0.5
baz=42,SNR=6.0
328A Wristen Ranch, 42.61 104 ⇑P P 17 46 08.8 0.0
baz=42
ERM Erimo 42.61 278 *e*P P 17 46 10.1 +1.5
ERM pmax pmax
comp=Z,83nm,1.0s
ERM Erimo 42.61 278 *e*P P 17 46 10.1 +1.5
comp=Z,83nm,1.0s
ERM Erimo 42.61 278 P P 17 46 10.2 +1.6
comp=Z,452nm,1.0s,SNR=6.7
CLNS Chul'man 42.61 306 *e*P P 17 46 06.7 -1.9
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.2s
CLNS MLR MLR
comp=N,1μm,12.0s
CLNS MLR MLR
comp=Z,3μm,16.0s
CLNS MLR MLR
comp=E,2μm,18.0s
130A Snyder 42.67 102 ⇓P P 17 46 09.3 0.0
baz=42
229A Bryant Ranch, 42.69 103 ⇑P P 17 46 09.5 0.0
baz=42
427A Hayter Ranch, 42.70 106 ⇓P P 17 46 10.3 +0.7
baz=42
HABR Khabarovsk 42.75 291 *ce*P P 17 46 08.4 -1.3
HABR *e* 17 47 47.2
HABR *e* 17 47 59.4
HABR *e*PPP PPP 17 48 19.4
HABR *e*S **S** 17 52 29.9 -2.0
HABR *e*SS **SS** 17 55 41.6 -0.8
HABR *e* 17 56 06.3
HABR pmax pmax
comp=Z,65nm,1.6s
HABR pmax pmax
comp=N,22nm,1.6s
HABR pmax pmax
comp=E,29nm,1.6s
HABR MLR MLR
comp=E,1μm,17.0s
HABR MLR MLR
comp=Z,992nm,17.0s
HABR MLR MLR
comp=N,765nm,20.0s
Z32A Haskell 42.94 99 ⇓P P 17 46 11.9 +0.4
baz=43,SNR=11
526A Mary Lane Ranc 42.95 107 ⇓P P 17 46 12.5 +0.7
baz=43,SNR=12
329A Wagon Wheel Ra 42.97 104 ⇓P P 17 46 12.2 +0.4
baz=43,SNR=16
TUL1 Tulsa 43.04 94 ⇓P P 17 46 12.0 -0.2
baz=43
230A Sterling City 43.13 102 ⇓P P 17 46 12.8 -0.3
baz=43,SNR=7.3
527A Woodward Ranch 43.14 106 ⇓P P 17 46 13.5 +0.2
baz=43,SNR=7.5
428A Kincaid Ranch, 43.18 105 ⇑P P 17 46 14.3 +0.8
baz=43,SNR=19
626A Big Bend Ranch 43.33 107 ⇑P P 17 46 15.3 +0.6
baz=43,SNR=8.0
HDIL Hopedale 43.35 84 *e*P P 17 46 14.5 -0.1
comp=N,68nm,0.7s
ABTX Abilene, Hawle 43.37 100 ⇓P P 17 46 15.2 +0.3
baz=43,SNR=8.6
330A Mertzon 43.47 103 ⇑P P 17 46 15.8 0.0
baz=43,SNR=15
231A Bronte 43.53 102 ⇑P P 17 46 16.2 0.0
baz=43,SNR=6.2
528A Cox Ranch, San 43.57 106 ⇑P P 17 46 17.0 +0.3
baz=43,SNR=12
SUMG Summit 43.60 23 *e*P P 17 46 17.4 +0.6
SUMG pmax pmax
comp=Z,32nm,0.9s
SUMG Summit 43.60 23 *e*P P 17 46 17.4 +0.6
comp=Z,32nm,0.9s
SUMG Summit 43.60 23 *i*P P 17 46 17.4 +0.6
comp=Z,24nm,1.0s
429A Davenport Ranc 43.69 104 ⇓P P 17 46 17.5 0.0
baz=44,SNR=11
TXAR Lajitas Array 43.75 107 P P 17 46 19.4 +1.2
comp=Z,15nm,0.9s,baz=318,slow=5.8,SNR=36
TXAR ScP **ScP** 17 51 54.7 +0.1
comp=Z,0.7nm,0.8s,baz=290,slow=3.7,SNR=5.5
TXAR LR LR 18 03 38.6
comp=Z,665nm,18.1s,baz=0.0,slow=35
TXAR Lajitas Array 43.75 107 P P 17 46 19.4 +1.2
TXAR ScP **ScP** 17 51 54.7 +0.1
627A Terlingua Ranc 43.81 107 ⇓P P 17 46 19.0 +0.4
baz=44,SNR=14
529A Stev Forest Ra 43.90 105 ⇓P P 17 46 19.3 0.0
baz=44,SNR=17
430A Baggett Ranch, 43.92 104 ⇑P P 17 46 19.1 -0.3
baz=44,SNR=14
DAG Danmarks Havn 43.92 14 ⇑*i*P P 17 46 18.8 0.0
comp=Z,236nm,0.9s
232A Coleman 43.93 101 ⇑P P 17 46 19.5 0.0
baz=44,SNR=7.6
331A San Angelo 43.95 102 ⇑P P 17 46 19.3 -0.4
baz=44
KLR Kul'dur 43.96 294 *e*P P 17 46 15.8 -3.7
KLR *e* 17 46 16.0
KLR *e*S **S** 17 52 48.0 -1.7
KLR *e* 17 56 17.5
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,90nm,1.6s
KLR MLR MLR
comp=E,700nm,13.5s
KLR MLR MLR
comp=Z,3μm,13.5s
628A Black Gap, Mar 44.05 106 ⇑P P 17 46 20.1 -0.4
baz=44,SNR=15
SFJD Kangerlussuaq 44.05 34 *e*P P 17 46 20.7 +0.8
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 44.05 34 *i*P P 17 46 20.5 +0.6
comp=Z,24nm,0.9s
332A Millersview 44.26 102 ⇓P P 17 46 22.0 -0.1
baz=44
431A Sonora 44.34 103 ⇑P P 17 46 22.0 -0.7
baz=44,SNR=11
530A J-C Ranch, Com 44.36 104 ⇑P P 17 46 22.7 -0.2
baz=44,SNR=13
FVM French Village 44.53 87 *e*P P 17 46 24.1 0.0
FVM pmax pmax
comp=Z,23nm,0.9s
FVM French Village 44.53 87 *e*P P 17 46 24.1 0.0
comp=Z,23nm,0.9s
432A Menard 44.63 102 ⇓P P 17 46 24.8 -0.2
baz=44,SNR=5.5
LPIG La Paz 44.63 118 LR LR 18 01 06.2
comp=Z,36nm,20.5s,baz=216,slow=31
SFIN Scholer Farm 44.68 82 ⇑P P 17 46 24.8 -0.6
baz=44
531A Rocksprings 44.77 103 ⇓P P 17 46 25.6 -0.6
baz=44,SNR=20
JCT Junction City 44.93 102 *e*P P 17 46 28.0 +0.5
JCT pmax pmax
comp=Z,79nm,1.0s
JCT Junction City 44.93 102 *e*P P 17 46 28.0 +0.5
comp=Z,79nm,1.0s
WHTX Lake Whitney 45.05 99 ⇓P P 17 46 27.9 -0.4
baz=45
532A Rocksprings 45.15 103 ⇓P P 17 46 28.9 -0.4
baz=45
631A Perdido Creek 45.34 104 ⇑P P 17 46 29.8 -0.9
baz=45,SNR=24
SPITS Spitsbergen Ar 45.45 3 P P 17 46 31.3 +0.2
comp=Z,13nm,0.7s,baz=74,slow=12,SNR=4.1
SPITS Spitsbergen Ar 45.45 3 P P 17 46 31.3 +0.2
SCHQ Schefferville 45.51 54 P P 17 46 31.4 -0.4
comp=Z,4.6nm,0.5s,baz=306,slow=7.3,SNR=16
SCHQ LR LR 18 08 15.4
comp=Z,1μm,18.3s,baz=315,slow=40
SCHQ Schefferville 45.51 54 *e*P P 17 46 32.1 +0.4
comp=Z,32nm,1.4s
632A Uvalde 45.70 103 ⇓P P 17 46 32.7 -0.8
baz=46,SNR=7.7
PARMO Parma 45.85 88 *e*P P 17 46 34.8 +0.2
732A Laxson Ranch, 46.21 104 ⇓P P 17 46 37.7 +0.1
baz=46
USRK Ussuriysk Arra 47.15 288 P P 17 46 44.5 -0.2
comp=Z,5.6nm,1.0s,baz=55,slow=6.5,SNR=7.7
USRK PP PP 17 48 45.4 +10
comp=Z,0.8nm,0.6s,baz=34,slow=7.1,SNR=4.3
USRK LR LR 18 08 49.1
comp=Z,731nm,19.9s,baz=186,slow=39
WVT Waverly 47.30 87 *e*P P 17 46 46.1 +0.1
WVT pmax pmax
comp=Z,16nm,0.8s
WVT Waverly 47.30 87 *e*P P 17 46 46.1 +0.1
comp=Z,16nm,0.8s
HKT Hockley 47.50 99 *e*P P 17 46 48.9 +1.3
HKT pmax pmax
comp=Z,35nm,1.1s
HKT Hockley 47.50 99 *e*P P 17 46 48.9 +1.3
comp=Z,35nm,1.1s
ALLY Alegheny Colle 47.59 76 *e*P P 17 46 43.6 -4.5
comp=Z,58nm,0.6s
OXF Oxford 47.61 90 *e*P P 17 46 48.2 -0.2
OXF pmax pmax
comp=Z,74nm,0.7s
OXF Oxford 47.61 90 *e*P P 17 46 48.2 -0.2
comp=Z,74nm,0.7s
MDJ Mudanjiang 48.12 290 P P 17 46 51.0 -1.3
MDJ pP **pP** 17 46 57.3 -1.9
MDJ sP **sP** 17 47 00.0 -2.0
MDJ PP **PP** 17 48 40.3 -4.0
MDJ S **S** 17 53 46.5 -3.0
MDJ ScS **ScS** 17 56 41.5 -2.1
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.2s
MDJ LR LR
comp=N,700nm,15.8s
MDJ LR LR
comp=E,610nm,18.0s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ Mudanjiang 48.12 290 *e*P P 17 46 51.6 -0.7
comp=Z,12nm,0.9s
VBMS Vicksburg 48.71 93 *e*P P 17 46 58.3 +1.4
comp=Z,131nm,1.2s
MAJO Matsushiro 49.18 277 *e*P P 17 47 01.2 +0.6
MAJO pmax pmax
comp=Z,24nm,1.1s
MAJO Matsushiro 49.18 277 *e*P P 17 47 01.2 +0.6
comp=Z,24nm,1.1s
MAT Matsushiro 49.18 277 P P 17 47 00.5 -0.1
MAT S **S** 17 54 08.0 +3.3
MJAR Matsushiro Arr 49.18 277 P P 17 47 00.5 -0.1
comp=Z,6.2nm,1.0s,baz=25,slow=5.4,SNR=19
MJAR LR LR 18 06 22.0
comp=Z,414nm,20.6s,baz=75,slow=34
MJAR Matsushiro Arr 49.18 277 P P 17 47 00.5 -0.1
SSPA Standing Stone 49.51 75 *e*P P 17 47 04.0 +1.0
comp=Z,110nm,1.9s
NRS Narsarsuaq 49.69 37 *i*P P 17 46 55.8 -8.2
comp=Z,5.7nm,1.0s
HIA Hailar 49.85 301 *e*P P 17 47 05.2 -0.3
comp=Z,18nm,0.9s
LRAL Lakeview Retre 50.05 89 *e*P P 17 47 06.7 -0.5
comp=Z,8.5nm,0.7s
CIT Chita 50.77 307 *e*P P 17 47 13.3 +0.8
CIT pmax pmax
comp=Z,125nm,1.3s
CN2 Changchun 50.83 292 ⇑*i*P P 17 47 12.8 -0.1
CN2 *e*pP **pP** 17 47 19.5 -0.4
CN2 *e*S **S** 17 54 26.0 -1.4
CN2 pmax pmax
comp=Z,80nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,700nm,18.0s
CN2 LR LR
comp=Z,900nm,18.0s
KMSC Kings Mountain 51.61 83 ⇓P P 17 47 19.3 +0.4
baz=51
SNY Shenyang 53.20 292 ⇑P P 17 47 31.3 +0.7
SNY S **S** 17 54 58.8 -1.2
SNY pmax pmax
comp=Z,180nm,5.9s
SNY LR LR
comp=N,670nm,16.8s
SNY LR LR
comp=E,500nm,12.6s
SNY LR LR
comp=Z,1μm,16.8s
KEV Kevo 54.09 0 *e*P P 17 47 37.0 +0.3
KEV pmax pmax
comp=Z,167nm,1.9s
KEV Kevo 54.09 0 *e*P P 17 47 37.0 +0.3
comp=Z,167nm,1.9s

KEV	**Kevo**	**54.09**	**0**	*ep*	**P**	**17 47 35.1**	**-1.6**		
	comp=Z,11nm,0.9s								
KSRS	**Korea Array**	**54.12**	**285**	P	**P**	**17 47 38.0**	**+0.7**		
	comp=Z,9.0nm,1.0s,baz=46,slow=6.8,SNR=19								
KSAR	**Wonju Array Be**	**54.15**	**285**	P	**P**	**17 47 38.0**	**+0.5**		
ARCES	**ARCESS Array B**	**54.30**	**1**	P	**P**	**17 47 38.5**	**+0.2**		
	comp=Z,3.7nm,0.5s,baz=7.1,slow=7.6,SNR=20								
ARCES	**ARCESS Array B**	**54.30**	**1**	P	**P**	**17 47 38.5**	**+0.2**		
IRK	**Irkutsk**	**54.56**	**313**	*eP*	**P**	**17 47 40.6**	**+0.2**		
IRK				pmax	pmax				
	comp=Z,56nm,2.5s								
TLY	**Talaya**	**55.24**	**313**	*eP*	**P**	**17 47 45.2**	**-0.2**		
TLY				*eS*	S	17 55 17.4	-10		
TLY				pmax	pmax				
	comp=Z,24nm,1.1s								
TLY				MLR	MLR				
	comp=Z,843nm,15.0s								
TLY	**Talaya**	**55.24**	**313**	*eP*	**P**	**17 47 46.2**	**+0.8**		
	comp=Z,35nm,1.2s								
TLY	**Talaya**	**55.24**	**313**	P	**P**	**17 47 46.6**	**+1.2**		
	SNR=20								
TLY	**Talaya**	**55.24**	**313**	P	**P**	**17 47 46.6**	**+1.2**		
	comp=Z,118nm,1.1s,SNR=7.4								
LVZ	**Lovozero**	**55.83**	**357**	*eP*	**P**	**17 47 49.6**	**+0.2**		
LVZ				pmax	pmax				
	comp=Z,36nm,0.8s								
LVZ	**Lovozero**	**55.83**	**357**	*eP*	**P**	**17 47 49.3**	**-0.1**		
	comp=Z,50nm,0.9s								
APA	**Apatity**	**56.20**	**357**	⇑*iP*	**P**	**17 47 52.6**	**+0.7**		
APA				*eS*	**S**	**17 55 40.0**	**+0.5**		
APA				*ePS*	**PnS**	**17 55 50.0**	**-0.9**		
APA				MLR	MLR				
	comp=Z,800nm,12.0s								
MOY	**Mondy**	**56.32**	**314**	*eP*	**P**	**17 47 54.4**	**+1.1**		
MOY				pmax	pmax				
	comp=Z,45nm,2.8s								
DL2	**Dalian**	**56.36**	**291**	P	**P**	**17 47 52.0**	**-1.5**		
DL2				S	**S**	**17 55 44.0**	**+1.6**		
DL2				pmax	pmax				
	comp=Z,110nm,6.0s								
DL2				LR	LR				
	comp=N,380nm,16.5s								
DL2				LR	LR				
	comp=E,330nm,15.0s								
DL2				LR	LR				
	comp=Z,360nm,16.3s								
ZAK	**Zakamensk**	**56.38**	**312**	⇑*iP*	**P**	**17 47 53.9**	**+0.3**		
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
ULN	**Ulaanbaatar**	**56.68**	**308**	*eP*	**P**	**17 47 56.2**	**+0.3**		
	comp=Z,21nm,0.9s								
ULN	**Ulaanbaatar**	**56.68**	**308**	P	**P**	**17 47 56.6**	**+0.7**		
	SNR=9.7								
SONM	**Songino Array**	**56.99**	**308**	P	**P**	**17 47 58.8**	**+0.8**		
	comp=Z,40nm,0.8s,baz=45,slow=5.1,SNR=201								
SONM				LR	LR	18 14 25.0			
	comp=Z,2μm,18.1s,baz=35,slow=38								
SONM	**Songino Array**	**56.99**	**308**	P	**P**	**17 47 58.8**	**+0.8**		
BJI	**Beijing**	**58.29**	**296**	P	**P**	**17 48 07.5**	**+0.4**		
BJI				S	**S**	**17 56 06.0**	**-1.8**		
BJI				pmax	pmax				
	comp=Z,15nm,1.2s								
BJI				pmax	pmax				
	comp=Z,140nm,4.2s								
BJI				LR	LR				
	comp=N,450nm,16.3s								
BJI				LR	LR				
	comp=E,1μm,14.9s								
BJI				LR	LR				
	comp=Z,570nm,18.2s								
CMIG	**Matias Romero**	**58.35**	**108**	P	**P**	**17 48 07.6**	**-0.3**		
	comp=Z,5.1nm,0.8s,baz=325,slow=6.6,SNR=8.3								
CMIG	**Matias Romero**	**58.35**	**108**	P	**P**	**17 48 07.6**	**-0.3**		
TEIG	**Tepich**	**59.35**	**100**	P	**P**	**17 48 15.3**	**+0.6**		
	comp=Z,14nm,0.8s,baz=308,slow=12,SNR=6.6								
TEIG	**Tepich**	**59.35**	**100**	P	**P**	**17 48 15.3**	**+0.6**		
TMCR	**Tamitsa**	**59.41**	**354**	*eP*	**P**	**17 48 14.1**	**-0.4**		
TMCR				pmax	pmax				
	comp=Z,50nm,1.3s								
HHC	**Hu-ho-hao-te**	**59.94**	**299**	*eP*	**P**	**17 48 19.0**	**+0.3**		
HHC				pP	**pP**	**17 48 26.5**	**+0.7**		
HHC				sP	**sP**	**17 48 30.0**	**+1.5**		
HHC				PcS	**PcS**	**17 53 06.5**	**-0.6**		
HHC				S	**S**	**17 56 27.0**	**-2.5**		
HHC				sS	**sS**	**17 56 40.5**	**-0.6**		
HHC				ScS	**ScS**	**17 58 03.5**	**-4.1**		
HHC				SS	**SS**	**18 00 23.3**	**-2.0**		
HHC				pmax	pmax				
	comp=Z,71nm,1.2s								
HHC				LR	LR				
	comp=N,1μm,13.0s								
HHC				LR	LR				
	comp=E,630nm,11.2s								
HHC				LR	LR				
	comp=Z,830nm,15.1s								
NVS	**Novosibirsk**	**60.05**	**326**	⇑*iP*	**P**	**17 48 18.5**	**-0.5**		
NVS				*eS*	**S**	**17 56 27.7**	**-2.4**		
NVS				pmax	pmax				
	comp=Z,37nm,1.1s								
NVS				pmax	pmax				
	comp=N,12nm,1.0s								
NVS				pmax	pmax				
	comp=E,18nm,1.2s								
NVS				smax	smax				
	comp=E,67nm,2.7s								
ZAA0	**Zalesovo Array**	**60.30**	**325**	*eP*	**P**	**17 48 20.4**	**-0.5**		
ZALV	**Zalesovo Beam**	**60.30**	**325**	P	**P**	**17 48 21.2**	**+0.4**		
	comp=E,29nm,0.9s,baz=30,slow=5.9,SNR=109								
ZALV				LR	LR	18 19 37.8			
	comp=E,523nm,18.8s,baz=157,slow=41								
ZALV	**Zalesovo Beam**	**60.30**	**325**	P	**P**	**17 48 21.2**	**+0.4**		
ZALV	**Zalesovo Beam**	**60.30**	**325**	P	**P**	**17 48 21.2**	**+0.4**		
BTO	**Baotou**	**60.88**	**300**	*eP*	**P**	**17 48 25.0**	**-0.1**		
JOF	**Joensuu**	**60.91**	**358**	*eP*	**P**	**17 48 25.3**	**+0.5**		
JOF				pmax	pmax				
	comp=Z,13nm,0.7s								
JOF	**Joensuu**	**60.91**	**358**	*ep*	**P**	**17 48 25.3**	**+0.5**		
	comp=Z,13nm,0.7s								
KAF	**Kangasniemi**	**61.76**	**0**	*eP*	**P**	**17 48 30.4**	**-0.2**		
KAF				pmax	pmax				
	comp=Z,12nm,0.7s								
KAF	**Kangasniemi**	**61.76**	**0**	*ep*	**P**	**17 48 30.4**	**-0.2**		
	comp=Z,12nm,0.7s								
NB2	**NORSAR Subarra**	**62.17**	**9**	P	**P**	**17 48 33.8**	**+0.4**		
	baz=349,slow=6.9								
NB2	**NORSAR Subarra**	**62.17**	**9**	P	**P**	**17 48 33.8**	**+0.4**		
	comp=Z,32nm,0.9s,baz=349,slow=6.9								
NOA	**NORSAR Array B**	**62.17**	**9**	P	**P**	**17 48 34.1**	**+0.7**		
	comp=Z,21nm,0.8s,baz=350,slow=6.7,SNR=44								
NOA	**NORSAR Array B**	**62.17**	**9**	P	**P**	**17 48 34.1**	**+0.7**		
FIA1	**FINESS Array S**	**62.43**	**1**	*eP*	**P**	**17 48 35.2**	**+0.1**		
FINES	**FINESS Array B**	**62.43**	**1**	P	**P**	**17 48 35.7**	**+0.6**		
	comp=Z,24nm,0.9s,baz=15,slow=8.1,SNR=35								
FINES				LR	LR	18 16 34.4			
	comp=Z,276nm,19.5s,baz=160,slow=37								
FINES	**FINESS Array B**	**62.43**	**1**	P	**P**	**17 48 35.7**	**+0.6**		
SSE	**Sheshan**	**62.56**	**285**	P	P	17 48 31.5	-4.9		
SSE				pP	pP	17 48 41.0	-2.5		
SSE				S	S	17 56 56.0	-6.6		
SSE				sS	sS	17 57 12.3	-2.0		
SSE				pmax	pmax				
	comp=Z,21nm,0.7s								
SSE				pmax	pmax				
	comp=Z,200nm,3.7s								
SSE				LR	LR				
	comp=N,160nm,23.6s								
SSE				LR	LR				
	comp=E,120nm,23.7s								
SSE				LR	LR				
	comp=Z,210nm,18.2s								
KLMR	**Klimovskoe**	**62.62**	**353**	*eP*	**P**	**17 48 34.8**	**-1.6**		
KLMR				pmax	pmax				
	comp=Z,68nm,1.2s								
NJ2	**Nanjing**	**63.05**	**288**	*eP*	P	17 48 48.3	+8.6		
NJ2				pmax	pmax				
	comp=Z,110nm,1.2s								
HFS	**Hagfors**	**63.26**	**8**	P	**P**	**17 48 41.2**	**+0.6**		
	comp=Z,23nm,0.8s,baz=33,slow=3.5,SNR=29								
HFS	**Hagfors**	**63.26**	**8**	P	**P**	**17 48 41.2**	**+0.6**		
SVE	**Sverdlovsk**	**63.88**	**340**	*de*P	**P**	**17 48 45.0**	**+0.2**		
SVE				pmax	pmax				
	comp=Z,39nm,1.1s								
ARU	**Arti**	**64.63**	**341**	*c iP*	**P**	**17 48 49.3**	**-0.4**		
ARU						17 49 24.1			
ARU				S	**S**	**17 57 27.6**	**-0.2**		
ARU				SS	**SS**	**18 01 33.2**	**-4.3**		
ARU				pmax	pmax				
	comp=Z,36nm,1.0s								
ARU				MLR	MLR				
	comp=Z,673nm,20.0s								
ARU	**Arti**	**64.63**	**341**	*eP*	**P**	**17 48 49.5**	**-0.2**		
	comp=Z,37nm,1.1s								
ARU	**Arti**	**64.63**	**341**	P	**P**	**17 48 49.5**	**-0.2**		
	comp=Z,190nm,0.8s,SNR=12								
KURK	**Kurchatov**	**65.03**	**327**	*c iP*	**P**	**17 48 52.1**	**-0.3**		
KURK				pmax	pmax				
	comp=Z,59nm,2.5s								
KURK	**Kurchatov**	**65.03**	**327**	*eP*	**P**	**17 48 52.3**	**-0.1**		
	comp=Z,20nm,1.0s								
KURK	**Kurchatov**	**65.03**	**327**	P	**P**	**17 48 53.4**	**+1.1**		
	SNR=12								
KURK	**Kurchatov**	**65.03**	**327**	P	**P**	**17 48 53.7**	**+1.3**		
	comp=Z,114nm,1.1s,SNR=18								
BRVK	**Borovoye**	**65.25**	**333**	*c iP*	**P**	**17 48 53.8**	**0.0**		
BRVK				pmax	pmax				
	comp=Z,31nm,0.8s								
BRVK	**Borovoye**	**65.25**	**333**	*eP*	**P**	**17 48 54.0**	**+0.2**		
	comp=Z,36nm,1.1s								
BRVK	**Borovoye**	**65.25**	**333**	P	**P**	**17 48 54.3**	**+0.5**		
	SNR=12								
BRVK	**Borovoye**	**65.25**	**333**	P	**P**	**17 48 53.4**	**-0.4**		
	comp=Z,193nm,1.0s,SNR=15								
BVA0	**Borovoye Array**	**65.25**	**333**	P	**P**	**17 48 53.6**	**-0.2**		
BVA0				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	**65.25**	**333**	P	**P**	**17 48 53.8**	**0.0**		
	comp=Z,29nm,0.8s,baz=35,slow=5.4,SNR=126								
BVAR	**Borovoye Array**	**65.25**	**333**	P	**P**	**17 48 53.8**	**0.0**		
BVAR	**Borovoye Array**	**65.25**	**333**	P	**P**	**17 48 53.8**	**0.0**		
VSU	**Vasula**	**65.42**	**0**	⇑*iP*	**P**	**17 48 55.4**	**+0.6**		
VSU				pmax	pmax				
	comp=Z,62nm,0.9s								
GTA	**Gaotai**	**66.56**	**306**	*eP*	**P**	**17 49 02.5**	**-0.1**		
GTA				pP	**pP**	**17 49 09.3**	**-0.5**		
GTA				sP	**sP**	**17 49 12.5**	**0.0**		
GTA				S	**S**	**17 57 54.8**	**+2.6**		
GTA				pmax	pmax				
	comp=Z,20nm,1.3s								
GTA				pmax	pmax				
	comp=Z,220nm,5.7s								
GTA				LR	LR				
	comp=N,750nm,16.4s								
GTA				LR	LR				
	comp=E,1μm,17.1s								
GTA				LR	LR				
	comp=Z,1μm,13.8s								
XAN	**Xi'an**	**66.59**	**296**	P	**P**	**17 49 02.5**	**-0.3**		
XAN				pP	**pP**	**17 49 08.8**	**-1.1**		
XAN				sP	**sP**	**17 49 11.5**	**-1.1**		
XAN				PP	**PP**	**17 51 31.3**	**+2.3**		
XAN				S	**S**	**17 57 51.5**	**-0.9**		
XAN				sS	**sS**	**17 58 01.5**	**-2.7**		
XAN				pmax	pmax				
	comp=Z,4.0nm,1.5s								
XAN				pmax	pmax				
	comp=Z,40nm,6.3s								
XAN				LR	LR				
	comp=N,570nm,14.9s								
XAN				LR	LR				
	comp=E,93nm,15.6s								
XAN				LR	LR				
	comp=Z,180nm,16.0s								
WHN	**Wuhan**	**66.60**	**290**	P	P	17 49 08.8	+6.0		
WHN				S	**S**	**17 57 56.8**	**+4.2**		
WHN				LR	LR				
	comp=Z,980nm,12.9s								
MK31	**Makanchi Array**	**67.27**	**322**	*ceP*	**P**	**17 49 06.9**	**0.0**		
MK31				pmax	pmax				
	comp=Z,31nm,1.1s								
MK31	**Makanchi Array**	**67.27**	**322**	*eP*	**P**	**17 49 06.6**	**-0.3**		
MKAR	**Makanchi Array**	**67.27**	**322**	P	**P**	**17 49 06.8**	**-0.1**		
	comp=Z,15nm,0.8s,baz=40,slow=5.1,SNR=117								
MKAR	**Makanchi Array**	**67.27**	**322**	P	**P**	**17 49 06.8**	**-0.1**		
MKAR	**Makanchi Array**	**67.27**	**322**	P	**P**	**17 49 06.8**	**-0.1**		
LZH	**Lanzhou**	**67.41**	**301**	*eP*	**P**	**17 49 08.0**	**-0.1**		
LZH				pP	**pP**	**17 49 17.0**	**+1.7**		
LZH				sP	**sP**	**17 49 19.0**	**+1.1**		
LZH				*eS*	**S**	**17 58 01.0**	**-1.5**		
LZH				SS	**SS**	**18 02 20.3**	**-1.6**		
LZH				pmax	pmax				
	comp=Z,36nm,1.2s								
LZH				pmax	pmax				
	comp=Z,270nm,5.2s								
LZH				LR	LR				
	comp=N,790nm,12.0s								
LZH				LR	LR				
	comp=E,1μm,13.3s								
LZH				LR	LR				
	comp=Z,1μm,13.9s								
WMQ	**Urumqi**	**67.90**	**317**	P	**P**	**17 49 12.5**	**+1.5**		
WMQ				PcP	**PcP**	**17 49 35.5**	**-1.8**		
WMQ				S	**S**	**17 58 08.5**	**+0.5**		
WMQ				pmax	pmax				
	comp=Z,16nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,110nm,3.6s								
WMQ				LR	LR				
	comp=N,1μm,18.5s								
WMQ				LR	LR				
	comp=E,770nm,15.0s								
WMQ				LR	LR				
	comp=Z,400nm,21.0s								
IZAR	**Zarasai**	**68.14**	**1**	*eP*	**P**	**17 49 12.8**	**+0.7**		
IZAR				AMB	AMB	17 49 13.5			
	comp=Z,9.2nm,1.1s								
ISAL	**Salakas**	**68.32**	**1**	*eP*	**P**	**17 49 13.9**	**+0.7**		
ISAL				AMB	AMB	17 49 15.8			
	comp=Z,12nm,1.0s								
OBN	**Obninsk**	**68.52**	**354**	*ceP*	**P**	**17 49 14.2**	**-0.3**		
OBN				*e**PP	**pP**	**17 49 21.1**	**-0.6**		
OBN				*e*		17 49 36.1			
OBN						17 59 12.0			
OBN				pmax	pmax				
	comp=Z,40nm,1.0s								
OBN				MLR	MLR				
	comp=Z,300nm,16.0s								
OBN	**Obninsk**	**68.52**	**354**	*eP*	**P**	**17 49 14.9**	**+0.4**		
	comp=Z,35nm,1.0s								
IIGN	**Ignalina**	**68.54**	**1**	*eP*	**P**	**17 49 15.4**	**+0.7**		
IIGN				AMB	AMB	17 49 16.0			
	comp=Z,14nm,1.4s								
NACGM	**Naroch**	**69.00**	**0**	*e*	**P**	**17 49 15.0**	**-2.5**		
ENH	**Enshi**	**69.33**	**294**	*eP*	**P**	**17 49 19.4**	**-0.6**		
	comp=Z,30nm,1.6s								
MICGM	**Minsk**	**69.40**	**360**	*e*	**P**	**17 49 20.0**	**0.0**		
MNK	**Minsk**	**69.40**	**360**	*eP*	**P**	**17 49 20.0**	**0.0**		
SDDR	**Presa de Saban**	**69.75**	**86**	*eP*	**P**	**17 49 22.9**	**+0.1**		
	comp=Z,24nm,1.1s								
SUW	**Suwalki**	**69.84**	**3**	*eP*	**P**	**17 49 22.7**	**-0.1**		
SUW	**Suwalki**	**69.84**	**3**	*eP*	**P**	**17 49 23.0**	**+0.3**		
SUW				pmax	pmax				
	comp=Z,53nm,0.8s								
SUW	**Suwalki**	**69.84**	**3**	*eP*	**P**	**17 49 23.0**	**+0.3**		
	comp=Z,53nm,0.8s								
SUW	**Suwalki**	**69.84**	**3**	*eP*	**P**	**17 49 22.6**	**-0.1**		
IBBN	**Ibbenburen**	**70.42**	**13**	*eP*	**P**	**17 49 27.6**	**+1.3**		
	comp=Z,40nm,1.2s								
AKTO	**Aktyubinsk**	**70.44**	**340**	P	**P**	**17 49 26.3**	**-0.2**		
	comp=Z,17nm,0.9s,baz=21,slow=5.6,SNR=61								
AKTO	**Aktyubinsk**	**70.44**	**340**	P	**P**	**17 49 26.3**	**-0.2**		
AKTO	**Aktyubinsk**	**70.44**	**340**	P	**P**	**17 49 26.3**	**-0.2**		
NRDL	**Niedersach Rie**	**70.50**	**11**	*eP*	**P**	**17 49 27.8**	**+1.1**		
	comp=Z,33nm,1.0s								
CLZ	**Clausthal**	**71.17**	**11**	*eP*	**P**	**17 49 32.4**	**+1.4**		
CLZ				pmax	pmax				
	comp=Z,37nm,1.1s								
CLZ	**Clausthal**	**71.17**	**11**	*eP*	**P**	**17 49 32.4**	**+1.4**		
	comp=Z,37nm,1.1s								
AB31	**Akbulak array**	**71.18**	**338**	*ceP*	**P**	**17 49 30.9**	**-0.1**		
AB31				pmax	pmax				
	comp=Z,12nm,0.7s								
ABKAR	**Akbulak array**	**71.18**	**338**	*eP*	**P**	**17 49 30.7**	**-0.3**		
	comp=Z,13nm,0.8s								
BUG	**Bochum--Univer**	**71.21**	**13**	*eP*	**P**	**17 49 31.9**	**+0.8**		
	comp=Z,34nm,0.8s								
PMOR	**Pomariorio Ree**	**71.31**	**175**	*eT*	T	19 07 18.9			
	comp=Z,355nm,0.2s								
BEBN	**Eben Emael**	**71.64**	**14**	P	**P**	**17 49 34.8**	**+1.1**		
CD2	**Chengdu**	**71.67**	**298**	P	**P**	**17 49 35.0**	**+0.7**		
CD2				pP	**pP**	**17 49 41.0**	**-0.5**		
CD2				sP	**sP**	**17 49 44.0**	**-0.2**		
CD2				PP	**PP**	**17 52 15.8**	**+2.8**		
CD2				S	**S**	**17 58 52.0**	**-0.6**		
CD2				sS	**sS**	**17 59 02.5**	**-1.9**		
CD2				pmax	pmax				
	comp=Z,30nm,0.5s								
CD2				pmax	pmax				
	comp=Z,160nm,6.5s								
CD2				LR	LR				
	comp=N,950nm,16.1s								
CD2				LR	LR				
	comp=Z,930nm,16.6s								
SNF	**Seneffe**	**71.72**	**15**	P	**P**	**17 49 35.1**	**+0.9**		
MEM	**Membach**	**71.86**	**14**	P	**P**	**17 49 36.0**	**+0.9**		
	comp=Z,14nm,1.7s								
BCLA	**Clavier**	**71.95**	**15**	P	**P**	**17 49 36.8**	**+1.1**		
	comp=Z,16nm,2.0s								
CLL	**Collm**	**71.96**	**9**	*iP*	**P**	**17 49 36.3**	**+0.6**		
CLL				*e*		17 49 44.0			
CLL				*i*		17 49 52.4			
CLL				*eS*	**S**	**17 58 57.0**	**+1.8**		
CLL				pmax	pmax				
	comp=Z,14nm,1.0s								
CLL				MLR	MLR				
	comp=Z,300nm,19.1s								
CLL	**Collm**	**71.96**	**9**	*eP*	**P**	**17 49 36.3**	**+0.6**		
	comp=Z,14nm,1.0s								
CLL	**Collm**	**71.96**	**9**	⇑*iP*	**P**	**17 49 36.3**	**+0.6**		
	comp=Z,14nm,1.0s								
CLL				*ep*P	**pP**	**17 49 44.0**	**+1.1**		
CLL				*i* (PcP)	**PcP**	**17 49 52.4**	**-1.8**		
CLL				*eS*	**S**	**17 58 57.0**	**+1.8**		
CLL				*e*SS	SS	18 03 39.0	+8.4		
CLL				*e*SSS	SSS	18 06 54.0			
CLL				LmH		18 25 00.0			
	comp=N,300nm,20.8s								
CLL				LmH		18 25 00.0			
	comp=E,100nm,19.5s								
CLL				LmH		18 25 00.0			
	comp=Z,300nm,19.1s								
VRHR	**Novokhopersk**	**72.14**	**350**	*eP*	**P**	**17 49 35.5**	**-1.2**		
VRHR				pmax	pmax				
	comp=N,20nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
UBBA	**Unterbreizbach**	**72.14**	**11**	*eP*	**P**	**17 49 37.9**	**+1.2**		
	comp=Z,67nm,2.3s								
BAIF	**Baives**	**72.15**	**15**	⇑*iP*	**P**	**17 49 37.5**	**+0.7**		
	comp=Z,41nm,1.0s								
BAIF	**Baives**	**72.15**	**15**	⇑*iP*	**P**	**17 49 37.5**	**+0.7**		
BAIF				pmax	pmax				
	comp=Z,41nm,1.0s								
BAIF	**Baives**	**72.15**	**15**	⇑*iP*	**P**	**17 49 37.5**	**+0.7**		
	comp=Z,41nm,1.0s								
DOU	**Dourbes**	**72.17**	**15**	P	**P**	**17 49 37.7**	**+0.7**		
	comp=Z,10.0nm,1.3s								
GIVF	**Givet**	**72.19**	**15**	⇑*iP*	**P**	**17 49 37.7**	**+0.6**		
	comp=Z,58nm,1.1s								
GIVF	**Givet**	**72.19**	**15**	⇑*iP*	**P**	**17 49 37.7**	**+0.6**		
GIVF				pmax	pmax				
	comp=Z,58nm,1.1s								
GIVF	**Givet**	**72.19**	**15**	⇑*iP*	**P**	**17 49 37.7**	**+0.6**		
	comp=Z,58nm,1.1s								
VSR	**Storozhevoye**	**72.23**	**352**	*eP*	**P**	**17 49 37.1**	**-0.2**		
VSR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=E,6.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
BRG	**Berggiesshubel**	**72.47**	**9**	*eP*	**P**	**17 49 39.7**	**+0.9**		
	comp=Z,22nm,1.3s								
BRG				PP	**PP**	**17 52 17.0**	**-2.2**		
BRG									
	comp=N,342nm,17.5s								
BRG									
	comp=E,314nm,21.6s								
BRG									
	comp=Z,354nm,18.2s								
BRG	**Berggiesshubel**	**72.47**	**9**	*eP*	**P**	**17 49 39.7**	**+0.9**		
BRG						17 52 17.0			
BRG				pmax	pmax				
	comp=Z,22nm,1.3s								
BRG				MLR	MLR				
	comp=N,342nm,17.5s								
BRG				MLR	MLR				
	comp=E,314nm,21.6s								
BRG				MLR	MLR				
	comp=Z,354nm,18.2s								
BRG	**Berggiesshubel**	**72.47**	**9**	*eP*	**P**	**17 49 39.6**	**+0.9**		
	comp=Z,22nm,1.3s								
MOX	**Moxa**	**72.48**	**10**	*eP*	**P**	**17 49 39.7**	**+0.9**		
MOX				pmax	pmax				
	comp=Z,24nm,0.9s								
MOX				MLR	MLR				
	comp=Z,400nm,19.6s								
MOX	**Moxa**	**72.48**	**10**	*eL*	L	18 26 11.5			
	comp=Z,375nm,19.6s								
MOX	**Moxa**	**72.48**	**10**	*eP*	**P**	**17 49 39.7**	**+0.9**		
	comp=Z,24nm,0.9s								
MOX				*eL*	L	18 26 11.5			
	comp=Z,375nm,19.6s								
ROSF	**Rostrenen**	**72.53**	**21**	*eP*	**P**	**17 49 39.7**	**+0.6**		
	comp=Z,21nm,1.0s								
ROSF	**Rostrenen**	**72.53**	**21**	*eP*	**P**	**17 49 39.7**	**+0.6**		
ROSF				pmax	pmax				
	comp=Z,21nm,1.0s								
ROSF	**Rostrenen**	**72.53**	**21**	*eP*	**P**	**17 49 39.7**	**+0.6**		
	comp=Z,21nm,1.0s								
TNS	**Taunus Mts**	**72.55**	**12**	*eP*	**P**	**17 49 40.3**	**+1.0**		
TNS				pmax	pmax				
	comp=Z,17nm,1.0s								
TNS	**Taunus Mts**	**72.55**	**12**	*eP*	**P**	**17 49 40.3**	**+1.0**		
	comp=Z,17nm,1.0s								
FLN	**La Foliniere**	**72.64**	**19**	⇑*iP*	**P**	**17 49 40.1**	**+0.3**		
	comp=Z,50nm,1.2s								
FLN				*eR*					
	comp=Z,585nm,19.8s								
FLN	**La Foliniere**	**72.64**	**19**	⇑*iP*	**P**	**17 49 40.1**	**+0.3**		
FLN				pmax	pmax				
	comp=Z,50nm,1.3s								
FLN	**La Foliniere**	**72.64**	**19**	⇑*iP*	**P**	**17 49 40.1**	**+0.3**		
	comp=Z,50nm,1.3s								
KSP	**Ksiaz**	**72.68**	**7**	*eP*	**P**	**17 49 41.1**	**+1.1**		
KSP	**Ksiaz**	**72.68**	**7**	⇑*eP*	**P

GRR pmax pmax
comp=Z,33nm,1.1s
GRR Gorron 72.94 19⇑*i*P P 17 49 42.0 +0.5
comp=Z,33nm,1.1s
USP Ospenovka 72.94 326 P P 17 49 43.2 +1.4
SNR=20
QUIF Quistinic 72.95 21 *e*P P 17 49 42.2 +0.6
comp=Z,20nm,1.0s
QUIF Quistinic 72.95 21 *e*P P 17 49 42.2 +0.6
QUIF pmax pmax
comp=Z,20nm,1.0s
QUIF Quistinic 72.95 21 *e*P P 17 49 42.2 +0.6
comp=Z,20nm,1.0s
NKC Novy Kostel 72.97 10 *i*P P 17 49 43.2 +1.4
NKC Novy Kostel 72.97 10 *i*P P 17 49 43.2 +1.4
UPC Upice 73.00 7 *i*P P 17 49 43.3 +1.4
UPC *e* 17 49 52.0
UPC Upice 73.00 7 *i*P P 17 49 43.3 +1.4
UPC *ep*P **pP 17 49 52.0 +2.9**
CHMS Chumysh 73.11 326 P P 17 49 43.6 +0.9
SNR=22
DPC Dobruska-Polom 73.17 7 *e*P P 17 49 44.3 +1.3
DPC pmax pmax
comp=Z,41nm,1.0s
DPC Dobruska-Polom 73.17 7 *e*P P 17 49 44.3 +1.3
comp=Z,41nm,1.0s
DPC Dobruska-Polom 73.17 7 *i*P P 17 49 44.2 +1.3
DPC *ep*P **pP 17 49 51.0 +0.8**
AKASG Malin Array Be 73.19 359 P P 17 49 43.1 +0.1
comp=Z,22nm,0.8s,baz=1.1,slow=5.8,SNR=39
AKASG LR LR 18 22 33.3
comp=Z,363nm,19.4s,baz=355,slow=36
AKASG Malin Array Be 73.19 359*ce*P P 17 49 43.0 0.0
AKASG pmax pmax
comp=Z,22nm,0.8s
AKASG Malin Array Be 73.19 359 P P 17 49 43.1 +0.1
KIEV Kiev 73.20 359 *e*P P 17 49 42.2 -0.8
KIEV pmax pmax
comp=Z,26nm,0.9s
KIEV Kiev 73.20 359 *e*P P 17 49 42.2 -0.8
comp=Z,26nm,0.9s
AK01 Malin Array Si 73.20 359 *e*P P 17 49 42.8 -0.3
TOD Tromm 73.20 12 *e*P P 17 49 44.3 +1.2
TOD Tromm 73.20 12 *e*P P 17 49 44.3 +1.2
AK02 Malin Array Si 73.23 359 *e*P P 17 49 43.3 0.0
FRU Bishkek 73.30 326⇓*i*P P 17 49 45.0 +1.1
FRU pmax pmax
comp=Z,148nm,2.2s
PRA Prague 73.31 9 P P 17 49 45.0 +1.3
KBK Karagaybulak 73.36 325 P P 17 49 45.4 +1.1
SNR=25
GRF Grafenberg Arr 73.39 11 *e*P P 17 49 45.5 +1.3
GRF pmax pmax
comp=Z,92nm,2.2s
GRF MLR MLR
comp=Z,400nm,18.7s
GRF Grafenberg Arr 73.39 11 *e*P P 17 49 45.5 +1.3
comp=Z,92nm,2.2s
GRF *e*L L 18 27 50.3
comp=Z,366nm,18.7s
PRU Pruhonice 73.40 8 *i*P P 17 49 45.3 +1.0
PRU *e* 17 49 53.2
PRU MLR MLR
comp=Z,300nm,14.2s
PRU Pruhonice 73.40 8 *i*P P 17 49 45.3 +1.0
PRU *ep*P **pP 17 49 53.2 +1.7**
PRU AMS AMS 18 27 20.0
comp=Z,300nm,14.2s
ROTZ Rotzenmuhle 73.41 10 *e*P P 17 49 45.6 +1.3
comp=Z,21nm,1.3s
KRLC Kraliky 73.48 7 *i*P P 17 49 45.7 +0.9
OJC Ojcow 73.51 5 *e*P P 17 49 45.6 +0.7
OJC Ojcow 73.51 5 *e*P P 17 49 45.6 +0.7
AAK Ala-Archa 73.52 326*c i*P P 17 49 46.0 +0.7
AAK pmax pmax
comp=Z,73nm,1.2s
AAK Ala-Archa 73.52 326 *e*P P 17 49 45.9 +0.5
comp=Z,93nm,1.0s
AAK Ala-Archa 73.52 326 P P 17 49 46.5 +1.2
SNR=12
AAK Ala-Archa 73.52 326 P P 17 49 46.1 +0.7
SNR=17
AAK Ala-Archa 73.52 326 P P 17 49 45.8 +0.5
comp=Z,109nm,1.1s,SNR=11
LANF Langenberg 73.69 13 *e*P P 17 49 47.1 +1.1
LANF Langenberg 73.69 13 *e*P P 17 49 47.1 +1.1
LANF Langenberg 73.69 13 *e*P P 17 49 47.1 +1.1
EKS2 Erkin-Say 73.72 326 *e*P P 17 49 47.1 +0.7
EKS2 pmax pmax
comp=Z,31nm,1.0s
EKS2 Erkin-Say 73.72 326 *e*P P 17 49 47.1 +0.7
comp=Z,31nm,1.0s
EKS2 Erkin-Say 73.72 326 P P 17 49 47.5 +1.1
SNR=32
KZA Kyzart 73.78 325 P P 17 49 48.3 +1.1
SNR=8.9
MEZF Maizieres J'vi 73.79 15 *e*P P 17 49 47.3 +0.7
comp=Z,36nm,1.1s
MEZF Maizieres J'vi 73.79 15 *e*P P 17 49 47.3 +0.7
comp=Z,36nm,1.1s
TIAR Tiarei 73.79 177 *e*T T 19 10 24.1
comp=Z,122nm,0.2s
OKC Ostrava-Krasne 73.80 6 *i*P P 17 49 47.6 +1.0
OKC *e* 17 49 56.7
OKC Ostrava-Krasne 73.80 6 *i*P P 17 49 47.6 +1.0
OKC *ep*P **pP 17 49 56.7 +2.9**
PPT2 Papeete2 73.81 177 *e*S **SKiKP 17 59 09.6 -4.9**
comp=Z,674nm,28.8s
PPT2 *e*LR LR 18 12 14.3
comp=Z,310nm,21.2s,baz=355
PPT2 *e*T T 19 10 26.2
comp=Z,18nm,0.3s
MORC Moravsky Berou 73.83 6 *e*P P 17 49 47.1 +0.2
MORC pmax pmax
comp=Z,13nm,1.3s
MORC Moravsky Berou 73.83 6 *e*P P 17 49 47.1 +0.2
comp=Z,13nm,1.3s
MORC Moravsky Berou 73.83 6⇑*i*P P 17 49 47.0 +0.2
PAGF Fort de Pagny 73.83 15⇑*i*P P 17 49 47.8 +0.9
comp=Z,12nm,1.1s
PAGF Fort de Pagny 73.83 15⇑*i*P P 17 49 47.8 +0.9
comp=Z,12nm,1.1s
GYA Guiyang 73.86 293 *e*P P 17 49 48.5 +1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
PAE Paea 73.89 177 *e*T T 19 10 31.5
comp=Z,4.0nm,0.3s
TVO Taravao 74.02 176 *e*T T 19 10 40.7
comp=Z,18nm,0.3s
LVV L'vov 74.05 2 *e*P P 17 49 55.3 +7.2
LVV *e* 17 50 01.1
LVV MLR MLR
comp=N,200nm,20.0s
LVV MLR MLR
comp=E,100nm,20.0s
LVV MLR MLR
comp=Z,200nm,20.0s
SFTF Sexfontaines 74.08 15 *e*P P 17 49 48.9 +0.6
comp=Z,38nm,0.9s
SFTF Sexfontaines 74.08 15 *e*P P 17 49 48.9 +0.6
comp=Z,38nm,0.9s
WET Wettzell 74.09 10 *e*P P 17 49 49.6 +1.2
WET pmax pmax
comp=Z,81nm,2.4s
WET Wettzell 74.09 10 *e*P P 17 49 49.6 +1.2
comp=Z,81nm,2.4s
MEH Mehetia 74.16 175 *e*T T 19 10 52.0
comp=Z,52nm,0.2s
TREC Trest 74.16 8 AMS AMS 18 27 00.0
comp=Z,300nm,18.1s
KHC Kasperske Hory 74.17 9 *e*P P 17 49 49.8 +1.0
KHC pmax pmax
comp=Z,15nm,1.0s
KHC Kasperske Hory 74.17 9 *e*P P 17 49 49.8 +1.0
comp=Z,14nm,1.0s
KHC Kasperske Hory 74.17 9 *i*P P 17 49 49.6 +0.8
KHC *ep*P **pP 17 49 58.5 +2.4**
KHC *ex* x 17 50 23.0
KHC AMS AMS 18 28 30.0
comp=Z,400nm,15.3s
CDF Champ du Feu 74.19 14⇑*i*P P 17 49 49.7 +0.7
comp=Z,28nm,1.1s
CDF Champ du Feu 74.19 14⇑*i*P P 17 49 49.7 +0.7
CDF pmax pmax
comp=Z,28nm,1.1s
CDF Champ du Feu 74.19 14⇑*i*P P 17 49 49.7 +0.7
comp=Z,28nm,1.1s
THEF They Montfort 74.19 15 *e*P P 17 49 50.2 +1.2
THEF They Montfort 74.19 15 *e*P P 17 49 50.2 +1.2
THEF They Montfort 74.19 15 *e*P P 17 49 50.2 +1.2
KWP Kalwaria Pacla 74.21 3 *e*P P 17 49 49.0 0.0
KWP pmax pmax
comp=Z,36nm,1.1s
KWP Kalwaria Pacla 74.21 3 *e*P P 17 49 49.0 0.0
comp=Z,36nm,1.1s
AML Almayashu 74.22 326 P P 17 49 50.9 +1.1
SNR=19
VRAC Vranov 74.23 7⇑*i*P P 17 49 50.0 +0.8
KK31 Karatay Array 74.29 329*ce*P P 17 49 49.4 -0.3
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 74.29 329 *e*P P 17 49 49.9 +0.2
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 74.29 329 *e*P P 17 49 49.9 +0.2
comp=Z,12nm,0.8s
ECH Echery 74.36 14 *e*P P 17 49 50.8 +0.8
ECH pmax pmax
comp=Z,13nm,0.9s
ECH Echery 74.36 14 *e*P P 17 49 50.8 +0.8
comp=Z,14nm,0.9s
ECH Echery 74.36 14 *e*P P 17 49 51.0 +1.0
BFO Black Forest 74.40 13 *e*P P 17 49 50.9 +0.7
BFO pmax pmax
comp=Z,19nm,1.3s
BFO Black Forest 74.40 13 *e*P P 17 49 50.9 +0.7
comp=Z,19nm,1.3s
HAU Haudompre 74.46 14 *e*P P 17 49 51.0 +0.5
comp=Z,27nm,0.9s
HAU *e*R
comp=Z,502nm,20.0s
HAU Haudompre 74.46 14 *e*P P 17 49 51.0 +0.5
HAU pmax pmax
comp=Z,27nm,0.9s
HAU Haudompre 74.46 14 *e*P P 17 49 51.0 +0.5
comp=Z,27nm,0.9s
GEC2 GERESS Array S 74.46 9 *e*P P 17 49 51.5 +0.9
GEC2 pmax pmax
comp=Z,12nm,1.1s
GEC2 GERESS Array S 74.46 9 *e*P P 17 49 51.5 +0.9
comp=Z,12nm,1.1s
GERES GERESS Array B 74.46 9 P P 17 49 51.6 +1.0
comp=Z,5.1nm,0.7s,baz=350,slow=4.5,SNR=17
GERES GERESS Array B 74.46 9 P P 17 49 51.6 +1.0
HINF Hinteralfeld 74.71 14 *e*P P 17 49 52.5 +0.5
comp=Z,67nm,1.5s
HINF Hinteralfeld 74.71 14 *e*P P 17 49 52.5 +0.5
HINF pmax pmax
comp=Z,67nm,1.5s
HINF Hinteralfeld 74.71 14 *e*P P 17 49 52.5 +0.5
comp=Z,67nm,1.5s
MOF Molkenrain 74.72 14 *e*P P 17 49 52.9 +0.8
MOF Molkenrain 74.72 14 *e*P P 17 49 52.9 +0.8
MOF Molkenrain 74.72 14 *e*P P 17 49 52.9 +0.8
MFF Saint Martin d 74.79 19⇑*i*P P 17 49 53.0 +0.6
comp=Z,42nm,1.0s
MFF Saint Martin d 74.79 19⇑*i*P P 17 49 53.0 +0.6
MFF pmax pmax
comp=Z,42nm,1.0s
MFF Saint Martin d 74.79 19⇑*i*P P 17 49 53.0 +0.6
comp=Z,42nm,1.0s
FELD Feldberg im Sc 74.81 13 *e*P P 17 49 53.7 +1.0
LOR Lormes 74.81 16⇑*i*P P 17 49 53.1 +0.5
comp=Z,41nm,1.0s
LOR *e*R
comp=Z,392nm,17.0s
LOR Lormes 74.81 16⇑*i*P P 17 49 53.1 +0.5
comp=Z,41nm,1.0s
KOLS Kolonicke sedl 74.89 3 *e*P P 17 49 53.3 +0.3
KOLS pmax pmax
comp=Z,13nm,1.3s
KOLS Kolonicke sedl 74.89 3 *e*P P 17 49 53.3 +0.3
CRVS Cervenica-Dubn 74.90 4 *e*P P 17 49 53.7 +0.7
CRVS pmax pmax
comp=Z,14nm,1.3s
CRVS Cervenica-Dubn 74.90 4 *e*P P 17 49 53.7 +0.7
SSF Saint Saulge 74.96 17⇑*i*P P 17 49 53.9 +0.5
comp=Z,52nm,1.0s
SSF Saint Saulge 74.96 17⇑*i*P P 17 49 53.9 +0.5
SSF pmax pmax
comp=Z,52nm,1.0s
SSF Saint Saulge 74.96 17⇑*i*P P 17 49 53.9 +0.5
comp=Z,52nm,1.0s
LOMF Lomont 75.17 14 *e*P P 17 49 55.6 +0.9
LOMF Lomont 75.17 14 *e*P P 17 49 55.6 +0.9
LOMF Lomont 75.17 14 *e*P P 17 49 55.6 +0.9
VYHS Vyhne 75.18 6 *e*P P 17 49 55.0 +0.3
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 75.18 6 *e*P P 17 49 55.0 +0.3
AVF Avril sur Loir 75.20 17⇑*i*P P 17 49 55.1 +0.3
comp=Z,34nm,1.0s
AVF Avril sur Loir 75.20 17⇑*i*P P 17 49 55.1 +0.3
AVF pmax pmax
comp=Z,34nm,1.0s
AVF Avril sur Loir 75.20 17⇑*i*P P 17 49 55.1 +0.3
comp=Z,34nm,1.0s
BGF Bois d'Agland 75.35 17⇑*i*P P 17 49 56.0 +0.3
comp=Z,43nm,1.0s
BGF Bois d'Agland 75.35 17⇑*i*P P 17 49 56.0 +0.3
BGF pmax pmax
comp=Z,43nm,1.0s
BGF Bois d'Agland 75.35 17⇑*i*P P 17 49 56.0 +0.3
comp=Z,43nm,1.0s
SMF Signal de Mont 75.42 16⇑*i*P P 17 49 56.4 +0.3
comp=Z,60nm,1.2s
SMF Signal de Mont 75.42 16⇑*i*P P 17 49 56.4 +0.3
SMF pmax pmax
comp=Z,60nm,1.2s
SMF Signal de Mont 75.42 16⇑*i*P P 17 49 56.4 +0.3
comp=Z,60nm,1.2s
RJOB Jochberg 75.48 10 *e*P P 17 49 57.3 +0.8
comp=Z,14nm,0.9s
MOA Molln 75.50 9⇑*i*P P 17 49 57.1 +0.6
comp=Z,8.5nm,1.1s
MOA Molln 75.50 9⇑*i*P P 17 49 57.1 +0.6
comp=Z,8.5nm,1.1s
TCF Toulx Ste Croi 75.50 18⇑*i*P P 17 49 56.9 +0.3
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 75.50 18⇑*i*P P 17 49 56.9 +0.3
TCF pmax pmax
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 75.50 18⇑*i*P P 17 49 56.9 +0.3
comp=Z,21nm,1.0s
CONA Conrad Observa 75.55 8⇑*i*P P 17 49 58.0 +1.1
comp=Z,15nm,1.1s
CONA Conrad Observa 75.55 8⇑*i*P P 17 49 58.0 +1.1
comp=Z,15nm,1.1s
MOTA Moosalm 75.69 11⇑*i*P P 17 49 58.7 +0.9
MOTA pmax pmax
comp=Z,11nm,0.9s
MOTA Moosalm 75.69 11⇑*i*P P 17 49 58.7 +0.9
comp=Z,11nm,0.9s
MOTA Moosalm 75.69 11⇑*i*P P 17 49 58.7 +0.9
comp=Z,11nm,0.9s
TRPA Tarpa 75.70 3⇑*i*P P 17 49 58.6 +1.0
WATA Walderalm 75.75 11⇑*i*P P 17 49 58.9 +0.8
WATA pmax pmax
comp=Z,23nm,1.1s
WATA Walderalm 75.75 11⇑*i*P P 17 49 58.9 +0.8
comp=Z,23nm,1.1s
WATA Walderalm 75.75 11⇑*i*P P 17 49 58.9 +0.8
comp=Z,23nm,1.1s
CABF La Chapelle 75.79 15⇑*i*P P 17 49 59.1 +0.8
comp=Z,56nm,1.3s
CABF La Chapelle 75.79 15⇑*i*P P 17 49 59.1 +0.8
CABF pmax pmax
comp=Z,56nm,1.3s
CABF La Chapelle 75.79 15⇑*i*P P 17 49 59.1 +0.8
comp=Z,56nm,1.3s
PSZ Piszkesteto 75.81 5 *e*P P 17 49 59.6 +1.2
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 75.81 5 *e*P P 17 49 59.6 +1.2
comp=Z,16nm,1.0s
PSZ Piszkesteto 75.81 5⇓*i*P P 17 49 59.3 +0.9
WTTA Wattenberg 75.83 11⇑*i*P P 17 49 59.6 +1.0
WTTA pmax pmax
comp=Z,22nm,0.9s
WTTA Wattenberg 75.83 11⇑*i*P P 17 49 59.6 +1.0
comp=Z,22nm,0.9s
WTTA Wattenberg 75.83 11⇑*i*P P 17 49 59.6 +1.0
comp=Z,22nm,0.9s
KSH Kashi 75.85 323 P P 17 50 02.3 +3.5
KSH pP pP 17 50 08.0 +1.9
KSH sP sP 17 50 11.0 +2.3
KSH PcP **PcP 17 50 14.3 +3.0**
KSH PP PP 17 52 55.8 +7.4
KSH S **S 17 59 43.5 +3.8**
KSH sS sS 17 59 54.5 +2.8
KSH SKS **SKSac 18 00 07.5 -0.3**
KSH ScS **ScS 18 00 12.0 +0.4**
KSH pmax pmax
comp=Z,280nm,2.5s
KSH LR LR
comp=N,130nm,6.0s
KSH LR LR
comp=E,140nm,7.3s
KSH LR LR
comp=Z,150nm,9.3s
AGO Saint Agoulin 75.88 17 *e*P P 17 49 59.6 +0.8
AGO Saint Agoulin 75.88 17 *e*P P 17 49 59.6 +0.8
FETA Feichten 75.97 12⇑*i*P P 17 50 00.8 +1.4
comp=Z,15nm,0.9s
FETA Feichten 75.97 12⇑*i*P P 17 50 00.8 +1.4
comp=Z,15nm,0.9s
PLDF La Plantade 76.04 17 *e*P P 17 50 00.8 +1.1
PLDF La Plantade 76.04 17 *e*P P 17 50 00.8 +1.1
PLDF La Plantade 76.04 17 *e*P P 17 50 00.8 +1.1
PYM Petit Puy Mans 76.16 17 *e*P P 17 50 01.1 +0.7
PYM Petit Puy Mans 76.16 17 *e*P P 17 50 01.1 +0.7
PYM Petit Puy Mans 76.16 17 *e*P P 17 50 01.1 +0.7
KBA Koelnbreinsper 76.18 10⇑*i*P P 17 50 01.9 +1.3
KBA pmax pmax
comp=Z,24nm,0.9s
KBA Koelnbreinsper 76.18 10⇑*i*P P 17 50 01.9 +1.3
comp=Z,24nm,0.9s
KBA Koelnbreinsper 76.18 10⇑*i*P P 17 50 01.9 +1.3
comp=Z,24nm,0.9s
ARSA Arzberg 76.20 8⇑*i*P P 17 50 01.5 +1.0
comp=Z,7.2nm,0.9s
ARSA Arzberg 76.20 8⇑*i*P P 17 50 01.5 +1.0
comp=Z,7.2nm,0.9s
BUR08 Bucovina Ar. S 76.25 1 *e*P P 17 50 01.1 +0.2
BURAR Bucovina Array 76.28 1⇓*i*P P 17 50 02.1 +1.0
TGY Tagaytay City 76.30 275 P P 17 50 03.6 +2.0
comp=Z,54nm,0.3s,baz=300,slow=23,SNR=3.5
TGY Tagaytay City 76.30 275 P P 17 50 03.6 +2.0
HNR Honiara 76.32 228 LR LR 18 17 50.6
comp=Z,402nm,21.4s,baz=177,slow=31
RJF Les Rejaudoux 76.34 18⇑*i*P P 17 50 01.4 +0.1
comp=Z,40nm,1.2s
RJF *e*R
comp=Z,865nm,19.8s
RJF Les Rejaudoux 76.34 18⇑*i*P P 17 50 01.4 +0.1
RJF pmax pmax
comp=Z,40nm,1.2s
RJF Les Rejaudoux 76.34 18⇑*i*P P 17 50 01.4 +0.1
comp=Z,40nm,1.2s
ABTA Abfaltersbach 76.43 10⇓*i*P P 17 50 02.4 +0.4
comp=Z,12nm,1.1s
ABTA Abfaltersbach 76.43 10⇓*i*P P 17 50 02.4 +0.4
comp=Z,12nm,1.1s
LFF La Frestale 76.55 19⇑*i*P P 17 50 03.1 +0.6
comp=Z,53nm,1.0s
LFF La Frestale 76.55 19⇑*i*P P 17 50 03.1 +0.6
LFF pmax pmax
comp=Z,53nm,1.0s
LFF La Frestale 76.55 19⇑*i*P P 17 50 03.1 +0.6
comp=Z,53nm,1.0s
SOKA Soboth 76.73 9⇑*i*P P 17 50 04.4 +0.7
comp=Z,19nm,1.0s
SOKA Soboth 76.73 9⇑*i*P P 17 50 04.4 +0.7
comp=Z,19nm,1.0s
CAF Calviac 76.80 18⇑*i*P P 17 50 04.4 +0.4
comp=Z,34nm,1.2s
CAF Calviac 76.80 18⇑*i*P P 17 50 04.4 +0.4
CAF pmax pmax
comp=Z,34nm,1.2s
CAF Calviac 76.80 18⇑*i*P P 17 50 04.4 +0.4
comp=Z,34nm,1.2s
OBKA Obir 76.85 9⇑*i*P P 17 50 05.2 +0.9
comp=Z,25nm,0.8s
OBKA Obir 76.85 9⇑*i*P P 17 50 05.2 +0.9
comp=Z,25nm,0.8s
KMI Kunming 76.95 296 P P 17 50 04.5 -0.9
KMI pP **pP 17 50 13.8 +1.2**
KMI sP **sP 17 50 17.3 +2.0**
KMI PP **PP 17 52 58.5 +0.4**
KMI S **S 17 59 50.5 -1.8**
KMI sS **sS 18 00 04.0 -0.2**
KMI SKS **SKSac 18 00 10.0 -6.5**
KMI pmax pmax
comp=Z,7.0nm,1.3s
KMI pmax pmax
comp=Z,250nm,5.1s
KMI LR LR
comp=N,500nm,17.2s
KMI LR LR
comp=E,460nm,17.2s
KMI LR LR
comp=Z,380nm,15.0s
LPL La Plagne 76.95 15⇑*i*P P 17 50 06.6 +1.5
comp=Z,22nm,1.2s
LPL La Plagne 76.95 15⇑*i*P P 17 50 06.6 +1.5
LPL pmax pmax
comp=Z,22nm,1.2s
LPL La Plagne 76.95 15⇑*i*P P 17 50 06.6 +1.5
comp=Z,22nm,1.2s
LPG La Plagne 76.97 15⇑*i*P P 17 50 06.9 +1.6
comp=Z,47nm,1.4s
LPG La Plagne 76.97 15⇑*i*P P 17 50 06.9 +1.6
LPG pmax pmax
comp=Z,47nm,1.4s
LPG La Plagne 76.97 15⇑*i*P P 17 50 06.9 +1.6
comp=Z,47nm,1.4s
GROS Grobnik 76.98 8 *i*P P 17 50 05.5 +0.5
DRGR 77.05 3⇑P P 17 50 05.9 +0.5
DRGR 77.05 3⇑*i*P P 17 50 05.9 +0.5
VIVF Saint-Julien-l 77.29 16⇑*i*P P 17 50 07.5 +0.7
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 77.29 16⇑*i*P P 17 50 07.5 +0.7
VIVF pmax pmax
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 77.29 16⇑*i*P P 17 50 07.5 +0.7
comp=Z,28nm,1.0s
BNI Bardonecchia 77.40 15 *e*P P 17 50 09.3 +1.8
BNI pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 77.40 15 *e*P P 17 50 09.3 +1.8
comp=Z,19nm,1.2s
ORIF Oris-en-Rattie 77.42 15 *e*P P 17 50 08.5 +1.0
comp=Z,52nm,1.4s
ORIF *e*R
comp=Z,372nm,19.2s
ORIF Oris-en-Rattie 77.42 15 *e*P P 17 50 08.5 +1.0
ORIF pmax pmax
comp=Z,52nm,1.4s
ORIF Oris-en-Rattie 77.42 15 *e*P P 17 50 08.5 +1.0
comp=Z,52nm,1.4s
JAVS Javornik 77.42 9 *i*P P 17 50 07.9 +0.4
PGAV Gavieira, Arco 77.47 26 *e*LR LR 18 19 01.4
comp=Z,560nm,20.0s
MBDF Montbardon 77.73 15 *e*P P 17 50 10.8 +1.4
comp=Z,16nm,0.8s
MBDF Montbardon 77.73 15 *e*P P 17 50 10.8 +1.4
MBDF pmax pmax
comp=Z,16nm,0.8s
MBDF Montbardon 77.73 15 *e*P P 17 50 10.8 +1.4
comp=Z,16nm,0.8s
BOJS Bojanci 77.91 9 *i*P P 17 50 10.4 +0.2
LASF Ste Croix 77.92 17 *e*P P 17 50 11.2 +0.9
comp=Z,46nm,1.4s
LASF Ste Croix 77.92 17 *e*P P 17 50 11.2 +0.9
comp=Z,46nm,1.4s
SJPF Ste Jean 77.94 21 *e*P P 17 50 10.8 +0.4
comp=Z,49nm,1.4s
SJPF Ste Jean 77.94 21 *e*P P 17 50 10.8 +0.4
SJPF pmax pmax
comp=Z,49nm,1.4s
SJPF Ste Jean 77.94 21 *e*P P 17 50 10.8 +0.4
comp=Z,49nm,1.4s
VRI Vrincioaia 78.04 0⇑P P 17 50 12.2 +1.3
VRI Vrincioaia 78.04 0⇑*i*P P 17 50 12.2 +1.3
POLO Lamas de Olo 78.15 26 *e*P P 17 50 13.0 +1.3
comp=Z,15nm,2.1s
BZS Buzias 78.18 4⇓P P 17 50 11.9 +0.2
BZS Buzias 78.18 4⇓*i*P P 17 50 11.9 +0.2

ETSF	**Etsaut**	**78.28**	**20**	⇑*i*P		**P**		**17 50 13.3**	**+0.9**
	comp=Z,76nm,1.4s								
ETSF	**Etsaut**	**78.28**	**20**	⇑*i*P		**P**		**17 50 13.3**	**+0.9**
ETSF				pmax		pmax			
	comp=Z,76nm,1.4s								
ETSF	**Etsaut**	**78.28**	**20**	⇑*i*P		**P**		**17 50 13.3**	**+0.9**
	comp=Z,76nm,1.4s								
SMRF	**Simiane la Rot**	**78.29**	**16**	*e*P		**P**		**17 50 14.0**	**+1.7**
	comp=Z,70nm,1.4s								
SMRF	**Simiane la Rot**	**78.29**	**16**	*e*P		**P**		**17 50 14.0**	**+1.7**
	comp=Z,70nm,1.4s								
QIZ	**Qiongzhong**	**78.31**	**287**	P		**P**		**17 50 15.8**	**+3.1**
QIZ				pmax		pmax			
	comp=Z,7.0nm,1.3s								
QIZ				pmax		pmax			
	comp=Z,100nm,3.8s								
QIZ				LR		LR			
	comp=Z,290nm,22.5s								
EPF	**Esparros**	**78.33**	**20**	*e*P		**P**		**17 50 12.5**	**-0.1**
	comp=Z,25nm,1.2s								
EPF	**Esparros**	**78.33**	**20**	*e*P		**P**		**17 50 12.5**	**-0.1**
EPF				pmax		pmax			
	comp=Z,25nm,1.2s								
EPF	**Esparros**	**78.33**	**20**	*e*P		**P**		**17 50 12.5**	**-0.1**
	comp=Z,25nm,1.2s								
MTLF	**Montolieu**	**78.36**	**18**	*e*P		**P**		**17 50 13.5**	**+0.8**
	comp=Z,36nm,1.3s								
MTLF	**Montolieu**	**78.36**	**18**	*e*P		**P**		**17 50 13.5**	**+0.8**
MTLF				pmax		pmax			
	comp=Z,36nm,1.3s								
MTLF	**Montolieu**	**78.36**	**18**	*e*P		**P**		**17 50 13.5**	**+0.8**
	comp=Z,36nm,1.3s								
MLR	**Muntele Rosu**	**78.41**	**1**	⇑*i*P		**P**		**17 50 13.5**	**+0.4**
VOIR		**78.45**	**2**	⇑P		**P**		**17 50 13.6**	**+0.3**
VOIR		**78.45**	**2**	⇑*i*P		**P**		**17 50 13.6**	**+0.3**
MVO	**Moncorvo**	**78.53**	**26**	*e*P		**P**		**17 50 15.3**	**+1.5**
	comp=Z,24nm,2.1s								
MVO				*e*S		S		18 00 17.1	+8.4
MVO				*e*LR		LR		18 18 23.4	
	comp=Z,514nm,20.0s								
LSA	**Lhasa**	**78.57**	**307**	*e*P		**P**		**17 50 14.5**	**-0.1**
LSA	**Lhasa**	**78.57**	**307**	*e*P		**P**		**17 50 15.5**	**+0.8**
LSA				pmax		pmax			
	comp=Z,16nm,0.8s								
LSA	**Lhasa**	**78.57**	**307**	*e*P		**P**		**17 50 15.5**	**+0.8**
	comp=Z,16nm,0.8s								
SBF	**Sospel**	**78.67**	**14**	*e*P		**P**		**17 50 14.8**	**+0.3**
	comp=Z,81nm,1.1s								
SBF	**Sospel**	**78.67**	**14**	*e*P		**P**		**17 50 14.8**	**+0.3**
SBF				pmax		pmax			
	comp=Z,81nm,1.1s								
SBF	**Sospel**	**78.67**	**14**	*e*P		**P**		**17 50 14.8**	**+0.3**
	comp=Z,81nm,1.1s								
CFR	**Carcaliu**	**78.73**	**359**	⇓P		**P**		**17 50 15.5**	**+0.9**
CFR	**Carcaliu**	**78.73**	**359**	⇓*i*P		**P**		**17 50 15.5**	**+0.9**
ANN	**Anapa**	**78.74**	**353**	*e*P		**P**		**17 50 15.4**	**+0.7**
ANN				pmax		pmax			
	comp=Z,27nm,1.2s								
SIM	**Simferopol'**	**78.79**	**355**	P		P		17 50 11.4	-3.6
SIM				PPP		PPP		17 55 09.0	
SIM				*e*S		**S**		**18 00 11.0**	**-0.1**
SIM				*e*SS		**SS**		**18 05 21.0**	**+6.7**
SIM				pmax		pmax			
	comp=Z,52nm,2.5s								
FRF	**La Foret Royal**	**78.86**	**15**	*e*P		**P**		**17 50 16.2**	**+0.8**
	comp=Z,30nm,1.0s								
FRF	**La Foret Royal**	**78.86**	**15**	*e*P		**P**		**17 50 16.2**	**+0.8**
FRF				pmax		pmax			
	comp=Z,30nm,1.0s								
FRF	**La Foret Royal**	**78.86**	**15**	*e*P		**P**		**17 50 16.2**	**+0.8**
	comp=Z,30nm,1.0s								
LMR	**La Mourre**	**79.06**	**15**	*e*P		**P**		**17 50 17.3**	**+0.8**
	comp=Z,172nm,1.7s								
LMR	**La Mourre**	**79.06**	**15**	*e*P		**P**		**17 50 17.3**	**+0.8**
LMR				pmax		pmax			
	comp=Z,172nm,1.7s								
LMR	**La Mourre**	**79.06**	**15**	*e*P		**P**		**17 50 17.3**	**+0.8**
	comp=Z,172nm,1.7s								
KIV	**Kislovodsk**	**79.10**	**349**	*e*P		**P**		**17 50 17.1**	**+0.2**
KIV				*e*S		**S**		**18 00 13.2**	**-1.5**
KIV				*e*SSS		SSS		18 08 45.9	
KIV				pmax		pmax			
	comp=Z,19nm,0.9s								
KIV	**Kislovodsk**	**79.10**	**349**	*e*P		**P**		**17 50 18.0**	**+1.1**
	comp=Z,15nm,0.8s								
KIV	**Kislovodsk**	**79.10**	**349**	P		**P**		**17 50 17.7**	**+0.8**
	SNR=5.7								
MTE	**Manteigas**	**79.13**	**26**	*e*P		**P**		**17 50 18.3**	**+1.2**
	comp=Z,38nm,1.3s								
MTE				*e*LR		LR		18 19 46.9	
	comp=Z,484nm,20.0s								
KBZ	**Khabaz**	**79.30**	**348**	P		**P**		**17 50 18.7**	**+0.9**
	comp=Z,12nm,0.9s,baz=332,slow=2.9,SNR=36								
KBZ				LR		LR		18 29 10.0	
	comp=Z,216nm,21.0s,baz=12,slow=38								
KBZ	**Khabaz**	**79.30**	**348**	P		**P**		**17 50 18.7**	**+0.9**
KBZ	**Khabaz**	**79.30**	**348**	P		**P**		**17 50 18.7**	**+0.9**
MAK	**Makhachkala**	**79.47**	**345**	*e*P		**P**		**17 50 19.1**	**+0.4**
MAK				*i*				17 53 24.8	
MAK				*e*S		**S**		**18 00 17.8**	**-0.5**
MAK				pmax		pmax			
	comp=Z,24nm,0.4s								
TBI	**Tubuai**	**79.55**	**177**	*e*S		S		18 00 10.0	-9.2
	comp=Z,76nm,26.0s								
TBI				*e*LR		LR		18 14 49.6	
	comp=Z,281nm,22.2s,baz=350								
TBI				*e*T		T		19 17 35.5	
	comp=Z,52nm,0.3s								
SOC	**Sochi**	**79.76**	**351**	*c i*P		**P**		**17 50 20.2**	**-0.1**
SOC				*e*PPP		PPP		17 55 15.8	
SOC				*e*S		**S**		**18 00 19.5**	**-2.0**
SOC				pmax		pmax			
	comp=Z,17nm,0.6s								
SOC				MLR		MLR			
	comp=Z,401nm,22.0s								
PMRV	**Marv??o**	**80.09**	**26**	*e*LR		LR		18 20 39.1	
	comp=Z,485nm,20.0s								
ZEI	**Tsey**	**80.13**	**348**	*e*P		**P**		**17 50 20.8**	**-1.9**
ZEI				pmax		pmax			
	comp=Z,22nm,1.8s								
PGF	**Pioggiola**	**80.17**	**14**	*e*P		**P**		**17 50 23.3**	**+0.6**
	comp=Z,126nm,1.5s								
PGF	**Pioggiola**	**80.17**	**14**	*e*P		**P**		**17 50 23.3**	**+0.6**
PGF				pmax		pmax			
	comp=Z,125nm,1.5s								
PGF	**Pioggiola**	**80.17**	**14**	*e*P		**P**		**17 50 23.3**	**+0.6**
	comp=Z,126nm,1.5s								
ONI	**Oni**	**80.36**	**348**	P		**P**		**17 50 25.0**	**+1.3**
ESDC	**Sonseca Array**	**80.66**	**24**	P		**P**		**17 50 26.1**	**+0.7**
	comp=Z,13nm,1.1s,baz=341,slow=4.7,SNR=24								
ESDC				LR		LR		18 29 00.6	
	comp=Z,341nm,18.6s,baz=325,slow=38								
ESDC	**Sonseca Array**	**80.66**	**24**	P		**P**		**17 50 26.1**	**+0.7**
ESLA	**Sonseca Array**	**80.66**	**24**	*e*P		**P**		**17 50 26.2**	**+0.9**
	comp=Z,5.6nm,1.3s								
RKT	**Rikitea**	**80.70**	**163**	*e*T		T		19 19 03.8	
	comp=Z,12nm,0.2s								
PNCL	**Nicolau / Gran**	**81.05**	**28**	*e*P		**P**		**17 50 28.7**	**+1.4**
	comp=Z,24nm,1.6s								
TBLG	**Delisi**	**81.05**	**347**	*e*P		**P**		**17 50 28.9**	**+1.6**
TBLG	**Delisi**	**81.05**	**347**	P		**P**		**17 50 28.9**	**+1.6**
DGRG	**David-gareji**	**81.25**	**346**	P		**P**		**17 50 30.2**	**+1.8**
MESJ	**Messejana**	**81.38**	**28**	*e*P		**P**		**17 50 28.9**	**-0.3**
MESJ				AMS		AMS		18 24 20.6	
	comp=Z,411nm,20.9s								
MESJ	**Messejana**	**81.38**	**28**	*e*P		**P**		**17 50 28.9**	**-0.3**
MESJ				A		A		18 24 20.6	
	comp=Z,411nm,20.9s								
MESJ	**Messejana**	**81.38**	**28**	*e*P		**P**		**17 50 28.8**	**-0.3**
AKH	**Akhalkalaki**	**81.52**	**348**	P		**P**		**17 50 31.5**	**+1.5**
MORF	**Marmelete**	**81.77**	**28**	*e*P		**P**		**17 50 30.7**	**-0.6**
PVAQ	**Vaqueiros**	**81.92**	**27**	*e*LR		LR		18 20 34.2	
	comp=Z,377nm,18.0s								
TAPN	**Taplejung**	**82.11**	**309**	*e*P		**P**		**17 50 33.8**	**+0.3**
	comp=Z,48nm,0.7s								
GUN	**Gumba**	**82.40**	**310**	*e*P		**P**		**17 50 35.3**	**+0.2**
	comp=Z,112nm,1.1s								
KBL	**Kabul**	**82.63**	**326**	*e*P		**P**		**17 50 34.9**	**-1.1**
KBL				pmax		pmax			
	comp=Z,12nm,0.8s								
KBL	**Kabul**	**82.63**	**326**	*e*P		**P**		**17 50 34.9**	**-1.1**
	comp=Z,12nm,0.8s								
ODAN	**Odare**	**82.67**	**309**	*e*P		**P**		**17 50 36.6**	**+0.2**
	comp=Z,33nm,0.9s								
KKN	**Kakani**	**82.76**	**311**	*e*P		**P**		**17 50 37.3**	**+0.5**
PKI	**Pulchoki**	**82.90**	**310**	*e*P		**P**		**17 50 37.8**	**+0.1**
	comp=Z,38nm,0.8s								
PKIN	**Phulchoki**	**82.90**	**310**	*e*P		**P**		**17 50 38.4**	**+0.8**
	comp=Z,18nm,0.7s								
DANN	**Dangsing**	**82.90**	**312**	*e*P		**P**		**17 50 38.3**	**+0.7**
	comp=Z,143nm,0.9s								
RAMN	**Ramite**	**82.93**	**309**	*e*P		**P**		**17 50 38.0**	**+0.2**
	comp=Z,96nm,0.9s								
DMN	**Daman**	**82.99**	**311**	*e*P		**P**		**17 50 38.6**	**+0.5**
	comp=Z,77nm,1.0s								
PYUN	**Piuthan**	**83.44**	**313**	*e*P		**P**		**17 50 40.4**	**+0.1**
	comp=Z,130nm,0.9s								
KOLN	**Koldanda**	**83.48**	**312**	*e*P		**P**		**17 50 40.8**	**+0.3**
	comp=Z,24nm,0.8s								
BR131	**Keskin Array S**	**84.02**	**355**	*e*P		**P**		**17 50 43.8**	**+0.8**
	comp=Z,4.8nm,0.8s								
BRTR	**Keskin Array B**	**84.02**	**355**	P		**P**		**17 50 43.9**	**+0.8**
	comp=Z,6.6nm,0.9s,baz=18,slow=2.9,SNR=34								
BRTR				LR		LR		18 31 24.5	
	comp=Z,153nm,20.8s,baz=240,slow=38								
BRTR	**Keskin Array B**	**84.02**	**355**	P		**P**		**17 50 43.9**	**+0.8**
CHTO	**Chiang Mai**	**84.13**	**295**	*e*P		**P**		**17 50 42.4**	**-1.3**
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CHTO	**Chiang Mai**	**84.13**	**295**	*e*P		**P**		**17 50 42.4**	**-1.3**
	comp=Z,4.6nm,0.9s								
CM31	**Chiang Mai Arr**	**84.43**	**295**	*e*P		**P**		**17 50 44.9**	**-0.3**
	comp=Z,3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**84.43**	**295**	P		**P**		**17 50 45.1**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=16,slow=5.0,SNR=16								
CMAR				LR		LR		18 33 45.5	
	comp=Z,322nm,19.3s,baz=40,slow=40								
CMAR	**Chiang Mai Arr**	**84.43**	**295**	P		**P**		**17 50 45.1**	**-0.2**
MALT	**Malatya**	**85.11**	**351**	*e*P		**P**		**17 50 49.4**	**+0.9**
MALT				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MALT	**Malatya**	**85.11**	**351**	*e*P		**P**		**17 50 49.4**	**+0.9**
	comp=Z,4.7nm,0.9s								
MALT	**Malatya**	**85.11**	**351**	⇓*i*P		**P**		**17 50 50.0**	**+1.5**
DZM	**Mont Dzumac**	**85.44**	**217**	LR		LR		18 22 11.4	
	comp=Z,206nm,19.2s,baz=42,slow=31								
DZM	**Mont Dzumac**	**85.44**	**217**	*e*S		S		18 01 11.4	-8.4
	comp=Z,530nm,29.1s								
DZM				*e*LR		LR		18 17 42.5	
	comp=Z,371nm,21.9s								
KEST	**Kesra**	**86.92**	**14**	P		**P**		**17 50 58.6**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=210,slow=3.6,SNR=3.7								
KEST				LR		LR		18 34 13.1	
	comp=Z,133nm,18.8s,baz=330,slow=39								
KEST	**Kesra**	**86.92**	**14**	P		**P**		**17 50 58.6**	**+1.1**
IDI	**Anoyia**	**88.59**	**2**	*e*P		**P**		**17 51 04.4**	**-1.1**
	comp=Z,7.8nm,1.0s								
GVD	**Gavdhos**	**89.02**	**3**	*e*P		**P**		**17 51 06.5**	**-0.9**
	comp=Z,56nm,0.9s								
CTA	**Charters Tower**	**91.74**	**235**	P		**P**		**17 51 20.9**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=19,slow=11,SNR=5.2								
CTA				LR		LR		18 27 18.9	
	comp=Z,243nm,19.9s,baz=26,slow=32								
CTA	**Charters Tower**	**91.74**	**235**	P		**P**		**17 51 20.9**	**+0.9**
KAPI	**Kappang**	**92.71**	**265**	P		**P**		**17 51 24.2**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=36,slow=17,SNR=3.6								
KAPI	**Kappang**	**92.71**	**265**	P		**P**		**17 51 24.2**	**-0.5**
HYB	**Hyderabad**	**94.78**	**312**	*i* P		**P**		**17 51 33.0**	**-1.3**
WRA	**Warramunga Arr**	**97.34**	**245**	P		**P**		**17 51 45.1**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=38,slow=5.2,SNR=3.3								
WRA	**Warramunga Arr**	**97.34**	**245**	P		**P**		**17 51 45.1**	**-0.6**
PSI	**Prapat**	**97.65**	**287**	LR		LR		18 44 09.1	
	comp=Z,217nm,18.1s,baz=10.0,slow=40								
LPAZ	**La Paz**	**100.52**	**103**	P		**Pdif**		**17 52 01.9**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=304,slow=3.6,SNR=3.4								
LPAZ	**La Paz**	**100.52**	**103**	P		**Pdif**		**17 52 01.9**	**+1.2**
ASAR	**Alice Springs**	**100.69**	**243**	P		**Pdif**		**17 52 02.5**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=38,slow=4.7,SNR=3.0								
ASAR	**Alice Springs**	**100.69**	**243**	P		**Pdif**		**17 52 02.5**	**+1.9**
TORD	**Torodi Ar. Bea**	**107.47**	**26**	PP		PP		17 57 10.2	+12
	comp=Z,1.2nm,1.0s,baz=7.8,slow=3.3,SNR=4.0								
LBTB	**Lobatse**	**148.56**	**3**	*e*PKPdf		**PKPdf**		**17 57 54.0**	**-1.6**
LBTB				*e*PKPbc		**PKPbc**		**17 57 59.3**	**0.0**
BOSA	**Boshof**	**152.13**	**4**	PKPbc		**PKPbc**		**17 58 07.7**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=323,slow=4.1,SNR=15								
BOSA	**Boshof**	**152.13**	**4**	PKPbc		**PKPbc**		**17 58 07.7**	**-0.1**
VNA3	**Neumayer Olymp**	**158.56**	**148**	*e*PKPab		**PKPab**		**17 58 43.4**	**-0.3**
VNA3	**Neumayer Olymp**	**158.56**	**148**	*e*pPKPab		pPKPab		17 58 50.3	-0.8
VNA2	**Neumayer--Watz**	**159.37**	**148**	*e*PKPab		**PKPab**		**17 58 46.9**	**-0.3**
	baz=267,slow=4.5								
VNA2	**Neumayer--Watz**	**159.37**	**148**	*e*pPKPab		pPKPab		17 58 52.1	-2.5
	baz=267,slow=4.5								
SNAA	**Sanae**	**160.25**	**152**	*e*PKPab		**PKPab**		**17 58 50.3**	**-0.8**

*BJI **30** 17:40:27.0, 37.30N×121.60W, h6km, mB5.1/3, mb4.7/6, Ms4.8/1, Ms7 4.6/3*

*NEIC **30** 17:40:29.3, 37.29N×121.62W, h8km, mb4.5/4, MW4.3(BRK), After NCEDC.*

NEIC Felt [IV] at Mount Hamilton and San Jose and [III] at Gilroy, Milpitas, Morgan Hill, Oakland, San Martin, Santa Clara and Sunnyvale. Felt [II] throughout the Monterey Bay and San Francisco Bay areas and in the Stockton-Merced area. Felt as far as Marysville and Midpines.

*IDC **30** 17:40:32.0±1.2, 37.52N×121.39W, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.0/32, mbtmp4.0/12, ML4.0/4, MS3.1/5, Ms1 3.1/5, ms1mx3.0/42, Error ellipse: s-maj=23.2km s-min=13.3km az=27.0*

ISC 30 17:40:29.9±0.7, 37°26N±0.0°03×121°58W±0.0°04, h9km±4km, n150, σt≥69/132, mb4.2/11, 31C-30D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.51**	**168**	*e*Pn		**Pb**		**17 40 40.4**	**-0.6**
SAC	**San Andreas**	**0.74**	**296**	*e*Pn		**Pg**		**17 40 42.2**	**-2.0**
CMB	**California Colle**	**1.22**	**50**	*e*Pn		**Pb**		**17 40 51.5**	**-1.7**
CMB				*e*Sn		**Sb**		**17 41 07.7**	**-1.4**
MCCM	**Marconi Confer**	**1.36**	**311**	*e*Pn		Pn		17 40 51.6	-3.5
HOPS	**Hopland**	**2.10**	**326**	*e*Pn		**Pn**		**17 41 02.5**	**-2.7**
RCTC	**Rector, Farmer**	**2.10**	**116**	⇑P		**Pn**		**17 41 03.9**	**-1.3**
	baz=2.1								
RCTC				⇓S		**Sb**		**17 41 33.4**	**-0.9**
	baz=2.1								
MLAC	**Mammoth Lakes**	**2.21**	**80**	⇓P		**Pn**		**17 41 06.7**	**-0.3**
	baz=2.2								
SMMC	**Simmler**	**2.33**	**146**	⇑P		**Pn**		**17 41 07.0**	**-1.4**
	baz=2.4								
VES	**Vestal, Richgr**	**2.46**	**124**	⇑P		**Pn**		**17 41 08.8**	**-1.3**
	baz=2.5								
WCN	**Washoe City**	**2.49**	**35**	*e*Pn		**Pn**		**17 41 11.2**	**+0.4**
TIN	**Tinemaha**	**2.68**	**93**	⇑P		**Pn**		**17 41 15.4**	**+2.1**
	baz=2.7								
TIN				⇓Sb		**Sb**		**17 41 53.8**	**+2.6**
	baz=2.7								
PKM	**Peak Mountain**	**2.75**	**148**	⇑P		**Pn**		**17 41 13.0**	**-1.5**
	baz=2.8								
NVAR	**Mina Array Bea**	**2.84**	**65**	Pn		**Pn**		**17 41 15.7**	**0.0**
	18nm,0.3s,baz=246,slow=14,SNR=18								
NVAR				Pg		**Pb**		**17 41 22.1**	**+1.1**
	63nm,0.3s,baz=254,slow=20,SNR=32								
NVAR				LR		LR		17 42 00.9	
	comp=Z,218nm,18.2s,baz=111,slow=33								
NVAR				Lg				17 42 03.0	
	114nm,0.3s,baz=233,slow=30,SNR=10								
NVAR	**Mina Array Bea**	**2.84**	**65**	Pn		**Pn**		**17 41 15.7**	**0.0**
NVAR				Pg		**Pb**		**17 41 22.1**	**+1.1**
NVAR				Lg				17 42 03.0	
KCPM	**Cahto Peak**	**2.89**	**328**	*e*Pn		**Pn**		**17 41 14.6**	**-1.6**
CWC	**Cottonwood Cre**	**2.92**	**105**	⇓P		**Pn**		**17 41 15.8**	**-0.9**
	baz=3.0								
CWC				⇑S		**Sn**		**17 41 53.6**	**+1.6**
	baz=3.0								
NV11	**Mina Array Sit**	**2.95**	**66**	*e*Pn		**Pn**		**17 41 17.1**	**+0.1**
KIPM	**Iron Peak**	**2.95**	**330**	*e*Pn		**Pn**		**17 41 16.4**	**-0.7**
ISA	**Isabella**	**2.96**	**122**	*e*Pn		**Pn**		**17 41 16.1**	**-1.1**
ISA	**Isabella**	**2.96**	**122**	⇑P		**Pn**		**17 41 16.3**	**-0.9**
	baz=3.0								
ARVC	**Arvin**	**3.08**	**133**	⇓P		**Pn**		**17 41 17.6**	**-1.1**
	baz=3.1								
DAC	**Darwin (Calif)**	**3.34**	**106**	*e*Pn		**Pn**		**17 41 22.1**	**-0.4**
GRAC	**Grapevine Rang**	**3.37**	**93**	⇓P		**Pn**		**17 41 23.7**	**+0.9**
	baz=3.4								
WDC	**Whiskeytown Da**	**3.40**	**347**	*e*Pn		**Pn**		**17 41 20.4**	**-2.7**
MPMC	**Manual Prospec**	**3.50**	**109**	⇓P		**Pn**		**17 41 23.2**	**-1.4**
	baz=3.5								
MPMC				⇑Sb		**Sb**		**17 42 16.7**	**+2.0**
	baz=3.5								
OSI	**Osito Adit**	**3.51**	**138**	*e*Pn		**Pn**		**17 41 25.0**	**+0.3**
OSI	**Osito Adit**	**3.51**	**138**	⇓P		**Pn**		**17 41 23.6**	**-1.1**
	baz=3.6								
OSI				⇓Sb		**Sb**		**17 42 18.0**	**+3.0**
	baz=3.6								
LRMC	**Laurel Mountai**	**3.60**	**118**	⇑P		**Pn**		**17 41 25.4**	**-0.7**
	baz=3.6								
BSC	**Santa Cruz Isl**	**3.62**	**154**	⇓P		**Pn**		**17 41 24.3**	**-1.9**
	baz=3.7								
BSC				⇓S		**Sn**		**17 42 10.0**	**+0.9**
	baz=3.7								
BLG	**Laguna Peak**	**3.75**	**146**	⇑P		**Pn**		**17 41 26.5**	**-1.5**
	baz=3.8								
EDW2	**Edwards Air Fo**	**3.75**	**128**	⇓P		**Pn**		**17 41 26.3**	**-1.7**
	baz=3.8								
KHMM	**Horse Mountain**	**3.98**	**336**	*e*Pn		**Pn**		**17 41 31.5**	**+0.3**
DECC	**Green Verdugo**	**4.00**	**138**	⇑P		**Pn**		**17 41 30.2**	**-1.2**
	baz=4.0								
PASC	**Pasadena Art C**	**4.13**	**137**	*e*Pn		**Pn**		**17 41 33.0**	**-0.3**
MWC	**Mount Wilson**	**4.17**	**136**	*e*Pn		**Pn**		**17 41 32.9**	**-0.9**
GSC	**Goldstone**	**4.32**	**115**	*e*Pn		**Pn**		**17 41 34.9**	**-1.0**
GSC	**Goldstone**	**4.32**	**115**	⇓P		**Pn**		**17 41 34.6**	**-1.2**
	baz=4.4								
BFSC	**Mount Baldy Ra**	**4.38**	**132**	⇓P		**Pn**		**17 41 35.7**	**-1.1**
	baz=4.4								
RRX	**Edison Barstow**	**4.40**	**121**	⇓P		**Pn**		**17 41 36.2**	**-0.7**
	baz=4.4								
FMP	**Fort Macarthur**	**4.44**	**142**	⇑P		**Pn**		**17 41 35.8**	**-1.5**
	baz=4.5								
SHOC	**Shoshone**	**4.47**	**106**	⇓P		**Pn**		**17 41 37.2**	**-0.7**
	baz=4.5								
YBH	**Yreka Blue Hor**	**4.55**	**349**	Pn		Pn		**17 41 40.0**	**+1.0**
	3.7nm,0.3s,baz=164,slow=6.3,SNR=39								
YBH				Sn		**Sn**		**17 42 36.4**	**+4.3**
	1.0nm,0.3s,baz=93,slow=23,SNR=5.5								
YBH	**Yreka Blue Hor**	**4.55**	**349**	Pn		**Pn**		**17 41 40.0**	**+1.0**
YBH				Sn		**Sn**		**17 42 36.4**	**+4.3**
KRMB	**Red Mountain**	**4.62**	**338**	*e*Pn		**Pn**		**17 41 40.1**	**0.0**
CIS	**Catalina Islan**	**4.64**	**145**	⇑P		**Pn**		**17 41 38.3**	**-1.8**
	baz=4.7								
BMN	**Battle Mountai**	**4.64**	**46**	*e*Pn		**Pn**		**17 41 40.2**	**-0.2**
MOD	**Modoc**	**4.74**	**12**	*e*Pn		**Pn**		**17 41 42.8**	**+1.1**
BBRC	**Big Bear Solar**	**4.82**	**127**	⇓P		**Pn**		**17 41 41.1**	**-1.8**
	baz=4.9								
R11A	**Troy Canyon, C**	**4.87**	**75**	⇓P		**Pn**		**17 41 42.1**	**-1.4**
	baz=4.9								
HEC	**Hector,Ludlow**	**4.89**	**118**	⇑P		**Pn**		**17 41 42.9**	**-0.8**
	baz=4.9								
TUQ	**Turquoise Moun**	**4.91**	**110**	⇓P		**Pn**		**17 41 43.4**	**-0.6**
	baz=4.9								
SCI	**San Clemente I**	**4.94**	**149**	⇑P		**Pn**		**17 41 43.0**	**-1.3**
	baz=5.0								
MURC	**Murrieta**	**5.11**	**134**	⇓P		**Pn**		**17 41 45.5**	**-1.2**
	baz=5.2								
KBO	**Bosley Butte**	**5.35**	**338**	*e*Pn		**Pn**		**17 41 50.7**	**+0.6**
GMRC	**Granite Mounta**	**5.39**	**116**	⇑P		**Pn**		**17 41 49.3**	**-1.4**
	baz=5.4								
HUMO	**Hull Mountain**	**5.45**	**349**	*e*Pn		Pn		17 41 53.9	+2.7
PFO	**Pinyon Flat Ob**	**5.54**	**130**	*e*Pn		**Pn**		**17 41 51.0**	**-1.7**
PFO	**Pinyon Flat Ob**	**5.54**	**130**	⇓P		**Pn**		**17 41 51.3**	**-1.4**
	baz=5.6								
BELC	**Belle Mtn. Jos**	**5.58**	**124**	⇓P		**Pn**		**17 41 52.4**	**-0.9**
	baz=5.6								
LDFC	**Landfair**	**5.67**	**111**	*e*Pn		**Pn**		**17 41 56.7**	**+2.3**
109C	**Camp Elliot, M**	**5.70**	**139**	⇑P		**Pn**		**17 41 54.6**	**-0.1**
	baz=5.7							

16nm,0.9s
FFC Flin Flon 22.02 31 *e*P **P** **17 45 24.3 -0.1**
18nm,0.9s
HKT Hockley 22.60 101 *e*P **P** **17 45 32.9 +2.1**
20nm,1.4s
CMIG Matias Romero 30.93 123 P P 17 46 51.3 +4.2
0.9nm,0.4s,baz=343,slow=11,SNR=4.1
CMIG Matias Romero 30.93 123 P P 17 46 51.3 +4.2
ILAR Eielson Array 31.37 339 P **P** **17 46 52.2 +1.5**
1.4nm,0.8s,baz=164,slow=7.5,SNR=3.6
ILAR Eielson Array 31.37 339 P **P** **17 46 52.2 +1.5**
RES Resolute Bay 39.59 11 P **P** **17 48 03.3 +2.2**
7.5nm,0.8s,baz=212,slow=9.3,SNR=4.6
RES Resolute Bay 39.59 11 P P **17 48 03.3 +2.2**
FINES FINESS Array B 78.18 15 P P 17 52 32.6 +3.3
1.4nm,0.7s,baz=0.0,slow=8.5,SNR=2.9
FINES FINESS Array B 78.18 15 P P 17 52 32.6 +3.3
CN2 Changchun 79.03 317 *e*P **P** **17 52 34.8 +0.5**
SONM Songino Array 85.09 330 P P 17 53 09.6 +3.3
0.4nm,0.6s,baz=77,slow=2.7,SNR=3.3
SONM Songino Array 85.09 330 P P 17 53 09.6 +3.3
GERES GERESS Array B 85.52 28 P P 17 53 12.3 +4.0
0.7nm,0.8s,baz=320,slow=4.4,SNR=3.8
GERES GERESS Array B 85.52 28 P P 17 53 12.3 +4.0
ZALV Zalesovo Beam 86.34 345 P P 17 53 14.5 +2.4
0.3nm,0.4s,baz=335,slow=4.8,SNR=3.4
ZALV Zalesovo Beam 86.34 345 P P 17 53 14.5 +2.4
BRVK Borovoye 89.46 353 *e*P **P** **17 53 27.8 +0.7**
2.2nm,0.7s
BVAR Borovoye Array 89.49 353 P **P** **17 53 27.9 +0.7**
1.4nm,0.8s,baz=26,slow=6.9,SNR=4.6
BVAR Borovoye Array 89.49 353 P **P** **17 53 27.9 +0.7**
CD2 Chengdu 100.02 322 P **Pdif** **17 54 14.8 -1.0**
CD2 pP **pP** **17 54 19.5 +0.6**
CD2 sP **sP** **17 54 21.8 +1.9**
CD2 PP **PP** **17 58 21.5 +1.4**
CD2 SKS **SKSac** **18 04 52.5 -2.6**
CD2 S **Sdif** **18 05 44.8 -6.1**
CD2 sS 18 05 52.0
CD2 SS **SS** **18 12 40.0 -2.3**
CD2 LR LR
comp=Z,190nm,13.1s
KSH Kashi 101.91 346 P **Pdif** **17 54 26.5 +2.3**
KSH PP PKiKP 17 58 40.3 -6.7
KSH SKS 18 05 06.5
KSH S SKKSac 18 06 05.8 +24
KSH SS SS 18 13 14.8 +6.9
KSH LR LR
comp=Z,130nm,15.2s

*IPEC **30** 17:45:49.3±0.2,51.63N×16.19E,h0km,ML2.4/3,Error ellipse: s-maj=2.9km s-min=1.6km az=73.0*
*ISCJB **30** 17:45:50.1±0.6,51.48N±0.03×16.12E±0.03,h0km,Error ellipse: s-maj=4.7km s-min=2.7km az=19.6*
*WAR **30** 17:45:51.1,51.56N×16.02E*
*CSEM **30** 17:45:51.0±0.2,51.51N×16.14E,h2km,ML3.6/10,Error ellipse: s-maj=3.7km s-min=2.3km az=20.0*
*BGR **30** 17:45:52.6±0.5,51.48N×16.08E,h1km,ML3.0/8,Error ellipse: s-maj=7.8km s-min=2.2km az=16.0*
*PRU **30** 17:45:52.2,51.49N×16.12E,h0km*
*VIE **30** 17:45:54.3±0.6,51.26N×16.11E,h0km,mb2.3/4,ML2.9/5,Error ellipse: s-maj=3.7km s-min=3.3km az=167.0 65 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 17:45:50.3±0.8,51.56N±0.03×16.15E±0.02,h0km,n59, σ0s99/97,3C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg		**Pg**	**17 46 05.0**	**+0.8**
KSP				*e*Sg		**Sg**	**17 46 14.8**	**+1.2**
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg		**Pg**	**17 46 04.9**	**+0.8**
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg		**Pg**	**17 46 04.6**	**+0.4**
baz=355								
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg		**Pg**	**17 46 04.9**	**+0.8**
KSP				*e*Sg		**Sg**	**17 46 14.7**	**+1.2**
KSP	**Ksiaz**	**0.73**	**173**	*e*		**Sn**	**17 46 19.0**	**-0.6**
UPC	**Upice**	**1.06**	**185**	*e*PG		**Pg**	**17 46 10.9**	**+0.3**
UPC	**Upice**	**1.06**	**185**	Pg		**Pg**	**17 46 10.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*Pg		**Pg**	**17 46 13.9**	**+0.2**
DPC				*e*Sg		**Sb**	**17 46 30.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*PG		**Pg**	**17 46 13.7**	**+0.1**
DPC				*e*SG		**Sg**	**17 46 28.7**	**-0.7**
comp=Z,57nm,0.2s								
DPC	**Dobruska-Polom**	**1.22**	**175**	Pg		**Pg**	**17 46 13.7**	**+0.1**
DPC				*e*Sg		**Sg**	**17 46 29.7**	**+0.3**
baz=356								
PVCC	**Panska Ves**	**1.44**	**225**	*e*PG		**Pb**	**17 46 18.3**	**+0.4**
PVCC				*e*SG		**Sg**	**17 46 35.9**	**-0.6**
comp=Z,180nm,0.2s								
PVCC	**Panska Ves**	**1.44**	**225**	*e*Pn		**Pn**	**17 46 17.5**	**-0.1**
baz=42								
PVCC	**Panska Ves**	**1.44**	**225**	Pg		**Pb**	**17 46 18.3**	**+0.4**
PVCC				Sg		**Sg**	**17 46 35.9**	**-0.6**
180nm,0.2s								
KRLC	**Kraliky**	**1.54**	**165**	*e*PG		**Pn**	**17 46 19.1**	**0.0**
KRLC				*e*SG		**Sn**	**17 46 39.8**	**0.0**
KRLC	**Kraliky**	**1.54**	**165**	Pg		**Pn**	**17 46 19.1**	**0.0**
KRLC				Sg		**Sn**	**17 46 39.8**	**0.0**
BRG	**Berggiesshubel**	**1.55**	**244**	PN		**Pn**	**17 46 19.2**	**+0.1**
BRG				PG		**Pg**	**17 46 20.3**	**+0.3**
BRG				SG		**Sg**	**17 46 40.8**	**+0.8**
144nm,0.4s								
FBE	**Freiberg**	**1.87**	**251**	*e*Pg		**Pg**	**17 46 26.5**	**+0.4**
FBE				*e*Sg		**Sg**	**17 46 50.5**	**+0.1**
FBE	**Freiberg**	**1.87**	**251**	Pg		**Pg**	**17 46 26.5**	**+0.4**
FBE				Sg		**Sg**	**17 46 50.5**	**+0.1**
PRU	**Pruhonice**	**1.88**	**214**	*e*PN		**Pn**	**17 46 24.3**	**+0.7**
PRU				*e*PG		**Pb**	**17 46 25.4**	**0.0**
PRU				*e*SG		**Sb**	**17 46 49.5**	**+0.1**
comp=Z,65nm,0.3s								
PRU	**Pruhonice**	**1.88**	**214**	Pn		**Pn**	**17 46 24.3**	**+0.7**
CLL	**Collm**	**1.99**	**264**	*e*Pn		**Pn**	**17 46 25.0**	**-0.1**
CLL				*e*Pg		**Pg**	**17 46 28.3**	**0.0**
CLL				*e*Sg		**Sg**	**17 46 54.5**	**+0.4**
CLL	**Collm**	**1.99**	**264**	*e*Pn		**Pn**	**17 46 25.0**	**-0.1**
CLL				*e*Pg		**Pg**	**17 46 29.0**	**+0.7**
CLL				*e*Sg		**Sg**	**17 46 54.0**	**-0.1**
comp=Z,62nm,0.8s								
CLL	**Collm**	**1.99**	**264**	Pn		**Pn**	**17 46 25.0**	**-0.1**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn		**Pn**	**17 46 25.4**	**+0.1**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn		**Pn**	**17 46 25.2**	**-0.1**
baz=336								
MORC				*e*Sg		**Sb**	**17 46 53.4**	**+0.5**
comp=Z,18nm,0.2s,baz=336								
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*Pn		**Pn**	**17 46 27.4**	**+0.1**
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PN		**Pn**	**17 46 26.8**	**-0.5**
OKC				*e*PG		**Pg**	**17 46 31.2**	**-0.1**
OKC				*e*SG		**Sb**	**17 46 57.5**	**+0.4**
comp=Z,26nm,0.4s								
OKC	**Ostrava-Krasne**	**2.14**	**143**	Pn		**Pn**	**17 46 27.4**	**+0.1**
OKC	**Ostrava-Krasne**	**2.14**	**143**	Pg		**Pg**	**17 46 31.2**	**-0.1**
OKC				Sg		**Sb**	**17 46 57.5**	**+0.4**
comp=Z,26nm,0.4s								
VRAC	**Vranov**	**2.28**	**173**	*e*Pn		**Pn**	**17 46 29.1**	**0.0**
VRAC				*e*Sg		**Sb**	**17 47 02.3**	**+1.4**
comp=Z,23nm,0.3s,baz=354								
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn		**Pn**	**17 46 32.2**	**-0.1**
baz=357								
KRUC				*e*Sg		**Sg**	**17 47 10.0**	**-0.8**
comp=Z,13nm,0.2s,baz=357								
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn		**Pn**	**17 46 34.8**	**+1.2**
TANN	**Tannenbergstha**	**2.60**	**245**	Pn		**Pn**	**17 46 34.8**	**+1.2**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg		**Pg**	**17 46 41.8**	**+0.3**
OJC				Sg		**Sg**	**17 47 17.8**	**+1.6**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg		**Pg**	**17 46 41.8**	**+0.3**
OJC				*e*Sg		**Sg**	**17 47 17.7**	**+1.6**
NKC	**Novy Kostel**	**2.70**	**242**	*e*SG		**Sg**	**17 47 18.4**	**+1.6**
comp=Z,89nm,0.3s								
NKC	**Novy Kostel**	**2.70**	**242**	Sg		**Sg**	**17 47 18.4**	**+1.6**
comp=Z,89nm,0.3s								
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN		**Pn**	**17 46 38.5**	**+0.2**
KHC				*e*PG		**Pb**	**17 46 44.7**	**+1.2**
KHC				*e*SN		**Sn**	**17 47 13.6**	**-0.7**
KHC				*e*SG		**Sg**	**17 47 22.7**	**-2.0**
comp=Z,19nm,0.3s								
KHC	**Kasperske Hory**	**2.94**	**215**	Pn		**Pn**	**17 46 38.5**	**+0.2**
MOX	**Moxa**	**3.00**	**254**	*e*Sg		**Sg**	**17 47 26.3**	**-0.4**
MOX	**Moxa**	**3.00**	**254**	Sg		**Sg**	**17 47 26.3**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*e*Pn		**Pn**	**17 46 41.0**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	Pn		**Pn**	**17 46 41.0**	**+0.8**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn		**Pn**	**17 46 42.4**	**+1.3**
GEC2	**GERESS Array S**	**3.14**	**211**	Pn		**Pn**	**17 46 42.4**	**+1.3**
WET	**Wettzell**	**3.20**	**222**	*e*Pn		**Pn**	**17 46 42.4**	**+0.6**
WET	**Wettzell**	**3.20**	**222**	Pn		**Pn**	**17 46 42.4**	**+0.6**
CLZ	**Clausthal**	**3.60**	**277**	*e*Sg		**Sg**	**17 47 46.0**	**0.0**
CLZ	**Clausthal**	**3.60**	**277**	Sg		**Sg**	**17 47 46.0**	**0.0**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**17 46 48.0**	**+0.3**
BSD				*i* S		**Sn**	**17 47 28.4**	**-2.9**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**17 46 48.0**	**+0.3**
BSD				*i* S		**Sn**	**17 47 28.4**	**-2.9**
CONA	**Conrad Observa**	**3.64**	**183**	⇓*i* Pn		**Pn**	**17 46 47.4**	**-0.6**
CONA				⇓*i* Sg		**Sg**	**17 47 45.0**	**-2.3**
comp=Z,12nm,0.4s								
CONA	**Conrad Observa**	**3.64**	**183**	Pn		**Pn**	**17 46 47.4**	**-0.6**
CONA				Sg		**Sg**	**17 47 45.0**	**-2.3**
comp=Z,12nm,0.4s								
GRA1	**Grafenberg Arr**	**3.65**	**241**	Sg		**Sg**	**17 47 46.5**	**-1.1**
GRF	**Grafenberg Arr**	**3.65**	**241**	*e*Sg		**Sg**	**17 47 46.5**	**-1.1**
MOA	**Molln**	**3.91**	**199**	⇑*i* Pn		**Pn**	**17 46 52.2**	**+0.6**
MOA				⇑*i* Sg		**Sg**	**17 47 54.4**	**-1.6**
comp=Z,23nm,0.6s								
MOA	**Molln**	**3.91**	**199**	Pn		**Pn**	**17 46 52.2**	**+0.6**
MOA				Sg		**Sg**	**17 47 54.4**	**-1.6**
comp=Z,23nm,0.6s								
ARSA	**Arzberg**	**4.34**	**186**	⇑*i* Pn		**Pn**	**17 46 57.4**	**0.0**
ARSA				⇓*i* Sg		**Sg**	**17 48 06.3**	**-3.2**
comp=Z,8.6nm,0.5s								
ARSA	**Arzberg**	**4.34**	**186**	Pn		**Pn**	**17 46 57.4**	**0.0**
ARSA				Sg		**Sg**	**17 48 06.3**	**-3.2**
comp=Z,8.6nm,0.5s								

MEX 30 17:50:53.0±1.1,15.77N×97.57W,h23km±53km,MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.82**	**319**	*i* P		Pb	17 51 06.7	-1.9
PNIG				*e*S		Sb	17 51 15.4	-3.9
HUIG	**Huatulco**	**1.41**	**90**	*i* P		Pn	17 51 14.1	-3.2
HUIG				*i* S		Sn	17 51 31.2	-4.0
VHO	**Vista Hermosa**	**1.52**	**32**	*i* P		Pn	17 51 16.5	-2.6
VHO				*i* S		Sn	17 51 34.7	-3.7
CMIG	**Matias Romero**	**2.89**	**63**	*i* P		Pn	17 51 35.4	-2.3
CMIG				*i* S		Sn	17 52 08.8	-3.1

*NIED **30** 17:56:00,44.00N×148.20E,h65km,Mw4.9 Best double couple: M0 2.40000×10^16 NP1:ϕ=254.00000°,δ87.00000°, λ-89.00000°. NP2:ϕ=60.00000°,δ3.00000°,λ-103.00000°.*

JMA 30 17:56:09.0±0.3,44.05N×148.20E,h0km,M4.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.91**	**250**	P		Pn	17 56 43.1	+0.3
NEM2				*e*S		Sb	17 57 08.3	-0.7
JRA	**Rausu**	**2.22**	**268**	P		Pn	17 56 47.8	+0.7
JNK	**Nakash**	**2.56**	**261**	P		Pn	17 56 52.7	+0.9
JNK				*e*S		Sn	17 57 24.9	+1.3
JAK	**Akkeshi**	**2.76**	**249**	P		Pn	17 56 55.3	+0.9
JTKR	**Abashiri--Toko**	**3.10**	**270**	P		Pn	17 57 01.1	+2.0
JAR	**Ashorobuto**	**3.30**	**258**	P		Pn	17 57 02.8	+0.9
JAR				*e*S		Sn	17 57 43.0	+1.1
JCH	**Churui**	**3.81**	**250**	P		Pn	17 57 11.1	+2.2
JCH				*e*S		Sn	17 57 57.1	+2.7
JKK2	**Kamakawa 2**	**3.94**	**269**	P		Pn	17 57 12.4	+1.7
JNBK	**Urakawa-nobuka**	**4.36**	**248**	P		Pn	17 57 18.4	+1.9
JNBK				*e*S		Sn	17 58 10.0	+2.1
JKB	**Kayabe**	**5.69**	**250**	P		Pn	17 57 36.4	+1.7
JKB				*e*S		Sn	17 58 40.5	-0.1
JOT	**Ohata**	**5.90**	**246**	P		Pn	17 57 38.9	+1.2
JANG	**Nango**	**6.17**	**236**	P		Pn	17 57 42.6	+1.2
JANG				*e*S		Sn	17 58 51.1	-1.6

IDC 30 18:08:00.9±9.6,30.23S×177.55W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.5/17,mbtmp3.6/2,Error ellipse: s-maj=416.5km s-min=55.5km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.51**	**267**	P		P	18 16 05.8	-0.6
0.7nm,1.1s,baz=105,slow=7.0,SNR=9.5								
WRA	**Warramunga Arr**	**44.48**	**272**	P		P	18 16 14.5	+0.2
0.6nm,0.3s,baz=110,slow=7.9,SNR=35								
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc		PKPbc	18 27 38.3	-0.8
1.9nm,0.8s,baz=69,slow=4.8,SNR=6.5								

*CSEM **30** 18:19:04.2,37.60N×28.61E,h2km,MD2.8,After ISK*
*ISK **30** 18:19:04.2,37.60N×28.61E,h2km,MD2.8*

DDA 30 18:19:11.0,37.52N×27.20E,h7km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.18**	**10**	*i* Pg		Pg	18 19 15.1	+0.4
GCAM				*i* Sg		Sg	18 19 17.7	+0.5
BODT	**Bodrum**	**0.47**	**169**	*e*PN		Pn	18 19 27.3	+3.1
BODT	**Bodrum**	**0.47**	**169**	*e*Pn		Pn	18 19 27.3	+3.1
BDRM	**Kayabasi**	**0.50**	**156**	*e*P		Pg	18 19 21.1	+0.4
BDRM				*e*S		Sg	18 19 27.9	+0.7
MLSB	**Milas**	**0.52**	**116**	*e*PG		Pg	18 19 19.2	-1.9
MLSB				*e*SG		Sb	18 19 30.2	0.0
MLSB	**Milas**	**0.52**	**116**	*e*Pg		Pg	18 19 19.2	-1.9
MLSB				*e*Sg		Sb	18 19 30.2	0.0
AYDN	**Tasoluk**	**0.56**	**76**	*e*P		Pg	18 19 22.2	+0.2
AYDN				*e*S		Sg	18 19 30.4	+1.0
BLCB	**Balcova**	**0.87**	**352**	*e*PN		Pn	18 19 32.4	+2.7
BLCB	**Balcova**	**0.87**	**352**	*e*Pn		Pn	18 19 32.4	+2.7
URLA	**Izmir**	**0.96**	**331**	*e*P		Pb	18 19 29.9	-0.2
URLA				*e*S		Sb	18 19 43.4	+0.3

*ISCJB **30** 18:19:15.8±0.8,38.38N±0.02×23.71E±0.04,h13km±6km, Error ellipse: s-maj=4.9km s-min=3.0km az=169.1*
*ATH **30** 18:19:15.4,38.36N×23.76E,h31km±1km,MD2.9/12, ML2.4*
*CSEM **30** 18:19:16.1±0.1,38.38N×23.68E,h15km,MD2.9,Error ellipse: s-maj=3.2km s-min=2.1km az=69.0*
*THE **30** 18:19:16.5,38.38N×23.64E,h5km±3km,ML2.3/6,Error ellipse: s-maj=3.0km s-min=0.4km az=60.0*

ISC 30 18:19:15.5±1.1,38.38N±0.02×23.68E±0.02,h18km±7km, n60,σ0s54/92,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRKA	**Markates**	**0.34**	**348**	P		**Pb**	**18 19 23.2**	**+0.1**
MRKA				S		**Sb**	**18 19 28.1**	**-0.1**
MRKA	**Markates**	**0.34**	**348**	P		**Pb**	**18 19 23.2**	**+0.1**
MRKA				S		**Sb**	**18 19 28.1**	**-0.1**
PTL	**Penteli**	**0.36**	**155**	P		**Pb**	**18 19 23.9**	**+0.5**
PTL				S		**Sb**	**18 19 28.9**	**+0.2**
PTL	**Penteli**	**0.36**	**155**	*e*PB		**Pb**	**18 19 23.6**	**+0.2**
PTL				*e*SB		**Sb**	**18 19 28.5**	**-0.2**
PTL	**Penteli**	**0.36**	**155**	*e*Pb		**Pb**	**18 19 23.6**	**+0.2**
PTL	**Penteli**	**0.36**	**155**	P		**Pb**	**18 19 23.9**	**+0.5**
PTL				*e*Sb		**Sb**	**18 19 28.5**	**-0.2**
PTL				S		**Sb**	**18 19 28.9**	**+0.2**
ATH	**Athens Observa**	**0.40**	**175**	P		**Pb**	**18 19 24.8**	**+0.6**
ATH				S		**Sb**	**18 19 30.4**	**+0.4**
ATH	**Athens Observa**	**0.40**	**175**	*e*PB		**Pb**	**18 19 24.5**	**+0.3**
ATH				*e*SB		**Sb**	**18 19 30.4**	**+0.4**
ATH	**Athens Observa**	**0.40**	**175**	*e*Pb		**Pb**	**18 19 24.5**	**+0.3**
ATH	**Athens Observa**	**0.40**	**175**	P		**Pb**	**18 19 24.8**	**+0.6**
ATH				*e*Sb		**Sb**	**18 19 30.4**	**+0.4**
ATHU	**Athens Univers**	**0.42**	**168**	P		**Pb**	**18 19 24.9**	**+0.5**
ATHU				S		**Sb**	**18 19 30.6**	**+0.2**
ATHU	**Athens Univers**	**0.42**	**168**	P		**Pb**	**18 19 24.9**	**+0.5**
ATHU				S		**Sb**	**18 19 30.6**	**+0.2**
LKR	**Lokris**	**0.60**	**298**	P		**Pg**	**18 19 27.0**	**-0.4**
LKR				S		**Sb**	**18 19 35.5**	**-0.1**
LKR	**Lokris**	**0.60**	**298**	*e*PN		**Pn**	**18 19 28.5**	**-0.7**
LKR	**Lokris**	**0.60**	**298**	P		**Pg**	**18 19 27.0**	**-0.4**
LKR	**Lokris**	**0.60**	**298**	*e*Pn		**Pb**	**18 19 28.5**	**-0.7**
LKR				S		**Sb**	**18 19 35.5**	**-0.1**
ATAL	**Atalanti**	**0.60**	**302**	P		**Pg**	**18 19 27.1**	**-0.4**
ATAL				S		**Sb**	**18 19 35.8**	**0.0**
ATAL	**Atalanti**	**0.60**	**302**	P		**Pg**	**18 19 27.1**	**-0.4**
ATAL				S		**Sb**	**18 19 35.8**	**0.0**
NAIG	**Nisos Aigina**	**0.63**	**194**	*e*PN		**Pb**	**18 19 28.6**	**+0.5**
NAIG	**Nisos Aigina**	**0.63**	**194**	*e*Pn		**Pb**	**18 19 28.6**	**+0.5**
MRMA	**Marmari**	**0.64**	**120**	P		**Pn**	**18 19 29.2**	**-0.5**
MRMA	**Marmari**	**0.64**	**120**	P		**Pn**	**18 19 29.2**	**-0.5**
LTK	**Loutraki**	**0.66**	**238**	P		**Pb**	**18 19 29.0**	**+0.5**
LTK				S		**Sn**	**18 19 38.4**	**-1.6**
LTK	**Loutraki**	**0.66**	**238**	*e*PN		**Pn**	**18 19 29.4**	**-0.6**
LTK	**Loutraki**	**0.66**	**238**	P		**Pb**	**18 19 29.0**	**+0.5**
LTK	**Loutraki**	**0.66**	**238**	*e*Pn		**Pn**	**18 19 29.4**	**-0.6**
LTK				S		**Sn**	**18 19 38.4**	**-1.6**
SKIA	**Skiathos**	**0.81**	**348**	P		**Pn**	**18 19 32.0**	**-0.1**
SKIA				S		**Sn**	**18 19 43.3**	**-0.3**
SKIA	**Skiathos**	**0.81**	**348**	P		**Pn**	**18 19 32.0**	**-0.1**
SKIA				S		**Sn**	**18 19 43.3**	**-0.3**
AOS	**Alonnisos**	**0.81**	**11**	P		**Pg**	**18 19 31.6**	**+0.2**
AOS				S		**Sn**	**18 19 43.5**	**-0.2**
AOS	**Alonnisos**	**0.81**	**11**	*e*PN		**Pg**	**18 19 31.5**	**+0.2**
AOS				*e*SN		**Sn**	**18 19 43.4**	**-0.2**
AOS	**Alonnisos**	**0.81**	**11**	P		**Pg**	**18 19 31.6**	**+0.2**
AOS				S		**Sn**	**18 19 43.5**	**-0.2**
DSF	**Desfina**	**0.90**	**273**	P		**Pg**	**18 19 32.7**	**-0.4**
DSF				S		**Sn**	**18 19 46.4**	**+0.3**
DSF	**Desfina**	**0.90**	**273**	P		**Pg**	**18 19 32.7**	**-0.4**
DSF				S		**Sn**	**18 19 46.4**	**+0.3**
DID	**Didima**	**0.93**	**202**	P		**Pn**	**18 19 33.9**	**+0.1**
DID				S		**Sn**	**18 19 47.6**	**+0.8**
DID	**Didima**	**0.93**	**202**	*e*PN		**Pn**	**18 19 33.9**	**+0.1**
DID	**Didima**	**0.93**	**202**	*e*Pn		**Pn**	**18 19 33.9**	**+0.1**
DID				S		**Sn**	**18 19 47.6**	**+0.8**
NEO	**Neokhori**	**0.99**	**339**	*e*PN		**Pg**	**18 19 34.8**	**-0.1**
NEO				*e*SN		**Sn**	**18 19 49.2**	**+0.9**
NEO	**Neokhori**	**0.99**	**339**	*e*Pn		**Pg**	**18 19 34.8**	**-0.1**
NEO				*e*Sn		**Sn**	**18 19 49.2**	**+0.9**
XOR	**Xorichti**	**1.06**	**339**	P		**Pg**	**18 19 36.0**	**-0.1**
XOR				S		**Sg**	**18 19 50.6**	**+0.6**
XOR	**Xorichti**	**1.06**	**339**	P		**Pg**	**18 19 36.0**	**-0.1**
XOR				S		**Sg**	**18 19 50.6**	**+0.6**
GUR	**Goura**	**1.14**	**248**	*e*PN		**Pg**	**18 19 37.4**	**-0.2**
GUR	**Goura**	**1.14**	**248**	*e*Pn		**Pg**	**18 19 37.4**	**-0.2**
KALE	**Kalithea**	**1.21**	**271**	*e*PN		**Pg**	**18 19 39.2**	**+0.3**
KALE	**Kalithea**	**1.21**	**271**	*e*Pn		**Pg**	**18 19 39.2**	**+0.3**
AGG	**Agios Georgios**	**1.23**	**302**	*e*PN		**Pg**	**18 19 39.8**	**+0.4**
AGG	**Agios Georgios**	**1.23**	**302**	*e*Pn		**Pg**	**18 19 39.8**	**+0.4**
TRIZ	**Trizonia**	**1.26**	**270**	*e*PN		**Pg**	**18 19 39.8**	**-0.1**
TRIZ	**Trizonia**	**1.26**	**270**	*e*Pn		**Pg**	**18 19 39.8**	**-0.1**
LAKA	**Lakka**	**1.34**	**265**	*e*PN		**Pg**	**18 19 41.4**	**0.0**
LAKA	**Lakka**	**1.34**	**265**	*e*Pn		**Pg**	**18 19 41.4**	**0.0**
VLX	**Vlachokerasia**	**1.44**	**226**	*e*PN		**Pb**	**18 19 41.9**	**+0.1**
VLX	**Vlachokerasia**	**1.44**	**226**	*e*Pn		**Pb**	**18 19 41.9**	**+0.1**
CHOS	**Chios island**	**1.87**	**89**	*e*PN		**Pn**	**18 19 46.2**	**-0.5**
CHOS	**Chios island**	**1.87**	**89**	*e*Pn		**Pn**	**18 19 46.2**	**-0.5**
DYR	**Agios Nikonas**	**1.93**	**214**	*e*PN		**Pn**	**18 19 48.6**	**+1.1**
DYR	**Agios Nikonas**	**1.93**	**214**	*e*Pn		**Pn**	**18 19 48.6**	**+1.1**
APE	**Apeiranthos**	**1.97**	**131**	*e*PN		**Pn**	**18 19 47.6**	**-0.4**
APE				*e*SN		**Sg**	**18 20 18.9**	**+0.1**
APE	**Apeiranthos**	**1.97**	**131**	*e*Pn		**Pn**	**18 19 47.6**	**-0.4**
APE				*e*Sn		**Sg**	**18 20 18.9**	**+0.1**
KYTH	**Kithira**	**2.15**	**194**	P		**Pb**	**18 19 52.4**	**-1.6**
KYTH	**Kithira**	**2.15**	**194**	P		**Pb**	**18 19 52.4**	**-1.6**

*ISCJB **30** 18:24:11.5±0.6,38.47N±0.06×28.54W±0.05,h21km±3km, mb3.5/5,Error ellipse: s-maj=10.3km s-min=5.9km az=12.5*
*IDC **30** 18:24:12.7±2.4,38.75N×28.65W,h0km,mb3.6/5, mb1 3.6/5,mb1mx3.4/27,mbtmp3.6/5,Error ellipse: s-maj=75.1km s-min=33.8km az=45.0*
*CSEM **30** 18:24:13.9,38.58N×28.55W,h0km,ML3.8,After PDA*
*PDA **30** 18:24:13.9±1.0,38.58N×28.55W,h0km±4km,MD3.5, ML3.8,Error ellipse: s-maj=2.7km s-min=2.2km az=73.0*

ISC 30 18:24:12.5±0.7,38.55N±0.04×28.54W±0.03,h15km±5km, n26,σ1s67/44,mb3.7/5,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOR	**Horta**	**0.07**	**251**	*e*P		**Pg**	**18 24 15.6**	**+0.1**
HOR				*e*S		**Sg**	**18 24 17.2**	**-0.2**
HOR	**Horta**	**0.07**	**251**	*e*P		**Pg**	**18 24 15.6**	**+0.1**
HOR				*e*S		**Sg**	**18 24 17.2**	**-0.2**
PCAN

IXG	**Ixpaco**	**1.19**	**346**	*e*P	**Pn**	**18 25 33.0**	**-0.8**
LFRS	**El Faro**	**1.23**	**60**⇑	*e*P	**Pn**	**18 25 33.4**	**-0.8**
LFRS				*e*S	**Sn**	**18 25 50.0**	**+0.4**
LBRS	**Las Brisas**	**1.30**	**56**	*e*P	**Pn**	**18 25 34.8**	**-0.4**
SNVI	**San Vicente**	**1.41**	**65**⇓	*e*P	**Pn**	**18 25 36.4**	**-0.5**
FUG	**Fuego 3**	**1.58**	**335**	*e*P	**Pn**	**18 25 38.2**	**-0.9**
NBG	**Las Nubes**	**1.58**	**353**	*e*P	**Pn**	**18 25 40.1**	**+0.9**
FG6		**1.69**	**335**	*e*P	**Pn**	**18 25 40.5**	**-0.3**
BLLM	**Bellamira**	**1.91**	**77**	*e*P	**Pn**	**18 25 43.5**	**-0.1**
CAHU	**Cacacuatique**	**2.04**	**68**	*e*P	**Pn**	**18 25 45.4**	**-0.1**
MRL	**Marmol**	**2.09**	**12**	*e*P	**Pn**	**18 25 47.6**	**+1.4**
CNCH	**Conchagua**	**2.27**	**83**	*e*P	**Pn**	**18 25 48.3**	**-0.4**
JTS	**JuntasAbangare**	**5.77**	**117**	P	**Pn**	**18 26 38.6**	**+2.0**
	0.8nm,0.3s,baz=311,slow=19,SNR=5.8						
CMIG	**Matias Romero**	**6.11**	**312**	P	**Pn**	**18 26 43.0**	**+1.7**
	0.3nm,0.3s,baz=128,slow=12,SNR=4.0						
CMIG				S	**Sn**	**18 27 48.5**	**-1.4**
	0.2nm,0.3s,baz=90,slow=20,SNR=3.7						
TEIG	**Tepich**	**7.40**	**14**	P	**Pn**	**18 26 59.9**	**+1.0**
	1.8nm,0.3s,baz=135,slow=1.4,SNR=12						
TXAR	**Lajitas Array**	**20.52**	**324**	P	**P**	**18 29 49.7**	**+1.4**
	0.5nm,0.5s,baz=146,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**35.57**	**320**	P	**P**	**18 32 08.8**	**+1.7**
	1.2nm,0.8s,baz=128,slow=9.1,SNR=7.2						
SCHQ	**Schefferville**	**45.55**	**19**	P	P	18 33 25.5	-3.5
	2.0nm,0.5s,baz=230,slow=11,SNR=8.8						
YKA	**Yellowknife Ar**	**52.41**	**346**	P	**P**	**18 34 19.2**	**-2.1**
	0.2nm,0.4s,baz=145,slow=8.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**147.47**	**344**	PKPbc	**PKPbc**	**18 44 53.4**	**-0.5**
	0.3nm,0.6s,baz=332,slow=2.5,SNR=4.6						

IDC ***30*** *18:25:32.9±11.0, 25˚.95N×141˚.50E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/38, Error ellipse: s-maj=347.1km s-min=121.5km az=14.0*

JMA 30 18:26:42.8±0.1, 28˚.95N×140˚.16E, h472km, M3.3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.57**	**135**	P	P	18 27 49.0	+0.3
CBIJ				S	S	18 28 41.7	-0.5
JHHJ	**Haha-jima-NKT**	**2.92**	**142**	P	P	18 27 51.4	+0.3
JIE	**Ise**	**6.17**	**332**	P	P	18 28 21.0	+1.4
JKN2	**Miekihoku**	**6.23**	**329**	P	P	18 28 20.8	+0.7
HMMJ	**Hamamatsu 2**	**6.24**	**341**	P	P	18 28 21.1	+0.8
JOD2	**Odawara 2**	**6.36**	**352**	P	P	18 28 22.7	+1.2
JRY	**Ryogami san**	**7.11**	**352**	P	P	18 28 30.4	+1.1
JYT	**Yasato**	**7.26**	**0**	P	P	18 28 32.2	+1.6
JAG	**Ashikaga**	**7.48**	**356**	P	P	18 28 33.6	+0.7
JHO	**Hitachi**	**7.65**	**2**	P	P	18 28 37.4	+2.7
SONM	**Songino Array**	**32.14**	**315**	P	P	18 32 28.1	-2.1
	0.2nm,0.4s,baz=125,slow=8.8,SNR=4.4						
SONM				LR	LR	18 45 25.1	
	comp=Z,65nm,19.4s,baz=315,slow=34						
MKAR	**Makanchi Array**	**47.92**	**308**	P	P	18 34 34.6	-2.5
	0.1nm,0.4s,baz=97,slow=7.9,SNR=4.8						
FINES	**FINESS Array B**	**75.49**	**333**	P	P	18 37 36.8	-0.6
	1.8nm,0.9s,baz=76,slow=5.9,SNR=4.4						

IDC ***30*** *18:35:44.4±0.6, 32˚.69S×57˚.08E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/25, mbtmp4.3/14, ML5.4/1, MS3.8/2, Ms1 3.9/2, ms1mx3.1/40, Error ellipse: s-maj=23.4km s-min=15.8km az=76.0*

ISCJB ***30*** *18:35:45.4±0.4, 32˚.70S±0˚.07×57˚.1E±0˚.1, h16km, mb4.4/23, MS3.8/1, Error ellipse: s-maj=14.4km s-min=9.7km az=166.6*

NEIC ***30*** *18:35:45.9±0.4, 32˚.73S×57˚.05E, h10km, mb4.7/11, Error ellipse: s-maj=16.0km s-min=10.3km az=61.0*

ISC 30 18:35:47.1±0.5, 32˚.68S±0˚.10×57˚.1E±0˚.1, h16km, n59, σ0°78/57, mb4.5/23, 3C-2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**16.23**	**325**	*e*P	**Pn**	**18 39 34.0**	**-0.7**
	27nm,0.3s						
OPO	**Ambohidratompo**	**16.63**	**325**	Pn	**Pn**	**18 39 39.9**	**+0.1**
	15nm,0.3s,baz=130,slow=12,SNR=104						
OPO				Sn	Sn	18 42 32.3	-12
	5.9nm,0.3s,baz=235,slow=16,SNR=4.4						
OPO				LR	LR	18 44 18.5	
	comp=Z,361nm,21.6s,baz=179,slow=31						
OPO	**Ambohidratompo**	**16.63**	**325**	Pn	**Pn**	**18 39 39.9**	**+0.1**
OPO				Sn	Sn	18 42 32.3	-12
SNAA	**Sanae**	**49.95**	**201**	*e*P	**P**	**18 44 40.2**	**+0.3**
SNAA	**Sanae**	**49.95**	**201**	P	**P**	**18 44 39.7**	**-0.2**
	2.6nm,0.8s,baz=76,slow=5.1,SNR=15						
SNAA	**Sanae**	**49.95**	**201**	*e*P	**P**	**18 44 40.0**	**+0.1**
	6.8nm,0.9s						
VNA2	**Neumayer--Watz**	**51.18**	**202**	*e*P	**P**	**18 44 49.9**	**+0.8**
	baz=71,slow=5.9						
VNA3	**Neumayer Olymp**	**51.97**	**202**	*e*P	**P**	**18 44 55.5**	**+0.5**
HYB	**Hyderabad**	**53.88**	**26**	*i* P	**P**	**18 45 09.0**	**-0.7**
QSPA	**South Pole Qui**	**57.49**	**180**	P	**P**	**18 45 35.2**	**-0.1**
	6.2nm,0.8s,baz=255,slow=2.9,SNR=30						
QSPA	**South Pole Qui**	**57.49**	**180**	P	**P**	**18 45 35.2**	**-0.1**
VNDA	**Vanda**	**61.46**	**166**	P	**P**	**18 46 02.2**	**-0.1**
	4.2nm,0.9s,baz=254,slow=8.0,SNR=15						
VNDA	**Vanda**	**61.46**	**166**	P	**P**	**18 46 02.2**	**-0.1**
CM31	**Chiang Mai Arr**	**64.71**	**44**	*e*P	**P**	**18 46 24.9**	**+0.3**
	13nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.71**	**44**	P	**P**	**18 46 24.9**	**+0.3**
	5.7nm,0.8s,baz=231,slow=7.2,SNR=63						
CMAR				LR	LR	19 11 13.8	
	comp=Z,63nm,20.0s,baz=288,slow=33						
CMAR	**Chiang Mai Arr**	**64.71**	**44**	P	**P**	**18 46 24.9**	**+0.3**
ASAR	**Alice Springs**	**66.99**	**104**	P	**P**	**18 46 39.4**	**-0.1**
	0.8nm,0.6s,baz=240,slow=5.9,SNR=20						
ASAR	**Alice Springs**	**66.99**	**104**	P	**P**	**18 46 39.4**	**-0.1**
WRA	**Warramunga Arr**	**69.06**	**101**	P	**P**	**18 46 52.5**	**0.0**
	2.0nm,0.9s,baz=239,slow=5.5,SNR=19						
WRA	**Warramunga Arr**	**69.06**	**101**	P	**P**	**18 46 52.5**	**0.0**
WRAB	**Tennant Creek**	**69.08**	**101**	*e*P	**P**	**18 46 52.8**	**+0.2**
	5.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**69.81**	**301**	P	**P**	**18 46 56.6**	**-0.4**
	0.9nm,0.8s,baz=124,slow=5.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**69.81**	**301**	P	**P**	**18 46 56.6**	**-0.4**
LSA	**Lhasa**	**69.94**	**31**	*e*P	**P**	**18 46 58.8**	**+0.7**
	2.3nm,0.7s						
IDI	**Anoyia**	**74.05**	**333**	*e*P	**P**	**18 47 23.3**	**+1.1**
	3.9nm,0.9s						
BR131	**Keskin Array S**	**75.25**	**341**	*e*P	**P**	**18 47 29.1**	**0.0**
	2.7nm,0.9s						
BRTR	**Keskin Array B**	**75.25**	**341**	P	**P**	**18 47 28.6**	**-0.5**
	2.9nm,0.8s,baz=168,slow=8.2,SNR=20						
BRTR	**Keskin Array B**	**75.25**	**341**	P	**P**	**18 47 28.6**	**-0.5**
KKAR	**Karatay Array**	**76.41**	**10**	*e*P	**P**	**18 47 36.5**	**+1.0**
	6.2nm,0.9s						
EKS2	**Erkin-Say**	**76.52**	**13**	*e*P	**P**	**18 47 37.9**	**+1.6**
	68nm,0.6s						
AAK	**Ala-Archa**	**76.63**	**13**	*e*P	**P**	**18 47 38.5**	**+1.5**
	53nm,1.3s						
KBZ	**Khabaz**	**77.14**	**349**	P	**P**	**18 47 40.4**	**+0.9**
	2.5nm,0.9s,baz=251,slow=5.9,SNR=8.3						
KBZ	**Khabaz**	**77.14**	**349**	P	**P**	**18 47 40.4**	**+0.9**
ABKAR	**Akbulak array**	**81.61**	**2**	*e*P	**P**	**18 48 04.0**	**+0.2**
	6.4nm,1.0s						
CFR	**Carcaliu**	**81.83**	**340**⇑	*i* P	**P**	**18 48 03.8**	**-1.2**
MK31	**Makanchi Array**	**82.31**	**17**	*e*P	**P**	**18 48 07.6**	**+0.1**
MKAR	**Makanchi Array**	**82.31**	**17**	P	**P**	**18 48 07.6**	**+0.1**
	1.1nm,0.9s,baz=191,slow=5.6,SNR=11						
MKAR	**Makanchi Array**	**82.31**	**17**	P	**P**	**18 48 07.6**	**+0.1**
MLR	**Muntele Rosu**	**82.77**	**338**⇑	*i* P	**P**	**18 48 10.3**	**+0.1**
VRI	**Vrincioaia**	**82.87**	**339**⇑	*i* P	**P**	**18 48 10.9**	**+0.4**
PLOR	**Plostina**	**82.88**	**339**⇓	*i* P	**P**	**18 48 09.9**	**-0.7**
VOIR		**83.01**	**338**⇓	*i* P	**P**	**18 48 11.1**	**-0.2**
BVAR	**Borovoye Array**	**86.13**	**8**	P	**P**	**18 48 27.1**	**+0.3**
	3.0nm,0.7s,baz=181,slow=6.1,SNR=22						
BVAR	**Borovoye Array**	**86.13**	**8**	P	**P**	**18 48 27.1**	**+0.3**
BRVK	**Borovoye**	**86.15**	**8**	*e*P	**P**	**18 48 27.8**	**+0.9**
	5.3nm,1.1s						
AKASG	**Malin Array Be**	**86.59**	**343**	P	**P**	**18 48 28.7**	**-0.4**
	0.8nm,0.5s,baz=166,slow=4.8,SNR=3.5						
AKASG	**Malin Array Be**	**86.59**	**343**	P	**P**	**18 48 28.7**	**-0.4**
ZALV	**Zalesovo Beam**	**89.55**	**16**	P	**P**	**18 48 40.7**	**-2.5**
	0.3nm,0.3s,baz=208,slow=2.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**89.55**	**16**	P	**P**	**18 48 40.7**	**-2.5**
SONM	**Songino Array**	**91.52**	**31**	P	**P**	**18 48 52.6**	**-0.1**
	0.2nm,0.6s,baz=214,slow=4.4,SNR=3.9						
SONM	**Songino Array**	**91.52**	**31**	P	**P**	**18 48 52.6**	**-0.1**
INK	**Inuvik**	**143.80**	**7**	PKP	PKPab	18 55 17.7	+0.2
	3.1nm,1.2s,baz=62,slow=4.6,SNR=4.1						
INK	**Inuvik**	**143.80**	**7**	PKP	**PKPab**	**18 55 17.7**	**+0.2**
ILAR	**Eielson Array**	**144.66**	**18**	PKP	**PKPab**	**18 55 19.4**	**-1.4**
	0.9nm,0.8s,baz=314,slow=3.7,SNR=8.5						
ILAR	**Eielson Array**	**144.66**	**18**	PKP	**PKPab**	**18 55 19.4**	**-1.4**
YKA	**Yellowknife Ar**	**149.70**	**352**	PKPbc	**PKPbc**	**18 55 34.8**	**-0.4**
	0.4nm,0.6s,baz=4.7,slow=2.7,SNR=11						
YKA	**Yellowknife Ar**	**149.70**	**352**	PKPbc	**PKPbc**	**18 55 34.8**	**-0.4**
NVAR	**Mina Array Bea**	**173.15**	**328**	PKPab	**PKPab**	**18 57 23.9**	**+0.6**
	0.4nm,0.7s,baz=20,slow=2.9,SNR=3.2						
NVAR	**Mina Array Bea**	**173.15**	**328**	PKPab	**PKPab**	**18 57 23.9**	**+0.6**

PGC 30 18:38:36.1±1.4, 51˚.28N×131˚.36W, h10km, ML2.9/10, Mw3.5, 7D, 221km Sse of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.32**	**349**	⇑P	Pn	18 38 58.6	-2.1
BNB				⇑S	Sb	18 39 14.0	-4.2
MOBC	**Moresby Island**	**1.91**	**349**	⇑Pn	Pn	18 39 07.2	-1.5
MOBC				⇑Sn	Sn	18 39 28.3	-4.5
DIB	**Dawson Inlet,**	**2.05**	**341**	⇓Pn	Pn	18 39 08.6	-2.0
HOLB	**Holberg**	**2.14**	**106**	⇓Pn	Pn	18 39 09.9	-2.0
BBB	**Bella Bella**	**2.21**	**65**	⇑Pn	Pn	18 39 11.5	-1.3
BBB				⇑Sn	Sn	18 39 36.3	-3.8
PHC	**Port Hardy**	**2.54**	**101**	⇓Pn	Pn	18 39 15.0	-2.4
MAYB	**Maynard**	**2.79**	**107**	⇓Pn	Pn	18 39 18.8	-2.2
NDB	**Naden**	**2.85**	**341**	⇑Pn	Pn	18 39 20.6	-1.1
NDB				⇑Sn	Sn	18 39 52.5	-3.6
EDB	**Eliza Dome**	**3.04**	**116**	⇑Pn	Pn	18 39 22.7	-1.6
EDB				⇓Sn	Sn	18 39 57.7	-3.1
RUBB	**Prince Rupert**	**3.13**	**12**	⇓Pn	Pn	18 39 24.6	-0.7
WOSB	**Woss**	**3.24**	**108**	⇓Pn	Pn	18 39 25.9	-1.2

MDD ***30*** *18:52:50.5±1.7, 43˚.85N×14˚.12W, h0km, mb4.5/8, Error ellipse: s-maj=15.6km s-min=13.0km az=104.0, PRXIMO*

CSEM ***30*** *18:52:51.4±0.6, 43˚.91N×13˚.90W, h10km, mb4.5/8, Error ellipse: s-maj=12.7km s-min=8.4km az=101.0*

INMG ***30*** *18:52:53.7±1.8, 43˚.92N×14˚.45W, h10km, ML2.8, Error ellipse: s-maj=7.2km s-min=5.5km az=93.0*

LDG ***30*** *18:52:56.3±0.4, 43˚.85N×13˚.52W, h20km, Ml3.5/17, Error ellipse: s-maj=8.3km s-min=4.7km az=103.0*

ISC 30 18:52:49.0±0.7, 43˚.78N±0˚.02×13˚.98W±0˚.04, h10km, n133, σ1°90/145, 3C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.74**	**101**	⇓P	Pn	18 53 50.4	+3.7
	8.8nm,0.1s,SNR=18						
EMAZ				S	**Sn**	**18 54 32.3**	**+1.5**
	34nm,0.1s,SNR=14						
EMAZ	**Mazaricos**	**3.74**	**101**	P	Pn	18 53 50.4	+3.7
	8.8nm,0.1s,SNR=18						
EMAZ				S	**Sn**	**18 54 32.3**	**+1.5**
	34nm,0.1s,SNR=14						
STS	**Santiago**	**4.06**	**101**	⇓P	Pn	18 53 54.9	+3.8
	7.9nm,0.1s,SNR=18						
STS				S	**Sn**	**18 54 40.0**	**+1.4**
	18nm,0.2s,SNR=6.8						
STS	**Santiago**	**4.06**	**101**	P	Pn	18 53 54.9	+3.8
	7.9nm,0.1s,SNR=18						
STS				S	**Sn**	**18 54 40.0**	**+1.4**
	18nm,0.2s,SNR=6.8						
EZAM	**Zamans**	**4.20**	**111**	⇑P	Pn	18 53 57.0	+3.8
	6.6nm,0.1s,SNR=18						
EZAM				S	**Sn**	**18 54 44.2**	**+1.9**
	10nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**4.20**	**111**	P	Pn	18 53 57.0	+3.8
	6.6nm,0.1s,SNR=18						
EZAM				S	**Sn**	**18 54 44.2**	**+1.9**
	10nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**4.57**	**111**	*e*Pn	Pn	18 54 02.1	+3.9
PGAV				*e*Sn	**Sn**	**18 54 53.2**	**+1.8**
PGAV				A	A	18 54 57.5	
	14nm,0.2s						
PGAV	**Gavieira, Arco**	**4.57**	**111**	*e*Pn	Pn	18 54 02.1	+3.9
PGAV				*e*Sn	**Sn**	**18 54 53.2**	**+1.8**
	14nm,0.2s						
PCAB	**Cabril**	**4.84**	**113**	*e*Pn	Pn	18 54 05.8	+3.8
PCAB				*e*Sn	**Sn**	**18 54 59.0**	**+0.9**
PCAB				A	A	18 55 03.4	
	14nm,0.4s						
PCAB	**Cabril**	**4.84**	**113**	P	Pn	18 54 05.8	+3.8
PCAB				S	**Sn**	**18 54 59.0**	**+0.9**
	6.8nm,0.4s						
PCAB	**Cabril**	**4.84**	**113**	P	Pn	18 54 05.8	+3.8
PCAB				S	**Sn**	**18 54 59.0**	**+0.9**
	6.8nm,0.4s						
EPON	**Pontenova**	**4.98**	**93**	⇑P	Pn	18 54 07.2	+3.4
	0.7nm,0.1s,SNR=18						
EPON				S	**Sn**	**18 55 01.9**	**+0.4**
	6.1nm,0.1s,SNR=15						
EPON	**Pontenova**	**4.98**	**93**	P	Pn	18 54 07.2	+3.4
	0.7nm,0.1s,SNR=18						
EPON				S	**Sn**	**18 55 01.9**	**+0.4**
	6.1nm,0.1s,SNR=15						
POLO	**Lamas de Olo**	**5.16**	**116**	*e*Pn	Pn	18 54 10.2	+3.9
POLO				*e*Sn	**Sn**	**18 55 07.4**	**+1.4**
POLO				A	A	18 55 10.6	
	2.8nm,0.2s						
POLO	**Lamas de Olo**	**5.16**	**116**	*e*Pn	Pn	18 54 10.2	+3.9
POLO				*e*Sn	**Sn**	**18 55 07.4**	**+1.4**
	2.8nm,0.2s						
ERUA	**La Rua**	**5.19**	**103**	P	Pn	18 54 10.2	+3.5
	1.1nm,0.1s,SNR=4.0						
ERUA				S	**Sn**	**18 55 08.0**	**+1.3**
	7.1nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**5.19**	**103**	P	Pn	18 54 10.2	+3.5
	1.1nm,0.1s,SNR=4.0						
ERUA				S	**Sn**	**18 55 08.0**	**+1.3**
	7.1nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.45**	**122**	*e*Pn	Pn	18 54 13.8	+3.4
PVIS				*e*Sn	**Sn**	**18 55 14.4**	**+1.2**
PVIS				A	A	18 55 17.5	
	11nm,0.1s						
PVIS	**Viseu**	**5.45**	**122**	P	Pn	18 54 13.8	+3.4
PVIS				S	**Sn**	**18 55 14.4**	**+1.2**
	5.3nm,0.1s						
PVIS	**Viseu**	**5.45**	**122**	P	Pn	18 54 13.8	+3.4
PVIS				S	**Sn**	**18 55 14.4**	**+1.2**
	5.3nm,0.1s						
ECAL	**Calabor**	**5.63**	**107**	⇑P	Pn	18 54 17.1	+4.3
	1.0nm,0.1s,SNR=18						
ECAL				S	**Sn**	**18 55 19.6**	**+2.1**
	5.5nm,0.1s,SNR=14						
ECAL	**Calabor**	**5.63**	**107**	P	Pn	18 54 17.1	+4.3
	1.0nm,0.1s,SNR=18						
ECAL				S	**Sn**	**18 55 19.6**	**+2.1**
	5.5nm,0.1s,SNR=14						
PBRG	**Braganca**	**5.68**	**108**	*e*Pn	Pn	18 54 17.3	+3.9
PBRG				*e*Sn	**Sn**	**18 55 19.5**	**+0.8**
PBRG				A	A	18 55 24.2	
	6.6nm,0.2s						
PBRG	**Braganca**	**5.68**	**108**	P	Pn	18 54 17.3	+3.9
PBRG				S	**Sn**	**18 55 19.5**	**+0.8**
	3.3nm,0.2s						
PBRG	**Braganca**	**5.68**	**108**	P	Pn	18 54 17.3	+3.9
PBRG				S	**Sn**	**18 55 19.5**	**+0.8**
	3.3nm,0.2s						
MVO	**Moncorvo**	**5.76**	**115**	*e*Pn	Pn	18 54 18.5	+3.9
MVO				*e*Sn	**Sn**	**18 55 21.6**	**+0.8**
MVO				A	A	18 55 24.1	
	6.9nm,0.2s						
MVO	**Moncorvo**	**5.76**	**115**	P	Pn	18 54 18.8	+4.2
	3.2nm,0.1s,SNR=9.5						
MVO				S	**Sn**	**18 55 22.2**	**+1.3**
	2.1nm,0.1s,SNR=11						
MVO	**Moncorvo**	**5.76**	**115**	*e*Pn	Pn	18 54 18.5	+3.9
MVO	**Moncorvo**	**5.76**	**115**	P	Pn	18 54 18.8	+4.2
	3.2nm,0.1s,SNR=9.5						
MVO				*e*Sn	**Sn**	**18 55 21.6**	**+0.8**
	6.9nm,0.2s						
MVO				S	S	18 55 22.2	
	2.1nm,0.1s,SNR=11						
MTE	**Manteigas**	**5.86**	**123**	*e*Sn	**Sn**	**18 55 24.1**	**+1.0**
MTE				A	A	18 55 37.3	
	6.4nm,0.5s						
MTE	**Manteigas**	**5.86**	**123**	S	**Sn**	**18 55 24.1**	**+1.0**
	3.2nm,0.5s						
MTE	**Manteigas**	**5.86**	**123**	S	**Sn**	**18 55 24.1**	**+1.0**
	3.2nm,0.5s						
PTOM	**Tomar**	**5.88**	**133**	*e*Pn	**Pn**	**18 54 18.9**	**+2.7**
PTOM				*e*Sn	**Sn**	**18 55 24.5**	**+0.8**
PTOM				A	A	18 55 30.3	
	7.5nm,0.7s						
PTOM	**Tomar**	**5.88**	**133**	P	**Pn**	**18 54 18.9**	**+2.7**
PTOM				S	**Sn**	**18 55 24.5**	**+0.8**
	3.8nm,0.7s						
PTOM	**Tomar**	**5.88**	**133**	P	**Pn**	**18 54 18.9**	**+2.7**
PTOM				S	**Sn**	**18 55 24.5**	**+0.8**
	3.8nm,0.7s						
PMAFR	**Mafra**	**5.97**	**142**	*e*Pn	**Pn**	**18 54 20.1**	**+2.6**
PMAFR				*e*Sn	**Sn**	**18 55 25.1**	**-0.8**
PMAFR				A	A	18 55 41.3	
	26nm,0.6s						
PMAFR	**Mafra**	**5.97**	**142**	P	**Pn**	**18 54 19.9**	**+2.5**
	4.1nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**18 55 24.1**	**-1.8**
	20nm,0.1s,SNR=7.2						
PMAFR	**Mafra**	**5.97**	**142**	*e*Pn	**Pn**	**18 54 20.1**	**+2.6**
PMAFR				S	**Sn**	**18 55 24.1**	**-1.8**
	20nm,0.1s,SNR=7.2						
PMAFR				*e*Sn	Sn	18 55 25.1	-0.8
	26nm,0.6s						
PCBR	**Castelo Branco**	**6.25**	**127**	*e*Pn	Pn	18 54 24.4	+3.2
PCBR				*e*Sn	**Sn**	**18 55 32.8**	**+0.1**
PCBR				A	A	18 55 33.2	
	2.4nm,0.1s						
PCBR	**Castelo Branco**	**6.25**	**127**	P	Pn	18 54 24.4	+3.2
PCBR				S	**Sn**	**18 55 32.8**	**+0.1**
	1.2nm,0.1s						
PCBR	**Castelo Branco**	**6.25**	**127**	P	Pn	18 54 24.4	+3.2
PCBR				S	**Sn**	**18 55 32.8**	**+0.1**
	1.2nm,0.1s						
EARI	**Arriondas**	**6.39**	**91**	P	Pn	18 54 26.7	+3.5
	0.6nm,0.1s,SNR=11						
EARI				S	**Sn**	**18 55 35.6**	**-0.6**
	3.3nm,0.2s,SNR=6.3						
EARI	**Arriondas**	**6.39**	**91**	P	Pn	18 54 26.7	+3.5
	0.6nm,0.1s,SNR=11						
EARI				S	**Sn**	**18 55 35.6**	**-0.6**
	3.3nm,0.2s,SNR=6.3						
PMTG	**Montargil**	**6.39**	**135**	*e*Pn	Pn	18 54 26.7	+3.6
PMTG				*e*Sn	**Sn**	**18 55 35.2**	**-0.9**
PMTG				A	A	18 55 41.6	
	3.3nm,0.6s						
PMTG	**Montargil**	**6.39**	**135**	*e*Pn	Pn	18 54 26.7	+3.6
PMTG				*e*Sn	**Sn**	**18 55 35.2**	**-0.9**
	3.3nm,0.6s						
PMRV	**Marv??o**	**6.58**	**129**	*e*Pn	Pn	18 54 28.8	+3.1
PMRV				*e*Sn	**Sn**	**18 55 39.5**	**-1.3**
PMRV				A	A	18 55 42.7	
	3.2nm,0.6s						
PMRV	**Marv??o**	**6.58**	**129**	P	Pn	18 54 28.8	+3.1
PMRV				S	**Sn**	**18 55 39.5**	**-1.3**
	3.2nm,0.6s						
PMRV	**Marv??o**	**6.58**	**129**	P	Pn	18 54 28.8	+3.1
PMRV				S	**Sn**	**18 55 39.5**	**-1.3**
	3.2nm,0.6s						
MOE	**Montemor**	**6.75**	**139**	*e*Sn	Sn	18 55 38.3	-6.8
MOE	**Montemor**	**6.75**	**139**	S	Sn	18 55 38.3	-6.8
MOE	**Montemor**	**6.75**	**139**	S	Sn	18 55 38.3	-6.8
EVOP	**Sao Brissos**	**6.86**	**138**	*e*Pn	**Pn**	**18 54 31.2**	**+1.6**
EVOP				*e*Sn	**Sn**	**18 55 44.0**	**-3.6**
	2.5nm,0.3s						
PESTR	**Estremoz**	**6.87**	**133**	*e*Pn	**Pn**	**18 54 31.8**	**+2.1**
PESTR				*e*Sn	**Sn**	**18 55 46.7**	**-1.3**
PESTR				A	A	18 55 48.9	
	3.6nm,0.4s						
PESTR	**Estremoz**	**6.87**	**133**	P	**Pn**	**18 54 31.8**	**+2.1**
PESTR				S	**Sn**	**18 55 46.7**	**-1.3**
	1.8nm,0.4s						
PESTR	**Estremoz**	**6.87**	**133**	P	**Pn**	**18 54 31.8**	**+2.1**
PESTR				S	**Sn**	**18 55 46.7**	**-1.3**
	1.8nm,0.4s						
EVO	**Evora**	**6.91**	**137**	*e*Pn	**Pn**	**18 54 31.2**	**+0.9**
EVO				*e*Sn	Sn	18 55 44.0	-4.9
	5.0nm,0.3s						
EVO	**Evora**	**6.91**	**137**	*e*Pn	**Pn**	**18 54 32.8**	**+2.5**
EVO				*e*Sn	**Sn**	**18 55 46.4**	**-2.5**
EVO				A	A	18 55 52.9	
	5.1nm,0.2s						
EVO	**Evora**	**6.91**	**137**	P	**Pn**	**18 54 32.8**	**+2.5**
EVO				S

GUD	**Guadarrama**	**7.94**	**110**	P		Pn	18 54 49.0	+4.5
	0.2nm,0.1s,SNR=7.4							
GUD				S		**Sn**	**18 56 15.9**	**+1.5**
	0.8nm,0.1s,SNR=7.1							
PVAQ	**Vaqueiros**	**7.95**	**141**	*e*Pn		**Pn**	**18 54 47.1**	**+2.5**
PVAQ				*e*Sn		**Sn**	**18 56 10.7**	**-3.8**
PVAQ				A		A	18 56 16.1	
	4.4nm,0.9s							
PVAQ	**Vaqueiros**	**7.95**	**141**	P		**Pn**	**18 54 47.1**	**+2.5**
PVAQ				S		**Sn**	**18 56 10.7**	**-3.8**
	4.4nm,0.9s							
PVAQ	**Vaqueiros**	**7.95**	**141**	P		**Pn**	**18 54 47.1**	**+2.5**
PVAQ				S		**Sn**	**18 56 10.7**	**-3.8**
	4.4nm,0.9s							
EGRO	**El Granado**	**7.95**	**139**	P		**Pn**	**18 54 47.2**	**+2.6**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**18 56 11.5**	**-3.1**
	2.4nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**7.95**	**139**	P		**Pn**	**18 54 47.2**	**+2.6**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**18 56 11.5**	**-3.1**
	2.4nm,0.2s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**7.99**	**143**	*e*Pn		Pn	18 54 48.2	+3.1
PBDV				*e*Sn		**Sn**	**18 56 13.5**	**-2.0**
PBDV				A		A	18 56 18.4	
	6.7nm,1.1s							
PBDV	**Barranco-do-Ve**	**7.99**	**143**	P		Pn	18 54 48.2	+3.1
PBDV				S		**Sn**	**18 56 13.5**	**-2.0**
	6.7nm,1.1s							
PBDV	**Barranco-do-Ve**	**7.99**	**143**	P		Pn	18 54 48.2	+3.1
PBDV				S		**Sn**	**18 56 13.5**	**-2.0**
	6.7nm,1.1s							
ESDC	**Sonseca Array**	**8.54**	**115**	P		Pn	18 54 56.9	+4.3
	2.5nm,0.1s,baz=299,slow=13,SNR=13							
ESDC				S		**Sn**	**18 56 29.9**	**+0.9**
	0.7nm,0.1s,baz=292,slow=23,SNR=7.1							
ESDC	**Sonseca Array**	**8.54**	**115**	P		Pn	18 54 56.9	+4.3
	2.5nm,0.1s,SNR=13							
ESDC				S		**Sn**	**18 56 29.9**	**+0.9**
	0.7nm,0.1s,slow=23,SNR=7.1							
QUIF	**Quistinic**	**8.60**	**58**	*e*Pn		**Pn**	**18 54 52.9**	**-0.6**
QUIF				*e*Sn		Sn	18 56 22.1	-8.4
	2.2nm,0.2s							
QUIF	**Quistinic**	**8.60**	**58**	P		**Pn**	**18 54 52.9**	**-0.6**
QUIF				S		Sn	18 56 22.1	-8.4
	0.6nm,0.2s							
ROSF	**Rostrenen**	**8.72**	**55**	*e*Pn		**Pn**	**18 54 54.7**	**-0.4**
ROSF				*e*Sn		Sn	18 56 25.0	-8.5
	2.7nm,0.2s							
ROSF	**Rostrenen**	**8.72**	**55**	P		**Pn**	**18 54 54.7**	**-0.4**
ROSF				*e*Sn		Sn	18 56 25.0	-8.5
	1.4nm,0.2s							
SGMF	**Saint Gilles**	**9.12**	**57**	*e*Pn		**Pn**	**18 54 58.9**	**-1.6**
SGMF				*e*Sn		Sn	18 56 33.7	-9.4
	0.4nm,0.2s							
SGMF	**Saint Gilles**	**9.12**	**57**	*e*Pn		**Pn**	**18 54 58.9**	**-1.6**
SGMF				*e*Sn		Sn	18 56 33.7	-9.4
	0.2nm,0.2s							
SJPF	**Ste Jean**	**9.30**	**90**	*e*Pn		**Pn**	**18 55 01.9**	**-1.2**
SJPF				*e*Sn		Sn	18 56 36.6	-11
	1.6nm,0.2s							
SJPF				*e*S			18 56 49.0	
SJPF	**Ste Jean**	**9.30**	**90**	*e*Pn		**Pn**	**18 55 01.9**	**-1.2**
SJPF				*e*Sn		Sn	18 56 36.6	-11
	0.8nm,0.2s							
SJPF				*e*S			18 56 49.0	
ETOR	**Torete**	**9.31**	**104**	S		**Sn**	**18 56 48.2**	**-0.1**
	2.1nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**9.33**	**92**	S		**Sn**	**18 56 49.2**	**+0.8**
	0.6nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**9.34**	**91**	S		**Sn**	**18 56 48.7**	**0.0**
	0.9nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**9.82**	**91**	*e*Pn		**Pn**	**18 55 08.9**	**-1.3**
ETSF				*e*S		**Sn**	**18 57 02.4**	**+1.9**
ETSF	**Etsaut**	**9.82**	**91**	*e*Pn		**Pn**	**18 55 08.9**	**-1.3**
ETSF				*e*S		**Sn**	**18 57 02.4**	**+1.9**
ESAC	**San Caprasio**	**10.15**	**97**	S		**Sn**	**18 57 08.2**	**-0.4**
	21nm,0.4s,SNR=7.9							
MFF	**Saint Martin d**	**10.16**	**69**	*e*Pn		**Pn**	**18 55 14.5**	**-0.4**
MFF				*e*Sn		Sn	18 56 57.7	-11
	1.2nm,0.2s							
MFF	**Saint Martin d**	**10.16**	**69**	*e*Pn		**Pn**	**18 55 14.5**	**-0.4**
MFF				*e*Sn		Sn	18 56 57.7	-11
	0.6nm,0.2s							
EQES	**Quesada**	**10.19**	**122**	P		Pn	18 55 18.9	+3.5
	0.3nm,0.4s,SNR=7.9							
EQES				S		**Sn**	**18 57 08.4**	**-1.4**
	0.3nm,0.2s,SNR=7.9							
GRR	**Gorron**	**10.21**	**59**	*e*Pn		**Pn**	**18 55 14.8**	**-0.7**
GRR				*e*Sn		Sn	18 56 58.5	-11
	1.5nm,0.3s							
GRR	**Gorron**	**10.21**	**59**	*e*Pn		**Pn**	**18 55 14.8**	**-0.7**
GRR				*e*Sn		Sn	18 56 58.5	-11
	0.8nm,0.3s							
EPF	**Esparros**	**10.45**	**89**	*e*Sn		Sn	18 57 03.8	-12
	0.8nm,0.2s							
EPF				*e*S			18 57 18.2	
EPF	**Esparros**	**10.45**	**89**	*e*Sn		Sn	18 57 03.8	-12
	0.4nm,0.2s							
EPF				*e*S			18 57 18.2	
FLN	**La Foliniere**	**10.58**	**57**	*e*Pn		**Pn**	**18 55 20.8**	**+0.2**
	baz=242							
FLN				*e*Sn		Sn	18 57 08.0	-11
	1.4nm,0.3s							
FLN	**La Foliniere**	**10.58**	**57**	*e*Pn		**Pn**	**18 55 20.8**	**+0.2**
FLN				*e*Sn		Sn	18 57 08.0	-11
	0.7nm,0.3s							
EMOS	**Mosqueruela**	**10.60**	**104**	S		**Sn**	**18 57 20.7**	**+0.8**
	1.0nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**10.67**	**114**	P		Pn	18 55 26.5	+4.6
	1.0nm,0.5s,SNR=7.9							
ETOB				S		**Sn**	**18 57 19.6**	**-1.9**
	0.8nm,0.5s,SNR=7.9							
LDF	**La Druitiere**	**10.74**	**59**	*e*Pn		**Pn**	**18 55 21.8**	**-1.0**
LDF				*e*Sn		Sn	18 57 12.1	-11
	0.8nm,0.3s							
LDF	**La Druitiere**	**10.74**	**59**	*e*Pn		**Pn**	**18 55 21.8**	**-1.0**
LDF				*e*Sn		Sn	18 57 12.1	-11
	0.4nm,0.3s							
EBER	**Berja**	**10.89**	**125**	P		Pn	18 55 30.1	+5.0
	0.3nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**10.96**	**100**	S		**Sn**	**18 57 28.0**	**-0.4**
	0.7nm,0.2s,SNR=7.9							
CSOR	**Sort**	**11.14**	**92**	S		**Sn**	**18 57 30.1**	**-3.0**
	0.4nm,0.2s,SNR=7.9							
RJF	**Les Rejaudoux**	**11.16**	**77**	*e*Sn		Sn	18 57 23.1	-10
	2.1nm,0.2s							
RJF	**Les Rejaudoux**	**11.16**	**77**	*e*Sn		Sn	18 57 23.1	-10
	1.0nm,0.2s							
EPOB	**Poblet**	**11.37**	**97**	S		Sn	18 57 34.5	-4.0
	0.6nm,0.2s,SNR=7.9							
CAF	**Calviac**	**11.54**	**79**	*e*Sn		Sn	18 57 31.8	-11
	0.8nm,0.2s							
CAF	**Calviac**	**11.54**	**79**	*e*Sn		Sn	18 57 31.8	-11
	0.4nm,0.2s							
TCF	**Toulx Ste Croi**	**11.72**	**72**	*e*Sn		Sn	18 57 35.4	-12
	2.1nm,0.3s							
TCF	**Toulx Ste Croi**	**11.72**	**72**	*e*Sn		Sn	18 57 35.4	-12
	1.0nm,0.3s							
MTLF	**Montolieu**	**11.76**	**87**	*e*Sn		Sn	18 57 36.8	-11
	0.7nm,0.2s							
MTLF	**Montolieu**	**11.76**	**87**	*e*Sn		Sn	18 57 36.8	-11
	0.3nm,0.2s							
BGF	**Bois d'Agland**	**12.19**	**71**	*e*Sn		Sn	18 57 47.1	-12
	5.7nm,0.3s							
BGF	**Bois d'Agland**	**12.19**	**71**	*e*Sn		Sn	18 57 47.1	-12
	2.8nm,0.3s							

WEL 30 18:58:54.8±0.3, 38°24S×176°25E, h158km±2km, ML3.9/17, 33C-5D, Error ellipse: s-maj=1.9km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.20**	**89**	Pn	Pn	18 59 16.2	+0.1
PRRZ	**Plateau Road**	**0.28**	**156**	⇑PN	Pn	18 59 16.3	+0.1
PRRZ				*e*SN	Sn	18 59 33.5	+0.7
ALRZ	**Allen Road**	**0.33**	**167**	PN	Pn	18 59 16.5	+0.1
WHTZ	**Whakaora**	**0.48**	**208**	PN	Pn	18 59 17.5	+0.4
WATZ	**Wairara**	**0.62**	**221**	⇑PN	Pn	18 59 17.8	+0.1
HATZ	**Hinemaiaia**	**0.66**	**191**	PN	Pn	18 59 17.7	-0.3
URZ	**Urewera**	**0.68**	**92**	⇑PN	Pn	18 59 17.5	-0.5
URZ				*e*SN	Sn	18 59 35.2	-0.6
RATZ	**Rangitukua**	**0.73**	**211**	⇑PN	Pn	18 59 18.4	0.0
TOZ	**Tahuroa Road**	**0.78**	**310**	⇓PN	Pn	18 59 18.5	-0.1
TOZ				*e*SN	Sn	18 59 37.2	+0.4
RITZ	**Rihia Road**	**0.80**	**202**	⇓PN	Pn	18 59 19.3	+0.5
KATZ	**Kakaramea**	**0.85**	**210**	PN	Pn	18 59 19.4	0.0
RAHZ	**Arahi**	**0.94**	**136**	⇑PN	Pn	18 59 20.4	+0.5
BKZ	**Black Stump Fm**	**0.94**	**168**	⇑PN	Pn	18 59 19.9	-0.1
BKZ				SN	Sn	18 59 38.5	-0.8
NMHZ	**Naumai**	**0.96**	**153**	⇑PN	Pn	18 59 21.0	+0.9
KRVZ	**Karewarewa**	**0.98**	**209**	⇑PN	Pn	18 59 20.1	-0.2
MWZ	**Matawai**	**1.01**	**96**	PN	Pn	18 59 20.2	-0.2
MWZ				SN	Sn	18 59 39.4	-0.7
WTVZ	**West Tongariro**	**1.02**	**210**	⇑PN	Pn	18 59 20.4	-0.2
OTVZ	**Oturere**	**1.03**	**206**	⇓PN	Pn	18 59 20.9	+0.2
TWVZ	**Taurewa**	**1.05**	**217**	PN	Pn	18 59 20.7	-0.2
NGZ	**Ngauruhoe**	**1.06**	**208**	PN	Pn	18 59 19.9	-1.2
WPVZ	**Whakapapa**	**1.11**	**209**	PN	Pn	18 59 21.0	-0.4
TUVZ	**Tukino**	**1.13**	**204**	⇑PN	Pn	18 59 21.6	0.0
HIZ	**Hauiti**	**1.13**	**256**	⇑PN	Pn	18 59 21.3	-0.1
FWVZ	**Far West T-bar**	**1.15**	**208**	PN	Pn	18 59 21.5	-0.4
DRZ	**Dome Shelter**	**1.17**	**207**	PN	Pn	18 59 22.1	0.0
TRVZ	**Turoa**	**1.19**	**207**	PN	Pn	18 59 22.0	-0.3
WNVZ	**Wahianoa**	**1.20**	**205**	⇑PN	Pn	18 59 22.1	-0.1
MOVZ	**Moawhango**	**1.23**	**198**	⇑PN	Pn	18 59 21.9	-0.5
MCHZ	**McNeill Hill**	**1.25**	**164**	PN	Pn	18 59 23.2	+0.7
BHHZ	**Black Hill Sta**	**1.26**	**187**	⇑PN	Pn	18 59 22.4	-0.3
PKVZ	**Pokaka**	**1.27**	**214**	⇑PN	Pn	18 59 22.5	-0.2
MTVZ	**Mangateitei**	**1.30**	**208**	PN	Pn	18 59 22.8	-0.2
KNZ	**Kokohu**	**1.36**	**125**	PN	Pn	18 59 23.8	+0.3
MKAZ	**Moumakai**	**1.42**	**322**	PN	Pn	18 59 23.4	-0.8
PRGZ	**Paritu Road**	**1.45**	**119**	PN	Pn	18 59 24.5	+0.1
VRZ	**Vera Road**	**1.46**	**232**	⇑PN	Pn	18 59 24.6	0.0
CKHZ	**Cape Kidnapper**	**1.56**	**156**	⇑PN	Pn	18 59 25.9	+0.4
CNGZ	**Carnagh Statio**	**1.56**	**100**	PN	Pn	18 59 26.0	+0.5
MHGZ	**Mahia Peninsul**	**1.59**	**126**	PN	Pn	18 59 26.2	+0.4
PUZ	**Puketiti**	**1.59**	**85**	⇑PN	Pn	18 59 25.4	-0.5
PUZ				*e*SN	Sn	18 59 48.2	-1.6
KAHZ	**Kahuranaki**	**1.63**	**163**	⇑PN	Pn	18 59 26.6	+0.3
PNHZ	**Pukenui**	**1.67**	**181**	⇑PN	Pn	18 59 26.2	-0.6
MXZ	**Matakaoa Point**	**1.76**	**68**	PN	Pn	18 59 27.2	-0.5
RAEZ	**Rainy Point**	**1.79**	**234**	PN	Pn	18 59 28.5	+0.5
WAZ	**Wanganui**	**1.81**	**213**	⇑PN	Pn	18 59 27.7	-0.5
WPHZ	**Waipukurau**	**1.83**	**175**	⇑PN	Pn	18 59 28.0	-0.4
TSZ	**Takapari Road**	**1.83**	**187**	⇑PN	Pn	18 59 27.8	-0.7
PXZ	**Pawanui**	**1.85**	**165**	⇑PN	Pn	18 59 28.4	-0.2
PRHZ	**Porangahau**	**2.05**	**172**	PN	Pn	18 59 30.3	-0.6
DVHZ	**Dannevirke**	**2.06**	**182**	⇑PN	Pn	18 59 30.0	-1.0
POWZ	**Post Office Ro**	**2.18**	**190**	⇑PN	Pn	18 59 31.3	-1.2
BFZ	**Birch Farm**	**2.44**	**180**	⇓PN	Pn	18 59 34.2	-1.4
MRZ	**Mangatainoka R**	**2.47**	**192**	⇑PN	Pn	18 59 34.2	-1.7
MRZ				SN	Sn	19 00 05.7	-2.2
TIWZ	**Tintock**	**2.55**	**186**	⇑PN	Pn	18 59 35.3	-1.8
OGWZ	**Otaki Gorge**	**2.71**	**198**	⇑PN	Pn	18 59 36.9	-1.8
HOWZ	**Holdsworth Sta**	**2.72**	**192**	⇑PN	Pn	18 59 36.8	-2.1
KIW	**Kapiti Island**	**2.82**	**201**	PN	Pn	18 59 37.8	-2.3
TMWZ	**Te Maipa**	**2.88**	**185**	PN	Pn	18 59 38.9	-2.0
MTW	**Mount Morrison**	**2.97**	**191**	⇑PN	Pn	18 59 39.6	-2.5
CAW	**Cannon Point**	**3.01**	**197**	PN	Pn	18 59 40.1	-2.4
DUWZ	**D'Urville Isla**	**3.13**	**214**	PN	Pn	18 59 41.2	-2.8
TRWZ	**Traveller**	**3.19**	**188**	PN	Pn	18 59 42.2	-2.6
PAWZ	**Paruwai Farm**	**3.20**	**191**	⇑PN	Pn	18 59 42.2	-2.7
WEL	**Wellington**	**3.25**	**200**	PN	Pn	18 59 42.9	-2.7
MSWZ	**Moikau Station**	**3.26**	**193**	⇑PN	Pn	18 59 42.9	-2.9
SNZO	**South Karori**	**3.29**	**201**	PN	Pn	18 59 43.1	-2.9
TCW	**Tory Channel**	**3.34**	**207**	PN	Pn	18 59 43.6	-3.0
BHW	**Baring Head**	**3.34**	**198**	PN	Pn	18 59 43.7	-2.9
PLWZ	**Palliser**	**3.41**	**193**	PN	Pn	18 59 44.6	-3.1
TUWZ	**Tuamarina**	**3.65**	**208**	PN	Pn	18 59 47.4	-3.2
NNZ	**Nelson**	**3.71**	**216**	PN	Pn	18 59 47.2	-3.2
QRZ	**Quartz Range**	**3.87**	**227**	⇓PN	Pn	18 59 49.4	-4.0
BSWZ	**Blackbirch Sta**	**3.92**	**207**	PN	Pn	18 59 50.9	-3.3
LTZ	**Lake Taylor**	**5.46**	**213**	*e*PN	Pn	19 00 09.2	-5.2
MQZ	**McQueen's Vall**	**6.10**	**205**	*e*PN	Pn	19 00 17.3	-5.5
FOZ	**Fox Glacier**	**7.28**	**221**	*e*PN	Pn	19 00 32.0	-6.4
ODZ	**Otahua Downs**	**7.99**	**210**	*e*PN	Pn	19 00 43.0	-4.9

*IPEC **30** 19:03:51.9±0.2, 49°.82N×18°.61E, h2km±4km, ML1.0/3, Error ellipse: s-maj=2.3km s-min=1.1km az=161.0*
*CSEM **30** 19:03:52.1±0.3, 49°.86N×18°.57E, h2km, ML1.7/4, Error ellipse: s-maj=6.8km s-min=3.5km az=167.0*

PRU 30 19:03:53.9, 49°.80N×18°.48E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**280**	*e*PG	Pg	19 03 58.1	0.0
OKC				*e*SG	Sg	19 04 00.7	-0.3
	comp=Z,3.2nm,0.2s						
OKC	**Ostrava-Krasne**	**0.22**	**280**	*e*Pg	Pg	19 03 57.8	-0.3
	baz=94						
OKC				Sg	Sg	19 04 00.7	-0.3
	3.2nm,0.2s						
MORC	**Moravsky Berou**	**0.61**	**268**	*e*Pg	Pg	19 04 05.4	-0.3
	baz=86						
MORC				*e*Sg	Sg	19 04 13.6	0.0
	2.0nm,0.2s,baz=86						
OJC	**Ojcow**	**0.95**	**63**	*e*Pg	Pg	19 04 08.5	-3.6
	baz=243						
KRLC	**Kraliky**	**1.13**	**285**	*e*SG	Sg	19 04 30.7	+0.3
KRLC	**Kraliky**	**1.13**	**285**	Sg	Sg	19 04 30.7	+0.3
VRAC	**Vranov**	**1.32**	**249**	*e*Pg	Pg	19 04 18.1	-1.2
	baz=68						
VRAC				*e*Sg	Sg	19 04 35.7	-0.8
	2.6nm,0.3s,baz=68						
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*PG	Pn	19 04 21.8	-0.3
DPC				*e*SG	Sg	19 04 40.9	-1.2
DPC	**Dobruska-Polom**	**1.50**	**292**	Pg	Pn	19 04 21.8	-0.3
DPC				Sg	Sg	19 04 40.9	-1.2
KRUC	**Moravsky**	**1.55**	**242**	*e*Sg	Sn	19 04 43.1	-0.5
	1.4nm,0.2s,baz=62						

*ISCJB **30** 19:05:27.9±0.2, 42°.31N±0°.02×13°.33E±0°.02, h13km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=41.8*
*ROM **30** 19:05:28.5±0.1, 42°.32N×13°.37E, h10km±1km, Md3.0/39, Ml3.1/35, Error ellipse: s-maj=1.4km s-min=1.1km az=61.0*
*CSEM **30** 19:05:28.4±0.1, 42°.31N×13°.35E, h2km, ML3.8/4, Error ellipse: s-maj=3.2km s-min=2.5km az=39.0*
*LDG **30** 19:05:30.3±0.2, 42°.25N×13°.31E, h2km, Ml3.0/5, Error ellipse: s-maj=6.9km s-min=4.3km az=45.0*
*VIE **30** 19:05:33.2±0.5, 42°.56N×13°.38E, h10km, mb3.0/8, ML3.1/8, Error ellipse: s-maj=5.8km s-min=4.3km az=64.0 104 km NE of Rome*

ISC 30 19:05:28.8±0.8, 42°.31N±0°.02×13°.35E±0°.02, h13km±5km, n126, σ1°.20/155, 5C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.06**	**44**	Pg	**Pg**	**19 05 31.0**	**-0.5**
AQU				Sg	**Sg**	**19 05 32.6**	**-0.7**
FIAM	**Fiamignano**	**0.18**	**255**	Pg	**Pg**	**19 05 33.4**	**+0.4**
FIAM	**Fiamignano**	**0.18**	**255**	Pg	**Pg**	**19 05 33.4**	**+0.4**
FAGN	**Fagnano**	**0.18**	**105**	Pg	**Pg**	**19 05 32.7**	**-0.3**
FAGN				Sg	**Sg**	**19 05 36.0**	**+0.1**
FAGN	**Fagnano**	**0.18**	**105**	Pg	**Pg**	**19 05 32.7**	**-0.3**
FAGN				Sg	**Sg**	**19 05 36.0**	**+0.1**
CAMP	**Campotosto**	**0.23**	**11**	Pg	**Pg**	**19 05 33.5**	**-0.3**
CAMP				Sg	**Sg**	**19 05 37.1**	**-0.1**
	2µm,0.3s						
PTQR	**Pietraquaria**	**0.29**	**173**	Pg	**Pg**	**19 05 35.0**	**+0.1**
PTQR	**Pietraquaria**	**0.29**	**173**	Pg	**Pg**	**19 05 35.0**	**+0.1**
TERO	**Teramo**	**0.36**	**31**	Pg	**Pg**	**19 05 35.8**	**-0.3**
TERO				Sg	**Sg**	**19 05 41.4**	**+0.3**
	5µm,0.5s						
VCEL	**Villa Celiera**	**0.37**	**77**	Pg	**Pg**	**19 05 35.8**	**-0.6**
VCEL				Sg	**Sb**	**19 05 42.7**	**-0.4**
	5µm,0.4s						
CERT	**Cerreto**	**0.46**	**217**	Pg	**Pg**	**19 05 38.0**	**+0.2**
	3µm,0.4s						
CERT	**Cerreto**	**0.46**	**217**	Pg	**Pg**	**19 05 38.0**	**+0.2**
	3µm,0.4s						
VVLD	**Villa Vallelon**	**0.49**	**155**	Pg	**Pg**	**19 05 37.9**	**-0.5**
	2µm,0.4s						
VVLD	**Villa Vallelon**	**0.49**	**155**	Pg	**Pg**	**19 05 37.9**	**-0.5**
	2µm,0.4s						
INTR	**Introdacqua**	**0.51**	**126**	Pg	**Pg**	**19 05 38.2**	**-0.7**
INTR				Sg	**Sg**	**19 05 46.4**	**+0.7**
	1µm,0.4s						
INTR	**Introdacqua**	**0.51**	**126**	Pg	**Pg**	**19 05 38.2**	**-0.7**
INTR				Sg	**Sg**	**19 05 46.4**	**+0.7**
	1µm,0.4s						
GUAR	**Guarcino**	**0.52**	**183**	Pg	**Pg**	**19 05 38.7**	**-0.3**
	2µm,0.5s						
GUAR	**Guarcino**	**0.52**	**183**	Pg	**Pg**	**19 05 38.7**	**-0.3**
	2µm,0.5s						
MTCE	**Montecelio**	**0.54**	**237**	Pg	**Pg**	**19 05 39.4**	**+0.1**
MTCE				Sg	**Sb**	**19 05 47.7**	**0.0**
	639nm,0.4s						
MTCE	**Montecelio**	**0.54**	**237**	Pg	**Pg**	**19 05 39.4**	**+0.1**
MTCE				Sg	**Sb**	**19 05 47.7**	**0.0**
	639nm,0.4s						
NRCA	**Norcia**	**0.55**	**342**	Pg	**Pg**	**19 05 38.9**	**-0.7**
NRCA				Sg	**Sb**	**19 05 47.8**	**-0.3**
	1µm,0.2s						
TRTR	**Tortoreto Alta**	**0.65**	**40**	Pg	**Pg**	**19 05 41.6**	**+0.2**
	6µm,0.8s						
TRTR	**Tortoreto Alta**	**0.65**	**40**	Pg	**Pg**	**19 05 41.6**	**+0.2**
	6µm,0.8s						
POFI	**Posta Fibreno**	**0.65**	**156**	Pg	**Pg**	**19 05 40.9**	**-0.7**
POFI	**Posta Fibreno**	**0.65**	**156**	Pg	**Pg**	**19 05 40.9**	**-0.7**
OFFI	**Offida**	**0.67**	**22**	Pg	**Pg**	**19 05 41.9**	**+0.1**
	6µm,0.5s						
LPEL	**Lama dei Pelig**	**0.68**	**113**	Pg	**Pg**	**19 05 40.9**	**-1.0**
LPEL				Sg	**Sg**	**19 05 51.2**	**+0.3**
	876nm,0.4s						
LPEL	**Lama dei Pelig**	**0.68**	**113**	Pg	**Pg**	**19 05 40.9**	**-1.0**
LPEL				Sg	**Sg**	**19 05 51.2**	**+0.3**
	876nm,0.4s						
SDI	**San Donato**	**0.69**	**150**	Pg	**Pg**	**19 05 41.4**	**-0.9**
SDI	**San Donato**	**0.69**	**150**	Pg	**Pg**	**19 05 41.4**	**-0.9**
RMP	**Rome, Mte Porz**	**0.70**	**224**	Pg	**Pg**	**19 05 42.1**	**-0.2**
	1µm,0.6s						
RMP	**Rome, Mte Porz**	**0.70**	**224**	Pg	**Pg**	**19 05 42.1**	**-0.2**
	1µm,0.6s						
CAFR	**Castel Frentan**	**0.74**	**96**	Pg	**Pg**	**19 05 42.7**	**-0.6**
	2µm,0.4s						
CAFR	**Castel Frentan**	**0.74**	**96**	Pg	**Pg**	**19 05 42.7**	**-0.6**
	2µm,0.4s						
FDMO	**Fiordimonte**	**0.75**	**345**	Pg	**Pg**	**19 05 42.5**	**-0.8**
	509nm,0.3s						
GIUL	**Giuliano Di Ro**	**0.76**	**185**	Pg	**Pg**	**19 05 43.6**	**+0.1**
	784nm,0.7s						
GIUL	**Giuliano Di Ro**	**0.76**	**185**	Pg	**Pg**	**19 05 43.6**	**+0.1**
	784nm,0.7s						
CESI	**CESI - Serrava**	**0.77**	**335**	Pg	**Pg**	**19 05 43.0**	**-0.7**
	405nm,0.7s						
RNI2	**Rionero Sannit**	**0.85**	**135**	Pg	**Pg**	**19 05 45.0**	**-0.4**
RNI2	**Rionero Sannit**	**0.85**	**135**	Pg	**Pg**	**19 05 45.0**	**-0.4**
GUMA	**Gualdo di Mace**	**0.86**	**30**	Pg	**Pg**	**19 05 42.8**	**-2.7**
	244nm,0.3s						
CERA	**Filignano**	**0.87**	**145**	Pg	**Pg**	**19 05 44.4**	**-1.3**
	836nm,0.5s						
CERA	**Filignano**	**0.87**	**145**	Pg	**Pg**	**19 05 44.4**	**-1.3**
	836nm,0.5s						
MIDA	**Miranda**	**0.95**	**135**	Pg	**Pb**	**19 05 45.7**	**-1.5**
	762nm,1.1s						
MIDA	**Miranda**	**0.95**	**135**	Pg	**Pb**	**19 05 45.7**	**-1.5**
	762nm,1.1s						
CING	**Cingoli**	**1.07**	**354**	Pg	**Pb**	**19 05 48.1**	**-1.0**
	523nm,0.8s						
MGAB	**Montegabbione**	**1.09**	**304**	Pg	**Pg**	**19 05 50.0**	**+0.1**
MGAB	**Montegabbione**	**1.09**	**304**	Pg	**Pg**	**19 05 50.0**	**+0.1**
VAGA	**Valle Agricola**	**1.11**	**143**	Pg	**Pb**	**19 05 49.6**	**-0.4**
	292nm,0.5s						
VAGA	**Valle Agricola**	**1.11**	**143**	Pg	**Pb**	**19 05 49.6**	**-0.4**
	292nm,0.5s						
MURB	**Monte Urbino**	**1.13**	**328**	Pg	**Pb**	**19 05 49.6**	**-0.6**
MURB	**Monte Urbino**	**1.13**	**328**	Pg	**Pb**	**19

LPG	**La Plagne**	**5.73**	**306**	*e*P	Pn	19 06 58.7	+4.9
LPG				*e*Sn	**Sn**	**19 07 57.3**	**-2.2**
	1.2nm,0.4s						
SELS	**Selova**	**5.79**	**78**	*e*Pn	**Pn**	**19 06 54.2**	**-0.2**
SMRF	**Simiane la Rot**	**5.92**	**289**	*e*Pn	**Pn**	**19 06 57.7**	**+1.5**
SMRF	**Simiane la Rot**	**5.92**	**289**	*e*Pn	**Pn**	**19 06 57.7**	**+1.5**
ORIF	**Oris-en-Rattie**	**6.01**	**298**	*e*P	Pn	19 07 01.9	+4.4
BARS	**Barje**	**6.27**	**83**	*e*Pn	**Pn**	**19 07 01.8**	**+0.8**
ZAPS	**Zavoj**	**6.90**	**79**	*e*Pn	**Pn**	**19 07 11.8**	**+2.2**
HINF	**Hinteralfeld**	**7.17**	**322**	*e*Pn	**Pn**	**19 07 14.9**	**+1.6**
HINF				*e*Sn	**Sn**	**19 08 31.2**	**-3.4**
	5.3nm,0.5s						
HINF	**Hinteralfeld**	**7.17**	**322**	*e*Pn	**Pn**	**19 07 14.9**	**+1.6**
CDF	**Champ du Feu**	**7.45**	**327**	*e*Pn	**Pn**	**19 07 17.2**	**+0.1**
CDF				*e*Sn	**Sn**	**19 08 38.3**	**-3.2**
	2.1nm,0.4s						
CDF	**Champ du Feu**	**7.45**	**327**	*e*Pn	**Pn**	**19 07 17.2**	**+0.1**
HAU	**Haudompre**	**7.54**	**321**	*e*Pn	**Pn**	**19 07 19.7**	**+1.3**
HAU				*e*Sn	**Sn**	**19 08 39.9**	**-3.8**
	6.1nm,0.5s						
HAU	**Haudompre**	**7.54**	**321**	*e*Pn	**Pn**	**19 07 19.7**	**+1.3**
LOR	**Lormes**	**8.37**	**310**	*e*Pn	**Pn**	**19 07 29.9**	**+0.2**
LOR	**Lormes**	**8.37**	**310**	*e*Pn	**Pn**	**19 07 29.9**	**+0.2**

IDC 30 19:10:14.6±1.4,17°.82N×148°.55E,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.7/27,mbtmp3.6/10,ML3.8/1, MS3.7/2,Ms1 3.7/2,ms1mx2.8/27,Error ellipse: s-maj=41.5km s-min=19.4km az=95.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.50**	**221**	Pn	Pn	19 11 38.0	+0.3
	2.9nm,0.3s,baz=344,slow=20,SNR=3.9						
GUMO				Sn	Sn	19 12 34.5	-7.3
	7.7nm,0.3s,baz=15,slow=20,SNR=3.2						
JOW	**Kunigami**	**20.77**	**299**	LR	LR	19 21 00.7	
	comp=Z,961nm,21.4s,baz=114,slow=31						
MJAR	**Matsushiro Arr**	**20.77**	**336**	P	P	19 14 56.2	-1.0
	0.9nm,0.6s,baz=170,slow=8.9,SNR=3.1						
ASAJ	**Asahikawa**	**26.70**	**350**	LR	LR	19 25 37.4	
	comp=Z,44nm,20.5s,baz=124,slow=35						
WRA	**Warramunga Arr**	**40.03**	**201**	P	P	19 17 51.5	-0.1
	0.7nm,0.8s,baz=16,slow=8.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**42.21**	**213**	P	P	19 18 09.2	-0.3
	1.5nm,0.8s,baz=26,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**43.64**	**200**	P	P	19 18 20.6	-0.5
	0.4nm,0.7s,baz=14,slow=6.4,SNR=4.5						
SONM	**Songino Array**	**45.53**	**321**	P	P	19 18 36.1	-0.1
	1.0nm,1.1s,baz=133,slow=6.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**47.03**	**279**	P	P	19 18 48.6	+0.5
	0.5nm,0.7s,baz=75,slow=6.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**60.37**	**322**	P	P	19 20 25.1	-0.3
	0.2nm,0.2s,baz=111,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**61.02**	**314**	P	P	19 20 30.0	-0.1
	0.2nm,0.5s,baz=92,slow=7.1,SNR=5.2						
YKA	**Yellowknife Ar**	**77.49**	**28**	P	P	19 22 12.2	+0.4
	0.1nm,0.4s,baz=284,slow=6.0,SNR=4.3						

IDC 30 19:17:07.6±10.0,15°.79N×89°.89W,h35km±55km,mb3.3/2, mb1 3.7/5,mb1mx3.5/23,mbtmp3.4/5,ML3.5/3,MS2.8/1, Ms1 2.8/1,ms1mx2.1/14,Error ellipse: s-maj=86.9km s-min=27.4km az=148.0,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.67**	**19**	Pn	Pn	19 18 17.8	+2.2
	12nm,0.3s,baz=222,slow=8.9,SNR=29						
TEIG				Sn	Sn	19 19 08.0	-0.7
	4.7nm,0.3s,baz=214,slow=22,SNR=10						
TEIG				Lg	Lg	19 19 35.7	
	3.2nm,0.3s,baz=317,slow=22,SNR=9.3						
TEIG				LR	LR	19 20 13.9	
	comp=Z,99nm,20.1s,baz=98,slow=40						
CMIG	**Matias Romero**	**4.96**	**286**	Pn	Pn	19 18 21.2	+1.5
	0.2nm,0.3s,baz=99,slow=17,SNR=2.3						
CMIG				Sn	Sn	19 19 16.3	+0.3
	2.0nm,0.3s,baz=193,slow=6.4,SNR=9.3						
TXAR	**Lajitas Array**	**18.51**	**319**	P	P	19 21 19.9	-1.2
	0.1nm,0.3s,baz=137,slow=11,SNR=4.6						
NVAR	**Mina Array Bea**	**33.65**	**318**	P	P	19 23 45.2	-0.2
	1.0nm,1.0s,baz=138,slow=9.1,SNR=3.6						
YKA	**Yellowknife Ar**	**49.79**	**345**	P	P	19 25 56.1	-0.5
	0.3nm,0.8s,baz=143,slow=7.3,SNR=6.1						

MEX 30 19:18:27.3±0.7,17°.12N×100°.64W,h9km±3km,MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.37**	**102**	*i* P	Pg	19 18 33.9	-0.6
CAIG				*i* S	Sg	19 18 39.6	+0.2
ACX	**Acapulco**	**0.79**	**108**	*i* P	Pg	19 18 40.6	-2.0
ACX				*i* S	Sg	19 18 49.3	-3.7
ZIIG	**Zihuatanejo**	**0.92**	**302**	*i* P	Pg	19 18 42.5	-2.6
ZIIG				*i* S	Sg	19 18 54.5	-2.6
ARIG	**Puente Sto Nin**	**1.19**	**14**	*e*P	Pb	19 18 46.0	-4.0
ARIG				*e*S	Sb	19 19 00.9	-4.6
MEIG	**Mezcala**	**1.26**	**51**	*i* P	Pn	19 18 47.2	-3.9
MEIG				*e*S	Sb	19 19 03.0	-4.7
YAIG	**Yautepec**	**2.29**	**41**	*i* P	Pn	19 19 01.4	-4.0
YAIG				*i* S	Sn	19 19 30.3	-3.6
PPM	**Popocatepetl**	**2.72**	**44**	*i* P	Pn	19 19 08.8	-3.0
PPM				*e*S	Sn	19 19 41.0	-4.4

*BJI **30** 19:33:17.6,0°.28S×132°.88E,h6km,mB5.0/8,mb4.7/15, Ms4.8/3,Ms7 4.6/3*
*ISCJB **30** 19:33:18.0±0.3,0°.21S±0°.03×133°.05E±0°.04,h10km, mb4.6/41,MS4.0/21,Error ellipse: s-maj=5.3km s-min=4.0km az=11.5*
*IDC **30** 19:33:18.4±0.5,0°.33S×132°.75E,h0km,mb4.4/17, mb1 4.6/20,mb1mx4.5/27,mbtmp4.5/20,ML4.3/3,MS4.0/22, Ms1 4.0/22,ms1mx3.8/37,Error ellipse: s-maj=22.4km s-min=10.2km az=76.0*
*MOS **30** 19:33:22.3±0.9,0°.29S×132°.80E,h39km,mb4.8/24,Error ellipse: s-maj=16.2km s-min=7.2km az=113.0*
*GCMT **30** 19:33:23.2±0.3,0°.28S×132°.87E,h14km±1km,MW4.9, Moment Tensor Solution. s35,c36; s70,c99; Moment tensor: Scale 10^{16}Nm; M_{rr}2.24±.15; $M_{\theta\theta}$-1.69±.09; $M_{\phi\phi}$-0.55±.11; $M_{r\theta}$-1.26±.20; $M_{\theta\phi}$0.67±.06; $M_{r\phi}$1.40±.27; Best double couple: $M_0$2.80000×10^{16} NP1:ϕ_s105.00000°, δ26.00000°,λ68.00000°. NP2:ϕ_s309.00000°,δ66.00000°, λ100.00000°. Principal axes: T 3.0100, Plg67.0000°, Azm238.0000°; N -0.3700, Plg9.0000°, Azm125.0000°; P -2.6400, Plg20.0000°, Azm31.0000°; Data Used: II IU IC G CN.*
*NEIC **30** 19:33:23.6±0.3,0°.30S×132°.88E,h35km,mb4.8/12 Error ellipse: s-maj=11.6km s-min=7.5km az=70.0*
*AUST **30** 19:33:23.8±0.3,0°.35S×132°.95E,h47km,Error ellipse: s-maj=1.0km s-min=0.7km az=240.0*
*DJA **30** 19:33:24.0±1.1,0°.5±4°×13°.3E±°,h22km±9km,M4.9/37, mB5.4/21,mb4.9/37,MLv5.1/11,Mw(mB)4.8/21,Mwp5.6/1*
ISC 30 19:33:20.9±0.7,0°.27S±0°.04×132°.85E±0°.05,h14km±3km, n168,σ1ş47/158,mb4.7/41,MS4.0/21,3C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.70**	**250**	P	Pn	19 33 49.6	-0.6
	baz=1.8,SNR=1000						
SWI				S	Sg	19 34 16.8	+1.2
	baz=1.8,SNR=5.2						
SWI	**Sorong**	**1.70**	**250**	P	Pn	19 33 49.2	-1.0
FAKI	**Fak Fak**	**2.70**	**193**	P	Pn	19 34 04.6	+0.6
BAKI	**Biak**	**3.38**	**106**	P	Pn	19 34 12.5	-0.9
MSAI	**Masohi**	**4.97**	**232**	P	Pn	19 34 38.6	+3.3
	321nm,0.6s,3μm1.1nm						
BNDI	**Bandanaira**	**5.15**	**215**	P	Pn	19 34 39.6	+1.9
	2μm,1.1s,19μm5.2nm						
TLE	**Tual**	**5.34**	**181**	P	Pn	19 34 41.8	+1.5
	baz=5.3,SNR=131						
TLE				S	Sn	19 35 44.8	+3.1
	baz=5.3,SNR=5.8						
TLE	**Tual**	**5.34**	**181**	P	Pn	19 34 41.8	+1.5
	1μm,0.7s,10μm4.3nm						
LBMI	**Labuha**	**5.36**	**266**	P	Pn	19 34 41.5	+0.9
	223nm,1.0s,2μm1.1nm						
TNTI	**Ternate**	**5.58**	**281**	P	Pn	19 34 50.1	+6.5
	100nm,1.0s,1μm0.4nm						
AAI	**Ambon**	**5.76**	**234**	P	Pn	19 34 48.5	+2.4
	baz=5.8,SNR=65						
AAI	**Ambon**	**5.76**	**234**	P	Pn	19 34 48.0	+1.9
	921nm,0.8s,11μm3.0nm						
SMPI	**Sarmi**	**6.10**	**106**	P	Pn	19 34 52.6	+1.8
	61nm,0.9s,2μm0.3nm						
PALU	**Palau**	**7.73**	**12**	P	Pn	19 35 12.5	-0.7
	baz=7.8,SNR=4.7						
MNI	**Manado**	**8.19**	**282**	P	Pn	19 35 23.0	+3.5
	72nm,1.1s,0.3nm						
KMSI	**Cibinong**	**8.91**	**275**	P	Pn	19 35 39.2	+10
LUWI	**Luwuk**	**10.11**	**266**	P	Pn	19 35 47.5	+1.7
	85nm,1.1s,1μm						
KDI	**Kendari**	**10.86**	**250**	P	Pn	19 35 59.3	+3.2
	48nm,1.4s,702nm						
MRSI	**Marisa**	**10.94**	**274**	P	Pn	19 36 02.6	+5.4
	32nm,1.0s						
BBSI	**Bau Bau**	**11.50**	**243**	P	Pn	19 36 11.3	+6.4
KDU	**Kakadu**	**12.35**	**182**	P	Pn	19 36 14.2	-2.2
	baz=12,SNR=137						
MTN	**Manton Dam**	**12.61**	**188**	P	Pn	19 36 19.5	-0.6
	baz=13,SNR=57						
MTN				S	Sn	19 38 33.3	-7.2
	baz=13,SNR=6.2						
TTSI	**Tana Toraja**	**13.31**	**258**	P	P	19 36 36.1	-3.3
MMRI	**Maumere**	**13.45**	**232**	P	P	19 36 38.7	-2.2
SPSI	**Sidrap Palu**	**13.58**	**254**	P	Pn	19 36 35.7	+2.4
	45nm,1.2s,639nm						
BKSI	**Bulukumba**	**13.67**	**248**	P	Pn	19 36 37.2	+2.7
	54nm,0.8s,651nm9μm						
KAPI	**Kappang**	**13.91**	**250**	Pn	Pn	19 36 41.4	+3.6
	1.4nm,0.3s,baz=111,slow=8.5,SNR=19						
KAPI				LR	LR	19 42 11.7	
	comp=Z,242nm,19.8s,baz=207,slow=39						
KAPI	**Kappang**	**13.91**	**250**	Pn	Pn	19 36 41.4	+3.6
WSI	**Waingapu**	**15.60**	**233**	P	P	19 37 14.0	+9.2
SMKI	**Samwinda**	**15.64**	**269**	P	P	19 37 12.9	+7.6
PMG	**Port Moresby**	**16.89**	**123**	Pn	P	19 37 18.6	-0.5
	0.9nm,0.3s,baz=321,slow=8.6,SNR=6.5						
PMG	**Port Moresby**	**16.89**	**123**	*e*P	P	19 37 18.3	-0.8
	36nm,1.0s						
PMG	**Port Moresby**	**16.89**	**123**	P	P	19 37 19.6	+0.5
	33nm,1.0s						
KBKI	**Kotabaru**	**16.95**	**260**	P	P	19 37 20.6	+0.8
	27nm,1.1s						
COEN	**Coen**	**17.01**	**144**	P	P	19 37 19.7	-0.8
	baz=17,SNR=6.5						
GUMO	**Guam**	**18.20**	**40**	LR	LR	19 43 44.6	
	comp=Z,315nm,19.0s,baz=221,slow=34						
BBKI	**Banjar Baru**	**18.28**	**260**	P	P	19 37 37.7	+3.2
	74nm,1.3s,1μm						
KHKI	**Kahang-Kahang**	**18.97**	**244**	P	Pn	19 37 43.8	+1.0
	57nm,1.8s,979nm						
FITZ	**Fitzroy Crossi**	**19.09**	**201**	P	P	19 37 40.6	-2.8
	1.4nm,0.3s,baz=22,slow=11,SNR=42						
FITZ				S	Sn	19 41 07.5	-11
	0.3nm,0.3s,baz=345,slow=16,SNR=3.2						
FITZ				LR	LR	19 45 51.1	
	comp=Z,207nm,20.5s,baz=22,slow=40						
FITZ	**Fitzroy Crossi**	**19.09**	**201**	P	P	19 37 40.6	-2.8
FITZ				S	Sn	19 41 07.5	-11
FITZ	**Fitzroy Crossi**	**19.09**	**201**	P	P	19 37 40.8	-2.6
	baz=19,SNR=14						
SRBI	**Singaraja**	**19.22**	**246**	P	Pn	19 37 47.8	+2.0
	60nm,1.7s,906nm						
WRA	**Warramunga Arr**	**19.61**	**176**	P	P	19 37 48.5	-0.6
	1.8nm,0.3s,baz=355,slow=11,SNR=53						
WRA				S	S	19 41 21.2	-9.0
	1.0nm,0.3s,baz=360,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**19.61**	**176**	P	P	19 37 48.5	-0.6
WRA				S	S	19 41 21.2	-9.0
NBBI	**Negara**	**19.87**	**246**	P	Pn	19 37 58.0	+4.4
KMMI	**Kalianget**	**20.00**	**250**	P	Pn	19 37 59.6	+4.4
	39nm,1.5s						
BYJI	**Banyuwangi**	**20.05**	**246**	P	Pn	19 37 59.8	+4.1
	282nm,1.3s						
GMJI	**Gumukmas**	**20.91**	**247**	P	Pn	19 38 14.9	+9.1
QIS	**Mount Isa**	**21.22**	**162**	P	P	19 38 05.2	-1.3
	baz=21,SNR=35						
PBKI	**Pangkalan Bun**	**21.31**	**263**	P	P	19 38 12.4	+4.8
	141nm,1.0s,1μm						
STKI	**Sintang**	**21.38**	**271**	P	P	19 38 10.2	+1.9
	28nm,0.9s,998nm						
SJI	**Sawahan**	**22.29**	**250**	P	P	19 38 28.2	+10
PWJI	**Pagerwojo**	**22.35**	**249**	P	P	19 38 25.4	+6.7
KSM	**Kuching**	**22.61**	**274**	P	P	19 38 22.2	+0.7
	baz=23,SNR=8.2						
ASAR	**Alice Springs**	**23.28**	**178**	P	P	19 38 27.2	-1.2
	34nm,0.9s,baz=356,slow=11,SNR=159						
ASAR				S	S	19 42 41.7	+1.0
	3.6nm,0.8s,baz=354,slow=24,SNR=2.7						
ASAR				LR	LR	19 48 26.9	
	comp=Z,227nm,18.6s,baz=344,slow=39						
ASAR	**Alice Springs**	**23.28**	**178**	P	P	19 38 27.2	-1.2
ASAR				S	S	19 42 41.7	+1.0
CTA	**Charters Tower**	**23.67**	**147**	P	P	19 38 32.5	+0.2
	26nm,0.9s,baz=332,slow=12,SNR=30						
CTA				LR	LR	19 48 41.1	
	comp=Z,492nm,19.8s,baz=321,slow=39						
CTA	**Charters Tower**	**23.67**	**147**	P	P	19 38 32.5	+0.2
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	P	19 38 32.5	+0.2
CTAO				pmax	pmax		
	comp=Z,28nm,0.9s						
CTAO	**Charters Tower**	**23.67**	**147**	*e*P	P	19 38 32.5	+0.2
	comp=Z,28nm,0.9s						
BJII	**Banjamegara**	**24.12**	**253**	P	P	19 38 39.1	+2.3
	comp=Z,45nm,1.9s,comp=Z,1μm						
MBWA	**Male Iar**	**24.40**	**211**	*e*P	P	19 38 38.8	-0.4
	comp=Z,31nm,0.9s						
TGJI	**Tegal**	**24.56**	**254**	P	P	19 38 41.1	+0.4
	comp=Z,31nm,1.1s						
LEM	**Lembang**	**26.00**	**255**	P	P	19 39 05.6	+12
JOW	**Kunigami**	**27.30**	**351**	LR	LR	19 47 36.0	
	comp=Z,425nm,21.5s,baz=229,slow=31						
QLP	**Quilpie**	**28.37**	**158**	P	P	19 39 13.5	-1.3
	baz=28,SNR=15						
CBIJ	**Chichi jima**	**28.65**	**18**	LR	LR	19 47 48.2	
	comp=Z,306nm,21.6s,baz=104,slow=30						
QIZ	**Qiongzhong**	**29.63**	**312**	P	P	19 39 27.0	+0.8
QIZ				S	S	19 44 18.3	-3.1
STKA	**Stephens Creek**	**32.51**	**166**	P	P	19 39 49.9	-1.6
	comp=Z,31nm,0.9s,baz=338,slow=8.7,SNR=46						
STKA				LR	LR	19 54 27.6	
	comp=Z,517nm,20.1s,baz=353,slow=39						
STKA	**Stephens Creek**	**32.51**	**166**	*e*P	P	19 39 49.8	-1.6
	comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**32.51**	**166**	P	P	19 39 49.9	-1.6
	baz=33,SNR=11						
MORW	**Morawa**	**32.84**	**208**	P	P	19 39 54.2	-0.1
	baz=33,SNR=3.3						
CHBT	**CHBT**	**32.92**	**294**	P	P	19 39 55.7	+0.5
	comp=Z,27nm,0.9s,comp=Z,860nm						
JNU	**Nakatsue**	**33.26**	**357**	LR	LR	19 51 49.9	
	comp=Z,201nm,18.1s,baz=191,slow=33						
CMSA	**Cobar Meteorol**	**33.39**	**160**	P	P	19 39 57.9	-1.3
	baz=33,SNR=7.6						
JHJ	**Hachijo jima 2**	**33.84**	**10**	LR	LR	19 50 52.9	
	comp=Z,408nm,20.8s,baz=277,slow=31						
BLDU	**Ballidu**	**33.86**	**205**	P	P	19 40 02.9	-0.3
	baz=34,SNR=10						
PSI	**Prapat**	**34.05**	**275**	P	P	19 40 04.0	-1.3
	comp=Z,8.4nm,0.6s,baz=92,slow=4.7,SNR=9.3						
PSI	**Prapat**	**34.05**	**275**	P	P	19 40 04.0	-1.3
SRDT	**SRDT**	**36.40**	**295**	P	P	19 40 26.3	+0.9
	comp=Z,13nm,1.3s						
MJAR	**Matsushiro Arr**	**36.96**	**7**	P	P	19 40 29.9	+0.1
	comp=Z,2.0nm,0.9s,baz=194,slow=10,SNR=7.5						
MJAR				LR	LR	19 52 44.9	
	comp=Z,332nm,19.4s,baz=185,slow=32						
MJAR	**Matsushiro Arr**	**36.96**	**7**	P	P	19 40 29.9	+0.1
ARPS	**Mount Arapiles**	**37.26**	**168**	P	P	19 40 31.8	-0.7
	baz=37,SNR=9.9						
KSAR	**Wonju Array Be**	**37.80**	**354**	P	P	19 40 35.1	-1.8
KSRS	**Korea Array**	**37.81**	**354**	P	P	19 40 35.1	-1.8
	comp=Z,0.6nm,0.5s,baz=166,slow=11,SNR=3.8						
KSRS				LR	LR	19 54 29.9	
	comp=Z,141nm,19.4s,baz=176,slow=34						
CMAR	**Chiang Mai Arr**	**38.16**	**301**	P	P	19 40 40.4	+0.1
	comp=Z,6.0nm,0.9s,baz=122,slow=7.2,SNR=40						
CMAR				PcP	PcP	19 42 55.1	+0.1
	comp=Z,1.5nm,0.9s,baz=136,slow=1.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.16**	**301**	P	P	19 40 40.4	+0.1
CMAR				PcP	PcP	19 42 55.1	+0.1
CMMT	**Chiang Mai**	**38.31**	**302**	P	P	19 40 42.3	+0.8
	comp=Z,14nm,1.7s,comp=Z,548nm						
CHTO	**Chiang Mai**	**38.31**	**302**	*e*P	P	19 40 41.5	-0.1
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CHTO	**Chiang Mai**	**38.31**	**302**	*e*P	P	19 40 41.5	-0.1
	comp=Z,10nm,1.0s						
CHTO	**Chiang Mai**	**38.31**	**302**	P	P	19 40 41.7	+0.1
	comp=Z,13nm,1.1s						
BJI	**Beijing**	**42.91**	**341**	P	P	19 41 19.5	+0.3
BJI				S	S	19 47 48.5	+4.8
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
USRK	**Ussuriysk Arra**	**44.28**	**359**	P	P	19 41 31.4	+1.2
	comp=Z,8.1nm,1.3s,baz=165,slow=8.1,SNR=2.7						
USRK				LR	LR	19 59 03.7	
	comp=Z,112nm,18.9s,baz=230,slow=35						
LZH	**Lanzhou**	**45.12**	**326**	*e*P	P	19 41 37.5	+0.3
LZH				pP	pP	19 41 40.5	-1.0
LZH				sP	sP	19 41 42.0	-1.2
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
YSS	**Yuzh-Sakhalins**	**47.82**	**9**	P	P	19 41 57.0	-1.1
HABR	**Khabarovsk**	**48.58**	**2**	*e*P	P	19 42 12.0	+8.1
HABR						19 43 26.2	
HABR				*e*		19 43 56.2	
HABR				*e*S	S	19 49 05.7	+0.5
HABR				*e**SS	sS	19 49 22.6	+10
HABR				*e*		19 51 51.2	
HABR				pmax	pmax		
	comp=Z,13nm,1.2s						
HABR				pmax	pmax		
	comp=E,25nm,1.8s						
HABR				pmax	pmax		
	comp=N,11nm,1.8s						
HABR				MLR	MLR		
	comp=Z,74nm,20.0s						
KLR	**Kul'dur**	**49.31**	**359**	*e*P	P	19 42 09.8	+0.3
LSA	**Lhasa**	**49.66**	**311**	P	P	19 42 07.0	-6.1
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA	**Lhasa**	**49.66**	**311**	*e*P	P	19 42 13.8	+0.7
LSA				pmax	pmax		
	comp=Z,13nm,1.1s						
LSA	**Lhasa**	**49.66**	**311**	*e*P	P	19 42 13.8	+0.7
	comp=Z,13nm,1.1s						
GTA	**Gaotai**	**49.72**	**326**	*e*P	P	19 42 14.0	+1.0
GTA				pP	pP	19 42 18.0	+0.7
GTA				sP	sP	19 42 21.5	+2.5
TAPN	**Taplejung**	**51.30**	**306**	*e*P	P	19 42 25.0	-0.4
	comp=Z,42nm,1.1s						
ODAN	**Odare**	**51.35**	**305**	*e*P	P	19 42 25.2	-0.5
	comp=Z,44nm,0.9s						
RAMN	**Ramite**	**52.04**	**305**	*e*P	P	19 42 30.8	0.0
	comp=Z,74nm,1.1s						
ULN	**Ulaanbaatar**	**52.93**	**338**	*e*P	P	19 42 38.0	+1.1
	comp=Z,10nm,1.3s						
ULN	**Ulaanbaatar**	**52.93**	**338**	P	P	19 42 38.3	+1.3
GUN	**Gumba**	**53.01**	**306**	*e*P	P	19 42 37.5	-0.6
	comp=Z,45nm,0.8s						
SONM	**Songino Array**	**53.15**	**338**	P	P	19 42 38.5	0.0
	comp=Z,2.4nm,1.0s,baz=160,slow=6.6,SNR=11						
SONM				PcP	PcP	19 43 46.7	0.0
	comp=Z,0.9nm,0.7s,baz=165,slow=3.7,SNR=2.7						
SONM				LR	LR	20 04 13.6	
	comp=Z,60nm,19.0s,baz=249,slow=35						
SONM	**Songino Array**	**53.15**	**338**	P	P	19 42 38.5	0.0
SONM				PcP	PcP	19 43 46.7	0.0
PKI	**Pulchoki**	**53.26**	**305**	*e*P	P	19 42 39.1	-0.8
PKIN	**Phulchoki**	**53.27**	**305**	*e*P	P	19 42 39.5	-0.5
KKN	**Kakani**	**53.45**	**306**	*e*P	P	19 42 40.7	-0.5
	comp=Z,32nm,1.0s						
DMN	**Daman**	**53.52**	**305**	*e*P	P	19 42 41.4	-0.4
KOLN	**Koldanda**	**54.81**	**305**	*e*P	P	19 42 51.0	-0.2
	comp=Z,68nm,0.8s						
DANN	**Dangsing**	**54.90**	**305**	*e*P	P	19 42 51.6	-0.3
	comp=Z,87nm,0.9s						
RPZ	**Rata Peaks**	**55.04**	**147**	LR	LR	20 06 10.1	
	comp=Z,225nm,21.3s,baz=173,slow=36						
PYUN	**Piuthan**	**55.44**	**305**	*e*P	P	19 42 55.6	-0.1
	comp=Z,164nm,0.9s						
URZ	**Urewera**	**55.48**	**138**	LR	LR	20 05 18.6	
	comp=Z,177nm,18.1s,baz=300,slow=35						
HYB	**Hyderabad**	**56.24**	**291**	*i* P	P	19 42 59.0	-2.4
ZAK	**Zakamensk**	**56.41**	**338**	⇑*i* P	P	19 43 02.0	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
PETK	**Petropavlovsk-**	**57.09**	**18**	P	P	19 43 08.2	+1.5
	comp=Z,5.6nm,0.9s,baz=236,slow=6.8,SNR=3.6						
PETK				LR	LR	20 03 25.4	
	comp=Z,120nm,20.1s,baz=113,slow=32						
PETK	**Petropavlovsk-**	**57.09**	**18**	P	P	19 43 08.2	+1.5
PETK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PETK				MLR	MLR		
	comp=Z,120nm,20.1s						
PETK	**Petropavlovsk-**	**57.09**	**18**	P	P	19 43 08.2	+1.5
PET	**Petropavlovsk**	**57.31**	**18**	*i* P	P	19 43 05.8	-2.4
PET				pmax	pmax		
	comp=Z,45nm,1.7s						
TLY	**Talaya**	**57.33**	**339**	*e*P	P	19 43 09.2	+0.7
TLY				*e*		19 45 19.2	
TLY				*e*S	S	19 50 57.1	-7.4
TLY				pmax	pmax		
	comp=Z,2.0

BRVK				pmax	pmax				
	comp=Z,13nm,1.1s								
BRVK	**Borovoye**	**74.08**	**326**	*eP*	**P**	**19 44 56.9**	**+0.3**		
	comp=Z,14nm,1.1s								
VNDA	**Vanda**	**78.77**	**174**	P	**P**	**19 45 21.8**	**-1.0**		
	comp=Z,3.6nm,0.9s,baz=296,slow=5.6,SNR=17								
VNDA				LR	LR	20 16 47.0			
	comp=Z,157nm,18.5s,baz=345,slow=33								
VNDA	**Vanda**	**78.77**	**174**	*eP*	**P**	**19 45 22.6**	**-0.1**		
	comp=Z,108nm,2.9s								
AKTO	**Aktyubinsk**	**80.58**	**321**	P	**P**	**19 45 32.5**	**-0.6**		
	comp=Z,1.6nm,0.5s,baz=185,slow=3.8,SNR=5.4								
AKTO	**Aktyubinsk**	**80.58**	**321**	P	**P**	**19 45 32.5**	**-0.6**		
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AKTO	**Aktyubinsk**	**80.58**	**321**	P	**P**	**19 45 32.5**	**-0.6**		
ARU	**Arti**	**81.57**	**327**	*d iP*	**P**	**19 45 37.4**	**-0.8**		
ARU						19 48 46.0			
ARU				S	**S**	**19 55 53.3**	**+3.5**		
ARU				SS	**SS**	**20 01 10.7**	**+3.9**		
ARU				pmax	pmax				
	comp=Z,9.0nm,1.2s								
ARU	**Arti**	**81.57**	**327**	*eP*	**P**	**19 45 37.1**	**-1.1**		
MAW	**Mawson**	**82.22**	**201**	LR	LR	20 20 05.9			
	comp=Z,262nm,19.5s,baz=205,slow=34								
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**19 45 59.5**	**-1.7**		
	comp=Z,2.7nm,0.9s,baz=251,slow=4.8,SNR=16								
ILAR				LR	LR	20 21 55.0			
	comp=Z,41nm,21.1s,baz=213,slow=34								
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**19 45 59.5**	**-1.7**		
ARCES	**ARCESS Array B**	**96.27**	**340**	LR	LR	20 33 20.9			
	comp=Z,101nm,18.5s,baz=282,slow=37								
YKA	**Yellowknife Ar**	**100.49**	**26**	P	**Pdif**	**19 47 06.9**	**-0.9**		
	comp=Z,0.1nm,0.6s,baz=295,slow=4.4,SNR=3.2								
YKA	**Yellowknife Ar**	**100.49**	**26**	P	**Pdif**	**19 47 06.9**	**-0.9**		
LDFC	**Landfair**	**108.08**	**53**	*e*Pdif	**Pdif**	**19 47 39.8**	**-2.5**		
LDFC				*e*PP	PP	19 52 01.8	-10		
TORD	**Torodi Ar. Bea**	**129.95**	**287**	PKP	**PKPdf**	**19 52 29.9**	**-1.4**		
	comp=Z,1.1nm,0.8s,baz=66,slow=2.3,SNR=6.9								
TORD	**Torodi Ar. Bea**	**129.95**	**287**	PKP	**PKPdf**	**19 52 29.9**	**-1.4**		
LPAZ	**La Paz**	**153.56**	**129**	PKPab	**PKPab**	**19 53 34.7**	**+1.3**		
	comp=Z,4.2nm,0.8s,baz=231,slow=2.6,SNR=12								
LPAZ	**La Paz**	**153.56**	**129**	PKPab	**PKPab**	**19 53 34.7**	**+1.3**		

IDC 30 19:38:37.3±1.4, 3°.50N×126°.55E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, 1D, Error ellipse: s-maj=162.4km s-min=21.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.35**	**328**	⇓*iP*	Pb	19 39 52.6	-2.1
WRA	**Warramunga Arr**	**24.52**	**162**	P	P	19 43 58.2	-0.5
	3.6nm,0.7s,baz=342,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**37.98**	**159**	P	P	19 45 57.5	+0.5
	3.7nm,0.9s,baz=350,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**47.46**	**342**	P	P	19 47 14.2	+0.1
	0.4nm,0.8s,baz=157,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**57.64**	**325**	P	P	19 48 29.9	+0.4
	0.3nm,0.6s,baz=122,slow=7.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**61.84**	**328**	P	P	19 48 57.5	-0.7
	88nm,0.3s,baz=128,slow=6.1,SNR=1.5						

MAN 30 19:43:50, 7°.31N×125°.05E, h27km, mb4.1, ML2.9, MS2.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.56**	**1**	*eP*	Pn	19 44 02.3	-0.1
CTBH	**Cotabato--PC H**	**0.81**	**264**	⇑*iP*	Pb	19 44 05.5	0.0
CGP	**Cagayan de Oro**	**1.19**	**343**	⇑*iP*	Pn	19 44 10.4	-0.5
CGP				*i* S	Sb	19 44 26.8	-0.2

*CSEM **30** 19:48:12.4±0.1, 46°.67N×13°.80E, h15km, ML1.9/8, Error ellipse: s-maj=1.7km s-min=0.9km az=1.0*
*LJU **30** 19:48:12.9, 46°.62N×13°.81E, h13km, ML1.1*
*ROM **30** 19:48:13.4±0.3, 46°.62N×13°.75E, h11km, Md1.9/5, Ml1.4/4, Error ellipse: s-maj=3.3km s-min=1.9km az=106.0*

VIE 30 19:48:12.3±0.3, 46.71N×13.81E, h12km±6km, mb1.7/2, ML1.8/4, 9C-8D, Error ellipse: s-maj=6.0km s-min=1.3km az=6.0 3 km S of Afritz, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYKA	**Terra Mystica**	**0.14**	**237**	⇑*iPg*	Pg	19 48 16.3	+0.6
	6.0nm,0.0s						
MYKA				⇑*iSg*	Sg	19 48 18.4	+0.1
	46nm,0.0s						
MYKA	**Terra Mystica**	**0.14**	**237**	Pg	Pg	19 48 16.3	+0.6
	6.0nm,0.0s						
MYKA				Sg	Sg	19 48 18.4	+0.2
	46nm,0.0s						
ACOM	**Acomizza, Ital**	**0.26**	**232**	⇑*ePg*	Pg	19 48 18.0	+0.1
ACOM				*e*Sg	Sg	19 48 21.2	-0.4
ACOM	**Acomizza, Ital**	**0.26**	**232**	Pg	Pg	19 48 18.0	+0.1
ACOM				Sg	Sg	19 48 21.2	-0.5
	100nm,0.3s						
ACOM	**Acomizza, Ital**	**0.26**	**232**	⇑*ePg*	Pg	19 48 18.0	+0.1
ACOM				Sg	Sg	19 48 21.2	-0.5
	100nm,0.3s						
LSR	**Lussari**	**0.30**	**220**	⇓*ePg*	Pg	19 48 18.5	-0.2
LSR				*e*Sg	Sg	19 48 22.1	-0.8
LSR	**Lussari**	**0.30**	**220**	⇓*ePg*	Pg	19 48 18.5	-0.2
LSR				*e*Sg	Sg	19 48 22.1	-0.8
GORS	**Gorjuse**	**0.41**	**161**	*i* Pg	Pg	19 48 20.0	-0.5
GORS				*i* Sg	Sg	19 48 24.9	-1.2
GORS							
	comp=Z,9.0nm,0.1s						
GORS	**Gorjuse**	**0.41**	**161**	*i* Pg	Pg	19 48 20.0	-0.6
GORS				*i* Sg	Sg	19 48 24.9	-1.2
	comp=Z,9.0nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.43**	**226**	Pg	Pg	19 48 20.8	-0.1
PTCC				Sg	Sg	19 48 25.8	-1.0
	comp=Z,1.0nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.43**	**226**	*e*Pg	Pg	19 48 20.8	-0.1
PTCC				Sg	Sg	19 48 25.8	-1.0
	comp=Z,1.0nm,0.3s						
CADS	**Cadrg**	**0.48**	**186**	*i* Pg	Pg	19 48 21.0	-0.8
CADS				*i* Sg	Sg	19 48 27.1	-1.1
CADS							
	comp=Z,10.0nm,0.1s						
CADS	**Cadrg**	**0.48**	**186**	*i* Pg	Pg	19 48 21.0	-0.8
CADS				*i* Sg	Sg	19 48 27.1	-1.1
	comp=Z,10.0nm,0.1s						
PLRO	**Paularo**	**0.48**	**251**	⇑*ePg*	Pg	19 48 22.0	0.0
PLRO				*e*Sg	Sg	19 48 28.1	-0.3
PLRO	**Paularo**	**0.48**	**251**	⇑*ePg*	Pg	19 48 22.0	+0.1
PLRO				*e*Sg	Sg	19 48 28.1	-0.4
ROBS	**Robic**	**0.50**	**204**	*i* Pg	Pg	19 48 21.5	-0.7
ROBS				*i* Sg	Sg	19 48 27.8	-1.1
ROBS							
	comp=Z,2.0nm,0.0s						
ROBS	**Robic**	**0.50**	**204**	*i* Pg	Pg	19 48 21.5	-0.7
ROBS				*i* Sg	Sg	19 48 27.8	-1.1
	comp=Z,2.0nm,0.0s						
OBKA	**Obir**	**0.55**	**111**	⇑*iPg*	Pg	19 48 23.5	+0.3
	comp=Z,7.6nm,0.2s						
OBKA				⇑*iSg*	Sg	19 48 30.9	+0.4
	comp=Z,5.2nm,0.1s						
OBKA	**Obir**	**0.55**	**111**	Pg	Pg	19 48 23.5	+0.4
	comp=Z,7.6nm,0.2s						
OBKA				Sg	Sg	19 48 30.9	+0.4
	comp=Z,5.2nm,0.1s						
VINO	**Villanova**	**0.58**	**219**	⇓*ePg*	Pg	19 48 23.1	-0.5
VINO				*e*Sg	Sg	19 48 30.6	-0.7
VINO	**Villanova**	**0.58**	**219**	Pg	Pg	19 48 23.1	-0.5
VINO				Sg	Sg	19 48 30.6	-0.7
	comp=Z,14nm,0.5s						
VINO	**Villanova**	**0.58**	**219**	⇓*ePg*	Pg	19 48 23.1	-0.5
VINO				Sg	Sg	19 48 30.6	-0.7
	comp=Z,14nm,0.5s						
ZOU	**Zoufplan**	**0.59**	**256**	⇑*ePg*	Pg	19 48 24.0	-0.1
ZOU				*e*Sg	Sg	19 48 32.0	-0.2
MOZS	**Mozjanca**	**0.60**	**133**	*i* Pg	Pg	19 48 24.1	0.0
MOZS				*i* Sg	Sg	19 48 32.1	0.0
MOZS							
	comp=Z,3.0nm,0.1s						
MOZS	**Mozjanca**	**0.60**	**133**	*i* Pg	Pg	19 48 24.1	0.0
MOZS				*e*Sg	Sg	19 48 32.0	-0.1
BAD	**Bernadia**	**0.61**	**220**	*e*Pg	Pg	19 48 23.9	-0.4
BAD				*e*Sg	Sg	19 48 31.8	-0.5
BAD	**Bernadia**	**0.61**	**220**	*e*Pg	Pg	19 48 23.9	-0.3
BAD				*e*Sg	Sg	19 48 31.8	-0.5
CRNS	**Crni Vrh**	**0.70**	**153**	*i* Pg	Pg	19 48 25.2	-0.7
CRNS				*i* Sg	Sg	19 48 33.8	-1.4
CRNS							
	comp=Z,3.0nm,0.1s						
FVI	**Forni Avoltri**	**0.71**	**262**	Pg	Pg	19 48 26.0	-0.3
	comp=Z,48nm,1.8s						
FVI	**Forni Avoltri**	**0.71**	**262**	Pg	Pg	19 48 26.0	-0.3
	comp=Z,48nm,1.8s						
SOKA	**Soboth**	**0.84**	**91**	⇓*iPg*	Pg	19 48 28.8	+0.1
	comp=Z,0.5nm,0.1s						
SOKA				⇓*i*Sg	Sg	19 48 40.0	+0.1
	comp=Z,1.7nm,0.1s						
SOKA	**Soboth**	**0.84**	**91**	⇓*iPg*	Pb	19 48 28.9	-0.1
SOKA				Sg	Sg	19 48 40.0	+0.1
	comp=Z,1.7nm,0.1s						
RISI	**Rein**	**1.21**	**282**	Pg	Pb	19 48 35.4	0.0
	comp=Z,10.0nm,0.5s						
RISI	**Rein**	**1.21**	**282**	⇓*ePg*	Pb	19 48 35.6	+0.2
RISI				*e*Sg	Sn	19 48 51.8	0.0

*ISCJB **30** 19:48:12.9±0.5, 37°.89N±0°.02×27°.35E±0°.04, h3km±4km, Error ellipse: s-maj=4.8km s-min=3.6km az=177.0*
*ISK **30** 19:48:12.3, 37°.91N×27°.34E, h5km, MD3.1*
*ATH **30** 19:48:12.1, 37°.88N×27°.41E, h19km±2km, MD3.0/5*
*DDA **30** 19:48:12.3, 37°.88N×27°.36E, h9km, MD3.1*
*CSEM **30** 19:48:13.0±0.2, 37°.87N×27°.32E, h2km, MD3.1, Error ellipse: s-maj=5.2km s-min=3.7km az=73.0*

ISC 30 19:48:12.6±1.0, 37°.89N±0°.02×27°.35E±0°.02, h9km±8km, n51, σ0°89/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.20**	**206**	*i* Pg	**Pg**	**19 48 16.7**	**-0.1**
GCAM				*i* Sg	**Sg**	**19 48 19.7**	**0.0**
AYDN	**Tasoluk**	**0.48**	**118**	*i* P	**Pg**	**19 48 22.1**	**+0.2**
AYDN				*i* S	**Sg**	**19 48 28.4**	**+0.2**
AYDN	**Tasoluk**	**0.48**	**118**	*i* P	**Pg**	**19 48 22.1**	**+0.2**
AYDN				*i* S	**Sg**	**19 48 28.4**	**+0.2**
IZM	**Izmir**	**0.52**	**353**	*e*PG	**Pg**	**19 48 22.7**	**0.0**
IZM				*e*SG	**Sb**	**19 48 30.9**	**-0.6**
IZM	**Izmir**	**0.52**	**353**	*e*Pg	**Pg**	**19 48 22.7**	**0.0**
IZM				*e*Sg	**Sb**	**19 48 30.9**	**-0.6**
BLCB	**Balcova**	**0.55**	**334**	*e*PG	**Pg**	**19 48 23.7**	**+0.3**
BLCB	**Balcova**	**0.55**	**334**	*e*Pg	**Pg**	**19 48 23.7**	**+0.3**
MLSB	**Milas**	**0.68**	**150**	*e*PG	**Pb**	**19 48 27.1**	**+0.4**
MLSB	**Milas**	**0.68**	**150**	*e*Pg	**Pb**	**19 48 27.1**	**+0.4**
URLA	**Izmir**	**0.76**	**309**	*i* P	**Pg**	**19 48 27.5**	**+0.2**
URLA				*i* S	**Sb**	**19 48 38.0**	**-0.5**
URLA	**Izmir**	**0.76**	**309**	*i* P	**Pg**	**19 48 27.5**	**+0.2**
URLA				*i* S	**Sb**	**19 48 38.0**	**-0.5**
BODT	**Bodrum**	**0.82**	**182**	*e*PG	**Pb**	**19 48 29.3**	**+0.2**
BODT				*e*SG	**Sn**	**19 48 42.5**	**-0.1**
BODT	**Bodrum**	**0.82**	**182**	*e*Pg	**Pb**	**19 48 29.3**	**+0.2**
BODT				*e*Sg	**Sn**	**19 48 42.5**	**-0.1**
YER	**Yerkesik**	**1.06**	**135**	*e*PG	**Pn**	**19 48 34.1**	**+0.5**
YER	**Yerkesik**	**1.06**	**135**	*e*Pg	**Pn**	**19 48 34.1**	**+0.5**
AKHS	**Akhisar**	**1.06**	**20**	*e*P	**Pg**	**19 48 32.8**	**-0.2**
AKHS				*e*S	**Sg**	**19 48 46.4**	**-0.3**
AKHS	**Akhisar**	**1.06**	**20**	*e*P	**Pg**	**19 48 32.8**	**-0.2**
AKHS				*e*S	**Sg**	**19 48 46.4**	**-0.3**
AKS	**Akhisar**	**1.06**	**20**	*e*PG	**Pg**	**19 48 32.9**	**-0.1**
AKS	**Akhisar**	**1.06**	**20**	*e*Pg	**Pg**	**19 48 32.9**	**-0.1**
CHOS	**Chios island**	**1.14**	**297**	*e*PN	**Pb**	**19 48 34.4**	**-0.1**
CHOS				*e*SN	**Sn**	**19 48 50.7**	**+0.2**
CHOS	**Chios island**	**1.14**	**297**	*e*Pn	**Pb**	**19 48 34.4**	**-0.1**
CHOS				*e*Sn	**Sn**	**19 48 50.7**	**+0.2**
KULA	**Kula-Manisa**	**1.21**	**58**	*e*PN	**Pg**	**19 48 36.2**	**+0.3**
KULA	**Kula-Manisa**	**1.21**	**58**	*e*Pn	**Pg**	**19 48 36.2**	**+0.3**
NIS1	**Nisyros Isl.**	**1.29**	**186**	*e*PN	**Pn**	**19 48 36.8**	**0.0**
NIS1	**Nisyros Isl.**	**1.29**	**186**	*e*Pn	**Pn**	**19 48 36.8**	**0.0**
PRK	**Paraskevi**	**1.60**	**329**	*e*PN	**Pb**	**19 48 42.7**	**+0.4**
PRK				*e*SN	**Sg**	**19 49 03.6**	**-0.5**
PRK	**Paraskevi**	**1.60**	**329**	*e*Pn	**Pb**	**19 48 42.7**	**+0.4**
PRK				*e*Sn	**Sg**	**19 49 03.6**	**-0.5**
APE	**Apeiranthos**	**1.66**	**241**	*e*PN	**Pg**	**19 48 44.4**	**0.0**
APE	**Apeiranthos**	**1.66**	**241**	*e*PB	**Pn**	**19 48 42.2**	**+0.3**
APE				*e*SN	**Sg**	**19 49 06.0**	**0.0**
APE	**Apeiranthos**	**1.66**	**241**	*e*Pb	**Pn**	**19 48 42.2**	**+0.3**
APE	**Apeiranthos**	**1.66**	**241**	*e*Pn	**Pg**	**19 48 44.4**	**0.0**
APE				*e*Sn	**Sg**	**19 49 06.0**	**0.0**
ARG	**Arkhangelos**	**1.78**	**159**	*e*PN	**Pn**	**19 48 43.4**	**-0.1**
ARG	**Arkhangelos**	**1.78**	**159**	*e*Pn	**Pn**	**19 48 43.4**	**-0.1**
BALY	**Balya**	**1.86**	**6**	*e*P	**Pb**	**19 48 47.2**	**+0.3**
BALY				*e*S	**Sn**	**19 49 06.6**	**-1.8**
BALY	**Balya**	**1.86**	**6**	*e*P	**Pb**	**19 48 47.2**	**+0.3**
DST	**Dursunbey**	**1.98**	**30**	*e*PN	**Pb**	**19 48 48.9**	**0.0**
DST	**Dursunbey**	**1.98**	**30**	*e*Pn	**Pb**	**19 48 48.9**	**0.0**
EZN	**Ezine**	**2.10**	**338**	*e*PN	**Pb**	**19 48 49.4**	**-1.4**
EZN	**Ezine**	**2.10**	**338**	*e*Pn	**Pb**	**19 48 49.4**	**-1.4**
GONE	**Gonen-Balikesi**	**2.17**	**7**	*e*PN	**Pb**	**19 48 51.2**	**-1.0**
GONE	**Gonen-Balikesi**	**2.17**	**7**	*e*Pn	**Pb**	**19 48 51.2**	**-1.0**
TVSB	**Tavsanli**	**2.28**	**46**	*e*PN	**Pb**	**19 48 52.6**	**-1.3**
TVSB	**Tavsanli**	**2.28**	**46**	*e*Pn	**Pb**	**19 48 52.6**	**-1.3**
KRBG	**Karabiga-Canak**	**2.50**	**359**	*e*PN	**Pb**	**19 48 55.9**	**-1.9**
KRBG	**Karabiga-Canak**	**2.50**	**359**	*e*Pn	**Pb**	**19 48 55.9**	**-1.9**
GELI	**Tayfur-Gelibol**	**2.60**	**345**	*e*PN	**Pn**	**19 48 57.0**	**+2.2**
GELI	**Tayfur-Gelibol**	**2.60**	**345**	*e*Pn	**Pn**	**19 48 57.0**	**+2.2**
RKY	**Sarkoy-Tekirda**	**2.80**	**357**	*e*PN	**Pn**	**19 48 59.5**	**+1.8**
RKY	**Sarkoy-Tekirda**	**2.80**	**357**	*e*Pn	**Pn**	**19 48 59.5**	**+1.8**
ARMT	**Armutlu**	**2.92**	**23**	*e*PN	**Pn**	**19 49 01.7**	**+2.4**
ARMT	**Armutlu**	**2.92**	**23**	*e*Pn	**Pn**	**19 49 01.7**	**+2.4**

*CSEM **30** 19:48:46.9±1.3, 40°.86N×19°.71E, h15km, ML2.8, Error ellipse: s-maj=32.0km s-min=9.8km az=132.0*

TIR 30 19:48:48.3±2.3, 41°.09N×20°.59E, h2km±999km, ML2.8, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.60**	**296**	*i* PG	Pg	19 48 57.3	-2.6
TIR				*i* SG	Sg	19 49 03.0	-4.7
TIR	**Tirane**	**0.60**	**296**	*i* Pg	Pg	19 48 57.3	-2.6
	SNR=92						
TIR				*i* Sg	Sg	19 49 03.0	-4.7
	SNR=92						
PUK	**Puka**	**1.09**	**332**	*i* PG	Pn	19 49 10.4	-0.3
PUK				*i* SG	Sn	19 49 26.4	0.0
PUK	**Puka**	**1.09**	**332**	*i* Pg	Pn	19 49 10.4	-0.3
	SNR=91						
PUK				*i* Sg	Sn	19 49 26.4	0.0
	SNR=91						
BCI	**Bajram Curri**	**1.33**	**343**	*i* PG	Pb	19 49 15.6	+1.5
BCI				*i* SG	Sn	19 49 35.6	+3.2
BCI	**Bajram Curri**	**1.33**	**343**	*i* Pg	Pb	19 49 15.6	+1.5
	SNR=91						
BCI				*i* Sg	Sn	19 49 35.7	+3.3
	SNR=91						
STON	**Ston**	**2.79**	**311**	*e*Pn	Pn	19 49 26.6	-7.4
STON				Sn	Sn	19 49 53.0	-15
STON	**Ston**	**2.79**	**311**	*e*Pn	Pn	19 49 26.6	-7.4
STON				Sn	Sn	19 49 53.0	-15
NVLJ	**Novalja**	**5.45**	**311**	*i* Pn	Pn	19 50 03.8	-6.7
NVLJ				Sn	Sn	19 50 57.6	-16
NVLJ	**Novalja**	**5.45**	**311**	*i* Pn	Pn	19 50 03.7	-6.8
NVLJ				Sn	Sn	19 50 57.5	-16

*ISCJB **30** 19:52:07.3±1.0, 9°.87N±0°.05×126°.94E±0°.08, h10km, mb3.3/3, Error ellipse: s-maj=12.0km s-min=6.8km az=174.3*
*IDC **30** 19:52:08.3±2.3, 9°.46N×125°.55E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=231.7km s-min=27.2km az=69.0*
*MAN **30** 19:52:10, 9°.87N×126°.79E, h16km, mb4.8, ML3.7, MS3.8*

ISC 30 19:52:09.3±1.3, 9°.82N±0°.05×126°.86E±0°.1, h10km, n12, σ1°19/12, mb3.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.46**	**235**	*e*P	Pn	19 52 34.8	-1.0
BUTP				*e*S	**Sn**	**19 52 55.7**	**+0.8**
MSLP	**Maasin**	**1.96**	**279**	*e*P	**Pn**	**19 52 42.4**	**-0.2**
BESP	**Borongan**	**2.23**	**322**	*e*P	**Pn**	**19 52 46.8**	**+0.5**
BESP				*e*S	**Sn**	**19 53 13.0**	**-1.0**
OCLP	**Ormoc**	**2.50**	**299**	*e*P	Pn	19 52 45.7	-4.4
BUKP	**Musuan**	**2.60**	**222**	*e*P	**Pn**	**19 52 53.5**	**+2.0**
BUKP				*e*S	**Sg**	**19 53 31.2**	**-1.8**
MATI	**Mati**	**2.91**	**191**	*e*P	**Pn**	**19 52 55.7**	**0.0**
CNP	**Catarman**	**3.41**	**322**	*e*P	**Pn**	**19 53 03.8**	**+1.2**
CNP				*e*S	**Sn**	**19 53 43.1**	**0.0**
GUIM	**Jordan**	**4.25**	**281**	*e*P	**Pn**	**19 53 15.5**	**+1.4**
ASAR	**Alice Springs**	**34.00**	**168**	P	**P**	**19 58 53.3**	**-0.1**
	0.3nm,0.4s,baz=347,slow=12,SNR=5.4						
SONM	**Songino Array**	**41.63**	**339**	P	**P**	**19 59 57.6**	**-0.2**
	0.3nm,0.7s,baz=156,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**52.71**	**323**	P	P	20 01 21.4	-2.8
	0.3nm,0.7s,baz=121,slow=7.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**56.75**	**325**	P	P	20 01 50.8	-2.6
	63nm,0.3s,baz=129,slow=6.6,SNR=1.3						

*IDC **30** 19:56:48.7±1.8, 23°.42S×174°.86W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/20, mbtmp4.1/7, MS3.7/2, Ms1 3.7/2, ms1mx3.0/32, Error ellipse: s-maj=86.8km s-min=22.4km az=157.0*
*ISCJB **30** 19:56:52.2±1.6, 23°.3S±0°.5×175°.0W±0°.3, h29km, mb4.1/8, MS3.6/2, Error ellipse: s-maj=73.9km s-min=18.1km az=156.9*
*NEIC **30** 19:56:53.8±1.5, 23°.51S×174°.84W, h35km, mb4.6/2, Error ellipse: s-maj=72.5km s-min=17.1km az=157.0*

ISC 30 19:56:53.1±1.7, 23°.5S±0°.5×174°.9W±0°.2, h29km, n20, σ1°09/18, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**27.82**	**296**	LR	LR	20 11 20.9	
	comp=Z,125nm,19.4s,baz=188,slow=31						
CTA	**Charters Tower**	**36.18**	**268**	P	**P**	**20 03 54.5**	**+1.0**
	4.6nm,0.5s,baz=93,slow=10,SNR=12						
CTA	**Charters Tower**	**36.18**	**268**	P	**P**	**20 03 54.5**	**+1.0**
CTAO	**Charters Tower**	**36.18**	**268**	*e*P	**P**	**20 03 54.9**	**+1.5**
	6.1nm,0.6s						
ASAR	**Alice Springs**	**46.74**	**259**	P	**P**	**20 05 19.5**	**-0.5**
	2.0nm,0.9s,baz=88,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**46.74**	**259**	P	**P**	**20 05 19.5**	**-0.5**
WRAB	**Tennant Creek**	**47.12**	**264**	*e*P	**P**	**20 05 22.1**	**-0.9**
	4.8nm,0.9s						
WRA	**Warramunga Arr**	**47.13**	**264**	P	**P**	**20 05 23.5**	**+0.5**
	1.7nm,0.4s,baz=103,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**47.13**	**264**	P	**P**	**20 05 23.5**	**+0.5**
GUMO	**Guam**	**53.92**	**309**	LR	LR	20 28 22.4	
	comp=Z,66nm,18.7s,baz=245,slow=35						
MJAR	**Matsushiro Arr**	**74.31**	**322**	P	**P**	**20 08 27.3**	**-0.6**
	0.5nm,0.5s,baz=154,slow=6.6,SNR=4.7						
MJAR	**Matsushiro Arr**	**74.31**	**322**	P	**P**	**20 08 27.3**	**-0.6**
NVAR	**Mina Array Bea**	**81.24**	**42**	P	**P**	**20 09 07.5**	**+0.7**
	0.5nm,0.7s,baz=231,slow=8.0,SNR=3.5						
NVAR	**Mina Array Bea**	**81.24**	**42**	P	**P**	**20 09 07.5**	**+0.7**
TXAR	**Lajitas Array**	**86.25**	**56**	P	**P**	**20 09 32.6**	**+0.2**
	1.0nm,0.9s,baz=227,slow=8.4,SNR=5.1						
TXAR	**Lajitas Array**	**86.25**	**56**	P	**P**	**20 09 32.6**	**+0.2**
ILAR	**Eielson Array**	**90.59**	**12**	P	**P**	**20 09 52.4**	**+0.3**
	0.8nm,0.9s,baz=215,slow=6.1,SNR=4.8						
ILAR	**Eielson Array**	**90.59**	**12**	P	**P**	**20 09 52.4**	**+0.3**
BRTR	**Keskin Array B**	**150.97**	**311**	PKPbc	**PKPbc**	**20 16 41.3**	**-2.2**
	0.8nm,0.8s,baz=78,slow=4.6,SNR=4.8						
BRTR	**Keskin Array B**	**150.97**	**311**	PKPbc	**PKPbc**	**20 16 41.3**	**-2.2**

IDC 30 20:01:24.4±1.4, 73°.96N×92°.42E, h0km, mb3.2/6, mb1 3.4/7, mb1mx3.2/29, mbtmp3.3/7, ML4.2/1, Error ellipse: s-maj=36.3km s-min=21.8km az=82.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**17.49**	**318**	P	Pn	20 05 29.0	-0.2
	baz=78,slow=17,SNR=10						
ZALV	**Zalesovo Beam**	**20.33**	**193**	P	P	20 06 01.0	-0.7
	0.7nm,0.4s,baz=357,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**20.36**	**292**	P	P	20 06 02.8	+0.9
	2.6nm,0.7s,baz=41,slow=11,SNR=9.9						
BVAR	**Borovoye Array**	**22.89**	**216**	P	P	20 06 29.0

APE	**Apeiranthos**	**2.00**	**223**	*e*PN	**Pb**	**20 18 20.1**	**-0.5**
APE	**Apeiranthos**	**2.00**	**223**	*e*Pn	**Pb**	**20 18 20.1**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.13**	**359**	*e*PN	**Pn**	**20 18 20.8**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.13**	**359**	*e*Pn	**Pn**	**20 18 20.8**	**+1.2**
MFT	**Murefte**	**2.23**	**1**	*e*PN	**Pn**	**20 18 22.8**	**+1.8**
MFT	**Murefte**	**2.23**	**1**	*e*Pn	**Pn**	**20 18 22.8**	**+1.8**
ENEZ	**Enez**	**2.33**	**339**	*e*PN	**Pn**	**20 18 23.4**	**+1.1**
ENEZ	**Enez**	**2.33**	**339**	*e*Pn	**Pn**	**20 18 23.4**	**+1.1**
ARMT	**Armutlu**	**2.37**	**32**	*e*PN	**Pn**	**20 18 24.2**	**+1.3**
ARMT	**Armutlu**	**2.37**	**32**	*e*Pn	**Pn**	**20 18 24.2**	**+1.3**

IDC 30 20:27:45.1±2.0, 22°90S×174°81W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp3.9/8, Error ellipse: s-maj=81.9km s-min=27.6km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.91**	**258**	P	P	20 36 17.4	-0.4
	1.3nm,0.9s,baz=92,slow=8.2,SNR=9.0						
WRA	**Warramunga Arr**	**47.25**	**264**	P	P	20 36 19.8	-0.6
	0.9nm,0.6s,baz=101,slow=8.3,SNR=7.1						
MJAR	**Matsushiro Arr**	**73.90**	**322**	P	P	20 39 20.6	-1.5
	1.7nm,0.8s,baz=158,slow=6.4,SNR=6.3						
USRK	**Ussuriysk Arra**	**82.61**	**324**	P	P	20 40 11.5	+1.4
	2.6nm,0.9s,baz=119,slow=3.7,SNR=7.5						
PDAR	**Pinedale Array**	**88.71**	**42**	P	P	20 40 40.6	-0.1
	0.3nm,0.7s,baz=162,slow=6.2,SNR=3.0						
ILAR	**Eielson Array**	**90.02**	**12**	P	P	20 40 46.2	+0.2
	0.3nm,0.7s,baz=209,slow=5.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**93.70**	**288**	P	P	20 41 05.5	+1.3
	1.2nm,0.9s,baz=126,slow=2.1,SNR=9.9						
YKA	**Yellowknife Ar**	**97.46**	**24**	P	P	20 41 19.4	-0.9
	0.3nm,0.8s,baz=235,slow=4.5,SNR=5.7						
AKASG	**Malin Array Be**	**146.53**	**332**	PKPbc	PKPdf	20 47 27.3	+0.6
	0.4nm,0.3s,baz=47,slow=3.3,SNR=5.9						
BRTR	**Keskin Array B**	**150.65**	**311**	PKPbc	PKPbc	20 47 39.0	-0.5
	0.7nm,0.7s,baz=148,slow=3.9,SNR=5.8						

*NIED **30** 20:32:00, 43.˚10N×145.˚80E, h50km, Mw3.6 Best double couple: M₀2.37000×10¹⁴ NP1:φs35.00000°, δ70.00000°, λ72.00000°. NP2:φs259.00000°, δ27.00000°, λ131.00000°.*
*IDC **30** 20:32:17.2±3.9, 42.˚86N×146.˚63E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.3/26, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=68.9km s-min=35.7km az=122.0*
*MOS **30** 20:32:20.7±0.5, 42.˚76N×146.˚48E, h37km, mb4.1/2, Error ellipse: s-maj=44.1km s-min=29.6km az=111.0*
*ISCJB **30** 20:32:26.0±1.1, 43.˚07N±0.˚06×145.˚93E±0.˚09, h50km±8km, mb3.7/2, Error ellipse: s-maj=12.0km s-min=7.7km az=37.0.*
*JMA **30** 20:32:27.7±0.1, 43.˚12N×145.˚83E, h46km±1km, M3.7*
JMA Felt II J1.

ISC 30 20:32:26.1±1.9, 43°04N±0°08×146°0E±0°1, h39km±6km, n14, σ1s32/25, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**330**	P	**Pn**	**20 32 35.9**	**+0.7**
NEM2				*e*S	**Sn**	**20 32 41.7**	**+0.1**
JAK	**Akkeshi**	**0.96**	**268**	P	**Pn**	**20 32 43.1**	**0.0**
JAK				*e*S	**Sn**	**20 32 54.5**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.00**	**354**	*d i*PN	**Pn**	**20 32 43.7**	**+0.1**
YUK				*i* S	**Sn**	**20 32 55.0**	**-1.5**
YUK				pmax	pmax		
	comp=E,139nm,0.1s						
YUK				pmax	pmax		
	comp=N,69nm,0.1s						
YUK				pmax	pmax		
	comp=Z,727nm,0.2s						
YUK				smax	smax		
	comp=N,711nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
JNK	**Nakash**	**1.08**	**301**	P	**Pn**	**20 32 44.3**	**-0.5**
JNK				*e*S	**Sn**	**20 32 56.3**	**-2.3**
JRA	**Rausu**	**1.10**	**325**	P	**Pn**	**20 32 45.0**	**-0.1**
JRA				*e*S	**Sn**	**20 32 57.7**	**-1.3**
JOB	**Onbets**	**1.60**	**266**	P	**Pn**	**20 32 52.0**	**+0.2**
JOB				*e*S	**Sn**	**20 33 10.9**	**-0.3**
JAR	**Ashorobuto**	**1.65**	**280**	P	**Pn**	**20 32 52.8**	**+0.2**
JAR				*e*S	**Sn**	**20 33 11.8**	**-0.8**
JTKR	**Abashiri--Toko**	**1.79**	**302**	P	**Pn**	**20 32 55.1**	**+0.7**
JTKR				*e*S	**Sn**	**20 33 15.1**	**-0.8**
JCH	**Churui**	**1.99**	**259**	P	**Pn**	**20 32 57.2**	**0.0**
JMP	**Maruseppu**	**2.15**	**298**	P	**Pn**	**20 33 00.3**	**+0.8**
JMP				*e*S	**Sn**	**20 33 24.4**	**-0.6**
ASAJ	**Asahikawa**	**2.70**	**295**	Pn	**Pn**	**20 33 08.6**	**+1.6**
	comp=E,8.9nm,0.3s,baz=147,slow=13,SNR=72						
ASAJ				Sn	**Sn**	**20 33 42.2**	**+3.8**
	comp=E,6.2nm,0.3s,baz=116,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**8.83**	**225**	Pn	**Pn**	**20 34 29.8**	**-1.4**
	comp=E,0.1nm,0.3s,baz=46,slow=10,SNR=2.8						
MJAR				Sn	**Sn**	**20 36 10.6**	**+1.1**
	comp=E,0.4nm,0.3s,baz=43,slow=26,SNR=4.6						
SONM	**Songino Array**	**27.98**	**294**	P	**P**	**20 38 14.2**	**+1.2**
	comp=E,0.5nm,0.7s,baz=92,slow=7.8,SNR=5.0						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**20 43 01.6**	**-0.8**
	comp=E,2.2nm,0.8s,baz=37,slow=4.8,SNR=5.9						

IDC 30 20:40:51.1±2.4, 5°51N×124°46E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=249.8km s-min=25.8km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.09**	**159**	P	P	20 46 36.2	+0.3
	3.0nm,0.4s,baz=339,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**30.43**	**163**	P	P	20 47 05.2	-0.4
	0.2nm,0.3s,baz=337,slow=7.9,SNR=7.0						
MKAR	**Makanchi Array**	**54.81**	**326**	P	P	20 50 23.0	-0.1
	0.2nm,0.5s,baz=120,slow=7.9,SNR=6.6						

*ROM **30** 21:07:17.5±0.3, 41.˚85N×15.˚34E, h9km±2km, Ml2.8/31, Error ellipse: s-maj=2.9km s-min=1.5km az=26.0*
*CSEM **30** 21:07:18.2±0.2, 41.˚80N×15.˚29E, h20km, ML3.6/5, Error ellipse: s-maj=3.8km s-min=2.5km az=11.0*

ISC 30 21:07:18.0±0.8, 41°83N±0°02×15°31E±0°02, h15km±6km, n90, σ0s66/107, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG2	**Serracapriola**	**0.12**	**256**	Pg	**Pg**	**21 07 21.6**	**+0.1**
FG2	**Serracapriola**	**0.12**	**256**	Pg	**Pg**	**21 07 21.6**	**+0.1**
MELA	**Melanico ??? S**	**0.19**	**228**	Pg	**Pg**	**21 07 22.6**	**+0.1**
MELA				Sg	**Sb**	**21 07 26.3**	**-0.2**
	2μm,0.2s						
MELA	**Melanico ??? S**	**0.19**	**228**	Pg	**Pg**	**21 07 22.6**	**+0.1**
MELA				Sg	**Sb**	**21 07 26.3**	**-0.2**
	2μm,0.2s						
SGRT	**San Giovanni R**	**0.33**	**103**	Pg	**Pg**	**21 07 24.3**	**-0.6**
SGRT				Sg	**Sg**	**21 07 29.7**	**0.0**
	1μm,0.2s						
SGRT	**San Giovanni R**	**0.33**	**103**	Pg	**Pg**	**21 07 24.3**	**-0.6**
SGRT				Sg	**Sg**	**21 07 29.7**	**0.0**
	1μm,0.2s						
CIGN	**Sant'Elia a Pi**	**0.35**	**240**	Pg	**Pg**	**21 07 25.6**	**+0.3**
	184nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.35**	**240**	Pg	**Pg**	**21 07 25.6**	**+0.3**
	184nm,0.4s						
MSAG	**Monte S. Angel**	**0.46**	**105**	Pg	**Pg**	**21 07 26.8**	**-0.5**
MSAG				Sg	**Sg**	**21 07 34.1**	**+0.5**
	1μm,0.3s						
MSAG	**Monte S. Angel**	**0.46**	**105**	Pg	**Pg**	**21 07 26.8**	**-0.5**
MSAG				Sg	**Sg**	**21 07 34.1**	**+0.5**
	1μm,0.3s						
MOCO	**Biccari - m.te**	**0.48**	**194**	Pg	**Pg**	**21 07 27.4**	**-0.1**
	151nm,0.5s						
MS1	**Monte Sant'Ang**	**0.49**	**105**	*e*Pg	**Pg**	**21 07 27.3**	**-0.5**
MS1				*e*Sg	**Sg**	**21 07 34.6**	**+0.3**
FRES	**Fresagrandinar**	**0.50**	**287**	Pg	**Pg**	**21 07 28.1**	**+0.2**
	813nm,0.4s						
FRES	**Fresagrandinar**	**0.50**	**287**	Pg	**Pg**	**21 07 28.1**	**+0.2**
	813nm,0.4s						
FG5	**Orsara di Pugl**	**0.55**	**183**	Pg	**Pb**	**21 07 29.5**	**+0.1**
	134nm,0.2s						
FG5	**Orsara di Pugl**	**0.55**	**183**	Pg	**Pb**	**21 07 29.5**	**+0.1**
	134nm,0.2s						
TRIV	**Trivento**	**0.57**	**264**	Pg	**Pb**	**21 07 29.7**	**-0.1**
	363nm,0.7s						
TRIV	**Trivento**	**0.57**	**264**	Pg	**Pb**	**21 07 29.7**	**-0.1**
	363nm,0.7s						
BSSO	**Busso**	**0.61**	**242**	Pg	**Pg**	**21 07 30.1**	**+0.1**
	225nm,0.3s						
BSSO	**Busso**	**0.61**	**242**	Pg	**Pg**	**21 07 30.1**	**+0.1**
	225nm,0.3s						
SACR	**S. Croce Del S**	**0.63**	**226**	Pg	**Pg**	**21 07 30.0**	**-0.4**
SACR	**S. Croce Del S**	**0.63**	**226**	Pg	**Pg**	**21 07 30.0**	**-0.4**
IPES	**Pescosannita**	**0.70**	**211**	Pg	**Pg**	**21 07 31.0**	**-0.6**
SGTA	**Sant Agata di**	**0.70**	**177**	Pg	**Pg**	**21 07 31.8**	**+0.1**
	269nm,0.4s						
SGTA	**Sant Agata di**	**0.70**	**177**	Pg	**Pg**	**21 07 31.8**	**+0.1**
	269nm,0.4s						
PSB1	**Pescosannita**	**0.71**	**212**	Pg	**Pg**	**21 07 31.2**	**-0.8**
	180nm,0.7s						
PSB1	**Pescosannita**	**0.71**	**212**	Pg	**Pg**	**21 07 31.2**	**-0.8**
	180nm,0.7s						
MRB1	**Monte Rocchett**	**0.75**	**200**	Pg	**Pg**	**21 07 32.6**	**0.0**
	384nm,0.7s						
MRB1	**Monte Rocchett**	**0.75**	**200**	Pg	**Pg**	**21 07 32.6**	**0.0**
	384nm,0.7s						
PTRJ	**Pietraroja**	**0.75**	**232**	Pg	**Pg**	**21 07 31.7**	**-1.0**
PTRJ				Sg	**Sb**	**21 07 43.9**	**+1.0**
	438nm,0.4s						
PTRJ	**Pietraroja**	**0.75**	**232**	Pg	**Pg**	**21 07 31.7**	**-1.0**
PTRJ				Sg	**Sb**	**21 07 43.9**	**+1.0**
	438nm,0.4s						
CAFE	**Carife**	**0.81**	**184**	Pg	**Pg**	**21 07 33.5**	**-0.2**
CAFE	**Carife**	**0.81**	**184**	Pg	**Pg**	**21 07 33.5**	**-0.2**
MIDA	**Miranda**	**0.81**	**257**	Pg	**Pb**	**21 07 32.9**	**-1.0**
	195nm,0.5s						
MIDA	**Miranda**	**0.81**	**257**	Pg	**Pb**	**21 07 32.9**	**-1.0**
	195nm,0.5s						
LPEL	**Lama dei Pelig**	**0.87**	**285**	Pg	**Pb**	**21 07 34.0**	**-0.8**
	367nm,0.2s						
LPEL	**Lama dei Pelig**	**0.87**	**285**	Pg	**Pb**	**21 07 34.0**	**-0.8**
	367nm,0.2s						
RNI2	**Rionero Sannit**	**0.88**	**262**	Pg	**Pb**	**21 07 34.1**	**-0.9**
RNI2	**Rionero Sannit**	**0.88**	**262**	Pg	**Pb**	**21 07 34.1**	**-0.9**
VAGA	**Valle Agricola**	**0.91**	**243**	Pg	**Pb**	**21 07 34.8**	**-0.7**
VAGA	**Valle Agricola**	**0.91**	**243**	Pg	**Pb**	**21 07 34.8**	**-0.7**
CERA	**Filignano**	**1.00**	**257**	Pg	**Pb**	**21 07 37.0**	**0.0**
	262nm,0.7s						
CERA	**Filignano**	**1.00**	**257**	Pg	**Pb**	**21 07 37.0**	**0.0**
	262nm,0.7s						
PALZ	**Palazzo San Ge**	**1.01**	**151**	Pg	**Pb**	**21 07 36.7**	**-0.5**
	429nm,0.6s						
PALZ	**Palazzo San Ge**	**1.01**	**151**	Pg	**Pb**	**21 07 36.7**	**-0.5**
	429nm,0.6s						
MRVN	**Minervino Murg**	**1.02**	**139**	Pg	**Pb**	**21 07 36.9**	**-0.4**
MRVN				Sg	**Sn**	**21 07 51.8**	**0.0**
	245nm,0.5s						
MRVN	**Minervino Murg**	**1.02**	**139**	Pg	**Pb**	**21 07 36.9**	**-0.4**
MRVN				Sg	**Sn**	**21 07 51.8**	**0.0**
	245nm,0.5s						
CDT	**Castel del Mon**	**1.04**	**136**	*e*Pg	**Pb**	**21 07 37.5**	**-0.2**
CDT				*e*Sg	**Sn**	**21 07 52.4**	**0.0**
MCRV	**Calabrutti - M**	**1.05**	**186**	Pg	**Pb**	**21 07 37.5**	**-0.5**
	232nm,0.4s						
MCRV	**Calabrutti - M**	**1.05**	**186**	Pg	**Pb**	**21 07 37.5**	**-0.5**
	232nm,0.4s						
INTR	**Introdacqua**	**1.06**	**280**	Pg	**Pb**	**21 07 36.8**	**-1.4**
	399nm,0.6s						
INTR	**Introdacqua**	**1.06**	**280**	Pg	**Pb**	**21 07 36.8**	**-1.4**
	399nm,0.6s						
MRLC	**Muro Lucano**	**1.08**	**173**	Pg	**Pb**	**21 07 38.4**	**-0.1**
	137nm,0.5s						
MRLC	**Muro Lucano**	**1.08**	**173**	Pg	**Pb**	**21 07 38.4**	**-0.1**
	137nm,0.5s						
RFI	**Roccamonfina**	**1.13**	**242**	Pg	**Pg**	**21 07 40.8**	**+1.0**
	11nm,0.6s						
RFI	**Roccamonfina**	**1.13**	**242**	Pg	**Pg**	**21 07 40.8**	**+1.0**
	11nm,0.6s						
SDI	**San Donato**	**1.13**	**264**	Pg	**Pb**	**21 07 38.6**	**-0.7**
	42nm,0.2s						
SDI	**San Donato**	**1.13**	**264**	Pg	**Pb**	**21 07 38.6**	**-0.7**
	42nm,0.2s						
ACER	**Acerenza**	**1.15**	**155**	Pg	**Pg**	**21 07 40.2**	**0.0**
	665nm,0.8s						
ACER	**Acerenza**	**1.15**	**155**	Pg	**Pg**	**21 07 40.2**	**0.0**
	665nm,0.8s						
POFI	**Posta Fibreno**	**1.20**	**265**	Pg	**Pn**	**21 07 40.0**	**-0.3**
	78nm,0.7s						
POFI	**Posta Fibreno**	**1.20**	**265**	Pg	**Pn**	**21 07 40.0**	**-0.3**
	78nm,0.7s						
VCEL	**Villa Celiera**	**1.23**	**298**	Pg	**Pg**	**21 07 41.9**	**+0.2**
	264nm,0.5s						
VCEL	**Villa Celiera**	**1.23**	**298**	Pg	**Pg**	**21 07 41.9**	**+0.2**
	264nm,0.5s						
VVLD	**Villa Vallelon**	**1.26**	**272**	Pg	**Pn**	**21 07 40.1**	**-1.1**
	194nm,0.5s						
VVLD	**Villa Vallelon**	**1.26**	**272**	Pg	**Pn**	**21 07 40.1**	**-1.1**
	194nm,0.5s						
AMUR	**Altamura**	**1.34**	**133**	Pg	**Pn**	**21 07 41.7**	**-0.5**
	321nm,0.3s						
AMUR	**Altamura**	**1.34**	**133**	Pg	**Pn**	**21 07 41.7**	**-0.5**
	321nm,0.3s						
CDRU	**Civita di Ruta**	**1.34**	**180**	Pg	**Pb**	**21 07 42.7**	**-0.2**
	47nm,0.2s						
CDRU	**Civita di Ruta**	**1.34**	**180**	Pg	**Pb**	**21 07 42.7**	**-0.2**
	47nm,0.2s						
BAI	**Bari**	**1.38**	**121**	*e*Pg	**Pb**	**21 07 43.7**	**+0.2**
BAI				*e*Sg	**Sg**	**21 08 02.9**	**+0.3**
MIGL	**Miglionico**	**1.49**	**145**	Pg	**Pn**	**21 07 44.1**	**-0.2**
	405nm,0.2s						
MIGL	**Miglionico**	**1.49**	**145**	Pg	**Pn**	**21 07 44.1**	**-0.2**
	405nm,0.2s						
MATE	**Matera**	**1.58**	**138**	Pg	**Pn**	**21 07 45.1**	**-0.3**
	275nm,0.2s						
MATE	**Matera**	**1.58**	**138**	Pg	**Pn**	**21 07 45.1**	**-0.3**
	275nm,0.2s						
NOCI	**Noci**	**1.68**	**128**	Pg	**Pn**	**21 07 46.4**	**-0.5**
	237nm,0.2s						
NOCI	**Noci**	**1.68**	**128**	Pg	**Pn**	**21 07 46.4**	**-0.5**
	237nm,0.2s						
CERT	**Cerreto**	**1.74**	**275**	Pg	**Pb**	**21 07 49.3**	**-0.4**
	80nm,0.6s						
CERT	**Cerreto**	**1.74**	**275**	Pg	**Pb**	**21 07 49.3**	**-0.4**
	80nm,0.6s						
FDMO	**Fiordimonte**	**2.04**	**307**	Pg	**Pb**	**21 07 53.5**	**-1.3**
	77nm,1.0s						
FDMO	**Fiordimonte**	**2.04**	**307**	Pg	**Pb**	**21 07 53.5**	**-1.3**
	77nm,1.0s						
STON	**Ston**	**2.05**	**59**	*e*Pn	**Pn**	**21 07 52.6**	**+0.7**
STON				Sn	**Sb**	**21 08 19.5**	**-0.7**
STON	**Ston**	**2.05**	**59**	*e*Pn	**Pn**	**21 07 52.6**	**+0.7**
STON				Sn	**Sb**	**21 08 19.5**	**-0.7**
CESI	**CESI - Serrava**	**2.13**	**304**	Pg	**Pb**	**21 07 55.1**	**-1.3**
CESI	**CESI - Serrava**	**2.13**	**304**	Pg	**Pb**	**21 07 55.1**	**-1.3**
NVLJ	**Novalja**	**2.75**	**353**	*e*Pn	**Pn**	**21 08 02.0**	**+0.4**
NVLJ				Sn	**Sn**	**21 08 35.4**	**+1.0**
NVLJ	**Novalja**	**2.75**	**353**	*e*Pn	**Pn**	**21 08 01.9**	**+0.4**
NVLJ				Sn	**Sn**	**21 08 35.4**	**+1.0**
GRUS	**Gruza**	**4.47**	**61**	*e*Pn	**Pn**	**21 08 27.1**	**+1.9**
SELS	**Selova**	**4.51**	**70**	*e*Pn	**Pn**	**21 08 24.7**	**-1.1**
ZAPS	**Zavoj**	**5.60**	**73**	*e*Pn	**Pn**	**21 08 42.4**	**+1.7**

IDC 30 21:08:24.2±7.5, 13°09S×75°93W, h92km±84km, mb3.2/2, mb1 3.3/3, mb1mx3.1/20, mbtmp3.1/3, ML3.6/1, Error ellipse: s-maj=374.9km s-min=60.0km az=27.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.19**	**114**	P	Pn	21 10 20.8	-0.2
	0.3nm,0.3s,baz=283,slow=8.5,SNR=6.3						
YKA	**Yellowknife Ar**	**81.15**	**343**	P	P	21 20 29.1	-0.2
	0.1nm,0.4s,baz=147,slow=5.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.22**	**74**	P	P	21 20 30.6	-0.1
	0.4nm,0.6s,baz=248,slow=5.2,SNR=4.2						
SONM	**Songino Array**	**145.31**	**357**	PKPbc	PKPbc	21 27 51.0	-0.5
	0.3nm,0.6s,baz=11,slow=2.9,SNR=3.6						

*ISK **30** 21:19:30.8, 38.˚78N×30.˚41E, h5km, MD3.3*
*DDA **30** 21:19:31.3, 38.˚80N×30.˚41E, h7km, MD3.5, ML3.5*
*CSEM **30** 21:19:32.2±0.1, 38.˚78N×30.˚41E, h2km, MD3.3, Error ellipse: s-maj=2.0km s-min=2.0km az=88.0*

ISC 30 21:19:31.9±0.9, 38.˚77N±0.˚02×30.˚44E±0.˚02, h12km±8km, n115, σ1s29/127, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.23**	**159**	*e*PG	**Pg**	**21 19 37.1**	**+0.2**
SHUT				*e*SG	**Sg**	**21 19 41.1**	**+0.7**
SHUT	**Suhut-Afyon**	**0.23**	**159**	*e*Pg	**Pg**	**21 19 37.1**	**+0.2**
SHUT				*e*Sg	**Sg**	**21 19 41.1**	**+0.7**
ALT	**Altintas**	**0.38**	**317**	*e*PG	**Pg**	**21 19 39.1**	**-0.5**
ALT				*e*SG	**Sg**	**21 19 44.4**	**-0.4**
ALT	**Altintas**	**0.38**	**317**	*e*Pg	**Pg**	**21 19 39.1**	**-0.5**
ALT				*e*Sg	**Sg**	**21 19 44.4**	**-0.4**
BOLV	**Bolvadin**	**0.40**	**98**	*i* P	**Pb**	**21 19 40.5**	**-0.4**
BOLV				*i* S	**Sb**	**21 19 46.1**	**-1.0**
BOLV	**Bolvadin**	**0.40**	**98**	*i* P	**Pb**	**21 19 40.5**	**-0.4**
BOLV				*i* S	**Sb**	**21 19 46.1**	**-1.0**
ESKT	**Eskisehir**	**0.81**	**23**	*e*PG	**Pg**	**21 19 47.2**	**-0.5**
ESKT	**Eskisehir**	**0.81**	**23**	*e*Pg	**Pg**	**21 19 47.2**	**-0.5**
SEYT	**Eskypehyr**	**0.81**	**23**	*i* P	**Pg**	**21 19 47.1**	**-0.5**
SEYT				*i* S	**Sg**	**21 19 57.7**	**-0.5**
SEYT	**Eskypehyr**	**0.81**	**23**	*i* P	**Pg**	**21 19 47.1**	**-0.5**
SEYT				*i* S	**Sg**	**21 19 57.7**	**-0.5**
KHAL	**Karahalli**	**0.85**	**242**	*i* P	**Pg**	**21 19 47.5**	**-0.8**
KHAL				*i* S	**Sg**	**21 19 57.9**	**-1.5**
KHAL	**Karahalli**	**0.85**	**242**	*i* P	**Pg**	**21 19 47.5**	**-0.8**
KHAL				*i* S	**Sg**	**21 19 57.9**	**-1.5**
KHL	**Karahalli**	**0.85**	**238**	*e*PG	**Pg**	**21 19 47.6**	**-0.7**
KHL	**Karahalli**	**0.85**	**238**	*e*Pg	**Pg**	**21 19 47.6**	**-0.7**
TVSB	**Tavsanli**	**1.02**	**312**	*e*PG	**Pb**	**21 19 50.9**	**-0.6**
TVSB	**Tavsanli**	**1.02**	**312**	*e*Pg	**Pb**	**21 19 50.9**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.08**	**51**	*e*PN	**Pb**	**21 19 52.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.08**	**51**	*e*Pn	**Pb**	**21 19 52.2**	**-0.3**
BORA	**Eskisehir**	**1.11**	**0**	*i* P	**Pg**	**21 19 52.4**	**-0.8**
BORA				*i* S	**Sb**	**21 20 07.7**	**+0.3**
BORA	**Eskisehir**	**1.11**	**0**	*i* P	**Pg**	**21 19 52.4**	**-0.8**
BORA				*i* S	**Sb**	**21 20 07.7**	**+0.3**
KIZT	**Kizilcal**	**1.13**	**84**	*e*PN	**Pn**	**21 19 54.2**	**+0.6**
KIZT	**Kizilcal**	**1.13**	**84**	*e*Pn	**Pn**	**21 19 54.2**	**+0.6**
BCK	**Bucak**	**1.31**	**175**	*e*PN	**Pn**	**21 19 56.8**	**+0.7**
BCK	**Bucak**	**1.31**	**175**	*e*Pn	**Pn**	**21 19 56.8**	**+0.7**
KULA	**Kula-Manisa**	**1.42**	**260**	*e*PN	**Pb**	**21 19 58.5**	**+0.2**
KULA	**Kula-Manisa**	**1.42**	**260**	*e*Pn	**Pb**	**21 19 58.5**	**+0.2**
CAVI	**Cavuskoy**	**1.50**	**342**	*e*PN	**Pg**	**21 19 59.9**	**-0.8**
CAVI	**Cavuskoy**	**1.50**	**342**	*e*Pn	**Pg**	**21 19 59.9**	**-0.8**
DENT	**Denizli**	**1.51**	**228**	*e*PN	**Pg**	**21 19 59.9**	**-0.9**
DENT	**Denizli**	**1.51**	**228**	*e*Pn	**Pg**	**21 19 59.9**	**-0.9**
GPA	**Golpazari**	**1.52**	**356**	*e*PN	**Pg**	**21 20 00.3**	**-0.7**
GPA	**Golpazari**	**1.52**	**356**	*e*Pn	**Pg**	**21 20 00.3**	**-0.7**
LADK	**Ladik-KONYA**	**1.61**	**110**	*e*PN	**Pg**	**21 20 02.3**	**-0.5**
LADK	**Ladik-KONYA**	**1.61**	**110**	*e*Pn	**Pg**	**21 20 02.3**	**-0.5**
DST	**Dursunbey**	**1.64**	**301**	*e*PN	**Pb**	**21 20 01.9**	**-0.2**
DST	**Dursunbey**	**1.64**	**301**	*e*Pn	**Pb**	**21 20 01.9**	**-0.2**
GULT	**Gulveren**	**1.66**	**2**	*e*PN	**Pb**	**21 20 02.4**	**0.0**
GULT	**Gulveren**	**1.66**	**2**	*e*Pn	**Pb**	**21 20 02.4**	**0.0**
KONT	**Konya--Tatoy**	**1.72**	**118**	*e*PN	**Pb**	**21 20 03.5**	**+0.1**
KONT	**Konya--Tatoy**	**1.72**	**118**	*e*Pn	**Pb**	**21 20 03.5**	**+0.1**
ORLT	**Orhaneli**	**1.75**	**317**	*e*PN	**Pb**	**21 20 03.4**	**-0.5**
ORLT	**Orhaneli**	**1.75**	**317**	*e*Pn	**Pb**	**21 20 03.4**	**-0.5**
MDUB	**Mudurnu**	**1.79**	**19**	*e*PN	**Pb**	**21 20 04.5**	**-0.2**
MDUB	**Mudurnu**	**1.79**	**19**	*e*Pn	**Pb**	**21 20 04.5**	**-0.2**
ANTB	**Antalya**	**1.88**	**175**	*e*PN	**Pb**	**21 20 05.7**	**-0.3**
ANTB	**Antalya**	**1.88**	**175**	*e*Pn	**Pb**	**21 20 05.7**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.91**	**357**	*e*PN	**Pb**	**21 20 06.3**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.91**	**357**	*e*Pn	**Pb**	**21 20 06.3**	**-0.4**
GEMT	**Gemlik**	**1.92**	**330**	*e*PN	**Pb**	**21 20 06.1**	**-0.7**
GEMT	**Gemlik**	**1.92**	**330**	*e*Pn	**Pb**	**21 20 06.1**	**-0.7**
YLV	**Yalova**	**1.97**	**336**	*e*PN	**Pb**	**21 20 06.9**	**-0.8**
YLV	**Yalova**	**1.97**	**336**	*e*Pn	**Pb**	**21 20 06.9**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.00**	**323**	*e*PN	**Pb**	**21 20 07.1**	**-1.0**
MDNY	**Mudanya-Bursa**	**2.00**	**323**	*e*Pn	**Pb**	**21 20 07.1**	**-1.0**
AKS	**

*ECX **30** 21:28:03.9±0.7, 33°.25N×116°.76W, h14km, MD2.9, ML3.1*
*NEIC **30** 21:28:04.2, 33°.23N×116°.76W, h6km, ML2.9(PAS), After PAS.*
NEIC Felt [II] at Ramona and Valley Center. Also felt at Desert Hot Springs, El Cajon, Oceanside, Placentia, Poway, San Diego, Santa Ysabel and Warner Springs.

ISC 30 21:28:03.2±0.9, 33°.21N±0°.02×116°.78W±0°.02, h13km±8km, n31, σ1°.05/58, 13C-13D, Southern California

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
PLM	**Palomar**	**0.16**	**334**	⇓	*iP*	**Pg**	**21 28 07.4**	**+0.2**
EML	**El Monte Cty P**	**0.32**	**190**	⇓	*iP*	**Pb**	**21 28 10.4**	**-0.3**
EML					*eS*	**Sb**	**21 28 15.4**	**-0.4**
109C	**Camp Elliot, M**	**0.42**	**221**		P	**Pb**	**21 28 12.5**	**+0.1**
	baz=0.4,SNR=72							
109C				⇓	S	**Sb**	**21 28 18.5**	**-0.1**
	baz=0.4							
MONP	**Monument Peak**	**0.44**	**136**	⇓	P	**Pg**	**21 28 12.4**	**+0.4**
	baz=0.4,SNR=878							
MONP				⇓	S	**Sg**	**21 28 18.6**	**+0.7**
	baz=0.4							
PFO	**Pinyon Flat Ob**	**0.48**	**34**		*eP*	**Pg**	**21 28 12.7**	**0.0**
PFO					*eS*	**Sg**	**21 28 18.0**	**-1.3**
PFO	**Pinyon Flat Ob**	**0.48**	**34**		P	**Pg**	**21 28 12.9**	**+0.1**
	baz=0.5,SNR=394							
PFO				⇓	S	**Sg**	**21 28 18.7**	**-0.6**
	baz=0.5							
MURC	**Murrieta**	**0.53**	**318**		P	**Pb**	**21 28 13.9**	**-0.4**
	baz=0.5,SNR=118							
MURC				⇑	S	**Sb**	**21 28 21.4**	**-0.4**
	baz=0.5							
BAR	**Barrett**	**0.53**	**170**		*eP*	**Pg**	**21 28 14.0**	**+0.3**
BAR					*eS*	**Sg**	**21 28 20.8**	**0.0**
BAR	**Barrett**	**0.53**	**170**	⇑	*iP*	**Pb**	**21 28 14.4**	**0.0**
DVTC	**Desert V Tower**	**0.79**	**134**		P	**Pb**	**21 28 18.9**	**+0.1**
	baz=0.8,SNR=212							
DVTC				⇓	S	**Sb**	**21 28 29.4**	**0.0**
	baz=0.8							
RMX	**La Rumorosa**	**0.84**	**135**		*eP*	**Pg**	**21 28 19.6**	**+0.1**
RMX					*eS*	**Sg**	**21 28 30.9**	**+0.2**
CBX	**Cerro Bola**	**0.90**	**174**		*eP*	**Pg**	**21 28 20.4**	**-0.1**
CBX					*eS*	**Sb**	**21 28 32.8**	**+0.2**
CBX					*e*		21 28 36.0	
	comp=N,1μm,0.5s							
BELC	**Belle Mtn. Jos**	**1.02**	**39**	⇑	P	**Pb**	**21 28 22.6**	**-0.3**
	baz=1.0,SNR=48							
BELC				⇑	S	**Sb**	**21 28 35.8**	**-0.5**
	baz=1.0							
BBRC	**Big Bear Solar**	**1.06**	**354**	⇑	P	**Pb**	**21 28 23.5**	**0.0**
	baz=1.0,SNR=14							
BBRC				⇑	S	**Sb**	**21 28 37.2**	**-0.1**
	baz=1.0							
BC3	**Big Chuckawall**	**1.20**	**68**	⇑	P	**Pn**	**21 28 25.0**	**-0.7**
	baz=1.2,SNR=37							
BC3				⇓	S	**Sb**	**21 28 40.2**	**-1.0**
	baz=1.2							
BFSC	**Mount Baldy Ra**	**1.26**	**325**	⇑	P	**Pn**	**21 28 26.1**	**-0.5**
	baz=1.3,SNR=16							
BFSC				⇓	S	**Sb**	**21 28 42.8**	**-0.3**
	baz=1.3							
CIS	**Catalina Islan**	**1.37**	**279**		P	**Pn**	**21 28 28.1**	**0.0**
	baz=1.4,SNR=58							
CIS				⇑	S	**Sg**	**21 28 46.8**	**-0.7**
	baz=1.4							
RDX	**Rancho Dawling**	**1.46**	**151**		*e*PN	**Pb**	**21 28 30.2**	**0.0**
RDX					*eS*	**Sb**	**21 28 48.9**	**+0.1**
RDX				⇑	*e*		21 28 53.3	
	comp=N,146nm,0.9s							
PBX	**Punta Banda**	**1.46**	**178**		*eP*	**Pn**	**21 28 29.8**	**+0.5**
PBX					*eS*	**Sb**	**21 28 49.0**	**+0.3**
MWC	**Mount Wilson**	**1.47**	**314**		*e*Pn	**Pn**	**21 28 29.8**	**+0.3**
MWC					*e*Sn	**Sb**	**21 28 49.7**	**+0.5**
ECNX	**Esteban Cantu**	**1.55**	**174**		*eP*	**Pb**	**21 28 31.2**	**-0.7**
ECNX					*eP*	Pn	21 28 27.5	-3.1
ECNX					*eS*	**Sn**	**21 28 45.5**	**-5.2**
ECNX					*eS*	**Sb**	**21 28 51.6**	**+0.2**
GLA	**Glamis**	**1.65**	**95**		*e*Pn	**Pn**	**21 28 31.2**	**-0.6**
GLA					*e*Sn	**Sb**	**21 28 55.0**	**+1.0**
GLA	**Glamis**	**1.65**	**95**	⇓	P	**Pn**	**21 28 31.3**	**-0.5**
	baz=1.6							
IRM	**Iron Mountain**	**1.66**	**55**	⇑	P	**Pn**	**21 28 31.7**	**-0.3**
	baz=1.6,SNR=70							
IRM				⇓	Sb	**Sb**	**21 28 55.2**	**+0.8**
	baz=1.6							
HEC	**Hector,Ludlow**	**1.66**	**13**	⇑	Sb	**Sb**	**21 28 55.4**	**+0.9**
	baz=1.6							
GMRC	**Granite Mounta**	**1.82**	**30**		P	**Pn**	**21 28 34.9**	**+0.5**
	baz=1.8,SNR=11							
GMRC				⇓	Sb	**Sb**	**21 29 00.3**	**+1.0**
	baz=1.8							
EDW2	**Edwards Air Fo**	**1.95**	**329**	⇓	Sb	**Sg**	**21 29 04.3**	**-1.5**
	baz=1.9							
GSC	**Goldstone**	**2.09**	**359**		*e*Pn	**Pn**	**21 28 39.4**	**+1.4**
GSC					*e*Sn	**Sn**	**21 29 04.1**	**+0.2**
BLG	**Laguna Peak**	**2.11**	**296**	⇑	S	**Sn**	**21 29 04.9**	**+0.7**
	baz=2.1							
SPX	**San Pedro Mart**	**2.43**	**152**		*e*PN	**Pn**	**21 28 44.8**	**+1.9**
SPX					*eS*	**Sn**	**21 29 14.9**	**+2.4**
ISA	**Isabella**	**2.82**	**331**		*e*Pn	**Pn**	**21 28 49.4**	**+1.4**
ISA					*e*Pg	**Pg**	**21 28 57.4**	**+0.1**
ISA					*e*Sg	**Sb**	**21 29 30.2**	**+2.3**

*IDC **30** 21:57:14.0±1.4, 42°.30N×12°.99E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/26, mbtmp3.3/5, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx1.9/25, Error ellipse: s-maj=24.7km s-min=15.6km az=92.0*
*ISCJB **30** 21:57:17.5±0.2, 42°.34N±0°.02×13°.36E±0°.02, h16km±2km, mb3.2/2, MS3.4/1, Error ellipse: s-maj=3.0km s-min=2.5km az=37.0*
*ROM **30** 21:57:17.3±0.1, 42°.32N×13°.38E, h10km±1km, MI3.3/39, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0*
*CSEM **30** 21:57:17.3±0.1, 42°.32N×13°.36E, h10km, ML3.9/6, Error ellipse: s-maj=2.4km s-min=2.1km az=52.0*
*PRU **30** 21:57:19.7, 42°.42N×13°.97E, h0km*
*LDG **30** 21:57:19.0±0.2, 42°.28N×13°.30E, h2km, MI3.1/5, Error ellipse: s-maj=7.0km s-min=4.4km az=47.0*
*TIR **30** 21:57:21.5, 42°.24N×14°.28E, h0km, ML4.2*
*VIE **30** 21:57:22.2±0.5, 42°.61N×13°.44E, h10km, mb3.1/9, ML3.2/9, Error ellipse: s-maj=6.2km s-min=4.0km az=94.0 111 km NE of Rome*

ISC 30 21:57:17.6±0.7, 42°.33N±0°.02×13°.37E±0°.02, h15km±4km, n153, σ1°.28/185, 5C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.03**	**45**		Pg	**Pg**	**21 57 19.7**	**-0.8**
AQU					Sg	**Sg**	**21 57 21.2**	**-1.2**
	103μm,0.4s							
AQU	**L'Aquila**	**0.03**	**45**		Pg	**Pg**	**21 57 19.7**	**-0.8**
FAGN	**Fagnano**	**0.17**	**112**		Pg	**Pg**	**21 57 21.5**	**-0.4**
FAGN					Sg	**Sg**	**21 57 24.6**	**-0.2**
	45μm,0.5s							
FAGN	**Fagnano**	**0.17**	**112**		Pg	**Pg**	**21 57 21.5**	**-0.4**
FAGN					Sg	**Sg**	**21 57 24.6**	**-0.2**
	45μm,0.5s							
FIAM	**Fiamignano**	**0.20**	**252**		Pg	**Pg**	**21 57 22.2**	**-0.2**
FIAM					Sg	**Sg**	**21 57 25.5**	**0.0**
FIAM	**Fiamignano**	**0.20**	**252**		Pg	**Pg**	**21 57 22.2**	**-0.2**
FIAM					Sg	**Sg**	**21 57 25.5**	**0.0**
CAMP	**Campotosto**	**0.21**	**8**		Pg	**Pg**	**21 57 22.1**	**-0.4**
CAMP					Sg	**Sg**	**21 57 25.6**	**-0.2**
	2μm,0.4s							
CAMP	**Campotosto**	**0.21**	**8**		Pg	**Pg**	**21 57 22.1**	**-0.4**
CAMP					Sg	**Sg**	**21 57 25.6**	**-0.2**
	2μm,0.4s							
PTQR	**Pietraquaria**	**0.31**	**176**		Pg	**Pg**	**21 57 23.8**	**-0.4**
PTQR	**Pietraquaria**	**0.31**	**176**		Pg	**Pg**	**21 57 23.8**	**-0.4**
TERO	**Teramo**	**0.34**	**30**		Pg	**Pg**	**21 57 24.0**	**-0.7**
TERO					Sg	**Sb**	**21 57 30.1**	**-0.5**
	8μm,0.6s							
TERO	**Teramo**	**0.34**	**30**		Pg	**Pg**	**21 57 24.0**	**-0.7**
TERO					Sg	**Sb**	**21 57 30.1**	**-0.5**
	8μm,0.6s							
VCEL	**Villa Celiera**	**0.35**	**79**		Pg	**Pg**	**21 57 24.5**	**-0.5**
VCEL					Sg	**Sb**	**21 57 31.6**	**+0.5**
VCEL	**Villa Celiera**	**0.35**	**79**		Pg	**Pg**	**21 57 24.5**	**-0.5**
VCEL					Sg	**Sb**	**21 57 31.6**	**+0.5**
CERT	**Cerreto**	**0.48**	**217**		Pg	**Pg**	**21 57 26.8**	**-0.4**
CERT					Sg	**Sg**	**21 57 33.5**	**-0.1**
	6μm,0.6s							
VVLD	**Villa Vallelon**	**0.50**	**158**		Pg	**Pg**	**21 57 26.7**	**-0.8**
	3μm,0.6s							
VVLD	**Villa Vallelon**	**0.50**	**158**		Pg	**Pg**	**21 57 26.7**	**-0.8**
	3μm,0.6s							
INTR	**Introdacqua**	**0.51**	**129**		Pg	**Pg**	**21 57 27.1**	**-0.7**
INTR					Sg	**Sb**	**21 57 35.3**	**-0.2**
	2μm,0.3s							
INTR	**Introdacqua**	**0.51**	**129**		Pg	**Pg**	**21 57 27.1**	**-0.7**
INTR					Sg	**Sb**	**21 57 35.3**	**-0.2**
	2μm,0.3s							
GUAR	**Guarcino**	**0.54**	**185**		Pg	**Pg**	**21 57 27.6**	**-0.7**
	2μm,0.5s							
GUAR	**Guarcino**	**0.54**	**185**		Pg	**Pg**	**21 57 27.6**	**-0.7**
	2μm,0.5s							
NRCA	**Norcia**	**0.54**	**339**		Pg	**Pg**	**21 57 27.9**	**-0.4**
NRCA					Sg	**Sb**	**21 57 36.6**	**+0.2**
	1μm,0.4s							
NRCA	**Norcia**	**0.54**	**339**		Pg	**Pg**	**21 57 27.9**	**-0.4**
NRCA					Sg	**Sb**	**21 57 36.6**	**+0.2**
	1μm,0.4s							
MTCE	**Montecelio**	**0.56**	**237**		Pg	**Pg**	**21 57 28.2**	**-0.5**
	1μm,0.4s							
MTCE	**Montecelio**	**0.56**	**237**		Pg	**Pg**	**21 57 28.2**	**-0.5**
	1μm,0.4s							
TRTR	**Tortoreto Alta**	**0.62**	**40**		Pg	**Pb**	**21 57 30.4**	**+0.2**
	8μm,0.6s							
TRTR	**Tortoreto Alta**	**0.62**	**40**		Pg	**Pb**	**21 57 30.4**	**+0.2**
	8μm,0.6s							
OFFI	**Offida**	**0.65**	**21**		Pg	**Pb**	**21 57 30.5**	**-0.1**
	9μm,0.6s							
OFFI	**Offida**	**0.65**	**21**		Pg	**Pb**	**21 57 30.5**	**-0.1**
	9μm,0.6s							
POFI	**Posta Fibreno**	**0.66**	**157**		Pg	**Pg**	**21 57 29.9**	**-0.7**
	1μm,0.5s							
POFI	**Posta Fibreno**	**0.66**	**157**		Pg	**Pg**	**21 57 29.9**	**-0.7**
	1μm,0.5s							
LPEL	**Lama dei Pelig**	**0.67**	**115**		Pg	**Pg**	**21 57 29.5**	**-1.2**
LPEL					Sg	**Sb**	**21 57 39.9**	**-0.1**
LPEL	**Lama dei Pelig**	**0.67**	**115**		Pg	**Pg**	**21 57 29.5**	**-1.2**
LPEL					Sg	**Sb**	**21 57 39.9**	**-0.1**
SDI	**San Donato**	**0.70**	**152**		Pg	**Pg**	**21 57 30.1**	**-1.3**
SDI	**San Donato**	**0.70**	**152**		Pg	**Pg**	**21 57 30.1**	**-1.3**
CAFR	**Castel Frentan**	**0.73**	**98**		Pg	**Pg**	**21 57 31.1**	**-0.8**
	3μm,0.4s							
CAFR	**Castel Frentan**	**0.73**	**98**		Pg	**Pg**	**21 57 31.1**	**-0.8**
	3μm,0.4s							
FDMO	**Fiordimonte**	**0.74**	**344**		Pg	**Pg**	**21 57 31.2**	**-0.8**
	574nm,0.3s							
FDMO	**Fiordimonte**	**0.74**	**344**		Pg	**Pg**	**21 57 31.2**	**-0.8**
	574nm,0.3s							
RDP	**Rocca di Papa**	**0.75**	**221**		Pg	**Pg**	**21 57 31.5**	**-0.8**
	4μm,0.7s							
RDP	**Rocca di Papa**	**0.75**	**221**		Pg	**Pg**	**21 57 31.5**	**-0.8**
	4μm,0.7s							
CESI	**CESI - Serrava**	**0.76**	**333**		Pg	**Pg**	**21 57 31.8**	**-0.6**
	401nm,0.7s							
CESI	**CESI - Serrava**	**0.76**	**333**		Pg	**Pg**	**21 57 31.8**	**-0.6**
	401nm,0.7s							
LAV9	**Lanuvio**	**0.82**	**218**		Pg	**Pg**	**21 57 32.3**	**-1.3**
	2μm,0.3s							
LAV9	**Lanuvio**	**0.82**	**218**		Pg	**Pg**	**21 57 32.3**	**-1.3**
	2μm,0.3s							
GUMA	**Gualdo di Mace**	**0.84**	**29**		Pg	**Pg**	**21 57 31.7**	**-2.3**
	3μm,0.5s							
GUMA	**Gualdo di Mace**	**0.84**	**29**		Pg	**Pg**	**21 57 31.7**	**-2.3**
	3μm,0.5s							
CERA	**Filignano**	**0.88**	**146**		Pg	**Pg**	**21 57 33.7**	**-1.0**
	1μm,0.6s							
CERA	**Filignano**	**0.88**	**146**		Pg	**Pg**	**21 57 33.7**	**-1.0**
	1μm,0.6s							
MIDA	**Miranda**	**0.95**	**136**		Pg	**Pg**	**21 57 34.4**	**-1.7**
	886nm,0.9s							
MIDA	**Miranda**	**0.95**	**136**		Pg	**Pg**	**21 57 34.4**	**-1.7**
	886nm,0.9s							
CING	**Cingoli**	**1.05**	**353**		Pg	**Pb**	**21 57 36.9**	**-0.6**
	540nm,0.6s							
CING	**Cingoli**	**1.05**	**353**		Pg	**Pb**	**21 57 36.9**	**-0.6**
	540nm,0.6s							
TOLF	**Tolfa**	**1.05**	**256**		Pg	**Pg**	**21 57 37.7**	**-0.3**
	299nm,0.6s							
TOLF	**Tolfa**	**1.05**	**256**		Pg	**Pg**	**21 57 37.7**	**-0.3**
	299nm,0.6s							
MGAB	**Montegabbione**	**1.10**	**302**		Pg	**Pb**	**21 57 38.4**	**+0.1**
	2μm,1.0s							
MGAB	**Montegabbione**	**1.10**	**302**		Pg	**Pb**	**21 57 38.4**	**+0.1**
	2μm,1.0s							
MURB	**Monte Urbino**	**1.12**	**327**		Pg	**Pb**	**21 57 38.6**	**-0.1**
	3μm,0.9s							
MURB	**Monte Urbino**	**1.12**	**327**		Pg	**Pb**	**21 57 38.6**	**-0.1**
	3μm,0.9s							
LATE	**Laterza**	**1.19**	**284**		Pg	**Pg**	**21 57 40.7**	**+0.1**
	122nm,1.1s							
LATE	**Laterza**	**1.19**	**284**		Pg	**Pg**	**21 57 40.7**	**+0.1**
	122nm,1.1s							
ARVD	**Arcevia**	**1.21**	**345**		Pg	**Pn**	**21 57 39.8**	**-0.2**
	481nm,0.7s							
ARVD	**Arcevia**	**1.21**	**345**		Pg	**Pn**	**21 57 39.8**	**-0.2**
	481nm,0.7s							
AOI	**Ancona**	**1.23**	**8**		Pg	**Pb**	**21 57 40.8**	**+0.2**
	667nm,0.9s							
AOI	**Ancona**	**1.23**	**8**		Pg	**Pb**	**21 57 40.8**	**+0.2**
	667nm,0.9s							
MODR	**Mondragone**	**1.24**	**162**		Pg	**Pg**	**21 57 41.4**	**-0.2**
	111nm,0.7s							
MODR	**Mondragone**	**1.24**	**162**		Pg	**Pg**	**21 57 41.4**	**-0.2**
	111nm,0.7s							
PIEI	**Pieia**	**1.35**	**333**		Pg	**Pb**	**21 57 42.7**	**0.0**
	215nm,0.4s							
PIEI	**Pieia**	**1.35**	**333**		Pg	**Pb**	**21 57 42.7**	**0.0**
	215nm,0.4s							
ARCI	**Arcidosso**	**1.49**	**291**		Pg	**Pg**	**21 57 45.8**	**-0.6**
	144nm,1.1s							
ARCI	**Arcidosso**	**1.49**	**291**		Pg	**Pg**	**21 57 45.8**	**-0.6**
	144nm,1.1s							
PARC	**Parchiule**	**1.56**	**328**		Pg	**Pb**	**21 57 46.3**	**+0.2**
	499nm,0.9s							
PARC	**Parchiule**	**1.56**	**328**		Pg	**Pb**	**21 57 46.3**	**+0.2**
	499nm,0.9s							
MAON	**Monte Argentar**	**1.66**	**274**		Pg	**Pn**	**21 57 46.8**	**+0.6**
	96nm,0.7s							
MAON	**Monte Argentar**	**1.66**	**274**		Pg	**Pn**	**21 57 46.8**	**+0.6**
	96nm,0.7s							
SGRT	**San Giovanni R**	**1.86**	**107**		Pg	**Pb**	**21 57 51.0**	**-0.3**
	238nm,0.7s							
CAFE	**Carife**	**1.91**	**132**		Pg	**Pb**	**21 57 51.7**	**-0.5**
SGTA	**Sant Agata di**	**1.91**	**128**		Pg	**Pg**	**21 57 52.9**	**-1.4**
MSAG	**Monte S. Angel**	**1.99**	**107**		Pg	**Pb**	**21 57 53.0**	**-0.5**
	278nm,0.7s							
MS1	**Monte Sant'Ang**	**2.02**	**107**		*e*Pn	**Pb**	**21 57 53.1**	**-0.9**
MCRV	**Calabrutti - M**	**2.05**	**138**		Pg	**Pn**	**21 57 52.9**	**+1.3**
	76nm,0.8s							
MCRV	**Calabrutti - M**	**2.05**	**138**		Pg	**Pn**	**21 57 52.9**	**+1.3**
	76nm,0.8s							
NVLJ	**Novalja**	**2.48**	**26**		*e*Pn	**Pn**	**21 57 58.5**	**+1.0**
NVLJ					Sn	**Sn**	**21 58 28.5**	**+1.0**
NVLJ	**Novalja**	**2.48**	**26**		*e*Pn	**Pn**	**21 57 58.4**	**+1.0**
NVLJ					Sn	**Sn**	**21 58 28.4**	**+1.0**
CDT	**Castel del Mon**	**2.51**	**119**		*e*Pn	**Pn**	**21 57 59.7**	**+1.9**
BAI	**Bari**	**2.90**	**114**		*e*Pn	**Pn**	**21 58 05.2**	**+2.1**
STON	**Ston**	**3.24**	**79**		*e*Pn	**Pn**	**21 58 09.1**	**+1.2**
STON					Sn	**Sn**	**21 58 45.5**	**-0.6**
STON	**Ston**	**3.24**	**79**		*e*Pn	**Pn**	**21 58 09.1**	**+1.2**
STON					Sn	**Sn**	**21 58 45.5**	**-0.6**
PGF	**Pioggiola**	**3.24**	**275**		*e*Pn	**Pn**	**21 58 09.1**	**+1.1**
PGF					*e*Sn	**Sn**	**21 58 44.4**	**-2.0**
	18nm,0.7s							
PGF	**Pioggiola**	**3.24**	**275**		*e*Pn	**Pn**	**21 58 09.1**	**+1.1**
PGF					*e*Sn	**Sn**	**21 58 44.4**	**-2.0**
	8.9nm,0.7s							
CTI	**Castel Tesino**	**3.92**	**342**		Pg	**Pn**	**21 58 19.1**	**+1.8**
	30nm,0.5s							
CTI	**Castel Tesino**	**3.92**	**342**		Pg	**Pn**	**21 58 19.1**	**+1.8**
	30nm,0.5s							
MABI	**Malga Bissina**	**4.25**	**332**		Pg	**Pn**	**21 58 23.5**	**+1.5**
	56nm,2.2s							
MABI	**Malga Bissina**	**4.25**	**332**		Pg	**Pn**	**21 58 23.5**	**+1.5**
	56nm,2.2s							
MYKA	**Terra Mystica**	**4.30**	**2**	⇓	*i*Pn	**Pn**	**21 58 24.0**	**+1.4**
MYKA				⇓	*i*Sn	**Sn**	**21 59 12.6**	**+0.2**
MYKA	**Terra Mystica**	**4.30**	**2**		Pn	**Pn**	**21 58 24.0**	**+1.4**
MYKA					Sn	**Sn**	**21 59 12.6**	**+0.2**
APPI	**Appiano**	**4.42**	**340**		Pg	**Pn**	**21 58 26.6**	**+2.4**
	19nm,0.4s							
APPI	**Appiano**	**4.42**	**340**		Pg	**Pn**	**21 58 26.6**	**+2.4**
	19nm,0.4s							
ABTA	**Abfaltersbach**	**4.46**	**352**	⇑	*i*Pn	**Pn**	**21 58 26.6**	**+1.9**
ABTA	**Abfaltersbach**	**4.46**	**352**		Pn	**Pn**	**21 58 26.6**	**+1.9**
SBF	**Sospel**	**4.61**	**291**		*e*Pn	**Pn**	**21 58 27.6**	**+0.9**
SBF	**Sospel**	**4.61**	**291**		*e*Pn	**Pn**	**21 58 27.6**	**+0.9**
KBA	**Koelnbreinsper**	**4.75**	**360**	⇑	*i*Pn	**Pn**	**21 58 30.5**	**+1.8**
KBA				⇓	*i*Sn	**Sn**	**21 59 23.4**	**-0.2**
KBA	**Koelnbreinsper**	**4.75**	**360**		Pn	**Pn**	**21 58 30.5**	**+1.8**
KBA					Sn	**Sn**	**21 59 23.4**	**-0.2**
PUK	**Puka**	**4.86**	**91**		*i* PN	**Pn**	**21 58 33.1**	**+3.0**
PUK					*i* SN	Sn	21 59 20.1	-6.0
PUK	**Puka**	**4.86**	**91**		*i* Pn	**Pn**	**21 58 33.1**	**+3.0**
PUK					*i* Sn	Sn	21 59 20.1	-6.0
TIR	**Tirane**	**4.95**	**99**		*i* PN	Pn	21 58 28.1	-3.3
TIR	**Tirane**	**4.95**	**99**		*i* Pn	Pn	21 58 28.1	-3.3
BCI	**Bajram Curri**	**4.96**	**87**		*i* PN	Pn	21 58 37.7	+6.2
BCI					*i* SN	**Sn**	**21 59 28.7**	**0.0**
FRF	**La Foret Royal**	**5.09**	**286**		*e*Pn	**Pn**	**21 58 33.4**	**+0.2**
FRF	**La Foret Royal**	**5.09**	**286**		*e*Pn	**Pn**	**21 58 33.4**	**+0.2**
DAVOX	**Davos/Dischmat**	**5.10**	**332**		Pn	**Pn**	**21 58 35.9**	**+2.3**
	1.0nm,0.3s,baz=153,slow=21,SNR=12							
DAVOX					Sn	**Sn**	**21 59 36.4**	**+4.1**
	0.8nm,0.3s,baz=162,slow=20,SNR=2.9							
IVAS	**Ivanjica**	**5.13**	**74**		*e*Pn	**Pn**	**21 58 35.5**	**+1.6**
LMR	**La Mourre**	**5.14**	**284**		*e*Pn	**Pn**	**21 58 34.1**	**+0.1**
LMR	**La Mourre**	**5.14**	**284**		*e*Pn	**Pn**	**21 58 34.1**	**+0.1**
DIVS	**Divibare**	**5.15**	**68**		*e*Pn	**Pn**	**21 58 36.0**	**+1.8**
PHP	**Peshkopia**	**5.31**	**95**		*e*PN	**Pn**	**21 58 39.2**	**+2.9**
PHP					*i* SN	**Sn**	**21 59 41.8**	**+4.6**
PHP	**Peshkopia**	**5.31**	**95**		*e*Pn	**Pn**	**21 58 39.2**	**+2.9**
MBDF	**Montbardon**	**5.36**	**299**		*e*Pn	**Pn**	**21 58 39.2**	**+2.0**
MBDF	**Montbardon**	**5.36**	**299**		*e*Pn	**Pn**	**21 58 39.2**	**+2.0**
MOA	**Molln**	**5.55**	**6**	⇑	*i*Pn	**Pn**	**21 58 40.5**	**+0.8**
MOA				⇑	*i*Sn	**Sn**	**21 59 43.2**	**-0.1**
MOA	**Molln**	**5.55**	**6**		Pn	**Pn**	**21 58 40.5**	**+0.8**
MOA					Sn	**Sn**	**21 59 43.2**	**-0.1**
GRUS	**Gruza**	**5.60**	**71**		*e*Pn	**Pn**	**21 58 41.5**	**+1.2**
LPG	**La Plagne**	**5.73**	**306**		*e*Pn	**Pn**	**21 58 43.0**	**+0.6**
LPG	**La Plagne**	**5.73**	**306**		*e*P	Pn	21 58 47.0	+4.6
LPG					*e*Sn	**Sn**	**21 59 44.8**	**-3.2**
	2.8nm,0.6s							
LPG	**La Plagne**	**5.73**	**306**		*e*Pn	**Pn**	**21 58 43.0**	**+0.6**
SELS	**Selova**	**5.77**	**79**		*e*Pn	**Pn**	**21 58 42.0**	**-0.7**
CSNA	**Conrad Observa**	**5.87**	**17**	⇓	*i*Pn	**Pn**	**21 58 45.3**	**+1.2**
CSNA	**Conrad Observa**	**5.87**	**17**		Pn	**Pn**	**21 58 45.3**	**+1.2**
SMRF	**Simiane la Rot**	**5.94**	**289**		*e*Pn	**Pn**	**21 58 46.4**	**+1.5**
SMRF	**Simiane la Rot**	**5.94**	**289**		*e*Pn	**Pn**	**21 58 46.4**	**+1.5**
ORIF	**Oris-en-Rattie**	**6.02**	**298**		*e*P	Pn	21 58 51.0	+4.8
BARS	**Barje**	**6.25**	**83**		*e*Pn	**Pn**	**21 58 51.0**	**+1.7**
GERES	**GERESS Array B**	**6.52**	**2**		Pn	**Pn**	**21 58 52.7**	**-0.3**
	0.3nm,0.3s,baz=172,slow=13,SNR=9.7							
GERES					Sn	**Sn**	**22 00 06.1**	**-1.0**
	0.6nm,0.3s,baz=192,slow=24,SNR=4.6							
VIVF	**Saint-Julien-l**	**6.80**	**295**		*e*Pn	**Pn**	**21 58 57.0**	**+0.2**
VIVF	**Saint-Julien-l**	**6.80**	**295**		*e*Pn	**Pn**	**21 58 57.0**	**+0.2**
KHC	**Kasperske Hory**	**6.80**	**1**		*e*PN	**Pn**	**21 58 58.7**	**+1.9**
KHC					x	ex	21 59 09.5	
KHC					*e*SN	**Sn**	**22 00 12.5**	**-1.5**
KHC	**Kasperske Hory**	**6.80**	**1**		Pn	**Pn**	**21 58 58.7**	**+1.9**
KHC					Sn	**Sn**	**22 00 12.5**	**-1.5**
HINF	**Hinteralfeld**	**7.17**	**322**		*e*Pn	**Pn**	**21 59 02.4**	**+0.6**
HINF					*e*Sn	**Sn**	**22 00 20.7**	**-2.2**
	6.1nm,0.6s							
HINF	**Hinteralfeld**	**7.17**	**322**		*e*Pn	**Pn**	**21 59 02.4**	**+0.6**
CDF	**Champ du Feu**	**7.44**	**327**		*e*Pn	**Pn**	**21 59 06.1**	**+0.5**
CDF					*e*S

comp=Z,20nm,1.5s
ULN Ulaanbaatar 24.45 320 *e*P P 22 04 56.9 -0.3
comp=Z,3.4nm,1.0s
SONM Songino Array 24.80 319 P P 22 05 00.3 -0.1
SONM PcP **PcP** 22 08 32.5 0.0
comp=Z,2.5nm,0.4s,baz=141,slow=10,SNR=25
SONM PcP **PcP** 22 08 32.5 0.0
comp=Z,0.2nm,0.5s,baz=146,slow=2.7,SNR=3.7
SONM Songino Array 24.80 319 P P 22 05 00.3 -0.1
SONM PcP **PcP** 22 08 32.5 0.0
GTA Gaotai 26.24 297 *e*P P 22 05 13.8 +0.3
GTA pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 31.14 254 P P 22 05 57.8 +0.8
comp=Z,1.0nm,0.5s,baz=46,slow=8.3,SNR=7.7
CMAR Chiang Mai Arr 31.14 254 P P 22 05 57.8 +0.8
SEY Seymchan 34.78 17 *e*P P 22 06 27.3 -0.6
TAPN Taplejung 37.31 275 *e*P P 22 06 52.2 +1.8
comp=Z,8.1nm,0.9s
ODAN Odare 37.73 275 *e*P P 22 06 54.9 +1.1
GUN Gumba 38.72 277 *e*P P 22 07 03.6 +1.4
comp=Z,37nm,0.4s
PKIN Phulchoki 39.23 277 *e*P P 22 07 07.5 +1.2
KKN Kakani 39.27 277 *e*P P 22 07 07.7 +1.1
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 39.70 319 P P 22 07 08.7 -0.8
comp=Z,0.8nm,0.4s,baz=105,slow=8.8,SNR=5.4
ZALV PcP **PcP** 22 09 12.3 -0.6
comp=Z,1.2nm,0.6s,baz=98,slow=4.2,SNR=7.1
ZALV Zalesovo Beam 39.70 319 P P 22 07 08.7 -0.8
ZALV 22 09 12.4
ZALV Zalesovo Beam 39.70 319 P P 22 07 08.7 -0.8
ZALV PcP **PcP** 22 09 12.3 -0.6
MK31 Makanchi Array 39.93 307 *c e*P P 22 07 11.1 -0.5
MK31 Makanchi Array 39.93 307 *e*P P 22 07 11.3 -0.3
MK31 *e*PcP **PcP** 22 09 13.4 -0.6
MKAR Makanchi Array 39.93 307 P P 22 07 11.2 -0.4
comp=Z,0.6nm,0.4s,baz=88,slow=10.0,SNR=15
MKAR PcP **PcP** 22 09 12.9 -1.0
comp=Z,0.5nm,0.5s,baz=76,slow=2.7,SNR=9.0
MKAR ScP **ScP** 22 12 46.7 -1.8
comp=Z,0.4nm,0.7s,baz=101,slow=4.1,SNR=4.6
MKAR Makanchi Array 39.93 307 *i* P P 22 07 11.3 -0.4
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 39.93 307 P P 22 07 11.2 -0.4
MKAR PcP **PcP** 22 09 12.9 -1.0
MKAR ScP **ScP** 22 12 46.7 -1.8
DANN Dangsing 40.40 278 *e*P P 22 07 17.9 +1.8
TIXI Tiksi 40.58 359 *e*P P 22 07 15.3 -1.2
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 40.58 359 *e*P P 22 07 15.9 -0.6
comp=Z,2.3nm,0.4s
KOLN Koldanda 40.70 278 *e*P P 22 07 19.8 +1.4
PYUN Piuthan 41.13 278 *e*P P 22 07 23.1 +1.2
BILL Bilibino 42.42 19 *e*P P 22 07 30.7 -0.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
KURK Kurchatov 42.77 313 *e*P P 22 07 34.8 +0.1
KURK pmax pmax
comp=Z,4.0nm,0.3s
KURK Kurchatov 42.77 313 *e*P P 22 07 34.8 +0.1
comp=Z,3.7nm,0.3s
BRVK Borovoye 48.11 315 *e*P P 22 08 16.5 -0.1
BRVK pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 48.11 315 *e*P P 22 08 16.2 -0.4
comp=Z,3.4nm,0.4s
KK31 Karatay Array 48.32 302 *c e*P P 22 08 19.0 +0.6
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 48.32 302 *e*P P 22 08 18.7 +0.3
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 48.32 302 *e*P P 22 08 18.7 +0.3
comp=Z,0.8nm,0.5s
WRAB Tennant Creek 50.91 175 *e*P P 22 08 38.6 +0.5
WRAB pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 50.91 175 *e*P P 22 08 38.5 +0.5
comp=Z,2.3nm,0.8s
WRA Warramunga Arr 50.92 175 P P 22 08 38.4 +0.2
comp=Z,1.3nm,0.3s,baz=354,slow=8.0,SNR=21
WRA Warramunga Arr 50.92 175 P P 22 08 38.4 +0.2
AS31 Alice Springs 54.59 176 *e*P P 22 09 05.8 +0.7
ASAR Alice Springs 54.59 176 P P 22 09 05.7 +0.6
comp=Z,1.7nm,0.4s,baz=358,slow=6.3,SNR=40
ASAR Alice Springs 54.59 176 P P 22 09 05.7 +0.6
AB31 Akbulak array 54.82 311 *c e*P P 22 09 07.2 +0.7
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 54.82 311 *e*P P 22 09 06.3 -0.1
comp=Z,2.7nm,0.4s
ARU Arti 54.84 320 *c i*P P 22 09 06.9 +0.4
ARU 22 10 04.1
ARU 22 11 08.9
ARU S **S** 22 16 38.7 +3.3
ARU SS **SS** 22 20 21.3 +0.9
ARU pmax pmax
comp=Z,3.0nm,0.4s
ARU Arti 54.84 320 *e*P P 22 09 01.7 -4.8
comp=Z,5.3nm,0.6s
ILAR Eielson Array 59.22 30 P P 22 09 36.3 -0.9
comp=Z,0.7nm,0.8s,baz=284,slow=8.1,SNR=9.0
ILAR PcP **PcP** 22 10 23.5 -0.4
comp=Z,0.2nm,0.8s,baz=278,slow=4.3,SNR=5.6
ILAR Eielson Array 59.22 30 P P 22 09 36.3 -0.9
ILAR PcP **PcP** 22 10 23.5 -0.4
STKA Stephens Creek 63.55 169 P P 22 10 07.5 +0.9
comp=Z,3.7nm,0.8s,baz=344,slow=5.8,SNR=9.1
STKA Stephens Creek 63.55 169 *e*P P 22 10 07.2 +0.6
comp=Z,0.5nm,0.5s
KEV Kevo 65.61 338 *e*P P 22 10 17.1 -2.4
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 65.61 338 *ep* P 22 10 17.1 -2.4
comp=Z,4.3nm,0.6s
VRHR Novokhopersk 65.77 316 *e*P P 22 10 19.2 -1.6
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 66.18 338 P P 22 10 22.8 -0.4
comp=Z,1.8nm,0.5s,baz=66,slow=7.9,SNR=20
ARCES ARCESS Array B 66.18 338 P P 22 10 22.8 -0.4
JOF Joensuu 66.72 331 *e*P P 22 10 25.7 -1.0
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 66.72 331 *ep* P 22 10 25.7 -1.0
comp=Z,8.5nm,0.5s
VSR Storozhevoye 67.17 317 *e*P P 22 10 29.3 -0.5
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,3.0nm,0.6s
OBN Obninsk 67.18 322 ⇓ *e*P P 22 10 29.6 -0.1
OBN pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 67.19 317 *e*P P 22 10 29.6 -0.3
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
ZEI Tsey 67.29 307 *e*P P 22 10 30.8 -0.1
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 67.61 308 P P 22 10 32.8 +0.2
comp=Z,8.9nm,0.8s,baz=100,slow=3.0,SNR=36
KBZ Khabaz 67.61 308 P P 22 10 32.8 +0.2
KBZ Khabaz 67.61 308 P P 22 10 32.8 +0.2
KIV Kislovodsk 67.66 309 *e*P P 22 10 33.9 +0.8
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 67.66 309 *e*P P 22 10 33.8 +0.8
comp=Z,9.8nm,0.9s
KAF Kangasniemi 69.17 331 *e*P P 22 10 39.3 -2.7
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 69.17 331 *ep* P 22 10 39.3 -2.7
comp=Z,5.2nm,0.7s
FINES FINESS Array B 69.58 330 P P 22 10 44.0 -0.5
comp=Z,7.5nm,0.5s,baz=59,slow=5.9,SNR=77
FINES FINESS Array B 69.58 330 P P 22 10 44.0 -0.5
DAG Danmarks Havn 70.66 353 *i* P P 22 10 50.5 -0.3
comp=Z,17nm,0.8s
ANN Anapa 70.78 311 *e*P P 22 10 50.7 -1.4
ANN pmax pmax
comp=Z,37nm,1.5s
AKASG Malin Array Be 73.09 319 P P 22 11 05.2 -0.5
comp=Z,6.7nm,0.5s,baz=56,slow=6.1,SNR=14
AKASG Malin Array Be 73.09 319 P P 22 11 05.3 -0.5
AKASG Malin Array Be 73.09 319 P P 22 11 05.2 -0.5
AK01 Malin Array Si 73.10 319 *e*P P 22 11 05.2 -0.6
KIEV Kiev 73.10 319 *e*P P 22 11 05.3 -0.5
KIEV Kiev 73.10 319 *e*P P 22 11 05.3 -0.5
AK02 Malin Array Si 73.12 319 *e*P P 22 11 04.9 -1.0
YKA Yellowknife Ar 73.28 26 P P 22 11 07.2 +0.6
comp=Z,1.1nm,0.7s,baz=306,slow=5.7,SNR=29
YKA Yellowknife Ar 73.28 26 P P 22 11 07.2 +0.6
HFS Hagfors 75.39 332 P P 22 11 18.1 -0.8
comp=Z,1.4nm,0.4s,baz=72,slow=4.8,SNR=13
HFS Hagfors 75.39 332 P P 22 11 18.1 -0.8
BR131 Keskin Array S 75.58 308 *e*P P 22 11 20.5 -0.1
comp=Z,5.1nm,0.8s
BRTR Keskin Array B 75.58 308 P P 22 11 20.9 +0.3
comp=Z,6.7nm,0.8s,baz=98,slow=5.5,SNR=45
BRTR Keskin Array B 75.58 308 P P 22 11 20.9 +0.3
NB2 NORSAR Subarra 75.78 334 P P 22 11 19.9 -1.3
comp=Z,1.3nm,0.6s,baz=48,slow=5.6
NOA NORSAR Array B 75.78 334 P P 22 11 20.3 -0.9
comp=Z,1.6nm,0.7s,baz=50,slow=5.6,SNR=4.8
NOA NORSAR Array B 75.78 334 P P 22 11 20.3 -0.9
SUMG Summit 76.28 357 *e*P P 22 11 25.2 +0.9
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 76.28 357 *e*P P 22 11 25.2 +0.9
comp=Z,8.3nm,0.9s
SUMG Summit 76.28 357 *i* P P 22 11 25.1 +0.9
comp=Z,5.4nm,0.8s
TESR 76.65 316 ⇓ *i* P P 22 11 26.3 -0.1
ASF Jabal al Asfar 76.84 300 P P 22 11 28.1 +0.3
comp=Z,3.1nm,0.8s,baz=58,slow=5.5,SNR=6.5
ASF Jabal al Asfar 76.84 300 P P 22 11 28.1 +0.3
BUR08 Bucovina Ar. S 76.91 318 *e*P P 22 11 28.1 +0.3
BURAR Bucovina Array 76.91 318 ⇑ *i*P P 22 11 28.2 +0.3
VRI Vrincioaia 76.94 316 ⇑ P P 22 11 29.3 +1.3
VRI Vrincioaia 76.94 316 ⇑ *i*P P 22 11 29.3 +1.3
KWP Kalwaria Pacla 77.23 321 ⇑ P P 22 11 30.1 +0.6
KWP Kalwaria Pacla 77.23 321 ⇑ *i*P P 22 11 30.1 +0.6
MMAI Mount Meron Ar 77.55 301 P P 22 11 32.2 +0.5
comp=Z,1.5nm,0.6s,baz=70,slow=8.1,SNR=4.0
MMAI Mount Meron Ar 77.55 301 P P 22 11 32.2 +0.5
MLR Muntele Rosu 77.61 316 P P 22 11 32.3 +0.4
comp=Z,0.5nm,0.5s,baz=341,slow=8.5,SNR=11
MLR Muntele Rosu 77.61 316 ⇑ P P 22 11 32.3 +0.4
MLR Muntele Rosu 77.61 316 ⇑ *i*P P 22 11 31.9 0.0
SECR 77.77 315 ⇑ *i*P P 22 11 33.7 +1.1
TRPA Tarpa 78.15 319 ⇑ *i*P P 22 11 35.0 +0.4
ARR Arges 78.45 316 ⇑ *i*P P 22 11 37.2 +0.7
OJC Ojcow 78.46 322 *e*P P 22 11 36.7 +0.4
OJC pmax pmax
comp=Z,12nm,0.8s
OJC Ojcow 78.46 322 *e*P P 22 11 36.7 +0.4
comp=Z,12nm,0.8s
NIE Niedzica 78.64 321 *e*P P 22 11 38.6 +1.2
NIE Niedzica 78.64 321 *e*P P 22 11 38.6 +1.2
LOT Lotru 78.92 317 ⇑ *i*P P 22 11 40.1 +1.0
OKC Ostrava-Krasne 79.55 322 *i*P P 22 11 42.8 +0.6
OKC Ostrava-Krasne 79.55 322 *i*P P 22 11 42.8 +0.6
MORC Moravsky Berou 79.90 323 *e*P P 22 11 44.6 +0.4
MORC pmax pmax
comp=Z,9.0nm,1.4s
MORC Moravsky Berou 79.90 323 *e*P P 22 11 44.6 +0.4
comp=Z,9.2nm,1.4s
MORC Moravsky Berou 79.90 323 ⇓ *i*P P 22 11 44.5 +0.4
BZS Buzias 80.08 318 ⇑ P P 22 11 44.7 -0.5
BZS Buzias 80.08 318 ⇑ *i*P P 22 11 44.7 -0.5
DPC Dobruska-Polom 80.18 324 *i*P P 22 11 46.3 +0.6
DPC Dobruska-Polom 80.18 324 *i*P P 22 11 46.3 +0.6
VRAC Vranov 80.67 323 P P 22 11 49.6 +1.2
comp=Z,3.9nm,0.8s,baz=13,slow=5.5,SNR=6.2
VRAC Vranov 80.67 323 P P 22 11 49.6 +1.2
VRAC Vranov 80.67 323 ⇑ *i*P P 22 11 49.5 +1.2
VTS Vitosha 80.84 314 ⇑ P P 22 11 50.1 +0.6
VTS Vitosha 80.84 314 ⇑ *i*P P 22 11 50.1 +0.6
BRG Berggiesshubel 81.05 325 *e*P P 22 11 50.0 -0.2
CLL Collm 81.23 326 ⇑ *i*P P 22 11 51.1 -0.1
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 81.23 326 *e*P P 22 11 51.2 0.0
comp=Z,7.0nm,0.8s
CLL Collm 81.23 326 ⇑ *i*P P 22 11 51.1 -0.1
comp=Z,7.0nm,0.8s
PRU Pruhonice 81.31 324 *i*P P 22 11 52.1 +0.5
PRU Pruhonice 81.31 324 *i*P P 22 11 52.1 +0.5
PKSM Moragy 81.43 319 ⇓ P P 22 11 52.4 +0.1
PKSM Moragy 81.43 319 ⇓ *i*P P 22 11 52.4 +0.1
CLZ Clausthal 82.13 327 *e*P P 22 11 56.5 +0.6
CLZ pmax pmax
comp=Z,6.0nm,0.9s
CLZ Clausthal 82.13 327 *e*P P 22 11 56.5 +0.6
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 82.33 324 *i*P P 22 11 53.0 -4.1
KHC Kasperske Hory 82.33 324 *i*P P 22 11 53.0 -4.1
GERES GERESS Array B 82.45 323 P P 22 11 57.5 -0.3
comp=Z,1.0nm,0.7s,baz=346,slow=2.8,SNR=8.3
GERES GERESS Array B 82.45 323 P P 22 11 57.5 -0.3
ROTZ Rotzenmuhle 82.61 325 *e*P P 22 11 58.8 +0.3
comp=Z,11nm,1.4s
GRF Grafenberg Arr 83.14 325 *e*P P 22 12 02.1 +0.9
GRF pmax pmax
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 83.14 325 *e*P P 22 12 02.1 +0.9
comp=Z,7.0nm,0.9s
RJOB Jochberg 83.63 323 *e*P P 22 12 04.5 +0.7
TNS Taunus Mts 84.12 327 *e*P P 22 12 06.9 +0.7
TNS pmax pmax
comp=Z,6.0nm,0.9s
TNS Taunus Mts 84.12 327 *e*P P 22 12 06.9 +0.7
comp=Z,6.0nm,0.9s
FUR Furstenfeldbru 84.12 324 *e*P P 22 12 06.6 +0.4
FUR pmax pmax
comp=Z,9.0nm,0.9s
FUR Furstenfeldbru 84.12 324 *e*P P 22 12 06.6 +0.4
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 85.16 335 P P 22 12 10.6 -0.6
comp=Z,0.7nm,0.4s,baz=47,slow=4.6,SNR=13
EKA Eskdalemuir Ar 85.16 335 P P 22 12 10.6 -0.6
BFO Black Forest 85.47 325 *e*P P 22 12 13.0 0.0
BFO Black Forest 85.47 325 *e*P P 22 12 13.0 0.0
WLF Walferdange 85.58 327 *e*P P 22 12 14.4 +1.0
NVAR Mina Array Bea 85.73 47 P P 22 12 16.3 +1.5
comp=Z,0.7nm,0.5s,baz=302,slow=5.3,SNR=6.2
NVAR Mina Array Bea 85.73 47 P P 22 12 16.2 +1.5
PDAR Pinedale Array 88.14 40 P P 22 12 26.7 +0.4
comp=Z,0.6nm,0.8s,baz=325,slow=1.8,SNR=4.5
PDAR Pinedale Array 88.14 40 P P 22 12 26.7 +0.4
ULM Lac du Bonnet 89.18 28 P P 22 12 30.7 0.0
comp=Z,2.3nm,0.7s,baz=310,slow=7.7,SNR=5.6
ULM Lac du Bonnet 89.18 28 P P 22 12 30.7 0.0
TORD Torodi Ar. Bea 113.99 304 PKiKP **PKiKP** 22 18 12.6 -1.4
comp=Z,0.2nm,0.4s,baz=2.5,slow=1.5,SNR=9.1
TORD Torodi Ar. Bea 113.99 304 PKiKP **PKiKP** 22 18 12.6 -1.4
DBIC Dimbokro 123.10 303 PKP **PKPdf** 22 18 30.9 -0.6
comp=Z,0.9nm,0.4s,baz=0.0,slow=4.0,SNR=4.9
DBIC Dimbokro 123.10 303 PKP **PKPdf** 22 18 30.9 -0.6

IDC ***30*** *22:14:40.2±1.2,3°.42N×126°.62E, h0km, mb 3.7/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.7/6, Error ellipse: s-maj=99.3km s-min=18.7km az=70.0, Talaud Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.40**	**183**	P	P	22 19 28.8	-0.9
	1.1nm,0.5s,baz=0.0,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**24.42**	**162**	P	P	22 20 00.4	-0.3
	6.1nm,0.7s,baz=342,slow=10,SNR=26						
ASAR	**Alice Springs**	**27.84**	**166**	P	P	22 20 32.1	+0.5
	0.5nm,0.5s,baz=350,slow=15,SNR=7.4						
STKA	**Stephens Creek**	**37.88**	**159**	P	P	22 21 59.3	+0.2
	1.6nm,0.6s,baz=348,slow=9.0,SNR=5.7						
SONM	**Songino Array**	**47.56**	**342**	P	P	22 23 16.4	-1.3
	0.2nm,0.5s,baz=165,slow=6.4,SNR=4.2						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	22 24 33.6	+0.6
	0.4nm,0.5s,baz=122,slow=7.5,SNR=9.1						

ISCJB ***30*** *22:18:53.6±0.8, 34°.76N±0°.06×32°.95E±0°.06, h57km±9km, Error ellipse: s-maj=10.5km s-min=7.5km az=5.5*
NIC ***30*** *22:18:54.5±0.2, 34°.90N×32°.93E, h51km, ML3.2, MW3.2*
CSEM ***30*** *22:18:54.5±0.4, 34°.83N×32°.92E, h49km±6km, Mw3.2, Error ellipse: s-maj=9.4km s-min=6.8km az=173.0*
NSSC ***30*** *22:18:56.4±1.7, 35°.12N×33°.68E, h153km±62km, ML2.3*

ISC 30 22:18:53.4±1.5, 34°.84N±0°.06×32°.92E±0°.04, h61km±9km, n34, σ1s74/51, 4C-6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni-Zanaja**	**0.09**	**201**	⇑ P	Pn	22 19 02.8	+0.2
SZAC				S	Sn	22 19 09.4	+0.1
SZAC	**Souni-Zanaja**	**0.09**	**201**	⇑ *i*P	Pn	22 19 02.8	+0.2
SZAC				S	Sn	22 19 09.4	+0.1
CSS	**Prodhromos**	**0.36**	**70**	⇑ P	Pn	22 19 03.9	-0.2
	18nm,0.2s						
CSS				S	Sn	22 19 11.7	-0.2
CSS	**Prodhromos**	**0.36**	**70**	⇑ P	Pn	22 19 03.9	-0.2
	18nm,0.2s						
CSS				S	Sn	22 19 11.7	-0.2
MAMC	**Mammari**	**0.41**	**36**	P	Pn	22 19 04.8	+0.2
MAMC	**Mammari**	**0.41**	**36**	P	Pn	22 19 04.8	+0.2
ALFC	**Alevga**	**0.41**	**320**	⇓ P	Pn	22 19 04.5	-0.1
	49nm,0.2s						
ALFC				S	Sn	22 19 12.1	-0.7
ALFC	**Alevga**	**0.41**	**320**	⇓ *i*P	Pn	22 19 04.5	-0.1
	49nm,0.2s						
ALFC				S	Sn	22 19 12.1	-0.7
PPCY	**Paphos**	**0.48**	**276**	⇓ P	Pn	22 19 05.5	+0.3
PPCY	**Paphos**	**0.48**	**276**	⇓ *i*P	Pn	22 19 05.5	+0.3
AKMC	**Akamas**	**0.52**	**291**	⇓ P	Pn	22 19 06.2	+0.5
AKMC	**Akamas**	**0.52**	**291**	⇓ *i*P	Pn	22 19 06.2	+0.5
PHNC	**Paralimni**	**0.93**	**80**	P	Pn	22 19 12.2	+1.7
	3.2nm,0.4s						
PHNC				S	Sn	22 19 27.4	+4.2
PHNC	**Paralimni**	**0.93**	**80**	P	Pn	22 19 12.2	+1.7
	3.2nm,0.4s						
BHL	**Bhannes**	**2.44**	**112**	*e*P	Pn	22 19 30.5	-0.5
BHL	**Bhannes**	**2.44**	**112**	*e*P	Pn	22 19 30.5	-0.5
NAQL	**Naqoura**	**2.52**	**132**	*e*P	Pn	22 19 32.7	+0.8
RCY	**Rachaya**	**2.76**	**118**	*e*P	Pn	22 19 36.2	+0.8
RCY	**Rachaya**	**2.76**	**118**	*e*P	Pn	22 19 36.2	+0.8
QASN	**Qassioun**	**3.07**	**114**	*e*P	Pn	22 19 41.0	+1.5
QASN				AML	AML	22 19 43.4	
	comp=N,90nm,0.3s						
QASN				AML	AML	22 19 44.1	
	comp=E,58nm,0.2s						
QASN				*e*S	Sn	22 20 12.1	-3.1
QASN	**Qassioun**	**3.07**	**114**	*e*P	Pn	22 19 41.0	+1.5
	SNR=114						
QASN				*e*S	Sn	22 20 12.1	-3.1
	SNR=114						
TOTH	**TOTAH**	**3.26**	**116**	*e*P	Pn	22 19 44.1	+2.0
TOTH				*e*S	Sn	22 20 17.1	-2.6
TOTH				AML	AML	22 20 21.8	
	comp=N,18nm,0.3s						
TOTH				AML	AML	22 20 23.2	
	comp=E,45nm,0.6s						
TOTH	**TOTAH**	**3.26**	**116**	*e*P	Pn	22 19 44.1	+2.0
	SNR=113						
TOTH				*e*S	Sn	22 20 17.1	-2.6
	comp=E,45nm,0.6s,SNR=113						
TCHB	**Talchebab**	**3.34**	**130**	*i* P	Pn	22 19 45.0	+1.9
TCHB				*e*S	Sn	22 20 21.6	+0.1
TCHB				*i* S		22 20 22.1	
TCHB				AML	AML	22 20 25.2	
	comp=N,45nm,0.2s						
TCHB				AML	AML	22 20 25.7	
	comp=E,43nm,0.3s						
TCHB	**Talchebab**	**3.34**	**130**	*i* P	Pn	22 19 45.0	+1.9
	SNR=111						
TCHB				*i* S	Sn	22 20 22.1	+0.6
	comp=E,43nm,0.3s,SNR=113						
SALA	**Sala**	**3.82**	**123**	*e*P	Pn	22 19 52.1	+2.2
SALA				*e*S	Sn	22 20 32.0	-1.6
SALA				AML	AML	22 20 37.6	
	comp=E,1.4nm,0.4s						
SALA				AML	AML	22 20 43.4	
	comp=N,11nm,0.3s						
SALA	**Sala**	**3.82**	**123**	*e*P	Pn	22 19 52.1	+2.2
	SNR=109						
SALA				*e*S	Sn	22 20 32.0	-1.6
	comp=N,11nm,0.3s,SNR=109						
ZALF	**Zalf**	**4.14**	**116**	*e*P	Pn	22 19 54.8	+0.7
ZALF				*e*S	Sn	22 20 35.5	-5.8
ZALF				AML	AML	22 20 50.8	
	comp=N,4.1nm,0.2s						
ZALF				AML	AML	22 20 56.9	
	comp=E,5.3nm,0.6s						
ZALF	**Zalf**	**4.14**	**116**	*e*P	Pn	22 19 54.8	+0.7
	SNR=107						
AMAG	**Maghara**	**4.19**	**177**	P	Pn	22 19 56.1	+1.2
HNKL	**Nakhl**	**4.98**	**169**	P	Pn	22 20 05.7	+0.1
HNKL				S	Sn	22 21 00.7	-1.2
SUZ		**4.99**	**181**	P	Pn	22 20 08.6	+2.9
HKAT	**Jabal Katrina**	**6.36**	**171**	P	Pn	22 20 25.4	+0.7
TR2		**6.47**	**174**	P	Pn	22 20 26.9	+0.9

ISCJB ***30*** *22:21:10.2±0.8, 24°.6N±0°.1×96°.23E±0°.08, h10km, mb3.3/5, Error ellipse: s-maj=15.0km s-min=10.2km az=20.7*
IDC ***30*** *22:21:10.5±1.2, 24°.66N×96°.13E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/28, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=57.3km s-min=18.5km az=63.0*

ISC 30 22:21:11.9±1.0, 24°.7N±0°.1×96°.10E±0°.09, h10km, n7, σ0s71/8, mb3.5/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.97**	**274**	*e*P	Pn	22 21 45.0	-0.4
IMP				*e*S	Sb	22 22 13.0	+0.5
CMAR	**Chiang Mai Arr**	**6.72**	**156**	Pn	Pn	22 22 50.6	0.0
	0.2nm,0.3s,baz=330,slow=13,SNR=5.9						
CMAR				Pg	Pb	22 23 12.6	+3.7
	0.3nm,0.3s,baz=338,slow=15,SNR=5.7						
CMAR				Lg	Lg	22 24 35.8	
	0.4nm,0.3s,baz=336,slow=29,SNR=3.8						
SONM	**Songino Array**	**24.53**	**17**	P	P	22 26 32.5	+0.9
	0.3nm,0.8s,baz=198,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**24.69**	**337**	P	P	22 26 33.5	+0.5
	1.0nm,0.7s,baz=147,slow=10,SNR=12						
AAK	**Ala-Archa**	**25.27**	**320**	P	P	22 26 39.0	+0.5
	1.0nm,0.8s,baz=129,slow=7.8,SNR=6.5						
ZALV	**Zalesovo Beam**	**30.44**	**347**	P	P	22 27 23.5	-0.9
	0.4nm,0.5s,baz=167,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**57.89**	**137**	P	P	22 31 04.1	-0.2
	0.6nm,1.1s,baz=322,slow=7.4,SNR=4.2						

IDC ***30*** *22:22:35.9±1.5, 38°.73N×25°.98E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/26, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=24.0km s-min=21.3km az=126.0*
ISK ***30*** *22:22:37.6, 38°.84N×26°.09E, h14km, ML3.7*
ATH ***30*** *22:22:37.5, 38°.85N×26°.19E, h23km, MD3.7/31, ML3.2*
DDA ***30*** *22:22:37.9, 38°.88N×26°.15E, h26km, MD3.8, ML3.9*
ISCJB ***30*** *22:22:37.9±0.4, 38°.87N±0°.01×26°.13E±0°.02, h11km±3km, mb3.2/3, Error ellipse: s-maj=2.3km s-min=2.1km az=179.1*
CSEM ***30*** *22:22:38.8±0.1, 38°.86N×26°.13E, h10km, ML3.7/6, Error ellipse: s-maj=1.6km s-min=1.6km az=86.0*
THE ***30*** *22:22:38.9, 38°.87N×26°.14E, h10km, ML3.7/6, Error ellipse: s-maj=1.7km s-min=0.6km az=96.0*

ISC 30 22:22:38.5±1.0, 38°.86N±0°.02×26°.13E±0°.02, h9km±8km, n285, σ0s69/323, mb3.3/3, 13C-18D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.40**	**16**	P	Pg	22 22 46.2	-0.2
PRK				S	Sg	22 22 52.2	+0.5
PRK	**Paraskevi**	**0.40**	**16**	*e*PB	Pg	22 22 46.3	-0.2
PRK				*e*SB	Sg	22 22 52.2	+0.5
PRK	**Paraskevi**	**0.40**	**16**	*e*Pb	Pg	22 22 46.3	-0.2
PRK				S	Sg	22 22 52.2	+0.5
SIGR	**SIGRI**	**0.41**	**329**	P	Pb	22 22 47.2	-0.8
SIGR				S	Sg	22 22 52.5	+0.5
SIGR	**SIGRI**	**0.41**	**329**	P	Pb	22 22 47.2	-0.8
SIGR				S	Sg	22 22 52.5	+0.5
CHOS	**Chios island**	**0.48**	**187**	P	Pb	22 22 48.9	-0.2

CHOS				S	Sb	22 22 56.1	-0.2	RZN	Rozhen	3.02 340	*i* P	Pn	22 23 26.4	-0.4
CHOS	**Chios island**	**0.48**	**187**	*e*PB	Pb	22 22 48.7	-0.4	RZN	Rozhen	3.02 340	*i* P	Pn	22 23 26.4	-0.4
CHOS				*e*SB	Sg	22 22 54.6	+0.6	YLV	Yalova	3.03 55	*e*PN	Pn	22 23 28.0	+1.3
CHOS	**Chios island**	**0.48**	**187**	*e*Pb	Pb	22 22 48.7	-0.4	YLV	Yalova	3.03 55	*e*Pn	Pn	22 23 28.0	+1.3
CHOS				*e*Sb	Sg	22 22 54.6	+0.6	NVR	Nevrokopi	3.03 326	P	Pn	22 23 26.2	-0.6
CHOS				S	Sb	22 22 56.1	-0.2	NVR	Nevrokopi	3.03 326	*e*PN	Pn	22 23 27.0	+0.2
URLA	**Izmir**	**0.62**	**144**	*i* P	Pb	22 22 51.0	-0.5	NVR	Nevrokopi	3.03 326	P	Pn	22 23 26.2	-0.6
URLA				*i* S	Sb	22 22 59.9	-0.5	NVR	Nevrokopi	3.03 326	*e*Pn	Pn	22 23 27.0	+0.2
URLA	**Izmir**	**0.62**	**144**	*i* P	Pb	22 22 51.0	-0.5	LIT	Litokhoron	3.08 295	*e*PN	Pn	22 23 27.7	+0.4
URLA				*i* S	Sb	22 22 59.9	-0.5	LIT			*e*SN	Sn	22 24 04.9	+0.6
AYVA	**Ayvalik**	**0.63**	**44**	*i* Pg	Pg	22 22 50.4	-0.3	LIT	Litokhoron	3.08 295	*e*Pn	Pn	22 23 27.7	+0.4
AYVA				*i* Sg	Sg	22 22 58.5	-0.4	LIT			*e*Sn	Sn	22 24 04.9	+0.6
BLCB	**Balcova**	**0.86**	**123**	PG	Pb	22 22 55.7	+0.1	ARG	Arkhangelos	3.08 148	*e*PN	Pn	22 23 26.8	-0.6
BLCB				SG	Sb	22 23 06.9	-0.3	ARG	Arkhangelos	3.08 148	*e*Pn	Pn	22 23 27.6	-0.6
BLCB	**Balcova**	**0.86**	**123**	*i* Pg	Pb	22 22 55.7	+0.1	BGKT	Bogazkoy	3.08 40	*e*PN	Pn	22 23 27.9	+0.5
BLCB				*i* Sg	Sb	22 23 06.9	-0.3	BGKT	Bogazkoy	3.08 40	*e*Pn	Pn	22 23 27.9	+0.5
EZN	**Ezine**	**0.98**	**9**	*e*PG	Pg	22 22 56.9	-0.4	CTYL	Yal??k??y-??at	3.09 32	*e*PN	Pn	22 23 28.1	+0.6
EZN	**Ezine**	**0.98**	**9**	*e*Pg	Pg	22 22 56.9	-0.4	CTYL	Yal??k??y-??at	3.09 32	*e*Pn	Pn	22 23 28.1	+0.6
BOZC	**Bozcaada**	**0.98**	**357**	*i* P	Pg	22 22 56.5	-0.9	ALT	Altintas	3.11 85	*e*PN	Pn	22 23 27.5	-0.4
BOZC				*i* S	Sg	22 23 09.6	-0.7	GUR	Goura	3.11 254	P	Pn	22 23 28.0	+0.1
IZM	**Izmir**	**1.00**	**117**	*e*PG	Pb	22 22 58.0	-0.1	GUR	Goura	3.11 254	*e*PN	Pn	22 23 28.4	+0.5
IZM	**Izmir**	**1.00**	**117**	*e*Pg	Pb	22 22 58.0	-0.1	GUR	Goura	3.11 254	P	Pn	22 23 28.0	+0.1
LIA	**Limnos Island**	**1.27**	**325**	P	Pn	22 23 01.6	-0.9	GUR	Goura	3.11 254	*e*Pn	Pn	22 23 28.4	+0.5
LIA				S	Sg	22 23 19.1	-0.3	ISK	Istanbul-Kandi	3.15 45	*e*PN	Pn	22 23 28.9	+0.6
LIA	**Limnos Island**	**1.27**	**325**	*e*PN	Pb	22 23 02.4	-0.2	ISK	Istanbul-Kandi	3.15 45	*e*Pn	Pn	22 23 28.9	+0.6
LIA				*e*SN	Sn	22 23 20.3	+0.7	KALE	Kalithea	3.16 263	*e*PN	Pn	22 23 29.3	+0.8
LIA	**Limnos Island**	**1.27**	**325**	P	Pn	22 23 01.6	-0.9	CAVI	Cavuskoy	3.17 64	*e*PN	Pn	22 23 29.2	+0.6
LIA	**Limnos Island**	**1.27**	**325**	*e*Pn	Pb	22 23 02.4	-0.2	CAVI	Cavuskoy	3.17 64	*e*Pn	Pn	22 23 29.2	+0.6
LIA				S	Sg	22 23 19.1	-0.3	TRIZ	Trizonia	3.21 262	*e*PN	Pn	22 23 29.9	+0.7
LIA				*e*Sn	Sn	22 23 20.3	+0.7	DIM	Dimitrovgrad	3.22 352	*i* P	Pn	22 23 28.5	-0.8
AKS	**Akhisar**	**1.32**	**89**	*e*PN	Pb	22 23 03.5	+0.1	DIM	Dimitrovgrad	3.22 352	*i* P	Pn	22 23 28.5	-0.8
AKS	**Akhisar**	**1.32**	**89**	*e*Pn	Pb	22 23 03.5	+0.1	FETY	Fethiye	3.23 133	*e*PN	Pn	22 23 30.1	+0.7
AKHS	**Akhisar**	**1.32**	**89**	*i* P	Pn	22 23 02.0	-1.1	FETY	Fethiye	3.23 133	*e*Pn	Pn	22 23 30.1	+0.7
AKHS				*i* S	Sb	22 23 20.3	-0.1	THL	Klokotos Trika	3.27 284	*e*PN	Pn	22 23 30.5	+0.5
AKHS	**Akhisar**	**1.32**	**89**	*i* P	Pn	22 23 02.0	-1.1	THL	Klokotos Trika	3.27 284	*e*Pn	Pn	22 23 30.5	+0.5
AKHS				*i* S	Sb	22 23 20.3	-0.1	MMB	Musomiste	3.29 327	*i* P	Pn	22 23 30.4	+0.1
GCAM	**G?zelcaml?**	**1.45**	**143**	*i* P	Pg	22 23 06.3	0.0	MMB	Musomiste	3.29 327	*i* P	Pn	22 23 30.4	+0.1
GCAM				*i* S	Sb	22 23 24.1	-0.1	VLX	Vlachokerasia	3.31 244	*e*PN	Pn	22 23 31.0	+0.4
GCAM	**G?zelcaml?**	**1.45**	**143**	*i* P	Pg	22 23 06.3	0.0	VLX	Vlachokerasia	3.31 244	*e*PN	Pn	22 23 31.0	+0.4
GCAM				*i* S	Sb	22 23 24.1	-0.1	VLI	Veliai	3.31 231	P	Pn	22 23 29.9	-0.6
BALY	**Balya**	**1.45**	**52**	*e*P	Pn	22 23 03.7	-1.4	VLI	Veliai	3.31 231	*e*PN	Pn	22 23 29.9	-0.6
BALY				*i* S	Sg	22 23 25.3	0.0	VLI	Veliai	3.31 231	P	Pn	22 23 29.9	-0.6
BALY	**Balya**	**1.45**	**52**	*e*P	Pn	22 23 03.7	-1.4	LAKA	Lakka	3.31 261	*e*PN	Pn	22 23 31.5	+0.9
BALY				*i* S	Sg	22 23 25.3	0.0	EFP	Efpalio	3.33 264	*e*PN	Pn	22 23 31.4	+0.6
GELI	**Tayfur-Gelibol**	**1.56**	**10**	*e*PN	Pn	22 23 06.1	-0.4	HRT	Hereke	3.36 53	*e*PN	Pn	22 23 31.1	-0.1
GELI	**Tayfur-Gelibol**	**1.56**	**10**	*e*Pn	Pn	22 23 06.1	-0.4	HRT	Hereke	3.36 53	*e*Pn	Pn	22 23 31.1	-0.1
LPK	**Lapseki**	**1.59**	**18**	*e*PN	Pn	22 23 06.4	-0.4	EVR	Evrytania	3.37 272	*e*PN	Pn	22 23 32.4	+0.9
LPK	**Lapseki**	**1.59**	**18**	*e*Pn	Pn	22 23 06.4	-0.4	EVR	Evrytania	3.37 272	*e*Pn	Pn	22 23 32.4	+0.9
MRMA	**Marmari**	**1.59**	**240**	P	Pn	22 23 06.1	-0.8	KNT	Kendrikon	3.38 314	P	Pn	22 23 31.9	+0.4
MRMA	**Marmari**	**1.59**	**240**	P	Pn	22 23 06.1	-0.8	KNT	Kendrikon	3.38 314	P	Pn	22 23 31.9	+0.4
GONE	**Gonen-Balikesi**	**1.69**	**45**	*e*PN	Pn	22 23 08.8	+0.5	KARP	Karpathos	3.41 166	*e*PN	Pn	22 23 31.6	-0.3
GONE	**Gonen-Balikesi**	**1.69**	**45**	*e*Pn	Pn	22 23 08.8	+0.5	KARP	Karpathos	3.41 166	*e*Pn	Pn	22 23 31.6	-0.3
AOS	**Alonnisos**	**1.78**	**281**	P	Pn	22 23 09.2	-0.3	SHUT	Suhut-Afyon	3.47 94	*e*PN	Pn	22 23 32.9	0.0
AOS				S	Sg	22 23 35.8	+0.1	SILT	Sile	3.54 49	*e*PN	Pn	22 23 33.9	+0.2
AOS	**Alonnisos**	**1.78**	**281**	*e*PN	Pn	22 23 09.7	+0.2	SILT	Sile	3.54 49	*e*Pn	Pn	22 23 33.9	+0.2
AOS				*e*SN	Sb	22 23 33.5	-0.2	GRG	Griva	3.55 307	P	Pn	22 23 34.6	+0.7
AOS	**Alonnisos**	**1.78**	**281**	P	Pn	22 23 09.2	-0.3	GRG	Griva	3.55 307	P	Pn	22 23 34.6	+0.7
AOS	**Alonnisos**	**1.78**	**281**	*e*Pn	Pn	22 23 09.7	+0.2	KYTH	Kithira	3.56 225	P	Pn	22 23 33.4	-0.5
AOS				*e*Sn	Sb	22 23 33.5	-0.2	KYTH	Kithira	3.56 225	*e*PN	Pn	22 23 33.5	-0.5
KRBG	**Karabiga-Canak**	**1.78**	**30**	*e*PN	Pn	22 23 09.5	0.0	KYTH	Kithira	3.56 225	*e*Pn	Pn	22 23 33.5	-0.5
KRBG	**Karabiga-Canak**	**1.78**	**30**	*e*Pn	Pn	22 23 09.5	0.0	NPS	Neapolis	3.61 187	*e*PN	Pn	22 23 34.3	-0.4
APE	**Apeiranthos**	**1.85**	**195**	*e*PN	Pn	22 23 08.9	-1.6	NPS	Neapolis	3.61 187	*e*Pn	Pn	22 23 34.3	-0.4
APE	**Apeiranthos**	**1.85**	**195**	P	Pn	22 23 09.4	-1.1	JMB	Yambol	3.62 5	*i* P	Pn	22 23 35.7	+0.9
APE	**Apeiranthos**	**1.85**	**195**	*e*PN	Pn	22 23 10.3	-0.2	JMB	Yambol	3.62 5	*i* P	Pn	22 23 35.7	+0.9
APE	**Apeiranthos**	**1.85**	**195**	P	Pn	22 23 09.4	-1.1	DYR	Agios Nikonas	3.66 236	*e*PN	Pn	22 23 36.2	+0.8
APE	**Apeiranthos**	**1.85**	**195**	*e*Pn	Pn	22 23 10.3	-0.2	DYR	Agios Nikonas	3.66 236	*e*Pn	Pn	22 23 36.2	+0.8
ENEZ	**Enez**	**1.87**	**1**	*e*PN	Pn	22 23 10.4	-0.3	ELL	Elmali	3.66 124	*e*PN	Pn	22 23 36.0	+0.5
PTL	**Penteli**	**1.95**	**246**	P	Pn	22 23 11.3	-0.6	ELL	Elmali	3.66 124	*e*Pn	Pn	22 23 36.0	+0.5
PTL	**Penteli**	**1.95**	**246**	*e*PN	Pn	22 23 11.3	-0.6	KZN	Kozani	3.66 295	*e*PN	Pn	22 23 36.8	+1.3
PTL	**Penteli**	**1.95**	**246**	P	Pn	22 23 11.3	-0.6	KZN	Kozani	3.66 295	*e*Pn	Pn	22 23 36.8	+1.3
MRKA	**Markates**	**1.99**	**266**	P	Pn	22 23 12.1	-0.3	VAY	Valandovo	3.67 313	*e*PN	Pn	22 23 35.9	+0.4
MRKA	**Markates**	**1.99**	**266**	P	Pn	22 23 12.1	-0.3	VAY			*e*Sg	Sg	22 24 33.3	-3.1
RKY	**Sarkoy-Tekirda**	**2.00**	**24**	*e*PN	Pn	22 23 11.8	-0.7	VAY	Valandovo	3.67 313	*e*Pn	Pn	22 23 36.3	+0.8
SART	**Tekirdag**	**2.00**	**24**	*e*P	Pn	22 23 11.6	-1.0	VAY			*e*Sg	Sg	22 24 33.8	-2.7
SART				*i* S	Sb	22 23 39.1	-1.1	IDI	Anoyia	3.70 196	*e*PN	Pn	22 23 35.7	-0.3
KULA	**Kula-Manisa**	**2.01**	**99**	*e*PN	Pn	22 23 11.8	-0.9	IDI	Anoyia	3.70 196	*e*Pn	Pn	22 23 35.7	-0.3
KULA	**Kula-Manisa**	**2.01**	**99**	*e*Pn	Pn	22 23 11.8	-0.9	SPNC	Sapanca-Adapaz	3.70 59	*e*PN	Pn	22 23 36.9	+1.0
BODT	**Bodrum**	**2.02**	**152**	*e*PN	Pn	22 23 12.2	-0.6	SPNC	Sapanca-Adapaz	3.70 59	*e*Pn	Pn	22 23 36.9	+1.0
BODT	**Bodrum**	**2.02**	**152**	*e*Pn	Pn	22 23 12.3	-0.6	ITM	Ithomi	3.72 244	*e*PN	Pn	22 23 36.8	+0.7
MLSB	**Milas**	**2.03**	**140**	*e*PN	Pn	22 23 12.6	-0.4	ITM	Ithomi	3.72 244	*e*Pn	Pn	22 23 36.8	+0.7
MLSB	**Milas**	**2.03**	**140**	*e*Pn	Pn	22 23 12.6	-0.4	LAST	Lasithi	3.73 188	*e*PN	Pn	22 23 35.9	-0.5
ALN	**Alexandroupoli**	**2.04**	**358**	P	Pn	22 23 12.0	-1.0	LAST	Lasithi	3.73 188	*e*Pn	Pn	22 23 35.9	-0.5
ALN				S	Sn	22 23 38.1	-0.5	GULT	Gulveren	3.73 64	*e*PN	Pn	22 23 36.8	+0.4
ALN	**Alexandroupoli**	**2.04**	**358**	*e*PB	Pn	22 23 12.3	-0.7	GULT	Gulveren	3.73 64	*e*Pn	Pn	22 23 36.8	+0.4
ALN				*e*SN	Sn	22 23 38.3	-0.1	ZKR	Zakros	3.74 179	*e*PN	Pn	22 23 36.5	+0.1
ALN	**Alexandroupoli**	**2.04**	**358**	P	Pn	22 23 12.0	-1.0	ZKR	Zakros	3.74 179	*e*Pn	Pn	22 23 36.5	+0.1
ALN	**Alexandroupoli**	**2.04**	**358**	*e*Pb	Pn	22 23 12.3	-0.7	RLS	Riolos of Patr	3.75 259	*e*PN	Pn	22 23 37.7	+1.2
ALN				S	Sn	22 23 38.1	-0.5	RLS	Riolos of Patr	3.75 259	*e*Pn	Pn	22 23 37.7	+1.2
ALN				*e*Sn	Sn	22 23 38.5	-0.1	VAM	Vamos	3.77 205	*e*PN	Pn	22 23 37.7	+0.8
BNT	**Bandirma**	**2.04**	**42**	*e*PN	Pn	22 23 12.0	-1.1	VAM	Vamos	3.77 205	*e*Pn	Pn	22 23 37.7	+0.8
BNT	**Bandirma**	**2.04**	**42**	*e*Pn	Pn	22 23 12.0	-1.1	BCK	Bucak	3.78 110	*e*PN	Pn	22 23 37.1	0.0
ATH	**Athens Observa**	**2.09**	**246**	*e*PB	Pn	22 23 14.2	+0.5	BCK	Bucak	3.78 110	*e*Pn	Pn	22 23 37.1	0.0
ATH	**Athens Observa**	**2.09**	**246**	*e*Pb	Pn	22 23 14.2	+0.5	KARN	Karanos	3.88 208	*e*PN	Pn	22 23 38.5	+0.2
SKIA	**Skiathos**	**2.10**	**279**	P	Pn	22 23 13.6	-0.2	KARN	Karanos	3.88 208	*e*Pn	Pn	22 23 38.5	+0.2
SKIA	**Skiathos**	**2.10**	**279**	P	Pn	22 23 13.6	-0.2	SIVA	Sivas	3.98 196	*e*PN	Pn	22 23 40.0	+0.3
MFT	**Murefte**	**2.12**	**24**	*e*PN	Pn	22 23 14.4	+0.2	SIVA	Sivas	3.98 196	*e*Pn	Pn	22 23 40.0	+0.3
MFT	**Murefte**	**2.12**	**24**	*e*Pn	Pn	22 23 14.5	+0.2	PYL	PYLOS	3.98 242	*e*PN	Pn	22 23 40.6	+0.8
PAIG	**Paliouri**	**2.18**	**300**	P	Pn	22 23 14.2	-0.7	JAN	Janina	4.17 283	*e*PN	Pn	22 23 43.6	+1.2
PAIG	**Paliouri**	**2.18**	**300**	P	Pn	22 23 14.2	-0.7	JAN	Janina	4.17 283	*e*Pn	Pn	22 23 43.6	+1.2
NEO	**Neokhori**	**2.30**	**282**	*e*PN	Pn	22 23 16.7	0.0	MDUB	Mudurnu	4.23 66	*e*PN	Pn	22 23 44.3	+1.0
NEO				*e*SN	Sn	22 23 46.0	+0.8	MDUB	Mudurnu	4.23 66	*e*Pn	Pn	22 23 44.3	+1.0
NEO	**Neokhori**	**2.30**	**282**	*e*Pn	Pn	22 23 16.7	0.0	SVRH	Sivrihisar-ESK	4.24 84	*e*PN	Pn	22 23 44.6	+1.3
XOR	**Xorichti**	**2.34**	**283**	P	Pn	22 23 16.5	-0.7	SVRH	Sivrihisar-ESK	4.24 84	*e*Pn	Pn	22 23 44.6	+1.3
XOR	**Xorichti**	**2.34**	**283**	P	Pn	22 23 16.5	-0.7	GVD	Gavdhos	4.33 203	*e*PN	Pn	22 23 44.8	+0.2
NAIG	**Nisos Aigina**	**2.35**	**243**	*e*PN	Pn	22 23 17.8	+0.5	GVD	Gavdhos	4.33 203	*e*Pn	Pn	22 23 44.8	+0.2
NAIG	**Nisos Aigina**	**2.35**	**243**	*e*Pn	Pn	22 23 17.8	+0.5	VTS	Vitosha	4.34 330 ⇑	*i* P	Pn	22 23 45.4	+0.6
TKR	**Tekirdag**	**2.39**	**27**	*e*PN	Pn	22 23 18.6	+0.7	VTS	Vitosha	4.34 330	*i* P	Pn	22 23 45.2	+0.4
TKR	**Tekirdag**	**2.39**	**27**	*e*Pn	Pn	22 23 18.6	+0.7	VTS			*i* S	Pb	22 23 57.9	+2.9
NIS1	**Nisyros Isl.**	**2.40**	**159**	*e*PN	Pn	22 23 17.5	-0.6	VTS	Vitosha	4.34 330	*i* P	Pn	22 23 45.2	+0.4
NIS1	**Nisyros Isl.**	**2.40**	**159**	*e*Pn	Pn	22 23 17.5	-0.6	PVL	Pavlikeni	4.39 352	*i* P	Pn	22 23 45.0	-0.4
YER	**Yerkesik**	**2.42**	**135**	*e*PN	Pn	22 23 18.4	0.0	PVL	Pavlikeni	4.39 352	*i* P	Pn	22 23 45.0	-0.4
YER	**Yerkesik**	**2.42**	**135**	*e*Pn	Pn	22 23 18.4	0.0	SZH	Strazhica	4.41 358	*i* P	Pn	22 23 45.0	-0.6
ATAL	**Atalanti**	**2.43**	**267**	P	Pn	22 23 18.3	-0.2	SZH	Strazhica	4.41 358	*i* P	Pn	22 23 45.0	-0.6
ATAL	**Atalanti**	**2.43**	**267**	P	Pn	22 23 18.3	-0.2	NEF	NEVSHA	4.49 11	*i* P	Pn	22 23 46.1	-0.6
ORLT	**Orhaneli**	**2.45**	**60**	*e*PN	Pn	22 23 19.1	+0.4	NEF	NEVSHA	4.49 11	*i* P	Pn	22 23 46.1	-0.6
LKR	**Lokris**	**2.45**	**266**	*e*PN	Pn	22 23 19.1	+0.3	KIZT	Kizilcal	4.49 88	*e*PN	Pn	22 23 47.1	+0.2
LKR	**Lokris**	**2.45**	**266**	*e*Pn	Pn	22 23 19.1	+0.3	KIZT	Kizilcal	4.49 88	*e*Pn	Pn	22 23 47.1	+0.2
KAVA	**Kavala**	**2.47**	**330**	P	Pn	22 23 18.1	-0.9	KONT	Konya--Tatoy	4.98 99	*e*PN	Pn	22 23 54.2	+0.7
KAVA	**Kavala**	**2.47**	**330**	P	Pn	22 23 18.1	-0.9	KONT	Konya--Tatoy	4.98 99	*e*Pn	Pn	22 23 54.2	+0.7
PLG	**Polygyros**	**2.56**	**307**	P	Pn	22 23 19.9	-0.4	BARS	Barje	5.11 26	*e*Pn	Pn	22 23 57.0	+1.5
PLG	**Polygyros**	**2.56**	**307**	*e*PN	Pn	22 23 20.4	+0.1	HUMR	Humele	5.73 352	*i* P	Pn	22 24 04.7	+1.0
PLG	**Polygyros**	**2.56**	**307**	P	Pn	22 23 19.9	-0.4	HUMR	Humele	5.73 352	*i* P	Pn	22 24 04.7	+1.0
PLG	**Polygyros**	**2.56**	**307**	*e*Pn	Pn	22 23 20.4	+0.1	TIRR	Tirgusor	5.85 16	*i* P	Pn	22 24 05.0	-0.4
CRLT	**Corlu**	**2.58**	**28**	*e*PN	Pn	22 23 20.8	+0.3	TIRR	Tirgusor	5.85 16	*i* P	Pn	22 24 05.0	-0.4
CRLT	**Corlu**	**2.58**	**28**	*e*Pn	Pn	22 23 20.8	+0.3	BRTR	Keskin Array B	5.89 79	Pn	Pn	22 24 06.4	+0.3
MDNY	**Mudanya-Bursa**	**2.61**	**54**	*e*PN	Pn	22 23 21.9	+1.0		0.6nm,0.3s,baz=256,slow=13,SNR=28					
MDNY	**Mudanya-Bursa**	**2.61**	**54**	*e*Pn	Pn	22 23 21.9	+1.0	BRTR			Lg	Lg	22 25 49.2	
LTK	**Loutraki**	**2.62**	**252**	P	Pn	22 23 21.0	0.0		0.1nm,0.3s,baz=268,slow=28,SNR=2.8					
LTK	**Loutraki**	**2.62**	**252**	*e*PN	Pn	22 23 21.6	+0.6	CFR	Carcaliu	6.49 13	*i* P	Pn	22 24 13.2	-0.9
LTK	**Loutraki**	**2.62**	**252**	P	Pn	22 23 21.0	0.0	CFR	Carcaliu	6.49 13	*i* P	Pn	22 24 13.2	-0.9
LTK	**Loutraki**	**2.62**	**252**	*e*Pn	Pn	22 23 21.6	+0.6	GRER		6.55 5	*i* P	Pn	22 24 14.6	-0.4
DID	**Didima**	**2.65**	**240**	P	Pn	22 23 20.7	-0.8	GRER		6.55 5	*i* P	Pn	22 24 14.6	-0.4
DID	**Didima**	**2.65**	**240**	P	Pn	22 23 20.7	-0.8	ARR	Arges	6.60 351	*i* P	Pn	22 24 17.1	+1.4
TVSB	**Tavsanli**	**2.66**	**76**	*e*PN	Pn	22 23 21.8	+0.1	ARR	Arges	6.60 351	*i* P	Pn	22 24 17.1	+1.4
TVSB	**Tavsanli**	**2.66**	**76**	*e*Pn	Pn	22 23 21.8	+0.1	VOIR		6.62 353	*i* P	Pn	22 24 16.3	+0.2
ARMT	**Armutlu**	**2.71**	**50**	*e*PN	Pn	22 23 22.9	+0.7	VOIR		6.62 353	*i* P	Pn	22 24 16.3	+0.2
ARMT	**Armutlu**	**2.71**	**50**	*e*Pn	Pn	22 23 23.0	+0.7	MLR	Muntele Rosu	6.63 359	Pn	Pn	22 24 17.1	+0.8
KHL	**Karahalli**	**2.71**	**100**	*e*PN	Pn	22 23 22.3	-0.1		0.3nm,0.3s,baz=186,slow=9.2,SNR=11					
KHL	**Karahalli**	**2.71**	**100**	*e*Pn	Pn	22 23 22.3	-0.1	MLR			Lg	Lg	22 26 10.3	
GEMT	**Gemlik**	**2.84**	**55**	*e*PN	Pn	22 23 24.3	+0.2		0.1nm,0.3s,baz=225,slow=17,SNR=4.4					
GEMT	**Gemlik**	**2.84**	**55**	*e*Pn	Pn	22 23 24.3	+0.2	MLR	Muntele Rosu	6.63 359	*i* P	Pn	22 24 17.4	+1.2
KDZ	**Kurdzhali**	**2.84**	**349**	*i* P	Pn	22 23 23.3	-0.8	MLR	Muntele Rosu	6.63 359	*i* P	Pn	22 24 17.4	+1.2
KDZ	**Kurdzhali**	**2.84**	**349**	*i* P	Pn	22 23 23.3	-0.8	TLCR		6.63 17	*i* P	Pn	22 24 14.5	-1.6
DSF	**Desfina**	**2.85**	**262**	P	Pn	22 23 24.0	-0.3	TLCR		6.63 17	*i* P	Pn	22 24 14.5	-1.6
DSF	**Desfina**	**2.85**	**262**	P	Pn	22 23 24.0	-0.3	LOT	Lotru	6.81 346	*i* P	Pn	22 24 19.3	+0.6
SLVT	**Silivri**	**2.86**	**33**	*e*PN	Pn	22 23 24.7	+0.4	LOT	Lotru	6.81 346	*i* P	Pn	22 24 19.3	+0.6
SLVT	**Silivri**	**2.86**	**33**	*e*Pn	Pn	22 23 24.7	+0.4	DIVS	Divibare	6.97 321	*e*Pn	Pn	22 24 22.0	+1.1
SOH	**Sokhos**	**2.90**	**313**	*e*PN	Pn	22 23 25.4	+0.5	PLOR	Plostina	7.00 3	*i* P	Pn	22 24 22.5	+1.3
SOH				*e*SN	Sn	22 24 00.0	+0.1	PLOR	Plostina	7.00 3	*i* P	Pn	22 24 22.5	+1.3
SOH	**Sokhos**	**2.90**	**313**	*e*Pn	Pn	22 23 25.4	+0.5	VRI	Vrincioaia	7.02 3	*i* P	Pn	22 24 22.6	+1.2
SOH				*e*Sn	Sn	22 24 00.0	+0.1	VRI	Vrincioaia	7.02 3	*i* P	Pn	22 24 22.6	+1.2
AGG	**Agios Georgios**	**2.96**	**274**	P	Pn	22 23 25.9	+0.1	GHRR		7.26 7	*i* P	Pn	22 24 29.4	+4.7
AGG	**Agios Georgios**	**2.96**	**274**	P	Pn	22 23 25.9	+0.1	BZS	Buzias	7.54 335	*i* P	Pn	22 24 28.1	-0.4
SRS	**Serrai**	**2.98**	**320**	P	Pn	22 23 25.5	-0.5	BZS	Buzias	7.54 335	*i* P	Pn	22 24 28.1	-0.4
SRS	**Serrai**	**2.98**	**320**	P	Pn	22 23 25.5	-0.5	TESR		7.66 3	*i* P	Pn	22 24 30.4	+0.2
CTKS	**Kestanelik-??a**	**3.00**	**37**	*e*PN	Pn	22 23 26.1	-0.1	TESR		7.66 3	*i* P	Pn	22 24 30.4	+0.2
CTKS	**Kestanelik-??a**	**3.00**	**37**	*e*Pn	Pn	22 23 26.1	-0.1	DRGR		8.31 344	*i* P	Pn	22 24 45.5	+6.2
EDRB	**Edirne**	**3.02**	**9**	*e*PN	Pn	22 23 26.4	-0.1	BURAR	Bucovina Array	8.78 356	*i* P	Pn	22 24 46.1	+0.4
EDRB	**Edirne**	**3.02**	**9**	*e*Pn	Pn	22 23 26.4	-0.1	BURAR	Bucovina Array	8.78 356	*i* P	Pn	22 24 46.1	+0.4
								TORD	Torodi Ar. Bea	33.52 227	P	P	22 29 15.2	-3.4

0.5nm,1.2s,baz=33,slow=9.0,SNR=3.0

MKAR Makanchi Array 41.17 60 P P 22 30 22.6 -0.7
0.5nm,0.6s,baz=278,slow=7.4,SNR=7.7

YKA Yellowknife Ar 74.17 342 P P 22 34 15.7 +0.6
0.1nm,0.5s,baz=21,slow=5.4,SNR=2.7

IDC 30 22:24:35.0±4.2, 19°76S×177°06W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=270.1km s-min=31.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.55**	**256**	P	P	22 32 56.4	-0.5
	0.3nm,0.5s,baz=94,slow=8.3,SNR=3.8						
WRA	**Warramunga Arr**	**45.58**	**261**	P	P	22 32 57.3	+0.1
	0.6nm,0.3s,baz=96,slow=8.2,SNR=37						
NVAR	**Mina Array Bea**	**79.89**	**43**	P	P	22 36 46.0	-0.1
	0.8nm,0.7s,baz=211,slow=6.9,SNR=4.8						
BRTR	**Keskin Array B**	**146.98**	**314**	PKPbc	PKPbc	22 44 19.6	-0.5
	0.5nm,0.7s,baz=67,slow=4.2,SNR=4.6						

IDC 30 22:51:48.1±2.2, 0°49S×132°29E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx2.1/30, Error ellipse: s-maj=96.9km s-min=26.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**200**	P	Pn	22 56 08.9	+0.7
	0.1nm,0.3s,baz=39,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**19.43**	**174**	P	P	22 56 16.2	-0.1
	0.1nm,0.3s,baz=352,slow=12,SNR=8.8						
WRA				S	Sn	22 59 45.0	-11
	0.1nm,0.3s,baz=360,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**23.09**	**176**	P	P

IDC 30 23:44:08.2±7.8, 1°36'N×123°65'E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/23, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=132.3km s-min=110.6km az=108.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.43**	**174**	P	P	23 48 36.5	+0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**23.62**	**154**	P	P	23 49 20.3	-0.8
	0.9nm,0.3s,baz=333,slow=10,SNR=36						
ASAR	**Alice Springs**	**26.80**	**159**	P	P	23 49 50.6	+0.4
	0.6nm,0.5s,baz=341,slow=15,SNR=10.0						
STKA	**Stephens Creek**	**37.17**	**154**	P	P	23 51 21.4	+0.2
	1.3nm,0.7s,baz=330,slow=6.4,SNR=4.1						

*ISK **31** 00:01:22.0, 37.86N×27.27E, h5km, MD2.6*
*ISCJB **31** 00:01:23.6±0.6, 37.90N±0.03×27.42E±0.06, h9km±9km, Error ellipse: s-maj=8.3km s-min=4.6km az=152.7*
*DDA **31** 00:01:23.3, 37.92N×27.43E, h7km, MD2.8*
*CSEM **31** 00:01:23.4±0.2, 37.88N×27.40E, h15km, MD2.8, Error ellipse: s-maj=8.5km s-min=3.6km az=59.0*

ISC 31 00:01:23.7±1.0, 37°90N±0.03×27°41E±0.04, h13km±10km, n14, σ0s65/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.24**	**215**	*e*P	**Pg**	**00 01 28.9**	**0.0**
GCAM				*e*S	**Sg**	**00 01 32.7**	**+0.3**
GCAM	**G?zelcaml?**	**0.24**	**215**	*e*P	**Pg**	**00 01 28.9**	**0.0**
GCAM				*e*S	**Sg**	**00 01 32.7**	**+0.3**
AYDN	**Tasoluk**	**0.44**	**122**	*e*P	**Pg**	**00 01 32.4**	**-0.2**
AYDN				*e*S	**Sg**	**00 01 38.1**	**-0.4**
AYDN	**Tasoluk**	**0.44**	**122**	*e*P	**Pg**	**00 01 32.4**	**-0.2**
AYDN				*e*S	**Sg**	**00 01 38.1**	**-0.4**
IZM	**Izmir**	**0.51**	**347**	*e*PG	**Pg**	**00 01 33.2**	**-0.6**
IZM				*e*SG	**Sb**	**00 01 42.9**	**+0.9**
IZM	**Izmir**	**0.51**	**347**	*e*Pg	**Pg**	**00 01 33.2**	**-0.6**
IZM				*e*Sg	**Sb**	**00 01 42.9**	**+0.9**
BLCB	**Balcova**	**0.56**	**329**	*e*PG	**Pg**	**00 01 34.4**	**-0.4**
BLCB				*e*SG	**Sg**	**00 01 42.2**	**-0.1**
BLCB	**Balcova**	**0.56**	**329**	*e*Pg	**Pg**	**00 01 34.4**	**-0.4**
BLCB				*e*Sg	**Sg**	**00 01 42.2**	**-0.1**
MLSB	**Milas**	**0.67**	**154**	*e*PG	**Pg**	**00 01 36.2**	**-0.6**
MLSB				*e*SG	**Sb**	**00 01 47.5**	**+1.0**
MLSB	**Milas**	**0.67**	**154**	*e*Pg	**Pg**	**00 01 36.2**	**-0.6**
MLSB				*e*Sg	**Sb**	**00 01 47.5**	**+1.0**
URLA	**Izmir**	**0.79**	**306**	*e*P	**Pb**	**00 01 39.5**	**+0.1**
URLA				*e*S	**Sb**	**00 01 50.0**	**0.0**
URLA	**Izmir**	**0.79**	**306**	*e*P	**Pb**	**00 01 39.5**	**+0.1**
URLA				*e*S	**Sb**	**00 01 50.0**	**0.0**
BODT	**Bodrum**	**0.84**	**185**	*e*PG	**Pg**	**00 01 38.7**	**-1.3**
BODT	**Bodrum**	**0.84**	**185**	*e*Pg	**Pg**	**00 01 38.7**	**-1.3**

*IDC **31** 00:02:28.6±1.2, 34°31N×25°79E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.5/24, mbtmp3.7/8, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/47, Error ellipse: s-maj=27.1km s-min=23.1km az=166.0*
*ISCJB **31** 00:02:30.5±0.9, 33°89N±0°06×25°79E±0°05, h53km±10km, mb3.7/6, Error ellipse: s-maj=10.9km s-min=6.6km az=13.8*
*THE **31** 00:02:32.1, 34°09N×25°73E, h0km±1km, ML2.5/1, Error ellipse: s-maj=4.6km s-min=0.6km az=160.0*
*ATH **31** 00:02:32.1, 34°11N×25°75E, h88km±3km, ML3.1*
*CSEM **31** 00:02:33.3±0.5, 34°08N×25°76E, h80km, ML3.1, Error ellipse: s-maj=11.4km s-min=5.4km az=177.0*

ISC 31 00:02:32.0±1.3, 33°94N±0°07×25°78E±0°04, h45km±15km, n56, σ1s30/76, mb3.8/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.23**	**17**	P	**Pn**	**00 02 53.0**	**+0.3**
ZKR				S	**Sn**	**00 03 09.4**	**+1.3**
ZKR	**Zakros**	**1.23**	**17**	*e*P	**Pn**	**00 02 53.1**	**+0.3**
ZKR	**Zakros**	**1.23**	**17**	*e*P	**Pn**	**00 02 53.1**	**+0.3**
ZKR				S	**Sn**	**00 03 09.4**	**+1.3**
LAST	**Lasithi**	**1.24**	**349**	P	**Pn**	**00 02 52.7**	**-0.3**
LAST				S	**Sn**	**00 03 09.1**	**+0.5**
LAST	**Lasithi**	**1.24**	**349**	*e*P	**Pn**	**00 02 52.9**	**-0.1**
LAST	**Lasithi**	**1.24**	**349**	*e*P	**Pn**	**00 02 52.9**	**-0.1**
LAST				S	**Sn**	**00 03 09.1**	**+0.5**
NPS	**Neapolis**	**1.33**	**354**	P	**Pn**	**00 02 54.1**	**0.0**
NPS				S	**Sn**	**00 03 11.1**	**+0.5**
NPS	**Neapolis**	**1.33**	**354**	*e*P	**Pn**	**00 02 54.1**	**0.0**
NPS	**Neapolis**	**1.33**	**354**	*e*P	**Pn**	**00 02 54.1**	**0.0**
NPS				S	**Sn**	**00 03 11.1**	**+0.5**
SIVA	**Sivas**	**1.34**	**324**	P	**Pn**	**00 02 54.4**	**+0.2**
SIVA	**Sivas**	**1.34**	**324**	P	**Pn**	**00 02 54.4**	**+0.2**
IDI	**Anoyia**	**1.53**	**332**	P	**Pn**	**00 02 57.4**	**+0.5**
IDI				S	**Sn**	**00 03 16.7**	**+1.0**
IDI	**Anoyia**	**1.53**	**332**	*e*P	**Pn**	**00 02 57.7**	**+0.8**
IDI	**Anoyia**	**1.53**	**332**	P	**Pn**	**00 02 57.4**	**+0.5**
IDI				S	**Sn**	**00 03 16.7**	**+1.0**
GVD	**Gavdhos**	**1.66**	**303**	P	**Pn**	**00 02 58.3**	**-0.3**
GVD	**Gavdhos**	**1.66**	**303**	*e*P	**Pn**	**00 02 59.6**	**+1.0**
GVD	**Gavdhos**	**1.66**	**303**	*e*P	**Pn**	**00 02 59.6**	**+1.0**
VAM	**Vamos**	**1.96**	**319**	P	**Pn**	**00 03 03.6**	**+0.9**
VAM	**Vamos**	**1.96**	**319**	*e*P	**Pn**	**00 03 03.8**	**+1.1**
VAM				*e*S	**Sn**	**00 03 26.2**	**+0.1**
VAM	**Vamos**	**1.96**	**319**	P	**Pn**	**00 03 03.6**	**+0.9**
VAM				*e*S	**Sn**	**00 03 26.2**	**+0.1**
KARP	**Karpathos**	**1.97**	**35**	*e*P	**Pn**	**00 03 03.5**	**+0.6**
KARP				*e*S	**Sn**	**00 03 26.2**	**-0.2**
KARP	**Karpathos**	**1.97**	**35**	*e*P	**Pn**	**00 03 03.5**	**+0.6**
KARP				*e*S	**Sn**	**00 03 26.2**	**-0.2**
KARN	**Karanos**	**2.12**	**314**	P	**Pn**	**00 03 05.6**	**+0.6**
KARN				S	**Sn**	**00 03 32.1**	**+2.1**
KARN	**Karanos**	**2.12**	**314**	*e*P	**Pn**	**00 03 05.5**	**+0.6**
KARN	**Karanos**	**2.12**	**314**	*e*P	**Pn**	**00 03 05.5**	**+0.6**
KARN				S	**Sn**	**00 03 32.1**	**+2.1**
ARG	**Arkhangelos**	**2.98**	**40**	*e*P	**Pn**	**00 03 17.4**	**+0.7**
ARG	**Arkhangelos**	**2.98**	**40**	*e*P	**Pn**	**00 03 17.4**	**+0.7**
KYTH	**Kithira**	**3.24**	**317**	P	**Pn**	**00 03 20.8**	**+0.4**
KYTH	**Kithira**	**3.24**	**317**	*e*P	**Pn**	**00 03 20.6**	**+0.2**
KYTH	**Kithira**	**3.24**	**317**	*e*P	**Pn**	**00 03 20.6**	**+0.2**
VLI	**Veliai**	**3.62**	**321**	P	**Pn**	**00 03 25.0**	**-0.5**
VLI	**Veliai**	**3.62**	**321**	*e*P	**Pn**	**00 03 24.9**	**-0.5**
VLI				*e*S	**Sn**	**00 04 03.9**	**-3.0**
VLI	**Veliai**	**3.62**	**321**	P	**Pn**	**00 03 25.0**	**-0.5**
VLI				*e*S	**Sn**	**00 04 03.9**	**-3.0**
DID	**Didima**	**4.12**	**331**	*e*P	**Pn**	**00 03 31.8**	**-0.6**
DID				*e*S	**Sn**	**00 04 16.3**	**-3.0**
DID	**Didima**	**4.12**	**331**	*e*P	**Pn**	**00 03 31.8**	**-0.6**
DID				*e*S	**Sn**	**00 04 16.3**	**-3.0**
ATH	**Athens Observa**	**4.36**	**338**	*e*P	**Pn**	**00 03 36.0**	**+0.4**
ATH	**Athens Observa**	**4.36**	**338**	*e*P	**Pn**	**00 03 36.0**	**+0.4**
PTL	**Penteli**	**4.38**	**340**	*e*P	**Pn**	**00 03 35.6**	**-0.5**
PTL	**Penteli**	**4.38**	**340**	*e*P	**Pn**	**00 03 35.6**	**-0.5**
VLX	**Vlachokerasia**	**4.40**	**322**	*e*P	**Pn**	**00 03 36.0**	**-0.4**
VLX	**Vlachokerasia**	**4.40**	**322**	*e*P	**Pn**	**00 03 36.0**	**-0.4**
ITM	**Ithomi**	**4.50**	**317**	*e*P	**Pn**	**00 03 37.6**	**-0.1**
ITM				*e*S	**Sn**	**00 04 26.1**	**-2.7**
ITM	**Ithomi**	**4.50**	**317**	*e*P	**Pn**	**00 03 37.6**	**-0.1**
ITM				*e*S	**Sn**	**00 04 26.1**	**-2.7**
GUR	**Goura**	**4.86**	**326**	*e*P	**Pn**	**00 03 42.5**	**-0.2**
GUR	**Goura**	**4.86**	**326**	*e*P	**Pn**	**00 03 42.5**	**-0.2**
AGG	**Agios Georgios**	**5.78**	**332**	*e*P	**Pn**	**00 03 56.2**	**+1.0**
AGG	**Agios Georgios**	**5.78**	**332**	*e*P	**Pn**	**00 03 56.2**	**+1.0**
MMAI	**Mount Meron Ar**	**8.10**	**94**	Pn	**Pn**	**00 04 27.0**	**0.0**
	0.7nm,0.3s,baz=267,slow=12,SNR=4.4						
MMAI					Sn	**Sn**	**00 05 55.6**	**-1.6**
	1.1nm,0.3s,baz=263,slow=24,SNR=4.8						
EIL	**Elat**	**8.89**	**116**	Pn	**Pn**	**00 04 39.0**	**+1.1**
	0.5nm,0.3s,baz=344,slow=8.6,SNR=11						
EIL					Sn	**Sn**	**00 06 11.8**	**-4.9**
	0.3nm,0.3s,baz=308,slow=19,SNR=4.2						
VRAC	**Vranov**	**16.80**	**339**	LR		00 12 55.7	
	comp=Z,68nm,18.1s,baz=188,slow=38						
FINES	**FINESS Array B**	**27.52**	**0**	P	**P**	**00 08 12.7**	**-1.4**
	1.4nm,0.6s,baz=166,slow=9.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**30.12**	**232**	P	P	00 08 42.2	+4.6
	0.1nm,0.3s,baz=31,slow=8.7,SNR=8.8						
ARCES	**ARCESS Array B**	**35.65**	**360**	P	**P**	**00 09 23.2**	**-2.1**
	4.8nm,0.9s,baz=171,slow=7.8,SNR=6.0						
MKAR	**Makanchi Array**	**44.03**	**56**	P	**P**	**00 10 37.1**	**+1.9**
	0.2nm,0.7s,baz=275,slow=7.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**45.49**	**45**	P	**P**	**00 10 47.8**	**+1.1**
	0.6nm,0.3s,baz=266,slow=9.6,SNR=4.5						
SCHQ	**Schefferville**	**64.44**	**320**	P	**P**	**00 13 05.2**	**+1.7**
	0.5nm,0.3s,baz=56,slow=7.3,SNR=5.1						

*IDC **31** 00:05:01.2±0.8, 23°42S×174°92W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/21, mbtmp4.4/13, MS3.6/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=29.5km s-min=21.6km az=145.0*
*ISCJB **31** 00:05:03.8±0.7, 23°5S±0°1×174°9W±0°1, h29km, mb4.5/18, MS3.6/7, Error ellipse: s-maj=17.9km s-min=11.2km az=135.5*
*AUST **31** 00:05:04.6±6.1, 23°30S×174°10W, h75km, Error ellipse: s-maj=4.1km s-min=1.5km az=3.0*
*NEIC **31** 00:05:07.1±1.9, 23°51S×174°89W, h44km±14km, mb4.9/8, Error ellipse: s-maj=19.7km s-min=9.2km az=144.0*

ISC 31 00:05:05.6±0.8, 23°45±0°1×174°9W±0°1, h29km, n59, σ0s91/49, mb4.6/17, MS3.5/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.38**	**48**	P	Pn	00 06 27.1	-11
	baz=5.7,SNR=15						
MSVF	**Nonsavu**	**8.67**	**310**	*e*Pn	Pn	00 07 12.7	+3.4
	45nm,0.8s						
AFI	**Afiamalu**	**9.94**	**18**	Pn	**Pn**	**00 07 27.2**	**+0.6**
RAR	**Rarotonga**	**14.21**	**84**	LR	LR	00 12 24.8	
	comp=Z,289nm,19.6s,baz=256,slow=31						
RAR	**Rarotonga**	**14.21**	**84**	*e*Pn	Pn	00 08 14.1	-11
URZ	**Urewera**	**16.27**	**203**	LR	LR	00 14 31.4	
	comp=Z,121nm,18.1s,baz=31,slow=35						
DZM	**Mont Dzumac**	**17.22**	**271**	eLR	LR	00 13 18.6	
	257nm,27.2s						
TBI	**Tubuai**	**23.38**	**95**	eLR	LR	00 15 34.3	
	298nm,27.2s						
PPT2	**Papeete2**	**24.44**	**81**	eLR	LR	00 16 02.1	
	348nm,27.0s						
PPT	**Papeete**	**24.45**	**81**	LR	LR	00 16 51.3	
	comp=Z,156nm,21.1s,baz=1.3,slow=29						
HNR	**Honiara**	**27.75**	**296**	LR	LR	00 19 21.6	
	comp=Z,102nm,21.4s,baz=180,slow=31						
ARMA	**Armidale**	**30.53**	**250**	*e*P	**P**	**00 11 16.3**	**-0.4**
	81nm,1.5s						
MGCD	**Mangrove Creek**	**31.31**	**244**	P	P	00 11 20.2	-3.3
	baz=32,SNR=5.8						
CTAO	**Charters Tower**	**36.12**	**268**	*e*P	**P**	**00 12 05.5**	**+0.1**
	19nm,0.8s						
PMG	**Port Moresby**	**38.80**	**285**	P	**P**	**00 12 28.2**	**+0.1**
	22nm,0.7s,baz=68,slow=6.2,SNR=11						
PMG	**Port Moresby**	**38.80**	**285**	*e*P	**P**	**00 12 27.1**	**-1.0**
	19nm,0.7s						
STKA	**Stephens Creek**	**39.19**	**248**	P	**P**	**00 12 31.1**	**-0.2**
	1.6nm,0.4s,baz=87,slow=9.8,SNR=4.0						
STKA					LR	LR	00 27 57.0	
	comp=Z,77nm,18.1s,baz=183,slow=35						
STKA	**Stephens Creek**	**39.19**	**248**	*e*P	**P**	**00 12 31.1**	**-0.2**
	3.8nm,1.4s						
COEN	**Coen**	**40.65**	**276**	P	**P**	**00 12 44.4**	**+0.9**
	baz=41,SNR=9.9						
AS31	**Alice Springs**	**46.68**	**259**	*e*P	**P**	**00 13 32.7**	**+0.6**
ASAR	**Alice Springs**	**46.68**	**259**	P	**P**	**00 13 31.6**	**-0.4**
	3.9nm,0.8s,baz=93,slow=8.4,SNR=24						
ASAR					LR	LR	00 33 59.9	
	comp=Z,117nm,18.4s,baz=171,slow=37						
ASAR	**Alice Springs**	**46.68**	**259**	P	**P**	**00 13 31.6**	**-0.4**
WRAB	**Tennant Creek**	**47.06**	**264**	*e*P	**P**	**00 13 33.9**	**-1.1**
	10nm,0.8s						
WRA	**Warramunga Arr**	**47.06**	**264**	P	**P**	**00 13 33.9**	**-1.2**
	9.9nm,0.9s,baz=102,slow=8.3,SNR=64						
WRA	**Warrnunga Arr**	**47.26**	**264**	P	**P**	**00 13 33.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.49**	**264**	*e*P	**P**	**00 14 38.4**	**+0.1**
	9.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.49**	**264**	P	**P**	**00 14 38.4**	**+0.1**
	baz=56,SNR=13						
MBWA	**Marble Bar**	**60.01**	**258**	*e*P	**P**	**00 15 09.6**	**-0.4**
	12nm,0.9s						
MORW	**Morawa**	**61.37**	**249**	P	**P**	**00 15 20.0**	**+0.8**
	baz=62,SNR=3.6						
QSPA	**South Pole Qui**	**66.65**	**180**	P	**P**	**00 15 54.5**	**+1.1**
	1.5nm,0.9s,baz=7.1,slow=8.1,SNR=5.4						
QSPA	**South Pole Qui**	**66.65**	**180**	*e*P	**P**	**00 15 53.2**	**-0.2**
	8.5nm,1.3s						
PCI	**Palu**	**66.97**	**279**	P	P	00 15 51.9	-4.3
	baz=68,SNR=15						
MJAR	**Matsushiro Arr**	**74.25**	**322**	P	**P**	**00 16 39.7**	**-0.3**
	2.0nm,0.5s,baz=159,slow=6.6,SNR=6.9						
MJAR	**Matsushiro Arr**	**74.25**	**322**	P	**P**	**00 16 39.7**	**-0.3**
PETK	**Petropavlovsk-**	**79.84**	**344**	P	**P**	**00 17 10.9**	**-0.2**
	7.0nm,0.8s,baz=147,slow=8.3,SNR=4.4						
PETK					PP	PP	00 20 07.1	-6.0
	5.7nm,1.0s,baz=57,slow=6.0,SNR=3.8						
PETK					LR	LR	00 54 27.0	
	comp=Z,22nm,18.3s,baz=232,slow=37						
PETK	**Petropavlovsk-**	**79.84**	**344**	P	**P**	**00 17 10.9**	**-0.2**
PETK					PP	PP	00 20 07.2	-6.0
KSRS	**Korea Array**	**80.95**	**317**	P	**P**	**00 17 18.9**	**+1.5**
	1.4nm,0.7s,baz=125,slow=5.6,SNR=5.2						
KSRS					LR	LR	00 47 15.4	
	comp=Z,31nm,20.4s,baz=357,slow=31						
KSAR	**Wonju Array Be**	**80.97**	**317**	P	**P**	**00 17 18.9**	**+1.4**
USRK	**Ussuriysk Arra**	**82.97**	**325**	P	**P**	**00 17 29.2**	**+1.4**
	4.2nm,0.8s,baz=119,slow=4.1,SNR=9.1						
TXAR	**Lajitas Array**	**86.29**	**56**	P	**P**	**00 17 44.9**	**-0.2**
	0.8nm,1.0s,baz=216,slow=6.2,SNR=6.1						
TXAR	**Lajitas Array**	**86.29**	**56**	P	**P**	**00 17 44.9**	**-0.2**
ILAR	**Eielson Array**	**90.57**	**12**	P	**P**	**00 18 03.7**	**-0.8**
	0.8nm,0.8s,baz=214,slow=5.7,SNR=8.9						
ILAR	**Eielson Array**	**90.57**	**12**	P	**P**	**00 18 03.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**00 18 22.2**	**+1.9**
	0.8nm,0.3s,baz=119,slow=3.1,SNR=4.7						
CMAR					PP	**PP**	**00 22 04.7**	**-1.3**
	1.3nm,0.9s,baz=111,slow=7.8,SNR=5.2						
CMAR					LR	LR	01 01 43.2	
	comp=Z,17nm,18.8s,baz=25,slow=36						
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**00 18 22.2**	**+1.9**
CMAR					PP	**PP**	**00 22 04.7**	**-1.3**
YKA	**Yellowknife Ar**	**98.00**	**24**	P	Pdif	00 18 38.5	-0.1
	0.1nm,0.5s,baz=234,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**98.00**	**24**	P	Pdif	00 18 38.5	-0.1
MKAR	**Makanchi Array**	**115.26**	**312**	PKP	**PKPdf**	**00 23 43.5**	**-0.8**
	0.3nm,0.8s,baz=72,slow=4.7,SNR=3.4						
MKAR	**Makanchi Array**	**115.26**	**312**	PKP	**PKPdf**	**00 23 43.5**	**-0.8**
BVAR	**Borovoye Array**	**123.14**	**319**	PKP	**PKPdf**	**00 23 59.2**	**0.0**
	0.7nm,0.8s,baz=349,slow=1.5,SNR=3.0						
BVAR	**Borovoye Array**	**123.14**	**319**	PKP	**PKPdf**	**00 23 59.1**	**0.0**
AKASG	**Malin Array Be**	**146.94**	**331**	PKPbc	**PKPbc**	**00 24 44.4**	**-0.8**
	1.1nm,0.5s,baz=43,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**146.94**	**331**	PKPbc	**PKPbc**	**00 24 44.4**	**-0.8**
AK01	**Malin Array Si**	**146.95**	**331**	*e*PKP	**PKPdf**	**00 24 42.2**	**-1.0**
MALT	**Malatya**	**147.95**	**305**	*e*PKPdf	**PKPdf**	**00 24 45.4**	**0.0**
BRTR	**Keskin Array B**	**150.90**	**311**	PKPbc	**PKPbc**	**00 24 55.5**	**-0.4**
	1.7nm,0.9s,baz=93,slow=1.7,SNR=12						
BRTR					PKPab	**PKPab**	**00 25 04.9**	**+1.7**
	1.3nm,0.7s,baz=119,slow=2.6,SNR=8.1						
BRTR	**Keskin Array B**	**150.90**	**311**	PKPbc	**PKPbc**	**00 24 55.5**	**-0.4**
BRTR					PKPab	**PKPab**	**00 25 04.9**	**+1.7**
GERES	**GERESS Array B**	**153.73**	**347**	PKPab	**PKPab**	**00 25 14.2**	**-0.5**
	0.4nm,0.7s,baz=354,slow=1.3,SNR=3.7						
GERES	**GERESS Array B**	**153.73**	**347**	PKPab	**PKPab**	**00 25 14.2**	**-0.5**

IDC 31 00:46:52.7±1.8, 13°02N×93°04E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=63.2km s-min=21.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.84**	**46**	Pn	Pn	00 48 47.0	-1.1
	0.6nm,0.3s,baz=240,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**34.86**	**347**	P	P	00 53 45.4	-0.2
	0.3nm,0.7s,baz=152,slow=8.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**41.34**	**353**	P	P	00 54 40.3	+0.1
	0.6nm,0.7s,baz=176,slow=8.2,SNR=2.9						
WRA	**Warramunga Arr**	**52.20**	**128**	P	P	00 56 05.6	-0.1
	0.7nm,0.4s,baz=302,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**54.09**	**132**	P	P	00 56 19.7	0.0
	0.6nm,0.4s,baz=309,slow=7.0,SNR=9.1						

*IDC **31** 00:50:09.3±0.5, 7°74N×74°80W, h39km±3km, mb4.0/23, mb1 4.2/25, mb1mx4.2/28, mbtmp4.0/25, ML5.3/2, MS3.4/9, Ms1 3.4/9, ms1mx3.3/34, Error ellipse: s-maj=14.4km s-min=10.0km az=60.0*

*ISCJB **31** 00:50:10.9±0.4, 7°87N±0°03×74°97W±0°03, h64km±4km, mb4.4/43, Error ellipse: s-maj=5.2km s-min=4.3km az=43.9*
*BJI **31** 00:50:10.0, 7°90N×74°90W, h30km, mB5.4/3, Ms5.3/2, Ms7 5.0/2*
*NEIC **31** 00:50:11.0, 7°88N×74°94W, h18km, mb4.8/23, ML4.3(RSNC), After RSNC.*
NEIC Felt at Caucasia and Nechi.

ISC 31 00:50:10.1±0.4, 7°84N±0°03×74°88W±0°04, h43km±3km, n163, σ1s62/221, mb4.5/43, MS3.2/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCAC	**Ocana**	**1.59**	**75**	*e*P	**Pn**	**00 50 37.8**	**+1.7**
HELC	**Santa Helena**	**1.73**	**203**	*e*P	**Pn**	**00 50 39.8**	**+1.8**
HELC				*e*S	**Sn**	**00 51 02.5**	**+3.4**
BARC	**Barichara**	**2.06**	**125**	*e*P	**Pn**	**00 50 45.7**	**+3.1**
BARC				*e*S	**Sn**	**00 51 12.3**	**+5.2**
ROSC	**El Rosal**	**3.01**	**170**	Pn	**Pn**	**00 50 57.7**	**+2.0**
	10nm,0.3s,baz=49,slow=3.9,SNR=14						
ROSC					Sn	**Sn**	**00 51 36.5**	**+5.7**
	45nm,0.3s,baz=289,slow=22,SNR=5.9						
ROSC					LR	LR	00 52 21.6	
	comp=Z,576nm,19.5s,baz=4.8,slow=45						
ROSC	**El Rosal**	**3.01**	**170**	*e*Pn	**Pn**	**00 50 58.2**	**+2.5**
ROSC				*e*Sn	**Sn**	**00 51 34.4**	**+3.6**
ROSC					Sn	00 51 36.5	+5.4
CHIC	**Chingaza**	**3.38**	**160**	*e*P	**Pn**	**00 51 02.7**	**+1.9**
PRAC	**Prado**	**4.12**	**180**	*e*P	**Pn**	**00 51 11.8**	**+1.2**
SDV	**Santo Domingo**	**4.33**	**76**	*e*Pn	Pn	00 51 17.1	+3.5
SDV				*e*Sn	**Sn**	**00 52 07.0**	**+4.1**
BCIP	**Isla Barro Col**	**5.08**	**285**	*e*Pn	**Pn**	**00 51 23.8**	**0.0**
BCIP				*e*Sn	**Sn**	**00 52 19.8**	**-1.5**
PINA	**Piqa, Costa Ab**	**5.32**	**286**	*e*P	**Pn**	**00 51 29.7**	**+2.6**
PINA				*e*S	Sn	00 52 15.7	-11
BRU	**Baru**	**7.67**	**278**	*e*P	**Pn**	**00 51 59.7**	**0.0**
BRU2	**Volcan**	**7.79**	**278**	*e*P	**Pn**	**00 52 01.7**	**+0.6**
PCJ	**Portland Cotta**	**10.09**	**347**	*i* P	**Pn**	**00 52 34.7**	**+2.1**
YHJ	**Yallahs**	**10.12**	**351**	*i* P	**Pn**	**00 52 35.8**	**+2.8**
JTS	**JuntasAbangare**	**10.24**	**285**	Pn	**Pn**	**00 52 36.0**	**+1.4**
	3.4nm,0.3s,baz=78,slow=6.1,SNR=14						
JTS					LR	LR	00 56 59.0	
	comp=Z,164nm,19.3s,baz=77,slow=40						
JTS	**JuntasAbangare**	**10.24**	**285**	*e*Pn	**Pn**	**00 52 36.1**	**+1.4**
JTS				*e*Sn	**Sn**	**00 54 28.6**	**+0.3**
GWJ	**Greenwich**	**10.33**	**350**	*i* P	**Pn**	**00 52 38.1**	**+2.1**
GWJ				*i* S	Sn	00 54 23.0	-7.6
STH	**Stony Hill**	**10.35**	**350**	*i* P	**Pn**	**00 52 38.2**	**+2.1**
STH				*i* S	Sn	00 54 22.9	-7.9
BNJ	**Bonny Gate**	**10.61**	**349**	*i* P	**Pn**	**00 52 42.3**	**+2.5**
BNJ				*i* S	**Sn**	**00 54 36.0**	**-1.3**
MTDJ	**Mount Denham**	**10.64**	**346**	*e*Pn	**Pn**	**00 52 42.1**	**+1.9**
MTDJ				*e*Sn	Sn	00 54 29.8	-8.4
SDDR	**Presa de Saban**	**11.61**	**17**	*e*Pn	Pn	00 52 57.5	+4.0
SDDR					Sn	**Sn**	**00 55 04.2**	**+2.4**
SJG	**San Juan**	**13.28**	**39**	Pn	**Pn**	**00 53 14.5**	**-1.7**
	2.5nm,0.3s,baz=232,slow=14,SNR=5.7						
SJG					Sn	**Sn**	**00 55 38.5**	**-4.0**
	2.8nm,0.3s,baz=210,slow=20,SNR=4.6						
SJG					LR	LR	00 58 09.3	
	comp=Z,59nm,19.4s,baz=94,slow=36						
SJG	**San Juan**	**13.28**	**39**	*e*Pn	**Pn**	**00 53 14.6**	**-1.5**
SJG					Sn	**Sn**	**00 55 37.7**	**-4.8**
SJG					Sn	**Sn**	**00 55 38.5**	**-4.0**
TGUH	**Tegucigalpa,Un**	**13.65**	**298**	Pn	**Pn

NVAR					pPcP			01 00 31.9	
YKA	**Yellowknife Ar**	**61.72**	**340**		P		**P**	**01 00 23.1**	**-0.7**
	2.7nm,0.6s,baz=132,slow=7.0,SNR=63								
YKA					pP		**pP**	**01 00 34.3**	**-2.0**
	2.4nm,0.7s,baz=131,slow=7.0,SNR=12								
YKA	**Yellowknife Ar**	**61.72**	**340**		P		**P**	**01 00 23.1**	**-0.7**
YKA					pP		**pP**	**01 00 34.3**	**-2.0**
SUMG	**Summit**	**68.32**	**11**	*e*P			**P**	**01 01 06.9**	**0.0**
	8.0nm,0.7s								
SUMG	**Summit**	**68.32**	**11**	*i* P			**P**	**01 01 07.0**	**0.0**
	7.6nm,0.9s								
LIC	**Lamto**	**69.27**	**86**	*e*P			**P**	**01 01 12.5**	**-1.0**
	9.2nm,0.5s								
LIC	**Lamto**	**69.27**	**86**	*e*P			**P**	**01 01 12.5**	**-1.0**
	9.2nm,0.5s								
DBIC	**Dimbokro**	**69.40**	**86**	P			**P**	**01 01 13.2**	**-1.1**
	2.9nm,0.4s,baz=251,slow=4.4,SNR=14								
DBIC	**Dimbokro**	**69.40**	**86**	P			**P**	**01 01 13.2**	**-1.1**
ESDC	**Sonseca Array**	**70.36**	**51**	P			**P**	**01 01 20.2**	**+0.4**
	1.0nm,0.6s,baz=270,slow=5.2,SNR=8.1								
ESDC	**Sonseca Array**	**70.36**	**51**	P			**P**	**01 01 20.2**	**+0.4**
SJPF	**Ste Jean**	**72.75**	**47**	*e*P			**P**	**01 01 35.2**	**+1.1**
	13nm,0.7s								
SJPF					*e*pP		**PcP**	**01 01 53.1**	**+1.9**
SJPF	**Ste Jean**	**72.75**	**47**	*e*P			**P**	**01 01 35.2**	**+1.1**
	13nm,0.7s								
SJPF					*e*pP		**PcP**	**01 01 53.1**	**+1.9**
GRR	**Gorron**	**73.57**	**42**	*e*P			**P**	**01 01 39.3**	**+0.5**
	6.2nm,0.6s								
GRR	**Gorron**	**73.57**	**42**	*e*P			**P**	**01 01 39.3**	**+0.5**
	6.2nm,0.6s								
MFF	**Saint Martin d**	**73.86**	**44**	*e*P			**P**	**01 01 41.2**	**+0.7**
	8.3nm,0.6s								
MFF					*e*pP		PcP	01 02 01.2	+5.3
MFF	**Saint Martin d**	**73.86**	**44**	*e*P			**P**	**01 01 41.2**	**+0.7**
	8.3nm,0.6s								
MFF					*e*pP		PcP	01 02 01.2	+5.3
FLN	**La Foliniere**	**73.86**	**42**	*e*P			**P**	**01 01 41.2**	**+0.7**
	7.4nm,0.6s								
FLN					*e*R				
	80nm,18.0s								
FLN	**La Foliniere**	**73.86**	**42**	*e*P			**P**	**01 01 41.2**	**+0.7**
	7.4nm,0.6s								
EPF	**Esparros**	**73.89**	**48**	*e*P			**P**	**01 01 41.9**	**+1.0**
EPF					*e*pP		**PcP**	**01 01 59.8**	**+3.6**
EPF	**Esparros**	**73.89**	**48**	*e*P			**P**	**01 01 41.9**	**+1.0**
EPF					*e*pP		**PcP**	**01 01 59.8**	**+3.6**
LDF	**La Druitiere**	**74.08**	**42**	*e*P			**P**	**01 01 42.3**	**+0.5**
	6.6nm,0.7s								
LDF	**La Druitiere**	**74.08**	**42**	*e*P			**P**	**01 01 42.3**	**+0.5**
	6.6nm,0.7s								
RJF	**Les Rejaudoux**	**74.90**	**45**	*e*P			**P**	**01 01 47.0**	**+0.4**
RJF					*e*R				
	105nm,17.5s								
RJF	**Les Rejaudoux**	**74.90**	**45**	*e*P			**P**	**01 01 47.0**	**+0.4**
DAG	**Danmarks Havn**	**75.01**	**11**	*i* P			**P**	**01 01 45.1**	**-1.5**
	25nm,0.8s								
TORD	**Torodi Ar. Bea**	**75.24**	**78**	P			**P**	**01 01 48.7**	**-0.5**
	5.5nm,0.6s,baz=285,slow=6.3,SNR=141								
TORD	**Torodi Ar. Bea**	**75.24**	**78**	P			**P**	**01 01 48.7**	**-0.5**
CAF	**Calviac**	**75.26**	**46**	*e*P			**P**	**01 01 49.3**	**+0.5**
	5.1nm,0.7s								
CAF	**Calviac**	**75.26**	**46**	*e*P			**P**	**01 01 49.3**	**+0.5**
	5.1nm,0.7s								
MTLF	**Montolieu**	**75.28**	**47**	*e*P			**P**	**01 01 49.3**	**+0.4**
MTLF	**Montolieu**	**75.28**	**47**	*e*P			**P**	**01 01 49.3**	**+0.4**
ILAR	**Eielson Array**	**75.31**	**335**	P			**P**	**01 01 48.1**	**-0.4**
	1.5nm,0.7s,baz=118,slow=4.6,SNR=20								
ILAR	**Eielson Array**	**75.31**	**335**	P			**P**	**01 01 48.1**	**-0.4**
TCF	**Toulx Ste Croi**	**75.45**	**44**	*e*P			**P**	**01 01 50.1**	**+0.3**
TCF	**Toulx Ste Croi**	**75.45**	**44**	*e*P			**P**	**01 01 50.1**	**+0.3**
BGF	**Bois d'Agland**	**75.91**	**44**	*e*P			**P**	**01 01 52.7**	**+0.3**
	7.5nm,0.6s								
BGF	**Bois d'Agland**	**75.91**	**44**	*e*P			**P**	**01 01 52.7**	**+0.3**
	7.5nm,0.6s								
AVF	**Avril sur Loir**	**76.27**	**44**	*e*P			**P**	**01 01 54.5**	**+0.1**
	4.0nm,0.6s								
AVF	**Avril sur Loir**	**76.27**	**44**	*e*P			**P**	**01 01 54.5**	**+0.1**
	4.0nm,0.6s								
SSF	**Saint Saulge**	**76.39**	**44**	*e*P			**P**	**01 01 55.9**	**+0.8**
SSF	**Saint Saulge**	**76.39**	**44**	*e*P			**P**	**01 01 55.9**	**+0.8**
LOR	**Lormes**	**76.64**	**43**	*e*P			**P**	**01 01 56.8**	**+0.2**
LOR	**Lormes**	**76.64**	**43**	*e*P			**P**	**01 01 56.8**	**+0.2**
VIVF	**Saint-Julien-l**	**77.11**	**46**	*e*P			**P**	**01 02 00.3**	**+1.0**
VIVF	**Saint-Julien-l**	**77.11**	**46**	*e*P			**P**	**01 02 00.3**	**+1.0**
GIVF	**Givet**	**77.42**	**40**	*e*P			**P**	**01 02 01.5**	**+0.6**
GIVF	**Givet**	**77.42**	**40**	*e*P			**P**	**01 02 01.5**	**+0.6**
SFTF	**Sexfontaines**	**77.48**	**42**	*e*P			**P**	**01 02 01.4**	**+0.2**
	7.1nm,0.5s								
SFTF	**Sexfontaines**	**77.48**	**42**	*e*P			**P**	**01 02 01.4**	**+0.2**
	7.1nm,0.5s								
MEZF	**Maizieres J'vi**	**77.50**	**42**	*e*P			**P**	**01 02 01.7**	**+0.4**
	9.3nm,0.7s								
MEZF	**Maizieres J'vi**	**77.50**	**42**	*e*P			**P**	**01 02 01.7**	**+0.4**
	9.3nm,0.7s								
PAGF	**Fort de Pagny**	**77.95**	**42**	*e*P			**P**	**01 02 04.4**	**+0.6**
PAGF	**Fort de Pagny**	**77.95**	**42**	*e*P			**P**	**01 02 04.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**77.97**	**46**	*e*P			**P**	**01 02 05.4**	**+1.3**
	13nm,0.9s								
ORIF					*e*R				
	59nm,18.8s								
ORIF	**Oris-en-Rattie**	**77.97**	**46**	*e*P			**P**	**01 02 05.4**	**+1.3**
	13nm,0.9s								
TAM	**Tamanrasset**	**78.19**	**68**	*e*P			**P**	**01 02 07.1**	**+1.3**
	2.6nm,0.6s								
LPL	**La Plagne**	**78.58**	**45**	*e*P			**P**	**01 02 08.7**	**+1.0**
	9.2nm,0.9s								
LPL	**La Plagne**	**78.58**	**45**	*e*P			**P**	**01 02 08.7**	**+1.0**
	9.2nm,0.9s								
MBDF	**Montbardon**	**78.60**	**46**	*e*P			**P**	**01 02 08.1**	**+0.4**
MBDF	**Montbardon**	**78.60**	**46**	*e*P			**P**	**01 02 08.1**	**+0.4**
HINF	**Hinteralfeld**	**78.69**	**43**	*e*P			**P**	**01 02 07.9**	**-0.1**
HINF	**Hinteralfeld**	**78.69**	**43**	*e*P			**P**	**01 02 07.9**	**-0.1**
CDF	**Champ du Feu**	**78.98**	**42**	*e*P			**P**	**01 02 09.7**	**+0.1**
	6.5nm,0.9s								
CDF	**Champ du Feu**	**78.98**	**42**	*e*P			**P**	**01 02 09.7**	**+0.1**
	6.5nm,0.9s								
NB2	**NORSAR Subarra**	**81.30**	**29**	P			**P**	**01 02 22.8**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=271,slow=5.6								
NOA	**NORSAR Array B**	**81.30**	**29**	P			**P**	**01 02 23.0**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=274,slow=5.3,SNR=7.7								
NOA	**NORSAR Array B**	**81.30**	**29**	P			**P**	**01 02 23.0**	**+1.2**
GERES	**GERESS Array B**	**83.23**	**42**	P			**P**	**01 02 32.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=270,slow=4.0,SNR=18								
GERES	**GERESS Array B**	**83.23**	**42**	P			**P**	**01 02 32.4**	**+0.2**
DPC	**Dobruska-Polom**	**84.79**	**40**	*e*P			**P**	**01 02 41.6**	**+1.5**
	comp=Z,4.1nm,0.8s								
ARCES	**ARCESS Array B**	**86.33**	**20**	P			**P**	**01 02 47.6**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=264,slow=2.4,SNR=12								
ARCES					pP		**pP**	**01 03 00.5**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=266,slow=3.6,SNR=2.4								
ARCES	**ARCESS Array B**	**86.33**	**20**	P			**P**	**01 02 47.6**	**+0.3**
ARCES					pP		**pP**	**01 03 00.5**	**+0.1**
FINES	**FINESS Array B**	**88.38**	**28**	P			**P**	**01 02 57.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=311,slow=4.3,SNR=4.0								
FINES	**FINESS Array B**	**88.38**	**28**	P			**P**	**01 02 57.6**	**+0.3**
VNA2	**Neumayer--Watz**	**90.18**	**162**	*e*P			**P**	**01 03 05.1**	**-0.4**
	baz=309,slow=6.7								
VNA2	**Neumayer--Watz**	**90.18**	**162**	*e*pP			pP	01 03 23.0	+4.4
	baz=309,slow=6.7								
SNAA	**Sanae**	**91.83**	**162**	*e*P			**P**	**01 03 11.8**	**-1.4**
BRTR	**Keskin Array B**	**99.00**	**48**	P			**Pdif**	**01 03 47.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=272,slow=3.9,SNR=3.3								
BRTR	**Keskin Array B**	**99.00**	**48**	P			**Pdif**	**01 03 47.1**	**+0.4**
ZALV	**Zalesovo Beam**	**116.10**	**13**	PKP			**PKPdf**	**01 08 48.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=274,slow=4.3,SNR=4.0								
ZALV					pPKP		pPKPdf	01 09 01.0	-1.0
	comp=Z,0.4nm,0.6s,baz=300,slow=2.8,SNR=2.6								
ZALV	**Zalesovo Beam**	**116.10**	**13**	PKP			**PKPdf**	**01 08 48.2**	**-0.3**
ZALV					pPKP		pPKPdf	01 09 01.0	-1.0
MK31	**Makanchi Array**	**121.94**	**18**	*e*P			**PKPdf**	**01 08 58.8**	**-1.2**
MKAR	**Makanchi Array**	**121.94**	**18**	PKP			**PKPdf**	**01 08 59.2**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=343,slow=2.4,SNR=11								
MKAR					pPKP		**pPKPdf**	**01 09 12.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=12,slow=2.1,SNR=3.8								
MKAR	**Makanchi Array**	**121.94**	**18**	PKP			**PKPdf**	**01 08 59.2**	**-0.8**
MKAR					pPKP		**pPKPdf**	**01 09 12.9**	**-0.7**
SONM	**Songino Array**	**124.56**	**359**	PKP			**PKPdf**	**01 09 04.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=328,slow=1.0,SNR=9.4								
SONM					pPKP		**pPKPdf**	**01 09 17.5**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=334,slow=1.0,SNR=4.6								
SONM	**Songino Array**	**124.56**	**359**	PKP			**PKPdf**	**01 09 04.9**	**-0.3**
SONM					pPKP		**pPKPdf**	**01 09 17.5**	**-1.2**
CN2	**Changchun**	**125.40**	**342**	*e*PKP			**PKPdf**	**01 09 05.3**	**-1.4**
KSH	**Kashi**	**125.69**	**28**	*e*PKP			**PKPdf**	**01 09 10.8**	**+3.2**
KSH					sPKP			01 09 23.8	
KSH					PP	PP		01 11 06.5	+7.7
KSH					PKS	**PKSdf**		**01 12 44.5**	**+0.2**
KSH					SKS	**SKSdf**		**01 16 16.8**	**+0.5**
KSH					SKKS	**SKKSac**		**01 17 54.0**	**-0.7**
KSH					SS	**SS**		**01 27 59.8**	**+4.5**
KSH					AMB	AMB			
	comp=Z,93nm,5.2s								
KSH					LR	LR			
	comp=N,54nm,6.0s								
KSH					LR	LR			
	comp=E,51nm,6.1s								
KSH					LR	LR			
	comp=Z,170nm,7.4s								
WMQ	**Urumqi**	**126.21**	**16**	*e*PKP			**PKPdf**	**01 09 08.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**131.19**	**354**	*e*PKP			**PKPdf**	**01 09 18.5**	**+0.5**
HHC					sPKP			01 09 33.3	
HHC					PP		**PP**	**01 11 38.5**	**+4.1**
HHC					SKS		**SKSdf**	**01 16 24.3**	**-2.1**
HHC					SKKS		**SKKSac**	**01 18 26.0**	**-2.9**
HHC					SS		**SS**	**01 29 04.3**	**+1.8**
HHC					AMB	AMB			
	comp=Z,180nm,11.0s								
HHC					LR	LR			
	comp=N,100nm,19.0s								
HHC					LR	LR			
	comp=E,570nm,27.5s								
HHC					LR	LR			
	comp=Z,260nm,29.7s								
LZH	**Lanzhou**	**136.29**	**2**	*e*PKP			**PKPdf**	**01 09 29.0**	**+1.2**
CD2	**Chengdu**	**141.45**	**2**	PKP			**PKPdf**	**01 09 36.3**	**-0.9**
GYA	**Guiyang**	**145.88**	**358**	*e*PKPbc			**PKPdf**	**01 09 42.8**	**-2.4**
GYA					PP		**PP**	**01 13 08.5**	**+3.2**
GYA					AMB	AMB			
	comp=Z,70nm,7.9s								
AS31	**Alice Springs**	**148.24**	**237**	*e*PKPdf			**PKPdf**	**01 09 49.8**	**+0.7**
ASAR	**Alice Springs**	**148.24**	**237**	PKP			**PKPdf**	**01 09 48.0**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=119,slow=2.9,SNR=43								
ASAR					PKPbc		**PKPbc**	**01 09 50.7**	**-1.8**
	comp=Z,6.2nm,0.7s,baz=118,slow=3.6,SNR=42								
ASAR					pPKPbc		**pPKPbc**	**01 10 04.0**	**-1.9**
	comp=Z,4.4nm,0.7s,baz=116,slow=2.9,SNR=10.0								
ASAR	**Alice Springs**	**148.24**	**237**	PKP			**PKPdf**	**01 09 48.0**	**-1.1**
ASAR					PKPbc		**PKPbc**	**01 09 50.7**	**-1.8**
ASAR					pPKPbc		**pPKPbc**	**01 10 04.0**	**-1.9**
WRA	**Warramunga Arr**	**149.25**	**244**	PKP			**PKPdf**	**01 09 50.4**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=107,slow=2.6,SNR=40								
WRA					PKPbc		**PKPbc**	**01 09 53.6**	**-1.4**
	comp=Z,5.0nm,0.7s,baz=103,slow=3.2,SNR=43								
WRA					PKPab		**PKPab**	**01 09 59.1**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=103,slow=3.8,SNR=31								
WRA					pPKPbc		**pPKPbc**	**01 10 06.8**	**-1.8**
	comp=Z,5.7nm,0.7s,baz=104,slow=2.4,SNR=13								
WRA	**Warramunga Arr**	**149.25**	**244**	PKP			**PKPdf**	**01 09 50.4**	**-0.4**
WRA					PKPbc		**PKPbc**	**01 09 53.6**	**-1.4**
WRA					PKPab		**PKPab**	**01 09 59.1**	**-0.6**
WRA					pPKPbc		**pPKPbc**	**01 10 06.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**153.17**	**13**	PKP			**PKPdf**	**01 09 57.6**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=7.4,slow=17,SNR=3.1								
CMAR					PKPbc		**PKPbc**	**01 10 04.1**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=314,slow=2.6,SNR=14								
CMAR					PKPab		**PKPab**	**01 10 16.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=321,slow=2.9,SNR=7.4								
CMAR	**Chiang Mai Arr**	**153.17**	**13**	PKP			**PKPdf**	**01 09 57.6**	**+0.8**
CMAR					PKPbc		**PKPbc**	**01 10 04.1**	**-0.1**
CMAR					PKPab		**PKPab**	**01 10 16.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**157.58**	**241**	PKPbc			PKPdf	01 10 15.8	+13
	comp=Z,1.8nm,0.9s,baz=14,slow=8.3,SNR=1.8								
FITZ					PKPab		**PKPab**	**01 10 35.6**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=90,slow=6.1,SNR=2.8								
FITZ	**Fitzroy Crossi**	**157.58**	**241**	PKPbc			PKPdf	01 10 15.8	+13
FITZ					PKPab		**PKPab**	**01 10 35.6**	**+0.8**

***IDC* 31 00:59:15.2±0.9, 1.82S×139.17E, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML4.2/2, Error ellipse: s-maj=38.7km s-min=16.5km az=78.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.62**	**194**	P	P	01 03 33.7	-0.8
	0.8nm,0.3s,baz=19,slow=12,SNR=51						
CTA	**Charters Tower**	**19.43**	**160**	P	Pn	01 03 44.8	+0.4
	0.6nm,0.3s,baz=331,slow=10.0,SNR=7.5						
FITZ	**Fitzroy Crossi**	**20.93**	**219**	P	Pn	01 04 01.3	-0.9
	1.8nm,0.7s,baz=55,slow=13,SNR=5.8						
ASAR	**Alice Springs**	**22.31**	**193**	P	P	01 04 14.1	-0.4
	4.9nm,0.8s,baz=24,slow=10,SNR=40						
STKA	**Stephens Creek**	**29.98**	**176**	P	P	01 05 24.9	-0.6
	1.8nm,0.7s,baz=353,slow=14,SNR=4.5						
CMAR	**Chiang Mai Arr**	**44.41**	**299**	P	P	01 07 27.1	-1.0
	0.8nm,0.5s,baz=114,slow=6.0,SNR=3.1						
MKAR	**Makanchi Array**	**69.37**	**322**	P	P	01 10 25.8	+0.8
	0.7nm,0.5s,baz=118,slow=7.4,SNR=13						
ZALV	**Zalesovo Beam**	**71.41**	**330**	P	P	01 10 37.0	-0.1
	0.3nm,0.3s,baz=113,slow=3.3,SNR=6.3						
VNDA	**Vanda**	**76.62**	**175**	P	P	01 11 07.2	-0.1
	1.0nm,0.6s,baz=320,slow=6.4,SNR=8.7						
ILAR	**Eielson Array**	**84.84**	**24**	P	P	01 11 51.4	-0.1
	0.3nm,0.9s,baz=250,slow=7.5,SNR=4.1						
QSPA	**South Pole Qui**	**88.12**	**180**	P	P	01 12 07.2	-0.5
	0.9nm,0.5s,baz=217,slow=9.5,SNR=7.5						
DBIC	**Dimbokro**	**143.82**	**279**	PKhKP	PKPpre	01 18 50.7	
	1.6nm,0.6s,baz=173,slow=7.5,SNR=4.8						

NEIC ***31*** *01:16:48.1±2.1, 23.23S×175.15W, h83km±17km, mb4.5/1, Error ellipse: s-maj=20.1km s-min=14.0km az=111.0*
ISCJB ***31*** *01:16:49.2±0.9, 23.2S±0.1×175.3W±0.1, h100km, mb4.0/8, Error ellipse: s-maj=20.1km s-min=15.5km az=29.0*
IDC ***31*** *01:16:51.9±13.0, 23.40S×175.14W, h116km±112km, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, Error ellipse: s-maj=70.0km s-min=32.2km az=148.0*

ISC 31 01:16:50.7±0.9, 23.2S±0.1×175.3W±0.1, h100km, n26, σ1§43/26, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.30**	**310**	*e*Pn	**Pn**	**01 18 46.9**	**-1.5**
	28nm,1.0s						
URZ	**Urewera**	**16.32**	**202**	*e*Pn	**Pn**	**01 20 32.8**	**-1.0**
CTA	**Charters Tower**	**35.81**	**268**	P	**P**	**01 23 41.9**	**+1.2**
	5.9nm,0.8s,baz=92,slow=9.3,SNR=3.3						
CTA	**Charters Tower**	**35.81**	**268**	P	**P**	**01 23 41.9**	**+1.2**
CTAO	**Charters Tower**	**35.81**	**268**	*e*P	**P**	**01 23 41.3**	**+0.6**
	4.3nm,0.6s						
AS31	**Alice Springs**	**46.40**	**259**	*e*P	**P**	**01 25 07.8**	**+0.3**
ASAR	**Alice Springs**	**46.40**	**259**	P	**P**	**01 25 08.0**	**+0.4**
	4.8nm,0.9s,baz=90,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**46.40**	**259**	P	**P**	**01 25 08.0**	**+0.4**
WRA	**Warramunga Arr**	**46.77**	**264**	P	**P**	**01 25 09.9**	**-0.4**
	4.3nm,0.9s,baz=98,slow=8.3,SNR=28						
WRA	**Warramunga Arr**	**46.77**	**264**	P	**P**	**01 25 09.9**	**-0.4**
MJAR	**Matsushiro Arr**	**73.90**	**323**	P	**P**	**01 28 14.7**	**-0.2**
	0.5nm,0.3s,baz=162,slow=5.4,SNR=3.0						
MJAR	**Matsushiro Arr**	**73.90**	**323**	P	**P**	**01 28 14.7**	**-0.2**
NVAR	**Mina Array Bea**	**81.33**	**42**	P	**P**	**01 28 56.6**	**+0.1**
	0.4nm,0.3s,baz=223,slow=9.7,SNR=5.6						
NVAR	**Mina Array Bea**	**81.33**	**42**	P	**P**	**01 28 56.6**	**+0.1**
USRK	**Ussuriysk Arra**	**82.63**	**325**	P	**P**	**01 29 04.5**	**+1.7**
	6.3nm,0.9s,baz=123,slow=3.6,SNR=4.5						
ILAR	**Eielson Array**	**90.44**	**12**	P	**P**	**01 29 39.9**	**-0.6**
	0.7nm,1.0s,baz=218,slow=5.6,SNR=4.0						
ILAR	**Eielson Array**	**90.44**	**12**	P	**P**	**01 29 39.9**	**-0.6**
YKA	**Yellowknife Ar**	**97.96**	**24**	P	**P**	**01 30 13.6**	**-1.3**
	0.2nm,0.7s,baz=238,slow=3.5,SNR=2.8						
YKA	**Yellowknife Ar**	**97.96**	**24**	P	**P**	**01 30 13.6**	**-1.3**
AKASG	**Malin Array Be**	**146.62**	**331**	PKPbc	**PKPbc**	**01 36 20.8**	**+0.4**
	1.7nm,0.7s,baz=46,slow=4.5,SNR=4.6						
AKASG	**Malin Array Be**	**146.62**	**331**	PKPbc	**PKPbc**	**01 36 20.8**	**+0.4**
BRTR	**Keskin Array B**	**150.53**	**311**	PKPbc	**PKPbc**	**01 36 28.8**	**-2.4**
	0.2nm,0.5s,baz=80,slow=1.8,SNR=2.6						
BRTR	**Keskin Array B**	**150.53**	**311**	PKPbc	**PKPbc**	**01 36 28.8**	**-2.4**
CLL	**Collm**	**151.25**	**349**	*e*pPKPbc	**PKPab**	**01 36 45.0**	**+4.5**
MMAI	**Mount Meron Ar**	**151.32**	**297**	PKPbc	**PKPbc**	**01 36 33.0**	**-0.1**
	0.4nm,0.4s,baz=76,slow=6.1,SNR=3.0						
MMAI	**Mount Meron Ar**	**151.32**	**297**	PKPbc	**PKPbc**	**01 36 33.0**	**-0.1**

IDC ***31*** *01:20:58.3±0.6, 1.93S×139.00E, h0km, mb4.4/16, mb1 4.5/21, mb1mx4.4/29, mbtmp4.5/21, ML4.1/4, MS4.3/12, Ms1 4.3/12, ms1mx4.0/27, Error ellipse: s-maj=20.0km s-min=10.0km az=88.0*

AUST ***31*** *01:20:58.4±2.8, 2.01S×139.00E, h0km, Error ellipse: s-maj=1.2km s-min=0.7km az=241.0*
ISCJB ***31*** *01:21:00.6±0.2, 1.99S±0.02×139.09E±0.04, h29km, mb4.8/60, MS4.3/25, Error ellipse: s-maj=5.1km s-min=3.3km az=173.3*
MOS ***31*** *01:21:01.5±0.8, 2.05S×139.02E, h37km, mb5.0/18, Error ellipse: s-maj=13.4km s-min=6.9km az=106.6*
DJA ***31*** *01:21:01.0±0.8, 2.2S±4.4×13.9E±1.1, h12km±5km, M4.9/23, mB5.4/8, mb4.8/23, MLv5.0/5, Mw(mB)4.8/8*
GCMT ***31*** *01:21:02.4±0.2, 1.74S×139.20E, h16km±1km, MW5.1, Moment Tensor Solution. s33,c36; s79,c110; Moment tensor: Scale 10^16Nm; Mrr2.99±.18; Mθθ-1.46±.10; Mφφ-1.52±.13; Mrθ-3.19±.41; Mrφ1.23±.07; Mθφ3.14±.45; Best double couple: M⌀5.30000×10^16 NP1:⌀s136.00000°, δ16.00000°, λ92.00000°. NP2:⌀s315.00000°, δ74.00000°, λ90.00000°. Principal axes: T 5.4400, Plg61.0000°, Azm224.0000°; N -0.2600, Plg0.0000°, Azm315.0000°; P -5.1700, Plg29.0000°, Azm45.0000°; Data Used: II IU IC G CN.*
BJI ***31*** *01:21:02.0, 2.11S×139.01E, h39km, mB5.1/28, mb4.8/43, Ms4.7/33, Ms7 4.4/34*
NEIC ***31*** *01:21:03.8±0.9, 2.01S×139.03E, h41km±8km, mb5.1/16, Error ellipse: s-maj=6.7km s-min=4.7km az=78.0*

ISC 31 01:21:02.2±0.3, 1.98S±0.03×139.08E±0.04, h29km, h29km:pP-P, n180, σ1§80/221, mb4.8/60, MS4.3/25, 5C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.37**	**268**	P	**Pn**	**01 21 10.3**	**-1.3**
JAY	**Jayapura**	**1.71**	**108**	P	**Pn**	**01 21 27.9**	**-2.3**
	baz=1.8,SNR=20						
JAY	**Jayapura**	**1.71**	**108**	P	**Pn**	**01 21 28.1**	**-2.0**
WAMI	**Wamena**	**1.93**	**191**	P	Pb	01 21 39.7	+2.9
BAKI	**Biak**	**3.07**	**285**	P	**Pn**	**01 21 47.6**	**-1.3**
FAKI	**Fak Fak**	**6.89**	**262**	P	**Pn**	**01 22 42.9**	**+1.6**
	147nm,0.9s,1μm0.4nm						
TLE	**Tual**	**7.30**	**240**	P	**Pn**	**01 22 47.7**	**+0.7**
	136nm,1.5s						
PALU	**Palau**	**10.34**	**334**	P	**Pn**	**01 23 30.0**	**+1.3**
	baz=10,SNR=4.9						
PALU				S	Sn	01 25 35.4	+12
	baz=10,SNR=5.6						
PMG	**Port Moresby**	**10.91**	**133**	Pn	**Pn**	**01 23 39.1**	**+2.6**
	0.8nm,0.3s,baz=320,slow=15,SNR=3.9						
PMG	**Port Moresby**	**10.91**	**133**	*e*Pn	**Pn**	**01 23 38.1**	**+1.6**
KDU	**Kakadu**	**12.49**	**211**	P	**Pn**	**01 23 57.5**	**-0.7**
	baz=12,SNR=8.2						
KDU				S	**Sn**	**01 26 13.7**	**-2.8**
	baz=12,SNR=3.9						
COEN	**Coen**

baz=32,SNR=4.0
DZM Mont Dzumac 33.27 129 *e*LR LR 01 36 31.6
comp=Z,658nm,22.4s
JHJ Hachijo jima 2 34.91 1 LR LR 01 39 10.1
comp=Z,483nm,19.3s,baz=280,slow=31
QIZ Qiongzhong 35.52 307 P **P** **01 27 56.5 -0.4**
QIZ S **S** **01 33 31.0 +0.1**
QIZ pmax pmax
comp=Z,44nm,1.9s
QIZ LR LR
comp=Z,310nm,16.7s
JNU Nakatsue 35.76 348 P **P** **01 27 58.6 -0.2**
comp=Z,15nm,1.1s,baz=164,slow=7.4,SNR=2.6
JNU Nakatsue 35.76 348 P **P** **01 27 58.6 -0.2**
NWAO Narrogin (SRO) 36.99 211 P **P** **01 28 10.7 +1.3**
comp=Z,7.7nm,0.8s,baz=53,slow=9.9,SNR=4.0
NWAO LR LR 01 44 41.0
comp=Z,1μm,18.8s,baz=189,slow=38
NWAO Narrogin (SRO) 36.99 211 P **P** **01 28 10.7 +1.3**
IPM Ipoh 38.56 280 *e*P **P** **01 28 22.9 0.0**
comp=Z,87nm,1.5s
NJ2 Nanjing 38.90 332 *e*P **P** **01 28 26.5 +1.1**
NJ2 pP **pP** **01 28 38.3 +4.3**
NJ2 sP sP 01 28 42.3 +4.8
NJ2 PP **PnPn** **01 29 56.3 -1.1**
NJ2 S **ScP** **01 34 26.0 +3.6**
NJ2 sS sS 01 34 44.0 +7.8
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,190nm,5.5s
NJ2 LR LR
comp=N,320nm,16.7s
NJ2 LR LR
comp=E,730nm,19.2s
NJ2 LR LR
comp=Z,430nm,18.4s
KULM Kulim 39.06 281 *e*P **P** **01 28 27.0 -0.1**
comp=Z,106nm,1.5s
PSI Prapat 40.42 277 P **P** **01 28 38.0 -0.5**
comp=Z,18nm,0.9s,baz=102,slow=2.2,SNR=14
PSI Prapat 40.42 277 P **P** **01 28 38.0 -0.5**
PSI Prapat 40.42 277 P **P** **01 28 38.1 -0.5**
baz=40,SNR=9.4
PSI Prapat 40.42 277 P **P** **01 28 38.0 -0.5**
comp=Z,43nm,1.6s,comp=Z,645nm
KSAR Wonju Array Be 40.57 346 P **P** **01 28 38.3 -0.9**
KSRS Korea Array 40.58 346 P **P** **01 28 38.3 -0.9**
comp=Z,1.2nm,0.7s,baz=172,slow=9.7,SNR=4.6
GYA Guiyang 42.17 314 P **P** **01 28 54.0 +1.3**
GYA pP pP 01 29 06.8 +5.4
GYA sP sP 01 29 12.5 +7.6
GYA PP PP 01 30 36.3 +5.6
GYA PcP **PcP** **01 30 48.3 +1.5**
GYA ScP **ScP** **01 34 34.0 -1.6**
GYA S **S** **01 35 12.0 +0.8**
GYA sS sS 01 35 32.5 +7.0
GYA SS **SS** **01 38 14.0 -5.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,510nm,17.5s
GYA LR LR
comp=E,490nm,18.0s
GYA LR LR
comp=Z,560nm,17.0s
LHMI Lhok Sumawe 42.69 280 P **P** **01 28 57.2 +0.2**
comp=Z,77nm,1.3s
KMI Kunming 44.33 310 P **P** **01 29 11.3 +1.0**
KMI pP **pP** **01 29 22.8 +3.7**
KMI sP sP 01 29 28.0 +5.4
KMI PcS **PcS** **01 34 45.0 -2.9**
KMI S **S** **01 35 42.0 -1.2**
KMI SS SS 01 38 52.5 -10
KMI pmax pmax
comp=Z,16nm,1.2s
KMI pmax pmax
comp=Z,150nm,5.3s
KMI LR LR
comp=N,150nm,13.6s
KMI LR LR
comp=E,200nm,19.2s
KMI LR LR
comp=Z,220nm,17.6s
CMAR Chiang Mai Arr 44.40 299 P **P** **01 29 10.5 -0.2**
comp=Z,5.4nm,0.7s,baz=119,slow=6.1,SNR=25
CMAR LR LR 01 46 22.9
comp=Z,83nm,18.5s,baz=277,slow=34
CMAR Chiang Mai Arr 44.40 299 P **P** **01 29 10.5 -0.2**
CMMT Chiang Mai 44.54 299 P **P** **01 29 12.3 +0.5**
comp=Z,12nm,1.7s
CHTO Chiang Mai 44.54 299 *e*P **P** **01 29 12.1 +0.3**
CHTO pmax pmax
comp=Z,64nm,2.2s
CHTO Chiang Mai 44.54 299 *e*P **P** **01 29 12.1 +0.3**
comp=Z,64nm,2.2s
CHTO Chiang Mai 44.54 299 P **P** **01 29 12.1 +0.3**
comp=Z,13nm,1.9s
XAN Xi'an 45.70 324 P **P** **01 29 20.5 -0.3**
XAN pP **pP** **01 29 32.0 +2.4**
XAN sP sP 01 29 37.5 +4.4
XAN PP **PP** **01 31 07.5 -0.7**
XAN S **S** **01 35 59.3 -3.0**
XAN sS **sS** **01 36 19.5 +2.8**
XAN SS **ScS** **01 39 14.0 -1.3**
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN pmax pmax
comp=Z,23nm,5.6s
XAN LR LR
comp=N,97nm,13.9s
XAN LR LR
comp=E,41nm,12.7s
XAN LR LR
comp=Z,38nm,17.6s
ASAJ Asahikawa 46.00 4 P **P** **01 29 22.9 -0.1**
comp=Z,4.7nm,0.8s,baz=202,slow=7.0,SNR=2.1
ASAJ Asahikawa 46.00 4 P **P** **01 29 22.9 -0.1**
USRK Ussuriysk Arra 46.41 353 LR LR 01 46 10.5
comp=Z,327nm,20.3s,baz=165,slow=33
BJT Baijiatuan 46.77 336 *e*P **P** **01 29 29.8 +0.8**
BJI Beijing 46.78 336 P **P** **01 29 30.8 +1.7**
BJI S **S** **01 36 14.5 -3.0**
BJI pmax pmax
comp=Z,23nm,1.8s
BJI LR LR
comp=N,340nm,19.6s
BJI LR LR
comp=E,270nm,16.8s
BJI LR LR
comp=Z,250nm,18.9s
CD2 Chengdu 46.90 317 P **P** **01 29 30.8 +0.5**
CD2 pP **pP** **01 29 42.5 +3.4**
CD2 sP sP 01 29 47.5 +4.9
CD2 PP **PP** **01 31 21.0 0.0**
CD2 S **S** **01 36 18.3 -1.3**
CD2 sS sS 01 36 38.5 +4.5
CD2 SS SS 01 39 38.5 -8.2
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,130nm,5.9s
CD2 LR LR
comp=N,390nm,7.1s
CD2 LR LR
comp=Z,370nm,15.5s
MDJ Mudanjiang 47.16 351 P **P** **01 29 34.3 +2.3**
MDJ pP pP 01 29 45.8 +5.0
MDJ sP sP 01 29 50.0 +5.7
MDJ PcP **PcP** **01 31 01.5 -1.9**
MDJ PP **PP** **01 31 27.3 +4.0**
MDJ ScP **ScP** **01 34 52.3 -3.2**
MDJ PcS **PcS** **01 34 57.5 -0.9**
MDJ S **S** **01 36 25.8 +3.0**
MDJ ScS **ScS** **01 39 23.0 -1.3**
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,59nm,6.9s
MDJ LR LR
comp=N,170nm,20.3s
MDJ LR LR
comp=E,100nm,27.3s
MDJ LR LR
comp=Z,250nm,19.7s
CN2 Changchun 47.19 347 *e*P P 01 29 24.3 -8.0
CN2 *e*pP pP 01 29 36.8 -4.3
CN2 *e*sP sP 01 29 42.0 -2.5
CN2 *e*S S 01 36 14.0 -9.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,400nm,18.0s
HHC Hu-ho-hao-te 49.45 333 *e*P **P** **01 29 51.0 +1.0**
HHC pP pP 01 30 03.5 +4.7
HHC sP sP 01 30 08.8 +6.5
HHC S **S** **01 36 58.0 +2.4**
HHC ScS **ScS** **01 39 35.8 -4.2**
HHC SS **SS** **01 40 24.0 -3.9**
HHC pmax pmax
comp=Z,48nm,0.6s
HHC pmax pmax
comp=Z,240nm,4.5s
HHC LR LR
comp=N,650nm,18.3s
HHC LR LR
comp=E,690nm,19.8s
HHC LR LR
comp=Z,460nm,15.7s
BTO Baotou 49.99 331 *e*P P 01 29 50.8 -3.3
LZH Lanzhou 50.13 322 *e*P **P** **01 29 56.0 +0.7**
LZH pP **pP** **01 30 04.0 -0.1**
LZH sP **sP** **01 30 08.0 +0.5**
LZH S **S** **01 37 03.0 -2.3**
LZH sS **sS** **01 37 23.5 +3.7**
LZH SS **SS** **01 40 33.5 -5.5**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.0s
LZH LR LR
comp=N,200nm,14.5s
LZH LR LR
comp=E,170nm,13.3s
LZH LR LR
comp=Z,300nm,14.7s
HABR Khabarovsk 50.37 357 *e*P **P** **01 29 56.6 0.0**
HABR *e* 01 31 14.1
HABR *e* 01 31 52.4
HABR *e*S **S** **01 37 08.6 +0.8**
HABR *e**SS **sS** **01 37 25.4 +3.0**
HABR *e* 01 39 44.7
HABR *e*SS **SS** **01 40 44.2 +2.2**
HABR pmax pmax
comp=Z,38nm,1.9s
HABR pmax pmax
comp=E,29nm,1.6s
HABR pmax pmax
comp=N,38nm,2.3s
HABR MLR MLR
comp=Z,134nm,18.0s
KLR Kul'dur 51.40 354 *e*P **P** **01 30 02.4 -2.0**
GTA Gaotai 54.71 323 *e*P **P** **01 30 30.0 +0.9**
GTA pP pP 01 30 42.5 +4.5
GTA sP sP 01 30 47.8 +6.3
GTA S **S** **01 38 07.5 -0.3**
GTA sS sS 01 38 27.5 +5.0
GTA SS **SS** **01 41 47.8 -3.5**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.0s
GTA LR LR
comp=N,110nm,13.8s
GTA LR LR
comp=E,100nm,14.7s
GTA LR LR
comp=Z,260nm,14.5s
ULN Ulaanbaatar 56.96 335 *e*P **P** **01 30 45.9 +0.7**
comp=Z,50nm,1.9s
ULN Ulaanbaatar 56.96 335 P **P** **01 30 45.6 +0.4**
comp=Z,12nm,2.0s
PETK Petropavlovsk- 57.07 13 LR LR 01 51 24.8
comp=Z,268nm,20.6s,baz=199,slow=32
PET Petropavlovsk 57.22 14 *e*P P 01 30 52.7 +6.1
PET *e*S S 01 38 47.3 +6.9
SONM Songino Array 57.22 334 P **P** **01 30 47.5 +0.6**
comp=Z,1.6nm,0.9s,baz=162,slow=6.9,SNR=10.0
SONM Songino Array 57.22 334 P **P** **01 30 47.5 +0.6**
TAPN Taplejung 57.36 304 *e*P **P** **01 30 48.8 +0.2**
ODAN Odare 57.45 304 *e*P **P** **01 30 49.3 +0.2**
CIT Chita 57.97 342 *e*P P 01 30 55.2 +3.1
RAMN Ramite 58.14 304 *e*P **P** **01 30 54.4 +0.4**
GUN Gumba 59.08 304 *e*P **P** **01 31 00.8 +0.2**
PKI Pulchoki 59.35 304 *e*P **P** **01 31 02.4 -0.1**
KKN Kakani 59.53 304 *e*P **P** **01 31 03.8 +0.2**
ZAK Zakamensk 60.49 335 *i*P **P** **01 31 09.8 +0.2**
ZAK pmax pmax
comp=Z,15nm,1.6s
KOLN Koldanda 60.92 303 *e*P **P** **01 31 13.3 +0.2**
comp=Z,28nm,1.0s
DANN Dangsing 60.99 304 *e*P **P** **01 31 13.6 -0.1**
comp=Z,36nm,1.1s
TLY Talaya 61.30 336 *e*P **P** **01 31 14.6 -0.4**
TLY *e* 01 41 02.5
TLY pmax pmax
comp=Z,11nm,1.5s
TLY MLR MLR
comp=Z,199nm,20.0s
TLY Talaya 61.30 336 *e*P **P** **01 31 14.8 -0.2**
comp=Z,33nm,1.7s
IRK Irkutsk 61.48 336 *e*P P 01 31 21.4 +5.2
IRK pmax pmax
comp=Z,33nm,1.8s
PYUN Piuthan 61.54 303 *e*P **P** **01 31 17.5 +0.2**
comp=Z,83nm,1.0s
FX1 Attu Island--F 61.68 23 LR LR 01 52 30.1
comp=Z,275nm,21.0s,baz=213,slow=31
MOY Mondy 62.41 334 *e*P **P** **01 31 23.7 +1.1**
MOY pmax pmax
comp=Z,46nm,2.3s
HYB Hyderabad 62.66 291 *i*P **P** **01 31 23.5 -1.3**
YAK Yakutsk 64.24 355 *e*P **P** **01 31 35.4 +1.1**
YAK pmax pmax
comp=Z,22nm,1.2s
YAK pmax pmax
comp=N,13nm,1.2s
WMQ Urumqi 64.67 321 P **P** **01 31 38.5 +0.9**
WMQ pP pP 01 31 52.8 +6.1
WMQ PcP **PcP** **01 32 11.0 -0.3**
WMQ PP **PP** **01 34 01.0 +0.8**
WMQ S **S** **01 40 13.5 -2.5**
WMQ sS sS 01 40 37.0 +6.0
WMQ ScS **SKSac** **01 41 27.0 -3.3**
WMQ pmax pmax
comp=Z,13nm,2.0s
WMQ pmax pmax
comp=Z,160nm,4.0s
WMQ LR LR
comp=N,110nm,20.0s
WMQ LR LR
comp=E,66nm,22.0s
WMQ LR LR
comp=Z,67nm,22.0s
SEY Seymchan 65.52 7 *e*P P 01 31 45.7 +3.1
DDI Dehra Dun 66.33 304 *ex* **P** **01 31 48.5 -0.1**
KKH Kailua Kona 67.17 68 *e*P **P** **01 31 54.7 +0.7**
KKH Kailua Kona 67.17 68 *e*P **P** **01 31 54.7 +0.7**
STCH Steam Cracks 67.94 68 *e*P **P** **01 31 59.3 +0.2**
MK31 Makanchi Array 69.44 322 *ce*P **P** **01 32 08.1 +0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 69.44 322 P **P** **01 32 08.2 +0.3**
comp=Z,5.1nm,0.9s,baz=108,slow=7.8,SNR=31
MKAR Makanchi Array 69.44 322 *ce*P **P** **01 32 08.1 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 69.44 322 *e*P **P** **01 32 08.3 +0.5**
KSH Kashi 70.86 313 P **P** **01 32 19.0 +2.2**
KSH pP **PcP** **01 32 32.5 -4.8**
KSH sP sP 01 32 36.8 +7.5
KSH PcP pP 01 32 39.0 +13
KSH PP PP 01 34 59.3 +5.2
KSH S **S** **01 41 30.3 -0.1**
KSH sS **SKiKP** **01 41 52.5 -5.1**
KSH SKS **SKSac** **01 42 13.8 -3.7**
KSH ScS **SKKSac** **01 42 16.5 -1.1**
KSH SS **SS** **01 46 06.8 +3.4**
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,60nm,3.6s
KSH LR LR
comp=N,150nm,5.5s
KSH LR LR
comp=E,82nm,5.0s
KSH LR LR
comp=Z,210nm,6.0s
ZAA0 Zalesovo Array 71.49 330 *e*P **P** **01 32 18.9 -1.3**
ZALV Zalesovo Beam 71.49 330 P **P** **01 32 19.6 -0.5**
comp=Z,2.4nm,0.6s,baz=115,slow=6.7,SNR=9.1
ZALV Zalesovo Beam 71.49 330 P **P** **01 32 19.6 -0.5**
ZALV Zalesovo Beam 71.49 330 P **P** **01 32 19.6 -0.5**
PPT2 Papeete2 71.62 108 *e*LR LR 01 54 18.7
comp=Z,253nm,23.8s
TBI Tubuai 72.21 114 *e*LR LR 01 54 37.5
comp=Z,180nm,28.2s
TKM2 Tokmak 2 72.27 316 *e*P **P** **01 32 25.1 -0.3**
TKM2 pmax pmax
comp=Z,14nm,1.5s
TKM2 Tokmak 2 72.27 316 *e*P **P** **01 32 25.1 -0.3**
comp=Z,14nm,1.5s
BILL Bilibino 72.39 10 *e*P P 01 32 29.3 +4.1
BILL pmax pmax
comp=Z,3.0nm,1.2s
NVS Novosibirsk 72.75 330 *i*P **P** **01 32 27.6 0.0**
NVS pmax pmax
comp=Z,74nm,1.9s
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=E,27nm,1.7s
AAK Ala-Archa 72.94 316 P **P** **01 32 29.4 +0.1**
comp=E,2.2nm,0.9s,baz=147,slow=7.5,SNR=5.2
AAK Ala-Archa 72.94 316 *i*P **P** **01 32 29.5 +0.2**
AAK pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 72.94 316 *e*P **P** **01 32 30.2 +0.9**
KURK Kurchatov 73.33 325 *e*P **P** **01 32 30.8 -0.4**
KURK pmax pmax
comp=Z,48nm,1.7s
KURK Kurchatov 73.33 325 *e*P **P** **01 32 30.8 -0.4**
comp=Z,48nm,1.7s
KURK Kurchatov 73.33 325 P **P** **01 32 31.2 0.0**
comp=Z,55nm,1.5s,SNR=5.3
TIXI Tiksi 73.80 357 *e*P **P** **01 32 35.2 +1.7**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 73.80 357 *e*P **P** **01 32 34.9 +1.4**
comp=Z,35nm,2.0s
KKAR Karatay Array 75.87 315 *e*P **P** **01 32 46.2 +0.1**
KKAR Karatay Array 75.87 315 *e*P **P** **01 32 46.2 +0.1**
VNDA Vanda 76.47 175 P **P** **01 32 48.8 -0.1**
comp=Z,1.8nm,0.6s,baz=332,slow=6.7,SNR=11
VNDA LR LR 02 07 17.8
comp=Z,282nm,18.9s,baz=347,slow=36
VNDA Vanda 76.47 175 P **P** **01 32 48.8 -0.1**
VOSK Vostochnaya 78.49 325 P **P** **01 33 00.3 -0.3**
VOSK pmax pmax
comp=Z,6.0nm,1.1s
BVA0 Borovoye Array 78.93 325 *i*P **P** **01 33 03.0 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s
BRVK Borovoye 79.00 325 *e*P **P** **01 33 03.7 +0.3**
BRVK pmax pmax
comp=Z,45nm,1.8s
BRVK Borovoye 79.00 325 *e*P **P** **01 33 03.7 +0.3**
comp=Z,45nm,1.8s
BRVK Borovoye 79.00 325 P **P** **01 33 03.9 +0.5**
comp=Z,56nm,0.7s,SNR=6.7
AB31 Akbulak array 84.40 320 *ce*P **P** **01 33 32.4 +0.4**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 84.40 320 *e*P **P** **01 33 32.1 +0.1**
ILAR Eielson Array 85.02 24 P **P** **01 33 34.0 -0.7**
comp=Z,2.6nm,1.0s,baz=258,slow=5.1,SNR=12
ILAR LR LR 02 10 17.4
comp=Z,167nm,18.4s,baz=272,slow=35
ILAR Eielson Array 85.02 24 P **P** **01 33 34.0 -0.7**
AKTO Aktyubinsk 85.82 321 P **P** **01 33 38.4 -0.7**
comp=Z,1.5nm,0.9s,baz=122,slow=7.0,SNR=4.3
AKTO Aktyubinsk 85.82 321 P **P** **01 33 38.4 -0.7**
AKTO Aktyubinsk 85.82 321 P **P** **01 33 38.4 -0.7**
ARU Arti 86.39 327 *d*iP **P** **01 33 42.2 +0.5**
ARU **01 36 59.7**
ARU S S 01 44 05.0 -11
ARU pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 113.33 326 *e* 01 40 01.0
CLL *e*PP **PP** **01 40 28.0 +0.3**
CLL *e*PS **PS** **01 50 07.0 +2.8**
CLL LmV 02 31 00.0
comp=Z,400nm,18.1s
TORD Torodi Ar. Bea 136.40 287 PKP **PKPdf** **01 40 23.2 +0.9**
comp=Z,1.6nm,0.7s,baz=75,slow=0.9,SNR=9.2
TORD Torodi Ar. Bea 136.40 287 PKP **PKPdf** **01 40 23.2 +0.9**
DBIC Dimbokro 143.75 279 PKhKP PKPpre 01 40 33.4
comp=Z,5.7nm,0.5s,baz=52,slow=2.8,SNR=17
DBIC Dimbokro 143.75 279 *e*PKPdf PKPbc 01 40 33.2 -0.1
DBIC PKPpre PKPpre 01 40 33.4
ROSC El Rosal 146.53 84 PKPbc **PKPab** **01 40 44.6 +1.1**
comp=Z,3.8nm,0.5s,baz=112,slow=15,SNR=7.7
ROSC El Rosal 146.53 84 *e*PKPbc **PKPbc** **01 40 42.0 -0.5**
LPAZ La Paz 147.57 125 PKPbc **PKPab** **01 40 46.8 -0.9**
comp=Z,2.4nm,0.9s,baz=277,slow=1.2,SNR=11
LPAZ La Paz 147.57 125 *e*PKPbc **PKPab** **01 40 46.7 -1.0**

IDC 31 01:23:39.0±1.2, 3°61N×126°92E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.0/6, MS4.4/2, Ms1 4.4/2, ms1mx3.2/33, Error ellipse: s-maj=102.4km s-min=18.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	P	01 28 30.4	-0.4
	4.6nm,0.6s,baz=351,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	01 28 59.4	-1.0
	9.5nm,0.8s,baz=344,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**27.95**	**166**	P	P	01 29 33.3	+1.9
	0.9nm,0.5s,baz=356,slow=7.4,SNR=3.7						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	01 30 57.8	-0.7
	1.4nm,0.4s,baz=326,slow=3.6,SNR=4.3						
SONM	**Songino Array**	**47.48**	**341**	P	P	01 32 16.2	+0.3
	0.3nm,0.5s,baz=151,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**57.77**	**325**	P	P	01 33 31.5	-0.6
	0.5nm,0.4s,baz=115,slow=8.0,SNR=3.5						
FINES	**FINESS Array B**	**92.03**	**332**	LR	LR	02 25 47.6	
	comp=Z,187nm,18.7s,baz=140,slow=40						
NOA	**NORSAR Array B**	**98.98**	**334**	LR	LR	02 26 36.6	
	comp=Z,123nm,19.6s,baz=290,slow=38						

*ISCJB **31** 01:24:31.5±0.5, 50°30N×0°03×18°74E×0°03, h0km, Error ellipse: s-maj=5.2km s-min=2.5km az=14.5*
*CSEM **31** 01:24:32.7±0.2, 50°28N×18°74E, h2km, ML3.0/7, Error ellipse: s-maj=6.0km s-min=2.7km az=6.0*
*IPEC **31** 01:24:32.7±0.2, 50°31N×18°80E, h5km±1km, ML2.2/3, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
*PRU **31** 01:24:33.7, 50°24N×18°75E, h0km*
*WAR **31** 01:24:33.2, 50°28N×18°82E*
*VIE **31** 01:24:34.1±0.7, 49°76N×18°99E, h0km, mb2.3/3, ML2.6/4, Error ellipse: s-maj=5.7km s-min=4.6km az=165.0 53 km E of Ostrava Suspected Mining induced.*

ISC 31 01:24:33.3±0.8, 50°26N±0°03×18°78E±0°02, h0km, n47, σ1§02/76, 11C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.41**	**245**	*e*Sg	**Sb**	**01 24 49.4**	**-0.9**
OKC	**Ostrava-Krasne**	**0.58**	**224**	*e*Pg	**Pg**	**01 24 45.3**	**+0.8**
OKC				*e*SG	**Sg**	**01 24 52.2**	**+0.2**
	comp=Z,53nm,0.6s						
OKC	**Ostrava-Krasne**	**0.58**	**224**	*e*Pg	**Pg**	**01 24 45.0**	**+0.5**
	baz=41						
OKC				Sg	**Sg**	**01 24 52.2**	**+0.2**

	53nm,0.6s								
OJC	**Ojcow**	**0.66**	**93**	*e*Pg		**Pg**	**01 24 45.3**	**-0.5**	
	baz=279								
OJC				*e*Sg		**Sg**	**01 24 54.5**	**+0.2**	
OJC	**Ojcow**	**0.66**	**93**	*e*Pg		**Pg**	**01 24 45.5**	**-0.3**	
OJC				*e*Sg		**Sg**	**01 24 54.5**	**+0.2**	
MORC	**Moravsky Berou**	**0.93**	**239**	⇓*i*P		**Pg**	**01 24 51.0**	**-0.1**	
MORC	**Moravsky Berou**	**0.93**	**239**	⇓*i*P		**Pg**	**01 24 51.0**	**-0.1**	
MORC				*e*Sg		**Sg**	**01 25 03.2**	**+0.1**	
	34nm,0.2s,baz=56								
KRLC	**Kraliky**	**1.30**	**263**	*e*PG		**Pg**	**01 24 56.9**	**-1.2**	
KRLC				*e*SG		**Sg**	**01 25 13.8**	**-1.1**	
KRLC	**Kraliky**	**1.30**	**263**	Pg		**Pg**	**01 24 56.9**	**-1.2**	
KRLC				Sg		**Sg**	**01 25 13.8**	**-1.1**	
NIE	**Niedzica**	**1.30**	**130**	*e*Pg		**Pb**	**01 24 58.1**	**-0.5**	
NIE				*e*Sg		**Sn**	**01 25 16.1**	**-0.7**	
NIE	**Niedzica**	**1.30**	**130**	*e*Pg		**Pb**	**01 24 58.1**	**-0.5**	
NIE				*e*Sg		**Sn**	**01 25 16.1**	**-0.7**	
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*PG		**Pn**	**01 25 01.8**	**-0.8**	
DPC				*e*SG		**Sn**	**01 25 22.8**	**-0.9**	
	comp=Z,17nm,0.4s								
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*Pn		**Pn**	**01 25 01.7**	**-0.8**	
	baz=90								
DPC				Sg		**Sn**	**01 25 22.8**	**-0.9**	
	17nm,0.4s								
KSP	**Ksiaz**	**1.69**	**291**	*e*Pn		**Pn**	**01 25 03.6**	**-0.5**	
KSP				*e*Pg		**Pb**	**01 25 05.3**	**+0.1**	
KSP				*e*Sn		**Sn**	**01 25 26.4**	**-0.1**	
KSP				*e*Sg		**Sg**	**01 25 29.0**	**+1.5**	
KSP	**Ksiaz**	**1.69**	**291**	*e*Pn		**Pn**	**01 25 03.3**	**-0.7**	
KSP	**Ksiaz**	**1.69**	**291**	*i* Pg		**Pb**	**01 25 05.1**	**-0.1**	
KSP				*e*Sg		**Sg**	**01 25 28.5**	**+1.0**	
KSP	**Ksiaz**	**1.69**	**291**	*e*Pn		**Pn**	**01 25 03.5**	**-0.5**	
KSP				*e*Pg		**Pb**	**01 25 05.3**	**+0.1**	
KSP				*e*Sn		**Sn**	**01 25 26.3**	**-0.1**	
KSP				*e*Sg		**Sg**	**01 25 29.0**	**+1.5**	
VRAC	**Vranov**	**1.71**	**237**	⇑*i*P		**Pn**	**01 25 03.7**	**-0.6**	
VRAC	**Vranov**	**1.71**	**237**	⇑*i*P		**Pn**	**01 25 03.7**	**-0.6**	
VRAC				*e*Sg		**Sn**	**01 25 27.7**	**+0.9**	
	25nm,0.3s,baz=54								
VYHS	**Vyhne**	**1.77**	**179**	*e*PN		**Pn**	**01 25 04.2**	**-0.9**	
VYHS				*e*SN		**Sn**	**01 25 27.5**	**-0.8**	
VYHS	**Vyhne**	**1.77**	**179**	*e*Sg		**Sn**	**01 25 27.5**	**-0.8**	
UPC	**Upice**	**1.79**	**279**	*e*PG		**Pn**	**01 25 05.1**	**-0.3**	
UPC				*e*SG		**Sn**	**01 25 29.5**	**+0.7**	
UPC	**Upice**	**1.79**	**279**	Pg		**Pn**	**01 25 05.1**	**-0.3**	
UPC				Sg		**Sn**	**01 25 29.5**	**+0.7**	
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn		**Pn**	**01 25 06.8**	**-0.9**	
	baz=50								
KRUC				*e*Sn		**Sn**	**01 25 33.6**	**+0.6**	
	19nm,0.3s,baz=50								
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*PN		**Pb**	**01 25 14.2**	**+0.1**	
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*Pn		**Pb**	**01 25 14.2**	**+0.1**	
PSZ	**Piszkesteto**	**2.45**	**162**	⇑*i*P		**Pb**	**01 25 19.0**	**+0.7**	
PSZ	**Piszkesteto**	**2.45**	**162**	⇑*i*P		**Pb**	**01 25 19.0**	**+0.7**	
KWP	**Kalwaria Pacla**	**2.61**	**102**	⇑*i*P		**Pg**	**01 25 23.4**	**+0.1**	
KOLS	**Kolonicke sedl**	**2.63**	**119**	*e*PN		**Pn**	**01 25 17.0**	**0.0**	
KOLS	**Kolonicke sedl**	**2.63**	**119**	*e*Pn		**Pn**	**01 25 17.0**	**0.0**	
PRU	**Pruhonice**	**2.74**	**266**	*e*PG		**Pb**	**01 25 21.8**	**-1.3**	
PRU				*e*SG		**Sb**	**01 25 57.9**	**+0.7**	
	comp=Z,7.3nm,0.6s								
PRU	**Pruhonice**	**2.74**	**266**	Sg		**Sb**	**01 25 57.9**	**+0.7**	
	7.3nm,0.6s								
CONA	**Conrad Observa**	**3.02**	**221**	⇑*i*Pn		**Pn**	**01 25 19.9**	**-2.5**	
CONA	**Conrad Observa**	**3.02**	**221**	Pn		**Pn**	**01 25 19.9**	**-2.5**	
BRG	**Berggiesshubel**	**3.14**	**283**	PG		**Pb**	**01 25 30.7**	**+0.7**	
BRG				SG		**Sg**	**01 26 13.6**	**-0.6**	
	6.3nm,0.6s								
TRPA	**Tarpa**	**3.26**	**129**	⇑*i*P		**Pn**	**01 25 25.8**	**+0.2**	
TRPA	**Tarpa**	**3.26**	**129**	⇑*i*P		**Pn**	**01 25 25.8**	**+0.2**	
KHC	**Kasperske Hory**	**3.56**	**254**	*e*PN		**Pn**	**01 25 29.0**	**-0.8**	
KHC				*ex*		x	01 25 35.4		
KHC				*e*SG		**Sb**	**01 26 24.3**	**+3.5**	
	comp=Z,10nm,0.4s								
KHC	**Kasperske Hory**	**3.56**	**254**	Pn		**Pn**	**01 25 29.0**	**-0.8**	
CLL	**Collm**	**3.81**	**288**	*e*Pg		**Pg**	**01 25 45.0**	**-1.3**	
CLL				*e*Sg		**Sg**	**01 26 37.0**	**+1.3**	
	comp=Z,8.0nm,0.9s								
MOA	**Molln**	**3.82**	**233**	⇑*i*Pg		**Pb**	**01 25 44.2**	**+2.6**	
MOA				⇓*i*Sg		**Sg**	**01 26 34.6**	**-1.4**	
	comp=Z,4.7nm,0.3s								
MOA	**Molln**	**3.82**	**233**	Pg		**Pb**	**01 25 44.2**	**+2.6**	
MOA				Sg		**Sg**	**01 26 34.6**	**-1.4**	
	comp=Z,4.7nm,0.3s								
DRGR		**4.34**	**142**	⇑*i*P		**Pn**	**01 25 40.3**	**-0.3**	
DRGR		**4.34**	**142**	⇑*i*P		**Pn**	**01 25 40.3**	**-0.3**	
BURAR	**Bucovina Array**	**5.00**	**119**	⇓*i*P		**Pn**	**01 25 49.8**	**+0.2**	
BURAR	**Bucovina Array**	**5.00**	**119**	⇓*i*P		**Pn**	**01 25 49.8**	**+0.2**	

IDC ***31*** *01:32:02.5±2.2, 34°.002N×141°.77E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/25, mbtmp3.3/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=39.6km s-min=25.5km az=75.0*

ISCJB ***31*** *01:32:03.3±1.7, 34°.08N±0°.06×141°.8E±0°.1, h22km±9km, mb3.3/3, MS3.4/1, Error ellipse: s-maj=15.1km s-min=8.8km az=156.6*

JMA ***31*** *01:32:03.0±0.3, 34°.07N×141°.86E, h26km±4km, M3.0*

ISC 31 01:32:03.5±3.1**, 34°.04N**±0°.06×**141°.7E**±0°.1**, h6**km±15km**, n14,** σ0**°93**/20**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
BSO1	**Boso 1**	**0.86**	**316**	P		**Pb**	**01 32 20.1**		**-0.4**
BSO1				*e*S		**Sb**	**01 32 32.1**		**0.0**
BSO2	**Boso 2**	**1.06**	**312**	*e*S		**Sg**	**01 32 38.5**		**+0.9**
BSO3	**Boso 3**	**1.25**	**308**	P		**Pn**	**01 32 26.9**		**-0.3**
BSO3				*e*S		**Sg**	**01 32 44.1**		**+0.5**
BSO4	**Boso 4**	**1.48**	**310**	P		**Pn**	**01 32 29.2**		**-1.3**
BSO4				*e*S		**Sn**	**01 32 49.5**		**-0.5**
JHJ2	**Mitsune**	**1.83**	**240**	P		**Pb**	**01 32 36.4**		**-1.0**
JHJ	**Hachijo jima 2**	**1.85**	**241**	Pn		**Pn**	**01 32 36.5**		**+0.8**
	33nm,0.3s,baz=265,slow=19,SNR=2.6								
JHJ				Sn		**Sn**	**01 32 59.9**		**+0.5**
	43nm,0.3s,baz=259,slow=24,SNR=2.1								
JIM2	**Oshima 3**	**2.00**	**290**	P		**Pn**	**01 32 36.3**		**-1.5**
JOD2	**Odawara 2**	**2.48**	**300**	P		**Pn**	**01 32 43.9**		**-0.5**
JOD2				*e*S		**Sn**	**01 33 14.6**		**-0.4**
MJAR	**Matsushiro Arr**	**3.80**	**312**	Pn		**Pn**	**01 33 02.8**		**+0.3**
	1.4nm,0.3s,baz=191,slow=6.3,SNR=5.7								
MJAR				Sn		**Sn**	**01 33 49.8**		**+2.3**
	0.9nm,0.3s,baz=216,slow=18,SNR=2.0								
MAT	**Matsushiro**	**3.80**	**312**	P		**Pn**	**01 33 03.0**		**+0.4**
MAT				S		**Sn**	**01 33 47.0**		**-0.5**
GUMO	**Guam**	**20.56**	**171**	LR		LR	01 43 26.4		
	comp=Z,161nm,18.7s,baz=79,slow=33								
SONM	**Songino Array**	**29.74**	**308**	P		**P**	**01 38 10.7**		**0.0**
	0.3nm,0.5s,baz=108,slow=8.4,SNR=3.4								
MKAR	**Makanchi Array**	**45.96**	**305**	P		**P**	**01 40 27.8**		**+0.5**
	0.2nm,0.5s,baz=87,slow=7.8,SNR=3.1								
WRA	**Warramunga Arr**	**54.14**	**189**	P		**P**	**01 41 29.4**		**-0.1**
	0.2nm,0.6s,baz=6.9,slow=7.6,SNR=4.8								

CSEM ***31*** *01:45:23.1, 56°.69N×12°.24E, h15km, ML0.4, After UPP*

UPP 31 01:45:23.1, 56°.69N×12°.24E, h15km**, ML0.4, 1C, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
FABU	**Falkenberg**	**0.41**	**40**	⇑P		Pg	01 45 30.8		-0.6
FABU				S		Sg	01 45 36.5		-0.6
BJUU	**Bjuv**	**0.75**	**144**	P		Pg	01 45 37.0		-0.7
BJUU				S		Sg	01 45 47.1		-0.6
DEL	**Delary**	**0.93**	**103**	P		Pb	01 45 40.2		-0.7
BORU	**Boraas**	**1.00**	**17**	P		Pb	01 45 41.3		-0.8
BORU				S		Sb	01 45 53.3		-1.7
GNOU	**Gnosjoe**	**1.03**	**53**	P		Pb	01 45 41.7		-1.0
LUNU	**Lund**	**1.25**	**147**	P		Pn	01 45 46.0		-0.1
LUNU				S		Sb	01 46 02.4		0.0
VXJU	**Vaexsjoe**	**1.51**	**80**	P		Pn	01 45 50.1		+0.6
VXJU				S		Sb	01 46 10.1		+0.4
VANU	**Vaenersborg**	**1.81**	**357**	P		Pn	01 45 54.0		+0.2

ISCJB ***31*** *01:46:01.6±0.3, 43°.85N±0°.01×18°.42E±0°.02, h2km±2km, mb4.0/22, MS4.9/1, Error ellipse: s-maj=2.2km s-min=1.5km az=141.3*

THE ***31*** *01:46:01.9, 44°.00N×18°.41E, h8km±4km, ML4.0/3, Error ellipse: s-maj=6.0km s-min=0.9km az=357.0*

SZGRF ***31*** *01:46:01.2, 43°.58N×18°.81E, h10km, Northwestern Balkan Peninsula*

PDG ***31*** *01:46:02.8±0.4, 43°.84N×18°.54E, h2km, MD3.9/9, ML3.9/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

BEO ***31*** *01:46:02.9±0.4, 43°.81N×18°.46E, h9km±3km, ML3.8/7*

LDG ***31*** *01:46:02.8±0.1, 43°.93N×18°.54E, h2km, Ml4.2/15, Error ellipse: s-maj=2.2km s-min=1.9km az=28.0*

MOS ***31*** *01:46:03.4±1.1, 43°.81N×18°.34E, h19km, mb4.4/10, Error ellipse: s-maj=4.8km s-min=3.1km az=120.3*

CSEM ***31*** *01:46:03.2±0.1, 43°.86N×18°.48E, h2km, ML3.9/10, Ms4.1, Error ellipse: s-maj=3.3km s-min=2.2km az=40.0*

NEIC ***31*** *01:46:03.5±0.2, 43°.79N×18°.45E, h5km, mb4.1/5, ML4.0(THE), ML3.9(PDG), ML3.8(VIE), Error ellipse: s-maj=4.8km s-min=2.9km az=216.0*

NEIC Felt at Sarajevo.

PRU ***31*** *01:46:05.3, 43°.87N×18°.58E, h15km, M4.1*

IDC ***31*** *01:46:05.2±3.2, 43°.82N×18°.39E, h18km±20km, mb3.9/13, mb1 4.0/21, mb1mx3.9/30, mbtmp3.8/21, ML3.6/7, MS2.8/2, Ms1 2.8/2, ms1mx2.4/43, Error ellipse: s-maj=11.6km s-min=8.8km az=28.0*

VIE ***31*** *01:46:07.2±0.5, 44°.12N×18°.47E, h10km, mb3.8/17, ML3.8/9, Ms4.1/8, Error ellipse: s-maj=4.3km s-min=2.8km az=167.0 32 km N of Sarajevo*

STR ***31*** *01:46:17.0±1.2, 44°.22N×17°.28E, h5km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 31 01:46:02.8±0.4**, 43°.854N**±0°.010×**18°.40E**±0°.01**, h1**km±2km**, n537,** σ1**°31**/586**, mb4.1**/22**, 57C-50D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
BBLS	**Lazići**	**0.73**	**89**	⇑*i*Pg		**Pg**	**01 46 16.0**	**-0.8**	
BBLS				*e*Sg		**Sg**	**01 46 25.8**	**-0.4**	
BBLS	**Lazići**	**0.73**	**89**	⇑*i*Pg		**Pg**	**01 46 16.0**	**-0.8**	
BBLS				*e*Sg		**Sg**	**01 46 25.8**	**-0.4**	
UPM	**Unac-Piva**	**0.75**	**150**	⇓*i*Pg		**Pg**	**01 46 16.0**	**-1.1**	
UPM				*e*Sg		**Sg**	**01 46 26.5**	**-0.3**	
UPM	**Unac-Piva**	**0.75**	**150**	⇓*i*Pg		**Pg**	**01 46 16.0**	**-1.1**	
UPM				*e*Sg		**Sg**	**01 46 26.5**	**-0.3**	
PLE	**Pljevlja**	**0.89**	**126**	⇑*i*Pg		**Pg**	**01 46 18.4**	**-1.5**	
PLE				*e*Sg		**Sg**	**01 46 30.7**	**-0.6**	
PLE	**Pljevlja**	**0.89**	**126**	P		**Pg**	**01 46 18.3**	**-1.5**	
PLE				S		**Sg**	**01 46 30.8**	**-0.6**	
PLE	**Pljevlja**	**0.89**	**126**	P		**Pg**	**01 46 18.3**	**-1.5**	
PLE				S		**Sg**	**01 46 30.8**	**-0.6**	
PLE	**Pljevlja**	**0.89**	**126**	P		**Pg**	**01 46 18.3**	**-1.5**	
PLE				*e*Sg		**Sg**	**01 46 30.7**	**-0.6**	
BRY	**Bratogost**	**0.96**	**174**	⇓*i*Pg		**Pg**	**01 46 19.6**	**-1.5**	
BRY				*e*Sg		**Sg**	**01 46 34.6**	**+1.1**	
BRY	**Bratogost**	**0.96**	**174**	P		**Pg**	**01 46 19.6**	**-1.5**	
BRY				S		**Sg**	**01 46 33.6**	**+0.1**	
BRY	**Bratogost**	**0.96**	**174**	P		**Pg**	**01 46 19.6**	**-1.5**	
BRY				S		**Sg**	**01 46 33.6**	**+0.1**	
BRY	**Bratogost**	**0.96**	**174**	S		**Sg**	**01 46 33.6**	**+0.1**	
BRY				*e*Sg		**Sg**	**01 46 34.6**	**+1.1**	
TEKS	**Tekeris**	**1.07**	**49**	⇓*i*Pg		**Pg**	**01 46 23.4**	**+0.1**	
TEKS				*e*Sg		**Sg**	**01 46 36.4**	**-0.8**	
TEKS	**Tekeris**	**1.07**	**49**	⇓*i*Pg		**Pg**	**01 46 23.4**	**+0.1**	
TEKS				*e*Sg		**Sg**	**01 46 36.4**	**-0.8**	
STON	**Ston**	**1.11**	**208**	*i* Pg		**Pg**	**01 46 23.3**	**-0.7**	
STON				Sg		**Sg**	**01 46 39.2**	**+0.9**	
NKY	**Niksic**	**1.13**	**157**	⇑*i*Pg		**Pg**	**01 46 22.5**	**-1.9**	
NKY				*e*Sg		**Sg**	**01 46 39.9**	**+0.9**	
NKY	**Niksic**	**1.13**	**157**	P		Pg	01 46 22.3	-2.1	
NKY				S		**Sg**	**01 46 38.8**	**-0.2**	
NKY	**Niksic**	**1.13**	**157**	P		Pg	01 46 22.3	-2.1	
NKY				S		**Sg**	**01 46 38.8**	**-0.2**	
NKY	**Niksic**	**1.13**	**157**	P		Pg	01 46 22.3	-2.1	
NKY				S		**Sg**	**01 46 38.8**	**-0.2**	
NKY				*e*Sg		**Sg**	**01 46 39.9**	**+0.9**	
DIVS	**Divibare**	**1.18**	**77**	P		**Pg**	**01 46 24.0**	**-1.4**	
DIVS				S		**Sg**	**01 46 40.2**	**-0.4**	
DIVS	**Divibare**	**1.18**	**77**	⇑*i*Pg		**Pg**	**01 46 23.9**	**-1.4**	
DIVS				*e*Sg		**Sg**	**01 46 38.7**	**-1.9**	
DIVS	**Divibare**	**1.18**	**77**	P		**Pg**	**01 46 24.0**	**-1.4**	
DIVS				*e*Sg		**Sg**	**01 46 38.7**	**-1.9**	
DIVS				S		**Sg**	**01 46 40.2**	**-0.4**	
BLY	**Banja Luka**	**1.25**	**316**	⇑*i*Pg		**Pn**	**01 46 27.0**	**-0.5**	
BLY				*e*Sg		**Sn**	**01 46 45.4**	**+0.4**	
BLY	**Banja Luka**	**1.25**	**316**	⇑*i*Pg		**Pn**	**01 46 27.0**	**-0.5**	
BLY				*e*Sg		**Sn**	**01 46 45.4**	**+0.4**	
SJES	**Sjenica**	**1.29**	**117**	⇑*i*Pg		Pn	01 46 24.4	-3.7	
SJES	**Sjenica**	**1.29**	**117**	*e*Pg		Pn	01 46 25.0	-3.1	
HCY	**Herceg Novi**	**1.41**	**177**	⇓*i*Pg		**Pn**	**01 46 28.6**	**-1.0**	
HCY				*e*Sg		**Sg**	**01 46 50.6**	**+2.6**	
HCY	**Herceg Novi**	**1.41**	**177**	P		**Pn**	**01 46 28.3**	**-1.3**	
HCY				S		**Sg**	**01 46 49.5**	**+1.5**	
HCY	**Herceg Novi**	**1.41**	**177**	P		**Pn**	**01 46 28.3**	**-1.3**	
HCY				S		**Sg**	**01 46 49.5**	**+1.5**	
HCY	**Herceg Novi**	**1.41**	**177**	P		**Pn**	**01 46 28.3**	**-1.3**	
HCY				S		**Sg**	**01 46 49.5**	**+1.5**	
HCY				*e*Sg		**Sg**	**01 46 50.6**	**+2.6**	
BEY	**Berane**	**1.47**	**132**	*e*Sg		**Sg**	**01 46 50.4**	**+0.5**	
IVA	**Berane**	**1.47**	**131**	⇑*i*Pg		**Pn**	**01 46 28.7**	**-1.8**	
IVA				*e*Sg		**Sg**	**01 46 50.4**	**+0.4**	
PDG	**Podgorica**	**1.56**	**156**	⇑*i*Pg		**Pn**	**01 46 29.9**	**-1.7**	
PDG	**Podgorica**	**1.56**	**156**	⇑*i*Pg		**Pn**	**01 46 29.9**	**-1.7**	
PDG				*e*Sg		**Sg**	**01 46 53.5**	**+0.8**	
TTG	**Podgorica**	**1.56**	**156**	⇑*i*Pg		**Pn**	**01 46 29.9**	**-1.7**	
TTG				*e*Sg		**Sg**	**01 46 53.5**	**+0.7**	
TTG	**Podgorica**	**1.56**	**156**	P		**Pn**	**01 46 29.7**	**-1.9**	
TTG				S		**Sg**	**01 46 53.5**	**+0.7**	
TTG	**Podgorica**	**1.56**	**156**	P		**Pn**	**01 46 29.7**	**-1.9**	
TTG				S		**Sg**	**01 46 53.5**	**+0.7**	
TTG	**Podgorica**	**1.56**	**156**	P		**Pn**	**01 46 29.7**	**-1.9**	
TTG				S		**Sg**	**01 46 53.5**	**+0.7**	
BUM	**Brajici-Budva**	**1.59**	**167**	⇑*i*Pg		**Pn**	**01 46 31.2**	**-1.0**	
BUM				*e*Sg		**Sg**	**01 46 56.0**	**+2.0**	
FGSL	**Fruska Gora**	**1.65**	**37**	*e*Sg		**Sg**	**01 46 55.7**	**-0.1**	
FRGS	**Fruska Gora**	**1.65**	**37**	*e*Sg		**Sg**	**01 46 55.7**	**-0.1**	
GRUS	**Gruza**	**1.68**	**88**	⇑*i*Pg		**Pn**	**01 46 31.7**	**-1.6**	
GRUS	**Gruza**	**1.68**	**88**	⇑*i*Pg		**Pn**	**01 46 31.7**	**-1.6**	
PVY	**Plav**	**1.70**	**137**	⇑*i*Pn		**Pn**	**01 46 33.0**	**-0.7**	
PVY				*e*Sn		**Sb**	**01 46 57.2**	**+0.4**	
PVY	**Plav**	**1.70**	**137**	P		**Pn**	**01 46 32.8**	**-0.9**	
PVY				S		**Sg**	**01 46 58.3**	**+1.0**	
BEO	**Beograd**	**1.77**	**57**	*e*Pn		**Pn**	**01 46 32.5**	**-2.1**	
BEO				*e*Sg		**Sb**	**01 46 58.6**	**-0.1**	
BEO	**Beograd**	**1.77**	**57**	*e*Pn		**Pn**	**01 46 32.5**	**-2.1**	
BEO				*e*Sg		**Sb**	**01 46 58.6**	**-0.1**	
ULC	**Ulcinj**	**1.99**	**162**	⇓*i*Pn		**Pn**	**01 46 38.8**	**+1.2**	
ULC				*e*Sn		**Sb**	**01 47 05.2**	**+0.1**	
ULC	**Ulcinj**	**1.99**	**162**	P		**Pn**	**01 46 37.8**	**+0.2**	
ULC				S		**Sb**	**01 47 05.5**	**+0.4**	
ULC	**Ulcinj**	**1.99**	**162**	P		**Pn**	**01 46 37.8**	**+0.2**	
ULC				S		**Sb**	**01 47 05.5**	**+0.4**	
ULC	**Ulcinj**	**1.99**	**162**	P		**Pn**	**01 46 37.8**	**+0.2**	
ULC	**Ulcinj**	**1.99**	**162**	⇓*i*Pn		**Pn**	**01 46 38.8**	**+1.2**	
ULC				S		**Sb**	**01 47 05.5**	**+0.4**	
SVIS	**Svilajnac**	**2.07**	**78**	*e*Pn		**Pn**	**01 46 37.1**	**-1.6**	
SVIS	**Svilajnac**	**2.07**	**78**	*e*Pn		**Pn**	**01 46 37.1**	**-1.6**	
SELS	**Selova**	**2.08**	**107**	*e*Pn		**Pn**	**01 46 37.3**	**-1.6**	
SISC	**Sisak**	**2.17**	**319**	*e*Pn		**Pn**	**01 46 41.0**	**+0.8**	
SISC				Sn		**Sn**	**01 47 08.7**	**+1.0**	
SISC	**Sisak**	**2.17**	**319**	*e*Pn		**Pn**	**01 46 40.9**	**+0.8**	
SISC				Sn		**Sn**	**01 47 08.6**	**+1.0**	
PKSM	**Moragy**	**2.37**	**4**	⇓P		**Pn**	**01 46 42.5**	**-0.3**	
PKSM	**Moragy**	**2.37**	**4**	⇓P		**Pn**	**01 46 42.5**	**-0.3**	
PKSM	**Moragy**	**2.37**	**4**	⇓P		**Pn**	**01 46 42.5**	**-0.3**	
BOLS	**Boljevac**	**2.57**	**89**	*e*Pg		**Pb**	**01 46 47.8**	**-1.9**	
BOLS	**Boljevac**	**2.57**	**89**	*e*Pg		**Pb**	**01 46 47.8**	**-1.9**	
NVLJ	**Novalja**	**2.63**	**287**	*i* Pn		Pn	01 46 48.8	+2.4	
NVLJ	**Novalja**	**2.63**	**287**	*i* Pn		Pn	01 46 48.8	+2.4	
BARS	**Barje**	**2.70**	**111**	*e*Pn		**Pn**	**01 46 46.3**	**-1.1**	
BARS	**Barje**	**2.70**	**111**	*e*Pn		**Pn**	**01 46 46.3**	**-1.1**	
TIR	**Tirane**	**2.73**	**156**	*e*P		**Pn**	**01 46 49.5**	**+1.7**	
TIR	**Tirane**	**2.73**	**156**	*e*Pn		**Pn**	**01 46 49.5**	**+1.7**	
TIR	**Tirane**	**2.73**	**156**	*e*Pg		**Pn**	**01 46 50.0**	**+2.2**	
TIR	**Tirane**	**2.73**	**156**	*e*P		**Pn**	**01 46 49.5**	**+1.7**	
BOJS	**Bojanci**	**2.79**	**307**	*i* Pn		**Pn**	**01 46 50.0**	**+1.4**	
BOJS				*i* Sn		**Sn**	**01 47 24.2**	**+1.4**	
BOJS				*i*			01 47 41.3		
BOJS									
	comp=Z,620nm,0.8s								
BOJS	**Bojanci**	**2.79**	**307**	*i* Pn		**Pn**	**01 46 50.0**	**+1.4**	
BOJS				*i* Sn		**Sn**	**01 47 24.2**	**+1.4**	
	comp=Z,620nm,0.8s								
MS1	**Monte Sant'Ang**	**2.81**	**221**	*e*Pn		**Pb**	**01 46 52.3**	**-1.5**	
BZS	**Buzias**	**2.89**	**51**	⇓P		**Pn**	**01 46 49.3**	**-0.7**	
BZS	**Buzias**	**2.89**	**51**	*e*Pn		**Pn**	**01 46 48.4**	**-1.6**	
BZS	**Buzias**	**2.89**	**51**	*e*Pn		**Pn**	**01 46 48.4**	**-1.6**	
BZS	**Buzias**	**2.89**	**51**	⇓*i*P		**Pn**	**01 46 49.3**	**-0.7**	
SKO	**Skopje**	**2.92**	**129**	*i* Pn		**Pn**	**01 46 49.8**	**-0.6**	
SKO				*e*Sg		Sg	01 47 55.1	+18	
SKO	**Skopje**	**2.92**	**129**	*i* Pn		**Pn**	**01 46 50.3**	**-0.1**	
BAI	**Bari**	**2.97**	**203**	*e*Pn		**Pn**	**01 46 53.1**	**+2.1**	
CESS	**Cesta pri Krsk**	**2.97**	**316**	*i* Pn		**Pn**	**01 46 52.4**	**+1.2**	
CESS	**Cesta pri Krsk**	**2.97**	**316**	*i* Pn		**Pn**	**01 46 52.4**	**+1.2**	
DJES	**Djerdap**	**3.07**	**73**	*e*Pn		**Pn**	**01 46 51.0**	**-1.5**	
DJES	**Djerdap**	**3.07**	**73**	*e*Pn		**Pn**	**01 46 51.0**	**-1.5**	
ZAPS	**Zavoj**	**3.13**	**99**	*e*Pn		**Pn**	**01 46 52.5**	**-0.9**	
CDT	**Castel del Mon**	**3.19**	**210**	*e*Pn		**Pn**	**01 46 54.4**	**+0.3**	
RMGR	**Halanga-Turnu**	**3.19**	**74**	⇓*i*P		**Pn**	**01 46 56.6**	**+2.5**	
RMGR	**Halanga-Turnu**	**3.19**	**74**	⇓*i*P		**Pn**	**01 46 56.6**	**+2.5**	
LJU	**Ljubljana**	**3.51**	**310**	*e*Pn		**Pn**	**01 47 00.0**	**+1.4**	
BIA	**Bitola**	**3.56**	**142**	P		**Pn**	**01 46 59.6**	**+0.3**	
BIA				S		**Sn**	**01 47 43.5**	**+1.4**	
BIA	**Bitola**	**3.56**	**142**	P		**Pn**	**01 46 59.6**	**+0.3**	
BIA				S		**Sn**	**01 47 43.5**	**+1.4**	
BIA	**Bitola**	**3.56**	**142**	*e*Pn		Pn	01 47 02.3	+3.0	
BIA				*e*Sg		**Sg**	**01 48 01.1**	**+3.7**	
BIA	**Bitola**	**3.56**	**142**	P		**Pn**	**01 46 59.6**	**+0.3**	
BIA	**Bitola**	**3.56**	**142**	*e*Pn		Pn	01 47 02.3	+3.0	
BIA				S		**Sn**	**01 47 43.5**	**+1.4**	
BIA				*e*Sg		**Sg**	**01 48 01.0**	**+3.7**	
BISS	**Bistriski jare**	**3.63**	**322**	*i* Pn		**Pn**	**01 47 00.9**	**+0.8**	
BISS				*i* Sn		**Sn**	**01 47 42.4**	**-1.2**	
BISS	**Bistriski jare**	**3.63**	**322

MOA	**Molln**	**4.93**	**326**	⇓*i*	Pn	**Pn**	**01 47 19.5 +1.4**
	SNR=30						
MOA				⇓*i*	Sn	**Sn**	**01 48 15.7 0.0**
MOA	**Molln**	**4.93**	**326**		Pn	**Pn**	**01 47 19.5 +1.4**
	SNR=30						
MOA					Sn	**Sn**	**01 48 15.7 0.0**
VOIR		**5.00**	**69**	⇑*i*P		**Pn**	**01 47 19.7 +0.6**
VOIR		**5.00**	**69**	⇑*i*P		**Pn**	**01 47 19.7 +0.6**
VOIR		**5.00**	**69**	⇑*i*P		**Pn**	**01 47 19.7 +0.6**
ABTA	**Abfaltersbach**	**5.06**	**307**	⇓*i*	Pn	**Pn**	**01 47 21.8 +1.8**
ABTA	**Abfaltersbach**	**5.06**	**307**	⇓*i*	Pn	**Pn**	**01 47 21.8 +1.8**
	SNR=100						
ABTA	**Abfaltersbach**	**5.06**	**307**		Pn	**Pn**	**01 47 21.8 +1.8**
	SNR=100						
THL	**Klokotos Trika**	**5.07**	**147**		P	**Pn**	**01 47 20.0 +0.1**
THL	**Klokotos Trika**	**5.07**	**147**		*e*P	**Pn**	**01 47 20.5 +0.6**
THL	**Klokotos Trika**	**5.07**	**147**		P	**Pn**	**01 47 20.0 +0.1**
PLG	**Polygyros**	**5.12**	**131**		P	**Pn**	**01 47 20.3 -0.3**
PLG	**Polygyros**	**5.12**	**131**		*e*P	**Pn**	**01 47 20.5 -0.1**
PLG	**Polygyros**	**5.12**	**131**		P	**Pn**	**01 47 20.3 -0.3**
TRPA	**Tarpa**	**5.16**	**33**	⇓*i*	P	**Pn**	**01 47 22.4 +1.3**
TRPA	**Tarpa**	**5.16**	**33**	⇓*i*	P	**Pn**	**01 47 22.4 +1.3**
BMR	**Baia Mare**	**5.22**	**41**	⇑*i*	P	**Pg**	**01 47 42.7 -0.2**
KAVA	**Kavala**	**5.35**	**120**		P	**Pn**	**01 47 23.3 -0.5**
KAVA	**Kavala**	**5.35**	**120**		P	**Pn**	**01 47 23.3 -0.5**
RJOB	**Jochberg**	**5.52**	**317**		*e*Pn	**Pn**	**01 47 27.9 +1.8**
RJOB					*e*Sn	**Sn**	**01 48 33.0 +2.8**
EVR	**Evrytania**	**5.56**	**151**		P	**Pn**	**01 47 27.4 +0.6**
EVR	**Evrytania**	**5.56**	**151**		*e*P	**Pn**	**01 47 28.0 +1.2**
PAIG	**Paliouri**	**5.56**	**133**		P	**Pn**	**01 47 25.9 -0.8**
MAKR	**Makrakomi, Fth**	**5.59**	**149**		P	**Pn**	**01 47 27.3 +0.2**
VRAC	**Vranov**	**5.60**	**348**		Pn	**Pn**	**01 47 28.3 +1.0**
	comp=Z,1.6nm,0.3s,baz=184,slow=14,SNR=11						
VRAC					Sn	**Sn**	**01 48 32.3 +0.2**
	comp=Z,2.9nm,0.3s,baz=160,slow=5.6,SNR=6.5						
VRAC					LR	LR	01 49 42.3
	comp=Z,73nm,18.4s,baz=181,slow=38						
VRAC	**Vranov**	**5.60**	**348**		Pn	**Pn**	**01 47 28.2 +1.0**
VRAC					Sn	**Sn**	**01 48 32.3 +0.2**
MLR	**Muntele Rosu**	**5.62**	**70**		Pn	**Pn**	**01 47 28.7 +1.0**
	comp=Z,0.2nm,0.3s,baz=131,slow=23,SNR=17						
MLR					Sn	**Sn**	**01 48 32.5 -0.5**
	comp=Z,0.4nm,0.3s,baz=129,slow=19,SNR=3.7						
MLR					Lg	Lg	01 49 08.4
	comp=Z,0.2nm,0.3s,baz=112,slow=15,SNR=6.5						
MLR	**Muntele Rosu**	**5.62**	**70**		Pn	**Pn**	**01 47 28.7 +1.0**
MLR					Sn	**Sn**	**01 48 32.5 -0.5**
MLR					Lg	Lg	01 49 08.4
MLR	**Muntele Rosu**	**5.62**	**70**	⇑*i*	P	**Pn**	**01 47 29.4 +1.7**
MLR	**Muntele Rosu**	**5.62**	**70**	⇑*i*	P	**Pn**	**01 47 29.4 +1.7**
AGG	**Agios Georgios**	**5.66**	**147**		P	**Pn**	**01 47 27.9 -0.1**
AGG	**Agios Georgios**	**5.66**	**147**		*e*P	**Pn**	**01 47 28.0 -0.1**
NIE	**Niedzica**	**5.72**	**13**		*e*P	Pn	01 47 31.1 +2.2
NIE					*e*		01 48 36.5
NIE	**Niedzica**	**5.72**	**13**		*e*Pn	Pn	01 47 31.1 +2.2
NIE					*e*Sn	**Sn**	**01 48 36.5 +1.3**
XOR	**Xorichti**	**5.74**	**140**		P	**Pn**	**01 47 28.7 -0.6**
VLC	**Villacollemand**	**5.79**	**276**		*e*Pn	**Pn**	**01 47 31.8 +1.9**
NEO	**Neokhori**	**5.81**	**140**		*e*P	**Pn**	**01 47 29.5 -0.6**
WTTA	**Wattenberg**	**5.84**	**308**	⇓*i*	P	**Pn**	**01 47 32.2 +1.4**
WTTA					*i*		01 48 40.1
WTTA	**Wattenberg**	**5.84**	**308**	⇓*i*	Pn	**Pn**	**01 47 32.2 +1.4**
WTTA					*i* Sn	**Sn**	**01 48 40.0 +1.5**
WTTA	**Wattenberg**	**5.84**	**308**	⇓*i*	Pn	**Pn**	**01 47 32.2 +1.4**
	SNR=45						
WTTA				⇓*i*	Sn	**Sn**	**01 48 40.1 +1.5**
CEL	**Celeste**	**5.90**	**200**		*e*Pn	**Pn**	**01 47 31.1 -0.4**
VLS	**Valsamata**	**5.91**	**163**		*e*P	**Pn**	**01 47 31.5 0.0**
WATA	**Walderalm**	**5.92**	**308**	⇓*i*	P	Pn	01 47 34.5 +2.7
WATA					*i*		01 48 42.0
WATA	**Walderalm**	**5.92**	**308**	⇓*i*	Pn	Pn	01 47 34.5 +2.7
WATA					*i* Sn	**Sn**	**01 48 42.0 +1.7**
WATA	**Walderalm**	**5.92**	**308**	⇓*i*	Pn	Pn	01 47 34.5 +2.7
	SNR=41						
WATA				⇑*i*	Sn	**Sn**	**01 48 42.0 +1.7**
MORC	**Moravsky Berou**	**5.96**	**355**		*e*P	**Pn**	**01 47 32.2 0.0**
MORC					*e*		01 48 38.5
MORC					pmax	pmax	
	comp=Z,10.0nm,0.4s						
MORC	**Moravsky Berou**	**5.96**	**355**		*e*Pn	**Pn**	**01 47 32.2 0.0**
	comp=Z,10nm,0.4s						
MORC					*e*Sn	**Sn**	**01 48 38.5 -2.5**
MORC	**Moravsky Berou**	**5.96**	**355**	⇑*i*	P	**Pn**	**01 47 33.8 +1.6**
MORC	**Moravsky Berou**	**5.96**	**355**	⇑*i*	P	**Pn**	**01 47 33.8 +1.6**
GEC2	**GERESS Array S**	**5.96**	**329**		*e*P	**Pn**	**01 47 33.4 +1.2**
GEC2					*e*		01 48 39.2
GEC2	**GERESS Array S**	**5.96**	**329**		*e*Pn	**Pn**	**01 47 33.4 +1.2**
GEC2					*e*Sn	**Sn**	**01 48 39.2 -1.9**
GERES	**GERESS Array B**	**5.96**	**329**		Pn	**Pn**	**01 47 33.5 +1.2**
	comp=Z,2.6nm,0.3s,baz=154,slow=13,SNR=92						
GERES					Sn	**Sn**	**01 48 39.2 -1.9**
	comp=Z,1.7nm,0.3s,baz=146,slow=26,SNR=3.4						
GERES	**GERESS Array B**	**5.96**	**329**		Pn	**Pn**	**01 47 33.5 +1.2**
GERES					Sn	**Sn**	**01 48 39.2 -1.9**
OKC	**Ostrava-Krasne**	**5.99**	**358**		*e*P	**Pn**	**01 47 33.2 +0.6**
OKC					*e*		01 48 38.2
OKC	**Ostrava-Krasne**	**5.99**	**358**		*e*PN	**Pn**	**01 47 33.2 +0.6**
OKC					*e*SN	**Sn**	**01 48 38.2 -3.6**
OKC	**Ostrava-Krasne**	**5.99**	**358**		Pn	**Pn**	**01 47 33.2 +0.6**
OKC					Sn	**Sn**	**01 48 38.2 -3.6**
AXAR	**Agios Charalam**	**6.01**	**146**		P	**Pn**	**01 47 33.1 +0.2**
EFP	**Efpalio**	**6.03**	**153**		*e*P	Pn	01 47 36.0 +2.8
BUR08	**Bucovina Ar. S**	**6.08**	**49**		*e*Pn	**Pn**	**01 47 34.6 +0.6**
PSA1	**Psathopyrgos**	**6.12**	**153**		*e*P	Pb	01 47 53.5 +3.4
UPR	**University Cam**	**6.12**	**154**		*e*P	**Pb**	**01 47 50.5 +0.2**
KALE	**Kalithea**	**6.14**	**151**		*e*P	**Pn**	**01 47 37.5 +2.7**
TRIZ	**Trizonia**	**6.14**	**152**		*e*P	**Pn**	**01 47 35.0 +0.3**
MOTA	**Moosalm**	**6.20**	**307**	⇑*i*	P	Pn	01 47 38.1 +2.5
MOTA					*i*		01 48 48.8
MOTA	**Moosalm**	**6.20**	**307**	⇑*i*	Pn	Pn	01 47 38.1 +2.5
MOTA					*i* Sn	**Sn**	**01 48 48.8 +1.7**
MOTA	**Moosalm**	**6.20**	**307**	⇑*i*	Pn	Pn	01 47 38.1 +2.5
	SNR=49						
MOTA				⇓*i*	Sn	**Sn**	**01 48 48.8 +1.7**
PLOR	**Plostina**	**6.20**	**68**	⇑*i*	P	Pn	01 47 30.8 -4.7
LAKA	**Lakka**	**6.23**	**153**		*e*P	**Pn**	**01 47 36.5 +0.6**
AOS	**Alonnisos**	**6.23**	**137**		*e*P	**Pn**	**01 47 38.5 +2.6**
RLS	**Riolos of Patr**	**6.24**	**157**		*e*P	**Pn**	**01 47 36.5 +0.5**
KHC	**Kasperske Hory**	**6.24**	**329**		*e*P	**Pn**	**01 47 37.4 +1.4**
KHC					*e*		01 48 45.8
KHC	**Kasperske Hory**	**6.24**	**329**		*e*Pn	**Pn**	**01 47 37.2 +1.1**
KHC	**Kasperske Hory**	**6.24**	**329**		*e*PN	**Pn**	**01 47 37.4 +1.4**
KHC					*ex*	x	01 47 45.5
KHC					*ex*	x	01 47 52.0
KHC					*e*SN	**Sn**	**01 48 45.8 -2.2**
KHC	**Kasperske Hory**	**6.24**	**329**		Pn	**Pn**	**01 47 37.4 +1.4**
KHC					Sn	**Sn**	**01 48 45.8 -2.2**
LKR	**Lokris**	**6.25**	**145**		P	**Pn**	**01 47 36.7 +0.6**
LKR	**Lokris**	**6.25**	**145**		*e*P	**Pn**	**01 47 36.5 +0.4**
VRI	**Vrincioaia**	**6.25**	**68**	⇑*i*	P	**Pn**	**01 47 37.9 +1.7**
VRI	**Vrincioaia**	**6.25**	**68**	⇑*i*	P	**Pn**	**01 47 37.9 +1.7**
VRI	**Vrincioaia**	**6.25**	**68**	⇑*i*	P	**Pn**	**01 47 37.9 +1.7**
FETA	**Feichten**	**6.26**	**303**	⇓*i*	Pn	Pn	01 47 38.6 +2.2
FETA	**Feichten**	**6.26**	**303**	⇓*i*	Pn	Pn	01 47 38.6 +2.2
	SNR=31						
KRLC	**Kraliky**	**6.32**	**350**		*e*PN	**Pn**	**01 47 37.4 +0.2**
KRLC	**Kraliky**	**6.32**	**350**		Pn	**Pn**	**01 47 37.4 +0.2**
ALN	**Alexandroupoli**	**6.39**	**115**		P	**Pn**	**01 47 37.9 -0.1**
ALN	**Alexandroupoli**	**6.39**	**115**		*e*P	**Pn**	**01 47 37.5 -0.5**
LIA	**Limnos Island**	**6.42**	**126**		*e*P	**Pn**	**01 47 37.5 -1.0**
RETA	**Reutte**	**6.47**	**307**	⇓*i*	Pn	**Pn**	**01 47 41.1 +1.9**
RETA					*i* Sn	**Sn**	**01 48 55.4 +1.7**
RETA	**Reutte**	**6.47**	**307**	⇓*i*	Pn	**Pn**	**01 47 41.1 +1.9**
	SNR=9.8						
RETA				⇑*i*	Sn	**Sn**	**01 48 55.4 +1.7**
KWP	**Kalwaria Pacla**	**6.49**	**26**		*e*Pn	Pn	01 47 43.3 +3.7
KWP	**Kalwaria Pacla**	**6.49**	**26**	⇑*i*	P	**Pn**	**01 47 41.2 +1.7**
KWP	**Kalwaria Pacla**	**6.49**	**26**	⇑*i*	P	**Pn**	**01 47 41.2 +1.7**
KWP	**Kalwaria Pacla**	**6.49**	**26**	⇑*i*	P	**Pn**	**01 47 41.2 +1.7**
KWP	**Kalwaria Pacla**	**6.49**	**26**		*e*Pn	Pn	01 47 43.2 +3.7
WET	**Wettzell**	**6.52**	**326**		*e*P	**Pn**	**01 47 41.9 +2.0**
WET	**Wettzell**	**6.52**	**326**		*e*Pn	**Pn**	**01 47 41.9 +2.0**
FUR	**Furstenfeldbru**	**6.57**	**313**		*e*P	**Pn**	**01 47 42.2 +1.6**
FUR	**Furstenfeldbru**	**6.57**	**313**		*e*Pn	**Pn**	**01 47 42.2 +1.6**
GUR	**Goura**	**6.62**	**152**		P	**Pn**	**01 47 40.9 -0.4**
GUR	**Goura**	**6.62**	**152**		*e*P	**Pn**	**01 47 41.0 -0.4**
DPC	**Dobruska-Polom**	**6.65**	**348**		*e*P	**Pn**	**01 47 41.6 -0.1**
DPC	**Dobruska-Polom**	**6.65**	**348**		*e*PN	**Pn**	**01 47 41.6 -0.1**
DPC	**Dobruska-Polom**	**6.65**	**348**		Pn	**Pn**	**01 47 41.6 -0.1**
PRU	**Pruhonice**	**6.68**	**338**		*e*P	**Pn**	**01 47 44.0 +1.9**
PRU					MLR	MLR	
	comp=Z,600nm,7.4s						
PRU	**Pruhonice**	**6.68**	**338**		*e*PN	**Pn**	**01 47 44.0 +1.9**
PRU					AMS	AMS	01 50 20.0
	comp=Z,600nm,7.4s						
PRU	**Pruhonice**	**6.68**	**338**		Pn	**Pn**	**01 47 44.0 +1.9**
DAVOX	**Davos/Dischmat**	**6.68**	**299**		Pn	**Pn**	**01 47 44.3 +2.1**
	baz=81,slow=15						
DAVOX					Sn	**Sn**	**01 49 00.6 +1.5**
DAVOX	**Davos/Dischmat**	**6.68**	**299**		Pn	**Pn**	**01 47 44.3 +2.1**
DAVOX					Sn	**Sn**	**01 49 00.6 +1.5**
LTK	**Loutraki**	**6.77**	**148**		P	**Pn**	**01 47 41.8 -1.6**
LTK	**Loutraki**	**6.77**	**148**		*e*P	**Pn**	**01 47 42.5 -0.9**
AMT	**Artemida-Makis**	**6.80**	**157**		P	**Pn**	**01 47 43.5 -0.2**
AMT	**Artemida-Makis**	**6.80**	**157**		*e*P	**Pn**	**01 47 44.0 +0.3**
DAVA	**Damuels**	**6.89**	**303**	⇓*i*	Pn	**Pn**	**01 47 47.2 +2.0**
DAVA	**Damuels**	**6.89**	**303**	⇓*i*	Pn	**Pn**	**01 47 47.2 +2.0**
	SNR=7.9						
TUE	**Stuetta**	**6.91**	**295**		*e*Pn	**Pn**	**01 47 47.5 +2.0**
PGF	**Pioggiola**	**6.99**	**262**		*e*Pn	**Pn**	**01 47 46.4 -0.1**
PGF					*e*Sn	**Sn**	**01 49 02.6 -4.1**
	comp=Z,20nm,0.7s						
PGF	**Pioggiola**	**6.99**	**262**		*e*P	**Pn**	**01 47 46.4 -0.1**
PGF					*e*		01 49 02.6
PGF	**Pioggiola**	**6.99**	**262**		*e*Pn	**Pn**	**01 47 46.4 -0.1**
PGF					*e*Sn	**Sn**	**01 49 02.6 -4.1**
PGF	**Pioggiola**	**6.99**	**262**		*e*Pn	**Pn**	**01 47 46.4 -0.1**
PGF					*e*Sn	**Sn**	**01 49 02.6 -4.1**
	comp=Z,10.0nm,0.7s						
ATH	**Athens Observa**	**7.12**	**144**		*e*P	**Pn**	**01 47 49.5 +1.4**
PTL	**Penteli**	**7.12**	**143**		*e*P	Pn	01 47 52.5 +4.3
KSP	**Ksiaz**	**7.14**	**349**		*e*Pn	Pn	01 47 50.6 +2.2
KSP					*e*Sn	Sn	01 49 02.0 -8.1
KSP	**Ksiaz**	**7.14**	**349**		*e*P	**Pn**	**01 47 50.4 +2.1**
KSP	**Ksiaz**	**7.14**	**349**		*e*Pn	Pn	01 47 50.5 +2.2
KSP					*e*Sn	Sn	01 49 01.9 -8.1
VLX	**Vlachokerasia**	**7.15**	**154**		*e*P	**Pn**	**01 47 50.5 +1.9**
ITM	**Ithomi**	**7.19**	**157**		*e*P	**Pn**	**01 47 49.5 +0.4**
NAUG	**Nisos Aigina**	**7.21**	**146**		*e*P	**Pn**	**01 47 48.0 -1.3**
ROTZ	**Rotzenmuhle**	**7.28**	**327**		*e*Pn	**Pn**	**01 47 51.7 +1.4**
DID	**Didima**	**7.33**	**148**		*e*P	**Pn**	**01 47 50.0 -1.0**
PYL	**PYLOS**	**7.40**	**159**		*e*P	**Pn**	**01 47 50.5 -1.5**
PRK	**Paraskevi**	**7.49**	**125**		P	**Pn**	**01 47 53.4 +0.3**
PRK	**Paraskevi**	**7.49**	**125**		*e*P	**Pn**	**01 47 53.5 +0.3**
GRF	**Grafenberg Arr**	**7.64**	**322**		*e*P	**Pn**	**01 47 55.8 +0.6**
GRF	**Grafenberg Arr**	**7.64**	**322**		*e*Pn	**Pn**	**01 47 55.8 +0.6**
BRG	**Berggiesshubel**	**7.64**	**338**		PN	Pn	01 47 58.4 +3.1
BRG					SG	**Sb**	**01 49 45.3 -2.4**
	comp=Z,15nm,0.8s						
BRG					MLR	MLR	
	comp=N,259nm,14.9s						
BRG					MLR	MLR	
	comp=E,458nm,15.5s						
BRG					MLR	MLR	
	comp=Z,259nm,14.9s						
BRG	**Berggiesshubel**	**7.64**	**338**		P	Pn	01 47 58.4 +3.1
BRG					MLR	MLR	
	comp=N,259nm,14.9s						
BRG					MLR	MLR	
	comp=E,458nm,15.5s						
BRG					MLR	MLR	
	comp=Z,259nm,14.9s						
DYR	**Agios Nikonas**	**7.69**	**156**		*e*P	**Pn**	**01 47 56.5 +0.5**
TANN	**Tannenbergstha**	**7.71**	**330**		*e*Pn	**Pn**	**01 47 57.5 +1.3**
SAOF	**Saorge**	**7.83**	**275**		P	**Pn**	**01 47 58.3 +0.4**
SAOF					S	**Sn**	**01 49 25.9 -1.3**
SAOF	**Saorge**	**7.83**	**275**		P	**Pn**	**01 47 58.3 +0.4**
SAOF					S	**Sn**	**01 49 25.9 -1.3**
SAOF	**Saorge**	**7.83**	**275**		P	**Pn**	**01 47 59.3 +1.4**
SAOF					S	**Sn**	**01 49 25.9 -1.3**
SAOF	**Saorge**	**7.83**	**275**		P	**Pn**	**01 47 59.3 +1.4**
SAOF					S	**Sn**	**01 49 25.9 -1.3**
VLI	**Veliai**	**7.92**	**153**		*e*P	**Pn**	**01 47 57.0 -2.2**
SBF	**Sospel**	**7.92**	**274**		*e*Pn	**Pn**	**01 47 59.3 +0.1**
SBF					*e*Sn	Sn	01 49 20.1 -10
	comp=Z,62nm,0.7s,SNR=1.0						
SBF	**Sospel**	**7.92**	**274**		*e*P	**Pn**	**01 47 59.3 +0.1**
SBF					*e*		01 49 20.1
SBF	**Sospel**	**7.92**	**274**		*e*Pn	**Pn**	**01 47 59.3 +0.1**
SBF					*e*Sn	Sn	01 49 20.1 -10
SBF	**Sospel**	**7.92**	**274**		*e*Pn	**Pn**	**01 47 59.3 +0.1**
SBF					*e*Sn	Sn	01 49 20.1 -10
	comp=Z,31nm,0.7s,SNR=1.0						
SPAK	**Spaichingen-Ko**	**7.93**	**306**		P	**Pn**	**01 48 00.3 +1.0**
SPAK	**Spaichingen-Ko**	**7.93**	**306**		P	**Pn**	**01 48 00.3 +1.0**
CHOS	**Chios island**	**7.95**	**131**		*e*P	**Pn**	**01 48 01.1 +1.5**
TOUF	**Mont Tournerai**	**8.05**	**275**		P	**Pn**	**01 48 03.0 +1.9**
TOUF	**Mont Tournerai**	**8.05**	**275**		P	**Pn**	**01 48 03.0 +1.9**
TOUF	**Mont Tournerai**	**8.05**	**275**		P	**Pn**	**01 48 03.0 +1.9**
TOUF	**Mont Tournerai**	**8.05**	**275**		P	**Pn**	**01 48 03.0 +1.9**
MOX	**Moxa**	**8.21**	**328**		*e*P	**Pn**	**01 48 04.6 +1.6**
MOX	**Moxa**	**8.21**	**328**		*e*Pn	**Pn**	**01 48 04.6 +1.6**
FELD	**Feldberg im Sc**	**8.29**	**303**		P	**Pn**	**01 48 04.8 +0.5**
FELD	**Feldberg im Sc**	**8.29**	**303**		P	**Pn**	**01 48 04.8 +0.5**
CLL	**Collm**	**8.30**	**336**		*e*P	Pn	01 48 07.0 +2.7
CLL	**Collm**	**8.30**	**336**		*e*Pn	Pn	01 48 07.3 +3.0
CLL	**Collm**	**8.30**	**336**		*e*Pn	Pn	01 48 07.0 +2.7
CLL					*e*Sn	Sn	01 49 30.0 -8.6
CLL					*i* Sb	Sb	01 50 09.9 +3.4
CLL					*e*Sg	**Sg**	**01 50 30.0 +0.9**
BFO	**Black Forest**	**8.31**	**306**		*e*P	**Pn**	**01 48 05.1 +0.7**
BFO	**Black Forest**	**8.31**	**306**		*e*Pn	**Pn**	**01 48 05.1 +0.7**
BFO	**Black Forest**	**8.31**	**306**		*e*Pn	**Pn**	**01 48 04.7 +0.3**
KYTH	**Kithira**	**8.36**	**153**		*e*P	**Pn**	**01 48 04.5 -0.6**
MBDF	**Montbardon**	**8.39**	**280**		*e*Pn	**Pn**	**01 48 04.1 -1.6**
MBDF					*e*Sn	Sn	01 49 34.4 -6.7
	comp=Z,38nm,0.7s,SNR=1.0						
MBDF	**Montbardon**	**8.39**	**280**		*e*P	**Pn**	**01 48 04.1 -1.6**
MBDF					*e*		01 49 34.4
MBDF	**Montbardon**	**8.39**	**280**		*e*Pn	**Pn**	**01 48 04.1 -1.6**
MBDF					*e*Sn	Sn	01 49 34.4 -6.7
MBDF	**Montbardon**	**8.39**	**280**		*e*Pn	**Pn**	**01 48 04.1 -1.6**
MBDF					*e*Sn	Sn	01 49 34.4 -6.7
	comp=Z,19nm,0.7s,SNR=1.0						
BBS	**Basel-Blauen**	**8.44**	**299**		P	**Pn**	**01 48 07.4 +1.2**
BBS	**Basel-Blauen**	**8.44**	**299**		P	**Pn**	**01 48 07.4 +1.2**
BBS	**Basel-Blauen**	**8.44**	**299**		P	**Pn**	**01 48 07.4 +1.2**
LPG	**La Plagne**	**8.46**	**285**		*e*P	Pn	01 48 10.5 +3.7
LPG					*e*Sn	Sn	01 49 37.2 -5.9
	comp=Z,165nm,1.0s						
LPG	**La Plagne**	**8.46**	**285**		*e*P	Pn	01 48 10.5 +3.7
LPG					*e*		01 49 37.2
LPG	**La Plagne**	**8.46**	**285**		*e*P	Pn	01 48 10.5 +3.7
LPG					*e*Sn	Sn	01 49 37.2 -5.9
LPG	**La Plagne**	**8.46**	**285**		*e*P	Pn	01 48 10.5 +3.7
LPG					*e*Sn	Sn	01 49 37.2 -5.9
	comp=Z,83nm,1.0s						
BNI	**Bardonecchia**	**8.47**	**282**		*e*P	**Pn**	**01 48 07.0 +0.2**
BNI	**Bardonecchia**	**8.47**	**282**		*e*Pn	**Pn**	**01 48 07.0 +0.2**
LPL	**La Plagne**	**8.48**	**285**		*e*P	Pn	01 48 09.6 +2.6
LPL					*e*Sn	Sn	01 49 36.8 -6.6
	comp=Z,39nm,0.5s						
LPL	**La Plagne**	**8.48**	**285**		*e*P	Pn	01 48 09.6 +2.6
LPL					*e*		01 49 36.8
LPL	**La Plagne**	**8.48**	**285**		*e*P	Pn	01 48 09.6 +2.6
LPL					*e*Sn	Sn	01 49 36.8 -6.6
LPL	**La Plagne**	**8.48**	**285**		*e*P	Pn	01 48 09.6 +2.6
LPL					*e*Sn	Sn	01 49 36.8 -6.6
	comp=Z,20nm,0.5s						
FRF	**La Foret Royal**	**8.52**	**272**		*e*Pn	**Pn**	**01 48 07.9 +0.6**
	SNR=1.0						
FRF					*e*Sn	Sn	01 49 37.0 -7.1
	comp=Z,9.2nm,0.5s						
FRF	**La Foret Royal**	**8.52**	**272**		*e*P	**Pn**	**01 48 07.9 +0.6**
FRF					*e*		01 49 37.0
FRF	**La Foret Royal**	**8.52**	**272**		*e*Pn	**Pn**	**01 48 07.9 +0.6**
FRF					*e*Sn	Sn	01 49 37.0 -7.1
FRF	**La Foret Royal**	**8.52**	**272**		*e*Pn	**Pn**	**01 48 07.9 +0.6**
	SNR=1.0						
FRF					*e*Sn	Sn	01 49 37.0 -7.1
	comp=Z,4.6nm,0.5s						
LMR	**La Mourre**	**8.65**	**271**		*e*Pn	**Pn**	**01 48 10.1 +1.1**
	SNR=1.0						
LMR	**La Mourre**	**8.65**	**271**		*e*P	**Pn**	**01 48 10.1 +1.1**
LMR	**La Mourre**	**8.65**	**271**		*e*Pn	**Pn**	**01 48 10.1 +1.1**
LMR	**La Mourre**	**8.65**	**271**		*e*Pn	**Pn**	**01 48 10.1 +1.1**
	SNR=1.0						
APE	**Apeiranthos**	**8.68**	**139**	⇑	P	Pn	01 48 13.5 +3.9
APE	**Apeiranthos**	**8.68**	**139**	⇑*i*	P	Pn	01 48 11.5 +1.9
APE	**Apeiranthos**	**8.68**	**139**	⇑*i*	P	Pn	01 48 13.5 +3.9
MOF	**Molkenrain**	**8.82**	**301**		P	**Pn**	**01 48 12.1 +0.6**
MOF	**Molkenrain**	**8.82**	**301**		P	**Pn**	**01 48 12.1 +0.6**
MOF	**Molkenrain**	**8.82**	**301**		P	**Pn**	**01 48 12.1 +0.6**
MOF	**Molkenrain**	**8.82**	**301**		P	**Pn**	**01 48 12.1 +0.6**
LOMF	**Lomont**	**8.83**	**297**		P	**Pn**	**01 48 13.7 +2.0**
LOMF	**Lomont**	**8.83**	**297**		P	**Pn**	**01 48 13.7 +2.0**
LOMF	**Lomont**	**8.83**	**297**		P	**Pn**	**01 48 13.7 +2.0**
LOMF	**Lomont**	**8.83**	**297**		P	**Pn**	**01 48 13.7 +2.0**
ECH	**Echery**	**8.95**	**303**		P	**Pn**	**01 48 14.7 +1.5**
ECH					pmax	pmax	
	comp=Z,2.0nm,0.6s						
ECH	**Echery**	**8.95**	**303**		P	**Pn**	**01 48 14.7 +1.5**
	comp=Z,2.0nm,0.6s						
ECH	**Echery**	**8.95**	**303**		P	**Pn**	**01 48 14.7 +1.5**
ECH	**Echery**	**8.95**	**303**		P	**Pn**	**01 48 14.7 +1.5**
CDF	**Champ du Feu**	**8.97**	**304**		*e*Pn	**Pn**	**01 48 12.0 -1.5**
CDF	**Champ du Feu**	**8.97**	**304**		*e*P	**Pn**	**01 48 12.0 -1.5**
CDF	**Champ du Feu**	**8.97**	**304**		*e*Pn	**Pn**	**01 48 12.0 -1.5**
CDF	**Champ du Feu**	**8.97**	**304**		*e*Pn	**Pn**	**01 48 12.0 -1.5**
HINF	**Hinteralfeld**	**8.98**	**300**		*e*Pn	**Pn**	**01 48 13.6 -0.1**
HINF					*e*Sn	Sn	01 49 48.4 -7.0
	comp=Z,25nm,0.6s						
HINF	**Hinteralfeld**	**8.98**	**300**		*e*P	**Pn**	**01 48 13.6 -0.1**
HINF					*e*		01 49 48.4
HINF	**Hinteralfeld**	**8.98**	**300**		*e*Pn	**Pn**	**01 48 13.6 -0.1**
HINF					*e*Sn	Sn	01 49 48.4 -7.0
HINF	**Hinteralfeld**	**8.98**	**300**		*e*Pn	**Pn**	**01 48 13.6 -0.1**
HINF					*e*Sn	Sn	01 49 48.4 -7.0
	comp=Z,12nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.03**	**281**		*e*P	Pn	01 48 18.0 +3.6
ORIF					*e*Sn	Sn	01 49 48.6 -8.2
	comp=Z,36nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.03**	**281**		*e*P	Pn	01 48 18.0 +3.6
ORIF					*e*		01 49 48.6
ORIF	**Oris-en-Rattie**	**9.03**	**281**		*e*P	Pn	01 48 18.0 +3.6

comp=Z,0.0nm,0.3s,baz=285,slow=14,SNR=3.3
BRTR Keskin Array B 12.10 105 Pn **Pn** 01 48 59.1 +2.6
OBN Obninsk 16.26 40↑ *eP* **Pn** 01 49 52.9 +0.6
OBN *eS* **Sn** 01 52 55.3 +2.2
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
MMAI Mount Meron Ar 17.13 123 P **Pn** 01 50 02.6 -0.9
comp=Z,0.3nm,0.3s,baz=351,slow=15,SNR=2.1
MMAI LR LR 01 57 31.8
comp=Z,35nm,21.1s,baz=290,slow=40
MMAI Mount Meron Ar 17.13 123 P **Pn** 01 50 02.6 -0.9
ESDC Sonseca Array 17.18 264 P **Pn** 01 50 02.0 -2.2
comp=Z,0.1nm,0.3s,baz=72,slow=12,SNR=2.7
ESDC Sonseca Array 17.18 264 P **Pn** 01 50 02.0 -2.2
KIV Kislovodsk 17.49 81 *eP* **P** 01 50 10.4 +1.1
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,26nm,13.0s
KBZ Khabaz 17.68 82 P **Pn** 01 50 09.6 -0.6
comp=Z,0.1nm,0.3s,baz=70,slow=15,SNR=2.1
KBZ Khabaz 17.68 82 P **Pn** 01 50 09.6 -0.6
KBZ Khabaz 17.68 82 P **Pn** 01 50 09.6 -0.6
EKA Eskdalemuir Ar 18.00 317 P **Pn** 01 50 13.7 -0.5
baz=310,slow=30,SNR=3.1
EKA Eskdalemuir Ar 18.00 317 P **Pn** 01 50 13.7 -0.5
FINES FINESS Array B 18.20 12 P **P** 01 50 17.1 +0.2
comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=5.1
FINES FINESS Array B 18.20 12 P **P** 01 50 17.1 +0.2
ZEI Tsey 18.57 84 *eP* **Pn** 01 50 24.7 +3.2
ZEI pmax pmax
comp=Z,2.0nm,1.0s
KLMR Klimovskoe 21.19 29 *eP* P 01 50 59.5 +10
KLMR pmax pmax
comp=Z,21nm,1.5s
ARCES ARCESS Array B 26.00 6 P **P** 01 51 38.6 +1.7
comp=Z,4.0nm,1.0s,baz=191,slow=9.2,SNR=2.9
ARCES ARCESS Array B 26.00 6 P **P** 01 51 38.6 +1.7
ARU Arti 28.21 49*c iP* **P** 01 51 58.8 +1.9
ARU 01 52 44.9
ARU S **S** 01 56 48.0 +4.7
ARU SS SnSn 01 58 08.1 +9.4
ARU pmax pmax
comp=Z,9.0nm,1.7s
TORD Torodi Ar. Bea 33.80 210 P **P** 01 52 46.0 -0.5
comp=Z,3.1nm,0.9s,baz=22,slow=8.6,SNR=19
TORD Torodi Ar. Bea 33.80 210 P **P** 01 52 46.0 -0.5
BRVK Borovoye 34.92 56 *eP* P 01 52 58.5 +2.7
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 34.92 56 *eP* **P** 01 52 55.6 -0.2
comp=Z,2.8nm,0.7s
KKAR Karatay Array 37.30 73 *eP* **P** 01 53 17.2 +0.8
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 37.30 73 *eP* **P** 01 53 17.2 +0.8
comp=Z,2.7nm,0.7s
EKS2 Erkin-Say 39.70 72 *eP* **P** 01 53 38.1 +1.4
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 39.70 72 *eP* **P** 01 53 38.1 +1.4
comp=Z,4.5nm,0.7s
AAK Ala-Archa 40.21 72 *eP* **P** 01 53 43.1 +2.1
AAK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 40.42 58 *eP* **P** 01 53 42.9 +0.5
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 40.42 58 *eP* **P** 01 53 42.9 +0.5
comp=Z,1.4nm,0.9s
NVS Novosibirsk 42.17 51 *eP* **P** 01 53 56.9 +0.2
DBIC Dimbokro 42.28 216 P **P** 01 53 57.3 -0.7
comp=Z,2.2nm,0.6s,baz=30,slow=7.2,SNR=8.1
DBIC Dimbokro 42.28 216 *eP* **P** 01 53 57.2 -0.7
comp=Z,2.6nm,0.6s
ZALV Zalesovo Beam 43.29 52 P **P** 01 54 05.3 -0.5
comp=Z,1.7nm,0.6s,baz=290,slow=7.8,SNR=7.4
ZALV Zalesovo Beam 43.29 52 P **P** 01 54 05.3 -0.5
ZALV Zalesovo Beam 43.29 52 P **P** 01 54 05.3 -0.5
MKAR Makanchi Array 43.91 63 P **P** 01 54 10.4 -0.6
comp=Z,0.7nm,0.6s,baz=287,slow=7.7,SNR=8.6
MKAR Makanchi Array 43.91 63 P **P** 01 54 10.4 -0.6
MKAR Makanchi Array 43.91 63 P **P** 01 54 10.4 -0.6
SCHQ Schefferville 53.28 314 P **P** 01 55 21.9 -1.1
comp=Z,2.8nm,0.8s,baz=78,slow=8.6,SNR=3.9
SCHQ Schefferville 53.28 314 P **P** 01 55 21.9 -1.1
TLY Talaya 54.72 49 *eP* **P** 01 55 34.6 +1.1
TLY pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 58.18 52 P **P** 01 55 58.3 -0.1
comp=Z,1.0nm,0.7s,baz=290,slow=8.8,SNR=12
SONM Songino Array 58.18 52 P **P** 01 55 58.3 -0.1
BILL Bilibino 65.84 13 *eP* **P** 01 56 49.3 -0.1
BILL *e*PP 01 56 55.7
BILL *e*SS SS 02 09 48.6 -1.6
BILL pmax pmax
comp=Z,1.0nm,0.7s
BILL MLR MLR
comp=Z,800nm,21.0s
SEY Seymchan 67.41 21 *eP* **P** 01 56 58.6 -0.9
YKA Yellowknife Ar 67.52 338 P **P** 01 57 00.2 0.0
comp=Z,1.1nm,0.8s,baz=38,slow=5.4,SNR=20
YKA Yellowknife Ar 67.52 338 P **P** 01 57 00.2 0.0
ULM Lac du Bonnet 70.22 322 P **P** 01 57 16.6 -0.5
comp=Z,0.9nm,0.4s,baz=48,slow=6.2,SNR=4.1
ULM Lac du Bonnet 70.22 322 P **P** 01 57 16.6 -0.5
CMAR Chiang Mai Arr 70.73 83 P **P** 01 57 20.1 -0.7
comp=Z,2.7nm,0.7s,baz=305,slow=7.6,SNR=12
CMAR Chiang Mai Arr 70.73 83 P **P** 01 57 20.1 -0.7
ILAR Eielson Array 71.10 353 P **P** 01 57 23.4 +1.1
comp=Z,0.6nm,0.7s,baz=2.3,slow=6.2,SNR=10.0
ILAR Eielson Array 71.10 353 P **P** 01 57 23.4 +1.1
PDAR Pinedale Array 81.99 324 P **P** 01 58 24.7 0.0
comp=Z,0.5nm,0.7s,baz=104,slow=9.6,SNR=5.3
PDAR Pinedale Array 81.99 324 P **P** 01 58 24.7 0.0
TXAR Lajitas Array 89.94 312 P **P** 01 59 04.3 +0.2
comp=Z,0.5nm,0.8s,baz=79,slow=5.9,SNR=7.4
TXAR Lajitas Array 89.94 312 P **P** 01 59 04.3 +0.2

MEX 31 01:53:57.7±0.5, **18°.14N**×**103°.44W**, **h6**km±5km, **MD3.7,**
Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.17**	**31**	*i* P		Pg	01 54 00.7	-0.4
MMIG				*i* S		Sg	01 54 03.3	0.0
R15V		**1.15**	**333**	*i* P		Pg	01 54 16.3	-3.5
R15V				*e*S		Sg	01 54 31.3	-3.5
EZ5V		**1.34**	**353**	*i* P		Pn	01 54 19.8	-3.6
EZ5V				*e*S		Sb	01 54 35.9	-5.4
ZIIG	**Zihuatanejo**	**1.95**	**106**	*i* P		Pn	01 54 28.9	-2.6
ZIIG				*e*S		Sn	01 54 51.1	-5.2
SFJM	**Santa Fe**	**2.36**	**9**	*i* P		Pn	01 54 34.1	-3.2
SFJM				*e*S		Sn	01 55 02.8	-4.0

BJI ***31*** *01:55:25.6,6°.16S×126°.90E,h479km,mB4.5/20,mb4.6/38*
AUST ***31*** *01:55:29.9±0.5,5°.79S×126°.68E,h467km, Error ellipse: s-maj=1.1km s-min=0.7km az=227.0*
ISCJB ***31*** *01:55:29.9±0.2,5°.67S±0°.03×126°.85E±0°.03,h485km±3km, mb4.4/40, Error ellipse: s-maj=5.1km s-min=3.8km az=139.8*
IDC ***31*** *01:55:30.2±0.8,5°.71S×126°.81E,h475km±9km,mb3.8/19, mb1 3.9/23,mb1mx3.8/29,mbtmp3.8/23, Error ellipse: s-maj=12.0km s-min=6.4km az=64.0*
NEIC ***31*** *01:55:30.3±0.6,5°.71S×126°.82E,h478km±7km,mb4.6/16, Error ellipse: s-maj=9.3km s-min=4.3km az=53.0*
DJA ***31*** *01:55:30.4±0.3,6°.S±4°×12°.7E±°,h474km±5km,M4.8/22, mB5.3/16,mb4.9/22,MLv5.0/15,Mw(mB)4.7/16*
ISC 31 01:55:30.6±0.3, **5.76S**±0.04×**126.81E**±0.05, **h478**km±3km, **n182,σ1123/232, mb4.5/49, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**2.48**	**34**	P		**P**	**01 56 35.6**	**-0.9**
	baz=2.6,SNR=4.4							
AAI				S		**S**	**01 57 26.9**	**-2.9**
	baz=2.6,SNR=6.1							
AAI	**Ambon**	**2.48**	**34**	P		**P**	**01 56 34.4**	**-2.1**
NLAI	**Namlea**	**2.52**	**7**	P		**P**	**01 56 35.8**	**-0.9**
NLAI				S		**S**	**01 57 28.2**	**-2.1**
BNDI	**Bandanaira**	**3.32**	**68**	P		P	01 56 32.6	-10
BNDI				S		**S**	**01 57 39.3**	**-1.0**
BBSI	**Bau Bau**	**4.23**	**273**	P		**P**	**01 56 51.7**	**+2.2**
KDI	**Kendari**	**4.54**	**293**	P		**P**	**01 56 52.9**	**+0.6**
KDI				S		**S**	**01 57 59.4**	**+0.6**
LBMI	**Labuha**	**5.13**	**8**	P		**P**	**01 56 58.1**	**+0.4**
	635nm,0.7s,6μm2.2nm							
MMRI	**Maumere**	**5.36**	**238**	P		**P**	**01 57 00.3**	**+0.5**
	277nm,1.2s,3μm0.8nm							
FAKI	**Fak Fak**	**6.11**	**63**	P		**P**	**01 57 06.0**	**-1.2**
	333nm,0.6s,6μm1.8nm							
LUWI	**Luwuk**	**6.18**	**319**	P		**P**	**01 57 08.0**	**+0.1**
	123nm,1.0s,1μm0.4nm							
TNTI	**Ternate**	**6.51**	**5**	P		**P**	**01 57 12.0**	**+0.8**
	106nm,0.8s,0.4nm							
BKSI	**Bulukumba**	**6.67**	**273**	P		**P**	**01 57 13.9**	**+1.2**
	341nm,0.7s,3μm1.2nm							
BKSI				S		**S**	**01 58 37.3**	**+0.9**
	341nm,0.7s,3μm1.2nm							
KAPI	**Kappang**	**7.07**	**276**	P		**P**	**01 57 17.3**	**+0.5**
	8.3nm,0.3s,baz=120,slow=5.8,SNR=29							
KAPI				S		**S**	**01 58 43.6**	**-0.2**
	baz=9.1,slow=23,SNR=3.4							
KAPI	**Kappang**	**7.07**	**276**	P		**P**	**01 57 17.3**	**+0.5**
KAPI				S		**S**	**01 58 43.6**	**-0.2**
SPSI	**Sidrap Palu**	**7.24**	**284**	P		**P**	**01 57 19.6**	**+1.0**
	56nm,0.8s,1μm0.2nm							
MNI	**Manado**	**7.42**	**345**	P		**P**	**01 57 20.0**	**-0.5**
	442nm,0.7s,4μm1.3nm							
TTSI	**Tana Toraja**	**7.47**	**291**	P		**P**	**01 57 22.3**	**+1.3**
	77nm,0.9s,2μm0.3nm							
WSI	**Waingapu**	**7.53**	**239**	P		P	01 57 17.9	-3.8
	baz=7.4,SNR=6.2							
WSI				S		**S**	**01 58 48.8**	**-3.8**
	baz=7.4,SNR=6.3							
WSI	**Waingapu**	**7.53**	**239**	P		**P**	**01 57 21.9**	**+0.3**
	1μm,0.5s,23μm6.5nm							
WSI				S		**S**	**01 58 47.7**	**-4.9**
	1μm,0.5s,23μm6.5nm							
MRSI	**Marisa**	**7.88**	**322**	P		**P**	**01 57 25.4**	**+0.2**
	800nm,0.6s,6μm2.5nm							
MTN	**Manton Dam**	**8.23**	**149**	P		**P**	**01 57 29.3**	**+0.4**
	baz=8.3,SNR=96							
PCI	**Palu**	**8.47**	**304**	S		S	01 59 28.3	+18
	baz=8.4,SNR=15							
KDU	**Kakadu**	**8.86**	**141**	P		**P**	**01 57 36.0**	**+0.3**
	baz=9.0,SNR=33							
BAKI	**Biak**	**10.33**	**64**	P		P	01 58 00.1	+8.7
SMKI	**Samarinda**	**10.94**	**299**	P		P	01 58 01.8	+3.8
KHKI	**Kahang-Kahang**	**11.41**	**256**	P		**P**	**01 58 03.2**	**+0.2**
	42nm,0.9s							
KHKI				S		**S**	**02 00 07.3**	**-1.4**
	42nm,0.9s							
SRBI	**Singaraja**	**11.74**	**258**	P		**P**	**01 58 07.8**	**+1.2**
	38nm,1.0s							
IGBI	**Denpasar**	**11.96**	**255**	P		**P**	**01 58 08.5**	**-0.4**
	91nm,0.5s							
BBKI	**Banjar Baru**	**12.15**	**280**	P		**P**	**01 58 12.7**	**+1.8**
	232nm,1.0s,6μm							
FITZ	**Fitzroy Crossi**	**12.32**	**185**	P		**P**	**01 58 13.0**	**+0.3**
	1.5nm,0.3s,baz=19,slow=10,SNR=45							
FITZ				S		**S**	**02 00 26.0**	**-0.3**
	0.4nm,0.3s,baz=18,slow=19,SNR=4.4							
FITZ	**Fitzroy Crossi**	**12.32**	**185**	*e*Pn		**P**	**01 58 12.9**	**+0.2**
	7.4nm,0.6s							
FITZ				S		**S**	**02 00 26.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.32**	**185**	P		**P**	**01 58 13.0**	**+0.3**
	baz=12,SNR=10							
NBBI	**Negara**	**12.37**	**257**	P		P	01 58 23.7	+10
SMPI	**Sarmi**	**12.45**	**73**	P		**P**	**01 58 15.0**	**+0.9**
	163nm,0.9s,87μm							
KMMI	**Kalianget**	**12.83**	**264**	P		**P**	**01 58 21.3**	**+3.1**
	321nm,0.9s,3μm							
TSM	**Tawau**	**13.39**	**318**	P		**P**	**01 58 23.9**	**-0.3**
MYLDM	**Lahad Datu**	**13.67**	**322**	P		**P**	**01 58 28.4**	**+1.2**
JAY	**Jayapura**	**14.23**	**77**	P		**P**	**01 58 33.8**	**+0.7**
	baz=14,SNR=5.9							
JAY	**Jayapura**	**14.23**	**77**	P		**P**	**01 58 34.9**	**+1.7**
	80nm,1.0s,8μm							
SDKM	**Sandakan**	**14.85**	**320**	P		**P**	**01 58 40.4**	**+0.7**
KKM	**Kota Kinabalu**	**15.79**	**318**	*e*Pn		**P**	**01 58 49.5**	**-0.2**
	99nm,0.9s							
KKM	**Kota Kinabalu**	**15.79**	**318**	P		**P**	**01 58 49.3**	**-0.4**
	baz=16,SNR=5.6							
KKM	**Kota Kinabalu**	**15.79**	**318**	P		**P**	**01 58 49.3**	**-0.4**
WRAB	**Tennant Creek**	**15.88**	**153**	*e*Pn		**P**	**01 58 49.8**	**-0.8**
	46nm,1.1s							
WRAB				*e*S		**S**	**02 01 35.9**	**+0.3**
WRA	**Warramunga Arr**	**15.88**	**153**	P		**P**	**01 58 49.7**	**-0.8**
	3.1nm,0.3s,baz=330,slow=11,SNR=239							
WRA				S		**S**	**02 01 34.1**	**-1.6**
	1.5nm,0.3s,baz=330,slow=16,SNR=10							
WRA				ScP		**ScP**	**02 06 06.4**	**-0.1**
	baz=316,slow=2.6,SNR=2.9							
WRA	**Warramunga Arr**	**15.88**	**153**	P		**P**	**01 58 49.7**	**-0.8**
WRA				S		**S**	**02 01 34.1**	**-1.6**
WRA				ScP		**ScP**	**02 06 06.3**	**-0.1**
KDM	**Kudat**	**16.05**	**322**	P		**P**	**01 58 52.1**	**-0.2**
BTM	**Bintulu**	**16.35**	**303**	P		**P**	**01 58 56.1**	**+0.6**
STKI	**Sintang**	**16.37**	**290**	P		**P**	**01 58 55.0**	**-0.7**
	66nm,0.8s,25μm							
SBUM	**Sibu**	**16.70**	**299**	P		**P**	**01 58 59.4**	**+0.1**
BJII	**Banjamegara**	**17.06**	**264**	P		**P**	**01 59 03.3**	**+0.2**
KSM	**Kuching**	**17.98**	**293**	*e*Pn		**P**	**01 59 11.2**	**-0.7**
	121nm,0.6s							
KSM	**Kuching**	**17.98**	**293**	P		**P**	**01 59 11.3**	**-0.7**
	baz=18,SNR=34							
KSM	**Kuching**	**17.98**	**293**	P		**P**	**01 59 10.9**	**-1.1**
COEN	**Coen**	**18.05**	**118**	*e*P		**P**	**01 59 11.7**	**-1.0**
	151nm,1.0s							
COEN	**Coen**	**18.05**	**118**	P		**P**	**01 59 11.9**	**-0.8**
	baz=18,SNR=29							
COEN				S		**S**	**02 02 13.8**	**-0.4**
	baz=18,SNR=5.3							
AS31	**Alice Springs**	**19.07**	**160**	*e*P		**P**	**01 59 22.6**	**+0.6**
ASAR	**Alice Springs**	**19.07**	**160**	P		**P**	**01 59 22.6**	**+0.5**
	1.8nm,0.3s,baz=342,slow=7.9,SNR=93							
ASAR				S		**S**	**02 02 31.4**	**+0.8**
	0.3nm,0.3s,baz=352,slow=22,SNR=9.6							
ASAR				ScP		**ScP**	**02 06 12.7**	**-0.5**
	0.2nm,0.3s,baz=354,slow=1.7,SNR=6.2							
ASAR	**Alice Springs**	**19.07**	**160**	P		**P**	**01 59 22.6**	**+0.5**
ASAR				S		**S**	**02 02 31.4**	**+0.8**
ASAR				ScP		**ScP**	**02 06 12.7**	**-0.5**
QIS	**Mount Isa**	**19.25**	**141**	P		**P**	**01 59 24.0**	**+0.3**
	baz=19,SNR=30							
QIS				S		**S**	**02 02 39.2**	**+5.6**
	baz=19,SNR=5.0							
PMG	**Port Moresby**	**20.49**	**101**	P		**P**	**01 59 35.1**	**0.0**
	46nm,0.7s,baz=282,slow=5.1,SNR=18							
PMG	**Port Moresby**	**20.49**	**101**	*e*P		**P**	**01 59 34.7**	**-0.3**
	41nm,0.8s							
TGY	**Tagaytay City**	**20.58**	**344**	P		**P**	**01 59 34.9**	**-0.9**
	228nm,0.3s,baz=354,slow=15,SNR=2.8							
TGY	**Tagaytay City**	**20.58**	**344**	P		**P**	**01 59 34.9**	**-0.9**
MEEK	**Meekatharra**	**22.19**	**200**	P		**P**	**01 59 50.1**	**-0.2**
	baz=22,SNR=6.4							
CTA	**Charters Tower**	**23.66**	**129**	P		**P**	**02 00 04.1**	**+0.5**
	7.6nm,0.7s,baz=313,slow=11,SNR=14							
CTA	**Charters Tower**	**23.66**	**129**	P		**P**	**02 00 04.1**	**+0.5**
CTAO	**Charters Tower**	**23.66**	**129**	*e*P		**P**	**02 00 04.4**	**+0.8**
	9.5nm,0.8s							
KLBR	**Kellerberrin**	**27.06**	**197**	P		**P**	**02 00 34.0**	**+0.4**
	baz=27,SNR=5.6							
BBOO	**Buckleboo**	**28.26**	**163**	P		**P**	**02 00 44.5**	**+0.4**
	baz=28,SNR=7.8							
NWAO	**Narrogin (SRO)**	**28.46**	**197**	P		**P**	**02 00 46.1**	**+0.2**
	6.6nm,0.8s,baz=2.5,slow=4.2,SNR=3.6							
NWAO	**Narrogin (SRO)**	**28.46**	**197**	P		**P**	**02 00 46.1**	**+0.2**
PSI	**Prapat**	**29.12**	**286**	P		**P**	**02 00 50.6**	**-1.4**
	18nm,0.9s,baz=104,slow=5.8,SNR=9.0							
PSI	**Prapat**	**29.12**	**286**	P		**P**	**02 00 50.6**	**-1.4**
PSI	**Prapat**	**29.12**	**286**	P		**P**	**02 00 51.0**	**-1.1**
	baz=29,SNR=5.2							
STKA	**Stephens Creek**	**29.44**	**154**	P		**P**	**02 00 54.8**	**+0.5**
	17nm,0.6s,baz=328,slow=8.6,SNR=66							
STKA	**Stephens Creek**	**29.44**	**154**	*e*P		**P**	**02 00 54.8**	**+0.5**
	2.9nm,0.6s							
STKA	**Stephens Creek**	**29.44**	**154**	P		**P**	**02 00 54.9**	**+0.5**
	baz=30,SNR=26							
CMSA	**Cobar Meteorol**	**31.15**	**148**	P		**P**	**02 01 10.4**	**+1.2**
	baz=31,SNR=15							
ARPS	**Mount Arapiles**	**33.79**	**158**	P		**P**	**02 01 32.9**	**+1.2**
	baz=34,SNR=14							
ARMA	**Armidale**	**33.86**	**139**	P		**P**	**02 01 34.2**	**+1.7**
	baz=34,SNR=4.9							
YNG	**Young**	**34.72**	**148**	P		**P**	**02 01 41.3**	**+1.7**
	baz=35,SNR=15							
CMAR	**Chiang Mai Arr**	**36.53**	**312**	P		**P**	**02 01 54.5**	**-0.3**
	9.4nm,0.6s,baz=141,slow=6.9,SNR=28							
CMAR	**Chiang Mai Arr**	**36.53**	**312**	P		**P**	**02 01 54.5**	**-0.3**
CHTO	**Chiang Mai**	**36.75**	**312**	*e*P		**P**	**02 01 56.2**	**-0.4**
	18nm,1.1s							
GYA	**Guiyang**	**37.51**	**330**	*e*P		**P**	**02 02 03.8**	**+0.8**
GYA				pP		**pP**	**02 03 31.5**	**+2.4**
GYA				sP		**sP**	**02 04 25.0**	**+1.2**
GYA				ScP		**ScP**	**02 07 11.3**	**+0.6**
GYA				S		**S**	**02 07 20.8**	**+3.6**
GYA				PcS		**PcS**	**02 07 58.0**	**-0.7**
GYA				ScS		**ScS**	**02 11 19.5**	**-1.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WHN	**Wuhan**	**38.02**	**342**	P		**P**	**02 02 06.8**	**-0.1**
NJ2	**Nanjing**	**38.36**	**349**	*e*P		**P**	**02 02 09.3**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,30nm,1.0s							
KMI	**Kunming**	**38.61**	**324**	P		**P**	**02 02 12.0**	**-0.1**
KMI				pmax		pmax		
	comp=Z,13nm,0.8s							
JNU	**Nakatsue**	**38.86**	**5**	P		**P**	**02 02 12.6**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=132,slow=9.6,SNR=2.6							
JNU	**Nakatsue**	**38.86**	**5**	P		**P**	**02 02 12.6**	**-1.2**
LHI	**Lord Howe Isla**	**39.60**	**134**	P		P	02 02 32.7	+13
	baz=40,SNR=3.9							
DZM	**Mont Dzumac**	**41.58**	**117**	P		**P**	**02 02 35.2**	**-0.7**
	comp=Z,9.0nm,0.8s,baz=131,slow=20,SNR=4.6							
DZM	**Mont Dzumac**	**41.58**	**117**	P		**P**	**02 02 35.2**	**-0.7**
CD2	**Chengdu**	**42.61**	**330**	P		**P**	**02 02 43.0**	**-0.9**
CD2				pP		**pP**	**02 04 13.0**	**+0.3**
CD2				PP		**PP**	**02 04 33.5**	**-1.0**
CD2				sP		**sP**	**02 05 07.8**	**+1.1**
CD2				ScP		**ScP**	**02 07 29.0**	**-1.5**
CD2				S		**S**	**02 08 31.8**	**+0.3**
CD2				sS		**sS**	**02 11 12.5**	**-0.5**
CD2				SS		**ScS**	**02 11 52.5**	**+1.0**
CD2				pmax		pmax		
	comp=Z,40nm,0.6s							
CD2				pmax		pmax		
	comp=Z,100nm,5.1s							
KSAR	**Wonju Array Be**	**42.99**	**1**	P		**P**	**02 02 46.6**	**-0.1**
KSRS	**Korea Array**	**43.00**	**1**	P		**P**	**02 02 46.6**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=176,slow=10.0,SNR=16							
XAN	**Xi'an**	**43.05**	**338**	P		**P**	**02 02 45.0**	**-2.3**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,12nm,5.7s							
MJAR	**Matsushiro Arr**	**43.41**	**13**	P		**P**	**02 02 48.0**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=184,slow=9.8,SNR=4.9							
MJAR	**Matsushiro Arr**	**43.41**	**13**	P		**P**	**02 02 48.0**	**-2.0**
BJI	**Beijing**	**46.62**	**349**	P		**P**	**02 03 12.5**	**-2.1**
BJI				pmax		pmax		
	comp=Z,16nm,0.7s							
BJI				pmax		pmax		
	comp=Z,120nm,4.4s							
LZH	**Lanzhou**	**46.87**	**334**	*e*P		**P**	**02 03 16.8**	**-0.1**
LZH				pP		**pP**	**02 04 46.5**	**-1.5**
LZH				sP		**sP**	**02 05 40.0**	**-1.3**
LZH				pmax		pmax		
	comp=Z,33nm,1.0s							
LZH				pmax		pmax		
	comp=Z,130nm,4.0s							
HHC	**Hu-ho-hao-te**	**48.45**	**345**	*e*P		**P**	**02 03 30.0**	**+1.4**
HHC				pP		**pP**	**02 05 02.3**	**+1.8**
HHC				PcS		**PcS**	**02 08 42.3**	**-0.6**
HHC				S		**S**	**02 09 55.8**	**+2.3**
HHC				ScS		**ScS**	**02 12 28.0**	**-1.4**
HHC				sS		**sS**	**02 12 39.5**	**+0.2**
HHC				SS		**SS**	**02 13 31.8**	**+0.6**
HHC				pmax		pmax		
	comp=Z,25nm,0.6s							
HHC				pmax		pmax		
	comp=Z,180nm,6.7s							
LSA	**Lhasa**	**49.14**	**318**	P		**P**	**02 03 34.3**	**-0.1**
LSA				pmax		pmax		
	comp=Z,30nm,0.8s							
CN2	**Changchun**	**49.35**	**359**	*e*P		**P**	**02 03 37.0**	**+1.9**
USRK	**Ussuriysk Arra**	**49.95**	**5**	P		**P**	**02 03 39.1**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=206,slow=9.1,SNR=9.3							
ODAN	**Odare**	**50.07**	**312**	*e*P		**P**	**02 03 40.3**	**-0.8**
	comp=Z,48nm,0.6s							
TAPN	**Taplejung**	**50.11**	**313**	*e*P		**P**	**02 03 40.7**	**-0.8**
	comp=Z,44nm,0.4s							
MDJ	**Mudanjiang**	**50.21**	**3**	P		**P**	**02 03 42.3**	**+0.9**
MDJ				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,67nm,6.2s							
RAMN	**Ramite**	**50.70**	**312**	*e*P		**P**	**02 03 45.3**	**-0.4**
	comp=Z,124nm,0.6s							
MSVF	**Nonsavu**	**51.40**	**108**	*e*P		**P**	**02 03 52.5**	**+1.8**
	comp=Z,19nm,0.8s							
GTA	**Gaotai**	**51.41**	**333**	*e*P		**P**	**02 03 50.3**	**-0.2**
GTA				pP		**pP**	**02 05 23.3**	**-0.5**
GTA				sP		**sP**	**02 06 14.0**	**-2.4**
GTA				pmax		pmax		
	comp=Z,33nm,0.8s							
GUN	**Gumba**	**51.77**	**312**	*e*P		**P**	**02 03 52.8**	**-0.8**
	comp=Z,74nm,0.5s							
PKI	**Pulchoki**	**51.93**	**312**	*e*P		**P**	**02 03 53.6**	**-1.1**
	comp=Z,34nm,0.5s							
PKIN	**Phulchoki**	**51.94**	**312**	*e*P		**P**	**02 03 53.7**	**-1.1**
	comp=Z,12nm,0.4s							
KKN	**Kakani**	**52.14**	**312**	*e*P		**P**	**02 03 55.1**	**-1.1**
	comp=Z,29nm,0.5s							
DMN	**Daman**	**52.17**	**312**	*e*P		**P**	**02 03 55.6**	**-0.8**
	comp=Z,44nm,0.8s							
HYB	**Hyderabad**	**52.93**	**297**	*i* P		**P**	**02 03 59.0**	**-2.7**
KOLN	**Koldanda**	**53.39**	**311**	*e*P		**P**	**02 04 04.1**	**-1.0**
DANN	**Dangsing**	**53.58**	**312**	*e*P		**P**	**02 04 05.5**	**-1.0**
PYUN	**Piuthan**	**54.02**	**311**	*e*P		**P**	**02 04 08.9**	**-0.7**
	comp=Z,132nm,0.8s							
RPZ	**Rata Peaks**	**54.

EKS2	**Erkin-Say**	**68.03**	**321**	P		**P**	02 05 42.0	**+0.3**
	SNR=10								
ZAA0	**Zalesovo Array**	**69.10**	**335**	*e*P		**P**	02 05 46.3	**-1.4**
ZALV	**Zalesovo Beam**	**69.10**	**335**	P		**P**	02 05 46.5	**-1.2**
	comp=Z,11nm,0.6s,baz=125,slow=4.8,SNR=59								
ZALV	**Zalesovo Beam**	**69.10**	**335**	P		**P**	02 05 46.5	**-1.2**
KURK	**Kurchatov**	**69.83**	**330**	*e*P		**P**	02 05 51.5	**-0.7**
	comp=Z,19nm,1.0s								
KKAR	**Karatay Array**	**70.34**	**320**	*e*P		**P**	02 05 55.5	**+0.1**
VNDA	**Vanda**	**74.07**	**173**	P		**P**	02 06 16.6	**+0.1**
	comp=Z,2.4nm,0.7s,baz=319,slow=5.6,SNR=17								
VNDA	**Vanda**	**74.07**	**173**	*e*P		**P**	02 06 14.8	**-1.7**
BRVK	**Borovoye**	**75.42**	**329**	*e*P		**P**	02 06 24.0	**-0.5**
	comp=Z,11nm,1.0s								
ABKAR	**Akbulak array**	**79.58**	**322**	*e*P		**P**	02 06 46.5	**-0.7**
AKTO	**Aktyubinsk**	**81.17**	**323**	P		**P**	02 06 55.0	**-0.5**
	comp=Z,4.5nm,0.6s,baz=106,slow=7.5,SNR=24								
AKTO	**Aktyubinsk**	**81.17**	**323**	P		**P**	02 06 55.0	**-0.5**
KBZ	**Khabaz**	**89.55**	**314**	P		**P**	02 07 35.4	**-1.0**
	comp=Z,0.6nm,0.7s,baz=92,slow=9.4,SNR=4.1								
KBZ	**Khabaz**	**89.55**	**314**	P		**P**	02 07 35.4	**-1.0**
ILAR	**Eielson Array**	**93.59**	**25**	P		**P**	02 07 52.2	**-2.3**
	comp=Z,0.8nm,0.7s,baz=238,slow=5.2,SNR=17								
ILAR	**Eielson Array**	**93.59**	**25**	P		**P**	02 07 52.2	**-2.3**
YKA	**Yellowknife Ar**	**108.02**	**25**	PKiKP		**PKiKP**	02 13 02.2	**-0.8**
	comp=Z,0.3nm,0.5s,baz=286,slow=1.7,SNR=6.4								
YKA	**Yellowknife Ar**	**108.02**	**25**	PKiKP		**PKiKP**	02 13 02.2	**-0.8**
PDAR	**Pinedale Array**	**118.25**	**44**	PKP		**PKPdf**	02 13 23.4	**-0.1**
	comp=Z,0.5nm,0.7s,baz=273,slow=3.5,SNR=3.9								
PDAR	**Pinedale Array**	**118.25**	**44**	PKP		**PKPdf**	02 13 23.4	**-0.1**
ULM	**Lac du Bonnet**	**123.09**	**31**	PKP		**PKPdf**	02 13 31.3	**-0.9**
	comp=Z,1.4nm,0.4s,baz=71,slow=2.4,SNR=4.7								
ULM	**Lac du Bonnet**	**123.09**	**31**	PKP		**PKPdf**	02 13 31.3	**-0.9**
TORD	**Torodi Ar. Bea**	**125.46**	**282**	PKP		**PKPdf**	02 13 37.6	**-0.1**
	comp=Z,0.7nm,0.7s,baz=102,slow=2.0,SNR=9.1								
TORD				SKPbc		SKiKP	02 16 07.0	-21	
	comp=Z,0.4nm,0.8s,baz=88,slow=3.4,SNR=4.6								
TORD				SKP			02 16 26.9		
	comp=Z,0.7nm,0.7s,baz=89,slow=2.3,SNR=4.5								
TORD	**Torodi Ar. Bea**	**125.46**	**282**	PKP		**PKPdf**	02 13 37.6	**-0.1**
TORD				SKPbc		SKiKP	02 16 07.0	-21	
TORD				SKP			02 16 26.9		
TXAR	**Lajitas Array**	**126.98**	**57**	PKP		**PKPdf**	02 13 40.7	**+0.3**
	comp=Z,0.5nm,0.5s,baz=190,slow=2.3,SNR=13								
TXAR				SKPbc		SKiKP	02 16 13.3	-18	
	comp=Z,0.3nm,0.7s,baz=267,slow=2.9,SNR=4.5								
TXAR	**Lajitas Array**	**126.98**	**57**	PKP		**PKPdf**	02 13 40.7	**+0.3**
TXAR				SKPbc		SKiKP	02 16 13.3	-18	
SCHQ	**Schefferville**	**129.85**	**10**	PKP		**PKPdf**	02 13 45.3	**+0.3**
	comp=Z,1.7nm,0.9s,baz=20,slow=11,SNR=2.9								
SCHQ				SKPbc		SKPbc	02 16 21.2	-1.3	
	comp=Z,3.2nm,0.9s,baz=307,slow=6.9,SNR=4.2								
SCHQ	**Schefferville**	**129.85**	**10**	PKP		**PKPdf**	02 13 45.3	**+0.3**
SCHQ				SKPbc		SKPbc	02 16 21.2	-1.3	
PLCA	**Paso Flores**	**131.06**	**162**	PKP		**PKPdf**	02 13 48.1	**+0.3**
	comp=Z,1.2nm,0.8s,baz=196,slow=2.9,SNR=3.7								
PLCA	**Paso Flores**	**131.06**	**162**	PKP		**PKPdf**	02 13 48.1	**+0.3**
DBIC	**Dimbokro**	**131.96**	**274**	PKP		**PKPdf**	02 13 50.3	**+0.1**
	comp=Z,4.5nm,1.1s,baz=112,slow=5.4,SNR=2.9								
DBIC				SKPbc		**SKPbc**	02 16 31.3	**0.0**	
	comp=Z,3.9nm,0.6s,baz=57,slow=5.8,SNR=14								
DBIC	**Dimbokro**	**131.96**	**274**	PKP		**PKPdf**	02 13 50.3	**+0.1**
DBIC				SKPbc		**SKPbc**	02 16 31.3	**0.0**	
CFAA	**Coronel Fontan**	**140.16**	**160**	PKiKP		PKPpre	02 13 59.9		
	comp=Z,0.3nm,0.6s,baz=248,slow=5.5,SNR=4.0								
CFAA	**Coronel Fontan**	**140.16**	**160**	PKPpre		PKPpre	02 13 59.9		
NNA	**Nana**	**150.60**	**127**	PKPbc		**PKPbc**	02 14 29.2	**+0.2**
	comp=Z,6.1nm,0.6s,baz=242,slow=7.2,SNR=6.1								
NNA	**Nana**	**150.60**	**127**	PKPbc		**PKPbc**	02 14 29.2	**+0.2**
ATAH	**Atahualpa**	**151.78**	**117**	PKPbc		**PKPbc**	02 14 30.8	**-1.4**
	comp=Z,6.7nm,0.8s,baz=225,slow=2.9,SNR=5.4								
ATAH	**Atahualpa**	**151.78**	**117**	PKPbc		**PKPbc**	02 14 30.8	**-1.4**
LPAZ	**La Paz**	**153.57**	**146**	PKPbc		**PKPbc**	02 14 36.9	**+0.7**
	comp=Z,0.6nm,0.3s,baz=225,slow=1.4,SNR=7.0								
LPAZ				PKPab		**PKPab**	02 14 51.3	**+0.4**	
	comp=Z,2.5nm,0.8s,baz=215,slow=2.6,SNR=8.6								
LPAZ	**La Paz**	**153.57**	**146**	PKPbc		**PKPbc**	02 14 36.9	**+0.7**
LPAZ				PKPab		**PKPab**	02 14 51.3	**+0.4**
SIV	**San Ignacio**	**157.02**	**160**	PKPab		**PKPab**	02 15 04.8	**-0.2**
	comp=Z,1.0nm,0.6s,baz=225,slow=2.5,SNR=5.8								
SIV	**San Ignacio**	**157.02**	**160**	PKPab		**PKPab**	02 15 04.8	**-0.2**

*ISCJB **31** 02:20:01.4±0.3, 38.88N±0.01×23.64E±0.01, h19km±3km, mb3.8/18, Error ellipse: s-maj=1.9km s-min=1.7km az=38.6*
*PDG **31** 02:20:01.0±0.7, 38.93N×23.72E, h11km±1km, ML3.7/6, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
*THE **31** 02:20:01.8, 38.84N×23.58E, h13km, ML3.9/17, Error ellipse: s-maj=0.6km s-min=0.3km az=159.0*
*MOS **31** 02:20:01.9±0.8, 38.87N×23.63E, h26km, mb4.1/9, Error ellipse: s-maj=11.7km s-min=6.4km az=92.5*
*ATH **31** 02:20:01.1, 38.86N×23.61E, h24km, MD3.5/34, ML4.4*
*CSEM **31** 02:20:01.6±0.1, 38.85N×23.61E, h10km, mb4.0/12, Error ellipse: s-maj=2.0km s-min=1.6km az=91.0*
*SOF **31** 02:20:04.1, 38.83N×23.70E, h44km, MD3.3*
*IDC **31** 02:20:04.9±3.2, 38.81N×23.58E, h33km±26km, mb3.7/14, mb1 3.7/21, mb1mx3.7/34, mbtmp3.6/21, ML3.5/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/45, Error ellipse: s-maj=16.1km s-min=13.0km az=154.0*
*TIR **31** 02:20:08.5, 39.11N×22.90E, h6km, ML4.8*

ISC 31 02:20:02.0±0.8, 38.85N±0.01×23.61E±0.01, h12km±5km, n427,σ0.96/524, mb3.9/18, 19C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.15**	**187**	P			**Pg**	02 20 05.1	**-0.4**
MRKA				S			**Sg**	02 20 07.6	**-0.5**
MRKA	**Markates**	**0.15**	**187**	P			**Pg**	02 20 05.1	**-0.4**
MRKA				S			**Sg**	02 20 07.6	**-0.5**
SKIA	**Skiathos**	**0.33**	**340**	P			**Pg**	02 20 08.6	**-0.1**
SKIA				S			**Sg**	02 20 13.7	**+0.4**
SKIA	**Skiathos**	**0.33**	**340**	P			**Pg**	02 20 08.6	**-0.1**
SKIA				S			**Sg**	02 20 13.7	**+0.4**
AOS	**Alonnisos**	**0.38**	**34**	P			**Pg**	02 20 09.3	**-0.3**
AOS				S			**Sg**	02 20 15.3	**+0.5**
AOS	**Alonnisos**	**0.38**	**34**	*e*PB			**Pg**	02 20 09.4	**-0.2**
AOS				*e*SB			**Sg**	02 20 15.2	**+0.5**
AOS	**Alonnisos**	**0.38**	**34**	*e*Pb			**Pg**	02 20 09.4	**-0.2**
AOS				*e*Sb			**Sg**	02 20 15.2	**+0.5**
ATAL	**Atalanti**	**0.49**	**251**	P			**Pg**	02 20 10.8	**-0.7**
ATAL				S			**Sg**	02 20 18.0	**0.0**
ATAL	**Atalanti**	**0.49**	**251**	P			**Pg**	02 20 10.8	**-0.7**
ATAL				S			**Sg**	02 20 18.0	**0.0**
LKR	**Lokris**	**0.52**	**247**	P			**Pg**	02 20 11.2	**-0.9**
LKR				S			**Sg**	02 20 19.1	**+0.1**
LKR	**Lokris**	**0.52**	**247**	*e*PN			**Pg**	02 20 11.3	**-0.9**
LKR				*e*SN			**Sb**	02 20 19.4	**-1.0**
LKR	**Lokris**	**0.52**	**247**	P			**Pg**	02 20 11.2	**-0.9**
LKR				S			**Sg**	02 20 19.1	**+0.1**
LKR				*e*Sn			**Sb**	02 20 19.4	**-1.0**
NEO	**Neokhori**	**0.54**	**327**	*e*PN			**Pg**	02 20 12.4	**-0.2**
NEO				*e*SN			**Sg**	02 20 20.0	**+0.1**
NEO	**Neokhori**	**0.54**	**327**	*e*Pn			**Pg**	02 20 12.4	**-0.2**
NEO				*e*Sn			**Sg**	02 20 20.0	**+0.1**
XOR	**Xorichti**	**0.61**	**328**	P			**Pg**	02 20 13.2	**-0.6**
XOR	**Xorichti**	**0.61**	**328**	P			**Pg**	02 20 13.2	**-0.6**
AXAR	**Agios Charalam**	**0.75**	**264**	P			**Pg**	02 20 15.5	**-1.0**
AXAR				S			**Sg**	02 20 26.2	**-0.1**
AXAR	**Agios Charalam**	**0.75**	**264**	P			**Pg**	02 20 15.5	**-1.0**
AXAR				S			**Sg**	02 20 26.2	**-0.1**
PTL	**Penteli**	**0.83**	**166**	P			**Pg**	02 20 17.2	**-0.8**
PTL				S			**Sb**	02 20 29.3	**-0.1**
PTL	**Penteli**	**0.83**	**166**	*e*PN			**Pg**	02 20 17.5	**-0.5**
PTL	**Penteli**	**0.83**	**166**	P			**Pg**	02 20 17.2	**-0.8**
PTL	**Penteli**	**0.83**	**166**	*e*Pn			**Pg**	02 20 17.5	**-0.5**
PTL				S			**Sb**	02 20 29.3	**-0.1**
ATH	**Athens Observa**	**0.88**	**174**	P			**Pg**	02 20 18.2	**-0.8**
ATH				S			**Sb**	02 20 30.8	**-0.1**
ATH	**Athens Observa**	**0.88**	**174**	*e*PN			**Pg**	02 20 18.4	**-0.6**
ATH	**Athens Observa**	**0.88**	**174**	P			**Pg**	02 20 18.2	**-0.8**
ATH				S			**Sb**	02 20 30.8	**-0.1**
ATHU	**Athens Univers**	**0.90**	**171**	P			**Pg**	02 20 18.4	**-0.9**
ATHU				S			**Sb**	02 20 31.5	**+0.2**
ATHU	**Athens Univers**	**0.90**	**171**	P			**Pg**	02 20 18.4	**-0.9**
ATHU				S			**Sb**	02 20 31.5	**+0.2**
DSF	**Desfina**	**0.96**	**243**	P			**Pg**	02 20 18.4	**-2.0**
DSF				S			**Sg**	02 20 32.6	**-0.3**
DSF	**Desfina**	**0.96**	**243**	P			**Pg**	02 20 18.4	**-2.0**
DSF				S			**Sg**	02 20 32.6	**-0.3**
LTK	**Loutraki**	**0.97**	**212**	P			**Pg**	02 20 19.2	**-1.5**
LTK				S			**Sb**	02 20 33.2	**-0.3**
LTK	**Loutraki**	**0.97**	**212**	*e*PN			**Pg**	02 20 19.3	**-1.5**
LTK	**Loutraki**	**0.97**	**212**	P			**Pg**	02 20 19.2	**-1.5**
LTK				S			**Sb**	02 20 33.2	**-0.3**
MRMA	**Marmari**	**1.00**	**143**	P			**Pb**	02 20 20.1	**-1.1**
MRMA				S			**Sg**	02 20 34.6	**+0.4**
MRMA	**Marmari**	**1.00**	**143**	P			**Pb**	02 20 20.1	**-1.1**
MRMA				S			**Sg**	02 20 34.6	**+0.4**
AGG	**Agios Georgios**	**1.01**	**280**	P			**Pb**	02 20 19.9	**-1.5**
AGG				S			**Sb**	02 20 34.2	**-0.5**
AGG	**Agios Georgios**	**1.01**	**280**	*e*PN			**Pb**	02 20 20.1	**-1.3**
AGG	**Agios Georgios**	**1.01**	**280**	P			**Pb**	02 20 19.9	**-1.5**
AGG				S			**Sb**	02 20 34.2	**-0.5**
PAIG	**Paliouri**	**1.07**	**3**	P			**Pb**	02 20 21.9	**-0.6**
PAIG				S			**Sb**	02 20 36.1	**-0.4**
PAIG	**Paliouri**	**1.07**	**3**	P			**Pb**	02 20 21.9	**-0.6**
PAIG				S			**Sb**	02 20 36.1	**-0.4**
NAIG	**Nisos Aigina**	**1.10**	**185**	*e*PN			**Pb**	02 20 22.2	**-0.7**
NAIG	**Nisos Aigina**	**1.10**	**185**	*e*Pn			**Pb**	02 20 22.2	**-0.7**
MAKR	**Makrakomi, Fth**	**1.16**	**278**	P			**Pb**	02 20 22.8	**-1.2**
MAKR				S			**Sb**	02 20 38.6	**-0.5**
MAKR	**Makrakomi, Fth**	**1.16**	**278**	P			**Pb**	02 20 22.8	**-1.2**
MAKR				S			**Sb**	02 20 38.6	**-0.5**
KALE	**Kalithea**	**1.24**	**249**	P			**Pn**	02 20 23.4	**-1.8**
KALE	**Kalithea**	**1.24**	**249**	*e*PN			**Pn**	02 20 24.3	**-0.9**
KALE	**Kalithea**	**1.24**	**249**	P			**Pn**	02 20 23.4	**-1.8**
KALE	**Kalithea**	**1.24**	**249**	*e*Pn			**Pn**	02 20 24.3	**-0.9**
TRIZ	**Trizonia**	**1.30**	**248**	P			**Pn**	02 20 24.1	**-1.8**
TRIZ	**Trizonia**	**1.30**	**248**	*e*PN			**Pn**	02 20 25.5	**-0.4**
TRIZ	**Trizonia**	**1.30**	**248**	P			**Pn**	02 20 24.1	**-1.8**
TRIZ	**Trizonia**	**1.30**	**248**	*e*Pn			**Pn**	02 20 25.5	**-0.4**
GUR	**Goura**	**1.35**	**228**	P			**Pn**	02 20 25.4	**-1.3**
GUR				S			**Sb**	02 20 43.4	**-1.2**
GUR	**Goura**	**1.35**	**228**	*e*PN			**Pn**	02 20 26.5	**-0.2**
GUR	**Goura**	**1.35**	**228**	P			**Pn**	02 20 25.4	**-1.3**
GUR	**Goura**	**1.35**	**228**	*e*Pn			**Pn**	02 20 26.5	**-0.2**
GUR				S			**Sb**	02 20 43.4	**-1.2**
DID	**Didima**	**1.38**	**192**	P			**Pn**	02 20 26.3	**-0.7**
DID				S			**Sn**	02 20 44.1	**-1.0**
DID	**Didima**	**1.38**	**192**	*e*PN			**Pn**	02 20 26.4	**-0.6**
DID	**Didima**	**1.38**	**192**	*e*Pn			**Pn**	02 20 26.4	**-0.6**
DID				S			**Sn**	02 20 44.1	**-1.0**
EFP	**Efpalio**	**1.40**	**253**	P			**Pn**	02 20 26.0	**-1.3**
EFP				S			**Sn**	02 20 45.1	**-0.6**
EFP	**Efpalio**	**1.40**	**253**	*e*PN			**Pn**	02 20 27.2	**-0.1**
EFP	**Efpalio**	**1.40**	**253**	P			**Pn**	02 20 26.0	**-1.3**
EFP	**Efpalio**	**1.40**	**253**	*e*Pn			**Pn**	02 20 27.2	**-0.1**
EFP				S			**Sn**	02 20 45.1	**-0.6**
EVR	**Evrytania**	**1.41**	**273**	P			**Pn**	02 20 27.2	**-0.3**
EVR	**Evrytania**	**1.41**	**273**	*e*PN			**Pn**	02 20 27.6	**+0.1**
EVR	**Evrytania**	**1.41**	**273**	P			**Pn**	02 20 27.2	**-0.3**
EVR	**Evrytania**	**1.41**	**273**	*e*Pn			**Pn**	02 20 27.6	**+0.1**
DIDY	**Didyma**	**1.41**	**193**	P			**Pn**	02 20 26.9	**-0.6**
DIDY	**Didyma**	**1.41**	**193**	P			**Pn**	02 20 26.9	**-0.6**
LAKA	**Lakka**	**1.42**	**245**	P			**Pn**	02 20 26.3	**-1.3**
LAKA	**Lakka**	**1.42**	**245**	*e*PN			**Pn**	02 20 26.8	**-0.8**
LAKA	**Lakka**	**1.42**	**245**	P			**Pn**	02 20 26.3	**-1.3**
LAKA	**Lakka**	**1.42**	**245**	*e*Pn			**Pn**	02 20 26.8	**-0.8**
THL	**Klokotos Trika**	**1.43**	**300**	P			**Pn**	02 20 27.0	**-0.7**
THL				S			**Sn**	02 20 45.6	**-0.8**
THL	**Klokotos Trika**	**1.43**	**300**	*e*PN			**Pn**	02 20 27.2	**-0.5**
THL				*e*SN			**Sb**	02 20 46.4	**-0.2**
THL	**Klokotos Trika**	**1.43**	**300**	*e*Pn			**Pn**	02 20 27.2	**-0.5**
THL				S			**Sn**	02 20 45.6	**-0.8**
THL				*e*Sn			**Sb**	02 20 46.4	**-0.2**
PSA1	**Psathopyrgos**	**1.45**	**249**	*e*PN			**Pb**	02 20 28.4	**-0.5**
PSA1				*e*SN			**Sg**	02 20 47.1	**-1.0**
LIT	**Litokhoron**	**1.52**	**326**	P			**Pn**	02 20 28.2	**-0.8**
LIT	**Litokhoron**	**1.52**	**326**	P			**Pn**	02 20 28.2	**-0.8**
PLG	**Polygyros**	**1.52**	**355**	P			**Pn**	02 20 28.3	**-0.8**
PLG				S			**Sn**	02 20 47.0	**-1.8**
PLG	**Polygyros**	**1.52**	**355**	*e*PN			**Pn**	02 20 28.4	**-0.7**
PLG				*e*SN			**Sn**	02 20 48.4	**-0.4**
PLG	**Polygyros**	**1.52**	**355**	*e*Pn			**Pn**	02 20 28.4	**-0.7**
PLG				S			**Sn**	02 20 47.0	**-1.8**
PLG				*e*Sn			**Sn**	02 20 48.4	**-0.4**
UPR	**University Cam**	**1.54**	**249**	P			**Pn**	02 20 28.7	**-0.5**
UPR	**University Cam**	**1.54**	**249**	*e*PN			**Pn**	02 20 29.5	**+0.3**
UPR	**University Cam**	**1.54**	**249**	P			**Pn**	02 20 28.7	**-0.5**
UPR	**University Cam**	**1.54**	**249**	*e*Pn			**Pn**	02 20 29.5	**+0.3**
LIA	**Limnos Island**	**1.60**	**49**	P			**Pn**	02 20 29.3	**-0.8**
LIA	**Limnos Island**	**1.60**	**49**	*e*PB			**Pn**	02 20 29.4	**-0.7**
LIA				*e*SN			**Sn**	02 20 51.0	**+0.3**
LIA	**Limnos Island**	**1.60**	**49**	*e*Pb			**Pn**	02 20 29.4	**-0.7**
LIA				*e*Sn			**Sn**	02 20 51.0	**+0.3**
VLX	**Vlachokerasia**	**1.77**	**214**	P			**Pn**	02 20 32.3	**-0.2**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*PN			**Pn**	02 20 32.6	**+0.1**
VLX	**Vlachokerasia**	**1.77**	**214**	P			**Pn**	02 20 32.3	**-0.2**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*Pn			**Pn**	02 20 32.6	**+0.1**
SIGR	**SIGRI**	**1.79**	**78**	P			**Pn**	02 20 31.7	**-0.9**
SIGR	**SIGRI**	**1.79**	**78**	P			**Pn**	02 20 31.7	**-0.9**
HORT	**Hortiatis**	**1.79**	**347**	P			**Pn**	02 20 31.7	**-1.0**
HORT				S			**Sn**	02 20 54.8	**-0.6**
HORT	**Hortiatis**	**1.79**	**347**	P			**Pn**	02 20 31.7	**-1.0**
HORT				S			**Sn**	02 20 54.8	**-0.6**
THE	**Thessaloniki**	**1.84**	**345**	P			**Pn**	02 20 32.6	**-0.8**
THE				S			**Sn**	02 20 55.4	**-1.2**
THE	**Thessaloniki**	**1.84**	**345**	P			**Pn**	02 20 32.6	**-0.8**
THE				S			**Sn**	02 20 55.4	**-1.2**
RLS	**Riolos of Patr**	**1.86**	**245**	P			**Pn**	02 20 34.0	**+0.4**
RLS	**Riolos of Patr**	**1.86**	**245**	*e*PN			**Pn**	02 20 34.3	**+0.7**
RLS	**Riolos of Patr**	**1.86**	**245**	P			**Pn**	02 20 34.0	**+0.4**
RLS	**Riolos of Patr**	**1.86**	**245**	*e*Pn			**Pn**	02 20 34.3	**+0.7**
CHOS	**Chios island**	**1.97**	**103**	P			**Pn**	02 20 35.0	**-0.2**
CHOS	**Chios island**	**1.97**	**103**	*e*PN			**Pn**	02 20 35.1	**-0.2**
CHOS	**Chios island**	**1.97**	**103**	P			**Pn**	02 20 35.0	**-0.2**
SOH	**Sokhos**	**1.98**	**354**	P			**Pn**	02 20 35.1	**-0.2**
SOH				S			**Sn**	02 20 58.3	**-1.7**
SOH	**Sokhos**	**1.98**	**354**	*e*PN			**Pn**	02 20 35.3	**0.0**
SOH	**Sokhos**	**1.98**	**354**	P			**Pn**	02 20 35.1	**-0.2**
SOH				S			**Sn**	02 20 58.3	**-1.7**
AMT	**Artemida-Makis**	**2.00**	**229**	P			**Pn**	02 20 35.7	**+0.2**
AMT				S			**Sn**	02 21 00.7	**+0.3**
AMT	**Artemida-Makis**	**2.00**	**229**	*e*PN			**Pn**	02 20 36.2	**+0.7**
AMT	**Artemida-Makis**	**2.00**	**229**	P			**Pn**	02 20 35.7	**+0.2**
AMT	**Artemida-Makis**	**2.00**	**229**	*e*Pn			**Pn**	02 20 36.2	**+0.7**
AMT				S			**Sn**	02 21 00.7	**+0.3**
KZN	**Kozani**	**2.03**	**316**	P			**Pn**	02 20 36.0	**0.0**
KZN	**Kozani**	**2.03**	**316**	*e*PN			**Pn**	02 20 36.1	**0.0**
KZN	**Kozani**	**2.03**	**316**	P			**Pn**	02 20 36.0	**0.0**
PRK	**Paraskevi**	**2.11**	**78**	P			**Pn**	02 20 36.5	**-0.5**
PRK	**Paraskevi**	**2.11**	**78**	*e*PN			**Pn**	02 20 36.6	**-0.5**
PRK				*e*SN			**Sn**	02 21 03.6	**+0.4**
PRK	**Paraskevi**	**2.11**	**78**	*e*Pn			**Pn**	02 20 36.6	**-0.5**
PRK				*e*Sn			**Sn**	02 21 03.6	**+0.4**
ITM	**Ithomi**	**2.13**	**219**	P			**Pn**	02 20 38.5	**+1.1**
ITM	**Ithomi**	**2.13**	**219**	*e*PB			**Pn**	02 20 37.7	**+0.3**
ITM	**Ithomi**	**2.13**	**219**	*e*Pb			**Pn**	02 20 37.7	**+0.3**
ITM	**Ithomi**	**2.13**	**219**	P			**Pn**	02 20 38.5	**+1.1**
BOZC	**Bozcaada**	**2.14**	**62**	*i* P			**Pn**	02 20 36.7	**-0.7**
VLI	**Veliai**	**2.20**	**194**	P			**Pn**	02 20 37.9	**-0.4**
VLI	**Veliai**	**2.20**	**194**	*e*PN			**Pn**	02 20 37.8	**-0.5**
VLI	**Veliai**	**2.20**	**194**	P			**Pn**	02 20 37.9	**-0.4**
KAVA	**Kavala**	**2.25**	**18**	P			**Pn**	02 20 37.9	**-1.1**
KAVA	**Kavala**	**2.25**	**18**	P			**Pn**	02 20 37.9	**-1.1**
SRS	**Serrai**	**2.26**	**360**	P			**Pn**	02 20 38.7	**-0.5**
SRS				S			**Sn**	02 21 05.1	**-1.9**
SRS	**Serrai**	**2.26**	**360**	P			**Pn**	02 20 38.7	**-0.5**
SRS				S			**Sn**	02 21 05.1	**-1.9**
JAN	**Janina**	**2.29**	**291**	P			**Pn**	02 20 39.3	**-0.2**
JAN	**Janina**	**2.29**	**291**	*e*PB			**Pn**	02 20 39.8	**+0.3**
JAN	**Janina**	**2.29**	**291**	P			**Pn**	02 20 39.3	**-0.2**
JAN	**Janina**	**2.29**	**291**	*e*Pb			**Pn**	02 20 39.8	**+0.3**
GRG	**Griva**	**2.30**	**337**	P			**Pn**	02 20 39.1	**-0.6**
GRG				S			**Sn**	02 21 07.1	**-0.8**
GRG	**Griva**	**2.30**	**337**	P			**Pn**	02 20 39.1	**-0.6**
GRG				S			**Sn**	02 21 07.1	**-0.8**
DYR	**Agios Nikonas**	**2.32**	**206**	P			**Pn**	02 20 39.8	**-0.2**
DYR	**Agios Nikonas**	**2.32**	**206**	*e*PN			**Pn**	02 20 40.1	**+0.1**
DYR	**Agios Nikonas**	**2.32**	**206**	P			**Pn**	02 20 39.8	**-0.2**
DYR	**Agios Nikonas**	**2.32**	**206**	*e*Pn			**Pn**	02 20 40.1	**+0.1**
EZN	**Ezine**	**2.32**	**64**	*e*PN			**Pn**	02 20 37.9	**-2.0**
KFL	**Anninata**	**2.33**	**252**	P			**Pb**	02 20 42.3	**-1.7**
KFL	**Anninata**	**2.33**	**252**	P			**Pb**	02 20 42.3	**-1.7**
APE	**Apeiranthos**	**2.34**	**139**	*e*PN			**Sn**	02 20 40.2	**0.0**
APE				*e*SN			**Sn**	02 21 10.3	**+1.4**
APE	**Apeiranthos**	**2.34**	**139**	P			**Pn**	02 20 40.0	**-0.3**
APE	**Apeiranthos**	**2.34**	**139**	*i* P			**Pn**	02 20 39.7	**-0.6**
APE	**Apeiranthos**	**2.34**	**139**	*e*PN			**Pn**	02 20 40.4	**+0.1**
APE	**Apeiranthos**	**2.34**	**139**	*i*P			**Sg**	02 21 16.3	**-0.9**
APE	**Apeiranthos**	**2.34**	**139**	P			**Pn**	02 20 40.0	**-0.3**
APE	**Apeiranthos**	**2.34**	**139**	*e*Pn			**Pn**	02 20 40.4	**+0.1**
KNT	**Kendrikon**	**2.37**	**347**	P			**Pn**	02 20 40.8	**+0.1**
KNT	**Kendrikon**	**2.37**	**347**	P			**Pn**	02 20 40.8	**+0.1**
URLA	**Izmir**	**2.39**	**101**	*i* P			**Pn**	02 20 41.0	**+0.1**
URLA	**Izmir**	**2.39**	**101**	*i* P			**Pn**	02 20 41.0	**+0.1**
PYL	**PYLOS**	**2.45**	**218**	P			**Pn**	02 20 43.2	**+1.5**
PYL

BCI	**Bajram Curri**	**4.42**	**324**	*i* Pn		**Pn**	**02 21 10.2**	**+1.3**
BCI				*i* Sn		**Sn**	**02 21 59.8**	**-0.5**
CTYL	**Yal??k??y-??at**	**4.44**	**52**	*e*PN		**Pn**	**02 21 09.2**	**+0.1**
CTKS	**Kestanelik-??a**	**4.45**	**56**	*e*PN		**Pn**	**02 21 08.0**	**-1.2**
MPEP	**Malo Peshtene**	**4.50**	**1**	*i* P		**Pn**	**02 21 10.5**	**+0.6**
ULC	**Ulcinj**	**4.55**	**314**	*e*Pn		**Pn**	**02 21 11.7**	**+1.0**
ULC				*e*Sn		**Sn**	**02 22 05.4**	**+1.8**
ULC	**Ulcinj**	**4.55**	**314**	*e*Pn		**Pn**	**02 21 11.7**	**+1.0**
ULC				*e*Sn		**Sn**	**02 22 05.4**	**+1.8**
TVSB	**Tavsanli**	**4.59**	**81**	*e*PN		**Pn**	**02 21 10.5**	**-0.7**
BGKT	**Bogazkoy**	**4.60**	**58**	*e*PN		**Pn**	**02 21 09.8**	**-1.4**
PVY	**Plav**	**4.65**	**325**	⇑*i* Pn		**Pn**	**02 21 12.5**	**+0.3**
PVY				*e*Sn		**Sn**	**02 22 06.7**	**+0.6**
PVY	**Plav**	**4.65**	**325**	⇑*i* Pn		**Pn**	**02 21 12.5**	**+0.3**
PVY				*e*Sn		**Sn**	**02 22 06.7**	**+0.6**
KHL	**Karahalli**	**4.66**	**95**	*e*PN		**Pn**	**02 21 12.1**	**-0.2**
ISK	**Istanbul-Kandi**	**4.74**	**60**	*e*PN		**Pn**	**02 21 12.5**	**-0.6**
TTG	**Podgorica**	**4.87**	**319**	⇑*i* Pn		**Pn**	**02 21 15.3**	**+0.3**
TTG				*e*Sn		**Sn**	**02 22 12.0**	**+0.8**
FETY	**Fethiye**	**4.87**	**115**	*e*PN		**Pn**	**02 21 15.8**	**+0.8**
PDG	**Podgorica**	**4.87**	**319**	⇑*i* Pn		**Pn**	**02 21 15.3**	**+0.3**
PDG				*e*Sn		**Sn**	**02 22 12.0**	**+0.7**
BUM	**Brajici-Budva**	**4.97**	**315**	⇓*i* Pn		**Pn**	**02 21 17.2**	**+0.7**
BUM				*e*Sn		**Sn**	**02 22 14.8**	**+0.8**
BUM	**Brajici-Budva**	**4.97**	**315**	⇓*i* Pn		**Pn**	**02 21 17.2**	**+0.7**
BUM				*e*Sn		**Sn**	**02 22 14.8**	**+0.8**
HRT	**Hereke**	**5.06**	**65**	*e*PN		**Pn**	**02 21 17.8**	**+0.2**
ALT	**Altintas**	**5.07**	**86**	*e*PN		**Pn**	**02 21 17.2**	**-0.7**
BOLS	**Boljevac**	**5.12**	**346**	*e*Pn		**Pn**	**02 21 16.6**	**-1.9**
SILT	**Sile**	**5.17**	**62**	*e*PN		**Pn**	**02 21 19.2**	**0.0**
NEF	**NEVSHA**	**5.21**	**31**	*i* P		**Pn**	**02 21 19.1**	**-0.5**
NEF	**NEVSHA**	**5.21**	**31**	*i* P		**Pn**	**02 21 19.1**	**-0.5**
HCY	**Herceg Novi**	**5.29**	**314**	⇑*i* Pn		**Pn**	**02 21 21.8**	**+1.0**
HCY				*e*Sn		**Sn**	**02 22 22.6**	**+0.9**
HCY	**Herceg Novi**	**5.29**	**314**	⇑*i* Pn		**Pn**	**02 21 21.8**	**+1.0**
HCY				*e*Sn		**Sn**	**02 22 22.6**	**+0.9**
IVAS	**Ivanjica**	**5.39**	**332**	*e*Pn		**Pn**	**02 21 22.8**	**+0.6**
ELL	**Elmali**	**5.41**	**111**	*e*PN		**Pn**	**02 21 23.8**	**+1.2**
SHUT	**Suhut-Afyon**	**5.44**	**91**	*e*PN		**Pn**	**02 21 22.5**	**-0.4**
SPNC	**Sapanca-Adapaz**	**5.48**	**68**	*e*PN		**Pn**	**02 21 23.2**	**-0.2**
GULT	**Gulveren**	**5.56**	**71**	*e*PN		**Pn**	**02 21 24.6**	**+0.1**
BRY	**Bratogost**	**5.58**	**318**	⇓*i* Pn		**Pn**	**02 21 25.3**	**+0.4**
BRY				*e*Sn		**Sn**	**02 22 29.1**	**+0.2**
BRY	**Bratogost**	**5.58**	**318**	⇓*i* Pn		**Pn**	**02 21 25.3**	**+0.4**
BRY				*e*Sn		**Sn**	**02 22 29.1**	**+0.2**
UPM	**Unac-Piva**	**5.62**	**322**	⇓*i* Pn		**Pn**	**02 21 26.0**	**+0.6**
UPM				*e*Sn		**Sn**	**02 22 30.2**	**+0.3**
UPM	**Unac-Piva**	**5.62**	**322**	⇓*i* Pn		**Pn**	**02 21 26.0**	**+0.6**
UPM				*e*Sn		**Sn**	**02 22 30.2**	**+0.3**
HUMR	**Humele**	**5.76**	**10**	⇑*i* P		**Pn**	**02 21 27.0**	**-0.2**
TRUS	**Trudelj**	**5.88**	**337**	*e*Pn		**Pn**	**02 21 30.3**	**+1.4**
STON	**Ston**	**6.01**	**314**	*e*Pg		Pn	02 21 26.9	-3.8
STON					Sg	Pb	02 21 41.7	-4.9
CDT	**Castel del Mon**	**6.06**	**294**	*e*PN		**Pn**	**02 21 31.7**	**+0.3**
MDUB	**Mudurnu**	**6.07**	**72**	*e*PN		**Pn**	**02 21 31.8**	**+0.2**
KIZT	**Kizilcal**	**6.45**	**87**	*e*PN		**Pn**	**02 21 37.5**	**+0.7**
MS1	**Monte Sant'Ang**	**6.52**	**298**	*e*Pn		**Pn**	**02 21 36.9**	**-0.8**
ARR	**Arges**	**6.55**	**6**	⇑*i* P		**Pn**	**02 21 38.3**	**+0.1**
ARR	**Arges**	**6.55**	**6**	⇑*i* P		**Pn**	**02 21 38.3**	**+0.1**
LOT	**Lotru**	**6.59**	**1**	⇓*i* P		**Pn**	**02 21 38.8**	**+0.1**
LOT	**Lotru**	**6.59**	**1**	⇓*i* P		**Pn**	**02 21 38.8**	**+0.1**
TIRR	**Tirgusor**	**6.66**	**31**	⇑*i* P		**Pn**	**02 21 41.1**	**+1.6**
TIRR	**Tirgusor**	**6.66**	**31**	⇑*i* P		**Pn**	**02 21 41.1**	**+1.6**
VOIR		**6.67**	**9**	⇑*i* P		**Pn**	**02 21 40.2**	**+0.5**
VOIR		**6.67**	**9**	⇑*i* P		**Pn**	**02 21 40.2**	**+0.5**
VOIR		**6.67**	**9**	P		**Pn**	**02 21 40.2**	**+0.5**
MLR	**Muntele Rosu**	**6.86**	**14**	Pn		**Pn**	**02 21 43.6**	**+1.2**
	baz=176,slow=15							
MLR					Sn	**Sn**	**02 23 02.9**	**+2.6**
	0.2nm,0.3s,baz=182,slow=22,SNR=1.3							
MLR	**Muntele Rosu**	**6.86**	**14**	⇓*i* P		**Pn**	**02 21 44.2**	**+1.8**
MLR	**Muntele Rosu**	**6.86**	**14**	P		**Pn**	**02 21 43.6**	**+1.2**
FGSL	**Fruska Gora**	**6.90**	**337**	*e*Pn		**Pn**	**02 21 40.4**	**-2.6**
BZS	**Buzias**	**6.92**	**348**	⇑*i* P		**Pn**	**02 21 42.4**	**-0.7**
BZS	**Buzias**	**6.92**	**348**	⇑*i* P		**Pn**	**02 21 42.4**	**-0.7**
BZS	**Buzias**	**6.92**	**348**	P		**Pn**	**02 21 42.4**	**-0.7**
VRI	**Vrincioaia**	**7.38**	**17**	⇓*i* P		**Pn**	**02 21 50.8**	**+1.3**
VRI	**Vrincioaia**	**7.38**	**17**	⇓*i* P		**Pn**	**02 21 50.8**	**+1.3**
VRI	**Vrincioaia**	**7.38**	**17**	P		**Pn**	**02 21 50.8**	**+1.3**
BRTR	**Keskin Array B**	**7.83**	**80**	Pn		**Pn**	**02 21 57.3**	**+1.5**
	0.7nm,0.3s,baz=258,slow=13,SNR=28							
BRTR	**Keskin Array B**	**7.83**	**80**	P		**Pn**	**02 21 57.3**	**+1.5**
	1.0nm,0.3s							
TESR		**7.97**	**15**	⇑*i* P		**Pn**	**02 21 59.2**	**+1.6**
TESR		**7.97**	**15**	⇑*i* P		**Pn**	**02 21 59.2**	**+1.6**
PKSM	**Moragy**	**8.22**	**335**	⇓P		**Pn**	**02 22 00.4**	**-0.5**
PKSM	**Moragy**	**8.22**	**335**	⇓*i* P		**Pn**	**02 22 00.3**	**-0.6**
PKSM	**Moragy**	**8.22**	**335**	P		**Pn**	**02 22 00.4**	**-0.5**
MMAI	**Mount Meron Ar**	**11.19**	**118**	Pn		**Pn**	**02 22 42.8**	**+1.0**
	0.9nm,0.3s,baz=312,slow=12,SNR=2.3							
VRAC	**Vranov**	**11.60**	**337**	Pn		**Pn**	**02 22 49.1**	**+1.9**
	0.2nm,0.3s,baz=341,slow=18,SNR=2.4							
VRAC	**Vranov**	**11.60**	**337**	P		**Pn**	**02 22 49.1**	**+1.9**
PGF	**Pioggiola**	**11.69**	**293**	*e*P		**Pn**	**02 22 50.9**	**+2.3**
KEST	**Kesra**	**11.78**	**259**	Pn		**Pn**	**02 22 51.9**	**+2.0**
	0.0nm,0.3s,baz=216,slow=19,SNR=2.7							
GERES	**GERESS Array B**	**12.27**	**328**	Pn		**Pn**	**02 22 57.6**	**+1.1**
	0.1nm,0.3s,baz=156,slow=13,SNR=2.9							
GERES	**GERESS Array B**	**12.27**	**328**	P		**Pn**	**02 22 57.6**	**+1.1**
KHC	**Kasperske Hory**	**12.55**	**328**	*e*P		**Pn**	**02 23 00.8**	**+0.6**
KHC	**Kasperske Hory**	**12.55**	**328**	*e*P		**Pn**	**02 23 00.8**	**+0.6**
KHC	**Kasperske Hory**	**12.55**	**328**	*e*P		**Pn**	**02 23 00.8**	**+0.6**
ASF	**Jabal al Asfar**	**12.71**	**118**	LR		LR	02 28 47.2	
	comp=Z,59nm,21.1s,baz=81,slow=41							
DAVOX	**Davos/Dischmat**	**12.81**	**313**	Pn		**Pn**	**02 23 04.8**	**+0.9**
DAVOX	**Davos/Dischmat**	**12.81**	**313**	P		**Pn**	**02 23 04.8**	**+0.9**
SBF	**Sospel**	**13.14**	**298**	*e*P		**Pn**	**02 23 10.4**	**+2.1**
	9.5nm,0.6s							
SBF	**Sospel**	**13.14**	**298**	*e*P		**Pn**	**02 23 10.4**	**+2.1**
	9.0nm,0.6s							
MBDF	**Montbardon**	**13.86**	**300**	*e*P		**Pn**	**02 23 19.6**	**+1.4**
	9.3nm,0.9s							
LPG	**La Plagne**	**14.14**	**303**	*e*P		**Pn**	**02 23 25.0**	**+2.7**
	8.0nm,0.8s							
LPL	**La Plagne**	**14.16**	**303**	*e*P		**Pn**	**02 23 24.5**	**+2.0**
CABF	**La Chapelle**	**15.01**	**307**	*e*P		**Pn**	**02 23 33.7**	**-0.2**
	16nm,1.0s							
KIV	**Kislovodsk**	**15.19**	**64**	*e*P		**Pn**	**02 23 34.0**	**-2.3**
KIV				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**15.29**	**65**	Pn		**Pn**	**02 23 37.5**	**0.0**
	comp=Z,0.0nm,0.3s,baz=250,slow=12,SNR=3.5							
KBZ	**Khabaz**	**15.29**	**65**	P		**Pn**	**02 23 37.5**	**0.0**
ZEI	**Tsey**	**15.85**	**69**	*e*P		**P**	**02 23 51.0**	**+2.2**
ZEI				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BGF	**Bois d'Agland**	**17.06**	**304**	*e*P		**Pn**	**02 24 00.5**	**+0.3**
	comp=Z,4.8nm,0.6s							
BGF	**Bois d'Agland**	**17.06**	**304**	*e*P		**Pn**	**02 24 00.5**	**+0.3**
	comp=Z,4.0nm,0.6s							
BAIF	**Baives**	**17.76**	**315**	*e*P		**P**	**02 24 09.5**	**-0.1**
BAIF	**Baives**	**17.76**	**315**	*e*P		**P**	**02 24 09.5**	**-0.1**
OBN	**Obninsk**	**18.46**	**24**	*e*P		**Pn**	**02 24 17.3**	**-0.1**
OBN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
OBN	**Obninsk**	**18.46**	**24**	*e*P		**Pn**	**02 24 17.3**	**-0.1**
	comp=Z,2.0nm,0.6s							
LDF	**La Druitiere**	**19.65**	**307**	*e*P		**P**	**02 24 30.8**	**+0.4**
LDF	**La Druitiere**	**19.65**	**307**	*e*P		**P**	**02 24 30.8**	**+0.4**
FLN	**La Foliniere**	**19.93**	**308**	*e*P		**P**	**02 24 33.1**	**-0.4**
FLN	**La Foliniere**	**19.93**	**308**	*e*P		**P**	**02 24 33.1**	**-0.4**
GRR	**Gorron**	**20.04**	**306**	*e*P		**P**	**02 24 34.3**	**-0.4**
GRR	**Gorron**	**20.04**	**306**	*e*P		**P**	**02 24 34.3**	**-0.4**
SGMF	**Saint Gilles**	**21.08**	**305**	*e*P		**P**	**02 24 44.9**	**-1.0**
SGMF	**Saint Gilles**	**21.08**	**305**	*e*P		**P**	**02 24 44.9**	**-1.0**
ESDC	**Sonseca Array**	**21.34**	**281**	P		**P**	**02 24 49.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=77,slow=11,SNR=7.0							
QUIF	**Quistinic**	**21.38**	**304**	*e*P		**P**	**02 24 48.5**	**-0.6**
	comp=Z,32nm,1.2s							
QUIF	**Quistinic**	**21.38**	**304**	*e*P		**P**	**02 24 48.5**	**-0.6**
	comp=Z,32nm,1.2s							
ROSF	**Rostrenen**	**21.56**	**305**	*e*P		**P**	**02 24 50.9**	**-0.2**
ROSF	**Rostrenen**	**21.56**	**305**	*e*P		**P**	**02 24 50.9**	**-0.2**
HFS	**Hagfors**	**22.20**	**347**	P		**P**	**02 24 59.7**	**+1.8**
	comp=Z,3.5nm,0.7s,baz=144,slow=13,SNR=4.0							
HFS	**Hagfors**	**22.20**	**347**	P		**P**	**02 24 59.7**	**+1.8**
	comp=Z,4.0nm,0.7s							
FINES	**FINESS Array B**	**22.67**	**3**	P		**P**	**02 25 02.7**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=204,slow=14,SNR=1.8							
FINES	**FINESS Array B**	**22.67**	**3**	P		**P**	**02 25 02.7**	**-0.1**
	comp=Z,6.0nm,1.0s							
NOA	**NORSAR Array B**	**23.52**	**345**	P		**P**	**02 25 12.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=148,slow=9.9,SNR=2.7							
NOA	**NORSAR Array B**	**23.52**	**345**	P		**P**	**02 25 12.6**	**+1.0**
	comp=Z,1.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**24.35**	**321**	P		**P**	**02 25 18.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=118,slow=9.5,SNR=8.2							
EKA	**Eskdalemuir Ar**	**24.35**	**321**	P		**P**	**02 25 18.8**	**-0.6**
	comp=Z,2.0nm,0.5s							
AKTK	**Aktyubinsk**	**26.84**	**53**	P		**P**	**02 25 42.2**	**+0.1**
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**26.84**	**53**	P		**P**	**02 25 42.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=262,slow=11,SNR=5.4							
AKTO	**Aktyubinsk**	**26.84**	**53**	P		**P**	**02 25 42.2**	**+0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**32.13**	**223**	P		**P**	**02 26 29.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=33,slow=8.6,SNR=51							
BRVK	**Borovoye**	**34.77**	**50**	*i* P		**P**	**02 26 51.1**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**34.77**	**50**	*i* P		**P**	**02 26 51.1**	**-0.8**
	comp=Z,2.0nm,0.7s							
DBIC	**Dimbokro**	**41.07**	**226**	P		**P**	**02 27 45.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=14,slow=8.3,SNR=2.7							
DBIC	**Dimbokro**	**41.07**	**226**	P		**P**	**02 27 45.6**	**+0.1**
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**42.88**	**60**	P		**P**	**02 28 00.9**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=280,slow=6.8,SNR=16							
MKAR	**Makanchi Array**	**42.88**	**60**	P		**P**	**02 28 00.9**	**+0.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**42.88**	**60**	P		**P**	**02 28 00.9**	**+0.8**
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**43.43**	**49**	P		**P**	**02 28 04.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=266,slow=8.4,SNR=12							
ZALV	**Zalesovo Beam**	**43.43**	**49**	P		**P**	**02 28 04.7**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.43**	**49**	P		**P**	**02 28 04.7**	**+0.3**
	comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**58.15**	**52**	P		**P**	**02 29 55.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=293,slow=7.5,SNR=3.3							
SONM	**Songino Array**	**58.15**	**52**	P		**P**	**02 29 55.9**	**+0.4**
SCHQ	**Schefferville**	**59.60**	**318**	P		**P**	**02 30 05.3**	**0.0**
	comp=Z,1.1nm,0.5s,baz=60,slow=19,SNR=3.0							
CMAR	**Chiang Mai Arr**	**67.40**	**84**	P		**P**	**02 30 56.4**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=302,slow=8.4,SNR=1.9							
CMAR	**Chiang Mai Arr**	**67.40**	**84**	P		**P**	**02 30 56.4**	**-1.1**
	comp=Z,2.0nm,0.4s							
BILL	**Bilibino**	**69.80**	**14**	*e*P		**P**	**02 31 10.6**	**-1.0**
BILL				*e*			02 31 20.7	
BILL				*e*			02 33 42.0	
BILL				*e*S		**S**	**02 40 19.9**	**-0.4**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BILL	**Bilibino**	**69.80**	**14**	*e*P		**P**	**02 31 10.6**	**-1.0**
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**73.56**	**341**	P		**P**	**02 31 33.9**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=32,slow=5.4,SNR=2.6							

ISCJB ***31*** *02:32:56.4±1.6, 6.˚70S±0.˚04×155.˚09E±0.˚03, h26km±11km, mb5.0/77, MS4.2/24, Error ellipse: s-maj=7.1km s-min=4.9km az=166.6*

SZGRF ***31*** *02:32:56.3, 7.˚07S×155.˚59E, h33km, Bougainville - Solomon Islands region*

BJI ***31*** *02:32:56.9, 6.˚85S×155.˚43E, h49km, mB5.1/32, mb4.9/47, Ms5.0/22, Ms7 4.7/18*

MOS ***31*** *02:32:57.7±1.0, 6.˚68S×155.˚09E, h34km, mb5.2/26, Error ellipse: s-maj=8.6km s-min=7.7km az=84.6*

GCMT ***31*** *02:33:00.5±0.3, 7.˚05S×155.˚06E, h37km, MW5.0, Moment Tensor Solution. s57,c64; s57,c68; Moment tensor: Scale 10^16 Nm; Mrr3.69±.20; Mθθ-2.66±.14; Mφφ-1.03±.15; Mrθ 1.00±.15; Mθφ 2.37±.11; Mφr-1.14±.16; Best double couple: M=4.30000×10^16 NP1:φs299.00000°, δ35.00000°, λ80.00000°. NP2:φs131.00000°, δ55.00000°, λ97.00000°. Principal axes: T 3.9900, Plg78.0000°, Azm66.0000°; N 0.6300, Plg6.0000°, Azm307.0000°; P -4.6100, Plg10.0000°, Azm216.0000°; Data Used: II IU G CN IC.*

IDC ***31*** *02:33:01.2±1.8, 6.˚73S×155.˚10E, h55km±15km, mb4.6/23, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, MS4.1/20, Ms1 4.1/20, ms1mx3.8/35 Error ellipse: s-maj=12.5km s-min=10.1km az=103.0*

NEIC ***31*** *02:33:01.5±0.9, 6.˚79S×155.˚09E, h60km±8km, mb5.0/39, Error ellipse: s-maj=6.4km s-min=5.6km az=173.0*

AUST ***31*** *02:33:09.7±0.6, 7.˚08S×154.˚78E, h111km, Error ellipse: s-maj=1.5km s-min=1.0km az=9.0*

ISC 31 02:33:00.7±0.4, 6.˚80S±0.˚05×155.˚18E±0.˚05, h53km±3km, n404, σ1°13/429, mb4.9/77, MS4.2/26, 42C-37D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.39**	**119**	*e*Pn		**Pn**	**02 34 19.0**	**+0.4**
HNR				*e*S		Sn	02 35 36.0	+17
PMG	**Port Moresby**	**8.35**	**251**	P		**Pn**	**02 34 58.9**	**-0.3**
	12nm,0.3s,baz=60,slow=14,SNR=19							
PMG				S		**Sn**	**02 36 34.0**	**+1.8**
	12nm,0.3s,baz=75,slow=21,SNR=12							
PMG	**Port Moresby**	**8.35**	**251**	*e*Pn		**Pn**	**02 34 58.7**	**-0.5**
PMG				*e*S		**Sn**	**02 36 34.2**	**+2.0**
PMG	**Port Moresby**	**8.35**	**251**	P		**Pn**	**02 34 59.0**	**-0.2**
	207nm,0.9s,2µm0.8nm							
COEN	**Coen**	**13.78**	**238**	*e*Pn		**Pn**	**02 36 12.6**	**-0.8**
COEN	**Coen**	**13.78**	**238**	P		**Pn**	**02 36 12.7**	**-0.8**
	baz=13,SNR=7.5							
CTA	**Charters Tower**	**15.79**	**212**	P		**Pn**	**02 36 40.4**	**+0.6**
	0.9nm,0.3s,baz=37,slow=14,SNR=15							
CTA				LR		LR	02 42 09.2	
	comp=Z,1µm,19.7s,baz=24,slow=35							
CTA	**Charters Tower**	**15.79**	**212**	P		**Pn**	**02 36 40.4**	**+0.6**
CTAO	**Charters Tower**	**15.79**	**212**	*e*P		**Pn**	**02 36 40.0**	**+0.2**
CTAO				pmax	pmax			
	comp=Z,73nm,0.9s							
CTAO	**Charters Tower**	**15.79**	**212**	*e*Pn		**Pn**	**02 36 40.0**	**+0.2**
	comp=Z,73nm,0.9s							
SMPI	**Sarmi**	**17.10**	**285**	P		pP	02 37 11.9	+2.8
	comp=Z,68nm,1.1s,comp=Z,3µm							
DZM	**Mont Dzumac**	**18.67**	**146**	P		**Pn**	**02 37 16.9**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=347,slow=11,SNR=13							
DZM				LR		LR	02 43 25.9	
	comp=Z,510nm,21.6s,baz=21,slow=33							
DZM	**Mont Dzumac**	**18.67**	**146**	*e*P		**Pn**	**02 37 17.0**	**+1.6**
	comp=Z,84nm,1.1s							
DZM				*e*LR		LR	02 41 38.4	
	comp=Z,1µm,25.9s							
DZM	**Mont Dzumac**	**18.67**	**146**	*e*P		**Pn**	**02 37 16.3**	**+0.8**
	comp=Z,48nm,1.1s							
EIDS	**Eidsvold**	**18.87**	**192**	*e*P		**Pn**	**02 37 17.6**	**-0.1**
	comp=Z,29nm,1.1s							
EIDS	**Eidsvold**	**18.87**	**192**	P		**Pn**	**02 37 18.2**	**+0.5**
	baz=19,SNR=4.4							
QIS	**Mount Isa**	**20.37**	**226**	P		**P**	**02 37 33.5**	**+0.4**
	baz=20,SNR=27							
RMQ	**Roma**	**20.51**	**197**	P		Pn	02 37 36.4	-0.8
	baz=20,SNR=15							
QLP	**Quilpie**	**22.26**	**207**	P		**P**	**02 37 53.9**	**+0.6**
	baz=22,SNR=4.3							
GUMO	**Guam**	**22.70**	**333**	LR		LR	02 46 09.5	
	comp=Z,175nm,18.3s,baz=103,slow=35							
KDU	**Kakadu**	**23.12**	**254**	P		**P**	**02 38 02.2**	**-0.2**
	baz=23,SNR=6.8							
WRAB	**Tennant Creek**	**24.06**	**235**	*e*P		**P**	**02 38 11.1**	**-0.2**
WRAB				*e*			02 41 51.9	
WRAB				pmax	pmax			
	comp=Z,33nm,0.8s							
WRAB	**Tennant Creek**	**24.06**	**235**	*e*P		**P**	**02 38 11.1**	**-0.2**
	comp=Z,33nm,0.8s							
WRAB				*e*PcP		**PcP**	**02 41 51.9**	**0.0**
WRAB	**Tennant Creek**	**24.06**	**235**	P		**P**	**02 38 11.0**	**-0.2**
	comp=Z,231nm,0.8s,SNR=10							
WRA	**Warramunga Arr**	**24.08**	**235**	P		**P**	**02 38 11.2**	**-0.2**
	comp=Z,18nm,0.7s,baz=58,slow=9.4,SNR=224							
WRA				PcP		**PcP**	**02 41 52.6**	**+0.7**
	comp=Z,6.8nm,0.6s,baz=58,slow=2.4,SNR=16							
WRA				S		**S**	**02 42 25.0**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=68,slow=16,SNR=3.0							
WRA				ScP		**ScP**	**02 45 27.3**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=44,slow=2.4,SNR=3.8							
WRA	**Warramunga Arr**	**24.08**	**235**	P		**P**	**02 38 11.2**	**-0.2**
WRA				PcP		**PcP**	**02 41 52.6**	**+0.7**
WRA				S		**S**	**02 42 25.0**	**-0.4**
WRA				ScP		**ScP**	**02 45 27.3**	**+1.1**
MTN	**Manton Dam**	**24.43**	**254**	P		**P**	**02 38 15.6**	**+1.0**
	baz=24,SNR=4.7							
MSVF	**Nonsavu**	**24.81**	**118**	*e*P		**P**	**02 38 18.4**	**+0.2**
MSVF				pmax	pmax			
	comp=Z,91nm,1.0s							
MSVF	**Nonsavu**	**24.81**	**118**	*e*P		**P**	**02 38 18.4**	**+0.2**
	comp=Z,92nm,1.0s							
MSVF	**Nonsavu**	**24.81**	**118**	P		**P**	**02 38 19.2**	**+1.0**
	comp=Z,543nm,0.9s,SNR=6.6							
PALU	**Palau**	**24.98**	**304**	P		**P**	**02 38 19.6**	**0.0**
	baz=25,SNR=5.3							
CMSA	**Cobar Meteorol**	**26.16**	**199**	P		**P**	**02 38 31.8**	**+1.7**
	baz=26,SNR=7.1							
AS31	**Alice Springs**	**26.44**	**228**	*e*P		**P**	**02 38 32.6**	**-0.2**
ASAR	**Alice Springs**	**26.44**	**228**	P		**P**	**02 38 32.2**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=60,slow=8.8,SNR=7.1							
ASAR					PcP	**PcP**	**02 41 58.0**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=70,slow=2.2,SNR=8.8							
ASAR					ScP	**ScP**	**02 45 33.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=41,slow=3.1,SNR=4.7							
ASAR	**Alice Springs**	**26.44**	**228**	P		**P**	**02 38 32.2**	**-0.5**
ASAR					PcP	**PcP**	**02 41 58.0**	**+0.9**
ASAR					ScP	**ScP**	**02 45 33.1**	**+0.3**
STKA	**Stephens Creek**	**27.99**	**205**	P		**P**	**02 38 47.5**	**+0.9**
	comp=Z,10nm,0.8s,baz=23,slow=13,SNR=12							
STKA					PcP	**PcP**	**02 42 01.1**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=45,slow=1.1,SNR=4.6							
STKA					LR	LR	02 50 03.5	
	comp=Z,781nm,18.7s,baz=280,slow=36							
STKA	**Stephens Creek**	**27.99**	**205**	*e*P		**P**	**02 38 46.2**	**-0.3**
	comp=Z,3.8nm,0.9s							
STKA					PcP	**PcP**	**02 42 01.1**	**+0.4**
STKA	**Stephens Creek**	**27.99**	**205**	P		**P**	**02 38 48.2**	**+1.7**
	baz=28,SNR=14							
LBMI	**Labuha**	**28.28**	**281**	P		pP	02 39 06.4	+3.5
FITZ	**Fitzroy Crossi**	**30.90**	**246**	LR		LR	02 51 45.3	
	comp=Z,513nm,19.9s,baz=76,slow=36					

KMI pmax pmax
comp=Z,120nm,3.9s
KMI LR LR
comp=N,140nm,12.1s
KMI LR LR
comp=E,170nm,12.7s
CM31 Chiang Mai Arr 60.87 295 *e*P **P 02 43 09.4 +1.1**
comp=E,52nm,0.8s
CMAR Chiang Mai Arr 60.87 295 P **P 02 43 09.3 +1.1**
comp=E,53nm,0.8s,baz=118,slow=5.0,SNR=164
CMAR LR LR 03 05 37.7
comp=E,54nm,20.5s,baz=305,slow=32
CMAR Chiang Mai Arr 60.87 295 P **P 02 43 09.3 +1.1**
CHTO Chiang Mai 60.98 296 *e*P **P 02 43 09.6 +0.5**
CHTO pmax pmax
comp=Z,47nm,1.0s
CHTO Chiang Mai 60.98 296 *e*P **P 02 43 09.6 +0.5**
comp=Z,47nm,1.0s
FX1 Attu Island--F 61.39 12 *e*P **P 02 43 12.2 +1.1**
CD2 Chengdu 61.83 310 P **P 02 43 15.8 +1.2**
CD2 pP **pP 02 43 29.5 +0.2**
CD2 sP **sP 02 43 35.0 -0.3**
CD2 PP **PP 02 45 34.5 +3.2**
CD2 S **S 02 51 34.0 -0.5**
CD2 sS **sS 02 51 57.3 -1.8**
CD2 SS **SS 02 55 38.0 +0.5**
CD2 pmax pmax
comp=E,80nm,0.6s
CD2 pmax pmax
comp=E,90nm,4.3s
CD2 LR LR
comp=E,210nm,4.8s
CD2 LR LR
comp=Z,170nm,10.1s
HHC Hu-ho-hao-te 62.05 324 *e*P **P 02 43 16.8 +0.8**
HHC pP pP 02 43 26.8 -3.8
HHC PcS **PcS 02 47 58.8 -0.4**
HHC S **S 02 51 39.8 +2.8**
HHC sS sS 02 51 55.0 -6.7
HHC ScS **ScS 02 53 02.0 -1.6**
HHC SS **SS 02 55 42.8 +2.2**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,230nm,5.9s
HHC LR LR
comp=N,140nm,13.9s
HHC LR LR
comp=E,390nm,20.8s
HHC LR LR
comp=Z,360nm,19.1s
HIA Hailar 63.83 335 *e*P **P 02 43 27.0 -0.5**
comp=Z,9.2nm,0.8s
LZH Lanzhou 64.31 315 *e*P **P 02 43 32.0 +0.9**
LZH pP **pP 02 43 42.5 -3.4**
LZH sP sP 02 43 45.8 -6.1
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,71nm,6.7s
GTA Gaotai 68.73 317 *e*P **P 02 44 00.0 +0.8**
GTA pP pP 02 44 10.0 -4.1
GTA sP sP 02 44 14.0 -6.1
GTA pmax pmax
comp=Z,11nm,0.9s
RKT Rikitea 68.84 112 *e*LR LR 03 05 03.3
comp=Z,320nm,26.5s
ULN Ulaanbaatar 68.94 328 *e*P **P 02 44 00.4 0.0**
comp=Z,8.5nm,0.8s
SONM Songino Array 69.28 327 P **P 02 44 02.6 +0.2**
comp=Z,8.0nm,0.8s,baz=132,slow=5.8,SNR=66
SONM PKP2bc 03 12 13.2
comp=Z,2.1nm,0.8s,baz=270,slow=3.2,SNR=14
SONM Songino Array 69.28 327 P **P 02 44 02.6 +0.2**
SONM ⇑*e* 03 12 13.2
SHL Shillong 69.36 300 *e*P **P 02 44 04.0 +0.5**
SEY Seymchan 69.57 359 *e*P **P 02 44 02.7 -1.0**
VNDA Vanda 70.77 178 P **P 02 44 11.9 +1.0**
comp=Z,4.8nm,0.8s,baz=331,slow=6.5,SNR=23
VNDA Vanda 70.77 178 P **P 02 44 11.9 +1.0**
LSA Lhasa 71.32 304 P **P 02 44 14.5 -1.2**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 71.32 304 *e*P **P 02 44 17.0 +1.3**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 71.32 304 *e*P **P 02 44 17.0 +1.3**
comp=Z,19nm,0.8s
ZAK Zakamensk 72.43 328 *e*P **P 02 44 20.3 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 72.99 329 *i* P **P 02 44 24.9 +0.2**
TLY pmax pmax
comp=Z,2.0nm,0.6s
TAPN Taplejung 73.46 301 *e*P **P 02 44 28.8 +0.5**
comp=Z,100nm,0.8s
ODAN Odare 73.59 300 *e*P **P 02 44 29.5 +0.4**
comp=Z,192nm,0.7s
RAMN Ramite 74.30 300 *e*P **P 02 44 33.3 +0.1**
comp=Z,36nm,0.6s
MOY Mondy 74.35 328 *e*P **P 02 44 32.4 -0.4**
BILL Bilibino 75.08 4*c i*P **P 02 44 36.9 +0.4**
BILL *e**PP **PcP 02 44 46.0 -3.9**
BILL *e* 02 44 50.3
BILL *e*S **S 02 54 11.9 +1.5**
BILL pmax pmax
comp=Z,34nm,1.2s
BILL Bilibino 75.08 4 *e*P **P 02 44 37.0 +0.4**
comp=Z,38nm,1.1s
GUN Gumba 75.18 301 *e*P **P 02 44 38.8 +0.4**
comp=Z,148nm,0.7s
PKI Pulchoki 75.49 301 *e*P **P 02 44 40.0 -0.1**
PKIN Phulchoki 75.50 301 *e*P **P 02 44 40.5 +0.4**
comp=Z,31nm,0.8s
PALK Pallekele 75.59 279 *e*P **P 02 44 40.6 0.0**
comp=Z,12nm,0.9s
KKN Kakani 75.66 301 *e*P **P 02 44 41.2 +0.2**
comp=Z,87nm,0.7s
DMN Daman 75.76 301 *e*P **P 02 44 42.1 +0.5**
comp=Z,144nm,0.8s
KOLN Koldanda 77.09 300 *e*P **P 02 44 49.0 -0.1**
comp=Z,59nm,0.9s
TNA Tin City 77.09 15 *e*P **P 02 44 49.3 +1.3**
comp=Z,9.5nm,0.9s
DANN Dangsing 77.10 301 *e*P **P 02 44 49.0 -0.2**
comp=Z,57nm,0.8s
PYUN Piuthan 77.69 301 *e*P **P 02 44 52.1 -0.3**
comp=Z,85nm,0.9s
SVW2 Sparrevohn 77.75 22 *e*P **P 02 44 53.3 +1.5**
comp=Z,73nm,1.8s
WMQ Urumqi 78.81 317 *e*P **P 02 44 58.5 +0.4**
WMQ LR LR
comp=N,36nm,27.0s
WMQ LR LR
comp=E,54nm,21.0s
HYB Hyderabad 79.38 289 *i* P **P 02 45 00.0 -1.7**
TIXI Tiksi 80.19 352 *e*P **P 02 45 04.9 0.0**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 80.19 352 *e*P **P 02 45 05.1 +0.2**
comp=Z,8.6nm,1.4s
PMR Palmer 80.54 24 *e*P **P 02 45 07.0 0.0**
PMR pmax pmax
comp=Z,30nm,0.8s
PMR Palmer 80.54 24 *e*P **P 02 45 07.0 0.0**
comp=Z,30nm,0.8s
SML Sawmill 80.98 24 *e*P **P 02 45 09.6 +0.2**
SML pmax pmax
comp=Z,15nm,0.8s
SML Sawmill 80.98 24 *e*P **P 02 45 09.6 +0.2**
comp=Z,15nm,0.8s
TRF Thorofare Moun 81.15 22 *e*P **P 02 45 09.3 -1.1**
comp=Z,19nm,0.7s
DIV Divide 81.66 25 *e*P **P 02 45 13.6 +0.5**
comp=Z,27nm,1.0s
AGRA Agra 81.85 299 *e*P **P 02 45 13.9 -0.8**
DDI Dehra Dun 82.40 302 *ex* **P 02 45 17.0 -0.6**
PAX Paxson 82.73 23 *e*P **P 02 45 18.5 -0.1**
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 82.73 23 *e*P **P 02 45 18.5 -0.1**
comp=Z,4.4nm,0.7s
SONA Sohna 82.80 300 *e*P **P 02 45 18.9 -0.8**
SONA AMb AMB 02 45 19.7
comp=Z,20nm,0.5s
AYAN Aya Nagar 82.81 300 *e*P **P 02 45 18.1 -1.6**
AYAN AMb AMB 02 45 19.5
comp=Z,27nm,0.7s
COLA College 82.84 21 *e*P **P 02 45 18.5 -0.5**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA College 82.84 21 *e*P **P 02 45 18.5 -0.5**
comp=Z,20nm,0.8s
ILAR Eielson Array 83.13 21 P **P 02 45 19.6 -1.0**
comp=Z,9.9nm,0.8s,baz=253,slow=5.2,SNR=90
ILAR LR LR 03 17 32.8
comp=Z,258nm,21.6s,baz=289,slow=32
ILAR Eielson Array 83.13 21 P **P 02 45 19.6 -1.0**
KUDL Kundal 83.30 299 *e*P **P 02 45 21.4 -0.8**
KUDL AMb AMB 02 45 22.4
comp=Z,16nm,0.5s
COLD Coldfoot 83.37 19 *e*P **P 02 45 22.2 +0.5**
comp=Z,3.9nm,0.6s
KKR Kurukshetra 83.37 301 *e*P **P 02 45 21.1 -1.5**
MK31 Makanchi Array 83.38 319 *e*P **P 02 45 21.9 -0.4**
MK31 Makanchi Array 83.38 319 *e*P **P 02 45 21.9 -0.4**
MKAR Makanchi Array 83.38 319 P **P 02 45 21.9 -0.4**
comp=Z,8.9nm,0.9s,baz=108,slow=4.9,SNR=56
MKAR PKKPbc **PKKPbc 03 03 41.6 -1.9**
comp=Z,0.7nm,0.8s,baz=267,slow=2.4,SNR=6.3
MKAR PKPPKP **P'P'df 03 11 45.5 -1.1**
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=5.7
MKAR LR LR 03 22 40.0
comp=Z,52nm,18.2s,baz=130,slow=36
MKAR Makanchi Array 83.38 319 *e*P **P 02 45 22.0 -0.4**
MKAR Makanchi Array 83.38 319 *e*P **P 02 45 22.0 -0.4**
MKAR PKKPbc **PKKPbc 03 03 41.6 -1.9**
MKAR P'P' 03 11 45.5
MENT Mentasta 83.40 24 *e*P **P 02 45 23.3 +1.2**
KAD Karad 83.47 288 *i* P **P 02 45 21.0 -2.4**
DOT Dot Lake 83.62 23 *e*P **P 02 45 23.5 +0.4**
comp=Z,12nm,0.8s
KHET Khetri 83.88 299 *e*P **P 02 45 24.6 -0.6**
POO Poona 83.98 289 *e*P **P 02 45 24.0 -2.0**
ZAA0 Zalesovo Array 84.13 326 *e*P **P 02 45 24.4 -1.5**
ZALV Zalesovo Beam 84.13 326 P **P 02 45 24.2 -1.7**
comp=Z,3.9nm,0.7s,baz=108,slow=5.7,SNR=19
ZALV PKPPKP **P'P'df 03 11 45.5 +0.8**
ZALV LR LR 03 24 12.1
comp=Z,7.5nm,18.8s,baz=247,slow=37
ZALV Zalesovo Beam 84.13 326 P **P 02 45 24.2 -1.7**
ZALV Zalesovo Beam 84.13 326 P **P 02 45 24.2 -1.7**
ZALV P'P' 03 11 45.5
AJM Ajmer 84.60 297 *e*P **P 02 45 28.0 -1.0**
MAW Mawson 84.64 203 P **P 02 45 28.6 +0.3**
comp=Z,9.9nm,0.7s,baz=121,slow=5.9,SNR=7.0
MAW LR LR 03 18 45.2
comp=Z,226nm,18.1s,baz=262,slow=32
MAW Mawson 84.64 203 P **P 02 45 28.6 +0.3**
NVS Novosibirsk 85.30 327 *e*P P 02 45 35.8 +4.1
KSH Kashi 86.03 310 *e*P **P 02 45 37.8 +1.9**
KSH pP **pP 02 45 49.5 -1.8**
KSH sP sP 02 45 53.0 -4.2
KSH PP PP 02 49 01.3 +4.5
KSH SKS **SKSac 02 55 59.5 +1.7**
KSH S **S 02 56 06.8 +0.5**
KSH sS sS 02 56 26.5 -5.6
KSH SS SS 03 01 51.5 +6.0
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,130nm,4.8s
KSH LR LR
comp=N,150nm,6.5s
KSH LR LR
comp=E,91nm,9.0s
KSH LR LR
comp=Z,200nm,6.0s
KURK Kurchatov 86.80 322 *e*P **P 02 45 37.6 -1.6**
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 86.80 322 *e*P **P 02 45 37.2 -2.0**
comp=Z,4.0nm,1.0s
TKM2 Tokmak 2 87.02 314 *e*P **P 02 45 39.5 -1.3**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 87.02 314 *e*P **P 02 45 39.5 -1.3**
comp=Z,2.0nm,0.7s
AAK Ala-Archa 87.75 313 P **P 02 45 43.4 -0.9**
comp=Z,1.8nm,0.6s,baz=113,slow=7.7,SNR=7.1
AAK Ala-Archa 87.75 313 *e*P **P 02 45 43.6 -0.7**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 87.75 313 P **P 02 45 43.4 -0.9**
HUMO Hull Mountain 88.60 47 *e*P **P 02 45 48.6 +0.5**
comp=Z,8.3nm,1.1s
WCN Washoe City 90.45 51 *e*P **P 02 45 58.5 +1.4**
WCN pmax pmax
comp=Z,10.0nm,1.1s
WCN Washoe City 90.45 51 *e*P **P 02 45 58.5 +1.4**
comp=Z,10nm,1.1s
KKAR Karatay Array 90.72 313 *e*P **P 02 45 58.3 +0.3**
KKAR Karatay Array 90.72 313 *e*P **P 02 45 58.3 +0.3**
MWC Mount Wilson 91.11 56 *e*P **P 02 46 01.7 +1.4**
MWC pmax pmax
comp=Z,14nm,0.8s
MWC Mount Wilson 91.11 56 *e*P **P 02 46 01.7 +1.4**
comp=Z,14nm,0.8s
MTUM Tungsten Hills 91.11 53 *e*P **P 02 46 02.3 +2.1**
EDW2 Edwards Air Fo 91.25 55 ⇓P **P 02 46 01.5 +0.8**
baz=91
BFSC Mount Baldy Ra 91.44 56 ⇑P **P 02 46 02.4 +0.6**
baz=92
NVAR Mina Array Bea 91.46 52 P **P 02 46 02.6 +0.8**
comp=Z,9.5nm,0.9s,baz=252,slow=6.3,SNR=26
NVAR Mina Array Bea 91.46 52 P **P 02 46 02.6 +0.8**
LRMC Laurel Mountai 91.57 55 ⇓P **P 02 46 03.5 +1.2**
baz=92
MPMC Manual Prospec 91.80 54 ⇓P **P 02 46 04.3 +0.8**
baz=92
GRAC Grapevine Rang 92.01 53 ⇑P **P 02 46 05.4 +1.2**
baz=92
BVAR Borovoye Array 92.25 323 P **P 02 46 03.0 -1.9**
comp=Z,2.0nm,0.8s,baz=90,slow=5.9,SNR=8.6
BVAR LR LR 03 25 24.1
comp=Z,67nm,19.0s,baz=117,slow=34
BVAR Borovoye Array 92.25 323 P **P 02 46 03.0 -1.9**
BVAR Borovoye Array 92.25 323 P **P 02 46 03.0 -1.9**
GSC Goldstone 92.27 55 ⇓P **P 02 46 06.5 +1.0**
baz=92
MONP Monument Peak 92.31 57 ⇓P **P 02 46 06.7 +0.8**
baz=92
BRVK Borovoye 92.32 323 *e*P **P 02 46 03.2 -2.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
PFO Pinyon Flat Ob 92.36 57 *e*P **P 02 46 07.4 +1.4**
comp=Z,7.6nm,0.9s
PFO Pinyon Flat Ob 92.36 57 ⇓P **P 02 46 06.8 +0.8**
baz=92
BMN Battle Mountai 92.54 50 *e*P **P 02 46 07.5 +0.8**
BMN pmax pmax
comp=Z,10.0nm,0.9s
BMN Battle Mountai 92.54 50 *e*P **P 02 46 07.5 +0.8**
comp=Z,9.6nm,0.9s
HEC Hector,Ludlow 92.60 55 ⇓P **P 02 46 07.9 +0.9**
baz=93
BELC Belle Mtn. Jos 92.78 56 ⇑P **P 02 46 09.0 +1.1**
baz=93
TUQ Turquoise Moun 93.00 55 ⇑P **P 02 46 09.6 +0.7**
baz=93
GMRC Granite Mounta 93.14 56 ⇑P **P 02 46 10.6 +1.0**
baz=93
BC3 Big Chuckawall 93.19 57 ⇑P **P 02 46 11.1 +1.3**
baz=93
NEW Newport 93.49 42 *e*P **P 02 46 10.7 -0.1**
comp=Z,3.2nm,0.9s
NEW Newport 93.49 42 ⇓P **P 02 46 10.4 -0.3**
baz=94
IRM Iron Mountain 93.50 56 ⇑P **P 02 46 12.4 +1.3**
baz=94
R11A Troy Canyon, C 93.57 52 ⇓P **P 02 46 12.8 +1.3**
baz=94
ELK Elko 94.07 50 *e*P **P 02 46 14.9 +1.1**
comp=Z,5.8nm,1.1s
G12A Big Creek, Yel 94.41 45 ⇑P **P 02 46 16.3 +1.1**
baz=94
D12A Red Ives Fores 94.56 43 ⇑P **P 02 46 16.0 +0.2**
baz=95
W13A Hualapai Mount 94.62 55 ⇑P **P 02 46 17.4 +0.8**
baz=95
I13A Wildhorse Cree 95.17 47 ⇑P **P 02 46 19.0 +0.2**
baz=95
CCUT Cedar City 95.25 53 *e*P **P 02 46 22.1 +2.8**
comp=Z,80nm,2.9s
B13A Whitefish 95.27 42 ⇓P **P 02 46 19.5 +0.5**
baz=95
A13A Flathead Natio 95.34 41 ⇓P **P 02 46 19.4 +0.1**
baz=95
L14A Malta 95.67 48 ⇑P **P 02 46 21.5 +0.5**
baz=96
C14A Swan Lake 95.70 43 ⇓P **P 02 46 21.8 +0.8**
baz=96
K14A Jones Ranch, D 95.76 48 ⇑P **P 02 46 22.0 +0.6**
baz=96
A14A Double T Ranch 96.00 41 ⇓P **P 02 46 22.8 +0.4**
baz=96
HVU Hansel Valley 96.00 49 *e*P **P 02 46 23.9 +1.3**
HVU pmax pmax
comp=Z,5.0nm,1.0s
HVU Hansel Valley 96.00 49 *e*P **P 02 46 23.9 +1.3**
comp=Z,5.1nm,1.0s
YKA Yellowknife Ar 96.08 28 P **P 02 46 22.5 +0.3**
comp=Z,12nm,0.9s,baz=267,slow=4.6,SNR=113
YKA PKiKP **PKiKP 02 50 59.7 -0.8**
comp=Z,0.5nm,0.6s,baz=270,slow=1.5,SNR=12
YKA PKKPbc **PKKPbc 03 03 08.8 -3.3**
comp=Z,0.6nm,0.7s,baz=91,slow=2.9,SNR=15
YKA Yellowknife Ar 96.08 28 P **P 02 46 22.5 +0.3**
YKA PKiKP **PKiKP 02 50 59.8 -0.8**
YKA PKKPbc **PKKPbc 03 03 08.8 -3.3**
N15A Stansbury Isla 96.14 50 ⇑P **P 02 46 23.6 +0.4**
baz=96
M15A Larsen Ranch, 96.23 49 ⇑P **P 02 46 24.0 +0.5**
baz=96
H15A Lima 96.27 46 ⇓P **P 02 46 24.0 +0.2**
baz=96
E15A Deer Lodge 96.38 44 ⇑P **P 02 46 24.1 0.0**
baz=96
M16A Huntsville 96.83 49 ⇑P **P 02 46 26.1 -0.3**
baz=97
BOZ Bozeman (W) 97.04 45 ⇓P Pdif 02 46 27.1 -0.2
baz=97
O17A Robinson Place 97.46 50 ⇓P Pdif 02 46 29.7 +0.3
baz=98
M17A Scullys Gap (B 97.57 49 ⇓P Pdif 02 46 29.9 +0.1
baz=98
F17A Fitzpatrick Pl 97.73 45 ⇓P Pdif 02 46 30.6 +0.2
baz=98
A17A Triple J Farms 97.79 42 ⇑P Pdif 02 46 30.5 +0.1
baz=98
S18A Hurst Farm, Bl 97.93 53 ⇓P Pdif 02 46 32.3 +0.8
baz=98
M18A Lyman 98.02 49 ⇑P Pdif 02 46 31.9 +0.1
baz=98
EGMT Eagleton 98.40 43 ⇓P Pdif 02 46 33.3 +0.1
baz=98
H18A Shoshone NF, C 98.40 46 ⇑P **P 02 46 33.0 -0.4**
baz=98
BW06 Boulder Array 98.43 48 ⇑P **P 02 46 33.3 -0.4**
baz=98
PDAR Pinedale Array 98.43 48 P **P 02 46 33.3 -0.3**
comp=Z,2.9nm,0.9s,baz=251,slow=2.3,SNR=18
PDAR LR LR 03 27 16.6
comp=Z,147nm,18.2s,baz=260,slow=33
PDAR Pinedale Array 98.43 48 P **P 02 46 33.3 -0.3**
G18A Lazy EL Ranch, 98.49 45 ⇓P **P 02 46 32.8 -0.9**
baz=99
L19A Farson 98.57 49 ⇑P Pdif 02 46 34.2 0.0
baz=99
M19A Rock Springs 98.70 49 ⇑P Pdif 02 46 35.2 +0.3
baz=99
P19A Cripple Cowboy 98.79 51 ⇓P Pdif 02 46 36.0 +0.7
baz=99
C19A Slack Wire Ran 98.87 43 ⇓P Pdif 02 46 35.4 +0.2
baz=99
F19A Roth Farm, Mol 98.93 45 ⇑P **P 02 46 35.2 -0.5**
baz=99
K19A Absolon Red Bu 98.96 48 ⇑P **Pdif 02 46 35.8 -0.2**
baz=99
D19A Cripps Ranch, 98.98 43 ⇓P **Pdif 02 46 35.9 +0.1**
baz=99
E19A Rath Farm, Rou 99.04 44 ⇓P **Pdif 02 46 36.3 +0.2**
baz=99
A19A Klindworth Far 99.08 42 ⇓P **Pdif 02 46 35.3 -0.8**
baz=99
K20A Yellowstone Ra 99.33 48 ⇑P **Pdif 02 46 37.1 -0.4**
baz=99
AKTO Aktyubinsk 99.77 320 LR LR 03 29 54.6
comp=Z,65nm,19.0s,baz=252,slow=34
M21A Separation Pea 100.05 49 ⇓P **Pdif 02 46 40.7 -0.1**
baz=100
A21A Bergtoll Ranch 100.28 42 ⇓P **Pdif 02 46 41.5 +0.1**
baz=100
O22A Kremmling 100.67 51 ⇑P **Pdif 02 46 44.2 +0.5**
baz=101
C23A Lambert 101.48 43 ⇑P **Pdif 02 46 47.0 +0.2**
baz=102
TXAR Lajitas Array 103.01 62 PKiKP **PKiKP 02 51 15.6 +1.5**
comp=Z,0.2nm,0.8s,baz=243,slow=3.8,SNR=3.4
TXAR Lajitas Array 103.01 62 PKiKP **PKiKP 02 51 15.6 +1.5**
OBN Obninsk 111.69 327 *e*P **Pdif 02 47 30.0 -1.9**
OBN *e*PS **PS 03 01 43.6 -1.3**
OBN pmax pmax
comp=Z,2.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,18.0s
AKASG Malin Array Be 117.49 325 PKP **PKPdf 02 51 39.5 -1.1**
comp=Z,3.2nm,0.7s,baz=78,slow=2.1,SNR=7.9
AKASG PKKPbc **PKKPbc 03 02 03.5 -1.5**
comp=Z,1.1nm,0.5s,baz=253,slow=4.1,SNR=4.9
AKASG Malin Array Be 117.49 325 PKIKP **PKPdf 02 51 39.5 -1.1**
AKASG Malin Array Be 117.49 325 PKP **PKPdf 02 51 39.5 -1.1**
AKASG PKKPbc **PKKPbc 03 02 03.5 -1.5**
BRTR Keskin Array B 118.40 312 PKP **PKPdf 02 51 42.1 -0.7**
comp=Z,1.5nm,0.8s,baz=108,slow=2.5,SNR=14
BRTR PKKPbc **PKKPbc 03 02 01.8 +0.2**
comp=Z,1.0nm,0.8s,baz=224,slow=3.6,SNR=8.9
BRTR Keskin Array B 118.40 312 PKP **PKPdf 02 51 42.1 -0.7**
BRTR PKKPbc **PKKPbc 03 02 01.8 +0.2**
MMAI Mount Meron Ar 118.57 304 PKP **PKPdf 02 51 43.5 +0.2**
comp=Z,0.9nm,0.5s,baz=98,slow=6.0,SNR=4.9
MMAI Mount Meron Ar 118.57 304 PKP **PKPdf 02 51 43.5 +0.2**
EIL Elat 119.54 300 PKP **PKPdf 02 51 45.5 +0.4**
comp=Z,3.8nm,0.7s,baz=327,slow=2.3,SNR=3.7
EIL Elat 119.54 300 PKP **PKPdf 02 51 45.5 +0.4**
BOSA Boshof 120.28 231 PKP **PKPdf 02 51 46.9 +0.1**
comp=Z,3.2nm,0.7s,baz=117,slow=2.1,SNR=11
BOSA Boshof 120.28 231 PKP **PKPdf 02 51 46.9 +0.1**
VRI Vrincioaia 121.05 320 ⇓PKIKP **PKPdf 02 51 48.0 +0.4**
VRI Vrincioaia 121.05 320 ⇓*i*P **PKPdf 02 51 48.0 +0.4**
BURAR Bucovina Array 121.21 323 ⇓*i*P **PKPdf 02 51 47.6 -0.4**
SCHQ Schefferville 121.52 27 PKP **PKPdf 02 51 47.3 -0.9**
comp=Z,2.6nm,0.6s,baz=315,slow=5.7,SNR=8.5
SCHQ Schefferville 121.52 27 PKP **PKPdf 02 51 47.3 -0.9**
KWP Kalwaria Pacla 121.70 326 ⇑PKIKP **PKPdf 02 51 47.9 -0.8**
KWP Kalwaria Pacla 121.70 326 ⇑*i*P **PKPdf 02 51 47.9 -0.8**
KOLS Kolonicke sedl 122.30 325 *e*PKIKP **PKPdf 02 51 51.0 +1.1**
KOLS Kolonicke sedl 122.30 325 *e*PKP **PKPdf 02 51 51.0 +1.1**
ARR Arges 122.58 321 ⇓*i*P **PKPdf 02 51 52.0 +1.3**
HUMR Humele 122.73 320 ⇓*i*P **PKPdf 02 51 50.4 -0.5**
LSZ Lusaka 123.08 247 *e*PKPdf **PKPdf 02 51 53.1 +0.6**
NIE Niedzica 123.14 326 *e*PKIKP **PKPdf 02 51 52.4 +0.9**
CFAA Coronel Fontan 123.65 135 PKP **PKPdf 02 51 53.0 -0.1**
comp=Z,1.4nm,0.7s,baz=226,slow=2.3,SNR=25
CFAA Coronel Fontan 123.65 135 PKP **PKPdf 02 51 53.0 -0.1**
BZS Buzias 124.34 322 ⇓PKIKP **PKPdf 02 51 53.7 -0.2**
BZS Buzias 124.34 322 ⇓*i*P **PKPdf 02 51 53.7 -0.2**
MORC Moravsky Berou 124.42 328 ⇑PKIKP **PKPdf 02 51 54.6 +0.6**
MORC Moravsky Berou 124.42 328 ⇑*i*P **PKPdf 02 51 54.6 +0.6**
VYHS Vyhne 124.46 326 *e*PKIKP **PKPdf 02 51 53.7 -0.4**
VYHS Vyhne 124.46 326 *e*PKP **PKPdf 02 51 53.7 -0.4**
KRLC Kraliky 124.64 329 *e*PKPdf **PKPdf 02 51 54.5 +0.1**
KRLC *ex* x 02 52 03.2
VTS Vitosha 124.74 318 ⇓PKIKP **PKPdf 02 51 53.1 -1.9**
VTS Vitosha 124.74 318 ⇓*i*P **PKPdf 02 51 53.1 -1.9**
BSEG Bad Segeberg 125.11 335 *e*PKIKP **PKPdf 02 51 55.9 +0.8**
BSEG *e* 02 52 04.5
BSEG Bad Segeberg 125.11 335 *e*PKPdf **PKPdf 02 51 55.9 +0.8**
BSEG *e*pPKPdf pPKPdf 02 52 04.5 -6.5
BRG Berggiesshubel 125.57 331 *e*PKP **PKPdf 02 51 56.5 +0.4**
comp=Z,10nm,1.2s
BRG Berggiesshubel 125.57 331 *e*PKIKP **PKPdf 02 51 56.5 +0.4**
BRG pmax pmax
comp=Z,11nm,1.2s
BRG Berggiesshubel 125.57 331 *e*PKPdf **PKPdf 02 51 56.7 +0.6**
CLL Collm 125.73 332 *i* PKIKP **PKPdf 02 51 56.6 +0.2**
CLL *i* 02 52 05.0

CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**125.73 332**		*e*PKPdf	**PKPdf**	**02 51 57.0**	**+0.6**
CLL				*ep*PKPdf	pPKPdf	02 52 05.2	-7.2
CLL	**Collm**	**125.73 332**		*i* PKPdf	**PKPdf**	**02 51 56.6**	**+0.2**
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**125.73 332**	⇑	*i*(P)	PKPdf	02 52 05.0	+8.6
	comp=Z,8.0nm,0.9s						
TREC	**Trest**	**125.79 329**		*e*PKIKP	**PKPdf**	**02 51 57.0**	**+0.4**
TREC				*e*		02 52 05.1	
TREC	**Trest**	**125.79 329**		*e*PKPdf	**PKPdf**	**02 51 57.0**	**+0.4**
TREC				*ex*	x	02 52 05.1	
PKSM	**Moragy**	**125.82 324**	⇑	PKIKP	**PKPdf**	**02 51 56.5**	**-0.2**
PKSM	**Moragy**	**125.82 324**	⇑	*i*P	**PKPdf**	**02 51 56.5**	**-0.2**
PRU	**Pruhonice**	**125.84 330**		*e*PKIKP	**PKPdf**	**02 51 56.7**	**+0.1**
PRU				*e*		02 52 05.3	
PRU	**Pruhonice**	**125.84 330**		*e*PKPdf	**PKPdf**	**02 51 56.7**	**+0.1**
PRU				*ex*	x	02 52 05.3	
NRDL	**Niedersach Rie**	**126.22 334**		*e*PKPdf	**PKPdf**	**02 51 58.1**	**+0.9**
NRDL				*ep*PKPdf	pPKPdf	02 52 06.5	-6.7
IDI	**Anoyia**	**126.37 309**		*e*PKPdf	**PKPdf**	**02 51 57.7**	**-0.5**
CLZ	**Clausthal**	**126.57 334**		*e*PKIKP	**PKPdf**	**02 51 59.0**	**+1.0**
CLZ	**Clausthal**	**126.57 334**		*e*PKPdf	**PKPdf**	**02 51 59.0**	**+1.0**
TANN	**Tannenbergstha**	**126.58 331**		*e*PKPdf	**PKPdf**	**02 51 58.8**	**+0.7**
TANN				*ep*PKPdf	pPKPdf	02 52 07.4	-6.7
NKC	**Novy Kostel**	**126.71 331**		*e*PKIKP	**PKPdf**	**02 51 59.1**	**+0.8**
NKC				*e*		02 52 07.6	
NKC	**Novy Kostel**	**126.71 331**		*e*PKPdf	**PKPdf**	**02 51 59.1**	**+0.8**
NKC				*ex*	x	02 52 07.6	
MOX	**Moxa**	**126.83 332**		*e*PKIKP	**PKPdf**	**02 51 59.1**	**+0.6**
MOX				*e*		02 52 07.4	
MOX	**Moxa**	**126.83 332**		*e*PKPdf	**PKPdf**	**02 51 59.1**	**+0.6**
MOX				*ep*PKPdf	pPKPdf	02 52 07.4	-7.1
KHC	**Kasperske Hory**	**126.87 329**		*e*PKIKP	**PKPdf**	**02 51 59.3**	**+0.6**
KHC				*e*		02 52 07.5	
KHC	**Kasperske Hory**	**126.87 329**		*e*PKPdf	**PKPdf**	**02 51 58.9**	**+0.2**
KHC	**Kasperske Hory**	**126.87 329**		*e*PKPdf	**PKPdf**	**02 51 59.3**	**+0.6**
KHC				*ex*	x	02 52 07.5	
GEC2	**GERESS Array S**	**126.98 329**		*e*PKIKP	**PKPdf**	**02 51 59.4**	**+0.4**
GEC2				*e*		02 52 08.0	
GEC2	**GERESS Array S**	**126.98 329**		*e*PKPdf	**PKPdf**	**02 51 59.4**	**+0.4**
GEC2				*ep*PKPdf	pPKPdf	02 52 08.0	-7.0
GERES	**GERESS Array B**	**126.98 329**		PKP	**PKPdf**	**02 51 59.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=48,slow=2.0,SNR=27						
GERES	**GERESS Array B**	**126.98 329**		PKP	**PKPdf**	**02 51 59.3**	**+0.3**
ROTZ	**Rotzenmuhle**	**127.13 331**		*e*PKPdf	**PKPdf**	**02 51 59.5**	**+0.3**
ROTZ				*ep*PKPdf	pPKPdf	02 52 08.4	-6.7
WET	**Wettzell**	**127.21 330**		*e*PKIKP	**PKPdf**	**02 52 00.0**	**+0.7**
WET				*e*		02 52 08.6	
WET	**Wettzell**	**127.21 330**		*e*PKPdf	**PKPdf**	**02 52 00.0**	**+0.7**
WET				*ep*PKPdf	pPKPdf	02 52 08.6	-6.7
SOKA	**Soboth**	**127.61 326**	⇑	*i*P	**PKPdf**	**02 51 59.6**	**-0.7**
SOKA	**Soboth**	**127.61 326**	⇑	*i*PKPdf	**PKPdf**	**02 51 59.6**	**-0.7**
	comp=Z,3.3nm,0.9s						
GRF	**Grafenberg Arr**	**127.66 331**		*e*PKIKP	**PKPdf**	**02 52 00.7**	**+0.5**
GRF				*e*		02 52 09.2	
GRF	**Grafenberg Arr**	**127.66 331**		*e*PKPdf	**PKPdf**	**02 52 00.7**	**+0.5**
GRF				*ep*PKPdf	pPKPdf	02 52 09.2	-6.9
BUG	**Bochum--Univer**	**128.20 335**		*e*PKPdf	**PKPdf**	**02 52 01.6**	**+0.5**
TNS	**Taunus Mts**	**128.58 333**		*ep*PKPdf	pPKPdf	02 52 11.3	-6.6
EKA	**Eskdalemuir Ar**	**128.60 344**		PKP	**PKPdf**	**02 52 02.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=22,slow=3.0,SNR=6.3						
EKA	**Eskdalemuir Ar**	**128.60 344**		PKP	**PKPdf**	**02 52 02.0**	**+0.2**
STU	**Stuttgart**	**129.26 331**		*e*PKPdf	**PKPdf**	**02 52 04.2**	**+1.0**
FETA	**Feichten**	**129.69 329**	⇑	*i*P	**PKPdf**	**02 52 04.1**	**-0.2**
FETA	**Feichten**	**129.69 329**	⇑	*i*PKIKP	**PKPdf**	**02 52 04.1**	**-0.2**
	comp=Z,7.7nm,1.3s						
CDF	**Champ du Feu**	**130.41 332**		*e*PKIKP	**PKPdf**	**02 52 03.6**	**-1.9**
	comp=Z,12nm,1.1s						
CDF	**Champ du Feu**	**130.41 332**		*e*PKIKP	**PKPdf**	**02 52 03.6**	**-1.9**
CDF	**Champ du Feu**	**130.41 332**		*e*PKPdf	**PKPdf**	**02 52 03.6**	**-1.9**
TUE	**Stuetta**	**130.76 329**		*e*PKPdf	**PKPdf**	**02 52 07.5**	**+1.1**
HINF	**Hinteralfeld**	**131.04 332**		*e*PKIKP	**PKPdf**	**02 52 04.7**	**-2.0**
HINF	**Hinteralfeld**	**131.04 332**		*e*PKIKP	**PKPdf**	**02 52 04.7**	**-2.0**
HINF	**Hinteralfeld**	**131.04 332**		*e*PKPdf	**PKPdf**	**02 52 04.7**	**-2.0**
HAU	**Haudompre**	**131.13 333**		*e*PKIKP	**PKPdf**	**02 52 05.1**	**-1.7**
	comp=Z,27nm,1.2s						
HAU	**Haudompre**	**131.13 333**		*e*PKIKP	**PKPdf**	**02 52 05.1**	**-1.7**
HAU	**Haudompre**	**131.13 333**		*e*PKPdf	**PKPdf**	**02 52 05.1**	**-1.7**
MEZF	**Maizieres J'vi**	**131.35 334**		*e*PKIKP	**PKPdf**	**02 52 06.2**	**-1.0**
	comp=Z,17nm,0.9s						
MEZF	**Maizieres J'vi**	**131.35 334**		*e*PKPdf	**PKPdf**	**02 52 06.2**	**-1.0**
LPAZ	**La Paz**	**131.39 119**		PKP	**PKPdf**	**02 52 09.4**	**+0.5**
	comp=Z,4.7nm,1.0s,baz=2.0,slow=2.8,SNR=10						
LPAZ	**La Paz**	**131.39 119**		*e*PKPdf	**PKPdf**	**02 52 09.5**	**+0.5**
SFTF	**Sexfontaines**	**131.58 334**		*e*PKIKP	**PKPdf**	**02 52 06.5**	**-1.1**
SFTF	**Sexfontaines**	**131.58 334**		*e*PKPdf	**PKPdf**	**02 52 06.5**	**-1.1**
CABF	**La Chapelle**	**132.27 331**		*e*PKIKP	**PKPdf**	**02 52 07.3**	**-1.8**
LPL	**La Plagne**	**132.74 330**		*e*PKIKP	**PKPdf**	**02 52 09.0**	**-1.2**
	comp=Z,9.1nm,0.8s						
LPG	**La Plagne**	**132.75 330**		*e*PKIKP	**PKPdf**	**02 52 09.1**	**-1.2**
	comp=Z,7.8nm,0.7s						
LOR	**Lormes**	**132.81 334**		*e*PKIKP	**PKPdf**	**02 52 08.7**	**-1.3**
	comp=Z,10nm,1.0s						
LOR	**Lormes**	**132.81 334**		*e*PKPdf	**PKPdf**	**02 52 08.7**	**-1.3**
SSF	**Saint Saulge**	**133.12 334**		*e*PKIKP	**PKPdf**	**02 52 09.4**	**-1.2**
	comp=Z,14nm,1.1s						
SSF	**Saint Saulge**	**133.12 334**		*e*PKIKP	**PKPdf**	**02 52 09.4**	**-1.2**
SSF	**Saint Saulge**	**133.12 334**		*e*PKPdf	**PKPdf**	**02 52 09.4**	**-1.2**
PGF	**Pioggiola**	**133.55 325**		*e*PKIKP	**PKPdf**	**02 52 10.8**	**-0.9**
	comp=Z,33nm,1.0s						
ORIF	**Oris-en-Rattie**	**133.59 330**		*e*PKIKP	**PKPdf**	**02 52 11.0**	**-0.7**
	comp=Z,13nm,0.9s						
ORIF	**Oris-en-Rattie**	**133.59 330**		*e*PKIKP	**PKPdf**	**02 52 11.0**	**-0.7**
ORIF	**Oris-en-Rattie**	**133.59 330**		*e*PKPdf	**PKPdf**	**02 52 11.0**	**-0.7**
VIVF	**Saint-Julien-l**	**134.23 331**		*e*PKIKP	**PKPdf**	**02 52 10.8**	**-2.0**
	comp=Z,23nm,1.2s						
VIVF	**Saint-Julien-l**	**134.23 331**		*e*PKIKP	**PKPdf**	**02 52 10.8**	**-2.0**
VIVF	**Saint-Julien-l**	**134.23 331**		*e*PKPdf	**PKPdf**	**02 52 10.8**	**-2.0**
TCF	**Toulx Ste Croi**	**134.28 334**		*e*PKIKP	**PKPdf**	**02 52 11.8**	**-1.0**
	comp=Z,20nm,1.1s						
TCF	**Toulx Ste Croi**	**134.28 334**		*e*PKIKP	**PKPdf**	**02 52 11.8**	**-1.0**
TCF	**Toulx Ste Croi**	**134.28 334**		*e*PKPdf	**PKPdf**	**02 52 11.8**	**-1.0**
LMR	**La Mourre**	**134.38 328**		*e*PKIKP	**PKPdf**	**02 52 11.7**	**-1.4**
	comp=Z,35nm,1.2s						
LMR	**La Mourre**	**134.38 328**		*e*PKIKP	**PKPdf**	**02 52 11.7**	**-1.4**
LMR	**La Mourre**	**134.38 328**		*e*PKPdf	**PKPdf**	**02 52 11.7**	**-1.4**
SMRF	**Simiane la Rot**	**134.41 329**		*e*PKIKP	**PKPdf**	**02 52 11.9**	**-1.3**
	comp=Z,25nm,1.2s						
SMRF	**Simiane la Rot**	**134.41 329**		*e*PKPdf	**PKPdf**	**02 52 11.9**	**-1.3**
KEST	**Kesra**	**137.47 317**		PKP	**PKPdf**	**02 52 19.0**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=59,slow=11,SNR=4.0						
KEST	**Kesra**	**137.47 317**		PKP	**PKPdf**	**02 52 19.0**	**-0.2**
SIV	**San Ignacio**	**137.56 123**		PKhKP	PKPpre	02 52 10.1	
	comp=Z,1.4nm,0.6s,baz=254,slow=3.7,SNR=7.8						
SIV				PKP	**PKPdf**	**02 52 20.0**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=265,slow=1.3,SNR=9.2						
SIV	**San Ignacio**	**137.56 123**		PKPpre	PKPpre	02 52 10.1	
SIV				PKP	**PKPdf**	**02 52 20.0**	**+0.2**
SAML	**Samuel**	**138.69 112**		*e*PKPdf	**PKPdf**	**02 52 18.1**	**-3.8**
ESDC	**Sonseca Array**	**142.28 333**		PKhKP	PKPpre	02 52 23.8	
	comp=Z,0.1nm,0.3s,baz=359,slow=3.5,SNR=3.2						
ESDC	**Sonseca Array**	**142.28 333**		PKPpre	PKPpre	02 52 23.8	
PMRV	**Marv??o**	**143.93 337**		*e*PKPdf	**PKPdf**	**02 52 29.9**	**-0.7**
PESTR	**Estremoz**	**144.49 337**		*e*PKPdf	**PKPdf**	**02 52 32.0**	**+0.4**
EVO	**Evora**	**144.94 337**		*e*PKPdf	**PKPdf**	**02 52 32.6**	**+0.2**
PBEJ	**Beja**	**145.32 336**		*e*PKPdf	**PKPdf**	**02 52 34.1**	**+1.1**
PNCL	**Nicolau / Gran**	**145.51 337**		*e*PKPdf	**PKPab**	**02 52 35.1**	**+1.4**
PCVE	**Castro Verde**	**145.73 336**		*e*PKPdf	**PKPab**	**02 52 35.2**	**+0.6**
PVAQ	**Vaqueiros**	**145.79 335**		*e*PKPdf	**PKPab**	**02 52 36.0**	**+1.2**
PTEO	**Sao Teotonio**	**146.08 337**		*e*PKPdf	**PKPab**	**02 52 36.2**	**+0.4**
MORF	**Marmelete**	**146.26 336**		*e*PKPdf	**PKPab**	**02 52 36.9**	**+0.3**
TAM	**Tamanrasset**	**146.75 302**		*e*PKP2	**PKPab**	**02 52 38.3**	**-0.8**
TAM	**Tamanrasset**	**146.75 302**		*e*PKPbc	**PKPab**	**02 52 38.3**	**-0.8**
BDFB	**Brasilia**	**147.98 134**		PKPbc	**PKPbc**	**02 52 41.5**	**+0.2**
	comp=Z,39nm,0.7s,baz=215,slow=2.2,SNR=43						
BDFB	**Brasilia**	**147.98 134**		PKPbc	**PKPbc**	**02 52 41.5**	**+0.2**
MDT	**Midelt**	**148.02 327**		PKPbc	**PKPbc**	**02 52 41.5**	**+0.4**
	comp=Z,8.9nm,0.9s,baz=55,slow=2.0,SNR=13						
MDT	**Midelt**	**148.02 327**		PKPbc	**PKPbc**	**02 52 41.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**153.15 286**		PKP	**PKPdf**	**02 52 45.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=34,slow=1.2,SNR=13						
TORD				PKPbc	**PKiKP**	**02 52 53.1**	**-0.7**
	comp=Z,14nm,0.9s,baz=55,slow=2.2,SNR=48						
TORD				PKPab	**PKPab**	**02 53 01.8**	**-3.6**
	comp=Z,18nm,0.9s,baz=70,slow=2.3,SNR=22						
TORD	**Torodi Ar. Bea**	**153.15 286**		PKP	**PKPdf**	**02 52 45.6**	**-0.6**
TORD				PKPbc	**PKiKP**	**02 52 53.1**	**-0.7**
TORD				PKPab	**PKPab**	**02 53 01.8**	**-3.6**
DBIC	**Dimbokro**	**160.18 271**		PKPab	**PKPab**	**02 53 35.5**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=60,slow=4.0,SNR=9.1						
DBIC	**Dimbokro**	**160.18 271**		PKPab	**PKPab**	**02 53 35.5**	**-0.2**
LIC	**Lamto**	**160.33 269**		*e*PKP2	**PKPab**	**02 53 33.9**	**-2.4**
	comp=Z,43nm,1.3s						

*ISCJB **31** 02:33:46.1±0.3,37.°19N±0.°03×72.°06E±0.°06,h142km, mb3.4/14, Error ellipse: s-maj=6.7km s-min=3.9km az=163.5*
*IDC **31** 02:33:46.7±3.6,37.°19N×72.°02E,h129km±30km, mb3.3/14, mb1 3.6/20,mb1mx3.5/33,mbtmp3.4/20, Error ellipse: s-maj=26.5km s-min=14.6km az=179.0*
*NNC **31** 02:33:53.1±9.8,37.°74N×71.°90E,h133km±107km, mb3.5, mpv4.5, Error ellipse: s-maj=83.0km s-min=47.7km az=3.0*

ISC 31 02:33:46.8±0.5,37.°17N±0.°05×72.°24E±0.°07,h142km,n58, σ1°93/59,mb3.3/14,5C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.35**	**185**	P		**Pn**	**02 34 40.3**	**+1.7**
CEP				S		**Sn**	**02 35 20.0**	**+1.4**
CHCP	**Chirah Chowk**	**3.60**	**166**	⇑P		**Pn**	02 34 45.1	+3.4
AML	**Almayashu**	**5.08**	**12**	P		**Pn**	**02 35 02.0**	**+0.6**
	SNR=242							
UCH	**Uchtor**	**5.34**	**18**	P		**Pn**	**02 35 06.4**	**+1.4**
	SNR=7.6							
KZA	**Kyzart**	**5.42**	**24**	P		**Pn**	**02 35 07.1**	**+1.1**
	SNR=29							
DLH	**Dalhousie**	**5.54**	**145**	*ex*		**Pn**	**02 35 08.0**	**+0.5**
DLH				*eS*		**Sn**	**02 36 09.0**	**-1.5**
EKS2	**Erkin-Say**	**5.61**	**12**	P		**Pn**	**02 35 09.1**	**+0.9**
	SNR=33							
AAK	**Ala-Archa**	**5.72**	**17**	P		**Pn**	**02 35 11.3**	**+1.5**
	27nm,0.3s,baz=172,slow=5.9,SNR=304							
AAK				S		**Sn**	**02 36 14.5**	**-0.1**
	2.2nm,0.3s,baz=316,slow=22,SNR=2.6							
AAK	**Ala-Archa**	**5.72**	**17**	P		**Pn**	**02 35 11.1**	**+1.3**
	SNR=140							
KBK	**Karagaybulak**	**5.86**	**20**	P		**Pn**	**02 35 13.5**	**+1.9**
	SNR=15							
ULHL	**Ulahol**	**5.93**	**30**	P		**Pn**	**02 35 13.9**	**+1.3**
	SNR=8.9							
KK31	**Karatay Array**	**6.07**	**348**	⇑P		**Pn**	**02 35 13.1**	**-1.2**
	25nm,0.3s,baz=178,slow=14,SNR=613							
KK31				⇑S		Sn	02 36 16.1	-6.6
	17nm,0.3s,baz=178,slow=21,SNR=6.0							
CHMS	**Chumysh**	**6.13**	**18**	P		**Pn**	**02 35 16.1**	**+1.0**
	SNR=38							
TKM2	**Tokmak 2**	**6.29**	**23**	⇓P		**Pn**	**02 35 19.0**	**+1.6**
	24nm,0.6s							
TKM2				⇓S		**Sn**	**02 36 22.8**	**-5.5**
	4.6nm,0.6s							
TKM2	**Tokmak 2**	**6.29**	**23**	P		**Pn**	**02 35 18.9**	**+1.5**
	SNR=58							
USP	**Ospenovka**	**6.33**	**15**	P		**Pn**	**02 35 18.2**	**+0.4**
	SNR=14							
SDNR	**Sundarnagar**	**6.88**	**144**	*e*P		Pn	02 35 29.5	+4.3
SDNR				*e*S		**Sn**	**02 36 41.0**	**-1.3**
SMLA	**Simla**	**7.28**	**144**	*ex*		P	02 35 29.5	
SMLA				*i* S		**Sn**	**02 36 47.5**	**-4.3**
NDI	**New Delhi**	**9.44**	**152**	*e*S		Sn	02 37 37.0	-7.0
KHET	**Khetri**	**9.56**	**161**	*e*S		Sn	02 37 41.4	-5.5
KHET				AML		AML	02 37 44.4	
	comp=N,13nm,0.1s							
KHET				AML		AML	02 37 44.6	
	comp=E,24nm,0.3s							
KUDL	**Kundal**	**9.69**	**157**	*e*S		**Sn**	**02 37 45.0**	**-5.0**
KUDL				AML		AML	02 37 48.4	
	comp=E,32nm,0.6s							
KUDL				AML		AML	02 37 50.6	
	comp=N,14nm,0.4s							
SONA	**Sohna**	**9.79**	**154**	*e*S		**Sn**	**02 37 47.8**	**-4.6**
SONA				AML		AML	02 37 52.2	
	comp=E,46nm,0.4s							
SONA				AML		AML	02 37 54.3	
	comp=N,24nm,0.2s							
AGRA	**Agra**	**11.02**	**152**	*e*S		**Sn**	**02 38 17.1**	**-5.1**
AGRA				AML		AML	02 38 21.4	
	comp=N,69nm,0.3s							
AGRA				AML		AML	02 38 21.4	
	comp=E,54nm,0.2s							
MK31	**Makanchi Array**	**12.17**	**35**	⇓P		**Pn**	**02 36 37.2**	**+1.9**
	comp=E,1.6nm,0.6s,baz=206,slow=7.5,SNR=6.9							
MKAR	**Makanchi Array**	**12.17**	**35**	P		**Pn**	**02 36 36.3**	**+0.9**
	comp=E,0.3nm,0.3s,baz=218,slow=15,SNR=21							
PYUN	**Piuthan**	**12.79**	**132**	*e*P		**Pn**	**02 36 44.2**	**+0.4**
	comp=E,27nm,0.3s							
DANN	**Dangsing**	**13.08**	**129**	*e*P		**Pn**	**02 36 49.1**	**+1.5**
	comp=E,34nm,0.4s							
KOLN	**Koldanda**	**13.40**	**131**	*e*P		**Pn**	**02 36 52.3**	**+0.7**
	comp=E,13nm,0.3s							
KURBB	**Kutov Arra**	**14.18**	**17**	P		**P**	**02 37 02.3**	**-1.9**
	comp=E,0.3nm,0.3s,baz=204,slow=11,SNR=11							
KURK	**Kurchatov**	**14.29**	**17**	⇑P		**P**	**02 37 06.5**	**+1.1**
	comp=E,8.3nm,0.9s							
KKN	**Kakani**	**14.43**	**127**	*e*P		**Pn**	**02 37 05.3**	**+0.6**
	comp=E,17nm,0.5s							
PKIN	**Phulchoki**	**14.65**	**127**	*e*P		**P**	**02 37 09.4**	**-0.6**
	comp=E,15nm,0.4s							
PKI	**Pulchoki**	**14.66**	**127**	*e*P		**Pn**	**02 37 09.1**	**+1.4**
	comp=E,16nm,0.4s							
GUN	**Gumba**	**14.74**	**125**	*e*P		**Pn**	**02 37 09.8**	**+1.2**
	comp=E,47nm,0.7s							
AB31	**Akbulak array**	**15.02**	**327**	⇓P		**Pn**	**02 37 09.3**	**-2.2**
	comp=E,1.7nm,0.5s,baz=140,slow=20,SNR=4.9							
VOSK	**Vostochnaya**	**15.57**	**357**	⇓P		**Pn**	**02 37 16.9**	**-1.6**
	comp=E,3.0nm,0.7s							
RAMN	**Ramite**	**15.86**	**126**	*e*P		**P**	**02 37 23.5**	**+0.2**
	comp=E,26nm,0.5s							
BVA0	**Borovoye Array**	**15.90**	**356**	⇑P		**P**	**02 37 22.2**	**-1.2**
	comp=E,0.4nm,0.6s,baz=168,slow=9.7,SNR=4.3							
BVAR	**Borovoye Array**	**15.90**	**356**	P		**Pn**	**02 37 21.0**	**-1.5**
	comp=E,0.7nm,0.3s,baz=164,slow=13,SNR=11							
ZRNK	**Zerenda**	**15.94**	**353**	⇓P		**Pn**	**02 37 22.1**	**-0.8**
	comp=E,6.0nm,0.8s							
TAPN	**Taplejung**	**16.32**	**122**	*e*P		**P**	**02 37 29.7**	**+1.2**
ODAN	**Odare**	**16.43**	**124**	*e*P		**P**	**02 37 31.6**	**+1.9**
	comp=E,20nm,0.6s							
AKTO	**Aktyubinsk**	**16.73**	**327**	P		**P**	**02 37 30.9**	**-1.6**
	comp=E,1.3nm,0.3s,baz=136,slow=9.1,SNR=20							
ZALV	**Zalesovo Beam**	**18.90**	**23**	P		**Pn**	**02 37 58.1**	**-0.2**
	comp=E,1.6nm,0.3s,baz=210,slow=9.4,SNR=19							
KBZ	**Khabaz**	**23.20**	**296**	P		**P**	**02 38 41.7**	**+0.8**
	comp=E,0.7nm,0.8s,baz=238,slow=18,SNR=2.5							
SONM	**Songino Array**	**27.13**	**56**	P		**P**	**02 39 19.2**	**+2.6**
	comp=E,0.1nm,0.4s,baz=265,slow=10.0,SNR=2.6							
BRTR	**Keskin Array B**	**30.19**	**287**	P		**P**	**02 39 43.5**	**-0.3**
	comp=E,0.5nm,0.8s,baz=91,slow=7.2,SNR=3.0							
AKASG	**Malin Array Be**	**33.31**	**308**	P		**P**	**02 40 09.8**	**-0.9**
	comp=E,0.7nm,0.4s,baz=107,slow=10.0,SNR=5.6							
MLR	**Muntele Rosu**	**35.33**	**298**	P		**P**	**02 40 29.1**	**+0.7**
	comp=E,0.6nm,0.8s,baz=73,slow=17,SNR=4.3							
FINES	**FINESS Array B**	**37.49**	**325**	P		**P**	**02 40 46.6**	**+0.3**
	comp=E,3.2nm,0.9s,baz=117,slow=9.3,SNR=6.1							
ARCES	**ARCESS Array B**	**40.91**	**337**	P		**P**	**02 41 15.4**	**+0.8**
	comp=E,1.5nm,0.6s,baz=106,slow=8.9,SNR=11							
HFS	**Hagfors**	**43.16**	**321**	P		**P**	**02 41 33.1**	**+0.1**
	comp=E,1.2nm,0.4s,baz=106,slow=9.4,SNR=9.5							
NOA	**NORSAR Array B**	**44.45**	**323**	P		**P**	**02 41 42.8**	**-0.5**
	comp=E,1.0nm,0.7s,baz=94,slow=7.7,SNR=2.3							
ESDC	**Sonseca Array**	**58.02**	**298**	P		**P**	**02 43 25.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=59,slow=7.5,SNR=2.2							
TORD	**Torodi Ar. Bea**	**66.73**	**269**	P		**P**	**02 44 21.6**	**-1.3**
	comp=E,0.2nm,0.7s,baz=54,slow=5.8,SNR=7.8							
ILAR	**Eielson Array**	**73.86**	**16**	P		**P**	**02 45 06.3**	**+0.8**
	comp=E,0.3nm,0.8s,baz=315,slow=6.0,SNR=5.6							
YKA	**Yellowknife Ar**	**80.52**	**3**	P		**P**	**02 45 44.3**	**+1.6**
	comp=E,0.5nm,0.8s,baz=349,slow=5.5,SNR=11							
WRA	**Warramunga Arr**	**81.51**	**123**	P		**P**	**02 45 51.0**	**+2.5**
	comp=E,0.3nm,0.7s,baz=332,slow=5.1,SNR=4.5							

*NEIC **31** 02:36:10.0,37.°66N×110.°45W,h7km, ML3.0(SLC), After SLC.*

ISC 31 02:36:09.6±1.3,37.°67N±0.°02×110.°46W±0.°02,h2km±11km, n38,σ0°95/70,17C-24D,Utah

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
S18A	**Hurst Farm, Bl**	**0.36**	**86**	⇓P		**Pg**	**02 36 17.0**	**+0.3**
	baz=0.4,SNR=532							
S18A				⇓S		**Sg**	**02 36 21.7**	**+0.2**
	baz=0.4							
Q16A	**Castle Valley**	**1.37**	**336**	⇑P		**Pn**	**02 36 35.7**	**-0.3**
	baz=1.4							
Q16A				⇑S		**Sb**	**02 36 54.1**	**-0.1**
	baz=1.4							
SRU	**San Rafael**	**1.44**	**358**	*e*Pn		**Pn**	**02 36 37.0**	**0.0**
SRU				*e*S		**Sn**	**02 36 56.2**	**-0.4**
	baz=1.4							
SRU				⇑S		**Sn**	**02 36 56.1**	**-0.5**
	baz=1.4							
Q19A	**Hogan Spring (**	**1.59**	**36**	⇑Pb		**Pb**	**02 36 39.7**	**-0.2**
	baz=1.6							
Q19A				⇓Sb		**Sb**	**02 37 00.6**	**+0.1**
	baz=1.6							
MSU	**Marysvale**	**1.60**	**302**	*e*Pn		**Pb**	**02 36 40.1**	**0.0**
MSU				*e*S		**Sb**	**02 37 00.8**	**0.0**
MVU	**Marysvale**	**1.62**	**302**	*e*Pn		**Pb**	**02 36 40.4**	**0.0**
MVU				*e*S		**Sb**	**02 37 02.2**	**+0.9**
MVCO	**Mesa Verde**	**1.62**	**106**	*e*Pn		**Pn**	**02 36 39.6**	**0.0**
MVCO				*e*S		**Sn**	**02 36 58.4**	**-2.7**
MVCO	**Mesa Verde**	**1.62**	**106**	⇑P		**Pn**	**02 36 39.5**	**0.0**
	baz=1.6,SNR=102							
MVCO				⇓S		**Sn**	**02 37 00.3**	**-0.8**
	baz=1.6							
S20A	**Disappointment**	**1.67**	**84**	⇑Pb		**Pb**	**02 36 40.8**	**-0.5**
	baz=1.7,SNR=63							
S20A				⇓Sb		**Sb**	**02 37 02.5**	**-0.3**
	baz=1.7							
R20A	**Redvale**	**1.72**	**72**	⇓Pb		**Pb**	**02 36 41.8**	**-0.4**
	baz=1.7,SNR=28							
R20A				⇑Sb		**Sb**	**02 37 04.3**	**0.0**
	baz=1.7							
TMUT	**Trail Mountain**	**1.73**	**340**	*e*Pn		**Pb**	**02 36 42.4**	**0.0**
TMUT				*e*S		**Sb**	**02 37 04.6**	**-0.1**
P17A	**Butcher Ranch,**	**1.82**	**353**	⇓Pb		**Pb**	**02 36 43.7**	**0.0**
	baz=1.8							
P17A				⇑Sb		**Sb**	**02 37 07.9**	**+0.9**
	baz=1.8							
U15A	**North Rim**	**1.92**	**230**	⇓P		**Pn**	**02 36 44.3**	**+0.7**
	baz=1.9					

comp=Z,7.4nm,0.1s,baz=334
OKC Ostrava-Krasne 2.20 142 *e*PG **Pg** 02 38 04.0 +0.3
OKC *e*SG **Sb** 02 38 30.4 +0.4
comp=Z,16nm,0.5s
OKC Ostrava-Krasne 2.20 142 Pg **Pg** 02 38 04.0 +0.3
OKC Sg **Sb** 02 38 30.4 +0.4
comp=Z,16nm,0.5s
VRAC Vranov 2.31 171 *e*Pn **Pn** 02 38 01.3 +0.4
baz=353
VRAC *e*Sg **Sb** 02 38 33.1 -0.1
comp=Z,6.9nm,0.2s,baz=353
TREC Trest 2.33 189 *e*PN **Pn** 02 38 02.6 +1.4
TREC *e*PG **Pg** 02 38 05.4 -0.8
KRUC Moravsky 2.54 175 *e*Pn **Pn** 02 38 04.8 +0.7
baz=357
KRUC *e*Sg **Sb** 02 38 40.3 +0.5
comp=Z,3.4nm,0.1s,baz=357
NKC Novy Kostel 2.66 241 *e*SG **Sg** 02 38 48.2 +1.1
comp=Z,31nm,0.5s
NKC Novy Kostel 2.66 241 Sg **Sg** 02 38 48.2 +1.1
comp=Z,31nm,0.5s
OJC Ojcow 2.73 119 *e*Pg **Pg** 02 38 14.8 +0.8
OJC *e*Sg **Sg** 02 38 50.1 +0.7
OJC Ojcow 2.73 119 *e*Pg **Pg** 02 38 14.8 +0.8
OJC *e*Sg **Sg** 02 38 50.1 +0.7
KHC Kasperske Hory 2.93 214 *e*PN **Pn** 02 38 09.6 +0.1
KHC *e*PG **Pb** 02 38 15.9 +1.1
KHC *e*SN **Sn** 02 38 45.5 +0.1
KHC *e*SG **Sg** 02 38 54.0 -1.8
comp=Z,5.5nm,0.3s
NIE Niedzica 3.47 127 *e*P **Pg** 02 38 28.3 +0.1
NIE *e*S **Sg** 02 39 12.0 -1.2
VYHS Vyhne 3.58 149 *e*PN **Pg** 02 38 28.7 -1.5
VYHS *e*SN **Sb** 02 39 10.6 +0.9
BSD Bornholm Skovb 3.60 349 *i* P **Pn** 02 38 18.6 -0.1
BSD *i* S **Sn** 02 38 58.8 -3.0
BSD Bornholm Skovb 3.60 349 *i* P **Pn** 02 38 18.6 -0.1
CONA Conrad Observa 3.67 182 ⇑*i* Pn **Pn** 02 38 20.0 +0.3
CONA ⇓*i* Sg **Sg** 02 39 17.1 -2.3
comp=Z,4.6nm,0.3s
CONA Conrad Observa 3.67 182 Pn **Pn** 02 38 20.0 +0.3
CONA Sg **Sg** 02 39 17.1 -2.3
comp=Z,4.6nm,0.3s
MOA Molln 3.92 198 ⇑*i* Pn **Pn** 02 38 24.0 +0.9
MOA ⇓*i* Sg **Sg** 02 39 26.8 -0.7
comp=Z,6.2nm,0.3s
MOA Molln 3.92 198 Pn **Pn** 02 38 24.0 +0.9
MOA Sg **Sg** 02 39 26.8 -0.7
comp=Z,6.2nm,0.3s

---

*ISK **31** 02:44:02.7, 38°.36N×38°.92E, h10km, MD2.7*
*ISCJB **31** 02:44:03.0±0.4, 38°.32N±0°.03×38°.93E±0°.03, h9km±4km, Error ellipse: s-maj=4.4km s-min=3.6km az=178.8*
*DDA **31** 02:44:03.2, 38°.34N×38°.91E, h7km, ML3.2*
*CSEM **31** 02:44:03.1±0.2, 38°.35N×38°.92E, h10km, MD2.7, Error ellipse: s-maj=3.7km s-min=3.3km az=171.0*
ISC 31 02:44:03.5±0.9, 38°.37N±0°.02×38°.90E±0°.02, h11km±7km, n32, σ1§11/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.15**	**27**	*i* Pg	**Pg**	**02 44 07.2**	**+0.1**
ELZG				*i* Sg	**Sg**	**02 44 10.1**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.32**	**88**	*e*PG	**Pg**	**02 44 08.9**	**-1.1**
SVRC				*e*SG	**Sg**	**02 44 14.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.32**	**88**	*e*Pg	**Pg**	**02 44 08.9**	**-1.1**
SVRC				*e*Sg	**Sg**	**02 44 14.6**	**+0.2**
MALT	**Malatya**	**0.37**	**262**	*e*PG	**Pg**	**02 44 11.2**	**+0.3**
MALT				*e*SG	**Sb**	**02 44 16.8**	**-1.2**
MALT	**Malatya**	**0.37**	**262**	*e*Pg	**Pg**	**02 44 11.2**	**+0.3**
MALT				*e*Sg	**Sb**	**02 44 16.8**	**-1.2**
MYA	**Malataya**	**0.37**	**264**	*e*PG	**Pg**	**02 44 10.7**	**-0.2**
MYA				*e*SG	**Sg**	**02 44 16.5**	**+0.5**
MYA	**Malataya**	**0.37**	**264**	*e*Pg	**Pg**	**02 44 10.7**	**-0.2**
MYA				*e*Sg	**Sg**	**02 44 16.5**	**+0.5**
PTK	**Pertek**	**0.65**	**36**	*e*PG	**Pg**	**02 44 15.7**	**-0.5**
PTK				*e*SG	**Sg**	**02 44 24.9**	**+0.1**
PTK	**Pertek**	**0.65**	**36**	*e*Pg	**Pg**	**02 44 15.7**	**-0.5**
PTK				*e*Sg	**Sg**	**02 44 25.0**	**+0.1**
AKCD	**Akcadag**	**0.77**	**265**	*i* P	**Pg**	**02 44 18.2**	**-0.2**
AKCD				*i* S	**Sb**	**02 44 29.1**	**-0.4**
AKCD	**Akcadag**	**0.77**	**265**	*i* P	**Pg**	**02 44 18.2**	**-0.2**
URFA	**Urfa**	**0.93**	**184**	*e*PG	**Pg**	**02 44 20.8**	**-0.5**
URFA	**Urfa**	**0.93**	**184**	*e*Pg	**Pg**	**02 44 20.8**	**-0.5**
KEMA	**Kemaliye**	**0.96**	**341**	*e*P	**Pg**	**02 44 21.9**	**0.0**
KEMA				*e*S	**Sn**	**02 44 36.3**	**-0.3**
KEMA	**Kemaliye**	**0.96**	**341**	*e*P	**Pg**	**02 44 21.9**	**0.0**
KEMA				*e*S	**Sn**	**02 44 36.3**	**-0.3**
ATAB	**Bozova**	**1.01**	**208**	*e*P	**Pb**	**02 44 22.6**	**-0.4**
ATAB				*e*S	**Sn**	**02 44 37.7**	**-0.2**
ATAB	**Bozova**	**1.01**	**208**	*e*P	**Pb**	**02 44 22.6**	**-0.4**
ATAB				*e*S	**Sn**	**02 44 37.7**	**-0.2**
DARE	**Darende-Malaty**	**1.04**	**305**	*e*PN	**Pn**	**02 44 25.3**	**+1.3**
DARE	**Darende-Malaty**	**1.04**	**305**	*e*Pn	**Pn**	**02 44 25.3**	**+1.3**
DIYA	**Diyarbakir**	**1.06**	**114**	*e*P	**Pn**	**02 44 24.6**	**+0.3**
DIYA				*e*S	**Sb**	**02 44 37.5**	**-0.2**
DIYA	**Diyarbakir**	**1.06**	**114**	*e*P	**Pn**	**02 44 24.6**	**+0.3**
ILIC	**ilic-Erzincan**	**1.11**	**347**	*e*PN	**Pg**	**02 44 24.9**	**0.0**
ILIC	**ilic-Erzincan**	**1.11**	**347**	*e*Pn	**Pg**	**02 44 24.9**	**0.0**
ERZN	**Erzincan**	**1.38**	**28**	*e*PN	**Pb**	**02 44 29.0**	**-0.3**
EZC	**Erzincan**	**1.43**	**14**	*e*Pn	**Pn**	**02 44 29.0**	**-0.5**
BNGB	**Bing¶ll**	**1.53**	**65**	*e*PN	**Pn**	**02 44 30.9**	**+0.1**
GAZ	**Gaziantep**	**1.79**	**229**	*e*PN	**Pn**	**02 44 33.9**	**-0.5**
GAZ	**Gaziantep**	**1.79**	**229**	*e*Pn	**Pn**	**02 44 33.9**	**-0.5**
KMRS	**Kahramanmaras**	**1.80**	**242**	*e*PN	**Pn**	**02 44 33.8**	**-0.6**
KMRS	**Kahramanmaras**	**1.80**	**242**	*e*Pn	**Pn**	**02 44 33.8**	**-0.6**
BHD	**Baghdad**	**6.76**	**137**	*i* Pn	**Pn**	**02 45 42.0**	**-0.5**
BHD				*i* Pb	**Pb**	**02 46 00.0**	**-0.9**
BHD				*i* Pg	**Pg**	**02 46 11.0**	**-1.9**
BHD				*i* Sn	**Sn**	**02 47 00.0**	**+0.5**
BHD				*i* Sb	**Sb**	**02 47 26.0**	**+4.4**
BHD				*i* Sg	**Sg**	**02 47 45.0**	**+4.6**
BHD	**Baghdad**	**6.76**	**137**	*i* Pn	**Pn**	**02 45 42.0**	**-0.5**

ROM 31 02:50:13.1±0.5, 42°.30N×13°.35E, h10km±2km, Md1.8/3, Ml1.4/3, Error ellipse: s-maj=8.2km s-min=2.0km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.06**	**35**	Pg	Pg	02 50 15.8	+0.5
AQU				Sg	Sg	02 50 17.2	+0.3
	287nm,0.1s						
FAGN	**Fagnano**	**0.17**	**102**	Pg	Pg	02 50 17.6	+0.7
FAGN				Sg	Sg	02 50 20.7	+1.1
	48nm,0.4s						
NRCA	**Norcia**	**0.56**	**342**	Pg	Pg	02 50 24.1	0.0
NRCA				Sg	Sb	02 50 32.8	-0.5
	107nm,2.3s						

---

*CSEM **31** 02:51:19.6, 51°.49N×16°.09E, h0km, After GFU*
PRU 31 02:51:17.3, 51°.56N×16°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	Pb	02 51 32.8	-0.1
KSP				*e*Sg	Sg	02 51 41.2	+0.4
UPC	**Upice**	**1.06**	**183**	*e*PG	Pg	02 51 37.8	+0.2
UPC	**Upice**	**1.06**	**183**	Pg	Pg	02 51 37.8	+0.2
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	Pg	02 51 39.6	-1.2
DPC				*e*SG	Sg	02 51 55.3	-1.3
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg	Pg	02 51 39.6	-1.2
DPC				Sg	Sg	02 51 55.3	-1.3
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	Pn	02 51 43.6	-0.7
PVCC				*e*SG	Sb	02 52 03.3	+0.1
	comp=Z,11nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**224**	Pg	Pn	02 51 43.6	-0.7
PVCC				Sg	Sb	02 52 03.3	+0.1
	11nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	PG	Pg	02 51 46.6	+0.1
BRG				*e*		02 52 04.5	
BRG	**Berggiesshubel**	**1.52**	**244**	SG	Sg	02 52 06.0	-0.2
	6.8nm,0.9s						
KRLC	**Kraliky**	**1.55**	**164**	*e*SG	Sn	02 52 07.0	-0.1
KRLC	**Kraliky**	**1.55**	**164**	Sg	Sn	02 52 07.0	-0.1
PRU	**Pruhonice**	**1.86**	**213**	*e*PG	Pb	02 51 52.0	-0.1
PRU				*e*SG	Sb	02 52 16.0	+0.1
PRU	**Pruhonice**	**1.86**	**213**	Pg	Pb	02 51 52.0	-0.1
PRU				Sg	Sb	02 52 16.0	+0.1
CLL	**Collm**	**1.96**	**264**	*e*Pg	Pb	02 51 53.0	-0.8
CLL				*e*Sg	Sb	02 52 19.0	+0.3

IDC 31 03:15:25.0±1.8, 4°.73N×126°.41E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=106.8km s-min=24.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.70**	**182**	P	P	03 20 28.8	+0.3
	1.7nm,0.8s,baz=6.5,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**25.73**	**163**	P	P	03 20 58.2	+0.9
	0.6nm,0.3s,baz=340,slow=10,SNR=16						
STKA	**Stephens Creek**	**39.17**	**159**	P	P	03 22 53.5	-1.3
	1.1nm,0.7s,baz=344,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**56.56**	**325**	P	P	03 25 09.4	0.0
	0.2nm,0.5s,baz=125,slow=7.7,SNR=6.8						

---

*ISCJB **31** 03:27:30.8±1.1, 56°.39N±0°.03×152°.55W±0°.05, h6km±7km, mb4.2/30, MS3.4/1, Error ellipse: s-maj=5.5km s-min=3.9km az=145.7*
*MOS **31** 03:27:32.3±0.8, 56°.47N×152°.70W, h12km, mb4.5/21, Error ellipse: s-maj=16.3km s-min=6.0km az=86.1*
*IDC **31** 03:27:32.4±0.7, 56°.46N×152°.73W, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.2/32, mbtmp4.1/23, ML3.9/3, MS3.4/2, Ms1 3.5/2, ms1mx2.6/50, Error ellipse: s-maj=17.1km s-min=11.8km az=20.0*
*NEIC **31** 03:27:34.6, 56°.25N×152°.57W, h20km, mb4.2/5, ML3.9(AEIC), After AEIC.*
ISC 31 03:27:33.5±1.6, 56°.46N±0°.05×152°.60W±0°.04, h10km±9km, n145, σ1§43/165, mb4.3/30, 2C-1D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.33**	**0**	Pn	**Pg**	**03 27 58.8**	**-0.2**
	155nm,0.3s,baz=192,slow=7.2,SNR=1425						
KDAK				Sn	**Sg**	**03 28 16.1**	**-0.2**
	84nm,0.3s,baz=180,slow=20,SNR=14						
KDAK	**Kodiak Island**	**1.33**	**0**	Pn	**Pg**	**03 27 58.8**	**-0.2**
KDAK				Sn	**Sg**	**03 28 16.1**	**-0.2**
KABR	**Katmai Barrier**	**2.12**	**323**	P	**Pn**	**03 28 09.4**	**+0.4**
KCE	**Katmai Mt Cerb**	**2.27**	**323**	P	**Pb**	**03 28 12.8**	**-1.8**
KAKN	**Katmai Knife C**	**2.28**	**325**	P	**Pn**	**03 28 12.1**	**+0.8**
KAPH	**Katmai Pasha**	**2.34**	**337**	P	**Pb**	**03 28 14.3**	**-1.5**
FOSS	**Fourpeaked Sta**	**2.42**	**346**	P	**Pb**	**03 28 15.2**	**-1.9**
KELA	**Mount Kelaz**	**2.62**	**321**	P	**Pn**	**03 28 16.4**	**+0.5**
AUP	**Augustine Pinn**	**2.95**	**352**	P	**Pb**	**03 28 23.1**	**-3.0**
AUP	**Augustine Pinn**	**2.95**	**352**	P	**Pb**	**03 28 23.1**	**-3.0**
AUW	**Augustine West**	**2.96**	**351**	P	Pb	03 28 23.1	-3.2
AUNW	**Augustine NWes**	**2.97**	**351**	P	**Pn**	**03 28 23.1**	**+2.5**
ANNE	**Aniakchak Nort**	**3.05**	**281**	P	**Pn**	**03 28 20.8**	**-1.0**
ANPK	**Aniakchak Peak**	**3.08**	**280**	P	**Pn**	**03 28 21.9**	**-0.4**
AZAC	**Aniakchak**	**3.14**	**280**	P	**Pn**	**03 28 23.4**	**+0.3**
ANPB	**Aniakchak Plen**	**3.16**	**279**	P	**Pn**	**03 28 22.8**	**-0.5**
OPT	**Oil Point**	**3.22**	**354**	P	**Pn**	**03 28 26.4**	**+2.2**
CHGN	**Chignik**	**3.24**	**270**	P	**Pn**	**03 28 22.6**	**-1.7**
BRLK	**Bradley Lake**	**3.44**	**15**	P	**Pn**	**03 28 27.7**	**+0.6**
BRLK				S	**Sn**	**03 28 58.9**	**+1.0**
INE	**Iliamna NE**	**3.62**	**356**	P	**Pn**	**03 28 31.6**	**+1.8**
VNSG	**Veniaminof 6**	**3.63**	**267**	P	**Pn**	**03 28 29.6**	**-0.3**
VNHG	**Veniaminof 1**	**3.67**	**269**	P	**Pn**	**03 28 30.1**	**-0.2**
SEW	**Seward**	**4.02**	**23**	P	**Pn**	**03 28 34.5**	**-0.5**
DFR	**Drift River**	**4.15**	**359**	P	**Pn**	**03 28 38.4**	**+1.5**
SDPT	**Sand Point**	**4.57**	**259**	P	**Pn**	**03 28 41.4**	**-1.3**
SDPT				S	**Sn**	**03 29 32.1**	**-3.7**
SPU	**Mount Spurr**	**4.75**	**3**	P	**Pn**	**03 28 46.0**	**+0.8**
BGL	**Barrier Glacie**	**4.82**	**1**	P	**Pn**	**03 28 47.1**	**+0.9**
RC01	**Rabbit Creek A**	**4.88**	**17**	P	**Pn**	**03 28 46.8**	**-0.1**
RC01				S	**Sn**	**03 29 44.2**	**+0.9**
SVW2	**Sparrevohn**	**4.91**	**343**	*e*Pn	**Pn**	**03 28 48.4**	**+1.1**
STLK	**Strandline Lak**	**5.07**	**4**	P	**Pn**	**03 28 50.7**	**+1.0**
SUA	**Susitna One**	**5.11**	**10**	P	**Pn**	**03 28 50.5**	**+0.3**
SUA				S	**Sn**	**03 29 51.0**	**+1.7**
PS4A	**Pavlof South-4**	**5.33**	**262**	P	**Pn**	**03 28 51.4**	**-1.6**
EYAK	**Cordova Ski Ar**	**5.45**	**38**	P	**Pn**	**03 28 54.8**	**+0.1**
PMR	**Palmer**	**5.45**	**18**	*e*	**Pn**	**03 28 55.7**	**+1.0**
PMR				*e*		03 29 54.3	
PMR	**Palmer**	**5.45**	**18**	*e*Pn	**Pn**	**03 28 55.7**	**+1.0**
PMR				*e*Sn	**Sn**	**03 29 54.3**	**-3.1**
SKT	**Skwentna**	**5.57**	**5**	P	**Pn**	**03 28 57.0**	**+0.6**
SKT				S	**Sn**	**03 30 03.4**	**+3.0**
DTNA	**Dutton South F**	**5.60**	**261**	P	**Pn**	**03 28 55.2**	**-1.6**
DT1	**Dutton Round H**	**5.63**	**260**	P	**Pn**	**03 28 55.4**	**-1.8**
VLZ	**Valdez**	**5.71**	**32**	P	**Pn**	**03 28 58.2**	**+0.1**
SML	**Sawmill**	**5.80**	**20**	P	**Pn**	**03 29 00.3**	**+0.8**
SML	**Sawmill**	**5.80**	**20**	P	**Pn**	**03 29 00.3**	**+0.8**
DIV	**Divide**	**5.88**	**34**	P	**Pn**	**03 29 00.9**	**+0.3**
KLU	**Klutina**	**6.12**	**32**	P	**Pn**	**03 29 03.8**	**-0.1**
BMRM	**Bremner River**	**6.15**	**39**	P	**Pn**	**03 29 04.1**	**-0.2**
GRIN	**Grindle Hills**	**6.20**	**48**	P	**Pn**	**03 29 05.5**	**+0.4**
PPLA	**Purkeypile**	**6.46**	**2**	P	**Pn**	**03 29 09.8**	**+1.1**
BARK	**Barkley Ridge**	**6.62**	**49**	P	**Pn**	**03 29 11.1**	**+0.2**
TT01	**Tatalina**	**6.70**	**346**	P	**Pn**	**03 29 12.8**	**+1.0**
VRDI	**Verde Repeater**	**6.73**	**41**	P	**Pn**	**03 29 12.5**	**-0.1**
BAGL	**Bagley Icefiel**	**6.83**	**49**	P	**Pn**	**03 29 14.1**	**+0.4**
KIAG	**Kiagna River**	**6.96**	**46**	P	**Pn**	**03 29 15.9**	**+0.3**
BALM	**Baldy**	**7.03**	**45**	P	**Pn**	**03 29 17.1**	**+0.6**
BALM	**Baldy**	**7.03**	**45**	P	**Pn**	**03 29 17.1**	**+0.6**
HARP	**HAARP**	**7.07**	**29**	P	**Pn**	**03 29 17.9**	**+1.0**
WESE	**West Dahl East**	**7.10**	**259**	P	**Pn**	**03 29 15.3**	**-2.1**
TRF	**Thorofare Moun**	**7.11**	**8**	P	**Pn**	**03 29 17.5**	**-0.2**
RND	**Reindeer**	**7.22**	**14**	P	**Pn**	**03 29 19.6**	**+0.5**
RND	**Reindeer**	**7.22**	**14**	P	**Pn**	**03 29 19.6**	**+0.5**
BARN	**Barnard Glacie**	**7.32**	**46**	P	**Pn**	**03 29 20.9**	**+0.4**
PAX	**Paxson**	**7.46**	**26**	P	**Pn**	**03 29 22.8**	**+0.4**
PAX	**Paxson**	**7.46**	**26**	P	**Pn**	**03 29 22.8**	**+0.4**
PNL	**Peninsula**	**7.70**	**60**	*e*Pn	**Pn**	**03 29 25.6**	**-0.1**
	112nm,0.8s						
PNL				*e*Sn	**Sn**	**03 30 49.0**	**-3.8**
MENT	**Mentasta**	**7.89**	**31**	*e*Pn	**Pn**	**03 29 29.3**	**+1.0**
DDM	**Donnelly Dome**	**8.08**	**22**	P	**Pn**	**03 29 31.6**	**+0.8**
DOT	**Dot Lake**	**8.37**	**27**	*e*Pn	**Pn**	**03 29 36.7**	**+1.9**
	4.0nm,0.8s						
DOT				*e*Sn	**Sn**	**03 31 12.5**	**+3.1**
COLA	**College**	**8.76**	**13**	*e*P	**Pn**	**03 29 39.6**	**-0.4**
COLA				*e*		03 31 14.5	
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
COLA	**College**	**8.76**	**13**	*e*Pn	**Pn**	**03 29 39.6**	**-0.4**
	comp=Z,17nm,0.8s						
COLA				*e*Sn	**Sn**	**03 31 14.5**	**-4.2**
MDM	**Murphy Dome**	**8.79**	**12**	P	**Pn**	**03 29 40.4**	**-0.2**
IL1	**Eielson Array**	**8.80**	**16**	P	**Pn**	**03 29 41.1**	**+0.6**
ILAR	**Eielson Array**	**8.80**	**16**	Pn	**Pn**	**03 29 41.0**	**+0.4**
	comp=Z,3.5nm,0.3s,baz=204,slow=14,SNR=65						
ILAR				Sn	**Sn**	**03 31 14.9**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=198,slow=24,SNR=5.1						
ILAR				LR	LR	03 33 40.7	
	comp=Z,233nm,18.8s,baz=216,slow=42						
ILAR	**Eielson Array**	**8.80**	**16**	Pn	**Pn**	**03 29 41.0**	**+0.4**
ILAR				Sn	**Sn**	**03 31 14.9**	**-4.8**
IM3	**Indian Mountai**	**9.58**	**357**	P	**Pn**	**03 29 52.0**	**+0.7**
EGAK	**Eagle**	**10.04**	**29**	*e*Pn	**Pn**	**03 29 59.5**	**+1.9**
	comp=Z,4.0nm,0.6s						
COLD	**Coldfoot**	**10.87**	**5**	*e*Pn	**Pn**	**03 30 08.2**	**-0.7**
	comp=Z,6.8nm,1.0s						
BM3	**Burnt Mountain**	**11.61**	**15**	P	**Pn**	**03 30 17.6**	**-1.6**
TNA	**Tin City**	**11.73**	**327**	*e*Pn	**Pn**	**03 30 22.1**	**+1.3**
	comp=Z,7.5nm,1.0s						
DLBC	**Dease Lake**	**12.30**	**71**	Pn	**Pn**	**03 30 29.9**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=249,slow=14,SNR=4.5						
DLBC				Sn	**Sn**	**03 32 41.9**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=338,slow=14,SNR=2.6						
DLBC				LR	LR	03 35 15.5	
	comp=Z,173nm,18.8s,baz=295,slow=37						
DLBC	**Dease Lake**	**12.30**	**71**	Pn	**Pn**	**03 30 29.9**	**+1.3**
DLBC				Sn	**Sn**	**03 32 41.9**	**-3.8**
INK	**Inuvik**	**14.72**	**29**	Pn	**Pn**	**03 31 02.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=244,slow=18,SNR=7.9						
INK	**Inuvik**	**14.72**	**29**	Pn	**Pn**	**03 31 02.3**	**+0.9**
YKA	**Yellowknife Ar**	**19.98**	**57**	P	**Pn**	**03 32 07.1**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=269,slow=11,SNR=32						
YKA				PcP	**PcP**	**03 36 23.7**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=280,slow=1.7,SNR=4.5						
YKA				ScP	**ScP**	**03 39 56.1**	**-1.2**
	comp=Z,0.1nm,0.7s,baz=273,slow=1.8,SNR=4.8						
YKA	**Yellowknife Ar**	**19.98**	**57**	P	**Pn**	**03 32 07.1**	**-0.3**
YKA				PcP	**PcP**	**03 36 23.7**	**+2.4**
YKA				ScP	**ScP**	**03 39 56.1**	**-1.2**
FX1	**Attu Island--F**	**19.99**	**274**	P	**P**	**03 32 05.5**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=274,slow=9.4,SNR=6.0						
FX1	**Attu Island--F**	**19.99**	**274**	P	**P**	**03 32 05.5**	**-0.4**
BILL	**Bilibino**	**21.88**	**318**	⇓*i* P	**P**	**03 32 25.5**	**-0.7**
BILL				*e*		03 32 45.0	
BILL				*e*		03 36 25.9	
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,100nm,13.0s						
BILL	**Bilibino**	**21.88**	**318**	*e*P	**P**	**03 32 26.1**	**-0.1**
	comp=Z,4.1nm,0.5s						
HAWA	**Hanford**	**22.73**	**102**	*e*P	**P**	**03 32 38.3**	**+2.9**
YBH	**Yreka Blue Hor**	**24.24**	**115**	P	**P**	**03 32 52.5**	**+2.1**
	comp=Z,4.4nm,0.8s,baz=306,slow=8.3,SNR=9.3						
YBH	**Yreka Blue Hor**	**24.24**	**115**	P	**P**	**03 32 52.5**	**+2.1**
SWMT	**Swartz Lake**	**25.10**	**94**	*e*P	**P**	**03 32 57.7**	**-0.5**
	comp=Z,2.3nm,0.9s						
MOD	**Modoc**	**25.34**	**111**	*e*P	**P**	**03 32 59.1**	**-1.5**
	comp=Z,5.5nm,1.0s						
HRY	**Holter Researc**	**26.77**	**94**	*e*P	**P**	**03 33 11.9**	**-1.4**
SEY	**Seymchan**	**27.72**	**306**	*ce*P	**P**	**03 33 21.4**	**-0.2**
RES	**Resolute Bay**	**28.27**	**28**	P	**P**	**03 33 27.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=253,slow=13,SNR=9.1						
RES	**Resolute Bay**	**28.27**	**28**	P	**P**	**03 33 27.3**	**+0.9**
NVAR	**Mina Array Bea**	**28.95**	**114**	P	**P**	**03 33 34.5**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=300,slow=9.0,SNR=17						
NVAR	**Mina Array Bea**	**28.95**	**114**	P	**P**	**03 33 34.5**	**+1.5**
PDAR	**Pinedale Array**	**30.51**	**98**	P	**P**	**03 33 47.9**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=314,slow=5.3,SNR=11						
PDAR	**Pinedale Array**	**30.51**	**98**	P	**P**	**03 33 47.9**	**+1.0**
MSU	**Marysvale**	**32.07**	**107**	*e*P	**P**	**03 34 00.7**	**0.0**
MSU				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MSU	**Marysvale**	**32.07**	**107**	*e*P	**P**	**03 34 00.7**	**0.0**
	comp=Z,8.6nm,1.6s						
ULM	**Lac du Bonnet**	**33.56**	**76**	P	**P**	**03 34 14.6**	**+1.3**
	comp=Z,4.9nm,0.9s,baz=288,slow=7.6,SNR=7.3						
ULM	**Lac du Bonnet**	**33.56**	**76**	P	**P**	**03 34 14.6**	**+1.3**
TIXI	**Tiksi**	**34.53**	**327**	*e*P	**P**	**03 34 23.2**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AGMN	**Agassiz Nation**	**34.66**	**79**	*e*P	**P**	**03 34 23.0**	**+0.2**
	comp=Z,7.5nm,1.4s						
ASAJ	**Asahikawa**	**41.65**	**281**	P	**P**	**03 35 21.9**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=189,slow=13,SNR=8.5						
ASAJ	**Asahikawa**	**41.65**	**281**	P	**P**	**03 35 21.9**	**+0.2**
TXAR	**Lajitas Array**	**43.62**	**107**	P	**P**	**03 35 39.2**	**+1.2**
	comp=Z,1.6nm,0.9s,baz=327,slow=6.0,SNR=12						
TXAR				PcP	**PcP**	**03 37 25.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=24,slow=3.1,SNR=2.5						
TXAR	**Lajitas Array**	**43.62**	**107**	P	**P**	**03 35 39.2**	**+1.2**
TXAR				PcP	**PcP**	**03 37 25.0**	**-0.3**
SCHQ	**Schefferville**	**45.40**	**54**	P	**P**	**03 35 51.0**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=294,slow=10.0,SNR=2.7						
SCHQ	**Schefferville**	**45.40**	**54**	P	**P**	**03 35 51.0**	**-0.9**
MJAR	**Matsushiro Arr**	**49.32**	**277**	P	**P**	**03 36 21.7**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=39,slow=6.6,SNR=5.6						
MJAR	**Matsushiro Arr**	**49.32**	**277**	P	**P**	**03 36 21.7**	**-0.9**
KEV	**Kevo**	**54.09**	**0**	*e*P	**P**	**03 36 57.4**	**-0.3**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KEV	**Kevo**	**54.09**	**0**	*ep*	**P**	**03 36 57.4**	**-0.3**
	comp=Z,5.3nm,0.7s						
ARCES	**ARCESS Array B**	**54.30**	**1**	P	**P**	**03 36 59.6**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=7.6,slow=7.3,SNR=27						
ARCES	**ARCESS Array B**	**54.30**	**1**	P	**

LTZ	Lake Taylor	1.32	202	PN	Pn	03 28 45.1	+0.7	
LTZ	Lake Taylor	1.32	202	Pn	Pn	03 28 45.1	+0.7	
SNZO	South Karori	1.34	80	PN	Pn	03 28 44.8	+0.3	
SNZO	South Karori	1.34	80	*e*Pn	Pn	03 28 45.0	+0.6	
SNZO				*e*S	Sn	03 29 00.2	-4.5	
WEL	Wellington	1.40	79	PN	Pn	03 28 45.6	+0.6	
WEL	Wellington	1.40	79	Pn	Pn	03 28 45.6	+0.6	
BHW	Baring Head	1.45	85	PN	Pn	03 28 45.9	+0.3	
BHW	Baring Head	1.45	85	Pn	Pn	03 28 45.9	+0.3	
KIW	Kapiti Island	1.63	65	⇓PN	Pn	03 28 48.2	+0.4	
KIW	Kapiti Island	1.63	65	Pn	Pn	03 28 48.2	+0.4	
CAW	Cannon Point	1.66	75	⇓PN	Pn	03 28 48.2	+0.2	
CAW	Cannon Point	1.66	75	Pn	Pn	03 28 48.2	+0.2	
PLWZ	Palliser	1.73	91	PN	Pn	03 29 49.2	+0.3	
PLWZ	Palliser	1.73	91	Pn	Pn	03 29 49.2	+0.3	
MSWZ	Moikau Station	1.73	86	PN	Pn	03 28 49.1	+0.2	
MSWZ	Moikau Station	1.73	86	Pn	Pn	03 28 49.1	+0.2	
OGWZ	Otaki Gorge	1.83	67	⇓PN	Pn	03 28 50.3	+0.2	
OGWZ	Otaki Gorge	1.83	67	Pn	Pn	03 28 50.3	+0.2	
PAWZ	Paruwai Farm	1.87	85	PN	Pn	03 28 50.6	+0.1	
PAWZ	Paruwai Farm	1.87	85	Pn	Pn	03 28 50.6	+0.1	
MTW	Mount Morrison	1.96	79	PN	Pn	03 28 51.6	0.0	
MTW	Mount Morrison	1.96	79	Pn	Pn	03 28 51.6	0.0	
CRLZ	Canterbury Las	2.03	187	⇓PN	Pn	03 28 53.1	+0.7	
CRLZ	Canterbury Las	2.03	187	Pn	Pn	03 28 53.1	+0.7	
HOWZ	Holdsworth Sta	2.04	72	⇓PN	Pn	03 28 52.5	-0.1	
HOWZ	Holdsworth Sta	2.04	72	Pn	Pn	03 28 52.5	-0.1	
TRWZ	Traveller	2.06	87	PN	Pn	03 28 53.4	+0.5	
TRWZ	Traveller	2.06	87	Pn	Pn	03 28 53.4	+0.5	
MQZ	McQueen's Vall	2.16	186	PN	Pn	03 28 54.3	+0.3	
MQZ	McQueen's Vall	2.16	186	Pn	Pn	03 28 54.3	+0.3	
MRZ	Mangatainoka R	2.18	67	⇓PN	Pn	03 28 54.0	-0.2	
MRZ	Mangatainoka R	2.18	67	Pn	Pn	03 28 54.0	-0.2	
WVZ	Waitaha Valley	2.23	227	⇓PN	Pn	03 28 54.7	-0.2	
WVZ	Waitaha Valley	2.23	227	Pn	Pn	03 28 54.7	-0.2	
TMWZ	Te Maipa	2.26	80	PN	Pn	03 28 55.3	+0.1	
TMWZ	Te Maipa	2.26	80	Pn	Pn	03 28 55.3	+0.1	
TIWZ	Tintock	2.35	72	PN	Pn	03 28 56.1	-0.3	
TIWZ	Tintock	2.35	72	Pn	Pn	03 28 56.1	-0.3	
WAZ	Wanganui	2.37	41	Pn	Pn	03 28 58.0	+1.3	
NWEZ	Newall Road	2.39	17	PN	Pn	03 28 57.7	+0.9	
NWEZ	Newall Road	2.39	17	Pn	Pn	03 28 57.7	+0.9	
DFE	Dawson Falls	2.40	22	PN	Pn	03 28 58.1	+1.1	
DFE	Dawson Falls	2.40	22	Pn	Pn	03 28 58.1	+1.1	
POWZ	Post Office Ro	2.43	62	⇑PN	Pn	03 28 57.0	-0.4	
POWZ	Post Office Ro	2.43	62	Pn	Pn	03 28 57.0	-0.4	
NEZ	North Egmont	2.45	21	PN	Pn	03 28 58.4	+0.8	
NEZ	North Egmont	2.45	21	Pn	Pn	03 28 58.4	+0.8	
PKE	Pukeiti	2.49	19	PN	Pn	03 28 58.8	+0.7	
PKE	Pukeiti	2.49	19	Pn	Pn	03 28 58.8	+0.7	
RAEZ	Rainy Point	2.52	26	⇑PN	Pn	03 28 59.8	+1.2	
RAEZ	Rainy Point	2.52	26	Pn	Pn	03 28 59.8	+1.2	
DREZ	Durham Road	2.55	22	PN	Pn	03 28 59.4	+0.5	
RPZ	Rata Peaks	2.57	212	P	Pn	03 28 58.6	-0.5	
	21nm,0.3s,baz=345,slow=1.8,SNR=74							
RPZ				S	Sn	03 29 28.5	-2.4	
	79nm,0.3s,baz=9.5,slow=4.0,SNR=16							
RPZ	Rata Peaks	2.57	212	PN	Pn	03 28 58.8	-0.4	
RPZ	Rata Peaks	2.57	212	*e*Pn	Pn	03 28 58.5	-0.7	
RPZ				*e*S	Sn	03 29 26.9	-3.9	
BFZ	Birch Farm	2.64	72	PN	Pn	03 28 59.3	-0.8	
BFZ	Birch Farm	2.64	72	Pn	Pn	03 28 58.9	-1.2	
MHEZ	Mangahewa	2.69	23	⇑PN	Pn	03 29 01.9	+1.2	
MHEZ	Mangahewa	2.69	23	Pn	Pn	03 29 01.9	+1.2	
TSZ	Takapari Road	2.73	58	⇓PN	Pn	03 29 00.7	-0.6	
TSZ	Takapari Road	2.73	58	Pn	Pn	03 29 00.7	-0.6	
DVHZ	Dannevirke	2.74	64	⇓PN	Pn	03 29 00.6	-0.8	
DVHZ	Dannevirke	2.74	64	Pn	Pn	03 29 00.6	-0.8	
VRZ	Vera Road	2.79	30	⇓PN	Pn	03 29 03.0	+0.9	
VRZ	Vera Road	2.79	30	Pn	Pn	03 29 03.0	+0.9	
MTVZ	Mangateitei	2.90	42	Pn	Pn	03 29 03.9	+0.4	
PKVZ	Pokaka	2.91	40	PN	Pn	03 29 03.5	-0.1	
PNHZ	Pukenui	2.96	57	⇓PN	Pn	03 29 03.4	-0.8	
PNHZ	Pukenui	2.96	57	Pn	Pn	03 29 03.4	-0.8	
TRVZ	Turoa	3.00	42	PN	Pn	03 29 05.0	+0.1	
TRVZ	Turoa	3.00	42	Pn	Pn	03 29 05.0	+0.1	
WNVZ	Wahianoa	3.01	43	PN	Pn	03 29 05.2	+0.3	
WNVZ	Wahianoa	3.01	43	Pn	Pn	03 29 05.2	+0.3	
MOVZ	Moawhango	3.03	46	⇓PN	Pn	03 29 04.7	-0.4	
MOVZ	Moawhango	3.03	46	Pn	Pn	03 29 04.7	-0.4	
FWVZ	Far West T-bar	3.04	42	PN	Pn	03 29 05.3	-0.1	
FWVZ	Far West T-bar	3.04	42	Pn	Pn	03 29 05.3	-0.1	
WPHZ	Waipukurau	3.04	62	PN	Pn	03 29 04.6	-0.6	
WPHZ	Waipukurau	3.04	62	Pn	Pn	03 29 04.6	-0.6	
WPVZ	Whakapapa	3.08	41	PN	Pn	03 29 05.9	+0.2	
WPVZ	Whakapapa	3.08	41	Pn	Pn	03 29 05.9	+0.2	
TUVZ	Tukino	3.08	43	PN	Pn	03 29 06.2	+0.3	
TUVZ	Tukino	3.08	43	Pn	Pn	03 29 06.2	+0.3	
NGZ	Ngauruhoe	3.12	41	PN	Pn	03 29 06.5	+0.1	
NGZ	Ngauruhoe	3.12	41	Pn	Pn	03 29 06.5	+0.1	
TWVZ	Taurewa	3.13	38	⇓PN	Pn	03 29 06.5	0.0	
TWVZ	Taurewa	3.13	38	Pn	Pn	03 29 06.5	0.0	
FOZ	Fox Glacier	3.13	229	PN	Pn	03 29 04.6	-1.7	
FOZ	Fox Glacier	3.13	229	Pn	Pn	03 29 04.6	-1.7	
BHHZ	Black Hill Sta	3.15	50	PN	Pn	03 29 06.3	-0.4	
BHHZ	Black Hill Sta	3.15	50	Pn	Pn	03 29 06.3	-0.4	
OTVZ	Oturere	3.17	42	PN	Pn	03 29 07.1	+0.1	
OTVZ	Oturere	3.17	42	Pn	Pn	03 29 07.1	+0.1	
WTVZ	West Tongariro	3.17	40	PN	Pn	03 29 06.9	-0.1	
WTVZ	West Tongariro	3.17	40	Pn	Pn	03 29 06.9	-0.1	
KRVZ	Karewarewa	3.21	41	PN	Pn	03 29 07.8	+0.3	
KRVZ	Karewarewa	3.21	41	Pn	Pn	03 29 07.8	+0.3	
KATZ	Kakaramea	3.33	40	Pn	Pn	03 29 09.2	+0.1	
PXZ	Pawanui	3.34	64	PN	Pn	03 29 08.5	-0.6	
PXZ	Pawanui	3.34	64	Pn	Pn	03 29 08.5	-0.6	
HIZ	Hauiti	3.37	26	⇓PN	Pn	03 29 09.5	0.0	
HIZ	Hauiti	3.37	26	Pn	Pn	03 29 09.5	0.0	
KAHZ	Kahuranaki	3.47	61	PN	Pn	03 29 09.8	-1.0	
KAHZ	Kahuranaki	3.47	61	Pn	Pn	03 29 09.9	-0.9	
LBZ	Lake Benmore	3.48	215	PN	Pn	03 29 09.7	-1.2	
LBZ	Lake Benmore	3.48	215	Pn	Pn	03 29 09.7	-1.2	
MCHZ	McNeill Hill	3.55	55	⇑PN	Pn	03 29 11.3	-0.6	
MCHZ	McNeill Hill	3.55	55	Pn	Pn	03 29 11.3	-0.6	
BKZ	Black Stump Fm	3.61	50	PN	Pn	03 29 11.1	-1.6	
BKZ	Black Stump Fm	3.61	50	Pn	Pn	03 29 11.1	-1.6	
NMHZ	Naumai	3.84	51	PN	Pn	03 29 14.8	-0.9	
NMHZ	Naumai	3.84	51	Pn	Pn	03 29 14.8	-0.9	
ODZ	Otahua Downs	3.87	205	⇑PN	Pn	03 29 16.0	0.0	
ODZ	Otahua Downs	3.87	205	*e*Pn	Pn	03 29 16.0	0.0	
ODZ				*e*S	Sn	03 29 51.5	-10	
JCZ	Jackson Bay	3.98	229	PN	Pn	03 29 16.6	-1.0	
JCZ	Jackson Bay	3.98	229	Pn	Pn	03 29 16.6	-1.0	
RAHZ	Arahi	4.12	52	PN	Pn	03 29 18.2	-1.2	
RAHZ	Arahi	4.12	52	Pn	Pn	03 29 18.2	-1.2	
TOZ	Tahuroa Road	4.30	28	Pn	Pn	03 29 22.2	+0.4	
WKZ	Wanaka	4.35	220	PN	Pn	03 29 21.1	-1.4	
WKZ	Wanaka	4.35	220	Pn	Pn	03 29 21.1	-1.4	
KNZ	Kokohu	4.41	57	⇓PN	Pn	03 29 21.3	-1.9	
KNZ	Kokohu	4.41	57	Pn	Pn	03 29 21.3	-1.9	
EAZ	Earnscleugh	4.53	215	⇓PN	Pn	03 29 23.3	-1.5	
EAZ	Earnscleugh	4.53	215	Pn	Pn	03 29 23.3	-1.5	
URZ	Urewera	4.59	46	P	Pn	03 29 23.2	-2.4	
	6.8nm,0.3s,baz=246,slow=7.6,SNR=27							
URZ				S	Sn	03 30 14.8	-3.4	
	9.1nm,0.3s,baz=221,slow=9.4,SNR=6.1							
URZ	Urewera	4.59	46	PN	Pn	03 29 23.3	-2.4	
URZ	Urewera	4.59	46	*e*Pn	Pn	03 29 23.2	-2.4	
URZ				*e*S	Sn	03 30 14.6	-3.6	
PRGZ	Paritu Road	4.60	57	PN	Pn	03 29 23.7	-2.1	
PRGZ	Paritu Road	4.60	57	Pn	Pn	03 29 23.7	-2.1	
MKAZ	Moumakai	4.76	22	PN	Pn	03 29 28.4	+0.5	
MKAZ	Moumakai	4.76	22	Pn	Pn	03 29 28.4	+0.5	
MSZ	Milford Sound	4.82	228	PN	Pn	03 29 28.0	-0.5	
MSZ	Milford Sound	4.82	228	Pn	Pn	03 29 28.0	-0.5	
MTAZ	Motutapu	5.00	18	PN	Pn	03 29 31.8	+0.7	
MTAZ	Motutapu	5.00	18	Pn	Pn	03 29 31.8	+0.7	
TUZ	Tuapeka	5.01	208	⇓PN	Pn	03 29 30.8	-0.3	
TUZ	Tuapeka	5.01	208	Pn	Pn	03 29 30.8	-0.3	
CNGZ	Carnagh Statio	5.07	54	Pn	Pn	03 29 31.3	-0.8	
MLZ	Mavora Lakes	5.14	221	*e*PN	Pn	03 29 31.0	-1.9	
ABAZ	Army Bay	5.16	17	PN	Pn	03 29 34.0	+0.7	
KUZ	Kuaotunu	5.26	25	Pn	Pn	03 29 34.6	0.0	
PUZ	Puketiti	5.37	51	*e*PN	Pn	03 29 32.9	-3.2	
PUZ	Puketiti	5.37	51	Pn	Pn	03 29 33.4	-2.7	
WHZ	Wether Hill Ro	5.65	218	PN	Pn	03 29 39.1	-0.7	
WHZ	Wether Hill Ro	5.65	218	Pn	Pn	03 29 39.1	-0.7	
SYZ	Scrubby Hill	5.69	208	PN	Pn	03 29 39.6	-0.6	
SYZ	Scrubby Hill	5.69	208	Pn	Pn	03 29 39.6	-0.6	
WCZ	Waipu Caves	5.71	11	Pn	Pn	03 29 40.4	-0.3	
APZ	The Paps	6.37	212	PN	Pn	03 29 48.1	-1.2	
APZ	The Paps	6.37	212	Pn	Pn	03 29 48.1	-1.2	
CTZ	Chatham Island	7.99	109	PN	Pn	03 30 12.7	+1.5	
CTZ	Chatham Island	7.99	109	Pn	Pn	03 30 12.8	+1.6	
ASAR	Alice Springs	37.04	286	P	P	03 35 16.5	+1.4	
	0.3nm,0.4s,baz=126,slow=7.1,SNR=4.3							
WRAB	Tennant Creek	39.12	292	*e*P	P	03 35 33.6	+1.0	
	1.0nm,0.6s							
WRA	Warramunga Arr	39.12	292	P	P	03 35 34.1	+1.5	
	0.5nm,0.5s,baz=126,slow=8.2,SNR=11							
FITZ	Fitzroy Crossi	46.52	286	P	P	03 36 34.2	+2.0	
	1.1nm,0.5s,baz=158,slow=5.4,SNR=3.5							
ARCES	ARCESS Array B	147.26	340	PKPbc	PKPbc	03 47 45.1	+0.5	
	1.4nm,0.8s,baz=20,slow=2.9,SNR=3.8							
BRTR	Keskin Array B	149.27	280	PKPbc	PKPbc	03 47 52.1	+1.2	
	0.3nm,0.5s,baz=122,slow=5.1,SNR=3.5							
TORD	Torodi Ar. Bea	150.69	198	PKPbc	PKPbc	03 47 55.6	+0.8	
	0.4nm,0.5s,baz=155,slow=1.6,SNR=16							

IDC 31 03:39:12.1±4.7, 24°07'S×179°40'E, h543km±35km, mb3.6/4, mb1 3.7/5, mb1mx3.2/19, mbtmp3.5/5, Error ellipse: s-maj=55.6km s-min=38.4km az=53.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.28	187	P	P	03 42 14.4	+0.4
	1.1nm,0.3s,baz=317,slow=4.1,SNR=3.0						
URZ				S		03 44 40.5	-3.6
	0.1nm,0.3s,baz=72,slow=20,SNR=2.5						
CTA	Charters Tower	30.93	271	P	P	03 44 45.4	+0.4
	9.9nm,0.4s,baz=92,slow=11,SNR=31						
STKA	Stephens Creek	34.15	248	P	P	03 45 13.0	+0.8
	2.0nm,0.4s,baz=93,slow=6.9,SNR=7.5						
ASAR	Alice Springs	41.47	261	P	P	03 46 11.7	-0.3
	3.9nm,0.7s,baz=98,slow=7.7,SNR=31						
ASAR				ScP	ScP	03 50 55.0	-0.5
	0.7nm,0.8s,baz=112,slow=4.0,SNR=4.6						
WRA	Warramunga Arr	41.85	267	P	P	03 46 13.9	-1.1
	3.3nm,0.4s,baz=102,slow=8.2,SNR=111						
BRTR	Keskin Array B	147.24	307	PKPbc	PKPbc	03 57 54.4	-0.5
	0.5nm,0.8s,baz=83,slow=5.0,SNR=4.1						

IDC 31 03:52:34.1±7.0, 16°18'S×173°75'W, h38km±56km, mb3.5/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML2.1/1, Error ellipse: s-maj=172.1km s-min=26.2km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.96	40	Pn	Pn	03 53 18.6	-0.1
	14nm,0.3s,baz=222,slow=12,SNR=9.5						
AFI				Sn	Sn	03 53 48.4	-4.6
	61nm,0.3s,baz=225,slow=16,SNR=16						
STKA	Stephens Creek	43.36	241	P	P	04 00 32.8	-0.1
	1.2nm,0.6s,baz=79,slow=10,SNR=2.4						
WRA	Warramunga Arr	49.34	257	P	P	04 01 19.7	-0.4
	0.2nm,0.7s,baz=55,slow=6.8,SNR=8.2						
ASAR	Alice Springs	49.55	253	P	P	04 01 21.6	-0.1
	1.0nm,0.6s,baz=87,slow=8.1,SNR=11						
PDAR	Pinedale Array	83.07	42	P	P	04 04 56.1	0.0
	0.7nm,0.8s,baz=212,slow=3.2,SNR=4.6						

IDC 31 04:19:03.8±2.2, 5°90'S×129°77'E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=87.7km s-min=28.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.78	198	Pn	Pn	04 22 07.3	+0.3
	0.1nm,0.3s,baz=21,slow=13,SNR=5.1						
FITZ				Sn	Sn	04 24 12.0	-18
	0.1nm,0.3s,baz=144,slow=18,SNR=3.6						
WRA	Warramunga Arr	14.65	163	Pn	Pn	04 22 34.2	+1.7
	0.3nm,0.3s,baz=342,slow=11,SNR=28						
WRA				Sn	Sn	04 25 04.6	-11
	0.1nm,0.3s,baz=330,slow=23,SNR=3.8						
ASAR	Alice Springs	18.10	168	P	Pn	04 23 15.5	-1.4
	0.4nm,0.3s,baz=342,slow=10.0,SNR=18						
MKAR	Makanchi Array	67.19	327	P	P	04 29 60.0	+0.1
	0.1nm,0.4s,baz=118,slow=6.5,SNR=4.9						

IDC ***31*** *04:41:23.9±5.2, 36°31'N×70°95'E, h148km±45km, mb3.1/5, mb1 3.1/10, mb1mx3.0/31, mbtmp3.0/10, Error ellipse: s-maj=37.1km s-min=27.9km az=26.0*
ISCJB ***31*** *04:41:27.1±0.8, 36°55'N±0°07'×70°9E±0°1, h188km, mb3.1/4, Error ellipse: s-maj=14.8km s-min=9.2km az=21.9*
NNC ***31*** *04:41:32.3±7.1, 36°87'N×70°77'E, h175km±97km, mb2.5, mpv3.6, Error ellipse: s-maj=66.6km s-min=37.3km az=13.0*

ISC 31 04:41:28.5±1.1, 36°6N±0°1×70°9E±0°1, h188km, n14, σ1°15'/17, mb3.1/4, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.51	357	⇑Pn	Pn	04 43 03.0	+0.8
	1.2nm,0.3s,baz=181,slow=13,SNR=4.3						
KK31				⇓Sn	Sn	04 44 13.6	-2.7
	3.4nm,0.3s,baz=189,slow=23,SNR=7.4						
AAK	Ala-Archa	6.63	23	P	Pn	04 43 03.7	-0.2
	0.9nm,0.3s,baz=221,slow=9.3,SNR=9.2						
AAK				S	Sn	04 44 18.8	-0.7
	0.5nm,0.3s,baz=310,slow=23,SNR=4						
TKM2	Tokmak 2	7.27	28	⇑Pn	Pn	04 43 13.1	+0.8
	3.6nm,0.6s						
TKM2				⇑Sn	Sn	04 44 34.0	-0.6
	1.7nm,0.7s						
MKAR	Makanchi Array	13.26	36	P	Pn	04 44 29.0	-0.5
	0.1nm,0.3s,baz=207,slow=9.1,SNR=4.0						
AB31	Akbulak array	14.97	331	⇑P	Pn	04 44 50.6	-0.1
	0.4nm,0.5s,baz=141,slow=12,SNR=8.8						
KURBB	Kurchatov Arra	15.06	19	P	P	04 44 52.9	+0.3
	0.1nm,0.3s,baz=209,slow=10,SNR=3.7						
BVAR	Borovoye Array	16.43	359	P	Pn	04 45 09.3	+0.9
	0.2nm,0.3s,baz=171,slow=10,SNR=4.7						
AKTO	Aktyubinsk	16.67	330	P	Pn	04 45 11.6	+0.4
	0.4nm,0.3s,baz=135,slow=11,SNR=9.4						
AKTO	Aktyubinsk	16.67	330	⇑P	Pn	04 45 12.4	+1.2
	0.2nm,0.5s						
ZALV	Zalesovo Beam	19.86	25	P	P	04 45 45.8	+0.8
	0.9nm,0.3s,baz=216,slow=12,SNR=5.8						
TORD	Torodi Ar. Bea	65.65	269	P	P	04 51 52.1	-0.7
	0.4nm,1.0s,baz=48,slow=6.2,SNR=3.4						
YKA	Yellowknife Ar	81.16	3	P	P	04 53 24.3	+1.7
	0.1nm,0.4s,baz=351,slow=5.3,SNR=5.3						
WRA	Warramunga Arr	82.10	122	P	P	04 53 27.0	-1.2
	0.3nm,0.8s,baz=326,slow=5.0,SNR=6.2						
ASAR	Alice Springs	84.36	125	P	P	04 53 38.9	-0.8
	0.3nm,0.5s,baz=317,slow=5.3,SNR=3.3						

ISCJB ***31*** *04:58:44.8±0.7, 13°12N±0°05×90°34W±0°04, h10km, mb3.7/3, Error ellipse: s-maj=7.8km s-min=4.4km az=20.6*
IDC ***31*** *04:58:46.5±1.9, 14°05N×89°63W, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.6/23, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=53.7km s-min=26.9km az=36.0*
CASC ***31*** *04:58:47.5±1.3, 13°24N×90°29W, h20km±4km, MD3.7, ML3.7*

ISC 31 04:58:46.2±1.1, 13°23N±0°07×90°30W±0°04, h10km, n30, σ0°88/34, mb4.0/3, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	San Blas	0.89	47	*e*P	Pg	04 59 04.1	+0.6
RTR	El Retiro	0.92	44	*e*P	Pg	04 59 04.5	+0.5
SNJE	San Jose	0.93	47	⇓*i*P	Pg	04 59 04.6	+0.5
RBDL	Robledal	1.06	34	*e*P	Pg	04 59 06.5	-0.2
BOQS	Boqueron	1.11	63	*e*P	Pb	04 59 07.2	-0.4
SNET	Serv Nac Est T	1.13	66	*e*P	Pb	04 59 07.1	-0.9
SNET				*e*S	Sb	04 59 22.3	-0.5
SNET				AML	AML	04 59 25.2	
	comp=Z,2μm,0.3s						
PCG	Pacaya	1.20	345	*e*P	Pb	04 59 08.7	-0.5
LFU	La Fuente	1.26	66	*e*P	Pn	04 59 09.4	-0.6
LFU				*e*S	Sg	04 59 27.3	+0.3
LFRS	El Faro	1.27	72	*e*P	Pn	04 59 09.0	-1.1
LBRS	Las Brisas	1.32	67	*e*P	Pn	04 59 10.4	-0.4
FUG	Fuego 3	1.32	337	*e*P	Pn	04 59 10.3	-0.6
NBG	Las Nubes	1.35	358	*e*P	Pn	04 59 12.3	+0.9
NBG				*e*S	Sb	04 59 29.7	+0.4
FG6		1.44	337	*e*P	Pn	04 59 12.0	-0.7
SNVI	San Vicente	1.47	75	*e*P	Pn	04 59 12.6	-0.4
SNVI				*e*S	Sn	04 59 32.5	+0.1
MTO2	Montecristo 2	1.48	38	*e*P	Pn	04 59 12.7	-0.4
JAT	Jato	1.69	310	*e*P	Pn	04 59 16.0	+0.2
TP2	Tecpan 2	1.70	336	*e*P	Pn	04 59 16.6	+0.3
MRL	Marmol	1.92	18	*e*P	Pn	04 59 20.1	+0.9
VSM	San Miguel	1.98	84	*e*P	Pn	04 59 20.6	+0.6
BLLM	Bellamira	2.02	84	*e*P	Pn	04 59 20.7	+0.3
CAHU	Cacaucatique	2.10	75	*e*P	Pn	04 59 21.4	-0.3
CNCH	Conchagua	2.40	89	*e*P	Pn	04 59 25.5	-0.2
CMIG	Matias Romero	5.86	312	Pn	Pn	05 00 14.6	+1.4
	comp=Z,1.1nm,0.3s,baz=142,slow=11,SNR=16						
CMIG				Sn	Sn	05 01 17.3	-3.2
	comp=Z,0.8nm,0.3s,baz=102,slow=20,SNR=3.6						
JTS	JuntasAbangare	5.99	119	Pn	Pn	05 00 16.4	+1.3
	comp=Z,1.2nm,0.3s,baz=308,slow=21,SNR=16						
JTS				Sn	Sn	05 01 23.4	-0.4
	comp=Z,0.6nm,0.3s,baz=114,slow=20,SNR=1.8						
TEIG	Tepich	7.22	15	Pn	Pn	05 00 32.6	+0.7
	comp=Z,1.9nm,0.3s,baz=192,slow=9.3,SNR=9.1						
TXAR	Lajitas Array	20.27	324	P	P	05 03 22.7	+0.6
	comp=Z,0.4nm,0.6s,baz=135,slow=10,SNR=6.7						
NVAR	Mina Array Bea	35.31	320	P	P	05 05 42.3	+0.4
	comp=Z,1.6nm,0.7s,baz=134,slow=7.7,SNR=14						
SCHQ	Schefferville	45.39	19	P	P	05 06 58.9	-5.9
	comp=Z,1.5nm,0.7s,baz=236,slow=13,SNR=6.0						
YKA	Yellowknife Ar	52.16	346	P	P	05 07 52.7	-3.9
	comp=Z,0.1nm,0.7s,baz=142,slow=7.4,SNR=4.2						
WRA	Warramunga Arr	136.80	255	PKP	PKPdf	05 18 11.0	+1.1
	comp=Z,0.2nm,0.6s,baz=84,slow=2.8,SNR=3.7						

IDC 31 05:02:46.9±42.0, 24°22S×178°74W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=763.7km s-min=150.3km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	35.68	249	P	P	05 09 46.0	-1.0
	1.1nm,0.7s,baz=98,slow=7.1,SNR=3.8						
ASAR	Alice Springs	43.12	261	P	P	05 10 49.4	0.0
	1.1nm,0.3s,baz=91,slow=7.5,SNR=19						
WRA	Warramunga Arr	43.53	266	P	P	05 10 53.0	+0.3
	0.6nm,0.4s,baz=104,slow=7.9,SNR=15						

ISK ***31*** *05:17:24.6, 38°95N×35°68E, h8km, MD2.7*
DDA ***31*** *05:17:24.5, 38°88N×35°60E, h7km, MD2.9*
CSEM ***31*** *05:17:24.3±0.2, 38°92N×35°63E, h2km, MD2.7, Error ellipse: s-maj=7.6km s-min=4.1km az=25.0*

ISC 31 05:17:24.7±1.0, 38°90N±0°03×35°63E±0°03, h8km±10km, n18, σ0°87/27, Turkey

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

SCHQ				LR	LR	06 16 16.8	
	comp=Z,137nm,18.3s,baz=50,slow=33						
NOA	**NORSAR Array B**	**20.95**	**66**	LR	LR	06 16 12.9	
	comp=Z,122nm,19.2s,baz=220,slow=31						
ARCES	**ARCESS Array B**	**25.75**	**42**	P	P	06 10 55.0	-0.8
	2.3nm,0.7s,baz=257,slow=8.2,SNR=12						
DAVOX	**Davos/Dischmat**	**26.98**	**98**	LR	LR	06 21 19.4	
	comp=Z,87nm,18.4s,baz=270,slow=35						
GERES	**GERESS Array B**	**27.64**	**91**	LR	LR	06 21 58.7	
	comp=Z,104nm,18.1s,baz=148,slow=36						
FINES	**FINESS Array B**	**27.73**	**60**	LR	LR	06 21 51.0	
	comp=Z,80nm,19.3s,baz=122,slow=36						
VRAC	**Vranov**	**28.86**	**88**	LR	LR	06 23 18.6	
	comp=Z,130nm,18.2s,baz=329,slow=37						
KEST	**Kesra**	**34.95**	**113**	LR	LR	06 25 20.2	
	comp=Z,29nm,18.3s,baz=148,slow=34						
ULM	**Lac du Bonnet**	**37.25**	**286**	LR	LR	06 26 02.6	
	comp=Z,95nm,19.8s,baz=93,slow=33						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	P	06 12 46.6	-0.6
	1.0nm,0.8s,baz=57,slow=9.2,SNR=11						
ILAR	**Eielson Array**	**47.64**	**329**	P	P	06 14 01.5	+0.3
	0.3nm,0.9s,baz=41,slow=4.8,SNR=3.6						
ILAR				LR	LR	06 34 46.2	
	comp=Z,52nm,19.1s,baz=108,slow=37						
SJG	**San Juan**	**48.09**	**228**	LR	LR	06 29 25.3	
	comp=Z,45nm,19.1s,baz=268,slow=30						
AKTO	**Aktyubinsk**	**48.48**	**59**	P	P	06 14 08.8	+0.9
	2.4nm,0.8s,baz=312,slow=9.0,SNR=12						
PDAR	**Pinedale Array**	**49.23**	**288**	LR	LR	06 33 14.3	
	comp=Z,67nm,20.3s,baz=51,slow=34						
TORD	**Torodi Ar. Bea**	**51.67**	**138**	P	P	06 14 32.1	-0.3
	0.6nm,0.8s,baz=346,slow=7.5,SNR=3.4						
DBIC	**Dimbokro**	**55.74**	**148**	LR	LR	06 34 52.1	
	comp=Z,36nm,21.4s,baz=290,slow=32						
MKAR	**Makanchi Array**	**61.33**	**46**	P	P	06 15 41.0	0.0
	0.7nm,0.6s,baz=336,slow=5.4,SNR=9.4						
SONM	**Songino Array**	**68.08**	**30**	P	P	06 16 24.4	-0.7
	0.7nm,0.9s,baz=324,slow=5.9,SNR=4.8						

IDC 31 06:13:58.1±1.6, 58.98N×30.56W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/31, mbtmp3.6/5, ML3.1/1, MS3.2/1, Ms1 3.2/1, ms1mx 2.2/1/35, Error ellipse: s-maj=37.1km s-min=30.5km az=67.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.24**	**33**	Pn	Pn	06 15 45.0	-0.1
	0.3nm,0.3s,baz=224,slow=5.7,SNR=2.0						
ARCES	**ARCESS Array B**	**25.52**	**43**	P	P	06 19 28.7	+1.0
	1.5nm,0.6s,baz=262,slow=8.5,SNR=5.3						
YKA	**Yellowknife Ar**	**38.50**	**312**	P	P	06 21 21.4	0.0
	0.1nm,0.8s,baz=52,slow=9.0,SNR=4.1						
TKL	**Tuckaleechee C**	**41.49**	**260**	LR	LR	06 38 38.8	
	comp=Z,31nm,19.6s,baz=45,slow=36						
TORD	**Torodi Ar. Bea**	**51.69**	**139**	P	P	06 23 06.7	0.0
	0.4nm,1.1s,baz=359,slow=8.2,SNR=2.6						
MKAR	**Makanchi Array**	**61.09**	**46**	P	P	06 24 12.5	-1.0
	0.3nm,0.6s,baz=337,slow=5.8,SNR=4.7						

*ISK **31** 06:33:19.5, 40.49N×42.36E, h5km, MD2.9*
*TIF **31** 06:33:19.1, 40.51N×42.35E, h1km±1km*
*DDA **31** 06:33:20.6, 40.49N×42.33E, h7km, MD3.3*
*CSEM **31** 06:33:20.6±0.2, 40.46N×42.31E, h2km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.8km az=157.0*

ISC 31 06:33:20.5±1.2, 40.48N±0.02×42.34E±0.02, h0km±11km, n43, σ1§07/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.55**	**217**	*i* P	**Pg**	**06 33 30.5**	**-0.5**
HOMI				*i* S	**Sb**	**06 33 39.9**	**-1.8**
KARS	**Kars**	**0.58**	**76**	*e*PG	**Pg**	**06 33 31.7**	**0.0**
KARS				*e*SG	**Sb**	**06 33 40.9**	**-1.7**
KARS	**Kars**	**0.58**	**76**	*e*Pg	**Pg**	**06 33 31.7**	**0.0**
KARS				*e*Sg	**Sb**	**06 33 40.9**	**-1.7**
DDEM	**Demirkent**	**0.60**	**313**	*i* P	**Pg**	**06 33 32.2**	**0.0**
DDEM				*i* S	**Sg**	**06 33 41.6**	**+1.6**
DDEM	**Demirkent**	**0.60**	**313**	*i* P	**Pg**	**06 33 32.2**	**0.0**
DDEM				*i* S	**Sg**	**06 33 41.6**	**+1.6**
DAGI	**Agillar**	**0.68**	**332**	*i* P	**Pg**	**06 33 33.6**	**+0.1**
DAGI				*i* S	**Sb**	**06 33 44.0**	**-1.3**
DBAD	**Bademkaya**	**0.72**	**318**	*i* P	**Pg**	**06 33 34.3**	**-0.1**
DBAD				*i* S	**Sb**	**06 33 45.4**	**-1.2**
DBAD	**Bademkaya**	**0.72**	**318**	*i* P	**Pg**	**06 33 34.3**	**-0.1**
DBAD				*i* S	**Sb**	**06 33 45.4**	**-1.2**
ARTV	**Artvin**	**0.77**	**336**	*i* P	**Pg**	**06 33 35.3**	**0.0**
ARTV				*i* S	**Sb**	**06 33 46.9**	**-1.1**
ARTV	**Artvin**	**0.77**	**336**	*i* P	**Pg**	**06 33 35.3**	**0.0**
ARTV				*i* S	**Sb**	**06 33 46.9**	**-1.1**
ERZM	**Erzurum**	**0.94**	**233**	*i* P	**Pg**	**06 33 38.5**	**-0.1**
ERZM				*i* S	**Sn**	**06 33 54.4**	**-1.2**
ERZM	**Erzurum**	**0.94**	**233**	*i* P	**Pg**	**06 33 38.5**	**-0.1**
ERZM				*i* S	**Sn**	**06 33 54.4**	**-1.2**
EZM	**Erzurum**	**0.94**	**233**	*e*PG	**Pg**	**06 33 38.6**	**0.0**
EZM				*e*SG	**Sb**	**06 33 53.5**	**+0.3**
DBOC	**Borcka**	**1.00**	**330**	*i* P	**Pg**	**06 33 39.1**	**-0.6**
DBOC				*i* S	**Sg**	**06 33 53.0**	**+0.3**
DBOC	**Borcka**	**1.00**	**330**	*i* P	**Pg**	**06 33 39.1**	**-0.6**
DBOC				*i* S	**Sg**	**06 33 53.0**	**+0.3**
AKH	**Akhalkalaki**	**1.27**	**43**	P	**Pg**	**06 33 44.7**	**-0.3**
AKH				S	**Sb**	**06 34 02.1**	**-0.4**
AKH	**Akhalkalaki**	**1.27**	**43**	P	**Pg**	**06 33 44.7**	**-0.3**
AKH				S	**Sb**	**06 34 02.1**	**-0.4**
PZAR	**Pazar-Rize**	**1.29**	**303**	*e*PN	**Pn**	**06 33 45.8**	**-0.1**
PZAR	**Pazar-Rize**	**1.29**	**303**	*e*Pn	**Pn**	**06 33 45.8**	**-0.1**
DYDN	**Diyadin**	**1.40**	**132**	*e*P	**Pb**	**06 33 47.7**	**0.0**
DYDN				*e*S	**Sn**	**06 34 08.3**	**+1.5**
DYDN	**Diyadin**	**1.40**	**132**	*e*P	**Pb**	**06 33 47.7**	**0.0**
DYDN				*e*S	**Sn**	**06 34 08.3**	**+1.5**
KOPT	**Kop Dagi**	**1.48**	**252**	*i* P	**Pn**	**06 33 48.8**	**0.0**
KOPT				*i* S	**Sn**	**06 34 13.4**	**+4.4**
KOPT	**Kop Dagi**	**1.48**	**252**	*i* P	**Pn**	**06 33 48.8**	**0.0**
VRTB	**Varto-Mus**	**1.49**	**207**	*e*PN	**Pg**	**06 33 49.3**	**+0.3**
VRTB	**Varto-Mus**	**1.49**	**207**	*e*Pn	**Pg**	**06 33 49.3**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**268**	*e*PN	**Pn**	**06 33 51.5**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**268**	*e*Pn	**Pn**	**06 33 51.5**	**+0.2**
CLDR	**Caldiran**	**1.81**	**137**	*e*PN	**Pn**	**06 33 53.1**	**-0.1**
CLDR	**Caldiran**	**1.81**	**137**	*e*Pn	**Pn**	**06 33 53.1**	**-0.1**
KZR	**Kazreti**	**1.81**	**60**	P	**Pn**	**06 33 53.0**	**-0.1**
KZR				S	**Sg**	**06 34 18.5**	**-0.2**
KZR	**Kazreti**	**1.81**	**60**	P	**Pn**	**06 33 53.0**	**-0.1**
KZR				S	**Sg**	**06 34 18.5**	**-0.2**
BNGB	**Bing¯¶l**	**1.96**	**221**	*e*PN	**Pn**	**06 33 55.6**	**+0.4**
GOR	**Gori**	**2.01**	**41**	P	**Pn**	**06 33 56.6**	**+0.9**
GOR				S	**Sg**	**06 34 28.7**	**+3.7**
GOR	**Gori**	**2.01**	**41**	P	**Pn**	**06 33 56.6**	**+0.9**
KTUT	**Trabzon**	**2.02**	**285**	*e*PN	**Pn**	**06 33 56.1**	**+0.3**
KTUT	**Trabzon**	**2.02**	**285**	*e*Pn	**Pn**	**06 33 56.1**	**+0.3**
BINT	**Bingol**	**2.15**	**222**	*e*Pn	**Pn**	**06 33 55.6**	**-2.2**
TBLG	**Delisi**	**2.20**	**55**	P	**Pb**	**06 34 01.1**	**-0.1**
TBLG				S	**Sg**	**06 34 30.7**	**-0.5**
TBLG	**Delisi**	**2.20**	**55**	P	**Pb**	**06 34 01.1**	**-0.1**
TBLG				S	**Sg**	**06 34 30.7**	**-0.5**
ONI	**Oni**	**2.26**	**21**	P	**Pb**	**06 34 00.9**	**-1.4**
ONI				S	**Sg**	**06 34 33.6**	**+0.3**
ONI	**Oni**	**2.26**	**21**	P	**Pb**	**06 34 00.9**	**-1.4**
DGRG	**David-gareji**	**2.49**	**66**	P	**Pb**	**06 34 06.6**	**+0.4**
DGRG				S	**Sg**	**06 34 40.8**	**+0.2**
DGRG	**David-gareji**	**2.49**	**66**	P	**Pb**	**06 34 06.6**	**+0.4**

MEX 31 06:49:07.4±0.8, 16.87N×100.13W, h2km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**324**	*e*P	Pg	06 49 11.1	-0.6
CAIG				*i* S	Sg	06 49 15.3	+0.8
ACX	**Acapulco**	**0.26**	**90**	*i* P	Pg	06 49 11.0	-1.5
ACX				*i* S	Sg	06 49 15.0	-1.0
MEIG	**Mezcala**	**1.16**	**25**	*i* P	Pg	06 49 26.3	-3.4
MEIG				*e*S	Sg	06 49 41.1	-3.8
ARIG	**Puente Sto Nin**	**1.42**	**352**	*i* P	Pn	06 49 30.6	-3.7
ARIG				*e*S	Sg	06 49 48.7	-4.4
ZIIG	**Zihuatanejo**	**1.47**	**300**	*i* P	Pn	06 49 31.7	-3.2
ZIIG				*i* S	Sg	06 49 50.1	-4.6
YAIG	**Yautepec**	**2.23**	**27**	*i* P	Pn	06 49 42.7	-2.9
YAIG				*e*S	Sn	06 50 09.6	-4.2
PPM	**Popocatepetl**	**2.61**	**33**	*i* P	Pn	06 49 47.6	-3.8
PPM				*e*S	Sn	06 50 19.9	-4.3

*CSEM **31** 06:59:36.6, 38.59N×28.55W, h6km, ML2.5, After PDA*
PDA 31 06:59:36.6±0.9, 38.59N×28.55W, h6km±7km, MD3.5, ML2.5, Error ellipse: s-maj=2.5km s-min=2.2km az=165.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.09**	**226**	*i* P	Pg	06 59 38.2	-0.4
HOR				*e*S	Sg	06 59 40.2	+0.2
CALA	**Caldeira**	**0.12**	**267**	*e*P	Pg	06 59 39.1	-0.2
CALA	**Caldeira**	**0.12**	**267**	*e*P	Pg	06 59 39.1	-0.2
PCED	**Cedros**	**0.12**	**289**	*i* P	Pg	06 59 38.8	-0.5
PCED				*e*S	Sg	06 59 41.3	+0.2
PCED				A	A	06 59 42.8	
	621nm,0.2s						
PICO	**Pico**	**0.13**	**131**	*e*P	Pg	06 59 39.1	-0.4
PICO	**Pico**	**0.13**	**131**	*e*P	Pg	06 59 39.1	-0.4
PCAN	**Candelaria**	**0.13**	**157**	*e*P	Pg	06 59 39.1	-0.3
PCAN				*e*S	Sg	06 59 41.5	+0.2
PCAN				A	A	06 59 47.8	
	3µm,0.5s						
PCAN	**Candelaria**	**0.13**	**157**	*e*P	Pg	06 59 39.1	-0.3
PCAN				*e*S	Sg	06 59 41.5	+0.2
ROSA	**Rosais**	**0.28**	**61**	*e*P	Pg	06 59 41.5	-0.6
ROSA				*e*S	Sg	06 59 45.7	-0.1
ROSA				A	A	06 59 47.1	
	182nm,0.1s						
ROSA	**Rosais**	**0.28**	**61**	*e*P	Pg	06 59 41.5	-0.6
ROSA				*e*S	Sg	06 59 45.7	-0.1
PMAN	**Manadas**	**0.36**	**83**	*e*P	Pn	06 59 57.6	+9.2
PMAN				*e*S	Sb	07 00 03.6	+12
PMAN				A	A	07 00 07.9	
	139nm,0.3s						
PMAN	**Manadas**	**0.36**	**83**	*e*P	Pn	06 59 57.6	+9.2
PMAN				*e*S	Sb	07 00 03.6	+12
PID	**Ribeirinha**	**0.37**	**113**	*e*P	Pg	06 59 43.4	-0.4
PID	**Ribeirinha**	**0.37**	**113**	*e*P	Pg	06 59 43.4	-0.4

*IDC **31** 07:03:10.2±1.5, 20.33S×168.11E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/19, mbtmp4.0/7, ML3.5/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/29, Error ellipse: s-maj=64.5km s-min=21.5km az=146.0*
*NOU **31** 07:03:12.4±0.5, 20.27S×168.16E, h30km, MD2.4, ML3.1*
*ISCJB **31** 07:03:13.2±1.0, 20.4S±0.1×168.1E±0.2, h32km, mb3.9/6, MS3.4/6, Error ellipse: s-maj=30.8km s-min=7.5km az=34.3*

ISC 31 07:03:14.6±1.2, 20.5S±0.2×168.2E±0.2, h32km, n16, σ0§79/17, mb3.9/6, MS3.4/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.02**	**217**	*e*S	**Sn**	**07 04 10.6**	**+0.1**
DZM	**Mont Dzumac**	**2.23**	**226**	Pn	**Pn**	**07 03 48.6**	**-0.8**
	11nm,0.3s,baz=70,slow=15,SNR=549						
DZM				Sn	**Sn**	**07 04 16.0**	**0.0**
	31nm,0.3s,baz=288,slow=20,SNR=13						
DZM				LR	LR	07 04 43.9	
	comp=Z,327nm,18.5s,baz=266,slow=40						
DZM	**Mont Dzumac**	**2.23**	**226**	*e*P	**Pn**	**07 03 48.4**	**-1.0**
DZM				*e*S	**Sn**	**07 04 15.5**	**-0.5**
PLUM	**Mont Dore**	**2.25**	**219**	*e*P	**Pn**	**07 03 49.2**	**-0.4**
NORM	**Noumea**	**2.32**	**223**	*e*P	**Pn**	**07 03 50.0**	**-0.5**
NORM				*e*S	**Sn**	**07 04 17.8**	**-0.1**
NORM				AMP		07 04 18.4	
	comp=Z,338nm,1.2s						
NOUC	**Port Laguerre**	**2.35**	**228**	*e*P	**Pn**	**07 03 50.4**	**-0.6**
NOUC				*e*S	**Sn**	**07 04 19.1**	**+0.4**
NOUC				AMP		07 04 32.7	
	comp=Z,119nm,0.0s						
CTA	**Charters Tower**	**20.57**	**267**	LR	LR	07 13 29.5	
	comp=Z,66nm,18.6s,baz=57,slow=30						
STKA	**Stephens Creek**	**26.33**	**239**	P	**P**	**07 08 49.2**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=80,slow=6.1,SNR=7.6						
STKA				LR	LR	07 18 41.8	
	comp=Z,85nm,19.6s,baz=205,slow=35						
WRA	**Warramunga Arr**	**31.73**	**265**	P	**P**	**07 09 34.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=91,slow=8.5,SNR=18						
WRA				LR	LR	07 21 04.9	
	comp=Z,59nm,20.6s,baz=150,slow=34						
ASAR	**Alice Springs**	**31.87**	**258**	P	**P**	**07 09 37.3**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=88,slow=9.0,SNR=48						
FITZ	**Fitzroy Crossi**	**40.14**	**266**	P	**P**	**07 10 48.1**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=76,slow=5.9,SNR=5.6						
FITZ				LR	LR	07 27 30.6	
	comp=Z,52nm,18.6s,baz=276,slow=36						
NWAO	**Narrogin (SRO)**	**46.75**	**244**	LR	LR	07 31 51.4	
	comp=Z,83nm,18.8s,baz=108,slow=37						
KAPI	**Kappang**	**49.47**	**281**	LR	LR	07 33 15.7	
	comp=Z,36nm,18.5s,baz=93,slow=37						
NVAR	**Mina Array Bea**	**90.39**	**49**	P	**P**	**07 16 13.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=232,slow=7.4,SNR=3.2						
ILAR	**Eielson Array**	**91.75**	**18**	P	**P**	**07 16 17.4**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=236,slow=5.2,SNR=4.2						
YKA	**Yellowknife Ar**	**102.27**	**28**	P	**Pdif**	**07 17 07.0**	**+0.9**
	comp=Z,0.1nm,0.7s,baz=252,slow=4.1,SNR=2.5						

IDC 31 07:11:05.7±2.0, 0.52S×133.00E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=94.0km s-min=20.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.91**	**202**	P	Pn	07 15 28.8	+0.2
	0.3nm,0.3s,baz=42,slow=14,SNR=8.2						
WRA	**Warramunga Arr**	**19.34**	**176**	P	P	07 15 32.5	-0.4
	0.1nm,0.3s,baz=356,slow=12,SNR=11						
WRA				S	Sn	07 19 01.1	-11
	0.0nm,0.3s,baz=354,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**23.02**	**178**	P	P	07 16 12.5	-0.1
	1.2nm,0.5s,baz=353,slow=9.4,SNR=13						
MKAR	**Makanchi Array**	**64.63**	**324**	P	P	07 21 45.3	0.0
	0.5nm,0.7s,baz=116,slow=7.7,SNR=9.2						
KURBB	**Kurtovo Arra**	**68.70**	**326**	P	P	07 22 11.1	-0.1
	1.1nm,0.9s,baz=121,slow=5.6,SNR=8.5						

GUC 31 07:29:01.5±0.9, 32.07S×71.70W, h21km±5km, MD4.1, ML3.6, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.26**	**42**	↑*i* P	Pb	07 29 07.2	-0.5
CHNG				*i* S	Sb	07 29 11.8	-0.2
CHNG				AML	AML	07 29 12.1	
	comp=N,12µm,0.3s						
PTCH	**Petorca**	**0.68**	**106**	↑*i* P	Pb	07 29 14.1	-0.7
PTCH				*i* S	Sb	07 29 23.9	0.0
PTCH				AML	AML	07 29 24.4	
	comp=E,6µm,0.3s						
IHA	**Instituto Hidr**	**0.95**	**177**	*e*P	Pb	07 29 18.8	-0.5
ROCH	**El Roble**	**1.07**	**147**	↓*i* P	Pn	07 29 20.4	-1.2
ROCH				*i* S	Sb	07 29 35.1	-0.3
JACH	**Jahuel**	**1.12**	**123**	↑*i* P	Pn	07 29 21.3	-0.8
JACH				*i* S	Sb	07 29 36.4	-0.1
PEL	**Peldehue**	**1.37**	**141**	↑*i* P	Pn	07 29 25.2	-0.3
PEL				*i* S	Sn	07 29 43.2	+0.2
LCCH	**Las Cruces**	**1.40**	**175**	*e*P	Pn	07 29 25.7	-0.1
SAN	**Santiago**	**1.63**	**148**	↑*i* P	Pn	07 29 29.6	+0.5
SAN				*e*S	Sb	07 29 50.4	-0.8
SAN				AML	AML	07 29 56.1	
	comp=N,1µm,0.4s						
CLCH	**Cerro Calan**	**1.64**	**144**	*e*P	Pn	07 29 29.4	+0.2
CLCH				*e*S	Sb	07 29 50.8	-0.8
CLCH				AML	AML	07 29 59.5	
	comp=E,2µm,0.7s						
TACH	**Talagante**	**1.70**	**158**	↑*i* P	Pn	07 29 30.3	+0.3
TACH				*i* S	Sb	07 29 52.4	-0.8
FSR	**Penalolen**	**1.71**	**145**	*i* P	Pn	07 29 31.0	+0.8
FSR				*i* S	Sb	07 29 53.3	-0.4
FSR				AML	AML	07 29 57.8	
	comp=E,317nm,0.4s						
FCH	**Farellones**	**1.73**	**137**	↓*i* P	Pn	07 29 31.6	+0.9
FCH				*e*S	Sb	07 29 53.9	-0.7
FCH				AML	AML	07 29 56.1	
	comp=E,1µm,0.4s						
ANTU	**Antumapu**	**1.74**	**149**	*e*P	Pn	07 29 31.1	+0.6
ANTU				*e*S	Sb	07 29 53.5	-0.8
ANTU				AML	AML	07 29 58.3	
	comp=N,1µm,0.6s						
TLL	**Tololo Astrono**	**2.05**	**22**	↑*i* P	Pn	07 29 35.0	-0.1
TLL				*i* S	Sb	07 30 02.4	-1.3
TLL				AML	AML	07 30 08.3	
	comp=E,767nm,0.6s						
CHCH	**Chadas Angostu**	**2.05**	**155**	*e*P	Pn	07 29 36.0	+1.2
LMEL	**Las Melosas**	**2.17**	**145**	*e*P	Pn	07 29 37.7	+1.1
LMEL				*i* S	Sb	07 30 05.5	-1.5
LMEL				AML	AML	07 30 13.6	
	comp=N,800nm,0.9s						
CACH	**El Canelo**	**2.24**	**156**	↑*i* P	Pn	07 29 39.3	+1.8
CACH				*e*S	Sb	07 30 09.3	+0.5

*IDC **31** 07:33:57.5±1.0, 18.77S×173.79W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/23, mbtmp4.3/9, ML2.3/1, Error ellipse: s-maj=45.8km s-min=17.6km az=141.0*
*ISCJB **31** 07:33:59.8±0.7, 18.73S±0.10×173.7W±0.1, h28km, mb4.4/15, Error ellipse: s-maj=21.7km s-min=7.4km az=36.3*
*NEIC **31** 07:34:01.8±0.7, 19.23S×173.50W, h35km, mb4.6/8, Error ellipse: s-maj=26.8km s-min=11.9km az=146.0*

ISC 31 07:34:01.2±0.8, 18.9S±0.1×173.6W±0.2, h28km, n40, σ1§48/36, mb4.6/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.23**	**20**	Pn	**Pn**	**07 35 15.8**	**-1.8**
	5.5nm,0.3s,baz=185,slow=22,SNR=5.0						
AFI				Sn	**Sn**	**07 36 16.1**	**-0.9**
	7.8nm,0.3s,baz=165,slow=20,SNR=4.3						
AFI	**Afiamalu**	**5.23**	**20**	*e*Pn	**Pn**	**07 35 16.1**	**-1.4**
AFI				Sn	**Sn**	**07 36 16.1**	**-0.9**
MSVF	**Nonsavu**	**8.00**	**277**	*e*Pn	Pn	07 36 06.0	+10
	24nm,0.9s						
RAR	**Rarotonga**	**13.21**	**103**	Pn	Pn	07 36 52.3	-15
	4.2nm,0.3s,baz=252,slow=11,SNR=6.3						
RAR	**Rarotonga**	**13.21**	**103**	*e*Pn	Pn	07 36 52.9	-14
DZM	**Mont Dzumac**	**18.96**	**257**	P	**Pn**	**07 38 22.5**	**+1.3**
	0.4nm,0.3s,baz=76,slow=19,SNR=4.5						
DZM	**Mont Dzumac**	**18.96**	**257**	*e*LR	LR	07 43 06.4	
	172nm,21.6s						
DZM	**Mont Dzumac**	**18.96**	**257**	P	**Pn**	**07 38 22.5**	**+1.3**
URZ	**Urewera**	**20.95**	**201**	P	**P**	**07 38 37.8**	**-4.1**
	3.7nm,0.3s,baz=292,slow=5.5,SNR=12						
URZ	**Urewera**	**20.95**	**201**	P	**P**	**07 38 37.8**	**-4.1**
PPT2	**Papeete2**	**22.86**	**91**	*e*LR	LR	07 43 51.1	
	280nm,29.2s						
TBI	**Tubuai**	**22.96**	**105**	*e*LR	LR	07 43 55.8	
	171nm,31.2s						
KHZ	**Kahutara**	**25.89**	**202**	*e*P	**P**	**07 39 31.3**	**+0.6**
	17nm,0.9s						
RPZ	**Rata Peaks**	**27.94**	**204**	P	**P**	**07 39 50.0**	**+0.9**
	7.1nm,0.6s,baz=123,slow=9.6,SNR=5.0						
RPZ	**Rata Peaks**	**27.94**	**204**	P	**P**	**07 39 50.0**	**+0.9**
CTA	**Charters Tower**	**37.80**	**261**	P	**P**	**07 41 14.8**	**-0.6**
	6.3nm,0.5s,baz=88,slow=10,SNR=22						
CTA	**Charters Tower**	**37.80**	**261**	P	**P**	**07 41 14.8**	**-0.6**
CTAO	**Charters Tower**	**37.80**	**261**	*e*P	**P**	**07 41 15.0**	**-0.3**
	8.1nm,0.8s						
COEN	**Coen**	**41.66**	**270**	*e*P	**P**	**07 41 48.1**	**+0.5**
	20nm,0.5s						
STKA	**Stephens Creek**	**42.22**	**243**	P	**P**	**07 41 50.5**	**-1.5**
	1.3nm,0.4s,baz=82,slow=9.7,SNR=4.1						
STKA	**Stephens Creek**	**42.22**	**243**	*e*P	**P**	**07 41 53.1**	**+1.1**
	3.8nm,1.5s						
AS31	**Alice Springs**	**48.93**	**255**	*e*P	**P**	**07 42 44.2**	**-1.0**
ASAR	**Alice Springs**	**48.93**	**255**	P	**P**	**07 42 44.5**	**-0.7**
	9.1nm,0.9s,baz=95,slow=8.0,SNR=65						
ASAR	**Alice Springs**	**48.93**	**255**	P	**P**	**07 42 44.5**	**-0.7**
WRAB	**Tennant Creek**	**48.93**	**260**	*e*P	**P**	**07 42 44.5**	**-0.8**
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**48.94**	**260**	P	**P**	**07 42 44.1**	**-1.2**
	1.4nm,0.4s,baz=98,slow=8.2,SNR=40						
WRA	**Warramunga Arr**	**48.94**	**260**	P	**P**	**07 42 44.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**57.36**	**260**	*e*P	**P**	**07 43 47.5**	**+0.2**
	6.3nm,1.1s						
MBWA	**Marble Bar**	**62.26**	**256**	*e*P	**P**	**07 44 20.6**	**-0.4**
	5.1nm,1.0s						
NVAR	**Mina Array Bea**	**77.03**	**42**	P	**P**	**07 45 51.6**	**-0.3**
	1.1nm,0.9s,baz=221,slow=6.7,SNR=6.9						
NVAR	**Mina Array Bea**	**77.03**	**42**	P	**P**	**07 45 51.6**	**-0.3**
TXAR	**Lajitas Array**	**82.71**	**56**	P	**P**	**07 46 24.5**	**+1.7**
	1.0nm,1.1s,baz=236,slow=6.4,SNR=5.1						

AOS				S	Sg	07 45 05.8	+0.3	
AOS	**Alonnisos**	**0.34**	**153**	*e*PB	Pg	07 45 00.2	-0.3	
AOS				*e*SB	Sg	07 45 05.8	+0.3	
AOS	**Alonnisos**	**0.34**	**153**	P	Pg	07 45 00.3	-0.3	
AOS				S	Sg	07 45 05.8	+0.3	
SKIA	**Skiathos**	**0.35**	**208**	P	Pg	07 45 00.3	-0.4	
SKIA				S	Sb	07 45 05.7	-0.3	
SKIA	**Skiathos**	**0.35**	**208**	P	Pg	07 45 00.3	-0.4	
SKIA				S	Sb	07 45 05.7	-0.3	
NEO	**Neokhori**	**0.39**	**245**	*e*PB	Pg	07 45 01.0	-0.4	
NEO				*e*SB	Sb	07 45 06.8	-0.4	
NEO	**Neokhori**	**0.39**	**245**	*e*Pb	Pg	07 45 01.0	-0.4	
NEO				*e*Sb	Sb	07 45 06.8	-0.4	
XOR	**Xorichti**	**0.40**	**254**	P	Pg	07 45 00.9	-0.6	
XOR				S	Sg	07 45 06.7	-0.4	
XOR	**Xorichti**	**0.40**	**254**	P	Pg	07 45 00.9	-0.6	
XOR				S	Sg	07 45 06.7	-0.4	
PAIG	**Paliouri**	**0.45**	**360**	P	Pg	07 45 02.3	-0.1	
PAIG	**Paliouri**	**0.45**	**360**	P	Pg	07 45 02.3	-0.1	
MRKA	**Markates**	**0.77**	**185**	P	Pb	07 45 08.1	+0.1	
MRKA				S	Sg	07 45 19.2	+0.5	
MRKA	**Markates**	**0.77**	**185**	P	Pb	07 45 08.1	+0.1	
MRKA				S	Sg	07 45 19.2	+0.5	
PLG	**Polygyros**	**0.91**	**349**	*e*PN	Pb	07 45 10.5	+0.1	
PLG	**Polygyros**	**0.91**	**349**	*e*Pn	Pb	07 45 10.5	+0.1	
LKR	**Lokris**	**0.98**	**213**	*e*PN	Pb	07 45 11.6	+0.1	
LKR	**Lokris**	**0.98**	**213**	*e*Pn	Pb	07 45 11.6	+0.1	
AGG	**Agios Georgios**	**1.14**	**247**	*e*PN	Pg	07 45 15.8	+0.5	
AGG				*e*SN	Sg	07 45 31.4	+1.0	
AGG	**Agios Georgios**	**1.14**	**247**	*e*Pn	Pg	07 45 15.8	+0.5	
AGG				*e*Sn	Sg	07 45 31.4	+1.0	

ISCJB ***31*** *07:56:15.5±1.2, 15°.67S±0°.05×173°.49W±0°.04, h53km±10km, mb4.9/106, MS4.0/18, Error ellipse: s-maj=8.4km s-min=5.0km az=154.3*

MOS ***31*** *07:56:15.4±1.1, 15°.63S×173°.50W, h51km, mb5.1/38, Error ellipse: s-maj=10.3km s-min=7.8km az=141.9*

AUST ***31*** *07:56:17.4±0.6, 15°.68S×173°.08W, h68km, Error ellipse: s-maj=1.2km s-min=1.0km az=305.0*

NEIC ***31*** *07:56:17.5±1.1, 15°.66S×173°.45W, h58km±9km, mb4.9/70, Error ellipse: s-maj=8.0km s-min=4.6km az=144.0*

BJI ***31*** *07:56:20.5, 14°.77S×174°.06W, h54km, mB5.3/16, mb4.9/21, Ms5.2/12, Ms7 4.9/5*

IDC ***31*** *07:56:21.3±0.6, 15°.65S×173°.57W, h94km±5km, mb4.3/26, mb1 4.5/26, mb1mx4.5/28, mbtmp4.3/26, MS3.8/15, Ms1 3.8/15, ms1mx3.6/29, Error ellipse: s-maj=12.6km s-min=9.9km az=133.0*

GCMT ***31*** *07:56:22.6±0.3, 15°.56S×173°.07W, h99km±3km, MW5.0, Moment Tensor Solution. s37,c45; s76,c106; Moment tensor: Scale 10^16Nm; Mrr-1.64±.17; Mθθ-1.02±.19; Mφφ2.66±.18; Mrθ1.50±.10; Mrφ0.29±.16; Mθφ2.63±.09; Best double couple: M0 3.80000×10^16 NP1:φ333.00000°, δ26.00000°, λ-142.00000°. NP2:φ208.00000°, δ75.00000°, λ-69.00000°. Principal axes: T 4.0800, Plg27.0000°, Azm282.0000°; N -0.5600, Plg20.0000°, Azm22.0000°; P -3.5200, Plg56.0000°, Azm144.0000°; Data Used: ll IU G IC CN.*

ISC 31 07:56:17.2±0.3, 15°.64S±0°.05×173°.34W±0°.05, h57km±2km, h57km:pP-P, n616, σ1§10/635, mb4.9/106, MS4.0/18, 207C-167D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**42**	P	**Pn**	**07 56 53.7**	**+1.1**
	272nm,0.3s,baz=177,slow=1.0,SNR=234						
AFI				S	**Sn**	**07 57 17.5**	**-2.2**
	2µm,0.3s,baz=233,slow=20,SNR=25						
AFI	**Afiamalu**	**2.29**	**42**	*e*Pn	**Pn**	**07 56 53.8**	**+1.1**
AFI				*e*Sn	**Sn**	**07 57 16.4**	**-3.3**
NIUE	**Niue**	**4.73**	**137**	P	**Pn**	**07 57 26.6**	**+0.6**
	baz=4.5,SNR=369						
NIUE				S	**Sn**	**07 58 15.0**	**-4.5**
	baz=4.5,SNR=15						
MSVF	**Nonsavu**	**8.51**	**255**	*e*P	Pn	07 58 25.9	+8.0
MSVF	**Nonsavu**	**8.51**	**255**	*e*Pn	Pn	07 58 25.9	+8.0
RAR	**Rarotonga**	**14.02**	**115**	P	**Pn**	**07 59 32.1**	**-0.9**
	9.8nm,0.3s,baz=250,slow=8.4,SNR=17						
RAR				T	T	08 13 50.0	
	29nm,0.3s,baz=111,slow=22,SNR=7.3						
RAR	**Rarotonga**	**14.02**	**115**	*e*Pn	**Pn**	**07 59 32.5**	**-0.4**
RAR				TT		08 13 50.0	
DZM	**Mont Dzumac**	**20.16**	**248**	P	Pn	08 00 49.1	-0.4
	1.1nm,0.3s,baz=82,slow=15,SNR=16						
DZM				LR	LR	08 05 59.7	
	comp=Z,137nm,21.7s,baz=25,slow=29						
DZM	**Mont Dzumac**	**20.16**	**248**	*e*P	Pn	08 00 52.6	+3.1
	240nm,1.1s						
DZM				*e*LR	LR	08 05 45.9	
	962nm,27.9s						
DZM	**Mont Dzumac**	**20.16**	**248**	*e*P	Pn	08 00 49.4	-0.1
DZM	**Mont Dzumac**	**20.16**	**248**	P	Pn	08 00 49.1	-0.4
NOUC	**Port Laguerre**	**20.30**	**248**	*e*P	Pn	08 00 50.1	-0.9
TARA	**Tarawa**	**21.66**	**320**	*e*P	**P**	**08 01 05.5**	**+2.3**
	134nm,1.0s						
OUZ	**Omahuta**	**22.75**	**209**	*e*P	**P**	**08 01 15.7**	**+1.0**
	53nm,1.0s						
PAE	**Paea**	**22.85**	**98**	*e*P	**P**	**08 01 16.6**	**+0.7**
	14nm,1.2s						
PAE	**Paea**	**22.85**	**98**	*e*P	**P**	**08 01 16.6**	**+0.7**
PAE	**Paea**	**22.85**	**98**	*e*P	**P**	**08 01 16.6**	**+0.7**
PPT	**Papeete**	**22.85**	**98**	P	**P**	**08 01 17.1**	**+1.1**
	36nm,1.0s,baz=81,slow=15,SNR=3.6						
PPT	**Papeete**	**22.85**	**98**	P	**P**	**08 01 17.1**	**+1.1**
PPT2	**Papeete2**	**22.85**	**98**	*e*P	**P**	**08 01 16.7**	**+0.7**
	69nm,1.3s						
PPT2				*e*LQ	LQ	08 05 41.6	
	484nm,25.8s						
PPT2				*e*LR	LR	08 06 32.8	
	987nm,29.0s						
TIAR	**Tiarei**	**23.07**	**98**	*e*P	**P**	**08 01 18.5**	**+0.3**
	64nm,0.9s						
TIAR	**Tiarei**	**23.07**	**98**	*e*P	**P**	**08 01 18.5**	**+0.3**
TVO	**Taravao**	**23.17**	**99**	*e*P	**P**	**08 01 20.0**	**+0.9**
	113nm,1.1s						
TVO	**Taravao**	**23.17**	**99**	*e*P	**P**	**08 01 20.0**	**+0.9**
TVO	**Taravao**	**23.17**	**99**	*e*P	**P**	**08 01 20.0**	**+0.9**
TBI	**Tubuai**	**23.76**	**113**	*e*P	**P**	**08 01 25.2**	**+0.6**
	239nm,1.2s						
TBI				*e*LR	LR	08 07 02.6	
	925nm,31.2s						
TBI	**Tubuai**	**23.76**	**113**	*e*P	**P**	**08 01 25.2**	**+0.6**
URZ	**Urewera**	**24.06**	**199**	P	**P**	**08 01 26.9**	**-0.2**
	24nm,0.3s,baz=348,slow=3.0,SNR=32						
URZ	**Urewera**	**24.06**	**199**	*e*P	**P**	**08 01 26.8**	**-0.3**
	43nm,1.0s						
PMOR	**Pomariorio Ree**	**24.55**	**92**	*e*P	**P**	**08 01 32.4**	**+0.6**
	154nm,1.4s						
PMOR	**Pomariorio Ree**	**24.55**	**92**	*e*P	**P**	**08 01 32.4**	**+0.6**
RPZ	**Rata Peaks**	**30.99**	**202**	P	**P**	**08 02 29.2**	**0.0**
	12nm,0.7s,baz=33,slow=15,SNR=6.1						
RPZ	**Rata Peaks**	**30.99**	**202**	P	**P**	**08 02 29.2**	**0.0**
ARMA	**Armidale**	**35.27**	**239**	P	**P**	**08 03 07.7**	**+0.9**
	baz=36,SNR=4.5						
PMG	**Port Moresby**	**39.01**	**274**	P	**P**	**08 03 37.3**	**-1.3**
	14nm,1.0s,baz=288,slow=20,SNR=5.1						
PMG	**Port Moresby**	**39.01**	**274**	*e*P	**P**	**08 03 38.0**	**-0.6**
	21nm,1.0s						
QLP	**Quilpie**	**40.88**	**247**	P	**P**	**08 03 53.2**	**-0.8**
	baz=41,SNR=6.4						
COEN	**Coen**	**42.02**	**266**	*e*P	**P**	**08 04 02.9**	**-0.6**
	201nm,1.1s						
COEN				*e*		08 04 27.9	
COEN	**Coen**	**42.02**	**266**	P	**P**	**08 04 03.2**	**-0.3**
	baz=42,SNR=19						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**08 04 16.8**	**-2.3**
	7.4nm,0.6s,baz=91,slow=6.2,SNR=31						
STKA				LR	LR	08 22 02.9	
	comp=Z,75nm,18.1s,baz=200,slow=35						
STKA	**Stephens Creek**	**43.97**	**240**	*e*P	**P**	**08 04 17.6**	**-1.5**
	6.9nm,1.3s						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**08 04 17.8**	**-1.2**
	baz=44,SNR=12						
QIS	**Mount Isa**	**44.88**	**256**	P	P	08 04 12.8	-14
	baz=45,SNR=5.7						
BBOO	**Buckleboo**	**48.74**	**240**	*e*P	**P**	**08 04 54.3**	**-2.2**
	2µm,1.9s						
BBOO				*e*		08 05 17.1	
BBOO	**Buckleboo**	**48.74**	**240**	P	**P**	**08 04 55.0**	**-1.5**
	baz=49,SNR=11						
WRAB	**Tennant Creek**	**49.84**	**257**	*e*P	**P**	**08 05 02.8**	**-2.2**
WRAB				*e*		08 05 26.4	
WRAB				pmax	pmax		
	comp=Z,34nm,1.3s						
WRAB	**Tennant Creek**	**49.84**	**257**	*e*P	**P**	**08 05 02.8**	**-2.2**
	comp=Z,34nm,1.3s						
WRAB				*e*		08 05 26.4	
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**08 05 02.6**	**-2.5**
	comp=Z,4.3nm,0.6s,baz=94,slow=6.8,SNR=60						
WRA				pP	**pP**	**08 05 24.9**	**+4.8**
	comp=Z,13nm,1.0s,baz=89,slow=7.1,SNR=8.6						
WRA				LR	LR	08 23 40.5	
	comp=Z,61nm,21.8s,baz=110,slow=33						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**08 05 02.6**	**-2.5**
WRA				pP	**pP**	**08 05 24.9**	**+4.8**
AS31	**Alice Springs**	**50.09**	**252**	*e*P	**P**	**08 05 05.0**	**-1.9**
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**08 05 04.8**	**-2.1**
	comp=Z,16nm,0.5s,baz=87,slow=8.1,SNR=128						
ASAR				pP	pP	08 05 27.1	+5.1
	comp=Z,28nm,0.9s,baz=85,slow=8.6,SNR=3.5						
ASAR				S	S	08 12 08.5	-6.0
	comp=Z,1.5nm,1.0s,baz=90,slow=15,SNR=6.9						
ASAR				LR	LR	08 23 36.4	
	comp=Z,164nm,21.4s,baz=95,slow=33						
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**08 05 04.8**	**-2.1**
ASAR				pP	pP	08 05 27.1	+5.1
ASAR				S	S	08 12 08.5	-6.0
KDU	**Kakadu**	**52.51**	**266**	P	**P**	**08 05 25.8**	**+0.7**
	baz=53,SNR=3.3						
FORT	**Forrest**	**55.36**	**243**	*e*P	**P**	**08 05 43.7**	**-2.0**
	comp=Z,24nm,0.7s						
FITZ	**Fitzroy Crossi**	**58.22**	**258**	P	**P**	**08 06 05.9**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=73,slow=6.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**58.22**	**258**	*e*P	**P**	**08 06 07.1**	**+1.0**
	comp=Z,17nm,1.6s						
FITZ	**Fitzroy Crossi**	**58.22**	**258**	P	P	08 06 10.5	+4.4
	baz=58,SNR=3.8						
SBA	**Scott Base**	**63.02**	**185**	*e*P	**P**	**08 06 39.8**	**+2.0**
SBA				pmax	pmax		
	comp=Z,166nm,2.6s						
SBA	**Scott Base**	**63.02**	**185**	*e*P	**P**	**08 06 39.8**	**+2.0**
	comp=Z,166nm,2.6s						
VNDA	**Vanda**	**63.15**	**186**	P	**P**	**08 06 39.0**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=15,slow=7.5,SNR=17						
VNDA				pP	pP	08 07 03.5	+9.3
	comp=Z,5.1nm,0.9s,baz=9.2,slow=5.1,SNR=5.8						
VNDA				LR	LR	08 30 37.9	
	comp=Z,105nm,18.4s,baz=11,slow=33						
VNDA	**Vanda**	**63.15**	**186**	*e*P	**P**	**08 06 39.4**	**+0.7**
	comp=Z,7.4nm,1.0s						
VNDA				*e*		08 07 04.1	
MBWA	**Marble Bar**	**63.35**	**254**	*e*P	**P**	**08 06 39.8**	**-1.1**
	comp=Z,16nm,1.1s						
MEEK	**Meekatharra**	**63.78**	**248**	P	**P**	**08 06 42.3**	**-1.5**
	baz=64,SNR=6.0						
PCI	**Palu**	**67.46**	**276**	P	P	08 07 18.2	+11
	baz=68,SNR=12						
MJAR	**Matsushiro Arr**	**69.15**	**320**	P	**P**	**08 07 16.4**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=171,slow=6.4,SNR=6.7						
MJAR				LR	LR	08 31 48.5	
	comp=Z,49nm,20.1s,baz=190,slow=31						
MJAR	**Matsushiro Arr**	**69.15**	**320**	P	**P**	**08 07 16.4**	**-1.3**
FX1	**Attu Island--F**	**69.22**	**351**	LR	LR	08 29 29.9	
	comp=Z,93nm,21.3s,baz=295,slow=29						
BSC	**Santa Cruz Isl**	**71.05**	**45**	⇓P	**P**	**08 07 30.7**	**+1.3**
	baz=71						
PKM	**Peak Mountain**	**71.44**	**44**	⇑P	**P**	**08 07 33.7**	**+1.7**
	baz=72						
SMMC	**Simmler**	**71.56**	**44**	⇑P	**P**	**08 07 34.3**	**+1.8**
	baz=72						
PTRM	**Twissleman Ran**	**71.62**	**43**	*e*P	**P**	**08 07 34.6**	**+1.7**
ASAJ	**Asahikawa**	**71.77**	**328**	P	**P**	**08 07 34.0**	**+0.5**
	comp=Z,9.3nm,0.7s,baz=135,slow=2.9						
ASAJ	**Asahikawa**	**71.77**	**328**	*e*P	**P**	**08 07 34.3**	**+0.8**
	comp=Z,4.1nm,0.8s						
109C	**Camp Elliot, M**	**72.19**	**47**	⇑P	**P**	**08 07 37.4**	**+1.1**
	baz=72						
ARVC	**Arvin**	**72.24**	**44**	⇓P	**P**	**08 07 37.7**	**+1.2**
	baz=72						
MWC	**Mount Wilson**	**72.26**	**46**	*e*P	**P**	**08 07 37.6**	**+0.7**
MWC				pmax	pmax		
	comp=Z,15nm,0.7s						
MWC	**Mount Wilson**	**72.26**	**46**	*e*P	**P**	**08 07 37.6**	**+0.7**
	comp=Z,15nm,0.7s						
VES	**Vestal, Richgr**	**72.47**	**44**	⇓P	**P**	**08 07 38.9**	**+1.0**
	baz=73,SNR=14						
MURC	**Murrieta**	**72.51**	**47**	⇓P	**P**	**08 07 39.3**	**+1.1**
	baz=73						
BFSC	**Mount Baldy Ra**	**72.54**	**46**	⇑P	**P**	**08 07 39.3**	**+0.7**
	baz=73						
KHMM	**Horse Mountain**	**72.61**	**37**	*e*P	**P**	**08 07 40.2**	**+1.4**
	comp=Z,46nm,1.2s						
EDW2	**Edwards Air Fo**	**72.67**	**45**	⇓P	**P**	**08 07 40.1**	**+0.9**
	baz=73,SNR=14						
MONP	**Monument Peak**	**72.68**	**48**	⇑P	**P**	**08 07 40.3**	**+0.8**
	baz=73,SNR=9.2						
ISA	**Isabella**	**72.78**	**44**	*e*P	**P**	**08 07 40.9**	**+1.1**
ISA				pmax	pmax		
	comp=Z,23nm,1.2s						
ISA	**Isabella**	**72.78**	**44**	*e*P	**P**	**08 07 40.9**	**+1.1**
	comp=Z,23nm,1.2s						
ISA	**Isabella**	**72.78**	**44**	⇑P	**P**	**08 07 41.0**	**+1.1**
	baz=73,SNR=13						
PETK	**Petropavlovsk-**	**72.87**	**342**	P	**P**	**08 07 40.3**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=129,slow=12,SNR=6.8						
PETK				pP	PcP	08 08 04.5	+7.8
	comp=Z,6.1nm,0.8s,baz=111,slow=8.1,SNR=4.1						
PETK				LR	LR	08 37 33.3	
	comp=Z,24nm,19.1s,baz=279,slow=34						
PETK	**Petropavlovsk-**	**72.87**	**342**	P	**P**	**08 07 40.3**	**+0.4**
PETK				*PP	PcP	08 08 04.5	+7.8
PETK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PETK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**72.87**	**342**	P	**P**	**08 07 40.3**	**+0.4**
PETK				pP	PcP	08 08 04.5	+7.8
CMB	**Columbia Colle**	**72.90**	**41**	*e*P	**P**	**08 07 41.7**	**+1.2**
CMB				*e*		08 07 52.4	
CMB				pmax	pmax		
	comp=Z,20nm,1.1s						
CMB	**Columbia Colle**	**72.90**	**41**	*e*P	**P**	**08 07 41.7**	**+1.2**
	comp=Z,20nm,1.1s						
CMB				*e*		08 07 52.4	
OHCM	**Honcut**	**73.00**	**40**	*e*P	**P**	**08 07 42.0**	**+1.1**
PFO	**Pinyon Flat Ob**	**73.04**	**47**	*e*P	**P**	**08 07 41.9**	**+0.4**
	comp=Z,11nm,1.1s						
PFO	**Pinyon Flat Ob**	**73.04**	**47**	⇑P	**P**	**08 07 42.4**	**+0.9**
	baz=73,SNR=7.0						
WDC	**Whiskeytown Da**	**73.13**	**38**	*e*P	**P**	**08 07 42.5**	**+0.8**
WDC				pmax	pmax		
	comp=Z,30nm,1.4s						
WDC	**Whiskeytown Da**	**73.13**	**38**	*e*P	**P**	**08 07 42.5**	**+0.8**
	comp=Z,30nm,1.4s						
LRMC	**Laurel Mountai**	**73.20**	**45**	⇑P	**P**	**08 07 43.5**	**+1.0**
	baz=74,SNR=6.7						
CWC	**Cottonwood Cre**	**73.48**	**44**	⇓P	**P**	**08 07 45.6**	**+1.5**
	baz=74						
BELC	**Belle Mtn. Jos**	**73.57**	**47**	⇑P	**P**	**08 07 45.5**	**+0.9**
	baz=74,SNR=12						
MLAC	**Mammoth Lakes**	**73.66**	**42**	⇓P	**P**	**08 07 46.8**	**+1.6**
	baz=74						
MPMC	**Manual Prospec**	**73.66**	**44**	⇑P	**P**	**08 07 46.6**	**+1.4**
	baz=74,SNR=23						
MTUM	**Tungsten Hills**	**73.68**	**43**	*e*P	**P**	**08 07 46.8**	**+1.5**
GSC	**Goldstone**	**73.71**	**45**	*e*P	**P**	**08 07 46.5**	**+1.1**
GSC				pmax	pmax		
	comp=Z,20nm,1.1s						
GSC	**Goldstone**	**73.71**	**45**	*e*P	**P**	**08 07 46.5**	**+1.1**
	comp=Z,20nm,1.1s						
GSC	**Goldstone**	**73.71**	**45**	⇓P	**P**	**08 07 46.3**	**+0.9**
	baz=74,SNR=12						
YSS	**Yuzh-Sakhalins**	**73.72**	**330**	*e*P	**P**	**08 07 46.5**	**+1.5**
TIN	**Tinemaha**	**73.73**	**43**	⇑P	**P**	**08 07 47.0**	**+1.6**
	baz=74						
YBH	**Yreka Blue Hor**	**73.75**	**37**	*e*P	**P**	**08 07 46.8**	**+1.3**
	comp=Z,29nm,1.1s						
BC3	**Big Chuckawall**	**73.77**	**47**	⇑P	**P**	**08 07 46.7**	**+0.9**
	baz=74,SNR=12						
HEC	**Hector,Ludlow**	**73.78**	**46**	⇓P	**P**	**08 07 46.8**	**+1.0**
	baz=74,SNR=5.4						
GLA	**Glamis**	**73.90**	**48**	*e*P	**P**	**08 07 47.1**	**+0.6**
GLA				pmax	pmax		
	comp=Z,24nm,1.1s						
GLA	**Glamis**	**73.90**	**48**	*e*P	**P**	**08 07 47.1**	**+0.6**
	comp=Z,24nm,1.1s						
GLA	**Glamis**	**73.90**	**48**	⇑P	**P**	**08 07 47.6**	**+1.1**
	baz=74,SNR=7.6						
LHEM	**Herd Peak**	**73.97**	**37**	P	**P**	**08 07 48.4**	**+1.4**
LBCM	**Butte Creek Ri**	**74.00**	**38**	P	**P**	**08 07 48.1**	**+1.1**
WCN	**Washoe City**	**74.05**	**40**	*e*P	**P**	**08 07 48.8**	**+1.4**
WCN				pmax	pmax		
	comp=Z,26nm,1.1s						
WCN	**Washoe City**	**74.05**	**40**	*e*P	**P**	**08 07 48.8**	**+1.4**
	comp=Z,26nm,1.1s						
HUMO	**Hull Mountain**	**74.16**	**36**	*e*P	**P**	**08 07 49.6**	**+1.8**
	comp=Z,23nm,1.2s						
GMRC	**Granite Mounta**	**74.22**	**46**	⇑P	**P**	**08 07 49.2**	**+0.8**
	baz=74,SNR=8.2						
IRM	**Iron Mountain**	**74.25**	**47**	⇑P	**P**	**08 07 49.6**	**+1.2**
	baz=74,SNR=20						
GRAC	**Grapevine Rang**	**74.27**	**44**	⇑P	**P**	**08 07 49.9**	**+1.4**
	baz=74						
FURC	**Furnace Creek,**	**74.31**	**44**	⇑P	**P**	**08 07 49.9**	**+1.2**
	baz=75,SNR=8.7						
TUQ	**Turquoise Moun**	**74.39**	**46**	⇑P	**P**	**08 07 50.3**	**+0.9**
	baz=75,SNR=9.9						
SHOC	**Shoshone**	**74.39**	**45**	⇑P	**P**	**08 07 50.3**	**+1.0**
	baz=75,SNR=8.8						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**08 07 49.6**	**+0.6**
	comp=Z,39nm,0.9s,baz=42,slow=2.6,SNR=90						
QSPA	**South Pole Qui**	**74.41**	**180**	*e*P	**P**	**08 07 49.6**	**+0.6**
	comp=Z,40nm,0.9s						
QSPA				*e*		08 08 19.4	
NVAR	**Mina Array Bea**	**74.46**	**42**	P	**P**	**08 07 50.8**	**+0.9**
	comp=Z,14nm,1.0s,baz=241,slow=9.2,SNR=55						
NVAR	**Mina Array Bea**	**74.46**	**42**	P	**P**	**08 07 50.8**	**+0.9**
Y12C	**Blythe**	**74.48**	**48**	⇓P	**P**	**08 07 50.8**	**+1.0**
	baz=75,SNR=6.7						
113A	**Mohawk Valley,**	**74.53**	**49**	⇑P	**P**	**08 07 51.2**	**+1.1**
	baz=75,SNR=18						
LDFC	**Landfair**	**74.76**	**46**	*e*P	**P**	**08 07 53.1**	**+1.5**
	comp=Z,41nm,1.0s						
214A	**Organ Pipe Nat**	**74.82**	**50**	⇓P	**P**	**08 07 52.7**	**+0.9**
	baz=75,SNR=8.5						
NEE2	**Needles Airpor**	**74.94**	**47**	⇓P	**P**	**08 07 53.8**	**+1.3**
	baz=75						
PDMCI	**Parker Dam,Lak**	**75.04**	**47**	⇑P	**P**	**08 07 54.0**	**+1.1**
	baz=75,SNR=7.0						
MOD	**Modoc**	**75.27**	**38**	*e*P	**P**	**08 07 55.2**	**+0.8**
	comp=Z,29nm,1.1s						
Z14A	**Wintersburg**	**75.42**	**49**	⇑P	**P**	**08 07 56.3**	**+1.1**
	baz=76,SNR=11						
W13A	**Hualapai Mount**	**75.63**	**47**	⇓P	**P**	**08 07 57.8**	**+1.1**
	baz=76,SNR=6.5						
Y14A	**Wickenburg**	**75.66**	**48**	⇓P	**P**	**08 07 57.7**	**+1.1**
	baz=76,SNR=19						
R11A	**Troy Canyon, C**	**76.19**	**43**	⇑P	**P**	**08 08 00.8**	**+1.1**
	baz=76						
BMN	**Battle Mountai**	**76.29**	**41**	*e*P	**P**	**08 08 01.5**	**+1.2**
BMN				pmax	pmax		
	comp=Z,20nm,1.1s						
BMN	**Battle Mountai**	**76.29**	**41**	*e*P	**P**	**08 08 01.5**	**+1.2**
	comp=Z,20nm,1.1s						
KSRS	**Korea Array**	**76.37**	**316**	P	**P**	**08 07 58.6**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=103,slow=8.9,SNR=3.5						
KSRS				LR	LR	08 38 36.3	
	comp=Z,21nm,18.5s,baz=95,slow=33						
KSAR	**Wonju Array Be**	**76.39**	**316**	P	**P**	**08 07 58.6**	**-2.0**
TUC	**Tucson**	**76.49**	**51**	*e*P	**P**	**08 08 02.5**	**+1.0**
TUC				pmax	pmax		
	comp=Z,15nm,1.0s						
TUC	**Tucson**	**76.49**	**51**	*e*P	**P**	**08 08 02.5**	**+1.0**
	comp=Z,15nm,1.0s						
VIPM	**Ingram Point**	**76.68**	**36**	P	**P**	**08 08 03.2**	**+0.9**
VIPM	**Ingram Point**	**76.68**	**36**	P	**P**	**08 08 03.2**	**+0.9**
VFP	**Flag Point**	**76.71**	**35**	P	**P**	**08 08 03.4**	**+0.9**
X16A	**Lo Mia Camp, P**	**77.03**	**48**	⇓P	**P**	**08 08 06.2**	**+1.6**
	baz=77,SNR=31						
319A	**Douglas**	**77.19**	**52**	⇓P	**P**	**08 08 06.8**	**+1.3**
	baz=77,SNR=9.0						
CCUT	**Cedar City**	**77.26**	**45**	*e*P	**P**	**08 08 07.4**	**+1.6**
	comp=Z,21nm,1.3s						
ARUT	**Antelope Range**	**77.33**	**45**	*e*P	**P**	**08 08 06.5**	**+0.4**
ARUT				pmax	pmax		
	comp=Z,44nm,1.6s						
ARUT	**Antelope Range**	**77.33**	**45**	*e*P	**P**	**08 08 06.5**	**+0.4**
	comp=Z,44nm,1.6s						
U15A	**North Rim**	**77.42**	**46**	⇓P	**P**	**08 08 08.0**	**+1.2**
	baz=78						
USRK	**Ussuriysk Arra**	**77.60**	**323**	P	**P**	**08 08 06.9**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=116,slow=4.5,SNR=5.6						
WUAZ	**Wupatki**	**77.61**	**47**	⇑P	**P**	**08 08 08.9**	**+1.2**
	baz=78,SNR=11						
ELK	**Elko**	**77.72**	**41**	*e*P	**P**	**08 08 09.3**	**+1.0**
320A	**Kipp Ranch, An**	**77.75**	**52**	⇑P	**P**	**08 08 09.8**	**+1.2**
	baz=78						
220A	**

L14A **Malta** 79.68 41 ⇑P P 08 08 20.2 +1.2
baz=80
X21A **Alamocita Cree** 79.70 50 ⇑P P 08 08 21.0 +1.5
baz=80,SNR=8.3
HLID **Hailey** 79.77 39 *e*P P 08 08 20.3 +0.8
comp=Z,16nm,1.1s
HLID **Hailey** 79.77 39 ⇓P P 08 08 20.7 +1.2
baz=80,SNR=16
Z22A **Elephant Butte** 79.78 51 ⇑P P 08 08 21.1 +1.3
baz=80,SNR=16
V20A **Brimhall** 79.83 48 ⇓P P 08 08 21.2 +1.1
baz=80
HVU **Hansel Valley** 79.84 41 *e*P P 08 08 20.4 +0.5
HVU pmax pmax
comp=Z,18nm,1.5s
HVU **Hansel Valley** 79.84 41 *e*P P 08 08 20.4 +0.5
comp=Z,18nm,1.5s
M15A **Larsen Ranch,** 79.89 42 ⇑P P 08 08 21.2 +1.1
baz=80
SRU **San Rafael** 79.97 45 *e*P P 08 08 21.3 +0.6
SRU pmax pmax
comp=Z,610nm,1.5s
SRU **San Rafael** 79.97 45 *e*P P 08 08 21.3 +0.6
comp=Z,610nm,1.5s
SRU **San Rafael** 79.97 45 ⇓P P 08 08 21.5 +0.8
baz=80,SNR=8.2
K14A **Jones Ranch, D** 79.99 41 ⇓P P 08 08 21.7 +1.0
baz=80,SNR=11
P17A **Butcher Ranch,** 80.00 44 ⇑P P 08 08 22.2 +1.3
baz=80
H12A **Diamond D Ranc** 80.05 38 ⇑P P 08 08 21.5 +0.5
baz=80,SNR=9.6
U20A **Newcomb** 80.06 48 ⇑P P 08 08 22.5 +1.3
baz=80,SNR=7.5
Y22A **Socorro** 80.08 51 ⇓P P 08 08 22.6 +1.2
baz=80,SNR=8.4
G12A **Big Creek, Yel** 80.09 38 ⇑P P 08 08 22.0 +0.8
baz=80
JLU **Jordanelle** 80.09 43 *e*P P 08 08 22.4 +1.0
comp=Z,12nm,1.4s
W21A **San Fidel** 80.11 49 ⇓P P 08 08 22.7 +1.1
baz=80,SNR=5.8
324A **Moseley Ranch,** 80.13 53 ⇑P P 08 08 22.1 +0.4
baz=80,SNR=20
I13A **Wildhorse Cree** 80.14 39 ⇑P P 08 08 22.5 +0.9
baz=80,SNR=6.0
LAZ **Ladron** 80.16 50 *e*P P 08 08 22.9 +1.1
comp=Z,22nm,1.8s
J14A **Carey** 80.19 40 ⇓P P 08 08 23.2 +1.5
baz=80,SNR=15
L15A **Malad City** 80.21 41 ⇑P P 08 08 22.4 +0.6
baz=80
425A **Indio Mountain** 80.24 54 ⇑P P 08 08 23.4 +1.1
baz=80,SNR=22
N16A **Rees Ranch, Co** 80.25 43 ⇑P P 08 08 23.1 +0.9
baz=80,SNR=5.5
X22A **Bernardo** 80.30 50 ⇓P P 08 08 23.8 +1.2
baz=80
Z23A **Rita Site, Whi** 80.34 52 ⇑P P 08 08 24.0 +1.2
baz=81
NJ2 **Nanjing** 80.35 307 *e*P P 08 08 22.5 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
O17A **Robinson Place** 80.36 44 ⇓P P 08 08 23.7 +0.9
baz=81,SNR=10
224A **Cornudas Mount** 80.37 53 ⇑P P 08 08 24.0 +1.0
baz=81,SNR=7.7
626A **Big Bend Ranch** 80.41 56 ⇓P P 08 08 24.0 +0.9
baz=81,SNR=19
P18A **Preston Nutter** 80.41 44 ⇓P P 08 08 24.3 +1.1
baz=81
H13A **Challis** 80.41 38 ⇑P P 08 08 23.8 +0.9
baz=81,SNR=8.9
V21A **Milan** 80.43 49 ⇓P P 08 08 24.5 +1.2
baz=81
BNM **Barren Site** 80.43 51 *e*P P 08 08 24.2 +0.9
comp=Z,12nm,1.2s
K15A **Arbon** 80.47 41 ⇑P P 08 08 24.5 +1.2
baz=81
F12A **Elk City** 80.48 37 ⇑P P 08 08 24.1 +0.9
baz=81,SNR=20
LPM **Los Pinos Moun** 80.50 50 *e*P P 08 08 24.9 +1.2
325A **Bean Ranch, Si** 80.50 54 ⇑P P 08 08 24.5 +0.8
baz=81,SNR=27
HWUT **Hardware Ranch** 80.53 42 *e*P P 08 08 23.5 -0.1
comp=Z,8.9nm,1.4s
I14A **Mackay** 80.56 39 ⇑P P 08 08 25.1 +1.3
baz=81
526A **Mary Lane Ranc** 80.65 55 ⇑P P 08 08 25.4 +0.9
baz=81,SNR=14
W22A **Albuquerque** 80.66 50 ⇑P P 08 08 25.8 +1.3
baz=81
N17A **Moffit Pass** 80.67 43 ⇑P P 08 08 25.7 +1.2
baz=81
124A **Stringfield Ra** 80.69 52 ⇓P P 08 08 25.6 +0.8
baz=81,SNR=6.7
TXAR **Lajitas Array** 80.69 56 P P 08 08 25.4 +0.7
comp=Z,10nm,1.1s,baz=224,slow=5.0,SNR=52
TXAR LR LR 08 38 15.8
comp=Z,66nm,18.9s,baz=10.0,slow=31
TXAR **Lajitas Array** 80.69 56 P P 08 08 25.4 +0.7
U21A **Nageezi** 80.70 48 ⇑P P 08 08 25.9 +1.2
baz=81,SNR=20
G13A **Cobalt** 80.72 38 ⇑P P 08 08 25.0 +0.6
baz=81,SNR=7.4
Q19A **Hogan Spring (** 80.75 45 ⇑P P 08 08 25.5 +0.7
baz=81,SNR=7.7
Y23A **Lovelace Mesa,** 80.76 51 ⇓P P 08 08 25.9 +0.8
baz=81,SNR=9.2
L16A **Fish Haven** 80.82 42 ⇑P P 08 08 26.2 +1.0
baz=81
S20A **Disappointment** 80.85 47 ⇑P P 08 08 26.4 +0.9
baz=81,SNR=9.8
O18A **Roosevelt** 80.88 44 ⇓P P 08 08 26.6 +1.1
baz=81
J15A **Blackfoot** 80.90 40 ⇓P P 08 08 26.6 +1.1
baz=81,SNR=13
ANMO **Albuquerque** 80.91 50 *e*P P 08 08 26.3 +0.5
comp=Z,34nm,1.8s
225A **Deer Hill, Car** 80.92 53 ⇓P P 08 08 26.9 +1.0
baz=81,SNR=19
426A **McDonald Obser** 80.95 55 ⇑P P 08 08 26.9 +0.7
baz=81,SNR=28
X23A **Hourglass Bar** 80.95 50 ⇓P P 08 08 27.0 +0.9
baz=81
627A **Terlingua Ranc** 80.96 56 ⇓P P 08 08 27.2 +1.1
baz=81,SNR=26
H14A **Leadore** 80.97 39 ⇓P P 08 08 26.8 +0.8
baz=81,SNR=7.1
R20A **Redvale** 81.00 46 ⇓P P 08 08 27.1 +0.8
baz=81,SNR=6.6
Z24A **Sheeppen Canyo** 81.02 52 ⇓P P 08 08 27.5 +1.0
baz=81
F13A **Darby** 81.04 37 ⇑P P 08 08 26.6 +0.5
baz=81
T21A **Navajo Lake** 81.04 48 ⇑P P 08 08 27.3 +0.7
baz=81,SNR=5.7
527A **Woodward Ranch** 81.06 55 ⇑P P 08 08 27.2 +0.5
baz=81,SNR=13
K16A **Soda Springs** 81.14 41 ⇓P P 08 08 27.5 +0.6
baz=81,SNR=6.5
D12A **Red Ives Fores** 81.15 36 ⇑P P 08 08 27.3 +0.6
baz=81
S21A **Coal Bank Pass** 81.17 47 ⇑P P 08 08 28.2 +0.9
baz=81,SNR=17
I15A **Monteview** 81.19 40 ⇑P P 08 08 28.1 +1.1
baz=82
Y24A **Capitan** 81.22 51 ⇑P P 08 08 28.4 +0.9
baz=82,SNR=12
W23A **Werner Place,** 81.23 50 ⇓P P 08 08 28.3 +0.8
baz=82
326A **Caldwell Ranch** 81.25 54 ⇑P P 08 08 28.0 +0.4
baz=82,SNR=5.7
U22A **Llaves** 81.25 48 ⇑P P 08 08 28.5 +0.8
baz=82,SNR=6.0
G14A **Jackson** 81.26 38 ⇑P P 08 08 28.6 +1.2
baz=82
P19A **Cripple Cowboy** 81.27 45 ⇑P P 08 08 28.3 +0.6
baz=82,SNR=5.1
125A **Gardner Draw,** 81.28 53 ⇑P P 08 08 28.3 +0.6
baz=82,SNR=7.1
CN2 **Changchun** 81.30 320 *e*P P 08 08 28.0 +0.6
CN2 *ep*P pP 08 08 45.0 +1.5
CN2 *es*P sP 08 08 51.5 +1.7
CN2 *e*S S 08 18 33.3 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
GDL2 **Guadalupe Moun** 81.31 53 *e*P P 08 08 29.0 +1.0
628A **Black Gap, Mar** 81.38 56 ⇓P P 08 08 29.3 +1.0
baz=82,SNR=12
MCMT **McKenzie Canyo** 81.40 39 *e*P P 08 08 28.9 +0.7
comp=Z,8.2nm,1.5s
H15A **Lima** 81.41 39 ⇑P P 08 08 29.6 +1.3
baz=82,SNR=7.9
M18A **Lyman** 81.41 43 ⇑P P 08 08 29.7 +1.3
baz=82
Q20A **Ridgley Place,** 81.42 46 ⇑P P 08 08 29.4 +1.0
baz=82,SNR=7.3
C12B **Naegeli Ranch,** 81.45 35 ⇑P P 08 08 28.5 +0.2
baz=82
V23A **Ortiz Mt. (NFS** 81.46 49 ⇓P P 08 08 30.1 +1.3
baz=82,SNR=16
E13A **Victor** 81.48 37 ⇑P P 08 08 28.2 -0.3
baz=82,SNR=8.5
O19A **Miners Draw (B** 81.49 44 ⇓P P 08 08 29.3 +0.5
baz=82
Z25A **Roswell** 81.49 52 ⇓P P 08 08 29.8 +0.9
baz=82
T22A **Edith** 81.50 48 ⇑P P 08 08 29.7 +0.7
baz=82,SNR=9.3
427A **Hayter Ranch,** 81.51 55 ⇓P P 08 08 29.7 +0.7
baz=82,SNR=25
K17A **Gardner Place,** 81.52 41 ⇓P P 08 08 29.6 +0.7
baz=82,SNR=6.6
RRI2 **Red Ridge** 81.57 41 *e*P P 08 08 29.7 +0.5
comp=Z,25nm,1.3s
F14A **Wisdom** 81.61 38 ⇑P P 08 08 30.2 +0.9
baz=82
R21A **Cimarron** 81.66 46 ⇓P P 08 08 30.9 +1.1
baz=82,SNR=21
D13A **Huson** 81.68 36 ⇓P P 08 08 29.2 -0.3
baz=82,SNR=9.3
U23A **El Rito** 81.71 49 ⇑P P 08 08 31.1 +1.0
baz=82,SNR=20
528A **Cox Ranch, San** 81.72 56 ⇑P P 08 08 31.0 +0.8
baz=82,SNR=19
I16A **Newdale** 81.74 40 ⇓P P 08 08 31.0 +1.0
baz=82,SNR=11
N19A **John Jarvie Ra** 81.74 44 ⇓P P 08 08 30.7 +0.7
baz=82
126A **Clayton Basin,** 81.76 53 ⇑P P 08 08 30.6 +0.3
baz=82,SNR=9.9
Y25A **Mesa, Roswell** 81.78 51 ⇑P P 08 08 30.8 +0.4
baz=82,SNR=11
DCID1 **Drake Creek** 81.78 40 *e*P P 08 08 31.6 +1.3
comp=Z,33nm,1.4s
G15A **Dillon** 81.80 39 ⇑P P 08 08 31.1 +0.8
baz=82,SNR=12
W24A **Lazy 6 Ranch,** 81.80 50 ⇓P P 08 08 30.8 +0.3
baz=82,SNR=12
MSO **Missoula** 81.83 37 *e*P P 08 08 30.1 -0.3
comp=Z,15nm,1.6s
MSO **Missoula** 81.83 37 ⇓P P 08 08 30.3 0.0
baz=82,SNR=6.2
DLMT **Dillon** 81.83 38 *e*P P 08 08 30.9 +0.5
comp=Z,22nm,1.6s
Q21A **Lamborn Mesa,** 81.86 46 ⇑P P 08 08 31.6 +0.8
baz=82,SNR=10
E14A **Clinton** 81.87 37 ⇓P P 08 08 31.0 +0.4
baz=82,SNR=9.8
TPAW **Teton Pass** 81.88 41 *e*P P 08 08 31.4 +0.6
comp=Z,26nm,1.4s
S22A **4UR Ranch, Cre** 81.89 47 ⇑P P 08 08 32.2 +1.1
baz=82,SNR=21
BSMT **Bassoo Peak** 81.92 35 *e*P P 08 08 31.1 +0.2
C13A **Hot Springs** 81.94 36 ⇓P P 08 08 31.1 +0.3
baz=82
J17A **Brown Place, J** 81.96 41 ⇑P P 08 08 32.3 +1.1
baz=82,SNR=13
SNOW **Snow King Moun** 81.98 41 *e*P P 08 08 32.4 +1.0
comp=Z,23nm,1.3s
O20A **White River Ci** 82.01 45 ⇓P P 08 08 32.2 +0.7
baz=82
K18A **Toltan Ranch,** 82.03 42 ⇓P P 08 08 32.8 +1.2
baz=82,SNR=19
428A **Kincaid Ranch,** 82.03 55 ⇑P P 08 08 32.7 +1.0
baz=82,SNR=10.0
M19A **Rock Springs** 82.05 43 ⇑P P 08 08 32.0 +0.3
baz=82,SNR=5.2
Z26A **Caprock** 82.05 52 ⇑P P 08 08 32.4 +0.6
baz=82,SNR=17
X25A **Clemmons Ranch** 82.06 51 ⇓P P 08 08 32.6 +0.7
baz=82,SNR=13
227A **Bennet, Jal** 82.07 54 ⇓P P 08 08 32.4 +0.6
baz=82
IMW **Indian Meadow** 82.09 40 *e*P P 08 08 32.4 +0.5
comp=Z,23nm,1.4s
V24A **Rampart Ranch,** 82.12 50 ⇓P P 08 08 33.1 +0.9
baz=82
T23A **Casias Ranch,** 82.13 48 ⇓P P 08 08 33.2 +0.9
baz=82,SNR=6.7
MOOW **Moose Ponds** 82.14 41 *e*P P 08 08 32.3 +0.1
comp=Z,13nm,1.5s
F15A **Butte** 82.15 38 ⇓P P 08 08 32.6 +0.4
baz=82
R22A **Saguache, Gunn** 82.15 47 ⇑P P 08 08 33.9 +1.4
baz=82,SNR=15
LOHW **Long Hollow** 82.16 41 *e*P P 08 08 32.4 +0.1
comp=Z,17nm,1.4s
529A **Stev Forest Ra** 82.16 56 ⇓P P 08 08 33.1 +0.7
baz=82,SNR=6.2
328A **Wristen Ranch,** 82.19 54 ⇓P P 08 08 32.8 +0.3
baz=82,SNR=12
L19A **Farson** 82.21 42 ⇓P P 08 08 33.2 +0.6
baz=82,SNR=8.4
D14A **Greenough** 82.22 37 ⇑P P 08 08 32.2 -0.2
baz=82,SNR=5.5
G16A **Moss Hill, Enn** 82.24 39 ⇑P P 08 08 33.2 +0.6
baz=82,SNR=7.5
P21A **Newcastle** 82.26 45 ⇓P P 08 08 33.9 +1.0
baz=82,SNR=6.9
QLMT **Earthquake Lak** 82.26 39 *e*P P 08 08 34.3 +1.5
CHMT **Chamberlain Mo** 82.28 37 *e*P P 08 08 32.8 0.0
127A **Arkansas Junct** 82.28 53 ⇑P P 08 08 33.7 +0.6
baz=82,SNR=5.5
H16A **Russell Place,** 82.31 39 ⇓P P 08 08 34.1 +1.1
baz=83,SNR=20
N20A **Spence Gulch,** 82.32 44 ⇑P P 08 08 33.9 +0.7
baz=83,SNR=8.7
J18A **Kendall Valley** 82.32 41 ⇑P P 08 08 33.9 +0.8
baz=83,SNR=31
I17A **Pilgrim Ck.** 82.33 40 ⇑P P 08 08 34.2 +1.1
baz=83,SNR=9.1
Q22A **Crested Butte,** 82.33 46 ⇑P P 08 08 34.3 +0.9
baz=83,SNR=17
E15A **Deer Lodge** 82.37 37 ⇓P P 08 08 34.0 +0.8
baz=83
B13A **Whitefish** 82.39 35 ⇑P P 08 08 33.1 -0.1
baz=83
BW06 **Boulder Array** 82.40 42 *e*P P 08 08 33.0 -0.5
comp=Z,18nm,1.4s
BW06 **Boulder Array** 82.40 42 ⇑P P 08 08 33.8 +0.3
baz=83,SNR=12
PDAR **Pinedale Array** 82.40 42 P P 08 08 33.5 -0.1
comp=Z,6.7nm,1.0s,baz=222,slow=2.4,SNR=32
PDAR LR LR 08 42 22.6
comp=Z,80nm,18.9s,baz=350,slow=33
PDAR **Pinedale Array** 82.40 42 P P 08 08 33.5 -0.1
U24A **Moreno Valley** 82.41 49 ⇑P P 08 08 35.3 +1.4
baz=83
SMCO **Snowmass** 82.43 46 *e*P P 08 08 35.0 +1.0
comp=Z,27nm,1.4s
W25A **X Bar L Ranch,** 82.50 50 ⇑P P 08 08 34.6 +0.4
baz=83,SNR=12
BOZ **Bozeman (W)** 82.56 39 *e*P P 08 08 34.6 +0.4
BOZ pmax pmax
comp=Z,20nm,1.5s
BOZ **Bozeman (W)** 82.56 39 *e*P P 08 08 34.6 +0.4
comp=Z,20nm,1.5s
BOZ **Bozeman (W)** 82.56 39 ⇑P P 08 08 35.2 +1.0
baz=83,SNR=8.1
O21A **Pagoda** 82.57 45 ⇓P P 08 08 35.1 +0.6
baz=83
H17A **Grant Village** 82.57 40 ⇓P P 08 08 35.8 +1.4
baz=83
COLA **College** 82.58 11 *e*P P 08 08 33.4 -0.2
COLA pmax pmax
comp=Z,17nm,1.1s
COLA **College** 82.58 11 *e*P P 08 08 33.4 -0.2
comp=Z,17nm,1.1s
429A **Davenport Ranc** 82.62 55 ⇑P P 08 08 35.2 +0.5
baz=83,SNR=29
F16A **Kennard Place,** 82.64 38 ⇓P P 08 08 35.2 +0.6
baz=83,SNR=6.0
V25A **Rancho No Teng** 82.65 50 ⇑P P 08 08 35.6 +0.6
baz=83,SNR=27
228A **UT Block 9, Go** 82.65 54 ⇑P P 08 08 35.6 +0.6
baz=83
Z27A **Tatum** 82.65 53 ⇓P P 08 08 35.2 +0.3
baz=83,SNR=10
ILAR **Eielson Array** 82.66 11 P P 08 08 33.5 -0.6
comp=Z,2.2nm,0.6s,baz=219,slow=5.6,SNR=56
ILAR pP pP 08 08 59.1 +8.9
comp=Z,3.8nm,1.1s,baz=214,slow=7.4,SNR=2.9
ILAR LR LR 08 46 27.4
comp=Z,57nm,18.1s,baz=271,slow=36
ILAR **Eielson Array** 82.66 11 P P 08 08 33.5 -0.6
ILAR pP pP 08 08 59.1 +8.9
M20A **Sweetwater, Wa** 82.68 43 ⇑P P 08 08 35.6 +0.6
baz=83,SNR=7.5
I18A **Diamond G Ranc** 82.69 41 ⇑P P 08 08 35.9 +0.8
baz=83,SNR=6.4
X26A **CR and CF Fran** 82.71 51 ⇓P P 08 08 36.0 +0.8
baz=83
A13A **Flathead Natio** 82.73 35 ⇓P P 08 08 35.6 +0.7
baz=83
SEY **Seymchan** 82.76 345 ⇑*e*P P 08 08 33.9 -0.7
LKWY **Lake** 82.76 40 *e*P P 08 08 37.1 +1.7
LKWY pmax pmax
comp=Z,21nm,1.4s
LKWY **Lake** 82.76 40 *e*P P 08 08 37.1 +1.7
comp=Z,21nm,1.4s
D15A **Lincoln** 82.77 37 ⇑P P 08 08 35.8 +0.5
baz=83
P22A **Eagle** 82.77 46 ⇓P P 08 08 36.3 +0.7
baz=83,SNR=6.8
N21A **Black Mountain** 82.78 44 ⇓P P 08 08 36.4 +0.8
baz=83,SNR=15
R23A **Moffat** 82.79 47 ⇑P P 08 08 36.4 +0.6
baz=83,SNR=12
L20A **Wamsutter** 82.83 43 ⇑P P 08 08 36.9 +1.1
baz=83,SNR=17
T24A **Torres, Weston** 82.86 48 ⇑P P 08 08 37.2 +1.1
baz=83
530A **J-C Ranch, Com** 82.88 56 ⇑P P 08 08 36.6 +0.5
baz=83,SNR=5.2
329A **Wagon Wheel Ra** 82.88 55 ⇑P P 08 08 36.8 +0.6
baz=83,SNR=12
K19A **Absolon Red Bu** 82.89 42 ⇑P P 08 08 36.1 0.0
baz=83,SNR=9.5
Y27A **Causey** 82.92 52 ⇑P P 08 08 36.9 +0.5
baz=83,SNR=13
G17A **Pierce Place,** 82.93 39 ⇑P P 08 08 37.2 +1.1
baz=83
128A **Castleberry Fa** 82.94 53 ⇑P P 08 08 36.9 +0.5
baz=83,SNR=10
J19A **Crowheart** 82.97 42 ⇓P P 08 08 36.9 +0.5
baz=83,SNR=13
E16A **East Helena** 83.00 38 ⇓P P 08 08 37.1 +0.6
baz=83,SNR=5.6
U25A **Circle Dot Ran** 83.04 49 ⇑P P 08 08 37.6 +0.7
baz=83,SNR=16
B14A **Marquette Ranc** 83.05 36 ⇓P P 08 08 38.2 +1.6
baz=83
QIZ **Qiongzhong** 83.05 292 P P 08 08 37.8 +0.7
QIZ S S 08 18 53.0 +0.4
QIZ pmax pmax
comp=Z,21nm,1.4s
WALA **Waterton Lakes** 83.07 35 *e*P P 08 08 36.2 -0.5
comp=Z,12nm,1.1s
C15A **Salmond Ranch,** 83.11 36 ⇑P P 08 08 37.2 +0.2
baz=83,SNR=5.6
K20A **Yellowstone Ra** 83.13 42 ⇑P P 08 08 37.5 +0.2
baz=83,SNR=11
O22A **Kremmling** 83.17 45 ⇓P P 08 08 38.2 +0.5
baz=83,SNR=12
430A **Baggett Ranch,** 83.20 56 ⇓P P 08 08 37.6 -0.2
baz=83,SNR=5.6
229A **Bryant Ranch,** 83.20 54 ⇑P P 08 08 38.3 +0.5
baz=83
631A **Perdido Creek** 83.21 57 ⇓P P 08 08 38.1 +0.4
baz=83,SNR=12
V26A **Tequesquite Ra** 83.24 50 ⇑P P 08 08 38.3 +0.3
baz=84,SNR=7.2
MSTX **Muleshoe** 83.26 52 ⇓P P 08 08 38.7 +0.7
baz=84,SNR=23
H18A **Shoshone NF, C** 83.27 40 ⇓P P 08 08 38.8 +0.8
baz=84
Z28A **Tucker Farm, M** 83.28 53 ⇓P P 08 08 38.7 +0.5
baz=84,SNR=12
F17A **Fitzpatrick Pl** 83.28 39 ⇓P P 08 08 38.9 +0.9
baz=84,SNR=6.2
M21A **Separation Pea** 83.28 44 ⇓P P 08 08 38.6 +0.4
baz=84,SNR=11
X27A **F and S Farms,** 83.28 51 ⇑P P 08 08 38.9 +0.7
baz=84,SNR=12
A14A **Double T Ranch** 83.30 35 ⇓P P 08 08 37.5 -0.4
baz=84
R24A **Sanders Place,** 83.32 47 ⇓P P 08 08 39.1 +0.7
baz=84
D16A **Dana Ranch, Ca** 83.33 37 ⇓P P 08 08 38.8 +0.6
baz=84,SNR=5.9
T25A **Trinidad** 83.35 49 ⇓P P 08 08 38.9 +0.3
baz=84,SNR=6.7
I19A **Meeteetse** 83.38 41 ⇑P P 08 08 39.4 +0.8
baz=84,SNR=7.8
129A **Stewart Farms,** 83.42 54 ⇑P P 08 08 39.6 +0.8
baz=84,SNR=11
B15A **Bradely Ranch,** 83.42 36 ⇓P P 08 08 38.1 -0.4
baz=84,SNR=5.5
E17A **Martinsdale** 83.44 38 ⇑P P 08 08 39.2 +0.4
baz=84
L21A **Rawlins** 83.44 43 ⇓P P 08 08 39.2 +0.2
baz=84,SNR=6.0
732A **Laxson Ranch,** 83.45 58 ⇑P P 08 08 39.2 +0.2
baz=84
W27A **Bowe Ranch, En** 83.48 51 ⇓P P 08 08 39.7 +0.6
baz=84,SNR=25
330A **Mertzon** 83.49 55 ⇑P P 08 08 39.2 0.0
baz=84
531A **Rocksprings** 83.52 56 ⇓P P 08 08 39.8 +0.4
baz=84,SNR=15
U26A **Atchley Ranch,** 83.52 50 ⇑P P 08 08 40.0 +0.5
baz=84,SNR=16
N22A **Wattenberg Ran** 83.52 45 ⇑P P 08 08 40.2 +0.7
baz=84,SNR=12
S25A **Robets Cordova** 83.56 48 ⇑P P 08 08 40.2 +0.6
baz=84,SNR=11
Q24A **Divide** 83.61 47 ⇑P P 08 08 40.8 +0.8
baz=84
C16A **Fuhringer Ranc** 83.62 37 ⇓P P 08 08 40.0 +0.4
baz=84
O23A **Lake Granby, G** 83.62 45 ⇑P P 08 08 40.8 +0.8
baz=84
J20A **Shoshoni** 83.63 42 ⇓P P 08 08 40.3 +0.5
baz=84,SNR=12
Y28A **McKinney Farm,** 83.63 52 ⇓P P 08 08 40.2 +0.3
baz=84,SNR=6.9
G18A **Lazy EL Ranch,** 83.65 40 ⇑P P 08 08 40.5 +0.6
baz=84,SNR=7.8
ISCO **Idaho Springs** 83.65 46 ⇑P P 08 08 40.4 +0.2
baz=84
431A **Sonora** 83.66 56 ⇑P P 08 08 40.5 +0.3
baz=84
A15A **Johnson Ranch,** 83.68 35 ⇓P P 08 08 40.1 +0.2
baz=84,SNR=6.1
H19A **Powell** 83.69 40 ⇑P P 08 08 41.3 +1.3
baz=84,SNR=10
M22A **Cedar Creek Ra** 83.70 44 ⇑P P 08 08 41.0 +0.6
baz=84,SNR=7.3
230A **Sterling City** 83.72 55 ⇓P P 08 08 40.4 0.0
baz=84,SNR=5.4
RLMT **Red Lodge** 83.74 40 *e*P P 08 08 40.9 +0.5
comp=Z,18nm,1.4s
RLMT **Red Lodge** 83.74 40 ⇓P P 08 08 41.2 +0.8
baz=84,SNR=8.2
Z29A **Hungry Hill Ra** 83.79 53 ⇓P P 08 08 40.9 +0.1
baz=84,SNR=13
K21A **Alcova** 83.83 43 ⇑P P 08 08 41.4 +0.5
baz=84,SNR=10
F18A **Big Timber** 83.85 39 ⇓P P 08 08 41.8 +1.0
baz=84,SNR=7.1
R25A **Fountain Ranch** 83.87 48 ⇓P P 08 08 41.5 +0.4
baz=84,SNR=6.9
632A **Uvalde** 83.88 57 ⇑P P 08 08 41.6 +0.3
baz=84,SNR=6.2
I20A **Worland** 83.88 41 ⇑P P 08 08 41.6 +0.5
baz=84,SNR=11
D17A **Six Diamond Ra** 83.90 38 ⇓P P 08 08 41.9 +0.8
baz=84,SNR=11
N23A **Red Feather La** 83.91 45 ⇓P P 08 08 42.1 +0.7
baz=84,SNR=5.9

X28A Dimmitt 83.91 52 ⇓P P 08 08 41.7 +0.3
baz=84,SNR=12
532A Rocksprings 84.02 57 ⇑P P 08 08 42.1 +0.2
baz=84,SNR=7.0
J21A Lysite 84.04 42 ⇑P P 08 08 42.6 +0.6
baz=84,SNR=15
331A San Angelo 84.04 55 ⇓P P 08 08 42.0 0.0
baz=84,SNR=5.9
Y29A Porterfield Fa 84.05 53 ⇓P P 08 08 42.7 +0.6
baz=84,SNR=11
E18A Harlowton 84.06 38 ⇑P P 08 08 42.8 +0.9
baz=84
L22A Ellis Ranch, M 84.09 44 ⇓P P 08 08 43.1 +0.8
baz=84,SNR=7.6
C17A Wharram Farm, 84.10 37 ⇓P P 08 08 42.5 +0.5
baz=84,SNR=18
130A Snyder 84.11 54 ⇓P P 08 08 42.6 +0.3
baz=84,SNR=9.1
O24A Longmont 84.17 46 ⇓P P 08 08 43.5 +0.9
baz=84
H20A Greybull 84.22 41 ⇓P P 08 08 42.6 -0.1
baz=84,SNR=5.3
JCT Junction City 84.23 56 *e*P P 08 08 42.4 -0.6
JCT pmax pmax
comp=Z,7.0nm,1.0s
JCT Junction City 84.23 56 *e*P P 08 08 42.4 -0.6
comp=Z,7.3nm,1.0s
JCT Junction City 84.23 56 ⇑P P 08 08 43.3 +0.3
baz=84
S26A Kim 84.23 49 ⇑P P 08 08 43.1 +0.1
baz=84,SNR=7.0
Z30A Sanderson Ranc 84.25 53 ⇓P P 08 08 43.2 +0.2
baz=84,SNR=19
X29A Tulia 84.26 52 ⇓P P 08 08 43.4 +0.3
baz=84,SNR=8.7
F19A Roth Farm, Mol 84.29 39 ⇑P P 08 08 43.8 +0.7
baz=85,SNR=7.7
A16A West Butte Ran 84.30 36 ⇓P P 08 08 43.5 +0.4
baz=85
K22A Casper 84.32 43 ⇓P P 08 08 43.6 +0.2
baz=85
I21A Big Trails, Te 84.35 42 ⇑P P 08 08 43.9 +0.4
baz=85,SNR=10
231A Bronte 84.36 55 ⇓P P 08 08 43.4 -0.3
baz=85,SNR=14
COLD Coldfoot 84.36 9 *e*P P 08 08 43.5 +0.7
comp=Z,11nm,1.2s
432A Menard 84.38 56 ⇓P P 08 08 43.7 -0.1
baz=85,SNR=9.2
V28A Channing 84.38 51 ⇑P P 08 08 44.2 +0.4
baz=85
B17A L&G Farms, Che 84.41 37 ⇑P P 08 08 44.0 +0.5
baz=85
G20A Bridger 84.44 40 ⇓P P 08 08 44.2 +0.4
baz=85
D18A Linhart Farms, 84.44 38 ⇓P P 08 08 44.9 +1.1
baz=85
AMTX Amarillo 84.45 52 *e*P P 08 08 44.5 +0.4
comp=Z,30nm,1.0s
AMTX Amarillo 84.45 52 ⇓P P 08 08 44.4 +0.3
baz=85,SNR=10
R26A Arlington 84.53 48 ⇑P P 08 08 45.1 +0.6
baz=85,SNR=7.8
T27A Campo 84.55 49 ⇑P P 08 08 44.8 +0.2
baz=85
W29A Amarillo 84.57 51 ⇑P P 08 08 45.0 +0.3
baz=85,SNR=7.7
N24A Carr 84.60 45 ⇑P P 08 08 46.0 +1.2
baz=85
332A Millersview 84.61 55 ⇓P P 08 08 45.0 +0.1
baz=85,SNR=8.6
L23A Garrett 84.62 44 ⇑P P 08 08 45.2 +0.3
baz=85,SNR=7.5
Y30A Stafford Cattl 84.65 53 ⇓P P 08 08 45.3 +0.1
baz=85,SNR=8.8
E19A Rath Farm, Rou 84.69 39 ⇓P P 08 08 45.7 +0.7
baz=85,SNR=6.3
J22A Midwest 84.69 42 ⇓P P 08 08 45.2 0.0
baz=85,SNR=7.5
BILL Bilibino 84.75 352 *i* P P 08 08 44.9 +0.2
BILL *e* 08 09 06.6
BILL *e* 08 11 59.2
BILL pmax pmax
comp=Z,5.0nm,1.3s
F20A Billings 84.75 40 ⇓P P 08 08 46.1 +0.7
baz=85
A17A Triple J Farms 84.81 36 ⇓P P 08 08 46.1 +0.6
baz=85,SNR=10.0
232A Coleman 84.88 55 ⇓P P 08 08 46.5 +0.2
baz=85,SNR=19
EGMT Eagleton 84.88 37 *e*P P 08 08 46.5 +0.5
comp=Z,118nm,2.8s
X30A Coker Ranch, T 84.89 52 ⇓P P 08 08 46.7 +0.4
baz=85
H21A Big Horn, Sher 84.89 41 ⇓P P 08 08 46.6 +0.5
baz=85
I22A 9 Mile Ranch, 84.91 42 ⇓P P 08 08 46.9 +0.7
baz=85
M24A Cheyenne 84.92 45 ⇑P P 08 08 47.3 +0.9
baz=85
V29A Stinnett 84.96 51 ⇑P P 08 08 47.6 +0.9
baz=85
D19A Cripps Ranch, 84.97 38 ⇓P P 08 08 47.0 +0.6
baz=85,SNR=5.5
R27A Eads 84.99 48 ⇓P P 08 08 47.5 +0.7
baz=85
Z31A Sharp Cattle R 85.02 54 ⇑P P 08 08 47.3 +0.4
baz=85,SNR=20
B18A Beardsley Farm 85.05 37 ⇓P P 08 08 47.5 +0.7
baz=85
E20A Meyer Farm, Mu 85.10 39 ⇑P P 08 08 47.7 +0.6
baz=85
C19A Slack Wire Ran 85.15 38 ⇓P P 08 08 48.2 +0.9
baz=85,SNR=8.5
ABTX Abilene, Hawle 85.15 54 ⇓P P 08 08 48.0 +0.4
baz=85,SNR=22
Y31A Rekieta Farm, 85.17 53 ⇓P P 08 08 48.1 +0.4
baz=85,SNR=10
A18A Metzger Ranch, 85.28 36 ⇑P P 08 08 48.1 +0.2
baz=86
D20A Manuel Ranch, 85.38 38 ⇑P P 08 08 49.1 +0.6
baz=86,SNR=5.7
Z32A Haskell 85.53 54 ⇑P P 08 08 50.1 +0.7
baz=86,SNR=42
B19A Brinkman Farms 85.56 37 ⇓P P 08 08 50.1 +0.8
baz=86,SNR=5.0
X31A McDonald Ranch 85.64 52 ⇑P P 08 08 50.4 +0.4
baz=86
BJI Beijing 85.67 313 P P 08 08 50.0 +0.1
BJI S S 08 19 18.8 +0.8
BJI pmax pmax
comp=Z,11nm,0.7s
C20A Veseth Ranch, 85.76 38 ⇓P P 08 08 50.9 +0.6
baz=86,SNR=8.4
Y32A R-V Farms, Ver 85.82 53 ⇓P P 08 08 51.4 +0.5
baz=86,SNR=10
W31A Holland Ranch, 85.88 52 ⇑P P 08 08 51.9 +0.7
baz=86,SNR=7.3
A19A Klindworth Far 85.91 37 ⇑P P 08 08 51.6 +0.5
baz=86
A20A Cobblestone Ra 86.36 37 ⇑P P 08 08 53.9 +0.6
baz=87
H24A Dirks Ranch, A 86.53 42 ⇑P P 08 08 54.7 +0.4
baz=87
K26A Motz Farm, Whi 86.56 44 ⇑P P 08 08 54.6 +0.2
baz=87
D22A Cohagen 86.59 39 ⇓P P 08 08 55.0 +0.6
baz=87
RSSD Black Hills 86.59 42 *e*P P 08 08 54.1 -0.6
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 86.59 42 *e*P P 08 08 54.1 -0.6
comp=Z,3.5nm,0.9s
B21A Ellsworth Farm 86.68 38 ⇓P P 08 08 55.2 +0.4
baz=87
D23A Lindsay 87.19 39 ⇓P P 08 08 58.4 +1.0
baz=87
C23A Lambert 87.48 39 ⇓P P 08 08 59.4 +0.7
baz=88
MAW Mawson 87.59 199 LR LR 08 48 08.3
comp=Z,132nm,18.4s,baz=276,slow=36
GYA Guiyang 88.20 298 *e*P P 08 09 03.3 +0.6
GYA pP **pP** 08 09 18.5 -0.5
GYA sP **sP** 08 09 25.0 -0.2
GYA PP **PP** 08 12 33.8 +3.1
GYA SKS **SKSac** 08 19 24.5 -2.6
GYA S **S** 08 19 41.3 -2.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=N,450nm,20.5s
GYA LR LR
comp=E,310nm,21.0s
GYA LR LR
comp=Z,440nm,20.0s
DGMT Dagmar 88.37 38 *e*P P 08 09 03.2 +0.3
comp=Z,13nm,1.0s
DGMT Dagmar 88.37 38 ⇑P P 08 09 03.7 +0.8
baz=89
INK Inuvik 88.48 14 P P 08 09 02.9 0.0
comp=Z,1.9nm,0.8s,baz=211,slow=3.2
INK Inuvik 88.48 14 P P 08 09 02.9 0.0
HHC Hu-ho-hao-te 89.23 313 *e*P P 08 09 08.3 +1.1
HHC pP **pP** 08 09 21.8 -1.7
HHC sP **sP** 08 09 26.8 -2.9
HHC SKS **SKSac** 08 19 32.5 -0.1
HHC S **S** 08 19 52.5 +0.2
HHC sS **sS** 08 20 15.3 -4.5
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,230nm,7.8s
HHC LR LR
comp=N,130nm,20.8s
HHC LR LR
comp=E,400nm,19.8s
PLCA Paso Flores 89.31 132 P P 08 09 08.6 +0.8
comp=E,3.1nm,0.9s,baz=264,slow=7.3,SNR=7.1
PLCA LR LR 08 38 28.7
comp=E,136nm,20.1s,baz=172,slow=28
PLCA Paso Flores 89.31 132 *e*P P 08 09 08.9 +1.1
comp=E,8.0nm,1.4s
YKA Yellowknife Ar 90.29 23 P P 08 09 11.3 -0.2
comp=E,2.2nm,1.0s,baz=235,slow=4.4,SNR=23
YKA Yellowknife Ar 90.29 23 P P 08 09 11.3 -0.2
JTS JuntasAbangare 91.19 80 *e*P P 08 09 18.2 +1.4
comp=E,22nm,1.0s
CD2 Chengdu 91.98 301 P P 08 09 21.8 +1.6
CD2 pP **pP** 08 09 36.8 +0.3
CD2 sP **sP** 08 09 42.5 -0.2
CD2 SKS **SKSac** 08 19 48.8 +0.1
CD2 S **S** 08 20 17.0 -0.9
CD2 sS **sS** 08 20 42.5 -3.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,150nm,4.3s
CD2 LR LR
comp=E,240nm,6.5s
CD2 LR LR
comp=Z,240nm,5.3s
VNA3 Neumayer Olymp 92.62 175 *e*P P 08 09 22.7 +0.3
SNAA Sanae 92.67 177 *e*P P 08 09 22.5 -0.1
SNAA Sanae 92.67 177 P P 08 09 22.5 -0.1
comp=Z,4.1nm,1.0s,baz=196,slow=5.5,SNR=14
SNAA Sanae 92.67 177 *e*P P 08 09 22.7 +0.1
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 92.74 288 P P 08 09 22.8 -1.2
comp=Z,1.2nm,0.4s,baz=111,slow=2.8,SNR=7.1
CMAR Chiang Mai Arr 92.74 288 P P 08 09 22.8 -1.2
VNA2 Neumayer--Watz 93.11 175 *e*P P 08 09 25.1 +0.5
baz=205,slow=3.1
VNA1 Neumayer--Stat 93.31 175 *e*P P 08 09 26.1 +0.6
LZH Lanzhou 93.41 306 *e*P P 08 09 26.5 -0.3
LZH pP **pP** 08 09 42.0 -1.1
LZH sP **sP** 08 09 46.8 -2.5
LZH pmax pmax
comp=Z,14nm,1.2s
ULM Lac du Bonnet 94.08 39 P P 08 09 28.1 -1.2
comp=Z,0.8nm,0.4s,baz=287,slow=5.1,SNR=3.2
ULM Lac du Bonnet 94.08 39 P P 08 09 28.1 -1.2
SONM Songino Array 95.06 318 P P 08 09 33.5 -0.5
comp=Z,0.6nm,0.6s,baz=136,slow=3.5,SNR=6.4
SONM Songino Array 95.06 318 P P 08 09 33.5 -0.5
TKL Tuckaleechee C 98.60 55 LR LR 08 50 52.1
comp=Z,50nm,18.1s,baz=300,slow=33
KSH Kashi 115.66 307 *e*PKP PKPdf 08 14 57.0 +3.5
KSH PKS **PKSdf** 08 18 31.8 +1.5
KSH SKS **SKSdf** 08 22 04.3 +3.2
KSH AMB AMB
comp=Z,160nm,5.7s
KSH LR LR
comp=N,94nm,5.7s
KSH LR LR
comp=E,91nm,7.3s
KSH LR LR
comp=Z,94nm,9.0s
ARCES ARCESS Array B 124.85 352 PKP PKPdf 08 15 09.5 -0.6
comp=Z,3.2nm,0.8s,baz=46,slow=2.6,SNR=7.4
ARCES ARCESS Array B 124.85 353 PKP PKPdf 08 15 09.5 -0.6
FINES FINESS Array B 132.18 348 PKP PKPdf 08 15 23.6 -0.7
comp=Z,2.7nm,1.0s,baz=288,slow=32,SNR=3.2
FINES FINESS Array B 132.18 348 PKP PKPdf 08 15 23.6 -0.7
OBN Obninsk 134.35 336 *e*PKIKP PKPdf 08 15 29.1 +0.6
OBN *e*SS **SKSdf** 08 22 32.7 -2.0
OBN *e*PS **PS** 08 28 18.4 -3.5
OBN *e*SS **SS** 08 35 42.8 -3.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 144.05 353 *e*PKIKP PKPbc 08 15 45.0 +0.6
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 144.05 353 *e*(PKPdf) PKPbc 08 15 45.0 +0.6
CLL *e*PKiKP **PKiKP** 08 15 49.0 -0.9
comp=Z,7.0nm,1.0s
MALT Malatya 144.07 315 ⇑PKIKP PKPdf 08 15 46.8 -0.2
MALT Malatya 144.07 315 ⇑*i*P PKPdf 08 15 46.8 -0.2
UPC Upice 144.40 350 ⇑*i*PKIKP PKPbc 08 15 46.0 +0.5
UPC Upice 144.40 350 ⇑*i*PKPdf PKPbc 08 15 46.0 +0.5
DPC Dobruska-Polom 144.50 349 ⇑*i*PKIKP PKPbc 08 15 46.4 +0.5
DPC Dobruska-Polom 144.50 349 ⇑*i*PKP PKPbc 08 15 46.4 +0.5
DPC *ex* x 08 15 52.0
DPC *ep*PKP pPKPdf 08 16 09.8 +5.7
BURAR Bucovina Array 144.61 338 ⇑*i*P PKPdf 08 15 47.2 -0.4
OKC Ostrava-Krasne 144.63 347 ⇑*i*PKIKP PKPbc 08 15 46.2 0.0
OKC Ostrava-Krasne 144.63 347 ⇑*i*PKP PKPbc 08 15 46.2 0.0
KRLC Kraliky 144.68 349 ⇑*e*PKP PKPbc 08 15 46.8 +0.3
MEM Membach 145.11 1 PKP PKPbc 08 15 47.8 0.0
PRU Pruhonice 145.14 351 ⇑*i*PKIKP PKPbc 08 15 47.8 -0.1
PRU Pruhonice 145.14 351 ⇑*i*PKP PKPbc 08 15 47.8 -0.1
SNF Seneffe 145.16 3 PKP PKPab 08 15 48.0 0.0
NKC Novy Kostel 145.17 353 ⇑*i*PKIKP PKPab 08 15 48.2 +0.1
NKC Novy Kostel 145.17 353 ⇑*i*PKP PKPab 08 15 48.2 +0.1
BCLA Clavier 145.29 2 PKP PKPdf 08 15 48.8 +0.3
CFR Carcaliu 145.43 333 ⇑PKIKP PKPbc 08 15 48.3 -0.6
CFR Carcaliu 145.43 333 ⇑*i*P PKPbc 08 15 48.3 -0.6
VRI Vrincioaia 145.48 335 ⇓PKIKP PKPab 08 15 49.6 +0.2
VRI Vrincioaia 145.48 335 ⇓*i*P PKPab 08 15 49.6 +0.2
KMBO Kilima Mbogo 145.49 244 *e*PKPbc PKPab 08 15 50.8 +0.1
DOU Dourbes 145.59 2 PKP PKPbc 08 15 49.4 +0.1
TREC Trest 145.66 350 ⇑*i*PKP2 PKPbc 08 15 49.7 +0.1
TREC Trest 145.66 350 ⇑*i*PKP PKPbc 08 15 49.7 +0.1
TIRR Tirgusor 145.87 332 ⇓PKP2 PKPab 08 15 50.9 +0.1
TIRR Tirgusor 145.87 332 ⇓*i*P PKPab 08 15 50.9 +0.1
PSZ Piszkesteto 146.00 344 ⇑*i*PKP2 PKPab 08 15 55.0 +3.7
PSZ Piszkesteto 146.00 344 ⇑*i*P PKPab 08 15 55.0 +3.7
MLR Muntele Rosu 146.10 335 ⇑*i*P PKPbc 08 15 51.5 +0.3
KHC Kasperske Hory 146.12 352 ⇑*i*PKP2 PKPdf 08 15 50.5 +0.5
KHC Kasperske Hory 146.12 352 *ep*PKPdf PKPdf 08 15 50.6 +0.5
KHC Kasperske Hory 146.12 352 ⇑*i*PKP PKPdf 08 15 50.5 +0.5
KHC *ep*PKP **pPKPdf** 08 16 12.5 +5.6
DRGR 146.18 340 ⇓PKP2 PKPbc 08 15 51.4 +0.1
DRGR 146.18 340 ⇓*i*P PKPbc 08 15 51.4 +0.1
BR131 Keskin Array S 146.38 321 *e*PKPdf PKPbc 08 15 51.8 -0.5
BRTR Keskin Array B 146.38 321 PKPbc PKPbc 08 15 52.0 -0.2
comp=Z,8.3nm,0.8s,baz=90,slow=2.4,SNR=37
BRTR Keskin Array B 146.38 321 PKPbc PKPbc 08 15 52.0 -0.2
GERES GERESS Array B 146.38 352 PKPbc PKPbc 08 15 51.5 -0.4
comp=Z,1.9nm,0.8s,baz=64,slow=2.3,SNR=9.7
GERES GERESS Array B 146.38 352 PKPbc PKPbc 08 15 51.5 -0.4
VOIR 146.50 336 ⇑PKP2 PKPbc 08 15 52.8 +0.5
VOIR 146.50 336 ⇑*i*P PKPbc 08 15 52.8 +0.5
ARR Arges 146.72 337 ⇓*i*P PKPab 08 15 54.5 +0.3
CONA Conrad Observa 146.91 349 ⇑*i*P PKPbc 08 15 53.9 +0.4
CONA Conrad Observa 146.91 349 ⇑*i*PKPab PKPbc 08 15 53.9 +0.4
comp=Z,16nm,1.4s
BFO Black Forest 147.37 358 *e*PKP2 PKPbc 08 15 54.4 -0.2
BFO Black Forest 147.37 358 *e*PKPbc PKPbc 08 15 54.4 -0.2
ECH Echery 147.51 359 *e*PKIKP PKPdf 08 15 52.9 +0.5
ECH Echery 147.51 359 *e*PKPdf PKPdf 08 15 52.9 +0.5
BZS Buzias 147.57 340 ⇓PKP2 PKPbc 08 15 55.1 -0.1
BZS Buzias 147.57 340 ⇓*i*P PKPbc 08 15 55.1 -0.1
SOKA Soboth 148.27 349 ⇑*i*P PKPbc 08 15 56.6 -0.6
SOKA Soboth 148.27 349 ⇑*i*PKPbc PKPbc 08 15 56.6 -0.6
comp=Z,10nm,1.1s
DAVA Damuels 148.33 356 ⇑*i*P PKPbc 08 15 57.5 0.0
DAVA Damuels 148.33 356 ⇑*i*PKPbc PKPbc 08 15 57.5 0.0
comp=Z,17nm,1.2s
FETA Feichten 148.52 355 ⇑*i*P PKPbc 08 15 56.9 -1.0
FETA Feichten 148.52 355 ⇑*i*PKPbc PKPbc 08 15 56.9 -1.0
comp=Z,12nm,1.0s
ABTA Abfaltersbach 148.60 352 ⇑*i*P PKPbc 08 15 57.6 -0.4
ABTA Abfaltersbach 148.60 352 ⇑*i*PKPbc PKPbc 08 15 57.6 -0.4
comp=Z,16nm,1.0s
TUE Stuetta 149.17 356 *e*PKPbc PKPbc 08 15 59.5 -0.1
SSB Saint Sauveur 150.39 3 *e*PKIKP PKPbc 08 16 02.8 +0.4
SSB Saint Sauveur 150.39 3 *e*PKPbc PKPbc 08 16 02.8 +0.4
BNI Bardonecchia 150.68 360 *e*PKIKP PKPbc 08 16 03.3 +0.1
BNI Bardonecchia 150.68 360 *e*PKPbc PKPbc 08 16 03.3 +0.1
ESDC Sonseca Array 154.31 19 PKPab PKPab 08 16 26.0 +0.5
comp=Z,0.7nm,0.6s,baz=4.8,slow=1.8,SNR=4.8
ESDC Sonseca Array 154.31 19 PKPab PKPab 08 16 26.0 +0.5
DBIC Dimbokro 165.62 127 PKPab PKPab 08 17 15.2 -0.2
comp=Z,3.8nm,0.7s,baz=238,slow=4.9,SNR=4.3
DBIC Dimbokro 165.62 127 PKPab PKPab 08 17 15.2 -0.2
TORD Torodi Ar. Bea 174.59 117 PKP PKPdf 08 16 19.5 -2.1
comp=Z,3.1nm,1.2s,baz=81,slow=0.4,SNR=8.8
TORD PKPab PKPab 08 17 53.8 -1.4
comp=Z,7.3nm,1.1s,baz=255,slow=3.9,SNR=15
TORD PP PP 08 21 44.4 -3.1
comp=Z,1.8nm,1.1s,baz=243,slow=2.8,SNR=5.6
TORD Torodi Ar. Bea 174.59 117 PKP PKPdf 08 16 19.5 -2.1
TORD PKPab PKPab 08 17 53.8 -1.4
TORD PP PP 08 21 44.4 -3.1

IDC 31 08:09:02.4±3.7, 5°24S×153°47E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=129.6km s-min=34.1km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.67**	**230**	P	P	08 14 15.9	0.0
	0.4nm,0.4s,baz=54,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**26.29**	**224**	P	P	08 14 39.9	-0.1
	0.2nm,0.4s,baz=64,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**81.09**	**319**	P	P	08 21 19.8	+0.1
	0.3nm,0.8s,baz=101,slow=6.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.08**	**288**	PKPbc	PKPbc	08 28 58.2	-0.4
	0.6nm,0.6s,baz=91,slow=2.4,SNR=4.5						

*CSEM **31** 08:13:58.1, 42°33N×13°37E, h10km, MD2.0/10, After ROM*

ROM 31 08:13:58.1±0.1, 42°33N×13°37E, h10km±1km, Md2.0/10, Ml1.9/7, Error ellipse: s-maj=2.0km s-min=1.8km az=164.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.04**	**49**	Pg	Pg	08 14 00.5	+0.3
AQU				Sg	Sg	08 14 01.9	+0.3
	2μm,0.1s						
AQU	**L'Aquila**	**0.04**	**49**	Pg	Pg	08 14 00.5	+0.3
AQU				Sg	Sg	08 14 01.9	+0.3
	2μm,0.1s						
FAGN	**Fagnano**	**0.17**	**112**	Pg	Pg	08 14 02.4	+0.4
FAGN				Sg	Sg	08 14 05.7	+1.0
	509nm,0.3s						
FAGN	**Fagnano**	**0.17**	**112**	Pg	Pg	08 14 02.4	+0.4
FAGN				Sg	Sg	08 14 05.7	+1.0
	509nm,0.3s						
FIAM	**Fiamignano**	**0.20**	**251**	Pg	Pg	08 14 03.1	+0.7
FIAM				Sg	Sg	08 14 06.5	+1.1
	65nm,0.4s						
FIAM	**Fiamignano**	**0.20**	**251**	Pg	Pg	08 14 03.1	+0.7
FIAM				Sg	Sg	08 14 06.5	+1.1
	65nm,0.4s						
PTQR	**Pietraquaria**	**0.31**	**175**	Pg	Pg	08 14 04.6	+0.1
PTQR				Sg	Sg	08 14 09.1	+0.4
	23nm,0.2s						
PTQR	**Pietraquaria**	**0.31**	**175**	Pg	Pg	08 14 04.6	+0.1
PTQR				Sg	Sg	08 14 09.1	+0.4
	23nm,0.2s						
TERO	**Teramo**	**0.34**	**31**	Pg	Pg	08 14 04.8	-0.2
TERO				Sg	Sb	08 14 10.8	-1.1
	118nm,0.3s						
TERO	**Teramo**	**0.34**	**31**	Pg	Pg	08 14 04.8	-0.2
TERO				Sg	Sb	08 14 10.8	-1.1
	118nm,0.3s						
VCEL	**Villa Celiera**	**0.36**	**80**	Pg	Pb	08 14 06.9	+0.2
VCEL	**Villa Celiera**	**0.36**	**80**	Pg	Pb	08 14 06.9	+0.2
CERT	**Cerreto**	**0.48**	**217**	Pg	Pg	08 14 07.8	+0.3
CERT	**Cerreto**	**0.48**	**217**	Pg	Pg	08 14 07.8	+0.3
NRCA	**Norcia**	**0.54**	**340**	Pg	Pg	08 14 08.7	0.0
NRCA				Sg	Sb	08 14 17.0	-0.6
	70nm,0.1s						
NRCA	**Norcia**	**0.54**	**340**	Pg	Pg	08 14 08.7	0.0
NRCA				Sg	Sb	08 14 17.0	-0.6
	70nm,0.1s						
GUAR	**Guarcino**	**0.54**	**184**	Pg	Pb	08 14 10.1	+0.4
	24nm,0.5s						
GUAR	**Guarcino**	**0.54**	**184**	Pg	Pb	08 14 10.1	+0.4
	24nm,0.5s						
LPEL	**Lama dei Pelig**	**0.67**	**115**	Pg	Pg	08 14 11.2	0.0
LPEL				Sg	Sb	08 14 20.8	-0.5
	65nm,1.3s						
LPEL	**Lama dei Pelig**	**0.67**	**115**	Pg	Pg	08 14 11.2	0.0
LPEL				Sg	Sb	08 14 20.8	-0.5
	65nm,1.3s						

IDC 31 08:30:14.3±2.6, 18°95S×179°48W, h698km±32km, mb3.2/12, mb1 3.5/13, mb1mx3.4/20, mbtmp3.3/13, Error ellipse: s-maj=32.7km s-min=13.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.55**	**254**	P	P	08 33 07.1	+0.2
	0.8nm,0.3s,baz=103,slow=9.7,SNR=7.4						
URZ	**Urewera**	**19.47**	**188**	P	P	08 34 03.9	+4.1
	0.4nm,0.3s,baz=0.3,slow=18,SNR=5.9						
PMG	**Port Moresby**	**33.65**	**282**	P	P	08 36 02.5	0.0
	12nm,0.7s,baz=50,slow=8.4,SNR=6.7						
STKA	**Stephens Creek**	**37.25**	**242**	P	P	08 36 31.6	+0.1
	6.3nm,0.8s,baz=90,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**43.46**	**261**	P	P	08 37 20.0	-0.5
	5.5nm,0.4s,baz=98,slow=7.3,SNR=208						
WRA				S	S	08 43 00.4	-1.9
	0.8nm,0.9s,baz=100,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**43.54**	**255**	P	P	08 37 20.9	-0.2
	7.0nm,0.4s,baz=89,slow=7.9,SNR=167						
ASAR				S	S	08 43 03.6	+0.1
	0.8nm,0.7s,baz=88,slow=16,SNR=9.1						
MJAR	**Matsushiro Arr**	**68.14**	**324**	P	P	08 40 07.7	-0.7
	0.8nm,0.5s,baz=146,slow=5.7,SNR=4.2						
PETK	**Petropavlovsk-**	**74.43**	**346**	P	P	08 40 43.6	-0.7
	1.1nm,0.6s,baz=129,slow=5.7,SNR=2.5						
USRK	**Ussuriysk Arra**	**76.90**	**326**	P	P	08 40 59.5	+1.6
	0.2nm,0.4s,baz=125,slow=19,SNR=3.4						
NVAR	**Mina Array Bea**	**80.87**	**44**	P	P	08 41 19.4	+0.1
	1.0nm,0.6s,baz=230,slow=7.0,SNR=9.8						
ILAR	**Eielson Array**	**87.12**	**13**	P	P	08 41 47.9	-0.8
	1.6nm,0.8s,baz=216,slow=5.3,SNR=21						
TXAR	**Lajitas Array**	**87.40**	**58**	P	P	08 41 51.5	+0.5
	0.9nm,0.7s,baz=219,slow=5.4,SNR=12						
PDAR	**Pinedale Array**	**88.80**	**44**	P	P	08 41 57.2	-0.1
	1.0nm,0.8s,baz=238,slow=3.9,SNR=8.0						
YKA	**Yellowknife Ar**	**95.69**	**25**	P	P	08 42 26.8	-1.2
	0.1nm,0.5s,baz=236,slow=4.7,SNR=6.1						
MKAR	**Makanchi Array**	**109.12**	**314**	PKiKP	PKiKP	08 47 26.8	-0.8
	0.2nm,0.7s,baz=106,slow=0.7,SNR=3.1						
ARCES	**ARCESS Array B**	**127.15**	**349**	PKP	PKPdf	08 48 00.8	-0.6
	5.0nm,1.0s,baz=338,slow=2.6,SNR=6.4						
BRTR	**Keskin Array B**	**144.77**	**313**	PKP	PKPdf	08 48 35.1	+0.3
	0.9nm,0.6s,baz=147,slow=2.3,SNR=5.0						
GERES	**GERESS Array B**	**148.33**	**343**	PKPbc	PKPbc	08 48 44.8	-0.1
	0.7nm,0.5s,baz=20,slow=3.1,SNR=6.3						

*ISK **31** 08:40:51.9, 38°90N×26°95E, h13km, MD3.0*
*ISCJB **31** 08:40:52.5±0.4, 38°90N±0°02×26°98E±0°02, h7km±4km, Error ellipse: s-maj=3.6km s-min=3.1km az=31.1*

*DDA **31** 08:40:52.3, 38.87°N × 27.00°E, h7km, MD2.9*
*CSEM **31** 08:40:52.7±0.1, 38.90°N × 26.98°E, h10km, MD2.9, Error ellipse: s-maj=2.2km s-min=2.1km az=44.0*
*THE **31** 08:40:54.2, 38.87°N × 26.86°E, h3km ± 16km, ML2.5/3, Error ellipse: s-maj=16.4km s-min=0.7km az=85.0*

ISC 31 08:40:52.8±0.9, **38.89°N**±0.02 × **26.98°E**±0.02, **h15**km±10km, **n57**, σ0=**33**/84, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
AYVA	**Ayvalik**	**0.47**	**332**	*i* P		**Pg**	**08 41 02.0**	**-0.3**
AYVA				*i* S		**Sg**	**08 41 08.9**	**+0.2**
AYVA	**Ayvalik**	**0.47**	**332**	*i* P		**Pg**	**08 41 02.0**	**-0.3**
AYVA				*i* S		**Sg**	**08 41 08.9**	**+0.2**
BLCB	**Balcova**	**0.51**	**174**	*e*PG		**Pg**	**08 41 02.5**	**-0.3**
BLCB				*e*SG		**Sg**	**08 41 10.1**	**+0.4**
BLCB	**Balcova**	**0.51**	**174**	*e*Pg		**Pg**	**08 41 02.6**	**-0.3**
BLCB				*e*Sg		**Sg**	**08 41 10.1**	**+0.4**
IZM	**Izmir**	**0.54**	**155**	*e*PG		**Pg**	**08 41 03.7**	**+0.1**
IZM				*e*SG		**Sg**	**08 41 11.3**	**+0.5**
IZM	**Izmir**	**0.54**	**155**	*e*Pg		**Pg**	**08 41 03.7**	**+0.1**
IZM				*e*Sg		**Sg**	**08 41 11.3**	**+0.5**
URLA	**Izmir**	**0.61**	**209**	*i* P		**Pg**	**08 41 04.3**	**-0.5**
URLA				*i* S		**Sb**	**08 41 13.6**	**+0.1**
URLA	**Izmir**	**0.61**	**209**	*i* P		**Pg**	**08 41 04.3**	**-0.5**
URLA				*i* S		**Sb**	**08 41 13.6**	**+0.1**
PRK	**Paraskevi**	**0.65**	**303**	P		**Pg**	**08 41 05.5**	**-0.1**
PRK				S		**Sb**	**08 41 14.8**	**0.0**
PRK	**Paraskevi**	**0.65**	**303**	P		**Pg**	**08 41 05.5**	**-0.1**
PRK				S		**Sb**	**08 41 14.8**	**0.0**
AKHS	**Akhisar**	**0.65**	**91**	*e*P		**Pg**	**08 41 05.4**	**-0.3**
AKHS				*i* S		**Sb**	**08 41 15.0**	**+0.1**
AKHS	**Akhisar**	**0.65**	**91**	*e*P		**Pg**	**08 41 05.4**	**-0.3**
AKHS				*i* S		**Sb**	**08 41 15.0**	**+0.1**
AKS	**Akhisar**	**0.65**	**91**	*e*PG		**Pg**	**08 41 05.5**	**-0.1**
AKS				*e*SG		**Sb**	**08 41 15.3**	**+0.5**
AKS	**Akhisar**	**0.65**	**91**	*e*Pg		**Pg**	**08 41 05.5**	**-0.1**
AKS				*e*Sg		**Sb**	**08 41 15.3**	**+0.5**
CHOS	**Chios island**	**0.88**	**235**	P		**Pg**	**08 41 09.5**	**-0.4**
CHOS				S		**Sg**	**08 41 21.3**	**-0.2**
CHOS	**Chios island**	**0.88**	**235**	P		**Pg**	**08 41 09.5**	**-0.4**
CHOS				S		**Sg**	**08 41 21.3**	**-0.2**
SIGR	**SIGRI**	**0.93**	**291**	P		**Pg**	**08 41 10.8**	**0.0**
SIGR				S		**Sg**	**08 41 23.2**	**+0.2**
SIGR	**SIGRI**	**0.93**	**291**	P		**Pg**	**08 41 10.8**	**0.0**
SIGR				S		**Sg**	**08 41 23.2**	**+0.2**
BALY	**Balya**	**0.98**	**30**	*e*P		**Pb**	**08 41 10.8**	**-0.8**
BALY				*i* S		**Sg**	**08 41 25.2**	**+0.4**
BALY	**Balya**	**0.98**	**30**	*e*P		**Pb**	**08 41 10.8**	**-0.8**
BALY				*i* S		**Sg**	**08 41 25.2**	**+0.4**
BALB	**Balikesir**	**1.03**	**43**	*e*PG		**Pb**	**08 41 12.1**	**-0.2**
BALB	**Balikesir**	**1.03**	**43**	*e*Pg		**Pb**	**08 41 12.1**	**-0.2**
EZN	**Ezine**	**1.06**	**332**	*e*PG		**Pb**	**08 41 12.3**	**-0.6**
EZN	**Ezine**	**1.06**	**332**	*e*Pg		**Pb**	**08 41 12.3**	**-0.6**
BOZC	**Bozcaada**	**1.19**	**323**	*i* P		**Pb**	**08 41 15.2**	**+0.2**
BOZC				*i* S		**Sg**	**08 41 32.4**	**+1.1**
GONE	**Gonen-Balikesi**	**1.28**	**25**	*e*PN		**Pn**	**08 41 16.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.28**	**25**	*e*Pn		**Pn**	**08 41 16.2**	**+0.1**
DURS	**Dursunbey**	**1.36**	**58**	*i* P		**Pb**	**08 41 17.9**	**-0.2**
DURS				*i* S		**Sg**	**08 41 36.8**	**0.0**
DURS	**Dursunbey**	**1.36**	**58**	*i* P		**Pb**	**08 41 17.9**	**-0.2**
DURS				*i* S		**Sg**	**08 41 36.8**	**0.0**
DEMI	**Demirci**	**1.36**	**83**	*e*P		**Pn**	**08 41 17.7**	**+0.3**
DEMI				*i* S		**Sg**	**08 41 36.6**	**-0.3**
DEMI	**Demirci**	**1.36**	**83**	*e*P		**Pn**	**08 41 17.7**	**+0.3**
DEMI				*i* S		**Sg**	**08 41 36.6**	**-0.3**
KULA	**Kula-Manisa**	**1.37**	**105**	*e*PN		**Pn**	**08 41 17.3**	**-0.2**
KULA	**Kula-Manisa**	**1.37**	**105**	*e*Pn		**Pn**	**08 41 17.3**	**-0.2**
AYDN	**Tasoluk**	**1.42**	**150**	*e*P		**Pn**	**08 41 18.2**	**+0.1**
AYDN				*i* S		**Sg**	**08 41 38.7**	**+0.1**
AYDN	**Tasoluk**	**1.42**	**150**	*e*P		**Pn**	**08 41 18.2**	**+0.1**
AYDN				*i* S		**Sg**	**08 41 38.7**	**+0.1**
DST	**Dursunbey**	**1.46**	**60**	*e*PN		**Pn**	**08 41 19.0**	**+0.3**
DST	**Dursunbey**	**1.46**	**60**	*e*Pn		**Pn**	**08 41 19.0**	**+0.3**
LPK	**Lapseki**	**1.49**	**354**	*e*PN		**Pn**	**08 41 19.2**	**+0.2**
LPK	**Lapseki**	**1.49**	**354**	*e*Pn		**Pn**	**08 41 19.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*PN		**Pn**	**08 41 19.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.52**	**9**	*e*Pn		**Pn**	**08 41 19.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.55**	**346**	*e*PN		**Pn**	**08 41 19.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.55**	**346**	*e*Pn		**Pn**	**08 41 19.7**	**-0.2**
LIA	**Limnos Island**	**1.71**	**306**	P		**Pb**	**08 41 24.4**	**+0.4**
LIA	**Limnos Island**	**1.71**	**306**	P		**Pb**	**08 41 24.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.80**	**5**	*e*PN		**Pn**	**08 41 23.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.80**	**5**	*e*Pn		**Pn**	**08 41 23.1**	**-0.3**
ORLT	**Orhaneli**	**1.88**	**52**	*e*PN		**Pn**	**08 41 24.4**	**-0.1**
ORLT	**Orhaneli**	**1.88**	**52**	*e*Pn		**Pn**	**08 41 24.4**	**-0.1**
MFT	**Murefte**	**1.91**	**7**	*e*PN		**Pn**	**08 41 25.1**	**+0.2**
MFT	**Murefte**	**1.91**	**7**	*e*Pn		**Pn**	**08 41 25.1**	**+0.2**
ENEZ	**Enez**	**1.95**	**341**	*e*PN		**Pn**	**08 41 25.3**	**0.0**
ENEZ	**Enez**	**1.95**	**341**	*e*Pn		**Pn**	**08 41 25.3**	**0.0**
TVSB	**Tavsanli**	**2.01**	**73**	*e*PN		**Pn**	**08 41 26.7**	**+0.4**
TVSB	**Tavsanli**	**2.01**	**73**	*e*Pn		**Pn**	**08 41 26.7**	**+0.4**
ARMT	**Armutlu**	**2.22**	**40**	*e*PN		**Pn**	**08 41 29.2**	**+0.1**
ARMT	**Armutlu**	**2.22**	**40**	*e*Pn		**Pn**	**08 41 29.2**	**+0.1**

IDC 31 09:25:49.8±3.5, **6°22S × 150°41E**, **h0**km, **mb3.3**/2, **mb1 3.7**/2, **mb1mx3.2**/17, **mbtmp3.4**/2, **Error ellipse: s-maj=131.9km s-min=46.3km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
WRA	**Warramunga Arr**	**20.73**	**227**	P	P		09 30 31.8	-0.3
	1.2nm,0.7s,baz=53,slow=11,SNR=13							
ASAR	**Alice Springs**	**23.52**	**221**	P	P		09 31 01.6	-0.1
	0.6nm,0.7s,baz=57,slow=8.9,SNR=8.7							
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKPbc		09 45 39.0	-0.4
	0.6nm,0.8s,baz=59,slow=1.9,SNR=3.2							

*IDC **31** 09:37:26.2±6.0, 9.80°S × 125.03°E, h66km ± 61km, mb3.4/1, mb1 4.3/4, mb1mx3.6/19, mbtmp4.0/4, ML4.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/26, Error ellipse: s-maj=55.9km s-min=37.7km az=63.0*
*AUST **31** 09:37:30.3, 10.00°S × 125.02°E, h60km*

ISC 31 09:37:24.5±1.3, **9.76°S**±0.09 × **124.80E**±0.10, **h35**km, **n11**, σ2=**02**/14, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
MTN	**Manton Dam**	**6.93**	**117**	P		**Pn**	**09 39 06.5**	**+2.9**
	baz=6.6,SNR=156							
MTN				S		**Sn**	**09 40 19.5**	**-1.7**
	baz=6.6,SNR=13							
KDU	**Kakadu**	**8.07**	**112**	P		**Pn**	**09 39 21.5**	**+2.2**
	baz=7.8,SNR=46							
FITZ	**Fitzroy Crossi**	**8.34**	**174**	P		**Pn**	**09 39 25.1**	**+2.2**
	4.0nm,0.3s,baz=0.7,slow=11,SNR=153							
FITZ				S		**Sn**	**09 40 55.3**	**-0.6**
	8.4nm,0.3s,baz=66,slow=23,SNR=19							
FITZ	**Fitzroy Crossi**	**8.34**	**174**	P		**Pn**	**09 39 25.1**	**+2.2**
	baz=8.1,SNR=79							
FITZ				S		**Sn**	**09 40 56.0**	**+0.1**
	baz=8.1,SNR=5.7							
WRA	**Warramunga Arr**	**13.69**	**139**	P		**Pn**	**09 40 35.5**	**-0.7**
	2.8nm,0.3s,baz=312,slow=13,SNR=149							
WRA				S		Sn	09 42 59.7	-7.4
	1.8nm,0.3s,baz=314,slow=21,SNR=10							
ASAR	**Alice Springs**	**16.34**	**149**	P		**Pn**	**09 41 10.6**	**-0.8**
	1.4nm,0.3s,baz=321,slow=11,SNR=74							
ASAR				S		**Sn**	**09 44 08.0**	**-3.7**
	0.6nm,0.3s,baz=326,slow=26,SNR=4.6							
QIS	**Mount Isa**	**17.86**	**129**	P		**P**	**09 41 31.0**	**+0.2**
	baz=18,SNR=8.1							
COEN	**Coen**	**18.46**	**105**	P		**Pn**	**09 41 38.6**	**+0.9**
	baz=18,SNR=11							
CBIJ	**Chichi jima**	**40.33**	**24**	LR		LR	10 00 44.2	
	comp=Z,92nm,20.7s,baz=127,slow=35							
MKAR	**Makanchi Array**	**67.86**	**330**	P		**P**	**09 48 17.6**	**-1.7**
	0.5nm,0.6s,baz=132,slow=6.6,SNR=7.9							
TORD	**Torodi Ar. Bea**	**124.23**	**279**	PKP		**PKPdf**	**09 56 20.2**	**-0.4**
	0.5nm,0.9s,baz=81,slow=2.0,SNR=3.5							

*IDC **31** 09:40:18.9±1.3, 38.14°N × 144.45E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/27, mbtmp3.4/6, ML2.5/2, Error ellipse: s-maj=32.9km s-min=26.7km az=92.0*
*ISCJB **31** 09:40:20.4±0.9, 37.71°N × 144.54E±0.07, h56km ± 15km, mb3.6/4, Error ellipse: s-maj=8.9km s-min=6.3km az=20.0*

*JMA **31** 09:40:22.2±0.1, 37.74°N × 144.41E, h40km, M4.2*

ISC 31 09:40:22.4±1.9, **37.65N**±0.08 × **144.5E**±0.1, **h51**km±29km, **n27**, σ0=**95**/17, **mb3.6**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
JIO	**Ouri**	**2.62**	**289**	P		Pn	09 41 02.0	-0.2
JIO				S		Sn	09 41 31.6	-1.1
OFUJ	**Ofunato**	**2.65**	**304**	P		Pn	09 41 02.3	-0.3
OFUJ				S		Sn	09 41 32.0	-1.5
JMK	**Ichinoseki**	**2.89**	**298**	P		Pn	09 41 05.9	-0.1
JOU	**Okura**	**3.12**	**285**	P		Pn	09 41 09.6	+0.5
JFT	**Otama**	**3.31**	**269**	P		Pn	09 41 12.6	+0.9
JFT				*e*S		Sn	09 41 50.0	+0.1
JYK	**Kaneyama**	**3.50**	**293**	P		**Pn**	**09 41 14.9**	**+0.6**
JYK				*e*S		**Sn**	**09 41 54.3**	**-0.2**
JRG	**Rokugo**	**3.50**	**301**	P		**Pn**	**09 41 15.0**	**+0.7**
JRG				*e*S		**Sn**	**09 41 54.9**	**+0.4**
JAH	**Hinai**	**3.94**	**311**	P		**Pn**	**09 41 21.0**	**+0.6**
JAH				*e*S		**Sn**	**09 42 06.1**	**+0.8**
JTM	**Tenmabayashi**	**4.12**	**321**	P		**Pn**	**09 41 22.7**	**-0.1**
JTM				*e*S		Sn	09 42 07.7	-1.9
BSO1	**Boso 1**	**4.13**	**225**	P		Pn	09 41 21.6	-0.8
BSO1				*e*S		**Sn**	**09 42 08.7**	**-0.5**
JOT	**Ohata**	**4.59**	**325**	P		**Pn**	**09 41 29.0**	**-0.2**
JOT				*e*S		**Sn**	**09 42 19.7**	**-1.5**
JRY	**Ryogami san**	**4.78**	**252**	P		Pn	09 41 32.5	+0.6
JRY				*e*S		Sn	09 42 24.1	-1.9
JOD2	**Odawara 2**	**4.97**	**243**	P		Pn	09 41 35.0	+0.5
JOD2				*e*S		Sn	09 42 28.0	-2.7
JKB	**Kayabe**	**5.01**	**329**	P		**Pn**	**09 41 34.9**	**-0.1**
JKB				*e*S		Sn	09 42 29.1	-2.4
JCH	**Churui**	**5.04**	**350**	P		Pn	09 41 33.8	-1.6
JCH				*e*S		Sn	09 42 27.1	-5.2
MJAR	**Matsushiro Arr**	**5.15**	**260**	Pn		Pn	09 41 37.6	+0.6
	0.7nm,0.3s,baz=86,slow=14,SNR=7.0							
MJAR						Sn		
	1.5nm,0.3s,baz=54,slow=25,SNR=8.4							
MAT	**Matsushiro**	**5.15**	**260**	P		**Pn**	**09 41 38.9**	**+1.9**
MAT				S		**Sn**	**09 42 36.5**	**+1.4**
NEM2	**Nemuro 2**	**5.79**	**9**	P		Pn	09 41 41.8	-3.9
NEM2				*e*S		Sn	09 42 43.0	-7.7
JOSM	**Okushiri--Mats**	**5.88**	**320**	P		**Pn**	**09 41 47.2**	**+0.3**
JHJ2	**Mitsune**	**5.92**	**222**	P		Pn	09 41 46.4	-1.2
JTKR	**Abashiri--Toko**	**6.34**	**356**	P		Pn	09 41 51.3	-1.8
JTKR				*e*S		Sn	09 42 57.7	-6.4
ASAJ	**Asahikawa**	**6.62**	**348**	Pn		**Pn**	**09 41 56.1**	**-1.0**
	0.2nm,0.3s,baz=201,slow=14,SNR=2.9							
ASAJ						Sn	Sn	09 43 06.7	-4.5
	0.5nm,0.3s,baz=145,slow=16,SNR=3.3							
USRK	**Ussuriysk Arra**	**11.50**	**309**	Pn		Pn	09 43 01.6	-2.2
	0.1nm,0.3s,baz=106,slow=12,SNR=3.2							
KURBB	**Kurchatov Arra**	**47.57**	**308**	P		P	09 48 52.8	+0.1
	0.7nm,0.4s,baz=82,slow=8.2,SNR=9.0							
ILAR	**Eielson Array**	**47.66**	**33**	P		**P**	**09 48 53.3**	**+0.1**
	0.4nm,0.7s,baz=258,slow=7.1,SNR=5.4							
WRA	**Warramunga Arr**	**58.07**	**191**	P		P	09 50 17.3	+6.9
	0.4nm,0.7s,baz=11,slow=7.1,SNR=4.0							
ASAR	**Alice Springs**	**61.79**	**191**	P		P	09 50 42.8	+6.9
	0.3nm,1.0s,baz=11,slow=10,SNR=2.7							

*IDC **31** 09:56:20.6±0.9, 56.12°N × 153.11W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/33, mbtmp3.8/15, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/53, Error ellipse: s-maj=22.2km s-min=13.9km az=30.0*
*ISCJB **31** 09:56:22.7±1.4, 56.45N±0.04 × 152.70W±0.07, h23km ± 11km, mb3.8/12, Error ellipse: s-maj=7.3km s-min=5.5km az=141.4*
*NEIC **31** 09:56:22.9, 56.21N × 152.63W, h20km, ML3.5(AEIC), After AEIC.*

ISC 31 09:56:21.3±2.0, **56.39N**±0.06 × **152.79W**±0.05, **h5**km±12km, **n67**, σ1=**32**/75, **mb4.0**/12, **Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
KDAK	**Kodiak Island**	**1.41**	**5**	Pn		**Pg**	**09 56 48.1**	**-0.1**
	68nm,0.3s,baz=189,slow=9.4,SNR=1000							
KDAK						Sn	**Sb**	**09 57 05.9**	**-0.3**
	57nm,0.3s,baz=306,slow=19,SNR=39							
KDAK	**Kodiak Island**	**1.41**	**5**	P		**Pg**	**09 56 48.1**	**-0.1**
KDAK				S		**Sb**	**09 57 05.9**	**-0.3**
KABR	**Katmai Barrier**	**2.11**	**327**	P		**Pn**	**09 56 58.1**	**+0.8**
KCE	**Katmai Mt Cerb**	**2.27**	**326**	P		**Pb**	**09 57 01.8**	**-1.0**
KAKN	**Katmai Knife C**	**2.28**	**328**	P		**Pn**	**09 57 01.0**	**+1.4**
FOSS	**Fourpeaked Sta**	**2.47**	**349**	P		**Pn**	**09 57 04.2**	**+2.0**
ANNE	**Aniakchak Nort**	**2.96**	**282**	P		**Pn**	**09 57 09.3**	**+0.4**
AUP	**Augustine Pinn**	**3.00**	**354**	P		**Pn**	**09 57 11.2**	**+1.6**
CHGN	**Chignik**	**3.13**	**271**	*e*Pn		**Pn**	**09 57 11.2**	**0.0**
CHGN				*e*Sn		**Sn**	**09 57 49.1**	**+0.1**
OPT	**Oil Point**	**3.29**	**356**	P		**Pn**	**09 57 15.4**	**+2.0**
BRLK	**Bradley Lake**	**3.54**	**16**	P		**Pn**	**09 57 16.8**	**0.0**
BRLK				S		**Sn**	**09 57 55.8**	**-3.2**
VNHG	**Veniaminof 1**	**3.55**	**270**	P		**Pn**	**09 57 17.9**	**+0.8**
ILIM	**Iliamna**	**3.71**	**359**	P		**Pn**	**09 57 20.8**	**+1.6**
SEW	**Seward**	**4.13**	**24**	P		**Pn**	**09 57 25.5**	**+0.6**
NCT	**North Crescent**	**4.19**	**359**	P		**Pn**	**09 57 27.1**	**+1.2**
DFR	**Drift River**	**4.22**	**1**	P		**Pn**	**09 57 27.9**	**+1.6**
SDPT	**Sand Point**	**4.45**	**260**	P		**Pn**	**09 57 27.7**	**-1.7**
SDPT				S		**Sn**	**09 58 17.8**	**-3.8**
SPU	**Mount Spurr**	**4.83**	**4**	P		**Pn**	**09 57 35.4**	**+0.8**
RC01	**Rabbit Creek A**	**4.98**	**17**	*e*Pn		**Pn**	**09 57 37.1**	**+0.5**
RC01				*e*Sn		**Sn**	**09 58 32.7**	**-1.9**
RC01				S		**Sn**	**09 58 33.0**	**-1.5**
STLK	**Strandline Lak**	**5.15**	**5**	P		**Pn**	**09 57 40.5**	**+1.4**
SUA	**Susitna One**	**5.20**	**11**	P		**Pn**	**09 57 40.1**	**+0.3**
SUA				S		**Sn**	**09 58 38.7**	**-1.5**
PMR	**Palmer**	**5.55**	**18**	P		**Pn**	**09 57 43.9**	**-0.6**
SKT	**Skwentna**	**5.65**	**6**	P		**Pn**	**09 57 45.7**	**-0.1**
SKT				S		**Sn**	**09 58 49.5**	**-1.6**
SML	**Sawmill**	**5.90**	**21**	P		**Pn**	**09 57 50.3**	**+0.9**
DIV	**Divide**	**6.00**	**35**	Pn		**Pn**	**09 57 50.1**	**-0.5**
DIV				*e*Sn		**Sn**	**09 58 54.2**	**-5.4**
FALS	**False Pass**	**6.21**	**260**	P		**Pn**	**09 57 53.0**	**-0.5**
BMRM	**Bremner River**	**6.27**	**40**	P		**Pn**	**09 57 53.9**	**-0.5**
PPLA	**Purkeypile**	**6.54**	**2**	P		**Pn**	**09 57 59.2**	**+1.0**
TT01	**Tatalina**	**6.74**	**347**	P		**Pn**	**09 58 01.9**	**+1.1**
BARK	**Barkley Ridge**	**6.75**	**49**	P		**Pn**	**09 58 00.1**	**-0.8**
BALM	**Baldy**	**7.16**	**45**	P		**Pn**	**09 58 06.2**	**-0.5**
TRF	**Thorofare Moun**	**7.20**	**9**	P		**Pn**	**09 58 07.0**	**-0.3**
PAX	**Paxson**	**7.57**	**26**	P		**Pn**	**09 58 12.9**	**+0.6**
PNL	**Peninsula**	**7.83**	**60**	P		**Pn**	**09 58 14.9**	**-0.9**
DDM	**Donnelly Dome**	**8.19**	**22**	P		**Pn**	**09 58 20.4**	**-0.3**
IL1	**Eielson Array**	**8.90**	**17**	P		**Pn**	**09 58 30.0**	**-0.3**
ILAR	**Eielson Array**	**8.90**	**17**	Pn		**Pn**	**09 58 29.3**	**-1.0**
	0.6nm,0.3s,baz=203,slow=13,SNR=61							
ILAR						Sn	Sn	10 00 04.1	-6.8
	0.3nm,0.3s,baz=204,slow=22,SNR=5.7							
ILAR	**Eielson Array**	**8.90**	**17**	Pn		**Pn**	**09 58 29.3**	**-1.0**
ILAR						Sn	Sn	10 00 04.1	-6.8
IM3	**Indian Mountai**	**9.64**	**358**	P		**Pn**	**09 58 40.5**	**-0.1**
INK	**Inuvik**	**14.83**	**29**	Pn		**P**	**09 59 58.2**	**+0.9**
	0.1nm,0.3s,baz=219,slow=11,SNR=8.6							
INK						LR	LR	10 06 34.7	
	comp=Z,66nm,19.7s,baz=175,slow=40							
INK	**Inuvik**	**14.83**	**29**	Pn		**P**	**09 59 58.2**	**+0.9**
YKA	**Yellowknife Ar**	**20.11**	**57**	P		Pn	10 00 58.2	+0.8
	0.9nm,0.9s,baz=269,slow=11,SNR=10							
YKA	**Yellowknife Ar**	**20.11**	**57**	P		Pn	10 00 58.2	+0.8
NEW	**Newport**	**23.04**	**95**	P		**P**	**10 01 28.0**	**+0.8**
	0.6nm,0.9s,baz=354,slow=9.2,SNR=2.4							
NEW	**Newport**	**23.04**	**95**	P		**P**	**10 01 28.0**	**+0.8**
YBH	**Yreka Blue Hor**	**24.31**	**114**	P		**P**	**10 01 41.4**	**+1.8**
	1.8nm,0.7s,baz=305,slow=7.0,SNR=5.1							
YBH	**Yreka Blue Hor**	**24.31**	**114**	P		**P**	**10 01 41.4**	**+1.8**
NVAR	**Mina Array Bea**	**29.02**	**114**	P		**P**	**10 02 23.1**	**+0.9**
	1.0nm,0.8s,baz=308,slow=8.6,SNR=8.1							
NVAR	**Mina Array Bea**	**29.02**	**114**	P		**P**	**10 02 23.1**	**+0.9**
PDAR	**Pinedale Array**	**30.61**	**98**	P		**P**	**10 02 37.2**	**+0.9**
	0.4nm,0.6s,baz=298,slow=3.2,SNR=4.2							
PDAR	**Pinedale Array**	**30.61**	**98**	P		**P**	**10 02 37.2**	**+0.9**
ASAJ	**Asahikawa**	**41.56**	**281**	P		**P**	**10 04 08.6**	**-0.9**
	3.1nm,0.8s,baz=89,slow=5.6,SNR=4.1							
ASAJ	**Asahikawa**	**41.56**	**281**	P		**P**	**10 04 08.6**	**-0.9**
TXAR	**Lajitas Array**	**43.71**	**107**	P		**P**	**10 04 27.8**	**+0.5**
	0.9nm,0.9s,baz=300,slow=5.7,SNR=6.0							
TXAR	**Lajitas Array**	**43.71**	**107**	P		**P**	**10 04 27.8**	**+0.5**
ARCES	**ARCESS Array B**	**54.38**	**1**	P		**P**	**10 05 48.9**	**+0.5**
	1.6nm,0.7s,baz=8.9,slow=8.6,SNR=4.3							
ARCES	**ARCESS Array B**	**54.38**	**1**	P		**P**	**10 05 48.9**	**+0.5**
SONM	**Songino Array**	**57.06**	**308**	P		**P**	**10 06 09.1**	**+1.0**
	1.4nm,0.7s,baz=47,slow=6.2,SNR=16							
SONM	**Songino Array**	**57.06**	**308**	P		**P**	**10 06 09.1**	**+1.0**
ZALV	**Zalesovo Beam**	**60.38**	**325**	P		**P**	**10 06 31.9**	**+1.0**
	1.3nm,0.7s,baz=42,slow=5.9,SNR=6.6							
ZALV	**Zalesovo Beam**	**60.38**	**325**	P		**P**	**10 06 31.9**	**+1.0**
KURK	**Kurchatov**	**65.10**	**327**	P		**P**	**10 07 04.0**	**+1.5**
KURBB	**Kurchatov Arra**	**65.21**	**327**	P		**P**	**10 07 04.0**	**+0.8**
	0.7nm,0.3s,baz=29,slow=7.3,SNR=4.4							
BVAR	**Borovoye Array**	**65.33**	**333**	P		**P**	**10 07 04.6**	**+0.6**
	1.1nm,0.6s,baz=34,slow=8.7,SNR=4.6							
BVAR	**Borovoye Array**	**65.33**	**333**	P		**P**	**10 07 04.6**	**+0.6**
MKAR	**Makanchi Array**	**67.35**	**322**	P		**P**	**10 07 17.4**	**+0.4**
	0.5nm,0.6s,baz=45,slow=6.6,SNR=8.2							
MKAR	**Makanchi Array**	**67.35**	**322**	P		**P**	**10 07 17.4**	**+0.4**

*ISCJB **31** 10:00:08.5±1.4, 39.03°N±0.04 × 25.53E±0.08, h10km ± 8km, Error ellipse: s-maj=10.8km s-min=6.6km az=174.7*
*DDA **31** 10:00:08.4, 39.05°N × 25.60E, h7km, MD2.9*
*CSEM **31** 10:00:08.6±0.3, 39.01°N × 25.52E, h2km, MD2.9, Error ellipse: s-maj=7.7km s-min=4.5km az=66.0*

ISC 31 10:00:09.1±1.5, **39.03N**±0.03 × **25.56E**±0.06, **h5**km±14km, **n13**, σ0=**62**/22, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
SIGR	**SIGRI**	**0.29**	**52**	P		**Pg**	**10 00 14.8**	**0.0**
SIGR				S		**Sg**	**10 00 19.4**	**+0.7**
SIGR	**SIGRI**	**0.29**	**52**	P		**Pg**	**10 00 14.8**	**0.0**
SIGR				S		**Sg**	**10 00 19.4**	**+0.7**
PRK	**Paraskevi**	**0.60**	**69**	P		**Pn**	**10 00 25.2**	**+0.9**
PRK				S		**Sb**	**10 00 29.5**	**-1.3**
PRK	**Paraskevi**	**0.60**	**69**	P		**Pn**	**10 00 25.2**	**+0.9**
CHOS	**Chios island**	**0.75**	**149**	P		**Pg**	**10 00 23.4**	**-0.1**
CHOS				S		**Sg**	**10 00 33.2**	**-0.1**
CHOS	**Chios island**	**0.75**	**149**	P		**Pg**	**10 00 23.4**	**-0.1**
BOZC	**Bozcaada**	**0.90**	**25**	*i* P		**Pg**	**10 00 25.4**	**-0.9**
BOZC				*i* S		**Sg**	**10 00 37.4**	**-0.5**
LIA	**Limnos Island**	**0.91**	**342**	P		**Pg**	**10 00 26.2**	**-0.4**
LIA	**Limnos Island**	**0.91**	**342**	P		**Pg**	**10 00 26.2**	**-0.4**
AYVA	**Ayvalik**	**0.93**	**72**	*i* P		**Pb**	**10 00 27.7**	**+0.1**
AYVA				*i* S		**Sg**	**10 00 38.6**	**-0.2**
AYVA	**Ayvalik**	**0.93**	**72**	*i* P		**Pb**	**10 00 27.7**	**+0.1**
AYVA				*i* S		**Sg**	**10 00 38.6**	**-0.2**

0.5nm,0.3s,baz=65,slow=19,SNR=8.1
PPT Papeete 28.11 95 P P 10 16 30.6 -0.6
20nm,0.6s,baz=228,slow=12,SNR=4.0
STKA Stephens Creek 38.29 240 P P 10 17 58.0 +0.9
8.7nm,0.5s,baz=90,slow=9.1,SNR=42
WRA Warramunga Arr 44.10 259 P P 10 18 42.8 -0.6
2.8nm,0.8s,baz=94,slow=7.1,SNR=38
ASAR Alice Springs 44.31 254 P P 10 18 45.1 +0.1
21nm,0.6s,baz=88,slow=8.1,SNR=473
ASAR ScP ScP 10 23 20.9 +0.5
0.3nm,0.8s,baz=104,slow=4.8,SNR=4.9
ASAR S S 10 24 39.0 -2.2
1.5nm,1.0s,baz=83,slow=15,SNR=8.4
MJAR Matsushiro Arr 67.19 324 P P 10 21 23.7 +0.2
4.2nm,0.6s,baz=165,slow=6.7,SNR=16
MAT Matsushiro 67.19 324 P P 10 21 23.7 +0.2
PETK Petropavlovsk- 73.10 346 P P 10 21 58.6 +0.4
6.1nm,0.9s,baz=132,slow=8.5,SNR=4.2
YBH Yreka Blue Hor 78.59 39 P P 10 22 28.9 -0.1
1.5nm,0.7s,baz=315,slow=4.3,SNR=4.8
NVAR Mina Array Bea 79.55 44 P P 10 22 34.7 +0.3
1.8nm,0.7s,baz=223,slow=8.8,SNR=17
ILAR Eielson Array 85.61 13 P P 10 23 02.9 -1.2
1.4nm,0.7s,baz=223,slow=5.5,SNR=24
TXAR Lajitas Array 86.29 58 P P 10 23 09.3 +1.0
1.1nm,0.8s,baz=215,slow=7.1,SNR=10.0
PDAR Pinedale Array 87.47 44 P P 10 23 13.3 -0.3
1.0nm,0.6s,baz=214,slow=4.4,SNR=6.4
CMAR Chiang Mai Arr 88.15 290 P P 10 23 17.2 +0.1
0.7nm,0.6s,baz=104,slow=3.8,SNR=3.8
INK Inuvik 91.64 15 P P 10 23 31.4 -0.7
2.2nm,0.9s,baz=158,slow=3.9,SNR=6.8
SONM Songino Array 92.81 319 P P 10 23 38.6 +0.4
0.2nm,0.5s,baz=108,slow=4.7,SNR=2.3
YKA Yellowknife Ar 94.20 25 P P 10 23 43.5 -0.4
0.7nm,0.7s,baz=244,slow=4.5,SNR=15
KURBB Kurchatov Arra 111.14 318 PKiKP PKiKP 10 28 54.0 -1.4
0.3nm,0.3s,baz=84,slow=1.9,SNR=4.3
BRTR Keskin Array B 144.03 315 PKP PKPbc 10 29 57.1 -0.1
1.5nm,0.6s,baz=112,slow=4.3,SNR=11
CLL Collm 144.90 347↑*i*PKP PKPdf 10 29 59.0 +0.2
comp=Z,9.0nm,0.6s
BRG Berggiesshubel 145.09 346 *e*P PKPdf 10 29 56.1 -3.0
comp=Z,2.1nm,0.7s
GERES GERESS Array B 147.03 344 PKPbc PKPbc 10 30 05.5 -0.1
comp=Z,2.1nm,0.6s,baz=20,slow=4.3,SNR=14

*IDC **31** 10:15:13.0±0.8,31°.57N×104°.18E,h0km,mb3.7/11, mb1 3.8/13,mb1mx3.7/30,mbtmp3.7/13,ML3.7/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/53,Error ellipse: s-maj=30.5km s-min=16.6km az=63.0*
*ISCJB **31** 10:15:13.0±0.4,31°.47N±0°.05×104°.16E±0°.06,h14km, mb3.7/12,MS2.6/1,Error ellipse: s-maj=8.3km s-min=5.5km az=35.1*
*BJI **31** 10:15:14.3,31°.53N×103°.86E,h20km,mb4.2/4,ML4.0/14, Ms4.0/1,Ms7 3.7/3*
*MOS **31** 10:15:15.4±0.8,31°.52N×104°.14E,h33km,mb4.2/6,Error ellipse: s-maj=25.4km s-min=12.9km az=95.6*
ISC 31 10:15:14.8±0.6,**31°.52N**±0°.04×**104°.12E**±0°.06,**h14**km,**n23,** σ1§**87**/26,**mb3.8**/12,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.68**	**207**	Pg	**Pg**	**10 15 26.3**	**-1.9**
CD2				Sg	**Sg**	**10 15 35.5**	**-1.7**
CD2				smax	smax		
	comp=N,5μm,0.7s						
CD2				smax	smax		
	comp=E,6μm,0.7s						
LZH	**Lanzhou**	**4.56**	**357**	Pn	Pn	10 16 27.3	+3.8
LZH				Pg	**Pg**	**10 16 39.5**	**-2.6**
LZH				Sn	**Sn**	**10 17 21.5**	**+5.1**
LZH				Sg	**Sg**	**10 17 38.5**	**-2.7**
LZH				smax	smax		
	comp=N,120nm,1.0s						
LZH				smax	smax		
	comp=E,120nm,0.6s						
LZH				LR	LR		
	comp=N,580nm,4.8s						
LZH				LR	LR		
	comp=E,970nm,5.2s						
LZH				LR	LR		
	comp=Z,520nm,6.3s						
XAN	**Xi'an**	**4.76**	**57**	Pn	**Pn**	**10 16 28.0**	**+1.8**
XAN				Pg	**Pg**	**10 16 43.8**	**-2.2**
XAN				Sn	**Sn**	**10 17 25.0**	**+3.8**
XAN				Sg	**Sg**	**10 17 45.0**	**-2.6**
XAN				smax	smax		
	comp=N,410nm,0.7s						
XAN				smax	smax		
	comp=E,160nm,0.9s						
WHN	**Wuhan**	**8.83**	**94**	*e*P	Pn	10 17 31.0	+9.0
WHN				S	**Sn**	**10 19 01.5**	**+0.1**
WHN				LR	LR		
	comp=E,900nm,3.6s						
CMAR	**Chiang Mai Arr**	**13.82**	**201**	Pn	**Pn**	**10 18 30.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=7.6,slow=13,SNR=5.3						
SONM	**Songino Array**	**16.38**	**5**	Pn	**Pn**	**10 19 03.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=182,slow=12,SNR=5.7						
ZAK	**Zakamensk**	**18.85**	**358**	*e*P	Pn	10 19 40.4	+5.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSRS	**Korea Array**	**20.47**	**67**	P	**P**	**10 19 51.0**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=259,slow=11,SNR=2.9						
KSRS				LR	LR	10 27 47.3	
	comp=Z,26nm,20.1s,baz=230,slow=37						
CN2	**Changchun**	**20.80**	**48**	*e*P	Pn	10 19 58.3	+0.3
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR	**Makanchi Array**	**22.67**	**318**	P	**P**	**10 20 16.2**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=131,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**22.67**	**318**	P	**P**	**10 20 16.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**26.35**	**334**	P	**P**	**10 20 50.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=134,slow=8.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**26.35**	**334**	P	**P**	**10 20 50.5**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**26.91**	**323**	P	**P**	**10 20 56.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=125,slow=9.8,SNR=3.5						
KURK	**Kurchatov**	**26.92**	**323**	P	**P**	**10 20 56.0**	**+0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**52.18**	**318**	*e*P	P	10 24 21.0	-3.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**56.88**	**336**	P	**P**	**10 24 58.3**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=84,slow=8.6,SNR=2.8						
FINES	**FINESS Array B**	**57.23**	**326**	P	**P**	**10 25 01.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=64,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**58.81**	**146**	P	**P**	**10 25 13.4**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=339,slow=7.9,SNR=36						
ASAR	**Alice Springs**	**61.84**	**149**	P	**P**	**10 25 34.1**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=331,slow=6.4,SNR=8.1						
ILAR	**Eielson Array**	**69.45**	**26**	P	**P**	**10 26 22.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=308,slow=4.6,SNR=4.1						
INK	**Inuvik**	**71.76**	**19**	P	**P**	**10 26 36.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=345,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**81.29**	**17**	P	**P**	**10 27 30.6**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=327,slow=5.3,SNR=4.0						

*NIED **31** 10:21:00,38°.60N×143°.60E,h14km,Mw3.5 Best double couple: M0 1.78000×10^14 NP1:φs4.00000°,δ85.00000°, λ146.00000°. NP2:φs98.00000°,δ56.00000°,λ6.00000°.*
*IDC **31** 10:21:09.9±2.0,38°.48N×143.92E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.4/25,mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=43.6km s-min=26.8km az=76.0*
*JMA **31** 10:21:14.8±0.2,38°.60N×143.62E,h38km,M3.5*
ISC 31 10:21:14.1±1.5,**38°.68N**±0°.07×**143°.6E**±0°.1,**h15**km,**n19,** σ0§**97**/27,**mb3.5**/6,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.58**	**285**	P	**Pn**	**10 21 41.6**	**+0.1**
OFUJ				*e*S	**Sn**	**10 22 00.5**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.67**	**303**	P	**Pn**	**10 21 42.7**	**0.0**
MIYJ				*e*S	**Sn**	**10 22 03.7**	**-0.1**
JIO	**Ouri**	**1.80**	**264**	P	**Pn**	**10 21 44.0**	**-0.5**
JIO				S	**Sn**	**10 22 05.1**	**-2.0**
JMK	**Ichinoseki**	**1.90**	**279**	P	**Pn**	**10 21 46.3**	**+0.4**
JOM	**Ohasama**	**1.98**	**294**	P	**Pn**	**10 21 47.6**	**+0.5**
JANG	**Nango**	**2.35**	**317**	P	**Pn**	**10 21 52.2**	**+0.1**
JYK	**Kaneyama**	**2.56**	**276**	P	**Pn**	**10 21 56.0**	**+0.9**
JYK				*e*S	**Sn**	**10 22 25.9**	**-0.1**
JFT	**Otama**	**2.84**	**247**	P	**Pn**	**10 21 58.7**	**-0.2**
JFT				*e*S	**Sn**	**10 22 31.2**	**-1.7**
JNBK	**Urakawa-nobuka**	**3.66**	**350**	P	**Pn**	**10 22 10.7**	**+0.6**
JNBK				*e*S	**Sn**	**10 22 53.2**	**+0.3**
JKB	**Kayabe**	**3.77**	**329**	*e*S	**Sn**	**10 22 55.0**	**-0.6**
JCH	**Churui**	**3.94**	**357**	P	**Pn**	**10 22 13.7**	**-0.2**
JCH				*e*S	**Sn**	**10 22 57.4**	**-2.4**
MAT	**Matsushiro**	**4.80**	**245**	P	**Pn**	**10 22 26.6**	**+0.7**
MAT				*e*S	**Sn**	**10 23 20.3**	**-0.9**
MJAR	**Matsushiro Arr**	**4.80**	**245**	Pn	**Pn**	**10 22 25.9**	**+0.1**
	1.4nm,0.3s,baz=55,slow=11,SNR=15						
MJAR				Sn	**Sn**	**10 23 22.7**	**+1.5**
	0.9nm,0.3s,baz=148,slow=15,SNR=6.5						
SONM	**Songino Array**	**28.38**	**301**	P	**P**	**10 27 08.7**	**+1.0**
	0.2nm,0.4s,baz=102,slow=9.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**42.13**	**311**	P	**P**	**10 29 06.2**	**+0.7**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.7						
CMAR	**Chiang Mai Arr**	**43.61**	**255**	P	**P**	**10 29 17.0**	**-0.9**
	1.1nm,0.5s,baz=67,slow=6.9,SNR=7.0						
MKAR	**Makanchi Array**	**44.75**	**301**	P	**P**	**10 29 27.3**	**+0.6**
	0.5nm,0.5s,baz=88,slow=8.7,SNR=7.0						
KURBB	**Kurchatov Arra**	**46.39**	**307**	P	**P**	**10 29 39.5**	**-0.1**
	0.4nm,0.3s,baz=83,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**58.96**	**190**	P	P	10 31 10.0	-2.9
	0.1nm,0.5s,baz=9.6,slow=7.0,SNR=2.8						

IDC 31 10:29:12.9±38.0,**23°.78S**×**175°.75W**,**h0**km,**mb3.8**/3, **mb1 4.0**/3,**mb1mx3.7**/19,**mbtmp3.8**/3,**Error ellipse: s-maj=713.9km s-min=151.8km az=88.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.38**	**248**	P	P	10 36 34.5	-1.5
	0.6nm,0.3s,baz=88,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**45.89**	**259**	P	P	10 37 37.5	0.0
	0.8nm,0.5s,baz=90,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**46.30**	**265**	P	P	10 37 41.5	+0.8
	0.5nm,0.4s,baz=102,slow=7.7,SNR=16						

WEL 31 10:39:48.6±0.7,**39°.37S**×**179°.94E**,**h33**km,**ML3.5**/17, **1C-1D,Error ellipse: s-maj=7.9km s-min=2.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**1.59**	**277**	PN	Pn	10 40 13.5	-0.9
CNGZ	**Carnagh Statio**	**1.61**	**303**	PN	Pn	10 40 14.2	-0.4
PRGZ	**Paritu Road**	**1.66**	**285**	PN	Pn	10 40 14.7	-0.6
KNZ	**Kokohu**	**1.79**	**280**	PN	Pn	10 40 16.5	-0.6
PUZ	**Puketiti**	**1.84**	**314**	PN	Pn	10 40 16.9	-1.0
PUZ				SN	Sn	10 40 36.5	-3.6
MWZ	**Matawai**	**2.14**	**298**	PN	Pn	10 40 21.2	-0.8
MXZ	**Matakaoa Point**	**2.21**	**324**	PN	Pn	10 40 22.9	0.0
RAHZ	**Arahi**	**2.26**	**280**	PN	Pn	10 40 23.5	-0.2
KAHZ	**Kahuranaki**	**2.40**	**259**	PN	Pn	10 40 24.9	-0.7
NMHZ	**Naumai**	**2.44**	**275**	PN	Pn	10 40 26.1	-0.2
PXZ	**Pawanui**	**2.46**	**253**	PN	Pn	10 40 25.3	-1.1
PXZ				SN	Sn	10 40 54.1	-1.3
URZ	**Urewera**	**2.47**	**296**	PN	Pn	10 40 25.5	-1.0
MCHZ	**McNeill Hill**	**2.51**	**267**	PN	Pn	10 40 27.0	-0.1
BKZ	**Black Stump Fm**	**2.68**	**273**	↑PN	Pn	10 40 28.9	-0.6
WPHZ	**Waipukurau**	**2.79**	**254**	PN	Pn	10 40 29.8	-1.0
PNHZ	**Pukenui**	**2.94**	**215**	PN	Pn	10 40 32.1	-0.8
BHHZ	**Black Hill Sta**	**3.00**	**266**	↓PN	Pn	10 40 33.3	-0.9
DVHZ	**Dannevirke**	**3.05**	**251**	PN	Pn	10 40 33.5	-1.0
BFZ	**Birch Farm**	**3.12**	**244**	PN	Pn	10 40 33.7	-1.8
TSZ	**Takapari Road**	**3.14**	**256**	PN	Pn	10 40 34.9	-0.9
TSZ				SN	Sn	10 41 08.9	-3.4
MOVZ	**Moawhango**	**3.24**	**268**	PN	Pn	10 40 37.3	+0.1
OTVZ	**Oturere**	**3.32**	**272**	PN	Pn	10 40 38.7	+0.2
TUVZ	**Tukino**	**3.32**	**270**	PN	Pn	10 40 38.5	+0.1
KRVZ	**Karewarewa**	**3.35**	**273**	PN	Pn	10 40 38.2	-0.5
WNVZ	**Wahianoa**	**3.36**	**269**	PN	Pn	10 40 39.0	0.0
POWZ	**Post Office Ro**	**3.37**	**251**	PN	Pn	10 40 38.2	-0.6
FWVZ	**Far West T-bar**	**3.40**	**270**	PN	Pn	10 40 39.3	-0.3
TRVZ	**Turoa**	**3.40**	**270**	PN	Pn	10 40 39.4	-0.2
TWVZ	**Taurewa**	**3.51**	**273**	*e*PN	Pn	10 40 40.3	-0.6
MRZ	**Mangatainoka R**	**3.59**	**247**	PN	Pn	10 40 40.1	-1.8
HOWZ	**Holdsworth Sta**	**3.72**	**244**	PN	Pn	10 40 41.5	-2.2
PAWZ	**Paruwai Farm**	**3.99**	**238**	SN	Sn	10 41 29.2	-3.9
CAW	**Cannon Point**	**4.11**	**243**	*e*PN	Pn	10 40 46.9	-2.2
KIW	**Kapiti Island**	**4.13**	**247**	PN	Pn	10 40 48.3	-1.1
LTZ	**Lake Taylor**	**6.72**	**237**	*e*PN	Pn	10 41 23.0	-2.0
MQZ	**McQueen's Vall**	**6.98**	**229**	SN	Sn	10 42 37.7	-8.8

*ISCJB **31** 10:45:59.6±0.4,37°.76S×176°.23E±0°.05,h186km±3km, mb4.0/5,Error ellipse: s-maj=6.8km s-min=5.3km az=10.5*
*IDC **31** 10:45:59.9±1.4,37°.71S×175°.53E,h105km±26km,mb3.7/4, mb1 3.8/6,mb1mx3.6/17,mbtmp3.7/6,Error ellipse: s-maj=29.7km s-min=18.6km az=142.0*
*NEIC **31** 10:45:59.4,37°.75S×176°.42E,h182km,mb4.5/1,After WEL.*
NEIC Felt at Mahora.
*WEL **31** 10:45:59.4±0.4,37°.76S×176°.43E,h182km±3km,ML5.0/21, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0*
WEL Felt in the Hawke's Bay region, maximum reported intensity MM 4.
ISC 31 10:46:01.0±0.6,**37°.98S**±0°.04×**176°.33E**±0°.03,**h181**km±3km, **n212,** σ1§**31**/203,**mb3.9**/5,**45C-11D,North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.29**	**152**	PN	**Pn**	**10 46 24.3**	**-1.1**
TARZ	**Mount Tarawera**	**0.29**	**152**	Pn	**Pn**	**10 46 24.3**	**-1.1**
EDRZ	**Edgecumbe**	**0.34**	**111**	PN	**Pn**	**10 46 23.7**	**-1.8**
EDRZ	**Edgecumbe**	**0.34**	**111**	Pn	**Pn**	**10 46 23.7**	**-1.8**
RRRZ	**Republican Roa**	**0.39**	**158**	↑PN	**Pn**	**10 46 24.3**	**-1.2**
RRRZ	**Republican Roa**	**0.39**	**158**	Pn	**Pn**	**10 46 24.3**	**-1.2**
HRRZ	**Handcock Road**	**0.41**	**185**	PN	**Pn**	**10 46 24.9**	**-0.8**
HRRZ	**Handcock Road**	**0.41**	**185**	Pn	**Pn**	**10 46 24.9**	**-0.8**
PRRZ	**Plateau Road**	**0.52**	**175**	↑PN	**Pn**	**10 46 25.2**	**-0.8**
PRRZ	**Plateau Road**	**0.52**	**175**	Pn	**Pn**	**10 46 25.2**	**-0.8**
ALRZ	**Allen Road**	**0.58**	**179**	PN	**Pn**	**10 46 25.9**	**-0.4**
ALRZ	**Allen Road**	**0.58**	**179**	Pn	**Pn**	**10 46 25.9**	**-0.4**
URZ	**Urewera**	**0.67**	**115**	P	**Pn**	**10 46 25.0**	**-1.7**
	267nm,0.3s,baz=270,slow=3.2,SNR=3986						
URZ				S	**Sn**	**10 46 43.5**	**-3.0**
	252nm,0.3s,baz=207,slow=23,SNR=20						
URZ	**Urewera**	**0.67**	**115**	PN	**Pn**	**10 46 24.5**	**-2.2**
URZ	**Urewera**	**0.67**	**115**	*e*Pn	**Pn**	**10 46 24.7**	**-2.0**
URZ				*e*Sn	**Sn**	**10 46 43.5**	**-3.0**
TOZ	**Tahuroa Road**	**0.70**	**291**	↓PN	**Pn**	**10 46 25.3**	**-1.5**
TOZ				SN	**Sn**	**10 46 44.3**	**-2.5**
TOZ	**Tahuroa Road**	**0.70**	**291**	↓Pn	**Pn**	**10 46 25.3**	**-1.5**
TOZ				Sn	**Sn**	**10 46 44.3**	**-2.5**
WHTZ	**Whakaora**	**0.74**	**203**	PN	**Pn**	**10 46 27.6**	**+0.4**
WHTZ	**Whakaora**	**0.74**	**203**	Pn	**Pn**	**10 46 27.6**	**+0.4**
WATZ	**Wairara**	**0.87**	**213**	↑PN	**Pn**	**10 46 28.1**	**+0.1**
WATZ	**Wairara**	**0.87**	**213**	Pn	**Pn**	**10 46 28.1**	**+0.1**
HATZ	**Hinemaiaia**	**0.93**	**192**	PN	**Pn**	**10 46 28.6**	**+0.2**
HATZ	**Hinemaiaia**	**0.93**	**192**	Pn	**Pn**	**10 46 28.6**	**+0.2**
RATZ	**Rangitukua**	**0.99**	**206**	PN	**Pn**	**10 46 29.2**	**+0.4**
RATZ	**Rangitukua**	**0.99**	**206**	Pn	**Pn**	**10 46 29.2**	**+0.4**
MWZ	**Matawai**	**1.01**	**111**	↑PN	**Pn**	**10 46 27.1**	**-1.8**
MWZ				SN	**Sn**	**10 46 50.3**	**-0.2**
MWZ	**Matawai**	**1.01**	**111**	↑Pn	**Pn**	**10 46 27.1**	**-1.8**
MWZ				Sn	**Sn**	**10 46 50.3**	**-0.2**
RITZ	**Rihia Road**	**1.06**	**200**	PN	**Pn**	**10 46 30.2**	**+0.9**
RITZ	**Rihia Road**	**1.06**	**200**	Pn	**Pn**	**10 46 30.2**	**+0.9**
RAHZ	**Arahi**	**1.11**	**148**	↑PN	**Pn**	**10 46 29.6**	**0.0**
RAHZ	**Arahi**	**1.11**	**148**	Pn	**Pn**	**10 46 29.6**	**0.0**
KATZ	**Kakaramea**	**1.11**	**207**	↑PN	**Pn**	**10 46 30.4**	**+0.6**
KATZ	**Kakaramea**	**1.11**	**207**	Pn	**Pn**	**10 46 30.4**	**+0.6**
NMHZ	**Naumai**	**1.18**	**162**	↑PN	**Pn**	**10 46 31.0**	**+0.7**
NMHZ	**Naumai**	**1.18**	**162**	Pn	**Pn**	**10 46 31.0**	**+0.7**
BKZ	**Black Stump Fm**	**1.19**	**174**	↑PN	**Pn**	**10 46 30.0**	**-0.4**
BKZ	**Black Stump Fm**	**1.19**	**174**	Pn	**Pn**	**10 46 30.0**	**-0.4**
KRVZ	**Karewarewa**	**1.24**	**206**	↑PN	**Pn**	**10 46 31.5**	**+0.7**
KRVZ	**Karewarewa**	**1.24**	**206**	Pn	**Pn**	**10 46 31.5**	**+0.7**
MKAZ	**Moumakai**	**1.27**	**313**	↓PN	**Pn**	**10 46 28.9**	**-2.1**
MKAZ	**Moumakai**	**1.27**	**313**	↓Pn	**Pn**	**10 46 28.9**	**-2.1**
WTVZ	**West Tongariro**	**1.27**	**207**	↑PN	**Pn**	**10 46 31.8**	**+0.7**
WTVZ	**West Tongariro**	**1.27**	**207**	Pn	**Pn**	**10 46 31.8**	**+0.7**
HIZ	**Hauiti**	**1.28**	**245**	PN	**Pn**	**10 46 31.0**	**-0.1**
HIZ	**Hauiti**	**1.28**	**245**	Pn	**Pn**	**10 46 31.0**	**-0.1**
OTVZ	**Oturere**	**1.29**	**204**	↑PN	**Pn**	**10 46 32.1**	**+0.8**
OTVZ	**Oturere**	**1.29**	**204**	Pn	**Pn**	**10 46 32.1**	**+0.8**
TWVZ	**Taurewa**	**1.29**	**213**	↑PN	**Pn**	**10 46 32.0**	**+0.7**
TWVZ	**Taurewa**	**1.29**	**213**	Pn	**Pn**	**10 46 32.0**	**+0.7**
NGZ	**Ngauruhoe**	**1.32**	**205**	↑PN	**Pn**	**10 46 32.3**	**+0.7**
NGZ	**Ngauruhoe**	**1.32**	**205**	Pn	**Pn**	**10 46 32.3**	**+0.7**
KUZ	**Kuaotunu**	**1.33**	**338**	↓PN	Pn	10 46 28.2	-3.3
KUZ	**Kuaotunu**	**1.33**	**338**	↓Pn	Pn	10 46 28.2	-3.3
WPVZ	**Whakapapa**	**1.37**	**207**	PN	**Pn**	**10 46 32.6**	**+0.6**
WPVZ	**Whakapapa**	**1.37**	**207**	Pn	**Pn**	**10 46 32.6**	**+0.6**
TUVZ	**Tukino**	**1.39**	**202**	↑PN	**Pn**	**10 46 33.0**	**+0.8**
TUVZ	**Tukino**	**1.39**	**202**	Pn	**Pn**	**10 46 33.0**	**+0.8**
FWVZ	**Far West T-bar**	**1.41**	**205**	PN	**Pn**	**10 46 32.9**	**+0.4**
DRZ	**Dome Shelter**	**1.43**	**205**	PN	**Pn**	**10 46 33.3**	**+0.6**
DRZ	**Dome Shelter**	**1.43**	**205**	Pn	**Pn**	**10 46 33.3**	**+0.6**
TRVZ	**Turoa**	**1.45**	**205**	↑PN	**Pn**	**10 46 33.4**	**+0.6**
TRVZ	**Turoa**	**1.45**	**205**	Pn	**Pn**	**10 46 33.4**	**+0.6**
WNVZ	**Wahianoa**	**1.46**	**203**	↑PN	**Pn**	**10 46 33.6**	**+0.7**
WNVZ	**Wahianoa**	**1.46**	**203**	Pn	**Pn**	**10 46 33.6**	**+0.7**
KNZ	**Kokohu**	**1.48**	**135**	PN	**Pn**	**10 46 32.5**	**-0.3**
KNZ	**Kokohu**	**1.48**	**135**	Pn	**Pn**	**10 46 32.5**	**-0.3**
MCHZ	**McNeill Hill**	**1.49**	**169**	↑PN	**Pn**	**10 46 33.8**	**+0.9**
MCHZ	**McNeill Hill**	**1.49**	**169**	Pn	**Pn**	**10 46 33.8**	**+0.9**
MOVZ	**Moawhango**	**1.49**	**198**	↑PN	**Pn**	**10 46 33.3**	**+0.3**
MOVZ	**Moawhango**	**1.49**	**198**	Pn	**Pn**	**10 46 33.3**	**+0.3**
PKVZ	**Pokaka**	**1.52**	**210**	↑PN	**Pn**	**10 46 34.1**	**+0.8**
PKVZ	**Pokaka**	**1.52**	**210**	Pn	**Pn**	**10 46 34.1**	**+0.8**
BHHZ	**Black Hill Sta**	**1.52**	**188**	↑PN	**Pn**	**10 46 33.6**	**+0.4**
BHHZ	**Black Hill Sta**	**1.52**	**188**	Pn	**Pn**	**10 46 33.6**	**+0.4**
PUZ	**Puketiti**	**1.52**	**94**	PN	**Pn**	**10 46 31.1**	**-2.2**
PUZ	**Puketiti**	**1.52**	**94**	Pn	**Pn**	**10 46 31.1**	**-2.2**
PRGZ	**Paritu Road**	**1.54**	**128**	↑PN	**Pn**	**10 46 33.0**	**-0.4**
PRGZ	**Paritu Road**	**1.54**	**128**	Pn	**Pn**	**10 46 33.0**	**-0.4**
MTVZ	**Mangateitei**	**1.56**	**205**	PN	**Pn**	**10 46 34.4**	**+0.8**
CNGZ	**Carnagh Statio**	**1.56**	**109**	↑PN	**Pn**	**10 46 33.0**	**-0.6**
CNGZ	**Carnagh Statio**	**1.56**	**109**	Pn	**Pn**	**10 46 33.0**	**-0.6**
MXZ	**Matakaoa Point**	**1.62**	**76**	PN	**Pn**	**10 46 31.9**	**-2.3**
MXZ	**Matakaoa Point**	**1.62**	**76**	Pn	**Pn**	**10 46 31.9**	**-2.3**
VRZ	**Vera Road**	**1.68**	**227**	↑PN	**Pn**	**10 46 36.1**	**+1.3**
VRZ	**Vera Road**	**1.68**	**227**	Pn	**Pn**	**10 46 35.6**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.70**	**134**	PN	**Pn**	**10 46 35.1**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.70**	**134**	Pn	**Pn**	**10 46 35.1**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.77**	**161**	↑PN	**Pn**	**10 46 36.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.77**	**161**	Pn	**Pn**	**10 46 36.4**	**+0.7**
KAHZ	**Kahuranaki**	**1.86**	**167**	↑PN	**Pn**	**10 46 37.4**	**+0.7**
KAHZ	**Kahuranaki**	**1.86**	**167**	Pn	**Pn**	**10 46 37.4**	**+0.7**
MHEZ	**Mangahewa**	**1.92**	**235**	PN	**Pn**	**10 46 39.1**	**+1.9**
MHEZ	**Mangahewa**	**1.92**	**235**	Pn	**Pn**	**10 46 39.1**	**+1.9**
PNHZ	**Pukenui**	**1.93**	**183**	↑PN	**Pn**	**10 46 37.6**	**+0.2**
PNHZ				SN	**Sn**	**10 47 06.2**	**+0.3**
PNHZ	**Pukenui**	**1.93**	**183**	Pn	**Pn**	**10 46 37.6**	**+0.2**
PNHZ				Sn	**Sn**	**10 47 06.2**	**+0.3**
RAEZ	**Rainy Point**	**2.00**	**229**	PN	**Pn**	**10 46 40.1**	**+2.0**
RAEZ	**Rainy Point**	**2.00**	**229**	Pn	**Pn**	**10 46 40.1**	**+2.0**
WAZ	**Wanganui**	**2.06**	**210**	↑PN	**Pn**	**10 46 39.6**	**+0.8**
WAZ	**Wanganui**

WHZ	**Wether Hill Ro**	**10.07 216**	*e*PN		Pn	10 48 18.3	-3.0
WHZ	**Wether Hill Ro**	**10.07 216**	*e*Pn		Pn	10 48 18.3	-3.0
SYZ	**Scrubby Hill**	**10.07 210**	PN		**Pn**	**10 48 19.4**	**-1.8**
SYZ	**Scrubby Hill**	**10.07 210**	Pn		**Pn**	**10 48 19.4**	**-1.8**
DZM	**Mont Dzumac**	**18.00 329**	P		**P**	**10 49 57.4**	**-0.8**
	0.3nm,0.3s,baz=167,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**29.01 272**	P		**P**	**10 51 44.0**	**+0.2**
	2.0nm,0.8s,baz=97,slow=8.1,SNR=4.9						
CTA	**Charters Tower**	**31.58 296**	P		**P**	**10 52 06.8**	**+0.2**
	1.7nm,0.5s,baz=121,slow=5.9,SNR=3.2						
AS31	**Alice Springs**	**38.79 279**	*e*P		**P**	**10 53 08.9**	**+0.6**
ASAR	**Alice Springs**	**38.79 279**	P		**P**	**10 53 08.7**	**+0.5**
	1.7nm,0.5s,baz=124,slow=8.4,SNR=45						
WRA	**Warramunga Arr**	**40.51 284**	P		**P**	**10 53 22.6**	**+0.2**
	0.8nm,0.5s,baz=123,slow=8.0,SNR=33						
QSPA	**South Pole Qui**	**52.14 180**	*e*P		P	10 54 56.3	+3.8
	8.3nm,0.7s						
SNAA	**Sanae**	**70.65 180**	*e*P		**P**	**10 56 57.7**	**+1.4**
VNA3	**Neumayer Olymp**	**70.99 178**	*e*P		**P**	**10 57 00.0**	**+1.6**
VNA2	**Neumayer--Watz**	**71.36 179**	*e*P		**P**	**10 57 02.7**	**+2.1**
	baz=200,slow=6.9						
VNA1	**Neumayer--Stat**	**71.62 178**	*e*P		**P**	**10 57 04.2**	**+2.1**
ARCES	**ARCESS Array B**	**144.72 343**	PKhKP	PKPpre		11 05 13.5	
	3.0nm,1.0s,baz=35,slow=3.1,SNR=9.3						
TORD	**Torodi Ar. Bea**	**154.81 192**	PKPbc	PKPab		11 05 49.9	-7.0
	0.1nm,0.3s,baz=171,slow=0.4,SNR=4.1						

MEX 31 10:57:35.7±0.4, 16°87N×100°31W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**12**	*i* P	Pg	10 57 38.8	-0.6
CAIG				*i* S	Sg	10 57 42.0	+0.2
ACX	**Acapulco**	**0.43**	**89**	*i* P	Pg	10 57 42.6	-1.5
ACX				*e*S	Sg	10 57 47.5	-2.2
ACX				*i* S	Sb	10 57 48.2	-4.4
ZIIG	**Zihuatanejo**	**1.33**	**304**	*i* P	Pn	10 57 57.2	-3.7
ZIIG				*i* S	Sg	10 58 14.8	-3.7
ARIG	**Puente Sto Nin**	**1.41**	**358**	*i* P	Pn	10 57 58.9	-3.2
ARIG				*i* S	Sb	10 58 16.5	-4.4
PNIG	**Pinotepa**	**2.14**	**102**	*i* P	Pn	10 58 09.2	-3.0
PNIG				*i* S	Sn	10 58 35.2	-4.0
YAIG	**Yautepec**	**2.31**	**31**	*i* P	Pn	10 58 11.4	-3.3
YAIG				*i* S	Sn	10 58 40.2	-3.4

*ISCJB **31** 10:58:50.9±1.4, 7°38S±0°07×129°10E±0°10, h131km, mb3.8/1, Error ellipse: s-maj=15.3km s-min=7.0km az=28.5*
*AUST **31** 10:58:58.8±0.0, 7°59S×129°58E, h141km, Error ellipse: s-maj=1.5km s-min=1.1km az=338.0*
*IDC **31** 10:58:59.7±7.4, 7°82S×129°09E, h200km±66km, mb3.5/1, mb1 3.5/4, mb1mx3.0/19, mbtmp3.3/4, Error ellipse: s-maj=59.2km s-min=58.0km az=77.0*

ISC 31 10:58:52.9±1.6, 7°49S±0°10×129°2E±0°1, h131km, n12, σ1§78/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**3.96**	**62**	P	**Pn**	**10 59 51.9**	**-0.3**
	baz=3.7,SNR=17						
TLE				S	**Sn**	**11 00 38.0**	**0.0**
	baz=3.7,SNR=4.7						
MTN	**Manton Dam**	**5.64**	**161**	P	Pn	11 00 19.0	+4.3
	baz=5.5,SNR=15						
MTN				S	Sn	11 01 23.3	+4.8
	baz=5.5,SNR=16						
KDU	**Kakadu**	**6.08**	**148**	P	Pn	11 00 24.1	+3.6
	baz=5.8,SNR=16						
KDU				S	**Sn**	**11 01 31.9**	**+3.1**
	baz=5.8,SNR=6.1						
WSI	**Waingapu**	**9.08**	**256**	P	Pn	11 01 10.8	+10
	baz=9.4,SNR=6.2						
WSI				S	Sn	11 02 25.1	-16
	baz=9.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**11.11**	**198**	P	**Pn**	**11 01 28.7**	**+0.7**
	0.2nm,0.3s,baz=12,slow=12,SNR=5.8						
FITZ				S	**Sn**	**11 03 29.3**	**-1.2**
	0.5nm,0.3s,baz=105,slow=19,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.11**	**198**	P	**Pn**	**11 01 30.2**	**+2.2**
	baz=11,SNR=6.4						
FITZ				S	**Sn**	**11 03 29.6**	**-0.9**
	baz=11,SNR=4.0						
PCI	**Palu**	**11.41**	**305**	S	S	11 04 17.6	+14
	baz=12,SNR=71						
WRA	**Warramunga Arr**	**13.34**	**159**	P	**Pn**	**11 01 56.5**	**-0.7**
	1.4nm,0.3s,baz=342,slow=12,SNR=24						
WRA				S	**Sn**	**11 04 22.2**	**-2.3**
	0.6nm,0.3s,baz=330,slow=22,SNR=6.8						
COEN	**Coen**	**15.14**	**116**	P	**Pn**	**11 02 21.3**	**+1.2**
	baz=15,SNR=6.0						
QIS	**Mount Isa**	**16.43**	**143**	P	**P**	**11 02 37.2**	**+0.8**
	baz=16,SNR=7.3						
ASAR	**Alice Springs**	**16.70**	**165**	P	**P**	**11 02 40.2**	**+0.9**
	1.3nm,0.3s,baz=341,slow=9.9,SNR=114						
ASAR				S	**Sn**	**11 05 42.9**	**-2.5**
	0.1nm,0.3s,baz=318,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**26.87**	**156**	P	**P**	**11 04 19.6**	**-1.8**
	1.7nm,0.7s,baz=350,slow=11,SNR=4.2						

KRSC 31 11:11:42.9±0.0, 54°96N×162°45E, h32km±22km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.58**	**226**	*i* P	Pn	11 11 55.1	+0.2
MKZ				*i* S	Sn	11 12 03.8	+0.5
KBTR	**Krutoberegovo**	**1.27**	**9**	*e*P	Pn	11 12 04.6	+0.2
KBTR				*i* S	Sn	11 12 21.2	+0.9
TUMR	**Tumrok**	**1.36**	**285**	*e*P	Pn	11 12 06.8	+1.0
TUMR				*i* S	Sb	11 12 24.1	-1.1
BZGR	**Bezymyannyi-Gr**	**1.40**	**315**	*e*P	Pn	11 12 06.8	+0.4
BZGR				*i* S	Sb	11 12 25.4	-0.8
ZLN	**Zelenaya**	**1.41**	**319**	*i* P	Pb	11 12 07.7	-1.1
ZLN				*i* S	Sb	11 12 26.0	-0.6
BZMR	**Bezymyannaya**	**1.48**	**312**	*e*P	Pn	11 12 08.3	+0.7
BZMR				*e*S	Sn	11 12 27.2	+1.2
KMNR	**Kamenistaya**	**1.49**	**303**	*e*P	Pn	11 12 08.7	+1.1
KMNR				*i* S	Sb	11 12 28.4	-0.5
BZWR	**Bezymyannyi-We**	**1.50**	**313**	P	Pn	11 12 08.6	+0.8
BZWR				*i* S	Sn	11 12 27.2	+0.8
LGNR	**Loginova**	**1.51**	**319**	*e*P	Pb	11 12 09.4	-1.2
LGNR				*i* S	Sb	11 12 29.3	-0.3
CIRR	**Tsirk**	**1.51**	**321**	P	Pb	11 12 09.6	-0.9
CIRR				*i* S	Sb	11 12 29.4	0.0
KPT	**Kopyto**	**1.62**	**309**	*e*P	Pn	11 12 10.6	+1.2
KPT				*i* S	Sn	11 12 30.8	+1.6
KRSR	**Krestovskiy**	**1.65**	**320**	*i* P	Pn	11 12 10.5	+0.7
KRSR				*e*S	Sn	11 12 30.8	+0.8
KLY	**Klyuchi**	**1.70**	**324**	*e*P	Pn	11 12 10.3	+0.1
KLY				*i* S	Sn	11 12 30.2	-0.6
SMKR	**Semkarok**	**1.72**	**342**	*e*P	Pn	11 12 11.7	+1.0
SMKR				*i* S	Sb	11 12 33.6	-1.6
KOZ	**Kozyrevsk**	**1.83**	**308**	P	Pn	11 12 13.7	+1.5
KOZ				*i* S	Sb	11 12 36.6	-1.8
SRKR	**Sorokina**	**1.85**	**337**	*e*P	Pn	11 12 13.6	+1.2
SRKR				*i* S	Sn	11 12 36.3	+1.6
KII	**Karymskiy**	**1.98**	**243**	*e*P	Pn	11 12 15.0	+0.7
KII				*i* S	Sn	11 12 38.5	+0.5
BKI	**Bering**	**2.04**	**82**	*e*P	Pn	11 12 14.6	-0.3
BKI				*i* S	Sn	11 12 36.9	-2.4
SRDR	**Sredinnyy**	**2.06**	**312**	*e*P	Pn	11 12 16.5	+1.1
ESO	**Esso**	**2.34**	**296**	*e*P	Pn	11 12 20.0	+0.8
ESO				*i* S	Sn	11 12 47.1	+0.2
SPN	**Mys Shipunski**	**2.35**	**218**	*e*P	Pn	11 12 19.1	-0.2
SPN				*i* S	Sn	11 12 45.7	-1.3
SDLR	**Sedlovina**	**2.69**	**233**	*e*P	Pn	11 12 25.7	+1.6
SDLR				*i* S	Sn	11 12 56.6	+0.9
KRER	**Koryakskii**	**2.74**	**234**	*e*P	Pn	11 12 27.0	+2.2
KRER				*i* S	Sn	11 12 59.4	+2.4
SMAR	**Somma**	**2.74**	**233**	*e*P	Pn	11 12 26.7	+1.8
SMAR				*e*S	Sn	11 12 58.5	+1.4
UGLR	**Uglovaya**	**2.76**	**232**	*e*P	Pn	11 12 27.0	+1.9
UGLR				*i* S	Sn	11 12 59.2	+1.8
AVH	**Avacha**	**2.77**	**234**	*e*P	Pn	11 12 27.3	+2.2
AVH				*i* S	Sn	11 13 00.0	+2.5
KOK	**Koryaka**	**2.80**	**235**	*e*P	Pn	11 12 27.6	+2.1
GNL	**Ganaly**	**2.93**	**246**	*e*P	Pn	11 12 29.2	+1.8
GNL				*i* S	Sn	11 13 03.0	+1.5
PET	**Petropavlovsk**	**2.96**	**231**	*e*P	Pn	11 12 29.9	+2.2
PET				*i* S	Sn	11 13 03.6	+1.5
RUS	**Russkaya**	**3.45**	**224**	*e*P	Pn	11 12 35.6	+1.3
RUS				*i* S	Sn	11 13 14.3	+0.3
GRL	**Gorelyy**	**3.54**	**229**	P	Pn	11 12 38.3	+2.5
MTVR	**Mutnovka**	**3.55**	**227**	*e*P	Pn	11 12 37.0	+1.1
MTVR				*i* S	Sn	11 13 16.0	-0.8
APC	**Apacha**	**3.73**	**239**	P	Pn	11 12 42.0	+3.8
APC				*i* S	Sn	11 13 24.8	+3.8

*ISK **31** 11:21:10.6, 39°42N×26°74E, h5km, MD2.9*
*DDA **31** 11:21:11.0, 39°43N×26°77E, h23km, MD2.9*
*ISCJB **31** 11:21:11.4±0.5, 39°43N±0°02×26°77E±0°03, h6km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=12.5*
*CSEM **31** 11:21:11.4±0.2, 39°41N×26°75E, h8km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.9km az=87.0*

ISC 31 11:21:11.7±0.8, 39°42N±0°02×26°78E±0°03, h13km±6km, n45, σ0§61/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.13**	**213**	*i* P	**Pg**	**11 21 15.1**	**+0.1**
AYVA				*i* S	**Sg**	**11 21 17.2**	**-0.1**
AYVA	**Ayvalik**	**0.13**	**213**	*i* P	**Pg**	**11 21 15.1**	**+0.1**
AYVA				*i* S	**Sg**	**11 21 17.2**	**-0.1**
BOZC	**Bozcaada**	**0.70**	**307**	*i* P	**Pg**	**11 21 25.2**	**-0.2**
BOZC				*i* S	**Sg**	**11 21 34.4**	**-0.2**
BALY	**Balya**	**0.72**	**63**	*i* P	**Pg**	**11 21 25.5**	**-0.2**
BALY				*i* S	**Sb**	**11 21 36.1**	**+0.1**
BALY	**Balya**	**0.72**	**63**	*i* P	**Pg**	**11 21 25.5**	**-0.2**
BALY				*i* S	**Sb**	**11 21 36.1**	**+0.1**
BALB	**Balikesir**	**0.88**	**75**	*e*PG	**Pb**	**11 21 29.1**	**+0.4**
BALB				*e*SG	**Sn**	**11 21 42.0**	**-0.3**
BALB	**Balikesir**	**0.88**	**75**	*e*Pg	**Pb**	**11 21 29.1**	**+0.4**
BALB				*e*Sg	**Sn**	**11 21 42.0**	**-0.3**
GONE	**Gonen-Balikesi**	**0.94**	**48**	*e*PG	**Pg**	**11 21 29.6**	**-0.2**
GONE				*e*SG	**Sb**	**11 21 42.8**	**+0.7**
GONE	**Gonen-Balikesi**	**0.94**	**48**	*e*Pg	**Pg**	**11 21 29.6**	**-0.2**
GONE				*e*Sg	**Sb**	**11 21 42.8**	**+0.7**
LPK	**Lapseki**	**0.95**	**359**	*e*PG	**Pg**	**11 21 28.9**	**-1.2**
LPK				*e*SG	**Sb**	**11 21 42.9**	**+0.3**
LPK	**Lapseki**	**0.95**	**359**	*e*Pg	**Pg**	**11 21 28.9**	**-1.2**
LPK				*e*Sg	**Sb**	**11 21 42.9**	**+0.3**
AKHS	**Akhisar**	**0.97**	**123**	*i* P	**Pb**	**11 21 30.5**	**+0.2**
AKHS				*i* S	**Sb**	**11 21 43.4**	**+0.5**
AKHS	**Akhisar**	**0.97**	**123**	*i* P	**Pb**	**11 21 30.5**	**+0.2**
AKHS				*i* S	**Sb**	**11 21 43.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.01**	**347**	*e*PG	**Pb**	**11 21 30.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.01**	**347**	*e*Pg	**Pb**	**11 21 30.6**	**-0.4**
BLCB	**Balcova**	**1.05**	**169**	*e*PG	**Pb**	**11 21 31.0**	**-0.7**
BLCB	**Balcova**	**1.05**	**169**	*e*Pg	**Pb**	**11 21 31.0**	**-0.7**
KRBG	**Karabiga-Canak**	**1.05**	**22**	*e*PG	**Pb**	**11 21 31.1**	**-0.6**
KRBG	**Karabiga-Canak**	**1.05**	**22**	*e*Pg	**Pb**	**11 21 31.1**	**-0.6**
URLA	**Izmir**	**1.06**	**188**	*i* P	**Pb**	**11 21 31.4**	**-0.6**
URLA				*i* S	**Sn**	**11 21 47.1**	**+0.1**
URLA	**Izmir**	**1.06**	**188**	*i* P	**Pb**	**11 21 31.4**	**-0.6**
URLA				*i* S	**Sn**	**11 21 47.1**	**+0.1**
IZM	**Izmir**	**1.08**	**160**	*e*PN	**Pb**	**11 21 32.0**	**-0.3**
IZM	**Izmir**	**1.08**	**160**	*e*Pn	**Pb**	**11 21 32.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.30**	**13**	*e*PN	**Pn**	**11 21 36.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.30**	**13**	*e*Pn	**Pn**	**11 21 36.0**	**+0.4**
SART	**Tekirdag**	**1.31**	**13**	*i* P	**Pn**	**11 21 36.0**	**+0.3**
SART				*i* S	**Sn**	**11 21 53.2**	**+0.2**
SART	**Tekirdag**	**1.31**	**13**	*i* P	**Pn**	**11 21 36.0**	**+0.3**
SART				*i* S	**Sn**	**11 21 53.2**	**+0.2**
DURS	**Dursunbey**	**1.32**	**81**	*i* P	Pn	11 21 35.9	0.0
DURS				*i* S	**Sb**	**11 21 51.9**	**-1.4**
DURS	**Dursunbey**	**1.32**	**81**	*i* P	**Pn**	**11 21 35.9**	**0.0**
DURS				*i* S	**Sb**	**11 21 51.9**	**-1.4**
ENEZ	**Enez**	**1.40**	**340**	*e*PN	**Pb**	**11 21 37.9**	**+0.2**
ENEZ	**Enez**	**1.40**	**340**	*e*Pn	**Pb**	**11 21 37.9**	**+0.2**
MFT	**Murefte**	**1.42**	**16**	*e*PN	**Pb**	**11 21 38.2**	**+0.1**
MFT	**Murefte**	**1.42**	**16**	*e*Pn	**Pb**	**11 21 38.2**	**+0.1**
DST	**Dursunbey**	**1.43**	**82**	*e*PN	**Pb**	**11 21 38.5**	**+0.2**
DST	**Dursunbey**	**1.43**	**82**	*e*Pn	**Pb**	**11 21 38.5**	**+0.2**
KULA	**Kula-Manisa**	**1.72**	**121**	*e*PN	**Pb**	**11 21 42.7**	**-0.5**
KULA	**Kula-Manisa**	**1.72**	**121**	*e*Pn	**Pb**	**11 21 42.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.88**	**59**	*e*PN	**Pn**	**11 21 44.3**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.88**	**59**	*e*Pn	**Pn**	**11 21 44.3**	**+0.9**
ARMT	**Armutlu**	**1.97**	**54**	*e*PN	**Pb**	**11 21 46.6**	**-0.7**
ARMT	**Armutlu**	**1.97**	**54**	*e*Pn	**Pb**	**11 21 46.6**	**-0.7**
CTYL	**Yal??k??y-??at**	**2.36**	**29**	*e*PN	**Pn**	**11 21 51.7**	**+1.7**
CTYL	**Yal??k??y-??at**	**2.36**	**29**	*e*Pn	**Pn**	**11 21 51.7**	**+1.7**
EDRB	**Edirne**	**2.43**	**359**	*e*PN	**Pn**	**11 21 51.7**	**+0.7**
EDRB	**Edirne**	**2.43**	**359**	*e*Pn	**Pn**	**11 21 51.7**	**+0.7**

BUC 31 11:24:03.8±0.1, 45°26N×25°07E, h5km, MD2.0/3, 2C-4D, Error ellipse: s-maj=1.0km s-min=0.5km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOIR		**0.18**	**355**	*i* P	Pg	11 24 07.7	+0.1
VOIR				*i* S	Sg	11 24 10.7	+0.6
VOIR		**0.18**	**355**	*i* P	Pg	11 24 07.7	+0.1
VOIR		**0.18**	**355**	S	Sg	11 24 10.7	+0.6
ARR	**Arges**	**0.33**	**290**	*i* P	Pg	11 24 10.6	+0.3
ARR				*i* S	Sb	11 24 17.0	-1.0
ARR	**Arges**	**0.33**	**290**	*i* P	Pg	11 24 10.6	+0.3
ARR	**Arges**	**0.33**	**290**	S	Sb	11 24 17.0	-1.0
MLR	**Muntele Rosu**	**0.66**	**69**	*i* P	Pg	11 24 17.3	+0.6
MLR				*i* S	Sb	11 24 27.1	-0.5
MLR	**Muntele Rosu**	**0.66**	**69**	*i* P	Pg	11 24 17.3	+0.6
MLR				S	Sb	11 24 27.1	-0.5

IDC 31 11:25:33.1±5.5, 30°36S×178°57W, h87km±8km, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=144.6km s-min=22.7km az=41.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.66**	**203**	S	Sn	11 28 55.3	-16
	0.4nm,0.3s,baz=335,slow=22,SNR=2.0						
CTA	**Charters Tower**	**33.31**	**280**	P	P	11 32 03.6	+0.9
	1.8nm,0.9s,baz=111,slow=9.2,SNR=4.3						
CTA				pP	pP	11 32 22.3	-0.5
	0.9nm,0.4s,baz=114,slow=10.0,SNR=1.5						
STKA	**Stephens Creek**	**34.01**	**257**	P	P	11 32 08.8	+0.2
	2.0nm,0.7s,baz=100,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**42.62**	**267**	P	P	11 33 20.7	-0.4
	0.5nm,0.5s,baz=104,slow=7.1,SNR=13						
ASAR				pP	pP	11 33 42.0	+0.2
	0.3nm,0.4s,baz=106,slow=7.6,SNR=3.3						
WRA	**Warramunga Arr**	**43.61**	**272**	P	P	11 33 28.2	-0.8
	1.0nm,0.6s,baz=112,slow=8.0,SNR=31						
WRA				pP	pP	11 33 50.0	+0.2
	0.6nm,0.4s,baz=112,slow=8.0,SNR=3.4						
QSPA	**South Pole Qui**	**59.75**	**180**	P	P	11 35 28.9	+0.2
	1.1nm,0.7s,baz=346,slow=4.1,SNR=12						
QSPA				pP	pP	11 35 50.2	-0.3
	0.7nm,0.7s,baz=284,slow=2.7,SNR=1.7						

*BJI **31** 11:31:14.0, 3°31N×127°13E, h35km, mB5.1/41, mb5.1/64, Ms5.0/63, Ms7 4.9/61*
*IDC **31** 11:31:19.4±1.2, 3°92N×126°61E, h21km±7km, mb4.8/42, mb1 4.8/42, mb1mx4.8/43, mbtmp4.7/42, MS4.7/31, Ms1 4.7/31, ms1mx4.6/43, Error ellipse: s-maj=13.8km s-min=7.2km az=75.0*
*MOS **31** 11:31:19.4±1.3, 3°93N×126°72E, h33km, mb5.4/57, MS4.9/14, Error ellipse: s-maj=10.0km s-min=5.0km az=113.5*
*NEIC **31** 11:31:21.3±0.1, 3°90N×126°78E, h35km, mb5.3/67, MW5.3, Error ellipse: s-maj=5.4km s-min=3.6km az=74.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1: ϕ_s231.00000°, δ57.00000°, λ148.00000°. NP2: ϕ_s340.00000°, δ63.00000°, λ38.00000°. Principal axes: T 1.0300, Plg44.0000°, Azm198.0000°; N -0.0400, Plg44.0000°, Azm9.0000°; P -0.9900, Plg4.0000°, Azm104.0000°;*
NEIC Felt [III] at Melonguanne.
*ISCJB **31** 11:31:21.2±0.4, 3°91N±0°02×126°84E±0°02, h51km±3km, mb5.2/157, MS4.8/65 Error ellipse: s-maj=4.0km s-min=2.8km az=161.0*
*GCMT **31** 11:31:22.8±0.1, 3°99N×126°82E, h26km, MW5.4, Moment Tensor Solution. s74,c119; s93,c164; Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.02; $M_{\theta\theta}$0.64±.02; $M_{\phi\phi}$-1.47±.02; $M_{r\theta}$-0.54±.04; $M_{r\phi}$-0.32±.02; $M_{\theta\phi}$-0.02±.04; Best double couple: $M_0$1.40000×10^{17} NP1: ϕ_s335.00000°, δ56.00000°, λ37.00000°. NP2: ϕ_s222.00000°, δ60.00000°, λ139.00000°. Principal axes: T 1.2900, Plg49.0000°, Azm186.0000°; N 0.2300, Plg41.0000°, Azm11.0000°; P -1.5200, Plg2.0000°, Azm279.0000°; Data Used: lI lU lC G CN.*
*DJA **31** 11:31:25.6±0.3, 4°N±3°×12°7E±°, h71km±3km, M5.0/72, mb5.1/72, mB5.5/46, MLv5.5/9, Mw(mB)5.0/46, Mwp5.8/2*
*AUST **31** 11:31:26.7±0.2, 3°79N×126°92E, h90km, Error ellipse: s-maj=0.9km s-min=0.5km az=234.0*

ISC 31 11:31:21.2±0.3, 3°90N±0°03×126°77E±0°03, h33km, h34km:pP-P, n660, σ1§65/823, mb5.2/153, MS4.8/66, 98C-95D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.07**	**350**	*e*P	**Pn**	**11 32 10.5**	**+3.0**
MNI	**Manado**	**3.11**	**218**	P	**Pn**	**11 32 10.2**	**+2.3**
TNTI	**Ternate**	**3.16**	**169**	P	**Pn**	**11 32 09.9**	**+1.2**
DAV	**Davao City (W)**	**3.37**	**339**	Pn	**Pb**	**11 32 17.8**	**-2.4**
	151nm,0.3s,baz=57,slow=4.4,SNR=13						
DAV				Sn	**Sb**	**11 32 59.1**	**-1.7**
	262nm,0.3s,baz=307,slow=19,SNR=4.0						
DAV	**Davao City (W)**	**3.37**	**339**	*e*Pn	**Pn**	**11 32 12.1**	**+0.6**
DAV				*e*Sn	**Sb**	**11 33 05.0**	**+4.2**
DAV	**Davao City (W)**	**3.37**	**339**	P	**Pb**	**11 32 18.8**	**-1.5**
	SNR=30						
DAV	**Davao City (W)**	**3.37**	**339**	P	Pn	11 32 14.9	+3.4
DMPH	**Davao City--Mi**	**3.40**	**338**	*i* P	**Pn**	**11 32 13.1**	**+1.1**
DMPH				*e*S	**Sb**	**11 32 58.5**	**-3.4**
KCP	**Kidapawan**	**3.51**	**332**	*i* P	Pn	11 32 18.1	+4.5
KCP				*i* S	**Sb**	**11 33 03.3**	**-1.8**
CTBH	**Cotabato--PC H**	**4.15**	**323**	*i* P	**Pn**	**11 32 24.0**	**+1.7**
BUKP	**Musuan**	**4.30**	**337**	*e*P	**Pn**	**11 32 27.2**	**+2.7**
KMSI	**Cibinong**	**4.32**	**220**	P	Pn	11 32 28.6	+4.0
LBMI	**Labuha**	**4.56**	**171**	P	**Pn**	**11 32 28.5**	**+0.5**
CGP	**Cagayan de Oro**	**4.97**	**336**	*i* P	Pn	11 32 40.7	+7.1
CGP				*e*S	Sn	11 33 37.9	+7.8
PAGZ	**Pagadian**	**5.17**	**320**	*e*P	**Pn**	**11 32 39.0**	**+2.7**
ZMPH	**Zamboanga City**	**5.58**	**303**	*i* P	**Pn**	**11 32 42.8**	**+0.8**
ZMPH				*i* S	**Sn**	**11 33 46.1**	**+1.1**
IPIL	**Ipil**	**5.69**	**313**	*e*P	**Pn**	**11 32 45.3**	**+1.9**
IPIL	**Ipil**	**5.69**	**313**	*e*P	**Pn**	**11 32 45.3**	**+1.9**
MRSI	**Marisa**	**5.90**	**235**	P	Pn	11 32 50.0	+3.7
	766nm,0.7s,9μm2.8nm						
LUWI	**Luwuk**	**6.33**	**219**	P	Pn	11 32 57.1	+4.9
	2μm,1.1s,17μm16μm5.9nm						
SNPH	**Sibulan**	**6.45**	**327**	*e*P	**Pn**	**11 32 52.6**	**-1.3**
SWI	**Sorong**	**6.52**	**136**	P	**Pn**	**11 32 55.2**	**+0.4**
	baz=6.4,SNR=9.5						
SWI				S	**Sn**	**11 34 07.6**	**-0.5**
	baz=6.4,SNR=5.0						
SWI	**Sorong**	**6.52**	**136**	P	**Pn**	**11 32 54.3**	**-0.5**
	296nm,1.0s						
LLP	**Lapu-Lapu**	**6.96**	**337**	*e*P	Pn	11 33 06.3	+5.4
LLP				*e*S	Sn	11 34 26.2	+7.3
PLP	**Palo**	**7.43**	**346**	*i* P	Pn	11 33 13.0	+5.5
PLP				*e*S	**Sn**	**11 34 28.2**	**-2.5**
AAI	**Ambon**	**7.67**	**169**	P	Pn	11 33 17.3	+6.7
	baz=7.6,SNR=3.9						
AAI	**Ambon**	**7.67**	**169**	P	Pn	11 33 15.0	+4.4
	158nm,1.4s,3μm0.8nm						
MYLDM	**Lahad Datu**	**8.34**	**279**	P	Pn	11 33 24.5	+4.7
MYLDM	**Lahad Datu**	**8.34**	**279**	P	Pn	11 33 25.3	+5.4
	409nm,1.4s,6μm						
PALU	**Palu**	**8.40**	**66**	P	**Pn**	**11 33 20.7**	**0.0**
	baz=8.3,SNR=14						
RCP	**Roxas**	**8.59**	**333**	*i* P	Pn	11 33 27.0	+3.6
FAKI	**Fak Fak**	**8.71**	**141**	P	**Pn**	**11 33 24.8**	**-0.1**
	152nm,1.1s,1μm						
KDI	**Kendari**	**8.84**	**208**	P	**Pn**	**11 33 28.2**	**+1.5**
	240nm,1.1s,3μm98μm						
TSM	**Tawau**	**8.88

YULB Yu-li 20.09 345 eP P 11 35 50.3 -1.8
65nm,0.6s
YULB eS S 11 39 30.1 -6.0
TPUB Ta-pu 20.18 343 eP P 11 35 52.5 -0.6
TPUB eS S 11 39 36.8 -1.2
GUMO Guam 20.30 61 LR LR 11 41 49.5
comp=Z,1μm,21.6s,baz=230,slow=31
BJII Banjamegara 20.36 237 P P 11 35 55.9 +0.8
97nm,2.0s,2μm
SSLB Suanglung 20.56 345 eP P 11 35 56.8 -0.4
99nm,0.6s
SSLB S S 11 39 39.6 -5.8
TGJI Tegal 20.61 239 P P 11 35 57.8 0.0
63nm,1.0s,2μm
YHNB Yeheng 21.30 346 eP P 11 36 04.9 -0.3
92nm,0.8s
PPBI Pangkal Pinang 21.48 254 P P 11 36 08.3 +1.1
28nm,1.1s,2μm
LEM Lembang 21.89 241 P P 11 36 14.9 +3.2
baz=22,SNR=4.5
LEM Lembang 21.89 241 P P 11 36 12.3 +0.6
130nm,0.9s,2μm
FITZ Fitzroy Crossi 21.89 183 P P 11 36 10.3 -1.2
26nm,0.9s,baz=6.5,slow=12,SNR=38
FITZ S S 11 40 06.5 -5.2
12nm,1.0s,baz=167,slow=16,SNR=4.3
FITZ Fitzroy Crossi 21.89 183 eP P 11 36 09.8 -1.7
95nm,1.3s
FITZ e 11 40 06.3
FITZ S S 11 40 06.5 -5.2
FITZ Fitzroy Crossi 21.89 183 P P 11 36 10.2 -1.2
baz=22,SNR=24
FITZ S S 11 40 08.2 -3.4
baz=22,SNR=8.5
CISI Cisompet, Garu 22.07 239 P P 11 36 13.8 +0.2
75nm,1.3s,2μm
QIZ Qiongzhong 22.35 314 P P 11 36 19.8 +3.3
QIZ pP pP 11 36 25.5 0.0
QIZ sP sP 11 36 31.0 +1.3
QIZ S S 11 40 22.0 +1.6
QIZ sS sS 11 40 36.8 +1.6
QIZ pmax pmax
comp=Z,36nm,1.9s
QIZ LR LR
comp=N,1μm,20.1s
QIZ LR LR
comp=E,550nm,22.9s
QIZ LR LR
comp=Z,2μm,20.4s
QZH Quanzhou 22.36 340 P P 11 36 18.8 +2.3
QZH S S 11 40 22.3 +2.0
QZH pmax pmax
comp=Z,90nm,0.8s
QZH LR LR
comp=N,5μm,16.3s
QZH LR LR
comp=E,4μm,19.0s
QZH LR LR
comp=Z,6μm,20.8s
CBJI Citeko 22.37 243 P P 11 36 19.7 +2.9
comp=Z,299nm,0.9s
DBJI Dramaga 22.52 243 P P 11 36 19.5 +1.1
comp=Z,88nm,1.0s
JOW Kunigami 22.85 3 P P 11 36 20.4 -1.3
comp=Z,65nm,0.7s,baz=188,slow=9.1,SNR=7.3
JOW LR LR 11 44 21.6
comp=Z,2μm,21.9s,baz=289,slow=34
JOW Kunigami 22.85 3 eP P 11 36 21.5 -0.2
comp=Z,28nm,0.7s
JOW ePcP PcP 11 40 07.9 -4.3
MYKOM Kota Tinggi 22.99 265 P P 11 36 24.3 +1.1
MYKOM Kota Tinggi 22.99 265 P P 11 36 24.4 +1.1
comp=Z,47nm,0.9s,comp=Z,1μm
CGJI Cibinong 23.49 244 P P 11 36 27.0 -1.3
comp=Z,80nm,0.9s,comp=Z,1μm
KGM Kluang 23.49 266 P P 11 36 29.3 +0.9
KTGM Kuala Trenggan 23.60 274 P P 11 36 31.1 +1.7
COEN Coen 24.07 138 eP P 11 36 31.5 -2.3
comp=Z,148nm,0.8s
COEN ePcP PcP 11 40 17.0 +2.1
COEN Coen 24.07 138 P P 11 36 31.4 -2.3
baz=24,SNR=6.5
PMG Port Moresby 24.24 123 P P 11 36 33.3 -2.0
comp=Z,16nm,1.0s,baz=320,slow=8.5,SNR=7.0
PMG ScP ScP 11 43 53.3 +1.6
comp=Z,7.9nm,1.0s,baz=36,slow=6.1,SNR=3.0
PMG Port Moresby 24.24 123 eP P 11 36 32.7 -2.6
comp=Z,37nm,1.0s
PMG ScP ScP 11 43 53.3 +1.6
PMG Port Moresby 24.24 123 P P 11 36 32.9 -2.4
comp=Z,40nm,1.1s,comp=Z,692nm
LWLI Liwa 24.35 249 P P 11 36 38.7 +2.2
comp=Z,168nm,0.9s
WRAB Tennant Creek 24.83 163 eP P 11 36 39.8 -0.8
WRAB eS S 11 40 57.2 -4.1
WRAB pmax pmax
comp=Z,358nm,1.1s
WRAB Tennant Creek 24.83 163 eP P 11 36 39.8 -0.8
comp=Z,358nm,1.1s
WRAB eS S 11 40 57.2 -4.1
WRAB eScP ScP 11 43 54.3 +1.2
WRAB Tennant Creek 24.83 163 P P 11 36 39.0 -1.6
comp=Z,2μm,1.0s
WRA Warramunga Arr 24.83 163 P P 11 36 39.2 -1.4
comp=Z,122nm,0.8s,baz=338,slow=11,SNR=161
WRA S S 11 40 57.6 -3.8
comp=Z,1.5nm,0.7s,baz=28,slow=26,SNR=3.8
WRA ScP ScP 11 43 54.2 +1.1
comp=Z,10nm,0.8s,baz=342,slow=3.3,SNR=13
WRA Warramunga Arr 24.83 163 P P 11 36 39.2 -1.4
WRA S S 11 40 57.6 -3.8
WRA ScP ScP 11 43 54.2 +1.1
FRIM Kepong 25.11 269 P P 11 36 44.0 +0.8
IPM Ipoh 25.68 272 eP P 11 36 48.7 +0.2
IPM eScP ScP 11 43 55.5 -0.2
IPM Ipoh 25.68 272 P P 11 36 50.0 +1.5
IPM Ipoh 25.68 272 P P 11 36 49.5 +1.0
comp=Z,40nm,1.1s,comp=Z,693nm
CHBT CHBT 25.71 291 P P 11 36 49.8 +1.2
MBWA Marble Bar 25.84 195 eP P 11 36 49.2 -0.6
comp=Z,189nm,1.5s
MBWA Marble Bar 25.84 195 P P 11 36 50.4 +0.6
SNR=12
KULM Kulim 26.07 274 eP P 11 36 54.7 +2.7
comp=Z,47nm,1.1s
KULM Kulim 26.07 274 P P 11 36 52.6 +0.7
KULM Kulim 26.07 274 P P 11 36 52.9 +0.9
comp=Z,42nm,1.4s,comp=Z,744nm
PPI Padang Panjang 26.71 261 S S 11 41 32.5 +1.1
baz=27,SNR=6.4
MNSI Mandailing Nat 27.34 264 P P 11 37 03.1 -0.3
comp=Z,52nm,0.9s
CBIJ Chichi jima 27.37 31 P P 11 37 03.0 -0.6
comp=Z,169nm,0.9s,baz=254,slow=8.5,SNR=4.7
CBIJ LR LR 11 46 55.4
comp=Z,2μm,19.3s,baz=226,slow=34
CBIJ Chichi jima 27.37 31 P P 11 37 03.0 -0.6
QIS Mount Isa 27.38 153 P P 11 37 03.1 -0.6
baz=27,SNR=56
SSE Sheshan 27.56 350 P P 11 37 02.5 -2.7
SSE pP pP 11 37 11.0 -3.8
SSE S S 11 41 44.0 -0.3
SSE sS sS 11 41 59.0 -1.3
SSE pmax pmax
comp=Z,31nm,0.6s
SSE pmax pmax
comp=Z,110nm,6.2s
SSE LR LR
comp=N,2μm,20.9s
SSE LR LR
comp=E,580nm,21.0s
SSE LR LR
comp=Z,2μm,21.3s
PSI Prapat 27.82 269 P P 11 37 06.7 -1.1
comp=Z,9.5nm,0.8s,baz=106,slow=7.1,SNR=5.3
PSI Prapat 27.82 269 P P 11 37 06.7 -1.1
PSI Prapat 27.82 269 P P 11 37 08.0 +0.1
baz=28,SNR=4.4
PSI S S 11 41 48.9 -0.2
baz=28,SNR=4.8
PSI Prapat 27.82 269 P P 11 37 07.8 -0.1
comp=Z,21nm,1.2s,comp=Z,434nm
AS31 Alice Springs 28.27 166 eP P 11 37 09.8 -1.7
ASAR Alice Springs 28.27 166 P P 11 37 10.6 -1.0
comp=Z,4.2nm,0.4s,baz=340,slow=6.3,SNR=63
ASAR PcP PcP 11 40 24.9 +0.3
comp=Z,6.5nm,0.9s,baz=346,slow=3.5,SNR=5.0
ASAR S S 11 41 55.5 -0.2
comp=Z,0.6nm,0.7s,baz=202,slow=19,SNR=2.5
ASAR ScP ScP 11 44 04.2 +0.9
comp=Z,7.5nm,1.0s,baz=349,slow=2.4,SNR=11
ASAR Alice Springs 28.27 166 P P 11 37 10.6 -1.0
ASAR PcP PcP 11 40 24.9 +0.3
ASAR S S 11 41 55.5 -0.2
ASAR ScP ScP 11 44 04.2 +0.9
NJ2 Nanjing 28.98 346 eP P 11 37 20.3 +2.5
NJ2 pP pP 11 37 28.3 +0.9
NJ2 sP sP 11 37 33.8 +2.3
NJ2 S S 11 42 12.0 +5.4
NJ2 sS sS 11 42 24.0 +1.4
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,290nm,5.0s
NJ2 LR LR
comp=N,2μm,17.7s
NJ2 LR LR
comp=E,6μm,25.4s
NJ2 LR LR
comp=Z,2μm,20.9s
WHN Wuhan 28.98 337 P P 11 37 20.0 +2.2
WHN S S 11 42 13.5 +6.7
WHN pmax pmax
comp=Z,52nm,0.7s
WHN LR LR
comp=N,5μm,19.1s
WHN LR LR
comp=E,5μm,17.0s
WHN LR LR
comp=Z,10μm,21.5s
GSI Gunungsitoli 29.27 266 P P 11 37 18.7 -2.0
comp=Z,48nm,1.3s
JNU Nakatsue 29.33 7 P P 11 37 20.1 -0.8
comp=Z,15nm,0.7s,baz=212,slow=3.3,SNR=23
JNU LR LR 11 48 01.2
comp=Z,1μm,21.7s,baz=186,slow=34
JNU Nakatsue 29.33 7 P P 11 37 20.1 -0.8
GYA Guiyang 29.56 321 P P 11 37 26.5 +3.3
GYA pP pP 11 37 37.3 +4.4
GYA PP PP 11 38 25.0 -5.3
GYA S S 11 42 19.3 +3.0
GYA sS sS 11 42 38.0 +5.8
GYA SS SnSn 11 43 56.0 +10
GYA ScS ScS 11 48 02.0 -0.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,750nm,17.5s
GYA LR LR
comp=E,610nm,18.0s
GYA LR LR
comp=Z,740nm,17.0s
CTA Charters Tower 30.57 142 P P 11 37 31.5 -0.6
comp=Z,8.3nm,0.9s,baz=326,slow=11,SNR=7.1
CTA PcP PcP 11 40 31.2 +0.8
comp=Z,3.4nm,0.6s,baz=18,slow=3.2,SNR=3.0
CTA ScP ScP 11 44 12.4 +1.7
comp=Z,6.8nm,0.9s,baz=306,slow=6.8,SNR=5.8
CTA LR LR 11 51 10.4
comp=Z,1μm,18.2s,baz=322,slow=39
CTA Charters Tower 30.57 142 P P 11 37 31.5 -0.6
CTA PcP PcP 11 40 31.2 +0.8
CTA ScP ScP 11 44 12.4 +1.7
CTAO Charters Tower 30.57 142 eP P 11 37 31.7 -0.4
CTAO e 11 40 30.0
CTAO pmax pmax
comp=Z,30nm,1.2s
CTAO Charters Tower 30.57 142 eP P 11 37 31.7 -0.4
comp=Z,30nm,1.2s
CTAO ePcP PcP 11 40 30.0 -0.4
CMAR Chiang Mai Arr 30.82 300 P P 11 37 33.6 -0.7
comp=Z,8.2nm,0.8s,baz=111,slow=6.8,SNR=31
CMAR ScP ScP 11 44 13.8 +2.2
comp=Z,3.9nm,0.8s,baz=140,slow=1.9,SNR=11
CMAR Chiang Mai Arr 30.82 300 P P 11 37 33.6 -0.7
CMAR ScP ScP 11 44 13.8 +2.2
ENH Enshi 30.90 330 eP P 11 37 34.2 -0.7
comp=Z,53nm,0.7s
ENH ePcP PcP 11 40 32.1 +0.9
ENH S S 11 42 31.2 -5.8
ENH eScP ScP 11 44 12.1 +0.4
CMMT Chiang Mai 30.97 301 P P 11 37 36.3 +0.7
comp=Z,32nm,1.0s,comp=Z,532nm
CHTO Chiang Mai 30.97 301 eP P 11 37 35.3 -0.4
CHTO pmax pmax
comp=Z,40nm,1.2s
CHTO Chiang Mai 30.97 301 eP P 11 37 35.3 -0.4
comp=Z,40nm,1.2s
CHTO Chiang Mai 30.97 301 P P 11 37 35.9 +0.3
comp=Z,35nm,1.0s,comp=Z,536nm
KMI Kunming 31.29 315 P P 11 37 40.8 +2.2
KMI pP pP 11 37 49.3 +1.0
KMI sP sP 11 37 53.0 +0.6
KMI S S 11 42 40.3 -3.3
KMI SS SnSn 11 44 36.0 +7.8
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=N,600nm,20.8s
KMI LR LR
comp=E,1μm,22.7s
KMI LR LR
comp=Z,2μm,22.7s
MEEK Meekatharra 31.36 194 P P 11 37 38.3 -0.7
baz=32,SNR=28
JHJ Hachijo jima 2 31.51 21 LR LR 11 49 25.3
comp=Z,2μm,19.7s,baz=118,slow=34
KSAR Wonju Array Be 33.40 2 P P 11 37 56.5 -0.1
KSAR PcP PcP 11 40 39.5 +1.7
KSRS Korea Array 33.41 2 P P 11 37 56.5 -0.2
comp=Z,4.8nm,0.4s,baz=178,slow=10,SNR=20
KSRS PcP PcP 11 40 39.5 +1.6
comp=Z,6.2nm,1.0s,baz=194,slow=3.0,SNR=8.1
KSRS LR LR 11 51 53.5
comp=Z,1μm,20.9s,baz=191,slow=37
MAJO Matsushiro 34.15 17 eP P 11 38 01.5 -1.8
MAJO e 11 40 39.0
MAJO pmax pmax
comp=Z,22nm,1.1s
MAJO Matsushiro 34.15 17 eP P 11 38 01.5 -1.8
comp=Z,22nm,1.1s
MAJO ePcP PcP 11 40 39.0 -1.0
MAT Matsushiro 34.15 17 P P 11 38 00.5 -2.8
MAT S S 11 43 27.0 -0.4
MJAR Matsushiro Arr 34.15 17 P P 11 38 01.4 -1.8
comp=Z,3.3nm,0.6s,baz=196,slow=11,SNR=12
MJAR PcP PcP 11 40 40.4 +0.4
comp=Z,4.5nm,0.9s,baz=210,slow=3.6,SNR=4.8
MJAR LR LR 11 52 26.3
comp=Z,1μm,19.1s,baz=200,slow=37
MJAR Matsushiro Arr 34.15 17 P P 11 38 01.4 -1.8
MJAR PcP PcP 11 40 40.4 +0.4
XAN Xi'an 34.28 333 P P 11 38 03.3 -1.2
XAN pP pP 11 38 13.0 -1.2
XAN sP sP 11 38 17.0 -1.3
XAN S S 11 43 25.0 -4.6
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,21nm,4.2s
XAN LR LR
comp=N,1μm,19.6s
XAN LR LR
comp=E,610nm,17.0s
XAN LR LR
comp=Z,760nm,18.3s
MORW Morawa 34.36 197 P P 11 38 04.8 -0.3
baz=34,SNR=8.2
FORT Forrest 34.50 178 eP P 11 38 05.4 -0.9
comp=Z,40nm,0.6s
FORT Forrest 34.50 178 P P 11 38 05.9 -0.4
baz=35,SNR=9.4
CD2 Chengdu 34.53 324 P P 11 38 06.0 -0.7
CD2 pP pP 11 38 16.0 -0.4
CD2 sP sP 11 38 20.3 -0.2
CD2 PP PnPn 11 39 23.5 +0.9
CD2 S S 11 43 32.8 -0.7
CD2 sS sS 11 43 49.5 -0.1
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,100nm,4.4s
CD2 LR LR
comp=E,2μm,20.2s
CD2 LR LR
comp=Z,2μm,17.8s
QLP Quilpie 34.69 152 P P 11 38 07.3 -0.8
baz=35,SNR=12
DL2 Dalian 35.16 353 P P 11 38 13.0 +1.1
DL2 S S 11 43 43.8 +1.0
DL2 pmax pmax
comp=Z,30nm,1.2s
DL2 LR LR
comp=N,400nm,22.1s
DL2 LR LR
comp=E,500nm,19.1s
DL2 LR LR
comp=Z,500nm,25.5s
KMBL Kambalda 35.38 187 P P 11 38 13.5 -0.3
baz=36,SNR=6.7
BLDU Ballidu 35.64 195 P P 11 38 16.3 +0.1
baz=36,SNR=11
KLBR Kellerberrin 36.32 193 P P 11 38 21.6 -0.4
baz=36,SNR=10
RMQ Roma 36.95 146 P P 11 38 26.9 -0.5
baz=37,SNR=6.9
BJT Baijiatuau 37.21 346 eP P 11 38 30.1 +0.6
comp=Z,66nm,0.6s
BJT ePcP PcP 11 40 50.7 +1.8
BJT eScP ScP 11 44 34.5 +0.8
BJI Beijing 37.23 347 P P 11 38 30.3 +0.7
BJI PP PnPn 11 39 57.5 +1.9
BJI S S 11 44 11.8 -2.7
BJI pmax pmax
comp=Z,86nm,1.0s
BJI pmax pmax
comp=Z,190nm,3.6s
BJI LR LR
comp=N,730nm,23.2s
BJI LR LR
comp=E,1μm,21.8s
BJI LR LR
comp=Z,990nm,23.2s
EIDS Eidsvold 37.46 142 eP P 11 38 30.7 -1.1
EIDS Eidsvold 37.46 142 P P 11 38 31.2 -0.6
baz=37,SNR=18
BBOO Buckleboo 37.55 167 eP P 11 38 32.4 0.0
BBOO Buckleboo 37.55 167 P P 11 38 32.0 -0.5
baz=38,SNR=54
NWAO Narrogin (SRO) 37.72 193 P P 11 38 33.4 -0.5
comp=Z,24nm,1.0s,baz=36,slow=9.1,SNR=12
NWAO PcP PcP 11 40 50.4 -0.2
comp=Z,24nm,1.2s,baz=103,slow=4.3,SNR=3.8
NWAO Narrogin (SRO) 37.72 193 P P 11 38 33.4 -0.5
NWAO PcP PcP 11 40 50.4 -0.2
SNY Shenyang 37.87 356 ⇓P P 11 38 36.3 +1.3
SNY S S 11 44 25.3 +1.1
SNY pmax pmax
comp=Z,47nm,0.6s
SNY pmax pmax
comp=Z,110nm,5.6s
SNY LR LR
comp=N,740nm,19.8s
SNY LR LR
comp=E,1μm,18.4s
SNY LR LR
comp=Z,1μm,23.9s
STKA Stephens Creek 38.27 159 P P 11 38 38.1 -0.4
comp=Z,71nm,0.8s,baz=334,slow=8.7,SNR=118
STKA S S 11 44 28.5 -2.0
comp=Z,2.6nm,0.7s,baz=35,slow=20,SNR=1.8
STKA LR LR 11 55 01.0
comp=Z,980nm,21.9s,baz=332,slow=37
STKA Stephens Creek 38.27 159 eP P 11 38 38.0 -0.6
comp=Z,13nm,0.8s
STKA ePcP PcP 11 40 52.6 +0.3
STKA S S 11 44 28.5 -2.0
STKA Stephens Creek 38.27 159 P P 11 38 38.7 +0.2
baz=38,SNR=58
STKA S S 11 44 29.2 -1.2
baz=38,SNR=7.1
LZH Lanzhou 38.38 329 ⇑P P 11 38 40.0 +0.4
LZH pP pP 11 38 50.0 +0.6
LZH sP sP 11 38 55.0 +1.6
LZH S S 11 44 32.5 +0.1
LZH sS sS 11 44 48.8 +0.2
LZH pmax pmax
comp=Z,74nm,1.0s
LZH pmax pmax
comp=Z,380nm,5.6s
LZH LR LR
comp=N,2μm,15.3s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=Z,4μm,16.4s
HHC Hu-ho-hao-te 39.25 342 eP P 11 38 47.5 +0.7
HHC sP sP 11 39 01.8 +1.2
HHC PP PnPn 11 40 23.3 +3.2
HHC S S 11 44 44.3 -1.0
HHC sS sS 11 45 03.5 +2.0
HHC ScS ScS 11 48 51.0 -2.4
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,410nm,4.3s
HHC LR LR
comp=N,2μm,24.1s
HHC LR LR
comp=E,2μm,22.8s
HHC LR LR
comp=Z,2μm,21.8s
RKGY Rocky Gully 39.40 193 P P 11 38 49.5 +1.6
baz=40,SNR=8.2
CMSA Cobar Meteorol 39.58 154 P P 11 38 50.0 +0.5
baz=40,SNR=27
CN2 Changchun 39.76 359 eP P 11 38 50.8 0.0
CN2 epP pP 11 39 00.5 -0.1
CN2 PP PnPn 11 40 27.3 +1.5
CN2 PcP PcP 11 40 58.0 +1.2
CN2 eS S 11 44 53.5 +1.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=Z,1μm,20.0s
SHL Shillong 39.81 306 eP P 11 38 51.0 -0.7
SHL i x x 11 44 51.0
USRK Ussuriysk Arra 40.40 6 P P 11 38 56.4 +0.4
comp=Z,18nm,0.7s,baz=193,slow=7.5,SNR=38
USRK ScP ScP 11 44 48.3 +2.5
comp=Z,0.8nm,0.6s,baz=116,slow=4.5,SNR=4.5
MDJ Mudanjiang 40.63 3 P P 11 38 58.3 +0.3
MDJ pP pP 11 39 07.0 -0.8
MDJ sP sP 11 39 11.0 -0.9
MDJ PP PP 11 40 30.8 -1.2
MDJ PcP PcP 11 41 00.0 +0.5
MDJ ScP ScP 11 44 47.0 +0.3
MDJ PcS PcS 11 44 50.5 +0.4
MDJ S S 11 45 08.8 +3.2
MDJ SS SS 11 48 03.8 -2.8
MDJ ScS ScS 11 49 01.5 +0.4
MDJ pmax pmax
comp=Z,18nm,1.6s
MDJ pmax pmax
comp=Z,75nm,4.3s
MDJ LR LR
comp=N,850nm,23.5s
MDJ LR LR
comp=E,380nm,32.6s
MDJ LR LR
comp=Z,930nm,24.1s
MDJ Mudanjiang 40.63 3 eP P 11 38 58.7 +0.7
comp=Z,33nm,1.0s
ARMA Armidale 41.58 147 eP P 11 39 07.0 +0.7
comp=Z,92nm,1.3s
ARMA Armidale 41.58 147 P P 11 39 06.6 +0.4
baz=42,SNR=7.4
LSA Lhasa 42.36 311 P P 11 39 13.5 +0.5
LSA pmax pmax

comp=Z,50nm,0.8s
LSA Lhasa 42.36 311 *e*P **P 11 39 13.3 +0.3**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 42.36 311 *e*P **P 11 39 13.3 +0.3**
comp=Z,34nm,0.8s
ASAJ Asahikawa 42.42 17 P **P 11 39 13.3 +0.6**
comp=Z,6.7nm,0.6s,baz=240,slow=18,SNR=13
ASAJ ScP **ScP 11 44 56.1 +2.2**
comp=Z,9.6nm,1.2s,baz=231,slow=13,SNR=3.5
ASAJ LR LR 11 56 17.8
comp=Z,1μm,20.8s,baz=215,slow=35
ASAJ Asahikawa 42.42 17 *e*P **P 11 39 13.2 +0.5**
comp=Z,11nm,0.8s
ASAJ ScP **ScP 11 44 56.1 +2.2**
ASAJ *e*ScP **ScP 11 44 56.7 +2.9**
ARPS Mount Arapiles 42.83 162 P **P 11 39 16.9 +0.7**
baz=43,SNR=26
GTA Gaotai 42.97 329 *e*P **P 11 39 17.0 -0.5**
GTA pP **pP 11 39 26.3 -1.1**
GTA sP **sP 11 39 30.3 -1.1**
GTA ScP **ScP 11 44 55.5 -0.9**
GTA S **S 11 45 39.8 -0.9**
GTA ScS **ScS 11 49 15.5 -0.4**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,130nm,4.5s
GTA LR LR
comp=N,2μm,19.2s
GTA LR LR
comp=E,2μm,19.7s
GTA LR LR
comp=Z,3μm,19.5s
YNG Young 43.12 153 P **P 11 39 19.7 +1.2**
baz=43,SNR=8.1
YUK Yuzh-Kuril'sk 43.38 20 P P 11 39 28.7 +8.2
YUK *e* 11 41 01.4
YUK MLR MLR
comp=N,651nm,25.0s
YUK MLR MLR
comp=Z,1μm,25.0s
TAPN Taplejung 43.95 306 *e*P **P 11 39 25.0 -0.7**
ODAN Odare 44.01 305 *e*P **P 11 39 25.7 -0.4**
CAN Canberra 44.24 154 *e*P **P 11 39 28.3 +0.7**
CAN pmax pmax
comp=Z,108nm,1.2s
CAN Canberra 44.24 154 *e*P **P 11 39 28.2 +0.7**
comp=Z,108nm,1.2s
CNB Canberra Magne 44.40 153 P **P 11 39 30.9 +2.1**
baz=44,SNR=5.2
RAMN Ramite 44.69 305 *e*P **P 11 39 31.0 -0.6**
comp=Z,74nm,0.8s
TOO Toolangi 44.78 159 P **P 11 39 33.5 +1.7**
baz=45,SNR=9.2
HABR Khabarovsk 44.97 8 *de*P **P 11 39 31.2 -1.9**
HABR *e**PP **pP 11 39 40.8 -2.3**
HABR *e**SP **sP 11 39 45.1 -2.0**
HABR *e* 11 41 11.7
HABR *e* 11 41 16.5
HABR *e*PPP PPP 11 41 55.4
HABR *e*S **S 11 46 08.3 -1.0**
HABR *e**SS **sS 11 46 24.8 -0.8**
HABR 11 49 25.4
HABR *e*SSS SSS 11 50 17.8
HABR pmax pmax
comp=Z,98nm,2.5s
HABR pmax pmax
comp=E,36nm,2.5s
HABR pmax pmax
comp=N,48nm,2.5s
HABR MLR MLR
comp=E,887nm,16.0s
HABR MLR MLR
comp=N,940nm,21.0s
HABR MLR MLR
comp=Z,863nm,18.0s
YSS Yuzh-Sakhalins 45.07 15 *e*P **P 11 39 34.2 +0.3**
YSS *e**SP **sP 11 39 46.0 -1.9**
YSS *e* 11 41 16.2
YSS *e*S **S 11 46 11.0 +0.3**
YSS *e* 11 49 30.0
YSS MLR MLR
comp=Z,1μm,19.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS Yuzh-Sakhalins 45.07 15 *e*P **P 11 39 33.8 -0.1**
comp=E,45nm,0.9s
KLR Kul'dur 45.37 5 *e*P P 11 39 32.7 -3.6
KLR MLR MLR
comp=E,1μm,22.0s
HIA Hailar 45.60 354 *e*P **P 11 39 38.9 +0.8**
comp=E,57nm,1.0s
HIA *e*PcP **PcP 11 41 17.6 +1.4**
HIA *e*ScP **ScP 11 45 06.9 +0.1**
HIA S **S 11 46 19.1 +0.7**
GUN Gumba 45.66 306 *e*P **P 11 39 38.5 -0.9**
comp=E,88nm,0.6s
PKI Pulchoki 45.91 305 *e*P **P 11 39 40.0 -1.3**
comp=E,83nm,1.2s
PALK Pallekele 45.95 276 *e*P **P 11 39 40.7 -0.8**
comp=E,10nm,0.8s
PALK *e*PcP **PcP 11 41 15.0 -3.2**
PALK Pallekele 45.95 276 P P 11 39 45.8 +4.2
comp=E,14nm,1.2s
KKN Kakani 46.10 305 *e*P **P 11 39 41.4 -1.3**
DMN Daman 46.17 305 *e*P **P 11 39 42.2 -1.1**
comp=E,49nm,0.9s
DZM Mont Dzumac 46.60 125 P **P 11 39 46.0 -0.5**
comp=E,21nm,1.0s,baz=257,slow=3.7,SNR=3.8
DZM Mont Dzumac 46.60 125 *e*P **P 11 39 48.4 +1.9**
comp=E,121nm,1.2s
DZM *e*S **S 11 46 32.4 -1.3**
comp=E,795nm,29.9s
DZM Mont Dzumac 46.60 125 P **P 11 39 46.0 -0.5**
ULN Ulaanbaatar 46.97 342 *e*P **P 11 39 49.3 +0.1**
comp=E,46nm,1.1s
ULN *e*PcP **PcP 11 41 21.9 +0.7**
ULN Ulaanbaatar 46.97 342 P **P 11 39 49.8 +0.7**
SNR=20
ULN Ulaanbaatar 46.97 342 P **P 11 39 49.2 +0.1**
SONM Songino Array 47.15 341 P **P 11 39 50.6 +0.1**
comp=E,11nm,0.5s,baz=153,slow=8.7,SNR=46
SONM PcP **PcP 11 41 22.9 +1.1**
comp=E,6.5nm,0.9s,baz=145,slow=5.3,SNR=3.3
SONM ScP **ScP 11 45 15.4 +1.9**
comp=E,1.2nm,0.9s,baz=102,slow=3.5,SNR=2.7
SONM LR LR 12 01 13.8
comp=E,1μm,19.8s,baz=156,slow=38
SONM PKP2bc 12 11 28.9
comp=E,0.1nm,0.2s,baz=321,slow=1.9,SNR=3.5
SONM Songino Array 47.15 341 P **P 11 39 50.6 +0.1**
SONM PcP **PcP 11 41 22.9 +1.1**
SONM ScP **ScP 11 45 15.4 +1.9**
SONM ⇑*e* 12 11 28.9
KOLN Koldanda 47.46 305 *e*P **P 11 39 52.6 -0.8**
comp=E,77nm,0.6s
DANN Dangsing 47.55 305 *e*P **P 11 39 53.0 -1.2**
comp=E,126nm,0.6s
PYUN Piuthan 48.09 305 *e*P **P 11 39 56.7 -1.5**
HYB Hyderabad 49.10 290 *i* P **P 11 40 06.0 +0.1**
CIT Chita 49.21 349 *e*P **P 11 40 06.2 0.0**
CIT *e* 11 40 15.2
ZAK Zakamensk 50.38 341 *e*P **P 11 40 14.3 -0.9**
ZAK *e* 11 41 31.7
ZAK pmax pmax
comp=Z,7.0nm,1.5s
TLY Talaya 51.38 342 *e*P **P 11 40 21.6 -1.1**
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,871nm,21.0s
TLY Talaya 51.38 342 *e*P **P 11 40 22.9 +0.3**
comp=Z,26nm,0.8s
TLY Talaya 51.38 342 P **P 11 40 24.5 +1.8**
SNR=17
TLY Talaya 51.38 342 P **P 11 40 23.1 +0.4**
comp=Z,172nm,0.8s,SNR=10.0
IRK Irkutsk 51.68 343 *e*P **P 11 40 25.9 +1.0**
IRK pmax pmax
comp=Z,57nm,1.8s
AGRA Agra 52.01 302 *e*P **P 11 40 26.1 -1.6**
AGRA AMb AMB 11 40 31.0
comp=Z,72nm,0.1s

MOY Mondy 52.24 340 *e*P **P 11 40 29.8 +0.6**
MOY pmax pmax
comp=Z,63nm,2.3s
WMQ Urumqi 52.61 325 P **P 11 40 33.0 +1.0**
WMQ sP **sP 11 40 48.3 +2.2**
WMQ PcP **PcP 11 41 42.8 +0.9**
WMQ PP **PP 11 42 34.5 +3.2**
WMQ S **S 11 47 57.0 -0.2**
WMQ sS **sS 11 48 17.8 +4.0**
WMQ ScS **ScS 11 50 16.0 -3.5**
WMQ SS **SS 11 51 34.0 -1.9**
WMQ pmax pmax
comp=Z,31nm,1.4s
WMQ pmax pmax
comp=Z,220nm,4.0s
WMQ LR LR
comp=N,3μm,17.0s
WMQ LR LR
comp=E,2μm,18.0s
WMQ LR LR
comp=Z,2μm,20.0s
CLNS Chul'man 52.81 359 *e*P **P 11 40 32.2 -1.0**
CLNS pmax pmax
comp=Z,15nm,0.6s
CLNS pmax pmax
comp=N,7.0nm,0.4s
DDI Dehra Dun 52.91 305 *ex* P 11 40 28.0 -6.4
DDI *ex* x 11 41 19.0
SONA Sohna 53.04 303 *e*P **P 11 40 33.3 -2.0**
SONA AMb AMB 11 40 40.1
comp=Z,47nm,0.9s
AYAN Aya Nagar 53.08 303 *e*P **P 11 40 34.7 -0.9**
AYAN AMb AMB 11 40 40.0
comp=Z,33nm,1.0s
KUDL Kundal 53.51 302 *e*P **P 11 40 36.7 -2.1**
KUDL AMb AMB 11 40 43.5
comp=Z,62nm,0.9s
POO Poona 53.70 290 *ex* P 11 40 37.0 -3.4
KKR Kurukshetra 53.80 305 *e*P **P 11 40 39.0 -1.9**
KHET Khetri 54.06 302 *e*P **P 11 40 41.1 -1.8**
KHET AMb AMB 11 40 48.4
comp=Z,56nm,0.8s
MSVF Nonsavu 54.95 115 *e*P **P 11 40 49.0 -0.5**
MSVF pmax pmax
comp=Z,23nm,0.9s
MSVF Nonsavu 54.95 115 *e*P **P 11 40 49.0 -0.5**
comp=Z,23nm,0.9s
PEA0B Petropavlovsk- 55.26 22 *e*P **P 11 40 52.4 +1.2**
PEA0B *e*PcP **PcP 11 41 50.1 -1.6**
PETK Petropavlovsk- 55.26 22 P **P 11 40 51.6 +0.6**
comp=Z,22nm,0.8s,baz=195,slow=6.7,SNR=26
PETK LR LR 12 06 44.4
comp=Z,425nm,18.6s,baz=217,slow=38
PETK Petropavlovsk- 55.26 22 P **P 11 40 51.7 +0.6**
PETK Petropavlovsk- 55.26 22 P **P 11 40 51.6 +0.6**
DLH Dalhousie 55.34 307 *e*P **P 11 40 51.0 -1.3**
THN Thein Dam 55.50 307 *ex* x 11 40 50.0
PET Petropavlovsk 55.56 23 *e*P **P 11 40 54.4 +1.2**
PET *e*S **S 11 48 40.4 +4.0**
PET pmax pmax
comp=Z,100nm,15.8s
PET pmax pmax
comp=Z,45nm,1.0s
PET MLR MLR
comp=Z,700nm,17.0s
PET Petropavlovsk 55.56 23 *e*P **P 11 40 53.8 +0.6**
comp=Z,74nm,1.3s
MK31 Makanchi Array 57.44 325 *ce*P **P 11 41 05.9 -0.9**
MK31 pmax pmax
comp=Z,13nm,0.5s
MKAR Makanchi Array 57.44 325 P **P 11 41 05.5 -1.3**
comp=Z,8.1nm,0.4s,baz=122,slow=7.2,SNR=59
MKAR ScP **ScP 11 46 00.3 +2.4**
comp=Z,8.4nm,0.8s,baz=116,slow=5.5,SNR=9.9
MKAR S **S 11 48 58.8 -3.0**
comp=Z,3.4nm,1.0s,baz=130,slow=14,SNR=9.2
MKAR LR LR 12 08 01.8
comp=Z,2μm,18.3s,baz=120,slow=38
MKAR PKPPKP P'P'df 12 10 47.1 -7.9
comp=Z,1.6nm,1.1s,baz=270,slow=1.1,SNR=6.7
MKAR PKP2bc 12 11 07.3
comp=Z,1.8nm,1.2s,baz=2.9,slow=2.4,SNR=4.4
MKAR Makanchi Array 57.44 325 P **P 11 41 05.5 -1.3**
MKAR S **S 11 48 58.8 -3.0**
MKAR Makanchi Array 57.44 325 P **P 11 41 05.5 -1.3**
MKAR ScP **ScP 11 46 00.3 +2.4**
MKAR S **S 11 48 58.8 -3.0**
MKAR P'P' 12 10 47.1
MKAR ⇑*e* 12 11 07.3
KSH Kashi 57.95 315 P **P 11 41 12.0 +1.3**
KSH pP **pP 11 41 22.5 +1.6**
KSH sP **sP 11 41 26.0 +1.2**
KSH PcP **PcP 11 42 02.5 -0.2**
KSH PP **PP 11 43 22.8 +3.4**
KSH ScP **ScP 11 46 00.0 -0.5**
KSH PcS **PcS 11 46 03.3 -0.8**
KSH S **S 11 49 06.0 -2.9**
KSH sS **sS 11 49 27.0 +1.3**
KSH ScS **ScS 11 50 55.0 -3.1**
KSH SS **SS 11 53 02.8 +2.4**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,110nm,3.5s
KSH LR LR
comp=N,690nm,15.6s
KSH LR LR
comp=E,510nm,15.3s
KSH LR LR
comp=Z,1μm,23.5s
YAK Yakutsk 58.04 2 *c i* P **P 11 41 10.3 -0.4**
YAK *e**PP **pP 11 41 19.2 -1.7**
YAK *e* 11 42 00.6
YAK *e*PPP PPP 11 44 41.8
YAK *e*S **S 11 49 11.3 +2.4**
YAK *e**SS **sS 11 49 26.5 +0.8**
YAK *e* 11 50 56.8
YAK *e*SS **SS 11 53 07.6 +7.0**
YAK pmax pmax
comp=Z,91nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=Z,154nm,5.1s
YAK smax smax
comp=E,97nm,2.7s
YAK smax smax
comp=N,82nm,1.7s
YAK MLR MLR
comp=Z,325nm,17.0s
YAK MLR MLR
comp=E,461nm,18.0s
YAK MLR MLR
comp=N,449nm,19.0s
YAK Yakutsk 58.04 2 *e*P **P 11 41 10.8 +0.2**
comp=N,105nm,0.7s
TKM2 Tokmak 2 59.65 318 *e*P **P 11 41 22.1 -0.4**
TKM2 pmax pmax
comp=Z,23nm,0.8s
TKM2 Tokmak 2 59.65 318 *e*P **P 11 41 22.1 -0.4**
comp=Z,23nm,0.8s
AAK Ala-Archa 60.26 318 P **P 11 41 26.1 -0.6**
comp=Z,2.1nm,0.5s,baz=139,slow=9.7,SNR=2.1
AAK ScP **ScP 11 46 14.3 +3.6**
comp=Z,2.0nm,0.8s,baz=166,slow=4.2,SNR=3.2
AAK PKPPKP **P'P'df 12 10 53.6 +2.3**
comp=Z,0.5nm,0.4s,baz=201,slow=22,SNR=3.9
AAK PKP2bc 12 11 00.1
comp=Z,1.7nm,0.7s,baz=142,slow=2.6,SNR=6.5
AAK LR LR 12 11 38.5
comp=Z,924nm,18.9s,baz=84,slow=40
AAK Ala-Archa 60.26 318 *e*P **P 11 41 27.1 +0.4**
AAK pmax pmax
comp=Z,36nm,0.6s
AAK Ala-Archa 60.26 318 *e*P **P 11 41 27.1 +0.4**
comp=Z,36nm,0.6s
AAK *e*ScP **ScP 11 46 13.0 +2.3**
AAK ScP ScP 11 46 14.3 +3.6
AAK P'P' 12 10 53.6
AAK ⇑*e* 12 11 00.1
AAK Ala-Archa 60.26 318 P **P 11 41 28.0 +1.3**
comp=Z,60nm,1.5s,SNR=5.5
FRU Bishkek 60.26 318 *e*P P 11 41 34.0 +7.5
ZAA0 Zalesovo Array 60.46 333 *e*P **P 11 41 25.9 -1.6**
ZALV Zalesovo Beam 60.46 333 P **P 11 41 26.0 -1.5**
comp=Z,7.9nm,0.5s,baz=127,slow=7.4,SNR=38
ZALV S **S 11 49 34.9 -5.6**
comp=Z,3.8nm,0.9s,baz=132,slow=13,SNR=9.4
ZALV LR LR 12 09 24.2
comp=Z,721nm,18.8s,baz=134,slow=38
ZALV PKPPKP **P'P'df 12 10 49.4 -0.5**
comp=Z,0.2nm,0.3s,baz=282,slow=2.9,SNR=4.1
ZALV PKP2bc 12 10 57.8
comp=Z,2.1nm,0.9s,baz=270,slow=2.5,SNR=11
ZALV Zalesovo Beam 60.46 333 P **P 11 41 26.0 -1.5**
ZALV S **S 11 49 34.9 -5.6**
ZALV Zalesovo Beam 60.46 333 P **P 11 41 26.0 -1.5**
ZALV S **S 11 49 34.9 -5.6**
ZALV P'P' 12 10 49.4
ZALV ⇑*e* 12 10 57.8
EKS2 Erkin-Say 60.75 318 *e*P **P 11 41 30.0 0.0**
EKS2 pmax pmax
comp=Z,15nm,0.7s
EKS2 Erkin-Say 60.75 318 *e*P **P 11 41 29.9 0.0**
comp=Z,15nm,0.7s
KBL Kabul 61.45 307 *e*P **P 11 41 34.4 -0.6**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 61.45 307 *e*P **P 11 41 34.4 -0.6**
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 61.62 327 LR LR 12 12 00.0
comp=Z,446nm,18.4s,baz=115,slow=40
KURK Kurchatov 61.62 327 *e*P **P 11 41 34.6 -0.9**
KURK *e* 11 43 53.0
KURK pmax pmax
comp=Z,54nm,0.8s
KURK Kurchatov 61.62 327 *e*P **P 11 41 34.6 -0.9**
comp=Z,54nm,0.8s
KURK *e*PP **PP 11 43 53.0 +1.6**
KURK Kurchatov 61.62 327 P **P 11 41 35.2 -0.3**
SNR=24
KURK Kurchatov 61.62 327 P **P 11 41 34.0 -1.5**
comp=Z,294nm,0.8s,SNR=35
NVS Novosibirsk 61.74 333 *i* P **P 11 41 34.9 -1.3**
NVS *i* S **S 11 49 51.6 -5.2**
NVS *i* 11 51 20.9
NVS pmax pmax
comp=Z,46nm,1.3s
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS smax smax
comp=N,44nm,2.0s
NVS smax smax
comp=E,80nm,2.2s
SEY Seymchan 61.86 13 ⇑*e*P **P 11 41 36.9 0.0**
RPZ Rata Peaks 61.88 145 P **P 11 41 37.7 +0.4**
comp=E,31nm,0.8s,baz=355,slow=5.6,SNR=6.6
RPZ Rata Peaks 61.88 145 *e*P **P 11 41 37.2 -0.2**
comp=E,42nm,1.0s
FX1 Attu Island--F 61.92 30 P **P 11 41 36.8 -0.7**
comp=E,18nm,0.8s,baz=201,slow=4.6,SNR=4.0
FX1 LR LR 12 04 30.9
comp=E,434nm,22.0s,baz=248,slow=32
FX1 Attu Island--F 61.92 30 *e*P **P 11 41 36.8 -0.7**
KK31 Karatay Array 63.14 317 *ce*P **P 11 41 44.2 -1.7**
KK31 pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 63.14 317 *e*P **P 11 41 45.3 -0.6**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 63.14 317 *e*P **P 11 41 45.3 -0.6**
comp=Z,9.0nm,0.6s
BVA0 Borovoye Array 67.20 327 *i* P **P 11 42 11.2 -0.8**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 67.20 327 P **P 11 42 10.8 -1.2**
comp=Z,18nm,0.9s,baz=134,slow=8.4,SNR=1.5
BVAR S **S 11 51 02.0 -2.4**
comp=Z,3.5nm,1.1s,baz=114,slow=15,SNR=6.4
BVAR PKPPKP **P'P'df 12 10 37.2 -2.0**
comp=Z,0.8nm,0.9s,baz=325,slow=2.3,SNR=5.2
BVAR LR LR 12 13 31.3
comp=Z,816nm,20.5s,baz=111,slow=38
BVAR Borovoye Array 67.20 327 P **P 11 42 10.8 -1.2**
BVAR S **S 11 51 02.0 -2.4**
BVAR Borovoye Array 67.20 327 P **P 11 42 10.8 -1.2**
BVAR S **S 11 51 02.0 -2.4**
BVAR P'P' 12 10 37.2
BRVK Borovoye 67.27 327 *ce*P **P 11 42 12.4 -0.1**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK MLR MLR
comp=Z,971nm,19.0s
BRVK Borovoye 67.27 327 *e*P **P 11 42 11.9 -0.5**
comp=Z,36nm,0.7s
BRVK Borovoye 67.27 327 P **P 11 42 12.2 -0.3**
comp=Z,166nm,0.6s,SNR=10.0
TIXI Tiksi 67.67 1 *i* P **P 11 42 14.2 -0.4**
TIXI pmax pmax
comp=Z,34nm,1.7s
TIXI Tiksi 67.67 1 *e*P **P 11 42 14.2 -0.4**
comp=Z,48nm,1.0s
BILL Bilibino 69.38 15 ⇓*e*P **P 11 42 25.2 -0.2**
BILL *e**SP **sP 11 42 36.4 -3.3**
BILL *e* 11 42 47.2
BILL *e* 11 44 58.0
BILL *e*S **S 11 51 26.5 -3.3**
BILL pmax pmax
comp=Z,13nm,1.5s
BILL MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 69.38 15 *e*P **P 11 42 24.7 -0.6**
comp=Z,18nm,1.2s
CASY Casey 70.99 187 *e*P **P 11 42 36.1 +1.0**
comp=Z,20nm,1.2s
DRV Dumont d'Urvil 71.04 174 P P 11 42 40.0 +4.6
DRV S S 11 51 30.0 -19
NIKO Nikolski 71.66 35 *e*P **P 11 42 40.2 +0.7**
AB31 Akbulak array 72.05 321 *ce*P **P 11 42 40.6 -1.4**
AB31 pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 72.05 321 *e*P **P 11 42 40.4 -1.5**
comp=Z,22nm,0.9s
AKTO Aktyubinsk 73.55 322 P **P 11 42 49.9 -1.0**
comp=Z,14nm,0.7s,baz=109,slow=6.4,SNR=17
AKTO S **S 11 52 14.2 -4.5**
comp=Z,0.4nm,0.3s,baz=229,slow=21,SNR=5.6
AKTO Aktyubinsk 73.55 322 P **P 11 42 49.9 -1.0**
AKTO S **S 11 52 14.2 -4.5**
AKTO Aktyubinsk 73.55 322 P **P 11 42 49.9 -1.0**
AKTO S **S 11 52 14.2 -4.5**
SVE Sverdlovsk 73.84 328 ⇓*e*P **P 11 42 55.1 +2.7**
SVE pmax pmax
comp=Z,28nm,0.8s
GAMB Gambell 74.23 24 *e*P **P 11 42 54.7 +0.2**
comp=Z,42nm,1.0s
ARU Arti 74.82 328 *i* P **P 11 42 57.2 -0.9**
ARU 11 45 41.4
ARU 11 47 27.7
ARU S **S 11 52 32.2 -0.3**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 74.82 328 *e*P **P 11 42 57.2 -0.9**
comp=Z,27nm,0.8s
TNA Tin City 76.42 23 *e*P **P 11 43 08.3 +1.2**
comp=Z,7.3nm,1.0s
SOKR Solikamsk 76.58 331 ⇑*i*P **P 11 43 09.4 +1.3**
SOKR S **S 11 52 48.6 -3.3**
SOKR pmax pmax
comp=Z,20nm,1.2s
SOKR MLR MLR
comp=Z,780nm,21.0s
SDPT Sand Point 77.03 34 *e*P **P 11 43 10.6 -0.2**
comp=Z,105nm,0.8s
CHGN Chignik 78.36 33 *e*P **P 11 43 18.4 +0.2**
OPO Ambohidratompo 81.39 251 P **P 11 43 34.5 -1.0**
comp=Z,2.5nm,0.3s,baz=97,slow=2.7,SNR=12
OPO Ambohidratompo 81.39 251 P P 11 43 34.5 -1.0
KDAK Kodiak Island 81.73 32 LR LR 12 16 22.6
comp=Z,352nm,21.3s,baz=256,slow=33
KDAK Kodiak Island 81.73 32 *e*P **P 11 43 36.8 +0.5**
comp=Z,390nm,0.8s
KDAK Kodiak Island 81.73 32 P **P 11 43 37.0 +0.7**
comp=Z,273nm,1.0s,SNR=7.2
ZEI Tsey 82.13 312 *e*P **P 11 43 38.5 -0.6**
ZEI pmax pmax
comp=Z,23nm,1.5s
KBZ Khabaz 82.89 313 P **P 11 43 43.2 +0.5**
comp=Z,3.0nm,0.8s,baz=167,slow=3.6,SNR=4.1

KBZ LR LR 12 26 36.0
comp=Z,691nm,20.5s,baz=273,slow=40
KBZ Khabaz 82.89 313 P **P** **11 43 43.2 +0.5**
KBZ Khabaz 82.89 313 P **P** **11 43 43.2 +0.5**
KIV Kislovodsk 83.05 314 *e*P **P** **11 43 40.8 -2.9**
KIV *e*S **S** **11 53 57.5 -3.6**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,521nm,19.0s
KIV Kislovodsk 83.05 314 *e*P **P** **11 43 42.7 -1.0**
comp=Z,7.6nm,0.5s
TRF Thorofare Moun 83.37 27 *e*P **P** **11 43 44.7 -0.3**
comp=Z,46nm,1.1s
RC01 Rabbit Creek A 83.46 29 *e*P **P** **11 43 45.1 -0.2**
comp=Z,28nm,0.8s
SEW Seward 83.54 30 *e*P **P** **11 43 45.1 -0.5**
comp=Z,42nm,1.0s
VNDA Vanda 83.59 173 P **P** **11 43 45.6 0.0**
comp=Z,21nm,1.1s,baz=323,slow=5.9,SNR=35
VNDA LR LR 12 17 31.0
comp=Z,268nm,20.8s,baz=336,slow=33
VNDA Vanda 83.59 173 *e*P **P** **11 43 45.4 -0.2**
comp=Z,38nm,1.2s
COLD Coldfoot 83.72 23 *e*P **P** **11 43 46.5 -0.1**
comp=Z,52nm,1.1s
PMR Palmer 83.78 29 *e*P **P** **11 43 47.0 +0.1**
PMR pmax pmax
comp=Z,60nm,1.0s
PMR Palmer 83.78 29 *e*P **P** **11 43 47.0 +0.1**
comp=Z,60nm,1.0s
MAW Mawson 83.92 200 P **P** **11 43 48.5 +1.1**
comp=Z,20nm,1.1s,baz=56,slow=5.9,SNR=6.2
MAW LR LR 12 19 53.8
comp=Z,366nm,18.1s,baz=63,slow=35
MAW Mawson 83.92 200 P **P** **11 43 48.5 +1.1**
VRHR Novokhopersk 83.94 321 *e*P **P** **11 43 47.2 -0.7**
VRHR *e*S **S** **11 54 03.7 -5.8**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax smax
comp=N,140nm,1.5s
VRHR smax smax
comp=E,220nm,1.5s
VRHR smax smax
comp=Z,20nm,1.5s
SML Sawmill 84.17 28 *e*P **P** **11 43 48.8 -0.2**
SML pmax pmax
comp=Z,28nm,1.1s
SML Sawmill 84.17 28 *e*P **P** **11 43 48.8 -0.2**
comp=Z,28nm,1.1s
SBA Scott Base 84.50 172 *e*P **P** **11 43 51.2 +1.0**
SBA pmax pmax
comp=Z,40nm,1.2s
SBA Scott Base 84.50 172 *e*P **P** **11 43 51.2 +1.0**
comp=Z,40nm,1.2s
COLA College 84.53 25 *e*P **P** **11 43 49.8 -0.8**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 84.53 25 *e*P **P** **11 43 49.8 -0.8**
comp=Z,11nm,0.9s
ILAR Eielson Array 84.94 25 P **P** **11 43 51.8 -0.9**
comp=Z,5.0nm,0.9s,baz=278,slow=3.3,SNR=40
ILAR LR LR 12 21 25.3
comp=Z,314nm,20.9s,baz=90,slow=35
ILAR Eielson Array 84.94 25 P **P** **11 43 51.8 -0.9**
PPT Papeete 85.13 108 LR LR 12 18 26.9
comp=Z,248nm,18.1s,baz=311,slow=33
PPT2 Papeete2 85.13 108 *e*S **S** **11 54 21.6 -1.1**
PPT2 pmax pmax
comp=Z,222nm,26.2s
PPT2 *e*SS **SS** **11 59 54.5 -2.6**
comp=Z,282nm,29.5s
PPT2 *e*LR LR 12 10 51.4
comp=Z,418nm,26.5s
SOC Sochi 85.20 313 *e*P **P** **11 43 55.9 +1.4**
SOC *e* 11 47 19.3
SOC *e*S S 11 54 04.6 -18
SOC *e*S **SKSac** **11 54 16.9 -0.2**
SOC *e*SS **SS** **11 59 59.6 +2.8**
SOC pmax pmax
comp=Z,10.0nm,0.6s
SOC MLR MLR
comp=Z,747nm,20.0s
KLMR Klimovskoe 85.28 331 *e*P **P** **11 43 53.7 -0.8**
KLMR pmax pmax
comp=Z,157nm,1.5s
KLMR pmax pmax
comp=Z,317nm,6.2s
KLMR MLR MLR
comp=Z,2µm,22.0s
DIV Divide 85.38 29 *e*P **P** **11 43 56.4 +1.3**
comp=Z,75nm,1.0s
VORD Divnogorie 85.41 321 *e*P **P** **11 43 56.2 +0.9**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,20nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 85.48 321 *e*P **P** **11 43 55.0 -0.7**
VSR *e*S S 11 54 18.0 -6.9
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR smax smax
comp=N,70nm,1.1s
VSR smax smax
comp=E,40nm,1.1s
VSR smax smax
comp=Z,20nm,1.1s
PAX Paxson 85.53 27 *e*P **P** **11 43 55.9 0.0**
PAX pmax pmax
comp=Z,14nm,1.0s
PAX Paxson 85.53 27 *e*P **P** **11 43 55.9 0.0**
comp=Z,14nm,1.0s
TBI Tubuai 85.82 114 *e*S **S** **11 54 29.7 +0.5**
comp=Z,246nm,27.8s
TBI *e*LQ LQ 12 07 31.5
comp=Z,438nm,36.8s
TBI *e*LR LR 12 11 03.7
comp=Z,410nm,24.8s
BMRM Bremner River 85.95 29 *e*P **P** **11 43 58.4 +0.5**
comp=Z,52nm,1.0s
TMCR Tamitsa 85.97 334 *e*P **P** **11 43 57.9 +0.1**
TMCR pmax pmax
comp=Z,63nm,1.0s
MALT Malatya 86.31 308 *e*P **P** **11 44 00.4 +0.1**
MALT pmax pmax
comp=Z,13nm,0.9s
MALT Malatya 86.31 308 *e*P **P** **11 44 00.4 +0.1**
comp=Z,13nm,0.9s
MALT Malatya 86.31 308 ⇓*i*P **P** **11 44 03.1 +2.8**
MENT Mentasta 86.33 27 *e*P **P** **11 43 59.5 -0.3**
ANN Anapa 86.81 315 *e*P **P** **11 44 00.5 -1.9**
ANN *i* *PP **pP** **11 44 11.7 -1.3**
ANN *e* 11 47 22.9
ANN *e*PPP PPP 11 49 26.6
ANN *e*S **SKSac** **11 54 24.3 -2.7**
ANN pmax pmax
comp=Z,43nm,1.2s
OBN Obninsk 86.95 325⇑ *e*P **P** **11 44 02.3 -0.5**
OBN *e**PP **pP** **11 44 11.4 -2.1**
OBN *e*S **S** **11 54 34.0 -4.9**
OBN pmax pmax
comp=Z,69nm,1.7s
OBN MLR MLR
comp=Z,800nm,18.0s
APA Apatity 87.71 337⇓ *i*P P 11 44 15.0 +8.7
APA pmax pmax
comp=Z,36nm,12.0s
APA MLR MLR
comp=Z,2µm,16.0s
ASF Jabal al Asfar 87.84 302 P **P** **11 44 08.0 +0.2**
comp=Z,6.5nm,0.7s,baz=293,slow=2.1,SNR=5.5
ASF Jabal al Asfar 87.84 302 P **P** **11 44 08.0 +0.2**
MMAI Mount Meron Ar 89.05 303 P **P** **11 44 14.1 +0.6**
comp=Z,0.8nm,0.3s,baz=120,slow=8.5,SNR=2.1
MMAI Mount Meron Ar 89.05 303 P **P** **11 44 14.1 +0.6**
JOF Joensuu 89.05 333 *e*P **P** **11 44 11.4 -1.3**
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 89.05 333 *ep* **P** **11 44 11.4 -1.3**
comp=Z,8.0nm,0.5s
KMBO Kilima Mbogo 89.59 269 *e*P **P** **11 44 16.9 +0.3**
comp=Z,44nm,1.8s
KEV Kevo 89.75 340 *e*P P 11 44 21.2 +5.4
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 89.75 340 *ep* P 11 44 21.2 +5.4
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 89.94 310 *e*P **P** **11 44 17.9 +0.2**
comp=Z,4.5nm,0.8s
BRTR Keskin Array B 89.94 310 P **P** **11 44 15.9 -1.7**
comp=Z,4.7nm,0.9s,baz=114,slow=6.0,SNR=7.6
BRTR PP PP 11 47 44.5 -6.1
comp=Z,0.6nm,0.7s,baz=81,slow=4.8,SNR=2.9
BRTR LR LR 12 31 23.5
comp=Z,204nm,21.7s,baz=291,slow=40
BRTR Keskin Array B 89.94 310 P **P** **11 44 15.9 -1.7**
BRTR PP PP 11 47 44.5 -6.1
ARCES ARCESS Array B 90.31 340 P **P** **11 44 17.8 -0.7**
comp=Z,5.2nm,0.7s,baz=83,slow=6.3,SNR=20
ARCES LR LR 12 27 59.2
comp=Z,726nm,21.3s,baz=82,slow=38
ARCES ARCESS Array B 90.31 340 P **P** **11 44 17.8 -0.7**
SPITS Spitsbergen Ar 90.32 349 P **P** **11 44 18.0 -0.4**
comp=Z,2.9nm,0.5s,baz=94,slow=9.5,SNR=7.8
SPITS Spitsbergen Ar 90.32 349 P **P** **11 44 18.0 -0.4**
KAF Kangasniemi 91.47 332 *e*P **P** **11 44 22.8 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 91.47 332 *ep* **P** **11 44 22.8 -1.2**
comp=Z,6.3nm,0.6s
FINES FINESS Array B 91.70 332 P **P** **11 44 25.3 +0.2**
comp=Z,3.7nm,0.6s,baz=58,slow=7.2,SNR=9.4
FINES LR LR 12 29 14.1
comp=Z,726nm,21.0s,baz=314,slow=38
FINES FINESS Array B 91.70 332 P **P** **11 44 25.3 +0.2**
AKASG Malin Array Be 91.79 321 P **P** **11 44 24.1 -1.7**
comp=Z,2.7nm,0.6s,baz=68,slow=4.6,SNR=7.2
AKASG LR LR 12 28 10.4
comp=Z,545nm,20.9s,baz=55,slow=37
AKASG Malin Array Be 91.79 321 P **P** **11 44 24.1 -1.7**
AKASG Malin Array Be 91.79 321 P **P** **11 44 24.1 -1.7**
AK01 Malin Array Si 91.80 321 *e*P **P** **11 44 24.3 -1.5**
KIEV Kiev 91.80 321 *e*P **P** **11 44 23.8 -2.0**
KIEV *e* 11 48 00.5
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV Kiev 91.80 321 *e*P **P** **11 44 23.8 -2.0**
comp=Z,12nm,1.0s
KIEV *e*PP **PP** **11 48 00.5 -4.3**
AK02 Malin Array Si 91.81 321 *e*P **P** **11 44 24.2 -1.6**
MICGM Minsk 92.01 325 *e* P 11 44 23.0 -3.7
MNK Minsk 92.04 325 *e*P P 11 44 23.0 -3.8
NACGM Naroch 92.57 325 *e* P 11 44 26.0 -3.2
SYO Syowa Base 92.60 201⇑ *e*X P 11 44 24.0 -5.0
QSPA South Pole Qui 93.80 180 P **P** **11 44 35.2 +0.4**
comp=Z,25nm,1.1s,baz=316,slow=2.6,SNR=22
QSPA South Pole Qui 93.80 180 *e*P **P** **11 44 35.1 +0.2**
comp=Z,49nm,1.3s
TESR 94.14 317⇑ *i*P **P** **11 44 35.8 -0.9**
VRI Vrincioaia 94.20 316⇑ P **P** **11 44 37.1 +0.1**
VRI Vrincioaia 94.20 316⇑ *i*P **P** **11 44 37.1 +0.1**
PLOR Plostina 94.26 316⇑ P **P** **11 44 37.1 -0.2**
PLOR Plostina 94.26 316⇑ *i*P **P** **11 44 37.1 -0.2**
MLR Muntele Rosu 94.81 316 P **P** **11 44 39.9 0.0**
comp=Z,1.2nm,0.6s,baz=269,slow=5.5,SNR=7.8
MLR Muntele Rosu 94.81 316 P **P** **11 44 39.9 0.0**
MLR Muntele Rosu 94.81 316⇑ *i*P **P** **11 44 37.3 -2.7**
BURAR Bucovina Array 94.90 318⇓ *i*P **P** **11 44 40.2 -0.1**
BUR08 Bucovina Ar. S 94.91 318 *e*P **P** **11 44 39.9 -0.4**
VOIR 95.44 316⇓ P P 11 44 38.1 -4.7
VOIR 95.44 316⇓ *i*P P 11 44 38.1 -4.7
DRGR 96.75 318⇑ P P 11 44 45.1 -3.6
DRGR 96.75 318⇑ *i*P P 11 44 45.1 -3.6
DAG Danmarks Havn 97.09 352 *i*P **P** **11 44 48.4 -1.1**
comp=Z,67nm,0.9s
RES Resolute Bay 97.64 10 P Pdif 11 44 52.7 +0.7
comp=Z,2.8nm,0.8s,baz=318,slow=7.2,SNR=12
RES Resolute Bay 97.64 10 P Pdif 11 44 52.7 +0.7
HFS Hagfors 97.89 332 P Pdif 11 44 54.0 +0.5
comp=Z,2.3nm,0.6s,baz=104,slow=3.1,SNR=5.6
HFS Hagfors 97.89 332 P Pdif 11 44 54.0 +0.5
NB2 NORSAR Subarra 98.66 334 P Pdif 11 44 57.3 +0.4
baz=69,slow=4.6
NB2 NORSAR Subarra 98.66 334 P Pdif 11 44 57.3 +0.4
comp=Z,7.0nm,0.9s,baz=69,slow=4.6
NOA NORSAR Array B 98.66 334 P **P** **11 44 56.3 -0.6**
comp=Z,1.8nm,0.8s,baz=66,slow=4.5,SNR=4.1
NOA LR LR 12 34 51.1
comp=Z,679nm,19.0s,baz=65,slow=39
NOA NORSAR Array B 98.66 334 P **P** **11 44 56.3 -0.6**
LSZ Lusaka 99.29 255 P **Pdif** **11 44 59.4 -1.4**
comp=Z,2.5nm,0.8s,baz=95,slow=7.6,SNR=5.4
LSZ LR LR 12 26 50.3
comp=Z,363nm,21.2s,baz=290,slow=34
LSZ Lusaka 99.29 255 P **Pdif** **11 44 59.4 -1.4**
YKA Yellowknife Ar 99.33 24 P **Pdif** **11 45 00.2 +0.4**
comp=Z,0.8nm,0.6s,baz=300,slow=4.2,SNR=15
YKA PKiKP **PKiKP** **11 49 30.0 +0.7**
comp=Z,0.6nm,0.8s,baz=294,slow=1.8,SNR=5.9
YKA PKKPbc **PKKPbc** **12 01 21.9 -4.1**
comp=Z,0.2nm,0.8s,baz=130,slow=3.8,SNR=3.9
YKA PKKP **PKKPdf** **12 01 33.8 +4.3**
comp=Z,0.2nm,0.6s,baz=120,slow=3.0,SNR=3.9
YKA Yellowknife Ar 99.33 24 P **Pdif** **11 45 00.2 +0.4**
YKA PKiKP **PKiKP** **11 49 30.1 +0.7**
YKA PKKPbc **PKKPbc** **12 01 21.9 -4.1**
YKA PKKP **PKKPdf** **12 01 33.8 +4.3**
KSP Ksiaz 99.73 323 *e*P **Pdif** **11 45 01.6 -0.3**
KSP MLR MLR
comp=Z,1µm,18.1s
BRG Berggiesshubel 101.13 323 *e*P **Pdif** **11 45 07.8 -0.3**
comp=Z,4.6nm,0.8s
BRG
comp=N,245nm,16.7s
BRG
comp=E,536nm,21.5s
BRG
comp=Z,867nm,18.6s
BRG Berggiesshubel 101.13 323 *e*P **Pdif** **11 45 07.8 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG MLR MLR
comp=N,245nm,16.7s
BRG MLR MLR
comp=E,536nm,21.5s
BRG MLR MLR
comp=Z,867nm,18.6s
CLL Collm 101.53 324 *e*SS SS 12 04 00.0 +10
CLL *e* 12 04 54.0
CLL *e*SKKSacr 12 08 48.0
CLL LmV 12 34 00.0
comp=Z,600nm,19.5s
GERES GERESS Array B 101.98 322 P **Pdif** **11 45 12.2 +0.2**
comp=Z,0.2nm,0.3s,baz=111,slow=10,SNR=4.3
GERES GERESS Array B 101.98 322 P **Pdif** **11 45 12.2 +0.2**
SUMG Summit 103.08 355 *i*P **PP** **11 49 30.9 -0.1**
comp=Z,4.9nm,0.9s
SNAA Sanae 105.39 195 PKKP **PKKPab** **12 01 22.5 -1.1**
comp=Z,1.0nm,0.9s,baz=297,slow=5.0,SNR=6.1
A13A Flathead Natio 105.45 37⇑P **PKiKP** **11 49 41.3 +0.3**
baz=105
E13A Victor 106.63 39⇑P **PKiKP** **11 49 43.5 +0.1**
baz=106
NVAR Mina Array Bea 106.77 48 Pdiff **Pdif** **11 45 32.4 -1.4**
comp=Z,0.2nm,0.5s,baz=272,slow=6.2,SNR=3.1
NVAR PKiKP **PKiKP** **11 49 44.1 +0.1**
comp=Z,0.6nm,0.8s,baz=267,slow=2.8,SNR=4.2
NVAR PKKP **PKKPab** **12 01 17.8 -1.0**
comp=Z,0.7nm,0.7s,baz=122,slow=5.4,SNR=5.3
NVAR Mina Array Bea 106.77 48 Pdif **Pdif** **11 45 32.4 -1.4**
NVAR PKiKP **PKiKP** **11 49 44.1 +0.1**
NVAR PKKP **PKKPab** **12 01 17.8 -1.0**
B15A Bradely Ranch, 106.83 37⇑P **PKiKP** **11 49 44.0 +0.4**
baz=107
H12A Diamond D Ranc 106.97 41⇑P **PKiKP** **11 49 44.7 +0.6**
baz=107
I12A Atlanta 107.08 42⇓P **PKiKP** **11 49 45.0 +0.7**
baz=107
J13A Cove Ranch, Pi 107.88 42⇓P **PKiKP** **11 49 46.5 +0.7**
baz=108
EDW2 Edwards Air Fo 108.14 51⇑P **PKiKP** **11 49 46.7 +0.3**
baz=108
C17A Wharram Farm, 108.21 37⇓P **PKiKP** **11 49 46.5 +0.3**
baz=108
FURC Furnace Creek, 108.50 50⇑P **PKiKP** **11 49 46.2 -0.7**
baz=108
BOZ Bozeman (W) 108.58 39 *e*PKPdf **PKiKP** **11 49 48.1 +1.1**
EGMT Eagleton 108.63 36⇑P **PKiKP** **11 49 47.3 +0.3**
baz=108
R11A Troy Canyon, C 108.80 47⇓P **PKiKP** **11 49 47.8 0.0**
baz=109
D19A Cripps Ranch, 109.56 37⇓P **PKiKP** **11 49 49.0 +0.2**
baz=109
L15A Malad City 109.65 43⇓P **PKiKP** **11 49 48.8 -0.4**
baz=110
C20A Veseth Ranch, 109.81 36⇑P **PKiKP** **11 49 49.5 +0.4**
baz=110
GMRC Granite Mounta 109.98 51⇓P **PKiKP** **11 49 50.1 +0.2**
baz=110
HWUT Hardware Ranch 110.37 43 *e*PKPdf **PKiKP** **11 49 50.5 -0.1**
J18A Kendall Valley 110.70 41⇓P **PKiKP** **11 49 51.6 +0.3**
baz=111
D21A La Casta Ranch 110.72 36⇑P **PKiKP** **11 49 51.2 +0.2**
baz=111
G20A Bridger 110.91 38⇑P **PKiKP** **11 49 52.0 +0.5**
baz=111
C22A Vida 111.02 35⇓P **PKiKP** **11 49 51.6 +0.1**
baz=111
D22A Cohagen 111.16 36⇑P **PKiKP** **11 49 52.1 +0.4**
baz=111
PDAR Pinedale Array 111.20 41 PKiKP **PKiKP** **11 49 50.9 -1.3**
comp=Z,0.8nm,0.9s,baz=222,slow=2.0,SNR=5.8
PDAR PKKPbc **PKKPbc** **12 00 49.4 -0.3**
comp=Z,1.0nm,1.0s,baz=108,slow=4.8,SNR=4.9
PDAR PKKPab **PKKPab** **12 00 57.2 -1.9**
comp=Z,1.3nm,0.8s,baz=117,slow=5.5,SNR=10
PDAR Pinedale Array 111.20 41 PKiKP **PKiKP** **11 49 50.9 -1.3**
PDAR PKKPbc **PKKPbc** **12 00 49.4 -0.3**
PDAR PKKPab **PKKPab** **12 00 57.2 -1.9**
MSU Marysvale 111.22 46 *e*PKiKP **PKiKP** **11 49 52.6 +0.3**
MSU Marysvale 111.22 46 *e*PKPdf **PKiKP** **11 49 52.6 +0.3**
F21A Absaloka Mine, 111.28 37⇑P **PKiKP** **11 49 51.9 -0.2**
baz=111
J19A Crowheart 111.30 40⇑P **PKiKP** **11 49 51.2 -1.1**
baz=111
C23A Lambert 111.39 35⇑P **PKiKP** **11 49 51.8 -0.3**
baz=111
I20A Worland 111.57 39⇓P **PKiKP** **11 49 52.9 +0.2**
baz=112
L19A Farson 111.64 42⇓P **PKiKP** **11 49 53.5 +0.5**
baz=112
K19A Absolon Red Bu 111.64 41⇓P **PKiKP** **11 49 52.7 -0.3**
baz=112
J20A Shoshoni 111.89 40⇑P **PKiKP** **11 49 53.5 +0.1**
baz=112
U15A North Rim 111.95 48⇑P **PKiKP** **11 49 54.7 +0.9**
baz=112
C24A Savage 111.97 35⇓P **PKiKP** **11 49 54.4 +1.2**
baz=112
K20A Yellowstone Ra 112.05 41⇓P **PKiKP** **11 49 54.3 +0.6**
baz=112
I21A Big Trails, Te 112.17 39⇓P **PKiKP** **11 49 54.2 +0.3**
baz=112
L20A Wamsutter 112.35 41⇓P **PKiKP** **11 49 54.4 0.0**
baz=112
I22A 9 Mile Ranch, 112.64 39⇓P **PKiKP** **11 49 55.3 +0.6**
baz=112
G23A Biddle 112.64 37⇑P **PKiKP** **11 49 55.3 +0.7**
baz=112
J22A Midwest 112.88 39⇑P **PKiKP** **11 49 54.8 -0.5**
baz=113
N20A Spence Gulch, 112.95 42⇑P **PKiKP** **11 49 56.5 +1.0**
baz=113
L21A Rawlins 113.01 41⇓P **PKiKP** **11 49 56.2 +0.6**
baz=113
Q19A Hogan Spring (113.10 45⇓P **PKiKP** **11 49 56.7 +0.9**
baz=113
S18A Hurst Farm, Bl 113.12 46⇓P **PKiKP** **11 49 57.0 +1.0**
baz=113
M21A Separation Pea 113.19 41⇓P **PKiKP** **11 49 56.4 +0.4**
baz=113
214A Organ Pipe Nat 113.19 53⇑P **PKiKP** **11 49 56.5 +0.5**
baz=113
O20A White River Ci 113.28 43⇓P **PKiKP** **11 49 57.3 +1.1**
baz=113
X16A Lo Mia Camp, P 113.36 50⇓P **PKiKP** **11 49 57.7 +1.2**
baz=113
H24A Dirks Ranch, A 113.39 37⇓P **PKiKP** **11 49 56.2 +0.1**
baz=113
N21A Black Mountain 113.48 42⇑P **PKiKP** **11 49 57.4 +0.8**
baz=113
Q20A Ridgley Place, 113.78 44⇓P **PKiKP** **11 49 58.3 +1.2**
baz=114
PV01 Paradox Valley 113.95 45 *e*PKPdf **PKiKP** **11 49 57.4 -0.2**
RSSD Black Hills 114.03 38 *e*PKiKP **PKiKP** **11 49 56.9 -0.6**
RSSD Black Hills 114.03 38 *e*PKPdf PKPdf 11 49 56.9 -0.7
R20A Redvale 114.06 45⇓P PKPdf 11 49 58.3 +0.5
baz=114
S20A Disappointment 114.23 45⇓P PKPdf 11 49 58.8 +0.7
baz=114
MVCO Mesa Verde 114.40 46⇓P PKPdf 11 49 59.8 +1.3
baz=114
S21A Coal Bank Pass 114.71 45⇑P PKPdf 11 50 00.2 +1.1
baz=115
Q22A Crested Butte, 114.78 44⇓P PKPdf 11 50 00.0 +0.8
baz=115
ULM Lac du Bonnet 114.80 29 PKP PKPdf 11 49 58.3 -0.2
comp=Z,1.5nm,0.5s,baz=262,slow=5.9,SNR=2.9
ULM Lac du Bonnet 114.80 29 PKP PKPdf 11 49 58.3 -0.2
O23A Lake Granby, G 114.82 42⇓P PKPdf 11 50 00.2 +1.0
baz=115
T21A Navajo Lake 115.19 46⇓P **PKPdf** **11 50 01.6 +1.6**
baz=115
W20A Ramah 115.29 48⇑P **PKPdf** **11 50 01.7 +1.5**
baz=115
U21A Nageezi 115.35 47⇓P **PKPdf** **11 50 01.9 +1.6**
baz=115
T22A Edith 115.63 46⇓P **PKPdf** **11 50 02.0 +1.1**
baz=116
Y20A Horse Springs, 115.89 49⇑P **PKPdf** **11 50 02.9 +1.4**
baz=116
U22A Llaves 115.95 46⇑P **PKPdf** **11 50 03.5 +2.1**
baz=116
Z20A Nine Sixteen R 116.05 50⇑P **PKPdf** **11 50 03.2 +1.5**
baz=116
X21A Alamocita Cree 116.11 49⇓P **PKPdf** **11 50 03.4 +1.6**
baz=116
319A Douglas 116.20 52⇑P **PKPdf** **11 50 03.5 +1.6**
baz=116
120A U Bar Ranch, L 116.25 51⇓P **PKPdf** **11 50 03.4 +1.4**
baz=116
P25A Willow Gulch B 116.33 42⇓P **PKPdf** **11 50 03.2 +1.2**
baz=116
Y21A Point of Rocks 116.38 49⇑P **PKPdf** **11 50 04.3 +1.9**
baz=116
U23A El Rito 116.45 46⇑P **PKPdf** **11 50 03.6 +1.2**
baz=116
Q25A Bedland, Calha 116.58 43⇑P **PKPdf** **11 50 03.6 +1.1**
baz=116
220A Playas Peak, P 116.59 51⇓P **PKPdf** **11 50 03.9 +1.2**
baz=116
X22A Bernardo 116.67 48⇓P **PKPdf** **11 50 04.5 +1.7**
baz=117
V23A Ortiz Mt. (NFS 116.72 47⇓P **PKPdf** **11 50 05.0 +2.0**
baz=117
320A Kipp Ranch, An 116.81 52⇓P **PKPdf** **11 50 04.9 +1.8**
baz=117
P26A Davis Ranch, A 116.86 42⇓P **PKPdf** **11 50 03.9 +0.9**
baz=117
121A Cookes Peak, D 116.91 51⇑P **PKPdf** **11 50 04.4 +1.0**
baz=117
R25A Fountain Ranch 116.93 43⇑P **PKPdf** **11 50 03.9 +0.7**
baz=117
Y22A Socorro 116.94 49⇓P **PKPdf** **11 50 04.7 +1.3**
baz=117
S25A Robets Cordova 117.07 44⇓P **PKPdf** **11 50 04.5 +0.9**
baz=117
BNM Barren Site 117.11 48 *e*PKPdf **PKPdf** **11 50 04.8 +1.0**
Z22A Elephant Butte 117.24 49⇓P **PKPdf** **11 50 05.1 +1.1**
baz=117
X23A Hourglass Bar 117.24 48⇑P **PKPdf** **11 50 05.3 +1.4**
baz=117
T25A Trinidad 117.34 44⇓P **PKPdf** **11 50 04.8 +0.7**
baz=117
P27A Ficken Ranch, 117.36 41⇑P **PKPdf** **11 50 04.9 +1.0**
baz=117
V24A Rampart Ranch, 117.39 46⇑P **PKPdf** **11 50 06.2 +1.9**
baz=117
R26A Arlington 117.43 43⇑P **PKPdf** **11 50 05.6 +1.5**
baz=117

W24A	**Lazy 6 Ranch,** baz=117	**117.53**	**47**	⇓P		**PKPdf**	**11 50 05.9 +1.4**
222A	**Williams Famil** baz=118	**117.61**	**51**	⇓P		**PKPdf**	**11 50 06.1 +1.4**
KSCO	**Kaye Shedlock'** baz=118	**117.62**	**42**	⇑P		**PKPdf**	**11 50 06.0 +1.6**
Y23A	**Lovelace Mesa,** baz=118	**117.63**	**48**	⇑P		**PKPdf**	**11 50 05.7 +1.0**
U25A	**Circle Dot Ran** baz=118	**117.69**	**45**	⇑P		**PKPdf**	**11 50 06.1 +1.3**
S26A	**Kim** baz=118	**117.75**	**44**	⇑P		**PKPdf**	**11 50 05.9 +1.2**
V25A	**Rancho No Teng** baz=118	**117.81**	**46**	⇑P		**PKPdf**	**11 50 06.5 +1.5**
R27A	**Eads** baz=118	**117.88**	**43**	⇑P		**PKPdf**	**11 50 06.1 +1.1**
T26A	**Comanche Natio** baz=118	**117.89**	**44**	⇑P		**PKPdf**	**11 50 06.5 +1.4**
Y24A	**Capitan** baz=118	**118.09**	**48**	⇓P		**PKPdf**	**11 50 06.8 +1.2**
U26A	**Atchley Ranch,** baz=118	**118.17**	**45**	⇓P		**PKPdf**	**11 50 07.2 +1.6**
W25A	**X Bar L Ranch,** baz=118	**118.22**	**46**	⇓P		**PKPdf**	**11 50 06.9 +1.2**
Z24A	**Sheeppen Canyo** baz=118	**118.41**	**49**	⇑P		**PKPdf**	**11 50 07.4 +1.2**
V26A	**Tequesquite Ra** baz=118	**118.42**	**46**	⇑P		**PKPdf**	**11 50 06.7 +0.6**
Y25A	**Mesa, Roswell** baz=118	**118.64**	**48**	⇑P		**PKPdf**	**11 50 07.7 +1.1**
224A	**Cornudas Mount** baz=119	**118.84**	**50**	⇓P		**PKPdf**	**11 50 07.8 +0.7**
Z25A	**Roswell** baz=119	**118.92**	**48**	⇓P		**PKPdf**	**11 50 08.2 +1.1**
T28A	**Walsh** baz=119	**118.94**	**43**	⇑P		**PKPdf**	**11 50 07.7 +0.7**
X26A	**CR and CF Fran** baz=119	**119.00**	**47**	⇑P		**PKPdf**	**11 50 08.4 +1.1**
324A	**Moseley Ranch,** baz=119	**119.14**	**51**	⇓P		**PKPdf**	**11 50 08.5 +0.9**
125A	**Gardner Draw,** baz=119	**119.24**	**49**	⇓P		**PKPdf**	**11 50 08.5 +0.8**
W27A	**Bowe Ranch, En** baz=119	**119.30**	**46**	⇓P		**PKPdf**	**11 50 08.6 +0.8**
225A	**Deer Hill, Car** baz=119	**119.36**	**50**	⇑P		**PKPdf**	**11 50 09.2 +1.1**
325A	**Bean Ranch, Si** baz=120	**119.57**	**51**	⇑P		**PKPdf**	**11 50 08.9 +0.4**
GDL2	**Guadalupe Moun**	**119.67**	**49**	*e*PKPdf		**PKPdf**	**11 50 09.1 +0.5**
SPMN	**St. Paul** baz=120	**119.72**	**31**	⇓P		**PKPdf**	**11 50 09.0 +0.9**
126A	**Clayton Basin,** baz=120	**119.73**	**49**	⇑P		**PKPdf**	**11 50 09.2 +0.6**
Y27A	**Causey** baz=120	**119.79**	**47**	⇓P		**PKPdf**	**11 50 09.5 +0.7**
425A	**Indio Mountain** baz=120	**119.81**	**51**	⇓P		**PKPdf**	**11 50 09.2 +0.3**
Z27A	**Tatum** baz=120	**120.02**	**48**	⇑P		**PKPdf**	**11 50 09.6 +0.4**
MSTX	**Muleshoe** baz=120	**120.03**	**47**	⇑P		**PKPdf**	**11 50 10.0 +0.8**
X28A	**Dimmitt** baz=120	**120.18**	**46**	⇓P		**PKPdf**	**11 50 10.2 +0.7**
326A	**Caldwell Ranch** baz=120	**120.36**	**50**	⇓P		**PKPdf**	**11 50 10.9 +1.0**
SCHQ	**Schefferville** comp=Z,4.9nm,1.0s,baz=344,slow=3.2,SNR=4.8	**120.40**	**9**	PKP		**PKPdf**	**11 50 09.6 +0.4**
SCHQ	**Schefferville**	**120.40**	**9**	PKP		**PKPdf**	**11 50 09.6 +0.4**
Y28A	**McKinney Farm,** baz=120	**120.44**	**47**	⇓P		**PKPdf**	**11 50 10.7 +0.7**
X29A	**Tulia** baz=120	**120.58**	**46**	⇓P		**PKPdf**	**11 50 11.1 +0.9**
426A	**McDonald Obser** baz=120	**120.60**	**51**	⇑P		**PKPdf**	**11 50 11.1 +0.5**
526A	**Mary Lane Ranc** baz=121	**120.82**	**52**	⇑P		**PKPdf**	**11 50 11.7 +0.8**
128A	**Castleberry Fa** baz=121	**120.89**	**48**	⇑P		**PKPdf**	**11 50 11.3 +0.5**
Y29A	**Porterfield Fa** baz=121	**120.89**	**47**	⇑P		**PKPdf**	**11 50 11.7 +0.8**
626A	**Big Bend Ranch** baz=121	**121.00**	**52**	⇓P		**PKPdf**	**11 50 11.9 +0.7**
427A	**Hayter Ranch,** baz=121	**121.01**	**50**	⇓P		**PKPdf**	**11 50 11.9 +0.7**
Z29A	**Hungry Hill Ra** baz=121	**121.15**	**47**	⇑P		**PKPdf**	**11 50 12.0 +0.6**
527A	**Woodward Ranch** baz=121	**121.16**	**51**	⇓P		**PKPdf**	**11 50 12.2 +0.7**
X30A	**Coker Ranch, T** baz=121	**121.17**	**46**	⇑P		**PKPdf**	**11 50 12.0 +0.7**
328A	**Wristen Ranch,** baz=121	**121.22**	**50**	⇑P		**PKPdf**	**11 50 12.2 +0.6**
129A	**Stewart Farms,** baz=121	**121.34**	**48**	⇓P		**PKPdf**	**11 50 12.1 +0.4**
W31A	**Holland Ranch,** baz=121	**121.44**	**44**	⇑P		**PKPdf**	**11 50 12.7 +0.9**
KSU1	**Kansas State U**	**121.46**	**39**	*e*PKPdf		**PKPdf**	**11 50 12.2 +0.6**
TXAR	**Lajitas Array** comp=Z,4.8nm,1.1s,baz=259,slow=2.0,SNR=19	**121.47**	**52**	PKP		**PKPdf**	**11 50 13.0 +0.9**
TXAR				PKKPbc		**PKKPab**	**12 00 14.4 +0.7**
	comp=Z,0.3nm,0.6s,baz=134,slow=7.3,SNR=3.8						
TXAR	**Lajitas Array**	**121.47**	**52**	PKP		**PKPdf**	**11 50 13.0 +0.9**
TXAR				PKKPbc		**PKKPab**	**12 00 14.4 +0.7**
Z30A	**Sanderson Ranc** baz=121	**121.56**	**47**	⇑P		**PKPdf**	**11 50 12.6 +0.5**
428A	**Kincaid Ranch,** baz=122	**121.61**	**50**	⇑P		**PKPdf**	**11 50 13.6 +1.3**
627A	**Terlingua Ranc** baz=122	**121.63**	**52**	⇓P		**PKPdf**	**11 50 13.1 +0.7**
X31A	**McDonald Ranch** baz=122	**121.70**	**45**	⇑P		**PKPdf**	**11 50 12.8 +0.5**
528A	**Cox Ranch, San** baz=122	**121.79**	**51**	⇑P		**PKPdf**	**11 50 13.6 +0.9**
329A	**Wagon Wheel Ra** baz=122	**121.80**	**49**	⇑P		**PKPdf**	**11 50 13.2 +0.6**
Y31A	**Rekieta Farm,** baz=122	**121.85**	**46**	⇓P		**PKPdf**	**11 50 13.5 +0.9**
628A	**Black Gap, Mar** baz=122	**122.01**	**52**	⇑P		**PKPdf**	**11 50 14.0 +0.9**
130A	**Snyder** baz=122	**122.02**	**47**	⇑P		**PKPdf**	**11 50 13.8 +0.8**
529A	**Stev Forest Ra** baz=122	**122.24**	**51**	⇑P		**PKPdf**	**11 50 14.0 +0.5**
429A	**Davenport Ranc** baz=122	**122.26**	**50**	⇑P		**PKPdf**	**11 50 14.1 +0.6**
330A	**Mertzon** baz=122	**122.44**	**49**	⇓P		**PKPdf**	**11 50 14.3 +0.4**
430A	**Baggett Ranch,** baz=123	**122.69**	**49**	⇓P		**PKPdf**	**11 50 15.0 +0.7**
Z32A	**Haskell** baz=123	**122.74**	**46**	⇓P		**PKPdf**	**11 50 15.1 +0.8**
231A	**Bronte** baz=123	**122.82**	**48**	⇑P		**PKPdf**	**11 50 15.0 +0.4**
TOA0	**Torodi Ar. Sit**	**122.91**	**288**	*e*PKPdf		**PKPdf**	**11 50 14.6 -0.4**
TORD	**Torodi Ar. Bea** comp=Z,3.3nm,0.9s,baz=57,slow=1.6,SNR=14	**122.91**	**288**	PKP		**PKPdf**	**11 50 14.5 -0.6**
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP		**PKPdf**	**11 50 14.4 -0.6**
530A	**J-C Ranch, Com** baz=123	**122.91**	**50**	⇓P		**PKPdf**	**11 50 15.9 +1.1**
ABTX	**Abilene, Hawle** baz=123	**122.97**	**47**	⇓P		**PKPdf**	**11 50 15.9 +1.1**
331A	**San Angelo** baz=123	**123.05**	**49**	⇑P		**PKPdf**	**11 50 15.4 +0.4**
431A	**Sonora** baz=123	**123.21**	**49**	⇓P		**PKPdf**	**11 50 16.0 +0.7**
232A	**Coleman** baz=123	**123.34**	**48**	⇓P		**PKPdf**	**11 50 16.3 +0.7**
531A	**Rocksprings** baz=123	**123.51**	**50**	⇓P		**PKPdf**	**11 50 16.7 +0.8**
332A	**Millersview** baz=123	**123.52**	**48**	⇓P		**PKPdf**	**11 50 16.6 +0.7**
432A	**Menard** baz=124	**123.73**	**49**	⇓P		**PKPdf**	**11 50 16.9 +0.6**
631A	**Perdido Creek** baz=124	**123.84**	**51**	⇑P		**PKPdf**	**11 50 17.2 +0.6**
JCT	**Junction City**	**123.92**	**49**	*e*PKIKP		**PKPdf**	**11 50 17.6 +0.9**
JCT	**Junction City**	**123.92**	**49**	*e*PKPdf		**PKPdf**	**11 50 17.6 +0.9**
JCT				*e*SKPdf		**SKiKP**	**11 53 51.5 +1.0**
JCT	**Junction City** baz=124	**123.92**	**49**	⇓P		**PKPdf**	**11 50 17.5 +0.8**
532A	**Rocksprings** baz=124	**124.01**	**49**	⇓P		**PKPdf**	**11 50 17.6 +0.7**
632A	**Uvalde** baz=124	**124.40**	**50**	⇓P		**PKPdf**	**11 50 18.7 +1.1**
732A	**Laxson Ranch,** baz=124	**124.62**	**51**	⇓P		**PKPdf**	**11 50 18.8 +0.7**
FVM	**French Village**	**125.92**	**36**	*e*PKIKP		**PKPdf**	**11 50 20.7 +0.5**
FVM	**French Village**	**125.92**	**36**	*e*PKPdf		**PKPdf**	**11 50 20.7 +0.5**
OLIL	**Olney**	**126.74**	**34**	*e*PKPdf		**PKPdf**	**11 50 22.6 +0.8**
WVT	**Waverly**	**128.70**	**36**	*e*PKIKP		**PKPdf**	**11 50 26.0 +0.4**
WVT	**Waverly**	**128.70**	**36**	*e*PKPdf		**PKPdf**	**11 50 26.0 +0.4**
DBIC	**Dimbokro** comp=Z,3.1nm,0.8s,baz=124,slow=3.6,SNR=2.8	**130.58**	**282**	PKP		**PKPdf**	**11 50 29.9 +0.1**
DBIC				SKPbc		**SKPab**	**11 53 51.6 +0.5**
	comp=Z,12nm,0.9s,baz=83,slow=7.2,SNR=9.4						
DBIC	**Dimbokro**	**130.58**	**282**	PKP		**PKPdf**	**11 50 29.9 +0.1**
DBIC				SKPbc		**SKPab**	**11 53 51.6 +0.5**
TKL	**Tuckaleechee C** comp=Z,4.5nm,0.7s,baz=306,slow=5.4,SNR=5.1	**131.34**	**33**	SKPbc		**SKPab**	**11 53 55.2 +1.5**
TKL	**Tuckaleechee C**	**131.34**	**33**	SKPbc		**SKPab**	**11 53 55.2 +1.5**
CMIG	**Matias Romero** comp=Z,5.0nm,0.9s,baz=348,slow=2.7,SNR=6.4	**133.89**	**62**	PKP		**PKPdf**	**11 50 36.8 +0.9**
CMIG				SKPbc		**SKPbc**	**11 54 03.4 +0.7**
	comp=Z,4.0nm,1.0s,baz=304,slow=9.3,SNR=3.6						
CMIG	**Matias Romero**	**133.89**	**62**	PKP		**PKPdf**	**11 50 36.8 +0.9**
CMIG				SKPbc		**SKPbc**	**11 54 03.4 +0.7**
PLCA	**Paso Flores** comp=Z,4.8nm,1.1s,baz=202,slow=8.6,SNR=4.4	**140.15**	**159**	PKhKP		PKPpre	11 50 40.3
PLCA				PKP		**PKPdf**	**11 50 47.0 +0.1**
	comp=Z,10nm,1.1s,baz=219,slow=4.5,SNR=7.8						
PLCA				SKPbc		**SKiKP**	**11 54 23.4 +0.1**
	comp=Z,3.2nm,0.9s,baz=138,slow=1.9,SNR=4.0						
PLCA	**Paso Flores**	**140.15**	**159**	PKPpre		PKPpre	11 50 40.3
PLCA				PKP		**PKPdf**	**11 50 47.0 +0.1**
PLCA				SKPbc		**SKiKP**	**11 54 23.4 +0.1**
TRQA	**Tornquist**	**145.07**	**168**	*e*PKPbc		**PKPab**	**11 50 55.2 +0.1**
JTS	**JuntasAbangare**	**145.41**	**66**	*e*PKPbc		**PKPab**	**11 50 58.1 +1.1**
CFAA	**Coronel Fontan** comp=Z,1.8nm,0.6s,baz=252,slow=2.4,SNR=7.4	**149.03**	**155**	PKP		**PKPdf**	**11 51 02.7 +0.1**
CFAA				PKPbc		**PKPbc**	**11 51 06.5 -0.1**
	comp=Z,1.8nm,0.6s,baz=192,slow=1.9,SNR=19						
CFAA	**Coronel Fontan**	**149.03**	**155**	PKP		**PKPdf**	**11 51 02.7 +0.1**
CFAA				PKPbc		**PKPbc**	**11 51 06.5 -0.1**
BCIP	**Isla Barro Col**	**150.47**	**64**	*e*PKPdf		**PKPdf**	**11 51 05.8 +0.5**
BCIP				*e*PKPbc		**PKiKP**	**11 51 11.1 -0.2**
SDDR	**Presa de Saban**	**151.14**	**37**	*e*PKPbc		**PKPbc**	**11 51 11.4 -0.6**
LRS	**Lares**	**154.19**	**31**	*e*PKPdf		**PKPdf**	**11 51 11.8 +1.2**
ATAH	**Atahualpa** comp=Z,13nm,1.0s,baz=285,slow=3.8,SNR=13	**154.75**	**98**	PKP		**PKPdf**	**11 51 13.1 +1.0**
ATAH				PKPbc		**PKiKP**	**11 51 22.5 +1.8**
	comp=Z,15nm,0.9s,baz=304,slow=7.1,SNR=10						
ATAH				PKPab		**PKPab**	**11 51 37.6 +1.9**
	comp=Z,8.0nm,0.7s,baz=8.1,slow=6.0,SNR=3.9						
ATAH	**Atahualpa**	**154.75**	**98**	PKP		**PKPdf**	**11 51 13.1 +1.0**
ATAH				PKPbc		**PKiKP**	**11 51 22.5 +1.8**
ATAH				PKPab		**PKPab**	**11 51 37.6 +1.9**
NNA	**Nana** comp=Z,6.6nm,0.6s,baz=226,slow=19,SNR=3.9	**155.29**	**110**	PKP		**PKPdf**	**11 51 13.5 +1.2**
NNA	**Nana**	**155.29**	**110**	PKP		**PKPdf**	**11 51 13.5 +1.2**
ROSC	**El Rosal** comp=Z,8.0nm,0.8s,baz=108,slow=22,SNR=5.1	**157.20**	**68**	PKP		**PKPdf**	**11 51 15.0 -0.3**
ROSC	**El Rosal**	**157.20**	**68**	PKP		**PKPdf**	**11 51 15.0 -0.3**
SDV	**Santo Domingo**	**158.50**	**54**	*e*PKPdf		**PKPdf**	**11 51 18.5 +1.9**
LPAZ	**La Paz** comp=Z,10nm,1.1s,baz=23,slow=1.8,SNR=24	**160.87**	**131**	PKP		**PKPdf**	**11 51 21.1 +1.3**
LPAZ				PKPab		**PKPab**	**11 52 04.2 +2.0**
	comp=Z,8.5nm,1.1s,baz=224,slow=3.5,SNR=5.3						
LPAZ	**La Paz**	**160.87**	**131**	PKP		**PKPdf**	**11 51 21.1 +1.3**
LPAZ				PKPab		**PKPab**	**11 52 04.2 +2.0**
SIV	**San Ignacio** comp=Z,9.0nm,1.2s,baz=292,slow=1.6,SNR=16	**165.72**	**148**	PKP		**PKPdf**	**11 51 24.2 +0.6**
SIV				PKPab		**PKPab**	**11 52 23.8 +1.2**
	comp=Z,6.6nm,1.1s,baz=227,slow=3.0,SNR=9.2						
SIV	**San Ignacio**	**165.72**	**148**	PKP		**PKPdf**	**11 51 24.2 +0.6**
SIV				PKPab		**PKPab**	**11 52 23.8 +1.2**
BDFB	**Brasilia** comp=Z,3.8nm,0.8s,baz=164,slow=3.9,SNR=5.4	**167.25**	**203**	PKP		**PKPdf**	**11 51 25.1 +0.2**
BDFB				PKPab		**PKPab**	**11 52 29.5 +0.1**
	comp=Z,2.1nm,0.5s,baz=114,slow=4.5,SNR=5.0						
BDFB	**Brasilia**	**167.25**	**203**	PKP		**PKPdf**	**11 51 25.1 +0.2**
BDFB				PKPab		**PKPab**	**11 52 29.5 +0.1**
SAML	**Samuel**	**168.91**	**117**	*e*PKPdf		**PKPdf**	**11 51 26.3 +0.3**
SAML				*e*PKPab		**PKPab**	**11 52 37.9 +1.0**

IDC 31 11:43:26.9±2.1, 2.94N×127.49E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=153.7km s-min=25.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 1.1nm,0.6s,baz=344,slow=11,SNR=11	**23.72**	**164**	P		P	11 48 39.4	-1.4
ASAR	**Alice Springs** 0.2nm,0.3s,baz=343,slow=11,SNR=2.9	**27.18**	**167**	P		P	11 49 13.9	+1.6
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=128,slow=9.3,SNR=4.4	**58.63**	**325**	P		P	11 53 25.9	0.0

IDC 31 11:51:47.8±1.6, 3.72N×126.72E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=103.9km s-min=19.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 1.6nm,0.8s,baz=330,slow=8.1,SNR=3.0	**21.71**	**183**	P		P	11 56 40.9	+0.2
WRA	**Warramunga Arr** 2.1nm,0.6s,baz=342,slow=11,SNR=23	**24.68**	**163**	P		P	11 57 09.2	-1.6
ASAR	**Alice Springs** 0.2nm,0.3s,baz=340,slow=9.5,SNR=5.0	**28.11**	**166**	P		P	11 57 43.5	+1.8
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=119,slow=7.1,SNR=3.9	**57.55**	**325**	P		P	12 01 37.8	-1.5
KURBB	**Kurchatov Arra** 16nm,0.3s,baz=134,slow=6.2,SNR=2.3	**61.74**	**327**	P		P	12 02 09.4	+1.3

*FUNV **31** 12:05:43.1, 7.40N×71.40W, h7km, MW4.0*
*IDC **31** 12:05:51.4±1.1, 7.23N×71.09W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, ML2.7/1, Error ellipse: s-maj=36.5km s-min=18.9km az=70.0*
ISC 31 12:05:43.2±1.4, 7.45N±0.05×71.37W±0.04, h6km±11km, n26, σ1°31/28, mb3.5/6, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOCV	**Socops**	**0.97**	**32**	*e*P		**Pg**	**12 06 02.1**	**+0.2**
SOCV				*e*S		**Sg**	**12 06 16.2**	**+1.7**
CAPV	**Capacho**	**1.02**	**294**	⇓*e*P		**Pg**	**12 06 01.1**	**-1.7**
CAPV				*e*S		**Sg**	**12 06 16.4**	**+0.2**
VIGV	**El Vigia**	**1.38**	**0**	*e*P		**Pn**	**12 06 09.7**	**+0.6**
VIGV				*e*S		**Sn**	**12 06 28.0**	**+0.3**
ELOV	**Elorza**	**1.93**	**103**	*e*P		**Pn**	**12 06 15.9**	**-0.7**
ELOV				*e*S		**Sn**	**12 06 40.2**	**-0.9**
SANV	**Sanarito**	**2.73**	**42**	*e*P		**Pn**	**12 06 27.6**	**-0.1**
SANV				*e*S		**Sn**	**12 06 59.5**	**-1.6**
QARV	**Quebrada Arrib**	**2.86**	**17**	*e*P		**Pn**	**12 06 29.3**	**-0.2**
CURV	**Curarigua**	**2.90**	**29**	*e*P		**Pn**	**12 06 29.7**	**-0.4**
CURV				*e*S		**Sn**	**12 07 04.5**	**-0.9**
VIRV	**Villa del Rosa**	**3.20**	**341**	*e*P		**Pn**	**12 06 33.8**	**-0.3**
VIRV				*e*S		**Sn**	**12 07 10.5**	**-2.1**
TEPV	**Terepaima**	**3.30**	**41**	*e*P		**Pn**	**12 06 34.3**	**-1.2**
DABV	**Dabajuro**	**3.52**	**12**	*e*P		**Pn**	**12 06 38.0**	**-0.6**
SIQV	**Siquisique**	**3.53**	**26**	*e*P		**Pn**	**12 06 37.7**	**-1.0**
BAUV	**El Baul**	**3.61**	**66**	*e*P		**Pn**	**12 06 38.9**	**-0.8**
MAPV	**Macapo**	**3.73**	**50**	*e*P		**Pn**	**12 06 40.8**	**-0.5**
ROSC	**El Rosal** 10nm,0.3s,baz=94,slow=14,SNR=25	**3.91**	**229**	Pn		**Pb**	**12 06 53.5**	**+0.6**
ROSC				Sn		**Sb**	**12 07 41.4**	**+0.7**
	30nm,0.3s,baz=90,slow=19,SNR=5.4							
TURV	**Turiamo**	**4.59**	**49**	*e*P		**Pn**	**12 06 52.2**	**-1.0**
MONV	**Montecano**	**4.68**	**17**	*e*P		**Pn**	**12 06 53.8**	**-0.7**
BIRV	**Birongo**	**5.87**	**59**	*e*P		**Pn**	**12 07 08.9**	**-1.9**
CUPV	**Cœpira**	**6.09**	**64**	*e*P		**Pn**	**12 07 12.3**	**-1.7**
LPAZ	**La Paz** 2.4nm,0.6s,baz=358,slow=16,SNR=8.9	**23.80**	**172**	P		P	12 11 03.5	+5.8
SIV	**San Ignacio** 4.9nm,0.9s,baz=345,slow=7.8,SNR=16	**25.43**	**156**	P		P	12 11 18.2	+6.3
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=125,slow=9.4,SNR=2.9	**37.37**	**310**	P		P	12 13 09.0	+12
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=112,slow=12,SNR=3.2	**48.61**	**323**	P		P	12 14 41.3	+13
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=124,slow=7.7,SNR=2.7	**52.30**	**314**	P		P	12 15 08.1	+12
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=125,slow=7.0,SNR=7.1	**63.29**	**339**	P		P	12 16 21.9	+9.3
ASAR	**Alice Springs** 0.3nm,0.9s,baz=114,slow=2.9,SNR=2.8	**150.88**	**234**	PKPbc		**PKPab**	**12 25 48.5**	**+3.5**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=108,slow=2.7,SNR=4.2	**152.16**	**241**	PKPbc		**PKPab**	**12 25 50.8**	**+0.5**

KRSC 31 12:26:51.7±0.9, 54.30N×162.67E, h24km±24km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.61**	**295**	*i* P		Pb	12 27 03.7	+0.1
MKZ				*i* S		Sn	12 27 13.5	-0.3
TUMR	**Tumrok**	**1.76**	**305**	*e*P		Pn	12 27 22.0	+1.1
TUMR				*e*S		Sb	12 27 44.3	-1.0
KII	**Karymskiy**	**1.91**	**263**	P		Pn	12 27 23.6	+0.7
KII				*i* S		Sn	12 27 47.1	+0.9
KBTR	**Krutoberegovo**	**1.91**	**2**	*e*P		Pn	12 27 21.1	-1.7
KBTR				*e*S		Sn	12 27 42.6	-3.5
KMNR	**Kamenistaya**	**2.02**	**317**	*e*P		Pn	12 27 25.9	+1.5
KMNR				*i* S		Sn	12 27 50.7	+1.7
ZLN	**Zelenaya**	**2.03**	**329**	*e*P		Pn	12 27 25.7	+1.2
ZLN				*i* S		Sn	12 27 50.2	+1.1
BZMR	**Bezymyannaya**	**2.06**	**324**	*e*P		Pn	12 27 26.7	+1.7
BZWR	**Bezymyannyi-We**	**2.08**	**324**	*e*P		Pn	12 27 26.4	+1.1
LGNR	**Loginova**	**2.12**	**328**	*e*P		Pn	12 27 27.5	+1.5
LGNR				*i* S		Sn	12 27 53.4	+1.6
CIRR	**Tsirk**	**2.13**	**330**	*e*P		Pn	12 27 27.0	+1.1
CIRR				*e*S		Sn	12 27 52.7	+1.0
KPT	**Kopyto**	**2.18**	**321**	*e*P		Pn	12 27 27.7	+1.1
KPT				*e*S		Sn	12 27 53.9	+1.0
KLY	**Klyuchi**	**2.32**	**331**	*e*P		Pn	12 27 29.4	+1.0
KLY				*i* S		Sn	12 27 56.5	+0.3
KOZ	**Kozyrevsk**	**2.38**	**319**	*e*P		Pn	12 27 31.0	+1.7
KOZ				*e*S		Sn	12 27 59.4	+1.7
SMKR	**Semkarok**	**2.39**	**344**	P		Pn	12 27 30.1	+0.7
SMKR				*i* S		Sn	12 27 58.6	+0.6
BDR	**Baidarnaya**	**2.42**	**340**	*e*P		Pn	12 27 30.4	+0.5
BDR				*e*S		Sn	12 27 58.7	-0.1
SDLR	**Sedlovina**	**2.47**	**247**	*e*P		Pn	12 27 31.3	+0.7
SDLR				*i* S		Sn	12 28 00.2	+0.1
SRKR	**Sorokina**	**2.51**	**341**	*e*P		Pn	12 27 31.7	+0.6
SMAR	**Somma**	**2.52**	**247**	*e*P		Pn	12 27 32.2	+0.8
SMAR				*e*S		Sn	12 28 01.9	+0.4
KRER	**Koryakskii**	**2.53**	**248**	*e*P		Pn	12 27 32.5	+1.0
UGLR	**Uglovaya**	**2.53**	**246**	*e*P		Pn	12 27 32.5	+1.1
UGLR				*i* S		Sn	12 28 02.1	+0.5
AVH	**Avacha**	**2.55**	**248**	*e*P		Pn	12 27 33.5	+1.8
AVH				*i* S		Sn	12 28 03.8	+1.8
KOK	**Koryaka**	**2.60**	**249**	*e*P		Pn	12 27 33.5	+1.2
SRDR	**Sredinnyy**	**2.63**	**321**	P		Pn	12 27 34.6	+1.8
PET	**Petropavlovsk**	**2.71**	**243**	P		Pn	12 27 35.4	+1.7
PET				*i* S		Sn	12 28 06.8	+1.1
ESO	**Esso**	**2.80**	**307**	*e*P		Pn	12 27 36.6	+1.6
ESO				*e*S		Sn	12 28 09.6	+1.5
GNL	**Ganaly**	**2.86**	**260**	*e*P		Pn	12 27 37.8	+1.9
RUS	**Russkaya**	**3.11**	**235**	P		Pn	12 27 39.7	+0.5
RUS				*i* S		Sn	12 28 14.7	-0.9
MTVR	**Mutnovka**	**3.25**	**238**	P		Pn	12 27 42.5	+1.2
MTVR				*i* S		Sn	12 28 19.9	+0.7
MIPR	**Malaya Ipel'ka**	**4.09**	**243**	P		Pn	12 27 54.8	+2.2

*CSEM **31** 12:33:50.0±0.2, 45.06N×15.02E, h15km, ML2.6/5, Error ellipse: s-maj=8.3km s-min=2.3km az=93.0*
*VIE **31** 12:33:52.3±0.7, 45.19N×14.96E, h9km±24km, ML2.2/1, Error ellipse: s-maj=5.6km s-min=3.2km az=171.0 47 km ESE of Rijeka*
ISC 31 12:33:50.4±1.1, 45.06N±0.03×15.01E±0.09, h10km±13km, n12, σ0°45/22, 3C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOJS	**Bojanci**	**0.47**	**22**	*i* Pg		**Pg**	**12 33 59.4**	**-0.3**
BOJS				*i* Sg		**Sg**	**12 34 06.1**	**+0.2**
BOJS	comp=Z,15nm,0.1s							
BOJS	**Bojanci**	**0.47**	**22**	*i* Pg		**Pg**	**12 33 59.4**	**-0.3**
BOJS	comp=Z,15nm,0.1s			*i* Sg		**Sg**	**12 34 06.1**	**+0.2**
GBRS	**Gornja Briga**	**0.49**	**344**	⇑*i* Pg		**Pg**	**12 33 59.9**	**0.0**
GBRS	comp=Z,12nm,0.1s			*i* Sg		**Sb**	**12 34 07.4**	**-0.9**
NVLJ	**Novalja**	**0.51**	**191**	*e*Pg		**Pg**	**12 33 59.9**	**-0.4**
NVLJ				Sg		**Sg**	**12 34 07.5**	**+0.5**
NVLJ	**Novalja**	**0.51**	**191**	*e*Pg		**Pg**	**12 33 59.9**	**-0.4**
NVLJ				Sg		**Sg**	**12 34 07.5**	**+0.5**
VISS	**Visnje**	**0

mb1 3.6/11,**mb1mx3.5**/28,**mbtmp3.5**/11,**ML3.5**/3,
MS3.0/1,**Ms1 3.0**/1,**ms1mx2.4**/40,**Error ellipse: s-maj=31.1km s-min=19.3km az=51.0,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.60**	**135**	Pn	Pn	12 53 39.6	0.0
	0.1nm,0.3s,baz=319,slow=9.5,SNR=2.9						
AAK	**Ala-Archa**	**17.28**	**324**	P	Pn	12 54 15.1	+0.6
	0.1nm,0.3s,baz=170,slow=11,SNR=2.2						
AAK				LR	LR	13 01 00.1	
	comp=Z,51nm,18.8s,baz=143,slow=38						
MKAR	**Makanchi Array**	**18.07**	**347**	P	Pn	12 54 23.7	-0.3
	0.1nm,0.3s,baz=164,slow=12,SNR=12						
SONM	**Songino Array**	**23.27**	**32**	P	P	12 55 21.4	+0.5
	0.7nm,1.0s,baz=218,slow=13,SNR=6.3						
ZALV	**Zalesovo Beam**	**24.76**	**355**	P	P	12 55 34.5	-0.3
	0.2nm,0.4s,baz=200,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**45.50**	**298**	P	P	12 58 34.5	+1.5
	0.3nm,0.5s,baz=104,slow=7.8,SNR=3.9						
GERES	**GERESS Array B**	**58.66**	**312**	P	P	13 00 10.5	-0.3
	0.7nm,0.7s,baz=76,slow=5.6,SNR=4.7						
WRA	**Warramunga Arr**	**66.17**	**132**	P	P	13 01 01.0	-0.2
	0.4nm,0.8s,baz=327,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**68.61**	**135**	P	P	13 01 17.3	+0.6
	0.5nm,0.9s,baz=321,slow=6.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**80.65**	**280**	P	P	13 02 26.1	-0.8
	0.6nm,0.7s,baz=58,slow=4.3,SNR=10						
YKA	**Yellowknife Ar**	**86.73**	**10**	P	P	13 02 56.4	-0.8
	0.1nm,0.6s,baz=325,slow=4.7,SNR=3.7						

IDC 31 13:01:38.5±3.0,**13°.89N**×**123°.44E**,**h0**km,**mb3.6**/3,
mb1 3.8/3,**mb1mx3.3**/23,**mbtmp3.6**/3,**Error ellipse: s-maj=257.2km s-min=26.4km az=63.0,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.28**	**162**	P	P	13 08 35.3	0.0
	0.4nm,0.4s,baz=342,slow=9.2,SNR=9.1						
ASAR	**Alice Springs**	**38.70**	**165**	P	P	13 09 04.2	-0.2
	0.3nm,0.3s,baz=344,slow=6.8,SNR=19						
MKAR	**Makanchi Array**	**47.49**	**322**	P	P	13 10 15.2	-0.1
	0.4nm,0.4s,baz=113,slow=8.1,SNR=5.7						

IDC 31 13:02:35.9±18.0,**21°.89S**×**175°.16W**,**h0**km,**mb4.2**/5,
mb1 4.3/5,**mb1mx3.9**/22,**mbtmp4.2**/5,**Error ellipse: s-maj=335.5km s-min=148.3km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.01**	**266**	P	P	13 09 40.2	+1.3
	8.0nm,0.3s,baz=97,slow=11,SNR=12						
STKA	**Stephens Creek**	**39.61**	**246**	P	P	13 10 08.0	-1.3
	0.7nm,0.5s,baz=72,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**46.79**	**258**	P	P	13 11 06.7	-0.9
	0.5nm,0.3s,baz=92,slow=7.2,SNR=37						
WRA	**Warramunga Arr**	**47.04**	**263**	P	P	13 11 08.9	-0.7
	0.8nm,0.3s,baz=95,slow=8.4,SNR=59						
FITZ	**Fitzroy Crossi**	**55.47**	**263**	P	P	13 12 13.9	+1.0
	2.3nm,1.0s,baz=106,slow=6.8,SNR=4.7						

*MOS **31** 13:02:59.5±0.9,36°.03N×70°.84E,h81km,mb4.1/17,Error ellipse: s-maj=12.7km s-min=5.4km az=82.1*
*IDC **31** 13:02:59.8±3.8,36°.01N×70°.87E,h71km±33km,mb3.7/15, mb1 3.8/19,mb1mx3.7/31,mbtmp3.7/19,ML4.0/4,Error ellipse: s-maj=23.2km s-min=13.4km az=22.0*
*ISCJB **31** 13:03:01.8±0.3,36°.14N±0°.03×71°.02E±0°.05,h102km, mb3.8/21,Error ellipse: s-maj=6.6km s-min=3.6km az=157.7*
*BJI **31** 13:03:01.4,36°.33N×70°.67E,h100km,mB4.4/1,mb3.9/4*
*NNC **31** 13:03:07.0±4.4,36°.53N×70°.50E,h87km±57km,mb3.5, mpv4.3,Error ellipse: s-maj=33.6km s-min=26.3km az=175.0*

ISC 31 13:03:03.1±0.4,**36°.11N**±0°.04×**71°.05E**±0°.06,**h102**km,**n88,**
σ1$59/94,**mb3.9**/21,**6C-8D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.38**	**163**	⇓P	Pn	13 03 44.4	+3.5
CEP				S	**Sn**	**13 04 14.0**	**+4.2**
CHCP	**Chirah Chowk**	**3.05**	**143**	P	Pn	13 03 53.6	+4.1
SARP	**Sargodha**	**4.39**	**162**	P	**Pn**	**13 04 10.2**	**+2.7**
SARP				S	**Sn**	**13 04 58.0**	**+0.4**
KSH	**Kashi**	**5.17**	**47**	P	**Pn**	**13 04 16.3**	**-2.0**
KSH				S	Sn	13 05 05.3	-11
KSH				*s*max	*s*max		
	comp=N,220nm,0.6s						
KSH				*s*max	*s*max		
	comp=E,250nm,1.0s						
THN	**Thein Dam**	**5.33**	**132**	*e*P	**Pn**	**13 04 22.0**	**+1.8**
THN				*ex*	x	13 05 20.4	
AML	**Almayashu**	**6.36**	**18**	*i* PN	**Pn**	**13 04 34.7**	**+0.1**
AML	**Almayashu**	**6.36**	**18**	P	**Pn**	**13 04 34.7**	**+0.1**
	SNR=101						
UCH	**Uchtor**	**6.68**	**23**	P	**Sn**	**13 05 51.6**	**-2.2**
	SNR=11						
KZA	**Kyzart**	**6.80**	**27**	*i* PN	**Pn**	**13 04 40.8**	**+0.3**
KZA	**Kyzart**	**6.80**	**27**	P	**Pn**	**13 04 40.9**	**+0.3**
	SNR=41						
EKS2	**Erkin-Say**	**6.88**	**17**	*i* PN	**Pn**	**13 04 41.6**	**+0.3**
EKS2	**Erkin-Say**	**6.88**	**17**	P	**Pn**	**13 04 41.6**	**+0.3**
	SNR=25						
KK31	**Karatay Array**	**7.00**	**357**	⇓P	**Pn**	**13 04 41.7**	**-1.3**
	comp=E,9.6nm,0.3s,baz=184,slow=14,SNR=181						
KK31				⇓S	**Sn**	**13 05 55.1**	**-5.8**
	comp=E,18nm,0.4s,baz=180,slow=25,SNR=6.6						
KK31	**Karatay Array**	**7.00**	**357**	*ce*P	**Pn**	**13 04 41.2**	**-1.7**
KK31				*p*max	*p*max		
	comp=Z,17nm,0.2s						
AAK	**Ala-Archa**	**7.04**	**21**	P	**Pn**	**13 04 44.0**	**+0.4**
	comp=Z,7.0nm,0.3s,baz=165,slow=6.3,SNR=70						
AAK				S	**Sn**	**13 05 59.9**	**-2.2**
	comp=Z,4.7nm,0.3s,baz=133,slow=21,SNR=14						
AAK	**Ala-Archa**	**7.04**	**21**	PN	**Pn**	**13 04 44.0**	**+0.4**
AAK				*p*max	*p*max		
	comp=Z,7.0nm,0.3s						
AAK	**Ala-Archa**	**7.04**	**21**	P	**Pn**	**13 04 44.2**	**+0.6**
	SNR=27						
KBK	**Karagaybulak**	**7.20**	**24**	*i* PN	**Pn**	**13 04 47.0**	**+1.2**
KBK	**Karagaybulak**	**7.20**	**24**	P	**Pn**	**13 04 47.0**	**+1.2**
	SNR=12						
ULHL	**Ulahol**	**7.34**	**32**	*i* PN	**Pn**	**13 04 48.2**	**+0.5**
ULHL	**Ulahol**	**7.34**	**32**	P	**Pn**	**13 04 48.2**	**+0.5**
	SNR=6.9						
CHMS	**Chumysh**	**7.45**	**21**	*i* PN	**Pn**	**13 04 49.4**	**+0.3**
CHMS	**Chumysh**	**7.45**	**21**	P	**Pn**	**13 04 49.4**	**+0.3**
	SNR=8.7						
USP	**Ospenovka**	**7.63**	**19**	*i* PN	**Pn**	**13 04 51.7**	**+0.2**
USP	**Ospenovka**	**7.63**	**19**	P	**Pn**	**13 04 51.7**	**+0.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.66**	**26**	⇓P	**Pn**	**13 04 52.4**	**+0.4**
	comp=Z,8.6nm,0.5s						
TKM2				⇑S	**Sn**	**13 06 17.8**	**+0.5**
	comp=Z,21nm,0.8s						
TKM2	**Tokmak 2**	**7.66**	**26**	PN	**Pn**	**13 04 52.1**	**+0.1**
TKM2				*p*max	*p*max		
	comp=Z,9.0nm,0.5s						
TKM2	**Tokmak 2**	**7.66**	**26**	P	**Pn**	**13 04 52.4**	**+0.4**
	SNR=21						
DDI	**Dehra Dun**	**8.23**	**133**	*ex*	x	13 05 30.0	
DDI				*ex*	**Sn**	**13 06 31.0**	**0.0**
KHET	**Khetri**	**8.97**	**152**	*e*P	Pn	13 05 04.8	-5.0
KHET				*e*S	Sn	13 06 41.3	-7.6
KHET				AML	AML	13 06 48.4	
	comp=E,71nm,0.4s						
KHET				AML	AML	13 06 48.6	
	comp=N,100nm,0.4s						
NDI	**New Delhi**	**9.05**	**143**	*e*P	**Pn**	**13 05 11.0**	**+0.1**
NDI				*ex*	x	13 06 45.0	
AYAN	**Aya Nagar**	**9.18**	**144**	*e*P	Pn	13 05 09.6	-2.9
AYAN				*e*S	**Sn**	**13 06 50.8**	**-3.2**
KUDL	**Kundal**	**9.18**	**148**	*e*P	Pn	13 05 07.5	-5.1
KUDL				*e*S	Sn	13 06 48.0	-6.1
KUDL				AML	AML	13 06 55.4	
	comp=N,36nm,0.4s						
KUDL				AML	AML	13 06 55.6	
	comp=E,49nm,0.4s						
SONA	**Sohna**	**9.35**	**145**	*e*S	Sn	13 06 53.3	-5.0
SONA				AML	AML	13 07 02.1	
	comp=E,47nm,0.4s						
SONA				AML	AML	13 07 02.6	
	comp=N,25nm,0.2s						
AGRA	**Agra**	**10.62**	**145**	*e*S	**Sn**	**13 07 24.8**	**-4.3**
AGRA				AML	AML	13 07 31.2	
	comp=E,54nm,0.3s						
AGRA				AML	AML	13 07 31.9	
	comp=N,51nm,0.3s						
PYUN	**Piuthan**	**12.88**	**125**	*e*P	**Pn**	**13 06 01.4**	**-1.2**
DANN	**Dangsing**	**13.24**	**122**	*e*P	**Pn**	**13 06 06.3**	**-1.1**
KOLN	**Koldanda**	**13.51**	**124**	*e*P	**Pn**	**13 06 10.5**	**-0.2**
MK31	**Makanchi Array**	**13.59**	**35**	⇓P	**P**	**13 06 17.7**	**+0.8**
	comp=N,1.1nm,0.5s,baz=212,slow=9.8,SNR=3.8						
MKAR	**Makanchi Array**	**13.59**	**35**	P	**Pn**	**13 06 10.9**	**-0.6**
	comp=N,0.1nm,0.3s,baz=221,slow=14,SNR=9.1						
MKAR	**Makanchi Array**	**13.59**	**35**	P	**Pn**	**13 06 10.9**	**-0.6**
DMN	**Daman**	**14.63**	**121**	*e*P	**Pn**	**13 06 24.8**	**-0.5**
KKN	**Kakani**	**14.64**	**120**	*e*P	**Pn**	**13 06 24.1**	**-1.3**
PKIN	**Phulchoki**	**14.85**	**121**	*e*P	**Pn**	**13 06 28.2**	**+0.1**
PKI	**Pulchoki**	**14.87**	**121**	*e*P	**Pn**	**13 06 27.4**	**-0.9**
GUN	**Gumba**	**14.99**	**119**	*e*P	**Pn**	**13 06 29.6**	**-0.3**
AB31	**Akbulak array**	**15.45**	**332**	P	**Pn**	**13 06 32.1**	**-3.0**
	comp=N,2.2nm,0.2s,baz=152,slow=12,SNR=247						
AB31	**Akbulak array**	**15.45**	**332**	*ce*P	**Pn**	**13 06 32.1**	**-3.0**
AB31				*p*max	*p*max		
	comp=Z,6.0nm,0.2s						
KURK	**Kurchatov**	**15.59**	**18**	*ce*P	**P**	**13 06 39.1**	**+0.1**
KURK				*p*max	*p*max		
	comp=Z,5.0nm,1.7s						
RAMN	**Ramite**	**16.08**	**120**	*e*P	**Pn**	**13 06 43.6**	**+0.1**
VOSK	**Vostochnaya**	**16.61**	**360**	⇓P	**Pn**	**13 06 46.8**	**-2.8**
	comp=Z,0.6nm,0.3s						
TAPN	**Taplejung**	**16.63**	**117**	*e*P	**P**	**13 06 51.0**	**0.0**
ODAN	**Odare**	**16.69**	**119**	*e*P	**Pn**	**13 06 51.2**	**+0.2**
	comp=Z,19nm,0.7s						
ZRNK	**Zerenda**	**16.90**	**356**	⇓P	**Pn**	**13 06 51.8**	**-1.3**
	comp=Z,1.1nm,0.5s						
BVA0	**Borovoye Array**	**16.92**	**359**	⇑P	**Pn**	**13 06 51.7**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=173,slow=10,SNR=6.5						
BVAR	**Borovoye Array**	**16.92**	**359**	P	**Pn**	**13 06 51.1**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=172,slow=10,SNR=13						
BVAR				S	Sn	13 09 51.6	-10
	comp=Z,0.2nm,0.3s,baz=282,slow=41,SNR=3.7						
BVAR	**Borovoye Array**	**16.92**	**359**	P	**Pn**	**13 06 51.1**	**-2.3**
BVAR				S	Sn	13 09 51.6	-10
BVAR				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**16.96**	**358**	*e*P	**Pn**	**13 06 53.1**	**-0.7**
BRVK				*p*max	*p*max		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**17.14**	**331**	P	**Pn**	**13 06 54.6**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=151,slow=14,SNR=23						
AKTO				S	Sn	13 09 54.7	-12
	comp=Z,1.1nm,0.3s,baz=212,slow=23,SNR=7.9						
AKTO	**Aktyubinsk**	**17.14**	**331**	⇑P	**Pn**	**13 06 55.7**	**-0.4**
	comp=Z,0.8nm,0.5s						
AKTO	**Aktyubinsk**	**17.14**	**331**	P	**Pn**	**13 06 54.6**	**-1.5**
AKTO				S	Sn	13 09 54.7	-12
AKTO				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
AKTO				*s*max	*s*max		
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**20.26**	**24**	P	**P**	**13 07 30.4**	**+0.3**
	comp=N,10nm,0.5s,baz=221,slow=11,SNR=53						
ZALV	**Zalesovo Beam**	**20.26**	**24**	P	**P**	**13 07 30.4**	**+0.3**
ZALV				*p*max	*p*max		
	comp=Z,11nm,0.5s						
NVS	**Novosibirsk**	**20.54**	**20**	*e*P	**P**	**13 07 33.6**	**+0.5**
NVS				*p*max	*p*max		
	comp=Z,9.0nm,1.1s						
NVS				*p*max	*p*max		
	comp=N,8.0nm,1.0s						
NVS				*p*max	*p*max		
	comp=E,3.0nm,1.0s						
ZEI	**Tsey**	**21.94**	**296**	*e*P	**P**	**13 07 51.5**	**+3.0**
ZEI				*p*max	*p*max		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**22.02**	**341**	*d* iP	**P**	**13 07 49.8**	**+0.9**
ARU						13 08 21.8	
ARU				S	**S**	**13 11 45.8**	**+0.5**
ARU				SS	**SnSn**	**13 12 21.0**	**-0.2**
ARU				*p*max	*p*max		
	comp=Z,24nm,1.7s						
KBZ	**Khabaz**	**22.82**	**298**	P	**P**	**13 07 56.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=124,slow=11,SNR=2.5						
KBZ	**Khabaz**	**22.82**	**298**	P	**P**	**13 07 56.2**	**-1.1**
KBZ				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**22.94**	**73**	*e*P	**P**	**13 08 01.5**	**+2.8**
GTA				*p*max	*p*max		
	comp=Z,3.0nm,0.7s						
ANN	**Anapa**	**26.86**	**299**	*e*P	**P**	**13 08 33.9**	**-0.1**
ANN				*e**PP	**pP**	**13 08 53.1**	**-3.4**
ANN				*e*		13 09 20.2	
ANN				*e*S	**S**	**13 13 02.0**	**-0.9**
ANN				*p*max	*p*max		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**28.53**	**55**	P	**P**	**13 08 50.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=265,slow=10,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.23**	**118**	P	**P**	**13 09 05.7**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=299,slow=8.3,SNR=7.4						
OBN	**Obninsk**	**30.26**	**320**	*e*P	**P**	**13 09 04.5**	**+0.4**
OBN				*e**PP	**pP**	**13 09 25.7**	**-1.1**
OBN				*e*S	**S**	**13 13 55.3**	**-0.8**
OBN				*p*max	*p*max		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**33.22**	**309**	P	**P**	**13 09 30.4**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=84,slow=6.6,SNR=5.6						
AKASG	**Malin Array Be**	**33.22**	**309**	P	**P**	**13 09 30.4**	**+0.3**
AKASG				*p*max	*p*max		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**37.83**	**326**	P	**P**	**13 10 09.5**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=122,slow=9.0,SNR=8.7						
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**13 10 41.5**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=107,slow=7.8,SNR=19						
NB2	**NORSAR Subarra**	**44.72**	**323**	P	**P**	**13 11 06.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.72**	**323**	P	**P**	**13 11 05.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=97,slow=7.9,SNR=5.1						
KSRS	**Korea Array**	**44.97**	**71**	P	**P**	**13 11 10.1**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=274,slow=6.9,SNR=5.5						
TIXI	**Tiksi**	**46.12**	**22**	*e*P	**P**	**13 11 18.6**	**+2.0**
TIXI				*p*max	*p*max		
	comp=Z,7.0nm,2.5s						
BILL	**Bilibino**	**58.94**	**26**	*e*P	**P**	**13 12 53.5**	**+2.3**
BILL				*p*max	*p*max		
	comp=Z,1.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**13 13 35.1**	**-2.2**
	comp=Z,1.5nm,0.6s,baz=50,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**75.14**	**16**	P	**P**	**13 14 34.7**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=309,slow=5.7,SNR=3.6						
YKA	**Yellowknife Ar**	**81.64**	**3**	P	**P**	**13 15 09.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=349,slow=5.4,SNR=18						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**13 15 10.7**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=325,slow=5.0,SNR=23						
ASAR	**Alice Springs**	**84.00**	**125**	P	**P**	**13 15 22.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=311,slow=5.1,SNR=16						
CTA	**Charters Tower**	**90.34**	**115**	P	**P**	**13 15 53.1**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=326,slow=7.3,SNR=3.3						

*CSEM **31** 13:09:51.9±0.2,46°.55N×21°.26E,h2km,MD2.9/4,Error ellipse: s-maj=4.9km s-min=4.2km az=4.0*
*BUC **31** 13:09:52.0±1.0,46°.50N×21°.29E,h10km,MD2.9/4,Error ellipse: s-maj=11.4km s-min=10.5km az=60.0*

ISC 31 13:09:51.6±1.1,**46°.56N**±0°.02×**21°.25E**±0°.02,**h8**km±10km,
n54,σ0$89/79,**23C-11D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIM	**Timisoara**	**0.83**	**181**	⇑*i*P	**Pb**	**13 10 08.6**	**+0.4**
TIM				*i* S	**Sb**	**13 10 19.2**	**-0.3**
TIM	**Timisoara**	**0.83**	**181**	⇑*i*P	**Pb**	**13 10 08.6**	**+0.4**
TIM	**Timisoara**	**0.83**	**181**	S	**Sb**	**13 10 19.2**	**-0.3**
TIM	**Timisoara**	**0.83**	**181**	⇑*i*P	**Pb**	**13 10 08.6**	**+0.4**
TIM				*i* S	**Sb**	**13 10 19.2**	**-0.3**
BZS	**Buzias**	**0.98**	**165**	⇑*i*P	**Pg**	**13 10 09.9**	**-0.5**
BZS				*i* S	**Sg**	**13 10 23.1**	**0.0**
BZS	**Buzias**	**0.98**	**165**	⇑*i*P	**Pg**	**13 10 09.9**	**-0.5**
BZS	**Buzias**	**0.98**	**165**	S	**Sg**	**13 10 23.1**	**0.0**
BZS	**Buzias**	**0.98**	**165**	⇑*i*P	**Pg**	**13 10 09.9**	**-0.5**
BZS				*i* S	**Sg**	**13 10 23.1**	**0.0**
DRGR		**1.03**	**77**	⇓*i*P	**Pg**	**13 10 10.8**	**-0.7**
DRGR				*i* S	**Sb**	**13 10 25.7**	**+0.2**
DRGR		**1.03**	**77**	⇓*i*P	**Pg**	**13 10 10.8**	**-0.7**
DRGR		**1.03**	**77**	S	**Sb**	**13 10 25.7**	**+0.2**
DRGR		**1.03**	**77**	⇓*i*P	**Pg**	**13 10 10.8**	**-0.7**
DRGR				*i* S	**Sb**	**13 10 25.7**	**+0.2**
PKS6	**Bocsa**	**1.16**	**272**	*e*Pn	**Pg**	**13 10 13.1**	**-0.8**
PKS6				*e*Sn	**Sn**	**13 10 30.3**	**+0.1**
PKS6	**Bocsa**	**1.16**	**272**	*e*Pn	**Pg**	**13 10 13.1**	**-0.8**
PKS6				*e*Sn	**Sn**	**13 10 30.3**	**+0.1**
DEV	**Deva**	**1.33**	**120**	⇑*i*P	**Pn**	**13 10 16.4**	**-0.2**
DEV				*i* S	**Sb**	**13 10 34.5**	**+0.4**
DEV	**Deva**	**1.33**	**120**	⇑*i*P	**Pn**	**13 10 16.4**	**-0.2**
DEV	**Deva**	**1.33**	**120**	S	**Sb**	**13 10 34.5**	**+0.4**
DEV	**Deva**	**1.33**	**120**	⇑*i*P	**Pn**	**13 10 16.4**	**-0.2**
DEV				*i* S	**Sb**	**13 10 34.5**	**+0.4**
PKS2	**Kecel**	**1.41**	**268**	*e*Sn	**Sg**	**13 10 37.1**	**+0.2**
PKS2	**Kecel**	**1.41**	**268**	*e*Sn	**Sg**	**13 10 37.1**	**+0.2**
PSZ	**Piszkesteto**	**1.64**	**326**	⇑*i*P	**Pb**	**13 10 22.8**	**+0.6**
PSZ				*i* S	**Sg**	**13 10 46.0**	**+1.6**
PSZ	**Piszkesteto**	**1.64**	**326**	⇑*i*P	**Pb**	**13 10 22.8**	**+0.6**
PSZ	**Piszkesteto**	**1.64**	**326**	S	**Sg**	**13 10 46.0**	**+1.6**
PSZ	**Piszkesteto**	**1.64**	**326**	⇑*e*Pn	**Pn**	**13 10 20.7**	**-0.2**
PSZ	**Piszkesteto**	**1.64**	**326**	⇑*i*P	**Pb**	**13 10 22.8**	**+0.6**
PSZ				*e*Sn	**Sn**	**13 10 39.4**	**-2.8**
PSZ				*i* S	**Sg**	**13 10 46.0**	**+1.6**
PSZ	**Piszkesteto**	**1.64**	**326**	⇑*e*Pn	**Pn**	**13 10 18.5**	**-2.4**
PSZ				*e*Sn	**Sn**	**13 10 39.4**	**-2.8**
TRPA	**Tarpa**	**1.80**	**29**	⇑*i*P	**Pb**	**13 10 25.2**	**+0.4**
TRPA				*i* S	**Sg**	**13 10 49.6**	**+0.2**
TRPA	**Tarpa**	**1.80**	**29**	⇑*i*P	**Pb**	**13 10 25.2**	**+0.4**
TRPA	**Tarpa**	**1.80**	**29**	S	**Sg**	**13 10 49.6**	**+0.2**
TRPA	**Tarpa**	**1.80**	**29**	*i* Pn	**Pn**	**13 10 23.9**	**+1.0**
TRPA	**Tarpa**	**1.80**	**29**	⇑*i*P	**Pb**	**13 10 25.2**	**+0.4**
TRPA				*i* S	**Sg**	**13 10 49.6**	**+0.2**
PKSM	**Moragy**	**1.84**	**260**	⇑*i*P	**Pn**	**13 10 24.7**	**+1.2**
PKSM				*i* S	**Sb**	**13 10 49.5**	**+0.9**
PKSM	**Moragy**	**1.84**	**260**	⇑*i*P	**Pn**	**13 10 24.7**	**+1.2**
PKSM	**Moragy**	**1.84**	**260**	S	**Sb**	**13 10 49.5**	**+0.9**
PKSM	**Moragy**	**1.84**	**260**	⇓*e*Pn	**Pn**	**13 10 24.2**	**+0.7**
PKSM	**Moragy**	**1.84**	**260**	⇑*i*P	**Pn**	**13 10 24.7**	**+1.2**
PKSM				*e*Sn	**Sb**	**13 10 48.6**	**0.0**
PKSM				*i* S	**Sb**	**13 10 49.5**	**+0.9**
PKSM	**Moragy**	**1.84**	**260**	⇓*e*Pn	**Pn**	**13 10 24.8**	**+1.2**
PKSM				*e*Sn	**Sb**	**13 10 48.6**	**0.0**
BMR	**Baia Mare**	**1.90**	**53**	⇓*i*P	**Pb**	**13 10 25.9**	**-0.6**
BMR				*i* S	**Sb**	**13 10 50.6**	**+0.3**
BMR	**Baia Mare**	**1.90**	**53**	⇓*i*P	**Pb**	**13 10 25.9**	**-0.6**
BMR	**Baia Mare**	**1.90**	**53**	S	**Sb**	**13 10 50.6**	**+0.3**
BMR	**Baia Mare**	**1.90**	**53**	⇓*i*P	**Pb**	**13 10 25.9**	**-0.6**
BMR				*i* S	**Sb**	**13 10 50.6**	**+0.3**
PKS9	**Tamasi**	**2.05**	**272**	*e*Pn	**Pb**	**13 10 29.2**	**+0.1**
PKS9				*e*Sn	**Sg**	**13 10 57.1**	**-0.3**
PKS9	**Tamasi**	**2.05**	**272**	*e*Pn	**Pb**	**13 10 29.2**	**+0.1**
PKS9				*e*Sn	**Sg**	**13 10 57.1**	**-0.3**
CSKK	**Cs˘‡kako**	**2.20**	**292**	*e*Sn	**Sg**	**13 10 57.7**	**+1.3**
CSKK	**Cs˘‡kako**	**2.20**	**292**	*e*Pn	Pg	13 10 39.1	+5.4
PKST	**T¨'s**	**2.31**	**289**	*i* Pn	Pn	**13 10 28.0**	**-2.0**
KOLS	**Kolonicke sedl**	**2.47**	**16**	*i* Pn	**Pn**	**13 10 33.1**	**+0.9**
ARR	**Arges**	**2.65**	**116**	⇑*i*P	**Pn**	**13 10 35.3**	**+0.6**
ARR				*i* S	**Sn**	**13 11 06.7**	**-0.3**
ARR	**Arges**	**2.65**	**116**	⇑*i*P	**Pn**	**13 10 35.3**	**+0.6**
ARR	**Arges**	**2.65**	**116**	S	**Sn**	**13 11 06.7**	**-0.3**
ARR	**Arges**	**2.65**	**116**	⇑*i*P	**Pn**	**13 10 35.3**	**+0.6**
ARR				*i* S	**Sn**	**13 11 06.7**	**-0.3**
BURAR	**Bucovina Array**	**2.91**	**67**	⇓*i*P	**Pn**	**13 10 39.5**	**+1.2**
BURAR	**Bucovina Array**	**2.91**	**67**	⇓*i*P	**Pn**	**13 10 39.5**	**+1.2**
BURAR	**Bucovina Array**	**2.91**	**67**	⇓*i*P	**Pn**	**13 10 39.5**	**+1.2**

*IDC **31** 13:22:20.7±1.1,37°.53N×21°.34E,h0km,mb3.7/10, mb1 3.7/11,mb1mx3.6/27,mbtmp3.6/11,

KALE	**Kalithea**	**1.26**	**43**	P	**Pg**	**13 22 45.6**	**-1.3**
KALE				S	**Sb**	**13 23 04.1**	**+0.9**
KALE	**Kalithea**	**1.26**	**43**	*e*PB	**Pg**	**13 22 46.0**	**-0.9**
KALE				*e*SN	**Sn**	**13 23 04.8**	**+0.9**
KALE	**Kalithea**	**1.26**	**43**	P	**Pg**	**13 22 45.6**	**-1.3**
KALE	**Kalithea**	**1.26**	**43**	*e*Pb	**Pg**	**13 22 46.0**	**-0.9**
KALE				S	**Sb**	**13 23 04.1**	**+0.9**
DSF	**Desfina**	**1.50**	**51**	P	**Pn**	**13 22 50.2**	**+0.2**
DSF				S	**Sn**	**13 23 12.3**	**+2.5**
DSF	**Desfina**	**1.50**	**51**	P	**Pn**	**13 22 50.2**	**+0.2**
DSF				S	**Sn**	**13 23 12.3**	**+2.5**
EVR	**Evrytania**	**1.56**	**23**	P	**Pn**	**13 22 51.0**	**+0.1**
EVR				S	**Sg**	**13 23 14.2**	**+1.4**
EVR	**Evrytania**	**1.56**	**23**	*e*PN	**Pg**	**13 22 53.0**	**+0.4**
EVR				*e*SN	**Sg**	**13 23 14.3**	**+1.4**
EVR	**Evrytania**	**1.56**	**23**	P	**Pn**	**13 22 51.0**	**+0.1**
EVR	**Evrytania**	**1.56**	**23**	*e*Pn	**Pg**	**13 22 53.0**	**+0.4**
EVR				*e*Sn	**Sg**	**13 23 14.3**	**+1.4**
LTK	**Loutraki**	**1.62**	**70**	P	**Pb**	**13 22 52.6**	**-0.3**
LTK				S	**Sg**	**13 23 14.3**	**-0.6**
LTK	**Loutraki**	**1.62**	**70**	*e*PN	**Pb**	**13 22 52.6**	**-0.3**
LTK				*e*SN	**Sg**	**13 23 15.2**	**+0.3**
LTK	**Loutraki**	**1.62**	**70**	P	**Pb**	**13 22 52.6**	**-0.3**
LTK				S	**Sg**	**13 23 14.3**	**-0.6**
VLI	**Veliai**	**1.70**	**116**	P	**Pg**	**13 22 54.6**	**-0.7**
VLI				S	**Sg**	**13 23 17.0**	**-0.3**
VLI	**Veliai**	**1.70**	**116**	*e*PN	**Pg**	**13 22 54.8**	**-0.5**
VLI	**Veliai**	**1.70**	**116**	P	**Pg**	**13 22 54.6**	**-0.7**
VLI				S	**Sg**	**13 23 17.0**	**-0.3**
DIDY	**Didyma**	**1.73**	**89**	P	**Pb**	**13 22 54.8**	**0.0**
DIDY	**Didyma**	**1.73**	**89**	P	**Pb**	**13 22 54.8**	**0.0**
DID	**Didima**	**1.75**	**88**	P	**Pb**	**13 23 17.3**	**0.0**
DID				S	**Sb**	**13 23 17.3**	**0.0**
DID	**Didima**	**1.75**	**88**	*e*PN	**Pn**	**13 22 54.2**	**+0.8**
DID				*e*SN	**Sb**	**13 23 17.7**	**+0.4**
DID	**Didima**	**1.75**	**88**	*e*Pn	**Pn**	**13 22 54.2**	**+0.8**
DID				S	**Sb**	**13 23 17.3**	**0.0**
DID				*e*Sn	**Sb**	**13 23 17.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.76**	**29**	P	**Pg**	**13 22 55.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.76**	**29**	P	**Pg**	**13 22 55.8**	**-0.6**
AXAR	**Agios Charalam**	**1.81**	**44**	P	**Pb**	**13 22 56.4**	**+0.2**
AXAR	**Agios Charalam**	**1.81**	**44**	P	**Pb**	**13 22 56.4**	**+0.2**
AGG	**Agios Georgios**	**1.85**	**33**	P	**Pb**	**13 22 57.2**	**+0.4**
AGG	**Agios Georgios**	**1.85**	**33**	*e*PN	**Pb**	**13 22 57.2**	**+0.4**
AGG	**Agios Georgios**	**1.85**	**33**	P	**Pb**	**13 22 57.2**	**+0.4**
LKR	**Lokris**	**1.94**	**52**	P	**Pb**	**13 22 57.8**	**-0.5**
LKR				S	**Sb**	**13 23 22.5**	**-0.2**
LKR	**Lokris**	**1.94**	**52**	*e*PN	**Pb**	**13 22 57.9**	**-0.4**
LKR				*e*SN	**Sb**	**13 23 23.1**	**+0.4**
LKR	**Lokris**	**1.94**	**52**	P	**Pb**	**13 22 57.8**	**-0.5**
LKR				*e*Sn	**Sb**	**13 23 23.1**	**+0.4**
NAIG	**Nisos Aigina**	**1.97**	**81**	*e*PN	**Pb**	**13 22 57.9**	**-0.9**
NAIG	**Nisos Aigina**	**1.97**	**81**	*e*Pn	**Pb**	**13 22 57.9**	**-0.9**
ATAL	**Atalanti**	**1.98**	**52**	P	**Pb**	**13 22 58.2**	**-0.8**
ATAL	**Atalanti**	**1.98**	**52**	P	**Pb**	**13 22 58.2**	**-0.8**
KYTH	**Kithira**	**2.00**	**126**	P	**Pb**	**13 23 00.0**	**+0.6**
KYTH	**Kithira**	**2.00**	**126**	*e*PN	**Pb**	**13 22 59.9**	**+0.6**
KYTH	**Kithira**	**2.00**	**126**	*e*Pn	**Pb**	**13 22 59.9**	**+0.6**
JAN	**Janina**	**2.18**	**356**	P	**Pb**	**13 23 01.6**	**-0.8**
JAN	**Janina**	**2.18**	**356**	P	**Pb**	**13 23 01.6**	**-0.8**
ATH	**Athens Observa**	**2.18**	**76**	*e*PN	**Pn**	**13 23 00.7**	**+1.4**
ATH	**Athens Observa**	**2.18**	**76**	*e*Pn	**Pn**	**13 23 00.7**	**+1.4**
THL	**Klokotos Trika**	**2.22**	**20**	P	**Pn**	**13 23 01.7**	**+1.9**
THL	**Klokotos Trika**	**2.22**	**20**	*e*PN	**Pb**	**13 23 01.9**	**-1.2**
THL	**Klokotos Trika**	**2.22**	**20**	P	**Pn**	**13 23 01.7**	**+1.9**
MEV	**Metsovon**	**2.31**	**4**	P	**Pb**	**13 23 03.6**	**-1.1**
MEV	**Metsovon**	**2.31**	**4**	P	**Pb**	**13 23 03.6**	**-1.1**
PTL	**Penteli**	**2.31**	**75**	*e*PN	**Pn**	**13 23 02.6**	**+1.5**
PTL	**Penteli**	**2.31**	**75**	*e*Pn	**Pn**	**13 23 02.6**	**+1.5**
KEK	**Kerkira**	**2.43**	**337**	P	**Pn**	**13 23 03.7**	**+0.9**
KEK	**Kerkira**	**2.43**	**337**	*e*PB	**Pn**	**13 23 04.3**	**+1.5**
KEK	**Kerkira**	**2.43**	**337**	P	**Pn**	**13 23 03.7**	**+0.9**
KEK	**Kerkira**	**2.43**	**337**	*e*Pb	**Pn**	**13 23 04.3**	**+1.5**
NEO	**Neokhori**	**2.51**	**43**	*e*PB	**Pn**	**13 23 05.5**	**+1.7**
NEO				*e*SN	**Sn**	**13 23 36.3**	**+1.7**
NEO	**Neokhori**	**2.51**	**43**	*e*Pb	**Pn**	**13 23 05.5**	**+1.7**
NEO				*e*Sn	**Sn**	**13 23 36.3**	**+1.7**
XOR	**Xorichti**	**2.53**	**41**	P	**Pn**	**13 23 05.2**	**+1.0**
XOR				S	**Sn**	**13 23 37.3**	**+2.1**
XOR	**Xorichti**	**2.53**	**41**	P	**Pn**	**13 23 05.2**	**+1.0**
XOR				S	**Sn**	**13 23 37.3**	**+2.1**
SKIA	**Skiathos**	**2.55**	**48**	P	**Pn**	**13 23 05.9**	**+1.5**
SKIA	**Skiathos**	**2.55**	**48**	P	**Pn**	**13 23 05.9**	**+1.5**
MRMA	**Marmari**	**2.71**	**77**	P	**Pn**	**13 23 07.4**	**+0.8**
MRMA	**Marmari**	**2.71**	**77**	P	**Pn**	**13 23 07.4**	**+0.8**
AOS	**Alonnisos**	**2.80**	**52**	P	**Pn**	**13 23 08.9**	**+1.1**
AOS	**Alonnisos**	**2.80**	**52**	*e*PN	**Pn**	**13 23 09.2**	**+1.4**
AOS	**Alonnisos**	**2.80**	**52**	P	**Pn**	**13 23 08.9**	**+1.1**
AOS	**Alonnisos**	**2.80**	**52**	*e*Pn	**Pn**	**13 23 09.2**	**+1.4**
KARN	**Karanos**	**3.11**	**131**	*e*PN	**Pn**	**13 23 14.2**	**+2.0**
KARN	**Karanos**	**3.11**	**131**	*e*Pn	**Pn**	**13 23 14.2**	**+2.0**
VAM	**Vamos**	**3.28**	**128**	*e*PN	**Pn**	**13 23 16.5**	**+2.0**
VAM	**Vamos**	**3.28**	**128**	*e*Pn	**Pn**	**13 23 16.5**	**+2.0**
PLG	**Polygyros**	**3.45**	**32**	*e*PN	**Pn**	**13 23 17.6**	**+0.8**
PLG	**Polygyros**	**3.45**	**32**	*e*Pn	**Pn**	**13 23 17.6**	**+0.8**
APE	**Apeiranthos**	**3.61**	**95**	*e*PN	**Pn**	**13 23 20.1**	**+1.1**
APE	**Apeiranthos**	**3.61**	**95**	*e*Pn	**Pn**	**13 23 20.1**	**+1.1**
SOH	**Sokhos**	**3.79**	**28**	P	**Pn**	**13 23 22.6**	**+1.1**
SOH	**Sokhos**	**3.79**	**28**	P	**Pn**	**13 23 22.6**	**+1.1**
IDI	**Anoyia**	**3.80**	**124**	P	**Pn**	**13 23 23.6**	**+1.9**
IDI	**Anoyia**	**3.80**	**124**	P	**Pn**	**13 23 23.6**	**+1.9**
LIA	**Limnos Island**	**4.04**	**52**	*e*PN	**Pn**	**13 23 26.6**	**+1.7**
LIA	**Limnos Island**	**4.04**	**52**	*e*Pn	**Pn**	**13 23 26.6**	**+1.7**
CHOS	**Chios island**	**4.07**	**76**	*e*PN	**Pn**	**13 23 26.5**	**+1.2**
CHOS	**Chios island**	**4.07**	**76**	*e*Pn	**Pn**	**13 23 26.5**	**+1.2**
SRS	**Serrai**	**4.14**	**28**	P	**Pn**	**13 23 27.1**	**+0.9**
SRS	**Serrai**	**4.14**	**28**	P	**Pn**	**13 23 27.1**	**+0.9**
NVR	**Nevrokopi**	**4.44**	**29**	*e*PN	**Pn**	**13 23 31.8**	**+1.4**
NVR	**Nevrokopi**	**4.44**	**29**	*e*Pn	**Pn**	**13 23 31.8**	**+1.4**
BARS	**Barje**	**5.36**	**6**	*i* Pn	**Pn**	**13 23 43.4**	**+0.3**
STON	**Ston**	**5.96**	**336**	*e*PN	**Pn**	**13 23 50.1**	**-1.1**
STON					Sn	13 24 54.2	-5.5
STON	**Ston**	**5.96**	**336**	*e*Pn	**Pn**	**13 23 50.1**	**-1.1**
IVAS	**Ivanjica**	**6.13**	**354**	*e*Pn	**Pn**	**13 23 53.8**	**+0.2**
GRUS	**Gruza**	**6.41**	**358**	*e*Pn	**Pn**	**13 23 56.9**	**-0.5**
NVLJ	**Novalja**	**8.47**	**329**	*e*Pn	**Pn**	**13 24 24.6**	**-1.1**
NVLJ					Sn	13 25 55.9	-5.5
NVLJ	**Novalja**	**8.47**	**329**	*e*Pn	**Pn**	**13 24 24.5**	**-1.1**
GERES	**GERESS Array B**	**12.55**	**337**	Pn	**Pn**	**13 25 23.7**	**+2.1**
	0.1nm,0.3s,baz=150,slow=18,SNR=3.3						
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**13 27 27.3**	**-2.0**
	1.0nm,0.4s,baz=163,slow=11,SNR=10						
FINES	**FINESS Array B**	**24.20**	**6**	P	**P**	**13 27 37.3**	**-2.1**
	1.3nm,0.6s,baz=168,slow=12,SNR=5.7						
EKA	**Eskdalemuir Ar**	**24.23**	**325**	P	**P**	**13 27 40.1**	**+0.3**
	1.0nm,0.5s,baz=119,slow=6.8,SNR=4.5						
NOA	**NORSAR Array B**	**24.38**	**348**	P	**P**	**13 27 40.7**	**-0.5**
	0.3nm,0.4s,baz=148,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**29.75**	**221**	P	**P**	**13 28 30.5**	**+0.7**
	0.5nm,0.5s,baz=30,slow=9.3,SNR=15						
ARCES	**ARCESS Array B**	**32.21**	**3**	P	**P**	**13 28 49.1**	**-1.8**
	0.9nm,0.7s,baz=200,slow=9.6,SNR=3.9						
DBIC	**Dimbokro**	**38.66**	**224**	P	**P**	**13 29 48.0**	**+1.0**
	2.6nm,0.7s,baz=17,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**45.32**	**58**	P	**P**	**13 30 38.9**	**-2.2**
	0.3nm,0.4s,baz=282,slow=6.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**45.86**	**48**	P	P	13 30 42.4	-2.7
	0.7nm,0.3s,baz=272,slow=7.7,SNR=5.0						
YKA	**Yellowknife Ar**	**74.18**	**340**	P	**P**	**13 33 59.0**	**-0.5**
	0.2nm,0.5s,baz=31,slow=5.7,SNR=4.8						

*IDC **31** 13:26:13.8±0.5, 14˚.50N× 123˚.84E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/29, mbtmp4.3/22, ML4.3/2, MS4.1/21, Ms1 4.1/21, ms1mx3.9/39, Error ellipse: s-maj=18.5km s-min=10.4km az=80.0*

*BJI **31** 13:26:15.9, 14˚.55N× 123˚.77E, h24km, mB5.0/36, mb4.6/43, Ms4.5/39, Ms7 4.2/39*

*ISCJB **31** 13:26:18.2±0.9, 14˚.76N±0˚.02× 123˚.89E±0˚.03, h33km±6km, mb4.5/65, MS4.1/34, Error ellipse: s-maj=4.9km s-min=3.3km az=161.0*

*MOS **31** 13:26:18.5±0.9, 14˚.64N× 123˚.81E, h43km, mb4.8/35, MS4.0/11, Error ellipse: s-maj=11.5km s-min=6.6km az=112.6*

*NEIC **31** 13:26:19.7±0.8, 14˚.61N× 123˚.81E, h38km±7km, mb4.8/20, Error ellipse: s-maj=7.5km s-min=4.6km az=81.0*

NEIC Felt [II PIVS] at Calabanga, Gubat, Guinayangan, Legaspi and Polillo.

*GCMT **31** 13:26:20.1±0.2, 14˚.79N× 123˚.77E, h35km±1km, MW5.1, Moment Tensor Solution. s42,c56; s82,c123; Moment tensor: Scale 10^16^Nm; Mrr=0.16±.21; Mθφ 4.47±.14; Mθθ -4.31±.18; Mrθ 1.57±.18; Mφφ -1.80±.14; Mrφ 0.83±.23; Best double couple: Mo5.10000× 10^16^ NP1:φs 146.00000°, δ70.00000°, λ1.00000°. NP2:φs 56.00000°, δ89.00000°, λ160.00000°. Principal axes: T 5.1900, Plg15.0000°, Azm9.0000°; N -0.2500, Plg70.0000°, Azm234.0000°; P -4.9400, Plg14.0000°, Azm103.0000°; Data Used: II IU IC G CN.*

*MAN **31** 13:26:20, 14˚.80N× 123˚.65E, h62km, mb5.7, ML4.7, MS5.2 MAN INTENSITY II - LIGNON HILL LEGASPI CITY; POLILIO POLILIO ISLAND QUEZON; GUBAT SORSOGON; CABALANGA CAMARINES SUR; GUINAYANGAN QUEZON.*

*DJA **31** 13:26:23.3±2.8, 15˚.N±20˚× 12˚4E±˚, h116km±17km, M4.7/19, mB5.2/14, mb5.0/19, Mw(mB)4.6/14*

ISC 31 13:26:18.6±0.5, 14˚.62N±0˚.03× 123˚.88E±0˚.04, h27km±2km, n195, σ1§73/208, mb4.6/65, MS4.1/34, 11C-9D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.56**	**243**	⇑*i*P		**Pn**	**Pn**	**13 26 45.1**	**+0.6**
GQP				*i* S		**Sn**	**Sn**	**13 27 04.3**	**+0.5**
AUQP	**San Andres**	**1.74**	**222**	*e*P		**Pb**	**Pb**	**13 26 50.3**	**+0.5**
POLP	**Polilio Island**	**1.88**	**274**	*e*P		**Pn**	**Pn**	**13 26 49.8**	**+0.8**
POLP				*e*S		**Sn**	**Sn**	**13 27 13.4**	**+1.6**
MMPH	**Masbate**	**2.26**	**186**	*e*P		**Pb**	**Pb**	**13 26 57.0**	**-1.7**
MMPH				*i* S		**Sb**	**Sb**	**13 27 30.9**	**+4.7**
LQP	**Lukban**	**2.32**	**258**	⇓*e*P		Pn	Pn	13 26 57.6	+2.4
BALP	**Baler**	**2.49**	**297**	*e*P		**Pn**	**Pn**	**13 26 54.9**	**-2.4**
PALP	**Palanan**	**2.81**	**330**	⇑*e*P		**Pn**	**Pn**	**13 26 59.4**	**-2.4**
PALP				*e*S		**Sn**	**Sn**	**13 27 31.0**	**-3.7**
PCPH	**Palayan**	**2.85**	**290**	⇑*i*P		**Pn**	**Pn**	**13 26 59.7**	**-2.6**
PCPH				*i* S		Sn	Sn	13 27 23.9	-12
OTRP	**Odiongan**	**2.88**	**219**	*e*P		**Pn**	**Pn**	**13 27 04.4**	**+1.7**
TGY	**Tagaytay City**	**2.90**	**260**	Pn		**Pn**	**Pn**	**13 27 03.6**	**+0.6**
	332nm,0.3s,baz=82,slow=3.1,SNR=26								
TGY				Sn		**Sn**	**Sn**	**13 27 38.7**	**+1.7**
	1µm,0.3s,baz=189,slow=4.5,SNR=5.5								
TGY	**Tagaytay City**	**2.90**	**260**	Pn		**Pn**	**Pn**	**13 27 03.6**	**+0.6**
TGY				Sn		**Sn**	**Sn**	**13 27 38.7**	**+1.7**
TGY	**Tagaytay City**	**2.90**	**260**	⇓*e*P		Pn	Pn	13 27 05.9	+2.9
CAUP	**Cauayan**	**3.05**	**320**	*e*P		**Pn**	**Pn**	**13 27 03.4**	**-1.6**
SJMP	**San Jose**	**3.43**	**232**	*e*P		Pn	Pn	13 27 12.9	+2.5
PLP	**Palo**	**3.59**	**162**	⇓*e*P		**Pn**	**Pn**	**13 27 15.4**	**+2.8**
PLP				*e*S		**Sb**	**Sb**	**13 28 03.8**	**-0.9**
OCLP	**Ormoc**	**3.61**	**169**	*e*P		Pb	Pb	13 27 17.6	-4.2
LUBP	**Lubang**	**3.63**	**256**	*e*P		Pn	Pn	13 27 15.3	+2.3
BCPH	**Baguio City Da**	**3.63**	**299**	⇑*i*P		**Pn**	**Pn**	**13 27 11.9**	**-1.3**
BCPH				*i* S		**Sn**	**Sn**	**13 27 53.2**	**-2.1**
CVP	**Callao Caves**	**3.65**	**328**	⇑*e*P		**Sn**	**Sn**	**13 27 59.9**	**+4.3**
SCZP	**Santa Cruz**	**4.00**	**287**	*e*P		**Pn**	**Pn**	**13 27 17.1**	**-1.0**
SGCP	**Mt. Cagua**	**4.01**	**334**	*e*P		**Pn**	**Pn**	**13 27 16.6**	**-1.7**
GUIM	**Jordan**	**4.16**	**198**	*e*P		Pn	Pn	13 27 24.6	+4.3
BOLP	**Bolinao**	**4.21**	**295**	*e*P		**Pn**	**Pn**	**13 27 21.6**	**+0.6**
LLP	**Lapu-Lapu**	**4.27**	**179**	*e*P		Pn	Pn	13 27 24.7	+2.8
LLP				*e*S		Sb	Sb	13 28 31.3	+7.1
ABRA	**Dolores**	**4.28**	**315**	*e*P		**Pn**	**Pn**	**13 27 21.7**	**-0.4**
MSLP	**Maasin**	**4.56**	**168**	*e*P		Pn	Pn	13 27 31.7	+5.9
SIPP	**Brgy, Tapao**	**4.65**	**316**	⇑*e*P		**Pn**	**Pn**	**13 27 26.3**	**-0.8**
CUYO	**Cuyo Island**	**4.67**	**217**	*e*P		**Pn**	**Pn**	**13 27 29.2**	**+1.8**
PIP	**Pasuquin**	**4.83**	**320**	⇓*e*P		**Pn**	**Pn**	**13 27 29.3**	**-0.4**
TBP	**Tagbilaran**	**4.89**	**180**	*e*P		Pn	Pn	13 27 33.7	+3.3
TBP				*e*S		Sb	Sb	13 28 34.5	-7.6
BUTP	**Butuan**	**5.87**	**163**	*e*P		Pn	Pn	13 27 51.5	+7.7
CGP	**Cagayan de Oro**	**6.17**	**172**	⇓*e*P		Pb	Pb	13 28 00.6	-4.9
CGP				*e*S		Sn	Sn	13 28 50.3	-7.5
PAGZ	**Pagadian**	**6.74**	**184**	*e*P		Pn	Pn	13 28 01.4	+5.6
BUKP	**Musuan**	**6.79**	**170**	*e*P		Pn	Pn	13 28 02.9	+6.3
CTBH	**Cotabato--PC H**	**7.36**	**177**	⇓*i*P		Pn	Pn	13 28 11.8	+7.5
CTBH				*i* S		Pb	Pb	13 28 29.0	+3.4
DMPH	**Davao City--Mi**	**7.65**	**168**	⇓*e*P		**Pn**	**Pn**	**13 28 10.1**	**+1.7**
DAV	**Davao City (W)**	**7.68**	**167**	LR		LR	LR	13 32 00.3	
	comp=Z,1µm,19.0s,baz=2.0,slow=46								
YULB	**Yu-li**	**9.06**	**345**	P		Pn	Pn	13 28 21.4	-6.3
	29nm,0.8s								
SSLB	**Suanglung**	**9.53**	**344**	*e*P		**Pn**	**Pn**	**13 28 33.7**	**-0.5**
	42nm,0.7s								
YHNB	**Yeheng**	**10.28**	**347**	*e*P		**Pn**	**Pn**	**13 28 44.7**	**+0.3**
	43nm,0.6s								
MYLDM	**Lahad Datu**	**10.77**	**210**	P		Pn	Pn	13 28 58.1	+7.0
	153nm,1.3s,2µm								
QZH	**Quanzhou**	**11.41**	**335**	⇓*i*P		**Pn**	**Pn**	**13 29 02.0**	**+2.1**
QZH				*e*S		**Sn**	**Sn**	**13 31 11.0**	**+4.5**
QZH				LR		LR	LR		
	comp=Z,3µm,22.3s								
JOW	**Kunigami**	**12.83**	**18**	Pn		**Pn**	**Pn**	**13 29 19.1**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=157,slow=14,SNR=6.9								
JOW	**Kunigami**	**12.83**	**18**	Pn		**Pn**	**Pn**	**13 29 19.1**	**-0.1**
MNI	**Manado**	**13.12**	**176**	P		**P**	**P**	**13 29 31.1**	**-2.1**
	comp=Z,165nm,1.1s,comp=Z,2µm								
KMSI	**Cibinong**	**13.95**	**180**	P		P	P	13 29 48.2	+5.8
	comp=Z,200nm,1.3s,comp=Z,3µm								
QIZ	**Qiongzhong**	**14.13**	**290**	P		Pn	Pn	13 29 32.5	-4.6
QIZ				S		**Sn**	**Sn**	**13 32 10.0**	**-3.1**
QIZ				pmax		pmax	pmax		
	comp=Z,39nm,1.9s								
QIZ				LR		LR	LR		
	comp=N,660nm,16.2s								
QIZ				LR		LR	LR		
	comp=E,420nm,19.9s								
QIZ				LR		LR	LR		
	comp=Z,1µm,19.6s								
MRSI	**Marisa**	**14.18**	**188**	P		P	P	13 29 48.9	+4.0
	comp=Z,59nm,0.7s,comp=Z,718nm								
TNTI	**Ternate**	**14.18**	**166**	P		**P**	**P**	**13 29 42.9**	**-2.0**
LBMI	**Labuha**	**15.57**	**166**	P		**P**	**P**	**13 30 00.6**	**+0.2**
	comp=Z,42nm,0.8s								
LUWI	**Luwuk**	**15.60**	**184**	P		**P**	**P**	**13 30 03.1**	**+2.4**
	comp=Z,241nm,1.4s,comp=Z,2µm								
SSE	**Sheshan**	**16.59**	**352**	P		Pn	Pn	13 30 03.3	-6.0
SSE				pP		pP	pP	13 30 22.0	+3.1
SSE				sP		sP	sP	13 30 35.0	+13
SSE				S		Sn	Sn	13 33 05.0	-7.7
SSE				pmax		pmax	pmax		
	comp=Z,27nm,0.7s								
SSE				pmax		pmax	pmax		
	comp=Z,270nm,5.2s								
SSE				LR		LR	LR		
	comp=N,200nm,21.6s								
SSE				LR		LR	LR		
	comp=E,310nm,21.6s								
SSE				LR		LR	LR		
	comp=Z,440nm,19.1s								
SBUM	**Sibu**	**16.69**	**225**	P		**P**	**P**	**13 30 13.1**	**+0.3**
	comp=Z,134nm,1.6s,comp=Z,2µm								
SWI	**Sorong**	**17.03**	**154**	P		**Pn**	**Pn**	**13 30 15.6**	**+0.7**
	comp=Z,80nm,0.8s,comp=Z,917nm								
NJ2	**Nanjing**	**17.95**	**346**	*e*P		P	P	13 30 38.0	+11
NJ2				S		**S**	**S**	**13 33 54.0**	**+2.5**
NJ2				pmax		pmax	pmax		
	comp=Z,70nm,1.0s								
NJ2				LR		LR	LR		
	comp=N,460nm,15.5s								
NJ2				LR		LR	LR		
	comp=E,1µm,25.4s								
NJ2				LR		LR	LR		
	comp=Z,2µm,22.6s								
TTSI	**Tana Toraja**	**18.00**	**193**	P		P	P	13 30 32.5	+5.2
	comp=Z,122nm,0.9s,comp=Z,929nm								
WHN	**Wuhan**	**18.11**	**333**	P		**P**	**P**	**13 30 29.0**	**+0.5**
WHN				pmax		pmax	pmax		
	comp=Z,1µm,5.3s								
WHN				LR		LR	LR		
	comp=Z,2µm,16.8s								
KDI	**Kendari**	**18.50**	**184**	P		**Pn**	**Pn**	**13 30 34.9**	**+1.9**
	comp=Z,36nm,1.1s,comp=Z,785nm								
AAI	**Ambon**	**18.68**	**166**	P		Pn	Pn	13 30 39.2	+3.9
	comp=Z,69nm,1.1s								
SPSI	**Sidrap Palu**	**18.90**	**193**	P		**Pn**	**Pn**	**13 30 38.5**	**+0.5**
	comp=Z,82nm,1.0s,comp=Z,833nm								
STKI	**Sintang**	**18.96**	**221**	P		Pn	Pn	13 30 48.2	+10
	comp=Z,54nm,1.7s,comp=Z,17µm								
FAKI	**Fak Fak**	**19.30**	**154**	P		**Pn**	**Pn**	**13 30 45.1**	**+2.4**
	comp=Z,39nm,0.9s								
PLKI	**Palangkaraya**	**19.41**	**211**	P		Pn	Pn	13 30 53.4	+9.3
	comp=Z,217nm,1.4s								
JNU	**Nakatsue**	**19.49**	**18**	P		**Pn**	**Pn**	**13 30 45.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=140,slow=3.6,SNR=4.5								
JNU				LR		LR	LR	13 39 05.4	
	comp=Z,272nm,18.2s,baz=24,slow=39								
JNU	**Nakatsue**	**19.49**	**18**	P		**Pn**	**Pn**	**13 30 45.9**	**+0.8**
BAKI	**Biak**	**19.83**	**141**	P		**Pn**	**Pn**	**13 30 48.7**	**-0.4**
	comp=Z,76nm,1.6s,comp=Z,1µm								
KAPI	**Kappang**	**19.93**	**192**	P		**P**	**P**	**13 30 49.3**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=166,slow=20,SNR=14								
KAPI				S		**Sn**	**Sn**	**13 34 33.1**	**-0.6**
	baz=214,slow=22,SNR=0.8								
KAPI				LR		LR	LR	13 38 53.7	
	comp=Z,532nm,19.6s,baz=312,slow=38								
KAPI	**Kappang**	**19.93**	**192**	P		**P**	**P**	**13 30 49.3**	**+0.9**
KAPI				S		**Sn**	**Sn**	**13 34 33.1**	**-0.6**
GYA	**Guiyang**	**19.94**	**309**	P		**P**	**P**	**13 30 49.3**	**+0.6**
GYA				sP		**sP**	**sP**	**13 30 58.5**	**-1.1**
GYA				S		**S**	**S**	**13 34 27.3**	**-4.6**
GYA				SS		**SnSn**	**SnSn**	**13 34 53.5**	**+4.8**
GYA				pmax		pmax	pmax		
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax	pmax		
	comp=Z,90nm,4.6s								
GYA				LR		LR	LR		
	comp=N,450nm,13.5s								
GYA				LR		LR	LR		
	comp=E,310nm,15.0s								
GYA				LR		LR	LR		
	comp=Z,440nm,14.0s								
BBSI	**Bau Bau**	**20.01**	**184**	P		P	Pn	13 30 51.2	-0.1
	comp=Z,79nm,1.2s,comp=Z,1µm								
BBKI	**Banjar Baru**	**20.07**	**207**	P		**P**	**P**	**13 30 49.7**	**-0.3**
	comp=Z,137nm,1.4s,comp=Z,2µm								
BKSI	**Bulukumba**	**20.16**	**191**	P		P	Pn	13 30 53.0	+0.1
ENH	**Enshi**	**20.45**	**322**	*e*P		**P**	**P**	**13 30 54.1**	**0.0**
	comp=Z,60nm,1.4s								
CBIJ	**Chichi jima**	**21.11**	**51**	LR		LR	LR	13 38 23.1	
	comp=Z,164nm,19.8s,baz=148,slow=34								
KMI	**Kunming**	**22.43**	**301**	P		P	P	13 31 20.8	+5.1
KMI				S		**S**	**S**	**13 35 21.5**	**+0.7**
KMI				pmax		pmax	pmax		
	comp=Z,17nm,1.4s								
KMI				pmax		pmax	pmax		
	comp=Z,61nm,23.1s								
KMI				LR		LR	LR		
	comp=N,390nm,12.6s								
KMI				LR		LR	LR		
	comp=E,320nm,15.6s								
KMI				LR		LR	LR		
	comp

CN2					pmax	pmax		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=N,300nm,19.0s							
CN2					LR	LR		
	comp=E,400nm,19.0s							
CN2					LR	LR		
	comp=Z,300nm,20.0s							
USRK	**Ussuriysk Arra**	**30.29**	**12**	P	**P**	**13 32 27.9**	**+0.5**	
	comp=Z,4.1nm,0.7s,baz=204,slow=7.9,SNR=12							
USRK					LR	LR	13 44 25.0	
	comp=Z,242nm,20.8s,baz=285,slow=36							
MDJ	**Mudanjiang**	**30.30**	**8**	P	**P**	**13 32 28.5**	**+1.0**	
MDJ				pP	**pP**	**13 32 34.5**	**-1.1**	
MDJ				sP	sP	13 32 37.5	-1.4	
MDJ				PcP	**PcP**	**13 35 24.5**	**-3.0**	
MDJ				S	S	13 37 30.0	+4.2	
MDJ				ScP	**ScP**	**13 39 09.0**	**+0.8**	
MDJ				PcS	**PcS**	**13 39 11.5**	**+0.5**	
MDJ				ScS	**ScS**	**13 43 02.3**	**-1.6**	
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,98nm,6.1s							
MDJ				LR	LR			
	comp=N,130nm,32.0s							
MDJ				LR	LR			
	comp=E,300nm,23.2s							
MDJ				LR	LR			
	comp=Z,250nm,17.4s							
GTA	**Gaotai**	**32.51**	**324**	*e*P	**P**	**13 32 47.5**	**+0.3**	
GTA				pP	**pP**	**13 32 57.0**	**+1.7**	
GTA				sP	**sP**	**13 33 01.0**	**+2.3**	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**32.56**	**177**	*e*P	**P**	**13 32 46.1**	**-1.5**	
	comp=Z,5.0nm,0.5s							
LSA	**Lhasa**	**33.68**	**302**	*e*P	**P**	**13 32 57.8**	**-0.2**	
LSA				pmax	pmax			
	comp=Z,17nm,1.0s							
LSA	**Lhasa**	**33.68**	**302**	*e*P	**P**	**13 32 57.8**	**-0.2**	
	comp=Z,17nm,1.0s							
COEN	**Coen**	**34.22**	**145**	*e*P	**P**	**13 33 01.3**	**-0.9**	
	comp=Z,101nm,0.9s							
KLR	**Kul'dur**	**35.12**	**9**	*e*P	P	13 33 06.2	-3.4	
MBWA	**Marble Bar**	**35.78**	**187**	*e*P	**P**	**13 33 14.7**	**-0.9**	
	comp=Z,18nm,0.9s							
WRAB	**Tennant Creek**	**35.84**	**163**	*e*P	**P**	**13 33 15.7**	**-0.5**	
WRAB				pmax	pmax			
	comp=Z,11nm,0.4s							
WRAB	**Tennant Creek**	**35.84**	**163**	*e*P	**P**	**13 33 15.7**	**-0.5**	
	comp=Z,11nm,0.4s							
WRA	**Warramunga Arr**	**35.85**	**163**	P	**P**	**13 33 15.8**	**-0.5**	
	comp=Z,3.4nm,0.4s,baz=343,slow=9.4,SNR=40							
WRA				S	S	13 38 46.1	-6.4	
	comp=Z,1.7nm,0.9s,baz=345,slow=15,SNR=3.4							
WRA	**Warramunga Arr**	**35.85**	**163**	P	**P**	**13 33 15.8**	**-0.5**	
WRA				S	S	13 38 46.1	-6.4	
YSS	**Yuzh-Sakhalins**	**35.89**	**22**	*e*P	**P**	**13 33 17.4**	**+1.1**	
YSS				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ULN	**Ulaanbaatar**	**35.97**	**341**	*e*P	**P**	**13 33 17.8**	**+0.6**	
	comp=Z,39nm,1.1s							
SONM	**Songino Array**	**36.16**	**340**	P	**P**	**13 33 19.3**	**+0.5**	
	comp=Z,18nm,0.8s,baz=160,slow=9.9,SNR=158							
SONM				LR	LR	13 49 21.9		
	comp=Z,150nm,20.8s,baz=154,slow=38							
SONM	**Songino Array**	**36.16**	**340**	P	**P**	**13 33 19.3**	**+0.5**	
AS31	**Alice Springs**	**39.29**	**165**	*e*P	**P**	**13 33 44.4**	**-0.9**	
ASAR	**Alice Springs**	**39.29**	**165**	P	**P**	**13 33 45.5**	**+0.1**	
	comp=Z,1.5nm,0.4s,baz=337,slow=6.8,SNR=48							
ASAR				S	**S**	**13 39 41.7**	**-3.0**	
	comp=Z,2.8nm,0.8s,baz=351,slow=19,SNR=13							
ASAR	**Alice Springs**	**39.29**	**165**	P	**P**	**13 33 45.5**	**+0.1**	
ASAR				S	**S**	**13 39 41.7**	**-3.0**	
ZAK	**Zakamensk**	**39.40**	**339**	*e*P	**P**	**13 33 45.2**	**-0.9**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TLY	**Talaya**	**40.38**	**341**	*e*P	**P**	**13 33 52.5**	**-1.6**	
TLY				*e*		13 34 03.2		
TLY				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,393nm,23.0s							
TLY	**Talaya**	**40.38**	**341**	*e*P	**P**	**13 33 54.0**	**-0.1**	
	comp=Z,10nm,0.9s							
CTAO	**Charters Tower**	**40.91**	**147**	*e*P	**P**	**13 34 00.1**	**+1.3**	
CTAO				pmax	pmax			
	comp=Z,23nm,1.2s							
CTAO	**Charters Tower**	**40.91**	**147**	*e*P	**P**	**13 34 00.1**	**+1.3**	
	comp=Z,23nm,1.2s							
MOY	**Mondy**	**41.27**	**338**	*e*P	**P**	**13 34 01.4**	**-0.2**	
WMQ	**Urumqi**	**42.39**	**321**	*e*P	**P**	**13 34 11.5**	**+0.7**	
WMQ				LR	LR			
	comp=N,500nm,21.0s							
WMQ				LR	LR			
	comp=E,370nm,22.0s							
WMQ				LR	LR			
	comp=Z,460nm,22.0s							
DDI	**Dehra Dun**	**44.82**	**298**	*ex*	P	13 34 26.0	-4.6	
PETK	**Petropavlovsk-**	**46.77**	**27**	P	**P**	**13 34 46.5**	**+1.0**	
	comp=Z,9.3nm,0.8s,baz=215,slow=5.9,SNR=14							
PETK				LR	LR	13 53 23.9		
	comp=Z,119nm,19.1s,baz=47,slow=35							
PETK	**Petropavlovsk-**	**46.77**	**27**	P	**P**	**13 34 46.5**	**+1.0**	
PETK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
PETK	**Petropavlovsk-**	**46.77**	**27**	P	**P**	**13 34 46.5**	**+1.0**	
MK31	**Makanchi Array**	**47.18**	**322**	*i* P	**P**	**13 34 48.3**	**-0.6**	
MK31				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MK31	**Makanchi Array**	**47.18**	**322**	*e*P	**P**	**13 34 47.8**	**-1.1**	
MKAR	**Makanchi Array**	**47.18**	**322**	P	**P**	**13 34 48.9**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=111,slow=9.1,SNR=17							
MKAR				LR	LR	13 54 34.5		
	comp=Z,162nm,20.9s,baz=123,slow=36							
MKAR	**Makanchi Array**	**47.18**	**322**	P	**P**	**13 34 48.9**	**0.0**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR				MLR	MLR			
	comp=Z,162nm,20.9s							
MKAR	**Makanchi Array**	**47.18**	**322**	P	**P**	**13 34 48.9**	**0.0**	
YAK	**Yakutsk**	**47.53**	**4**	*e*P	**P**	**13 34 49.9**	**-1.4**	
YAK				pmax	pmax			
	comp=Z,13nm,0.9s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.6s							
BBOO	**Buckleboo**	**48.58**	**166**	*e*P	**P**	**13 34 59.3**	**-0.4**	
	comp=N,260nm,0.5s							
KSH	**Kashi**	**48.63**	**310**	P	P	13 35 02.3	+1.9	
KSH				pP	pP	13 35 08.0	-0.7	
KSH				sP	sP	13 35 11.5	-0.5	
KSH				PcP	**PcP**	**13 36 27.0**	**+1.4**	
KSH				PP	**PP**	**13 36 55.5**	**+2.1**	
KSH				ScP	**ScP**	**13 40 19.0**	**+0.2**	
KSH				PcS	**PcS**	**13 40 21.8**	**0.0**	
KSH				S	**S**	**13 42 02.8**	**+1.8**	
KSH				sS	sS	13 42 13.5	-1.2	
KSH				ScS	**ScS**	**13 44 51.3**	**-0.2**	
KSH				SS	**SS**	**13 45 29.8**	**-1.5**	
KSH				pmax	pmax			
	comp=Z,53nm,3.6s							
KSH				LR	LR			
	comp=N,150nm,5.0s							
KSH				LR	LR			
	comp=E,130nm,6.4s							
KSH				LR	LR			
	comp=Z,530nm,18.2s							
STKA	**Stephens Creek**	**49.25**	**160**	P	**P**	**13 35 05.2**	**+0.2**	
	comp=Z,2.2nm,0.7s,baz=343,slow=8.4,SNR=9.7							
STKA	**Stephens Creek**	**49.25**	**160**	*e*P	**P**	**13 35 05.0**	**0.0**	
	comp=Z,1.9nm,0.7s							
ZAA0	**Zalesovo Array**	**49.72**	**331**	*e*P	**P**	**13 35 07.0**	**-1.3**	
ZALV	**Zalesovo Beam**	**49.72**	**331**	P	**P**	**13 35 07.6**	**-0.7**	
	comp=Z,3.5nm,0.6s,baz=121,slow=7.9,SNR=25							
ZALV				LR	LR	13 57 54.1		
	comp=Z,157nm,18.1s,baz=266,slow=38							
ZALV	**Zalesovo Beam**	**49.72**	**331**	P	**P**	**13 35 07.6**	**-0.7**	
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZALV				MLR	MLR			
	comp=Z,157nm,18.1s							
ZALV	**Zalesovo Beam**	**49.72**	**331**	P	**P**	**13 35 07.6**	**-0.7**	
NVS	**Novosibirsk**	**50.99**	**331**	⇑*i*P	**P**	**13 35 17.0**	**-0.9**	
NVS				*e*S	S	13 42 49.8	+17	
NVS				pmax	pmax			
	comp=Z,10.0nm,1.1s							
NVS				pmax	pmax			
	comp=N,5.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.2s							
NVS				smax	smax			
	comp=N,22nm,3.3s							
NVS				smax	smax			
	comp=E,43nm,3.8s							
KURK	**Kurchatov**	**51.19**	**325**	P	**P**	**13 35 18.9**	**-0.6**	
KURK				pmax	pmax			
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**51.19**	**325**	*e*P	**P**	**13 35 18.8**	**-0.6**	
	comp=Z,17nm,0.9s							
SEY	**Seymchan**	**52.26**	**16**	⇑*e*P	**P**	**13 35 28.2**	**+1.0**	
KBL	**Kabul**	**53.00**	**302**	*e*P	**P**	**13 35 32.7**	**-0.8**	
KBL				*e*		13 35 43.1		
KBL				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KBL	**Kabul**	**53.00**	**302**	*e*P	**P**	**13 35 32.7**	**-0.8**	
	comp=Z,6.9nm,0.6s							
KBL				*e*		13 35 43.1		
KKAR	**Karatay Array**	**53.57**	**313**	*e*P	**P**	**13 35 36.5**	**-0.8**	
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KKAR	**Karatay Array**	**53.57**	**313**	*e*P	**P**	**13 35 36.5**	**-0.8**	
	comp=Z,6.5nm,0.9s							
DZM	**Mont Dzumac**	**55.41**	**130**	*e*S	**S**	**13 43 36.2**	**+1.9**	
	comp=Z,108nm,28.2s							
DZM				*e*LR	LR	13 51 59.7		
	comp=Z,219nm,24.5s							
BVA0	**Borovoye Array**	**56.79**	**325**	*i* P	**P**	**13 35 59.5**	**-0.8**	
BVA0				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BRVK	**Borovoye**	**56.86**	**325**	*c i*P	**P**	**13 36 00.7**	**-0.1**	
BRVK				pmax	pmax			
	comp=Z,11nm,1.3s							
BRVK	**Borovoye**	**56.86**	**325**	*e*P	**P**	**13 36 00.5**	**-0.3**	
	comp=Z,8.7nm,0.8s							
TIXI	**Tiksi**	**57.09**	**2**	*e*P	**P**	**13 36 01.1**	**-1.0**	
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
TIXI	**Tiksi**	**57.09**	**2**	*e*P	**P**	**13 36 00.8**	**-1.3**	
	comp=Z,11nm,1.3s							
BILL	**Bilibino**	**59.92**	**17**	*c i*P	**P**	**13 36 21.9**	**0.0**	
BILL				*e*		13 37 06.8		
BILL				*e*S	**S**	**13 44 33.4**	**+1.4**	
BILL				pmax	pmax			
	comp=Z,10.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,100nm,17.0s							
BILL	**Bilibino**	**59.92**	**17**	*e*P	**P**	**13 36 21.9**	**0.0**	
	comp=Z,9.9nm,1.3s							
AB31	**Akbulak array**	**62.09**	**318**	*i* P	**P**	**13 36 36.4**	**-0.6**	
AB31				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ABKAR	**Akbulak array**	**62.09**	**318**	*e*P	**P**	**13 36 36.0**	**-1.0**	
	comp=Z,4.7nm,0.6s							
AKTO	**Aktyubinsk**	**63.52**	**319**	P	**P**	**13 36 45.6**	**-0.9**	
	comp=Z,3.0nm,0.6s,baz=96,slow=9.2,SNR=16							
AKTO	**Aktyubinsk**	**63.52**	**319**	P	**P**	**13 36 45.6**	**-0.9**	
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**63.52**	**319**	P	**P**	**13 36 45.6**	**-0.9**	
ARU	**Arti**	**64.34**	**326**	*c i*P	**P**	**13 36 50.7**	**-1.0**	
ARU						13 39 10.2		
ARU				S	**S**	**13 45 28.1**	**0.0**	
ARU				SS	**SS**	**13 49 33.8**	**-4.1**	
ARU				pmax	pmax			
	comp=Z,15nm,1.2s							
ARU	**Arti**	**64.34**	**326**	*e*P	**P**	**13 36 50.5**	**-1.2**	
	comp=Z,3.7nm,0.3s							
ZEI	**Tsey**	**72.92**	**311**	*e*P	**P**	**13 37 44.6**	**-1.3**	
ZEI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**73.58**	**312**	LR	LR	14 12 40.3		
	comp=Z,179nm,19.3s,baz=260,slow=38							
KIV	**Kislovodsk**	**73.71**	**312**	*e*P	**P**	**13 37 50.7**	**+0.4**	
KIV				pmax	pmax			
	comp=Z,11nm,0.8s							
KIV				MLR	MLR			
	comp=Z,131nm,18.0s							
VRHR	**Novokhopersk**	**73.92**	**319**	*e*P	**P**	**13 37 49.1**	**-2.2**	
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.4s							
VRHR				pmax	pmax			
	comp=N,1.0nm,0.2s							
VRHR				pmax	pmax			
	comp=E,1.0nm,0.2s							
KLMR	**Klimovskoe**	**74.62**	**330**	*e*P	**P**	**13 37 53.1**	**-2.0**	
KLMR				pmax	pmax			
	comp=Z,22nm,1.5s							
VORD	**Divnogorie**	**75.40**	**319**	*e*P	**P**	**13 38 01.2**	**+1.3**	
VORD				pmax	pmax			
	comp=N,4.0nm,0.6s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VORD				pmax	pmax			
	comp=Z,4.0nm,0.6s							
VSR	**Storozhevoye**	**75.46**	**320**	*e*P	**P**	**13 37 59.5**	**-0.7**	
VSR				pmax	pmax			
	comp=N,2.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,4.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ILAR	**Eielson Array**	**76.58**	**26**	P	**P**	**13 38 06.4**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=261,slow=4.4,SNR=6.7							
ILAR	**Eielson Array**	**76.58**	**26**	P	**P**	**13 38 06.4**	**+0.1**	
OBN	**Obninsk**	**76.62**	**324**	*e*P	**P**	**13 38 06.1**	**-0.6**	
OBN				*e*S	**S**	**13 47 53.0**	**+1.7**	
OBN				*e*SS	**SS**	**13 52 48.5**	**+2.0**	
OBN				pmax	pmax			
	comp=Z,8.0nm,1.5s							
OBN				MLR	MLR			
	comp=Z,200nm,20.0s							
ARCES	**ARCESS Array B**	**79.33**	**339**	P	**P**	**13 38 21.6**	**0.0**	
	comp=Z,4.8nm,1.0s,baz=69,slow=6.9,SNR=5.0							
ARCES				LR	LR	14 16 41.0		
	comp=Z,142nm,18.6s,baz=239,slow=38							
ARCES	**ARCESS Array B**	**79.33**	**339**	P	**P**	**13 38 21.6**	**0.0**	
FINES	**FINESS Array B**	**80.98**	**331**	P	**P**	**13 38 30.1**	**-0.5**	
	comp=Z,1.3nm,0.5s,baz=72,slow=6.2,SNR=6.3							
FINES				LR	LR	14 17 21.1		
	comp=Z,158nm,19.0s,baz=50,slow=38							
FINES	**FINESS Array B**	**80.98**	**331**	P	**P**	**13 38 30.1**	**-0.5**	
BRTR	**Keskin Array B**	**81.00**	**309**	P	**P**	**13 38 31.6**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=180,slow=4.4,SNR=2.2							
BRTR				LR	LR	14 19 25.2		
	comp=Z,72nm,19.5s,baz=229,slow=39							
BRTR	**Keskin Array B**	**81.00**	**309**	P	**P**	**13 38 31.6**	**+0.3**	
AKASG	**Malin Array Be**	**81.75**	**320**	LR	LR	14 19 22.7		
	comp=Z,97nm,18.2s,baz=90,slow=39							
EIL	**Elat**	**81.99**	**299**	P	**P**	**13 38 34.6**	**-2.0**	
	comp=Z,1.9nm,0.5s,baz=30,slow=16,SNR=2.2							
EIL	**Elat**	**81.99**	**299**	P	**P**	**13 38 34.6**	**-2.0**	
BUR08	**Bucovina Ar. S**	**85.07**	**318**	*e*P	**P**	**13 38 52.1**	**-0.1**	
HFS	**Hagfors**	**87.14**	**332**	P	**P**	**13 39 01.4**	**-0.6**	
	comp=Z,3.0nm,0.8s,baz=120,slow=8.8,SNR=6.5							
HFS	**Hagfors**	**87.14**	**332**	P	**P**	**13 39 01.4**	**-0.6**	
NB2	**NORSAR Subarra**	**87.85**	**333**	P	P	13 39 15.4	+10	
	comp=Z,2.8nm,0.9s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**87.85**	**333**	LR	LR	14 19 21.2		
	comp=Z,259nm,19.1s,baz=313,slow=36							
YKA	**Yellowknife Ar**	**90.74**	**23**	P	**P**	**13 39 19.0**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=302,slow=4.9,SNR=8.0							
YKA	**Yellowknife Ar**	**90.74**	**23**	P	**P**	**13 39 19.0**	**+0.1**	
PPT	**Papeete**	**91.12**	**108**	LR	LR	14 13 20.2		
	comp=Z,223nm,20.9s,baz=309,slow=31							
PPT2	**Papeete2**	**91.13**	**108**	*e*LR	LR	14 08 36.3		
	comp=Z,203nm,23.5s							
GERES	**GERESS Array B**	**91.85**	**322**	LR	LR	14 21 14.5		
	comp=Z,162nm,18.8s,baz=275,slow=36							
TBI	**Tubuai**	**92.69**	**113**	*e*LR	LR	14 09 21.1		
	comp=Z,164nm,25.2s							
MAW	**Mawson**	**92.97**	**200**	LR	LR	14 22 38.7		
	comp=Z,99nm,18.5s,baz=170,slow=36							
PLCA	**Paso Flores**	**151.10**	**157**	PKPab	**PKPab**	**13 46 18.4**	**+1.2**	
	comp=Z,2.0nm,0.8s,baz=299,slow=1.3,SNR=2.8							
PLCA	**Paso Flores**	**151.10**	**157**	PKPab	**PKPab**	**13 46 18.4**	**+1.2**	

IDC 31 13:58:46.5±1.7,3°92N×126°86E,h0km,mb3.3/5,
mb1 3.5/5,mb1mx3.3/23,mbtmp3.3/5,Error ellipse:

s-maj=99.6km s-min=23.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	P	14 03 41.8	+0.3
	0.6nm,0.5s,baz=20,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**24.83**	**163**	P	P	14 04 10.4	-0.3
	0.7nm,0.6s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.27**	**166**	P	P	14 04 41.6	-0.1
	0.2nm,0.5s,baz=340,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**38.26**	**160**	P	P	14 06 08.5	-0.1
	0.6nm,0.4s,baz=0.0,slow=9.1,SNR=4.4						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	14 08 37.4	-0.1
	0.1nm,0.5s,baz=116,slow=8.7,SNR=3.9						

TAP ***31*** *14:07:17.9,23°71N×121°76E,h40km±1km,ML3.3,D*
ISCJB ***31*** *14:07:18.8±0.3,23°72N±0°02×121°76E±0°02,h39km±7km,*
Error ellipse: s-maj=3.6km s-min=2.5km az=137.8
JMA ***31*** *14:07:20.3±0.3,24°02N×121°82E,h91km,M2.4*

ISC 31 14:07:19.4±1.4,23°73N±0°03×121°74E±0°03,h35km±2km,
n45,σ0°81/85,7C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns**	**0.26**	**304**	*e*P	**Pn**	**14 07 26.8**	**-0.4**
	baz=305						
ESF				*e*S	**Sn**	**14 07 33.5**	**+0.1**
	baz=305						
HWA	**Hwalien**	**0.28**	**334**	P	**Pn**	**14 07 27.8**	**+0.5**
	baz=333						
HWA				*e*S	**Sn**	**14 07 32.9**	**-0.6**
	baz=333						
ESL	**Shilin**	**0.29**	**287**	P	**Pn**	**14 07 26.9**	**-0.5**
	baz=289						
ESL				S	**Sn**	**14 07 32.7**	**-0.9**
	baz=289						
TWD	**Chiawan**	**0.37**	**340**	*i* P	**Pn**	**14 07 27.8**	**-0.4**
	baz=339						
TWD				S	**Sn**	**14 07 34.9**	**+0.3**
	baz=339						
EHY	**Hungye**	**0.44**	**240**	⇑*i*P	**Pn**	**14 07 28.4**	**-0.7**
	baz=242						
EHY				S	**Sn**	**14 07 35.2**	**-0.8**
	baz=242						
TWF1	**Yuli**	**0.55**	**227**	*i* P	**Pn**	**14 07 29.8**	**-1.0**
	baz=229						
TWF1				S	**Sn**	**14 07 38.1**	**-0.7**
	baz=229						
WHF	**Hehuan Shan**	**0.60**	**314**	⇑*i*P	**Pn**	**14 07 30.6**	**-1.3**
	baz=314						
WHF				*e*S	**Sn**	**14 07 39.7**	**-0.8**
	baz=314						
ENA	**Nanau**	**0.70**	**0**	P	**Pn**	**14 07 32.0**	**-0.8**
	baz=359						
ENA				*e*S	**Sn**	**14 07 42.2**	**-0.1**
	baz=359						
CHKT	**Chengkung**	**0.71**	**209**	*e*P	**Pn**	**14 07 32.0**	**-1.0**
	baz=209						
CHKT				*e*S	**Sn**	**14 07 42.2**	**-0.5**
	baz=209						
TWT	**Tachien**	**0.73**	**316**	P	**Pn**	**14 07 32.9**	**-0.6**
	baz=314						
TWT				*e*S	**Sn**	**14 07 42.9**	**-0.6**
	baz=314						
NNS	**Nan Shan**	**0.78**	**335**	*i* P	**Pn**	**14 07 33.1**	**-0.9**
	baz=334						
NNS				*e*S	**Sn**	**14 07 43.4**	**-1.2**
	baz=334						
SMLT	**Sun Moon Lake**	**0.78**	**282**	*i* P	**Pn**	**14 07 33.3**	**-0.7**
	baz=282						
SMLT				*e*S	**Sn**	**14 07 44.6**	**0.0**
	baz=282						
TYC	**Yuchr**	**0.83**	**282**	⇑*i*P	**Pn**	**14 07 33.9**	**-0.6**
	baz=283						
TYC				S	**Sn**	**14 07 45.0**	**-0.5**
	baz=283						
ELDTW	**Lidau**	**0.85**	**231**	P	**Pn**	**14 07 33.9**	**-1.1**
	baz=232						
ELDTW				S	**Sn**	**14 07 45.2**	**-1.1**
	baz=232						
ALS	**Alishan**	**0.88**	**256**	*e*P	**Pn**	**14 07 34.9**	**-0.7**
	baz=256						
ALS				*e*S	**Sn**	**14 07 46.9**	**-0.4**
	baz=256						
ENTT	**Nioudou**	**0.92**	**350**	⇑*i*P	**Pn**	**14 07 35.0**	**-0.8**
	baz=349						
ENTT				*e*S	**Sn**	**14 07 47.4**	**-0.5**
	baz=349						
WNT	**Mingjian**	**0.98**	**279**	P	**Pn**	**14 07 36.9**	**+0.3**
	baz=279						
WNT				S	**Sn**	**14 07 49.9**	**+0.7**
	baz=279						
CHN5	**Tsauling**	**0.98**	**263**	P	**Pn**	**14 07 37.3**	**+0.5**
	baz=263						
CHN5				*e*S	**Sn**	**14 07 49.9**	**+0.5**
	baz=263						
TWE	**Neicheng**	**0.99**	**356**	⇑*i*P	**Pn**	**14 07 36.1**	**-0.7**
	baz=356						
TWE				*e*S	**Sn**	**14 07 49.6**	**0.0**
	baz=356						
NSK	**Sanguang**	**1.01**	**340**	⇑*i*P	**Pn**	**14 07 36.4**	**-0.7**
	baz=339						
NSK				*e*S	**Sn**	**14 07 48.9**	**-1.1**
	baz=339						
TCU	**Taichung**	**1.06**	**293**	*e*P	**Pn**	**14 07 38.1**	**+0.4**
	baz=293						
TCU				*e*S	**Sn**	**14 07 51.8**	**+0.6**
	baz=293						
TWQ1	**Liyutan**	**1.08**	**305**	⇑*i*P	**Pn**	**14 07 38.0**	**0.0**
	baz=305						
TWQ1				S	**Sn**	**14 07 52.2**	**+0.5**
	baz=305						
WGK	**Gukeng**	**1.08**	**268**	*e*P	**Pn**	**14 07 38.1**	**+0.1**
	baz=268						
WGK				*e*S	**Sn**	**14 07 53.2**	**+1.5**
	baz=268						
TWG	**Pinlang**	**1.09**	**214**	*e*P	**Pn**	**14 07 37.2**	**-1.0**
	baz=214						
TWG				*e*S	**Sn**	**14 07 50.6**	**-1.4**
	baz=214						
CHN4	**Tsaushan**	**1.12**	**251**	P	**Pn**	**14 07 38.9**	**+0.4**
	baz=251						
CHN4				*e*S	**Sn**	**14 07 54.2**	**+1.6**
	baz=251						
NSTT	**Nanjuang**	**1.12**	**323**	P	**Pn**	**14 07 38.9**	**+0.3**
	baz=323						
NSTT				S	**Sn**	**14 07 53.1**	**+0.3**
	baz=323						
NSY	**Sanyi**	**1.13**	**308**	P	**Pn**	**14 07 38.6**	**-0.1**
	baz=307						
NSY				*e*S	**Sn**	**14 07 53.5**	**+0.6**
	baz=307						
WTP	**Ta-pu**	**1.14**	**245**	P	**Pn**	**14 07 39.4**	**+0.5**
	baz=245						
WTP				*e*S	**Sn**

baz=226
SSD eS Sn 14 08 01.7 +1.8
baz=226
EAST Anshuo 1.57 212 eP Pn 14 07 45.4 +0.6
baz=212
SCZT Fangliau 1.70 218 eP Pn 14 07 46.7 +0.2
baz=217
IRIF Iriomote-Funau 1.92 71 P Pn 14 07 50.1 +0.6
IRIF S Sn 14 08 13.0 +0.6
HATJ Hateruma jima 1.92 80 eS Sn 14 08 12.8 +0.3
JKRS Kuro-shima 2.14 76 P Pn 14 07 53.2 +0.6
JKRS eS Sn 14 08 18.8 +0.9
JIJ Ishigaki jima 2.29 73 P Pn 14 07 54.5 -0.1
JIJ S Sn 14 08 20.7 -0.9
JTJ Tarama 2.85 71 P Pn 14 08 02.6 +0.2
JTJ eS Sn 14 08 35.3 -0.3

IDC 31 14:07:40.4±9.0, 17°.69N×148°.00E, h45km±70km, mb3.0/4, mb1 3.2/4, mb1mx3.0/25, mbtmp3.0/4, ML4.3/1, Error ellipse: s-maj=88.9km s-min=23.9km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.07**	**217**	P		P	Pn	14 08 54.0	+0.1
	10nm,0.3s,baz=344,slow=18,SNR=7.8								
GUMO				S			Sn	14 09 51.7	+0.5
	1.7nm,0.3s,baz=193,slow=18,SNR=1.6								
WRA	**Warramunga Arr**	**39.73**	**200**	P		P	P	14 15 08.6	-0.2
	0.4nm,0.7s,baz=24,slow=8.4,SNR=5.6								
WRA				pP		pP		14 15 18.9	-2.0
	0.7nm,0.6s,baz=24,slow=9.1,SNR=5.9								
ASAR	**Alice Springs**	**43.35**	**199**	P		P		14 15 38.2	-0.2
	0.2nm,0.8s,baz=21,slow=6.9,SNR=6.1								
ASAR				pP		pP		14 15 48.2	-2.4
	0.2nm,0.5s,baz=22,slow=7.2,SNR=2.0								
SONM	**Songino Array**	**45.30**	**321**	P		P		14 15 53.5	-0.4
	0.3nm,0.6s,baz=130,slow=7.0,SNR=3.4								
MKAR	**Makanchi Array**	**60.74**	**314**	P		P		14 17 47.7	+0.2
	0.2nm,0.8s,baz=93,slow=8.1,SNR=3.2								

*ISK **31** 14:12:12.7, 38°.56N×30°.22E, h5km, MD2.4*
*DDA **31** 14:12:13.3, 38°.56N×30°.20E, h7km, MD2.6*
*CSEM **31** 14:12:13.3±0.1, 38°.55N×30°.21E, h8km, MD2.4, Error ellipse: s-maj=2.2km s-min=1.7km az=173.0*
ISC 31 14:12:13.6±1.2, 38°.56N±0°.03×30°.22E±0°.02, h2km±13km, n16, σ0°68/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.26**	**90**	e	PG		**Pg**	**14 12 18.4**	**-0.2**
SHUT				e	SG		**Sg**	**14 12 22.6**	**+0.6**
SHUT	**Suhut-Afyon**	**0.26**	**90**	e	Pg		**Pg**	**14 12 18.4**	**-0.2**
SHUT				e	Sg		**Sg**	**14 12 22.6**	**+0.6**
ALT	**Altintas**	**0.51**	**350**	e	PG		**Pg**	**14 12 23.0**	**-0.3**
ALT				e	SG		**Sg**	**14 12 30.5**	**+0.6**
ALT	**Altintas**	**0.51**	**350**	e	Pg		**Pg**	**14 12 23.0**	**-0.3**
ALT				e	Sg		**Sg**	**14 12 30.5**	**+0.6**
BOLV	**Bolvadin**	**0.59**	**74**	e	P		**Pg**	**14 12 25.2**	**+0.2**
BOLV				e	S		**Sb**	**14 12 34.1**	**-1.6**
BOLV	**Bolvadin**	**0.59**	**74**	e	P		**Pg**	**14 12 25.2**	**+0.2**
BOLV				e	S		**Sb**	**14 12 34.1**	**-1.6**
KHL	**Karahalli**	**0.59**	**247**	e	PG		**Pg**	**14 12 24.6**	**-0.4**
KHL	**Karahalli**	**0.59**	**247**	e	Pg		**Pg**	**14 12 24.6**	**-0.4**
KHAL	**Karahalli**	**0.60**	**252**	e	P		**Pg**	**14 12 25.0**	**-0.1**
KHAL				e	S		**Sg**	**14 12 33.0**	**+0.1**
KHAL	**Karahalli**	**0.60**	**252**	e	P		**Pg**	**14 12 25.0**	**-0.1**
KHAL				e	S		**Sg**	**14 12 33.0**	**+0.1**
ISP	**Isparta**	**0.77**	**162**	e	PG		**Pg**	**14 12 28.3**	**0.0**
ISP	**Isparta**	**0.77**	**162**	e	Pg		**Pg**	**14 12 28.3**	**0.0**
GDZ	**Gediz**	**0.79**	**313**	e	P		**Pg**	**14 12 28.7**	**0.0**
GDZ				e	S		**Sg**	**14 12 39.3**	**+0.4**
GDZ	**Gediz**	**0.79**	**313**	e	P		**Pg**	**14 12 28.7**	**0.0**
GDZ				e	S		**Sg**	**14 12 39.3**	**+0.4**
DNZL	**Cakiroluk**	**1.27**	**227**	e	P		**Pg**	**14 12 37.5**	**-0.4**
DNZL				e	S		**Sn**	**14 12 57.4**	**+1.2**
DNZL	**Cakiroluk**	**1.27**	**227**	e	P		**Pg**	**14 12 37.5**	**-0.4**
DNZL				e	S		**Sn**	**14 12 57.4**	**+1.2**

IDC 31 14:20:15.4±27.0, 22°.10S×173°.08W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/22, mbtmp4.1/4, Error ellipse: s-maj=507.2km s-min=162.1km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.92**	**265**	P		P	P	14 27 35.1	+0.3
	2.9nm,0.4s,baz=96,slow=13,SNR=10								
STKA	**Stephens Creek**	**41.30**	**246**	P		P	P	14 28 02.7	-0.2
	2.5nm,1.0s,baz=95,slow=11,SNR=3.6								
ASAR	**Alice Springs**	**48.64**	**257**	P		P	P	14 29 01.2	-0.2
	0.8nm,0.6s,baz=94,slow=7.4,SNR=33								
WRA	**Warramunga Arr**	**48.93**	**262**	P		P	P	14 29 03.5	-0.3
	0.8nm,0.3s,baz=102,slow=8.3,SNR=70								

*ISCJB **31** 14:28:48.4±0.3, 23°.69N±0°.02×121°.60E±0°.02, h29km±2km, Error ellipse: s-maj=3.6km s-min=2.5km az=137.9*
*TAP **31** 14:28:48.4, 23°.70N×121°.53E, h40km, ML3.4, B*
*JMA **31** 14:28:49.6±0.3, 23°.92N×121°.64E, h102km, M2.5*
ISC 31 14:28:48.8±1.0, 23°.69N±0°.02×121°.56E±0°.03, h33km±3km, n50, σ0°82/81, 2C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**316**	e	P		**Pb**	**14 28 55.2**	**+0.9**
	baz=59								
ESL	**Shilin**	**0.17**	**317**	i	P		**Pb**	**14 28 55.1**	**-0.1**
	baz=316								
ESL					S		**Sb**	**14 28 59.7**	**+0.2**
	baz=316								
ESF	**Shoufeng Towns**	**0.19**	**345**	e	P		**Pb**	**14 28 55.7**	**+0.4**
	baz=342								
ESF					eS		**Sb**	**14 29 00.1**	**+0.4**
	baz=342								
EHY	**Hungye**	**0.28**	**230**	⇑ i	P		**Pb**	**14 28 56.1**	**-0.4**
	baz=230								
EHY					S		**Sn**	**14 29 01.1**	**-0.1**
	baz=230								
HWA	**Hwalien**	**0.29**	**8**	e	P		**Pn**	**14 28 56.8**	**+0.2**
	baz=7.0								
TWD	**Chiawan**	**0.39**	**5**	P		P	**Pb**	**14 28 57.4**	**-0.4**
	baz=2.0								
TWD					S		**Sb**	**14 29 03.5**	**-0.4**
	baz=2.0								
TWF1	**Yuli**	**0.41**	**216**	P		P	**Pb**	**14 28 57.5**	**-0.6**
	baz=219								
TWF1					eS		**Sb**	**14 29 03.8**	**-0.7**
	baz=219								
WHF	**Hehuan Shan**	**0.53**	**329**	P		P	**Pb**	**14 28 59.5**	**-0.7**
	baz=332								
WHF					S		**Sb**	**14 29 07.2**	**-0.8**
	baz=332								
CHKT	**Chengkung**	**0.61**	**197**	P		P	**Pn**	**14 29 00.5**	**-0.7**
	baz=183								
CHKT					S		**Sn**	**14 29 10.1**	**+0.2**
	baz=183								
SMLT	**Sun Moon Lake**	**0.64**	**288**	⇓ i	P		**Pn**	**14 29 01.3**	**-0.3**
	baz=288								
SMLT					S		**Sn**	**14 29 10.1**	**-0.5**
	baz=288								
TWT	**Tachien**	**0.66**	**328**	⇓ i	P		**Pn**	**14 29 01.9**	**-0.1**
	baz=330								
TWT				i	S		**Sn**	**14 29 10.6**	**-0.9**
	baz=330								
TYC	**Yuchr**	**0.68**	**288**	⇓ i	P		**Pn**	**14 29 01.7**	**-0.4**
	baz=289								
TYC					S		**Sn**	**14 29 10.9**	**-0.7**
	baz=289								
ELDTW	**Lidau**	**0.70**	**225**	⇓	P		**Pn**	**14 29 01.4**	**-1.2**
	baz=219								
ELDTW					eS		**Sn**	**14 29 10.9**	**-1.5**
	baz=219								
ENA	**Nanau**	**0.75**	**13**	e	P		**Pn**	**14 29 02.0**	**-1.2**
	baz=6.0								
NNS	**Nan Shan**	**0.77**	**347**	e	P		**Pn**	**14 29 02.8**	**-0.6**
	baz=354								
NNS					eS		**Sn**	**14 29 12.2**	**-1.8**
	baz=354								
CHN5	**Tsauling**	**0.81**	**264**	P		P	**Pn**	**14 29 04.1**	**0.0**
	baz=263								
CHN5					eS		**Sn**	**14 29 15.5**	**+0.5**
	baz=263								
WNT	**Mingjian**	**0.82**	**283**	P		P	**Pn**	**14 29 04.7**	**+0.5**
	baz=284								
WNT					S		**Sb**	**14 29 16.3**	**+0.7**
	baz=284								
WGK	**Gukeng**	**0.92**	**270**	e	P		**Pn**	**14 29 06.0**	**+0.7**
	baz=269								
TCU	**Taichung**	**0.93**	**300**	e	P		**Pn**	**14 29 06.2**	**+0.6**
	baz=300								
ENTT	**Nioudou**	**0.95**	**0**	⇓	P		**Pn**	**14 29 05.0**	**-0.9**
	baz=8.0								
ENTT					eS		**Sn**	**14 29 16.9**	**-1.3**
	baz=8.0								
CHN4	**Tsaushan**	**0.95**	**249**	e	P		**Pn**	**14 29 06.4**	**+0.6**
	baz=249								
CHN4					eS		**Sb**	**14 29 20.9**	**+1.7**
	baz=249								
TWG	**Pinlang**	**0.97**	**208**	e	P		**Pn**	**14 29 04.1**	**-2.1**
	baz=196								
TWQ1	**Liyutan**	**0.97**	**312**	⇑	P		**Pn**	**14 29 06.8**	**+0.6**
	baz=313								
TWQ1					S		**Sb**	**14 29 20.2**	**+0.3**
	baz=313								
WTP	**Ta-pu**	**0.97**	**243**	e	P		**Pn**	**14 29 06.7**	**+0.4**
	baz=243								
WTP					eS		**Sb**	**14 29 20.9**	**+1.0**
	baz=243								
NSK	**Sanguang**	**1.00**	**349**	⇓	P		**Pn**	**14 29 06.3**	**-0.4**
	baz=350								
NSK					eS		**Sn**	**14 29 18.3**	**-1.3**
	baz=350								
NSY	**Sanyi**	**1.03**	**315**	P		P	**Pn**	**14 29 07.8**	**+0.8**
	baz=327								
NSY					eS		**Sb**	**14 29 21.7**	**+0.3**
	baz=327								
TWE	**Neicheng**	**1.03**	**5**	e	P		**Pn**	**14 29 06.2**	**-0.8**
	baz=6.0								
CHY	**Chiayi**	**1.06**	**260**	e	P		**Pb**	**14 29 09.4**	**+0.7**
	baz=259								
NSTT	**Nanjuang**	**1.07**	**332**	⇓ i	P		**Pn**	**14 29 08.0**	**+0.5**
	baz=320								
NSTT					S		**Sn**	**14 29 21.1**	**-0.1**
	baz=320								
TWK	**Hsinying**	**1.07**	**247**	e	P		**Pn**	**14 29 08.1**	**+0.6**
	baz=247								
TWK					eS		**Sn**	**14 29 22.3**	**+1.0**
	baz=247								
CHN1	**Nanshi**	**1.07**	**242**	P		P	**Pn**	**14 29 08.0**	**+0.4**
	baz=242								
CHN1					S		**Sb**	**14 29 22.8**	**+0.1**
	baz=242								
SGST	**Jiashian**	**1.08**	**236**	e	P		**Pn**	**14 29 08.2**	**+0.5**
	baz=236								
SGST					eS		**Sb**	**14 29 23.8**	**+0.9**
	baz=236								
WTCT	**Ta-ch'eng**	**1.19**	**279**	e	P		**Pn**	**14 29 09.2**	**+0.1**
	baz=279								
WTCT					eS		**Sb**	**14 29 26.3**	**+0.4**
	baz=279								
ECL	**Taimali**	**1.22**	**207**	e	P		**Pn**	**14 29 07.2**	**-2.4**
	baz=199								
WSF	**Szhu**	**1.23**	**268**	e	P		**Pn**	**14 29 10.1**	**+0.4**
	baz=267								
SSD	**Sandimen**	**1.27**	**222**	e	P		**Pn**	**14 29 10.0**	**-0.3**
	baz=222								
SSD					S		**Sn**	**14 29 27.4**	**+1.2**
	baz=222								
CHN8	**Yiju**	**1.28**	**255**	e	P		**Pb**	**14 29 12.1**	**-0.4**
	baz=254								
NCU	**National Centr**	**1.32**	**345**	e	P		**Pn**	**14 29 11.7**	**+0.7**
	baz=346								
TWM1	**Shoushan**	**1.36**	**231**	e	P		**Pb**	**14 29 13.4**	**-0.3**
	baz=230								
TWB1	**Santiao Chiao**	**1.37**	**16**	e	P		**Pn**	**14 29 12.1**	**+0.5**
	baz=6.0								
NWF	**Wu-fen Shan**	**1.39**	**8**	e	P		**Pn**	**14 29 11.9**	**-0.1**
	baz=8.0								
TWS1	**Kuangyinshan**	**1.41**	**355**	e	P		**Pn**	**14 29 12.1**	**-0.1**
	baz=8.0								
EAST	**Anshuo**	**1.46**	**207**	e	P		**Pn**	**14 29 11.1**	**-1.7**
	baz=201								
YOJ	**Yonaguni jima**	**1.53**	**60**	P		P	**Pn**	**14 29 14.6**	**+0.7**
YOJ					eS		**Sn**	**14 29 33.2**	**+0.6**
SCZT	**Fangliau**	**1.57**	**214**	e	P		**Pn**	**14 29 15.1**	**+0.7**
	baz=227								
IRIF	**Iriomote-Funau**	**2.08**	**72**	P		P	**Pn**	**14 29 22.0**	**+0.5**
IRIF					eS		**Sn**	**14 29 46.9**	**+0.6**
HATJ	**Hateruma jima**	**2.09**	**79**	e	S		**Sn**	**14 29 47.1**	**+0.8**
JKRS	**Kuro-shima**	**2.31**	**76**	P		P	**Pn**	**14 29 25.3**	**+0.8**
JKRS					eS		**Sn**	**14 29 52.8**	**+1.1**
JIJ	**Ishigaki jima**	**2.46**	**74**	P		P	**Pn**	**14 29 26.5**	**-0.1**
JIJ					S		**Sn**	**14 29 54.4**	**-1.0**
JTJ	**Tarama**	**3.02**	**71**	P		P	**Pn**	**14 29 34.8**	**+0.5**
JTJ					eS		**Sn**	**14 30 09.7**	**+0.3**

IDC 31 14:33:55.7±9.6, 1°.67N×127°.91E, h153km±92km, mb3.0/7, mb1 3.1/7, mb1mx3.0/20, mbtmp3.0/7, Error ellipse: s-maj=75.4km s-min=15.6km az=62.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.38**	**164**	P		P	P	14 38 41.5	-0.1
	0.2nm,0.6s,baz=342,slow=10,SNR=4.8								
WRA					pP		pP	14 39 05.7	-3.7
	0.4nm,0.8s,baz=344,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**25.85**	**167**	P		P		14 39 13.0	-0.2
	0.5nm,1.0s,baz=340,slow=7.8,SNR=3.9								
ASAR					pP		pP	14 39 40.4	-4.7
	0.5nm,1.0s,baz=352,slow=10,SNR=4.5								
ASAR					PcP		PcP	14 42 37.9	-0.8
	0.4nm,1.0s,baz=359,slow=1.9,SNR=4.5								
CMAR	**Chiang Mai Arr**	**32.95**	**302**	P		P	P	14 40 15.9	-0.2
	0.2nm,0.4s,baz=99,slow=5.8,SNR=2.5								
STKA	**Stephens Creek**	**35.80**	**160**	P		P	P	14 40 41.0	+0.5
	0.3nm,0.4s,baz=17,slow=14,SNR=3.6								
SONM	**Songino Array**	**49.62**	**341**	P		P	P	14 42 31.1	-0.6
	0.5nm,0.6s,baz=151,slow=8.0,SNR=6.1								
MKAR	**Makanchi Array**	**59.91**	**325**	P		P	P	14 43 45.9	+0.2
	1.1nm,0.5s,baz=117,slow=7.9,SNR=17								
ZALV	**Zalesovo Beam**	**62.95**	**333**	P		P	P	14 44 06.0	+0.2
	0.2nm,0.4s,baz=140,slow=11,SNR=2.8								

IDC 31 14:38:35.1±1.5, 17°.66S×178°.84W, h505km±17km, mb3.4/16, mb1 3.6/17, mb1mx3.5/25, mbtmp3.4/17, Error ellipse: s-maj=16.0km s-min=11.0km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.75**	**62**	P		P	P	14 40 29.9	+0.6
	16nm,0.3s,baz=235,slow=12,SNR=16								
AFI					S		S	14 42 01.4	-1.3
	1.9nm,0.3s,baz=78,slow=20,SNR=1.8								
URZ	**Urewera**	**20.83**	**189**	P		P	P	14 42 39.1	-1.7
	12nm,0.6s,baz=346,slow=1.1,SNR=16								
CTA	**Charters Tower**	**33.09**	**260**	P		P	P	14 44 28.8	0.0
	11nm,0.7s,baz=89,slow=9.2,SNR=3.1								
PMG	**Port Moresby**	**34.02**	**279**	P		P	P	14 44 37.0	+0.3
	8.4nm,0.8s,baz=19,slow=0.8,SNR=5.0								
STKA	**Stephens Creek**	**38.40**	**241**	P		P	P	14 45 13.6	+0.9
	10nm,0.4s,baz=87,slow=9.0,SNR=58								
WRA	**Warramunga Arr**	**44.28**	**259**	P		P	P	14 45 58.5	-1.1
	5.3nm,0.8s,baz=94,slow=7.0,SNR=67								
WRA					pP		pP	14 47 32.8	-0.2
	0.5nm,0.7s,baz=99,slow=8.3,SNR=3.0								
WRA					ScP		ScP	14 50 35.7	-1.3
	0.8nm,1.0s,baz=93,slow=3.7,SNR=4.1								
ASAR	**Alice Springs**	**44.47**	**254**	P		P		14 46 00.9	-0.2
	41nm,0.7s,baz=89,slow=7.9,SNR=1079								
ASAR					ScP		ScP	14 50 37.2	-0.5
	0.7nm,0.8s,baz=97,slow=4.4,SNR=4.6								
ASAR					S		S	14 51 51.2	-8.0
	0.8nm,0.9s,baz=88,slow=15,SNR=6.4								
FITZ	**Fitzroy Crossi**	**52.67**	**260**	P		P	P	14 47 02.2	0.0
	1.5nm,0.3s,baz=85,slow=3.3,SNR=25								
MJAR	**Matsushiro Arr**	**67.46**	**324**	P		P	P	14 48 40.1	-0.2
	0.7nm,0.5s,baz=171,slow=6.4,SNR=4.2								
QSPA	**South Pole Qui**	**72.39**	**180**	P		P	P	14 49 10.5	+1.1
	1.2nm,0.6s,baz=298,slow=7.6,SNR=15								
PETK	**Petropavlovsk-**	**73.33**	**345**	P		P	P	14 49 14.4	-0.3
	3.5nm,0.9s,baz=123,slow=10,SNR=3.4								
NVAR	**Mina Array Bea**	**79.53**	**44**	P		P	P	14 49 50.1	+0.7
	0.7nm,0.6s,baz=234,slow=7.8,SNR=7.1								
ILAR	**Eielson Array**	**85.74**	**13**	P		P	P	14 50 18.9	-1.0
	0.6nm,0.8s,baz=226,slow=5.0,SNR=13								
TXAR	**Lajitas Array**	**86.21**	**58**	P		P	P	14 50 22.2	-0.9
	0.3nm,0.7s,baz=237,slow=4.1,SNR=3.2								
PDAR	**Pinedale Array**	**87.45**	**44**	P		P	P	14 50 29.5	+0.7
	0.8nm,0.9s,baz=212,slow=2.8,SNR=3.2								
CMAR	**Chiang Mai Arr**	**88.42**	**290**	P		P	P	14 50 34.4	+0.8
	0.4nm,0.7s,baz=94,slow=2.5,SNR=4.3								
INK	**Inuvik**	**91.75**	**15**	P		P	P	14 50 47.4	-0.4
	1.2nm,1.0s,baz=204,slow=9.6,SNR=3.3								
YKA	**Yellowknife Ar**	**94.28**	**25**	P		P	P	14 50 58.8	-0.6
	0.3nm,0.7s,baz=243,slow=4.6,SNR=6.7								
BRTR	**Keskin Array B**	**144.32**	**315**	PKP		PKPbc	PKPbc	14 57 13.0	-0.4
	0.6nm,0.9s,baz=146,slow=2.8,SNR=3.3								

*NEIC **31** 14:41:32.1, 52°.23N×169°.67W, h14km, ML3.5(AEIC), After AEIC.*
*ISCJB **31** 14:41:33.3±1.2, 52°.1N±0°.1×169°.5W±0°.1, h34km±11km, mb3.4/6, MS3.2/1, Error ellipse: s-maj=19.3km s-min=7.6km az=152.0*
*IDC **31** 14:41:36.1±1.0, 52°.34N×169°.51W, h37km±8km, mb3.3/6, mb1 3.6/9, mb1mx3.4/29, mbtmp3.4/9, ML3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=35.6km s-min=14.0km az=171.0*
ISC 31 14:41:35.6±1.0, 52°.3N±0°.1×169°.46W±0°.08, h34km±2km, n24, σ1°802/31, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.80**	**27**	P		P	**Pn**	**14 41 48.3**	**-2.1**
NIKO				S		S	**Sb**	**14 42 02.7**	**+1.0**
OKSP	**Okmok Steeple**	**1.22**	**35**	P		P	**Pn**	**14 41 55.4**	**-0.9**
OKSO	**Okmok South**	**1.35**	**35**	P		P	**Pn**	**14 41 57.5**	**-0.5**
OKSO				S		S	**Sb**	**14 42 17.0**	**-0.3**
OKCE	**Okmok Cone E**	**1.40**	**33**	P		P	**Pn**	**14 41 58.2**	**-0.6**
OKCE				S		S	**Sb**	**14 42 17.9**	**-1.0**
OKFG	**Magazine Ridge**	**1.48**	**39**	P		P	**Pn**	**14 41 59.0**	**-0.8**
OKFG				S		S	**Sb**	**14 42 20.0**	**-1.0**
MREP	**Makushin Rep't**	**2.25**	**46**	P		P	**Pn**	**14 42 10.2**	**-0.3**
UNV	**Unalaska Valle**	**2.38**	**47**	P		P	**Pn**	**14 42 12.9**	**+0.7**
UNV				S		S	**Sn**	**14 42 42.5**	**+2.3**
MTBL	**Makushin Table**	**2.39**	**43**	P		P	**Pn**	**14 42 12.7**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.76**	**46**	P		P	**Pn**	**14 42 17.9**	**+0.4**
AKUT	**Akutan**	**2.90**	**48**	P		P	**Pn**	**14 42 20.0**	**+0.7**
ATKA	**Atka Island**	**2.92**	**271**	P		P	**Pn**	**14 42 18.8**	**-0.7**
SPIA	**Saint Paul Isl**	**4.95**	**355**	P		P	**Pn**	**14 42 48.6**	**+1.2**
FX1	**Attu Island--F**	**10.60**	**280**	Pn		P	**Pn**	**14 44 05.8**	**+0.8**
	0.9nm,0.3s,baz=58,slow=15,SNR=2.9								
KDAK	**Kodiak Island**	**11.13**	**54**	Pn			**Pn**	**14 44 11.8**	**-0.4**
	0.3nm,0.3s,baz=8.0,slow=6.8,SNR=7.4								
KDAK						Sn	Sn	14 46 08.4	-6.9
	0.1nm,0.3s,baz=287,slow=17,SNR=2.0								
ILAR	**Eielson Array**	**17.07**	**34**	P		P	**Pn**	**14 45 30.6**	**-0.7**
	0.0nm,0.3s,baz=223,slow=10,SNR=5.0								
PETK	**Petropavlovsk-**	**19.84**	**286**	P		P	**P**	**14 46 03.1**	**-0.2**
	0.6nm,0.3s,baz=90,slow=12,SNR=17								
INK	**Inuvik**	**23.46**	**33**	P		P	**P**	**14 46 39.6**	**-1.9**
	0.7nm,0.4s,baz=250,slow=6.8,SNR=3.9								
INK						LR	LR	14 57 01.4	
	comp=Z,80nm,20.0s,baz=199,slow=40								
YKA	**Yellowknife Ar**	**30.35**	**49**	P		P	**P**	**14 47 44.6**	**+0.9**
	0.6nm,0.7s,baz=269,slow=7.8,SNR=12								
PDAR	**Pinedale Array**	**40.48**	**79**	P		P	**P**	**14 49 11.9**	**+0.9**
	0.5nm,0.5s,baz=273,slow=5.3,SNR=3.9								
PDAR					pP		**pP**	**14 49 21.8**	**+0.7**
	0.8nm,0.8s,baz=310,slow=6.9,SNR=4.1								
SONM	**Songino Array**	**51.31**	**301**	PcP		PcP	**PcP**	**14 51 49.4**	**-1.3**
	0.2nm,0.7s,baz=90,slow=4.9,SNR=3.1								
TXAR	**Lajitas Array**	**52.80**	**89**	pP		pP	pP	14 50 58.1	+0.4
	1.0nm,0.8s,baz=296,slow=4.6,SNR=5.2								
MKAR	**Makanchi Array**	**63.84**	**313**	P		P	**P**	**14 52 03.7**	**-0.6**
	0.2nm,0.7s,baz=46,slow=4.2,SNR=3.5								
CMAR	**Chiang Mai Arr**	**76.59**	**283**	P		P	**P**	**14 53 22.6**	**-0.1**
	0.2nm,0.5s,baz=24,slow=6.9,SNR=3.2								
CMAR					pP		**PcP**	**14 53 34.2**	**+0.1**
	0.2nm,0.6s,baz=330,slow=31,SNR=1.8								
ASAR	**Alice Springs**	**90.29**	**230**	P		P	**P**	**14 54 32.3**	**-0.4**
	0.6nm,1.1s,baz=45,slow=4.1,SNR=3.4								
ASAR					pP		**pP**	**14 54 44.2**	**+0.7**
	0.5nm,0.9s,baz=32,slow=4.4,SNR=3.1								

IDC 31 14:57:23.9±4.8, 1°.96S×138°.57E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=196.1km s-min=29.2km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.35**	**193**	P		P	P	15 01 40.4	+0.1
	0.1nm,0.3s,baz=17,slow=13,SNR=11								
ASAR	**Alice Springs**	**22.05**	**191**	P		P	P	15 02 20.9	+0.4
	0.5nm,0.5s,baz=21,slow=11,SNR=17								
MKAR	**Makanchi Array**	**69.11**	**322**	P		P	P	15 08 31.6	-0.4
	0.1nm,0.4s,baz=111,slow=8.9,SNR=4.2								

*NNC **31** 15:19:16.6±12.0, 38°.90N×70°.40E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=120.5km s-min=59.4km az=172.0*
ISC 31 15:19:13.9±3.9, 38°.5N±0°.3×70°.1E±0°.1, h27km, n9, σ1°822/10, 2C-2D, Afghanistan-Tajikistan border region

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

Azm307.0000°; P -2.0800, Plg44.0000°, Azm90.0000°;
Data Used: II IU CN IC G. Surface waves: sta=112, comp=226, per= 50.
*DJA **31** 15:29:33.1±1.0, 18°N±5°×14°E±°, h189km±9km, M5.5/94, mb5.7/94, mB5.8/69, MLv6.1/1, Mw(mB)5.4/69, Mwp6.3/2*
*JMA **31** 15:29:35.1±0.4, 18.95N×146.10E, h198km, M5.6*
ISC 31 15:29:31.7±0.2, 18°32N±0'03×145°78E±0'03, h191km±1km, h191km:pP-P,n988,σ1939/1111,mb5.4/302, 208C-213D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.79**	**191**	P			**Pn**	**15 30 42.7**	**-0.5**
	564nm,0.3s,baz=121,slow=1.9,SNR=290								
GUMO				S			**Sn**	**15 31 36.5**	**-3.0**
	993nm,0.3s,baz=18,slow=24,SNR=8.1								
GUMO	**Guam**	**4.79**	**191**	*i*P			**Pn**	**15 30 42.2**	**-1.1**
GUMO				S			**Sn**	**15 31 36.5**	**-3.0**
JHHJ	**Haha-jima-NKT**	**8.91**	**339**	P			**Pn**	**15 31 34.9**	**-2.0**
JHHJ				*e*S			Sn	15 33 09.5	-7.2
CBIJ	**Chichi jima**	**9.34**	**340**	P			**Pn**	**15 31 39.8**	**-2.7**
	58nm,0.3s,baz=144,slow=6.2,SNR=35								
CBIJ				S			Sn	15 33 18.6	-8.3
	127nm,0.3s,baz=261,slow=23,SNR=9.1								
CBIJ				LR			LR	15 34 39.0	
	comp=Z,930nm,21.0s,baz=148,slow=33								
CBIJ	**Chichi jima**	**9.34**	**340**	P			**Pn**	**15 31 39.8**	**-2.7**
CBIJ				S			Sn	15 33 18.6	-8.3
CBIJ	**Chichi jima**	**9.34**	**340**	P			**Pn**	**15 31 40.3**	**-2.2**
CBIJ				*e*S			Sn	15 33 17.9	-9.0
JMZ	**Minamidaito 2**	**15.41**	**302**	P			**P**	**15 33 02.6**	**+2.8**
JHJ	**Hachijo jima 2**	**15.69**	**341**	P			**P**	**15 33 04.3**	**+1.6**
	33nm,0.3s,baz=60,slow=16,SNR=4.7								
JHJ				LR			LR	15 37 48.7	
	comp=Z,380nm,18.6s,baz=113,slow=32								
TTO1	**TONANKAI O.B.S**	**17.24**	**334**	P			**Pn**	**15 33 20.3**	**-0.6**
JWZ	**Kozaga**	**17.63**	**331**	P			**P**	**15 33 24.6**	**+0.5**
JOD2	**Odawara 2**	**17.89**	**342**	P			**P**	**15 33 27.3**	**+0.4**
JAM	**Amami Oshima**	**17.91**	**307**	P			**Pn**	**15 33 32.5**	**+3.4**
JIE	**Ise**	**17.93**	**335**	P			**Pn**	**15 33 28.4**	**-1.0**
JOW	**Kunigami**	**18.23**	**301**	P			**Pn**	**15 33 32.2**	**-0.8**
	10.0nm,0.3s,baz=134,slow=15,SNR=11								
JOW				LR			LR	15 39 29.0	
	comp=Z,1μm,19.2s,baz=99,slow=33								
JOW	**Kunigami**	**18.23**	**301**	*e*P			**Pn**	**15 33 32.9**	**-0.2**
JOW	**Kunigami**	**18.23**	**301**	P			**Pn**	**15 33 33.7**	**+0.7**
JTO	**Tosashimizu**	**18.59**	**324**	P			**P**	**15 33 35.5**	**+1.0**
JRY	**Ryogami san**	**18.65**	**342**	P			**P**	**15 33 35.2**	**0.0**
JRY				*e*S			**S**	**15 36 55.6**	**-1.9**
MJAR	**Matsushiro Arr**	**19.34**	**341**	P			**P**	**15 33 42.0**	**-0.7**
	4.7nm,0.3s,baz=174,slow=11,SNR=46								
MJAR				S			**S**	**15 37 04.3**	**-6.9**
	0.7nm,0.3s,baz=155,slow=21,SNR=5.4								
MJAR				ScP			**ScP**	**15 41 11.1**	**-3.2**
	0.4nm,0.3s,baz=207,slow=3.5,SNR=7.3								
MJAR	**Matsushiro Arr**	**19.34**	**341**	P			**P**	**15 33 42.0**	**-0.7**
MJAR				S			**S**	**15 37 04.2**	**-6.9**
MJAR				ScP			**ScP**	**15 41 11.1**	**-3.2**
MAJO	**Matsushiro**	**19.34**	**341**	*e*P			**P**	**15 33 41.7**	**-0.9**
MAJO				pmax			pmax		
	comp=Z,110nm,0.6s								
MAJO	**Matsushiro**	**19.34**	**341**	*e*P			**P**	**15 33 41.7**	**-0.9**
	comp=Z,110nm,0.6s								
MAT	**Matsushiro**	**19.34**	**341**	P			**P**	**15 33 41.9**	**-0.7**
MAT				S			**S**	**15 37 07.7**	**-3.4**
MAT	**Matsushiro**	**19.34**	**341**	P			**P**	**15 33 42.3**	**-0.3**
WAKE	**Wake Island**	**19.79**	**84**	*e*P			**P**	**15 33 46.6**	**-0.9**
	comp=Z,842nm,1.0s								
JNU	**Nakatsue**	**19.90**	**321**	P			**P**	**15 33 49.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=58,slow=4.8,SNR=9.5								
JNU	**Nakatsue**	**19.90**	**321**	*e*P			**P**	**15 33 49.6**	**+0.9**
JHS	**Saijyo**	**20.07**	**328**	P			**P**	**15 33 49.5**	**-0.9**
JMK	**Ichinoseki**	**20.94**	**350**	P			**P**	**15 34 00.2**	**+0.6**
JAY	**Jayapura**	**21.30**	**194**	P			**P**	**15 34 03.4**	**-0.3**
	comp=Z,220nm,0.9s,comp=Z,2μm								
PLP	**Palo**	**21.32**	**253**	*i*P			**P**	**15 34 06.1**	**+2.2**
SMPI	**Sarmi**	**21.35**	**200**	P			**P**	**15 34 04.6**	**+0.4**
	comp=Z,289nm,1.6s,comp=Z,6μm								
BAKI	**Biak**	**21.60**	**207**	P			**P**	**15 34 07.8**	**+1.0**
	comp=Z,1000nm,1.5s,comp=Z,13μm								
JTU	**Tsushima**	**21.76**	**321**	P			**P**	**15 34 08.3**	**+0.1**
MSLP	**Maasin**	**21.83**	**251**	*e*P			**P**	**15 34 11.1**	**+1.9**
MATI	**Mati**	**22.12**	**242**	*e*P			**P**	**15 34 12.9**	**+0.8**
LLP	**Lapu-Lapu**	**22.56**	**252**	*e*P			**P**	**15 34 17.1**	**+1.0**
DAV	**Davao City (W)**	**22.63**	**243**	P			**P**	**15 34 18.1**	**+1.4**
	comp=Z,219nm,0.4s,baz=58,slow=6.9,SNR=14								
DAV	**Davao City (W)**	**22.63**	**243**	*e*P			**P**	**15 34 18.6**	**+1.9**
DAV	**Davao City (W)**	**22.63**	**243**	P			**P**	**15 34 17.3**	**+0.6**
	comp=Z,515nm,0.8s,comp=Z,7μm								
BUKP	**Musuan**	**22.66**	**245**	*e*P			**P**	**15 34 18.7**	**+1.6**
DMPH	**Davao City--Mi**	**22.68**	**243**	*e*P			**P**	**15 34 18.3**	**+1.1**
CGP	**Cagayan de Oro**	**22.71**	**247**	*i*P			**P**	**15 34 18.6**	**+1.2**
TBP	**Tagbilaran**	**22.91**	**251**	*e*P			**P**	**15 34 21.4**	**+2.2**
KWAJ	**Kwajalein Atol**	**23.21**	**111**	P			**P**	**15 34 17.8**	**-4.2**
KWAJ				pmax			pmax		
	comp=Z,171nm,0.9s								
KWAJ	**Kwajalein Atol**	**23.21**	**111**	P			**P**	**15 34 17.8**	**-4.2**
	comp=Z,171nm,0.9s								
RCP	**Roxas**	**23.23**	**256**	*i*P			**P**	**15 34 24.3**	**+2.2**
NACB	**Ninganchiao**	**23.26**	**289**	*e*P			**P**	**15 34 23.1**	**+0.8**
	comp=Z,104nm,0.9s								
YULB	**Yu-li**	**23.41**	**287**	*e*P			**P**	**15 34 24.1**	**+0.4**
	comp=Z,30nm,0.6s								
TATO	**Taipei**	**23.51**	**291**	*e*P			**P**	**15 34 25.7**	**+1.2**
	comp=Z,98nm,0.8s								
TWG	**Pinlang**	**23.55**	**285**	P			**P**	**15 34 25.4**	**+0.4**
	comp=Z,156nm,0.5s								
YHNB	**Yeheng**	**23.55**	**290**	*e*P			**P**	**15 34 25.9**	**+0.8**
	comp=Z,299nm,0.9s								
CTBH	**Cotabato--PC H**	**23.69**	**245**	*i*P			**P**	**15 34 27.6**	**+1.3**
GUIM	**Jordan**	**23.70**	**254**	*e*P			**P**	**15 34 28.0**	**+1.6**
ERM	**Erimo**	**23.72**	**355**	*e*P			**P**	**15 34 28.2**	**+1.9**
ERM	**Erimo**	**23.72**	**355**	*e*P			**P**	**15 34 28.2**	**+1.9**
ERM	**Erimo**	**23.72**	**355**	P			**P**	**15 34 30.8**	**+4.5**
	comp=Z,307nm,0.8s,SNR=6.3								
SSLB	**Suanglung**	**23.78**	**287**	*e*P			**P**	**15 34 28.2**	**+1.1**
	comp=Z,220nm,1.0s								
SWI	**Sorong**	**23.82**	**218**	P			**P**	**15 34 28.5**	**+1.1**
	comp=Z,390nm,1.2s,comp=Z,4μm								
TPUB	**Ta-pu**	**24.01**	**286**	*e*P			**P**	**15 34 29.1**	**-0.1**
	comp=Z,443nm,1.8s								
PAGZ	**Pagadian**	**24.14**	**247**	*e*P			**P**	**15 34 32.6**	**+2.2**
TGY	**Tagaytay City**	**24.21**	**264**	P			**P**	**15 34 31.6**	**+0.5**
	comp=Z,293nm,0.7s,baz=163,slow=3.2,SNR=11								
TGY	**Tagaytay City**	**24.21**	**264**	P			**P**	**15 34 31.6**	**+0.5**
SJMP	**San Jose**	**24.46**	**260**	*e*P			**P**	**15 34 35.3**	**+1.9**
KSRS	**Korea Array**	**24.67**	**324**	P			**P**	**15 34 33.6**	**-1.3**
	comp=Z,5.8nm,0.5s,baz=143,slow=9.0,SNR=24								
KSRS				ScP			**ScP**	**15 41 26.4**	**-1.4**
	comp=Z,6.4nm,1.0s,baz=139,slow=3.9,SNR=7.6								
KSAR	**Wonju Array Be**	**24.68**	**324**	P			**P**	**15 34 33.6**	**-1.4**
KSAR				ScP			**ScP**	**15 41 26.4**	**-1.4**
LUBP	**Lubang**	**24.95**	**263**	*e*P			**P**	**15 34 39.5**	**+1.7**
FAKI	**Fak Fak**	**24.96**	**214**	P			**P**	**15 34 37.3**	**-0.5**
	comp=Z,647nm,0.9s,comp=Z,5μm								
TNTI	**Ternate**	**25.12**	**228**	P			**P**	**15 34 40.8**	**+1.5**
	comp=Z,137nm,1.4s,comp=Z,2μm								
YUK	**Yuzh-Kuril'sk**	**25.64**	**0**	*c i*P			**P**	**15 34 40.3**	**-3.3**
YUK				*i*				15 35 17.1	
YUK				*e*S			**S**	**15 38 55.7**	**-1.7**
YUK				pmax			pmax		
	comp=E,23nm,0.6s								
YUK				pmax			pmax		
	comp=N,17nm,0.6s								
YUK				pmax			pmax		
	comp=Z,83nm,1.2s								
YUK				pmax			pmax		
	comp=Z,117nm,1.2s								
YUK				MLR			MLR		
	comp=E,290nm,19.0s								
YUK				MLR			MLR		
	comp=Z,281nm,19.0s								
SSE	**Sheshan**	**25.64**	**304**	P			**P**	**15 34 45.0**	**+1.2**
SSE				pP			**pP**	**15 35 20.5**	**-1.8**
SSE				sP			**sP**	**15 35 43.8**	**-0.8**
SSE				S			**S**	**15 39 01.8**	**+4.0**
SSE				pmax			pmax		
	comp=Z,23nm,0.8s								
SSE				pmax			pmax		
	comp=Z,140nm,4.3s								
SSE				LR			LR		
	comp=N,760nm,22.5s								
SSE				LR			LR		
	comp=E,520nm,22.5s								
SSE				LR			LR		
	comp=Z,720nm,26.8s								
ASAJ	**Asahikawa**	**25.86**	**355**	P			**P**	**15 34 46.9**	**+1.3**
	comp=Z,26nm,0.5s,baz=222,slow=13,SNR=106								
ASAJ				ScP			**ScP**	**15 41 31.1**	**0.0**
	comp=Z,5.6nm,0.7s,baz=244,slow=7.2,SNR=4.9								
ASAJ				LR			LR	15 44 31.7	
	comp=Z,524nm,20.4s,baz=174,slow=35								
ASAJ	**Asahikawa**	**25.86**	**355**	*e*P			**P**	**15 34 46.9**	**+1.3**
	comp=Z,41nm,1.0s								
ASAJ				ScP			**ScP**	**15 41 31.1**	**0.0**
LBMI	**Labuha**	**26.04**	**226**	P			**P**	**15 34 47.6**	**+0.1**
	comp=Z,150nm,0.8s,comp=Z,2μm								
MNI	**Manado**	**26.52**	**233**	P			**P**	**15 34 52.5**	**+0.6**
	comp=Z,581nm,1.0s,comp=Z,6μm								
TLE	**Tual**	**27.06**	**210**	P			**P**	**15 34 56.2**	**-0.4**
	comp=Z,237nm,1.0s,comp=Z,3μm								
BNDI	**Bandanaira**	**27.57**	**216**	P			**P**	**15 35 00.7**	**-0.5**
	comp=Z,321nm,1.1s,comp=Z,4μm								
PMG	**Port Moresby**	**27.58**	**177**	P			**P**	**15 35 00.8**	**-0.5**
	comp=Z,156nm,0.9s,baz=10,slow=5.6,SNR=81								
PMG				S			**S**	**15 39 25.1**	**-3.5**
	comp=Z,48nm,1.1s,baz=224,slow=20,SNR=6.8								
PMG				ScP			**ScP**	**15 41 37.3**	**+0.5**
	comp=Z,60nm,1.1s,baz=353,slow=3.3,SNR=5.8								
PMG	**Port Moresby**	**27.58**	**177**	*e*P			**P**	**15 35 00.7**	**-0.7**
	comp=Z,228nm,0.8s								
PMG				S			**S**	**15 39 25.1**	**-3.5**
PMG				ScP			**ScP**	**15 41 37.3**	**+0.5**
PMG	**Port Moresby**	**27.58**	**177**	P			**P**	**15 35 00.6**	**-0.7**
	comp=Z,215nm,1.0s,comp=Z,2μm								
KMSI	**Cibinong**	**27.74**	**233**	P			**P**	**15 35 03.7**	**+1.0**
	comp=Z,324nm,1.1s,comp=Z,4μm								
NJ2	**Nanjing**	**27.84**	**305**	*e*P			**P**	**15 35 03.3**	**-0.2**
NJ2				pP			**pP**	**15 35 40.3**	**-2.1**
NJ2				pmax			pmax		
	comp=Z,160nm,4.1s								
NJ2				LR			LR		
	comp=N,3μm,19.3s								
NJ2				LR			LR		
	comp=E,1μm,24.6s								
NJ2				LR			LR		
	comp=Z,1μm,21.5s								
AAI	**Ambon**	**27.90**	**220**	P			**P**	**15 35 04.4**	**+0.2**
	comp=Z,203nm,0.8s								
USRK	**Ussuriysk Arra**	**28.28**	**339**	P			**P**	**15 35 07.1**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=158,slow=12,SNR=12								
YSS	**Yuzh-Sakhalins**	**28.66**	**356**	*e*P			**P**	**15 35 11.3**	**+0.8**
YSS				*e**PP			**pP**	**15 35 50.0**	**+0.4**
YSS				*e**SP			**sP**	**15 36 13.0**	**+1.2**
YSS				*e*S			**S**	**15 39 44.0**	**-1.0**
YSS				*e*SS			**SnSn**	**15 41 28.0**	**-1.8**
YSS				pmax			pmax		
	comp=Z,1μm,4.0s								
YSS				pmax			pmax		
	comp=N,1μm,3.0s								
YSS				MLR			MLR		
	comp=Z,200nm,12.0s								
YSS				MLR			MLR		
	comp=E,400nm,13.0s								
YSS	**Yuzh-Sakhalins**	**28.66**	**356**	*e*P			**P**	**15 35 10.7**	**+0.2**
	comp=E,254nm,1.3s								
MRSI	**Marisa**	**29.37**	**235**	P			**P**	**15 35 18.0**	**+0.8**
	comp=E,182nm,1.1s,comp=E,2μm								
MDJ	**Mudanjiang**	**29.52**	**336**	P			**P**	**15 35 19.0**	**+0.9**
MDJ				pP			**pP**	**15 35 55.8**	**-1.5**
MDJ				sP			**sP**	**15 36 18.3**	**-1.1**
MDJ				PcP			**PcP**	**15 38 19.5**	**+1.0**
MDJ				S			**S**	**15 40 01.0**	**+2.5**
MDJ				ScP			**ScP**	**15 41 43.5**	**+1.2**
MDJ				PcS			**PcS**	**15 42 02.5**	**+0.8**
MDJ				ScS			**ScS**	**15 45 36.0**	**-1.2**
MDJ				pmax			pmax		
	comp=Z,93nm,6.0s								
MDJ	**Mudanjiang**	**29.52**	**336**	P			**P**	**15 35 18.6**	**+0.5**
	comp=Z,7.1nm,0.7s								
MYLDM	**Lahad Datu**	**29.67**	**247**	P			**P**	**15 35 22.8**	**+3.0**
MYLDM	**Lahad Datu**	**29.67**	**247**	P			**P**	**15 35 22.6**	**+2.8**
	comp=Z,102nm,1.2s,comp=Z,1μm								
LUWI	**Luwuk**	**29.70**	**232**	P			**P**	**15 35 19.9**	**-0.2**
	comp=Z,307nm,1.1s,comp=Z,3μm								
KDM	**Kudat**	**30.38**	**252**	P			**P**	**15 35 28.4**	**+2.3**
SDKM	**Sandakan**	**30.61**	**249**	P			**P**	**15 35 29.0**	**+0.8**
TSM	**Tawau**	**30.64**	**246**	P			**P**	**15 35 29.7**	**+1.4**
WHN	**Wuhan**	**30.99**	**299**	P			**P**	15 35 25.0	-6.2
WHN				pP			pP	15 36 08.5	-2.0
WHN				sP			sP	15 36 27.0	-5.6
WHN				S			S	15 39 55.5	-26
WHN				sS			sS	15 41 26.5	-5.0
WHN				LR			LR		
	comp=N,2μm,12.6s								
WHN				LR			LR		
	comp=E,960nm,9.0s								
WHN				LR			LR		
	comp=Z,2μm,15.8s								
KKM	**Kota Kinabalu**	**31.30**	**251**	*e*P			**P**	**15 35 35.8**	**+1.4**
	comp=Z,106nm,0.8s								
KKM	**Kota Kinabalu**	**31.30**	**251**	P			**P**	**15 35 36.0**	**+1.7**
KKM	**Kota Kinabalu**	**31.30**	**251**	P			**P**	**15 35 35.8**	**+1.4**
	comp=Z,148nm,0.9s,comp=Z,2μm								
HABR	**Khabarovsk**	**31.32**	**346**	*e*P			**P**	**15 35 32.5**	**-1.4**
HABR				*e**PP			**pP**	**15 36 11.4**	**-1.8**
HABR				*e**SP			**sP**	**15 36 33.2**	**-2.1**
HABR				*e*				15 36 43.5	
HABR				*e*				15 38 21.3	
HABR				*e*S			**S**	**15 40 25.6**	**-0.8**
HABR				*e**SS			**sS**	**15 41 35.5**	**-0.7**
HABR				*e*				15 45 43.8	
HABR				pmax			pmax		
	comp=Z,22nm,1.0s								
HABR				pmax			pmax		
	comp=Z,136nm,1.9s								
HABR				pmax			pmax		
	comp=N,82nm,1.9s								
HABR				pmax			pmax		
	comp=E,59nm,1.1s								
HABR				MLR			MLR		
	comp=Z,115nm,17.0s								
TARA	**Tarawa**	**31.52**	**119**	*e*P			**P**	**15 35 35.9**	**-0.2**
	comp=Z,422nm,1.3s								
KDI	**Kendari**	**31.80**	**228**	P			**P**	**15 35 39.6**	**+1.1**
	comp=Z,119nm,1.1s,comp=Z,1μm								
COEN	**Coen**	**32.18**	**185**	*e*P			**P**	**15 35 41.5**	**-0.3**
	comp=Z,750nm,0.6s								
KLR	**Kul'dur**	**32.85**	**343**	*e*P			P	15 35 43.2	-4.1
KLR				*e*				15 36 21.0	
BBSI	**Bau Bau**	**32.92**	**226**	P			**P**	**15 35 50.3**	**+2.0**
	comp=Z,146nm,0.8s,comp=Z,1μm								
TTSI	**Tana Toraja**	**33.24**	**233**	P			**P**	**15 35 52.8**	**+1.8**
	comp=Z,601nm,1.1s,comp=Z,4μm								
SKR	**Severo-Kuril's**	**33.33**	**12**	*e*P			P	15 35 43.0	-8.3
BJI	**Beijing**	**33.46**	**317**	P			**P**	**15 35 52.5**	**-0.1**
BJI				pP			**pP**	**15 36 32.0**	**-0.2**
BJI				sP			**sP**	**15 36 52.8**	**-1.4**
BJI				PP			**PnPn**	**15 37 10.0**	**-1.5**
BJI				S			**S**	**15 41 02.5**	**+2.6**
BJI				pmax			pmax		
	comp=Z,17nm,0.8s								
BJI				pmax			pmax		
	comp=Z,190nm,4.8s								
SMKI	**Samarinda**	**33.71**	**239**	P			**P**	**15 35 58.2**	**+3.0**
	comp=Z,426nm,1.0s,comp=Z,5μm								
SPSI	**Sidrap Palu**	**33.87**	**232**	P			**P**	**15 35 57.2**	**+0.7**
	comp=Z,288nm,1.0s,comp=Z,3μm								
QIZ	**Qiongzhong**	**34.02**	**277**	P			**P**	**15 35 59.5**	**+1.7**
QIZ				S			**S**	**15 41 10.3**	**+1.3**
QIZ				pmax			pmax		
	comp=Z,21nm,1.0s								
QIZ				LR			LR		
	comp=N,570nm,18.4s								
QIZ	**Qiongzhong**	**34.02**	**277**	P			**P**	**15 35 57.2**	**-0.5**
BKSI	**Bulukumba**	**34.53**	**230**	P			**P**	**15 36 02.7**	**+0.6**
	comp=N,154nm,0.7s,comp=N,2μmcomp=N,28μm								
KAPI	**Kappang**	**34.59**	**230**	P			**P**	**15 36 03.0**	**+0.4**
	comp=N,146nm,0.8s,baz=61,slow=3.7,SNR=154								
KAPI	**Kappang**	**34.59**	**230**	P			**P**	**15 36 03.0**	**+0.4**
KAPI	**Kappang**	**34.59**	**230**	P			**P**	**15 36 03.0**	**+0.4**
	comp=N,1μm,0.8s,SNR=43								
ENH	**Enshi**	**35.01**	**297**	*e*P			**P**	**15 36 06.7**	**+0.5**
	comp=N,38nm,0.9s								
MIDW	**Midway**	**35.14**	**67**	*e*P			**P**	**15 36 08.3**	**+1.0**
	comp=N,520nm,0.8s								
BTM	**Bintulu**	**35.36**	**249**	P			**P**	**15 36 11.4**	**+2.0**
MMRI	**Maumere**	**35.46**	**223**	P			**P**	**15 36 10.0**	**-0.1**
	comp=N,300nm,1.2s,comp=N,3μm								
PEA0B	**Petropavlovsk-**	**35.94**	**12**	*e*P			**P**	**15 36 14.9**	**+1.2**
PETK	**Petropavlovsk-**	**35.94**	**12**	P			**P**	**15 36 14.5**	**+0.7**
	comp=N,28nm,0.7s,baz=182,slow=7.6,SNR=45								
PETK				ScP			**ScP**	**15 42 02.8**	**-1.7**
	comp=N,4.9nm,0.7s,baz=169,slow=5.0,SNR=9.5								
PETK				LR			LR	15 48 53.1	
	comp=N,437nm,20.9s,baz=198,slow=32								
PETK	**Petropavlovsk-**	**35.94**	**12**	P			**P**	**15 36 14.5**	**+0.7**
PETK	**Petropavlovsk-**	**35.94**	**12**	P			**P**	**15 36 14.5**	**+0.7**
PETK				ScP			**ScP**	**15 42 02.8**	**-1.7**
PET	**Petropavlovsk**	**36.06**	**13**	*e*P			**P**	**15 36 15.0**	**+0.3**
PET				*e**PP			**pP**	**15 36 51.3**	**-3.5**
PET				*e*				15 38 36.0	
PET				*e*S			**S**	**15 41 41.5**	**+2.1**
PET				pmax			pmax		
	comp=Z,79nm,1.0s								
PET				pmax			pmax		
	comp=Z,200nm,16.9s								
PET				MLR			MLR		
	comp=Z,400nm,14.0s								
PET	**Petropavlovsk**	**36.06**	**13**	*e*P			**P**	**15 36 16.0**	**+1.3**
	comp=Z,122nm,1.4s								
KBKI	**Kotabaru**	**36.23**	**237**	P			**P**	**15 36 16.9**	**+0.2**
	comp=Z,101nm,0.8s,comp=Z,975nm								
XAN	**Xi'an**	**36.37**	**303**	P			**P**	**15 36 18.3**	**+0.6**
XAN				pP			**pP**	**15 36 58.0**	**+0.2**
XAN				sP			**sP**	**15 37 20.0**	**+0.4**
SBUM	**Sibu**	**36.47**	**248**	P			**P**	**15 36 20.9**	**+2.1**
SBUM	**Sibu**	**36.47**	**248**	P			**P**	**15 36 20.2**	**+1.4**
	comp=Z,124nm,1.3s,comp=Z,2μm								
HHC	**Hu-ho-hao-te**	**36.92**	**315**	*e*P			**P**	**15 36 23.5**	**+1.1**
HHC				pP			**pP**	**15 37 01.3**	**-1.2**
HHC				sP			**sP**	**15 37 21.3**	**-3.1**
HHC				S			**S**	**15 41 53.0**	**0.0**
HHC				SS			**SS**	**15 44 36.5**	**-6.6**
HHC				pmax			pmax		
	comp=Z,33nm,0.6s								
HHC				pmax			pmax		
	comp=Z,270nm,9.0s								
HHC				LR			LR		
	comp=N,1μm,14.7s								
HHC				LR			LR		
	comp=E,870nm,14.2s								
HHC				LR			LR		
	comp=Z,1μm,15.2s								
GYA	**Guiyang**	**36.95**	**290**	*i*P			**P**	**15 36 23.3**	**+0.5**
GYA				pP			**pP**	**15 37 03.8**	**+0.8**
GYA				sP			**sP**	**15 37 25.5**	**+0.7**
GYA				PP			**PnPn**	**15 37 55.0**	**+1.0**
GYA				PcP			**PcP**	**15 38 40.3**	**+0.3**
GYA				S			**S**	**15 41 54.0**	**+0.1**
GYA				ScP			**ScP**	**15 42 09.5**	**+0.6**
GYA				PcS			**PcS**	**15 42 29.5**	**+0.8**
GYA				ScS			**ScS**	**15 46 15.0**	**-2.0**
GYA				pmax			pmax		
	comp=Z,30nm,0.8s								
GYA				pmax			pmax		
	comp=Z,190nm,5.1s								
GYA				LR			LR		
	comp=N,850nm,17.8s								
GYA				LR			LR		
	comp=E,660nm,18.2s								
GYA				LR			LR		
	comp=Z,780nm,17.6s								
HIA	**Hailar**	**37.33**	**332**	*e*P			**P**	**15 36 24.5**	**-1.1**
	comp=Z,16nm,0.6s								
BBKI	**Banjar Baru**	**37.38**	**238**	P			**P**	**15 36 26.9**	**+0.5**
	comp=Z,108nm,0.9s,comp=Z,1μm								
WSI	**Waingapu**	**37.50**	**224**	P			**P**	**15 36 25.9**	**-1.4**
	comp=Z,717nm,0.7s,comp=Z,6μm								
BTO	**Baotou**	**37.86**	**314**	*e*P			**P**	**15 36 30.0**	**-0.3**
CTA	**Charters Tower**	**38.17**	**179**	P			**P**	**15 36 32.8**	**-0.2**
	comp=Z,71nm,0.5s,baz=358,slow=9.1,SNR=90								
CTA				ScP			**S**	**15 42 12.2**	**+0.2**
	comp=Z,8.4nm,1.0s,baz=288,slow=3.2,SNR=3.6								
CTA	**Charters Tower**	**38.17**	**179**	P			**P**	**15 36 32.8**	**-0.2**
CTA				ScP			**S**	**15 42 12.2**	**+0.2**
CTAO	**Charters Tower**	**38.17**	**179**	*e*P			**P**	**15 36 32.3**	**-0.6**
CTAO				pmax			pmax		
	comp=Z,78nm,0.6s								
CTAO	**Charters Tower**	**38.17**	**179**	*e*P			**P**	**15 36 32.3**	**-0.6**
	comp=Z,78nm,0.6s								
STKI	**Sintang

FITZ S **S** **15 42 54.9 -3.0**
CLNS Chul'man 41.51 343 *e*P **P** **15 36 58.2 -1.9**
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.7s
KRKI Karangkates 42.12 234 P **P** **15 37 06.3 +0.9**
comp=N,329nm,1.2s,comp=N,15µm
CHBT CHBT 42.15 269 P **P** **15 37 07.7 +2.0**
comp=N,54nm,1.2s,comp=N,932nm
SJI Sawahan 42.39 235 P **P** **15 37 08.3 +0.6**
comp=N,530nm,0.8s,comp=N,4µm
PWJI Pagerwojo 42.54 235 P **P** **15 37 08.8 0.0**
comp=N,488nm,0.8s,comp=N,4µm
SMRI Semarang 43.02 237 P **P** **15 37 14.1 +1.3**
comp=N,224nm,1.2s
ULN Ulaanbaatar 43.11 322 *e*P **P** **15 37 12.9 -0.3**
comp=N,16nm,0.9s
ULN Ulaanbaatar 43.11 322 P **P** **15 37 12.9 -0.3**
comp=N,9.5nm,0.9s,comp=N,332nm
PCJI Pacitan 43.13 235 P **P** **15 37 14.0 +0.4**
comp=N,464nm,0.7s,comp=N,4µm
AS31 Alice Springs 43.31 196 *e*P **P** **15 37 15.1 +0.1**
AS31 *e*ScP **ScP** **15 42 32.3 -1.3**
AS31 *e*S **S** **15 43 27.5 -0.5**
ASAR Alice Springs 43.31 196 P **P** **15 37 14.9 0.0**
comp=N,39nm,0.5s,baz=18,slow=8.0,SNR=715
ASAR PP **PcP** **15 39 03.2 +3.0**
comp=N,30nm,1.0s,baz=27,slow=8.3,SNR=5.5
ASAR ScP **ScP** **15 42 32.5 -1.0**
comp=N,14nm,0.7s,baz=15,slow=3.9,SNR=11
ASAR S **S** **15 43 26.4 -1.6**
comp=N,24nm,0.9s,baz=17,slow=20,SNR=23
ASAR LR LR 15 54 05.6
comp=N,466nm,21.9s,baz=20,slow=34
ASAR Alice Springs 43.31 196 P **P** **15 37 14.9 0.0**
ASAR PP **PcP** **15 39 03.2 +3.0**
ASAR ScP **ScP** **15 42 32.5 -1.0**
ASAR S **S** **15 43 26.4 -1.6**
UGM Wanagama 43.47 236 P **P** **15 37 16.8 +0.4**
comp=N,341nm,1.1s
SONM Songino Array 43.48 322 P **P** **15 37 15.9 -0.3**
comp=N,4.7nm,0.4s,baz=135,slow=8.9,SNR=55
SONM ScP **ScP** **15 42 31.5 -2.6**
comp=N,1.5nm,0.5s,baz=126,slow=3.5,SNR=5.6
SONM Songino Array 43.48 322 P **P** **15 37 15.9 -0.3**
SONM ScP **ScP** **15 42 31.5 -2.6**
KTGM Kuala Trenggan 43.56 258 P **P** **15 37 20.0 +2.9**
YOGI Yogyakarta 43.60 237 P **P** **15 37 17.8 +0.5**
comp=N,1µm,0.8s,comp=N,10µm
EIDS Eidsvold 43.73 173 *e*P **P** **15 37 17.6 -0.6**
comp=N,24nm,0.7s
BJII Banjamegara 43.78 238 P **P** **15 37 20.2 +1.3**
comp=N,137nm,1.5s,comp=N,2µm
TGJI Tegal 43.98 239 P **P** **15 37 21.4 +1.0**
comp=N,132nm,0.9s
MYKOM Kota Tinggi 44.27 253 P **P** **15 37 25.1 +2.4**
MYKOM Kota Tinggi 44.27 253 P **P** **15 37 24.6 +1.9**
comp=N,87nm,1.0s,comp=N,1µm
CMMT Chiang Mai 44.29 278 P **P** **15 37 24.5 +1.6**
comp=N,26nm,0.8s
CHTO Chiang Mai 44.30 278 *e*P **P** **15 37 23.6 +0.7**
CHTO pmax pmax
comp=Z,15nm,0.6s
CHTO Chiang Mai 44.30 278 *e*P **P** **15 37 23.6 +0.7**
comp=Z,15nm,0.6s
CHTO Chiang Mai 44.30 278 P **P** **15 37 24.0 +1.1**
comp=Z,29nm,0.9s
CMAR Chiang Mai Arr 44.34 278 P **P** **15 37 24.9 +1.6**
comp=Z,12nm,0.6s,baz=68,slow=7.1,SNR=99
CMAR LR LR 15 56 42.8
comp=Z,120nm,19.3s,baz=267,slow=37
CMAR Chiang Mai Arr 44.34 278 P **P** **15 37 24.9 +1.6**
KGM Kluang 44.66 254 P **P** **15 37 28.2 +2.3**
SEY Seymchan 44.81 4⇓ *e*P **P** **15 37 27.2 +1.0**
GTA Gaotai 44.84 308 *e*P **P** **15 37 28.5 +1.4**
GTA pP **pP** **15 38 10.0 +1.4**
GTA sP **sP** **15 38 31.0 +0.9**
GTA ScP **ScP** **15 42 38.8 -1.0**
GTA S **S** **15 43 52.5 +2.4**
GTA sS **sS** **15 45 03.8 +0.9**
GTA ScS **ScS** **15 47 03.5 -0.8**
GTA SS **SS** **15 47 11.3 -4.0**
GTA LR LR
comp=N,660nm,15.2s
GTA LR LR
comp=E,460nm,16.6s
GTA LR LR
comp=Z,600nm,20.7s
SRDT SRDT 44.86 272 P **P** **15 37 29.2 +1.8**
comp=Z,61nm,0.8s,comp=Z,2µm
NOUC Port Laguerre 44.91 153 *e*P **P** **15 37 27.9 +0.3**
NOUC *e*S pP **15 38 20.5 +11**
DZM Mont Dzumac 44.95 152 P **P** **15 37 29.2 +1.1**
comp=Z,102nm,0.9s,baz=5.3,slow=8.3,SNR=27
DZM Mont Dzumac 44.95 152 *e*P **P** **15 37 29.1 +1.1**
comp=Z,204nm,0.9s
DZM Mont Dzumac 44.95 152 P **P** **15 37 29.2 +1.1**
YAK Yakutsk 45.10 349 *e*P **P** **15 37 27.2 -1.3**
YAK *e**PP **pP** **15 38 10.2 0.0**
YAK *e* 15 39 04.4
YAK *e* 15 39 17.0
YAK *e*PPP PPP 15 40 00.5
YAK *e*S **S** **15 43 49.4 -3.5**
YAK *e* 15 46 59.5
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=Z,45nm,2.3s
YAK smax smax
comp=E,173nm,2.6s
YAK smax smax
comp=N,89nm,1.5s
YAK Yakutsk 45.10 349 *e*P **P** **15 37 27.3 -1.3**
comp=N,55nm,0.6s
LEM Lembang 45.19 240 P **P** **15 37 30.7 +0.6**
comp=N,182nm,1.0s,comp=N,2µm
CISI Cisompet, Garu 45.44 239 P **P** **15 37 30.2 -1.8**
comp=N,220nm,0.6s,comp=N,2µm
CBJI Citeko 45.60 241 P **P** **15 37 33.8 +0.6**
comp=N,274nm,0.9s
FRIM Kepong 45.73 256 P **P** **15 37 36.3 +2.1**
DBJI Dramaga 45.75 241 P **P** **15 37 34.6 +0.2**
comp=N,94nm,0.8s
IPM Ipoh 45.83 258 *e*P **P** **15 37 36.8 +1.7**
comp=N,56nm,0.9s
IPM Ipoh 45.83 258 P **P** **15 37 37.3 +2.2**
IPM Ipoh 45.83 258 P **P** **15 37 36.9 +1.8**
comp=N,76nm,1.3s,comp=N,825nm
KULM Kulim 45.89 259 *e*P **P** **15 37 37.7 +2.2**
comp=N,79nm,0.8s
KULM Kulim 45.89 259 P **P** **15 37 38.0 +2.5**
KULM Kulim 45.89 259 P **P** **15 37 37.7 +2.2**
comp=N,114nm,1.0s,comp=N,1µm
SBJI Serang 46.03 242 P **P** **15 37 38.2 +1.6**
comp=N,226nm,0.8s,comp=N,3µm
SKJI Sukabumi 46.16 240 P **P** **15 37 36.7 -0.9**
comp=N,126nm,0.7s
BLSI Bandar Lampung 46.38 243 P **P** **15 37 40.3 +1.0**
comp=N,409nm,1.0s,comp=N,3µm
ZAK Zakamensk 46.50 323 *e*P **P** **15 37 39.1 -0.8**
ZAK *e* 15 38 40.8
ZAK pmax pmax
comp=Z,10.0nm,1.1s
CGJI Cibinong 46.66 242 P **P** **15 37 39.9 -1.6**
comp=Z,350nm,0.8s,comp=Z,3µmcomp=Z,47µm
MBWA Marble Bar 46.80 214 *e*P **P** **15 37 43.1 +0.7**
comp=Z,194nm,0.8s
IRK Irkutsk 46.86 326 *e*P P 15 37 51.1 +8.6
IRK pmax pmax
comp=Z,34nm,1.1s
TLY Talaya 46.91 325 *e*P P 15 37 48.7 +5.7
TLY *e* 15 38 27.8
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 46.91 325 P **P** **15 37 41.9 -1.1**
comp=Z,12nm,0.9s
LWLI Liwa 47.22 245 P **P** **15 37 46.2 +0.3**
comp=Z,206nm,1.1s
KSI Kapahiang 47.82 247 P **P** **15 37 50.2 -0.3**
comp=Z,170nm,1.0s,comp=Z,2µm
MSVF Nonsavu 47.86 137 *e*P **P** **15 37 52.4 +1.6**
MSVF pmax pmax
comp=Z,118nm,1.0s
MSVF Nonsavu 47.86 137 *e*P **P** **15 37 52.4 +1.6**
comp=Z,118nm,1.0s
MSVF Nonsavu 47.86 137 P **P** **15 37 52.0 +1.3**
comp=Z,728nm,1.1s,SNR=18
KRJI Kerinci 48.09 250 P **P** **15 37 53.8 +1.1**
comp=Z,175nm,1.0s,comp=Z,3µm
MOY Mondy 48.37 324 *e*P **P** **15 37 53.0 -1.3**
PSI Prapat 48.39 257 P **P** **15 37 56.5 +1.5**
comp=Z,33nm,0.9s,baz=60,slow=2.6,SNR=45
PSI Prapat 48.39 257 P **P** **15 37 56.5 +1.5**
PSI Prapat 48.39 257 P **P** **15 37 56.6 +1.6**
comp=Z,64nm,1.1s,comp=Z,798nm
TSI Tuntungan 48.47 258 P P 15 38 05.5 +10
MNSI Mandailing Nat 48.57 254 P **P** **15 37 57.5 +1.3**
comp=Z,124nm,0.8s,comp=Z,1µm
ARMA Armidale 48.78 173 *e*P **P** **15 37 57.5 -0.1**
comp=Z,30nm,0.8s
NIKO Nikolski 49.27 35 *e*P **P** **15 38 01.1 +0.1**
comp=Z,339nm,0.6s
LHMI Lhok Sumawe 49.38 261 P P 15 38 14.1 +12
STKA Stephens Creek 50.07 185 P **P** **15 38 06.5 -0.7**
comp=Z,26nm,0.5s,baz=353,slow=7.9,SNR=110
STKA S **S** **15 44 59.5 -4.1**
comp=Z,6.0nm,1.0s,baz=102,slow=23,SNR=4.6
STKA Stephens Creek 50.07 185 *e*P **P** **15 38 06.5 -0.7**
comp=Z,5.2nm,0.5s
STKA S **S** **15 44 59.5 -4.1**
GSI Gunungsitoli 50.21 256 P **P** **15 38 09.5 +0.9**
comp=Z,178nm,0.9s,comp=Z,2µm
SHL Shillong 50.23 288 *e*P **P** **15 38 10.0 +1.1**
SHL *e*S **S** **15 45 07.5 +0.8**
LSA Lhasa 50.77 294 *e*P **P** **15 38 15.2 +2.0**
LSA pmax pmax
comp=Z,44nm,0.9s
LSA Lhasa 50.77 294 *e*P **P** **15 38 15.2 +2.0**
comp=Z,44nm,0.9s
BSI Banda Aceh 50.84 262 P **P** **15 38 14.1 +0.7**
comp=Z,44nm,1.2s,comp=Z,694nm
BILL Bilibino 51.38 10*d* *i*P **P** **15 38 17.2 +0.7**
BILL *e**PP **pP** **15 39 00.8 +1.7**
BILL *e* 15 39 28.8
BILL *e*S **S** **15 45 22.6 +1.8**
BILL *e*SS **SS** **15 49 04.9 +6.0**
BILL pmax pmax
comp=Z,133nm,0.9s
BILL MLR MLR
comp=Z,100nm,15.0s
BILL Bilibino 51.38 10 *e*P **P** **15 38 17.1 +0.6**
comp=Z,128nm,0.9s
AKUT Akutan 51.44 34 *e*P **P** **15 38 17.8 +0.7**
comp=Z,266nm,0.6s
BBOO Buckleboo 51.69 190 *e*P **P** **15 38 18.6 -0.6**
comp=Z,2µm,0.6s
FORT Forrest 51.71 199 *e*P **P** **15 38 20.1 +0.7**
comp=Z,123nm,0.6s
AFI Afiamalu 52.70 125 P **P** **15 38 27.3 +0.3**
comp=Z,81nm,0.9s,baz=236,slow=23,SNR=6.2
AFI Afiamalu 52.70 125 P **P** **15 38 27.3 +0.3**
KIP Kipapa 52.72 77*d* *i*P **P** **15 38 28.7 +1.5**
KIP pmax pmax
comp=Z,885nm,1.7s
KIP Kipapa 52.72 77 *e*P **P** **15 38 28.6 +1.5**
comp=Z,364nm,0.6s
CAN Canberra 53.43 177 *e*P **P** **15 38 32.0 0.0**
CAN pmax pmax
comp=Z,113nm,1.4s
CAN Canberra 53.43 177 *e*P **P** **15 38 32.0 0.0**
comp=Z,113nm,1.4s
TAPN Taplejung 53.87 291 *e*P **P** **15 38 37.1 +1.3**
ODAN Odare 54.18 290 *e*P **P** **15 38 39.8 +1.8**
TIXI Tiksi 54.25 353 *e*P **P** **15 38 36.5 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 54.25 353 *e*P **P** **15 38 36.4 -1.1**
comp=Z,9.7nm,0.6s
WMQ Urumqi 54.61 311 P **P** **15 38 41.5 +0.8**
WMQ pP **pP** **15 39 24.3 +0.5**
WMQ PcP **PcP** **15 39 40.8 -0.4**
WMQ PP **PP** **15 40 47.8 +2.7**
WMQ S **S** **15 46 05.5 +0.1**
WMQ ScS **ScS** **15 48 08.3 -2.2**
WMQ pmax pmax
comp=Z,120nm,4.4s
WMQ LR LR
comp=N,170nm,17.0s
WMQ LR LR
comp=E,210nm,24.0s
WMQ LR LR
comp=Z,190nm,22.0s
SDPT Sand Point 54.74 34 *e*P **P** **15 38 41.5 +0.3**
comp=Z,578nm,0.6s
RAMN Ramite 54.88 290 *e*P **P** **15 38 44.8 +1.7**
GUN Gumba 55.45 292 *e*P **P** **15 38 48.1 +0.8**
PUH Pauahi 55.61 79 *e*P **P** **15 38 50.0 +1.8**
STCH Steam Cracks 55.69 79 *e*P **P** **15 38 50.2 +1.5**
PKI Pulchoki 55.89 291 *e*P **P** **15 38 51.5 +1.1**
PKIN Phulchoki 55.90 291 *e*P **P** **15 38 51.7 +1.3**
comp=Z,6.1nm,0.4s
KKN Kakani 55.99 292 *e*P **P** **15 38 52.4 +1.5**
TNA Tin City 56.14 21 *e*P **P** **15 38 52.8 +1.7**
comp=Z,66nm,1.0s
CHGN Chignik 56.15 34 *e*P **P** **15 38 50.6 -0.7**
DMN Daman 56.16 291 *e*P **P** **15 38 53.5 +1.3**
comp=Z,16nm,0.4s
DANN Dangsing 57.29 292 *e*P **P** **15 39 00.8 +0.6**
comp=Z,108nm,0.6s
KOLN Koldanda 57.48 292 *e*P **P** **15 39 02.7 +1.3**
comp=Z,11nm,0.5s
NWAO Narrogin (SRO) 57.81 208 P **P** **15 39 03.7 +0.5**
comp=Z,150nm,0.7s,baz=43,slow=6.9,SNR=90
NWAO Narrogin (SRO) 57.81 208 *e*P **P** **15 39 03.6 +0.4**
comp=Z,103nm,0.7s
XMAS Kiritimati 57.91 99 *e*P **P** **15 39 05.7 +1.3**
comp=Z,647nm,1.2s
PYUN Piuthan 57.98 292 *e*P **P** **15 39 06.7 +1.8**
ZAA0 Zalesovo Array 58.36 323 *e*P **P** **15 39 05.3 -1.5**
ZALV Zalesovo Beam 58.36 323 P **P** **15 39 05.3 -1.5**
comp=Z,14nm,0.6s,baz=107,slow=7.3,SNR=60
ZALV pP **pP** **15 39 51.9 +1.4**
comp=Z,23nm,0.9s,baz=95,slow=6.3,SNR=3.2
ZALV S **S** **15 46 50.0 -4.2**
comp=Z,1.7nm,0.9s,baz=109,slow=11,SNR=5.6
ZALV LR LR 16 04 04.7
comp=Z,215nm,18.8s,baz=273,slow=36
ZALV PKPPKP **P'P'df** **16 08 47.4 +2.3**
comp=Z,1.1nm,0.7s,baz=327,slow=2.5,SNR=4.6
ZALV Zalesovo Beam 58.36 323 P **P** **15 39 05.3 -1.5**
ZALV *PP **pP** **15 39 51.9 +1.4**
ZALV S **S** **15 46 50.0 -4.2**
ZALV Zalesovo Beam 58.36 323 P **P** **15 39 05.3 -1.5**
ZALV pP **pP** **15 39 51.9 +1.4**
ZALV S **S** **15 46 50.0 -4.2**
ZALV P'P' 16 08 47.4
MK31 Makanchi Array 58.78 314*ce* P **P** **15 39 09.8 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 58.78 314 *e*P **P** **15 39 09.6 -0.3**
MKAR Makanchi Array 58.78 314 P **P** **15 39 09.7 -0.2**
comp=Z,5.4nm,0.5s,baz=90,slow=7.6,SNR=138
MKAR PKP2bc 16 08 49.2
comp=Z,0.6nm,0.7s,baz=279,slow=2.3,SNR=5.1
MKAR Makanchi Array 58.78 314 P **P** **15 39 09.7 -0.2**
MKAR Makanchi Array 58.78 314 P **P** **15 39 09.7 -0.2**
MKAR ⇑ *e* 16 08 49.2
NVS Novosibirsk 59.45 323⇓ *i*P **P** **15 39 13.6 -0.7**
NVS *i* 15 39 54.3
NVS *e*S S 15 46 57.2 -11
NVS pmax pmax
comp=Z,36nm,1.6s
NVS pmax pmax
comp=N,8.0nm,1.5s
NVS pmax pmax
comp=E,27nm,1.6s
NVS smax smax
comp=N,28nm,2.7s
NVS smax smax
comp=E,17nm,2.6s
KDAK Kodiak Island 59.63 33 *e*P **P** **15 39 16.0 +0.6**
comp=E,95nm,0.7s
KDAK Kodiak Island 59.63 33 P **P** **15 39 16.0 +0.6**
comp=E,860nm,0.6s,SNR=49
TAU Tasmania Unive 60.94 179 *e*P **P** **15 39 24.4 0.0**
TAU pmax pmax
comp=Z,46nm,1.0s
TAU Tasmania Unive 60.94 179 *e*P **P** **15 39 24.4 0.0**
comp=Z,46nm,1.0s
TAU Tasmania Unive 60.94 179 P **P** **15 39 23.4 -1.0**
comp=Z,239nm,1.0s,SNR=6.7
KURK Kurchatov 61.60 318⇓ *e*P **P** **15 39 28.2 -0.7**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 61.60 318 *e*P **P** **15 39 28.1 -0.8**
comp=Z,83nm,1.2s
KURK Kurchatov 61.60 318 P **P** **15 39 28.8 -0.1**
comp=Z,142nm,0.9s,SNR=19
SEW Seward 61.76 31 *e*P **P** **15 39 29.7 0.0**
comp=Z,179nm,0.9s
RC01 Rabbit Creek A 61.84 30 *e*P **P** **15 39 30.3 0.0**
comp=Z,160nm,0.8s
DDI Dehra Dun 62.07 295 *ex* P **P** **15 39 32.8 +0.3**
DDI *ex* x 15 40 13.5
PMR Palmer 62.24 29 *e*P **P** **15 39 32.8 -0.1**
PMR pmax pmax
comp=Z,130nm,1.0s
PMR Palmer 62.24 29 *e*P **P** **15 39 32.8 -0.1**
comp=Z,130nm,1.0s
AGRA Agra 62.53 292 *e*P **P** **15 39 34.4 -1.1**
AGRA AMb AMB 15 39 36.5
comp=Z,50nm,0.4s
SML Sawmill 62.66 29 *e*P **P** **15 39 36.5 +0.7**
SML pmax pmax
comp=Z,67nm,0.8s
SML Sawmill 62.66 29 *e*P **P** **15 39 36.5 +0.7**
comp=Z,67nm,0.8s
NDI New Delhi 62.98 293 *ex* P **P** **15 39 36.0 -2.5**
AYAN Aya Nagar 63.09 293 *e*P **P** **15 39 38.2 -0.9**
AYAN AMb AMB 15 40 28.2
comp=Z,62nm,0.8s
KSH Kashi 63.15 306 P P 15 39 43.0 +3.4
KSH PcP **PcP** **15 40 19.0 +3.6**
KSH pP pP 15 40 24.8 +0.9
KSH sP sP 15 40 45.0 +0.3
KSH PP PP 15 42 07.5 +6.7
KSH PcS 15 44 21.5
KSH S **S** **15 48 01.0 +5.4**
KSH ScS **ScS** **15 49 17.0 +2.9**
KSH SS SS 15 52 13.0 +8.0
KSH LR LR
comp=N,160nm,7.0s
KSH LR LR
comp=E,190nm,7.5s
KSH LR LR
comp=Z,330nm,8.4s
SONA Sohna 63.15 293 *e*P **P** **15 39 39.6 0.0**
KKR Kurukshetra 63.18 295 *ex* x 15 39 36.5
KKR AMb AMB 15 39 39.2
comp=Z,165nm,0.3s
BHGR Bahadurgarh 63.23 293 *ex* P 15 39 36.9 -3.2
COLD Coldfoot 63.27 23 *e*P **P** **15 39 40.7 +1.0**
comp=Z,62nm,1.0s
TKM2 Tokmak 2 63.35 309 *e*P **P** **15 39 41.2 +0.3**
TKM2 Tokmak 2 63.35 309 *e*P **P** **15 39 41.2 +0.3**
URZ Urewera 63.51 153 P **P** **15 39 41.2 -0.4**
comp=Z,19nm,0.6s,baz=38,slow=2.7,SNR=17
URZ LR LR 16 01 45.4
comp=Z,208nm,21.1s,baz=151,slow=30
URZ Urewera 63.51 153 *e*P **P** **15 39 41.1 -0.4**
comp=Z,58nm,1.1s
COLA College 63.57 26 *e*P **P** **15 39 40.5 -1.2**
COLA pmax pmax
comp=Z,43nm,0.8s
COLA College 63.57 26 *e*P **P** **15 39 40.5 -1.2**
comp=Z,44nm,0.8s
HYB Hyderabad 63.64 281 *i* P **P** **15 39 42.0 -1.0**
KUDL Kundal 63.69 293 *e*P **P** **15 39 42.5 -0.6**
DIV Divide 63.74 30 *e*P **P** **15 39 43.8 +0.8**
comp=Z,110nm,1.1s
THN Thein Dam 63.85 298 *e*P **P** **15 39 45.0 +0.9**
ILAR Eielson Array 63.95 26 P **P** **15 39 43.2 -0.9**
comp=Z,49nm,0.8s,baz=258,slow=5.0,SNR=271
ILAR pP **pP** **15 40 26.1 -2.6**
comp=Z,17nm,1.0s,baz=249,slow=4.6,SNR=2.5
ILAR LR LR 16 03 48.7
comp=Z,318nm,19.7s,baz=121,slow=32
ILAR PKPPKP **P'P'df** **16 08 36.4 +0.6**
comp=Z,0.5nm,0.9s,baz=60,slow=1.4,SNR=6.1
ILAR Eielson Array 63.95 26 P **P** **15 39 43.2 -0.9**
ILAR pP **pP** **15 40 26.1 -2.6**
ILAR P'P' 16 08 36.4
PALK Pallekele 64.12 269 *e*P **P** **15 39 46.6 +0.4**
comp=Z,18nm,1.2s
AAK Ala-Archa 64.17 309 PKP2bc 16 08 39.7
comp=Z,1.7nm,0.8s,baz=294,slow=3.1,SNR=6.1
AAK Ala-Archa 64.17 309 *e*P **P** **15 39 46.3 +0.1**
AAK pmax pmax
comp=Z,245nm,1.4s
AAK Ala-Archa 64.17 309 *e*P **P** **15 39 46.3 +0.1**
comp=Z,245nm,1.4s
AAK ⇑ *e* 16 08 39.7
PAX Paxson 64.20 28 *e*P **P** **15 39 46.6 +0.6**
PAX pmax pmax
comp=Z,62nm,0.6s
PAX Paxson 64.20 28 *e*P **P** **15 39 46.6 +0.6**
comp=Z,62nm,0.6s
BMRM Bremner River 64.27 31 *e*P **P** **15 39 47.3 +0.9**
comp=Z,248nm,1.1s
KHET Khetri 64.29 293 *e*P **P** **15 39 46.8 -0.3**
DOT Dot Lake 64.95 28 *e*P **P** **15 39 50.6 -0.1**
comp=Z,32nm,0.8s
MENT Mentasta 64.98 28 *e*P **P** **15 39 51.8 +0.8**
KHZ Kahutara 65.64 158 *e*P **P** **15 39 53.7 -1.5**
comp=Z,33nm,0.5s
RPZ Rata Peaks 65.94 160 P **P** **15 39 56.1 -1.1**
comp=Z,34nm,0.7s,baz=182,slow=2.6,SNR=14
RPZ Rata Peaks 65.94 160 *e*P **P** **15 39 56.1 -1.1**
comp=Z,43nm,0.9s
PNL Peninsula 66.71 32 *e*P **P** **15 40 03.1 +1.1**
comp=Z,69nm,1.0s
BVA0 Borovoye Array 66.81 321 *i* P **P** **15 40 01.9 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 66.81 321 PKP2bc 16 08 32.4
comp=Z,1.3nm,0.9s,baz=255,slow=4.0,SNR=5.7
BRVK Borovoye 66.88 321 *e*P **P** **15 40 02.5 -0.6**
BRVK pmax pmax
comp=Z,78nm,1.1s
BRVK Borovoye 66.88 321 *e*P **P** **15 40 02.5 -0.6**
comp=Z,78nm,1.1s
BRVK Borovoye 66.88 321 P **P** **15 40 02.3 -0.9**
comp=Z,227nm,0.6s,SNR=17
KK31 Karatay Array 67.07 310*ce* P **P** **15 40 04.1 -0.5**
KK31 pmax pmax
comp=Z,75nm,1.2s
KKAR Karatay Array 67.07 310 *e*P **P** **15 40 03.8 -0.8**
KKAR pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 67.07 310 *e*P **P** **15 40 03.8 -0.8**
comp=Z,27nm,0.8s
TRD Trivandrum 67.33 272⇓ *ex* x 15 41 01.4
POO Poona 67.77 283 *e*P **P** **15 40 09.0 -0.4**
SKAG Skagway 68.77 33 *e*P **P** **15 40 15.9 +1.1**
comp=Z,93nm,0.9s
KBL Kabul 69.13 301 *e*P **P** **15 40 18.3 +0.5**
KBL pmax pmax
comp=Z,138nm,1.1s
KBL Kabul 69.13 301 *e*P **P** **15 40 18.2 +0.5**
comp=Z,138nm,1.1s
WRAK Wrangell Islan 70.47 36 *e*P **P** **15 40 26.3 +1.0**
comp=Z,27nm,0.8s
DLBC Dease Lake 71.56 33 *e*P **P** **15 40 33.3 +1.4**
SVE Sverdlovsk 72.23 325 *e*P **P** **15 40 36.7 +0.9**
SVE pmax pmax
comp=Z,25nm,1.1s
PPT Papeete 72.88 116 P **P** **15 40 41.1 +0.8**
comp=Z,129nm,1.0s,baz=292,slow=12,SNR=9.2
PPT LR LR 16 07 42.1
comp=Z,230nm,18.9s,baz=185,slow=31
PPT Papeete 72.88 116 P **P** **15 40 41.1 +0.8**
PPT2 Papeete2 72.89 116⇓ *i*P **P** **15 40 43.0 +2.5**
comp=Z,150nm,1.3s
PPT2 *e*S **S** **15 49 47.3 -4.2**
comp=Z,554nm,27.2s
PPT2 *e*LR LR 16 02 52.3
comp=Z,399nm,28.0s
PAE Paea 72.92 116⇓ *i*P **P** **15 40 42.8 +2.3**
comp=Z,38nm,1.2s
PAE Paea 72.92 116⇓ *i*P **P** **15 40 42.8 +2.3**
PAE Paea 72.92 116⇓ *i*P **P** **15 40 42.8 +2.3**
TIAR Tiarei 73.08 115⇓ *i*P **P** **15 40 43.9 +2.4**
comp=Z,249nm,1.1s
TIAR Tiarei 73.08 115⇓ *i*P **P** **15 40 43.9 +2.4**
PMOR Pomariorio Ree 73.25 112⇓ *i*P **P** **15 40 44.5 +2.0**
comp=Z,664nm,1.3s
PMOR Pomariorio Ree 73.25 112⇓ *i*P **P** **15 40 44.5 +2.0**

TVO	Taravao	73.25	116	⇓	*i*	P		P	15 40 45.2	+2.6
	comp=Z,262nm,1.2s									
TVO	Taravao	73.25	116	⇓	*i*	P		P	15 40 45.2	+2.6
TVO	Taravao	73.25	116	⇓	*i*	P		P	15 40 45.2	+2.6
ARU	Arti	73.42	325	*c*	*i*	P		P	15 40 42.6	-0.2
ARU						*PP		pP	15 41 26.1	-2.3
ARU									15 43 24.4	
ARU						PPP		PPP	15 45 10.5	
ARU						S		S	15 49 55.6	-0.5
ARU						SS		SS	15 54 36.5	-5.5
ARU						pmax		pmax		
	comp=Z,36nm,1.7s									
ARU	Arti	73.42	325		*e*	P		P	15 40 42.4	-0.4
	comp=Z,19nm,0.6s									
ARU	Arti	73.42	325			P		P	15 40 42.8	0.0
	comp=Z,183nm,0.5s,SNR=9.5									
VAH	Vaihoa	73.58	113	⇓	*i*	P		P	15 40 46.1	+1.7
	comp=Z,257nm,1.3s									
VAH	Vaihoa	73.58	113	⇓	*i*	P		P	15 40 46.1	+1.7
AB31	Akbulak array	73.67	317	*c*	*e*	P		P	15 40 43.2	-1.2
AB31						pmax		pmax		
	comp=Z,3.0nm,0.2s									
ABKAR	Akbulak array	73.67	317		*e*	P		P	15 40 43.1	-1.3
	comp=Z,8.4nm,0.5s									
SOKR	Solikamsk	73.89	328	⇑	*i*	P		P	15 40 48.4	+3.0
SOKR						pmax		pmax		
	comp=Z,20nm,1.2s									
MEH	Mehetia	74.31	115		*e*	P		P	15 40 51.0	+2.3
	comp=Z,174nm,1.1s									
MEH	Mehetia	74.31	115		*e*	P		P	15 40 51.0	+2.3
TBI	Tubuai	75.57	121	⇓	*i*	P		P	15 40 58.3	+2.6
	comp=Z,181nm,0.8s									
TBI					*e*	S		S	15 50 23.2	+2.2
	comp=Z,476nm,28.2s									
TBI					*e*	LQ		LQ	16 01 08.0	
	comp=Z,414nm,32.0s									
TBI					*e*	LR		LR	16 04 28.4	
	comp=Z,163nm,30.0s									
TBI	Tubuai	75.57	121	⇓	*i*	P		P	15 40 58.3	+2.6
TBI					*e*	S		S	15 50 23.2	+2.2
TBI					*e*	LQ		LQ	16 01 08.0	
PGC	Sidney	76.97	43		*e*	P		P	15 41 04.2	+1.0
	comp=Z,6.1nm,1.2s									
NLWA	Neilton Lookou	76.98	44		*e*	P		P	15 41 05.2	+1.8
	comp=Z,382nm,1.5s									
HDW	Hoodsport	77.46	44			P		P	15 41 08.3	+2.2
KEBM	Edson Butte	77.69	49		*e*	P		P	15 41 09.3	+1.8
	comp=Z,133nm,1.0s									
MBW	Mount Baker	77.94	43			P		P	15 41 10.2	+1.4
COR	Corvallis	78.01	47		*e*	P		P	15 41 10.4	+1.3
COR						pmax		pmax		
	comp=Z,37nm,0.7s									
COR	Corvallis	78.01	47		*e*	P		P	15 41 10.3	+1.3
	comp=Z,37nm,0.7s									
YKA	Yellowknife Ar	78.28	28			P		P	15 41 10.5	+0.3
	comp=Z,42nm,0.7s,baz=290,slow=5.5,SNR=592									
YKA						pP		pP	15 41 56.1	-0.3
	comp=Z,16nm,0.8s,baz=292,slow=5.7,SNR=3.6									
YKA						S		S	15 50 47.6	-1.5
	comp=Z,0.7nm,1.0s,baz=292,slow=9.9,SNR=3.8									
YKA	Yellowknife Ar	78.28	28			P		P	15 41 10.5	+0.3
YKA						pP		pP	15 41 56.1	-0.3
YKA						S		S	15 50 47.6	-1.5
KRMB	Red Mountain	78.32	50		*e*	P		P	15 41 12.9	+1.8
	comp=Z,29nm,0.9s									
ALE	Alert	78.48	4			P		P	15 41 11.0	0.0
	comp=Z,220nm,0.9s,SNR=18									
LON	Longmire	78.50	45		*e*	P		P	15 41 12.7	+0.9
LON						pmax		pmax		
	comp=Z,40nm,0.8s									
LON	Longmire	78.50	45		*e*	P		P	15 41 12.7	+0.9
	comp=Z,40nm,0.8s									
KHMM	Horse Mountain	78.61	51		*e*	P		P	15 41 14.7	+2.1
	comp=Z,74nm,0.7s									
HUMO	Hull Mountain	78.74	49		*e*	P		P	15 41 14.7	+1.5
	comp=Z,88nm,0.7s									
IRO	Indian Ridge	78.89	47			P		P	15 41 15.3	+1.2
KCPM	Cahto Peak	79.02	52		*e*	P		P	15 41 16.5	+1.7
	comp=Z,119nm,0.9s									
TWW	Teanaway	79.03	44			P		P	15 41 16.6	+1.8
KIPM	Iron Peak	79.06	52		*e*	P		P	15 41 17.0	+1.8
	comp=Z,50nm,0.8s									
LTY	Liberty	79.12	44			P		P	15 41 16.2	+1.0
NLW	Nelson Butte	79.13	43			P		P	15 41 16.5	+1.1
YBH	Yreka Blue Hor	79.14	50		*e*	P		P	15 41 17.0	+1.5
	comp=Z,103nm,1.1s									
TBM	Table Mountain	79.20	44			P		P	15 41 17.1	+1.4
WTV	Waterville	79.48	43			P		P	15 41 18.0	+0.9
WDC	Whiskeytown Da	79.56	51		*e*	P		P	15 41 18.6	+1.0
WDC						pmax		pmax		
	comp=Z,129nm,1.5s									
WDC	Whiskeytown Da	79.56	51		*e*	P		P	15 41 18.6	+1.0
	comp=Z,129nm,1.5s									
HOPS	Hopland	79.58	52		*e*	P		P	15 41 18.9	+1.1
	comp=Z,98nm,1.4s									
KBS	Kingsbay	79.67	352		*i*	P		P	15 41 18.7	+1.2
KBS						pmax		pmax		
	comp=Z,32nm,0.9s									
RES	Resolute Bay	79.77	14		*e*	P		P	15 41 18.5	+0.4
	comp=Z,44nm,0.8s									
E07A	Sunnyside	79.85	44			P		P	15 41 20.5	+1.4
VIPM	Ingram Point	79.89	46			P		P	15 41 20.9	+1.3
VIPM	Ingram Point	79.89	46			P		P	15 41 20.9	+1.3
HAWA	Hanford	80.11	44		*e*	P		P	15 41 21.4	+1.0
	comp=Z,106nm,0.9s									
K05A	Summer Lake	80.18	48			P		P	15 41 22.8	+1.6
WRD	Warden	80.25	44			P		P	15 41 22.2	+0.9
LBCM	Butte Creek Ri	80.36	50			P		P	15 41 23.3	+1.2
OD2	Odessa Site #2	80.37	43			P		P	15 41 22.8	+0.9
C09A	Chrisman Ranch	80.54	43			P		P	15 41 23.8	+1.0
MOD	Modoc	80.83	49		*e*	P		P	15 41 25.5	+0.9
	comp=Z,126nm,1.0s									
NEW	Newport	81.14	42		*e*	P		P	15 41 26.8	+0.8
	comp=Z,79nm,0.6s									
NEW	Newport	81.14	42	⇑		P		P	15 41 26.7	+0.7
	baz=81,SNR=69									
APA	Apatity	81.39	339	⇓	*i*	P		P	15 41 29.6	+2.8
APA					*i*	*PP		pP	15 42 19.0	+5.7
SAO	San Andreas Ge	81.42	54		*e*	P		P	15 41 28.3	+0.7
SAO						pmax		pmax		
	comp=Z,912nm,1.1s									
SAO	San Andreas Ge	81.42	54		*e*	P		P	15 41 28.3	+0.7
	comp=Z,912nm,1.1s									
KLMR	Klimovskoe	81.82	332		*e*	P		P	15 41 27.8	-1.4
KLMR						pmax		pmax		
	comp=Z,35nm,1.3s									
C11A	Tepee Creek (N	81.83	42	⇓		P		P	15 41 30.5	+0.9
	baz=82,SNR=41									
A12A	Yaak River Ran	81.86	41	⇑		P		P	15 41 31.3	+1.5
	baz=82,SNR=56									
CMB	Columbia Colle	81.86	53		*e*	P		P	15 41 30.7	+0.7
CMB						pmax		pmax		
	comp=Z,125nm,1.1s									
CMB	Columbia Colle	81.86	53		*e*	P		P	15 41 30.7	+0.7
	comp=Z,125nm,1.1s									
WCN	Washoe City	81.97	51		*e*	P		P	15 41 31.5	+0.8
WCN						pmax		pmax		
	comp=Z,66nm,1.0s									
WCN	Washoe City	81.97	51		*e*	P		P	15 41 31.4	+0.8
	comp=Z,66nm,1.0s									
BMO	Blue Mountains	82.05	45		*e*	P		P	15 41 31.6	+0.7
BMO					*e*	*PP		pP	15 42 17.6	+0.1
BMO						pmax		pmax		
	comp=Z,72nm,1.0s									
BMO	Blue Mountains	82.05	45		*e*	P		P	15 41 31.6	+0.7
	comp=Z,72nm,1.0s									
BMO					*e*	pP		pP	15 42 17.6	+0.1
KEV	Kevo	82.31	342		*e*	P		P	15 41 29.9	-1.7
KEV						pmax		pmax		
	comp=Z,11nm,0.6s									
KEV	Kevo	82.31	342		*e*	P		P	15 41 29.9	-1.7
	comp=Z,11nm,0.6s									
C12B	Naegeli Ranch,	82.36	42	⇑		P		P	15 41 33.1	+0.7
	baz=82,SNR=21									
A13A	Flathead Natio	82.64	41	⇑		P		P	15 41 35.2	+1.4
	baz=82,SNR=70									
BSMT	Bassoo Peak	82.76	42		*e*	P		P	15 41 35.5	+0.9
	comp=Z,79nm,0.9s									
B13A	Whitefish	82.79	41	⇑		P		P	15 41 35.8	+1.2
	baz=83,SNR=48									
ARCES	ARCESS Array B	82.87	342			P		P	15 41 33.7	-0.8
	comp=Z,9.3nm,0.6s,baz=77,slow=8.3,SNR=31									
ARCES						pP		pP	15 42 22.6	+1.4
	comp=Z,8.0nm,0.6s,baz=39,slow=7.8,SNR=2.4									
ARCES	ARCESS Array B	82.87	342			P		P	15 41 33.7	-0.8
ARCES						pP		pP	15 42 22.6	+1.4
ARE0	ARCESS Array S	82.87	342		*e*	P		P	15 41 32.9	-1.7
WALA	Waterton Lakes	82.91	41		*e*	P		P	15 41 36.3	+1.0
	comp=Z,2.2nm,1.1s									
C13A	Hot Springs	82.95	42	⇓		P		P	15 41 36.4	+0.9
	baz=83,SNR=34									
SMMC	Simmler	82.96	55	⇑		P		P	15 41 37.2	+1.5
	baz=83									
BLMT	Blacktail Moun	82.97	42		*e*	P		P	15 41 36.6	+0.9
	comp=Z,71nm,0.9s									
JTMT	Jette	83.11	42		*e*	P		P	15 41 36.8	+0.5
	comp=Z,40nm,1.1s									
F12A	Elk City	83.14	44	⇑		P		P	15 41 37.1	+0.5
	baz=83,SNR=64									
MLAC	Mammoth Lakes	83.16	53	⇓		P		P	15 41 38.2	+1.2
	baz=83,SNR=18									
D13A	Huson	83.22	43	⇓		P		P	15 41 37.1	+0.3
	baz=83,SNR=32									
PKM	Peak Mountain	83.22	56	⇑		P		P	15 41 38.5	+1.3
	baz=83,SNR=28									
A14A	Double T Ranch	83.24	41	⇓		P		P	15 41 38.2	+1.3
	baz=83,SNR=40									
YBMT	Yellow Bay	83.25	42		*e*	P		P	15 41 37.7	+0.7
	comp=Z,54nm,0.9s									
RCTC	Rector, Farmer	83.25	54	⇓		P		P	15 41 37.9	+0.8
	baz=83									
NVAR	Mina Array Bea	83.31	52			P		P	15 41 39.0	+1.3
	comp=Z,94nm,0.7s,baz=268,slow=5.9,SNR=662									
NVAR						pP		pP	15 42 25.1	+0.7
	comp=Z,15nm,0.8s,baz=268,slow=6.2,SNR=2.0									
NVAR						PP		PP	15 44 51.5	-0.3
	comp=Z,7.6nm,1.0s,baz=278,slow=8.1,SNR=5.2									
NVAR						LR		LR	16 12 56.1	
	comp=Z,254nm,20.0s,baz=257,slow=31									
NVAR	Mina Array Bea	83.31	52			P		P	15 41 39.0	+1.3
NVAR						pP		pP	15 42 25.1	+0.7
NVAR						PP		PP	15 44 51.5	-0.3
SWMT	Swartz Lake	83.37	42		*e*	P		P	15 41 38.0	+0.3
	comp=Z,28nm,1.0s									
SBC	Santa Barbara	83.44	56	⇑		P		P	15 41 39.5	+1.4
	baz=83									
BMN	Battle Mountai	83.48	50		*e*	P		P	15 41 39.3	+0.9
BMN						pmax		pmax		
	comp=Z,50nm,0.8s									
BMN	Battle Mountai	83.48	50		*e*	P		P	15 41 39.3	+0.9
	comp=Z,50nm,0.8s									
VES	Vestal, Richgr	83.51	55	⇓		P		P	15 41 38.7	+0.2
	baz=83,SNR=15									
MFID	Camas Ranch	83.52	47		*e*	P		P	15 41 39.4	+1.0
	comp=Z,122nm,0.9s									
MFID						pP		pP	15 42 25.8	+0.5
MFID	Camas Ranch	83.52	47	⇑		P		P	15 41 39.5	+1.0
	baz=83,SNR=87									
B14A	Marquette Ranc	83.54	41	⇑		P		P	15 41 39.5	+1.0
	baz=83,SNR=34									
E13A	Victor	83.61	43	⇓		P		P	15 41 38.6	-0.3
	baz=84,SNR=11									
BSC	Santa Cruz Isl	83.64	56	⇓		P		P	15 41 39.7	+0.5
	baz=84,SNR=5.6									
MSO	Missoula	83.64	43		*e*	P		P	15 41 39.2	+0.2
	comp=Z,14nm,1.1s									
MSO	Missoula	83.64	43	⇑		P		P	15 41 39.2	+0.2
	baz=84									
A15A	Johnson Ranch,	83.66	41	⇑		P		P	15 41 39.8	+0.7
	baz=84,SNR=43									
F13A	Darby	83.74	44	⇑		P		P	15 41 39.7	+0.1
	baz=84,SNR=95									
SLMT	Seeley Lake	83.79	42		*e*	P		P	15 41 40.2	+0.4
	comp=Z,58nm,1.0s									
TIN	Tinemaha	83.79	53	⇑		P		P	15 41 41.3	+1.3
	baz=84,SNR=12									
H12A	Diamond D Ranc	83.81	45	⇓		P		P	15 41 40.6	+0.6
	baz=84									
D14A	Greenough	83.84	42	⇓		P		P	15 41 40.0	-0.1
	baz=84,SNR=8.1									
ARVC	Arvin	83.93	55	⇓		P		P	15 41 41.2	+0.7
	baz=84									
B15A	Bradely Ranch,	84.00	41	⇓		P		P	15 41 41.3	+0.5
	baz=84,SNR=60									
ISA	Isabella	84.04	55		*e*	P		P	15 41 41.2	-0.1
ISA						pmax		pmax		
	comp=Z,43nm,1.4s									
ISA	Isabella	84.04	55		*e*	P		P	15 41 41.1	-0.1
	comp=Z,43nm,1.4s									
ISA	Isabella	84.04	55	⇓		P		P	15 41 41.4	+0.2
	baz=84,SNR=15									
G13A	Coalatt	84.04	45	⇓		P		P	15 41 41.6	+0.4
	baz=84,SNR=239									
BLG	Laguna Peak	84.06	56	⇑		P		P	15 41 41.9	+0.6
	baz=84									
CHMT	Chamberlain Mo	84.06	43		*e*	P		P	15 41 41.2	-0.1
	comp=Z,17nm,1.0s									
CWC	Cottonwood Cre	84.10	54	⇓		P		P	15 41 42.3	+0.6
	baz=84									
C15A	Salmond Ranch,	84.17	42	⇓		P		P	15 41 42.3	+0.6
	baz=84,SNR=64									
OSI	Osito Adit	84.17	56	⇓		P		P	15 41 42.9	+1.0
	baz=84									
H13A	Challis	84.21	45	⇑		P		P	15 41 42.8	+0.8
	baz=84,SNR=103									
F14A	Wisdom	84.36	44	⇓		P		P	15 41 43.1	+0.2
	baz=84									
A16A	West Butte Ran	84.37	40	⇑		P		P	15 41 43.1	+0.4
	baz=84,SNR=57									
JOF	Joensuu	84.39	335		*e*	P		P	15 41 38.7	-3.6
JOF						pmax		pmax		
	comp=Z,21nm,0.5s									
JOF	Joensuu	84.39	335		*ep*	P		P	15 41 38.7	-3.6
	comp=Z,21nm,0.5s									
HLID	Hailey	84.44	46		*e*	P		P	15 41 44.0	+0.8
	comp=Z,110nm,0.8s									
HLID	Hailey	84.44	46	⇓		P		P	15 41 44.2	+1.0
	baz=84									
GRAC	Grapevine Rang	84.46	53	⇓		P		P	15 41 44.5	+1.1
	baz=84									
D15A	Lincoln	84.48	42	⇓		P		P	15 41 43.7	+0.3
	baz=84,SNR=27									
VRHR	Novokhopersk	84.49	322		*e*	P		P	15 41 46.0	+3.0
VRHR						pmax		pmax		
	comp=N,9.0nm,0.6s									
VRHR						pmax		pmax		
	comp=Z,9.0nm,0.6s									
VRHR						pmax		pmax		
	comp=E,4.0nm,0.3s									
G14A	Jackson	84.50	44	⇓		P		P	15 41 43.7	+0.1
	baz=84,SNR=19									
I13A	Wildhorse Cree	84.52	46	⇑		P		P	15 41 44.7	+1.0
	baz=84,SNR=92									
DAC	Darwin (Calif)	84.52	54		*e*	P		P	15 41 44.4	+0.6
DAC						pmax		pmax		
	comp=Z,69nm,1.3s									
DAC	Darwin (Calif)	84.52	54		*e*	P		P	15 41 44.4	+0.6
	comp=Z,69nm,1.3s									
DECC	Green Verdugo	84.59	56	⇓		P		P	15 41 44.6	+0.7
	baz=84									
E15A	Deer Lodge	84.62	43	⇓		P		P	15 41 44.8	+0.7
	baz=84,SNR=116									
DAG	Danmarks Havn	84.65	356		*i*	P		P	15 41 43.2	-0.2
	comp=Z,54nm,0.8s									
EDW2	Edwards Air Fo	84.66	55	⇓		P		P	15 41 45.3	+1.0
	baz=85									
MPMC	Manual Prospec	84.67	54	⇑		P		P	15 41 45.5	+0.9
	baz=85									
C16A	Fuhringer Ranc	84.70	41	⇓		P		P	15 41 44.8	+0.4
	baz=85,SNR=84									
LRMC	Laurel Mountai	84.70	55	⇓		P		P	15 41 45.6	+0.9
	baz=85									
PASC	Pasadena Art C	84.73	56		*e*	P		P	15 41 45.4	+0.7
	comp=Z,24nm,0.9s									
H14A	Leadore	84.78	45	⇑		P		P	15 41 46.0	+1.1
	baz=85,SNR=179									
FMP	Fort Macarthur	84.79	56	⇑		P		P	15 41 45.6	+0.7
	baz=85									
CIS	Catalina Islan	84.80	57	⇑		P		P	15 41 45.6	+0.5
	baz=85,SNR=15									
ELK	Elko	84.81	49		*e*	P		P	15 41 46.3	+1.1
MWC	Mount Wilson	84.81	56		*e*	P		P	15 41 45.6	+0.3
MWC						pmax		pmax		
	comp=Z,72nm,1.1s									
MWC	Mount Wilson	84.81	56		*e*	P		P	15 41 45.6	+0.3
	comp=Z,72nm,1.1s									
SCI	San Clemente I	84.82	57	⇓		P		P	15 41 45.7	+0.6
	baz=85									
A17A	Triple J Farms	84.92	40	⇓		P		P	15 41 46.2	+0.8
	baz=85									
F15A	Butte	84.93	43	⇓		P		P	15 41 46.4	+0.8
	baz=85,SNR=125									
LRM	Limekiln Ridge	84.96	43		*e*	P		P	15 41 46.3	+0.5
	comp=Z,760nm,0.8s									
I14A	Mackay	84.97	45	⇑		P		P	15 41 47.3	+1.4
	baz=85,SNR=54									
FURC	Furnace Creek,	85.02	53	⇑		P		P	15 41 47.1	+1.1
	baz=85,SNR=14									
DLMT	Dillon	85.03	44		*e*	P		P	15 41 46.4	+0.3
	comp=Z,36nm,0.8s									
MCMT	McKenzie Canyo	85.05	44		*e*	P		P	15 41 47.0	+0.7
	comp=Z,21nm,0.9s									
D16A	Dana Ranch, Ca	85.10	42	⇑		P		P	15 41 47.3	+0.9
	baz=85,SNR=52									
B17A	L&G Farms, Che	85.11	41	⇓		P		P	15 41 47.0	+0.7
	baz=85,SNR=159									
BFSC	Mount Baldy Ra	85.12	56	⇓		P		P	15 41 47.1	+0.3
	baz=85,SNR=9.2									
G15A	Dillon	85.17	44	⇓		P		P	15 41 47.6	+0.7
	baz=85,SNR=62									
E16A	East Helena	85.20	43	⇑		P		P	15 41 47.9	+0.9
	baz=85,SNR=134									
H15A	Lima	85.27	45	⇓		P		P	15 41 48.4	+1.0
	baz=85,SNR=46									
R11A	Troy Canyon, C	85.36	51	⇑		P		P	15 41 49.0	+1.1
	baz=85,SNR=94									
C17A	Wharram Farm,	85.38	41	⇓		P		P	15 41 48.1	+0.4
	baz=85,SNR=68									
RRX	Edison Barstow	85.43	55	⇑		P		P	15 41 49.0	+0.9
	baz=85									
GSC	Goldstone	85.44	54		*e*	P		P	15 41 49.1	+0.8
GSC						pmax		pmax		
	comp=Z,69nm,1.2s									
GSC	Goldstone	85.44	54		*e*	P		P	15 41 49.1	+0.8
	comp=Z,69nm,1.2s									
GSC	Goldstone	85.44	54	⇑		P		P	15 41 49.0	+0.8
	baz=85,SNR=26									
A18A	Metzger Ranch,	85.45	40	⇑		P		P	15 41 48.7	+0.7
	baz=85,SNR=83									
F16A	Kennard Place,	85.51	43	⇑		P		P	15 41 49.3	+0.8
	baz=85,SNR=60									
BOZ	Bozeman (W)	85.56	43		*e*	P		P	15 41 49.4	+0.7
BOZ						pmax		pmax		
	comp=Z,43nm,0.9s									
BOZ	Bozeman (W)	85.56	43		*e*	P		P	15 41 49.4	+0.7
	comp=Z,43nm,0.9s									
BOZ	Bozeman (W)	85.56	43	⇑		P		P	15 41 49.6	+0.8
	baz=86									
I15A	Monteview	85.59	45	⇑		P		P	15 41 50.4	+1.5
	baz=86									
G16A	Moss Hill, Enn	85.60	44	⇓		P		P	15 41 49.8	+0.9
	baz=86,SNR=170									
D17A	Six Diamond Ra	85.61	42	⇑		P		P	15 41 49.8	+0.9
	baz=86									
OBN	Obninsk	85.63	327	⇑	*e*	P		P	15 41 48.9	+0.3
OBN					*e*	*PP		pP	15 42 35.6	0.0
OBN					*e*				15 45 10.3	
OBN					*e*	S		S	15 51 53.6	-11
OBN					*e*	SS		SS	15 57 46.4	+2.2
OBN						pmax		pmax		
	comp=Z,30nm,1.5s									
OBN						MLR		MLR		
	comp=Z,200nm,17.0s									
K14A	Jones Ranch, D	85.64	47	⇑		P		P	15 41 50.5	+1.4
	baz=86,SNR=40									
SHOC	Shoshone	85.65	54	⇓		P		P	15 41 50.1	+0.9
	baz=86,SNR=18									
MURC	Murrieta	85.69	56	⇑		P		P	15 41 49.9	+0.4
	baz=86,SNR=7.1									
BBRC	Big Bear Solar	85.69	55	⇑		P		P	15 41 50.2	+0.5
	baz=86									
B18A	Beardsley Farm	85.70	40	⇑		P		P	15 41 50.0	+0.8
	baz=86,SNR=48									
E17A	Martinsdale	85.76	42	⇓		P		P	15 41 50.9	+1.1
	baz=86,SNR=42									
J15A	Blackfoot	85.84	46	⇑		P		P	15 41 52.1	+1.9
	baz=86,SNR=153									
EGMT	Eagleton	85.86	41		*e*	P		P	15 41 50.3	+0.3
	comp=Z,58nm,0.9s									
EGMT	Eagleton	85.86	41	⇓		P		P	15 41 50.4	+0.3
	baz=86,SNR=17									
VSR	Storozhevoye	85.86	323		*e*	P		P	15 41 47.5	-2.4
VSR					*e*	*PP		pP	15 42 35.4	-1.5
VSR					*e*	S		S	15 52 03.7	-3.1
VSR						pmax		pmax		
	comp=N,2.0nm,0.5s									
VSR						pmax		pmax		
	comp=E,1.0nm,0.5s									
VSR						pmax		pmax		
	comp=Z,6.0nm,0.5s									
VSR						smax		smax		
	comp=N,260nm,3.2s									
VSR						smax		smax		
	comp=E,100nm,3.2s									
VSR						smax		smax		
	comp=Z,210nm,3.2s									
VORD	Divnogorie	85.89	323		*e*	P		P	15 41 47.7	-2.3
VORD						pmax		pmax		
	comp=N,8.0nm,0.6s									
VORD						pmax		pmax		
	comp=E,10.0nm,0.6s							

	baz=88,SNR=21							
P16A	**Fountain Green**	**87.78**	**49**	⇑P		**P**	15 42 00.7	+1.1
	baz=88,SNR=7.1							
MVU	**Marysvale**	**87.79**	**50**	*e*P		**P**	15 42 00.9	+1.1
	comp=Z,56nm,0.9s							
MVU				*ep*P		**pP**	15 42 48.1	+1.2
A22A	**Carney Farms,**	**87.79**	**39**	⇓P		**P**	15 41 59.3	0.0
	baz=88							
MSU	**Marysvale**	**87.81**	**50**	*e*P		**P**	15 42 01.0	+1.1
MSU				*e**PP		**pP**	15 42 47.7	+0.6
MSU				pmax	pmax			
	comp=Z,59nm,0.9s							
MSU	**Marysvale**	**87.81**	**50**	*e*P		**P**	15 42 01.0	+1.1
	comp=Z,59nm,0.9s							
MSU				*ep*P		**pP**	15 42 47.7	+0.6
PDMCI	**Parker Dam,Lak**	**87.85**	**55**	⇑P		**P**	15 42 00.8	+1.0
	baz=88							
N17A	**Moffit Pass**	**87.86**	**48**	⇑P		**P**	15 42 00.6	+0.5
	baz=88,SNR=29							
I19A	**Meeteetse**	**87.91**	**44**	⇑P		**P**	15 42 01.2	+1.0
	baz=88							
G20A	**Bridger**	**87.94**	**43**	⇑P		**P**	15 42 00.6	+0.4
	baz=88,SNR=20							
D21A	**La Casta Ranch**	**87.95**	**41**	⇑P		**P**	15 42 00.5	+0.4
	baz=88							
BW06	**Boulder Array**	**88.03**	**45**	⇑P		**P**	15 42 01.0	+0.2
	baz=88							
PDAR	**Pinedale Array**	**88.03**	**45**	P		**P**	15 42 00.3	-0.5
	comp=Z,5.5nm,0.4s,baz=182,slow=0.6,SNR=27							
PDAR				pP		**pP**	15 42 48.0	0.0
	comp=Z,3.8nm,0.9s,baz=245,slow=9.6,SNR=2.1							
PDAR				PP		**PP**	15 45 29.8	0.0
	comp=Z,2.2nm,0.9s,baz=333,slow=5.0,SNR=4.1							
PDAR	**Pinedale Array**	**88.03**	**45**	P		**P**	15 42 00.3	-0.5
PDAR				pP		**pP**	15 42 48.0	0.0
PDAR				PP		**PP**	15 45 29.8	0.0
L18A	**Fontenelle, Gr**	**88.04**	**46**	⇓P		**P**	15 42 01.7	+0.8
	baz=88,SNR=18							
B22A	**Reddig Ranch S**	**88.04**	**39**	⇓P		**P**	15 42 00.7	+0.2
	baz=88							
MIB	**Mutribah**	**88.09**	**301**	*e*P		**P**	15 41 59.8	-1.3
MIB				AMb		AMB	15 42 06.1	
	comp=Z,27nm,0.9s							
E21A	**Keefer Ranch,**	**88.12**	**41**	⇑P		**P**	15 42 01.3	+0.4
	baz=88							
J19A	**Crowheart**	**88.18**	**45**	⇓P		**P**	15 42 02.5	+1.1
	baz=88							
M18A	**Lyman**	**88.21**	**47**	⇑P		**P**	15 42 02.2	+0.5
	baz=88,SNR=20							
O17A	**Robinson Place**	**88.21**	**48**	⇓P		**P**	15 42 02.6	+0.9
	baz=88,SNR=40							
RDF	**Al-Radifah**	**88.21**	**300**	*e*P		**P**	15 42 00.4	-1.2
RDF				AMb		AMB	15 42 11.8	
	comp=Z,48nm,1.9s							
TMUT	**Trail Mountain**	**88.22**	**49**	*e*P		**P**	15 42 02.3	+0.4
	comp=Z,63nm,1.1s							
C22A	**Vida**	**88.35**	**40**	⇓P		**P**	15 42 02.3	+0.3
	baz=88							
NAY	**Al-Naaiem**	**88.36**	**300**	*e*P		**P**	15 42 00.9	-1.4
NAY				AMb		AMB	15 42 11.9	
	comp=Z,28nm,1.4s							
H20A	**Greybull**	**88.38**	**43**	⇓P		**P**	15 42 02.9	+0.6
	baz=88							
Q16A	**Castle Valley**	**88.39**	**49**	⇓P		**P**	15 42 03.9	+1.4
	baz=88,SNR=38							
F21A	**Absaloka Mine,**	**88.39**	**42**	⇓P		**P**	15 42 02.4	+0.2
	baz=88							
A23A	**Redstone**	**88.42**	**38**	⇓P		**P**	15 42 02.3	+0.1
	baz=88							
D22A	**Cohagen**	**88.42**	**40**	⇑P		**P**	15 42 03.0	+0.7
	baz=88							
L19A	**Farson**	**88.43**	**46**	⇑P		**P**	15 42 03.5	+0.8
	baz=88,SNR=9.9							
P17A	**Butcher Ranch,**	**88.49**	**49**	⇓P		**P**	15 42 03.8	+0.8
	baz=88,SNR=20							
U15A	**North Rim**	**88.49**	**52**	⇑P		**P**	15 42 04.6	+1.4
	baz=88							
K19A	**Absolon Red Bu**	**88.49**	**45**	⇑P		**P**	15 42 03.1	+0.2
	baz=88,SNR=21							
I20A	**Worland**	**88.52**	**44**	⇓P		**P**	15 42 03.9	+0.9
	baz=88,SNR=16							
B23A	**Brockton**	**88.57**	**39**	⇓P		**P**	15 42 03.3	+0.3
	baz=88							
G21A	**Lodge Grass**	**88.59**	**43**	⇑P		**P**	15 42 03.9	+0.6
	baz=88							
N18A	**Larsen Ranch,**	**88.66**	**47**	⇑P		**P**	15 42 04.1	+0.3
	baz=89,SNR=19							
113A	**Mohawk Valley,**	**88.68**	**56**	⇑P		**P**	15 42 04.8	+1.0
	baz=89							
O18A	**Roosevelt**	**88.70**	**48**	⇑P		**P**	15 42 05.2	+1.3
	baz=89,SNR=12							
C23A	**Lambert**	**88.75**	**40**	⇑P		**P**	15 42 04.5	+0.7
	baz=89							
SRU	**San Rafael**	**88.78**	**49**	*e*P		**P**	15 42 04.9	+0.6
SRU				pmax	pmax			
	comp=Z,3µm,0.8s							
SRU	**San Rafael**	**88.78**	**49**	*e*P		**P**	15 42 04.9	+0.6
	comp=Z,3µm,0.8s							
SRU	**San Rafael**	**88.78**	**49**	⇑P		**P**	15 42 05.0	+0.7
	baz=89							
J20A	**Shoshoni**	**88.79**	**44**	⇑P		**P**	15 42 04.8	+0.6
	baz=89							
M19A	**Rock Springs**	**88.81**	**47**	⇑P		**P**	15 42 04.6	+0.1
	baz=89							
Y14A	**Wickenburg**	**88.85**	**55**	⇑P		**P**	15 42 05.8	+1.2
	baz=89							
E22A	**Miles City**	**88.87**	**41**	⇑P		**P**	15 42 04.7	+0.2
	baz=89							
K20A	**Yellowstone Ra**	**88.90**	**45**	⇑P		**P**	15 42 05.3	+0.4
	baz=89							
H21A	**Big Horn, Sher**	**88.95**	**43**	⇑P		**P**	15 42 06.1	+1.2
	baz=89							
A24A	**Westby**	**88.95**	**38**	⇑P		**P**	15 42 04.9	+0.1
	baz=89							
F22A	**Rosebud**	**88.96**	**42**	⇓P		**P**	15 42 05.2	+0.3
	baz=89							
D23A	**Lindsay**	**89.01**	**40**	⇑P		**P**	15 42 05.9	+0.8
	baz=89							
N19A	**John Jarvie Ra**	**89.04**	**47**	⇑P		**P**	15 42 05.7	+0.2
	baz=89							
DGMT	**Dagmar**	**89.04**	**39**	*e*P		**P**	15 42 05.2	0.0
	comp=Z,12nm,0.9s							
DGMT	**Dagmar**	**89.04**	**39**	⇑P		**P**	15 42 05.2	0.0
	baz=89							
Z14A	**Wintersburg**	**89.11**	**55**	⇑P		**P**	15 42 07.0	+1.2
	baz=89							
I21A	**Big Trails, Te**	**89.12**	**44**	⇓P		**P**	15 42 06.4	+0.5
	baz=89							
L20A	**Wamsutter**	**89.17**	**46**	⇑P		**P**	15 42 06.8	+0.6
	baz=89							
G22A	**Birney**	**89.18**	**42**	⇑P		**P**	15 42 06.3	+0.3
	baz=89							
J21A	**Lysite**	**89.22**	**44**	⇓P		**P**	15 42 06.5	+0.2
	baz=89							
E23A	**Ismay**	**89.25**	**41**	⇓P		**P**	15 42 06.9	+0.7
	baz=89							
SUMG	**Summit**	**89.28**	**1**	*e*P		**P**	15 42 06.7	+0.4
SUMG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SUMG	**Summit**	**89.28**	**1**	*e*P		**P**	15 42 06.7	+0.4
	comp=Z,6.0nm,0.7s							
SUMG	**Summit**	**89.28**	**1**	*i*P		**P**	15 42 07.0	+0.7
	comp=Z,7.7nm,0.8s							
O19A	**Miners Draw (B**	**89.31**	**48**	⇑P		**P**	15 42 07.1	+0.3
	baz=89,SNR=15							
C24A	**Savage**	**89.33**	**40**	⇓P		**P**	15 42 07.1	+0.5
	baz=89							
H22A	**Clearmont**	**89.41**	**43**	⇓P		**P**	15 42 07.7	+0.6
	baz=89							
M20A	**Sweetwater, Wa**	**89.48**	**46**	⇑P		**P**	15 42 08.6	+1.0
	baz=89							
WUAZ	**Wupatki**	**89.52**	**53**	⇑P		**P**	15 42 09.4	+1.5
	baz=89							
D24A	**Glendive**	**89.57**	**40**	⇓P		**P**	15 42 08.5	+0.8
	baz=89							
I22A	**9 Mile Ranch,**	**89.62**	**44**	⇓P		**P**	15 42 08.9	+0.8
	baz=90							
ANN	**Anapa**	**89.62**	**317**	*e*P		**P**	15 42 09.9	+2.0
ANN				*e**PP		**pP**	15 42 58.0	+2.8
ANN				*e*PPP		PPP	15 47 45.5	
ANN				*e*S		**SKSac**	15 52 22.2	+2.0
ANN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
K21A	**Alcova**	**89.64**	**45**	⇓P		**P**	15 42 08.7	+0.4
	baz=90							
P19A	**Cripple Cowboy**	**89.68**	**48**	⇓P		**P**	15 42 09.4	+0.8
	baz=90							
S18A	**Hurst Farm, Bl**	**89.71**	**50**	⇓P		**P**	15 42 09.5	+0.6
	baz=90							
214A	**Organ Pipe Nat**	**89.72**	**56**	⇓P		**P**	15 42 10.1	+1.4
	baz=90							
Q19A	**Hogan Spring (**	**89.75**	**49**	⇑P		**P**	15 42 09.2	+0.4
	baz=90							
G23A	**Biddle**	**89.76**	**42**	⇑P		**P**	15 42 09.0	+0.3
	baz=90							
J22A	**Midwest**	**89.83**	**44**	⇓P		**P**	15 42 09.3	+0.1
	baz=90							
E24A	**Baker**	**89.84**	**40**	⇓P		**P**	15 42 09.6	+0.6
	baz=90							
L21A	**Rawlins**	**89.84**	**46**	⇓P		**P**	15 42 09.8	+0.5
	baz=90							
X16A	**Lo Mia Camp, P**	**89.88**	**54**	⇑P		**P**	15 42 11.2	+1.5
	baz=90							
O20A	**White River Ci**	**89.99**	**47**	⇑P		**P**	15 42 10.6	+0.6
	baz=90							
M21A	**Separation Pea**	**90.00**	**46**	⇑P		**P**	15 42 10.5	+0.4
	baz=90							
F24A	**Ekalaka**	**90.07**	**41**	⇓P		**P**	15 42 10.3	+0.2
	baz=90							
K22A	**Casper**	**90.12**	**45**	⇑P		**P**	15 42 11.1	+0.6
	baz=90							
P20A	**De Beque**	**90.15**	**48**	⇓P		**P**	15 42 11.3	+0.6
	baz=90							
PV04	**Paradox Valley**	**90.23**	**49**	*e*P		**P**	15 42 11.9	+0.8
N21A	**Black Mountain**	**90.24**	**47**	⇑P		**P**	15 42 11.9	+0.7
	baz=90							
MICGM	**Minsk**	**90.31**	**329**	*e*		pP	15 42 57.0	-1.3
Q20A	**Ridgley Place,**	**90.44**	**49**	⇑P		**P**	15 42 13.1	+1.1
	baz=90							
L22A	**Ellis Ranch, M**	**90.45**	**45**	⇓P		**P**	15 42 13.1	+1.0
	baz=90							
H24A	**Dirks Ranch, A**	**90.50**	**42**	⇓P		**P**	15 42 12.0	-0.1
	baz=90							
PV01	**Paradox Valley**	**90.57**	**49**	*e*P		**P**	15 42 13.5	+0.7
	comp=Z,6µm,0.8s							
M22A	**Cedar Creek Ra**	**90.60**	**46**	⇓P		**P**	15 42 13.7	+0.8
	baz=90							
NACGM	**Naroch**	**90.63**	**330**	*e*		pP	15 43 09.0	+9.3
K23A	**Bowen Ranch, D**	**90.68**	**44**	⇑P		**P**	15 42 13.3	+0.2
	baz=91							
R20A	**Redvale**	**90.69**	**49**	⇑P		**P**	15 42 14.0	+0.7
	baz=91							
P21A	**Newcastle**	**90.80**	**48**	⇑P		**P**	15 42 14.5	+0.7
	baz=91							
I24A	**Kuemmerle Ranc**	**90.84**	**43**	⇓P		**P**	15 42 13.7	-0.1
	baz=91							
S20A	**Disappointment**	**90.85**	**50**	⇑P		**P**	15 42 14.6	+0.5
	baz=91							
L23A	**Garrett**	**90.90**	**45**	⇓P		**P**	15 42 14.5	+0.3
	baz=91							
W18A	**Petrified Fore**	**90.91**	**53**	⇑P		**P**	15 42 15.6	+1.2
	baz=91							
N22A	**Wattenberg Ran**	**90.96**	**46**	⇓P		**P**	15 42 15.5	+0.9
	baz=91							
X18A	**Snowflake**	**90.98**	**53**	⇓P		**P**	15 42 16.0	+1.3
	baz=91							
MVCO	**Mesa Verde**	**91.00**	**50**	⇓P		**P**	15 42 15.7	+0.9
	baz=91							
Q21A	**Lamborn Mesa,**	**91.00**	**48**	⇑P		**P**	15 42 15.8	+1.1
	baz=91							
J24A	**Dixon Ranch, L**	**91.06**	**43**	⇓P		**P**	15 42 15.0	+0.3
	baz=91							
O22A	**Kremmling**	**91.16**	**47**	⇓P		**P**	15 42 16.4	+0.8
	baz=91							
M23A	**Laramie**	**91.17**	**45**	⇑P		**P**	15 42 16.6	+1.1
	baz=91							
TUC	**Tucson**	**91.19**	**55**	*e*P		**P**	15 42 16.7	+1.1
TUC				*e**PP		**pP**	15 43 03.1	+0.1
TUC				pmax	pmax			
	comp=Z,36nm,1.1s							
TUC	**Tucson**	**91.19**	**55**	*e*P		**P**	15 42 16.7	+1.1
	comp=Z,36nm,1.1s							
TUC				*ep*P		**pP**	15 43 03.1	+0.1
R21A	**Cimarron**	**91.21**	**49**	⇓P		**P**	15 42 17.0	+1.3
	baz=91							
K24A	**Anderson Ranch**	**91.23**	**44**	⇓P		**P**	15 42 15.7	+0.1
	baz=91							
P22A	**Eagle**	**91.26**	**47**	⇑P		**P**	15 42 17.1	+1.2
	baz=91							
N23A	**Red Feather La**	**91.27**	**46**	⇑P		**P**	15 42 17.4	+1.4
	baz=91							
SMCO	**Snowmass**	**91.28**	**48**	*e*P		**P**	15 42 17.1	+0.8
	comp=Z,56nm,0.9s							
U20A	**Newcomb**	**91.32**	**51**	⇓P		**P**	15 42 17.2	+1.0
	baz=91							
S21A	**Coal Bank Pass**	**91.33**	**50**	⇓P		**P**	15 42 17.3	+0.9
	baz=91							
L24A	**Wheatland**	**91.45**	**45**	⇓P		**P**	15 42 17.5	+0.9
	baz=91							
Q22A	**Crested Butte,**	**91.46**	**48**	⇓P		**P**	15 42 18.3	+1.3
	baz=91							
O23A	**Lake Granby, G**	**91.58**	**47**	⇑P		**P**	15 42 18.7	+1.2
	baz=92							
V20A	**Brimhall**	**91.59**	**52**	⇓P		**P**	15 42 18.5	+1.0
	baz=92							
AKASG	**Malin Array Be**	**91.66**	**325**	P		**P**	15 42 15.1	-2.1
	comp=Z,0.5nm,0.4s,baz=53,slow=5.3,SNR=3.5							
AKASG				LR		LR	16 27 00.8	
	comp=Z,172nm,18.7s,baz=55,slow=38							
AKASG	**Malin Array Be**	**91.66**	**325**	P		**P**	15 42 15.1	-2.1
AKASG	**Malin Array Be**	**91.66**	**325**	P		**P**	15 42 15.1	-2.1
MALT	**Malatya**	**91.72**	**311**	*e*P		**P**	15 42 17.5	-0.4
MALT				pmax	pmax			
	comp=Z,12nm,1.5s							
MALT	**Malatya**	**91.72**	**311**	*e*P		**P**	15 42 17.5	-0.4
	comp=Z,12nm,1.5s							
M24A	**Cheyenne**	**91.78**	**45**	⇓P		**P**	15 42 19.5	+1.3
	baz=92							
T21A	**Navajo Lake**	**91.79**	**50**	⇑P		**P**	15 42 19.5	+1.1
	baz=92							
R22A	**Saguache, Gunn**	**91.83**	**49**	⇑P		**P**	15 42 20.2	+1.4
	baz=92							
W20A	**Ramah**	**91.84**	**52**	⇓P		**P**	15 42 19.7	+1.0
	baz=92							
K25A	**Mack Ranch, Ha**	**91.90**	**44**	⇑P		**P**	15 42 19.4	+0.7
	baz=92							
U21A	**Nageezi**	**91.93**	**51**	⇑P		**P**	15 42 20.3	+1.2
	baz=92							
ISCO	**Idaho Springs**	**91.97**	**47**	*e*P		**P**	15 42 20.3	+1.0
ISCO				pmax	pmax			
	comp=Z,31nm,1.0s							
ISCO	**Idaho Springs**	**91.97**	**47**	*e*P		**P**	15 42 20.3	+1.0
	comp=Z,31nm,1.0s							
ISCO	**Idaho Springs**	**91.97**	**47**	⇓P		**P**	15 42 20.5	+1.1
	baz=92							
S22A	**4UR Ranch, Cre**	**91.98**	**49**	⇑P		**P**	15 42 20.4	+1.0
	baz=92							
P23A	**Jefferson**	**91.99**	**47**	⇑P		**P**	15 42 21.3	+1.8
	baz=92							
N24A	**Carr**	**92.02**	**46**	⇑P		**P**	15 42 20.8	+1.4
	baz=92							
L25A	**Engebretsen Ra**	**92.04**	**44**	⇑P		**P**	15 42 20.2	+0.8
	baz=92							
MDND	**Maddock**	**92.04**	**38**	⇓P		**P**	15 42 19.3	+0.2
	baz=92							
X20A	**Quemado**	**92.07**	**53**	⇓P		**P**	15 42 21.5	+1.7
	baz=92							
O24A	**Longmont**	**92.20**	**46**	⇑P		**P**	15 42 21.7	+1.5
	baz=92							
Q23A	**Hartsel**	**92.20**	**48**	⇑P		**P**	15 42 21.3	+0.8
	baz=92							
V21A	**Milan**	**92.20**	**51**	⇑P		**P**	15 42 21.4	+1.0
	baz=92							
T22A	**Edith**	**92.24**	**50**	⇑P		**P**	15 42 21.7	+1.1
	baz=92							
K26A	**Motz Farm, Whi**	**92.31**	**44**	⇑P		**P**	15 42 20.7	+0.2
	baz=92							
Y20A	**Horse Springs,**	**92.42**	**53**	⇓P		**P**	15 42 23.1	+1.6
	baz=92							
W21A	**San Fidel**	**92.48**	**52**	⇓P		**P**	15 42 22.9	+1.2
	baz=92							
R23A	**Moffat**	**92.51**	**48**	⇑P		**P**	15 42 22.8	+1.0
	baz=92							
U22A	**Llaves**	**92.54**	**50**	⇑P		**P**	15 42 23.2	+1.2
	baz=92							
N25A	**Grover**	**92.57**	**46**	⇑P		**P**	15 42 22.6	+0.7
	baz=92							
Z20A	**Nine Sixteen R**	**92.57**	**54**	⇓P		**P**	15 42 23.8	+1.7
	baz=92							
P24A	**Kohler Place,**	**92.58**	**47**	⇑P		**P**	15 42 23.3	+1.3
	baz=92							
S23A	**Nye Farm, Mont**	**92.60**	**49**	⇑P		**P**	15 42 23.5	+1.3
	baz=92							
X21A	**Alamocita Cree**	**92.65**	**53**	⇓P		**P**	15 42 23.7	+1.3
	baz=93							
Q24A	**Divide**	**92.66**	**48**	⇓P		**P**	15 42 23.5	+1.0

	baz=92								
L26A	Underwood Farm	92.68	44	⇓P		P	15 42 23.0	+0.6	
	baz=93								
319A	Douglas	92.73	56	⇓P		P	15 42 24.1	+1.4	
	baz=93								
HFS	Hagfors	92.76	338	LR		LR	16 23 04.8		
	comp=Z,203nm,18.4s,baz=39,slow=35								
120A	U Bar Ranch, L	92.77	55	⇑P		P	15 42 24.7	+1.7	
	baz=93								
T23A	Casias Ranch,	92.86	50	⇑P		P	15 42 24.8	+1.4	
	baz=93								
O25A	Wiggins	92.86	46	⇓P		P	15 42 24.3	+1.1	
	baz=93								
ULM	Lac du Bonnet	92.87	34	P		P	15 42 22.8	-0.1	
	comp=Z,16nm,0.8s,baz=296,slow=5.4,SNR=25								
ULM				pP		pP	15 43 09.6	-0.6	
	comp=Z,15nm,0.9s,baz=290,slow=5.7,SNR=6.4								
ULM				LR		LR	16 21 50.8		
	comp=Z,283nm,20.7s,baz=302,slow=34								
ULM	Lac du Bonnet	92.87	34	P		P	15 42 22.8	-0.1	
ULM				pP		pP	15 43 09.6	-0.6	
M26A	McRoberts Ranc	92.90	45	⇓P		P	15 42 24.1	+0.7	
	baz=93								
Y21A	Point of Rocks	92.91	53	⇑P		P	15 42 25.5	+1.8	
	baz=93								
K27A	Flueckinger Fa	92.92	43	⇑P		P	15 42 23.5	+0.1	
	baz=93								
NB2	NORSAR Subarra	92.95	340	P		P	15 42 21.5	-1.5	
	baz=46,slow=4.4								
NB2	NORSAR Subarra	92.95	340	P		P	15 42 21.5	-1.5	
	comp=Z,1.5nm,0.6s,baz=46,slow=4.4								
NOA	NORSAR Array B	92.95	340	P		P	15 42 20.8	-2.2	
	comp=Z,1.2nm,0.5s,baz=46,slow=4.6,SNR=5.9								
NOA				LR		LR	16 25 58.9		
	comp=Z,148nm,19.9s,baz=55,slow=36								
NOA	NORSAR Array B	92.95	340	P		P	15 42 20.8	-2.2	
R24A	Sanders Place,	93.00	48	⇓P		P	15 42 25.0	+1.0	
	baz=93								
U23A	El Rito	93.05	50	⇑P		P	15 42 25.2	+0.9	
	baz=93								
W22A	Albuquerque	93.08	52	⇑P		P	15 42 25.7	+1.3	
	baz=93								
P25A	Willow Gulch B	93.09	47	⇓P		P	15 42 25.4	+1.1	
	baz=93								
220A	Playas Peak, P	93.11	55	⇑P		P	15 42 25.9	+1.4	
	baz=93								
LAZ	Ladron	93.15	52	*e*P		P	15 42 26.1	+1.3	
	comp=Z,16nm,1.3s								
S24A	Houchin Ranch,	93.19	49	⇓P		P	15 42 25.9	+1.0	
	baz=93								
Z21A	St. Cloud Mine	93.20	54	⇑P		P	15 42 26.5	+1.5	
	baz=93								
X22A	Bernardo	93.21	52	⇓P		P	15 42 26.7	+1.7	
	baz=93								
V23A	Ortiz Mt. (NFS	93.30	51	⇑P		P	15 42 26.9	+1.5	
	baz=93								
Q25A	Bedland, Calha	93.31	47	⇓P		P	15 42 26.2	+0.8	
	baz=93								
320A	Kipp Ranch, An	93.33	56	⇓P		P	15 42 27.3	+1.7	
	baz=93								
O26A	Horse Wrangler	93.35	46	⇓P		P	15 42 25.9	+0.4	
	baz=93								
LENM	Lemitar	93.38	52	*e*P		P	15 42 26.9	+1.1	
	comp=Z,40nm,1.7s								
M27A	Reverse DX Ran	93.38	44	⇓P		P	15 42 25.7	+0.2	
	baz=93								
121A	Cookes Peak, D	93.43	54	⇓P		P	15 42 27.8	+1.7	
	baz=93								
ANMO	Albuquerque	93.44	52	*e*P		P	15 42 26.6	+0.5	
	comp=Z,33nm,1.1s								
ANMO				*e*pP		pP	15 43 14.3	+0.8	
ANMO				*e*PP		PP	15 46 10.7	-1.9	
Y22D	IRIS PASSCAL I	93.45	53	⇑P		P	15 42 27.3	+1.2	
	baz=93								
Y22A	Socorro	93.48	53	⇓P		P	15 42 27.2	+0.9	
	baz=93								
T24A	Torres, Weston	93.55	49	⇑P		P	15 42 27.9	+1.2	
	baz=93								
LPM	Los Pinos Moun	93.57	52	*e*P		P	15 42 27.5	+0.8	
	comp=Z,18nm,1.4s								
W23A	Werner Place,	93.57	51	⇓P		P	15 42 27.8	+1.1	
	baz=94								
R25A	Fountain Ranch	93.62	48	⇑P		P	15 42 27.2	+0.4	
	baz=94								
P26A	Davis Ranch, A	93.64	46	⇓P		P	15 42 27.6	+0.8	
	baz=94								
BNM	Barren Site	93.64	52	*e*P		P	15 42 27.3	+0.2	
	comp=Z,23nm,1.4s								
U24A	Moreno Valley	93.68	50	⇓P		P	15 42 28.6	+1.4	
	baz=94								
S25A	Robets Cordova	93.73	48	⇑P		P	15 42 27.8	+0.5	
	baz=94								
Z22A	Elephant Butte	93.76	53	⇑P		P	15 42 28.8	+1.3	
	baz=94								
X23A	Hourglass Bar	93.79	52	⇑P		P	15 42 28.6	+0.9	
	baz=94								
Q26A	Hugo	93.81	47	⇑P		P	15 42 28.2	+0.6	
	baz=94								
AGMN	Agassiz Nation	93.94	36	*e*P		P	15 42 27.6	-0.2	
	comp=Z,12nm,0.8s								
122A	Conniff Cattle	93.97	54	⇓P		P	15 42 29.8	+1.4	
	baz=94								
V24A	Rampart Ranch,	93.98	50	⇑P		P	15 42 29.7	+1.1	
	baz=94								
T25A	Trinidad	93.98	49	⇓P		P	15 42 29.3	+0.8	
	baz=94								
SFJD	Kangerlussuaq	94.06	6	*i* P		P	15 42 27.4	-0.5	
	comp=Z,5.9nm,0.9s								
W24A	Lazy 6 Ranch,	94.10	51	⇓P		P	15 42 30.2	+1.1	
	baz=94								
222A	Williams Famil	94.13	54	⇑P		P	15 42 30.7	+1.5	
	baz=94								
R26A	Arlington	94.14	48	⇑P		P	15 42 29.5	+0.4	
	baz=94								
Y23A	Lovelace Mesa,	94.17	52	⇑P		P	15 42 30.2	+0.8	
	baz=94								
U25A	Circle Dot Ran	94.31	50	⇓P		P	15 42 30.8	+0.7	
	baz=94								
Z23A	Rita Site, Whi	94.32	53	⇑P		P	15 42 31.2	+1.2	
	baz=94								
X24A	Lazy VL Ranch,	94.36	52	⇑P		P	15 42 31.0	+0.7	
	baz=94								
KSCO	Kaye Shedlock'	94.39	47	⇓P		P	15 42 30.7	+0.4	
	baz=94								
V25A	Rancho No Teng	94.41	50	⇑P		P	15 42 31.4	+0.9	
	baz=94								
BR131	Keskin Array S	94.43	314	*e*P		P	15 42 29.5	-0.9	
	comp=Z,3.9nm,0.8s								
BRTR	Keskin Array B	94.43	314	P		P	15 42 29.6	-0.9	
	comp=Z,3.2nm,0.8s,baz=78,slow=3.5,SNR=12								
BRTR	Keskin Array B	94.43	314	P		P	15 42 29.6	-0.9	
S26A	Kim	94.44	48	⇓P		P	15 42 30.8	+0.3	
	baz=94								
T26A	Comanche Natio	94.55	49	⇑P		P	15 42 31.6	+0.5	
	baz=94								
123A	Bell Site, Whi	94.56	54	⇑P		P	15 42 32.1	+1.0	
	baz=94								
R27A	Eads	94.60	47	⇑P		P	15 42 31.6	+0.3	
	baz=94								
Y24A	Capitan	94.63	52	⇑P		P	15 42 32.1	+0.6	
	baz=94								
U26A	Atchley Ranch,	94.79	49	⇑P		P	15 42 32.8	+0.6	
	baz=95								
W25A	X Bar L Ranch,	94.80	51	⇓P		P	15 42 32.8	+0.6	
	baz=95								
Z24A	Sheeppen Canyo	94.94	53	⇑P		P	15 42 33.4	+0.4	
	baz=95								
X25A	Clemmons Ranch	94.95	51	⇑P		P	15 42 33.7	+0.7	
	baz=95								
V26A	Tequesquite Ra	95.03	50	⇓P		P	15 42 33.6	+0.4	
	baz=95								
124A	Stringfield Ra	95.15	53	⇓P		P	15 42 34.7	+0.7	
	baz=95								
Y25A	Mesa, Roswell	95.19	52	⇑P		P	15 42 34.3	+0.3	
	baz=95								
T27A	Campo	95.22	48	⇓P		P	15 42 34.5	+0.4	
	baz=95								
224A	Cornudas Mount	95.36	54	⇓P		P	15 42 35.7	+0.8	
	baz=95								
Z25A	Roswell	95.45	52	⇓P		P	15 42 36.1	+0.9	
	baz=95								
ASF	Jabal al Asfar	95.46	306	LR		LR	16 31 35.2		
	comp=Z,62nm,18.8s,baz=93,slow=39								
X26A	CR and CF Fran	95.57	51	⇑P		P	15 42 36.1	+0.4	
	baz=96								
T28A	Walsh	95.62	48	⇑P		P	15 42 36.4	+0.5	
	baz=96								
324A	Moseley Ranch,	95.66	54	⇓P		P	15 42 36.6	+0.4	
	baz=96								
125A	Gardner Draw,	95.77	53	⇑P		P	15 42 37.5	+0.9	
	baz=96								
Y26A	Elida	95.84	52	⇓P		P	15 42 37.7	+0.7	
	baz=96								
225A	Deer Hill, Car	95.88	54	⇓P		P	15 42 37.5	+0.3	
	baz=96								
W27A	Bone Ranch, En	95.89	50	⇓P		P	15 42 37.7	+0.5	
	baz=96								
Z26A	Caprock	96.01	52	⇓P		P	15 42 38.2	+0.5	
	baz=96								
X27A	F and S Farms,	96.05	51	⇓P		P	15 42 38.3	+0.4	
	baz=96								
325A	Bean Ranch, Si	96.09	54	⇓P		P	15 42 38.9	+0.7	
	baz=96								
VNDA	Vanda	96.11	177	P		P	15 42 37.1	+0.2	
	comp=Z,0.9nm,0.8s,baz=324,slow=4.1,SNR=3.5								
VNDA				PP		PP	15 46 30.3	-2.2	
	comp=Z,0.7nm,0.4s,baz=310,slow=5.9,SNR=8.1								
VNDA	Vanda	96.11	177	P		P	15 42 37.1	+0.2	
VNDA				PP		PP	15 46 30.3	-2.2	
GDL2	Guadalupe Moun	96.19	53	*e*P		P	15 42 39.3	+0.7	
	comp=Z,11nm,1.0s								
MMAI	Mount Meron Ar	96.23	308	LR		LR	16 28 30.6		
	comp=Z,70nm,21.7s,baz=85,slow=37								
126A	Clayton Basin,	96.26	53	⇑P		P	15 42 39.2	+0.3	
	baz=96								
425A	Indio Mountain	96.33	55	⇑P		P	15 42 40.1	+0.9	
	baz=96								
MLR	Muntele Rosu	96.33	322	LR		LR	16 25 31.7		
	comp=Z,33nm,18.6s,baz=237,slow=35								
Y27A	Causey	96.35	51	⇓P		P	15 42 39.7	+0.5	
	baz=96								
Z27A	Tatum	96.57	52	⇑P		P	15 42 40.4	+0.1	
	baz=96								
MSTX	Muleshoe	96.60	51	⇑P		P	15 42 40.4	0.0	
	baz=96								
326A	Caldwell Ranch	96.88	54	⇑P		P	15 42 42.1	+0.4	
	baz=97								
AMTX	Amarillo	96.98	50	*e*P		P	15 42 42.2	+0.1	
	comp=Z,14nm,0.8s								
AMTX				*e*pP		pP	15 43 28.9	-0.7	
AMTX	Amarillo	96.98	50	⇓P		P	15 42 42.7	+0.6	
	baz=97								
426A	McDonald Obser	97.12	55	⇓P		Pdif	15 42 43.5	+0.5	
	baz=97								
X29A	Tulia	97.17	50	⇓P		Pdif	15 42 43.6	+0.6	
	baz=97								
526A	Mary Lane Ranc	97.34	55	⇑P		Pdif	15 42 44.7	+0.8	
	baz=97								
427A	Hayter Ranch,	97.53	54	⇓P		Pdif	15 42 45.2	+0.5	
	baz=97								
626A	Big Bend Ranch	97.53	56	⇑P		Pdif	15 42 44.8	+0.2	
	baz=97								
228A	UT Block 9, Go	97.58	53	⇓P		Pdif	15 42 45.1	+0.3	
	baz=98								
527A	Woodward Ranch	97.67	55	⇓P		Pdif	15 42 45.8	+0.4	
	baz=98								
Z29A	Hungry Hill Ra	97.72	51	⇑P		Pdif	15 42 45.7	+0.3	
	baz=98								
328A	Wristen Ranch,	97.74	53	⇓P		Pdif	15 42 45.7	+0.1	
	baz=98								
Y30A	Stafford Cattl	98.02	50	⇑Pdiff		Pdif	15 42 47.3	+0.6	
	baz=98								
W31A	Holland Ranch,	98.09	49	⇓Pdiff		Pdif	15 42 47.7	+0.7	
	baz=98								
Z30A	Sanderson Ranc	98.13	51	⇓Pdiff		Pdif	15 42 47.3	+0.1	
	baz=98								
428A	Kincaid Ranch,	98.13	54	⇓Pdiff		Pdif	15 42 47.7	+0.4	
	baz=98								
627A	Terlingua Ranc	98.15	55	⇓Pdiff		Pdif	15 42 47.7	+0.2	
	baz=98								
229A	Bryant Ranch,	98.23	53	⇑Pdiff		Pdif	15 42 48.2	+0.5	
	baz=98								
528A	Cox Ranch, San	98.31	55	⇑Pdiff		Pdif	15 42 48.5	+0.4	
	baz=98								
329A	Wagon Wheel Ra	98.33	53	⇓Pdiff		Pdif	15 42 48.8	+0.6	
	baz=98								
X31A	McDonald Ranch	98.33	49	⇑Pdiff		Pdif	15 42 48.4	+0.4	
	baz=98								
DPC	Dobruska-Polom	98.44	330	*e*PKP		PKiKP	15 47 30.8	+12	
Y31A	Rekieta Farm,	98.45	50	⇓Pdiff		Pdif	15 42 49.1	+0.5	
	baz=98								
UPC	Upice	98.48	330	*e*PKP		PKiKP	15 47 32.1	+13	
628A	Black Gap, Mar	98.53	55	⇑Pdiff		Pdif	15 42 49.8	+0.8	
	baz=98								
529A	Stev Forest Ra	98.76	54	⇓Pdiff		Pdif	15 42 50.4	+0.3	
	baz=99								
429A	Davenport Ranc	98.78	54	⇓Pdiff		Pdif	15 42 50.9	+0.7	
	baz=99								
230A	Sterling City	98.80	52	⇑Pdiff		Pdif	15 42 50.4	+0.2	
	baz=99								
Z31A	Sharp Cattle R	98.84	51	⇓Pdiff		Pdif	15 42 50.8	+0.4	
	baz=99								
330A	Mertzon	98.97	53	⇑Pdiff		Pdif	15 42 51.3	+0.3	
	baz=99								
Y32A	R-V Farms, Ver	99.02	50	⇑Pdiff		**Pdif**	15 42 51.3	+0.2	
	baz=99								
BRG	Berggiesshubel	99.19	331	*e*P		PP	15 47 01.2	+5.4	
	comp=Z,4.1nm,1.1s								
BRG				*e*			15 47 36.7		
	comp=Z,8.9nm,1.3s								
430A	Baggett Ranch,	99.21	53	⇑Pdiff		**Pdif**	15 42 52.3	+0.2	
	baz=99								
CLL	Collm	99.31	332	*e*P		**Pdif**	15 42 50.0	-2.0	
CLL				*e*			15 46 55.0		
CLL				*e*			15 53 13.0		
CLL	Collm	99.31	332	*e*PP		PP	15 46 55.0	-1.7	
CLL				*e*SKSac		**SKSac**	15 53 13.0	+1.0	
CLL				*e*SP		**SP**	15 55 36.0	+2.0	
CLL				*e*PPS		PPS	15 56 42.0		
CLL				*e*SS		SS	16 01 12.0	+13	
CLL				*e*			16 01 58.0		
CLL				*e*			16 02 55.0		
CLL				*e*SSSS			16 08 30.0		
Z32A	Haskell	99.33	50	⇓Pdiff		**Pdif**	15 42 53.2	+0.6	
	baz=99								
231A	Bronte	99.37	52	⇓Pdiff		**Pdif**	15 42 52.9	+0.2	
	baz=99								
530A	J-C Ranch, Com	99.43	54	⇑Pdiff		**Pdif**	15 42 53.5	+0.4	
	baz=99								
ABTX	Abilene, Hawle	99.54	51	⇑Pdiff		**Pdif**	15 42 53.9	+0.4	
	baz=99								
331A	San Angelo	99.58	53	⇓Pdiff		**Pdif**	15 42 53.9	+0.1	
	baz=100								
431A	Sonora	99.74	53	⇓Pdiff		**Pdif**	15 42 54.6	+0.1	
	baz=100								
232A	Coleman	99.89	52	⇓Pdiff		**Pdif**	15 42 55.4	+0.3	
	baz=100								
531A	Rocksprings	100.03	54	⇑Pdiff		**Pdif**	15 42 56.5	+0.7	
	baz=100								
332A	Millersview	100.06	52	⇑Pdiff		**Pdif**	15 42 56.2	+0.4	
	baz=100								
KHC	Kasperske Hory	100.58	330	*e*PP		PP	15 47 10.1	+3.7	
GERES	GERESS Array B	100.72	330	P		**Pdif**	15 42 56.9	-1.5	
	comp=Z,0.5nm,0.8s,baz=35,slow=3.6,SNR=3.4								
GERES				PP		PP	15 47 02.5	-5.0	
	comp=Z,0.3nm,0.6s,baz=34,slow=5.9,SNR=2.6								
GERES	GERESS Array B	100.72	330	P		**Pdif**	15 42 56.9	-1.5	
GERES				PP		PP	15 47 02.5	-5.0	
SCHQ	Schefferville	102.01	19	P		**Pdif**	15 43 03.4	-0.6	
	comp=Z,2.9nm,0.7s,baz=328,slow=5.4,SNR=4.3								
SCHQ	Schefferville	102.01	19	P		**Pdif**	15 43 03.4	-0.6	
QSPA	South Pole Qui	108.13	180	PKiKP		**PKiKP**	15 47 35.4	-1.0	
	comp=Z,2.3nm,0.6s,baz=218,slow=6.3,SNR=7.2								
QSPA	South Pole Qui	108.13	180	PKiKP		**PKiKP**	15 47 35.4	-1.0	
ESDC	Sonseca Array	115.76	334	PKKPab		PKKPab	15 58 31.3	-0.8	
	comp=Z,0.2nm,0.3s,baz=213,slow=4.2,SNR=4.8								
ESDC	Sonseca Array	115.76	334	PKKPab		PKKPab	15 58 31.3	-0.8	
LSZ	Lusaka	120.42	263	*e*PKPdf		**PKPdf**	15 48 01.6	+0.2	
SNAA	Sanae	123.57	191	*e*PKP		**PKPdf**	15 48 05.3	-0.5	
VNA2	Neumayer--Watz	125.01	190	*e*PKP		**PKPdf**	15 48 08.5	0.0	
VNA2	Neumayer--Watz	125.01	190	*ep*PKP		pPKPdf	15 48 56.7	-1.5	
VNA3	Neumayer Olymp	125.11	189	*e*PKP		**PKPdf**	15 48 08.4	-0.3	
VNA3	Neumayer Olymp	125.11	189	*ep*PKP		pPKPdf	15 48 54.4	-4.0	
TORD	Torodi Ar. Bea	132.75	309	PKP		**PKPdf**	15 48 22.7	-2.1	
	comp=Z,0.8nm,0.5s,baz=65,slow=2.2,SNR=11								
TORD				SKPbc		**SKPbc**	15 51 31.5	-2.9	
	comp=Z,3.9nm,0.7s,baz=72,slow=2.9,SNR=7.5								
TORD	Torodi Ar. Bea	132.75	309	PKP		**PKPdf**	15 48 22.7	-2.1	
TORD				SKPbc		**SKPbc**	15 51 31.5	-2.9	
SDV	Santo Domingo	135.03	56	PKPdf		**PKPdf**	15 48 30.0	+0.6	
PLCA	Paso Flores	141.69	133	PKhKP		PKPpre	15 48 35.9		
	comp=Z,4.8nm,0.5s,baz=237,slow=4.3,SNR=28								
PLCA				SKPbc		**SKPbc**	15 51 59.0	-1.0	
	comp=Z,8.2nm,0.9s,baz=206,slow=3.8,SNR=6.1								
PLCA	Paso Flores	141.69	133	*e*PKPpre		PKPpre	15 48 35.2		
PLCA				PKPpre		PKPpre	15 48 35.9		
PLCA				SKPbc		**SKPbc**	15 51 59.0	-1.0	
DBIC	Dimbokro	141.84	308	PKhKP		PKPpre	15 48 35.9		
	comp=Z,2.2nm,0.4s,baz=36,slow=3.7,SNR=7.2								
DBIC				SKPbc		**SKPbc**	15 51 58.3	-2.8	
	comp=Z,6.3nm,0.7s,baz=57,slow=5.7,SNR=3.4								
DBIC	Dimbokro	141.84	308	PKPpre		PKPpre	15 48 35.9		
DBIC				SKPbc		**SKPbc**	15 51 58.3	-2.8	
LMEL	Las Melosas	144.39	123	*i*P		**PKPdf**	15 48 45.9	+0.2	
ARE	Arequipa	144.43	93	*i*PKiKP		**PKPdf**	15 48 46.5	+0.1	
ARE	Arequipa	144.43	93	*i*P		**PKPdf**	15 48 46.5	+0.1	
TLL	Tololo Astrono	144.77	117	*i*P		**PKPdf**	15 48 47.0	+0.4	
CEN1	Los Morros	146.06	105	*i*P		**PKPbc**	15 48 49.9	-0.2	
LPAZ	La Paz	147.59	92	PKPbc		**PKPdf**	15 48 53.2	+1.0	
	comp=Z,41nm,0.5s,baz=292,slow=2.4,SNR=92								
LPAZ	La Paz	147.59	92	*e*PKPdf		**PKPdf**	15 48 53.3	+1.1	
LPAZ				*e*PKPbc		**PKiKP**	15 48 56.5	-0.5	
TRQA	Tornquist	148.80	135	*e*PKPbc		**PKPbc**	15 48 56.6	-0.3	
SAML	Samuel	150.39	76	*e*PKPdf		**PKPdf**	15 48 56.0	0.0	
SAML				*e*PKPbc		**PKiKP**	15 49 01.8	-0.3	
SAML				*e*PKPab		**PKPab**	15 49 08.2	-0.3	
BDFB	Brasilia	166.54	81	PKP		**PKPdf**	15 49 16.1	+0.9	
	comp=Z,3.2nm,0.6s,baz=326,slow=1.4,SNR=6.4								
BDFB				PKPab		**PKPab**	15 50 19.0	+0.6	
	comp=Z,8.4nm,0.9s,baz=284,slow=2.8,SNR=8.0								
BDFB	Brasilia	166.54	81	PKP		**PKPdf**	15 49 16.1	+0.9	
BDFB				PKPab		**PKPab**	15 50 19.0	+0.6	

ISCJB ***31*** *16:10:37.6±0.5, 34.61N±0.03×139.75E±0.05, h109km±3km, mb3.4/6, Error ellipse: s-maj=7.1km s-min=5.2km az=153.2*

IDC ***31*** *16:10:37.5±1.6, 34.65N×140.01E, h97km±10km, mb3.1/6, mb1 3.2/8, mb1mx3.0/27, mbtmp3.1/8, Error ellipse: s-maj=38.4km s-min=6.3km az=74.0*

JMA ***31*** *16:10:38.5±0.1, 34.62N×139.74E, h97km±1km, M2.8*

ISC 31 16:10:38.7±0.8, 34.62N±0.04×139.73E±0.05, h100km±6km, n23, σ1s22/36, mb3.5/6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.27	292	P		P	Pn	16 10 52.5	-0.6
JIM2				S		S	Sn	16 11 03.1	-0.8
TATJ	Tateyama 2	0.43	18	P		P	Pn	16 10 54.3	+0.3
TATJ				S		S	Sn	16 11 06.1	+0.7
JMY	Miyakejima3	0.57	198	P		P	Pn	16 10 54.8	-0.3
BSO3	Boso 3	0.67	74	P		P	Pn	16 10 55.9	+0.4
BSO3				S		S	Sn	16 11 10.3	+2.2
JIZS	Izushimoda	0.71	278	P		P	Pn	16 10 56.0	-0.1
JIZS				S		S	Sn	16 11 08.7	-0.5
JOD2	Odawara 2	0.83	321	P		P	Pn	16 10 57.1	-0.3
JOD2				S		S	Sn	16 11 10.9	-0.5
BSO1	Boso 1	1.03	88	P		P	Pn	16 10 59.2	+0.4
BSO1				S		S	Sn	16 11 16.6	+2.6
JYN	Shimob	1.31	312	P		P	Pn	16 11 03.0	+0.3
JYN				S		S	Sn	16 11 22.3	+1.5
JHJ	Hachijo jima 2	1.50	178	P		P	Pn	16 11 05.4	+0.5
	98nm,0.3s,baz=146,slow=16,SNR=19								
JHJ				S		S	Sn	16 11 24.1	-0.6
	104nm,0.3s,baz=97,slow=24,SNR=13								
JHJ2	Mitsune	1.50	177	P		P	Pn	16 11 05.3	+0.3
JHJ2				S		S	Sn	16 11 24.0	-0.9
TK04	Tokai 4	1.55	262	S		S	Sn	16 11 27.7	+2.0
JRY	Ryogami san	1.55	334	P		P	Pn	16 11 05.8	+0.2
JRY				S		S	Sn	16 11 26.3	+0.3
TK02	Tokai 2	1.77	248	P		P	Pn	16 11 09.0	+1.0
TK02				S		S	Sn	16 11 33.0	+2.6
JAG	Ashikaga	1.82	353	P		P	Pn	16 11 08.4	-0.5
MJAR	Matsushiro Arr	2.29	328	P		P	Pn	16 11 15.2	+0.2
	0.2nm,0.3s,baz=146,slow=14,SNR=8.9								
MJAR				S		S	Sn	16 11 43.4	+0.6
	3.8nm,0.3s,baz=141,slow=25,SNR=9.3								
MAT	Matsushiro	2.29	328	P		P	Pn	16 11 15.3	+0.3
MAT				S		S	Sn	16 11 44.0	+1.2
ASAJ	Asahikawa	9.74	12	P		P	Pn	16 12 52.9	-2.9
	0.1nm,0.3s,baz=203,slow=15,SNR=2.5								
ASAJ				S		S	Sn	16 14 34.4	-8.8
	0.0nm,0.3s,baz=61,slow=19,SNR=2.9								
SONM	Songino Array	28.10	308	P		P		16 16 22.0	+0.9
	0.1nm,0.5s,baz=108,slow

	24nm,0.8s,1.0nm							
KBKI	**Kotabaru**	**6.00**	**65**	P	**P**	**16 20 11.1**	**+1.2**
	305nm,0.7s,3µm0.9nm							
KASI	**Kota Agung**	**6.21**	**273**	P	**P**	**16 20 12.3**	**+0.5**
	33nm,1.3s,2µm0.6nm							
MDSI	**Maura Dua**	**6.67**	**282**	P	**P**	**16 20 16.4**	**+0.4**
	0.1nm,0.8s,0.0nm							
XMI	**Christmas Isla**	**6.74**	**227**	P	**P**	**16 20 16.6**	**+0.1**
	baz=6.9,SNR=3.1							
XMI				S	S	16 21 55.1	+12	
	baz=6.9,SNR=3.0							
XMIS	**Christmas Isla**	**6.78**	**227**	P	**P**	**16 20 16.7**	**-0.3**
	baz=6.9,SNR=5.7							
XMIS				S	S	16 21 53.6	+9.4	
	baz=6.9,SNR=4.1							
KSM	**Kuching**	**7.33**	**357**	P	**P**	**16 20 23.7**	**+1.5**
KSI	**Kapahiang**	**8.41**	**285**	P	**P**	**16 20 34.1**	**+1.3**
	62nm,0.7s,0.5nm							
SBUM	**Sibu**	**8.42**	**10**	P	**P**	**16 20 34.7**	**+1.9**
SBUM	**Sibu**	**8.42**	**10**	P	**P**	**16 20 34.2**	**+1.4**
	62nm,0.8s,578nm0.2nm							
KAPI	**Kappang**	**9.02**	**85**	P	**P**	**16 20 37.7**	**-1.1**
	15nm,0.3s,baz=274,slow=3.7,SNR=44							
KAPI				S	**S**	**16 22 23.3**	**-0.8**	
	baz=120,slow=16,SNR=3.8							
SPSI	**Sidrap Palu**	**9.21**	**78**	P	**P**	**16 20 40.6**	**0.0**
	39nm,0.9s							
BKSI	**Bulukumba**	**9.37**	**87**	P	**P**	**16 20 42.6**	**+0.4**
	62nm,0.7s,720nm							
TTSI	**Tana Toraja**	**9.49**	**73**	P	**P**	**16 20 45.3**	**+1.8**
	32nm,0.8s							
KRJI	**Kerinci**	**9.99**	**292**	P	**P**	**16 20 49.4**	**+0.8**
	233nm,0.7s,2µm							
WSI	**Waingapu**	**10.19**	**112**	S	**S**	**16 22 42.6**	**-3.1**
	baz=10.0,SNR=4.2							
MYKOM	**Kota Tinggi**	**10.27**	**318**	P	**P**	**16 20 52.4**	**+1.0**
PCI	**Palu**	**10.35**	**62**	P	P	16 21 11.2	+19	
	baz=10,SNR=4.3							
PCI				S	**S**	**16 22 45.2**	**-3.5**	
	baz=10,SNR=5.5							
KGM	**Kluang**	**10.79**	**317**	P	**P**	**16 20 57.8**	**+1.1**
BBSI	**Bau Bau**	**11.79**	**89**	P	**P**	**16 21 08.4**	**+1.5**
	75nm,0.8s							
KDI	**Kendari**	**12.00**	**81**	P	**P**	**16 21 11.0**	**+1.9**
	25nm,1.1s							
FRIM	**Kepong**	**12.85**	**315**	P	**P**	**16 21 18.2**	**+0.5**
KKM	**Kota Kinabalu**	**13.06**	**25**	P	**P**	**16 21 20.2**	**+0.1**
	baz=13,SNR=14							
KKM	**Kota Kinabalu**	**13.06**	**25**	P	**P**	**16 21 19.9**	**-0.2**
SDKM	**Sandakan**	**13.15**	**30**	P	**P**	**16 21 21.5**	**+0.5**
MYLDM	**Lahad Datu**	**13.46**	**35**	P	P	16 21 27.5	+3.4	
MYLDM	**Lahad Datu**	**13.46**	**35**	P	P	16 21 29.1	+5.0	
IPM	**Ipoh**	**14.15**	**317**	P	**P**	**16 21 31.7**	**+0.6**
PSI	**Prapat**	**14.62**	**306**	P	**P**	**16 21 35.6**	**-0.3**
	0.9nm,0.3s,baz=128,slow=10,SNR=16							
PSI	**Prapat**	**14.62**	**306**	P	**P**	**16 21 36.0**	**0.0**
	baz=15,SNR=7.5							
GSI	**Gunungsitoli**	**14.96**	**298**	P	**P**	**16 21 40.0**	**+0.9**
	baz=15,SNR=4.8							
KULM	**Kulim**	**14.99**	**318**	P	**P**	**16 21 39.0**	**-0.5**
TSI	**Tuntungan**	**15.32**	**307**	P	**P**	**16 21 44.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.95**	**131**	P	**P**	**16 22 17.0**	**+0.8**
	0.7nm,0.3s,baz=323,slow=6.1,SNR=25							
FITZ	**Fitzroy Crossi**	**18.95**	**131**	P	**P**	**16 22 18.6**	**+2.4**
	baz=19,SNR=7.8							
MEEK	**Meekatharra**	**21.95**	**161**	P	**P**	**16 22 44.4**	**+1.1**
	baz=22,SNR=7.2							
KDU	**Kakadu**	**22.48**	**109**	P	**P**	**16 22 48.1**	**0.0**
	baz=22,SNR=9.5							
MORW	**Morawa**	**23.59**	**168**	P	**P**	**16 22 59.2**	**+1.5**
	baz=24,SNR=3.9							
CMAR	**Chiang Mai Arr**	**26.85**	**335**	P	**P**	**16 23 27.9**	**+1.3**
	0.7nm,0.4s,baz=169,slow=8.4,SNR=7.3							
WRA	**Warramunga Arr**	**26.86**	**123**	P	**P**	**16 23 27.4**	**+0.6**
	0.8nm,0.3s,baz=292,slow=7.4,SNR=41							
WRA				S	**S**	**16 27 21.3**	**-3.0**	
	0.7nm,0.7s,baz=296,slow=17,SNR=4.7							
WRA				ScP	**ScP**	**16 29 17.1**	**-0.2**	
	0.5nm,0.4s,baz=317,slow=2.5,SNR=11							
PALU	**Palau**	**27.10**	**61**	S	S	16 27 02.6	-25	
	baz=27,SNR=7.2							
ASAR	**Alice Springs**	**28.45**	**131**	P	**P**	**16 23 41.4**	**+0.7**
	0.4nm,0.3s,baz=306,slow=7.9,SNR=28							
ASAR				ScP	**ScP**	**16 29 22.2**	**0.0**	
	0.2nm,0.5s,baz=314,slow=3.1,SNR=5.1							
STKA	**Stephens Creek**	**38.73**	**136**	P	**P**	**16 25 07.5**	**+0.8**
	0.7nm,0.3s,baz=313,slow=9.6,SNR=8.1							
STKA	**Stephens Creek**	**38.73**	**136**	P	**P**	**16 25 08.1**	**+1.3**
	baz=39,SNR=5.8							
ODAN	**Odare**	**39.64**	**326**	*eP*	**P**	**16 25 14.6**	**+0.2**
	12nm,0.5s							
TAPN	**Taplejung**	**39.85**	**327**	*eP*	**P**	**16 25 16.6**	**+0.5**
RAMN	**Ramite**	**40.15**	**326**	*eP*	**P**	**16 25 18.7**	**+0.2**
GUN	**Gumba**	**41.30**	**326**	*eP*	**P**	**16 25 27.9**	**+0.2**
PKI	**Pulchoki**	**41.30**	**325**	*eP*	**P**	**16 25 27.4**	**-0.3**
PKIN	**Phulchoki**	**41.31**	**325**	*eP*	**P**	**16 25 27.7**	**0.0**
DMN	**Daman**	**41.50**	**325**	*eP*	**P**	**16 25 29.2**	**0.0**
	12nm,0.4s							
KOLN	**Koldanda**	**42.51**	**323**	*eP*	**P**	**16 25 36.7**	**-0.3**
	8.7nm,0.3s							
DANN	**Dangsing**	**42.84**	**324**	*eP*	**P**	**16 25 39.2**	**-0.6**
	10nm,0.5s							
PYUN	**Piuthan**	**43.11**	**323**	*eP*	**P**	**16 25 41.7**	**-0.1**
	3.5nm,0.3s							
KSRS	**Korea Array**	**46.01**	**19**	P	**P**	**16 26 03.9**	**+0.3**
	2.4nm,0.8s,baz=188,slow=6.9,SNR=6.4							
MJAR	**Matsushiro Arr**	**49.44**	**29**	P	**P**	**16 26 27.7**	**-1.6**
	3.3nm,0.7s,baz=205,slow=8.2,SNR=11							
USRK	**Ussuriysk Arra**	**53.43**	**19**	P	**P**	**16 26 57.3**	**-0.5**
	2.1nm,0.4s,baz=207,slow=6.1,SNR=9.3							
SONM	**Songino Array**	**53.64**	**356**	P	**P**	**16 26 59.7**	**+0.3**
	1.4nm,0.6s,baz=174,slow=8.5,SNR=20							
SONM				ScP	**ScP**	**16 31 00.5**	**0.0**	
	1.0nm,0.6s,baz=166,slow=3.6,SNR=11							
MKAR	**Makanchi Array**	**58.21**	**337**	P	**P**	**16 27 30.9**	**+0.1**
	1.6nm,0.4s,baz=149,slow=7.3,SNR=34							
MKAR				ScP	**ScP**	**16 31 20.6**	**-0.1**	
	0.4nm,0.5s,baz=147,slow=2.5,SNR=3.7							
OPO	**Ambohidratompo**	**63.08**	**252**	P	**P**	**16 28 03.8**	**+0.2**
	2.4nm,0.7s,baz=42,slow=5.4,SNR=4.8							
ZALV	**Zalesovo Beam**	**63.47**	**343**	P	**P**	**16 28 04.5**	**-0.7**
	1.5nm,0.4s,baz=159,slow=5.2,SNR=10							
PETK	**Petropavlovsk-**	**70.86**	**28**	P	**P**	**16 28 50.6**	**+0.1**
	3.1nm,0.7s,baz=185,slow=4.4,SNR=9.9							
KBZ	**Khabaz**	**78.36**	**317**	P	**P**	**16 29 33.0**	**+0.3**
	1.9nm,0.9s,baz=113,slow=4.7,SNR=5.2							
ASF	**Jabal al Asfar**	**79.58**	**304**	P	**P**	**16 29 40.2**	**+0.6**
	1.5nm,0.6s,baz=342,slow=7.5,SNR=4.8							
MMAI	**Mount Meron Ar**	**81.00**	**305**	P	**P**	**16 29 47.7**	**+0.7**
	2.2nm,0.6s,baz=93,slow=9.3,SNR=5.3							
BOSA	**Boshof**	**83.24**	**242**	P	**P**	**16 29 58.2**	**-0.4**
	2.1nm,0.6s,baz=108,slow=9.5,SNR=4.3							
BRTR	**Keskin Array B**	**83.89**	**311**	P	**P**	**16 30 00.9**	**-0.5**
	1.2nm,0.8s,baz=124,slow=6.7,SNR=9.2							
QSPA	**South Pole Qui**	**84.08**	**180**	P	**P**	**16 30 02.6**	**+0.7**
	0.6nm,0.5s,baz=38,slow=8.6,SNR=8.3							
ULM	**Lac du Bonnet**	**130.49**	**22**	SKPbc	**SKPbc**	**16 39 07.8**	**-0.5**
	5.6nm,0.8s,baz=334,slow=2.7,SNR=8.4							
SCHQ	**Schefferville**	**131.17**	**358**	SKPbc	**SKPbc**	**16 39 09.9**	**-0.8**
	1.9nm,0.7s,baz=97,slow=4.1,SNR=3.8							
CFAA	**Coronel Fontan**	**142.70**	**181**	PKP	**PKPdf**	**16 36 58.5**	**-1.8**
	0.3nm,0.5s,baz=159,slow=2.6,SNR=4.1							
BDFB	**Brasilia**	**149.98**	**224**	PKPbc	**PKPbc**	**16 37 19.1**	**+0.6**
	2.2nm,0.6s,baz=108,slow=9.6,SNR=3.0							

MEX 31 16:24:29.5±0.3, 15.77N×98.83W, h22km±17km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.91**	**47**	*i* P	Pb	16 24 44.0	-2.8
PNIG				*i* S	Sb	16 24 55.1	-3.3
ACX	**Acapulco**	**1.47**	**318**	*i* P	Pn	16 24 52.4	-2.4
ACX				*e*S	Sn	16 25 09.9	-3.5
VHO	**Vista Hermosa**	**2.39**	**57**	*i* P	Pn	16 25 05.5	-2.2
VHO				*e*S	Sn	16 25 33.4	-3.0
HUIG	**Huatulco**	**2.62**	**90**	*i* P	Pn	16 25 08.7	-1.8
HUIG				*i* S	Sn	16 25 38.3	-3.4
CMIG	**Matias Romero**	**4.00**	**70**	*i* P	Pn	16 25 27.6	-2.0
CMIG				*e*S	Sn	16 26 13.1	-2.9

*ISCJB **31** 16:25:55.2±0.6, 22.18S±0.09×114.0W±0.1, h10km, mb4.5/21, MS3.8/3, Error ellipse: s-maj=19.3km s-min=12.5km az=178.8*

*IDC **31** 16:25:56.1±0.8, 21.99S×114.22W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/19, mbtmp4.3/9, MS3.7/3, Ms1 3.8/3, ms1mx3.4/21, Error ellipse: s-maj=26.4km s-min=22.9km az=95.0*

*NEIC **31** 16:25:57.4±0.5, 22.08S×114.13W, h10km, mb4.8/13, Error ellipse: s-maj=17.5km s-min=13.8km az=84.0*

*BJI **31** 16:25:58.9, 22.20S×114.10W, h10km, mB5.3/8, Ms5.2/5, Ms7 5.1/5*

ISC 31 16:25:57.2±0.5, 22.19S±0.10×114.1W±0.1, h10km, n329, σ0.983/338, mb4.6/21, MS4.3/4, 128C-138D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**37.47**	**72**	P	**P**	**16 33 13.4**	**+1.7**
	7.8nm,0.7s,baz=160,slow=2.4,SNR=5.0						
ATAH	**Atahualpa**	**37.47**	**72**	P	**P**	**16 33 13.4**	**+1.7**
JTS	**JuntasAbangare**	**43.08**	**44**	P	**P**	**16 33 57.5**	**-0.2**
	4.3nm,0.7s,baz=253,slow=11,SNR=3.2						
JTS	**JuntasAbangare**	**43.08**	**44**	P	**P**	**16 33 57.5**	**-0.2**
CMIG	**Matias Romero**	**43.31**	**27**	P	**P**	**16 33 59.8**	**+0.3**
	3.1nm,0.8s,baz=2.8,slow=7.1,SNR=4.1						
CMIG	**Matias Romero**	**43.31**	**27**	P	**P**	**16 33 59.8**	**+0.3**
LPAZ	**La Paz**	**43.63**	**91**	*e*P	**P**	**16 34 04.5**	**+1.6**
	2.6nm,0.9s,baz=277,slow=5.1,SNR=9.0						
LPAZ	**La Paz**	**43.63**	**91**	*e*P	**P**	**16 34 04.5**	**+1.6**
	6.9nm,1.2s						
LPIG	**La Paz**	**46.15**	**5**	LR	LR	16 48 50.3	
	comp=Z,15nm,20.5s,baz=228,slow=30						
626A	**Big Bend Ranch**	**52.32**	**11**	⇓P	**P**	**16 35 10.1**	**+0.8**
	baz=52,SNR=15						
627A	**Terlingua Ranc**	**52.36**	**12**	⇑P	**P**	**16 35 10.0**	**+0.4**
	baz=53,SNR=8.8						
628A	**Black Gap, Mar**	**52.48**	**12**	⇑P	**P**	**16 35 10.8**	**+0.4**
	baz=53,SNR=8.4						
526A	**Mary Lane Ranc**	**52.82**	**11**	⇑P	**P**	**16 35 13.6**	**+0.5**
	baz=53,SNR=6.1						
631A	**Perdido Creek**	**52.91**	**15**	⇓P	**P**	**16 35 13.7**	**+0.1**
	baz=53						
527A	**Woodward Ranch**	**52.99**	**11**	⇓P	**P**	**16 35 14.4**	**+0.1**
	baz=53,SNR=5.1						
528A	**Cox Ranch, San**	**53.16**	**12**	⇓P	**P**	**16 35 16.0**	**+0.4**
	baz=53,SNR=5.8						
529A	**Stev Forest Ra**	**53.24**	**13**	⇑P	**P**	**16 35 16.4**	**+0.4**
	baz=53,SNR=8.8						
425A	**Indio Mountain**	**53.38**	**10**	⇑P	**P**	**16 35 17.1**	**-0.1**
	baz=54,SNR=10						
426A	**McDonald Obser**	**53.42**	**11**	⇑P	**P**	**16 35 17.7**	**+0.1**
	baz=54,SNR=6.9						
530A	**J-C Ranch, Com**	**53.45**	**14**	⇓P	**P**	**16 35 18.1**	**+0.5**
	baz=54,SNR=13						
319A	**Douglas**	**53.45**	**5**	⇑P	**P**	**16 35 18.0**	**+0.3**
	baz=54,SNR=5.1						
320A	**Kipp Ranch, An**	**53.48**	**6**	⇓P	**P**	**16 35 18.4**	**+0.5**
	baz=54,SNR=6.8						
531A	**Rocksprings**	**53.64**	**15**	⇓P	**P**	**16 35 19.4**	**+0.3**
	baz=54,SNR=9.6						
427A	**Hayter Ranch,**	**53.71**	**11**	⇑P	**P**	**16 35 19.9**	**+0.3**
	baz=54,SNR=5.7						
428A	**Kincaid Ranch,**	**53.73**	**12**	⇓P	**P**	**16 35 20.0**	**+0.3**
	baz=54,SNR=6.9						
532A	**Rocksprings**	**53.76**	**15**	⇑P	**P**	**16 35 20.1**	**+0.2**
	baz=54,SNR=8.5						
429A	**Davenport Ranc**	**53.79**	**13**	⇓P	**P**	**16 35 20.3**	**+0.2**
	baz=54,SNR=6.5						
214A	**Organ Pipe Nat**	**53.85**	**1**	⇓P	**P**	**16 35 21.1**	**+0.6**
	baz=54						
324A	**Moseley Ranch,**	**53.95**	**9**	⇓P	**P**	**16 35 21.4**	**0.0**
	baz=54,SNR=16						
325A	**Bean Ranch, Si**	**53.96**	**10**	⇑P	**P**	**16 35 21.6**	**+0.2**
	baz=54,SNR=14						
220A	**Playas Peak, P**	**54.04**	**6**	⇓P	**P**	**16 35 22.6**	**+0.6**
	baz=54						
326A	**Caldwell Ranch**	**54.07**	**11**	⇑P	**P**	**16 35 21.8**	**-0.4**
	baz=54						
430A	**Baggett Ranch,**	**54.09**	**14**	⇑P	**P**	**16 35 22.2**	**-0.1**
	baz=54						
JCT	**Junction City**	**54.12**	**15**	⇓P	**P**	**16 35 22.4**	**-0.1**
	baz=54						
431A	**Sonora**	**54.13**	**14**	⇓P	**P**	**16 35 22.7**	**+0.1**
	baz=54,SNR=9.5						
221A	**Mesquite Ranch**	**54.22**	**7**	⇓P	**P**	**16 35 23.4**	**+0.1**
	baz=54						
328A	**Wristen Ranch,**	**54.34**	**12**	⇑P	**P**	**16 35 24.4**	**+0.2**
	baz=55						
222A	**Williams Famil**	**54.39**	**7**	⇓P	**P**	**16 35 24.8**	**+0.2**
	baz=55						
432A	**Menard**	**54.50**	**15**	⇓P	**P**	**16 35 25.3**	**0.0**
	baz=55						
224A	**Cornudas Mount**	**54.57**	**9**	⇓P	**P**	**16 35 26.4**	**+0.5**
	baz=55,SNR=24						
DVTC	**Desert V Tower**	**54.57**	**358**	⇑P	**P**	**16 35 26.6**	**+0.8**
	baz=55,SNR=5.4						
329A	**Wagon Wheel Ra**	**54.61**	**13**	⇓P	**P**	**16 35 26.1**	**+0.1**
	baz=55,SNR=5.1						
113A	**Mohawk Valley,**	**54.65**	**0**	⇑P	**P**	**16 35 27.1**	**+0.9**
	baz=55						
120A	**U Bar Ranch, L**	**54.67**	**6**	⇓P	**P**	**16 35 26.8**	**+0.2**
	baz=55						
330A	**Mertzon**	**54.70**	**14**	⇑P	**P**	**16 35 26.6**	**-0.1**
	baz=55,SNR=7.2						
225A	**Deer Hill, Car**	**54.71**	**10**	⇑P	**P**	**16 35 26.7**	**-0.2**
	baz=55						
121A	**Cookes Peak, D**	**54.74**	**6**	⇓P	**P**	**16 35 27.4**	**+0.3**
	baz=55,SNR=5.8						
331A	**San Angelo**	**54.77**	**14**	⇓P	**P**	**16 35 27.4**	**+0.2**
	baz=55						
MONP	**Monument Peak**	**54.81**	**358**	⇑P	**P**	**16 35 28.5**	**+0.8**
	baz=55						
332A	**Millersview**	**55.00**	**15**	⇓P	**P**	**16 35 28.8**	**-0.1**
	baz=55						
CLNB	**Carlsbad**	**55.01**	**11**	P	**P**	**16 35 28.9**	**-0.1**
	1.2nm,0.2s						
228A	**UT Block 9, Go**	**55.10**	**12**	⇑P	**P**	**16 35 29.4**	**-0.3**
	baz=55						
229A	**Bryant Ranch,**	**55.11**	**13**	⇓P	**P**	**16 35 29.8**	**+0.1**
	baz=55						
124A	**Stringfield Ra**	**55.19**	**9**	⇑P	**P**	**16 35 30.7**	**+0.2**
	baz=55,SNR=12						
Z20A	**Nine Sixteen R**	**55.23**	**6**	⇑P	**P**	**16 35 31.2**	**+0.5**
	baz=55						
Z14A	**Wintersburg**	**55.25**	**1**	⇑P	**P**	**16 35 31.5**	**+1.0**
	baz=56						
125A	**Gardner Draw,**	**55.27**	**10**	⇑P	**P**	**16 35 30.9**	**0.0**
	baz=56,SNR=15						
126A	**Clayton Basin,**	**55.36**	**10**	⇑P	**P**	**16 35 31.4**	**-0.2**
	baz=56						
231A	**Bronte**	**55.40**	**14**	⇑P	**P**	**16 35 31.6**	**-0.1**
	baz=56						
127A	**Arkansas Junct**	**55.50**	**11**	⇓P	**P**	**16 35 32.5**	**-0.1**
	baz=56						
232A	**Coleman**	**55.51**	**15**	⇓P	**P**	**16 35 32.5**	**0.0**
	baz=56						
PFO	**Pinyon Flat Ob**	**55.53**	**358**	⇑P	**P**	**16 35 33.6**	**+0.8**
	baz=56						
Z22A	**Elephant Butte**	**55.54**	**7**	⇓P	**P**	**16 35 33.0**	**+0.1**
	baz=56,SNR=5.0						
BC3	**Big Chuckawall**	**55.55**	**359**	⇑P	**P**	**16 35 33.7**	**+0.8**
	baz=56						
128A	**Castleberry Fa**	**55.61**	**12**	⇑P	**P**	**16 35 33.2**	**-0.1**
	baz=56						
Y12C	**Blythe**	**55.62**	**360**	⇓P	**P**	**16 35 34.2**	**+0.9**
	baz=56						
Z23A	**Rita Site, Whi**	**55.64**	**8**	⇑P	**P**	**16 35 34.3**	**+0.7**
	baz=56						
129A	**Stewart Farms,**	**55.74**	**12**	⇑P	**P**	**16 35 34.5**	**+0.3**
	baz=56						
Z24A	**Sheeppen Canyo**	**55.82**	**9**	⇓P	**P**	**16 35 35.0**	**+0.1**
	baz=56						
Z25A	**Roswell**	**55.87**	**9**	⇓P	**P**	**16 35 35.0**	**-0.2**
	baz=56,SNR=5.6						
130A	**Snyder**	**55.89**	**13**	⇓P	**P**	**16 35 35.1**	**-0.2**
	baz=56						
BELC	**Belle Mtn. Jos**	**55.90**	**358**	⇓P	**P**	**16 35 36.0**	**+0.6**
	baz=56,SNR=5.3						
Z26A	**Caprock**	**55.98**	**10**	⇑P	**P**	**16 35 35.2**	**-0.7**
	baz=56,SNR=7.4						
IRM	**Iron Mountain**	**56.04**	**359**	⇓P	**P**	**16 35 36.6**	**+0.3**
	baz=56,SNR=5.2						
Y20A	**Horse Springs,**	**56.04**	**6**	⇓P	**P**	**16 35 36.9**	**+0.3**
	baz=56						
131A	**Roby**	**56.09**	**14**	⇑P	**P**	**16 35 36.9**	**+0.2**
	baz=56						
Z27A	**Tatum**	**56.15**	**11**	⇑P	**P**	**16 35 36.9**	**-0.3**
	baz=56,SNR=7.4						
WHTX	**Lake Whitney**	**56.16**	**17**	⇑P	**P**	**16 35 37.3**	**+0.1**
	baz=56						
PDMCI	**Parker Dam,Lak**	**56.17**	**360**	⇓P	**P**	**16 35 38.0**	**+0.9**
	baz=56						
BLG	**Laguna Peak**	**56.19**	**355**	⇓P	**P**	**16 35 38.0**	**+0.7**
	baz=56						
Y21A	**Point of Rocks**	**56.21**	**6**	⇓P	**P**	**16 35 38.3**	**+0.5**
	baz=56,SNR=8.9						
ABTX	**Abilene, Hawle**	**56.21**	**15**	⇓P	**P**	**16 35 37.7**	**+0.2**
	baz=56						
BFSC	**Mount Baldy Ra**	**56.22**	**356**	⇓P	**P**	**16 35 38.1**	**+0.4**
	baz=56						
Y22A	**Socorro**	**56.22**	**7**	⇓P	**P**	**16 35 38.1**	**+0.4**
	baz=56						
Y23A	**Lovelace Mesa,**	**56.32**	**8**	⇑P	**P**	**16 35 39.2**	**+0.7**
	baz=56,SNR=9.2						
Z29A	**Hungry Hill Ra**	**56.38**	**12**	⇑P	**P**	**16 35 38.4**	**-0.4**
	baz=57						
Y24A	**Capitan**	**56.40**	**9**	⇑P	**P**	**16 35 39.2**	**+0.1**
	baz=57,SNR=6.8						
LENM	**Lemitar**	**56.44**	**7**	*e*P	**P**	**16 35 39.2**	**-0.2**
	14nm,1.1s						
Z30A	**Sanderson Ranc**	**56.52**	**13**	⇑P	**P**	**16 35 39.1**	**-0.6**
	baz=57,SNR=5.8						
X18A	**Snowflake**	**56.53**	**4**	⇑P	**P**	**16 35 40.7**	**+0.7**
	baz=57						
X21A	**Alamocita Cree**	**56.63**	**6**	⇑P	**P**	**16 35 41.0**	**+0.3**
	baz=57,SNR=8.8						
Y26A	**Elida**	**56.64**	**10**	⇑P	**P**	**16 35 40.7**	**0.0**
	baz=57						
X20A	**Quemado**	**56.66**	**5**	⇓P	**P**	**16 35 41.6**	**+0.7**
	baz=57						
GMRC	**Granite Mounta**	**56.67**	**358**	⇓P	**P**	**16 35 41.6**	**+0.7**
	baz=57						
Y27A	**Causey**	**56.71**	**11**	⇑P	**P**	**16 35 40.7**	**-0.5**
	baz=57						
HEC	**Hector,Ludlow**	**56.74**	**358**	⇑P	**P**	**16 35 42.3**	**+0.9**
	baz=57						
Z31A	**Sharp Cattle R**	**56.77**	**14**	⇑P	**P**	**16 35 41.5**	**0.0**
	baz=57,SNR=6.2						
X22A	**Bernardo**	**56.77**	**7**	⇓P	**P**	**16 35 42.4**	**+0.7**
	baz=57						
MSTX	**Muleshoe**	**56.87**	**11**	⇑P	**P**	**16 35 42.2**	**-0.1**
	baz=57						
EDW2	**Edwards Air Fo**	**56.87**	**356**	⇓P	**P**	**16 35 42.8**	**+0.6**
	baz=57						
Z32A	**Haskell**	**56.91**	**15**	⇑P	**P**	**16 35 42.5**	**0.0**
	baz=57,SNR=12						
X23A	**Hourglass Bar**	**56.95**	**8**	⇑P	**P**	**16 35 43.4**	**+0.5**
	baz=57						
LDFC	**Landfair**	**56.96**	**359**	*e*P	**P**	**16 35 44.1**	**+1.1**
	19nm,1.3s						
W13A	**Hualapai Mount**	**56.97**	**0**	⇑P	**P**	**16 35 43.3**	**+0.2**
	baz=57,SNR=7.1						
W18A	**Petrified Fore**	**57.13**	**4**	⇓P	**P**	**16 35 44.8**	**+0.6**
	baz=57						
Y30A	**Stafford Cattl**	**57.14**	**13**	⇓P	**P**	**16 35 43.8**	**-0.3**
	baz=57						
GSC	**Goldstone**	**57.23**	**357**	⇑P	**P**	**16 35 45.6**	**+0.8**
	baz=57						
W20A	**Ramah**	**57.24**	**5**	⇓P	**P**	**16 35 45.3**	**+0.2**
	baz=58						
TUQ	**Turquoise Moun**	**57.33**	**358**	⇑P	**P**	**16 35 46.5**	**+0.9**
	baz=58						
Y31A	**Rekieta Farm,**	**57.36**	**14**	⇓P	**P**	**16 35 46.1**	**+0.4**
	baz=58						
WUAZ	**Wupatki**	**57.44**	**3**	⇑P	**P**	**16 35 47.2**	**+0.8**
	baz=58						
LRMC	**Laurel Mountai**	**57.45**	**356**	⇑P	**P**	**16 35 46.9**	**+0.5**
	baz=58,SNR=5.1						
Y32A	**R-V Farms, Ver**	**57.58**	**14**	⇓P	**P**	**16 35 47.4**	**+0.2**
	baz=58						
W24A	**Lazy 6 Ranch,**	**57.67**	**8**	⇑P	**P**	**16 35 48.3**	**+0.2**
	baz=58						
ISA	**Isabella**	**57.68**	**356**	⇓P	**P**	**16 35 48.6**	**+0.6**
	baz=58						
W25A	**X Bar L Ranch,**	**57.81**	**9**	⇓P	**P**	**16 35 48.7**	**-0.2**
	baz=58,SNR=6.8						
W27A	**Bowe Ranch, En**	**57.88**	**11**	⇓P	**P**	**16 35 49.4**	**-0.1**
	baz=58						
VES	**Vestal, Richgr**	**57.91**	**355**	⇓P	**P**	**16 35 50.4**	**+1.0**
	baz=58						
V20A	**Brimhall**	**57.91**	**5**	⇑P	**P**	**16 35 49.9**	**+0.2**
	baz=58						
AMTX	**Amarillo**	**57.96**	**12**	⇑P	**P**	**16 35 49.9**	**-0.1**
	baz=58						
MPMC	**Manual Prospec**	**58.02**

	baz=62								
Q24A	**Divide**	61.40	8	⇓P		P	16 36 13.7	-0.1	
	baz=62								
P17A	**Butcher Ranch,**	61.41	3	⇓P		P	16 36 14.1	+0.4	
	baz=62								
P15A	**Leamington**	61.45	2	⇑P		P	16 36 14.6	+0.6	
	baz=62								
P18A	**Preston Nutter**	61.59	3	⇓P		P	16 36 15.2	0.0	
	baz=62								
P19A	**Cripple Cowboy**	61.68	4	⇓P		P	16 36 15.6	0.0	
	baz=62								
P21A	**Newcastle**	61.70	6	⇓P		P	16 36 15.5	-0.2	
	baz=62								
P23A	**Jefferson**	61.72	7	⇓P		P	16 36 16.1	+0.1	
	baz=62								
P22A	**Eagle**	61.83	6	⇑P		P	16 36 16.9	+0.2	
	baz=62								
DUG	**Dugway**	62.07	1	⇓P		P	16 36 18.9	+0.7	
	baz=62								
ISCO	**Idaho Springs**	62.16	7	⇑P		P	16 36 18.8	-0.2	
	baz=62								
DAU	**Daniels Canyon**	62.33	2	*e*P		P	16 36 20.3	+0.2	
	19nm,1.4s								
O22A	**Kremmling**	62.42	6	⇓P		P	16 36 20.6	0.0	
	baz=63,SNR=6.4								
N16A	**Rees Ranch, Co**	62.79	2	⇓P		P	16 36 23.8	+0.7	
	baz=63								
N17A	**Moffit Pass**	62.87	3	⇓P		P	16 36 23.9	+0.2	
	baz=63,SNR=5.6								
N21A	**Black Mountain**	62.91	6	⇑P		P	16 36 23.9	0.0	
	baz=63								
N19A	**John Jarvie Ra**	62.92	4	⇓P		P	16 36 23.6	-0.2	
	baz=63								
N20A	**Spence Gulch,**	62.92	5	⇓P		P	16 36 24.1	+0.2	
	baz=63								
N18A	**Larsen Ranch,**	62.97	4	⇑P		P	16 36 24.7	+0.5	
	baz=63								
SWET	**Sewanee**	63.01	26	*e*P		P	16 36 22.9	-1.5	
	3.3nm,0.8s								
N22A	**Wattenberg Ran**	63.06	6	⇑P		P	16 36 25.0	+0.1	
	baz=63								
WVT	**Waverly**	63.08	24	P		P	16 36 22.1	-2.7	
	5.6nm,1.0s								
N23A	**Red Feather La**	63.21	7	⇓P		P	16 36 25.8	-0.1	
	baz=63								
M16A	**Huntsville**	63.22	2	⇓P		P	16 36 25.8	0.0	
	baz=63								
L15A	**Malad City**	63.88	1	⇓P		P	16 36 29.9	-0.3	
	baz=64								
MOD	**Modoc**	64.03	355	*e*P		P	16 36 31.7	+0.5	
	5.5nm,1.0s								
L20A	**Wamsutter**	64.08	5	⇑P		P	16 36 31.5	-0.1	
	baz=64								
L19A	**Farson**	64.11	4	⇓P		P	16 36 31.4	-0.3	
	baz=64								
K18A	**Toltan Ranch,**	64.60	3	⇓P		P	16 36 34.2	-0.8	
	baz=65								
K16A	**Soda Springs**	64.73	2	⇓P		P	16 36 36.1	+0.3	
	baz=65								
K20A	**Yellowstone Ra**	64.73	5	⇓P		P	16 36 35.4	-0.4	
	baz=65								
BW06	**Boulder Array**	64.76	4	⇑P		P	16 36 35.5	-0.5	
	baz=65								
PDAR	**Pinedale Array**	64.76	4	P		P	16 36 34.9	-1.2	
	2.7nm,0.9s,baz=170,slow=7.2,SNR=14								
PDAR	**Pinedale Array**	64.76	4	P		P	16 36 34.9	-1.2	
K21A	**Alcova**	64.80	6	⇑P		P	16 36 35.9	-0.3	
	baz=65								
K19A	**Absolon Red Bu**	64.86	4	⇑P		P	16 36 36.1	-0.5	
	baz=65								
K22A	**Casper**	64.88	6	⇓P		P	16 36 36.7	-0.1	
	baz=65								
HUMO	**Hull Mountain**	64.99	353	*e*P		P	16 36 37.4	+0.2	
	9.3nm,1.0s								
K23A	**Bowen Ranch, D**	65.08	7	⇓P		P	16 36 38.0	0.0	
	baz=65								
J18A	**Kendall Valley**	65.18	3	⇑P		P	16 36 37.8	-1.0	
	baz=65,SNR=6.2								
J14A	**Carey**	65.18	0	⇓P		P	16 36 38.7	0.0	
	baz=65								
J13A	**Cove Ranch, Pi**	65.26	360	⇓P		P	16 36 39.2	0.0	
	baz=66								
J15A	**Blackfoot**	65.28	1	⇑P		P	16 36 39.4	+0.1	
	baz=66								
J19A	**Crowheart**	65.29	4	⇑P		P	16 36 39.2	-0.2	
	baz=66								
MFID	**Camas Ranch**	65.29	359	⇓P		P	16 36 39.8	+0.5	
	baz=66,SNR=5.5								
HLID	**Hailey**	65.42	360	*e*P		P	16 36 40.5	+0.2	
	11nm,1.1s								
HLID	**Hailey**	65.42	360	⇑P		P	16 36 40.4	+0.2	
	baz=66,SNR=13								
J20A	**Shoshoni**	65.44	5	⇑P		P	16 36 40.1	-0.3	
	baz=66,SNR=7.2								
J22A	**Midwest**	65.64	6	⇓P		P	16 36 41.6	0.0	
	baz=66								
I12A	**Atlanta**	65.66	359	⇓P		P	16 36 41.8	0.0	
	baz=66								
I18A	**Diamond G Ranc**	65.67	3	⇑P		P	16 36 41.6	-0.4	
	baz=66								
I13A	**Wildhorse Cree**	65.77	360	⇑P		P	16 36 42.5	-0.1	
	baz=66,SNR=10								
I14A	**Mackay**	65.79	0	⇓P		P	16 36 42.8	+0.2	
	baz=66								
I17A	**Pilgrim Ck.**	65.86	3	⇓P		P	16 36 42.9	-0.2	
	baz=66								
I21A	**Big Trails, Te**	65.96	5	⇓P		P	16 36 43.0	-0.7	
	baz=66,SNR=12								
I20A	**Worland**	66.03	5	⇑P		P	16 36 43.6	-0.6	
	baz=66,SNR=5.1								
I19A	**Meeteetse**	66.06	4	⇓P		P	16 36 43.9	-0.5	
	baz=66,SNR=5.8								
H12A	**Diamond D Ranc**	66.41	359	⇓P		P	16 36 46.7	+0.1	
	baz=67								
H13A	**Challis**	66.42	360	⇑P		P	16 36 46.8	+0.2	
	baz=67								
H14A	**Leadore**	66.48	1	⇓P		P	16 36 47.2	+0.1	
	baz=67								
H20A	**Greybull**	66.58	5	⇓P		P	16 36 47.4	-0.2	
	baz=67								
H16A	**Russell Place,**	66.61	2	⇓P		P	16 36 48.1	+0.1	
	baz=67,SNR=5.1								
H18A	**Shoshone NF, C**	66.66	3	⇑P		P	16 36 47.8	-0.4	
	baz=67								
H19A	**Powell**	66.69	4	⇑P		P	16 36 48.2	-0.1	
	baz=67								
MCMT	**McKenzie Canyo**	66.69	1	*e*P		P	16 36 48.5	0.0	
	4.3nm,1.2s								
H22A	**Clearmont**	66.83	6	⇑P		P	16 36 48.4	-0.8	
	baz=67								
G13A	**Cobalt**	66.95	360	⇓P		P	16 36 50.1	+0.1	
	baz=67								
G12A	**Big Creek, Yel**	67.00	359	⇓P		P	16 36 50.2	-0.1	
	baz=67								
G16A	**Moss Hill, Enn**	67.12	2	⇓P		P	16 36 50.5	-0.6	
	baz=67								
RLMT	**Red Lodge**	67.12	4	⇑P		P	16 36 50.5	-0.7	
	baz=67								
H24A	**Dirks Ranch, A**	67.17	7	⇓P		P	16 36 50.5	-0.8	
	baz=67								
G20A	**Bridger**	67.29	4	⇓P		P	16 36 51.2	-0.9	
	baz=68,SNR=5.1								
G18A	**Lazy EL Ranch,**	67.30	3	⇑P		P	16 36 51.8	-0.4	
	baz=68,SNR=9.1								
G21A	**Lodge Grass**	67.37	5	⇑P		P	16 36 51.8	-0.8	
	baz=68								
G22A	**Birney**	67.45	6	⇑P		P	16 36 52.8	-0.3	
	baz=68								
F12A	**Elk City**	67.62	359	⇓P		P	16 36 54.1	-0.2	
	baz=68,SNR=5.5								
F13A	**Darby**	67.65	360	⇓P		P	16 36 54.1	-0.3	
	baz=68								
F16A	**Kennard Place,**	67.68	2	⇓P		P	16 36 54.4	-0.2	
	baz=68								
F17A	**Fitzpatrick Pl**	67.83	3	⇓P		P	16 36 54.9	-0.6	
	baz=68								
F19A	**Roth Farm, Mol**	67.87	4	⇑P		P	16 36 55.4	-0.4	
	baz=68								
F18A	**Big Timber**	67.88	3	⇑P		P	16 36 55.7	-0.1	
	baz=68								
QSPA	**South Pole Qui**	67.96	180	P		P	16 36 58.5	+2.3	
	2.0nm,1.0s,baz=162,slow=2.5,SNR=3.3								
QSPA	**South Pole Qui**	67.96	180	P		P	16 36 58.5	+2.3	
E14A	**Clinton**	68.28	0	⇓P		P	16 36 57.9	-0.5	
	baz=68								
E13A	**Victor**	68.30	360	⇑P		P	16 36 58.3	-0.1	
	baz=68								
E17A	**Martinsdale**	68.38	2	⇑P		P	16 36 58.6	-0.5	
	baz=69								
E16A	**East Helena**	68.43	2	⇓P		P	16 36 59.1	-0.1	
	baz=69,SNR=6.8								
E19A	**Rath Farm, Rou**	68.49	4	⇑P		P	16 36 59.0	-0.5	
	baz=69								
E18A	**Harlowton**	68.53	3	⇑P		P	16 36 59.3	-0.6	
	baz=69								
E20A	**Meyer Farm, Mu**	68.57	4	⇑P		P	16 36 59.9	-0.2	
	baz=69								
CHMT	**Chamberlain Mo**	68.78	1	*e*P		P	16 37 00.0	-1.5	
	5.8nm,1.3s								
D15A	**Lincoln**	68.91	1	⇑P		P	16 37 02.2	-0.2	
	baz=69								
D12A	**Red Ives Fores**	68.92	359	⇓P		P	16 37 02.2	-0.1	
	baz=69								
D16A	**Dana Ranch, Ca**	68.93	2	⇓P		P	16 37 02.1	-0.3	
	baz=69								
D14A	**Greenough**	68.94	0	⇓P		P	16 37 02.5	0.0	
	baz=69								
D13A	**Huson**	68.95	360	⇓P		P	16 37 02.5	0.0	
	baz=69								
D17A	**Six Diamond Ra**	69.08	2	⇓P		P	16 37 03.4	0.0	
	baz=69								
D20A	**Manuel Ranch,**	69.16	4	⇓P		P	16 37 02.9	-0.8	
	baz=69								
D18A	**Linhart Farms,**	69.16	3	⇑P		P	16 37 03.6	-0.2	
	baz=69								
D19A	**Cripps Ranch,**	69.18	4	⇓P		P	16 37 03.7	-0.2	
	baz=69								
D21A	**La Casta Ranch**	69.22	5	⇓P		P	16 37 03.9	-0.3	
	baz=69								
D22A	**Cohagen**	69.37	6	⇑P		P	16 37 05.0	0.0	
	baz=70								
D23A	**Lindsay**	69.49	6	⇑P		P	16 37 06.0	+0.2	
	baz=70								
D24A	**Glendive**	69.53	7	⇑P		P	16 37 05.9	-0.1	
	baz=70								
C13A	**Hot Springs**	69.54	360	⇓P		P	16 37 05.6	-0.5	
	baz=70								
C17A	**Wharram Farm,**	69.56	2	⇓P		P	16 37 06.3	+0.1	
	baz=70,SNR=5.1								
C14A	**Swan Lake**	69.63	0	⇓P		P	16 37 06.5	-0.2	
	baz=70								
C15A	**Salmond Ranch,**	69.65	1	⇓P		P	16 37 06.9	+0.1	
	baz=70								
C16A	**Fuhringer Ranc**	69.69	2	⇑P		P	16 37 07.5	+0.4	
	baz=70								
C11A	**Tepee Creek (N**	69.73	358	⇑P		P	16 37 07.3	0.0	
	baz=70,SNR=6.6								
C19A	**Slack Wire Ran**	69.74	4	⇑P		P	16 37 07.2	-0.1	
	baz=70								
C20A	**Veseth Ranch,**	69.78	4	⇓P		P	16 37 07.5	-0.1	
	baz=70								
EGMT	**Eagleton**	69.99	3	⇓P		P	16 37 08.9	0.0	
	baz=70								
C22A	**Vida**	69.99	6	⇑P		P	16 37 08.7	-0.2	
	baz=70								
C23A	**Lambert**	70.12	6	⇓P		P	16 37 09.6	0.0	
	baz=70								
NEW	**Newport**	70.18	358	⇑P		P	16 37 10.3	+0.3	
	baz=70								
B15A	**Bradely Ranch,**	70.19	1	⇑P		P	16 37 09.9	-0.2	
	baz=70								
B13A	**Whitefish**	70.23	360	⇑P		P	16 37 10.1	-0.2	
	baz=70								
B18A	**Beardsley Farm**	70.36	3	⇑P		P	16 37 11.0	-0.1	
	baz=71								
B19A	**Brinkman Farms**	70.46	4	⇓P		P	16 37 11.5	-0.3	
	baz=71								
B20A	**Solberg Farm,**	70.51	4	⇓P		P	16 37 11.7	-0.2	
	baz=71								
A14A	**Double T Ranch**	70.83	0	⇑P		P	16 37 13.8	-0.2	
	baz=71								
A16A	**West Butte Ran**	70.84	2	⇑P		P	16 37 13.9	-0.2	
	baz=71								
A15A	**Johnson Ranch,**	70.85	1	⇓P		P	16 37 14.1	0.0	
	baz=71								
A17A	**Triple J Farms**	70.87	2	⇑P		P	16 37 14.4	+0.2	
	baz=71								
A18A	**Metzger Ranch,**	70.88	3	⇑P		P	16 37 14.2	0.0	
	baz=71								
DGMT	**Dagmar**	70.88	7	⇓P		P	16 37 14.2	0.0	
	baz=71								
A19A	**Klindworth Far**	70.95	4	⇓P		P	16 37 14.7	0.0	
	baz=71								
A21A	**Bergtoll Ranch**	71.14	5	⇑P		P	16 37 15.3	-0.5	
	baz=71								
VNA2	**Neumayer--Watz**	74.50	161	*e*P		P	16 37 34.9	-0.7	
VNA2	**Neumayer--Watz**	74.50	161	*e*Easter		P	16 37 38.7	+3.1	
VNA2	**Neumayer--Watz**	74.50	161	*e*S		SKSac	16 47 46.9	+3.4	
YKA	**Yellowknife Ar**	84.39	360	P		P	16 38 28.3	-0.9	
	2.0nm,1.0s,baz=175,slow=5.2,SNR=29								
YKA	**Yellowknife Ar**	84.39	360	P		P	16 38 28.3	-0.9	
SYO	**Syowa Base**	87.08	171	*e*P		P	16 38 41.2	-1.6	
SYO	**Syowa Base**	87.08	171	⇓*e*PcP		P	16 38 42.8	0.0	
ILAR	**Eielson Array**	90.31	347	P		P	16 38 57.0	-0.9	
	0.7nm,0.9s,baz=195,slow=6.5,SNR=4.2								
ILAR				LR		LR	17 12 08.1		
	comp=Z,67nm,18.4s,baz=112,slow=31								
ILAR	**Eielson Array**	90.31	347	P		P	16 38 57.0	-0.9	
MAW	**Mawson**	90.45	179	LR		LR	17 16 01.3		
	comp=Z,137nm,18.6s,baz=46,slow=33								
TORD	**Torodi Ar. Bea**	118.49	87	PKP		PKPdf	16 44 45.2	-0.9	
	0.7nm,0.8s,baz=294,slow=1.7,SNR=4.3								
TORD	**Torodi Ar. Bea**	118.49	87	PKP		PKPdf	16 44 45.2	-0.9	
CN2	**Changchun**	126.84	309	*e*PKP		PKPdf	16 45 02.3	+1.1	
HHC	**Hu-ho-hao-te**	137.43	307	*e*PKP		PKPdf	16 45 20.3	-1.2	
HHC				PP		PP	16 48 10.0	+2.8	
HHC				PKS		PKSdf	16 48 54.8	-2.9	
HHC				SKS		SKSdf	16 52 31.0	-1.5	
HHC				SKKS		SKKSac	16 54 59.8	-2.2	
HHC				SS		SS	17 06 19.0	+3.8	
HHC				AMB		AMB			
	comp=Z,160nm,8.4s								
HHC				LR		LR			
	comp=N,140nm,13.0s								
HHC				LR		LR			
	comp=E,190nm,21.6s								
HHC				LR		LR			
	comp=Z,210nm,22.0s								
SONM	**Songino Array**	138.82	318	PKhKP		PKPpre	16 45 13.6		
	comp=Z,0.4nm,0.8s,baz=124,slow=2.6,SNR=2.7								
SONM	**Songino Array**	138.82	318	PKPpre		PKPpre	16 45 13.6		
GYA	**Guiyang**	142.76	285	*e*PKP		PKPdf	16 45 30.0	-1.6	
GYA				PP		PP	16 48 41.5	+0.9	
GYA				AMB		AMB			
	comp=Z,90nm,7.6s								
LZH	**Lanzhou**	144.35	301	*e*PKP		PKPab	16 45 31.5	-0.7	
LZH				pPKP		PKPdf	16 45 35.3	+1.1	
LZH				sPKP			16 45 38.5		
ZAA0	**Zalesovo Array**	145.21	340	*e*PKP		PKPbc	16 45 33.1	-1.4	
ZALV	**Zalesovo Beam**	145.21	340	PKP		PKPbc	16 45 33.5	-0.9	
	comp=Z,8.5nm,0.9s,baz=29,slow=3.4,SNR=40								
ZALV	**Zalesovo Beam**	145.21	340	PKP		PKPbc	16 45 33.5	-0.9	
CD2	**Chengdu**	145.21	293	PKPbc		PKPbc	16 45 33.8	-1.5	
GTA	**Gaotai**	146.47	309	PKPbc		PKPbc	16 45 39.0	0.0	
BRTR	**Keskin Array B**	147.47	50	PKPbc		PKPbc	16 45 41.8	-0.1	
	comp=Z,2.4nm,0.9s,baz=222,slow=1.7,SNR=13								
BRTR	**Keskin Array B**	147.47	50	PKPbc		PKPbc	16 45 41.8	-0.1	
CMAR	**Chiang Mai Arr**	148.87	269	PKPbc		PKPbc	16 45 47.0	+1.0	
	comp=Z,3.0nm,0.9s,baz=74,slow=0.9,SNR=23								
CMAR	**Chiang Mai Arr**	148.87	269	PKPbc		PKPbc	16 45 47.0	+1.0	
BRVK	**Borovoye**	149.00	355	*e*PKPbc		PKPbc	16 45 44.8	-0.5	
KURK	**Kurchatov**	149.84	344	*e*PKPdf		PKPdf	16 45 41.9	-0.8	
KURK				*e*PKPbc		PKPbc	16 45 46.4	-1.1	
KBZ	**Khabaz**	151.27	36	PKPbc		PKPbc	16 45 51.1	+0.2	
	comp=Z,4.2nm,0.9s,baz=259,slow=1.4,SNR=13								
KBZ	**Khabaz**	151.27	36	PKPbc		PKPbc	16 45 51.1	+0.2	
MALT	**Malatya**	151.45	50	*e*PKPbc		PKPbc	16 45 52.3	+0.5	
WMQ	**Urumqi**	151.91	325	*e*PKPbc		PKPdf	16 45 44.5	-1.7	
MK31	**Makanchi Array**	152.11	336	*e*PKPbc		PKPbc	16 45 52.3	-0.6	
MKAR	**Makanchi Array**	152.11	336	PKPbc		PKPbc	16 45 52.0	-1.0	
	comp=Z,3.3nm,0.8s,baz=42,slow=3.1,SNR=26								
MKAR				PKPab		PKPab	16 46 00.3	-2.1	
	comp=Z,2.1nm,0.9s,baz=27,slow=2.5,SNR=6.8								
MKAR	**Makanchi Array**	152.11	336	PKPbc		PKPbc	16 45 52.0	-1.0	
MKAR				PKPab		PKPab	16 46 00.3	-2.1	
ABKAR	**Akbulak array**	152.57	9	*e*PKPbc		PKPbc	16 45 53.5	-0.3	
KSH	**Kashi**	160.72	336	*e*PKP		PKPdf	16 45 58.0	+0.1	
KSH				PKS		PKSdf	16 49 30.0	-1.3	
KSH				PP		PP	16 50 28.3	+6.8	
KSH				SKS		SKSdf	16 53 02.5	-0.8	
KSH				SKKS		SKKSac	16 57 14.5	+3.4	
KSH				SS		SS	17 10 41.0	+6.9	
KSH				AMB		AMB			
	comp=Z,61nm,4.0s								
KSH				LR		LR			
	comp=N,77nm,6.0s								
KSH				LR		LR			
	comp=E,66nm,5.0s								
KSH				LR		LR			
	comp=Z,140nm,6.4s								

IDC ***31*** *17:12:14.3±1.5, 1°.36N×123°.34E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=45.6km s-min=23.4km az=80.0*
ISCJB ***31*** *17:12:18.1±1.0, 1°.47N±0°.09×123°.26E±0°.09, h32km, mb3.4/4, Error ellipse: s-maj=16.0km s-min=9.5km az=137.6*
DJA ***31*** *17:12:18.0±1.3, 2°.N±13°×12°.3E±°, h20km, M4.2/8, mb4.3/4, mB4.7/1, MLv4.1/8, Mw(mB)3.9/1*

ISC 31 17:12:19.2±1.2, 1°.4N±0°.1×123°.4E±0°.1, h32km, n14, σ1♀52/12, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	1.01	146	P		Pb	17 12 38.8	+0.5
MNI	**Manado**	1.43	89	P		Pb	17 12 46.1	+0.8
MRSI	**Marisa**	1.74	238	P		Pn	17 12 42.0	-5.3
LUWI	**Luwuk**	2.53	195	P		Pn	17 12 58.7	+0.6
KDI	**Kendari**	5.40	188	P		Pn	17 13 40.6	+3.0
	23nm,1.1s,0.1nm							
TTSI	**Tana Toraja**	5.71	219	P		Pn	17 13 44.3	+2.5
	70nm,0.9s,610nm0.2nm							
SPSI	**Sidrap Palu**	6.47	214	P		Pn	17 13 54.2	+1.9
	25nm,1.1s,0.1nm							
KAPI	**Kappang**	7.36	210	Pn		Pn	17 14 01.6	-3.0
	1.8nm,0.3s,baz=148,slow=17,SNR=12							
KAPI				Sn		Sn	17 15 27.8	+0.7
	0.3nm,0.3s,baz=239,slow=19,SNR=4.8							
BKSI	**Bulukumba**	7.46	206	P		Pn	17 14 08.0	+2.1
FITZ	**Fitzroy Crossi**	19.52	174	P		P	17 16 43.0	-1.1
	0.1nm,0.3s,baz=354,slow=12,SNR=5.6							
WRA	**Warramunga Arr**	23.78	154	P		P	17 17 28.7	-0.5
	0.7nm,0.4s,baz=332,slow=10,SNR=30							
ASAR	**Alice Springs**	26.94	158	P		P	17 17 57.5	-0.5
	0.2nm,0.5s,baz=331,slow=8.2,SNR=8.2							
STKA	**Stephens Creek**	37.34	154	P		P	17 19 28.2	-0.6
	1.1nm,0.8s,baz=340,slow=10,SNR=3.5							
SONM	**Songino Array**	48.53	345	P		P	17 20 59.5	0.0
	0.7nm,1.0s,baz=153,slow=6.8,SNR=4.4							

IDC 31 17:13:00.1±27.0, 20°.97S×173°.53W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=496.8km s-min=145.0km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	37.61	264	P		P	17 20 17.2	+0.3
	1.1nm,0.6s,baz=99,slow=13,SNR=3.5							
STKA	**Stephens Creek**	41.38	245	P		P	17 20 48.9	+0.7
	1.1nm,0.6s,baz=96,slow=10,SNR=2.5							
ASAR	**Alice Springs**	48.48	257	P		P	17 21 43.6	-1.3
	0.6nm,0.9s,baz=97,slow=7.4,SNR=4.4							
WRA	**Warramunga Arr**	48.68	261	P		P	17 21 46.2	-0.2
	0.5nm,0.6s,baz=101,slow=8.4,SNR=10							

ATH ***31*** *17:17:25.7, 34°.58N×25°.35E, h24km±2km, MD3.5/12*
CSEM ***31*** *17:17:25.2±0.5, 34°.59N×25°.41E, h10km, MD3.5*
ISCJB ***31*** *17:17:26.6±1.4, 34°.65N±0°.08×25°.37E±0°.04, h21km±8km, Error ellipse: s-maj=12.9km s-min=5.5km az=177.1*
THE ***31*** *17:17:26.4, 34°.65N×25°.40E, h6km±3km, Error ellipse: s-maj=4.5km s-min=2.0km az=9.0*

ISC 31 17:17:26.2±1.8, 34°.66N±0°.08×25°.40E±0°.02, h11km±10km, n37, σ0♀84/59, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAST	**Lasithi**	0.51	7	P		Pg	17 17 36.6	+0.5
LAST				S		Sb	17 17 45.0	+0.4
LAST	**Lasithi**	0.51	7	*e*PN		Pg	17 17 36.7	+0.6
LAST				*e*SN		Sb	17 17 45.8	+1.2
LAST	**Lasithi**	0.51	7	P		Pg	17 17 36.6	+0.5
LAST				S		Sb	17 17 45.0	+0.4
LAST				*e*Sn		Sb	17 17 45.8	+1.2
SIVA	**Sivas**	0.60	307	P		Pb	17 17 39.0	+0.2
SIVA				S		Sb	17 17 47.5	+0.2
SIVA	**Sivas**	0.60	307	*e*PN		Pb	17 17 39.0	+0.2
SIVA				*e*SN		Sb	17 17 47.8	+0.5
SIVA	**Sivas**	0.60	307	P		Pb	17 17 39.0	+0.2
SIVA				S		Sb	17 17 47.5	+0.2
SIVA				*e*Sn		Sb	17 17 47.8	+0.5
NPS	**Neapolis**	0.63	16	P		Pg	17 17 38.6	+0.2
NPS	**Neapolis**	0.63	16	*e*PB		Pg	17 17 38.7	+0.3
NPS	**Neapolis**	0.63	16	*e*Pb		Pg	17 17 38.7	+0.3
IDI	**Anoyia**	0.76	327	P		Pg	17 17 40.0	-0.8
IDI				S		Sg	17 17 50.0	-0.7
IDI	**Anoyia**	0.76	327	P

AAI	**Ambon**	**4.35 133**	P	**Pn**	**17 18 59.7**	**-0.1**
SGSI	**Sangihe**	**4.39 7**	P	Pn	17 18 57.2	-3.1
KAPI	**Kappang**	**6.78 231**	Pn	**Pn**	**17 19 31.7**	**-1.4**
	1.5nm,0.3s,baz=56,slow=12,SNR=2.9					
KAPI			Sn	**Sn**	**17 20 48.0**	**-1.0**
	0.6nm,0.3s,baz=121,slow=19,SNR=2.7					
KAPI			LR	LR	17 22 35.3	
	comp=Z,74nm,19.6s,baz=252,slow=41					
WRA	**Warramunga Arr**	**21.19 155**	P	**P**	**17 22 35.5**	**-1.4**
	0.6nm,0.7s,baz=334,slow=12,SNR=5.5					
ASAR	**Alice Springs**	**24.41 160**	P	**P**	**17 23 09.6**	**+0.4**
	0.2nm,0.8s,baz=341,slow=9.7,SNR=5.2					
ASAR			PcP	**PcP**	**17 26 48.2**	**+0.9**
	0.4nm,0.6s,baz=352,slow=2.2,SNR=13					
SONM	**Songino Array**	**50.99 344**	P	**P**	**17 26 52.4**	**+0.3**
	0.2nm,0.6s,baz=157,slow=7.8,SNR=2.4					
MKAR	**Makanchi Array**	**60.27 328**	P	**P**	**17 27 58.4**	**-0.1**
	0.2nm,0.3s,baz=125,slow=7.8,SNR=5.3					
BVAR	**Borovoye Array**	**70.12 328**	P	**P**	**17 29 02.1**	**-0.1**
	0.3nm,0.8s,baz=122,slow=10,SNR=2.5					

*ISCJB **31** 17:22:38.4±0.3,4.°17S±0.°03×140.°78E±0.°04,h100km, mb4.3/24,Error ellipse: s-maj=5.7km s-min=4.4km az=152.2*

*AUST **31** 17:22:38.4±0.0,4.°09S×140.°62E,h93km,Error ellipse: s-maj=1.0km s-min=0.8km az=34.0*

*IDC **31** 17:22:38.7±0.8,4.°16S×140.°77E,h82km±7km,mb4.0/17, mb1 4.1/20,mb1mx4.0/26,mbtmp4.0/20,MS3.5/5, Ms1 3.5/5,ms1mx3.0/28,Error ellipse: s-maj=16.6km s-min=11.1km az=76.0*

*NEIC **31** 17:22:38.8±0.2,4.°15S×140.°73E,mb4.5/11,Error ellipse: s-maj=7.3km s-min=4.7km az=77.0*

*DJA **31** 17:22:39.3±0.4,4.°S±3.°×14.°1E±.°,h46km±6km,M4.7/28, mB5.1/12,mb4.9/28,MLv5.1/3,Mw(mB)4.5/12*

ISC 31 17:22:39.8±0.4,4.°19S±0.°04×140.°71E±0.°05,h100km,n106, σ1§52/105,mb4.3/24,Irian Jaya

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.67 360**	P	**Pn**	**17 23 05.7**	**-2.5**
	baz=1.6,SNR=330					
JAY			S	**Sn**	**17 23 26.5**	**-3.3**
	baz=1.6,SNR=6.0					
JAY	**Jayapura**	**1.67 360**	P	**Pn**	**17 23 06.1**	**-2.1**
JAY			S	**Sn**	**17 23 25.5**	**-4.3**
MMPI	**Merauke**	**4.26 184**	P	**Pn**	**17 23 44.2**	**+1.7**
	baz=4.4,SNR=9.9					
MMPI	**Merauke**	**4.26 184**	P	**Pn**	**17 23 44.2**	**+1.7**
BAKI	**Biak**	**5.48 303**	P	**Pn**	**17 23 56.0**	**-3.1**
	152nm,0.9s,2µm0.5nm					
TLE	**Tual**	**8.07 259**	P	**Pn**	**17 24 34.6**	**+0.2**
	baz=8.0,SNR=28					
TLE	**Tual**	**8.07 259**	P	**Pn**	**17 24 34.0**	**-0.4**
	204nm,0.9s					
PMG	**Port Moresby**	**8.24 129**	P	**Pn**	**17 24 36.1**	**-0.5**
	3.8nm,0.3s,baz=349,slow=5.5,SNR=29					
PMG			S	**Sn**	**17 26 06.4**	**-1.7**
	0.2nm,0.3s,baz=143,slow=20,SNR=1.5					
PMG	**Port Moresby**	**8.24 129**	P	**Pn**	**17 24 36.1**	**-0.5**
PMG			S	**Sn**	**17 26 06.4**	**-1.7**
PMG	**Port Moresby**	**8.24 129**	P	**Pn**	**17 24 35.4**	**-1.2**
	126nm,0.9s,949nm					
FAKI	**Fak Fak**	**8.54 278**	P	**Pn**	**17 24 39.9**	**-0.8**
	72nm,0.7s					
COEN	**Coen**	**10.01 166**	*e*Pn	**Pn**	**17 25 00.2**	**-0.5**
	135nm,0.8s					
COEN	**Coen**	**10.01 166**	P	**Pn**	**17 25 00.4**	**-0.2**
	baz=10,SNR=31					
KDU	**Kakadu**	**11.73 223**	P	**Pn**	**17 25 22.2**	**-1.7**
	baz=12,SNR=123					
KDU			S	Sn	17 27 25.1	-7.9
	baz=12,SNR=11					
AAI	**Ambon**	**12.50 272**	P	**Pn**	**17 25 34.3**	**+0.1**
	baz=12,SNR=4.4					
AAI	**Ambon**	**12.50 272**	P	**Pn**	**17 25 33.7**	**-0.5**
	48nm,0.8s					
MTN	**Manton Dam**	**12.79 227**	P	**Pn**	**17 25 36.6**	**-1.4**
	baz=13,SNR=89					
MTN			S	Sn	17 27 50.6	-8.1
	baz=13,SNR=14					
LBMI	**Labuha**	**13.66 285**	P	**Pn**	**17 25 49.6**	**+0.1**
	71nm,0.9s,672nm					
TNTI	**Ternate**	**14.21 290**	P	**Pn**	**17 25 57.4**	**+0.7**
	78nm,1.3s,1µm					
QIS	**Mount Isa**	**16.30 184**	P	**Pn**	**17 26 22.0**	**-1.0**
	baz=16,SNR=12					
CTA	**Charters Tower**	**16.70 162**	P	**P**	**17 26 29.1**	**+0.5**
	0.1nm,0.3s,baz=320,slow=4.7,SNR=5.8					
CTA			LR	LR	17 32 42.0	
	comp=Z,110nm,20.8s,baz=350,slow=36					
CTA	**Charters Tower**	**16.70 162**	P	**P**	**17 26 29.1**	**+0.5**
CTAO	**Charters Tower**	**16.70 162**	*e*Pn	**P**	**17 26 28.9**	**+0.4**
	6.2nm,0.8s					
MNI	**Manado**	**16.82 289**	P	**P**	**17 26 28.7**	**-1.2**
	86nm,0.8s,1µm					
WRAB	**Tennant Creek**	**16.83 201**	*e*Pn	**P**	**17 26 29.1**	**-0.9**
	31nm,0.6s					
WRAB			*e*Sn	Sn	17 29 28.5	-8.0
WRA	**Warramunga Arr**	**16.84 201**	P	**Pn**	**17 26 28.3**	**-1.3**
	3.1nm,0.3s,baz=23,slow=12,SNR=119					
WRA			S	Sn	17 29 26.0	-11
	0.6nm,0.3s,baz=12,slow=22,SNR=3.6					
WRA	**Warramunga Arr**	**16.84 201**	P	**Pn**	**17 26 28.3**	**-1.3**
WRA			S	Sn	17 29 26.0	-11
KMSI	**Cibinong**	**17.37 285**	P	**Pn**	**17 26 36.5**	**+0.4**
	249nm,0.8s,2µm					
KDI	**Kendari**	**18.05 270**	P	**Pn**	**17 26 45.8**	**+1.5**
	31nm,1.0s					
BBSI	**Bau Bau**	**18.12 265**	P	**Pn**	**17 26 48.0**	**+2.8**
	46nm,1.0s,749nm					
MMRI	**Maumere**	**18.88 256**	P	**Pn**	**17 26 55.1**	**+0.9**
	57nm,0.5s,1µm					
MRSI	**Marisa**	**19.32 283**	P	**Pn**	**17 26 59.2**	**-0.2**
	109nm,0.6s,886nm					
HNR	**Honiara**	**19.79 106**	*e*P	**Pn**	**17 27 03.0**	**-1.9**
	164nm,1.0s					
FITZ	**Fitzroy Crossi**	**20.22 226**	P	**P**	**17 27 07.2**	**+0.2**
	3.2nm,0.7s,baz=45,slow=11,SNR=41					
FITZ			S	**S**	**17 30 43.1**	**-5.4**
	38nm,0.8s,baz=126,slow=12,SNR=11					
FITZ	**Fitzroy Crossi**	**20.22 226**	*e*P	**P**	**17 27 07.1**	**+0.1**
	15nm,0.8s					
FITZ			*e*S	S	17 30 39.9	-8.6
FITZ			S	Sn	17 30 43.1	-15
FITZ	**Fitzroy Crossi**	**20.22 226**	P	Pn	17 27 07.4	-2.4
	baz=20,SNR=4.6					
FITZ			S	**S**	**17 30 45.7**	**-2.8**
	baz=20,SNR=5.0					
AS31	**Alice Springs**	**20.45 198**	*e*P	Pn	17 27 10.0	-2.5
ASAR	**Alice Springs**	**20.45 198**	P	Pn	17 27 10.2	-2.4
	12nm,0.8s,baz=28,slow=11,SNR=170					
ASAR			pP	pP	17 27 26.9	-1.7
	27nm,0.7s,baz=28,slow=9.3,SNR=16					
ASAR			S	**S**	**17 30 50.1**	**-2.9**
	3.8nm,0.9s,baz=7.7,slow=28,SNR=4.8					
ASAR			LR	LR	17 36 18.1	
	comp=Z,62nm,18.6s,baz=40,slow=40					
ASAR	**Alice Springs**	**20.45 198**	P	Pn	17 27 10.2	-2.4
ASAR			pP	pP	17 27 26.9	-1.7
ASAR			S	**S**	**17 30 50.1**	**-2.9**
BKSI	**Bulukumba**	**20.55 266**	P	Pn	17 27 12.6	-1.1
	76nm,0.8s,645nm					
TTSI	**Tana Toraja**	**20.88 272**	P	Pn	17 27 17.3	-0.3
	42nm,1.2s,515nm					
SPSI	**Sidrap Palu**	**20.89 270**	P	Pn	17 27 16.2	-1.5
	31nm,1.0s					
KAPI	**Kappang**	**20.91 267**	P	Pn	17 27 15.4	-2.6
	9.9nm,0.6s,baz=140,slow=5.8,SNR=13					
KAPI	**Kappang**	**20.91 267**	P	Pn	17 27 15.4	-2.6
PCI	**Palu**	**21.10 278**	P	P	17 27 06.8	-10
	baz=21,SNR=3.5					
QLP	**Quilpie**	**22.52 172**	P	**P**	**17 27 32.0**	**+0.6**
	baz=23,SNR=4.7					
EIDS	**Eidsvold**	**23.30 156**	*e*P	**P**	**17 27 38.2**	**-0.8**
	22nm,0.8s					
EIDS	**Eidsvold**	**23.30 156**	P	**P**	**17 27 40.4**	**+1.4**
	baz=24,SNR=4.5					
SMKI	**Samarinda**	**23.77 278**	P	P	17 27 47.8	+4.3
	61nm,0.8s					
MYLDM	**Lahad Datu**	**24.06 293**	P	P	17 27 50.5	+4.5
	55nm,1.4s					
KBKI	**Kotabaru**	**24.51 271**	P	**P**	**17 27 52.0**	**+1.9**
	19nm,1.1s					
MBWA	**Marble Bar**	**26.46 229**	*e*P	**P**	**17 28 09.8**	**+2.1**
	23nm,1.3s					
KMMI	**Kalianget**	**26.76 263**	P	P	17 28 15.9	+5.4
STKA	**Stephens Creek**	**27.55 178**	LR	LR	17 41 39.1	
	comp=Z,98nm,18.9s,baz=27,slow=41					
MEEK	**Meekatharra**	**30.74 221**	P	**P**	**17 28 46.4**	**+0.7**
	baz=31,SNR=3.4					
MORW	**Morawa**	**34.05 221**	P	**P**	**17 29 15.3**	**+0.7**
	baz=34,SNR=4.1					
NWAO	**Narrogin (SRO)**	**36.04 215**	P	**P**	**17 29 32.9**	**+1.2**
	12nm,1.1s,baz=80,slow=11,SNR=3.0					
NWAO	**Narrogin (SRO)**	**36.04 215**	P	**P**	**17 29 32.9**	**+1.2**
MJAR	**Matsushiro Arr**	**40.59 357**	P	**P**	**17 30 09.6**	**-0.1**
	1.1nm,0.8s,baz=172,slow=9.3,SNR=4.2					
MJAR	**Matsushiro Arr**	**40.59 357**	P	**P**	**17 30 09.6**	**-0.1**
PSI	**Prapat**	**42.33 279**	P	**P**	**17 30 25.0**	**+0.5**
	4.0nm,0.4s,baz=166,slow=2.0,SNR=7.5					
PSI			pP	**pP**	**17 30 45.8**	**-2.0**
	6.9nm,0.5s,baz=174,slow=4.7,SNR=3.9					
PSI	**Prapat**	**42.33 279**	P	**P**	**17 30 25.0**	**+0.5**
PSI			pP	**pP**	**17 30 45.8**	**-2.0**
KSRS	**Korea Array**	**43.11 345**	LR	LR	17 45 42.3	
	comp=Z,28nm,19.5s,baz=164,slow=32					
CMAR	**Chiang Mai Arr**	**46.90 300**	P	**P**	**17 31 00.8**	**+0.1**
	0.6nm,0.5s,baz=113,slow=8.1,SNR=4.5					
CMAR			pP	**pP**	**17 31 21.6**	**-2.8**
	1.3nm,0.8s,baz=122,slow=6.2,SNR=2.2					
CMAR			PcP	**PcP**	**17 32 33.5**	**+1.6**
	1.2nm,0.8s,baz=162,slow=2.9,SNR=5.3					
CMAR	**Chiang Mai Arr**	**46.90 300**	P	**P**	**17 31 00.8**	**+0.1**
CMAR			pP	**pP**	**17 31 21.6**	**-2.8**
CMAR			PcP	**PcP**	**17 32 33.5**	**+1.6**
URZ	**Urewera**	**47.41 141**	P	**P**	**17 31 04.4**	**+0.1**
	6.5nm,0.7s,baz=234,slow=8.7,SNR=3.8					
URZ	**Urewera**	**47.41 141**	P	**P**	**17 31 04.4**	**+0.1**
RPZ	**Rata Peaks**	**47.62 150**	P	**P**	**17 31 06.5**	**+0.7**
	13nm,1.0s,baz=22,slow=5.4,SNR=2.9					
RPZ	**Rata Peaks**	**47.62 150**	P	**P**	**17 31 06.5**	**+0.7**
USRK	**Ussuriysk Arra**	**48.80 352**	P	**P**	**17 31 15.8**	**+1.0**
	3.4nm,0.8s,baz=176,slow=9.3,SNR=11					
YSS	**Yuzh-Sakhalins**	**50.96 2**	*e*P	**P**	**17 31 30.6**	**-0.4**
	12nm,0.7s					
PETK	**Petropavlovsk-**	**58.86 12**	P	**P**	**17 32 28.6**	**+0.6**
	6.4nm,0.6s,baz=168,slow=6.8,SNR=8.8					
PETK	**Petropavlovsk-**	**58.86 12**	P	**P**	**17 32 28.6**	**+0.6**
ULN	**Ulaanbaatar**	**59.65 334**	*e*P	**P**	**17 32 34.6**	**+0.9**
	1.5nm,0.6s					
SONM	**Songino Array**	**59.91 334**	P	**P**	**17 32 36.4**	**+1.0**
	0.9nm,0.6s,baz=154,slow=6.9,SNR=9.9					
SONM	**Songino Array**	**59.91 334**	P	**P**	**17 32 36.4**	**+1.0**
PPT	**Papeete**	**69.41 107**	LR	LR	17 58 35.0	
	comp=Z,161nm,18.1s,baz=20,slow=31					
MK31	**Makanchi Array**	**72.17 322**	*e*P	**P**	**17 33 55.1**	**+1.2**
MKAR	**Makanchi Array**	**72.17 322**	P	**P**	**17 33 55.3**	**+1.4**
	2.1nm,0.8s,baz=112,slow=8.0,SNR=14					
MKAR	**Makanchi Array**	**72.17 322**	P	**P**	**17 33 55.3**	**+1.4**
ZAA0	**Zalesovo Array**	**74.21 329**	*e*P	**P**	**17 34 05.8**	**+0.1**
ZALV	**Zalesovo Beam**	**74.21 329**	P	**P**	**17 34 05.8**	**+0.1**
	0.7nm,0.6s,baz=94,slow=5.9,SNR=5.3					
ZALV	**Zalesovo Beam**	**74.21 329**	P	**P**	**17 34 05.8**	**+0.1**
BILL	**Bilibino**	**74.27 10**	*e*P	**P**	**17 34 06.3**	**+0.6**
	3.6nm,1.0s					
TKM2	**Tomak 2**	**74.99 316**	*e*P	**P**	**17 34 10.6**	**-0.1**
	1.3nm,0.7s					
TIXI	**Tiksi**	**76.09 356**	*e*P	**P**	**17 34 15.7**	**-0.4**
	2.9nm,0.6s					
BVAR	**Borovoye Array**	**81.66 325**	P	**P**	**17 34 48.3**	**+1.3**
	2.5nm,0.7s,baz=120,slow=7.3,SNR=17					
BVAR	**Borovoye Array**	**81.66 325**	P	**P**	**17 34 48.3**	**+1.3**
QSPA	**South Pole Qui**	**85.77 180**	P	**P**	**17 35 08.8**	**+1.0**
	3.2nm,0.8s,baz=342,slow=1.6,SNR=17					
QSPA	**South Pole Qui**	**85.77 180**	P	**P**	**17 35 08.8**	**+1.0**
ILAR	**Eielson Array**	**86.35 24**	P	**P**	**17 35 09.5**	**-1.0**
	0.9nm,0.7s,baz=266,slow=4.3,SNR=11					
ILAR	**Eielson Array**	**86.35 24**	P	**P**	**17 35 09.5**	**-1.0**
GERES	**GERESS Array B**	**116.81 324**	PKP	**PKPdf**	**17 41 13.7**	**+0.8**
	0.4nm,0.5s,baz=90,slow=1.7,SNR=4.3					
GERES	**GERESS Array B**	**116.81 324**	PKP	**PKPdf**	**17 41 13.7**	**+0.8**
SFJD	**Kangerlussuaq**	**116.81 5**	PKP	**PKPdf**	**17 41 12.9**	**+0.7**
	5.6nm,0.8s,baz=0.0,slow=2.0,SNR=3.3					
SFJD	**Kangerlussuaq**	**116.81 5**	PKP	**PKPdf**	**17 41 12.9**	**+0.7**
EKA	**Eskdalemuir Ar**	**121.32 337**	PKP	**PKPdf**	**17 41 22.3**	**+1.1**
	0.3nm,0.4s,baz=28,slow=3.8,SNR=3.6					
EKA	**Eskdalemuir Ar**	**121.32 337**	PKP	**PKPdf**	**17 41 22.3**	**+1.1**
TORD	**Torodi Ar. Bea**	**138.57 285**	PKP	**PKPdf**	**17 41 56.8**	**+1.8**
	1.2nm,0.8s,baz=70,slow=2.2,SNR=6.8					
TORD	**Torodi Ar. Bea**	**138.57 285**	PKP	**PKPdf**	**17 41 56.8**	**+1.8**
LPAZ	**La Paz**	**144.96 126**	PKP	**PKPdf**	**17 42 09.2**	**+2.0**
	7.1nm,0.8s,baz=245,slow=1.6,SNR=33					
LPAZ	**La Paz**	**144.96 126**	PKP	**PKPdf**	**17 42 09.2**	**+2.0**
LPAZ			*e*PKPdf	**PKPdf**	**17 42 09.2**	**+2.0**
DBIC	**Dimbokro**	**145.64 276**	PKPbc	**PKPab**	**17 42 09.6**	**+1.1**
	5.1nm,0.5s,baz=65,slow=3.0,SNR=17					
DBIC			pPKPbc	pPKPbc	17 42 30.8	-4.4
	5.2nm,0.7s,baz=95,slow=3.8,SNR=3.6					
DBIC	**Dimbokro**	**145.64 276**	PKPbc	**PKPab**	**17 42 09.6**	**+1.1**
DBIC			pPKPbc	pPKPbc	17 42 30.8	-4.4
SJG	**San Juan**	**150.30 60**	PKPbc	**PKPbc**	**17 42 20.6**	**+0.2**
	8.1nm,0.4s,baz=3.1,slow=11,SNR=5.9					
SJG	**San Juan**	**150.30 60**	PKPbc	**PKPbc**	**17 42 20.6**	**+0.2**

*IDC **31** 17:50:29.6±0.8,13.°56N×86.°01W,h0km,mb4.1/12, mb1 4.3/13,mb1mx4.1/26,mbtmp4.2/13,ML4.7/1,MS3.1/8, Ms1 3.1/8,ms1mx3.0/27,Error ellipse: s-maj=34.4km s-min=15.3km az=65.0*

*CASC **31** 17:50:30.2±3.6,13.°57N×86.°18W,h0km±12km,MD4.3, mb4.4(NEIC)*

*ISCJB **31** 17:50:32.1±1.1,13.°55N±0.°03×86.°10W±0.°03,h27km±8km, mb4.2/21,MS3.3/5,Error ellipse: s-maj=6.3km s-min=4.5km az=137.8*

*NEIC **31** 17:50:34.2±1.0,13.°45N×86.°06W,h36km±11km,mb4.4/9, ML4.9(INET),Error ellipse: s-maj=15.9km s-min=8.9km az=47.0*

NEIC At least three houses were destroyed and 10 damaged at San Juan del Rio Coco. Felt in the central part of the Nicaragua-Honduras border region.

*BJI **31** 17:50:35.2,13.°30N×86.°30W,h44km,mB5.4/3,Ms5.2/2, Ms7 5.1/2*

ISC 31 17:50:31.7±1.6,13.°52N±0.°04×86.°19W±0.°05,h16km±10km, n185,σ1§15/189,mb4.3/21,MS3.2/5,56C-55D,Nicaragua

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.13 206**	*e*P	**Pg**	**17 50 52.6**	**-0.9**
CNGN			*e*S	**Sb**	**17 51 09.1**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.18 297**	*e*Pn	**Pn**	**17 50 53.4**	**-0.2**
TGUH			*e*Sn	**Sb**	**17 51 09.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.18 297**	*e*P	**Pn**	**17 50 53.5**	**-0.2**
TGUH			*e*S	**Sn**	**17 51 11.3**	**+1.9**
CNCH	**Conchagua**	**1.62 262**	*e*P	**Pn**	**17 50 59.5**	**-0.2**
CNCH			*e*S	**Sg**	**17 51 23.9**	**0.0**
BLLM	**Bellamira**	**1.99 268**	*e*P	**Pn**	**17 51 04.8**	**0.0**
BLLM			*e*S	**Sb**	**17 51 33.7**	**+1.3**
VSM	**San Miguel**	**2.03 268**	*e*P	**Pn**	**17 51 05.6**	**0.0**
VSM			*e*S	**Sb**	**17 51 33.7**	**+0.2**
LAPC	**Finca la Perla**	**2.83 165**	*i* P	**Pn**	**17 51 16.7**	**+0.3**
COLC	**Colonia**	**3.00 161**	*i* P	**Pn**	**17 51 18.6**	**0.0**
CUI	**Cuipilapa**	**3.02 160**	*i* P	**Pn**	**17 51 18.9**	**0.0**
PTEN	**Parque Tenorio**	**3.02 157**	*i* P	**Pn**	**17 51 19.5**	**+0.4**
PTEN			*i* S	**Sb**	**17 52 04.4**	**+2.4**
JTS	**JuntasAbangare**	**3.43 159**	Pn	**Pn**	**17 51 25.3**	**+0.7**
	80nm,0.3s,baz=360,slow=10,SNR=318					
JTS			Sn	**Sn**	**17 52 06.3**	**+1.3**
	24nm,0.3s,baz=196,slow=20,SNR=3.6					
JTS			LR	LR	17 53 06.0	
	comp=Z,389nm,18.9s,baz=336,slow=46					
JTS	**JuntasAbangare**	**3.43 159**	*e*Pn	**Pn**	**17 51 25.0**	**+0.4**
JTS			Sn	**Sn**	**17 52 06.3**	**+1.3**
RBDL	**Robledal**	**3.45 280**	*e*P	**Pn**	**17 51 25.0**	**+0.1**
TEIG	**Tepich**	**6.96 344**	Pn	Pn	17 52 17.4	+4.3
	5.4nm,0.3s,baz=308,slow=1.4,SNR=16					
TEIG			Sn	**Sn**	**17 53 30.0**	**-2.1**
	3.3nm,0.3s,baz=246,slow=20,SNR=2.4					
TEIG			LR	LR	17 54 53.9	
	comp=Z,191nm,19.5s,baz=278,slow=38					
TEIG	**Tepich**	**6.96 344**	*e*Pn	**Pn**	**17 52 14.7**	**+1.5**
	40nm,0.8s					
TEIG			Sn	**Sn**	**17 53 30.0**	**-2.1**
BCIP	**Isla Barro Col**	**7.58 124**	*e*Pn	Pn	17 52 17.8	-3.9
CMIG	**Matias Romero**	**9.11 294**	Pn	Pn	17 52 48.5	+5.8
	0.3nm,0.3s,baz=110,slow=10,SNR=7.4					
CMIG			Sn	Sn	17 54 36.1	+11
	0.2nm,0.3s,baz=12,slow=17,SNR=1.9					
CMIG			Lg	Lg	17 55 14.3	
	0.4nm,0.3s,baz=17,slow=20,SNR=2.4					
CMIG	**Matias Romero**	**9.11 294**	Pn	Pn	17 52 48.5	+5.8
CMIG			Sn	Sn	17 54 36.1	+11
CMIG			Lg	Lg	17 55 14.3	
MTDJ	**Mount Denham**	**9.55 60**	P	Pn	17 52 52.2	+3.4
	15nm,0.6s					
GTBY	**Guantanamo Bay**	**12.38 58**	P	**Pn**	**17 53 28.7**	**+1.3**
ROSC	**El Rosal**	**14.52 125**	LR	LR	17 59 54.1	
	comp=Z,37nm,21.3s,baz=200,slow=39					
ROSC	**El Rosal**	**14.52 125**	P	**P**	**17 54 04.4**	**+0.7**
TIGA	**Tifton**	**18.00 7**	⇓P	**P**	**17 54 42.9**	**+1.2**
	baz=18					
SJG	**San Juan**	**19.81 74**	LR	LR	18 02 57.1	
	comp=Z,99nm,18.8s,baz=274,slow=38					
732A	**Laxson Ranch,**	**19.83 322**	⇓P	**Pn**	**17 55 03.8**	**+0.3**
	baz=20					
632A	**Uvalde**	**20.29 324**	⇓P	Pn	17 55 08.6	-0.4
	baz=20					
631A	**Perdido Creek**	**20.69 322**	⇑P	**P**	**17 55 12.5**	**+1.3**
	baz=21					
532A	**Rocksprings**	**20.83 325**	⇑P	**P**	**17 55 13.9**	**+1.1**
	baz=21					
JCT	**Junction City**	**21.04 326**	*e*Pn	**P**	**17 55 16.5**	**+1.4**
	8.6nm,0.9s					
JCT	**Junction City**	**21.04 326**	⇑P	**P**	**17 55 16.0**	**+0.9**
	baz=21					
WHTX	**Lake Whitney**	**21.09 333**	⇑P	**P**	**17 55 17.3**	**+1.7**
	baz=21					
531A	**Rocksprings**	**21.22 324**	⇓P	**P**	**17 55 17.6**	**+0.5**
	baz=21					
432A	**Menard**	**21.34 326**	⇓P	**P**	**17 55 19.8**	**+1.5**
	baz=22					
431A	**Sonora**	**21.64 324**	⇓P	**P**	**17 55 22.6**	**+1.0**
	baz=22					
530A	**J-C Ranch, Com**	**21.68 322**	⇓P	**P**	**17 55 23.1**	**+1.2**
	baz=22,SNR=9.3					
332A	**Millersview**	**21.71 327**	⇓P	**P**	**17 55 23.5**	**+1.3**
	baz=22					
ATAH	**Atahualpa**	**21.93 159**	LR	LR	18 03 31.5	
	comp=Z,128nm,20.5s,baz=191,slow=36					
331A	**San Angelo**	**22.02 326**	⇑P	**P**	**17 55 26.8**	**+1.2**
	baz=22,SNR=7.4					
232A	**Coleman**	**22.06 328**	⇑P	**P**	**17 55 27.4**	**+1.3**
	baz=22,SNR=6.2					
430A	**Baggett Ranch,**	**22.08 324**	⇑P	**P**	**17 55 27.1**	**+0.8**
	baz=22					
TKL	**Tuckaleechee C**	**22.15 5**	P	**P**	**17 55 27.6**	**+0.7**
	2.3nm,0.6s,baz=178,slow=8.3,SNR=4.3					
TKL	**Tuckaleechee C**	**22.15 5**	P	**P**	**17 55 27.6**	**+0.7**
628A	**Black Gap, Mar**	**22.18 318**	⇑P	**P**	**17 55 27.5**	**+0.2**
	baz=22					
529A	**Stev Forest Ra**	**22.19 321**	⇓P	**P**	**17 55 27.8**	**+0.2**
	baz=22					
429A	**Davenport Ranc**	**22.35 322**	⇓P	**P**	**17 55 29.4**	**+0.2**
	baz=22					
231A	**Bronte**	**22.45 327**	⇑P	**P**	**17 55 30.2**	**0.0**
	baz=23					
627A	**Terlingua Ranc**	**22.48 318**	⇑P	**P**	**17 55 30.1**	**-0.5**
	baz=23,SNR=5.1					
330A	**Mertzon**	**22.51 325**	⇓P	**P**	**17 55 30.7**	**-0.2**
	baz=23					
528A	**Cox Ranch, San**	**22.57 320**	⇓P	**P**	**17 55 31.4**	**-0.3**
	baz=23					
ABTX	**Abilene, Hawle**	**22.65 329**	⇓P	**P**	**17 55 34.0**	**+1.6**
	baz=23,SNR=8.6					
230A	**Sterling City**	**22.84 326**	⇓P	**P**	**17 55 34.7**	**+0.3**
	baz=23					
428A	**Kincaid Ranch,**	**22.90 321**	⇓P	**P**	**17 55 34.6**	**-0.5**
	baz=23					
329A	**Wagon Wheel Ra**	**23.03 324**	⇑P	**P**	**17 55 36.4**	**0.0**
	baz=23					
626A	**Big Bend Ranch**	**23.04 317**	⇑P	**P**	**17 55 36.6**	**0.0**
	baz=23					
131A	**Roby**	**23.06 328**	⇑P	**P**	**17 55 36.8**	**+0.2**
	baz=23					
527A	**Woodward Ranch**	**23.08 319**	⇓P	**P**	**17 55 36.9**	**-0.1**
	baz=23,SNR=7.1					
Z32A	**Haskell**	**23.12 331**	⇓P	**P**	**17 55 37.8**	**+0.5**
	baz=23,SNR=17					
229A	**Bryant Ranch,**	**23.29 325**	⇓P	**P**	**17 55 38.8**	**-0.2**
	baz=24					
526A	**Mary Lane Ranc**	**23.34 318**	⇑P	**P**	**17 55 39.5**	**-0.1**
	baz=24					
427A	**Hayter Ranch,**	**23.43 320**	⇑P	**P**	**17 55 39.9**	**-0.6**
	baz=24					
328A	**Wristen Ranch,**	**23.44 322**	⇑P	**P**	**17 55 40.2**	**-0.3**
	baz=24,SNR=18					
Z31A	**Sharp Cattle R**	**23.45 330**	⇓P	**P**	**17 55 40.7**	**+0.1**
	baz=24,SNR=5.4					
Y32A	**R-V Farms, Ver**	**23.68 332**	⇑P	**P**	**17 55 43.4**	**+0.6**
	baz=24,SNR=7.5					
426A	**McDonald Obser**

ANMO	**Albuquerque**	**28.11 323**	LR		LR	18 09 14.3		
	comp=Z,40nm,21.5s,baz=72,slow=40							
LAZ	**Ladron**	**28.15 321**	*e*P		P	17 56 20.8	-2.8	
TUC	**Tucson**	**29.25 314**	P		P	17 56 28.7	-4.6	
	2.3nm,0.8s							
SAML	**Samuel**	**31.94 133**	*e*P		P	17 56 54.7	-2.4	
	5.4nm,0.9s							
LPAZ	**La Paz**	**34.58 148**	LR		LR	18 12 23.9		
	comp=Z,42nm,18.3s,baz=148,slow=38							
DAU	**Daniels Canyon**	**34.64 325**	P		**P**	**17 57 19.5**	**-1.3**	
	17nm,1.1s							
PDAR	**Pinedale Array**	**35.45 330**	P		**P**	**17 57 28.7**	**+1.1**	
	1.7nm,0.8s,baz=128,slow=9.7,SNR=10.0							
PDAR	**Pinedale Array**	**35.45 330**	P		**P**	**17 57 28.7**	**+1.1**	
TPAW	**Teton Pass**	**36.67 329**	P		P	17 57 27.8	-10	
C24A	**Savage**	**37.17 339**	⇑P		**P**	**17 57 42.7**	**+0.7**	
	baz=37							
J15A	**Blackfoot**	**37.35 328**	⇑P		**P**	**17 57 44.3**	**+0.5**	
	baz=38							
G18A	**Lazy EL Ranch,**	**37.39 333**	⇑P		**P**	**17 57 44.3**	**+0.2**	
	baz=38							
ULM	**Lac du Bonnet**	**37.48 350**	P		**P**	**17 57 43.6**	**-0.9**	
	4.1nm,0.7s,baz=149,slow=6.2,SNR=7.1							
ULM	**Lac du Bonnet**	**37.48 350**	P		**P**	**17 57 43.6**	**-0.9**	
NVAR	**Mina Array Bea**	**37.74 317**	P		**P**	**17 57 49.2**	**+2.0**	
	5.4nm,1.0s,baz=130,slow=6.9,SNR=11							
NVAR	**Mina Array Bea**	**37.74 317**	P		**P**	**17 57 49.2**	**+2.0**	
J14A	**Carey**	**37.87 327**	⇑P		**P**	**17 57 49.1**	**+0.9**	
	baz=38							
J13A	**Cove Ranch, Pi**	**38.27 326**	⇑P		**P**	**17 57 52.0**	**+0.5**	
	baz=38							
G16A	**Moss Hill, Enn**	**38.36 331**	⇓P		**P**	**17 57 53.5**	**+1.2**	
	baz=38							
SIV	**San Ignacio**	**38.42 139**	P		**P**	**17 57 52.4**	**-0.6**	
	3.0nm,0.6s,baz=324,slow=9.0,SNR=14							
SIV	**San Ignacio**	**38.42 139**	P		**P**	**17 57 52.4**	**-0.6**	
HLID	**Hailey**	**38.51 326**	*e*P		**P**	**17 57 53.2**	**-0.4**	
	2.0nm,0.8s							
MCMT	**McKenzie Canyo**	**38.58 329**	*e*P		**P**	**17 57 56.5**	**+2.2**	
	3.3nm,1.0s							
I13A	**Wildhorse Cree**	**38.59 327**	⇑P		**P**	**17 57 55.1**	**+0.8**	
	baz=39							
C20A	**Veseth Ranch,**	**38.64 336**	⇑P		**P**	**17 57 55.9**	**+1.5**	
	baz=39							
G15A	**Dillon**	**38.65 330**	⇑P		**P**	**17 57 55.9**	**+1.2**	
	baz=39							
F16A	**Kennard Place,**	**38.69 331**	⇓P		**P**	**17 57 56.1**	**+1.1**	
	baz=39							
H14A	**Leadore**	**38.69 329**	⇓P		**P**	**17 57 56.0**	**+0.9**	
	baz=39							
E17A	**Martinsdale**	**38.84 333**	⇓P		**P**	**17 57 57.2**	**+0.9**	
	baz=39							
I12A	**Atlanta**	**39.05 326**	⇓P		**P**	**17 57 58.8**	**+0.7**	
	baz=39							
C19A	**Slack Wire Ran**	**39.07 335**	⇓P		**P**	**17 57 59.4**	**+1.3**	
	baz=39							
LRM	**Limekiln Ridge**	**39.10 331**	*e*P		**P**	**17 58 00.1**	**+1.5**	
	48nm,1.0s							
F15A	**Butte**	**39.14 331**	⇑P		**P**	**17 58 00.2**	**+1.4**	
	baz=39							
E16A	**East Helena**	**39.27 332**	⇓P		**P**	**17 58 01.0**	**+1.2**	
	baz=40							
D17A	**Six Diamond Ra**	**39.30 333**	⇑P		**P**	**17 58 01.1**	**+1.0**	
	baz=40							
D16A	**Dana Ranch, Ca**	**39.59 333**	⇑P		**P**	**17 58 03.7**	**+1.2**	
	baz=40							
C17A	**Wharram Farm,**	**39.70 334**	⇓P		**P**	**17 58 04.3**	**+0.9**	
	baz=40							
F13A	**Darby**	**40.00 329**	⇓P		**P**	**17 58 06.7**	**+0.7**	
	baz=40							
E14A	**Clinton**	**40.03 330**	⇓P		**P**	**17 58 07.3**	**+1.0**	
	baz=40							
D15A	**Lincoln**	**40.03 332**	⇓P		**P**	**17 58 07.3**	**+1.1**	
	baz=40							
G12A	**Big Creek, Yel**	**40.05 328**	⇓P		**P**	**17 58 07.5**	**+1.1**	
	baz=40							
E13A	**Victor**	**40.39 330**	⇑P		**P**	**17 58 10.0**	**+0.9**	
	baz=41							
F12A	**Elk City**	**40.44 328**	⇓P		**P**	**17 58 10.4**	**+0.8**	
	baz=41							
D14A	**Greenough**	**40.52 331**	⇑P		**P**	**17 58 11.4**	**+1.2**	
	baz=41							
MSO	**Missoula**	**40.55 331**	⇑P		**P**	**17 58 11.1**	**+0.7**	
	baz=41							
C15A	**Salmond Ranch,**	**40.62 333**	⇑P		**P**	**17 58 12.1**	**+1.0**	
	baz=41							
D13A	**Huson**	**40.98 330**	⇑P		**P**	**17 58 14.0**	**0.0**	
	baz=41							
B14A	**Marquette Ranc**	**41.35 333**	⇓P		**P**	**17 58 17.7**	**+0.6**	
	baz=42							
D12A	**Red Ives Fores**	**41.39 330**	⇓P		**P**	**17 58 17.6**	**+0.3**	
	baz=42							
A15A	**Johnson Ranch,**	**41.58 334**	⇓P		**P**	**17 58 18.9**	**-0.1**	
	baz=42							
A14A	**Double T Ranch**	**41.88 333**	⇓P		**P**	**17 58 21.5**	**+0.1**	
	baz=42							
B13A	**Whitefish**	**41.91 332**	⇓P		**P**	**17 58 21.6**	**0.0**	
	baz=42							
C11A	**Tepee Creek (N**	**42.38 330**	⇑P		**P**	**17 58 25.5**	**+0.2**	
	baz=43							
SCHQ	**Schefferville**	**43.91 16**	P		**P**	**17 58 37.6**	**-0.1**	
	2.1nm,0.8s,baz=217,slow=14,SNR=3.6							
SCHQ			PcP		**PcP**	**18 00 23.0**	**-0.5**	
	1.9nm,0.6s,baz=242,slow=13,SNR=4.4							
SCHQ	**Schefferville**	**43.91 16**	P		**P**	**17 58 37.6**	**-0.1**	
SCHQ			PcP		**PcP**	**18 00 23.0**	**-0.5**	
YKA	**Yellowknife Ar**	**52.92 344**	P		**P**	**17 59 47.0**	**+0.1**	
	2.6nm,0.7s,baz=140,slow=7.4,SNR=65							
YKA			PcP		**PcP**	**18 00 55.9**	**+0.2**	
	0.8nm,0.7s,baz=142,slow=4.4,SNR=7.5							
YKA	**Yellowknife Ar**	**52.92 344**	P		**P**	**17 59 47.0**	**+0.1**	
YKA			PcP		**PcP**	**18 00 55.9**	**+0.2**	
DLBC	**Dease Lake**	**55.49 334**	P		**P**	**18 00 07.6**	**+1.7**	
	5.3nm,0.8s,baz=142,slow=7.9,SNR=9.2							
DLBC	**Dease Lake**	**55.49 334**	P		**P**	**18 00 07.6**	**+1.7**	
RES	**Resolute Bay**	**61.35 357**	P		**P**	**18 00 46.0**	**-0.4**	
	3.2nm,0.7s,baz=179,slow=11,SNR=14							
RES	**Resolute Bay**	**61.35 357**	P		**P**	**18 00 46.0**	**-0.4**	
INK	**Inuvik**	**62.57 342**	P		**P**	**18 00 54.6**	**0.0**	
	1.7nm,1.0s,baz=123,slow=9.7,SNR=5.1							
INK	**Inuvik**	**62.57 342**	P		**P**	**18 00 54.6**	**0.0**	
ILAR	**Eielson Array**	**65.55 336**	P		**P**	**18 01 14.8**	**+0.5**	
	1.7nm,0.7s,baz=132,slow=4.6,SNR=21							
ILAR	**Eielson Array**	**65.55 336**	P		**P**	**18 01 14.8**	**+0.5**	
ESDC	**Sonseca Array**	**75.57 52**	P		**P**	**18 02 16.1**	**+0.1**	
	0.1nm,0.3s,baz=256,slow=5.2,SNR=3.3							
ESDC	**Sonseca Array**	**75.57 52**	P		**P**	**18 02 16.1**	**+0.1**	
CN2	**Changchun**	**116.06 335**	*e*PKP		**PKPdf**	**18 09 13.8**	**-0.6**	
WMQ	**Urumqi**	**122.67 5**	*e*PKP		**PKPdf**	**18 09 23.8**	**-3.4**	
HHC	**Hu-ho-hao-te**	**123.46 344**	*e*PKP		**PKPdf**	**18 09 26.0**	**-2.8**	
HHC			PP		**PP**	**18 11 12.5**	**+3.7**	
HHC			PKS		**PKSdf**	**18 13 01.5**	**-4.1**	
HHC			SKS		SKSdf	18 16 32.0	-8.6	
HHC			SKKS		SKKSac	18 17 59.5	-9.1	
HHC			SS		**SS**	**18 27 56.0**	**+1.7**	
HHC			AMB		AMB			
	comp=Z,180nm,8.6s							
HHC			LR		LR			
	comp=N,130nm,16.1s							
HHC			LR		LR			
	comp=E,130nm,17.3s							
HHC			LR		LR			
	comp=Z,180nm,17.2s							
KSH	**Kashi**	**124.68 17**	*e*PKP		**PKPdf**	**18 09 31.3**	**0.0**	
KSH			sPKP			18 09 46.0		
KSH			PP		PP	18 11 23.8	+6.8	
KSH			PKS		**PKSdf**	**18 13 06.0**	**-2.0**	
KSH			SKS		SKSdf	18 16 36.5	-6.5	
KSH			SKKS		SKKSac	18 18 11.3	-5.2	
KSH			SS		**SS**	**18 28 12.0**	**+2.2**	
KSH			AMB		AMB			
	comp=Z,80nm,5.0s							
KSH			LR		LR			
	comp=N,64nm,6.3s							
KSH			LR		LR			
	comp=E,61nm,5.4s							
KSH			LR		LR			
	comp=Z,200nm,6.0s							
LZH	**Lanzhou**	**129.76 349**	*e*PKP		**PKPdf**	**18 09 40.0**	**-1.1**	
LZH			sPKP			18 09 56.5		
CD2	**Chengdu**	**134.80 348**	PKP		**PKPdf**	**18 09 48.0**	**-2.6**	
WRA	**Warramunga Arr**	**140.74 255**	PKhKP		PKPpre	18 09 54.0		
	comp=Z,0.4nm,0.6s,baz=85,slow=3.1,SNR=5.3							
WRA			PKP		**PKPdf**	**18 10 00.8**	**-0.9**	
	comp=Z,0.8nm,0.7s,baz=86,slow=2.3,SNR=12							
WRA	**Warramunga Arr**	**140.74 255**	PKPpre		PKPpre	18 09 54.0		
WRA			PKP		**PKPdf**	**18 10 00.8**	**-0.9**	
ASAR	**Alice Springs**	**140.80 249**	PKhKP		PKPpre	18 09 54.5		
	comp=Z,0.3nm,0.7s,baz=128,slow=2.7,SNR=3.1							
ASAR			PKP		**PKPdf**	**18 10 01.1**	**-0.7**	
	comp=Z,0.6nm,0.7s,baz=91,slow=2.6,SNR=8.8							
ASAR	**Alice Springs**	**140.80 249**	PKPpre		PKPpre	18 09 54.5		
ASAR			PKP		**PKPdf**	**18 10 01.1**	**-0.7**	
CMAR	**Chiang Mai Arr**	**147.83 351**	PKPbc		**PKPbc**	**18 10 16.9**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=335,slow=3.2,SNR=13							
CMAR	**Chiang Mai Arr**	**147.83 351**	PKPbc		**PKPbc**	**18 10 16.9**	**-0.1**	
FITZ	**Fitzroy Crossi**	**149.06 257**	PKPbc		**PKPbc**	**18 10 19.9**	**-0.3**	
	comp=Z,2.1nm,0.9s,baz=47,slow=6.6,SNR=3.7							
FITZ	**Fitzroy Crossi**	**149.06 257**	PKPbc		**PKPbc**	**18 10 19.9**	**-0.3**	

IDC 31 17:53:01.7±6.9, 3°.13N×127°.68E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=113.3km s-min=90.4km az=134.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.20**	**185**	P	P	17 57 49.5	+0.5
	1.3nm,0.9s,baz=5.2,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**23.84**	**164**	P	P	17 58 15.8	-1.0
	1.3nm,0.7s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.32**	**167**	P	P	17 58 49.5	+1.1
	0.1nm,0.3s,baz=346,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**37.24**	**160**	P	P	18 00 14.8	-0.4
	1.7nm,0.9s,baz=352,slow=7.1,SNR=2.4						

IDC 31 17:57:00.1±1.3, 13°.66N×85°.85W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=83.8km s-min=23.7km az=78.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.46**	**165**	Pn	Pn	17 57 55.7	+0.3
	12nm,0.3s,baz=351,slow=14,SNR=25						
JTS				Sn	Sn	17 58 38.0	+0.8
	8.0nm,0.3s,baz=298,slow=18,SNR=6.6						
YKA	**Yellowknife Ar**	**52.88**	**344**	P	P	18 06 17.1	-0.4
	0.4nm,0.7s,baz=139,slow=7.6,SNR=7.9						
SFJD	**Kangerlussuaq**	**58.14**	**15**	P	P	18 06 55.1	-0.2
	4.2nm,0.7s,baz=180,slow=3.0,SNR=3.3						
RES	**Resolute Bay**	**61.23**	**357**	P	P	18 07 16.9	+0.5
	0.5nm,0.7s,baz=191,slow=5.2,SNR=3.7						
ILAR	**Eielson Array**	**65.56**	**336**	P	P	18 07 45.5	+0.1
	0.2nm,0.9s,baz=123,slow=6.5,SNR=4.1						
WRA	**Warramunga Arr**	**141.09**	**255**	PKP	PKPdf	18 16 31.9	-1.6
	0.2nm,0.7s,baz=86,slow=2.9,SNR=3.2						
ASAR	**Alice Springs**	**141.16**	**249**	PKP	PKPdf	18 16 32.3	-1.2
	0.2nm,0.6s,baz=75,slow=1.1,SNR=3.6						

*PGC **31** 18:17:44.1±5.1, 60°.21N×140°.62W, h1km, ML3.0/3, 120km northwest of Yakutat, Ak Southeastern Alaska*

NEIC 31 18:17:43.7, 60°.28N×140°.63W, h7km, ML2.8(AEIC)**, 4D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAMH	**Samovar Hills**	**0.17**	**207**	P	Pg	18 17 47.7	+0.4
SAMH				S	Sg	18 17 51.0	+1.2
TABL	**Table Mountain**	**0.30**	**302**	P	Pg	18 17 50.1	+0.2
TABL				S	Sg	18 17 55.6	+1.5
RKAV	**Rock Avalanche**	**0.36**	**273**	P	Pg	18 17 50.7	-0.2
RKAV				S	Sg	18 17 56.2	+0.4
MESA	**MESA**	**0.67**	**262**	P	Pg	18 17 56.5	-0.3
MESA				S	Sg	18 18 06.5	+0.8
BAGL	**Bagley Icefiel**	**0.76**	**287**	P	Pg	18 17 57.6	-0.6
BAGL				S	Sg	18 18 08.3	+0.3
CTGM	**Chitina Glacie**	**0.77**	**333**	P	Pg	18 17 58.5	-0.2
PNL	**Peninsula**	**0.87**	**134**	P	Pg	18 17 59.4	-1.1
PNL				S	Sg	18 18 11.8	-0.1
ISLE	**Juniper Island**	**0.91**	**292**	P	Pg	18 17 59.8	-1.6
BARN	**Barnard Glacie**	**0.93**	**327**	P	Pg	18 18 00.8	-1.0
BARN				S	Sg	18 18 13.9	-0.2
BARK	**Barkley Ridge**	**0.94**	**278**	P	Pg	18 18 01.0	-0.8
KULT	**Kultieth River**	**1.04**	**269**	P	Pg	18 18 02.6	-1.3
KIAG	**Kiagna River**	**1.07**	**308**	P	Pg	18 18 02.6	-1.8
BALM	**Baldy**	**1.14**	**313**	P	Pg	18 18 03.6	-2.0
KHIT	**Khitrov Hills**	**1.31**	**278**	P	Pn	18 18 07.0	-1.6
KHIT				S	Sb	18 18 24.6	-1.4
BGLC	**Bering Glacier**	**1.33**	**264**	P	Pn	18 18 07.5	-1.2
GRIN	**Grindle Hills**	**1.34**	**271**	P	Pn	18 18 07.4	-1.5
BERG	**Berg Lake**	**1.53**	**275**	P	Pn	18 18 10.4	-1.1
HYT	**Haines Junctio**	**1.64**	**69**	P	Pb	18 18 13.8	-0.6
HYT	**Haines Junctio**	**1.64**	**69**	⇓Pn	Pn	18 18 13.7	+0.6
HYT				⇑Sg	Sb	18 18 35.6	+0.3
VRDI	**Verde Repeater**	**1.68**	**306**	P	Pn	18 18 13.0	-0.8
GLB	**Gilahina Butte**	**1.94**	**308**	P	Pn	18 18 16.6	-0.6
BMRM	**Bremner River**	**2.08**	**291**	P	Pn	18 18 18.0	-1.0
DIV	**Divide**	**2.67**	**291**	P	Pn	18 18 26.8	-0.4
BCA3	**Beaver Creek A**	**2.85**	**349**	P	Pn	18 18 29.8	+0.2
WHY	**Whitehorse**	**2.87**	**80**	P	Pn	18 18 30.6	+0.5
WHY	**Whitehorse**	**2.87**	**80**	⇓Pn	Pn	18 18 30.5	+0.5
WHY				⇓Sn	Sn	18 19 05.4	+0.5
WHY				⇑Sg	Sg	18 19 14.4	-1.8
BESE	**Bessie Mountai**	**3.41**	**118**	P	Pn	18 18 36.3	-1.1
PAX	**Paxson**	**3.55**	**322**	*e*Pn	Pn	18 18 37.4	-1.9
DOT	**Dot Lake**	**3.75**	**336**	*e*Pn	Pn	18 18 43.9	+1.9
DAWY	**Dawson**	**3.84**	**8**	P	Pn	18 18 43.8	+0.5
DAWY	**Dawson**	**3.84**	**8**	⇑Pn	Pn	18 18 45.0	+1.7
DAWY				⇓Sn	Sn	18 19 29.9	+1.1
DAWY				⇑Sg	Sg	18 19 44.9	-2.2
SML	**Sawmill**	**4.05**	**296**	P	Pn	18 18 46.6	+0.5
EGAK	**Eagle**	**4.52**	**357**	*e*Pn	Pn	18 18 54.2	+1.8
TRF	**Thorofare Moun**	**5.57**	**309**	P	Pn	18 19 06.8	-0.2
BM3	**Burnt Mountain**	**7.38**	**348**	P	Pn	18 19 33.1	+1.3

MAN 31 18:22:44, 8°.34N×124°.88E, h33km, mb3.9, ML2.7, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.22**	**302**	⇑*i*P	Pb	18 22 52.3	+1.5
CGP				*i* S	Sb	18 22 55.9	+0.6
BUKP	**Musuan**	**0.49**	**159**	*e*P	Pn	18 22 55.5	+0.7
BUKP				*e*S	Sn	18 23 04.0	+1.7
PAGZ	**Pagadian**	**1.56**	**252**	*e*P	Pn	18 23 09.7	+0.2
PAGZ				*e*S	Sn	18 23 23.9	-4.7

*IDC **31** 18:32:51.4±1.6, 0°.55S×125°.12E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.3/22, mbtmp3.3/4, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/18, Error ellipse: s-maj=39.6km s-min=26.2km az=68.0*

*ISCJB **31** 18:32:57.0±0.6, 0°.72S±0°.08×125°.03E±0°.06, h52km, mb2.3/3, Error ellipse: s-maj=12.9km s-min=7.1km az=146.6*

*DJA **31** 18:32:58.7±0.8, 1°.5±10°.×12°.5E±°, h57km±49km, M4.0/7, mb4.4/3, mB4.6/1, MLv3.8/7, Mw(mB)3.8/1*

ISC 31 18:32:58.4±1.1, 0°.68S±0°.09×125°.06E±0°.07, h52km, n11, σ0°.49/12, mb3.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.12**	**354**	P	**Pn**	**18 33 31.6**	**+0.1**
LUWI	**Luwuk**	**2.31**	**261**	P	**Pn**	**18 33 34.5**	**+0.4**
LBMI	**Labuha**	**2.44**	**89**	P	**Pn**	**18 33 35.9**	**0.0**
TNTI	**Ternate**	**2.72**	**58**	P	**Pn**	**18 33 40.1**	**+0.4**
TTSI	**Tana Toraja**	**5.74**	**246**	P	**Pn**	**18 34 20.7**	**-0.4**
	32nm,0.8s,526nm0.1nm						
SPSI	**Sidrap Palu**	**6.21**	**238**	P	**Pn**	**18 34 27.6**	**0.0**
	32nm,0.5s,0.1nm						
BKSI	**Bulukumba**	**6.75**	**227**	P	**Pn**	**18 34 35.0**	**0.0**
KAPI	**Kappang**	**6.83**	**231**	Pn	**Pn**	**18 34 35.9**	**-0.1**
	1.1nm,0.3s,baz=116,slow=13,SNR=5.5						
KAPI				Sn	**Sn**	**18 35 52.9**	**+0.4**
	0.4nm,0.3s,baz=75,slow=20,SNR=2.0						
KAPI				LR	LR	18 37 40.4	
	comp=Z,57nm,20.5s,baz=274,slow=42						
WRA	**Warramunga Arr**	**21.19**	**155**	P	**P**	**18 37 39.1**	**-0.6**
	0.9nm,0.7s,baz=334,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**24.41**	**160**	P	**P**	**18 38 13.1**	**+0.9**
	0.2nm,0.5s,baz=348,slow=13,SNR=5.2						
MKAR	**Makanchi Array**	**60.28**	**328**	P	**P**	**18 43 01.2**	**-0.5**
	0.2nm,0.4s,baz=127,slow=7.9,SNR=6.2						

MAN 31 19:16:12, 8°.24N×125°.37E, h1km, mb4.1, ML2.9, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.47**	**221**	*e*P	Pb	19 16 22.5	-0.6
BUKP				*e*S	Sg	19 16 28.7	+1.5
CGP	**Cagayan de Oro**	**0.70**	**288**	⇑*i*P	Pg	19 16 25.1	-0.4
CGP				*i* S	Sb	19 16 36.1	-1.2
MATI	**Mati**	**1.55**	**145**	*e*P	Pg	19 16 41.9	+0.1
PAGZ	**Pagadian**	**2.01**	**259**	*e*P	Pb	19 16 49.3	-0.1

*IDC **31** 19:25:39.0±1.5, 20°.18S×168°.67E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, ML3.5/1, MS3.4/4, Ms1 3.4/4, ms1mx2.8/29, Error ellipse: s-maj=56.7km s-min=18.9km az=139.0*

*ISCJB **31** 19:25:41.2±0.6, 20°.17S±0°.09×168°.7E±0°.1, h25km, mb4.0/13, MS3.3/4, Error ellipse: s-maj=17.8km s-min=7.5km az=42.8*

*NEIC **31** 19:25:44.1±0.7, 20°.24S×168°.71E, h35km, mb4.2/5, Error ellipse: s-maj=20.6km s-min=13.1km az=142.0*

ISC 31 19:25:42.8±0.7, 20°.2S±0°.1×168°.7E±0°.1, h25km, n35, σ1$03/38, mb4.2/13, MS3.3/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.81**	**229**	Pn	**Pn**	**19 26 24.5**	**-1.7**
	7.4nm,0.3s,baz=64,slow=18,SNR=43						
DZM				Sn	**Sn**	**19 26 59.6**	**+0.3**
	20nm,0.3s,baz=99,slow=22,SNR=7.3						
DZM	**Mont Dzumac**	**2.81**	**229**	Pn	**Pn**	**19 26 24.5**	**-1.7**
DZM				Sn	**Sn**	**19 26 59.6**	**+0.3**
NOUC	**Port Laguerre**	**2.92**	**230**	*e*P	**Pn**	**19 26 26.7**	**-1.1**
NOUC				*e*S	**Sn**	**19 27 01.9**	**-0.2**
CTA	**Charters Tower**	**21.09**	**266**	P	**P**	**19 30 27.7**	**+2.1**
	2.4nm,0.7s,baz=83,slow=14,SNR=3.3						
CTA				LR	LR	19 37 06.4	
	comp=Z,69nm,20.2s,baz=230,slow=33						
CTA	**Charters Tower**	**21.09**	**266**	P	**P**	**19 30 27.7**	**+2.1**
CTAO	**Charters Tower**	**21.09**	**266**	*e*P	**P**	**19 30 27.5**	**+1.9**
	3.2nm,0.7s						
STKA	**Stephens Creek**	**26.91**	**239**	P	**P**	**19 31 23.2**	**+1.1**
	0.7nm,0.4s,baz=48,slow=6.6,SNR=3.6						
STKA				LR	LR	19 42 05.4	
	comp=Z,72nm,19.9s,baz=25,slow=37						
STKA	**Stephens Creek**	**26.91**	**239**	P	**P**	**19 31 23.1**	**+1.0**
WRAB	**Tennant Creek**	**32.25**	**264**	*e*P	**P**	**19 32 08.2**	**-1.3**
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**32.26**	**264**	P	**P**	**19 32 08.4**	**-1.3**
	0.6nm,0.4s,baz=89,slow=8.5,SNR=17						
WRA				LR	LR	19 43 04.9	
	comp=Z,116nm,18.9s,baz=155,slow=32						
WRA	**Warramunga Arr**	**32.26**	**264**	P	**P**	**19 32 08.4**	**-1.3**
AS31	**Alice Springs**	**32.42**	**257**	*e*P	**P**	**19 32 10.5**	**-0.7**
ASAR	**Alice Springs**	**32.42**	**257**	P	**P**	**19 32 10.7**	**-0.5**
	4.2nm,0.7s,baz=86,slow=8.9,SNR=46						
ASAR				LR	LR	19 45 37.2	
	comp=Z,67nm,19.2s,baz=98,slow=37						
ASAR	**Alice Springs**	**32.42**	**257**	P	**P**	**19 32 10.7**	**-0.5**
VNDA	**Vanda**	**57.43**	**182**	*e*P	**P**	**19 35 28.8**	**-0.2**
	2.7nm,1.0s						
QSPA	**South Pole Qui**	**69.83**	**180**	P	**P**	**19 36 52.2**	**+1.1**
	6.0nm,1.3s						
PETK	**Petropavlovsk-**	**73.65**	**353**	P	**P**	**19 37 13.4**	**-0.6**
	3.0nm,0.7s,baz=163,slow=11,SNR=4.2						
PETK	**Petropavlovsk-**	**73.65**	**353**	P	**P**	**19 37 13.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**78.46**	**295**	P	**P**	**19 37 43.0**	**+0.9**
	0.7nm,0.8s,baz=146,slow=4.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**78.46**	**295**	P	**P**	**19 37 43.0**	**+0.9**
ULN	**Ulaanbaatar**	**87.36**	**324**	*e*P	**P**	**19 38 26.3**	**-1.6**
	1.3nm,0.8s						
SONM	**Songino Array**	**87.72**	**323**	P	**P**	**19 38 29.1**	**-0.4**
	1.1nm,0.8s,baz=143,slow=4.8,SNR=11						
SONM	**Songino Array**	**87.72**	**323**	P	**P**	**19 38 29.1**	**-0.4**
VNA3	**Neumayer Olymp**	**88.76**	**181**	*e*P	**P**	**19 38 34.4**	**+0.3**
VNA2	**Neumayer=Watz**	**89.05**	**181**	*e*P	**P**	**19 38 35.3**	**-0.1**
	baz=180,slow=3.8						
NVAR	**Mina Array Bea**	**89.82**	**49**	P	**P**	**19 38 39.8**	**+0.1**
	0.4nm,0.3s,baz=254,slow=6.5,SNR=2.0						
NVAR	**Mina Array Bea**	**89.82**	**49**	P	**P**	**19 38 39.9**	**+0.1**
ILAR	**Eielson Array**	**91.32**	**17**	P	**P**	**19 38 46.5**	**+0.7

EKS2	**Erkin-Say**	**61.94**	**317**	*e*P		**P**		19 50 24.1	**+1.1**
	1.4nm,0.8s								
KURK	**Kurchatov**	**62.59**	**327**	*e*P		**P**		19 50 27.1	**+0.1**
	2.9nm,0.7s								
BRVK	**Borovoye**	**68.25**	**326**	*e*P		**P**		19 51 03.5	**0.0**
	2.8nm,0.9s								
ABKAR	**Akbulak array**	**73.17**	**320**	*e*P		**P**		19 51 33.4	**-0.2**
YKA	**Yellowknife Ar**	**98.69**	**25**	P		Pdif		19 53 42.9	+1.0
	0.1nm,0.5s,baz=293,slow=4.7,SNR=3.0								
YKA	**Yellowknife Ar**	**98.69**	**25**	P		Pdif		19 53 42.9	+1.0

MEX 31 19:41:33.9±0.6, **16°.29N**×**98°.09W**, **h8**km±3km, **MD3.8**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.11**	**339**	*i* P		Pg	19 41 35.7	-0.8
PNIG				*i* S		Sg	19 41 38.4	+0.1
VHO	**Vista Hermosa**	**1.51**	**59**	*i* P		Pn	19 41 58.5	-3.1
VHO				*e*S		Sn	19 42 17.3	-4.4
UTMO	**Huajupan**	**1.56**	**10**	*i* P		Pn	19 41 58.1	-4.2
UTMO				*e*S		Sn	19 42 17.1	-5.8
HUIG	**Huatulco**	**1.97**	**105**	*i* P		Pn	19 42 04.8	-2.9
HUIG				*e*S		Sn	19 42 28.4	-4.1
MEIG	**Mezcala**	**2.19**	**318**	*i* P		Pn	19 42 07.4	-3.5
MEIG				*i* S		Sn	19 42 34.2	-4.1
CAIG	**El Cayaco**	**2.22**	**290**	*i* P		Pn	19 42 08.6	-2.6
CAIG				*i* S		Sn	19 42 34.8	-4.1
YAIG	**Yautepec**	**2.73**	**340**	*i* P		Pn	19 42 15.9	-2.4
YAIG				*i* S		Sn	19 42 47.5	-4.2
ARIG	**Puente Sto Nin**	**2.93**	**313**	*i* P		Pn	19 42 18.2	-2.8
ARIG				*i* S		Sn	19 42 53.0	-3.4
CMIG	**Matias Romero**	**3.17**	**75**	*i* P		Pn	19 42 21.7	-2.5
CMIG				*i* S		Sn	19 42 57.8	-4.5
ZIIG	**Zihuatanejo**	**3.49**	**293**	*i* P		Pn	19 42 25.9	-2.7
ZIIG				*i* S		Sn	19 43 06.9	-3.2

*ISCJB **31** 20:00:07.1±0.6, 49°.84N×0°.04×18°.50E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=3.6km az=5.4*
*CSEM **31** 20:00:08.2±0.2, 49°.81N×18°.53E, h1km, ML2.7/4, Error ellipse: s-maj=4.6km s-min=3.2km az=3.0*
*IPEC **31** 20:00:08.9±0.2, 49°.83N×18°.56E, h0km, ML1.5/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*PRU **31** 20:00:09.1,49°.86N×18°.52E, h0km*
ISC 31 20:00:08.3±0.9, **49°.79N**±0°.04×**18°.57E**±0°.02, **h0**km, **n22**, σ1§**03**/**38**, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.27**	**280**	*e*Pg		**Pg**	**20 00 14.6**	**+1.0**
OKC				*e*SG		**Sg**	**20 00 17.6**	**+0.5**
	comp=Z,42nm,0.6s							
OKC	**Ostrava-Krasne**	**0.27**	**280**	*e*Pg		**Pg**	**20 00 14.5**	**+1.0**
	baz=92							
OKC				Sg		**Sg**	**20 00 17.6**	**+0.5**
	42nm,0.6s							
MORC	**Moravsky Berou**	**0.66**	**269**	*e*Pg		**Pg**	**20 00 21.7**	**+0.8**
	baz=85							
MORC				*e*Sg		**Sg**	**20 00 29.5**	**0.0**
	6.4nm,0.1s,baz=85							
OJC	**Ojcow**	**0.90**	**61**	*e*Pg		**Pg**	**20 00 25.9**	**+0.3**
OJC				*e*Sg		**Sg**	**20 00 37.9**	**+0.6**
OJC	**Ojcow**	**0.90**	**61**	*e*Pg		**Pg**	**20 00 25.9**	**+0.3**
OJC				*e*Sg		**Sg**	**20 00 37.9**	**+0.6**
KRLC	**Kraliky**	**1.19**	**284**	*e*SG		**Sg**	**20 00 46.3**	**-0.1**
KRLC	**Kraliky**	**1.19**	**284**	Sg		**Sg**	**20 00 46.3**	**-0.1**
VYHS	**Vyhne**	**1.31**	**172**	*e*PN		**Pg**	**20 00 33.5**	**+0.1**
VYHS				*e*SN		**Sb**	**20 00 51.5**	**+0.4**
VYHS	**Vyhne**	**1.31**	**172**	*e*Pg		**Pg**	**20 00 33.5**	**+0.1**
VYHS				*e*Sg		**Sb**	**20 00 51.5**	**+0.4**
VRAC	**Vranov**	**1.37**	**250**	*e*Pg		**Pg**	**20 00 34.5**	**0.0**
	baz=67							
VRAC				*e*Sg		**Sg**	**20 00 52.3**	**0.0**
	10nm,0.2s,baz=67							
DPC	**Dobruska-Polom**	**1.55**	**292**	*e*PG		**Pn**	**20 00 36.8**	**-0.3**
DPC				*e*SG		**Sn**	**20 00 56.1**	**-1.9**
	comp=Z,5.0nm,0.3s							
DPC	**Dobruska-Polom**	**1.55**	**292**	*e*Pg		**Pn**	**20 00 36.9**	**-0.2**
	baz=109							
DPC				*e*Sg		**Sn**	**20 00 56.9**	**-1.1**
	baz=109							
KRUC	**Moravsky**	**1.59**	**244**	*e*Pg		**Pn**	**20 00 38.0**	**+0.3**
	baz=61							
KRUC				*e*Sg		**Sg**	**20 00 59.3**	**-0.1**
	5.4nm,0.1s,baz=61							
UPC	**Upice**	**1.79**	**295**	*e*PG		**Pb**	**20 00 41.5**	**-0.4**
UPC				*e*SG		**Sb**	**20 01 04.4**	**-0.5**
UPC	**Upice**	**1.79**	**295**	Pg		**Pb**	**20 00 41.5**	**-0.4**
UPC				Sg		**Sb**	**20 01 04.4**	**-0.5**
KSP	**Ksiaz**	**1.80**	**307**	*e*Pg		**Pb**	**20 00 41.3**	**-0.7**
KSP				*e*Sg		**Sg**	**20 01 05.2**	**-0.7**
PRU	**Pruhonice**	**2.61**	**276**	*e*SG		**Sb**	**20 01 29.9**	**+1.4**
PRU	**Pruhonice**	**2.61**	**276**	Sg		**Sb**	**20 01 29.9**	**+1.4**
BRG	**Berggiesshubel**	**3.15**	**292**	SG		**Sb**	**20 01 46.4**	**+2.3**
	2.6nm,0.5s							
KHC	**Kasperske Hory**	**3.32**	**260**	*e*PG		**Pg**	**20 01 11.0**	**-0.9**
KHC				*e*SG		**Sb**	**20 01 51.6**	**+2.7**
	comp=Z,3.6nm,0.5s							
KHC	**Kasperske Hory**	**3.32**	**260**	Pg		**Pg**	**20 01 11.0**	**-0.9**
KHC				Sg		**Sb**	**20 01 51.6**	**+2.7**
	3.6nm,0.5s							
CLL	**Collm**	**3.86**	**295**	*e*Sg		**Sg**	**20 02 12.0**	**-0.1**

*ATH **31** 20:00:50.1,36°.24N×21°.01E, h5km, MD3.7/22*
*THE **31** 20:00:56.1,36°.44N×21°.26E, h5km±3km, ML2.4/1, Error ellipse: s-maj=5.0km s-min=1.6km az=46.0*
*CSEM **31** 20:00:56.4±0.6,36°.39N×21°.28E, h20km, ML2.4/1, Error ellipse: s-maj=11.9km s-min=6.4km az=45.0*
ISC 31 20:00:54.9±2.1, **36°.40N**±0°.06×**21°.22E**±0°.07, **h6**km±11km, **n61**, σ1§**24**/**72**, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYL	**PYLOS**	**0.65**	**40**	P		**Pg**	**20 01 07.2**	**-0.3**
PYL	**PYLOS**	**0.65**	**40**	*e*PB		**Pg**	**20 01 07.1**	**-0.4**
PYL	**PYLOS**	**0.65**	**40**	*e*Pb		**Pg**	**20 01 07.1**	**-0.4**
ITM	**Ithomi**	**0.97**	**36**	P		**Pg**	**20 01 12.8**	**-0.7**
ITM				S		**Sb**	**20 01 27.6**	**+0.4**
ITM	**Ithomi**	**0.97**	**36**	*e*PB		**Pg**	**20 01 12.6**	**-0.9**
ITM	**Ithomi**	**0.97**	**36**	P		**Pg**	**20 01 12.8**	**-0.7**
ITM				S		**Sb**	**20 01 27.6**	**+0.4**
DYR	**Agios Nikonas**	**0.97**	**68**	P		**Pg**	**20 01 13.5**	**-0.1**
DYR				S		**Sb**	**20 01 26.8**	**-0.4**
DYR	**Agios Nikonas**	**0.97**	**68**	*e*PB		**Pg**	**20 01 13.3**	**-0.3**
DYR				*e*SB		**Sn**	**20 01 28.3**	**-0.9**
DYR	**Agios Nikonas**	**0.97**	**68**	P		**Pg**	**20 01 13.5**	**-0.1**
DYR				S		**Sb**	**20 01 26.8**	**-0.4**
DYR				*e*Sb		**Sn**	**20 01 28.3**	**-0.9**
AMT	**Artemida-Makis**	**1.20**	**19**	P		**Pg**	**20 01 17.4**	**-0.6**
AMT				S		**Sn**	**20 01 34.4**	**-0.5**
AMT	**Artemida-Makis**	**1.20**	**19**	*e*PB		**Pg**	**20 01 17.3**	**-0.7**
AMT	**Artemida-Makis**	**1.20**	**19**	P		**Pg**	**20 01 17.4**	**-0.6**
AMT				S		**Sn**	**20 01 34.4**	**-0.5**
VLX	**Vlachokerasia**	**1.35**	**43**	P		**Pn**	**20 01 19.2**	**-1.1**
VLX	**Vlachokerasia**	**1.35**	**43**	*e*PG		**Pn**	**20 01 19.3**	**-1.1**
VLX	**Vlachokerasia**	**1.35**	**43**	*e*Pg		**Pn**	**20 01 19.3**	**-1.1**
VLI	**Veliai**	**1.42**	**76**	P		**Pn**	**20 01 21.3**	**0.0**
VLI	**Veliai**	**1.42**	**76**	*e*PB		**Pn**	**20 01 21.4**	**+0.1**
VLI				*e*SB		**Sn**	**20 01 43.7**	**+3.4**
VLI	**Veliai**	**1.42**	**76**	P		**Pn**	**20 01 21.3**	**0.0**
VLI				*e*Sb		**Sn**	**20 01 43.7**	**+3.4**
KYTH	**Kithira**	**1.47**	**94**	P		**Pn**	**20 01 22.0**	**0.0**
KYTH	**Kithira**	**1.47**	**94**	*e*PB		**Pn**	**20 01 21.4**	**-0.6**
KYTH	**Kithira**	**1.47**	**94**	*e*Pb		**Pn**	**20 01 21.4**	**-0.6**
KYTH	**Kithira**	**1.47**	**94**	P		**Pn**	**20 01 22.0**	**0.0**
RLS	**Riolos of Patr**	**1.67**	**7**	P		**Pn**	**20 01 24.9**	**+0.2**
RLS	**Riolos of Patr**	**1.67**	**7**	*e*PN		**Pn**	**20 01 24.9**	**+0.2**
RLS	**Riolos of Patr**	**1.67**	**7**	P		**Pn**	**20 01 24.9**	**+0.2**
KFL	**Anninata**	**1.74**	**349**	P		**Pn**	**20 01 26.4**	**+0.7**
KFL	**Anninata**	**1.74**	**349**	P		**Pn**	**20 01 26.4**	**+0.7**
GUR	**Goura**	**1.78**	**30**	P		**Pn**	**20 01 26.6**	**+0.3**
GUR	**Goura**	**1.78**	**30**	*e*PG		**Pn**	**20 01 27.1**	**+0.8**
GUR	**Goura**	**1.78**	**30**	P		**Pn**	**20 01 26.6**	**+0.3**
GUR	**Goura**	**1.78**	**30**	*e*Pg		**Pn**	**20 01 27.1**	**+0.8**
VLS	**Valsamata**	**1.85**	**344**	P		**Pn**	**20 01 27.1**	**0.0**
VLS	**Valsamata**	**1.85**	**344**	*e*PN		**Pn**	**20 01 27.2**	**+0.1**
VLS	**Valsamata**	**1.85**	**344**	*e*Pn		**Pn**	**20 01 27.2**	**+0.1**
LAKA	**Lakka**	**1.94**	**18**	*e*PG		**Pn**	**20 01 29.7**	**+1.3**
LAKA	**Lakka**	**1.94**	**18**	*e*Pg		**Pn**	**20 01 29.7**	**+1.3**
DID	**Didima**	**1.96**	**55**	P		**Pn**	**20 01 27.4**	**-1.3**
DID	**Didima**	**1.96**	**55**	*e*PB		**Pn**	**20 01 27.3**	**-1.4**
DID				*e*SN		**Sg**	**20 02 01.6**	**+3.6**
DID	**Didima**	**1.96**	**55**	P		**Pn**	**20 01 27.4**	**-1.3**
TRIZ	**Trizonia**	**2.08**	**19**	*e*PG		**Pn**	**20 01 32.0**	**+1.7**
TRIZ	**Trizonia**	**2.08**	**19**	*e*Pg		**Pn**	**20 01 32.0**	**+1.7**
EFP	**Efpalio**	**2.10**	**15**	*e*PG		**Pn**	**20 01 32.2**	**+1.6**
EFP	**Efpalio**	**2.10**	**15**	*e*Pg		**Pn**	**20 01 32.2**	**+1.6**
KALE	**Kalithea**	**2.12**	**20**	*e*PN		**Pn**	**20 01 31.8**	**+0.8**
KALE	**Kalithea**	**2.12**	**20**	*e*Pn		**Pn**	**20 01 31.8**	**+0.8**
LTK	**Loutraki**	**2.14**	**40**	P		**Pn**	**20 01 30.6**	**-0.6**
LTK	**Loutraki**	**2.14**	**40**	*e*PB		**Pn**	**20 01 30.5**	**-0.6**
LTK	**Loutraki**	**2.14**	**40**	P		**Pn**	**20 01 30.6**	**-0.6**
KARN	**Karanos**	**2.41**	**114**	P		**Pn**	**20 01 36.4**	**+1.6**
KARN	**Karanos**	**2.41**	**114**	*e*PG		**Pn**	**20 01 36.3**	**+1.5**
KARN	**Karanos**	**2.41**	**114**	*e*Pg		**Pn**	**20 01 36.3**	**+1.5**
EVR	**Evrytania**	**2.56**	**10**	*e*PN		**Pn**	**20 01 39.3**	**+2.3**
EVR	**Evrytania**	**2.56**	**10**	*e*Pn		**Pn**	**20 01 39.3**	**+2.3**
VAM	**Vamos**	**2.62**	**111**	*e*PB		**Pn**	**20 01 35.7**	**-2.0**
VAM	**Vamos**	**2.62**	**111**	*e*Pb		**Pn**	**20 01 35.7**	**-2.0**
LKR	**Lokris**	**2.66**	**32**	*e*PN		**Pb**	**20 01 41.1**	**-1.8**
LKR	**Lokris**	**2.66**	**32**	*e*Pn		**Pb**	**20 01 41.1**	**-1.8**
AGG	**Agios Georgios**	**2.77**	**18**	*e*PB		**Pn**	**20 01 39.0**	**-0.8**
AGG	**Agios Georgios**	**2.77**	**18**	*e*Pb		**Pn**	**20 01 39.0**	**-0.8**
THL	**Klokotos Trika**	**3.23**	**11**	*e*PN		**Pn**	**20 01 46.4**	**+0.3**
THL	**Klokotos Trika**	**3.23**	**11**	*e*Pn		**Pn**	**20 01 46.4**	**+0.3**

IDC 31 20:02:18.0±9.3, **2°.33N**×**127°.36E**, **h0**km, **mb3.5**/**4**, **mb1 3.7**/**4**, **mb1mx3.3**/**21**, **mbtmp3.6**/**4**, **Error ellipse: s-maj=149.8km s-min=103.2km az=142.0**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.38**	**185**	P		P	20 06 56.4	-0.1
	1.5nm,0.8s,baz=14,slow=8.3,SNR=3.4							
WRA	**Warramunga Arr**	**23.17**	**163**	P		P	20 07 25.7	-0.7
	0.3nm,0.5s,baz=341,slow=11,SNR=7.2							
ASAR	**Alice Springs**	**26.62**	**167**	P		P	20 08 00.2	+1.8
	0.2nm,0.4s,baz=337,slow=8.9,SNR=5.7							
STKA	**Stephens Creek**	**36.61**	**159**	P		P	20 09 25.0	-1.1
	1.5nm,1.0s,baz=352,slow=14,SNR=2.6							

*ATH **31** 20:13:16.1,38°.77N×23°.48E, h28km, MD3.5/42, ML3.9*
*THE **31** 20:13:16.6,38°.76N×23°.48E, h6km±1km, ML3.5/9, Error ellipse: s-maj=1.2km s-min=0.7km az=262.0*
*ISCJB **31** 20:13:16.7±0.3,38°.78N±0°.01×23°.49E±0°.02, h17km±3km, mb3.4/5, Error ellipse: s-maj=2.4km s-min=2.1km az=21.8*
*CSEM **31** 20:13:17.3±0.1, 38°.77N×23°.48E, h20km, ML3.5/9, Error ellipse: s-maj=3.1km s-min=2.4km az=102.0*
*IDC **31** 20:13:20.4±5.6, 38°.75N×23°.42E, h38km±55km, mb3.2/5, mb1 3.3/6, mb1mx3.2/24, mbtmp3.2/6, ML2.8/1, Error ellipse: s-maj=45.4km s-min=21.2km az=156.0*
*SOF **31** 20:13:23.4, 39°.47N×23°.73E, h1km, MD3.0*
ISC 31 20:13:16.8±0.8, **38°.78N**±0°.01×**23°.48E**±0°.01, **h13**km±6km, **n223**, σ1§**19**/**299**, **mb3.5**/**5**, **6C-6D**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRKA	**Markates**	**0.11**	**129**	P		**Pg**	**20 13 19.8**	**-0.2**
MRKA	**Markates**	**0.11**	**129**	P		**Pg**	**20 13 19.8**	**-0.2**
ATAL	**Atalanti**	**0.37**	**257**	P		**Pg**	**20 13 23.4**	**-0.8**
ATAL				S		**Sg**	**20 13 28.9**	**-0.2**
ATAL	**Atalanti**	**0.37**	**257**	P		**Pg**	**20 13 23.4**	**-0.8**
ATAL				S		**Sg**	**20 13 28.9**	**-0.2**
SKIA	**Skiathos**	**0.39**	**359**	P		**Pg**	**20 13 24.9**	**+0.3**
SKIA	**Skiathos**	**0.39**	**359**	P		**Pg**	**20 13 24.9**	**+0.3**
LKR	**Lokris**	**0.39**	**251**	P		**Pg**	**20 13 23.8**	**-0.9**
LKR				S		**Sg**	**20 13 29.5**	**-0.5**
LKR	**Lokris**	**0.39**	**251**	*e*PB		**Pg**	**20 13 23.9**	**-0.8**
LKR				*e*SB		**Sg**	**20 13 30.3**	**+0.3**
LKR	**Lokris**	**0.39**	**251**	*e*Pb		**Pg**	**20 13 23.9**	**-0.8**
LKR				S		**Sg**	**20 13 29.5**	**-0.5**
LKR				*e*Sb		**Sg**	**20 13 30.3**	**+0.3**
AOS	**Alonnisos**	**0.50**	**39**	P		**Pg**	**20 13 26.5**	**-0.1**
AOS				S		**Sb**	**20 13 34.2**	**-0.5**
AOS	**Alonnisos**	**0.50**	**39**	*e*PB		**Pg**	**20 13 26.6**	**-0.1**
AOS				*e*SB		**Sb**	**20 13 34.5**	**-0.2**
AOS	**Alonnisos**	**0.50**	**39**	*e*Pb		**Pg**	**20 13 26.6**	**-0.1**
AOS				S		**Sb**	**20 13 34.2**	**-0.5**
AOS				*e*Sb		**Sb**	**20 13 34.5**	**-0.2**
NEO	**Neokhori**	**0.56**	**340**	*e*PN		**Pg**	**20 13 27.8**	**-0.1**
NEO				*e*SN		**Sb**	**20 13 36.7**	**+0.2**
NEO	**Neokhori**	**0.56**	**340**	*e*Pn		**Pg**	**20 13 27.8**	**-0.1**
NEO				*e*Sn		**Sb**	**20 13 36.7**	**+0.2**
XOR	**Xorichti**	**0.63**	**339**	P		**Pg**	**20 13 28.8**	**-0.3**
XOR	**Xorichti**	**0.63**	**339**	P		**Pg**	**20 13 28.8**	**-0.3**
AXAR	**Agios Charalam**	**0.64**	**269**	P		**Pg**	**20 13 28.9**	**-0.3**
AXAR				S		**Sg**	**20 13 37.8**	**+0.1**
AXAR	**Agios Charalam**	**0.64**	**269**	P		**Pg**	**20 13 28.9**	**-0.3**
AXAR				S		**Sg**	**20 13 37.8**	**+0.1**
PTL	**Penteli**	**0.79**	**157**	P		**Pg**	**20 13 31.3**	**-0.8**
PTL	**Penteli**	**0.79**	**157**	*e*PN		**Pg**	**20 13 31.6**	**-0.5**
PTL				*e*SN		**Sg**	**20 13 42.5**	**+0.1**
PTL	**Penteli**	**0.79**	**157**	P		**Pg**	**20 13 31.3**	**-0.8**
PTL	**Penteli**	**0.79**	**157**	*e*Pn		**Pg**	**20 13 31.6**	**-0.5**
PTL				*e*Sn		**Sg**	**20 13 42.5**	**+0.1**
ATH	**Athens Observa**	**0.83**	**167**	P		**Pg**	**20 13 32.0**	**-0.7**
ATH				S		**Sb**	**20 13 43.8**	**-0.1**
ATH	**Athens Observa**	**0.83**	**167**	*e*PN		**Pg**	**20 13 32.1**	**-0.7**
ATH				*e*SN		**Sb**	**20 13 44.4**	**+0.5**
ATH	**Athens Observa**	**0.83**	**167**	P		**Pg**	**20 13 32.0**	**-0.7**
ATH				S		**Sb**	**20 13 43.8**	**-0.1**
ATH				*e*Sn		**Sb**	**20 13 44.4**	**+0.5**
DSF	**Desfina**	**0.83**	**244**	P		**Pg**	**20 13 30.9**	**-1.9**
DSF				S		**Sg**	**20 13 43.9**	**+0.2**
ATHU	**Athens Univers**	**0.84**	**163**	P		**Pg**	**20 13 32.2**	**-0.9**
ATHU				S		**Sg**	**20 13 43.8**	**-0.4**
ATHU	**Athens Univers**	**0.84**	**163**	P		**Pg**	**20 13 32.2**	**-0.9**
ATHU				S		**Sg**	**20 13 43.8**	**-0.4**
LTK	**Loutraki**	**0.85**	**208**	P		**Pg**	**20 13 31.8**	**-1.5**
LTK	**Loutraki**	**0.85**	**208**	*e*PB		**Pg**	**20 13 31.9**	**-1.4**
LTK				*e*SN		**Sb**	**20 13 45.3**	**+0.5**
LTK	**Loutraki**	**0.85**	**208**	*e*Pb		**Pg**	**20 13 31.9**	**-1.4**
LTK				*e*Sn		**Sb**	**20 13 45.3**	**+0.5**
AGG	**Agios Georgios**	**0.93**	**286**	P		**Pg**	**20 13 33.9**	**-1.2**
AGG				S		**Sg**	**20 13 47.3**	**+0.4**
AGG	**Agios Georgios**	**0.93**	**286**	*e*PB		**Pg**	**20 13 33.5**	**-1.2**
AGG				*e*SN		**Sn**	**20 13 48.2**	**-0.4**
AGG	**Agios Georgios**	**0.93**	**286**	P		**Pg**	**20 13 33.5**	**-1.2**
AGG				S		**Sb**	**20 13 47.3**	**+0.4**
AGG				*e*Sn		**Sn**	**20 13 48.3**	**-0.4**
MRMA	**Marmari**	**1.01**	**135**	P		**Pb**	**20 13 35.2**	**-0.9**
MRMA				S		**Sb**	**20 13 49.3**	**0.0**
MRMA	**Marmari**	**1.01**	**135**	P		**Pb**	**20 13 35.2**	**-0.9**
MRMA				S		**Sb**	**20 13 49.3**	**0.0**
NAIG	**Nisos Aigina**	**1.02**	**179**	*e*PN		**Pb**	**20 13 35.3**	**-0.9**
NAIG	**Nisos Aigina**	**1.02**	**179**	*e*Pn		**Pb**	**20 13 35.3**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.07**	**283**	P		**Pn**	**20 13 37.9**	**+0.4**
MAKR				S		**Sn**	**20 13 52.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.07**	**283**	P		**Pn**	**20 13 37.9**	**+0.4**
MAKR				S		**Sn**	**20 13 52.7**	**+0.4**
KALE	**Kalithea**	**1.12**	**250**	P		**Pb**	**20 13 36.0**	**-1.9**
KALE				S		**Sg**	**20 13 52.9**	**+0.1**
KALE	**Kalithea**	**1.12**	**250**	*e*PB		**Pb**	**20 13 36.1**	**-1.9**
KALE				*e*SN		**Sg**	**20 13 53.2**	**+0.4**
KALE	**Kalithea**	**1.12**	**250**	P		**Pb**	**20 13 36.0**	**-1.9**
KALE				S		**Sg**	**20 13 52.9**	**+0.1**
KALE				*e*Sn		**Sg**	**20 13 53.2**	**+0.4**
PAIG	**Paliouri**	**1.16**	**8**	P		**Pb**	**20 13 38.0**	**-0.7**
PAIG	**Paliouri**	**1.16**	**8**	P		**Pb**	**20 13 38.0**	**-0.7**
TRIZ	**Trizonia**	**1.17**	**250**	P		**Pn**	**20 13 37.1**	**-1.8**
TRIZ	**Trizonia**	**1.17**	**250**	*e*PB		**Pn**	**20 13 37.0**	**-1.8**
TRIZ				*e*SN		**Sn**	**20 13 54.8**	**+0.1**
TRIZ	**Trizonia**	**1.17**	**250**	P		**Pn**	**20 13 37.1**	**-1.8**
TRIZ				*e*Sn		**Sn**	**20 13 54.8**	**+0.1**
GUR	**Goura**	**1.22**	**227**	P		**Pn**	**20 13 39.0**	**-0.6**
GUR				S		**Sb**	**20 13 55.7**	**+0.2**
GUR	**Goura**	**1.22**	**227**	*e*PN		**Pn**	**20 13 39.1**	**-0.6**
GUR	**Goura**	**1.22**	**227**	*e*Pn		**Pn**	**20 13 39.1**	**-0.6**
GUR				S		**Sb**	**20 13 55.7**	**+0.2**
EFP	**Efpalio**	**1.28**	**255**	P		**Pn**	**20 13 39.5**	**-0.8**
EFP				S		**Sn**	**20 13 57.6**	**+0.3**
EFP	**Efpalio**	**1.28**	**255**	*e*PN		**Pn**	**20 13 39.8**	**-0.5**
EFP	**Efpalio**	**1.28**	**255**	P		**Pn**	**20 13 39.5**	**-0.8**
EFP	**Efpalio**	**1.28**	**255**	*e*Pn		**Pn**	**20 13 39.8**	**-0.5**
EFP				S		**Sn**	**20 13 57.6**	**+0.3**
DID	**Didima**	**1.28**	**189**	P		**Pn**	**20 13 39.4**	**-1.0**
DID				S		**Sb**	**20 13 57.1**	**0.0**
DID	**Didima**	**1.28**	**189**	*e*PN		**Pn**	**20 13 39.7**	**-0.7**
DID	**Didima**	**1.28**	**189**	P		**Pn**	**20 13 39.4**	**-1.0**
DID	**Didima**	**1.28**	**189**	*e*Pn		**Pn**	**20 13 39.7**	**-0.7**
DID				S		**Sb**	**20 13 57.1**	**0.0**
LAKA	**Lakka**	**1.29**	**246**	P		**Pn**	**20 13 39.4**	**-1.1**
LAKA	**Lakka**	**1.29**	**246**	*e*PB		**Pn**	**20 13 39.3**	**-1.2**
LAKA	**Lakka**	**1.29**	**246**	P		**Pn**	**20 13 39.4**	**-1.1**
EVR	**Evrytania**	**1.31**	**277**	P		**Pn**	**20 13 41.1**	**+0.3**
EVR	**Evrytania**	**1.31**	**277**	*e*PN		**Pn**	**20 13 40.6**	**-0.2**
EVR	**Evrytania**	**1.31**	**277**	*e*Pn		**Pn**	**20 13 40.6**	**-0.2**
EVR	**Evrytania**	**1.31**	**277**	P		**Pn**	**20 13 41.1**	**+0.3**
DIDY	**Didyma**	**1.31**	**189**	P		**Pn**	**20 13 40.1**	**-0.8**
DIDY				S		**Sb**	**20 13 58.3**	**+0.2**
DIDY	**Didyma**	**1.31**	**189**	P		**Pn**	**20 13 40.1**	**-0.8**
DIDY				S		**Sb**	**20 13 58.3**	**+0.2**
PSA1	**Psathopyrgos**	**1.33**	**251**	*e*PN		**Pb**	**20 13 41.4**	**-0.1**
THL	**Klokotos Trika**	**1.38**	**305**	P		**Pn**	**20 13 41.3**	**-0.4**
THL	**Klokotos Trika**	**1.38**	**305**	*e*PN		**Pn**	**20 13 41.3**	**-0.4**
THL				*e*SN		**Sb**	**20 14 00.2**	**+0.2**
THL	**Klokotos Trika**	**1.38**	**305**	P		**Pn**	**20 13 41.3**	**-0.4**
THL				*e*Sn		**Sb**	**20 14 00.2**	**+0.2**
UPR	**University Cam**	**1.41**	**250**	P		**Pb**	**20 13 43.0**	**0.0**
UPR	**University Cam**	**1.41**	**250**	*e*PN		**Pn**	**20 13 41.9**	**-0.3**
UPR	**University Cam**	**1.41**	**250**	*e*Pn		**Pn**	**20 13 41.9**	**-0.3**
UPR	**University Cam**	**1.41**	**250**	P		**Pb**	**20 13 43.0**	**0.0**
PLG	**Polygyros**	**1.59**	**359**	P		**Pn**	**20 13 44.2**	**-0.5**
PLG				S		**Sn**	**20 14 03.8**	**-1.4**
PLG	**Polygyros**	**1.59**	**359**	P		**Pn**	**20 13 44.2**	**-0.5**
PLG				S		**Sn**	**20 14 03.8**	**-1.4**
VLX	**Vlachokerasia**	**1.65**	**212**	P		**Pn**	**20 13 45.5**	**0.0**
VLX	**Vlachokerasia**	**1.65**	**212**	*e*PN		**Pn**	**20 13 45.4**	**0.0**
VLX	**Vlachokerasia**	**1.65**	**212**	P		**Pn**	**20 13 45.5**	**0.0**
LIA	**Limnos Island**	**1.73**	**49**	P		**Pn**	**20 13 46.2**	**-0.3**
LIA				S		**Sb**	**20 14 09.8**	**-0.3**
LIA	**Limnos Island**	**1.73**	**49**	*e*PB		**Pn**	**20 13 46.2**	**-0.3**
LIA				*e*SN		**Sn**	**20 14 08.3**	**-0.2**
LIA	**Limnos Island**	**1.73**	**49**	P		**

IDI	**Anoyia**	**3.66**	**162**	*e*PN	**Pn**	**20 14 13.5**	**+0.4**
IDI	**Anoyia**	**3.66**	**162**	*e*Pn	**Pn**	**20 14 13.5**	**+0.4**
IDI	**Anoyia**	**3.66**	**162**	P	**Pn**	**20 14 13.9**	**+0.8**
PGB	**Panagyurishte**	**3.81**	**8**	*i* P	**Pn**	**20 14 14.9**	**-0.2**
PGB				*i* Sg	**Sn**	**20 15 04.8**	**+5.1**
VTS	**Vitosha**	**3.82**	**357**	⇑*i*P	**Pn**	**20 14 16.6**	**+1.3**
VTS	**Vitosha**	**3.82**	**357**	*i* P	**Pn**	**20 14 16.4**	**+1.1**
VTS				*i* S	**Sn**	**20 15 03.2**	**+3.1**
VTS	**Vitosha**	**3.82**	**357**	*i* P	**Pn**	**20 14 16.4**	**+1.1**
VTS				*i* S	**Sn**	**20 15 03.2**	**+3.1**
SIVA	**Sivas**	**3.90**	**164**	P	Pn	20 14 19.8	+3.4
SIVA	**Sivas**	**3.90**	**164**	*e*PN	**Pn**	**20 14 18.3**	**+1.9**
SIVA	**Sivas**	**3.90**	**164**	*e*Pn	**Pn**	**20 14 18.3**	**+1.9**
LAST	**Lasithi**	**3.95**	**155**	*e*PN	**Pn**	**20 14 18.0**	**+0.9**
LAST	**Lasithi**	**3.95**	**155**	*e*Pn	**Pn**	**20 14 18.0**	**+0.9**
EDRB	**Edirne**	**3.96**	**38**	*e*PN	**Pn**	**20 14 19.1**	**+2.0**
BARS	**Barje**	**4.23**	**343**	*e*Pn	Pn	20 14 24.5	+3.6
JMB	**Yambol**	**4.38**	**32**	*i* Sg	**Sb**	**20 15 25.4**	**-0.8**
ARMT	**Armutlu**	**4.52**	**65**	*e*PN	**Pn**	**20 14 27.0**	**+2.1**
MPEP	**Malo Peshtene**	**4.58**	**2**	*i* P	**Pn**	**20 14 26.6**	**+0.9**
MPEP				*i* Sg	**Sb**	**20 15 31.9**	**-0.1**
PVL	**Pavlikeni**	**4.65**	**17**	*i* P	**Pn**	**20 14 25.3**	**-1.4**
PVL				*i* Sg	**Sb**	**20 15 30.3**	**-3.8**
PVL	**Pavlikeni**	**4.65**	**17**	*i* P	**Pn**	**20 14 25.3**	**-1.4**
FETY	**Fethiye**	**4.93**	**114**	*e*P	**Pn**	**20 14 32.9**	**+2.3**
NEF	**NEVSHA**	**5.32**	**31**	*i* P	**Pn**	**20 14 36.0**	**+0.1**
NEF				*i* S	**Sn**	**20 15 33.3**	**-3.8**
NEF	**NEVSHA**	**5.32**	**31**	*i* P	**Pn**	**20 14 36.0**	**+0.1**
NEF				*i* S	**Sn**	**20 15 33.3**	**-3.8**
DIVS	**Divibare**	**5.93**	**335**	*e*Pn	**Pn**	**20 14 42.0**	**-2.3**
ARR	**Arges**	**6.64**	**7**	⇓*i*P	**Pn**	**20 14 54.5**	**+0.4**
ARR	**Arges**	**6.64**	**7**	⇓*i*P	**Pn**	**20 14 54.5**	**+0.4**
LOT	**Lotru**	**6.67**	**2**	⇓*i*P	Pb	20 15 05.0	-7.6
VOIR		**6.76**	**9**	⇑*i*P	**Pn**	**20 14 56.8**	**+1.1**
VOIR		**6.76**	**9**	⇑*i*P	**Pn**	**20 14 56.8**	**+1.1**
MLR	**Muntele Rosu**	**6.96**	**14**	⇓*i*P	**Pn**	**20 15 00.4**	**+2.0**
MLR	**Muntele Rosu**	**6.96**	**14**	⇓*i*P	**Pn**	**20 15 00.4**	**+2.0**
BZS	**Buzias**	**6.97**	**349**	⇑*i*P	**Pn**	**20 15 01.3**	**+2.8**
PLOR	**Plostina**	**7.45**	**17**	⇓*i*P	**Pn**	**20 15 08.1**	**+3.0**
VRI	**Vrincioaia**	**7.48**	**18**	⇑*i*P	**Pn**	**20 15 08.2**	**+2.7**
BRTR	**Keskin Array B**	**7.94**	**80**	Pn	**Pn**	**20 15 14.0**	**+2.0**
	0.1nm,0.3s,baz=257,slow=11,SNR=4.5						
ESDC	**Sonseca Array**	**21.25**	**281**	P	**P**	**20 18 02.9**	**+0.3**
	0.3nm,0.3s,baz=73,slow=12,SNR=5.0						
TORD	**Torodi Ar. Bea**	**32.00**	**223**	P	**P**	**20 19 42.7**	**-0.1**
	0.7nm,0.6s,baz=31,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**43.01**	**60**	P	**P**	**20 21 16.6**	**+0.8**
	0.4nm,0.7s,baz=285,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**43.56**	**49**	P	**P**	**20 21 20.2**	**+0.1**
	0.5nm,0.5s,baz=264,slow=6.5,SNR=4.4						
YKA	**Yellowknife Ar**	**73.60**	**341**	P	**P**	**20 24 49.3**	**+0.1**
	0.2nm,0.4s,baz=24,slow=5.4,SNR=6.6						

MEX 31 20:45:58.2±0.7, 17°87N×103°18W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.44**	**339**	*i* P	Pg	20 46 05.9	-0.9
MMIG				*e*S	Sg	20 46 12.6	0.0
R15V		**1.50**	**330**	*i* P	Pn	20 46 22.0	-3.9
R15V				*i* S	Sn	20 46 41.4	-4.5
EZ5V		**1.65**	**346**	*i* P	Pn	20 46 25.4	-2.8
EZ5V				*i* S	Sn	20 46 45.2	-4.8
ZIIG	**Zihuatanejo**	**1.66**	**99**	*i* P	Pn	20 46 23.9	-4.0
ZIIG				*i* S	Sn	20 46 44.7	-4.9
ARIG	**Puente Sto Nin**	**2.73**	**81**	*i* P	Pn	20 46 39.8	-2.9
ARIG				*i* S	Sn	20 47 12.5	-3.6

MAN 31 20:48:55, 15°34N×122°06E, h36km, mb4.2, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.61**	**311**	*e*P	Pn	20 49 09.4	+2.1
BALP				*e*S	Sn	20 49 19.3	+3.4
POLP	**Polilio Island**	**0.62**	**190**	*e*P	Pn	20 49 07.7	+0.3
POLP				*e*S	Sn	20 49 18.7	+2.7
GQP	**Guinayangan**	**1.47**	**165**	⇓*i*P	Pn	20 49 20.7	+1.7
GQP				*i* S	Sn	20 49 38.9	+1.9

*ISK **31** 20:58:11.7, 39°.15N×29°.46E, h5km, MD2.8*
*DDA **31** 20:58:11.8, 39°.15N×29°.42E, h12km, MD3.0*
*ISCJB **31** 20:58:12.2±0.4, 39°.15N±0°.03×29°.46E±0°.03, h7km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=8.4*
*CSEM **31** 20:58:12.1±0.1, 39°.16N×29°.47E, h2km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=5.0*

ISC 31 20:58:11.9±0.9, 39°.16N±0°.02×29°.46E±0°.02, h13km±6km, n42, σ0°.44/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.07**	**166**	*i* P	**Pg**	**20 58 14.9**	**+0.2**
GDZ				*i* S	**Sg**	**20 58 16.3**	**-0.4**
GDZ	**Gediz**	**0.07**	**166**	*i* P	**Pg**	**20 58 14.9**	**+0.2**
GDZ				*i* S	**Sg**	**20 58 16.3**	**-0.4**
ALT	**Altintas**	**0.52**	**101**	*e*PG	**Pg**	**20 58 21.7**	**-0.4**
ALT				*e*SG	**Sg**	**20 58 29.6**	**+0.7**
ALT	**Altintas**	**0.52**	**101**	*e*Pg	**Pg**	**20 58 21.7**	**-0.4**
ALT				*e*Sg	**Sg**	**20 58 29.6**	**+0.7**
DEMI	**Demirci**	**0.59**	**259**	*i* P	**Pb**	**20 58 23.7**	**-0.4**
DEMI				*i* S	**Sg**	**20 58 30.7**	**-0.6**
DEMI	**Demirci**	**0.59**	**259**	*i* P	**Pb**	**20 58 23.7**	**-0.4**
DEMI				*i* S	**Sg**	**20 58 30.7**	**-0.6**
KHAL	**Karahalli**	**0.79**	**178**	*i* P	**Pb**	**20 58 27.4**	**-0.1**
KHAL				*i* S	**Sg**	**20 58 37.3**	**-0.1**
KHAL	**Karahalli**	**0.79**	**178**	*i* P	**Pb**	**20 58 27.4**	**-0.1**
KHAL				*i* S	**Sg**	**20 58 37.3**	**-0.1**
DST	**Dursunbey**	**0.79**	**305**	*e*PG	**Pb**	**20 58 27.4**	**-0.2**
DST				*e*SG	**Sb**	**20 58 38.7**	**+0.5**
DST	**Dursunbey**	**0.79**	**305**	*e*Pg	**Pb**	**20 58 27.4**	**-0.2**
DST				*e*Sg	**Sb**	**20 58 38.7**	**+0.5**
KHL	**Karahalli**	**0.83**	**177**	*e*PG	**Pb**	**20 58 28.3**	**0.0**
KHL				*e*SG	**Sb**	**20 58 40.4**	**+1.0**
KHL	**Karahalli**	**0.83**	**177**	*e*Pg	**Pb**	**20 58 28.3**	**0.0**
KHL				*e*Sg	**Sb**	**20 58 40.4**	**+1.0**
DURS	**Dursunbey**	**0.88**	**300**	*i* P	**Pb**	**20 58 29.0**	**-0.1**
DURS				*i* S	**Sb**	**20 58 40.5**	**-0.4**
DURS	**Dursunbey**	**0.88**	**300**	*i* P	**Pb**	**20 58 29.0**	**-0.1**
DURS				*i* S	**Sb**	**20 58 40.5**	**-0.4**
KULA	**Kula-Manisa**	**0.90**	**224**	*e*PG	**Pb**	**20 58 29.1**	**-0.3**
KULA				*e*SG	**Sb**	**20 58 41.6**	**+0.4**
KULA	**Kula-Manisa**	**0.90**	**224**	*e*Pg	**Pb**	**20 58 29.1**	**-0.3**
KULA				*e*Sg	**Sb**	**20 58 41.6**	**+0.4**
ORLT	**Orhaneli**	**0.99**	**334**	*e*PG	**Pb**	**20 58 31.1**	**+0.2**
ORLT	**Orhaneli**	**0.99**	**334**	*e*Pg	**Pb**	**20 58 31.1**	**+0.2**
SEYT	**Eskypehyr**	**1.14**	**71**	*i* P	**Pg**	**20 58 33.3**	**-0.5**
SEYT				*i* S	**Sg**	**20 58 47.5**	**-1.1**
SEYT	**Eskypehyr**	**1.14**	**71**	*i* P	**Pg**	**20 58 33.3**	**-0.5**
SEYT				*i* S	**Sg**	**20 58 47.5**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.29**	**340**	*e*PN	**Pg**	**20 58 36.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**340**	*e*Pn	**Pg**	**20 58 36.7**	**0.0**
GEMT	**Gemlik**	**1.29**	**351**	*e*PN	**Pg**	**20 58 37.1**	**+0.3**
GEMT	**Gemlik**	**1.29**	**351**	*e*Pn	**Pg**	**20 58 37.1**	**+0.3**
AKHS	**Akhisar**	**1.31**	**258**	*i* P	**Pg**	**20 58 37.0**	**-0.1**
AKHS				*i* S	**Sg**	**20 58 53.6**	**-0.6**
AKHS	**Akhisar**	**1.31**	**258**	*i* P	**Pg**	**20 58 37.0**	**-0.1**
AKHS				*i* S	**Sg**	**20 58 53.6**	**-0.6**
AKS	**Akhisar**	**1.31**	**258**	*e*PN	**Pg**	**20 58 37.0**	**-0.1**
AKS	**Akhisar**	**1.31**	**258**	*e*Pn	**Pg**	**20 58 37.0**	**-0.1**
YLV	**Yalova**	**1.41**	**357**	*e*PN	**Pg**	**20 58 39.2**	**+0.2**
YLV	**Yalova**	**1.41**	**357**	*e*Pn	**Pg**	**20 58 39.2**	**+0.2**
ARMT	**Armutlu**	**1.48**	**342**	*e*PN	**Pb**	**20 58 40.3**	**-0.1**
ARMT	**Armutlu**	**1.48**	**342**	*e*Pn	**Pb**	**20 58 40.3**	**-0.1**
GULT	**Gulveren**	**1.51**	**32**	*e*PN	**Pb**	**20 58 40.1**	**+0.3**
GULT	**Gulveren**	**1.51**	**32**	*e*Pn	**Pb**	**20 58 40.1**	**+0.3**
BALY	**Balya**	**1.54**	**293**	*i* P	**Pb**	**20 58 40.3**	**0.0**
BALY				*i* S	**Sg**	**20 59 02.3**	**+0.8**
BALY	**Balya**	**1.54**	**293**	*i* P	**Pb**	**20 58 40.3**	**0.0**
BALY				*i* S	**Sg**	**20 59 02.3**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.63**	**79**	*e*PN	**Pb**	**20 58 42.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.63**	**79**	*e*Pn	**Pb**	**20 58 42.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.63**	**304**	*e*PN	**Pb**	**20 58 41.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.63**	**304**	*e*Pn	**Pb**	**20 58 41.8**	**-0.1**
MDUB	**Mudurnu**	**1.88**	**45**	*e*PN	**Pb**	**20 58 45.8**	**-0.3**
MDUB	**Mudurnu**	**1.88**	**45**	*e*Pn	**Pb**	**20 58 45.8**	**-0.3**

*ISCJB **31** 21:39:13.0±0.4, 34°.13N±0°.05×136°.91E±0°.06, h369km±3km, mb3.4/9, Error ellipse: s-maj=9.0km s-min=6.6km az=144.0*
*JMA **31** 21:39:13.1±0.2, 34°.17N×136°.85E, h371km±2km, M2.9*
*IDC **31** 21:39:13.2±0.8, 34°.07N×136°.97E, h356km±9km, mb3.2/9, mb1 3.3/15, mb1mx3.1/30, mbtmp3.2/15, Error ellipse: s-maj=19.9km s-min=11.6km az=76.0*

ISC 31 21:39:13.9±0.7, 34°.15N±0°.07×136°.90E±0°.05, h365km±6km, n38, σ1°.15/55, mb3.5/9, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.29**	**327**	P	**Pn**	**21 39 59.7**	**+0.3**
JIE				S	**S**	**21 40 35.2**	**-0.9**
TTO2	**TONANKAI O.B.S**	**0.42**	**165**	P	**Pn**	**21 39 59.9**	**+0.5**
TTO2				*e*S	**S**	**21 40 37.4**	**+1.5**
TTO3	**TONANKAI O.B.S**	**0.50**	**124**	P	**Pn**	**21 40 00.3**	**+0.6**
TTO1	**TONANKAI O.B.S**	**0.53**	**190**	P	**Pn**	**21 39 59.9**	**+0.3**
TTO1				*e*S	**S**	**21 40 37.4**	**+1.1**
TTO4	**TONANKAI O.B.S**	**0.55**	**104**	P	**Pn**	**21 40 00.2**	**+0.6**
TTO4				*e*S	**S**	**21 40 37.8**	**+1.5**
TK02	**Tokai 2**	**0.74**	**105**	P	**Pn**	**21 40 00.8**	**+0.7**
TK02				*e*S	**S**	**21 40 38.4**	**+1.1**
JWY	**Kouya**	**1.08**	**274**	P	**Pn**	**21 40 01.6**	**-0.1**
JWY				S	**S**	**21 40 38.6**	**-1.4**
JWZ	**Kozaga**	**1.16**	**238**	P	**Pn**	**21 40 01.2**	**-0.8**
JWZ				*e*S	**S**	**21 40 38.7**	**-1.8**
JGM	**Miyama**	**1.56**	**355**	P	**Pn**	**21 40 04.2**	**+0.4**
JGM				S	**S**	**21 40 43.5**	**-0.5**
JWT	**Wachi**	**1.67**	**313**	P	**Pn**	**21 40 04.4**	**0.0**
JWT				S	**S**	**21 40 43.5**	**-1.7**
JYN	**Shimob**	**1.91**	**45**	P	**Pn**	**21 40 06.3**	**+0.3**
JAI	**Aioi**	**2.06**	**261**	P	**Pn**	**21 40 06.6**	**-0.4**
JAI				*e*S	**S**	**21 40 48.1**	**-1.6**
JOD2	**Odawara 2**	**2.12**	**58**	P	**Pn**	**21 40 07.6**	**+0.2**
JOD2				*e*S	**S**	**21 40 50.2**	**-0.3**
JKG	**Kaga**	**2.17**	**348**	P	**Pn**	**21 40 07.7**	**0.0**
JRY	**Ryogami san**	**2.49**	**41**	P	**Pn**	**21 40 10.3**	**+0.2**
JRY				*e*S	**S**	**21 40 54.4**	**-1.0**
JMN	**Monobe**	**2.54**	**261**	P	**Pn**	**21 40 10.4**	**-0.2**
JHJ	**Hachijo jima 2**	**2.62**	**112**	P	**Pn**	**21 40 08.9**	**-2.3**
	22nm,0.3s,baz=220,slow=22,SNR=3.3						
MAT	**Matsushiro**	**2.62**	**24**	P	**Pn**	**21 40 11.0**	**-0.1**
MAT				S	**S**	**21 40 55.7**	**-1.6**
MAT	**Matsushiro**	**2.62**	**24**	P	**Pn**	**21 40 11.0**	**-0.1**
MAT				*e*S	**S**	**21 40 55.6**	**-1.7**
MJAR	**Matsushiro Arr**	**2.62**	**24**	P	**Pn**	**21 40 11.1**	**0.0**
	5.9nm,0.3s,baz=201,slow=9.4,SNR=134						
MJAR				S	**S**	**21 40 56.3**	**-1.0**
	0.9nm,0.3s,baz=197,slow=16,SNR=9.0						
JHJ2	**Mitsune**	**2.65**	**112**	P	**Pn**	**21 40 11.3**	**-0.1**
JHS	**Saijyo**	**3.23**	**286**	P	**Pn**	**21 40 16.5**	**0.0**
BSO1	**Boso 1**	**3.41**	**80**	P	**Pn**	**21 40 15.7**	**-1.7**
BSO1				*e*S	**S**	**21 41 06.2**	**-2.6**
SAI	**Saigo**	**3.56**	**306**	P	**Pn**	**21 40 19.3**	**-0.1**
JTO	**Tosashimizu**	**3.65**	**251**	P	**Pn**	**21 40 20.0**	**-0.4**
JNU	**Nakatsue**	**5.12**	**260**	P	**Pn**	**21 40 33.2**	**-2.4**
	0.3nm,0.3s,baz=8.9,slow=12,SNR=2.8						
KSRS	**Korea Array**	**8.00**	**297**	P	**P**	**21 41 09.0**	**-1.3**
	0.4nm,0.3s,baz=112,slow=12,SNR=8.2						
USRK	**Ussuriysk Arra**	**10.73**	**341**	P	**P**	**21 41 41.0**	**+0.4**
	0.6nm,0.3s,baz=160,slow=11,SNR=20						
ASAJ	**Asahikawa**	**10.89**	**22**	P	**Pn**	**21 41 41.1**	**-1.1**
	1.4nm,0.3s,baz=208,slow=12,SNR=17						
ASAJ				S	**S**	**21 43 41.1**	**-2.8**
	0.2nm,0.3s,baz=339,slow=28,SNR=4.1						
SONM	**Songino Array**	**26.58**	**310**	P	**P**	**21 44 21.3**	**+1.2**
	1.2nm,0.8s,baz=126,slow=9.2,SNR=9.4						
ZALV	**Zalesovo Beam**	**41.24**	**315**	P	**P**	**21 46 24.8**	**+0.4**
	0.3nm,0.3s,baz=106,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**42.61**	**304**	P	**P**	**21 46 36.0**	**+0.4**
	1.8nm,0.6s,baz=86,slow=10.0,SNR=32						
WRA	**Warramunga Arr**	**53.84**	**183**	P	**P**	**21 47 59.5**	**-1.1**
	0.8nm,0.3s,baz=358,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**57.56**	**183**	P	**P**	**21 48 27.2**	**+0.5**
	0.4nm,0.5s,baz=12,slow=12,SNR=6.6						
ARCES	**ARCESS Array B**	**65.38**	**339**	P	**P**	**21 49 18.7**	**+0.8**
	3.1nm,0.9s,baz=43,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**69.61**	**331**	P	**P**	**21 49 44.3**	**+0.1**
	0.9nm,0.6s,baz=63,slow=7.5,SNR=10						
KBZ	**Khabaz**	**69.94**	**310**	P	**P**	**21 49 47.9**	**+1.4**
	1.3nm,0.8s,baz=48,slow=2.2,SNR=6.7						
GERES	**GERESS Array B**	**83.14**	**326**	P	**P**	**21 51 00.4**	**+0.6**
	0.5nm,0.6s,baz=95,slow=6.0,SNR=4.5						

IDC 31 21:39:35.7±2.5, 19°.91S×177°.64W, h583km±26km, mb3.3/6, mb1 3.4/6, mb1mx3.1/20, mbtmp3.3/6, Error ellipse: s-maj=65.5km s-min=17.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.19**	**44**	P	P	21 41 36.8	+0.3
	57nm,0.3s,baz=160,slow=23,SNR=16						
CTA	**Charters Tower**	**33.89**	**263**	P	P	21 45 31.4	-0.1
	3.9nm,0.3s,baz=92,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**44.99**	**256**	P	P	21 47 00.3	0.0
	3.1nm,0.6s,baz=90,slow=7.4,SNR=33						
WRA	**Warramunga Arr**	**45.02**	**261**	P	P	21 47 00.2	-0.5
	1.2nm,0.3s,baz=97,slow=7.4,SNR=44						
MJAR	**Matsushiro Arr**	**69.94**	**323**	P	P	21 49 48.4	-0.9
	1.0nm,0.5s,baz=160,slow=3.9,SNR=5.5						
ASAJ	**Asahikawa**	**73.38**	**331**	P	P	21 50 10.4	+1.4
	2.5nm,0.9s,baz=344,slow=32,SNR=4.6						
ILAR	**Eielson Array**	**87.67**	**13**	P	P	21 51 21.1	-1.4
	0.4nm,0.9s,baz=210,slow=5.2,SNR=3.7						
BRTR	**Keskin Array B**	**146.69**	**313**	PKPbc	PKPbc	21 58 13.1	-0.2
	0.6nm,0.5s,baz=137,slow=4.9,SNR=5.6						
GERES	**GERESS Array B**	**149.72**	**345**	PKPbc	PKPbc	21 58 20.6	+0.1
	0.5nm,0.5s,baz=20,slow=4.3,SNR=5.3						

IDC 31 21:59:48.5±1.3, 1°.88S×129°.16E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=73.0km s-min=22.7km az=78.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.66**	**165**	P	Pn	22 04 08.5	+0.1
	0.2nm,0.3s,baz=348,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.14**	**168**	P	P	22 04 46.1	0.0
	0.7nm,0.5s,baz=348,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**39.14**	**12**	P	P	22 07 17.9	-0.1
	1.7nm,0.8s,baz=182,slow=9.6,SNR=5.4						
MKAR	**Makanchi Array**	**63.52**	**326**	P	P	22 10 20.7	-0.2
	0.1nm,0.3s,baz=123,slow=6.7,SNR=3.0						

*ATH **31** 22:09:00.2, 36°.34N×21°.67E, h5km±2km, MD3.1/26, ML2.5*
*THE **31** 22:09:02.9, 36°.43N×21°.81E, h0km±3km, ML2.7/1, Error ellipse: s-maj=4.1km s-min=1.5km az=210.0*

CSEM 31 22:09:02.2±0.6, 36°.39N×21°.83E, h2km, ML2.7/1, Error ellipse: s-maj=11.7km s-min=6.1km az=53.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.51**	**353**	P	Pg	22 09 11.2	-0.8
PYL	**PYLOS**	**0.51**	**353**	*e*PB	Pg	22 09 11.3	-0.7
PYL				*e*SB	Sg	22 09 19.5	+0.8
PYL	**PYLOS**	**0.51**	**353**	*e*Pb	Pg	22 09 11.3	-0.7
PYL				*e*Sb	Sg	22 09 19.5	+0.8
DYR	**Agios Nikonas**	**0.55**	**48**	P	Pg	22 09 12.8	-0.1
DYR				S	Sb	22 09 21.8	-1.3
DYR	**Agios Nikonas**	**0.55**	**48**	*e*PB	Pg	22 09 13.2	+0.3
DYR	**Agios Nikonas**	**0.55**	**48**	P	Pg	22 09 12.8	-0.1
DYR	**Agios Nikonas**	**0.55**	**48**	*e*Pb	Pg	22 09 13.2	+0.3
DYR				S	Sb	22 09 21.8	-1.3
ITM	**Ithomi**	**0.79**	**6**	P	Pg	22 09 17.1	-0.4
ITM	**Ithomi**	**0.79**	**6**	*e*PB	Pg	22 09 17.2	-0.3
ITM				*e*SB	Sg	22 09 28.8	+0.9
ITM	**Ithomi**	**0.79**	**6**	*e*Pb	Pg	22 09 17.2	-0.3
ITM				*e*Sb	Sg	22 09 28.8	+0.9
VLI	**Veliai**	**0.95**	**69**	P	Pg	22 09 20.4	-0.1
VLI	**Veliai**	**0.95**	**69**	*e*PG	Pg	22 09 37.2	-0.3
VLI				*e*SB	Sn	22 09 37.2	+0.4
VLI	**Veliai**	**0.95**	**69**	P	Pg	22 09 20.4	-0.1
VLI				*e*Sb	Sn	22 09 37.2	+0.4
KYTH	**Kithira**	**0.98**	**96**	P	Pg	22 09 21.3	+0.2
KYTH	**Kithira**	**0.98**	**96**	*e*PN	Pg	22 09 21.1	0.0
KYTH	**Kithira**	**0.98**	**96**	P	Pg	22 09 21.3	+0.2

VLX	**Vlachokerasia**	**1.08**	**24**	P	Pg	22 09 22.1	-0.9
VLX				S	Sb	22 09 38.4	+0.1
VLX	**Vlachokerasia**	**1.08**	**24**	*e*PG	Pg	22 09 22.1	-0.9
VLX				*e*SB	Sb	22 09 39.0	+0.7
VLX	**Vlachokerasia**	**1.08**	**24**	P	Pg	22 09 22.1	-0.9
VLX				S	Sb	22 09 38.4	+0.1
VLX				*e*Sb	Sn	22 09 39.0	-1.1
AMT	**Artemida-Makis**	**1.15**	**355**	P	Pg	22 09 23.0	-1.3
AMT				S	Sb	22 09 40.5	+0.3
AMT	**Artemida-Makis**	**1.15**	**355**	*e*PB	Pg	22 09 23.0	-1.3
AMT				*e*SB	Sg	22 09 39.3	+0.1
AMT	**Artemida-Makis**	**1.15**	**355**	P	Pg	22 09 23.0	-1.3
AMT				*e*Sb	Sg	22 09 39.3	+0.1
AMT				S	Sb	22 09 40.5	+0.3
DID	**Didima**	**1.59**	**45**	P	Pn	22 09 31.6	+0.2
DID	**Didima**	**1.59**	**45**	*e*PG	Pb	22 09 31.9	-0.5
DID	**Didima**	**1.59**	**45**	P	Pn	22 09 31.6	+0.2
DID	**Didima**	**1.59**	**45**	*e*Pg	Pb	22 09 31.9	-0.5
GUR	**Goura**	**1.60**	**15**	P	Pn	22 09 30.8	-0.9
GUR				S	Sn	22 09 52.6	-0.4
GUR	**Goura**	**1.60**	**15**	*e*PG	Pn	22 09 31.5	-0.2
GUR				*e*SB	Sg	22 09 55.5	+1.6
GUR	**Goura**	**1.60**	**15**	P	Pn	22 09 30.8	-0.9
GUR	**Goura**	**1.60**	**15**	*e*Pg	Pn	22 09 31.5	-0.2
GUR				S	Sn	22 09 52.6	-0.4
GUR				*e*Sb	Sg	22 09 55.5	+1.6
RLS	**Riolos of Patr**	**1.69**	**350**	P	Pn	22 09 33.1	+0.3
RLS	**Riolos of Patr**	**1.69**	**350**	*e*PN	Pn	22 09 33.1	+0.3
RLS	**Riolos of Patr**	**1.69**	**350**	P	Pn	22 09 33.1	+0.3
LAKA	**Lakka**	**1.85**	**4**	*e*PN	Pb	22 09 36.5	-0.4
LAKA				*e*SN	Sg	22 10 02.6	+0.7
LAKA	**Lakka**	**1.85**	**4**	*e*Pn	Pb	22 09 36.5	-0.4
LAKA				*e*Sn	Sg	22 10 02.6	+0.7
LTK	**Loutraki**	**1.87**	**29**	P	Pn	22 09 35.3	0.0
LTK	**Loutraki**	**1.87**	**29**	*e*PN	Pb	22 09 37.0	-0.1
LTK	**Loutraki**	**1.87**	**29**	P	Pn	22 09 35.3	0.0
LTK	**Loutraki**	**1.87**	**29**	*e*Pn	Pb	22 09 37.0	-0.1
KFL	**Anninata**	**1.91**	**335**	P	Pn	22 09 35.9	+0.1
KFL	**Anninata**	**1.91**	**335**	P	Pn	22 09 35.9	+0.1
NAIG	**Nisos Aigina**	**1.91**	**44**	*e*PG	Pb	22 09 38.2	+0.4
NAIG	**Nisos Aigina**	**1.91**	**44**	*e*Pg	Pb	22 09 38.2	+0.4
KARN	**Karanos**	**1.96**	**119**	P	Pb	22 09 38.2	-0.5
KARN	**Karanos**	**1.96**	**119**	*e*PG	Pb	22 09 38.3	-0.4
KARN	**Karanos**	**1.96**	**119**	*e*Pg	Pb	22 09 38.3	-0.4
TRIZ	**Trizonia**	**1.98**	**6**	*e*PG	Pb	22 09 38.8	-0.2
TRIZ	**Trizonia**	**1.98**	**6**	*e*Pg	Pb	22 09 38.8	-0.2
KALE	**Kalithea**	**2.02**	**7**	*e*PG	Pb	22 09 39.2	-0.5
KALE	**Kalithea**	**2.02**	**7**	*e*Pg	Pb	22 09

STV	**Sant Anna di V**	**0.94 188**	P	**Pb**	**22 21 12.2**	**-0.3**
PCP	**Piancastagn**	**0.98 130**	P	**Pn**	**22 21 14.5**	**+0.9**
PCP			S	**Sb**	**22 21 27.0**	**+1.3**
RORO	**Rocca Rossa**	**1.14 159**	P	**Pn**	**22 21 16.6**	**+0.9**
RORO			S	**Sb**	**22 21 30.1**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.18 258**	*e*Pg	**Pb**	**22 21 17.5**	**+1.0**
	SNR=1.0					
ORIF			*e*Sg	**Sb**	**22 21 31.0**	**-0.5**
	64nm,0.3s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**1.18 258**	*e*Pg	**Pb**	**22 21 17.5**	**+1.0**
	SNR=1.0					
TOUF	**Mont Tournerai**	**1.18 189**	Pg	**Pn**	**22 21 16.6**	**+0.1**
AUTN	**L'Aution**	**1.19 183**	Pg	**Pn**	**22 21 16.9**	**+0.3**
SAOF	**Saorge**	**1.19 178**	Pg	**Pn**	**22 21 16.9**	**+0.4**
GRN	**Grenoble**	**1.24 274**	Pg	**Pg**	**22 21 19.2**	**+0.6**
GRN			Sg	**Sn**	**22 21 34.9**	**+1.3**
GRN	**Grenoble**	**1.24 274**	Pg	**Pg**	**22 21 19.2**	**+0.6**
GRN			Sg	**Sn**	**22 21 34.9**	**+1.3**
IMI	**Imperia**	**1.30 167**	P	**Pn**	**22 21 18.9**	**+0.9**
MVIF	**Mont Vial**	**1.31 191**	Pg	**Pn**	**22 21 18.8**	**+0.6**
MVIF	**Mont Vial**	**1.31 191**	Pg	**Pn**	**22 21 18.8**	**+0.6**
SBF	**Sospel**	**1.32 182**	*e*P	**Pn**	**22 21 18.8**	**+0.6**
SBF	**Sospel**	**1.32 182**	*e*Pg	**Pb**	**22 21 19.7**	**+0.8**
SBF			*e*Sg	**Sb**	**22 21 36.6**	**+1.1**
	53nm,0.4s,SNR=1.0					
SBF	**Sospel**	**1.32 182**	*e*P	**Pn**	**22 21 18.8**	**+0.6**
SBF	**Sospel**	**1.32 182**	*e*Pg	**Pb**	**22 21 19.7**	**+0.8**
GRN			Sg	**Sn**	**22 21 34.9**	**+1.3**
SC2M	**Scurtabo**	**1.64 117**	P	**Pn**	**22 21 23.7**	**+1.0**
FRF	**La Foret Royal**	**1.73 201**	*e*Pg	**Pb**	**22 21 26.5**	**+0.6**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**22 21 43.6**	**-1.9**
	17nm,0.2s,SNR=1.0					
FRF	**La Foret Royal**	**1.73 201**	*e*Pg	**Pb**	**22 21 26.5**	**+0.6**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**22 21 43.6**	**-1.9**
	8.6nm,0.2s,SNR=1.0					
CABF	**La Chapelle**	**1.74 326**	*e*Pg	**Pn**	**22 21 25.9**	**+1.8**
	SNR=1.0					
CABF			*e*Sg	**Sb**	**22 21 48.1**	**+0.4**
	15nm,0.5s,SNR=1.0					
CABF	**La Chapelle**	**1.74 326**	*e*Pg	**Pn**	**22 21 25.9**	**+1.8**
	SNR=1.0					
CABF			*e*Sg	**Sb**	**22 21 48.1**	**+0.4**
	7.7nm,0.5s,SNR=1.0					
SMRF	**Simiane la Rot**	**1.83 230**	*e*P	**Pn**	**22 21 25.6**	**+0.4**
SMRF	**Simiane la Rot**	**1.83 230**	*e*Pg	**Pb**	**22 21 28.4**	**+0.8**
	SNR=1.0					
SMRF			*e*Sg	**Sb**	**22 21 52.5**	**+2.3**
	12nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**1.83 230**	*e*P	**Pn**	**22 21 25.6**	**+0.4**
SMRF	**Simiane la Rot**	**1.83 230**	*e*Pg	**Pb**	**22 21 28.4**	**+0.8**
	SNR=1.0					
CODM	**Codolo**	**1.85 114**	P	**Pn**	**22 21 27.4**	**+1.9**
CODM			S	**Sn**	**22 21 48.0**	**-0.5**
LMR	**La Mourre**	**1.98 201**	*e*Pg	**Pb**	**22 21 30.6**	**+0.5**
	SNR=1.0					
LMR			*e*Sg	**Sb**	**22 21 56.5**	**+2.1**
	15nm,0.2s,SNR=1.0					
LMR	**La Mourre**	**1.98 201**	*e*Pg	**Pb**	**22 21 30.6**	**+0.5**
	SNR=1.0					
VIVF	**Saint-Julien-l**	**2.03 262**	*e*Pn	Pn	22 21 25.3	-2.7
	SNR=1.0					
VIVF	**Saint-Julien-l**	**2.03 262**	*e*Pg	**Pb**	**22 21 31.1**	**0.0**
VIVF			*e*Sn	**Sn**	**22 21 50.3**	**-2.7**
	SNR=1.0					
VIVF			*e*Sg	**Sb**	**22 21 58.0**	**+2.0**
	11nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**2.03 262**	*e*Pn	Pn	22 21 25.3	-2.7
	SNR=1.0					
VIVF	**Saint-Julien-l**	**2.03 262**	*e*Pg	**Pb**	**22 21 31.1**	**0.0**
VIVF			*e*Sg	**Sb**	**22 21 58.0**	**+2.0**
	5.6nm,0.3s,SNR=1.0					
LEPF	**PUYLOUBIER**	**2.10 219**	Pg	**Pg**	**22 21 35.3**	**+0.4**
LEPF	**PUYLOUBIER**	**2.10 219**	Pg	**Pg**	**22 21 35.3**	**+0.4**
HINF	**Hinteralfeld**	**2.68 351**	*e*Pn	Pn	22 21 34.2	-2.7
	SNR=1.0					
HINF	**Hinteralfeld**	**2.68 351**	*e*P	**Pn**	**22 21 37.3**	**+0.4**
HINF	**Hinteralfeld**	**2.68 351**	*e*Pg	**Pb**	**22 21 43.6**	**+1.6**
	SNR=1.0					
HINF			*e*Sg	**Sb**	**22 22 17.1**	**+2.5**
	3.0nm,0.2s					
HINF	**Hinteralfeld**	**2.68 351**	*e*Pn	Pn	22 21 34.2	-2.7
	SNR=1.0					
HINF	**Hinteralfeld**	**2.68 351**	*e*Pg	**Pb**	**22 21 43.6**	**+1.6**
	SNR=1.0					
HINF			*e*Sg	**Sb**	**22 22 17.1**	**+2.5**
	1.5nm,0.2s					
LASF	**Ste Croix**	**2.83 248**	*e*P	**Pn**	**22 21 41.0**	**+2.1**
LASF	**Ste Croix**	**2.83 248**	*e*Pg	**Pb**	**22 21 46.5**	**+1.9**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**22 22 09.5**	**-3.1**
	6.0nm,0.4s					
LASF	**Ste Croix**	**2.83 248**	*e*P	**Pn**	**22 21 41.0**	**+2.1**
LASF	**Ste Croix**	**2.83 248**	*e*Pg	**Pb**	**22 21 46.5**	**+1.9**
	SNR=1.0					
PGF	**Pioggiola**	**2.84 157**	*e*P	**Pn**	**22 21 40.3**	**+1.0**
	SNR=1.0					
PGF			*e*Sn	**Sn**	**22 22 10.2**	**-3.0**
	1.5nm,0.2s					
PGF	**Pioggiola**	**2.84 157**	*e*P	**Pn**	**22 21 40.3**	**+1.0**
	SNR=1.0					
PGF			*e*Sn	**Sn**	**22 22 10.2**	**-3.0**
	0.8nm,0.2s					
HAU	**Haudompre**	**2.94 345**	*e*P	**Pn**	**22 21 42.2**	**+1.7**
HAU			*e*Sg	**Sb**	**22 22 25.7**	**+3.6**
	5.7nm,0.3s					
HAU	**Haudompre**	**2.94 345**	*e*P	**Pn**	**22 21 42.2**	**+1.7**
HAU			*e*Sg	**Sb**	**22 22 25.7**	**+3.6**
	2.8nm,0.3s					
SMF	**Signal de Mont**	**2.94 301**	*e*P	**Pn**	**22 21 42.0**	**+1.4**
SMF			*e*Sg	**Sb**	**22 22 26.2**	**+3.9**
	6.3nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**2.94 301**	*e*P	**Pn**	**22 21 42.0**	**+1.4**
SMF			*e*Sg	**Sb**	**22 22 26.2**	**+3.9**
	3.2nm,0.3s,SNR=1.0					
CDF	**Champ du Feu**	**3.24 357**	*e*P	**Pn**	**22 21 46.1**	**+1.4**
CDF			*e*Sg	**Sb**	**22 22 34.6**	**+3.8**
	3.2nm,0.4s					
LOR	**Lormes**	**3.28 311**	*e*P	**Pn**	**22 21 47.1**	**+1.9**
	baz=122					
LOR	**Lormes**	**3.28 311**	*e*Pg	Pb	22 21 54.8	+2.5
LOR			*e*Sg	**Sb**	**22 22 36.0**	**+4.1**
	3.1nm,0.3s					
LOR	**Lormes**	**3.28 311**	*e*P	**Pn**	**22 21 47.1**	**+1.9**
	baz=122					
LOR	**Lormes**	**3.28 311**	*e*Pg	Pb	22 21 54.8	+2.5
AVF	**Avril sur Loir**	**3.31 301**	*e*P	**Pn**	**22 21 47.8**	**+2.2**
AVF			*e*Sn	**Sn**	**22 22 20.1**	**-4.4**
	SNR=1.0					
AVF			*e*Sg	**Sb**	**22 22 37.4**	**+4.6**
	2.5nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**3.31 301**	*e*P	**Pn**	**22 21 47.8**	**+2.2**
AVF			*e*Sg	**Sb**	**22 22 37.4**	**+4.6**
	1.2nm,0.2s,SNR=1.0					
SSF	**Saint Saulge**	**3.36 306**	*e*P	**Pn**	**22 21 47.3**	**+1.1**
SSF			*e*Sg	**Sb**	**22 22 38.7**	**+4.6**
	3.9nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**3.36 306**	*e*P	**Pn**	**22 21 47.3**	**+1.1**
SSF			*e*Sg	**Sb**	**22 22 38.7**	**+4.6**
	2.0nm,0.4s,SNR=1.0					
SFTF	**Sexfontaines**	**3.47 332**	*e*P	**Pn**	**22 21 48.0**	**+0.2**
	baz=139					
SFTF			*e*Sg	**Sg**	**22 22 43.1**	**-2.9**
	5.2nm,0.3s					
SFTF	**Sexfontaines**	**3.47 332**	*e*P	**Pn**	**22 21 48.0**	**+0.2**
	baz=139					
SFTF			*e*Sg	**Sg**	**22 22 43.1**	**-2.9**
	2.6nm,0.3s					
BGF	**Bois d'Agland**	**3.53 295**	*e*P	Pn	22 21 51.0	+2.4
BGF			*e*Sg	**Sg**	**22 22 44.8**	**-3.2**
	7.3nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.53 295**	*e*P	Pn	22 21 51.0	+2.4
BGF			*e*Sg	**Sg**	**22 22 44.8**	**-3.2**
	3.7nm,0.4s,SNR=1.0					
PAGF	**Fort de Pagny**	**3.59 341**	*e*P	**Pn**	**22 21 51.1**	**+1.7**
	baz=168					
PAGF	**Fort de Pagny**	**3.59 341**	*e*P	**Pn**	**22 21 51.1**	**+1.7**
	baz=168					
CAF	**Calviac**	**3.86 268**	*e*P	Pn	22 21 56.1	+2.9
CAF			*e*Sg	**Sg**	**22 22 55.4**	**-3.2**
	0.7nm,0.2s					
CAF	**Calviac**	**3.86 268**	*e*P	Pn	22 21 56.1	+2.9
CAF			*e*Sg	**Sg**	**22 22 55.4**	**-3.2**
	0.3nm,0.2s					
TCF	**Toulx Ste Croi**	**3.87 289**	*e*P	Pn	22 21 55.6	+2.3
TCF			*e*Sn	**Sn**	**22 22 33.8**	**-4.5**
	1.1nm,0.2s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.87 289**	*e*P	Pn	22 21 55.6	+2.3
TCF			*e*Sn	**Sn**	**22 22 33.8**	**-4.5**
	0.6nm,0.2s,SNR=1.0					
MTLF	**Montolieu**	**4.22 246**	*e*P	**Pn**	**22 21 59.7**	**+1.7**
MTLF	**Montolieu**	**4.22 246**	*e*P	**Pn**	**22 21 59.7**	**+1.7**
BAIF	**Baives**	**5.37 337**	*e*P	Pn	22 22 16.3	+2.5
BAIF	**Baives**	**5.37 337**	*e*P	Pn	22 22 16.3	+2.5

DJA ***31*** *22:21:51.0±4.8,26°S±32″×18°0E±4″4, h507km±46km, M5.2/8, mB5.6/6, mb5.4/8, Mw(mB)5.1/6*

AUST ***31*** *22:21:52.9±0.0, 25°31S×179°81E, h497km, Error ellipse: s-maj=1.1km s-min=0.9km az=270.0*

ISCJB ***31*** *22:21:52.8±0.5, 25°52S±0°03×179°55E±0°03, h493km±5km, mb4.8/79, Error ellipse: s-maj=5.6km s-min=3.8km az=158.7*

MOS ***31*** *22:21:52.0±2.0, 25°39S×179°64E, h479km, mb4.9/25, Error ellipse: s-maj=10.1km s-min=10.0km az=90.8*

IDC ***31*** *22:21:53.0±0.5, 25°49S×179°64E, h492km±4km, mb4.3/27, mb1 4.4/31, mb1mx4.4/33, mbtmp4.3/31, Error ellipse: s-maj=7.7km s-min=7.4km az=155.0*

NEIC ***31*** *22:21:53.0±0.2, 25°50S×179°58E, mb4.7/38, Error ellipse: s-maj=6.2km s-min=5.7km az=131.0*

BJI ***31*** *22:21:56.0, 24°74S×179°39E, h501km, mB4.8/22, mb4.6/27*

SZGRF ***31*** *22:22:14.3, 19°99S×179°89E, h484km, South of Fiji Islands*

ISC 31 22:21:53.3±0.3, 25°49S±0°04×179°64E±0°04, h495km±2km, h495km:pP-P, n496, σ1°19/593, mb4.8/79, 66C-85D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.33**	**150**	*e*P	**P**		**22 23 14.3**	**+0.3**
RAO				*e*S	**S**		**22 24 20.8**	**+0.9**
MSVF	**Nonsavu**	**7.86**	**349**	*e*P	**P**		**22 23 47.5**	**-0.8**
MSVF				*e*S	**S**		**22 25 23.7**	**+1.1**
MSVF	**Nonsavu**	**7.86**	**349**	*e*P	**P**		**22 23 47.5**	**-0.8**
MSVF				*e*S	**S**		**22 25 23.7**	**+1.1**
OUZ	**Omahuta**	**11.01**	**207**	*e*P	**P**		**22 24 23.9**	**+2.8**
NIUE	**Niue**	**11.57**	**59**	S	**S**		**22 26 39.4**	**+5.1**
	baz=11,SNR=6.0							
DZM	**Mont Dzumac**	**12.55**	**283**	P	**P**		**22 24 38.8**	**+0.9**
	1.6nm,0.3s,baz=101,slow=15,SNR=12							
DZM	**Mont Dzumac**	**12.55**	**283**	*e*P	**P**		**22 24 36.8**	**-1.1**
	28nm,0.8s							
DZM				*e*S	**S**		**22 26 53.2**	**-0.4**
URZ	**Urewera**	**12.91**	**189**	P	**P**		**22 24 39.5**	**-1.8**
	27nm,0.3s,baz=19,slow=1.8,SNR=68							
URZ				S	**S**		**22 26 57.6**	**-2.3**
	7.3nm,0.3s,baz=237,slow=21,SNR=8.0							
URZ	**Urewera**	**12.91**	**189**	*e*P	**P**		**22 24 39.6**	**-1.7**
URZ				*e*S	**S**		**22 26 57.4**	**-2.5**
AFI	**Afiamalu**	**14.06**	**37**	P	**P**		22 24 49.5	-4.4
	16nm,0.3s,baz=197,slow=15,SNR=7.9							
AFI				S	S		22 27 13.7	-9.2
	10.0nm,0.3s,baz=139,slow=20,SNR=3.7							
AFI	**Afiamalu**	**14.06**	**37**	*e*P	P		22 24 49.2	-4.8
AFI				*e*S	**S**		**22 27 21.9**	**-1.0**
KHZ	**Kahutara**	**17.62**	**195**	*e*P	**P**		**22 25 27.9**	**-2.3**
	103nm,0.6s							
KHZ				*e*S	**S**		**22 28 23.9**	**-3.5**
RAR	**Rarotonga**	**19.37**	**82**	P	**P**		**22 25 45.1**	**-1.3**
	4.0nm,0.3s,baz=246,slow=6.1,SNR=5.9							
RAR	**Rarotonga**	**19.37**	**82**	P	**P**		**22 25 45.1**	**-1.3**
RPZ	**Rata Peaks**	**19.49**	**199**	P	**P**		**22 25 46.3**	**-1.0**
	8.4nm,0.3s,baz=286,slow=1.5,SNR=27							
RPZ				S	**S**		**22 28 56.3**	**-1.5**
	0.9nm,0.3s,baz=29,slow=15,SNR=3.5							
RPZ	**Rata Peaks**	**19.49**	**199**	*e*P	**P**		**22 25 47.6**	**+0.3**
RPZ				*e*S	**S**		**22 28 59.5**	**+1.7**
ODZ	**Otahua Downs**	**20.82**	**198**	*e*P	**P**		**22 25 57.2**	**-2.2**
	42nm,0.4s							
HNR	**Honiara**	**24.60**	**307**	*e*P	**P**		**22 26 32.4**	**-1.3**
	292nm,0.7s							
HNR				*e*S	**S**		**22 30 19.4**	**0.0**
ARMA	**Armidale**	**25.20**	**252**	P	**P**		**22 26 41.0**	**+2.0**
	baz=25,SNR=14							
EIDS	**Eidsvold**	**25.78**	**264**	*e*P	**P**		**22 26 44.8**	**+0.8**
	50nm,0.6s							
EIDS	**Eidsvold**	**25.78**	**264**	P	**P**		**22 26 44.9**	**+0.8**
	baz=26,SNR=29							
EIDS				S	**S**		**22 30 39.3**	**+1.5**
	baz=26,SNR=6.6							
MGCD	**Mangrove Creek**	**25.98**	**246**	P	**P**		**22 26 48.0**	**+2.3**
	baz=26,SNR=14							
TARA	**Tarawa**	**27.47**	**345**	*e*P	**P**		**22 26 58.3**	**-0.6**
	473nm,0.8s							
RMQ	**Roma**	**27.75**	**261**	P	**P**		**22 27 03.2**	**+1.9**
	baz=28,SNR=36							
CNB	**Canberra Magne**	**27.80**	**242**	P	**P**		**22 27 04.4**	**+2.6**
	baz=28,SNR=5.1							
TBI	**Tubuai**	**28.18**	**92**	*e*P	**P**		**22 27 05.1**	**-0.1**
	135nm,0.8s							
TBI	**Tubuai**	**28.18**	**92**	*e*P	**P**		**22 27 05.1**	**-0.1**
YNG	**Young**	**28.39**	**245**	P	**P**		**22 27 08.9**	**+2.0**
	baz=29,SNR=6.7							
PAE	**Paea**	**29.61**	**81**	*e*P	**P**		**22 27 16.9**	**-0.8**
	18nm,1.1s							
PAE	**Paea**	**29.61**	**81**	*e*P	**P**		**22 27 16.9**	**-0.8**
PAE	**Paea**	**29.61**	**81**	*e*P	**P**		**22 27 16.9**	**-0.8**
PPT2	**Papeete2**	**29.64**	**81**	*e*P	**P**		**22 27 17.5**	**-0.5**
	52nm,1.1s							
TIAR	**Tiarei**	**29.85**	**81**	*e*P	**P**		**22 27 19.4**	**-0.4**
	104nm,0.9s							
TIAR	**Tiarei**	**29.85**	**81**	*e*P	**P**		**22 27 19.4**	**-0.4**
TVO	**Taravao**	**29.86**	**81**	*e*P	**P**		**22 27 19.2**	**-0.7**
	70nm,0.7s							
TVO	**Taravao**	**29.86**	**81**	*e*P	**P**		**22 27 19.2**	**-0.7**
TVO	**Taravao**	**29.86**	**81**	*e*P	**P**		**22 27 19.2**	**-0.7**
CMSA	**Cobar Meteorol**	**30.36**	**251**	P	**P**		**22 27 24.9**	**+0.9**
	baz=30,SNR=11							
MEH	**Mehetia**	**30.89**	**82**	*e*P	**P**		**22 27 26.7**	**-2.1**
	128nm,1.1s							
MEH	**Mehetia**	**30.89**	**82**	*e*P	**P**		**22 27 26.7**	**-2.1**
CTA	**Charters Tower**	**31.20**	**273**	P	**P**		**22 27 32.3**	**+0.9**
	99nm,0.4s,baz=99,slow=10,SNR=265							
CTA				S	**S**		**22 32 04.0**	**+1.8**
	2.7nm,0.6s,baz=232,slow=19,SNR=7.6							
CTA				ScP	**ScP**		**22 33 09.5**	**+2.3**
	2.0nm,0.4s,baz=96,slow=1.6,SNR=4.0							
CTA	**Charters Tower**	**31.20**	**273**	P	**P**		**22 27 32.3**	**+0.9**
CTA				S	**S**		**22 32 04.0**	**+1.8**
CTA				ScP	**ScP**		**22 33 09.5**	**+2.3**
CTAO	**Charters Tower**	**31.20**	**273**	*e*P	**P**		**22 27 31.8**	**+0.4**
CTAO				*e**PP	**pP**		**22 28 55.8**	**-0.8**
CTAO				*e*S	**S**		**22 32 03.1**	**+0.9**
CTAO				pmax	pmax			
	comp=Z,121nm,0.7s							
CTAO	**Charters Tower**	**31.20**	**273**	*e*P	**P**		**22 27 31.8**	**+0.4**
	comp=Z,121nm,0.7s							
CTAO				*e*pP	**pP**		**22 28 55.8**	**-0.8**
CTAO				*e*S	**S**		**22 32 03.1**	**+0.9**
TOO	**Toolangi**	**31.34**	**239**	P	**P**		**22 27 33.4**	**+1.0**
	baz=32,SNR=5.6							
QLP	**Quilpie**	**31.77**	**260**	P	**P**		**22 27 36.8**	**+0.5**
	baz=32,SNR=13							
PMOR	**Pomariorio Ree**	**32.11**	**77**	*e*P	**P**		**22 27 38.7**	**-0.5**
	comp=Z,122nm,1.1s							
PMOR	**Pomariorio Ree**	**32.11**	**77**	*e*P	**P**		**22 27 38.7**	**-0.5**
STKA	**Stephens Creek**	**33.86**	**250**	P	**P**		**22 27 54.7**	**+0.7**
	comp=Z,13nm,0.4s,baz=96,slow=11,SNR=117							
STKA	**Stephens Creek**	**33.86**	**250**	*e*P	**P**		**22 27 54.6**	**+0.7**
	comp=Z,3.0nm,0.4s							
STKA				*e*pP	**pP**		**22 29 19.8**	**-0.5**
STKA	**Stephens Creek**	**33.86**	**250**	P	**P**		**22 27 54.5**	**+0.6**
	baz=34,SNR=104							
ARPS	**Mount Arapiles**	**34.06**	**242**	P	**P**		**22 27 56.5**	**+1.0**
	baz=34,SNR=8.1							
PMG	**Port Moresby**	**34.74**	**292**	P	**P**		**22 28 01.4**	**-0.1**
	comp=Z,153nm,0.7s,baz=109,slow=5.1,SNR=76							
PMG				ScP	**ScP**		**22 33 22.4**	**+2.8**
	comp=Z,18nm,1.0s,baz=169,slow=5.2,SNR=5.1							
PMG	**Port Moresby**	**34.74**	**292**	*e*P	**P**		**22 28 01.1**	**-0.4**
	comp=Z,172nm,0.8s							
PMG				ScP	**ScP**		**22 33 22.4**	**+2.8**
PMG	**Port Moresby**	**34.74**	**292**	P	**P**		**22 28 01.3**	**-0.2**
	comp=Z,234nm,0.8s,comp=Z,2μm							
COEN	**Coen**	**36.08**	**282**	*e*P	**P**		**22 28 13.3**	**+0.6**
	comp=Z,638nm,0.6s							
COEN	**Coen**	**36.08**	**282**	P	**P**		**22 28 13.3**	**+0.6**
	baz=36,SNR=195							
COEN				S	**S**		**22 33 18.1**	**+1.7**
	baz=36,SNR=4.8							
QIS	**Mount Isa**	**37.08**	**269**	P	**P**		**22 28 20.8**	**-0.1**
	baz=37,SNR=21							
QIS				S	**S**		**22 33 30.0**	**-1.3**
	baz=37,SNR=7.4							
BBOO	**Buckleboo**	**38.55**	**249**	P	**P**		**22 28 32.3**	**-0.4**
	baz=39,SNR=31							
AS31	**Alice Springs**	**41.48**	**262**	*e*P	**P**		**22 28 56.1**	**-0.4**
AS31				*e*pP	**pP**		**22 30 27.3**	**+0.3**
AS31				*e*S	**S**		**22 34 35.4**	**-0.5**
ASAR	**Alice Springs**	**41.48**	**262**	P	**P**		**22 28 56.4**	**-0.2**
	comp=Z,23nm,0.4s,baz=90,slow=7.8,SNR=280							
ASAR				pP	**pP**		**22 30 28.1**	**+1.2**
	comp=Z,7.4nm,0.9s,baz=97,slow=8.2,SNR=3.1							
ASAR				ScP	**ScP**		**22 33 45.9**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=114,slow=3.8,SNR=6.3							
ASAR				S	**S**		**22 34 35.4**	**-0.5**
	comp=Z,11nm,1.0s,baz=98,slow=15,SNR=30							
ASAR	**Alice Springs**	**41.48**	**262**	P	**P**		**22 28 56.4**	**-0.2**
ASAR				pP	**pP**		**22 30 28.1**	**+1.2**
ASAR				ScP	**ScP**		**22 33 45.9**	**+0.4**
ASAR				S	**S**		**22 34 35.4**	**-0.5**
WRAB	**Tennant Creek**	**41.99**	**268**	*e*P	**P**		**22 28 59.9**	**-0.7**
WRAB				*e*S	**S**		**22 34 41.8**	**-1.5**
WRAB				pmax	pmax			
	comp=Z,76nm,0.8s							
WRAB	**Tennant Creek**	**41.99**	**268**	*e*P	**P**		**22 28 59.9**	**-0.7**
	comp=Z,76nm,0.8s							
WRAB				*e*S	**S**		**22 34 41.8**	**-1.5**
WRA	**Warramunga Arr**	**42.00**	**268**	P	**P**		**22 29 00.1**	**-0.6**
	comp=Z,25nm,0.3s,baz=98,slow=6.8,SNR=833							
WRA				ScP	**ScP**		**22 33 48.8**	**+1.2**
	comp=Z,6.1nm,1.0s,baz=105,slow=4.3,SNR=11							
WRA				S	**S**		**22 34 41.5**	**-1.9**
	comp=Z,23nm,1.0s,baz=99,slow=15,SNR=28							
WRA	**Warramunga Arr**	**42.00**	**268**	P	**P**		**22 29 00.1**	**-0.6**
WRA				ScP	**ScP**		**22 33 48.8**	**+1.2**
WRA				S	**S**		**22 34 41.5**	**-1.9**
JAY	**Jayapura**	**43.87**	**295**	P	P		22 29 00.4	-15
	baz=44,SNR=12							
FORT	**Forrest**	**45.47**	**251**	*e*P	**P**		**22 29 26.6**	**-0.9**
	comp=Z,24nm,0.6s							
FORT	**Forrest**	**45.47**	**251**	P	**P**		**22 29 26.7**	**-0.9**
	baz=46,SNR=16							
KDU	**Kakadu**	**46.13**	**277**	P	**P**		**22 29 31.8**	**-1.0**
	baz=46,SNR=18							
BAKI	**Biak**	**48.40**	**293**	P	**P**		**22 29 49.8**	**-0.1**
	comp=Z,146nm,0.9s,comp=Z,2μm							
FITZ	**Fitzroy Crossi**	**50.40**	**267**	P	**P**		**22 30 04.7**	**+0.1**
	comp=Z,17nm,0.7s,baz=111,slow=6.8,SNR=50							
FITZ				pP	**pP**		**22 31 40.4**	**+0.4**
	comp=Z,10nm,0.9s,baz=109,slow=10.0,SNR=4.0							
FITZ	**Fitzroy Crossi**	**50.40**	**267**	*e*P	**P**		**22 30 04.6**	**-0.1**
	comp=Z,24nm,0.9s							
FITZ				*e*pP	**pP**		**22 31 39.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.40**	**267**	P	**P**		**22 30 04.5**	**-0.1**
	baz=50,SNR=20							
FITZ				S	**S**		**22 36 43.2**	**+2.4**
	baz=50,SNR=5.5							
SWI	**Sorong**	**52.66**	**290**	P	**P**		**22 30 20.6**	**-0.4**
	baz=53,SNR=6.0							
SWI	**Sorong**	**52.66**	**290**	P	**P**		**22 30 20.3**	**-0.8**
VNDA	**Vanda**	**52.77**	**185**	P	**P**		**22 30 21.7**	**+0.8**
	comp=Z,12nm,0.8s,baz=1.5,slow=7.4,SNR=44							
VNDA				ScP	**ScP**		**22 34 32.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=1.5,slow=5.4,SNR=5.2							
VNDA	**Vanda**	**52.77**	**185**	*e*P	**P**		**22 30 21.7**	**+0.8**
	comp=Z,11nm,0.8s							
VNDA				*e*PcP	**PcP**		**22 31 22.7**	**+0.4**
VNDA				ScP	**ScP**		**22 34 32.3**	**+0.4**
SBA	**Scott Base**	**52.78**	**183**	*e*P	**P**		**22 30 22.9**	**+2.0**
SBA				*e*			22 31 23.0	
SBA				pmax	pmax			
	comp=Z,37nm,0.9s							
SBA	**Scott Base**	**52.78**	**183**	*e*P	**P**		**22 30 22.9**	**+2.0**
	comp=Z,37nm,0.9s							
SBA				*e*PcP	**PcP**		**22 31 23.0**	**+0.7**
AAI	**Ambon**	**53.88**	**285**	P	**P**		**22 30 30.6**	**+0.8**
KLBR	**Kellerberrin**	**54.09**	**248**	P	**P**		**22 30 30.6**	**-0.5**
	baz=54,SNR=6.0							
MEEK	**Meekatharra**	**54.36**	**254**	P	**P**		**22 30 31.8**	**-1.3**
	baz=54

comp=Z,25nm,0.6s
WHN Wuhan 83.72 308 P P 22 33 30.3 +0.6
VNA2 Neumayer--Watz 83.72 178 eP P 22 33 29.0 -0.1
VNA2 Neumayer--Watz 83.72 178 eS S 22 43 09.8 -0.2
HABR Khabarovsk 83.75 332 eP P 22 33 29.0 -0.4
HABR e*PP pP 22 35 16.4 -1.9
HABR e*SP sP 22 36 06.9 -2.1
HABR 22 36 50.0
HABR ePPP PPP 22 38 46.2
HABR eS SKSac 22 43 03.5 -0.8
HABR eSS SS 22 48 52.3 -0.4
HABR e 22 52 27.6
HABR pmax pmax
comp=N,6.0nm,0.6s
HABR pmax pmax
comp=Z,9.0nm,0.9s
HABR pmax pmax
comp=E,6.0nm,0.5s
HABR MLR MLR
comp=Z,105nm,20.0s
LPIG La Paz 83.80 60 P P 22 33 30.4 +0.1
comp=Z,6.2nm,0.3s,baz=216,slow=2.5,SNR=5.1
LPIG La Paz 83.80 60 P P 22 33 30.4 +0.1
VNA1 Neumayer--Stat 83.97 177 eP P 22 33 30.4 +0.1
BFSC Mount Baldy Ra 84.05 48 ⇓P P 22 33 32.1 +0.6
baz=84
MONP Monument Peak 84.10 49 ⇑P P 22 33 33.1 +1.2
baz=84,SNR=12
DVTC Desert V Tower 84.19 50 ⇓P P 22 33 33.7 +1.6
baz=84,SNR=7.0
EDW2 Edwards Air Fo 84.20 47 ⇓P P 22 33 32.8 +0.7
baz=84
ISA Isabella 84.35 46 eP P 22 33 34.1 +1.2
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella 84.35 46 eP P 22 33 34.1 +1.2
comp=Z,8.9nm,0.8s
ISA Isabella 84.35 46 ⇑P P 22 33 33.8 +0.9
baz=85
PFO Pinyon Flat Ob 84.49 49 ⇑P P 22 33 34.7 +1.0
baz=85
CMB Columbia Colle 84.57 43 eP P 22 33 34.7 +0.8
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 84.57 43 eP P 22 33 34.7 +0.8
comp=Z,4.6nm,0.9s
LRMC Laurel Mountai 84.75 47 ⇓P P 22 33 35.9 +1.0
baz=85
CN2 Changchun 84.97 324 eP P 22 33 35.8 +0.2
CN2 epP pP 22 35 28.3 +3.5
CN2 esP sP 22 36 19.0 +3.6
CN2 eS S 22 43 22.5 -0.2
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
BELC Belle Mtn. Jos 85.03 49 ⇑P P 22 33 37.3 +0.9
baz=85,SNR=10
BC3 Big Chuckawall 85.20 49 ⇓P P 22 33 38.4 +1.3
baz=86
MPMC Manual Prospec 85.23 46 ⇑P P 22 33 38.0 +0.7
baz=86
GSC Goldstone 85.24 47 eP P 22 33 38.2 +1.0
GSC pmax pmax
comp=Z,7.0nm,0.8s
GSC Goldstone 85.24 47 eP P 22 33 38.2 +1.0
comp=Z,7.1nm,0.8s
GSC Goldstone 85.24 47 ⇑P P 22 33 38.1 +0.8
baz=86
HEC Hector,Ludlow 85.28 48 ⇓P P 22 33 38.2 +0.8
baz=86,SNR=11
GLA Glamis 85.29 50 eP P 22 33 39.2 +1.7
GLA pmax pmax
comp=Z,13nm,0.8s
GLA Glamis 85.29 50 eP P 22 33 39.2 +1.7
comp=Z,13nm,0.8s
GLA Glamis 85.29 50 ⇑P P 22 33 39.0 +1.6
baz=86,SNR=8.1
YBH Yreka Blue Hor 85.52 39 P P 22 33 38.3 -0.1
comp=Z,2.2nm,0.7s,baz=229,slow=4.1,SNR=5.3
YBH Yreka Blue Hor 85.52 39 P P 22 33 38.3 -0.1
IRM Iron Mountain 85.69 49 ⇓P P 22 33 40.6 +1.2
baz=86,SNR=6.0
GMRC Granite Mounta 85.70 48 ⇑P P 22 33 40.5 +1.0
baz=86
GRAC Grapevine Rang 85.86 46 ⇓P P 22 33 41.5 +1.3
baz=86
113A Mohawk Valley, 85.87 51 ⇓P P 22 33 41.3 +1.1
baz=86
Y12C Blythe 85.89 50 ⇓P P 22 33 41.5 +1.2
baz=86
TUQ Turquoise Moun 85.90 48 ⇓P P 22 33 41.4 +0.9
baz=86
214A Organ Pipe Nat 86.10 52 ⇑P P 22 33 42.4 +1.1
baz=86,SNR=5.7
NVAR Mina Array Bea 86.12 44 P P 22 33 41.4 -0.2
comp=Z,4.0nm,0.7s,baz=228,slow=8.9,SNR=11
NVAR Mina Array Bea 86.12 44 P P 22 33 41.4 -0.2
KDAK Kodiak Island 86.16 14 P P 22 33 41.1 +0.1
comp=Z,5.1nm,0.8s,baz=153,slow=6.8,SNR=3.3
KDAK Kodiak Island 86.16 14 P P 22 33 41.1 +0.1
PDMCI Parker Dam,Lak 86.47 49 ⇓P P 22 33 44.2 +1.2
baz=87
Z14A Wintersburg 86.77 51 ⇑P P 22 33 45.8 +1.3
baz=87
Y14A Wickenburg 87.05 50 ⇓P P 22 33 47.1 +1.2
baz=87
W13A Hualapai Mount 87.08 49 ⇑P P 22 33 47.5 +1.3
baz=87
ENH Enshi 87.09 305 eP P 22 33 46.1 0.0
comp=Z,29nm,1.2s
ENH epP pP 22 35 35.1 -1.0
GYA Guiyang 87.28 301 P P 22 33 49.0 +1.8
GYA pP pP 22 35 39.5 +2.3
GYA sP sP 22 36 28.0 +0.4
GYA PP PP 22 37 24.3 +3.7
GYA SKS SKSac 22 43 28.0 +0.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.9s
PLCA Paso Flores 87.39 134 P P 22 33 48.4 +0.9
comp=Z,9.9nm,0.8s,baz=224,slow=5.3,SNR=15
PLCA Paso Flores 87.39 134 eP P 22 33 48.4 +0.9
comp=Z,36nm,1.4s
PLCA epP pP 22 35 42.0 +4.6
TUC Tucson 87.74 53 eP P 22 33 50.8 +1.6
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC Tucson 87.74 53 eP P 22 33 50.8 +1.6
comp=Z,9.1nm,0.8s
BJI Beijing 87.96 317 P P 22 33 50.0 +0.2
BJI S S 22 43 52.3 +1.2
BJI pmax pmax
comp=Z,17nm,1.0s
BJI pmax pmax
comp=Z,74nm,3.5s
319A Douglas 88.34 54 ⇑P P 22 33 53.7 +1.6
baz=89,SNR=7.6
X16A Lo Mia Camp, P 88.40 51 ⇓P P 22 33 53.5 +1.2
baz=89,SNR=6.9
CCUT Cedar City 88.80 47 eP P 22 33 55.6 +1.4
comp=Z,6.3nm,1.1s
320A Kipp Ranch, An 88.87 54 ⇑P P 22 33 56.0 +1.4
baz=89
U15A North Rim 88.90 48 ⇑P P 22 33 55.9 +1.2
baz=89
WUAZ Wupatki 89.03 50 ⇓P P 22 33 56.3 +1.1
baz=89
220A Playas Peak, P 89.16 54 ⇓P P 22 33 56.8 +0.9
baz=89
GAMB Gambell 89.23 4 eP P 22 33 55.2 +0.1
comp=Z,14nm,1.3s
GAMB epP pP 22 35 45.6 -0.1
120A U Bar Ranch, L 89.41 53 ⇓P P 22 33 58.4 +1.3
baz=90,SNR=5.2
XAN Xi'an 89.47 308 P P 22 33 57.8 +0.7
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,21nm,4.6s
X18A Snowflake 89.50 51 ⇓P P 22 33 58.6 +1.2
baz=90
Z20A Nine Sixteen R 89.73 53 ⇓P P 22 33 59.7 +1.1
baz=90,SNR=5.5
221A Mesquite Ranch 89.76 54 ⇓P P 22 34 00.2 +1.5
baz=90
CMAR Chiang Mai Arr 89.78 290 P P 22 33 59.9 +1.0
comp=Z,3.7nm,0.9s,baz=133,slow=3.5,SNR=22
CMAR pP pP 22 35 49.9 +0.5
comp=Z,2.0nm,0.9s,baz=136,slow=3.3,SNR=6.2
CMAR PKKPbc PKKPbc 22 51 28.9 +0.6
comp=Z,1.2nm,0.5s,baz=291,slow=4.4,SNR=7.5
CMAR Chiang Mai Arr 89.78 290 P P 22 33 59.9 +1.0
CMAR pP pP 22 35 49.9 +0.5
CMAR PKKPbc PKKPbc 22 51 28.9 +0.6
CHTO Chiang Mai 89.93 291 eP P 22 34 00.3 +0.7
CHTO e*PP pP 22 35 50.4 +0.3
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 89.93 291 eP P 22 34 00.3 +0.7
comp=Z,6.6nm,0.8s
CHTO epP pP 22 35 50.4 +0.3
121A Cookes Peak, D 90.02 54 ⇓P P 22 34 01.2 +1.3
baz=90
MVU Marysvale 90.08 47 eP P 22 34 00.4 +0.3
comp=Z,3.7nm,1.0s
MSU Marysvale 90.11 47 eP P 22 34 01.8 +1.5
MSU Marysvale 90.11 47 eP P 22 34 01.8 +1.5
Y20A Horse Springs, 90.29 52 ⇓P P 22 34 02.3 +1.1
baz=90
Z21A St. Cloud Mine 90.50 53 ⇓P P 22 34 03.4 +1.3
baz=91
X20A Quemado 90.53 52 ⇑P P 22 34 03.6 +1.3
baz=91
BMO Blue Mountains 90.54 39 epP pP 22 35 53.3 +0.7
P15A Leamington 90.62 46 ⇓P P 22 34 03.7 +1.2
baz=91
122A Conniff Cattle 90.68 54 ⇓P P 22 34 04.5 +1.6
baz=91
SEY Seymchan 90.75 348 ⇓eP P 22 34 01.9 -0.4
W20A Ramah 90.83 51 ⇓P P 22 34 04.9 +1.2
baz=91
Y21A Point of Rocks 90.85 52 ⇑P P 22 34 05.0 +1.2
baz=91,SNR=7.3
Z22A Elephant Butte 90.98 53 ⇑P P 22 34 05.2 +0.8
baz=91,SNR=6.3
Q16A Castle Valley 90.99 47 ⇓P P 22 34 06.0 +1.8
baz=91
TMUT Trail Mountain 91.17 46 eP P 22 33 59.9 -5.3
comp=Z,16nm,0.7s
324A Moseley Ranch, 91.18 56 ⇓P P 22 34 05.8 +0.5
baz=91
425A Indio Mountain 91.23 56 ⇑P P 22 34 06.3 +0.8
baz=92
TNA Tin City 91.26 5 eP P 22 34 05.4 +0.9
comp=Z,14nm,1.0s
MPU Maple Canyon 91.27 46 eP P 22 34 06.7 +1.1
comp=Z,4.6nm,0.7s
626A Big Bend Ranch 91.29 58 ⇑P P 22 34 06.5 +0.7
baz=92,SNR=8.2
HHC Hu-ho-hao-te 91.31 315 eP P 22 34 06.8 +1.2
HHC pP pP 22 35 55.0 -1.3
HHC S S 22 44 24.3 +2.5
HHC sS sS 22 47 33.8 -6.2
HHC pmax pmax
comp=Z,48nm,1.0s
HHC pmax pmax
comp=Z,200nm,4.6s
Y22A Socorro 91.32 53 ⇑P P 22 34 06.8 +0.9
baz=92
224A Cornudas Mount 91.46 55 ⇓P P 22 34 07.5 +0.9
baz=92
HVU Hansel Valley 91.51 44 eP P 22 34 07.7 +1.1
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU Hansel Valley 91.51 44 eP P 22 34 07.7 +1.1
comp=Z,4.9nm,0.7s
SRU San Rafael 91.52 47 eP P 22 34 07.4 +0.7
SRU pmax pmax
comp=Z,274nm,0.7s
SRU San Rafael 91.52 47 eP P 22 34 07.4 +0.7
comp=Z,274nm,0.7s
SRU San Rafael 91.52 47 ⇓P P 22 34 07.6 +0.9
baz=92
Z23A Rita Site, Whi 91.52 54 ⇓P P 22 34 07.7 +1.0
baz=92
325A Bean Ranch, Si 91.53 56 ⇓P P 22 34 07.7 +0.8
baz=92
TXAR Lajitas Array 91.54 58 P P 22 34 07.6 +0.7
comp=Z,5.7nm,0.8s,baz=215,slow=6.0,SNR=32
TXAR Lajitas Array 91.54 58 P P 22 34 07.6 +0.7
526A Mary Lane Ranc 91.56 57 ⇑P P 22 34 07.4 +0.3
baz=92,SNR=7.3
K14A Jones Ranch, D 91.68 43 ⇑P P 22 34 08.2 +0.9
baz=92
CD2 Chengdu 91.68 303 P P 22 34 08.5 +1.0
CD2 pP pP 22 35 59.3 +1.1
CD2 sP sP 22 36 48.3 -0.1
CD2 PP PP 22 37 58.3 +3.3
CD2 SKS SKSac 22 43 53.5 +1.0
CD2 S S 22 44 25.0 -0.3
CD2 sS sS 22 47 41.5 -2.2
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,150nm,4.7s
JLU Jordanelle 91.71 45 eP P 22 34 08.4 +0.8
comp=Z,21nm,1.9s
H12A Diamond D Ranc 91.79 41 ⇑P P 22 34 08.5 +0.7
baz=92
627A Terlingua Ranc 91.81 58 ⇓P P 22 34 08.5 +0.3
baz=92,SNR=9.8
G12A Big Creek, Yel 91.85 40 ⇑P P 22 34 09.2 +1.1
baz=92
L15A Malad City 91.87 44 ⇓P P 22 34 08.8 +0.6
baz=92
426A McDonald Obser 91.90 57 ⇑P P 22 34 09.0 +0.3
baz=92
O17A Robinson Place 91.95 46 ⇓P P 22 34 09.7 +1.0
baz=92
527A Woodward Ranch 91.97 58 ⇑P P 22 34 09.6 +0.7
baz=92,SNR=6.8
P18A Preston Nutter 91.97 47 ⇑P P 22 34 09.2 +0.3
baz=92
225A Deer Hill, Car 91.99 55 ⇑P P 22 34 09.8 +0.8
baz=92
K15A Arbon 92.15 43 ⇑P P 22 34 10.3 +0.8
baz=92
HWUT Hardware Ranch 92.17 44 eP P 22 34 09.9 +0.2
comp=Z,64nm,2.8s
Z24A Sheeppen Canyo 92.18 54 ⇓P P 22 34 10.5 +0.6
baz=92
ANMO Albuquerque 92.19 52 eP P 22 34 10.6 +0.7
comp=Z,2.6nm,0.9s
628A Black Gap, Mar 92.21 58 ⇓P P 22 34 10.3 +0.4
baz=92,SNR=7.7
S20A Disappointment 92.30 49 ⇑P P 22 34 10.9 +0.5
baz=92
125A Gardner Draw, 92.38 55 ⇓P P 22 34 10.6 -0.1
baz=93
Y24A Capitan 92.42 53 ⇑P P 22 34 12.0 +1.0
baz=93
427A Hayter Ranch, 92.46 57 ⇓P P 22 34 11.8 +0.7
baz=93,SNR=8.9
R20A Redvale 92.47 49 ⇓P P 22 34 11.4 +0.3
baz=93
528A Cox Ranch, San 92.61 58 ⇓P P 22 34 12.2 +0.4
baz=93,SNR=5.2
S21A Coal Bank Pass 92.61 49 ⇓P P 22 34 12.1 +0.2
baz=93
H14A Leadore 92.71 41 ⇑P P 22 34 14.2 +2.2
baz=93
F13A Darby 92.80 40 ⇓P P 22 34 12.9 +0.5
baz=93
P19A Cripple Cowboy 92.81 47 ⇓P P 22 34 13.5 +0.9
baz=93
K16A Soda Springs 92.82 43 ⇓P P 22 34 14.3 +1.8
baz=93
Q20A Ridgley Place, 92.92 48 ⇓P P 22 34 14.1 +0.9
baz=93
428A Kincaid Ranch, 92.95 57 ⇓P P 22 34 13.8 +0.4
baz=93
529A Stev Forest Ra 93.02 58 ⇓P P 22 34 14.2 +0.5
baz=93
R21A Cimarron 93.13 49 ⇑P P 22 34 14.9 +0.8
baz=93
CMIG Matias Romero 93.25 73 P P 22 34 15.4 +0.5
comp=Z,2.9nm,0.7s,baz=323,slow=5.0,SNR=5.4
CMIG Matias Romero 93.25 73 P P 22 34 15.4 +0.5
S22A 4UR Ranch, Cre 93.31 50 ⇑P P 22 34 15.8 +0.7
baz=94
N19A John Jarvie Ra 93.33 46 ⇓P P 22 34 16.3 +1.3
baz=94
429A Davenport Ranc 93.50 58 ⇓P P 22 34 16.0 +0.2
baz=94,SNR=12
G15A Dillon 93.53 41 ⇑P P 22 34 17.3 +1.5
baz=94
R22A Saguache, Gunn 93.60 49 ⇑P P 22 34 17.4 +1.0
baz=94
ILAR Eielson Array 93.65 14 P P 22 34 14.3 -1.2
comp=Z,1.1nm,0.7s,baz=226,slow=5.1,SNR=16
ILAR pP pP 22 36 06.4 -0.1
comp=Z,2.2nm,1.2s,baz=223,slow=5.8,SNR=4.6
ILAR PP PP 22 38 10.2 +0.9
comp=Z,1.3nm,0.8s,baz=216,slow=7.2,SNR=5.7
ILAR PKKPbc PKKPdf 22 51 16.7 -2.5
comp=Z,0.2nm,0.4s,baz=349,slow=3.7,SNR=4.5
ILAR Eielson Array 93.65 14 P P 22 34 14.3 -1.2
ILAR pP pP 22 36 06.4 -0.1
ILAR PP PP 22 38 10.2 +0.9
ILAR PKKPbc PKKPdf 22 51 16.7 -2.5
K18A Toltan Ranch, 93.68 44 ⇓P P 22 34 17.4 +0.9
baz=94
W25A X Bar L Ranch, 93.75 53 ⇑P P 22 34 17.3 +0.3
baz=94
BILL Bilibino 93.78 355 ⇑eP P 22 34 16.2 +0.1
BILL e*PP pP 22 36 06.6 -0.4
BILL e 22 38 08.1
BILL e 22 44 02.9
BILL eSS SS 22 51 18.2 +2.3
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL Bilibino 93.78 355 eP P 22 34 15.8 -0.3
comp=Z,1.2nm,0.4s
Q22A Crested Butte, 93.81 49 ⇑P P 22 34 18.0 +0.6
baz=94
329A Wagon Wheel Ra 93.83 57 ⇑P P 22 34 17.7 +0.4
baz=94
CFAA Coronel Fontan 93.85 128 P P 22 34 17.6 0.0
comp=Z,1.1nm,0.8s,baz=224,slow=3.6,SNR=12
CFAA Coronel Fontan 93.85 128 P P 22 34 17.6 0.0
N20A Spence Gulch, 93.89 46 ⇓P P 22 34 18.1 +0.5
baz=94
J18A Kendall Valley 93.99 44 ⇓P P 22 34 18.4 +0.4
baz=94
LZH Lanzhou 94.09 308 eP P 22 34 19.5 +1.0
LZH pP pP 22 36 15.0 +5.5
LZH sP sP 22 37 01.0 +1.4
LZH pmax pmax
comp=Z,16nm,1.0s
R23A Moffat 94.22 50 ⇑P P 22 34 20.3 +1.1
baz=94
L20A Wamsutter 94.44 45 ⇓P P 22 34 20.5 +0.5
baz=95
O22A Kremmling 94.69 48 ⇑P P 22 34 21.7 +0.3
baz=95
532A Rocksprings 94.81 59 ⇓P P 22 34 21.9 +0.1
baz=95
U26A Atchley Ranch, 94.82 52 ⇓P P 22 34 22.4 +0.6
baz=95
S25A Robets Cordova 94.93 51 ⇓P P 22 34 22.8 +0.5
baz=95
I19A Meeteetse 95.06 43 ⇑P P 22 34 23.9 +1.1
baz=95
N22A Wattenberg Ran 95.07 47 ⇓P P 22 34 23.8 +0.8
baz=95
432A Menard 95.23 58 ⇓P P 22 34 23.7 +0.1
baz=95
R25A Fountain Ranch 95.27 50 ⇑P P 22 34 24.5 +0.7
baz=96
T26A Comanche Natio 95.29 51 ⇓P P 22 34 25.0 +1.1
baz=96
231A Bronte 95.30 57 ⇑P P 22 34 24.3 +0.3
baz=96
332A Millersview 95.49 58 ⇓P P 22 34 24.7 -0.1
baz=96
S26A Kim 95.58 51 ⇑P P 22 34 26.0 +0.8
baz=96
232A Coleman 95.79 58 ⇑P P 22 34 26.8 +0.6
baz=96
SONM Songino Array 98.09 319 P P 22 34 36.3 0.0
comp=Z,0.9nm,0.8s,baz=114,slow=3.7,SNR=8.3
SONM pP pP 22 36 27.9 +0.4
comp=Z,1.9nm,1.1s,baz=130,slow=2.3,SNR=7.6
SONM PP PP 22 38 44.4 +0.6
comp=Z,1.7nm,0.9s,baz=129,slow=7.3,SNR=6.4
SONM PKKPbc PKKPbc 22 51 05.9 -2.0
comp=Z,0.6nm,0.5s,baz=264,slow=2.2,SNR=6.0
SONM Songino Array 98.09 319 P P 22 34 36.3 0.0
SONM pP pP 22 36 27.9 +0.4
SONM PP PP 22 38 44.4 +0.6
SONM PKKPbc PKKPbc 22 51 05.9 -2.0
ZAK Zakamensk 101.09 321 eP Pdif 22 34 43.5 -5.9
ZAK pmax pmax
comp=Z,1.0nm,1.4s
YKA Yellowknife Ar 101.93 26 PP PP 22 39 08.6 -3.3
comp=Z,0.7nm,0.9s,baz=240,slow=7.1,SNR=5.8
YKA PKKPbc PKKPbc 22 50 54.4 -2.9
comp=Z,0.5nm,0.6s,baz=36,slow=2.6,SNR=9.6
YKA Yellowknife Ar 101.93 26 PP PP 22 39 08.7 -3.3
YKA PKKPbc PKKPbc 22 50 54.5 -2.9
LPAZ La Paz 102.06 115 PP PP 22 39 08.5 -5.6
comp=Z,0.4nm,0.4s,baz=256,slow=8.3,SNR=2.6
LPAZ La Paz 102.06 115 PP PP 22 39 08.5 -5.6
ZALV Zalesovo Beam 112.96 320 PP PP 22 40 25.5 -6.2
comp=Z,0.4nm,0.4s,baz=95,slow=4.9,SNR=4.0
ZALV Zalesovo Beam 112.96 320 PP PP 22 40 25.5 -6.2
MKAR Makanchi Array 112.98 312 Pdiff Pdif 22 35 44.1 +1.8
comp=Z,0.6nm,0.6s,baz=94,slow=6.3,SNR=9.8
MKAR PKiKP PKiKP 22 39 32.4 -1.1
comp=Z,0.2nm,0.4s,baz=122,slow=1.9,SNR=5.7
MKAR PP PP 22 40 30.4 -1.7
comp=Z,0.8nm,0.8s,baz=96,slow=6.4,SNR=4.2
MKAR PKKPbc PKKPbc 22 50 21.8 -0.7
comp=Z,2.1nm,0.7s,baz=279,slow=3.7,SNR=25
MKAR PKKPab PKKPab 22 50 30.6 +0.7
comp=Z,1.0nm,0.8s,baz=276,slow=3.0,SNR=6.1
MKAR Makanchi Array 112.98 312 P Pdif 22 35 44.1 +1.8
MKAR i 22 39 32.4
MKAR 22 40 30.4
MKAR 22 50 21.8
MKAR 22 50 30.6
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 112.98 312 Pdif Pdif 22 35 44.1 +1.8
MKAR PKiKP PKiKP 22 39 32.4 -1.1
MKAR PP PP 22 40 30.4 -1.7
MKAR PKKPbc PKKPbc 22 50 21.8 -0.7
MKAR PKKPab PKKPab 22 50 30.6 +0.7
KSH Kashi 115.88 303 ePKP PKPdf 22 39 41.8 +2.3
KSH PP PP 22 41 00.0 +7.4
KSH sPKP 22 42 21.8
KSH PKS PKSdf 22 43 16.0 -0.2
KSH SKS SKSdf 22 46 06.8 +2.4
KSH AMB AMB
comp=Z,100nm,5.1s
SUR Sutherland 119.01 200 PKP PKPdf 22 39 45.8 -0.2
comp=Z,6.5nm,0.9s,baz=172,slow=1.8,SNR=8.6
SUR Sutherland 119.01 200 PKP PKPdf 22 39 45.8 -0.2
BOSA Boshof 120.84 206 PKP PKPdf 22 39 49.1 -0.4
comp=Z,4.2nm,0.7s,baz=153,slow=3.0,SNR=8.5
BOSA Boshof 120.84 206 PKP PKPdf 22 39 49.1 -0.4
BVAR Borovoye Array 121.41 318 PKKPbc PKKPbc 22 49 52.2 -0.9
comp=Z,0.9nm,0.6s,baz=269,slow=4.4,SNR=7.7
BVAR Borovoye Array 121.41 318 PKKPbc PKKPbc 22 49 52.2 -0.9
SCHQ Schefferville 123.90 40 PKP PKPdf 22 39 52.5 -1.7
comp=Z,6.0nm,1.1s,baz=290,slow=6.9,SNR=6.0
SCHQ Schefferville 123.90 40 PKP PKPdf 22 39 52.5 -1.7
LSZ Lusaka 130.86 218 ePKPdf PKPdf 22 40 09.1 +0.2
KEV Kevo 132.89 347 ePKIKP PKPdf 22 40 08.3 -2.5
KEV Kevo 132.89 347 epkp PKPdf 22 40 08.3 -2.5
KEV Kevo 132.89 347 epkp 22 42 50.1
ARCES ARCESS Array B 133.37 348 PKhKP PKPpre 22 40 01.2
comp=Z,1.2nm,0.6s,baz=54,slow=1.6,SNR=15
ARCES PKP PKPdf 22 40 11.6 -0.2
comp=Z,3.4nm,0.8s,baz=65,slow=2.4,SNR=8.3
ARCES SKPbc SKPbc 22 42 54.2 +0.8
comp=Z,24nm,0.8s,baz=52,slow=3.4,SNR=29
ARCES ARCESS Array B 133.37 348 PKPpre PKPpre 22 40 01.2
ARCES PKP PKPdf 22 40 11.6 -0.2
ARCES SKPbc SKPbc 22 42 54.2 +0.8
RCBR Riachuelo 133.51 127 SKPbc SKPbc 22 42 55.5 -0.3

	comp=Z,5.0nm,0.6s,baz=234,slow=6.9,SNR=7.1						
RCBR	**Riachuelo**	**133.51 127**	SKPbc	**SKPbc**	**22 42 55.5**	**-0.3**	
JOF	**Joensuu**	**137.10 339**	*e*PKHKP	PKPpre	22 40 04.5		
JOF	**Joensuu**	**137.10 339**	*e*pkp	PKPpre	22 40 04.5		
JOF	**Joensuu**	**137.10 339**	epkp	PP	22 43 03.6	-6.2	
KAF	**Kangasniemi**	**139.24 341**	*e*PKHKP	PKPpre	22 40 11.2		
KAF			pmax	pmax			
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**139.24 341**	*e*pkp	PKPpre	22 40 11.2		
	comp=Z,1.6nm,0.5s						
KAF	**Kangasniemi**	**139.24 341**	*e*p	PP	22 43 09.5	-13	
FINES	**FINESS Array B**	**139.84 341**	PKhKP	PKPpre	22 40 13.7		
	comp=Z,2.0nm,0.5s,baz=49,slow=4.2,SNR=20						
FINES			PKP	**PKPdf**	**22 40 23.7**	**-0.2**	
	comp=Z,1.5nm,0.4s,baz=98,slow=2.4,SNR=8.8						
FINES			SKPbc	**SKPbc**	**22 43 13.2**	**+0.4**	
	comp=Z,28nm,0.7s,baz=64,slow=4.4,SNR=38						
FINES	**FINESS Array B**	**139.84 341**	PKPpre	PKPpre	22 40 13.7		
FINES			PKP	**PKPdf**	**22 40 23.7**	**-0.2**	
FINES			SKPbc	**SKPbc**	**22 43 13.2**	**+0.4**	
OBN	**Obninsk**	**139.94 328**	*i* PKIKP	**PKPdf**	**22 40 28.2**	**+3.9**	
OBN			*e*		22 42 19.7		
OBN			*e*		22 43 13.9		
OBN			*e*SS	SS	23 01 18.2	+9.1	
OBN			pmax	pmax			
	comp=Z,1.0nm,0.7s						
EZM	**Erzurum**	**142.41 303**	*e*P	**PKPdf**	**22 40 27.5**	**-2.1**	
KOPT	**Kop Dagi**	**143.05 303**	*i* P	PKPbc	22 40 29.2	+0.5	
BNGB	**Bing¯¶ll**	**143.08 302**	*e*P	PKPab	22 40 28.1	0.0	
MARD	**Mardin**	**143.23 299**	*i* P	PKPbc	22 40 28.9	-0.2	
BAYT	**Ayd¯–ntepe-Bay**	**143.24 304**	*e*P	PKPab	22 40 28.9	+0.1	
NB2	**NORSAR Subarra**	**143.59 351**	PKP	PKPab	22 40 28.0	-1.2	
	comp=Z,9.3nm,0.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.59 351**	PKP	PKPab	22 40 28.5	-0.7	
	comp=Z,22nm,0.8s,baz=22,slow=3.8,SNR=65						
NOA			SKPbc	**SKPbc**	**22 43 22.4**	**+0.2**	
	comp=Z,4.8nm,1.0s,baz=16,slow=4.2,SNR=4.9						
NOA	**NORSAR Array B**	**143.59 351**	PKP	PKPab	22 40 28.5	-0.7	
NOA			SKPbc	**SKPbc**	**22 43 22.4**	**+0.2**	
ERZN	**Erzincan**	**143.71 303**	*e*P	PKPab	22 40 28.8	-1.7	
GUMT	**Gumushane**	**143.72 304**	*e*P	PKPab	22 40 29.9	-0.5	
NAO01	**NORSAR Array S**	**143.83 351**	*e*PKPbc	PKPbc	22 40 29.0	-1.0	
KELT	**Kelkit**	**143.96 304**	*i* P	PKPab	22 40 31.8	+0.3	
EZC	**Erzincan**	**143.96 303**	*e*P	PKPbc	22 40 30.8	-0.5	
PTK	**Pertek**	**144.09 302**	*e*P	**PKPab**	**22 40 32.2**	**+0.2**	
IZAR	**Zarasai**	**144.09 334**	*e*P	PKPbc	22 40 30.9	-0.1	
IZAR			AMB	AMB	22 40 31.6		
	comp=Z,23nm,0.7s						
ESPY	**Espiye-Giresun**	**144.18 305**	*e*P	PKPbc	22 40 29.0	-2.9	
ISAL	**Salakas**	**144.26 334**	*e*P	PKPbc	22 40 31.4	-0.1	
ISAL			AMB	AMB	22 40 32.2		
	comp=Z,20nm,0.8s						
IIGN	**Ignalina**	**144.39 334**	*e*P	PKPbc	22 40 31.8	-0.1	
IIGN			AMB	AMB	22 40 32.6		
	comp=Z,24nm,0.7s						
ELZG	**Elazig**	**144.47 301**	*i* P	**PKPab**	**22 40 34.0**	**+0.6**	
NACGM	**Naroch**	**144.48 333**	*e*P	PKPbc	22 40 29.0	-3.2	
ILIC	**ilic-Erzincan**	**144.61 303**	*e*P	**PKPdf**	**22 40 32.2**	**-1.0**	
KEMA	**Kemaliye**	**144.71 303**	*i* P	**PKPab**	**22 40 34.2**	**0.0**	
SUSE	**Susehri**	**144.73 304**	*i* P	PKPbc	22 40 34.0	+0.3	
MALT	**Malatya**	**144.93 301**	*e*P	PKPbc	22 40 34.1	-0.2	
MALT	**Malatya**	**144.93 301**	↑PKIKP	PKPbc	22 40 34.7	+0.4	
MALT	**Malatya**	**144.93 301**	*e*PKPdf	PKPbc	22 40 34.4	+0.1	
MALT	**Malatya**	**144.93 301**	↑*i*P	PKPbc	22 40 34.7	+0.4	
MYA	**Malatya**	**144.93 301**	*e*P	PKPbc	22 40 34.5	+0.2	
RSDY	**Resadiye-TOKAT**	**145.34 305**	*e*P	**PKPdf**	**22 40 34.0**	**-0.4**	
ERBA	**Erbaa**	**145.69 305**	*i* P	**PKPbc**	**22 40 36.8**	**+0.3**	
GZT	**Gaziantep**	**145.76 299**	*i* P	**PKPbc**	**22 40 37.2**	**+0.3**	
GAZ	**Gaziantep**	**146.07 299**	*e*P	**PKPab**	**22 40 39.2**	**-0.3**	
KVT	**Kavak**	**146.11 306**	*e*P	**PKPbc**	**22 40 37.4**	**-0.2**	
AKASG	**Malin Array Be**	**146.11 326**	PKPbc	**PKPdf**	**22 40 36.1**	**+0.8**	
	comp=Z,5.9nm,0.4s,baz=44,slow=4.4,SNR=19						
AKASG			pKPbc	pPKPbc	22 42 30.4	-2.5	
	comp=Z,1.9nm,0.7s,baz=47,slow=5.2,SNR=2.2						
AKASG			SKPbc	**SKiKP**	**22 43 28.6**	**+0.1**	
	comp=Z,6.0nm,0.6s,baz=46,slow=2.7,SNR=11						
AKASG	**Malin Array Be**	**146.11 326**	PKIKP	**PKPdf**	**22 40 36.1**	**+0.8**	
AKASG					22 42 30.5		
AKASG			pmax	pmax			
	comp=Z,6.0nm,0.4s						
AKASG			pmax	pmax			
	comp=Z,2.0nm,0.7s						
AKASG			pmax	pmax			
	comp=N,6.0nm,0.6s						
AKASG	**Malin Array Be**	**146.11 326**	PKPbc	**PKPdf**	**22 40 36.1**	**+0.8**	
AKASG			pPKPbc	pPKPbc	22 42 30.4	-2.5	
AKASG			SKPbc	**SKiKP**	**22 43 28.6**	**+0.1**	
AK01	**Malin Array Si**	**146.12 326**	*e*PKPdf	**PKPdf**	**22 40 35.8**	**+0.5**	
KIEV	**Kiev**	**146.12 326**	*e*PKIKP	**PKPdf**	**22 40 35.4**	**+0.2**	
KIEV	**Kiev**	**146.12 326**	*e*PKPdf	**PKPdf**	**22 40 35.4**	**+0.2**	
AK02	**Malin Array Si**	**146.15 326**	*e*PKPdf	**PKPdf**	**22 40 35.8**	**+0.5**	
KUZU	**Kuzuini**	**146.24 299**	*i* P	**PKPbc**	**22 40 38.4**	**+0.3**	
KMRS	**Kahramanmaras**	**146.26 300**	*e*P	**PKPbc**	**22 40 38.7**	**+0.6**	
SUW	**Suwalki**	**146.57 335**	*e*PKP	**PKPab**	**22 40 40.2**	**-0.7**	
SUW	**Suwalki**	**146.57 335**	*e*PKP	**PKPab**	**22 40 40.1**	**-0.7**	
BNN	**Bunyan**	**146.81 303**	*e*P	**PKPbc**	**22 40 38.5**	**-1.2**	
KOZT	**Kozan**	**147.10 300**	*e*P	**PKPbc**	**22 40 42.0**	**+1.6**	
YAYL	**Yayladag**	**147.12 297**	*i* P	**PKPbc**	**22 40 40.7**	**+0.1**	
GULE	**Gulek**	**147.96 300**	*i* P	**PKPbc**	**22 40 43.4**	**+0.6**	
BR131	**Keskin Array S**	**148.25 305**	*e*PKPdf	**PKPbc**	**22 40 42.3**	**-1.2**	
BR131			*e*PKPab	**PKPab**	**22 40 48.1**	**-0.3**	
BRTR	**Keskin Array B**	**148.25 305**	PKPbc	**PKPbc**	**22 40 42.7**	**-0.7**	
	comp=N,9.3nm,0.6s,baz=129,slow=3.5,SNR=29						
BRTR			PKPab	**PKPab**	**22 40 48.1**	**-0.3**	
	comp=N,8.8nm,0.6s,baz=64,slow=3.4,SNR=54						
BRTR			pPKPbc	**pPKPbc**	**22 42 37.8**	**-2.1**	
	comp=N,1.6nm,0.8s,baz=104,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**148.25 305**	PKPbc	**PKPbc**	**22 40 42.7**	**-0.7**	
BRTR			PKPab	**PKPab**	**22 40 48.1**	**-0.3**	
BRTR			pPKPbc	**pPKPbc**	**22 42 37.8**	**-2.1**	
LEOM	**Leova**	**149.06 320**	⇓PKHKP	**PKPbc**	**22 40 44.7**	**-0.3**	
LEOM	**Leova**	**149.06 320**	⇓*i*P	**PKPbc**	**22 40 44.7**	**-0.3**	
CFR	**Carcaliu**	**149.81 318**	⇓PKHKP	**PKPbc**	**22 40 46.4**	**-0.4**	
CFR	**Carcaliu**	**149.81 318**	⇓*i*P	**PKPbc**	**22 40 46.4**	**-0.4**	
TESR		**149.96 321**	↑*i*P	**PKPab**	**22 40 54.9**	**-0.1**	
KWP	**Kalwaria Pacla**	**149.98 329**	*e*PKP	**PKPbc**	**22 40 47.1**	**0.0**	
KWP			*e*PKPbc	**PKPab**	**22 40 54.9**	**-0.1**	
KWP	**Kalwaria Pacla**	**149.98 329**	*e*PKPdf	**PKPdf**	**22 40 44.4**	**+2.7**	
KWP			*ep*PKPdf	**pPKPdf**	**22 42 39.9**	**+0.3**	
KWP	**Kalwaria Pacla**	**149.98 329**	⇓*i*P	**PKPbc**	**22 40 44.5**	**-2.6**	
KWP	**Kalwaria Pacla**	**149.98 329**	*e*PKP	**PKPbc**	**22 40 47.1**	**0.0**	
KWP			*e*PKPbc	**PKPab**	**22 40 54.9**	**-0.1**	
TIRR	**Tirgusor**	**150.00 316**	↑*i*P	**PKPbc**	**22 40 47.1**	**-0.2**	
BUR08	**Bucovina Ar. S**	**150.07 324**	*e*PKPbc	**PKPbc**	**22 40 46.6**	**-0.9**	
BUR08			*e*PKPab	**PKPab**	**22 40 55.9**	**+0.3**	
BUR08			*ep*PKPdf	**pPKPdf**	**22 42 42.5**	**+2.6**	
BURAR	**Bucovina Array**	**150.08 324**	⇓*i*P	**PKPbc**	**22 40 48.5**	**+0.9**	
VRI	**Vrincioaia**	**150.28 320**	⇓PKIKP	**PKPbc**	**22 40 51.0**	**+3.0**	
VRI	**Vrincioaia**	**150.28 320**	⇓*i*P	**PKPbc**	**22 40 51.0**	**+3.0**	
PLOR	**Plostina**	**150.33 320**	↑PKIKP	**PKPbc**	**22 40 49.8**	**+1.7**	
PLOR	**Plostina**	**150.33 320**	↑*i*P	**PKPbc**	**22 40 49.8**	**+1.7**	
PSN	**Preselentsi**	**150.53 315**	*i* P	**PKPab**	**22 40 58.1**	**+0.7**	
MLR	**Muntele Rosu**	**150.94 320**	⇓*i*P	**PKPbc**	**22 40 48.2**	**-1.5**	
TRPA	**Tarpa**	**151.11 327**	⇓*i*P	**PKPbc**	**22 40 49.9**	**+0.2**	
VOIR		**151.49 321**	⇓*i*P	**PKPab**	**22 40 56.6**	**-5.0**	
KSP	**Ksiaz**	**151.64 338**	*e*PKP	**PKPbc**	**22 40 51.1**	**+0.2**	
KSP			*e*PKPbc	**PKPab**	**22 41 01.9**	**+0.1**	
KSP	**Ksiaz**	**151.64 338**	*e*PKIKP	**PKPbc**	**22 40 51.1**	**+0.2**	
KSP			*e*		22 41 01.9		
KSP	**Ksiaz**	**151.64 338**	*e*PKP	**PKPbc**	**22 40 51.0**	**+0.2**	
KSP			*e*PKPbc	**PKPab**	**22 41 01.9**	**+0.1**	
OKC	**Ostrava-Krasne**	**151.78 334**	*e*PKPAB	**PKPab**	**22 41 02.2**	**-0.3**	
NRDL	**Niedersach Rie**	**151.89 346**	*ep*PKPab	pPKPab	22 42 55.0	-0.1	
DRGR		**151.92 325**	⇓*i*P	**PKPab**	**22 41 03.3**	**0.0**	
UPC	**Upice**	**152.02 337**	*e*PKPAB	**PKPab**	**22 41 03.5**	**0.0**	
UPC			*ep*PKP	pPKPdf	22 42 52.0	+9.2	
DPC	**Dobruska-Polom**	**152.04 337**	*e*PKPAB	**PKPab**	**22 41 03.9**	**+0.3**	
DPC			*ex*	x	22 41 14.5		
DPC			*ep*PKP	pPKPdf	22 42 53.7	+11	
HUMR	**Humele**	**152.05 319**	↑*i*P	**PKPab**	**22 41 03.4**	**-0.4**	
MORC	**Moravsky Berou**	**152.06 335**	⇓PKIKP	**PKPbc**	**22 40 49.4**	**-2.5**	
MORC	**Moravsky Berou**	**152.06 335**	⇓*i*P	**PKPbc**	**22 40 49.3**	**-2.6**	
KRLC	**Kraliky**	**152.10 336**	*e*PKPAB	**PKPab**	**22 41 03.1**	**-0.8**	
KRLC			*ep*PKP	pPKPdf	22 42 52.5	+10	
LOT	**Lotru**	**152.21 322**	⇓*i*P	**PKPab**	**22 41 04.8**	**+0.2**	
CLL	**Collm**	**152.27 342**	↑*i*PKIKP	**PKPbc**	**22 40 52.1**	**-0.1**	
CLL			*i*		22 41 04.1		
CLL			*e*		22 42 49.0		
CLL			pmax	pmax			
	comp=Z,4.0nm,0.9s						
CLL			pmax	pmax			
	comp=Z,17nm,0.7s						
CLL	**Collm**	**152.27 342**	*e*PKPab	**PKPab**	**22 41 04.2**	**-0.3**	
CLL			*ep*PKPab	**pPKPab**	**22 42 55.5**	**-1.3**	
CLL	**Collm**	**152.27 342**	*i* PKPbc	**PKPbc**	**22 40 52.1**	**-0.1**	
	comp=Z,4.0nm,0.9s						
CLL			⇑*i*PKPab	**PKPab**	**22 41 04.1**	**-0.4**	
	comp=Z,17nm,0.7s						
CLL			*ep*PKPbc	**pPKPbc**	**22 42 49.0**	**-0.3**	
CLL			*ep*PKPab	**pPKPab**	**22 42 55.0**	**-1.8**	
CLL			*i*		22 43 00.3		
BRG	**Berggiesshubel**	**152.38 340**	*i* PKP	**PKPab**	**22 41 04.8**	**-0.2**	
	comp=Z,10nm,0.8s						
BRG			*ep*PKP	pPKPdf	22 43 01.8	+18	
	comp=Z,17nm,1.4s						
BRG			*e*		22 44 41.8		
	comp=Z,7.7nm,1.4s						
BRG	**Berggiesshubel**	**152.38 340**	*i* PKP2	**PKPab**	**22 41 04.8**	**-0.2**	
BRG			*e*		22 44 41.8		
BRG			pmax	pmax			
	comp=Z,11nm,0.8s						
BRG			pmax	pmax			
	comp=Z,17nm,1.5s						
BRG			pmax	pmax			
	comp=Z,8.0nm,1.4s						
BRG	**Berggiesshubel**	**152.38 340**	*e*PKPab	**PKPab**	**22 41 05.0**	**0.0**	
CLZ	**Clausthal**	**152.45 346**	*ep*PKPab	pPKPab	22 42 56.4	-1.2	
PVCC	**Panska Ves**	**152.48 339**	*e*PKP2	**PKPab**	**22 41 05.7**	**+0.3**	
PVCC	**Panska Ves**	**152.48 339**	*e*PKPAB	**PKPab**	**22 41 05.7**	**+0.3**	
PVCC			*ep*PKP	pPKPdf	22 42 54.6	+11	
IBBN	**Ibbenburen**	**152.52 349**	*e*PKPab	**PKPab**	**22 41 05.1**	**-0.4**	
PVL	**Pavlikeni**	**152.55 317**	*i* P	PKPab	22 41 00.7	-5.3	
VRAC	**Vranov**	**152.80 335**	⇓*i*P	**PKPab**	**22 41 06.9**	**0.0**	
PRU	**Pruhonice**	**152.96 339**	*e*PKP2	**PKPab**	**22 41 07.2**	**-0.3**	
PRU	**Pruhonice**	**152.96 339**	*e*PKPAB	**PKPab**	**22 41 07.2**	**-0.3**	
PRU			*ep*PKP	pPKPdf	22 42 55.9	+12	
TREC	**Trest**	**153.22 337**	*e*PKP2	**PKPab**	**22 41 08.3**	**-0.4**	
TREC	**Trest**	**153.22 337**	*e*PKPAB	**PKPab**	**22 41 08.3**	**-0.4**	
TANN	**Tannenbergstha**	**153.22 342**	*e*PKPab	**PKPab**	**22 41 08.6**	**-0.1**	
TANN			*ep*PKPab	**pPKPab**	**22 42 59.5**	**-1.4**	
MOX	**Moxa**	**153.25 343**	*e*PKP2	**PKPab**	**22 41 08.5**	**-0.2**	
MOX	**Moxa**	**153.25 343**	*e*PKPab	**PKPab**	**22 41 08.5**	**-0.2**	
BZS	**Buzias**	**153.27 324**	⇓PKP2	**PKPab**	**22 41 08.4**	**-0.6**	
BZS	**Buzias**	**153.27 324**	⇓*i*P	**PKPab**	**22 41 08.4**	**-0.6**	
KDZ	**Kurdzhali**	**153.29 314**	*i* P	**PKPab**	**22 41 08.8**	**-0.5**	
NKC	**Novy Kostel**	**153.39 341**	*e*PKP2	**PKPab**	**22 41 08.8**	**-0.5**	
NKC	**Novy Kostel**	**153.39 341**	*e*PKPAB	**PKPab**	**22 41 08.8**	**-0.5**	
MPEP	**Malo Peshtene**	**153.45 318**	*i* P	**PKPab**	**22 41 11.2**	**+1.3**	
ROTZ	**Rotzenmuhle**	**153.87 341**	*e*PKPab	**PKPab**	**22 41 11.5**	**+0.1**	
ROTZ			*ep*PKPab	**pPKPab**	**22 43 00.9**	**-2.7**	
KHC	**Kasperske Hory**	**154.01 339**	*e*PKP2	**PKPab**	**22 41 12.0**	**-0.1**	
KHC	**Kasperske Hory**	**154.01 339**	*e*PKPab	**PKPab**	**22 41 12.0**	**-0.1**	
KHC	**Kasperske Hory**	**154.01 339**	*e*PKPAB	**PKPab**	**22 41 12.0**	**-0.1**	
KHC			*ex*	x	22 41 15.0		
KHC			*ep*PKP	pPKPdf	22 42 54.0	+8.2	
KHC			*ex*	x	22 43 01.2		
VTS	**Vitosha**	**154.20 317**	⇓PKP2	**PKPab**	**22 41 13.7**	**+0.4**	
VTS	**Vitosha**	**154.20 317**	⇓*i*P	**PKPab**	**22 41 13.7**	**+0.4**	
VTS	**Vitosha**	**154.20 317**	*i* P	**PKPab**	**22 41 13.1**	**-0.2**	
CONA	**Conrad Observa**	**154.21 334**	PKPab	**PKPab**	**22 41 13.2**	**+0.2**	
CONA	**Conrad Observa**	**154.21 334**	⇑*e*PKPab	**PKPab**	**22 41 13.2**	**+0.2**	
	comp=Z,4.6nm,0.7s						
GERES	**GERESS Array B**	**154.22 338**	PKPbc	**PKPbc**	**22 40 56.8**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=38,slow=1.7,SNR=2.7						
GERES			PKPab	**PKPab**	**22 41 12.1**	**-1.0**	
	comp=Z,1.1nm,0.6s,baz=35,slow=4.9,SNR=7.8						
GERES			pPKPbc	**pPKPbc**	**22 42 53.0**	**-0.9**	
	comp=Z,1.0nm,0.8s,baz=64,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**154.22 338**	PKPbc	**PKPbc**	**22 40 56.8**	**+0.1**	
GERES			PKPab	**PKPab**	**22 41 12.1**	**-1.0**	
GERES			pPKPbc	**pPKPbc**	**22 42 53.0**	**-0.9**	
WET	**Wettzell**	**154.22 340**	*e*PKP2	**PKPab**	**22 41 13.1**	**+0.1**	
WET	**Wettzell**	**154.22 340**	*e*PKPab	**PKPab**	**22 41 13.1**	**+0.1**	
HGN	**Heimansgroeve**	**154.31 351**	*e*PKP	**PKPab**	**22 41 12.4**	**-0.7**	
	comp=Z,12nm,0.8s						
TNS	**Taunus Mts**	**154.39 347**	*e*PKP2	**PKPab**	**22 41 13.1**	**-0.5**	
TNS	**Taunus Mts**	**154.39 347**	*e*PKPab	**PKPab**	**22 41 13.1**	**-0.5**	
MMB	**Musomiste**	**154.42 315**	*i* P	**PKPab**	**22 41 13.3**	**-0.8**	
BCLA	**Clavier**	**154.73 352**	PKPab	**PKPab**	**22 41 14.2**	**-0.8**	
MOA	**Molln**	**154.87 336**	PKPab	**PKPab**	**22 41 15.9**	**+0.1**	
MOA	**Molln**	**154.87 336**	⇑*e*PKPab	**PKPab**	**22 41 15.9**	**+0.1**	
	comp=Z,5.7nm,1.6s						
ARSA	**Arzberg**	**154.89 334**	PKPab	**PKPab**	**22 41 15.7**	**-0.2**	
ARSA	**Arzberg**	**154.89 334**	⇑*e*PKPab	**PKPab**	**22 41 15.7**	**-0.2**	
	comp=Z,3.9nm,0.9s						
VAY	**Valandovo**	**155.30 315**	*e*PKP	**PKPab**	**22 41 17.1**	**-0.7**	
RJOB	**Jochberg**	**155.48 338**	*e*PKPab	**PKPab**	**22 41 18.8**	**+0.4**	
FUR	**Furstenfeldbru**	**155.58 341**	*e*PKP2	**PKPab**	**22 41 19.1**	**+0.3**	
FUR	**Furstenfeldbru**	**155.58 341**	*e*PKPab	**PKPab**	**22 41 19.1**	**+0.3**	
STU	**Stuttgart**	**155.58 345**	*e*PKPab	**PKPab**	**22 41 18.7**	**-0.1**	
KBA	**Koelnbreinsper**	**155.86 337**	PKP2	**PKPab**	**22 41 19.7**	**-0.5**	
KBA	**Koelnbreinsper**	**155.86 337**	PKPab	**PKPab**	**22 41 19.7**	**-0.5**	
KBA	**Koelnbreinsper**	**155.86 337**	⇑*e*PKPab	**PKPab**	**22 41 19.7**	**-0.5**	
	comp=Z,10.0nm,1.5s						
BFO	**Black Forest**	**156.20 346**	*e*PKP2	**PKPab**	**22 41 21.1**	**-0.4**	
BFO	**Black Forest**	**156.20 346**	*e*PKPab	**PKPab**	**22 41 21.1**	**-0.4**	
WATA	**Walderalm**	**156.23 340**	PKP2	**PKPab**	**22 41 21.5**	**-0.3**	
WATA	**Walderalm**	**156.23 340**	PKPab	**PKPab**	**22 41 21.5**	**-0.3**	
WATA	**Walderalm**	**156.23 340**	⇑*e*PKPab	**PKPab**	**22 41 21.5**	**-0.3**	
	comp=Z,4.5nm,0.5s						
WTTA	**Wattenberg**	**156.28 339**	PKP2	**PKPab**	**22 41 22.1**	**+0.1**	
WTTA	**Wattenberg**	**156.28 339**	PKPab	**PKPab**	**22 41 22.1**	**+0.1**	
WTTA	**Wattenberg**	**156.28 339**	⇑*e*PKPab	**PKPab**	**22 41 22.1**	**+0.1**	
	comp=Z,6.9nm,0.6s						
RETA	**Reutte**	**156.34 341**	PKPab	**PKPab**	**22 41 22.2**	**+0.1**	
RETA	**Reutte**	**156.34 341**	⇑*e*PKPab	**PKPab**	**22 41 22.2**	**+0.1**	
	comp=Z,14nm,1.0s						
MOTA	**Moosalm**	**156.37 340**	PKP2	**PKPab**	**22 41 22.1**	**-0.3**	
MOTA	**Moosalm**	**156.37 340**	PKPab	**PKPab**	**22 41 22.1**	**-0.3**	
MOTA	**Moosalm**	**156.37 340**	⇑*i*PKPab	**PKPab**	**22 41 22.1**	**-0.3**	
	comp=Z,6.0nm,0.8s						
FETA	**Feichten**	**156.77 341**	PKPab	**PKPab**	**22 41 24.2**	**0.0**	
FETA	**Feichten**	**156.77 341**	⇑*e*PKPab	**PKPab**	**22 41 24.2**	**0.0**	
	comp=Z,4.4nm,1.0s						
DAVA	**Damuels**	**156.78 342**	PKPab	**PKPab**	**22 41 24.1**	**-0.1**	
DAVA	**Damuels**	**156.78 342**	⇑*i*PKPab	**PKPab**	**22 41 24.1**	**-0.1**	
	comp=Z,8.7nm,0.6s						
DAVOX	**Davos/Dischmat**	**157.24 342**	PKPab	**PKPab**	**22 41 26.5**	**+0.3**	
	baz=14,slow=4.2						
DAVOX	**Davos/Dischmat**	**157.24 342**	PKPab	**PKPab**	**22 41 26.5**	**+0.3**	
DBIC	**Dimbokro**	**160.80 166**	PKP	**PKPdf**	**22 40 56.1**	**-0.9**	
	comp=Z,6.0nm,1.0s,baz=114,slow=3.2,SNR=3.3						
DBIC			PKPab	**PKPab**	**22 41 42.3**	**+0.1**	
	comp=Z,15nm,0.9s,baz=169,slow=6.6,SNR=13						
DBIC	**Dimbokro**	**160.80 166**	PKP	**PKPdf**	**22 40 56.1**	**-0.9**	
DBIC			PKPab	**PKPab**	**22 41 42.3**	**+0.1**	
ESDC	**Sonseca Array**	**165.53 11**	PKPab	**PKPab**	**22 42 02.2**	**-0.3**	
	comp=Z,2.1nm,0.8s,baz=344,slow=4.6,SNR=11						
ESDC	**Sonseca Array**	**165.53 11**	PKPab	**PKPab**	**22 42 02.2**	**-0.3**	
TORD	**Torodi Ar. Bea**	**167.57 189**	PKP	**PKPdf**	**22 41 01.8**	**-1.1**	
	comp=Z,3.8nm,1.0s,baz=206,slow=1.1,SNR=16						
TORD			PKPab	**PKPab**	**22 42 11.2**	**-0.7**	
	comp=Z,11nm,0.7s,baz=170,slow=3.9,SNR=38						
TORD			pPKPab	**pPKPab**	**22 44 03.8**	**+0.4**	
	comp=Z,0.8nm,0.7s,baz=179,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**167.57 189**	PKP	**PKPdf**	**22 41 01.8**	**-1.1**	
TORD			PKPab	**PKPab**	**22 42 11.2**	**-0.7**	
TORD			pPKPab	**pPKPab**	**22 44 03.8**	**+0.4**	

*CSEM **31** 22:36:08.4, 40°.65N×42°.58E, h7km, ML2.9, After DDA*

DDA 31 22:36:08.4, 40°.65N×42°.58E, h7km, MD2.8, ML2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.38**	**94**	*e*PG	Pb	22 36 17.2	-0.6
KARS				*e*SG	Sb	22 36 23.5	-0.5
DAGI	**Agillar**	**0.66**	**310**	*i* P	Pg	22 36 21.9	0.0
DAGI				*i* S	Sg	22 36 30.8	+0.8
DDEM	**Demirkent**	**0.67**	**291**	*i* P	Pg	22 36 21.2	-0.3
DDEM				*i* S	Sg	22 36 31.0	+0.6
DDEM	**Demirkent**	**0.67**	**291**	*i* P	Pg	22 36 21.2	-0.3
DDEM				*i* S	Sg	22 36 31.0	+0.6
ARTV	**Artvin**	**0.72**	**317**	*i* P	Pg	22 36 22.8	+0.1
ARTV				*i* S	Sb	22 36 33.5	-0.6
ARTV	**Artvin**	**0.72**	**317**	*i* P	Pg	22 36 22.8	+0.1
ARTV				*i* S	Sb	22 36 33.5	-0.6
HOMI	**Horasan**	**0.79**	**220**	*i* P	Pg	22 36 23.2	-0.8
HOMI				*i* S	Sb	22 36 35.8	-0.3
DBOC	**Borcka**	**0.98**	**315**	*i* P	Pg	22 36 27.1	-0.2
DBOC				*i* S	Sg	22 36 39.6	-0.4
DBOC	**Borcka**	**0.98**	**315**	*i* P	Pg	22 36 27.1	-0.2
DBOC				*i* S	Sg	22 36 39.6	-0.4
ERZM	**Erzurum**	**1.19**	**232**	*i* P	Pg	22 36 31.1	-0.5
ERZM	**Erzurum**	**1.19**	**232**	*i* P	Pg	22 36 31.1	-0.5
VANB	**Van**	**2.15**	**163**	*e*PN	Pn	22 36 45.0	+0.2

IDC 31 22:39:06.2±8.4, 25°.30S×179°.68E, h463km±79km, mb3.0/2, mb1 3.2/3, mb1mx2.9/19, mbtmpg3.2/3, Error ellipse: s-maj=74.7km s-min=25.0km az=56.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.11**	**189**	P	P	22 41 57.1	+0.4
	1.1nm,0.3s,baz=4.8,slow=12,SNR=4.7						
URZ				S	S	22 44 16.4	-1.0
	0.6nm,0.3s,baz=300,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**42.04**	**268**	P	P	22 46 15.9	-0.4
	0.6nm,0.7s,baz=102,slow=8.6,SNR=4.9						
QSPA	**South Pole Qui**	**64.79**	**180**	P	P	22 48 58.1	+0.1
	2.5nm,0.6s,baz=128,slow=2.6,SNR=25						
BVAR	**Borovoye Array**	**121.29**	**318**	PKP	PKPdf	22 57 05.0	-0.5
	0.3nm,0.5s,baz=107,slow=1.5,SNR=3.5						
NB2	**NORSA

VNDA	**Vanda**	**52.80**	**185**	P	P	23 16 14.5	0.0	
	0.9nm,1.0s,baz=8.4,slow=7.6,SNR=2.1							
MJAR	**Matsushiro Arr**	**72.88**	**326**	P	P	23 18 23.8	-0.4	
	2.2nm,0.7s,baz=164,slow=5.8,SNR=6.9							
PETK	**Petropavlovsk-**	**80.48**	**347**	P	P	23 19 05.7	+0.4	
	3.2nm,0.8s,baz=164,slow=5.8,SNR=3.5							
NVAR	**Mina Array Bea**	**86.22**	**44**	P	P	23 19 34.9	+0.3	
	0.2nm,0.3s,baz=206,slow=3.9,SNR=2.9							
BVAR	**Borovoye Array**	**121.24**	**318**	PKP	PKPdf	23 25 40.8	-0.3	
	0.4nm,0.4s,baz=90,slow=2.0,SNR=3.3							
ARCES	**ARCESS Array B**	**133.28**	**348**	PKP	PKPdf	23 26 04.0	+0.4	
	4.0nm,1.1s,baz=72,slow=1.1,SNR=3.3							
FINES	**FINESS Array B**	**139.73**	**341**	PKhKP	PKPpre	23 26 07.9		
	2.3nm,1.0s,baz=242,slow=4.1,SNR=3.4							
FINES				PKP	PKPdf	23 26 16.8	+1.1	
	2.2nm,1.0s,baz=143,slow=1.0,SNR=3.5							
NB2	**NORSAR Subarra**	**143.51**	**350**	PKP	PKPab	23 26 20.1	-1.0	
	comp=Z,1.5nm,0.5s,baz=16,slow=3.3							
NOA	**NORSAR Array B**	**143.51**	**350**	PKP	PKPab	23 26 20.0	-1.1	
	comp=Z,2.5nm,0.7s,baz=22,slow=3.8,SNR=12							
AKASG	**Malin Array Be**	**145.96**	**326**	PKPbc	PKPdf	23 26 27.9	+0.9	
	comp=Z,0.8nm,0.6s,baz=46,slow=4.1,SNR=4.2							
BRTR	**Keskin Array B**	**148.06**	**305**	PKPbc	PKPbc	23 26 34.7	-0.3	
	comp=Z,0.4nm,0.5s,baz=145,slow=2.9,SNR=3.9							
BRTR				PKPab	PKPab	23 26 40.3	+0.4	
	comp=Z,0.9nm,0.6s,baz=96,slow=3.2,SNR=8.6							
TORD	**Torodi Ar. Bea**	**167.58**	**190**	PKPab	PKPab	23 28 03.9	-0.5	
	comp=Z,0.3nm,0.8s,baz=174,slow=4.3,SNR=2.8							

*IDC **31** 23:11:10.3±2.6, 30.°31N×50.°59E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.4/4, ML2.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=87.3km s-min=27.8km az=156.0*

*KISR **31** 23:11:13.2±0.7, 30.°70N×50.°49E, h34km±231km, ML2.9*

*ISCJB **31** 23:11:15.3±0.8, 30.°55N±0.°07×50.°56E±0.°07, h45km±13km, mb3.5/3, MS3.1/2, Error ellipse: s-maj=14.6km s-min=6.5km az=144.8*

*CSEM **31** 23:11:16.1±0.2, 30.°59N×50.°53E, h30km, ML2.9, Error ellipse: s-maj=7.6km s-min=3.8km az=141.0*

ISC 31 23:11:17.2±1.4, 30.°59N±0.°07×50.°51E±0.°06, h47km±19km, n20, σ0²79/24, mb3.4/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**2.10**	**316**	*e*Pg		**Pn**		**23 11 50.2**	**+0.3**
KBD	**Kabd**	**2.82**	**241**	*e*P		**Pn**		**23 11 59.5**	**-0.3**
KBD				*e*S		**Sn**		**23 12 33.6**	**+1.0**
KBD				AML		AML		23 12 35.4	
	comp=Z,42nm,0.3s								
KBD	**Kabd**	**2.82**	**241**	*e*P		**Pn**		**23 11 59.5**	**-0.3**
KBD				*e*S		**Sn**		**23 12 33.6**	**+1.0**
MIB	**Mutribah**	**2.85**	**255**	*e*P		**Pn**		**23 11 59.0**	**-1.2**
MIB				*e*S		**Sn**		**23 12 33.9**	**+0.5**
MIB				AML		AML		23 12 39.5	
	comp=Z,51nm,0.6s								
MIB	**Mutribah**	**2.85**	**255**	*e*P		**Pn**		**23 11 59.0**	**-1.2**
MIB				*e*S		**Sn**		**23 12 33.9**	**+0.5**
	comp=Z,51nm,0.6s								
QRN	**Al-Qurain**	**2.91**	**231**	*e*P		**Pn**		**23 12 00.3**	**-0.7**
QRN				AML		AML		23 12 36.9	
	comp=Z,56nm,0.4s								
NASN	**Na'in**	**2.95**	**41**	*e*Pn		**Pn**		**23 12 01.9**	**+0.1**
RDF	**Al-Radifah**	**3.06**	**238**	*e*P		**Pn**		**23 12 02.9**	**-0.2**
RDF	**Al-Radifah**	**3.06**	**238**	*e*P		**Pn**		**23 12 02.9**	**-0.2**
NAY	**Al-Naaiem**	**3.14**	**246**	*e*P		**Pn**		**23 12 03.4**	**-0.7**
NAY				*e*S		**Sn**		**23 12 41.1**	**+0.8**
NAY				AML		AML		23 12 44.1	
	comp=Z,19nm,0.4s								
NAY	**Al-Naaiem**	**3.14**	**246**	*e*P		**Pn**		**23 12 03.4**	**-0.7**
NAY				*e*S		**Sn**		**23 12 41.1**	**+0.8**
	comp=Z,19nm,0.4s								
KHMZ	**Khomeyn**	**3.17**	**352**	*e*Pn		**Pn**		**23 12 03.9**	**-0.9**
GHVR	**GHOM**	**3.93**	**10**	*e*Pn		**Pn**		**23 12 14.4**	**-0.7**
KRBR	**Kerman**	**5.44**	**95**	*e*Pn		**Pn**		**23 12 35.2**	**-0.8**
BRTR	**Keskin Array B**	**16.51**	**308**	Pn		**P**		**23 15 06.8**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=133,slow=14,SNR=5.3								
AAK	**Ala-Archa**	**22.61**	**51**	LR		LR		23 26 00.6	
	comp=Z,25nm,18.5s,baz=294,slow=39								
MKAR	**Makanchi Array**	**29.36**	**48**	P		**P**		**23 17 16.6**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=254,slow=8.0,SNR=6.4								
ZALV	**Zalesovo Beam**	**33.96**	**37**	P		**P**		**23 17 56.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=252,slow=8.6,SNR=5.3								
TORD	**Torodi Ar. Bea**	**48.12**	**260**	P		**P**		**23 19 52.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=58,slow=9.0,SNR=4.8								
MJAR	**Matsushiro Arr**	**70.85**	**58**	LR		LR		23 53 28.1	
	comp=Z,35nm,19.2s,baz=210,slow=36								

*IDC **31** 23:27:45.4±2.4, 40.°78N×78.°59E, h0km, mb3.2/2, mb1 3.0/4, mb1mx2.9/29, mbtmp3.0/4, ML2.4/2, Error ellipse: s-maj=29.0km s-min=16.1km az=167.0*

*NNC **31** 23:27:50.7±3.1, 40.°94N×78.°59E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=30.9km s-min=22.1km az=13.0*

ISC 31 23:27:48.6±2.0, 40.°7N±0.°2×78.°62E±0.°09, h23km, n8, σ1²72/9, 3C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.78**	**334**	⇑Pn		**Pb**		**23 28 35.4**	**-2.1**
	20nm,0.6s								
KNDC				⇓Lg		Lg		23 29 13.3	
	67nm,0.7s								
TKM2	**Tokmak 2**	**3.15**	**315**	⇓Pn		**Pn**		**23 28 38.6**	**+1.7**
	6.3nm,0.5s								
TKM2				⇓Lg		Lg		23 29 23.4	
	18nm,0.7s								
AAK	**Ala-Archa**	**3.63**	**303**	Pn		**Pn**		**23 28 45.3**	**+1.7**
	0.1nm,0.3s,baz=124,slow=11,SNR=2.6								
AAK				Pg		**Pb**		**23 28 50.4**	**-1.7**
	1.1nm,0.3s,baz=116,slow=11,SNR=20								
AAK				Lg		Lg		23 29 39.1	
	1.0nm,0.3s,baz=285,slow=21,SNR=10.0								
KK31	**Karatay Array**	**6.50**	**294**	⇑Pg		Pb		23 29 45.8	+4.9
	0.6nm,0.6s,baz=116,slow=15,SNR=7.2								
KK31				⇓Lg		Lg		23 31 15.2	
	3.4nm,0.8s,baz=112,slow=25,SNR=6.5								
MK31	**Makanchi Array**	**6.62**	**22**	⇑Pn		**Pn**		**23 29 25.2**	**+0.8**
	0.1nm,0.3s,baz=197,slow=12,SNR=21								
MK31				⇓Lg		Lg		23 31 11.4	
	2.0nm,0.6s,baz=206,slow=29,SNR=3.8								
MKAR	**Makanchi Array**	**6.62**	**22**	Pn		**Pn**		**23 29 25.5**	**+1.1**
	0.2nm,0.3s,baz=198,slow=13,SNR=18								
MKAR				Sn		**Sn**		**23 30 40.6**	**+1.5**
	0.2nm,0.3s,baz=200,slow=21,SNR=2.6								
MKAR				Lg		Lg		23 31 12.1	
	0.4nm,0.3s,baz=206,slow=30,SNR=5.9								
SONM	**Songino Array**	**21.04**	**61**	P		**P**		**23 32 30.0**	**-0.8**
	0.4nm,0.6s,baz=255,slow=11,SNR=4.9								
BRTR	**Keskin Array B**	**34.08**	**283**	P		**P**		**23 34 31.4**	**+0.1**
	0.4nm,0.6s,baz=74,slow=9.1,SNR=4.6								

*ISCJB **31** 23:28:37.9±1.0, 46.°5N±0.°1×153.°1E±0.°2, h40km, mb3.4/4, Error ellipse: s-maj=22.5km s-min=8.7km az=142.9*

*MOS **31** 23:28:41.8±0.5, 46.°79N×152.°69E, h86km, mb3.6/1, Error ellipse: s-maj=36.4km s-min=17.5km az=61.9*

*IDC **31** 23:28:42.9±3.3, 46.°71N×152.°86E, h76km±29km, mb3.1/4, mb1 3.4/6, mb1mx3.1/27, mbtmp3.3/6, Error ellipse: s-maj=39.9km s-min=23.2km az=104.0*

ISC 31 23:28:39.8±1.3, 46.°6N±0.°2×153.°0E±0.°2, h40km, n10, σ2²00/11, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**252**	PN		**Pn**		**23 29 37.2**	**+0.8**
KUR				S		**Sn**		**23 30 21.0**	**+0.7**
KUR				pmax		pmax			
	comp=Z,80nm,0.4s								
KUR				smax		smax			
	comp=E,380nm,1.0s								
KUR				smax		smax			
	comp=N,140nm,0.6s								
SKR	**Severo-Kuril's**	**4.61**	**25**	*e*PN		**Pn**		**23 29 49.6**	**+2.7**
SKR				*e*				23 30 38.0	
PETK	**Petropavlovsk-**	**7.22**	**23**	P		**Pn**		**23 30 24.1**	**+1.5**
	comp=N,0.7nm,0.3s,baz=184,slow=12,SNR=3.1								
PETK	**Petropavlovsk-**	**7.22**	**23**	PN		**Pn**		**23 30 24.2**	**+1.5**
PETK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**7.75**	**255**	P		**Pn**		**23 30 32.1**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=82,slow=18,SNR=8.8								
MKAR	**Makanchi Array**	**46.99**	**297**	P		**P**		**23 37 04.2**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=73,slow=6.5,SNR=4.1								
MKAR	**Makanchi Array**	**46.99**	**297**	*e*P		**P**		**23 37 04.7**	**-2.0**
WRA	**Warramunga Arr**	**68.31**	**199**	P		**P**		**23 39 36.2**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=18,slow=6.9,SNR=3.3								
NOA	**NORSAR Array B**	**68.40**	**341**	P		**P**		**23 39 35.0**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=29,slow=6.4,SNR=3.2								
ASAR	**Alice Springs**	**72.00**	**198**	P		**P**		**23 39 59.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=11,slow=5.8,SNR=4.5								

*NEIC **31** 23:30:32.4, 56.°25N×152.°59W, h23km, ML2.9(AEIC), After AEIC.*

*IDC **31** 23:30:40.1±3.5, 56.°99N×152.°88W, h52km±21km, mb3.1/4, mb1 3.2/6, mb1mx3.1/28, mbtmp3.1/6, ML3.6/1, Error ellipse: s-maj=40.0km s-min=32.4km az=155.0*

ISC 31 23:30:34.6±1.5, 56.°7N±0.°1×152.°7W±0.°1, h20km, n18, σ1²81/18, mb3.5/4, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.10**	**2**	P		**Pn**		**23 30 56.3**	**+1.5**
	8.5nm,0.3s,baz=191,slow=9.3,SNR=296								
KDAK				S		**Sb**		**23 31 07.3**	**-1.4**
	8.8nm,0.3s,baz=213,slow=11,SNR=25								
KDAK	**Kodiak Island**	**1.10**	**2**	P		**Pn**		**23 30 56.1**	**+1.3**
KABR	**Katmai Barrier**	**1.91**	**320**	P		**Pn**		**23 31 07.2**	**+1.2**
KAKN	**Katmai Knife C**	**2.07**	**322**	P		**Pn**		**23 31 09.3**	**+1.1**
FOSS	**Fourpeaked Sta**	**2.19**	**346**	P		**Pb**		**23 31 12.5**	**-0.9**
MCNL	**McNeil River**	**2.66**	**341**	P		**Pn**		**23 31 19.4**	**+3.2**
AUP	**Augustine Pinn**	**2.71**	**352**	P		Pn		23 31 20.4	+3.3
AUW	**Augustine West**	**2.72**	**351**	P		Pn		23 31 20.4	+3.3
OPT	**Oil Point**	**2.99**	**354**	P		**Pn**		**23 31 23.7**	**+2.9**
BRLK	**Bradley Lake**	**3.22**	**16**	P		**Pn**		**23 31 24.5**	**+0.5**
ILW	**Iliamna West**	**3.39**	**356**	P		**Pn**		**23 31 28.8**	**+2.4**
SPWE	**Spurr West**	**4.60**	**1**	P		**Pn**		**23 31 46.1**	**+3.1**
ILAR	**Eielson Array**	**8.58**	**17**	P		**Pn**		**23 32 38.8**	**+1.3**
	0.3nm,0.3s,baz=202,slow=13,SNR=15								
ILAR				S		**Sn**		**23 34 13.0**	**-0.6**
	0.1nm,0.3s,baz=203,slow=14,SNR=3.4								
YKA	**Yellowknife Ar**	**19.89**	**57**	P		**P**		**23 35 05.4**	**+1.2**
	0.1nm,0.3s,baz=270,slow=11,SNR=6.9								
SONM	**Songino Array**	**56.92**	**308**	P		**P**		**23 40 17.6**	**-0.4**
	0.3nm,0.7s,baz=38,slow=7.3,SNR=3.3								
ZALV	**Zalesovo Beam**	**60.17**	**325**	P		**P**		**23 40 40.2**	**-0.2**
	0.2nm,0.4s,baz=27,slow=7.1,SNR=2.9								
BVAR	**Borovoye Array**	**65.09**	**333**	P		**P**		**23 41 13.1**	**-0.2**
	0.4nm,0.8s,baz=19,slow=6.1,SNR=2.6								
MKAR	**Makanchi Array**	**67.15**	**322**	P		**P**		**23 41 25.2**	**-1.3**
	0.1nm,0.6s,baz=41,slow=7.2,SNR=3.0								

IDC 31 23:36:37.2±7.7, 24.°24S×66.°99W, h162km±57km, mb3.2/2, mb1 3.3/5, mb1mx3.2/18, mbtmp3.2/5, Error ellipse: s-maj=70.3km s-min=31.2km az=20.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.98**	**352**	P		Pn		23 38 31.6	+0.4
	0.6nm,0.3s,baz=174,slow=11,SNR=13								
LPAZ				S		Sn		23 40 00.3	-0.7
	0.1nm,0.3s,baz=341,slow=17,SNR=3.7								
SIV	**San Ignacio**	**9.91**	**35**	P		Pn		23 38 56.0	0.0
	0.3nm,0.3s,baz=234,slow=13,SNR=3.9								
BDFB	**Brasilia**	**19.77**	**68**	P		P		23 40 54.9	-0.2
	0.4nm,0.3s,baz=242,slow=12,SNR=4.1								
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P		P		23 48 10.3	-0.2
	0.2nm,0.4s,baz=240,slow=6.4,SNR=5.8								
YKA	**Yellowknife Ar**	**94.35**	**340**	P		P		23 49 37.3	-0.5
	0.1nm,0.5s,baz=132,slow=4.9,SNR=4.7								
WRA	**Warramunga Arr**	**131.42**	**207**	PKP		PKPdf		23 55 30.3	-0.8
	0.4nm,0.9s,baz=162,slow=1.7,SNR=6.1								
ZALV	**Zalesovo Beam**	**143.60**	**28**	PKP		PKPbc		23 55 51.0	+0.8
	0.8nm,0.7s,baz=320,slow=3.8,SNR=4.7								
MKAR	**Makanchi Array**	**146.70**	**40**	PKPbc		PKPbc		23 56 00.1	+0.2
	0.5nm,0.5s,baz=303,slow=3.6,SNR=11								

*SKO **31** 23:47:11.2, 41.°28N×22.°73E, h15km, M1.1, ML1.4*

*CSEM **31** 23:47:11.4±0.4, 41.°28N×22.°70E, h15km, MD3.3, Error ellipse: s-maj=10.7km s-min=5.3km az=60.0*

*ATH **31** 23:47:12.1, 41.°27N×22.°74E, h19km±5km, MD3.3/4*

*BEO **31** 23:47:14.8±1.5, 41.°35N×22.°61E, h0km, ML1.8/3*

ISC 31 23:47:12.2±0.9, 41.°26N±0.°04×22.°72E±0.°04, h8km±8km, n15, σ0²45/28, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.13**	**300**	*i* Pg		**Pg**		**23 47 14.7**	**-0.4**
VAY				*i* Sg		**Sg**		**23 47 16.9**	**0.0**
VAY				*e*Lg		Lg		23 47 17.0	
	comp=N,246nm,0.2s								
VAY				*e*Lg		Lg		23 47 17.3	
	comp=E,172nm,0.4s								
VAY	**Valandovo**	**0.13**	**300**	*i* Pg		**Pg**		**23 47 15.1**	**+0.1**
VAY				*e*Lg		Lg		23 47 17.4	
	comp=E,246nm,0.2s								
VAY				*i* Sg		**Sg**		**23 47 17.4**	**+0.4**
VAY				*e*Lg		Lg		23 47 17.8	
	comp=E,172nm,0.4s								
SOH	**Sokhos**	**0.65**	**132**	*e*PB		**Pg**		**23 47 24.2**	**-0.6**
SOH				*e*SN		**Sg**		**23 47 33.5**	**+0.2**
SOH	**Sokhos**	**0.65**	**132**	*e*Pb		**Pg**		**23 47 24.2**	**-0.6**
SOH				*e*Sn		**Sg**		**23 47 33.5**	**+0.2**
NVR	**Nevrokopi**	**0.87**	**84**	*e*PN		**Pg**		**23 47 28.6**	**-0.3**
NVR				*e*SN		**Sg**		**23 47 40.5**	**+0.3**
NVR	**Nevrokopi**	**0.87**	**84**	*e*Pn		**Pg**		**23 47 28.6**	**-0.3**
NVR				*e*Sn		**Sg**		**23 47 40.5**	**+0.3**
PLG	**Polygyros**	**1.04**	**148**	*e*PN		**Pg**		**23 47 31.7**	**-0.6**
PLG				*e*SN		**Sb**		**23 47 46.4**	**0.0**
PLG	**Polygyros**	**1.04**	**148**	*e*Pn		**Pg**		**23 47 31.7**	**-0.6**
PLG				*e*Sn		**Sb**		**23 47 46.4**	**0.0**
VTS	**Vitosha**	**1.38**	**15**	*e*Pg		**Pg**		**23 47 38.7**	**0.0**
VTS				*e*Sg		**Sn**		**23 47 56.5**	**+0.1**
VTS	**Vitosha**	**1.38**	**15**	*e*Pg		**Pg**		**23 47 38.7**	**0.0**
VTS				*e*Sg		**Sn**		**23 47 56.5**	**+0.1**
BARS	**Barje**	**1.69**	**337**	*e*Pg		**Pb**		**23 47 43.7**	**+0.1**
BARS				*e*Sg		**Sb**		**23 48 04.5**	**-0.6**
BARS	**Barje**	**1.69**	**337**	*e*Pg		**Pb**		**23 47 43.7**	**+0.1**
BARS				*e*Sg		**Sb**		**23 48 04.5**	**-0.6**
ZAPS	**Zavoj**	**2.01**	**358**	*e*Pg		**Pb**		**23 47 48.4**	**-0.7**
ZAPS				*e*Sg		**Sg**		**23 48 16.4**	**-0.5**
ALN	**Alexandroupoli**	**2.54**	**97**	*e*PN		**Pn**		**23 47 54.5**	**+0.8**
ALN	**Alexandroupoli**	**2.54**	**97**	*e*Pn		**Pn**		**23 47 54.5**	**+0.8**

ISC Computed Locations for March 2009

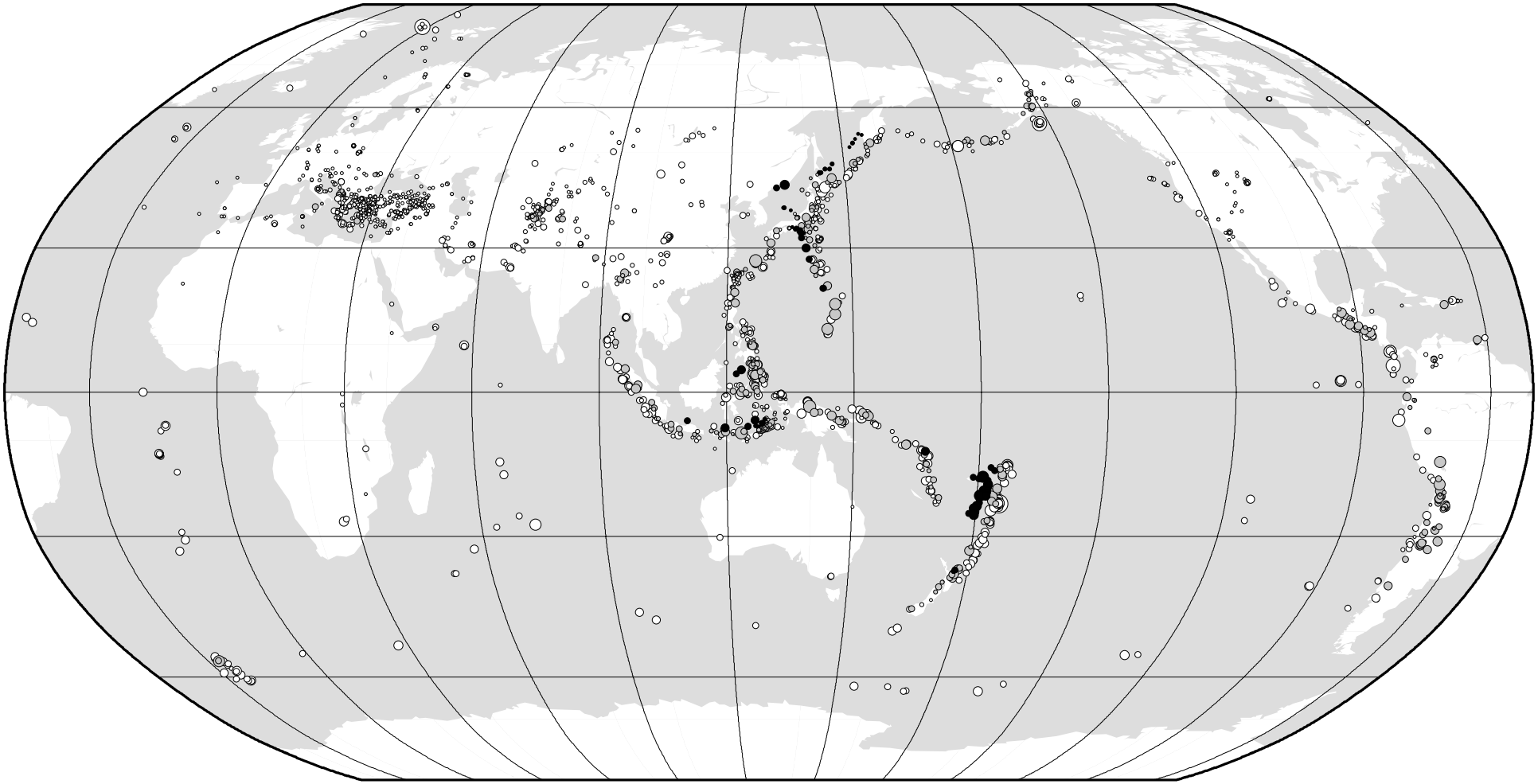

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2419 Events